STATE OF VERMONT
AGENCY OF TRANSPORTATION

INDEX OF PLANS

SHEET NO	SHEET NAME
M1	MASTER TITLE SHEET
M2 - M12	MASTER QUANTITY SHEETS
C1-C194 & SS 1-SS 57	STEEL SUPERSTRUCTURE OPTION PLANS
~~C1-C194 & SC-1-SC-120~~	~~CONCRETE SUPERSTRUCTURE OPTION PLANS~~ NOT USED

EXISTING BRIDGE PLANS (FOR REFERENCE ONLY)

1993 - LIFT SPAN DECK REHABILITATION (7 SHEETS)

1936 - CONTRACT SECTION NO. 1 (13 SHEETS)

1936 - CONTRACT SECTION NO. 2 (25 SHEETS)

STANDARD SHEETS

A-76	3-3-03	E-138	5-30-03
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B-12M	1-3-00	E-141M	6-13-97
B-17M	1-3-00	E-142M	6-13-97
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D-3M	6-13-97	E-150M	6-13-97
D-4M	6-13-97	E-151M	6-13-97
D-6M	6-13-97	E-160M	6-13-97
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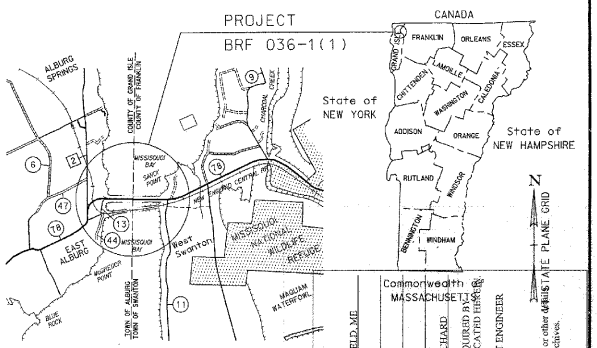
E-102AM	6-13-97	E-198M	6-13-97
E-102M	6-30-03	F-2M	1-3-00
E-106M	6-13-97	G-1DM	1-3-00
E-107AM	6-13-97	G-1M	1-3-00
E-107M	6-30-03	G-4M	6-13-97
E-108M	6-13-97	G-18AM	7-10-97
E-120M	6-13-97	G-18M	6-13-97
E-121M	6-13-97	G-19M	11-15-02
E-123M	6-13-97	J-1M	6-13-97
E-124M	6-13-97	J-2M	6-13-97
E-127M	6-13-97	J-3M	6-13-97
E-134M	6-13-97	L-1M	6-13-97
E-136BM	6-13-97	L-2M	6-13-97
E-136DM	6-13-97		

PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
VT 78 (PRINCIPAL ARTERIAL) OVER MISSISQUOI BAY, BRIDGE NO. 2

PROJECT LOCATION: BEGINS IN ALBURG AT A POINT 1.182 km WEST OF THE ALBURG/SWANTON TOWN LINE (MIDDLE OF THE EXISTING BRIDGE) AND CONTINUES EASTERLY ON VT 78 IN ALBURG FOR 1.182 km, THEN INTO THE TOWN OF SWANTON FOR A DISTANCE OF 1.148 km.

PROJECT DESCRIPTION: REMOVAL OF THE EXISTING BRIDGE AND PORTION OF CAUSEWAY, CONSTRUCTION OF A NEW BRIDGE AND STONE FILLED CAUSEWAY ON A NEW ALIGNMENT, RAILROAD CROSSING WORK, AND OTHER RELATED ROADWAY ITEMS.



LOCATION MAP

0 1000 2000 3000
SCALE IN METERS

RECORD PLANS

Commonwealth MASSACHUSETTS

CONTRACTOR: CIANBRO CORPORATION - PITTSFIELD, ME

RESIDENT ENGINEER: JON DAY

CONSTRUCTION BEGAN: MAY 19, 2004

CONSTRUCTION COMPLETE: JULY 8, 2005

RECORD PLANS BY: JON DAY & MATT BIRCHARD

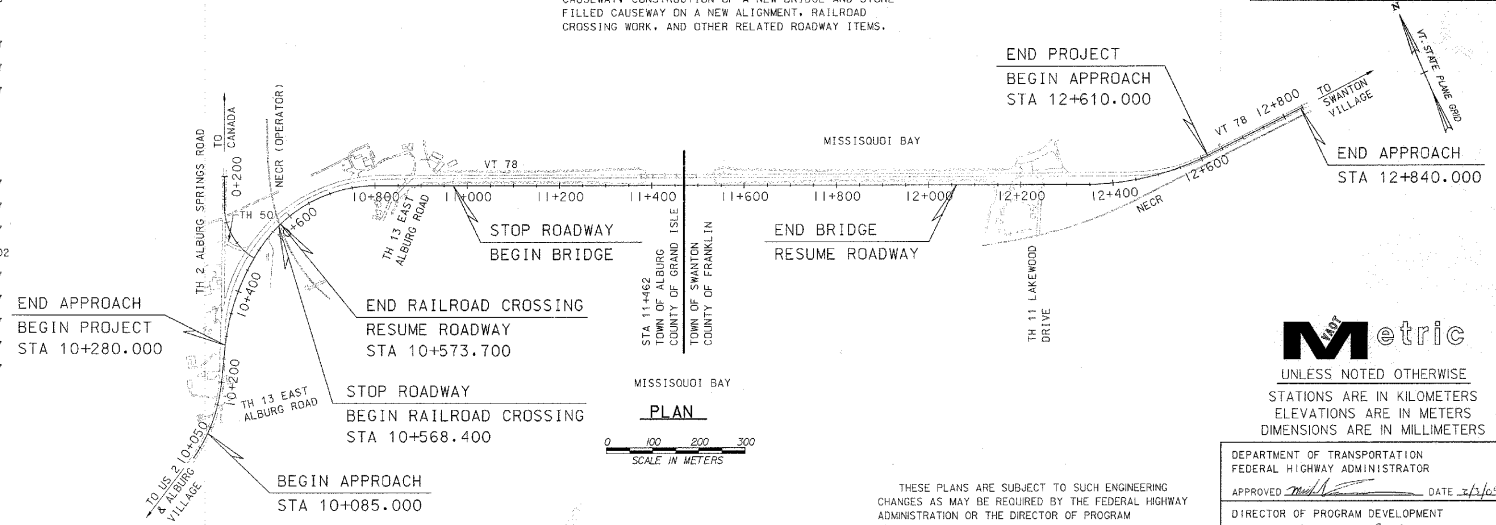
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREON.

RESIDENT ENGINEER

BY _____

DATE 01-27-06

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.



PLAN

0 100 200 300
SCALE IN METERS

Metric

UNLESS NOTED OTHERWISE
STATIONS ARE IN KILOMETERS
ELEVATIONS ARE IN METERS
DIMENSIONS ARE IN MILLIMETERS

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JANUARY 4, 2001 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATOR
APPROVED _____ DATE 12/2/04

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 12/24/03

PROJECT MANAGER : DANNY R. LANDRY

PROJECT NAME : ALBURG - SWANTON
PROJECT NUMBER : BRF 036-1(1)

SHEET M1 OF M12

MASTER PLANS (SHEETS M1 - M12) PREPARED BY:

VHB
Vanasse Hangen Brustlin, Inc.
Transportation
Land Development
Environmental Services
Six Bedford Farms, Suite 607
Bedford, New Hampshire 03110-6532
603 644 0888 • FAX 603 644 2385

STATE OF VERMONT CHRISTOPHER B. BAILEY No. 0270 REGISTERED PROFESSIONAL ENGINEER

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Most Metric

SUMMARY OF ESTIMATED QUANTITIES

TRAINING	LANDSCAPING	EROSION CONTROL	FULL E & C	DEMOLITION	UTILITY	BRIDGE STEEL OPTION	BRIDGE CONCRETE OPTION	ROADWAY	GRAND TOTAL *	UNIT	ITEMS	ITEM NUMBER	RND
								1	1	LS	CLEARING AND GRUBBING (INCLUDES INDIVIDUAL TREES AND STUMPS)	201.10	
				3					3	EA	DEMOLITION AND DISPOSAL OF BUILDING	202.10	
				1					1	EA	DEMOLITION AND DISPOSAL OF BUILDING (MOD)	202.10	
								30 700	30 700	CM	COMMON EXCAVATION	203.15	
								400	400	CM	SOLID ROCK EXCAVATION	203.16	
								20 000	20 000	CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27	
								9000	9000	CM	EARTH BORROW	203.30	
								18 100	18 100	CM	SAND BORROW	203.31	
								32 500	32 500	CM	ROCK BORROW	203.33	
								33 000	33 000	SM	FINE GRADING - SUBGRADE	203.40	
		110			400			620	1130	CM	TRENCH EXCAVATION OF EARTH	204.20	
					10			15	25	CM	TRENCH EXCAVATION OF ROCK	204.21	
					420			60	480	CM	GRANULAR BACKFILL FOR STRUCTURES	204.30	
								1610	1610	SM	COLD PLANING - BITUMINOUS PAVEMENT	210.10	
								60	60	CM	EXCAVATION OF PETROLEUM CONTAMINATED SOILS CLASS I	215.20	
								1775	1775	CM	SUBBASE OF CRUSHED GRAVEL (COARSE GRADED) (MOD-CRUSHED AGGREGATE FOR SUBBASE)	301.25	
		600						15 000	15 600	CM	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	
								25	25	CM	AGGREGATE SURFACE COURSE	401.10	
								700	700	CM	AGGREGATE SHOULDERS, TRUCK MEASUREMENT	402.11	
								2800	2800	KG	EMULSIFIED ASPHALT	404.65	

* BRIDGE OPTIONS NOT INCLUDED N.A.B.I. = NOT A BID ITEM

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
MASTER QUANTITY SHEET (1 OF 11)	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By Date S.M. HODGDON 11/03	Bridge Design Supervisor C.D. BAKER Date 11/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.C.C. Info.	
File No. ZE072GS1-MASTER	Sheet M2 of M12

VHB NO. 50911 plot date: 11/7/2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Pilot Metric

SUMMARY OF ESTIMATED QUANTITIES

TRAINING	LANDSCAPING	EROSION CONTROL	FULL E & C	DEMOLITION	UTILITY	BRIDGE STEEL OPTION	BRIDGE CONCRETE OPTION	ROADWAY	GRAND TOTAL *	UNIT	ITEMS	ITEM NUMBER	RND
								1	1	LU	PRICE ADJUSTMENT ASPHALT CEMENT (N.A.B.I.)	406.50	
								14 720	14 720	T	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (PG 64-34)	490.30	
								20	20	CM	CONCRETE, CLASS B	501.25	
								900	900	KG	REINFORCING STEEL	507.15	
								18	18	M	METAL HAND RAILING	525.15	
								1	1	LS	MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS	527.10	
								3	3	EA	REMOVAL OF STRUCTURE (MOD-TIMBER BARGES)	529.15	
											BEGIN PIPE OPTIONS AA		
								27	27	M	375 mm CAAP 1.52 mm (68 mm x 12 mm)	601.0210	
								27	27	M	375 mm PCCSP 1.63 mm (68 mm x 12 mm)	601.0410	
								27	27	M	375 mm RCP CLASS III	601.0810	
								27	27	M	375 mm CPEP	601.0910	
											END PIPE OPTIONS AA		
											BEGIN PIPE OPTIONS BB		
								22	22	M	375 mm CAAP 1.52 mm (68 mm x 12 mm)	601.0210	
								22	22	M	375 mm PCCSP 1.63 mm (68 mm x 12 mm)	601.0410	
								22	22	M	375 mm RCP CLASS IV	601.0811	
								22	22	M	375 mm CPEP	601.0910	
											END PIPE OPTIONS BB		
											BEGIN PIPE OPTIONS CC		
								102	102	M	450 mm CAAP 1.52 mm (68 mm x 12 mm)	601.0215	
								102	102	M	450 mm PCCSP 1.63 mm (68 mm x 12 mm)	601.0415	
								102	102	M	450 mm RCP CLASS III	601.0815	
								102	102	M	450 mm CPEP	601.0915	
											END PIPE OPTIONS CC		
											BEGIN PIPE OPTIONS DD		
								15	15	M	450 mm CAAP 1.52 mm (68 mm x 12 mm)	601.0215	
								15	15	M	450 mm PCCSP 1.63 mm (68 mm x 12 mm)	601.0415	
								15	15	M	450 mm RCP CLASS IV	601.0816	
								15	15	M	450 mm CPEP	601.0915	
											END PIPE OPTIONS DD		
											BEGIN PIPE OPTIONS EE		
								127	127	M	600 mm CAAP 1.52 mm (68 mm x 12 mm)	601.0225	
								127	127	M	600 mm PCCSP 1.63 mm (68 mm x 12 mm)	601.0425	
								127	127	M	600 mm RCP CLASS III	601.0825	
								127	127	M	600 mm CPEP	601.0920	
											END PIPE OPTIONS EE		

* BRIDGE OPTIONS NOT INCLUDED N.A.B.I. = NOT A BID ITEM

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

MASTER QUANTITY SHEET (2 OF 11)

Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By Date	Bridge Design Supervisor
C.D. BAKER 1/04	C.D. BAKER Date 1/04
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (11)
L.G.C. Info.	
File No. ZE072QS1-MASTER	Sheet M3 of M12

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091I

plot date: 1/27/2004

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

TRAINING	LANDSCAPING	EROSION CONTROL	FULL E & C	DEMOLITION	UTILITY	BRIDGE STEEL OPTION	BRIDGE CONCRETE OPTION	ROADWAY	GRAND TOTAL *	UNIT	ITEMS	ITEM NUMBER	RND
								41	41	M	450 mm PCCSP 1.63 mm (68 mm x 12 mm)	601.0415	
								1	1	EA	CAST IRON GRATE WITH FRAME, TYPE A	604.45	
								4	4	EA	CAST IRON GRATE WITH FRAME, TYPE D	604.47	
								100	100	M	150 mm UNDERDRAIN	605.10	
		15						300	315	HR	BULLDOZER RENTAL, TYPE I	608.10	
		15						50	65	HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	
								600	600	HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE II	608.26	
								50	50	HR	POWER BROOM RENTAL	608.30	
								600	600	HR	TRUCK RENTAL	608.37	
								4050	4050	CM	DUST CONTROL WITH WATER	609.10	
								7	7	T	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15	
		320							320	CM	STONE FILL, TYPE I	613.10	
		40							40	CM	STONE FILL, TYPE II	613.11	
		11625							11625	CM	STONE FILL, TYPE IV	613.13	
	20								20	CM	RIPRAP, HEAVY TYPE (MOD)	613.15	
								40	40	M	CAST-IN-PLACE CONCRETE CURB, TYPE B	616.28	
								10	10	T	BITUMINOUS CONCRETE CURB, TYPE A	616.30	
								8	8	EA	RELOCATE MAIL BOX, SINGLE SUPPORT	617.10	
								2	2	EA	RELOCATE MAIL BOX, MULTIPLE SUPPORT	617.12	
								15	15	SM	BRICK PAVING	618.20	

* BRIDGE OPTIONS NOT INCLUDED N.A.B.I. = NOT A BID ITEM

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
MASTER QUANTITY SHEET (3 OF 11)	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By S.M. HODGDON Date 11/03	Bridge Design Supervisor C.D. BAKER Date 11/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072QS1-MASTER	Sheet M4 of M12

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091I

plot date: 11/7/2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

TRAINING	LANDSCAPING	EROSION CONTROL	FULL E & C	DEMOLITION	UTILITY	BRIDGE STEEL OPTION	BRIDGE CONCRETE OPTION	ROADWAY	GRAND TOTAL *	UNIT	ITEMS	ITEM NUMBER	RND
								38	38	EA	BOUNDARY MARKERS	619.10	
								20	20	EA	YIELDING MARKER POSTS	619.17	
								90	90	M	CHAIN-LINK FENCE, 1.8 M	620.12	
								7.2	7.2	M	GATE FOR CHAIN-LINK FENCE, 1.8 M	620.16	
								6	6	EA	BRACING ASSEMBLY FOR CHAIN-LINK FENCE, 1.8 M	620.21	
								45	45	M	REMOVING AND RESETTING FENCE	620.50	
								85	85	M	REMOVAL OF EXISTING FENCE	620.55	
								4985	4985	M	SNOW FENCE (MOD)	620.70	
								500.8	500.8	M	STEEL BEAM GUARDRAIL	621.20	
								4	4	EA	MANUFACTURED TERMINAL SECTION	621.505	
								39	39	EA	ENERGY ABSORPTION ATTENUATOR	621.56	
								4	4	EA	ANCHOR FOR STEEL BEAM RAIL	621.60	
								2258.7	2258.7	M	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	
								16	16	EA	REMOVAL AND DISPOSAL OF GUIDE POSTS	621.81	
								4500	4500	M	TEMPORARY TRAFFIC BARRIER	621.90	
								920	920	M	TEMPORARY TRAFFIC BARRIER (MOD-REMOVE AND RESET)	621.90	
								18	18	EA	SETTLEMENT PLATFORM, TYPE I	623.21	
					30				30	M	DUCTS, CONCRETE ENCASED (MOD-DUCT BANK, 12 DUCTS)	624.20	
					340				340	M	DUCTS, CONCRETE ENCASED (MOD-DUCT BANK, 9 DUCTS)	624.20	
					50				50	M	DUCTS, CONCRETE ENCASED (MOD-DUCT BANK, 3 DUCTS)	624.20	

* BRIDGE OPTIONS NOT INCLUDED N.A.B.I. = NOT A BID ITEM

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
MASTER QUANTITY SHEET (4 OF 11)	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By Date S.M. HODGDON 11/03	Bridge Design Supervisor C.D. BAKER Date 11/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072QS1-MASTER	Sheet M5 of M12

VHB NO. 5091 plot date: 3/7/2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

TRAINING	LANDSCAPING	EROSION CONTROL	FULL E & C	DEMOLITION	UTILITY	BRIDGE STEEL OPTION	BRIDGE CONCRETE OPTION	ROADWAY	GRAND TOTAL *	UNIT	ITEMS	ITEM NUMBER	RND
					410				410	M	DUCTS, DIRECT BURIAL	624.30	
					30				30	M	SLEEVES FOR UTILITIES (MOD-SPLIT SLEEVE)	625.10	
								400	400	HR	UNIFORMED TRAFFIC OFFICERS	630.10	
								600	600	HR	FLAGGERS	630.15	
								2000	2000	HR	FLAGGERS (MOD - RAILROAD)	630.15	⚠
			1						1	LS	FIELD OFFICE-ENGINEERS (MOD)	631.10	
			1						1	LS	FIELD OFFICE-ENGINEERS (MOD-BOAT)	631.10	
			1						1	LS	FIELD OFFICE-SOILS AND MATERIALS (MOD)	631.11	
			1						1	LS	TESTING EQUIPMENT-CONCRETE	631.16	
			1						1	LS	TESTING EQUIPMENT-BITUMINOUS (MOD)	631.17	
			1						1	LU	FIELD OFFICE-TELEPHONE (N.A.B.I.)	631.25	
4680									4680	HR	EMPLOYEE TRAINEESHIP	634.10	
								1	1	LS	MOBILIZATION	635.10	
					2				2	EA	UTILITY VAULT	636.20	
								1	1	LS	TRAFFIC CONTROL	641.10	
								2	2	EA	PORTABLE CHANGEABLE MESSAGE SIGN	641.15	
								2	2	EA	PORTABLE ARROW BOARD	641.16	
								6500	6500	M	DURABLE 100 mm WHITE LINE	646.40	
								6910	6910	M	DURABLE 100 mm YELLOW LINE	646.41	
								210	210	M	DURABLE 200 mm YELLOW LINE	646.43	
								30	30	M	DURABLE 600 mm STOP BAR	646.46	

* BRIDGE OPTIONS NOT INCLUDED

N.A.B.I. = NOT A BID ITEM

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		MAJOR ITEMS AND QUANTITIES FOR
		ITEM 641.10, TRAFFIC CONTROL
		ALBURG DETOUR
9810	CM	COMMON EXCAVATION
8000	CM	EARTH BORROW
1600	CM	SUBBASE OF CRUSHED GRAVEL (COARSE GRADED)
		(MOD-CRUSHED AGGREGATE FOR SUBBASE)
500	T	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (PG 64-34)
7050	SM	GEOTEXTILE UNDER STONE FILL
		SWANTON DETOUR
5250	CM	COMMON EXCAVATION
3000	CM	EARTH BORROW
1950	CM	SUBBASE OF CRUSHED GRAVEL (COARSE GRADED)
		(MOD-CRUSHED AGGREGATE FOR SUBBASE)
710	T	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (PG 64-34)
6400	SM	GEOTEXTILE UNDER STONE FILL

REVISION TABLE			
⚠	3/11/04	ADDED ITEM	CDB
NO.	DATE	DESCRIPTION	BY

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

MASTER QUANTITY SHEET (5 OF 11)

Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By C.D. BAKER Date 3/04	Bridge Design Supervisor C.D. BAKER Date 3/04
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (11)
I.G.C. Info.	
File No. ZE072QS1-MASTER	Sheet M6 of M12

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date: 3/11/2004

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STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

TRAINING	LANDSCAPING	EROSION CONTROL	FULL E & C	DEMOLITION	UTILITY	BRIDGE STEEL OPTION	BRIDGE CONCRETE OPTION	ROADWAY	GRAND TOTAL *	UNIT	ITEMS	ITEM NUMBER	RND
								44	44	EA	DURABLE LETTER OR SYMBOL	646.50	
								2	2	EA	DURABLE RAILROAD CROSSING SYMBOL	646.52	
								8590	8590	M	TEMPORARY 100 mm WHITE LINE	646.60	
								8590	8590	M	TEMPORARY 100 mm YELLOW LINE	646.61	
								35	35	M	TEMPORARY 600 mm STOP BAR	646.66	
								35	35	EA	TEMPORARY LETTERS OR SYMBOLS	646.70	
								2	2	EA	TEMPORARY RAILROAD CROSSING SYMBOL	646.72	
								1140	1140	EA	LINE STRIPING TARGETS	646.76	
								390	390	SM	REMOVAL OF EXISTING PAVEMENT MARKINGS	646.85	
								5975	5975	SM	GEOTEXTILE FOR ROADBED SUBGRADE SEPARATOR	649.11	
		8160							8160	SM	GEOTEXTILE UNDER STONE FILL	649.31	
		4860							4860	SM	GEOTEXTILE FOR SILT FENCE	649.51	
		12 350							12 350	SM	GEOTEXTILE FOR FILTER CURTAIN	649.61	
		220							220	KG	SEED	651.15	
		4.5							4.5	KG	SEED (MOD-WETLAND SEED)	651.15	
		80							80	KG	SEED - WINTER RYE	651.17	
		1750							1750	KG	FERTILIZER	651.18	
		16							16	T	AGRICULTURAL LIMESTONE	651.20	
		16							16	T	HAY MULCH (MOD)	651.25	
		3950							3950	EA	HAY BALES FOR EROSION CONTROL	651.26	

* BRIDGE OPTIONS NOT INCLUDED N.A.B.I. = NOT A BID ITEM

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
MASTER QUANTITY SHEET (6 OF 11)	
Designed By C. L. CILLEY	Drawn By C. L. CILLEY
Checked By S. M. HODGDON Date 11/03	Bridge Design Supervisor C. D. BAKER Date 11/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072QS1-MASTER	Sheet M7 of M12

VHB NO. 5091 plot date: 11/7/2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

TRAINING	LANDSCAPING	EROSION CONTROL	FULL E & C	DEMOLITION	UTILITY	BRIDGE STEEL OPTION	BRIDGE CONCRETE OPTION	ROADWAY	GRAND TOTAL *	UNIT	ITEMS	ITEM NUMBER	RND
		1550							1550	CM	TOPSOIL	651.35	
		90							90	SM	GRUBBING MATERIAL	651.40	
		1							1	LS	EROSION & SEDIMENT CONTROL PLAN	652.10	
		770							770	HR	MONITORING EROSION & SEDIMENT CONTROL PLAN	652.20	
		1							1	LU	FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN (N.A.B.I.)	652.30	
		1600							1600	SM	EROSION MATTING	654.10	
	5								5	EA	EVERGREEN TREES (MOD-ABIES BALSAMEA, HEIGHT 1.68 m)	656.20	
	8								8	EA	EVERGREEN TREES (MOD-ABIES BALSAMEA, HEIGHT 2.21 m)	656.20	
	6								6	EA	EVERGREEN TREES (MOD-JUNIPERUS VIRGINIANA, HEIGHT 1.68 m)	656.20	
								24	24	SM	TRAFFIC SIGNS, TYPE A	675.20	
								270	270	M	FLANGED CHANNEL SIGN POST	675.301	
								77	77	EA	REMOVING SIGNS	675.50	
								4	4	EA	ERECTING SALVAGED SIGNS	675.60	
								59	59	EA	DELINEATORS WITH STEEL POSTS	676.10	
					160				160	M	WIRED CONDUIT	678.23	
					5				5	EA	PULL BOX - STANDARD	678.25	
					2				2	EA	PULL BOX - DOUBLE	678.27	

* BRIDGE OPTIONS NOT INCLUDED N.A.B.I. = NOT A BID ITEM

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
MASTER QUANTITY SHEET (7 OF 11)	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By S.M. HODGDON Date 11/03	Bridge Design Supervisor C.D. BAKER Date 11/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072QS1-MASTER	Sheet M8 of M12

VHB NO. 5098 plot date: 8/7/2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

TRAINING	LANDSCAPING	EROSION CONTROL	FULL E & C	DEMOLITION	UTILITY	BRIDGE STEEL OPTION	BRIDGE CONCRETE OPTION	ROADWAY	GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
											BEGIN STEEL SUPERSTRUCTURE OPTION		
						580			580	CM	ROCK BORROW	203.33	
						105			105	CM	COFFERDAM EXCAVATION, EARTH (STATION 10+970)	208.30	
						75			75	CM	COFFERDAM EXCAVATION, EARTH (STATION 12+060)	208.30	
						55			55	CM	COFFERDAM EXCAVATION, ROCK (STATION 10+970)	208.35	
						15			15	CM	COFFERDAM EXCAVATION, ROCK (STATION 12+060)	208.35	
						1			1	LS	COFFERDAM (STATION 10+970)	208.40	
						1			1	LS	COFFERDAM (STATION 12+060)	208.40	
						1005			1005	KG	EMULSIFIED ASPHALT	404.65	
						2730			2730	T	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (PG 64-34)	490.30	
						4140			4140	CM	CONCRETE, CLASS A QC/QA	501.22	
						422			422	CM	CONCRETE, HIGH PERFORMANCE CLASS A	501.33	
						2175			2175	CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	
						2 275 650			2 275 650	KG	STRUCTURAL STEEL (PLATE GIRDER)	506.55	
						3080			3080	KG	STRUCTURAL STEEL	506.60	
						327 707			327 707	KG	REINFORCING STEEL	507.15	
						724 423			724 423	KG	EPOXY COATED REINFORCING STEEL	507.17	
						1			1	LS	SHEAR CONNECTORS (27 948 EA)	508.15	
						1			1	LS	MOBILIZATION OF DRILLED SHAFT EQUIPMENT	512.30	
						236			236	M	DRILLED SHAFT IN EARTH (3.05 m DIA)	512.31	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

MASTER QUANTITY SHEET (8 OF 11)

Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By S.M. HODGDON Date 11/03	Bridge Design Supervisor C.D. BAKER Date 11/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE0720S1-MASTER	Sheet M9 of M12

VHB NO. 5098

plot date: 11/7/2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

TRAINING	LANDSCAPING	EROSION CONTROL	FULL E & C	DEMOLITION	UTILITY	BRIDGE STEEL OPTION	BRIDGE CONCRETE OPTION	ROADWAY	GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
						84			84	M	DRILLED SHAFT IN ROCK (2.90 m DIA)	512.32	
						20			20	M	DRILLED SHAFT OBSTRUCTION DRILLING AND REMOVAL	512.33	
						1			1	LS	STRUCTURAL PAINTING, SHOP APPLIED (73 400 kg)	513.25	
						1			1	LS	CONTAINMENT & ENVIRONMENTAL PROTECTION, SHOP (73 400 kg)	513.35	
						1			1	LS	SURFACE PREPARATION, SHOP (73 400 kg)	513.40	
						1980			1980	L	WATER REPELLENT	514.10	
						28			28	M	BRIDGE EXPANSION JOINT (3 CELL MODULAR)	516.10	
						28			28	M	BRIDGE EXPANSION JOINT (5 CELL MODULAR)	516.10	
						14 321			14 321	SM	SHEET MEMBRANE WATERPROOFING (MOD-SPRAYED)	519.20	
						2207			2207	M	BRIDGE RAILING - NETC 4 RAIL	525.34	
						1110			1110	SM	REMOVAL OF BRIDGE PAVEMENT	529.10	
						1			1	EA	REMOVAL OF STRUCTURE	529.15	
						32			32	EA	BEARING DEVICE ASSEMBLY (FIXED, POT)	531.10	
						72			72	EA	BEARING DEVICE ASSEMBLY (EXPANSION, POT)	531.10	
						4			4	EA	GUARDRAIL APPROACH SECTION, NETC 4 RAIL	621.73	
						1			1	LS	DUCTS ON BRIDGE	625.16	
						1			1	LS	STREET LIGHTING (MOD-NAVIGATIONAL LIGHTING)	679.15	
											** END STEEL SUPERSTRUCTURE OPTION **		

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
MASTER QUANTITY SHEET (9 OF 11)	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By S.M. HODGDON Date 11/03	Bridge Design Supervisor C.D. BAKER Date 11/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
L.G.C. info.	
File No. ZE0720S1-MASTER	Sheet M10 of M12

VHB NO. 50911

plot date: 11/7/2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

TRAINING	LANDSCAPING	EROSION CONTROL	FULL E & C	DEMOLITION	UTILITY	BRIDGE STEEL OPTION	BRIDGE CONCRETE OPTION	ROADWAY	GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
											BEGIN CONCRETE SUPERSTRUCTURE OPTION		
							525		525	CM	ROCK BORROW	203.33	
							135		135	CM	COFFERDAM EXCAVATION, EARTH (STATION 10+970)	208.30	
							65		65	CM	COFFERDAM EXCAVATION, EARTH (STATION 12+060)	208.30	
							55		55	CM	COFFERDAM EXCAVATION, ROCK (STATION 10+970)	208.35	
							15		15	CM	COFFERDAM EXCAVATION, ROCK (STATION 12+060)	208.35	
							1		1	LS	COFFERDAM (STATION 10+970)	208.40	
							1		1	LS	COFFERDAM (STATION 12+060)	208.40	
							1052		1052	KG	EMULSIFIED ASPHALT	404.65	
							2847		2847	T	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (PG 64-34)	490.30	
							2323 ⚠		2323 ⚠	CM	CONCRETE, HIGH PERFORMANCE CLASS A	501.33	
							60 ⚠		60 ⚠	CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	
							1		1	LS	SHORING SUPERSTRUCTURE (MOD-PRECAST SEGMENT PRODUCTION)	502.10	
							2900		2900	KG	STRUCTURAL STEEL	506.60	
							214 980		214 980	KG	REINFORCING STEEL	507.15	
							300 000		300 000	KG	REINFORCING STEEL (MOD-POST-TENSIONING TENDONS LONGITUDINAL SUPERSTRUCTURE STRAND)	507.15	
							47 515		47 515	KG	EPOXY COATED REINFORCING STEEL	507.17	
							1		1	LS	MOBILIZATION OF DRILLED SHAFT EQUIPMENT	512.30	
							236		236	M	DRILLED SHAFT IN EARTH (3.05 m DIA)	512.31	
							84		84	M	DRILLED SHAFT IN ROCK (2.90 m DIA)	512.32	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

REVISION TABLE			
⚠	3/15/04	MODIFIED QUANTITY	SWJ
NO.	DATE	DESCRIPTION	BY

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
MASTER QUANTITY SHEET (10 OF 11)	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By S.M. HODGDON Date 3/04	Bridge Design Supervisor C.D. BAKER Date 3/04
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
I.G.C. Info.	
File No. ZE072QSI-MASTER	Sheet M11 of M12

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 3/15/2004

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

TRAINING	LANDSCAPING	EROSION CONTROL	FULL E & C	DEMOLITION	UTILITY	BRIDGE STEEL OPTION	BRIDGE CONCRETE OPTION	ROADWAY	GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
							20		20	M	DRILLED SHAFT OBSTRUCTION DRILLING AND REMOVAL	512.33	
							1660		1660	L	WATER REPELLENT	514.10	
							28.2		28.2	M	BRIDGE EXPANSION JOINT (8 CELL MODULAR)	516.10	
							14 250		14 250	SM	SHEET MEMBRANE WATERPROOFING (MOD-SPRAYED)	519.20	
							2208		2208	M	BRIDGE RAILING - NETC 4 RAIL	525.34	
							1110		1110	SM	REMOVAL OF BRIDGE PAVEMENT	529.10	
							1		1	EA	REMOVAL OF STRUCTURE	529.15	
							14		14	EA	BEARING DEVICE ASSEMBLY (MOD-FIXED, ELASTOMERIC)	531.10	
							34		34	EA	BEARING DEVICE ASSEMBLY (MOD-EXPANSION, ELASTOMERIC)	531.10	
							14 800		14 800	SM	CONCRETE CLASS AA OVERLAY (MOD-PRECAST SUPERSTRUCTURE SEGMENTS)	580.19	
							2		2	EA	STEEL GRATE (MOD-ACCESS DOOR)	604.50	
							4		4	EA	GUARDRAIL APPROACH SECTION, NETC 4 RAIL	621.73	
							1		1	LS	DUCTS ON BRIDGE	625.16	
							1		1	LS	STREET LIGHTING (MOD-NAVIGATIONAL LIGHTING)	679.15	
											** END CONCRETE SUPERSTRUCTURE OPTION **		

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
MASTER QUANTITY SHEET (11 OF 11)	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By S.M. HODGDON Date 11/03	Bridge Design Supervisor C.D. BAKER Date 11/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (11)
I.G.C. Info.	
File No. ZE072QS1-MASTER	Sheet M12 of M12

VHB NO. 5091

plot date: 11/7/2003

12

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC DATA

VT 78

2003 ADT	= 5600	2023 ADT	= 7400
2003 DHV	= 740	2023 DHV	= 920
2003 ADTT	= 690	2023 ADTT	= 1100
2003 %D	= 52	2023 %D	= 52
2003 %T	= 11	2023 %T	= 12

DESIGN SPEED = 80 KM/H
POSTED SPEED = 80 KM/H (50 MPH)

2003-2023 ESAL'S 9,786,000
2003-2043 ESAL'S 25,939,000

TH 2

2003 ADT	= 670	2023 ADT	= 910
2003 DHV	= 140	2023 DHV	= 190
2003 ADTT	= 40	2023 ADTT	= 30
2003 %D	= 61	2023 %D	= 61
2003 %T	= 5	2023 %T	= 4

DESIGN SPEED = 80 KM/H
POSTED SPEED = 60 KM/H (35 MPH)

2003-2023 ESAL'S 240,000
2003-2043 ESAL'S 572,000

TH 13

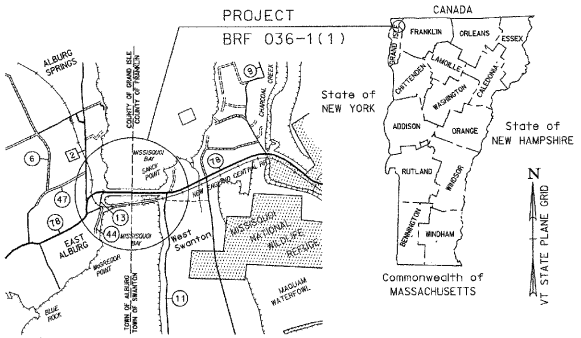
2003 ADT	= 110	2023 ADT	= 150
2003 DHV	= 40	2023 DHV	= 45
2003 ADTT	= *	2023 ADTT	= *
2003 %D	= 58	2023 %D	= 58
2003 %T	= <1%	2023 %T	= <1%

DESIGN SPEED = 40 KM/H
POSTED SPEED = 40 KM/H (25 MPH)

* NO TRUCKS REPORTED DURING 12 HOUR COUNT.

BITUMINOUS CONCRETE PAVEMENT SUPERPAVE MIXTURE DESIGN CRITERIA	
DESIGN LANE/DESIGN LIFE ESALS	4,893,000
DESIGN NUMBER OF GYRATIONS	100
PERFORMANCE GRADED ASPHALT BINDER	PG 64-34

PROJECT
BRF 036-1(1)



LOCATION MAP
0 1000 2000 3000
SCALE IN METERS

PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
VT 78 (PRINCIPAL ARTERIAL) OVER MISSISQUOI BAY, BRIDGE NO. 2

PROJECT LOCATION: BEGINS IN ALBURG AT A POINT 1.182 km WEST OF THE ALBURG/SWANTON TOWN LINE (MIDDLE OF THE EXISTING BRIDGE) AND CONTINUES EASTERLY ON VT 78 IN ALBURG FOR 1.182 km, THEN INTO THE TOWN OF SWANTON FOR A DISTANCE OF 1.148 km.

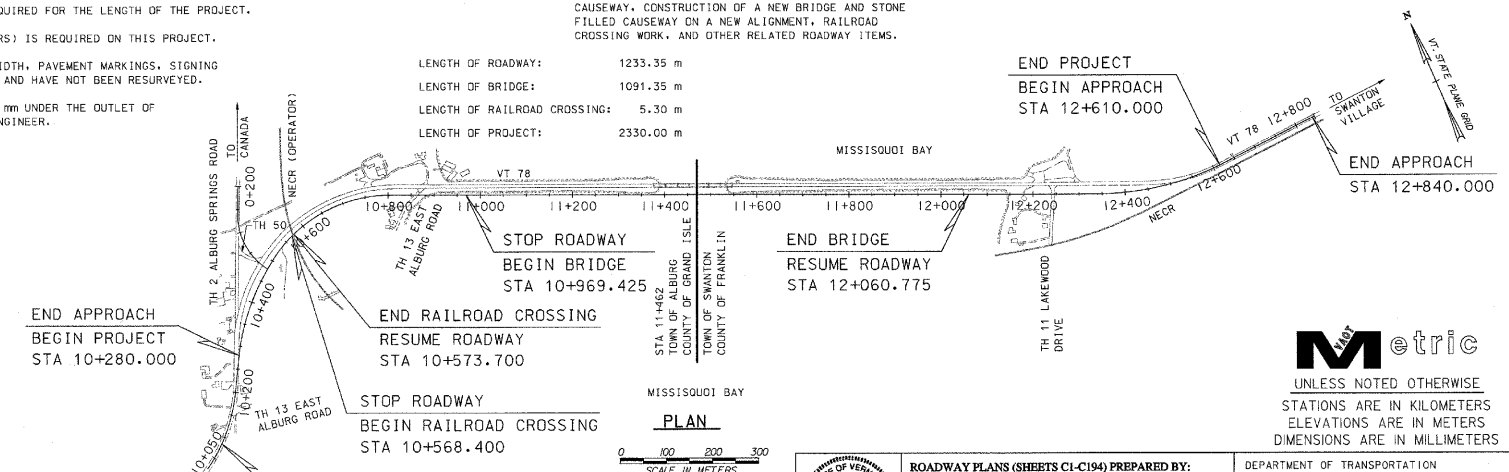
PROJECT DESCRIPTION: REMOVAL OF THE EXISTING BRIDGE AND PORTION OF CAUSEWAY, CONSTRUCTION OF A NEW BRIDGE AND STONE FILLED CAUSEWAY ON A NEW ALIGNMENT, RAILROAD CROSSING WORK, AND OTHER RELATED ROADWAY ITEMS.

LENGTH OF ROADWAY:	1233.35 m
LENGTH OF BRIDGE:	1091.35 m
LENGTH OF RAILROAD CROSSING:	5.30 m
LENGTH OF PROJECT:	2330.00 m

STEEL SUPERSTRUCTURE OPTION

NOTES:

1. INDEX OF SHEETS LOCATED ON SHEET C2.
2. UTILITY RELOCATION (BY OTHERS) IS REQUIRED FOR THE LENGTH OF THE PROJECT.
3. RAILROAD FORCE ACCOUNT WORK (BY OTHERS) IS REQUIRED ON THIS PROJECT.
4. VT 78 PAVEMENT THICKNESS, PAVEMENT WIDTH, PAVEMENT MARKINGS, SIGNING AND PIPES WERE MODIFIED IN YEAR 2000 AND HAVE NOT BEEN RESURVEYED.
5. ALL STONE FILL PADS SHALL EXTEND 300 mm UNDER THE OUTLET OF ALL CULVERTS OR AS DIRECTED BY THE ENGINEER.



MISSISQUOI BAY
PLAN
0 100 200 300
SCALE IN METERS

CONVENTIONAL SYMBOLS

COUNTY LINE
TOWN LINE
LIMITS OF ACCESS
POINT OF ACCESS
FENCE LINE
STONE WALL
TRAVELED WAY
GUARDRAIL
RAILROAD
SURVEY LINE
CULVERT
POWER POLE
TELEPHONE POLE
AERIAL ELECTRICAL & TELEPHONE — AERIAL E & T
AERIAL TELEPHONE — T
AERIAL ELECTRIC — E
UNDERGROUND TELEPHONE — UT
UNDERGROUND ELECTRICAL — UE
TREES
CONTROL OF ACCESS
R.O.W. LINE
PROPERTY LINE
R.O.W. TAKING LINE
SLOPE RIGHTS — SR
CLEARING LINE LIMITS — CLL
CLEAR ZONE — CZ
TOP OF CUT
TOE OF SLOPE

SURVEYED BY : VAOT AND E1V TECHNICAL SERVICES, LLC
SURVEYED DATE : 9/95 AND 11/98

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JANUARY 4, 2001 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

STATE OF VERMONT — CHRISTOPHER D. SQUIER — No. 6270 — REGISTERED PROFESSIONAL ENGINEER

ROADWAY PLANS (SHEETS C1-C194) PREPARED BY:
VHB Vanasse Hangen Brustlin, Inc.
Transportation
Land Development
Environmental Services
Six Bedford Farms, Suite 607
Bedford, New Hampshire 03110-6532
603 644 0888 • FAX 603 644 2385

BRIDGE PLANS (SHEETS SS 1 - SS 57) PREPARED BY:
VHB Vanasse Hangen Brustlin, Inc.
Transportation
Land Development
Environmental Services
Six Bedford Farms, Suite 607
Bedford, New Hampshire 03110-6532
603 644 0888 • FAX 603 644 2385

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATOR
APPROVED _____ DATE _____

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE _____

PROJECT MANAGER : DANNY R. LANDRY

PROJECT NAME : ALBURG - SWANTON
PROJECT NUMBER : BRF 036-1(1)

SHEET C1 OF C194 SHEETS

VAOT Metric
UNLESS NOTED OTHERWISE
STATIONS ARE IN KILOMETERS
ELEVATIONS ARE IN METERS
DIMENSIONS ARE IN MILLIMETERS

INDEX OF SHEETS

SHEET NO	SHEET NAME
C1	TITLE SHEET
C2	INDEX OF SHEETS
C3	PRELIMINARY INFORMATION SHEET
C4-C6	TYPICAL ROADWAY SECTIONS
C7-C10	QUANTITY SHEETS
C11	ITEM DETAIL SHEET
C12-C13	DRAINAGE DETAIL SHEETS
C14-C15	EARTHWORKS SUMMARY SHEETS
C16-C19	ROW DETAIL SHEETS
C20-C29	ROW PLAN SHEETS
C30	TIE SHEET
C31-C35	ALIGNMENT TIES
C36-C45	VT 78 ROADWAY PLANS
C46	TH 2 ALBURG SPRINGS ROAD PLAN
C47-C56	VT 78 PROFILE & SIGNING & MARKING PLANS
C57	TH 2 SIGNING & MARKING PLAN
C58	TH 2 ALBURG SPRINGS ROAD PROFILE
C59	SIDEROAD OFF ALBURG SPRINGS RD PROFILE
C60	SIDEROAD & DRIVE PROFILES
C61	BOAT RAMP AREA PLAN
C62	PERMANENT TURTLE BASKING AREA
C63-C67	TRAFFIC SIGN SUMMARY SHEETS
C68-C76	TRAFFIC CONTROL PLANS
C77	BORING LAYOUT PLAN
C78	BORING NOTES
C79-C116	BORING LOGS
C117-C122	EROSION CONTROL PLANS
C123-C124	TEMPORARY EROSION CONTROL DETAILS
C125	PERMANENT EROSION CONTROL DETAILS
C126	MISCELLANEOUS DETAIL SHEET
SS 1-SS 57	BRIDGE SHEETS
C127-C176	VT 78 CROSS SECTIONS
C177-C183	TH 2 ALBURG SPRINGS ROAD CROSS SECTIONS
C184-C189	SIDEROAD OFF TH 2 CROSS SECTIONS
C190-C191	TH 13 EAST ALBURG ROAD CROSS SECTIONS
C192	DRIVE OFF TH 13 CROSS SECTION
C193-C194	SANDY POINT ROAD CROSS SECTIONS

NOTES:

1. ALL SHEETS WITH AN "C" PREFIX ARE CIVIL SHEETS.
2. ALL SHEETS WITH AN "SS" PREFIX ARE BRIDGE SHEETS.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
INDEX OF SHEETS	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By Date J.A. MERCER 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072IND	Sheet C2 of C194

VANASSE HANGEN BRUSTLIN, INC.

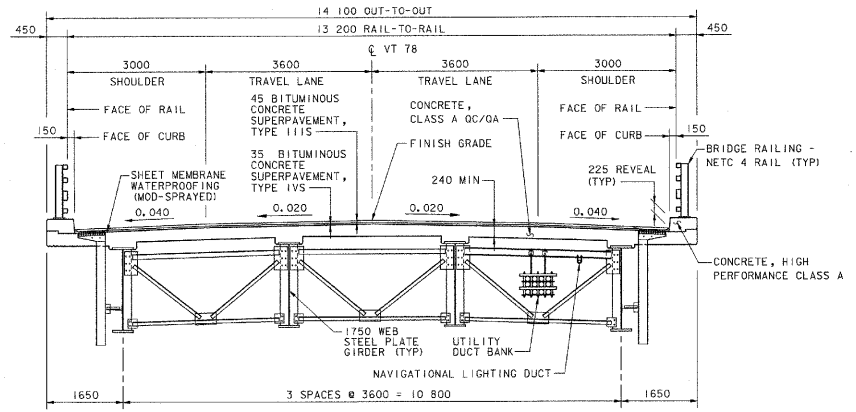
VHB NO. 5091I

plot date: 10/28/2003

MATERIAL ITEM	THICKNESS TOLERANCES
PAVEMENT	+/- 5 mm (TOTAL DEPTH)

VT 78 BRIDGE

45 BITUMINOUS CONCRETE PAVEMENT, TYPE IIIS PG 64-34
35 BITUMINOUS CONCRETE PAVEMENT, TYPE IVS



TRANSVERSE SECTION

SCALE: 1:50

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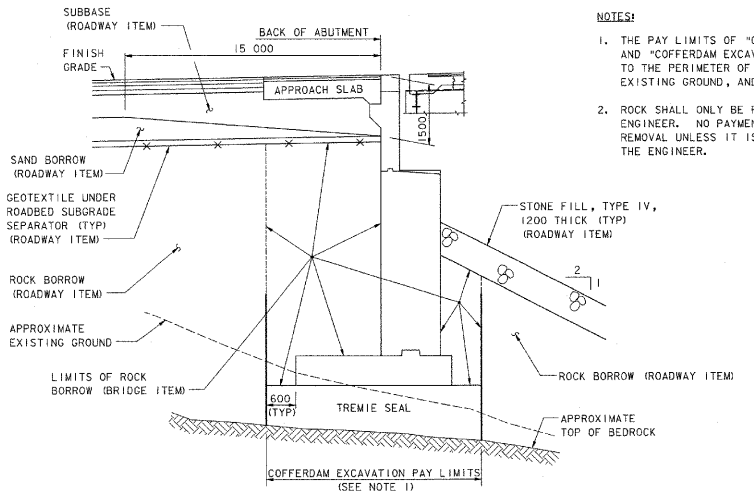
SCALE = 1:50



TYPICAL ABUTMENT EXCAVATION LIMITS

NOT TO SCALE

NOTES:

1. THE PAY LIMITS OF "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE TO THE PERIMETER OF THE TREMIE SEAL, UP TO EXISTING GROUND, AND DOWN TO BEDROCK AS SHOWN.
2. ROCK SHALL ONLY BE REMOVED AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR ROCK REMOVAL UNLESS IT IS REQUIRED TO BE REMOVED BY THE ENGINEER.

FINAL HYDRAULICS REPORT

Metric

HYDROLOGIC DATA

DRAINAGE AREA= N/A
CHARACTER OF TERRAIN= ROLLING TO HILLY
CHARACTER & TYPE OF STREAM= LAKE

NATURE OF STREAMBED= SILTY LACUSTRINE LAKE BOTTOM DEPOSITS

Q2.33= N/A Q50= N/A
Q10= N/A Q100= N/A
Q25= N/A Q500= N/A

DATE OF FLOOD OF RECORD= N/A
WATER SURFACE ELEV.@ = N/A ESTIMATED DISCHARGE= N/A
NATURAL STREAM VELOCITY @ Q N/A
ICE CONDITIONS= * DEBRIS= NONE/SLIGHT
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEVATION RAPIDLY? N/A
IS ORDINARY RISE RAPID? N/A
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? N/A
IF YES, DESCRIBE:

WATERSHED STORAGE N/A HEADWATERS N/A UNIFORM THROUGHOUT WATERSHED N/A
IMMEDIATELY ABOVE SITE N/A

EXISTING STRUCTURE

STRUCTURE TYPE: ROLLED STEEL BEAM WITH CENTER LIFT YEAR BUILT: 1936
CLEAR SPAN (NORMAL TO STREAM): 159 m
VERTICAL CLEARANCE ABOVE STREAMBED: 9.3 m
WATERWAY OF FULL OPENING: 1330 m²
DISPOSITION OF STRUCTURE: REMOVE

TYPE OF MATERIAL UNDER SUBSTRUCTURE: LEDGE

WATER SURFACE ELEV. @ Q2.33= ** VELOCITY= N/A
Q10= 30.71 " = N/A
Q25= N/A " = N/A
Q50= 30.92 " = N/A
Q100= 30.95 " = N/A

LONG TERM STREAM BED CHANGES: NEGLIGIBLE

IS THE ROADWAY OVERTOPPED BELOW THE Q100? NO FREQUENCY: N/A
RELIEF ELEVATION: N/A DISCHARGE OVER ROAD @ Q100= N/A

UPSTREAM STRUCTURE: TOWN: N/A DISTANCE: N/A
HIGHWAY NO.: N/A STRUCTURE NO.: N/A
STRUCTURE TYPE: N/A
CLEAR SPAN: N/A CLEAR HEIGHT: N/A
YEAR BUILT: N/A FULL WATERWAY: N/A

DOWNSTREAM STRUCTURE: TOWN: N/A DISTANCE: N/A
HIGHWAY NO.: N/A STRUCTURE NO.: N/A
STRUCTURE TYPE: N/A
CLEAR SPAN: N/A CLEAR HEIGHT: N/A
YEAR BUILT: N/A FULL WATERWAY: N/A

PROPOSED STRUCTURE

STRUCTURE TYPE: 23 SPAN STEEL PLATE GIRDER

CLEAR SPAN (NORMAL TO STREAM): 1056 m
VERTICAL CLEARANCE ABOVE STREAMBED: 16.9 m
WATERWAY OF FULL OPENING: 11800 m²

WATER SURFACE ELEV. @ Q2.33= ** VELOCITY= N/A
Q10= 30.71 " = N/A
Q25= N/A " = N/A
Q50= 30.92 " = N/A
Q100= 30.95 " = N/A

IS THE ROADWAY OVERTOPPED BELOW THE Q100? NO FREQUENCY: N/A
RELIEF ELEVATION: N/A DISCHARGE OVER ROAD @ Q100= N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 32.07 m (AT ABUTMENT NO 2)
VERTICAL CLEARANCE @ Q100 = 1.1 m

SCOUR: NEGLIGIBLE
REQUIRED CHANNEL PROTECTION: NONE

PERMIT INFORMATION

AVERAGE DAILY FLOW: N/A
ORDINARY LOW WATER: N/A DEPTH: N/A
ORDINARY HIGH WATER: 29.9 m DEPTH: 5.4 m

ADDITIONAL COMMENTS

* DESIGN ICE FORCE = ICE STRENGTH = 2.07 MPa, AND ICE CONTACT THICKNESS = 610 mm

** O.H.W. = 29.9 m

Metric

DESIGN CRITERIA:
1. DESIGN LIVE LOAD AASHTO MS 22.5
2. DESIGN SPAN 23 SPANS AT 47.4 m
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A ON LEDGE 450 kPa
4. ALLOWABLE LOAD FOR DRILLED SHAFTS ON LEDGE 1915 kPa END BEARING 383 kPa SIDE FRICTION
5. STRUCTURAL STEEL AASHTO M270 M GRADE 345W
6. REINFORCING STEEL GRADE 420
7. CONCRETE CLASS AA f'c -
   CLASS A f'c 30 MPa
   CLASS B f'c 25 MPa
   CLASS C f'c 20 MPa
   CONCRETE HIGH PERFORMANCE CLASS AA f'c -
   CLASS A f'c 30 MPa
   CLASS B f'c 25 MPa
   CLASS C f'c -
8. DRILLED SHAFT CONCRETE f'c 25 MPa

TRAFFIC MAINTENANCE:
1. IS TRAFFIC TO BE MAINTAINED? YES IF YES, ON EXISTING STRUCTURE YES OR ON TEMPORARY BRIDGE N/A
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY NOT REQUIRED TRAFFIC CONTROL SIGNALS REQUIRED NO
   MINIMUM CLEAR SPAN (NORMAL TO STREAM): N/A VERTICAL CLEARANCE ABOVE STREAMBED: N/A
   WATERWAY OF FULL OPENING: N/A
   ARE SIDEWALKS REQUIRED? N/A IF SO, ON WHAT SIDE? N/A
   STRUCTURE TYPE: N/A

* LOAD FACTOR LOAD RATING (METRIC TONNES)

LOADING LEVELS (LOAD FACTOR)	TRUCK ** M	** MS	3S2	6 AXLE	3A STR	4A STR	5A SEMI
INVENTORY A = 2.17 B=1.00	28	51					
POSTED A = 1.55 B=1.40	40	72	82		76	77	79
OPERATING A = 1.30 B=1.67		86	98	100	91	92	

STRENGTH RF = $\frac{\phi M_N - 1.3\,M_{DL}}{A \times M_{LL+I}}$ SERVICEABILITY RF = $B\left[\frac{0.95F_y S_{LL+I} - M_{DL}\frac{S_{NET}}{S_{BC}} - M_{SDL}\frac{S_{NET}}{S_{BC}}}{1.67\,M_{LL+I}}\right]$

* ALL VALUES REPRESENT MULTIPLE LANE LOADING.
** AASHTO STANDARD LANE LOAD GOVERNS.
VALUES SHOWN ARE FOR STEEL PLATE GIRDER ONLY.

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

PRELIMINARY INFORMATION SHEET

Designed By S. M. HODGDON	Drawn By C. L. CILLEY
Checked By S. W. JOHNSON Date 11/03	Bridge Design Supervisor C. D. BAKER Date 11/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072P1	Sheet C3 of C194

VHB NO. 5091

plot date: 11/20/2003

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MATERIAL ITEM	THICKNESS TOLERANCES
PAVEMENT	+/- 5 mm (TOTAL DEPTH)
DENSE GRADED CRUSHED STONE	+/- 30 mm
AGGREGATE SHOULDER	+/- 30 mm
COARSE GRADED CRUSHED GRAVEL	+/- 30 mm
SAND BORROW	+/- 30 mm

VT 78

50 TYPE IIIS PG 64-34
70 TYPE IIS
180 TYPE IS (TWO LIFTS @ 90 EACH)
600 DENSE GRADED CRUSHED STONE
600 SAND BORROW

SEEDING FORMULA URBAN AREAS (TH 13, RT)

% MASS	kg/ha	NAME	PUR %	GERM %
42.5	38.0	CREEPING RED FESCUE	98	85
10.0	9.0	PERENNIAL RYE GRASS	95	90
42.5	38.0	KENTUCKY BLUE GRASS	85	85
5.0	5.0	ANNUAL RYE GRASS	95	85
100.0	90.0			

SEEDING FORMULA RURAL AREAS

% MASS	kg/ha	NAME	PUR %	GERM %
37.5	26.0	CREEPING RED FESCUE	98	85
37.5	26.0	TALL FESCUE	95	90
5.0	4.0	RED TOP	95	90
15.0	10.0	BIRDSFOOT TREFOIL	98	85
5.0	4.0	ANNUAL RYE GRASS	95	85
100.0	70.0			

Metric

GENERAL NOTES

SEED MIXTURE: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY MASS AND SHALL BE FREE OF ALL NOXIOUS SEED.

SEED: TO BE APPLIED PER SEEDING FORMULA OR AS DIRECTED BY THE ENGINEER.

FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 560 kg/ha. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.

STRAW MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.

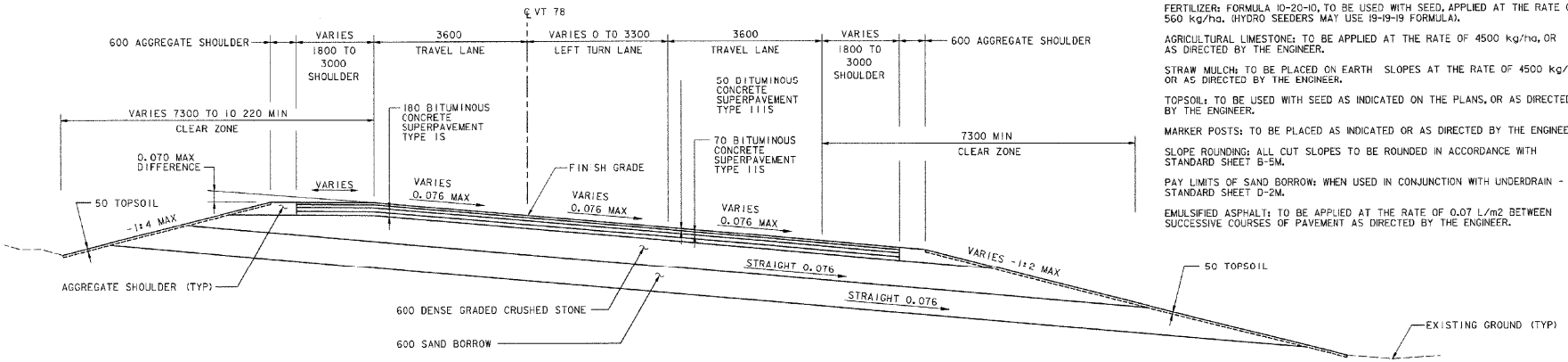
TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

MARKER POSTS: TO BE PLACED AS INDICATED OR AS DIRECTED BY THE ENGINEER.

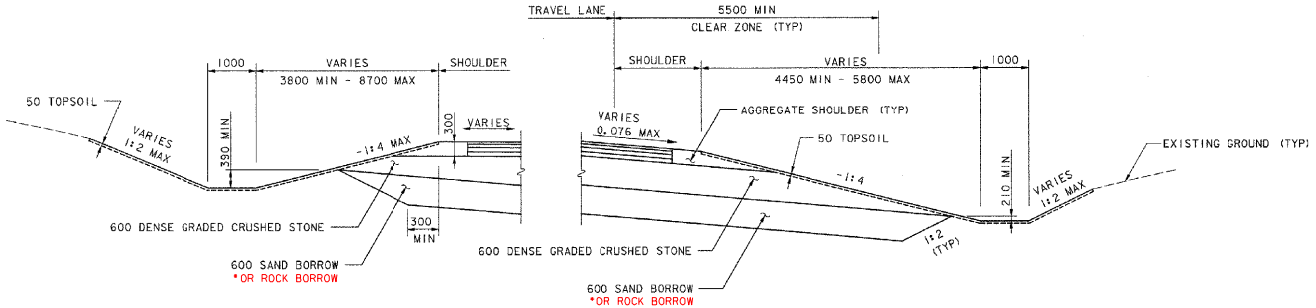
SLOPE ROUNDING: ALL CUT SLOPES TO BE ROUNDED IN ACCORDANCE WITH STANDARD SHEET B-5M.

PAY LIMITS OF SAND BORROW: WHEN USED IN CONJUNCTION WITH UNDERDRAIN - SEE STANDARD SHEET D-2M.

EMULSIFIED ASPHALT: TO BE APPLIED AT THE RATE OF 0.07 L/m2 BETWEEN SUCCESSIVE COURSES OF PAVEMENT AS DIRECTED BY THE ENGINEER.



MAXIMUM SUPERELEVATED ROADWAY SECTION - ALBURG
STA 10+280, RT - STA 10+850, RT
STA 10+280, LT - STA 10+880, LT



TYPICAL DITCH SECTIONS
STA 10+280, LT - STA 10+865, LT
STA 10+580, RT - STA 10+800, RT

*STA. 10+580 - STA. 10+780
ROCK BORROW REPLACED SAND BORROW
AND GEOTEXTILE FOR ROADBED SUBGRADE SEPARATOR ADDED

NOTES:

1. SUBBASE LIMITS SHOWN ARE PAY LIMITS.
2. SEE STD D-3M FOR STONE LINED DITCH AND EROSION MATTING DETAILS.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

TYPICAL ROADWAY SECTIONS (1 OF 3)

Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By A.J. CRAWFORD Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
L.G.C. Info.	
File No. ZE072TYP1	Sheet C4 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5098

plot date: 10/23/2003

MATERIAL ITEM	THICKNESS TOLERANCES
PAVEMENT	+/- 5 mm (TOTAL DEPTH)
DENSE GRADED CRUSHED STONE	+/- 30 mm
AGGREGATE SHOULDER	+/- 30 mm
COARSE GRADED CRUSHED GRAVEL	+/- 30 mm
SAND BORROW	+/- 30 mm

VT 78

50 TYPE IIIS PG 64-34
70 TYPE IIS
180 TYPE IS (TWO LIFTS @ 90 EACH)
600 DENSE GRADED CRUSHED STONE
600 SAND BORROW

SEEDING FORMULA
URBAN AREAS (TH 13, RT)

% MASS	Kg/ha	NAME	PUR %	GERM %
42.5	38.0	CREEPING RED FESCUE	98	85
10.0	9.0	PERENNIAL RYE GRASS	95	90
42.5	38.0	KENTUCKY BLUE GRASS	85	85
5.0	5.0	ANNUAL RYE GRASS	95	85
100.0	90.0			

SEEDING FORMULA
RURAL AREAS

% MASS	Kg/ha	NAME	PUR %	GERM %
37.5	26.0	CREEPING RED FESCUE	98	85
37.5	26.0	TALL FESCUE	95	90
5.0	4.0	RED TOP	95	90
15.0	10.0	BIRDSFOOT TREFOIL	98	85
5.0	4.0	ANNUAL RYE GRASS	95	85
100.0	70.0			

Metric

GENERAL NOTES

SEED MIXTURE: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY MASS AND SHALL BE FREE OF ALL NOXIOUS SEED.

SEED: TO BE APPLIED PER SEEDING FORMULA OR AS DIRECTED BY THE ENGINEER.

FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 560 kg/ha. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.

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TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

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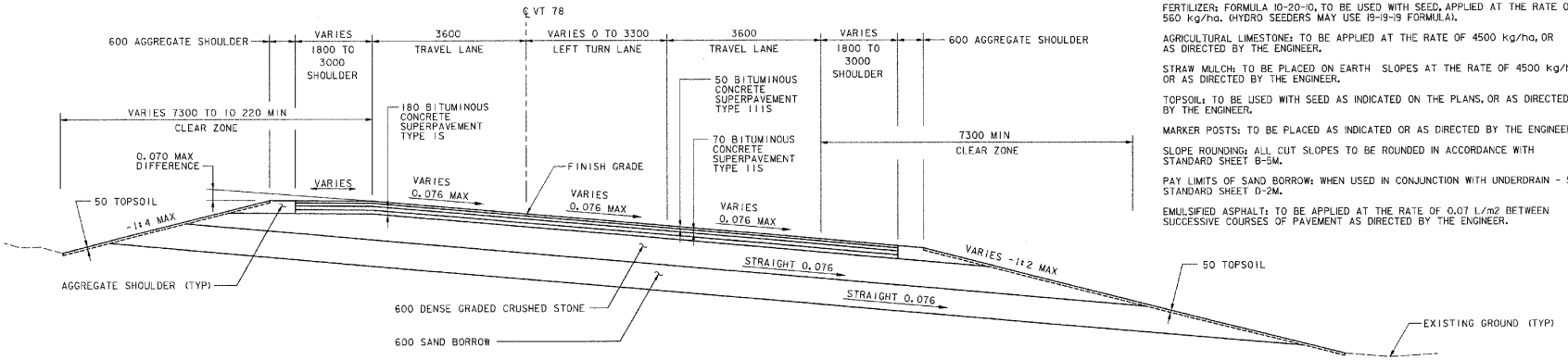
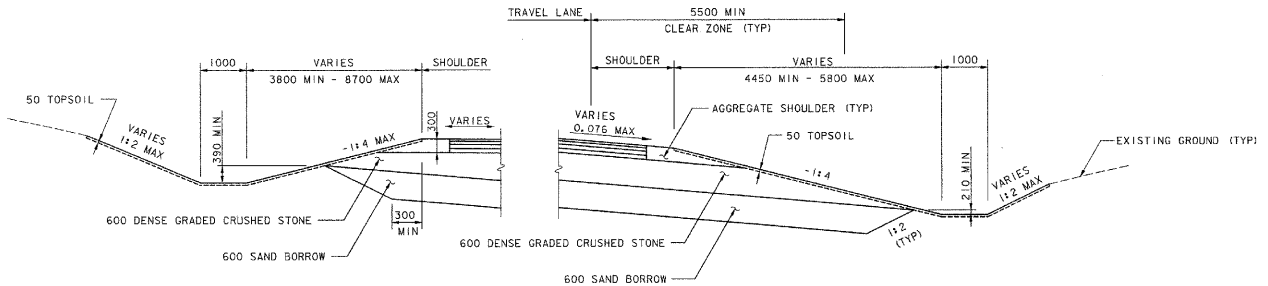
SLOPE ROUNDING: ALL CUT SLOPES TO BE ROUNDED IN ACCORDANCE WITH STANDARD SHEET B-5M.

PAY LIMITS OF SAND BORROW: WHEN USED IN CONJUNCTION WITH UNDERDRAIN - SEE STANDARD SHEET D-2M.

EMULSIFIED ASPHALT: TO BE APPLIED AT THE RATE OF 0.07 L/m2 BETWEEN SUCCESSIVE COURSES OF PAVEMENT AS DIRECTED BY THE ENGINEER.



MAXIMUM SUPERELEVATED ROADWAY SECTION - ALBURG
STA 10+280, RT - STA 10+850, RT
STA 10+280, LT - STA 10+880, LT



TYPICAL DITCH SECTIONS
STA 10+280, LT - STA 10+865, LT
STA 10+580, RT - STA 10+800, RT

NOTES:

1. SUBBASE LIMITS SHOWN ARE PAY LIMITS.
2. SEE STD D-3M FOR STONE LINED DITCH AND EROSION MATTING DETAILS.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

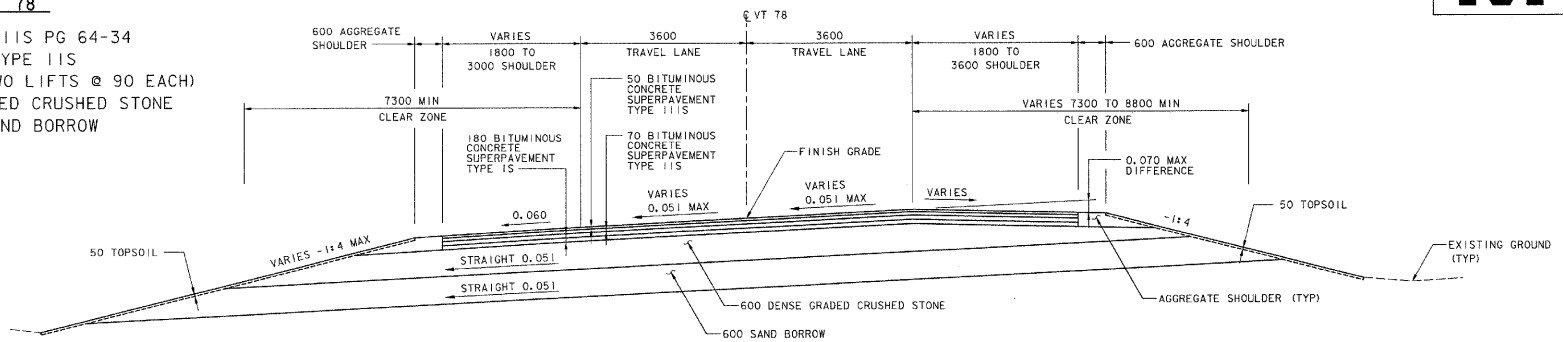
Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
TYPICAL ROADWAY SECTIONS (1 OF 3)	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By A.J. CRAWFORD Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
U.C. Info.	
File No. ZE072TYP1	Sheet C4 of C194

VANASSE HANGEN BRUSTLIN, INC.

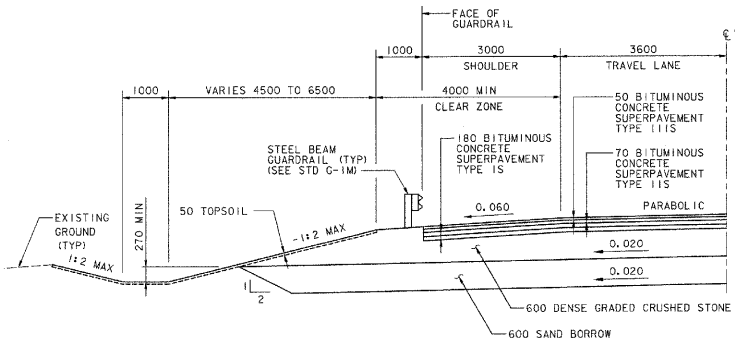
VHB NO. 50911 plot date: 10/23/2003

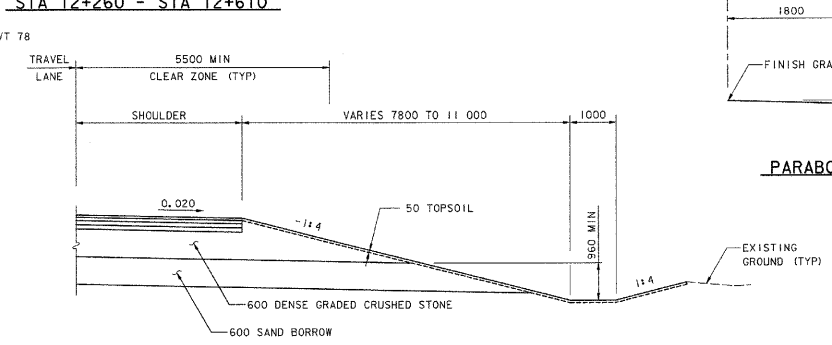
VT 78

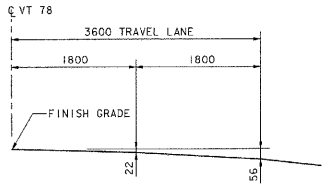
50 TYPE IIIS PG 64-34
70 TYPE IIS
180 TYPE IS (TWO LIFTS @ 90 EACH)
600 DENSE GRADED CRUSHED STONE
600 SAND BORROW



TYPICAL SUPERELEVATED ROADWAY SECTION - SWANTON
STA 12+260 - STA 12+610

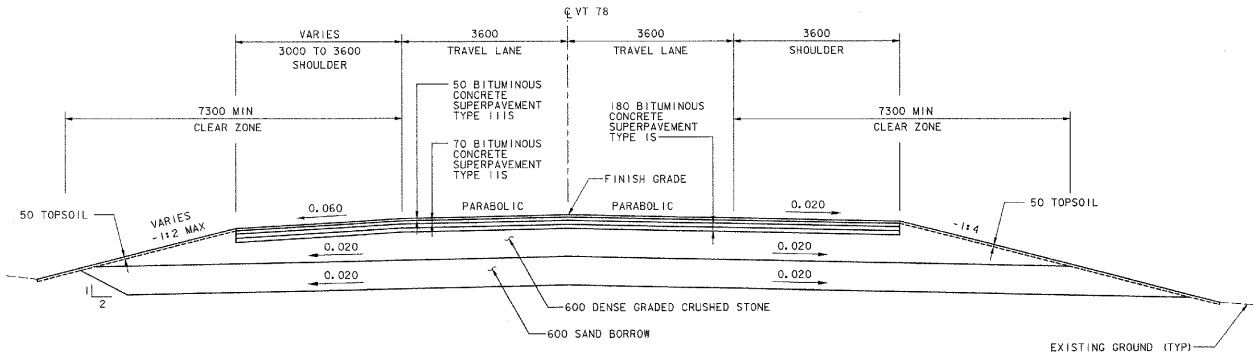






PARABOLIC DETAIL

TYPICAL DITCH SECTIONS
STA 12+150 - STA 12+220



TYPICAL ROADWAY SECTION - SWANTON
STA 12+150 - STA 12+260

NOTES:

1. SUBBASE LIMITS SHOWN ARE PAY LIMITS.
2. SEE SHEET C4 FOR NOTES AND MATERIAL THICKNESS TOLERANCES.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
TYPICAL ROADWAY SECTIONS (2 OF 3)	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By A.J. CRAWFORD Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072TYP2	Sheet C5 of C194

VANASSE HANGEN BRUSTLIN, INC.

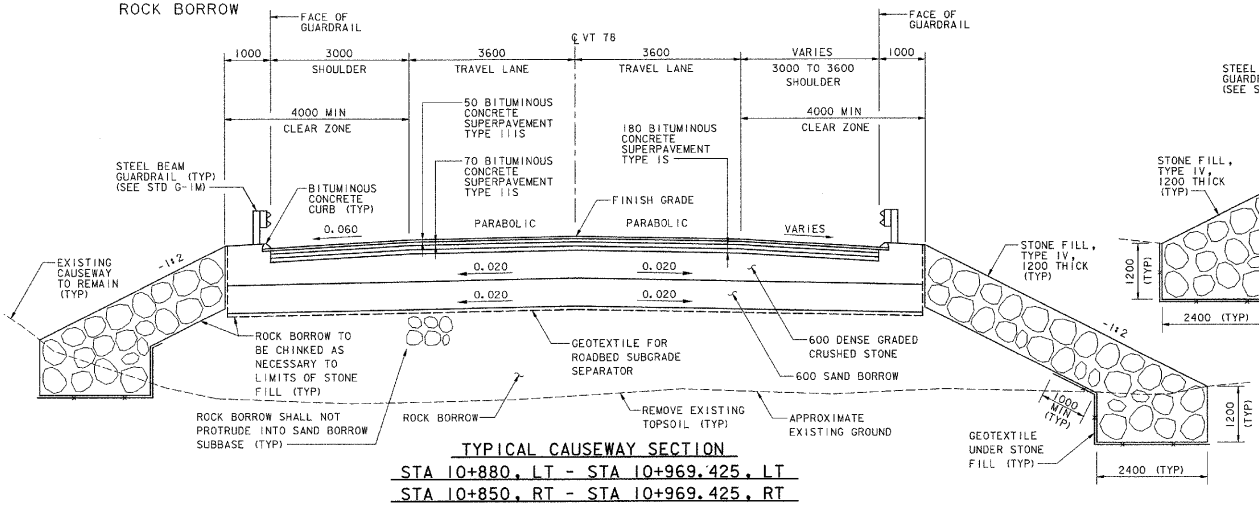
VHB NO. 5091I

plot date: 10/23/2003

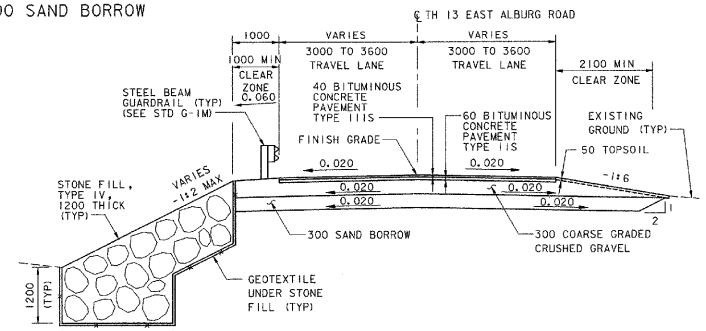
17

VT 78 CAUSEWAY	TH 2 - ALBURG SPRINGS ROAD	SIDEROAD OFF TH 2	TH 13 - EAST ALBURG ROAD	SANDY POINT ROAD
50 TYPE IIIS PG 64-34 70 TYPE IIS 180 TYPE IS (TWO LIFTS @ 90 EACH) 600 DENSE GRADED CRUSHED STONE 600 SAND BORROW ROCK BORROW	40 TYPE IIIS PG 64-34 80 TYPE IS 350 DENSE GRADED CRUSHED STONE 600 SAND BORROW	40 TYPE IIIS PG 64-34 60 TYPE IIS 300 COARSE GRADED CRUSHED GRAVEL 300 SAND BORROW	40 TYPE IIIS PG 64-34 60 TYPE IIS 300 COARSE GRADED CRUSHED GRAVEL 300 SAND BORROW	65 TYPE IIIS PG 64-34 OR 150 AGGREGATE SURFACE COURSE 300 COARSE GRADED CRUSHED GRAVEL 300 SAND BORROW

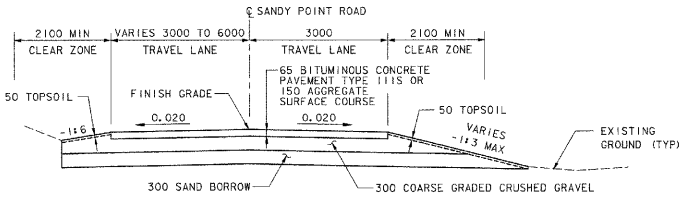
Metric



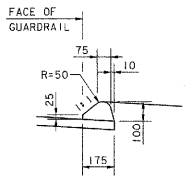
TYPICAL CAUSEWAY SECTION
STA 10+880, LT - STA 10+969.425, LT
STA 10+850, RT - STA 10+969.425, RT
STA 12+060.775, LT & RT - STA 12+150, LT & RT



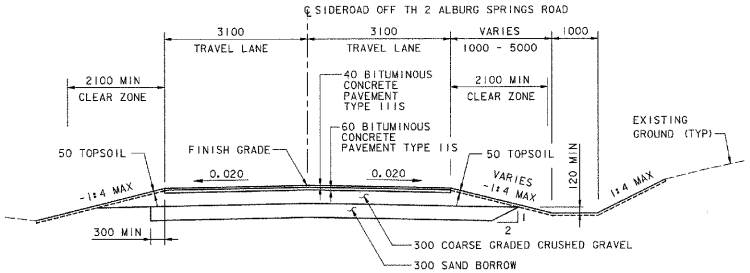
TH 13 EAST ALBURG ROAD
TYPICAL ROADWAY SECTION



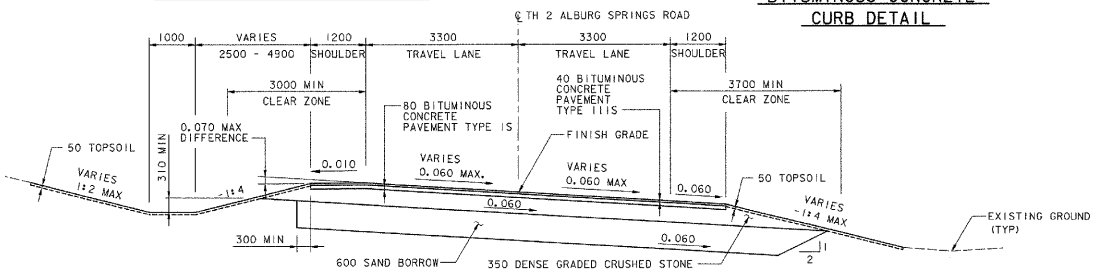
SANDY POINT ROAD
TYPICAL ROADWAY SECTION



BITUMINOUS CONCRETE
CURB DETAIL



SIDEROAD OFF TH 2 ALBURG SPRINGS ROAD
TYPICAL ROADWAY SECTION



CUT SECTION

TH 2 - ALBURG SPRINGS ROAD
TYPICAL ROADWAY SECTION

FILL SECTION

NOTES:

1. SUBBASE LIMITS SHOWN ARE PAY LIMITS.
2. SEE SHEET C4 FOR NOTES AND MATERIAL THICKNESS TOLERANCES.
3. SEE SHEET C5 FOR PARABOLIC DETAIL.
4. GEOTEXTILE FOR ROADBED SUBGRADE SEPARATOR SHALL BE PLACED BETWEEN THE SAND BORROW AND ROCK BORROW IN THE CAUSEWAY SECTION, INCLUDING AT ALL UTILITY TRENCHES.

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
TYPICAL ROADWAY SECTIONS (3 OF 3)	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By A.J. CRAWFORD Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072TYP3	Sheet C6 of C194

VHB NO. 5091

plot date: 10/23/2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Last Metric

SUMMARY OF ESTIMATED QUANTITIES

TRAINING	LANDSCAPING	EROSION CONTROL	FULL E & C	DEMOLITION	UTILITY	BRIDGE	ALBURG APPROACH	SWANTON APPROACH	GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
							0.60	0.40	1	LS	CLEARING AND GRUBBING (INCLUDES INDIVIDUAL TREES AND STUMPS)	201.10	
				3					3	EA	DEMOLITION AND DISPOSAL OF BUILDING	202.10	
				1					1	EA	DEMOLITION AND DISPOSAL OF BUILDING (MOD)	202.10	
							22 300	8400	30 700	CM	COMMON EXCAVATION	203.15	
							360	40	400	CM	SOLID ROCK EXCAVATION	203.16	
							750	19 250	20 000	CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27	
							4000	5000	9000	CM	EARTH BORROW	203.30	
							10 900	7200	18 100	CM	SAND BORROW	203.31	
						580	21000	11500	33 080	CM	ROCK BORROW	203.33	
							19 900	13 100	33 000	SM	FINE GRADING - SUBGRADE	203.40	
		110			400		460	160	1130	CM	TRENCH EXCAVATION OF EARTH	204.20	
					10		10	5	25	CM	TRENCH EXCAVATION OF ROCK	204.21	
					420		45	15	480	CM	GRANULAR BACKFILL FOR STRUCTURES	204.30	
						105			105	CM	COFFERDAM EXCAVATION, EARTH (STATION 10+970)	208.30	
						75			75	CM	COFFERDAM EXCAVATION, EARTH (STATION 12+060)	208.30	
						55			55	CM	COFFERDAM EXCAVATION, ROCK (STATION 10+970)	208.35	
						15			15	CM	COFFERDAM EXCAVATION, ROCK (STATION 12+060)	208.35	
						1			1	LS	COFFERDAM (STATION 10+970)	208.40	
						1			1	LS	COFFERDAM (STATION 12+060)	208.40	
							1510	100	1610	SM	COLD PLANING - BITUMINOUS PAVEMENT	210.10	
							60		60	CM	EXCAVATION OF PETROLEUM CONTAMINATED SOILS CLASS 1	215.20	
							625	1150	1775	CM	SUBBASE OF CRUSHED GRAVEL (COARSE GRADED) (MOD-CRUSHED AGGREGATE FOR SUBBASE)	301.25	
		600					8800	6200	15 600	CM	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	
								25	25	CM	AGGREGATE SURFACE COURSE	401.10	
							430	270	700	CM	AGGREGATE SHOULDERS, TRUCK MEASUREMENT	402.11	
						1005	1600	1200	3805	KG	EMULSIFIED ASPHALT	404.65	
							0.50	0.50	1	LU	PRICE ADJUSTMENT ASPHALT CEMENT (N.A.B.I.)	406.50	
						2730	7980	6740	17 450	T	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (PG 64-34)	490.30	
						4140			4140	CM	CONCRETE, CLASS A QC/QA	501.221	
							12	8	20	CM	CONCRETE, CLASS B	501.25	
						422			422	CM	CONCRETE, HIGH PERFORMANCE CLASS A	501.33	
						2175			2175	CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	
						2 275 650			2 275 650	KG	STRUCTURAL STEEL (PLATE GIRDER)	506.55	
						3080			3080	KG	STRUCTURAL STEEL	506.60	
						327 707	570	330	328 607	KG	REINFORCING STEEL	507.15	
						724 423			724 423	KG	EPOXY COATED REINFORCING STEEL	507.17	
						1			1	LS	SHEAR CONNECTORS (27 948 EA)	508.15	
						1			1	LS	MOBILIZATION OF DRILLED SHAFT EQUIPMENT	512.30	
						236			236	M	DRILLED SHAFT IN EARTH (3.05 m DIA)	512.31	
						84			84	M	DRILLED SHAFT IN ROCK (2.90 m DIA)	512.32	
						20			20	M	DRILLED SHAFT OBSTRUCTION DRILLING AND REMOVAL	512.33	
						1			1	LS	STRUCTURAL PAINTING, SHOP APPLIED (73 400 kg)	513.25	
						1			1	LS	CONTAINMENT & ENVIRONMENTAL PROTECTION, SHOP (73 400 kg)	513.35	
						1			1	LS	SURFACE PREPARATION, SHOP (73 400 kg)	513.40	
						1980			1980	L	WATER REPELLENT	514.10	
						28			28	M	BRIDGE EXPANSION JOINT (3 CELL MODULAR)	516.10	
						28			28	M	BRIDGE EXPANSION JOINT (5 CELL MODULAR)	516.10	
						14 321			14 321	SM	SHEET MEMBRANE WATERPROOFING (MOD-SPRAYED)	519.20	
							18		18	M	METAL HAND RAILING	525.15	
						2207			2207	M	BRIDGE RAILING - NETC 4 RAIL	525.34	
							0.5	0.5	1	LS	MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS	527.10	
						110			110	SM	REMOVAL OF BRIDGE PAVEMENT	529.10	
						1			1	EA	REMOVAL OF STRUCTURE	529.15	
							3		3	EA	REMOVAL OF STRUCTURE (MOD-TIMBER BARGES)	529.15	
						32			32	EA	BEARING DEVICE ASSEMBLY (FIXED, POT)	531.10	
						72			72	EA	BEARING DEVICE ASSEMBLY (EXPANSION, POT)	531.10	

N.A.B.I. = NOT A BID ITEM

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
QUANTITY SHEET (1 OF 4)	
Designed By C.L. CILLEY	Drawn By K.D. WENTWORTH
Checked By C.D. BAKER Date 1/04	Bridge Design Supervisor C.D. BAKER Date 1/04
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info. File No. ZE072QS1	Sheet C7 of C194

VHB NO. 50911

plot date: 1/27/2004

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

TRAINING	LANDSCAPING	EROSION CONTROL	FULL E & C	DEMOLITION	UTILITY	BRIDGE	ALBURG APPROACH	SWANTON APPROACH	GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
											BEGIN PIPE OPTIONS AA		
							27		27	M	375 mm CAAP 1.52 mm (68 mm x 12 mm)	601.0210	
							27		27	M	375 mm PCCSP 1.63 mm (68 mm x 12 mm)	601.0410	
							27		27	M	375 mm RCP CLASS III	601.0810	
							27		27	M	375 mm CPEP	601.0910	
											END PIPE OPTIONS AA		
											BEGIN PIPE OPTIONS BB		
							22		22	M	375 mm CAAP 1.52 mm (68 mm x 12 mm)	601.0210	
							22		22	M	375 mm PCCSP 1.63 mm (68 mm x 12 mm)	601.0410	
							22		22	M	375 mm RCP CLASS IV	601.0811	
							22		22	M	375 mm CPEP	601.0910	
											END PIPE OPTIONS BB		
											BEGIN PIPE OPTIONS CC		
							82	20	102	M	450 mm CAAP 1.52 mm (68 mm x 12 mm)	601.0215	
							82	20	102	M	450 mm PCCSP 1.63 mm (68 mm x 12 mm)	601.0415	
							82	20	102	M	450 mm RCP CLASS III	601.0815	
							82	20	102	M	450 mm CPEP	601.0915	
											END PIPE OPTIONS CC		
											BEGIN PIPE OPTIONS DD		
							15		15	M	450 mm CAAP 1.52 mm (68 mm x 12 mm)	601.0215	
							15		15	M	450 mm PCCSP 1.63 mm (68 mm x 12 mm)	601.0415	
							15		15	M	450 mm RCP CLASS IV	601.0816	
							15		15	M	450 mm CPEP	601.0915	
											END PIPE OPTIONS DD		
											BEGIN PIPE OPTIONS EE		
							83	44	127	M	600 mm CAAP 1.52 mm (68 mm x 12 mm)	601.0225	
							83	44	127	M	600 mm PCCSP 1.63 mm (68 mm x 12 mm)	601.0425	
							83	44	127	M	600 mm RCP CLASS III	601.0825	
							83	44	127	M	600 mm CPEP	601.0920	
											END PIPE OPTIONS EE		
							22	19	41	M	450 mm PCCSP 1.63 mm (68 mm x 12 mm)	601.0415	
							1		1	EA	CAST IRON GRATE WITH FRAME, TYPE A	604.45	
							2	2	4	EA	CAST IRON GRATE WITH FRAME, TYPE D	604.47	
							50	50	100	M	150 mm UNDERDRAIN	605.10	
		15					150	150	315	HR	BULLDOZER RENTAL, TYPE I	608.10	
		15					25	25	65	HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	
							300	300	600	HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE II	608.26	
							25	25	50	HR	POWER BROOM RENTAL	608.30	
							300	300	600	HR	TRUCK RENTAL	608.37	
							2050	2000	4050	CM	DUST CONTROL WITH WATER	609.10	
							3.50	3.50	7	T	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15	
		320							320	CM	STONE FILL, TYPE I	613.10	
		40							40	CM	STONE FILL, TYPE II	613.11	
		11625							11625	CM	STONE FILL, TYPE IV	613.13	
	20								20	CM	RIPRAP, HEAVY TYPE (MOD)	613.15	

N.A.B.I. = NOT A BID ITEM

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
QUANTITY SHEET (2 OF 4)	
Designed By C.L. CILLEY	Drawn By K.D. WENTWORTH
Checked By C.D. BAKER Date 12/03	Bridge Design Supervisor C.D. BAKER Date 12/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info. File No. ZE072QS1	Sheet C8 of C194

VHB NO. 5091

plot date: 12/18/2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

TRAINING	LANDSCAPING	EROSION CONTROL	FULL E & C	DEMOLITION	UTILITY	BRIDGE	ALBURG APPROACH	SWANTON APPROACH	GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
							20	20	40	M	CAST-IN-PLACE CONCRETE CURB, TYPE B	616.28	
							7	3	10	T	BITUMINOUS CONCRETE CURB, TYPE A	616.30	
							8		8	EA	RELOCATE MAIL BOX, SINGLE SUPPORT	617.10	
							2		2	EA	RELOCATE MAIL BOX, MULTIPLE SUPPORT	617.12	
							15		15	SM	BRICK PAVING	618.20	
							25	13	38	EA	BOUNDARY MARKERS	619.10	
							13	7	20	EA	YIELDING MARKER POSTS	619.17	
							70	20	90	M	CHAIN-LINK FENCE, 1.8 M	620.12	
							3.6	3.6	7.2	M	GATE FOR CHAIN-LINK FENCE, 1.8 M	620.16	
							4	2	6	EA	BRACING ASSEMBLY FOR CHAIN-LINK FENCE, 1.8 M	620.21	
							45		45	M	REMOVING AND RESETTING FENCE	620.50	
							85		85	M	REMOVAL OF EXISTING FENCE	620.55	
							2565	2420	4985	M	SNOW FENCE (MOD)	620.70	
							272.2	228.6	500.8	M	STEEL BEAM GUARDRAIL	621.20	
							2	2	4	EA	MANUFACTURED TERMINAL SECTION	621.505	
							26	13	39	EA	ENERGY ABSORPTION ATTENUATOR	621.56	
							4		4	EA	ANCHOR FOR STEEL BEAM RAIL	621.60	
						4			4	EA	GUARDRAIL APPROACH SECTION, NETC 4 RAIL	621.73	
							984.7	1274	2258.7	M	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	
								16	16	EA	REMOVAL AND DISPOSAL OF GUIDE POSTS	621.81	
							2440	2060	4500	M	TEMPORARY TRAFFIC BARRIER	621.90	
							500	420	920	M	TEMPORARY TRAFFIC BARRIER (MOD-REMOVE AND RESET)	621.90	
							10	8	18	EA	SETTLEMENT PLATFORM, TYPE I	623.21	
					30				30	M	DUCTS, CONCRETE ENCASED (MOD-DUCT BANK, 12 DUCTS)	624.20	
					340				340	M	DUCTS, CONCRETE ENCASED (MOD-DUCT BANK, 9 DUCTS)	624.20	
					50				50	M	DUCTS, CONCRETE ENCASED (MOD-DUCT BANK, 3 DUCTS)	624.20	
					410				410	M	DUCTS, DIRECT BURIAL	624.30	
					30				30	M	SLEEVES FOR UTILITIES (MOD-SPLIT SLEEVE)	625.10	
						1			1	LS	DUCTS ON BRIDGE	625.16	
							190	210	400	HR	UNIFORMED TRAFFIC OFFICERS	630.10	
							340	260	600	HR	FLAGGERS	630.15	
							1500	500	2000	HR	FLAGGERS (MOD-RAILROAD)	630.15	⚠
			1						1	LS	FIELD OFFICE-ENGINEERS (MOD)	631.10	
			1						1	LS	FIELD OFFICE-ENGINEERS (MOD-BOAT)	631.10	
			1						1	LS	FIELD OFFICE-SOILS AND MATERIALS (MOD)	631.11	
			1						1	LS	TESTING EQUIPMENT-CONCRETE	631.16	
			1						1	LS	TESTING EQUIPMENT-BITUMINOUS (MOD)	631.17	
			1						1	LU	FIELD OFFICE-TELEPHONE (N.A.B.I.)	631.25	
4680									4680	HR	EMPLOYEE TRAINEESHIP	634.10	
							0.5	0.5	1	LS	MOBILIZATION	635.10	
					2				2	EA	UTILITY VAULT	636.20	
							0.5	0.5	1	LS	TRAFFIC CONTROL	641.10	
							1	1	2	EA	PORTABLE CHANGEABLE MESSAGE SIGN	641.15	
							1	1	2	EA	PORTABLE ARROW BOARD	641.16	

N.A.B.I. = NOT A BID ITEM

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		MAJOR ITEMS AND QUANTITIES FOR
		ITEM 641.10, TRAFFIC CONTROL
		ALBURG DETOUR
9810	CM	COMMON EXCAVATION
8000	CM	EARTH BORROW
1600	CM	SUBBASE OF CRUSHED GRAVEL (COARSE GRADED) (MOD-CRUSHED AGGREGATE FOR SUBBASE)
500	T	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (PG 64-34)
7050	SM	GEOTEXTILE UNDER STONE FILL
		SWANTON DETOUR
5250	CM	COMMON EXCAVATION
3000	CM	EARTH BORROW
1950	CM	SUBBASE OF CRUSHED GRAVEL (COARSE GRADED) (MOD-CRUSHED AGGREGATE FOR SUBBASE)
710	T	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (PG 64-34)
6400	SM	GEOTEXTILE UNDER STONE FILL

REVISION TABLE			
⚠	3/11/04	ADDED ITEM	CDB
NO.	DATE	DESCRIPTION	BY

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.

VT 78 OVER MISSISQUOI BAY

QUANTITY SHEET (5 OF 4)

Designed By C.L. CILLEY	Drawn By K.D. WENTWORTH
Checked By C.D. BAKER Date 3/04	Bridge Design Supervisor C.D. BAKER Date 3/04
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE0720S1	Sheet C9 of C194

VHB NO. 5091 (sheet) plot date: 3/11/2004

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Most Metric

SUMMARY OF ESTIMATED QUANTITIES

TRAINING	LANDSCAPING	EROSION CONTROL	FULL E & C	DEMOLITION	UTILITY	BRIDGE	ALBURG APPROACH	SWANTON APPROACH	GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
							3060	3440	6500	M	DURABLE 100 mm WHITE LINE	646.40	
							4150	2760	6910	M	DURABLE 100 mm YELLOW LINE	646.41	
							210		210	M	DURABLE 200 mm YELLOW LINE	646.43	
							25	5	30	M	DURABLE 600 mm STOP BAR	646.46	
							31	13	44	EA	DURABLE LETTER OR SYMBOL	646.50	
							2		2	EA	DURABLE RAILROAD CROSSING SYMBOL	646.52	
							4740	3850	8590	M	TEMPORARY 100 mm WHITE LINE	646.60	
							4740	3850	8590	M	TEMPORARY 100 mm YELLOW LINE	646.61	
							25	10	35	M	TEMPORARY 600 mm STOP BAR	646.66	
							31	4	35	EA	TEMPORARY LETTERS OR SYMBOLS	646.70	
							2		2	EA	TEMPORARY RAILROAD CROSSING SYMBOL	646.72	
							670	470	1140	EA	LINE STRIPING TARGETS	646.76	
							320	70	390	SM	REMOVAL OF EXISTING PAVEMENT MARKINGS	646.85	
							3225	2750	5975	SM	GEOTEXTILE FOR ROADBED SUBGRADE SEPARATOR	649.11	
		8160							8160	SM	GEOTEXTILE UNDER STONE FILL	649.31	
		4860							4860	SM	GEOTEXTILE FOR SILT FENCE	649.51	
		12 350							12 350	SM	GEOTEXTILE FOR FILTER CURTAIN	649.61	
		220							220	KG	SEED	651.15	
		4.5							4.5	KG	SEED (MOD-WETLAND SEED)	651.15	
		80							80	KG	SEED - WINTER RYE	651.17	
		1750							1750	KG	FERTILIZER	651.18	
		16							16	T	AGRICULTURAL LIMESTONE	651.20	
		16							16	T	HAY MULCH (MOD)	651.25	
		3950							3950	EA	HAY BALES FOR EROSION CONTROL	651.26	
		1550							1550	CM	TOPSOIL	651.35	
		90							90	SM	GRUBBING MATERIAL	651.40	
		1							1	LS	EROSION & SEDIMENT CONTROL PLAN	652.10	
		770							770	HR	MONITORING EROSION & SEDIMENT CONTROL PLAN	652.20	
		1							1	LU	FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN (N.A.B.I.)	652.30	
		1600							1600	SM	EROSION MATTING	654.10	
	5								5	EA	EVERGREEN TREES (MOD-ABIES BALSAMEA, HEIGHT 1.68 m)	656.20	
	8								8	EA	EVERGREEN TREES (MOD-ABIES BALSAMEA, HEIGHT 2.21 m)	656.20	
	6								6	EA	EVERGREEN TREES (MOD-JUNIPERUS VIRGINIANA, HEIGHT 1.68 m)	656.20	
							15	9	24	SM	TRAFFIC SIGNS, TYPE A	675.20	
							160	110	270	M	FLANGED CHANNEL SIGN POST	675.301	
							48	29	77	EA	REMOVING SIGNS	675.50	
							2	2	4	EA	ERECTING SALVAGED SIGNS	675.60	
							35	24	59	EA	DELINEATORS WITH STEEL POSTS	676.10	
					160				160	M	WIRED CONDUIT	678.23	
					5				5	EA	PULL BOX - STANDARD	678.25	
					2				2	EA	PULL BOX - DOUBLE	678.27	
						1			1	LS	STREET LIGHTING (MOD-NAVIGATIONAL LIGHTING)	679.15	

N.A.B.I. = NOT A BID ITEM

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
QUANTITY SHEET (4 OF 4)	
Designed By C. L. CILLEY	Drawn By K. D. WENTWORTH
Checked By J. A. MERCER Date 11/03	Bridge Design Supervisor C. D. BAKER Date 11/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE0720S1	Sheet C10 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091I

plot date: 11/7/2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION

ITEM DETAIL SHEET

Metric

GUARD RAIL

BEGIN STATION km + m	END STATION km + m	POSITION LEFT m	POSITION RIGHT m	END TREATMENT M. T. S. EA	END TREATMENT ANCHOR EA
ALBURG					
10+554.8	10+558.6		3.8	1	1
10+847.0	10+953.7	106.7		1	
2+030.2	10+953.7		133.9		1
2+031.8	2+059.0	27.8			2
ALBURG	SUBTOTAL	134.5	137.7	2	4
SWANTON					
12+076.5	12+217.5	141.0		1	
12+076.5	12+164.1		87.6	1	
SWANTON	SUBTOTAL	141.0	87.6	2	
GRAND	TOTAL	275.5	225.3	4	4

UNDERDRAIN

BEGIN STATION km + m	END STATION km + m	TYPE	POSITION	DIA. mm	LENGTH m	TRENCH EARTH m^3	TRENCH ROCK m^3	GRAN BKFILL m^3	FB EA	MKR PST EA
ALBURG										
VT 78 ESTIMATED										
QUANTITY		U	LT/RT	150	40	32.00	0.64	3.20		
TH 2 ESTIMATED										
QUANTITY		U	LT/RT	150	10	8.00	0.16	0.80		
ALBURG	SUBTOTAL			150	50	40.00	0.80	4.00		
SWANTON										
VT 78 ESTIMATED										
QUANTITY		U	LT/RT	150	50	40.00	0.80	4.00		
SWANTON	SUBTOTAL			150	50	40.00	0.80	4.00		
GRAND	TOTAL			150	100	80.00	1.60	8.00		

CURBING

BEGIN STATION km + m	END STATION km + m	POSITION LEFT m	POSITION RIGHT m	TONS
BITUMINOUS CONCRETE CURB, TYPE A				
ALBURG				
10+862	10+953.7	91.7		3.3
10+862	10+953.7		91.7	3.3
ALBURG	SUBTOTAL	91.7	91.7	6.6
SWANTON				
12+076.5	12+113	36.5		1.3
12+076.5	12+113		36.5	1.3
SWANTON	SUBTOTAL	36.5	36.5	2.6
GRAND	TOTAL	128.2	128.2	9.2
CAST-IN-PLACE CONCRETE CURB, TYPE B				
ALBURG				
10+953.7	10+963.2	9.5	9.5	
ALBURG	SUBTOTAL	9.5	9.5	
SWANTON				
12+067.0	12+076.5	9.5	9.5	
SWANTON	SUBTOTAL	9.5	9.5	
GRAND	TOTAL	19.0	19.0	

FENCING

BEGIN STATION km + m	END STATION km + m	POSITION LEFT m	POSITION RIGHT m	REMARKS
ALBURG				
10+372	10+406		42.0	
10+925	10+925	9.8		
10+925	10+929	9.0		
10+925	10+970	45.0		
ALBURG	SUBTOTAL	63.8	42.0	
SWANTON				
12+065	12+065	12.0		
12+065	12+065	6.4		
SWANTON	SUBTOTAL	18.4		
GRAND	TOTAL	109.0	42.0	

LANDSCAPING

STATION km + m	POSITION LEFT EACH	POSITION RIGHT EACH	REMARKS
ALBURG			
ABIES BALSAMEA (HEIGHT 2.21 m)			
10+791.7	1		
10+793.0	1		
10+796.0	1		
10+797.4	1		
10+800.4	1		
10+807.7	1		
10+810.5	1		
10+813.3	1		
JUNIPERUS VIRGINIANA (HEIGHT 1.68 m)			
10+786.4	1		
10+787.3	1		
10+789.3	1		
10+803.0	1		
10+803.8	1		
10+805.6	1		
ALBURG SUBTOTAL	14		
SWANTON			
ABIES BALSAMAEA (HEIGHT 1.68 m)			
12+262	1		
12+271	1		
12+274	1		
12+277	1		
12+281	1		
SWANTON SUBTOTAL	5		
GRAND TOTAL	19		

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
ITEM DETAIL SHEET	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By J.A. MERCER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
L.G.C. Info.	
File No. ZE072101	Sheet C11 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date: 10/23/2003

Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE DETAIL SHEET

DRAINAGE STRUCTURES

STATION	STATION	POS.	DRAINAGE NOTE	INLET/OUTLET TYPE		DITCH		PIPE ARCH		PIPE		ALLOWABLE OPTIONS						PIPE ELBOW	ES	CB	PERCD	DEPTH DI	CONC CL B	REINF STEEL	DI GRATE	CHAN ELEV	CRM	TRENCH EXCAVATION		COMM EXC	LINC CHAN EXC	STRUCT EXCAV	GRAN BKFILL STRUCT	GRAN BORR	EROS MATT	STONE FILL		MARKER POSTS		REMARKS
				INLET	OUTLET	IN	OUT	SPAN mm	RISE mm	L m	D mm	L m	PCCSP mm	CAAP mm	RCP CL.	CSP mm	CPEP mm	PCCSP PI mm	NO. DEG	EA	EA		mm	m^3	kg	TYPE	EA	m^3	EARTH m^3	ROCK m^3	m^3	m^3	m^3	m^3	m^3	m^2	m^3	TYPE	LT ea	RT ea	
ALBURG	VT 78																																					
10+240	10+240	LT-RT	1								600	20	1.63	1.52	III		X					1350	1.71	89	1-A			31.54	0.63				3.15			0.97	1	1	1	
10+242	10+244	LT-RT	2																									16.91	0.34				1.69							REMOVE EXISTING DI AND 450x15 m CPEP
10+260	10+264	LT-LT	3																																					REMOVE EXISTING 300x4 m RCP
10+300	10+324	LT																																48.00					
10+322	10+322	LT-LT	4																									36.12	0.72				3.61							REMOVE EXISTING DI AND 450x18 m CPEP
10+323	10+337	LT-LT	5								375	13	1.63	1.52	III		X											11.27	0.23				1.13							
10+336	10+354	LT																																36.00					
10+353	10+368	LT-LT	6								450	15	1.63	1.52	IV		X											11.53	0.23				1.15							
10+363	10+378	LT-LT	7																									17.26	0.35				1.73							REMOVE EXISTING 450x17 m RCP
10+366	10+420	LT																																108.00					
1+140	10+379	RT-LT	8																																12.54	1				
10+378	10+378	LT-LT	9																									6.09	0.12				0.61							REMOVE EXISTING 450x14 m RCP
10+420	10+468	LT-LT	10																																43.20	1				
10+474	10+474	LT-LT	11																									1.74	0.04				0.17							REMOVE EXISTING 450x10 m CPEP
0+013	0+040	LT-LT	12																																24.30	1				
10+468	10+468	LT-RT	13								600	34	1.63	1.52	III		X											12.51	0.25				1.25			2.81	1	1	1	
0+016	0+023	LT-RT	14								450	33	1.63	1.52	III		X											73.22	1.46				7.32					1	1	
10+516	10+520	LT-LT	15																									18.85	0.38				1.89							REMOVE EXISTING 450x13 m CPEP
10+570	10+590	RT-RT	16																																16.65	1				
10+590	10+640	RT-RT	17																																43.20	1				
10+590	10+620	LT																																60.00					
10+688	10+688	LT-LT	18																									7.32	0.15				0.73							REMOVE EXISTING HEADWALL AND 300x13 m RCP
10+688	10+668	LT-LT	19																																2.35	1				
10+720	10+753	LT																																66.00					
10+753	10+772	LT-LT	20								450	20	1.63	1.52	III		X											38.57	0.77				3.86			0.57	1			
10+756	10+770	RT-RT	21								375	14	1.63	1.52	III		X											23.68	0.47				2.37							
10+774	10+800	LT																																52.00					
10+800	10+800	RT-LT	22								450	29	1.63	1.52	III		X											23.71	0.47				2.37			0.57	1	1	1	
10+844	10+844	LT-LT	23																									21.40	0.43				2.14							REMOVE EXISTING HEADWALL AND 300x14 m RCP
10+848	10+857	RT-RT	24																									11.44	0.23				1.14							REMOVE EXISTING 300x11 m CMP
10+865	10+865	RT-LT	26								450	12	1.63									2100	3.14	155	1-D			0.87	0.02				0.09							
10+865	10+865	LT-LT	27								450	10	1.63									2400	3.46	175	1-D			15.53	0.31				1.55			1.05	1	1		
10+916	10+920	LT-LT	28																																2.16	1				
10+920	10+925	LT-LT	29								600	7	1.63	1.52	III		X											7.06	0.14				0.71			0.97	1	2		
																																			7.30	11				
			ALBURG	SUBTOTAL							375	27	1.63	1.52	III		X						8.31	419	1-A			386.62	7.74				38.66		370.00	151.34	1	7	4	
											450	62			III										2-D											7.30	11				
											450	15			IV																									
											450	97		1.52			X																							
											450	119	1.63																											
											600	61	1.63	1.52	III		X																							

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

DRAINAGE DETAIL SHEET (1 OF 2)

Designed By S.W. BEKIER	Drawn By C.L. CILLEY
Checked By / Date J.A. MERCER 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072DR1	Sheet C12 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5098

plot date: 10/23/2003

Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE DETAIL SHEET

DRAINAGE STRUCTURES

STATION	STATION	POS.	DRAINAGE NOTE	INLET/OUTLET TYPE		DITCH		PIPE ARCH			PIPE		ALLOWABLE OPTIONS						PIPE ELBOW	FES	CB	PRCD-I	DEPTH DI	CONC CL B	REINF STEEL	DI GRATE	CHAN ELEV	CRM	TRENCH EXCAVATION		COMM EXC	UNC CHAN EXC	STRUCT EXCAV	GRAN BKFILL STRUCT	GRAN BORR	EROS MATT	STONE FILL		MARKER POSTS		REMARKS
				INLET	OUTLET	IN	OUT	SPAN mm	RISE mm	L m	D mm	L m	PCCSP mm	CAAP mm	RCP CL	CSP mm	CPEP mm	PCCSP PT mm	NO. DEG	EA	EA		mm	m^3	kg	TYPE	EA	m^3	EARTH m^3	ROCK m^3	m^3	m^3	m^3	m^3	m^3	m^2	m^3	TYPE	LT ea	RT ea	
SWANTON																																								
VT 78																																								
12+110	12+110	RT-LT	30								450	12	1.63									2100	3.14	155	1-D			0.87	0.02				0.09							
12+110	12+110	LT-LT	31								450	7	1.63									2400	3.46	175	1-D			0.51	0.01				0.05			1.17	1	1		
12+147	12+150	LT-LT	32																																	2.16	1			
12+148	12+148	LT-LT	33								600	12	1.63	1.52	III		X											23.62	0.47				2.36			10.40	11	2		
12+150	12+160	RT-RT	34																																	15.00	11			
12+254	12+255	LT-LT	35																									20.74	0.41				2.07							REMOVE EXISTING 450x11 m CGMP
12+285	12+300	RT-LT	36								600	32	1.63	1.52	III		X											10.24	0.20				1.02			0.76	1	1	1	
12+287	12+301	LT-LT	37																									42.63	0.85				4.26							REMOVE EXISTING 450x14 m CGMP
12+668	12+668	LT-RT	38																																					REMOVE EXISTING 450x13 m CGMP
12+668	12+668	LT-RT	39								450	20	1.63	1.52	III		X											11.31	0.23				1.13					1	1	RETAIN EXISTING HEADWALL AND 450 CMP, RT
																																								(UNDER RAILROAD TRACKS)
ALBURG																																								
TH 2																																								
0+076	0+070	LT-RT	40								600	22	1.63	1.52	III		X											22.18	0.44				2.22			10.76	1	1	1	
0+076	0+104	LT-LT	41																																	25.20	1			
0+104	0+114	LT-LT	42								375	11	1.63	1.52	IV		X											9.53	0.19				0.95							
0+114	0+130	LT-LT	43																																	9.60	1			
0+132	0+132	LT-RT	44																																					REMOVE EXISTING 300x10 m CMP
SIDEROAD	OFF TH 2																																							
0+076	1+025	LT-RT	45																																	21.60	1			
1+021	1+024	RT-RT	46																									5.15	0.10				0.52							REMOVE EXISTING 300x6 m CMP
1+025	1+040	RT-RT	47																																	6.60	1			
1+122	1+133	RT-RT	48								375	11	1.63	1.52	IV		X											0.61	0.01				0.06							
			ALBURG	SUBTOTAL							375	22	1.63	1.52	IV		X						0.00	0	0-A			37.47	0.74				3.75		0.00	73.76	1	1	1	
											600	22	1.63	1.52	III		X								0-D														
			SWANTON	SUBTOTAL							450	20		1.52	III		X						6.60	330	2-D			109.92	2.19				10.98		0.00	4.09	1	5	2	
											450	39	1.63																							25.40	11			
											600	44	1.63	1.52	III		X																								
			GRAND	TOTAL							375	49	1.63	1.52									14.91	749	1-A			534.01	10.67				53.39		370.00	229.19	1	13	7	
											375	27			III										4-D											32.70	11			
											375	22			IV																										
											450	117		1.52			X																								
											450	102			III																										
											450	15			IV																										
											450	158	1.63																												
											600	127	1.63	1.52	III		X																								

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

DRAINAGE DETAIL SHEET (2 OF 2)

Designed By S.W. BEKIER	Drawn By C.L. CILLEY
Checked By Date J.A. MERCER 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
L.G.C. Info.	
File No. ZE072DR1	Sheet C13 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date 10/23/2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION

EARTHWORKS

Metric

STATION Km + m	DIST m	EARTH EXCAVATION AREA m²	EARTH EXCAVATION VOLUME m³	ROCK EXCAVATION AREA m²	ROCK EXCAVATION VOLUME m³	EMBANKMENT AREA m²	EMBANKMENT VOLUME m³	AREA m²	VOLUME m³
ALBURG									
VT 78									
10+180		0.00				0.00			
	20		84.10				30.20		
10+200		8.41				3.02			
	20		345.60				30.20		
10+220		26.15				0.00			
	20		453.90				11.90		
10+240		19.24				1.19			
	20		438.70				20.10		
10+260		24.63				0.82			
	20		476.60				38.30		
10+280		23.03				3.01			
	20		433.80				98.40		
10+300		20.35				6.83			
	20		380.00				176.80		
10+320		17.65				10.85			
	20		341.00				151.40		
10+340		16.45				4.29			
	20		376.10				69.50		
10+360		21.16				2.66			
	20		459.70				186.60		
10+380		24.81				16.00			
	20		396.60				354.20		
10+400		14.85				19.42			
	20		215.50				511.30		
10+420		6.70				31.71			
	20		280.80				619.80		
10+440		21.38				30.27			
	20		488.10				566.70		
10+460		27.43				26.40			
	20		365.50				423.50		
10+480		9.12				15.95			
	20		255.20				236.20		
10+500		16.40				7.67			
	20		319.50				88.80		
10+520		15.55				1.21			
	20		408.60				12.60		
10+540		25.31				0.05			
	20		545.00				9.20		
10+560		29.19				0.87			
	20		585.10				8.70		
10+580		29.32				0.00			
	20		671.80				0.00		
10+600		37.86				0.00			
	20		789.90				0.00		
10+620		41.13				0.00			
	20		880.40				0.00		
10+640		46.91				0.00			
	20		932.40				0.00		
10+660		46.33				0.00			
	20		929.60				0.00		
10+680		46.63				0.00			
	20		945.80				0.00		
10+700		47.95				0.00			
	20		922.90				0.00		
10+720		44.34				0.00			
	20		954.20				0.00		
10+740		51.08				0.00			

STATION Km + m	DIST m	EARTH EXCAVATION AREA m²	EARTH EXCAVATION VOLUME m³	ROCK EXCAVATION AREA m²	ROCK EXCAVATION VOLUME m³	EMBANKMENT AREA m²	EMBANKMENT VOLUME m³	AREA m²	VOLUME m³
10+740		51.08				0.00			
	20		921.00				0.00		
10+760		41.02				0.00			
	20		910.30				0.00		
10+780		50.01				0.00			
	20		830.50				3.60		
10+800		33.04				0.36			
	20		537.80				168.70		
10+820		20.74				16.51			
	20		397.30				651.90		
10+840		18.99				48.68			
	10		168.35				344.55		
10+850		14.68				20.23			
	10		150.70				172.85		
10+860		15.46				14.34			
	5		69.80				61.50		
10+865		12.46				10.26			
	15		159.00				76.95		
10+880		8.74				0.00			
	20		154.30				0.00		
10+900		6.69				0.00			
	20		126.10				0.00		
10+920		5.92				0.00			
	20		121.30				0.00		
10+940		6.21				0.00			
	20		118.50				0.00		
10+960		5.64				0.00			
	9		87.26				0.00		
10+969		13.75				0.00			
TH 2									
0+020		40.96				0.00			
	20		520.10				42.70		
0+040		11.05				4.27			
	20		288.00				109.50		
0+060		17.75				6.68			
	20		424.50				83.70		
0+080		24.70				1.69			
	20		412.70				22.80		
0+100		16.57				0.59			
	20		304.60				8.00		
0+120		13.89				0.21			
	12		140.64				6.78		
0+132		9.55				0.92			
	8		65.24				6.52		
0+140		6.76				0.71			
	20		67.60				7.10		
0+160		0.00				0.00			

STATION Km + m	DIST m	EARTH EXCAVATION AREA m²	EARTH EXCAVATION VOLUME m³	ROCK EXCAVATION AREA m²	ROCK EXCAVATION VOLUME m³	EMBANKMENT AREA m²	EMBANKMENT VOLUME m³	AREA m²	VOLUME m³
SIDEROAD OFF TH 2									
1+020		26.09				0.00			
	20		359.00				28.20		
1+040		9.81				2.82			
	15		77.48				31.65		
1+055		0.52				1.40			
	5		3.75				8.08		
1+060		0.98				1.83			
	20		12.60				23.10		
1+080		0.28				0.48			
	20		29.00				73.40		
1+100		2.62				6.86			
	20		26.40				68.90		
1+120		0.02				0.03			
	15		0.15				0.23		
1+135		0.00				0.00			
TH 13 EAST ALBURG ROAD									
2+020		5.79				27.24			
	20		139.80				363.50		
2+040		8.19				9.11			
	20		107.30				98.50		
2+060		2.54				0.74			
	15		19.05				5.55		
2+075		0.00				0.00			
DRIVE OFF TH 13									
3+003		0.00				12.82			
	7		9.17				98.91		
3+010		2.62				15.44			
	10		20.00				107.05		
3+020		1.38				5.97			
	20		27.50				59.70		
3+040		1.37				0.00			
ALBURG DRIVES									
DRIVES			107.42				9.14		

SUMMARY AND BALANCES

STATION TO STATION Km + m	Km + m	EARTH EXCAVATION m³	ROCK EXCAVATION m³	EMBANKMENT m³	EXCESSES CUT	EXCESSES FILL	ACCUMULATIVE EXCESSES CUT	ACCUMULATIVE EXCESSES FILL
ALBURG								
VT 78								
10+180	10+380	3789.50		813.40	2976.10	0.00	2976.10	0.00
10+380	10+580	3859.90		2831.00	1028.90	0.00	4005.00	0.00
10+580	10+780	8858.30		0.00	8858.30	0.00	12863.30	0.00
10+780	10+969	2946.41		1505.55	1440.86	0.00	14304.16	0.00
TH 2								
0+020	0+160	2223.38		287.10	1936.28	0.00	16240.44	0.00
SIDEROAD OFF TH 2								
1+020	1+135	513.05		238.23	274.82	0.00	16515.26	0.00
TH 13 EAST ALBURG ROAD								
2+020	2+075	297.29		498.69	0.00	201.40	16313.86	0.00
DRIVE OFF TH 13								
3+003	3+040	47.50		256.49	0.00	208.99	16104.87	0.00
ALBURG DRIVES								
DRIVES		107.42		9.14	98.28	0.00	16203.15	0.00
ALBURG TOTAL		22642.75	360.00	6439.60			16203.15	0.00

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
EARTHWORKS SUMMARY SHEET (1 OF 2)	
Designed By C.L. CILLEY	Drawn By K.D. WENTWORTH
Checked By J.A. MERCER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072ES1	Sheet C14 of C194

VHB NO. 5091

plot date: 10/23/2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION

EARTHWORKS

Metric

STATION km + m	DIST m	EARTH EXCAVATION AREA m²	EARTH EXCAVATION VOLUME m³	ROCK EXCAVATION AREA m²	ROCK EXCAVATION VOLUME m³	EMBANKMENT AREA m²	EMBANKMENT VOLUME m³		
SWANTON									
VT 78									
12+061		4.09				0.00			
	19		69.53				0.00		
12+080		4.09				0.00			
	20		85.10				13.20		
12+100		4.42				1.32			
	10		49.10				10.95		
12+110		5.40				0.87			
	5		23.93				5.48		
12+115		4.17				1.32			
	5		20.80				6.85		
12+120		4.15				1.42			
	20		88.20				31.60		
12+140		4.67				1.74			
	10		72.45				43.00		
12+150		4.66				1.70			
	10		75.25				197.80		
12+160		10.39				37.86			
	20		194.70				495.40		
12+180		9.08				11.68			
	20		198.50				121.90		
12+200		10.77				0.51			
	20		195.70				56.20		
12+220		8.80				5.11			
	20		245.60				57.90		
12+240		15.76				0.68			
	20		208.40				267.00		
12+260		5.08				26.02			
	20		101.10				507.00		
12+280		5.03				24.68			
	20		296.10				410.90		
12+300		24.58				16.41			
	20		478.70				283.80		
12+320		23.29				11.97			
	20		417.60				174.10		
12+340		18.47				5.44			
	20		441.30				145.30		
12+360		25.66				9.09			
	20		511.50				119.90		
12+380		25.49				2.90			
	20		507.50				43.90		
12+400		25.26				1.49			
	20		477.10				28.00		
12+420		22.45				1.31			
	20		320.00				34.90		
12+440		9.55				2.18			
	20		183.60				32.10		
12+460		8.81				1.03			
	20		202.80				25.90		
12+480		11.47				1.56			
	20		254.50				29.40		
12+500		13.98				1.38			
	20		250.20				36.70		
12+520		11.04				2.29			
	20		233.70				66.30		
12+540		12.33				4.34			
	20		237.40				90.60		
12+560		11.41				4.72			

STATION km + m	DIST m	EARTH EXCAVATION AREA m²	EARTH EXCAVATION VOLUME m³	ROCK EXCAVATION AREA m²	ROCK EXCAVATION VOLUME m³	EMBANKMENT AREA m²	EMBANKMENT VOLUME m³		
12+560		11.41				4.72			
	20		230.30				85.20		
12+580		11.62				3.80			
	20		247.20				64.30		
12+600		13.10				2.63			
	20		266.70				35.30		
12+620		13.57				0.90			
	20		291.40				14.50		
12+640		15.57				0.55			
	20		300.90				13.20		
12+660		14.52				0.77			
	8		114.62				28.44		
12+668		10.47				2.68			
	12		96.54				30.00		
12+680		6.81				3.53			
	20		68.10				35.30		
12+700		0.00				0.00			
SANDY POINT ROAD									
4+009		4.22				0.15			
	11		46.42				1.82		
4+020		4.22				0.18			
	20		58.00				14.00		
4+040		1.58				1.22			
	5		8.48				7.00		
4+045		1.81				1.58			
	15		42.15				20.63		
4+060		3.81				1.17			
	20		38.10				11.70		
4+080		0.00				0.00			
SWANTON DRIVES									
DRIVES			2.07				6.55		
BOAT RAMP AREA									
BOAT RAMP			175.08				1099.00		

SUMMARY AND BALANCES

STATION TO STATION km + m	km + m	EARTH EXCAVATION m³	ROCK EXCAVATION m³	EMBANKMENT m³	EXCESSES CUT	EXCESSES FILL	ACCUMULATIVE EXCESSES CUT	ACCUMULATIVE EXCESSES FILL
SWANTON								
VT 78								
12+061	12+300	1932.64		2310.46	0.00	377.83	0.00	377.83
12+300	12+500	3794.60		917.30	2877.30	0.00	2499.47	0.00
12+500	12+700	2337.06		499.93	1837.13	0.00	4336.60	0.00
SANDY POINT ROAD								
4+009	4+080	192.85		54.84	138.01	0.00	4474.61	0.00
SWANTON DRIVES								
DRIVES		2.07		6.55	0.00	4.48	4470.13	0.00
BOAT RAMP AREA								
BOAT RAMP		175.08		1099.00	0.00	923.92	3546.21	0.00
SWANTON TOTAL		8434.30	40.00	4888.08			3546.22	0.00
ALBURG TOTAL		22642.75	360.00	6439.60			16203.15	0.00
PROJECT TOTAL		31077.05	400.00	11327.68			19749.37	0.00

REMARKS

EARTH EXCAVATION	31 077.05
SOLID ROCK EXCAVATION	400.00
EARTH EXCAVATION	30 677.05
PLANIMETERED FILL	11 327.68
LESS FACTORED SOLID ROCK	
LESS DISPLACEMENT OF ANY LARGE STRUCTURES	
NET PLANIMETERED FILL	11 327.68
FACTOR	1.15
PLANIMETERED FILL INCLUDING FACTOR	13 026.83
MATERIALS AVAILABLE FOR FILLS	
EARTH EXCAVATION	30 677.05
UNCLASSIFIED CHANNEL EXCAVATION	19 954.49
UNDERDRAIN EXCAVATION	80.00
STRUCTURE EXCAVATION	0.00
TOTAL MATERIAL AVAILABLE FOR FILL	50 711.54
TOTAL FILL INCLUDING FACTOR	13 026.83
TOTAL MATERIAL FOR FILL	50 711.54
BORROW	9 000.00
EXCESS EXCAVATION	46 684.71

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
EARTHWORKS SUMMARY SHEET (2 OF 2)	
Designed By C.L. CILLEY	Drawn By K.D. WENTWORTH
Checked By J.A. MERCER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
I.G.C. Info.	
File No. ZE0T2ES1	Sheet C15 of C194

VHB NO. 50911 plot date: 10/30/2003

Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION
RIGHT OF WAY PLANS
DETAIL SHEET

TABLE OF PROJECT PROPERTY ACQUISITION

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS
1A	STATE OF VERMONT	28	10+146.03 RT	10+159.67 RT	89 SM±			WDOE		ALBURG			(0.02 A±)
		28	10+100.0 RT				INSTALL & MAINTAIN (P)						UTILITY POLE GUY WIRE
		28	10+106.3 RT	10+154.6 RT			DETOUR (T) 0.04 HA±						(0.10 A±) INCLUDES EROSION CONTROL
													FORMERLY BENJAMIN, STEPHEN & DIANE K.
1B		28,29	10+174.06 RT	10+398.99 RT	0.24 HA±								(0.60 A±)
		28,29	10+174.1 RT	10+409.8 RT			DETOUR (T) 0.45 HA±						(1.11 A±) INCLUDES EROSION CONTROL
		28	10+174.1 RT	10+231.8 RT			REMOVE (T)						ACCESS TO AND REMOVAL OF FOUNDATION AND WELL
		28	10+177.6 RT				INSTALL & MAINTAIN (P)						UTILITY POLE GUY WIRE
		28,29	10+178.4 RT	10+412.9 RT			CONST (T) 0.07 HA±						(0.17 A±)
		28	10+197.36 RT	10+217.10 RT			ALL R, T, & I						FOUNDATION
		28	10+205.3 RT				REMOVE (T)						EXIST WELL & APPURTENANCES
		28	10+205.3 RT				ALL R, T, & I						WELL & APPURTENANCES
		28,29	10+219.1 RT	10+405.7 RT			SLOPE (T) 31 SM±						(334 SF±)
		28	10+232.2 RT				CUL & DR (T)						DETOUR DRAINAGE
		28	10+240.0 RT				CUL, DIT & DR (P)						
		29	10+293.6 RT	10+409.8 RT			REMOVE & RESET (T)						EXISTING FENCE (WIRE)
		29	10+334.7 RT				CUL & DR (T)						DETOUR DRAINAGE
1C		28,29	10+159.36 RT	10+368.02 LT	0.14 HA±		ALL R, T, & I						(0.35 A±) HWY EASE VT RTE 78
2A	STATE OF VERMONT	28	10+099.4 LT	10+159.4 LT			UTILITY (P) 0.02 HA±			ALBURG			(0.05 A±)
													FORMERLY STE/NE ACQUISITION CORP.
2B		28	10+129.07 RT	10+165.65 RT	0.02 HA±		ALL R, T, & I						(0.05 A±) HWY EASE VT RTE 78
3A	STATE OF VERMONT	28	10+157.9 LT	10+232.1 LT			UTILITY (P) 0.02 HA±			ALBURG			(0.05 A±)
		28	10+161.3 LT	10+204.0 LT			REMOVE (T)						SPRUCE TREES
		28	10+199.7 LT	10+203.7 LT			INSTALL (T)						EROSION CONTROL
		28	10+220.0 LT				DRIVE (T)						PAVED 8.0 m WIDE MM 0256
		28	10+225.0 LT				REMOVE & RESET (T)						UTILITY POLE LIGHT
		28	10+225.0 LT				INSTALL & MAINTAIN (P)						UTILITY POLE GUY WIRE
		28	10+225.0 LT				RECONNECT (T)						UNDERGROUND UTILITIES
													FORMERLY HETRICK, LARRY D. & RENATE
3B		28	10+162.99 RT	10+234.82 LT	0.05 HA±		ALL R, T, & I						(0.12 A±) HWY EASE VT RTE 78
4A	STATE OF VERMONT	28	10+231.6 LT	10+251.0 LT			UTILITY (P) 19 SM±			ALBURG			(205 SF±)
		28	10+254.7 LT	10+289.0 LT			SLOPE (T) 77 SM±						(829 SF±)
		28	10+260.0 LT				DRIVE (T)						PAVED 3.6 m WIDE MM 0258
													FORMERLY HILLIKER, ROBERT & DOROTHY
4B		28	10+232.83 LT	10+294.39 LT	0.04 HA±		ALL R, T, & I						(0.10 A±) HWY EASE VT RTE 78
5A	STATE OF VERMONT	29	10+319.3 LT				INSTALL (T)			ALBURG			UTILITY POLE GUY WIRE
		29	10+330.0 LT				DRIVE (T)						PAVED 3.6 m WIDE MM 0263
													FORMERLY PEARO, ROLAND W. & MADELINE M.
5B		29	10+290.24 LT	10+359.66 LT	0.05 HA±		ALL R, T, & I						(0.12 A±) HWY EASE VT RTE 78
6A	STATE OF VERMONT	29	10+358.7 LT	10+361.4 LT			INSTALL (T)			ALBURG			EROSION CONTROL
		29	10+360.0 LT				DRIVE (T)						PAVED 7.2 m WIDE MM 0264
		29	10+376.3 LT	10+387.1 LT			CONST (T) 24 SM±						(258 SF±) INCLUDES EROSION CONTROL
													FORMERLY PEARO, HERBERT P. & TAWNIA

REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY

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[W]- WATER SOURCES

PRESENT R.O.W.
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TAKING WITHOUT ACCESS ALONG PROPERTY LINE
TAKING WITH ACCESS
(P) PERMANENT EASEMENT
(T) TEMPORARY EASEMENT

LEGEND
C&T (P) CLEARING & TRIMMING
CZ (P) CLEAR ZONE
CONST.(T) CONSTRUCTION EASEMENT
SR SLOPE RIGHTS
PROPERTY LINE
TOP OF CUT
TOE OF SLOPE

UE (P) PERMANENT UTILITY EASEMENT

FOR R.O.W. USE ONLY

APPROVED: _____ DATE: _____
CHIEF, PLANS & TITLES

ZE072RDT

R. O. W SHEET 24 OF 37
SHEET C16 OF C194

VHB NO. 5091

plot date: 10/24/2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION
RIGHT OF WAY PLANS
DETAIL SHEET

TABLE OF PROJECT PROPERTY ACQUISITION

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6B	STATE OF VERMONT	29	10+355.96 LT	SR TH 2 1+119.78 LT	0.03 HA±		ALL R, T, & I						(0.07 A±) HWY EASE VT RTE 78
													FORMERLY PEARO, HERBERT P. & TAWNIA
7	BENJAMIN, JOSEPH ROGER &	29	SR TH 2 1+117.49 RT	SR TH 2 1+120.11 RT	1 SM±		ALL R, T, & I			ALBURG			(11 SF±) HWY EASE VT RTE 78
	LOUISE T.	29	SR TH 2 1+051.8 RT	SR TH 2 1+061.2 RT			UTILITY (P) 11 SM±						(118 SF±)
		29	SR TH 2 1+054.3 RT				INSTALL & MAINTAIN (P)						UTILITY POLE GUY WIRE
8A	STATE OF VERMONT	29	SR TH 2 1+052.5 RT	TH 2 0+211.7 LT			UTILITY (P) 0.04 HA±			ALBURG			(0.10 A±)
		29	TH 2 0+109.0 LT				DRIVE (T)						PAVED 3.6 m WIDE
		29	TH 2 0+113.8 LT	TH 2 0+124.30 LT			SLOPE (T) 10 SM±						(108 SF±)
		29	TH 2 0+135.0 LT				INSTALL & MAINTAIN (P)						UTILITY POLE GUY WIRE
8B		29	TH 2 0+064.27 RT	TH 2 0+128.57 RT	0.02 HA±			WDOE					(0.05 A±) TO TOWN OF ALBURG
		29	TH 2 0+051.3 RT	TH 2 0+156.3 RT			CONST (T) 0.04 HA±						(0.10 A±) INCLUDES EROSION CONTROL
		29	TH 2 0+055.3 RT	TH 2 0+110.4 RT			SLOPE (T) 0.02 HA±						(0.05 A±)
		29	TH 2 0+059.7 RT	TH 2 0+071.2 RT			CUL, DIT & DR (P)						PIPE, DITCH & DRAINAGE
		29	TH 2 0+115.0 RT				DRIVE (T)						PAVED 3.0 m WIDE
		29	TH 2 0+120.0 RT	TH 2 0+145.0 RT			SLOPE (T) 28 SM±						(301 SF±)
		29	TH 2 0+200.0 RT				INSTALL & MAINTAIN (P)						UTILITY POLE GUY WIRE
		29	10+524.3 LT	10+530.4 LT			INSTALL (T)						EROSION CONTROL
8C		29	10+362.50 LT	10+416.47 LT	0.03 HA±		ALL R, T, & I						(0.07 A±) HWY EASE VT RTE 78
													FORMERLY CHRISTOPHER, NANCY &
													BOHANNON, ANNA (LIFE ESTATE)
8D		29	10+381.73 LT	10+493.52 LT	0.23 HA±								(0.57 A±)
8E		29,30	10+581.27 RT	10+854.02 LT	0.44 HA±								(1.09 A±)
		29,30	10+579.5 RT	10+768.7 RT			CONST (T) 0.05 HA±						(0.12 A±)
		29,30	10+580.8 RT	10+755.4 RT			SLOPE (T) 0.05 HA±						(0.12 A±)
8F		30	10+841.17 RT	10+874.94 LT	0.02 HA±		ALL R, T, & I						(0.05 A±) HWY EASE TH 13
8G		30	10+763.0 LT				DRIVE (T)						PAVED 8.1 m WIDE WM 0289
		31	10+880.3 RT	10+923.7 LT±			ACCESS (T) 0.09 HA±						(0.22 A±) ACCESS TO LAKE TO REMOVE
													BARGES
8H		31	10+873.98 LT	10+876.64 LT	1 SM±								(11 SF±)
9A	CANADIAN NATIONAL RAILWAY	29	10+463.84 RT	10+587.36 RT	0.17 HA±					ALBURG			(0.42 A±)
	JOINED BY NEW ENGLAND	29	10+463.84 RT	10+587.36 RT									EXCEPT & RESERVE RAILROAD CROSSING
	CENTRAL RAILROAD, INC.												INFRASTRUCTURE & COMMUNICATION LINES
		29	10+452.5 RT	10+581.3 RT			CONST (T) 0.06 HA±						(0.15 A±) INCLUDES EROSION CONTROL
													& CLEARING LIMITS
		29	10+452.5 RT	10+496.2 LT			REMOVE (T)						FENCE
		29	10+460.1 RT	10+486.9 RT			SLOPE (T) 73 SM±						(0.02 A±)
		29	10+468.0 RT				CUL, DIT & DR (P)						
		29	10+521.2 RT	10+542.2 RT			INSTALL (T)						EROSION CONTROL
		29	10+549.1 RT	10+574.7 RT			INSTALL (T)						EROSION CONTROL
		29	10+568.9 RT	10+580.7 RT			SLOPE (T) 10 SM±						(108 SF±)
		29	10+574.3 LT	10+589.3 LT			INSTALL (T)						EROSION CONTROL
		30	10+596.0 LT	10+606.9 LT			INSTALL (T)						EROSION CONTROL
9B		29	10+493.52 RT	10+600.09 LT	0.26 HA±		ALL R, T, & I						(0.64 A±) HWY EASE VT RTE 78
		29	10+493.52 RT	10+600.09 LT									EXCEPT & RESERVE RAILROAD CROSSING
													INFRASTRUCTURE & COMMUNICATION LINES

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LEGEND
C&T (P) CLEARING & TRIMMING
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CONST. (T) CONSTRUCTION EASEMENT
SR SLOPE RIGHTS
PROPERTY LINE
TOP OF CUT
TOE OF SLOPE
UE (P) PERMANENT UTILITY EASEMENT

FOR R.O.W. USE ONLY

APPROVED: _____ DATE: _____
CHIEF, PLANS & TITLES

R. O. W SHEET 25 OF 37
SHEET C17 OF C194

ZE072RDT

VHB NO. 5091

plot date: 10/24/2003

Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION
RIGHT OF WAY PLANS
DETAIL SHEET

TABLE OF PROJECT PROPERTY ACQUISITION

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10A	ESTATE OF VIRGINIA B. L'ECUYER	30	TH 13 2+010.52 RT	TH 13 2+043.65 RT	86 SM±					ALBURG			(0.02 A±)
	JOHN GIROUX, EXECUTOR	30	TH 13 2+015.4 RT	TH 13 2+039.3 RT			SLOPE (T) 0.01 HA±						(0.02 A±)
		30	TH 13 2+025.0 RT				DRIVE (T)						PAVED 3.0 m WIDE
		30	TH 13 2+037.4 RT	TH 13 2+046.0 RT			WALK (T)						INSTALL WALKWAY
		30	TH 13 2+039.7 LT	TH 13 2+046.6 RT			INSTALL & MAINTAIN (P)						WATER LINE SLEEVE
		30	TH 13 2+040.5 RT	TH 13 2+054.6 RT			INSTALL (T)						EROSION CONTROL
10B		30,31	10+836.55 RT	10+873.93 LT	0.03 HA±		ALL R, T, & I						(0.07 A±) HWY EASE TH 13
		30	TH 13 2+018.0 LT				ALL R, T, & I						POLE WITH LUMINAIRE
		30	TH 13 2+018.0 LT										EXCEPT & RESERVE LUMINAIRE
		30	TH 13 2+031.0 LT										EXCEPT & RESERVE STAIRWAY
10C		30,31	10+855.40 RT	10+896.5+ LT	0.02 HA±								(0.05 A±)
		30	TH 13 2+016.0 LT	TH 13 2+018.8 LT			CONST (T) 25 SM±						(269 SF±) INCLUDES EROSION CONTROL
		30	TH 13 2+022.6 LT	TH 13 2+041.0 LT			CONST (T) 52 SM±						(0.01 A±)
		30	TH 13 2+027.1 LT	TH 13 2+042.5 LT			SLOPE (T) 23 SM±						(248 SF±)
		30	TH 13 2+030.6 LT	TH 13 2+031.5 LT			INSTALL (T)						INSTALL STAIRS (PRIVATE)
11	STATE OF VERMONT	30	TH 13 2+038.7 LT	TH 13 2+063.7 LT			CONST (T) 56 SM±			ALBURG			(0.01 A±)
		30	TH 13 2+041.0 LT	TH 13 2+051.1 LT			SLOPE (T) 10 SM±						(108 SF±)
		30	TH 13 2+053.0 RT	TH 13 2+054.8 RT			SLOPE (T) 1 SM±						(11 SF±)
		30	TH 13 2+053.0 RT	TH 13 2+061.0 RT			CONST (T) 13 SM±						(140 SF±)
		30	TH 13 2+062.7 LT	TH 13 2+067.5 RT			INSTALL & MAINTAIN (P)						WATER LINE SLEEVE
													FORMERLY SHAW, RALPH E.
12A	STATE OF VERMONT	28,29	10+129.07 RT	10+416.47 LT	0.38 HA±		ALL R, T, & I			ALBURG			(0.94 A±) HWY EASE VT RTE 78
		29	SR TH 2 1+024.1 ℄	SR TH 2 1+117.49 ℄			APPROACH (T)						PRESENT TH 2
		29	TH 2 0+095.3 ℄	TH 2 0+160.0 ℄			APPROACH (T)						PRESENT TH 2
													FORMERLY TOWN OF ALBURG
12B		30,31	TH 13 2+015.62 RT	10+874.94 LT	0.04 HA±		ALL R, T, & I						(0.10 A±) HWY EASE TH 13
12C		28	10+160.6 RT	10+173.3 RT			APPROACH (T)						PRESENT TH 13
		28	10+159.4 RT	10+178.4 RT			DETOUR (T) 0.02 HA±						(0.05 A±) ACROSS TH 13
13A	HILL, PEGGY L.	35	12+143.2± LT	12+235.94 LT	0.30 HA±					SWANTON			(0.74 A±) TOTAL TAKE
13B		35	12+234.17 RT	12+243.49 LT	0.03 HA±		ALL R, T, & I						(0.07 A±) HWY EASE TH 11
14A	SOLBERG, LYNN D.	35,36	12+249.22 RT	12+493.29 RT	0.54 HA±					SWANTON			(1.33 A±)
	BERG, MARCI L.	36	12+288.3 RT	12+300.0 RT			UTILITY (P) 0.08 HA±						(0.20 A±) 9.1 m CENTERED ON POLES
													CONTINUED TO TH 11
		36	12+353.7 RT	12+366.3 RT			CONST (T) 47 SM±						(0.01 A±)
		36	12+360.0 RT				DRIVE (T)						PAVED 3.6 m WIDE MM 0056
		36	12+375.4 RT				INSTALL (P)						GUY WIRE
		36	12+452.7 RT				INSTALL (P)						GUY WIRE
14B		35	12+241.70 RT	12+251.94 LT	0.03 HA±		ALL R, T, & I						(0.07 A±) HWY EASE TH 11

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SR SR SLOPE RIGHTS
P L PROPERTY LINE
TOP OF CUT
TOE OF SLOPE
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CHIEF, PLANS & TITLES

ZE072RDT

R. O. W SHEET 26 OF 37
SHEET C18 OF C194

VHB NO. 5091

plot date: 10/24/2003

Metric

STATE OF VERMONT
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15	STATE OF VERMONT	36,37	12+510.26 LT	12+760.53 LT	0.12 HA±					SWANTON			(0.30 A±)
	AGENCY OF NATURAL RESOURCES	35,36	12+182.5 LT	12+300.8 LT			CONST (T) 0.28 HA±						(0.69 A±) INCLUDES ACCESS TO
													CONSTRUCT BOAT LAUNCHING
													FACILITY AND SANDY POINT
													ACCESS ROAD
		35	12+184.4 LT				INSTALL (T)						UTILITY POLE GUY WIRE
		36	12+305.0 LT				DRAINAGE (P)						DRAINAGE
		36	12+310.2 LT	12+327.1 LT			INSTALL (T)						EROSION CONTROL
		36	12+315.5 LT	12+323.1 LT			SLOPE (T) 6 SM±						(65 SF±)
		36,37	12+446.2 LT	12+760.5 LT			CONST (T) 0.09 HA±						(0.22 A±) INCLUDES EROSION CONTROL
		36,37	12+474.5 LT	12+745.6 LT			DETOUR (T) 0.20 HA±						(0.49 A±) INCLUDES EROSION CONTROL
		36,37	12+521.1 LT	12+764.0 LT			UTILITY (T)						OVERHEAD UTILITIES
		36	12+534.1 LT				CUL & DR (T)						DETOUR DRAINAGE
		36,37	12+535.1 LT	12+764.0 LT			UTILITY (P) 0.15 HA±						(0.37 A±)
		36	12+545.9 LT				INSTALL (P)						GUY WIRE
		36	12+548.6 LT				INSTALL (T)						UTILITY POLE GUY WIRE
		37	12+636.3 LT				CUL & DR (T)						DETOUR DRAINAGE
		37	12+650.0 LT				DRIVE (T)						PAVED 3.6 m WIDE MM 0074
		37	12+656.6 LT				INSTALL (T)						GUY WIRE
		37	12+667.5 LT				DRAINAGE (P)						
		37	12+763.7 LT				INSTALL (P)						GUY WIRE
16	STATE OF VERMONT	35	12+234.15 RT	12+251.04 LT	0.05 HA±		ALL R. T. & I			SWANTON			(0.12 A±) HWY EASE TH 11
													FORMERLY TOWN OF SWANTON
17A	CV PROPERTIES INCORPORATED	36,37	12+493.29 RT	12+760.53 RT	0.14 HA±								(0.35 A±)
	JOINED BY NEW ENGLAND CENTRAL RAILROAD, INC.	36,37	12+493.29 RT	12+760.53 RT									EXCEPT & RESERVE RAILROAD INFRASTRUCTURE & COMMUNICATION LINES
		36,37	12+514.9 RT	12+642.3 RT			INSTALL (T)						EROSION CONTROL
17B		36,37	12+542.78 RT	12+760.53 RT	0.13 HA±		ALL R. T. & I			SWANTON			(0.32 A±) HWY EASE VT RTE 78
18	CITIZENS ENERGY SERVICES												UTILITY
19	NORTHLAND TELEPHONE CO. OF VERMONT												UTILITY
20	VERIZON NEW ENGLAND, INC.												UTILITY
21	ADELPHIA CABLE COMMUNICATIONS												UTILITY
	MAINTENANCE AGREEMENT ZONE 1	29	TH 2 0+003.52 ℄	TH 2 0+015.43 ℄						ALBURG			TH 2 LENGTH = 11.91 m (39.07 FT)
	MAINTENANCE AGREEMENT ZONE 2	30	TH 13 2+006.00 ℄	TH 13 2+015.66 ℄						ALBURG			TH 13 LENGTH = 9.66 m (31.69 FT)
	RELINQUISHMENT ZONE 1	28	TH 13 10+146.03 RT	TH 13 10+159.67 RT						ALBURG			TH 13 AREA = 89 SM± (0.02 A±)
	RELINQUISHMENT ZONE 2	29	10+373.77 LT	10+530.75 LT						ALBURG			INCLUDES TH 50 R/O/W
													AREA = 0.50 HA± (1.24 A±)
													INCLUDES CUL, DIT & DR (P) AT TH 2
													STA 0+059.7 RT - STA 0+071.2 RT
	RELINQUISHMENT ZONE 3	30	TH 13 2+015.62 RT	TH 13 2+043.65 RT						ALBURG			TH 13 AREA = 67 SM± (0.02 A±)
	MAINTENANCE AGREEMENT ZONE 3	35	12+242.82 RT	12+241.70 RT						SWANTON			TH 11 LENGTH = 22.60 m (74.15 FT)

REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY

DR. (P)- DRAINAGE RIGHT
DIT. (P)- DITCHING RIGHT
CH. (P)- CHANNEL RT.
DRIVE (T)- DRIVE RIGHT
CUL. (P)- CULVERT RIGHT
[W]- WATER SOURCES

PRESENT R.O.W.
TAKING WITHOUT ACCESS
TAKING WITHOUT ACCESS ALONG PROPERTY LINE
TAKING WITH ACCESS
(P) PERMANENT EASEMENT
(T) TEMPORARY EASEMENT

LEGEND
C&T (P) CLEARING & TRIMMING
CZ (P) CLEAR ZONE
CONST.(T) CONSTRUCTION EASEMENT
SR SR SLOPE RIGHTS
P L PROPERTY LINE
TOP OF CUT
TOE OF SLOPE
UE (P) PERMANENT UTILITY EASEMENT

FOR R.O.W. USE ONLY

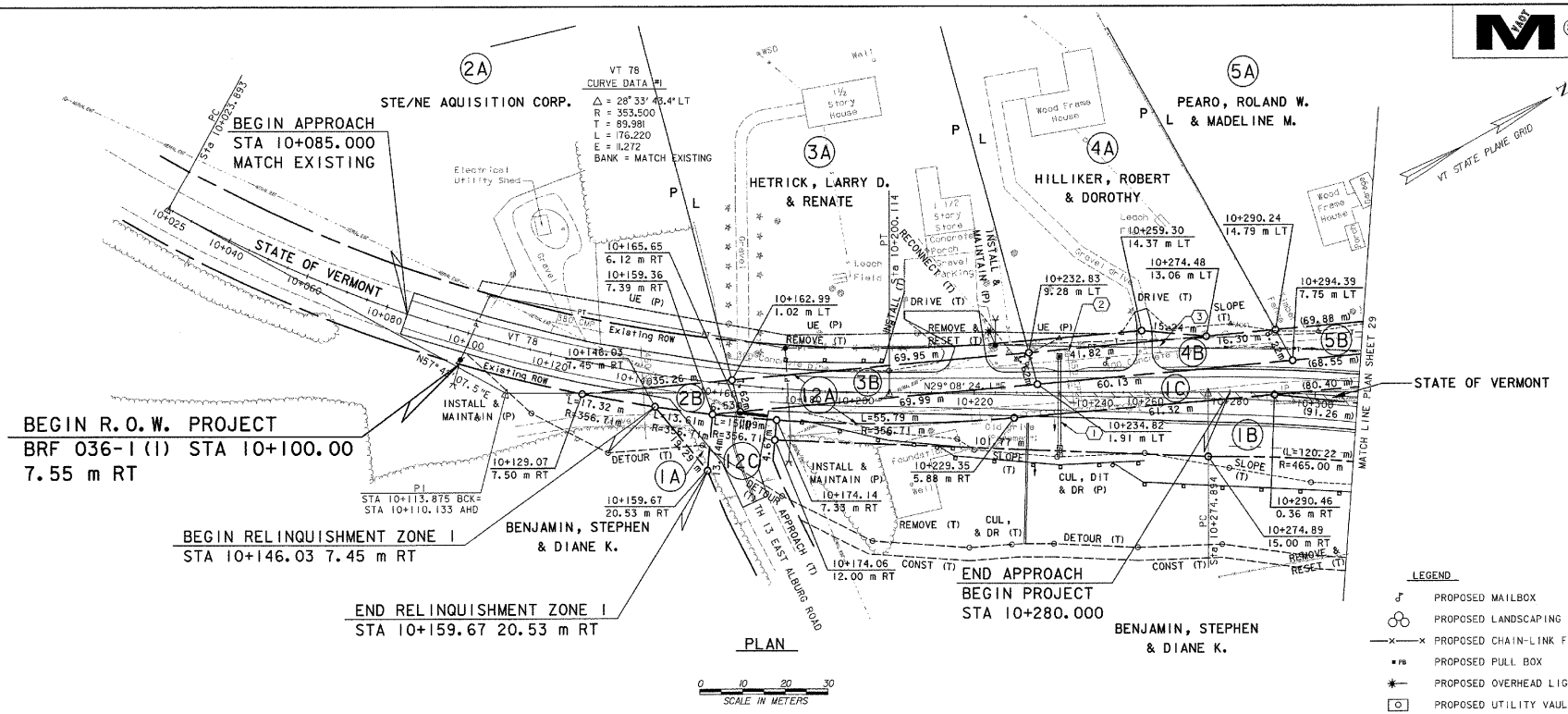
APPROVED: _____ DATE: _____
CHIEF, PLANS & TITLES

ZE072RDT

R. O. W SHEET 27 OF 37
SHEET C19 OF C194

VHB NO. 5091I

plot date: 10/24/2003
3/



LEGEND

- PROPOSED MAILBOX
- PROPOSED LANDSCAPING
- PROPOSED CHAIN-LINK FENCE
- PROPOSED PULL BOX
- PROPOSED OVERHEAD LIGHT
- PROPOSED UTILITY VAULT
- PUED — PROPOSED UNDERGROUND ELECTRICAL DUCT
- PUTV — PROPOSED UNDERGROUND CABLE TV DUCT
- PNL — PROPOSED UNDERGROUND WIRED CONDUIT FOR NAVIGATIONAL LIGHTING
- PE&TV — PROPOSED AERIAL ELECTRIC, CABLE TV AND TELEPHONE
- PT — PROPOSED AERIAL TELEPHONE
- E&TV — TEMPORARY AERIAL ELECTRIC, CABLE TV AND TELEPHONE
- SILT FENCE
- FC — FILTER CURTAIN

COLD PLANING

STA 10+085 - STA 10+190 (SALVAGE)
(SEE SPECIAL PROVISIONS)

MEDIAN TAPER

STA 10+200, RT (0 mm) TO
STA 10+310, RT (2200 mm)

TRAVEL LANE TAPER

STA 10+230, RT & LT (3300 mm) TO
STA 10+280, RT & LT (3600 mm)

PAVED SHOULDER TAPER

STA 10+230, RT & LT (1500 mm) TO
STA 10+280, RT & LT (1800 mm)

BEGIN AGGREGATE SHOULDER

STA 10+265, RT & LT

DEMOLITION & DISPOSAL OF BUILDING

STA 10+206, RT (INCLUDING WELL)

CONSTRUCT DRIVE

STA 10+220, LT
50 BCP TYPE III, 8.0 m WIDE

STA 10+260, LT
50 BCP TYPE III, 3.6 m WIDE

EROSION MATTING

STA 10+300 - STA 10+310, LT

RELOCATE SINGLE MAILBOX SUPPORT

STA 10+232, LT
CONSTRUCT MAILBOX TURNOUT

STA 10+251, LT
CONSTRUCT MAILBOX TURNOUT

DRAINAGE NOTES

(1) STA 10+240, LT 8.4 m - 10+240, RT 12.6 m
DI WITH CRATE, TYPE A
RIM EL. = 40.350
INV. OUT (E) = 39.200
NEW 600x20 m PCCSP OR CAAP OR RCP OR CPEP
INV. OUT = 38.800
OUTLET WITH STONE FILL PAD, TYPE I
1200x2.7 mx300 DEEP

(2) STA 10+242, LT 9.0 m - 10+244, RT 3.0 m
REMOVE EXISTING DI
REMOVE EXISTING 450x15 m CPEP

(3) STA 10+260, LT 10.0 m - 10+264, LT 10.8 m
REMOVE EXISTING 300x4 m RCP

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

FOR R.O.W. USE ONLY

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

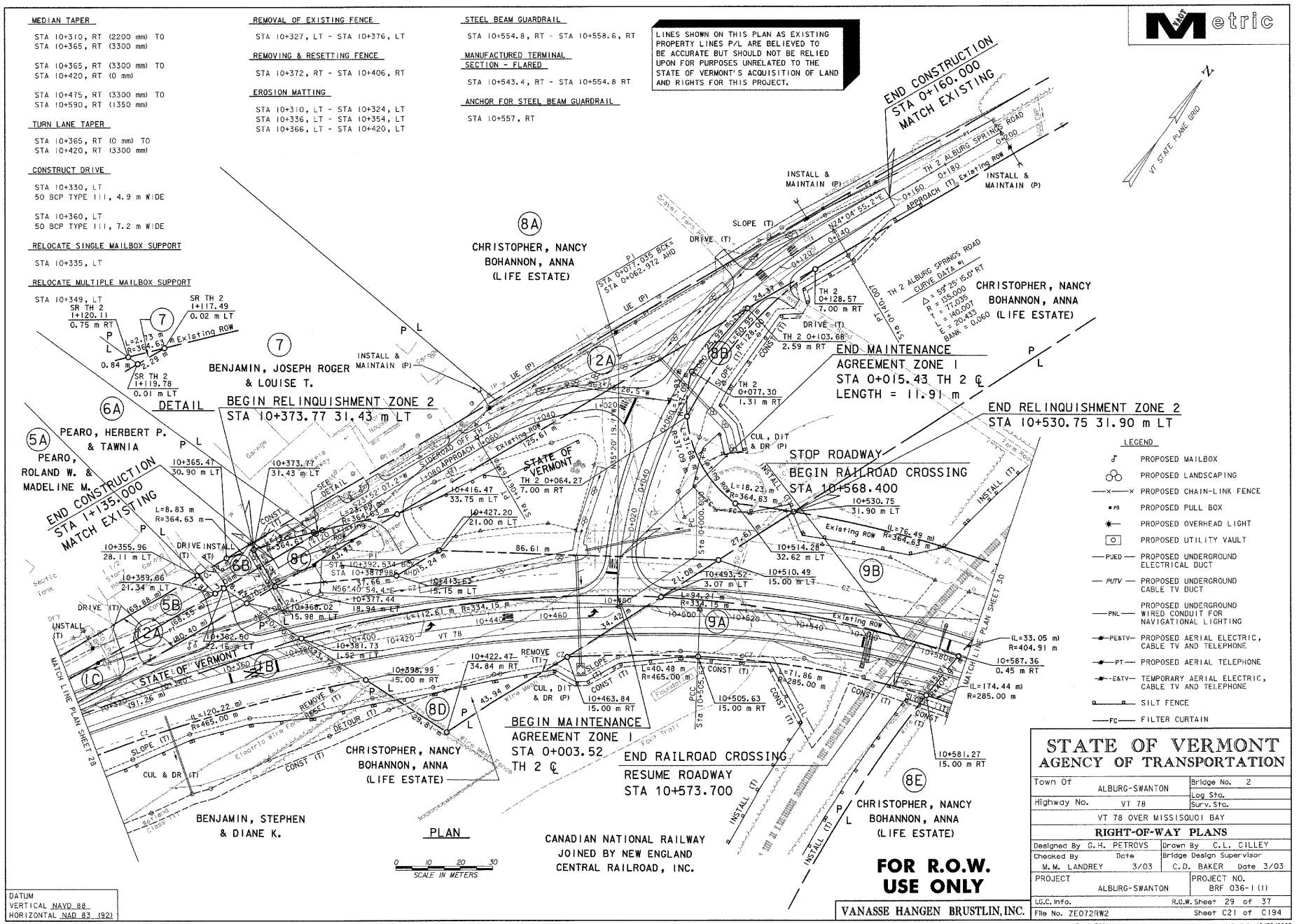
VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
RIGHT-OF-WAY PLANS	
Designed By G.H. PETROVS	Drawn By C.L. CILLEY
Checked By M.M. LANDREY Date 3/03	Bridge Design Supervisor C.D. BAKER Date 3/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	R.O.W. Sheet 28 of 37
File No. ZE072RWI	Sheet C20 of C194

VHB NO. 5091I

plot date: 10/29/2003



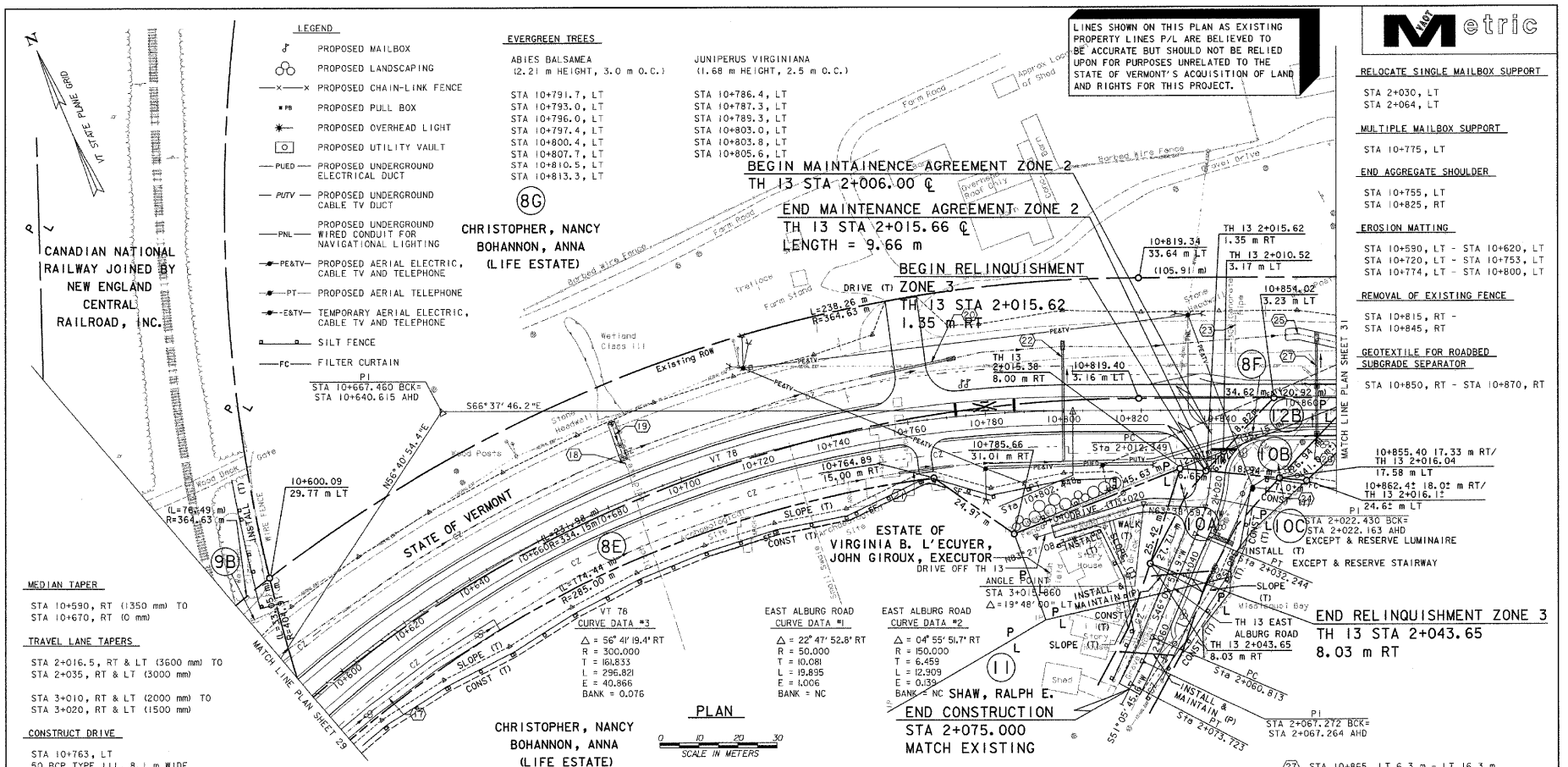
STATE OF VERMONT
AGENCY OF TRANSPORTATION

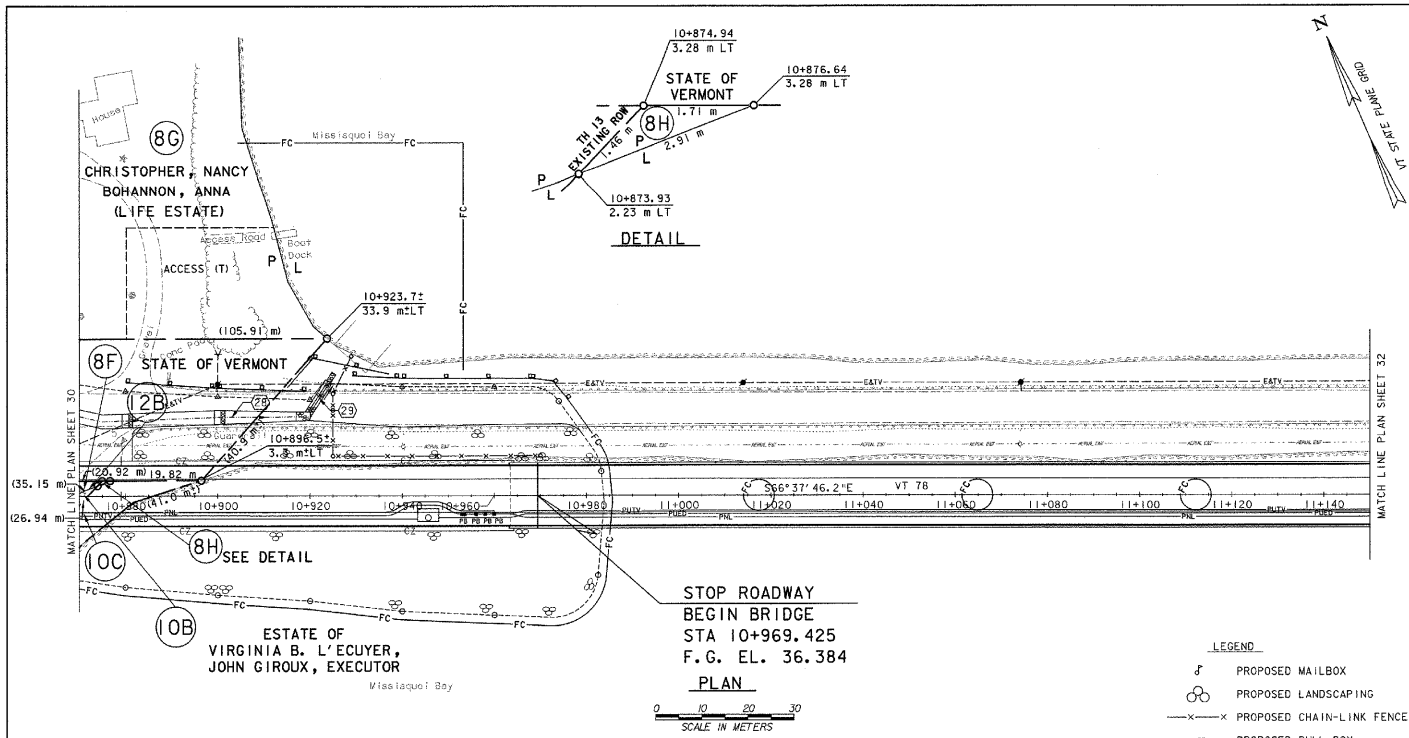
Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

RIGHT-OF-WAY PLANS

Designed By G.H. PETROVS	Drawn By C.L. CILLEY
Checked By M.M. LANDREY Date 3/03	Bridge Design Supervisor C.D. BAKER Date 3/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	R.O.W. Sheet 29 of 37
File No. ZE072RW2	Sheet C21 of C194

VHB NO. 50911 plot date: 10/29/2003


LEGEND
PROPOSED MAILBOX
PROPOSED LANDSCAPING
PROPOSED CHAIN-LINK FENCE
PROPOSED PULL BOX
PROPOSED OVERHEAD LIGHT
PROPOSED UTILITY VAULT
PROPOSED UNDERGROUND ELECTRICAL DUCT
PROPOSED UNDERGROUND CABLE TV DUCT
PROPOSED UNDERGROUND WIRED CONDUIT FOR NAVIGATIONAL LIGHTING
PROPOSED AERIAL ELECTRIC, CABLE TV AND TELEPHONE
PROPOSED AERIAL TELEPHONE
TEMPORARY AERIAL ELECTRIC, CABLE TV AND TELEPHONE
SILT FENCE
FILTER CURTAIN
EVERGREEN TREES
ABIES BALSAMEA (2.21 m HEIGHT, 3.0 m O.C.)
STA 10+791.7, LT
STA 10+793.0, LT
STA 10+796.0, LT
STA 10+797.4, LT
STA 10+800.4, LT
STA 10+807.7, LT
STA 10+810.5, LT
STA 10+813.3, LT
JUNIPERUS VIRGINIANA (1.68 m HEIGHT, 2.5 m O.C.)
STA 10+786.4, LT
STA 10+787.3, LT
STA 10+789.3, LT
STA 10+803.0, LT
STA 10+803.8, LT
STA 10+805.6, LT
LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.
CANADIAN NATIONAL RAILWAY JOINED BY NEW ENGLAND CENTRAL RAILROAD, INC.
CHRISTOPHER, NANCY BOHANNON, ANNA (LIFE ESTATE)
BEGIN MAINTAINENCE AGREEMENT ZONE 2
TH 13 STA 2+006.00 ℄
END MAINTENANCE AGREEMENT ZONE 2
TH 13 STA 2+015.66 ℄
LENGTH = 9.66 m
BEGIN RELINQUISHMENT ZONE 3
TH 13 STA 2+015.62
1.35 m RT
PI STA 10+667.460 BCK= STA 10+640.615 AHD
S66°37' 46.2"E
N55°40' 54.4"E
STATE OF VERMONT
ESTATE OF VIRGINIA B. L'ECUYER, JOHN GIROUX, EXECUTOR
DRIVE OFF TH 13
ANGLE POINT STA 3+01.660 Δ=19° 48' 00" LT
SHAW, RALPH E.
END CONSTRUCTION STA 2+075.000 MATCH EXISTING
END RELINQUISHMENT ZONE 3
TH 13 STA 2+043.65
8.03 m RT
PLAN
0 10 20 30
SCALE IN METERS
MATCH LINE PLAN SHEET 29
MATCH LINE PLAN SHEET 31
VT 78 CURVE DATA #3
Δ = 56° 41' 19.4" RT
R = 300.000
T = 161.833
L = 296.821
E = 40.866
BANK = 0.076
EAST ALBURG ROAD CURVE DATA #1
Δ = 22° 47' 52.8" RT
R = 50.000
T = 10.081
L = 19.895
E = 1.006
BANK = NC
EAST ALBURG ROAD CURVE DATA #2
Δ = 04° 55' 51.7" RT
R = 150.000
T = 6.459
L = 12.909
E = 0.139
BANK = NC
RELOCATE SINGLE MAILBOX SUPPORT
STA 2+030, LT
STA 2+064, LT
MULTIPLE MAILBOX SUPPORT
STA 10+775, LT
END AGGREGATE SHOULDER
STA 10+755, LT
STA 10+825, RT
EROSION MATTING
STA 10+590, LT - STA 10+620, LT
STA 10+720, LT - STA 10+753, LT
STA 10+774, LT - STA 10+800, LT
REMOVAL OF EXISTING FENCE
STA 10+815, RT - STA 10+845, RT
GEOTEXTILE FOR ROADBED SUBGRADE SEPARATOR
STA 10+850, RT - STA 10+870, RT
MEDIAN TAPER
STA 10+590, RT (1350 mm) TO STA 10+670, RT (0 mm)
TRAVEL LANE TAPERS
STA 2+016.5, RT & LT (3600 mm) TO STA 2+035, RT & LT (3000 mm)
STA 3+010, RT & LT (2000 mm) TO STA 3+020, RT & LT (1500 mm)
CONSTRUCT DRIVE
STA 10+763, LT 50 BCP TYPE III, 8.1 m WIDE
STA 10+763, RT 50 BCP TYPE III, 3.6 m WIDE
STA 2+025, RT 50 BCP TYPE III, 3.0 m WIDE
STEEL BEAM GUARDRAIL
STA 10+847.0, LT - STA 10+870.0, LT
STA 2+030.2, LT - STA 10+870.0, RT
STA 2+031.8, LT - STA 2+059.0, LT
BITUMINOUS CONCRETE CURB
STA 10+862, LT - 10+870, LT
STA 10+862, RT - 10+870, RT
MANUFACTURED TERMINAL SECTION - FLARED
STA 10+835.6, LT - STA 10+847.0, LT
STONE FILL, TYPE IV
STA 2+055, LT - STA 10+870, RT
WIRED CONDUIT (NAVIGATIONAL LIGHTING)
STA 10+832, LT 24.1 m - STA 10+832, RT 4.1 m
STA 10+832, RT 4.1 m - STA 10+870, RT 4.1 m
DUCTS - CONCRETE ENCASED
3 DUCTS (ELECTRICAL DUCTS): STA 10+780, RT 13.5 m - STA 10+810, RT 13.5 m
9 DUCTS (ELECTRICAL DUCTS): STA 10+810, RT 13.5 m - STA 10+823, RT 13.5 m; STA 10+823, RT 13.5 m - STA 10+863, RT 5.0 m; STA 10+863, RT 5.0 m - STA 10+870, RT 5.0 m
SLEEVES FOR UTILITIES (MOD-SPLIT SLEEVE) (EXISTING WATER LINE)
STA 2+040, LT 6.5 m - STA 2+046, RT 6.5 m
STA 2+063, LT 6.5 m - STA 2+068, RT 6.5 m
DUCTS - DIRECT BURIAL (CABLE TV DUCT)
STA 10+780, RT 13.0 m - STA 10+823, RT 13.0 m
STA 10+823, RT 13.0 m - STA 10+863, RT 4.5 m
STA 10+863, RT 4.5 m - STA 10+870, RT 4.5 m
DRAINAGE NOTES
(17) STA 10+590, RT 12.7 m - STA 10+640, RT 13.5 m NEW STONE FILL DITCH, TYPE I 3000x48.0 m x300 DEEP
(18) STA 10+688, LT 20.0 m - LT 7.5 m REMOVE EXISTING HEADWALL REMOVE EXISTING 300x13 m RCP
(19) STA 10+688, LT 20.0 m - LT 11.3 m NEW STONE FILL DITCH, TYPE I INV. IN = 35.170 INV. OUT = 33.990 900x8.7 m x300 DEEP
(20) STA 10+753, LT 13.1 m - STA 10+772, LT 14.6 m NEW 450x20 m PCCSP OR CAAP OR RCP OR CPEP INV. IN = 33.120 INV. OUT = 32.740 OUTLET WITH STONE FILL PAD, TYPE I 900x2.1 m x300 DEEP
(21) STA 10+756, RT 12.5 m - STA 10+770, RT 12.5 m NEW 375x14 m PCCSP OR CAAP OR RCP OR CPEP INV. IN = 32.600 INV. OUT = 32.530
(22) STA 10+800, RT 12.6 m - STA 10+800, LT 15.8 m NEW 450x29 m PCCSP OR CAAP OR RCP OR CPEP INV. IN = 32.380 INV. OUT = 32.220 OUTLET WITH STONE FILL PAD, TYPE I 900x2.1 m x300 DEEP
(23) STA 10+844, LT 11.0 m - LT 25.0 m REMOVE EXISTING HEADWALL REMOVE EXISTING 300x14 m RCP
(24) STA 10+848, RT 8.0 m - STA 10+857, RT 15.0 m REMOVE EXISTING 300x11 m CMP
(25) STA 10+860, LT 19.3 m - STA 10+870, LT 17.7 m NEW GRASS LINED SWALE INV. IN = 31.740
(26) STA 10+865, RT 6.3 m - LT 6.3 m DI WITH GRATE, TYPE D RIM EL. = 34.305 NEW 450x12 m PCCSP INV. OUT = 32.490
(27) STA 10+865, LT 6.3 m - LT 16.3 m DI WITH GRATE, TYPE D RIM EL. = 34.305 INV. IN (S) = 32.250 INV. OUT (N) = 32.150 NEW 450x10 m PCCSP INV. OUT = 31.870 OUTLET WITH STONE FILL PAD, TYPE I 900x3.9 m x300 DEEP
FOR R.O.W. USE ONLY
VANASSE HANGEN BRUSTLIN, INC.
DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)
STATE OF VERMONT
AGENCY OF TRANSPORTATION
Town Of ALBURG-SWANTON
Bridge No. 2
Highway No. VT 78
Log Sta.
Surv. Sta.
VT 78 OVER MISSISQUOI BAY
RIGHT-OF-WAY PLANS
Designed By G.H. PETROVS
Drawn By C.L. CILLEY
Checked By M.M. LANDREY Date 3/03
Bridge Design Supervisor C.D. BAKER Date 3/03
PROJECT ALBURG-SWANTON
PROJECT NO. BRF 036-1 (1)
V.G.C. Info.
R.O.W. Sheet 30 of 37
File No. ZE072RW3
Sheet C22 of C194
VHB NO. 5091
plot date: 10/29/2003



Metric

CAUSEWAY CONSTRUCTION NOTES

(STATION 10+850 TO STATION 10+969.4)
(STATION 12+060.8 TO STATION 12+150)

1. PLACEMENT OF EMBANKMENT FILL AND CONSTRUCTION OF ABUTMENTS SHALL BE PERFORMED IN TWO STAGES:

   STAGE 1:
   REMOVE TOPSOIL ABOVE THE WATER LINE WITHIN LIMITS OF EMBANKMENT FILL. PLACE EMBANKMENT FILL AS INDICATED, STARTING AT THE EXISTING CAUSEWAY AND WORKING OUTWARD AND TO THE SOUTH OF THE EXISTING CAUSEWAY. FILL TO 0.5 m ABOVE THE HIGH WATER LINE AT THE TIME OF CONSTRUCTION AND INSTALL SETTLEMENT MONITORING INSTRUMENTS AT THE INDICATED LOCATIONS. CONTINUE EMBANKMENT FILL TO THE ELEVATION OF THE SUBGRADE. MONITOR SETTLEMENT FOR A MINIMUM OF THREE MONTHS.

   STAGE 2:
   AFTER COMPLETION OF THE SETTLEMENT PERIOD, AND AFTER APPROVAL OF THE RESIDENT ENGINEER, PLACE ADDITIONAL SAND BORROW TO THE BOTTOM OF THE PROPOSED ROADWAY SUBGRADE. THEN CONSTRUCT ROADWAY SUBBASE MATERIAL TO FINISH GRADE.

2. INITIAL READINGS OF ALL SETTLEMENT PLATFORMS SHALL BE TAKEN BY THE CONTRACTOR AND SUPPLIED TO THE ENGINEER PRIOR TO THE APPLICATION OF ANY EMBANKMENT FILL. DURING THE PROCESS OF FILLING, THE SETTLEMENT PLATFORM READINGS SHALL BE TAKEN ONCE A WEEK AND THE READINGS AND A CUMULATIVE PLOT OF SETTLEMENT VERSUS TIME SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. FILL ELEVATIONS SHALL BE RECORDED WHENEVER SETTLEMENT PLATFORM READINGS ARE TAKEN. THE ENGINEER SHALL REVIEW THE READINGS AND SETTLEMENT PLOTS PROVIDED BY THE CONTRACTOR. IF THE ENGINEER DETERMINES THAT THE MAJORITY OF THE SETTLEMENT HAS TAKEN PLACE, THE ENGINEER SHALL PROVIDE WRITTEN NOTICE TO THE CONTRACTOR THAT READINGS SHALL BE DISCONTINUED AND CONSTRUCTION OF THE ROADWAY SECTION COULD BEGIN.

3. LOCATION OF THE FIELD CONTROL STATION ASSOCIATED WITH THE SETTLEMENT PLATFORM SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION OF THE INSTRUMENTATION.

4. ABUTMENT EXCAVATION AND CONSTRUCTION AND BACKFILL CAN OCCUR CONCURRENTLY WITH STAGE 1 EMBANKMENT FILL.

REMOVAL AND DISPOSAL OF GUARDRAIL

STA 10+882, LT 13.5 m - STA 11+150, LT 15.3 m
STA 10+887, LT 23.7 m - STA 11+150, LT 23.0 m

BITUMINOUS CONCRETE CURB

STA 10+870, LT - STA 10+953.7, LT
STA 10+870, RT - STA 10+953.7, RT

CAST-IN-PLACE CONCRETE CURB

STA 10+953.7, LT - STA 10+963.2, LT
STA 10+953.7, RT - STA 10+963.2, RT

GEOTEXTILE FOR ROADBED SUBGRADE SEPARATOR

STA 10+880, LT - STA 10+969.4, LT
STA 10+870, RT - STA 10+969.4, RT

STONE FILL, TYPE IV

STA 10+900, LT - STA 10+984, LT
STA 10+870, RT - STA 10+984, LT

STEEL BEAM GUARDRAIL

STA 10+870, LT - STA 10+953.7, LT
STA 10+870, RT - STA 10+953.7, RT

CHAIN-LINK FENCE (TYPE 1)

STA 10+925, LT 8.6 m - STA 10+925, LT 18.4 m
STA 10+925, LT 22.0 m - STA 10+929, LT 30.0 m
STA 10+925, LT 8.6 m - STA 10+970, LT 8.6 m

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

WIRED CONDUIT (NAVIGATIONAL LIGHTING)

STA 10+960, RT 4.1 m - STA 10+969.4, RT 4.5 m
STA 10+870, RT 4.1 m - STA 10+960, RT 4.1 m

DUCTS - CONCRETE ENCASED

9 DUCTS (ELECTRICAL DUCTS):
STA 10+948, RT 4.1 m - STA 10+953, RT 4.1 m
STA 10+870, RT 5.0 m - STA 10+944, RT 5.0 m

12 DUCTS (ELECTRICAL, CABLE TV AND VTRANS DUCTS):
STA 10+953, RT 4.1 m - STA 10+969.4, RT 3.6 m

DUCTS - DIRECT BURIAL (CABLE TV DUCTS)

STA 10+870, RT 4.5 m - STA 10+937, RT 4.5 m
STA 10+937, RT 4.5 m - STA 10+944, RT 2.5 m
STA 10+944, RT 2.5 m - STA 10+948, RT 2.5 m
STA 10+948, RT 2.5 m - STA 10+953, RT 4.1 m

UTILITY VAULT

STA 10+946, RT 4.15 m (ELECTRICAL)
(SEE SPECIAL PROVISIONS FOR DETAILS)

DOUBLE PULLBOX

STA 10+953, RT 4.1 m (CABLE TV DUCT)

PULLBOX

STA 10+960, RT 4.1 m (NAVIGATIONAL LIGHTING)
STA 10+958, RT 4.1 m (SINGLE VTRANS DUCT)
STA 10+956, RT 4.1 m (SINGLE VTRANS DUCT)

DRIVE GATE FOR CHAIN-LINK FENCE (TYPE 1)

STA 10+925, LT 18.4 m - STA 10+925, LT 22.0 m

DRAINAGE NOTES

(28) STA 10+870, LT 17.7 m - STA 10+917, LT 17.0 m
NEW GRASS LINED SWALE WITH PERMANENT STONE CHECK DAMS
INV. OUT = 31.500
OUTLET WITH STONE FILL SUMP, TYPE I
1800x4.0 mx300 DEEP

(29) STA 10+920, LT 18.2 m - STA 10+925, LT 24.4 m
NEW 600x7 m PCCSP OR CAAP OR RCP OR CPEP
INV. IN = 31.500
INV. OUT = 31.000
OUTLET WITH STONE FILL PAD, TYPE I
1200x2.7 mx300 DEEP
STA 10+920, LT 18.2 m - STA 10+925, LT 24.4 m
NEW STONE FILL, TYPE II
1600x7.6 mx600 DEEP
PLACE CRUSHED GRAVEL (COARSE GRADED) ON TOP OF STONE FILL, TYPE II

SETTLEMENT PLATFORM (TYPE 1)

PROPOSED SETTLEMENT PLATFORM LOCATIONS

PL-1	STA 10+880.000, LT 0.0 m
PL-2	STA 10+880.000, LT 7.6 m
PL-3	STA 10+900.500, LT 0.0 m
PL-4	STA 10+900.500, LT 7.6 m
PL-5	STA 10+921.000, LT 0.0 m
PL-6	STA 10+921.000, LT 7.6 m
PL-7	STA 10+941.500, LT 0.0 m
PL-8	STA 10+941.500, LT 7.6 m
PL-9	STA 10+962.000, LT 0.0 m
PL-10	STA 10+962.000, LT 7.6 m

LEGEND

- PROPOSED MAILBOX
- PROPOSED LANDSCAPING
- PROPOSED CHAIN-LINK FENCE
- PROPOSED PULL BOX
- PROPOSED OVERHEAD LIGHT
- PROPOSED UTILITY VAULT
- PROPOSED UNDERGROUND ELECTRICAL DUCT
- PROPOSED UNDERGROUND CABLE TV DUCT
- PROPOSED UNDERGROUND WIRED CONDUIT FOR NAVIGATIONAL LIGHTING
- PROPOSED AERIAL ELECTRIC, CABLE TV AND TELEPHONE
- PROPOSED AERIAL TELEPHONE
- TEMPORARY AERIAL ELECTRIC, CABLE TV AND TELEPHONE
- SILT FENCE
- FILTER CURTAIN

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

FOR R.O.W. USE ONLY

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.

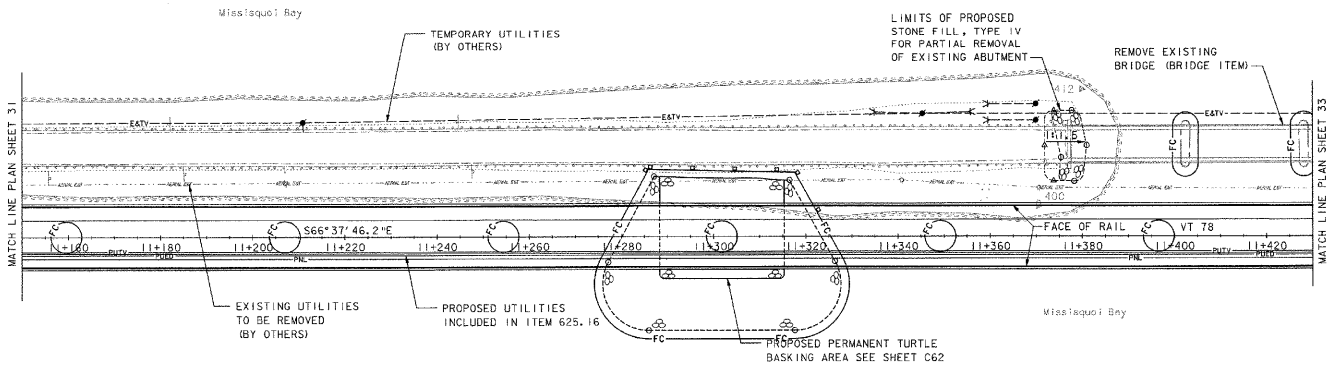
VT 78 OVER MISSISQUOI BAY

RIGHT-OF-WAY PLANS

Designed By G.H. PETROVS	Drawn By C.L. CILLEY
Checked By Date	Bridge Design Supervisor
M.M. LANDREY 3/03	C.D. BAKER Date 3/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	R.O.W. Sheet 31 of 37
File No. ZE072RW4	Sheet C23 of C194

VHB NO. 5091

plot date: 10/29/2003



PLAN

0 10 20 30
SCALE IN METERS

N
VT STATE PLANE GRID

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

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- PROPOSED LANDSCAPING
- PROPOSED CHAIN-LINK FENCE
- PROPOSED PULL BOX
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- PROPOSED UTILITY VAULT
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- PUTV — PROPOSED UNDERGROUND CABLE TV DUCT
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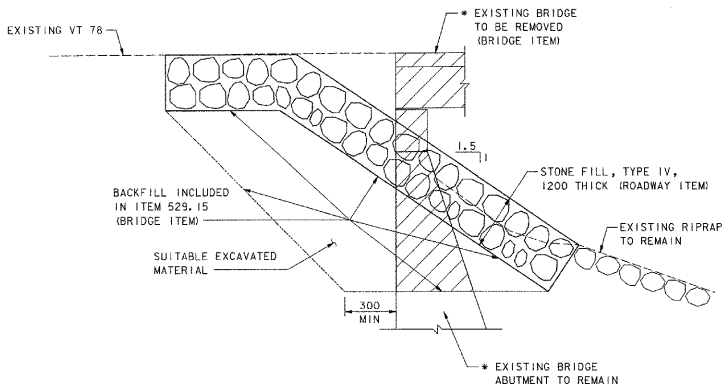
- PT — PROPOSED AERIAL TELEPHONE
- E&TV — TEMPORARY AERIAL ELECTRIC, CABLE TV AND TELEPHONE
- SILT FENCE
- FC — FILTER CURTAIN

REMOVAL AND DISPOSAL OF GUARDRAIL

STA 11+150, LT 15.3 m - STA 11+376.7, LT 15.5 m
STA 11+150, LT 23.0 m - STA 11+376.5, LT 23.4 m

STONE FILL, TYPE IV

STA 11+276, RT - STA 11+328, RT
STA 11+371, LT - STA 11+381, LT



SECTION A-A

NOT TO SCALE
* (SEE BRIDGE SHEETS FOR REMOVAL LIMITS)

FOR R.O.W. USE ONLY

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

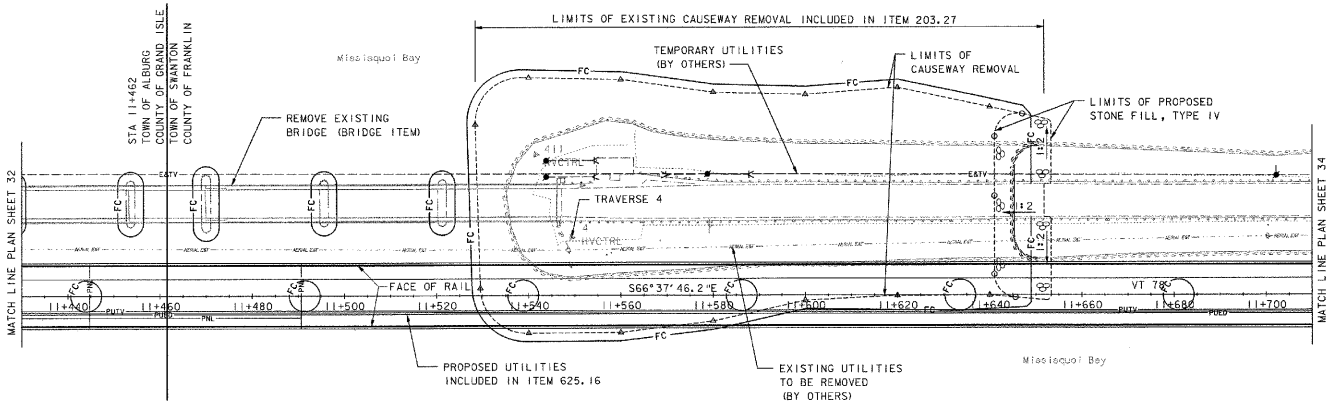
VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
RIGHT-OF-WAY PLANS	
Designed By G.H. PERTOVS	Drawn By C.L. CILLEY
Checked By M.M. LANDREY Date 3/03	Bridge Design Supervisor C.D. BAKER Date 3/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
L.G.C. Info.	R.O.W. Sheet 32 of 37
File No. ZE072RWS	Sheet C24 of C194

VHB NO. 50911

plot date: 10/29/2003



PLAN

0 10 20 30
SCALE IN METERS

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

LEGEND

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- PROPOSED LANDSCAPING
- PROPOSED CHAIN-LINK FENCE
- PROPOSED PULL BOX
- PROPOSED OVERHEAD LIGHT
- PROPOSED UTILITY VAULT
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- PE&TV — PROPOSED AERIAL ELECTRIC, CABLE TV AND TELEPHONE
- PT — PROPOSED AERIAL TELEPHONE
- E&TV — TEMPORARY AERIAL ELECTRIC, CABLE TV AND TELEPHONE
- SILT FENCE
- FC — FILTER CURTAIN

REMOVAL AND DISPOSAL OF GUARDRAIL

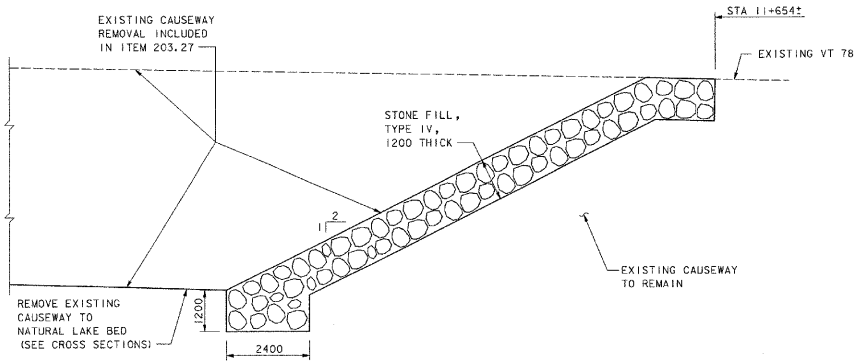
STA 11+547, LT 16.0 m - STA 11+710, LT 16.5 m
STA 11+547, LT 23.8 m - STA 11+554, LT 24.1 m
STA 11+564, LT 26.1 m - STA 11+710, LT 24.2 m

DEMOLITION & DISPOSAL OF BUILDING (MOD)

STA 11+559, LT (SALVAGE)

STONE FILL, TYPE IV

STA 11+641, LT - STA 11+654, LT



SECTION A-A
NOT TO SCALE

FOR R.O.W. USE ONLY

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

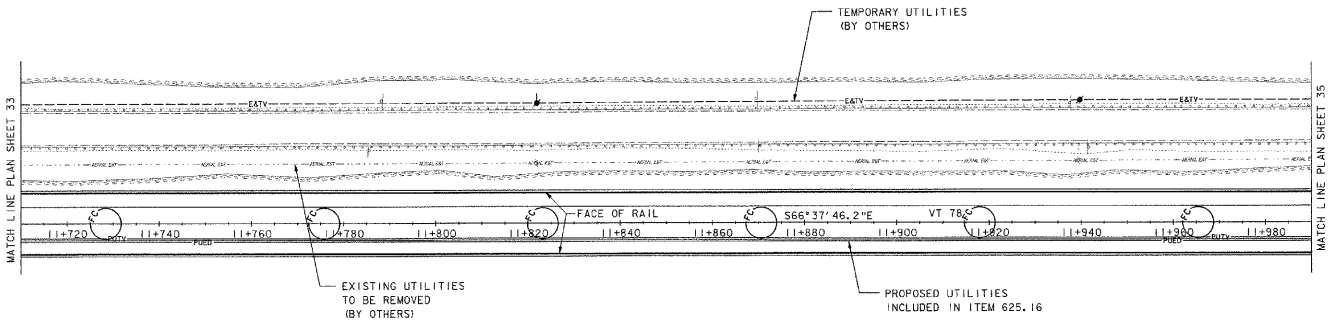
Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
RIGHT-OF-WAY PLANS	
Designed By G. H. PETROVS	Drawn By C. L. CILLEY
Checked By M. M. LANDREY Date 3/03	Bridge Design Supervisor C. D. BAKER Date 3/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	R.O.W. Sheet 33 of 37
File No. ZE072RW6	Sheet C25 of C194

VHB NO. 5098

plot date: 10/29/2003

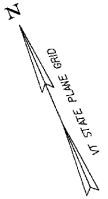
37

Metric



PLAN

0 10 20 30
SCALE IN METERS



PROPOSED MAILBOX
PROPOSED LANDSCAPING
PROPOSED CHAIN-LINK FENCE
PROPOSED PULL BOX
PROPOSED OVERHEAD LIGHT
PROPOSED UTILITY VAULT
PUED — PROPOSED UNDERGROUND ELECTRICAL DUCT
PUTV — PROPOSED UNDERGROUND CABLE TV DUCT
PNL — PROPOSED UNDERGROUND WIRED CONDUIT FOR NAVIGATIONAL LIGHTING
PE&TV — PROPOSED AERIAL ELECTRIC, CABLE TV AND TELEPHONE
PT — PROPOSED AERIAL TELEPHONE
E&TV — TEMPORARY AERIAL ELECTRIC, CABLE TV AND TELEPHONE
SILT FENCE
FC — FILTER CURTAIN

REMOVAL AND DISPOSAL
OF GUARDRAIL

STA 11+710, LT 16.5 m - STA 11+990, LT 17.1 m
STA 11+710, LT 24.2 m - STA 11+990, LT 24.7 m

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

FOR R.O.W. USE ONLY

VANASSE HANGEN BRUSTLIN, INC.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
RIGHT-OF-WAY PLANS	
Designed By G. H. PETROVS	Drawn By C. L. CILLEY
Checked By M. M. LANDREY Date 3/03	Bridge Design Supervisor C. D. BAKER Date 3/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
L.G.C. Info.	R.O.W. Sheet 34 of 37
File No. ZE072RW7	Sheet C26 of C194

VHB NO. 5091

plot date: 10/29/2003

Metric

LEGEND

- PROPOSED MAILBOX
- PROPOSED LANDSCAPING
- PROPOSED CHAIN-LINK FENCE
- PROPOSED PULL BOX
- PROPOSED OVERHEAD LIGHT
- PROPOSED UTILITY VAULT
- PROPOSED UNDERGROUND ELECTRICAL DUCT
- PROPOSED UNDERGROUND CABLE TV DUCT
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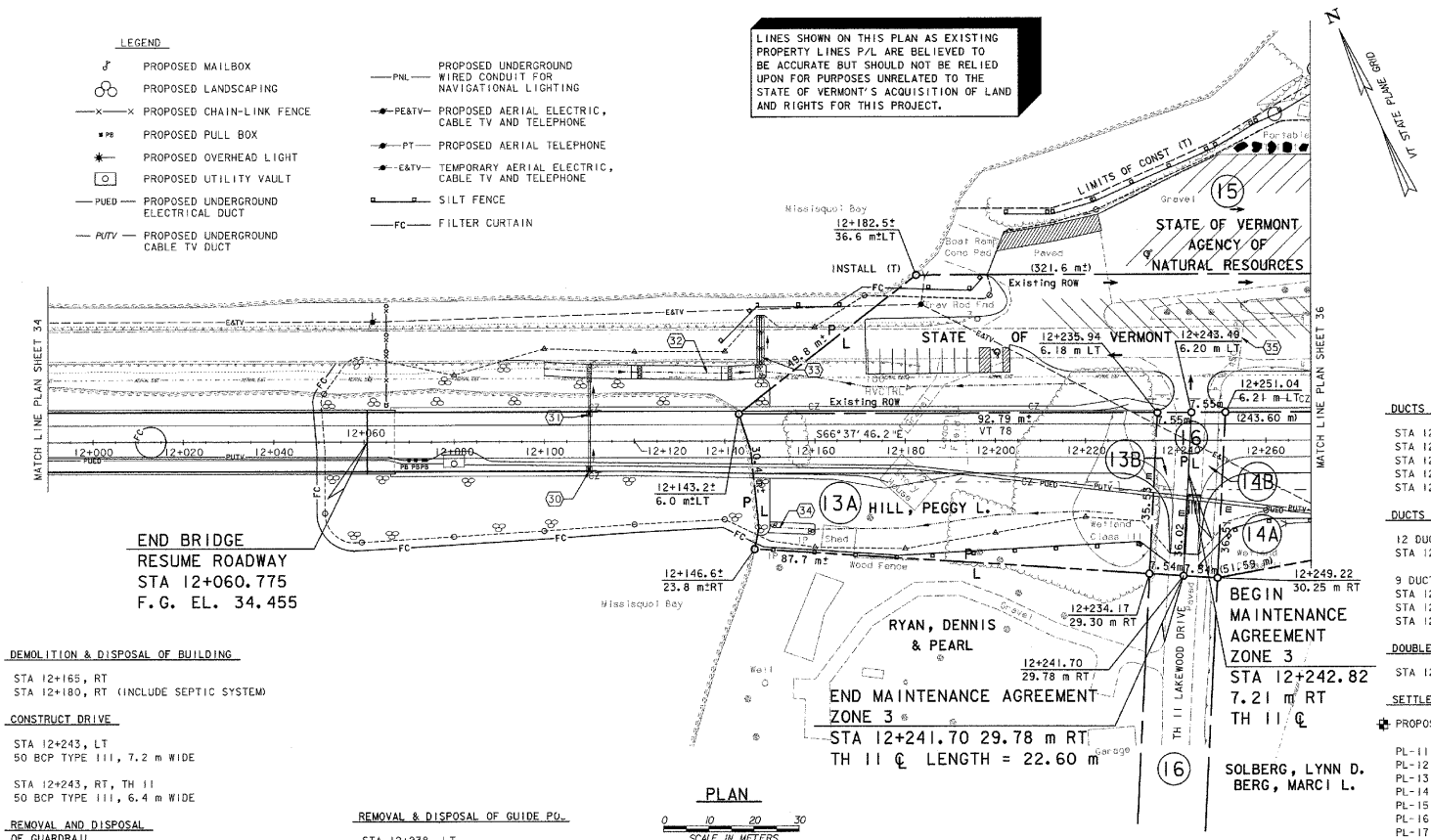

PLAN

0 10 20 30

SCALE IN METERS

DEMOLITION & DISPOSAL OF BUILDING

STA 12+165, RT
STA 12+180, RT (INCLUDE SEPTIC SYSTEM)

CONSTRUCT DRIVE

STA 12+243, LT
50 BCP TYPE III, 7.2 m WIDE

STA 12+243, RT, TH 11
50 BCP TYPE III, 6.4 m WIDE

REMOVAL AND DISPOSAL OF GUARDRAIL

STA 11+990, LT 17.1 m - STA 12+184, LT 16.4 m
STA 11+990, LT 24.7 m - STA 12+194, LT 26.3 m

CAST-IN-PLACE CONCRETE CURB

STA 12+067.0, LT - STA 12+076.5, LT
STA 12+067.0, RT - STA 12+076.5, RT

BITUMINOUS CONCRETE CURB

STA 12+076.5, LT - STA 12+113, LT
STA 12+076.5, RT - STA 12+113, RT

STONE FILL, TYPE IV

STA 12+050, LT - STA 12+150, LT
STA 12+051, RT - STA 12+150, RT

MANUFACTURED TERMINAL SECTION - FLARED

STA 12+217.5, LT - STA 12+228.9, LT
STA 12+164.1, RT - STA 12+175.6, RT

STEEL BEAM GUARDRAIL

STA 12+076.5, LT - STA 12+217.5, LT
STA 12+076.5, RT - STA 12+164.1, RT

REMOVAL & DISPOSAL OF GUIDE PO.

STA 12+238, LT
STA 12+243, LT
STA 12+247, LT
STA 12+264, LT
STA 12+269, LT

COLD PLANING (TH 11)

STA 12+243, RT 23.0 m -
STA 12+243, RT 25.0 m (SALVAGE)
(SEE SPECIAL PROVISIONS)

PAVED SHOULDER TAPER

STA 12+120, RT (3000 mm) TO
STA 12+150, RT (3600 mm)

GEOTEXTILE FOR ROADBED SUBGRADE SEPARATOR

STA 12+060.8 - STA 12+150

UTILITY VAULT

STA 12+080, RT 4.15 m (ELECTRICAL)
(SEE SPECIAL PROVISIONS FOR DETAILS)

PULL BOX

STA 12+070.0, RT 4.1 m (SINGLE VTRANS DUCT)
STA 12+071.5, RT 4.1 m (SINGLE VTRANS DUCT)

DRAINAGE NOTES

(30) STA 12+110, RT 6.3 m - LT 6.3 m
DI WITH GRATE, TYPE D
RIM EL. = 33.468
NEW 450x12 m PCCSP
INV. OUT = 31.626

(31) STA 12+110, LT 6.3 m - LT 13.3 m
DI WITH GRATE, TYPE D
RIM EL. = 33.348
INV. IN (S) = 31.266
INV. OUT (N) = 31.166
NEW 450x7 m PCCSP
INV. OUT = 30.965
OUTLET WITH STONE FILL PAD, TYPE I
1000x3.9 mx300 DEEP

(32) STA 12+100, LT 16.0 m - STA 12+150, LT 15.4 m
NEW GRASS LINED SWALE WITH PERMANENT
STONE CHECK DAMS
INV. IN = 30.700
INV. OUT = 30.500
OUTLET WITH STONE FILL SUMP, TYPE I
2400x3.0 mx300 DEEP

(33) STA 12+148, LT 16.8 m - LT 27.6 m
INSTALL NEW 600x12 m PCCSP OR CAAP OR RCP OR CPEP
INV. IN = 30.500
INV. OUT = 30.350
STA 12+148, LT 16.8 m - LT 27.6 m
NEW STONE FILL, TYPE II
1600x10.8 mx600 DEEP
PLACE CRUSHED GRAVEL (COARSE GRADED)
ON TOP OF STONE FILL, TYPE II

(34) STA 12+150, RT 16.9 m - STA 12+160, RT 19.9 m
NEW STONE FILL DITCH, TYPE II
INV. IN = 29.970
INV. OUT = 29.280

(35) STA 12+254, LT 15.6 m - STA 12+255, LT 26.3 m
REMOVE EXISTING 450x11 m CGMP

SEE SHEET C39 FOR CAUSEWAY CONSTRUCTION NOTES.

DUCTS - DIRECT BURIAL (CABLE TV DUCT)

STA 12+073, RT 4.1 m - STA 12+078, RT 2.5 m
STA 12+078, RT 2.5 m - STA 12+082, RT 2.5 m
STA 12+082, RT 2.5 m - STA 12+089, RT 4.5 m
STA 12+089, RT 4.5 m - STA 12+180, RT 5.7 m
STA 12+180, RT 5.7 m - STA 12+270, RT 15.7 m

DUCTS - CONCRETE ENCASED

12 DUCTS (ELECTRICAL, CABLE TV AND VTRANS DUCTS):
STA 12+060.8, RT 3.6 m - STA 12+073, RT 4.1 m

9 DUCTS (ELECTRICAL DUCTS):
STA 12+073, RT 4.1 m - STA 12+078, RT 4.1 m
STA 12+082, RT 5.0 m - STA 12+180, RT 6.2 m
STA 12+180, RT 6.2 m - STA 12+270, RT 16.2 m

DOUBLE PULL BOX

STA 12+073.5, RT 4.1 m (CABLE TV DUCT)

SETTLEMENT PLATFORM (TYPE I)

PROPOSED SETTLEMENT PLATFORM LOCATIONS

PL-11 STA 12+068.250, LT 0.0 m
PL-12 STA 12+068.250, LT 7.6 m
PL-13 STA 12+088.750, LT 0.0 m
PL-14 STA 12+088.750, LT 7.6 m
PL-15 STA 12+109.250, LT 0.0 m
PL-16 STA 12+109.250, LT 7.6 m
PL-17 STA 12+129.750, LT 0.0 m
PL-18 STA 12+129.750, LT 7.6 m

DRIVE GATE FOR CHAIN-LINK FENCE (TYPE I)

STA 12+065, LT 20.0 m - STA 12+065, LT 23.6 m

CHAIN-LINK FENCE (TYPE I)

STA 12+065, LT 8.0 m - STA 12+065, LT 20.0 m
STA 12+065, LT 23.6 m - STA 12+065, LT 30.0 m

FOR R.O.W. USE ONLY

VANASSE HANGEN BRUSTLIN, INC.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

STATE OF VERMONT
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Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.

VT 78 OVER MISSISQUOI BAY

RIGHT-OF-WAY PLANS

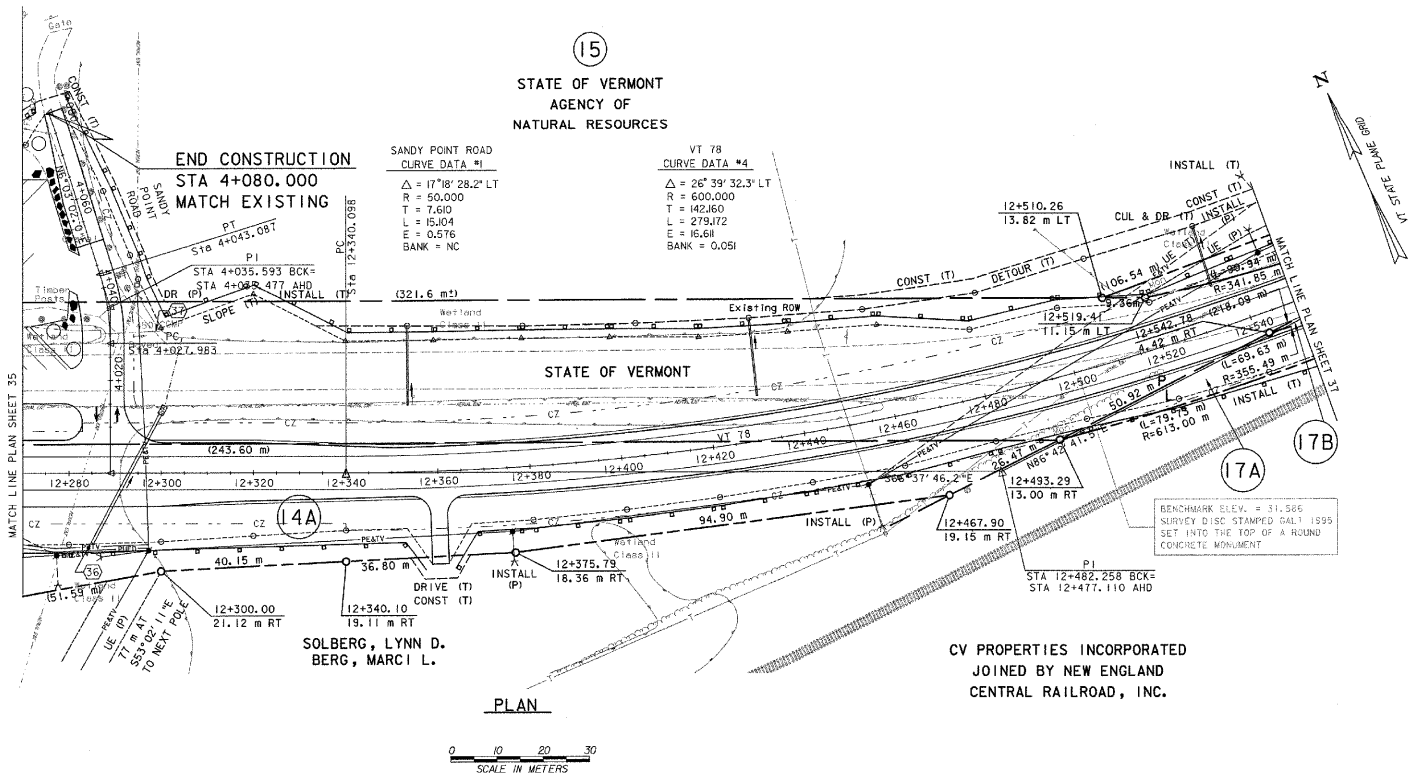
Designed By G.H. PETROVS	Drawn By C.L. CILLEY
Checked By Date M.M. LANDREY 3/03	Bridge Design Supervisor C.D. BAKER Date 3/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	R.O.W. Sheet 35 of 37
File No. ZE072RW8	Sheet C27 of C194

VHB No. 5098

plot date: 10/29/2003

37

Metric



LEGEND

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- PROPOSED LANDSCAPING
- PROPOSED CHAIN-LINK FENCE
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- PT — PROPOSED AERIAL TELEPHONE
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- FC — FILTER CURTAIN

TRAVEL LANE TAPERS

STA 4+040, LT (6000 mm) TO
STA 4+045, LT (3000 mm)

STA 4+060, LT (3000 mm) TO
STA 4+080, LT (1000 mm)

PAVED SHOULDER TAPERS

STA 12+320, LT (3000 mm) TO
STA 12+350, LT (1800 mm)

STA 12+300, RT (3600 mm) TO
STA 12+315, RT (3000 mm)

STA 12+315, RT (3000 mm) TO
STA 12+366, RT (1800 mm)

CONSTRUCT DRIVE

STA 12+360, RT
50 BCP TYPE III, 3.6 m WIDE

BEGIN AGGREGATE SHOULDER

STA 12+298, LT
STA 12+300, RT

DUCTS - CONCRETE ENCASED

9 DUCTS (ELECTRICAL DUCTS):
STA 12+270, RT 16.2 m - STA 12+277, RT 17.0 m

3 DUCTS (ELECTRICAL DUCTS):
STA 12+277, RT 17.0 m - STA 12+297, RT 16.9 m

DUCTS - DIRECT BURIAL (CABLE TV DUCT)

STA 12+270, RT 15.7 m - STA 12+277, RT 16.5 m
STA 12+277, RT 16.5 m - STA 12+297, RT 16.4 m

REMOVAL & DISPOSAL OF GUIDE POSTS

STA 12+274, LT
STA 12+279, LT
STA 12+284, LT
STA 4+042, RT
STA 4+048, RT
STA 4+054, RT
STA 4+061, RT
STA 4+067, RT
STA 4+074, RT
STA 4+080, RT
STA 4+085, RT

DRAINAGE NOTES

(36) STA 12+285, RT 15.0 m - STA 12+300, LT 13.0 m
NEW 600x32 m PCCSP OR CAAP OR RCP OR CPEP
INV IN = 30.100
INV OUT = 29.780
OUTLET WITH STONE FILL PAD, TYPE I
1200x2.1 mx300 DEEP

(37) STA 12+287, LT 30.0 m - STA 12+301, LT 30.6 m
REMOVE EXISTING 450x14 m CGMP

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

FOR R.O.W. USE ONLY

VANASSE HANGEN BRUSTLIN, INC.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

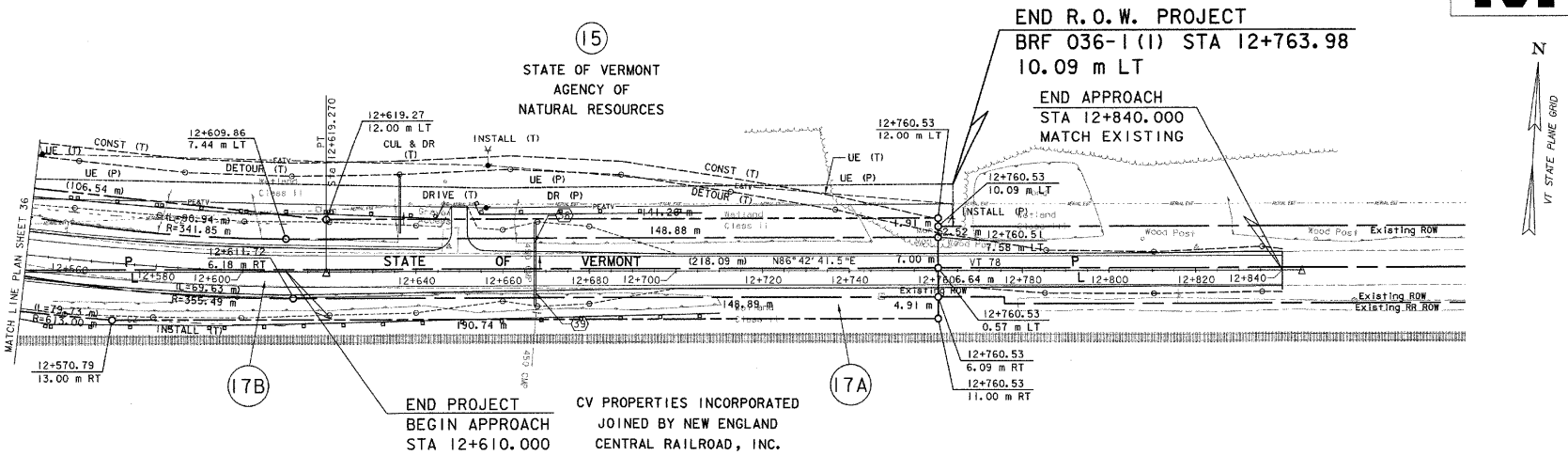
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
RIGHT-OF-WAY PLANS	
Designed By G.H. PETROVS	Drawn By C.L. CILLEY
Checked By M.M. LANDREY Date 3/03	Bridge Design Supervisor C.D. BAKER Date 3/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
M.G.C. Info.	R.O.W. Sheet 36 of 37
File No. ZE072RW9	Sheet C28 of C194

VHB NO. 5091I

plot date: 10/29/2003

Metric



PLAN

0 10 20 30
SCALE IN METERS

LEGEND

- PROPOSED MAILBOX
- PROPOSED LANDSCAPING
- PROPOSED CHAIN-LINK FENCE
- PROPOSED PULL BOX
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- SILT FENCE
- FC — FILTER CURTAIN

COLD PLANING

STA 12+830 - STA 12+840 (SALVAGE)
(SEE SPECIAL PROVISIONS)

TRAVEL LANE TAPERS

STA 12+610, RT & LT (3600 mm) TO
STA 12+700, RT & LT (3300 mm)

PAVED SHOULDER TAPERS

STA 12+610, RT & LT (1800 mm) TO
STA 12+700, RT & LT (600 mm)

END AGGREGATE SHOULDER

STA 12+645, RT & LT

CONSTRUCT DRIVE

STA 12+650, LT
50 BCP TYPE III, 3.6 m WIDE

DRAINAGE NOTES

(38) STA 12+668, LT 6.5 m - STA 12+668, RT 6.0 m
REMOVE EXISTING 450x13 m CGMP

(39) STA 12+668, LT 11.3 m - STA 12+668, RT 8.0 m
NEW 450x20 m PCCSP OR CAAP OR RCP OR CPEP
INV. IN = 30.140
INV. OUT = 30.030
RETAIN EXISTING HEADWALL AND 450 CMP, RT
(UNDER RAILROAD TRACKS)

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VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

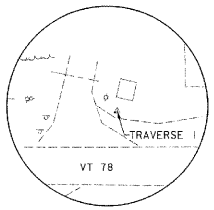
RIGHT-OF-WAY PLANS

Designed By G.H. PETROVS	Drawn By C.L. CILLEY
Checked By M.M. LANDREY Date 3/03	Bridge Design Supervisor C.D. BAKER Date 3/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	R.O.W. Sheet 37 of 37
File No. ZE072RW10	Sheet C29 of C194

VHB NO. 5098

plot date: 10/29/2003

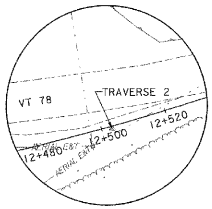
GPS CONTROL POINTS



SURVEY DISC STAMPED GALT AZ MK 1995
SET INTO THE TOP OF A ROUND CONCRETE MONUMENT

TRAVERSE #1
NORTHING = 274656.437
EASTING = 444871.978
(HORIZONTAL CONTROL ONLY)

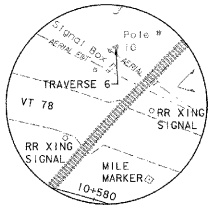
TRAVERSE #1
NOT TO SCALE



SURVEY DISC STAMPED GALT 1995
SET INTO THE TOP OF A ROUND CONCRETE MONUMENT

TRAVERSE #2
NORTHING = 274612.617
EASTING = 444141.849
ELEVATION = 31.586

TRAVERSE #2
NOT TO SCALE

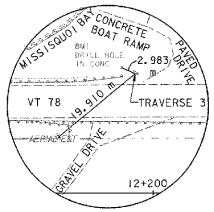


NGS DISC STAMPED J 48 1978
SET IN 100 mm PVC PIPE FLUSH WITH GROUND - DISC IS SET 100 MM BELOW GROUND

TRAVERSE #6
NORTHING = 275303.386
EASTING = 442344.784
ELEVATION = 35.949

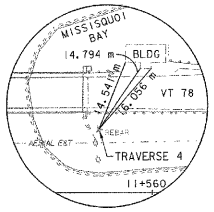
TRAVERSE #6
NOT TO SCALE

TRAVERSE TIES



TRAVERSE #3
NORTHING = 274739.592
EASTING = 443866.290
ELEVATION = 31.517

TRAVERSE #3
NOT TO SCALE



TRAVERSE #4
NORTHING = 274982.907
EASTING = 443266.941
ELEVATION = 34.299

TRAVERSE #4
NOT TO SCALE

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

Metric

VERMONT STATE PLANE COORDINATES
BOUNDS TO BE SET

LEFT SIDE OF PROJECT CENTERLINE

PLAN STATION	PLAN OFFSET	NORTHING	EASTING
10+274.48	13.06 m LT	275081.638	442125.415
10+365.47	30.90 m LT	275169.976	442164.620
10+373.77	31.43 m LT	275177.048	442169.948
10+377.44	18.94 m LT	275171.743	442181.894
10+413.63	15.15 m LT	275196.290	442210.452
10+427.20	21.00 m LT	275210.218	442216.638
10+510.49	15.00 m LT	275258.319	442288.661
10+530.75	31.90 m LT	275283.948	442298.923
10+600.09	29.77 m LT	275310.443	442370.505
10+819.34	33.64 m LT	275291.892	442605.244
10+923.7	33.9 m LT	275250.686	442701.163
12+182.5	36.6 m LT	274753.835	443857.707
12+510.26	13.82 m LT	274626.878	444153.232
12+619.27	12.00 m LT	274621.507	444259.632
12+760.53	12.00 m LT	274629.610	444400.658

RIGHT SIDE OF PROJECT CENTERLINE

PLAN STATION	PLAN OFFSET	NORTHING	EASTING
10+129.07	7.50 m RT	274947.272	442065.715
10+146.03	7.45 m RT	274960.713	442076.645
10+174.06	12.00 m RT	274981.464	442097.118
10+174.14	7.33 m RT	274984.096	442093.264
10+274.89	15.00 m RT	275068.339	442150.121
10+398.99	15.00 m RT	275164.652	442221.511
10+422.47	34.84 m RT	275166.177	442251.281
10+463.84	15.00 m RT	275206.800	442268.032
10+505.63	15.00 m RT	275230.479	442300.849
10+581.27	15.00 m RT	275262.003	442365.212
10+764.89	15.00 m RT	275266.009	442536.900
10+785.66	31.01 m RT	275244.826	442550.116
TH 13 2+015.38	8.00 m RT	275243.142	442595.712
10+855.40	17.33 m RT	275230.796	442618.130
12+234.17	29.30 m RT	274672.893	443879.017
12+249.22	30.25 m RT	274666.040	443892.478
12+300.00	21.12 m RT	274654.287	443942.710
12+340.10	19.11 m RT	274640.223	443980.318
12+375.79	18.36 m RT	274627.332	444014.791
12+467.90	19.15 m RT	274601.113	444106.002
12+570.79	13.00 m RT	274595.707	444211.555
12+760.53	6.09 m RT	274611.555	444401.696
12+760.53	11.00 m RT	274606.648	444401.980

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
TIE SHEET	
Designed By VTRANS/EIV	Drawn By M.M. LANDREY
Checked By C.L. CILLEY Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072TIE	Sheet C30 of C194

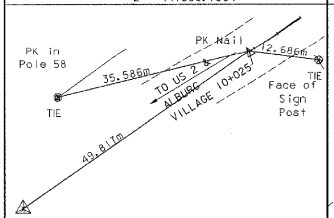
VHB NO. 50981

plot date: 10/23/2003

Metric

PC 10+023.893

N = 274883.6560
E = 441980.7304



Begin Approach 10+085

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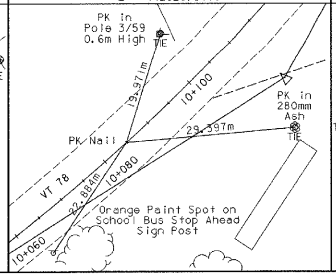
E = 442029.3110



PI 10+113.875 BCK

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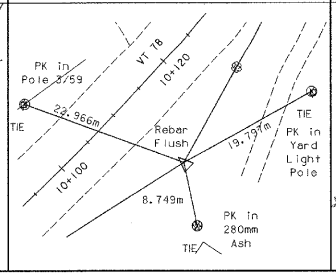

PT 10+200.114

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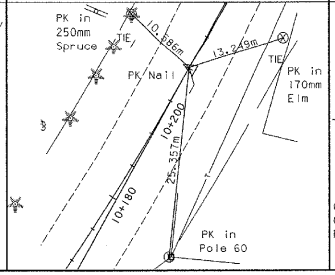

PC 10+274.894

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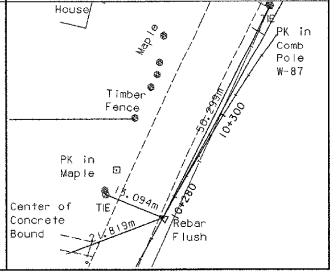

Begin Project 10+280

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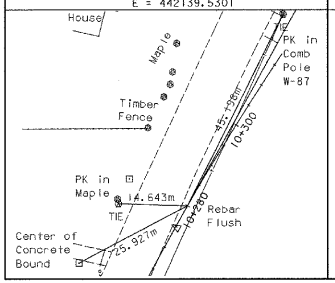
E = 442139.5301



PI 10+392.534 BCK

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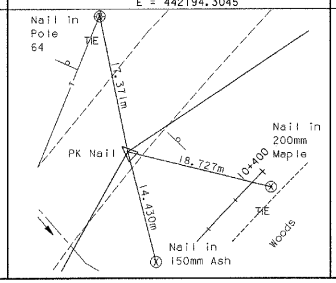
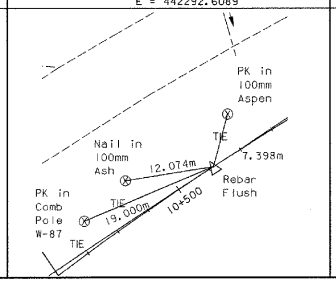


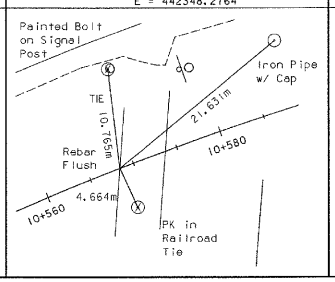
PCC 10+505.627

N = 275243.0129
E = 442292.6089



Begin RR Xing 10+568.400

N = 275271.7743
E = 442348.2764



End RR Xing 10+573.700

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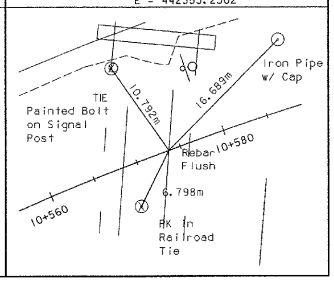
E = 442353.2302



PI 10+667.460 BCK

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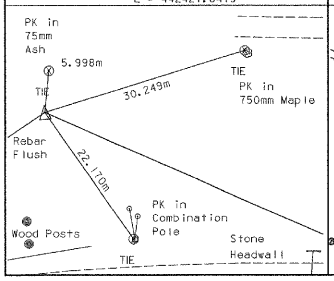
E = 442427.8419



PT 10+802.448

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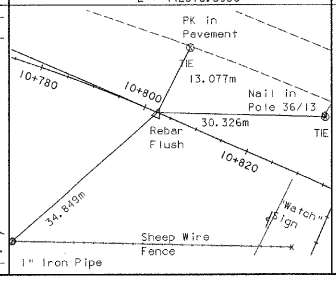
E = 442576.3980



PC 12+340.098

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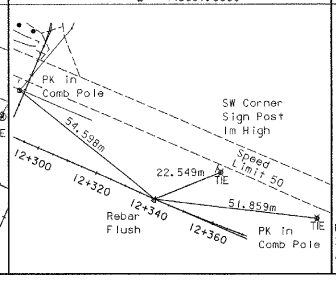
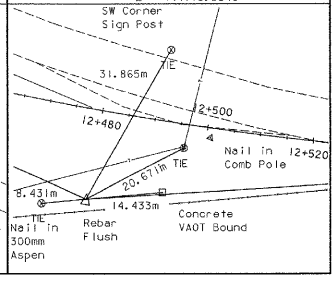
E = 443987.8969



PI 12+482.258 BCK

N = 274601.3720
E = 444118.3940



STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

ALIGNMENT TIES (1 OF 5)

Designed By EIV	Drawn By EIV
Checked By EIV Date 3/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
L.G.C. Info.	
File No. ZE072TIE2	Sheet C31 of C194

VANASSE HANGEN BRUSTLIN, INC.

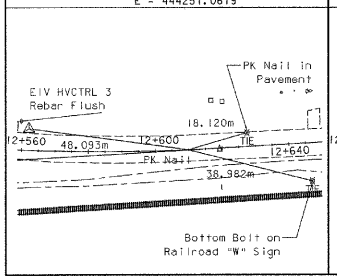
VHB NO. 5091

plot date: 10/23/2003

VAOT Metric

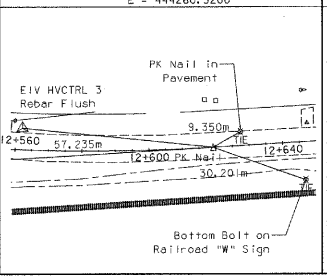
End Project 12+610

N = 274609.0665
E = 444251.0619



PT 12+619.270

N = 274609.5268
E = 444260.3200



End Approach 12+840

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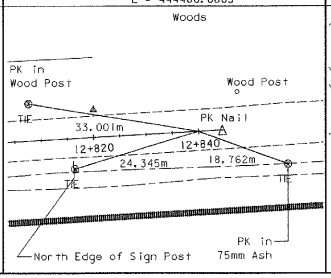
E = 444480.6865



PC 0+000/POC 10+480.023

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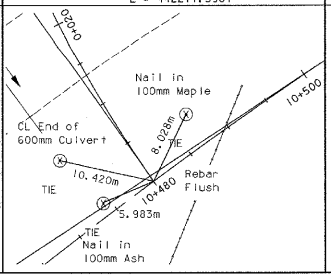

PI 0+077.035 BCK

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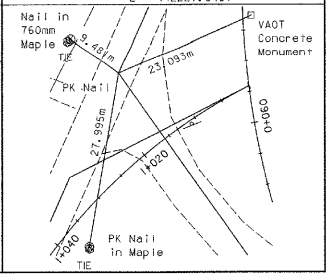
E = 442227.0401



PT 0+140.007

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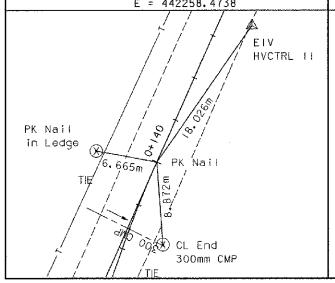
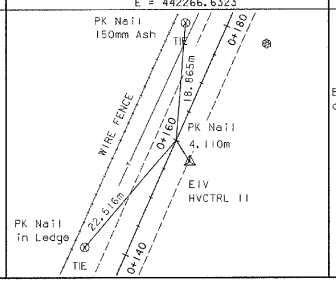
E = 442258.4738



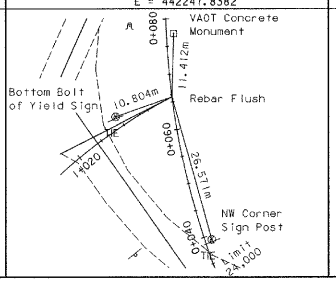
End Construction 0+160

N = 275379.8095
E = 442266.6323



PC 1+000/POC 0+065.905

N = 275289.1581
E = 442247.8382



PI 1+032.082 BCK

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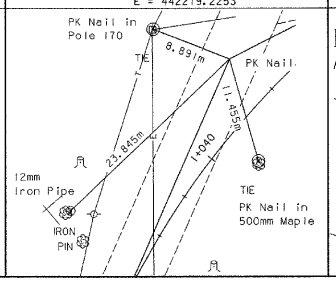

PT 1+061.637

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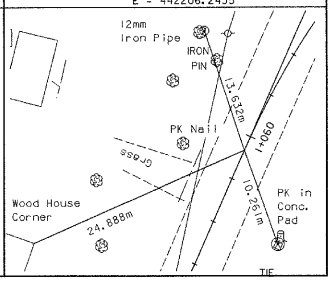
E = 442206.2435



End Construction 1+135

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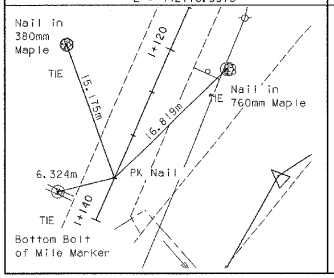

POB 2+000/POT 10+838

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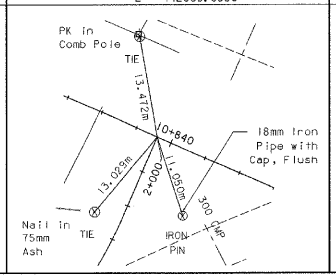
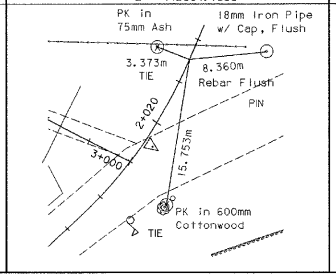


PC 2+012.349

N = 275242.2721
E = 442604.1353



PI 2+022.430 BCK

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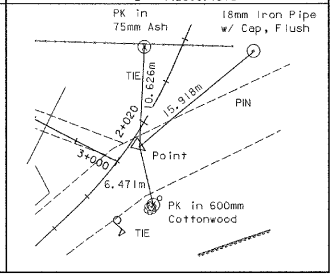


STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.

VT 78 OVER MISSISQUOI BAY

ALIGNMENT TIES (2 OF 5)

Designed By EIV	Drawn By EIV
Checked By EIV Date 7/02	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072TIE2	Sheet C32 of C194

VANASSE HANGEN BRUSTLIN, INC.

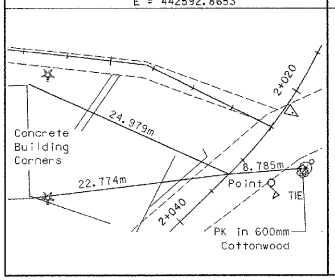
VHB NO. 5098

plot date: 10/23/2003

Metric

PT 2+032.244

N = 275226.0362
E = 442592.8653



PC 2+060.813

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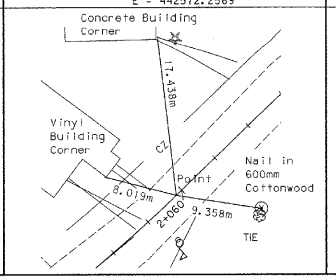
E = 442572.2569



PI 2+067.272 BCK

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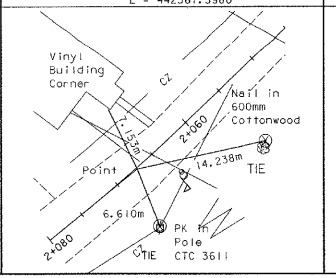

PT 2+073.723

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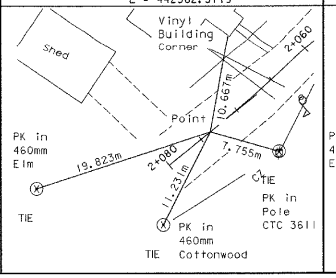
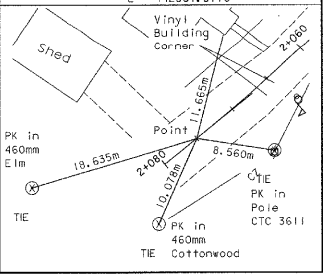
E = 442562.5719



End Construction 2+075

N = 275196.9175
E = 442561.5776



POB 3+000/POC 2+025

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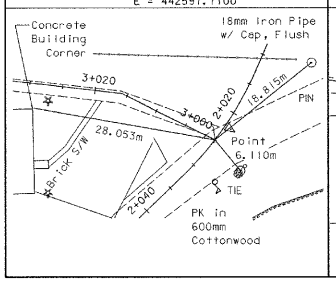
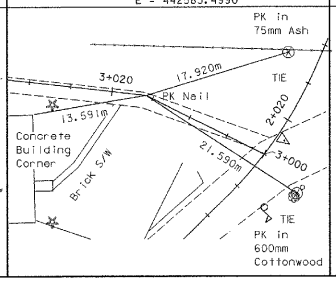


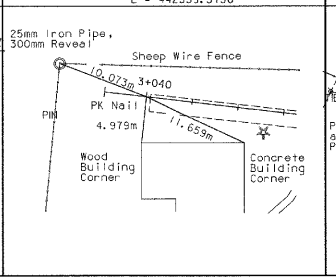
Angle Point 3+015.860

N = 275238.4520
E = 442583.4990



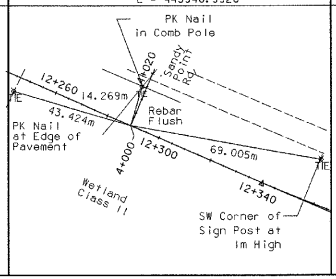
End Construction 3+040

N = 275241.2050
E = 442559.5150



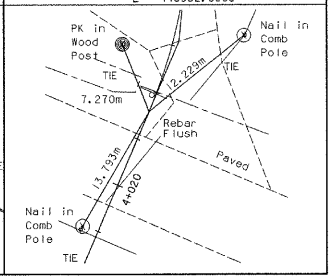
POB 4+000/POT 12+289

N = 274678.0320
E = 443940.9920



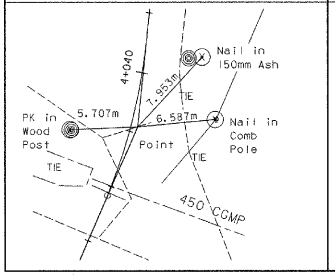
PC 4+027.983

N = 274703.7218
E = 443952.0868



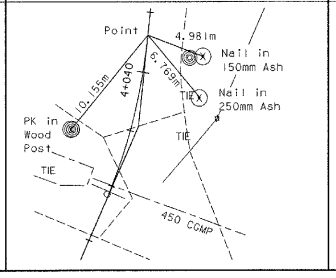
PI 4+035.593 BCK

N = 274710.7080
E = 443955.1040



PT 4+043.087

N = 274718.2755
E = 443955.9061



End Construction 4+080

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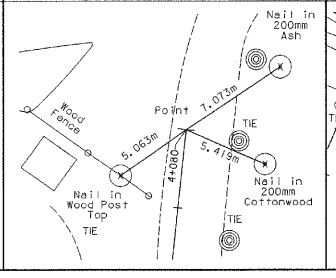
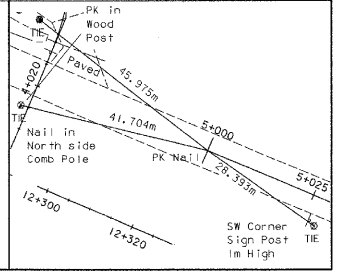


Detour POB 5+000

N = 274682.5047
E = 443985.8869



STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.

VT 78 OVER MISSISQUOI BAY

ALIGNMENT TIES (3 OF 5)

Designed By EIV	Drawn By EIV
Checked By EIV Date 7/02	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072TIE2	Sheet C33 of C194

VANASSE HANGEN BRUSTLIN, INC.

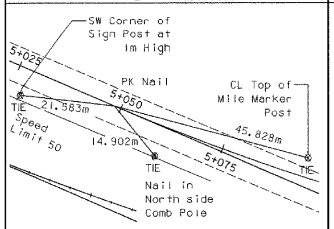
VHB NO. 5091M

plot date: 10/23/2003

Metric

Detour PC 5+048.389

N = 274663.4487
E = 444030.3655



Detour PI 5+172.377 BCK

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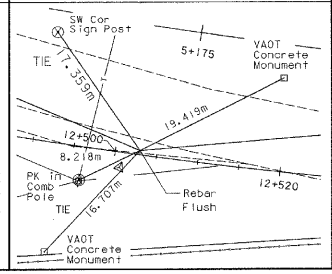
E = 444144.3342



Detour PRC 5+291.462

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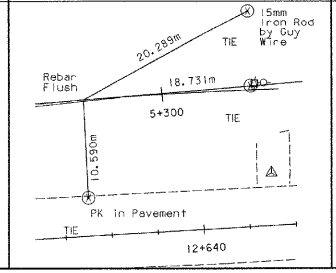

Detour PI 5+332.756 BCK

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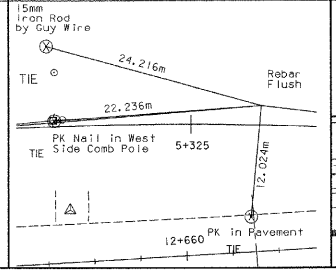

Detour PRC 5+373.760

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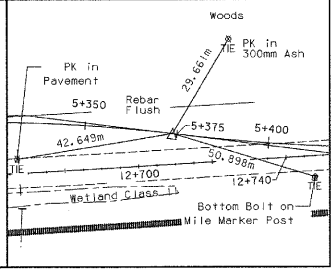

Detour PI 5+419.327

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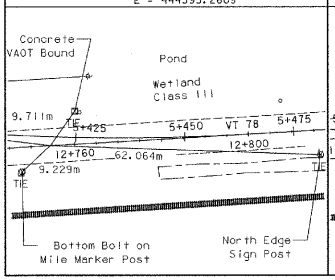
E = 444395.2609



Detour PT 5+464.642

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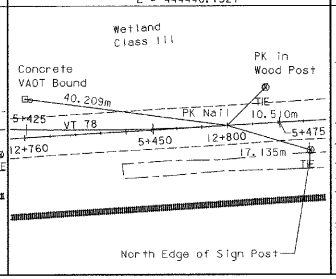
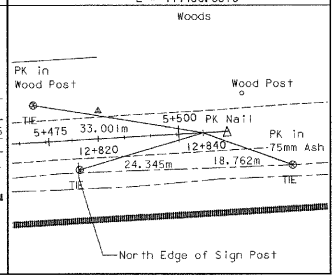
E = 444440.7527



Detour POE 5+504.643

N = 274622.1885
E = 444480.6870



STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
ALIGNMENT TIES (4 OF 5)	
Designed By EIV	Drawn By EIV
Checked By EIV Date 7/02	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
U.G.C. Info.	
File No. ZE072TIE2	Sheet C34 of C194

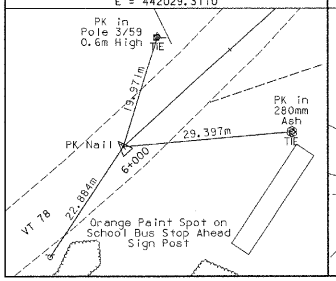
VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091I

plot date: 10/23/2003

Metric

POB 6+000.000
N = 274920.5975
E = 442029.3110



PC 6+061.087
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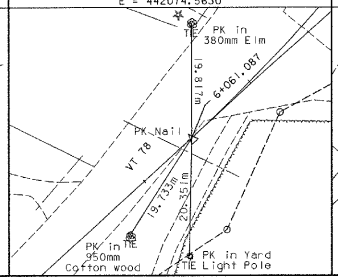

PI 6+099.010
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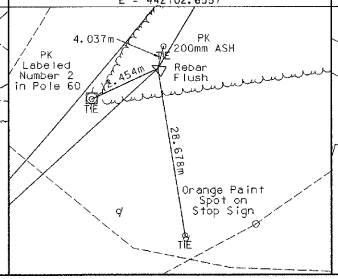

PT 6+136.360
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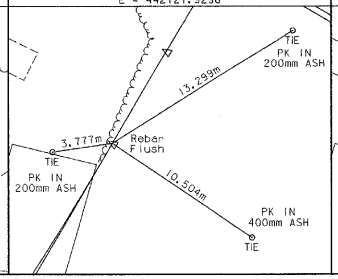
E = 442121.9298



PC 6+143.005
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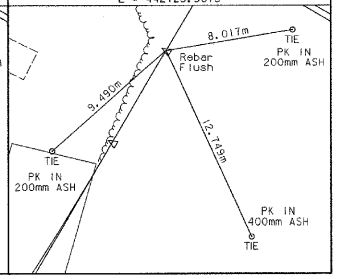
E = 442125.3073



PI 6+197.285
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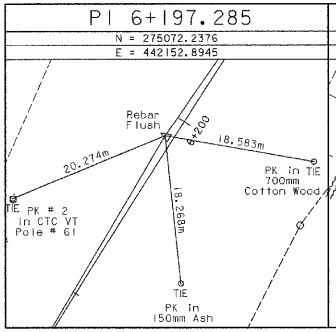

PT 6+251.511
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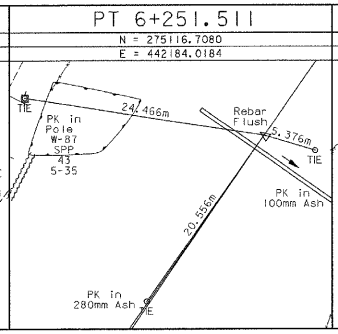
E = 442184.0184



PC 6+321.955
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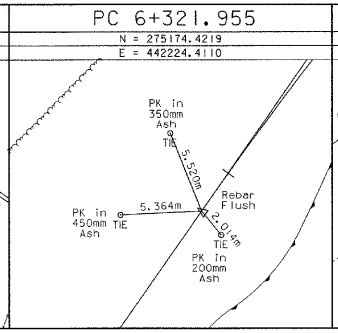
E = 442224.4110



PI 6+399.199
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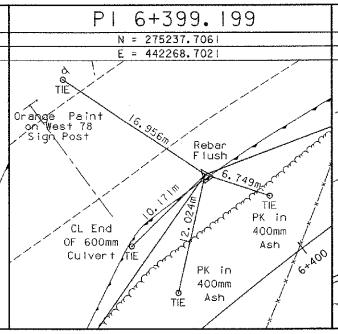

PT 6+471.790
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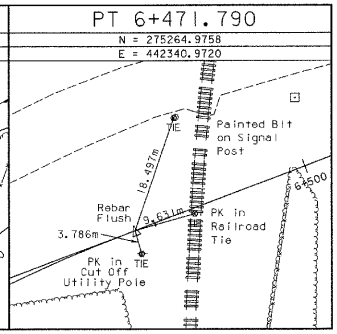

PC 6+541.977
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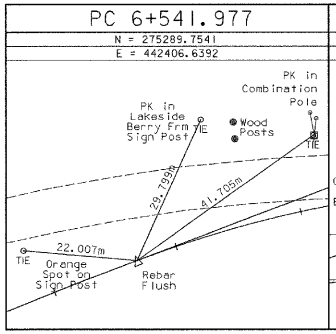

PI 6+608.894
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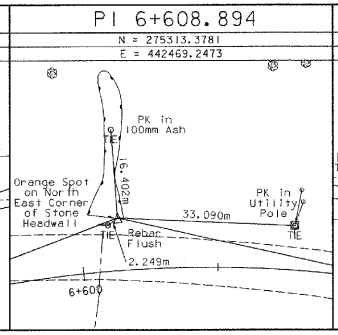

PT 6+672.062
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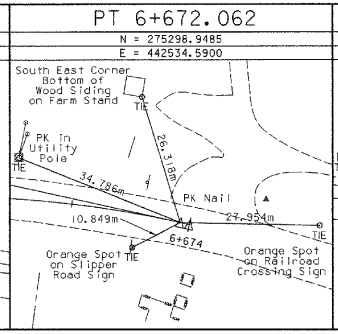
E = 442534.5900



POE 6+673.944
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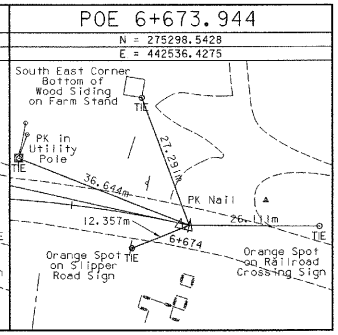
E = 442536.4275



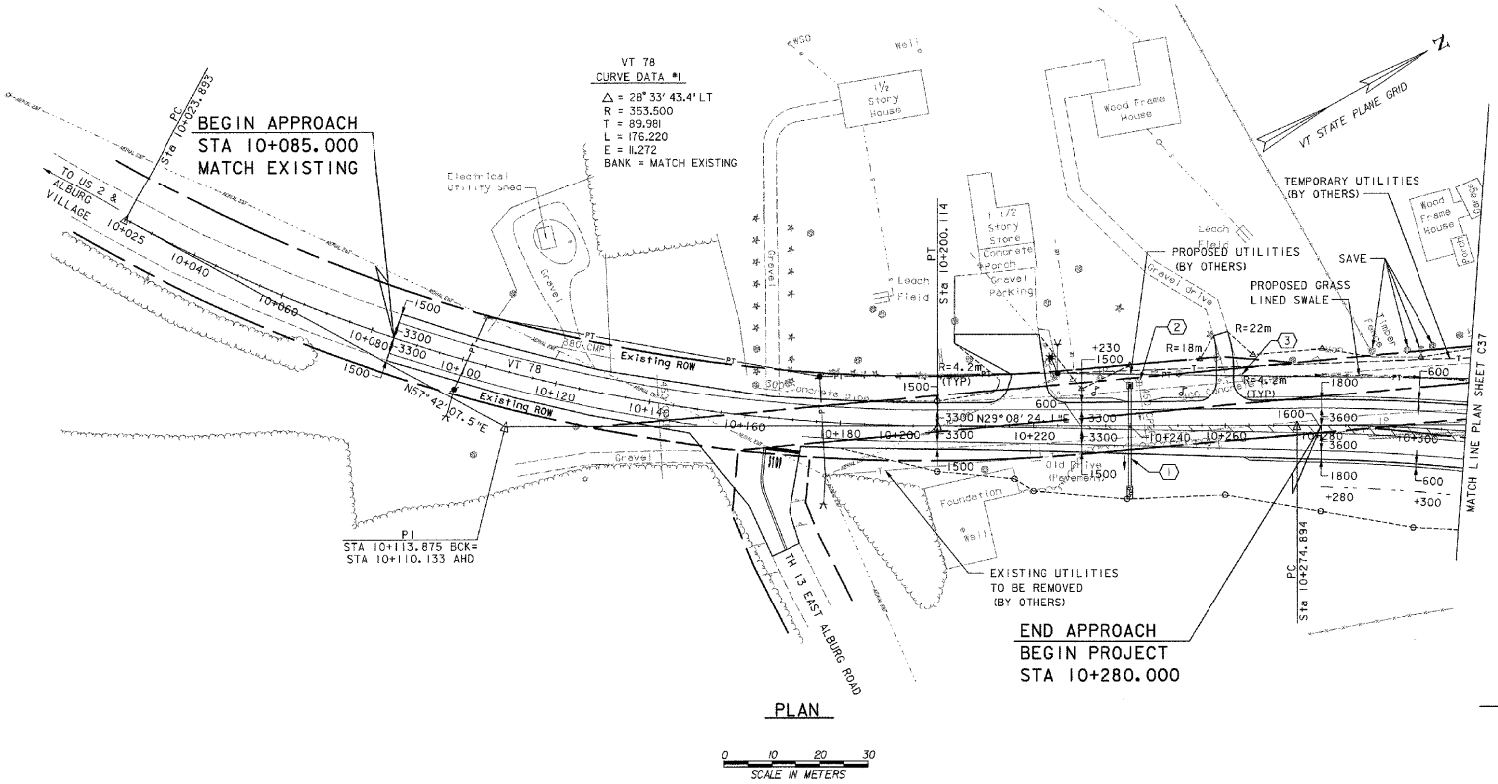
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
ALIGNMENT TIES (5 OF 5)	
Designed By EIV	Drawn By J.K. Hutchins
Checked By EIV Date 2/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072TIE3	Sheet C35 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50981

plot date: 10/23/2003



PLAN

0 10 20 30
SCALE IN METERS

LEGEND

- PROPOSED MAILBOX
- PROPOSED LANDSCAPING
- PROPOSED CHAIN-LINK FENCE
- PROPOSED PULL BOX
- PROPOSED OVERHEAD LIGHT
- PROPOSED UTILITY VAULT
- PUED — PROPOSED UNDERGROUND ELECTRICAL DUCT
- PUTV — PROPOSED UNDERGROUND CABLE TV DUCT
- PNL — PROPOSED UNDERGROUND WIRED CONDUIT FOR NAVIGATIONAL LIGHTING
- PE&TV — PROPOSED AERIAL ELECTRIC, CABLE TV AND TELEPHONE
- PT — PROPOSED AERIAL TELEPHONE
- E&TV — TEMPORARY AERIAL ELECTRIC, CABLE TV AND TELEPHONE

COLD PLANING

~~STA. 10+185 - STA. 10+208~~
~~STA 10+085 - STA 10+190~~ (SALVAGE)
(SEE SPECIAL PROVISIONS)

MEDIAN TAPER

STA 10+200, RT (0 mm) TO
STA 10+310, RT (2200 mm)

TRAVEL LANE TAPER

STA 10+230, RT & LT (3300 mm) TO
STA 10+280, RT & LT (3600 mm)

PAVED SHOULDER TAPER

STA 10+230, RT & LT (1500 mm) TO
STA 10+280, RT & LT (1800 mm)

BEGIN AGGREGATE SHOULDER

STA 10+265, RT & LT

DEMOLITION & DISPOSAL OF BUILDING

STA 10+206, RT (INCLUDING WELL)

CONSTRUCT DRIVE

STA 10+220, LT
50 BCP TYPE III, 8.0 m WIDE

STA 10+260, LT
50 BCP TYPE III, 3.6 m WIDE

EROSION MATTING

STA 10+300 - STA 10+310, LT

RELOCATE SINGLE MAILBOX SUPPORT

STA 10+232, LT
CONSTRUCT MAILBOX TURNOUT

STA 10+251, LT
CONSTRUCT MAILBOX TURNOUT

DRAINAGE NOTES

(1) STA. 10+241
~~STA 10+240~~, LT 8.4 m - 10+240, RT 12.6 m
DI WITH GRATE, TYPE A
RIM EL. = 40.350
INV. OUT (E) = 39.200
NEW 600x20 m PCCSP OR CAAP OR RCP OR CPEP
INV. OUT = 38.800
OUTLET WITH STONE FILL PAD, TYPE I
1200x2.7 mx300 DEEP

(2) STA 10+242, LT 9.0 m - 10+244, RT 3.0 m
REMOVE EXISTING DI
REMOVE EXISTING 450x15 m CPEP

(3) STA 10+260, LT 10.0 m - 10+264, LT 10.8 m
REMOVE EXISTING 300x4 m RCP

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.

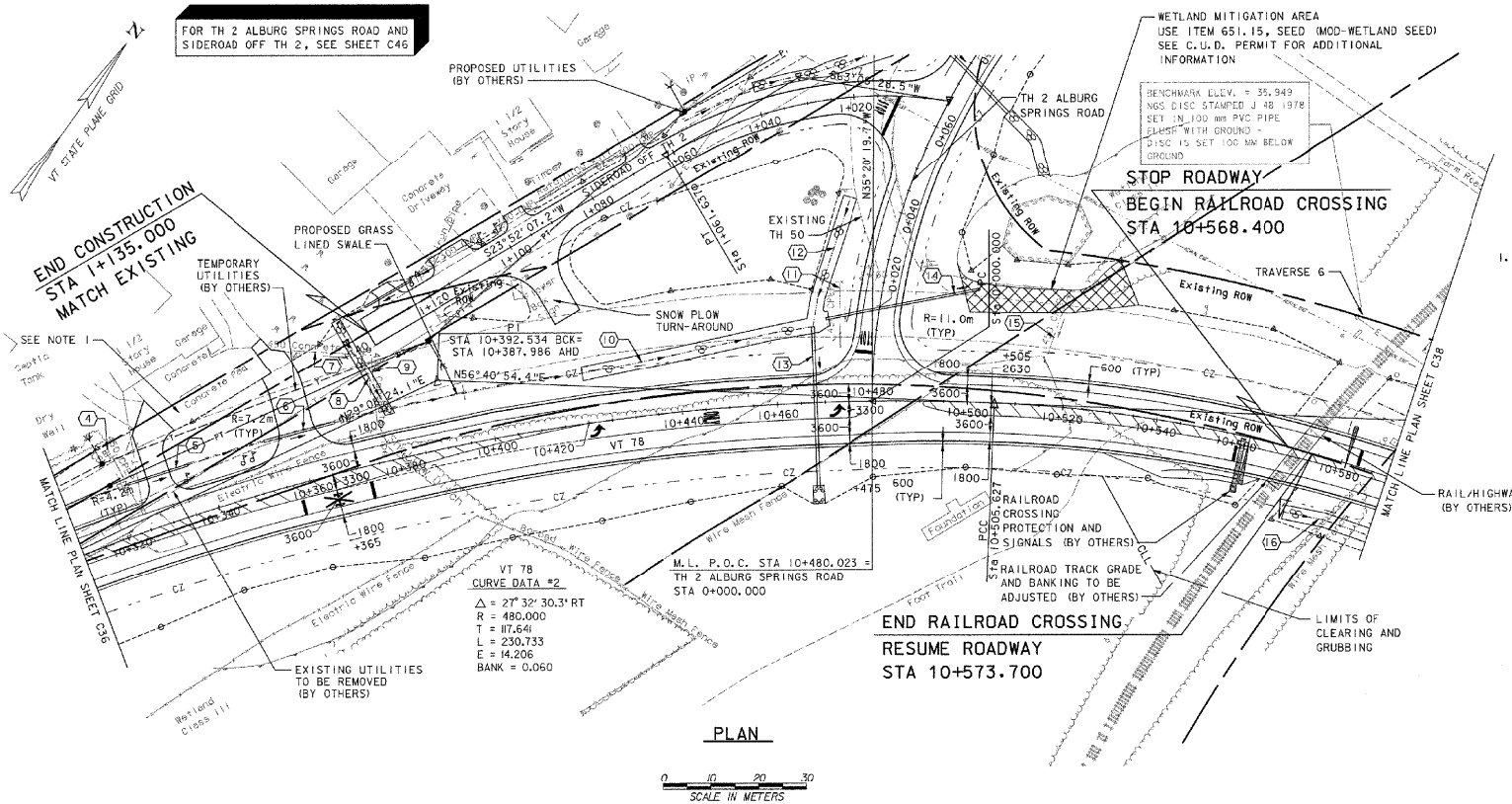
VT 78 OVER MISSISQUOI BAY

VT 78 ROADWAY PLAN (1 OF 10)

Designed By S. W. BEKIER	Drawn By C. L. CILLEY
Checked By J. A. MERCER Date 10/03	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072PN1	Sheet C36 of C194

VHB NO. 5098

plot date: 10/23/2003



PLAN

SCALE IN METERS 0 10 20 30

NOTE:

1. A QUANTITY FOR ITEM 215.20, EXCAVATION OF PETROLEUM CONTAMINATED SOILS CLASS I, HAS BEEN INCLUDED FOR THIS AREA (STA 10+340, LT) DUE TO THE PREVIOUS SITE USE.

LEGEND

- PROPOSED MAILBOX
- PROPOSED LANDSCAPING
- —x—x— PROPOSED CHAIN-LINK FENCE
- PB PROPOSED PLLL BOX
- PROPOSED OVERHEAD LIGHT
- O PROPOSED UTILITY VAULT
- —PUED— PROPOSED UNDERGROUND ELECTRICAL DUCT
- —PUTV— PROPOSED UNDERGROUND CABLE TV DUCT
- —PNL— PROPOSED UNDERGROUND WIRED CONDUIT FOR NAVIGATIONAL LIGHTING
- —PE&TV— PROPOSED AERIAL ELECTRIC, CABLE TV AND TELEPHONE
- —PT— PROPOSED AERIAL TELEPHONE
- —E&TV— TEMPORARY AERIAL ELECTRIC, CABLE TV AND TELEPHONE

MEDIAN TAPER

STA 10+310, RT (2200 mm) TO STA 10+365, RT (3300 mm)

STA 10+365, RT (3300 mm) TO STA 10+420, RT (0 mm)

STA 10+475, RT (3300 mm) TO STA 10+590, RT (1350 mm)

TURN LANE TAPER

STA 10+365, RT (0 mm) TO STA 10+420, RT (3300 mm)

CONSTRUCT DRIVE

STA 10+330, LT
50 BCP TYPE III, 4.9 m WIDE

STA 10+360, LT
50 BCP TYPE III, 7.2 m WIDE

RELOCATE SINGLE MAILBOX SUPPORT

STA 10+335, LT

RELOCATE MULTIPLE MAILBOX SUPPORT

STA 10+349, LT

~~**REMOVAL OF EXISTING FENCE**~~

STA 10+327, LT - STA 10+376, LT

~~**REMOVING & RESETTING FENCE**~~

STA 10+372, RT - STA 10+406, RT

EROSION MATTING

STA 10+310, LT - STA 10+324, LT
STA 10+336, LT - STA 10+354, LT
STA 10+366, LT - STA 10+420, LT

STEEL BEAM GUARDRAIL

10+553.7 RT. STA ~~10+554.8, RT~~ - STA ~~10+558.6, RT~~ STA 10+579.0 LT

10+561.3 RT. STA 10+587.4 LT.

MANUFACTURED TERMINAL SECTION - FLARED

10+542.3 RT. STA ~~10+543.4, RT~~ - STA ~~10+554.8 RT~~ STA 10+587.0 LT.

10+553.0 RT. STA 10+598.0 LT.

ANCHOR FOR STEEL BEAM GUARDRAIL

STA ~~10+557~~, RT 10+560.0 RT.

DRAINAGE NOTES

(4) STA 10+322, LT 18.3 m - LT 4.0 m
REMOVE EXISTING DI
REMOVE EXISTING 450x18 m CPEP

(5) STA 10+323, LT 10.4 m - STA 10+337, LT 10.3 m
NEW 375x13 m PCCSP OR CAAP OR RCP OR CPEP
INV. IN = 39.121
INV. OUT = 39.023

(6) STA 10+353, LT 10.3 m - STA 10+368, LT 10.3 m
NEW 450x15 m PCCSP OR CAAP OR RCP CLASS IV OR CPEP
INV. IN = 38.758
INV. OUT = 38.537

(7) STA 10+363, LT 27.0 m - 10+378, LT 23.0 m
REMOVE EXISTING 450x17 m RCP

(8) STA 1+140, RT 5.0 m - STA 10+379, LT 10.3 m
NEW STONE FILL DITCH, TYPE I
1900x22.0 mx300 DEEP
INV. IN = 40.42 (MATCH EXISTING)
INV. OUT = 38.375
1000 WIDE DITCH WITH 1:4, LT AND 1:3, RT SIDE SLOPES

(9) STA 10+378, LT 23.0 m - 10+378, LT 9.0 m
REMOVE EXISTING 450x14 m RCP

(10) STA ~~10+378~~ 10+473.7 LT. 27.2 M ~~10+420~~, LT 10.3 m - STA 10+468, LT 15.0 m
NEW STONE FILL DITCH, TYPE I
3000x48.0 mx300 DEEP

(11) STA ~~10+474, LT 25.2~~ m - LT 11.4 m
REMOVE EXISTING 450x10 m CPEP

(12) STA 0+013, LT 13.5 m - STA 0+040, LT 11.3 m
NEW STONE FILL DITCH, TYPE I
3000x27.0 mx300 DEEP

(13) STA 10+468, LT 16.1 m - STA 10+468, RT 17.6 m
NEW 600x34 m PCCSP OR CAAP OR RCP OR CPEP
INV. IN = ~~35.500~~ 35.818
INV. OUT = ~~35.220~~ 35.572
OUTLET WITH STONE FILL PAD, TYPE I
2400x3.9 mx300 DEEP

(14) STA 0+016, LT 11.0 m - STA ~~0+023~~ 0+027, RT 20.0 m
NEW 450x~~334~~m PCCSP OR CAAP OR RCP OR CPEP
INV. IN = ~~35.711~~ 35.820
INV. OUT = ~~35.551~~ 35.820

(15) STA 10+516, LT 9.8 m - ~~10+520~~ 10+518, LT ~~24.3~~ 24.0 m
REMOVE EXISTING 450x13 m CPEP

(16) STA 10+570, RT 13.4 m - STA 10+590, RT 12.2 m
NEW STONE FILL DITCH, TYPE I
3000x18.5 mx300 DEEP

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

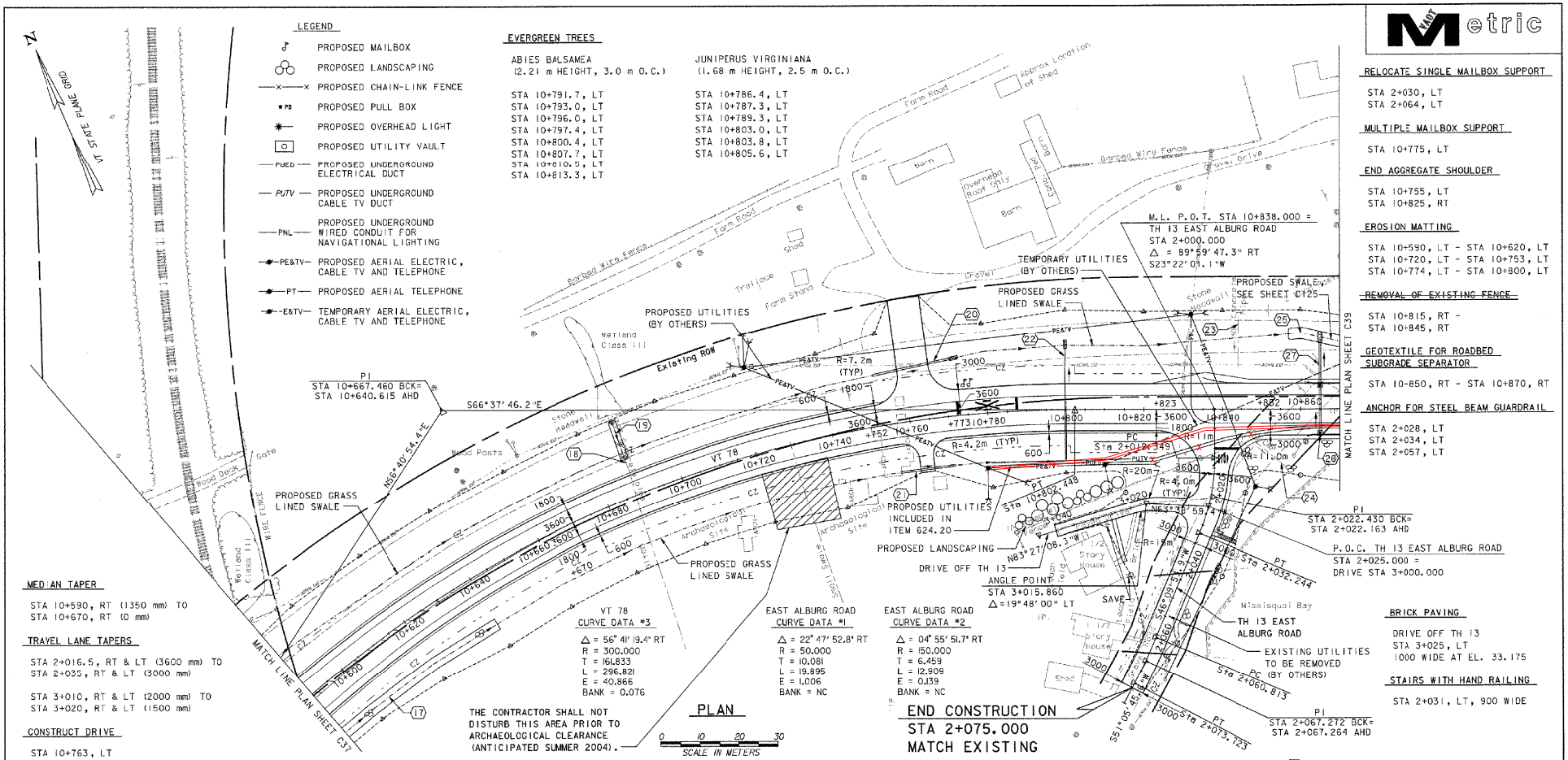
Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

VT 78 ROADWAY PLAN (2 OF 10)

Designed By S.W. BEKIER	Drawn By C.L. CILLEY
Checked By J.A. MERCER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072PN2	Sheet C37 of C194

VHB NO. 50911

plot date: 10/23/2003


LEGEND
PROPOSED MAILBOX
PROPOSED LANDSCAPING
PROPOSED CHAIN-LINK FENCE
PROPOSED PULL BOX
PROPOSED OVERHEAD LIGHT
PROPOSED UTILITY VAULT
PROPOSED UNDERGROUND ELECTRICAL DUCT
PROPOSED UNDERGROUND CABLE TV DUCT
PROPOSED UNDERGROUND WIRED CONDUIT FOR NAVIGATIONAL LIGHTING
PROPOSED AERIAL ELECTRIC, CABLE TV AND TELEPHONE
PROPOSED AERIAL TELEPHONE
TEMPORARY AERIAL ELECTRIC, CABLE TV AND TELEPHONE
EVERGREEN TREES
ABIES BALSAMEA (2.21 m HEIGHT, 3.0 m O.C.)
STA 10+791.7, LT
STA 10+793.0, LT
STA 10+796.0, LT
STA 10+797.4, LT
STA 10+800.4, LT
STA 10+807.7, LT
STA 10+810.5, LT
STA 10+813.3, LT
JUNIPERUS VIRGINIANA (1.68 m HEIGHT, 2.5 m O.C.)
STA 10+786.4, LT
STA 10+787.3, LT
STA 10+789.3, LT
STA 10+803.0, LT
STA 10+803.8, LT
STA 10+805.6, LT
PLAN
SCALE IN METERS
0 10 20 30
VT 78 CURVE DATA #3
Δ = 56° 41' 19.4" RT
R = 300.000
T = 161.833
L = 296.821
E = 40.866
BANK = 0.076
EAST ALBURG ROAD CURVE DATA #1
Δ = 22° 47' 52.8" RT
R = 50.000
T = 10.081
L = 19.895
E = 1.006
BANK = NC
EAST ALBURG ROAD CURVE DATA #2
Δ = 04° 55' 51.7" RT
R = 150.000
T = 6.459
L = 12.909
E = 0.139
BANK = NC
END CONSTRUCTION STA 2+075.000 MATCH EXISTING
THE CONTRACTOR SHALL NOT DISTURB THIS AREA PRIOR TO ARCHAEOLOGICAL CLEARANCE (ANTICIPATED SUMMER 2004).
PROPOSED UTILITIES (BY OTHERS)
PROPOSED GRASS LINED SWALE
PROPOSED LANDSCAPING
DRIVE OFF TH 13
ANGLE POINT STA 3+015.860 Δ=19° 48' 00" LT
TEMPORARY UTILITIES (BY OTHERS)
PROPOSED SWALE SEE SHEET C125
M.L. P.O.T. STA 10+838.000 = TH 13 EAST ALBURG ROAD STA 2+000.000 Δ = 89° 59' 47.3" RT S23° 22' 03.1" W
P.O.C. TH 13 EAST ALBURG ROAD STA 2+025.000 = DRIVE STA 3+000.000
PI STA 2+022.430 BCK= STA 2+022.163 AHD
PI STA 2+067.272 BCK= STA 2+067.264 AHD
PROPOSED UTILITIES INCLUDED IN ITEM 624.20
TH 13 EAST ALBURG ROAD
EXISTING UTILITIES TO BE REMOVED (BY OTHERS)
SAVE
PI STA 10+667.460 BCK= STA 10+640.615 AHD
S66° 37' 46.2" E
N66° 40' 54.4" E
MATCH LINE PLAN SHEET C37
MATCH LINE PLAN SHEET C39
Existing ROW
Wetland Class III
Archaeological Site
Stone Headwall
Wood Posts
Gate
Wood Deck
Farm Road
Barbed Wire Fence
Barn
Shed
Overhead Roof Unit
Loading Dock
Trailer
Approx Location of Shed
Gravel Drive
Farm Stand
Missisquoi Bay
1½ Story House
Brick House
VT 78
MEDIAN TAPER
STA 10+590, RT (1350 mm) TO STA 10+670, RT (0 mm)
TRAVEL LANE TAPERS
STA 2+016.5, RT & LT (3600 mm) TO STA 2+035, RT & LT (3000 mm)
STA 3+010, RT & LT (2000 mm) TO STA 3+020, RT & LT (1500 mm)
CONSTRUCT DRIVE
STA 10+763, LT
50 BCP TYPE III, 8.1 m WIDE
STA 10+763, RT
50 BCP TYPE III, 3.6 m WIDE
STA 2+025, RT
50 BCP TYPE III, 3.0 m WIDE
STEEL BEAM GUARDRAIL
STA 10+847.0, LT - STA 10+870.0, LT
STA 2+030.3, LT - STA 10+870.0, RT
STA 2+031.8, LT - STA 2+059.0, LT
BITUMINOUS CONCRETE CURB
STA 10+862, LT - 10+870, LT
STA 10+862, RT - 10+870, RT
MANUFACTURED TERMINAL SECTION - FLARED
STA 10+835.6, LT - STA 10+847.0, LT
STONE FILL, TYPE IV
STA 2+055, LT - STA 10+870, RT
WIRED CONDUIT (NAVIGATIONAL LIGHTING)
STA 10+832, LT 24.1 m - STA 10+832, RT 4.1 3.5 m
STA 10+832, RT 4.1 3.5 m - STA 10+870, RT 4.1 3.5 m
DUCTS - CONCRETE ENCASED
3 DUCTS (ELECTRICAL DUCTS):
STA 10+780, RT 13.5 m - STA 10+810, RT 13.5 12.8 m
9 DUCTS (ELECTRICAL DUCTS):
STA 10+810, RT 13.5 9.5 m - STA 10+823, RT 13.5 m
STA 10+823, RT 13.5 m - STA 10+863, RT 5.0 m
STA 10+863, RT 5.0 9.5 m - STA 10+870, RT 5.0 m
SLEEVES FOR UTILITIES (MOD-SPLIT SLEEVE) (EXISTING WATER LINE)
STA 2+040, LT 6.5 m - STA 2+046, RT 6.5 m
STA 2+063, LT 6.5 m - STA 2+068, RT 6.5 m
DUCTS - DIRECT BURIAL (CABLE TV DUCT)
STA 10+780, RT 13.0 m - STA 10+823, RT 13.0 9.5 m
STA 10+823, RT 13.0 m - STA 10+863, RT 4.5 m
STA 10+863, RT 4.5 m - STA 10+870, RT 4.5 m
DRAINAGE NOTES
(17) STA 10+590, RT 12.7 m - STA 10+640, RT 13.5 m
NEW STONE FILL DITCH, TYPE I
3000x48.0 mx300 DEEP
(18) STA 10+688, LT 20.0 m - LT 7.5 m
REMOVE EXISTING HEADWALL
REMOVE EXISTING 300x13 m RCP
(19) STA 10+688, LT 20.0 m - LT 11.3 m
NEW STONE FILL DITCH, TYPE I
INV. IN = 35.170
INV. OUT = 33.990
900x8.7 mx300 DEEP
ELIMINATED
(20) STA 10+753, LT 13.1 m - STA 10+772, LT 14.6 m
NEW 450x20 m PCCSP OR CAAP OR RCP OR CPEP
INV. IN = 33.120
INV. OUT = 32.740
OUTLET WITH STONE FILL PAD, TYPE I
900x2.1 mx300 DEEP
(21) STA 10+756, RT 12.5 m - STA 10+770, RT 12.5 m
NEW 375x14 m PCCSP OR CAAP OR RCP OR CPEP
INV. IN = 32.600
INV. OUT = 32.530
(22) STA 10+800, RT 12.6 m - STA 10+800, LT 15.8 m
NEW 450x29 m PCCSP OR CAAP OR RCP OR CPEP
INV. IN = 32.380
INV. OUT = 32.220
OUTLET WITH STONE FILL PAD, TYPE I
900x2.1 mx300 DEEP
(23) STA 10+844, LT 11.0 m - LT 25.0 m
REMOVE EXISTING HEADWALL
REMOVE EXISTING 300x14 m RCP
(24) STA 10+848, RT 8.0 m - STA 10+857, RT 15.0 m
REMOVE EXISTING 300x11 m CMP
(25) STA 10+860, LT 19.3 m - STA 10+870, LT 17.7 m
NEW GRASS LINED SWALE
INV. IN = 31.740
(26) STA 10+865, RT 6.3 m - LT 6.3 m
DI WITH GRATE, TYPE D
RIM EL. = 34.305
NEW 450x12 m PCCSP
INV. OUT = 32.490
(27) STA 10+865, LT 6.3 m - LT 16.3 m
DI WITH GRATE, TYPE D
RIM EL. = 34.305
INV. IN (S) = 32.250
INV. OUT (N) = 32.150
NEW 450x10 m PCCSP
INV. OUT = 31.870
OUTLET WITH STONE FILL PAD, TYPE I
900x3.9 mx300 DEEP
RELOCATE SINGLE MAILBOX SUPPORT
STA 2+030, LT
STA 2+064, LT
MULTIPLE MAILBOX SUPPORT
STA 10+775, LT
END AGGREGATE SHOULDER
STA 10+755, LT
STA 10+825, RT
EROSION MATTING
STA 10+590, LT - STA 10+620, LT
STA 10+720, LT - STA 10+753, LT
STA 10+774, LT - STA 10+800, LT
REMOVAL OF EXISTING FENCE
STA 10+815, RT - STA 10+845, RT
GEOTEXTILE FOR ROADBED SUBGRADE SEPARATOR
STA 10-850, RT - STA 10+870, RT
ANCHOR FOR STEEL BEAM GUARDRAIL
STA 2+028, LT
STA 2+034, LT
STA 2+057, LT
BRICK PAVING
DRIVE OFF TH 13 STA 3+025, LT 1000 WIDE AT EL. 33.175
STAIRS WITH HAND RAILING
STA 2+031, LT, 900 WIDE
DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)
VANASSE HANGEN BRUSTLIN, INC.
STATE OF VERMONT
AGENCY OF TRANSPORTATION
Town Of ALBURG-SWANTON
Bridge No. 2
Highway No. VT 78
Log Sta.
Surv. Sta.
VT 78 OVER MISSISQUOI BAY
VT 78 ROADWAY PLAN (3 OF 10)
Designed By S.W. BEKIER
Drawn By C.L. CILLEY
Checked By J.A. MERCER Date 11/03
Bridge Design Supervisor C.D. BAKER Date 11/03
PROJECT ALBURG-SWANTON
PROJECT NO. BRF 036-1(1)
I.G.C. Info.
File No. ZE072PN3
Sheet C38 of C194
VHB NO. 50911
plot date: 11/18/2003
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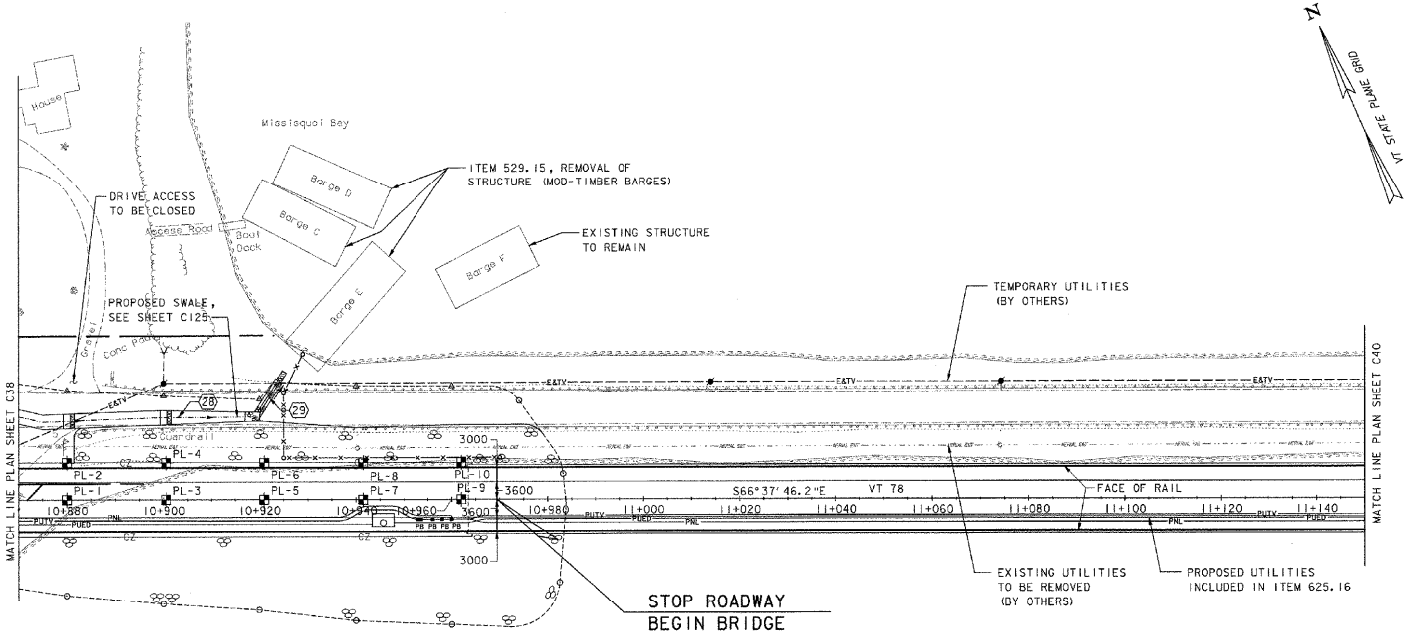

PLAN

0 10 20 30
SCALE IN METERS

N
VT STATE PLANE GRID

CAUSEWAY CONSTRUCTION NOTES

(STATION 10+850 TO STATION 10+969.4)
(STATION 12+060.8 TO STATION 12+150)

1. PLACEMENT OF EMBANKMENT FILL AND CONSTRUCTION OF ABUTMENTS SHALL BE PERFORMED IN TWO STAGES:

   STAGE 1:
   REMOVE TOPSOIL ABOVE THE WATER LINE WITHIN LIMITS OF EMBANKMENT FILL. PLACE EMBANKMENT FILL AS INDICATED, STARTING AT THE EXISTING CAUSEWAY AND WORKING OUTWARD AND TO THE SOUTH OF THE EXISTING CAUSEWAY. FILL TO 0.5 m ABOVE THE HIGH WATER LINE AT THE TIME OF CONSTRUCTION AND INSTALL SETTLEMENT MONITORING INSTRUMENTS AT THE INDICATED LOCATIONS. CONTINUE EMBANKMENT FILL TO THE ELEVATION OF THE SUBGRADE. MONITOR SETTLEMENT FOR A MINIMUM OF THREE MONTHS.

   STAGE 2:
   AFTER COMPLETION OF THE SETTLEMENT PERIOD, AND AFTER APPROVAL OF THE RESIDENT ENGINEER, PLACE ADDITIONAL SAND BORROW TO THE BOTTOM OF THE PROPOSED ROADWAY SUBGRADE. THEN CONSTRUCT ROADWAY SUBBASE MATERIAL TO FINISH GRADE.

2. INITIAL READINGS OF ALL SETTLEMENT PLATFORMS SHALL BE TAKEN BY THE CONTRACTOR AND SUPPLIED TO THE ENGINEER PRIOR TO THE APPLICATION OF ANY EMBANKMENT FILL. DURING THE PROCESS OF FILLING, THE SETTLEMENT PLATFORM READINGS SHALL BE TAKEN ONCE A WEEK AND THE READINGS AND A CUMULATIVE PLOT OF SETTLEMENT VERSUS TIME SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. FILL ELEVATIONS SHALL BE RECORDED WHENEVER SETTLEMENT PLATFORM READINGS ARE TAKEN. THE ENGINEER SHALL REVIEW THE READINGS AND SETTLEMENT PLOTS PROVIDED BY THE CONTRACTOR. IF THE ENGINEER DETERMINES THAT THE MAJORITY OF THE SETTLEMENT HAS TAKEN PLACE, THE ENGINEER SHALL PROVIDE WRITTEN NOTICE TO THE CONTRACTOR THAT READINGS SHALL BE DISCONTINUED AND CONSTRUCTION OF THE ROADWAY SECTION COULD BEGIN.

3. LOCATION OF THE FIELD CONTROL STATION ASSOCIATED WITH THE SETTLEMENT PLATFORM SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION OF THE INSTRUMENTATION.

4. ABUTMENT EXCAVATION AND CONSTRUCTION AND BACKFILL CAN OCCUR CONCURRENTLY WITH STAGE 1 EMBANKMENT FILL.

REMOVAL AND DISPOSAL OF GUARDRAIL

STA 10+882, LT 13.5 m - STA 11+150, LT 15.3 m
STA 10+887, LT 23.7 m - STA 11+150, LT 23.0 m

~~BITUMINOUS~~ CONCRETE CURB

STA 10+870, LT - STA 10+953.7, LT
STA 10+870, RT - STA 10+953.7, RT

CAST-IN-PLACE CONCRETE CURB

STA ~~10+953.7~~ 10+862.3, LT - STA 10+963.2, LT
STA ~~10+953.7~~ 10+862.8, RT - STA 10+963.2, RT

GEOTEXTILE FOR ROADBED SUBGRADE SEPARATOR

STA 10+880, LT - STA 10+969.4, LT
STA 10+870, RT - STA 10+969.4, RT

STONE FILL, TYPE IV

STA 10+900, LT - STA 10+984, LT
STA 10+870, RT - STA 10+984, LT

STEEL BEAM GUARDRAIL

STA 10+870, LT - STA 10+953.7, LT
STA 10+870, RT - STA 10+953.7, RT

CHAIN-LINK FENCE (TYPE 1)

STA 10+925, LT 8.6 m - STA 10+925, LT 18.4 m
STA 10+925, LT 22.0 m - STA 10+929, LT 30.0 m
STA 10+925, LT 8.6 m - STA 10+970, LT 8.6 m

WIRED CONDUIT (NAVIGATIONAL LIGHTING)

STA 10+960, RT 4.1 m - STA 10+969.4, RT 4.5 m
STA 10+870, RT ~~4.1~~ 3.5 m - STA 10+960, RT 4.1 m

DUCTS - CONCRETE ENCASED

9 DUCTS (ELECTRICAL DUCTS):
STA 10+948, RT 4.1 m - STA 10+953, RT 4.1 m
STA 10+870, RT 5.0 m - STA 10+944, RT 5.0 m

12 DUCTS (ELECTRICAL, CABLE TV AND VTRANS DUCTS):
STA 10+953, RT 4.1 m - STA 10+969.4, RT 3.6 m

DUCTS - DIRECT BURIAL (CABLE TV DUCTS)

STA 10+870, RT 4.5 m - STA 10+937, RT 4.5 m
STA 10+937, RT 4.5 m - STA 10+944, RT 2.5 m
STA 10+944, RT 2.5 m - STA 10+948, RT 2.5 m
STA 10+948, RT 2.5 m - STA 10+953, RT 4.1 m

UTILITY VAULT

STA 10+946, RT 4.15 m (ELECTRICAL)
(SEE SPECIAL PROVISIONS FOR DETAILS)

DOUBLE PULLBOX

STA 10+953, RT 4.1 m (CABLE TV DUCT)

PULLBOX

STA 10+960, RT 4.1 m (NAVIGATIONAL LIGHTING)
STA 10+958, RT 4.1 m (SINGLE VTRANS DUCT)
STA 10+956, RT 4.1 m (SINGLE VTRANS DUCT)

DRIVE GATE FOR CHAIN-LINK FENCE (TYPE 1)

STA 10+925, LT 18.4 m - STA 10+925, LT 22.0 m

DRAINAGE NOTES

(28) STA 10+870, LT 17.7 m - STA 10+917, LT 17.0 m
NEW GRASS LINED SWALE WITH PERMANENT STONE CHECK DAMS
INV. OUT = 31.500
OUTLET WITH STONE FILL SUMP, TYPE I
1800x4.0 mx300 DEEP

(29) STA 10+920, LT 18.2 m - STA 10+925, LT 24.4 m
NEW 600x7.9m PCCSP OR CAAP OR RCP OR CPEP
INV. IN = 31.500
INV. OUT = 31.000
OUTLET WITH STONE FILL PAD, TYPE I
1200x2.7 mx300 DEEP
STA 10+920, LT 18.2 m - STA 10+925, LT 24.4 m
NEW STONE FILL, TYPE II
1600x7.6 mx600 DEEP
PLACE CRUSHED GRAVEL (COARSE GRADED)
ON TOP OF STONE FILL, TYPE II

SETTLEMENT PLATFORM (TYPE 1)

PROPOSED SETTLEMENT PLATFORM LOCATIONS

PL-1	STA 10+880.000, LT 0.0 m
~~PL-2~~	~~STA 10+880.000, LT 7.6 m~~
PL-3	STA 10+900.500, LT 0.0 m
PL-4	STA 10+900.500, LT 7.6 m
PL-5	STA 10+921.000, LT 0.0 m
PL-6	STA 10+921.000, LT 7.6 m
PL-7	STA 10+941.500, LT 0.0 m
PL-8	STA 10+941.500, LT 7.6 m
~~PL-9~~	~~STA 10+962.000, LT 0.0 m~~
~~PL-10~~	~~STA 10+962.000, LT 7.6 m~~

LEGEND

- PROPOSED MAILBOX
- PROPOSED LANDSCAPING
- PROPOSED CHAIN-LINK FENCE
- PB PROPOSED PULL BOX
- PROPOSED OVERHEAD LIGHT
- O PROPOSED UTILITY VAULT
- PUED PROPOSED UNDERGROUND ELECTRICAL DUCT
- PUTV PROPOSED UNDERGROUND CABLE TV DUCT
- PNL PROPOSED UNDERGROUND WIRED CONDUIT FOR NAVIGATIONAL LIGHTING
- PE&TV PROPOSED AERIAL ELECTRIC, CABLE TV AND TELEPHONE
- PT PROPOSED AERIAL TELEPHONE
- E&TV TEMPORARY AERIAL ELECTRIC, CABLE TV AND TELEPHONE

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.

VT 78 OVER MISSISQUOI BAY

VT 78 ROADWAY PLAN (4 OF 10)

Designed By S.W. BEKIER	Drawn By C.L. CILLEY
Checked By J.A. MERCER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (11)
I.G.C. Info.	
File No. ZE072PN4	Sheet C39 of C194

VHB NO. 50911

plot date: 10/23/2003

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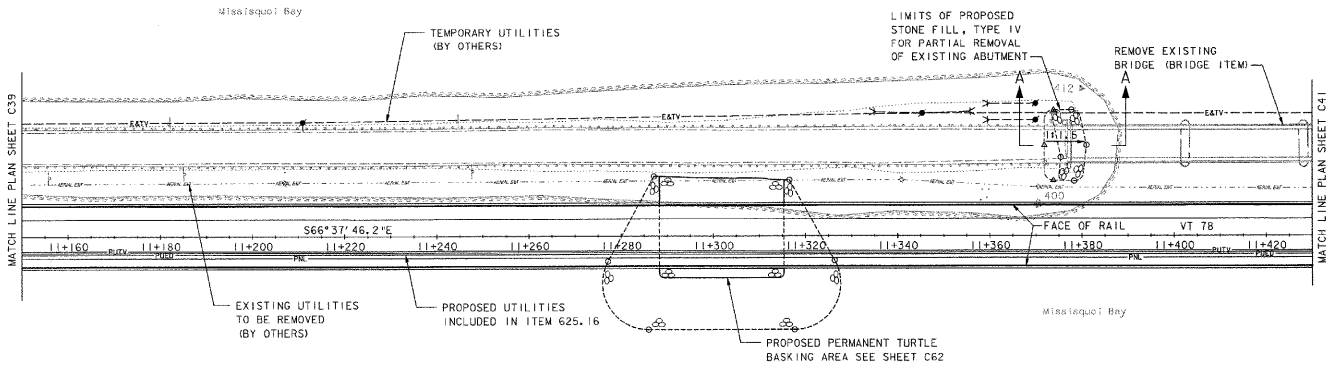


PLAN

0 10 20 30
SCALE IN METERS

N
VT STATE PLANE GRID

LEGEND

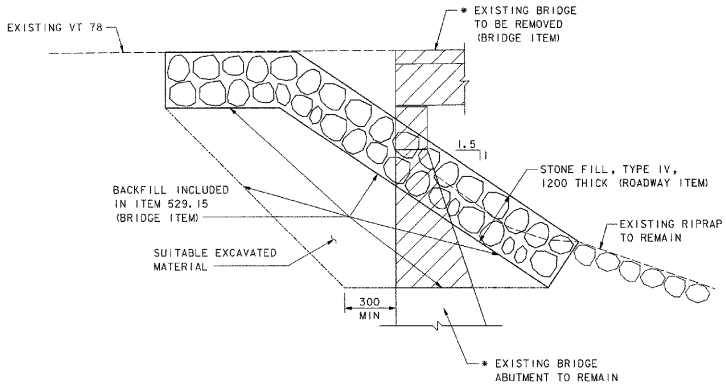
- PROPOSED MAILBOX
- PROPOSED LANDSCAPING
- PROPOSED CHAIN-LINK FENCE
- PROPOSED PULL BOX
- PROPOSED OVERHEAD LIGHT
- PROPOSED UTILITY VAULT
- PUED — PROPOSED UNDERGROUND ELECTRICAL DUCT
- PUTV — PROPOSED UNDERGROUND CABLE TV DUCT
- PNL — PROPOSED UNDERGROUND WIRED CONDUIT FOR NAVIGATIONAL LIGHTING
- PE&TV — PROPOSED AERIAL ELECTRIC, CABLE TV AND TELEPHONE
- PT — PROPOSED AERIAL TELEPHONE
- E&TV — TEMPORARY AERIAL ELECTRIC, CABLE TV AND TELEPHONE

REMOVAL AND DISPOSAL OF GUARDRAIL

STA 11+150, LT 15.3 m - STA 11+376.7, LT 15.5 m
STA 11+150, LT 23.0 m - STA 11+376.5, LT 23.4 m

STONE FILL, TYPE IV

STA 11+276, RT - STA 11+328, RT
STA 11+371, LT - STA 11+381, LT



SECTION A-A

NOT TO SCALE
* (SEE BRIDGE SHEETS FOR REMOVAL LIMITS)

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

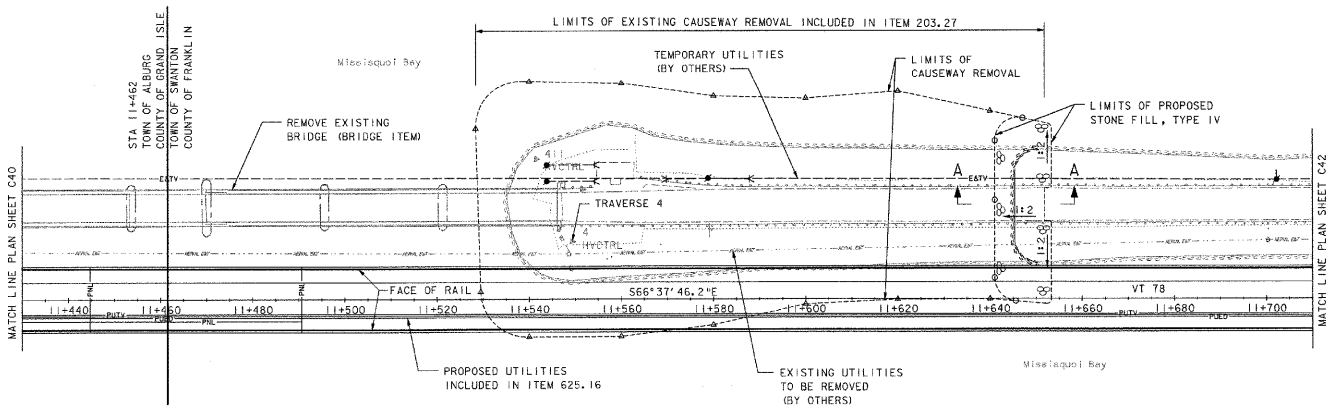
VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
VT 78 ROADWAY PLAN (5 OF 10)	
Designed By S.W. BEKIER	Drawn By C.L. CILLEY
Checked By J.A. MERCER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
U.G.C. Info.	
File No. ZE072PN5	Sheet C40 of C194

VHB NO. 50911

plot date: 10/23/2003



PLAN

0 10 20 30
SCALE IN METERS

LEGEND

- PROPOSED MAILBOX
- PROPOSED LANDSCAPING
- PROPOSED CHAIN-LINK FENCE
- PB PROPOSED PULL BOX
- PROPOSED OVERHEAD LIGHT
- PROPOSED UTILITY VAULT
- PUED PROPOSED UNDERGROUND ELECTRICAL DUCT
- PUTV PROPOSED UNDERGROUND CABLE TV DUCT
- PNL PROPOSED UNDERGROUND WIRED CONDUIT FOR NAVIGATIONAL LIGHTING
- PE&TV PROPOSED AERIAL ELECTRIC, CABLE TV AND TELEPHONE
- PT PROPOSED AERIAL TELEPHONE
- E&TV TEMPORARY AERIAL ELECTRIC, CABLE TV AND TELEPHONE

REMOVAL AND DISPOSAL OF GUARDRAIL

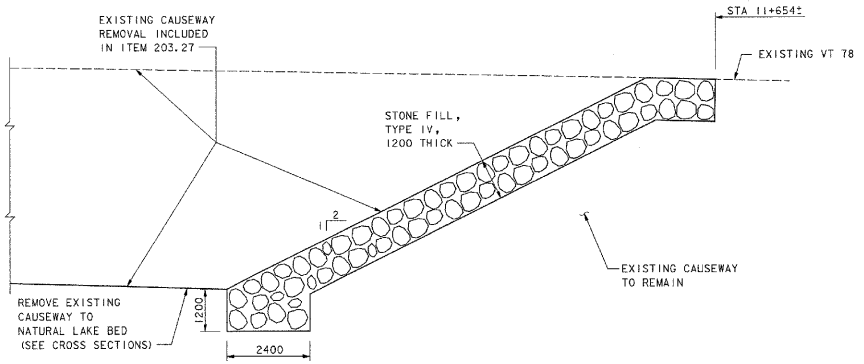
STA 11+547, LT 16.0 m - STA 11+710, LT 16.5 m
STA 11+547, LT 23.8 m - STA 11+554, LT 24.1 m
STA 11+564, LT 26.1 m - STA 11+710, LT 24.2 m

DEMOLITION & DISPOSAL OF BUILDING (MOD)

STA 11+559, LT (SALVAGE)

STONE FILL, TYPE IV

STA 11+641, LT - STA 11+654, LT



SECTION A-A
NOT TO SCALE

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

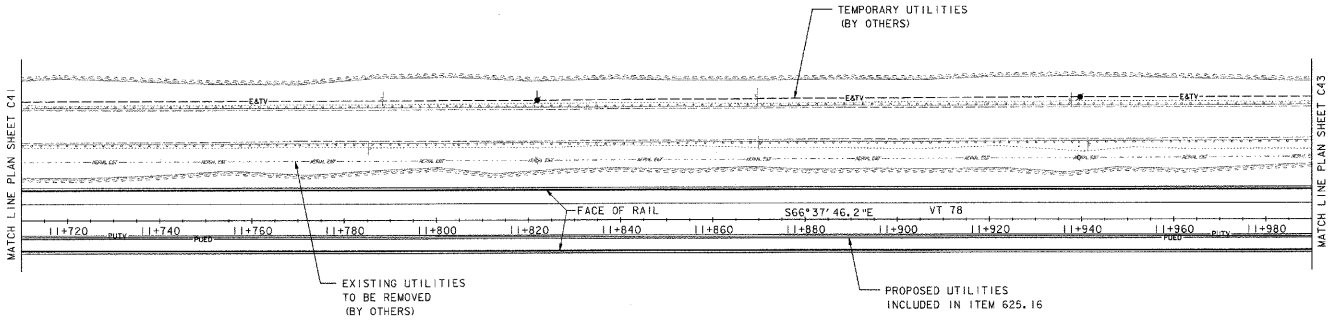
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
VT 78 ROADWAY PLAN (6 OF 10)	
Designed By S.W. BEKIER	Drawn By C.L. CILLEY
Checked By J.A. MERCER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
W.B.S. Info.	
File No. ZE072PN6	Sheet C41 of C194

VHB NO. 50911

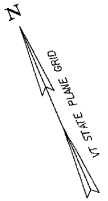
plot date: 10/23/2003

Metric



PLAN

0 10 20 30
SCALE IN METERS



LEGEND

- PROPOSED MAILBOX
- PROPOSED LANDSCAPING
- PROPOSED CHAIN-LINK FENCE
- PB PROPOSED PULL BOX
- PROPOSED OVERHEAD LIGHT
- O PROPOSED UTILITY VAULT
- PUED PROPOSED UNDERGROUND ELECTRICAL DUCT
- PUTV PROPOSED UNDERGROUND CABLE TV DUCT
- PNL PROPOSED UNDERGROUND WIRED CONDUIT FOR NAVIGATIONAL LIGHTING
- PE&TV PROPOSED AERIAL ELECTRIC, CABLE TV AND TELEPHONE
- PT PROPOSED AERIAL TELEPHONE
- E&TV TEMPORARY AERIAL ELECTRIC, CABLE TV AND TELEPHONE

REMOVAL AND DISPOSAL
OF GUARDRAIL

STA 11+710, LT 16.5 m - STA 11+990, LT 17.1 m
STA 11+710, LT 24.2 m - STA 11+990, LT 24.7 m

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
VT 78 ROADWAY PLAN (7 OF 10)	
Designed By S. W. BEKIER	Drawn By C. L. CILLEY
Checked By Date J. A. MERCER 10/03	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. info.	
File No. ZE072PN7	Sheet C42 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date: 10/23/2003

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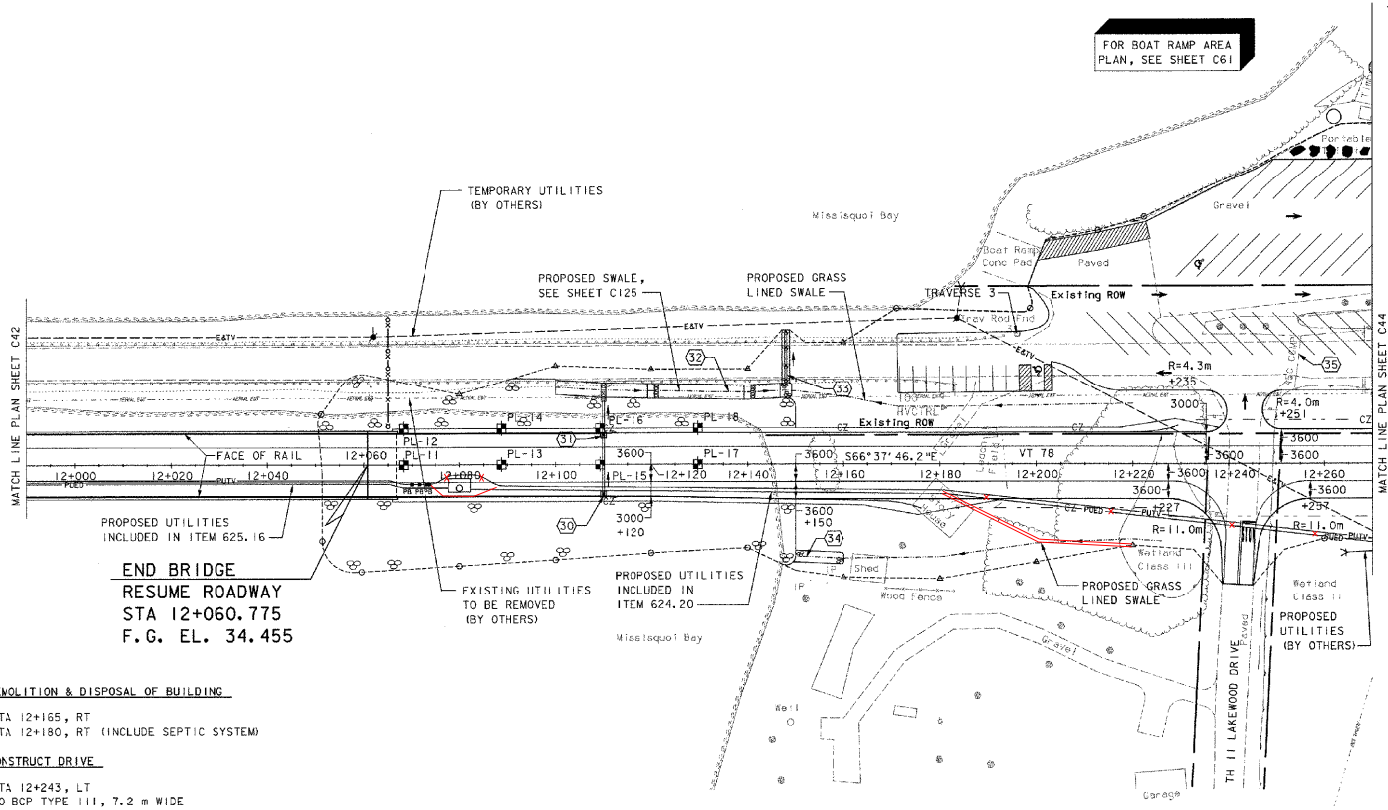
Metric



PLAN

0 10 20 30
SCALE IN METERS

N
VT STATE PLANE GRID

LEGEND

- PROPOSED MAILBOX
- PROPOSED LANDSCAPING
- PROPOSED CHAIN-LINK FENCE
- PROPOSED PULL BOX
- PROPOSED OVERHEAD LIGHT
- PROPOSED UTILITY VAULT
- PUED — PROPOSED UNDERGROUND ELECTRICAL DUCT
- PUTV — PROPOSED UNDERGROUND CABLE TV DUCT
- PNL — PROPOSED UNDERGROUND WIRED CONDUIT FOR NAVIGATIONAL LIGHTING
- PE&TV — PROPOSED AERIAL ELECTRIC, CABLE TV AND TELEPHONE
- PT — PROPOSED AERIAL TELEPHONE
- E&TV — TEMPORARY AERIAL ELECTRIC, CABLE TV AND TELEPHONE

DUCTS - DIRECT BURIAL (CABLE TV DUCT)

STA 12+073, RT 4.1 m - STA 12+078, RT 2.5 m
STA 12+078, RT 2.5 m - STA 12+082, RT 2.5 m
STA 12+082, RT 2.5 m - STA 12+089, RT 4.5 m
STA 12+089, RT 4.5 m - STA 12+180, RT 5.7 m
STA 12+180, RT 5.7 m - STA ~~12+270.~~ 12+200, RT ~~15.7 m~~ 16.0 M
STA. 12+200. RT. 16.0 M - STA. 12+232 RT. 17.0 M

DUCTS - CONCRETE ENCASED

12 DUCTS (ELECTRICAL, CABLE TV AND VTRANS DUCTS):
STA 12+060.8, RT 3.6 m - STA 12+073, RT 4.1 m

9 DUCTS (ELECTRICAL DUCTS):
STA 12+073, RT 4.1 m - STA 12+078, RT 4.1 m
STA 12+082, RT 5.0 m - STA 12+180, RT 6.2 m
STA 12+180, RT 6.2 m - STA ~~12+270.~~ 12+200, RT 16.2 m
STA. 12+200 RT. - STA. 12+224 RT

DOUBLE PULL BOX

STA 12+073.5, RT 4.1 m (CABLE TV DUCT)

SETTLEMENT PLATFORM (TYPE I)

PROPOSED SETTLEMENT PLATFORM LOCATIONS

~~PL-11 STA 12+068.250, LT 0.0 m~~
~~PL-12 STA 12+068.250, LT 7.6 m~~
PL-13 STA 12+088.750, LT 0.0 m
PL-14 STA 12+088.750, LT 7.6 m
PL-15 STA 12+109.250, LT 0.0 m
PL-16 STA 12+109.250, LT 7.6 m
PL-17 STA 12+129.750, LT 0.0 m
PL-18 STA 12+129.750, LT 7.6 m

~~DRIVE GATE FOR CHAIN-LINK FENCE (TYPE I)~~

STA 12+065, LT 20.0 m - STA 12+065, LT 23.6 m

~~CHAIN-LINK FENCE (TYPE I)~~

STA 12+065, LT 8.0 m - STA 12+065, LT 20.0 m
STA 12+065, LT 23.6 m - STA 12+065, LT 30.0 m

DEMOLITION & DISPOSAL OF BUILDING

STA 12+165, RT
STA 12+180, RT (INCLUDE SEPTIC SYSTEM)

CONSTRUCT DRIVE

STA 12+243, LT
50 BCP TYPE III, 7.2 m WIDE

STA 12+243, RT, TH 11
50 BCP TYPE III, 6.4 m WIDE

REMOVAL AND DISPOSAL OF GUARDRAIL

STA 11+990, LT 17.1 m - STA 12+184, LT 16.4 m
STA 11+990, LT 24.7 m - STA 12+194, LT 26.3 m

CAST-IN-PLACE CONCRETE CURB

STA 12+067.0, LT - STA ~~12+076.5,~~ 12+112.4 LT
STA 12+067.0, RT - STA ~~12+076.5,~~ 12+112.4 RT

~~BITUMINOUS CONCRETE CURB~~

STA 12+076.5, LT - STA 12+113, LT
STA 12+076.5, RT - STA 12+113, RT

STONE FILL, TYPE IV

STA 12+050, LT - STA 12+150, LT
STA 12+051, RT - STA 12+150, RT

MANUFACTURED TERMINAL SECTION - FLARED

STA ~~12+217.5,~~ 12+215.3, LT - STA ~~12+228.9,~~ 12+226.8, LT
STA ~~12+164.1,~~ 12+162.8, RT - STA ~~12+175.6,~~ 12+174.3, RT

STEEL BEAM GUARDRAIL

STA 12+076.5, LT - STA ~~12+217.5,~~ 12+215.3, LT
STA 12+076.5, RT - STA ~~12+164.1,~~ 12+162.8, RT

REMOVAL & DISPOSAL OF GUIDE POSTS

STA 12+238, LT
STA 12+243, LT
STA 12+247, LT
STA 12+264, LT
STA 12+269, LT

COLD PLANING (TH 11)

STA 12+243, RT 23.0 m -
STA 12+243, RT 25.0 m (SALVAGE)
(SEE SPECIAL PROVISIONS)

PAVED SHOULDER TAPER

STA 12+120, RT (3000 mm) TO
STA 12+150, RT (3600 mm)

GEOTEXTILE FOR ROADBED SUBGRADE SEPARATOR

STA 12+060.8 - STA 12+150

UTILITY VAULT

STA 12+080, RT 4.15 m (ELECTRICAL)
(SEE SPECIAL PROVISIONS FOR DETAILS)

PULL BOX

STA 12+070.0, RT 4.1 m (SINGLE VTRANS DUCT)
STA 12+071.5, RT 4.1 m (SINGLE VTRANS DUCT)

DRAINAGE NOTES

(30) STA 12+110, RT 6.3 m - LT 6.3 m
DI WITH GRATE, TYPE D
RIM EL. = 33.468
NEW 450x12 m PCCSP
INV. OUT = 31.626

(31) STA 12+110, LT 6.3 m - LT 13.3 m
DI WITH GRATE, TYPE D
RIM EL. = 33.348
INV. IN (S) = 31.266
INV. OUT (N) = 31.166
NEW 450x7 m PCCSP
INV. OUT = ~~30.965~~ 30.920
OUTLET WITH STONE FILL PAD, TYPE I
1000x3.9 mx300 DEEP

(32) STA 12+100, LT 16.0 m - STA 12+150, LT 15.4 m
NEW GRASS LINED SWALE ~~WITH PERMANENT STONE CHECK DAMS~~
INV. IN = 30.700 CHECK DAMS ELIMINATED
INV. OUT = 30.500
OUTLET WITH STONE FILL SUMP, TYPE I
2400x3.0 mx300 DEEP

(33) STA 12+148, LT 16.8 m - LT 27.6 m
INSTALL NEW 600x12 m PCCSP OR CAAP OR RCP OR CPEP
INV. IN = ~~30.500~~ 30.525
INV. OUT = ~~30.350~~ 30.305
STA 12+148, LT 16.8 m - LT 27.6 m
NEW STONE FILL, TYPE II
1600x10.8 mx600 DEEP
PLACE CRUSHED GRAVEL (COARSE GRADED)
ON TOP OF STONE FILL, TYPE II

(34) STA 12+150, RT 16.9 m - STA 12+160, RT 19.9 m
NEW STONE FILL DITCH, TYPE II
INV. IN = 29.970
INV. OUT = 29.280

(35) STA 12+254, LT 15.6 m - STA 12+255, LT 26.3 m
REMOVE EXISTING 450x11 m CGMP

SEE SHEET C39 FOR CAUSEWAY CONSTRUCTION NOTES.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

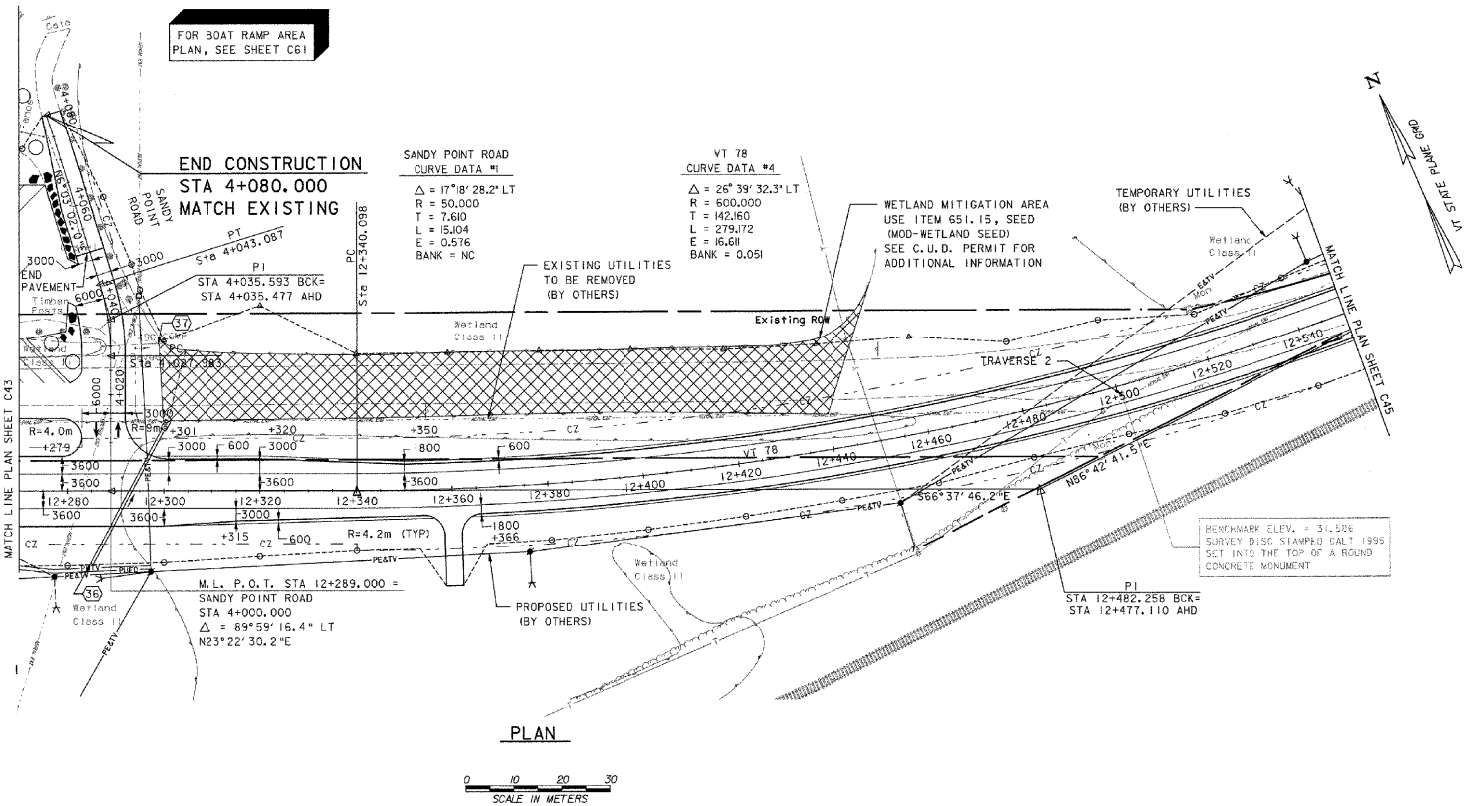
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
VT 78 ROADWAY PLAN (8 OF 10)	
Designed By S.W. BEKIER	Drawn By C.L. CILLEY
Checked By J.A. MERCER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
LG.C. Info.	
File No. ZE072PN8	Sheet C43 of C194

VHB NO. 50911

plot date: 10/23/2003

Metric



PLAN

0 10 20 30
SCALE IN METERS

LEGEND

- PROPOSED MAILBOX
- PROPOSED LANDSCAPING
- PROPOSED CHAIN-LINK FENCE
- PB PROPOSED PULL BOX
- PROPOSED OVERHEAD LIGHT
- PROPOSED UTILITY VAULT
- PUED — PROPOSED UNDERGROUND ELECTRICAL DUCT
- PUTV — PROPOSED UNDERGROUND CABLE TV DUCT
- PNL — PROPOSED UNDERGROUND WIRED CONDUIT FOR NAVIGATIONAL LIGHTING
- PE&TV — PROPOSED AERIAL ELECTRIC, CABLE TV AND TELEPHONE
- PT — PROPOSED AERIAL TELEPHONE
- E&TV — TEMPORARY AERIAL ELECTRIC, CABLE TV AND TELEPHONE

TRAVEL LANE TAPERS

STA 4+040, LT (6000 mm) TO
STA 4+045, LT (3000 mm)

STA 4+060, LT (3000 mm) TO
STA 4+080, LT (1000 mm)

PAVED SHOULDER TAPERS

STA 12+320, LT (3000 mm) TO
STA 12+350, LT (1800 mm)

STA 12+300, RT (3600 mm) TO
STA 12+315, RT (3000 mm)

STA 12+315, RT (3000 mm) TO
STA 12+366, RT (1800 mm)

CONSTRUCT DRIVE

STA 12+380, RT
50 BCP TYPE III, 3.6 m WIDE

BEGIN AGGREGATE SHOULDER

STA 12+298, LT
STA 12+300, RT

~~DUCTS - CONCRETE ENCASED~~

9 DUCTS (ELECTRICAL DUCTS):
STA 12+270, RT 16.2 m - STA 12+277, RT 17.0 m

3 DUCTS (ELECTRICAL DUCTS):
STA 12+277, RT 17.0 m - STA 12+297, RT 16.9 m

~~DUCTS - DIRECT BURIAL (CABLE TV DUCT)~~

STA 12+270, RT 15.7 m - STA 12+277, RT 16.5 m
STA 12+277, RT 16.5 m - STA 12+297, RT 16.4 m

REMOVAL & DISPOSAL OF GUIDE POSTS

STA 12+274, LT
STA 12+279, LT
STA 12+284, LT
STA 4+042, RT
STA 4+048, RT
STA 4+054, RT
STA 4+061, RT
STA 4+067, RT
STA 4+074, RT
STA 4+080, RT
STA 4+085, RT

DRAINAGE NOTES

(36) STA 12+285, RT 15.0 m - STA 12+300, LT 13.0 m
NEW 600x32 m PCCSP OR CAAP OR RCP OR CPEP
INV IN = 30.100
INV OUT = 29.780
OUTLET WITH STONE FILL PAD, TYPE I
1200x2.1 mx300 DEEP

(37) STA 12+287, LT 30.0 m - STA 12+301, LT 30.6 m
REMOVE EXISTING 450x14 m CGMP

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.

VT 78 OVER MISSISQUOI BAY

VT 78 ROADWAY PLAN (9 OF 10)

Designed By S.W. BEKIER	Drawn By C.L. CILLEY
Checked By J.A. MERCER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
I.G.C. Info.	
File No. ZE072PN9	Sheet C44 of C194

VHB NO. 50911

plot date: 10/23/2003

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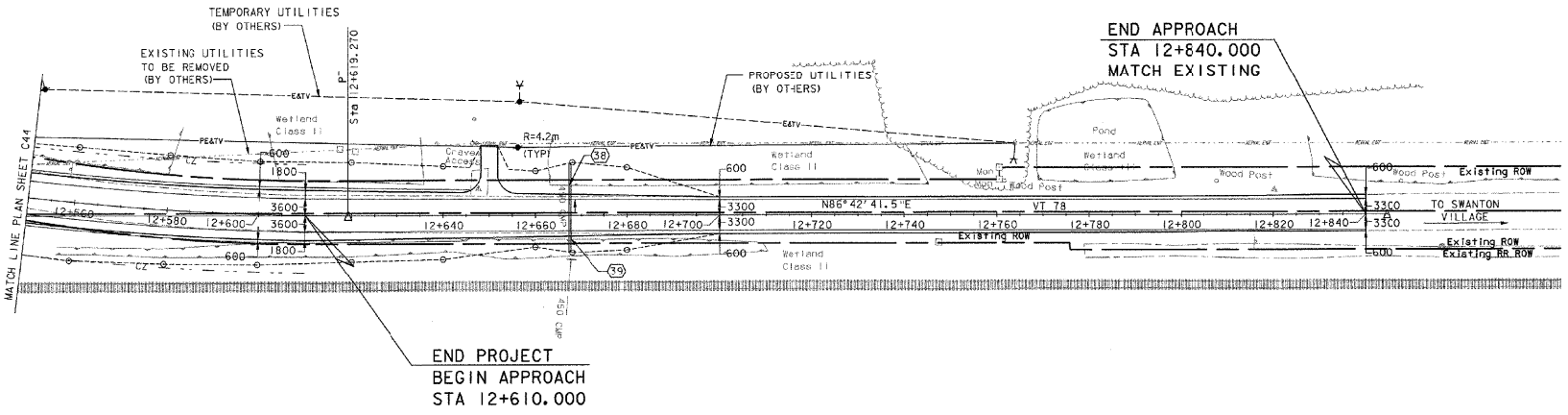
Metric



PLAN

0 10 20 30
SCALE IN METERS

LEGEND

- PROPOSED MAILBOX
- PROPOSED LANDSCAPING
- —x—x— PROPOSED CHAIN-LINK FENCE
- PB PROPOSED PULL BOX
- PROPOSED OVERHEAD LIGHT
- PROPOSED UTILITY VAULT
- —PUED— PROPOSED UNDERGROUND ELECTRICAL DUCT
- —PUTV— PROPOSED UNDERGROUND CABLE TV DUCT
- —PNL— PROPOSED UNDERGROUND WIRED CONDUIT FOR NAVIGATIONAL LIGHTING
- —PE&TV— PROPOSED AERIAL ELECTRIC, CABLE TV AND TELEPHONE
- —PT— PROPOSED AERIAL TELEPHONE
- —E&TV— TEMPORARY AERIAL ELECTRIC, CABLE TV AND TELEPHONE

COLD PLANING

STA ~~12+630~~ 12+700 - STA ~~12+840~~ 12+722 (SALVAGE)
(SEE SPECIAL PROVISIONS)

TRAVEL LANE TAPERS

STA 12+610, RT & LT (3600 mm) TO
STA 12+700, RT & LT (3300 mm)

PAVED SHOULDER TAPERS

STA 12+610, RT & LT (1800 mm) TO
STA 12+700, RT & LT (600 mm)

END AGGREGATE SHOULDER

STA 12+645, RT & LT

CONSTRUCT DRIVE

STA 12+650, LT
50 BCP TYPE III, 3.6 m WIDE

DRAINAGE NOTES

(38) STA 12+668, LT 6.5 m - STA 12+668, RT 6.0 m
REMOVE EXISTING 450x13 m CGMP

(39) STA 12+668, LT 11.3 m - STA 12+668, RT 8.0 m
NEW 450x20 m PCCSP OR CAAP OR RCP OR CPEP
INV. IN = 30.140
INV. OUT = 30.030
RETAIN EXISTING HEADWALL AND 450 CMP, RT
(UNDER RAILROAD TRACKS)

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

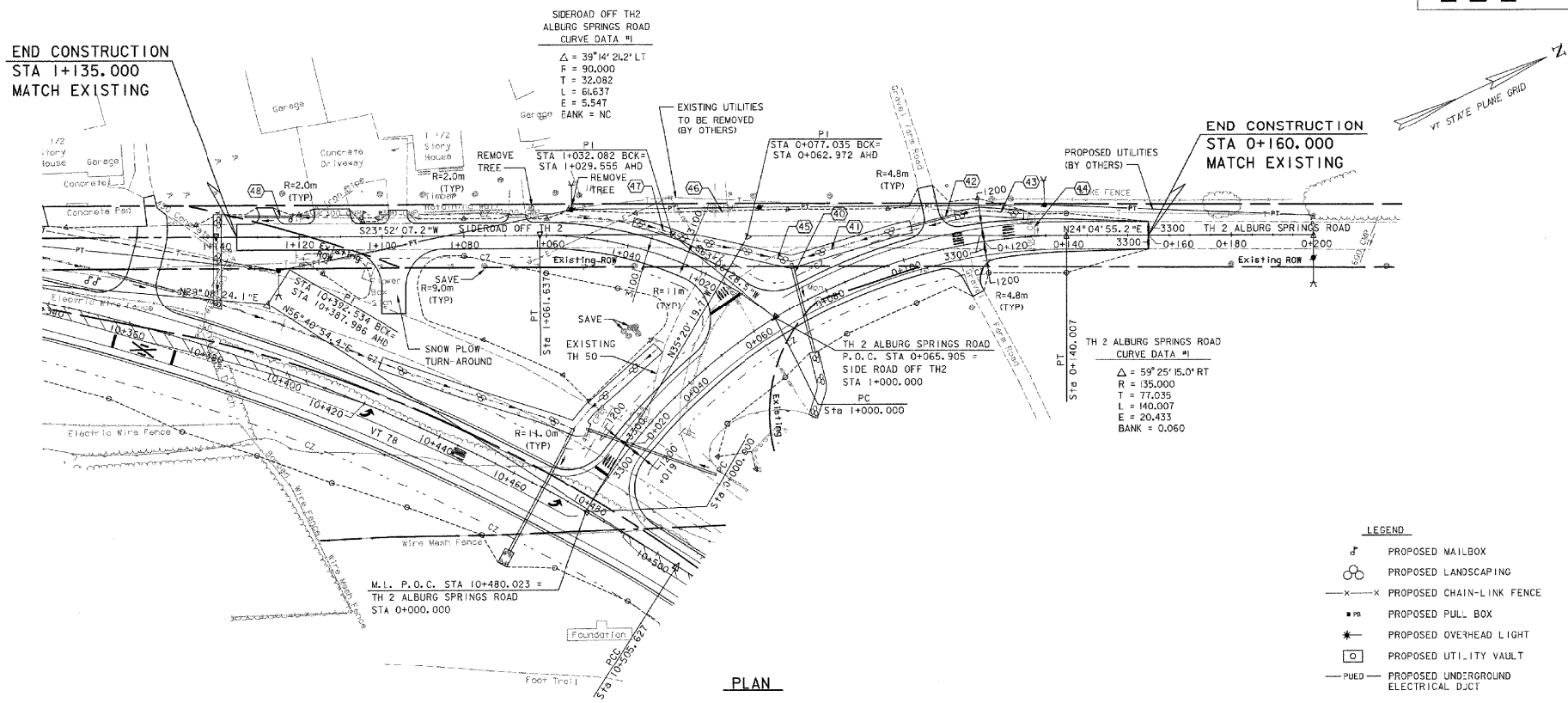
VT 78 ROADWAY PLAN (10 OF 10)

Designed By S.W. BEKIER	Drawn By C.L. CILLEY
Checked By J.A. MERCER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.C.C. Info.	
File No. ZE072PN10	Sheet C45 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date: 10/23/2003



LEGEND

- PROPOSED MAILBOX
- PROPOSED LANDSCAPING
- PROPOSED CHAIN-LINK FENCE
- PROPOSED PULL BOX
- PROPOSED OVERHEAD LIGHT
- PROPOSED UTILITY VAULT
- PROPOSED UNDERGROUND ELECTRICAL DUCT
- PROPOSED UNDERGROUND CABLE TV DUCT
- PROPOSED UNDERGROUND WIRED CONDUIT FOR NAVIGATIONAL LIGHTING
- PROPOSED AERIAL ELECTRIC, CABLE TV AND TELEPHONE
- PROPOSED AERIAL TELEPHONE
- TEMPORARY AERIAL ELECTRIC, CABLE TV AND TELEPHONE

COLD PLANING

STA 0+155 - STA 0+160
STA 1+060 - STA 1+135

SHOULDER TAPER

STA 0+120, RT & LT (1200 mm) TO
STA 0+160, RT & LT (0 mm)

CONSTRUCT DRIVE

STA 0+109, LT
50 BCP TYPE III, 3.6 m WIDE

STA 0+115, RT
50 BCP TYPE III, 3.0 m WIDE

STA 1+095, LT
50 BCP TYPE III, 6.0 m WIDE

STA 1+125, RT
50 BCP TYPE III, 3.6 m WIDE

SINGLE MAILBOX SUPPORT

STA 1+101, RT
STA 1+105, RT
STA 1+122, RT

DRAINAGE NOTES

(40) STA 0+076, LT 9.5 m - STA 0+070, RT 12.2 m
NEW 600x22 m PCCSP OR CAAP OR RCP OR CPEP
INV. IN = ~~39.420~~ 39.406
INV. OUT = ~~37.900~~ 37.851
NEW STONE FILL DITCH, TYPE I
2200x16.3 mx300 DEEP
1000 WIDE WITH 1:2 SIDE SLOPES

(41) STA 0+076, LT 9.5 m - STA 0+104, LT 7.0 m
NEW STONE LINED DITCH, TYPE I
3000x28.0 mx300 DEEP

(42) STA 0+104, LT 7.5 m - STA 0+114, LT 7.5 m
NEW 375x11 m PCCSP OR CAAP OR
RCP CLASS IV OR CPEP
INV. IN = 41.380
INV. OUT = 41.180

(43) STA 0+114, LT 7.0 m - STA 0+130, LT 5.6 m
NEW STONE LINED DITCH, TYPE I
2000x16.0 mx300 DEEP

(44) STA 0+132, LT 5.0 m - STA 0+132, RT 5.0 m
REMOVE EXISTING 300x10 m CMP

(45) STA 0+076, LT 9.5 m - STA 1+025, RT 6.1 m
NEW STONE LINED DITCH, TYPE I
3000x24.0 mx300 DEEP

(46) STA 1+021, RT 16.0 m - STA 1+024, RT 13.8 m
REMOVE EXISTING 300x6 m CMP

(47) STA 1+025, RT 6.1 m - STA 1+040, RT 5.8 m
NEW STONE LINED DITCH, TYPE I
2000x11.0 mx300 DEEP

(48) STA 1+122, RT 4.6 m - STA 1+133, RT 4.6 m
NEW 375x11 m PCCSP OR CAAP OR
RCP CLASS IV OR CPEP
INV. IN = 40.565
INV. OUT = 40.475

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.

VT 78 OVER MISSISQUOI BAY

TH 2 ALBURG SPRINGS ROAD PLAN

Designed By S.W. BEKIER	Drawn By C.L. CILLEY
Checked By J.A. MERCER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
L.G.C. Info.	
File No. ZE072PN11	Sheet C46 of C194

VHB NO. 5091I

plot date: 10/23/2003

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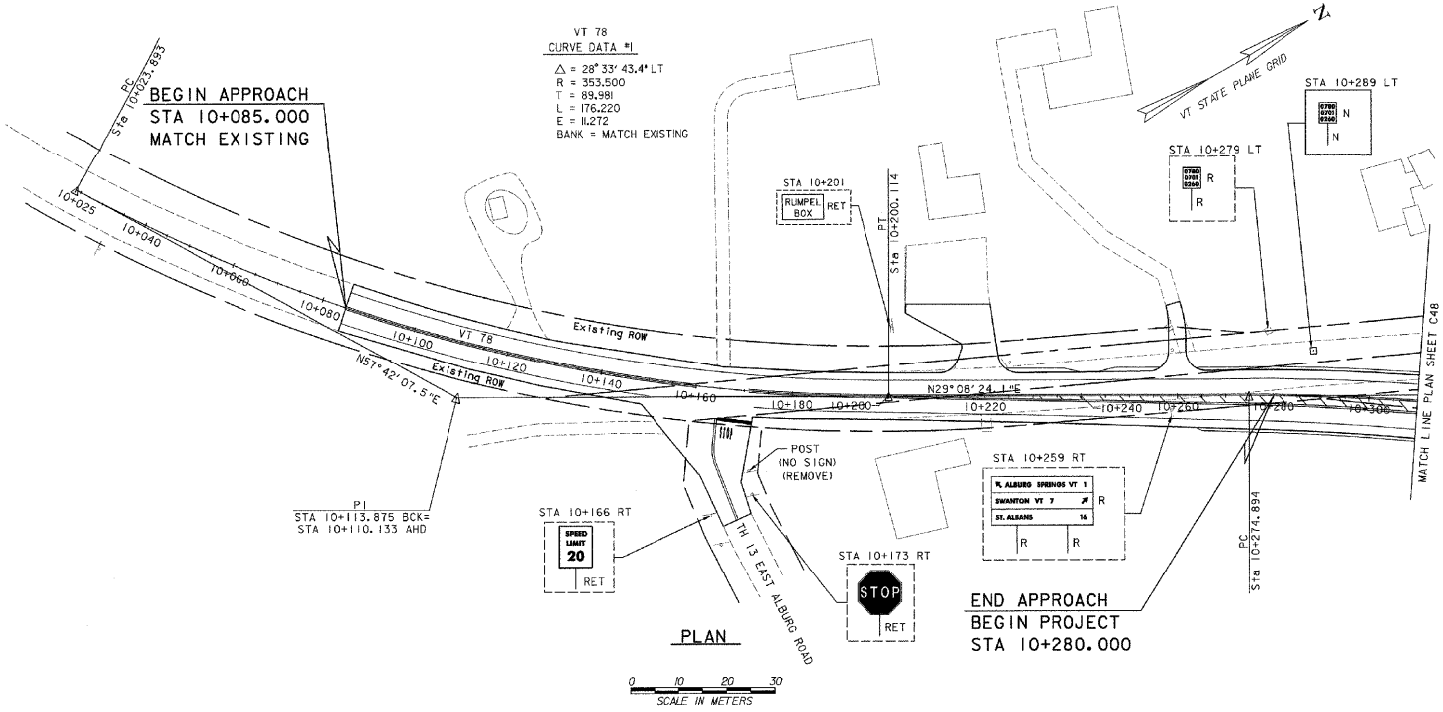
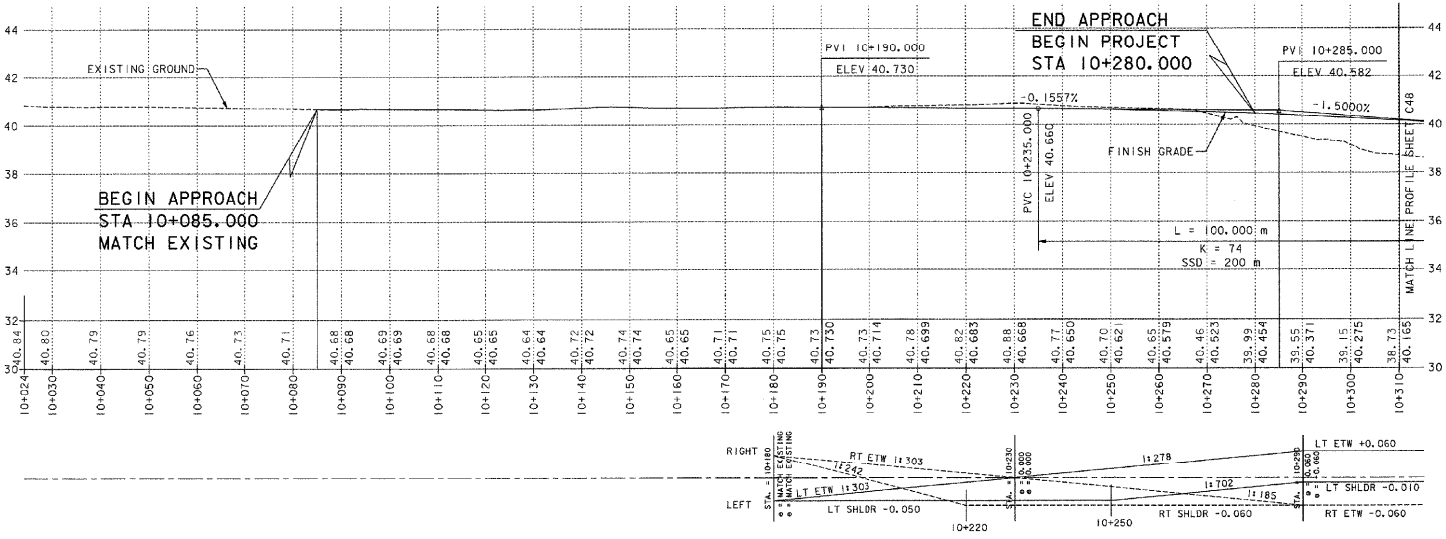




CONSTRUCTION NOTES

DURABLE 100 mm WHITE LINE
10+175 ~~10+085~~ - 10+310 LT
10+148 ~~10+085~~ - ~~10+150~~ RT 10+160
10+175 ~~10+172~~ - 10+310 RT

DURABLE 100 mm YELLOW LINE (DOUBLE CENTER LINE)
~~10+085 - 10+159~~
10+175 ~~10+171~~ - 10+200
10+200 - 10+310 LT & RT
10+165 RT 6.3 m - 10+171 RT 26.8 m

DURABLE 200 mm YELLOW LINE (DIAGONAL)
10+200 - 10+310 RT

DURABLE 600 mm STOP BAR
10+169 RT

REMOVING SIGNS
AS SHOWN - 4

DELINEATOR, TYPE II - SILVER
10+150 LT & RT
10+226 RT
10+240 ~~10+230 LT~~
10+300 LT & RT

DURABLE LETTER OR SYMBOL
10+167 RT "STOP"

SIGN LEGEND
N = NEW
R = REMOVE
R&S = REMOVE & SALVAGE
S = SALVAGED SIGN
RET = RETAIN
B-B = BACK TO BACK

ALL SIGNS SHALL BE RETAINED AND DISTRIBUTED AS DIRECTED BY THE RESIDENT ENGINEER.

0 10 20 30
SCALE IN METERS

HORIZONTAL SCALE = 1 : 500
VERTICAL SCALE = 1 : 100

NOTE:
SEE LAYOUT SHEETS FOR MEDIAN TAPERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

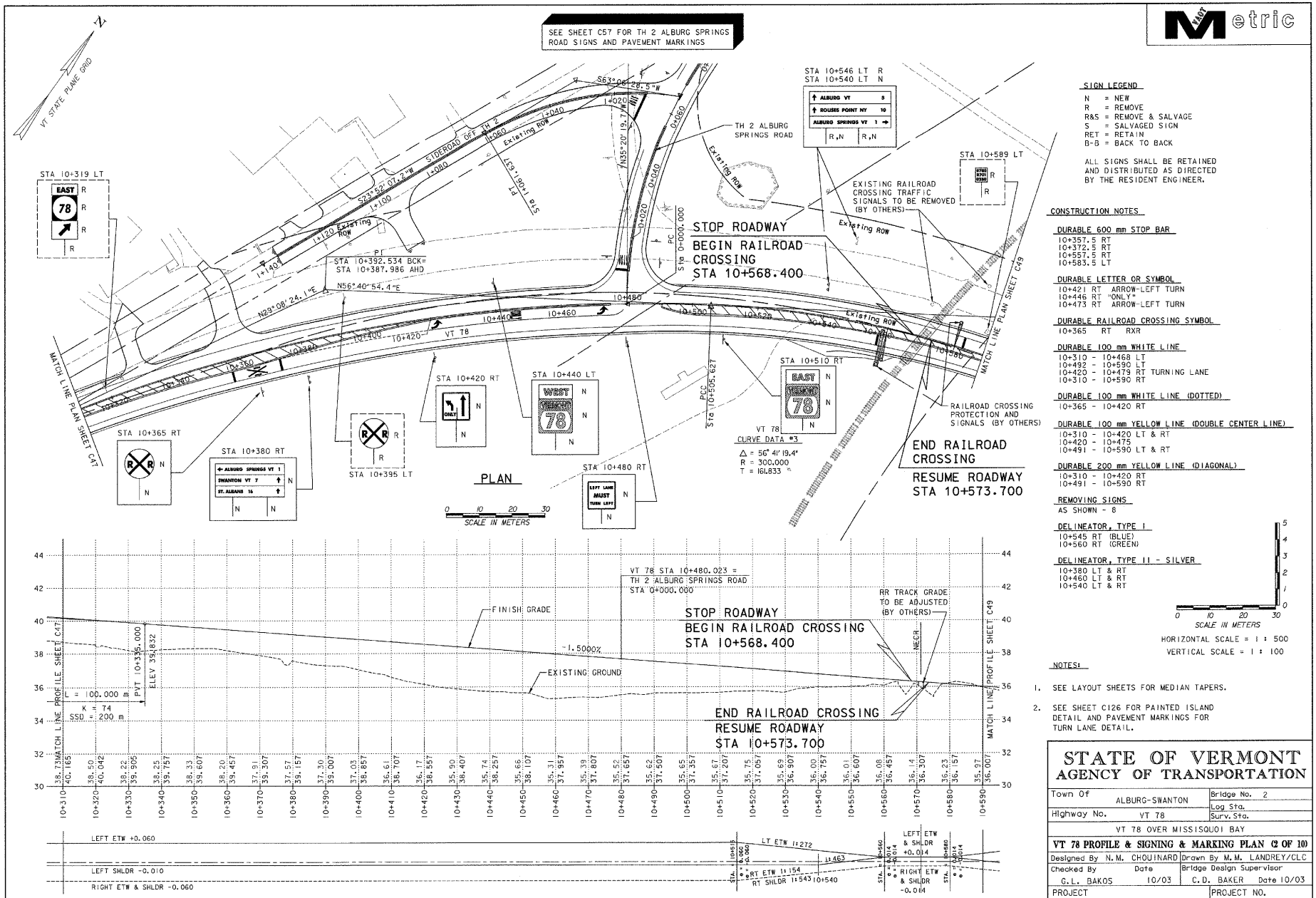
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
VT 78 PROFILE & SIGNING & MARKING PLAN (1 OF 10)	
Designed By N.M. CHOUINARD	Drawn By M.M. LANDREY/CLC
Checked By G.L. BAKOS Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
L.O.C. Info.	
File No. ZE072ST1	Sheet C47 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003



SIGN LEGEND

N = NEW
R = REMOVE
R&S = REMOVE & SALVAGE
S = SALVAGED SIGN
RET = RETAIN
B-B = BACK TO BACK

ALL SIGNS SHALL BE RETAINED AND DISTRIBUTED AS DIRECTED BY THE RESIDENT ENGINEER.

CONSTRUCTION NOTES

DURABLE 600 mm STOP BAR
10+357.5 RT
10+372.5 RT
10+557.5 RT
10+583.5 LT

DURABLE LETTER OR SYMBOL
10+421 RT ARROW-LEFT TURN
10+446 RT "ONLY"
10+473 RT ARROW-LEFT TURN

DURABLE RAILROAD CROSSING SYMBOL
10+365 RT RXR

DURABLE 100 mm WHITE LINE
10+310 - 10+468 LT
10+492 - 10+590 LT
10+420 - 10+479 RT TURNING LANE
10+310 - 10+590 RT

DURABLE 100 mm WHITE LINE (DOTTED)
10+365 - 10+420 RT

DURABLE 100 mm YELLOW LINE (DOUBLE CENTER LINE)
10+310 - 10+420 LT & RT
10+420 - 10+475
10+491 - 10+590 LT & RT

DURABLE 200 mm YELLOW LINE (DIAGONAL)
10+310 - 10+420 RT
10+491 - 10+590 RT

REMOVING SIGNS
AS SHOWN - 8

DELINEATOR, TYPE I
10+545 RT (BLUE)
10+560 RT (GREEN)

DELINEATOR, TYPE II - SILVER
10+380 LT & RT
10+460 LT & RT
10+540 LT & RT

0 10 20 30
SCALE IN METERS

HORIZONTAL SCALE = 1 : 500
VERTICAL SCALE = 1 : 100

NOTES:

1. SEE LAYOUT SHEETS FOR MEDIAN TAPERS.
2. SEE SHEET C126 FOR PAINTED ISLAND DETAIL AND PAVEMENT MARKINGS FOR TURN LANE DETAIL.

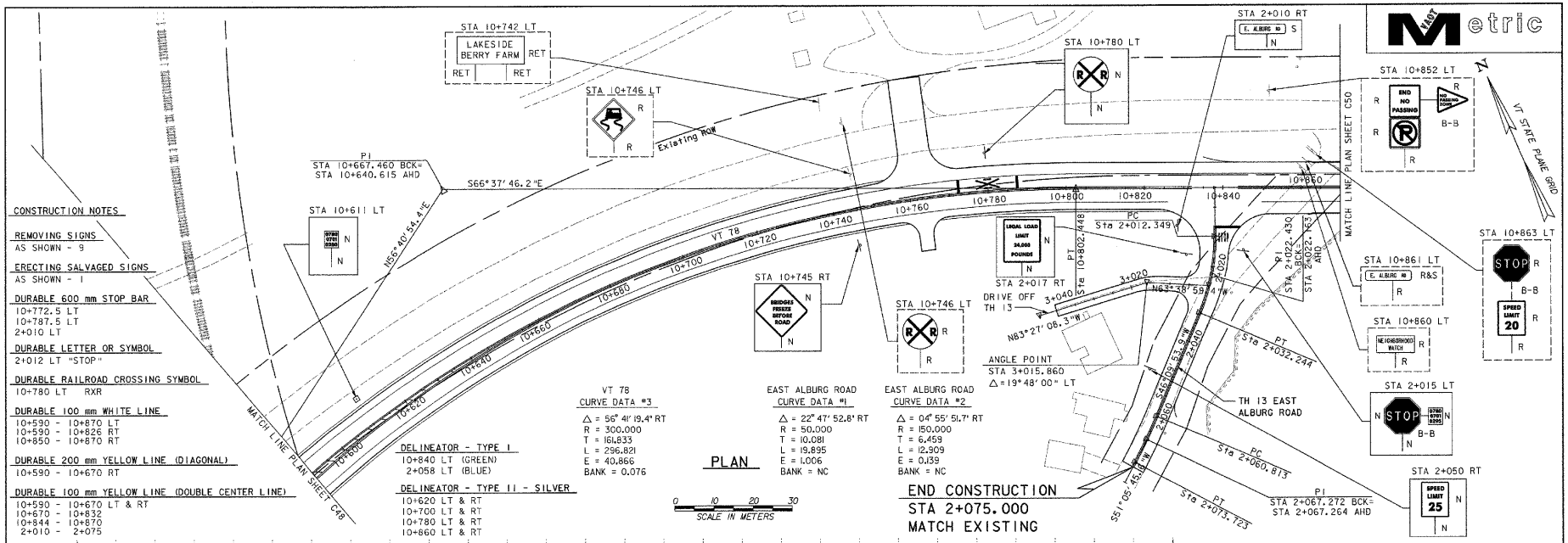
VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
VT 78 PROFILE & SIGNING & MARKING PLAN (2 OF 10)	
Designed By N.M. CHOUINARD	Drawn By M.M. LANDREY/CLC
Checked By C.L. BAKOS Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072ST2	Sheet C48 of C194

VHB NO. 5091

plot date: 10/23/2003
GO



CONSTRUCTION NOTES

REMOVING SIGNS
AS SHOWN - 9

ERECTING SALVAGED SIGNS
AS SHOWN - 1

DURABLE 600 mm STOP BAR
10+772.5 LT
10+787.5 LT
2+010 LT

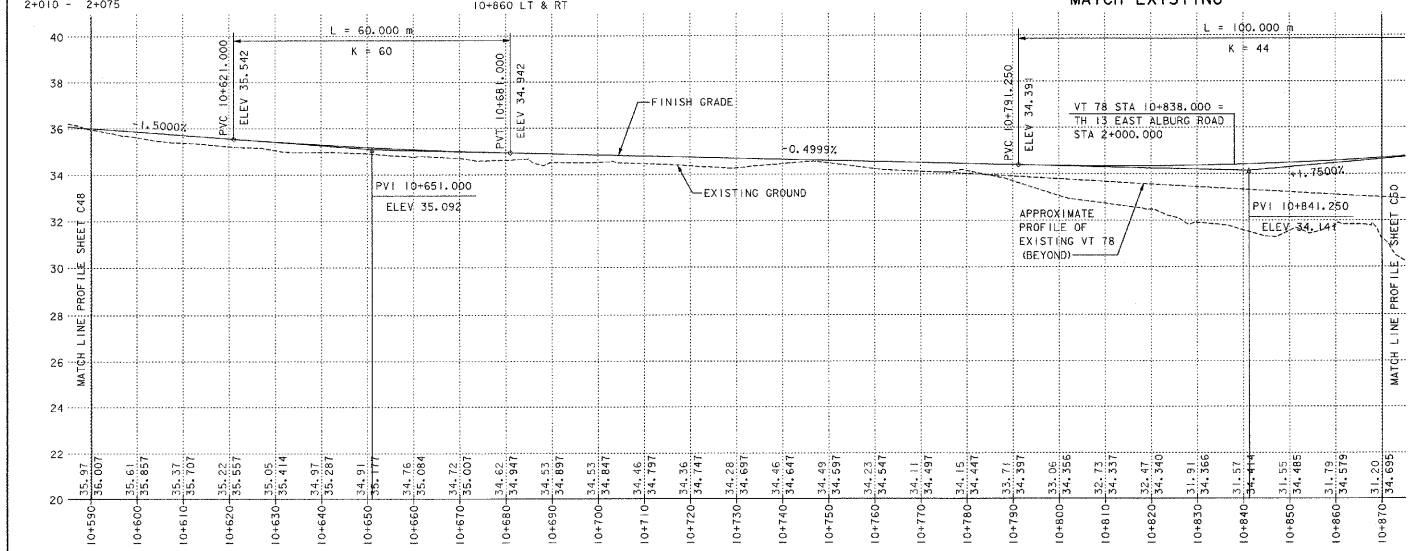
DURABLE LETTER OR SYMBOL
2+012 LT "STOP"

DURABLE RAILROAD CROSSING SYMBOL
10+780 LT RXR

DURABLE 100 mm WHITE LINE
10+590 - 10+870 LT
10+590 - 10+826 RT
10+850 - 10+870 RT

DURABLE 200 mm YELLOW LINE (DIAGONAL)
10+590 - 10+670 RT

DURABLE 100 mm YELLOW LINE (DOUBLE CENTER LINE)
10+590 - 10+670 LT & RT
10+670 - 10+832
10+844 - 10+870
2+010 - 2+075



PROFILE AND BANKING DIAGRAM

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

SIGN LEGEND
N = NEW
R = REMOVE
R&S = REMOVE & SALVAGE
S = SALVAGED SIGN
RET = RETAIN
B-B = BACK TO BACK

ALL SIGNS SHALL BE RETAINED AND DISTRIBUTED AS DIRECTED BY THE RESIDENT ENGINEER.

0 10 20 30
SCALE IN METERS

HORIZONTAL SCALE = 1 : 500
VERTICAL SCALE = 1 : 100

NOTE:
SEE LAYOUT SHEETS FOR MEDIAN TAPERS

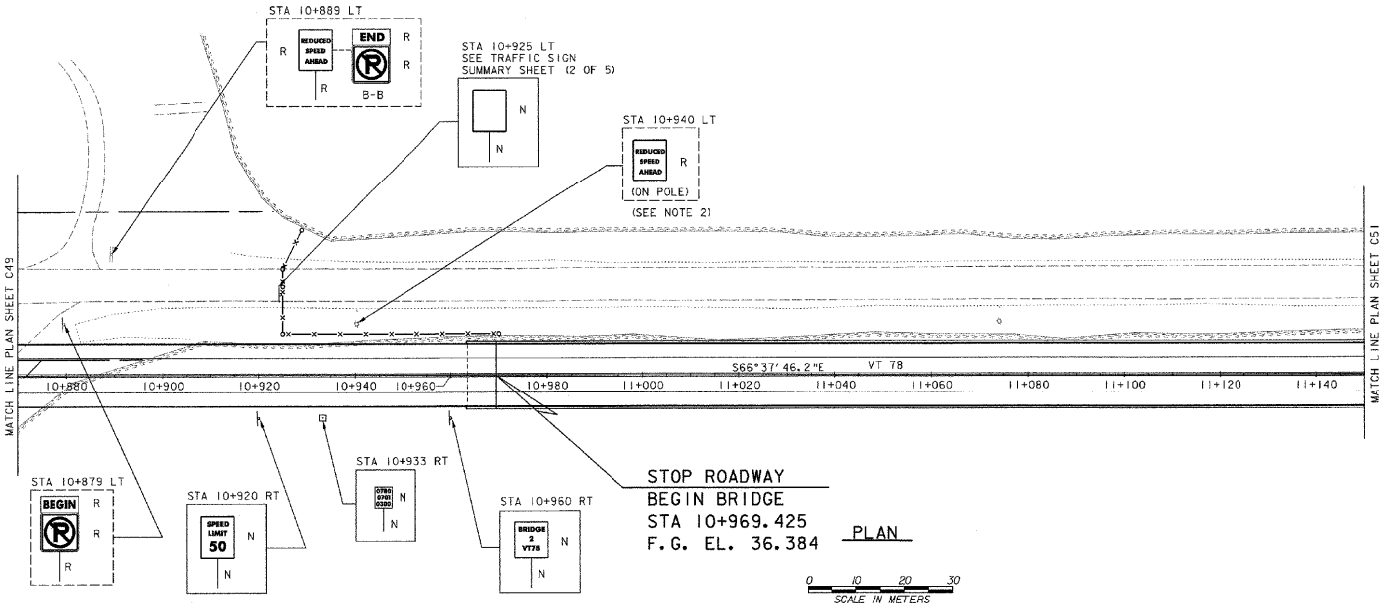
STATE OF VERMONT
AGENCY OF TRANSPORTATION

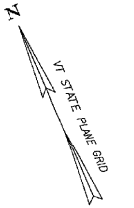
Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
VT 78 PROFILE & SIGNING & MARKING PLAN 6 OF 10	
Designed By N. M. CHOUINARD	Drawn By M. M. LANDREY/CLC
Checked By G. L. BAKOS Date 10/03	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
L.G.C. Info.	
File No. ZE072ST3	Sheet C49 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003





CONSTRUCTION NOTES

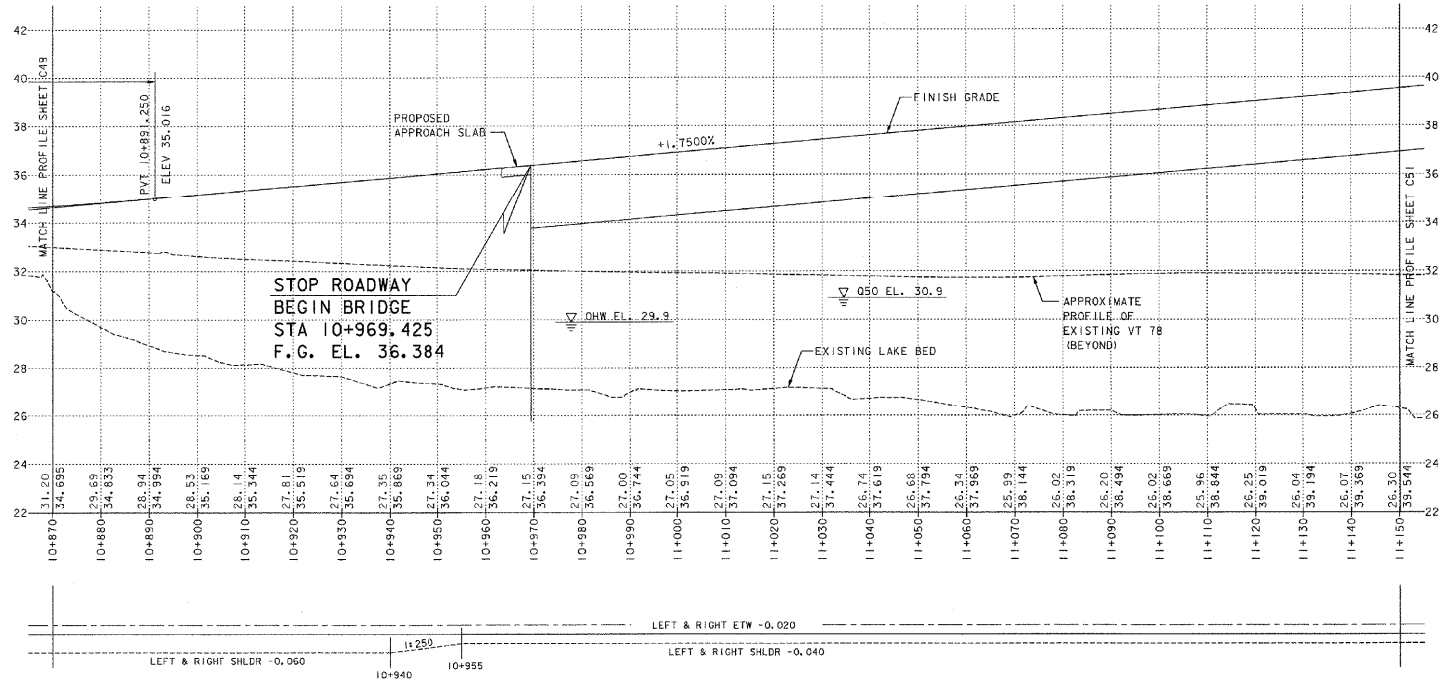
DURABLE 100 mm WHITE LINE
10+870 - 11+150 LT & RT

DURABLE 100 mm YELLOW LINE (DOUBLE CENTER LINE)
10+870 - 11+150

REMOVING SIGNS
AS SHOWN - 6

DELINEATOR - TYPE I
10+960 RT (GREEN)
10+960 LT (BLUE)

DELINEATOR - TYPE II - SILVER
~~10+940 LT & RT~~ ELIMINATED

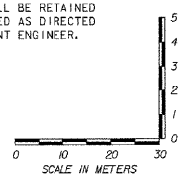


PROFILE AND BANKING DIAGRAM

SIGN LEGEND

N = NEW
R = REMOVE
R&S = REMOVE & SALVAGE
S = SALVAGED SIGN
RET = RETAIN
B-B = BACK TO BACK

ALL SIGNS SHALL BE RETAINED AND DISTRIBUTED AS DIRECTED BY THE RESIDENT ENGINEER.



HORIZONTAL SCALE = 1 : 500
VERTICAL SCALE = 1 : 100

NOTES:

1. SEE LAYOUT SHEETS FOR MEDIAN TAPERS.
2. PROPERLY REMOVE FLASHING YELLOW LIGHTS FROM POLE AND DISCONNECT ELECTRICAL CIRCUIT BACK TO EXISTING UTILITY POLE. COST SHALL BE INCLUDED IN ITEM 675.50, REMOVING SIGNS.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

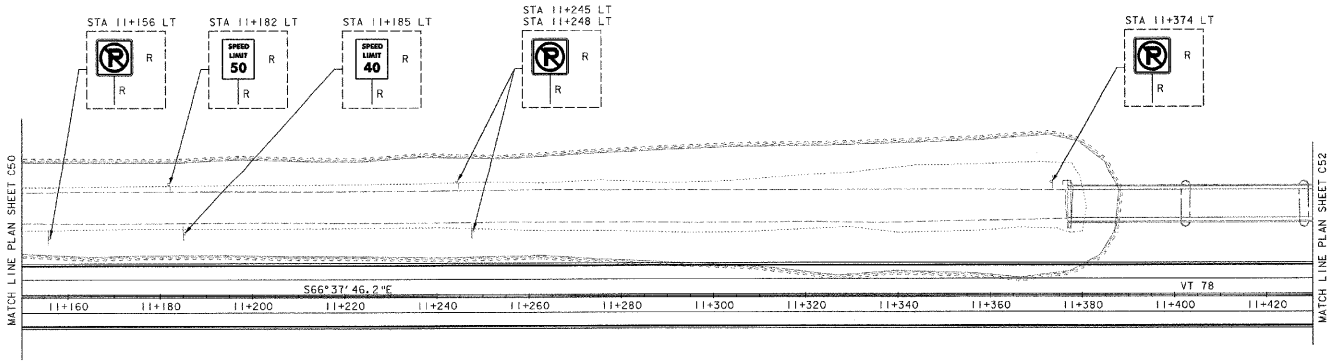
VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

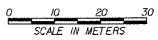
Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
VT 78 PROFILE & SIGNING & MARKING PLAN (4 OF 10)	
Designed By N.M CHOUINARD	Drawn By W.M. LANDREY/CLC
Checked By G.L. BAKOS Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072ST4	Sheet C50 of C194

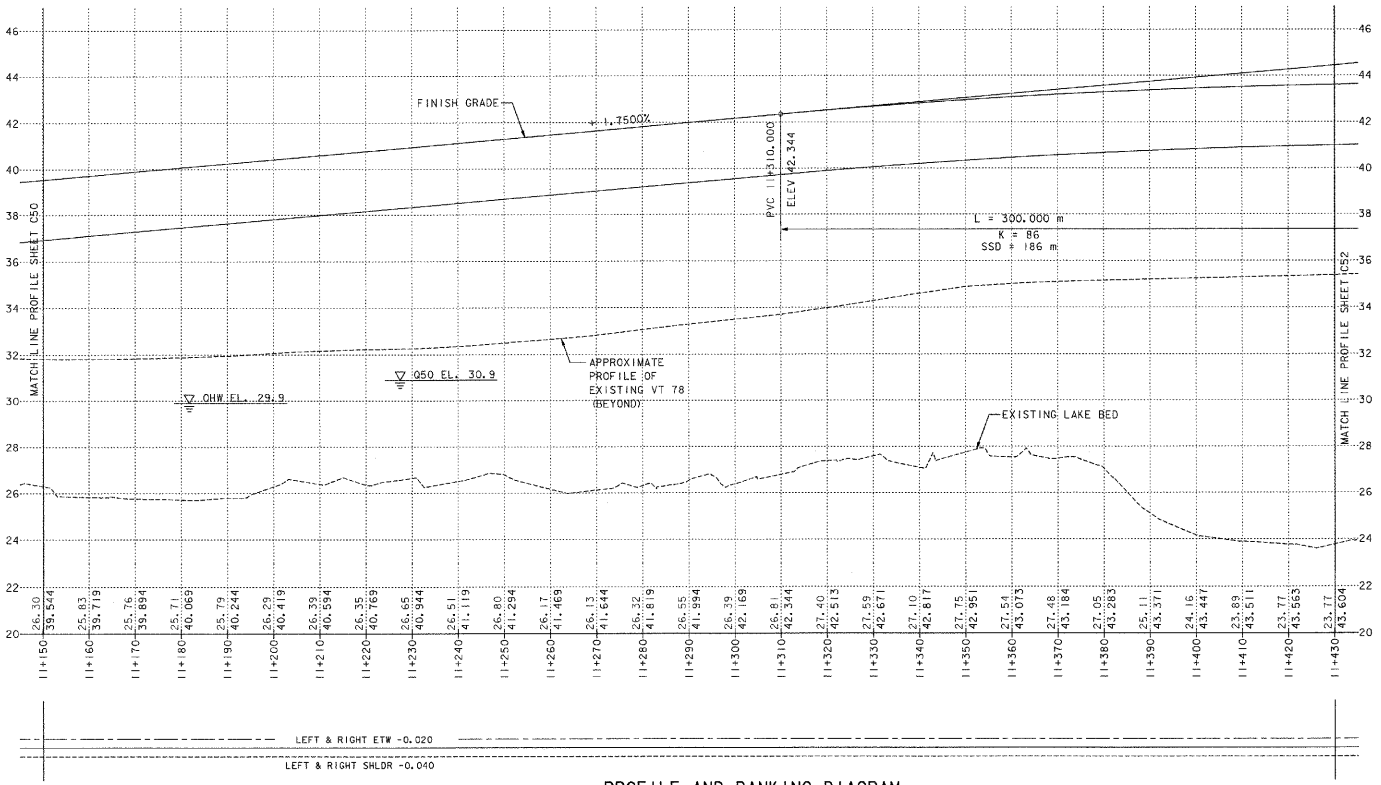
VHB NO. 5098

plot date: 10/31/2003



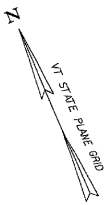
PLAN





PROFILE AND BANKING DIAGRAM

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)



CONSTRUCTION NOTES

DURABLE 100 mm WHITE LINE
11+150 - 11+430 LT & RT

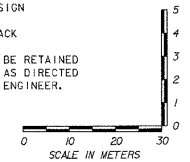
DURABLE 100 mm YELLOW LINE (DOUBLE CENTER LINE)
11+150 - 11+430

REMOVING SIGNS
AS SHOWN - 6

SIGN LEGEND

N = NEW
R = REMOVE
R&S = REMOVE & SALVAGE
S = SALVAGED SIGN
RET = RETAIN
B-B = BACK TO BACK

ALL SIGNS SHALL BE RETAINED AND DISTRIBUTED AS DIRECTED BY THE RESIDENT ENGINEER.



HORIZONTAL SCALE = 1 : 500
VERTICAL SCALE = 1 : 100

NOTE:
SEE LAYOUT SHEETS FOR MEDIAN TAPERS

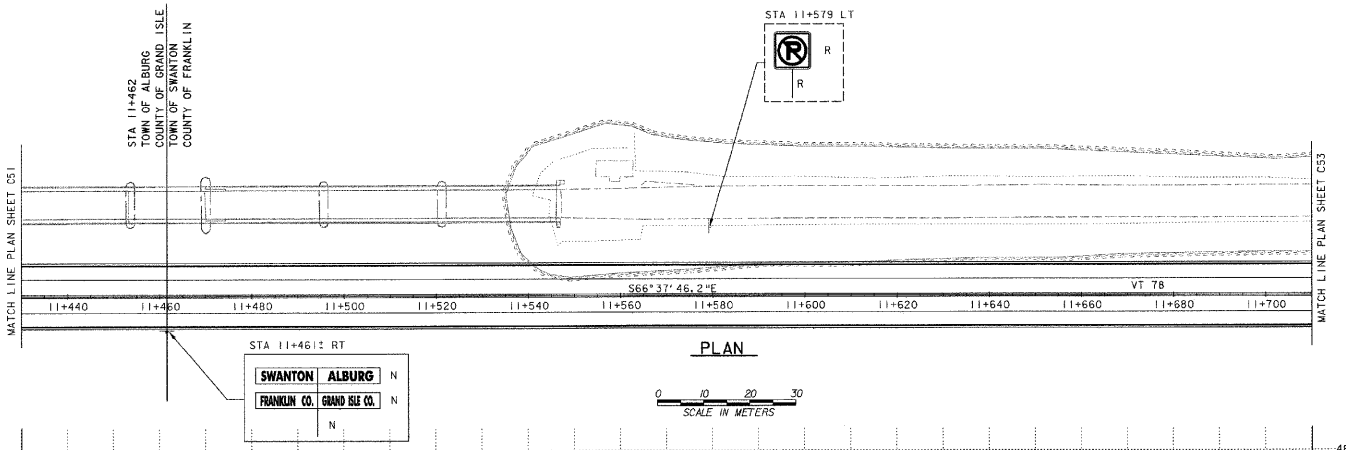
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
VT 78 PROFILE & SIGNING & MARKING PLAN (5 OF 10)	
Designed By N.M CHOUINARD	Drawn By M.M. LANDREY/CLC
Checked By G.L. BAKOS Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.C.C. Info.	
File No. ZE072ST5	Sheet C51 of C194

VANASSE HANGEN BRUSTLIN, INC.

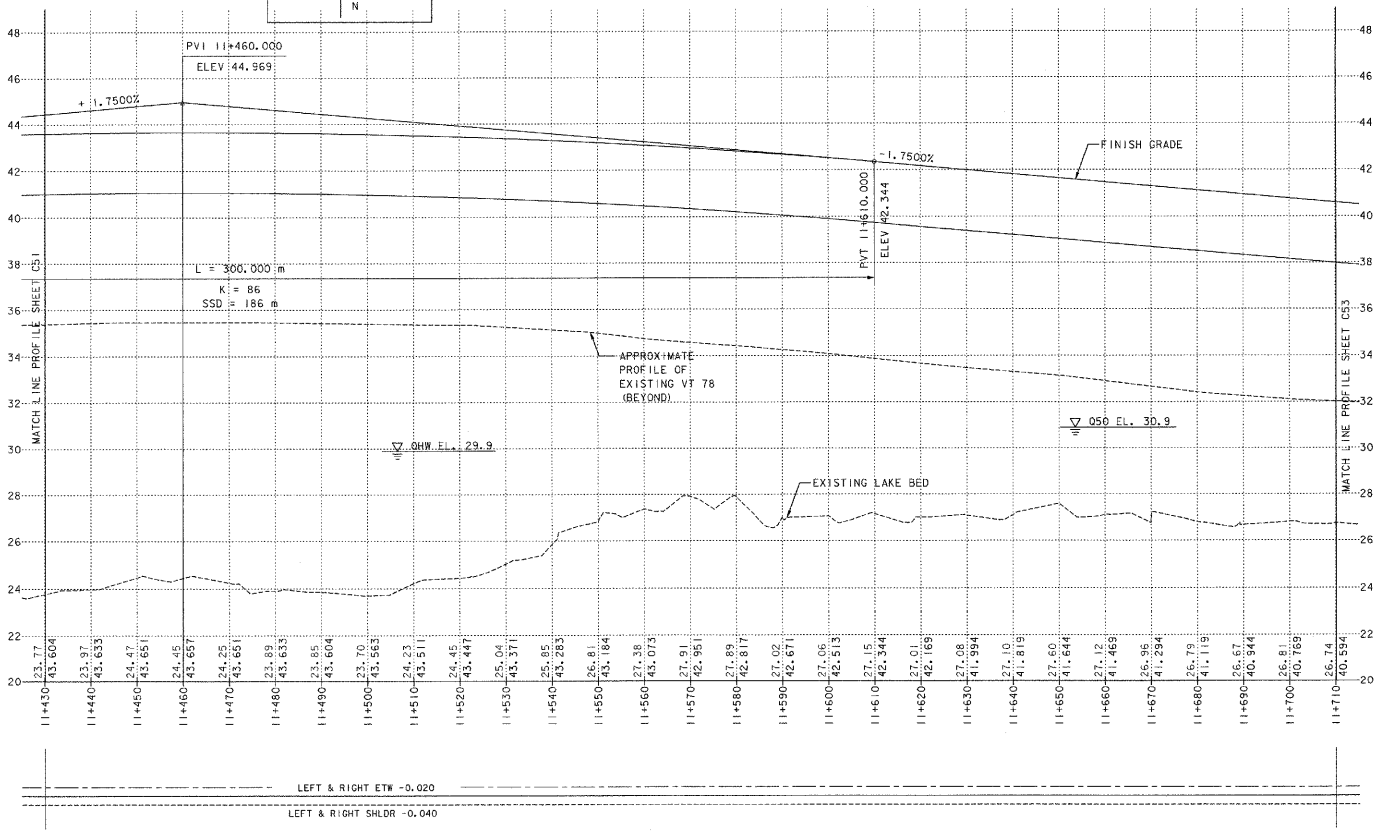
VHB NO. 5098

plot date: 10/23/2003



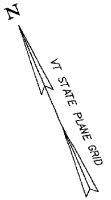
PLAN

0 10 20 30
SCALE IN METERS



PROFILE AND BANKING DIAGRAM

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)



CONSTRUCTION NOTES

DURABLE 100 mm WHITE LINE
11+430 - 11+710 LT & RT

DURABLE 100 mm YELLOW LINE (DOUBLE CENTER LINE)
11+430 - 11+710

REMOVING SIGNS
AS SHOWN - 1

SIGN LEGEND
N = NEW
R = REMOVE
R&S = REMOVE & SALVAGE
S = SALVAGED SIGN
RET = RETAIN
B-B = BACK TO BACK

ALL SIGNS SHALL BE RETAINED AND DISTRIBUTED AS DIRECTED BY THE RESIDENT ENGINEER.

0 10 20 30
SCALE IN METERS
0 1 2 3 4 5

HORIZONTAL SCALE = 1 : 500
VERTICAL SCALE = 1 : 100

NOTE:
SEE LAYOUT SHEETS FOR MEDIAN TAPERS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

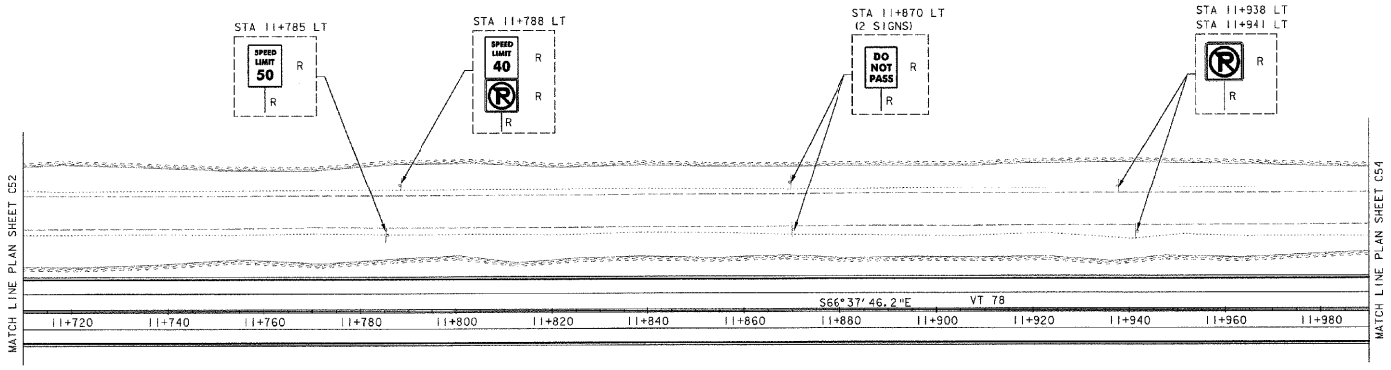
Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
VT 78 PROFILE & SIGNING & MARKING PLAN (6 OF 10)	
Designed By N. M. CHOUINARD	Drawn By M. M. LANDREY/CLC
Checked By G. L. BAKOS Date 10/03	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072ST6	Sheet C52 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

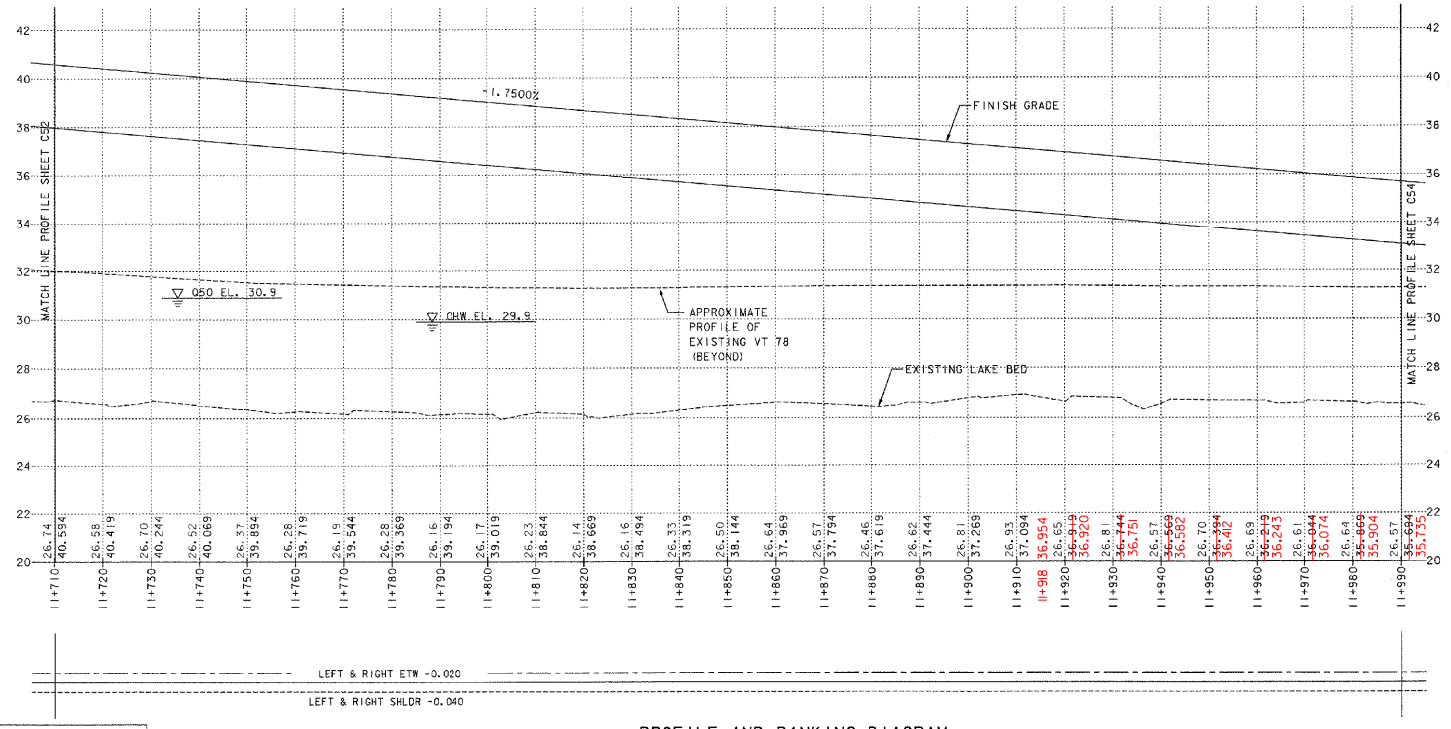
plot date: 10/23/2003

64



PLAN

0 10 20 30
SCALE IN METERS



PROFILE AND BANKING DIAGRAM

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

Metric

N
VT STATE PLANE GRID

CONSTRUCTION NOTES

DURABLE 100 mm WHITE LINE
11+710 - 11+990 LT & RT

DURABLE 100 mm YELLOW LINE (DOUBLE CENTER LINE)
11+710 - 11+990

REMOVING SIGNS
AS SHOWN - 7

SIGN LEGEND

N = NEW
R = REMOVE
R&S = REMOVE & SALVAGE
S = SALVAGED SIGN
RET = RETAIN
B-B = BACK TO BACK

ALL SIGNS SHALL BE RETAINED AND DISTRIBUTED AS DIRECTED BY THE RESIDENT ENGINEER.

0 10 20 30
SCALE IN METERS

HORIZONTAL SCALE = 1 : 500
VERTICAL SCALE = 1 : 100

NOTE:
SEE LAYOUT SHEETS FOR MEDIAN TAPERS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
VT 78 PROFILE & SIGNING & MARKING PLAN (7 OF 10)	
Designed By N. M. CHOUINARD	Drawn By M. M. LANDREY/CLC
Checked By G. L. BAKOS Date 10/03	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072ST7	Sheet C53 of C194

VHB NO. 5091

plot date: 10/23/2003

65

Metric

CONSTRUCTION NOTES

DURABLE LETTER OR SYMBOL
12+244 RT "STOP"

DURABLE 100 mm WHITE LINE
11+990 - 12+270 LT
11+990 RT - 12+239 RT 24.0 m
12+245 RT 24.0 m - 12+270 RT

DURABLE 100 mm YELLOW LINE (DOUBLE CENTER LINE)
11+990 - 12+237
12+243 RT 12.0 m - 12+244 RT 24.0 m
12+249 - 12+270

DELINEATOR - TYPE I
12+070 LT (GREEN)
12+070 RT (BLUE)
12+170 RT (GREEN)
12+225 LT (BLUE)

DELINEATOR - TYPE II - SILVER
~~12+100 LT & RT~~
~~12+180 LT & RT~~
12+260 ~~LT~~ & RT

STA 12+065 LT
SEE TRAFFIC SIGN SUMMARY SHEET (2 OF 5)

STA 12+111 LT

STA 12+120 LT
SPEED LIMIT 50

STA 12+183 LT
STA 12+196 LT
REDUCED SPEED AHEAD

STA 12+196 LT
(SEE NOTE 2)

FOR BOAT RAMP AREA SIGNING AND MARKING PLAN, SEE SHEET C61

STA 12+235 LT
STA 12+251 LT
DO NOT ENTER

STA 12+268 LT
DO NOT PASS
BEGIN

STA 12+237 LT
LEGAL LOAD LIMIT 34,000 POUNDS

STA 12+268 LT
END NO PASSING
END
NO PASSING ZONE
B-B

STA 12+249 LT
LAKEWOOD DR R&S
STOP

STA 12+253 RT
LAKEWOOD DR S

STA 12+250 RT
STOP
B-B

STA 12+237 RT

STA 12+238 RT R
STA 12+235,
54 m RT N
SPEED LIMIT 30
R,N

Existing ROW

MATCH LINE PLAN SHEET C53

MATCH LINE PLAN SHEET C55

VT STATE PLANE GRID

12+060

S66°37'46.2"E

VT 78

12+000 12+020 12+040 12+060 12+080 12+100 12+120 12+140 12+160 12+180 12+200 12+220 12+240 12+260

END BRIDGE
RESUME ROADWAY
STA 12+060.775
F.G. EL. 34.455

STA 12+070 LT
BRIDGE 2 VT78

STA 12+115

STA 12+236,
21 m RT
LEGAL LOAD LIMIT 34,000 POUNDS

STA 12+236,
36 m RT

LAKEWOOD DRIVE

PLAN

0 10 20 30
SCALE IN METERS

REMOVING SIGNS
AS SHOWN - 16

ERECTING SALVAGED SIGNS
AS SHOWN - 1

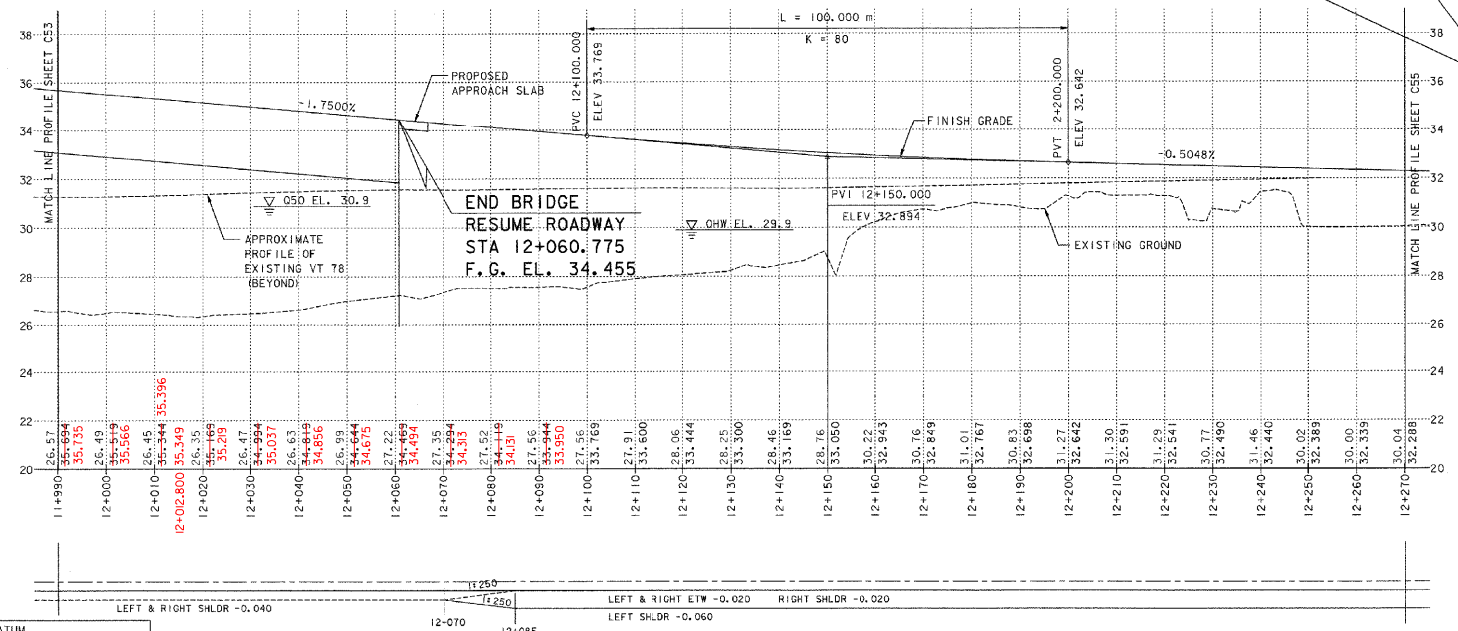
DURABLE 600 mm STOP BAR
12+244 RT

SIGN LEGEND
N = NEW
R = REMOVE
R&S = REMOVE & SALVAGE
S = SALVAGED SIGN
RET = RETAIN
B-B = BACK TO BACK

ALL SIGNS SHALL BE RETAINED AND DISTRIBUTED AS DIRECTED BY THE RESIDENT ENGINEER.

0 10 20 30
SCALE IN METERS

HORIZONTAL SCALE = 1 : 500
VERTICAL SCALE = 1 : 100



PROFILE AND BANKING DIAGRAM

HORIZONTAL SCALE = 1 : 500
VERTICAL SCALE = 1 : 100

NOTES:
1. SEE LAYOUT SHEETS FOR MEDIAN TAPERS.
2. PROPERLY REMOVE FLASHING YELLOW LIGHTS FROM POLE AND DISCONNECT ELECTRICAL CIRCUIT BACK TO EXISTING UTILITY POLE. COST SHALL BE INCLUDED IN ITEM 675.50, REMOVING SIGNS.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

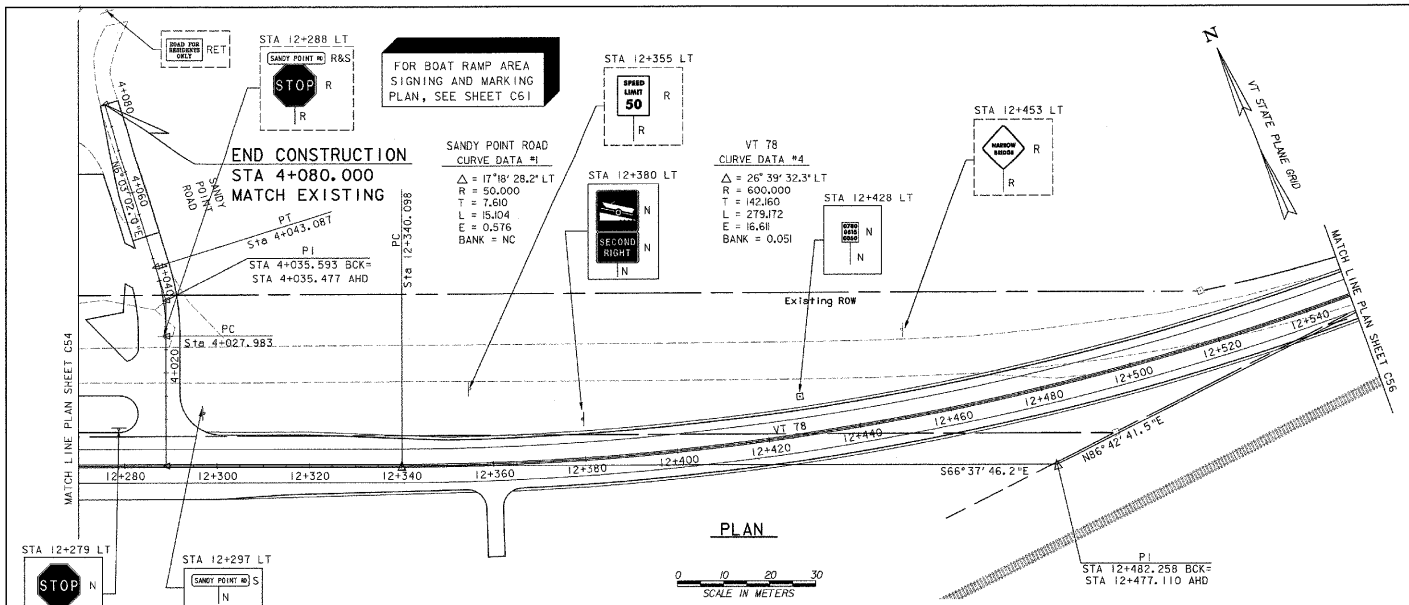
VANASSE HANGEN BRUSTLIN, INC.

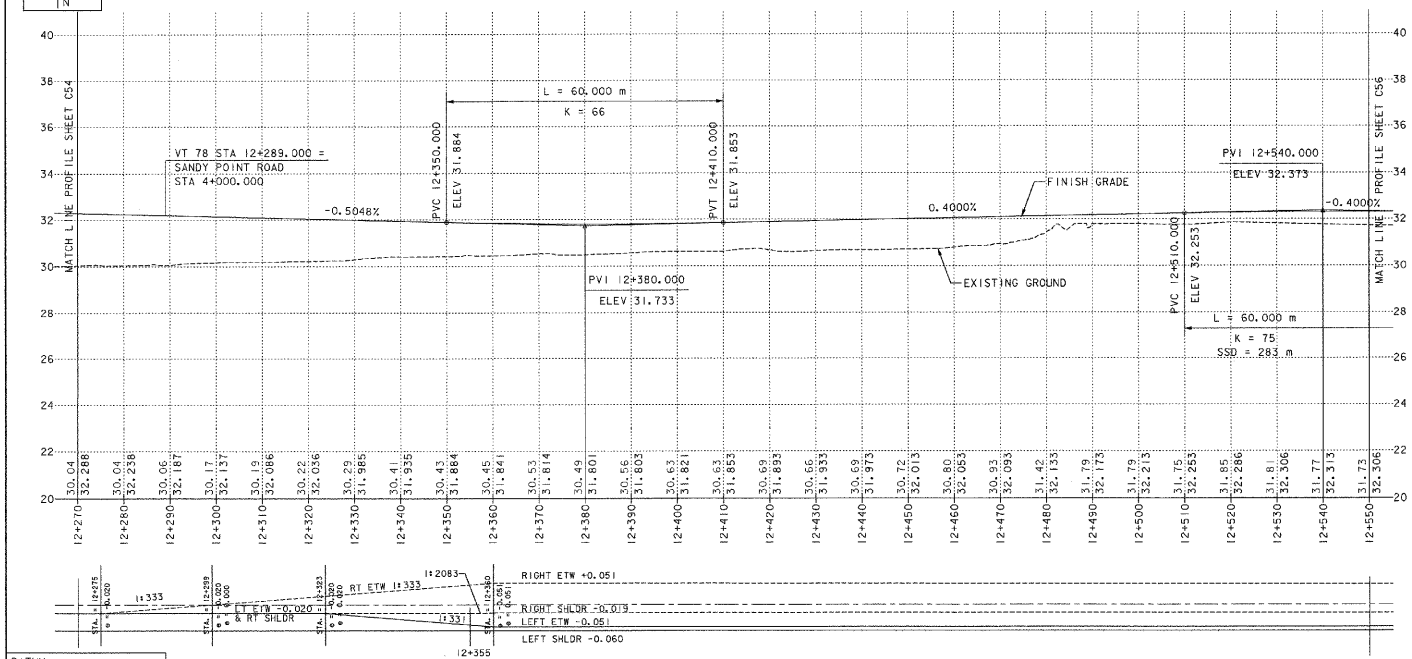
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
VT 78 PROFILE & SIGNING & MARKING PLAN (8 OF 10)	
Designed By N.M. CHOUINARD	Drawn By M.M. LANDREY/CLC
Checked By G.L. BAKOS Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072ST8	Sheet C54 of C194

VHB NO. 50911

plot date: 10/31/2003





PROFILE AND BANKING DIAGRAM

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

Metric

CONSTRUCTION NOTES

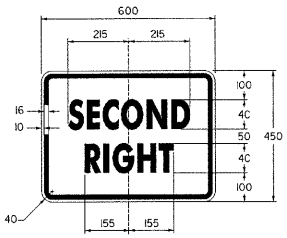
DURABLE 100 mm WHITE LINE
12+270 - 12+550 LT & RT

DURABLE 100 mm YELLOW LINE (DOUBLE CENTER LINE)
12+270 - 12+550

REMOVING SIGNS
AS SHOWN - 4

ERECTING SALVAGED SIGNS
AS SHOWN - 1

DELINEATOR - TYPE II - SILVER
12+340 LT & RT
12+420 LT & RT
12+500 LT & RT



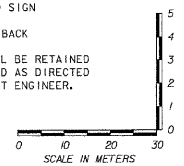
VD-513

COLORS
LEGEND & BORDER - WHITE (REFLECTORIZED)
BACKGROUND - BROWN (NON-REFLECTORIZED)

TRAFFIC SIGN DETAIL
NOT TO SCALE

SIGN LEGEND
N = NEW
R = REMOVE
R&S = REMOVE & SALVAGE
S = SALVAGED SIGN
RET = RETAIN
B-B = BACK TO BACK

ALL SIGNS SHALL BE RETAINED AND DISTRIBUTED AS DIRECTED BY THE RESIDENT ENGINEER.



HORIZONTAL SCALE = 1 : 500
VERTICAL SCALE = 1 : 100

NOTE:
SEE LAYOUT SHEETS FOR MEDIAN TAPERS

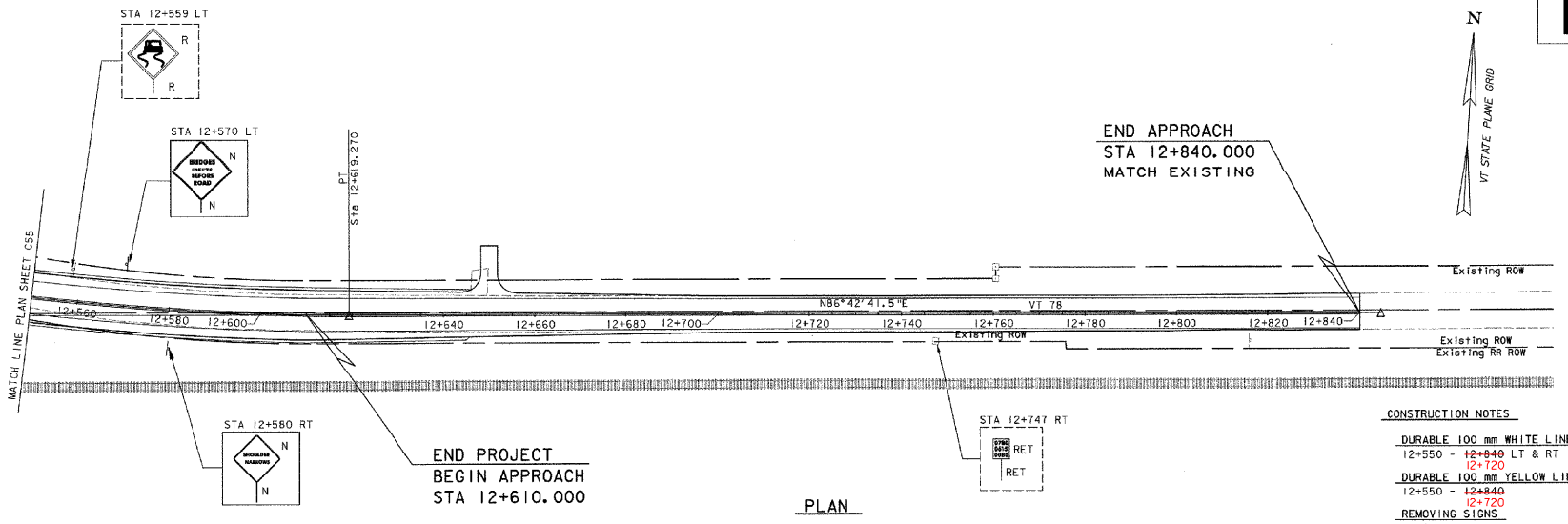
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
VT 78 PROFILE & SIGNING & MARKING PLAN (9 OF 10)	
Designed By N. M. CHOUINARD	Drawn By M. M. LANDREY/CLC
Checked By G. L. BAKOS Date 10/03	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072ST9	Sheet C55 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091I

plot date: 10/23/2003



PLAN

0 10 20 30
SCALE IN METERS

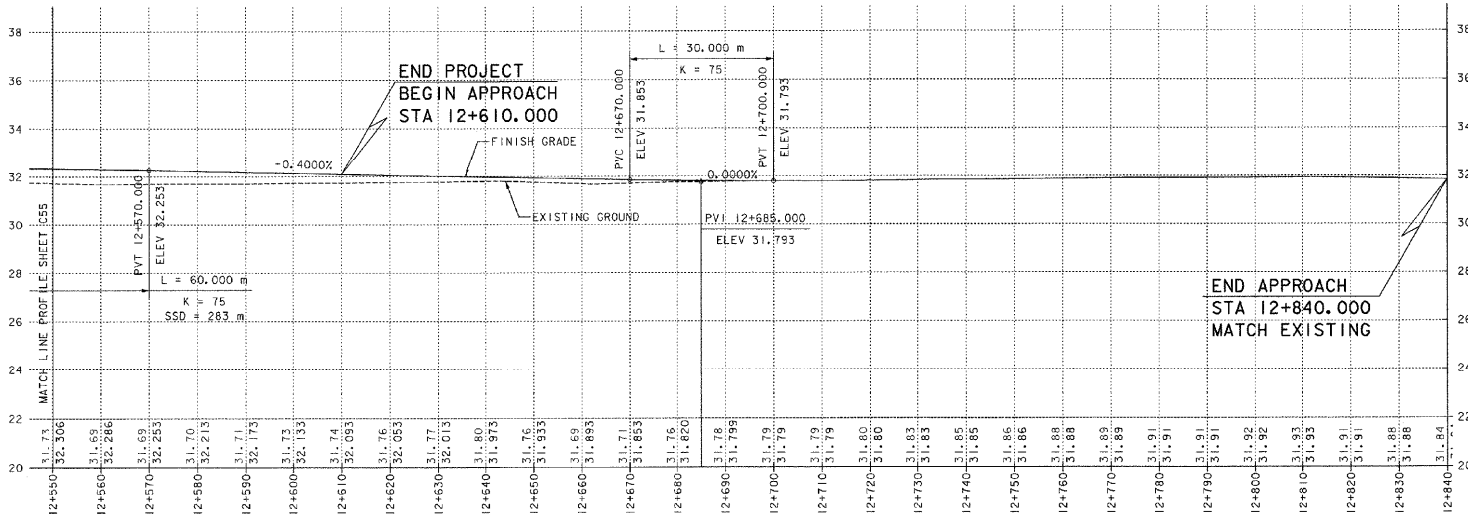
CONSTRUCTION NOTES

DURABLE 100 mm WHITE LINE
12+550 - ~~12+840~~ LT & RT
12+720

DURABLE 100 mm YELLOW LINE (DOUBLE CENTER LINE)
12+550 - ~~12+840~~
12+720

REMOVING SIGNS
AS SHOWN - 1

DELINEATORS - TYPE II - SILVER
12+580 LT & RT
12+660 LT & RT
12+700 ~~12+740~~ LT & RT
12+720 ~~12+820~~ LT & RT



PROFILE AND BANKING DIAGRAM

SIGN LEGEND

N = NEW
R = REMOVE
R&S = REMOVE & SALVAGE
S = SALVAGED SIGN
RET = RETAIN
B-B = BACK TO BACK

ALL SIGNS SHALL BE RETAINED AND DISTRIBUTED AS DIRECTED BY THE RESIDENT ENGINEER.

0 10 20 30
SCALE IN METERS

HORIZONTAL SCALE = 1 : 500
VERTICAL SCALE = 1 : 100

NOTE:
SEE LAYOUT SHEETS FOR MEDIAN TAPERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

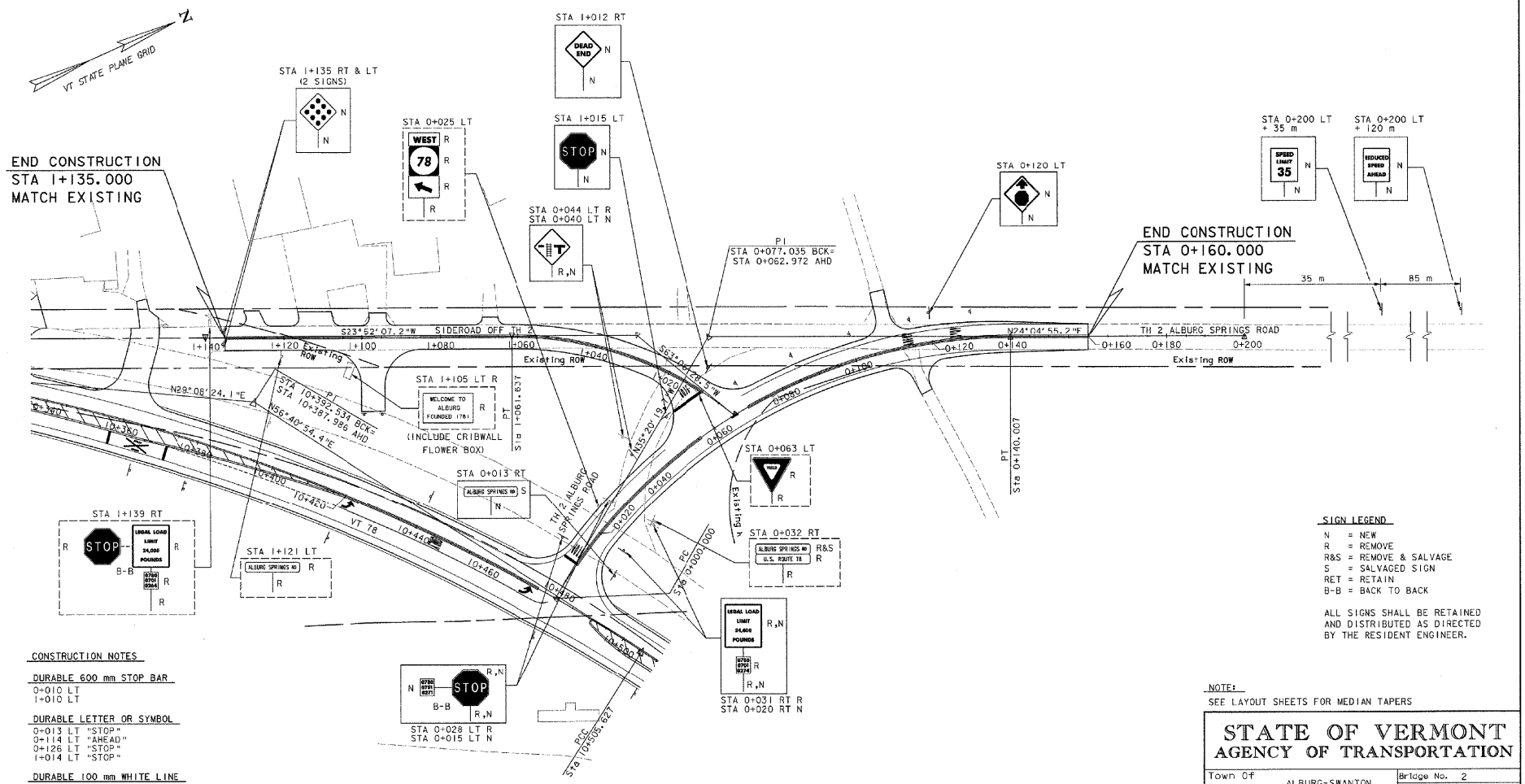
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
VT 78 PROFILE & SIGNING & MARKING PLAN (10 OF 10)	
Designed By N.M. CHOUINARD	Drawn By M.M. LANDREY/CLC
Checked By G.L. BAKOS Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072ST10	Sheet C56 of C194

VHB NO. 50911

plot date: 10/23/2003

68



CONSTRUCTION NOTES

DURABLE 600 mm STOP BAR
0+010 LT
1+010 LT

DURABLE LETTER OR SYMBOL
0+013 LT "STOP"
0+114 LT "AHEAD"
0+126 LT "STOP"
1+014 LT "STOP"

DURABLE 100 mm WHITE LINE
10+468 LT - 0+046 LT
0+070 LT - 0+160 LT
10+492 LT - 0+160 RT

DURABLE 100 mm YELLOW LINE (DOUBLE CENTER LINE)
0+010 - 0+056
0+070 - 0+160
1+010 - ~~1+135~~ 1+090

REMOVING SIGNS
AS SHOWN - 15

ERECTING SALVAGED SIGNS
AS SHOWN - 1

DELINEATORS - TYPE II - SILVER
0+070 LT
0+085 LT
0+100 LT
0+115 LT
0+130 LT
1+094 LT
1+100 LT

SIGN LEGEND

N = NEW
R = REMOVE
R&S = REMOVE & SALVAGE
S = SALVAGED SIGN
RET = RETAIN
B-B = BACK TO BACK

ALL SIGNS SHALL BE RETAINED AND DISTRIBUTED AS DIRECTED BY THE RESIDENT ENGINEER.

NOTE:
SEE LAYOUT SHEETS FOR MEDIAN TAPERS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
TH 2 SIGNING & MARKING PLAN	
Designed By N. M. CHOUINARD	Drawn By M. M. LANDREY
Checked By G. L. BAKOS Date 10/03	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (11)
I.G.C. Info.	
File No. ZE072ST11	Sheet C57 of C194

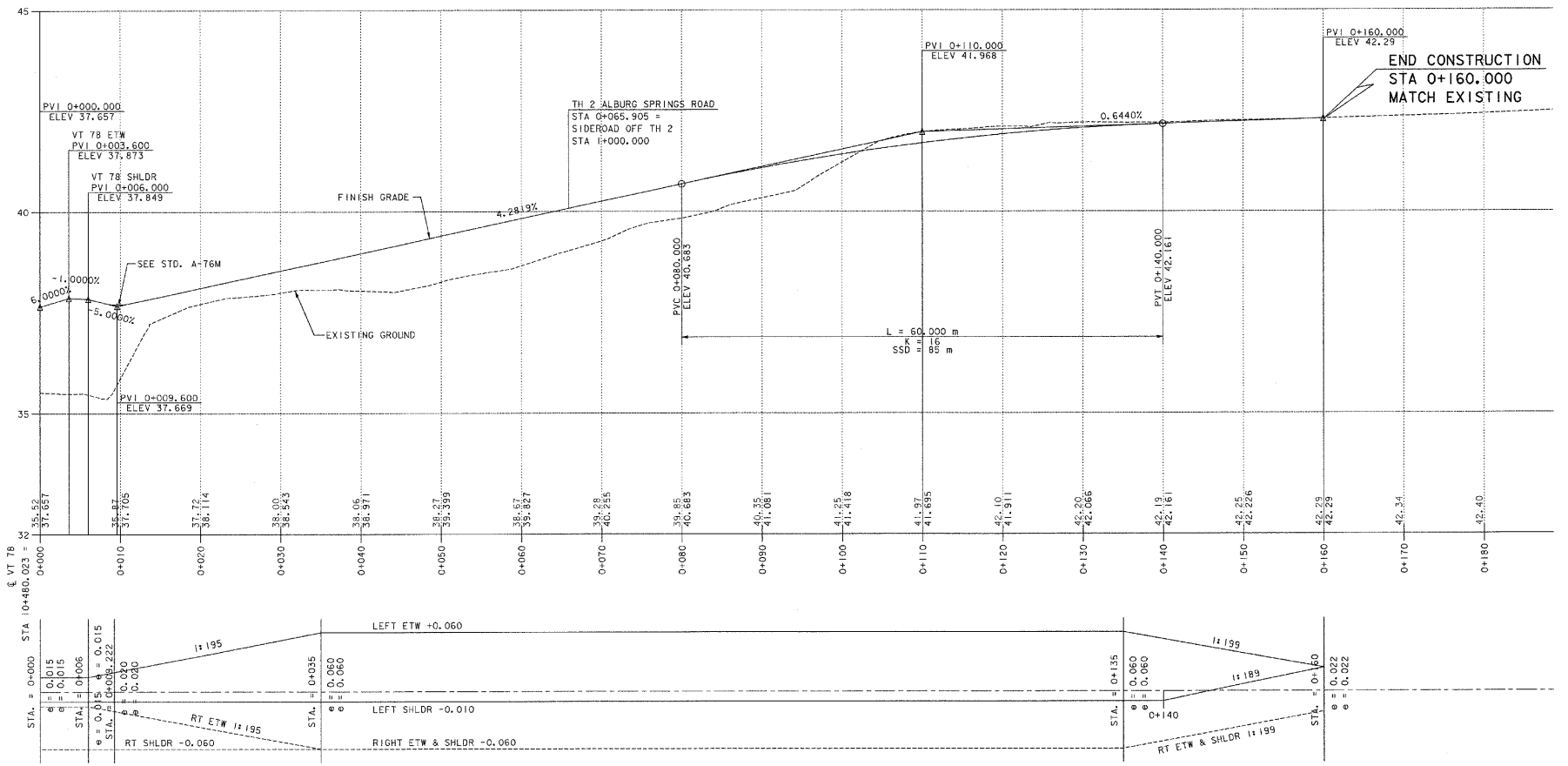
VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

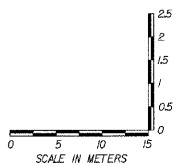
plot date: 10/23/2003

TH 2 Alburg Springs Road

Metric



PROFILE AND BANKING DIAGRAM



HORIZONTAL SCALE = 1 : 250
VERTICAL SCALE = 1 : 50

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
TH 2 ALBURG SPRINGS ROAD PROFILE	
Designed By S.P. KULLEN	Drawn By C.L. CILLEY
Checked By S.W. BEKIER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. info.	
File No. ZE072PR1	Sheet C58 of C194

VHB NO. 50911

plot date: 10/23/2003

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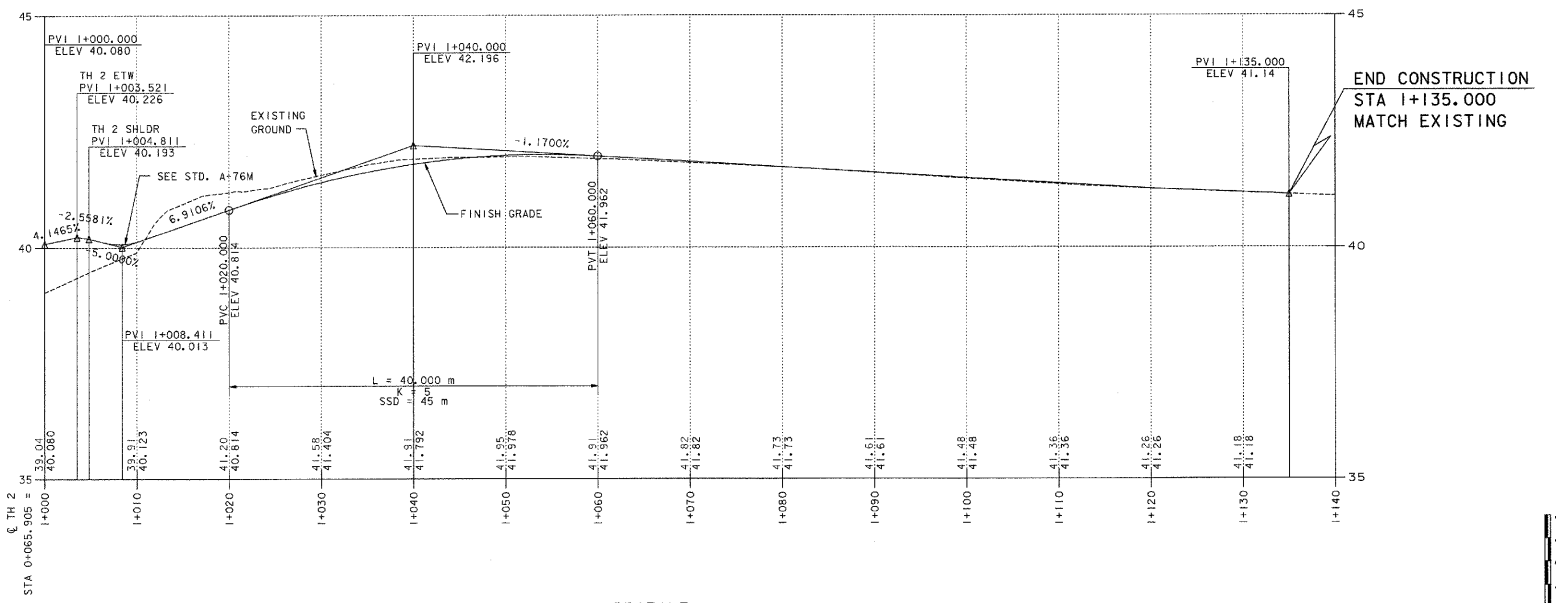
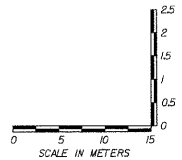
Sideroad off TH 2 Alburg Springs Road



PROFILE



HORIZONTAL SCALE = 1 : 250
VERTICAL SCALE = 1 : 50

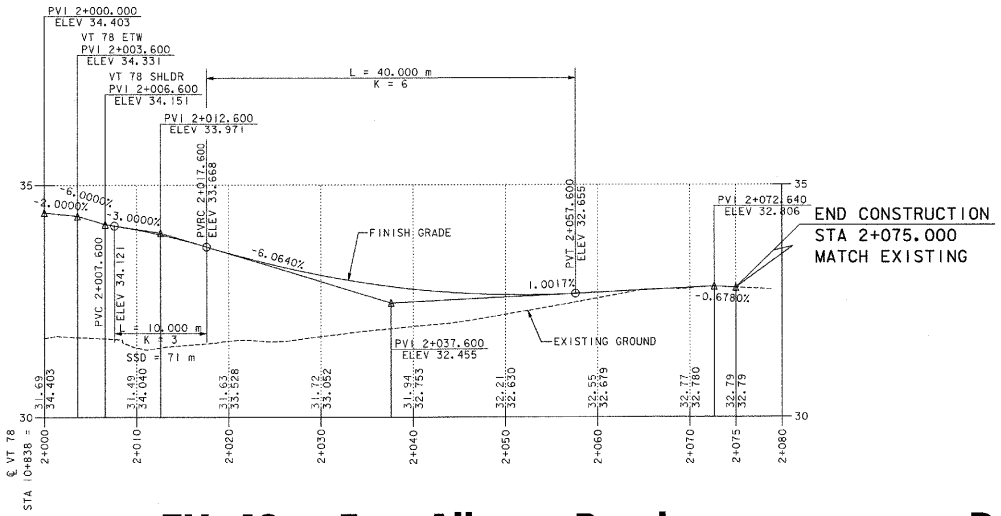
DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

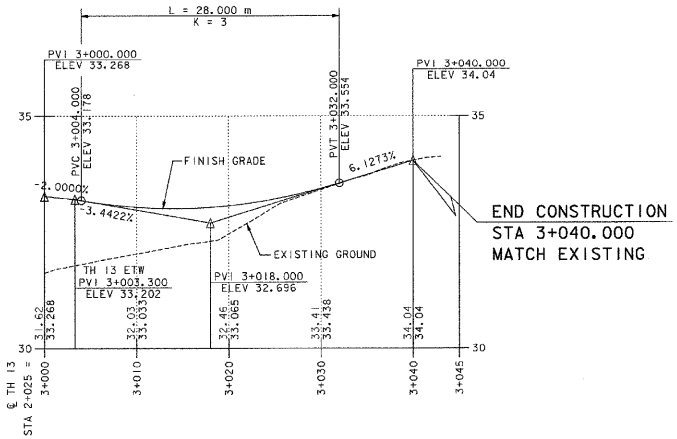
STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
SIDEROAD OFF ALBURG SPRINGS RD PROFILE	
Designed By S.P. KULLEN	Drawn By C.L. CILLEY
Checked By S.W. BEKIER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072PR2	Sheet C59 of C194

VHB NO. 5091

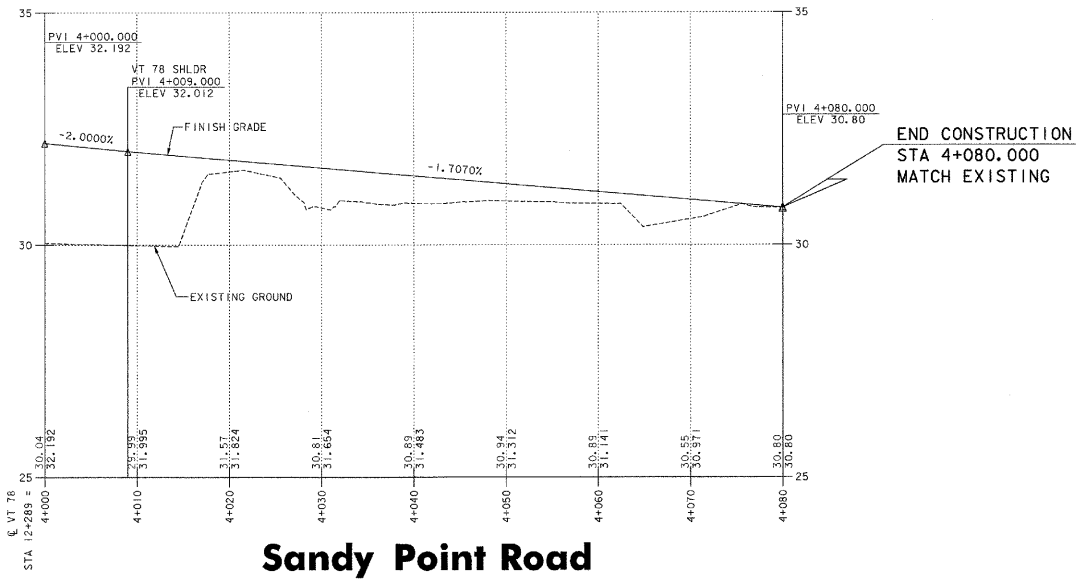
plot date: 10/23/2003



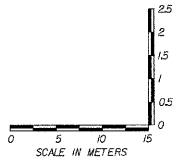
TH 13 – East Alburg Road



Drive off TH 13 – East Alburg Road



Sandy Point Road



HORIZONTAL SCALE = 1 : 250
VERTICAL SCALE = 1 : 50

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

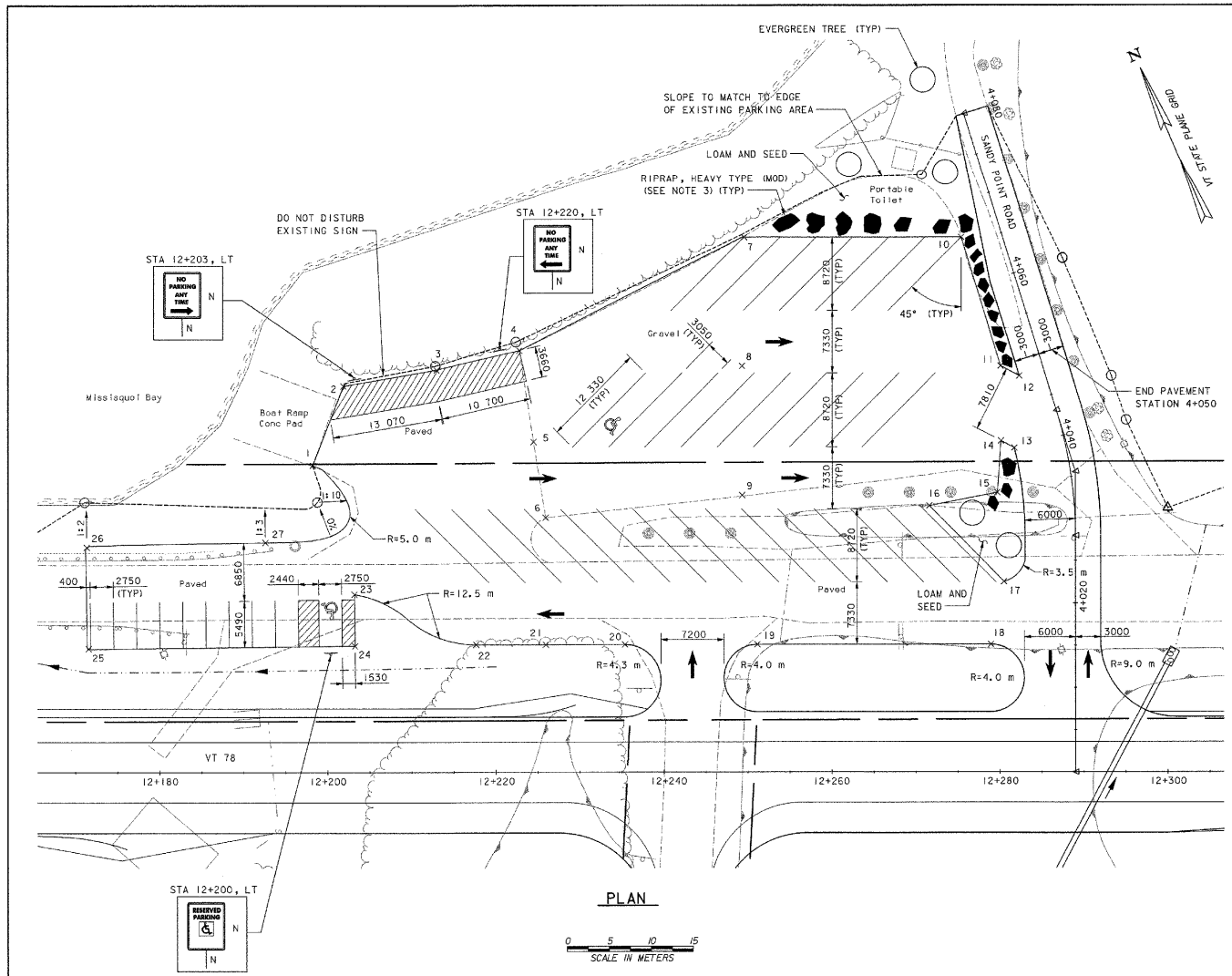
VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
SIDEROAD & DRIVE PROFILES	
Designed By S.P. KULLEN	Drawn By C.L. CILLEY
Checked By S.W. BEKIER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
L.G.C. Info.	
File No. ZE072PR3	Sheet C60 of C194

VHB NO. 50981

plot date: 10/23/2003



PLAN

NOTES:

1. DESIGN AND LAYOUT OF BOAT RAMP PARKING AREA PROVIDED BY VERMONT AGENCY OF NATURAL RESOURCES (VANR), DEPARTMENT OF FISH AND WILDLIFE.
2. REGRADE EXISTING BOAT RAMP AREA WITH COURSE GRADED CRUSHED GRAVEL IN PREPARATION FOR PAVING. AREAS REQUIRING EMBANKMENT FILL SHALL HAVE A MINIMUM SUBBASE OF 450 mm COARSE GRADED CRUSHED GRAVEL. ANY REQUIRED EXCAVATION SHALL BE INCLUDED IN ITEM 203.15.
3. RIPRAP, HEAVY TYPE (MOD) SHALL BE INCLUDED IN ITEM 613.15. RIPRAP, HEAVY TYPE (MOD) SHALL BE PLACED AS SHOWN OR AS DIRECTED BY THE RESIDENT ENGINEER.
4. THE CONTRACTOR SHALL NOTIFY VANR FACILITIES ENGINEERING AT (802) 241-3458 BEFORE ANY PAVEMENT MARKING HAS BEGUN.

FINISH GRADE ELEVATIONS

POINT	STATION	OFFSET	ELEVATION
1	12+198.214	36.389 LT	30.43
2	12+201.874	45.766 LT	30.42
3	12+212.493	47.564 LT	30.56
4	12+222.818	49.911 LT	30.67
5	12+224.498	39.148 LT	30.89
6	12+225.936	30.171 LT	31.10
7	12+249.327	63.289 LT	30.85
8	12+249.327	48.048 LT	31.146
9	12+249.327	32.807 LT	31.441
10	4+065.943	4.706 LT	31.01
11	4+050.018	4.789 LT	31.250
12	4+048.250	3.000 LT	31.282
13	4+039.939	6.000 LT	31.364
14	4+041.318	7.334 LT	31.313
15	4+034.231	8.963 LT	31.402
16	4+003.419	17.206 LT	31.560
17	12+280.475	22.516 LT	31.611
18	12+278.936	15.125 LT	31.892
19	12+251.114	15.125 LT	31.791
20	12+235.366	15.125 LT	31.734
21	12+225.936	15.125 LT	31.700
22	12+217.656	15.125 LT	31.710
23	12+203.181	21.074 LT	31.728
24	12+203.248	14.987 LT	31.850
25	12+171.529	14.681 LT	31.765
26	12+171.309	26.662 LT	31.395
27	12+192.575	27.219 LT	31.575

CONSTRUCT PARKING AREA

65 BCP, TYPE IIIS (40 BCP, TYPE IIIS OVER EXISTING PAVEMENT AREAS)
STA 12+171, LT - STA 12+283, LT

DURABLE 100 mm WHITE LINE (PARKING SPACES)

STA 12+171, LT - STA 12+203, LT
STA 12+210, LT - STA 12+280, LT
STA 12+229, LT - STA 12+272, LT
STA 12+241, LT - STA 12+275, LT

DURABLE LETTER OR SYMBOL

STA 12+200, LT HANDICAP SYMBOL
STA 12+225, LT THRU ARROW
STA 12+227, LT THRU ARROW
STA 12+234, LT HANDICAP SYMBOL
STA 12+243, LT THRU ARROW
STA 12+253, LT THRU ARROW
STA 12+255, LT THRU ARROW
STA 12+286, LT THRU ARROW
STA 12+290, LT THRU ARROW

DURABLE 100 mm WHITE LINE (DIAGONAL)

STA 12+196, LT - STA 12+199, LT
STA 12+201, LT - STA 12+203, LT
STA 12+200, LT - STA 12+224, LT

EVERGREEN TREES

ABIES BALSAMAEA (1.68 m HEIGHT)

STA 12+262, LT
STA 12+271, LT
STA 12+274, LT
STA 12+277, LT
STA 12+281, LT

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

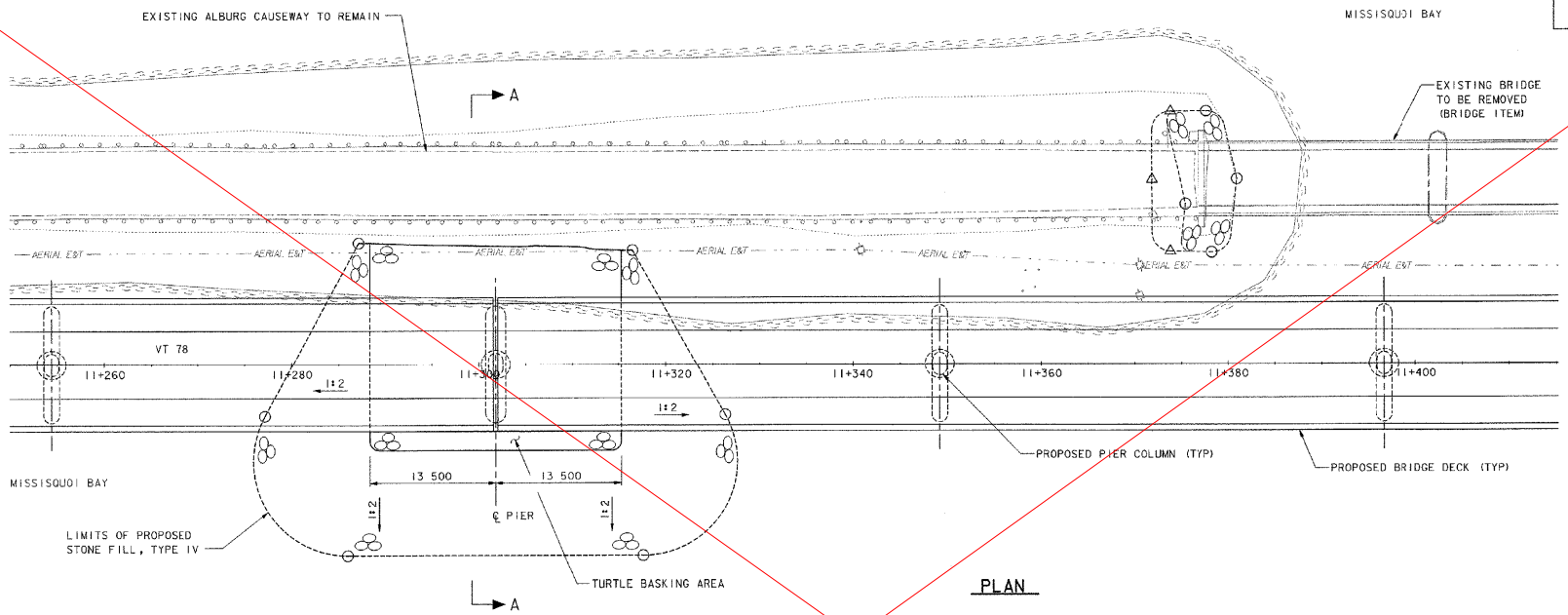
VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BOAT RAMP AREA PLAN	
Designed By VANR	Drawn By C.L. CILLEY
Checked By G.L. BAKOS Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072BRP	Sheet C61 of C194

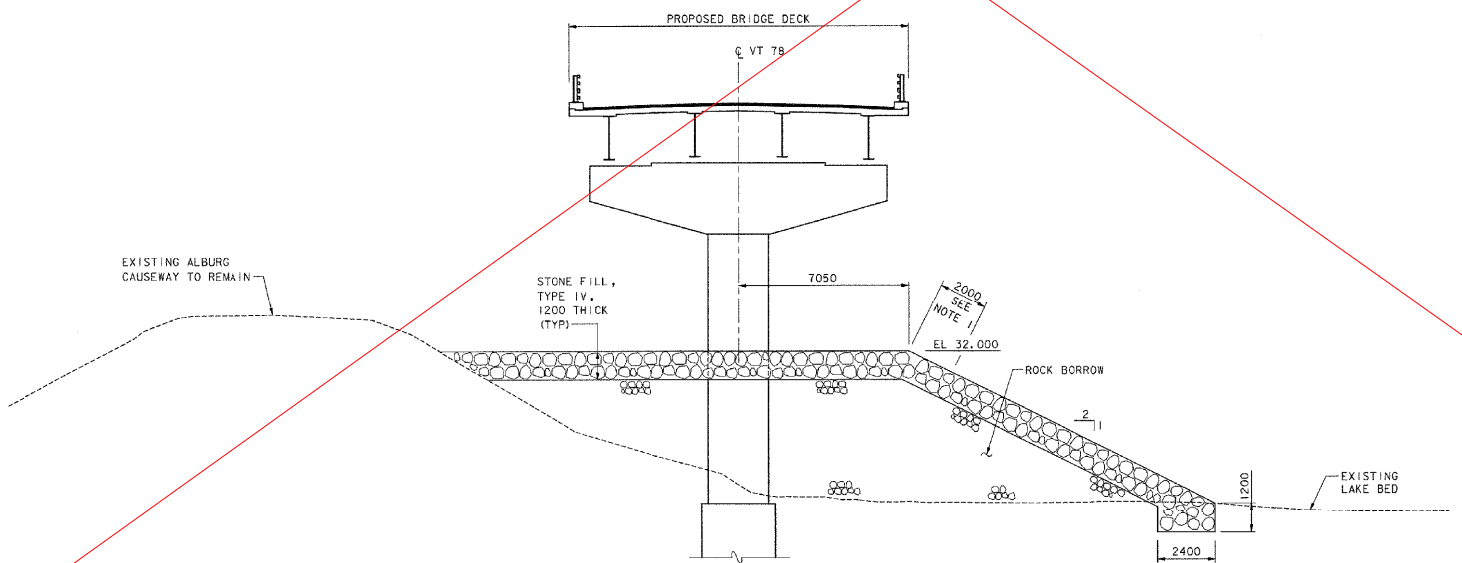
VHB NO. 5098

plot date: 10/23/2003



PLAN

0 5 10 15
SCALE IN METERS



SECTION A-A

0 2 4 6
SCALE IN METERS

NOTES:

1. THIS AREA SHALL CONSIST OF GENERALLY FLAT STONES.
2. THE PERMANENT TURTLE BASKING AREA SHALL BE CONSTRUCTED AFTER THE PROPOSED PIER CONSTRUCTION IS COMPLETE.
3. THIS IS THE PERMANENT TURTLE BASKING AREA REQUIRED BY THE THREATENED AND ENDANGERED SPECIES PERMIT.

SEE REVISED SHEET: C62 of C194

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.

VT 78 OVER MISSISQUOI BAY

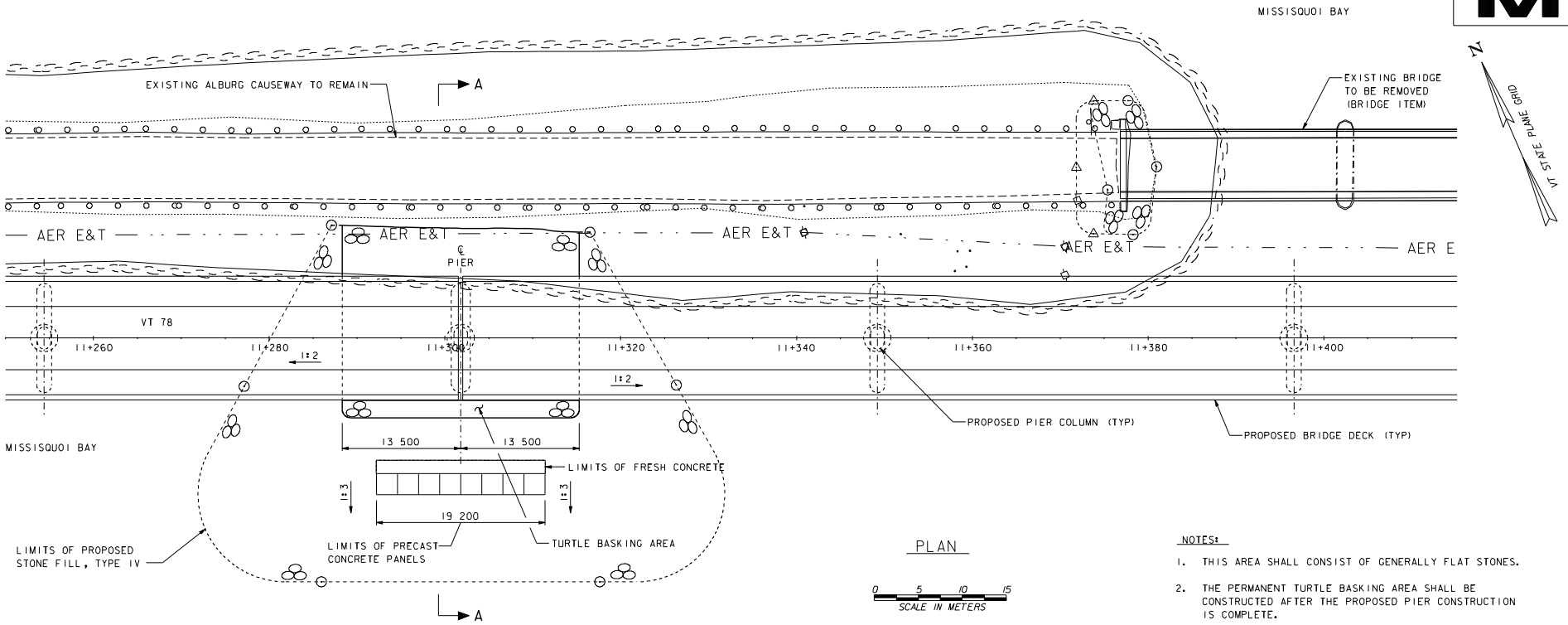
PERMANENT TURTLE BASKING AREA

Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By W.J. BARRY Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. info.	
File No. ZE072PTB	Sheet C62 of C194

VHB NO. 5098

plot date: 10/23/2003

Metric

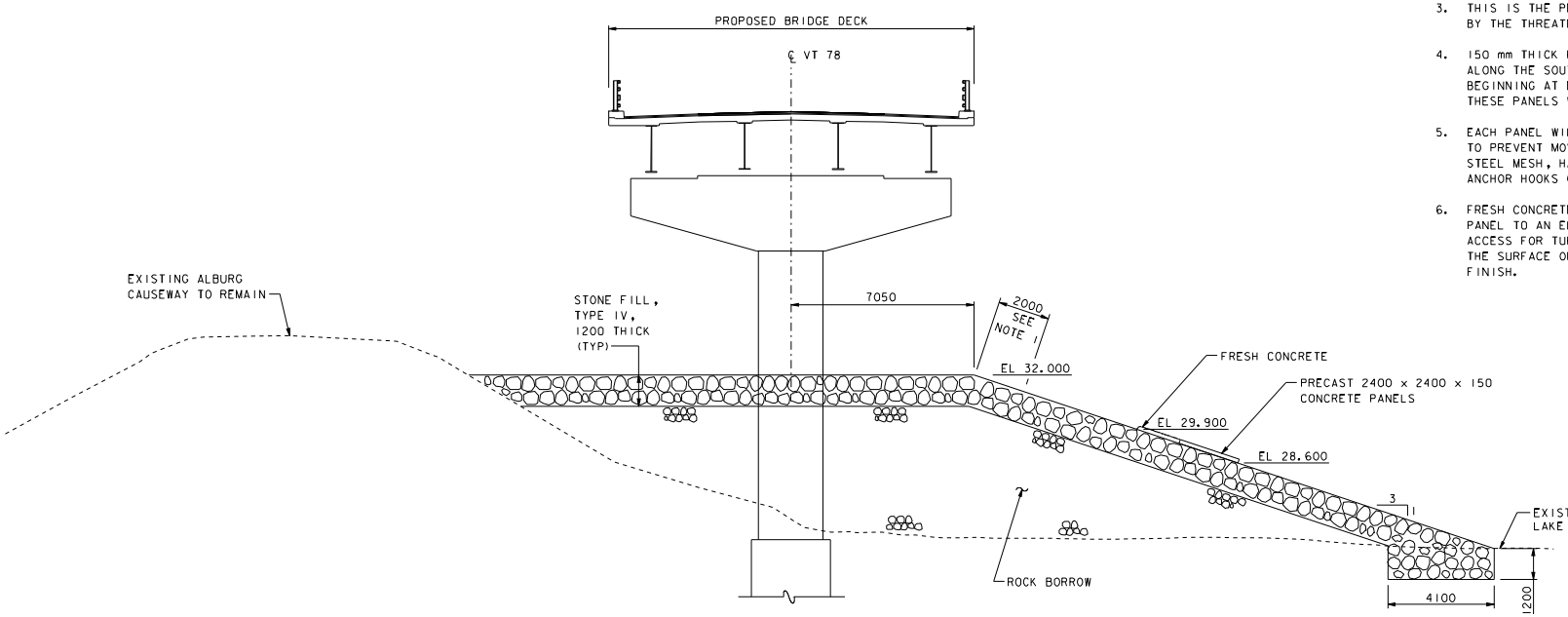


PLAN

0 5 10 15
SCALE IN METERS

NOTES:

1. THIS AREA SHALL CONSIST OF GENERALLY FLAT STONES.
2. THE PERMANENT TURTLE BASKING AREA SHALL BE CONSTRUCTED AFTER THE PROPOSED PIER CONSTRUCTION IS COMPLETE.
3. THIS IS THE PERMANENT TURTLE BASKING AREA REQUIRED BY THE THREATENED AND ENDANGERED SPECIES PERMIT.
4. 150 mm THICK PRECAST CONCRETE PANELS WILL BE PLACED ALONG THE SOUTH FACE OF THE PERMANENT BASKING PLATFORM BEGINNING AT ELEVATION 28.6. THE DIMENSIONS OF THESE PANELS WILL BE 2400 mm X 2400 mm.
5. EACH PANEL WILL BE SUFFICIENTLY ANCHORED TO THE ISLAND TO PREVENT MOVEMENT TOWARD THE LAKE, REINFORCED WITH STEEL MESH, HAVE A BROOM FINISH, AND HAVE LIFT/ ANCHOR HOOKS CAST IN THE CONCRETE.
6. FRESH CONCRETE WILL BE PLACED ABOVE THE TOP OF EACH PANEL TO AN ELEVATION OF 29.9 TO FACILITATE REASONABLE ACCESS FOR TURTLES ONTO THE PERMANENT BASKING PLATFORM. THE SURFACE OF THE CONCRETE WILL BE GIVEN A BROOM FINISH.



SECTION A-A

0 2 4 6
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

PERMANENT TURTLE BASKING AREA

Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By W.J. BARRY Date 3/04	Bridge Design Supervisor C.D. BAKER Date 3/04
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
I.G.C. Info.	
File No. ZE072PTB	Sheet C62 of C194

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 44 3.4	50 3.9	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	100 2.5	100 MOD 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAMED REMOVED	REMARKS	SIGN DETAIL: DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
VT 78												OPTION ITEMS																								
10+289 LT	078 070 026	1	150	250	0.04						1		2.44	X																						E-138
10+365 RT	R R	1	900		0.64						1		4.27	X																						E-190M
10+380 RT	← ALBURG SPRINGS VT 1	1	1800	250	0.45						2		4.27	X																						E-123M
	SWANTON VT 7 ↑	1	1800	250	0.45																															E-123M
	ST. ALBANS 16 ↑	1	1800	250	0.45								4.27																							E-123M
10+420 RT	ONLY	1	750	750	0.56						1		3.75	X																					VR-921 (MIRRORED)		E-145AM
10+440 LT	WEST	1	600	300	0.18						1		4.15	X																						E-136BM
	VERMONT 78	1	600	600	0.36																															E-136BM
10+480 RT	LEFT LANE MUST TURN LEFT	1	750	750	0.56						1		3.85	X																						E-140M
10+510 RT	EAST	1	600	300	0.18						1		3.95	X																						E-136BM
	VERMONT 78	1	600	600	0.36																															E-136BM
10+540 LT	↑ ALBURG VT 5	1	1800	250	0.45						2		4.15	X																						E-123M
	↑ ROUSES POINT NY 10	1	1800	250	0.45																															E-123M
	ALBURG SPRINGS VT 1 →	1	1800	250	0.45								4.27																							E-123M
10+611 LT	078 070 028	1	150	250	0.04						1		2.44	X																						E-138
												m	m	m 51.0	m	m	m		EA	kg	kg	kg		kg	kg	kg	kg								
TOTALS					m^2 5.62	m^2	EA.	m^2				m 41.81 ~~51.0~~			m					kg			EA.	kg				EA.	EA.	kg					

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

FLANGED CHANNEL LENGTH = 5.0 m
LENGTH OF POST FOR REFERENCE PLAQUES = 3.0 m

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
TRAFFIC SIGN SUMMARY SHEET (1 OF 5)	
Designed By N. M. CHOUINARD	Drawn By M. M. LANDREY
Checked By A. J. CRAWFORD Date 12/03	Bridge Design Supervisor C. D. BAKER Date 12/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072TS1	Sheet C63 of C194

VHB NO. 50911

plot date: 12/4/2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL kg/m 4.5	SQUARE STEEL (mm) kg/m 44 3.4	50 3.9	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	100 2.5	100 MOD 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																						
10+745 RT	BRIDGES FREEZE BEFORE ROAD	1	900	900	0.81						2	4.27 4.27	X																		VW-005		E-150M
10+780 LT	R X R	1	900		0.64						1	4.27	X																				E-190M
10+920 RT	SPEED LIMIT 50	1	600	750	0.45						1	4.27	X																				E-142M
10+980 LT 10+925 LT 10+940 LT	CUSTOM TURTLE SIGN	3	600	900	0.54 0.54 0.54						0		X																		SIGN DETAILS TO BE PROVIDED BY VERMONT AGENCY OF NATURAL RESOURCES FISH & WILDLIFE		
10+933 RT	0780 0701 0300	1	150	250	0.04						1	2.44	X																				E-138
10+960 RT	BRIDGE 2 VT78	1	150	200	0.03						1	2.44	X																				E-134M
11+461± RT	SWANTON ALBURG FRANKLIN CO. GRAND ISLE CO.	1 1	190 190	1500 1500	0.57						1	2.50 ~~X~~	X																		SEE BRIDGE SHEETS FOR EXACT LOCATION AND MOUNTING DETAILS. FLANGED CHANNEL LENGTH = 1.75 m		E-124M
11+285 ~~℄~~ 11+300 ~~12+065 LT~~ 11+380 LT 11+380 LT	CUSTOM TURTLE SIGN	4	600	900	0.54 0.54 0.54 0.54						4	2.13 2.13 2.13 2.13	X																		SIGN DETAILS TO BE PROVIDED BY VERMONT AGENCY OF NATURAL RESOURCES FISH & WILDLIFE		
12+070 LT	BRIDGE 2 VT78	1	150	200	0.03						1	2.44	X																				E-134M
12+115 RT		1 1	600 525	600 375	0.36 0.20						1	4.27	X																		MUTCD RW-080		E-136DM
12+120 LT	SPEED LIMIT 50 0780 0615 0041	1 1	600 150	750 250	0.45 0.04						1	4.27	X																				E-142M E-138
12+235 54 m RT	SPEED LIMIT 30	1	600	750	0.45						1	4.05	X																				E-142M
												m	m 1.8	m 54	m	m	m	EA	kg	kg	kg		kg	kg	kg	kg							
TOTALS					m² 7.85 ~~5.15~~	m²	EA.	m²			m 48.01 ~~55.8~~		m						kg		EA.		kg				EA.	EA.	kg					

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

FLANGED CHANNEL LENGTH = 5.0 m
LENGTH OF POST FOR REFERENCE PLAQUES = 3.0 m

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

TRAFFIC SIGN SUMMARY SHEET (2 OF 5)

Designed By N. M. CHOUINARD	Drawn By M. M. LANDREY
Checked By A. J. CRAWFORD Date 12/03	Bridge Design Supervisor C. D. BAKER Date 12/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072TS2	Sheet C64 of C194

VHB NO. 5091I

plot date: 12/4/2003

76

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 44 3.4	50 3.9	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	100 2.5	100 MOD 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																								
12+235 LT	DO NOT ENTER	1	750	750	0.56						1		3.85	X																					E-143M
12+236 21 m RT	LEGAL LOAD LIMIT 24,000 POUNDS	1	600	750	0.45						1		3.95	X																					E-141M
12+236 36 m RT	R X R	1	900		0.64						1		4.15	X																					E-190M
12+250 RT	STOP	1	750	750	0.56						1		4.05	X																					E-143M
	0780 0615 0048	1	150	250	0.04																														E-138
12+251 LT	DO NOT ENTER	1	750	750	0.56						1		3.26	X																					E-143M
12+253 RT	LAKEWOOD DR						X				1		3.45	X																					E-123M
12+279 LT	STOP	1	750	750	0.56						1		4.27	X																					E-143M
12+297 LT	SANDY POINT RD						X				1		3.55	X																					E-123M
12+380 LT		1	600	600	0.36						1		4.27	X																				MUTCD RW-080		
	SECOND RIGHT	1	600	450	0.27																													VD-513	C55	
12+428 LT	0780 0615 0060	1	150	250	0.04						1		2.44	X																					E-138
12+570 LT	BRIDGES FREEZE BEFORE ROAD	1	900	900	0.81						2		4.65 4.75	X																				VW-005	E-150M
12+580 RT	SHOULDER NARROWS	1	900	900	0.81						2		4.45 4.65	X																				VW-619	E-151M
												m	m	m 68.0	m	m	m		EA	kg	kg	kg		kg	kg	kg	kg								
TOTALS			m^2 5.66	m^2	EA. 2	m^2						m 55.74 ~~68.0~~			m					kg			EA.	kg				EA.	EA.	kg					

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

FLANGED CHANNEL LENGTH = 5.0 m
LENGTH OF POST FOR REFERENCE PLAQUES = 3.0 m

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
TRAFFIC SIGN SUMMARY SHEET (3 OF 5)	
Designed By N. M. CHOUINARD	Drawn By M. M. LANDREY
Checked By A. J. CRAWFORD Date 12/03	Bridge Design Supervisor C. D. BAKER Date 12/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.C.C. Info.	
File No. ZE072TS3	Sheet C65 of C194

VHB NO. 5091I

plot date: 12/4/2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

NOT Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 44 3.4	50 3.9	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	100 2.5	100 MOD 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAMED REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																								
TH 2 ALBURG SPRINGS ROAD																																			
0+013 RT	ALBURG SPRINGS RD						X				1		3.15	X																				E-123M
0+015 LT	STOP	1	750	750	0.56						1		4.15	X																				E-143M
	0780 0701 0271	1	150	250	0.04																													E-138
0+020 RT	LEGAL LOAD LIMIT 24,000 POUNDS	1	600	750	0.45						1		3.65	X																				E-141M
0+040 LT		1	750	750	0.56						1		4.15	X																				MUTCD W10-4 (MIRRORED)
0+120 LT		1	750	750	0.56						1		4.27	X																				E-150M
0+200 + 35 m LT	SPEED LIMIT 35	1	600	750	0.45						1		4.15	X																				E-142M
0+200 + 120 m LT	REDUCED SPEED AHEAD	1	600	750	0.45						1		4.27	X																				E-142M
SIDEROAD OFF ALBURG SPRINGS ROAD																																			
1+012 RT	DEAD END	1	750	750	0.56						1		4.27	X																				MUTCD W14-1
1+015 LT	STOP	1	750	750	0.56						1		4.15	X																				E-143M
1+135 LT & RT		2	450	450	0.40						2		2.74 2.74	X																				MUTCD OM4-1
												m	m	m 55.0	m	m	m		EA	kg	kg	kg		kg	kg	kg	kg								
TOTALS			m²	m²	EA.	m²						m			m					kg			EA.	kg				EA.	EA.	kg					
			4.59		1							41.69 ~~55.0~~																								

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

FLANGED CHANNEL LENGTH = 5.0 m
LENGTH OF POST FOR REFERENCE PLAQUES = 3.0 m

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
TRAFFIC SIGN SUMMARY SHEET (4 OF 5)	
Designed By N. M. CHOUINARD	Drawn By M. M. LANDREY
Checked By A. J. CRAWFORD Date 12/03	Bridge Design Supervisor C. D. BAKER Date 12/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072TS4	Sheet C66 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5098

plot date: 12/4/2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MAINT Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL kg/m 4.7	3.0	4.5	SQUARE STEEL (mm) 44 kg/m 3.4	50 kg/m 3.9	63 kg/m 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) 75 kg/m 1.9	100 kg/m 2.5	100 MOD kg/m 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	75 kg/m 11.3	89 kg/m 13.4	100 kg/m 16.1	125 kg/m 21.7	W-SHAPE STEEL F.T.G. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME RECYCLED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																									
TH 13 E ALBURG RD																																				
2+010 RT	E. ALBURG RD						X				1		3.65	X																					E-123M	
2+015 LT	STOP	1	750	750	0.56						1		3.95	X																					E-143M	
	0780 0701 0295	1	150	250	0.04																														E-138	
2+017 RT	LEGAL LOAD LIMIT 24,000 POUNDS	1	600	750	0.45						1		3.85	X																					E-141M	
2+050 RT	SPEED LIMIT 25	1	600	750	0.45						1		4.05	X																					E-142M	
BOAT RAMP AREA																																				
12+203 LT	NO PARKING ANY TIME	1	300	450	0.14						1		3.65	X																				MUTCD R7-1		
12+200 LT	RESERVED PARKING	1	300	450	0.14						1		3.55	X																				MUTCD R7-8		
12+220 LT	NO PARKING ANY TIME	1	300	450	0.14						1		3.55	X																				MUTCD R7-1		
10+540 LT 10+540 RT 10+820 LT 10+825 LT		4	750	750	2.24						2		4.27 4.27																					THESE SIGNS WERE ADDED TO THE DETOUR SIGNAGE PER VTRANS REQUEST		
												m	m	m 35.0	m	m	m	EA		kg	kg	kg		kg	kg	kg	kg								
TOTALS					m^2 4.16 ~~1.92~~	m^2	EA. 1	m^2				m 34.79 ~~35.0~~			m					kg			EA.	kg				EA.	EA.	kg					

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

FLANGED CHANNEL LENGTH = 5.0 m
LENGTH OF POST FOR REFERENCE PLAQUES = 3.0 m

VANASSE HANGEN BRUSTLIN, INC.

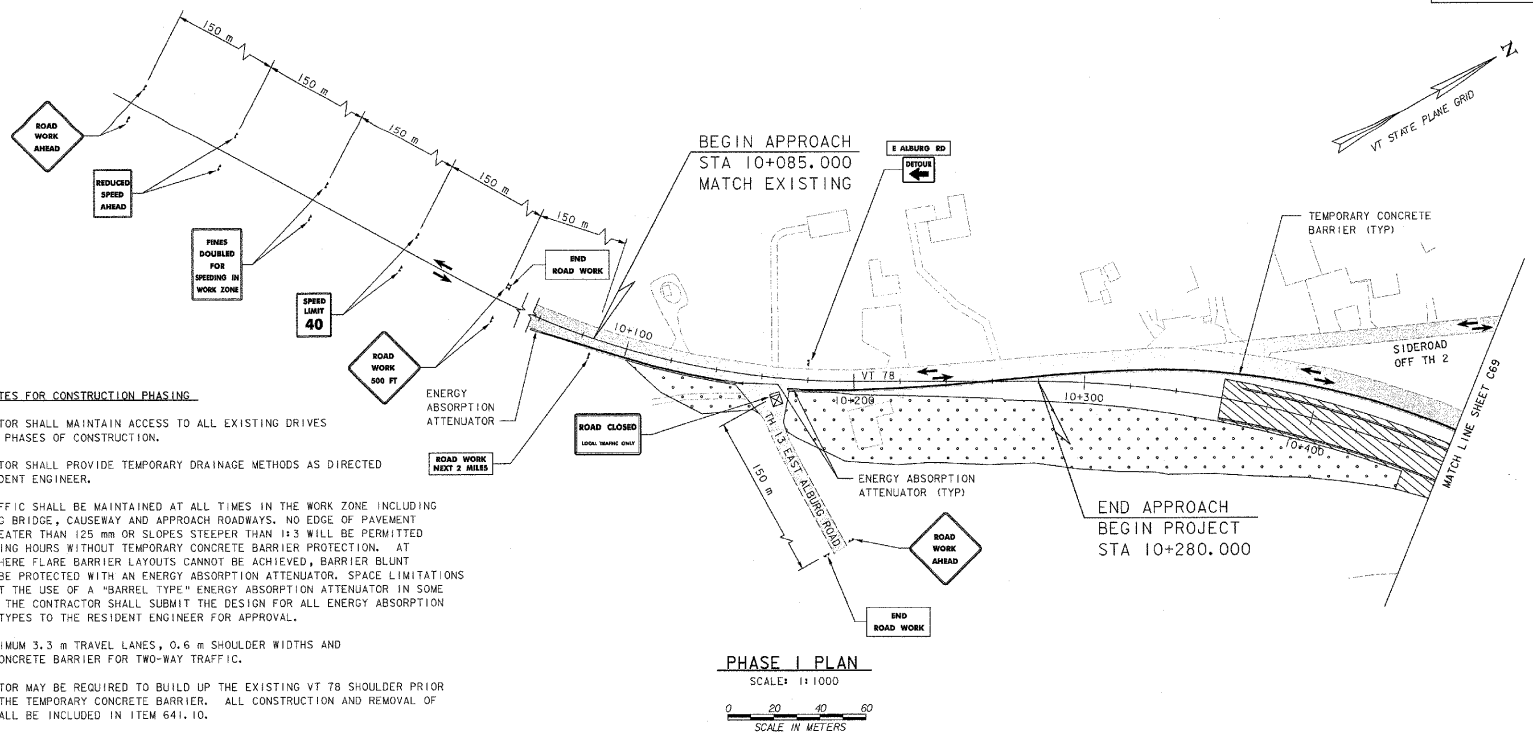
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
TRAFFIC SIGN SUMMARY SHEET (5 OF 5)	
Designed By N. M. CHOUINARD	Drawn By M. M. LANDREY
Checked By Date A. J. CRAWFORD 12/03	Bridge Design Supervisor C. D. BAKER Date 12/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072TS5	Sheet C67 of C194

VHB NO. 5091

plot date: 12/4/2003

Metric



PHASE I PLAN

SCALE: 1:1000

0 20 40 60

SCALE IN METERS

GENERAL NOTES FOR CONSTRUCTION PHASING

1. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL EXISTING DRIVES THROUGH ALL PHASES OF CONSTRUCTION.

2. THE CONTRACTOR SHALL PROVIDE TEMPORARY DRAINAGE METHODS AS DIRECTED BY THE RESIDENT ENGINEER.

3. TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES IN THE WORK ZONE INCLUDING THE EXISTING BRIDGE, CAUSEWAY AND APPROACH ROADWAYS. NO EDGE OF PAVEMENT DROP-OFF GREATER THAN 125 mm OR SLOPES STEEPER THAN 1:3 WILL BE PERMITTED BEYOND WORKING HOURS WITHOUT TEMPORARY CONCRETE BARRIER PROTECTION. AT LOCATIONS WHERE FLARE BARRIER LAYOUTS CANNOT BE ACHIEVED, BARRIER BLUNT ENDS SHALL BE PROTECTED WITH AN ENERGY ABSORPTION ATTENUATOR. SPACE LIMITATIONS MAY RESTRICT THE USE OF A "BARREL TYPE" ENERGY ABSORPTION ATTENUATOR IN SOME LOCATIONS. THE CONTRACTOR SHALL SUBMIT THE DESIGN FOR ALL ENERGY ABSORPTION ATTENUATOR TYPES TO THE RESIDENT ENGINEER FOR APPROVAL.

4. PROVIDE MINIMUM 3.3 m TRAVEL LANES, 0.6 m SHOULDER WIDTHS AND TEMPORARY CONCRETE BARRIER FOR TWO-WAY TRAFFIC.

5. THE CONTRACTOR MAY BE REQUIRED TO BUILD UP THE EXISTING VT 78 SHOULDER PRIOR TO PLACING THE TEMPORARY CONCRETE BARRIER. ALL CONSTRUCTION AND REMOVAL OF SHOULDER SHALL BE INCLUDED IN ITEM 641.10.

6. THE USE OF TEMPORARY CONCRETE BARRIER SHALL NOT BE PERMITTED DURING WINTER MONTHS. THE CONTRACTOR SHALL USE OTHER BARRIER TYPES OR MODIFY SLOPES AT THEIR OWN EXPENSE TO CREATE A "SAFE" ROADWAY AS APPROVED BY THE ENGINEER.

7. WHERE EXISTING AND PROPOSED VT 78 COINCIDE, THE CONTRACTOR MAY UTILIZE ONE-WAY ALTERNATE TRAFFIC TO CONSTRUCT THE TEMPORARY DETOURS AND FINAL ROADWAY CONDITIONS.

8. A NOMINAL QUANTITY OF ITEM 621.90, TEMPORARY TRAFFIC BARRIER (MOD-REMOVE AND RESET) HAS BEEN PROVIDED FOR TEMPORARY REMOVAL OF TRAFFIC BARRIER FROM AN IN-PLACE INSTALLATION.

9. ITEM 641.10, TRAFFIC CONTROL, SHALL INCLUDE BUT NOT LIMITED TO PLACEMENT OF DRAINAGE ITEMS, BORROW, SUBBASE, PAVEMENT, GEOTEXTILE UNDER STONE FILL, SIGNS, SIGN POSTS, TOPSOIL, SEED, EROSION CONTROL METHODS AND TRAFFIC CONTROL DEVICES REQUIRED FOR THE TEMPORARY DETOURS. IT WILL ALSO INCLUDE ANY REQUIRED EXCAVATION TO CONSTRUCT THE TEMPORARY DETOURS AND THE REMOVAL OF ALL TEMPORARY DETOUR MATERIALS.

10. TEMPORARY HOT BITUMINOUS PAVEMENT NEEDED FOR TEMPORARY DETOUR SHALL BE 75 mm. THE SPECIFIC MIX SHALL BE APPROVED BY THE RESIDENT ENGINEER. EXISTING PAVEMENT SHALL BE REMOVED AND SUBBASE MATERIAL ADDED TO OBTAIN FINAL DETOUR ELEVATIONS WHERE THE TEMPORARY DETOUR AND EXISTING VT 78 APPROACHES COINCIDE. AFTER DETOUR IS NO LONGER REQUIRED, THE EXISTING VT 78 APPROACHES SHALL BE REGRADED TO ITS ORIGINAL STATE AND PAVED WITH THE SAME THICKNESS AND LIFTS OF PAVEMENT AS PROPOSED VT 78. THE MINIMUM THICKNESS OF TEMPORARY ROADWAY SUBBASE MATERIAL SHALL BE 380 mm.

11. THE PROPOSED WORK SHALL BE CONSTRUCTED TO ITS FINAL STATE EXCEPT FOR THE TOP PAVEMENT COURSE. THE TOP PAVEMENT COURSE SHALL BE ADDED AT THE END OF PHASE III.

12. CONSTRUCTION OF THE PROPOSED BRIDGE MUST BE COMPLETED BEFORE PHASE III BEGINS.

13. FLAGGERS SHALL BE ABLE TO SEE EACH OTHER OR HAVE RADIO COMMUNICATION WITH EACH OTHER AT ALL TIMES. ONE FLAGGER SHALL BE DESIGNATED AS THE COORDINATOR. SEE MUTCD PART VI, SECTION 6E FOR REQUIREMENTS OF HAND-SIGNALING CONTROL.

14. ALL SIGNS FOR "ONE LANE ROAD AHEAD", "FLAGGERS", "ROAD CLOSED", ETC. SHALL BE REMOVED, COVERED OR OTHERWISE MODIFIED WHEN CONDITIONS DO NOT EXIST.

LEGEND

- TRAFFIC
- WORK AREA
- TEMPORARY CONSTRUCTION
- TEMPORARY CONCRETE BARRIER
- ENERGY ABSORPTION ATTENUATOR
- REFL. PLASTIC DRUMS
- INDICATES TRAFFIC FLOW
- TYPE III BARRICADES (MOD)
- (F) FLAGGER

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

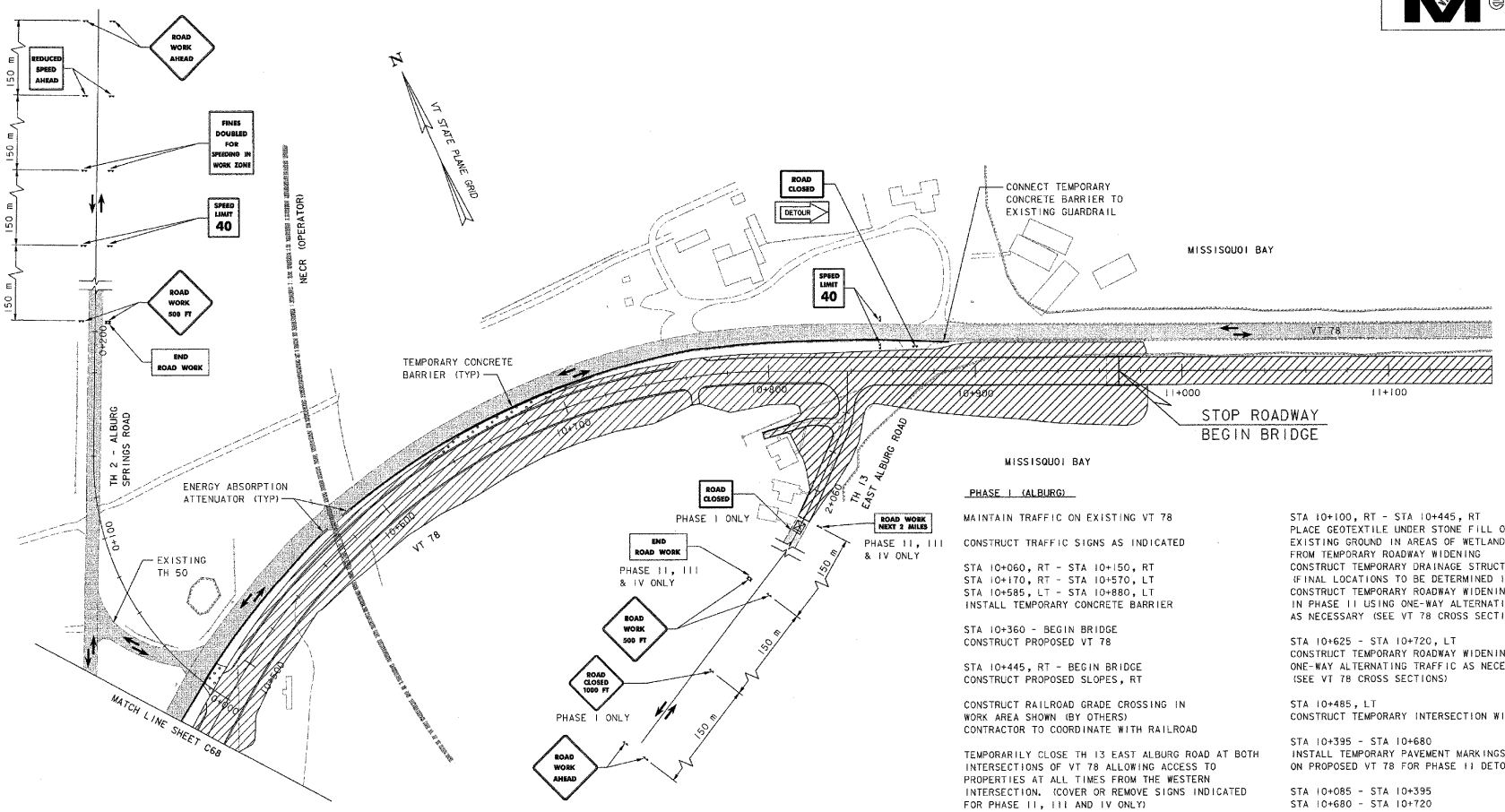
Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

TRAFFIC CONTROL PLAN (1 OF 9)

Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By C.D. BAKER Date 1/04	Bridge Design Supervisor C.D. BAKER Date 1/04
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
L.G.C. Info.	
File No. ZE072TCP8	Sheet C68 of C194

VHB NO. 50911

plot date: 1/15/2004



PHASE I PLAN

SCALE: 1:1000

0 20 40 60

SCALE IN METERS

NOTE:

SEE TRAFFIC CONTROL PLAN, SHEET C68 FOR GENERAL CONSTRUCTION PHASING NOTES.

PHASE I (ALBURG)

MAINTAIN TRAFFIC ON EXISTING VT 78

CONSTRUCT TRAFFIC SIGNS AS INDICATED

STA 10+060, RT - STA 10+150, RT
STA 10+170, RT - STA 10+570, LT
STA 10+585, LT - STA 10+880, LT
INSTALL TEMPORARY CONCRETE BARRIER

STA 10+360 - BEGIN BRIDGE
CONSTRUCT PROPOSED VT 78

STA 10+445, RT - BEGIN BRIDGE
CONSTRUCT PROPOSED SLOPES, RT

CONSTRUCT RAILROAD GRADE CROSSING IN WORK AREA SHOWN (BY OTHERS)
CONTRACTOR TO COORDINATE WITH RAILROAD

TEMPORARILY CLOSE TH 13 EAST ALBURG ROAD AT BOTH INTERSECTIONS OF VT 78 ALLOWING ACCESS TO PROPERTIES AT ALL TIMES FROM THE WESTERN INTERSECTION. (COVER OR REMOVE SIGNS INDICATED FOR PHASE II, III AND IV ONLY)

STA 2+000 - STA 2+075
CONSTRUCT PROPOSED TH13 EAST ALBURG ROAD

STA 3+000 - STA 3+040
CONSTRUCT PROPOSED DRIVE OFF TH 13

STA 10+100, RT - STA 10+445, RT
PLACE GEOTEXTILE UNDER STONE FILL ON TOP OF EXISTING GROUND IN AREAS OF WETLAND IMPACT FROM TEMPORARY ROADWAY WIDENING
CONSTRUCT TEMPORARY DRAINAGE STRUCTURES (FINAL LOCATIONS TO BE DETERMINED IN THE FIELD)
CONSTRUCT TEMPORARY ROADWAY WIDENING AS SHOWN IN PHASE II USING ONE-WAY ALTERNATING TRAFFIC AS NECESSARY (SEE VT 78 CROSS SECTIONS)

STA 10+625 - STA 10+720, LT
CONSTRUCT TEMPORARY ROADWAY WIDENING USING ONE-WAY ALTERNATING TRAFFIC AS NECESSARY (SEE VT 78 CROSS SECTIONS)

STA 10+485, LT
CONSTRUCT TEMPORARY INTERSECTION WITH TH 50

STA 10+395 - STA 10+680
INSTALL TEMPORARY PAVEMENT MARKINGS ON PROPOSED VT 78 FOR PHASE II DETOUR

STA 10+085 - STA 10+395
STA 10+680 - STA 10+720
INSTALL TEMPORARY PAVEMENT MARKINGS/ REMOVE EXISTING PAVEMENT MARKINGS ON EXISTING VT 78 FOR TEMPORARY DETOUR

STA 2+000 - STA 2+075 (TH 13)
INSTALL TEMPORARY PAVEMENT MARKINGS

LEGEND

- TRAFFIC
- WORK AREA
- TEMPORARY CONSTRUCTION
- TEMPORARY CONCRETE BARRIER
- ENERGY ABSORPTION ATTENUATOR
- REFL. PLASTIC DRUMS
- INDICATES TRAFFIC FLOW
- TYPE III BARRICADES (MOD)
- (F) FLAGGER

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

TRAFFIC CONTROL PLAN (2 OF 9)

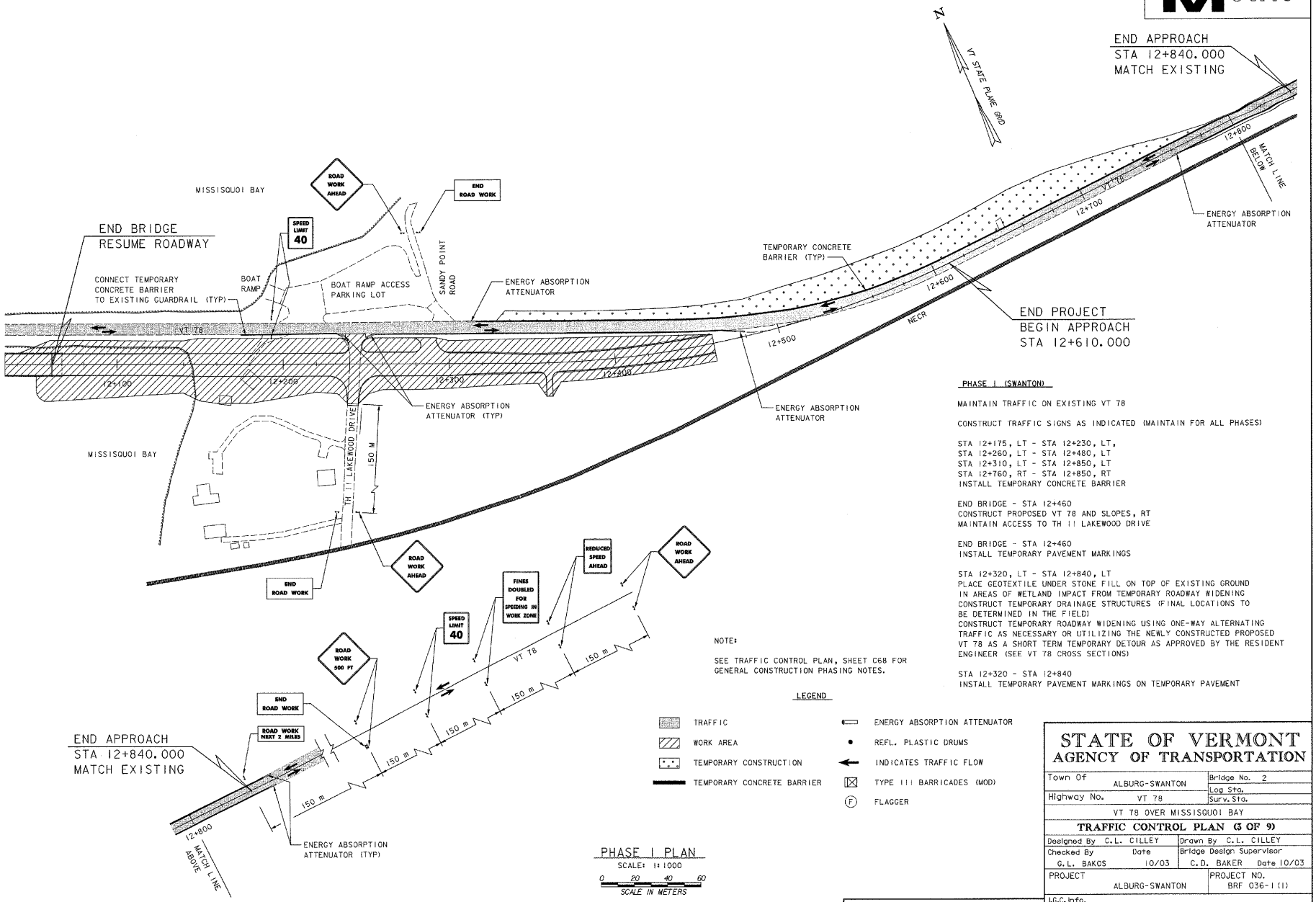
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By G.L. BAKOS Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072TCP1	Sheet C69 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5098

plot date: 10/23/2003

81



PHASE I PLAN
SCALE: 1:1000
0 20 40 60
SCALE IN METERS

NOTE:

SEE TRAFFIC CONTROL PLAN, SHEET C68 FOR GENERAL CONSTRUCTION PHASING NOTES.

LEGEND

- TRAFFIC
- WORK AREA
- TEMPORARY CONSTRUCTION
- TEMPORARY CONCRETE BARRIER
- ENERGY ABSORPTION ATTENUATOR
- REFL. PLASTIC DRUMS
- INDICATES TRAFFIC FLOW
- TYPE III BARRICADES (MOD)
- (F) FLAGGER

PHASE I (SWANTON)

MAINTAIN TRAFFIC ON EXISTING VT 78

CONSTRUCT TRAFFIC SIGNS AS INDICATED (MAINTAIN FOR ALL PHASES)

STA 12+175, LT - STA 12+230, LT,
STA 12+260, LT - STA 12+480, LT
STA 12+310, LT - STA 12+850, LT
STA 12+760, RT - STA 12+850, RT
INSTALL TEMPORARY CONCRETE BARRIER

END BRIDGE - STA 12+460
CONSTRUCT PROPOSED VT 78 AND SLOPES, RT
MAINTAIN ACCESS TO TH 11 LAKEWOOD DRIVE

END BRIDGE - STA 12+460
INSTALL TEMPORARY PAVEMENT MARKINGS

STA 12+320, LT - STA 12+840, LT
PLACE GEOTEXTILE UNDER STONE FILL ON TOP OF EXISTING GROUND IN AREAS OF WETLAND IMPACT FROM TEMPORARY ROADWAY WIDENING
CONSTRUCT TEMPORARY DRAINAGE STRUCTURES (FINAL LOCATIONS TO BE DETERMINED IN THE FIELD)
CONSTRUCT TEMPORARY ROADWAY WIDENING USING ONE-WAY ALTERNATING TRAFFIC AS NECESSARY OR UTILIZING THE NEWLY CONSTRUCTED PROPOSED VT 78 AS A SHORT TERM TEMPORARY DETOUR AS APPROVED BY THE RESIDENT ENGINEER (SEE VT 78 CROSS SECTIONS)

STA 12+320 - STA 12+840
INSTALL TEMPORARY PAVEMENT MARKINGS ON TEMPORARY PAVEMENT

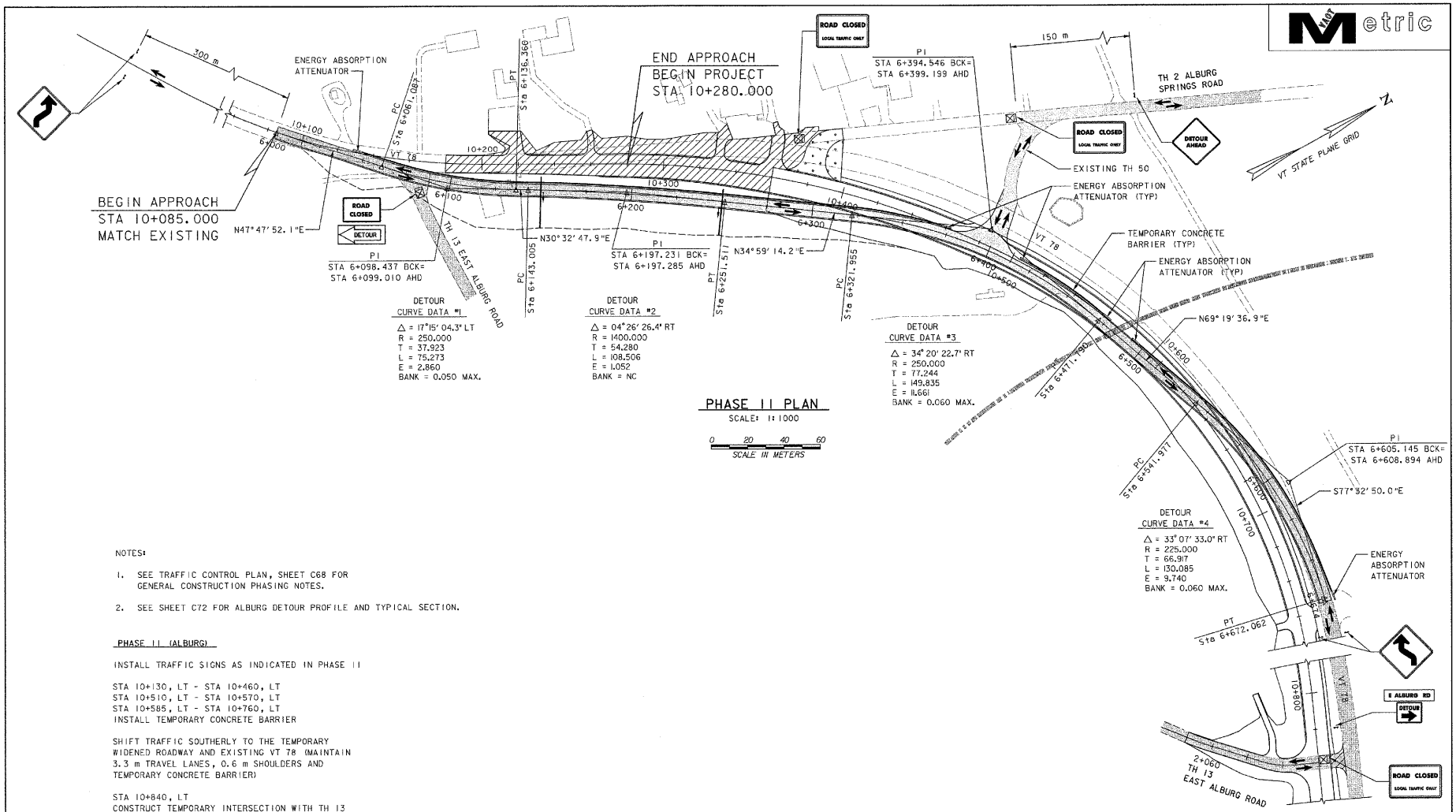
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
TRAFFIC CONTROL PLAN (5 OF 9)	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By G.L. BAKOS Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072TCP2	Sheet C70 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003



DETOUR
CURVE DATA #1
Δ = 17°15' 04.3" LT
R = 250.000
T = 37.923
L = 75.273
E = 2.860
BANK = 0.050 MAX.

DETOUR
CURVE DATA #2
Δ = 04°26' 26.4" RT
R = 1400.000
T = 54.280
L = 108.506
E = 1.052
BANK = NC

DETOUR
CURVE DATA #3
Δ = 34° 20' 22.7" RT
R = 250.000
T = 77.244
L = 149.835
E = 11.661
BANK = 0.060 MAX.

DETOUR
CURVE DATA #4
Δ = 33° 07' 33.0" RT
R = 225.000
T = 66.917
L = 130.085
E = 9.740
BANK = 0.060 MAX.

PHASE II PLAN

SCALE: 1:1000

0 20 40 60
SCALE IN METERS

NOTES:

1. SEE TRAFFIC CONTROL PLAN, SHEET C68 FOR GENERAL CONSTRUCTION PHASING NOTES.
2. SEE SHEET C72 FOR ALBURG DETOUR PROFILE AND TYPICAL SECTION.

PHASE II (ALBURG)

INSTALL TRAFFIC SIGNS AS INDICATED IN PHASE II

STA 10+130, LT - STA 10+460, LT
STA 10+510, LT - STA 10+570, LT
STA 10+585, LT - STA 10+760, LT
INSTALL TEMPORARY CONCRETE BARRIER

SHIFT TRAFFIC SOUTHERLY TO THE TEMPORARY WIDENED ROADWAY AND EXISTING VT 78 (MAINTAIN 3.3 m TRAVEL LANES, 0.6 m SHOULDERS AND TEMPORARY CONCRETE BARRIER)

STA 10+840, LT
CONSTRUCT TEMPORARY INTERSECTION WITH TH 13

CLOSE THE SOUTH END OF TH 13 EAST ALBURG ROAD

STA 10+180 - STA 10+360
CONSTRUCT PROPOSED VT 78 AND SLOPES, LT

STA 10+380, LT
CONSTRUCT TEMPORARY INTERSECTION WITH TH 2

STA 10+085 - BEGIN BRIDGE
INSTALL TEMPORARY PAVEMENT MARKINGS

LEGEND

- TRAFFIC
- WORK AREA
- TEMPORARY CONSTRUCTION
- TEMPORARY CONCRETE BARRIER
- ENERGY ABSORPTION ATTENUATOR
- REFL. PLASTIC DRUMS
- INDICATES TRAFFIC FLOW
- TYPE III BARRICADES (MOD)
- (F) FLAGGER

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

TRAFFIC CONTROL PLAN (4 OF 9)

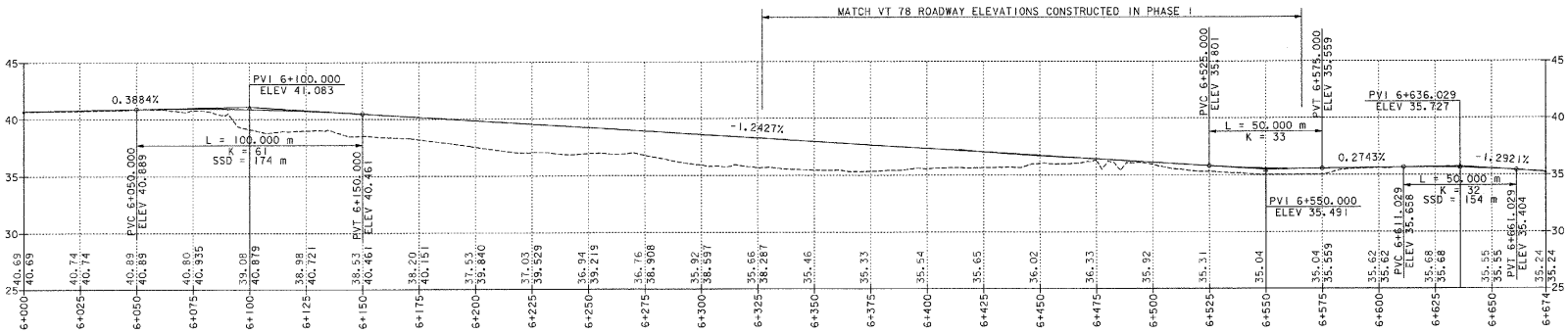
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By G.L. BAKOS Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072TCP3	Sheet C71 of C194

VHB NO. 5091

plot date: 10/23/2003

Metric

Alburg Detour Profile

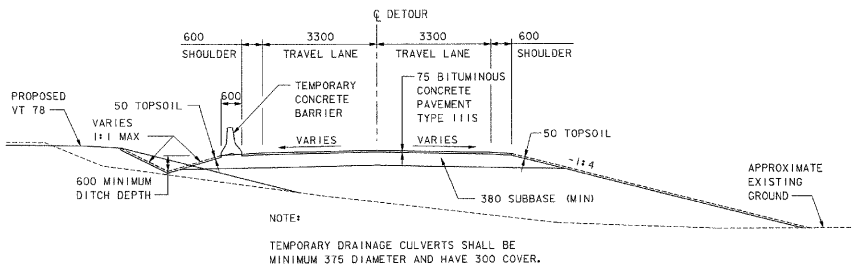


ALBURG DETOUR PROFILE

SCALE: 1:1000

0 20 40 60

SCALE IN METERS



NOTE:

TEMPORARY DRAINAGE CULVERTS SHALL BE MINIMUM 375 DIAMETER AND HAVE 300 COVER.

ALBURG DETOUR TYPICAL SECTION

NOT TO SCALE

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
TRAFFIC CONTROL PLAN (5 OF 9)	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By G.L. BAKOS Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072TCP3	Sheet C72 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

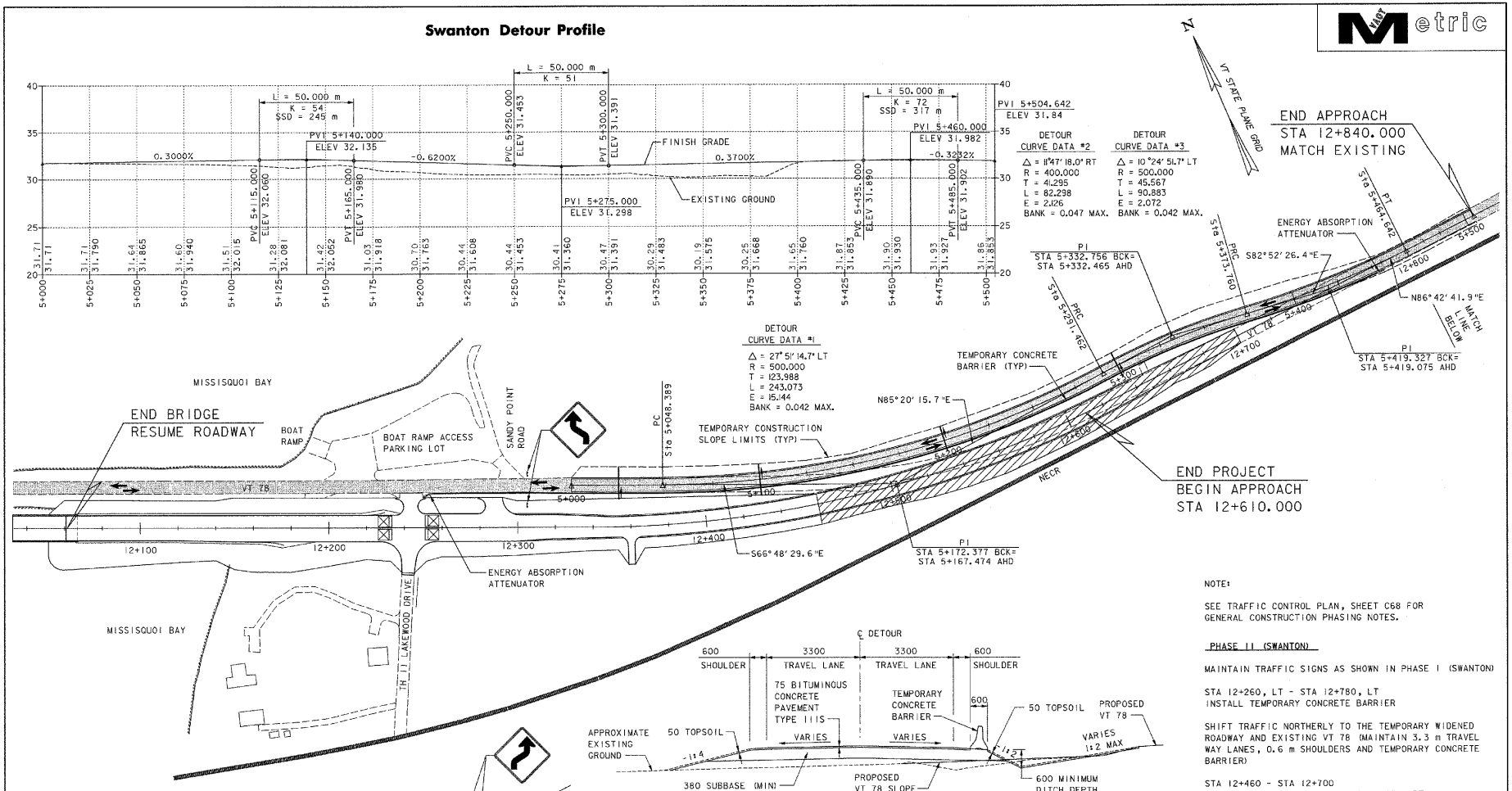
plot date: 10/23/2003

Swanton Detour Profile

DETOUR CURVE DATA #2
Δ = 11°47' 18.0" RT
R = 400.000
T = 41.295
L = 82.298
E = 2.126
BANK = 0.047 MAX.

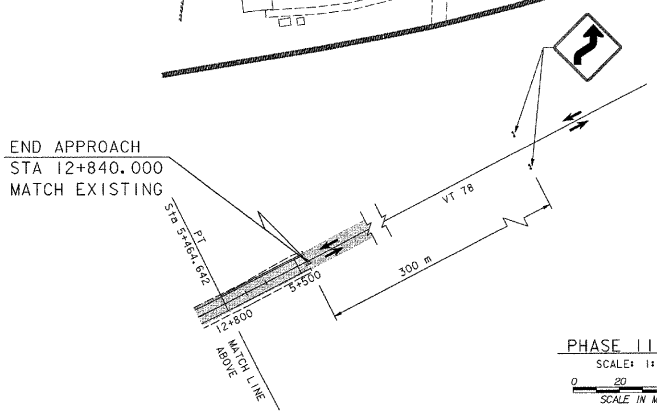
DETOUR CURVE DATA #3
Δ = 10°24' 51.7" LT
R = 500.000
T = 45.567
L = 90.883
E = 2.072
BANK = 0.042 MAX.

DETOUR CURVE DATA #1
Δ = 27°51' 14.7" LT
R = 500.000
T = 123.988
L = 243.073
E = 15.44
BANK = 0.042 MAX.



NOTE:
TEMPORARY DRAINAGE CULVERTS SHALL BE MINIMUM 375 DIAMETER AND HAVE 300 COVER.

DETOUR TYPICAL SECTION



PHASE II PLAN
SCALE: 1:1000
0 20 40 60
SCALE IN METERS

LEGEND
- TRAFFIC
- WORK AREA
- TEMPORARY CONSTRUCTION
- TEMPORARY CONCRETE BARRIER
- ENERGY ABSORPTION ATTENUATOR
- REFL. PLASTIC DRUMS
- INDICATES TRAFFIC FLOW
- TYPE III BARRICADES (MOD)
- (F) FLAGGER

NOTE:

SEE TRAFFIC CONTROL PLAN, SHEET C68 FOR GENERAL CONSTRUCTION PHASING NOTES.

PHASE II (SWANTON)

MAINTAIN TRAFFIC SIGNS AS SHOWN IN PHASE I (SWANTON)

STA 12+260, LT - STA 12+780, LT
INSTALL TEMPORARY CONCRETE BARRIER

SHIFT TRAFFIC NORTHERLY TO THE TEMPORARY WIDENED ROADWAY AND EXISTING VT 78 (MAINTAIN 3.3 m TRAVEL WAY LANES, 0.6 m SHOULDERS AND TEMPORARY CONCRETE BARRIER)

STA 12+460 - STA 12+700
CONSTRUCT PROPOSED VT 78 AND SLOPES, RT

STA 12+435 - STA 12+700
INSTALL TEMPORARY PAVEMENT MARKINGS

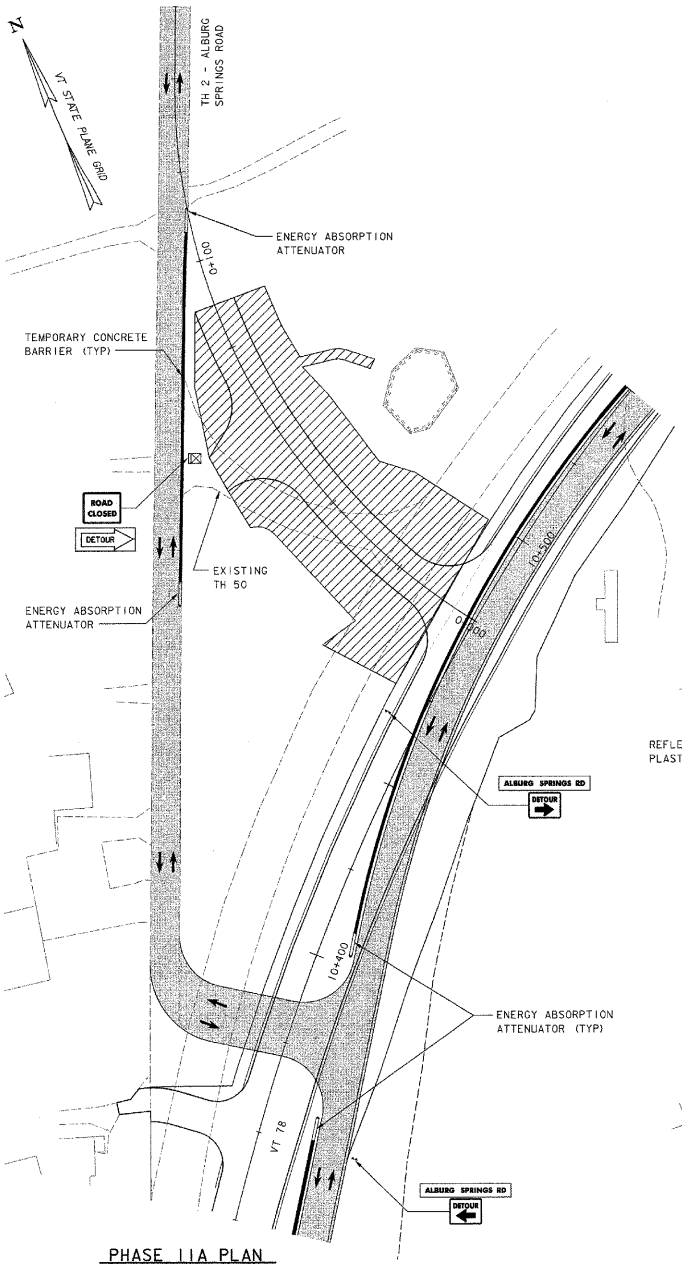
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

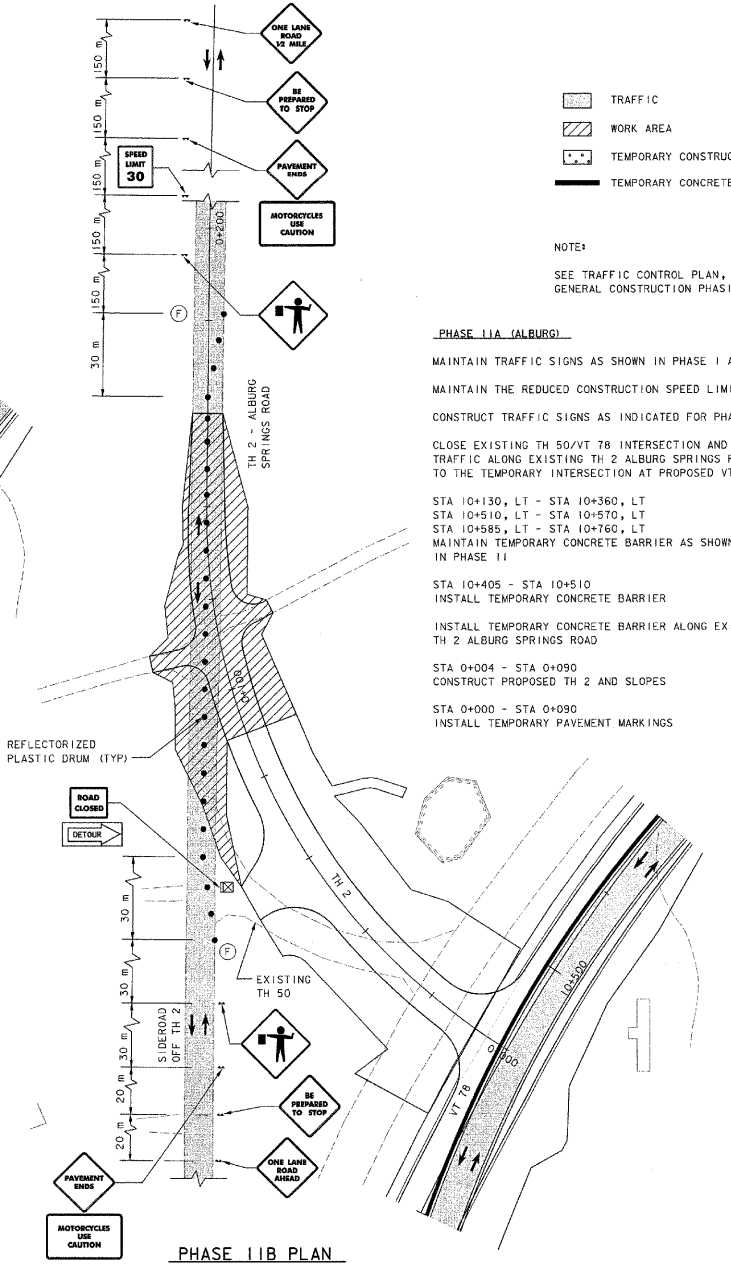
TRAFFIC CONTROL PLAN (6 OF 9)

Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By G.L. BAKOS Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072TCP4	Sheet C73 of C194

VANASSE HANGEN BRUSTLIN, INC.
VHB NO. 5091
plot date: 10/23/2003
85



PHASE IIA PLAN
SCALE: 1:500



PHASE IIB PLAN
SCALE: 1:500

LEGEND

- TRAFFIC
- WORK AREA
- TEMPORARY CONSTRUCTION
- TEMPORARY CONCRETE BARRIER
- ENERGY ABSORPTION ATTENUATOR
- REFL. PLASTIC DRUMS
- INDICATES TRAFFIC FLOW
- TYPE III BARRICADES (MOD)
- (F) FLAGGER

NOTE:

SEE TRAFFIC CONTROL PLAN, SHEET C68 FOR GENERAL CONSTRUCTION PHASING NOTES.

PHASE IIA (ALBURG)

MAINTAIN TRAFFIC SIGNS AS SHOWN IN PHASE I AND II

MAINTAIN THE REDUCED CONSTRUCTION SPEED LIMIT (40 MPH)

CONSTRUCT TRAFFIC SIGNS AS INDICATED FOR PHASE IIA

CLOSE EXISTING TH 50/VT 78 INTERSECTION AND DIRECT TRAFFIC ALONG EXISTING TH 2 ALBURG SPRINGS ROAD TO THE TEMPORARY INTERSECTION AT PROPOSED VT 78

STA 10+130, LT - STA 10+360, LT
STA 10+510, LT - STA 10+570, LT
STA 10+585, LT - STA 10+760, LT
MAINTAIN TEMPORARY CONCRETE BARRIER AS SHOWN IN PHASE II

STA 10+405 - STA 10+510
INSTALL TEMPORARY CONCRETE BARRIER

INSTALL TEMPORARY CONCRETE BARRIER ALONG EXISTING TH 2 ALBURG SPRINGS ROAD

STA 0+004 - STA 0+090
CONSTRUCT PROPOSED TH 2 AND SLOPES

STA 0+000 - STA 0+090
INSTALL TEMPORARY PAVEMENT MARKINGS

PHASE IIB (ALBURG)

MAINTAIN TRAFFIC SIGNS AS SHOWN IN PHASE I AND II

MAINTAIN TRAFFIC SIGNS ALONG VT 78 AS INDICATED IN PHASE IIA

INSTALL TRAFFIC SIGNS AS INDICATED IN PHASE IIB

REDUCE CONSTRUCTION SPEED AS SHOWN (30 MPH)
COVER OR REMOVE SPEED LIMIT SIGNS FROM PHASE I (ALBURG SPRINGS ROAD APPROACH)

INSTALL REFLECTORIZED PLASTIC DRUMS ALONG EXISTING SIDEROAD OFF TH 2

MAINTAIN TRAFFIC FLOW AS INDICATED IN PHASE IIA

STA 0+090 - STA 0+160
CONSTRUCT PROPOSED TH 2 USING ONE-WAY ALTERNATING TRAFFIC. MAINTAIN A MAXIMUM VERTICAL DIFFERENCE OF 300 mm BETWEEN ADJACENT ROADWAY SURFACES WITH A MAXIMUM 1:3 SLOPES.

STA 0+090 - STA 0+160
INSTALL TEMPORARY PAVEMENT MARKINGS

0 10 20 30
SCALE IN METERS

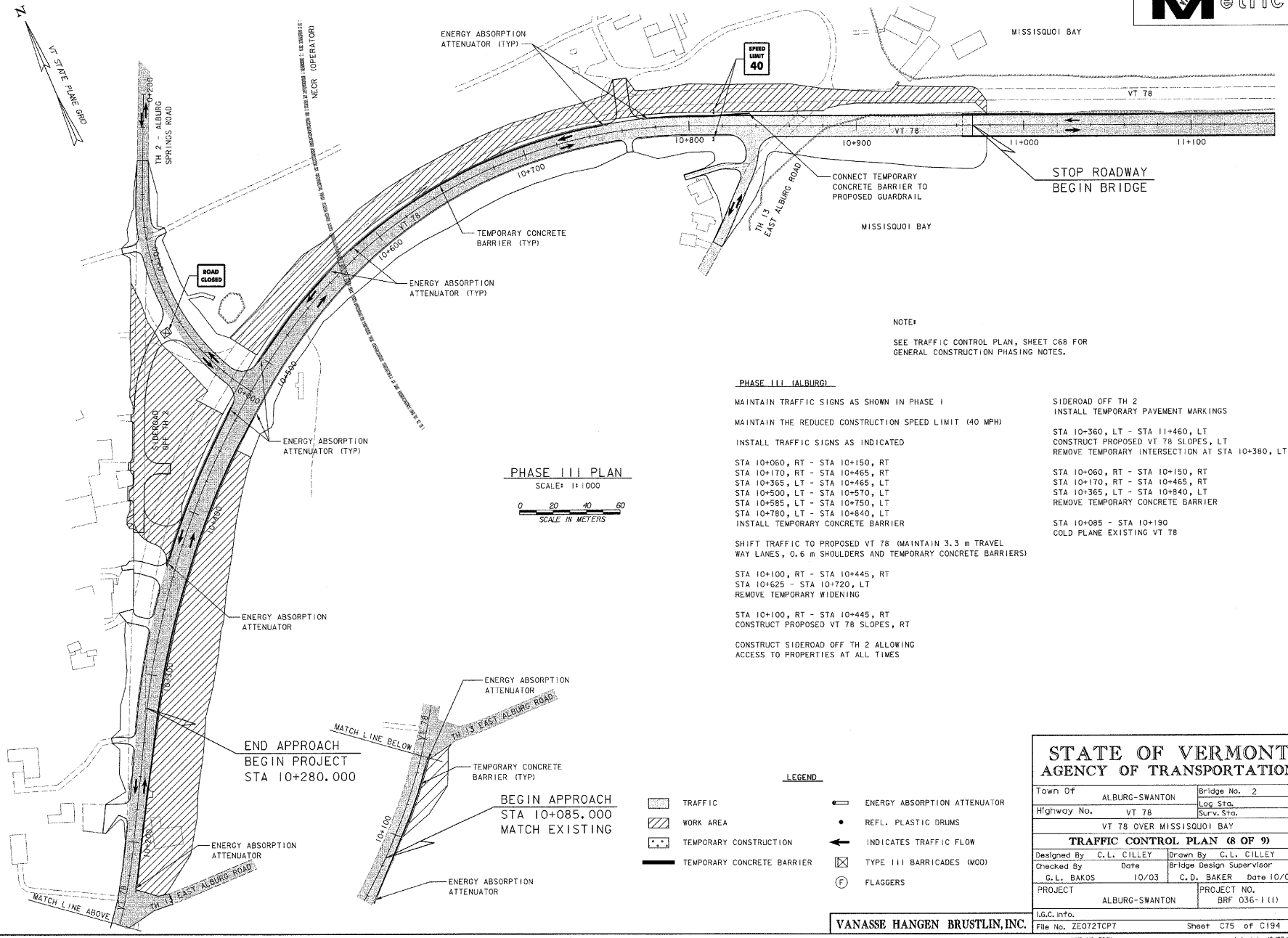
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
TRAFFIC CONTROL PLAN (7 OF 9)	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By G.L. BAKOS Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072TCP5	Sheet C74 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5098

plot date: 10/23/2003



PHASE III PLAN
SCALE: 1:1000
0 20 40 60
SCALE IN METERS

NOTE:

SEE TRAFFIC CONTROL PLAN, SHEET C68 FOR GENERAL CONSTRUCTION PHASING NOTES.

PHASE III (ALBURG)

MAINTAIN TRAFFIC SIGNS AS SHOWN IN PHASE I

MAINTAIN THE REDUCED CONSTRUCTION SPEED LIMIT (40 MPH)

INSTALL TRAFFIC SIGNS AS INDICATED

STA 10+060, RT - STA 10+150, RT
STA 10+170, RT - STA 10+465, RT
STA 10+365, LT - STA 10+465, LT
STA 10+500, LT - STA 10+570, LT
STA 10+585, LT - STA 10+750, LT
STA 10+780, LT - STA 10+840, LT
INSTALL TEMPORARY CONCRETE BARRIER

SHIFT TRAFFIC TO PROPOSED VT 78 (MAINTAIN 3.3 m TRAVEL WAY LANES, 0.6 m SHOULDERS AND TEMPORARY CONCRETE BARRIERS)

STA 10+100, RT - STA 10+445, RT
STA 10+625 - STA 10+720, LT
REMOVE TEMPORARY WIDENING

STA 10+100, RT - STA 10+445, RT
CONSTRUCT PROPOSED VT 78 SLOPES, RT

CONSTRUCT SIDEROAD OFF TH 2 ALLOWING ACCESS TO PROPERTIES AT ALL TIMES

SIDEROAD OFF TH 2
INSTALL TEMPORARY PAVEMENT MARKINGS

STA 10+360, LT - STA 11+460, LT
CONSTRUCT PROPOSED VT 78 SLOPES, LT
REMOVE TEMPORARY INTERSECTION AT STA 10+380, LT

STA 10+060, RT - STA 10+150, RT
STA 10+170, RT - STA 10+465, RT
STA 10+365, LT - STA 10+840, LT
REMOVE TEMPORARY CONCRETE BARRIER

STA 10+085 - STA 10+190
COLD PLANE EXISTING VT 78

LEGEND

- TRAFFIC
- WORK AREA
- TEMPORARY CONSTRUCTION
- TEMPORARY CONCRETE BARRIER
- ENERGY ABSORPTION ATTENUATOR
- REFL. PLASTIC DRUMS
- INDICATES TRAFFIC FLOW
- TYPE III BARRICADES (MOD)
- (F) FLAGGERS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

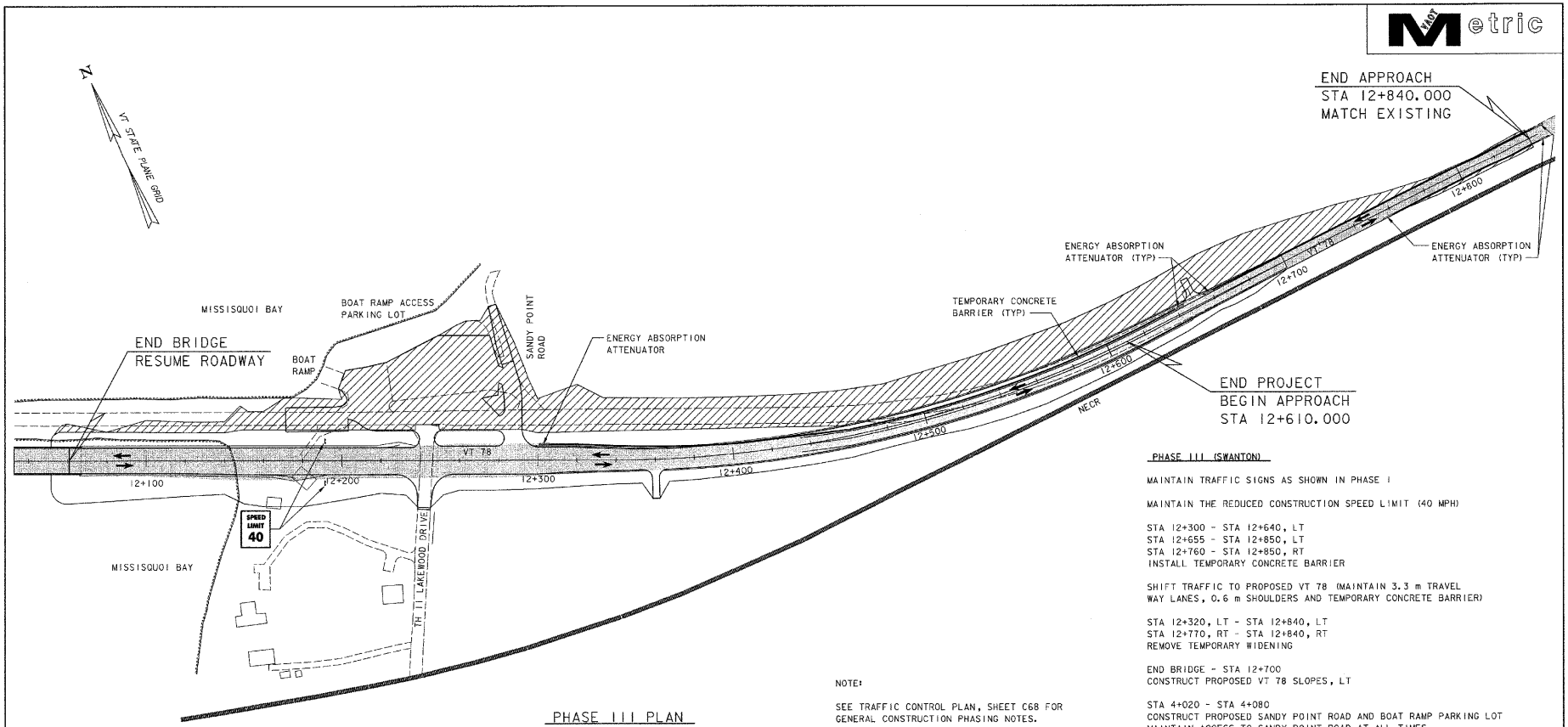
TRAFFIC CONTROL PLAN (8 OF 9)

Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By G.L. BAKOS Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. info.	
File No. ZE072TCP7	Sheet C75 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5098

plot date: 10/23/2003



PHASE III PLAN
SCALE: 1:1000
0 20 40 60
SCALE IN METERS

NOTE:

SEE TRAFFIC CONTROL PLAN, SHEET C68 FOR GENERAL CONSTRUCTION PHASING NOTES.

PHASE III (SWANTON)

MAINTAIN TRAFFIC SIGNS AS SHOWN IN PHASE I

MAINTAIN THE REDUCED CONSTRUCTION SPEED LIMIT (40 MPH)

STA 12+300 - STA 12+640, LT
STA 12+655 - STA 12+850, LT
STA 12+760 - STA 12+850, RT
INSTALL TEMPORARY CONCRETE BARRIER

SHIFT TRAFFIC TO PROPOSED VT 78 (MAINTAIN 3.3 m TRAVEL WAY LANES, 0.6 m SHOULDERS AND TEMPORARY CONCRETE BARRIER)

STA 12+320, LT - STA 12+840, LT
STA 12+770, RT - STA 12+840, RT
REMOVE TEMPORARY WIDENING

END BRIDGE - STA 12+700
CONSTRUCT PROPOSED VT 78 SLOPES, LT

STA 4+020 - STA 4+080
CONSTRUCT PROPOSED SANDY POINT ROAD AND BOAT RAMP PARKING LOT
MAINTAIN ACCESS TO SANDY POINT ROAD AT ALL TIMES

STA 12+700 - STA 12+840
INSTALL TEMPORARY PAVEMENT MARKINGS

STA 12+435 - STA 12+700
REMOVE TEMPORARY CONCRETE BARRIER

STA 10+180 - STA 12+840
INSTALL FINAL PAVEMENT AND PAVEMENT MARKINGS
USE ONE-WAY ALTERNATING TRAFFIC AS NECESSARY

LEGEND

- TRAFFIC
- WORK AREA
- TEMPORARY CONSTRUCTION
- TEMPORARY CONCRETE BARRIER
- ENERGY ABSORPTION ATTENUATOR
- REFL. PLASTIC DRUMS
- INDICATES TRAFFIC FLOW
- TYPE III BARRICADES (MOD)
- (F) FLAGGER

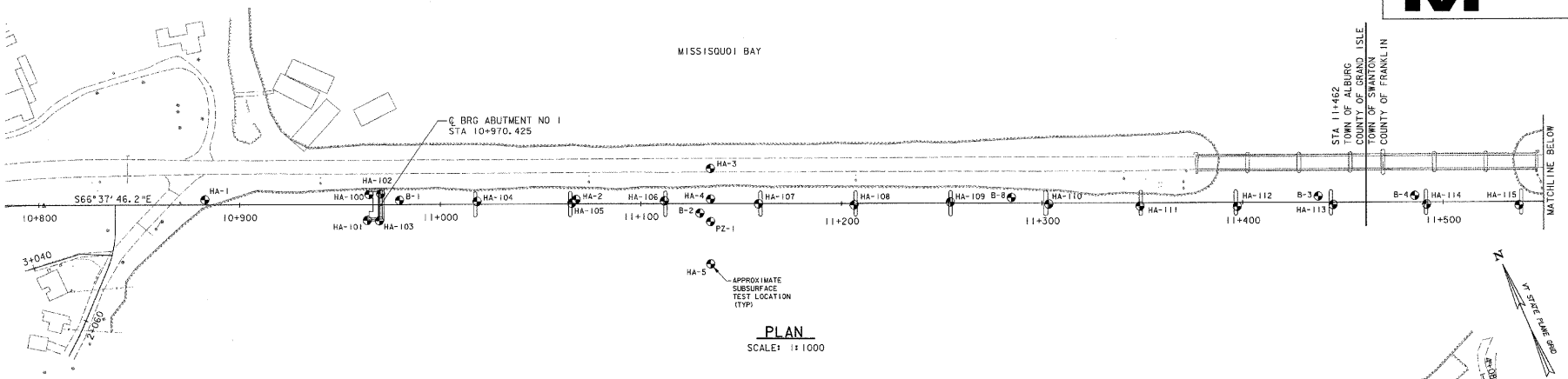
VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

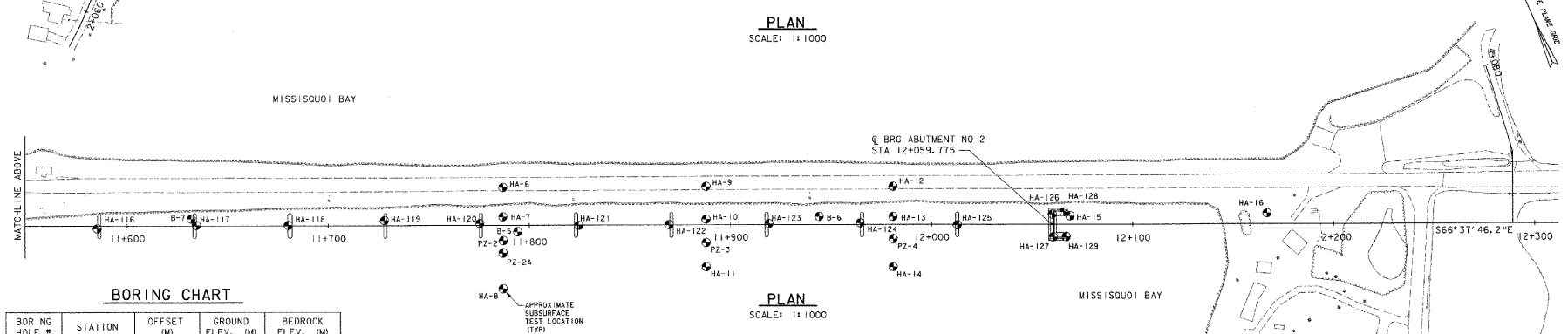
Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
TRAFFIC CONTROL PLAN (9 OF 9)	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By G.L. BAKOS Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
L.C.C. Info.	
File No. ZE072TCP6	Sheet C76 of C194

VHB NO. 5091

plot date: 10/23/2003



PLAN
SCALE: 1:1000



PLAN
SCALE: 1:1000

MISSISQUOI BAY

BORING CHART

BORING HOLE #	STATION	OFFSET (M)	GROUND ELEV. (M)	BEDROCK ELEV. (M)
B-1	10+979.68	2.12 LT	27.46	25.66
B-2	11+129.40	4.57 RT	26.52	22.62
B-3	11+437.68	3.08 LT	23.91	19.29
B-4	11+485.83	3.18 LT	24.06	21.06
B-5	11+794.14	3.18 RT	26.12	6.82
B-6	11+944.13	4.14 LT	27.44	11.99
B-7	11+631.83	3.48 LT	27.72	12.72
B-8	11+284.68	2.76 LT	26.92	13.72
HA-1	10+682.68	2.52 LT	29.54	28.78
HA-2	11+067.67	2.11 LT	26.12	16.43
HA-3	11+134.65	17.44 LT	31.93	22.39
HA-4	11+134.76	2.24 LT	26.12	23.59
HA-5	11+134.81	29.75 RT	25.96	22.88
HA-6	11+786.80	18.91 LT	31.53	9.71
HA-7	11+786.82	4.31 LT	26.33	7.95
HA-8	11+786.87	31.40 RT	25.51	6.86
HA-9	11+887.80	19.12 LT	31.52	9.88
HA-10	11+887.83	2.82 LT	26.43	NO REFUSAL
HA-11	11+887.88	20.68 RT	25.80	8.98
HA-12	11+980.80	19.01 LT	31.46	12.19
HA-13	11+980.83	4.01 LT	26.78	12.80
HA-14	11+980.88	20.79 RT	26.05	13.87
HA-15	12+068.82	4.19 LT	27.56	26.34
HA-16	12+166.82	5.40 LT	30.42	28.83
PZ-1	11+134.74	8.86 RT		-
PZ-2	11+787.02	7.49 RT		-
PZ-2A	11+786.84	13.59 RT		-
PZ-3	11+887.86	8.78 RT		-
PZ-4	11+980.85	7.09 RT		-

B-1 INDICATES BORING TAKEN AUGUST 1997 BY VTRANS
HA-1 INDICATES BORING TAKEN NOVEMBER 1998 BY HALEY & ALDRICH
PZ-1 INDICATES PIEZOCONE PENETRATION TEST PERFORMED NOVEMBER 1998 BY HALEY & ALDRICH
HA-100 INDICATES BORING TAKEN JUNE THRU AUGUST 2001 BY HALEY & ALDRICH

BORING CHART

BORING HOLE #	STATION	OFFSET (M)	GROUND ELEV. (M)	BEDROCK ELEV. (M)
HA-100	10+964.53	5.07 LT	27.24	25.56
HA-101	10+963.64	7.63 RT	26.99	25.32
HA-102	10+970.30	5.32 LT	27.21	25.99
HA-103	10+969.66	7.85 RT	26.99	25.62
HA-104	11+018.32	1.46 LT	27.12	23.76
HA-105	11+065.56	0.48 LT	25.92	15.86
HA-106	11+111.73	1.45 LT	25.73	23.59
HA-107	11+158.61	0.09 RT	25.69	20.97
HA-108	11+206.28	0.65 RT	26.35	16.60
HA-109	11+254.27	0.62 LT	26.35	13.85
HA-110	11+303.35	0.47 RT	26.05	11.11
HA-111	11+348.82	1.46 RT	25.83	20.35
HA-112	11+397.28	1.87 RT	24.12	18.79
HA-113	11+445.09	1.07 RT	24.09	20.59
HA-114	11+491.72	0.99 RT	23.27	20.83

BORING CHART

BORING HOLE #	STATION	OFFSET (M)	GROUND ELEV. (M)	BEDROCK ELEV. (M)
HA-115	11+537.82	1.59 RT	25.10	14.58
HA-116	11+585.14	1.33 RT	26.63	14.44
HA-117	11+634.41	0.29 LT	27.08	11.84
HA-118	11+680.12	0.27 LT	26.66	9.59
HA-119	11+727.93	2.60 LT	26.72	11.48
HA-120	11+775.32	0.97 LT	25.99	9.07
HA-121	11+824.53	0.18 RT	26.00	9.85
HA-122	11+869.45	0.23 LT	26.47	11.23
HA-123	11+919.09	0.51 LT	26.75	7.70
HA-124	11+964.49	0.84 LT	26.60	11.66
HA-125	12+012.81	0.18 RT	26.23	12.82
HA-126	12+060.02	5.10 LT	27.27	25.90
HA-127	12+060.50	6.25 RT	27.18	25.80
HA-128	12+065.89	6.22 LT	27.42	26.51
HA-129	12+066.95	6.16 RT	27.33	27.02

0 20 40 60
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LAYOUT PLAN	
Designed By S. W. JOHNSON	Drawn By C. L. CILLEY
Checked By S. W. JOHNSON Date 10/03	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072BLP	Sheet C77 of C194

VHB NO. 50911

plot date: 10/23/2003

SOIL CLASSIFICATION

AASHTO	
A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

ROCK QUALITY DESIGNATION

R.Q.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51 to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN kPa	CONSISTENCY
<12	Very Soft
12-24	Soft
24-48	Med. Stiff
48-96	Stiff
96-192	Very Stiff
>192	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

▼	Water Elevation
	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per 300 mm For: 50.8 mm O.D. Sampler, 35.0 mm I.D. Sampler, Hammer Weight Of 63.5 kg. Hammer Fall Of 762 mm
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 30.1 mm
BX	Core Size 42.0 mm
NX	Core Size 54.7 mm
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	To Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)
DO	Ditto
WOH	Weight of Hammer
WOR	Weight of Rod
C*	Indicates Rock Core Number
Push	Pushed to advance casing or push to obtain undisturbed sample
PP	Pocket Penetrometer
TV	Torvane
U	Undisturbed Sample

COLOR

blk	Black	pnk	Pink
bl	Blue	pu	Purple
brn	Brown	rd	Red
dk	Dark	tn	Tan
gry	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mlte	Multicolored
or	Orange		

DEFINITIONS (AASHTO)

BEDROCK (LEDGE) - Rock in its native location of indefinite thickness.

BOULDER - A rock fragment with an average dimension > 304.8 mm.

COBBLE - Rock fragments with an average dimension between 76.2 and 304.8 mm.

GRAVEL - Rounded particles of rock < 76.2 mm and > 2 mm (#10 sieve).

SAND - Particles of rock < 2 mm (#10 sieve) and > 75 μm (#200 sieve).

SILT - Soil < 75 μm (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.

VARVED - Alternate layers of silt and clay.

HARDPAN - Extremely dense soil, cemented layer, not softened when wet.

MUCK - Soft organic soil (containing > 10% organic material.

MOISTURE CONTENT - Weight of water divided by dry weight of soil.

FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.

STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.

DIP - Inclination of bed with a horizontal plane.

WEATHERING OF ROCK MASS

TERM	ABBREVIATION	DESCRIPTION
FRESH	FR	NO VISIBLE SIGN OF ROCK MATERIAL WEATHERING; SLIGHT TO NO DISCOLORATION ON MAJOR ROCK DISCONTINUITY SURFACES.
SLIGHTLY WEATHERED	SW	DISCOLORATION INDICATES WEATHERING OF ROCK MATERIAL AND DISCONTINUITY SURFACES. ALL THE ROCK MATERIAL MAY DISCOLORED BY WEATHERING AND MAY BE SOMEWHAT WEAKER EXTERNALLY THAN IN ITS FRESH CONDITION.
MODERATELY WEATHERED	MW	LESS THAN HALF THE ROCK MATERIAL IS DECOMPOSED AND/OR DISINTEGRATED INTO A SOIL. FRESH OR DISCOLORED ROCK IS PRESENT EITHER AS A CONTINUOUS FRAMEWORK OR CORESTONES.
HIGHLY WEATHERED	HW	MORE THAN HALF THE ROCK MATERIAL IS DECOMPOSED AND/OR DISINTEGRATED INTO A SOIL. FRESH OR DISCOLORED ROCK IS PRESENT EITHER AS A DISCONTINUOUS FRAMEWORK OR AS CORESTONES.
COMPLETELY WEATHERED	CW	ALL ROCK MATERIAL IS DECOMPOSED AND/OR DISINTEGRATED INTO A SOIL. THE ORIGINAL MASS STRUCTURE IS STILL LARGELY INTACT.
RESIDUAL SOIL	RS	ALL ROCK MATERIAL IS CONVERTED TO SOIL. THE MASS STRUCTURE AND MATERIAL FABRIC ARE DESTROYED. THERE IS A LARGE CHANGE IN VOLUME, BUT THE SOIL HAS NOT BEEN SIGNIFICANTLY TRANSPORTED.

GENERAL NOTES

1. SOIL AND ROCK CLASSIFICATIONS, PROPERTIES AND DESCRIPTIONS ARE BASED ON ENGINEERING INTERPRETATION FROM AVAILABLE SUBSURFACE INFORMATION AND MAY NOT NECESSARILY REFLECT ACTUAL VARIATIONS IN SUBSURFACE CONDITIONS THAT MAY BE ENCOUNTERED BETWEEN INDIVIDUAL BORING OR SAMPLE LOCATIONS.
2. OBSERVED WATER LEVELS AND/OR CONDITIONS INDICATED ARE AS RECORDED AT THE TIME OF EXPLORATION AND MAY VARY ACCORDING TO THE PREVAILING RAINFALL, METHODS OF EXPLORATION AND OTHER FACTORS.
3. ENGINEERING JUDGEMENT WAS EXERCISED IN PREPARING THE SUBSURFACE INFORMATION PRESENTED HEREIN. ANALYSIS AND INTERPRETATION OF SUBSURFACE DATA WAS PERFORMED AND INTERPRETED FOR DESIGN AND ESTIMATING PURPOSES. PRESENTATION OF THE INFORMATION IN THE CONTRACT IS INTENDED TO PROVIDE THE CONTRACTOR ACCESS TO THE SAME DATA AVAILABLE TO THE AGENCY. THE SUBSURFACE INFORMATION IS PRESENTED IN GOOD FAITH AND IS NOT INTENDED AS A SUBSTITUTE FOR PERSONAL INVESTIGATION, INDEPENDENT INTERPRETATION, INDEPENDENT ANALYSIS OR JUDGEMENT BY THE CONTRACTOR.
4. PICTORIAL STRUCTURE DETAILS SHOWN ON THE BORING PLAN LAYOUT OR SOILS PROFILE ARE FOR ILLUSTRATIVE PURPOSES ONLY AND MAY NOT ACCURATELY PORTRAY FINAL CONTRACT DETAILS.
5. TERMINOLOGY USED ON BORING LOGS TO DESCRIBE THE HARDNESS, DEGREE OF WEATHERING, AND SPACING OF FRACTURES, JOINTS AND OTHER DISCONTINUITIES IN THE BEDROCK IS DEFINED IN THE AASHTO MANUAL ON SUBSURFACE INVESTIGATIONS, 1988.

Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING NOTES	
Designed By HALEY & ALDRICH	Drawn By C.L. CILLEY
Checked By Date: HALEY & ALDRICH 18/03	Bridge Design Supervisor: C.D. BAKER Date 10/03
PROJECT: ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
I.G.C. Info.	
File No. ZE072BN	Sheet C78 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5098

plot date: 10/23/2003

90

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B1
SHEET 1 OF 1
DATE STARTED: 8/8/97
DATE COMPLETED: 8/8/97

PROJECT NAME: ALBURG-SWANTON
SITE NAME: BRIDGE #2
STATION: ~~54874.70~~ 10+379.68, 2.12 m LT.
GROUND EL.: 27.46

PROJECT NUMBER: BRF 036-1(1)
SITE NO.: VT 78
OFFSET: 0.00
LAKE SURFACE EL.: 29.38

BORING CREW
CREW CHIEF: HOLT
DRILLER: GAMWELL W
LOGGER: ALLEN .
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-2-4,Sa,MTN,brn,rec.=0.08m	1	25.7	16.7	65.4	13.9		
		Boulders-no recovery	R	Top of bedrock at 1.80m					
					RECS	RQDS	DIP°		
		Run #1: BXDC, 1.80m - 3.10m rec.=0.79, See Geologist's Report	Run #1		61	23	15		
		Run #2: BXDC, 3.10m - 4.62m rec.=1.40m, See Geologist's Report	Run #2		92	83	20		
5									
		Hole stopped at 4.62m							
10									
15									

GEOLOGISTS REPORT:

Run #1: Black calcareous shale. Moderately hard. Unweathered. Poor RQD due to mechanical breakage during drilling.

Run #2: Black calcareous shale. Moderately hard. Unweathered. Competent.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B2
SHEET 1 OF 1
DATE STARTED: 8/6/97
DATE COMPLETED: 8/6/97

PROJECT NAME: ALBURG-SWANTON
SITE NAME: BRIDGE #2
STATION: ~~54924.70~~ 11+129.40, 4.57 m RT.
GROUND EL.: 26.52

PROJECT NUMBER: BRF 036-1(1)
SITE NO.: VT 78
OFFSET: 7.00
LAKE SURFACE EL.: 29.45

BORING CREW
CREW CHIEF: CHABOT
DRILLER: HOLT
LOGGER: ALLEN .
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		Trace of silty muck, no recovery	WOR						
		A-7-6,Cl,MTN,L.t.gry,rec.=0.60m	3	48.3	0.1	0.7	99.2	47	22
		At 2.20m encountered stones while drilling							
		A-1-b,SaGr,MTN,gry,rec.=0.21m	13	8.3	59.6	22.3	18.1		
			Top of Bedrock at 3.90m						
					RECS	RQDS	DIP°		
		Run #1: BXDC, 3.90m - 4.81m rec.=0.91m See Geologist's Report	Run #1		100	52	20		
		Run #2: BXDC, 4.81m - 6.33m rec.=0.85m, See Geologist's Report	Run #2		56	33	20		
		Run #3: BXDC, 6.33m - 7.37m rec.=0.54m, See Geologist's Report	Run #3		52	20	20		
5									
		Hole stopped at 7.37m							
10									
15									

GEOLOGISTS REPORT:

Run #1: Black calcareous shale with 0.2m thick vuggy calcite vein. Moderately hard. Unweathered. Poor RQD possibly due to mechanical breakage during drilling.

Run #2: Black calcareous shale. Moderately hard. Unweathered. Poor RQD possibly due to mechanical breakage during drilling.

Run #3: Black calcareous shale. Moderately hard. Unweathered. Poor RQD possibly due to mechanical breakage during drilling.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B3
SHEET 1 OF 1
DATE STARTED: 8/13/97
DATE COMPLETED: 8/13/97

PROJECT NAME: ALBURG-SWANTON
SITE NAME: BRIDGE #2
STATION: ~~54330.00~~ 11+437.68, 3.08 m LT.
GROUND EL.: 23.9

PROJECT NUMBER: BRF 036-1(1)
SITE NO.: VT 78
OFFSET: 0.00
LAKE SURFACE EL.: 25.46

BORING CREW
CREW CHIEF: MCGLYNN
DRILLER: CHABOT E J
LOGGER: HOLT
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-8,Organic Si,Sat,dk.gry organic content 124.62% rec.=0.20m	WOR	178.7 96	0.2 0.6	10.8 2.4	89 97	53	30
		A-7-6,Cl,Sat,gry,rec.=0.40m							
		A-6,SiCl,Sat,L.t.gry,rec.=0.20m Visual Classification	WOR	68.8					
		A-4,Si,Sat,gry,rec.=0.26m	WOR	27.2	2.8	14	83.2		
		Note: When casing was added it fell to 4.50m.							
			Top of Bedrock at 4.62m						
					RECS	RQDS	DIP°		
		Run #1: BXDC, 4.62m - 5.24m rec.=0.41m, See Geologist's Report	Run #1		66	58	30		
		Run #2: BXDC, 5.24m - 6.42m rec.=1.01m, See Geologist's Report	Run #2		86	78	20		
		Run #3: BXDC, 6.42m - 7.92m rec.=1.50m, See Geologist's Report	Run #3		100	100	20		
5									
		Hole stopped at 7.92m							
10									
15									

GEOLOGISTS REPORT:

Run #1: Black calcareous shale. Moderately hard. Unweathered. Low RQD due to mechanical breakage during drilling.

Run #2: Black calcareous shale. Moderately hard. Unweathered. Competent.

Run #3: Black calcareous shale. Moderately hard. Unweathered. Competent.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B4
SHEET 1 OF 1
DATE STARTED: 8/14/97
DATE COMPLETED: 8/14/97

PROJECT NAME: ALBURG-SWANTON
SITE NAME: BRIDGE #2
STATION: ~~54024.00~~ 11+485.83, 3.08 m LT.
GROUND EL.: 24.06

PROJECT NUMBER: BRF 036-1(1)
SITE NO.: VT 78
OFFSET: 0.00
LAKE SURFACE EL.: 29.54

BORING CREW
CREW CHIEF: HOLT
DRILLER: CHABOT E J
LOGGER: ALLEN .
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-4, Si w/trace of organics (8.05%) Sat, L.t. gry, rec.=0.60m	WOR	67.7	0.7	7.5	91.8		
		A-2-4, SiGrSa, Wet, gry rec.=0.17m	13	12.5	32	44	24		
		Top of Bedrock at 3.00m							
					RECS	RQDS	DIP°		
		Run #1: BXDC, 3.00m - 3.45m rec.=0.25m, See Geologist's Report	Run #1		56	0			
		Run #2: BXDC, 3.45m - 4.95m rec.=1.50m, See Geologist's Report	Run #2		100	98	25		
		Run #3: BXDC, 4.95m - 6.45m rec.=1.37m, See Geologist's Report	Run #3		91	82			
5									
		Hole stopped at 6.45m							
10									
15									

GEOLOGISTS REPORT:

Run #1: Black calcareous shale. Moderately hard. Unweathered. Core very broken. Low RQD possibly due to mechanical breakage during drilling.

Run #2: Black calcareous shale. Moderately hard. Unweathered. Competent.

Run #3: Black calcareous shale. Moderately hard. Unweathered. Competent.

GENERAL NOTES

1. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
2. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
3. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
4. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
5. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

NOTE:
STATIONS FOR BORINGS B-1 THRU B-8 REFLECT LOCATION ALONG PROPOSED ALIGNMENT.

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (1 OF 38)	
Designed By VTRANS	Drawn By VTRANS
Checked By VTRANS Date 9/97	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072LG1	Sheet C79 of C194

VHB NO. 5091

plot date: 10/23/2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B5
SHEET 1 OF 2
DATE STARTED: 7/25/97
DATE COMPLETED: 7/29/97

PROJECT NAME: ALBURG-SWANTON
SITE NAME: BRIDGE #2
STATION: ~~0+882.30~~ 11+794.14, 3.18 m RT.
GROUND EL.: 26.2

PROJECT NUMBER: BRF 036-1(1)
SITE NO.: VT 78
OFFSET: 7.00
LAKE SURFACE EL.: 29.48

BORING CREW
CREW CHIEF: HOLT
DRILLER: CHABOT E J
LOGGER: TALLMAN .
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Descriptive)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-7,SICl,Sat,gry,rec.=0.50m Visual Classification	WH	69.9		4.5	95.5		
		A-7-6,SICl,Sat,gry,rec.=0.33m	WH	71.2	0.5	2.5	97.0	42	20
		A-6,SaClSi,Wet,gry rec.=0.17m Visual Classification	1	38.5	2.2	23.9	73.9		
		A-2-4,GrSiSa,Wet,gry,rec.=0.20m	1	23.5	25.7	45.5	28.8	21	6
		A-4,SaSi,Wet,gry,rec.=0.16m	1	20.9	18.8	36.7	44.5		
5		A-4,SaSi,Wet,Lt.gry,rec.=0.27m	2	15.7	17.2	39.1	43.7		
		A-4,SaSi,Wet,Lt.gry,rec.=0.18m	2	12.5	19.2	39.7	41		
		A-4,SaSi,WTW,Lt.gry,rec.=0.60m	9	15.3	9.9	39.1	51.0		
		A-4,SiSa,WTW,Lt.gry,rec.=0.60m	6	14.6	18.5	42.3	39.2		
		A-4,SaClSi,Wet,gry,rec.=0.28m Visual Classification	1	29.7	8.5	28.9	62.6		
10		A-7-5,Cl,Wet,blue,rec.=0.58m Visual Classification	WOR	61.2		7.1	92.9		
		A-7-6,Cl,Wet,gry-brn,rec.=0.60m	WOR	65.2	0.2	1.7	98.1	59	33
		A-4,ClSi,Wet,gry-brn,rec.=0.60m Visual Classification	WOR	57.2		0.3	99.7		
		A-4,Si,Wet,Lt.gry,rec.=0.30m	39	37.1	0.1	5.8	94.1	23	6
		A-4,GrSiSa,Wet,Lt.gry rec.=0.30m		11.4	22.7	39.7	37.6		
		A-4,SaGrSlMTW,Lt.gry rec.=0.26m	18	10.3	36.8	24.6	38.6		
15									

GEOLOGISTS REPORT:

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B5
SHEET 2 OF 2
DATE STARTED: 7/25/97
DATE COMPLETED: 7/29/97

PROJECT NAME: ALBURG-SWANTON
SITE NAME: BRIDGE #2
STATION: ~~0+882.30~~ 11+794.14, 3.18 m RT.
GROUND EL.: 26.2

PROJECT NUMBER: BRF 036-1(1)
SITE NO.: VT 78
OFFSET: 7.00
LAKE SURFACE EL.: 29.48

BORING CREW
CREW CHIEF: HOLT
DRILLER: CHABOT E J
LOGGER: TALLMAN .
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Descriptive)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-2-4,SiSaGr,MTW,blk,rec.=0.20m	10	7.9	35.3	34.1	28.6		
		A-4,GrSaSi,Wet,dk.gry rec.=0.29m	21	7.7	21.6	25.1	53.3	16	5
		A-4,SaSi,Moist,dk.gry,rec.0.46m	55	7.5	16.4	27.2	56.4		
		A-4,SaSi,Moist,dk.gry rec.=0.06m	42		17.0	27.6	55.4		
		broken rock at 19.0m, no rec.	R	Top of Bedrock at 19.30m					
20		Run #1:BXDC, 19.30m - 20.80m rec.=1.02m, See Geologist's Report	Run #1	RECC 68	ROSS 0	DIP* 25			
		Run #2:BXDC, 20.80m - 21.61m rec.=0.29m, See Geologist's Report	Run #2	36	12	30			
		Run #3: BXDC, 21.61m - 23.11m rec.=1.10m, See Geologist's Report	Run #3	73	53	30			
25				Hole stopped at 23.11m					
30									

GEOLOGISTS REPORT:

Run #1: Black shale with very thin dolomite beds. Medium hard to soft. Very slightly weathered. Low RQD due to mechanical breakage during drilling.

Run #2: Black shale with very thin dolomite beds. Medium hard to soft. Very slightly weathered.

Run #3: Black shale with very thin dolomite beds. Medium hard to soft. Very slightly weathered. Numerous quartz veins. Deformed bedding. Intensely folded and faulted.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B6
SHEET 1 OF 2
DATE STARTED: 7/30/97
DATE COMPLETED: 7/31/97

PROJECT NAME: ALBURG-SWANTON
SITE NAME: BRIDGE #2
STATION: ~~0+882.30~~ 11+944.13, 4.14 m LT.
GROUND EL.: 27.44

PROJECT NUMBER: BRF 036-1(1)
SITE NO.: VT 78
OFFSET: 0.00
LAKE SURFACE EL.: 29.46

BORING CREW
CREW CHIEF: HOLT
DRILLER: CHABOT E J
LOGGER: ALLEN .
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Descriptive)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-4,Si,Wet,dk.gry,rec.=0.37m	WOR	100	18.8	14.2	67		
		A-8,Organic Si,Wet,brn,rec.=0.27m	1	218.4	3.4	19.5	77.1		
		A-4,SaSi,Wet,gry,rec.=0.28m		32.9	14.8	28	57.2		
		A-4,GrSaSi,WTW,gry-brn,rec.=0.26m	2	15.4	27.5	34.1	38.4		
		At 3.90m - Beginning to drill through a stiff layer.							
5		SICr, rec.=0.05m Visual Classification	2	4.5					
		A-6,SICl,Wet,gry,rec.=0.37m Visual Classification	1	32.9	2.8	2.5	94.7		
		A-6,SICl,Wet,lt.gry rec.=0.60m	WOR	47.3	0	1.6	98.4	36	14
		A-4,GrSiSa,Wet,gry,rec.=0.32m	16	12.2	25.8	37.9	36.3		
10		A-1-a,SaGr,Wet,gry,rec.=0.36m	55	6.8	60.1	30.6	9.3		
		A-1-b,SaGr,WTW,dk.gry rec.=0.35m	77	7.4	49	35.3	15.7		
		A-2-4,SiGrSa,Moist,dk.gry rec.=0.36m	46	7.4	33.6	42.6	23.8		
15									

GEOLOGISTS REPORT:

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B6
SHEET 2 OF 2
DATE STARTED: 7/30/97
DATE COMPLETED: 7/31/97

PROJECT NAME: ALBURG-SWANTON
SITE NAME: BRIDGE #2
STATION: ~~0+882.30~~ 11+944.13, 4.14 m LT.
GROUND EL.: 27.44

PROJECT NUMBER: BRF 036-1(1)
SITE NO.: VT 78
OFFSET: 0.00
LAKE SURFACE EL.: 29.46

BORING CREW
CREW CHIEF: HOLT
DRILLER: CHABOT E J
LOGGER: ALLEN .
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Descriptive)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-2-4,GrSa,Moist,dk.gry rec.=0.25m	R	12.3	30.1	52.7	17.2		
		Top of Bedrock at 15.45m							
		Run #1: BXDC, 15.45m - 16.82m rec.=1.12m, See Geologist's Report.	Run #1	RECC 82	ROSS 39	DIP* 40			
		Run #2: BXDC, 16.82m - 18.04m rec.=0.67m, See Geologist's Report.	Run #2	55	13	40			
		Run #3: BXDC, 18.04m - 19.56m rec.=1.52m, See Geologist's Report.	Run #3	100	100	40			
20				Hole stopped at 19.56m					
		Note: No noticeable evidence of open seams while drilling Run#1 and Run #2. However rock was binding inside of the core barrel and breaking up.							
25									
30									

GEOLOGISTS REPORT:

Run #1: Black shale with thin dolomite beds. Medium hard to soft. Very slightly weathered. Low RQD due to mechanical breakage during drilling.

Run #2: Black shale with thin dolomite beds. Medium hard to soft. Very slightly weathered. Low RQD due to mechanical breakage during drilling.

Run #3: Black shale with thin dolomite beds. Medium hard to soft. Very slightly weathered. Competent.

NOTE:
STATIONS FOR BORINGS B-1 THRU B-8 REFLECT LOCATION ALONG PROPOSED ALIGNMENT.

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (2 OF 38)	
Designed By VTRANS	Drawn By VTRANS
Checked By VTRANS Date 19/97	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072LG2	Sheet C80 of C194

VHB NO. 5091

plot date: 10/23/2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B7
SHEET 1 OF 2
DATE STARTED: 7/30/97
DATE COMPLETED: 8/4/97

PROJECT NAME: ALBURG-SWANTON
SITE NAME: BRIDGE #2
STATION: ~~0+470.00~~ 11+631.83, 3.48 m LT.
GROUND EL.: 27.72

PROJECT NUMBER: BRF 036-1(1)
SITE NO.: VT 78
OFFSET: 0.00
LAKE SURFACE EL.: 29.46

BORING CREW
CREW CHIEF: HOLT
DRILLER: CHABOT E J
LOGGER: ALLEN .
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		GrSa(Field Class.), no rec.	1						
		A-2-4,SlSa,Sat,brn,rec=0.26m	WOR	20.6	19.4	53.3	27.3		
		A-2-4,GrSlSa,Sat,brn,rec=0.46m	1	14.4	27	44.1	28.9		
		At 4.50m Hit stones during sampling. No recovery.	15						
5									
		A-7-6,Cl,Sat,lt.gry,rec=0.60m	WOR	67.7	0.4	2.5	97.1	57	32
		A-7-6,Cl w/organics,Sat,lt.gry, rec.=0.60m Visual Classification	WOR	67	0.1	2.7	97.2		
		At 9.00m Stones pushed ahead and plugged sampler, no rec. At 9.30m Encountered stones during drilling.	35						
10									
		A-4,SaSi,Sat,dk.gry,rec=0.30m	11	15.8	8.8	31.2	60		
		A-4,Si,MTW,dk.gry,rec=0.32m	29	15.3	0.9	1.5	97.6		
		A-2-4,GrSaSi,Moist,dk.gry rec=0.28m	R	8.5	31.1	33.4	35.5		
15									

GEOLOGISTS REPORT:

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B7
SHEET 2 OF 2
DATE STARTED: 7/30/97
DATE COMPLETED: 8/4/97

PROJECT NAME: ALBURG-SWANTON
SITE NAME: BRIDGE #2
STATION: ~~0+470.00~~ 11+631.83, 3.48 m LT.
GROUND EL.: 27.72

PROJECT NUMBER: BRF 036-1(1)
SITE NO.: VT 78
OFFSET: 0.00
LAKE SURFACE EL.: 29.46

BORING CREW
CREW CHIEF: HOLT
DRILLER: CHABOT E J
LOGGER: ALLEN .
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		Run #1: BXDC, 15.00m - 15.76m rec.=0.36m,See Geologist's Report	Top of Bedrock at 15.00m						
					RECC	ROCK	DIP°		
		Run #2: BXDC, 15.76m - 17.28m rec.=1.52m,See Geologist's Report	Run #1		47	14	25		
			Run #2		100	93	25		
		Run #3: BXDC, 17.28m - 18.80m rec.=1.47m,See Geologist's Report	Run #3		97	88	25		
			Hole stopped at 18.80m						
20									
25									
30									

GEOLOGISTS REPORT:

Run #1: Black calcareous shale. Moderately hard. Unweathered. Core very broken up. Poor Competency.

Run #2: Black calcareous shale. Moderately hard. Unweathered. Competent.

Run #3: Black calcareous shale. Moderately hard. Unweathered. Competent.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B8
SHEET 1 OF 2
DATE STARTED: 8/5/97
DATE COMPLETED: 8/5/97

PROJECT NAME: ALBURG-SWANTON
SITE NAME: BRIDGE #2
STATION: ~~5+480.00~~ 11+284.68, 2.76 m LT.
GROUND EL.: 26.32

PROJECT NUMBER: BRF 036-1(1)
SITE NO.: VT 78
OFFSET: 0.00
LAKE SURFACE EL.: 29.45

BORING CREW
CREW CHIEF: CHABOT
DRILLER: HOLT
LOGGER: ALLEN .
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		Broken stones, Moist,brn,no rec.	2						
		A-6,SlCl,Sat,gry,rec.=0.60m Visual Classification	1	49.4	0.3	1.4	98.3		
		A-6,SlCl,Sat,gry,rec.=0.60m	WOR	62		1.3	98.7	37	15
		A-6,SlCl,Sat,gry,rec.=0.60m Visual Classification	WOR	51.1		1.0	99.0		
5									
		A-7-6,SlCl,Sat,gry,rec.=0.60m	WOR	75.4	0.1	4.8	95.1	44	20
		A-7-6,Cl,Sat,blue,rec.=0.60m Visual Classification	WOR	63.70		3.0	97.0		
		A-7-6,Cl,Sat,lt.gry,rec.=0.60m	WOR	61.3	1.0	1.9	97.1	43	21
10		BXDC,10.20m-12.60m,Boulders same type of material as the ledge found in this area, very seamy.							
			Top of Bedrock at 13.20m						
					RECC	ROCK	DIP°		
		Run #1:BXDC, 13.20m - 14.72m rec.=1.20m, See Geologist's Report	Run #1		79	63	15		
15		Beginning of Run #2							

GEOLOGISTS REPORT:

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B8
SHEET 2 OF 2
DATE STARTED: 8/5/97
DATE COMPLETED: 8/5/97

PROJECT NAME: ALBURG-SWANTON
SITE NAME: BRIDGE #2
STATION: ~~5+480.00~~ 11+284.68, 2.76 m LT.
GROUND EL.: 26.32

PROJECT NUMBER: BRF 036-1(1)
SITE NO.: VT 78
OFFSET: 0.00
LAKE SURFACE EL.: 29.45

BORING CREW
CREW CHIEF: CHABOT
DRILLER: HOLT
LOGGER: ALLEN .
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
					RECC	ROCK	DIP°		
		Run #2: BXDC, 14.72m - 16.24m rec.=1.33m, See Geologist's Report	Run #2		88	72	15		
			Hole stopped at 16.24m						
20									
25									
20									

GEOLOGISTS REPORT:

Run #1: Black calcareous shale. Moderately hard. Unweathered. Low RQD due to breakage during drilling.

Run #2: Black calcareous shale with thin limestone laminations. Moderately hard. Unweathered. Competent.

NOTE:
STATIONS FOR BORINGS B-1 THRU B-8 REFLECT LOCATION ALONG PROPOSED ALIGNMENT.

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (3 OF 38)	
Designed By VTRANS	Drawn By VTRANS
Checked By VTRANS Date 19/97	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
L.G.C. Info.	
File No. ZE072LG3	Sheet C81 of C194

VHB NO. 50911

plot date: 10/23/2003

STA 10+882.68, 2.52 m LT

Manchester, New Hampshire — TEST BORING REPORT — BORING NO. HA-1

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-000
SHEET NO. 1 OF 1
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	/	S	–	RIG TYPE CME 45
INSIDE DIAMETER (MM)	/	35	–	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	/	63.5	–	DRILL MUD None
HAMMER FALL (M)	/	0.76	–	OTHER – –

ELEVATION 29.54
DATUM NAVD 88
START 10 September 1998
FINISH 10 September 1998
DRILLER J. Garside
H&A REP G. Zoladz

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0		3	S1	0.00	29.24	Loose, gray-brown, fine coarse SAND, little fine gravel, silt
		5	0.30	0.55	0.30	Very dense, fine gravel (shale)
		35				
		86/0.08			28.78	–PROBABLE BEDROCK–
					0.76	Bottom of Exploration at 0.76m Note: Observed bedrock outcrops along waterline +/– 3.05m south from exploration. Roller bit refusal at 0.76m

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	DEPTH (M) TO: BOTTOM OF HOLE	WATER
Not	Observed				

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	0.30
ROCK CORED (M)	0.00
SAMPLES	1S

NH METRIC

STA 11+067.67, 2.11 m LT

Manchester, New Hampshire — TEST BORING REPORT — BORING NO. HA-2

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-000
SHEET NO. 1 OF 2
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW /	S	NX	RIG TYPE SIMCO DT 2400 Skid
INSIDE DIAMETER (MM)	102 /	35	51	BIT TYPE Tricone Roller 3 7/8
HAMMER WEIGHT (KG)	63.5 /	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61 /	0.76	–	OTHER – Safety hammer/ cathead. Skid on barge

ELEVATION 26.12
DATUM NAVD 88
START 28 September 1998
FINISH 29 September 1998
DRILLER W. Wisiaszek
H&A REP T. Dykstra

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0		WOR/0.15	S1	0.00		Very soft gray silty CLAY, little fine sand, little organics (no structure)
		WOH/0.46	0.10	0.61		
1.0						–LACUSTRINE DEPOSIT–
2.0		WOR/0.15	S2	1.83		Very soft gray CLAY, little silt, little organics (no structure)
		WOH/0.46	0.61	2.44		PP= 0 Tvn 1 kg/cm²
3.0					23.07	Note: Wash water changed to red at 3.05m.
					3.05	
		WOR/0.15	S3	3.35		Very soft alternately red and gray varved CLAY, little silt
		WOH/0.46	0.61	3.96		–GLACIOLACUSTRINE DEPOSIT–
4.0						PP= 0 kg/cm² Tvn 1.5 kg/cm²
5.0		19	S4	4.88		Very soft red and gray CLAY, little silt
		24	0.51	5.49	20.94	Dense gray fine SAND, trace coarse sand, trace silt
		21			5.18	
		18				–GLACIOFLUVIAL DEPOSIT–
6.0					20.02	
					6.10	
		28	S5	6.40		Very dense gray silty fine SAND, little fine gravel, little coarse sand (moderately bonded)
		57	0.46	7.01		
7.0		73				–GLACIOFLUVIAL DEPOSIT–
		59				
8.0		44	S6	7.92		Very dense gray fine SAND, some silt, trace fine gravel, coarse sand (slightly bonded)
		41	0.51	8.55		
		61				–GLACIOFLUVIAL DEPOSITS–
		68				
9.0						
		64	S7	9.45	18.48	Very dense gray gravelly fine SAND, little silt, coarse sand
		50/0.03	0.10	9.63	9.63	Note: Split spoon refusal at 9.63m on bedrock. Roller bit to 9.69m Begin Core run at 9.69m. See Core Boring Report Sheet 2.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	DEPTH (M) TO: BOTTOM OF HOLE	WATER
Not	Observed				

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	9.63
ROCK CORED (M)	1.52
SAMPLES	7S

NH METRIC

Manchester, New Hampshire — CORE BORING REPORT — BORING NO. HA-2 — FILE NO. 60435-000 — SHEET NO. 2 OF 2

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							18.43	Top of bedrock at 9.63m
		C-1	9.69	1.27	83		9.69	
10.0	6.5		11.22	1.02	67	weathered		Moderately hard, slightly weathered, dark gray to black, aphanitic SHALE, extremely thin to very thin bedding, dipping at low angles. Bedding plane joints: low to moderate angles, close, smooth planar, fresh, tight.
	15.0							
	12.5							
	11.0							
11.0	12.5						14.90	
							11.22	Note: Drill action indicated 10cm void from approximately 9.81m to 9.91m.
								Bottom of Exploration at 11.22m.

METRIC

STA 11+134.65, 17.44 m LT

Manchester, New Hampshire — TEST BORING REPORT — BORING NO. HA-3

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-000
SHEET NO. 1 OF 1
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW /Aug	S		RIG TYPE Mobil B-53 Truck
INSIDE DIAMETER (MM)	102 /ST	35		BIT TYPE Tricone Roller/Auger
HAMMER WEIGHT (KG)	63.5 /	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61 /	0.76	–	OTHER – Safety hammer/ cathead. Used Auger 0.0–2.74m.

ELEVATION 51.93
DATUM NAVD 88
START 2 November 1998
FINISH 3 November 1998
DRILLER S. Ciovetta
H&A REP T. Dykstra

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0					51.84	
					0.09	102mm of asphalt PAVEMENT
		37	S1	0.30		Very dense gray to brown gravelly medium to fine SAND, little coarse sand, little silt
		35	0.61	0.91		
		43				–FILL–
		32				
1.0						
		28	S2	1.22		Dense brown fine sandy GRAVEL, little coarse to medium sand, little silt
		24	0.10	1.83		
2.0		14				–FILL–
		25				
3.0		12	S3	2.74		Medium dense brown silty medium to fine SAND, little fine gravel, little coarse sand (wet)
		19	0.15	3.35		
		10				–FILL–
		11				
4.0						
		4	S4	4.27		Loose brown silty medium to fine SAND, little fine gravel, little coarse sand, trace clay (wet)
		3	0.15	4.88		
		2				–FILL–
5.0		3				
6.0					26.83	
		4	S5	6.10	6.10	Loose gray silty fine SAND, trace medium sand
		4	0.10	6.71		
		2				–LACUSTRINE DEPOSIT–
		2				
7.0					24.92	
					7.01	Note: CLAY in wash water at 7.01m
						–GLACIOLACUSTRINE DEPOSIT–
		1	S6	7.62		Soft alternately red and gray varved CLAY, little silt, trace fine gravel, trace organics, fine sand in frequent partings.
8.0		1	0.61	8.23		Note: Attempted Vane Sheer Test, tip at 8.08m, vane damaged during test due to gravel in clay.
		2				
		6			23.70	
					8.23	–GLACIOFLUVIAL DEPOSIT–
9.0						
		30	S7a	9.44	22.69	Dense gray fine SAND, trace silt
		50/0	0.08	9.52	9.24	Very dense black sandy GRAVEL, little silt
			S7b	9.22	22.39	–PROBABLE WEATHERED BEDROCK–
			0.08	9.30	9.54	–PROBABLE BEDROCK–
					22.08	
					9.85	Bottom of Exploration at 9.85m.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	DEPTH (M) TO: BOTTOM OF HOLE	WATER
11/2/98	15:00	0	2.74	3.35	3.35

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	9.24
ROCK CORED (M)	0.00
SAMPLES	7S

NH METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.

VT 78 OVER MISSISQUOI BAY

BORING LOGS (4 OF 38)

Designed By HALEY & ALDRICH	Drawn By M. M. LANDREY
Checked By Date	Bridge Design Supervisor
HALEY & ALDRICH 19/00	C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072LG4	Sheet C82 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003

94

STA 11+134.76, 2.24 m LT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-4

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-000
SHEET NO. 1 OF 2
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW /	S	NX
INSIDE DIAMETER (MM)	102 /	35	51
HAMMER WEIGHT (KG)	63.5 /	63.5	-
HAMMER FALL (M)	0.61 /	0.76	-

DRILLING EQUIPMENT & PROCEDURES: RIG TYPE SIMCO DT 2400 Skid; BIT TYPE Tricone Roller; DRILL MUD None; OTHER - Safety hammer/cathead, Skid on barge

ELEVATION 26.12
DATUM NAVD 88
START 29 September 1998
FINISH 30 September 1998
DRILLER M. Wisiaszek
H&A REP T. Dykstra

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0		WOR/0.15	S1	0.00		Very loose gray silty fine SAND, trace clay
		WOR/0.46	0.10	0.61		-LACUSTRINE DEPOSIT-
					25.21	
1.0					0.91	Note: Wash water indicates clay at 0.91m.
						-LACUSTRINE DEPOSIT-
		15	S2	1.83	24.14	Very soft gray CLAY, little silt
2.0		35	0.41	2.44	1.98	Very dense gray silty fine SAND, little clay
		25			23.99	-GLACIOLFLUVIAL DEPOSIT-
		71			2.13	Very dense black weathered SHALE
					23.68	Note: Top of bedrock at 2.13m.
					2.44	Begin core run at 2.13m.
						See Core Boring Report Sheet 2.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Not	Observed				

SAMPLE IDENTIFICATION: U UNDISTURBED SAMPLE; S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	2.13
ROCK CORED (M)	2.90
SAMPLES	25

NH METRIC

STA 11+134.81, 29.75 m RT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-5

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-000
SHEET NO. 1 OF 2
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW /	S	NX
INSIDE DIAMETER (MM)	102 /	35	51
HAMMER WEIGHT (KG)	63.5 /	63.5	-
HAMMER FALL (M)	0.61 /	0.76	-

DRILLING EQUIPMENT & PROCEDURES: RIG TYPE SIMCO DT 2400 Skid; BIT TYPE Tricone Roller; DRILL MUD None; OTHER - Safety hammer/cathead, Skid on barge

ELEVATION 25.96
DATUM NAVD 88
START 5 October 1998
FINISH 6 October 1998
DRILLER M. Wisiaszek
H&A REP T. Dykstra

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0		2	S1	0.00		Very loose dark gray silty fine SAND little organics, shell fragments
		1/0.46	0.08	0.61		-LACUSTRINE DEPOSIT-
					25.05	
1.0					0.91	Conducted vane shear test 1.22m - 1.68m.
		5	S2	1.22		Stiff alternately red and gray varved CLAY, little silt
		9	0.61	1.83		
		6				-GLACIOLACUSTRINE DEPOSIT-
2.0		4				
		PUSH	U1	1.83		PP = 0.75 kg/cm²
			0.46	2.44		Tv = 3.5 kg/cm²
					23.67	
					2.29	Note: Drill action indicates strata change at 2.29m. sand in wash water
						-GLACIOFLUVIAL DEPOSIT-
					23.06	
3.0					2.90	-PROBABLE WEATHERED ROCK-
					22.89	
					3.07	Begin core run at 3.07m.
						See Core Boring Report Sheet 2

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Not	Observed				

SAMPLE IDENTIFICATION: U UNDISTURBED SAMPLE; S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	2.90
ROCK CORED (M)	3.05
SAMPLES	25, 1U

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-4
FILE NO. 60435-000
SHEET NO. 2 OF 2

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
2.0							23.59	Top of Bedrock at 2.13 m.
	10.5	C1	2.53	1.27	93		2.53	Moderately hard, slightly weathered, gray to black, aphanitic SHALE, extremely thin, horizontal bedding. Joints are low angle to moderately dipping with some vertical joints, very close to close, smooth, planar, fresh, tight to open
3.0	10.0		3.90	0.58	43			
	11.5							
	13.0							-SHALE-
	15.0							
4.0	18.5	C2	3.90	1.27	97			Moderately hard, slightly weathered, gray to black, aphanitic SHALE, extremely thin, horizontal bedding. Joints are low angle to moderately dipping with some vertical joints, very close to moderately close, smooth, planar, fresh, tight to open. Highly fractured from 5.03m to 5.15m.
	18.0		5.43	1.22	80			
	10.5							
5.0	13.0							-SHALE-
	7.0						20.70	
							5.43	Bottom of exploration at 5.43 m.

METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-5
FILE NO. 60435-000
SHEET NO. 2 OF 2

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
3.0							22.88	Top of Bedrock at 2.90 m.
	10.0	C1	3.08	1.32	82		3.08	Moderately hard, slightly weathered, gray to black, aphanitic SHALE, extremely thin horizontal bedding. Joints are low angle to moderately dipping, extremely close to close, smooth, planar, fresh, tight and open. Highly fractured zone at 12' and 13'.
	20.0		4.60	0.42	28			
4.0	14.0							
	20.0							
	12.0							
	14.0	C2	4.60	1.51	82			Moderately hard, slightly weathered, gray to black, aphanitic SHALE, extremely thin horizontal bedding. Joints are low angle to moderately dipping, very close to close, smooth, planar, fresh, tight. Highly fractured zone for 16.0' to 16.4'.
5.0	20.0		6.12	1.12	73			
	8.0							
	12.0							Note: Multiple "jams" during both core runs.
6.0	8.0						19.83	
							6.13	Bottom of Exploration at 6.12 m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (5 OF 38)	
Designed By HALEY & ALDRICH	Drawn By M. M. LANDREY
Checked By Date: HALEY & ALDRICH 19/00	Bridge Design Supervisor: C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072LG5	Sheet C83 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date: 10/23/2003

STA 11+786.80, 18.91 m LT

Manchester, New Hampshire — TEST BORING REPORT — BORING NO. HA-6

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-000
SHEET NO. 1 OF 3
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	NW /Aug	S	-
INSIDE DIAMETER (MM)	102 /57	35	
HAMMER WEIGHT (KG)	63.5 /	63.5	-
HAMMER FALL (M)	0.61 /	0.76	-

DRILLING EQUIPMENT & PROCEDURES: RIG TYPE Mobil B-53 Truck; BIT TYPE Tricone Roller/Auger; DRILL MUD None; OTHER - Safety hammer/ cathead. Used Auger 0.0-4.26m.

ELEVATION 31.53; DATUM NAVD 88; START 4 November 1998; FINISH 5 November 1998; DRILLER S. Clavette; H&A REP T. Dykstra

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0					31.44	102mm of asphalt PAVEMENT
					0.09	
		30	S1	0.30		Dense brown medium to fine SAND, little
		28	0.41	0.91		silt, trace coarse sand
		20				-FILL-
		14				
1.0						
		16	S2	1.22		Dense brown medium to fine SAND, little
		15	0.30	1.83		coarse sand, little silt, trace fine gravel
		17				Notes: Gravel in tip of spoon.
		16				-FILL-
2.0						
		2	S3	2.74		Medium dense gray silty medium to fine SAND,
3.0		2	0.30	3.35		little coarse sand
		14				Notes: SHALE fragments on tip of spoon.
		17				
4.0						
		2	S4	4.27		Very loose gray silty medium to fine SAND,
		1	0.46	4.88		little coarse sand, little clay, trace
		1				organic fibers
		1				-FILL-
5.0						
6.0						
		1	S5	6.10		Very loose brownish gray silty medium to
		2	0.46	6.71		fine SAND, little coarse sand, little clay,
		2				trace organic fibers
		4				-FILL-
7.0						

WATER LEVEL DATA					
DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
11/4/98	0845	0	3.35	3.35	3.20

SAMPLE IDENTIFICATION: U UNDISTURBED SAMPLE; S SPLIT SPOON

SUMMARY: OVERBURDEN (M) 21.82; ROCK CORED (M) 0.00; SAMPLES 135, TU

NH METRIC

Manchester, New Hampshire — TEST BORING REPORT — BORING NO. HA-6; FILE NO. 60435-000; SHEET NO. 2 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
		2	S6	7.62		Very loose gray silty medium to fine SAND,
		2	0.30	8.23		little coarse sand, little clay
8.0		2				-FILL-
		2				
9.0						
		3	S7	9.14		Very loose gray silty medium to fine SAND,
		1	0.30	9.75		little coarse sand, trace clay, trace
		2				organic fibers
		3				-FILL-
10.0						
		5	S8	10.67		Loose grayish brown silty medium to fine
		4	0.08	11.28		SAND, little coarse sand, trace fine gravel,
11.0		5				trace clay
		5				-FILL-
12.0						
		4	S9	12.19		Loose grayish brown silty medium to fine
		7	0.08	12.80		SAND, little coarse sand, trace fine gravel,
		9				trace clay
		7				-FILL-
13.0						
		2	S10	13.72		Loose gray/brown silty fine SAND, little
14.0		3	0.46	14.33		coarse to medium sand, trace gravel, pockets
		4				of silty clay
		9				-FILL-
15.0						
		6	S11	15.24		Loose gray/brown silty fine SAND, little
		5	0.08	15.85		gravel, little coarse to medium sand, trace
16.0		5				clay
		6				-FILL-
17.0						
		3	S12	16.76	14.62	Loose gray/brown silty fine SAND, little
		4	0.61	17.37	16.92	gravel, little coarse to medium sand, trace
		3				clay
		7			14.16	
					17.37	-FILL-
18.0						Medium stiff gray CLAY, little silt, trace organics PP=0.25 kg/cm² TV=2.5 kg/cm²

NH METRIC

Manchester, New Hampshire — TEST BORING REPORT — BORING NO. HA-6; FILE NO. 60435-000; SHEET NO. 3 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
						-LACUSTRINE DEPOSIT-
						Notes: Red clay in tip of spoon
		PUSH	U1	18.59		-GLACIOLACUSTRINE-
			0.61	19.20		
19.0						Notes: Attempted undisturbed tube sample
		1	S13	19.20		58-60, no recovery.
		2	0.61	19.81		-GLACIOLACUSTRINE-
		3				Notes: Conducted Undisturbed Tube Sample
		3			11.72	from 16.59m to 19.20 m.
20.0					19.81	Notes: Conducted Vane Shear Test 19.51m -
						19.66m.
						Medium soft alternately red and gray varved
						CLAY, little silt, fine sand in frequent
						partings 19.60m to 19.81m.
						Drill action indicates gravel and sand
					10.81	layers 19.81m to 20.73m.
21.0					20.73	Drill action indicates strata change at
						20.73m.
		11	S14	21.34		Very dense silty fine SAND, little fine
		36	0.20	21.62		gravel, trace coarse to medium sand
		37			9.71	
		50/0.03			21.82	-GLACIOFLUVIAL DEPOSIT-
						-PROBABLE BEDROCK-
					8.98	
					22.56	Bottom of Exploration at 22.56m.

NH METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (6 OF 38)	
Designed By HALEY & ALDRICH	Drawn By M.M. LANDREY
Checked By Date	Bridge Design Supervisor
HALEY & ALDRICH 19/00	C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. info.	
File No. ZE072LG6	Sheet C84 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5098

plot date: 10/23/2003

STA 11+786.82, 4.31 m LT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-7

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc.
CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-000
SHEET NO. 1 OF 3
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW /	S	NX	RIG TYPE SIMCO DT 2400 Skid
INSIDE DIAMETER (MM)	102 /	35	51	BIT TYPE Tricone Roller
HAMMER WEIGHT (KG)	63.5 /	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61 /	0.76	–	OTHER – Safety hammer/ cathead. Skid on barge

ELEVATION 26.33
DATUM NAVD 88
START 15 September 1998
FINISH 28 September 1998
DRILLER M. Misiaszek
HSA REP T. Dykstra

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0		WOR/0.61	S1 0.61	0.00 0.61		Very soft gray CLAY, little silt, trace coarse sand, frequent organic seams
						–LACUSTRINE DEPOSIT–
1.0		WOR/0.61	S2 0.61	1.52 2.13		Very soft gray CLAY, little silt, trace organics
						–LACUSTRINE DEPOSIT–
2.0		WOR/0.61	S3 0.36	2.74 3.35		Very soft gray silty CLAY, some to little coarse to fine sand, trace fine gravel
3.0					22.67 3.66	Note: Possible erratic change at 3.66m based on casing resistance.
4.0						–LACUSTRINE DEPOSIT–
	19					
	30					Note: Roller bit through coarse material, lime stone fragments in wash, probable debris from causeway fill 4.57m – 5.18m.
5.0	39	7	S4	5.18		Medium stiff brown to dark gray coarse to fine sandy CLAY, some silt, trace fine gravel (no structure)
		4 4 4	0.15	5.79		
6.0						Note: This geologic formation is probably lacustrine mixed with causeway fill.
	41					
	58					
7.0	49	5	S5	7.01		Soft brown to gray coarse to fine sandy CLAY, some silt, trace fine gravel (no structure)
		2 2	0.15	7.62		
		4				
	58					
8.0	64					
	66					–LACUSTRINE DEPOSIT–
		2 4 5 4	S6 0.56	8.53 9.14		Stiff brown to gray coarse to fine sandy CLAY, some silt, trace coarse and fine gravel (no structure)
9.0						Note: Wash water/drill action indicated strata change at approximately 10.36m. Note: Casing dropped 0.30m during wash process.
	80					
	93					
10.0	92				15.97	

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HRS)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Not	Observed				

SAMPLE IDENTIFICATION
U UNDISTURBED SAMPLE
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	18.38
ROCK CORED (M)	0.00
SAMPLES	105, 1U

NH METRIC

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. NA-7
FILE NO. 60435-000
SHEET NO. 2 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
		4 3 2	S7 0.25	10.36 10.97	10.36	Medium soft dark gray CLAY, some silt, trace organics
11.0	65	3				–LACUSTRINE DEPOSIT–
	67				14.75	Note: Wash water changed to light gray at approximately 11.58m.
	61				11.58	Note: Clay on outside of tube appeared red.
		PUSH	U1 0.58	11.58 12.19		
12.0						Note: Attempted Vane Shear Test 11.13m – 11.58m, test disregarded due to casing slip during test.
		WOR/0.46 WOR/0.15	S8 0.61	12.65 13.26		Very soft alternately red and gray varved CLAY, little silt, trace fine sand
13.0						Note: Conducted Vane Shear Test 12.65m – 13.11m.
						Note: S8 taken through clay disturbed by Vane Shear Test.
14.0						–GLACIOLACUSTRINE DEPOSIT–
					11.85 14.48	Note: Coarse to medium sand in wash water at 14.48m.
		14 16 11 18	S9 0.05	14.63 15.24		Medium dense dark gray gravelly coarse SAND, little medium sand, little silt and clay (sample is likely drill wash)
15.0	230					
	220					–GLACIOFLUVIAL DEPOSIT–
16.0	194					
		25 29 23 18	S10 0.15	16.15 16.76		Dense dark gray gravelly coarse to fine SAND, some silt, little clay
						–GLACIOFLUVIAL DEPOSIT–
17.0	137 155					
	143					
		32 60 100/0.07	S11 0.10	17.68 18.07		Very dense dark gray gravelly medium to fine SAND, some silt, little coarse sand, little clay (moderately bonded)
18.0					7.95 18.38	–GLACIOFLUVIAL DEPOSIT–
						Casing refusal at 18.38m. Roller bit to 18.47m. Top of bedrock at 18.38m. Began core run at 18.47m. See Core Boring Report Sheet 3.

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. NA-7
FILE NO. 60435-000
SHEET NO. 3 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
17.0								
							7.95	
18.0							18.38	Top of bedrock at 18.38m.
	9.0	C1	18.47 19.84	1.37 0.48	100 35	SL		Moderately hard, slightly weathered, dark gray to black, aphanitic, SHALE, extremely thin to very thin bedding, dipping at low angles. Bedding plane joints, low angle, very close to extremely close, smooth stepped, fresh to decomposed, open. Rock extremely fractured from 18.47m to 19.39m.
19.0	11.0 8.0							
	18.5							
	12/0.15	C2	19.84 21.57	1.62 1.08	100 71	SL		
20.0	11.0							
	11.0							
	11.0							
	10.0							Moderately hard, fresh, dark gray to black, aphanitic, SHALE, extremely thin to very thin bedding, dipping at low angles. Bedding plane joints, low angle, close to very close, smooth planar, fresh, tight.
21.0	9.0							
	7.0	C3	21.37 22.13	0.56 0.20	22 33	SL		
	14.0							
22.0	10.0						4.20 22.13	Moderately hard, fresh, dark gray to black, aphanitic, SHALE, extremely thin to very thin bedding, dipping at low angles. Bedding plane joints, low angle, close to very close, smooth planar, fresh, tight.
								Core Run terminated at 21.13m due to jam in barrel. Bottom of Exploration at 21.13m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (7 OF 38)	
Designed By HALEY & ALDRICH	Drawn By M. M. LANDREY
Checked By Date HALEY & ALDRICH 19/00	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
L.G.C. Info.	
File No. ZE072LG7	Sheet C85 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003

STA 11+786.87, 31.40 m RT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-B

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc.
CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-000
SHEET NO. 1 OF 3
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW /	S	NX
INSIDE DIAMETER (MM)	102 /	35	51
HAMMER WEIGHT (KG)	63.6 /	63.5	–
HAMMER FALL (M)	0.61 /	0.76	–

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE SIMCO DT 2400 Skid
BIT TYPE Tricone Roller
DRILL MUD None
OTHER – Safety hammer/ cathead. Skid on barge

ELEVATION 25.51
DATUM NAVD 88
START 8 October 1998
FINISH 14 October 1998
DRILLER R. Burns
H&A REP T. Dykstra

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0		WOR/0.61	S1 0.61	0.00 0.61	25.36 0.15	Very soft dark gray SILT, little organics.
						little clay
					25.27 0.24	Very soft alternately gray and dark gray varved SILT, trace organics
1.0						Very soft dark gray clayey SILT, trace organics P.P.= 0 kg/cm² T.V.= 0.5 kg/cm²
						–LACUSTRINE DEPOSIT–
		PUSH	U1 0.52	1.52 2.13		Conducted undisturbed tube sample from 1.52m to 2.13m.
2.0						
		WOR/0.30 WOH/0.30	S2 0.61	2.44 3.05		Note: Conducted Vane Shear Test 2.41m – 2.90m. Very soft gray silty CLAY trace organics (no structure) P.P.= 0.08 kg/cm² T.V.= 1.0 kg/cm²
3.0						
						–LACUSTRINE DEPOSIT–
4.0						
		PUSH	U2 0.36	4.72 5.49		Conducted undisturbed tube sample from 4.72m to 5.33m.
5.0						
		WOR/0.61	S3 0.61	5.49 6.10		Very soft light gray CLAY little silt (no structure) Note: SS was taken through disturbed clay.
6.0						
		WOR/0.61	S4 0.61	6.40 7.01		Very soft light gray CLAY little silt (no structure) P.P.= 0 kg/cm² T.V.= 0.5 kg/cm²
7.0						
						–LACUSTRINE DEPOSIT–

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Not	Observed				

SAMPLE IDENTIFICATION

U UNDISTURBED SAMPLE
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	18.38
ROCK CORED (M)	3.05
SAMPLES	115. 4U

NH METRIC

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-B
FILE NO. 60435-000
SHEET NO. 2 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
		WOR/0.61	S5 0.61	7.62 8.23		Note: Conducted Vane Shear Test 7.62m – 8.08m. Very soft gray CLAY, little silt (no structure) P.P.=0 kg/cm² T.V.=0.6 kg/cm²
8.0					16.98 8.53	Note: Trace medium sand particles in drill wash from 8.53m to 9.14m.
						Note: Organics in drill wash at 8.53m.
9.0						Conducted undisturbed tube sample from 9.75m to 10.36m.
		PUSH	U3 0.61	9.75 10.36		
10.0		WOR/0.61	S6 0.61	10.36 10.97	14.99 10.52	Very soft gray CLAY, little silt, organics
						Very soft alternately red and gray varved CLAY, little silt
11.0						–GLACIGLACUSTRINE DEPOSIT–
						Note: Conducted Vane Shear Test 10.36m – 10.82m.
		PUSH	U4 0.61	11.58 12.19		Conducted undisturbed tube sample from 11.58m to 12.19m.
12.0		WOR/0.61	S7 0.61	12.19 12.80		Note: Conducted Vane Shear Test 12.19m – 12.65m. Very soft alternately red and gray varved CLAY, little silt P.P.=0 kg/cm² T.V.=1.3 kg/cm²
13.0						–GLACIGLACUSTRINE DEPOSIT–
		WOR/0.30 15 18	S8 0.61	13.72 14.33	11.49 14.02	Very soft alternately red and gray varved silty CLAY occasional fine sand partings P.P.=0.25 kg/cm² T.V.=1.9 kg/cm²
14.0						Dense gray fine SAND, little silt
						–GLACIOFLUVIAL DEPOSIT–
15.0		11 9 15 24	S9 0.08	15.24 15.95		Medium dense gray fine SAND, little silt
16.0					8.75 16.76	
		19 24 15 40	S10	16.76 17.37		Dense dark gray fine sandy SILT, little fine gravel, little clay, trace coarse sand (Moderately banded in-situ)
17.0						
						–GLACIAL TILL DEPOSIT–
18.0		100/0.08	S11 0.08	18.29 18.38	7.13 10.38 6.86 18.65	–WEATHERED SHALE–
						Begin core run at 18.65m. See Core Boring Report Sheet 3.

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-B
FILE NO. 60435-000
SHEET NO. 3 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
18.0								Top of Bedrock at 18.4 m.
							8.86	
	7.0	C1	18.65 20.18	1.27 1.14	83 75		18.65	Moderately hard, fresh, dark gray to black, aphanitic SHALE. Bedding is very thin, dipping at low angles. Joints are low angle, close to moderately close, smooth, planar, fresh, tight.
19.0	11.5							
	10.0							–SHALE–
	8.0							
20.0	8.5							
	6.0	C2	20.18 21.70	1.37 1.24	90 82			Moderately hard, fresh, dark gray to black, aphanitic SHALE, bedding is very thin, dipping at low angles. Joints are low angle, moderately close, smooth, planar, fresh, tight
	10.0							
	8.0							–SHALE–
21.0	8.5							
	8.5						3.01	
							21.70	Bottom of exploration at 21.7 m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (8 OF 38)	
Designed By HALEY & ALDRICH	Drawn By M.M. LANDREY
Checked By Date	Bridge Design Supervisor
HALEY & ALDRICH 19/00	C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. info.	
File No. ZE072LG8	Sheet C86 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 509W

plot date: 10/23/2003

STA 11+887.80, 19.12 m LT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-9

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc.
CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-000
SHEET NO. 1 OF 3
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW /Aug	S	NX	RIG TYPE Mobil B-53 Truck
INSIDE DIAMETER (MM)	102 /ST	35	51	BIT TYPE Tricone Roller/Auger
HAMMER WEIGHT (KG)	136.1 /	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61 /	0.76	–	OTHER – Safety hammer/ cathead. Used Auger 0.0-4.27m.

ELEVATION 31.52
DATUM NAVD 88
START 6 November 1998
FINISH 10 November 1998
DRILLER S. Clovetta
H&A REP T. Dykstra

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0					31.39	SURF. 102mm of asphalt PAVEMENT
		25 34 26 16	S1 0.23	0.30 0.91	0.12	Very dense brown fine SAND. little coarse sand, little silt -FILL-
1.0		17 13 17 32	S2 0.41	1.22 1.83		Medium dense brown silty fine SAND. little medium sand, trace coarse sand, trace clay Note: Gravel in tip of spoon. -FILL-
2.0						
3.0		2 1 2 4	S3 0.20	2.74 3.35		Very loose grayish brown silty fine SAND. little medium sand, trace fine gravel, trace clay -FILL-
4.0		5 3 4 4	S4 0.20	4.27 4.88		Loose gray silty fine SAND. little coarse to medium sand, little clay, trace fine gravel -FILL-
5.0						
6.0		1 2 1 2	S5 0.51	6.10 6.71		Very loose grayish brown silty fine SAND, little coarse to medium sand, little clay, trace organic fibers -FILL-
7.0						
8.0		1 2 3 2	S6 0.36	7.62 8.23		Loose brownish gray silty fine SAND, little coarse to medium sand, trace fine gravel, trace clay -FILL-
9.0		4 3 3 7	S7 0.25	9.14 9.75		Loose grayish brown silty medium to fine SAND, trace gravel, trace coarse sand, trace clay -FILL-
10.0						

WATER LEVEL DATA					
DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
11/6/98		0	0.84	1.02	3.20

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY
OVERBURDEN (M) 21.64
ROCK CORED (M) 1.52
SAMPLES 14S

NH METRIC

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-9
FILE NO. 60435-000
SHEET NO. 2 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
		2 3 4 6	S8 0.20	10.67 11.28		Loose grayish brown silty medium to fine SAND, little coarse sand, trace fine gravel, trace clay -FILL-
11.0					19.93	Note: Clay in wash water at 11.5m.
12.0		WOH/0.30 1 1	S9 0.61	12.19 12.80	11.88	Note: Conducted Vane Shear Test 40.0m - 41.5m. Very Soft alternating red and gray varved CLAY, little silt, trace fine sand -GLACIOLACUSTRINE DEPOSIT-
13.0					18.56 12.95	Note: Attempted Undisturbed Tube sample. trace refusal after 150mm push. Terminated test. Tube contained red and gray varved CLAY, with fine sand partings and 51mm bobble.
14.0		16 13 13 11	S10 0.36	13.72 14.33		Medium dense gray silty fine SAND, little coarse to medium sand, trace fine gravel. -GLACIOFLUVIAL DEPOSIT-
15.0		22 33 34 60	S11 0.13	15.24 15.85		Very dense gray gravelly fine SAND, little coarse to medium sand, little silt. Note: Gravel in spoon tip.
16.0					14.75	
17.0		8 7 11 15	S12 0.30	16.76 17.37	16.76	Medium dense gray fine sandy SILT, little CLAY -GLACIOFLUVIAL DEPOSIT-
18.0		20 23 40 52	S13 0.36	18.29 18.90		Very dense gray fine sandy SILT, trace CLAY -GLACIOFLUVIAL DEPOSIT-
19.0						
20.0		40 50/0.08	S14 0.10	20.12 20.36	11.16 20.36	Very dense gray fine sandy SILT, trace medium to fine sand, trace clay -PROBABLE WEATHERED BEDROCK-
21.0					9.88 21.64	-BEDROCK-
						See Core Boring Report Sheet 3

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-9
FILE NO. 60435-000
SHEET NO. 3 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							9.88 21.64	Top of bedrock at 20.36m
22.0	3.0 4.0 5.0 8.0 9.0	C-1	21.64 23.16	0.30 0.79	50 52	Fresh	8.35 23.16	Moderately hard, fresh, dark gray to black, aphanitic SHALE, extremely thin to very thin bedding, dipping at low angles. Bedding plane joints, low angle, wide, smooth, planar, fresh, open. Rock is highly fractured from 21.64 m to 21.76m. Bottom of Exploration at 23.16m.

METRIC

STA 11+887.83, 2.82 m LT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-10

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc.
CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-000
SHEET NO. 1 OF 1
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW /	S	NX	RIG TYPE SIMCO DT 2400 Skid
INSIDE DIAMETER (MM)	102 /	35	51	BIT TYPE Tricone Roller
HAMMER WEIGHT (KG)	63.5 /	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61 /	0.76	–	OTHER – Safety hammer/ cathead. Skid on barge

ELEVATION 26.43
DATUM NAVD 88
START 14 October 1998
FINISH 15 October 1998
DRILLER R. Burne
H&A REP T. Dykstra

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0		WOR/0.15 WOR/0.46	S1A 0.30	0.00 0.15	26.28 0.15	CH Very soft dark gray ORGANICS, little silty clay
			S1B 0.30	0.15 0.61		Very soft gray silty CLAY, little organics P.P.=0 kg/cm² T.V.=0.6 kg/cm²
1.0						-LACUSTRINE DEPOSIT-
2.0		WOR/0.61	S2 0.61	1.98 2.59	24.45 1.98	Very soft gray to brown ORGANIC SILT, little organic fibers P.P.=0 kg/cm² T.V.=1.3 kg/cm² -LACUSTRINE DEPOSIT-
3.0						
		WOR/0.46	S3A 0.30	3.51 3.16	22.92 3.51	Very soft gray CLAY, little silt Note: Conducted Vane Shear Test 3.51m - 3.96m.
4.0		WOR/0.15	S3B 0.30	3.96 4.11	22.47 3.96	Very soft gray CLAY, little silt, trace fine gravel, trace coarse to fine sand
					21.71 4.72	Note: Organics and sand in drill wash from 4.72m - 5.03m.
5.0		WOR/0.61	S4 0.30	5.03 5.64	21.40 5.03	Very soft gray CLAY, little silt -LACUSTRINE DEPOSIT-
		WOR/0.15	S5A	5.64		Very soft gray CLAY, little silt
6.0		100/0.08	0.15 S5B 0.08	5.79 5.88	20.24 6.19	Very dense SHALE fragments (Roller bit through boulder from 5.88m to 6.19m.)
		WOR/0.61	S6 0.61	6.25 6.86		Very soft alternately red and gray varved CLAY, little silt P.P.=0 kg/cm² T.V.=0 kg/cm²
7.0		WOR/0.61	S7 0.61	6.86 7.47		Very soft alternately red and gray varved CLAY, little silt, little fine gravel P.P.=0 kg/cm² T.V.=1.3 kg/cm² -GLACIOLACUSTRINE DEPOSIT-
8.0						Note: Conducted Vane Shear Test 6.86m - 7.32m.
					18.05 8.38	
9.0		5 18 15 12	S8 0.30	8.69 9.30		Dense gray silty fine SAND, some gravel, little coarse to fine sand -GLACIOFLUVIAL DEPOSIT- Note: Not able to advance casing below 5.88m. Borehole would not stay open. Rollerbit to 10.15m.
10.0					16.28 10.15	Bottom of Exploration 10.15m. No Refusal

WATER LEVEL DATA					
DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Not	Observed				

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY
OVERBURDEN (M) 10.15
ROCK CORED (M) 0.00
SAMPLES 8S

NH METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (9 OF 38)	
Designed By HALEY & ALDRICH	Drawn By M.M. LANDREY
Checked By Date HALEY & ALDRICH 19/00	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072LG9	Sheet C87 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date: 10/23/2003

STA 11+887.88, 20.68 m RT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-11

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc.
CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-000
SHEET NO. 1 OF 3
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW /	S	NX
INSIDE DIAMETER (MM)	102 /	35	51
HAMMER WEIGHT (KG)	63.5 /	63.5	–
HAMMER FALL (M)	0.61 /	0.76	–

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE SIMCO DT 2400 Skid
BIT TYPE Tricone Roller
DRILL MUD None
OTHER – Safety hammer/ cathead. Skid on barge

ELEVATION 25.80
DATUM NAVD 88
START 16 October 1998
FINISH 23 October 1998
DRILLER R. Burns
H&A REP T. Dykstra

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0		WOR/0.61	S1 0.61	0.00 0.61		Very soft gray to olive gray silty CLAY, trace fine sand, trace organics (no structure)
						–LACUSTRINE DEPOSIT–
1.0						
		WOR/0.30	S2	1.52		Very soft gray CLAY, little silt
		WOH/0.30	0.61	2.13		
2.0						
3.0		PUSH	U1 0.61	3.05 3.66	22.75 3.05	Conducted undisturbed tube sample from 3.05m to 3.66m. Note: Organics on outside of tube.
		WOR/0.30	S3A 0.30	3.66 3.96	21.84 3.96	Very soft ORGANIC SILT, little organic fibers, little clay
4.0		WOH/0.30	S3B 0.30	3.96 4.27		Note: Conducted Vane Shear Test 3.66m – W.I.m.
		WOR/0.30	S4	4.27		Very soft gray CLAY, little silt
		WOH/0.30	0.61	4.88		Very soft gray CLAY, little silt (no structure) P.P.=0 kg/cm² T.V.=0 kg/cm²
5.0					20.47 5.33	–LACUSTRINE DEPOSIT– Note: Drill wash water changed to red color at 5.33m.
		PUSH	U2 0.58	5.78 6.40		Conducted undisturbed tube sample from 5.79m to 6.40m.
6.0						–GLACIOLACUSTRINE DEPOSIT–
		WOR/0.46	S5	6.40		Very soft alternately red and gray varved CLAY, little silt, trace fine gravel. Trace fine sand in frequent partings from 6.71m to 7.01m.
		WOH/0.15	0.61	7.01		Note: Conducted Vane Shear Test 6.40m – 6.86m.
7.0					18.48 7.32	Note: Drill wash water changed to dark gray at 7.32m.
	15		S6	7.92		Dense gray silty fine SAND, little fine gravel, little coarse to medium sand
8.0	20		0.08	8.53		
	17					–GLACIOFLUVIAL DEPOSIT–
	15					
9.0						
	30		S7	9.45		Very dense gray silty fine SAND, little coarse to medium sand, trace fine gravel, trace clay
	22		0.10	10.08		
	57					
10.0	37					–GLACIOFLUVIAL DEPOSIT–
					14.63	

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Not	Observed				

SAMPLE IDENTIFICATION
U UNDISTURBED SAMPLE
S SPLIT SPOON

SUMMARY
OVERBURDEN (M) 15.85
ROCK CORED (M) 1.37
SAMPLES 85.3U

NH METRIC

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-11
FILE NO. 60435-000
SHEET NO. 2 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
11.0		21	S8	10.97	10.97	Dense gray SILT, little fine sand, trace clay
		30	0.51	11.58		
		44				
		19				
		35				
12.0						–GLACIOFLUVIAL DEPOSIT–
		28	S9	12.50		Very dense gray SILT, little fine sand, trace clay
		44	0.61	13.11		
		43				
13.0		46				
					11.78	
14.0		19	S10	14.02	14.02	Very dense gray silty fine SAND, little coarse to fine sand, trace fine gravel (moderately bonded)
		48	0.30	14.63		
		54				
		80				
15.0						–GLACIAL TILL DEPOSIT–
					9.95	
					15.85	–PROBABLE WEATHERED BEDROCK–
					8.98	
					16.82	Top of bedrock at 16.82m. Begin core run at 16.82m. See Core Boring Report Sheet 3.

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-11
FILE NO. 60435-000
SHEET NO. 3 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							8.98	Top of bedrock at 16.82.
17.0	4.5	C1	16.82	1.19	81	Fresh	16.83	Moderately hard, slightly weathered, dark gray to black, aphanitic, SHALE, bedding is very thin to extremely thin, moderately dipping. Joints are moderately dipping, extremely close to close, smooth, stepped and planar, fresh, open. Note: Core barrel jammed at 18.20m.
	8.0		18.20	0.58	43			
	11.5							
	12.0							
18.0	14.5						7.60 18.20	Bottom of Exploration at 18.20m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (10 OF 38)	
Designed By HALEY & ALDRICH	Drawn By M. M. LANDREY
Checked By HALEY & ALDRICH Date 9/00	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info. File No. ZE072LG10	Sheet C88 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date: 10/23/2003

100

STA 11+980.80, 19.01 m LT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-12

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(11)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-000
SHEET NO. 1 OF 3
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW /Wub	S	NX
INSIDE DIAMETER (MM)	102 /	44	51
HAMMER WEIGHT (KG)	136.1 /	63.5	–
HAMMER FALL (M)	0.61 /	0.76	–

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE Mobil B-53 Truck
BIT TYPE Auger bit/Tricone
DRILL MUD None
OTHER – Safety hammer/ cathead. Used Auger 0.0-4.27.

ELEVATION 31.46
DATUM NAVD 88
START 11 November 1998
FINISH 12 November 1998
DRILLER S. Clavette
H&A REP T. Dykstra

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0		35 41 28 34	S1 0.30	0.30 0.91		Very dense gray-black medium to fine SAND, trace fine gravel, trace silt. Note: Gravel in tip of spoon. -FILL-
1.0		14 15 32 34	S2 0.25	1.22 1.83		Dense brown medium to fine SAND, trace coarse sand, trace silt
2.0		27 13 12 16	0.00	2.74 3.35		No recovery
3.0		3 4 3 6	S3 0.20	4.27 4.88		Loose brown medium to fine SAND, little silt, trace coarse sand -FILL-
5.0		3 2 3 3	S4 0.20	6.10 6.71		Loose brown medium to fine SAND, little silt, trace coarse sand -FILL-
7.0						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
11/11/98	0:900	0	4.27	4.88	3.66

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY
OVERBURDEN (M) 19.05
ROCK CORED (M) 1.52
SAMPLES 125
NX METRIC

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-12
FILE NO. 60435-000
SHEET NO. 2 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
8.0		2 7 4 4	S5 0.36	7.62 8.23		Medium dense brown silty medium to fine SAND, trace gravel, trace coarse sand -FILL-
9.0		3 3 4 5	S6 0.30	9.14 9.75		Loose brown silty medium to fine SAND, trace fine gravel, trace fine sand -FILL-
11.0		1 2 3 3	S7 0.30	10.67 11.28		Loose brown silty medium to fine SAND, trace fine gravel, trace coarse sand -FILL-
12.0		4 8 6 4	S8 0.51	12.19 12.80		Medium dense brown silty medium to fine SAND, trace fine gravel, trace coarse sand -FILL-
13.0					17.75 13.72	
14.0		1 3 3 5	S9 0.61	13.72 14.33		Medium stiff alternately red and gray varved CLAY, little silt, fine sand in occasional partings. -GLACIOLACUSTRINE DEPOSIT-
15.0					16.83 14.63	PP=0 kg/cm² TV=1.25 kg/cm² Note: Shale fragments and sand in drill water at 14.6m.
16.0		24 24 32 28	S10 0.05	15.24 15.85		Black SHALE fragments -GLACIOFLUVIAL DEPOSIT-
17.0		100/0.1	S11 0.05	16.76 16.99	14.70 16.76	Very dense gray silty fine SAND, trace fine gravel, trace coarse to medium sand (well bonded) -GLACIAL TILL DEPOSIT-
18.0		100/0.08	S12 0.05	18.29 18.38		Very dense gray silty fine SAND, little medium to coarse sand, trace fine gravel (well bonded)
19.0					12.41 19.08	-BEDROCK- Note: Roller bit into bedrock from 19.05m – 19.51m. See Core Boring Report Sheet 3.

METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-12
FILE NO. 60435-000
SHEET NO. 3 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD N	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							12.19	Top of Bedrock at 19.05m
20.0	9.0 10.0 11.0 9.0 10.0	C1	19.51 21.03	1.42 1.02	93 67	Fresh	19.51 10.67 21.03	Moderately hard, fresh, dark gray to black, aphanitic, SHALE, extremely thin to very thin bedding dipping at low angles. Bedding plane joints, low angles, extremely close to close, rough, planar, fresh, open. Bottom of Exploration at 21.03m.
21.0								

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (11 OF 38)	
Designed By HALEY & ALDRICH	Drawn By M. M. LANDREY
Checked By Date HALEY & ALDRICH 19/00	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
L.G.C. Info. File No. ZE072LG11	Sheet C89 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003
101

STA 11+980.83, 4.01 m LT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-13

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-000
SHEET NO. 1 OF 1
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW /	S	NX
INSIDE DIAMETER (MM)	102 /76	35	51
HAMMER WEIGHT (KG)	136.1 /	63.5	–
HAMMER FALL (M)	0.61 /	0.76	–

DRILLING EQUIPMENT & PROCEDURES: RIG TYPE SIMCO DT 2400 Skid; BIT TYPE Tricone Roller; DRILL MUD None; OTHER – Safety hammer/cathead, Skid on barge; H&A REP G.S. Degood

ELEVATION 26.78
DATUM NAVD 88
START 10 September 1998
FINISH 15 September 1998
DRILLER M. Wisloszek

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0		WOR/0.61	S1 0.46	0.00 0.46		Very soft dark brown to brown ORGANIC SILT, little plant fiber, little clay
					26.32	–ORGANIC DEPOSITS–
			S1A 0.15	0.46 0.61	26.17 0.61	Very soft gray clayey ORGANIC SILT, trace plant fibers
1.0						
2.0		PUSH	NR	1.68 2.29		Note: Attempted fixed piston tube sample. Recovered 0.15m organic silt, sample rejected.
3.0		PUSH	U1 0.61	2.59 3.20		Conducted undisturbed tube sample in lacustrine clay from 2.59m to 3.20m.
		WOR/0.46 WOH/0.15	S2 0.61	3.20 3.81		Very soft gray CLAY, little silt (no structure observed)
4.0		WOR/0.61	S3 0.61	3.81 4.42		Very soft, gray CLAY, little silt. Note: Conducted Vane Shear Test 3.81m – 4.27m.
		WOR/0.61	S4 0.61	4.42 5.03		Very soft, gray CLAY, little silt (no structure)
5.0						–LACUSTRINE DEPOSIT–
6.0		PUSH	U2 0.58	5.64 6.25		Conducted undisturbed tube sample in lacustrine clay from 5.64m to 6.25m.
		WOR/0.61	S5 0.61	6.25 6.86		Very soft, gray CLAY, little silt (no structure observed)
7.0						–LACUSTRINE DEPOSIT–
8.0		WOR/0.61	S6 0.61	7.47 8.08		Very soft, gray CLAY, little silt, fine sand in frequent partings and zones
						Note: Conducted Vane Shear Test 7.47m – 7.93m.
					18.09	Note: Wash water changed from gray to red
					8.69	at 8.69m.
9.0		WOR/0.61	S7 0.61	8.99 9.60		Very soft alternately red and gray varved CLAY, little silt, trace fine sand
10.0						–GLACIOLACUSTRINE DEPOSIT–
11.0		WOR/0.61	S8 0.61	10.52 11.13		Very soft alternately red and gray varved CLAY, little silt, trace fine sand in frequent partings
					14.09	
12.0					11.89	Note: Drill action indicates strata change at 11.89m, shale cuttings in wash.
		11 12 12 8	S9 0.20	12.04 12.45		Medium dense gray silty coarse to fine SAND, little fine gravel, trace clay
						–GLACIOFLUVIAL DEPOSIT–
					13.83	Note: Probable top of bedrock at 12.80m.
		160/0	NR	12.95 12.95	12.95	Casing refusal at 12.95m. Split spoon refusal at 12.95m. Probable Top of Bedrock at 12.95m. Bottom of Exploration at 12.95m.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Not	Observed				

SAMPLE IDENTIFICATION
U UNDISTURBED SAMPLE
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	12.80
ROCK CORED (M)	0.00
SAMPLES	7S, 2U

NH METRIC

STA 11+980.88, 20.79 m RT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-14

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-000
SHEET NO. 1 OF 1
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW /	S	NX
INSIDE DIAMETER (MM)	102 /	35	51
HAMMER WEIGHT (KG)	63.5 /	63.5	–
HAMMER FALL (M)	0.61 /	0.76	–

DRILLING EQUIPMENT & PROCEDURES: RIG TYPE SIMCO DT 2400 Skid; BIT TYPE Tricone Roller; DRILL MUD None; OTHER – Safety hammer/cathead, skid on barge

ELEVATION 26.05
DATUM NAVD 88
START 29 October 1998
FINISH 29 October 1998
DRILLER R. Burns
H&A REP T. Dykstra

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0		WOR	S1A 0.23	0.00 0.30	25.74	Very soft dark gray silty CLAY, little organics, trace fine sand
			S1B	0.30	0.30	Very soft dark gray silty CLAY, trace organics
		0.61	0.23	0.61		P.P. = 0 kg/cm² T.V = 0 kg/cm² –LACUSTRINE DEPOSIT–
1.0						
2.0		PUSH	U1 0.33	1.52 2.13		Conducted undisturbed tube sample from 1.52m to 2.13m. (Poor recovery due to loss of very soft material during retrieval of tube.)
						–LACUSTRINE DEPOSIT–
3.0		WOR/0.61	S2 0.61	2.74 3.35		Very soft gray silty CLAY, trace organics (no structure)
		PUSH	U2 0.43	3.66 4.27		Conducted undisturbed tube sample 3.66m to 4.27m. (Poor recovery due to loss of very soft material during retrieval of sample. Soil is very fine sandy SILT, little clay.)
4.0		WOR/0.61	S3 0.61	4.27 4.88		Very soft gray silty CLAY (no structure)
5.0						Note: Conducted Vane Shear Test 4.27m – 4.72m.
		WOR/0.61	S4 0.61	5.49 6.10		Very soft gray silty CLAY, little silt (no structure) T.V. = 0 kg/cm² P.P. = 0.2 kg/cm² –LACUSTRINE DEPOSIT–
6.0						
7.0		PUSH	U3 0.51	6.71 7.32		Conducted undisturbed tube sample from 6.71m to 7.32m.
		WOR/0.30	S5	7.32	18.73 7.32	Very soft alternately red and gray varved
		WOH/0.30	0.61	7.92		CLAY, little silt, trace fine gravel P.P.= 0 kg/cm² T.V.= 0.6 kg/cm² Note: Conducted Vane Shear Test 7.32m – 7.72m.
8.0						
9.0		PUSH	U4 0.51	8.53 9.14		
		WOR/0.30 WOH/0.30	S6 0.61	9.14 9.75		Very soft alternately red and gray varved CLAY, little silt –GLACIOLACUSTRINE DEPOSIT–
10.0						Note: Conducted undisturbed tube sample from 8.53m to 9.14m. Note: Conducted Vane Shear Test 9.14m – 9.60m.
11.0		WOR/0.30 WOH/0.30	S7 0.61	10.67 11.28		Very soft alternately red and gray varved CLAY, little silt, trace medium to fine sand in frequent partings
12.0					14.16 11.89	
		15 8 7 8	S8 0.15	12.19 12.80		Medium dense gray gravelly medium to fine SAND, some silt –GLACIOFLUVIAL DEPOSIT–
13.0					12.16 13.07	Roller bit refusal at 13.07m. Probable top of bedrock at 13.87m. Bottom of Exploration at 13.87m.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Not	Observed				

SAMPLE IDENTIFICATION
U UNDISTURBED SAMPLE
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	13.87
ROCK CORED (M)	0.00
SAMPLES	4S, 4U

NH METRIC

STA 12+068.82, 4.19 m LT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-15

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-000
SHEET NO. 1 OF 2
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW /	S	NX
INSIDE DIAMETER (MM)	102 /	35	51
HAMMER WEIGHT (KG)	63.5 /	63.5	–
HAMMER FALL (M)	0.61 /	0.76	–

DRILLING EQUIPMENT & PROCEDURES: RIG TYPE SIMCO DT 2400 Skid; BIT TYPE Tricone Roller; DRILL MUD None; OTHER – Safety hammer/cathead, Skid on barge

ELEVATION 27.56
DATUM NAVD 88
START 30 October 1998
FINISH 30 October 1998
DRILLER R. Burns
H&A REP T. Dykstra

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0		6 8 50/0.09	S1A 0.01	0.05 0.30	27.25	Medium dense grayish brown medium to fine SAND, little silt
			S1B 0.00	0.30 0.61	0.30	–LACUSTRINE DEPOSIT–
1.0					26.79 0.76	Very dense gray gravelly silty fine SAND, little coarse to medium sand, trace clay (moderately bonded)
					26.34 1.22	–GLACIAL TILL DEPOSIT– –PROBABLE WEATHERED BEDROCK– Top of bedrock at 1.22m. See Core Boring Report Sheet 2.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Not	Observed				

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	0.76
ROCK CORED (M)	1.52
SAMPLES	1S

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-15
FILE NO. 60435-000
SHEET NO. 2 OF 2

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
1.0							26.34	Top of bedrock at 1.22m
	11.0	C1	1.22	1.52	100	Fresh	1.22	Moderately hard, fresh, dark gray to black, aphanitic, SHALE, bedding is very thin to extremely thin, dipping at low angles. Joints are low angle, close to moderately close, highly fractured from 2.50m to 2.74m, stepped and planar, fresh, open.
	10.0		2.74	1.12	73			
2.0	7.5							
	7.0							
	9.5						24.81 2.74	Bottom of Exploration at 2.74m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (12 OF 38)	
Designed By HALEY & ALDRICH	Drawn By M.M. LANDREY
Checked By Date HALEY & ALDRICH 19/00	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072LG12	Sheet C90 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5098

plot date: 10/23/2003

102

STA 12+166.82, 5.40 m LT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-16

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vahsse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-000
SHEET NO. 1 OF 2
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW /	S	NX
INSIDE DIAMETER (MM)	102 /	35	51
HAMMER WEIGHT (KG)	136.1 /	63.5	–
HAMMER FALL (IN)	0.61 /	0.76	–

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE CME 45
BIT TYPE Tricone Roller
DRILL MUD None
OTHER – HW casing to 1.37m

ELEVATION 30.42
DATUM NAVD 88
START 10 September 1998
FINISH 10 September 1998
DRILLER J. Garside
H&A REP C. Zolotz

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0		1	S2	0.00		-TOPSOIL-
	2	1	0.05	0.61		
		1			29.81	
	2	1			0.61	Note: Probable cobble or boulder at 0.76m to 0.91m.
	10					
1.0						Note: Clay in wash water between 1.21m to 1.37m.
	16				29.04	
					1.37	Note: Top of bedrock at 1.37m, roller bit to 1.58m.
					28.83	
					1.58	See Core Boring Report Sheet 2.

WATER LEVEL DATA					
DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Not	Observed				

SAMPLE IDENTIFICATION

S SPLIT SPOON

SUMMARY	
OVERBURDEN (M)	1.37
ROCK CORED (M)	1.52
SAMPLES	15

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-16
FILE NO. 60435-000
SHEET NO. 2 OF 2

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							28.83	Top of Bedrock 1.37m.
	13	C1	1.58	1.07	70	SL	1.58	Medium hard, slightly weathered, dark gray to black aphanitic, SHALE, extremely thin to thin bedding, dipping at low angles. Bedding plane joints, very close to close, smooth planar, slightly oxidized, tight. High angle to vertical joints, close from 1.98m to 3.11m, generally smooth, occasionally rough, undulatory, slightly oxidized, open. Rock extremely fractured (1.98m to 3.11m) due to intersectioning high angle and bedding plane joints. Lost core - assumed at bottom of run.
2.0	22		3.11	0.10	6			
	14							
	16							
3.0	17						27.31	
							3.11	Bottom of Exploration at 3.11m.

METRIC

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (13 OF 38)	
Designed By HALEY & ALDRICH	Drawn By M. M. LANDREY
Checked By Date HALEY & ALDRICH 19/00	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
L.G.C. Info. File No. ZE072LG13	Sheet C91 of C194

VHB NO. 5098

plot date: 10/23/2003

STA 10+964.53, 5.07 m LT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-100

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 2
LOCATION N 275208.07
E 442727.19

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	–	OTHER – Safety Hammer

ELEVATION 27.24
DATUM NAVD
START August 2, 2001
FINISH August 2, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0						
	10					–MUDLINE– Water depth=1.68m.
	20				28.63	–RIPRAP FILL–
	16				0.61	Note: Drill activity and wash indicated fill to 0.61m followed by sands, gravel, and cobbles to 1.68m.
1.0	42					
	32					–GLACIOFLUVIAL DEPOSITS–
		17	S1	1.52	25.56	Very dense gray silty fine SAND, trace coarse to fine sand, coarse to fine gravel, with few cobbles.
		40/2.5cm	0.18	1.71	1.68	Top of bedrock at 1.68m. See Core Boring Report Page 2 for bedrock descriptions.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	DEPTH (M) TO: BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	1.68
ROCK CORED (M)	6.10
SAMPLES	S1, C4

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-100
FILE NO. 60435-004
SHEET NO. 2 OF 2

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0								
1.0							25.56	TOP OF BEDROCK AT 1.68m.
2.0	5	C1	1.83	1.52	100	FR	1.68	Moderately hard, fresh, light to dark gray, aphanitic, calcareous SHALE. Bedding extremely thin to very thin, horizontal. Primary joints horizontal, very close to moderately close, smooth, planar, fresh, open. Secondary joints moderate to high angle, close, polished slickensided, planar, fresh, tight.
	5		3.35	1.12	73			
3.0	5	C2	3.35	1.52	100	FR		DO. Except bedding extremely thin to thin, and secondary joints moderately dipping, wide, open.
	5		4.88	0.94	62			
4.0	5							
	5							
5.0	5	C3	4.88	1.52	100	FR		DO. Except secondary joints high angle and moderately spaced.
	4		6.40	0.94	62			
6.0	4							
	4							
7.0	4	C4	6.40	1.52	100	FR		DO. Except primary joints moderately dipping, very close to moderately close, polished slickensided to smooth, planar, fresh, open to tight. Secondary joints horizontal, close, smooth, planar, fresh, open.
	4		7.92	1.02	67			
	4							CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
	4						19.31	
	4						7.92	BOTTOM OF EXPLORATION AT 7.92m.

NOTE: All cores displayed high effervescence when acid was applied.

METRIC

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (14 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By HALEY & ALDRICH Date 13/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. info.	
File No. ZE072LG14	Sheet C92 of C194

VHB NO. 5091

plot date: 10/23/2003

104

STA 10+963.64, 7.63 m RT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-101

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(11)
CLIENT: Vanasse Hangen Brustlin, Inc.
CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 2
LOCATION N 275196.76
E 442721.54

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	–	OTHER – Safety Hammer

ELEVATION 26.95
DATUM NAVD
START August 2, 2001
FINISH August 2, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	10					–MUDLINE–
	36				26.54	Water depth: 1.92m
	40				0.46	–LACUSTRINE DEPOSITS–
1.0	55					Note: Wash indicated soft clay deposits to 0.46m, followed by sands, gravel and cobbles to 1.68m. Drill activity and casing installation indicated top of bedrock at 1.68m.
	Drilled ahead					–GLACIOFLUVIAL DEPOSITS–
	to 1.83m	21	S1	1.52	25.32	Very dense gray silty fine SAND, trace coarse to medium sand
		100/2.5cm	0.08	1.71	1.68	Top of bedrock at 1.68m.
						See Core Boring Report Page 2 for bedrock descriptions.

WATER LEVEL DATA					
DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY
OVERBURDEN (M) 1.68
ROCK CORED (M) 6.10
SAMPLES S1, C4

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-101
FILE NO. 60435-004
SHEET NO. 2 OF 2

DEPTH (m)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
1.0							25.32	
							1.68	TOP OF BEDROCK AT 1.68m.
	6	C1	1.68	1.52	100	FR		Moderately hard, fresh, light to dark gray, aphanitic, calcareous SHALE. Bedding extremely thin to thin, low angles. Primary bedding joints horizontal, close to moderate, smooth, planar, fresh, open. Secondary joints low angle to moderately dipping, close, polished slickensided, planar, fresh, open to tight.
2.0	6		3.35	0.69	45			
	6	C2	3.35	1.27	83	FR		
	6		4.88	0.53	35			DO. Except extremely fractured zones from 3.51 to 3.75m and 3.99 to 4.24m.
3.0	5							
	5							
	7							
4.0	7							
	8							
	5	C3	4.88	1.52	100	FR		
5.0	5		6.40	1.22	80			DO. Except bedding horizontal to low angle, and secondary joints low to high angles, moderate to very close.
	5							
	5							
6.0	5							
	4	C4	6.40	1.52	100	FR		
	5		7.92	0.94	62			DO.
	5							
7.0	5							CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
	5							
	5						19.07	
							7.92	BOTTOM OF EXPLORATION AT 7.92m.

NOTE: All cores displayed high effervescence when acid was applied.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (15 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By Date HALEY & ALDRICH 13/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
LG.C. Info.	
File No. ZE072LG15	Sheet C93 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003

105

STA 10+970.30, 5.32 m LT

Manchester, New Hampshire — TEST BORING REPORT — BORING NO. HA-102

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(11)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 2
LOCATION N 275206.61, E 442732.59
ELEVATION 27.21
DATUM NAVD
START August 1, 2001
FINISH August 1, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	–	OTHER – Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push to 0.61m					–MUDLINE– Water depth: 1.75m. Note: Drill activity and wash indicated riprap fill from causeway to 1.22m.
1.0	40 70 102				25.99 1.22	–RIPRAP FILL– Top of bedrock at 1.22m. See Core Boring Report Page 2 for bedrock descriptions.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR.)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION: S SPLIT SPOON

SUMMARY: OVERBURDEN (M) 1.22; ROCK CORED (M) 6.10; SAMPLES CT

NH METRIC

Manchester, New Hampshire — CORE BORING REPORT — BORING NO. HA-102, FILE NO. 60435-004, SHEET NO. 2 OF 2

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							25.99	TOP OF BEDROCK AT 1.22m.
1.0	8	C1	1.22 2.13	0.36 0.00	39 0	FR	1.22	Moderately hard, fresh, light gray to gray, aphanitic, calcareous SHALE. Bedding extremely thin to thin, horizontal. NOTE: Could not describe joints due to the nature and amount of core. NOTE: Core jam at 2.13m. DO. Except bedding joints horizontal to high angle, close, smooth to polished slickensided, planar, fresh, open.
2.0	9 6 6	C2	2.13 2.90	0.53 0.25	73 33	FR		NOTE: Core jam at 9.5 ft. DO. Except bedding horizontal to low angles. Primary joints moderately dipping, close to moderately close, polished slickensided to smooth, planar, fresh, open to tight. Secondary joints horizontal, close, smooth, planar, fresh, open.
3.0	7 8 7	C3	2.90 4.42	1.52 0.91	100 60	FR		
4.0	7 8 9	C4	4.42 5.33	0.91 0.41	100 44	FR		DO. Except primary joints moderately dipping to high angle.
5.0	6 6 4	C5	5.33 6.10	0.76 0.51	100 67	FR		NOTE: Core jam at 5.33m. DO.
6.0	7 7 4	C6	6.10 6.86	0.76 0.33	100 43	FR		NOTE: Core jam at 6.10m. DO. Except no secondary joints.
7.0	6 3	C7	6.86 7.32	0.30 0.30	67 67	FR		NOTE: Core jam at 6.86m. DO. Except no joints.
							19.89 7.32	CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
								BOTTOM OF EXPLORATION AT 7.32m.

METRIC

STA 10+969.66, 7.85 m RT

Manchester, New Hampshire — TEST BORING REPORT — BORING NO. HA-103

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(11)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 2
LOCATION N 275194.17, E 442726.78
ELEVATION 26.98
DATUM NAVD
START July 31, 2001
FINISH July 31, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	–	OTHER – Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push					Water depth: 1.95m. –MUDLINE–
	5				26.54 0.46	–LACUSTRINE DEPOSITS– Note: Washed down and placed casing to 1.22m. Wash indicated soft clay deposits to 0.46m, followed by sands and gravels to 1.22m.
1.0	20 21					
	Drove	60	S1 0.76	1.22 1.37	25.82 1.37	–GLACIOFLUVIAL DEPOSITS– Medium dense gray silty fine SAND, trace coarse to medium sand, fine gravel. Note: Shale fragments found in tip of spoon. Top of bedrock at 1.37m. See Core Boring Report Page 2 for bedrock descriptions.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR.)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION: S SPLIT SPOON

SUMMARY: OVERBURDEN (M) 1.37; ROCK CORED (M) 5.79; SAMPLES S1, C5

NH METRIC

Manchester, New Hampshire — CORE BORING REPORT — BORING NO. HA-103, FILE NO. 60435-004, SHEET NO. 2 OF 2

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							25.62 1.37	TOP OF BEDROCK AT 1.37m.
1.0	7	C1	1.52 1.98	0.38 0.15	63 33	FR		Moderately hard, fresh, light to dark gray, aphanitic, calcareous SHALE. Bedding extremely thin to thin, horizontal. NOTE: Core jam at 1.83m. Bedding joints could not be described due to the amount and nature of core. C2: DO. Except bedding joints moderately dipping to low angle, very close to moderately close, smooth to polished slickensided, planar, fresh, open. NOTE: Core jam at 2.90m. C3: DO. Except bedding joints horizontal to moderately dipping. NOTE: Core jam at 3.96m.
2.0	10 6 7 9	C2	1.98 2.90	0.79 0.41	86 44	FR		
3.0	8 8 8	C3	2.90 3.96	1.07 0.53	100 50	FR		
4.0	6 8 8 8	C4	3.96 5.49	1.52 0.94	100 62	FR		DO.
5.0	8 8 8	C5	5.49 7.32	1.83 1.32	100 72	FR		DO.
6.0	6 6 6 6							CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
7.0	6						19.68 7.32	BOTTOM OF EXPLORATION AT 7.32m.

NOTE: All cores displayed high effervescence when acid was applied.

METRIC

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (16 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By HALEY & ALDRICH Date 13/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
L.G.C. Info.	
File No. ZE072LG16	Sheet C94 of C194

VHB NO. 50911

plot date: 10/23/2003

106

STA 11+018.32, 1.46 m LT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-104

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(11)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 2
LOCATION N 275183.42
E 442775.14
ELEVATION 27.12
DATUM NAVD
START July 30, 2001
FINISH July 31, 2001
DRILLER B. Bourassa
H&A REP C. Tocano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	–	OTHER – Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Pushed casing to 2.13m					–MUDLINE– Water depth: 1.83m. Note: Washed down to 1.52m. Wash indicated soft clay deposits.
1.0						–LACUSTRINE DEPOSITS–
		WOH 1 1 1	S1 0.61	1.52 2.13		Very soft to soft gray CLAY, little silt
2.0					25.13 1.98	Note: Color of clay changed to gray to red at 1.98m.
		6 10 11			24.37 2.74	–GLACIOLACUSTINE DEPOSITS– Note: Drill activity indicated strata change at 2.74m.
3.0	Drove to 3.66m	7 100	S2 0.18	3.05 3.35	23.76 3.35	–GLACIOFLUVIAL DEPOSITS– Very dense silty fine SAND, trace coarse to medium sand, fine gravel, with medium to fine sand in occasional partings. Note: Fragments of shale were found in tip of spoon. Top of bedrock at 3.35m. See Core Boring Report Page 2 for bedrock descriptions.

WATER LEVEL DATA					
DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Mississquoi Bay					

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	3.35
ROCK CORED (M)	6.10
SAMPLES	S2, C4

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-104
FILE NO. 60435-004
SHEET NO. 2 OF 2

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							23.76 3.35	TOP OF BEDROCK AT 3.35m.
4.0	5 5 5 5	C1	3.66 5.18	1.52 0.71	87 47	FR		Moderately hard, fresh, gray to light gray, aphanitic, calcareous SHALE. Bedding extremely thin to very thin, low angles. Bedding joints horizontal to high angles, very close to moderately close, smooth to polished altakensided, planar, open. NOTE: Encountered frequent small fractures during core activity from 4.27 to 4.88m. Slight core jam from 4.27 to 4.57m.
5.0	5 6 6 6 6	C2	5.18 6.71	1.52 1.32	100 87	FR		DO. Except bedding joints horizontal to moderately dipping.
6.0	6 8 8 8 8	C3	6.71 8.23	1.52 0.91	100 60	FR		DO. Except primary joints high angle, moderate to wide, polished slickensided, planar, tight. Secondary joints horizontal, close, smooth, planar, fresh, open.
7.0	8 8 8 8 8	C4	8.23 9.75	1.52 0.97	100 63	FR		DO. Except primary joints close to moderate. Secondary joints moderately spaced, planar to stepped.
8.0	8 8 8 8 8							CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
9.0	8 8 8 8						17.36 9.75	BOTTOM OF EXPLORATION AT 9.75m.

NOTE: All cores were highly effervescent when acid was applied.

METRIC

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (17 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By Date HALEY & ALDRICH 13/03	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
I.G.C. Info.	
File No. ZE072LG17	Sheet C95 of C194

VHB NO. 5091

plot date: 10/23/2003

STA 11+065.56, 0.48 m LT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-105

PROJECT: Alburg-Swanton Bridge Replacement
VADT NO.: BRF 036-1(11)
CLIENT: Vanasse Hangen Brustlin, Inc.
CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 3
LOCATION N 275163.78
E 442610.11
ELEVATION 25.92
DATUM NAVD
START July 27, 2001
FINISH July 30, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW	S	NX
INSIDE DIAMETER (MM)	102	35	54
HAMMER WEIGHT (KG)	136	63.5	–
HAMMER FALL (M)	0.61	0.76	–

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE Diedrich D50
BIT TYPE Roller Bit
DRILL MUD None
OTHER – Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0						–MUDLINE–
	Push					Water depth: 3.02m.
	to					Note: Pushed HW casing and washed out to 1.52m. Wash indicated soft lacustrine clay deposits.
1.0	4.88m					
		WOR/61cm	S1 0.61	1.52 2.13		Very soft gray to dark gray CLAY, little organic silt
2.0						–LACUSTRINE DEPOSITS–
3.0		WOR/30.5cm	S2 0.61	3.05 3.66	22.57	DO.
		WOH 3			3.35	Very soft gray to red CLAY, little silt
4.0						–GLACIOLACUSTRINE DEPOSITS–
		WOR	S3 0.25	4.57 5.18	21.20 4.72	DO.
5.0	17	14 15 12				Medium dense gray fine SAND, little silt, with interbedded layers of fine sandy silt
	31					
	33					–GLACIOFLUVIAL DEPOSITS–
6.0	67					
	36	17 21 27 36	S4 0.51	6.10 6.71		Dense gray silty fine SAND, little coarse to medium sand, trace coarse to fine gravel (well bonded in-situ)
	62					
	86				18.51	
7.0	220				7.01	Note: Drill activity indicated cobbles and small boulders from 7.01 to 7.92m. Drilled ahead to 8.84m. Wash indicated silty fine sands to 8.84m.
	Drilled					

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY
OVERBURDEN (M) 10.06
ROCK CORED (M) 6.10
SAMPLES S9, C4

NH METRIC

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-105
FILE NO. 60435-004
SHEET NO. 2 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
8.0	Ahead				18.00 7.92	–COBBLE AND BOULDER LAYER–
	to 8.84m					
	Drilled					–GLACIOFLUVIAL DEPOSITS–
	Ahead					
9.0	to 10.36m	63 64 100/2.5cm	S5 0.46	8.84 9.45		Very dense gray silty fine SAND, trace coarse to medium sand, coarse to fine gravel with cobbles (well bonded in-situ)
						Note: Encountered cobbles and small boulders from 9.14 to 10.06m.
10.0					15.86 10.06	Top of bedrock at 10.06m.
						See Core Boring Report Page 3 for bedrock descriptions.

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-105
FILE NO. 60435-004
SHEET NO. 3 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
10.0							15.86 10.06	TOP OF BEDROCK AT 10.06m.
	4	C1	10.36 11.89	1.37 0.79	90 52	FR		Moderately hard, fresh, light to dark gray, aphanitic, calcareous SHALE. Bedding extremely thin to thin, dipping at low angles. Bedding plane joints horizontal to low angles, close to very close, smooth to polished allokensidec, planar, fresh, open.
11.0	4							
	4							
	4							
12.0	5	C2	11.89 13.41	1.52 1.04	100 68	FR		DO. Except bedding extremely thin to very thin. Bedding joints horizontal to high angles, extremely close to moderately close, open to tight.
	5							
	5							
13.0	5							
	5	C3	13.41 14.94	1.52 1.07	100 70	FR		DO. Except bedding joints very close to moderately close.
14.0	3							
	3							
	3							
15.0	5	C4	14.94 16.46	1.52 1.17	100 77	FR		DO. Except bedding joints close to moderately close.
	5							CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
	5							
16.0	5							
	5						9.46 16.46	BOTTOM OF EXPLORATION AT 16.46m.

NOTE: All cores displayed high effervescence when acid was applied.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (18 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By HALEY & ALDRICH Date 13/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
LG.C. Info.	
File No. ZE072LG18	Sheet C96 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date: 10/23/2003

STA 11+111.73, 1.45 m LT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-106

PROJECT: Alburg-Swanton Bridge Replacement
VAGT NO.: BRF 036-1(11)
CLIENT: Vanasse Hangen Brustlin, Inc.
CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 2
LOCATION N 275146.36
E 442860.88

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	–	OTHER – Safety Hammer

ELEVATION 25.73
DATUM NAVD
START June 21, 2001
FINISH June 22, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	2					–MUDLINE–
	2					Water depth: 3.66m. Notes: Drove HW casing and washed out to 1.52m before taking first sample. Drill activity and wash indicated lacustrine clay deposits from 0.0 to 1.37m. Silty sand appeared from 1.37 to 1.52m.
	3					–LACUSTRINE DEPOSITS–
1.0	5					
	9				24.35	
	14	11	S1	1.52	1.37	Dense gray silty fine SAND
	5	5	0.10	2.13		Notes: First attempt no recovery from 1.52 to 2.13m. Probably pushed gravel. Second attempt pushed spoon to 2.74m. Second attempt recovered 0.25m.
	10	3				
2.0		12			23.58	–GLACIOFLUVIAL DEPOSITS–
	35	17	S2	2.13	2.13	Top of bedrock at 2.13m.
		21	0.15	2.14		Dark gray SHALE fragments
	25	23				Notes: Drill activity and wash indicated fractured bedrock to 3.05m.
		22				
	40					–FRACTURED CALCAREOUS SHALE BEDROCK–
					22.68	–STONY POINT FORMATION–
					3.05	See Core Boring Report Page 2 for bedrock descriptions.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	2.13
ROCK CORED (M)	9.14
SAMPLES	S2, C6

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-106
FILE NO. 60435-004
SHEET NO. 2 OF 2

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
2.0							23.59	TOP OF BEDROCK AT 2.13m.
							2.13	
								FRACTURED CALCAREOUS SHALE BEDROCK
							22.68	STONY POINT FORMATION
3.0	7	C1	3.05 4.57	1.37 0.51	30 33	FR	3.05	Moderately hard, fresh, dark to light gray, aphanitic, calcareous SHALE. Bedding extremely thin to thin, horizontal. Primary bedding plane joints close, dipping at low angles, smooth, planar, fresh, open. Secondary joints very close to close, dipping at high angles, smooth to polished slickensided, undulating, fresh, tight.
	6							NOTE: Polished slickensided joint surfaces are found at high angle joints and have a metallic appearance and greasy feel. Shale slightly graphitic.
	6							NOTE: Extremely fractured zone from 3.11 to 3.20m.
4.0	5.5							NOTE: Polished slickensided joint faces are common only at angled joints throughout entire 9.14m core run.
	6							DO. Except bedding dipping moderately to horizontal. Bedding plane joints close to moderate, dipping at high angles to moderate, smooth to polished slickensided, planar to undulating, fresh, open. NOTE: High angle joint surfaces have graphitic appearance. Also, pyrite minerals and extremely thin calcite veins are common on high angle joint surfaces.
	4.5	C2	4.57 5.10	1.47 0.84	97 55	FR		
5.0	4							
	4							
	4							
	4							
6.0	3	C3	6.10 7.62	1.47 1.12	97 73	FR		DO. Except bedding dipping at low angle to horizontal. Bedding plane joints wide, dipping at high angles, smooth to polished slickensided, planar, fresh, tight to open. NOTE: Calcite veins and polished slickensided joint faces are found at high angle joint at 6.41m.
	3							
	3							
7.0	3							
	3							
	3	C4	7.62 9.14	1.45 1.07	95 70	FR		DO. Except bedding dipping at low angles to horizontal. Bedding plane joints close to moderate, horizontal to high angle, smooth to polished slickensided, planar to stepped, fresh, open to tight. NOTE: Extremely thin calcite veins and polished slickensided joint faces are present at high angle joint at 7.92m.
8.0	3							
	3							
	3							
	3	C5	9.14 10.67	1.35 0.99	68 58	FR		DO. Except bedding dipping at low angles. Primary bedding joints extremely close to close, dipping at low angles to horizontal, smooth, planar to stepped, fresh, open. Secondary joints wide, dipping moderately, smooth, planar, fresh, tight.
	3							
9.0	3							
	3							
	3							
10.0	3							
	3							
	3	C6	10.67 12.19	1.52 1.17	100 77	FR		DO. Except bedding extremely thin, dipping at low angles to horizontal. Bedding plane joints very close to moderate, horizontal to high angle, smooth to polished slickensided, planar, fresh, open to tight. NOTE: Pyrite minerals are found on horizontal joint faces, and polished slickensided joint face present at high angle joint.
11.0	3							
	5							
	3							
12.0	3							
							13.53	CALCAREOUS SHALE BEDROCK
							12.19	STONY POINT FORMATION
								BOTTOM OF EXPLORATION AT 12.19m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (19 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By Date HALEY & ALDRICH 13/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
L.G.C. Info.	
File No. ZE072LG19	Sheet C97 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003

STA 11+158.61, 0.09 m RT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-107

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc.
CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 3
LOCATION N 275126.35
E 442903.30
ELEVATION 25.68
DATUM NAVD
START June 25, 2001
FINISH June 26, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	–	OTHER – Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push to 1.52m					–MUDLINE– Water depths 3.69m. Notes: Pushed HW casing and washed out to 1.52m. Drill activity and wash indicated soft lacustrine clay deposits from 0.0 to 1.52m.
1.0						
	8	WOH	S1 0.61	1.52 2.13		Very soft gray to red mottled silty CLAY
2.0	13	1 1 1				
	9					
	8					
	7					
3.0	6	WOH/61cm	S2 0.61	3.05 3.68		DO.
	4					–GLACIOLACUSTRINE DEPOSITS– Notes: Drill activity and casing installation indicated strata change at approximately 3.69m.
	3				21.75	
4.0	11				3.96	
	43					–GLACIOFLUVIAL DEPOSITS– Very dense silty medium to fine SAND with fragments of shale at tip of spoon
	50		S3	4.57	20.97	Top of bedrock at 4.72m.
	100/2.5cm		0.10	4.75	4.72 20.82	–FRACTURED CALCAREOUS SHALE BEDROCK– STONY POINT FORMATION
					4.88	See Core Boring Report Page 2 for bedrock descriptions.

WATER LEVEL DATA					
DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY	
OVERBURDEN (M)	4.72
ROCK CORED (M)	10.82
SAMPLES	S3, C8

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-107
FILE NO. 60435-004
SHEET NO. 2 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							20.97	TOP OF BEDROCK AT 4.72m.
							4.72	FRACTURED CALCAREOUS SHALE BEDROCK
5.0	4	C1	4.88	0.56	23	FR	20.82	Moderately hard, fresh, light to dark gray, aphanitic, calcareous SHALE. Bedding extremely thin to thin, moderately dipping to high angle. Bedding plane joints close, moderately dipping to low angle, smooth, undulating to planar, fresh, open.
	3		6.40	0.15	10		4.88	
	2.5							NOTE: Extremely fractured from 4.88 to 5.03m.
6.0	10 sec							NOTE: Core activity indicated extremely fractured and/or completely weathered bedrock from 5.64 to 7.01m.
	10 sec	C2	6.40	0.61	53	FR		DO. Except bedding dipping low angle to horizontal. Bedding plane joints close, low angle, smooth to polished slickensided, planar, fresh, open.
	10 sec		7.92	0.48	32			NOTE: Polished slickensided faces have metallic appearance and greasy feel. Also, fine sand present on joint surfaces in extremely fractured zones from 7.07 to 7.19m and 7.38 to 7.47m.
7.0	3							
	3							
	3	C3	7.92	1.22	100	FR		DO. Except bedding plane joints close to moderate, horizontal to moderately dipping, smooth, rough and polished slickensided, stepped to planar, fresh, open.
8.0	4.5		9.14	0.81	67			NOTE: Extremely fractured zone from 8.72 to 8.84m.
	4							NOTE: Core barrel jammed at 9.14m due to extremely fractured zone.
	6							DO. Except bedding plane joints close to moderate, high angle, smooth to polished slickensided, planar, fresh to discolored due to calcite veins, open.
9.0	6	C4	9.14	1.37	100	FR		NOTE: Core barrel jammed at 10.52m.
	4		10.52	0.71	52			
	4							
10.0	4							
	5							
	6	C5	10.52	1.22	100	FR		DO. Except primary joints close, high angle, smooth, stepped to planar, fresh, open. Secondary joints close, horizontal to low angle, smooth, planar, fresh, open.
11.0	5		11.73	0.94	77			
	5							NOTE: Calcite veins present on high angled joints.
	5							NOTE: Core barrel jammed at 11.73m.
	6	C6	11.73	1.45	95	FR		DO. Except bedding joints very close to moderate, moderately dipping, smooth to polished slickensided, planar, undulating and stepped, fresh, open to tight.
12.0	4		13.26	1.09	72			
	4							
	4							
13.0	4							
	4	C7	13.26	0.91	100	FR		DO. Except bedding plane joints very close to moderate, horizontal to low angle, smooth, planar, fresh, open to tight.
	4		14.17	0.58	64			
14.0	4							
	5	C8	14.17	1.52	100	FR		DO. Except bedding plane joints very close to moderate, horizontal to moderately dipping, smooth to polished slickensided, stepped to planar, fresh, open to tight.
	8		15.70	0.97	63			
15.0	5							CALCAREOUS SHALE BEDROCK STONY POINT FORMATION

METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-107
FILE NO. 60435-004
SHEET NO. 3 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
	5							
	5						10.00	
							15.70	BOTTOM OF EXPLORATION AT 15.70m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (20 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By Date HALEY & ALDRICH 13/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072LG20	Sheet C98 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003

STA 11+206.28, 0.65 m RT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-108

PROJECT: Alburg-Swanton Bridge Replacement
VADT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 3
LOCATION N 275106.92
E 442946.84
ELEVATION 26.35
DATUM NAVD
START June 26, 2001
FINISH June 27, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	-	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	-	OTHER - Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push to 1.52m					-MUDLINE- Water depth: 3.02m. Note: Pushed HW casing and washed out to 1.52m. Wash indicated soft lacustrine clay deposits to 1.52m.
1.0	1	WOR/61cm	S1 0.61	1.52 2.13		Very soft gray silty CLAY with occasional fine sandy silt partings
2.0	2 2 3					
3.0	3 3 3	1/61cm	S2 0.61	3.05 3.66		DO. except occasional layers of clayey SILT
4.0	4 3 3					-LACUSTRINE DEPOSITS-
5.0	4 5 5	WOR/61cm	S3 0.61	4.57 5.18	21.63 4.72	Very soft red to gray mottled silty CLAY
6.0	5 4 4	WOR/61cm	S4 0.61	6.10 6.71		DO.
7.0	5 30 28				19.18 7.16	-GLACIOLACUSTRINE DEPOSITS- Note: Drill action and wash indicated strata change at 7.16m.

WATER LEVEL DATA					SAMPLE IDENTIFICATION	SUMMARY	
DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER		OVERBURDEN (M) 9.75
							ROCK CORED (M) 9.14
Barge mounted drilling rig on Missisquoi Bay					S SPLIT SPOON		SAMPLES 36. 06
						NH	METRIC

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-108
FILE NO. 60435-004
SHEET NO. 2 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
8.0	16 18 27 30	11 11 4 4	S5 0.15	7.62 8.23	18.13 8.23	Medium dense gray silty coarse to fine SAND, little coarse to fine gravel (locally bonded) -GLACIOFLUVIAL DEPOSITS-
9.0	29 30 47 100/0.15	23 25 27 23	S6 0.30	9.14 9.75	16.60 9.75	-GLACIAL TILL DEPOSITS- Very dense silty coarse to fine SAND, little coarse to fine gravel (well bonded) Note: Shale fragments found in tip of spoon. Top of bedrock at 9.75m. -FRACTURED CALCAREOUS SHALE BEDROCK-
					16.14 10.21	-STONY POINT FORMATION- See Core Boring Report Page 3 for bedrock descriptions.

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-108
FILE NO. 60435-004
SHEET NO. 3 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30MND.	RUN	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							16.60 9.75	TOP OF BEDROCK AT 9.75m. FRACTURED CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
10.0	3	C1	10.36 11.88	1.52 0.53	100 35	FR	16.14 10.21	Moderately hard, fresh, light to dark gray, aphanitic, calcareous SHALE. Bedding extremely thin to thin, horizontal to low angle. Primary joints very close, high angle, smooth to polished slickensided, planar, fresh to discolored due to abundance of calcite minerals, open. Secondary joints close, horizontal to low angle, smooth, planar, fresh, open.
11.0	3 4 5 5							NOTE: Extremely fractured zone at high angle joints from 10.82 to 11.58m. Also, common calcite veins present on high angle joints.
12.0	5 5 5	C2	11.89 13.41	1.52 1.02	100 67	FR		DO. Except bedding plane joints close to moderate, horizontal to high angle, smooth to polished slickensided, planar to stepped, fresh, open.
13.0	5 4 4	C3	13.41 14.94	1.52 0.79	100 52	FR		NOTE: Extremely fractured zone from 12.31 to 12.50m. Also, occasional calcite veins present on high angle joints.
14.0	4 4 4							DO. Except primary joints close to moderate, high angle, polished slickensided, planar, fresh, open. Secondary joints moderately spaced, horizontal to low angle, smooth, planar, fresh, open.
15.0	4 5 5	C4	14.94 16.46	1.52 0.97	100 63	FR		NOTE: 2.5cm thick high angle calcite vein along fracture from 13.41 to 13.72m.
16.0	4 4 4							NOTE: Extremely fractured zone from 14.63 to 14.94m.
17.0	4 4 4	C5	16.46 17.98	1.52 0.78	100 52	FR		DO. Except primary joints close to moderate, horizontal to low angle, smooth, stepped to planar, fresh, open. Secondary joints close, moderately dipping to high angle, smooth to polished slickensided, fresh, open.
18.0	4 4 4	C6	17.98 19.51	1.42 0.84	93 55	FR		DO. Except bedding plane joints very close to moderate, horizontal to low angle, smooth to polished slickensided, planar, fresh, open to tight. CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
19.0	4 3 3						6.84 19.51	BOTTOM OF EXPLORATION AT 19.51m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (21 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By Date HALEY & ALDRICH 13/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072LG21	Sheet C99 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003

STA 11+254.27, 0.62 m LT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-109

PROJECT: Alburg-Swanton Bridge Replacement
VADOT NO.: BRF 036-1(11)
CLIENT: Vanasse Hangen Brustlin, Inc.
CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 3
LOCATION N 275089.05
E 442991.40
ELEVATION 26.35
DATUM NAVD
START July 26, 2001
FINISH July 26, 2001
DRILLER B. Bourassa
H&A REP C. Tosoano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW	S	NX
INSIDE DIAMETER (MM)	102	35	54
HAMMER WEIGHT (KG)	136	63.5	--
HAMMER FALL (M)	0.61	0.76	--

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE Diedrich D50
BIT TYPE Roller Bit
DRILL MUD None
OTHER - Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push to 11.28m					-MUDLINE- Water depth: 2.62m. Note: Pushed HW casing and washed out to 1.52m. Wash indicated soft lacustrine clay deposits.
1.0		WOR/61cm	S1 0.61	1.52 2.13		Very soft gray silty CLAY, trace peat fibers
2.0						
3.0		WOR/61cm	S2 0.61	3.05 3.68		Very soft gray CLAY, little silt
4.0						
5.0		WOR/61cm	S3 0.61	4.53 5.18		Very soft gray to dark gray silty CLAY, little organic silt
6.0		WOR/61cm	S4 0.51	6.10 6.71		Very soft gray CLAY, little silt
7.0					18.88 T.47	-LACUSTRINE DEPOSITS

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	12.50
ROCK CORED (M)	6.10
SAMPLES	ST, C4

NH METRIC

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-109
FILE NO. 60435-004
SHEET NO. 2 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
8.0		WOR/61cm	S5 0.61	7.62 8.23		Very soft gray to red CLAY, little silt -GLACIOLACUSTRINE DEPOSITS-
9.0		WOR/61cm	S6 0.46	9.14 9.75		Very soft red to gray CLAY, little silt
10.0		WOR/30.5cm	NR 0.15	10.67 11.28	15.38	No recovery.
11.0	36	2 2			10.97	Note: Behavior of spoon indicated coarser material at 10.97m. -GLACIOFLUVIAL DEPOSITS-
12.0	34 25					
	38	13	S7 0.25	12.19 12.80		Dense dark gray pulverized SHALE, trace coarse to fine sand, silt
	45	7 25			13.85 12.50	Top of bedrock at 12.50m. -FRACTURED CALCAREOUS SHALE BEDROCK- STONY POINT FORMATION
	61	33				Note: Drill activity indicated fractured bedrock to 13.41m.
	100				12.94 13.41	See Core Boring Report Page 3 for bedrock descriptions.

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-109
FILE NO. 60435-004
SHEET NO. 3 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							13.85 12.50	TOP OF BEDROCK AT 12.50m. FRACTURED CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
13.0							12.94 13.41	Moderately hard, fresh, light to dark gray, aphanitic, calcareous SHALE. Bedding extremely thin to very thin, dipping at low angles. Bedding joints at low to high angles, close to moderately spaced, smooth to polished slickensided, planar, fresh, open to tight.
14.0	4 4 4 4 4	C1	13.72 15.24	1.47 1.07	97 70	FR		
15.0	5 5	C2	15.24 16.75	1.42 0.79	93 52	FR-HW		RQD: Except bedding joints close to very close, fresh to slightly decomposed, open. NOTE: Encountered extremely fractured or weathered zone from 15.85 to 16.46m. Drill rate increased to 2 min/0.3m. Observed little amounts of fine sand coming up in the wash.
16.0	2 2 5	C3	16.76 18.29	1.40 1.09	92 72	FR		RQD: Except bedding joints wide to very close, open to tight.
17.0	6 6 6 6	C4	18.29 19.81	1.47 0.69	97 45	FR		RQD: Except bedding joints at low angle to moderately dipping, very close to moderately spaced. NOTE: All cores displayed high effervescence when acid was applied. Bedrock rich in calcite. CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
18.0	6 4 4 4 4							
19.0	4 4 4 4						6.54 19.81	BOTTOM OF EXPLORATION AT 19.81m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (22 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By Date HALEY & ALDRICH 13/03	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072LG22	Sheet C100 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091W

plot date: 10/23/2003

12

STA 11+303.35, 0.47 m RT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-110

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 3
LOCATION N 275068.58, E 443036.02
ELEVATION 26.05
DATUM NAVD
START July 25, 2001
FINISH July 26, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW	S	NX
INSIDE DIAMETER (MM)	102	35	54
HAMMER WEIGHT (KG)	136	63.5	–
HAMMER FALL (M)	0.61	0.76	–

DRILLING EQUIPMENT & PROCEDURES: RIG TYPE Diedrich D50; BIT TYPE Roller Bit; DRILL MUD None; OTHER – Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push to 12.50m					–MUDLINE– Water depths 2.99m. Note: Pushed HW casing and washed out to 1.52m. Wash indicated soft lacustrine clay deposits.
1.0		WOR/61cm	S1 0.61	1.52 2.13	24.22 1.83	–LACUSTRINE DEPOSITS– Very soft gray to dark gray silty CLAY, trace organic silt
2.0						DO. except gray to red
3.0		WOR/61cm	S2 0.61	3.05 3.66		DO. except alternating red and gray layers of clay
4.0						
5.0		WOR/61cm	S3 0.61	4.57 5.18		DO. –GLACIOLACUSTRINE DEPOSITS–
6.0		WOR/61cm	S4 0.51	6.10 6.71		DO. except gray to dark gray and trace organic silt
7.0						

WATER LEVEL DATA					SAMPLE IDENTIFICATION	SUMMARY	
DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER		OVERBURDEN (M) 14.94
Barge mounted drilling rig on Missisquoi Bay					S SPLIT SPOON		ROCK CORED (M) 6.10
							SAMPLES S9- C4
						NH METRIC	

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-110
FILE NO. 60435-004
SHEET NO. 2 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
8.0		WOR/61cm	S5 0.61	7.62 8.23		DO. except little organic silt –GLACIOLACUSTRINE DEPOSITS–
9.0		WOR/61cm	S6 0.46	9.14 9.75		Very soft gray to red mottled CLAY, little silt
10.0						
11.0		WOR/61cm	S7 0.61	10.67 11.28		DO.
12.0		WOR/61cm	S8 0.46	12.19 12.80		DO. except fine sandy silt in occasional partings Note: Silty coarse to fine SAND was found in the tip of the spoon.
13.0	18 17 14 12				13.24 12.80	
14.0	18 40 31 45/0.10m	6 5 5 8	S9 0.23	13.72 14.33	11.11 14.94	Loose gray silty fine SAND, little coarse to medium sand, trace fine gravel, (loosely bonded) –GLACIOFLUVIAL DEPOSITS– Top of bedrock at 14.94m. Note: Drilled ahead to 15.24m to begin coring. See Core Boring Report Page 3 for bedrock descriptions.

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-110
FILE NO. 60435-004
SHEET NO. 3 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							11.11 14.94	TOP OF BEDROCK AT 14.94m.
15.0	6 6 6 6 6	C1	15.24 16.76	1.52 1.14	100 75	FR		Moderately hard, fresh, light to dark gray, aphanitic, calcareous SHALE. Bedding extremely thin to very thin, dipping at low angles. Bedding joints set at low angles, close to moderate, smooth, planar to undulating, fresh, open to tight. NOTE: Highly effervescent when acid is applied to bedrock.
16.0	6 6 6 6 6	C2	16.76 18.29	1.52 1.24	100 82	FR		DO. Except no undulating joints.
17.0	6 6 6 6 6	C3	18.29 19.81	1.52 1.24	100 82	FR		DO.
18.0	6 6 6 6 6	C4	19.81 21.34	1.52 1.42	100 93	FR		DO. Except joints are set at low angles to moderately dipping, and smooth to polished slickensided.
19.0	6 6 6 6 6							CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
20.0	6 6 6 6 6							
21.0	6						4.71 21.34	BOTTOM OF EXPLORATION AT 21.34m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (23 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By Date HALEY & ALDRICH 13/03	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072LG23	Sheet C101 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date: 10/23/2003

113

STA 11+348.82, 1.46 m RT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-111

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 2
LOCATION N 275049.64
E 443077.37

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	–	OTHER – Safety Hammer

ELEVATION 25.83
DATUM NAVD
START July 19, 2001
FINISH July 20, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push to 2.44m					–MUDLINE– Water depth: 3.26m. Note: Pushed HW casing and washed out to 1.52m. Wash indicated soft lacustrine clay deposits to 1.52m.
1.0		WOR/61cm	S1 0.61	1.52 2.13		Very soft olive gray silty CLAY
2.0	20 31				23.39 2.44	–LACUSTRINE DEPOSITS–
3.0	17	30 12 10 8	S2 0.20	3.05 3.66		Medium dense dark gray silty GRAVEL, trace coarse to fine sand
4.0	28 19 30					
5.0	25 35 100	27 11 10 6	S3 0.23	4.57 5.18		DO.
					20.35 5.49	–GLACIOFLUVIAL DEPOSITS– Top of bedrock at 5.49m. See Core Boring Report Page 2 for bedrock descriptions.

WATER LEVEL DATA					SAMPLE IDENTIFICATION	SUMMARY	
DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER		OVERBURDEN (M) 5.49
Barge mounted drilling rig on Missisquoi Bay						S SPLIT SPOON	ROCK CORED (M) 6.10
							SAMPLES S3, C4
							NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-111
FILE NO. 60435-004
SHEET NO. 2 OF 2

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATH-ERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							20.35 5.49	TOP OF BEDROCK AT 5.49m.
6.0	5	C1	5.79 7.32	1.37 0.74	90 48	FR		Moderately hard, fresh, gray to dark gray, aphanitic, calcareous SHALE. Bedding extremely thin to thin, dipping at low angles. Bedding planar joint low angle to moderately dipping, very close to moderately close, smooth, planar to stepped, fresh, open.
7.0	5 5 5 5	C2	7.32 8.84	1.52 1.52	100 100	FR		DO. Except no fractures.
8.0	4 4 4 4	C3	8.84 10.36	1.52 1.40	100 92	FR		DO. Except bedding joints moderately spaced.
10.0	4 4 4 4	C4	10.36 11.89	1.52 1.32	100 87	FR		DO.
11.0	3 3 3 3							CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
							13.94 11.89	BOTTOM OF EXPLORATION AT 11.89m.

METRIC

STA 11+397.28, 1.87 m RT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-112

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 2
LOCATION N 275030.04
E 443121.69

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	–	OTHER – Safety Hammer

ELEVATION 24.12
DATUM NAVD
START July 19, 2001
FINISH July 19, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push to 2.74m					–MUDLINE– Water depth: 4.97m. Note: Pushed HW casing and washed out to 1.52m. Wash indicated soft lacustrine clay deposits to 1.52m.
1.0		WOR/61cm	S1 0.61	1.52 2.13		Very soft gray silty CLAY
2.0	15				21.38 2.74	–LACUSTRINE DEPOSITS–
3.0	10 16 17	7 19 8 14	NR 0.00	3.05 3.66		No recovery. Note: Pushed a coarse piece of gravel.
4.0	18 17					–GLACIOFLUVIAL DEPOSITS–
5.0	36 45 86/0.15m	15 9 8 14	S2 0.25	4.57 5.18		Medium dense dark gray to gray silty GRAVEL, little coarse to fine sand with cobbles (loosely bonded in-situ)
					18.79 5.33	Top of bedrock at 5.33. Water casing started to bounce at 5.33m. See Core Boring Report Page 2 for bedrock descriptions.

WATER LEVEL DATA					SAMPLE IDENTIFICATION	SUMMARY	
DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER		OVERBURDEN (M) 5.33
Barge mounted drilling rig on Missisquoi Bay						S SPLIT SPOON	ROCK CORED (M) 6.10
							SAMPLES S2, C4
							NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-112
FILE NO. 60435-004
SHEET NO. 2 OF 2

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATH-ERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							18.79 5.33	TOP OF BEDROCK AT 5.33m.
6.0	6 6 6 8 6	C1	5.49 7.01	1.52 1.52	100 87	FR		Moderately hard, fresh, gray to dark gray, aphanitic, calcareous SHALE. Bedding extremely thin to very thin, dipping at low angles. Bedding plane joints moderate to wide, dipping at low angles, smooth, planar, fresh, open.
7.0	6 5 5 5 5	C2	7.01 8.53	1.52 1.45	100 95	FR		DO.
8.0	5 5 5 5 7	C3	8.53 10.06	1.52 1.37	100 90	FR		DO.
10.0	6 6 6 6 7	C4	10.06 11.58	1.52 1.40	100 92	FR		DO. Except bedding joints close to moderate.
11.0	7 6 6 6 6							CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
							12.54 11.58	BOTTOM OF EXPLORATION AT 11.58m.

METRIC

Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (24 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By HALEY & ALDRICH Date 13/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072LG24	Sheet C102 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date 10/23/2003

114

STA 11+445.09, 1.07 m RT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-113

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(11)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 2
LOCATION N 275011.81
E 443185.89

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	NW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	–	OTHER – Safety Hammer

ELEVATION 24.09
DATUM NAVD
START July 16, 2001
FINISH July 16, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push					–MUDLINE– Water depth: 5.03m. Note: Pushed HW casing and washed out to 1.52m. Drill activity and wash indicated soft clay from 0.0 to 0.91m followed by sand and gravel from 0.91 to 1.52m
					23.18 0.91	–LACUSTRINE DEPOSITS–
1.0						
	2	5	S1 0.23	1.52 2.13		Medium dense gray fine SAND, little silt, trace coarse to medium sand, fine gravel with cobbles
2.0	10	8				
		16				
	32					
	35					
	35				21.05	
3.0	10	10	S2 0.20	3.05 3.66	3.05	Dense gray to dark gray silty coarse to fine SAND, little coarse to fine gravel, with cobbles (loosely bonded)
	19	12			20.59	Note: Dark gray shale fragments found in tip of spoon.
	35	43			3.51	–GLACIAL TILL DEPOSITS–
						Top of bedrock at 3.51m. See Core Boring Report Page 2 for bedrock descriptions.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	3.51
ROCK CORED (M)	5.79
SAMPLES	S2, C4

NR METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-113
FILE NO. 60435-004
SHEET NO. 2 OF 2

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							20.59 3.51	TOP OF BEDROCK AT 3.51m.
	6	C1	3.66 4.88	1.22 1.02	100 83	FR		Moderately hard, fresh, gray to dark gray, aphanitic, calcareous SHALE. Bedding extremely thin to thin, low angle. Bedding plane joints high angle to moderately dipping, close to moderate, smooth to polished slickensided, planar to stepped, fresh, open.
4.0	6							NOTE: Core jam at 4.88m.
	6							
	6	C2	4.88 6.40	1.40 1.27	92 83	FR		DO. Except bedding plane joints low angle, very close, rough, stepped, fresh, open to tight.
5.0	6							
	6							
	6							
6.0	6							
	6	C3	6.40 7.92	1.52 1.52	100 100	FR		DO. Except bedding plane joints wide, low angle, smooth, planar, fresh, open.
	6							NOTE: One fracture in entire core run.
7.0	6							
	6							
	6							
8.0	6	C4	7.92 9.45	1.52 1.50	100 98	FR		DO. Except bedding joint is horizontal.
	6							NOTE: One fracture in entire core run.
	6							
9.0	6							CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
	6						14.65 9.45	BOTTOM OF EXPLORATION AT 9.45m.

METRIC

STA 11+491.72, 0.99 m RT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-114

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(11)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 2
LOCATION N 274993.38
E 443208.73

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	–	OTHER – Safety Hammer

ELEVATION 23.27
DATUM NAVD
START July 17, 2001
FINISH July 17, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push					–MUDLINE– Water depth: 5.85m. Note: Pushed HW casing and washed out to 1.52m. Drill activity and wash indicated soft clay from 0.0 to 0.61m feet followed by sandy clay from 0.61 to 1.52m.
	18				22.66 0.61	–LACUSTRINE DEPOSITS–
1.0	14					
	10					
	2	8	S1 0.38	1.52 2.13		Medium dense gray fine SAND, little silt, trace coarse to medium sand, fine gravel, with cobbles
2.0	13	6				–GLACIOFLUVIAL DEPOSITS–
	7	5				
		2			20.83 2.44	Note: HW casing stopped at 2.44m. Top of bedrock.
						See Core Boring Report Page 2 for bedrock descriptions.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	2.44
ROCK CORED (M)	6.10
SAMPLES	S1, C4

NR METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-114
FILE NO. 60435-004
SHEET NO. 2 OF 2

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							20.83 2.44	TOP OF BEDROCK AT 2.44m.
	8	C1	2.44 3.96	1.40 0.81	92 53	FR		Moderately hard, fresh, gray to dark gray, aphanitic, calcareous SHALE. Bedding very thin to thin, dipping at low angles. Bedding plane joints moderately dipping to high angle, moderately spaced to very close, smooth, planar, fresh, open to tight.
3.0	8							
	8							
	8							
	7	C2	3.96 5.49	1.52 1.37	100 90	FR		DO. Except bedding joints moderately dipping to low angle, moderately spaced, smooth, planar to stepped, fresh, open.
4.0	7							
	7							
	7							
5.0	7							
	7	C3	5.49 7.01	1.52 1.24	100 82	FR		DO. Except bedding joints moderately dipping, extremely close to moderately close, smooth to polished slickensided, fresh, open to tight.
	7							
	7							
6.0	7							
	7							
	7							
	7	C4	7.01 8.53	1.52 1.12	100 73	FR		DO. Except bedding joints moderately dipping, extremely close to moderately close, smooth to polished slickensided, fresh, open to tight.
7.0	7							
	7							
	7							
	7							CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
8.0	7						14.74 8.53	BOTTOM OF EXPLORATION AT 8.53m.

METRIC

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (25 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By HALEY & ALDRICH Date 13/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
I.G.C. Info. File No. ZE072LG25	Sheet C103 of C194

VHB NO. 5091I

plot date: 10/23/2003

115

STA 11+537.82, 1.59 m RT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-115
FILE NO. 60435-004
SHEET NO. 1 OF 3

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc.
CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 3
LOCATION N 274974.55
E 443250.81
ELEVATION 25.10
DATUM NAVD
START July 18, 2001
FINISH July 18, 2001
DRILLER B. Bourassa
H&A REP C. Tassone

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	-	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	-	OTHER - Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push					-MUDLINE-
	to					Water depth: 3.99m. Note: Pushed HW casing and washed out to 1.52m. Drill activity and wash indicated soft clay to 1.52m.
	7.01m					
1.0		WOR/61cm	S1 0.61	1.52 / 2.13		Very soft olive gray silty CLAY
2.0						
3.0		WOR/61cm	S2 0.61	3.05 / 3.66		DO. except trace fine sand, peat fibers
4.0						-LACUSTRINE DEPOSITS-
		WOR/61cm	S3 0.61	4.57 / 5.18	20.22	Very soft gray silty CLAY
5.0					4.88	Note: Clay changed from gray to red at 4.88m.
						-GLACIOLACUSTRINE DEPOSITS-
6.0		WOH	S4 0.56	6.10 / 6.71		Very soft red silty CLAY
		10			18.55	
		10			6.55	
		25				Medium dense gray fine SAND, little silt
7.0	5					Note: Encountered cobbles from 6.71 to 7.62m.
	16					-GLACIOFLUVIAL DEPOSITS-

WATER LEVEL DATA					SAMPLE IDENTIFICATION	SUMMARY	
DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER		OVERBURDEN (M) 10.52
Barge mounted drilling rig on Missisquoi Bay					S SPLIT SPOON		ROCK CORED (M) 6.10
							SAMPLES S6, C4

NH METRIC

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-115
FILE NO. 60435-004
SHEET NO. 2 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
	20	10	S5 0.41	7.62 / 8.23		Medium dense gray fine SAND, little silt, trace coarse to fine gravel with interbedded layers of fine sand
8.0	19	12				
		9				
	23	10				
	25				16.57	
					8.53	-GLACIOFLUVIAL DEPOSITS-
9.0	27					
	40	12	S6 0.23	9.14 / 9.68		Very dense dark gray gravelly SILT, little coarse to fine sand, with cobbles and small boulders (well bonded in-situ)
	41	25				
		40				
		100/7.6cm				
	87					
10.0	98					-GLACIAL TILL DEPOSITS-
	126				14.58	Top of bedrock at 10.52m.
					10.52	Note: Drill activity and wash indicated top of bedrock at 10.52m. Drilled to 10.67m. See Core Boring Report Page 3 for bedrock descriptions.

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-115
FILE NO. 60435-004
SHEET NO. 3 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							14.58	
							10.52	TOP OF BEDROCK AT 10.52m.
	9	C1	10.67 / 12.19	1.52 / 0.94	100 / 62	FR		Moderately hard, fresh, dark gray, aphanitic, calcareous SHALE. Bedding extremely thin to thin, dipping at low angles. Bedding plane joints very close to moderately spaced, moderately dipping, smooth to polished slickensided, planar, fresh, open to tight.
11.0	9							
	9							
	9							
	9							
12.0	12							
	10	C2	12.19 / 13.41	1.12 / 0.46	92 / 38	FR		DO. Except bedding joints moderately dipping to high angle, close to moderately spaced, smooth to rough, planar to stepped, fresh, open.
	10							NOTE: Highly fractured from 13.11 to 13.41m.
13.0	9							
	10							
	9	C3	13.41 / 14.94	1.37 / 1.27	90 / 83	FR		DO. Except bedding moderately dipping. Bedding joints moderately to widely spaced, smooth, planar, fresh, open.
14.0	9							
	9							
	9							
	9							
15.0	9	C4	14.94 / 16.76	1.83 / 1.83	100 / 100	FR		DO. Except bedding joints wide, over 1.83m.
	9							CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
	9							
	9							
16.0	9							
	9							
	9						8.34	
							16.76	BOTTOM OF EXPLORATION AT 16.76m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

BORING LOGS (26 OF 38)

Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By Date	Bridge Design Supervisor
HALEY & ALDRICH 13/03	C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
LG.C. Info.	
File No. ZE072LG26	Sheet C104 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003

116

STA 11+585.14, 1.33 m RT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-116
FILE NO. 60435-004
SHEET NO. 1 OF 3

PROJECT: Alburg-Swanton Bridge Replacement
VADT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 3
LOCATION N 274956.02
E 443294.35
ELEVATION 26.63
DATUM NAVD
START August 30, 2001
FINISH August 31, 2001
DRILLER B. Bourassa
H&A REP C. Tascano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW	S	NX
INSIDE DIAMETER (MM)	102	35	54
HAMMER WEIGHT (KG)	136	63.5	–
HAMMER FALL (M)	0.61	0.76	–

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE Diedrich D50
BIT TYPE Roller Bit
DRILL MUD None
OTHER – Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push to 3.66m					–MUDLINE– Water depth: 2.07m. Notes: Pushed HW casing and washed out to 1.52m. Wash indicated silty sand and gravel (fill) to 1.52m.
1.0		4 1 1 3	S1 0.20	1.52 2.13		Very soft brownish gray silty medium to fine SAND, little coarse to fine gravel, clay (loosely bonded)
2.0						
3.0						Note: Washed down to 6.10m before taking sample S2. Wash indicated granular fill from 2.13 to 6.10m.
4.0	18 8 12 16					
5.0	11 12 6 12					–FILL/REMOLDED LACUSTRINE–
6.0	11	12 6 1 1	S2 0.33	6.10 6.71	20.38 6.25	DO.
7.0	10 9 12 14					Very soft gray CLAY, little silt –LACUSTRINE DEPOSITS– Note: Advanced to 10.67m. Wash indicated soft lacustrine clay to 8.84m.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR.)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	12.19
ROCK CORED (M)	6.71
SAMPLES	S3, C4

NH METRIC

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-116
FILE NO. 60435-004
SHEET NO. 2 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
8.0	9 14 16					–LACUSTRINE DEPOSITS– Note: Wash indicated depositional change at 8.84m.
9.0	11 6 10 11				17.79 8.84	
10.0	16 29 31					–GLACIOLACUSTRINE DEPOSITS– Note: Drill activity and wash indicated depositional change at 10.36m.
11.0	19 19 20 21	10 6 6 7	S3 0.23	10.67 11.28	16.26 10.36	Medium dense gray fine SAND, some silt, little medium sand, trace coarse sand, with occasional interbedded layer of coarse to fine sand, little fine gravel, trace silt –GLACIOFLUVIAL DEPOSITS–
12.0	25 61				14.44 12.19	Note: Drill activity and wash indicated top of bedrock at 12.19m. See Core Boring Report Page 3 for bedrock descriptions.

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-116
FILE NO. 60435-004
SHEET NO. 3 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
12.0	4 4 4 4	C1	12.50 13.72	0.51 0.23	75 19	FR	14.44 12.19	TOP OF BEDROCK AT 12.19m. Moderately hard, fresh, gray to dark gray, aphanitic, calcareous SHALE. Bedding extremely thin to thin, low angle. Bedding joints low angle, extremely close to close, smooth, planar, fresh, open. NOTE: Core jam at 13.72m.
13.0	4 4 4 6	C2	13.72 14.94	1.14 0.99	94 81	FR		DO. Except bedding joints very close to moderate. NOTE: Core jam at 14.94m.
14.0		C3	14.94 16.76	0.98 1.70	81 93	FR		DO.
15.0		C4	16.76 18.90	1.70 2.13	93 100	FR		DO. Except joints moderately dipping. CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
16.0								
17.0							7.73 18.90	BOTTOM OF EXPLORATION AT 18.90m.
18.0								

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (27 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By Date HALEY & ALDRICH 13/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072LG27	Sheet C105 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003

STA 11+634.41, 0.29 m LT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-117

PROJECT: Alburg-Swanton Bridge Replacement
VADT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc.
CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 3
LOCATION N 274937.96
E 443340.22
ELEVATION 27.08
DATUM NAVD
START August 29, 2001
FINISH August 30, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW	S	NX
INSIDE DIAMETER (MM)	102	35	54
HAMMER WEIGHT (KG)	136	63.5	-
HAMMER FALL (M)	0.61	0.76	-

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE Diedrich D50
BIT TYPE Roller Bit
DRILL MUD None
OTHER - Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push to 9.45m					-MUDLINE- Water depth: 1.52m Note: Washed down to 1.52m. Wash indicated silty sand and gravel (fill).
1.0		2 1 1 1	NR 0.00	1.52 2.13		No recovery.
2.0						
3.0		1 2 1 2	S1 0.41	3.05 3.66		Very soft brownish gray silty medium to fine SAND, little coarse sand, coarse to fine gravel, clay -FILL/REMOLDED LACUSTRINE-
4.0		2 2 1 1	S2 0.51	4.57 5.18		DO.
5.0						
6.0		4 1 1 1	S3 0.28	6.10 6.71		DO.
7.0						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR.)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	15.24
ROCK CORED (M)	6.10
SAMPLES	ST. C4

NH METRIC

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-117
FILE NO. 60435-004
SHEET NO. 2 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
8.0	10	3 2 1 2	S4 0.38	7.62 8.23	18.25 8.84	DO. -FILL/REMOLDED LACUSTRINE-
9.0	85	1 1 1 1	S5 0.25	9.14 9.75	17.33 9.75	Very soft red to gray CLAY, little silt -GLACIOLACUSTRINE DEPOSITS-
10.0	86					-GLACIOFLUVIAL DEPOSITS-
11.0	69 53 80	20 10 6 7	S6 0.33	10.67 11.28		Medium dense gray silty medium to fine SAND, trace coarse sand, fine gravel Note: Drill activity indicated cobbles from 11.28 to 12.19m.
12.0	124 269 110					
13.0	Drilled ahead 15.24m	16 11 10 6	NR 0.00	12.19 12.80	14.28 12.80	No recovery. Note: Drill activity and wash indicated silt deposits from 12.80 to 13.72m -GLACIOLACUSTRINE DEPOSITS-
14.0		19 28 25 33	S7 0.33	13.72 14.33	13.22 13.87	DO. Very dense gray to dark gray silty coarse to fine SAND, little fine gravel, few cobbles (well banded in-situ) -GLACIAL TILL DEPOSITS-
15.0					11.84 15.24	Note: Drill activity indicated few cobbles and very few small boulders from 14.33 to 15.24m. Drill activity and wash indicated top of bedrock at 15.24m. See Core Boring Report Page 3 for bedrock descriptions.

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-117
FILE NO. 60435-004
SHEET NO. 3 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
15.0	G						11.84	TOP OF BEDROCK AT 15.24m.
	G	C1	15.24 16.76	1.22 0.69	80 45	FR	15.24	Moderately hard, fresh, gray to dark gray, aphanitic, calcareous SHALE. Bedding extremely thin to thin, low angles. Bedding plane joints low angle, very close to close, smooth, planar to stepped, fresh, open to tight. NOTE: Highly effervescent when acid is applied.
16.0	G							
	G	C2	16.76 18.29	1.52 1.32	100 87	FR		DO. Except joints close to moderate.
17.0	G							
	G	C3	18.29 19.81	1.52 1.40	100 92	FR		DO. Except no stepped joints.
18.0	G							
	G	C4	19.81 21.34	1.52 1.27	100 83	FR		DO.
19.0	G							CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
	G							
20.0	G							
	G							
21.0	G						5.75 21.34	BOTTOM OF EXPLORATION AT 21.34m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (28 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By HALEY & ALDRICH Date 13/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info. File No. ZE072LG28	Sheet C106 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50918

plot date: 10/23/2003

118

STA 11+680.12, 0.27 m LT

Manchester, New Hampshire — TEST BORING REPORT — BORING NO. HA-118

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc.
CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 3
LOCATION N 274919.81, E 443382.17
ELEVATION 26.66
DATUM NAVD
START August 28, 2001
FINISH August 29, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW	S	NX
INSIDE DIAMETER (MM)	102	35	54
HAMMER WEIGHT (KG)	136	63.5	–
HAMMER FALL (M)	0.61	0.76	–

DRILLING EQUIPMENT & PROCEDURES: RIG TYPE Diedrich D50; BIT TYPE Roller Bit; DRILL MUD None; OTHER – Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push to 9.45m					–MUDLINE– Water depth= 2.07m.
1.0		WOR/61cm	S1 0.61	1.22 1.83		Very soft gray CLAY, little silt
2.0		WOR/61cm	S2 0.61	2.74 3.35		DO.
3.0		WOR/61cm	S3 0.61	4.27 4.88		DO.
4.0		WOR/61cm	S4 0.48	5.79 6.40		Very soft gray silty CLAY, little peat fibers. Note: Slight organic odor.
6.0		WOR/61cm	S5 0.61	7.32 7.92		–LACUSTRINE DEPOSITS– Very soft gray CLAY, little silt
7.0						

WATER LEVEL DATA					SAMPLE IDENTIFICATION	SUMMARY	
DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER		OVERBURDEN (M) 17-07
Barge mounted drilling rig on Missisquoi Bay						S SPLIT SPOON	ROCK CORED (M) 6.10
							SAMPLES S11, C4
						NH	METRIC

Manchester, New Hampshire — TEST BORING REPORT — BORING NO. HA-118, FILE NO. 60435-004, SHEET NO. 2 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
8.0					18.89 7.77	Very soft red to gray CLAY, little silt
9.0		WOR/61cm	S6 0.61	8.84 9.45		–GLACIOLACUSTRINE DEPOSITS– DO.
10.0	50 55 47				17.21 9.45	
11.0	23 28 52	12 7 7 8	S7 0.10	10.36 10.97		Medium dense gray coarse to fine SAND, little coarse to fine gravel, silt (loosely banded)
12.0	77 89 25	5 5 9 8	S8 0.38	11.89 12.50	14.92 11.73	–GLACIOFLUVIAL DEPOSITS– Medium dense gray SILT, trace clay
13.0	55 69 81					–GLACIOLACUSTRINE DEPOSITS–
14.0	54 106 101 150	12 16 18 21	S9 0.20	13.41 14.02	13.09 13.56	DO. Dense gray to dark gray silty fine GRAVEL, some fine sand, little coarse to medium sand (well bonded in-situ)
15.0	Drove to 17.37m	44 46 51 115	S10 0.25	14.94 15.54		Note: Drill activity indicated cobbles from 14.02 to 14.94m. Very dense dark gray silty coarse to fine SAND, little coarse to fine gravel, few cobbles (well bonded in-situ)
16.0						–GLACIAL TILL DEPOSITS–
17.0		60 100	S11 0.30	16.46 16.76	9.59 17.07	Very dense dark gray silty fine SAND, little coarse to medium sand, trace coarse to fine gravel, few cobbles (well bonded in-situ) Top of bedrock at 17.07m. Note: Drill activity indicated top of bedrock at 17.07m. Advanced to 17.37m. See Core Boring Report Page 3 for bedrock descriptions.

NH METRIC

Manchester, New Hampshire — CORE BORING REPORT — BORING NO. HA-118, FILE NO. 60435-004, SHEET NO. 3 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
17.0	5 5 5 5 5	C1	17.37 18.90	1.52 0.89	100 58	FR	9.59 17.07	TOP OF BEDROCK AT 17.07m. Moderately hard, fresh, gray to dark gray, aphanitic, calcareous SHALE. Bedding extremely thin to very thin, low angles. Bedding joints low angle, very close to close, smooth, planar to stepped, fresh, open. NOTE: Highly effervescent when cold was applied. NOTE: Highly fractured from 17.53 to 17.98m.
19.0	5 5 5 5 5	C2	18.90 20.42	1.52 0.23	100 15	FR		DO. Except extremely fractured from 19.05 to 19.81m.
20.0	5 5 5 5 6	C3	20.42 21.95	1.52 0.94	100 62	FR		DO. Except bedding joints very close to moderately close.
21.0	6 6 6 6 6							
22.0	6 6 6 6 6	C4	21.95 23.47	1.52 1.09	100 72	FR		DO. CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
23.0	6 6 6 6						3.19 23.47	BOTTOM OF EXPLORATION AT 23.47m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (29 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By HALEY & ALDRICH Date 13/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
LG.C. Info.	
File No. ZE072LG29	Sheet C107 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5098

plot date: 10/23/2003

//9

STA 11+727.93, 2.60 m LT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-119

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc.
CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 3
LOCATION N 274902.98
E 443426.98
ELEVATION 26.72
DATUM NAVD
START August 15, 2001
FINISH August 16, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW	S	NX
INSIDE DIAMETER (MM)	102	36	54
HAMMER WEIGHT (KG)	136	63.5	–
HAMMER FALL (M)	0.61	0.76	–

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE Diedrich D50
BIT TYPE Roller Bit
DRILL MUD None
OTHER – Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push to 14.33m					–MUDLINE– Water depth: 2.07m.
1.0		WOR WOH/45.7cm	S1 0.61	1.22 1.83		Very soft gray CLAY, little silt, trace coarse to fine sand, fine gravel
2.0						
3.0		WOH/30.5cm	NR 0.00	2.74 3.35		No recovery. Note: Material consists of natural clay and fill possibly mixed during construction of adjacent causeway. –FILL/REMOLDED LACUSTRINE–
4.0		WOH/61cm	S2 0.10	4.27 4.68		Very soft gray CLAY, little silt, trace coarse to fine sand, fine gravel
5.0						
6.0		1 2 2 1	S3 0.56	5.79 6.40		Very soft to soft brownish gray silty CLAY, trace coarse to fine sand, peat fibers
7.0		1 1	S4 0.20	7.32 7.92		DO.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	15.24
ROCK CORED (M)	7.62
SAMPLES	59. C5

NH METRIC

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-119
FILE NO. 60435-004
SHEET NO. 2 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
8.0		1 2				–FILL/REMOLDED LACUSTRINE–
9.0		1 1 1 1	S5 0.61	8.84 9.45	17.73 8.99	DO. Very soft gray CLAY, little silt
10.0		WOR/61cm	S6 0.61	10.36 10.97		DO. except trace red clay
11.0						–LACUSTRINE DEPOSITS–
12.0		WOR/61cm	S7 0.61	11.89 12.50	14.83 11.89	DO. except red to gray CLAY
13.0		WOR/61cm	S8 0.61	13.41 14.02		DO.
14.0					12.39 14.33	–GLACIOLACUSTRINE DEPOSITS– –GLACIOFLUVIAL DEPOSITS–
15.0	40 43 Drove to 15.85m	7 7 50/2.5	S9 0.15	14.94 15.27	11.48 15.24	Loose gray silty fine SAND, some coarse to medium sand, little coarse to fine gravel (loosely banded, well rounded) Top of bedrock at 15.24m. See Core Boring Report Page 3 for bedrock descriptions.

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-119
FILE NO. 60435-004
SHEET NO. 3 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
15.0							11.48 15.24	TOP OF BEDROCK AT 15.24m. Moderately hard, fresh, gray to dark gray, aphanitic, calcareous SHALE. Bedding extremely thin to very thin, high angle.
16.0	6	C1	15.85 17.37	0.61 0.00	40 0	FR		NOTE: Bedding joints cannot be classified due to the amount and nature of core run.
17.0	6 6 6							
18.0	7 9 7	C2	17.37 18.90	0.94 0.61	62 40	FR		DO. Except bedding dipping at low angles. Bedding joints low angle, close to moderate, smooth to rough, planar, fresh, open.
19.0	7 7 7	C3	18.90 20.42	1.52 1.40	100 92	FR		DO. Except joints moderate to wide.
20.0	7 7 7	C4	20.42 21.95	1.40 1.35	92 88	FR		DO. Except joints extremely close to wide.
21.0	8 8 8							
22.0	8 7 7	C5	21.95 23.47	1.52 1.42	100 93	FR		DO. Except joints close to moderate. CALCAREOUS SHALE BEDROCK STONY POINT FORMATION
23.0	7 7						3.28 23.47	BOTTOM OF EXPLORATION AT 23.47m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (30 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By HALEY & ALDRICH Date 13/03	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072LG30	Sheet C108 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003

120

STA 11+775.32, 0.97 m LT

Manchester, New Hampshire — TEST BORING REPORT — BORING NO. HA-120

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 3
LOCATION N 274882.69
E 443469.84
ELEVATION 25.99
DATUM NAVD
START August 10, 2001
FINISH August 15, 2001
DRILLER B. Bourassa
H&A REP C. Tessano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	–	OTHER – Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push to 9.14m					–MUDLINE– Water depth: 2.90m. Note: Pushed HW casing and washed out to 1.68m. Wash indicated soft lacustrine clay deposits.
1.0		WOR/61cm	S1 0.61	1.68 2.29		Very soft gray CLAY, little silt
2.0		WOH/61cm	S2 0.61	3.20 3.81		DO. –FILL/REMOLDED LACUSTRINE–
4.0		1 1 1 2	S3 0.41	4.72 5.33		Very loose grayish brown silty fine SAND, little coarse to medium sand, trace coarse to fine gravel, clay Note: Brown sand is FILL material underlying natural clay deposits. This may have happened during the construction of causeway. Natural clay may have fallen over FILL material as it was placed.
6.0		2 3 2 2	S4 0.38	6.25 6.86		DO.
7.0						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION: S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	16.92
ROCK CORED (M)	6.10
SAMPLES	S11, C4

NH METRIC

Manchester, New Hampshire — TEST BORING REPORT — BORING NO. HA-120, FILE NO. 60435-004, SHEET NO. 2 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
8.0		2 2 2 3	S5 0.25	7.77 8.38		DO. –FILL/REMOLDED LACUSTRINE–
9.0	15	4 4 2 2	S6 0.30	9.30 9.91	16.23 9.75	DO. except loose Very soft gray CLAY, little silt
11.0		WOR/61cm	S7 0.51	10.67 11.28		DO. –LACUSTRINE DEPOSITS–
12.0		WOR/45.7cm WOH	S8 0.61	12.19 12.80	14.10 11.89	Very soft red to gray CLAY, little silt
14.0		WOR/30.5cm WOH/30.5cm	S9 0.61	13.72 14.33		DO. –GLACIOLACUSTRINE DEPOSITS–
15.0		7 5 6 7	S10 0.30	15.24 15.85	10.59 15.39	DO. Medium dense gray coarse to fine SAND, little fine gravel, silt (loosely bonded) Bloak SHALE fragments. Note: Casing set at 17.07m. See Core Boring Report Page 3 for bedrock descriptions. –GLACIOFLUVIAL DEPOSITS–
16.0		59 81 108				
	End	42 60	S11 0.18	16.76 17.07	9.01 16.92	Very dense gray silty fine SAND Top of bedrock at 16.92m.

NH METRIC

Manchester, New Hampshire — CORE BORING REPORT — BORING NO. HA-120, FILE NO. 60435-004, SHEET NO. 3 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							9.07	TOP OF BEDROCK AT 16.92m.
17.0	5 9 11	C1	17.07 18.59	0.91 0.15	60 8	FR	16.92	Moderately hard, fresh, light to dark gray, aphanitic SHALE. Bedding extremely thin to very thin, moderately dipping. Bedding joints low angle, extremely close to close, smooth, planar, fresh, open. NOTE: Entire run is extremely fractured.
18.0	9 10							
19.0	8 8 8	C2	18.59 20.12	1.32 0.81	87 53	FR		DO. Except bedding joints moderately dipping, very close to moderate, smooth to polished slickensides.
20.0	8 7 7	C3	20.12 21.64	1.52 0.84	100 55	FR		DO. Except joints extremely close to moderate.
21.0	7 7 7							
22.0	6 6 6	C4	21.64 23.16	1.52 1.02	100 67	FR		DO. SHALE BEDROCK IBERVILLE FORMATION
23.0	6						2.82 23.16	BOTTOM OF EXPLORATION AT 23.16m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (31 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By HALEY & ALDRICH Date 13/03	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072LG31	Sheet C109 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5098

plot date: 10/23/2003

12/

STA 11+824.53, 0.18 m RT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-121
SHEET NO. 1 OF 4

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc.
CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
LOCATION N 274862.11
E 443514.56
ELEVATION 26.00
DATUM NAVD
START June 28, 2001
FINISH July 3, 2001
DRILLER B. Bourassa
H&A REP C. Tsecano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW	S	NX
INSIDE DIAMETER (MM)	102	35	54
HAMMER WEIGHT (KG)	136	63.5	-
HAMMER FALL (M)	0.61	0.76	-

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE Diedrich D50
BIT TYPE Roller Bit
DRILL MUD None
OTHER - Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push to 3.05m					-MUDLINE- Water depth: 3.32m. Note: Pushed HW casing and washed out to 1.52m. Wash indicated soft lacustrine clay deposits from 0.0 to 1.52m.
1.0		WOH/61cm	S1 0.61	1.52		Very soft gray silty CLAY
2.0						
3.0	3	WOH/30.5cm 1/30.5cm	S2 0.20	3.05		D.O. except trace coarse to fine sand, with fine gravel found in tip of spoon
	2				22.34 3.66	-LACUSTRINE DEPOSITS-
4.0	4					
	4					
	6	1	S3	4.57		Loose gray silty fine SAND, little coarse to
5.0	6	2 4 3	0.61	5.18		medium sand, trace fine gravel
	7					
	12					
6.0	12					
	9	1	S4	6.10		D.O.
	8	2 3 4	0.61	6.71		
7.0	11					
	14					-FLUVIAL DEPOSITS-
	15					

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	16.15
ROCK CORED (M)	12.04
SAMPLES	S10, C14

NH METRIC

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-121
FILE NO. 60435-004
SHEET NO. 2 OF 4

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
	7	3	S5	7.62		Loose brownish gray silty fine SAND, little
6.0	15	3 4	0.15	8.23		coarse to medium sand, trace fine gravel
	19	3				-FLUVIAL DEPOSITS-
	20					Note: Drill activity indicated strata
					12.19 8.84	change at 8.84m.
9.0	25					
	7	1	S6	9.14		Very soft dark gray silty CLAY
	12	2 1	0.36	9.75		
	15	2				
10.0	21					-LACUSTRINE DEPOSITS-
	24				15.64 10.36	
	12	WOH/30.5cm	S7	10.67		Very soft red to gray mottled silty CLAY
11.0	19	1 2	0.61	11.28		
	18					
	19					
12.0	19					
	Push	WOH/30.5cm	S8	12.19		D.O.
		1 1	0.61	12.80		
13.0						
	End					-GLACIOLACUSTRINE DEPOSITS-
	30	1	S9	13.72	11.98	D.O.
14.0	3	0.15	14.02		14.02	
	48	12	S9A	14.02		Medium dense gray silty fine SAND, little coarse to medium sand, trace fine gravel
	52	12	0.05	14.33		
	61					Note: Drill activity indicated coarser material at 14.94m.
15.0	90				11.08 14.94	-GLACIOFLUVIAL DEPOSITS-
	Push	17	S10	15.24		Dense dark gray silty coarse to fine GRAVEL,
		23 15	0.23	15.85		little coarse to fine sand (well bonded)
16.0		36				-GLACIAL TILL DEPOSITS-
					9.85 16.15	Note: Drill activity and wash indicated top of fractured bedrock at 16.15m.
	End				9.24 16.76	-FRACTURED SHALE BEDROCK- IBERVILLE FORMATION
						Note: Drove HW casing to 16.76m. See Core Boring Report Page 3 for bedrock descriptions.

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-121
FILE NO. 60435-004
SHEET NO. 3 OF 4

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
16.0							9.85 16.15	TOP OF BEDROCK AT 16.15m.
							9.24 16.76	FRACTURED SHALE BEDROCK IBERVILLE FORMATION
	6	C1	16.76 17.68	0.86 0.38	94 42	FR		Moderately hard, fresh, light to dark gray, aphanitic SHALE. Bedding very thin to thin, moderately dipping. Bedding plane joints very close to moderate, moderately dipping to high angle, smooth to stepped, planar, fresh, open.
17.0	6							NOTE: Extremely fractured from 17.37 to 17.68m.
	6	C2	17.68 18.59	0.56 0.00	61 0	FR		NOTE: Core jam at 17.68m due to fractures in bedrock.
18.0	6							DO. Except bedding plane joints extremely close to very close, moderately dipping, smooth, planar, fresh, open.
	6	C3	18.59 19.20	0.61 0.13	100 21	FR		NOTE: Extremely fractured from 17.98 to 18.59m. Core jam at 18.59m.
19.0	8							DO. Except bedding plane joints extremely close to close, moderately dipping to high angle, smooth, planar to stepped, fresh, open.
	8	C4	19.20 19.81	0.46 0.13	75 21	FR		NOTE: Extremely fractured from 18.59 to 18.88m. Core jam at 19.81m.
	9							DO. Except no high angle joints and no stepped joint surfaces.
20.0	10	C5	19.81 20.73	0.91 0.00	100 0	FR		NOTE: Extremely fractured zone in upper and lower 0.10m of core run. Core jam at 19.81m.
	10							DO. Except bedding plane joints extremely close to very close, moderately dipping, smooth, planar, fresh, open.
	11							NOTE: Entire core run is extremely fractured.
21.0	9	C6	20.73 21.34	0.46 0.00	75 0	FR		DO. NOTE: Entire core run is extremely fractured. Core jam at 21.34m.
	10							
	9	C7	21.34 22.40	1.07 0.10	100 10	FR		DO. NOTE: Entire core run is extremely fractured. Core jam at 22.40m.
22.0	9							
	10							
	9	C8	22.40 22.86	0.53 0.00	88 0	FR		DO. Except bedding plane joints vertical to moderately dipping, smooth, planar to stepped, fresh, open to tight.
23.0	12							NOTE: Entire core run is extremely fractured. Core jam at 23.01m.
	12	C9	22.86 23.47	0.46 0.10	100 25	FR		DO. Except bedding plane joints horizontal to moderately dipping, smooth, planar to stepped, fresh, open.
	12							NOTE: Core jam at 23.47m.
	9	C10	23.47 24.38	0.91 0.10	100 11	FR		DO. Except bedding plane joints moderately dipping to high angle, smooth, planar to stepped, fresh, open.
24.0	9							NOTE: Calcite veins are common from 23.84 to 24.38m.
	6	C11	24.38 24.99	0.43 0.10	71 17	FR		Core jam at 24.38m.
	8							DO. Except no high angle joints.
25.0	6	C12	24.99 26.52	1.40 0.28	92 18	FR		NOTE: Core jam at 24.99m.
	6							DO. Except no stepped joint surfaces.
	6							NOTE: Extremely fractured zones from 24.99 to 25.15m and 25.40 to 25.65m. Calcite veins are common throughout core run.
26.0	6							SHALE BEDROCK IBERVILLE FORMATION
	7	C13	26.52 28.04	1.45	95	FR		METRIC DO. Except bedding plane joints are moderately dipping to vertical, smooth, planar to undulating.

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-121
FILE NO. 60435-004
SHEET NO. 4 OF 4

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
				0.48	32			fresh, open.
27.0	7							NOTE: Common calcite veins throughout core run, and 7.60m quartz layer at 27.58m. Also, extremely fractured zone from 27.65 to 28.04m.
	7							SHALE BEDROCK IBERVILLE FORMATION
	7							
28.0	12	C14	28.04 28.80	0.76 0.00	100 0	FR		DO. Except no vertical joints and no undulating joint surfaces.
	13							
	7						-2.80 28.80	BOTTOM OF EXPLORATION AT 28.80m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (32 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By Date HALEY & ALDRICH 13/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072LG32	Sheet C110 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003
122

STA 11+869.45, 0.23 m LT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-122
FILE NO. 60435-004
SHEET NO. 1 OF 4

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc.
CONTRACTOR: New Hampshire Boring, Inc.

LOCATION N 274844.67
E 443555.95
ELEVATION 26.47
DATUM NAVD
START July 4, 2001
FINISH July 11, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW	S	NX
INSIDE DIAMETER (MM)	102	35	54
HAMMER WEIGHT (KG)	136	63.5	–
HAMMER FALL (M)	0.61	0.76	–

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE Diedrich D50
BIT TYPE Roller Bit
DRILL MUD None
OTHER – Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push					–MUDLINE– Water depth: 2.60m. Notes: Pushed HW casing and washed out to 1.52m. Drill activity and wash indicated sandy clay deposits from 0.0 to 1.52m Note: Coarse material possibly from construction of causeway.
1.0	Push	WOR WOH/45.7cm	S1 0.41	1.52 2.13		Very soft gray coarse to fine sandy CLAY, little silt, trace fine gravel (loosely banded)
2.0						
3.0	Push	WOR WOH/45.7cm	S2 0.46	3.05 3.66		Very soft gray silty CLAY
4.0	Push	1 1 1 1	S3 0.61	4.57 5.18		DO. –LACUSTRINE DEPOSITS–
6.0	Push	WOR 1 1 1	S4 0.61	6.10 6.71	20.07 6.40	DO. Very soft grey to red mottled silty CLAY –GLACIOLACUSTRINE DEPOSITS–
7.0	Push					

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	15.24
ROCK CORED (M)	10.67
SAMPLES	59. C7

NH METRIC

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-122
FILE NO. 60435-004
SHEET NO. 2 OF 4

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
8.0	Push	1 2 1 2	S5 0.36	7.62 8.23		DO. –GLACIOLACUSTRINE DEPOSITS–
9.0	End				17.63 8.84	Note: Encountered strata change at 8.84m during advancement with roller bit.
10.0	20 31 35 31	5 11 9 9	S6 0.38	9.14 9.75		Medium dense gray medium to fine SAND, little coarse sand, trace coarse to fine gravel (loosely banded and well rounded) –GLACIOFLUVIAL DEPOSITS–
11.0	14 35 37 65	25 19 31 18	S7 0.20	10.67 11.28	15.80 10.67	Dense gray silty coarse to fine SAND, some coarse to fine gravel, with cobbles (well banded in-situ and very angular) –GLACIAL TILL DEPOSITS–
12.0	67 30 45 51	14 15 20 19	S8 0.46	12.19 12.80	14.28 12.19	Dense gray SILT, trace clay (well banded) –GLACIAL DEPOSITS–
13.0	88 105 60 82	39 61 45 65	S9 0.38	13.72 14.33	12.60 13.87	DO. Very dense dark gray silty coarse to fine SAND, some coarse to fine gravel, with cobbles (loosely banded and very angular) –GLACIAL TILL DEPOSITS–
14.0	110 125				11.23 15.24	
15.0	175 103 90 125					Note: Drill activity and wash indicated top fractured bedrock at 15.24m. Advanced through fractured bedrock with roller bit to 16.76m. –FRACTURED SHALE BEDROCK– IBERVILLE FORMATION
	110 126 45 39				9.71 16.76	Note: After coring from 18.29 to 18.81m (C2) a collapse occurred from 16.76 to 18.29m in poor quality bedrock. HW casing was driven to 18.29m. See Core Boring Report Page 3 for bedrock descriptions.
	56 47 44					

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-122
FILE NO. 60435-004
SHEET NO. 3 OF 4

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
15.0							11.23 15.24	TOP OF BEDROCK AT 15.24m. FRACTURED SHALE BEDROCK IBERVILLE FORMATION
16.0	5 6 6 8	C1	16.76 18.29	0.30 0.00	20 0	FR-CW	9.71 16.76	Moderately hard, fresh, light to dark gray, aphanitic SHALE. Bedding very thin to thin, low angle. Bedding plane joints close to very close, moderately dipping to low angle, smooth, planar to stepped, fresh, open. NOTE: Poor recovery may indicate that either bedrock was completely weathered or still in glacial till/fractured bedrock zone, and material was washed out.
17.0	5 10 10 10	C2	18.29 19.81	1.35 1.09	88 72	FR	8.18 18.29	DO. Except bedding moderately dipping. Bedding plane joints very close to moderate, moderately dipping to low angle, smooth to polished slickensided, planar to stepped, fresh, open to tight. NOTE: Decreased coring speed to prevent sample from washing out.
18.0	5 10 10 10							
19.0	8 7 7 7	C3	19.81 21.34	1.35 1.12	88 73	FR		DO. Except bedding plane joints very close to moderate, moderately dipping, smooth to polished slickensided, planar, fresh to discolored, open. NOTE: Discoloration on joint surfaces is due to the presence of quartz and pyrite minerals on all core runs.
20.0	7 7 7 7							
21.0	3 6 6 7	C4	21.34 22.86	1.45 0.74	95 48	FR		DO. Except bedding very thin to medium, moderately dipping. Primary bedding plane joints close to moderate, moderately dipping, smooth, planar to stepped, fresh to discolored, open. Secondary joints from 21.84 to 21.95m are very close, high angle, smooth, planar, fresh, open. NOTE: Very light gray shale from 21.95 to 22.25m with numerous calcite veins.
22.0	7 7 7 7							
23.0	7 7 7 7	C5	22.86 24.38	1.42 0.66	93 43	FR		DO. Except bedding moderately dipping to high angle. Bedding joints very close to moderate, moderately dipping to high angle, smooth to polished slickensided, planar to stepped, fresh to discolored, open to tight. NOTE: Extremely fractured from 23.93 to 24.38m. Also, very light gray shale zone with numerous calcite veins from 23.47 to 23.77m.
24.0	7 7 7 7							
25.0	7 7 7 7	C6	24.38 25.91	1.52 1.27	100 83	FR		D.O Except bedding very thin, moderately dipping. Bedding plane joints very close to moderate, moderately dipping, smooth, planar to stepped, fresh, open to tight. SHALE BEDROCK IBERVILLE FORMATION

METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-122
FILE NO. 60435-004
SHEET NO. 4 OF 4

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
26.0	6 6 6 6	C7	25.91 27.43	1.52 1.50	100 98	FR		DO. Except bedding joints wide, moderately dipping, smooth, undulating, fresh, open. SHALE BEDROCK IBERVILLE FORMATION
27.0	6 6						-0.96 27.43	BOTTOM OF EXPLORATION AT 27.43m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.

VT 78 OVER MISSISQUOI BAY

BORING LOGS (33 OF 38)

Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By Date	Bridge Design Supervisor
HALEY & ALDRICH 13/03	C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072LG33	Sheet C111 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date: 10/23/2003

STA 11+919.09, 0.51 m LT

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-123
FILE NO. 60435-004
SHEET NO. 1 OF 4

PROJECT: Alburg-Swanton Bridge Replacement
VADT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
LOCATION N 274825.24
E 443601.63
ELEVATION 26.75
DATUM NAVD
START July 11, 2001
FINISH July 13, 2001
DRILLER G. Bourassa
H&A REP C. Toscano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW	S	NX
INSIDE DIAMETER (MM)	102	35	54
HAMMER WEIGHT (KG)	136	63.5	–
HAMMER FALL (M)	0.61	0.76	–

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE Diedrich D50
BIT TYPE Roller Bit
DRILL MUD None
OTHER – Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push					–MUDLINE– Water depth: 2.44m. Note: Pushed HW casing and washed out to 1.37m. Drill activity and wash indicated sandy clay deposits from 0.0 to 1.37m. Note: Coarse material possibly from construction of causeway.
1.0	Push	WOH/30.5cm	S1 0.13	1.37 1.98		Very soft gray CLAY, little coarse to fine sand, trace fine gravel. Note: Sands and gravel possibly from construction of causeway.
2.0						
3.0	Push		S2 0.20	3.05 3.86		Very soft yellowish gray fine sandy SILT, trace fine gravel, clay
4.0	Push		NR 0.00	4.57 5.18		No recovery. Note: Drill activity and wash indicated soft clay deposits to 6.10m. –LACUSTRINE DEPOSITS–
5.0						
6.0	Push	WOH/61cm	S3 0.61	6.10 6.71	20.65 6.10	Very soft red to gray mottled silty CLAY
7.0	Push				19.74 7.01	–GLACIOLACUSTRINE DEPOSITS– –GLACIOFLUVIAL DEPOSITS–

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION
S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	19.05
ROCK CORED (M)	6.10
SAMPLES	S1t, C4

NH METRIC

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-123
FILE NO. 60435-004
SHEET NO. 2 OF 4

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
8.0	12 10 14 12	WOH	S4 0.61	7.62 8.23		7.62–7.92m: Medium dense gray silty fine SAND, little coarse to medium sand, with occasional layers of gray silty clay. 7.92m–8.23m: Medium dense gray silty coarse to fine SAND, little coarse to fine gravel (moderately bonded in-situ). Note: Coarse sands and gravel are angular to well rounded. Possible fluvial system transporting till deposits.
9.0	21 50 48 49				17.91 8.84	–GLACIOFLUVIAL DEPOSITS– Note: Drill activity and wash indicated finer sediments at 8.84m. Medium dense gray silty fine SAND
10.0	12 16 154	10 12 8 10	S5 0.38	9.14 9.75	16.69 10.06	–GLACIOFLUVIAL DEPOSITS– Note: Drill activity and wash indicated cobbles and small boulders from 10.06 to 10.67m.
11.0	57 101 112 120	22 23 31 46	S6 0.30	10.67 11.28	14.86 11.89	Very dense dark gray gravelly SILT, little coarse to fine sand, with cobbles and small boulders (well bonded in-situ) Note: Coarse material very angular –GLACIOFLUVIAL DEPOSITS– Note: Drill activity indicated finer sediments at 11.89m.
12.0	110 51 82 122	7 12 14 17	S7 0.46	12.19 12.80		Medium dense gray SILT, trace clay (no plasticity)
13.0	163 211 Washed Ahead	25 31 41 41	S8 0.38	13.72 14.33		Very dense gray SILT, trace clay, with occasional interbedded seams of fine sand
14.0	27 33 46 63 101	27 30 33 37	S9 0.48	15.24 15.85		Very dense dark gray fine SAND, little silt, with occasional interbedded layers of fine sandy silt –GLACIOLACUSTRINE DEPOSITS–
15.0						
16.0						
17.0	Washed Ahead	80 31 35 51	S10 0.41	16.76 17.37	9.83 16.92	DO. Very dense dark gray coarse to fine silty SAND, little coarse to fine gravel with cobbles (well bonded in-situ) –GLACIAL TILL DEPOSITS–
18.0					8.76 17.98	

NH METRIC

Manchester, New Hampshire

TEST BORING REPORT

BORING NO. HA-123
FILE NO. 60435-004
SHEET NO. 3 OF 4

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
19.0	Drilled Ahead Casing at 19.51m	19 35 41 68	S11 0.51	18.29 18.90	8.15 18.59	Very dense dark gray fine SAND, little coarse to medium sand, trace fine gravel –GLACIAL TILL DEPOSITS–
					7.70 19.05	Very dense dark gray silty fine SAND, little coarse to medium sand, fine gravel (well bonded in-situ) –GLACIAL TILL DEPOSITS– Note: Drill activity indicated top of bedrock at 19.05m. See Core Boring Report Page 4 for bedrock descriptions.

NH METRIC

Manchester, New Hampshire

CORE BORING REPORT

BORING NO. HA-123
FILE NO. 60435-004
SHEET NO. 4 OF 4

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
19.0							7.70	TOP OF BEDROCK AT 19.05m.
							19.05	FRACTURED SHALE BEDROCK
							7.54 19.20	Moderately hard, fresh, light to dark gray, calcareous SHALE. Bedding extremely thin to thin, moderately dipping. Bedding plane joints moderately dipping to low angle, very close to close, smooth to polished slickensided, planar to stepped, fresh, open.
	10	C1	19.51 21.03	1.52 0.51	97 33	FR		NOTE: Highly fractured from 19.81 to 20.12m. Very light gray (almost white) shale with numerous calcite veins from 19.51 to 19.81m.
20.0	10 10 9 9							
21.0	9 9 9 9	C2	21.03 22.56	1.35 0.61	88 40	FR		DO. Except moderately dipping, very close to close, smooth to polished slickensided, planar to stepped, fresh, open.
22.0	10 10 10 10							
23.0	10 10 9 10	C3	22.56 24.08	1.52 0.41	85 27	FR		DO. Except bedding plane joints planar to stepped, open to tight. NOTE: Extremely fractured from 23.77 to 24.08m.
24.0	10 10 10 10	C4	24.08 25.60	1.52 0.79	100 52	FR		DO. Except bedding plane joints very close to moderate. NOTE: Very light gray (almost white) shale from 25.15 to 25.45m.
25.0	10 10 10							SHALE BEDROCK IBERVILLE FORMATION
							1.14 25.60	BOTTOM OF EXPLORATION AT 25.60m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (34 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By Date HALEY & ALDRICH 13/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072LG34	Sheet C112 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003

STA 11+964.49, 0.84 m LT

Manchester, New Hampshire — TEST BORING REPORT — BORING NO. HA-124

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(1)
CLIENT: Vanasse Hangen Brustlin, Inc.
CONTRACTOR: New Hampshire Boring, Inc.
FILE NO. 60435-004
SHEET NO. 1 OF 3
LOCATION N 274807.53, E 443643.44
ELEVATION 26.60
DATUM NAVD
START August 8, 2001
FINISH August 9, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HW	S	NX
INSIDE DIAMETER (MM)	102	35	54
HAMMER WEIGHT (KG)	136	63.5	-
HAMMER FALL (M)	0.61	0.76	-

DRILLING EQUIPMENT & PROCEDURES: RIG TYPE Diedrich D50; BIT TYPE Roller Bit; DRILL MUD None; OTHER - Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push to 4.57m					-MUDLINE- Water depths 2.28m. Note: Pushed HW casing and washed out to 1.52m. Wash indicated FILL to 1.52m.
1.0	WOR/30.5cm WOR/30.5cm		NR 0.00	1.52 2.13		No recovery.
2.0						
3.0		1 2 1 2	S1 0.15	3.05 3.66		Very loose grayish brown silty coarse to fine SAND, little coarse to fine gravel (loosely banded)
4.0						
5.0	4 3 3 2 2	1 1 3 4	S2 0.20	4.57 5.18		DO. -FILL/REMOLDED LACUSTRINE-
6.0	2 2 1 1	6 2 1 1	S3 0.41	6.10 6.71	20.35 6.25	DO. Very soft gray CLAY, little silt,with frequent seams of silt
7.0	2 1 1	2 1 1				-LACUSTRINE DEPOSITS-

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION: S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	14.94
ROCK CORED (M)	6.10
SAMPLES	SS. C4

NH METRIC

Manchester, New Hampshire — TEST BORING REPORT — BORING NO. HA-124, FILE NO. 60435-004, SHEET NO. 2 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
8.0	2 1 3 4	WOR 1 3 4	S4 0.61	7.62 8.23	18.82 7.77	DO. Very soft to soft gray to red CLAY, little silt -GLACIOLACUSTRINE DEPOSITS-
9.0	3 3 2				17.45 9.14	
10.0	12 11 10 9 12 14 17 13	11	S5 0.25	9.14 9.75		Medium dense gray silty fine SAND, little coarse to medium sand, trace fine gravel
11.0	24 6 4 5	7 6	S6 0.20	10.67 11.28		DO. except trace coarse to medium sand
12.0	38 42 50 78	4 5				Note: Encountered cobbles from 11.28 to 12.19m.
13.0	Drilled Ahead to 16.15m	18 30 36 32	S7 0.25	12.19 12.80		DO. except very dense and few cobbles
14.0	50/5.1cm		NR 0.00	13.72 13.79		No recovery. Note: No recovery due to cobbles and small boulders. -GLACIOFLUVIAL DEPOSITS-
	60 50/2.5cm		S8 0.15	15.85 16.03	11.66 14.94 10.44 16.15	Top of weathered bedrock at 14.94m. -HIGHLY WEATHERED SHALE BEDROCK- IBERVILLE FORMATION Very dense gray highly weathered SHALE bedrock with interbedded seams of silt Note: Casing set at 16.15m. See Core Boring Report Page 3 for bedrock descriptions.

NH METRIC

Manchester, New Hampshire — CORE BORING REPORT — BORING NO. HA-124, FILE NO. 60435-004, SHEET NO. 3 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
15.0							11.66 14.94	TOP OF WEATHERED BEDROCK AT 14.94m. HIGHLY WEATHERED SHALE BEDROCK IBERVILLE FORMATION
16.0	5	C1	16.46 17.98	1.22 0.38	80 25	FR	10.44 16.15	Moderately hard, fresh, light to dark gray, aphanitic SHALE. Bedding extremely thin to very thin, moderately dipping. Bedding joints low angle, close to very close, smooth to polished siltcensided, planar to stepped, fresh, open.
17.0	5 6 6 6							
18.0	5 5 5 5	C2	17.98 19.51	1.22 0.43	80 28	FR		DO.
19.0	5 5 5 5							
20.0	5 6 6 6	C3	19.51 21.03	1.45 1.07	95 70	FR		DO. Except joints close.
21.0	6 6 6 6	C4	21.03 22.56	1.52 0.86	100 57	FR		DO. Except joint very close to close. SHALE BEDROCK IBERVILLE FORMATION
22.0	7 7 7						4.04 22.56	BOTTOM OF EXPLORATION AT 22.56m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (35 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By HALEY & ALDRICH Date 13/03	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072LG35	Sheet C113 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091M

plot date: 10/23/2003

STA 12+012.81, 0.18 m RT

Manchester, New Hampshire	TEST BORING REPORT	BORING NO. HA-125

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(11)
CLIENT: Vanasse Hangen Brustlin, Inc.
CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 3
LOCATION N 274787.43
E 443687.39
ELEVATION 26.23
DATUM NAVD
START August 8, 2001
FINISH August 8, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	–	OTHER – Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	Push to 3.66m					–MUDLINE– Water depth: 2.65m.
1.0		WOR/61cm	S1 0.20	1.22 1.83		Very soft gray silty CLAY, trace fine sand
2.0		WOR/61cm	S2 0.56	2.74 3.35		Very soft gray clayey SILT, little peat fibers
3.0					22.27 3.96	–LACUSTRINE DEPOSITS–
4.0	8 7	1 1 1 1	S3 0.18	4.27 4.88		Soft gray silty fine SAND
5.0	6 7 7 6					–ALLUVIAL DEPOSITS–
6.0	10 7 7	WOR/61cm	S4 0.61	5.79 6.40	20.28 5.94	DO. Very soft gray CLAY, little silt
7.0	6 6 7	WOR/30.5cm WOR/30.5cm	S5 0.25	7.32 7.92		–LACUSTRINE DEPOSITS– DO.

WATER LEVEL DATA					SAMPLE IDENTIFICATION	SUMMARY	
DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER	S SPLIT SPOON	OVERBURDEN (M) 13.41
Barge mounted drilling rig on Missisquoi Bay							ROCK CORED (M) 6.10
							SAMPLES S8, C4

NH METRIC

Manchester, New Hampshire	TEST BORING REPORT	BORING NO. HA-125 FILE NO. 60435-004 SHEET NO. 2 OF 3

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
8.0	7 7 7 7				18.46 7.77	DO. except color changed to red to gray
9.0	8 6 6 7	WOR/61cm	S6 0.61	8.84 9.45		–GLACIOLACUSTRINE DEPOSITS– Very soft red to gray CLAY, little silt
10.0	8 9 7 6	WOR/61cm	NR 0.00	10.36 10.97		No recovery.
11.0	5 10 11	11	S7 0.25	11.89 12.50	14.65 11.58	Medium dense gray silty coarse to fine SAND, little coarse to fine gravel (moderately banded)
12.0	14 17 31	6 7 7				–GLACIAL TILL DEPOSITS–
13.0	46				12.82 13.41	Note: Drill activity and casing installation indicated top of bedrock at 13.41m. Top of bedrock at 13.41m. Black SHALE fragments. See Core Boring Report Page 3 for bedrock descriptions.
		50/7.6cm	S8 0.08	13.41 13.49		

NH METRIC

Manchester, New Hampshire	CORE BORING REPORT	BORING NO. HA-125 FILE NO. 60435-004 SHEET NO. 3 OF 3

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/ROD M	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							12.82 13.41	TOP OF BEDROCK AT 13.41m.
14.0	10 9 6 6	C1	13.72 15.24	1.33 0.91	87 60	FR		Moderately hard, fresh, light to dark gray, aphanitic SHALE. Bedding extremely thin to very thin, moderately dipping. Bedding joints low to high angle, very close to moderately close, smooth, planar, fresh to discolored, open. NOTE: Extremely fractured from 13.72 to 14.33m. Discoloration of joint surfaces is due to the presence of fine sand on high angled joints.
15.0	6 6							
16.0	5 5 5 5	C2	15.24 16.76	1.52 1.30	100 85	FR		DO. Except joints are close to moderately close.
17.0	5 5 5 5	C3	16.76 18.29	1.52 1.30	100 85	FR		DO.
18.0	5 5 5 5	C4	18.29 19.81	1.52 1.42	100 93	FR		DO. Except joints close to wide
19.0	5 6 5 5 5							SHALE BEDROCK IBERVILLE FORMATION
							6.42 19.81	BOTTOM OF EXPLORATION AT 19.81m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (36 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By Date HALEY & ALDRICH 13/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
I.G.C. Info.	
File No. ZE072LG36	Sheet C114 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003

/26

STA 12+060.02, 5.10 m LT

Manchester, New Hampshire — TEST BORING REPORT — BORING NO. HA-126

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(11)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 2
LOCATION N 274773.54 E 443732.82
ELEVATION 27.27
DATUM NAVD
START August 7, 2001
FINISH August 7, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	–	OTHER – Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	1					–MUDLINE–
	3					Water depth=1.65m.
	11				26.66	–LACUSTRINE DEPOSITS–
					0.61	
1.0	14					–GLACIOFLUVIAL DEPOSITS–
	36				25.90	
					1.37	Top of bedrock at 1.37m.
						See Core Boring Report Page 2 for bedrock descriptions.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION: S ▨ SPLIT SPOON

SUMMARY

OVERBURDEN (M)	1.37
ROCK CORED (M)	6.10
SAMPLES	C4
NH	METRIC

Manchester, New Hampshire — CORE BORING REPORT — BORING NO. HA-126
FILE NO. 60435-004
SHEET NO. 2 OF 2

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
							25.90	TOP OF BEDROCK AT 1.37m.
	3	C1	1.52	1.27	83	FR	1.37	Moderately hard, fresh, light to dark gray, aphanitic SHALE. Bedding extremely thin to very thin, dipping at low angles. Bedding joints low to high angles, very close to moderate, smooth, planar, fresh, open.
2.0	3		3.05	0.93	65			NOTE: Encountered fractured zone (possible voids) from 2.13 to 2.44m.
	2							
	3							
3.0	3	C2	3.05	1.52	100	FR		DO.
	3		4.57	1.02	67			
	3							
4.0	3							
	3	C3	4.57	1.52	100	FR		DO. Except joints moderately to widely spaced.
	3		6.10	1.32	87			
5.0	3							
	3							
	3							
6.0	3	C4	6.10	1.52	100	FR		DO.
	3		7.62	1.17	77			
	3							SHALE BEDROCK IBERVILLE FORMATION
7.0	3							
	3							
							19.65	
							7.62	BOTTOM OF EXPLORATION AT 7.62m.

METRIC

STA 12+060.50, 6.25 m RT

Manchester, New Hampshire — TEST BORING REPORT — BORING NO. HA-127

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(11)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 2
LOCATION N 274762.93 E 443728.78
ELEVATION 27.18
DATUM NAVD
START August 7, 2001
FINISH August 7, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	–	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	–	OTHER – Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	5					–MUDLINE–
	11				26.87	Water depth: 1.74m.
	16				0.30	–LACUSTRINE DEPOSITS–
1.0	12					–GLACIOFLUVIAL DEPOSITS–
	End	25	S1	1.22	25.80	Very dense gray medium to fine SAND, some silt, little coarse sand, trace coarse to fine gravel
		50/2.5cm	0.13	1.40	1.37	Top of bedrock at 1.37m.
						See Core Boring Report Page 2 for bedrock descriptions.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION: S ▨ SPLIT SPOON

SUMMARY

OVERBURDEN (M)	1.37
ROCK CORED (M)	6.10
SAMPLES	S1, C4
NH	METRIC

Manchester, New Hampshire — CORE BORING REPORT — BORING NO. HA-127
FILE NO. 60435-004
SHEET NO. 2 OF 2

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
1.0							25.80	TOP OF BEDROCK AT 1.37m.
	4	C1	1.52	1.40	92	FR	1.37	Moderately hard, fresh, light to dark gray, aphanitic SHALE. Bedding extremely thin to very thin, dipping at low angles. Bedding joints low to moderate, very close to moderately close, smooth, planar, fresh, open to tight.
2.0	3		3.05	1.14	75			NOTE: Encountered fractured zone (possible voids) from 1.83 to 2.44m.
	2							
	3							
3.0	3	C2	3.05	1.52	100	FR		DO. Except bedding joints low to high angle, very close to wide.
	3		4.57	1.37	90			
	3							
4.0	3							
	3	C3	4.57	1.52	100	FR		DO. Except no joints.
	3		6.10	1.47	97			
5.0	3							
	3							
	3							
6.0	4	C4	6.10	1.52	100	FR		DO. Except joints close to wide.
	4		7.62	1.27	83			
	4							SHALE BEDROCK IBERVILLE FORMATION
7.0	4							
	4							
							19.56	
							7.62	BOTTOM OF EXPLORATION AT 7.62m.

METRIC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (37 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By Date HALEY & ALDRICH 3/03	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
I.G.C. Info.	
File No. ZE072LG37	Sheet C115 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date: 10/23/2003

127

STA 12+065.89, 6.22 m LT

Manchester, New Hampshire — TEST BORING REPORT — BORING NO. HA-128

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(11)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 2
LOCATION N 274772.25 E 443738.65
ELEVATION 27.42
DATUM NAVD
START August 7, 2001
FINISH August 7, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	-	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	-	OTHER - Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0	4					-MUDLINE-
	19					Water depth: 1.49m
	30					-RIPRAP FILL-
					26.51 0.91	Top of bedrock at 0.91m.
						See Core Boring Report Page 2 for bedrock descriptions.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	DEPTH (M) TO: BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION: S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	0.91
ROCK CORED (M)	6.10
SAMPLES	C4

NH METRIC

STA 12+066.95, 6.16 m RT

Manchester, New Hampshire — TEST BORING REPORT — BORING NO. HA-129

PROJECT: Alburg-Swanton Bridge Replacement
VAOT NO.: BRF 036-1(11)
CLIENT: Vanasse Hangen Brustlin, Inc. CONTRACTOR: New Hampshire Boring, Inc.

FILE NO. 60435-004
SHEET NO. 1 OF 2
LOCATION N 274760.46 E 443734.71
ELEVATION 27.33
DATUM NAVD
START August 3, 2001
FINISH August 6, 2001
DRILLER B. Bourassa
H&A REP C. Toscano

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HW	S	NX	RIG TYPE Diedrich D50
INSIDE DIAMETER (MM)	102	35	54	BIT TYPE Roller Bit
HAMMER WEIGHT (KG)	136	63.5	-	DRILL MUD None
HAMMER FALL (M)	0.61	0.76	-	OTHER - Safety Hammer

DEPTH (M)	CASING BLOWS PER 0.30M	SAMPLER BLOWS PER 0.15M	SAMPLE NUMBER & REC.(M)	SAMPLE DEPTH (M)	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0						-MUDLINE-
					27.02 0.30	-LACUSTRINE DEPOSITS-
						Water depth: 1.58m.
						Top of bedrock at 0.30m.
						See Core Boring Report Page 2 for bedrock descriptions.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (M) TO: BOTTOM OF CASING	DEPTH (M) TO: BOTTOM OF HOLE	WATER
Barge mounted drilling rig on Missisquoi Bay					

SAMPLE IDENTIFICATION: S SPLIT SPOON

SUMMARY

OVERBURDEN (M)	0.30
ROCK CORED (M)	6.10
SAMPLES	C4

NH METRIC

Manchester, New Hampshire — CORE BORING REPORT — BORING NO. HA-128
FILE NO. 60435-004
SHEET NO. 2 OF 2

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0								
							26.51 0.91	TOP OF BEDROCK AT 0.91m.
1.0	3	C1	0.91 2.44	1.22 0.91	80 60	FR		Moderately hard, fresh, light to dark gray, aphanitic SHALE. Bedding extremely thin to very thin, dipping at low angles. Bedding joints at low angles, close to moderately close, smooth to rough, planar, fresh, open.
	7							NOTE: Encountered fractured zones (with possible voids) from 0.91 to 1.22m and 1.52 to 1.83m.
2.0	3							
	7							
	7	C2	2.44 3.96	1.37 1.17	90 77	FR		DO. Except joints very close to wide.
	9							NOTE: Extremely fractured zone from 2.44 to 2.74m.
3.0	7							
	7							
	7							
4.0	6	C3	3.96 5.49	1.52 1.02	100 67	FR		DO. Except joints very close to moderately close.
	6							
	6							
5.0	6							
	5	C4	5.49 7.01	1.52 1.45	100 95	FR		DO. Except joints wide to moderate.
	5							
6.0	5							SHALE BEDROCK IBERVILLE FORMATION
	5							
	5							
7.0							20.41 7.01	BOTTOM OF EXPLORATION AT 7.01m.

METRIC

Manchester, New Hampshire — CORE BORING REPORT — BORING NO. HA-129
FILE NO. 60435-004
SHEET NO. 2 OF 2

DEPTH (M)	DRILLING RATE MIN./0.30M	RUN NO.	DEPTH (M)	RECOVERY/RQD M	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (M)	VISUAL DESCRIPTION AND REMARKS
0.0							27.02 0.30	TOP OF BEDROCK AT 0.30m.
	6	C1	0.30 1.83	1.32 1.12	87 73	FR		Moderately hard, fresh, light to dark gray, aphanitic SHALE. Bedding extremely thin to thin, dipping at low angles. Bedding joints low angle, wide to close, smooth, stepped to planar, fresh, open.
	6							NOTE: Encountered fractured zone from 0.91 to 1.22m.
1.0	30 sec.							
	6							
	6							
	6	C2	1.83 3.35	1.52 0.79	100 52	FR		DO. Except bedding joints low angle to vertical, very close to moderately close, smooth, planar, fresh to discolored, open.
2.0	6							
	6							NOTE: Discoloration is due to the presence of calcite.
	5							
	5							
3.0	5							
	5	C3	3.35 4.88	1.52 1.24	100 82	FR		DO. Except no discoloration.
	4							
	4							
4.0	4							
	4							
	4	C4	4.88 6.40	1.52 1.22	100 80	FR		DO. Except joints very close to wide
	4							
5.0	4							SHALE BEDROCK IBERVILLE FORMATION
	4							
	4							
6.0	4							
							20.93 6.40	BOTTOM OF EXPLORATION AT 6.40m.

METRIC

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BORING LOGS (38 OF 38)	
Designed By HALEY & ALDRICH	Drawn By HALEY & ALDRICH
Checked By HALEY & ALDRICH 3/03	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
I.G.C. Info.	
File No. ZE072LG38	Sheet C116 of C194

VHB NO. 5091

plot date: 10/23/2003
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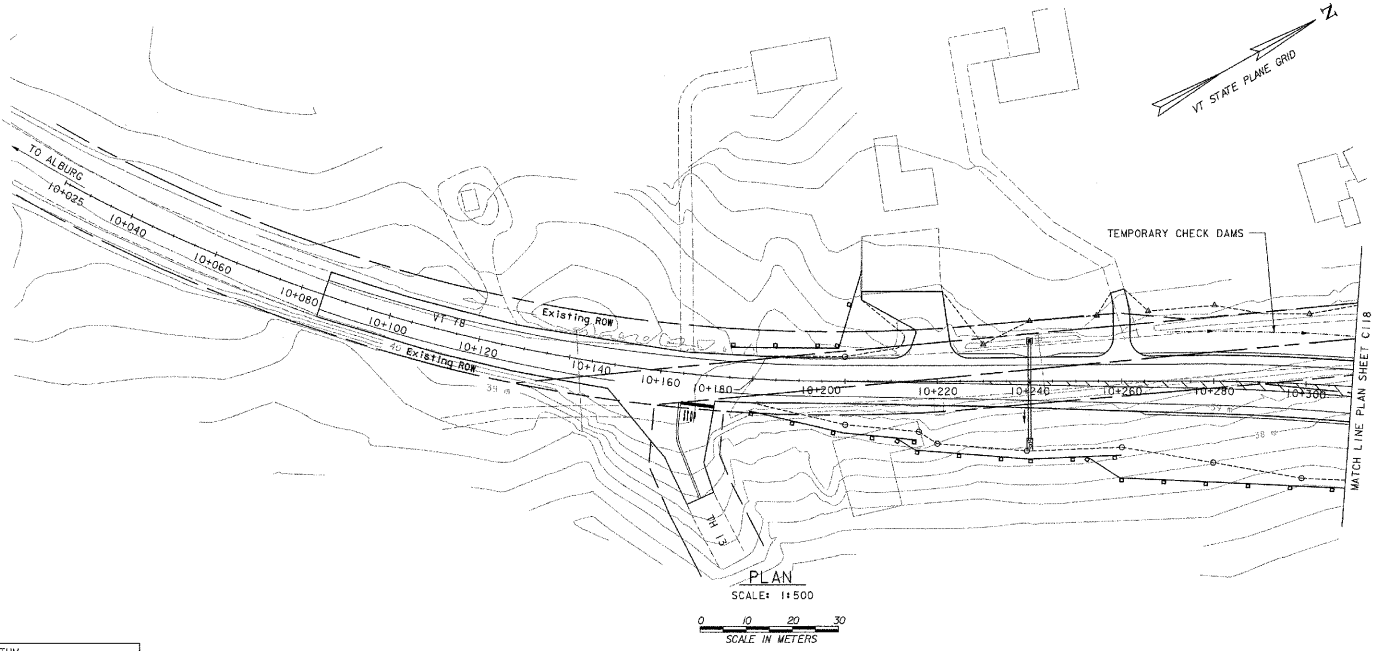
NOTES:

1. THESE PLANS SHOW A CONCEPTUAL EROSION CONTROL PLAN. IN ACCORDANCE WITH ITEMS 652.10, 652.20 AND 652.30, THE CONTRACTOR MUST SUBMIT A TEMPORARY EROSION CONTROL PLAN FOR APPROVAL.
2. SILT FENCE LOCATIONS ARE CONCEPTUALLY SHOWN. THE CONTRACTOR MAY RELOCATE SILT FENCE TO IMPROVE EROSION CONTROL WITH APPROVAL OF THE RESIDENT ENGINEER.
3. EROSION CONTROL DEVICES, INCLUDING SILT FENCE AND SNOW FENCE, SHALL BE INSTALLED PRIOR TO WORK BEING PERFORMED IN THE AFFECTED WORK AREA OR AS APPROVED BY THE RESIDENT ENGINEER.
4. SPECIAL CONSIDERATION MUST BE GIVEN TO DEWATERING THE COFFERDAMS AND THE DRILLED SHAFTS. THE WATER MAY CONTAIN A HIGH SEDIMENT LOAD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FILTRATION OF THE WATER AS DIRECTED IN SECTION 105. THE DISCHARGE WATER SHALL BE LESS THAN 25 NTU.
5. THE CONTRACTOR SHALL USE OTHER TEMPORARY OR PERMANENT EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION OR AS DIRECTED BY THE RESIDENT ENGINEER. SEE SECTION 105.
6. REFER TO TEMPORARY EROSION CONTROL DETAILS SHEETS FOR ADDITIONAL DETAILS.
7. BIODEGRADEABLE EROSION MATTING SHALL BE PLACED UPON FINAL CONSTRUCTED CONDITIONS AT ALL CULVERT INLETS AND OUTLETS TO PREVENT EROSION PRIOR TO VEGETATION GROWTH OR PLACEMENT OF STONE FILL.
8. BIODEGRADEABLE EROSION MATTING SHALL BE PLACED UPON FINAL CONSTRUCTED SLOPES STEEPER THAN 1:3 TO PREVENT EROSION PRIOR TO VEGETATION GROWTH.
9. SIGNS, 250x360 IN SIZE, STATING "ARCHAEOLOGICALLY SENSITIVE KEEP OUT" SHALL BE PLACED ALONG SNOW FENCE AS SHOWN ON EROSION CONTROL PLAN (3 OF 6) OR AS SPECIFIED BY VTRANS ARCHAEOLOGISTS. ALL SIGNS AND POSTS SHALL BE INCLUDED IN ITEM 620.70, SNOW FENCE (MOD).
10. ITEM 620.70, SNOW FENCE (MOD), SHALL BE PLACED AROUND ALL EXISTING WETLANDS TO PREVENT DISTURBANCE.
11. THE CONTRACTOR SHALL SUBMIT A FILTER CURTAIN DESIGN TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION. THE DESIGN SHALL INCLUDE NECESSARY ANCHORAGE AND VERTICAL STABILITY DETAILS FOR ALL LOCATIONS ON THE PROJECT.



LEGEND

- SILT FENCE
- FC FILTER CURTAIN
- SF SNOW FENCE

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

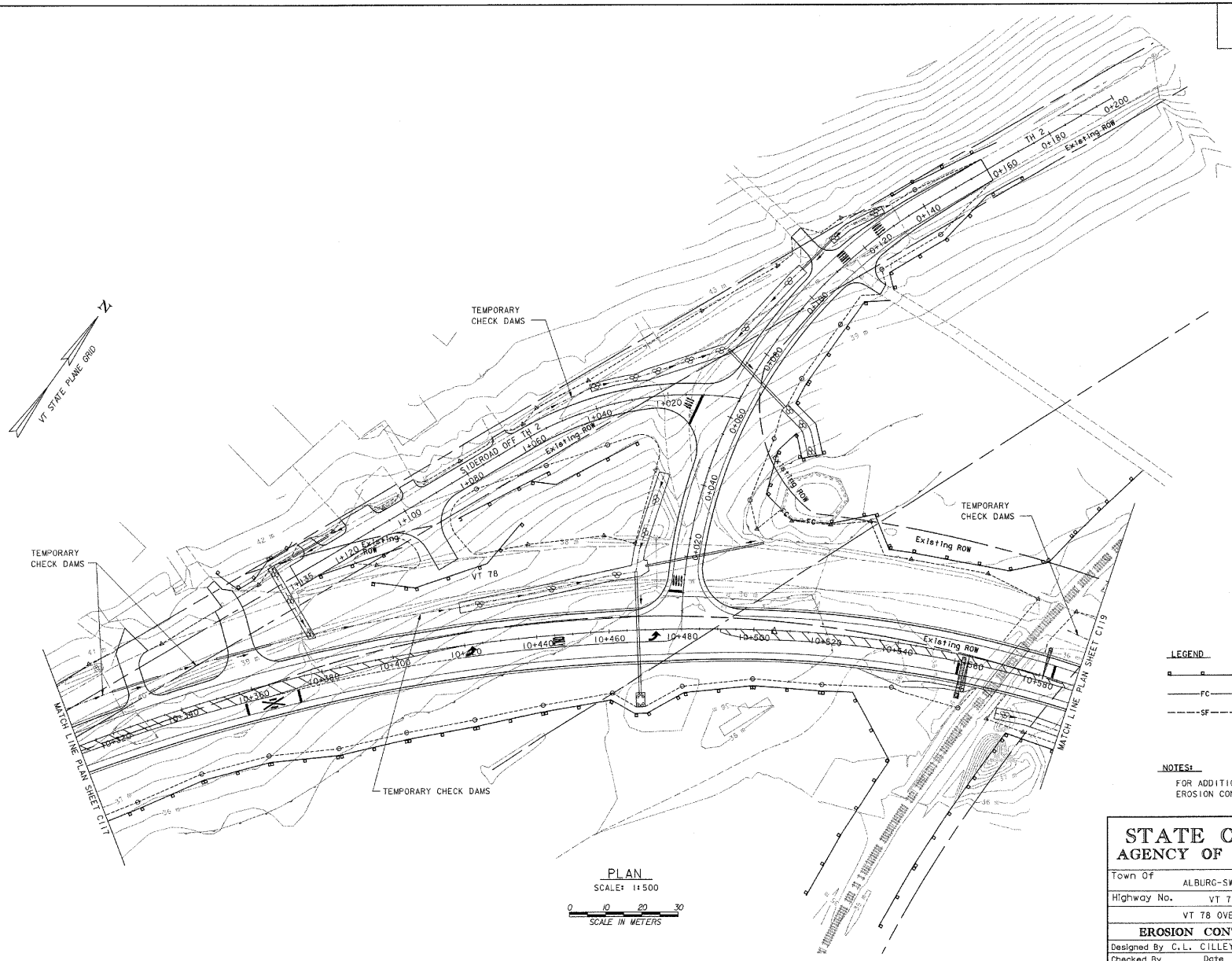
Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

EROSION CONTROL PLAN (1 OF 6)

Designed By C.L. CILLEY	Drawn By N.M. LANDREY
Checked By J.A. MERCER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072EC1	Sheet C117 of C194

VHB NO. 5091

plot date: 10/23/2003



PLAN
SCALE: 1:500
0 10 20 30
SCALE IN METERS

NOTES:
FOR ADDITIONAL NOTES, SEE EROSION CONTROL SHEET 1 OF 6 .

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

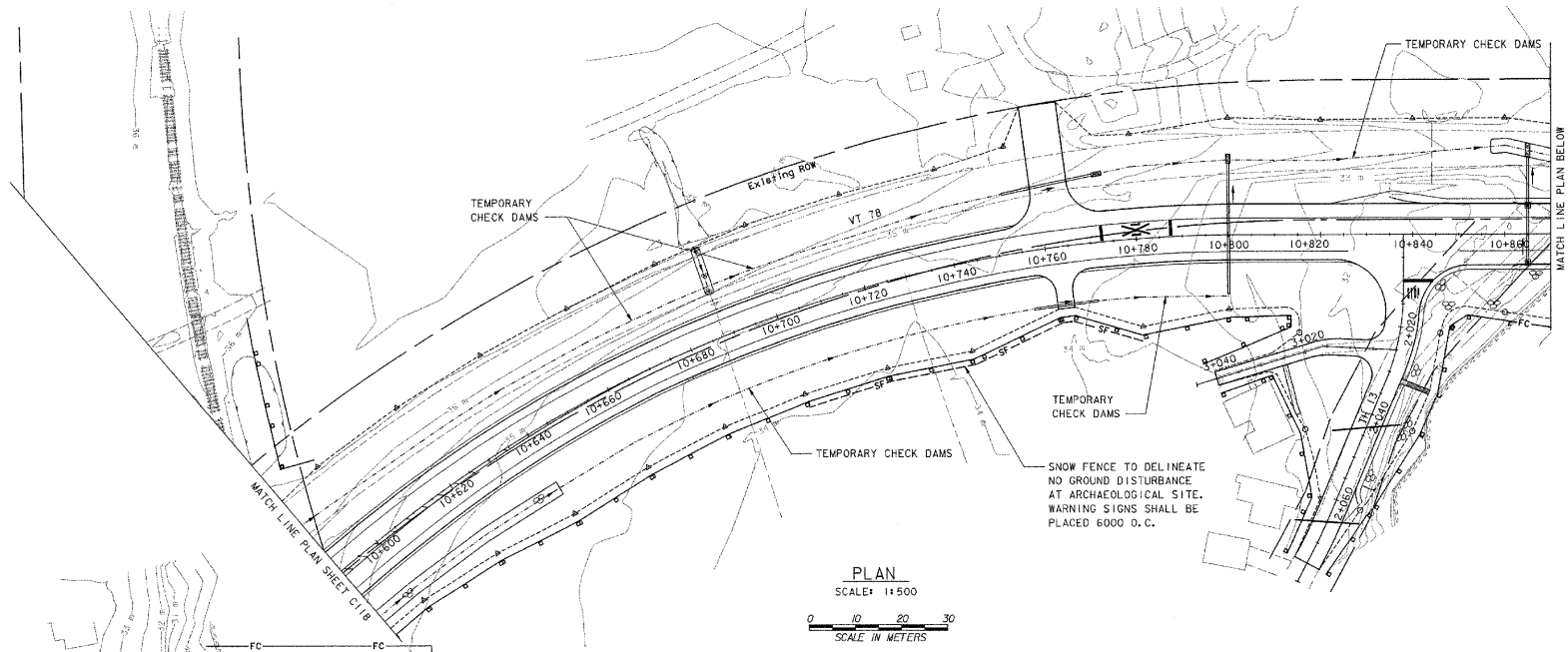
VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
EROSION CONTROL PLAN (2 OF 6)	
Designed By C.L. CILLEY	Drawn By M.M. LANDREY
Checked By J.A. MERCER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072EC2	Sheet C118 of C194

VHB NO. 509W

plot date: 10/23/2003



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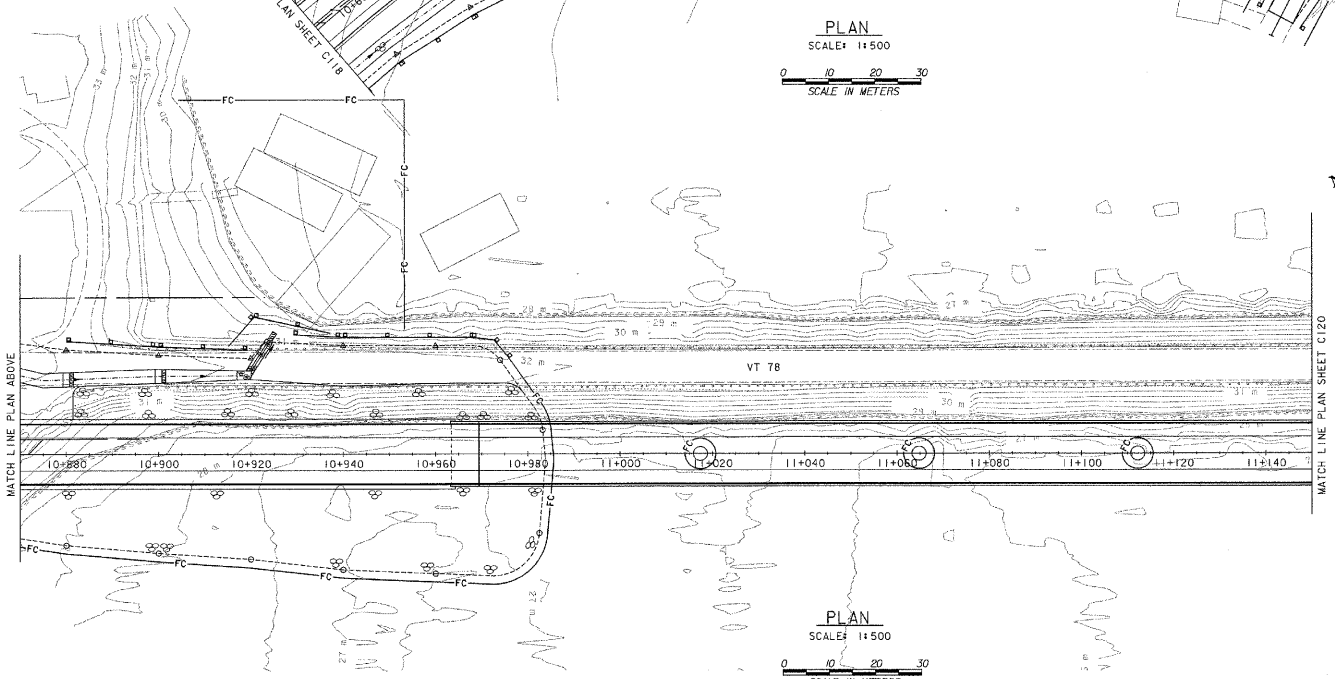
SCALE IN METERS



PLAN
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0 10 20 30
SCALE IN METERS

LEGEND
SILT FENCE
FC FILTER CURTAIN
SF SNOW FENCE

NOTES:
FOR ADDITIONAL NOTES, SEE EROSION CONTROL SHEET 1 OF 6 .

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

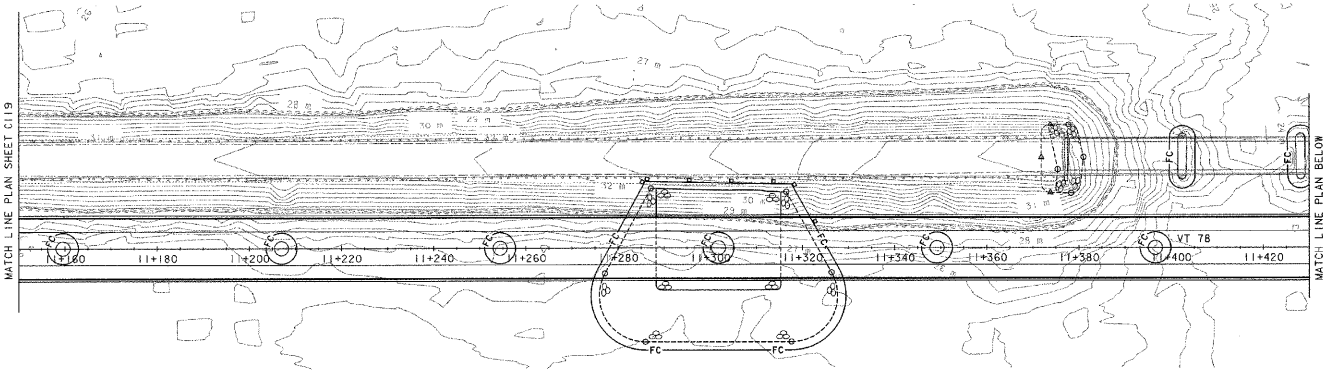
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
EROSION CONTROL PLAN (3 OF 6)	
Designed By C.L. CILLEY	Drawn By M.M. LANDREY
Checked By J.A. MERCER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072EC3	Sheet C119 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date: 10/23/2003



PLAN
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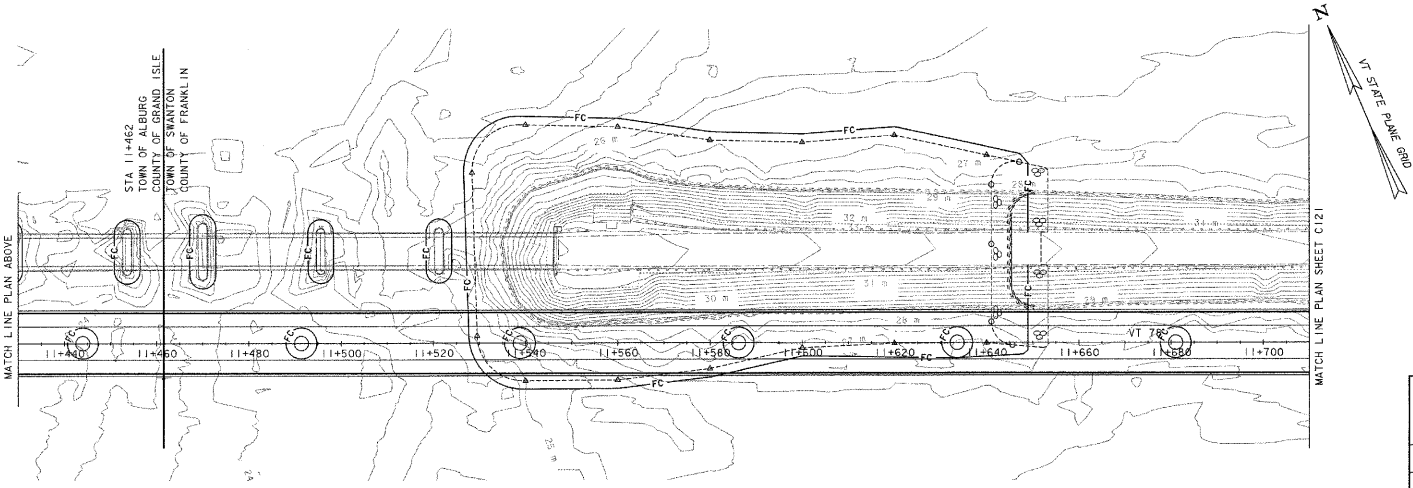
0 10 20 30
SCALE IN METERS



PLAN
SCALE: 1:500

0 10 20 30
SCALE IN METERS

LEGEND

SILT FENCE
FC FILTER CURTAIN
SF SNOW FENCE

NOTES:

FOR ADDITIONAL NOTES, SEE EROSION CONTROL SHEET 1 OF 6 .

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

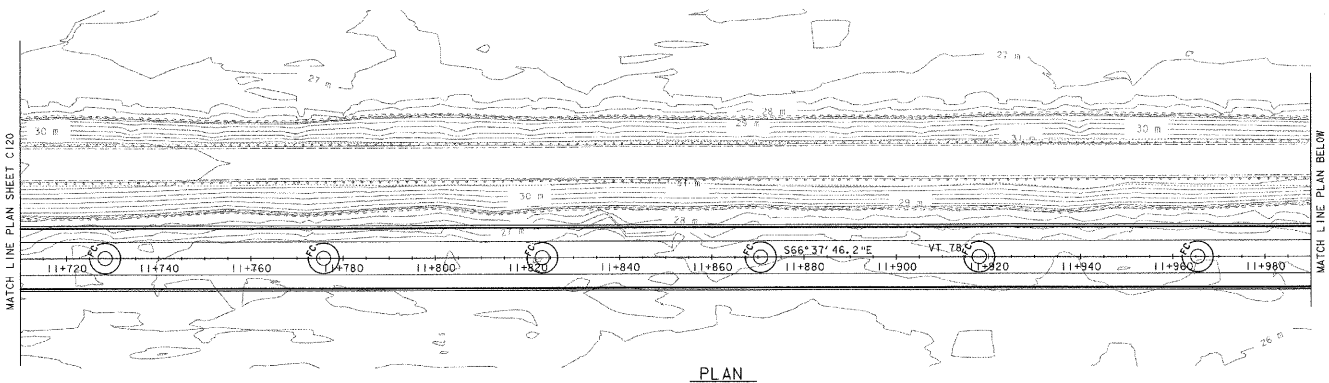
VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
EROSION CONTROL PLAN (4 OF 6)	
Designed By C.L. CILLEY	Drawn By M.M. LANDREY
Checked By J.A. MERCER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072EC4	Sheet C120 of C194

VHB NO. 50911

plot date: 10/23/2003



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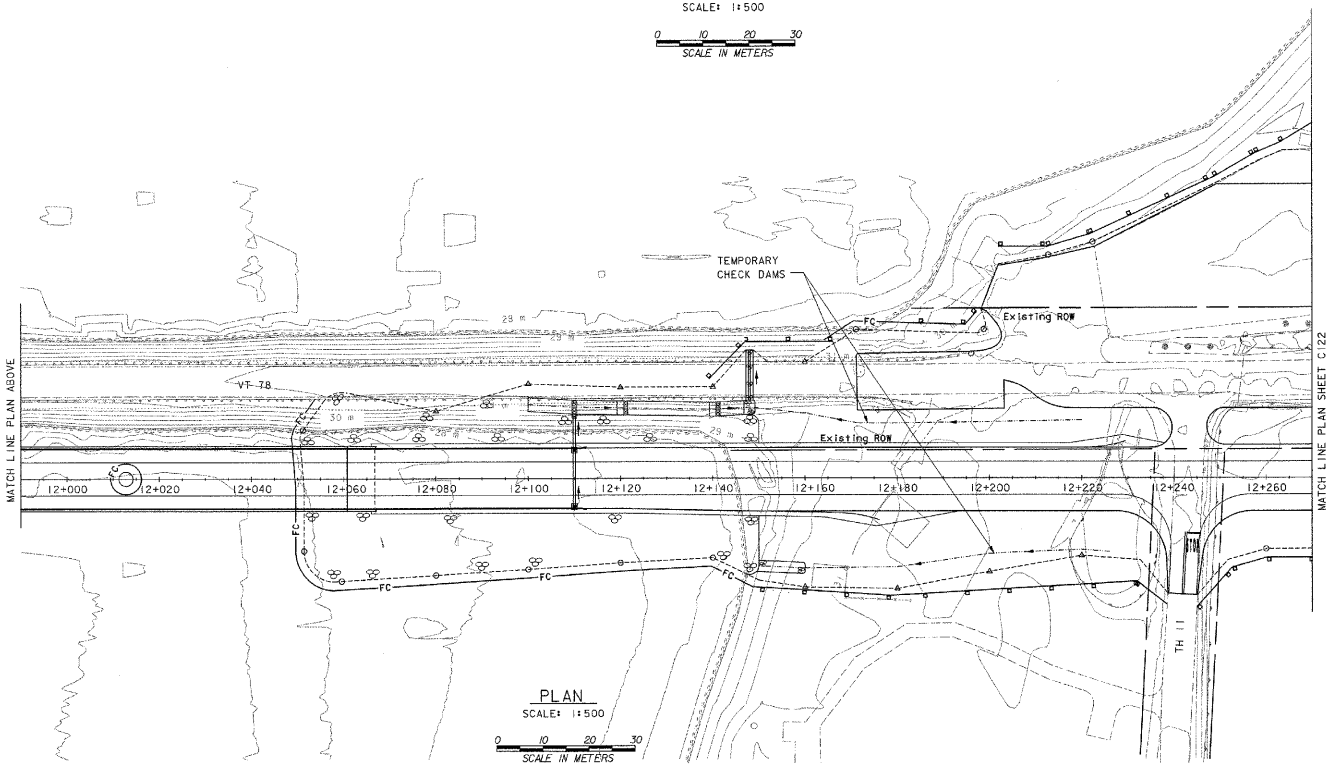
SCALE IN METERS



PLAN
SCALE: 1:500
0 10 20 30
SCALE IN METERS

VT STATE PLANE GRID

VT STATE PLANE GRID

LEGEND

SILT FENCE
FC FILTER CURTAIN
SF SNOW FENCE

NOTES:

FOR ADDITIONAL NOTES, SEE EROSION CONTROL SHEET 1 OF 6 .

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

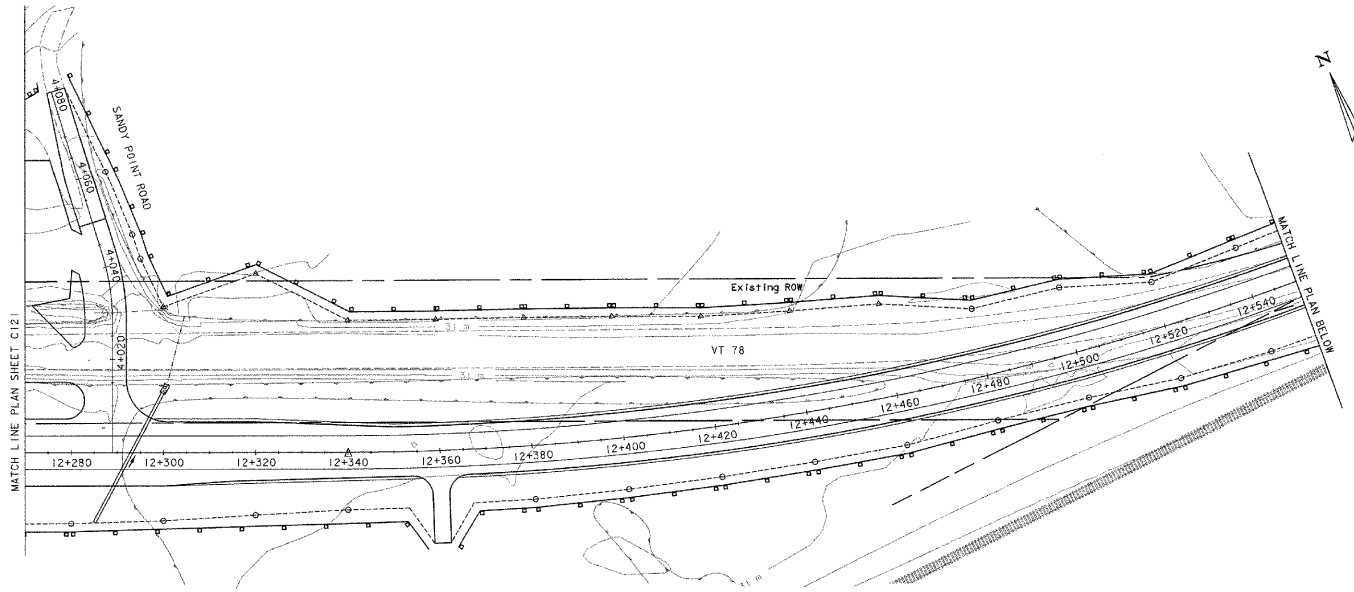
VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
EROSION CONTROL PLAN (5 OF 6)	
Designed By C.L. CILLEY	Drawn By M.M. LANDREY
Checked By Date J.A. MERCER 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
W.B.S. Info.	
File No. ZE072EC5	Sheet C121 of C194

VHB NO. 5058

plot date: 10/23/2003



PLAN
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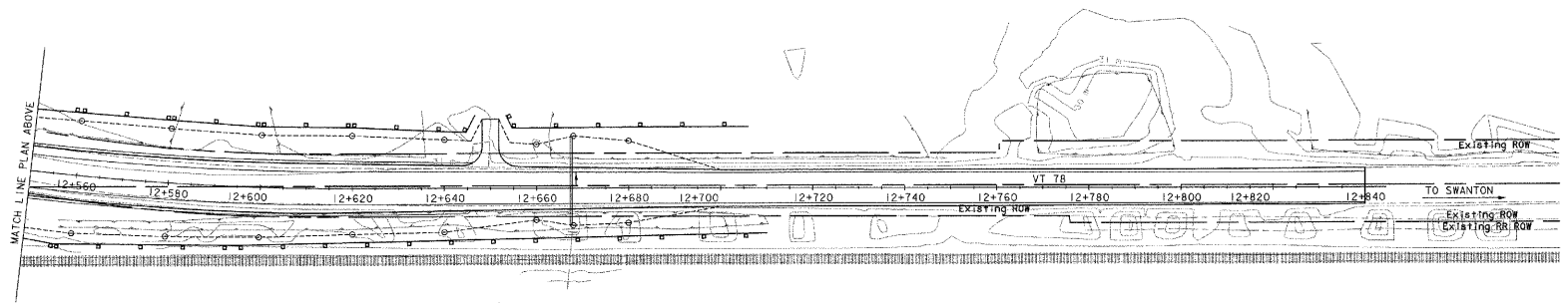
0 10 20 30
SCALE IN METERS



PLAN
SCALE: 1:500

0 10 20 30
SCALE IN METERS

LEGEND

SILT FENCE

FC FILTER CURTAIN

SF SNOW FENCE

NOTES:

FOR ADDITIONAL NOTES, SEE EROSION CONTROL SHEET 1 OF 6 .

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
EROSION CONTROL PLAN (6 OF 6)	
Designed By C.L. CILLEY	Drawn By M.M. LANDREY
Checked By J.A. MERCER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. info.	
File No. ZE072EC6	Sheet C122 of C194

VHB NO. 509M

plot date: 10/23/2003

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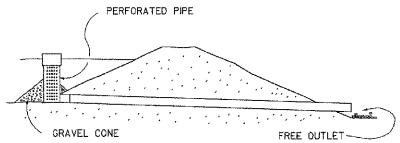
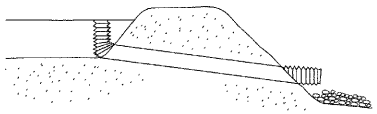


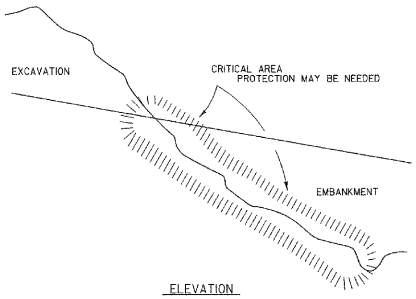
LARGE - PERMANENT INSTALLATION
PIPE RISER - STONE OUTLET



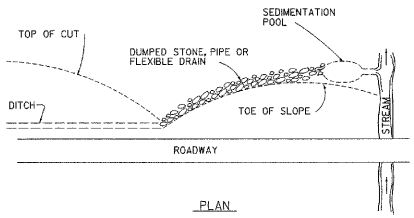
SMALL - TEMPORARY INSTALLATION
CORRUGATED PIPE WITH RISER - STONE OUTLET

SEDIMENT DAMS

NOT TO SCALE



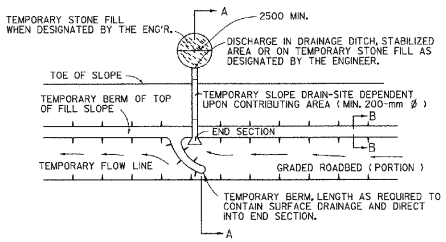
ELEVATION



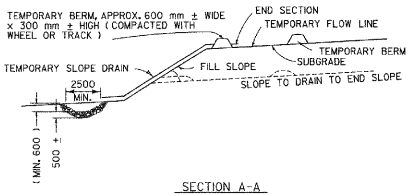
PLAN

TEMPORARY CONTROLS
CUT TO FILL SLOPE

NOT TO SCALE

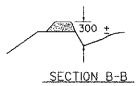


PLAN



SECTION A-A

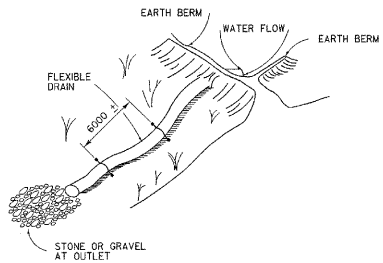
SIMILAR PLAN CAN BE CONSTRUCTED IN CONJUNCTION
WITH DROP INLET OR CURB DROP INLET.



SECTION B-B

TEMPORARY BERMS AND SLOPE DRAINS
FOR FILL SLOPES

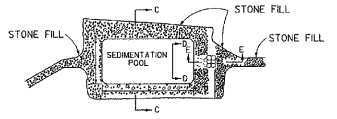
NOT TO SCALE



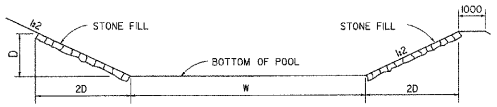
TEMPORARY FLEXIBLE SLOPE DRAIN

NOT TO SCALE

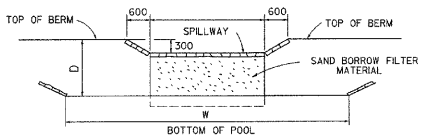
Metric



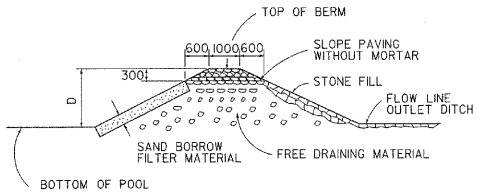
PLAN



SECTION C-C



SECTION D-D



SECTION E-E

TEMPORARY SEDIMENT POOL DETAILS

NOT TO SCALE

NOTE:

TEMPORARY SEDIMENT POOL DETAILS ARE CONCEPTUAL ONLY. CONTRACTOR SHALL BE RESPONSIBLE TO SUBMIT ACTUAL DESIGN OF TEMPORARY SEDIMENT POOL (S) REQUIRED FOR PROJECT SITE, INCLUDING DIMENSIONS FOR "D" AND "W".

NOTES:

1. NOT ALL DETAILS MAY BE APPLICABLE FOR THIS PROJECT.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

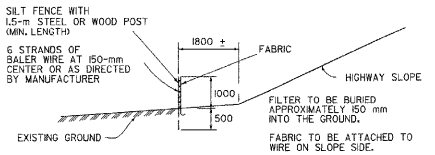
TEMPORARY EROSION CONTROL DETAILS (1 OF 2)

Designed By VTRANS/VHB	Drawn By C.L. CILLEY
Checked By Date	Bridge Design Supervisor
J.A. MERCER 10/03	C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. info.	
File No. ZE072EC7	Sheet C123 of C194

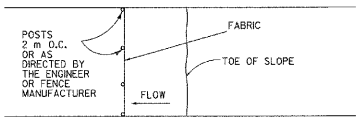
VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091I

plot date: 10/23/2003



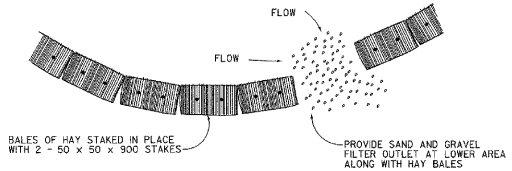
ELEVATION



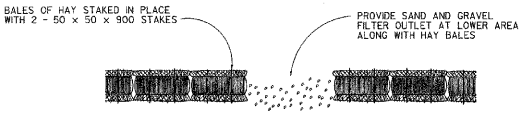
PLAN

SILT FENCE DETAIL

NOT TO SCALE



PLAN



ELEVATION

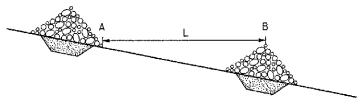
BALED HAY DAMS ALONG TOE OF SLOPE

NOT TO SCALE

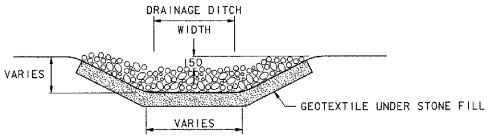
TO BE USED FOR SHEET FLOW ONLY.
NOT TO BE USED IN AREAS OF CONCENTRATED FLOW.

SLOPE (m/m)	LENGTH (m)
0.020	22
0.030	15
0.040	11
0.050	9
0.080	5
0.100	4.50
0.120	3.75
0.150	3

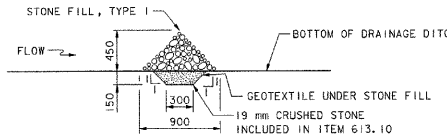
L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION



SPACING BETWEEN CHECK DAMS



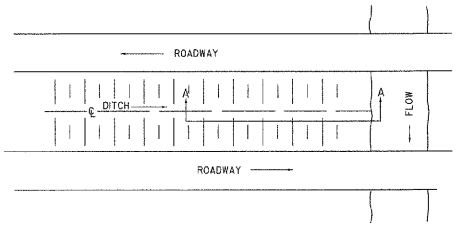
SECTION



ELEVATION

TEMPORARY CHECK DAM DETAILS

NOT TO SCALE

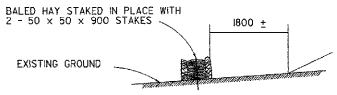


PLAN

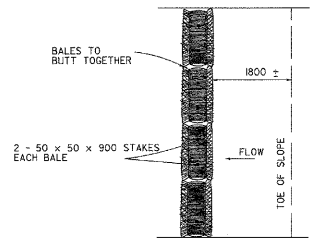
SECTIONS A-A

PROTECTION AT STREAM CROSSING MEDIAN AND SIDE DITCHES

NOT TO SCALE



ELEVATION



PLAN

TO BE USED WHERE EXISTING GROUND SLOPES AWAY FROM THE HIGHWAY EMBANKMENT AND ONLY FOR SHEET FLOW - NOT TO BE USED IN AREAS OF CONCENTRATED FLOW

BALED HAY EROSION CHECKS

NOT TO SCALE

NOTES:

1. NOT ALL DETAILS MAY BE APPLICABLE FOR THIS PROJECT.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

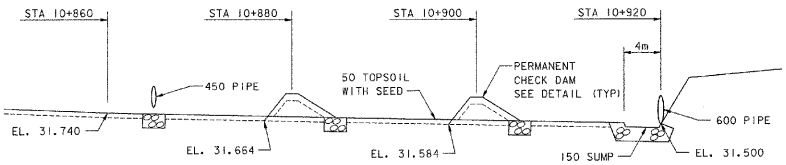
Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
TEMPORARY EROSION CONTROL DETAILS (2 OF 2)	
Designed By VTRANS/VHB	Drawn By C.L. CILLEY
Checked By J.A. MERCER Date 10/03	Bridge Design Supervisor C.D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
I.G.C. Info.	
File No. ZE072EC7	Sheet C124 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5098

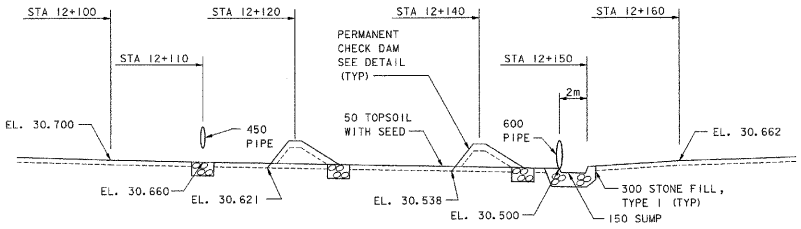
plot date: 10/23/2003

Metric



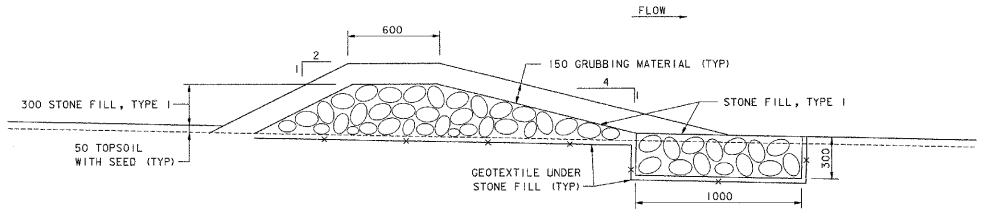
PROPOSED SWALE LONGITUDINAL SECTION - ALBURG

NOT TO SCALE



PROPOSED SWALE LONGITUDINAL SECTION - SWANTON

NOT TO SCALE



PERMANENT CHECK DAM DETAIL

NOT TO SCALE

NOTE:

SEE CROSS SECTIONS FOR ADDITIONAL SWALE INFORMATION.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

PERMANENT EROSION CONTROL DETAILS

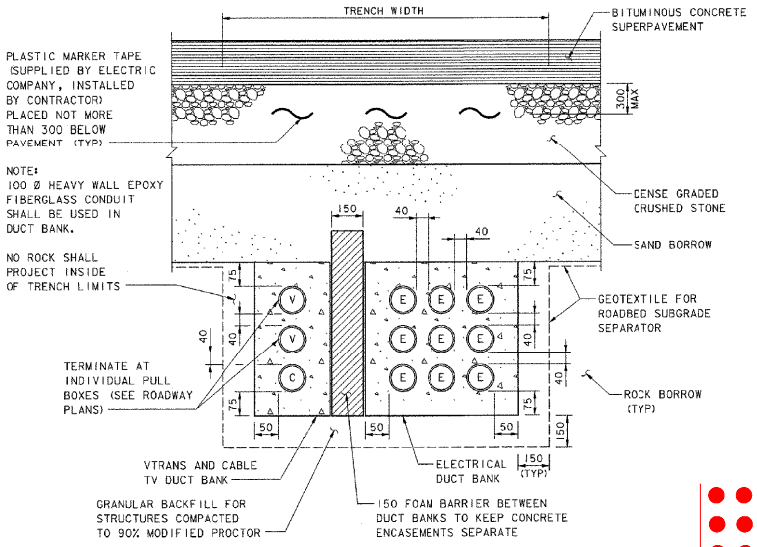
Designed By S. W. BEKIER	Drawn By C. L. CILLEY
Checked By Date J. A. MERCER 10/03	Bridge Design Supervisor C. D. BAKER Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072PE1	Sheet C125 of C194

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

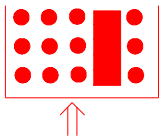
VHB NO. 50911

plot date: 10/23/2003

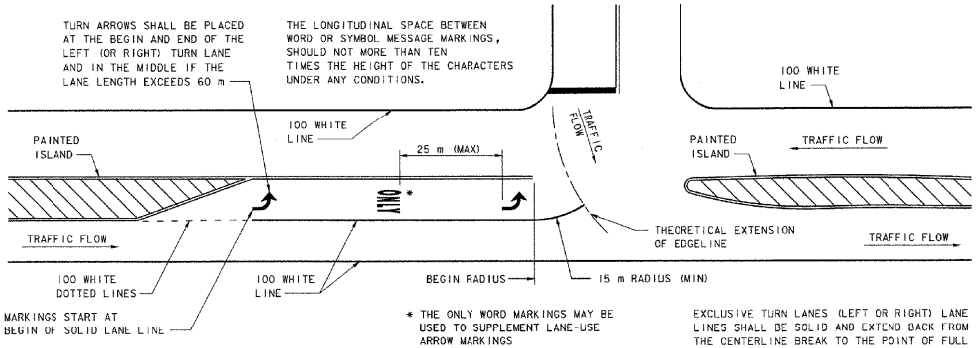


CONCRETE ENCASED DUCT BANK (12 DUCTS) DETAIL

(TYPICAL FROM UTILITY VAULT TO BRIDGE ABUTMENT)
(LOOKING UPSTATION)
NOT TO SCALE

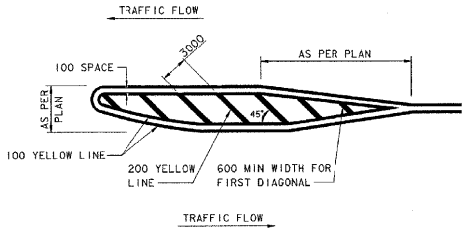


THIS DETAIL WAS MODIFIED AS ABOVE TO KEEP PULL BOXES AWAY FROM TRAVEL LANE



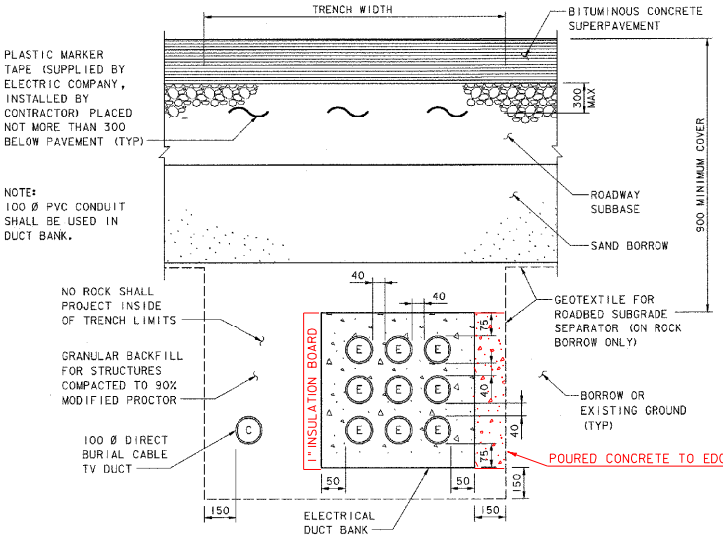
PAVEMENT MARKINGS FOR TURN LANE DETAIL

NOT TO SCALE



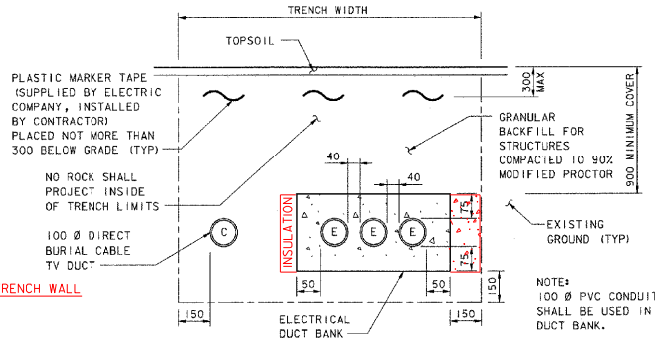
PAINTED ISLAND DETAIL

NOT TO SCALE



CONCRETE ENCASED DUCT BANK (9 DUCTS) DETAIL

(TYPICAL FROM RISER POLE TO UTILITY VAULT)
(LOOKING UPSTATION)
NOT TO SCALE



CONCRETE ENCASED DUCT BANK (3 DUCTS) DETAIL

(TYPICAL BETWEEN RISER POLES)
(LOOKING UPSTATION)
NOT TO SCALE

LEGEND

- (E) PROPOSED ELECTRICAL DUCT
- (V) PROPOSED VTRANS DUCT
- (C) PROPOSED CABLE TV DUCT

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

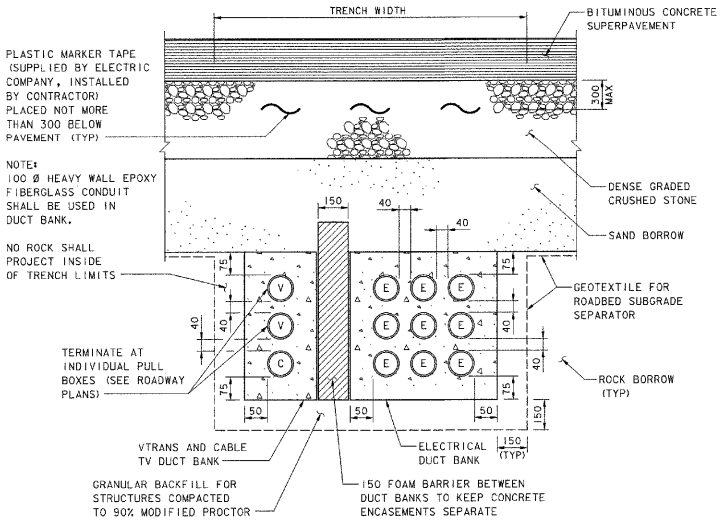
MISCELLANEOUS DETAIL SHEET

Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By J.A. MERCER Date 11/03	Bridge Design Supervisor C.D. BAKER Date 11/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072MD1	Sheet C126 of C194

VANASSE HANGEN BRUSTLIN, INC.

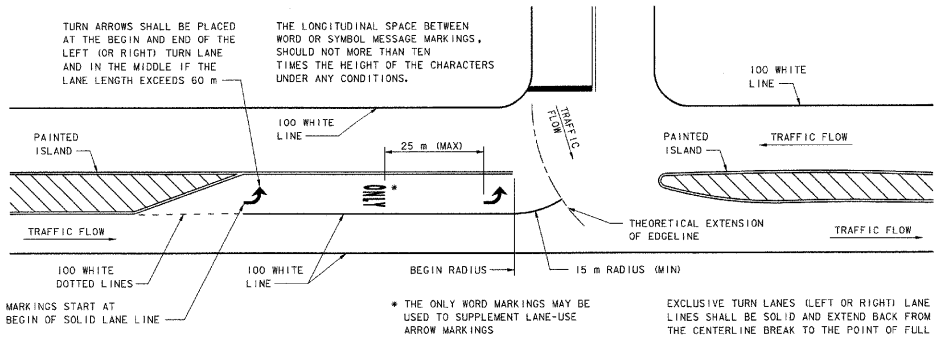
VHB NO. 5098

plot dates 11/6/2003



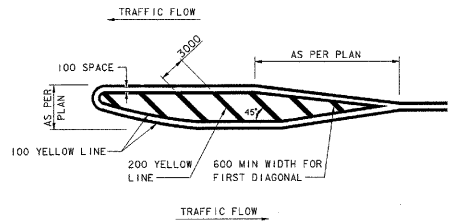
CONCRETE ENCASED DUCT BANK (12 DUCTS) DETAIL

(TYPICAL FROM UTILITY VAULT TO BRIDGE ABUTMENT)
(LOOKING UPSTATION)
NOT TO SCALE



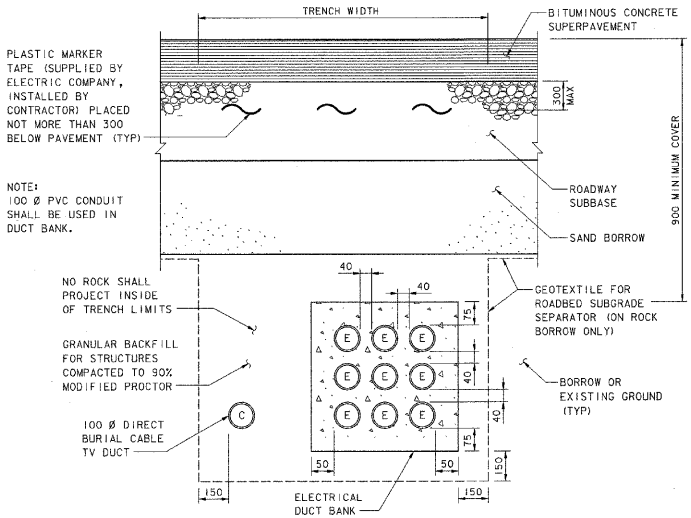
PAVEMENT MARKINGS FOR TURN LANE DETAIL

NOT TO SCALE



PAINTED ISLAND DETAIL

NOT TO SCALE



CONCRETE ENCASED DUCT BANK (9 DUCTS) DETAIL

(TYPICAL FROM RISER POLE TO UTILITY VAULT)
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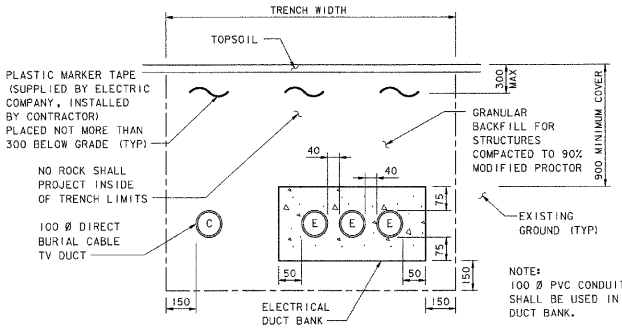
NOT TO SCALE



CONCRETE ENCASED DUCT BANK (3 DUCTS) DETAIL

(TYPICAL BETWEEN RISER POLES)
(LOOKING UPSTATION)
NOT TO SCALE

LEGEND

- (E) PROPOSED ELECTRICAL DUCT
- (V) PROPOSED VTRANS DUCT
- (C) PROPOSED CABLE TV DUCT

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

MISCELLANEOUS DETAIL SHEET

Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By J.A. MERCER 11/03	Bridge Design Supervisor C.D. BAKER Date 11/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072MD1	Sheet C126 of C194

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5098

plot date: 11/6/2003

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SS 2	PLAN & ELEVATION (ENTIRE BRIDGE)
SS 3-SS 10	PLAN & ELEVATION
SS 11	GENERAL CONSTRUCTION NOTES
SS 12	TYPICAL DECK SECTION & DETAILS
SS 13	DECK REINFORCING SECTION
SS 14-SS 16	DECK REINFORCING PLANS
SS 17	DECK POURING SEQUENCE
SS 18	UNIT 1 FRAMING PLAN & GIRDER ELEVATION
SS 19	UNIT 2 FRAMING PLAN & GIRDER ELEVATION
SS 20	UNIT 3 FRAMING PLAN & GIRDER ELEVATION
SS 21	CAMBER & DEFLECTION DIAGRAMS
SS 22	CAMBER & DEFLECTION TABLE
SS 23	SPLICE DETAILS
SS 24	CROSS FRAME DETAILS
SS 25	UTILITY SUPPORT DETAILS
SS 26	MISCELLANEOUS SUPERSTRUCTURE DETAILS
SS 27	FIXED & EXPANSION BEARING DETAILS
SS 28	MISCELLANEOUS BEARING DETAILS
SS 29	TYPE 1 EXPANSION JOINT
SS 30	TYPE 2 EXPANSION JOINT
SS 31	TYPICAL EXPANSION JOINT DETAILS
SS 32	SCUPPER DETAILS
SS 33	NAVIGATIONAL LIGHTING
SS 34	APPROACH SLABS & DETAILS
SS 35	ABUTMENT 1 PLAN & REINFORCEMENT
SS 36	ABUTMENT 1 DETAILS
SS 37	ABUTMENT 2 PLAN & REINFORCEMENT
SS 38	ABUTMENT 2 DETAILS
SS 39	ABUTMENT 1 WINGWALL DETAILS
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SS 41	DRILLED SHAFT DETAILS
SS 42-SS 43	PIER PLAN & ELEVATION
SS 44-SS 45	PIER COLUMN - REINFORCEMENT
SS 46	PIER CAP REINFORCEMENT
SS 47	BRIDGE RAIL LAYOUT
SS 48	NETC 4 RAIL - BRIDGE RAILING
SS 49	NETC 4 RAIL - APPROACH RAILING
SS 50	NETC 4 RAIL - DETAILS
SS 51-SS 57	REINFORCING STEEL SCHEDULE

BRIDGE QUANTITY SHEET

MADOT Metric

ITEM NO	ITEM	UNIT	QUANTITY BREAKDOWN								TOTAL	FINAL
			SUPERSTRUCTURE	ABUTMENT NO 1	PIERS	ABUTMENT NO 2	APPROACH SLAB NO 1	APPROACH SLAB NO 2	UTILITY			
203.33	ROCK BORROW	CM		400		180					580	
208.30	COFFERDAM EXCAVATION, EARTH (STATION 10+970)	CM		105							105	
208.30	COFFERDAM EXCAVATION, EARTH (STATION 12+060)	CM				75					75	
208.35	COFFERDAM EXCAVATION, ROCK (STATION 10+970)	CM		55							55	
208.35	COFFERDAM EXCAVATION, ROCK (STATION 12+060)	CM				15					15	
208.40	COFFERDAM (STATION 10+970)	LS		1							1	
208.40	COFFERDAM (STATION 12+060)	LS				1					1	
404.65	EMULSIFIED ASPHALT	KG	993				6	6			1005	
490.30	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (PG 64-34)	T	2700				15	15			2730	
501.221	CONCRETE, CLASS A QC/QA	CM	4140								4140	
501.33	CONCRETE, HIGH PERFORMANCE CLASS A	CM	410	6		6					422	
501.34	CONCRETE, HIGH PERFORMANCE CLASS B	CM		230	1739	144	31	31			2175	
506.55	STRUCTURAL STEEL (PLATE GIRDER)	KG	2 275 650								2 275 650	
506.60	STRUCTURAL STEEL	KG	3080								3080	
507.15	REINFORCING STEEL	KG		10 385	312 027	5295					327 707	
507.17	EPOXY COATED REINFORCING STEEL	KG	705 286	1602	11 723	1608	2102	2102			724 423	
508.15	SHEAR CONNECTORS (27 948 EA)	LS	1								1	
512.30	MOBILIZATION OF DRILLED SHAFT EQUIPMENT	LS			1						1	
512.31	DRILLED SHAFT IN EARTH (3.05 M DIA)	M			236						236	
512.32	DRILLED SHAFT IN ROCK (2.90 M DIA)	M			84						84	
512.33	DRILLED SHAFT OBSTRUCTION DRILLING AND REMOVAL	M			20						20	
513.25	STRUCTURAL PAINTING, SHOP APPLIED (73 400 Kg)	LS	1								1	
513.35	CONTAINMENT & ENVIRONMENTAL PROTECTION, SHOP (73 400 Kg)	LS	1								1	
513.40	SURFACE PREPARATION, SHOP (73 400 Kg)	LS	1								1	
514.10	WATER REPELLENT	L	1010	35	900	35					1980	
516.10	BRIDGE EXPANSION JOINT (3 CELL MODULAR)	M	28								28	
516.10	BRIDGE EXPANSION JOINT (5 CELL MODULAR)	M	28								28	
519.20	SHEET MEMBRANE WATERPROOFING (MOD - SPRAYED)	SM	14 157				82	82			14 321	
525.34	BRIDGE RAILING - NETC 4 RAIL	M	2179	14		14					2207	
529.10	REMOVAL OF BRIDGE PAVEMENT	SM									1110	
529.15	REMOVAL OF STRUCTURE	EA									1	
531.10	BEARING DEVICE ASSEMBLY (FIXED, POT)	EA	32								32	
531.10	BEARING DEVICE ASSEMBLY (EXPANSION, POT)	EA	72								72	
621.73	GUARDRAIL APPROACH SECTION, NETC 4 RAIL	EA									4	
625.16	DUCTS ON BRIDGE	LS							1		1	
679.15	STREET LIGHTING (MOD-NAVIGATIONAL LIGHTING)	LS							1		1	
			1									

VANASSE HANGEN BRUSTLIN, INC.

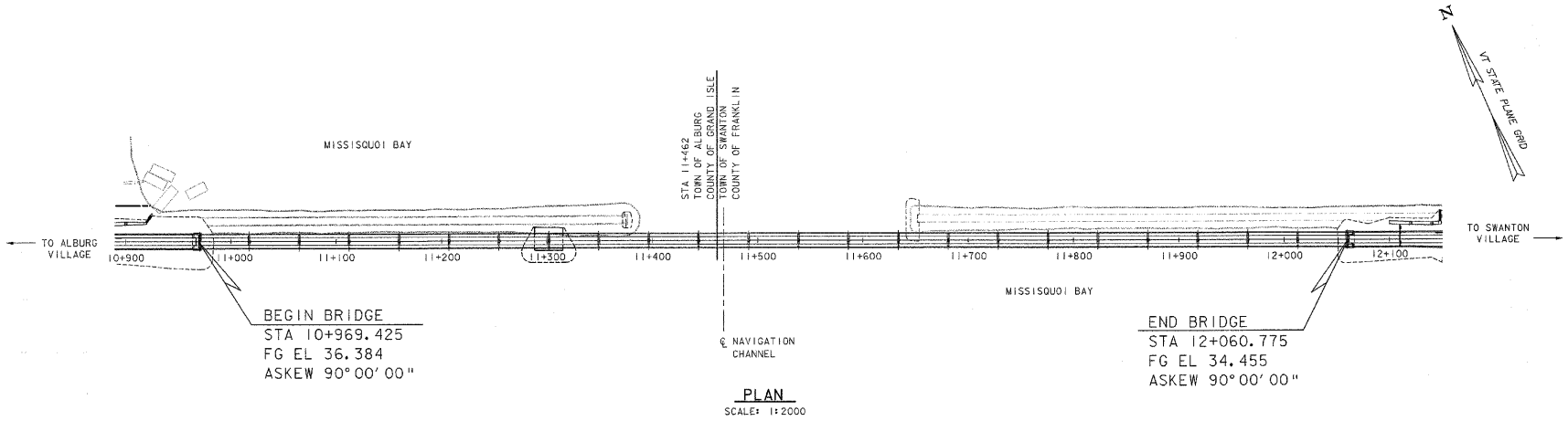
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BRIDGE QUANTITY SHEET	
Designed By	Drawn By C.L. CILLEY
Checked By S.M. HODGDON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072QS2	Sheet SS 1 of SS 57

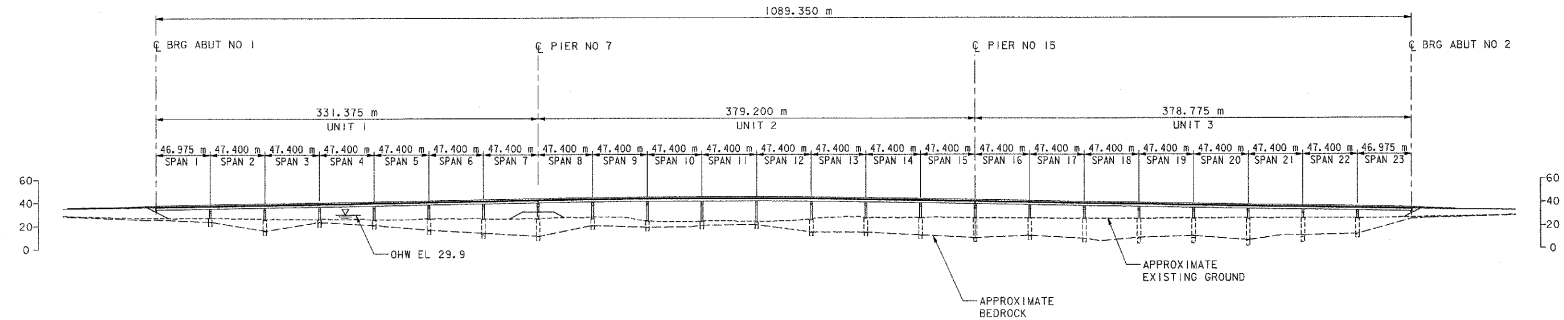
VHB NO. 5091I

plot date: 10/24/2003

Metric



PLAN
SCALE: 1:2000



ELEVATION
SCALE: 1:2000

NOTES:

1. THE BRIDGE HAS BEEN DETAILED IN THESE PLANS AS THREE BRIDGE UNITS. EACH UNIT CONSISTS OF A CONTINUOUS SUPERSTRUCTURE SEPARATED BY A BRIDGE EXPANSION JOINT.

0 40 80 120
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

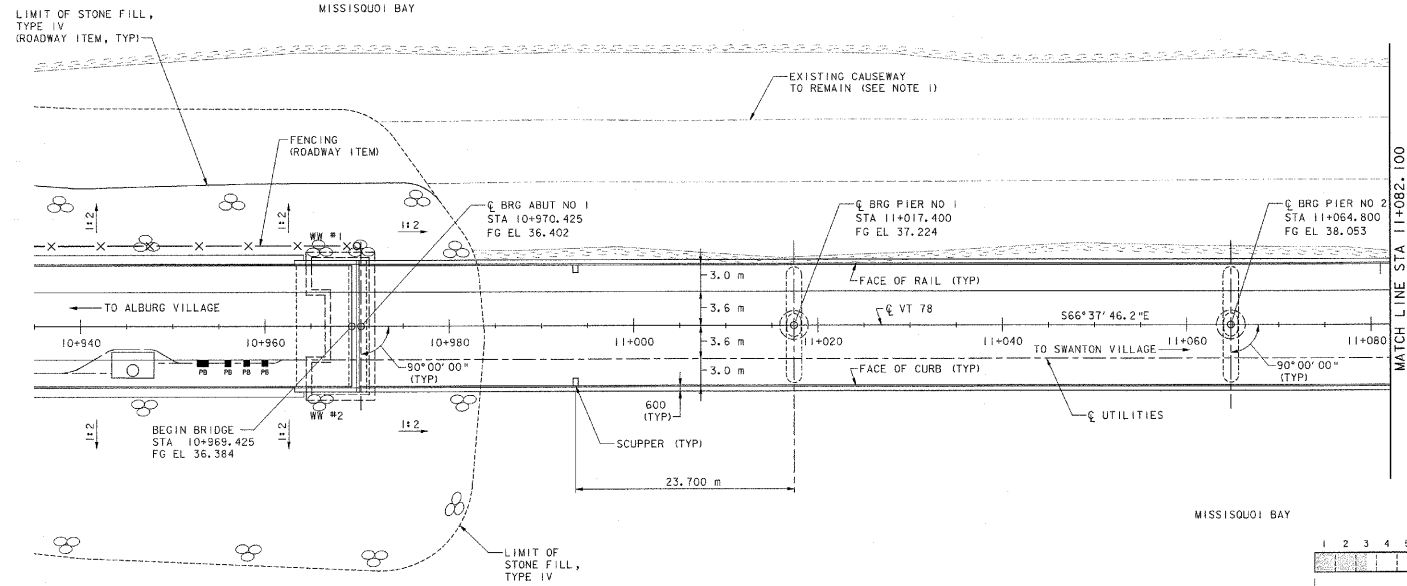
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
PLAN & ELEVATION (ENTIRE BRIDGE)	
Designed By A. S. ROBINSON	Drawn By W. B. LAVERGNE (TS)
Checked By S. M. HODGDON Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072GPE	Sheet SS 2 of SS 57

VHB NO. 50911

plot date: 10/23/2003

Metric



PLAN
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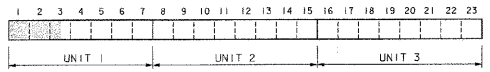
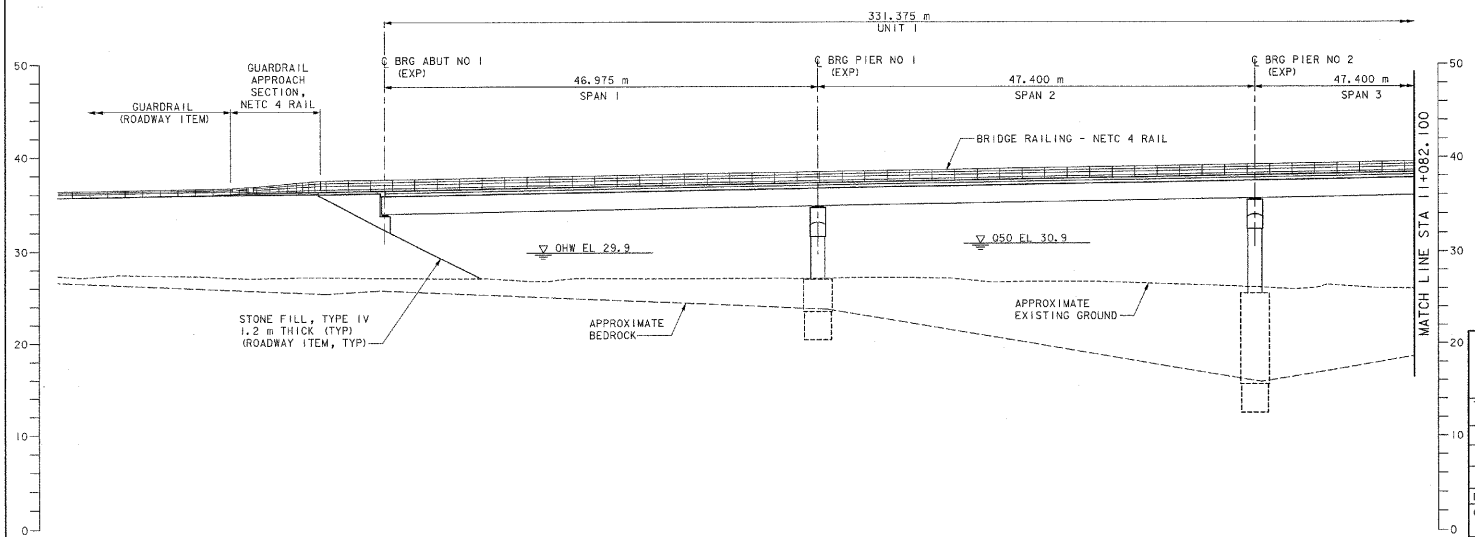
SCALE: 1:250



KEY PLAN



ELEVATION
(SCUPPERS NOT SHOWN)
SCALE: 1:250

NOTES:

1. SEE CIVIL SHEETS FOR ADDITIONAL CAUSEWAY INFORMATION.
2. SEE SHEET SS 47 FOR BRIDGE RAIL LAYOUT.
3. APPROXIMATE BEDROCK SHOWN IS BASED ON EXTRAPOLATION BETWEEN BORINGS. SEE BORING LOGS FOR ELEVATIONS.

0 5 10 15
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
PLAN & ELEVATION (1 OF 8)	
Designed By A. S. ROBINSON	Drawn By W.B. LAVERGNE (TS)
Checked By S. M. HODGDON Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
L.G.C. info.	
File No. ZE072GP1	Sheet SS 3 of SS 57

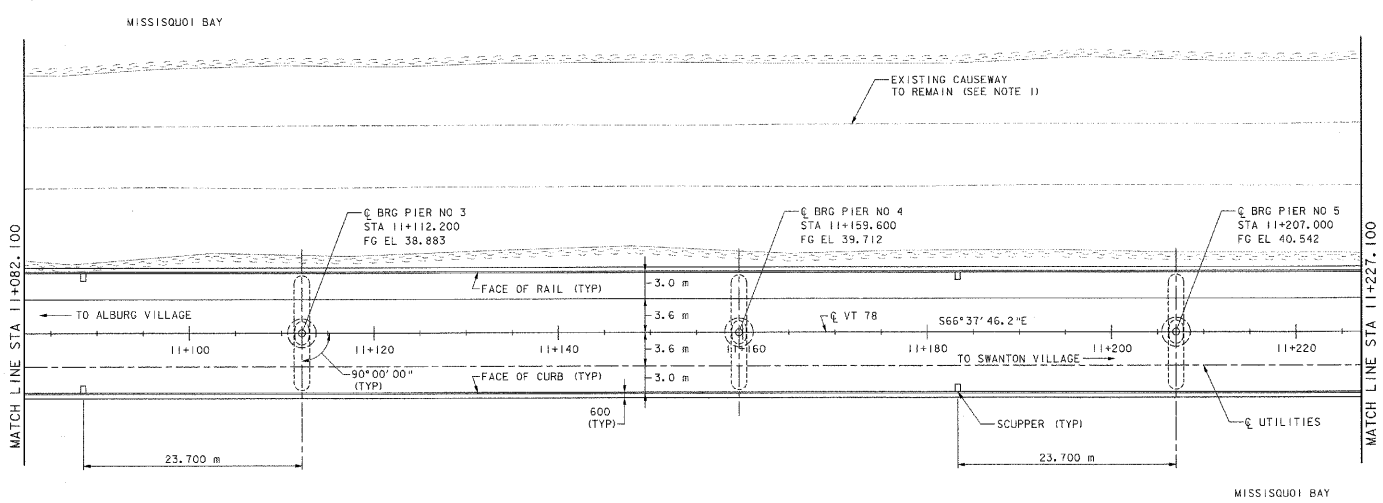
VANASSE HANGEN BRUSTLIN, INC.

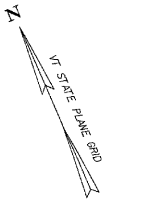
VHB NO. 5098

plot date: 10/23/2003

141

MARY Metric





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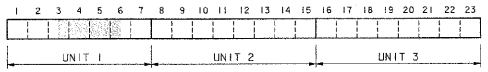
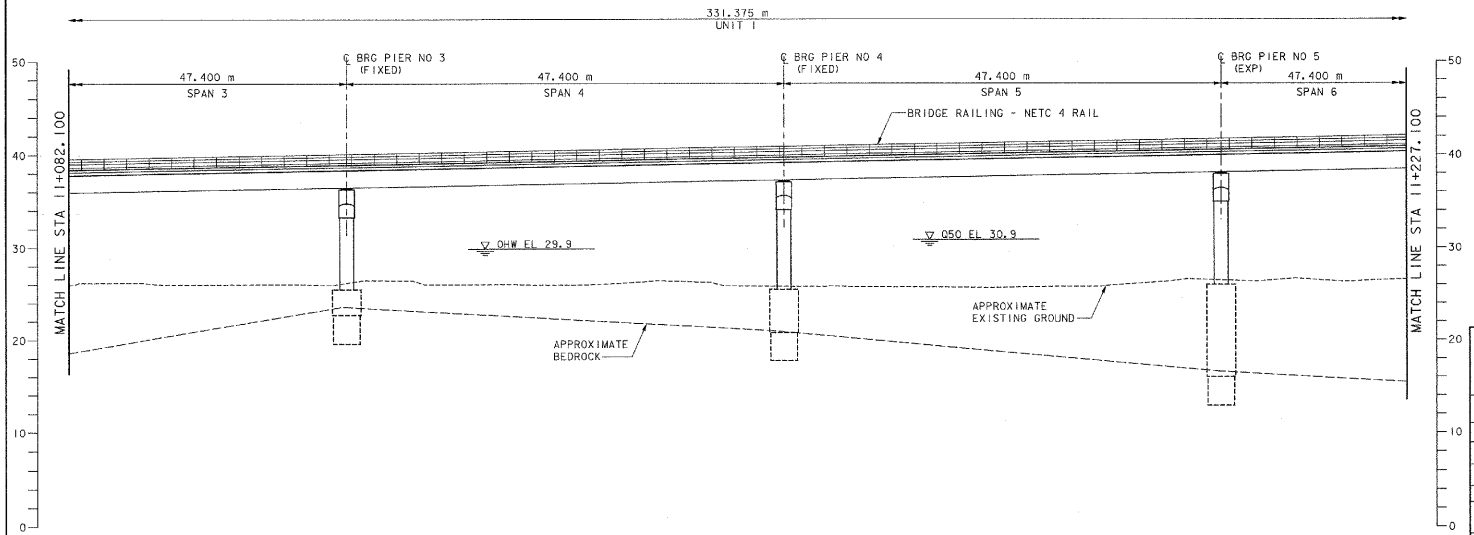


KEY PLAN



ELEVATION
(SCUPPERS NOT SHOWN)
SCALE: 1:250

NOTES:

1. SEE CIVIL SHEETS FOR ADDITIONAL CAUSEWAY INFORMATION.
2. SEE SHEET SS 47 FOR BRIDGE RAIL LAYOUT.
3. APPROXIMATE BEDROCK SHOWN BASED ON EXTRAPOLATION BETWEEN BORINGS. SEE BORING LOGS FOR ELEVATIONS.

0 5 10 15
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

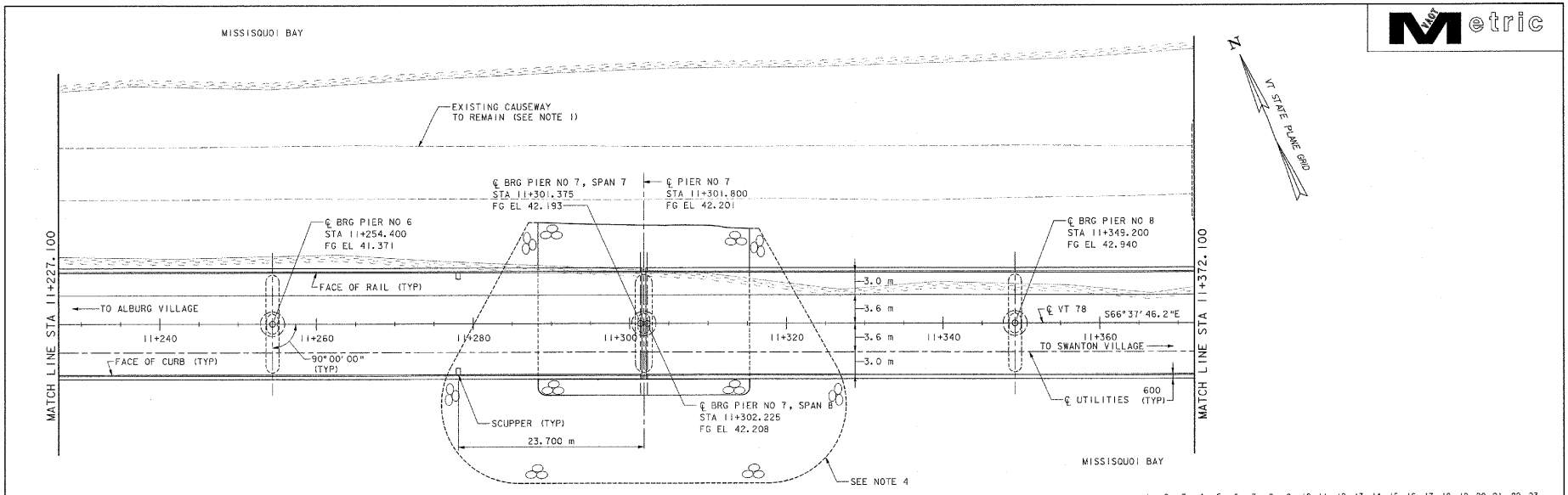
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
PLAN & ELEVATION (2 OF 8)	
Designed By A. S. ROBINSON	Drawn By W.B. LAVERGNE (TS)
Checked By S.M. HODGDON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072GP2	Sheet SS 4 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003



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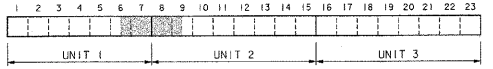

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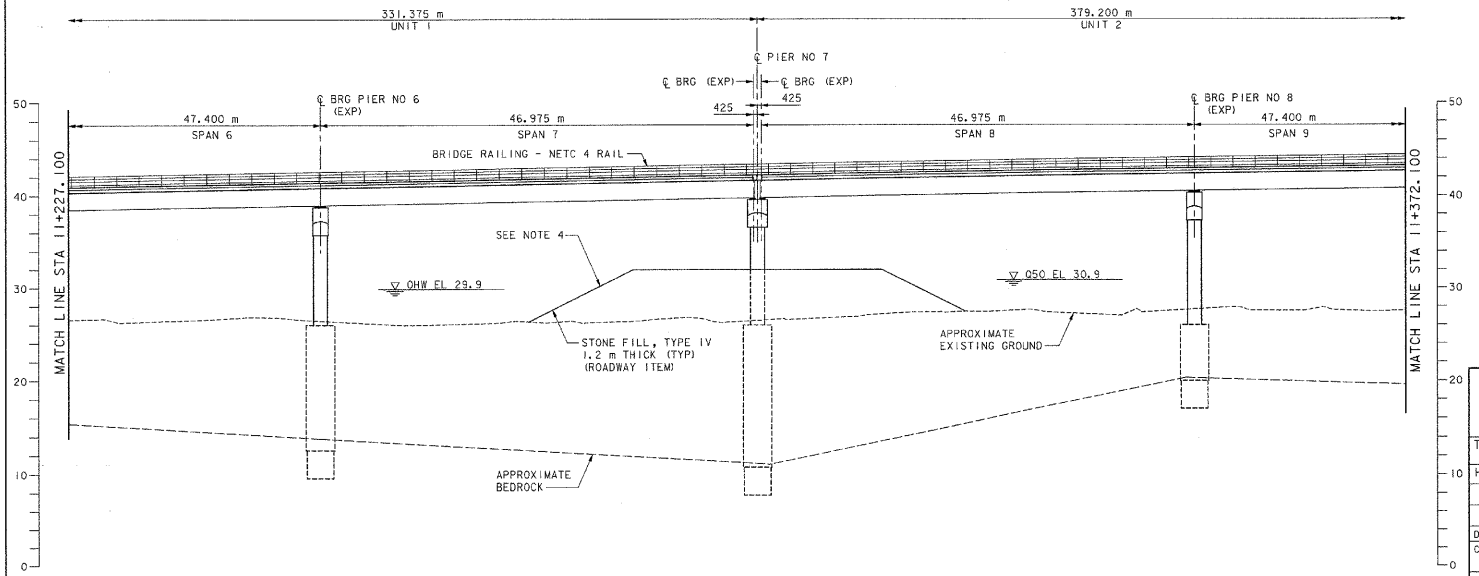


ELEVATION
(SCUPPERS NOT SHOWN)
SCALE: 1:250

NOTES:

1. SEE CIVIL SHEETS FOR ADDITIONAL CAUSEWAY INFORMATION.
2. SEE SHEET SS 47 FOR BRIDGE RAIL LAYOUT.
3. APPROXIMATE BEDROCK SHOWN IS BASED ON EXTRAPOLATION BETWEEN BORINGS. SEE BORING LOGS FOR ELEVATIONS.
4. SEE CIVIL SHEETS FOR TURTLE BASKING AREA INFORMATION.

0 5 10 15
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

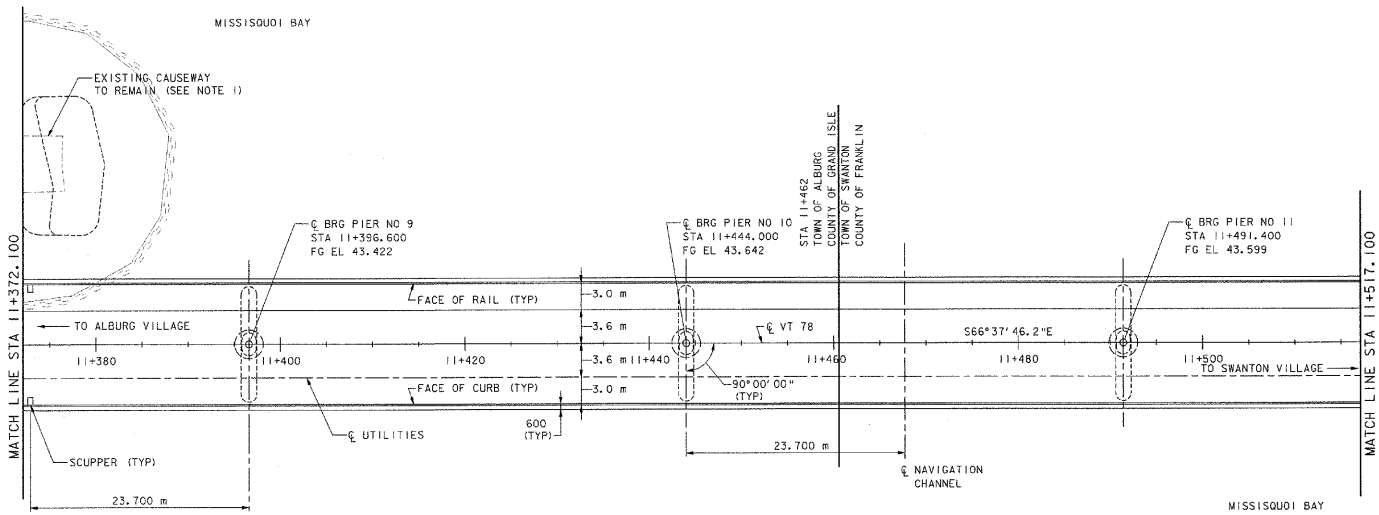
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
PLAN & ELEVATION (3 OF 8)	
Designed By A. S. ROBINSON	Drawn By W. B. LAVERGNE (TS)
Checked By S. M. HODGDON Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072GP3	Sheet SS 5 of SS 57

VHB NO. 5091

plot date: 10/23/2003

NOT Metric



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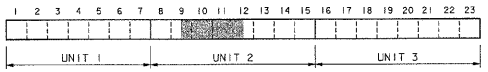

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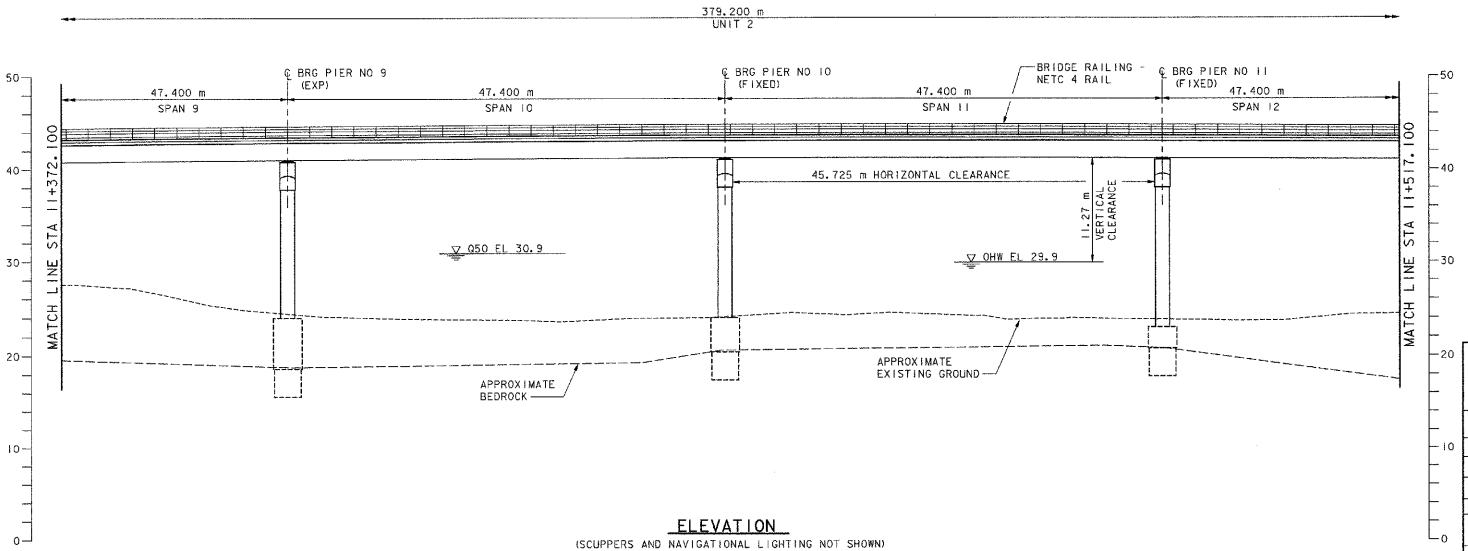


ELEVATION
(SCUPPERS AND NAVIGATIONAL LIGHTING NOT SHOWN)
SCALE: 1:250

NOTES:

1. SEE CIVIL SHEETS FOR ADDITIONAL CAUSEWAY INFORMATION.
2. SEE SHEET SS 47 FOR BRIDGE RAIL LAYOUT.
3. SEE SHEET SS 33 FOR NAVIGATIONAL LIGHTING INFORMATION.
4. APPROXIMATE BEDROCK SHOWN IS BASED ON EXTRAPOLATION BETWEEN BORINGS. SEE BORING LOGS FOR ELEVATIONS.

0 5 10 15
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

STATE OF VERMONT
AGENCY OF TRANSPORTATION

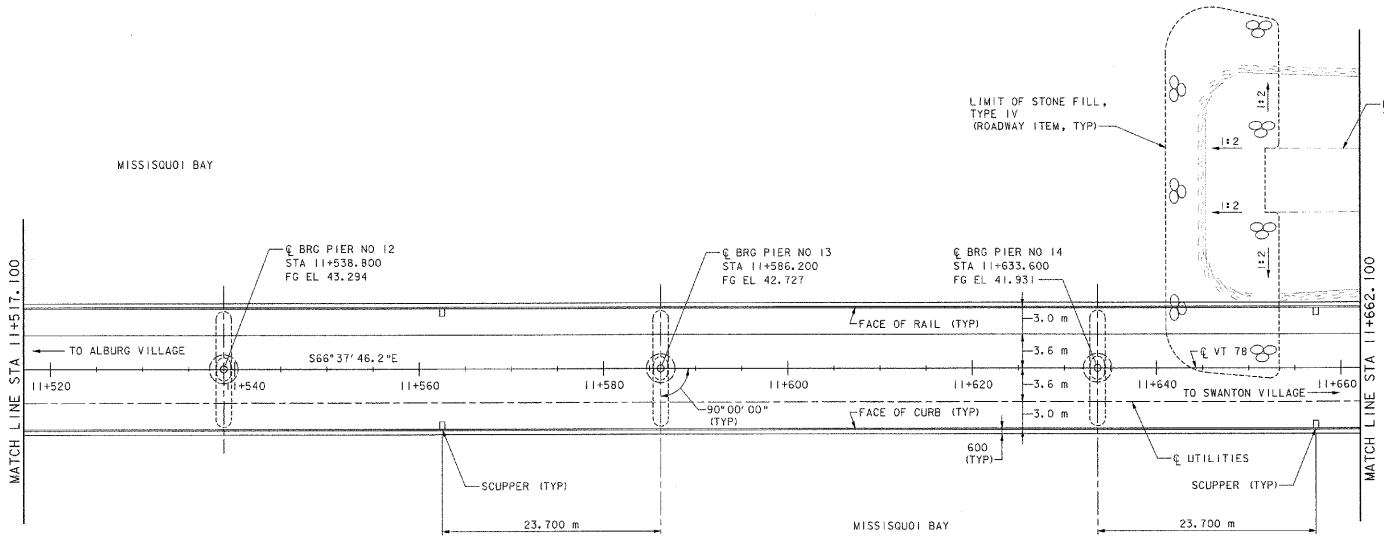
Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
PLAN & ELEVATION (4 OF 8)	
Designed By A. S. ROBINSON	Drawn By W. B. LAVERGNE (TS)
Checked By S. M. HODGDON Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072GP4	Sheet SS 6 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date: 10/23/2003

Metric



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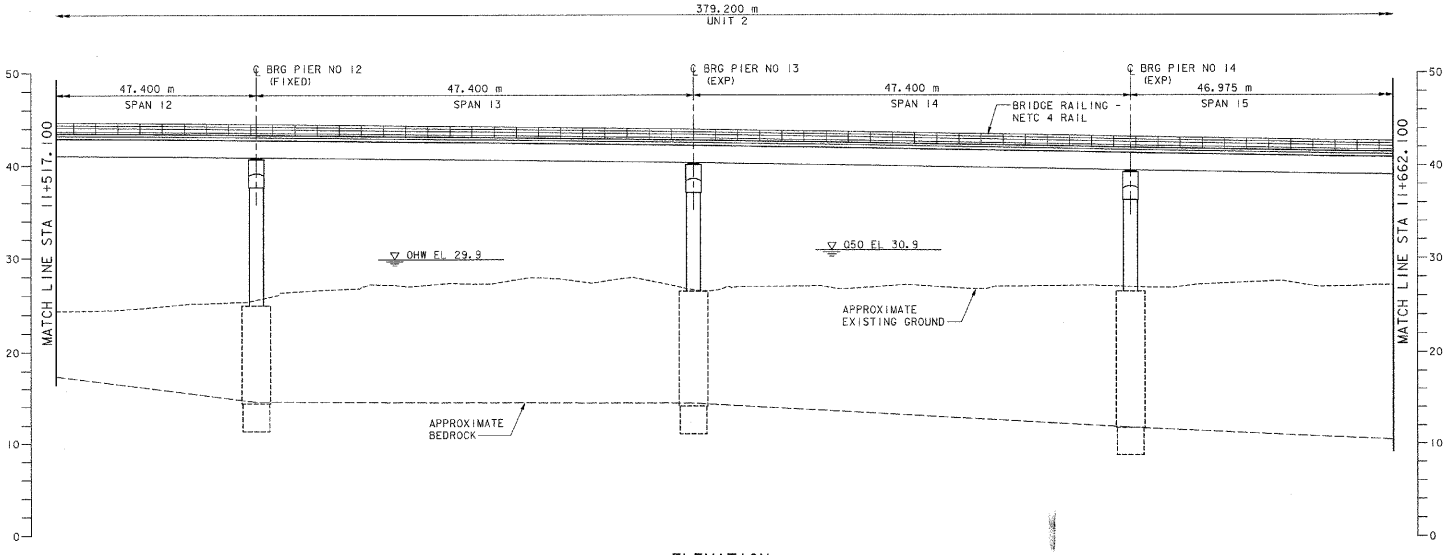
KEY PLAN



ELEVATION
(SCUPPERS NOT SHOWN)
SCALE: 1:250

NOTES:

1. SEE CIVIL SHEETS FOR ADDITIONAL CAUSEWAY INFORMATION.
2. SEE SHEET SS 47 FOR BRIDGE RAIL LAYOUT.
3. APPROXIMATE BEDROCK SHOWN IS BASED ON EXTRAPOLATION BETWEEN BORINGS. SEE BORING LOGS FOR ELEVATIONS.

0 5 10 15
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

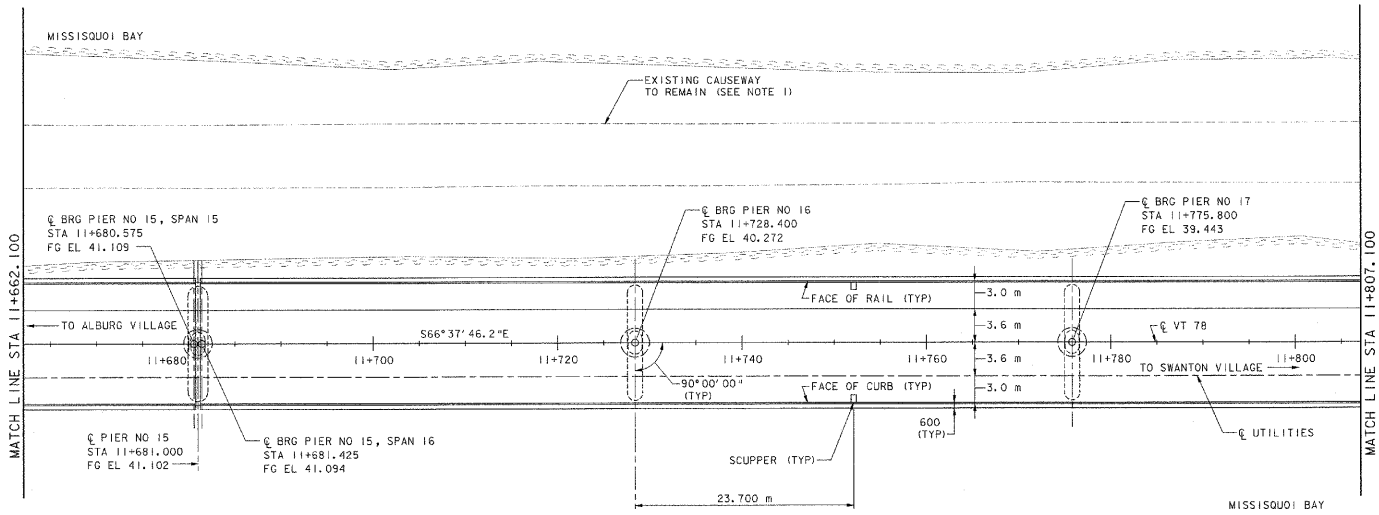
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
PLAN & ELEVATION (5 OF 8)	
Designed By A. S. ROBINSON	Drawn By W. B. LAVERGNE (TS)
Checked By S. M. HODGDON Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
L.G.C. Info.	
File No. ZE072GP5	Sheet SS 7 of SS 57

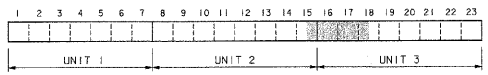
VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091I

plot date: 10/23/2003



PLAN
(RAIL POSTS NOT SHOWN)
SCALE: 1:250



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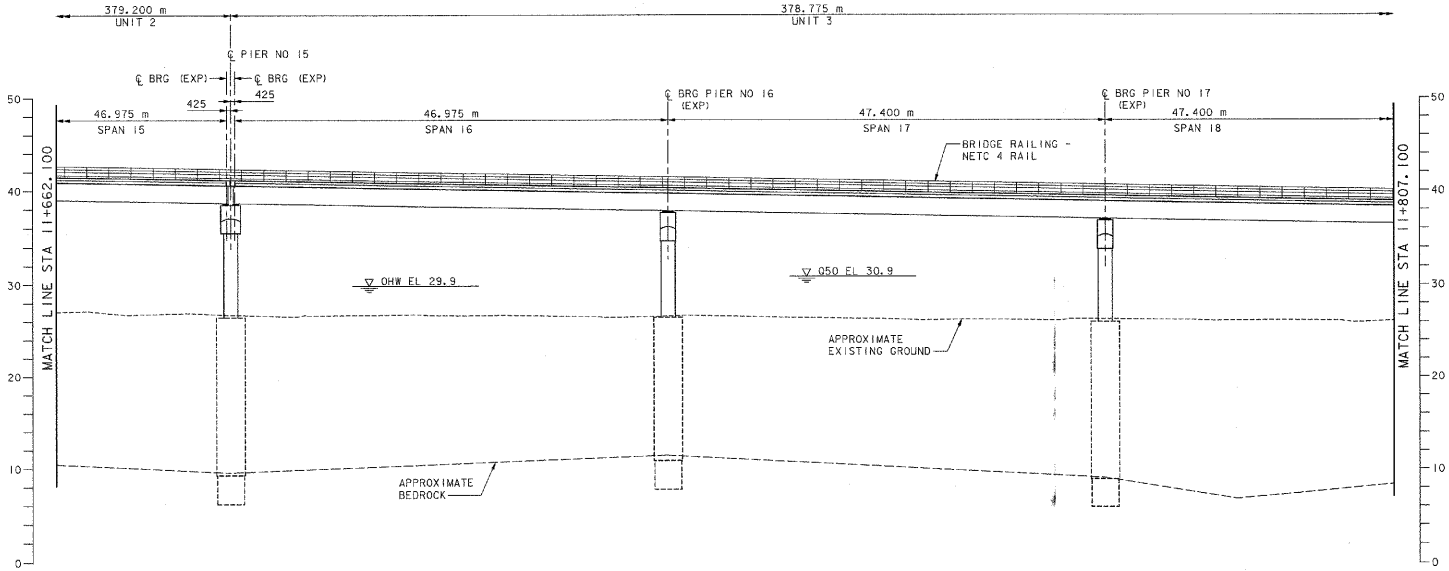


ELEVATION
(SCUPPERS NOT SHOWN)
SCALE: 1:250

NOTES:

1. SEE CIVIL SHEETS FOR ADDITIONAL CAUSEWAY INFORMATION.
2. SEE SHEET SS 47 FOR BRIDGE RAIL LAYOUT.
3. APPROXIMATE BEDROCK SHOWN IS BASED ON EXTRAPOLATION BETWEEN BORINGS. SEE BORING LOGS FOR ELEVATIONS.

0 5 10 15
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

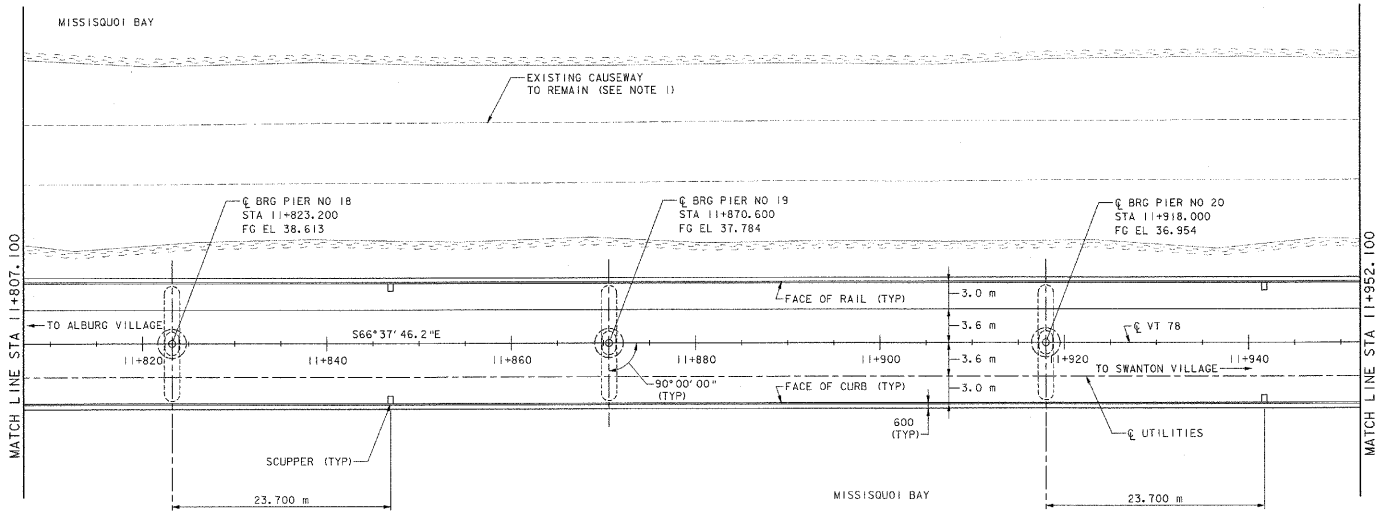
VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
PLAN & ELEVATION (6 OF 8)	
Designed By A. S. ROBINSON	Drawn By W. B. LAVERGNE (TS)
Checked By S. M. HODGDON Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072GP6	Sheet SS 8 of SS 57

VHB NO. 5091

plot date: 10/23/2003



PLAN
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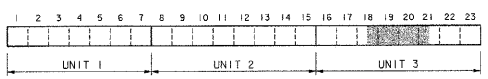
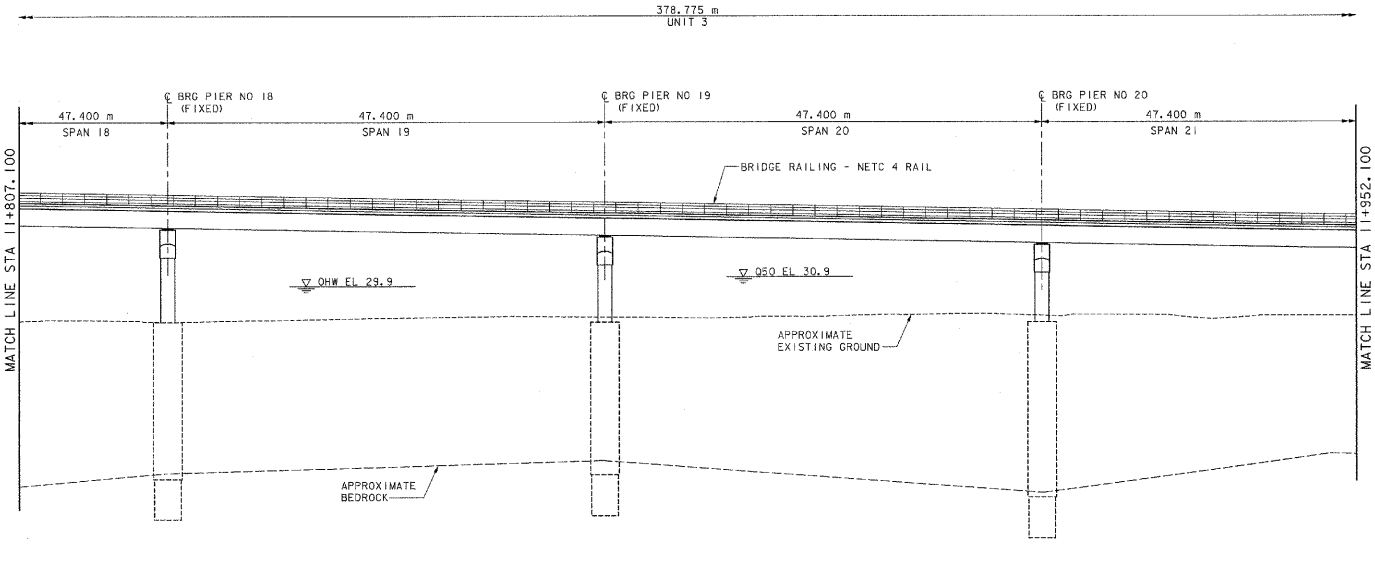


KEY PLAN



ELEVATION
(SCUPPERS NOT SHOWN)
SCALE: 1:250

NOTES:

1. SEE CIVIL SHEETS FOR ADDITIONAL CAUSEWAY INFORMATION.
2. SEE SHEET SS 47 FOR BRIDGE RAIL LAYOUT.
3. APPROXIMATE BEDROCK SHOWN IS BASED ON EXTRAPOLATION BETWEEN BORINGS. SEE BORING LOGS FOR ELEVATIONS.

0 5 10 15
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

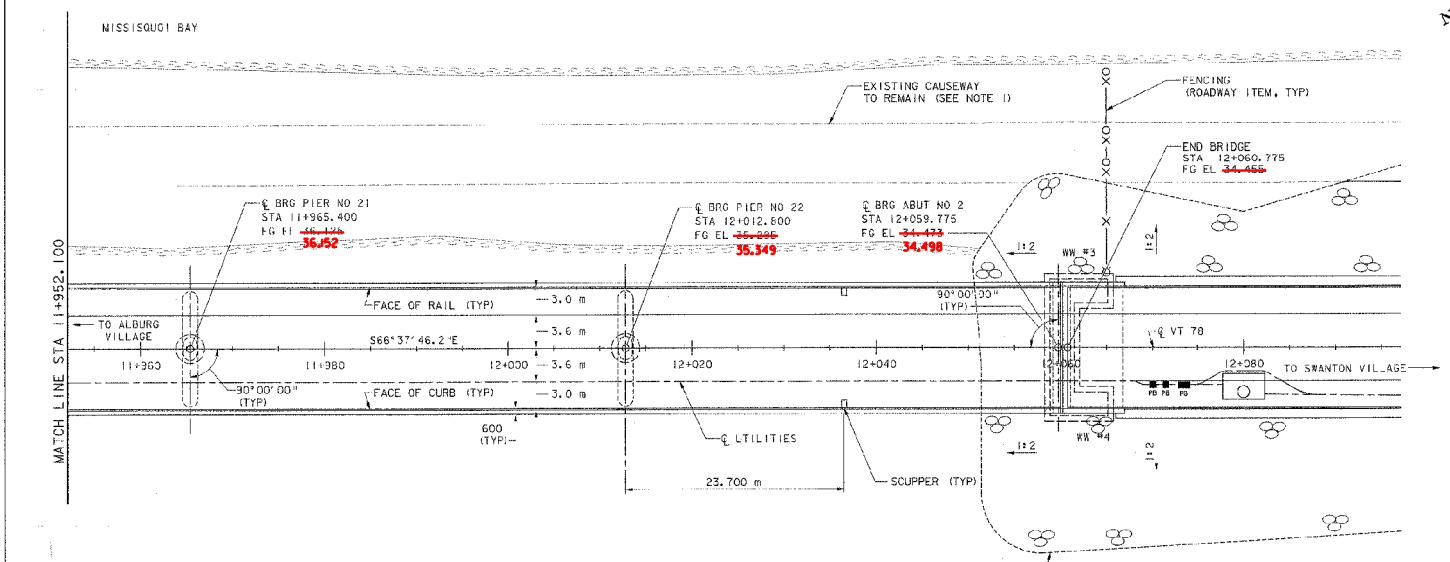
VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

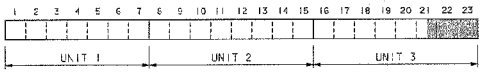
Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
PLAN & ELEVATION (7 OF 8)	
Designed By A. S. ROBINSON	Drawn By W. B. LAVERGNE (TS)
Checked By S. M. HODGDON Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072GP7	Sheet SS 9 of SS 57

VHB NO. 5091I

plot date: 10/23/2003



PLAN
(RAIL POSTS NOT SHOWN)
SCALE: 1:250



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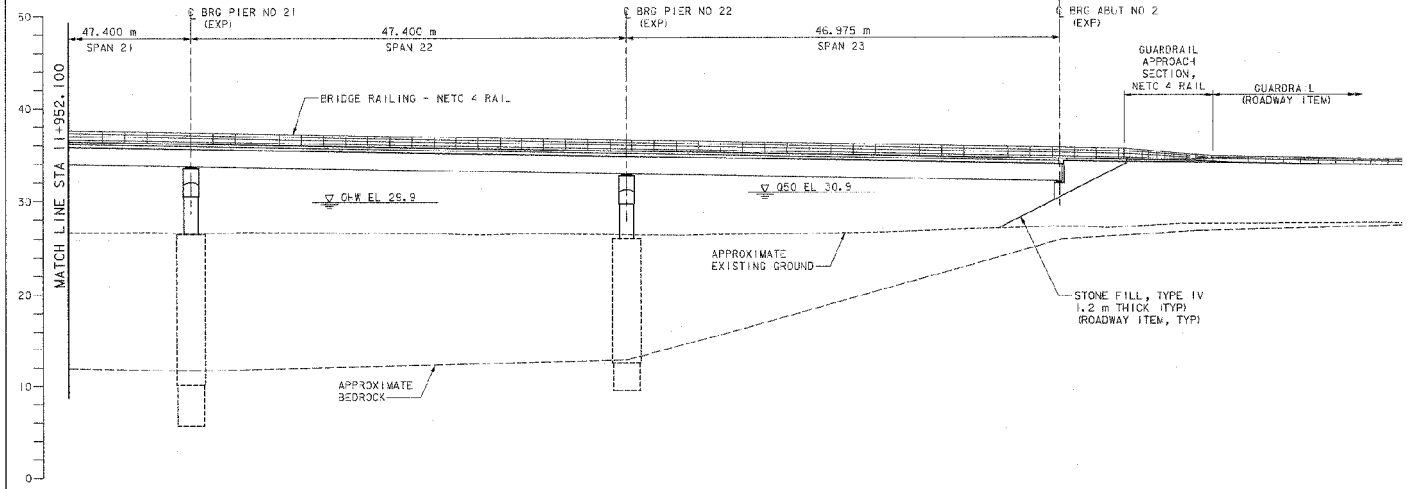

ELEVATION
(SCUPPERS NOT SHOWN)
SCALE: 1:250

NOTES:

1. SEE CIVIL SHEETS FOR ADDITIONAL CAUSEWAY INFORMATION.
2. SEE SHEET SS 47 FOR BRIDGE RAIL LAYOUT.
3. APPROXIMATE BEDROCK SHOWN IS BASED ON EXTRAPOLATION BETWEEN BORINGS. SEE BORING LOGS FOR ELEVATIONS.

0 5 10 15
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
PLAN & ELEVATION (8 OF 8)	
Designed By A.S. ROBINSON	Drawn By W.B. LAVERGNE (TS)
Checked By S.W. HODGDON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
I.G.C. Info.	
File No. ZE072GP8	Sheet SS 10 of SS 37

VHB NO. E09N

plot date: 6/23/2003

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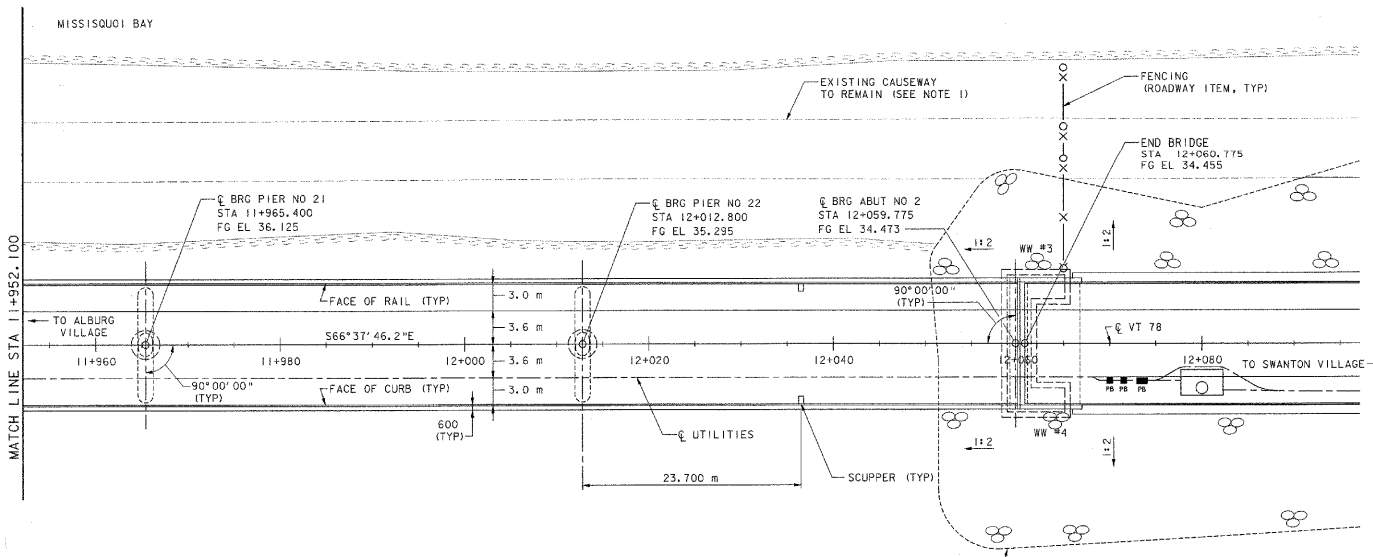
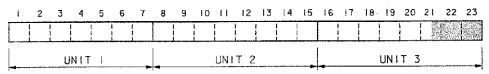
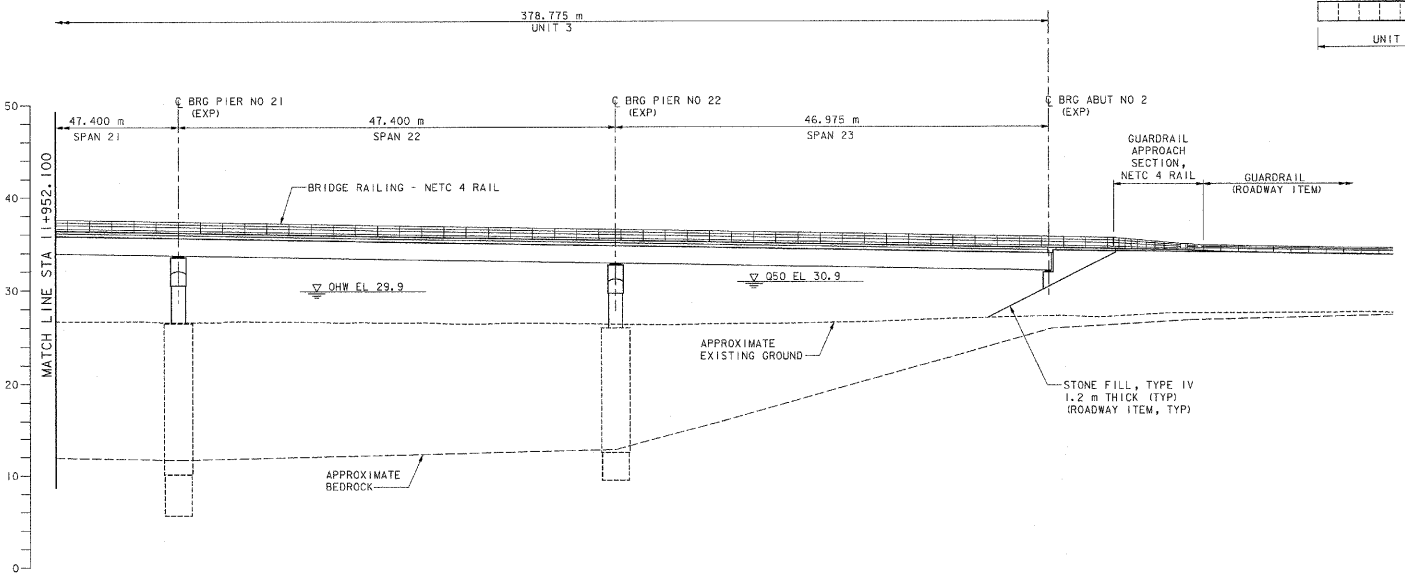


PLAN
(RAIL POSTS NOT SHOWN)
SCALE: 1:250



KEY PLAN



ELEVATION
(SCUPPERS NOT SHOWN)
SCALE: 1:250

NOTES:

1. SEE CIVIL SHEETS FOR ADDITIONAL CAUSEWAY INFORMATION.
2. SEE SHEET SS 47 FOR BRIDGE RAIL LAYOUT.
3. APPROXIMATE BEDROCK SHOWN IS BASED ON EXTRAPOLATION BETWEEN BORINGS. SEE BORING LOGS FOR ELEVATIONS.

0 5 10 15
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
PLAN & ELEVATION (8 OF 8)	
Designed By A.S. ROBINSON	Drawn By W.B. LAVERGNE (TS)
Checked By Date S.M. HODGDON 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072GP8	Sheet SS 10 of SS 57

VANASSE HANGEN BRUSTLIN, INC.
VHB NO. 50911
plot date: 10/23/2003
148

Metric

GENERAL NOTES:

1. ALL MATERIAL AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION", 2001 AND ITS LATEST REVISIONS AND AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" 17TH EDITION AND ITS LATEST REVISIONS.

2. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 7 DEGREES CELSIUS UNLESS NOTED OTHERWISE.

3. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, BEAM PROFILES SHALL BE TAKEN. CONCRETE SHALL NOT BE PLACED ABOVE BRIDGE SEAT ELEVATIONS UNTIL AFTER PROFILES ARE COMPLETE TO THE SATISFACTION OF THE RESIDENT ENGINEER.

CONCRETE NOTES:

1. THE MINIMUM COVER FOR REINFORCING STEEL IN THE SUBSTRUCTURES SHALL BE AS FOLLOWS:

BACK FACES OF ABUTMENTS AND WINGWALLS AGAINST EARTH	50 mm
PIER CAPS AND PIER COLUMNS	100 mm
DRILLED SHAFTS (WITH PERMANENT CASING ABOVE ROCK SOCKET)	150 mm
DRILLED SHAFTS (ROCK SOCKET)	75 mm
APPROACH SLABS AND FOOTINGS	80 mm
OTHER LOCATIONS (UNLESS NOTED OTHERWISE)	75 mm

2. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE A FOLLOWS:

SPACING	±25 mm
CLEARANCE	-5 mm

3. REINFORCING STEEL IN THE CONCRETE DECK, BRIDGE CURBS, APPROACH SLABS, BACKWALL, AND PIER CAPS 7 & 15, SHALL BE EPOXY COATED AND PAID UNDER ITEM 507.17. WHEN EPOXY COATED REBAR IS CUT, THE UNCOATED ENDS SHALL BE REPAIRED WITH MATERIALS AND PROCEDURES APPROVED BY THE COATING MANUFACTURER. FLAME CUTTING OF EPOXY COATED REBAR WILL NOT BE PERMITTED.

4. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT.

5. JOINTS AND SCORE MARKS IN THE CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

6. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25 mm X 25 mm.

7. THE DECK CONCRETE SHALL BE CLASS "A" QC/QA EXCEPT FOR BLOCKOUTS AT DECK END EXPANSION JOINTS. BRIDGE CURBS, WINGWALL CURBS, AND BLOCKOUTS AT EXPANSION JOINT ASSEMBLIES SHALL BE HIGH PERFORMANCE CLASS "A". APPROACH SLABS AND ALL OTHER CONCRETE EXCEPT FOR TREMIE SEALS AND DRILLED SHAFTS SHALL BE HIGH PERFORMANCE CLASS "B". SEE SUPPLEMENTAL SPECIFICATION SECTION 208 FOR TREMIE SEAL CONCRETE AND SPECIAL PROVISION 512 FOR DRILLED SHAFT CONCRETE REQUIREMENTS.

8. THE TOP SURFACES OF BRIDGE SEAT PEDESTALS UNDER THE BEARING DEVICES SHALL BE LEVEL. OTHER BRIDGE SEAT AREAS SHALL BE SLOPED AS SHOWN IN THE PLANS. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTH WITH A STEEL TROWEL FINISH.

8A. WHEN THE BRIDGE SEATS WERE POURED LOW SHIM PLATES WERE ADDED UNDER THE BEARINGS.

9. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF DECK BETWEEN DRIP NOTCHES.

10. IN ORDER TO PREVENT MOVEMENT OF THE TEMPORARY BRIDGE DECK OVERHANG BRACKET DURING CONCRETE PLACEMENT, AS WELL AS TO PREVENT LATERAL DISTORTION OF THE GIRDER WEB, A DEEP OVERHANG BRACKET THAT IS BRACED BY THE BOTTOM FLANGE SHALL BE USED. ADEQUATE TEMPORARY SUPPORT AND BRACING SHALL ALSO BE USED TO PREVENT THE FASICA GIRDER FROM TWISTING UNDER THE CONCRETE AND CONSTRUCTION LOADS. THE FASCIA OVERHANG BRACKET AND SUPPORT BRACING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE DESIGN AND STRUCTURAL DETAILS OF THE BRACKET AND SUPPORT SYSTEM SHALL BE SIGNED, STAMPED, AND DATED BY A PROFESSIONAL ENGINEER (STRUCTURAL OR CIVIL) AND SUBMITTED TO THE ENGINEER FOR APPROVAL. COST SHALL BE INCLUDED IN ITEM 501.221.

11. STAY IN PLACE FORMS WERE USED FOR THE BRIDGE DECK.

ABUTMENT NOTES:

1. ABUTMENTS SHALL BE CONSTRUCTED WITH CONCRETE TREMIE SEALS AS SHOWN IN THE CONTRACT PLANS. TREMIE SEALS SHALL BE COMPLETELY FOUNDED ON BEDROCK. ROCK SHALL BE REMOVED ONLY WHEN DIRECTED BY THE RESIDENT ENGINEER. THE COST OF TREMIE SEALS SHALL BE INCLUDED IN THE COFFERDAM ITEMS.

2. THE TOP OF THE TREMIE SEAL IN CONTACT WITH THE FOOTING SHALL HAVE A ROUGHENED SURFACE WITH AN AMPLITUDE OF 6 mm OR GREATER. COST SHALL BE INCLUDED IN THE COFFERDAM ITEMS.

BRIDGE REMOVAL NOTES:

1. THE REMOVAL OF THE EXISTING BRIDGE SHALL BE INCLUDED UNDER ITEM 529.15, REMOVAL OF STRUCTURE. THE REMOVAL OF THE EXISTING BRIDGE SHALL INCLUDE THE FOLLOWING:

   THE COMPLETE REMOVAL OF THE SUPERSTRUCTURE AND ALL APPURTENANCES.

   THE COMPLETE REMOVAL OF THE APPROACH SLABS.

   THE REMOVAL OF ABUTMENT NO. 1 TO ELEVATION 30.0.

   THE REMOVAL OF PIER NOS. 1 THROUGH 6 TO ELEVATION 23.5.

   THE REMOVAL OF ABUTMENT NO. 2 TO ELEVATION 23.5.

2. THE REMOVAL OF THE EXISTING BRIDGE SHALL BE CONSIDERED A SINGLE REMOVAL ITEM FOR MEASUREMENT AND PAYMENT.

3. THE EXISTING BRIDGE PLANS INDICATE THE PRESENCE OF LEAD PAINT, FIBER TUBES, AND ASPHALTIC ASBESTOS COATING. THE REMOVED BRIDGE IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE MATERIALS REMOVED FROM THE EXISTING BRIDGE.

STRUCTURAL STEEL NOTES:

1. SEE SHEET SS 21 FOR STRUCTURAL STEEL NOTES.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.

VT 78 OVER MISSISQUOI BAY

GENERAL CONSTRUCTION NOTES

Designed By S. M. HODGDON	Drawn By C. L. CILLEY
Checked By S. W. JOHNSON Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (11)
I.G.C. info.	
File No. ZE072GN1	Sheet SS 11 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date: 10/24/2003

Metric

GENERAL NOTES:

1. ALL MATERIAL AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION", 2001 AND ITS LATEST REVISIONS AND AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" 17TH EDITION AND ITS LATEST REVISIONS.

2. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 7 DEGREES CELSIUS UNLESS NOTED OTHERWISE.

3. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, BEAM PROFILES SHALL BE TAKEN. CONCRETE SHALL NOT BE PLACED ABOVE BRIDGE SEAT ELEVATIONS UNTIL AFTER PROFILES ARE COMPLETE TO THE SATISFACTION OF THE RESIDENT ENGINEER.

CONCRETE NOTES:

1. THE MINIMUM COVER FOR REINFORCING STEEL IN THE SUBSTRUCTURES SHALL BE AS FOLLOWS:

BACK FACES OF ABUTMENTS AND WINGWALLS AGAINST EARTH	50 mm
PIER CAPS AND PIER COLUMNS	100 mm
DRILLED SHAFTS (WITH PERMANENT CASING ABOVE ROCK SOCKET)	150 mm
DRILLED SHAFTS (ROCK SOCKET)	75 mm
APPROACH SLABS AND FOOTINGS	80 mm
OTHER LOCATIONS (UNLESS NOTED OTHERWISE)	75 mm

2. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE A FOLLOWS:

SPACING	±25 mm
CLEARANCE	-5 mm

3. REINFORCING STEEL IN THE CONCRETE DECK, BRIDGE CURBS, APPROACH SLABS, BACKWALL, AND PIER CAPS 7 & 15, SHALL BE EPOXY COATED AND PAID UNDER ITEM 507.17. WHEN EPOXY COATED REBAR IS CUT, THE UNCOATED ENDS SHALL BE REPAIRED WITH MATERIALS AND PROCEDURES APPROVED BY THE COATING MANUFACTURER. FLAME CUTTING OF EPOXY COATED REBAR WILL NOT BE PERMITTED.

4. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT.

5. JOINTS AND SCORE MARKS IN THE CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

6. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25 mm X 25 mm.

7. THE DECK CONCRETE SHALL BE CLASS "A" QC/QA EXCEPT FOR BLOCKOUTS AT DECK END EXPANSION JOINTS. BRIDGE CURBS, WINGWALL CURBS, AND BLOCKOUTS AT EXPANSION JOINT ASSEMBLIES SHALL BE HIGH PERFORMANCE CLASS "A". APPROACH SLABS AND ALL OTHER CONCRETE EXCEPT FOR TREMIE SEALS AND DRILLED SHAFTS SHALL BE HIGH PERFORMANCE CLASS "B". SEE SUPPLEMENTAL SPECIFICATION SECTION 208 FOR TREMIE SEAL CONCRETE AND SPECIAL PROVISION 512 FOR DRILLED SHAFT CONCRETE REQUIREMENTS.

8. THE TOP SURFACES OF BRIDGE SEAT PEDESTALS UNDER THE BEARING DEVICES SHALL BE LEVEL. OTHER BRIDGE SEAT AREAS SHALL BE SLOPED AS SHOWN IN THE PLANS. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTH WITH A STEEL TROWEL FINISH.

9. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF DECK BETWEEN DRIP NOTCHES.

10. IN ORDER TO PREVENT MOVEMENT OF THE TEMPORARY BRIDGE DECK OVERHANG BRACKET DURING CONCRETE PLACEMENT, AS WELL AS TO PREVENT LATERAL DISTORTION OF THE GIRDER WEB, A DEEP OVERHANG BRACKET THAT IS BRACED BY THE BOTTOM FLANGE SHALL BE USED. ADEQUATE TEMPORARY SUPPORT AND BRACING SHALL ALSO BE USED TO PREVENT THE FASICA GIRDER FROM TWISTING UNDER THE CONCRETE AND CONSTRUCTION LOADS. THE FASCIA OVERHANG BRACKET AND SUPPORT BRACING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE DESIGN AND STRUCTURAL DETAILS OF THE BRACKET AND SUPPORT SYSTEM SHALL BE SIGNED, STAMPED, AND DATED BY A PROFESSIONAL ENGINEER (STRUCTURAL OR CIVIL) AND SUBMITTED TO THE ENGINEER FOR APPROVAL. COST SHALL BE INCLUDED IN ITEM 501.221.

ABUTMENT NOTES:

1. ABUTMENTS SHALL BE CONSTRUCTED WITH CONCRETE TREMIE SEALS AS SHOWN IN THE CONTRACT PLANS. TREMIE SEALS SHALL BE COMPLETELY FOUNDED ON BEDROCK. ROCK SHALL BE REMOVED ONLY WHEN DIRECTED BY THE RESIDENT ENGINEER. THE COST OF TREMIE SEALS SHALL BE INCLUDED IN THE COFFERDAM ITEMS.

2. THE TOP OF THE TREMIE SEAL IN CONTACT WITH THE FOOTING SHALL HAVE A ROUGHENED SURFACE WITH AN AMPLITUDE OF 6 mm OR GREATER. COST SHALL BE INCLUDED IN THE COFFERDAM ITEMS.

BRIDGE REMOVAL NOTES:

1. THE REMOVAL OF THE EXISTING BRIDGE SHALL BE INCLUDED UNDER ITEM 529.15, REMOVAL OF STRUCTURE. THE REMOVAL OF THE EXISTING BRIDGE SHALL INCLUDE THE FOLLOWING:

   THE COMPLETE REMOVAL OF THE SUPERSTRUCTURE AND ALL APPURTENANCES.

   THE COMPLETE REMOVAL OF THE APPROACH SLABS.

   THE REMOVAL OF ABUTMENT NO. 1 TO ELEVATION 30.0.

   THE REMOVAL OF PIER NOS. 1 THROUGH 6 TO ELEVATION 23.5.

   THE REMOVAL OF ABUTMENT NO. 2 TO ELEVATION 23.5.

2. THE REMOVAL OF THE EXISTING BRIDGE SHALL BE CONSIDERED A SINGLE REMOVAL ITEM FOR MEASUREMENT AND PAYMENT.

3. THE EXISTING BRIDGE PLANS INDICATE THE PRESENCE OF LEAD PAINT, FIBER TUBES, AND ASPHALTIC ASBESTOS COATING. THE REMOVED BRIDGE IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE MATERIALS REMOVED FROM THE EXISTING BRIDGE.

STRUCTURAL STEEL NOTES:

1. SEE SHEET SS 21 FOR STRUCTURAL STEEL NOTES.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.

VT 78 OVER MISSISQUOI BAY

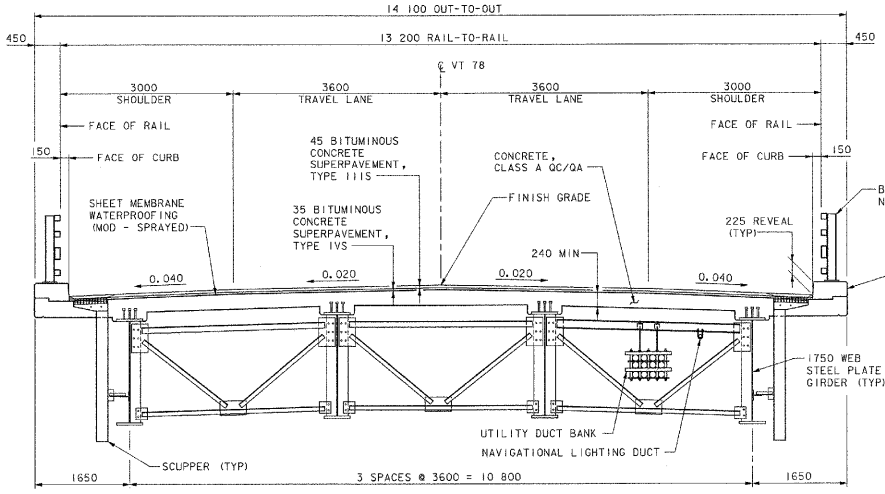
GENERAL CONSTRUCTION NOTES

Designed By S.M. HODGDON	Drawn By C.L. CILLEY
Checked By S.W. JOHNSON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072GN1	Sheet SS 11 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091I

plot date: 10/24/2003



TYPICAL DECK SECTION

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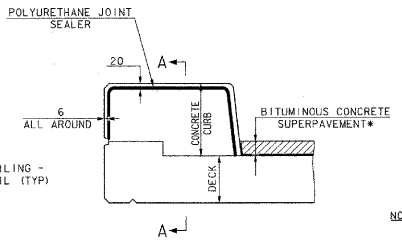
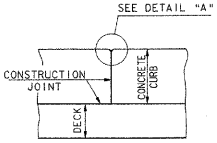
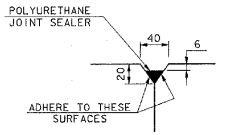


TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT

NOT TO SCALE



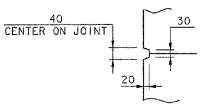
SECTION A-A



DETAIL "A"

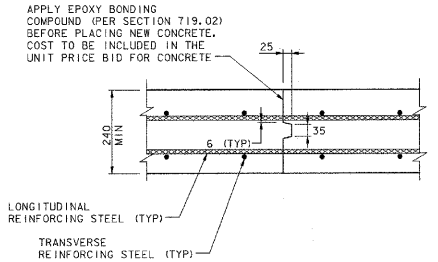
NOTES:

1. CONSTRUCTION JOINTS THROUGH CONCRETE CURBS SHALL BE SPACED MAXIMUM 4500 mm CENTER TO CENTER AND SHALL BE 450 mm MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. A CURB JOINT SHALL OCCUR AT THE ℄ PIER WHEREVER THE DECK IS CONTINUOUS OVER THE PIER. CONCRETE SHALL BE PLACED IN ALTERNATING SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.
2. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CURB CONSTRUCTION JOINTS.
3. POLYURETHANE JOINT SEALER SHALL BE APPLIED PER SUBSECTION 524.06D. COLOR TO MATCH CONCRETE. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE.



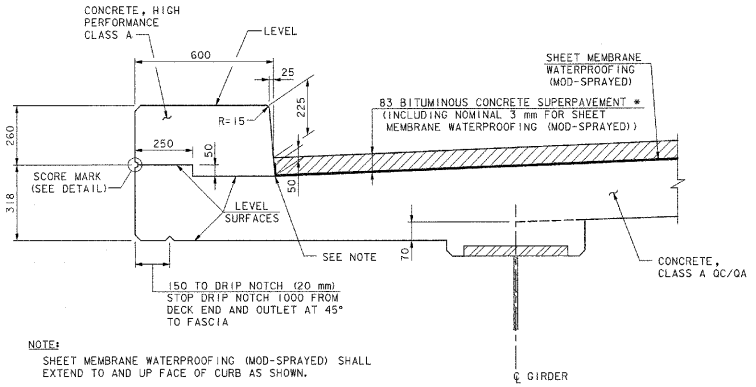
SCORE MARK DETAIL

NOT TO SCALE



TRANSVERSE DECK CONSTRUCTION JOINT DETAIL

NOT TO SCALE



NOTE:

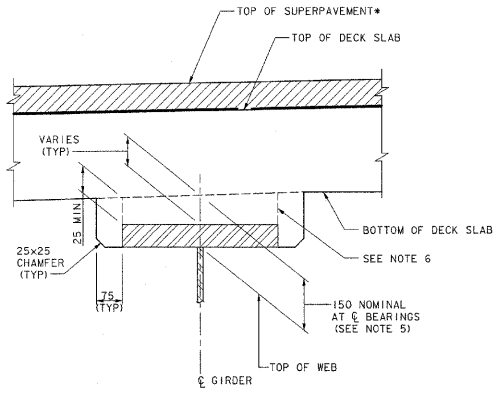
SHEET MEMBRANE WATERPROOFING (MOD-SPRAYED) SHALL EXTEND TO AND UP FACE OF CURB AS SHOWN.

TYPICAL FASCIA DETAIL

SCALE: 1:10

0 500 1000

SCALE = 1:10



TYPICAL HAUNCH DETAIL

NOT TO SCALE

NOTES:

1. SEE SHEET SS 13 FOR TYPICAL DECK REINFORCING SECTION.
2. SEE SHEETS SS 14-SS 16 FOR DECK REINFORCING PLANS.
3. SEE SHEET SS 17 FOR DECK POURING SEQUENCE.
4. SEE SHEET SS 32 FOR SCUPPER DETAILS.
5. ACTUAL DIMENSION AT CENTERLINE BEARINGS MAY VARY UP TO 12± mm BASED ON CONSTRUCTION TOLERANCES. 150 mm WAS USED FOR SETTING SUBSTRUCTURE PEDESTAL ELEVATIONS.
6. THE HAUNCH MAY BE CONSTRUCTED FLUSH TO THE EDGE OF THE TOP FLANGE AT THE CONTRACTOR'S OPTION.

* 45 BITUMINOUS CONCRETE SUPERPAVEMENT TYPE IIIS OVER 35 BITUMINOUS CONCRETE SUPERPAVEMENT TYPE IVS.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
TYPICAL DECK SECTION & DETAILS	
Designed By S.M. HODGDON	Drawn By W.B. LAVERGNE (TS)
Checked By Date	Bridge Design Supervisor
A.S. ROBINSON 10/03	S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072.tsc	Sheet SS 12 of SS 57

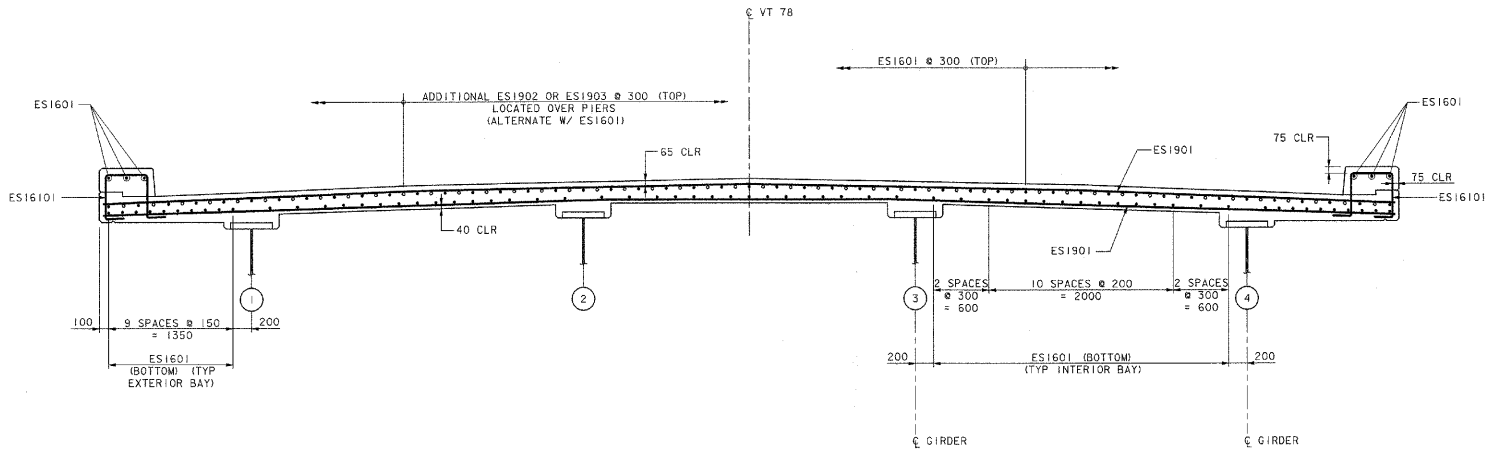
VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5098

plot date: 10/23/2003

150

Metric



TYPICAL DECK REINFORCING SECTION

(SHEAR CONNECTORS NOT SHOWN)
SCALE: 1:25

0 1000 2000

SCALE = 1:25

NOTES:

1. SEE BRIDGE SHEET SS 48 FOR REINFORCING STEEL DETAIL AT BRIDGE RAIL POSTS.
2. TOP BARS SHALL BE SET 65 mm CLEAR FROM TOP OF BRIDGE DECK USING VARIABLE HEIGHT CHAIRS AS REQUIRED.
3. SEE SHEETS SS 14-SS 16 FOR DECK REINFORCING PLANS.

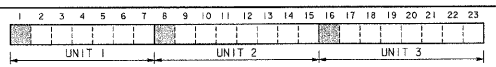
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
DECK REINFORCING SECTION	
Designed By S. M. HODGDON	Drawn By W. B. LAVERGNE (TS)
Checked By A. S. ROBINSON Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072ds1	Sheet SS 13 of SS 57

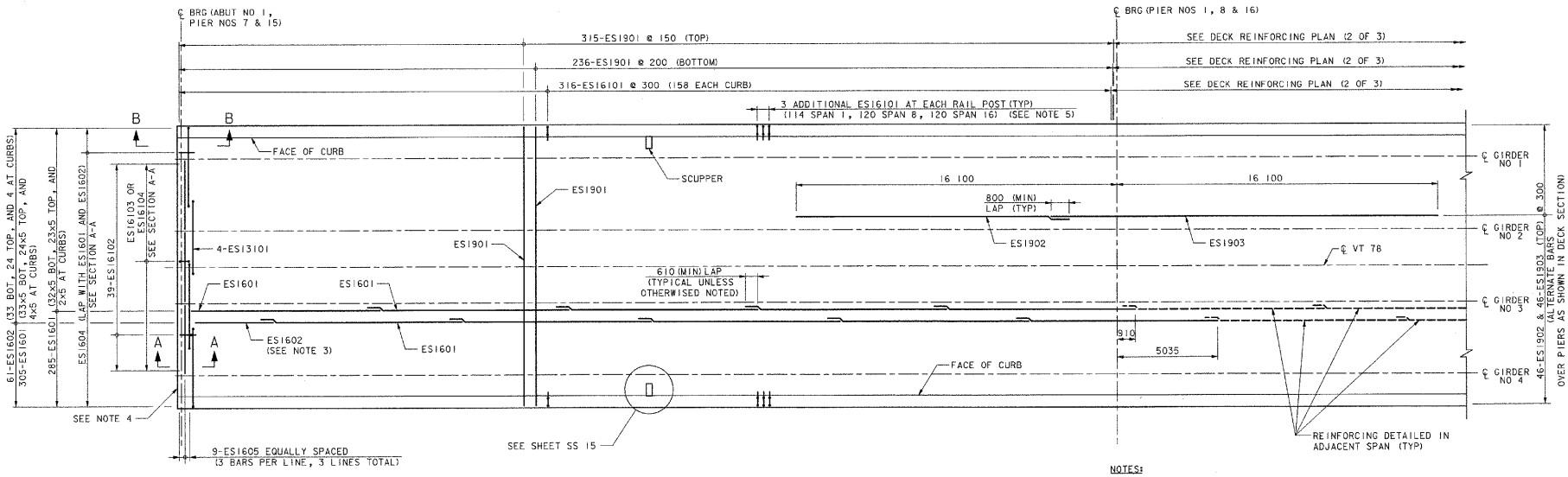
VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003



KEY PLAN

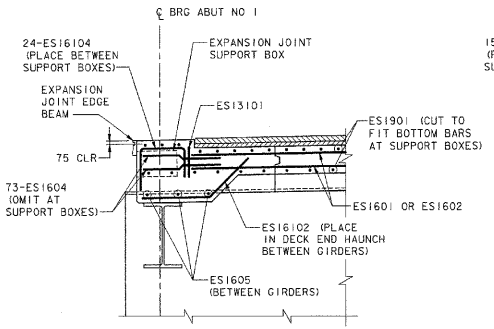


DECK REINFORCING PLAN

(SPANS 1, 8 & 16)
SCALE: 1:100

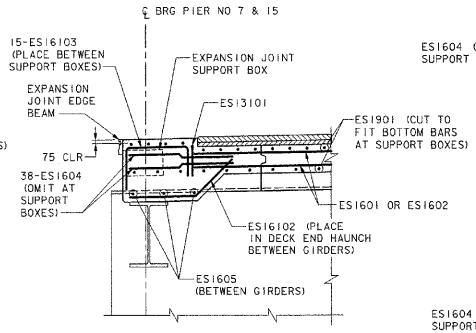
NOTES:

1. SEE SHEET SS 13 FOR TYPICAL DECK REINFORCING SECTION.
2. QUANTITY OF BARS AND THE NUMBER OF LINES PER BAR ARE CALLED OUT PER SPAN.
3. ES1602 SHALL BE USED TO PROVIDE A 3000 MINIMUM STAGGERED LAP BETWEEN ADJACENT BARS IN EACH BAR LAYER AS SHOWN.
4. SEE SHEETS SS 29-SS 31 FOR EXPANSION JOINT CONFIGURATION AND DETAILS.
5. SEE SHEET SS 47 FOR BRIDGE RAIL LAYOUT AND SHEET SS 48 FOR BRIDGE RAIL POST DETAILS AND REINFORCING.



SECTION A-A (SPAN 1)

NOT TO SCALE



SECTION A-A (SPANS 8 & 16)

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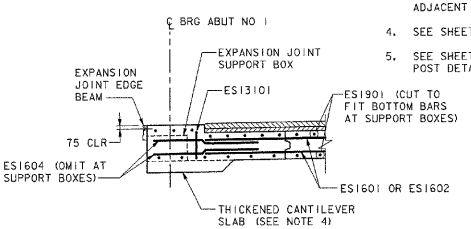
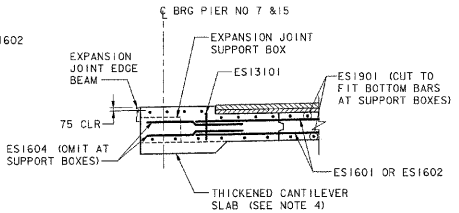


SECTION B-B (SPAN 1)

NOT TO SCALE



SECTION B-B (SPANS 8 & 16)

(UNIT 2 SHOWN, UNIT 3 SIMILAR)
NOT TO SCALE

0 2000 4000 6000 8000 10 000

SCALE = 1:100

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

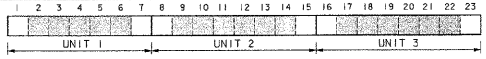
DECK REINFORCING PLAN (1 OF 3)

Designed By C.L. CILLEY	Drawn By W.B. LAVERGNE (TS)
Checked By S.M. HODGDON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072dr1	Sheet SS 14 of SS 57

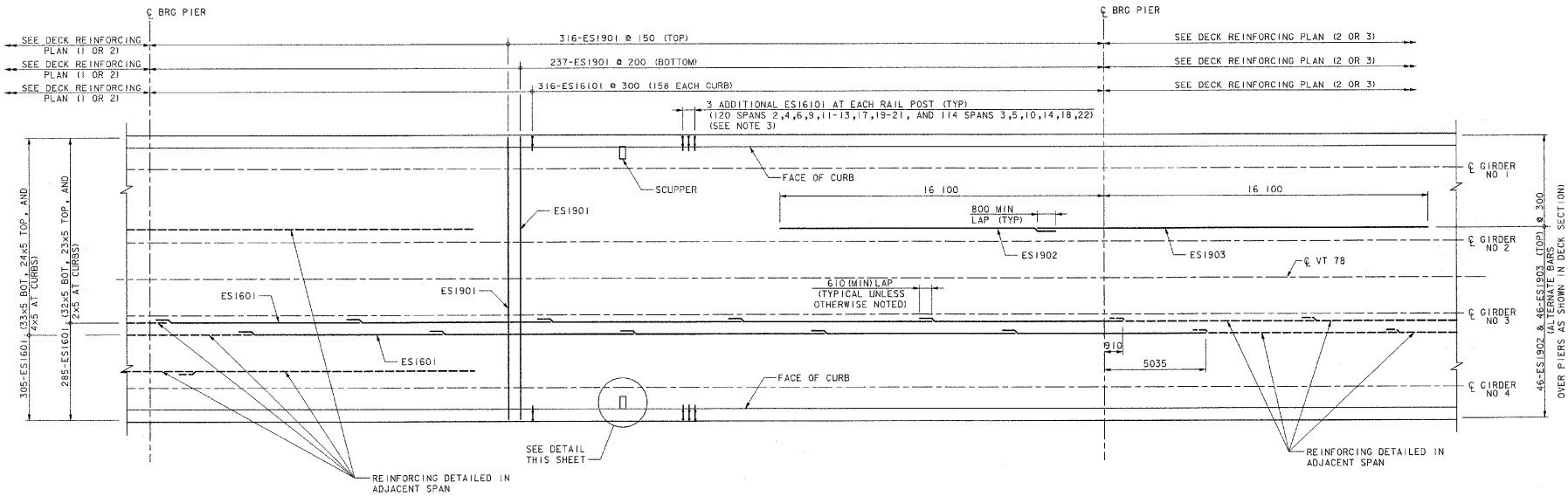
VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date: 10/23/2003



KEY PLAN



DECK REINFORCING PLAN

(SPANS 2-6, 9-14, & 17-22)
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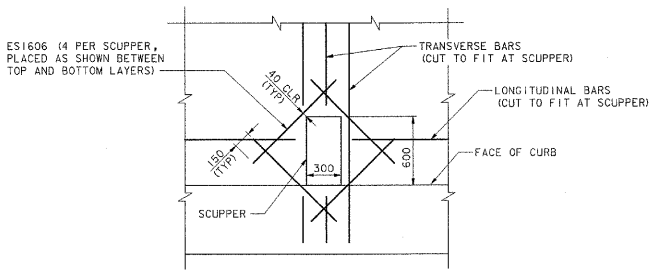
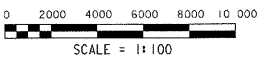


SCUPPER REINFORCING DETAIL

SCALE: 1:20



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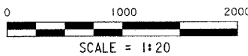


SCALE = 1:20

NOTES:

1. SEE SHEET SS 13 FOR TYPICAL DECK REINFORCING SECTION.
2. QUANTITY OF BARS AND THE NUMBER OF LINES PER BAR ARE CALLED OUT PER SPAN.
3. SEE SHEET SS 47 FOR BRIDGE RAIL LAYOUT AND SHEET SS 48 FOR BRIDGE RAIL POST DETAILS AND REINFORCING.
4. SEE SHEETS SS 3-SS 10 FOR SCUPPER LOCATIONS AND SHEET SS 32 FOR SCUPPER DETAILS.

VANASSE HANGEN BRUSTLIN, INC.

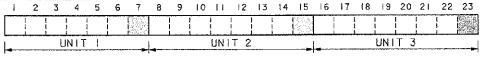
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
DECK REINFORCING PLAN (2 OF 3)	
Designed By C.L. CILLEY	Drawn By W.B. LAVERGNE (TS)
Checked By Date	Bridge Design Supervisor
S.M. HODGDON 10/03	S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072dr2	Sheet SS 15 of SS 57

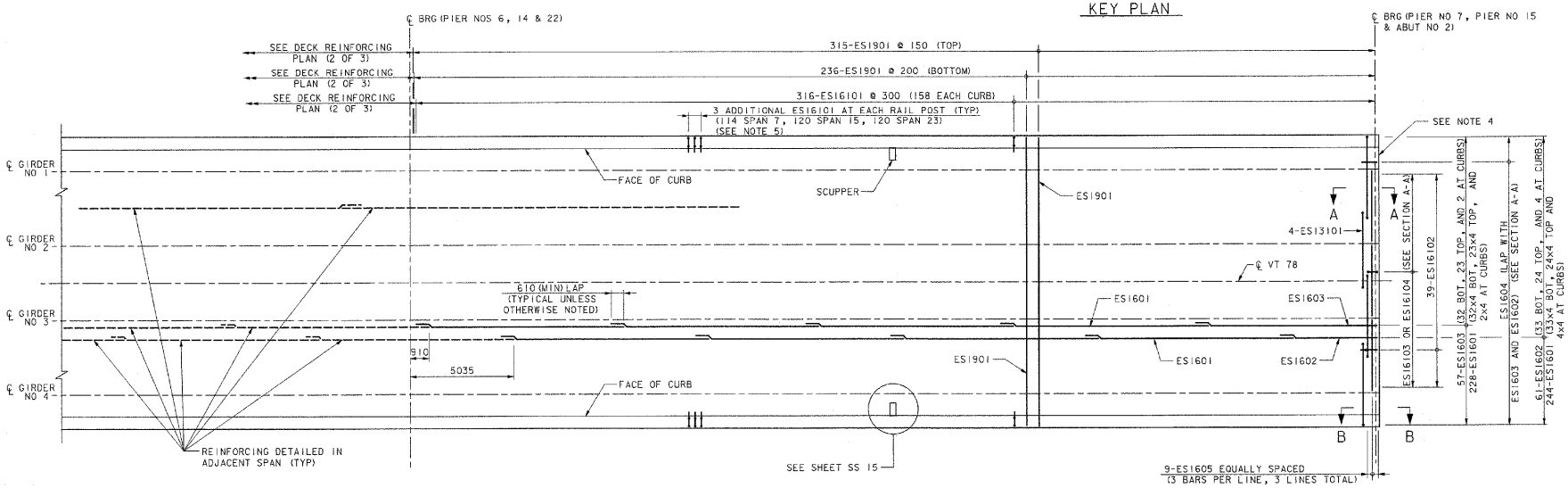
VHB NO. 509II

plot date: 10/23/2003

Metric



KEY PLAN

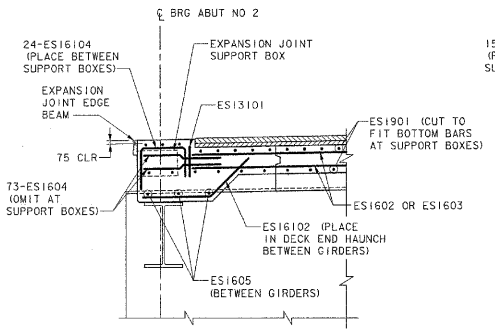


DECK REINFORCING PLAN

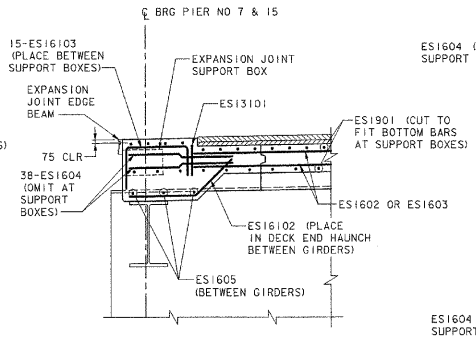
(SPANS 7, 15, & 23)
SCALE: 1:100

NOTES:

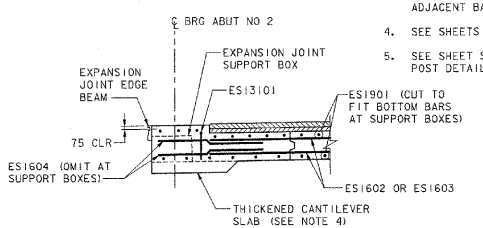
1. SEE SHEET SS 13 FOR TYPICAL DECK REINFORCING SECTION.
2. QUANTITY OF BARS AND THE NUMBER OF LINES PER BAR ARE CALLED OUT PER SPAN.
3. ES1602 SHALL BE USED TO PROVIDE A 3000 MINIMUM STAGGERED LAP BETWEEN ADJACENT BARS IN EACH BAR LAYER AS SHOWN.
4. SEE SHEETS SS 29-SS 31 FOR EXPANSION JOINT CONFIGURATION AND DETAILS.
5. SEE SHEET SS 47 FOR BRIDGE RAIL LAYOUT AND SHEET SS 48 FOR BRIDGE RAIL POST DETAILS AND REINFORCING.



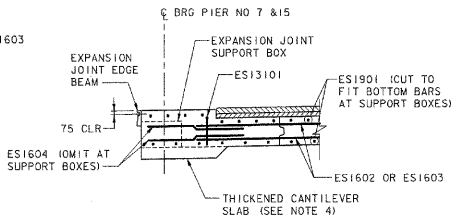
SECTION A-A (SPAN 23)
NOT TO SCALE



SECTION A-A (SPANS 7 & 15)
NOT TO SCALE



SECTION B-B (SPAN 23)
NOT TO SCALE



SECTION B-B (SPANS 7 & 15)
(UNIT 2 SHOWN, UNIT 3 SIMILAR)
NOT TO SCALE

0 2000 4000 6000 8000 10 000
SCALE = 1:100

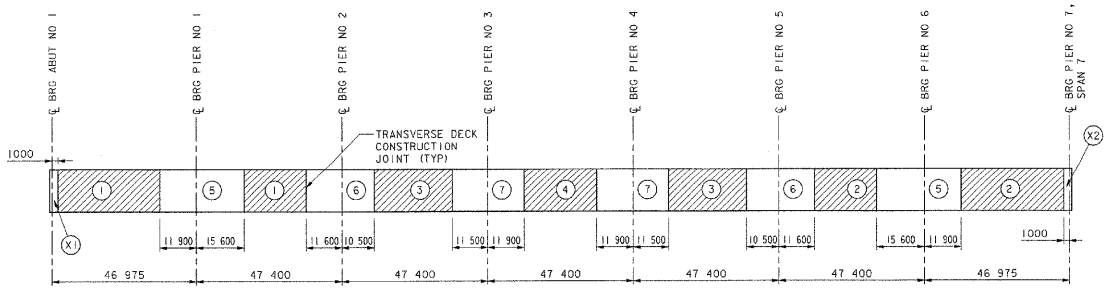
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
DECK REINFORCING PLAN (3 OF 3)	
Designed By C.L. CILLEY	Drawn By W.B. LAVERGNE (TS)
Checked By S.M. HODGDON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072dr3	Sheet SS 16 of SS 57

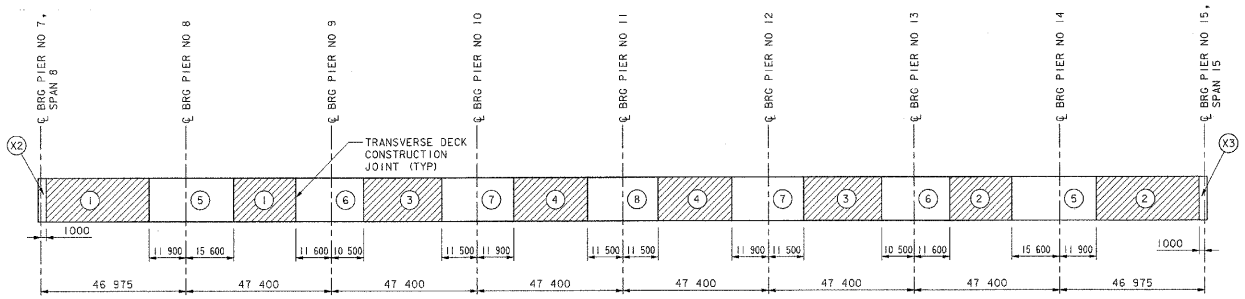
VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

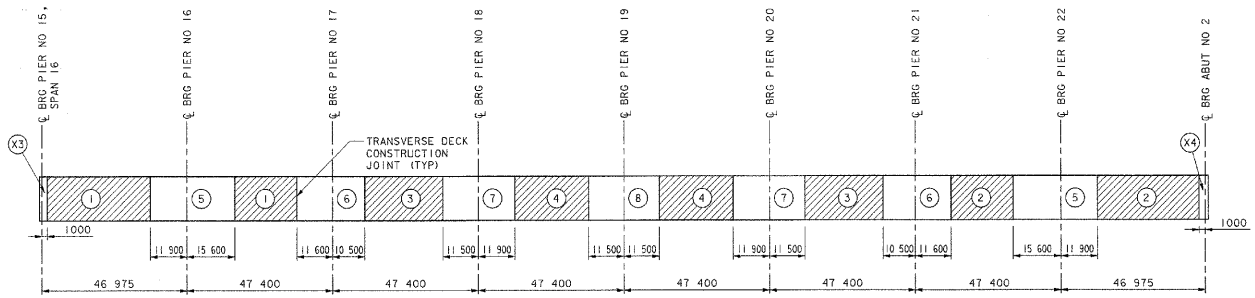
plot date: 10/23/2003



UNIT 1



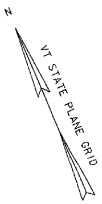
UNIT 2



UNIT 3

DECK POURING SEQUENCE

NOT TO SCALE



NOTES:

1. THE CONCRETE DECK SLAB SHALL BE PLACED ACCORDING TO THE SEQUENCE SHOWN EXCEPT THAT POURS 1 AND 2 MAY BE INTERCHANGED.
2. CONCRETE POURS DESIGNATED WITH AN "X" SHALL BE PLACED WITH THE EXPANSION JOINT ASSEMBLIES. PLACE POUR X1 AFTER POURS 1-7 IN UNIT 1 ARE COMPLETE. PLACE POUR X2 AFTER POURS 1-7 IN UNIT 1 AND POURS 1-8 IN UNIT 2 ARE COMPLETE. PLACE POUR X3 AFTER POURS 1-8 IN UNIT 2 AND POURS 1-8 IN UNIT 3 ARE COMPLETE. PLACE POUR X4 AFTER POURS 1-8 IN UNIT 3 ARE COMPLETE. SEE SHEETS SS 29-SS 31 FOR DECK END AND JOINT DETAILS.
3. ANY POURING SEQUENCE OTHER THAN THAT INDICATED SHALL BE SUBMITTED, IN WRITING, TO THE STRUCTURES ENGINEER FOR APPROVAL.
4. TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINTS SHALL BE USED BETWEEN ADJACENT POURS. SEE SHEET SS 12 FOR DETAIL.
5. ALL INDIVIDUAL DECK POURS SHALL START FROM THE LOW END AND PROCEED TO THE HIGH END RELATIVE TO THE PROFILE GRADE.
6. THERE SHALL BE A MINIMUM DELAY PERIOD OF 96 HOURS BETWEEN POURS WITHIN A BRIDGE UNIT. SEE SHEET SS 2 FOR BRIDGE UNIT DEFINITION.
7. THE MAXIMUM TIME SPAN FOR ANY POURS COMPLETED IN ONE DAY, WITHIN A BRIDGE UNIT, SHALL BE 8 HOURS.
8. A RETARDING ADMIXTURE SHALL BE USED TO ENSURE THAT THE DECK CONCRETE IS KEPT PLASTIC UNTIL THE ENTIRE POUR HAS BEEN PLACED. THE RETARDING ADMIXTURE SHALL BE SUBSIDIARY TO ITEM 501.221.

Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION

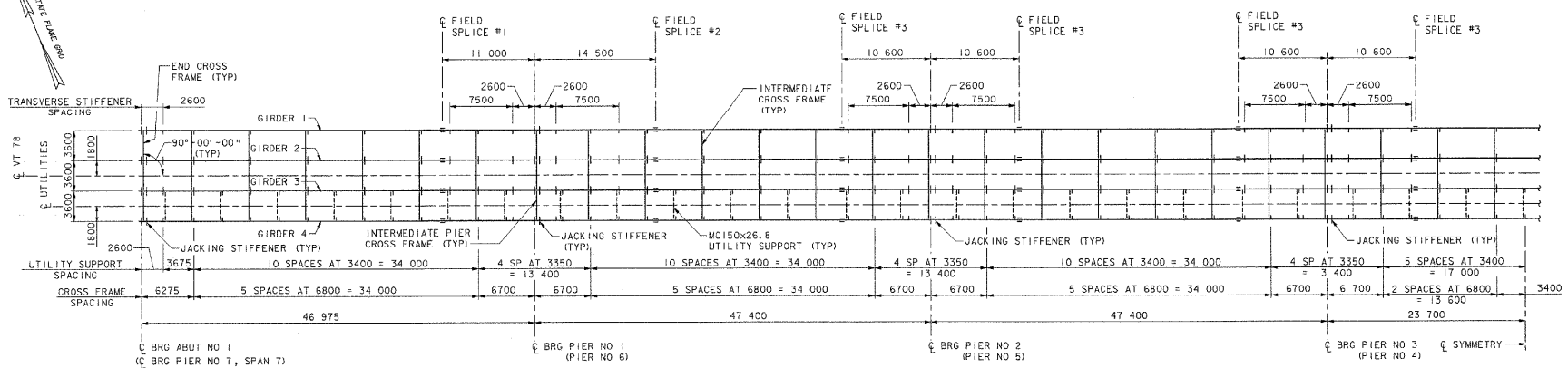
Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
DECK POURING SEQUENCE	
Designed By S. M. HODGDON	Drawn By W. B. LAVERGNE (TS)
Checked By W. M. MOSHER Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (11)
I.G.C. Info.	
File No. ZE072dps	Sheet SS 17 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

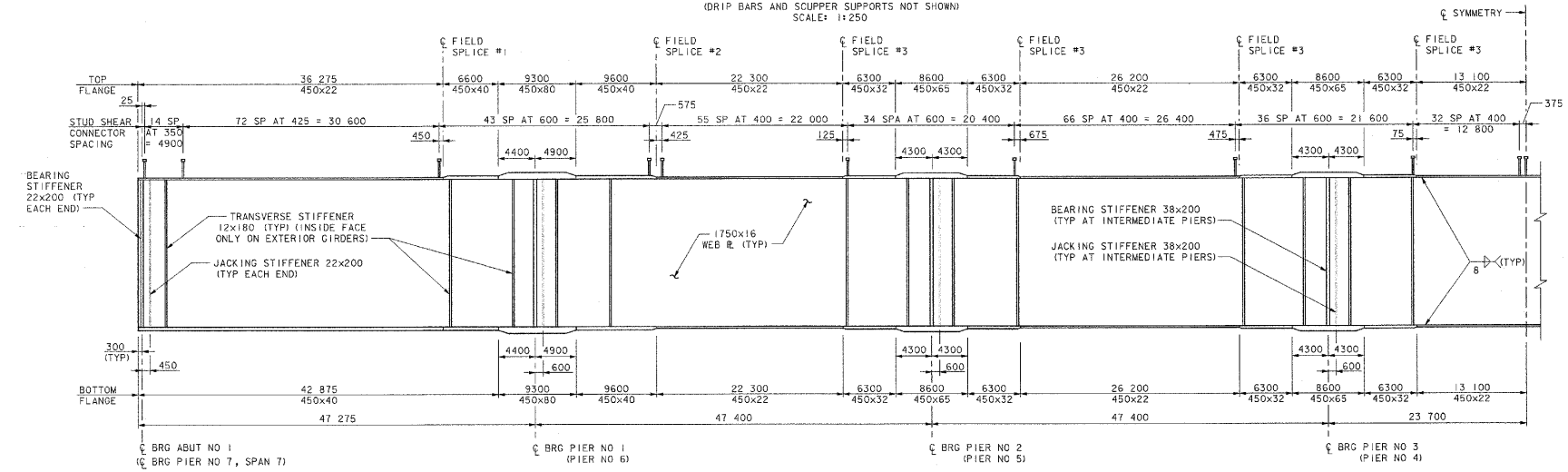
plot date: 10/23/2003

Metric



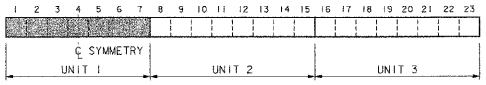
UNIT 1 FRAMING PLAN

(DRIP BARS AND SCUPPER SUPPORTS NOT SHOWN)
SCALE: 1:250



UNIT 1 GIRDER ELEVATION

(CONNECTION PLATES NOT SHOWN)
NOT TO SCALE



KEY PLAN

NOTES:

1. SEE SHEET SS 23 FOR SPLICE DETAILS. ALL FIELD SPLICES OPTIONAL.
2. SEE SHEET SS 26 FOR DRIP BAR LOCATIONS AND DETAILS.
3. SEE SHEETS SS 3-SS 5 FOR SCUPPER LOCATIONS AND SHEET SS 32 FOR SCUPPER DETAILS.
4. SEE SHEETS SS 21 & SS 22 FOR CAMBER, DEAD LOAD DEFLECTION AND STRUCTURAL STEEL NOTES.
5. SEE SHEETS SS 24 & SS 25 FOR CROSS FRAME AND UTILITY SUPPORT DETAILS.
6. SEE SHEET SS 26 FOR STIFFENERS AND OTHER MISCELLANEOUS DETAILS.
7. SEE SHEETS SS 27 & SS 28 FOR BEARING DETAILS.
8. ELIMINATE BEVELED FLANGES AT FIELD SPLICE LOCATIONS. SEE SPLICE DETAILS SHEET SS 23.

0 5000 15 000 25 000
SCALE = 1:250

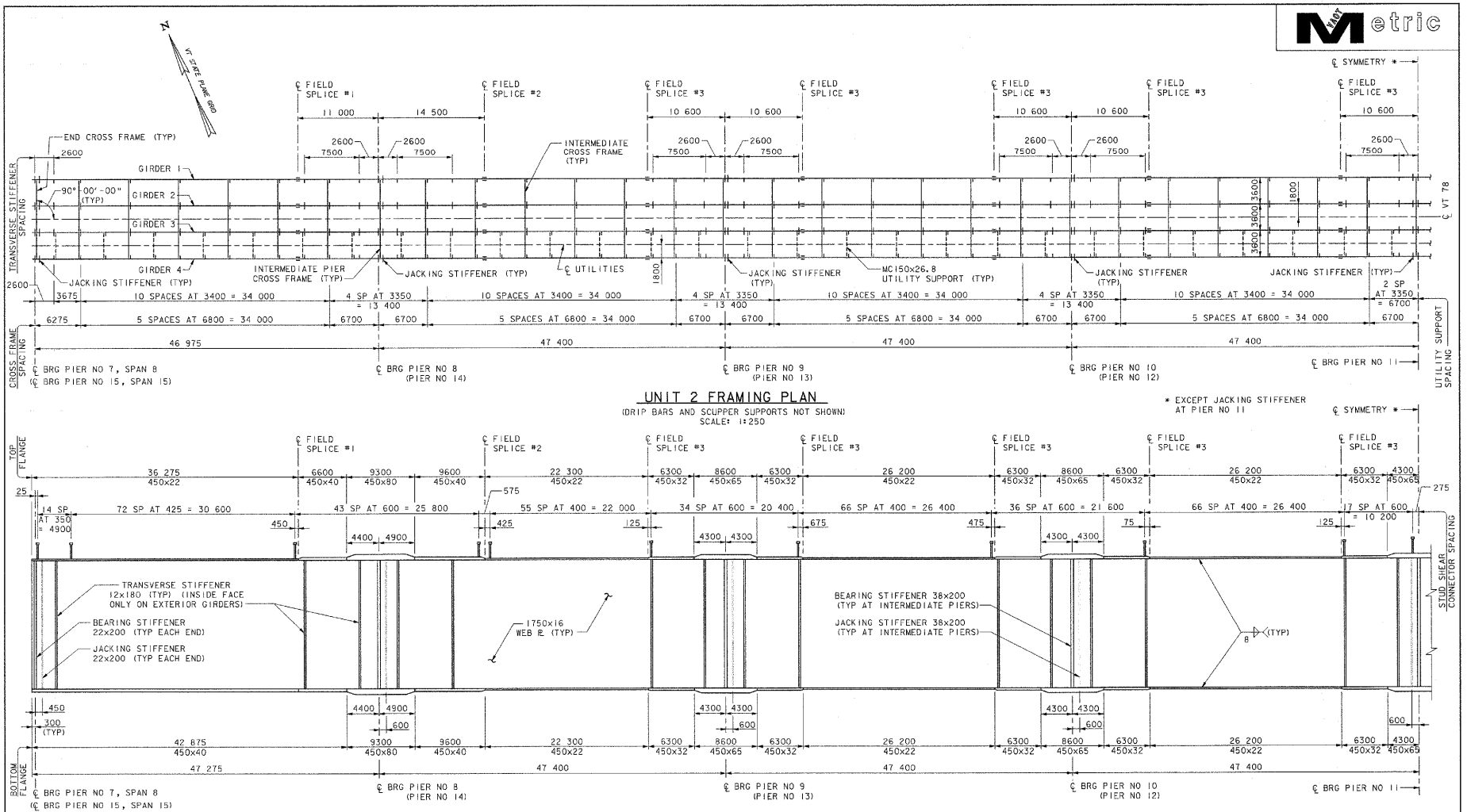
VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
UNIT 1 FRAMING PLAN & GIRDER ELEVATION	
Designed By S. M. HODGDON	Drawn By W. B. LAVERGNE (TS)
Checked By A. S. ROBINSON Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.C.C. Info.	
File No. ZE072fp1	Sheet SS 18 of SS 57

VHB NO. 5091I

plot date: 10/23/2003



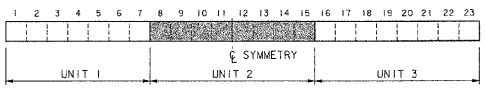
UNIT 2 FRAMING PLAN

(DRIP BARS AND SCUPPER SUPPORTS NOT SHOWN)
SCALE: 1:250

* EXCEPT JACKING STIFFENER AT PIER NO 11

UNIT 2 GIRDER ELEVATION

(CONNECTION PLATES NOT SHOWN)
NOT TO SCALE



KEY PLAN

NOTES:

1. SEE SHEET SS 23 FOR SPLICE DETAILS. ALL FIELD SPLICES OPTIONAL.
2. SEE SHEET SS 26 FOR DRIP BAR LOCATIONS AND DETAILS.
3. SEE SHEETS SS 6-SS 7 FOR SCUPPER LOCATIONS AND SHEET SS 32 FOR SCUPPER DETAILS.
4. SEE SHEETS SS 21 & SS 22 FOR CAMBER, DEAD LOAD DEFLECTION AND STRUCTURAL STEEL NOTES.
5. SEE SHEETS SS 24 & SS 25 FOR CROSS FRAME AND UTILITY SUPPORT DETAILS.
6. SEE SHEET SS 26 FOR STIFFENERS AND OTHER MISCELLANEOUS DETAILS.
7. SEE SHEETS SS 27 & SS 28 FOR BEARING DETAILS.
8. ELIMINATE BEVELED FLANGES AT FIELD SPLICE LOCATIONS. SEE SPLICE DETAILS SHEET SS 23.

0 5000 15 000 25 000
SCALE = 1:250

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

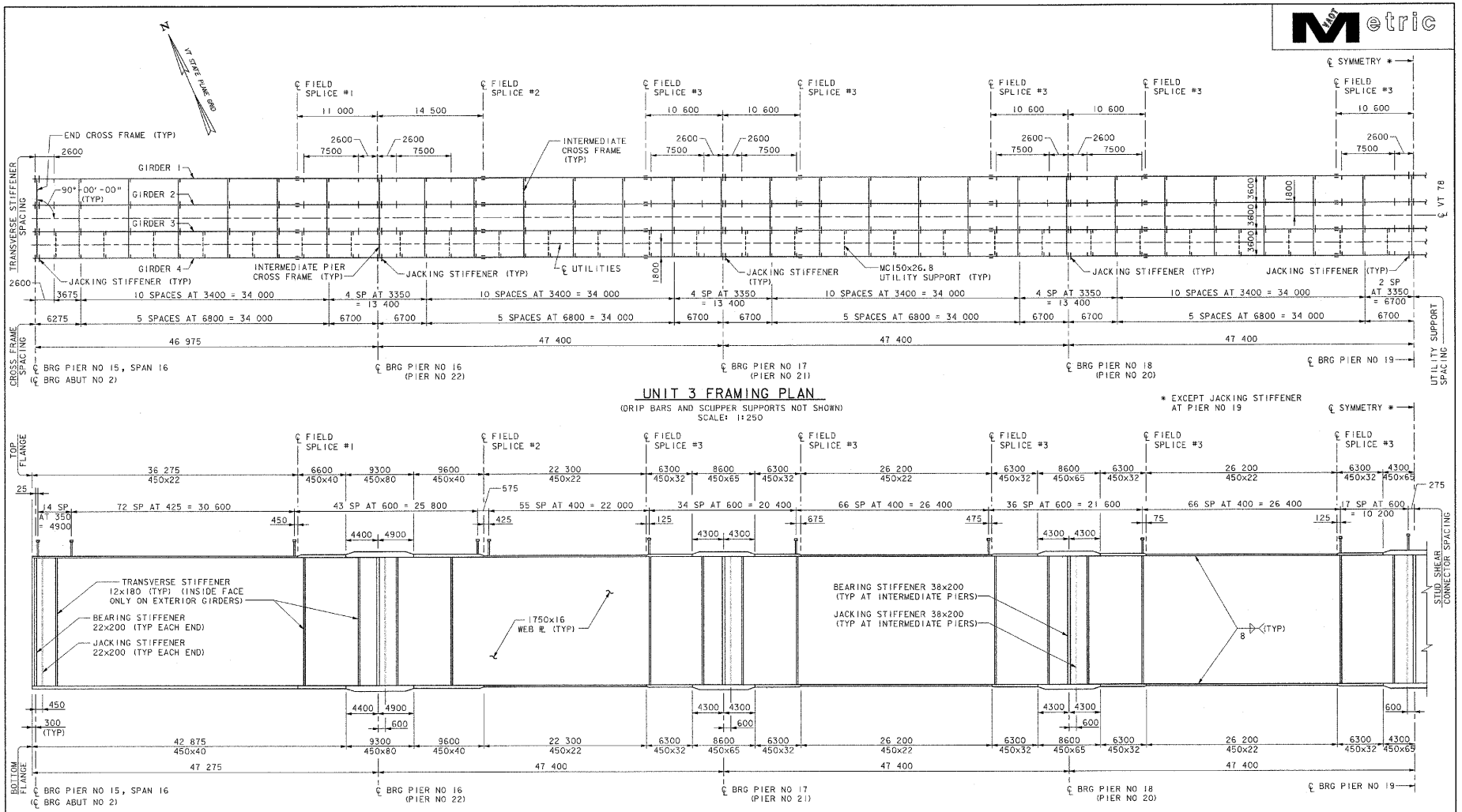
Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

UNIT 2 FRAMING PLAN & GIRDER ELEVATION

Designed By S. M. HODGDON	Drawn By W. B. LAVERGNE (TS)
Checked By Date	Bridge Design Supervisor
A. S. ROBINSON 10/03	S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072fp2	Sheet SS 19 of SS 57

VHB NO. 50911

plot date: 10/23/2003



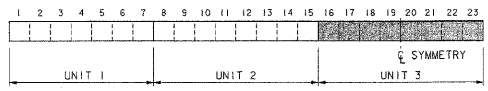
UNIT 3 FRAMING PLAN

(DRIP BARS AND SCUPPER SUPPORTS NOT SHOWN)
SCALE: 1:250

* EXCEPT JACKING STIFFENER AT PIER NO 19

UNIT 3 GIRDER ELEVATION

(CONNECTION PLATES NOT SHOWN)
NOT TO SCALE



KEY PLAN

NOTES:

1. SEE SHEET SS 23 FOR SPLICE DETAILS. ALL FIELD SPLICES OPTIONAL.
2. SEE SHEET SS 26 FOR DRIP BAR LOCATIONS AND DETAILS.
3. SEE SHEETS SS 8-SS 10 FOR SCUPPER LOCATIONS AND SHEET SS 32 FOR SCUPPER DETAILS.
4. SEE SHEETS SS 21 & SS 22 FOR CAMBER, DEAD LOAD DEFLECTION AND STRUCTURAL STEEL NOTES.
5. SEE SHEETS SS 24 & SS 25 FOR CROSS FRAME AND UTILITY SUPPORT DETAILS.
6. SEE SHEET SS 26 FOR STIFFENERS AND OTHER MISCELLANEOUS DETAILS.
7. SEE SHEETS SS 27 & SS 28 FOR BEARING DETAILS.
8. ELIMINATE BEVELED FLANGES AT FIELD SPLICE LOCATIONS. SEE SPLICE DETAILS SHEET SS 23.

0 5000 15 000 25 000

SCALE = 1:250

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

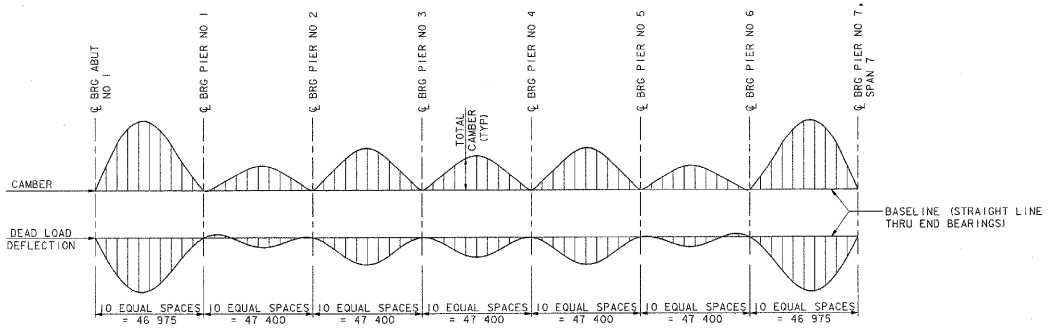
UNIT 3 FRAMING PLAN & GIRDER ELEVATION

Designed By S. M. HODGDON	Drawn By W. B. LAVERGNE (TS)
Checked By A. S. ROBINSON 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072fp3	Sheet SS 20 of SS 57

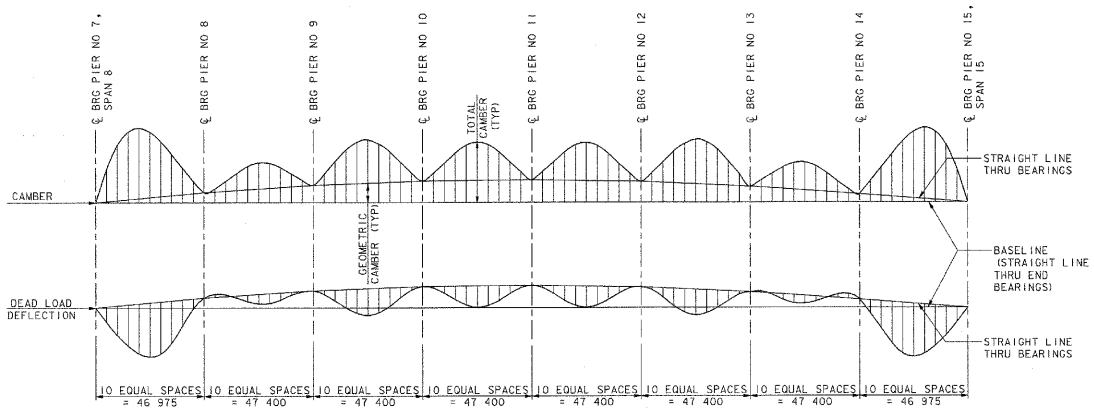
VHB NO. 5091

plot date: 10/23/2003

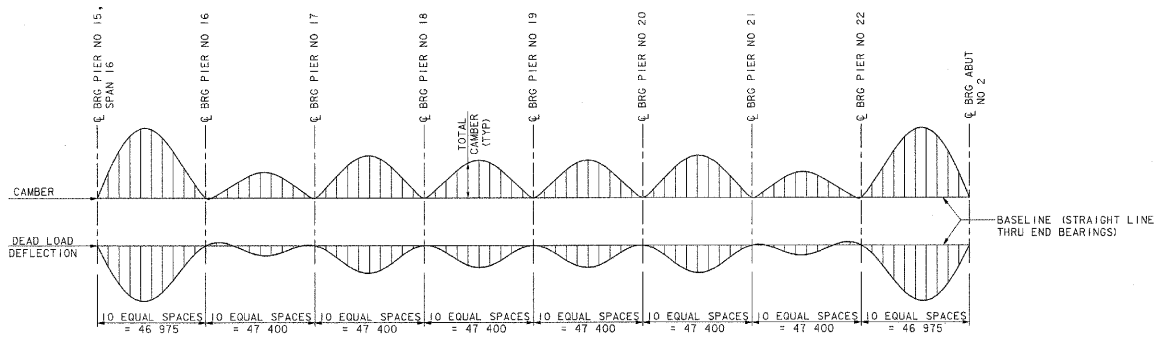
157



UNIT 1



UNIT 2



UNIT 3

CAMBER AND DEAD LOAD DEFLECTION DIAGRAMS

NOT TO SCALE

STRUCTURAL STEEL NOTES:

1. ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO M 270/M 270M GRADE 345W UNLESS OTHERWISE NOTED. ALL STRUCTURAL STEEL SHALL BE PAID UNDER THE ITEM 506.55 "STRUCTURAL STEEL (PLATE GIRDER) " UNLESS OTHERWISE NOTED.
2. ALL BOLTS SHALL BE M22 TYPE 3 AND CONFORM TO AASHTO M 164/M 164M UNLESS OTHERWISE NOTED. BOLTED CONNECTIONS IN GIRDER SPLICES AND CROSS FRAMES SHALL BE CLASS "B".
3. STANDARD HOLES SHALL BE USED IN ALL CONNECTIONS UNLESS OTHERWISE NOTED.
4. ALL NUTS SHALL BE DOWN ON BOTTOM FLANGE SPLICES.
5. ALL GIRDER FLANGE PLATES, WEB PLATES, AND SPLICE PLATES SHALL MEET THE CHARPY V-NOTCH REQUIREMENTS FOR MAIN MEMBERS AS INDICATED IN SECTION 714 OF THE SPECIFICATIONS.
6. ALL BEARING STIFFENER PLATES SHALL BE VERTICAL IN THEIR FINAL ERECTED POSITION. ALL INTERMEDIATE STIFFENERS, INTERIOR CROSS FRAMES, AND FIELD SPLICES MAY BE NORMAL TO GRADE.
7. ENDS OF GIRDERS SHALL BE FABRICATED SO THAT THE ENDS WILL BE VERTICAL UNDER FULL DEAD LOAD.
8. ALL STRUCTURAL STEEL WITHIN 3.6 METERS OF THE ENDS OF THE GIRDERS SHALL BE COATED WITH A PROTECTIVE PAINT SYSTEM. AT THE EAST END OF THE BRIDGE (ABUTMENT NO 2) , THE PAINTING SHALL EXTEND 14.8 METERS FROM THE ENDS OF THE GIRDERS. THE FINAL PAINT COLOR SHALL BE DARK BROWN (COLOR CHIP #20059) TO BLEND WITH THE WEATHERING STEEL. THE COST OF THE PAINTING SHALL BE PAID UNDER ITEM 513.25, "STRUCTURAL PAINTING SHOP APPLIED". IN ADDITION, A GREASE COATING SHALL BE APPLIED TO ALL PAINTED AREAS WITHIN 3.6 METERS OF THE ENDS OF THE GIRDERS AS REQUIRED UNDER SECTION 513. THE GREASE COLOR SHALL MATCH THE COLOR OF THE PAINT COAT AS PER SUPPLEMENTAL SPECIFICATION 513. THE GREASE COATING SHALL BE INCLUDED UNDER ITEM 513.25, "STRUCTURAL PAINTING (SHOP APPLIED) ".
9. UTILITIES WILL BE SUPPORTED BY THE CROSS-FRAMES AND INTERMEDIATE UTILITY SUPPORTS. THE UTILITY SUPPORTS WILL BE PAID FOR UNDER THE ITEM 506.55 "STRUCTURAL STEEL (PLATE GIRDER) ". ALL HARDWARE NECESSARY TO CONNECT THE UTILITY DUCT BANK TO THE SUPPORTS, DIAPHRAGMS, OR SLAB INCLUDING BRACES OR THREADED RODS SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM 625.16 "DUCTS ON BRIDGE". SEE SHEETS SS 24-SS 25 FOR UTILITY DETAILS.
10. ANY HOLES IN THE WEB OF THE FASCIA GIRDERS NOT OTHERWISE FILLED SHALL BE FILLED WITH BUTTON HEAD OR HEX HEAD BOLTS. THE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19.
11. TYPE I GALVANIZED BOLTS SHALL BE USED IN PAINTED AREAS. HOLES SHALL BE 24 mm DIAMETER. CONNECTIONS NOT DESIGNED SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED FOR APPROVAL.

NOTES:

1. FOR CAMBER AND DEAD LOAD DEFLECTION TABLES, SEE SHEET SS 22.
2. SEE SHEETS SS 18-SS 20 FOR GIRDER FRAMING PLANS AND ELEVATIONS.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

CAMBER & DEFLECTION DIAGRAMS

Designed By C. L. CILLEY	Drawn By W. B. LAVERGNE (TS)
Checked By W. W. MOSHER Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072cdd	Sheet SS 21 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091I

plot date: 10/23/2003

CAMBER TABLE *

UNIT	SPAN	CAMBER	CL BRG	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	CL BRG
1	1	TOTAL CAMBER	0	75	137	180	200	198	175	135	87	40	0
	2	TOTAL CAMBER	0	8	24	46	64	74	72	58	37	16	0
	3	TOTAL CAMBER	0	29	64	96	118	125	115	91	59	26	0
	4	TOTAL CAMBER	0	21	48	76	96	104	96	76	48	21	0
	5	TOTAL CAMBER	0	26	59	91	115	125	118	96	64	29	0
	6	TOTAL CAMBER	0	16	37	58	72	74	64	46	24	8	0
	7	TOTAL CAMBER	0	40	87	135	175	198	200	180	137	75	0
2	8	GEOMETRIC CAMBER	0	87	174	261	348	435	522	609	695	782	869
		TOTAL CAMBER	0	161	310	440	548	633	697	744	782	822	869
	9	GEOMETRIC CAMBER	869	931	993	1055	1117	1179	1241	1303	1365	1427	1489
		TOTAL CAMBER	869	939	1018	1101	1181	1253	1313	1362	1403	1443	1489
	10	GEOMETRIC CAMBER	1489	1524	1560	1596	1632	1667	1703	1739	1775	1810	1846
		TOTAL CAMBER	1489	1553	1623	1691	1748	1790	1816	1829	1833	1835	1846
	11	GEOMETRIC CAMBER	1846	1856	1865	1874	1884	1893	1903	1912	1922	1931	1940
		TOTAL CAMBER	1846	1878	1915	1953	1985	2002	2005	1993	1974	1954	1940
	12	GEOMETRIC CAMBER	1940	1924	1907	1890	1873	1857	1840	1823	1806	1790	1773
		TOTAL CAMBER	1940	1947	1959	1971	1975	1966	1941	1902	1856	1812	1773
	13	GEOMETRIC CAMBER	1773	1730	1687	1644	1601	1558	1515	1472	1429	1386	1343
		TOTAL CAMBER	1773	1755	1745	1734	1714	1681	1631	1567	1492	1415	1343
	14	GEOMETRIC CAMBER	1343	1277	1212	1146	1080	1014	948	882	816	750	685
		TOTAL CAMBER	1343	1293	1250	1205	1152	1088	1012	928	841	758	685
	15	GEOMETRIC CAMBER	685	616	548	479	411	342	274	205	137	68	0
		TOTAL CAMBER	685	656	635	614	586	540	474	384	273	142	0
3	16	TOTAL CAMBER	0	74	136	179	200	198	175	135	87	40	0
	17	TOTAL CAMBER	0	8	25	46	64	74	72	59	38	16	0
	18	TOTAL CAMBER	0	29	63	95	116	123	113	90	58	25	0
	19	TOTAL CAMBER	0	22	50	79	101	109	102	81	52	23	0
	20	TOTAL CAMBER	0	23	52	81	102	109	101	79	50	22	0
	21	TOTAL CAMBER	0	25	58	90	113	123	116	95	63	29	0
	22	TOTAL CAMBER	0	16	38	59	72	74	64	46	25	8	0
	23	TOTAL CAMBER	0	40	87	135	175	198	200	179	136	74	0

DEAD LOAD DEFLECTION TABLE *

UNIT	SPAN	DEFLECTION	CL BRG	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	CL BRG
1	1	STEEL ONLY	0	-10	-18	-23	-26	-25	-21	-16	-9	-4	0
		TOTAL DEFLECTION	0	-58	-106	-140	-155	-151	-130	-96	-57	-23	0
	2	STEEL ONLY	0	2	1	-1	-3	-4	-4	-3	-1	0	0
		TOTAL DEFLECTION	0	9	6	-6	-18	-26	-26	-18	-7	1	0
	3	STEEL ONLY	0	-2	-5	-8	-11	-11	-10	-8	-4	-1	0
		TOTAL DEFLECTION	0	-12	-33	-56	-72	-77	-70	-52	-29	-9	0
	4	STEEL ONLY	0	-1	-3	-6	-8	-9	-8	-6	-3	-1	0
		TOTAL DEFLECTION	0	-4	-18	-36	-51	-56	-51	-36	-18	-4	0
	5	STEEL ONLY	0	-1	-4	-8	-10	-11	-11	-8	-5	-2	0
		TOTAL DEFLECTION	0	-9	-29	-52	-70	-77	-72	-56	-33	-12	0
	6	STEEL ONLY	0	0	-1	-3	-4	-4	-3	-1	1	2	0
		TOTAL DEFLECTION	0	1	-7	-18	-26	-26	-18	-6	6	9	0
	7	STEEL ONLY	0	-4	-9	-16	-21	-25	-26	-23	-18	-10	0
		TOTAL DEFLECTION	0	-23	-57	-96	-130	-151	-155	-140	-106	-58	0
2	8	STEEL ONLY	0	-10	-18	-23	-26	-25	-21	-16	-9	-4	0
		TOTAL DEFLECTION	0	-58	-106	-140	-155	-151	-130	-96	-57	-23	0
	9	STEEL ONLY	0	2	1	-1	-3	-4	-5	-3	-1	0	0
		TOTAL DEFLECTION	0	9	6	-6	-19	-27	-27	-19	-7	1	0
	10	STEEL ONLY	0	-2	-5	-8	-10	-11	-10	-7	-4	-1	0
		TOTAL DEFLECTION	0	-12	-33	-55	-71	-76	-68	-50	-27	-8	0
	11	STEEL ONLY	0	-1	-3	-6	-8	-9	-9	-6	-3	-1	0
		TOTAL DEFLECTION	0	-4	-20	-39	-55	-61	-56	-42	-22	-6	0
	12	STEEL ONLY	0	-1	-3	-6	-9	-9	-8	-6	-3	-1	0
		TOTAL DEFLECTION	0	-6	-22	-42	-56	-61	-55	-39	-20	-4	0
	13	STEEL ONLY	0	-1	-4	-7	-10	-11	-10	-8	-5	-2	0
		TOTAL DEFLECTION	0	-8	-27	-50	-68	-76	-71	-55	-33	-12	0
	14	STEEL ONLY	0	0	-1	-3	-5	-4	-3	-1	1	2	0
		TOTAL DEFLECTION	0	1	-7	-19	-27	-27	-19	-6	6	9	0
	15	STEEL ONLY	0	-4	-9	-16	-21	-25	-26	-23	-18	-10	0
		TOTAL DEFLECTION	0	-23	-57	-96	-130	-151	-155	-140	-106	-58	0
3	16	STEEL ONLY	0	-10	-18	-23	-26	-25	-21	-16	-9	-4	0
		TOTAL DEFLECTION	0	-58	-106	-140	-155	-151	-130	-96	-57	-23	0
	17	STEEL ONLY	0	2	1	-1	-3	-4	-5	-3	-1	0	0
		TOTAL DEFLECTION	0	9	6	-6	-19	-27	-27	-19	-7	1	0
	18	STEEL ONLY	0	-2	-5	-8	-10	-11	-10	-7	-4	-1	0
		TOTAL DEFLECTION	0	-12	-33	-55	-71	-76	-68	-50	-27	-8	0
	19	STEEL ONLY	0	-1	-3	-6	-8	-9	-9	-6	-3	-1	0
		TOTAL DEFLECTION	0	-4	-20	-39	-55	-61	-56	-42	-22	-6	0
	20	STEEL ONLY	0	-1	-3	-6	-9	-9	-8	-6	-3	-1	0
		TOTAL DEFLECTION	0	-6	-22	-42	-56	-61	-55	-39	-20	-4	0
	21	STEEL ONLY	0	-1	-4	-7	-10	-11	-10	-8	-5	-2	0
		TOTAL DEFLECTION	0	-8	-27	-50	-68	-76	-71	-55	-33	-12	0
	22	STEEL ONLY	0	0	-1	-3	-5	-4	-3	-1	1	2	0
		TOTAL DEFLECTION	0	1	-7	-19	-27	-27	-19	-6	6	9	0
	23	STEEL ONLY	0	-4	-9	-16	-21	-25	-26	-23	-18	-10	0
		TOTAL DEFLECTION	0	-23	-57	-96	-130	-151	-155	-140	-106	-58	0

* GIRDER LINES 1-4

NOTES:

1. TOTAL DEAD LOAD DEFLECTION INCLUDES DEFLECTION FROM STEEL GIRDER WEIGHT, DECK SLAB WEIGHT AND SUPERIMPOSED WEIGHT ON THE COMPOSITE BRIDGE SECTION.
2. TOTAL CAMBER INCLUDES TOTAL DEAD LOAD DEFLECTION AND GEOMETRIC CAMBER. TOTAL CAMBER ALSO INCLUDES A 47 mm RESIDUAL CAMBER AT MIDSPAN (ACCOUNTING FOR PROFILE GRADE).
3. SEE SHEET SS 21 FOR CAMBER AND DEFLECTION DIAGRAMS.
4. SEE SHEETS SS 18-SS 20 FOR FRAMING PLANS AND GIRDER ELEVATIONS.

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
CAMBER & DEFLECTION TABLE	
Designed By C.L. CILLEY	Drawn By W.B. LAVERGNE (TS)
Checked By W.W. MOSHER Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072cdt	Sheet SS 22 of SS 57

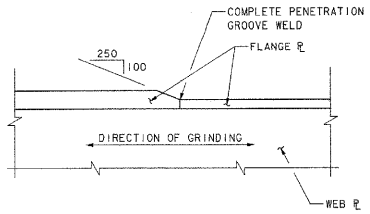
VHB NO. 5091I

plot date: 10/23/2003

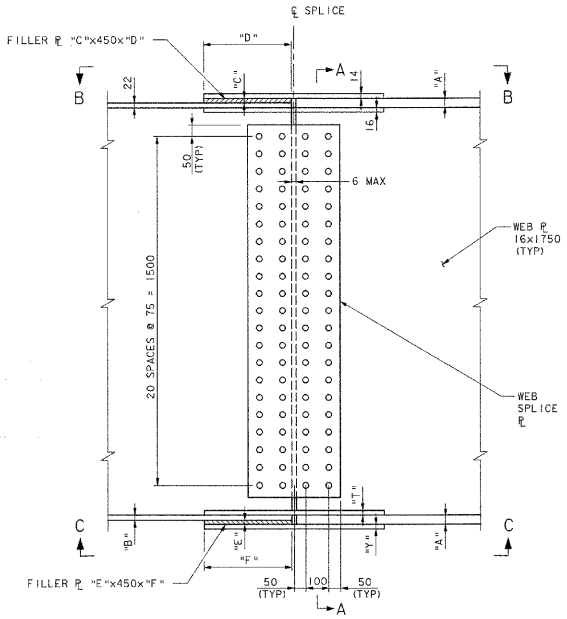
Metric

BOLTED FIELD SPLICE TABLE

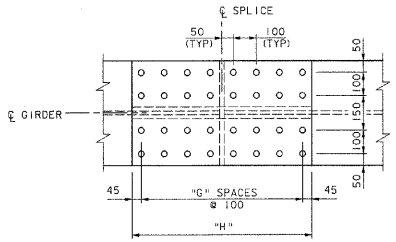
SPLICE NO	FLANGE PLATE		FILLER PLATE				FLANGE SPLICE PLATE					
	THICKNESS "A"	THICKNESS "B"	THICKNESS "C"	LENGTH "D"	THICKNESS "E"	LENGTH "F"	# "G"	LENGTH "H"	# "K"	LENGTH "L"	THICKNESS "T"	THICKNESS "Y"
1	40	40	18	392	-	-	7	790	9	990	20	18
2	40	22	18	492	18	492	9	990	9	990	16	14
3	32	22	10	392	10	392	7	790	7	790	16	14



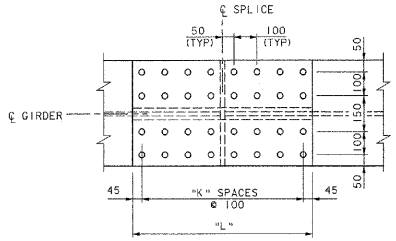
ELEVATION
WELDED FLANGE PLATE SPLICE DETAIL
(TOP FLANGE SHOWN, BOTTOM FLANGE SIMILAR)
NOT TO SCALE



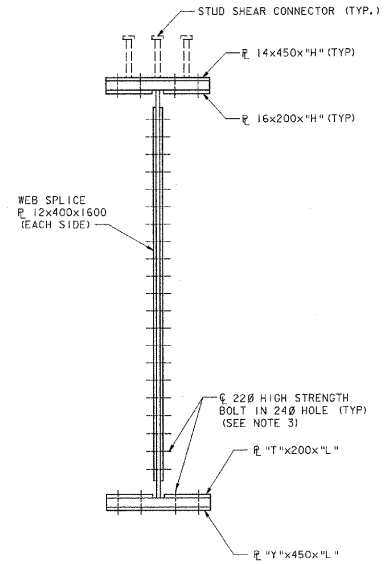
ELEVATION
(STUD SHEAR CONNECTORS NOT SHOWN)
NOT TO SCALE



VIEW B-B (TOP)
(STUD SHEAR CONNECTORS NOT SHOWN)
NOT TO SCALE



VIEW C-C (BOTTOM)
NOT TO SCALE



SECTION A-A
NOT TO SCALE

NOTES:

1. SEE SHEET SS 21 FOR STRUCTURAL STEEL NOTES.
2. SEE SHEETS SS 18-SS 20 FOR FRAMING PLAN AND GIRDER ELEVATIONS.
3. INSTALL WEB BOLTS ON BRIDGE GIRDERS 1 AND 4 WITH BOLT HEADS ON THE EXTERIOR FACE.

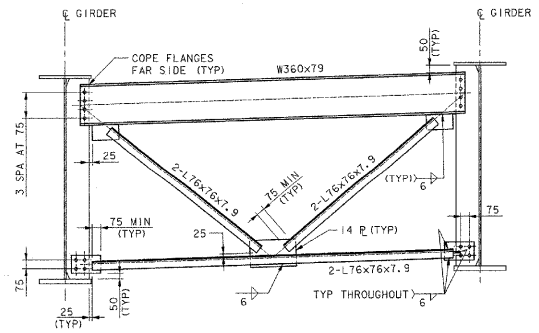
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
SPLICE DETAILS	
Designed By S.M. HODGDON	Drawn By C.L. CILLEY
Checked By Date	Bridge Design Supervisor
T.S. BRYANT 10/03	S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072ss1	Sheet SS 23 of SS 57

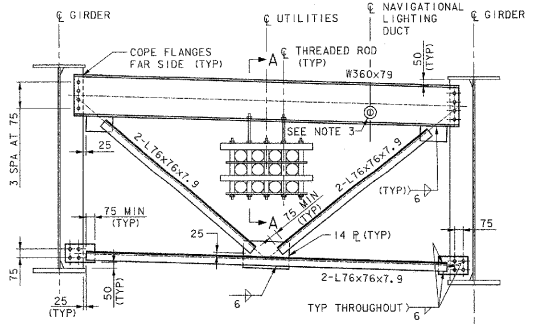
VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5098

plot date: 10/23/2003



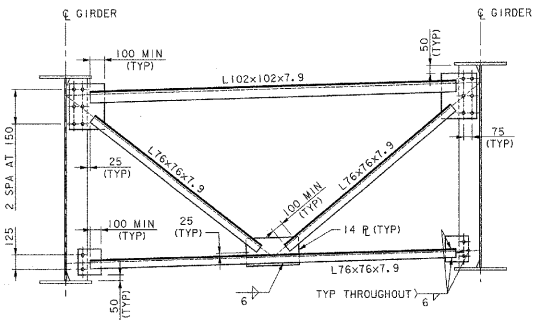
BAY 1 & 2
(BAY 1 SHOWN)



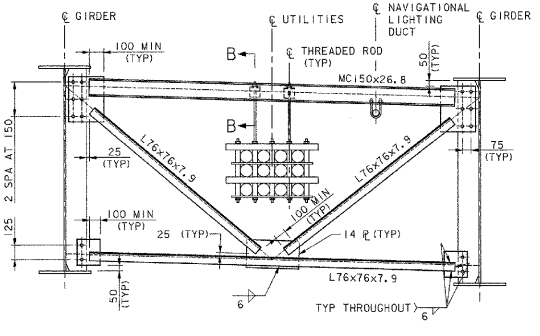
BAY 3

END CROSS FRAME

(ABUTMENT NO 1, PIER NO 7, PIER NO 15 & ABUTMENT NO 2)
SCALE: 1:20



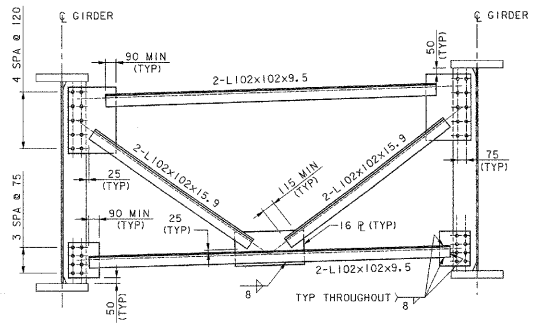
BAY 1 & 2
(BAY 1 SHOWN)



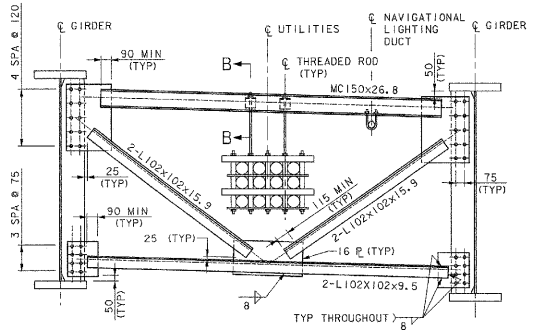
BAY 3

INTERMEDIATE CROSS FRAME

SCALE: 1:20



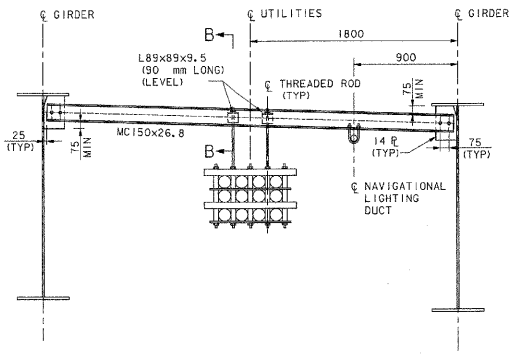
BAY 1 & 2
(BAY 1 SHOWN)



BAY 3

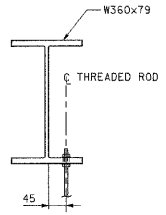
INTERMEDIATE PIER CROSS FRAME

(PIER NO 1-6, 8-14 & 16-22)
SCALE: 1:20

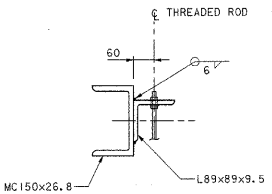


UTILITY SUPPORT

SCALE: 1:20



SECTION A-A
(UTILITY HANGER NOT SHOWN)
NOT TO SCALE



SECTION B-B
NOT TO SCALE

NOTES:

1. SEE SHEETS SS 18-SS 20 FOR FRAMING PLANS.
2. SEE SHEET SS 25 FOR UTILITY DETAILS.
3. SEE SHEET SS 33 FOR NAVIGATIONAL LIGHTING DETAILS. THE CONTRACTOR SHALL COORDINATE THE SIZE AND LOCATION OF THE HOLE IN THE END CROSS FRAMES WITH THE NAVIGATIONAL LIGHTING DUCT.
4. SEE SHEET SS 21 FOR STRUCTURAL STEEL NOTES.
5. SEE SHEET SS 26 FOR MISCELLANEOUS STEEL DETAILS.

0 1000 2000
SCALE = 1:20

STATE OF VERMONT
AGENCY OF TRANSPORTATION

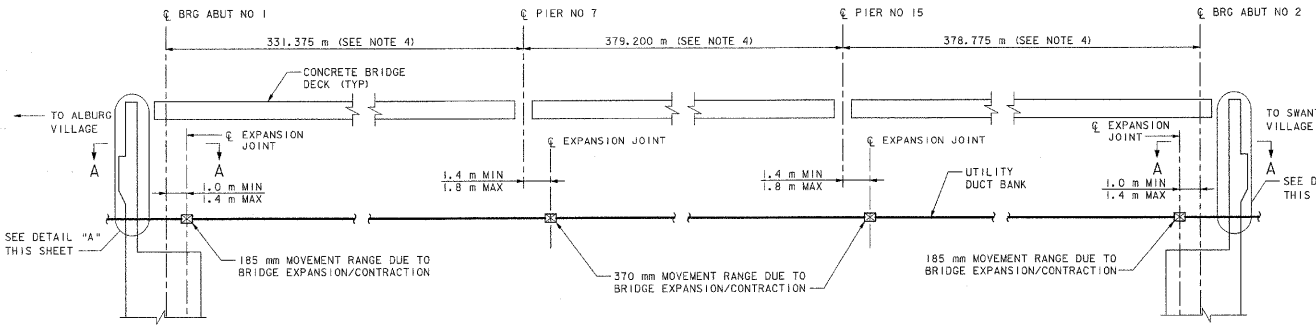
Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
CROSS FRAME DETAILS	
Designed By S.M. HODGDON	Drawn By W.B. LAVERGNE (TS)
Checked By Date A.S. ROBINSON 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE0T2ss2	Sheet SS 24 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

VHB No. 5091I

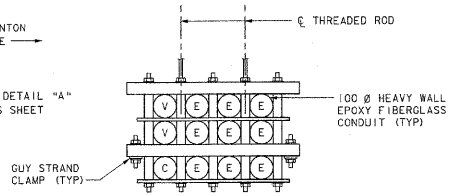
plot date: 10/23/2003

DIRECTION OF CABLE PULL



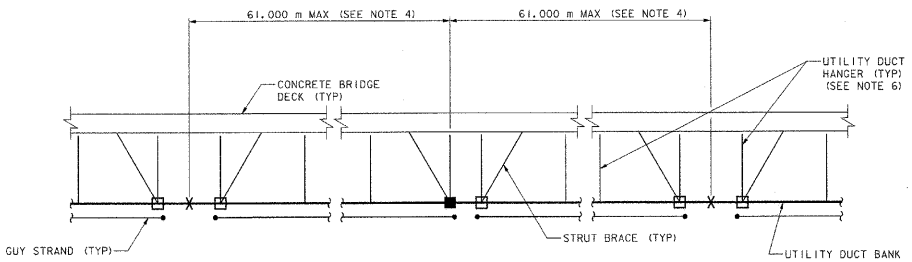
SCHEMATIC UTILITY ELEVATION

(APPROACH SLAB NOT SHOWN)
NOT TO SCALE



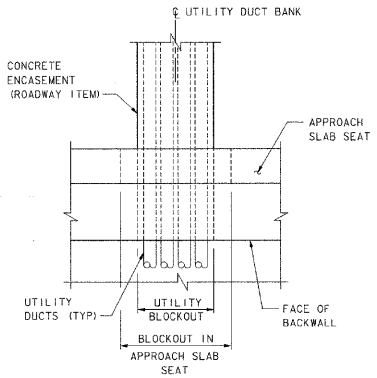
TYPICAL UTILITY DUCT BANK & HANGER ASSEMBLY DETAIL

(LOOKING UPSTATION)
NOT TO SCALE



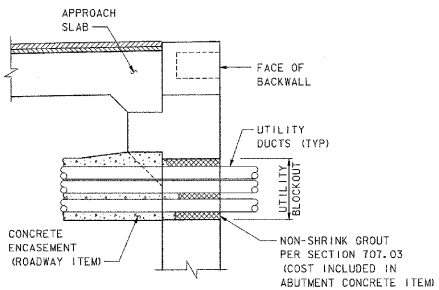
SCHEMATIC BRACING LAYOUT

NOT TO SCALE



VIEW A-A

NOT TO SCALE



DETAIL A

NOT TO SCALE

NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF THE UTILITY SUPPORT SYSTEM. THE SYSTEM CONSISTS OF UTILITY CONDUIT HANGERS, LONGITUDINAL BRACING, JOINTS, AND ANY OTHER NECESSARY APPURTENANCES. CONSTRUCTION DRAWINGS AND CALCULATIONS FOR THE PROPOSED UTILITY SUPPORT SYSTEM SHALL BE STAMPED WITH THE SEAL OF A LICENSED PROFESSIONAL ENGINEER AND SUBMITTED FOR REVIEW. COST SHALL BE INCLUDED IN ITEM 625.16, "DUCTS ON BRIDGE".
2. THE UTILITY SUPPORT SYSTEM SHALL ACCOMMODATE ALL TEMPORARY AND PERMANENT LOADS INCLUDING THE FOLLOWING:
   A) A MAXIMUM CABLE PULLING FORCE PER CONDUIT OF 16.5 kN.
   B) A MAXIMUM INDUCED SIDEWALL PRESSURE ON THE CONDUIT FROM PULLING CABLE OF APPROXIMATELY 410 N/m.
   C) A CABLE WEIGHT OF 46.7 N/m.
3. CONDUIT EXPANSION JOINTS SHALL ACCOMMODATE ANTICIPATED THERMAL MOVEMENTS OF BOTH THE CONDUIT AND BRIDGE. THERMAL MOVEMENT RANGES PROVIDED FOR THE BRIDGE ARE BASED ON A TEMPERATURE RANGE OF -35 DEGREES CELSIUS TO 50 DEGREES CELSIUS. A TEMPERATURE SETTING CHART FOR ALL EXPANSION JOINTS SHALL BE PROVIDED WITH THE DESIGN OF THE UTILITY SUPPORT SYSTEM.
4. ALL DIMENSIONS SHOWN ARE AT 7 DEGREES CELSIUS.
5. REFER TO CIVIL SHEETS FOR PROFILE GEOMETRY ON AND OFF THE BRIDGE.
6. SEE FRAMING PLAN SHEETS SS 18-SS 20 FOR UTILITY HANGER SUPPORT LOCATIONS. SEE CROSS FRAME SHEET SS 24 FOR UTILITY HANGER SUPPORT DETAILS.
7. SEE SHEETS SS 35-SS 38 FOR BLOCKOUT DETAILS IN ABUTMENT BACKWALLS.
8. REFER TO SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

LEGEND:

- ⊠ END DUCT EXPANSION JOINT
- ■ ANCHOR POINT TYPE HANGER WITH STOP RINGS
- □ ANCHOR POINT TYPE HANGER WITHOUT STOP RINGS
- X INTERMEDIATE DUCT EXPANSION JOINT
- (E) PROPOSED ELECTRICAL DUCT
- (V) PROPOSED VTRANS DUCT
- (C) PROPOSED CABLE TV DUCT

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

UTILITY SUPPORT DETAILS

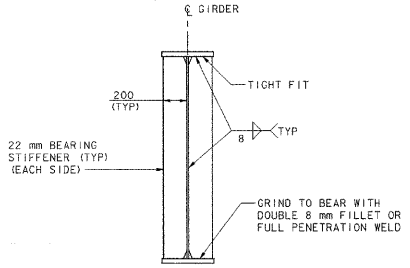
Designed By S. M. HODGDON	Drawn By W. B. LAVERGNE (TS)
Checked By C. L. CILLEY Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072ss3	Sheet SS 25 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091I

plot date 10/23/2003

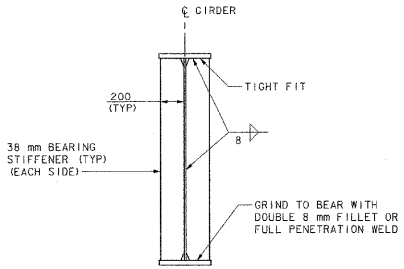
Metric



END CROSS FRAME BEARING STIFFENER & JACKING STIFFENER DETAIL

(ABUT NO 1, PIER NO 7, PIER NO 15 & ABUT NO 2)

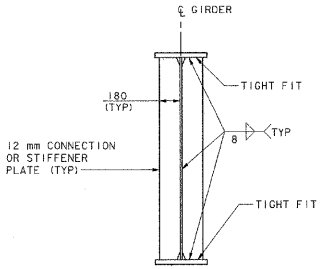
NOT TO SCALE



INTERMEDIATE PIER BEARING STIFFENER & JACKING STIFFENER DETAIL

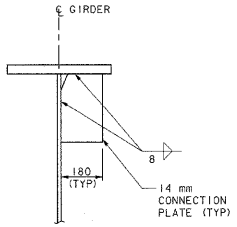
(PIER NOS 1-6, 8-14, 16-22)

NOT TO SCALE



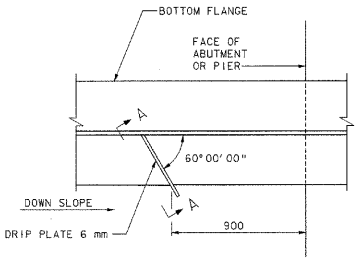
CONNECTION PLATE & TRANSVERSE STIFFENER DETAIL

NOT TO SCALE

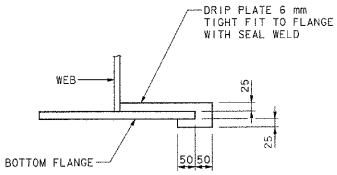


CONNECTION PLATE AT INTERMEDIATE UTILITY SUPPORT

NOT TO SCALE



PLAN



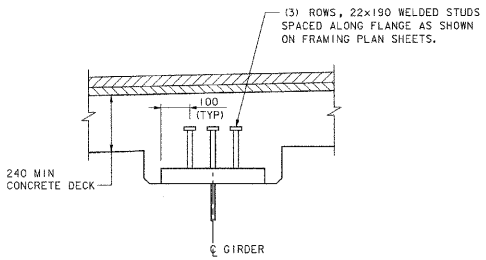
SECTION A-A

NOTE:

DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FASCIA GIRDERS ON THE HIGH SIDE (EAST SIDE OF ABUT NO 1 AND PIERS 1-10; WEST SIDE OF PIERS 11-22 AND ABUT NO 2) OF ALL PIERS AND ABUTMENTS. DRIP PLATES SHALL ALSO BE PLACED ON BOTH SIDES OF THE INTERIOR AND EXTERIOR GIRDERS ON THE LOW SIDE (ABUT NO 1, ABUT NO 2, WEST SIDE PIER NO 7, AND EAST SIDE OF PIER NO 15) AT EXPANSION JOINTS (NOT SHOWN).

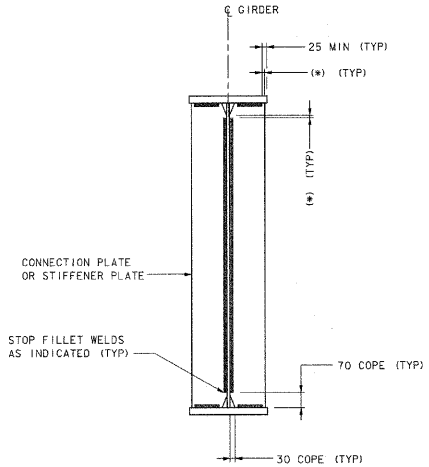
DRIP PLATE DETAIL

NOT TO SCALE



SHEAR CONNECTOR DETAIL

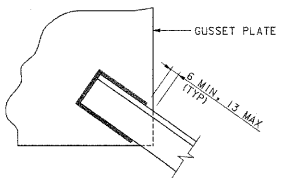
NOT TO SCALE



* NO WELD FOR 6 MIN, 13 MAX

WELD TERMINATION AND COPING DETAIL

NOT TO SCALE



WELD TERMINATION DETAIL AT CROSS FRAMES

NOT TO SCALE

NOTES:

1. SEE SHEETS SS 18-SS 20 FOR FRAMING PLANS AND GIRDER ELEVATIONS.
2. SEE SHEET SS 24 FOR CROSS FRAME AND UTILITY SUPPORT DETAILS.
3. SEE SHEETS SS 3-SS 10 FOR BRIDGE ELEVATION AND SEE CIVIL SHEETS FOR PROFILE GEOMETRY.
4. SEE SHEET SS 21 FOR STRUCTURAL STEEL NOTES.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of: ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

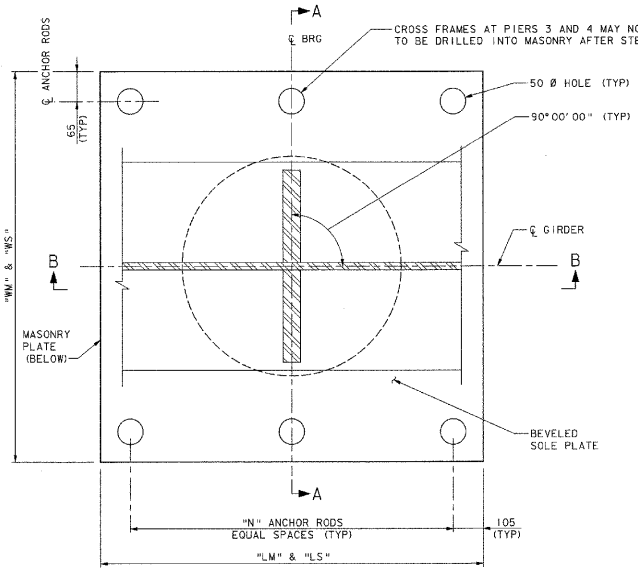
MISCELLANEOUS SUPERSTRUCTURE DETAILS

Designed By C.L. CILLEY	Drawn By W.B. LAVERGNE (TS)
Checked By A.S. ROBINSON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072ss4	Sheet SS 26 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

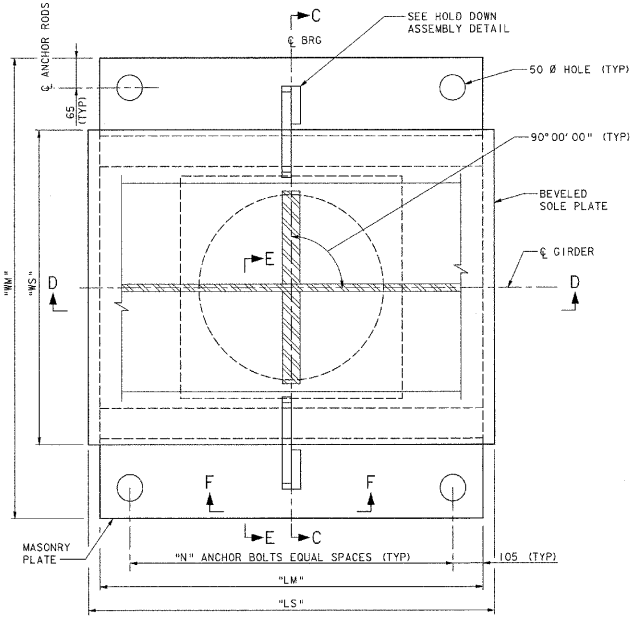
VHB NO. 5091I

plot date: 10/23/2003



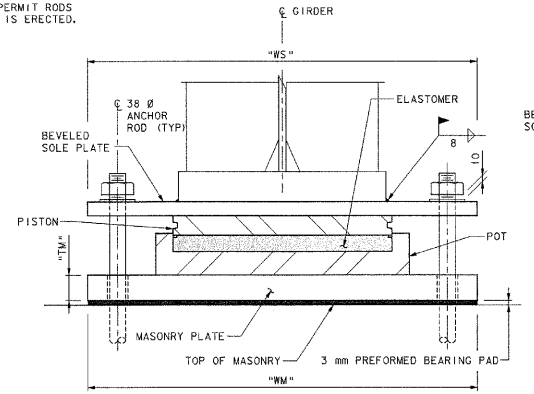
PLAN - FIXED BEARING

(ANCHOR RODS NOT SHOWN FOR CLARITY)
NOT TO SCALE



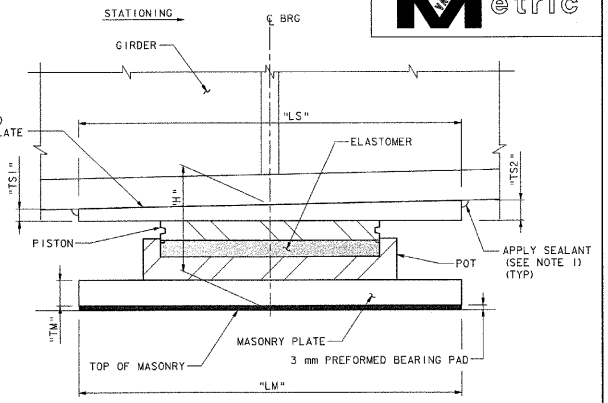
PLAN - EXPANSION BEARING

(ANCHOR RODS NOT SHOWN FOR CLARITY)
NOT TO SCALE



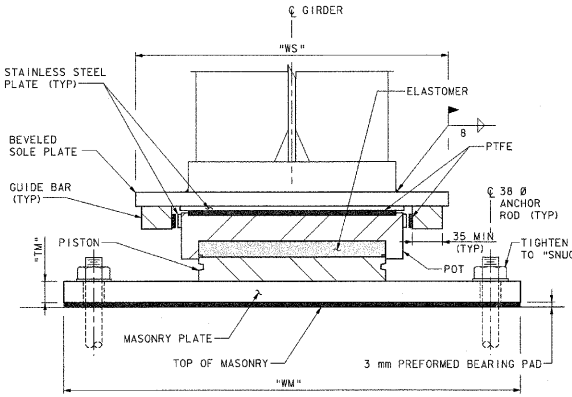
SECTION A-A

NOT TO SCALE



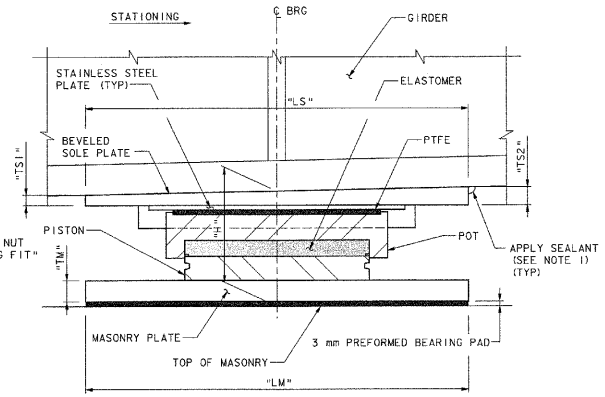
SECTION B-B

NOT TO SCALE



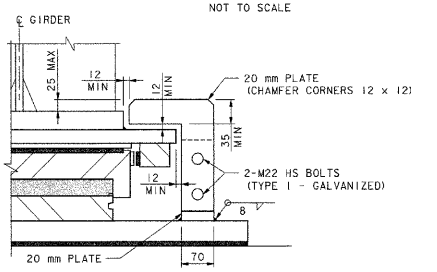
SECTION C-C

(HOLD DOWN DETAIL NOT SHOWN)
NOT TO SCALE

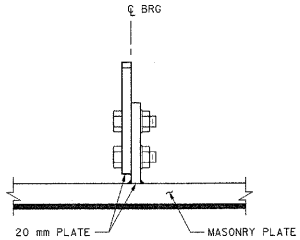


SECTION D-D

NOT TO SCALE



VIEW E-E



VIEW F-F

(BEARING AND GIRDER NOT SHOWN)

HOLD DOWN DETAIL

(ONLY REQUIRED AT ABUTMENTS AND PIER NO 7 & 15)
NOT TO SCALE

NOTES:

1. APPLY SEALANT ALONG TRANSVERSE EDGE AND UP AND AROUND TO THE FILLET WELD TERMINATION. SEALANT SHALL BE DOW CORNING CORP. 888 OR AN APPROVED EQUIVALENT. COST SHALL BE INCLUDED IN ITEM 531.10.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

FIXED & EXPANSION BEARING DETAILS

Designed By S.M. HODGDON	Drawn By W.B. LAVERGNE (TS)
Checked By S.W. JOHNSON Date 11/03	Bridge Design Supervisor S.W. JOHNSON Date 11/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
L.G.C. Info.	
File No. ZE072bg1	Sheet SS 27 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

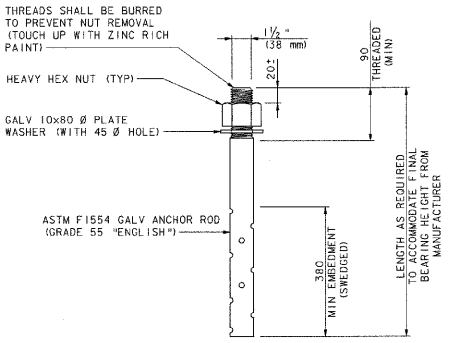
plot date: 11/7/2003

Last Metric

BEARING DESIGN TABLE

LOCATION	BEARING TYPE	SERVICE LOADS						SERVICE DISPLACEMENTS		MASONRY PLATE			SOLE PLATE				ANCHOR RODS		BEARING HEIGHT
		DEAD (kN)	LIVE+IMPACT (kN)	TOTAL VERTICAL (kN)	TRANSVERSE (kN)	LONGITUDINAL (kN)	MAXIMUM HORIZONTAL (kN)	ROTATION (rad)	TOTAL MOVEMENT (mm)	LM (mm)	WM (mm)	TM (mm)	LS (mm)	WS (mm)	TS1 (mm)	TS2 (mm)	N	TOTAL	H (mm) (SEE NOTE 7)
ABUTMENT NO 1	EXP	703	503	1206	142	42	142	0.025	193*	600	800	30	600	540	20	30	2	16	145
PIER NO 1	EXP	2171	1027	3198	436	130	436	0.025	142	600	900	55	700	600	19	31	2	16	215
PIER NO 2	EXP	1793	987	2780	360	108	360	0.025	94	600	900	45	650	600	19	31	2	16	190
PIER NO 3	FIXED	1886	1001	2887	377	676	685	0.025	-	600	800	55	600	600	20	30	3	24	195
PIER NO 4	FIXED	1886	1001	2887	377	676	685	0.025	-	600	800	55	600	600	20	30	3	24	195
PIER NO 5	EXP	1793	987	2780	360	108	360	0.025	94	600	900	45	650	600	19	31	2	16	190
PIER NO 6	EXP	2171	1027	3198	436	130	436	0.025	142	600	900	55	700	600	19	31	2	16	215
PIER NO 7, SPAN 7	EXP	703	503	1206	142	42	142	0.025	193*	600	800	30	600	540	20	30	2	16	145
PIER NO 7, SPAN 8	EXP	703	503	1206	142	42	142	0.025	221*	600	800	45	600	540	20	30	2	16	160
PIER NO 8	EXP	2171	1027	3198	436	130	436	0.025	167	600	900	55	720	600	20	30	2	16	215
PIER NO 9	EXP	1788	987	2775	360	107	360	0.025	117	600	900	45	650	600	23	27	2	16	190
PIER NO 10	FIXED	1895	1005	2900	379	467	480	0.025	-	600	800	55	600	600	25	25	2	16	195
PIER NO 11	FIXED	1895	1005	2900	379	467	480	0.025	-	600	800	55	600	600	25	25	2	16	195
PIER NO 12	FIXED	1895	1005	2900	379	467	480	0.025	-	600	800	55	600	600	28	22	2	16	195
PIER NO 13	EXP	1788	987	2775	360	107	360	0.025	117	600	900	45	650	600	30	20	2	16	190
PIER NO 14	EXP	2171	1027	3198	436	130	436	0.025	167	600	900	55	720	600	31	19	2	16	215
PIER NO 15, SPAN 15	EXP	703	503	1206	142	42	142	0.025	221*	600	800	45	600	540	30	20	2	16	160
PIER NO 15, SPAN 16	EXP	703	503	1206	142	42	142	0.025	221*	600	800	30	600	540	30	20	2	16	145
PIER NO 16	EXP	2171	1027	3198	436	130	436	0.025	167	600	900	55	720	600	31	19	2	16	215
PIER NO 17	EXP	1788	987	2775	360	107	360	0.025	117	600	900	45	650	600	31	19	2	16	190
PIER NO 18	FIXED	1895	1005	2900	379	467	480	0.025	-	600	800	55	600	600	30	20	2	16	195
PIER NO 19	FIXED	1895	1005	2900	379	467	480	0.025	-	600	800	55	600	600	30	20	2	16	195
PIER NO 20	FIXED	1895	1005	2900	379	467	480	0.025	-	600	800	55	600	600	30	20	2	16	195
PIER NO 21	EXP	1788	987	2775	360	107	360	0.025	117	600	900	45	650	600	31	19	2	16	190
PIER NO 22	EXP	2171	1027	3198	436	130	436	0.025	167	600	900	55	720	600	31	19	2	16	215
ABUTMENT NO 2	EXP	703	503	1206	142	42	142	0.025	221*	600	800	30	600	540	30	20	2	16	145

* AN ADDITIONAL 11 mm± OF OUTWARD MOVEMENT AT THE BOTTOM FLANGE IS ANTICIPATED FROM GIRDER END ROTATION AFTER ALL DEAD LOAD DEFLECTION HAS OCCURED.



ANCHOR ROD DETAIL
NOT TO SCALE

BEARING DEVICE NOTES:

1. BEARING DEVICES SHALL CONFORM TO SECTION 531 OF THE SPECIFICATIONS.
2. THE MANUFACTURER SHALL DESIGN THE POT BEARING ASSEMBLY AND GUIDE BARS. SHOP DRAWINGS SHALL INCLUDE THE TOTAL ASSEMBLED BEARING HEIGHT AT THE CENTER OF THE BEARING SO THAT ANY ADJUSTMENTS TO MASONRY ELEVATIONS CAN BE DETERMINED. THE SHOP DRAWINGS SHALL ALSO INCLUDE A PROCEDURE FOR FUTURE BEARING REPLACEMENT WITH A MAXIMUM GIRDER LIFT OF 8 mm.
3. THE SOLE PLATE DIMENSIONS SHOWN ARE BASED ON POT DIMENSIONS OBTAINED FROM MANUFACTURER CATALOGS. THE MANUFACTURER SHALL VERIFY THE SOLE PLATE LENGTH AND WIDTH IS SUFFICIENT TO ACCOMMODATE THE ACTUAL BEARING DEVICE AND REQUIRED MOVEMENTS AND INDICATE ANY ADJUSTMENTS REQUIRED ON THE SHOP DRAWINGS.
4. THE BEARING MANUFACTURER SHALL INCLUDE A TEMPERATURE SETTING TABLE ON THE SHOP DRAWINGS. THE SETTING TABLE SHALL ALSO ACCOMMODATE THE GIRDER END ROTATIONS NOTED IN THE TABLE ABOVE.
5. BEARINGS SHALL BE METALIZED AFTER FABRICATION. METALIZED AREAS THAT ARE DAMAGED DURING FIELD WELDING OPERATIONS SHALL BE REPAIRED IN ACCORDANCE WITH SECTION 513 OF THE SUPPLEMENTAL SPECIFICATIONS.
6. THE PREFORMED BEARING PAD BENEATH THE MASONRY PLATE SHALL HAVE THE SAME SIZE AND ANCHOR BOLT HOLE LAYOUT AS THE CORRESPONDING MASONRY PLATE.
7. MASONRY SEAT ELEVATIONS ARE BASED ON THE BEARING HEIGHT ("H") SHOWN WHICH INCLUDES THE BEARING, SOLE PLATE, MASONRY PLATE AND 3 mm BEARING PAD. PRIOR TO CASTING THE ABUTMENT AND PIER PEDESTALS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE PROPOSED BEARING HEIGHT ("H") AS PROVIDED BY THE MANUFACTURER AND ANY PEDESTAL ELEVATION MODIFICATIONS REQUIRED BEFORE CONSTRUCTING MASONRY. PEDESTAL ELEVATIONS MAY BE RAISED UP TO 50 mm FOR BEARING HEIGHTS SHORTER THAN THAT SHOWN. BEARINGS THAT ARE TALLER THAN SHOWN WILL REQUIRE ADJUSTMENTS TO CONSTRUCTION JOINT ELEVATIONS AT THE ABUTMENTS AND PIERS.

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

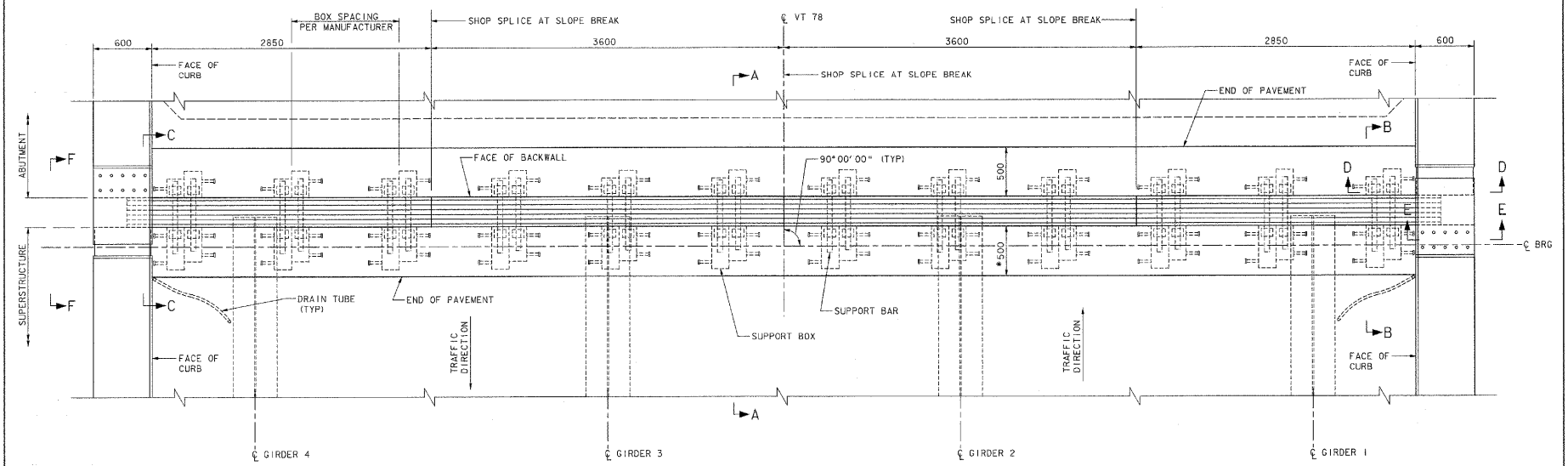
MISCELLANEOUS BEARING DETAILS

Designed By S. M. HODGDON	Drawn By W. B. LAVERGNE (TS)
Checked By S. W. JOHNSON Date 11/03	Bridge Design Supervisor S. W. JOHNSON Date 11/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
L.G.C. Info.	
File No. ZE072bg2	Sheet SS 28 of SS 57

VHB NO. 5098

plot date: 11/7/2003

Metric

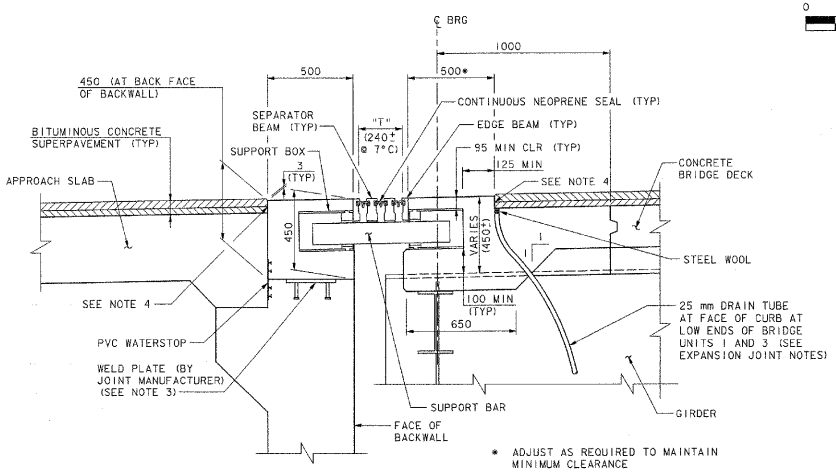


TYPE 1 EXPANSION JOINT PLAN

(ABUTMENT NO 2 SHOWN, ABUTMENT NO 1 SIMILAR)
(POSITIONING SUPPORTS NOT SHOWN)
SCALE: 1:20

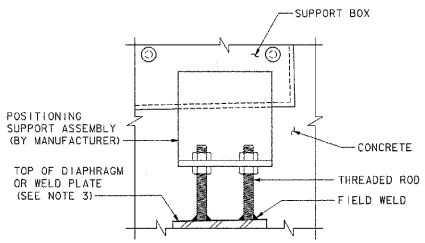
0 1000 2000

SCALE = 1:20



SECTION A-A

(ADJUSTABLE POSITIONING SUPPORTS NOT SHOWN)
NOT TO SCALE



ADJUSTABLE POSITIONING SUPPORT DETAIL

NOT TO SCALE

NOTES:

1. FOR SECTIONS B-B, C-C, D-D, E-E AND F-F SEE SHEET SS 31.
2. SEE SHEET SS 30 FOR EXPANSION JOINT NOTES.
3. DRILLING AND GROUTING THREADED RODS INTO THE TOP OF THE BACKWALL MAY BE PERMITTED IN LIEU OF THE WELD PLATE SHOWN. ALTERNATIVE POSITIONING SUPPORT DETAILS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
4. EXTEND SHEET MEMBRANE WATERPROOFING (MOD-SPRAYED) 50 mm UP BLOCKOUT.

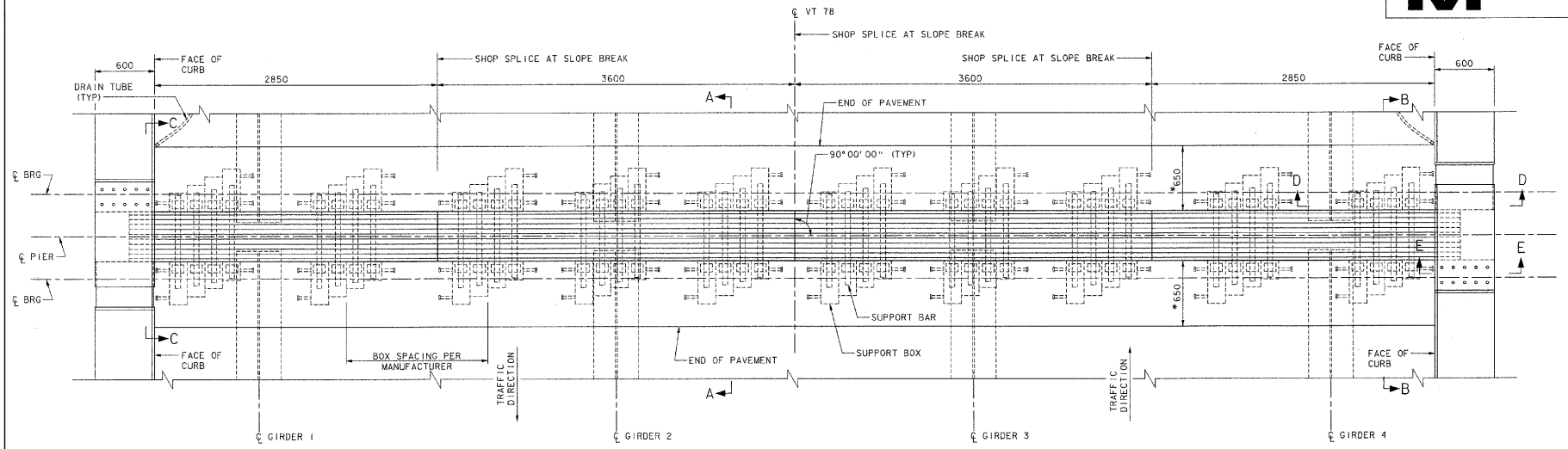
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
TYPE 1 EXPANSION JOINT	
Designed By S. M. HODGDON	Drawn By W. B. LAVERGNE (TS)
Checked By Date W. M. MOSHER 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
L.G.C. Info.	
File No. ZE072[11]	Sheet SS 29 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003



TYPE 2 EXPANSION JOINT PLAN

(PIER 7 SHOWN, PIER 15 SIMILAR)
(POSITIONING SUPPORTS NOT SHOWN)
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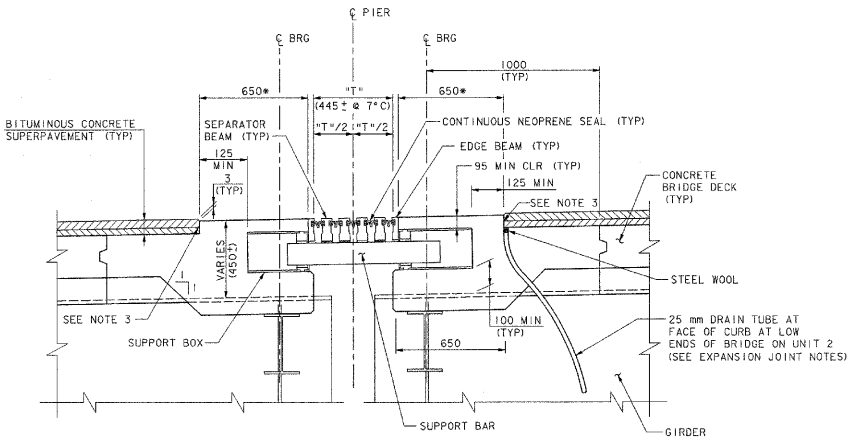
0 1000 2000

SCALE = 1:20



* ADJUST AS REQUIRED TO MAINTAIN MINIMUM CLEARANCE

SECTION A-A

(ADJUSTABLE POSITIONING SUPPORTS NOT SHOWN)
NOT TO SCALE

EXPANSION JOINT NOTES:

1. THE EXPANSION JOINT ASSEMBLIES SHALL CONFORM TO SPECIAL PROVISION 516A.
2. EACH EXPANSION JOINT SHALL BE ASSEMBLED AND SHIPPED AS ONE UNIT.
3. THE FINAL FINISH OF THE EXPANSION DEVICES SHALL BE COVERED DURING THE PLACING OF BRIDGE DECK CONCRETE.
4. STEEL COMPONENTS SHALL BE AASHTO M270 M GRADE 345 OR 345W, GALVANIZED OR METALIZED.
5. THE EXPANSION JOINT MANUFACTURER SHALL INCLUDE A TEMPERATURE SETTING TABLE FOR EACH EXPANSION JOINT LOCATION ON THE SHOP DRAWINGS. THE JOINT OPENINGS SHALL BE AT MID RANGE AT 7 DEGREES CELSIUS.
6. THE ITEM "BRIDGE EXPANSION JOINT" SHALL INCLUDE THE FABRICATION AND ERECTION OF THE COMPLETE JOINT ASSEMBLY.
7. COAT CONCRETE CONTACT SURFACES WITH EPOXY BONDING COMPOUND MEETING THE REQUIREMENTS OF SUBSECTION 719.02. PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 516.10.
8. A 25 mm DIAMETER (NOMINAL) PLASTIC DRAIN TUBE (PER SECTION 740.01) SHALL BE INSTALLED AS SHOWN AT THE FACE OF THE CURBS. THE UPPER END IS TO BE PLUGGED WITH STEEL WOOL AND THE LOWER END IS TO EXTEND 150 mm BELOW THE BOTTOM OF THE FASCIA GIRDER AND AWAY FROM THE MASONRY BRIDGE SEAT. THE DRAIN TUBES SHALL BE FASTENED TO THE GIRDERS USING A METHOD APPROVED BY THE ENGINEER. COST INCLUDED IN ITEM 501.221.
9. TYPE 1 EXPANSION JOINTS SHALL BE USED AT ABUTMENT NO 1 AND ABUTMENT NO 2. TYPE 2 EXPANSION JOINTS SHALL BE USED AT PIER NO 7 AND PIER NO 15.
10. TOTAL THERMAL MOVEMENT RANGES FOR EACH JOINT TYPE ARE AS FOLLOWS:
    TYPE 1 = 185 mm
    TYPE 2 = 370 mm

NOTES:

1. FOR SECTIONS B-B, C-C, D-D AND E-E SEE SHEET SS 31.
2. SEE SHEET SS 29 FOR POSITIONING SUPPORT DETAIL.
3. EXTEND SHEET MEMBRANE WATERPROOFING (MOD-SPRAYED) 50 mm UP BLOCKOUT.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

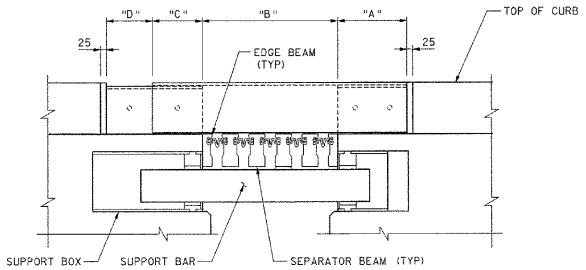
TYPE 2 EXPANSION JOINT

Designed By S.M. HODGDON	Drawn By W.B. LAVERGNE (TS)
Checked By W.M. MOSHER Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072|12	Sheet SS 30 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003

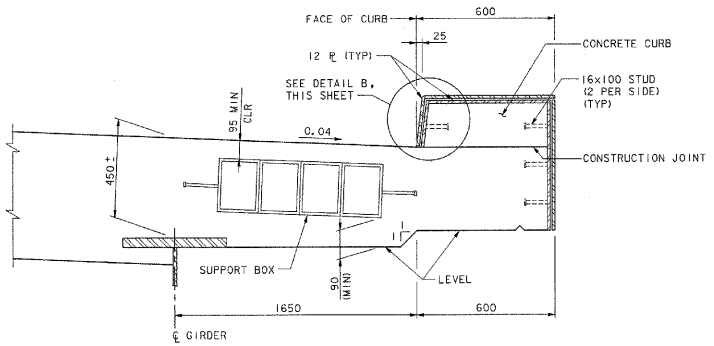


SECTION B-B

(PROFILE GRADE SLOPE NOT SHOWN)
(TYPE 2 JOINT SHOWN)
NOT TO SCALE

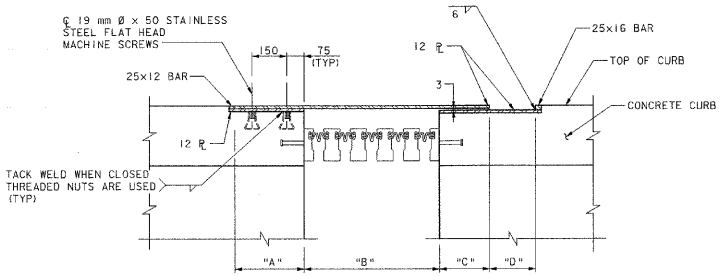
JOINT	"A"	"B"	"C"	"D"
TYPE 1	300	*	170	115
TYPE 2	300	*	250	200

* PER MANUFACTURER
(DIMENSIONS GIVEN AT 7°C)



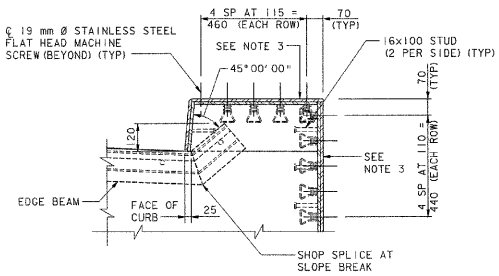
SECTION D-D

(TYPE 2 JOINT SHOWN)
NOT TO SCALE



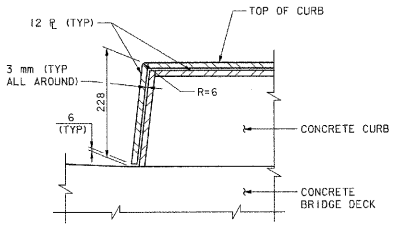
SECTION C-C

(PROFILE GRADE SLOPE NOT SHOWN)
(TYPE 2 JOINT SHOWN)
NOT TO SCALE



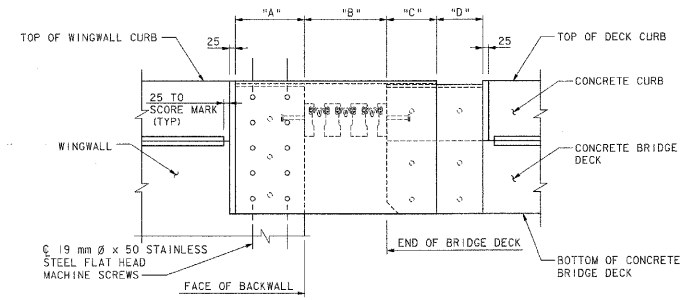
SECTION E-E

NOT TO SCALE



DETAIL B

NOT TO SCALE



SECTION F-F

(PROFILE GRADE SLOPE NOT SHOWN)
(TYPE 1 JOINT SHOWN, TYPE 2 SIMILAR)
NOT TO SCALE

ANCHOR FERRULE DETAIL

NOT TO SCALE

NOTE:
CLOSED THREADED FERRULE NUTS WITHOUT ANCHOR LOOPS MAY BE USED.

0 500 1000
SCALE = 1:10

NOTES:

1. FOR SECTION LOCATIONS, SEE SHEET SS 29 AND SS 30.
2. SEE SHEET SS 30 FOR EXPANSION JOINT NOTES.
3. TWO REMOVABLE CURB PLATES SHALL BE USED AT EACH CURB DAM TO FACILITATE INSTALLATION AND REMOVAL.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

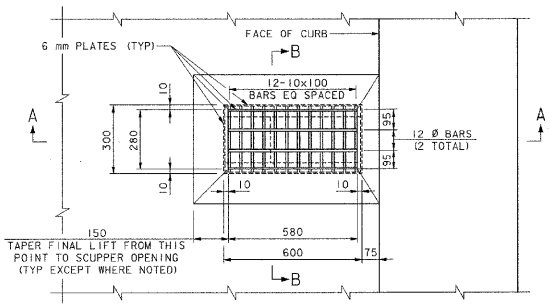
TYPICAL EXPANSION JOINT DETAILS

Designed By S. M. HODGDON	Drawn By W. B. LAVERGNE (TS)
Checked By W. M. MOSHER Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072J13	Sheet SS 31 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

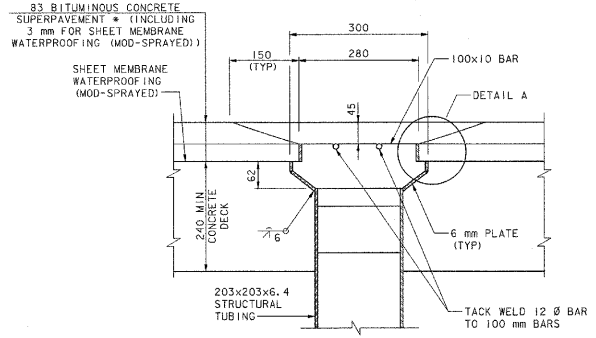
VHB NO. 5098

plot date: 10/23/2003



PLAN

SCALE: 1:10

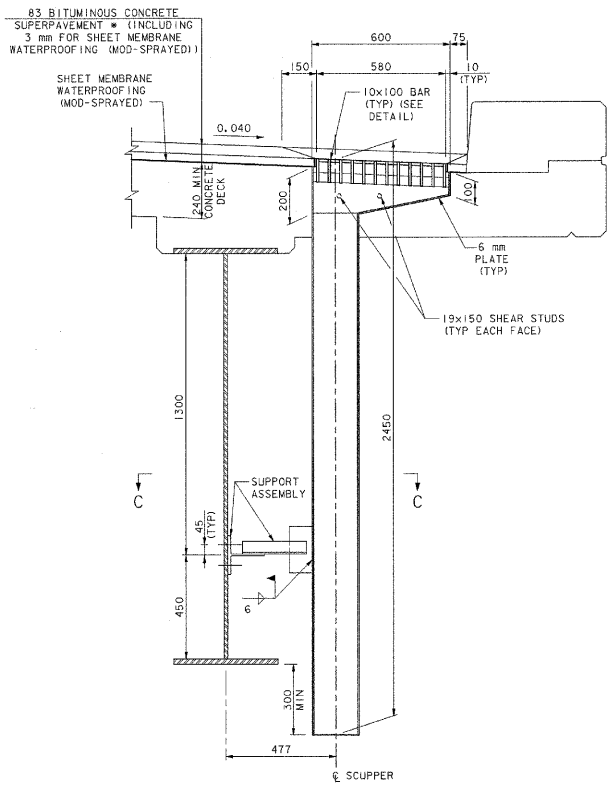


SECTION B-B

NOT TO SCALE

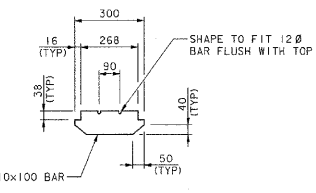
NOTES:

1. HOLLOW STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A-500 GRADE B.
2. ALL PLATES, BARS, WT SECTIONS, AND ANGLES SHALL CONFORM TO AASHTO M 270M/M 270 GR 250.
3. SCUPPER COMPONENTS, INCLUDING SUPPORT ASSEMBLY, SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 111M/M 111 OR AASHTO M 232M/M 232 AFTER FABRICATION.
4. THE EXTERIOR FACES OF THE STRUCTURAL TUBING AND THE SUPPORT ASSEMBLY SHALL BE GIVEN A SHOP APPLIED PAINT SYSTEM. GALVANIZED AND PAINTED COATINGS DAMAGED DURING INSTALLATION OF THE SCUPPER ASSEMBLY SHALL BE REPAIRED AS REQUIRED. SEE SUPPLEMENTAL SPECIFICATION 513, SECTION 513.06(f). COST INCLUDED IN ITEM 513.25.
5. THE TOP SURFACE OF SCUPPER SHALL BE SLOPED TO MATCH ROADWAY SLOPE AND GRADE.
6. THE BAR AND GRATE SECTION MAY BE PREFABRICATED PROVIDING THE GEOMETRY AND SECTION PROPERTIES ARE EQUIVALENT TO THE DETAILS SHOWN.
7. SCUPPERS AND SUPPORT ASSEMBLY SHALL BE PAID FOR UNDER ITEM 506.60 "STRUCTURAL STEEL".
8. ALL REQUIRED WELDS FOR SCUPPERS & DOWNSPOUTS SHALL BE DETAILED ON SHOP DRAWINGS WHICH SHALL ALSO INCLUDE ALL APPLICABLE WELDING PROCEDURES.
9. AFTER ALL PAVING AND CONCRETING OPERATIONS THE SCUPPERS AND DOWNSPOUTS SHALL BE CLEANED OF ALL CONTAMINATION.
10. WT 155X26 CONNECTION BOLTS SHALL BE M16 AASHTO M 164/M 164 TYPE 1, GALVANIZED. HOLES SHALL BE 18 mm DIAMETER.
11. SEE SHEETS SS 3-SS 10 FOR SCUPPER LOCATIONS.
12. SEE SHEETS SS 18-SS 20 FOR FRAMING PLAN AND GIRDER ELEVATIONS.
13. SEE CIVIL SHEETS FOR BRIDGE PROFILE GEOMETRY.



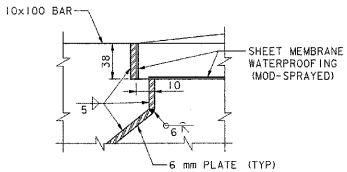
SECTION A-A

SCALE: 1:10



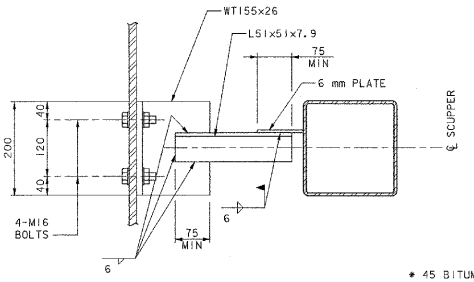
BAR DETAIL FOR GRATE

NOT TO SCALE



DETAIL A

NOT TO SCALE



SECTION C-C

SCALE: 1:5

0 250 500

SCALE = 1:5

0 500 1000

SCALE = 1:10

* 45 BITUMINOUS CONCRETE SUPERPAVEMENT TYPE IIIS OVER 35 BITUMINOUS CONCRETE SUPERPAVEMENT TYPE IVS.

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
SCUPPER DETAILS	
Designed By C.L. CILLEY	Drawn By W.B. LAVERGNE (TS)
Checked By S.M. HODGDON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072sd1	Sheet SS 32 of SS 57

VHB NO. 5091I

plot date: 10/23/2003

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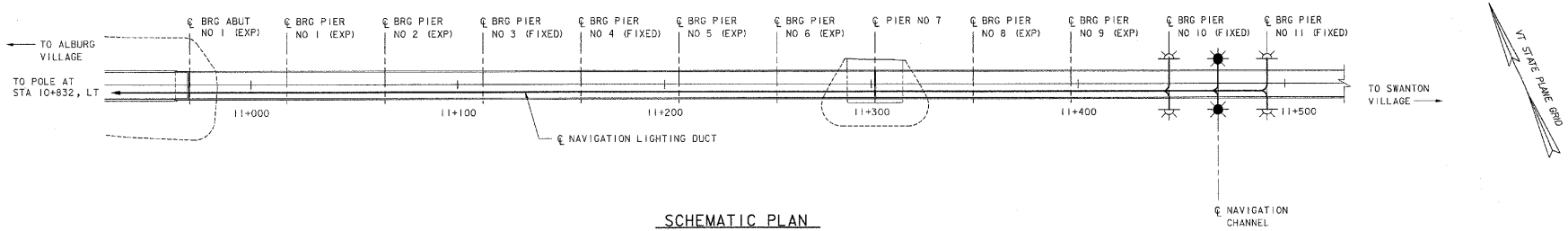
MISSISQUOI BAY

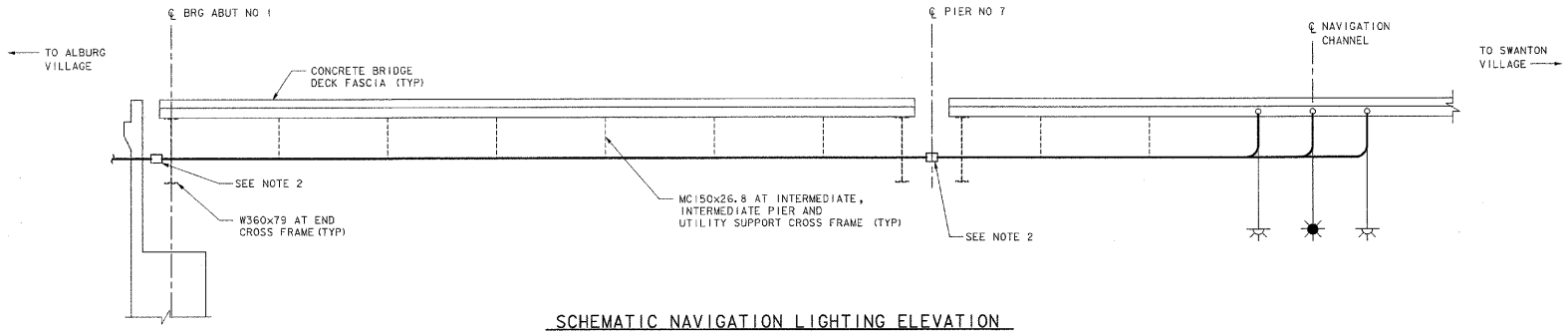


SCHEMATIC PLAN

SCALE: 1:1000

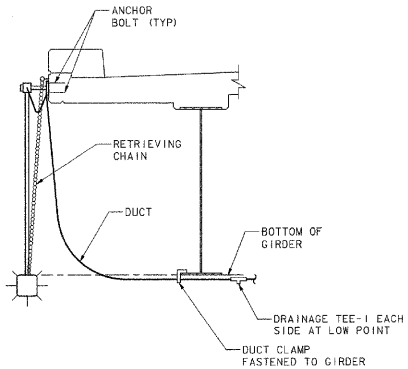
0 20 40 60 80 100

SCALE = 1:1000

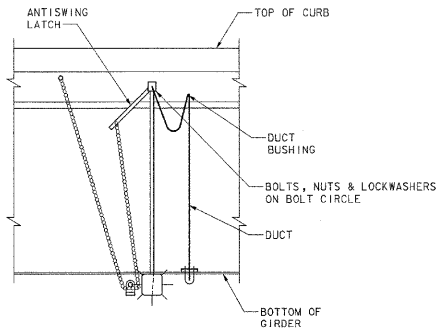


SCHEMATIC NAVIGATION LIGHTING ELEVATION

NOT TO SCALE



SIDE VIEW



FASCIA ELEVATION

SCHEMATIC NAVIGATION LIGHT DETAIL

NOT TO SCALE

NOTES:

1. INFORMATION SHOWN ON THIS SHEET IS SCHEMATIC ONLY. SEE SPECIFICATIONS FOR DETAILED REQUIREMENTS.
2. EXPANSION OF BRIDGE SUPERSTRUCTURE UNITS IS ACCOMMODATED AT ABUTMENT 1 AND PIER 7. RANGE OF SUPERSTRUCTURE MOVEMENT IS 185 mm AT ABUTMENT 1 AND 370 mm AT PIER 7.
3. THE NAVIGATIONAL LIGHTING SYSTEM SHALL BE PAID UNDER ITEM 679.15, "STREET LIGHTING (MOD - NAVIGATIONAL LIGHTING)."

LEGEND:

- PROPOSED NAVIGATION LIGHTING DUCT AND CONDUCTOR(S)
- 360° GREEN - CHANNEL CENTER NAVIGATION LIGHT (TYP)
- 180° RED - CHANNEL MARGIN NAVIGATION LIGHT (TYP)

VANASSE HANGEN BRUSTLIN, INC.

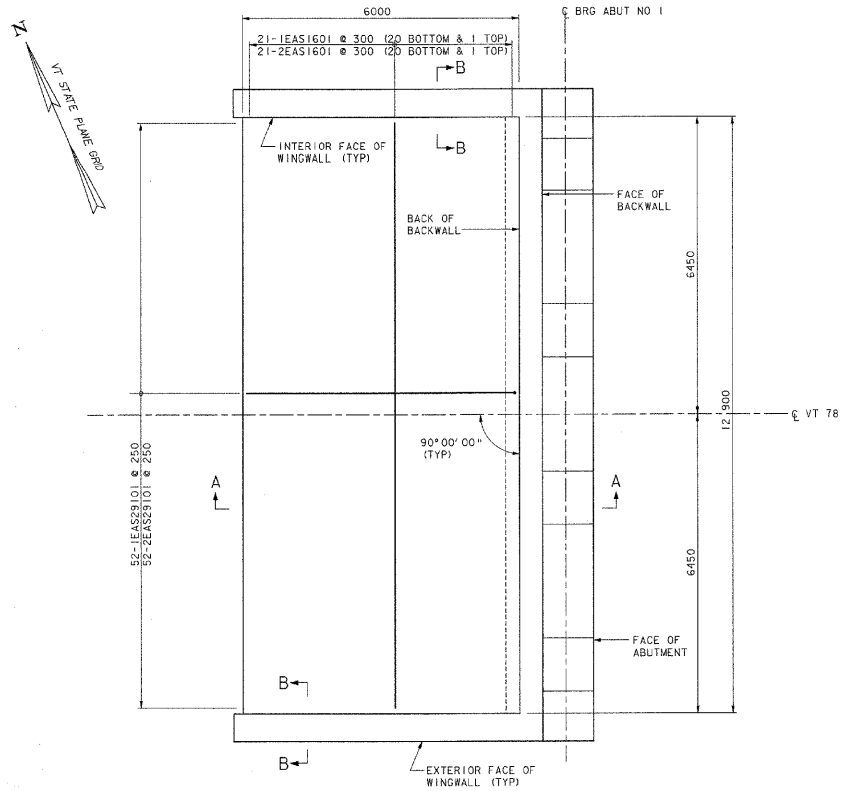
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
NAVIGATIONAL LIGHTING	
Designed By S.M. HODGDON	Drawn By W.B. LAVERGNE (TS)
Checked By S.W. JOHNSON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
LC.C. Info.	
File No. ZE072(11)	Sheet SS 33 of SS 57

VHB NO. 5091I

plot date: 10/23/2003

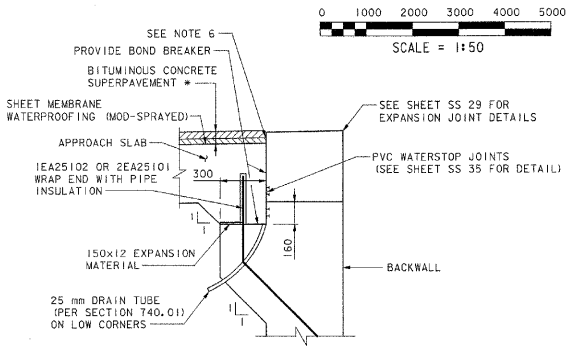
Metric



TYPICAL APPROACH SLAB PLAN

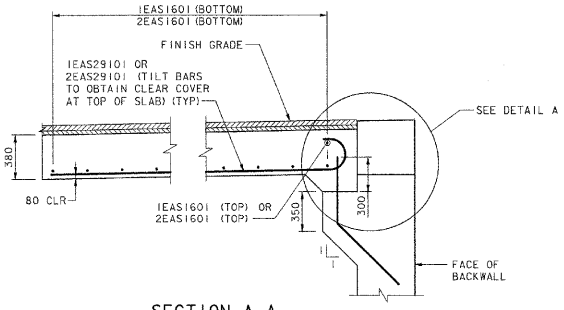
(APPROACH SLAB 1 SHOWN, APPROACH SLAB 2 SIMILAR)
(CURB NOT SHOWN)
SCALE: 1:50

0 1000 2000 3000 4000 5000
SCALE = 1:50



DETAIL A

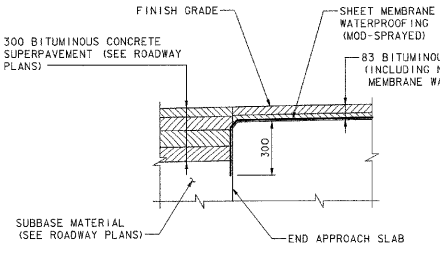
NOT TO SCALE



SECTION A-A

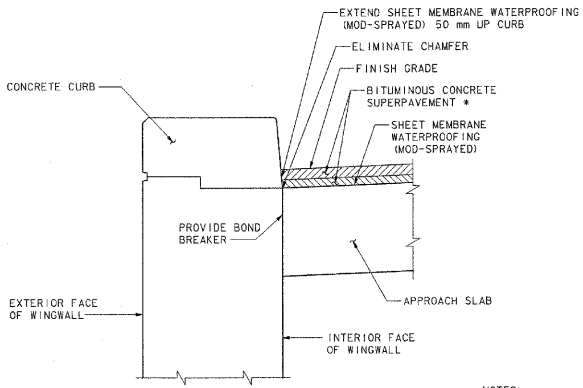
SCALE: 1:20

0 1000 2000
SCALE = 1:20



DETAIL FOR SHEET MEMBRANE AT APPROACH SLAB ENDS

NOT TO SCALE



SECTION B-B

SCALE: 1:10

0 500 1000
SCALE = 1:10

NOTES:

1. APPROACH SLAB TO BE 83 BELOW FINISH GRADE AND TO FOLLOW SLOPE AND CROWN.
2. REINFORCEMENT COVER SHALL BE 80 UNLESS OTHERWISE NOTED.
3. SEE SHEET SS 11 FOR CONCRETE NOTES.
4. SEE SHEETS SS 36 & SS 38 FOR ABUTMENT BACKWALL REINFORCING DETAILS.
5. THE COST OF DRAIN TUBES, PIPE INSULATION, EXPANSION MATERIAL AND BOND BREAKER SHALL BE INCLUDED IN THE PAY ITEM FOR CONCRETE.
6. EXTEND SHEET MEMBRANE WATERPROOFING (MOD-SPRAYED) 50 mm UP BACK OF BACKWALL.

* 45 BITUMINOUS CONCRETE SUPERPAVEMENT TYPE IIIS OVER 35 BITUMINOUS CONCRETE SUPERPAVEMENT TYPE IVS.

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
APPROACH SLABS & DETAILS	
Designed By S. M. HODGDON	Drawn By W. B. LAVERGNE (TS)
Checked By C. L. CILLEY Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072as1	Sheet SS 34 of SS 57

VHB NO. 5091

plot date: 10/23/2003

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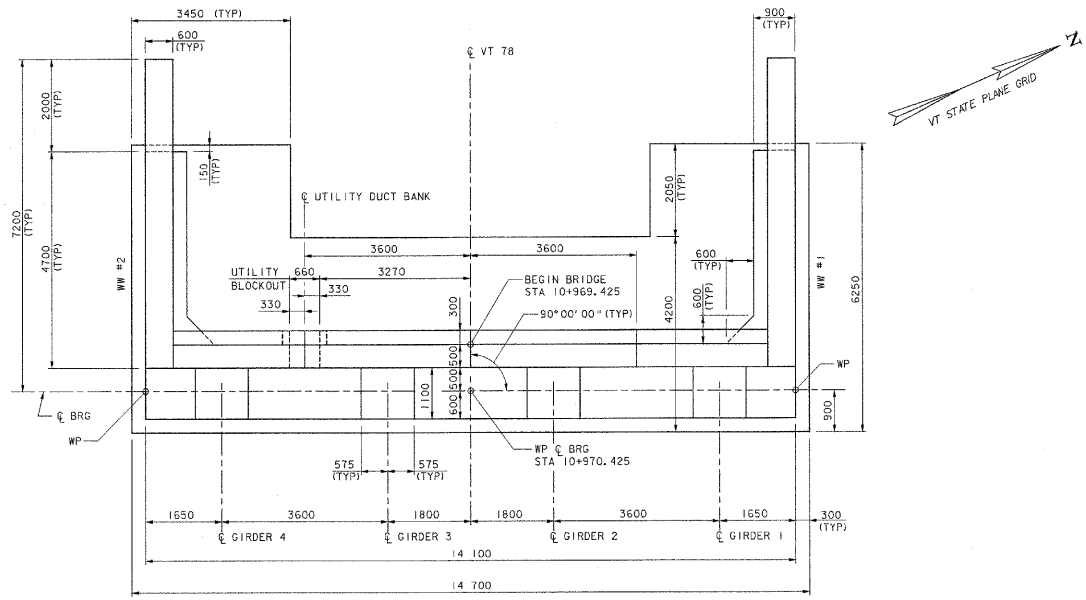
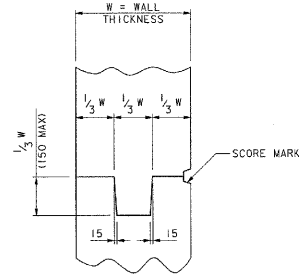


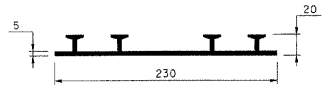
ABUTMENT NO 1 MASONRY PLAN

(TREMIE SEAL, EXPANSION JOINT ASSEMBLY, CURB PLATES, AND WEEP HOLES NOT SHOWN)
SCALE: 1:50



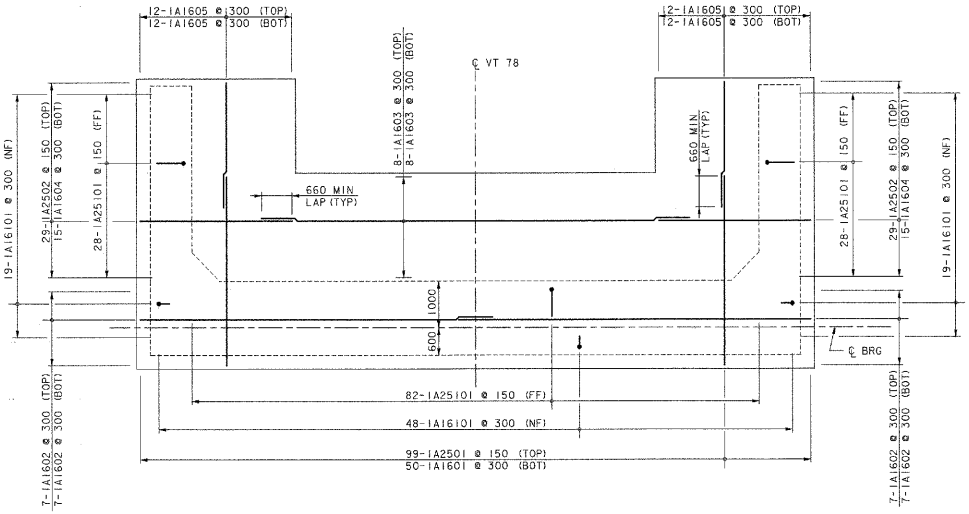
TYPICAL VERTICAL CONCRETE CONSTRUCTION JOINT

NOT TO SCALE



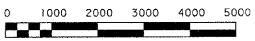
PVC WATERSTOP FOR CONSTRUCTION JOINTS

(THE COSTS FOR PVC WATERSTOP SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE. OTHER CONFIGURATIONS MAY BE USED UPON APPROVAL OF THE STRUCTURES ENGINEER.)
NOT TO SCALE



ABUTMENT NO 1 FOOTING REINFORCEMENT PLAN

SCALE: 1:50



KEY:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

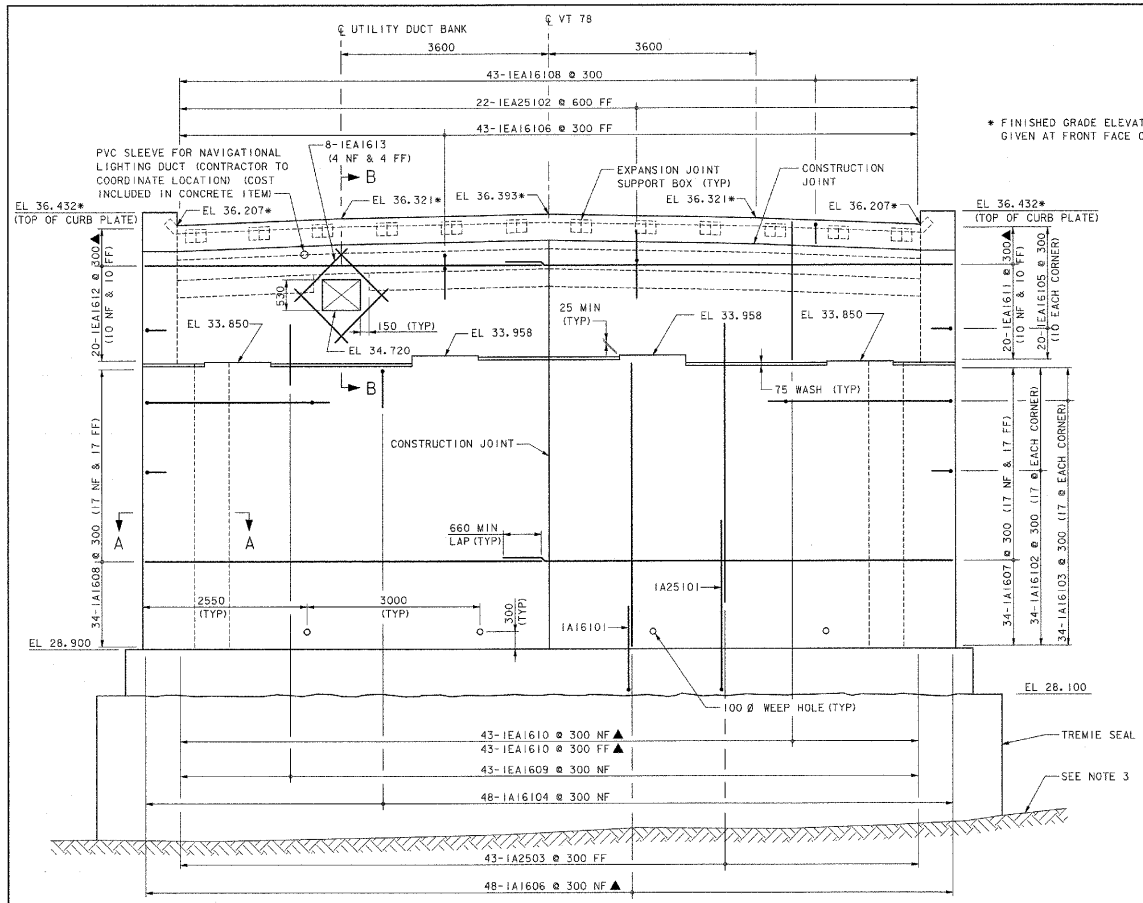
ABUTMENT 1 PLAN & REINFORCEMENT

Designed By W.M. MOSHER	Drawn By W.B. LAVERGNE (TS)
Checked By S.M. HODGDON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072mai	Sheet SS 35 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091I

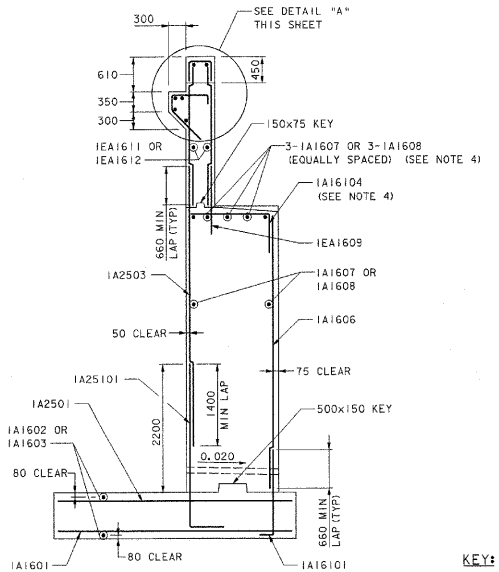
plot date: 10/23/2003



ABUTMENT NO 1 ELEVATION

SCALE: 1:40

* FINISHED GRADE ELEVATIONS GIVEN AT FRONT FACE OF BACKWALL.



TYPICAL ABUTMENT NO 1 SECTION

(TREMIE SEAL NOT SHOWN)

SCALE: 1:40

KEY:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

NOTES:

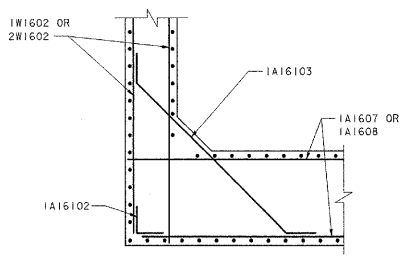
1. SEE SHEET SS 25 FOR ADDITIONAL UTILITY DETAILS.
2. SEE SHEETS SS 29-SS 31 FOR EXPANSION JOINT DETAILS.
3. SEE CIVIL SHEETS FOR BORINGS AND APPROXIMATE LEDGE ELEVATIONS.
4. PLACE REINFORCING TO AVOID ANCHOR BOLTS.

0 1000 2000 3000 4000

SCALE = 1:40

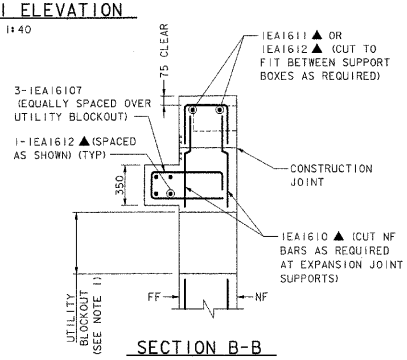
0 1000 2000

SCALE = 1:20



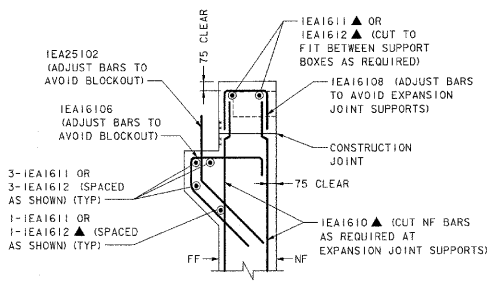
SECTION A-A

NOT TO SCALE



SECTION B-B

SCALE: 1:20



DETAIL "A"

SCALE: 1:20

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

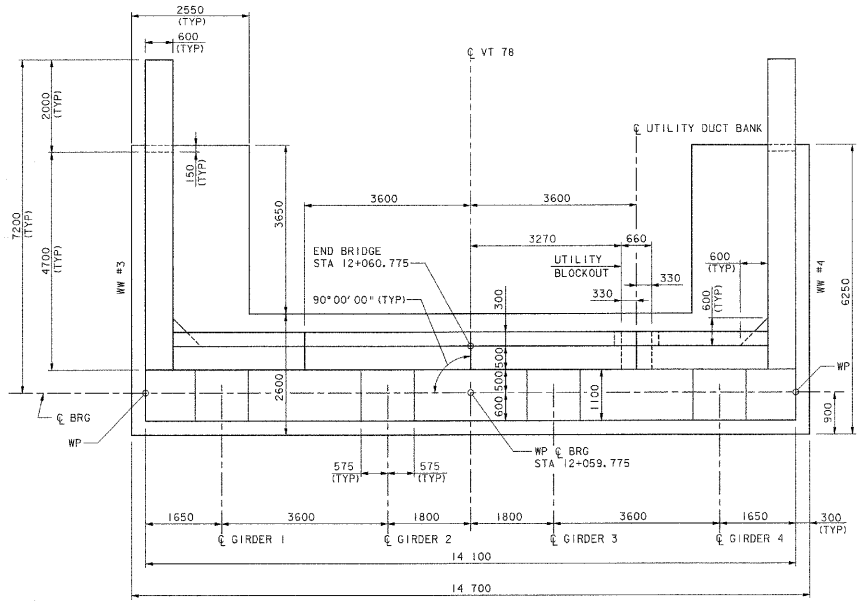
ABUTMENT 1 DETAILS

Designed By W. M. MOSHER	Drawn By W. B. LAVERGNE (TS)
Checked By S. M. HODGDON Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072me2	Sheet SS 36 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

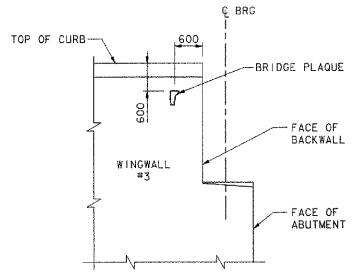
VHB NO. 5091

plot date: 10/23/2003



ABUTMENT NO 2 MASONRY PLAN

(TREMIE SEAL, EXPANSION JOINT ASSEMBLY, CURB PLATES, AND WEEP HOLES NOT SHOWN)
SCALE: 1:50

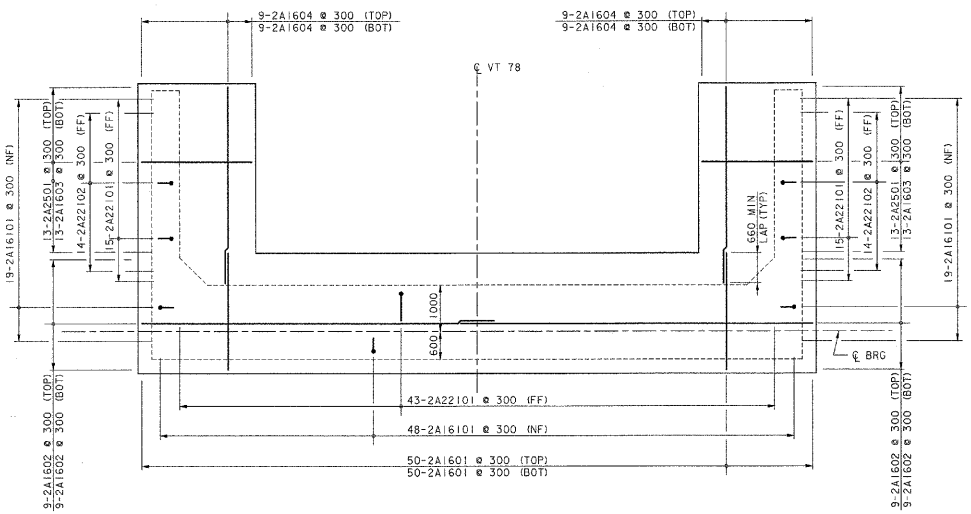


THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION. THE BRIDGE PLAQUE SHALL BE INSTALLED BY THE CONTRACTOR AT WINGWALL #3 AS SHOWN OR AS DIRECTED BY THE ENGINEER.

ELEVATION

BRIDGE PLAQUE LOCATION

NOT TO SCALE



ABUTMENT NO 2 FOOTING REINFORCEMENT PLAN

SCALE: 1:50

0 1000 2000 3000 4000 5000

SCALE = 1:50

KEY:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

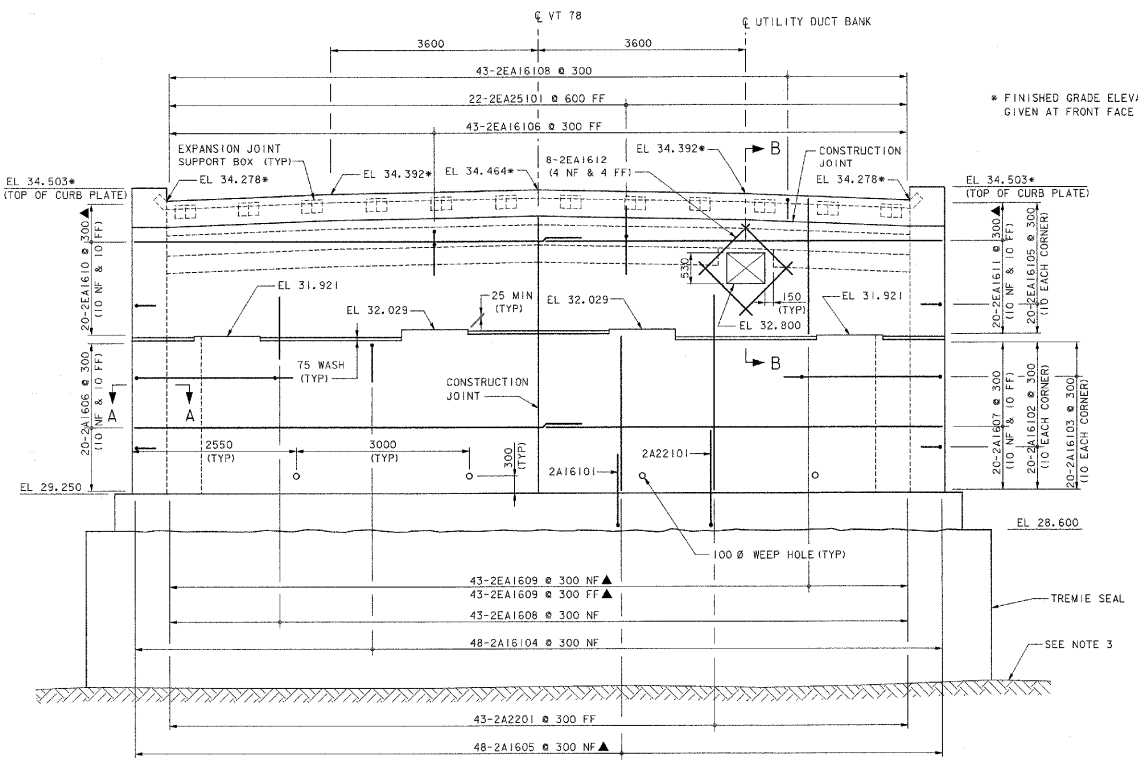
Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

ABUTMENT 2 PLAN & REINFORCEMENT

Designed By W.M. MOSHER	Drawn By W.B. LAVERGNE (TS)
Checked By S.M. HODGDON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
LG.C. Info.	
File No. ZE072ma3	Sheet SS 37 of SS 57

VHB NO. 50911

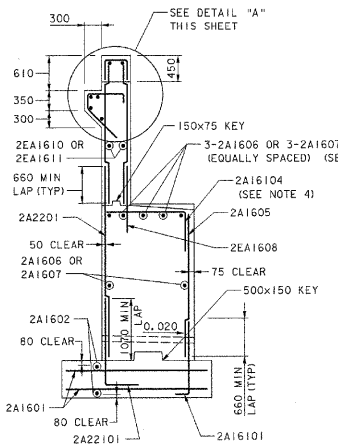
plot date: 10/23/2003



* FINISHED GRADE ELEVATIONS GIVEN AT FRONT FACE OF BACKWALL.

ABUTMENT NO 2 ELEVATION

SCALE: 1:40



TYPICAL ABUTMENT NO 2 SECTION

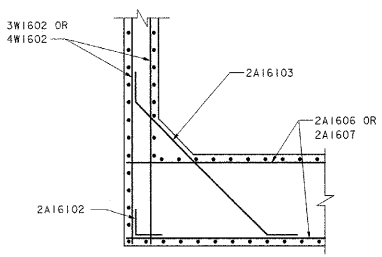
(TREMIE SEAL NOT SHOWN)
SCALE: 1:40

KEY:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

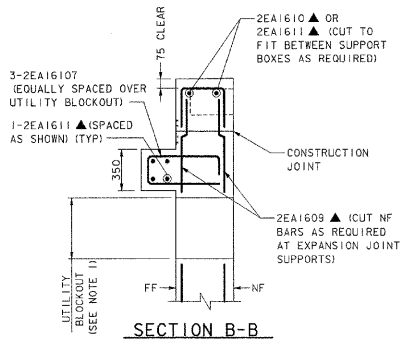
NOTES:

1. SEE SHEET SS 25 FOR ADDITIONAL UTILITY DETAILS.
2. SEE SHEETS SS 29-SS 31 FOR EXPANSION JOINT DETAILS.
3. SEE CIVIL SHEETS FOR BORINGS AND APPROXIMATE LEDGE ELEVATIONS.
4. PLACE REINFORCING TO AVOID ANCHOR BOLTS.



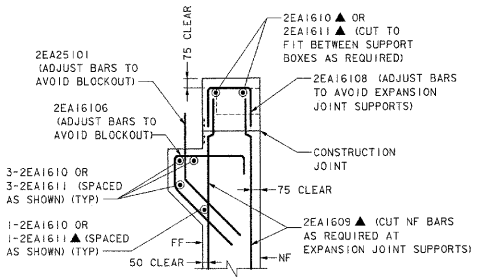
SECTION A-A

SCALE: 1:40



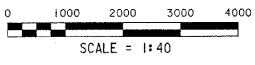
SECTION B-B

SCALE: 1:20



DETAIL "A"

SCALE: 1:20



STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

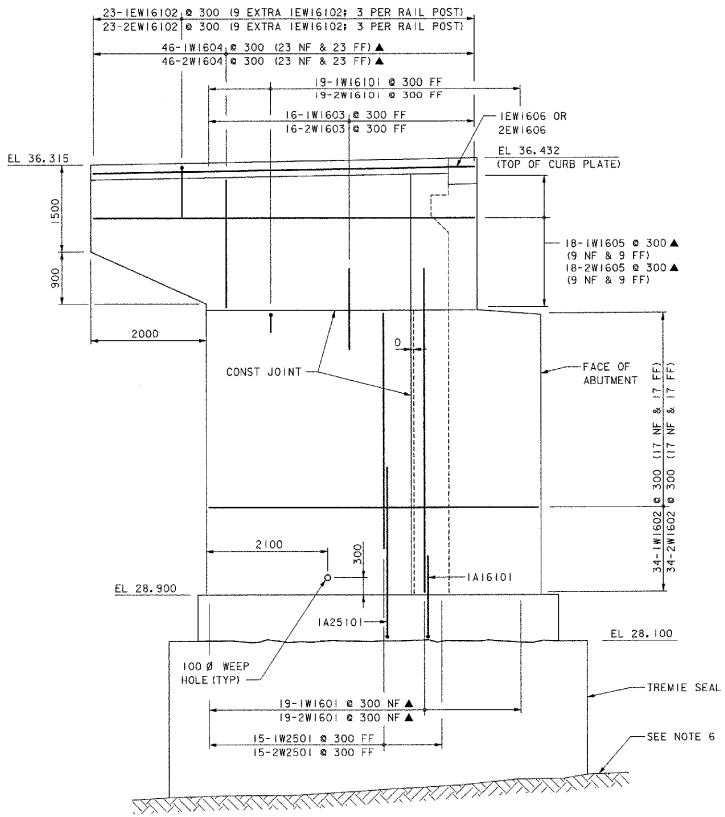
ABUTMENT 2 DETAILS

Designed By W. M. MOSHER	Drawn By W. B. LAVERGNE (TS)
Checked By S. M. HODGDON Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072me4	Sheet SS 38 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

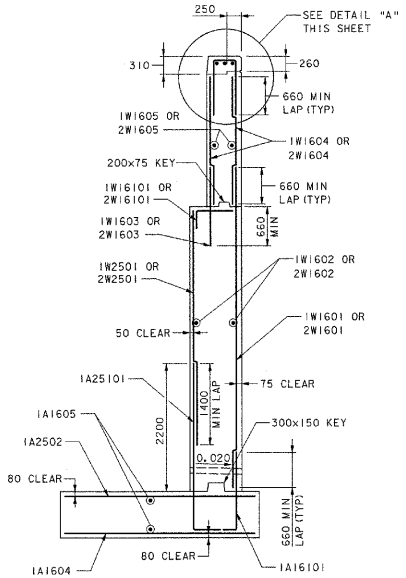
VHB NO. 5091I

plot date: 10/23/2003



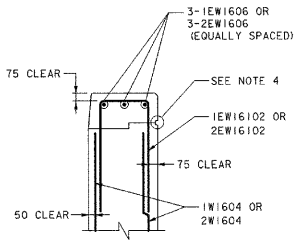
ABUTMENT NO 1 TYPICAL WINGWALL ELEVATION

(WW #2 SHOWN. WW #1 SIMILAR, OPPOSITE HAND)
(CURB PLATE NOT SHOWN)
SCALE: 1:40



ABUTMENT NO 1 TYPICAL WINGWALL SECTION

(TREMIE SEAL NOT SHOWN)
SCALE: 1:40



DETAIL "A"

SCALE: 1:20

NOTES:

1. SEE SHEETS SS 35 AND SS 36 FOR ABUTMENT PLAN AND DETAILS.
2. SEE SHEET SS 47 FOR BRIDGE RAIL LAYOUT.
3. SEE SHEET SS 48 FOR BRIDGE RAIL POST DETAILS.
4. SEE SHEET SS 12 FOR SCORE MARK DETAIL.
5. SEE SHEETS SS 29-SS 31 FOR EXPANSION JOINT DETAILS.
6. SEE CIVIL SHEETS FOR BORINGS AND APPROXIMATE LEDGE ELEVATIONS.

0 1000 2000 3000 4000
SCALE = 1:40

0 1000 2000
SCALE = 1:20

KEY:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
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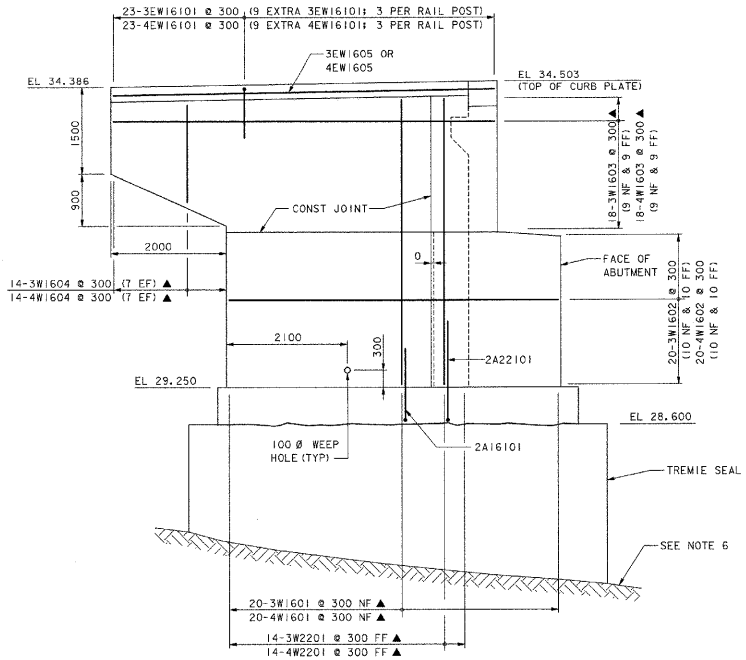
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
ABUTMENT 1 WINGWALL DETAILS	
Designed By W. M. MOSHER	Drawn By W. B. LAVERGNE (TS)
Checked By S. M. HODGDON Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072wm1	Sheet SS 39 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

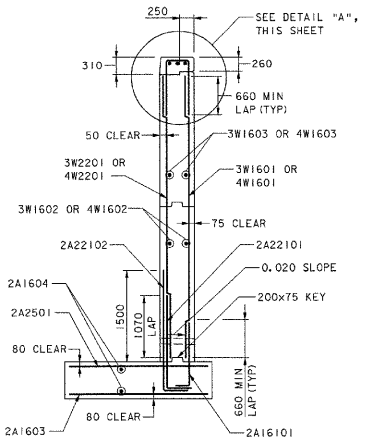
VHB NO. 50911

plot date: 11/3/2003



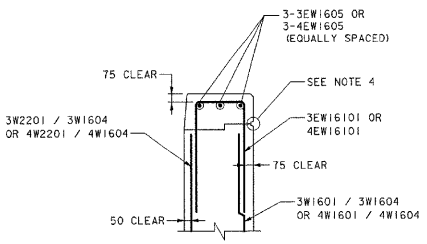
ABUTMENT NO 2 TYPICAL WINGWALL ELEVATION

(WW #3 SHOWN. WW #4 SIMILAR, OPPOSITE HAND)
(CURB PLATE NOT SHOWN)
SCALE: 1:40



ABUTMENT NO 2 TYPICAL WINGWALL SECTION

(TREMIE SEAL NOT SHOWN)
SCALE: 1:40



DETAIL "A"

SCALE: 1:20

NOTES:

1. SEE SHEETS SS 37 AND SS 38 FOR ABUTMENT PLAN AND DETAILS.
2. SEE SHEET SS 47 FOR BRIDGE RAIL LAYOUT.
3. SEE SHEET SS 48 FOR BRIDGE RAIL POST DETAILS.
4. SEE SHEET SS 12 FOR SCORE MARK DETAIL.
5. SEE SHEETS SS 29-SS 31 FOR EXPANSION JOINT DETAILS.
6. SEE CIVIL SHEETS FOR BORINGS AND APPROXIMATE LEDGE ELEVATIONS.

0 1000 2000 3000 4000

SCALE = 1:40

0 1000 2000

SCALE = 1:20

KEY:

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VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

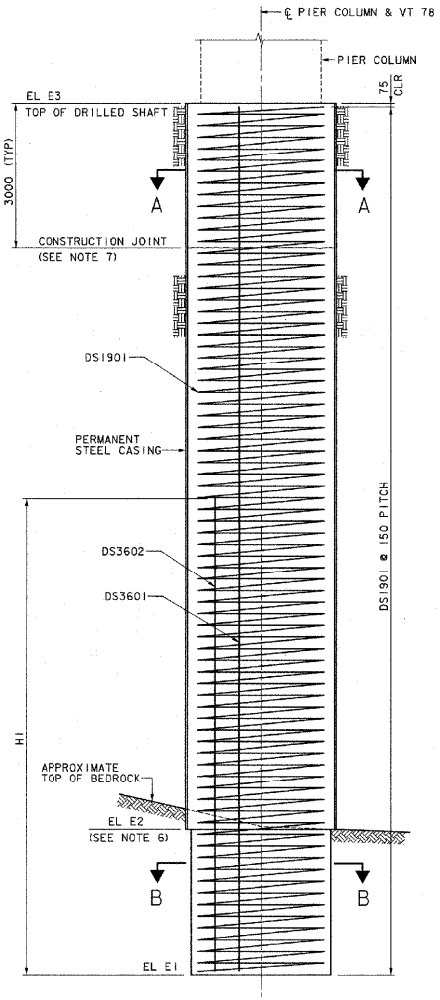
ABUTMENT 2 WINGWALL DETAILS

Designed By W. M. MOSHER	Drawn By W. B. LAVERGNE (TS)
Checked By Date S. M. HODGDON 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072wm2	Sheet SS 40 of SS 57

VHB NO. 50911

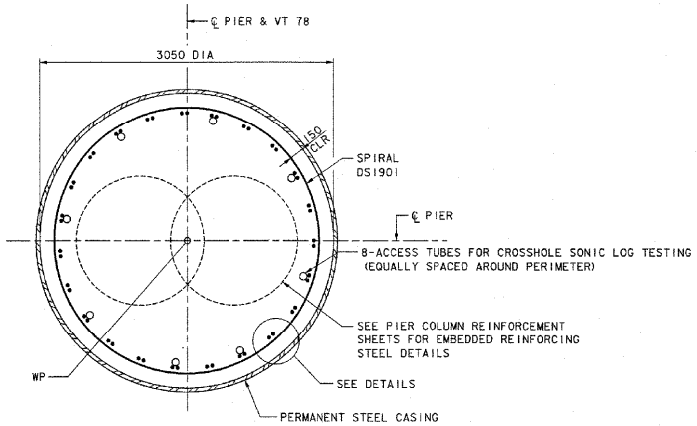
plot date: 11/3/2003

178



TRANSVERSE ELEVATION

(EMBEDDED PIER COLUMN REINFORCING NOT SHOWN)
NOT TO SCALE



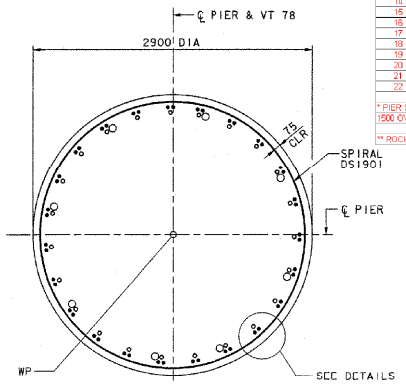
SECTION A-A

SCALE: 1:25

SHAFT #	REV. E2	REV. E1	3602 Bars	3601 Bars
1	22.41	19.31	Added 6 Bars	Splice 1.09m
2	No Change	No Change	No Change	No Change
3	22.24	19.14	No Change	"
4	18.37	15.37	No Change	Splice 2.43m
5	16.22	12.12	No Change	Splice 0.78m
6	11.79	8.79	No Change	Splice 0.81m
7	10.13	7.13	Splice 0.67m	Splice 0.67m
8	19.19	16.19	No Change	Splice 0.82m
9	17.67	14.67	No Bars	2 of 3 Bars Spliced 0.93m
10	18.03	15.03	Added 6 Bars	Splice 1.57m
11	20.2	17.2	No Bars	Splice 0.60m
12	14.32	11.32	No Change	Splice Not Required
13	13.24	10.24	No Change	Splice 0.06m
14	11.69	8.69	No Change	"
15	No Change	No Change	No Change	No Change
16	9.65	6.65	No Change	Extended 1.06m
17	9.3	6.3	No Change	Extended 0.60 m
18	No Change	No Change	No Change	No Change
19	8.12 **	5.1	No Change	No Change
20	No Change	No Change	No Change	No Change
21	10.23	7.23	No Change	No Change
22	No Change	No Change	No Change	No Change

* PIER STEM SPIRALS ADDED ON AT BOTTOM OF CASE TO MAINTAIN 1500 OVERLAP BETWEEN DRILLED SHAFT SPIRALS AND PIER SPIRALS

** ROCK SOCKET SHORTENED TO 3.0 METERS



SECTION B-B

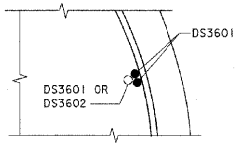
SCALE: 1:25

DRILLED SHAFT NOTES:

1. THE CASING MAY BE USED AS A TEMPORARY COFFERDAM FOR CONSTRUCTING THE PIER COLUMNS. THE COLUMN FORMWORK CLEARANCES SHALL CONSIDER SHAFT ALIGNMENT AND LOCATION TOLERANCES.
2. VERTICAL REINFORCING AND SPIRAL REINFORCING (INCLUDING SPLICES) BELOW THE TOP OF THE DRILLED SHAFT SHALL BE INCLUDED IN THE COST OF ITEMS 512.31, DRILLED SHAFT IN EARTH (3.05 m DIA) AND 512.32, DRILLED SHAFT IN ROCK (2.90 m DIA) WITH THE FOLLOWING EXCEPTION: THE COST OF VERTICAL REINFORCING AND SPIRALS IN THE PIER COLUMN EXTENDING BELOW THE TOP OF THE DRILLED SHAFT SHALL BE INCLUDED IN ITEM 507.15, REINFORCING STEEL.
3. VERTICAL REINFORCING SHALL NOT BE SPLICED WITHIN 4400 mm OF THE BASE OF THE PERMANENT STEEL CASING. NO MORE THAN 50% OF THE VERTICAL REINFORCING MAY BE SPLICED AT ANY LOCATION. MINIMUM LAP LENGTH SHALL BE 2500 mm FOR VERTICAL REINFORCING.
4. THE SPIRAL REINFORCEMENT SHALL TERMINATE WITH 1½ TURNS AT EACH END OF THE SHAFT. LAP LENGTHS FOR SPIRALS SHALL BE 48 BAR DIAMETERS.
5. ALL CONCRETE BELOW THE TOP OF THE DRILLED SHAFT SHALL BE INCLUDED IN THE COST OF ITEMS 512.31, DRILLED SHAFT IN EARTH (3.05 m DIA) AND 512.32, DRILLED SHAFT IN ROCK (2.90 m DIA).
6. ELEVATION E2 CORRESPONDS TO THE MINIMUM ROCK SOCKET EMBEDMENT REQUIRED BY DESIGN AT EACH SHAFT BASED ON TIP ELEVATION E1. THE ACTUAL TOP OF BEDROCK MAY BE HIGHER THAN ELEVATION E2. IF THE TOP OF BEDROCK IS LOWER THAN ELEVATION E2, THE BRIDGE DESIGNER SHALL BE NOTIFIED.
7. ELIMINATE CONSTRUCTION JOINT AT SHAFT NO 3 AND NO 11.

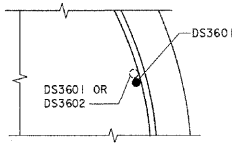
SHAFT DIMENSIONS					LONGITUDINAL REINFORCEMENT				
SHAFT NO	STATION (m)	EL E1 (m)	EL E2 (m)	EL E3 (m)	DETAIL TYPE	TOTAL NO OF BARS *	DS3601 NO OF BARS	DS3602 NO OF BARS	LENGTH H1 (m)
1	11+017.400	20.400	23.500	27.000	1	40 ⚠	40	-	-
2	11+064.800	12.500	15.600	25.500	3	93	93 ⚠	-	-
3	11+112.200	19.600	22.700	25.500	1	44	44	-	-
4	11+159.600	17.800	20.800	25.500	2	72	72	-	-
5	11+207.000	~~12.500~~ 15.600	~~15.600~~ 18.700	26.000	3	99	66	33	10.68
6	11+254.400	9.600	12.600	26.000	3	117	78	39	12.22
7	11+301.800	~~7.100~~ 7.800	~~10.300~~ 10.900	26.000	3	123	82	41 ⚠	13.16
8	11+349.200	17.000	20.000	26.000	2	78	78	-	-
9	11+396.600	15.600	18.600	24.000	3	87	87	-	-
10	11+444.000	17.400	20.400	24.000	2	72	72	-	-
11	11+491.400	17.800	20.800	23.000	2	78	78	-	-
12	11+538.800	11.400	14.400	25.000	3	117	78	39	10.91
13	11+586.200	11.100	14.100	26.500	3	99	66	33	12.41
14	11+633.600	8.800	11.800	26.500	3	93	62	31	15.41
15	11+681.000	6.200	9.300	26.500	3	123	82	41	14.33
16	11+728.400	7.800	10.900	26.500	3	99	66	33	14.74
17	11+775.800	5.900	8.900	26.000	3	99	66	33	17.03
18	11+823.200	4.700	9.200	26.000	2	78	39	39	21.60
19	11+870.600	5.100	9.700	26.000	3	117	78	39	14.77
20	11+918.000	2.700	7.200	26.000	3	93	62	31	20.35
21	11+965.400	5.600	10.100	26.500	3	93	62	31	15.22
22	12+012.800	9.500	12.500	26.000	3	99	66	33	12.58

* THE CONTRACTOR SHALL PROVIDE THE AGENCY ONE EXTRA BAR (#36) PER SHAFT FOR TESTING PURPOSES. COST SHALL BE INCLUDED IN DRILLED SHAFT ITEMS.



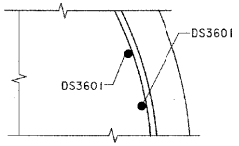
DETAIL - TYPE 3

NOT TO SCALE



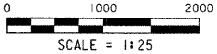
DETAIL - TYPE 2

NOT TO SCALE



DETAIL - TYPE 1

NOT TO SCALE



SCALE = 1:25

REVISION TABLE			
⚠	3/9/04	REVISED NO OF BARS	SWJ
NO.	DATE	DESCRIPTION	BY

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	ALBURG-SWANTON	Bridge No.	2
Highway No.	VT 78	Log Sta. / Surv. Sta.	
VT 78 OVER MISSISQUOI BAY			

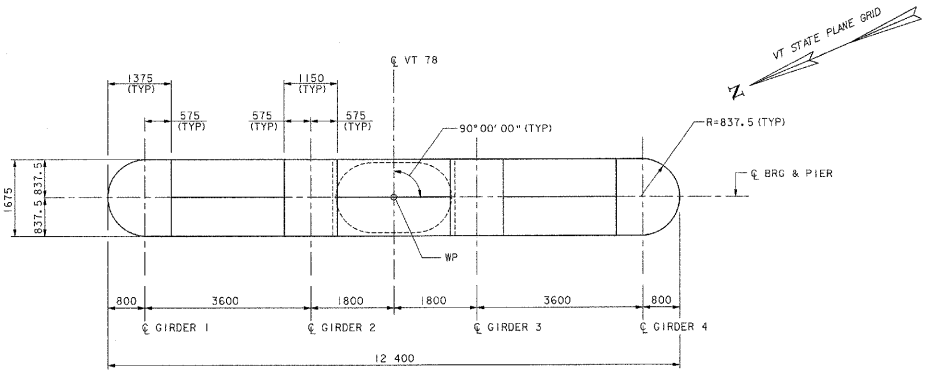
DRILLED SHAFT DETAILS

Designed By	A.S. ROBINSON	Drawn By	W. LAVERGNE (TS)
Checked By	S.W. JOHNSON	Bridge Design Supervisor	S.W. JOHNSON Date 11/03
	Date 11/03		
PROJECT	ALBURG-SWANTON	PROJECT NO.	BRF 036-1(1)
I.G.C. Info.			
File No.	ZE072ds2		Sheet SS 41 of SS 57

VHB NO. 50911

plot date: 3/9/2004

Metric

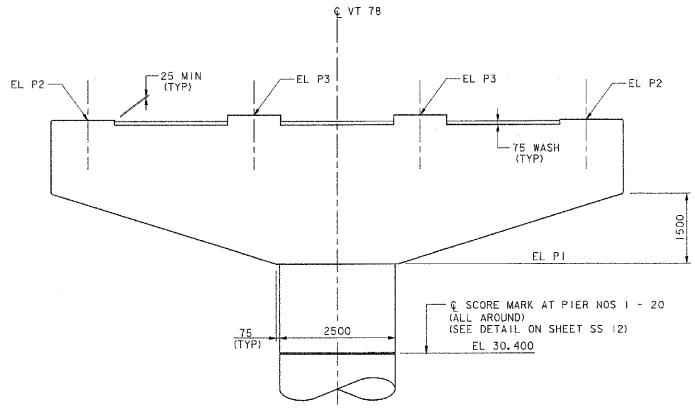


TYPICAL PIER PLAN

(PIER NOS 1-6, 8-14, 16-22)
SCALE: 1:50

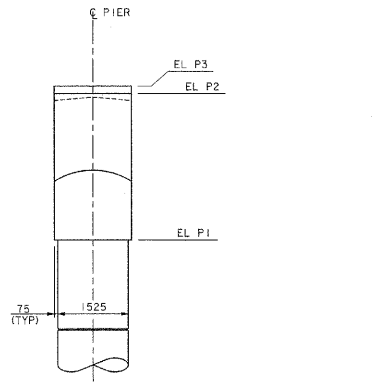
PIER ELEVATIONS *			
PIER NO	EL P1	EL P2	EL P3
1	31.462	34.562	34.670
2	32.331	35.431	35.539
3	33.156	36.256	36.364
4	33.985	37.085	37.193
5	34.820	37.920	38.028
6	35.609	38.709	38.817
7	36.541	39.641	39.749
8	37.178	40.278	40.386
9	37.700	40.800	40.908
10	37.915	41.015	41.123
11	37.872	40.972	41.080
12	37.567	40.667	40.775
13	37.005	40.105	40.213
14	36.169	39.269	39.377
15	35.442	38.542	38.650
16	34.510	37.610	37.718
17	33.721	36.821	36.929
18	32.886	35.986	36.094
19	32.057	35.157	35.265
20	31.227	34.327	34.435
21	30.403	33.503	33.611
22	29.533	32.633	32.741

* SEE NOTE 7 ON SHEET SS 28



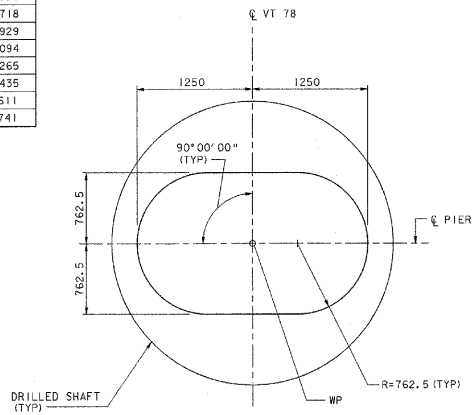
TYPICAL PIER ELEVATION

(PIER NOS 1-6, 8-14, 16-22)
SCALE: 1:50



TYPICAL SIDE ELEVATION

(PIER NOS 1-6, 8-14, 16-22)
SCALE: 1:50



SECTION A-A

SCALE: 1:25

0 1000 3000 5000
SCALE = 1:50

0 1000 2500
SCALE = 1:25

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
PIER PLAN & ELEVATION (1 OF 2)	
Designed By A. S. ROBINSON	Drawn By W. B. LAVERGNE (TS)
Checked By S. W. JOHNSON Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072pm1	Sheet SS 42 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date: 10/23/2003

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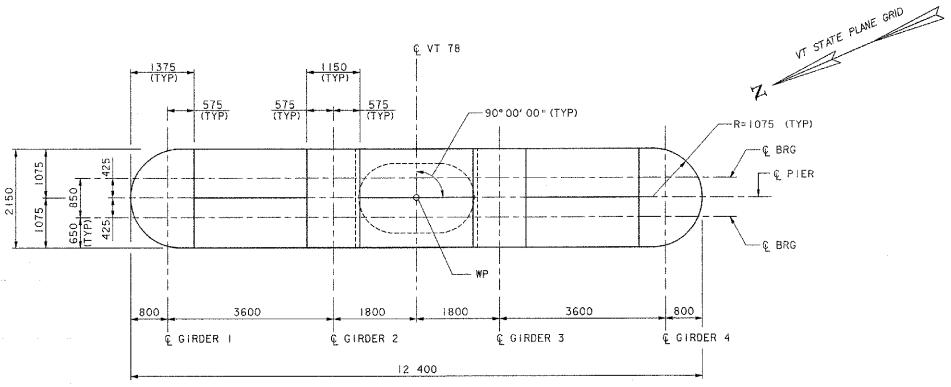
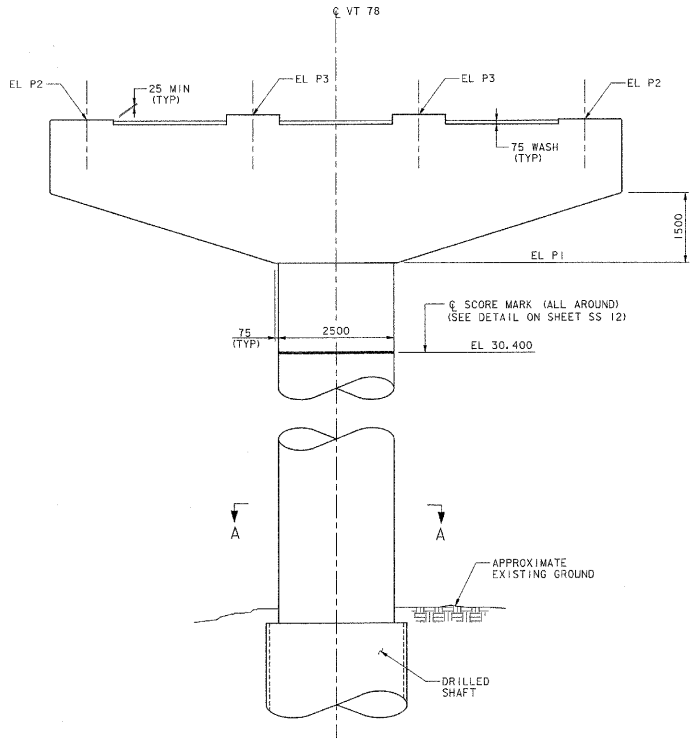
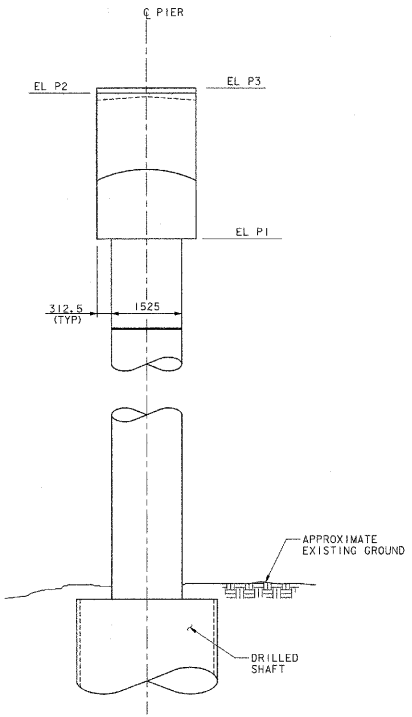
Metric



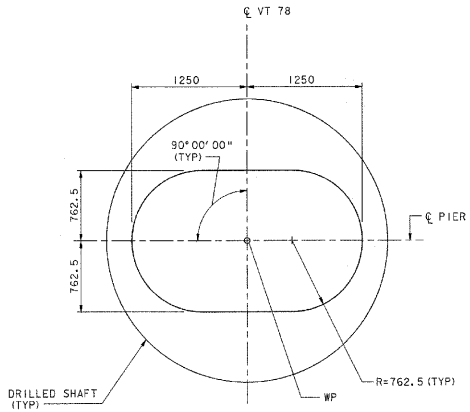
TYPICAL PIER PLAN
(PIER NOS 7 & 15)
SCALE: 1:50



TYPICAL PIER ELEVATION
(PIER NOS 7 & 15)
SCALE: 1:50



TYPICAL SIDE ELEVATION
(PIER NO 7 & 15)
SCALE: 1:50



SECTION A-A
SCALE: 1:25

NOTE:
1. SEE SHEET SS 42 FOR PIER ELEVATIONS.

0 1000 3000 5000
SCALE = 1:50

0 1000 2500
SCALE = 1:25

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
PIER PLAN & ELEVATION (2 OF 2)	
Designed By A.S. ROBINSON	Drawn By W.B. LAVERGNE (TS)
Checked By Date	Bridge Design Supervisor
S.W. JOHNSON 10/03	S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072pm2	Sheet SS 43 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

plot date: 10/23/2003

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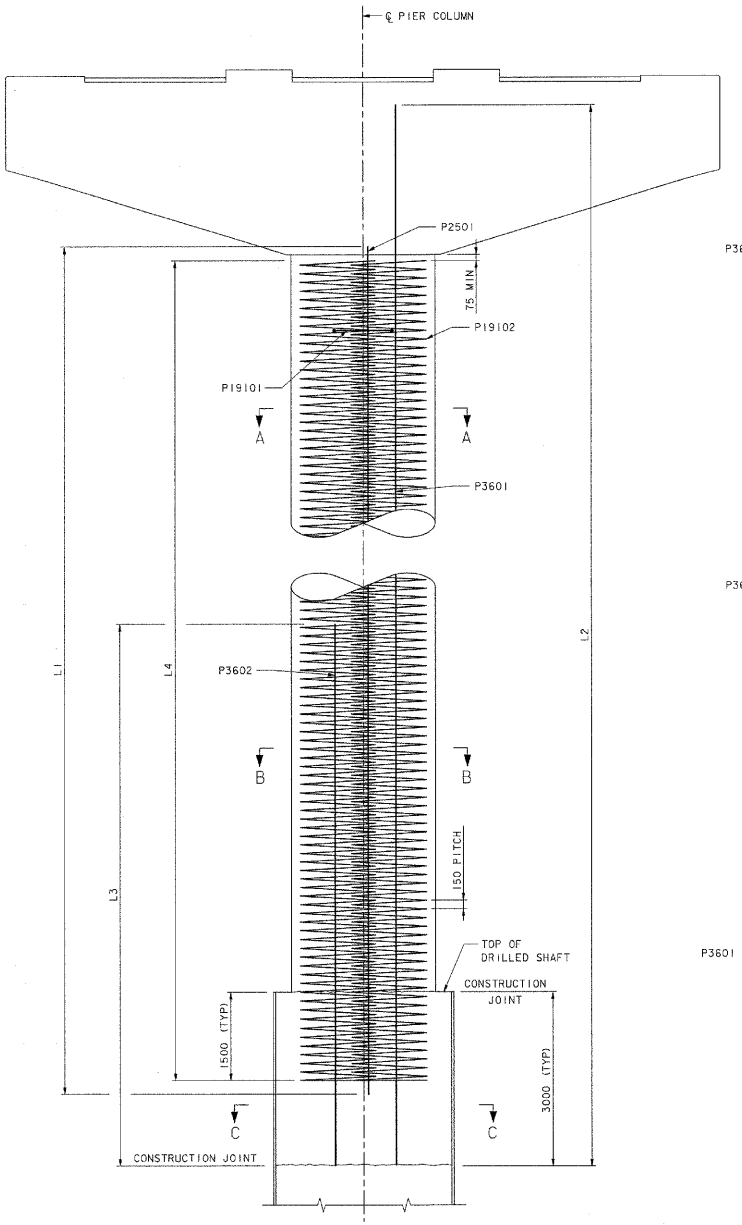
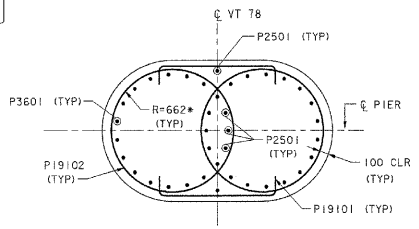
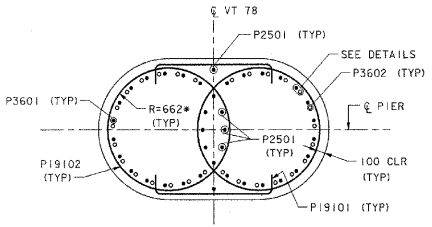


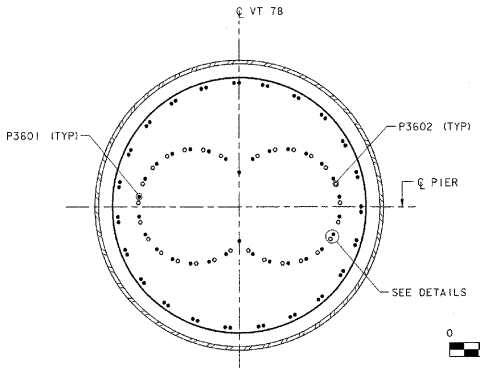
TRANSVERSE ELEVATION
(DRILLED SHAFT REINFORCING NOT SHOWN)
SCALE: 1:40



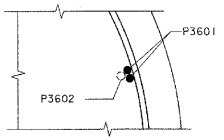
SECTION A-A
SCALE: 1:25
* OUTSIDE RADIUS



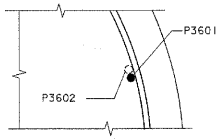
SECTION B-B
SCALE: 1:25
* OUTSIDE RADIUS



SECTION C-C
SCALE: 1:25



DETAIL - TYPE 3
NOT TO SCALE



DETAIL - TYPE 2
NOT TO SCALE

REINFORCEMENT (ALL PIERS EXCEPT 3 & 11*)

PIER	P2501		DETAIL	P3601		P3602		P19101 & P19102
NO	NO	L1 (m)	TYPE	NO	L2 (m)	NO	L3 (m)	L4 (m)
1	8	6.187	2	32	10.062	30	6.700	5.887
2	8	8.556	2	32	12.431	30	7.300	8.256
4	8	10.210	2	32	14.085	30	7.800	9.910
5	8	10.545	2	32	14.420	30	7.800	10.245
6	8	11.334	2	32	15.209	30	8.300	11.034
7	8	12.266	2	32	16.141	30	8.300	11.966
8	8	12.903	2	32	16.778	30	8.300	12.603
9	8	15.425	2	32	19.300	30	10.300	15.125
10	8	15.640	3	70	19.515	34	9.800	15.340
12	8	14.292	3	70	18.167	34	9.800	13.992
13	8	12.230	2	32	16.105	30	8.300	11.930
14	8	11.394	2	32	15.269	30	7.800	11.094
15	8	10.667	2	32	14.542	30	7.800	10.367
16	8	9.735	2	32	13.610	30	7.800	9.435
17	8	9.446	2	32	13.321	30	7.800	9.146
18	8	8.611	2	32	12.486	30	7.300	8.311
19	8	7.782	2	32	11.657	30	7.300	7.482
20	8	6.952	2	32	10.827	30	7.300	6.652
21	8	5.628	2	32	9.503	30	6.700	5.328
22	8	5.258	2	32	9.133	30	6.700	4.958

* REINFORCEMENT FOR PIER 3 AND 11 IS SHOWN ON SHEET SS 45.

PIER COLUMN NOTES:

1. THE SPIRAL REINFORCEMENT SHALL TERMINATE WITH 1½ TURNS AT EACH END. LAP LENGTHS FOR SPIRALS SHALL BE 48 BAR DIAMETERS.
2. VERTICAL REINFORCEMENT SHALL BE CONTINUOUS. SPLICES MAY BE PROVIDED IN THE UPPER HALF OF THE COLUMN. MINIMUM LAP LENGTHS SHALL BE IN ACCORDANCE WITH AASHTO REQUIREMENTS. NO ADDITIONAL PAYMENT WILL BE MADE FOR LAP SPLICES.
3. VERTICAL CONSTRUCTION JOINTS SHALL BE PROVIDED AT 7.4 m O.C. MAXIMUM. CONSTRUCTION JOINTS SHALL COORDINATE WITH THE PIER COLUMN SCORE MARK ELEVATION.
4. VERTICAL REINFORCEMENT SHALL BE EQUALLY SPACED (SEE TABLE).

0 1000 2000 3000 4000
SCALE = 1:40
0 1000 2000
SCALE = 1:25

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

PIER COLUMN - REINFORCEMENT (1 OF 2)

Designed By A.S. ROBINSON	Drawn By C.L. CILLEY
Checked By S.W. JOHNSON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(11)
I.G.C. Info.	
File No. ZE072pr1	Sheet SS 44 of SS 57

VANASSE HANGEN BRUSTLIN, INC.
VHB NO. 5091I
plot date: 10/23/2003
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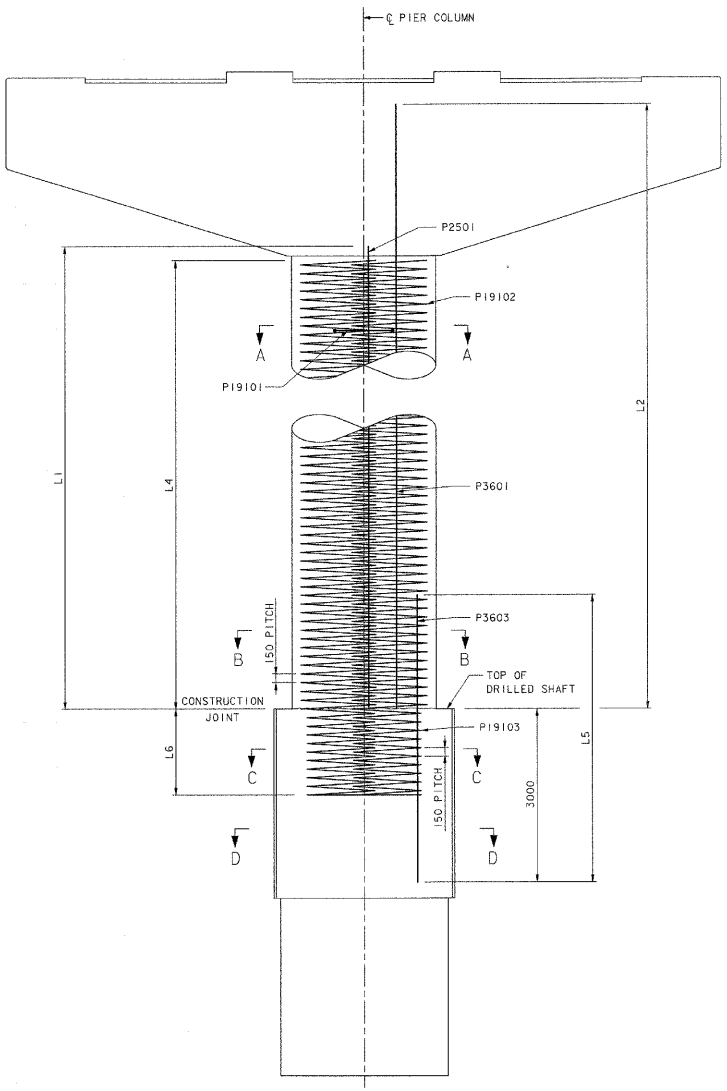
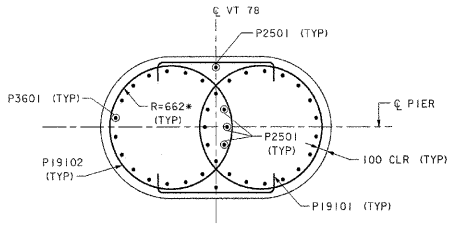
Metric

REINFORCEMENT (PIERS 3 & 11 ONLY)

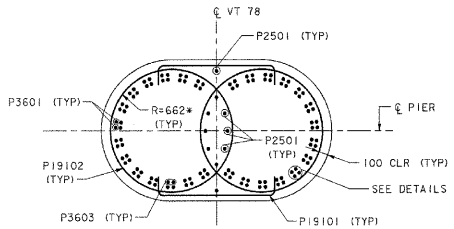
PIER	P2501		DETAIL	P3601		P3603		P19101 & P19102	P19103
NO	NO	L1 (m)	TYPE	NO	L2 (m)	NO	L5 (m)	L4 (m)	L6 (m)
3	8	7.731	2	32	10.256	62	7.800	7.581	1.500
11	8	14.947	3	70	17.472	104	9.800	14.797	1.500



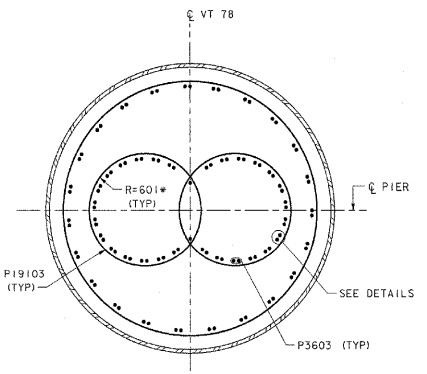
TRANSVERSE ELEVATION
(PIER 3 & 11)
(DRILLED SHAFT REINFORCING NOT SHOWN)
SCALE: 1:40



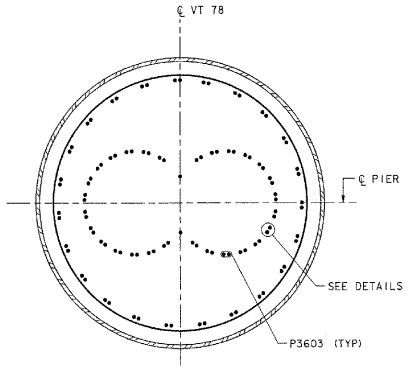
SECTION A-A
SCALE: 1:25
* OUTSIDE RADIUS



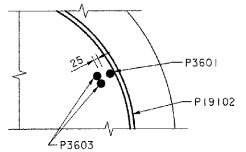
SECTION B-B
SCALE: 1:25
* OUTSIDE RADIUS



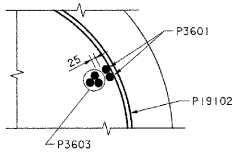
SECTION C-C
SCALE: 1:25
* OUTSIDE RADIUS



SECTION D-D
SCALE: 1:25



DETAIL - TYPE 2
NOT TO SCALE



DETAIL - TYPE 3
NOT TO SCALE

NOTE:
1. SEE SHEET SS 44 FOR PIER COLUMN NOTES.

0 1000 2000 3000 4000
SCALE = 1:40

0 1000 2000
SCALE = 1:25

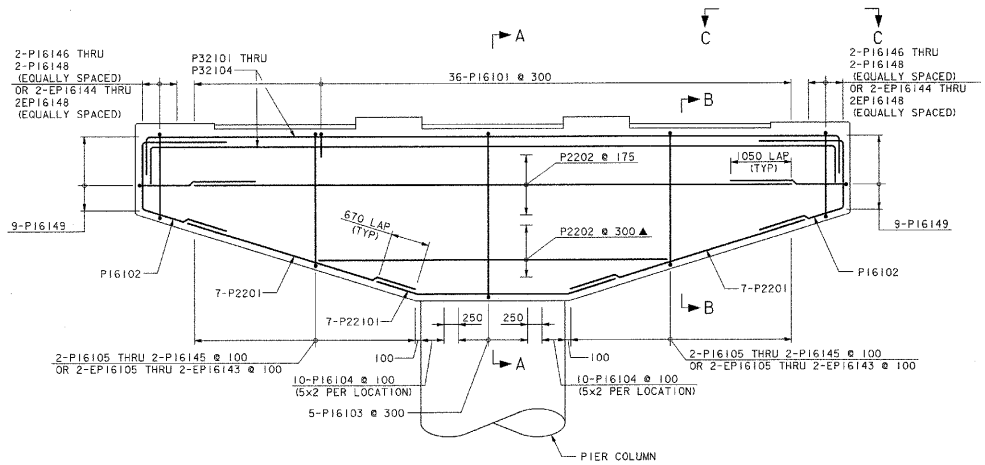
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
PIER COLUMN - REINFORCEMENT (2 OF 2)	
Designed By A.S. ROBINSON	Drawn By C.L. CILLEY
Checked By S.W. JOHNSON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072pr2	Sheet SS 45 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

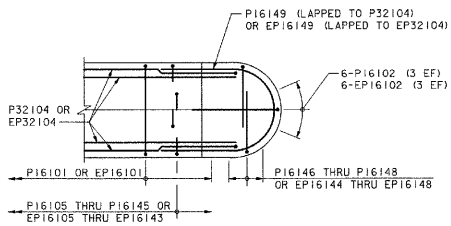
VHB NO. 50911

plot date: 10/23/2003



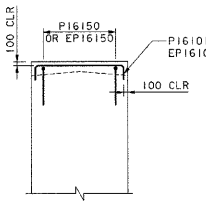
PIER CAP ELEVATION

(PIERS 7 & 15 NOT SHOWN, SEE NOTE 1)
SCALE: 1:40

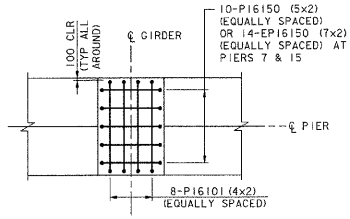


VIEW C-C

(PIERS 7 & 15 NOT SHOWN, SEE NOTE 1)
NOT TO SCALE



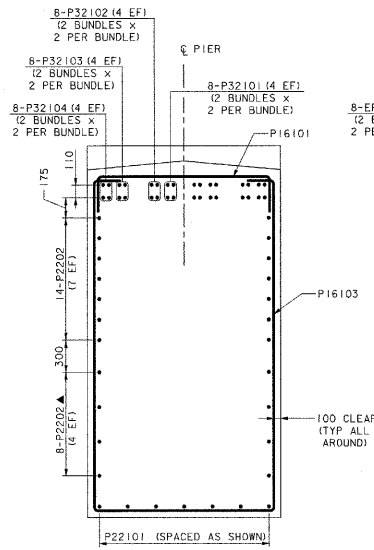
SECTION



PLAN

TYPICAL INTERIOR GIRDER PEDESTAL REINFORCEMENT DETAIL

(PIERS 7 & 15 NOT SHOWN; SEE NOTE 1)
SCALE: 1:40

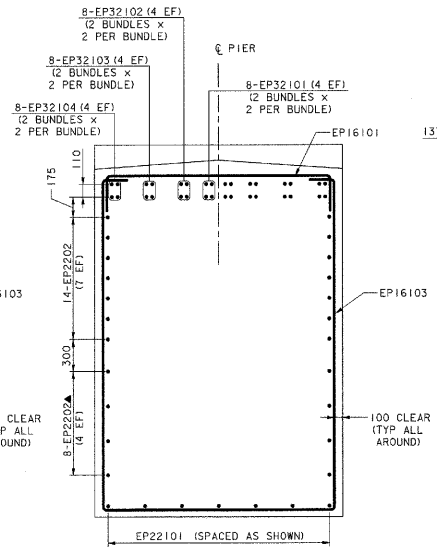


ALL PIERS EXCEPT 7 & 15

(COLUMN BARS NOT SHOWN)

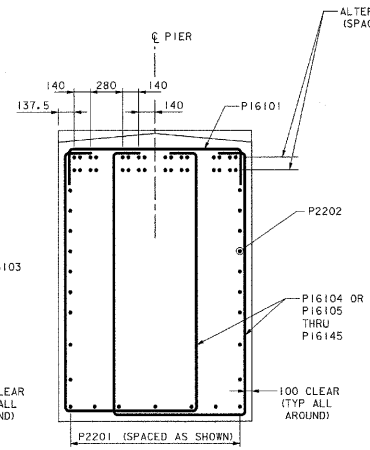
SECTION A-A

SCALE: 1:20



PIERS 7 & 15

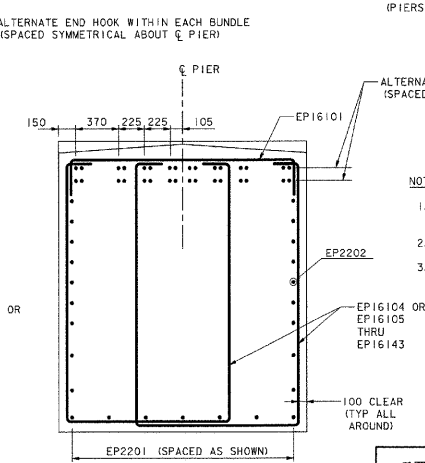
(COLUMN BARS NOT SHOWN)



ALL PIERS EXCEPT 7 & 15

SECTION B-B

SCALE: 1:20



PIERS 7 & 15

KEY:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

NOTES:
1. BAR MARKS FOR PIERS 7 & 15 ARE SIMILAR (ADD THE PREFIX "E").
2. EMBEDDED PIER COLUMN REINFORCING NOT SHOWN.
3. PLACE REINFORCING TO AVOID ANCHOR BOLTS.

0 1000 2000 3000 4000
SCALE = 1:40

0 1000 2000
SCALE = 1:20

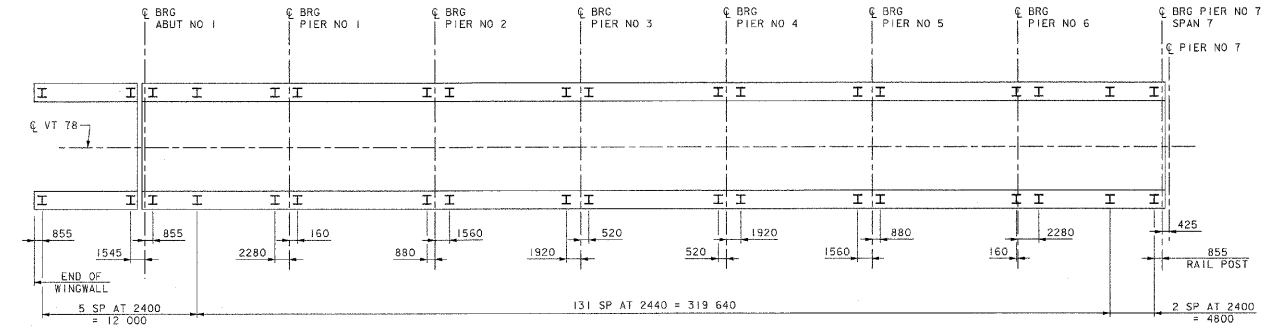
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
PIER CAP REINFORCEMENT	
Designed By D.B. LOPEZ	Drawn By W.B. LAVERGNE (TS)
Checked By S.M. HODGDON Date 11/03	Bridge Design Supervisor S.W. JOHNSON Date 11/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072pr3	Sheet SS 46 of SS 57

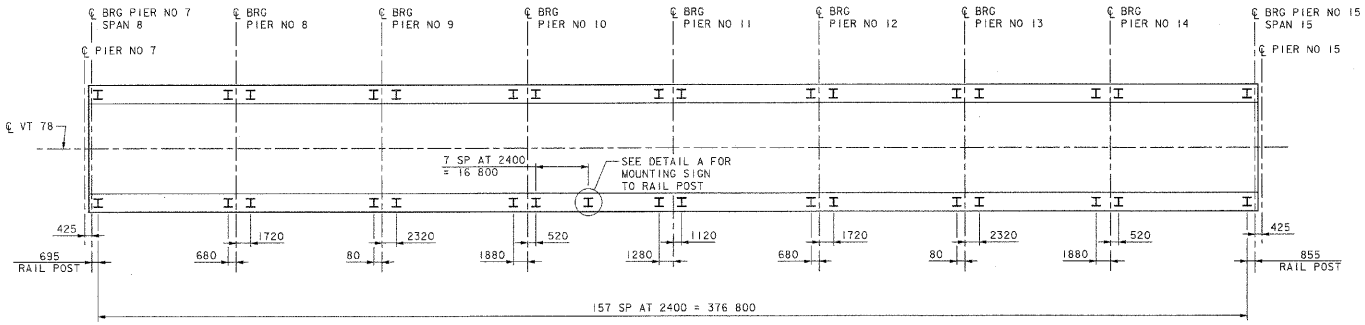
VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091I

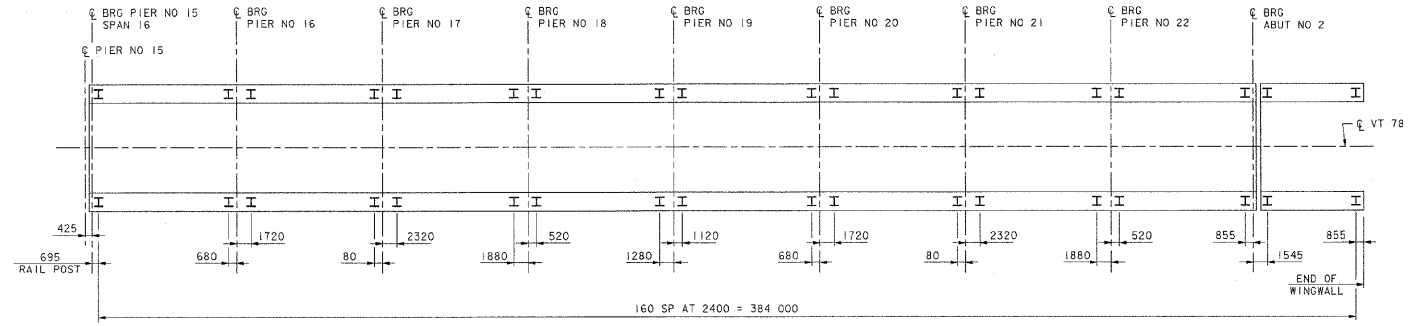
plot date: 8/7/2003



UNIT 1



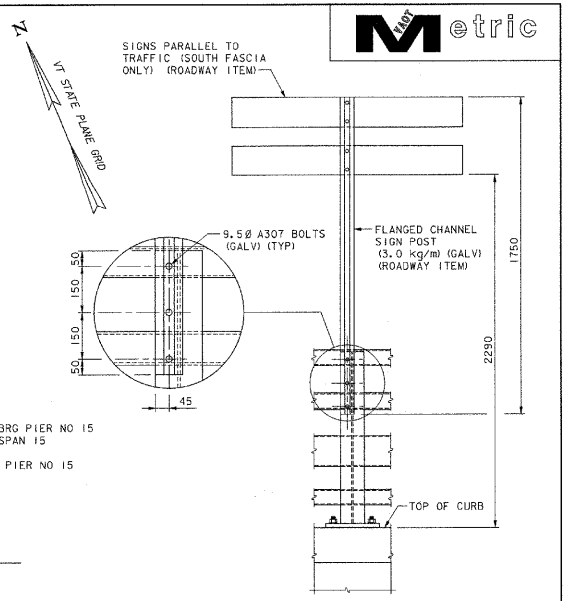
UNIT 2



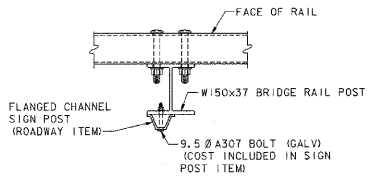
UNIT 3

BRIDGE RAIL LAYOUT

(LAYOUT TYPICAL AT BOTH FASCIAS)
NOT TO SCALE



ELEVATION



PLAN

SIGN - DETAIL A

NOT TO SCALE

NOTES:

1. REINFORCING STEEL SHALL BE PLACED TO AVOID RAIL ANCHOR PLATES AS NECESSARY.
2. SEE SHEETS SS 48-SS 50 FOR BRIDGE RAIL AND APPROACH RAIL DETAILS.
3. SEE SHEET SS 2 FOR "UNIT" DEFINITION.

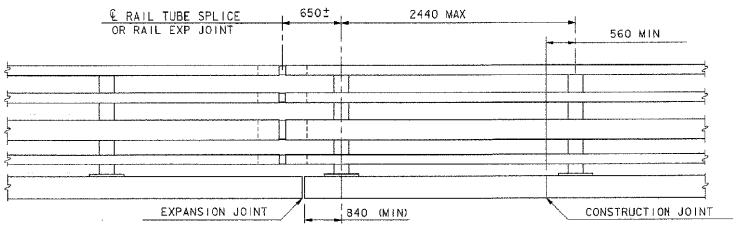
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
BRIDGE RAIL LAYOUT	
Designed By W.B. LAVERGNE (TS)	Drawn By W.B. LAVERGNE (TS)
Checked By C.L. CILLEY Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info. File No. ZE072br1	Sheet SS 47 of SS 57

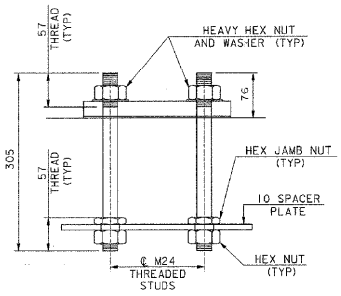
VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5098

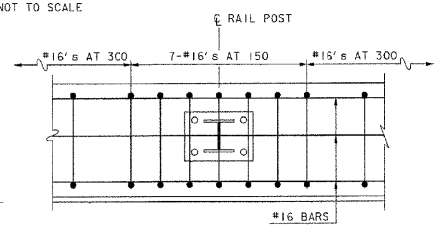
plot date: 10/23/2003



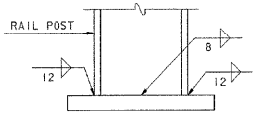
BRIDGE RAILING ELEVATION
NOT TO SCALE



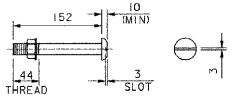
RAIL POST ANCHORAGE
NOT TO SCALE



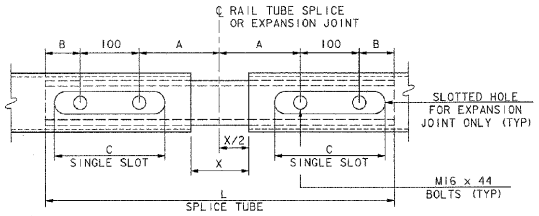
CURB REINFORCING PLAN
NOT TO SCALE



BASE WELD DETAIL
NOT TO SCALE



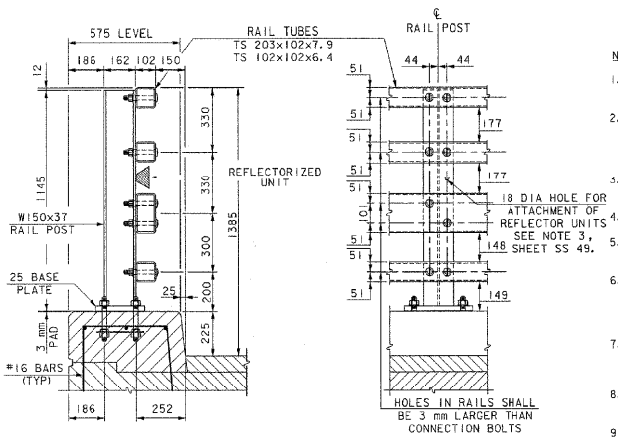
M20 DIA M 164M (TYPE 1)
ROUND HEAD BOLT
NOT TO SCALE
(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT)
(SEE NOTE #9)
ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.



RAIL TUBE SPLICE AND RAIL
EXPANSION JOINT DETAIL
NOT TO SCALE
(BOTTOM VIEW)

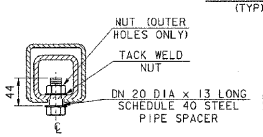
SPLICE TABLE						
JOINT TYPE	T	A	B	C	L	X
N/A	N/A	100	50	--	500	20
EXPANSION JOINT TABLE						
1	185	180	95	250	750	130
2	370	255	135	330	980	200

T = TOTAL MOVEMENT BETWEEN BRIDGE EXPANSION JOINTS. SEE NOTE 6.



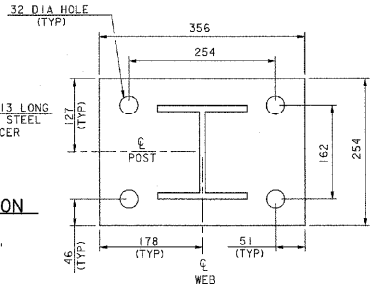
TYPICAL SECTION
NOT TO SCALE

ELEVATION
NOT TO SCALE

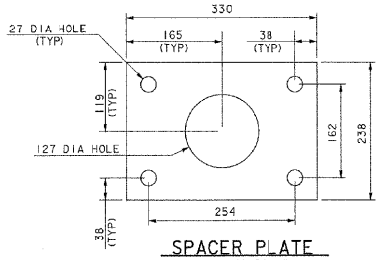


16 DIA TAPPED HOLE IN SPLICE TUBE AND
29 x 'C' SLOT IN RAIL TUBE FOR M16
BOLT AND PLAIN HARDENED WASHER

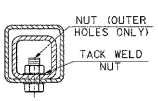
EXPANSION JOINT SECTION
NOT TO SCALE
FOR DETAILS NOT SHOWN,
SEE "RAIL TUBE SPLICE SECTION"



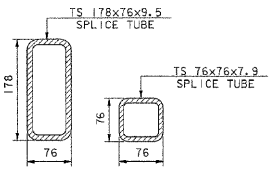
POST AND BASE PLATE
NOT TO SCALE



SPACER PLATE
NOT TO SCALE



16 DIA TAPPED HOLE IN SPLICE TUBE &
19 DIA HOLE IN RAIL TUBE FOR M16
BOLT & PLAIN HARDENED WASHER



RAIL TUBE SPLICE SECTION
NOT TO SCALE

NOTES:

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE PROVISIONS OF SECTION 525 - RAILINGS OF THE STANDARD SPECIFICATION FOR CONSTRUCTION.
2. TUBING AND POSTS SHALL MEET THE REQUIREMENTS OF SECTION 732 - RAILING MATERIALS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION EXCEPT THE DROP-WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING.
3. ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 2 mm RADIUS AND BE FREE OF BURRS.
4. RAIL POSTS SHALL BE SET NORMAL TO GRADE.
5. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO (2) RAIL POSTS AND PREFERABLY TO AT LEAST FOUR (4) POSTS.
6. RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING A SUPERSTRUCTURE EXPANSION JOINT. EXPANSION JOINT WIDTH SHALL BE "X" AT 7°C AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
7. ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M.
8. RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.
9. RAIL TUBES SHALL BE ATTACHED USING M20 FULL DIAMETER BODY AASHTO M 164M (TYPE I) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 2 mm LARGER THAN THE BOLT SIZE.
10. HOLES IN RAILS FOR RAIL TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO ERECTION.
11. NOTE NOT USED.
12. ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY.
13. THE FABRICATOR SHALL SUBMIT SHOP DRAWINGS INCLUDING WELDING PROCEDURES TO THE STRUCTURES SECTION FOR APPROVAL IN ACCORDANCE WITH THE PROVISION OF 506.04, DRAWINGS AND PROCEDURES. ALL WELDING SHALL CONFORM WITH SECTION 506.10.
14. RAIL POSTS AND BASE PLATES SHALL BE TESTED FOR IMPACT PROPERTIES IN ACCORDANCE WITH ASTM A370 CHARPY IMPACT TESTING USING A TYPE A SPECIMEN.
15. ANCHOR BOLTS THAT LACK THE REQUIRED PROJECTION REQUIRE THE USE OF THE FABRICATED SHOULDER NUTS.

MATERIALS

RAIL TUBES.....ASTM A500, GRADE B
RAIL POSTS AND BASE PLATES.....ASTM A709/A709M, GRADE 345
ALL OTHER SHAPES AND PLATES.....ASTM A709/A709M, GRADE 250
ANCHOR STUDS.....ASTM A449
ALL OTHER BOLTS (UNLESS NOTED).....AASHTO M 164M, TYPE 1

NUTS FOR AASHTO M 164M BOLTS AND FOR ANCHOR STUDS SHALL COMPLY WITH AASHTO M 291 (ASTM A563).

WASHERS SHALL COMPLY WITH AASHTO M 293 (ASTM F436) SPECIFICATIONS.

3 mm PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
NETC 4 RAIL - BRIDGE RAILING	
Designed By J. T. KLEIN	Drawn By W. B. LAVERGNE (TS)
Checked By S. M. HODGDON Date 10/03	Bridge Design Supervisor S. W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072br2	Sheet SS 48 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date: 10/23/2003

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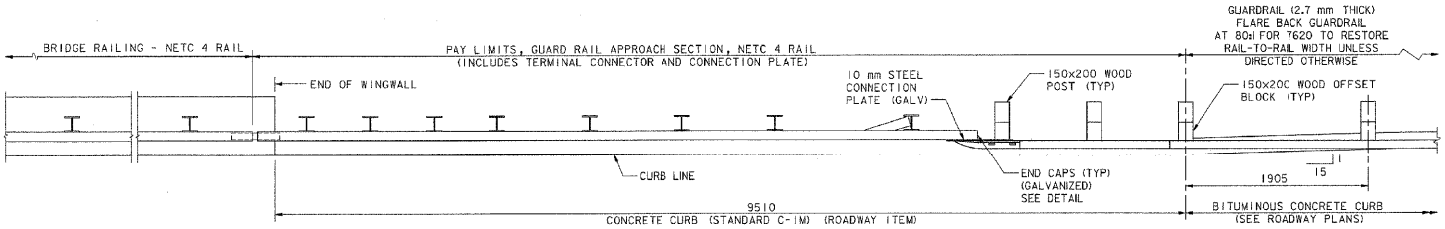
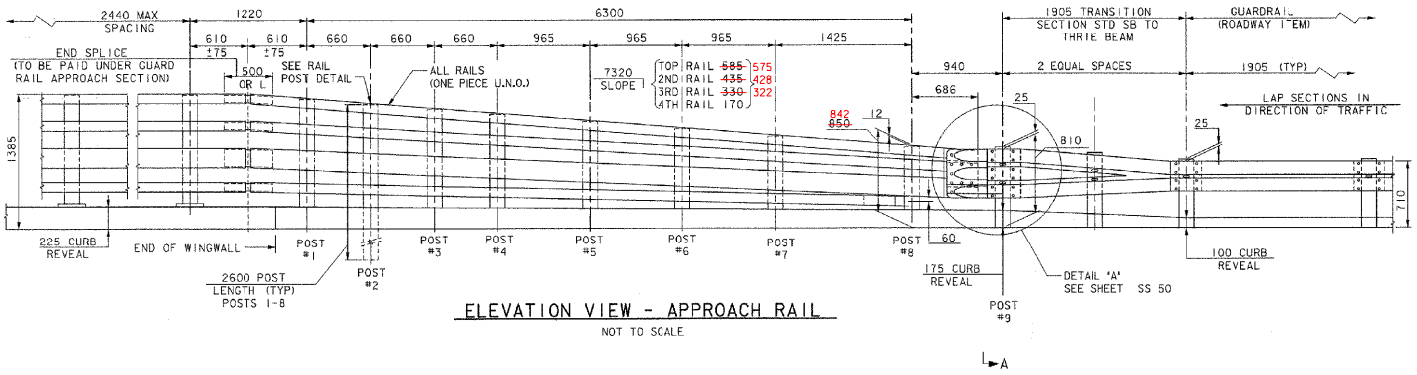


PLAN VIEW - APPROACH RAIL

NOT TO SCALE

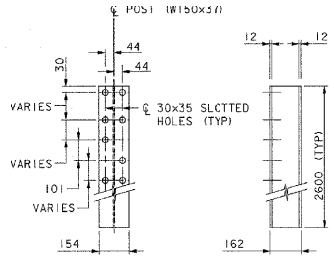


ELEVATION VIEW - APPROACH RAIL

NOT TO SCALE

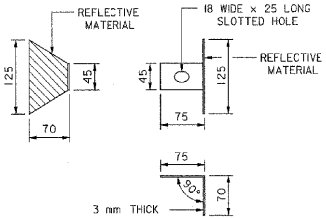
NOTES:

1. REFER TO SHEET SS 48 & SS 50 FOR ADDITIONAL DETAILS, NOTES AND MATERIAL SPECIFICATIONS.
2. PAYMENT FOR GUARD RAIL APPROACH SECTION, NETC 4 RAIL SHALL INCLUDE THE TERMINAL CONNECTOR, THE CONNECTION PLATE, RAIL, POSTS, BLOCKS AND ATTACHMENT HARDWARE.
3. THE REFLECTORIZED ALUMINUM DELINEATION IS TO BE ERECTED EVERY 9100 (OR CLOSEST POST) WITH A 16 mm DIAMETER BOLT. DELINEATORS SHALL MEET SPECIFICATION REQUIREMENTS FOR ASTM B209 ALLOY 5052-H32.
4. REFLECTIVE MATERIAL SHALL MEET REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE OF ENCAPSULATED LENS SILVER. SILVER IS TO BE INSTALLED ON THE DRIVER'S RIGHT.
5. ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.
6. ALL BRIDGE APPROACH RAIL MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED.
7. CARRIAGE BOLTS SHALL BE AASHTO M 164M AND NUTS SHALL BE ASTM A563 GRADE A OR BETTER (GALVANIZED).
8. WELD SPLICE BARS TO FIT BEND. USE COMPLETE PENETRATION WELD (B-U2).
9. THE CONCRETE CURB ROADWAY ITEM WILL BE PAID FOR AS ITEM 616.28, "CAST IN-PLACE CONCRETE CURB, TYPE B."
10. SEE SHEET SS 50 FOR SECTION A-A.



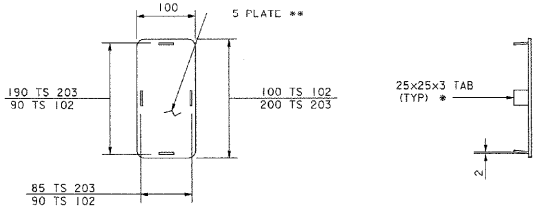
RAIL POST

NOT TO SCALE



DELINEATION DEVICE DETAILS

NOT TO SCALE



END CAP DETAIL

NOT TO SCALE

* WELD TABS TO END CAP PLATE IN TAPERED POSITION SO CAP CAN BE JAMMED INTO END OF RAIL TUBE.
** ROUND CORNERS 12 mm RADIUS (TYP)

STATE OF VERMONT
AGENCY OF TRANSPORTATION

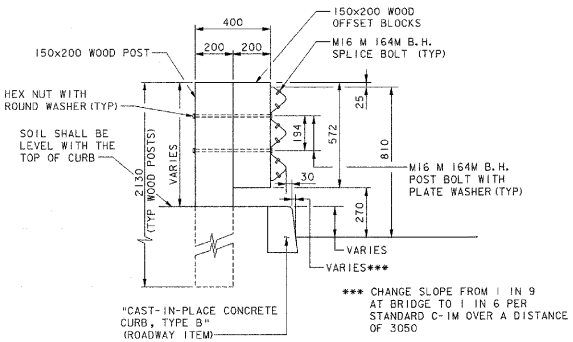
Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta.
	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
NETC 4 RAIL - APPROACH RAILING	
Designed By J.T. KLEIN	Drawn By W.B. LAVERGNE (TS)
Checked By S.M. HODGDON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
U.C.C. Info.	
File No. ZE072br3	Sheet SS 49 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

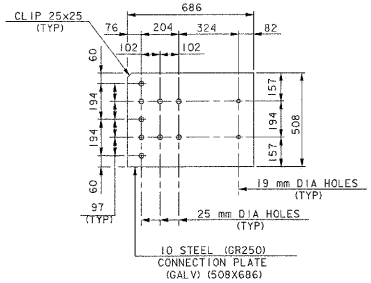
VHB NO. 5091

plot date: 10/23/2003

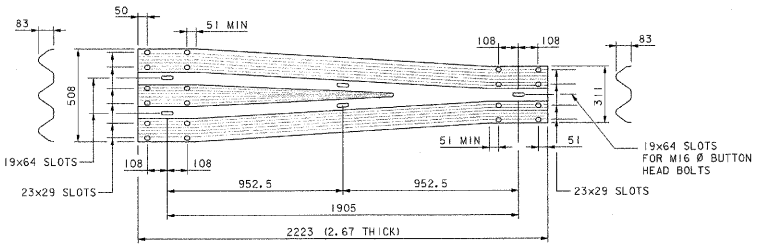
Metric



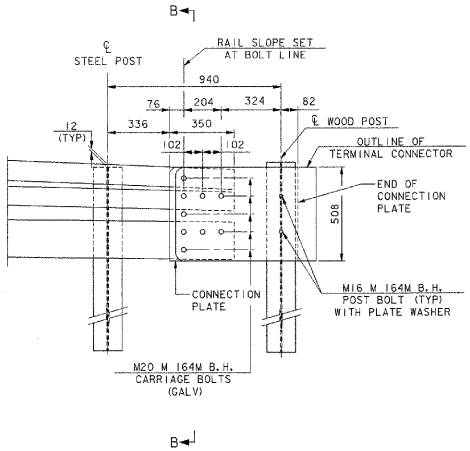
SECTION A-A (POST RAIL ASSEMBLY)
NOT TO SCALE



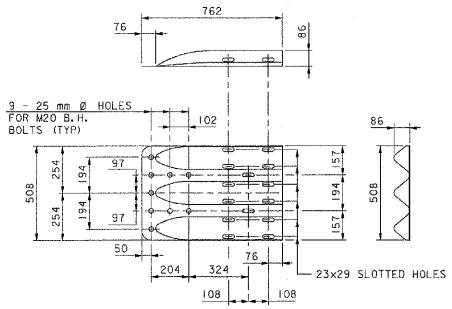
CONNECTION PLATE
NOT TO SCALE



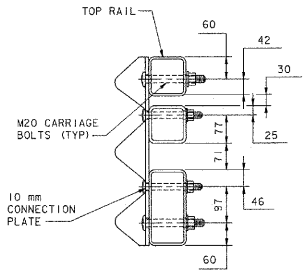
THRIE-BEAM TO STD SB TRANSITION SECTION
NOT TO SCALE



DETAIL A
NOT TO SCALE



THRIE-BEAM TERMINAL CONNECTOR
NOT TO SCALE



SECTION B-B (CONNECTION PLATE)
NOT TO SCALE

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
NETC 4 RAIL - DETAILS	
Designed By J.T. KLEIN	Drawn By W.B. LAVERGNE (TS)
Checked By S.M. HODGDON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072br4	Sheet SS 50 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 50911

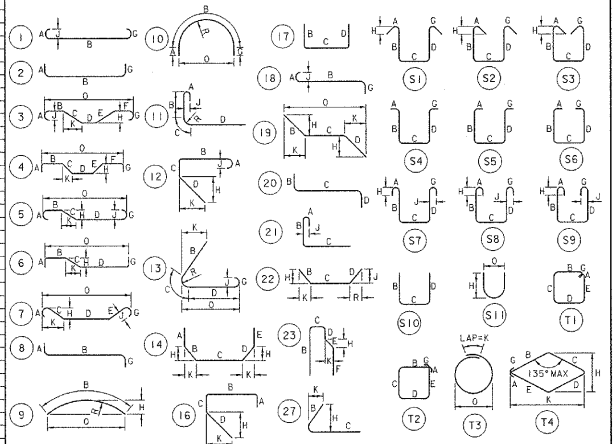
plot date: 10/23/2003

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	ABUTMENT NO 1																
	50	16	4040	1A1601	STR												
	28	16	7600	1A1602	STR												
	16	16	9280	1A1603	STR												
	30	16	3290	1A1604	STR												
	48	16	2790	1A1605	STR												
	48	16	4810	1A1606	STR	▲											
	37	16	7710	1A1607	STR												
	37	16	6890	1A1608	STR												
	43	16	1010	1EA1609	STR												
*	87	16	2400	1EA1610	STR	▲											
	24	16	7710	1EA1611	STR	▲											
	25	16	6890	1EA1612	STR	▲											
	8	16	1300	1EA1613	STR												
	99	25	4040	1A2501	STR												
	58	25	3290	1A2502	STR												
*	44	25	4960	1A2503	STR												
	86	16	1680	1A16101	2	250	1430					0					
	34	16	600	1A16102	17		300	300	0								
	34	16	4650	1A16103	22		300	4050	300				210	210	210	210	
	48	16	2130	1A16104	17		660	1470	0								
	20	16	600	1EA16105	17		300	300	0								
	43	16	1950	1EA16106	16	250	670	250	780				550		550		
	3	16	1840	1EA16107	S6	250	670	250	670			0					
	43	16	1015	1EA16108	17		320	375	320								
	138	25	3345	1A25101	2	425	2920					0					
*	23	25	1330	1EA25102	19		580	750	0				410		410		
	WINGWALL NO 1																
	19	16	5570	1WI601	STR	▲											
	34	16	5650	1WI602	STR												
	16	16	1420	1WI603	STR												
	46	16	2260	1WI604	STR	▲											
*	19	16	6570	1WI605	STR	▲											
	3	16	6570	1EWI606	STR												
	15	25	4060	1W2501	STR												
	19	16	1070	1WI6101	17		300	770	0								
	32	16	2320	1EWI6102	17		940	440	940								
	WINGWALL NO 2																
	19	16	5570	2WI601	STR	▲											
	34	16	5650	2WI602	STR												
	16	16	1420	2WI603	STR												
	46	16	2260	2WI604	STR	▲											
	18	16	6570	2WI605	STR	▲											
	3	16	6570	2EWI606	STR												
	15	25	4060	2W2501	STR												
	19	16	1070	2WI6101	17		300	770	0								
	32	16	2320	2EWI6102	17		940	440	940								
	APPROACH SLAB NO 1																
*	22	16	12 740	1EAS1601	STR												
*	53	29	6215	1EAS29101	1	375	5840					0					

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	ABUTMENT NO 2																
	100	16	2440	2A1601	STR												
	36	16	7600	2A1602	STR												
	26	16	2390	2A1603	STR												
	36	16	4390	2A1604	STR												
	48	16	2560	2A1605	STR	▲											
	23	16	7710	2A1606	STR												
	23	16	6890	2A1607	STR												
	43	16	1010	2EA1608	STR												
	86	16	2400	2EA1609	STR	▲											
	24	16	7710	2EA1610	STR	▲											
	25	16	6890	2EA1611	STR	▲											
	8	16	1300	2EA1612	STR												
	43	22	3430	2A2201	STR												
*	27	25	2390	2A2501	STR												
	86	16	1560	2A16101	2	250	1310					0					
	20	16	600	2A16102	17		300	300	0								
	20	16	4230	2A16103	22		300	3630	300				210	210	210	210	
	48	16	2130	2A16104	17		660	1470	0								
	20	16	600	2EA16105	17		300	300	0								
	43	16	1950	2EA16106	16	250	670	250	780				465		465		
	3	16	1840	2EA16107	S6	250	670	250	670			0					
	43	16	1015	2EA16108	17		320	375	320								
	73	22	2095	2A22101	2	375	1720					0					
	28	22	2445	2A22102	2	375	2070					0					
*	23	25	1330	2EA25101	19		580	750	0				410		410		
	WINGWALL NO 3																
	20	16	4890	3WI601	STR	▲											
	20	16	5650	3WI602	STR												
	18	16	6570	3WI603	STR	▲											
	14	16	2000	3WI604	STR	▲											
	4	16	6570	3EWI605	STR												
	15	22	4840	3W2201	STR	▲											
	32	16	2320	3EWI6101	17		940	440	940								
	WINGWALL NO 4																
	20	16	4890	4WI601	STR	▲											
	20	16	5650	4WI602	STR												
	18	16	6570	4WI603	STR	▲											
*	15	16	2000	4WI604	STR	▲											
	3	16	6570	4EWI605	STR												
	14	22	4840	4W2201	STR	▲											
	32	16	2320	4EWI6101	17		940	440	940								
	APPROACH SLAB NO 2																
*	22	16	12 740	2EAS1601	STR												
*	53	29	6215	2EAS29101	1	375	5840					0					

NOTES

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING #57M SHALL CONFORM TO THE REQUIREMENT OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-SI). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS ARE TO BE SHOWN ONLY WHEN NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS ARE TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. "E" IN PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	NOMINAL MASS kg/m	NOMINAL DIMENSIONS ROUND SECTION DIAMETER mm	CROSS SECTIONAL AREA mm²	PERIMETER mm
10	0.560	9.5	71	29.84
13	0.994	12.7	129	39.90
16	1.552	15.9	199	49.95
19	2.235	19.1	284	60.00
22	3.042	22.2	387	69.74
25	3.973	25.4	510	79.80
29	5.060	28.7	645	90.16
32	6.404	32.3	819	101.47
36	7.907	35.8	1006	112.47
43	11.380	43.0	1452	135.09
57	20.240	57.3	2581	180.01

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
REINFORCING STEEL SCHEDULE (1 OF 7)	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By Date S.M. HODGDON 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072rs1	Sheet SS 51 of SS 57

VHB NO. 5091I

plot date 10/23/2003

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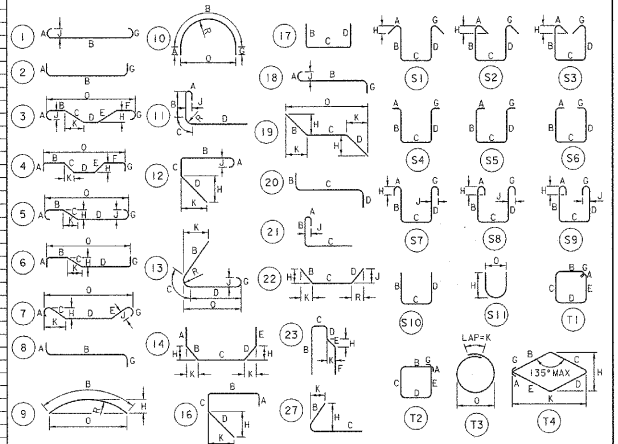
ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	DECK - SPAN 1																
	590	16	10 090	1ES1601	STR	▲											
	61	16	4410	1ES1602	STR												
	73	16	1080	1ES1604	STR												
	9	16	3000	1ES1605	STR												
	8	16	1050	1ES1606	STR												
	551	19	13 950	1ES1901	STR	▲											
	46	19	14 800	1ES1902	STR												
*	47	19	18 300	1ES1903	STR												
	4	13	4310	1ES13101	17		205	3900	205								
	430	16	1760	1ES16101	S5	250	420	420	420			250					
	39	16	910	1ES16102	19		360	550	0				255		255		
	24	16	910	1ES16104	17		375	330	205								
	DECK - SPAN 2																
	590	16	10 090	2ES1601	STR												
	553	19	13 950	2ES1901	STR												
	46	19	14 800	2ES1902	STR												
	46	19	18 300	2ES1903	STR												
	436	16	1760	2ES16101	S5	250	420	420	420			250					
	DECK - SPAN 3																
	590	16	10 090	3ES1601	STR	▲											
	8	16	1050	3ES1606	STR												
	553	19	13 950	3ES1901	STR	▲											
	46	19	14 800	3ES1902	STR												
	46	19	18 300	3ES1903	STR												
	430	16	1760	3ES16101	S5	250	420	420	420			250					
	DECK - SPAN 4																
△	592	16	10 090	4ES1601	STR												
	553	19	13 950	4ES1901	STR												
	46	19	14 800	4ES1902	STR												
	46	19	18 300	4ES1903	STR												
	436	16	1760	4ES16101	S5	250	420	420	420			250					
	DECK - SPAN 5																
*	591	16	10 090	5ES1601	STR	▲											
	8	16	1050	5ES1606	STR												
	553	19	13 950	5ES1901	STR	▲											
	46	19	14 800	5ES1902	STR												
	46	19	18 300	5ES1903	STR												
	430	16	1760	5ES16101	S5	250	420	420	420			250					
	DECK - SPAN 6																
	590	16	10 090	6ES1601	STR												
△	555	19	13 950	6ES1901	STR												
	46	19	14 800	6ES1902	STR												
*	46	19	18 300	6ES1903	STR												
	436	16	1760	6ES16101	S5	250	420	420	420			250					
	DECK - SPAN 7																
	472	16	10 090	7ES1601	STR	▲											
	61	16	4410	7ES1602	STR												
	57	16	8480	7ES1603	STR												
	38	16	1080	7ES1604	STR												
	9	16	3000	7ES1605	STR												
	8	16	1050	7ES1606	STR												
*	552	19	13 950	7ES1901	STR	▲											
	4	13	4310	7ES13101	17		205	3900	205								
	430	16	1760	7ES16101	S5	250	420	420	420			250					
	39	16	910	7ES16102	19		360	550	0				255		255		
	15	16	1060	7ES16103	17		375	480	205								

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	DECK - SPAN 8																
	590	16	10 090	8ES1601	STR												
*	62	16	4410	8ES1602	STR												
	38	16	1080	8ES1604	STR												
	9	16	3000	8ES1605	STR												
	551	19	13 950	8ES1901	STR	▲											
	46	19	14 800	8ES1902	STR												
	46	19	18 300	8ES1903	STR												
	4	13	4310	8ES13101	17		205	3900	205								
	436	16	1760	8ES16101	S5	250	420	420	420			250					
	39	16	0910	8ES16102	19		360	550	0				255		255		
	15	16	1060	8ES16103	17		375	480	205								
	DECK - SPAN 9																
△	592	16	10 090	9ES1601	STR	▲											
	8	16	1050	9ES1606	STR												
	553	19	13 950	9ES1901	STR	▲											
	46	19	14 800	9ES1902	STR												
	46	19	18 300	9ES1903	STR												
	436	16	1760	9ES16101	S5	250	420	420	420			250					
	DECK - SPAN 10																
	590	16	10 090	10ES1601	STR												
*	554	19	13 950	10ES1901	STR												
	46	19	14 800	10ES1902	STR												
	46	19	18 300	10ES1903	STR												
	430	16	1760	10ES16101	S5	250	420	420	420			250					
	DECK - SPAN 11																
*	591	16	10 090	11ES1601	STR												
	553	19	13 950	11ES1901	STR												
	46	19	14 800	11ES1902	STR												
	46	19	18 300	11ES1903	STR												
	436	16	1760	11ES16101	S5	250	420	420	420			250					
	DECK - SPAN 12																
	590	16	10 090	12ES1601	STR												
	553	19	13 950	12ES1901	STR												
	46	19	14 800	12ES1902	STR												
	46	19	18 300	12ES1903	STR												
	436	16	1760	12ES16101	S5	250	420	420	420			250					
	DECK - SPAN 13																
	590	16	10 090	13ES1601	STR	▲											
	8	16	1050	13ES1606	STR												
	553	19	13 950	13ES1901	STR	▲											
	46	19	14 800	13ES1902	STR												
*	47	19	18 300	13ES1903	STR												
	436	16	1760	13ES16101	S5	250	420	420	420			250					
	DECK - SPAN 14																
	590	16	10 090	14ES1601	STR												
	553	19	13 950	14ES1901	STR												
	46	19	14 800	14ES1902	STR												
	46	19	18 300	14ES1903	STR												
	430	16	1760	14ES16101	S5	250	420	420	420			250					

NOTES

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING #57M SHALL CONFORM TO THE REQUIREMENT OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-SI). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS ARE TO BE SHOWN ONLY WHEN NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS ARE TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. "E" IN PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	NOMINAL MASS kg/m	NOMINAL DIMENSIONS ROUND SECTION: DIAMETER mm	CROSS SECTIONAL AREA mm²	PERIMETER mm
10	0.560	9.5	71	29.84
13	0.994	12.7	129	39.90
16	1.552	15.9	199	49.95
19	2.235	19.1	284	60.00
22	3.042	22.2	387	69.74
25	3.973	25.4	510	79.80
29	5.060	28.7	645	90.16
32	6.404	32.3	819	101.47
36	7.907	35.8	1006	112.47
43	11.380	43.0	1452	135.09
57	20.240	57.3	2581	180.01

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
REINFORCING STEEL SCHEDULE (2 OF 7)	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By Date	Bridge Design Supervisor
S.M. HODGDON 10/03	S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
LG.C. Info.	
File No. ZE072rs2	Sheet SS 52 of SS 57

VHB NO. 5091I

plot date: 10/23/2003

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ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	DECK - SPAN 15																
	472	16	10 090	15ES1601	STR	▲											△
	61	16	4410	15ES1602	STR												
	57	16	8480	15ES1603	STR												
	38	16	1080	15ES1604	STR												
	9	16	3000	15ES1605	STR												
	8	16	1050	15ES1606	STR												
△	553	19	13 950	15ES1901	STR	▲											
	4	13	4310	15ES13101	17		205	3900	205								
	436	16	1760	15ES16101	S5	250	420	420	420			250					
	39	16	910	15ES16102	19		360	550	0				255		255		
	15	16	1060	15ES16103	17		375	480	205								
	DECK - SPAN 16																
	590	16	10 090	16ES1601	STR												
	61	16	4410	16ES1602	STR												
	38	16	1080	16ES1604	STR												
	9	16	3000	16ES1605	STR												
	551	19	13 950	16ES1901	STR	▲											
*	47	19	14 800	16ES1902	STR												
	46	19	18 300	16ES1903	STR												
	4	13	4310	16ES13101	17		205	3900	205								
	436	16	1760	16ES16101	S5	250	420	420	420			250					
	39	16	910	16ES16102	19		360	550	0				255		255		
	15	16	910	16ES16103	17		375	330	205								
	DECK - SPAN 17																
	590	16	10 090	17ES1601	STR	▲											
	8	16	1050	17ES1606	STR												
*	554	19	13 950	17ES1901	STR	▲											
	46	19	14 800	17ES1902	STR												
	46	19	18 300	17ES1903	STR												
	436	16	1760	17ES16101	S5	250	420	420	420			250					
	DECK - SPAN 18																
	590	16	10 090	18ES1601	STR												
	553	19	13 950	18ES1901	STR												
	46	19	14 800	18ES1902	STR												
	46	19	18 300	18ES1903	STR												
	430	16	1760	18ES16101	S5	250	420	420	420			250					
	DECK - SPAN 19																
	590	16	10 090	19ES1601	STR	▲											
	8	16	1050	19ES1606	STR												
△	553	19	13 950	19ES1901	STR	▲											
	48	19	14 800	19ES1902	STR												
	46	19	18 300	19ES1903	STR												
	436	16	1760	19ES16101	S5	250	420	420	420			250					
	DECK - SPAN 20																
*	591	16	10 090	20ES1601	STR												
	553	19	13 950	20ES1901	STR												
	46	19	14 800	20ES1902	STR												
	46	19	18 300	20ES1903	STR												
	436	16	1760	20ES16101	S5	250	420	420	420			250					
	DECK - SPAN 21																
	590	16	10 090	21ES1601	STR	▲											
	8	16	1050	21ES1606	STR												
	553	19	13 950	21ES1901	STR	▲											
	46	19	14 800	21ES1902	STR												
	46	19	18 300	21ES1903	STR												
	436	16	1760	21ES16101	S5	250	420	420	420			250					

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	DECK - SPAN 22																
	592	16	10 090	22ES1601	STR												
	553	19	13 950	22ES1901	STR												
	46	19	14 800	22ES1902	STR												
	46	19	18 300	22ES1903	STR												
	430	16	1760	22ES16101	S5	250	420	420	420			250					
	DECK - SPAN 23																
	472	16	10 090	23ES1601	STR	▲											
	61	16	4410	23ES1602	STR												
	57	16	8480	23ES1603	STR												
	73	16	1080	23ES1604	STR												
*	10	16	3000	23ES1605	STR												
	8	16	1050	23ES1606	STR												
	551	19	13 950	23ES1901	STR	▲											
	4	13	4310	23ES13101	17		205	3900	205								
	436	16	1760	23ES16101	S5	250	420	420	420			250					
	39	16	910	23ES16102	19		360	550	0				255		255		
	24	16	910	23ES16104	17		375	330	205								

NOTES

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING #57M SHALL CONFORM TO THE REQUIREMENT OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-SI). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
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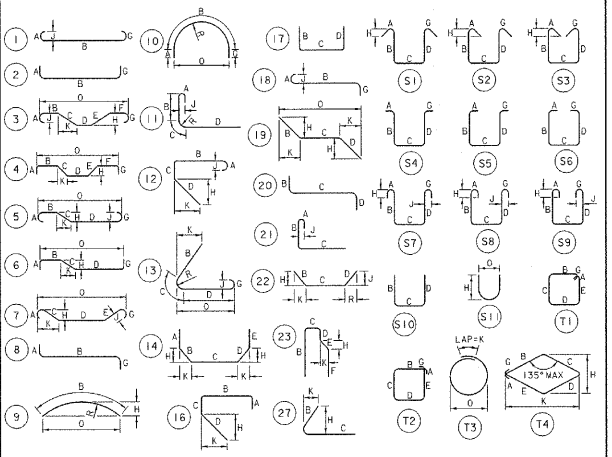
6. "H" DIMENSION ON STIRRUPS ARE TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. "E" IN PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	NOMINAL MASS kg/m	NOMINAL DIMENSIONS ROUND SECTION DIAMETER mm	CROSS SECTIONAL AREA mm²	PERIMETER mm
10	0.560	9.5	71	29.84
13	0.994	12.7	129	39.90
16	1.552	15.9	199	49.95
19	2.235	19.1	284	60.00
22	3.042	22.2	387	69.74
25	3.973	25.4	510	79.80
29	5.060	28.7	645	90.16
32	6.404	32.3	819	101.47
36	7.907	35.8	1006	112.47
43	11.380	43.0	1452	135.09
57	20.240	57.3	2581	180.01

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

REINFORCING STEEL SCHEDULE (3 OF 7)

Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By S.M. HODGDON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072rs3	Sheet SS 53 of SS 57

VHB NO. 5091I

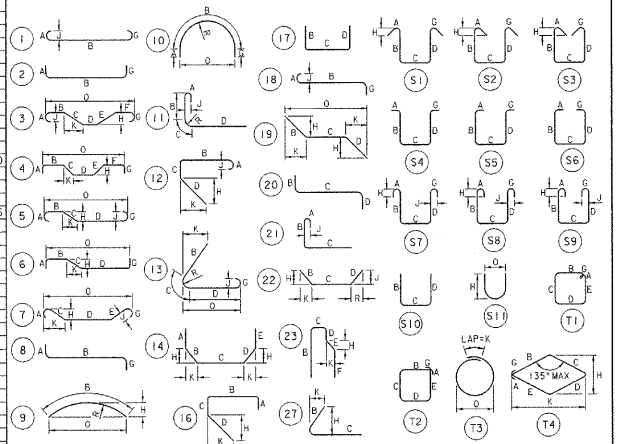
plot date: 10/23/2003

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	PIER NO 1																
* 3	15	22	4000	1P2201	STR												
* 4	22	22	10 750	1P2202	STR	▲											*
* 6	9	25	6187	1P2501	STR												*
8	32	36	10 062	1P3601	STR												*
* 9	31	36	6700	1P3602	STR												
11	44	16	1975	1P16101	2	250	1475					250					*
12	6	16	4700	1P16102	16	0	1400	1300	2000				588		1912		
13	5	16	7575	1P16103	S6	250	2800	1475	2800			250					
* 14	21	16	7150	1P16104	S6	250	2800	1050	2800			250					
15	4	16	7130	1P16105	S6	250	2790	1050	2790			250					
16				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
17	4	16	4650	1P16145	S6	250	1550	1050	1550			250					
18	4	16	3595	1P16146	17		1050	1495	1050								
19	4	16	3535	1P16147	17		1050	1435	1050								
20	4	16	3480	1P16148	17		1050	1380	1050								
21	18	16	4460	1P16149	10	1100	2260					1100				720	1440
22	10	16	2050	1P16150	17		550	950	550								
23																	
* 24	81	19	1900	1P19101	2	300	1300					300					*
25	2	19	172 438	1P19102	T3	SPIRAL PITCH = 150 WITH 42 TURNS											1325
26	7	22	4100	1P22101	22		750	2600	750				220	220	717	717	
* 27	9	32	12 630	1P32101	2	550	12 080					0					
28	8	32	12 530	1P32102	2	550	11 980					0					
29	8	32	12 070	1P32103	2	550	11 520					0					*
30	8	32	11 350	1P32104	2	550	10 800					0					
31																	
32																	
33	PIER NO 2																
34																	
35	14	22	4000	2P2201	STR												*
* 36	23	22	10 750	2P2202	STR	▲											
37																	
* 38	9	25	8556	2P2501	STR												*
39																	
* 40	33	36	12 431	2P3601	STR												
41	30	36	7300	2P3602	STR												*
42																	
43	44	16	1975	2P16101	2	250	1475					250					
44	6	16	4700	2P16102	16	0	1400	1300	2000				588		1912		*
45	5	16	7575	2P16103	S6	250	2800	1475	2800			250					
46	20	16	7150	2P16104	S6	250	2800	1050	2800			250					
47	4	16	7130	2P16105	S6	250	2790	1050	2790			250					
48				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
49	4	16	4650	2P16145	S6	250	1550	1050	1550			250					
50	4	16	3595	2P16146	17		1050	1495	1050								
* 51	4	16	3535	2P16147	17		1050	1435	1050								
52	4	16	3480	2P16148	17		1050	1380	1050								
53	18	16	4460	2P16149	10	1100	2260					1100				720	1440
54	10	16	2050	2P16150	17		550	950	550								
55																	
* 56	113	19	1900	2P19101	2	300	1300					300					*
57	2	19	238 128	2P19102	T3	SPIRAL PITCH = 150 WITH 58 TURNS											1325
58	7	22	4100	2P22101	22		750	2600	750				220	220	717	717	
59	8	32	12 630	2P32101	2	550	12 080					0					
60	8	32	12 530	2P32102	2	550	11 980					0					*
61	8	32	12 070	2P32103	2	550	11 520					0					
* 62	9	32	11 350	2P32104	2	550	10 800					0					
63																	
64																	
65	PIER NO 3																
66																	
67	14	22	4000	3P2201	STR												*
* 68	23	22	10 750	3P2202	STR	▲											
69																	
* 70	9	25	7731	3P2501	STR												*
71																	
72	32	36	10 256	3P3601	STR												*
* 73	63	36	7800	3P3603	STR												
74																	
* 75	45	16	1975	3P16101	2	250	1475					250					
76	6	16	4700	3P16102	16	0	1400	1300	2000				588		1912		
77	5	16	7575	3P16103	S6	250	2800	1475	2800			250					
78	20	16	7150	3P16104	S6	250	2800	1050	2800			250					
79	4	16	7130	3P16105	S6	250	2790	1050	2790			250					*
80				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
81	4	16	4650	3P16145	S6	250	1550	1050	1550			250					
82	4	16	3595	3P16146	17		1050	1495	1050								
83	4	16	3535	3P16147	17		1050	1435	1050								
84	4	16	3480	3P16148	17		1050	1380	1050								
85	18	16	4460	3P16149	10	1100	2260					1100				720	1440
86	10	16	2050	3P16150	17		550	950	550								
87																	
* 88	103	19	1900	3P19101	2	300	1300					300					*
89	2	19	221 706	3P19102	T3	SPIRAL PITCH = 150 WITH 54 TURNS											1325
90	2	19	48 354	3P19103	T3	SPIRAL PITCH = 150 WITH 13 TURNS											1202
91	7	22	4100	3P22101	22		750	2600	750				220	220	717	717	
* 92	9	32	12 630	3P32101	2	550	12 080					0					
93	8	32	12 530	3P32102	2	550	11 980					0					
94	8	32	12 070	3P32103	2	550	11 520					0					*
95	8	32	11 350	3P32104	2	550	10 800					0					
96																	

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
100	PIER NO 4																
101																	
102	14	22	4000	4P2201	STR												
103	23	22	10 750	4P2202	STR	▲											
104																	
105	9	25	10 210	4P2501	STR												
106																	
107	33	36	14 085	4P3601	STR												
108	30	36	7800	4P3602	STR												
109																	
110	45	16	1975	4P16101	2	250	1475					250					
111	6	16	4700	4P16102	16	0	1400	1300	2000				588		1912		
112	5	16	7575	4P16103	S6	250	2800	1475	2800			250					
113	20	16	7150	4P16104	S6	250	2800	1050	2800			250					
114	4	16	7130	4P16105	S6	250	2790	1050	2790			250					
115				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
116	4	16	4650	4P16145	S6	250	1550	1050	1550			250					
117	4	16	3595	4P16146	17		1050	1495	1050								
118	4	16	3535	4P16147	17		1050	1435	1050								
119	4	16	3480	4P16148	17		1050	1380	1050								
120	18	16	4460	4P16149	10	1100	2260					1100				720	1440
121	10	16	2050	4P16150	17		550	950	550								
122																	
123	135	19	1900	4P19101	2	300	1300					300					
124	2	19	283 291	4P19102	T3	SPIRAL PITCH = 150 WITH 69 TURNS											1325
125	7	22	4100	4P22101	22		750	2600	750				220	220	717	717	
126	8	32	12 630	4P32101	2	550	12 080					0					
127	8	32	12 530	4P32102	2	550	11 980					0					
128	9	32	12 070	4P32103	2	550	11 520					0					
129	8	32	11 350	4P32104	2	550	10 800					0					
130																	
131																	
132	PIER NO 5																
133																	
134	15	22	4000	5P2201	STR												
135	22	22	10 750	5P2202	STR	▲											
136																	
137	9	25	10 545	5P2501	STR												
138																	
139	32	36	14 420	5P3601	STR												
140	31	36	7800	5P3602	STR												
141																	
142	44	16	1975	5P16101	2	250	1475					250					
143	7	16	4700	5P16102	16	0	1400	1300	2000				588		1912		
144	5	16	7575	5P16103	S6	250	2800	1475	2800			250					
145	20	16	7150	5P16104	S6	250	2800	1050	2800			250					
146	4	16	7130	5P16105	S6	250	2790	1050	2790			250					
147				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
148	4	16	4650	5P16145	S6	250	1550	1050	1550			250					
149	4	16	3595	5P16146	17		1050	1495	1050								
150	4	16	3535	5P16147	17		1050	1435	1050								
151	4	16	3480	5P16148	17		1050	1380	1050								
152	18	16	4460	5P16149	10	1100	2260					1100				720	1440
153	10	16	2050	5P16150	17		550	950	550								
154																	
155	139	19	1900	5P19101	2	300	1300					300					
156	2	19	291 502	5P19102	T3	SPIRAL PITCH = 150 WITH 71 TURNS											1325
157	7	22	4100	5P22101	22		750	2600	750				220	220	717	717	
158	8	32	12 630	5P32101	2	550	12 080					0					
159	9	32	12 530	5P32102	2	550	11 980					0					
160	8	32	12 070	5P32103	2	550	11 520					0					
161	8	32	11 350	5P32104	2	550	10 800					0					
162																	
163																	
164	PIER NO 6																
165																	
166	15	22	4000	6P2201	STR												
167	22	22	10 750	6P2202	STR	▲											
168																	
169	9	25	11 334	6P2501	STR												
170																	
171	33	36	15 209	6P3601	STR												
172	30	36	8300	6P3602	STR												
173																	
174	44	16	1975	6P16101	2	250	1475					250					
175	6	16	4700	6P16102	16	0	1400	1300	2000				588		1912		
176	5	16	7575	6P16103	S6	250	2800	1475	2800			250					
177	20	16	7150	6P16104	S6	250	2800	1050	2800			250					
178	4	16	7130	6P16105	S6	250	2790	1050	2790			250					
179				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
180	4	16	4650	6P16145	S6	250	1550	1050	1550			250					
181	4	16	3595	6P16146	17		1050	1495	1050								
182	4	16	3535	6P16147	17		1050	1435	1050								
183	4	16	3480	6P16148	17		1050	1380	1050								
184	18	16	4460	6P16149	10	1100	2260					1100				720	1440
185	10	16	2050	6P16150	17		550	950	550								
186																	
187	149	19	1900	6P19101	2	300	1300					300					
188	2	19	316 136	6P19102	T3	SPIRAL PITCH = 150 WITH 77 TURNS											1325
189	7	22	4100	6P22101	22		750	2600	750				220	220	717	717	
190	8	32	12 630	6P32101	2	550	12 080					0					
191	8	32	12 530	6P32102	2	550	11 980					0					
192	8	32	12 070	6P32103	2	550	11 520					0					
193	9	32	11 350	6P32104	2	550	10 800					0					
194																	
195																	

NOTES

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING #57M SHALL CONFORM TO THE REQUIREMENT OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-S1). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS ARE TO BE SHOWN ONLY WHEN NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS ARE TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. "E" IN PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	NOMINAL MASS kg/m	NOMINAL DIMENSIONS ROUND SECTION: DIAMETER mm	CROSS SECTIONAL AREA mm²	PERIMETER mm
10	0.560	9.5	71	29.84
13	0.994	12.7	129	39.90
16	1.552	15.9	199	49.95
19	2.235	19.1	284	60.00
22	3.042	22.2	387	69.74
25	3.973	25.4	510	79.80
29	5.060	28.7	645	90.16
32	6.404	32.3	819	101.47
36	7.907	35.8	1006	112.47
43	11.380	43.0	1452	135.09
57	20.240	57.3	2581	180.01

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
	Log Sta.
Highway No. VT 78	Surv. Sta.
VT 78 OVER MISSISQUOI BAY	
REINFORCING STEEL SCHEDULE (4 OF 7)	
Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By Date S.M. HODGDON 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072rs4	Sheet SS 54 of SS 57

VANASSE HANGEN BRUSTLIN, INC.

VHB NO. 5091

plot date: 10/23/2003

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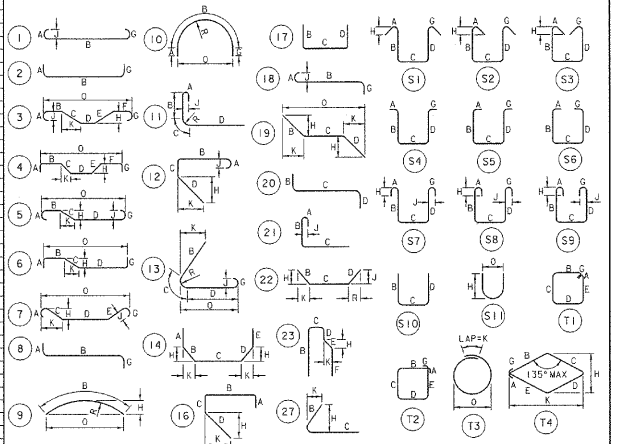
ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	PIER NO 7																
*	15	22	4000	7EP2201	STR												
	22	22	10 300	7EP2202	STR	▲											
*	9	25	12 266	7P2501	STR												
*	32	36	16 141	7P3601	STR												
*	31	36	8300	7P3602	STR												
	44	16	2450	7EP16101	2	250	1950					250					
	6	16	4700	7EP16102	16	0	1400	1300	2000				588		1912		
	5	16	8050	7EP16103	S6	250	2800	1950	2800			250					
*	21	16	7530	7EP16104	S6	250	2800	1430	2800			250					
	4	16	7510	7EP16105	S6	250	2790	1430	2790			250					
				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
	4	16	5154	7EP16143	S6	250	1612	1430	1612			250					
	4	16	4205	7EP16144	17		1325	1555	1325								
				THRU		VARY LEG "C" IN 55 mm INCREMENTS											
	4	16	3985	7EP16148	17		1325	1335	1325								
	18	16	5200	7EP16149	10	1100	3000					1100				955	1915
	14	16	2050	7EP16150	17		550	950	550								
*	161	19	1900	7P19101	2	300	1300					300					
	2	19	340 770	7P19102	T3	SPIRAL PITCH = 150 WITH 83 TURNS											1325
	7	22	4100	7EP22101	22		750	2600	750				220	220	717	717	
*	9	32	12 650	7EP32101	2	550	12 100					0					
	8	32	12 540	7EP32102	2	550	11 990					0					
	8	32	12 160	7EP32103	2	550	11 610					0					
	8	32	11 050	7EP32104	2	550	10 500					0					
	PIER NO 8																
	14	22	4000	8P2201	STR												
*	23	22	10 750	8P2202	STR	▲											
*	9	25	12 903	8P2501	STR												
*	33	36	16 778	8P3601	STR												
	30	36	8300	8P3602	STR												
	44	16	1975	8P16101	2	250	1475					250					
	6	16	4700	8P16102	16	0	1400	1300	2000				588		1912		
	5	16	7575	8P16103	S6	250	2800	1475	2800			250					
	20	16	7150	8P16104	S6	250	2800	1050	2800			250					
	4	16	7130	8P16105	S6	250	2790	1050	2790			250					
				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
	4	16	4650	8P16145	S6	250	1550	1050	1550			250					
	4	16	3595	8P16146	17		1050	1495	1050								
*	5	16	3535	8P16147	17		1050	1435	1050								
	4	16	3480	8P16148	17		1050	1380	1050								
	18	16	4460	8P16149	10	1100	2260					1100				720	1440
	10	16	2050	8P16150	17		550	950	550								
*	171	19	1900	8P19101	2	300	1300					300					
	2	19	357 193	8P19102	T3	SPIRAL PITCH = 150 WITH 87 TURNS											1325
	7	22	4100	8P22101	22		750	2600	750				220	220	717	717	
	8	32	12 630	8P32101	2	550	12 080					0					
	8	32	12 530	8P32102	2	550	11 980					0					
	8	32	12 070	8P32103	2	550	11 520					0					
*	9	32	11 350	8P32104	2	550	10 800					0					
	PIER NO 9																
	14	22	4000	9P2201	STR												
*	23	22	10 750	9P2202	STR	▲											
*	9	25	15 425	9P2501	STR												
	32	36	19 300	9P3601	STR												
*	31	36	10 300	9P3602	STR												
*	45	16	1975	9P16101	2	250	1475					250					
	6	16	4700	9P16102	16	0	1400	1300	2000				588		1912		
	5	16	7575	9P16103	S6	250	2800	1475	2800			250					
	20	16	7150	9P16104	S6	250	2800	1050	2800			250					
	4	16	7130	9P16105	S6	250	2790	1050	2790			250					
				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
	4	16	4650	9P16145	S6	250	1550	1050	1550			250					
	4	16	3595	9P16146	17		1050	1495	1050								
	4	16	3535	9P16147	17		1050	1435	1050								
	4	16	3480	9P16148	17		1050	1380	1050								
	18	16	4460	9P16149	10	1100	2260					1100				720	1440
	10	16	2050	9P16150	17		550	950	550								
*	203	19	1900	9P19101	2	300	1300					300					
	2	19	426 989	9P19102	T3	SPIRAL PITCH = 150 WITH 104 TURNS											1325
	7	22	4100	9P22101	22		750	2600	750				220	220	717	717	
*	9	32	12 630	9P32101	2	550	12 080					0					
	8	32	12 530	9P32102	2	550	11 980					0					
	8	32	12 070	9P32103	2	550	11 520					0					
	8	32	11 350	9P32104	2	550	10 800					0					
	PIER NO 10																
	14	22	4000	10P2201	STR												
*	23	22	10 750	10P2202	STR	▲											
*	9	25	15 640	10P2501	STR												
*	71	36	19 515	10P3601	STR												
*	34	36	9800	10P3602	STR												
*	45	16	1975	10P16101	2	250	1475					250					
	6	16	4700	10P16102	16	0	1400	1300	2000				588		1912		
	5	16	7575	10P16103	S6	250	2800	1475	2800			250					
	20	16	7150	10P16104	S6	250	2800	1050	2800			250					
	4	16	7130	10P16105	S6	250	2790	1050	2790			250					
				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
	4	16	4650	10P16145	S6	250	1550	1050	1550			250					
	4	16	3595	10P16146	17		1050	1495	1050								
	4	16	3535	10P16147	17		1050	1435	1050								
	4	16	3480	10P16148	17		1050	1380	1050								
	18	16	4460	10P16149	10	1100	2260					1100				720	1440
	10	16	2050	10P16150	17		550	950	550								
*	207	19	1900	10P19101	2	300	1300					300					
	2	19	431 094	10P19102	T3	SPIRAL PITCH = 150 WITH 105 TURNS											1325
	7	22	4100	10P22101	22		750	2600	750				220	220	717	717	
	8	32	12 630	10P32101	2	550	12 080					0					
	8	32	12 530	10P32102	2	550	11 980					0					
*	9	32	12 070	10P32103	2	550	11 520					0					
	8	32	11 350	10P32104	2	550	10 800					0					
	PIER NO 11																
	15	22	4000	11P2201	STR												
	22	22	10 750	11P2202	STR	▲											
*	9	25	14 947	11P2501	STR												
	70	36	17 472	11P3601	STR												
*	105	36	9800	11P3603	STR												
	44	16	1975	11P16101	2	250	1475					250					
*	7	16	4700	11P16102	16	0	1400	1300	2000				588		1912		
	5	16	7575	11P16103	S6	250	2800	1475	2800			250					
	20	16	7150	11P16104	S6	250	2800	1050	2800			250					
	4	16	7130	11P16105	S6	250	2790	1050	2790			250					
				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
	4	16	4650	11P16145	S6	250	1550	1050	1550			250					
	4	16	3595	11P16146	17		1050	1495	1050								
	4	16	3535	11P16147	17		1050	1435	1050								
	4	16	3480	11P16148	17		1050	1380	1050								
	18	16	4460	11P16149	10	1100	2260					1100				720	1440
	10	16	2050	11P16150	17		550	950	550								
*	199	19	1900	11P19101	2	300	1300					300					
	2	19	418 777	11P19102	T3	SPIRAL PITCH = 150 WITH 102 TURNS											1325
	2	19	48 354	11P19103	T3	SPIRAL PITCH = 150 WITH 13 TURNS											1202
	7	22	4100	11P22101	22		750	2600	750				220	220	717	717	
	8	32	12 630	11P32101	2	550	12 080					0					
*	9	32	12 530	11P32102	2	550	11 980					0					
	8	32	12 070	11P32103	2	550	11 520					0					
	8	32	11 350	11P32104	2	550	10 800					0					
	PIER NO 12																
*	15	22	4000	12P2201	STR												
	22	22	10 750	12P2202	STR	▲											
*	9	25	14 292	12P2501	STR												
*	71	36	18 167	12P3601	STR												
	34	36	9800	12P3602	STR												
	44	16	1975	12P16101	2	250	1475					250					
	6	16	4700	12P16102	16	0	1400	1300	2000				588		1912		
	5	16	7575	12P16103	S6	250	2800	1475	2800			250					
	20	16	7150	12P16104	S6	250	2800	1050	2800			250					
*	5	16	7130	12P16105	S6	250	2790	1050	2790			250					
				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
	4	16	4650	12P16145	S6	250	1550	1050	1550			250					
	4	16	3595	12P16146	17		1050	1495	1050								
	4	16	3535	12P16147	17		1050	1435	1050								
	4	16	3480	12P16148	17		1050	1380	1050								
	18	16	4460	12P16149	10	1100	2260					1100				720	1440
	10	16	2050	12P16150	17		550	950	550								
*	189	19	1900	12P19101	2	300	1300					300					
	2	19	394 143	12P19102	T3	SPIRAL PITCH = 150 WITH 96 TURNS											1325
	7	22	4100	12P22101	22		750	2600	750				220	220	717	717	
	8	32	12 630	12P32101	2	550	12 080					0					
	8	32	12 530	12P32102	2	550	11 980					0					
	8	32	12 070	12P32103	2	550	11 520					0					
*	9	32	11 350	12P32104	2	550	10 800					0					

NOTES

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING #57M SHALL CONFORM TO THE REQUIREMENT OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-SI). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS ARE TO BE SHOWN ONLY WHEN NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS ARE TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. "E" IN PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	NOMINAL MASS kg/m	NOMINAL DIMENSIONS ROUND SECTION DIAMETER mm	CROSS SECT. AREA mm²	PERIMETER mm
10	0.560	9.5	71	29.84
13	0.994	12.7	129	39.90
16	1.552	15.9	199	49.95
19	2.235	19.1	284	60.00
22	3.042	22.2	387	69.74
25	3.973	25.4	510	79.80
29	5.060	28.7	645	90.16
32	6.404	32.3	819	101.47
36	7.907	35.8	1006	112.47
43	11.380	43.0	1452	135.09
57	20.240	57.3	2581	180.01

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

REINFORCING STEEL SCHEDULE (6 OF 7)

Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By S.M. HODGDON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1(1)
I.G.C. Info.	
File No. ZE072rs5	Sheet SS 55 of SS 57

VHB NO. 5091I

plot date: 10/23/2003

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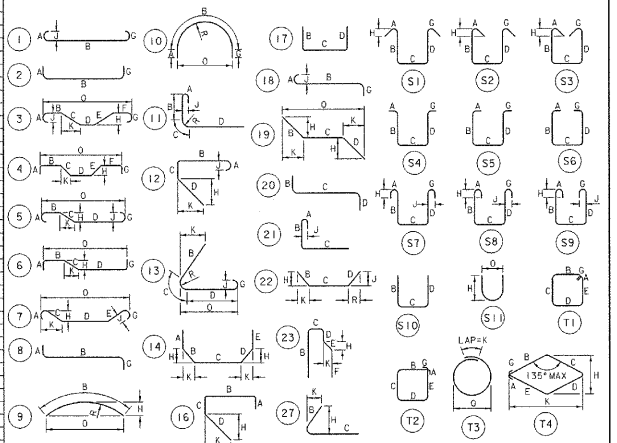
ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	PIER NO 13																
	14	22	4000	13P2201	STR												
*	23	22	10 750	13P2202	STR	▲											
	9	25	12 230	13P2501	STR												
*	33	36	16 105	13P3601	STR												
	30	36	8300	13P3602	STR												
	44	16	1975	13P16101	2	250	1475					250					
	6	16	4700	13P16102	16	0	1400	1300	2000				588		1912		
*	6	16	7575	13P16103	S6	250	2800	1475	2800			250					
	20	16	7150	13P16104	S6	250	2800	1050	2800			250					
	4	16	7130	13P16105	S6	250	2790	1050	2790			250					
				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
	4	16	4650	13P16145	S6	250	1550	1050	1550			250					
	4	16	3595	13P16146	17		1050	1495	1050								
	4	16	3535	13P16147	17		1050	1435	1050								
	4	16	3480	13P16148	17		1050	1380	1050								
	18	16	4460	13P16149	10	1100	2260					1100				720	1440
	10	16	2050	13P16150	17		550	950	550								
*	161	19	1900	13P19101	2	300	1300					300					
	2	19	340 770	13P19102	T3	SPIRAL PITCH = 150 WITH 83 TURNS											1325
	7	22	4100	13P22101	22		750	2600	750				220	220	717	717	
	8	32	12 630	13P32101	2	550	12 080					0					
	8	32	12 530	13P32102	2	550	11 980					0					
*	9	32	12 070	13P32103	2	550	11 520					0					
	8	32	11 350	13P32104	2	550	10 800					0					
	PIER NO 14																
	14	22	4000	14P2201	STR												
*	23	22	10 750	14P2202	STR	▲											
*	9	25	11 394	14P2501	STR												
	32	36	15 269	14P3601	STR												
*	31	36	7800	14P3602	STR												
	44	16	1975	14P16101	2	250	1475					250					
*	7	16	4700	14P16102	16	0	1400	1300	2000				588		1912		
	5	16	7575	14P16103	S6	250	2800	1475	2800			250					
	20	16	7150	14P16104	S6	250	2800	1050	2800			250					
	4	16	7130	14P16105	S6	250	2790	1050	2790			250					
				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
	4	16	4650	14P16145	S6	250	1550	1050	1550			250					
	4	16	3595	14P16146	17		1050	1495	1050								
	4	16	3535	14P16147	17		1050	1435	1050								
	4	16	3480	14P16148	17		1050	1380	1050								
	18	16	4460	14P16149	10	1100	2260					1100				720	1440
	10	16	2050	14P16150	17		550	950	550								
*	151	19	1900	14P19101	2	300	1300					300					
	2	19	316 136	14P19102	T3	SPIRAL PITCH = 150 WITH 77 TURNS											1325
	7	22	4100	14P22101	22		750	2600	750				220	220	717	717	
	8	32	12 630	14P32101	2	550	12 080					0					
*	9	32	12 530	14P32102	2	550	11 980					0					
	8	32	12 070	14P32103	2	550	11 520					0					
	8	32	11 350	14P32104	2	550	10 800					0					
	PIER NO 15																
*	15	22	4000	15EP2201	STR												
	22	22	10 300	15EP2202	STR	▲											
*	9	25	10 667	15P2501	STR												
	32	36	14 642	15P3601	STR												
*	31	36	7800	15P3602	STR												
	44	16	2450	15EP16101	2	250	1950					250					
	6	16	4700	15EP16102	16	0	1400	1300	2000				588		1912		
*	5	16	8050	15EP16103	S6	250	2800	1950	2800			250					
	20	16	7530	15EP16104	S6	250	2800	1430	2800			250					
	4	16	7510	15EP16105	S6	250	2790	1430	2790			250					
				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
	4	16	5154	15EP16143	S6	250	1612	1430	1612			250					
	4	16	4205	15EP16144	17		1325	1555	1325								
				THRU		VARY LEG "C" IN 55 mm INCREMENTS											
*	5	16	3985	15EP16148	17		1325	1335	1325								
	18	16	5200	15EP16149	10	1100	3000					1100				955	1915
	14	16	2050	15EP16150	17		550	950	550								
*	141	19	1900	15P19101	2	300	1300					300					
	2	19	295 608	15P19102	T3	SPIRAL PITCH = 150 WITH 72 TURNS											1325
	7	22	4100	15P22101	22		750	2600	750				220	220	717	717	
	8	32	12 650	15EP32101	2	550	12 100					0					
	8	32	12 540	15EP32102	2	550	11 990					0					
*	9	32	12 160	15EP32103	2	550	11 610					0					
	8	32	11 050	15EP32104	2	550	10 500					0					
	PIER NO 16																
	15	22	4000	16P2201	STR												
	22	22	10 750	16P2202	STR	▲											
	9	25	9735	16P2501	STR												
	32	36	13 610	16P3601	STR												
	31	36	7800	16P3602	STR												
	44	16	1975	16P16101	2	250	1475					250					
	6	16	4700	16P16102	16	0	1400	1300	2000				588		1912		
	5	16	7575	16P16103	S6	250	2800	1475	2800			250					
	20	16	7150	16P16104	S6	250	2800	1050	2800			250					
	4	16	7130	16P16105	S6	250	2790	1050	2790			250					
				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
	5	16	4650	16P16145	S6	250	1550	1050	1550			250					
	4	16	3595	16P16146	17		1050	1495	1050								
	4	16	3535	16P16147	17		1050	1435	1050								
	4	16	3480	16P16148	17		1050	1380	1050								
	18	16	4460	16P16149	10	1100	2260					1100				720	1440
	10	16	2050	16P16150	17		550	950	550								
	129	19	1900	16P19101	2	300	1300					300					
	2	19	270 974	16P19102	T3	SPIRAL PITCH = 150 WITH 66 TURNS											1325
	7	22	4100	16P22101	22		750	2600	750				220	220	717	717	
	8	32	12 630	16P32101	2	550	12 080					0					
	8	32	12 530	16P32102	2	550	11 980					0					
	8	32	12 070	16P32103	2	550	11 520					0					
	9	32	11 350	16P32104	2	550	10 800					0					
	PIER NO 17																
	15	22	4000	17P2201	STR												
	22	22	10 750	17P2202	STR	▲											
	9	25	9446	17P2501	STR												
	32	36	13 321	17P3601	STR												
	30	36	7800	17P3602	STR												
	44	16	1975	17P16101	2	250	1475					250					
	6	16	4700	17P16102	16	0	1400	1300	2000				588		1912		
	5	16	7575	17P16103	S6	250	2800	1475	2800			250					
	20	16	7150	17P16104	S6	250	2800	1050	2800			250					
	4	16	7130	17P16105	S6	250	2790	1050	2790			250					
				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
	5	16	4650	17P16145	S6	250	1550	1050	1550			250					
	4	16	3595	17P16146	17		1050	1495	1050								
	4	16	3535	17P16147	17		1050	1435	1050								
	4	16	3480	17P16148	17		1050	1380	1050								
	18	16	4460	17P16149	10	1100	2260					1100				720	1440
	10	16	2050	17P16150	17		550	950	550								
	125	19	1900	17P19101	2	300	1300					300					
	2	19	262 762	17P19102	T3	SPIRAL PITCH = 150 WITH 64 TURNS											1325
	7	22	4100	17P22101	22		750	2600	750				220	220	717	717	
	9	32	12 630	17P32101	2	550	12 080					0					
	8	32	12 530	17P32102	2	550	11 980					0					
	8	32	12 070	17P32103	2	550	11 520					0					
	8	32	11 350	17P32104	2	550	10 800					0					
	PIER NO 18																
	14	22	4000	18P2201	STR												
	23	22	10 750	18P2202	STR	▲											
	9	25	8611	18P2501	STR												
	33	36	12 486	18P3601	STR												
	30	36	7300	18P3602	STR												
	44	16	1975	18P16101	2	250	1475					250					
	7	16	4700	18P16102	16	0	1400	1300	2000				588		1912		
	5	16	7575	18P16103	S6	250	2800	1475	2800			250					
	20	16	7150	18P16104	S6	250	2800	1050	2800			250					
	4	16	7130	18P16105	S6	250	2790	1050	2790			250					
				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
	4	16	4650	18P16145	S6	250	1550	1050	1550			250					
	4	16	3595	18P16146	17		1050	1495	1050								
	4	16	3535	18P16147	17		1050	1435	1050								
	4	16	3480	18P16148	17		1050	1380	1050								
	18	16	4460	18P16149	10	1100	2260					1100				720	1440
	10	16	2050	18P16150	17		550	950	550								
	113	19	1900	18P19101	2	300	1300					300					
	2	19	238 128	18P19102	T3	SPIRAL PITCH = 150 WITH 58 TURNS											1325
	7	22	4100	18P22101	22		750	2600	750				220	220	717	717	
	9	32	12 630	18P32101	2	550	12 080					0					
	8	32	12 530	18P32102	2	550	11 980					0					
	8	32	12 070	18P32103	2	550	11 520					0					
	8	32	11 350	18P32104	2	550	10 800					0					

Metric

NOTES

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING #57M SHALL CONFORM TO THE REQUIREMENT OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-S1). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS ARE TO BE SHOWN ONLY WHEN NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS ARE TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. "E" IN PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	NOMINAL MASS kg/m	NOMINAL DIMENSIONS ROUND SECTION DIAMETER mm	CROSS SECT. AREA mm²	PERIMETER mm
10	0.560	9.5	71	29.84
13	0.994	12.7	129	39.90
16	1.552	15.9	199	49.95
19	2.235	19.1	284	60.00
22	3.042	22.2	387	69.74
25	3.973	25.4	510	79.80
29	5.060	28.7	645	90.16
32	6.404	32.3	819	101.47
36	7.907	35.8	1006	112.47
43	11.380	43.0	1452	135.09
57	20.240	57.3	2581	180.01

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

REINFORCING STEEL SCHEDULE (6 OF 7)

Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By S.M. HODGDON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
L.G.C. Info.	
File No. ZE072rs6	Sheet SS 56 of SS 57

VHB NO. 5091

plot date 10/23/2003

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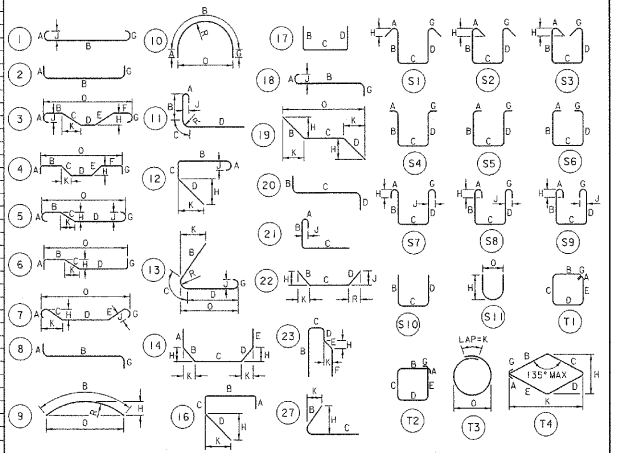
ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	PIER NO 19																
	14	22	4000	19P2201	STR												
*	23	22	10 750	19P2202	STR	▲											
*	9	25	7782	19P2501	STR												
*	33	36	11 657	19P3601	STR												
	30	36	7300	19P3602	STR												
	44	16	1975	19P16101	2	250	1475					250					
	6	16	4700	19P16102	16	0	1400	1300	2000				588		1912		
*	6	16	7575	19P16103	S6	250	2800	1475	2800			250					
	20	16	7150	19P16104	S6	250	2800	1050	2800			250					
	4	16	7130	19P16105	S6	250	2790	1050	2790			250					
				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
	4	16	4650	19P16145	S6	250	1550	1050	1550			250					
	4	16	3595	19P16146	17		1050	1495	1050								
	4	16	3535	19P16147	17		1050	1435	1050								
	4	16	3480	19P16148	17		1050	1380	1050								
	18	16	4460	19P16149	10	1100	2260					1100				720	1440
	10	16	2050	19P16150	17		550	950	550								
*	103	19	1900	19P19101	2	300	1300					300					
	2	19	217 600	19P19102	T3	SPIRAL PITCH = 150 WITH 53 TURNS											1325
	7	22	4100	19P22101	22		750	2600	750				220	220	717	717	
*	9	32	12 630	19P32101	2	550	12 080					0					
	8	32	12 530	19P32102	2	550	11 980					0					
	8	32	12 070	19P32103	2	550	11 520					0					
	8	32	11 350	19P32104	2	550	10 800					0					
	PIER NO 20																
	14	22	4000	20P2201	STR												
*	23	22	10 750	20P2202	STR	▲											
*	9	25	6952	20P2501	STR												
	32	36	10 827	20P3601	STR												
*	31	36	7300	20P3602	STR												
	44	16	1975	20P16101	2	250	1475					250					
*	7	16	4700	20P16102	16	0	1400	1300	2000				588		1912		
	5	16	7575	20P16103	S6	250	2800	1475	2800			250					
	20	16	7150	20P16104	S6	250	2800	1050	2800			250					
	4	16	7130	20P16105	S6	250	2790	1050	2790			250					
				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
	4	16	4650	20P16145	S6	250	1550	1050	1550			250					
	4	16	3595	20P16146	17		1050	1495	1050								
	4	16	3535	20P16147	17		1050	1435	1050								
	4	16	3480	20P16148	17		1050	1380	1050								
	18	16	4460	20P16149	10	1100	2260					1100				720	1440
	10	16	2050	20P16150	17		550	950	550								
*	91	19	1900	20P19101	2	300	1300					300					
	2	19	192 966	20P19102	T3	SPIRAL PITCH = 150 WITH 47 TURNS											1325
	7	22	4100	20P22101	22		750	2600	750				220	220	717	717	
	8	32	12 630	20P32101	2	550	12 080					0					
*	9	32	12 530	20P32102	2	550	11 980					0					
	8	32	12 070	20P32103	2	550	11 520					0					
	8	32	11 350	20P32104	2	550	10 800					0					
	PIER NO 21																
*	15	22	4000	21P2201	STR												
	22	22	10 750	21P2202	STR	▲											
*	9	25	5628	21P2501	STR												
*	33	36	9503	21P3601	STR												
	30	36	6700	21P3603	STR												
	44	16	1975	21P16101	2	250	1475					250					
	6	16	4700	21P16102	16	0	1400	1300	2000				588		1912		
	5	16	7575	21P16103	S6	250	2800	1475	2800			250					
	20	16	7150	21P16104	S6	250	2800	1050	2800			250					
	4	16	7130	21P16105	S6	250	2790	1050	2790			250					
				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
	4	16	4650	21P16145	S6	250	1550	1050	1550			250					
	4	16	3595	21P16146	17		1050	1495	1050								
	4	16	3535	21P16147	17		1050	1435	1050								
	4	16	3480	21P16148	17		1050	1380	1050								
*	19	16	4460	21P16149	10	1100	2260					1100				720	1440
	10	16	2050	21P16150	17		550	950	550								
*	73	19	1900	21P19101	2	300	1300					300					
	2	19	160 121	21P19102	T3	SPIRAL PITCH = 150 WITH 39 TURNS											1325
	7	22	4100	21P22101	22		750	2600	750				220	220	717	717	
	8	32	12 630	21P32101	2	550	12 080					0					
	8	32	12 530	21P32102	2	550	11 980					0					
	8	32	12 070	21P32103	2	550	11 520					0					
*	9	32	11 350	21P32104	2	550	10 800					0					

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	PIER NO 22																
	15	22	4000	22P2201	STR												
	22	22	10 750	22P2202	STR	▲											
	9	25	5258	22P2501	STR												
	32	36	9133	22P3601	STR												
	31	36	6700	22P3602	STR												
	44	16	1975	22P16101	2	250	1475					250					
	6	16	4700	22P16102	16	0	1400	1300	2000				588		1912		
	5	16	7575	22P16103	S6	250	2800	1475	2800			250					
	20	16	7150	22P16104	S6	250	2800	1050	2800			250					
	4	16	7130	22P16105	S6	250	2790	1050	2790			250					
				THRU		VARY LEGS "B" & "D" IN 31 mm INCREMENTS											
	4	16	4650	22P16145	S6	250	1550	1050	1550			250					
*	5	16	3595	22P16146	17		1050	1495	1050								
	4	16	3535	22P16147	17		1050	1435	1050								
	4	16	3480	22P16148	17		1050	1380	1050								
	18	16	4460	22P16149	10	1100	2260					1100				720	1440
	10	16	2050	22P16150	17		550	950	550								
*	69	19	1900	22P19101	2	300	1300					300					
	2	19	147 804	22P19102	T3	SPIRAL PITCH = 150 WITH 36 TURNS											1325
	7	22	4100	22P22101	22		750	2600	750				220	220	717	717	
*	9	32	12 630	22P32101	2	550	12 080					0					
	8	32	12 530	22P32102	2	550	11 980					0					
	8	32	12 070	22P32103	2	550	11 520					0					
	8	32	11 350	22P32104	2	550	10 800					0					
	DRILLED SHAFTS																
	(DRILLED SHAFT REINFORCING STEEL INCLUDED IN THE PAY ITEMS FOR DRILLED SHAFTS. SEE SHEET SS 41 FOR DRILLED SHAFT DETAILS)																

NOTES

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING #57M SHALL CONFORM TO THE REQUIREMENT OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-SI). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS ARE TO BE SHOWN ONLY WHEN NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS ARE TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. "E" IN PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	NOMINAL MASS kg/m	NOMINAL DIMENSIONS ROUND SECTION DIAMETER mm	CROSS SECT. AREA mm²	PERIMETER mm
10	0.560	9.5	71	29.84
13	0.994	12.7	129	39.90
16	1.552	15.9	199	49.95
19	2.235	19.1	284	60.00
22	3.042	22.2	387	69.74
25	3.973	25.4	510	79.80
29	5.060	28.7	645	90.16
32	6.404	32.3	819	101.47
36	7.907	35.8	1006	112.47
43	11.380	43.0	1452	135.09
57	20.240	57.3	2581	180.01

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

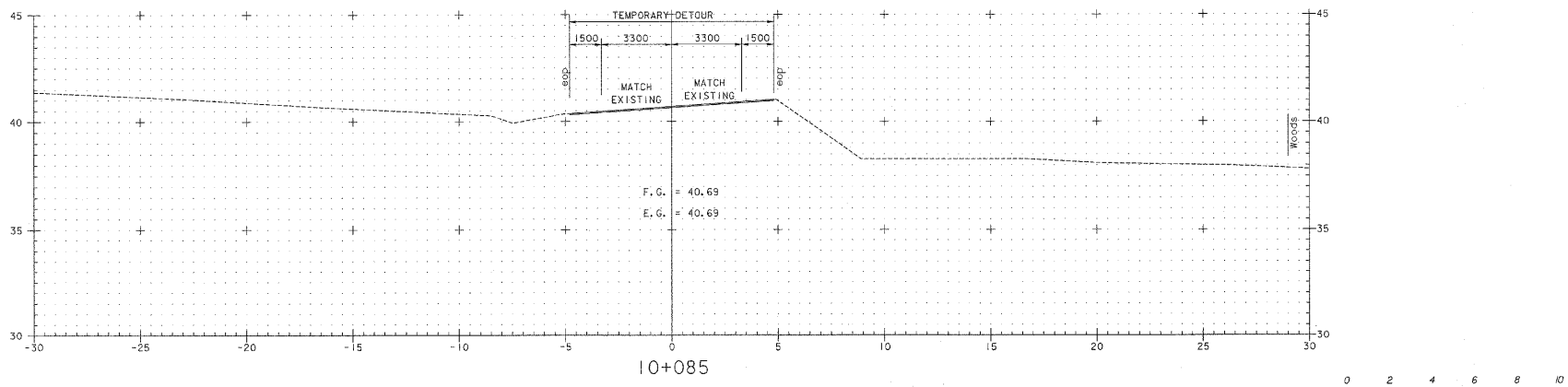
Town Of ALBURG-SWANTON	Bridge No. 2
Highway No. VT 78	Log Sta. / Surv. Sta.
VT 78 OVER MISSISQUOI BAY	

REINFORCING STEEL SCHEDULE (7 OF 7)

Designed By C.L. CILLEY	Drawn By C.L. CILLEY
Checked By S.M. HODGDON Date 10/03	Bridge Design Supervisor S.W. JOHNSON Date 10/03
PROJECT ALBURG-SWANTON	PROJECT NO. BRF 036-1 (1)
I.G.C. Info.	
File No. ZE072rs7	Sheet SS 57 of SS 57

VHB NO. 509H

plot date: 10/23/2003



10+085

0 2 4 6 8 10
SCALE 1:100

BEGIN APPROACH
STA 10+085
MATCH EXISTING

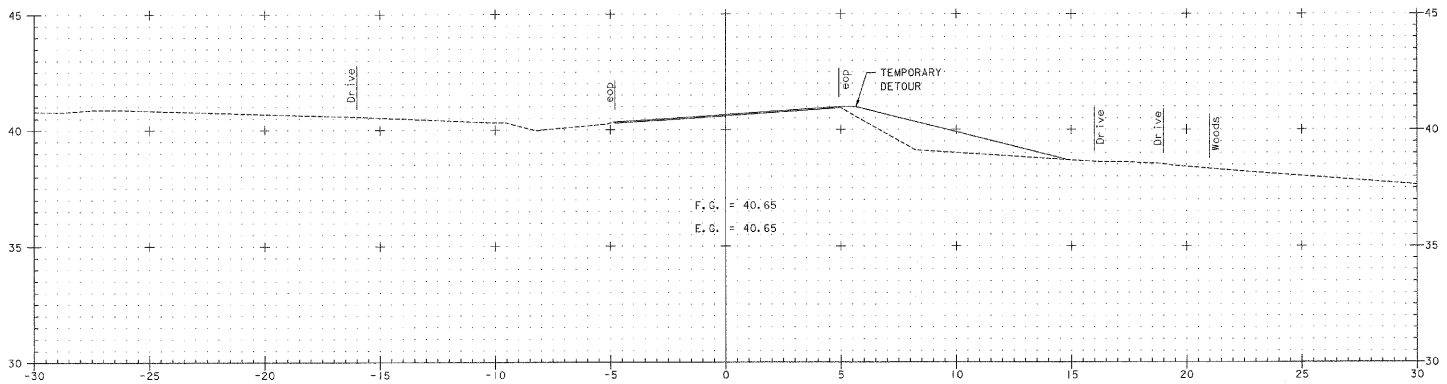
VT 78

FROM STA 10+085	TO STA 10+085
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and Env TECH. SERVICES, LLC 11/98
SHEET C127 OF C194	

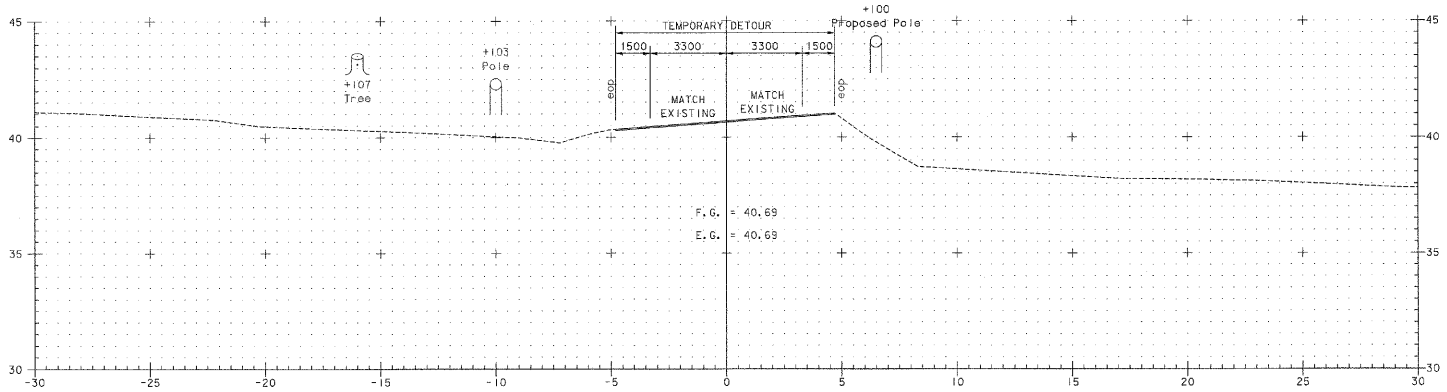
VANASSE HANGEN BRUSTLIN, INC.

ZE072XSI VHB NO. 50911 plot date: 10/23/2003

Metric



10+120



10+100

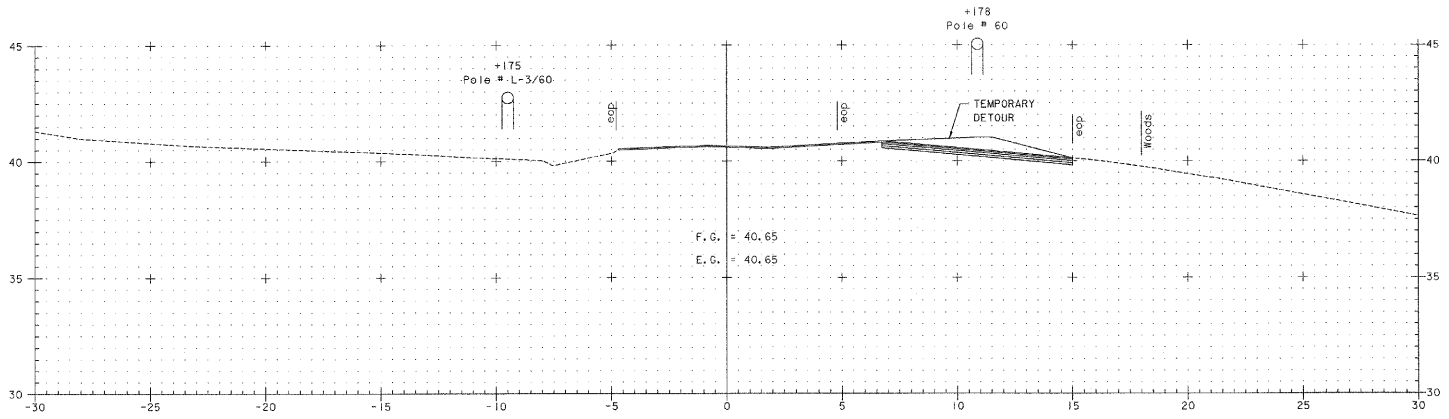
0 2 4 6 8 10
SCALE 1:100

VT 78

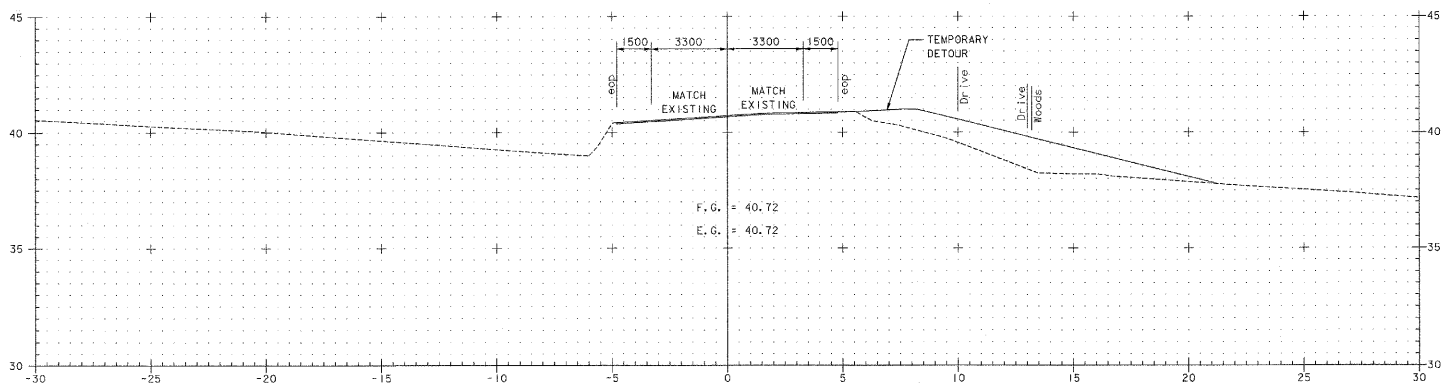
FROM STA 10+100	TO STA 10+120
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 101
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C128 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072XSI VHB NO. 5091I plot date: 10/23/2003



10+160



10+140

0 2 4 6 8 10
SCALE 1:100

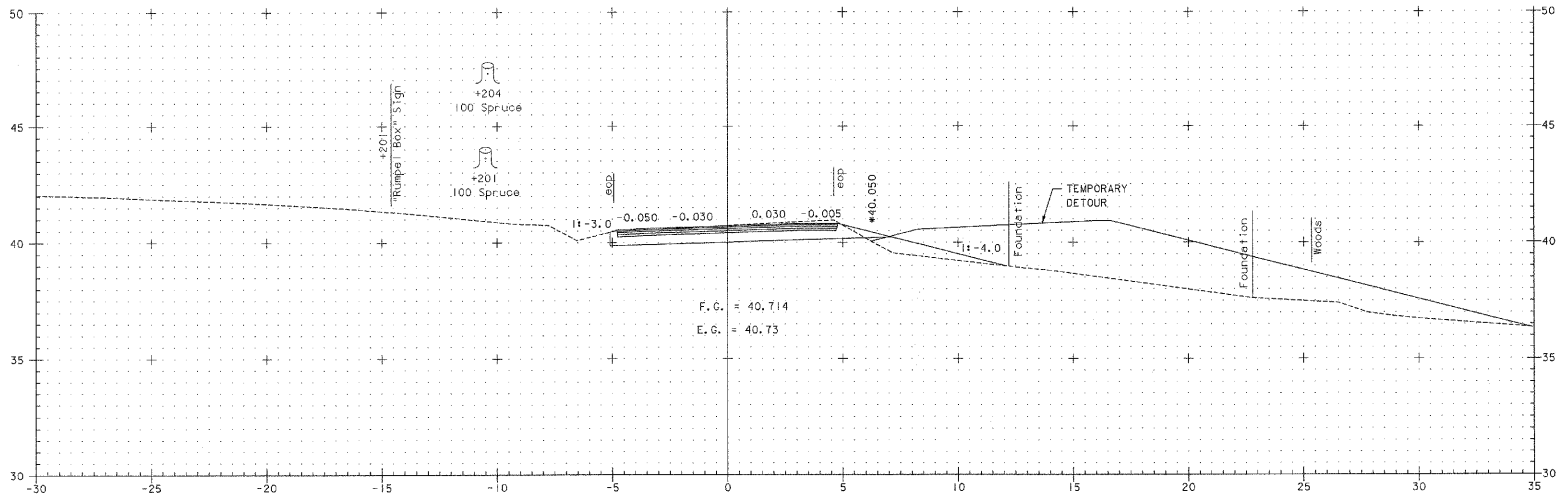
VT 78

FROM STA 10+140	TO STA 10+160
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C129 OF C194	

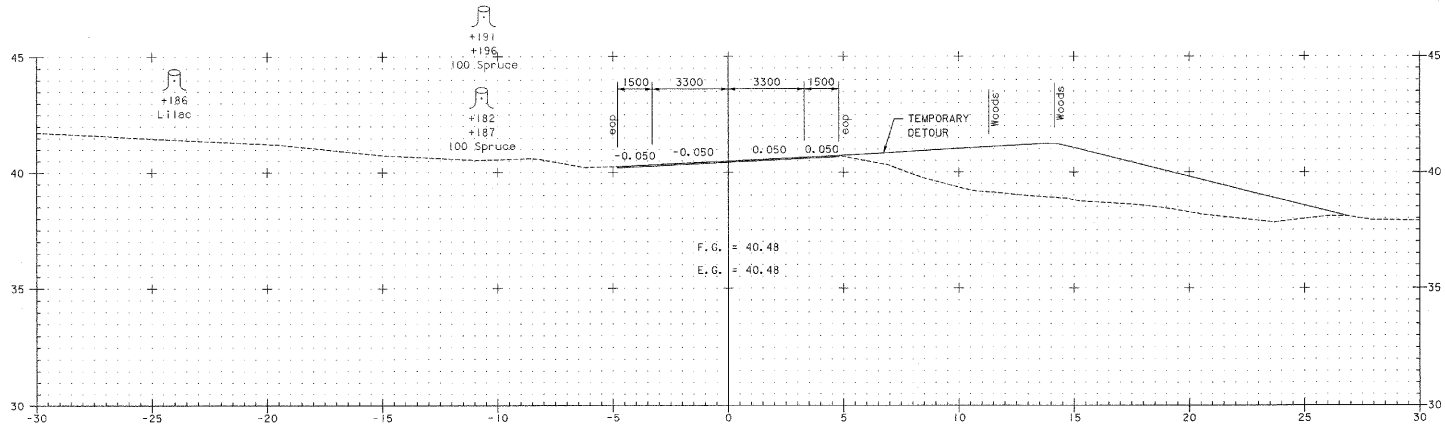
VANASSE HANGEN BRUSTLIN, INC.

ZE072XSI VHB NO. 50911 plot date: 10/23/2003

Metric



10+200



10+180

* INDICATES DITCH ELEVATION FOR TEMPORARY DETOUR

0 2 4 6 8 10
SCALE 1:100

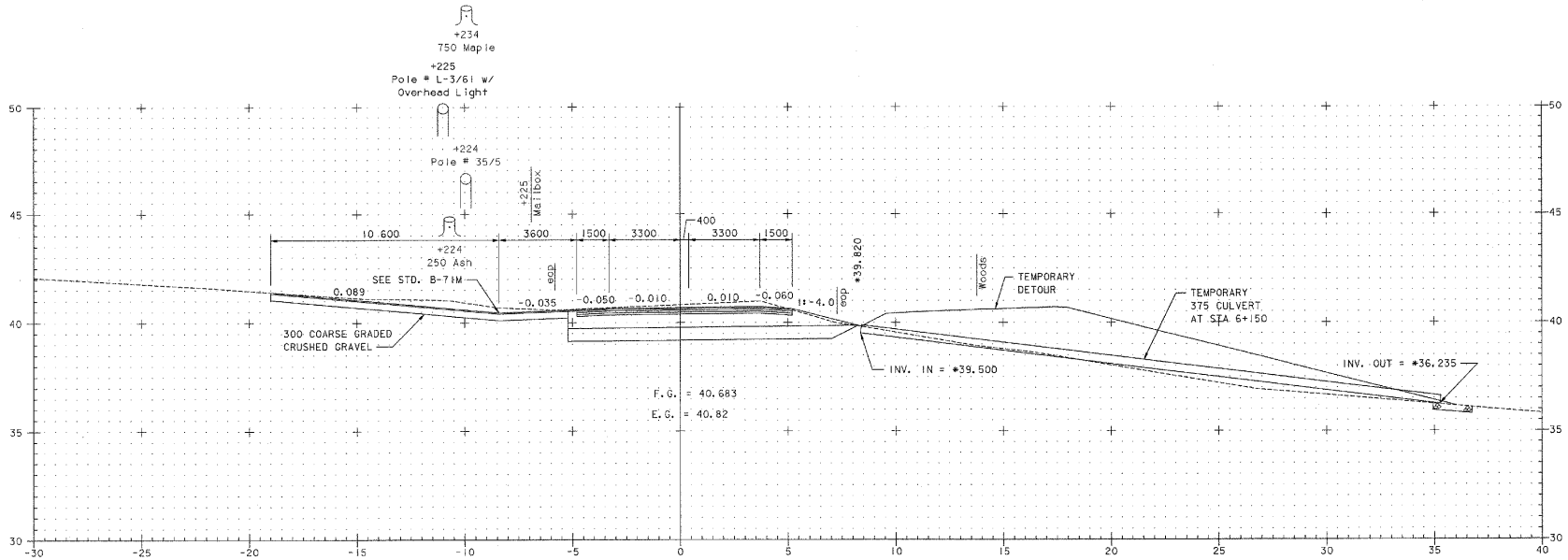
VT 78

FROM STA 10+180	TO STA 10+200
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - (0)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C130 OF C194	

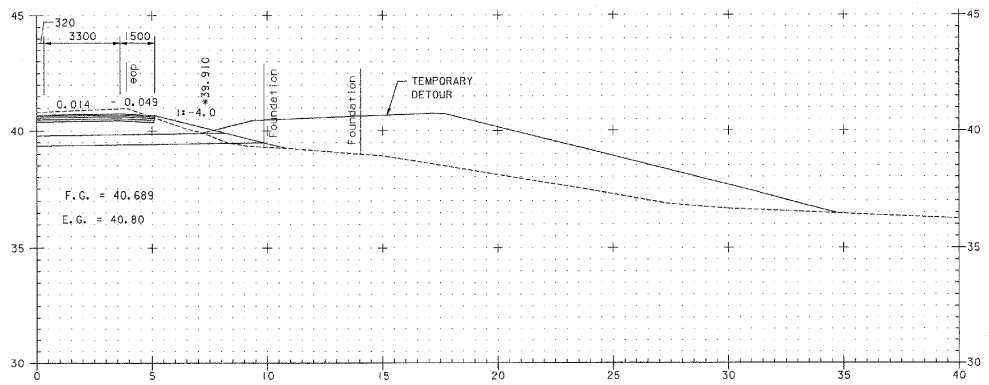
VANASSE HANGEN BRUSTLIN, INC.

ZE072XSI VHB NO. 50911 plot date: 10/23/2003

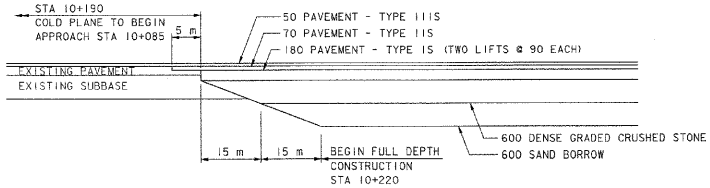
Metric



10+220



10+216, RT



VT 78 MATERIAL TRANSITION DETAIL

NOT TO SCALE

* INDICATES DITCH ELEVATION FOR TEMPORARY DETOUR

0 2 4 6 8 10

SCALE 1:100

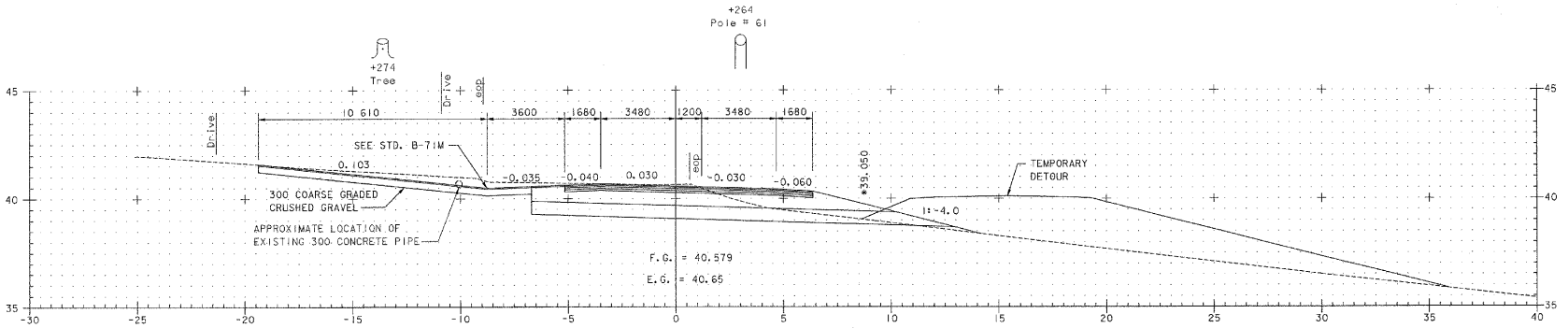
VT 78

FROM STA 10+216	TO STA 10+220
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C131 OF C194	

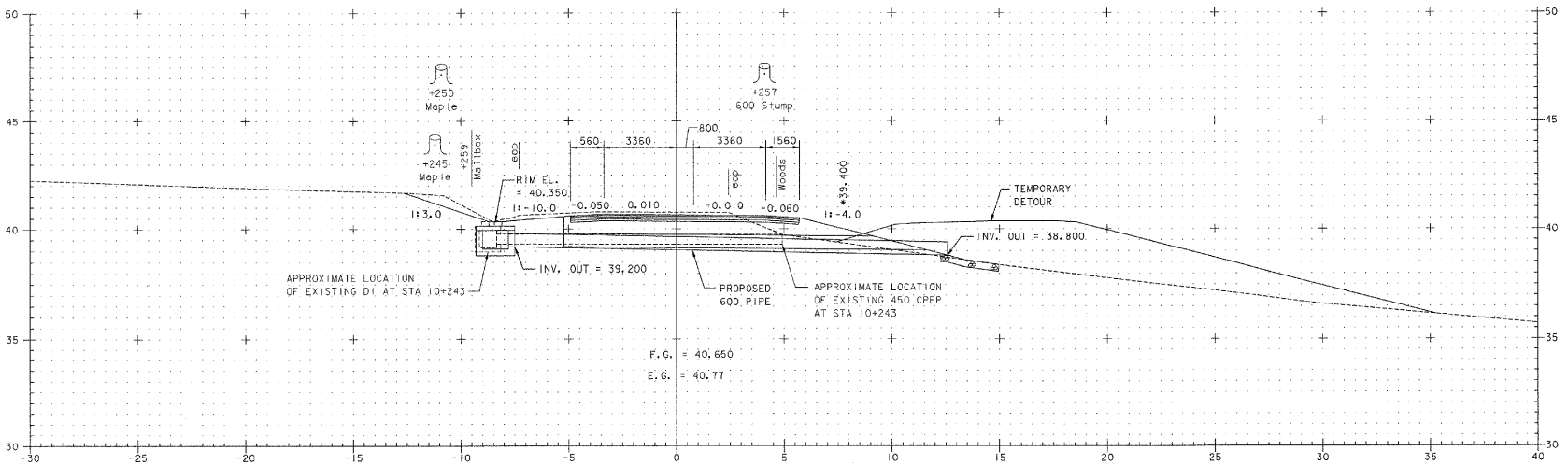
VANASSE HANGEN BRUSTLIN, INC.

ZE072XSI VHB NO. 50981 plot date: 10/23/2003

200



10+260 DRIVE, LT



10+240

0 2 4 6 8 10
SCALE 1:100

VT 78

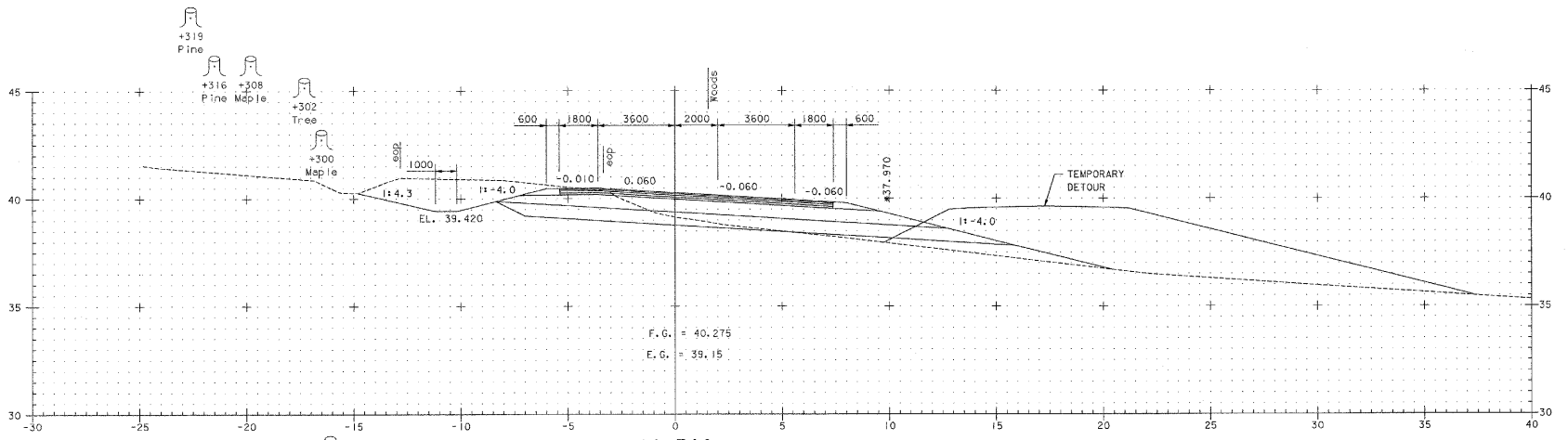
* INDICATES DITCH ELEVATION FOR TEMPORARY DETOUR

VANASSE HANGEN BRUSTLIN, INC.

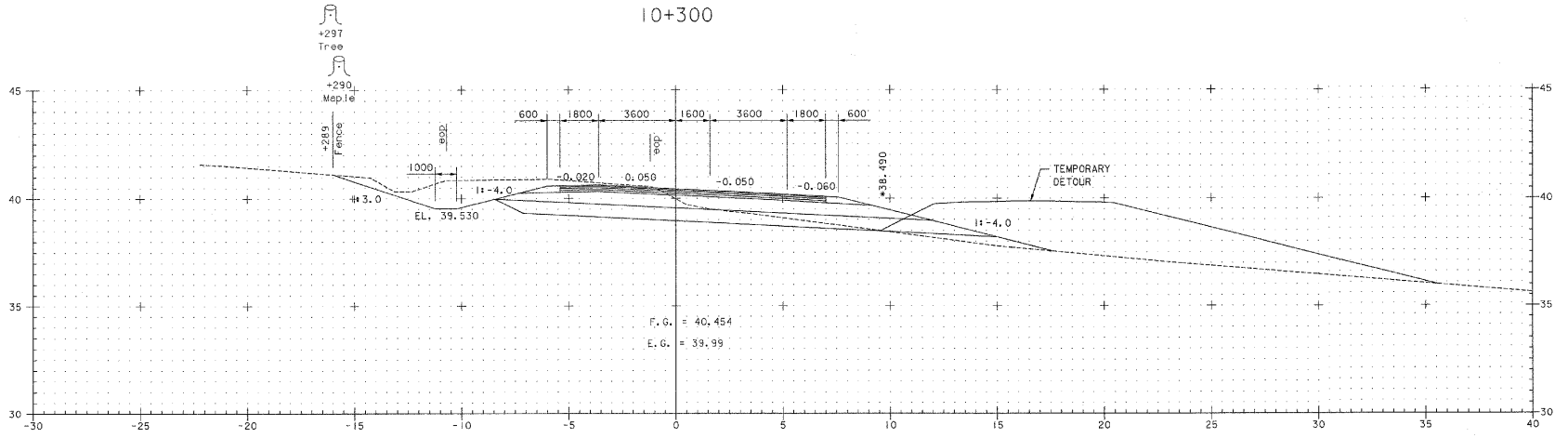
FROM STA	10+240 TO STA 10+260
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - (11)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET	C132 OF C194

ZE072XSI VHB NO. 50911 plot date: 10/23/2003

Metric



10+300



10+280

0 2 4 6 8 10
SCALE 1:100

END APPROACH
BEGIN PROJECT
STA 10+280

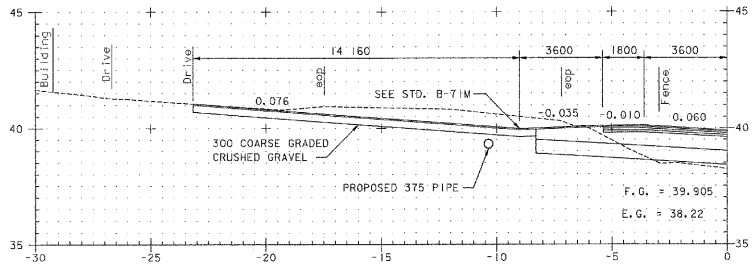
VT 78

* INDICATES DITCH ELEVATION FOR TEMPORARY DETOUR

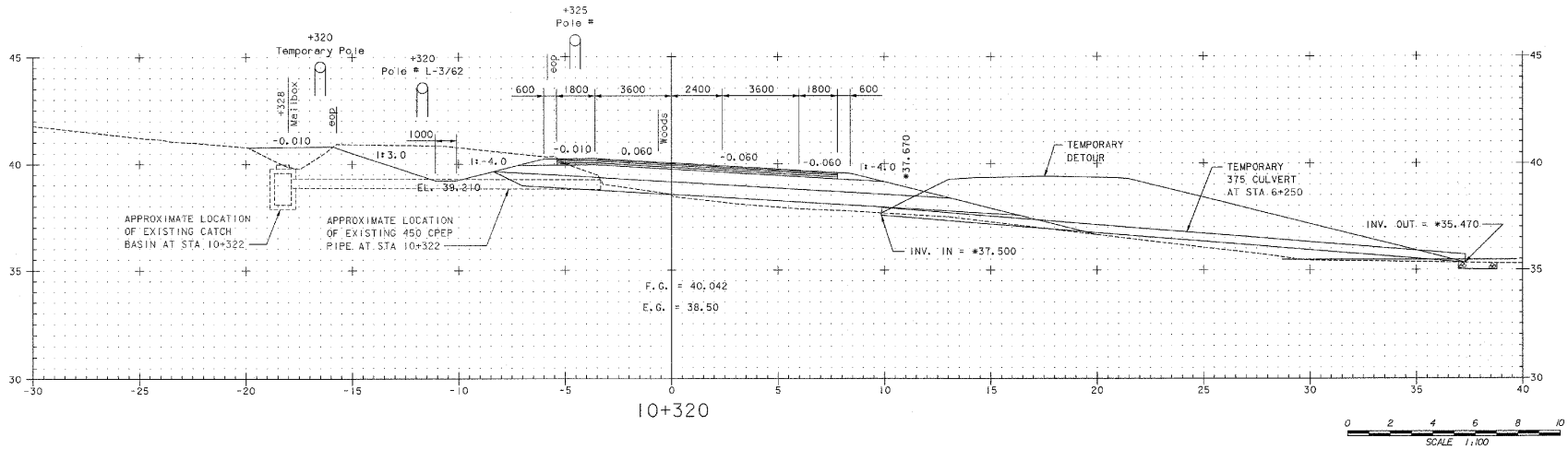
VANASSE HANGEN BRUSTLIN, INC.

FROM STA 10+280	TO STA 10+300
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(8)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C133 OF C194	

ZE072XSI VHB NO. 5091I plot date: 10/23/2003



10+330 DRIVE, LT



10+320

0 2 4 6 8 10
SCALE 1:100

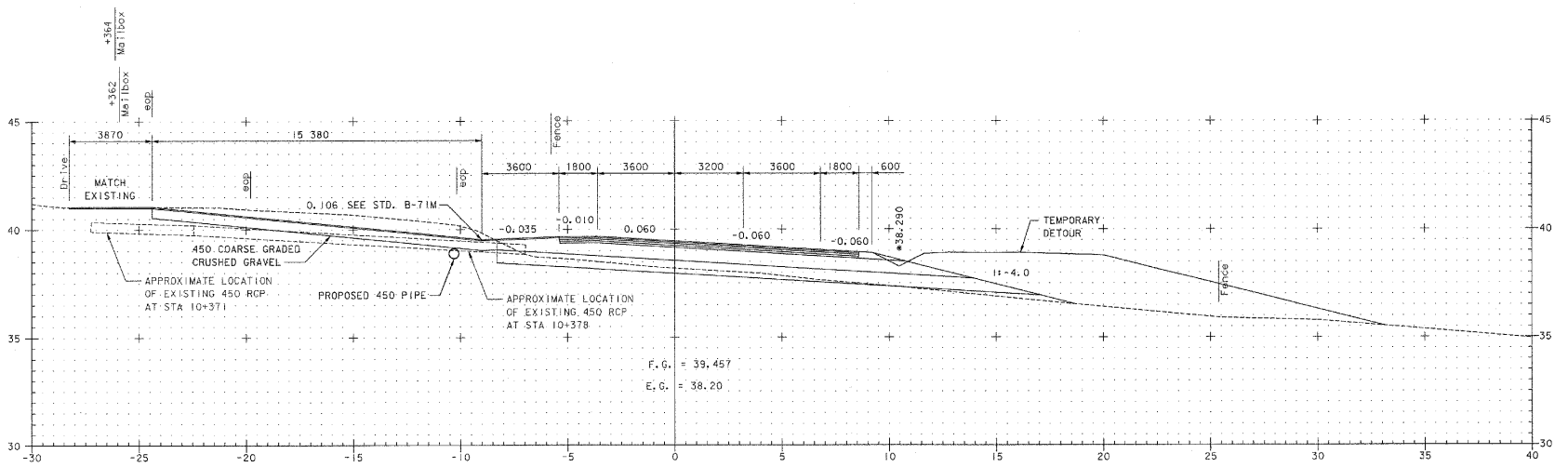
VT 78

* INDICATES DITCH ELEVATION FOR TEMPORARY DETOUR

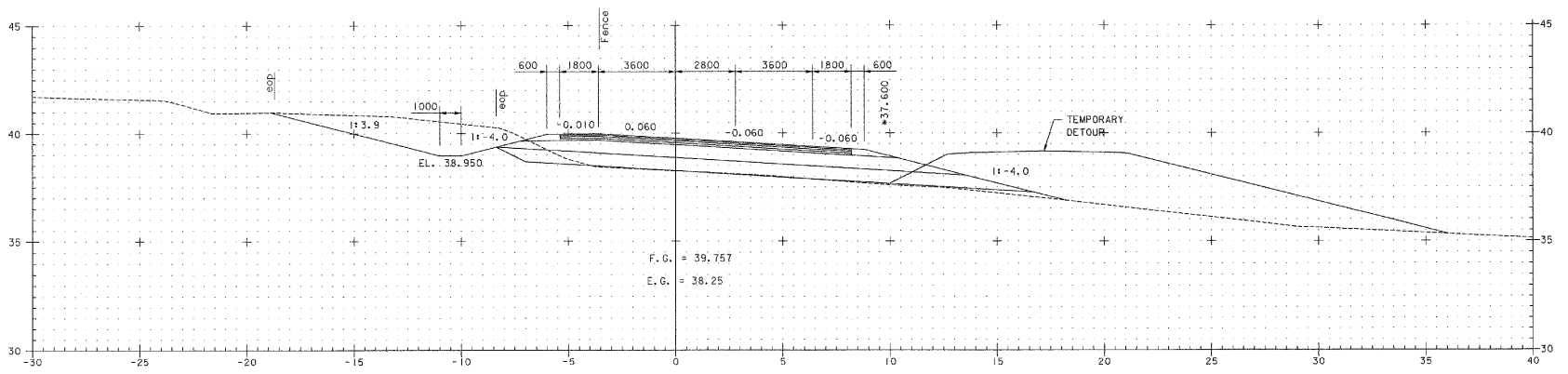
VANASSE HANGEN BRUSTLIN, INC.

FROM STA	10+320 TO STA 10+330
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET	C134 OF C194

ZE072XSI VHB NO. 50911 plot date: 10/23/2003



10+360 DRIVE, LT



10+340

0 2 4 6 8 10
SCALE 1:100

VT 78

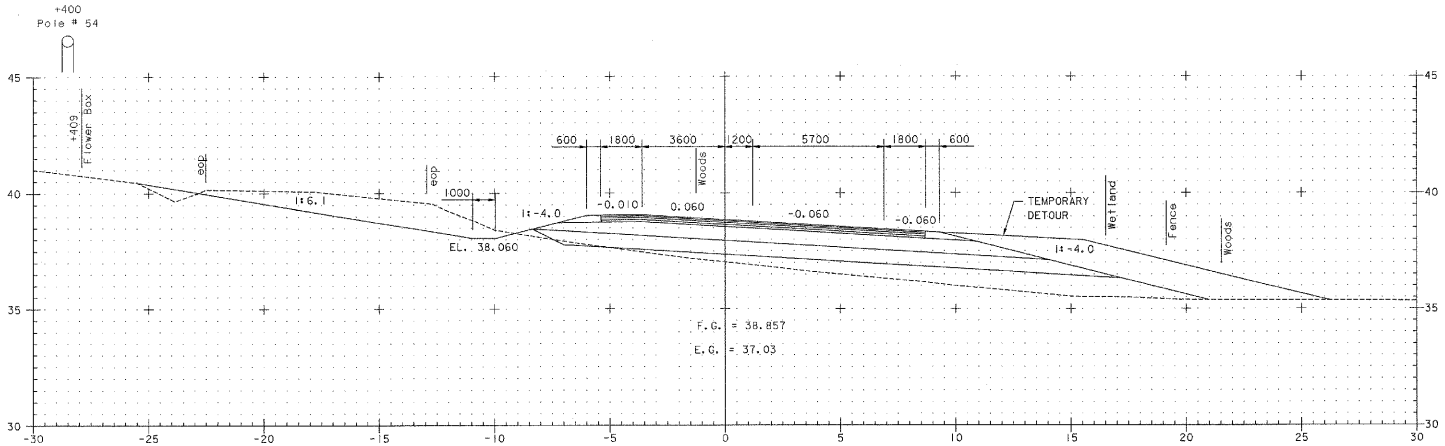
* INDICATES DITCH ELEVATION FOR TEMPORARY DETOUR

VANASSE HANGEN BRUSTLIN, INC.

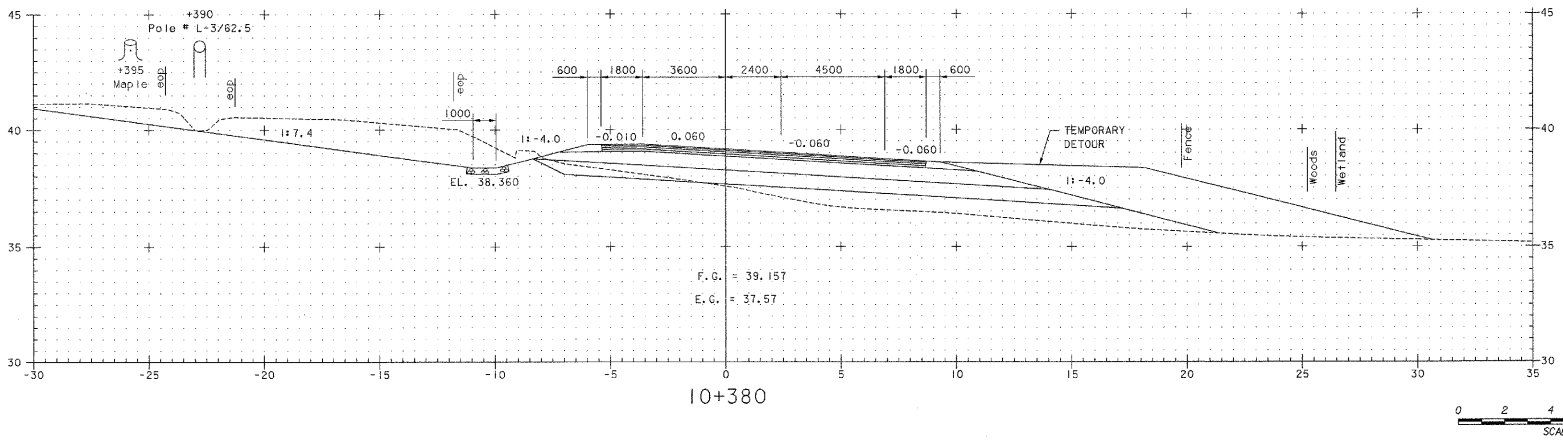
FROM STA	10+340 TO STA 10+360
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - (0)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C135 OF C194	

ZE072XSI VHB NO. 5091I plot date: 10/23/2003

Metric



10+400



10+380

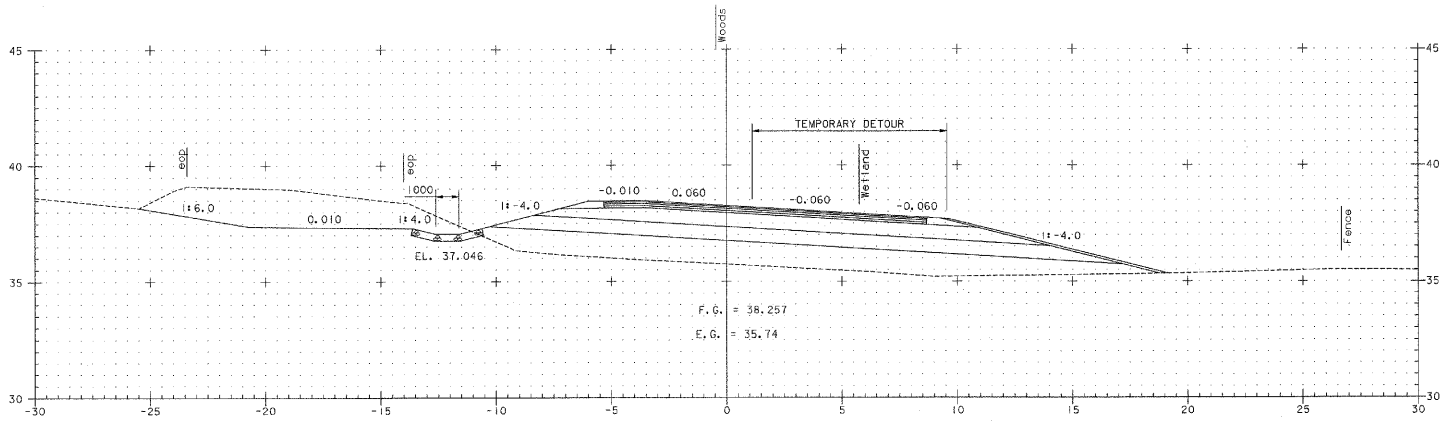
0 2 4 6 8 10
SCALE 1:100

VT 78

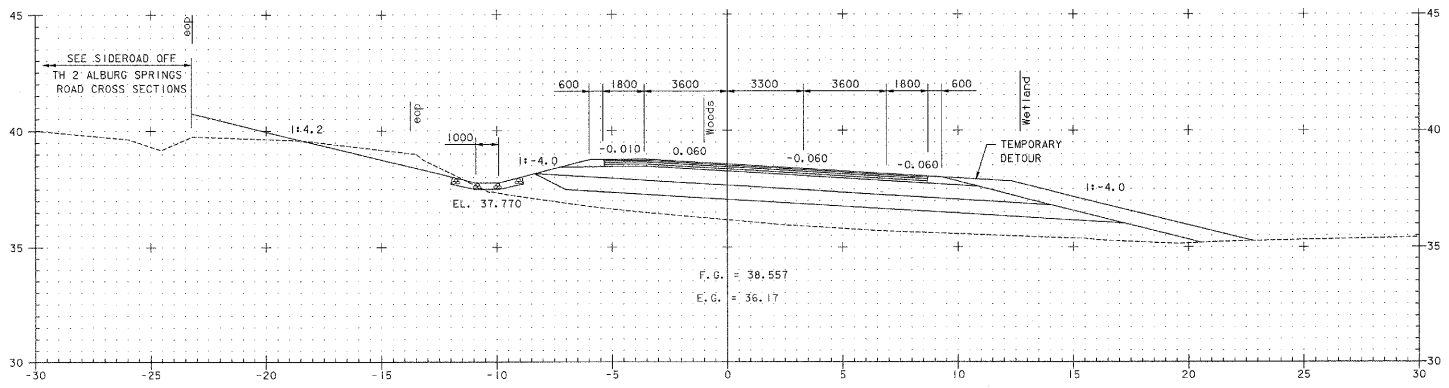
FROM STA 10+380	TO STA 10+400
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C136 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072XSI VHB NO. 50911 plot date: 10/23/2003



10+440



10+420

0 2 4 6 8 10
SCALE 1:100

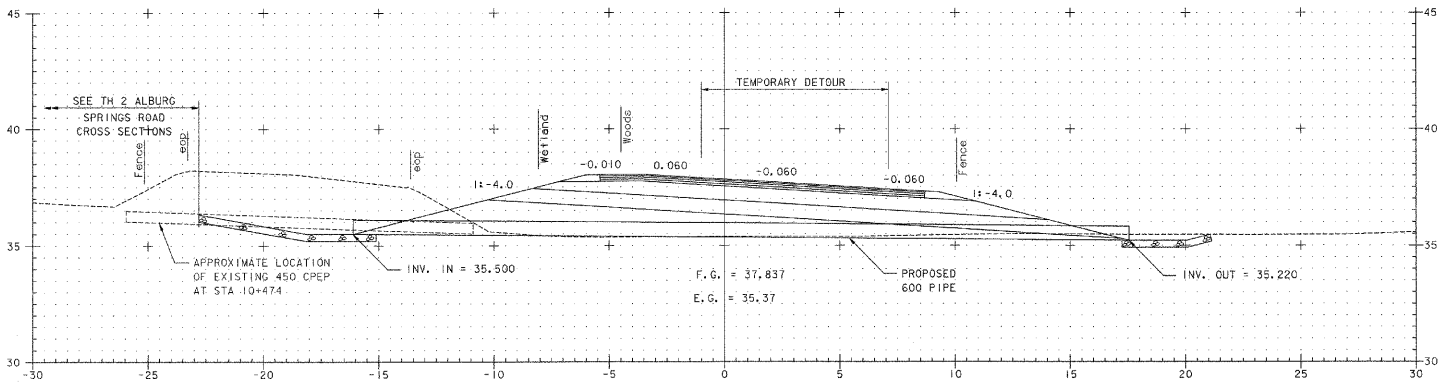
VT 78

FROM STA	10+420 TO STA 10+440
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET	C137 OF C194

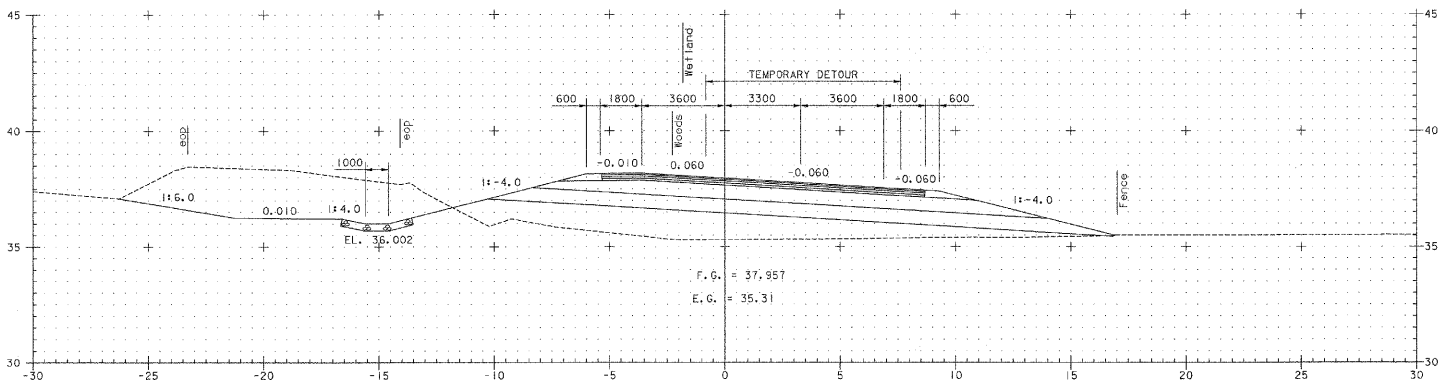
VANASSE HANGEN BRUSTLIN, INC.

ZE072XSI VHB NO. 5091I plot date: 10/23/2003

Metric



10+468



10+460

0 2 4 6 8 10
SCALE 1:100

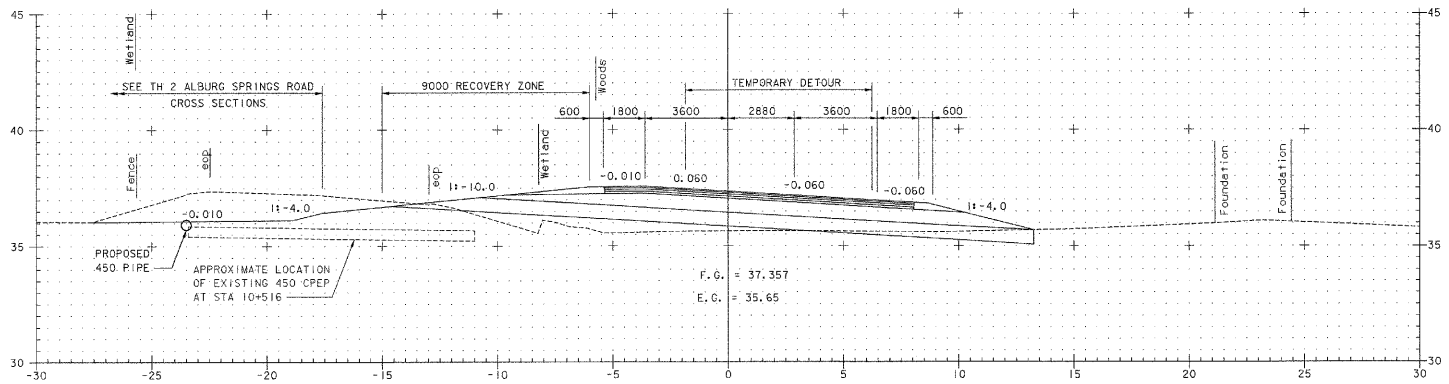
VT 78

FROM STA 10+460	TO STA 10+473
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C138 OF C194	

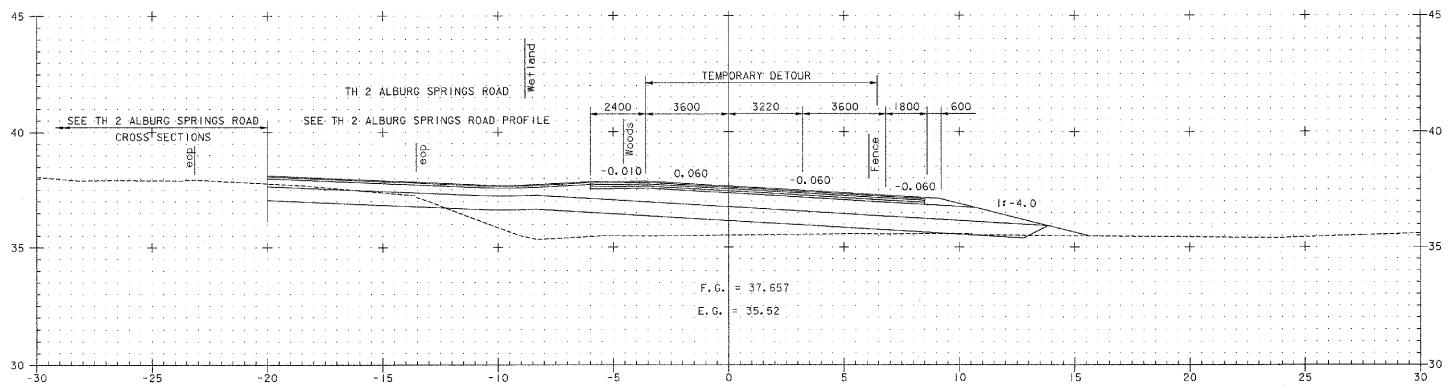
VANASSE HANGEN BRUSTLIN, INC.

ZE07ZXSI VHB NO. 50911 plot date: 10/23/2003

Metric



10+500



10+480

0 2 4 6 8 10
SCALE 1:100

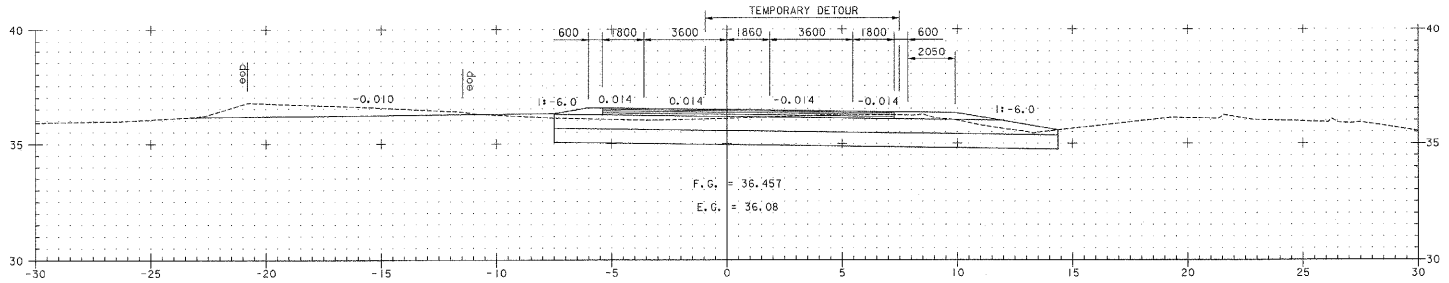
VT 78

FROM STA	10+480	TO STA	10+500
PROJECT NAME		ALBURG-SWANTON	
PROJECT NO.		BRF 036 - 1(1)	
SURVEYED BY		VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98	
SHEET C139 OF C194			

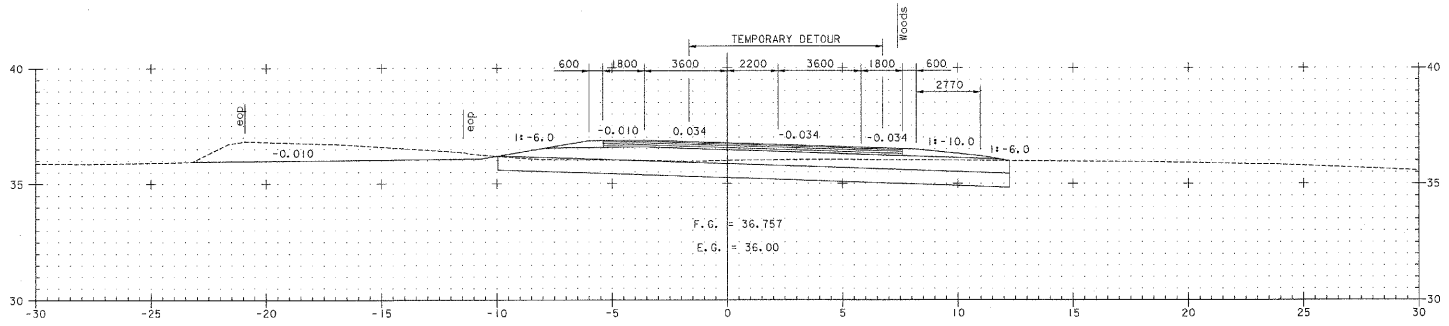
VANASSE HANGEN BRUSTLIN, INC.

ZE07ZXSI VHB NO. 5091I plot date: 10/23/2003

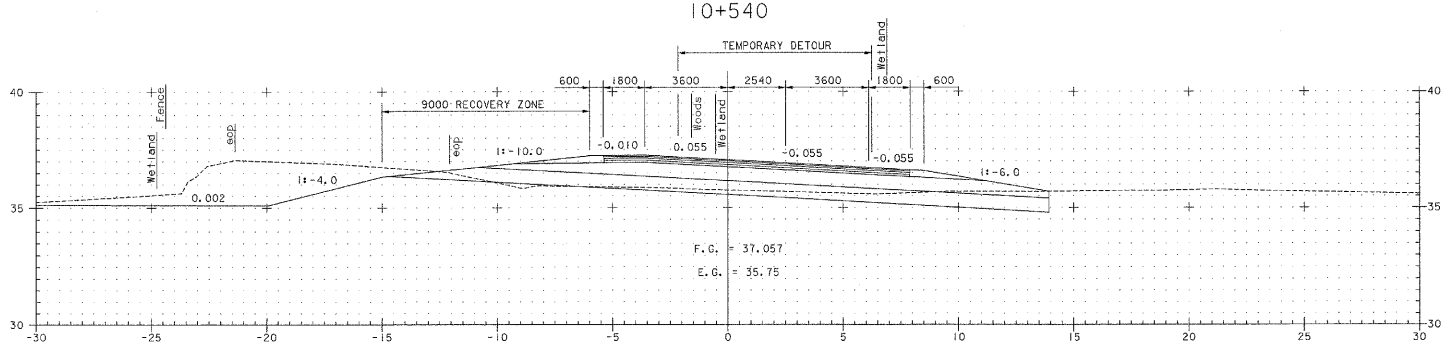
Metric



10+560



10+540



10+520

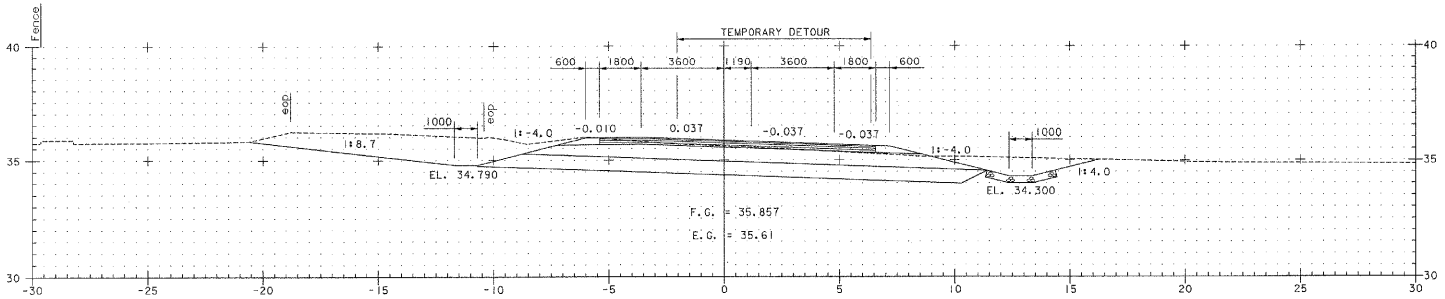
0 2 4 6 8 10
SCALE 1:100

VT 78

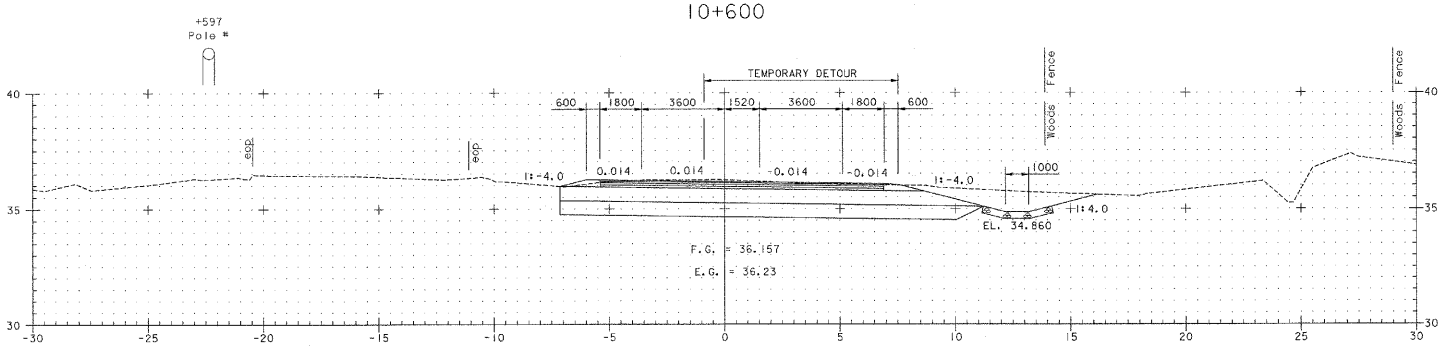
FROM STA 10+520	TO STA 10+560
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C140 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072XSI VHB NO. 50911 plot date: 10/23/2003

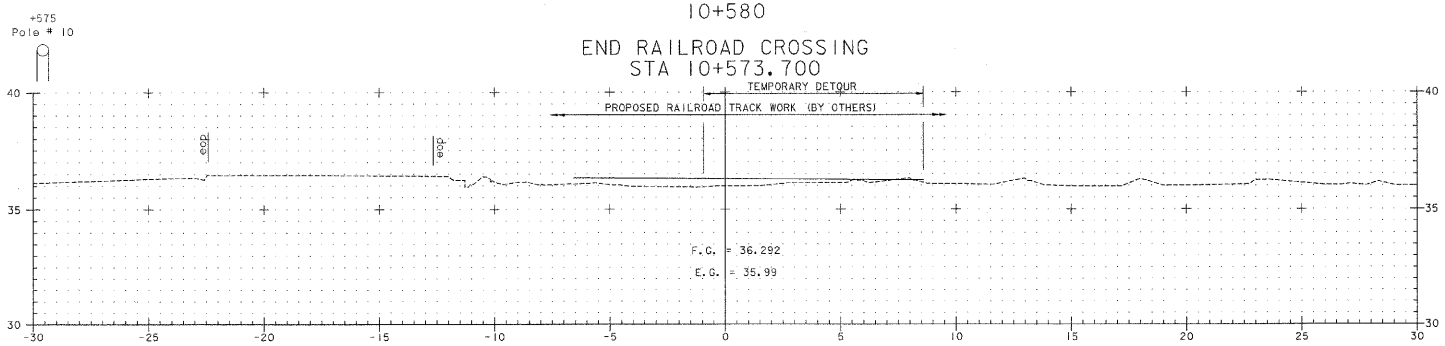


10+600



10+580

END RAILROAD CROSSING
STA 10+573.700



10+571, SKEWED

BEGIN RAILROAD CROSSING
STA 10+568.400

0 2 4 6 8 10
SCALE 1:100

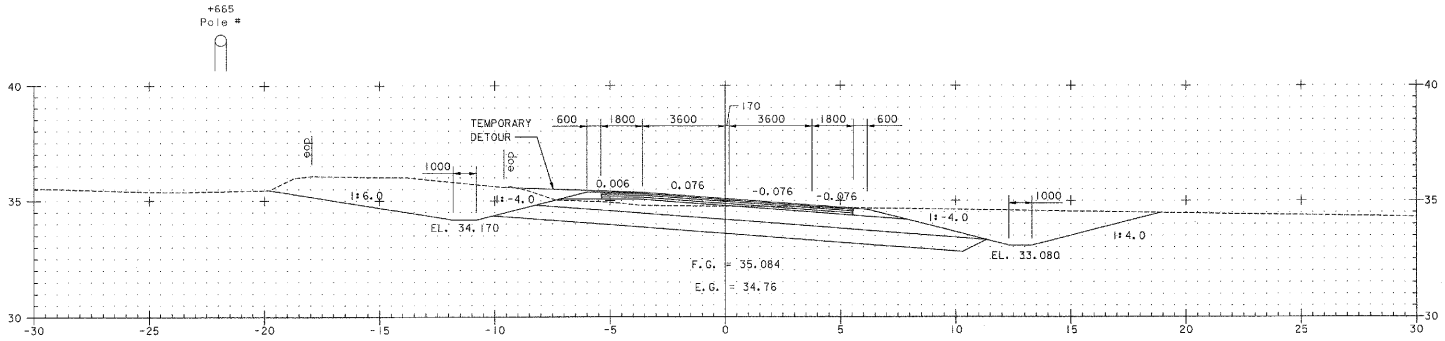
VT 78

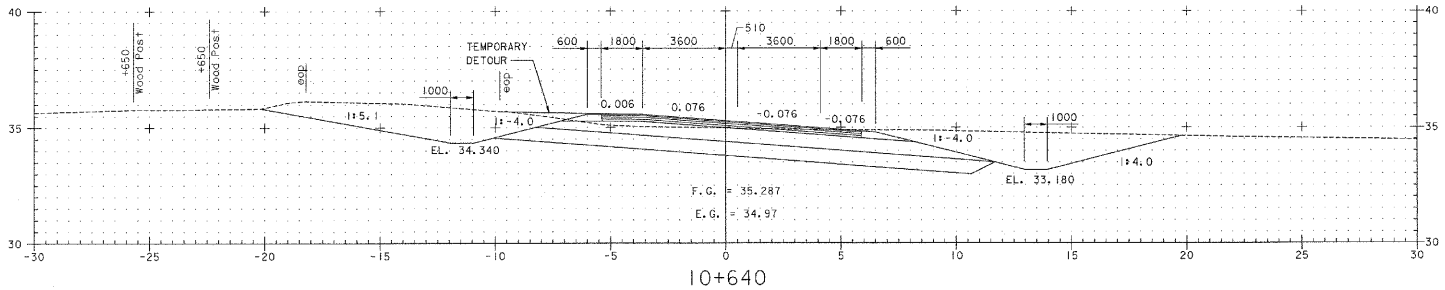
FROM STA	10+580 TO STA 10+600
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C141	OF C194

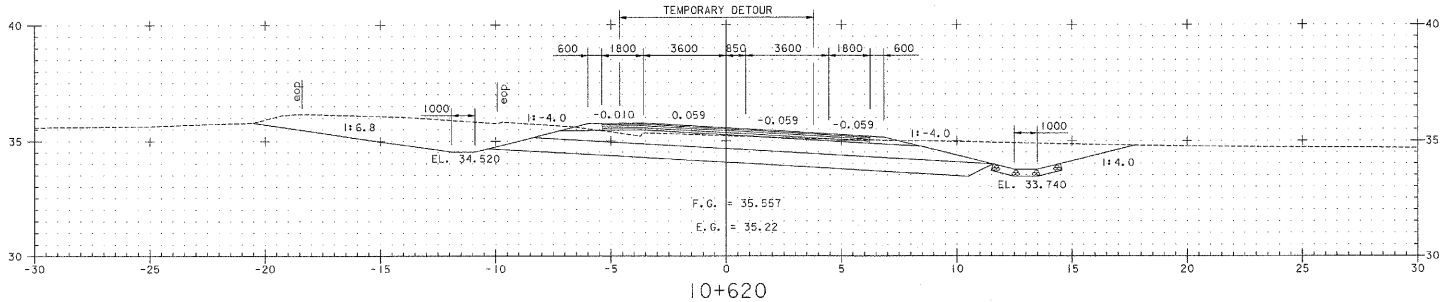
VANASSE HANGEN BRUSTLIN, INC.

ZE072XSI VHB NO. 5091I plot date: 10/23/2003

Metric







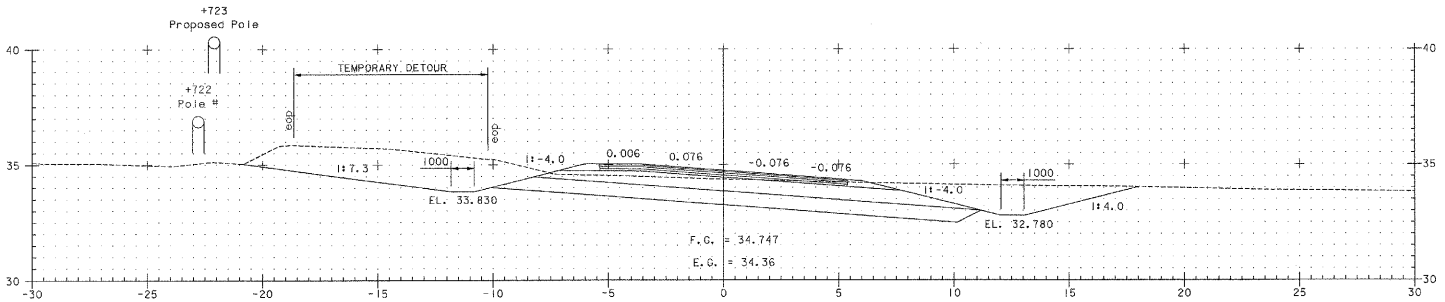
0 2 4 6 8 10
SCALE 1:100

VT 78

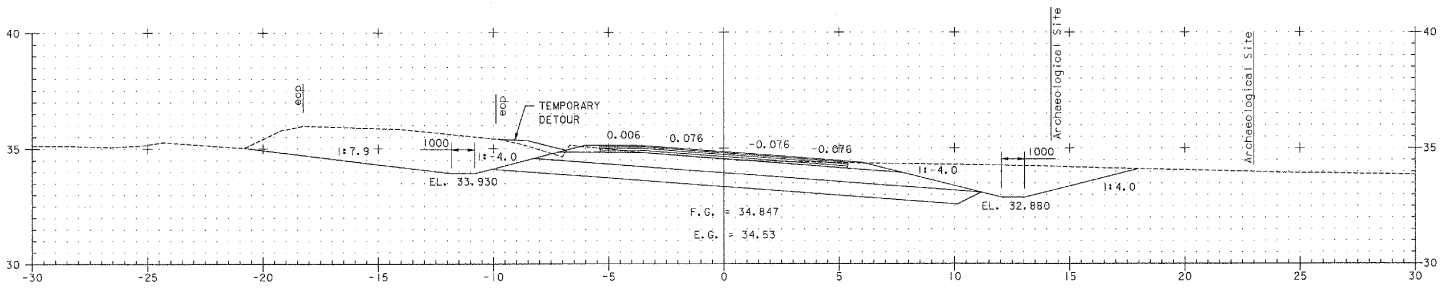
FROM STA 10+620	TO STA 10+660
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C142 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

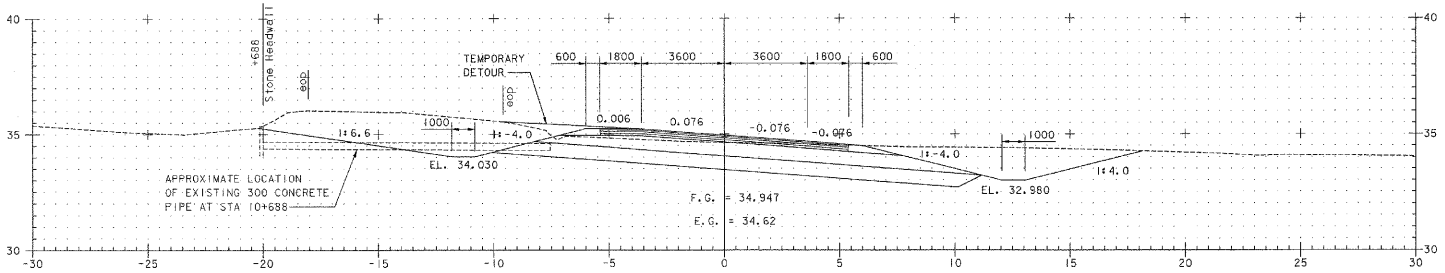
ZE072XSI VHB NO. 5091I plot date: 10/23/2003



10+720



10+700



10+680

0 2 4 6 8 10
SCALE 1:100

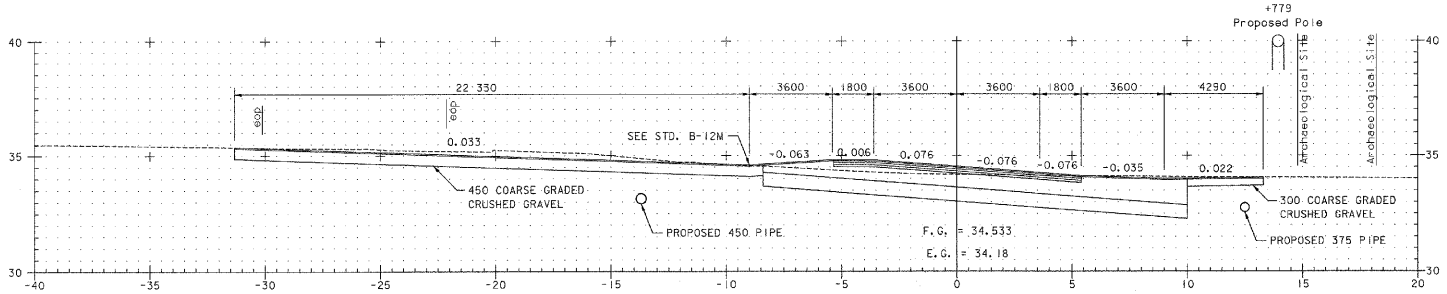
VT 78

FROM STA 10+680	TO STA 10+720
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 10
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C143 OF C194	

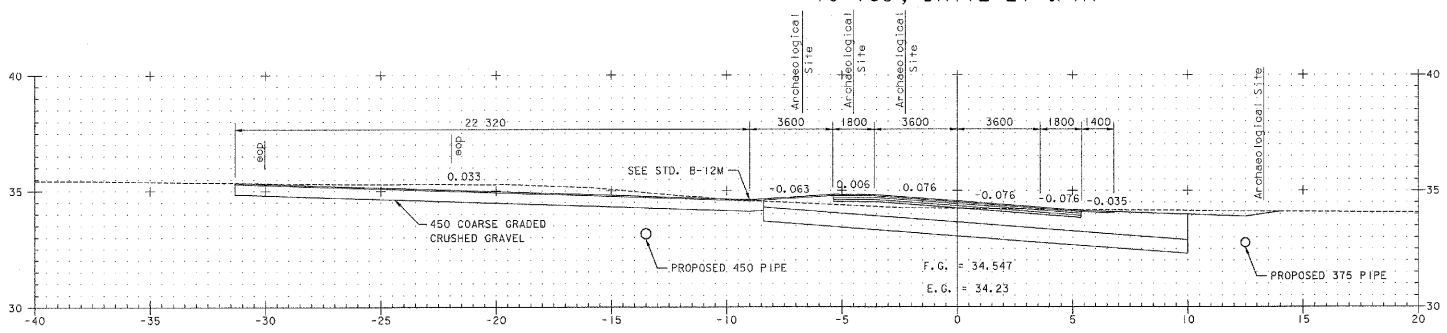
VANASSE HANGEN BRUSTLIN, INC.

ZE072XSI VHB NO. 50911 plot date 10/23/2003

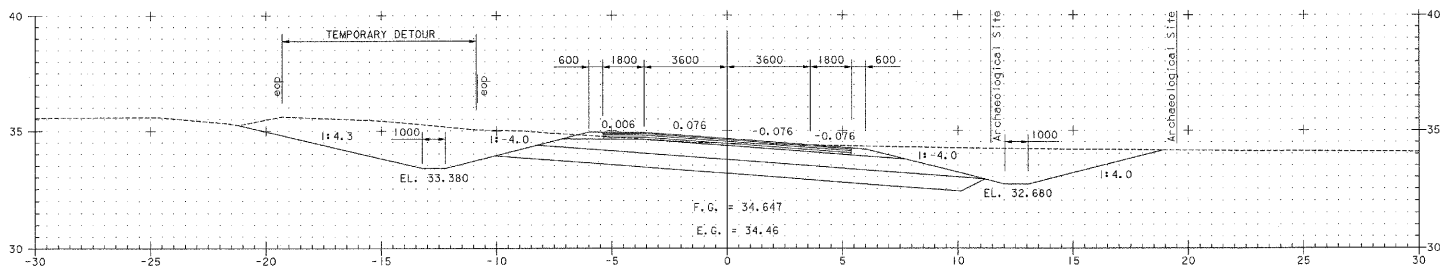
Metric



10+763, DRIVE LT & RT



10+760, DRIVE LT



10+740

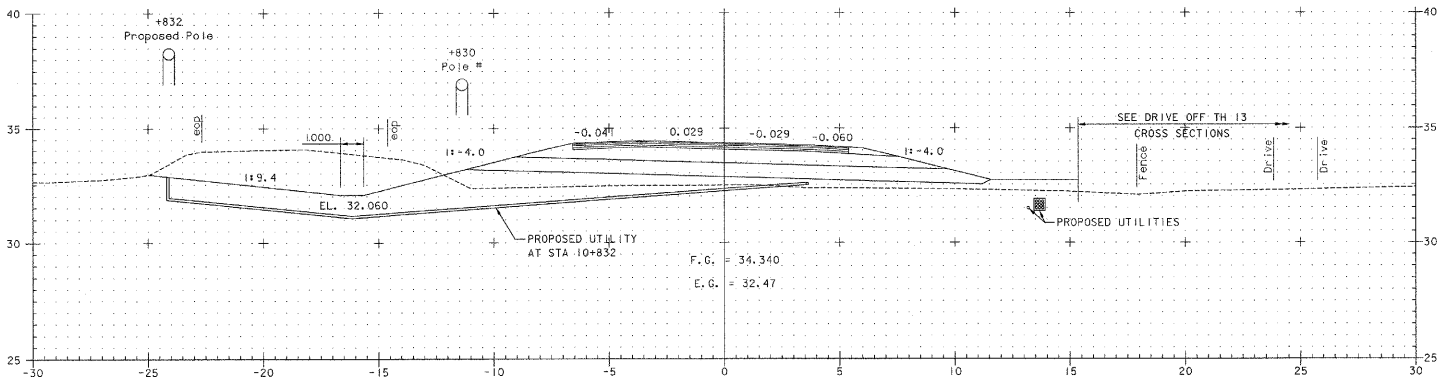
0 2 4 6 8 10
SCALE 1:100

VT 78

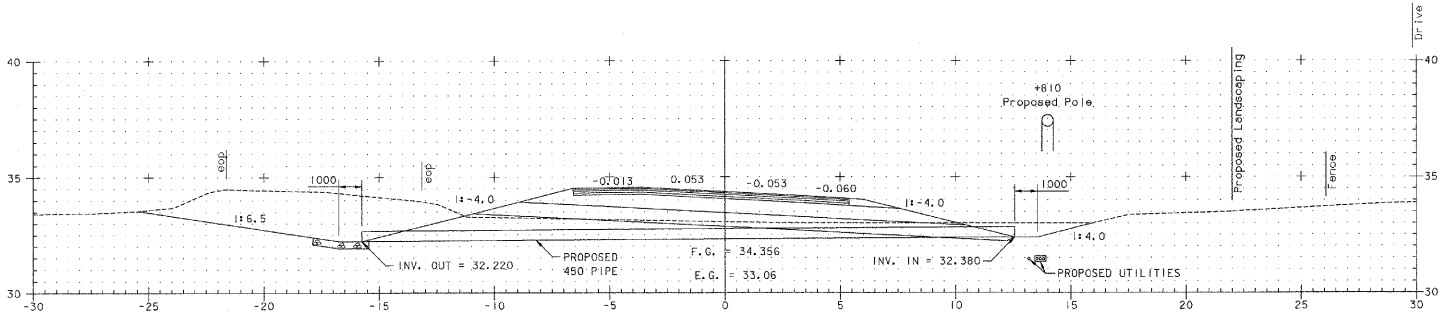
FROM STA	10+740 TO STA 10+763
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and ElV TECH. SERVICES, LLC 11/98
SHEET	C144 OF C194

VANASSE HANGEN BRUSTLIN, INC.

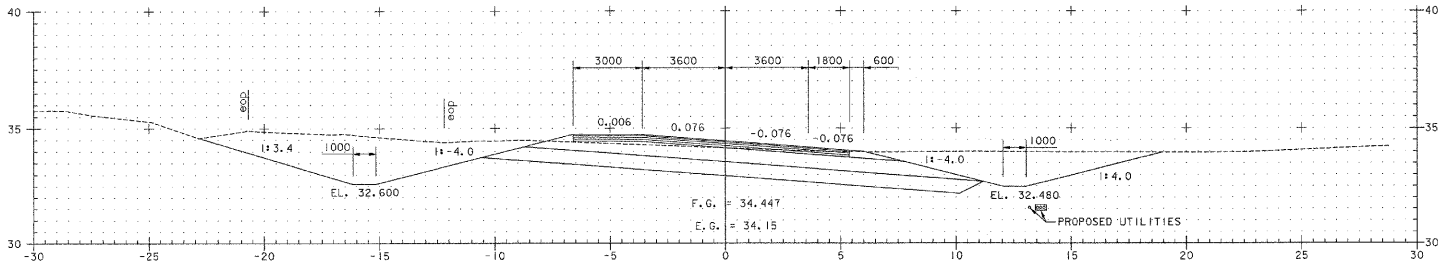
ZE072XSI VHB NO. 50911 plot date: 10/23/2003



10+820



10+800



10+780

0 2 4 6 8 10
SCALE 1:100

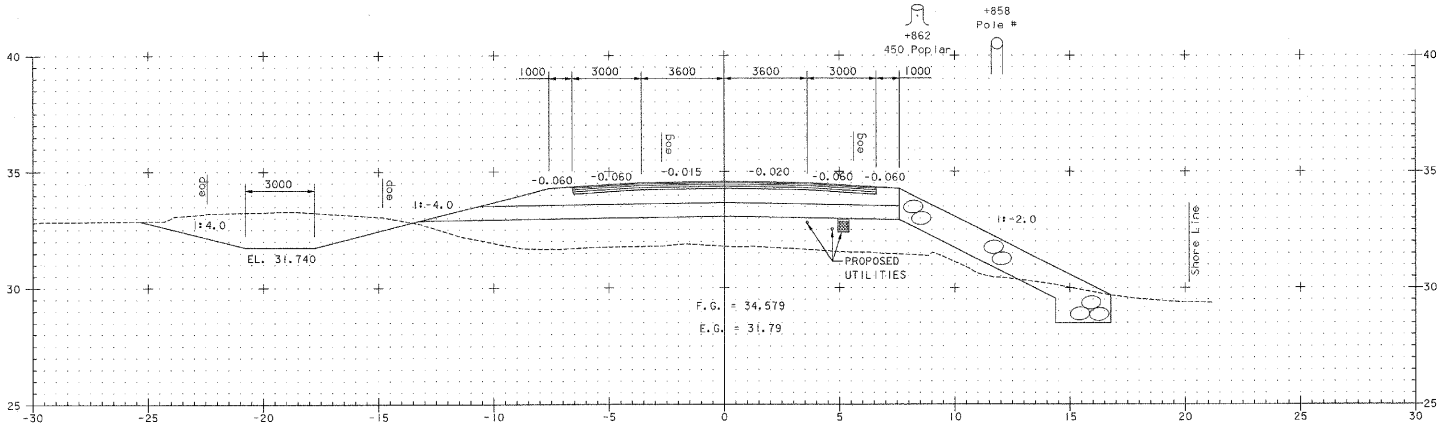
VT 78

FROM STA 10+780	TO STA 10+820
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C145 OF C194	

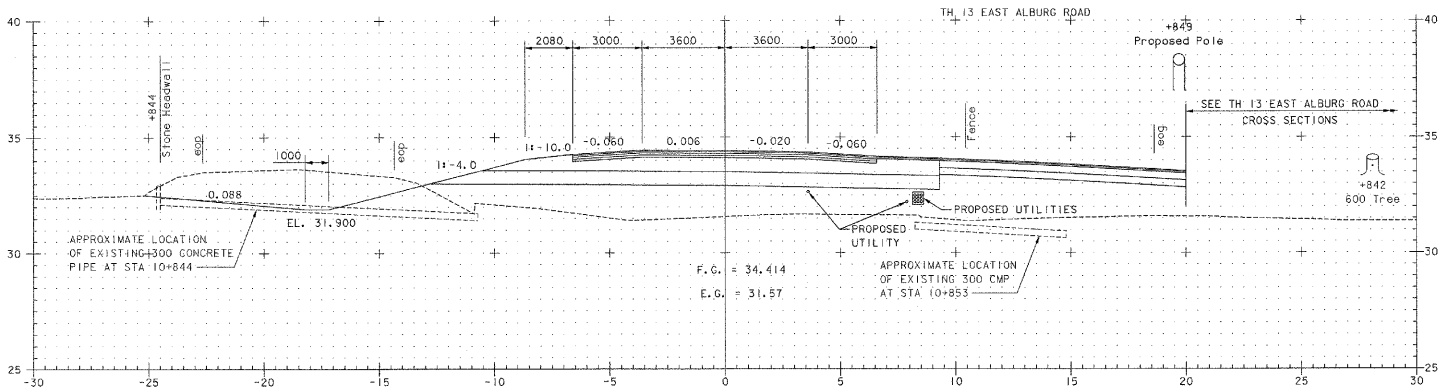
VANASSE HANGEN BRUSTLIN, INC.

ZE072XSI VHB NO. 5098 plot date: 10/23/2003

Metric



10+860



10+840

0 2 4 6 8 10
SCALE 1:100

VT 78

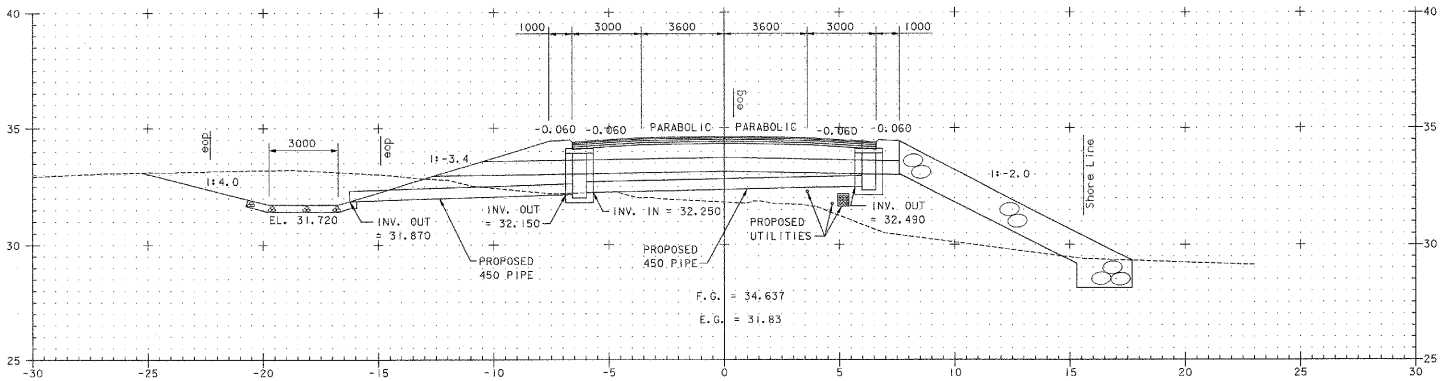
FROM STA	10+840 TO STA 10+860
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET	C146 OF C194

VANASSE HANGEN BRUSTLIN, INC.

ZE072XSI VHB NO. 50911 plot date: 10/23/2003

215

Metric



10+865

0 2 4 6 8 10
SCALE 1:100

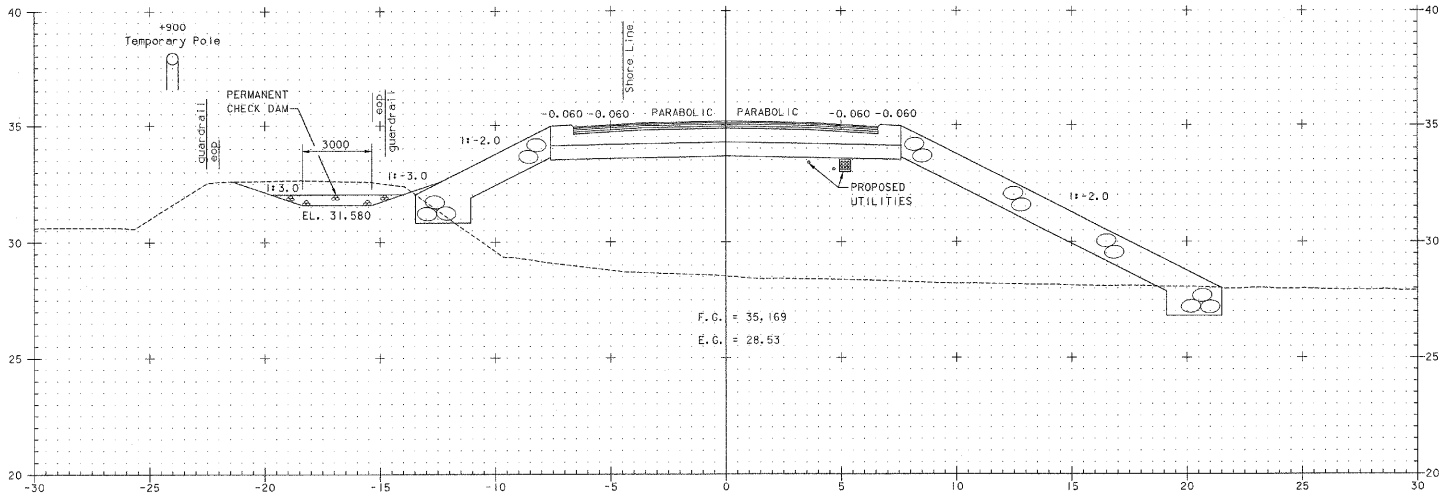
VT 78

FROM STA 10+865	TO STA 10+865
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C147 OF C194	

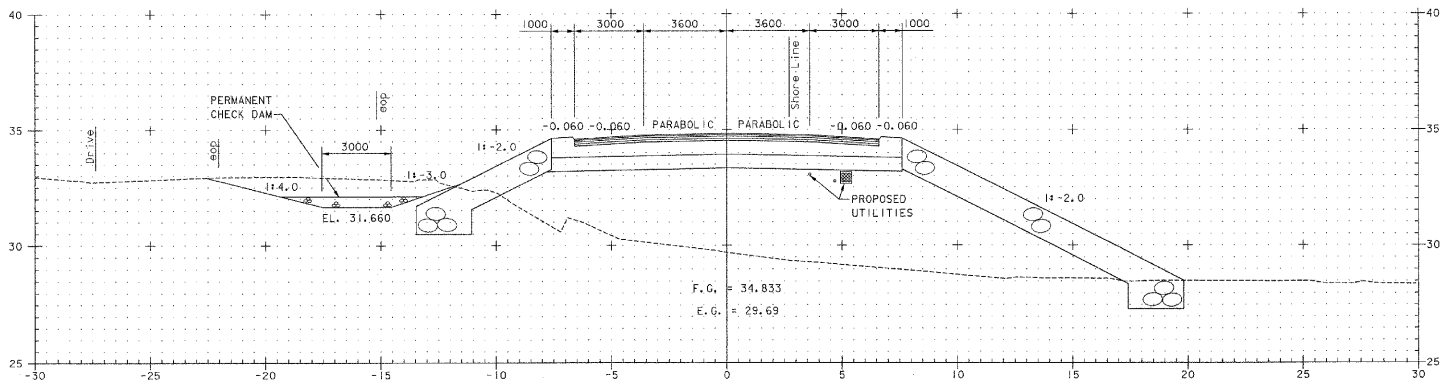
VANASSE HANGEN BRUSTLIN, INC.

ZE072XSI VHB NO. 50911 plot date: 10/23/2003

Metric



10+900



10+880

0 2 4 6 8 10
SCALE 1:100

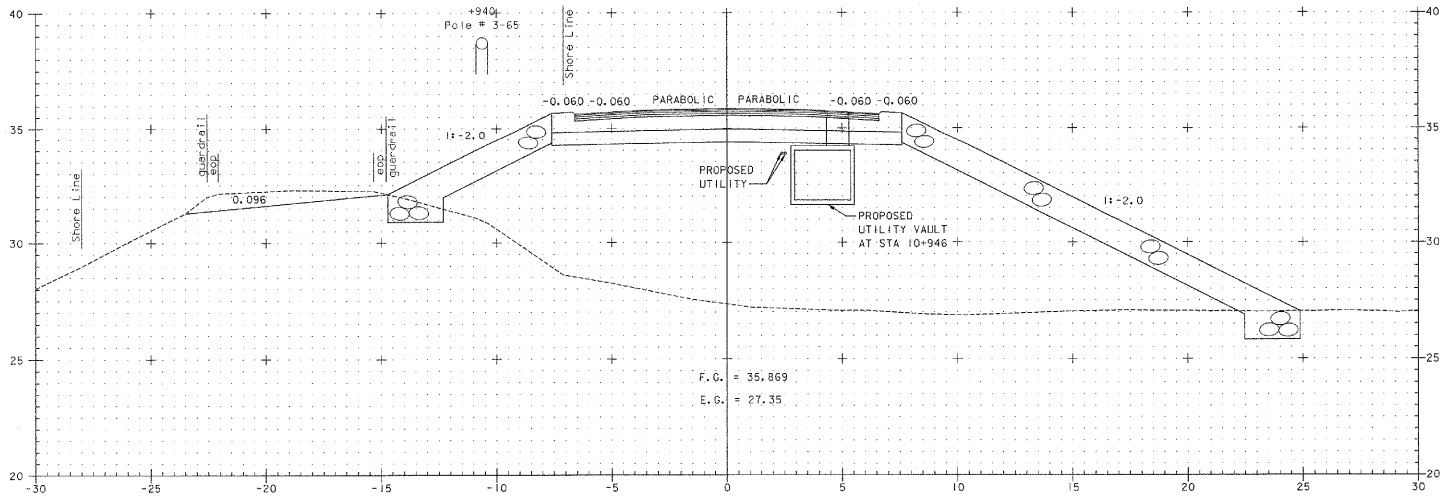
VT 78

FROM STA	10+880 TO STA 10+900
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(0)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET	C148 OF C194

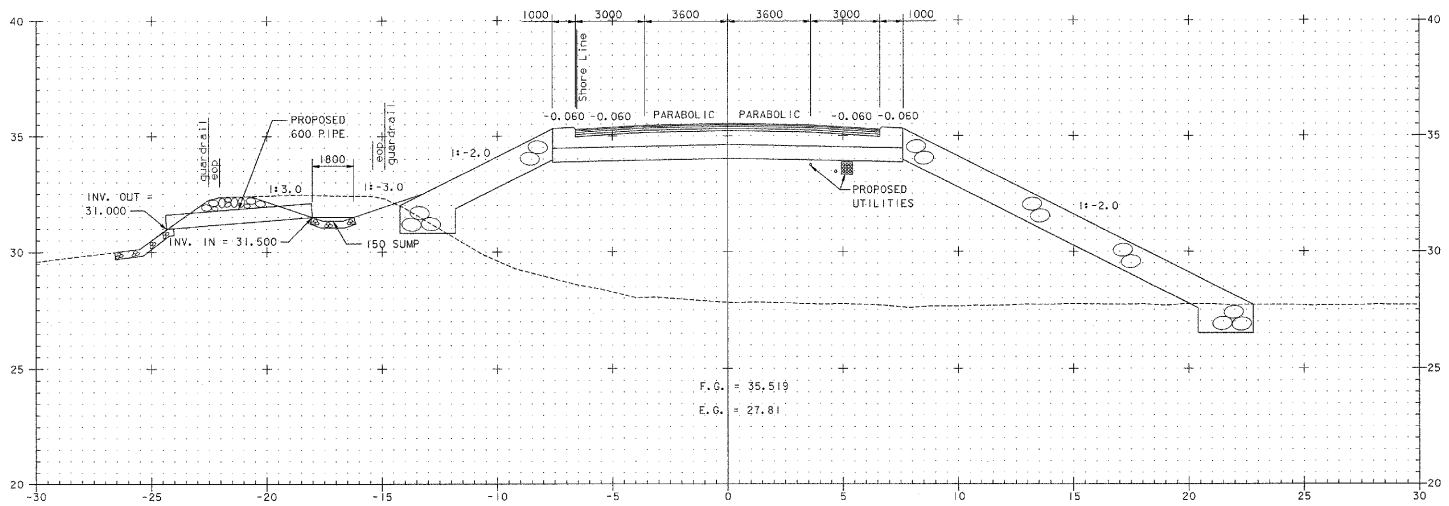
VANASSE HANGEN BRUSTLIN, INC.

ZE072XSI VHB NO. 50911 plot date: 10/23/2003

Metric



10+940



10+920

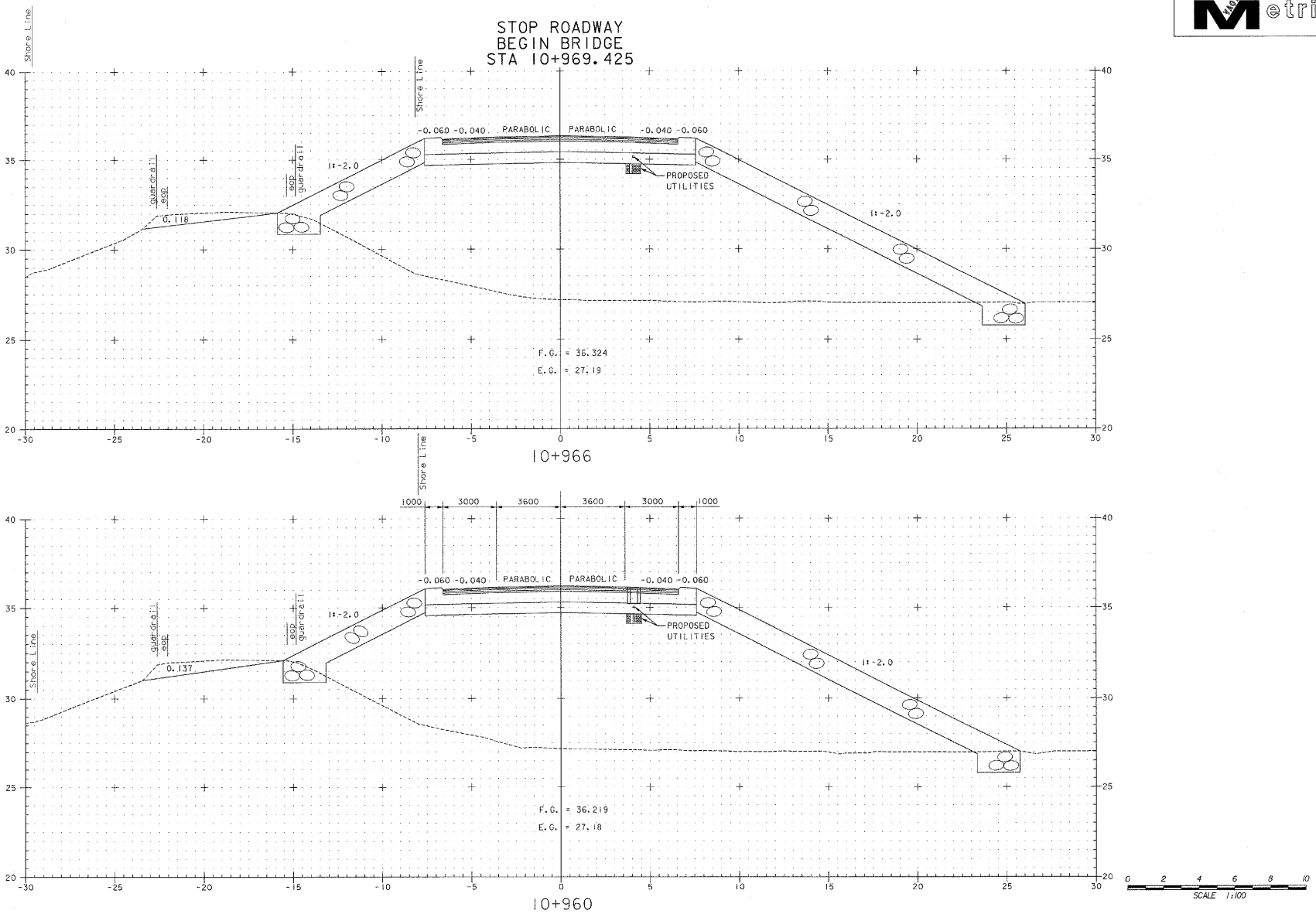
0 2 4 6 8 10
SCALE 1:100

VT 78

FROM STA 10+920	TO STA 10+940
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C149 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072XSI VHB NO. 50911 plot date: 10/23/2003



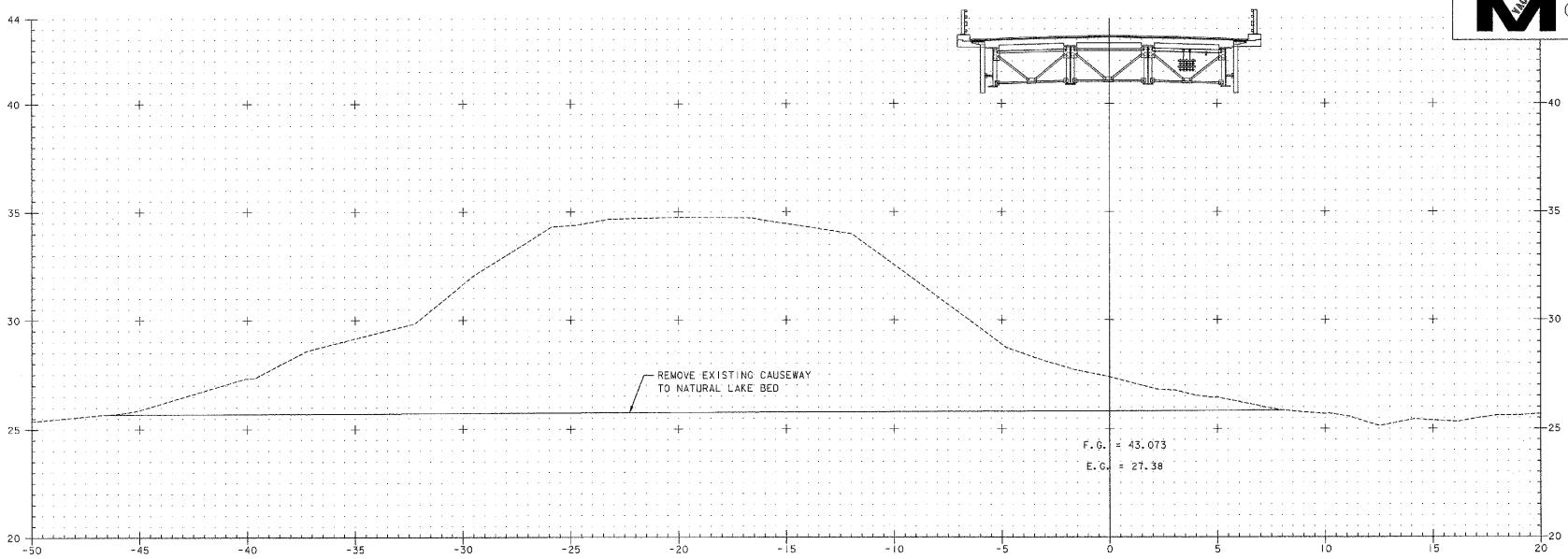
VT 78

FROM STA 10+960	TO STA 10+966
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C150 OF C194	

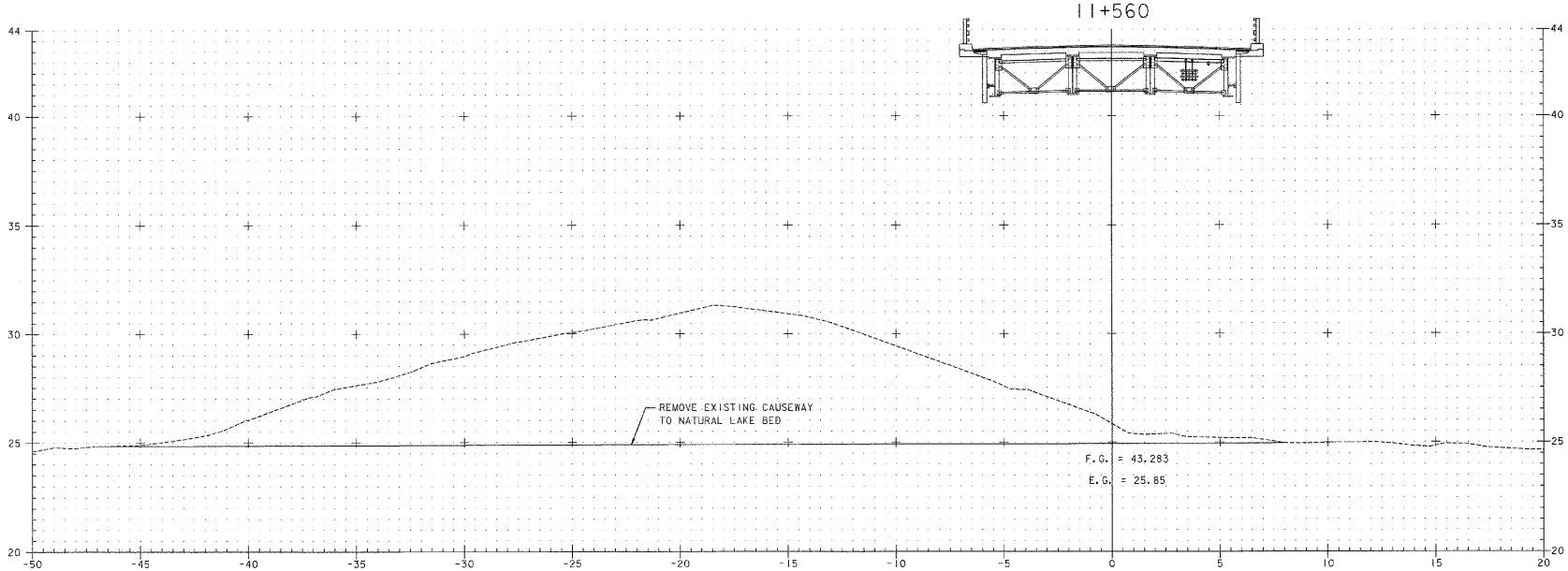
VANASSE HANGEN BRUSTLIN, INC.

ZE072XSI VHB NO. 5091I plot date: 10/23/2003

Metric



11+560



11+540

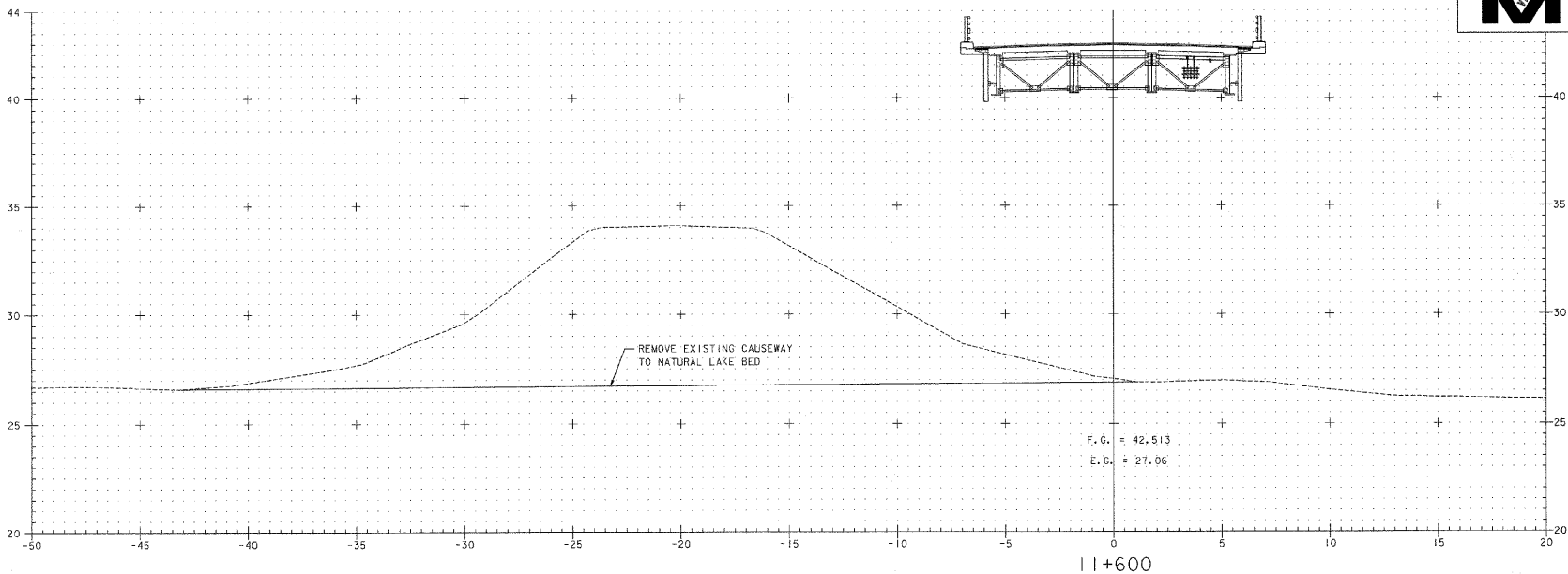
0 2 4 6 8 10
SCALE 1:100

VANASSE HANGEN BRUSTLIN, INC.

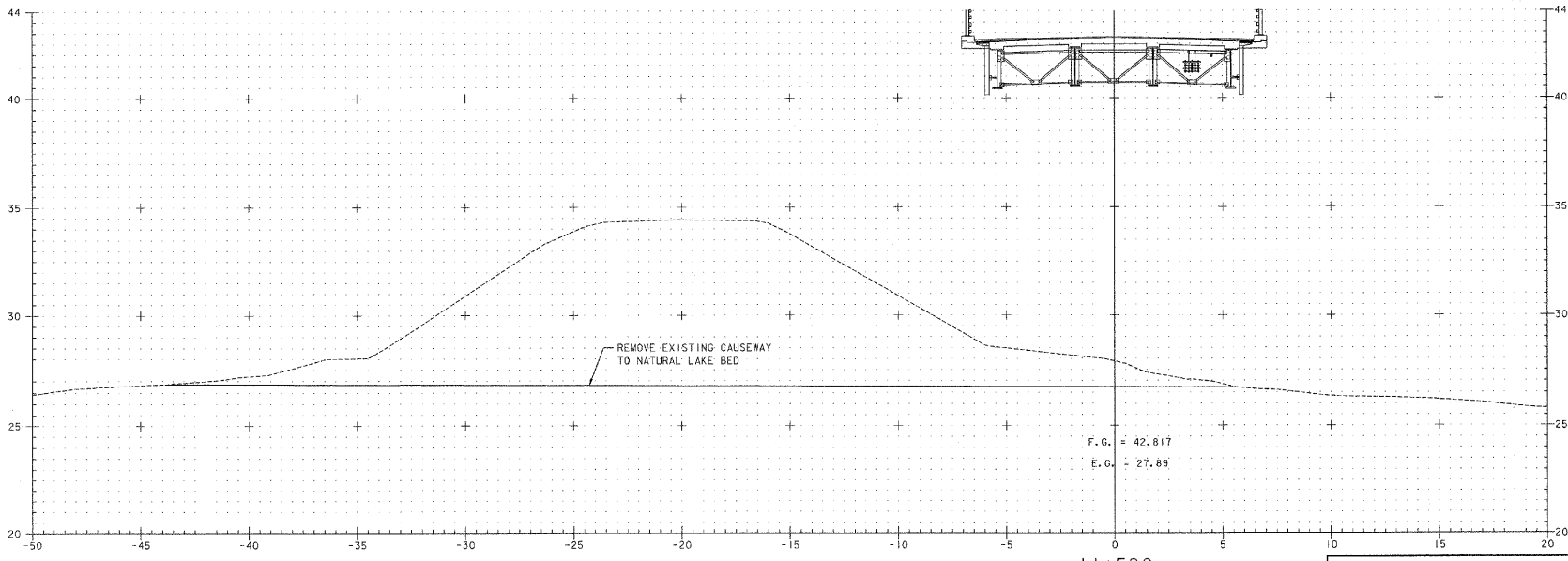
VT 78

FROM STA 11+540	TO STA 11+560
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C151 OF C194	

ZE072X54 VHB NO. 5091 plot date: 10/23/2003



11+600



11+580

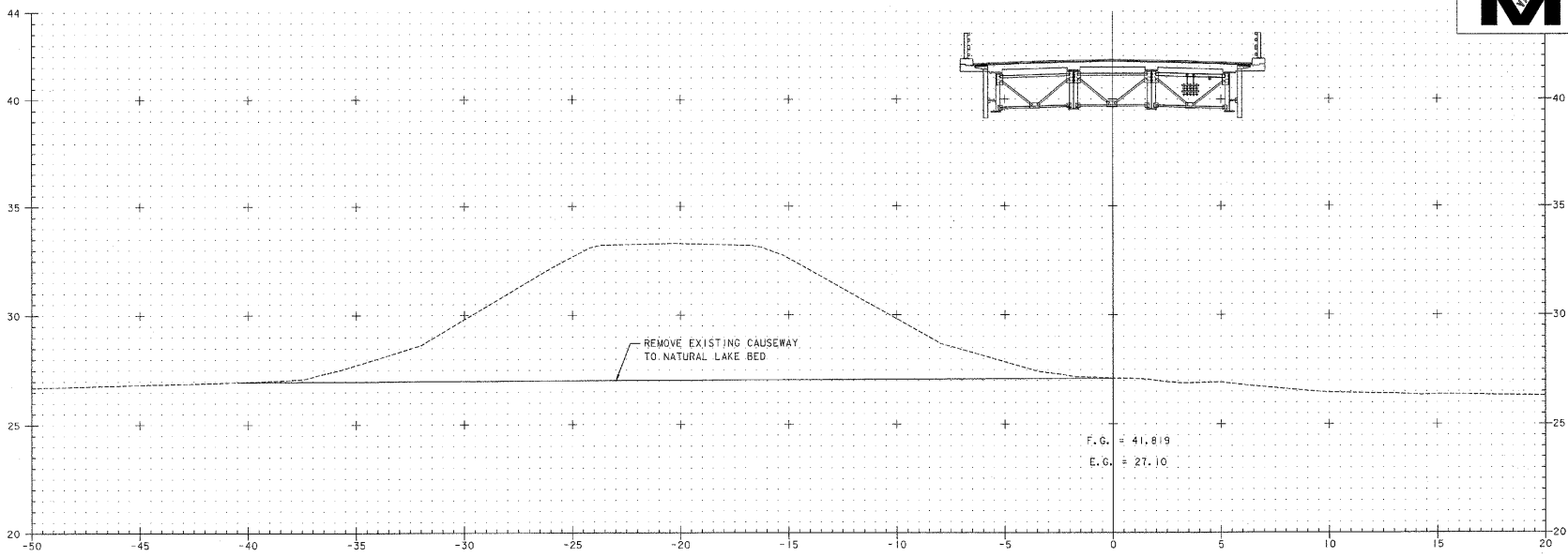
SCALE 1:100

VANASSE HANGEN BRUSTLIN, INC.

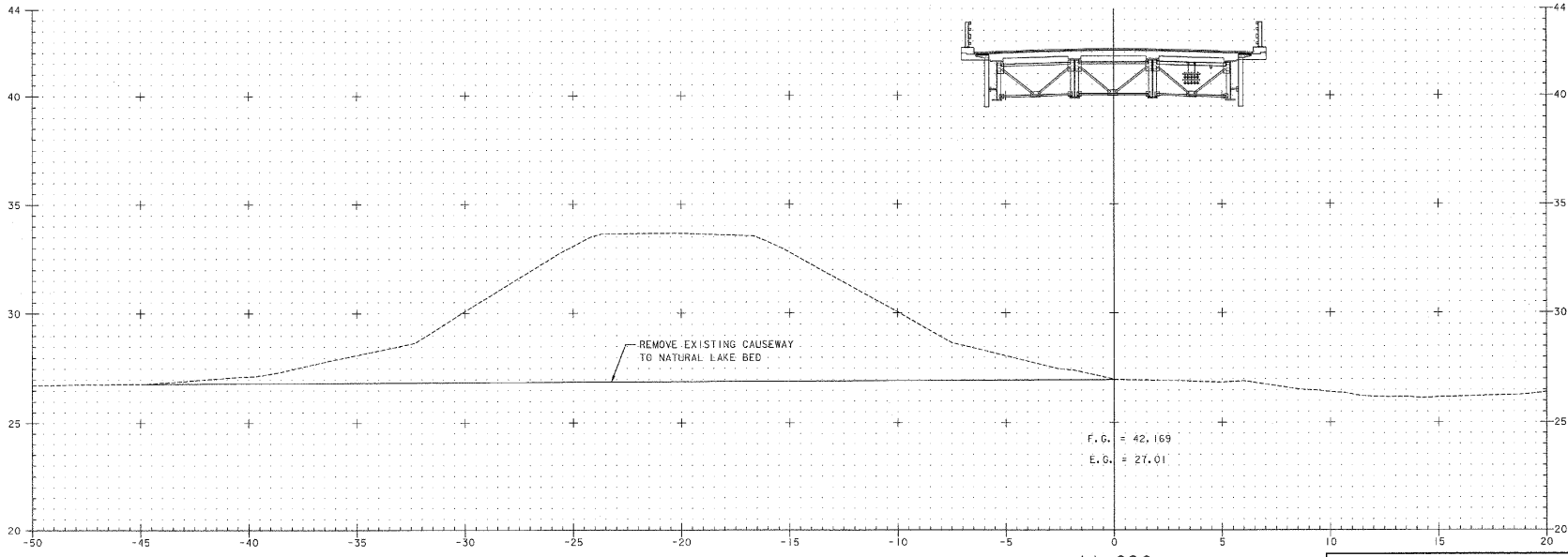
VT 78

FROM STA 11+580	TO STA 11+600
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(8)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C152 OF C194	

ZE072XS4 VHB NO. 5091I plot date: 10/23/2003



11+640



11+620

0 2 4 6 8 10
SCALE 1:100

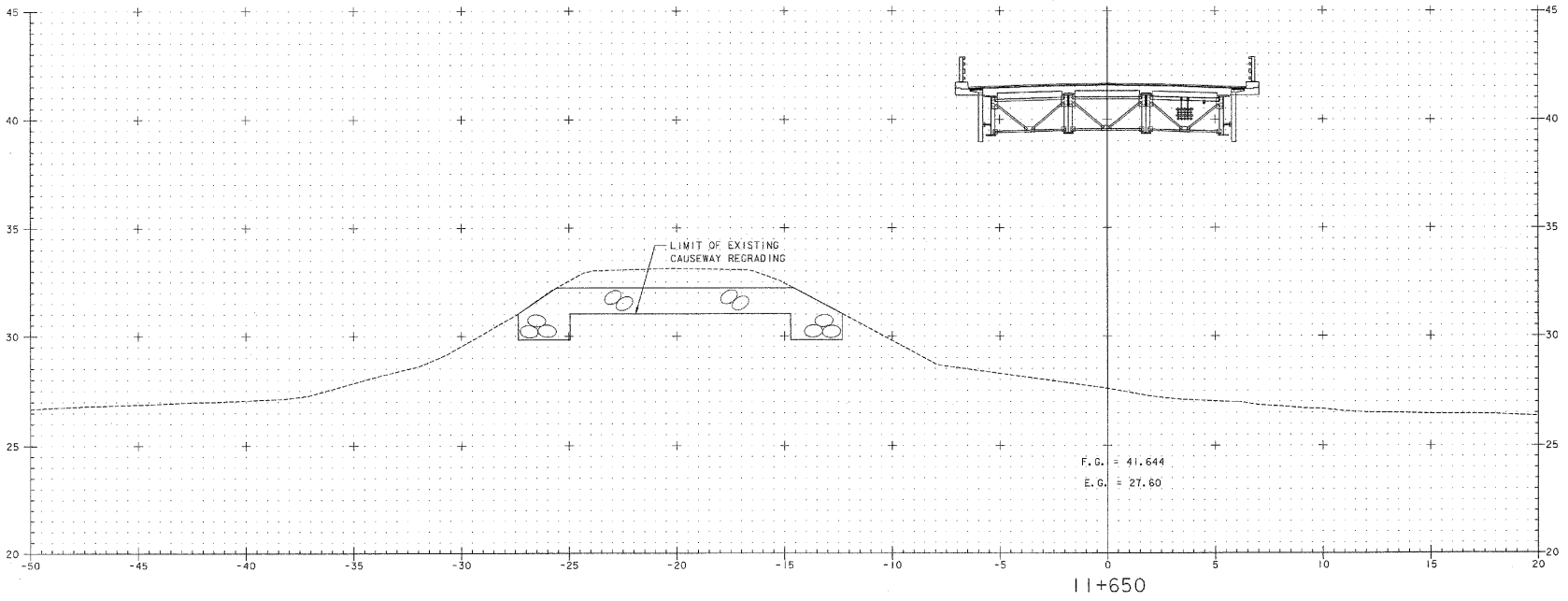
VANASSE HANGEN BRUSTLIN, INC.

VT 78

FROM STA 11+620	TO STA 11+640
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C153 OF C194	

ZE072XS4 VHB NO. 5091I plot date: 10/23/2003

Metric



11+650

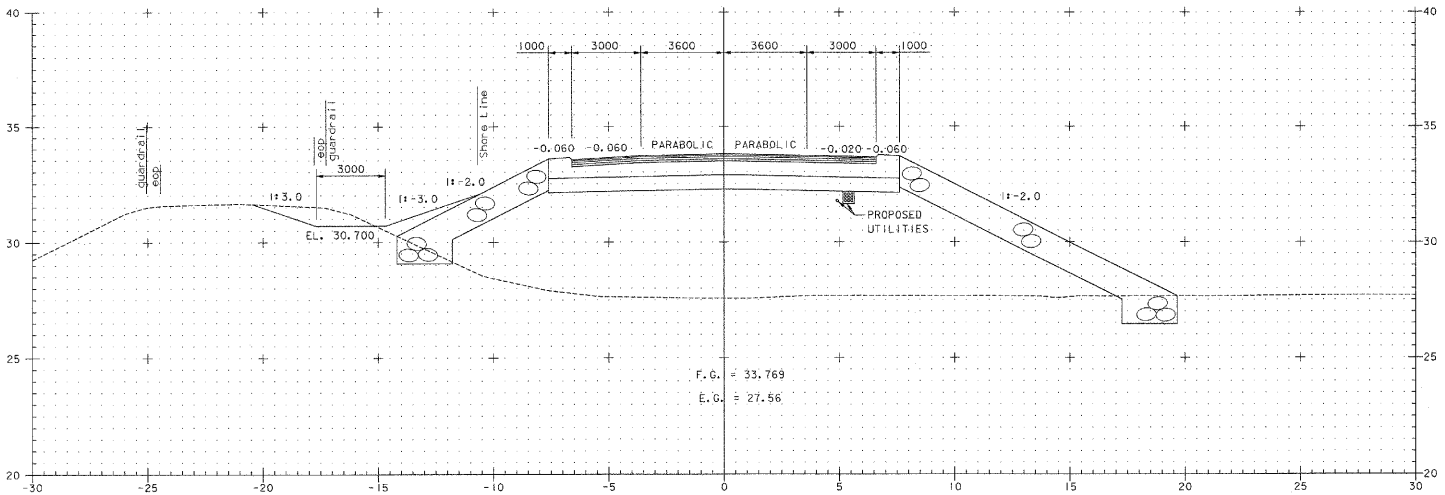
0 2 4 6 8 10
SCALE 1:100

VT 78

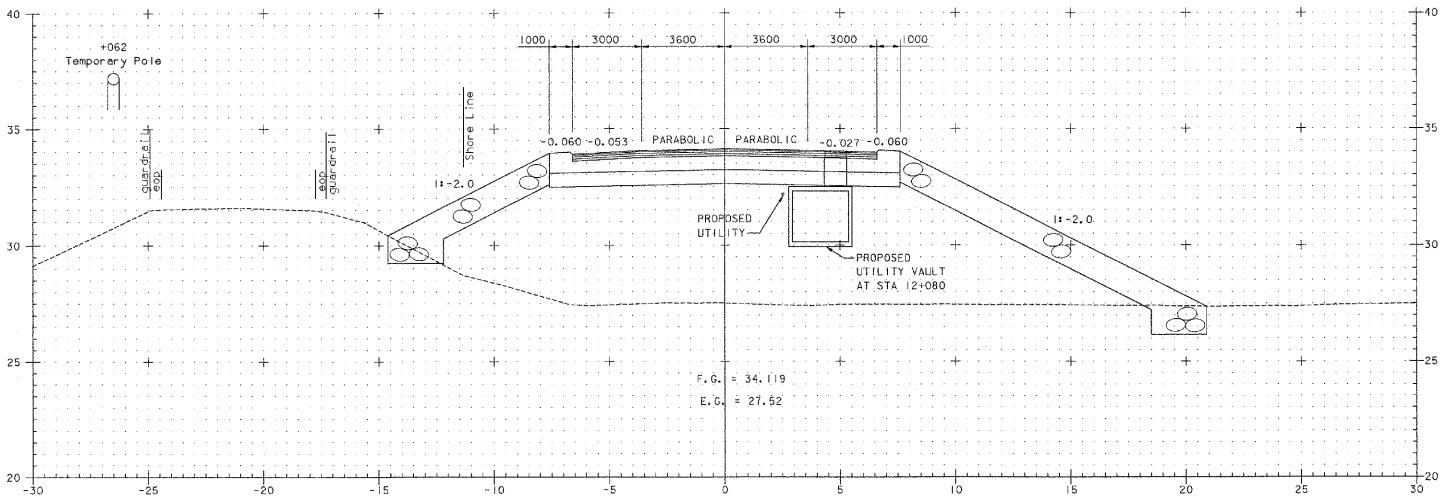
FROM STA 11+650	TO STA 11+650
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C154 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072XS4 VHB NO. 5091I plot date: 10/23/2003



12+100



12+080

END BRIDGE
RESUME ROADWAY
STA 12+060.775

0 2 4 6 8 10
SCALE 1:100

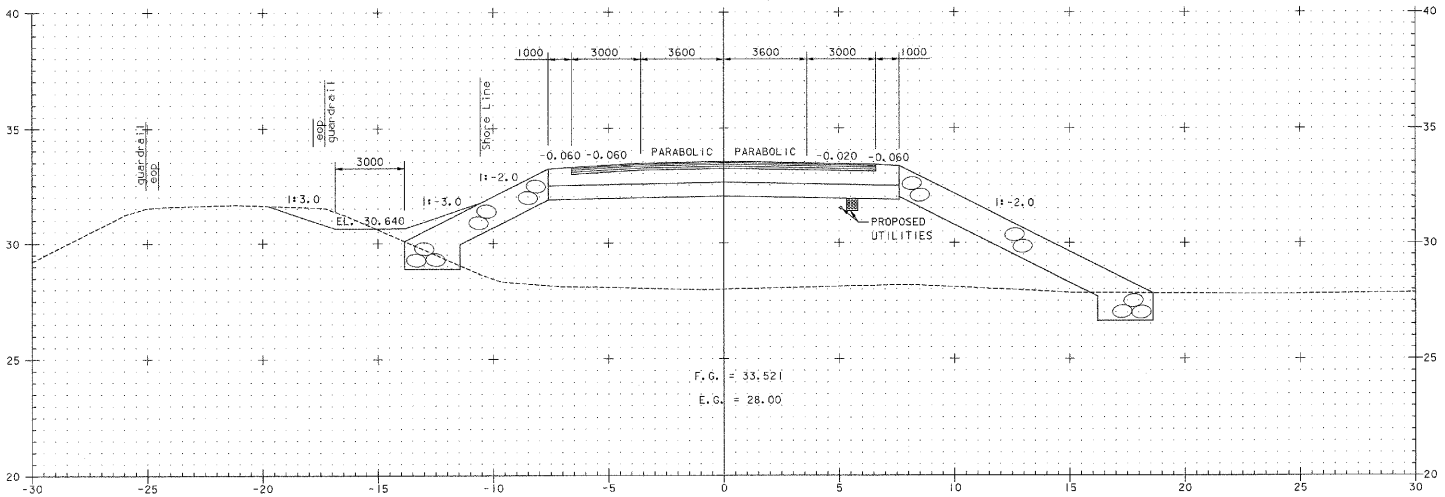
VT 78

FROM STA 12+080	TO STA 12+100
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(0)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C155 OF C194	

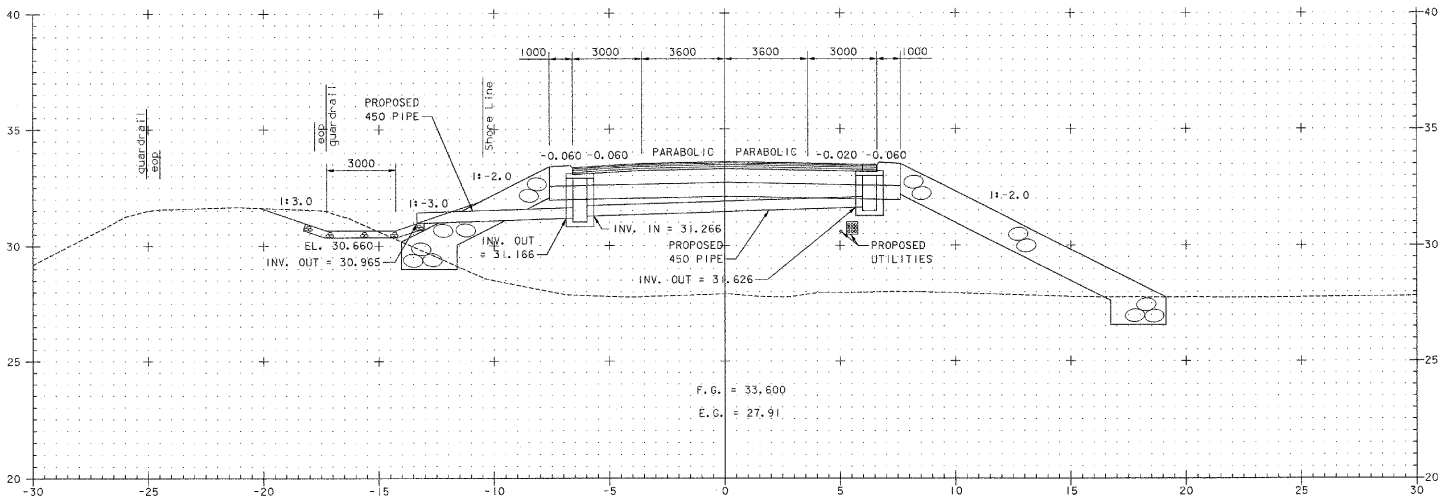
VANASSE HANGEN BRUSTLIN, INC.

ZE072XS4 VHB NO. 50911 plot date: 10/23/2003

Metric



12+115



12+110

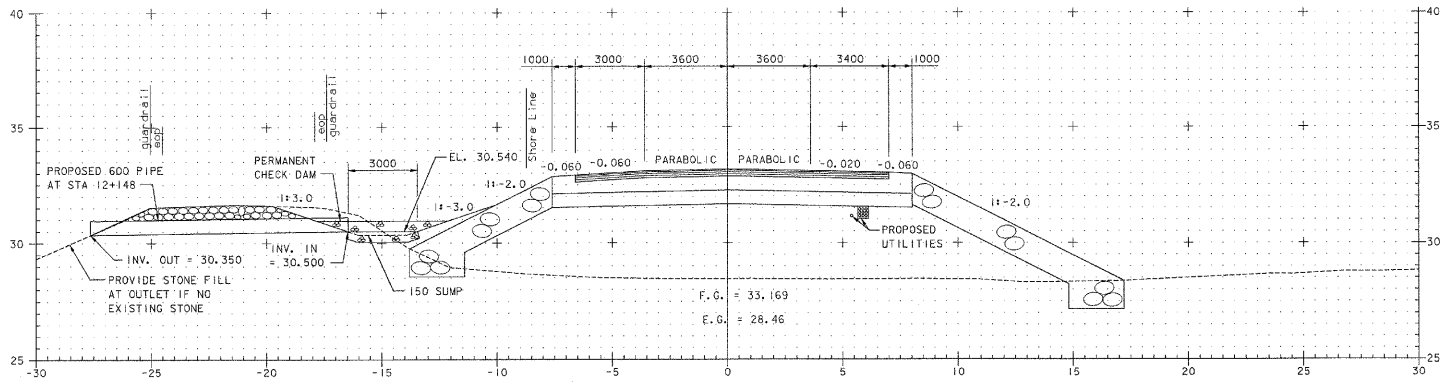
0 2 4 6 8 10
SCALE 1:100

VT 78

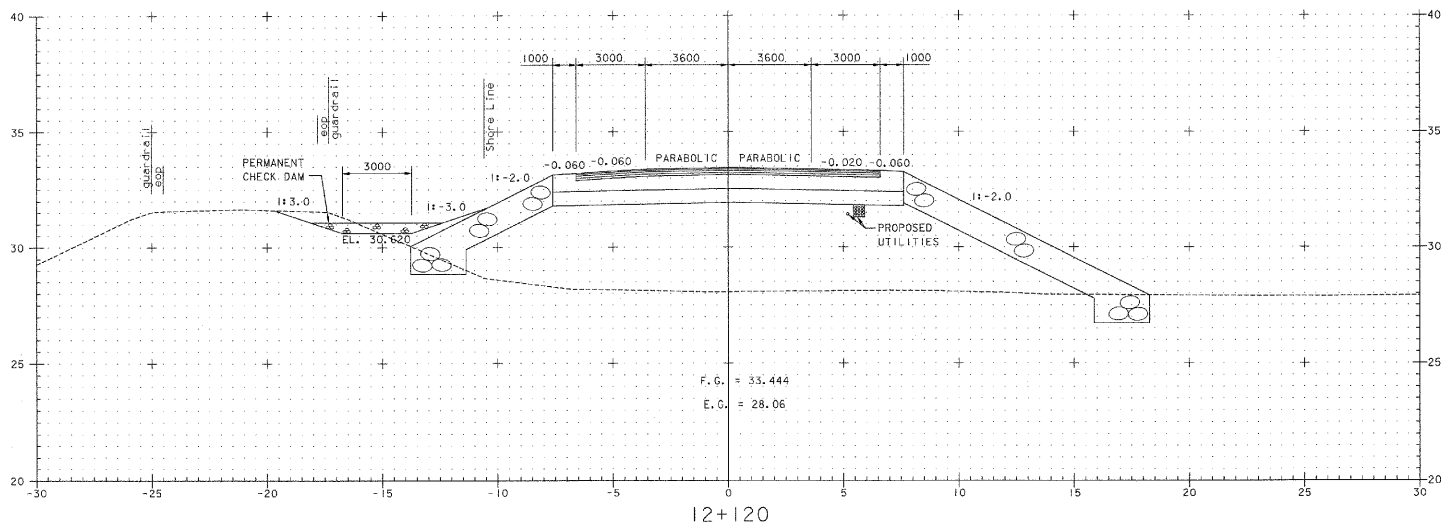
FROM STA 12+110	TO STA 12+115
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C156 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

2E072X54 VHB NO. 5091 plot date: 10/23/2003



12+140



12+120

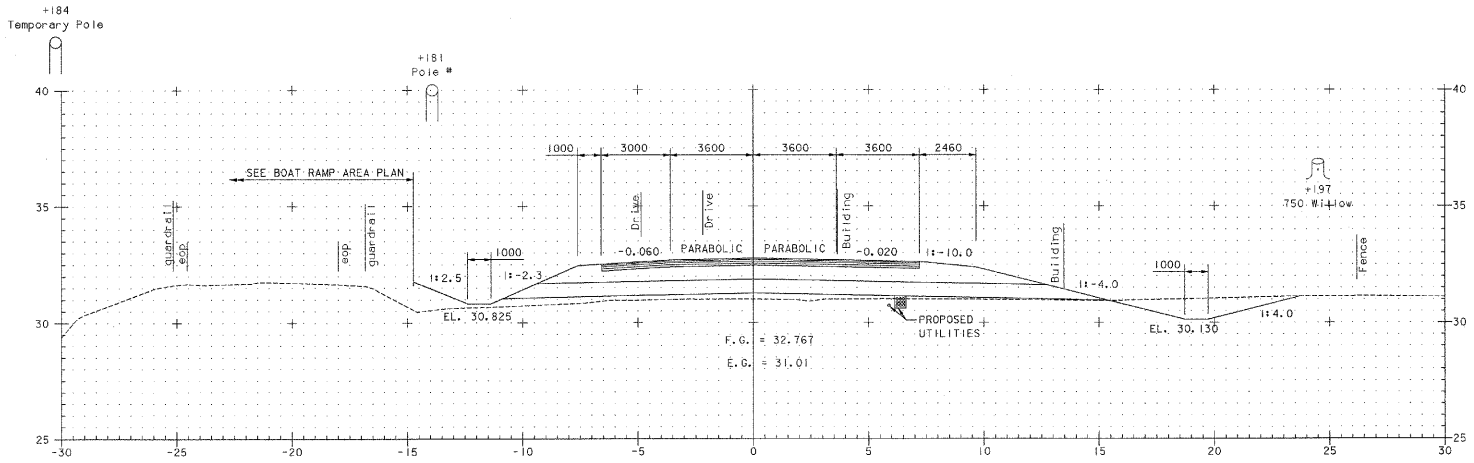
0 2 4 6 8 10
SCALE 1:100

VT 78

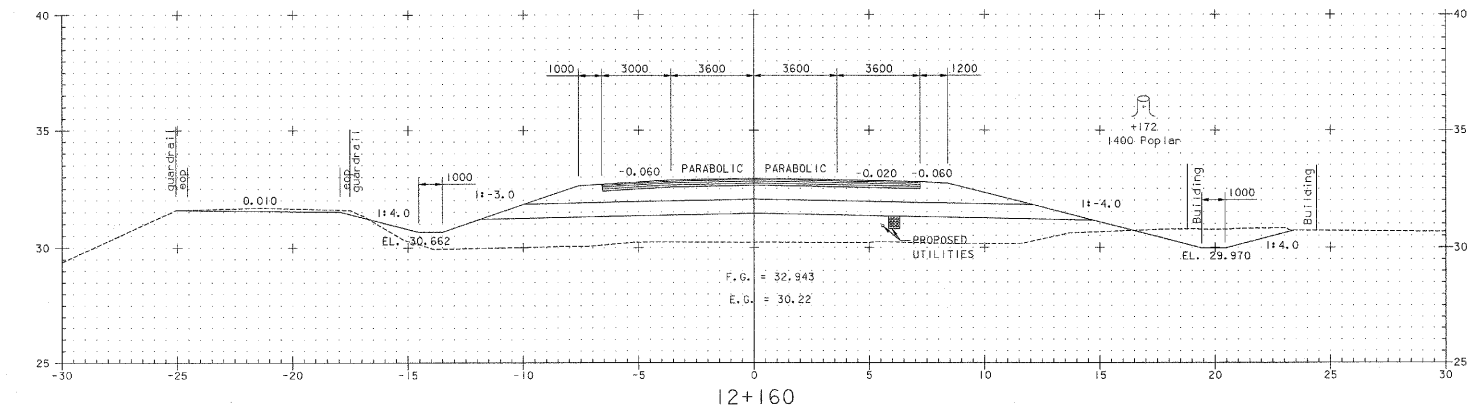
FROM STA 12+120	TO STA 12+140
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - (10)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C157 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072XS4 VHB NO. 50911 plot date: 10/23/2003



12+180



12+160

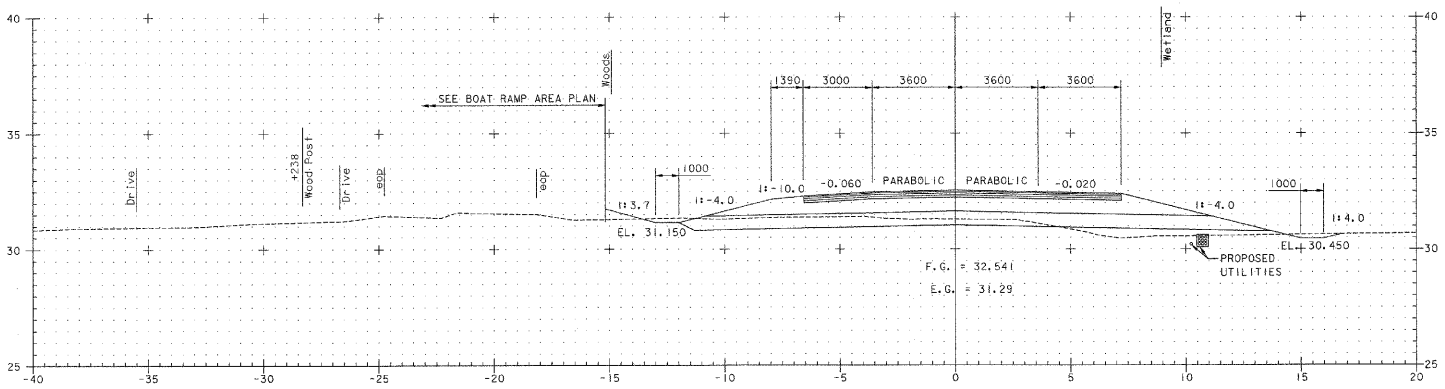
0 2 4 6 8 10
SCALE 1:100

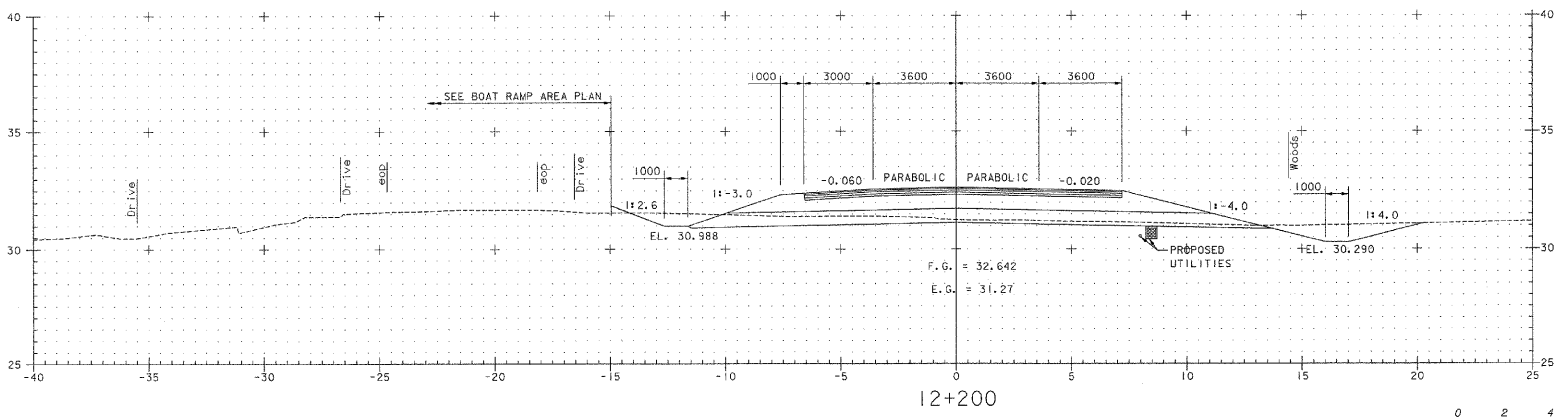
VT 78

FROM STA 12+160	TO STA 12+180
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C158 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072XS4 VHB NO. 5091I plot date: 10/23/2003



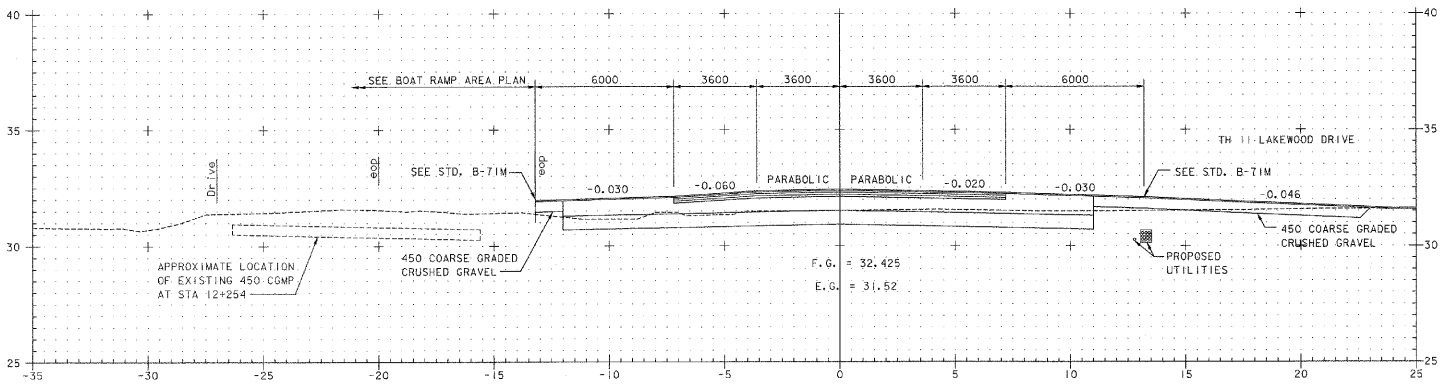


VT 78

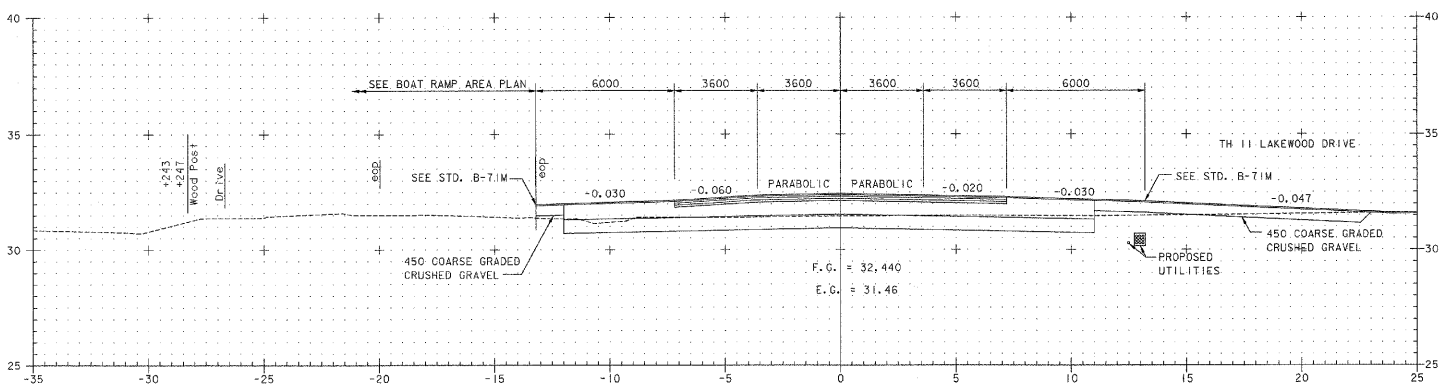
FROM STA 12+200	TO STA 12+220
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C159 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072XS4 VHB NO. 5091I plot date: 10/23/2003



12+243, DRIVE LT & RT



12+240

0 2 4 6 8 10
SCALE 1:100

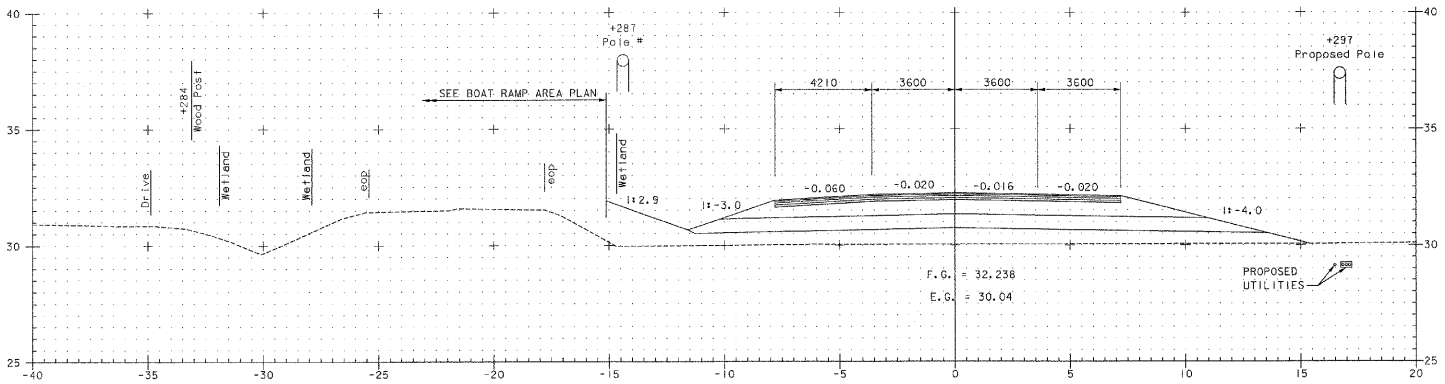
VT 78

FROM STA 12+240	TO STA 12+243
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C160 OF C194	

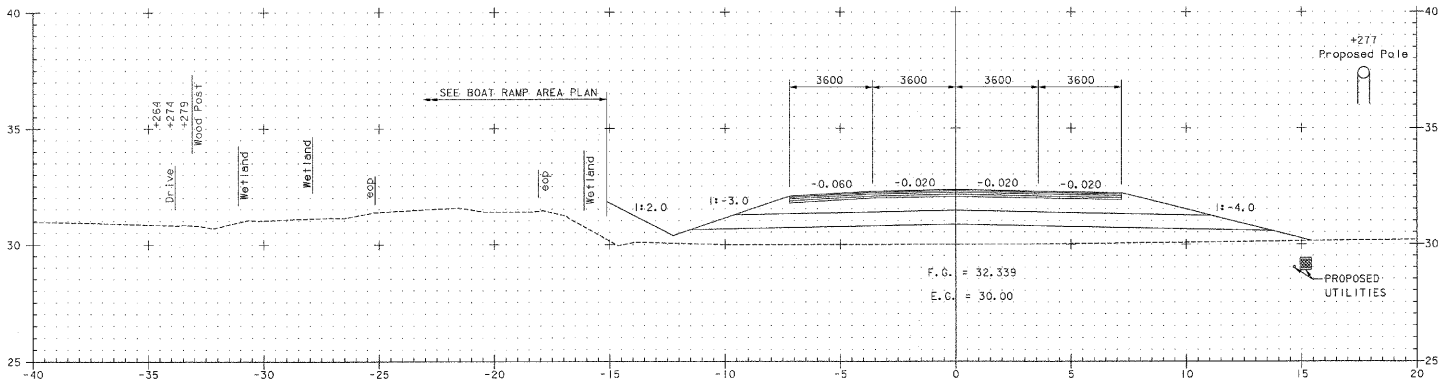
VANASSE HANGEN BRUSTLIN, INC.

ZE072XS4 VHB NO. 5091 plot date: 10/23/2003

Metric



12+280



12+260

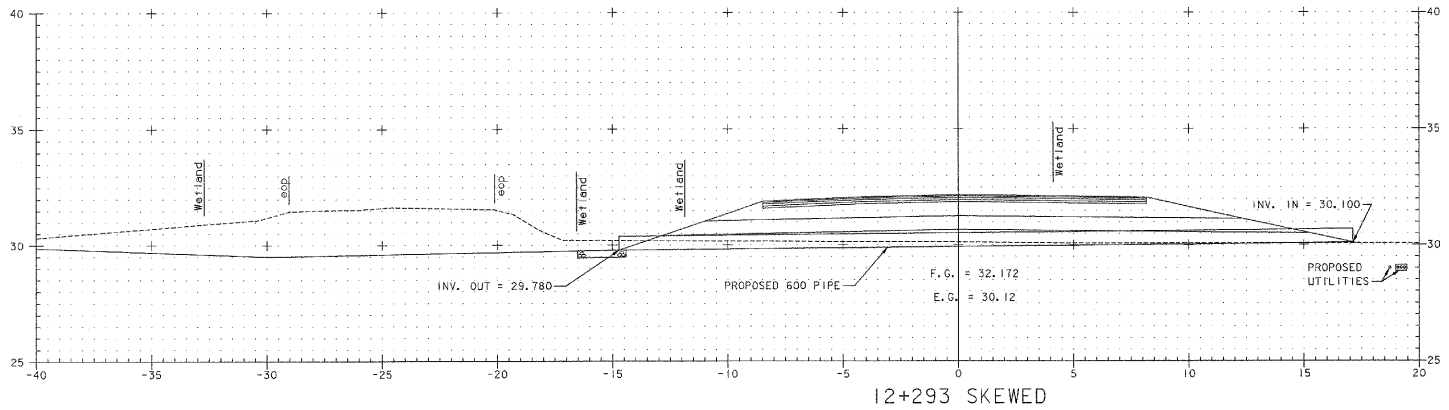
0 2 4 6 8 10
SCALE 1:100

VT 78

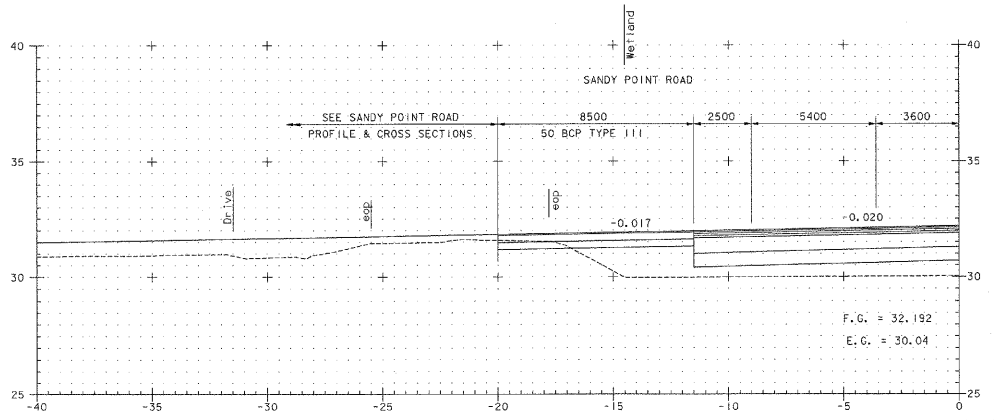
FROM STA	12+260	TO STA	12+280
PROJECT NAME		ALBURG-SWANTON	
PROJECT NO.		BRF 036 - 1(1)	
SURVEYED BY		VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98	
SHEET C161 OF C194			

VANASSE HANGEN BRUSTLIN, INC.

ZE072XS4 VHB NO. 5091I plot date: 10/23/2003



12+293 SKEWED



12+289

0 2 4 6 8 10
SCALE 1:100

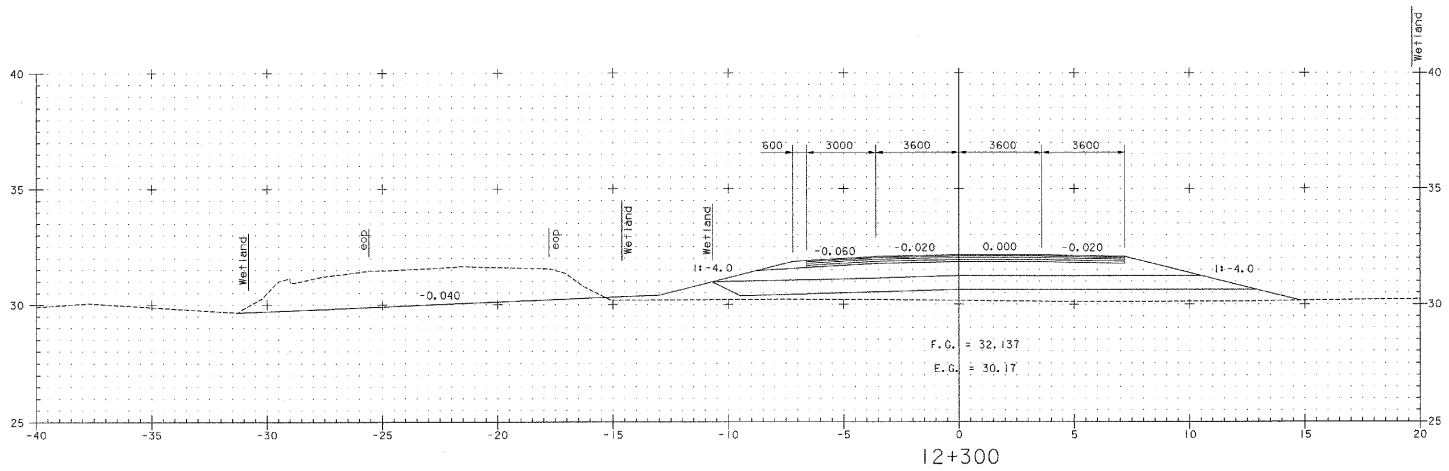
VT 78

FROM STA 12+289	TO STA 12+293
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C162 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072XS4 VHB NO. 50911 plot date: 10/23/2003

Metric



12+300

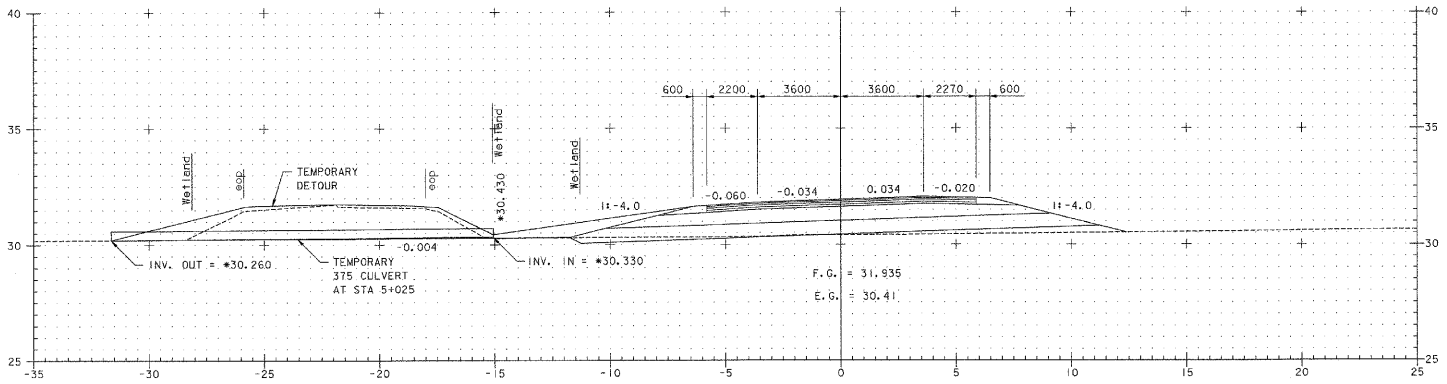
0 2 4 6 8 10
SCALE 1:100

VT 78

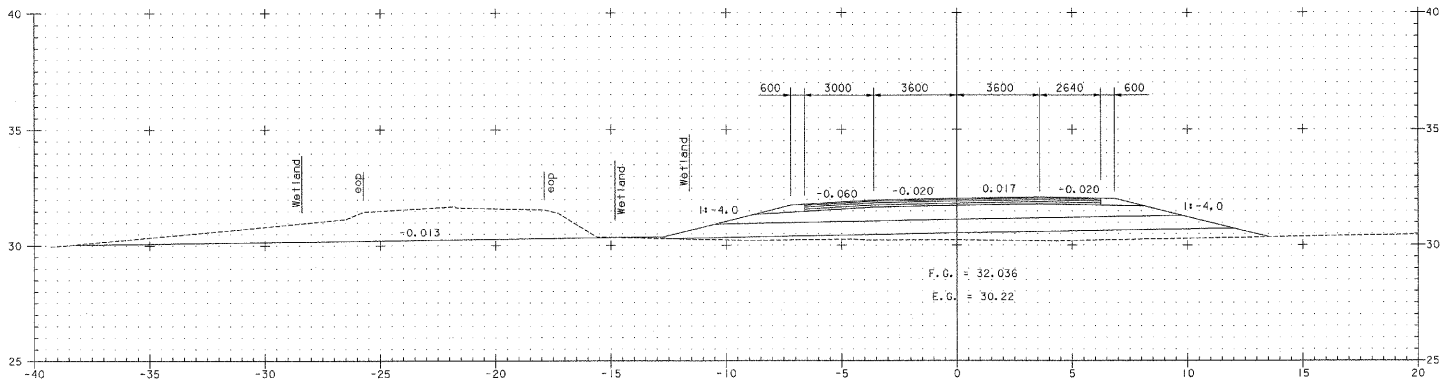
FROM STA 12+300	TO STA 12+300
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C163 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072XS4 VHB NO. 50911 plot date: 10/23/2003



12+340



12+320

* INDICATES DITCH ELEVATION FOR TEMPORARY DETOUR

0 2 4 6 8 10
SCALE 1:100

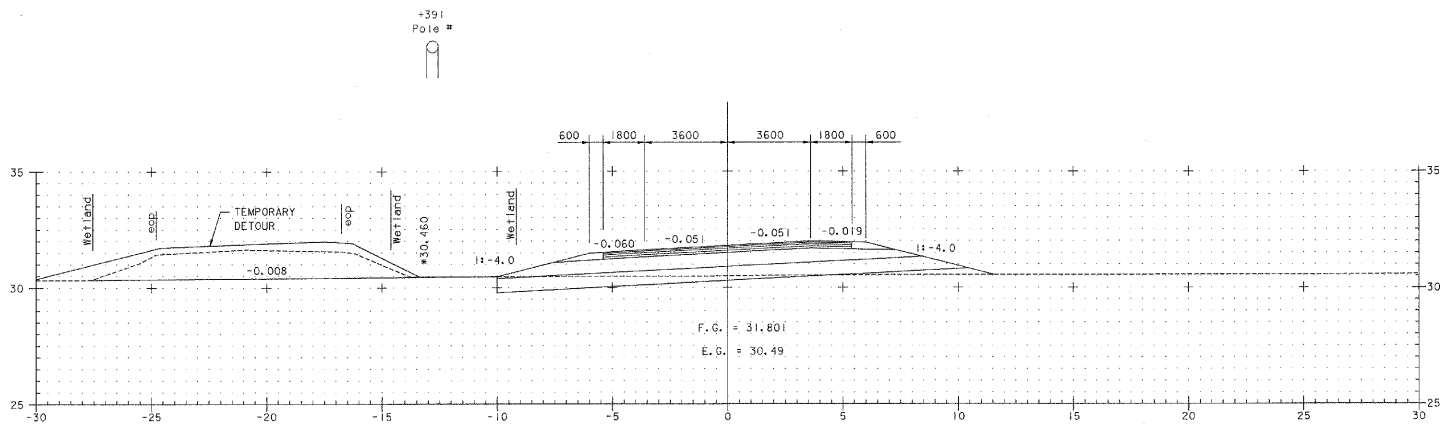
VT 78

FROM STA	12+320 TO STA 12+340
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET	C164 OF C194

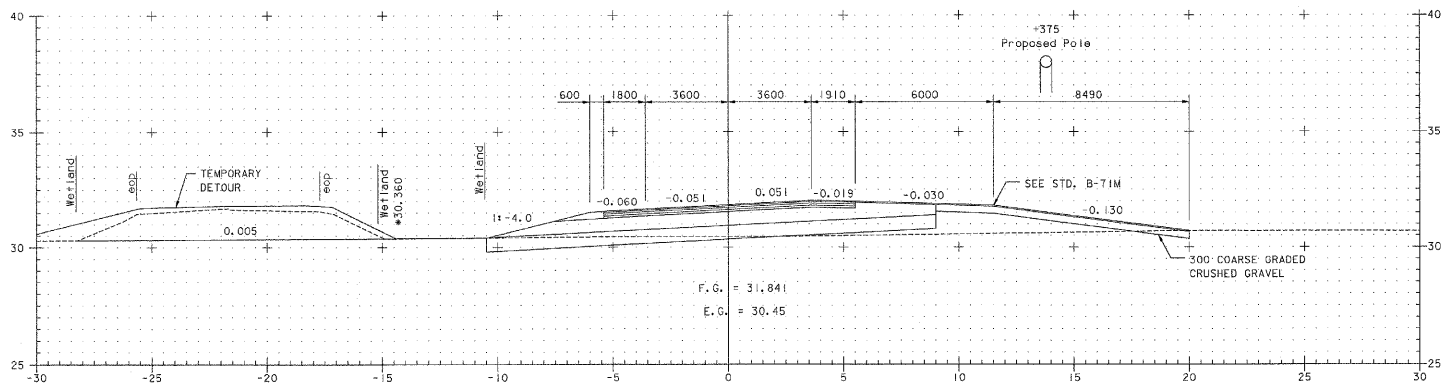
VANASSE HANGEN BRUSTLIN, INC.

ZE07ZXS4 VHB NO. 50911 plot date: 10/23/2003

Metric



12+380



12+360, DRIVE RT

* INDICATES DITCH ELEVATION FOR TEMPORARY DETOUR

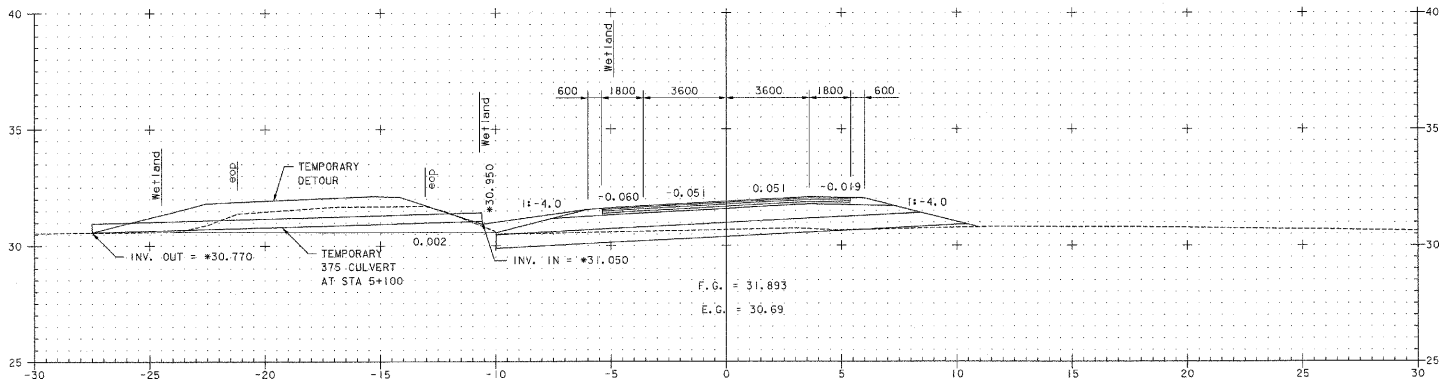
0 2 4 6 8 10
SCALE 1:100

VT 78

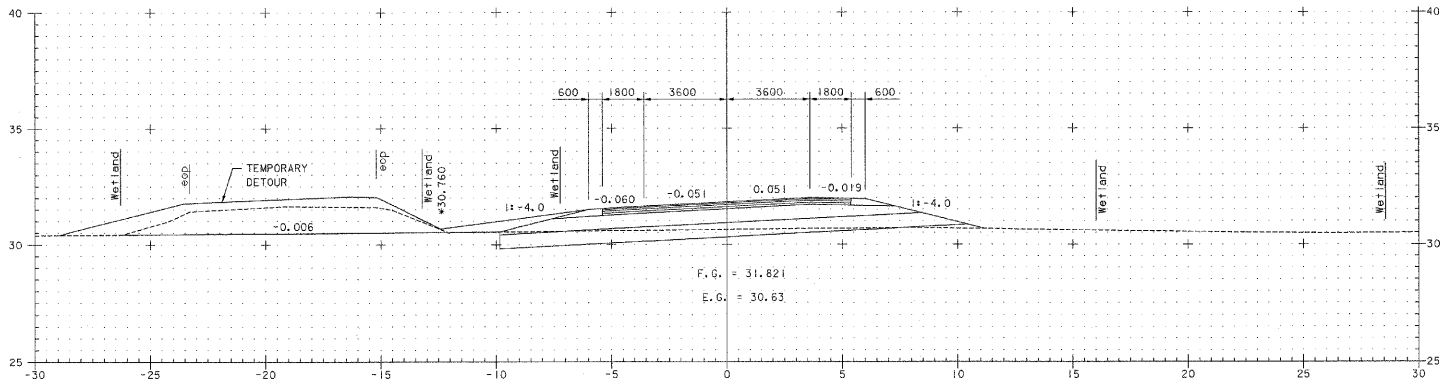
FROM STA 12+360	TO STA 12+380
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C165 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072XS4 VHB NO. 50911 plot date: 10/23/2003



12+420



12+400

* INDICATES DITCH ELEVATION FOR TEMPORARY DETOUR

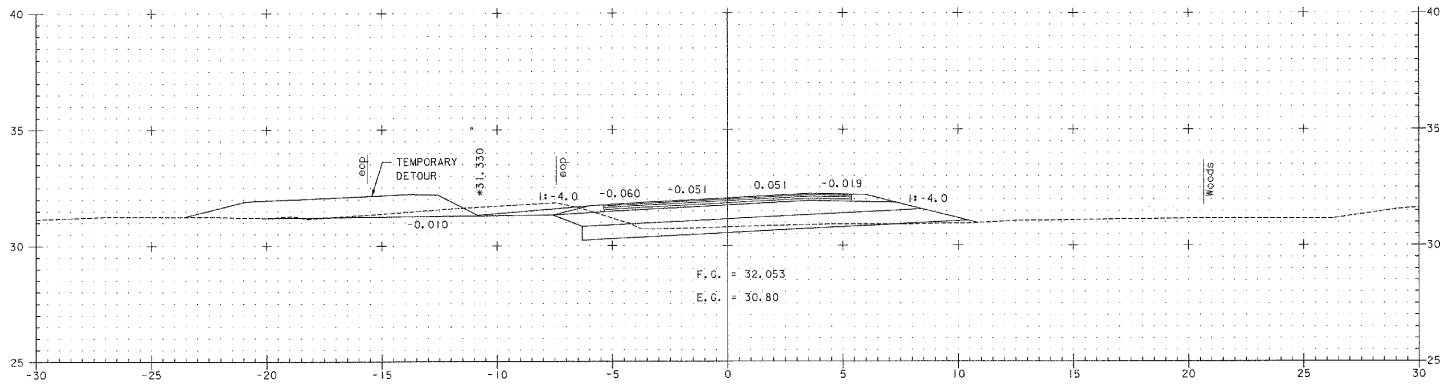
SCALE 1:100

VT 78

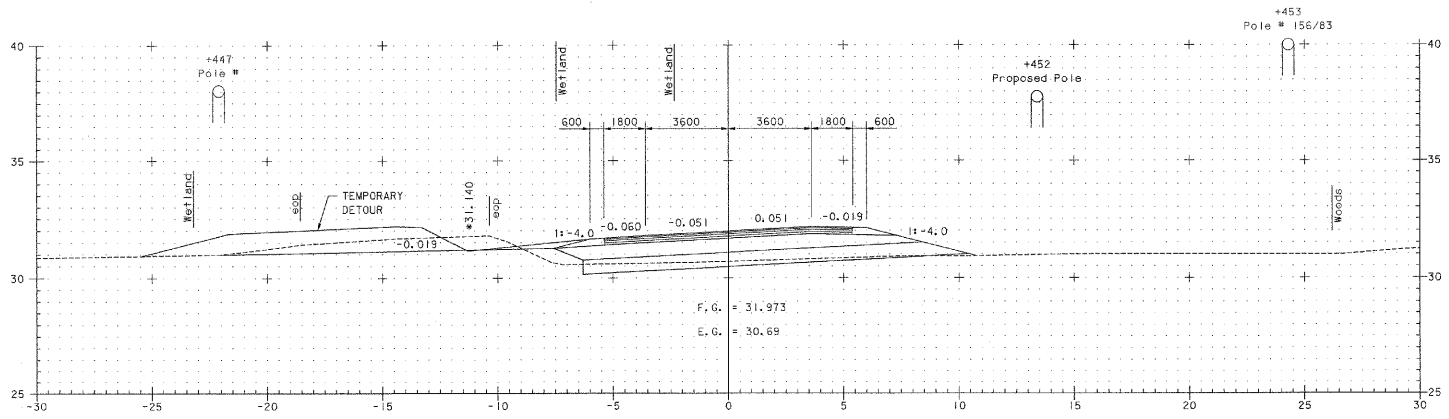
FROM STA	12+400 TO STA 12+420
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 8/98
SHEET	C166 OF C194

VANASSE HANGEN BRUSTLIN, INC.

ZE07ZXS4 VHB NO. 50911 plot date: 10/23/2003



12+460



12+440

* INDICATES DITCH ELEVATION FOR TEMPORARY DETOUR

0 2 4 6 8 10
SCALE 1:100

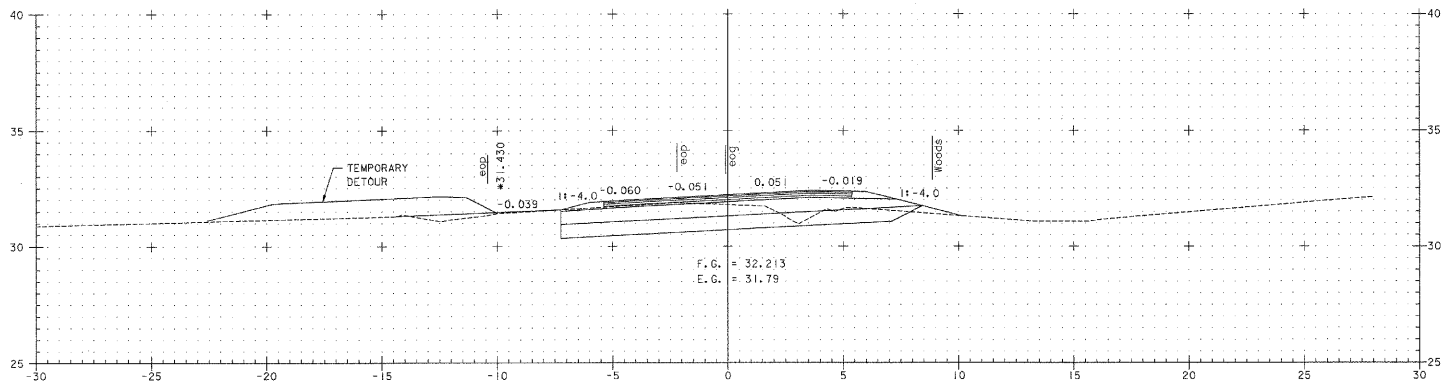
VT 78

FROM STA 12+440	TO STA 12+460
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C167 OF C194	

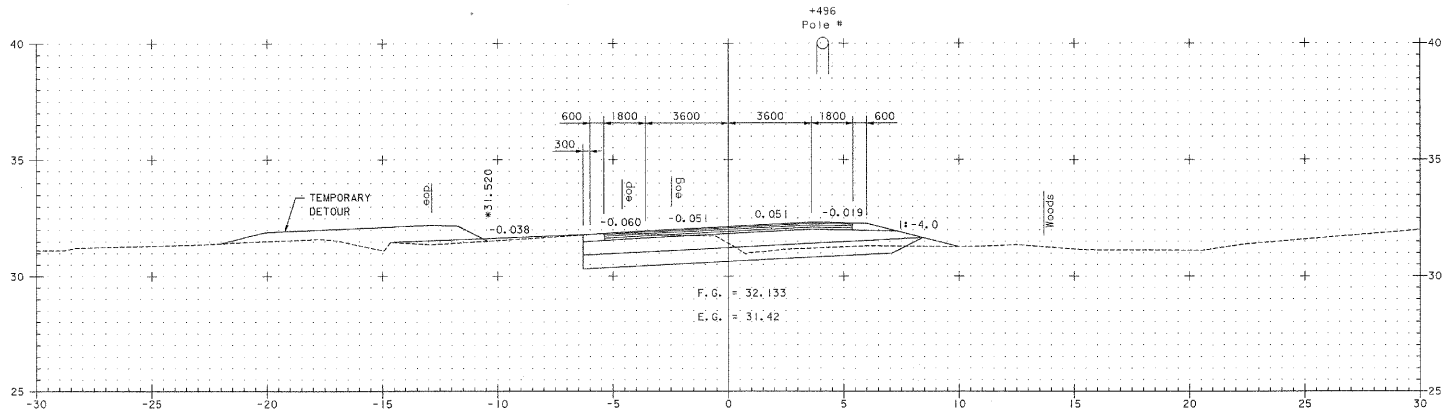
VANASSE HANGEN BRUSTLIN, INC.

ZE072XS4 VHB NO. 5098 plot date: 10/23/2003

Metric



12+500



12+480

* INDICATES DITCH ELEVATION FOR TEMPORARY DETOUR

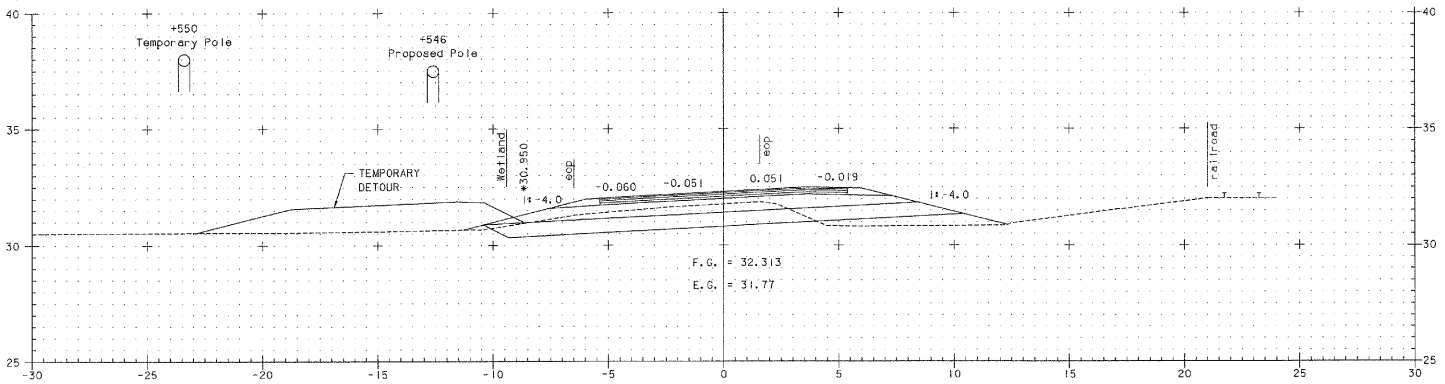
0 2 4 6 8 10
SCALE 1:100

VT 78

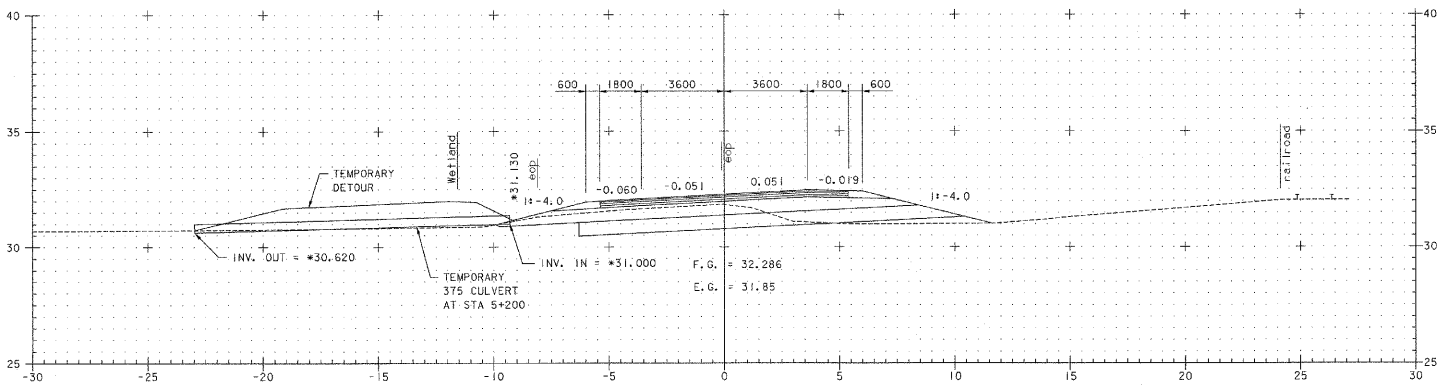
FROM STA	12+480 TO STA 12+500
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET	C168 OF C194

VANASSE HANGEN BRUSTLIN, INC.

ZE072XS4 VHB No. 50911 plot date: 10/23/2003



12+540



12+520

* INDICATES DITCH ELEVATION FOR TEMPORARY DETOUR

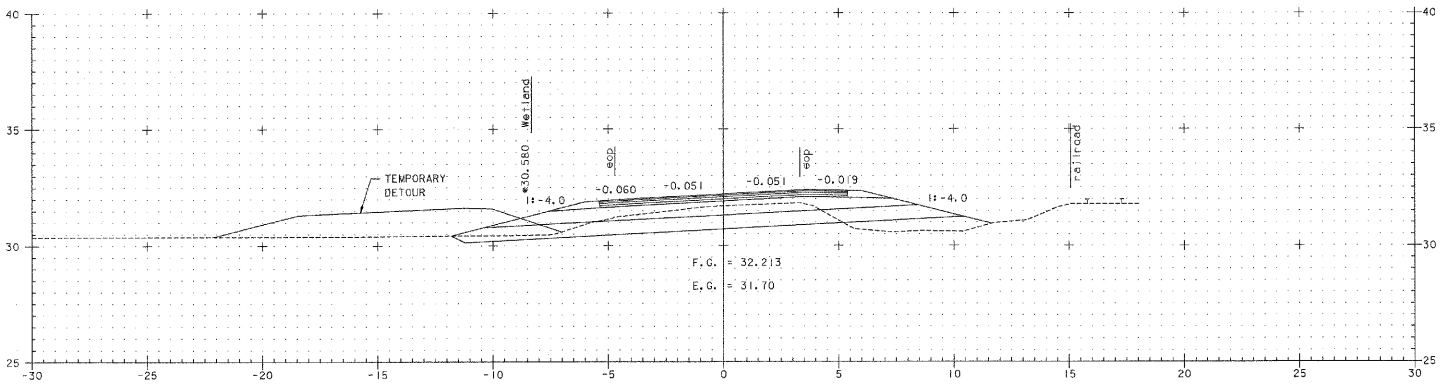
0 2 4 6 8 10
SCALE 1:100

VT 78

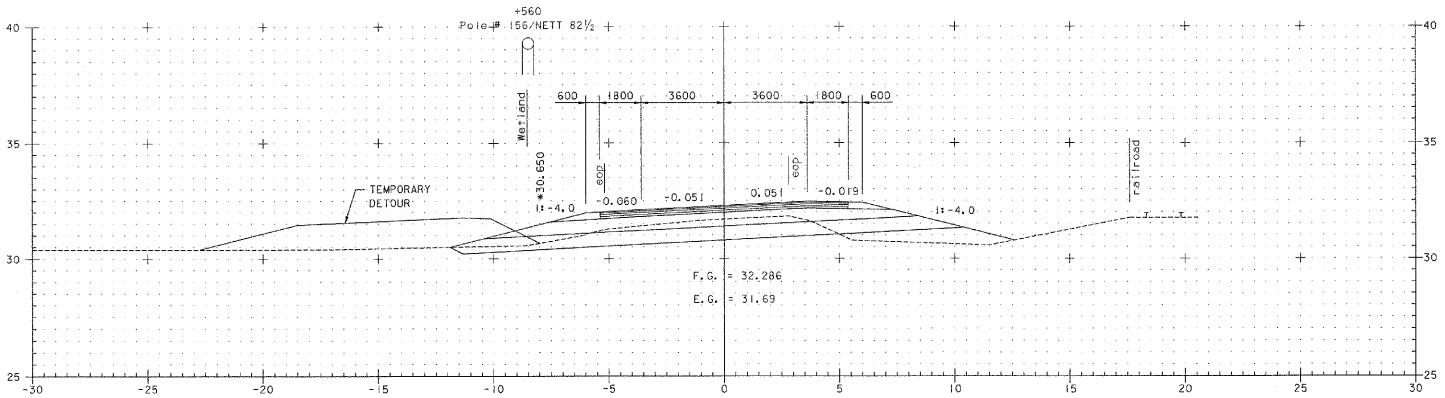
FROM STA 12+520	TO STA 12+540
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C169 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072X54 VHB NO. 5098 plot date: 10/23/2003



12+580



12+560

* INDICATES DITCH ELEVATION FOR TEMPORARY DETOUR

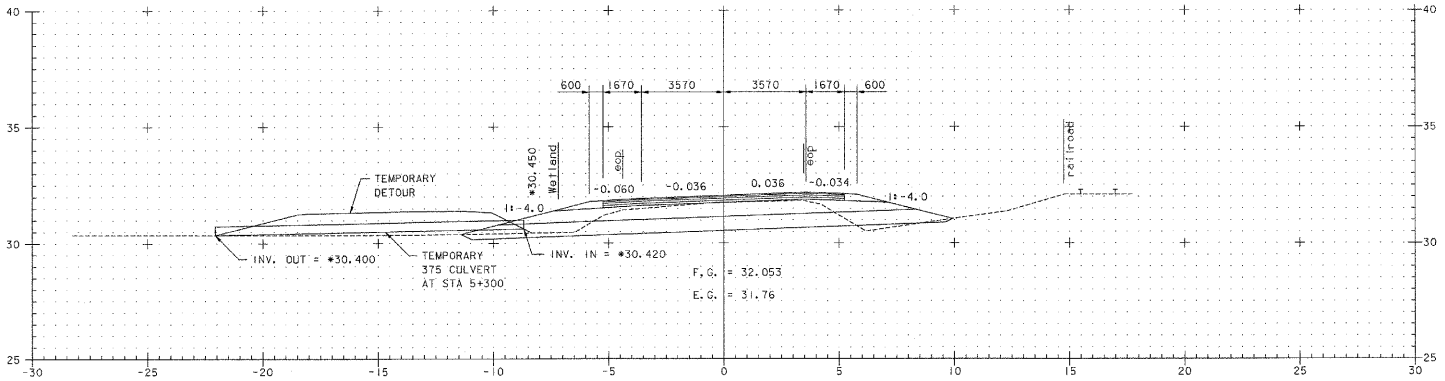
SCALE 1:100

VT 78

FROM STA 12+560	TO STA 12+580
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C170 OF C194	

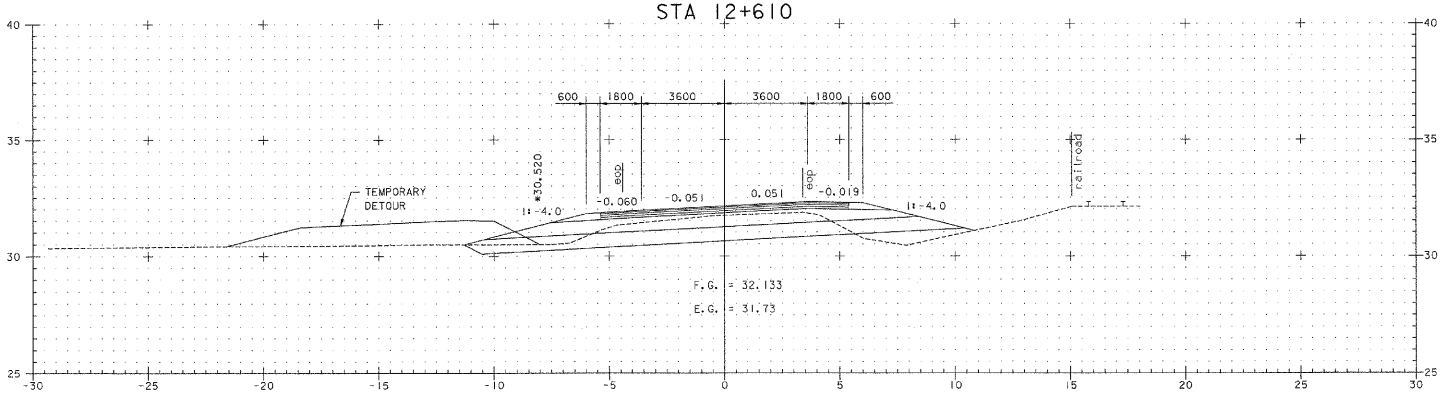
VANASSE HANGEN BRUSTLIN, INC.

ZE072XS4 VHB NO. 50911 plot date: 10/23/2003



12+620

END PROJECT
BEGIN APPROACH
STA 12+610



12+600

* INDICATES DITCH ELEVATION FOR TEMPORARY DETOUR

0 2 4 6 8 10
SCALE 1:100

VT 78

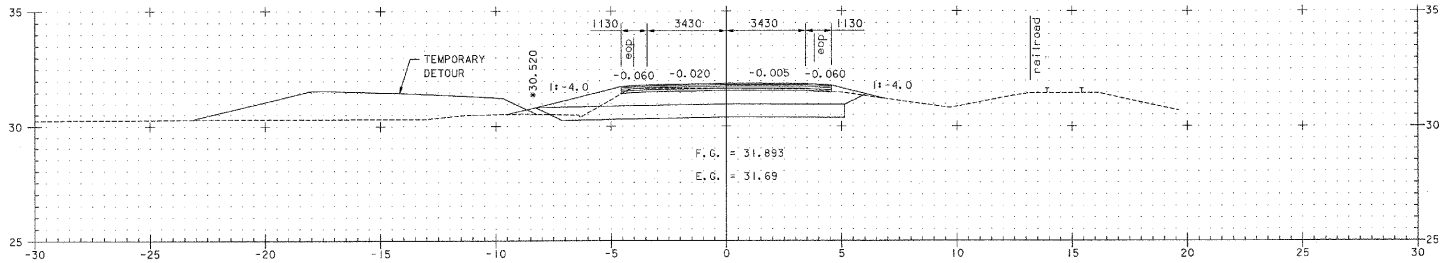
FROM STA	12+600 TO STA 12+620
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C171	OF C194

VANASSE HANGEN BRUSTLIN, INC.

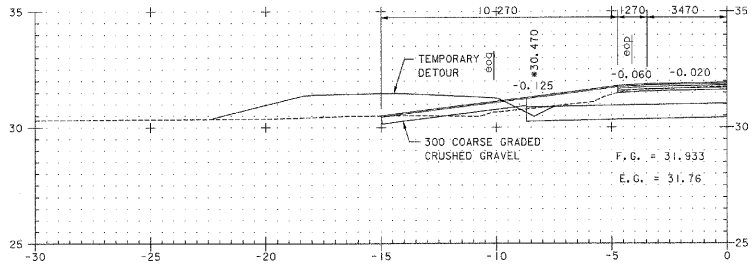
ZE072XS4 VHB NO. 5098 plot date: 10/23/2003

240

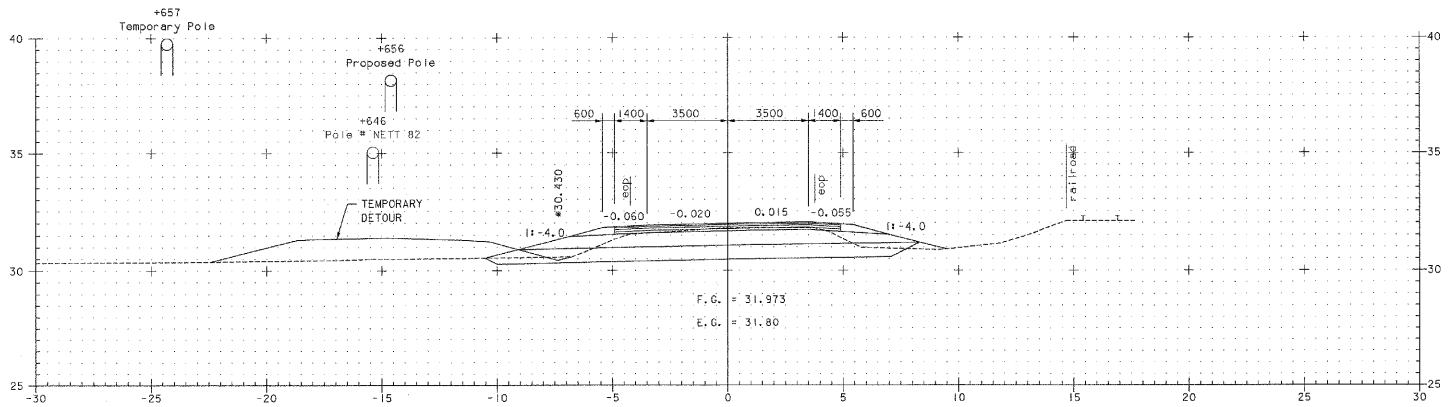
Metric



12+660



12+650, DRIVE, LT



12+640

* INDICATES DITCH ELEVATION FOR TEMPORARY DETOUR

0 2 4 6 8 10
SCALE 1:100

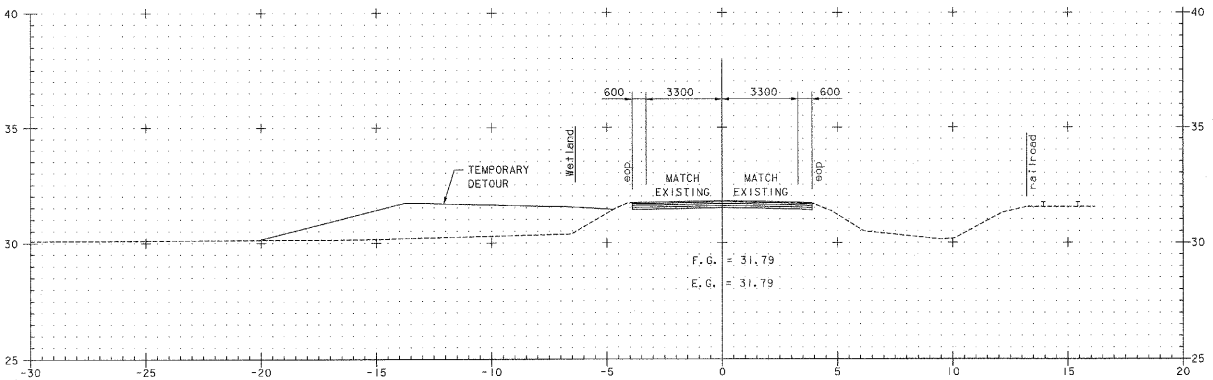
VT 78

FROM STA	12+640 TO STA 12+660
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET	C172 OF C194

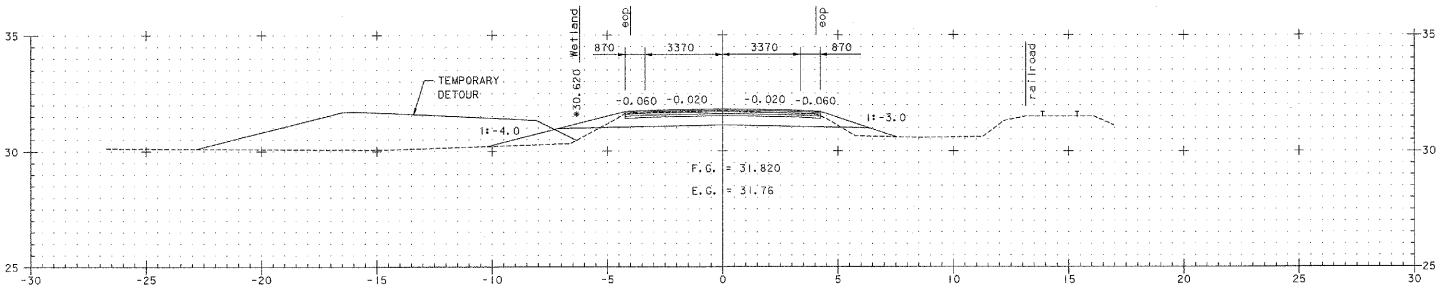
VANASSE HANGEN BRUSTLIN, INC.

2E072XS4 VHB NO. 5091I plot date: 10/23/2003

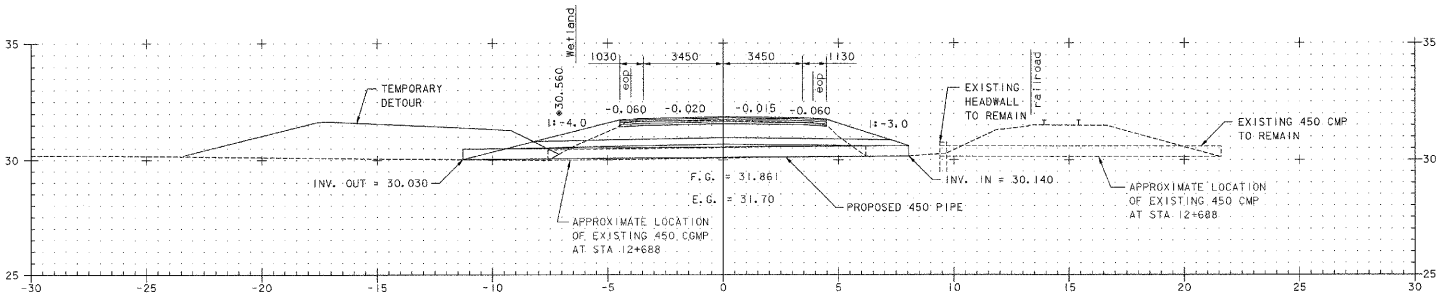
Metric



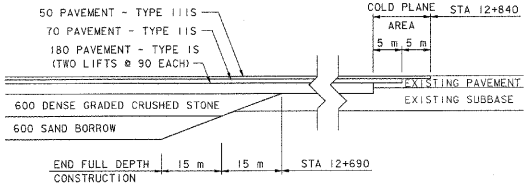
12+700



12+680



12+668



VT 78 MATERIAL TRANSITION DETAIL

NOT TO SCALE

* INDICATES DITCH ELEVATION FOR TEMPORARY DETOUR

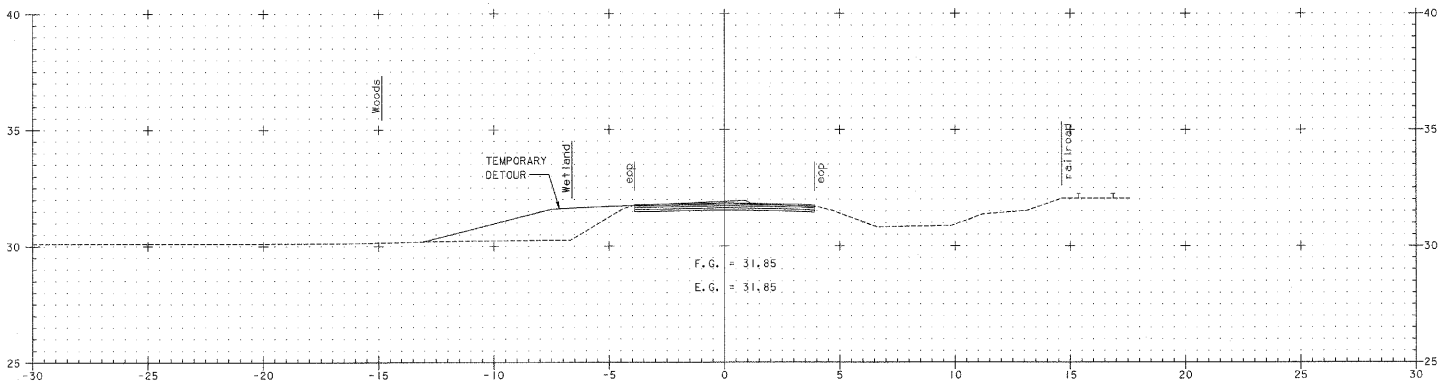
0 2 4 6 8 10
SCALE 1:100

VT 78

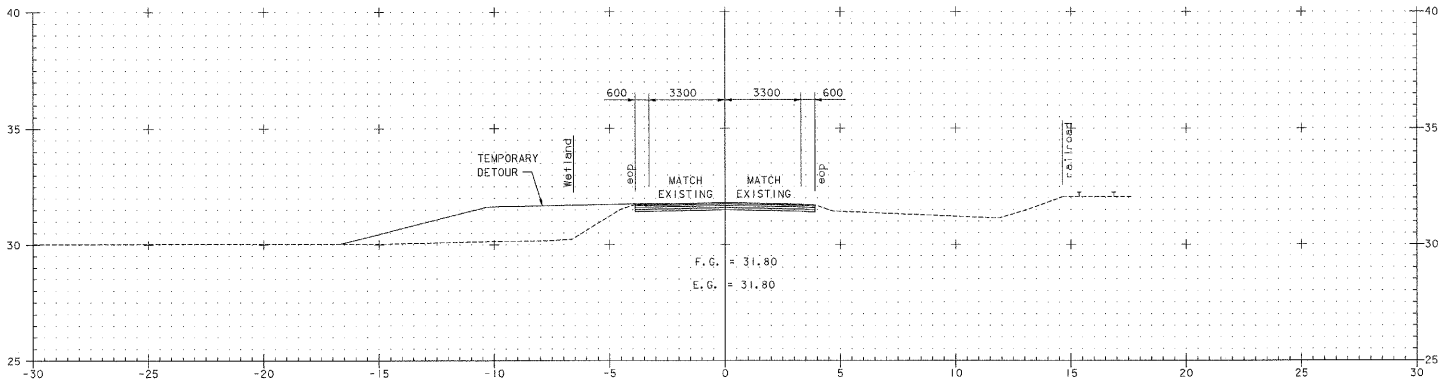
FROM STA 12+668	TO STA 12+700
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C173 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

2E072XS4 VHB NO. 5091 plot date: 10/23/2003



12+740



12+720

0 2 4 6 8 10
SCALE 1:100

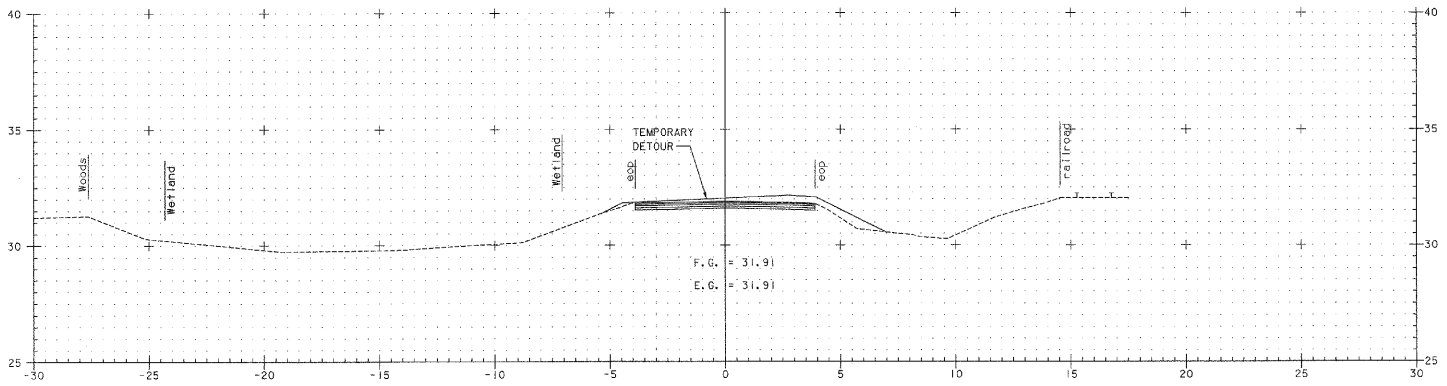
VT 78

FROM STA	12+720	TO STA	12+740
PROJECT NAME		ALBURG-SWANTON	
PROJECT NO.		BRF 036 - 1(1)	
SURVEYED BY		VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98	
SHEET	C174 OF C194		

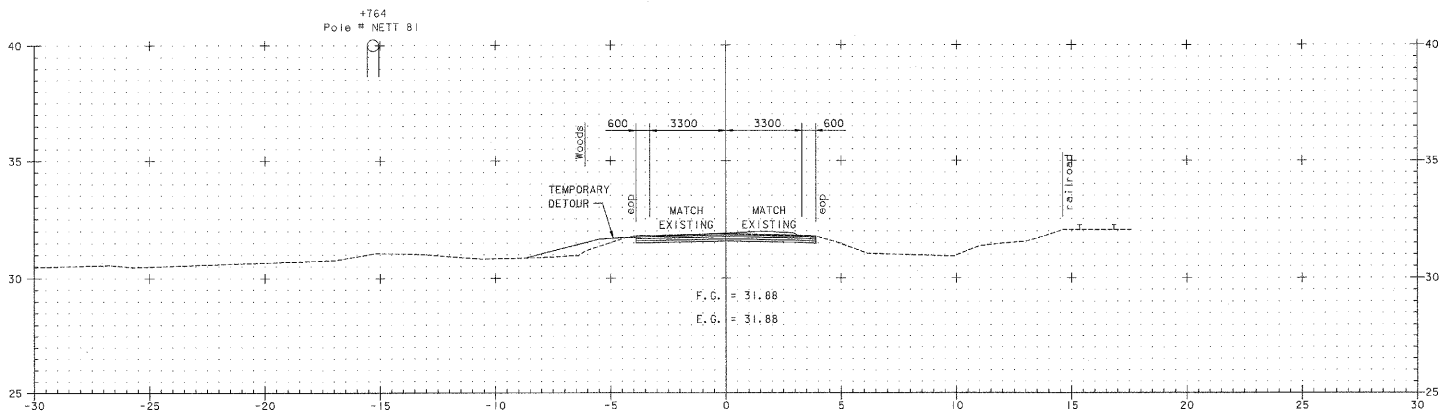
VANASSE HANGEN BRUSTLIN, INC.

ZE072XS4 VHS NO. 50911 plot date: 10/23/2003

Metric



12+780



12+760

0 2 4 6 8 10
SCALE 1:100

VT 78

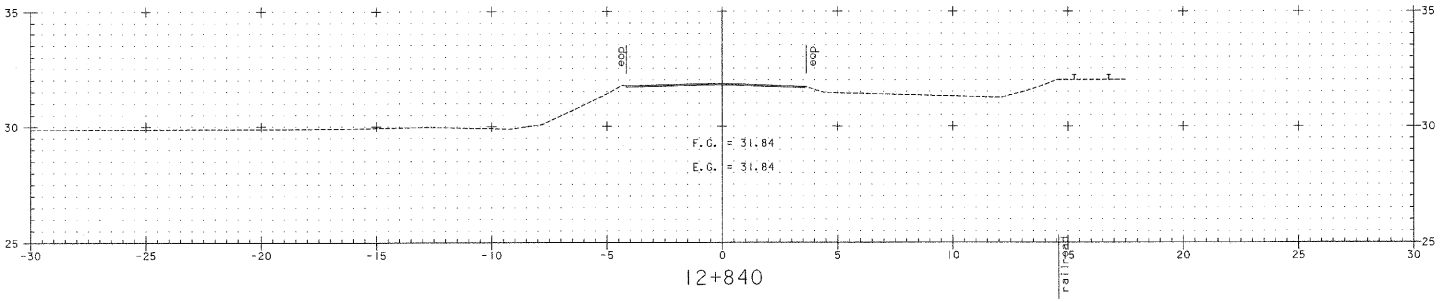
FROM STA	12+760 TO STA 12+780
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET	C175 OF C194

VANASSE HANGEN BRUSTLIN, INC.

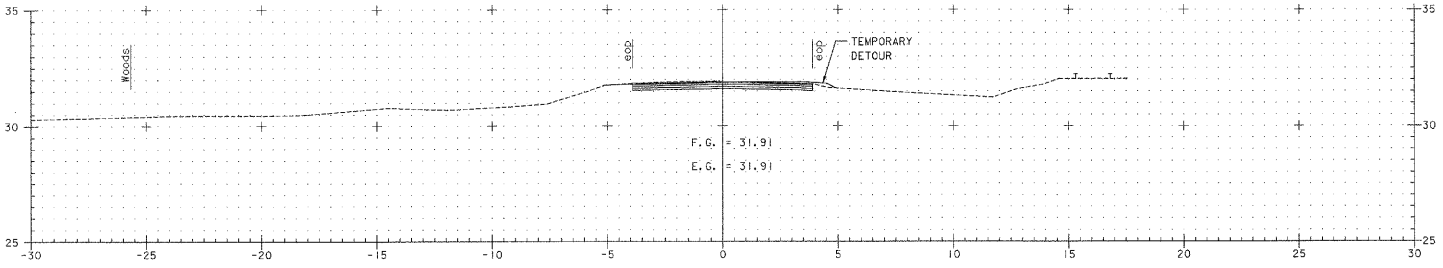
ZE072XS4 VHB NO. 50911 plot date: 10/23/2003

Metric

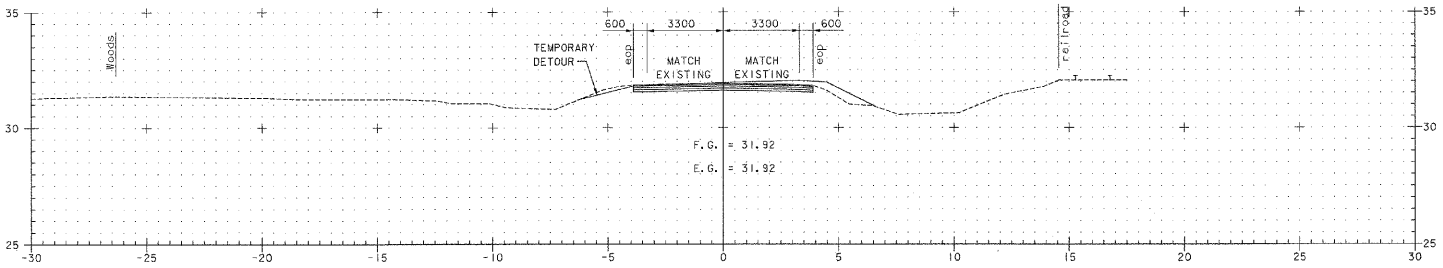
END APPROACH
STA 12+840
MATCH EXISTING



12+840



12+820



12+800

SCALE 1:100

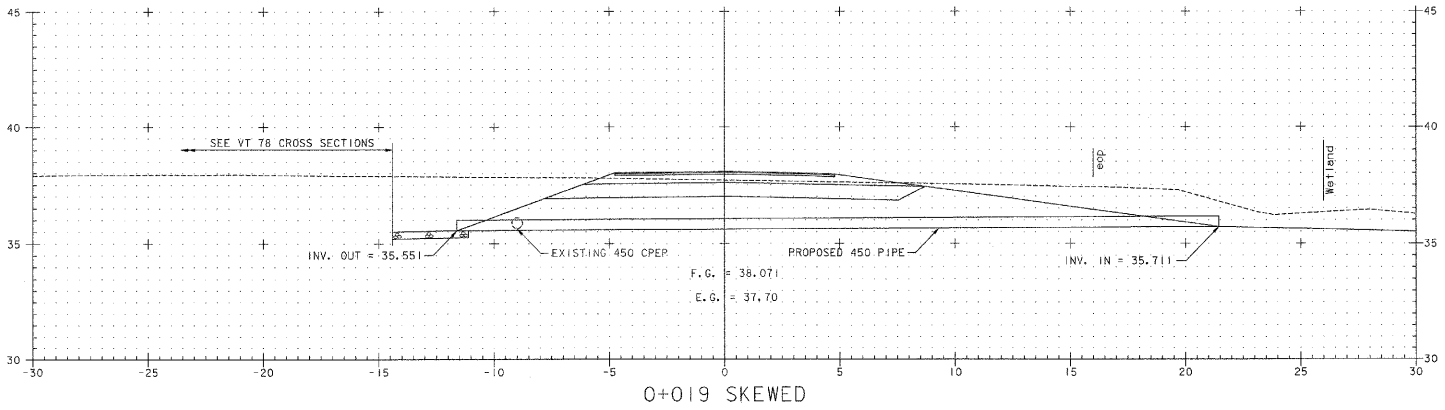
VT 78

FROM STA 12+800	TO STA 12+820
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C176 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072X54 VHB NO. 5091 plot date: 10/23/2003

Metric



0+019 SKEWED

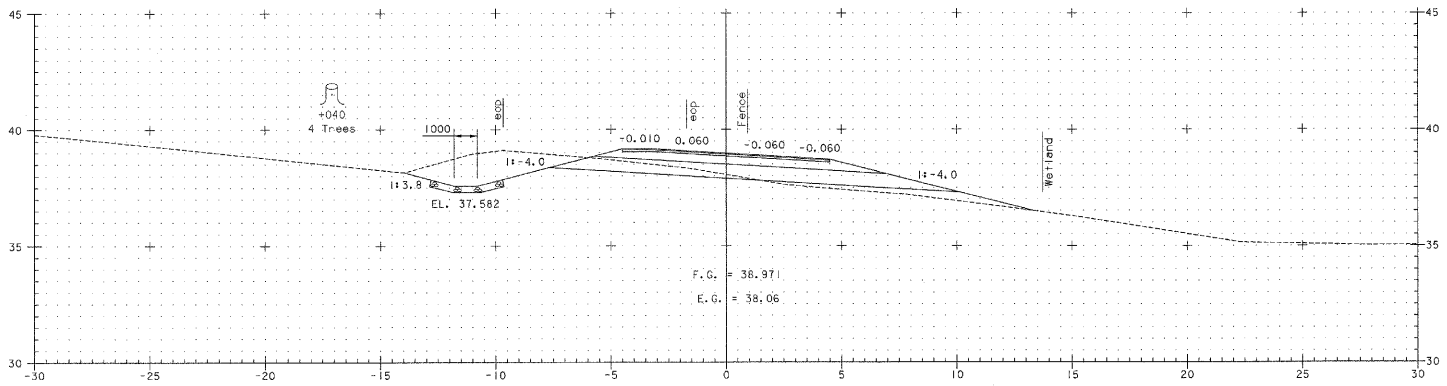
0 2 4 6 8 10
SCALE 1:100

TH 2 ALBURG SPRINGS ROAD

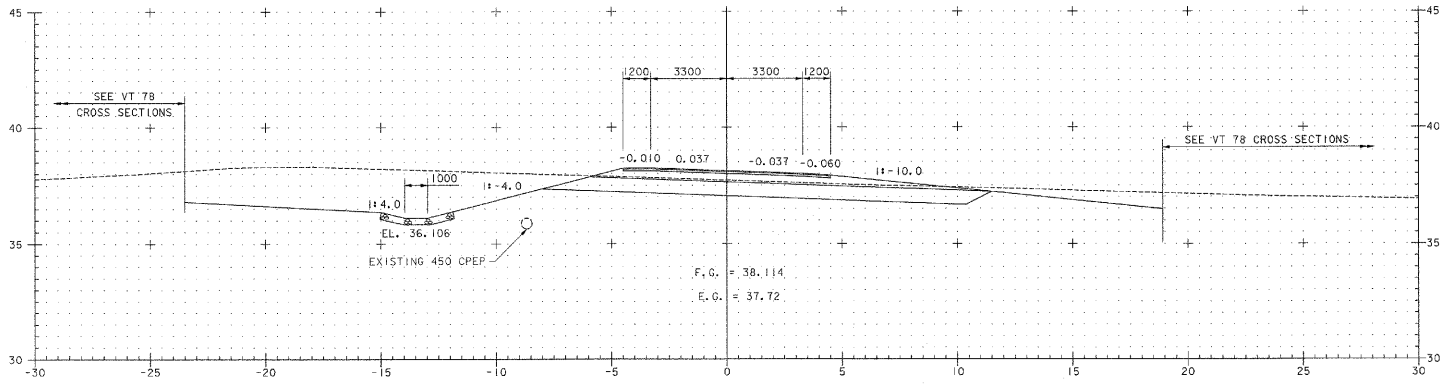
FROM STA 0+019	TO STA 0+019
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C177 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072XS2 VHB NO. 5091 plot date: 10/23/2003



0+040



0+020

0 2 4 6 8 10
SCALE 1:100

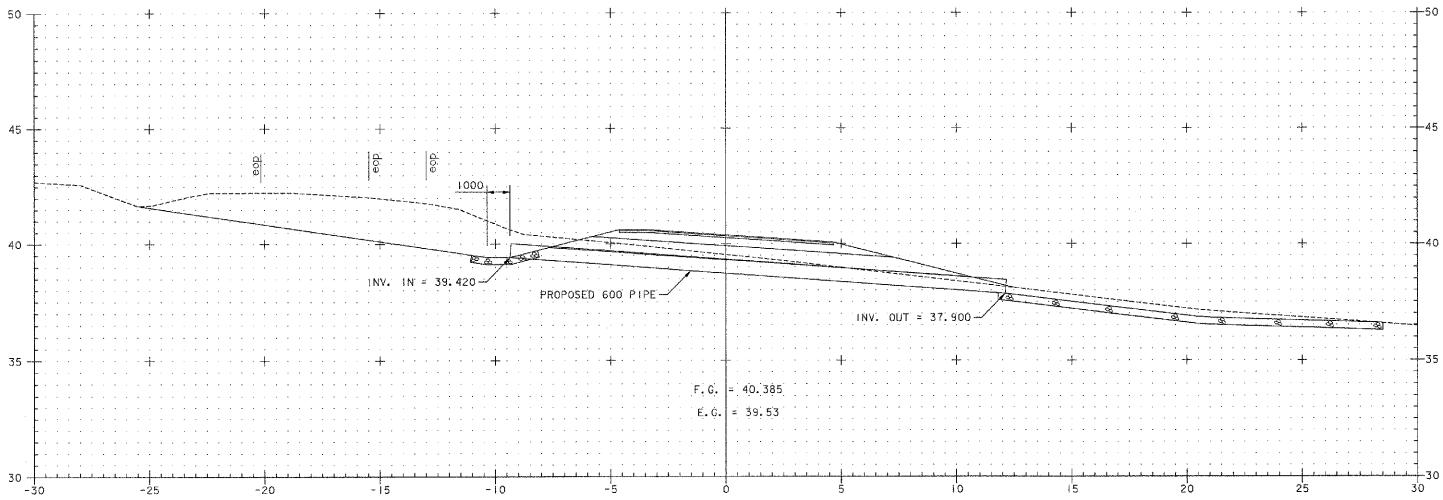
TH 2 ALBURG SPRINGS ROAD

FROM STA 0+020	TO STA 0+040
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and ElV TECH. SERVICES, LLC 11/98
SHEET C178 OF C194	

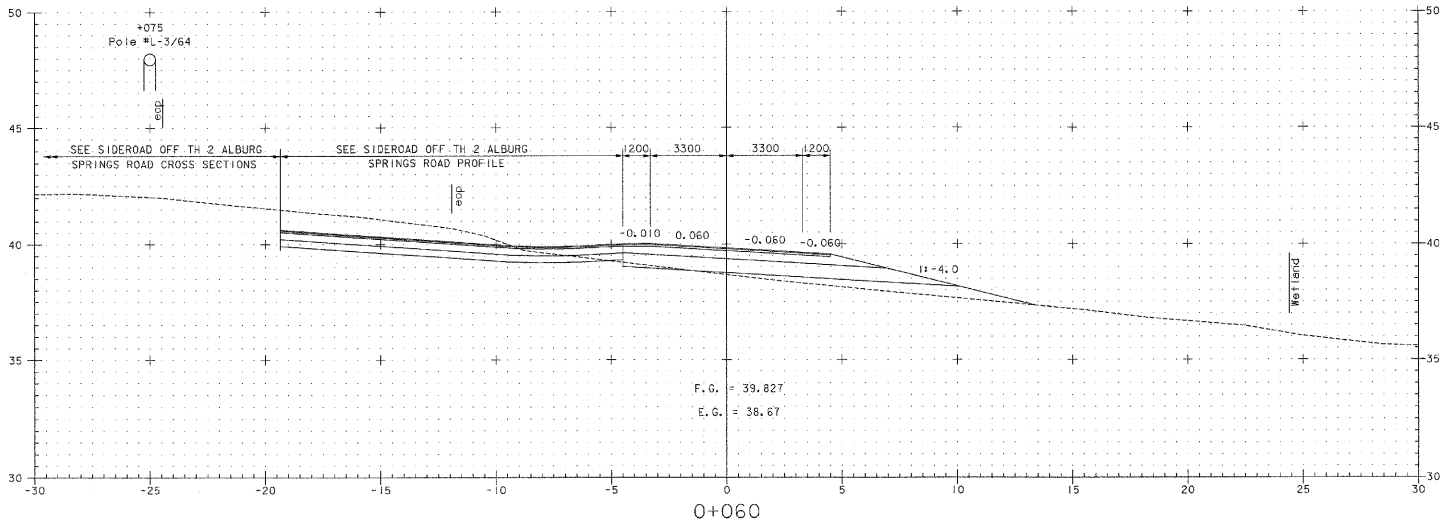
VANASSE HANGEN BRUSTLIN, INC.

ZE07ZXS2 VHB NO. 5091 plot date: 10/23/2003

VAOT Metric



0+073 SKEWED



0+060

SCALE 1:100

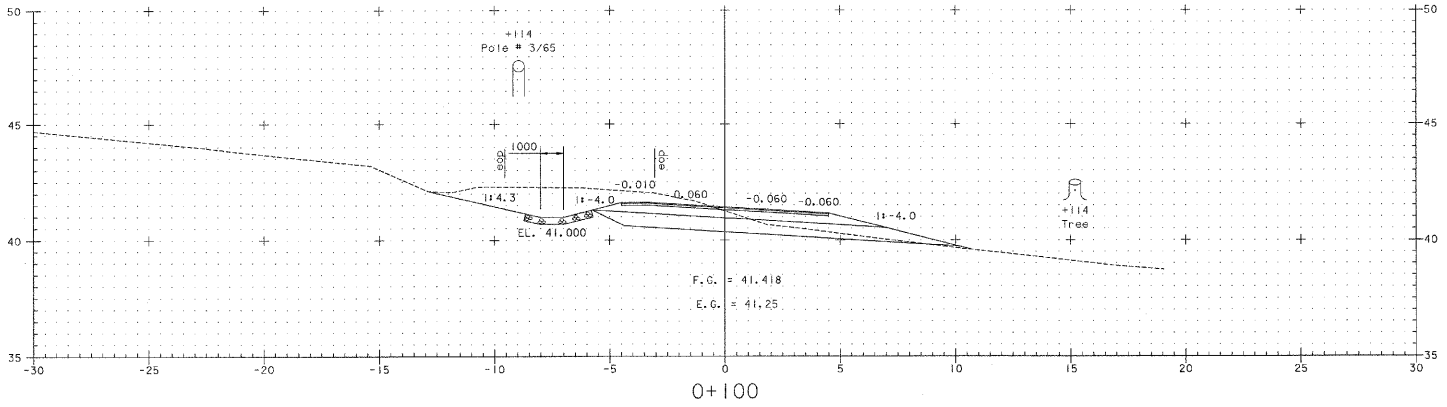
TH 2 ALBURG SPRINGS ROAD

FROM STA 0+060	TO STA 0+073
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C179 OF C194	

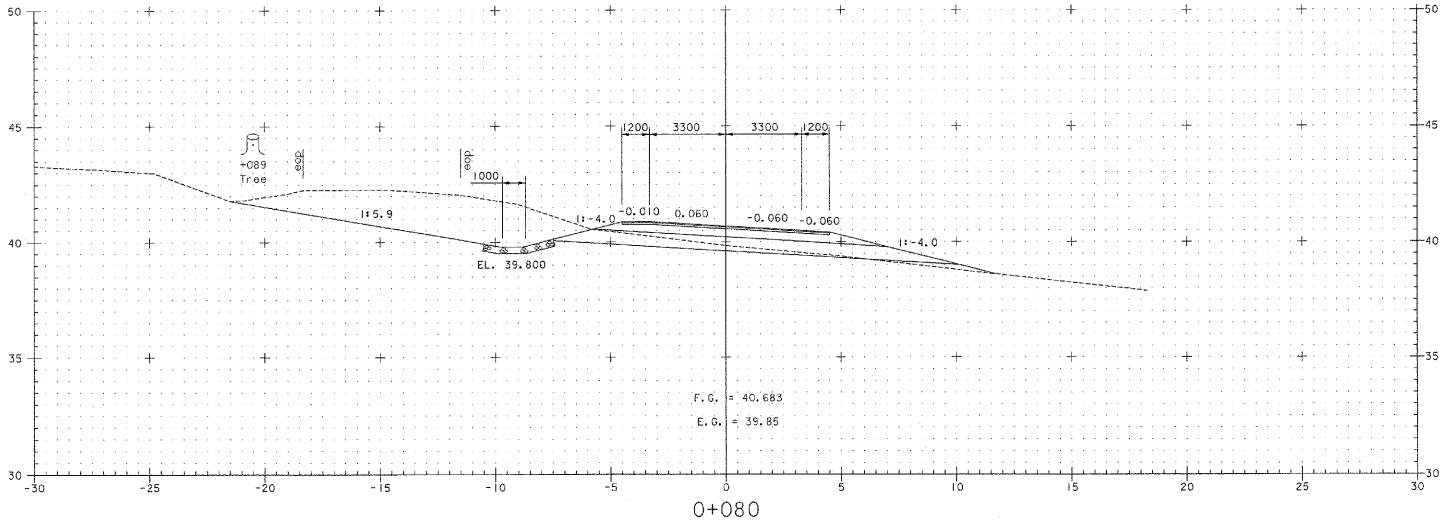
VANASSE HANGEN BRUSTLIN, INC.

ZE072XS2 VHB NO. 50911 plot date: 10/23/2003

Metric



0+100



0+080

0 2 4 6 8 10
SCALE 1:100

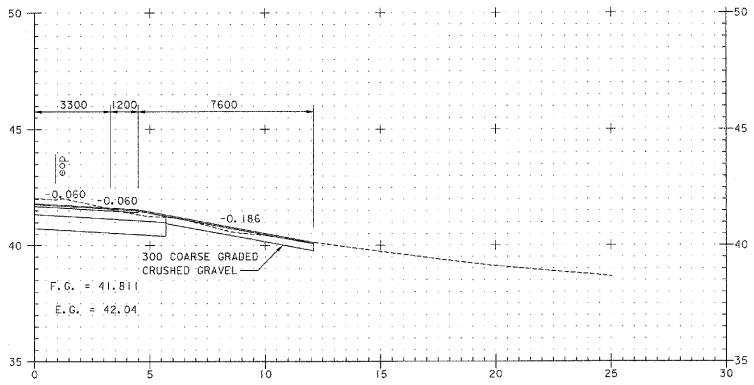
TH 2 ALBURG SPRINGS ROAD

FROM STA 0+080	TO STA 0+100
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(0)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C180 OF C194	

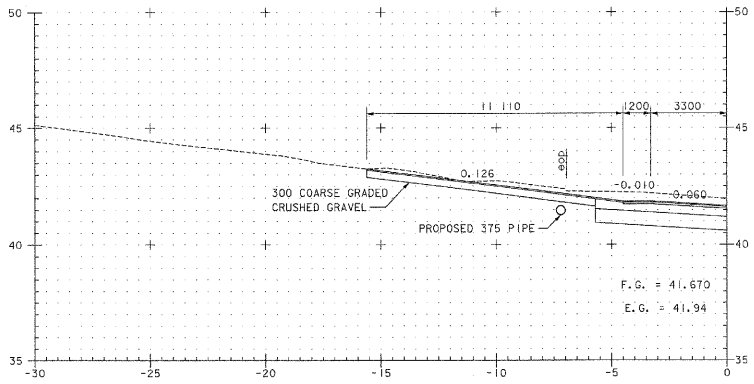
VANASSE HANGEN BRUSTLIN, INC.

ZE072XS2 VHB NO. 5091I plot date: 10/23/2003

Metric



0+115 SKEWED DRIVE, RT



0+109 DRIVE, LT

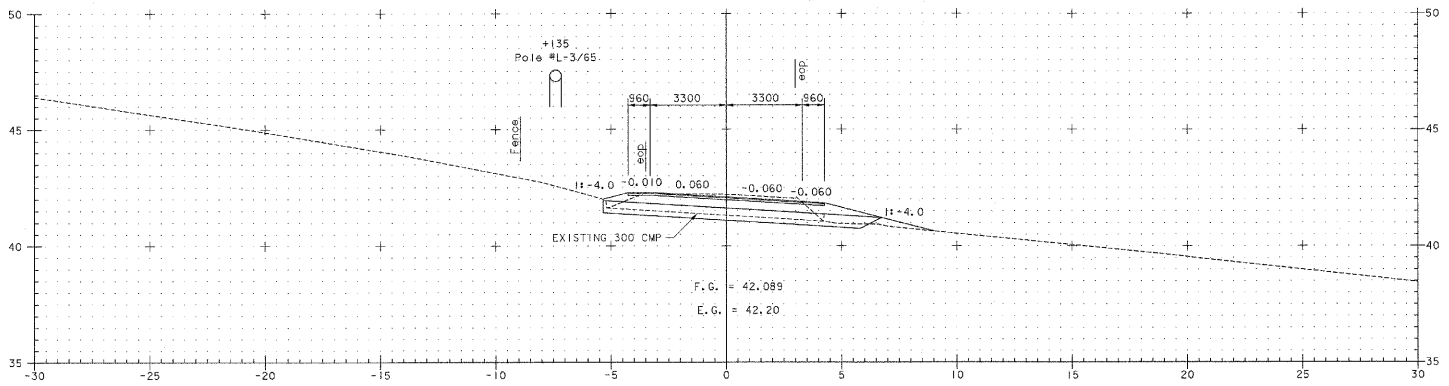
0 2 4 6 8 10
SCALE 1:100

TH 2 ALBURG SPRINGS ROAD

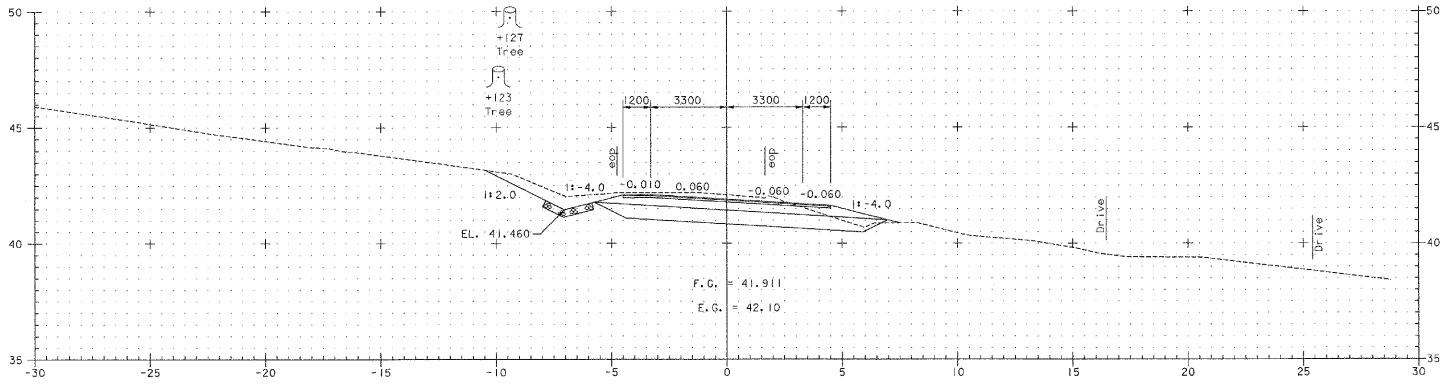
FROM STA 0+109	TO STA 0+115
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C181 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072XS2 VHB NO. 5098 plot date: 10/23/2003



0+132



0+120

0 2 4 6 8 10
SCALE 1:100

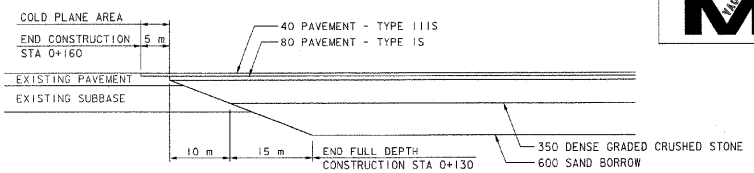
TH 2 ALBURG SPRINGS ROAD

FROM STA 0+120	TO STA 0+132
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C182 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072XS2 VHB NO. 50911 plot date: 10/23/2003

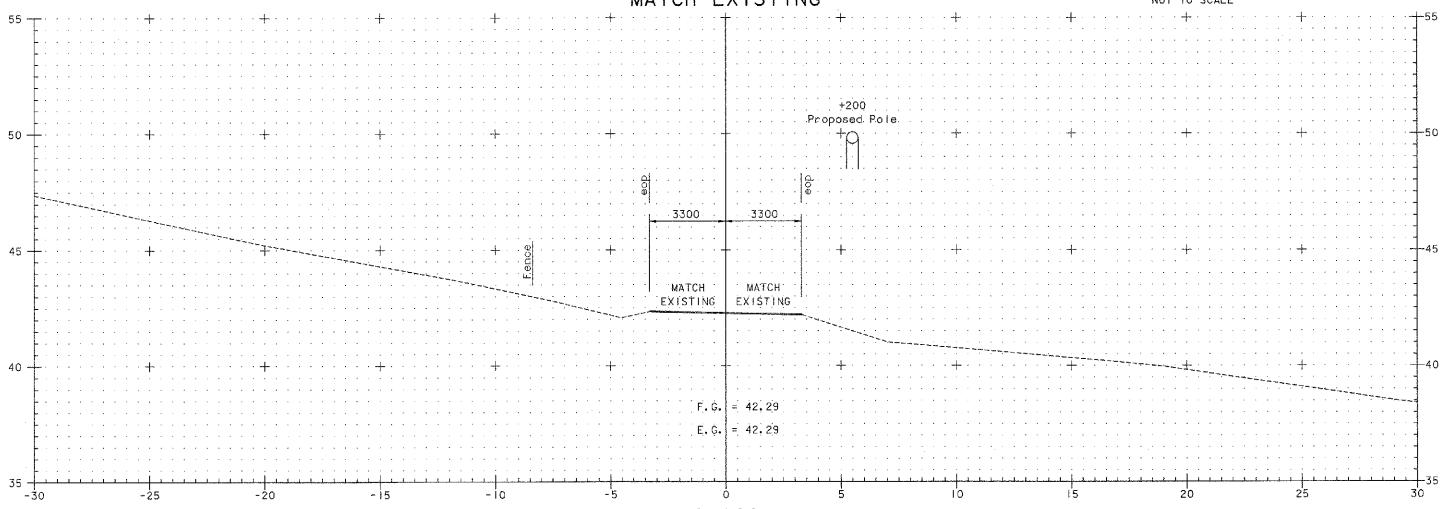
Metric



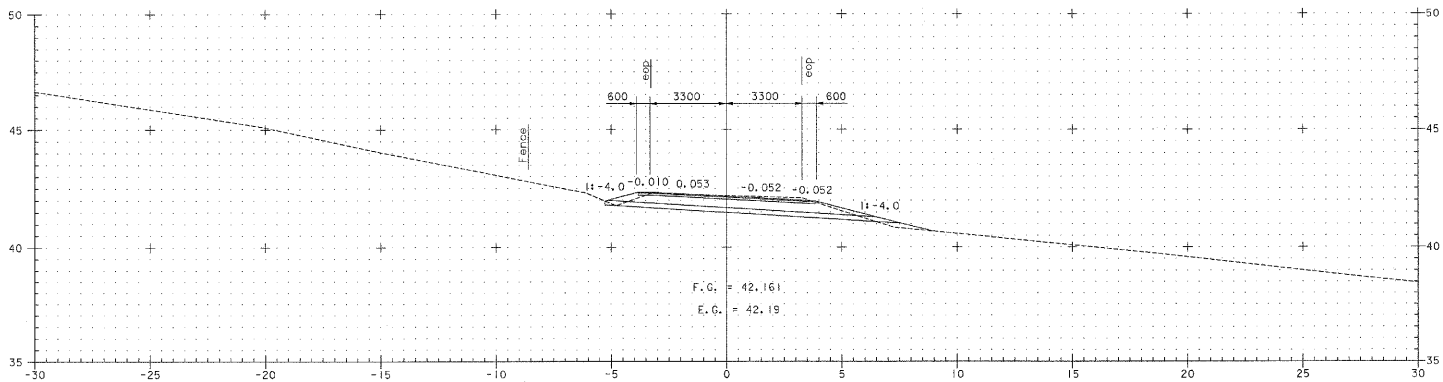
TH 2 MATERIAL TRANSITION DETAIL

NOT TO SCALE

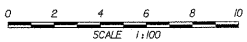
END CONSTRUCTION
STA 0+160
MATCH EXISTING



0+160



0+140



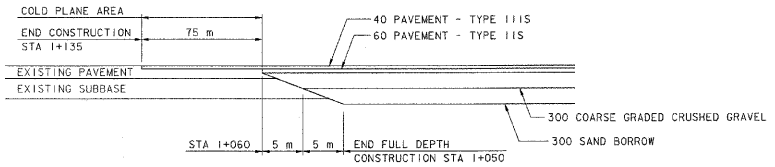
TH 2 ALBURG SPRINGS ROAD

FROM STA 0+140	TO STA 0+160
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C183 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

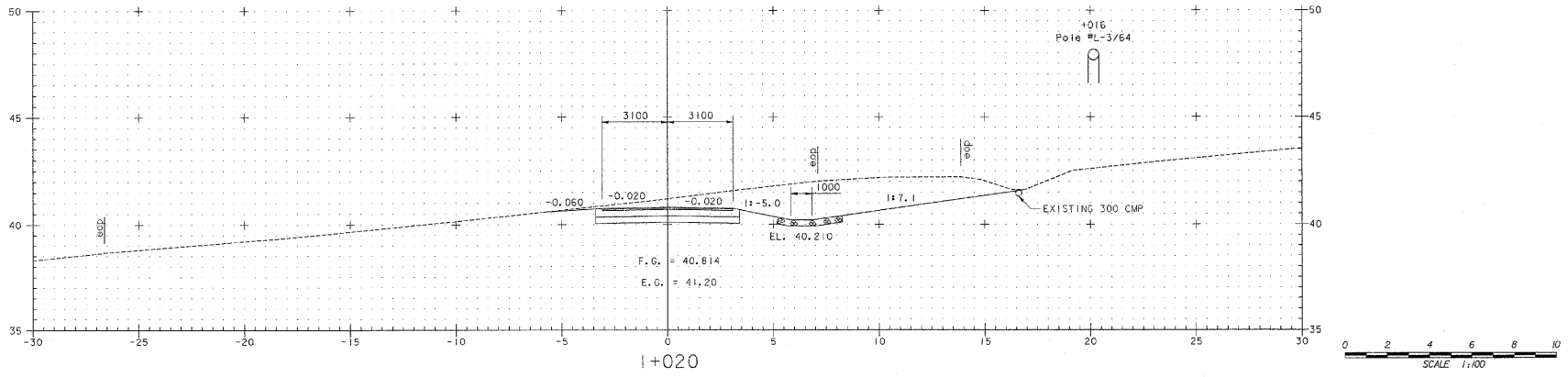
ZE072XS2 VHB NO. 50911 plot date: 10/23/2003

Metric



SIDEROAD OFF TH 2 MATERIAL TRANSITION DETAIL

NOT TO SCALE



1+020

0 2 4 6 8 10

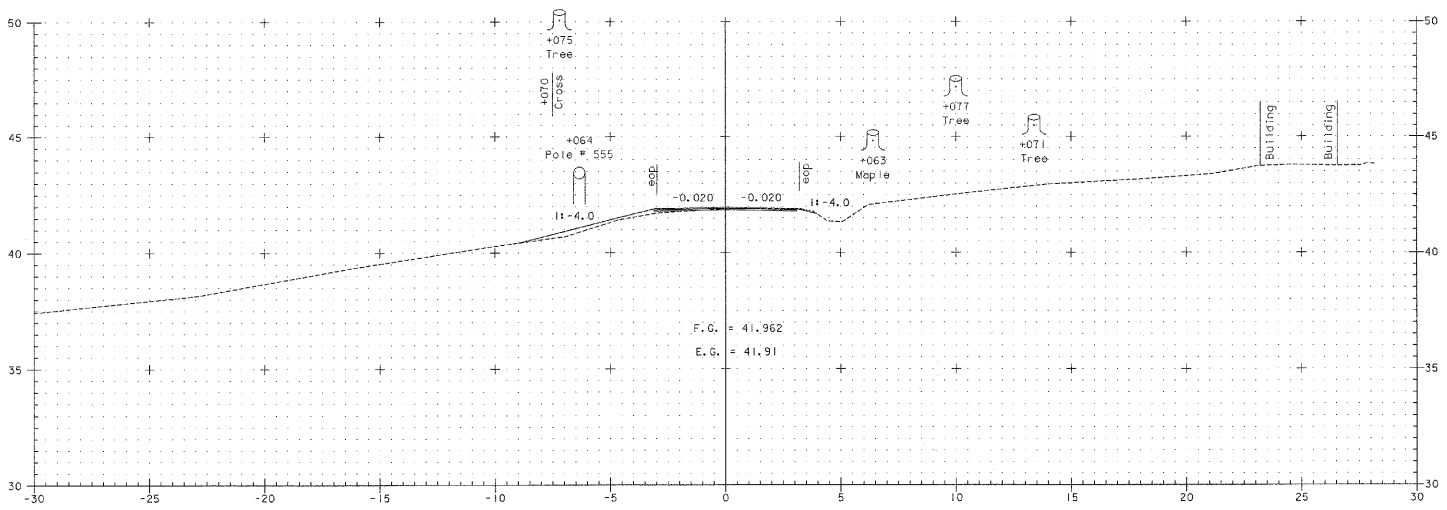
SCALE 1:100

SIDEROAD OFF TH 2

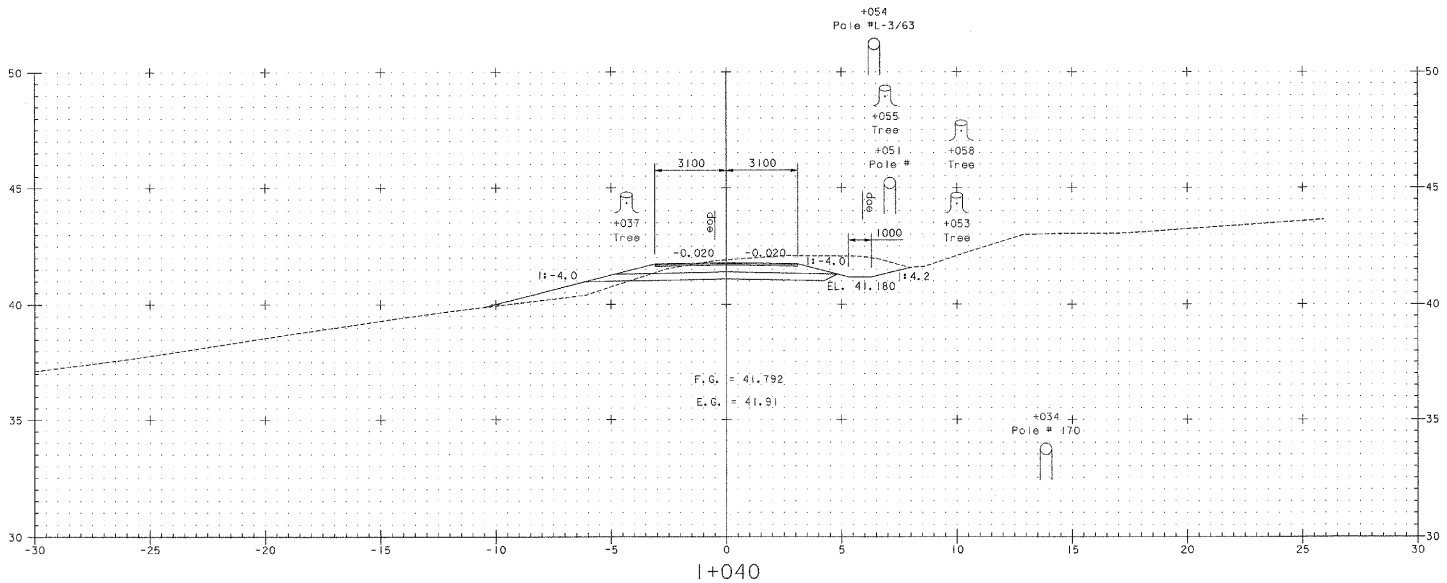
FROM STA 1+020	TO STA 1+022
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C184 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072XS2 VHB NO. 5098 plot date: 10/23/2003



1+060



1+040

0 2 4 6 8 10
SCALE 1:100

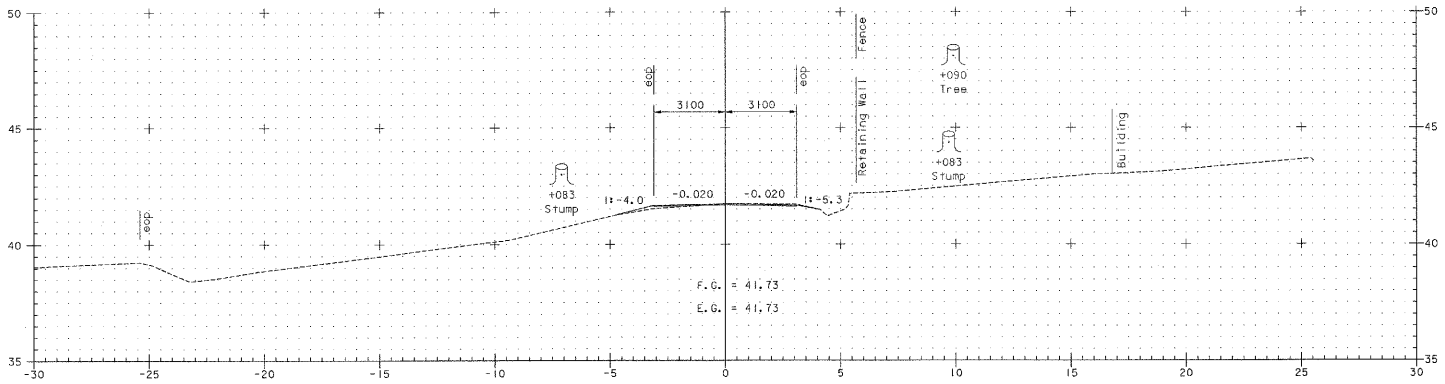
SIDEROAD OFF TH 2

FROM STA 1+040	TO STA 1+060
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 101
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C185 OF C194	

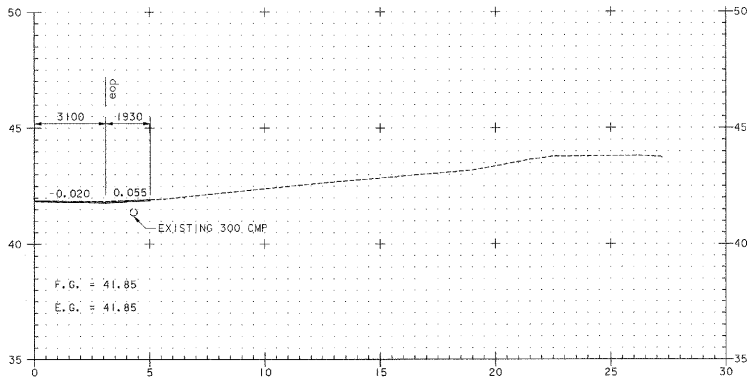
VANASSE HANGEN BRUSTLIN, INC.

2E072XS2 VHB NO. 50911 plot date: 10/23/2003

Metric



1+080



1+067 DRIVE, RT

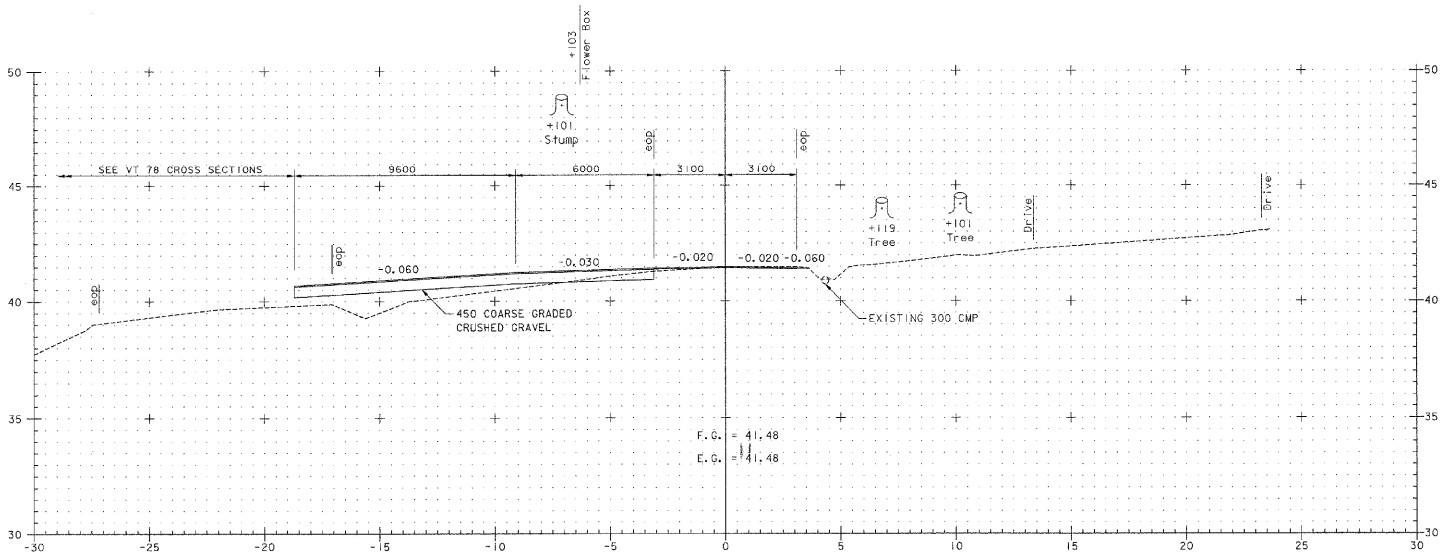
0 2 4 6 8 10
SCALE 1:100

SIDEROAD OFF TH 2

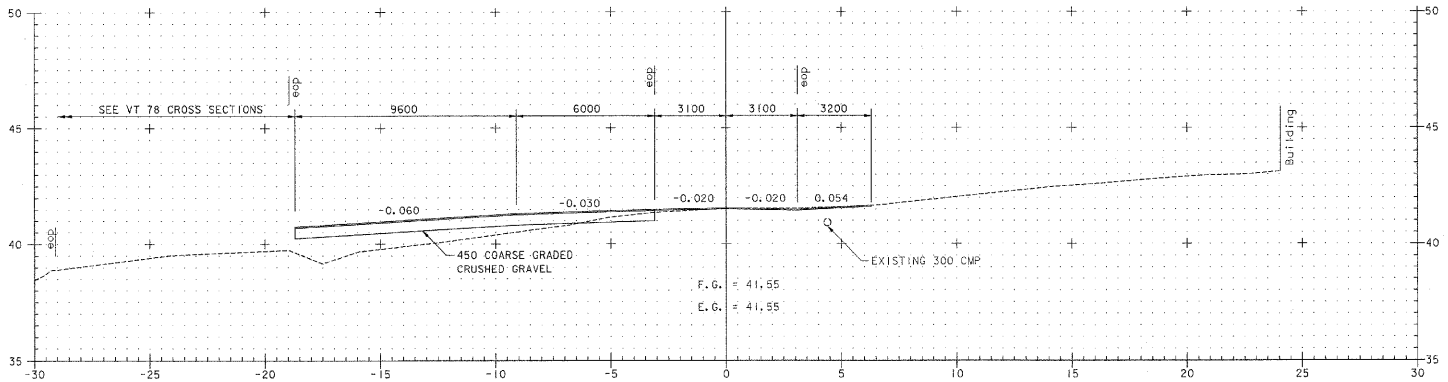
FROM STA 1+067	TO STA 1+080
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 8/98
SHEET C186 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072XS2 VHB NO. 50911 plot date: 10/23/2003



I+100 DRIVE, LT



I+095 DRIVE, LT & RT

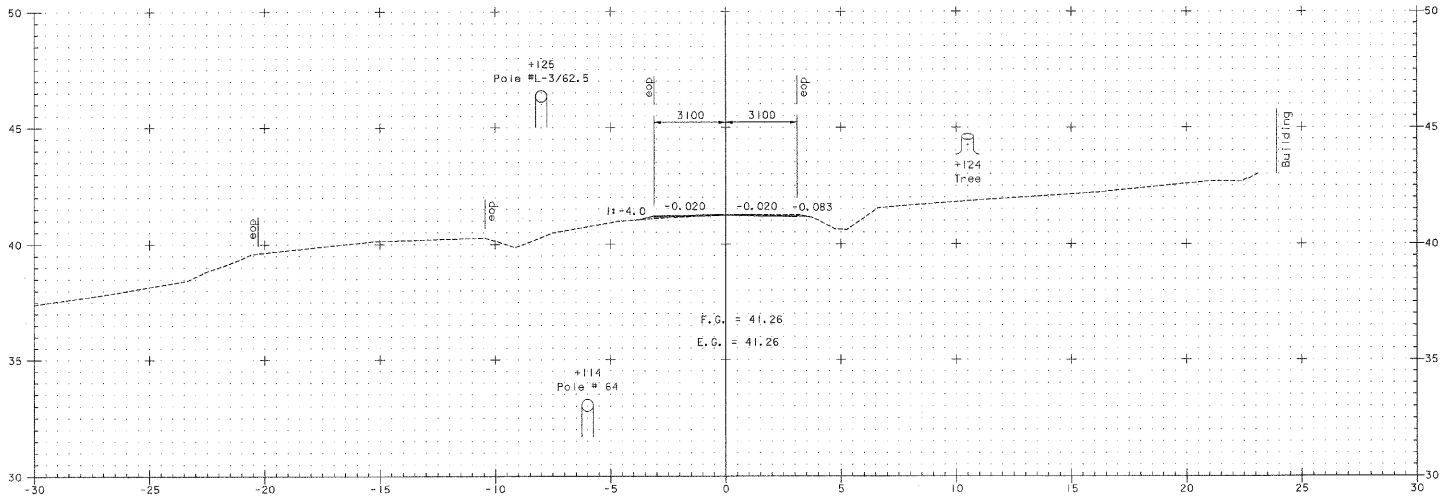
0 2 4 6 8 10
SCALE 1:100

SIDEROAD OFF TH 2

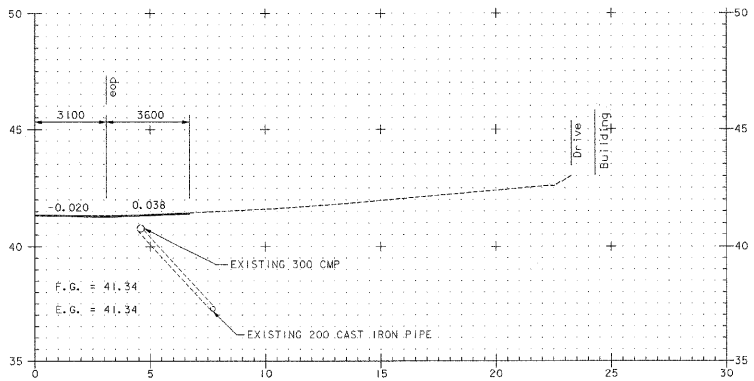
FROM STA I+095	TO STA I+100
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C187 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072XS2 VHB NO. 5091 plot date: 10/23/2003



I+120



I+112 DRIVE, RT

0 2 4 6 8 10
SCALE 1:100

SIDEROAD OFF TH 2

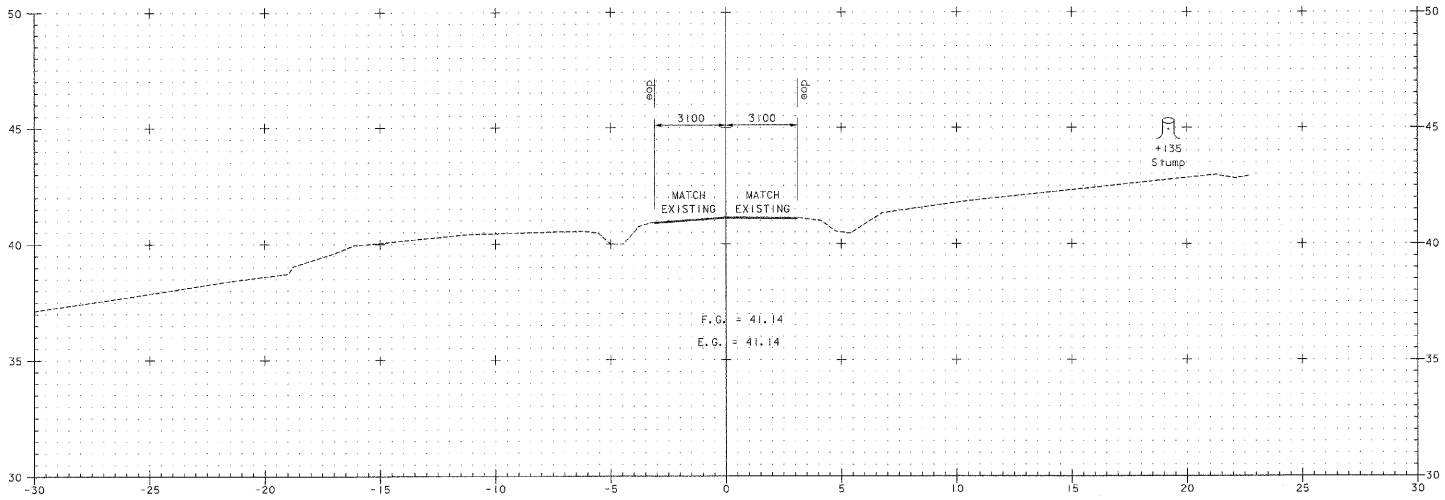
FROM STA I+112	TO STA I+120
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C188 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

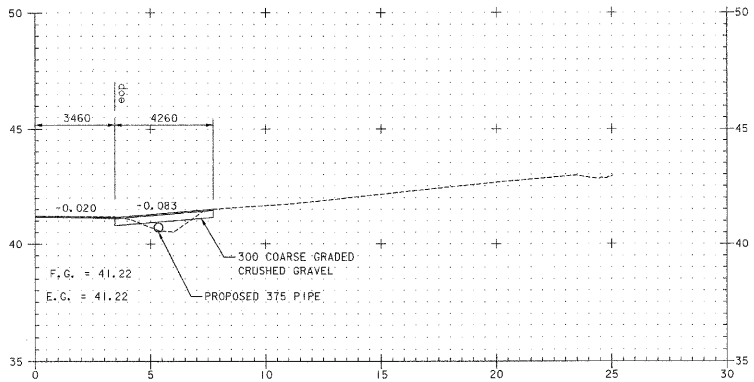
ZE072XS2 VHB NO. 5098 plot date: 10/23/2003

Metric

END CONSTRUCTION
STA 1+135
MATCH EXISTING



1+135



1+125 SKEWED DRIVE, RT

0 2 4 6 8 10
SCALE 1:100

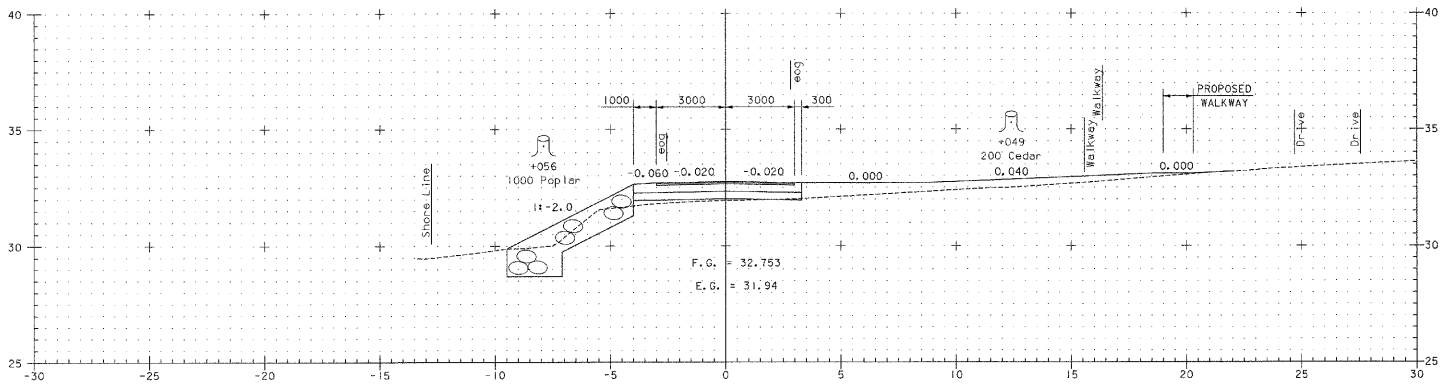
SIDEROAD OFF TH 2

FROM STA 1+125	TO STA 1+135
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C189 OF C194	

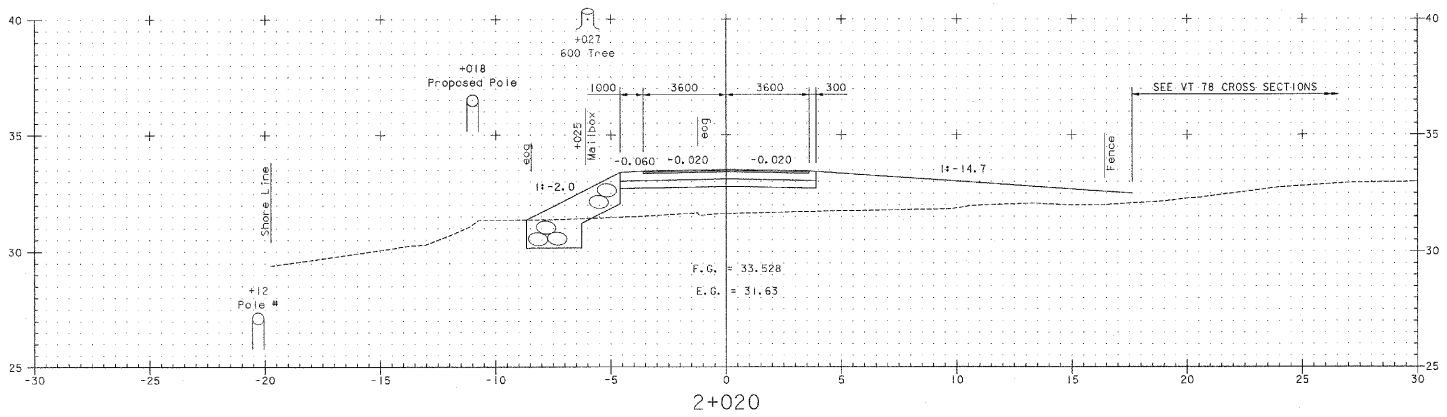
VANASSE HANGEN BRUSTLIN, INC.

ZE072XS2 VHB NO. 5091 plot date: 10/23/2003

Metric



2+040



2+020

0 2 4 6 8 10
SCALE 1:100

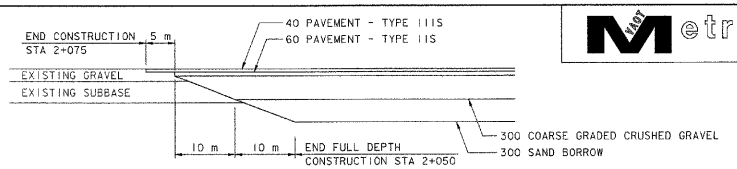
TH 13 EAST ALBURG ROAD

FROM STA 2+020	TO STA 2+040
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C190 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

ZE072X53 VHB NO. 5091I plot date: 10/23/2003

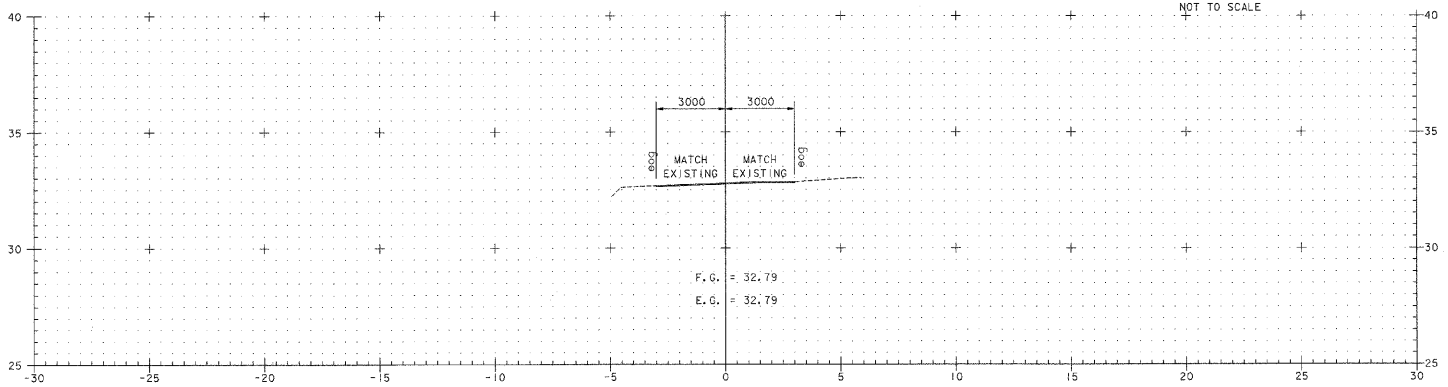
Metric



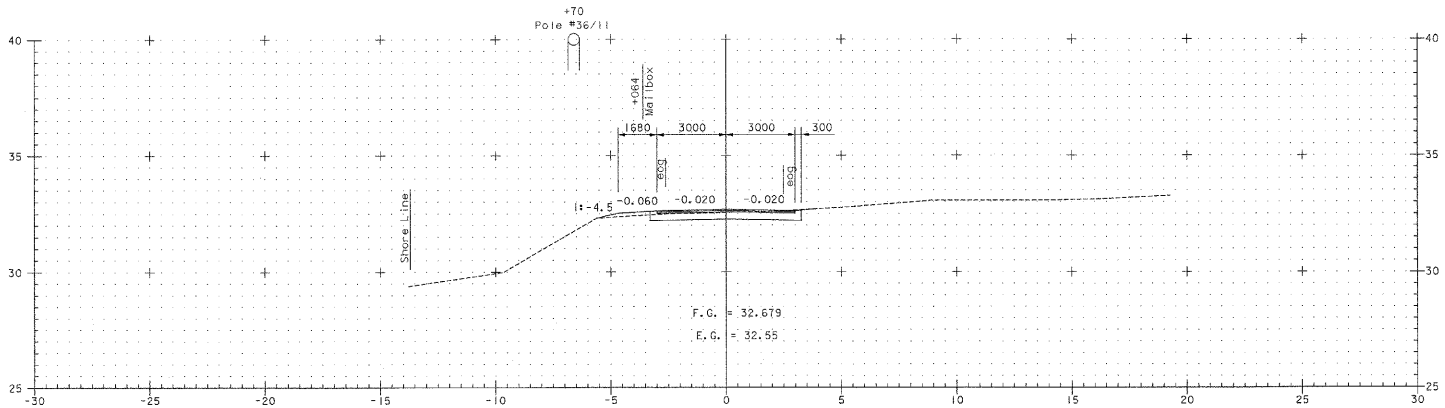
TH 13 MATERIAL TRANSITION DETAIL

NOT TO SCALE

END CONSTRUCTION
STA 2+075
MATCH EXISTING



2+075



2+060

0 2 4 6 8 10
SCALE 1:100

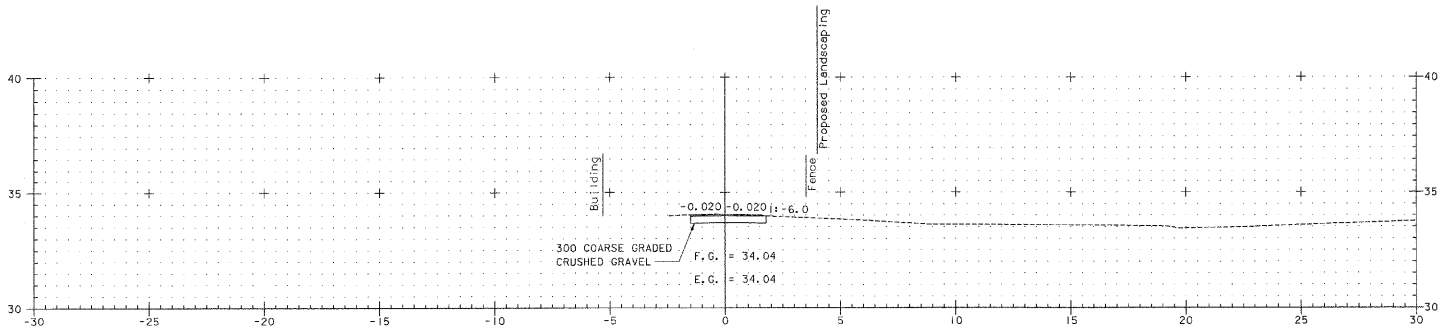
TH 13 EAST ALBURG ROAD

FROM STA 2+060	TO STA 2+075
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C191 OF C194	

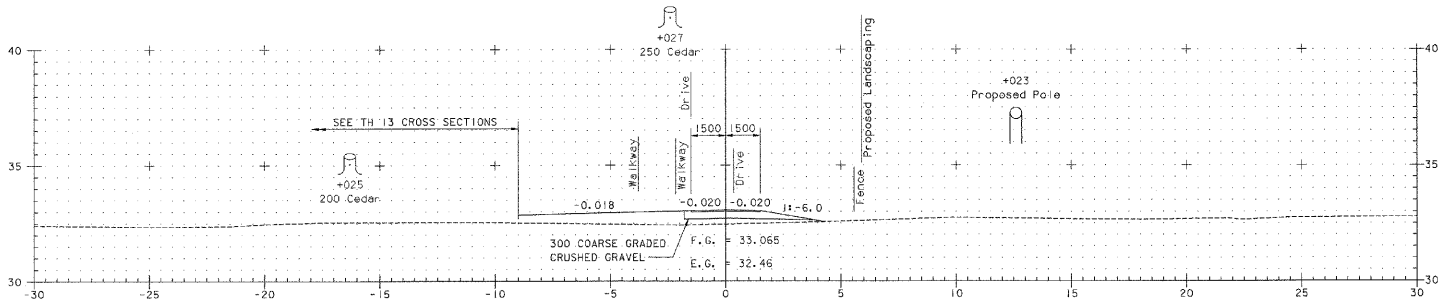
VANASSE HANGEN BRUSTLIN, INC.

ZE072X53 VHB NO. 50911 plot date: 10/23/2003

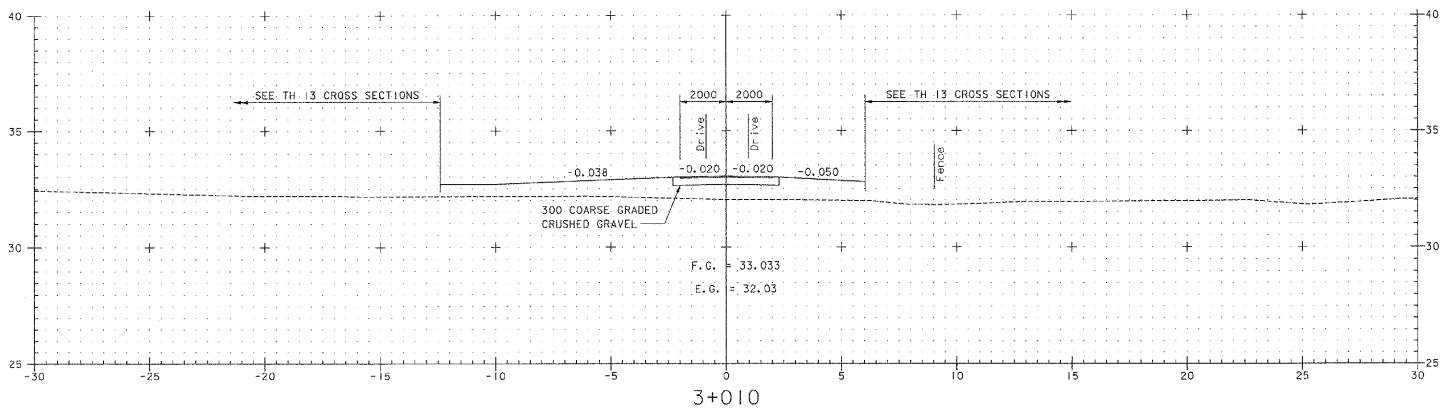
Metric



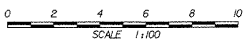
3+040



3+020



3+010



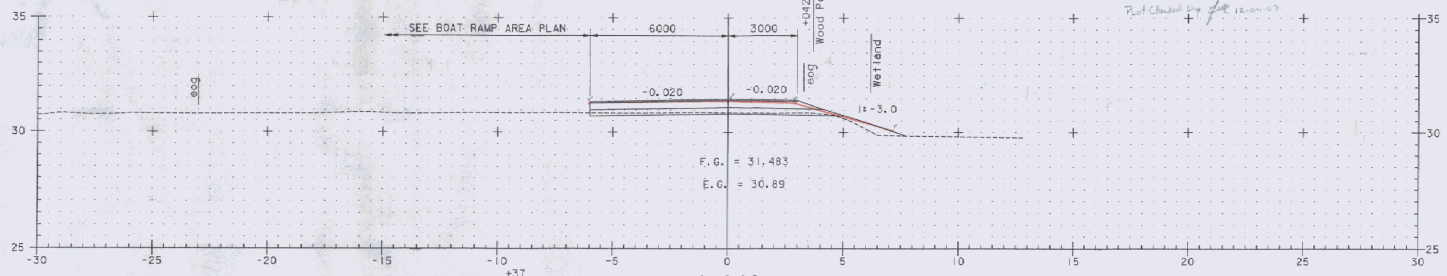
DRIVE OFF TH 13

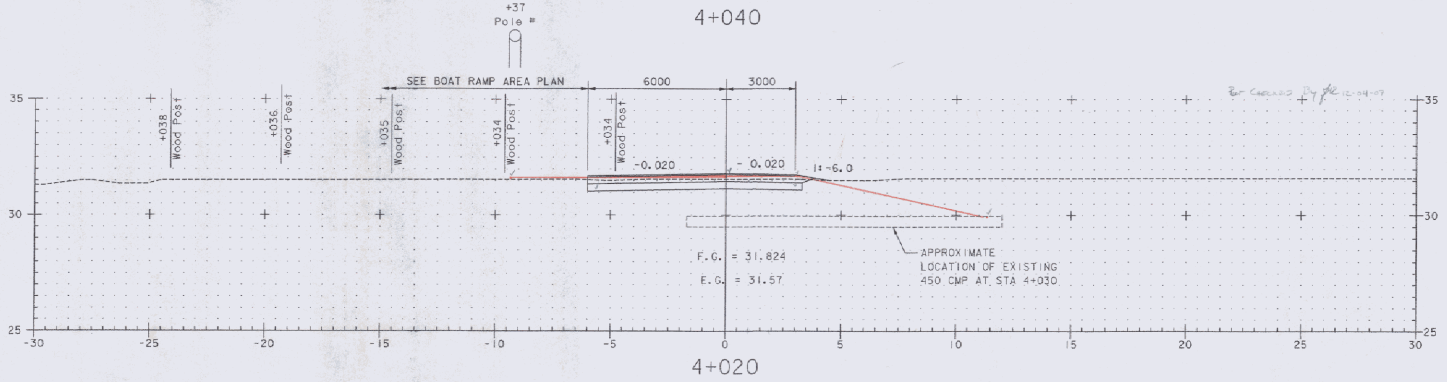
FROM STA 3+010	TO STA 3+040
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C192 OF C194	

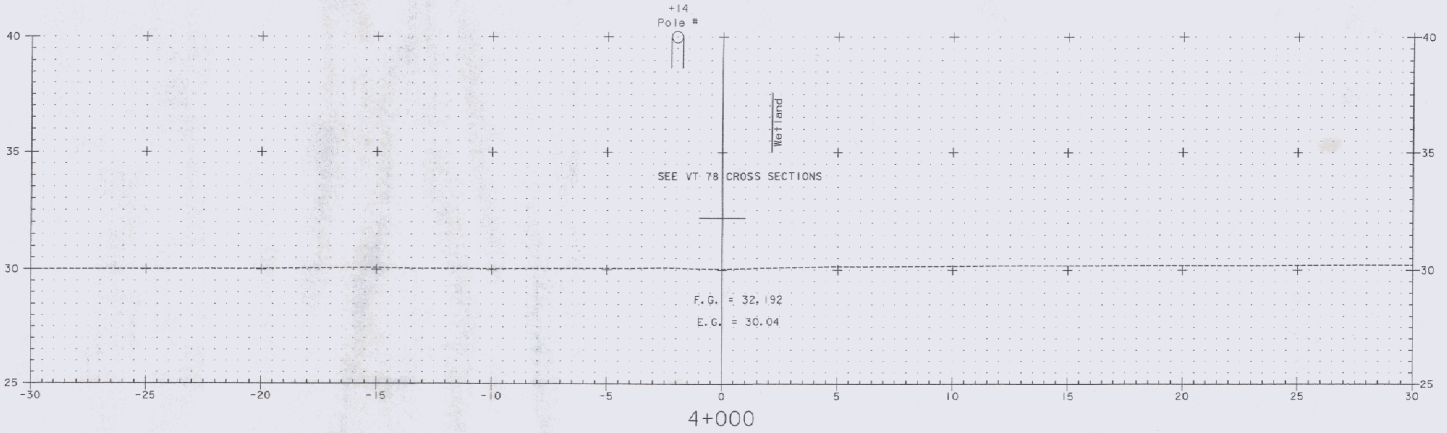
VANASSE HANGEN BRUSTLIN, INC.

ZE072XS3 VHB NO. 50911 plot date: 10/23/2003

Metric







Common Exc. Area
0.7
0.7
0.8
Avg = 0.73 m²
STW 12/11/07

Common Exc. Area
4.6
4.3
4.1
Avg = 4.3 m²
STW 12/11/07

0 2 4 6 8 10
SCALE 1:100

SANDY POINT ROAD

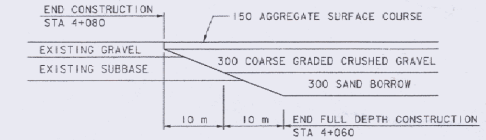
FROM STA 4+000	TO STA 4+040
PROJECT NAME	ALBURG-SWANTON
PROJECT NO.	BRF 036 - 1(1)
SURVEYED BY	VAOT 9/95 and EIV TECH. SERVICES, LLC 11/98
SHEET C193 OF C194	

VANASSE HANGEN BRUSTLIN, INC.

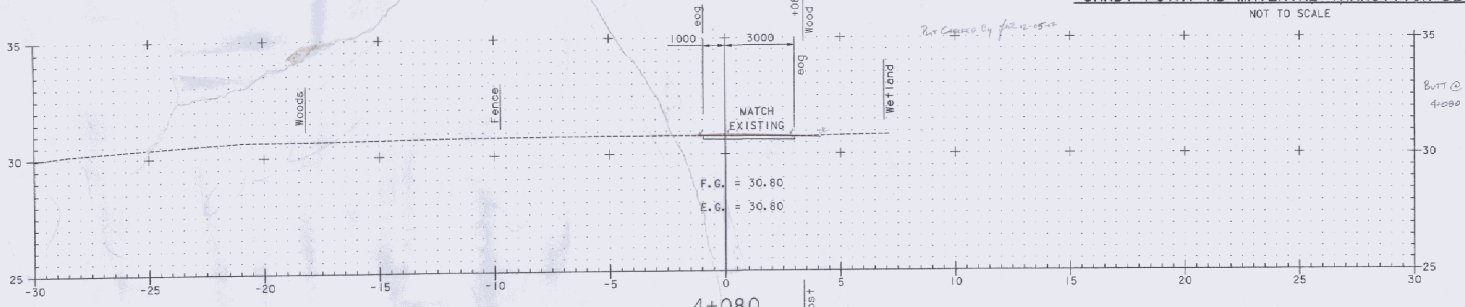
ZE0T2XS3 VHB NO. 5091 plot date: 10/23/2003

Metric

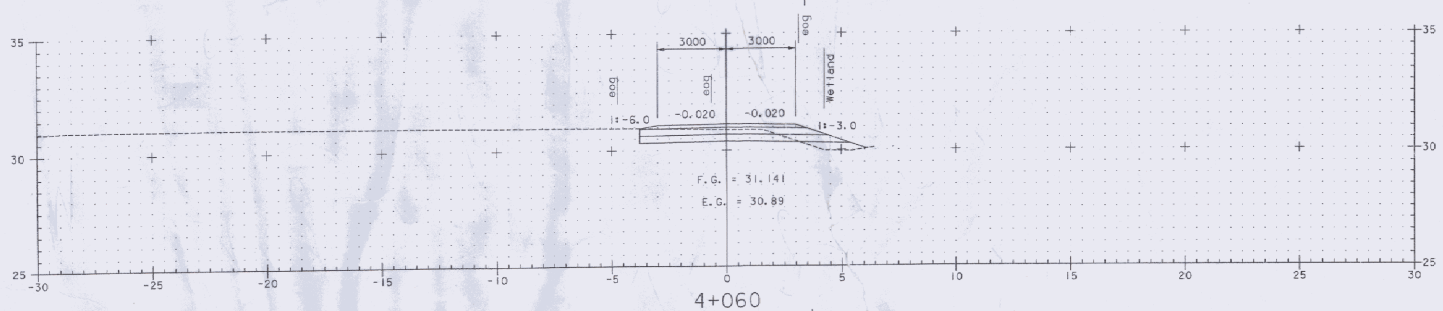
END CONSTRUCTION
STA 4+080
MATCH EXISTING



SANDY POINT RD MATERIAL TRANSITION DETAIL
NOT TO SCALE

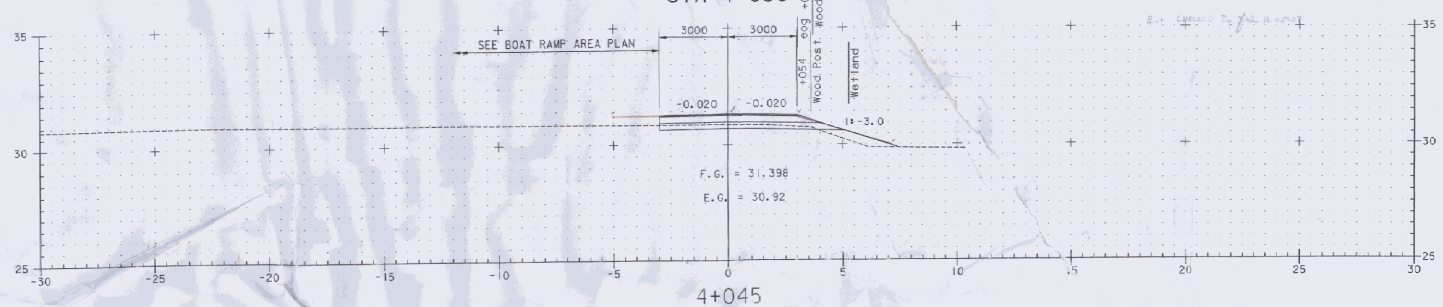


4+080

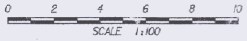


4+060

END PAVEMENT
STA 4+050



4+045

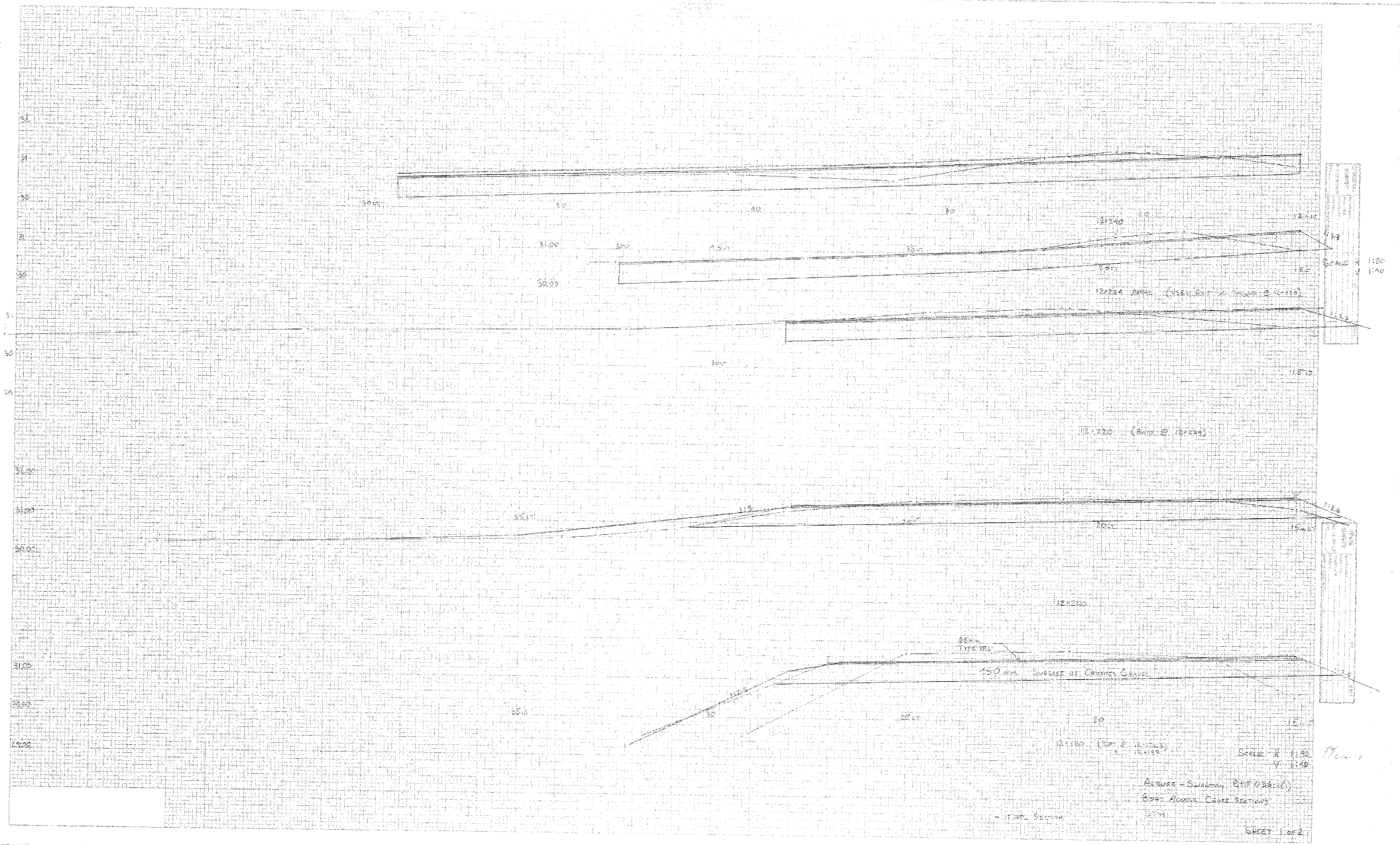


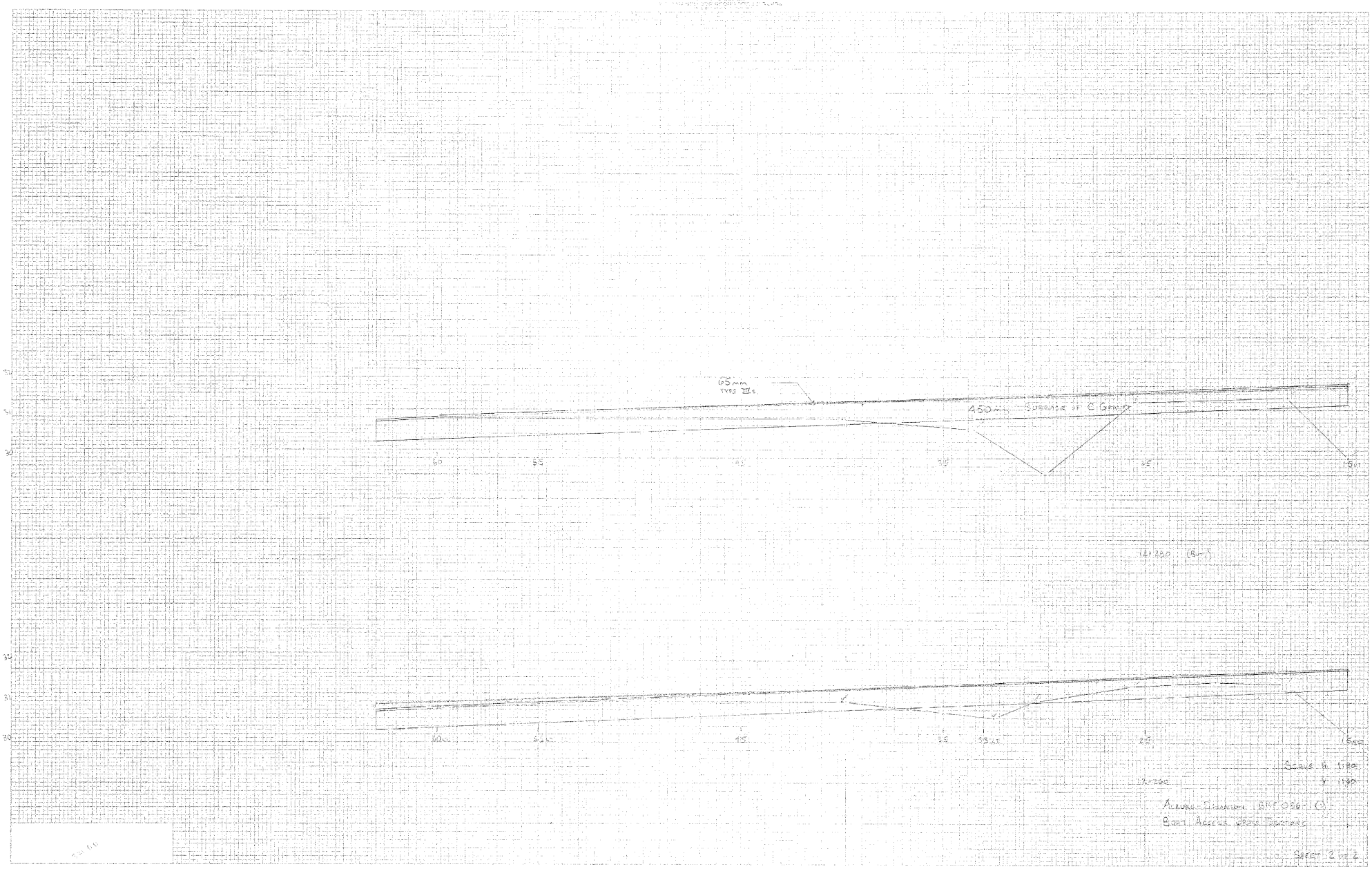
SANDY POINT ROAD

FROM STA 4+045 TO STA 4+080
PROJECT NAME ALBURG-SWANTON
PROJECT NO. BRF 036 - 1(0)
SURVEYED BY VAOT 9/95 and ENV TECH. SERVICES, LLC 8/08
SHEET 0194 OF 0194

VANASSE HANGEN BRUSTLIN, INC.

ZED72XS3 VSS NO. 5051


12+240
12+224 Abut (Used Grade for Section @ 12+220)
12+220 (Abut @ 12+224)
12+200
65mm Type III
150 mm Subbase of Crushed Gravel
12+180 (Sym. @ 12+193)
Scale: H 1:40
V 1:40
Scale 1:80
1:40
Abutment - Sundown Road (Q)
Bent Access Cross Sections
- Front Section
Sheet 1 of 2



ALBURY STATION BEFORE (C)
EAST ACCESS WORKS TENDER

SHEET 2 OF 2

57.5
3.6

12+260	63.0 LT		2.090	30.891
12+280	63.0 LT		1.980	31.001

33.317

12+180	27M LT.	FG	31.42	
12+180	15m LT	FG.	31.77	
12+200	15 LT	FG.	31.83	
	28m LT	FG.	31.47	1.847
12+220	15 LT	FG.	31.71	
	28.2	FG	31.18	

JR
STEVE

6/12/07
TUESDAY

	1.434	32.981			31.547
PNT# 25	OLD GROUND	offset	1.90	31.08	
	℄ OLD ROAD		1.205	31.776	
PNT# 26			2.105	30.876	
	3.6 out				
12+180	12.8 LT		2.00	30.98	
	+ 4.3	17.1 LT	1.26	31.72	
	+ 3.7	20.8 m	1.17	31.81	
	+4.2	25 m	1.28	31.70	
	+4.2	29.2 m LT	3.45	29.53	
	3.6 out				
12+200	12.0 LT		1.82	31.16	
	+ 4.8	16.8 LT	1.27	31.71	
	+4.2	21 m	1.24	31.74	
	+3.8	24.8 m	1.37	31.61	
	+3.4	28.2 m	1.68	31.30	
	+ 2.8	31.0 m	2.16	30.82	
	+ 2.9	33.9 m	2.42	30.56	
PNT# 2	+10.4	44.3 m	2.63	30.35	

ROAD LAUNCH ORIGINAL CROSS SECTIONS

3.6 out

12+220	17.4 LT	offset	1.41	31.57
	+ 3.5	20.9 LT	1.34	31.64
	+3.6	24.5	1.50	31.48
PNT# 3	+3.7	28.2	1.83	31.15
	+4.1	32.3	2.03	30.95
	+8.2	40.5	2.14	30.84
	+ 7.8	48.3	2.39	30.59
PNT# 3			2.43	30.55
4			2.30	30.68
# 20			1.475	31.506
# 21			1.553	31.398
# 24			1.550	31.431
# 27			1.480	31.501
	3.6 out			
12+240	16.1 LT		1.44	31.54
	+5.4	21.5 LT	1.32	31.66
	+3.7	25.2	1.51	31.47
	SKIP SHRUB			
	+7.8	33.0	2.15	30.83
	+8.5	41.5	2.02	30.96
	+16	57.5	2.22	30.76

STATE OF VERMONT
AGENCY OF TRANSPORTATION

FINAL

DRAINAGE DETAIL SHEET

SUMMARY

Metric

DRAINAGE STRUCTURES

	STATION km + m	STATION km + m	POS.	ASKEW	INLET/OUTLET TYPE INLET	INLET/OUTLET TYPE OUTLET	DITCH IN	DITCH OUT	PIPE ARCH SPAN mm	PIPE ARCH RISE mm	PIPE L m	PIPE D mm	PIPE L m	ALLOWABLE OPTIONS PCCSP mm	CAAP mm	RCP CL	CSP mm	CPEP SL mm	PCCSP PI mm	PIPE ELBOW NO. DEG	END SEC EA	CS EA	PCCSP EA	DEPTH DI mm	CONC CL B m³	REINF STEEL kg	DI GRATE TYPE	CHAN ELEV. EA	CRM m³	TRENCH EXCAVATION EARTH m³	TRENCH EXCAVATION ROCK m³	COMM EXC m³	UNC CHAN EXC m³	STRUCT EXCAV m³	GRAN BKFILL STRUCT m³	GRAN BORR m³	EROS MATT m²	STONE FILL m³	STONE FILL TYPE	MARKER POSTS LT ea	MARKER POSTS RT ea	DEPTH UNDER ST m	SOLID ROCK EXCAVATION m³	REMARKS
DW# 1	10+249	10+249	84m LT 11.0m RT	90°								600	21.8					X				1					B			16.6	8				6			0.97	I			9.8		SEE UNDER SHT 2 PAGE 15 DRAINAGE PAGE 1 — INSTALLED 10/4/06 STW
DW# 2	10+292	10+344	84m LT 11.0m RT																										9.0	1.43				6									REMOVE EXISTING 450mm RCP SEE SHT 2 PAGE 14 DRAINAGE PAGE 2 — REMOVED 10/4/06 STW
DW# 3	10+760	10+769	11.0m LT 84m RT																																								REMOVE EXISTING 600mm RCP SHT 2 PAGE 16 — REMOVED 10/5/06 STW
DW# 4	10+323	10+345	78.6m LT 48.0m RT																																							
DW# 5	10+363	10+357	78.6m LT 48.0m RT									375	13.0					X												14.0	1.48				8									REMOVE EXISTING 450mm x 18 CMPP PIPE w/ PE SHT 2 PAGE 82 — REMOVED 10/15/06 STW
DW# 6	10+435	10+396	15.4m LT 10.7m RT									450	15.0					X												9.3	.8				5									NEW 375mm x 13 CPEP SHT 2 PAGE 84 — INSTALLED 10/5/06 STW
DW# 7	10+369	10+370	15.4m LT 10.7m RT																											12.8	.9				7									NEW 450mm x 18 CMPP SHT 2 PAGE 84 — INSTALLED 10/6/06 STW
DW# 8	10+140	10+338	83.6m LT 48.0m RT																											12.0	1.15				6									REMOVE EXISTING 450mm x 18 CMPP SHT 2 PAGE 86 — REMOVED 10/16/06 STW
DW# 9	10+388	10+375	23.5m LT 23.8m RT																																		12.8	L			20.0		NEW STONE LINED DITCH SHT 2 PAGE 90 — INSTALLED 10/17/06 STW
DW# 10	10+398	10+468	30.5m LT 16.0m RT																											12.5	1.45				8									REMOVE EXISTING 450mm x 18 CMP SHT 2 PAGE 92 — REMOVED 10/19/06 STW
DW# 11	10+474	10+494	37.6 LT 11.4 RT																																		21.0	I			270.0		NEW STONE LINED DITCH SHT 2 PAGE 94 — INSTALLED 10/19/06 STW
DW# 12	Between Stones 01+015	01+042	15.5m LT 11.5 RT																											20.5	8				8									REMOVE EXISTING DITCH SHT 2 PAGE 98 — REMOVED 10/19/06 STW
DW# 13	10+588	10+618	30.7m LT 29.8m RT									600	28.7					X												10.0	.9				7			2.6	I			5		NEW STONE LINED DITCH SHT 2 PAGE 96 — INSTALLED 10/19/06 STW
DW# 14	Between Stones 01+019	01+027	11.0m LT 10.0m RT	70.5° RT								450	19.0					X												58.2	8				9									NEW 450mm x 33m CMPP SHT 2 PAGE 90 — INSTALLED 10/19/06 STW
DW# 15	10+516	10+518	3.9m LT 4.5m RT																											18.1	8				9									REMOVE EXISTING 450mm CMPP SHT 2 PAGE 94 — REMOVED 10/19/06 STW
DW# 16	10+570	10+592	13.5m LT 15.5m RT																																		10.8	I			36.0		NEW STONE LINED DITCH SHT 2 PAGE 98 — INSTALLED 9/21/06 CWG
DW# 17	10+590	10+648	15.9 m LT 21.3 RT																																		116.5	I			156.0		NEW STONE LINED DITCH SHT 2 PAGE 92 — INSTALLED 9/21/06 CWG
DW# 18	10+688	10+688	20.0m LT 5.6 RT																											5.6	0.90				6									REMOVE EXISTING 300mm RCP + HEADWALL SHT 2 PAGE 80 — REMOVED 9/6/07 STW
DW# 19	10+688	10+688	5.6m LT 13.4 RT																																			I						NEW STONE LINED DITCH SHT 2 PAGE 94 — ELIMINATED 9/5/07 STW
DW# 20	10+765	10+775	13.7m LT 14.8m RT									450	20.0					X												27.0	12.0				15.2			2.4	I			8.0		NEW 450mm CMPP SHT 2 PAGE 102 — INSTALLED 9-14-07 JDB/STW
DW# 21	10+756	10+770	12.5 RT									375	16.2					Y												8	10.0				5.0									NEW 375mm CMPP SHT 2 PAGE 104 — INSTALLED 9/22/06 CWG
DW# 22	10+800	10+803	12.6 RT 18.0 LT									450	28.4					X												25.1	8				8									NEW 450mm CMPP SHT 2 PAGE 134 — COMPLETED 9-11-07 STW
DW# 23	10+844	10+838	11.0 RT 5.0 LT																											7.1	.6				9									REMOVE EXISTING 300mm RCP + HEADWALL SHT 2 PAGE 118 — REMOVED 9-14-07 STW & CONNECTED TO NEW 36"Ø PIPE
DW# 24	10+838	10+857	8.0 RT 5.0 LT																											12.1	.5				6									REMOVE EXISTING 300mm CMP SHT 2 PAGE 135 — REMOVED 9-14-07 JDB/STW
DW# 25	10+860	10+870	10.7 LT 12.7 RT																																							NEW RIPRAP LINED CHUTE — INSTALLED 9-10-07 STW
DW# 26	10+865	10+865	8.4m LT 13.4m RT	30°								450	DA	X								1					D			8	.8				10.8									NEW 450mm ECCLES HEADER SEE SHT 2 PAGE 130 — INSTALLED 8-22-06 STW
	TOTALS																					12								296.2	59.86				39.0			263.0	I			879.6 TO PAGE 6.121	ft	
	601.0415	450mm RCCP									11.4																																	
	601.2610	375mm CMPP											25.2																															
	601.2615	450mm CMPP													97.4																													
	601.3630	900mm CMPP														55.5																												

PROJECT NAME : MISSISQUOI BAY
ALBURGH - SWANTON
PROJECT NO. : BRF 036-1(1)

DESIGN FILE NAME:
IPARM FILE NAME:
SURVEYED BY:
SQUAD LEADER:

PLOT DATE: 04-FEB-2005
SURVEY DATE:
DRAWN BY:
SHEET: 1 OF 2

STATE OF VERMONT
AGENCY OF TRANSPORTATION

FINAL SUMMARY

DRAINAGE DETAIL SHEET

Metric

DRAINAGE STRUCTURES

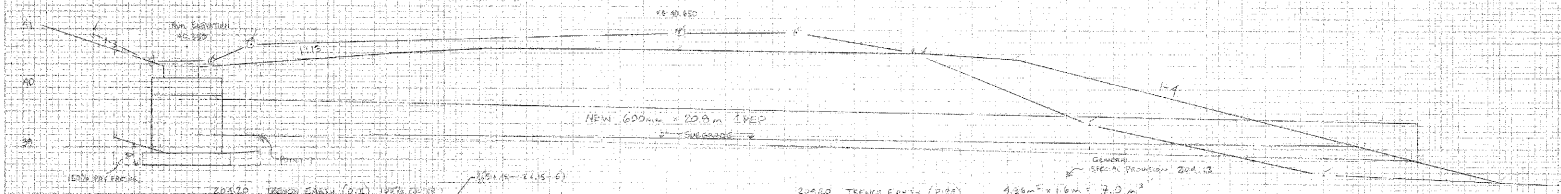
	STATION km + m	STATION km + m	POS.	ASKEW	INLET/OUTLET TYPE: INLET	INLET/OUTLET TYPE: OUTLET	DITCH: IN	DITCH: OUT	PIPE ARCH: SPAN mm	PIPE ARCH: RISE mm	PIPE ARCH: L m	PIPE: D mm	PIPE: L m	ALLOWABLE OPTIONS: PCCSP mm	ALLOWABLE OPTIONS: CAAP mm	ALLOWABLE OPTIONS: RCP CL	ALLOWABLE OPTIONS: CSP mm	ALLOWABLE OPTIONS: CPEP SL mm	ALLOWABLE OPTIONS: PCCSP PI mm	PIPE ELBOW NO. DEG	FES EA	CB EA	PRECAST	DEPTH DI mm	CONC CL B m³	REINF STEEL kg	DI GRATE TYPE	CHAN ELEV EA	CRM m²	TRENCH EXCAVATION: EARTH m³	TRENCH EXCAVATION: ROCK m³	COMM EXC m³	UNC CHAN EXC m³	STRUCT EXCAV m³	GRAN BKFILL STRUCT m³	GRAN BORR m³	EROS MATT m²	STONE FILL: m³	STONE FILL: TYPE	MARKER POSTS: LT ea	MARKER POSTS: RT ea	STONE LINED DITCH TYPE	YIELD RATE EXCAVATION	REMARKS
DW#37	10+865	10+885	65 LT 18.3 LT									450	9.8	X								1				D			11.7	P				P			9.2	I			10.8		NEW 450mm PCCSP Book 2A PAGE 134	INSTALLED BY BTV&B 9/15/06 STW
DW#38	10+870	10+912	117 LT 130 RT																										2.8								10.4	I			30.6		NEW 2'6"x1'9" LINED DITCH W/ STONE FACE Book 2A PAGE 136	INSTALLED 9/20/06 STW
DW#39	10+920	10+955	18.3 LT 20.6 RT									600	8.0					X								D			9.3	P				P			4.2	I			P		NEW 600mm CPEP Book 2A PAGE 138	INSTALLED 9/20/06 STW
DW#30	12+110	12+110	6.1 LT 6.1 RT	90°								450	11.8	X								1				D			P	P				P			9.3	I					NEW 450mm PCCSP W/ RC LS Book 2A PAGE 10	INSTALLED 11/3/06 RJL
DW#31	12+130	12+140	9.5 LT 15.2 RT									450	5.1	X								1				D			6.2	P				6.6			0.7	I			11		NEW 450mm PCCSP W/ RCLS Book 2A PAGE 14	INSTALLED 11/8/06 RJL
DW#32	12+140	12+150	16.0 LT 15.4 RT																			1							2.7	I							2.7	I			10.3		NEW GRATED LINED DITCH W/ STONE FACE Book 2A PAGE 18	INSTALLED 9/4/06 STW
DW#33	12+148	12+168	18.5 LT 28.2 RT									600	11.0					X											14.1	P				12.6			P	I			P		NEW 600mm CPEP Book 2A PAGE 22	INSTALLED 9/14/06 STW
DW#34	12+150	12+160	15.4 RT 10.2 RT																																			26.4	I			P		NEW STONE FILL TYPE II OVER Book 2A PAGE 26	INSTALLED 9/25/06 RJL
DW#35	12+254	12+255	9.0 LT 26.3 LT																										13.6	P				P									REMOVE EXISTING 450mm CMP Book 2A PAGE 30	REMOVED 6/7/07 STW
DW#36	12+285	12+300	15.0 RT 10.0 LT									600	12.0					X											18.6	P				3.0			9.0	I			30.0		NEW 600mm CPEP Book 2A PAGE 34	INSTALLED 9/23/06 STW
DW#37	12+287	12+301	30.0 LT 10.0 RT																										14.6	P				P									REMOVE EXISTING 450 CMP Book 2A PAGE 38	REMOVED 6/7/07 STW
DW#38	12+668	12+683	9.1 LT 6.1 RT																																								REMOVE EXISTING 450mm CMP Book 2A PAGE 42	REMOVED 6/7/07 STW
DW#39	12+668	12+688	11.5 LT 5.0 RT									450	20.1					X											11.4	P				P									NEW 450mm CPEP Book 2A PAGE 46	INSTALLED 5/14/07 STW
DW#40	ALBURGH SPRINGS ROAD TR2 0+036	0+077	9.6 LT 10.2 RT									600	37.0					X											17.8	P				P			4.6	I			15.3		NEW 600mm CPEP Book 2A PAGE 52	INSTALLED 10/12/06 STW
DW#41	0+076	0+104	9.8 LT 7.6 RT																																			22.1	I			24.0	18.0	NEW STONE LINED DITCH Book 2A PAGE 56	INSTALLED 10/19/06 STW
DW#42	0+102	0+114	7.5 LT									375	11.3					X											1.4	S70				9.0									NEW 375mm CPEP Book 2A PAGE 60	INSTALLED 10/19/06 STW
DW#43	0+114	0+130	9.0 LT 8.0 LT																																			3.3	I			12.4		NEW STONE LINED DITCH Book 2A PAGE 64	INSTALLED 10/19/06 STW
DW#44	0+130	0+136	5.0 LT 6.0 RT																																								REMOVE EXISTING 300mm CMP Book 2A PAGE	REMOVED 10/19/06 STW
DW#45	0+136	1+025	16.5 LT 6.0 RT																																			22.1	I			22.6		NEW STONE LINED DITCH Book 2A PAGE 44	INSTALLED 10/20/06 STW
DW#46	1+021	1+029	13.0 RT 13.5 LT																										3.8														REMOVE EXISTING 300mm CMP Book 2A PAGE 70	REMOVED 10/30/06 STW
DW#47	1+025	1+040	9.1 RT 8.0 RT																																			7.4	I			21.6		NEW STONE LINED DITCH Book 2A PAGE 52	INSTALLED 10/31/06 STW
DW#48	1+122	1+133	4.6 RT									375	11.0					X											1.8	P				P									NEW 375 mm CPEP Book 2A PAGE 86	INSTALLED 10/31/06 STW
	TOTALS																					2							125.4	8.70				44.2			89.6	TYPE I	26.4 TYPE II		35.4 YD RIPRAP 1.1 CY	20	
	601.0415	450mm PCCSP												26.5																														
	601.2610	375mm CPEP													22.0																														
	601.2615	450mm CPEP														20.1																													
	601.2620	600mm CPEP															73.0																												
	SHEET 1	TOTALS :												11.4	25.2	93.4	55.5					2							286.2	30.85				39.5			253.8	P					
	DRAINAGE	TOTALS :												38.1	47.2	117.5	128.5					5							411.6	69.55				83.2			342.8	26.4					

PROJECT NAME : ALBURGH - SWANTON
PROJECT NO. : BRF 036-1(7)

DESIGN FILE NAME:
IPARM FILE NAME:
SURVEYED BY:
SQUAD LEADER:

PLOT DATE: 04-FEB-2005
SURVEY DATE:
DRAWN BY:
SHEET: 2 OF 2

DRAINAGE NOTE: L.T. = KINGSLAKE STORM L. (TYPE 'T')



ROAD TRENCH EARTH (0-2) WIDTH (0.6+0.6+0.6) = 1.8m

$\frac{1}{2} \times 1.8 \times 8.15 = 7.4\ m^2/m$

TR. 6 20m

$(1.5 \times 6^2) + (0.5 \times 1.5^2 \times 6) = 6.2\ m^3$

3.8 m^3

TR. PIPE 7.0 m^3

TOTAL TR. EXCAVATION = 16.8m³ SAY 19-4-06

VT.39
10+240 ↑

ROAD TRENCH EARTH (PIPE) 1.28m² x 16m = 7.0 m^3

Point	RDY LT	FORMATION
7	-7.15	29.19
6	-7.15	29.19
5	-6.15	30.19
4	-6.15	30.19
3	-7.15	29.19
2	-7.15	29.19
1	-7.15	29.19

END AREA VOLUME (PIPE TRENCH) = 4.96 m^3

DE Vol 1 Pt 1 p 6a 600 culvert

ALGING-SWANTON BRF 236-1(1)

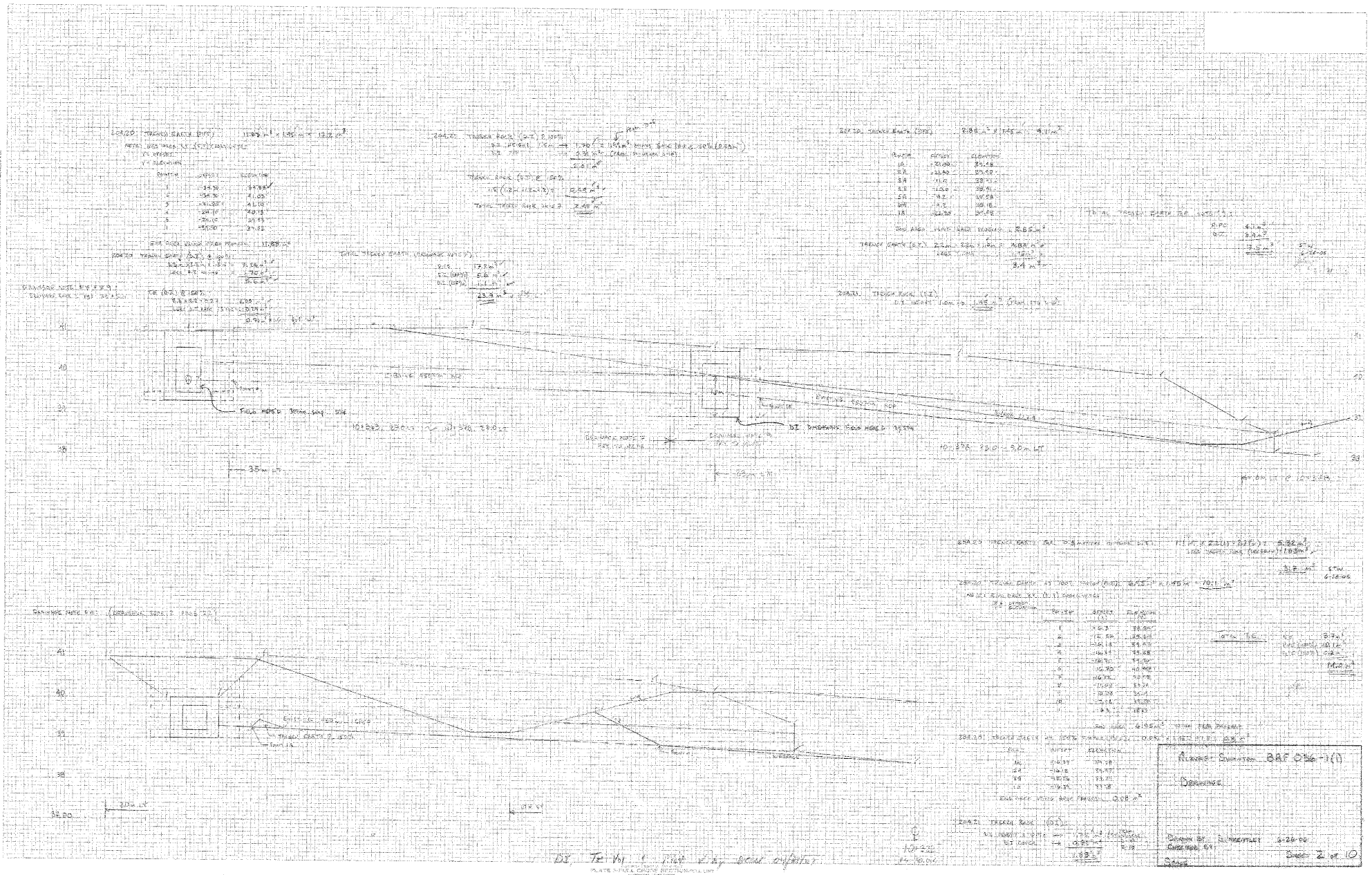
DRAINAGE

DRAWN BY: S. WHEATLEY 7-12-06

CHECKED BY:

SCALE 1:1 1:100 1:200

SHEET 1 OF 10



Alignment Station 88F 056-1(1)

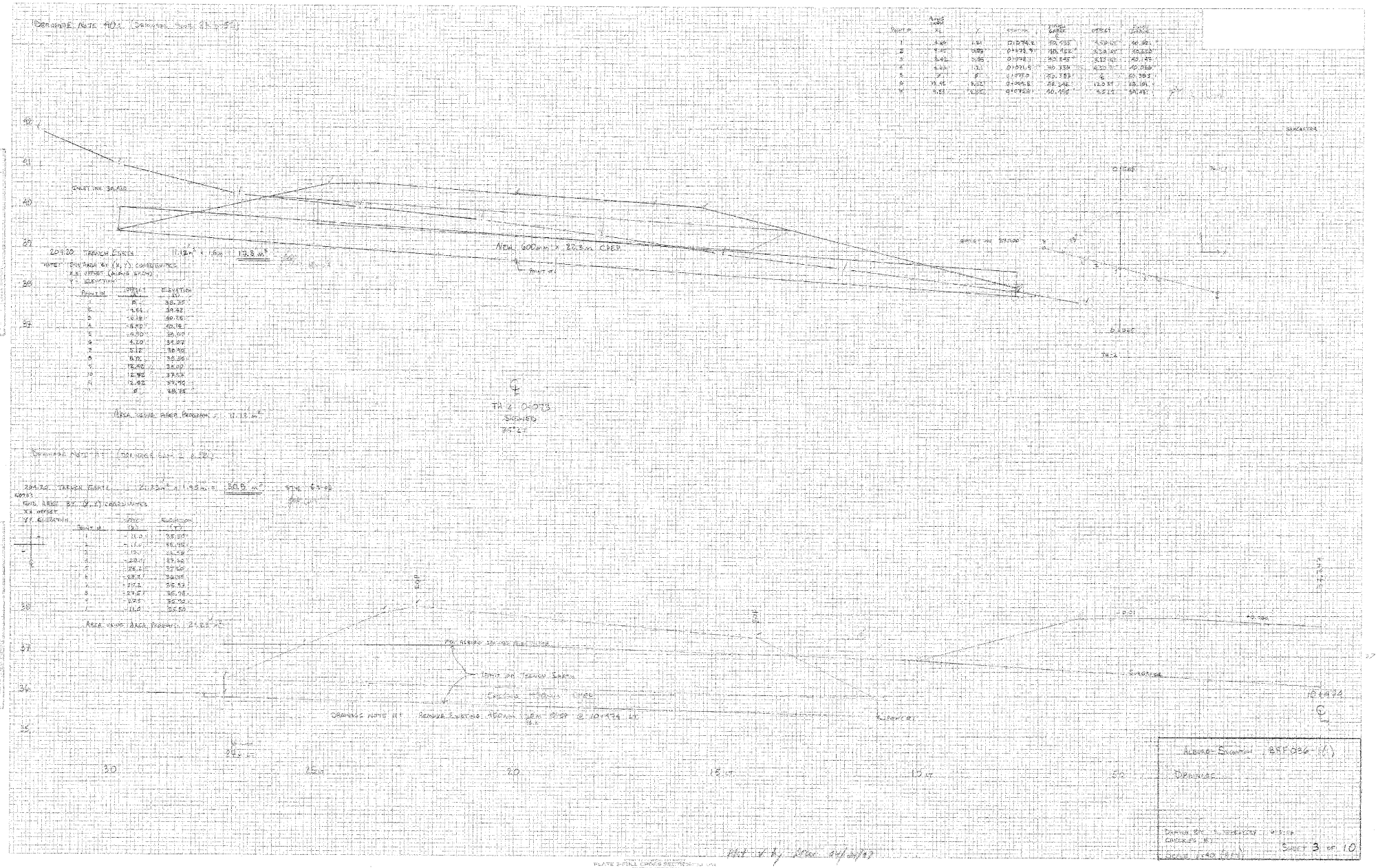
Drawing

Designed By: [illegible] 6-28-00

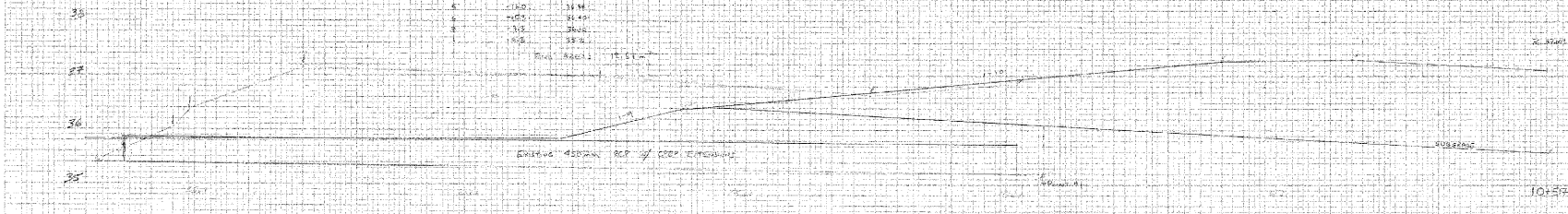
Checked By: GM

Scale:

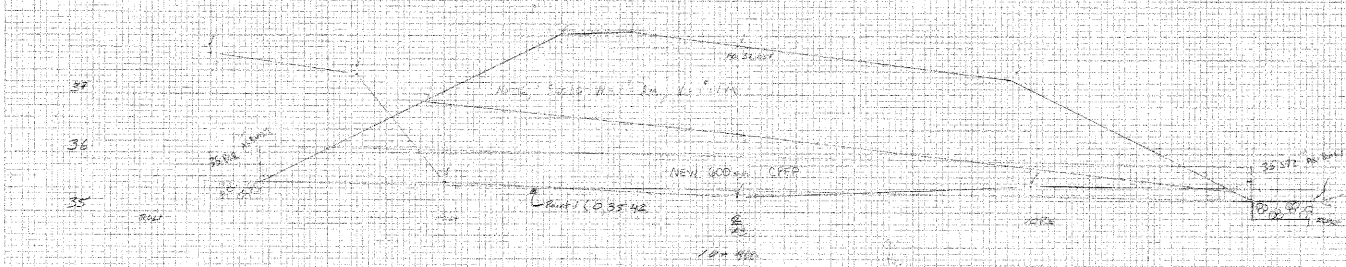
Sheet 2 of 10


DRAINAGE NOTE #02 (SHEETS 3 & 5)
CREST RL 38.400
NEW 600mm Ø x 27.3m CPEP
TRENCH EARTH 11.12m² x 1.0m = 11.12m³
NOTE: TRENCH BY (X, Y) COORDINATES
X = OFFSET (ACROSS SHEET)
Y = ELEVATION
POINT | OFFSET (X) | ELEVATION (Y)
A | 0.0 | 38.25
B | 1.64 | 39.42
C | 10.18 | 40.76
D | 8.90 | 40.16
E | 9.50 | 38.00
F | 4.20 | 35.87
G | 5.12 | 38.70
H | 8.70 | 38.36
I | 12.90 | 38.00
J | 12.92 | 37.52
K | 12.92 | 37.10
L | 0 | 38.25
AREA USING TRAPEZOIDAL RULE = 11.13 m²
TA 2 | 01073
SIGNED
7.5 LT
DRAINAGE NOTE #1 (SHEETS 3 & 5)
234.20 TRENCH EARTH 21.23m² x 1.95m = 50.5 m³ STAKE 43-05
SHEET 3
NOTE:
TRENCH LINES BY (X, Y) COORDINATES
X = OFFSET
Y = ELEVATION
POINT | OFFSET (X) | ELEVATION (Y)
1 | -11.0 | 38.50
2 | -11.0 | 38.150
3 | -11.0 | 37.50
4 | -22.0 | 37.40
5 | -26.2 | 37.60
6 | -27.4 | 38.05
7 | -21.2 | 38.52
8 | -27.5 | 38.98
9 | -12.5 | 38.30
1 | -11.0 | 38.50
AREA USING TRAPEZOIDAL RULE = 21.23 m²
EXIST
FOR NEARER SIDE OF ROAD ONLY
LIMIT OF TRENCH EARTH
CREST RL 37.00m CPEP
DRAINAGE NOTE #1: REMOVE EXISTING 450mm DIA RCP @ TA 1 | 01974 LT
KERB & GUTTER
SHOULDER
EXIST
TA 1 | 01974
SIGNED
7.5 LT
SHOULDER
CLOSED
TA 2
D 1.25%
SHOULDER
DRAINAGE NOTE #1
CREST RL 37.00
TA 1
D 1.25%
SHOULDER
+2.50%
SHOULDER
TA 1 | 01974
SIGNED
7.5 LT
Point | Angle (deg) | X | Y | Station | Grade | Offset | Chainage
1 | 0.00 | 1.50 | 0.0 | 01974.8 | 150.935 | 4.50 RT | 40.385
2 | 9.40 | 3.09 | 0.0 | 01973.9 | 150.926 | 3.04 RT | 40.333
3 | 5.42 | 0.00 | 0.0 | 01972.3 | 150.845 | 3.12 RT | 40.187
4 | 4.24 | 1.21 | 0.0 | 01971.9 | 150.338 | 4.30 RT | 40.065
5 | 0 | 0 | 0 | 01972.0 | 150.383 | 4 | 40.383
6 | 19.95 | 5.23 | 0.0 | 01974.8 | 150.340 | 12.0 RT | 38.101
7 | 9.23 | 1.26 | 0.0 | 01974.8 | 150.139 | 9.5 LT | 38.181
ALBURY SHEET 8KF036 (A)
DRAINAGE
SHEET 3 OF 10
PLATE 3-FULL CROSS SECTION

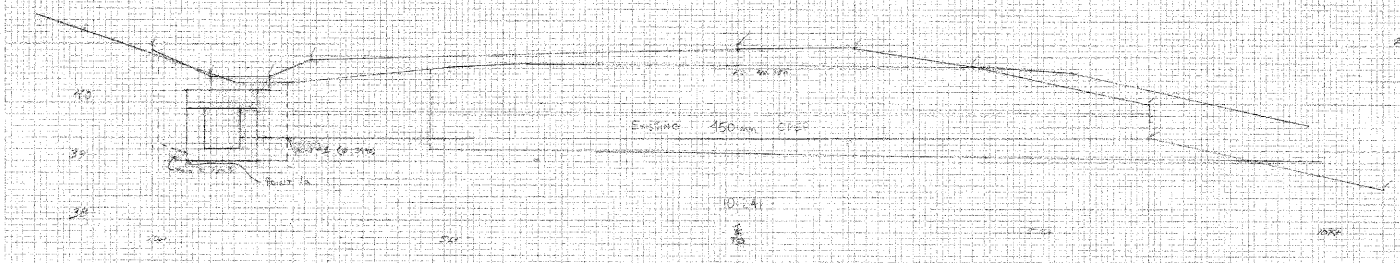
DRAINAGE NOTE #15 (DRAWING SHEET C 72)

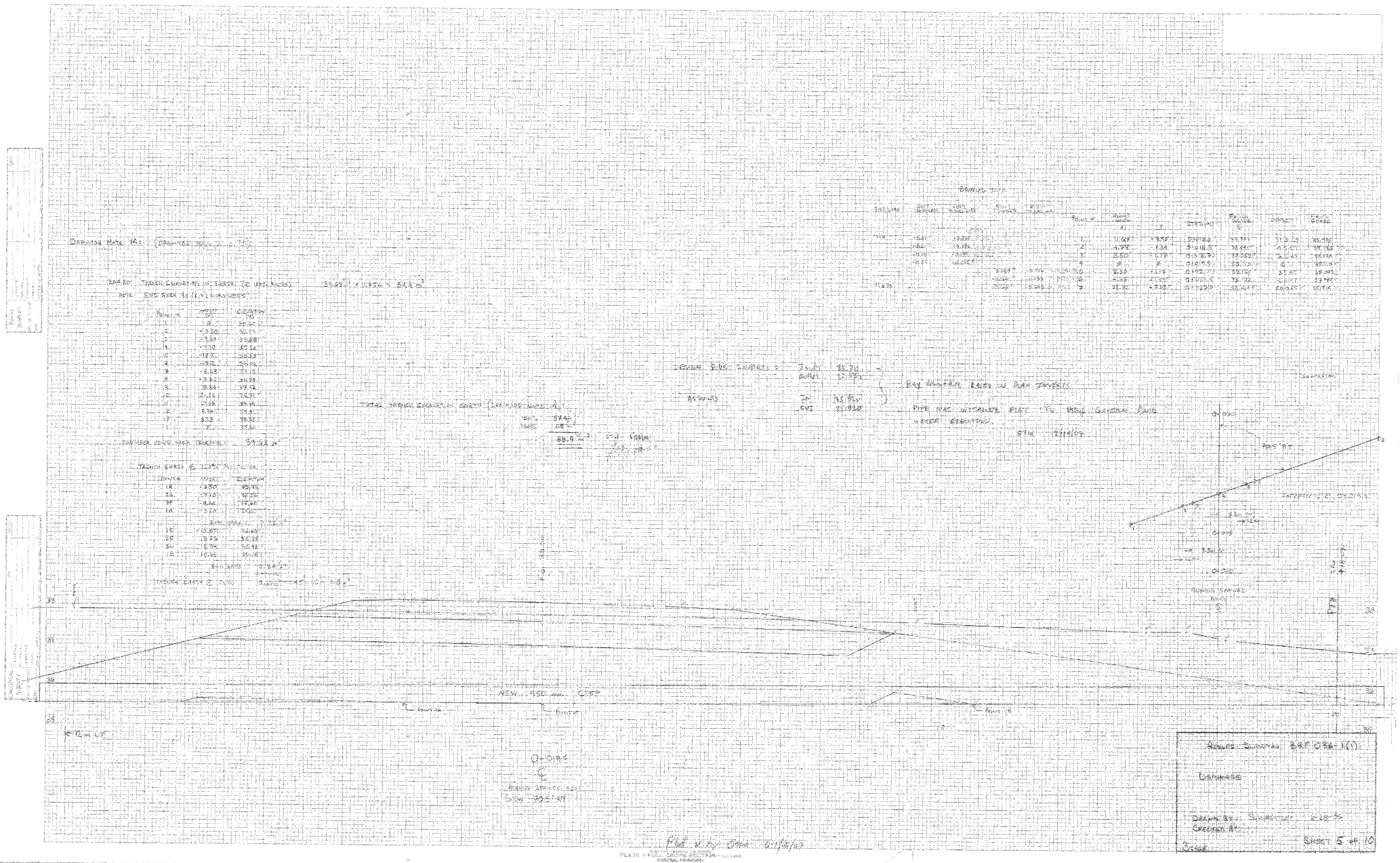


DRAINAGE NOTE #13 (DRAWING SHEET C 15 OF 22)



DRAINAGE NOTE #2 (DRAWING SHEET C 12 OF 22)




Drainage Note 14:
NEW 450mm CPES
Sheet 5 of 10

Drainage Note #22
(Drainage Book 2, p. 114)

201.20 Trench Earth — 15.55 m² × 1.45 m = 22.5 m³

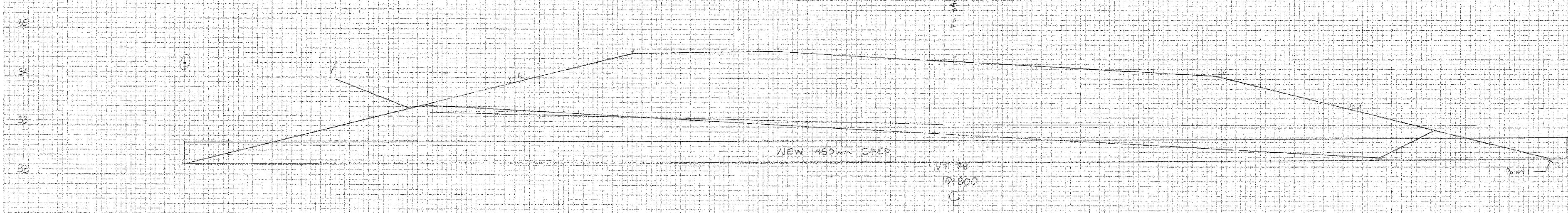
Point	Offset	Elevation
1	12.25	32.38
2	15.8	32.22
3	-11.15	33.37
4	-11.8	33.39
5	6.75	33.20
6	8.75	32.39
7	9.86	32.19
1	12.25	32.38

End area using area program: 15.55 m²

Plus T.E. for stone pad (Field meas. by STW 9-11-07)
0.9 m × 2.1 m × 0.3 m = 0.6 m³

Total T.E. for DN #22: 23.1 m³ To Book 2, page 114.

613.10 Stone Fill Type I (Field meas. by STW 9-11-07)
0.9 m × 2.1 m × 0.3 m = 0.6 m³ To Bk 2, page 114.



Drainage Note # 20
(Drainage Book 2, p. 102)

206.21 Trench Rock — 7.58 m² × 1.45 m = 10.99 m³ STW 9/18/07

Point	Offset	Elevation
T.C. 1	28.11	32.42
2	7.0	32.70
3	8.0	33.16
4	10.0	33.23
5	14.0	32.85
6	18.0	32.30
7	19.7	33.40
8	20.0	32.81
9	20.0	32.76
10	22.1	32.72
	22.1	32.42

End area using area program: 7.58 m²

Plus unsuspect(?) E. 8.10 Inlet
0.2 × 0.3 × 1.45 = 0.9 m³
11.9 m³ To Bk 2 p. 102

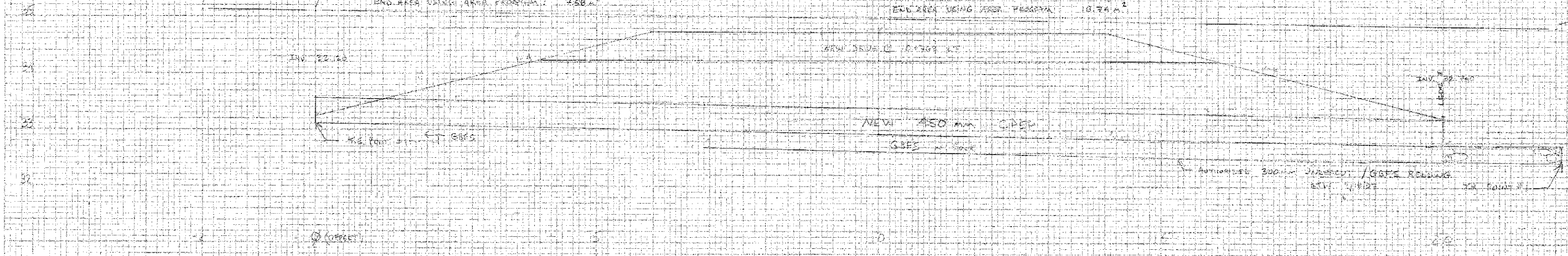
201.30 Trench Earth — 18.74 m² × 1.45 m = 27.17 m³ To Bk 2 p. 102

Point	Offset	Elevation
T.E. 1	ø	33.11
2	ø	33.23
3	4.0	33.23
4	16.2	33.23
5	19.95	33.30
6	18.5	33.30
7	13.0	32.85
8	10.0	33.27
9	8.0	33.16
10	7.0	32.70
11	7.0	33.00
1	ø	33.11

End area using area program: 18.74 m²

204.30 Granular Backfill for Structures (300 mm over pipe and 300 mm on each side)
Field measured by STW on 9/18/07

Pipe	$\left[1.450 \times 0.750 - \pi\left(\frac{450}{2}\right)^2\right] \times 20 m$	= 18.6 m³
Inlet	1.450 × 0.300 × 15.2 m =	6.6 m³
	1.450 × 0.300 ×	
		25.2 m³



Albert's Brook — BRF 036-1(0)
Drainage
Drawn By: S. Wheatley Date: 6-30-06
Check By: Date:
Sheet 6 of 10

DRAINAGE NOTE 20 (CONTINUED FROM SHEET 2 OF 10)

204.120 TRENCH EARTH (PIPE) 5.84 m² × 11.6m = 9.3 m³

POINT	OFFSET	ELEVATION
1	0	91.50
2	-7.90	89.05
3	-16.47	91.40
4	-17.8	92.95
5	-7.55	91.65

EXC AREA VALUED FROM PROFILE = 5.84 m²

204.130 GBFS BACKFILL

FMD BY STW ON 7/11/06

$\left(\frac{5.5+5.0}{2}\right) \times \left[9.6 - \left(\frac{1.6+0.5}{2}\right)\right] = 4.76\ m^2$ TO BK 2 PAGE 112

1.6 23

NEW 600mm

LIGHT DF TRENCH EARTH

POINT 1

1.9

OUTLET 102925 (99.44m LT)

K = 0.7m

INLET 101920 (102.44m LT)

204.130 GBFS FOR PIPE @ 102585 c/fer

FIELD MEAS BY STW 3-12-06

$\left(\frac{3.95+4.70}{2}\right) \times 11.05 \times 10.4 = 9.05\ m^2$

LESS PIPE $\pi \times 0.225^2 \times 10.4 = 1.65\ m^2$

7.4 m²

204.130 GBFS FOR CATCH BASIN @ 102586 c/fer

$8.1 \times 0.9^2 \times 1.0 = 2.58\ m^3$

LESS CATCH BASIN $3.14 \times 0.6^2 \times 1.8 = 1.23\ m^3$

1.4 m³

204.130 GBFS FOR CATCH BASIN @ 102585 c/fer

$8.1 \times 0.9^2 \times 1.4 = 3.56\ m^3$

LESS CATCH BASIN $3.14 \times 0.6^2 \times 1.4 = 1.58\ m^3$

2.0 m³

204.130 TOTAL GBFS FOR DR 26-27 =

7.4 + 7.4 + 2.0 = 16.8 m³

= 8 m³ @ $ 130

DRAINAGE NOTE 26 + 27 (CONTINUED FROM SHEET 2 OF 10)

EG ELEV

NEW 450mm

SOFFIT

INVERT

204.120 TRENCH EARTH (PIPE) 3.92 m² × 1.45m = 5.8 m³

POINT	OFFSET	ELEVATION
1	-7.50	92.10
2	-16.49	91.67
3	-13.88	91.38
4	-7.55	92.48
5	-7.55	92.10

EXC AREA VALUED FROM PROFILE = 3.97 m²

204.120 TRENCH EARTH (MH) T·S·L·W

8.44 × 1.25 × 0.65m = 2.7 m³

204.130 TRENCH EARTH TOTAL = 11.2 m³

FOR DRA 27 VT 7A

SEE SPE OUTLET

FMD BY STW 2.7m × 4.0m × 0.5m = 5.4m³

11.2 m³ TO BK 2 PAGE 134

STW

102585

204.130 TRENCH EARTH 5.07m × 1.5m = 7.6 m²

POINTS	OFFSET	ELEVATION
1	0.5	92.60
2	-0.5	92.12
3	-2.15	92.17
4	-3.65	92.87
5	-6.65	93.87
6	-13.20	92.67
7	-13.5	92.10
8	-14.5	91.95

CALCULATED USING VALLEY PROGRAM 6.43 m²

DRAINAGE NOTE 25 (CONTINUED FROM SHEET 2 OF 10)

K = 2.5m LT

K = 1.0m LT

102881

AUBURN - SUNNYSIDE EAST DEV (1)

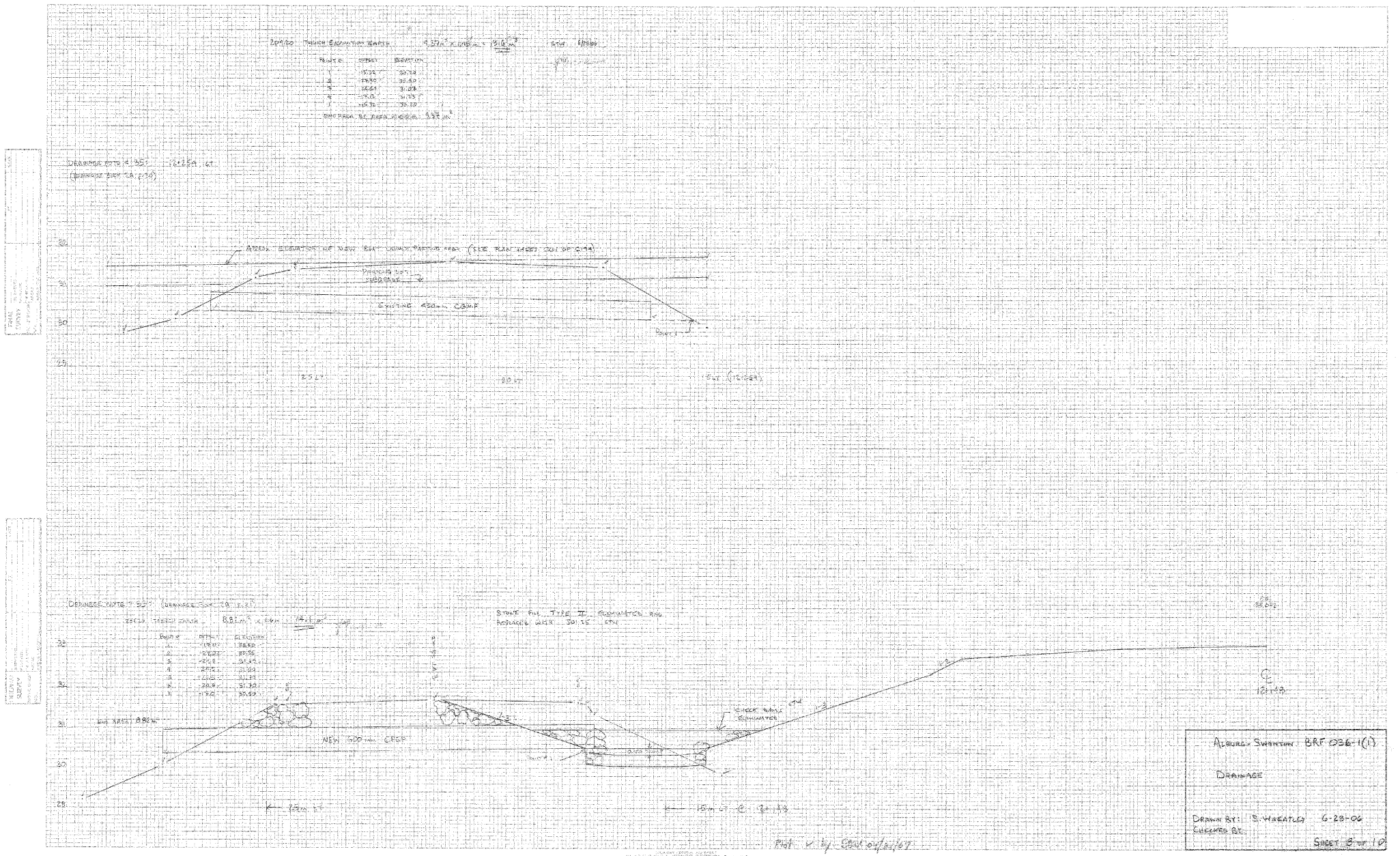
DRAINAGE

DESIGNED BY: S. WIERZBICKI 7-11-06

CHECKED BY:

SHEET 7 OF 10

PLATE 3 FULL THREE ERC PONDING LINE



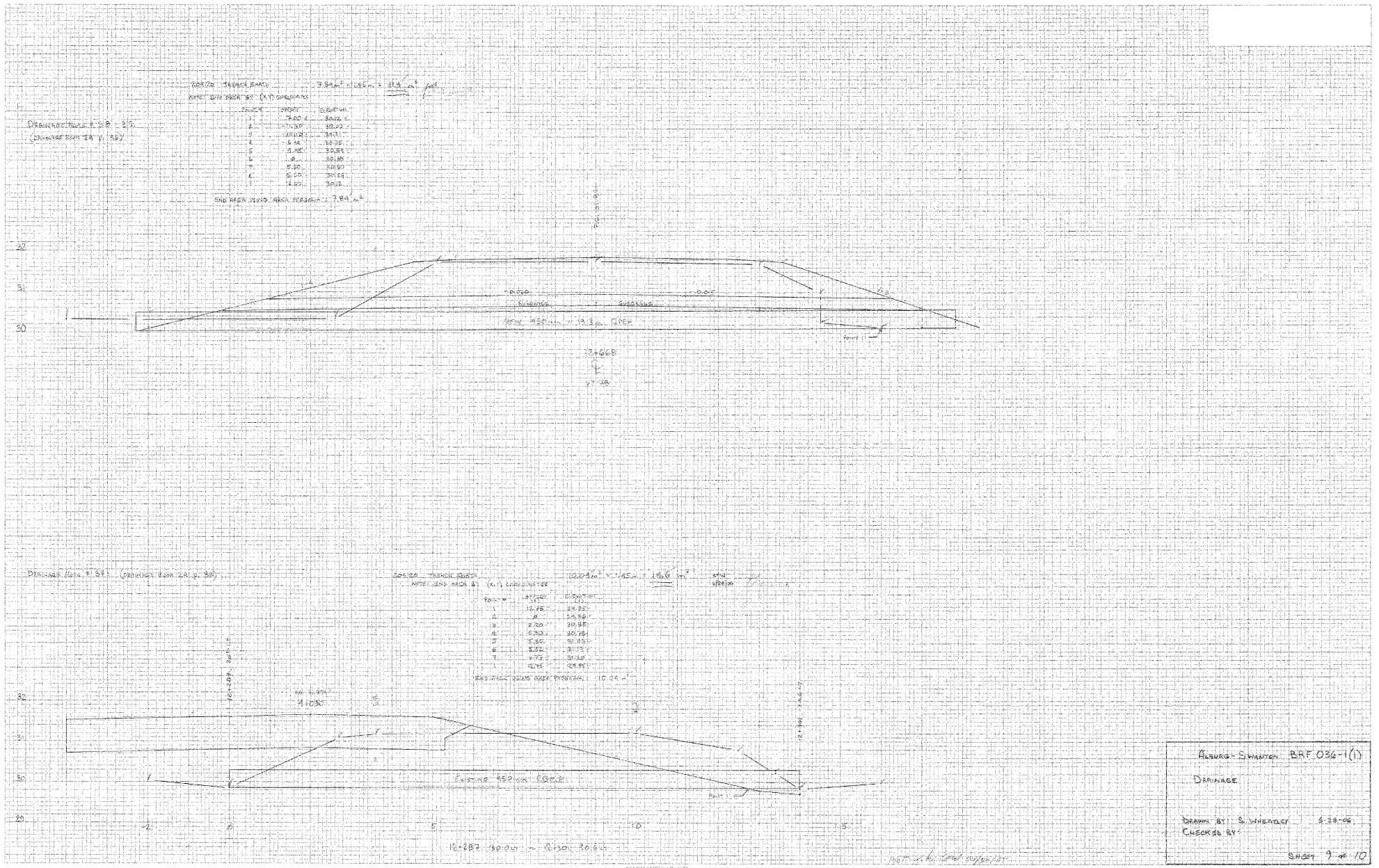
Alburgh Swanton BRF 036-1(1)

Drainage

Drawn By: S. Wheatley 6-28-06

Checked By:

Sheet 8 of 10



Alsurg-Swanton BRF 036-1(1)

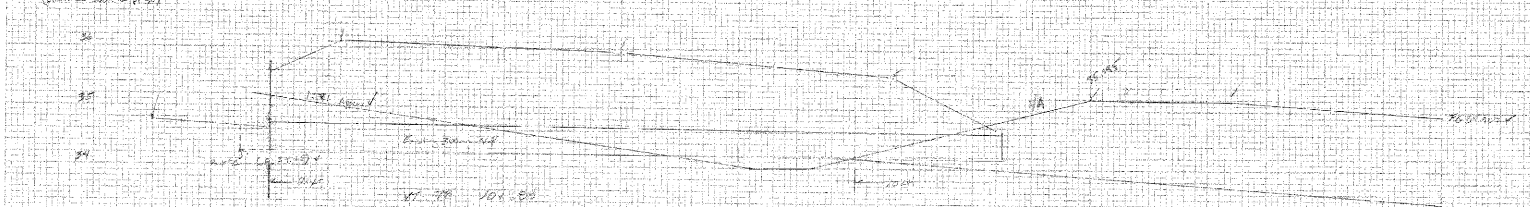
Drainage

Drawn by: S. Wheatley 6-28-06

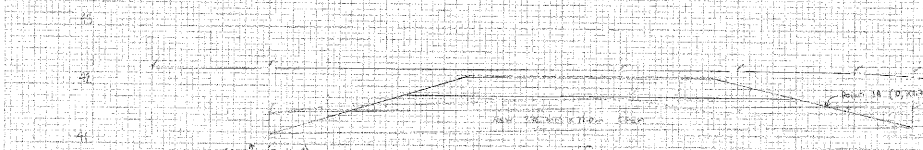
Checked by:

Sheet 9 of 10

Drainage Map 1A
(Drainage Book 2A p. 82)

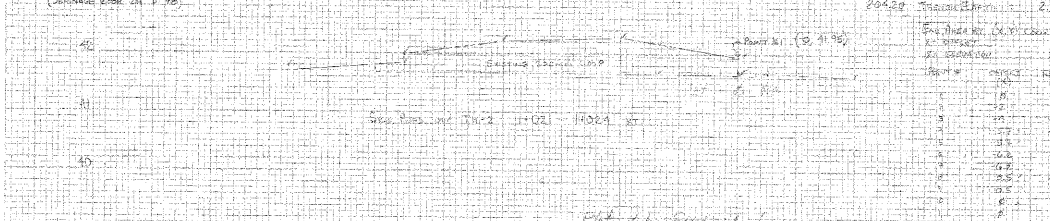


Drainage Note 4A
(Drainage Book 2A p. 68)



Drainage Note 4B
(Drainage Book 2A p. 84)

Drainage Note 4C
(Drainage Book 2A p. 78)



ORIGINAL
SURVEY
DATE
BOOK
PAGE

ORIGINAL
SURVEY
DATE
BOOK
PAGE

204.21 Trench Rock 6.2 ft² x 1.275 = 7.9 ft²

Sag Area by Cut Coordinates

Point	Offset	Elevation
1	0	41.60
2	4.8	41.25
3	10.8	41.65
4	15.5	41.55
5	18.5	41.55
6	24	41.69
7	29	41.40
8		41.43

Area Below Grade Program 6.31 ft²

204.20 Trench Earth 4.95 ft² x 1.375 = 6.8 ft²

End Area by X,Y Coordinates

Point	Offset	Elevation
1	0	40.76
2	11.5	40.76
3	11.5	40.83
4	12.0	40.83
5	20.0	40.95
6	20.0	40.95
7	24.5	41.15
8	24.5	40.76
9	29.5	40.76
10		40.76

Area Below Grade Program 4.95 ft²

204.20 Trench Earth 2.92 ft² x 1.375 = 5.8 ft²

End Area by X,Y Coordinates

Point	Offset	Elevation
1	0	41.76
2	11.5	41.76
3	11.5	41.83
4	12.0	41.83
5	20.0	41.95
6	20.0	41.95
7	24.5	41.64
8	24.5	41.65
9	29.5	41.70
10	0	41.76
11		41.76

Area Below Grade Program 2.92 ft²

204.30 Trench Earth

Point	Offset	Elevation
1A	0	41.76
2	-2.5	41.60
3	-4.5	41.81
4	-8.5	41.93
5	-11.5	41.92
6	-14.5	41.70
7	-16.5	41.65
1A	0	41.76

End Area 2 Area 1 Volume

204.30 Granular Backfill for Structure

Pipe Bedding and Over Pipe Backfill

0.675 x 1.375 = 10.6 ft²
Less Pipe 1.7 ft²
8.9 x .854 = 7.6 ft²
9.0 ft²

Albuquerque, Bernalillo County, New Mexico

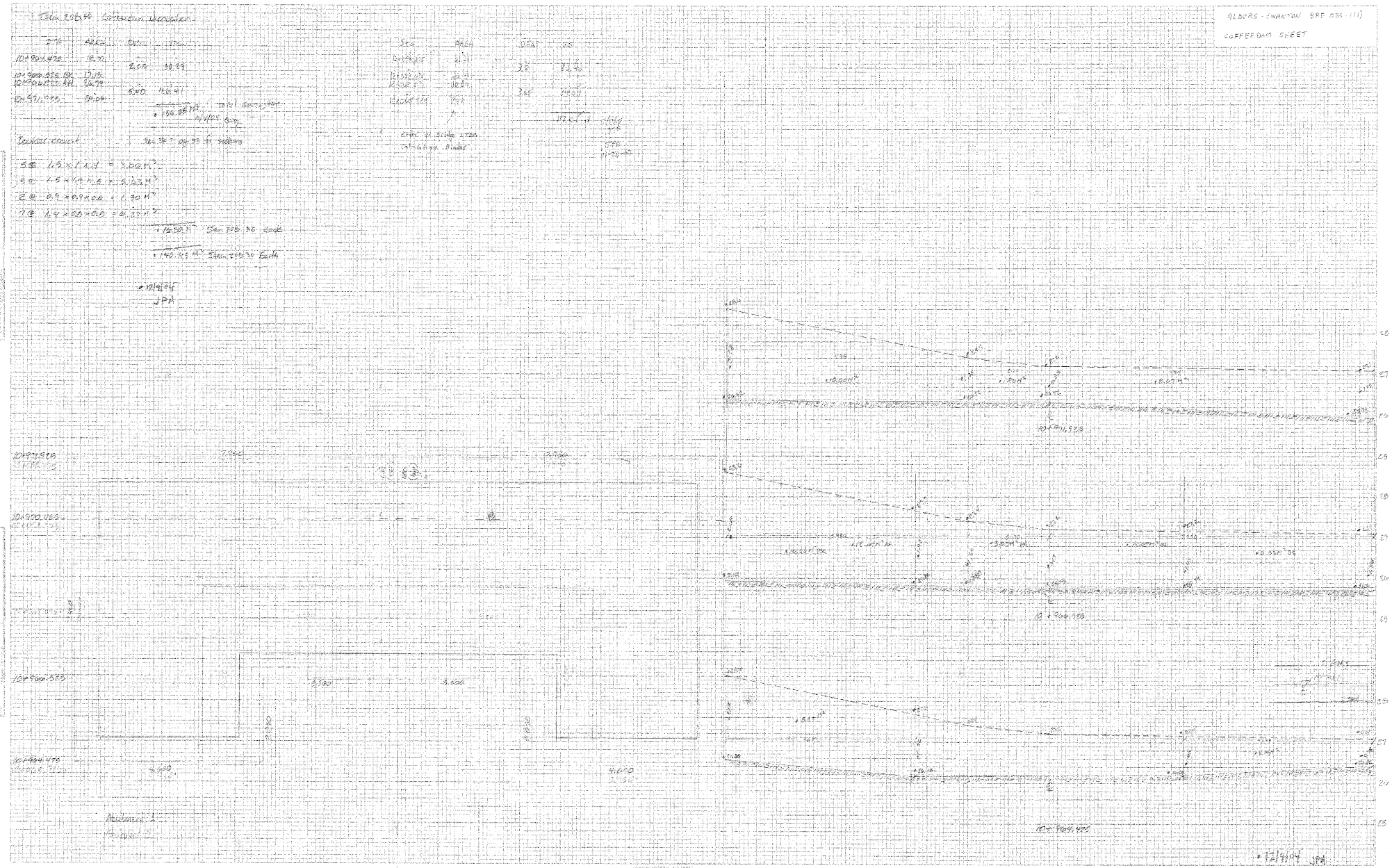
Drainage

Design By: S. Wheatley 9-19-96
Drawn By:
Checked By:

Sheet 10 of 10

ALBURS - HAMILTON SRF 036 (11)

COFFERDAM SHEET



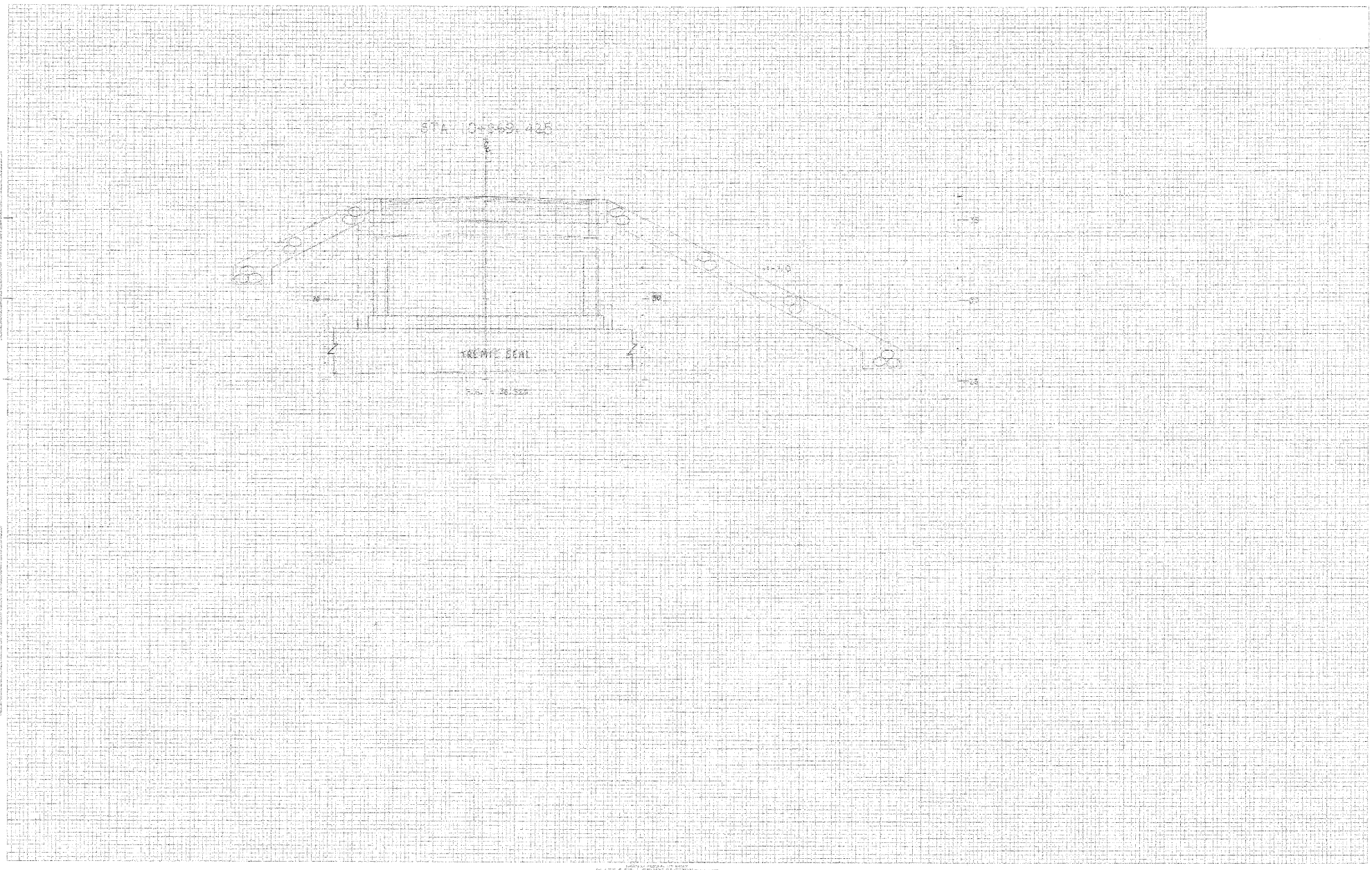
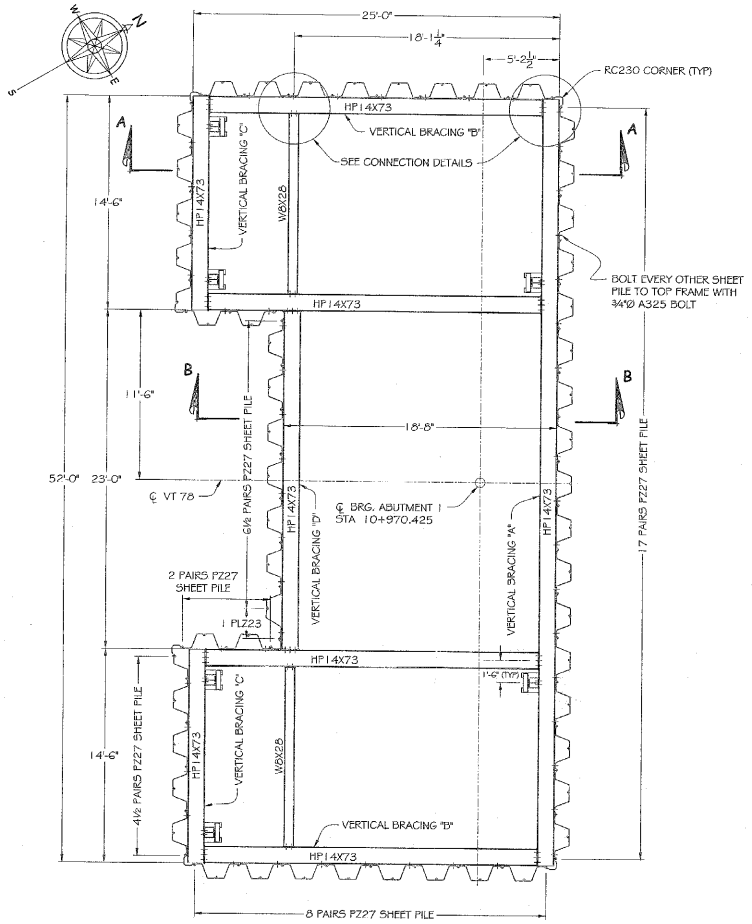
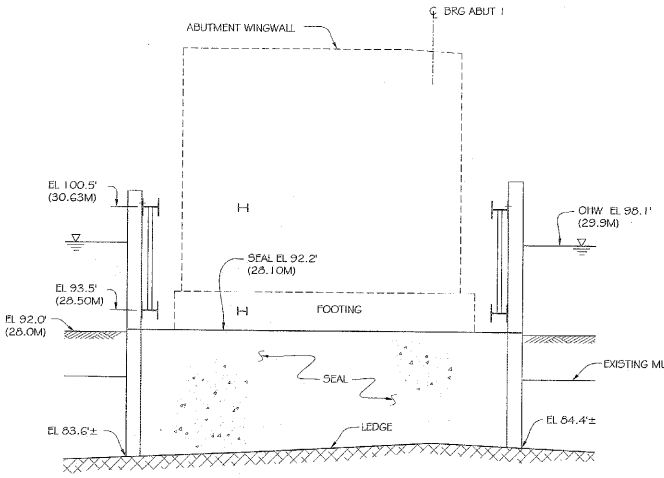


PLATE 5-F(2) TUNNEL SECTIONS

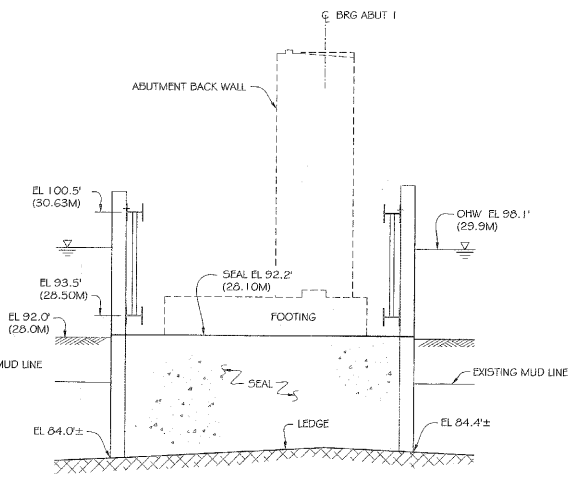


PLAN VIEW
SHEET PILE LAYOUT
UPPER & LOWER FRAMES
1/4"=1'-0"

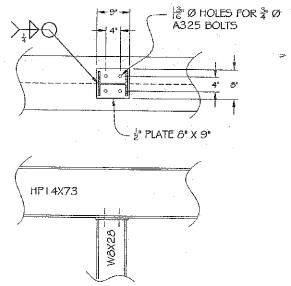
NOTE:
SEE SHEET 2 FOR SPUD POCKET & VERTIVAL BRACING DETAILS.



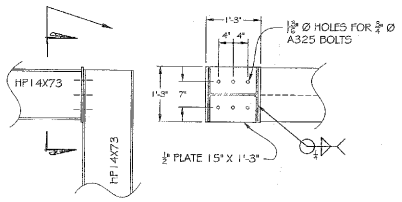
SECTION A - A
1/4"=1'-0"



SECTION B - B
1/4"=1'-0"



W8X28 CONNECTION DETAIL
3/4"=1'-0"



HP14X73 CONNECTION DETAIL
3/4"=1'-0"

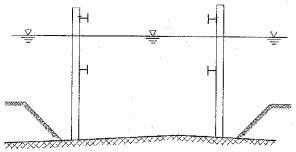
NOTES:

1.) COFFERDAM MUST BE FLOODED IF LAKE ELEVATION EXCEEDS 98.1' (29.9m)

2.) ALL STEEL ASTM A36.

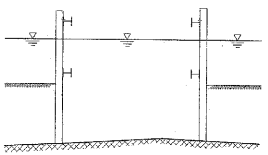
3.) WELDING ELECTRODE E70XX.

4.) BOLTS ASTM A325.

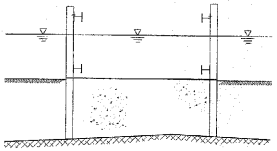


CONSTRUCTION SEQUENCE:

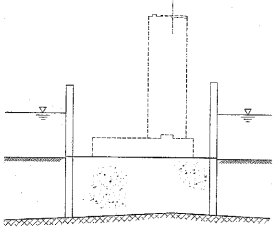
1. EXCAVATE ABUTMENT AREA TO LEDGE.
2. SET FRAME AND COFFERDAM SHEET PILE.



3. BACKFILL UNIFORMLY AROUND COFFERDAM TO ELEVATION 92' (28.0m).



4. PLACE SEAL CONCRETE.
5. ALLOW TO CURE FOR 5 DAYS OR A MINIMUM COMRESSIVE STRENGTH OF 2,500 psi.



6. DEWATER COFFERDAM.
7. REMOVE FRAME.
8. CONSTRUCT FOOTING AND ABUTMENT.

STATE OF VERMONT
JOSEPH P. FOLEY, JR. 5812
REGISTERED PROFESSIONAL ENGINEER
9/13/04

CAD FILE: Abut Coffers.dwg

THE STATE OF VERMONT
AGENCY OF TRANSPORTATION
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
PROJECT NO. BRF 036-1 (1)

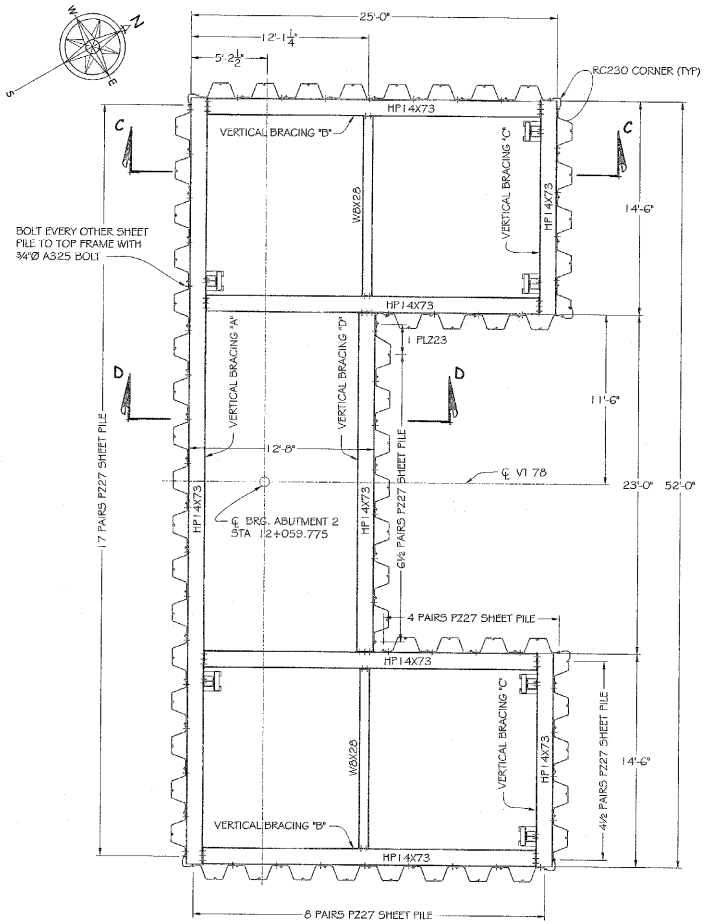
REV	DATE	BY	DESCRIPTION
0	9-7-04	JF	ISSUED FOR APPROVAL

VT 78 OVER MISSISQUOI BAY
ALBURG — SWANTON
ABUTMENT 1 COFFERDAM
PLAN, SECTION AND DETAILS

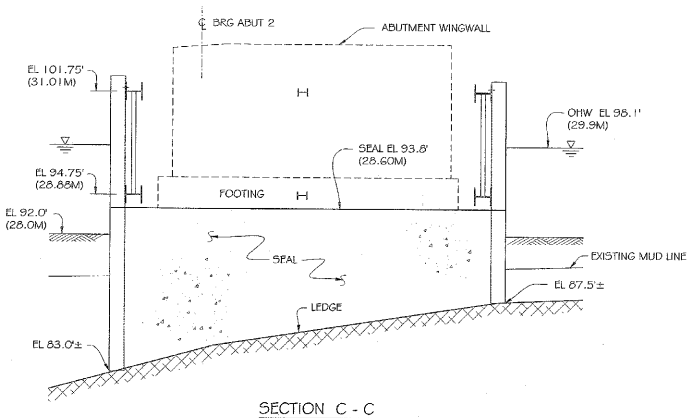
SCALE: NOTED
DATE: 9-7-04
DRAWN: J. FOLEY
CHECK:

CIANBRO
THE CONSTRUCTORS

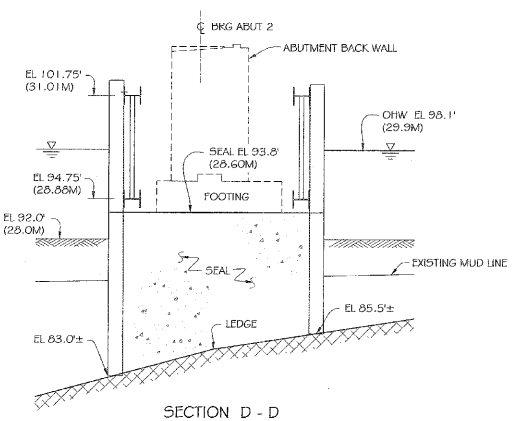
SHEET 1 OF 2
JOB 2404000



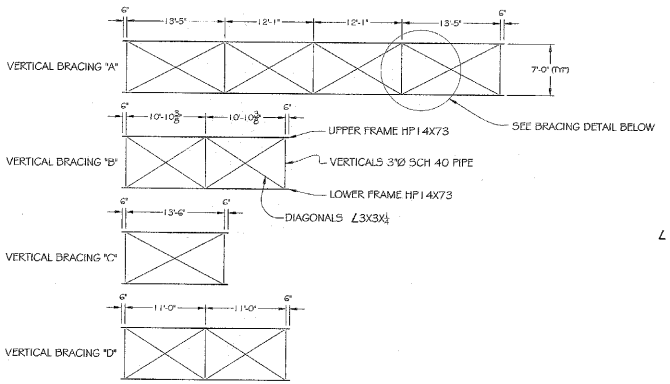
PLAN VIEW
SHEET PILE LAYOUT
UPPER & LOWER FRAMES
1/4"=1'-0"

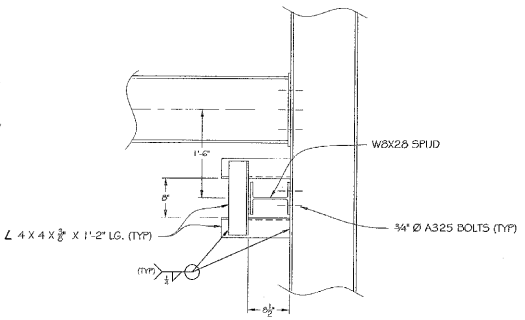


SECTION C - C
1/4"=1'-0"

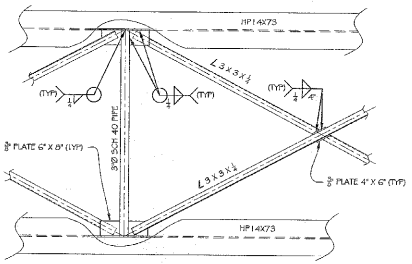


SECTION D - D
1/4"=1'-0"





SPUD POCKET DETAIL
(UPPER & LOWER FRAME)
1"=1'-0"



BRACING DETAILS
1/2"=1'-0"

THE STATE OF VERMONT
AGENCY OF TRANSPORTATION
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
PROJECT NO. BRF 036-1 (1)

REV	DATE	BY	DESCRIPTION
0	9-7-04	JJF	ISSUED FOR APPROVAL

VT 78 OVER MISSISQUOI BAY
ALBURG — SWANTON
ABUTMENT 2 COFFERDAM
PLAN, SECTION AND DETAILS

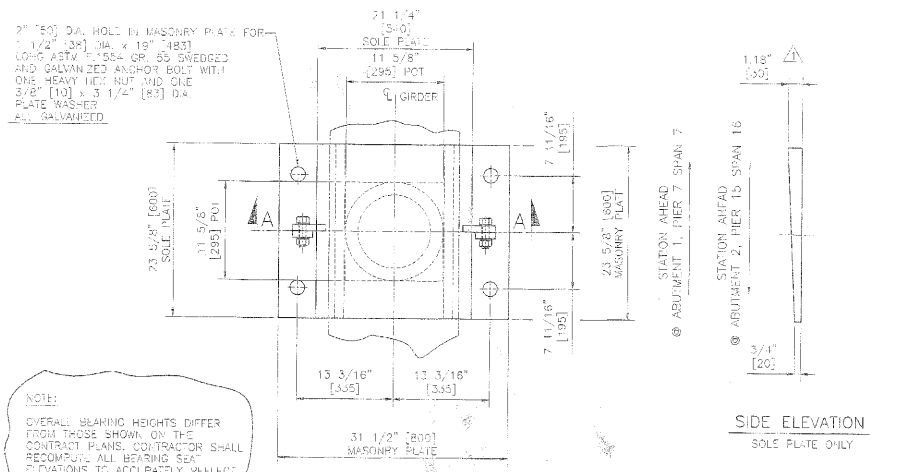
SCALE: NOTED
DATE: 9-7-04
DRAWN: J. FOLEY
CHECK:

CIANBRO
THE CONSTRUCTORS

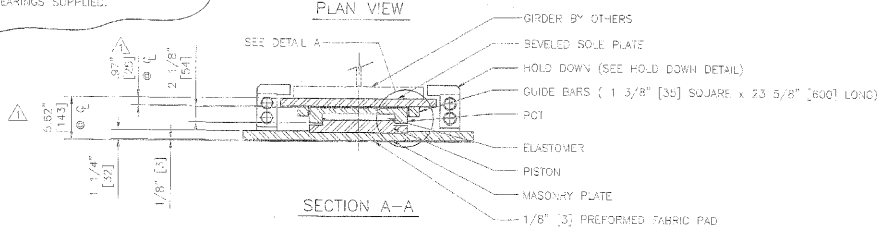
SHEET 2 OF 2
JOB 2404000

JOSEPH P. FOLEY, JR. 6912 REGISTERED PROFESSIONAL ENGINEER STATE OF MAINE
9/14/04

CAD FILE: Abut Coffers.dwg



NOTE:
OVERALL BEARING HEIGHTS DIFFER FROM THOSE SHOWN ON THE CONTRACT PLANS. CONTRACTOR SHALL RECOMPUTE ALL BEARING SEAT ELEVATIONS TO ACCURATELY REFLECT BEARINGS SUPPLIED.



SECTION A-A

GUIDED EXPANSION POT BEARING

LOCATION – ABUTMENT NO. 1 AND PIER 7, SPAN 7, PIER 15, SPAN 16 & ABUTMENT 2, GIRDERS 1 THROUGH 4

TOTAL QUANTITY REQUIRED – 16

TOTAL VERTICAL CAPACITY – 272 KIPS [1206 kN]
TOTAL HORIZONTAL CAPACITY – 32 KIPS [142 kN]
TOTAL LONGITUDINAL MOVEMENT – 9.13" [232mm]
TOTAL TRANSVERSE MOVEMENT = 1/4" [6mm]
ROTATION CAPACITY – 0.025 RADIANS

BEARING MATERIALS

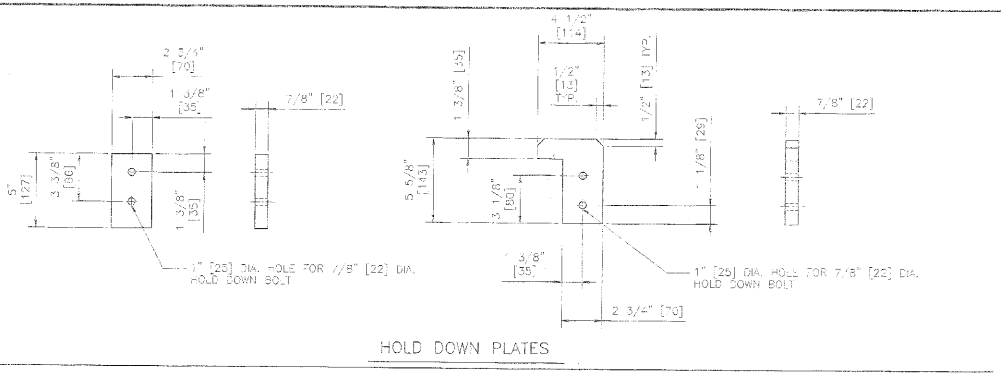
STEEL – ASTM A.709 GR. 50 ZINC METALLIZED
STAINLESS STEEL – ASTM A.240 TYPE 304, 10 RMS FINISH OR LESS
PTFE – ASTM D.4894 VIRGIN UNFILLED
ELASTOMER – AASHTO 50 DUROMETER NEOPRENE
BRASS RINGS – ASTM B.36 HALF HARD
PREFORMED FABRIC PAD – AASHTO 18.4.9.1, DIV. II
HOLD DOWN BOLTS – ASTM A.325 TYPE 1 GALVANIZED
ANCHOR BOLTS – ASTM F.1554 GR. 55 GALVANIZED

BEARING DATA AND NOTES

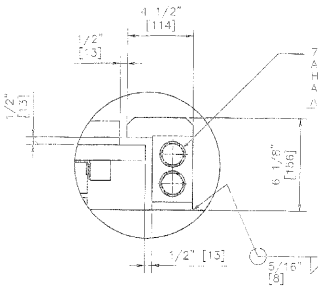
1. ALL MATERIAL USED IN THE MANUFACTURE OF THESE BEARINGS SHALL BE MADE IN THE U.S.A.
2. BEARINGS SHALL BE SHIPPED AS COMPLETE UNITS AND SHALL BE MARKED FOR IDENTIFICATION WITH LOCATION. LOCATIONS & STATION AHEAD SHALL BE DIE STAMPED IN ONE CORNER OF SOLE PLATE IN LOCATION VISIBLE AFTER INSTALLATION. THICK END OF BEARING SOLE PLATE SHALL BE MARKED Ø
3. ALL EDGES OF STEEL PLATES SHALL BE ROUNDED TO A 1/16" [1.6]RADIUS.
4. LOCATION OF FABRICATION PLANT – 70 SOUTH STREET WALPOLE, MA 02081
5. COSMEC, INC. REPRESENTATIVE: MR. MATT McANDREWS (508) 668-6600
6. ALL STEEL SURFACES SHALL BE ZINC METALLIZED IN ACCORDANCE WITH AWS C 2.18. ALL EXPOSED SURFACES S-ALL RECEIVE 8 MILS AND THE INTERIOR OF POT AND UNDERSIDE OF PISTON SHALL RECEIVE 2 MILS. AREAS DAMAGED DURING FIELD WELDING SHALL BE REPAIRED IN ACCORDANCE WITH VT A.O.T SUPPLEMENTAL SPECIFICATION 513.
7. UNDER NO CIRCUMSTANCES SHALL THE BEARINGS BE DISASSEMBLED WITHOUT EXPRESS WRITTEN AUTHORIZATION FROM COSMEC, INC. UNAUTHORIZED DISASSEMBLY MAY CAUSE MALFUNCTION OF UNIT.

SHOP DRAWING REVIEW

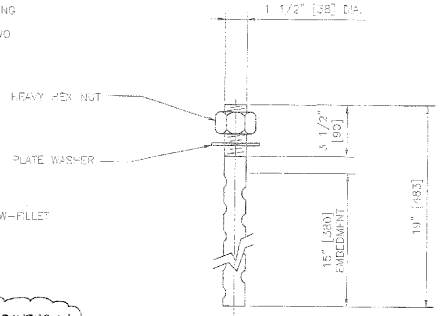
☐ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND COMPLIANCE TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☑ FURNISH AS CORRECTED
CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH ALL REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATION ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING THIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING WORK IN A SAFE AND SATISFACTORY MANNER.
VHB Vanasse Hangen Brustlin, Inc. Job Number: 5-29711
Reviewed By: [illegible] Date: 10/14/04



HOLD DOWN PLATES

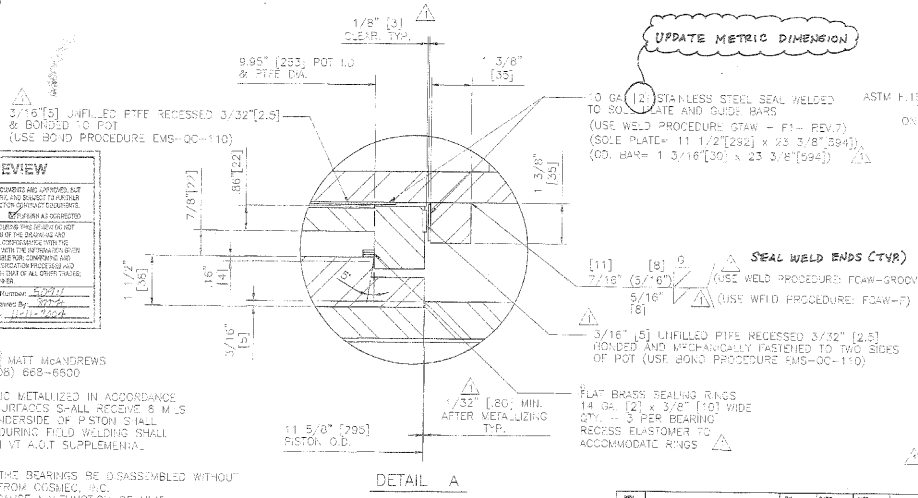


HOLD DOWN DETAIL



ANCHOR BOLT DETAIL

1 1/2" [38] DIA. x 19" [483] LONG ASTM F.1554 GR. 55 SWEDGED ANCHOR BOLT WITH 3 1/2" [90] THREAD ONE END, ONE HEAVY HEX NUT AND ONE 3/8" [10] x 3 1/4" [83] DIA. PLATE WASHER W/ 1 3/4"[46] DIA. HOLE
ALL GALVANIZED



DETAIL A

REV.	DESCRIPTION	BY	DATE	CKD	DATE
1	ADDED WELD PROCEDURE NOTES & REVISED DETAILS	MT	10/13/04	MH	10/14/04

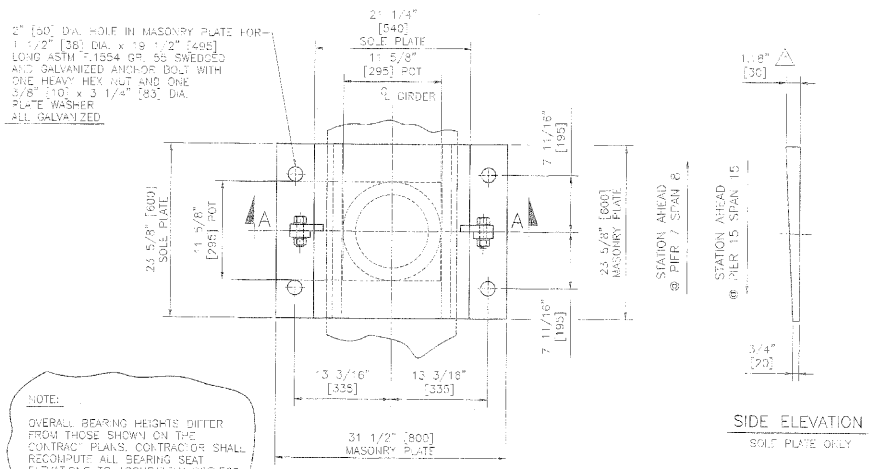
STATE OF VERMONT
AGENCY OF TRANSPORTATION
PROJECT NO. BRF 036-1(1)
TOWNS OF ALBURG-SWANTON
VT 78 OVER MISSISQUOI BAY
BRIDGE NO. 2
ABUTMENT 1 AND 2 & PIER 7, SPAN 7 AND PIER 15, SPAN 16
POT BEARING DETAILS

COSMEC, INC. 70 SOUTH STREET WALPOLE, MA. 02081

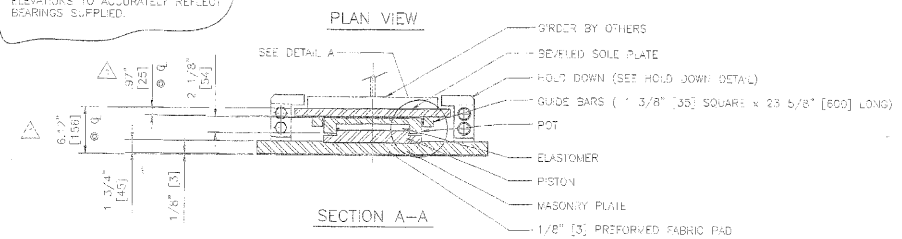
SCALE: N.T.S.	DRAWN BY: MCH	CHECKED BY: MH
SHEET 1 OF 7	DATE: 7/27/04	DATE: 8/2/04

COSMEC POT BEARINGS

CUSTOMER	S.O. NUMBER	DRAWING NUMBER	REV.
CIANBRO CORP.	60093	4258	1



NOTE:
OVERALL BEARING HEIGHTS DIFFER FROM THOSE SHOWN ON THE CONTRACT PLANS. CONTRACTOR SHALL RECOMPUTE ALL BEARING SEAT ELEVATIONS TO ACCURATELY REFLECT BEARINGS SUPPLIED.



SECTION A-A

GUIDED EXPANSION POT BEARING

LOCATION – PIER 7, SPAN 8 & PIER 15, SPAN 15
GIRDERS 1 THROUGH 4
TOTAL QUANTITY REQUIRED – 8

TOTAL VERTICAL CAPACITY – 272 KIPS [1206 kN]
TOTAL HORIZONTAL CAPACITY – 32 KIPS [142 kN]
TOTAL LONGITUDINAL MOVEMENT = 9.13" [232mm]
TOTAL TRANSVERSE MOVEMENT = 1/4" [6mm]
ROTATION CAPACITY – 0.025 RADIANS ⚠1

BEARING MATERIALS

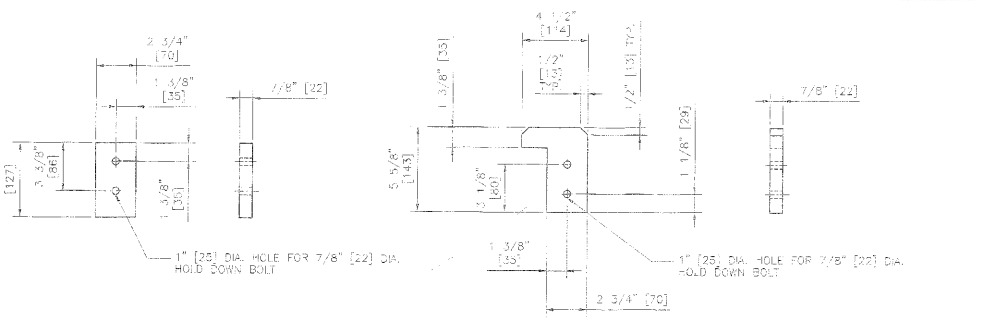
STEEL – ASTM A.709 GR. 50 ZINC METALLIZED
STAINLESS STEEL – ASTM A.240 TYPE 304, 10 RMS FINISH OR LESS
PTFE – ASTM D.4894 VIRGIN UNFILLED
ELASTOMER – AASHTO 50 DUROMETER NEOPRENE
BRASS RINGS – ASTM B.36 HALF HARD
PREFORMED FABRIC PAD – AASHTO 18.4.9.1, DIV. II
HOLD DOWN BOLTS – ASTM A.325 TYPE 1 GALVANIZED
ANCHOR BOLTS – ASTM F.1554 GR. 55 GALVANIZED

BEARING DATA AND NOTES

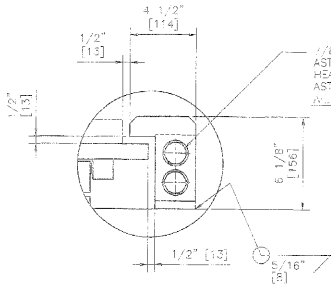
1. ALL MATERIAL USED IN THE MANUFACTURE OF THESE BEARINGS SHALL BE MADE IN THE U.S.A.
2. BEARINGS SHALL BE SHIPPED AS COMPLETE UNITS AND SHALL BE MARKED FOR IDENTIFICATION WITH LOCATION. LOCATIONS & STATION AHEAD SHALL BE DIE ⚠1 STAMPED IN ONE CORNER OF SOLE PLATE IN A LOCATION VISIBLE AFTER INSTALLATION. THICK END OF BEARING SOLE PLATE SHALL BE MARKED ⊗
3. ALL EDGES OF STEEL PLATES SHALL BE ROUNDED TO A 1/16" [1.6] RADIUS.
4. LOCATION OF FABRICATION PLANT – 70 SOUTH STREET WALPOLE, MA 02081
5. COSMEC, INC. REPRESENTATIVE: MR. MATT MCANDREWS (508) 668-6800
6. ALL STEEL SURFACES SHALL BE ZINC METALIZED IN ACCORDANCE WITH AWS C.2.8. ALL EXPOSED SURFACES SHALL RECEIVE 6 MILS AND THE INTERIOR OF POT AND UNDERSIDE OF PISTON SHALL RECEIVE 2 MILS. AREAS DAMAGED DURING FIELD WELDING SHALL BE REPAIRED IN ACCORDANCE WITH VT A.O.T SUPPLEMENTAL SPECIFICATION 513.
7. UNDER NO CIRCUMSTANCES SHALL THE BEARINGS BE DISASSEMBLED WITHOUT EXPRESS WRITTEN AUTHORIZATION FROM COSMEC, INC. UNAUTHORIZED DISASSEMBLY MAY CAUSE MALFUNCTION OF UNIT.

SHOP DRAWING REVIEW

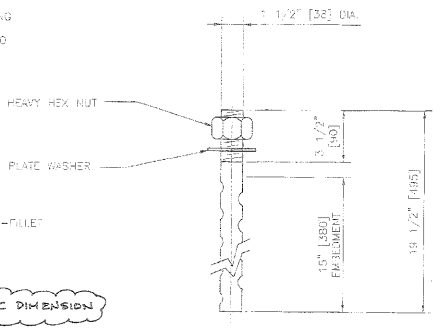
☐ REVIEWED AS BROUGHT OUT IN THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, NOT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, BUT SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ NOTED AND RESUBMIT ☒ FURNISH AS CORRECTED
CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWING DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR THE PURPOSE OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING THIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.
VHB Vanasse Hangen Brustlin, Inc. | Job Number: 52411
Reviewed By: SMH
Date: 11-11-2004



HOLD DOWN PLATES



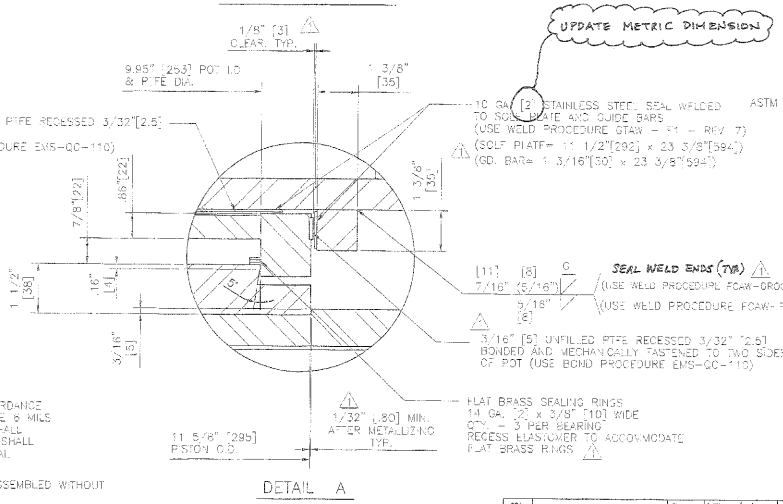
HOLD DOWN DETAIL



ANCHOR BOLT DETAIL

1 1/2" [38] DIA. x 19 1/2" [495] LONG ASTM F.1554 GR. 55 SWEDGED ANCHOR BOLT WITH 3 1/2" [90] THREAD ONE END, ONE HEAVY HEX NUT AND ONE 3/8" [10] x 3 1/4" [83] DIA. PLATE WASHER W/ 1 3/4"[45] DIA. HOLE ⚠1 ALL GALVANIZED

UPDATE METRIC DIMENSION



DETAIL A

STATE OF VERMONT
AGENCY OF TRANSPORTATION
PROJECT NO. BRF 036-1(1)
TOWN OF ALBURG-SWANTON
VT 78 OVER MISSISQUOI BAY
BRIDGE NO. 2
PIER 7, SPAN 8 AND PIER 15, SPAN 15
POT BEARING DETAILS

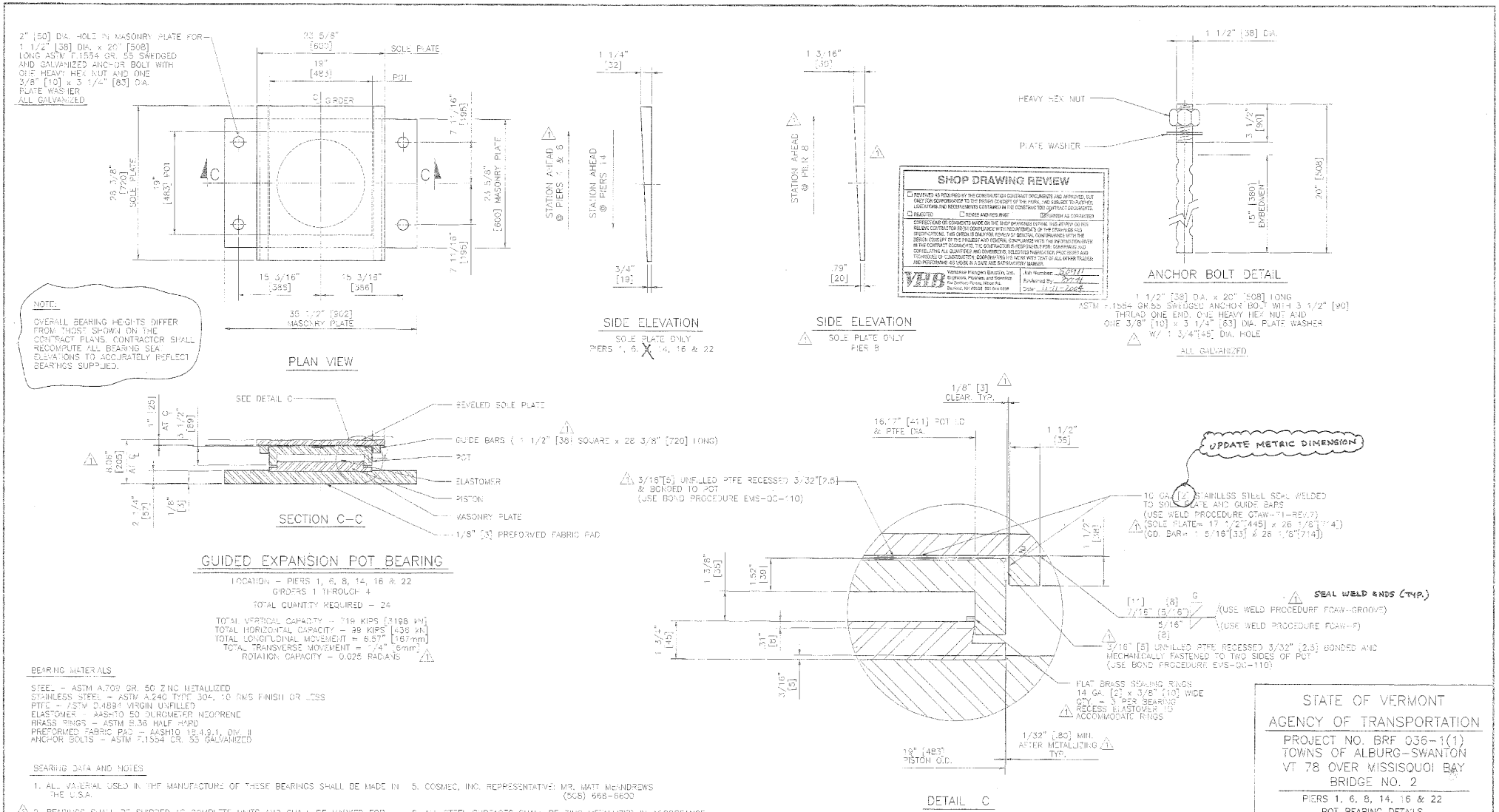
COSMEC, INC. 70 SOUTH STREET WALPOLE, MA. 02081

SCALE: N.T.S.	DRAWN BY: MDM	CHECKED BY: KH
SHEET 2 OF 7	DATE: 7/27/04	DATE: 8/2/04

COSMEC POT BEARINGS

CUSTOMER	P.O. NUMBER	DRAWING NUMBER	REV.
CIANBRO CORP.	180093	4259	1

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
⚠1	ADDED WELD, REV. NOTE 7, REV. ANCHOR BOLT OVERALL HEIGHT & UP NOTES	MK	10/12/04	KH	10/14/04



GUIDED EXPANSION POT BEARING

LOCATION – PIERS 1, 6, 8, 14, 16 & 22
GIRDERS 1 THROUGH 4
TOTAL QUANTITY REQUIRED – 24

TOTAL VERTICAL CAPACITY = 719 KIPS [3198 kN]
TOTAL HORIZONTAL CAPACITY = 99 KIPS [438 kN]
TOTAL LONGITUDINAL MOVEMENT = 6.67" [167mm]
TOTAL TRANSVERSE MOVEMENT = 0.24" [6mm]
ROTATION CAPACITY = 0.025 RADIANS

BEARING MATERIALS

STEEL – ASTM A.709 GR. 50 ZINC METALLIZED
STAINLESS STEEL – ASTM A.240 TYPE 304, 10 RMS FINISH OR LESS
PTFE – ASTM D.4894 VIRGIN UNFILLED
ELASTOMER – AASHTO 50 DUROMETER NEOPRENE
BRASS RINGS – ASTM B.36 HALF HARD
PREFORMED FABRIC PAD – AASHTO 15.4.9.1, DIV. II
ANCHOR BOLTS – ASTM F.1554 GR. 55 GALVANIZED

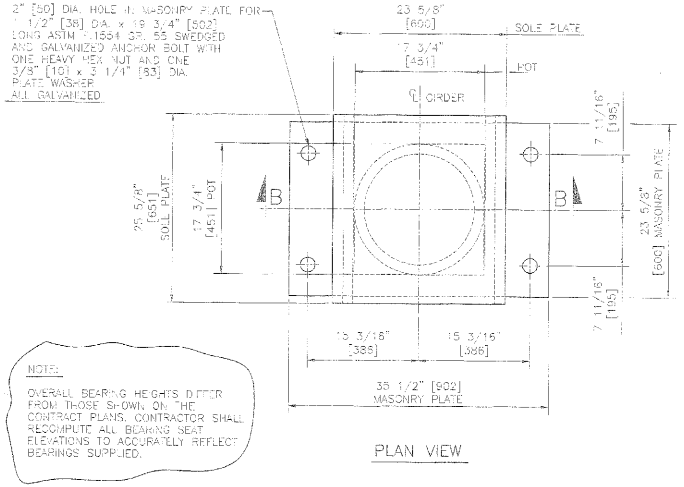
BEARING DATA AND NOTES

1. ALL MATERIAL USED IN THE MANUFACTURE OF THESE BEARINGS SHALL BE MADE IN THE U.S.A.
2. BEARINGS SHALL BE SHIPPED AS COMPLETE UNITS AND SHALL BE MARKED FOR IDENTIFICATION WITH LOCATION, LOCATIONS & STATION AHEAD SHALL BE DIE STAMPED IN ONE CORNER OF SOLE PLATE IN LOCATION VISIBLE AFTER INSTALLATION. THICK END OF BEARING SOLE PLATE SHALL BE MARKED ⊗
3. ALL EDGES OF STEEL PLATES SHALL BE ROUNDED TO A 1/16" [1.6] RADIUS.
4. LOCATION OF FABRICATION PLANT 70 SOUTH STREET WALPOLE, MA 02081
5. COSMEC, INC. REPRESENTATIVE: MR. MATT McANDREWS (508) 668-6600
6. ALL STEEL SURFACES SHALL BE ZINC METALLIZED IN ACCORDANCE WITH AWS C 2.18. ALL EXPOSED SURFACES SHALL RECEIVE 6 MILS AND THE INTERIOR OF POT AND UNDERSIDE OF PISTON SHALL RECEIVE 2 MILS. AREAS DAMAGED DURING FIELD WELDING SHALL BE REPAIRED IN ACCORDANCE WITH VT A.O.T. SUPPLEMENTAL SPECIFICATION 513.
7. UNDER NO CIRCUMSTANCES SHALL THE BEARINGS BE DISASSEMBLED WITHOUT EXPRESS WRITTEN AUTHORIZATION FROM COSMEC, INC. UNAUTHORIZED DISASSEMBLY MAY CAUSE MALFUNCTION OF UNIT.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
PROJECT NO. BRF 036-1(1)
TOWNS OF ALBURG-SWANTON
VT 78 OVER MISSISQUOI BAY
BRIDGE NO. 2
PIERS 1, 6, 8, 14, 16 & 22
POT BEARING DETAILS

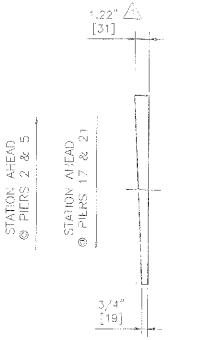
REV.	DESCRIPTION	BY	DATE	QTY	DATE
1	ADDED WELD @ SOLE ELEVATION, ADJ NOTE 4, REV TO NOTE 2, ADJ. TO ANCHOR BOLT & AS NOTED	MK	10/14/04	NH	10/14/04

COSMEC, INC. 70 SOUTH STREET WALPOLE, MA 02081
SCALE: N.T.S. DRAWN BY: MDM CHECKED BY: NH
SHEET 3 OF 7 DATE: 7/27/04 DATE: 8/3/04
COSMEC POT BEARINGS
CUSTOMER: CIANBRO CORP. P.O. NUMBER: 60093 DRAWING NUMBER: 4260 REV: 1

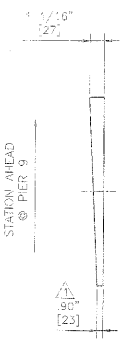


NOTE:
OVERALL BEARING HEIGHTS DIFFER FROM THOSE SHOWN ON THE CONTRACT PLANS. CONTRACTOR SHALL RECOMPUTE ALL BEARING SEAT ELEVATIONS TO ACCURATELY REFLECT BEARINGS SUPPLIED.

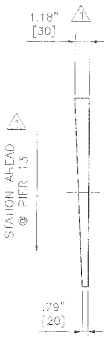
PLAN VIEW



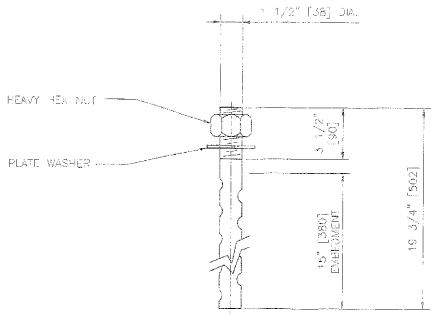
SIDE ELEVATION
SOLE PLATE ONLY
PIERS 2, 5, 17 & 21



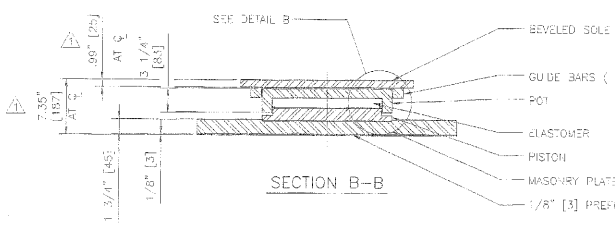
SIDE ELEVATION
SOLE PLATE ONLY
PIER 9



SIDE ELEVATION
SOLE PLATE ONLY
PIER 13



ANCHOR BOLT DETAIL
1 1/2" [38] DIA. x 19 3/4" [502] LONG
ASTM F.1554 GR.55 SWEDGED ANCHOR BOLT WITH 3 1/2" [90] THREAD ONE END, ONE HEAVY HEX NUT AND ONE 3/8" [10] x 3 1/4" [83] DIA. PLATE WASHER W/ 1 3/4"[45] DIA. HOLE
⚠ ALL GALVANIZED



SECTION B-B

GUIDED EXPANSION POT BEARING

LOCATION - PIERS 2, 5, 9, 13, 17 & 21
GIRDERS 1 THROUGH 4

TOTAL QUANTITY REQUIRED = 24

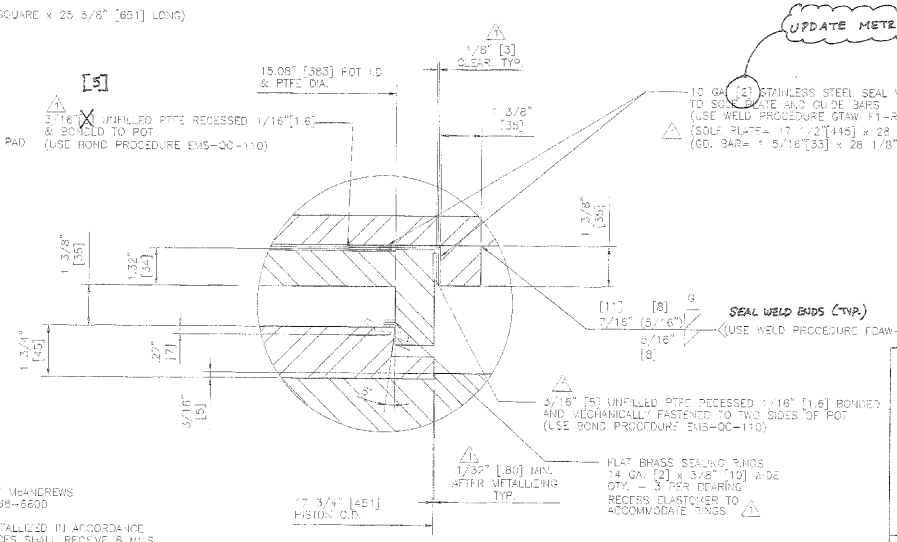
TOTAL VERTICAL CAPACITY = 625 KIPS [2780 kN]
TOTAL HORIZONTAL CAPACITY = 81 KIPS [360 kN]
TOTAL LONGITUDINAL MOVEMENT = 4.61" [117mm]
TOTAL TRANSVERSE MOVEMENT = 1.4" [6mm] ⚠
ROTATION CAPACITY = 0.025 RADIANS

BEARING MATERIALS

STEEL - ASTM A.709 GR. 50 ZINC METALLIZED
STAINLESS STEEL - ASTM A.240 TYPE 304, 10 RMS FINISH OR LESS
PTFE - ASTM D.4894 VIRGIN UNFILLED
ELASTOMER - AASHTO 50 DUROMETER NEOPRENE
BRASS RINGS - ASTM B.36 HALF HARD
PREFORMED FABRIC PAD - AASHTO 18.4.9.1, DIV. II
ANCHOR BOLTS - ASTM F.1554 GR. 55 GALVANIZED

BEARING DATA AND NOTES

1. ALL MATERIAL USED IN THE MANUFACTURE OF THESE BEARINGS SHALL BE MADE IN THE U.S.A.
2. BEARINGS SHALL BE SHIPPED AS COMPLETE UNITS AND SHALL BE MARKED FOR IDENTIFICATION WITH LOCATION. LOCATIONS & STATION AHEAD SHALL BE DIE STAMPED IN ONE CORNER OF SOLE PLATE IN A LOCATION VISIBLE AFTER INSTALLATION. THICK END OF BEARING SOLE PLATE SHALL BE MARKED ⊗ ⚠
3. ALL EDGES OF STEEL PLATES SHALL BE ROUNDED TO A 1/16" [1.6] RADIUS.
4. LOCATION OF FABRICATION PLANT - 70 SOUTH STREET WALPOLE, MA 02081
5. COSMEC, INC. REPRESENTATIVE: MR. MATT McANDREWS (508) 668-8600
6. ALL STEEL SURFACES SHALL BE ZINC METALLIZED IN ACCORDANCE WITH AWS C.2.18. ALL EXPOSED SURFACES SHALL RECEIVE 8 MILS AND THE INTERIOR OF POT AND UNDERSIDE OF PISTON SHALL RECEIVE 2 MILS. AREAS DAMAGED DURING FIELD WELDING SHALL BE REPAIRED IN ACCORDANCE WITH VT A.O.T. SUPPLEMENTAL SPECIFICATION 513.
7. UNDER NO CIRCUMSTANCES SHALL THE BEARINGS BE DISASSEMBLED WITHOUT EXPRESS WRITTEN AUTHORIZATION FROM COSMEC, INC. UNAUTHORIZED DISASSEMBLY MAY CAUSE MALFUNCTION OF UNIT.



DETAIL B

REV.	DESCRIPTION	BY	DATE	CKD	DATE
⚠	ADDED WELD & SOLE ELEVATION FOR PIER 13 SOLE PLATE, REV. NOTE 2, REV. ANCHOR BOLT (CHANGE "BOD" TO "I.D.")	MJK	10/13/04		

SHOP DRAWING REVIEW

☐ REVIEWED AS RESUBMITTED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND RESOLUTIONS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☐ EXCEPTION AS CORRECTED
CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING THE WORK WITH THAT OF ALL OTHER TRADES AND PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. | Job Number: 06511
Engineers, Planners, and Scientists | Reviewed By: [illegible]
54 Tuttle Place, Middlebury, VT 05753 | Date: 11-11-04 4

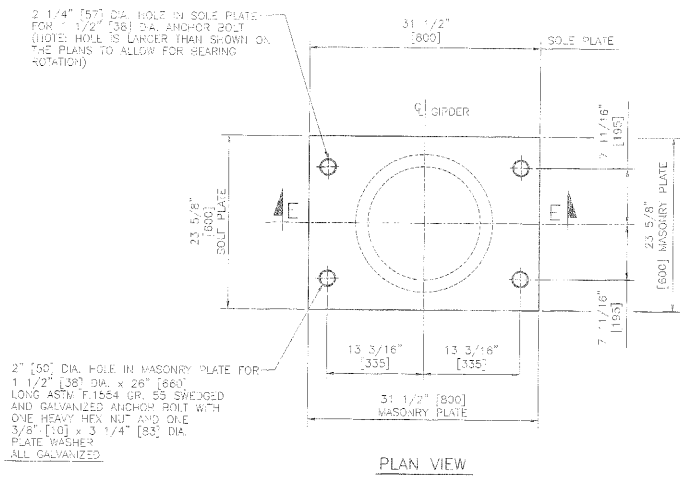
STATE OF VERMONT
AGENCY OF TRANSPORTATION
PROJECT NO. BRF 036-1(1)
TOWNS OF ALBURG-SWANTON
VT 78 OVER MISSISQUOI BAY
BRIDGE NO. 2
PIERS 2, 5, 9, 13, 17 & 21
POT BEARING DETAILS

COSMEC, INC. 70 SOUTH STREET WALPOLE, MA. 02081

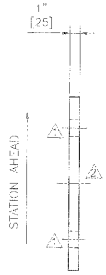
SCALE: N.T.S.	DRAWN BY: MJK	CHECKED BY: NK
SHEET 4 OF 7	DATE: 7/27/04	DATE: 8/2/04

COSMEC POT BEARINGS

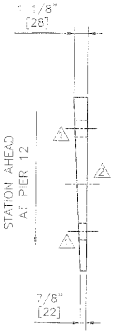
CUSTOMER	P.O. NUMBER	DRAWING NUMBER	REV.
CIANBRO CORP.	60093	4261	



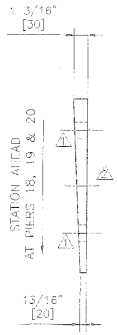
PLAN VIEW



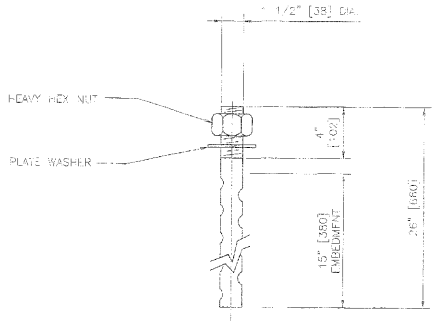
SIDE ELEVATION
SOLE PLATE ONLY
PIERS 10 & 11



SIDE ELEVATION
SOLE PLATE ONLY
PIER 12

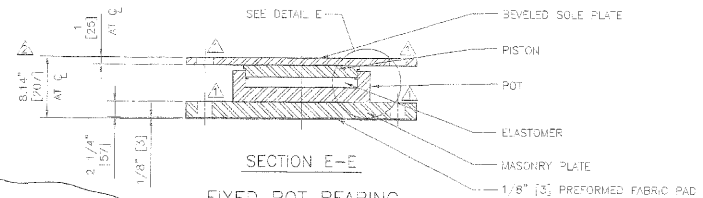


SIDE ELEVATION
SOLE PLATE ONLY
PIERS 18, 19 & 20



ANCHOR BOLT DETAIL

1 1/2" [38] DIA. x 26" [660] LONG
ASTM F.1554 GR. 55 SWEDGED ANCHOR BOLT WITH 4" [102] THREAD ONE END, ONE HEAVY HEX NUT AND ONE 3/8" [10] x 3 1/4" [83] DIA. PLATE WASHER W/ 1 3/4" [45] DIA. HOLE
ALL GALVANIZED



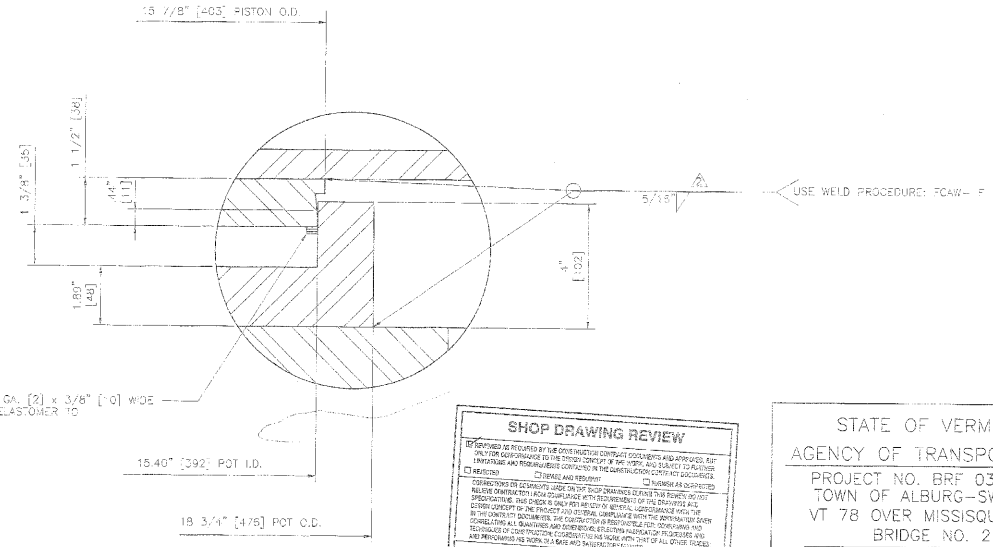
SECTION E-E

FIXED POT BEARING

LOCATION – PIERS 10, 11, 12, 18, 19 & 20
GIRDERS 1 THROUGH 4
TOTAL QUANTITY REQUIRED – 24

TOTAL VERTICAL CAPACITY – 652 KIPS [2900 kN]
TOTAL HORIZONTAL CAPACITY – 136 KIPS [601 kN]
TOTAL LONGITUDINAL MOVEMENT – 0" [0 mm]
TOTAL TRANSVERSE MOVEMENT = 0" [0 mm]
ROTATION CAPACITY = 0.025 RADIANS

NOTE:
OVERALL BEARING HEIGHTS DIFFER FROM THOSE SHOWN ON THE CONTRACT PLANS. CONTRACTOR SHALL RECOMPUTE ALL BEARING SEAT ELEVATIONS TO ACCURATELY REFLECT BEARINGS SUPPLIED.



DETAIL E

BEARING MATERIALS

STEEL – ASTM A.709 GR. 50 ZINC METALLIZED
ELASTOMER – AASHTO 50 DUROMETER NEOPRENE
BRASS RINGS – ASTM B.36 HALF HARD
PREFORMED FABRIC PAD – AASHTO M.8.4.9.1, DIV. II
ANCHOR BOLTS – ASTM F.1554 GR. 55 GALVANIZED

BEARING DATA AND NOTES

1. ALL MATERIAL USED IN THE MANUFACTURE OF THESE BEARINGS SHALL BE MADE IN THE U.S.A.
2. BEARINGS SHALL BE SHIPPED AS COMPLETE UNITS AND SHALL BE MARKED FOR IDENTIFICATION WITH LOCATION. LOCATIONS & STATION AHEAD SHALL BE DIE ⚠ STAMPED IN ONE CORNER OF SOLE PLATE IN A LOCATION VISIBLE AFTER INSTALLATION. THICK END OF BEARING SOLE PLATE SHALL BE MARKED @
3. ALL EDGES OF STEEL PLATES SHALL BE ROUNDED TO A 1/16" [1.6] RADIUS.
4. LOCATION OF FABRICATION PLANT – 70 SOUTH STREET WALPOLE, MA 02081
5. COSMEC, INC. REPRESENTATIVE: MR. MATT McANDREWS (508) 668-6900
6. ALL STEEL SURFACES SHALL BE ZINC METALLIZED IN ACCORDANCE WITH AWS C.2.18. ALL EXPOSED SURFACES SHALL RECEIVE 6 MILS AND THE INTERIOR OF POT AND UNDERSIDE OF PISTON SHALL RECEIVE 2 MILS. AREAS DAMAGED DURING FIELD WELDING SHALL BE REPAIRED IN ACCORDANCE WITH VT A.O.T SUPPLEMENTAL SPECIFICATION 513.
7. UNDER NO CIRCUMSTANCES SHALL THE BEARINGS BE DISASSEMBLED WITHOUT EXPRESS WRITTEN AUTHORIZATION FROM COSMEC, INC. UNAUTHORIZED DISASSEMBLY MAY CAUSE MALFUNCTION OF UNIT.

⚠ FLAT BRASS SEALING RINGS 14 GA. [2] x 3/8" [10] WIDE – QTY. 3 PER BEARING. RECESS ELASTOMER TO ACCOMMODATE RINGS

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Watertown Technology Park Drawing Room: Office Set Boston, MA 02472-4026 617-924-1770

Job Number: 4211
Reviewed By: BMM
Date: 11-16-2004

STATE OF VERMONT
AGENCY OF TRANSPORTATION
PROJECT NO. BRF 036-1(1)
TOWN OF ALBURG-SWANTON
VT 78 OVER MISSISQUOI BAY
BRIDGE NO. 2
PIERS 10, 11, 12, 18, 19 & 20
POT BEARING DETAILS

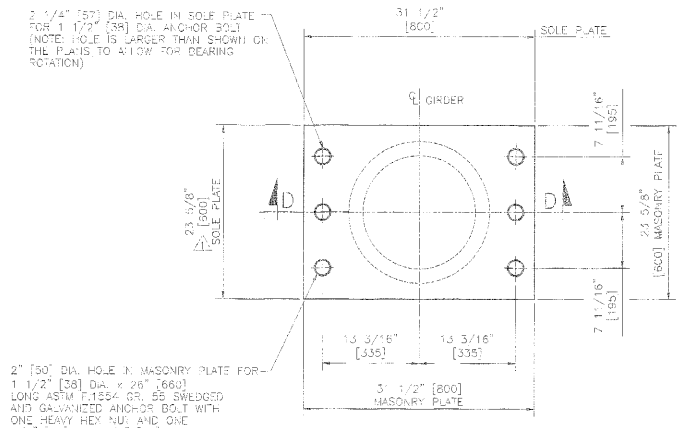
COSMEC, INC. 70 SOUTH STREET WALPOLE, MA. 02081

SCALE: N.T.S.	DRAWN BY: MCM	CHECKED BY: MK
SHEET 5 OF 7	DATE: 7/27/04	DWG. # 8/2/04

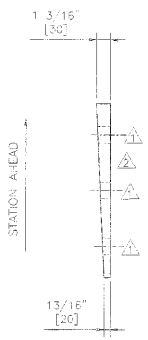
COSMEC POT BEARINGS

CUSTOMER	S.O. NUMBER	DRAWING NUMBER	REV.
CIANBRO CORP.	60093	4262	2

MK.	DESCRIPTION	BY	DATE	CKD	DATE
⚠2	REMOVED INCREASED WIDTH WELD TEE NOTE & REV. ANCHOR BOLT DETAIL (THRU ⚠1) NOTE	MK	10/2/04	MH	10/14/04
⚠1	ADDED HOLES TO SOLE PLATE & SHOWN EXTRA CHAMFER HOLES TO SECTION E-E TO MOUNT BOLTS	MK	6/11/04		

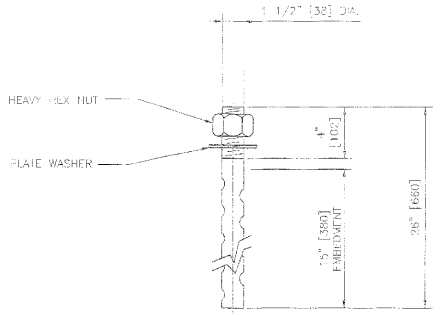


PLAN VIEW



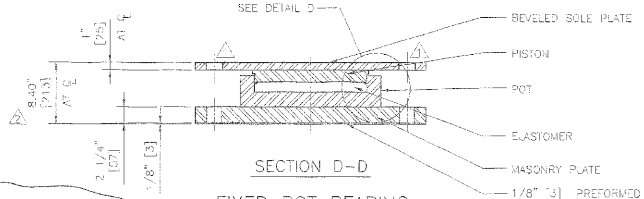
SIDE ELEVATION

SOLE PLATE ONLY



ANCHOR BOLT DETAIL

1 1/2" [38] DIA. x 26" [660] LONG
ASTM F.1554 GR.55 SWEDGED ANCHOR BOLT WITH 4" [102] THREAD ONE END, ONE HEAVY HEX NUT AND ONE 3/8" [10] x 3 1/4" [83] DIA. PLATE WASHER W/ 1" 3/4" [45] DIA. HOLE
ALL GALVANIZED



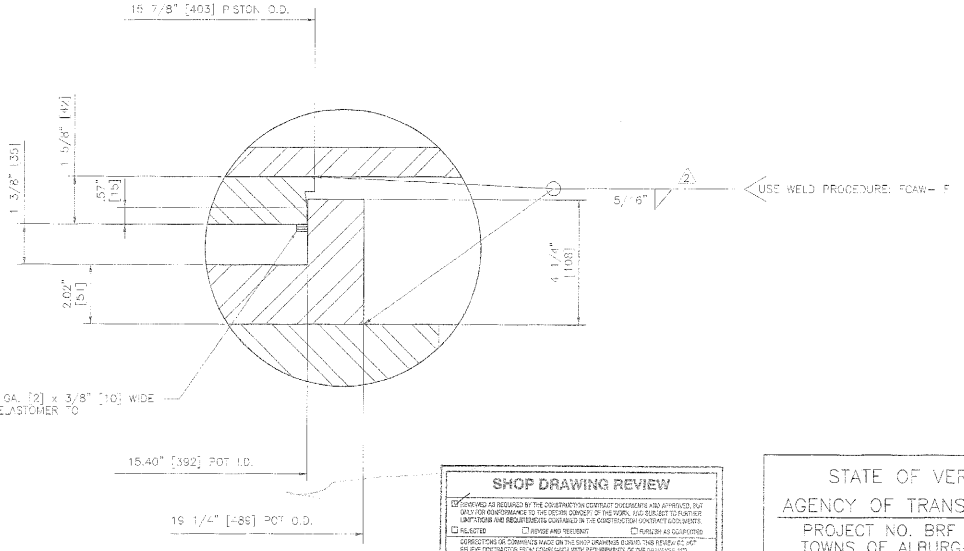
SECTION D-D

FIXED POT BEARING

LOCATION - PIERS 3 & 4
GIRDERS 1 THROUGH 4
TOTAL QUANTITY REQUIRED - 8

TOTAL VERTICAL CAPACITY - 650 KIPS [2857 kN]
TOTAL HORIZONTAL CAPACITY = 174 KIPS [774 kN]
TOTAL LONGITUDINAL MOVEMENT = 0" [0 mm]
TOTAL TRANSVERSE MOVEMENT = 0" [0 mm]
ROTATION CAPACITY = 0.025 RADIANS

NOTE:
OVERALL BEARING HEIGHTS DIFFER FROM THOSE SHOWN ON THE CONTRACT PLANS. CONTRACTOR SHALL RECOMPUTE ALL BEARING SEAT ELEVATIONS TO ACCURATELY REFLECT BEARINGS SUPPLIED.



DETAIL D

BEARING MATERIALS

STEEL - ASTM A.709 GR. 50 ZINC METALLIZED
ELASTOMER - AASHTO 50 DUROMETER NEOPRENE
BRASS RINGS - ASTM B.36 HALF HARD
PREFORMED FABRIC PAD - AASHTO 18.4.8.1, DIV. II
ANCHOR BOLTS - ASTM F.1554 GR. 55 GALVANIZED

BEARING DATA AND NOTES

1. ALL MATERIAL USED IN THE MANUFACTURE OF THESE BEARINGS SHALL BE MADE IN THE U.S.A.
2. BEARINGS SHALL BE SHIPPED AS COMPLETE UNITS AND SHALL BE MARKED FOR IDENTIFICATION WITH LOCATION. LOCATIONS & STATION AHEAD SHALL BE DIE STAMPED IN ONE CORNER OF SOLE PLATE IN A LOCATION VISIBLE AFTER INSTALLATION. THICK END OF BEARING SOLE PLATE SHALL BE MARKED ⊗
3. ALL EDGES OF STEEL PLATES SHALL BE ROUNDED TO A 1/16" [1.5] RADIUS.
4. LOCATION OF FABRICATION PLANT - 70 SOUTH STREET WALPOLE, MA. 02081
5. COSMEC, INC. REPRESENTATIVE: MR. MATT McANDREWS (508) 668-6600
6. ALL STEEL SURFACES SHALL BE ZINC METALLIZED IN ACCORDANCE WITH AWS C.2.18. ALL EXPOSED SURFACES SHALL RECEIVE 5 MILS AND THE INTERIOR OF POT AND UNDERSIDE OF PISTON SHALL RECEIVE 2 MILS. AREAS DAMAGED DURING FIELD WELDING SHALL BE REPAIRED IN ACCORDANCE WITH VT A.O.T. SUPPLEMENTAL SPECIFICATION 513.
7. UNDER NO CIRCUMSTANCES SHALL THE BEARINGS BE DISASSEMBLED WITHOUT EXPRESS WRITTEN AUTHORIZATION FROM COSMEC, INC. UNAUTHORIZED DISASSEMBLY MAY CAUSE MALFUNCTION OF UNIT.

SHOP DRAWING REVIEW

☑ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED. NOT VALID FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☐ RESUBMIT AS COMPLETED

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VHB — Vanasse Hangen Brustlin, Inc. — Watertown, Massachusetts — Job Number: 50411 — Reviewed By: [illegible] — Date: 11-11-04 #4

STATE OF VERMONT
AGENCY OF TRANSPORTATION
PROJECT NO. BRF 036-1(1)
TOWNS OF ALBURG-SWANTON
VT 78 OVER MISSISQUOI BAY
BRIDGE NO. 2
PIERS 3 & 4
POT BEARING DETAILS

COSMEC, INC. — 70 SOUTH STREET WALPOLE, MA. 02081

SCALE	DRAWN BY	CHECKED BY
N.T.S.	KEW	MH
SHEET 6 OF 7	DATE: 7/27/04	DATE: 9/2/04

COSMEC POT BEARINGS

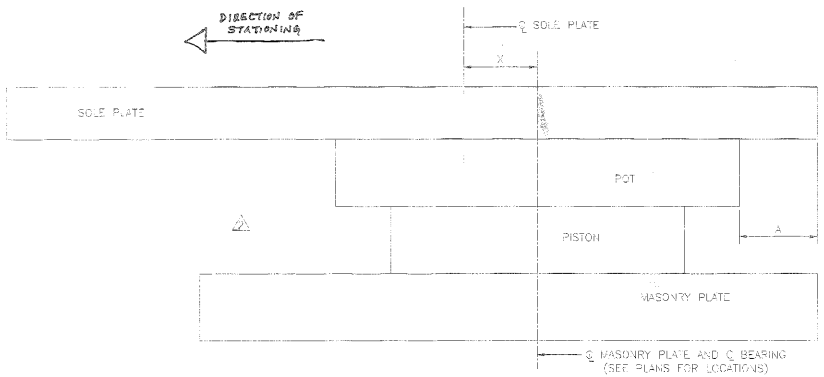
CUSTOMER	P.O. NUMBER	DRAWING NUMBER	REV.
CIANBRO CORP.	60093	4263	2

REV.	DESCRIPTION	BY	DATE	CKD	DATE
2	ADDED RECESSES, ADDED WELL HOLE NOTE TO BRG. ANCHOR WITH CYCLICAL MOVT. & REVISED TITLE	KEW	10/13/04	MH	10/14/04
1	ADDED NOTES TO SIDE ELEVATION & SECTION D-D & CHANGE HTS. in PLAN VIEW & SOLE PLATE	KEW	8/31/04		

TEMPERATURE ADJUSTMENT TABLE – "X"(mm) & "A"(mm)
⚠ STRUCTURE TEMPERATURE (DEGREES F)

LOC.	25		35		45		55		65		75		85	
	"X"	"A"	"X"	"A"	"X"	"A"	"X"	"A"	"X"	"A"	"X"	"A"	"X"	"A"
ABUT. 1	-22	131	-11	142	0	153	11	164	22	175	32	185	43	196
PIER 1	-15	104	-8	111	0	119	8	127	15	134	23	142	31	150
PIER 2	-9	91	-5	95	0	100	5	105	9	109	14	114	18	118
PIER 3	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
PIER 4	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
PIER 5	9	109	5	105	0	100	-5	95	-9	91	-14	86	-18	82
PIER 6	15	134	8	127	0	119	-8	111	-15	104	-23	96	-31	88
PIER 7 SPAN 7	22	175	11	164	0	153	-11	142	-22	131	-32	121	-43	110
PIER 7 SPAN 8	-25	128	-12	141	0	153	12	165	25	178	37	190	49	202
PIER 8	-18	101	-9	110	0	119	9	128	18	137	28	147	37	156
PIER 9	-12	88	-6	94	0	100	6	106	12	112	18	118	25	125
PIER 10	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
PIER 11	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
PIER 12	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
PIER 13	12	112	6	106	0	100	-6	94	-12	88	-18	82	-25	75
PIER 14	18	137	9	128	0	119	-9	110	-18	101	-28	91	-37	82
PIER 15 SPAN 15	25	178	12	165	0	153	-12	141	-25	128	-37	116	-49	104
PIER 15 SPAN 16	-25	128	-12	141	0	153	12	165	25	178	37	190	49	202
PIER 16	-18	101	-9	110	0	119	9	128	18	137	28	147	37	156
PIER 17	-12	88	-6	94	0	100	6	106	12	112	18	118	25	125
PIER 18	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
PIER 19	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
PIER 20	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
PIER 21	12	112	6	106	0	100	-6	94	-12	88	-18	82	-25	75
PIER 22	18	137	X 9	X 128	0	119	-9	110	-18	101	-25	91	-37	82
ABUT. 2	25	178	X 12	X 165	0	153	-12	141	-25	128	-37	116	-49	104

NEGATIVE DIMENSIONS SHOWN FOR "X" INDICATE THAT THE CENTERLINE OF THE SOLE PLATE IS TO BE POSITIONED AHEAD OF THE CENTERLINE BEARING
POSITIVE DIMENSIONS INDICATE THAT THE CENTERLINE OF THE SOLE PLATE IS TO BE POSITIONED BEHIND THE CENTERLINE BEARING



SUGGESTED PROCEDURE AND HANDLING INSTRUCTIONS FOR FUTURE REMOVAL AND REPLACEMENT OF COSMEC POT BEARINGS

FIXED BEARING – REMOVAL

1. CUT ANCHOR BOLTS ABOVE MASONRY PLATES AND BELOW SOLE PLATE AND REMOVE.
⚠ 2. REMOVE WELD CONNECTING THE SOLE PLATE TO GIRDER FLANGE, PISTON TO SOLE PLATE & POT TO MASONRY PLATE.
3. JACK STRUCTURE A MAXIMUM OF 3/16". USE JACKING PROCEDURE APPROVED BY THE ENGINEER.
4. LIFT SOLE PLATE OFF PISTON & SLIDE IT OUT FROM UNDER GIRDER.
⚠ 5. SLIDE POT/PISTON ASSEMBLY OFF MASONRY PLATE TAKING CARE TO LIFT POT FROM IT'S UNDERSIDE. IF POT IS TO BE RE-USED, EXPOSE CAULK ON THAT THE INSIDE CAVITY IS NOT DAMAGED, IN PARTICULAR THE CAVITY WALLS ANY RIM.
⚠ 6. CAREFULLY REMOVE PISTON FROM THE POT. IF PISTON IS TO BE RE-USED TAKE PRECAUTIONS SO AS NOT TO DAMAGE THE PISTON RIM (THE PORTION WITHIN THE POT).
7. LIFT MASONRY PLATE OFF PROJECTING ANCHOR BOLTS.
8. REMOVE ANCHOR BOLTS

EXPANSION BEARING – REMOVAL

1. REMOVE HOLD DOWNS IF APPLICABLE
2. REMOVE WELDS CONNECTING THE SOLE PLATE TO THE GIRDER FLANGE.
⚠ 3. JACK STRUCTURE A MAXIMUM OF 3/16". USE JACKING PROCEDURE APPROVED BY THE ENGINEER.
4. REMOVE SOLE PLATE BY SLIDING IT OUT HORIZONTALLY. SINCE THE NATURE OF THIS BEARING IS TO ALLOW EASY MOVEMENT THROUGH STAINLESS STEEL AND PTFE SLIDING SURFACES DO NOT ALLOW THE TWO PLATES TO TILT WHILE DISASSEMBLING.
5. LIFT THE PISTON AND POT ASSEMBLY OUT OF THE MASONRY PLATE RECESS.
6. LIFT THE MASONRY PLATE OFF OF THE ANCHOR BOLTS.

FIXED BEARING – REPLACEMENT/INSTALLATION

1. ANCHOR BOLTS FROM PREVIOUS BEARINGS SHOULD BE COMPLETELY REMOVED OR AT THE LEAST CUT FLUSH WITH BEARING PEDESTAL. IF ANCHOR BOLTS HAVE BEEN CUT FLUSH, IT WILL BE NECESSARY TO RELOCATE ANCHOR BOLTS ON NEW BEARING MASONRY PLATES. NEW LOCATIONS SHOULD BE COORDINATED WITH THE BEARING MANUFACTURER.
⚠ 2. POT AND PISTON ASSEMBLY SHOULD COME FROM THE BEARING MANUFACTURER ALREADY ASSEMBLED. CENTER POT/PISTON ASSEMBLY ON THE MASONRY PLATE.
⚠ 3. CENTER THE SOLE PLATE ON THE PISTON.
4. LOWER STRUCTURE.
⚠ 5. WELD PISTON TO SOLE PLATE & POT TO MASONRY PLATE (SEE NOTES 7 & 8)
⚠ 6. WELD SOLE PLATE TO GIRDER FLANGE AND INSTALL ANCHOR BOLTS. TAKE CARE THAT THE SOLE PLATE IS ORIENTATED CORRECTLY WITH REGARDS TO THE RIVETS.
⚠ 7. WHEN FIELD WELDING DO NOT ALLOW WELDING CURRENT TO PASS THROUGH THE PISTON/POT ASSEMBLY OR DAMAGE MAY OCCUR.
⚠ 8. WHEN FIELD WELDING EXERCISE CAUTION THAT THE TEMPERATURE OF THE ELASTOMER AND THE PTFE BOND AREA DOES NOT EXCEED 250° F, OR DAMAGE MAY OCCUR. USE TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS.

EXPANSION BEARING – ⚠ REPLACEMENT/INSTALLATION

1. THE BEARING ASSEMBLY SHOULD COME FROM THE BEARING MANUFACTURER FULLY ASSEMBLED.
2. REMOVE THE MASONRY PLATE AND INSTALL IT OVER THE EXISTING ANCHOR BOLTS.
3. PLACE PISTON AND POT ASSEMBLY IN THE MASONRY PLATE RECESS.
4. SLIDE THE SOLE PLATE ON TO THE POT ASSEMBLY, MAKE SURE THAT THE SOLE PLATE IS ORIENTATED CORRECTLY WITH RESPECT TO ITS DIRECTION OF MOVEMENT AND THE UPSTREAM END OF THE GIRDER.
5. AT ALL TIMES USE CAUTION SO AS NOT TO DAMAGE THE SLIDING SURFACES.
6. PER THE ENGINEER, OFFSET THE SOLE PLATE AS REQUIRED FOR TEMPERATURE.
7. LOWER THE STRUCTURE.
8. WELD THE SOLE PLATE TO THE GIRDER FLANGE.
9. WHEN FIELD WELDING DO NOT ALLOW WELDING CURRENT TO PASS THROUGH THE POT AND PISTON ASSEMBLY OR DAMAGE MAY OCCUR.
10. WHEN FIELD WELDING EXERCISE CARE THAT THE TEMPERATURE OF THE ELASTOMER AND THE PTFE BOND AREA DOES NOT EXCEED 250° F, OR DAMAGE MAY OCCUR. USE TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS.

SHOP DRAWING REVIEW

☐ RELEASED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND SUBJECT TO FURTHER LIMITATIONS AND PROPERTIES CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ FILING AND ACKNOWLEDGMENT ☒ REVISION AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE CONTRACT AND SPECIFICATIONS. THIS CHECK IS ONLY FOR CONFORMANCE TO GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists, 54 Cambridge Park Drive, Suite 104, Cambridge, MA 02140-2308 (617) 924-1770 FAX (617) 924-2286 | Job Number: 53941 | Reviewed By: KDM | Date: 11-11-2004

STATE OF VERMONT
AGENCY OF TRANSPORTATION
PROJECT NO. BRF 036-1(1)
TOWN OF ALBURG-SWANTON
VT 78 OVER MISSISQUOI BAY
BRIDGE NO. 2
⚠ ALL PIERS
POT BEARING DETAILS

COSMEC, INC. 70 SOUTH STREET WALPOLE, MA 02081

SCALE: N.T.S.	DRAWN BY: MDM	CHECKED BY: MK
SHEET 7 OF 7	DATE: 9/1/04	DATE: 9/1/04

COSMEC POT BEARINGS

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
⚠2	ADDED TABLE FOR TEMPERATURE ADJUSTMENT & DETAIL	MK	10/28/04	MDM	10/28/04
⚠1	REV. NOTES & CLOSURE SCALE & PIERS ADDED SHEET 7 OF 7	MK	10/12/04	MH	10/15/04

CUSTOMER: CIANBRO CORP. | J.O. NUMBER: 60093 | DRAWING NUMBER: 4302 | REV.: 2

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

GENERAL SHOP NOTES

SPECIFICATIONS:
ALL MATERIAL AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE STATE OF VERMONT, AGENCY OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AND ITS LATEST REVISIONS AND AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES", 17TH EDITION AND ITS LATEST REVISIONS.

MATERIAL:
UNLESS NOTED OTHERWISE, ALL STEEL TO BE AASHTO M270M GRADE 345W.
(T) INDICATES CHARPY V-NOTCH TESTING REQUIRED.

SHOP PROCEDURE:
ALL FLANGE AND WEB PLATE SPLICES TO BE MADE BEFORE FINAL FITTING AND WELDING INTO GIRDER.
CAMBER TOLERANCE: -0 mm TO +19 mm
ALL RE-ENTRANT CUTS TO HAVE 25 MIN. RADIUS.
BEARING AREA, AS NOTED ON GIRDER DETAILS, INDICATES AREA THAT MUST BE FLAT AND TRUE TO RECEIVE SOLE PLATE.
ONLY LOW STRESS DIE STAMPS MAY BE USED FOR MARKING IN AREAS NOT EXPOSED ON THE FINISHED STRUCTURE.
DOR INDICATES DIRECTION OF ROLLING.
(CG) INDICATES CORNER GRINDING.
CORNER GRINDING IS REQUIRED FOR ALL MAIN MEMBER GIRDER FLANGE PLATES AND SPLICE PLATES AND SECONDARY MEMBERS IN PAINTED AREAS, AS NOTED (CG) - NOTHING ELSE.

IDENTIFICATION OF HOLE PLACEMENT:
UNLESS NOTED OTHERWISE, BOLT HOLES IN MATERIAL 16mm OR LESS IN THICKNESS MAY BE CNC (COMPUTER NUMERICALLY CONTROLLED) PUNCHED OR CNC DRILLED FULL SIZE UNASSEMBLED. ALL MATERIAL THICKER THAN 16mm IS TO BE DRILLED.

INSPECTION:
SHOP INSPECTION BY THE VERMONT AGENCY OF TRANSPORTATION

WELDING:
ALL WELDING IS TO CONFORM TO AWS D1.5-02.
WELDING METHODS, PROCEDURES, AND MATERIALS SHALL COMPLY WITH THE SPECIFIC PROCEDURE DESIGNATED IN THE WELD SYMBOL TAIL.
FOR WELDING STIFFENERS AND CONNECTION PLATES TO GIRDERS, SEE TYPICAL WELDING DETAIL.
FOR WELDING CROSSFRAMES, SEE SECONDARY MEMBER WELDING DETAIL.

NON-DESTRUCTIVE TESTING:
FLANGE AND WEB PLATE SPLICES TO BE RADIOGRAPHICALLY TESTED, AS CALLED FOR ON DRAWINGS PREFIXED "FS" AND "WC", BY H.S.S.I.

MAGNETIC PARTICLE INSPECTION IS REQUIRED ON AT LEAST 300 mm OF EVERY 3000 mm LENGTH OF FILLET WELDS AND 300 mm OF SUCH WELDS LESS THAN 3000 mm IN LENGTH ON GIRDER WEB TO FLANGE AND CONNECTION PLATES TO WEB AND FLANGE WELDS.

DT NOTE:
HOLES MARKED DT ON DETAIL DRAWINGS ARE DRILLED FULL SIZE USING TEMPLATE WITH HARDENED BUSHINGS WHILE UNASSEMBLED.

NCD NOTE:
HOLES MARKED NCD ON DETAIL DRAWINGS ARE DRILLED FULL SIZE USING A MACHINE CENTER, PORTABLE CNC DRILL OR DRILL LINE WHILE UNASSEMBLED.

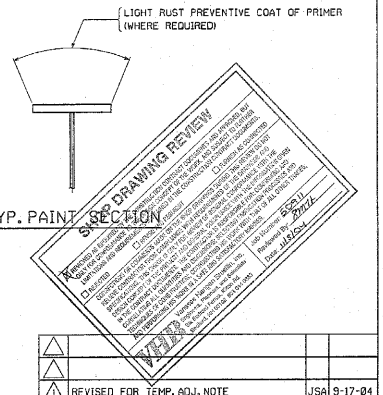
CLEANING:
ALL STEEL TO BE BLAST CLEANED TO SSPC-SP10 (NEAR WHITE), (ASTM D2200 GRADE SA 2-1/2). BLAST CLEANING ANCHOR PROFILE TO BE FROM 38 TO 64 MICROMETERS DEEP.

PAINTING:
ALL STEEL TO BE PAINTED (UNLESS NOTED) WITHIN 3600 mm FROM THE END OF THE GIRDERS AT ABUTMENT 1, PIERS 7 AND 15 AND 14800 mm FROM THE END OF THE GIRDERS AT ABUTMENT 2, WITH A 3 COAT PAINT SYSTEM AS FOLLOWS:
PRIME COAT: CARBOZINC 859 (ORGANIC ZINC) WITH 75 TO 150 MICROMETERS D.F.T.
INTER. COAT: CARBOGUARD 888 (EPOXY) WITH 75 TO 250 MICROMETERS D.F.T.
FINISH COAT: CARBOTHANE 133 HB (POLYURETHANE) WITH 75 TO 125 MICROMETERS D.F.T.
FINISH COAT COLOR TO BE DARK BROWN, FEDERAL STANDARD 595, COLOR #20059.
PRIME COAT ONLY WITHIN 75 mm OF OPEN HOLES.
PRIME COAT TO BE APPLIED WITHIN 8 HOURS AFTER BLAST CLEANING.
STRIPE COAT ALL EDGES OF PLATES, ANGLES OR OTHER SHAPES WITH SHARP EDGES, BOLTS, AND NUTS PRIOR TO THE APPLICATION OF THE FULL PRIME COAT.
TOP FLANGE OF GIRDERS, AS SHOWN IN "TYPICAL PAINT SECTION", SHALL RECEIVE A LIGHT RUST PREVENTIVE COAT OF PRIMER IN PAINTED AREAS, NOT TO EXCEED 38 MICROMETERS D.F.T.
INTERMEDIATE AND FINISH COATS SHALL BE STAGGERED A MINIMUM OF 13 mm FROM THE FAYING SURFACES AND EACH OTHER.
PAINT MANUFACTURER: THE CARBOLINE CO. ST. LOUIS, MO.

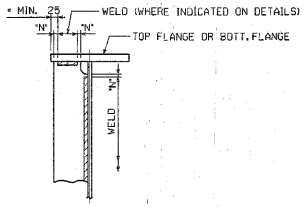
DRAWING REFERENCE:

FLANGE SPLICES	-PREFIXED "FS"
WEB CAMBERS	-PREFIXED "WC"
GIRDER JOB STANDARDS	-PREFIXED "X"
CROSSFRAME JOB STDS.	-PREFIXED "M"
SHOP ASSEMBLY	-PREFIXED "SA"
WELDING PROCEDURE	-PREFIXED "WP"

△ CONTRACT PLAN LENGTHS HAVE BEEN INCREASED AS REQUIRED TO SATISFY MEAN TEMERATURE LENGTH AT FORTY-FIVE DEGREES WITH FABRICATION AT SIXTY-EIGHT DEGREES MEAN TEMPERATURE

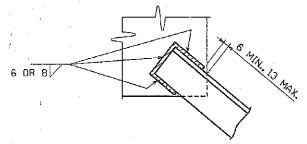


TYP. PAINT SECTION



"N" = 6 MIN., 13 MAX. (U.N.) *
STIFFENER WELDING DETAIL
* WELDS MUST STOP 25 MINIMUM FROM EDGE OF FLANGE

ALL CROSSFRAME WELDS ARE TO BE TERMINATED FROM EDGE OF GUSSET PLATES OR STRUCTURAL SHAPES AS INDICATED.



SECONDARY MEMBER WELDING DETAIL

NO.	REVISION	BY	DATE
1	REVISED FOR TEMP. ADJ. NOTE	JSA	9-17-04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road, Lancaster, PA 17605-0008, Phone 717/299-5211, A Division of High Industries Inc.

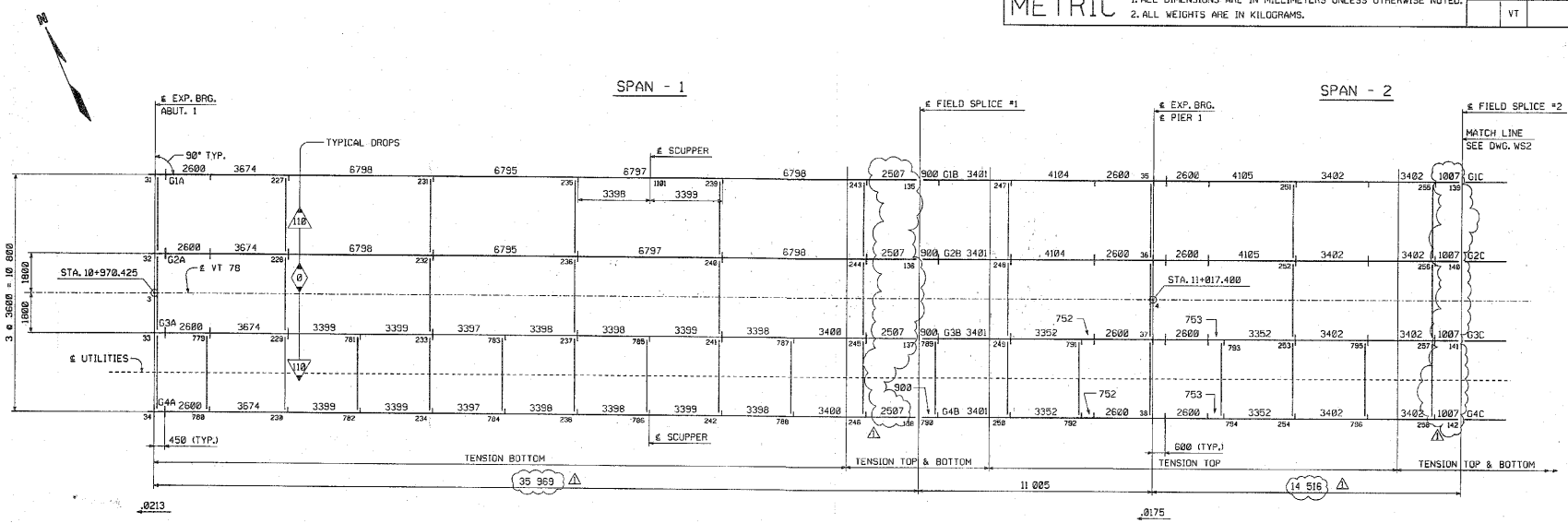
GENERAL SHOP NOTES
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: KMA CHK'D. BY: SJA DATE: 7/21/04
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: GN1 OF GN1

METRIC
BY: bpainter
PLOTTED: 9/28/2004 12:55:35 PM
68

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



CALCULATION PLAN

⚠ CONTRACT PLAN LENGTHS HAVE BEEN INCREASED AS REQUIRED TO SATISFY MEAN TEMERATURE LENGTH AT FORTY-FIVE DEGREES WITH FABRICATION AT SIXTY-EIGHT DEGREES MEAN TEMPERATURE

NOTES:

DIMENSIONS ON PLAN ALONG GIRDERS ARE GIVEN TO THE CHORD AT THE BOTTOM OF WEB IN FULLY CAMBERED POSITION. ALL OTHER DIMENSIONS ARE GIVEN HORIZONTALLY.
DIMENSIONS PLACED ON THE GIRDER LINES REPRESENT CROSSFRAME AND STIFFENER SPACING.
FIGURES GIVEN THUS: .0213 ARE THE GRADES OF THE GIRDERS AT THE BEARINGS IN FINAL POSITION; ARROW POINTS DOWNGRADE.
ALL STIFFENER AND CONNECTION PLATE SPACINGS ARE GIVEN TO ℄ PLATE.
ENDS OF GIRDERS AND ALL BEARING STIFFENERS TO BE VERTICAL IN FINAL POSITION.
ALL STEEL TO BE AASHTO M270M GRADE 345W (U.N.).
ALL FIELD CONNECTIONS TO BE MADE WITH 7/8"ø H.S. (A325 TYPE 3) BOLTS (U.N.).
ALL FIELD CONNECTIONS IN PAINTED AREA TO BE MADE WITH 7/8"ø H.S. (A325 TYPE 1) BOLTS, MECH. GALV. TO ASTM B-695 CLASS 50.
FIGURES GIVEN THUS: ⚠ 4 ARE THE DIFFERENCES IN ELEVATIONS OF GIRDERS (IN THE PLANE OF THE CROSSFRAME IN FINAL POSITION) AT CROSSFRAMES; ARROW POINTS TOWARD LOW GIRDER.
ALL STATIONS ARE GIVEN IN METERS.
FOR TYPICAL DETAIL LAYOUTS, SEE DRAWINGS PREFIXED 'TD'.

NOTE
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DRAWING IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION. THIS DRAWING IS FOR REFERENCE ONLY, APPROVAL IS NOT REQUIRED.

SHOP DRAWING REVIEW
☒ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☐ APPROVED AS CORRECTED
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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists Six Bedford Farms, Bilton Rd. Bedford, NH 03110 603 644 0888
Job Number: 5201.11
Reviewed By: JSA
Date: 9/16/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH ℄ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC. 1770 Hempstead Road Lancaster, PA 17605-0008 Phone 717/299-5211 A Division of High Industries, Inc.

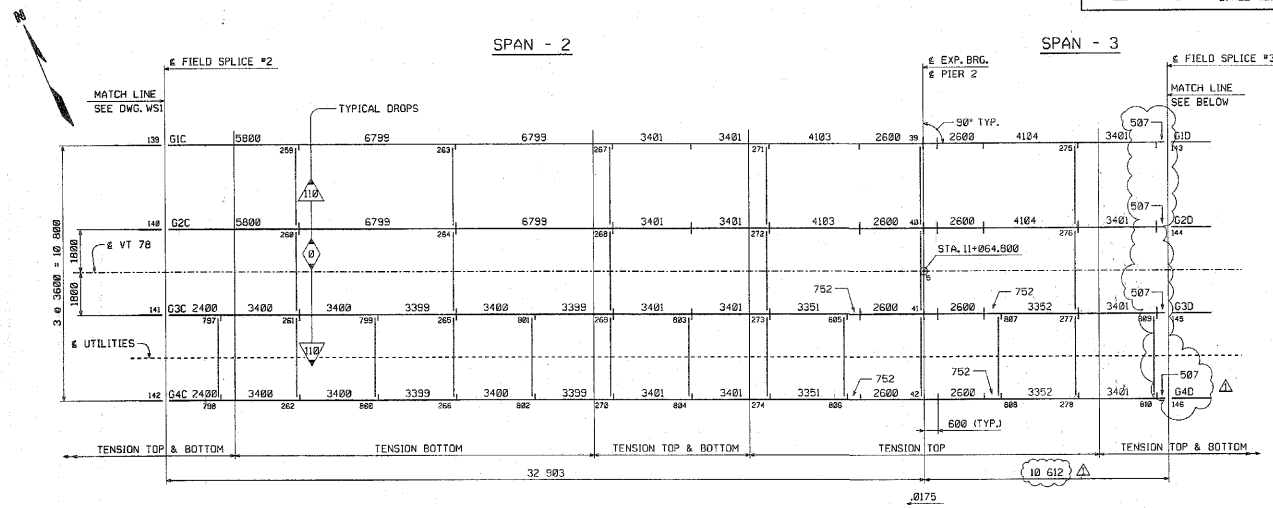
WORKSHEET - CALCULATION PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: JSA CHK'D. BY: CS DATE: 8-9-04
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: WS1 OF WS12

METRIC
Scale = 0.010000 of full size.
PLOTTED: 9/20/2004 08:02 PM
BY: dpeirson

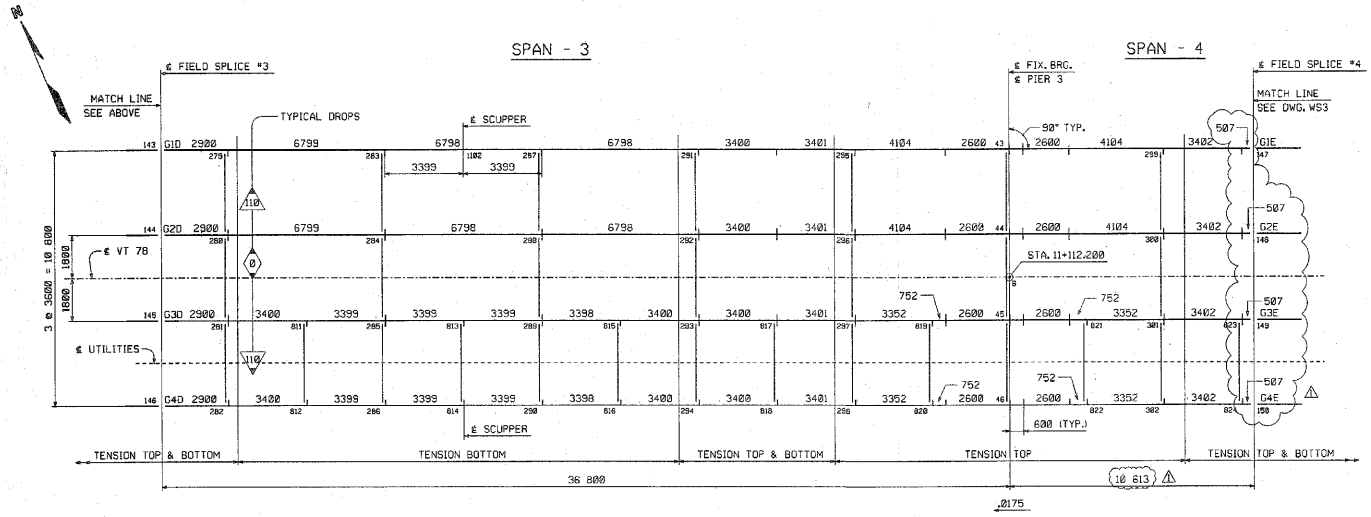
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



CALCULATION PLAN

CONTRACT PLAN LENGTHS HAVE BEEN INCREASED AS REQUIRED TO SATISFY MEAN TEMERATURE LENGTH AT FORTY-FIVE DEGREES WITH FABRICATION AT SIXTY-EIGHT DEGREES MEAN TEMPERATURE



CALCULATION PLAN

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SHOP DRAWING REVIEW

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists Six Riverfront Plaza, Hilton Rd Bedford, NH 03110 603 644 0888

Job Number: 52911
Reviewed By: JMH
Date: 11/12/04

NOTES:
FOR NOTES, SEE DRAWING WS1.
WORK THIS DRAWING WITH DRAWINGS WS1 AND WS3.

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road Lancaster, PA 17606-0008 Phone 717/299-5211
A division of High Industries, Inc.

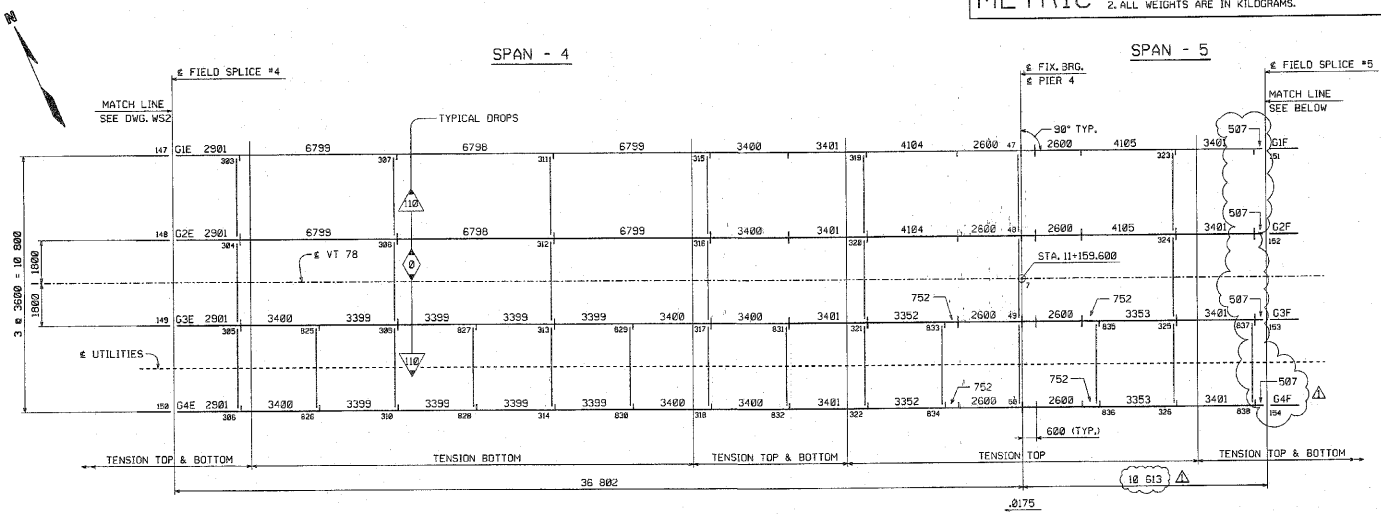
WORKSHEET ~ CALCULATION PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+058.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: JSA CHK'D. BY: CS DATE: 8-9-04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: WS2 OF WS12

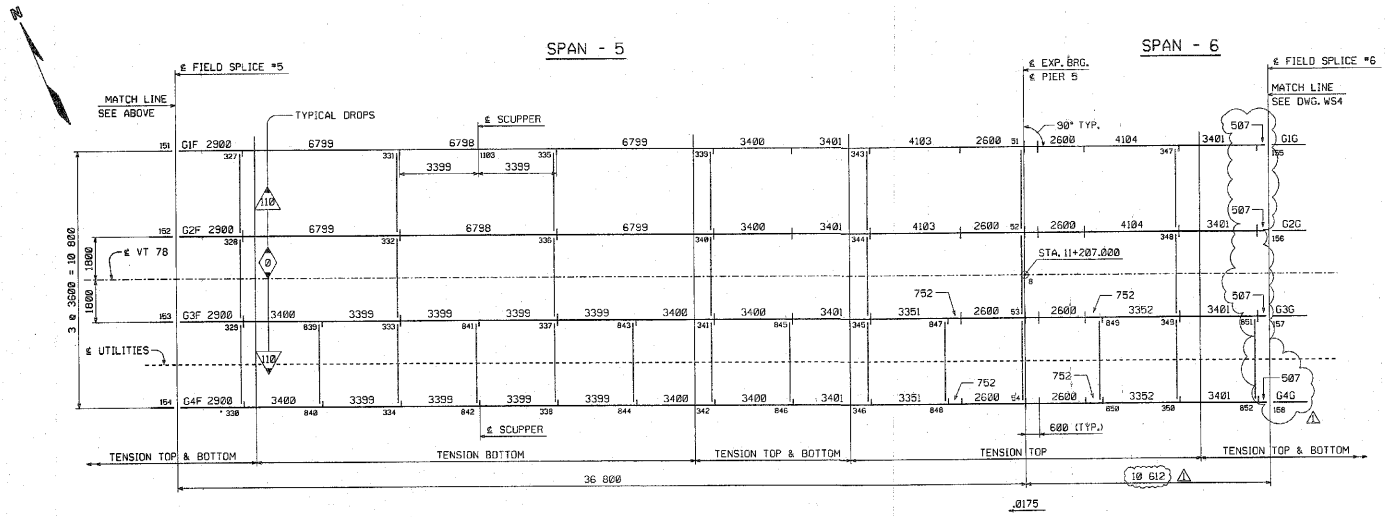
Scale = 0.010000 of full size.
PLOTTED: 9/23/2004 10:38:18 PM
BY: dpaulter
METRIC

METRIC

METRIC	FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.		VT	



CALCULATION PLAN



CALCULATION PLAN

⚠ CONTRACT PLAN LENGTHS HAVE BEEN INCREASED AS REQUIRED TO SATISFY MEAN TEMERATURE LENGTH AT FORTY-FIVE DEGREES WITH FABRICATION AT SIXTY-EIGHT DEGREES MEAN TEMPERATURE

NOTES:
FOR NOTES, SEE DRAWING WS1.
WORK THIS DRAWING WITH DRAWINGS WS2 AND WS4.

NOTE
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SHOP DRAWING REVIEW

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Economists 54 Dorsey Farms, Kilton Rd. Guilford, NH 03602 603 644 2800

Job Number: 5061.11
Reviewed By: JMM
Date: 11/21/04

NO.	REVISION	BY	DATE
⚠	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1710 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-521
A Division of High Industries, Inc.

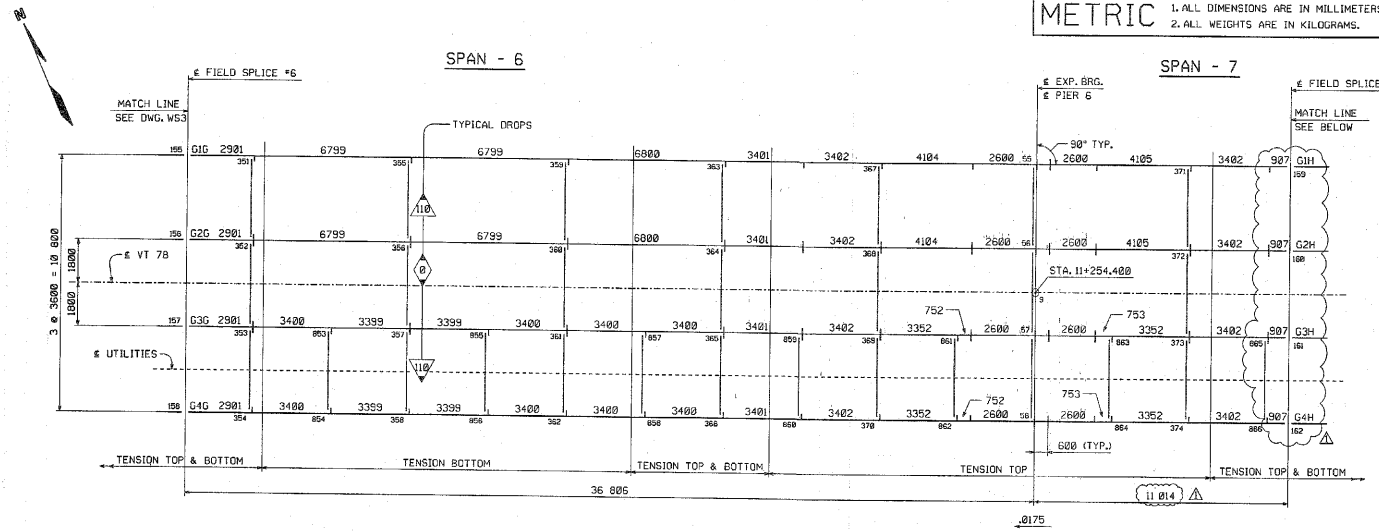
WORKSHEET - CALCULATION PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: JSA CHK'D. BY: CS DATE: 8-9-04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: WS3 OF WS12

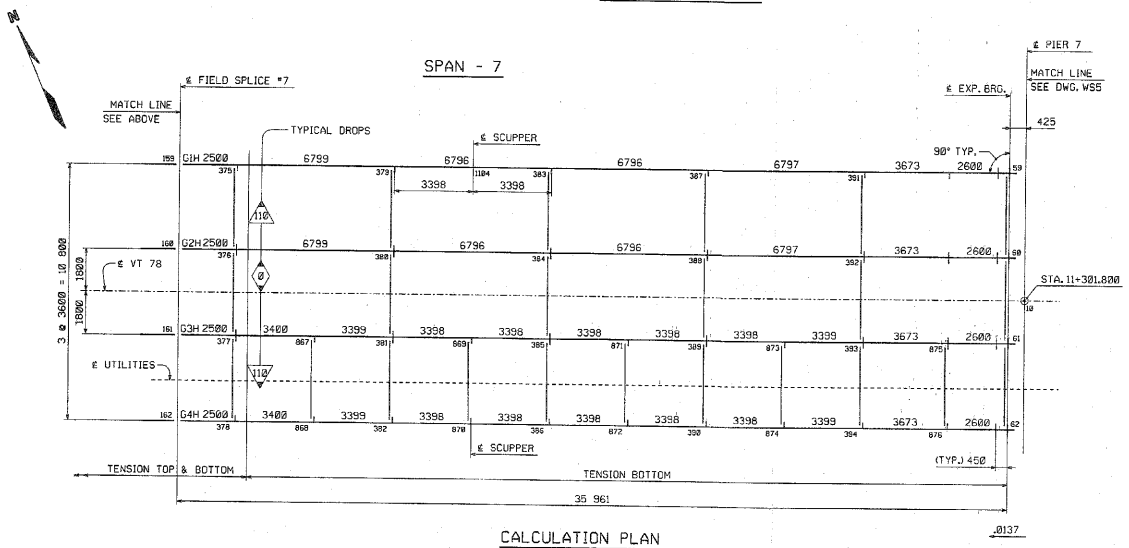
Scale = 0.010000 of full size.
PLOTTED: 9/28/2004 14:03:28 PM
BY: dpanchar

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



CALCULATION PLAN



CALCULATION PLAN

⚠ CONTRACT PLAN LENGTHS HAVE BEEN INCREASED AS REQUIRED TO SATISFY MEAN TEMERATURE LENGTH AT FORTY-FIVE DEGREES WITH FABRICATION AT SIXTY-EIGHT DEGREES MEAN TEMPERATURE

NOTES:
FOR NOTES, SEE DRAWING WS1.
WORK THIS DRAWING WITH DRAWINGS WS3 AND WS5.

NOTE
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DRAWING IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION. THIS DRAWING IS FOR REFERENCE ONLY, APPROVAL IS NOT REQUIRED.

SHOP DRAWING REVIEW
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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Boston Post Rd., Box 9151 Wayland, MA 01778-9151 508 358 7744
Job Number: 59911
Reviewed By: JSA
Date: 11/26/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, Pa 17601-6005
Phone 717/299-5211
A Division of High Industries, Inc.

WORKSHEET - CALCULATION PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

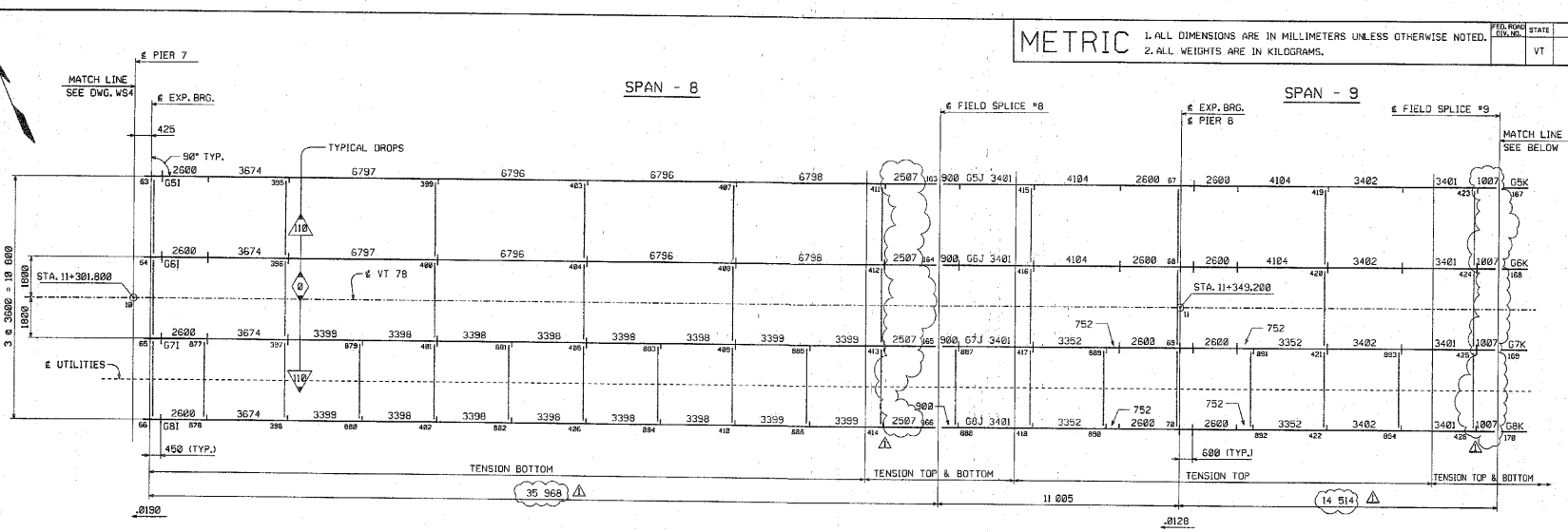
STATE CONTRACT OR REF. NO.: BRF-036-1(1)
CONTRACTOR: CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: JSA CHK'D. BY: CS DATE: 8-9-04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: WS4 OF WS12

METRIC
Scale = 0.0100000 of full size.
PLOTTED: 9/20/2004 14:53:22 PM
BY: dpumier

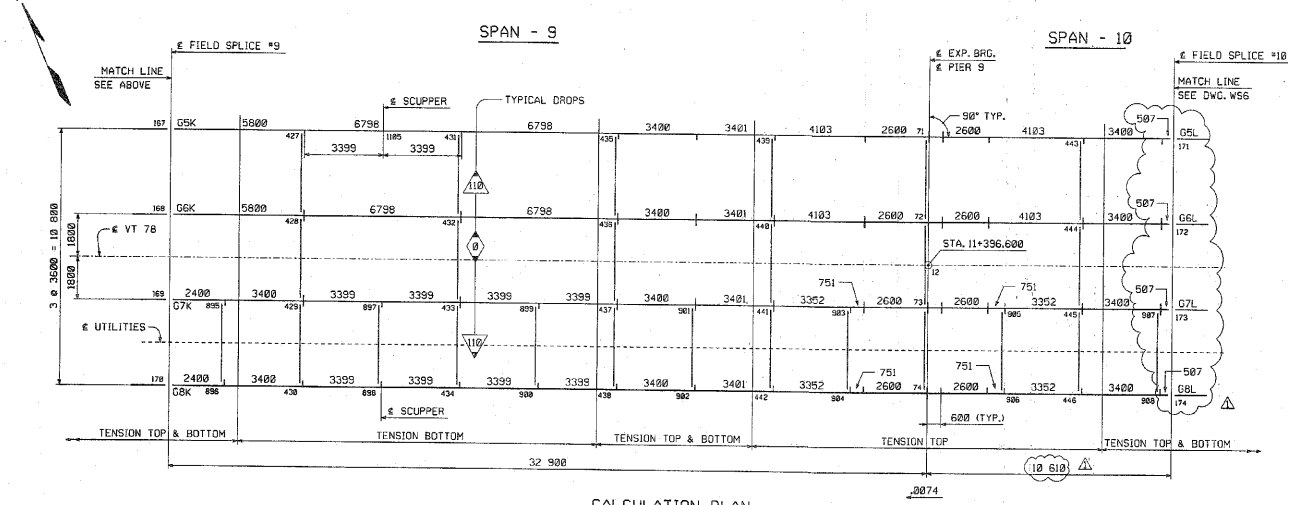
METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



CALCULATION PLAN



CALCULATION PLAN

CONTRACT PLAN LENGTHS HAVE BEEN INCREASED AS REQUIRED TO SATISFY MEAN TEMERATURE LENGTH AT FORTY-FIVE DEGREES WITH FABRICATION AT SIXTY-EIGHT DEGREES MEAN TEMPERATURE

NOTES:
FOR NOTES, SEE DRAWING WS1.
WORK THIS DRAWING WITH DRAWINGS WS4 AND WS6.

NOTE
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DRAWING IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION. THIS DRAWING IS FOR REFERENCE ONLY, APPROVAL IS NOT REQUIRED.

SHOP DRAWING REVIEW

☒ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO APPLICABLE LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ RETURNED AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists. Six Kimball Lane, Lebanon, NH 03766 603-448-1889

Job Number: 50911
Reviewed By: JSA
Date: 9/17/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road Lancaster, PA 17601-0088 Phone 717/299-5211
A Division of High Industries, Inc.

WORKSHEET ~ CALCULATION PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

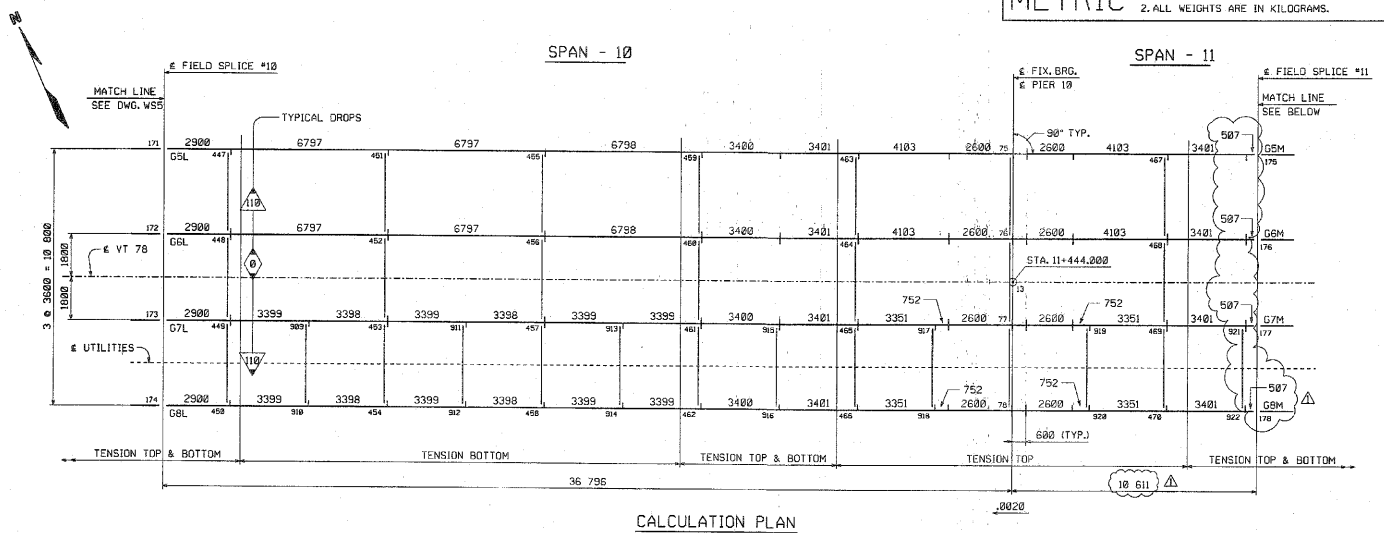
STATE CONTRACT OR REF. NO.: BRF-036-1(11)
CONTRACTOR: CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: JSA CHK'D. BY: CS DATE: 8-9-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: WS5 OF WS12

METRIC
Scale = 0.0120000 of full size.
PLOTTED: 9/20/2004 10:03:23 PM
BY: dpainter

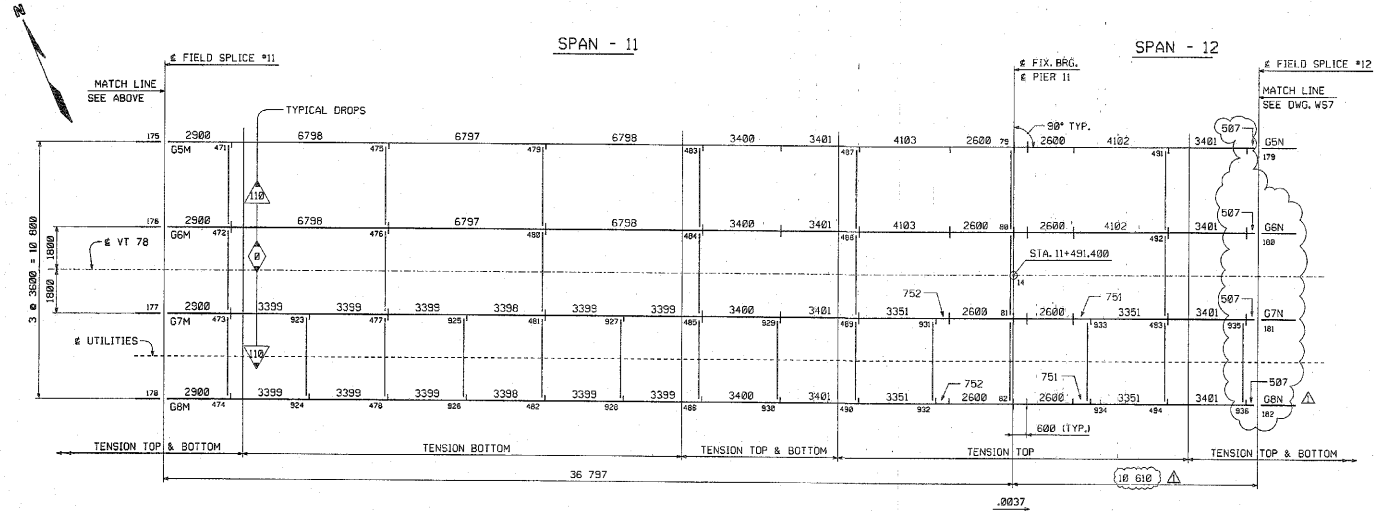
METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



CALCULATION PLAN



CALCULATION PLAN

⚠ CONTRACT PLAN LENGTHS HAVE BEEN INCREASED AS REQUIRED TO SATISFY MEAN TEMERATURE LENGTH AT FORTY-FIVE DEGREES WITH FABRICATION AT SIXTY-EIGHT DEGREES MEAN TEMPERATURE

NOTES:
FOR NOTES, SEE DRAWING WS1.
WORK THIS DRAWING WITH DRAWINGS WS5 AND WS7.

NOTE
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DRAWING IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION. THIS DRAWING IS FOR REFERENCE ONLY, APPROVAL IS NOT REQUIRED.

SHOP DRAWING REVIEW

☒ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT SUBJECT TO ITS CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ REVISION AS CORRECTED

CONSTRUCTIONS OR CONSIDERED MADE OF THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Tech Circle Natick, MA 01760 508.651.0333

Job Number: 5656.11
Reviewed By: [illegible]
Date: 11/2/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries Inc.

WORKSHEET ~ CALCULATION PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

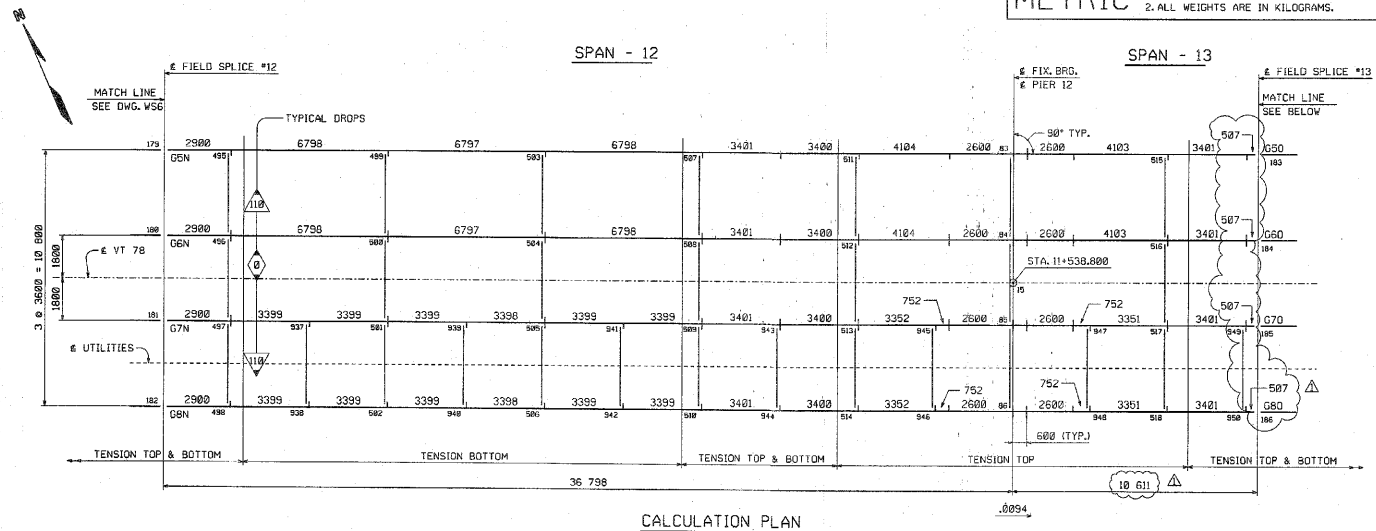
STATE CONTRACT OR REF. NO.: BRF-036-1(1)
CONTRACTOR: GIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: JSA CHK'D. BY: CS DATE: 8-9-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: WS6 OF WS12

METRIC
Scale = 0.010000 of full size.
BY: dporter
PLOTTED: 9/28/2004 08:26:05 PM

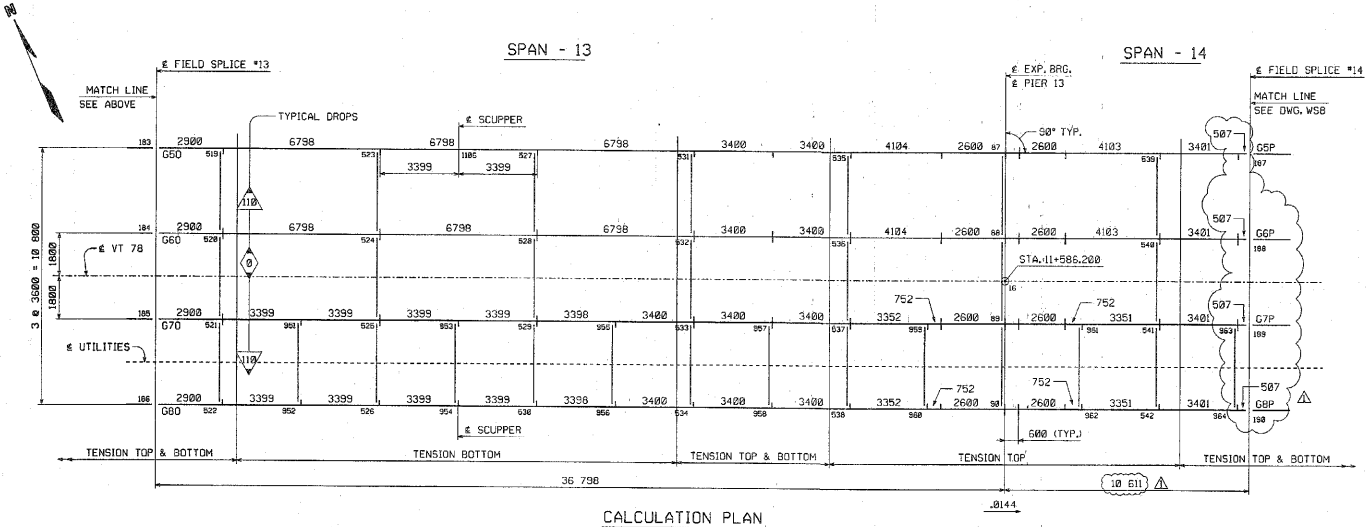
METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



CALCULATION PLAN



CALCULATION PLAN

CONTRACT PLAN LENGTHS HAVE BEEN INCREASED AS REQUIRED TO SATISFY MEAN TEMERATURE LENGTH AT FORTY-FIVE DEGREES WITH FABRICATION AT SIXTY-EIGHT DEGREES MEAN TEMPERATURE

NOTES:
FOR NOTES, SEE DRAWING WS1.
WORK THIS DRAWING WITH DRAWINGS WS6 AND WS8.

NOTE
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DRAWING IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION. THIS DRAWING IS FOR REFERENCE ONLY, APPROVAL IS NOT REQUIRED.

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ RETURN AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists. 54 Regional Farms, Route 9a, Bedford, NH 03102 603 644-8888

Job Number: 56434
Reviewed By: JSA
Date: 11/1/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries, Inc.

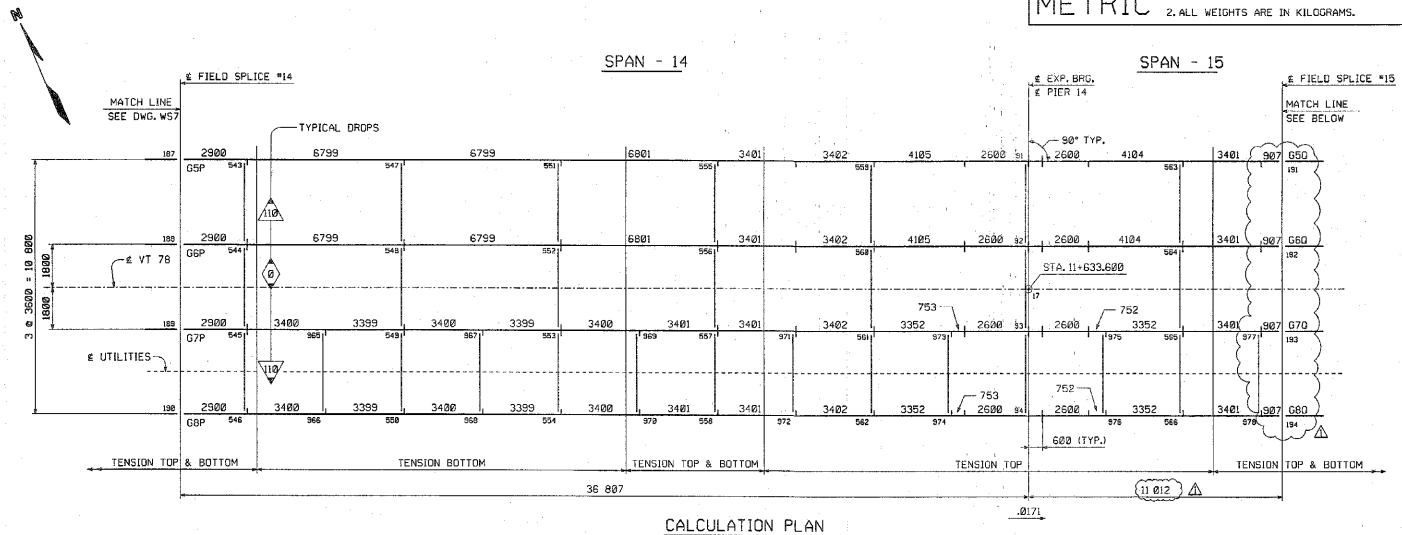
WORKSHEET - CALCULATION PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+055.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(11)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: JSA CHK'D. BY: CS DATE: 8-9-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: WS7 OF WS12

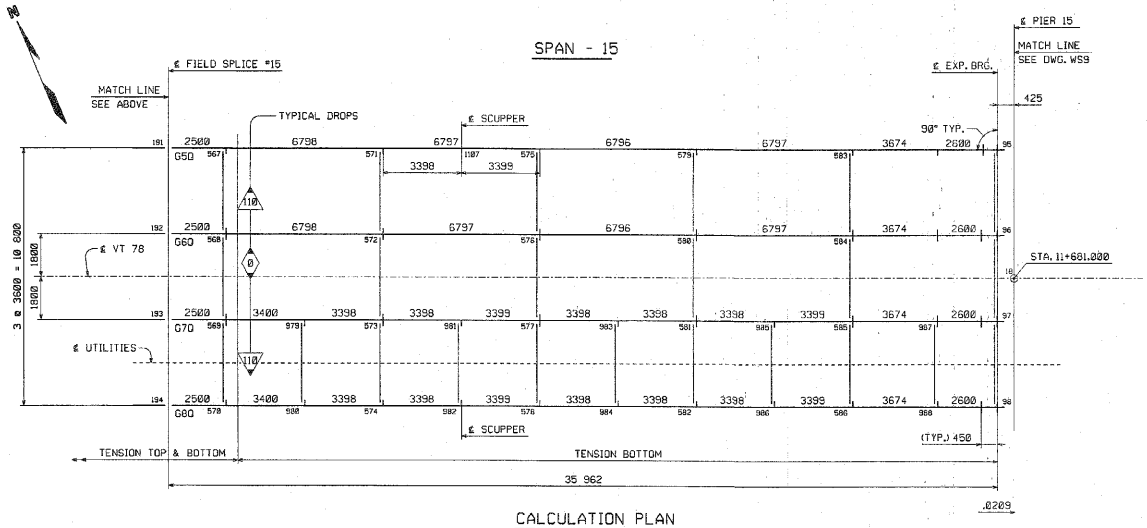
METRIC
Scale = 0.010000 of full size.
PLOTTED 9/29/2004 08:07 PM BY: dpurtell

METRIC

METRIC	1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.	FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	2. ALL WEIGHTS ARE IN KILOGRAMS.		VT	



CALCULATION PLAN



CALCULATION PLAN

⚠ CONTRACT PLAN LENGTHS HAVE BEEN INCREASED AS REQUIRED TO SATISFY MEAN TEMERATURE LENGTH AT FORTY-FIVE DEGREES WITH FABRICATION AT SIXTY-EIGHT DEGREES MEAN TEMPERATURE

SHOP DRAWING REVIEW

☒ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☐ REVIEW AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dartford Farms, Route 114 Bedford, NH 03102 603 641-2665

Job Number: 53811
Reviewed By: JMH
Date: 11/01/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH ℄ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17601-0008
Phone 717/299-521
A Division of High Industries Inc.

WORKSHEET ~ CALCULATION PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE GLIDDEN (IH) MADE BY JSA CHK'D. BY CS DATE 8-9-04
CONTRACT NUMBER VT-04057-2 DRAWING NUMBER WS8 OF WS12

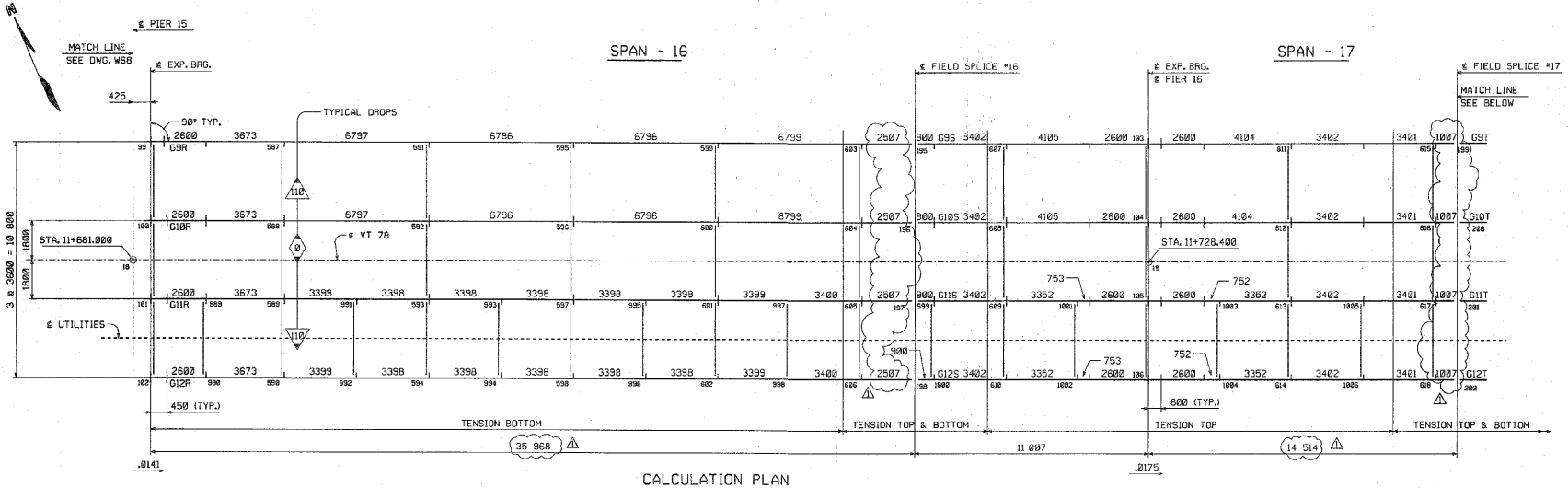
NOTES:
FOR NOTES, SEE DRAWING WS1.
WORK THIS DRAWING WITH DRAWINGS WS7 AND WS9.

NOTE
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DRAWING IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION. THIS DRAWING IS FOR REFERENCE ONLY, APPROVAL IS NOT REQUIRED.

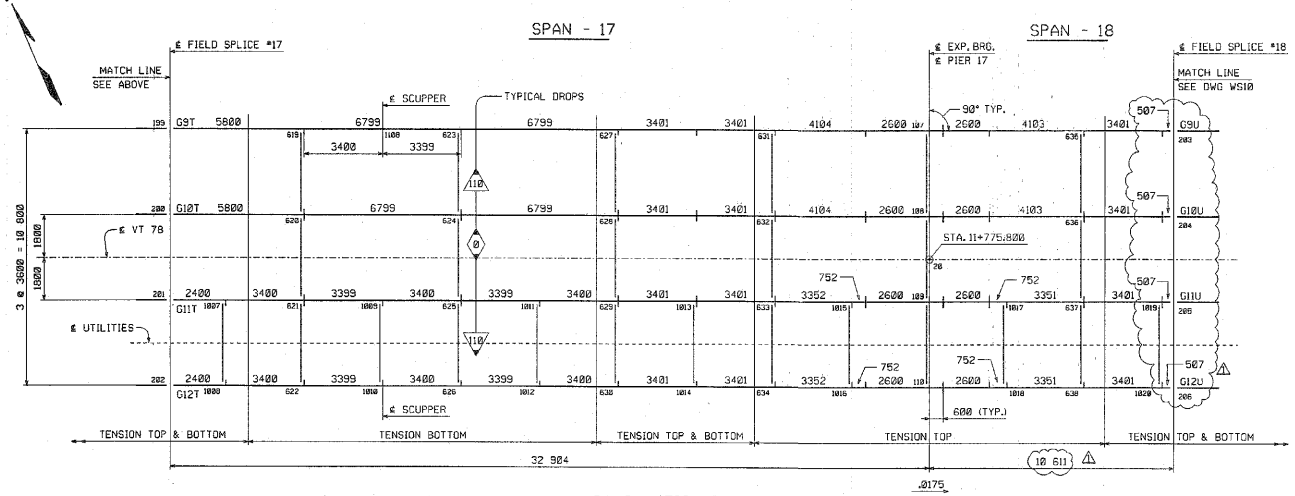
Scale = 0.010000 of full size.
PLOTTED 9/20/2004 1:03:26 PM BY: dpourier

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



CALCULATION PLAN



CALCULATION PLAN

⚠ CONTRACT PLAN LENGTHS HAVE BEEN INCREASED AS REQUIRED TO SATISFY MEAN TEMERATURE LENGTH AT FORTY-FIVE DEGREES WITH FABRICATION AT SIXTY-EIGHT DEGREES MEAN TEMPERATURE

NOTES:
FOR NOTES, SEE DRAWING WS1.
WORK THIS DRAWING WITH DRAWINGS WS8 AND WS10.

NOTE
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DRAWING IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION. THIS DRAWING IS FOR REFERENCE ONLY, APPROVAL IS NOT REQUIRED.

SHOP DRAWING REVIEW
APPROVED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ AS NOTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED
CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.
VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dorfield Farms, Mines Rd. Portland, ME 04102 207-344-0060
Job Number: 5091
Reviewed By: BRD
Date: 11/30/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH ℄ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road Lancaster, Pa. 17605-0008 Phone 717/293-5211
A Division of High Industries, Inc.

WORKSHEET ~ CALCULATION PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

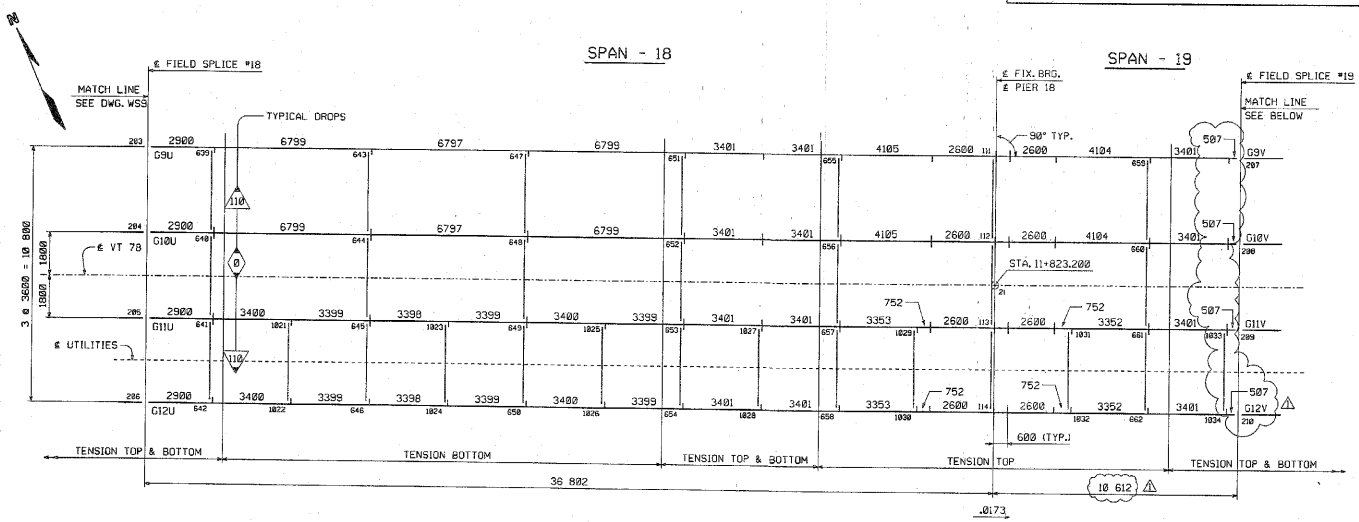
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: JSA CHK'D. BY: CS DATE: 8-9-04
CONTRACT NUMBER: VT-040057-3 DRAWING NUMBER: WS9 OF WS12

METRIC
Scale = 0.012000 of full size.
PLOTTED: 9/20/2004 8:53:08 PM
By: dpruner

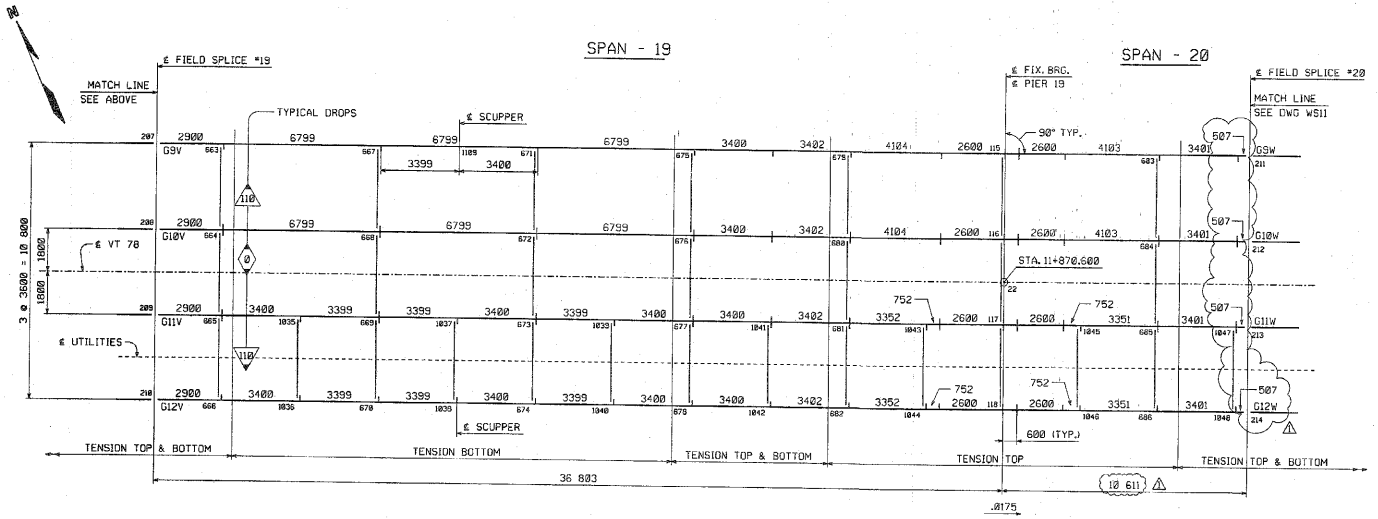
METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



CALCULATION PLAN



CALCULATION PLAN

⚠ CONTRACT PLAN LENGTHS HAVE BEEN INCREASED AS REQUIRED TO SATISFY MEAN TEMERATURE LENGTH AT FORTY-FIVE DEGREES WITH FABRICATION AT SIXTY-EIGHT DEGREES MEAN TEMPERATURE

NOTES:
FOR NOTES, SEE DRAWING WS1.
WORK THIS DRAWING WITH DRAWINGS WS9 AND WS11.

NOTE
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DRAWING IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION. THIS DRAWING IS FOR REFERENCE ONLY. APPROVAL IS NOT REQUIRED.

SHOP DRAWING REVIEW

☒ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUPPORT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FINISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Eastgate Farms, Kilton Rd. Bedford, NH 03110 603-644-2800

Job Number: 52911
Reviewed By: JSA
Date: 11/10/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1170 Homestead Road
Lancaster, PA 17608-0008
Phone: 717/299-5211
A Division of High Industries Inc.

WORKSHEET - CALCULATION PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

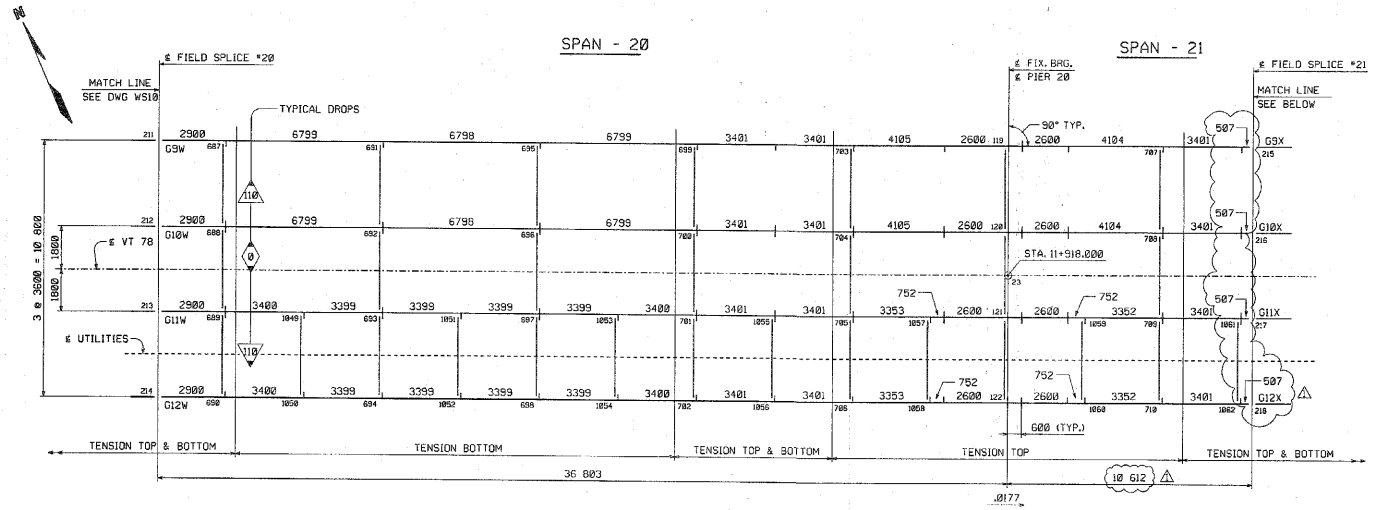
STATE CONTRACT OR REF. NO. BRF-036-1(11)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (JH) MADE BY: JSA CHK'D. BY: CS DATE: 8-9-04
CONTRACT NUMBER: VT-04057-3
DRAWING NUMBER: WS10 OF WS12

METRIC
Scale = 0.0100000 of full size.
BY: dpourrier
PLOTTED: 9/29/2004 14:43:32 PM

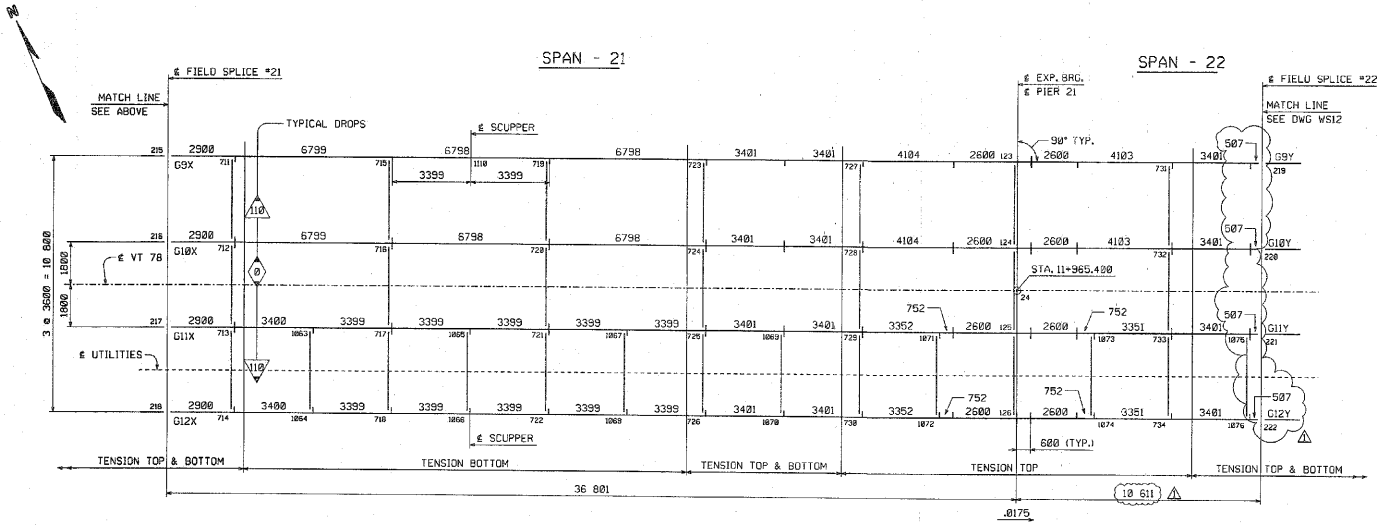
METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



CALCULATION PLAN



CALCULATION PLAN

⚠ CONTRACT PLAN LENGTHS HAVE BEEN INCREASED AS REQUIRED TO SATISFY MEAN TEMERATURE LENGTH AT FORTY-FIVE DEGREES WITH FABRICATION AT SIXTY-EIGHT DEGREES MEAN TEMPERATURE

NOTES:
FOR NOTES, SEE DRAWING WS1.
WORK THIS DRAWING WITH DRAWINGS WS10 AND WS12.

NOTE
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DRAWING IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION. THIS DRAWING IS FOR REFERENCE ONLY, APPROVAL IS NOT REQUIRED.

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE BRIDGE, AND SUBJECT TO FOR GIVEN LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists Six Kimball Lane, Suite 210 Bedford, NH 03110 603-644-0888

Job Number: 59 911
Reviewed By: RMH
Date: 11/8/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1970 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries, Inc.

WORKSHEET ~ CALCULATION PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

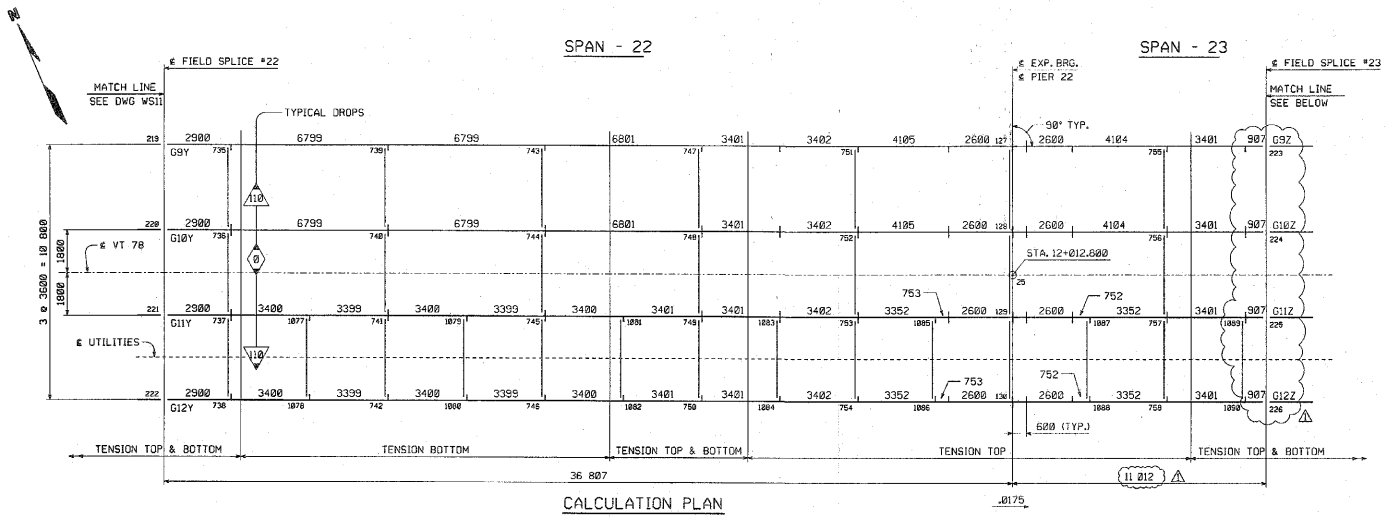
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (LH) MADE BY: JSA CHK'D. BY: CS DATE: 8-9-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: WS11 OF WS12

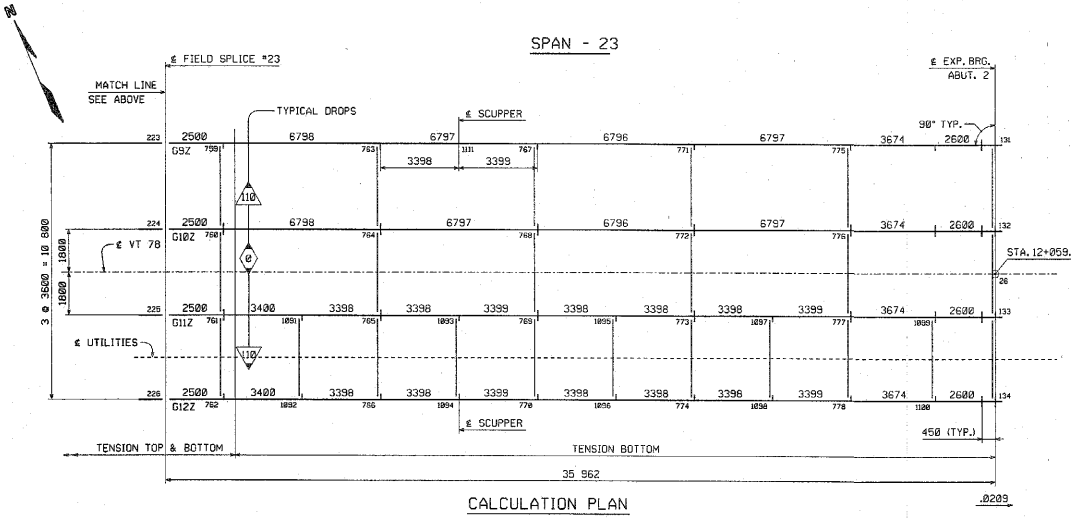
METRIC
Scale = 0.010000 of full size.
PLOTTED: 9/29/2004 10:53:34 PM
By: dpuntier

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	





⚠ CONTRACT PLAN LENGTHS HAVE BEEN INCREASED AS REQUIRED TO SATISFY MEAN TEMERATURE LENGTH AT FORTY-FIVE DEGREES WITH FABRICATION AT SIXTY-EIGHT DEGREES MEAN TEMPERATURE

NOTES:
FOR NOTES, SEE DRAWING WS1.
WORK THIS DRAWING WITH DRAWING WS11.

NOTE
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DRAWING IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION. THIS DRAWING IS FOR REFERENCE ONLY, APPROVAL IS NOT REQUIRED.

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND RESPONSIBILITIES CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 8A Bedford Farms, Bedford, NH 03102 603-644-0888
Job Number: 50911
Reviewed By: JSM
Date: 11/16/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0206
Phone 717/299-5261
A Division of High Industries, Inc.

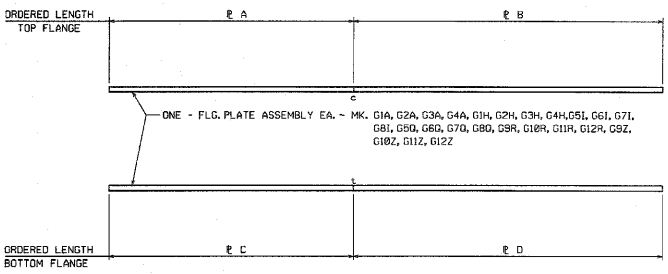
WORKSHEET ~ CALCULATION PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: JSA CHK'D. BY: CS DATE: 8-9-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: WS12 OF WS12

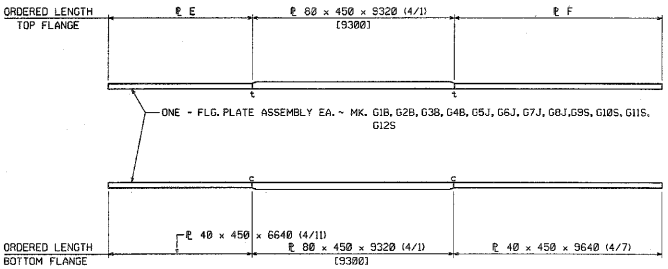
METRIC
Scale = 0.010000 of full size.
PLOTTED: 9/20/2004 08:36 PM
By: dpainter

METRIC

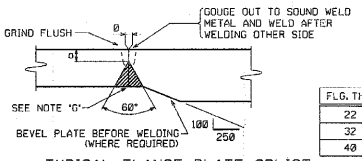
METRIC	1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.	FED. ROAD DIV. NO.	STATE VT	FED. AID PROJ. NO.



MARK	A	B	C	D
G1A THRU G4A	22 x 450 x 16 040 (4/28)	22 x 450 x 20 300 (4/27)	40 x 450 x 16 040 (4/5)	40 x 450 x 20 280 (4/4)
G1H THRU G4H	22 x 450 x 20 360 (4/26)	22 x 450 x 16 040 (4/28)	40 x 450 x 20 280 (4/4)	40 x 450 x 16 040 (4/5)
G5I THRU G8I	22 x 450 x 16 040 (4/28)	22 x 450 x 20 300 (4/27)	40 x 450 x 16 040 (4/5)	40 x 450 x 20 280 (4/4)
G5Q THRU G8Q	22 x 450 x 20 300 (4/27)	22 x 450 x 16 040 (4/28)	40 x 450 x 20 280 (4/4)	40 x 450 x 16 040 (4/5)
G9R THRU G12R	22 x 450 x 16 040 (4/28)	22 x 450 x 20 360 (4/26)	40 x 450 x 16 040 (4/5)	40 x 450 x 20 280 (4/4)
G9Z THRU G12Z	22 x 450 x 20 300 (4/27)	22 x 450 x 16 040 (4/28)	40 x 450 x 20 280 (4/4)	40 x 450 x 16 040 (4/5)



MARK	E	F
G1B THRU G4B	40 x 450 x 6860 (4/10)	40 x 450 x 9620 (4/9)
G5J THRU G8J	40 x 450 x 6640 (4/11)	40 x 450 x 9600 (4/9)
G9S THRU G12S	40 x 450 x 6600 (4/12)	40 x 450 x 9660 (4/6)



FLG. THK.	α
22	7
32	10
40	13

TYPICAL FLANGE PLATE SPLICE
FOR FLANGE PLATES 50 mm THICK AND UNDER (B-L2c-S)

G1 THRU G4 = SHIPMENT 1
G5 THRU G8 = SHIPMENT 2
G9 THRU G12 = SHIPMENT 3

SHOP DRAWING REVIEW

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 8 Blanchard Farms, Willow Rd. Bedford, NH 03110 603-644-0888

Job Number: 3041
Reviewed By: [illegible]
Date: 08/16/04

NOTE "G"

ALL SPLICES MAY HAVE A MAXIMUM REINFORCEMENT OF 3 mm. GRIND SMOOTH AT SPLICES THAT ARE TO BE TESTED AND ALL BOTTOM FLANGE SPLICES.

NOTES:

FOR GENERAL SHOP NOTES, SEE DRAWING GN1.
ALL FLANGE PLATES REQUIRE CHARPY V-NOTCH TEST.
DIMENSIONS SHOWN THUS: [9300] ARE THE ACTUAL DIMENSIONS THAT WILL APPEAR ON THE GIRDER DETAIL DRAWINGS.
THE LETTERS 't' & 'c' AT FLANGE SPLICES INDICATE TENSION AND COMPRESSION SPLICES RESPECTIVELY.
ALL SPLICES MARKED 't' TO BE RADIOGRAPHICALLY TESTED 100%.
ALL SPLICES MARKED 'c' TO BE RADIOGRAPHICALLY TESTED 25%.

NO.	REVISION	BY	DATE
△			
△			
△			

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17605-0305
Phone 717/299-5201
A Division of High Industries Inc.

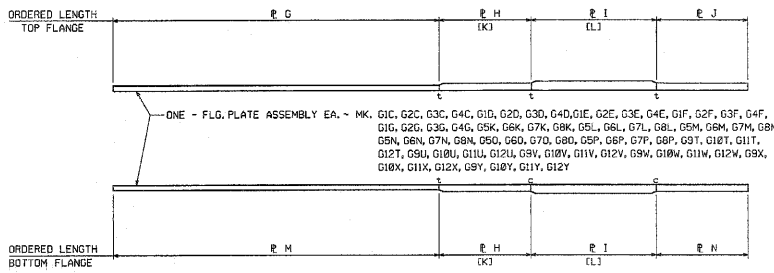
FLANGE SPLICE DETAILS
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: KMA CHK'D. BY: SJA DATE: 7-9-04
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: FS1 OF FS2

CODE:30

PLOTTED: 8/23/2004 12:34:58 PM
By: dpainter

METRIC



MARK	G	H	I	J	K	L	M
G1C THRU G4C	22 x 450 x 22 360 (4/22)	32 x 450 x 6320 (4/15)	65 x 450 x 8620 (4/3)	32 x 450 x 6300 (4/16)	6300	8600	22 x 450 x 22 320 (4/24)
G1D THRU G4D	22 x 450 x 26 280 (4/17)	32 x 450 x 6320 (4/15)	65 x 450 x 8640 (4/2)	32 x 450 x 6300 (4/16)	6300	8601	22 x 450 x 26 220 (4/20)
G1E THRU G4E	22 x 450 x 26 260 (4/16)	32 x 450 x 6320 (4/15)	65 x 450 x 8620 (4/3)	32 x 450 x 6300 (4/16)	6300	8600	22 x 450 x 26 220 (4/20)
G1F THRU G4F	22 x 450 x 26 280 (4/17)	32 x 450 x 6320 (4/15)	65 x 450 x 8640 (4/2)	32 x 450 x 6300 (4/16)	6300	8601	22 x 450 x 26 220 (4/20)
G1G THRU G4G	22 x 450 x 22 360 (4/22)	40 x 450 x 9620 (4/8)	80 x 450 x 9320 (4/1)	40 x 450 x 6600 (4/12)	9600	9300	22 x 450 x 22 340 (4/23)
G5K THRU G8K	22 x 450 x 22 340 (4/23)	32 x 450 x 6320 (4/15)	65 x 450 x 8620 (4/3)	32 x 450 x 6320 (4/15)	6300	8600	22 x 450 x 22 320 (4/24)
G5L THRU G8L	22 x 450 x 26 240 (4/19)	32 x 450 x 6320 (4/15)	65 x 450 x 8620 (4/3)	32 x 450 x 6320 (4/15)	6300	8600	22 x 450 x 26 220 (4/20)
G5M THRU G8M	22 x 450 x 26 240 (4/19)	32 x 450 x 6320 (4/15)	65 x 450 x 8620 (4/3)	32 x 450 x 6340 (4/14)	6300	8600	22 x 450 x 26 220 (4/20)
G5N THRU G8N	22 x 450 x 26 220 (4/20)	32 x 450 x 6320 (4/15)	65 x 450 x 8620 (4/3)	32 x 450 x 6340 (4/14)	6300	8600	22 x 450 x 26 220 (4/20)
G5O THRU G8O	22 x 450 x 26 220 (4/20)	32 x 450 x 6320 (4/15)	65 x 450 x 8620 (4/3)	32 x 450 x 6360 (4/13)	6300	8600	22 x 450 x 26 220 (4/20)
G5P THRU G8P	22 x 450 x 22 300 (4/25)	40 x 450 x 9620 (4/8)	80 x 450 x 9320 (4/1)	40 x 450 x 6660 (4/10)	9600	9300	22 x 450 x 22 340 (4/23)
G9T THRU G12T	22 x 450 x 22 300 (4/25)	32 x 450 x 6320 (4/15)	65 x 450 x 8620 (4/3)	32 x 450 x 6360 (4/13)	6300	8600	22 x 450 x 22 340 (4/23)
G9U THRU G12U	22 x 450 x 26 220 (4/20)	32 x 450 x 6320 (4/15)	65 x 450 x 8640 (4/2)	32 x 450 x 6360 (4/13)	6300	8601	22 x 450 x 26 220 (4/20)
G9V THRU G12V	22 x 450 x 26 200 (4/21)	32 x 450 x 6320 (4/15)	65 x 450 x 8620 (4/3)	32 x 450 x 6360 (4/13)	6300	8600	22 x 450 x 26 220 (4/20)
G9W THRU G12W	22 x 450 x 26 200 (4/21)	32 x 450 x 6320 (4/15)	65 x 450 x 8620 (4/3)	32 x 450 x 6360 (4/13)	6300	8600	22 x 450 x 26 220 (4/20)
G9X THRU G12X	22 x 450 x 26 220 (4/20)	32 x 450 x 6320 (4/15)	65 x 450 x 8640 (4/2)	32 x 450 x 6360 (4/13)	6300	8601	22 x 450 x 26 220 (4/20)
G9Y THRU G12Y	22 x 450 x 22 300 (4/25)	40 x 450 x 9620 (4/8)	80 x 450 x 9320 (4/1)	40 x 450 x 6660 (4/10)	9600	9300	22 x 450 x 22 340 (4/23)

MARK	N
G1C THRU G4C	32 x 450 x 6340 (4/14)
G1D THRU G4D	32 x 450 x 6340 (4/14)
G1E THRU G4E	32 x 450 x 6340 (4/14)
G1F THRU G4F	32 x 450 x 6340 (4/14)
G1G THRU G4G	40 x 450 x 6640 (4/11)
G5K THRU G8K	32 x 450 x 6340 (4/14)
G5L THRU G8L	32 x 450 x 6340 (4/14)
G5M THRU G8M	32 x 450 x 6340 (4/14)
G5N THRU G8N	32 x 450 x 6340 (4/14)
G5O THRU G8O	32 x 450 x 6340 (4/14)
G5P THRU G8P	40 x 450 x 6640 (4/11)
G9T THRU G12T	32 x 450 x 6340 (4/14)
G9U THRU G12U	32 x 450 x 6340 (4/14)
G9V THRU G12V	32 x 450 x 6340 (4/14)
G9W THRU G12W	32 x 450 x 6340 (4/14)
G9X THRU G12X	32 x 450 x 6340 (4/14)
G9Y THRU G12Y	40 x 450 x 6640 (4/11)

G1 THRU G4 = SHIPMENT 1
G5 THRU G8 = SHIPMENT 2
G9 THRU G12 = SHIPMENT 3

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

SHOP DRAWING REVIEW

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists Six Bedford Farms, Bedford, NH 03110 603-644-0888

Job Number: 62911
Reviewed By: JJM
Date: 11/8/04

NOTES:
FOR WELDING DETAILS, SEE DWG. FS1.
FOR OTHER NOTES, SEE DWG. FS1.

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5201
A Division of High Industries, Inc.

FLANGE SPLICE DETAILS
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY KMA CHK'D. BY SJA DATE: 7-9-04
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: FS2 OF FS2

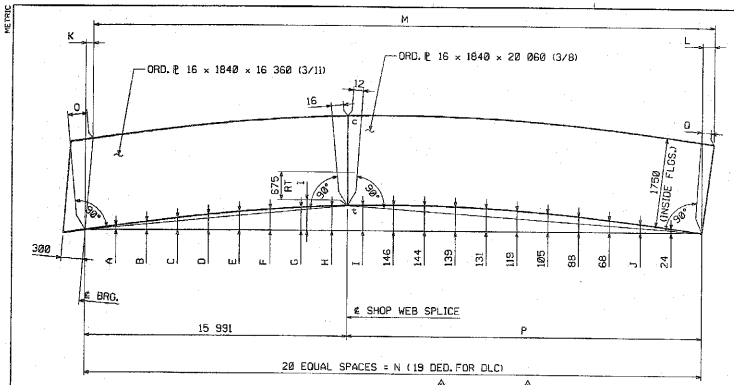
CODE: 30

PLOTTED: 8/25/2004 12:49:49 PM
BY: dpainter

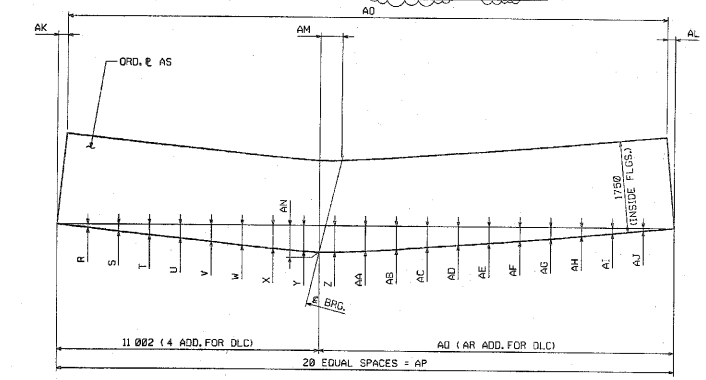
METRIC

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

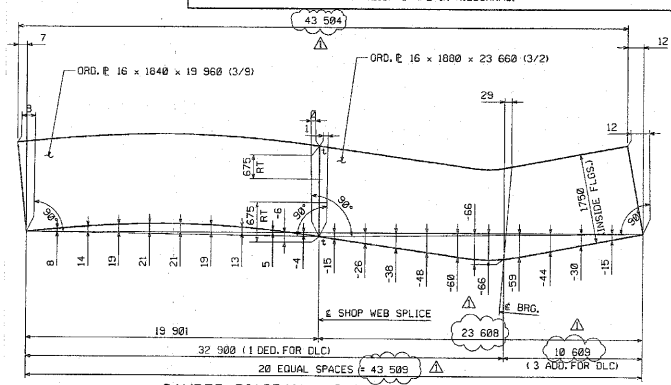


MARK	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
G1A THRU G4A	25	48	70	89	106	121	132	140	145	146	13	23	35 976	35 966	29	19 975	10
G5I THRU G8I	24	47	69	88	105	120	131	139	144	47	9	24	35 980	35 965	25	19 974	11



MARK	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AQ	AP	AQ	AR
G1B THRU G4B	-10	-21	-31	-41	-50	-61	-70	-78	-80	-76	-71	-63	-56	-50	-43	-35	-26	-18	-9	14	12	33	-79	25 489	25 515	14 513	5
G5J THRU G8J	-7	-13	-20	-25	-31	-36	-41	-45	-46	-45	-43	-39	-36	-32	-27	-22	-17	-11	-5	10	7	24	-46	25 496	25 513	14 511	6

MARK	AS
G1B THRU G4B	16 x 1860 x 25 560 (3/3)
G5J THRU G8J	16 x 1020 x 25 560 (3/12)



CAMBER DIAGRAM - G1C, G2C, G3C, & G4C

G1 THRU G4 = SHIPMENT 1
G5 THRU G8 = SHIPMENT 2
G9 THRU G12 = SHIPMENT 3

SHOP DRAWING REVIEW

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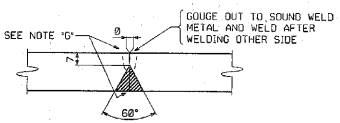
VHB — Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Boston Post Road, Wilton, Box 9151 Wakefield, MA 01880 800.444.1808

Job Number: 58911
Reviewed by: JJ/SJA
Date: 11/19/04

NOTES:

FOR GENERAL SHOP NOTES, SEE DRAWING GN1.
ALL WEB PLATES REQUIRE CHARPY V-NOTCH TEST.
NEGATIVE CAMBER ORDINATES INDICATE CURVE IS BELOW BASELINE.
THE LETTERS 't' & 'c' AT WEB SPLICES INDICATE TENSION AND COMPRESSION EDGES AT SPLICES.
RT INDICATES RADIOGRAPHIC TESTING FOR 1/6 OF THE WEB DEPTH AT TENSION EDGE PLUS 25% OF THE REMAINDER.



TYPICAL WEB PLATE SPLICE
FOR WEB PLATES 13 mm TO 50 mm THICK (B-L2c-S)

NOTE "G"

ALL WELDS MAY HAVE A MAXIMUM REINFORCEMENT OF 3 mm. GRIND THE WELDS SMOOTH IN THE AREAS TO BE TESTED AND FOR THE FULL DEPTH OF WEB ON G1A, G1C, G1D, G1E, G1F, G1G, G1H, G1I, G1K, G1L, G1M, G1N, G1O, G1P, G1Q, G1R, G1S, G1T, G1U, G1V, G1W, G1X, G1Y, G1Z (F.S.) AND G4A, G4C, G4D, G4E, G4F, G4G, G4H, G4I, G4K, G4L, G4M, G4N, G4O, G4P, G4Q, G4R, G4S, G4T, G4U, G4V, G4W, G4X, G4Y, G4Z (N.S.).

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC. — 1712 Hempstead Road, Lancaster, PA 17605-0008, Phone 717/295-529, A Division of High Industries, Inc.

WEB CAMBER DIAGRAMS
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+058.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANDRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: KMA CHK'D. BY: SJA DATE: 7/9/04
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: WC1 OF WC5

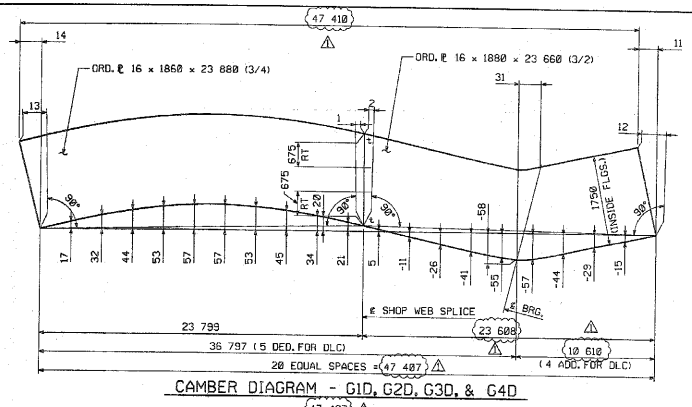
CODE:30

PLOTTED: 9/20/2004 10:30:36 PM
BY: dpoirier

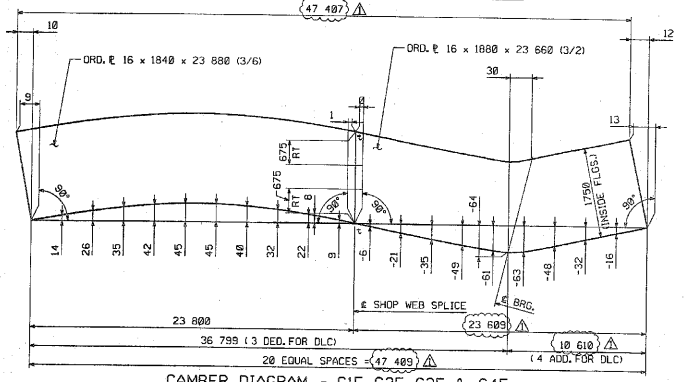
METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

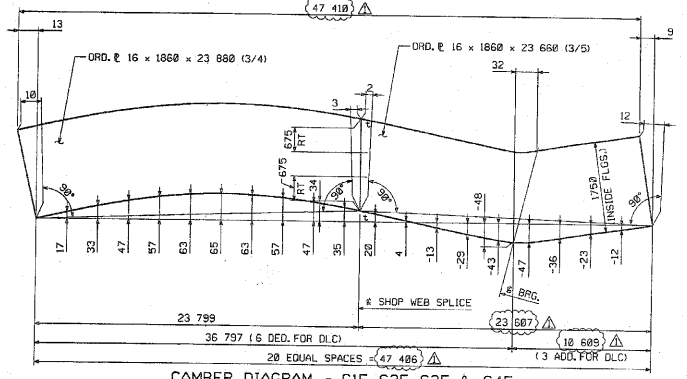
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



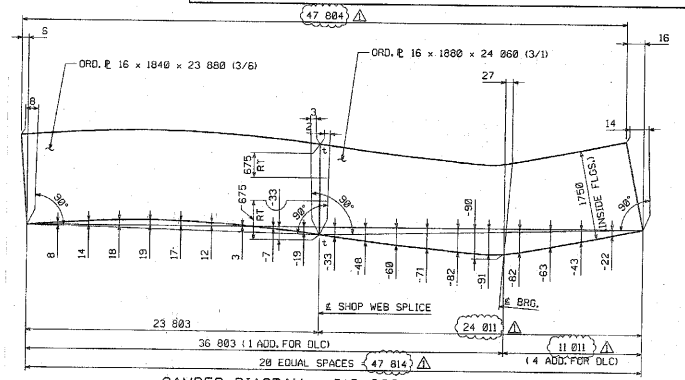
CAMBER DIAGRAM - G1D, G2D, G3D, & G4D



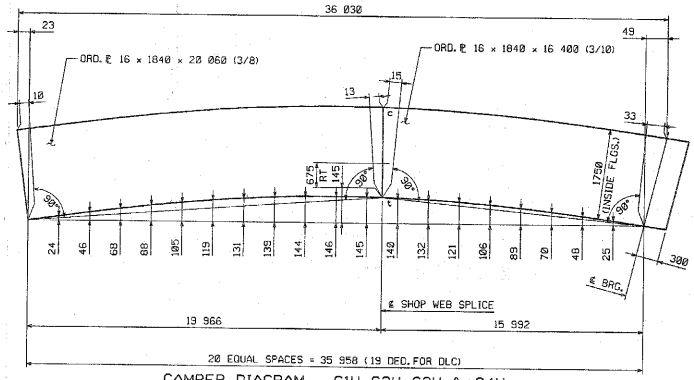
CAMBER DIAGRAM - G1E, G2E, G3E, & G4E



CAMBER DIAGRAM - G1F, G2F, G3F, & G4F



CAMBER DIAGRAM - G1G, G2G, G3G, & G4G



CAMBER DIAGRAM - G1H, G2H, G3H, & G4H

NOTES:

FOR WELDING DETAILS AND OTHER NOTES, SEE DWG. WC1.

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORKS, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS REVIEW IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dorfield Farms, Milton Rd. Dedham, MA 02026 781 844 3333

Job Number: 5823.1
Reviewed By: SMH
Date: 11/16/04

CODE: 30

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
970 Hempstead Road
Lancaster, PA 17601-6008
Phone 717/239-529
A Division of High Industries Inc.

WEB CAMBER DIAGRAMS
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.12+970.425 TO STA.12+859.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

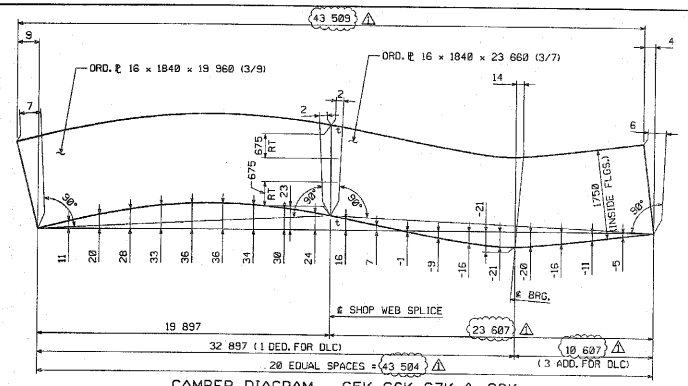
STATE CONTRACT OR REF. NO. BRF-036-1(11)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE GLIDDEN (IH) MADE BY KMA CH'D BY SJA DATE 7/9/04
CONTRACT NUMBER VT-04057-1
DRAWING NUMBER WC2 OF WC5

PLOTTED: 9/28/2004 1:40:39 PM BY: dpominar

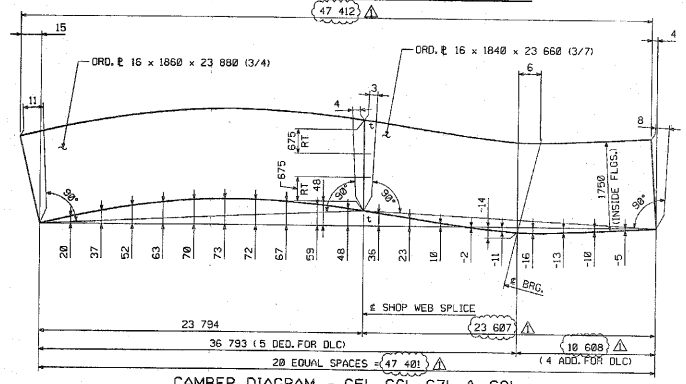
METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

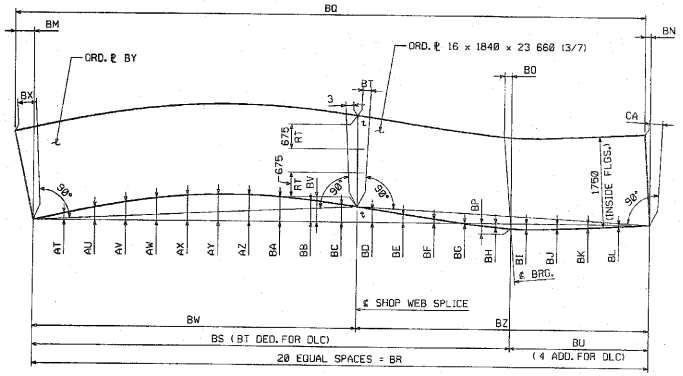
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



CAMBER DIAGRAM - G5K, G6K, G7K, & G8K

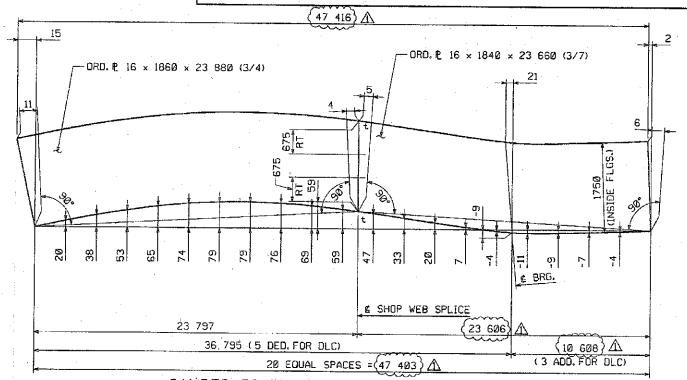


CAMBER DIAGRAM - G5L, G6L, G7L, & G8L



MARK	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV
G5M THRU G8M	18	34	48	59	65	69	68	64	56	46	34	22	10	-1	-10	-14	-13	-9	-5	13	3	4	-13	47 411	47 401	36 794	4	10 607	45
G5N THRU G8N	17	33	46	56	62	65	64	58	50	39	27	15	4	-7	-16	-20	-17	-12	-6	12	5	14	-19	47 410	47 403	36 795	3	10 608	39

MARK	BW	BX	BY	BZ	CA
G5M THRU G8M	23 795	10	16 x 1840 x 23 880 (3/6)	23 606	6
G5N THRU G8N	23 796	9	16 x 1860 x 23 880 (3/4)	23 607	8



CAMBER DIAGRAM - G5O, G6O, G7O, & G8O

NOTES:

FOR WELDING DETAILS AND OTHER NOTES, SEE DWG. WC1.

SHOP DRAWING REVIEW

☒ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND GENERALLY TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ MADE AND RESUBMIT ☐ REVISION NOT CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners and Scientists 54 Dartmouth Drive, Suite 302 Bedford, NH 03110 603 644 0888

Job Number: 54041.11
Reviewed By: KMA
Date: 7/15/04

CODE: 30

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.

1111 Homestead Road
Lancaster, PA 17601-0008
Phone 717/299-526

A Division of High Industries, Inc.

WEB CAMBER DIAGRAMS
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)

CONTRACTOR CIANBRO CORPORATION

IN CHARGE: GLIDDEN (IH) MADE BY: KMA CHK'D. BY: SJA DATE: 7/9/04

CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: WC3 OF WC5

METRIC

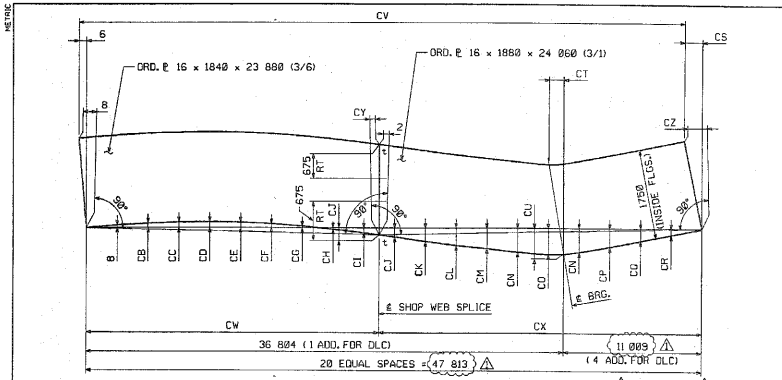
PLOTTED: 9/29/2004 14:05:41 PM

BY: dsaunier

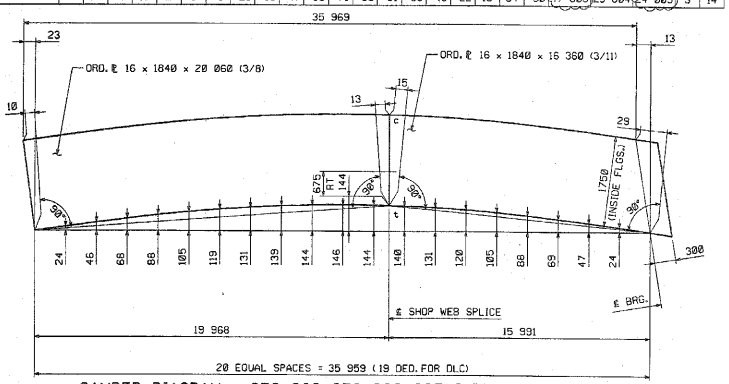
METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

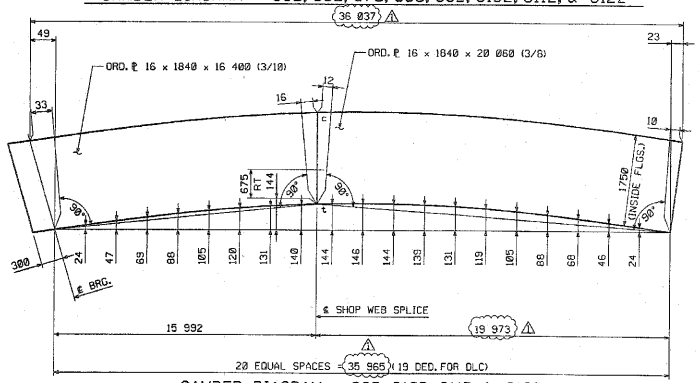
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



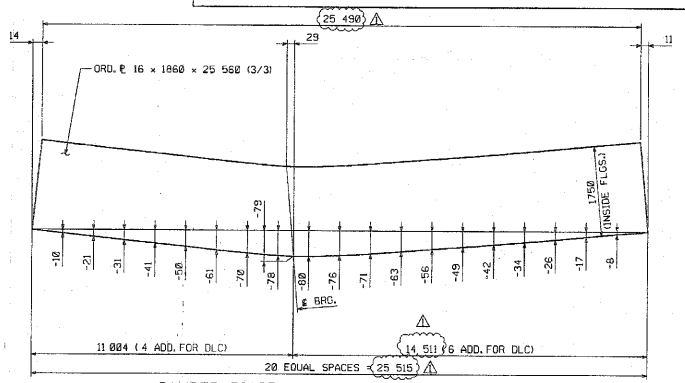
MARK	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ
G5P THRU G8P	15	18	20	18	13	5	-5	-16	-25	-43	-55	-66	-77	-85	-55	-40	-21	15	33	-84	47 804	23 803	24 010	2	13
G9Y THRU G12Y	14	17	18	16	11	3	-8	-20	-33	-47	-60	-71	-83	-91	-63	-43	-22	16	34	-90	47 803	23 804	24 009	3	14



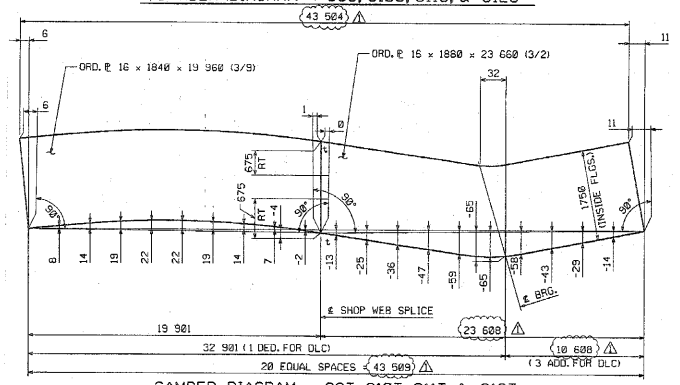
CAMBER DIAGRAM - G5Q, G6Q, G7Q, G8Q, G9Z, G10Z, G11Z, & G12Z



CAMBER DIAGRAM - G9R, G10R, G11R, & G12R



CAMBER DIAGRAM - G9S, G10S, G11S, & G12S



CAMBER DIAGRAM - G9T, G10T, G11T, & G12T

NOTES:

FOR WELDING DETAILS AND OTHER NOTES, SEE DWG. WC1.

SHOP DRAWING REVIEW

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Bedford Farms, Suite 1st Bedford, NH 03110 603 644 0888

Job Number: 50211
Reviewed By: JJL
Date: 7/15/04

G5 THRU G8 = SHIPMENT 2
G9 THRU G12 = SHIPMENT 3

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0086
Phone 717/299-521
A Division of High Industries, Inc.

WEB CAMBER DIAGRAMS
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+859.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO.: BRF-036-1(1)
CONTRACTOR: CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: KMA CHK'D. BY: SJA DATE: 7/9/04
CONTRACT NUMBER: VT-04057-2&3 DRAWING NUMBER: WC4 OF WC5

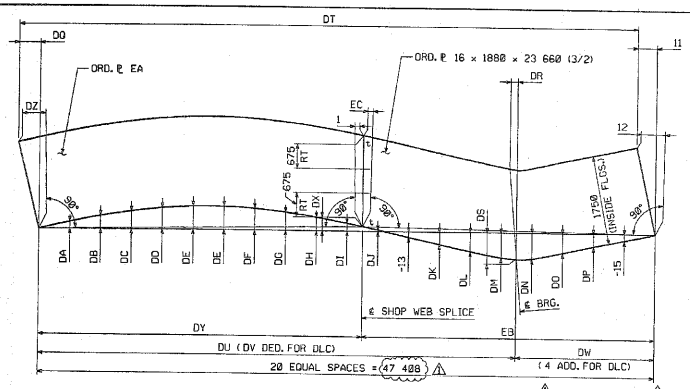
CODE: 30

PLOTTED: 9/20/2004 10:33:42 PM BY: dpainter

METRIC

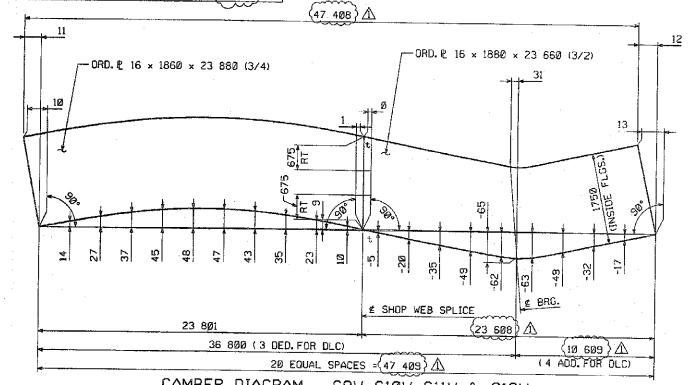
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

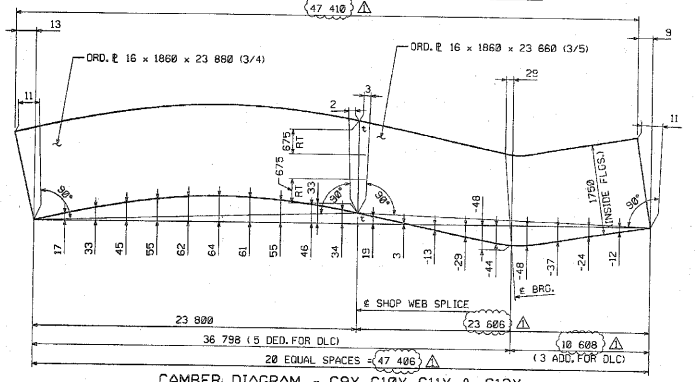


MARK	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV	DW	DX	DY	DZ
G9U THRU G12U	17	32	43	51	55	51	43	32	19	3	-29	-44	-57	-59	-45	-30	12	30	-60	47 409	36 799	5	10 609	18	23 800	11
G9V THRU G12V	15	28	39	47	51	48	40	30	17	2	-28	-42	-55	-57	-44	-29	10	31	-58	47 407	36 800	4	10 608	16	23 801	9

MARK	EA	EB	EC
G9U THRU G12U	16 x 1860 x 23 880 (3/4)	23 608	2
G9V THRU G12V	16 x 1840 x 23 880 (3/6)	23 607	1



CAMBER DIAGRAM - G9W, G10W, G11W, & G12W



CAMBER DIAGRAM - G9X, G10X, G11X, & G12X

NOTES:

FOR WELDING DETAILS AND OTHER NOTES, SEE DWG. WC1.

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND FOR COMPLIANCE WITH THE LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

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VHK — Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists, 54 Dartmouth Place, Suite 202, Bellevue, WA 98004 (425) 644-0001

Job Number: 8339.11
Reviewed By: SMH
Date: 11/8/04

CODE: 30

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road, Lancaster, PA 17601-0008, Phone 717/293-521
A Division of High Industries, Inc.

WEB CAMBER DIAGRAMS
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

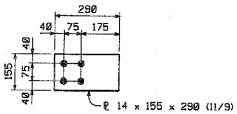
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: KMA CHK'D BY: SJA DATE: 7/9/04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: WC5 OF WC5

PLOTTED: 9/20/2004 8:43:44 PM
By: dsanter

METRIC

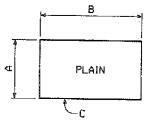
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



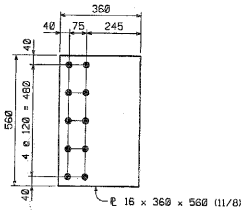
36~GUSSET ℄ MK. m1a (CG)

12 ~ SHIPMENT 1
12 ~ SHIPMENT 2
12 ~ SHIPMENT 3



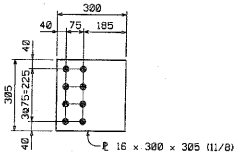
GUSSET ℄

MARK	TOTAL REQ'D.	REQ'D. SHIP. 1	REQ'D. SHIP. 2	REQ'D. SHIP. 3	A	B	C	REMARKS
m1b	18	6	6	6	250	450	℄ 14 x 250 x 450 (11/9)	(CG)
m1c	36	12	12	12	150	230	℄ 14 x 150 x 230 (11/9)	(CG)
m1g	60	18	21	21	320	650	℄ 16 x 320 x 650 (11/8)	--
m1m	6	--	--	6	260	470	℄ 14 x 260 x 470 (11/9)	(CG)
m1s	408	126	144	138	260	470	℄ 14 x 260 x 470 (11/9)	--



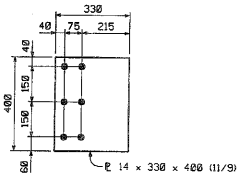
120~GUSSET ℄ MK. m1d

36 ~ SHIPMENT 1
42 ~ SHIPMENT 2
42 ~ SHIPMENT 3



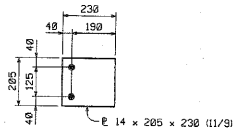
120~GUSSET ℄ MK. m1f

36 ~ SHIPMENT 1
42 ~ SHIPMENT 2
42 ~ SHIPMENT 3



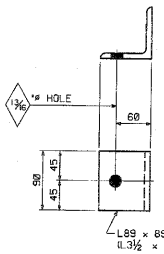
GUSSET ℄

MARK	TOTAL REQ'D.	REQ'D. SHIP. 1	REQ'D. SHIP. 2	REQ'D. SHIP. 3	REMARKS
m1h	12	--	--	12	(CG)
m1n	816	252	288	276	--



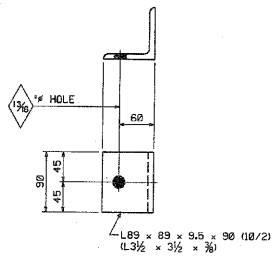
GUSSET ℄

MARK	TOTAL REQ'D.	REQ'D. SHIP. 1	REQ'D. SHIP. 2	REQ'D. SHIP. 3	REMARKS
m1k	12	--	--	12	(CG)
m1p	816	252	288	276	--



CONN. ANGLE

MARK	TOTAL REQ'D.	REQ'D. SHIP. 1	REQ'D. SHIP. 2	REQ'D. SHIP. 3	REMARKS
m1t	312	96	110	106	--
m1w	4	--	--	4	(CG)



CONN. ANGLE

CODE:56

MARK	TOTAL REQ'D.	REQ'D. SHIP. 1	REQ'D. SHIP. 2	REQ'D. SHIP. 3	REMARKS
m1y	14	4	4	6	(CG)
m1aa	308	94	108	106	--

SHOP DRAWING REVIEW

VERMONT AGENCY OF TRANSPORTATION

☒ GENERALLY IN CONFORMITY WITH THE CONTRACT DOCUMENTS. RESUBMITTAL NOT REQUIRED. ANY NOTATIONS AND CORRECTIONS SHALL BE INCORPORATED BY THE CONTRACTOR IN THE FINAL DRAWINGS.

☐ CORRECTED. CONTRACTOR IS REQUIRED TO MAKE THE NOTED CORRECTIONS AND SUBMIT FINAL DRAWINGS FOR RECORD PURPOSES. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER. THE CONTRACTOR SHALL ERECT STRUCTURAL STEEL SHOWN ON THIS DRAWING ONLY AFTER ALL SUPPORTING CONSTRUCTION IS PROPERLY PLACED AND HAS ATTAINED ITS DESIGN STRENGTH.

☐ REVISE AND RESUBMIT. REVISE ACCORDING TO NOTATIONS AND RESUBMIT FOR APPROVAL.

☐ REJECTED. SEE REMARKS.

Reviewed By: SCG
Date: 11/2/04

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.

1970 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5201
A Division of High Industries, Inc.

SHOP NOTE

HOLES: 15/16" ø (U.N.)
BOLTS: NONE
PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. GN1.

NOTE: (CG) INDICATES CORNER GRINDING IS REQUIRED. CORNER GRINDING IS NOT REQUIRED FOR MATERIAL ON THIS DRAWING UNLESS NOTED (CG).

CODE:63 (U.N.56)

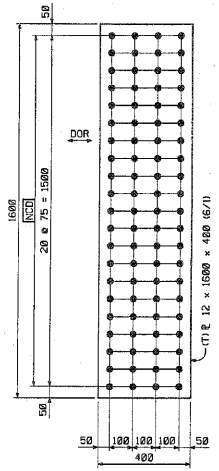
MISCELLANEOUS JOB STANDARDS
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: ERS CHK'D. BY: JSA DATE: 8-23-04
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: M1 OF M1

PLOTTED: 09/25/2004 09:09:00 AM
By: schaffer

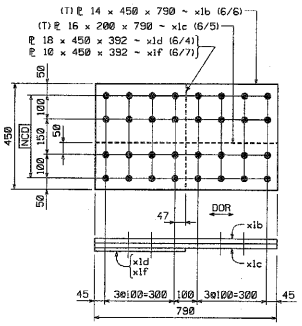
METRIC

METRIC	1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.	FED. ROAD DIV. NO.	STATE VT	FED. AID PROJ. NO.



184~SPLICE ℄ MK. x1a

56 REQ'D. FOR SHIPMENT 1
64 REQ'D. FOR SHIPMENT 2
64 REQ'D. FOR SHIPMENT 3



80~SPLICE ℄ MK. x1b

24 REQ'D. FOR SHIPMENT 1
28 REQ'D. FOR SHIPMENT 2
28 REQ'D. FOR SHIPMENT 3

160~SPLICE ℄ MK. x1c

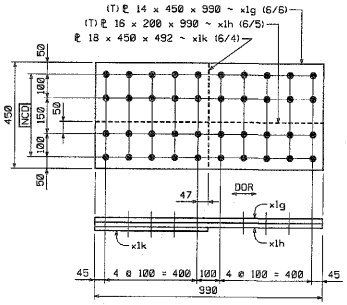
48 REQ'D. FOR SHIPMENT 1
56 REQ'D. FOR SHIPMENT 2
56 REQ'D. FOR SHIPMENT 3

24~FILL ℄ MK. x1d

8 REQ'D. FOR SHIPMENT 1
8 REQ'D. FOR SHIPMENT 2
8 REQ'D. FOR SHIPMENT 3

56~FILL ℄ MK. x1f

16 REQ'D. FOR SHIPMENT 1
20 REQ'D. FOR SHIPMENT 2
20 REQ'D. FOR SHIPMENT 3



12~SPLICE ℄ MK. x1g

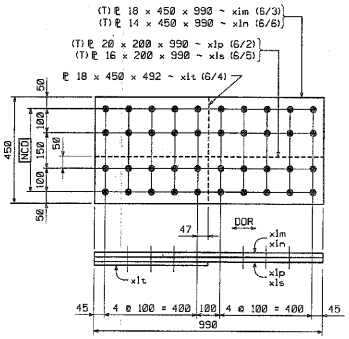
4 REQ'D. FOR SHIPMENT 1
4 REQ'D. FOR SHIPMENT 2
4 REQ'D. FOR SHIPMENT 3

24~SPLICE ℄ MK. x1h

8 REQ'D. FOR SHIPMENT 1
8 REQ'D. FOR SHIPMENT 2
8 REQ'D. FOR SHIPMENT 3

12~FILL ℄ MK. x1k

4 REQ'D. FOR SHIPMENT 1
4 REQ'D. FOR SHIPMENT 2
4 REQ'D. FOR SHIPMENT 3



24~SPLICE ℄ MK. x1m

8 REQ'D. FOR SHIPMENT 1
8 REQ'D. FOR SHIPMENT 2
8 REQ'D. FOR SHIPMENT 3

12~SPLICE ℄ MK. x1n

4 REQ'D. FOR SHIPMENT 1
4 REQ'D. FOR SHIPMENT 2
4 REQ'D. FOR SHIPMENT 3

48~SPLICE ℄ MK. x1p

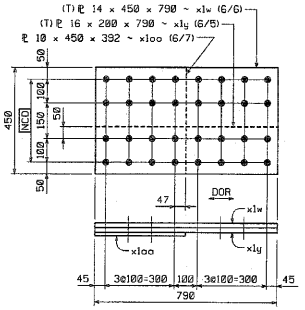
16 REQ'D. FOR SHIPMENT 1
16 REQ'D. FOR SHIPMENT 2
16 REQ'D. FOR SHIPMENT 3

24~SPLICE ℄ MK. x1s

8 REQ'D. FOR SHIPMENT 1
8 REQ'D. FOR SHIPMENT 2
8 REQ'D. FOR SHIPMENT 3

12~FILL ℄ MK. x1t

4 REQ'D. FOR SHIPMENT 1
4 REQ'D. FOR SHIPMENT 2
4 REQ'D. FOR SHIPMENT 3



56~SPLICE ℄ MK. x1w

16 REQ'D. FOR SHIPMENT 1
20 REQ'D. FOR SHIPMENT 2
20 REQ'D. FOR SHIPMENT 3

112~SPLICE ℄ MK. x1y

32 REQ'D. FOR SHIPMENT 1
40 REQ'D. FOR SHIPMENT 2
40 REQ'D. FOR SHIPMENT 3

56~FILL ℄ MK. x1aa

16 REQ'D. FOR SHIPMENT 1
20 REQ'D. FOR SHIPMENT 2
20 REQ'D. FOR SHIPMENT 3

NOTE: CORNER GRINDING IS REQUIRED FOR ALL MATERIAL ON THIS SHEET.

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
DOR INDICATES DIRECTION OF ROLLING
FOR GENERAL SHOP NOTES, SEE DWG. GN1.

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☐ RETURN AS CORRECTED
CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWING DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE CONTRACT DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND IS NOT, CONFORMANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS, THE FABRICATION OF ITEMS SHOWN ON THIS DRAWING AND COMPLETING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING THE WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.
VHB Vanasse Hangen Brustlin, Inc. Highways, Planners, and Scientists 54 Eastern Avenue, Main Rd. Gorham, ME 04038 207-744-1888
Job Number: 50011
Reviewed By: JPM
Date: 11/21/04

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1730 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-523
A Division of High Industries, Inc.

GIRDER JOB STANDARDS
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

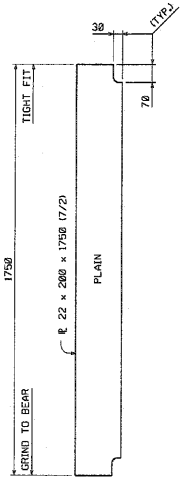
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (JH) MADE BY: SSL CHK'D. BY: CS DATE: 8-11-04
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: X1 OF X2

CODE: 30

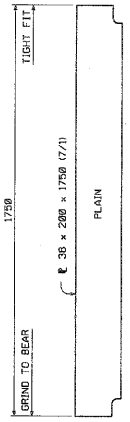
PLOTTED: 8/23/2004 10:40:07 PM
BY: dpainter

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

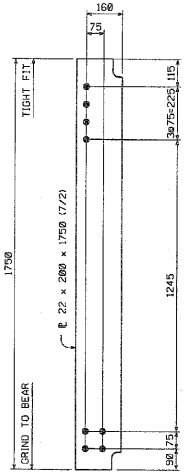
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



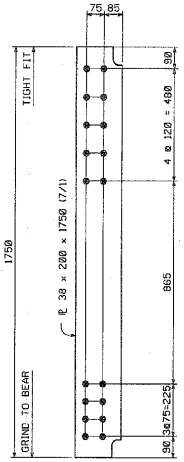
12~BRG. STIFF. MK. x2a (CG)
4 REQ'D. FOR SHIPMENT 1
4 REQ'D. FOR SHIPMENT 2
4 REQ'D. FOR SHIPMENT 3



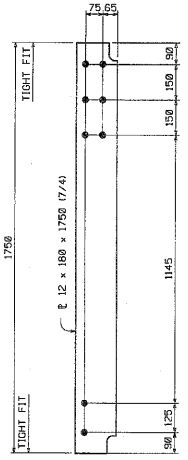
40~BRG. STIFF. MK. x2c
12 REQ'D. FOR SHIPMENT 1
14 REQ'D. FOR SHIPMENT 2
14 REQ'D. FOR SHIPMENT 3



36~BRG. STIFF. MK. x2f (CG)
12 REQ'D. FOR SHIPMENT 1
12 REQ'D. FOR SHIPMENT 2
12 REQ'D. FOR SHIPMENT 3

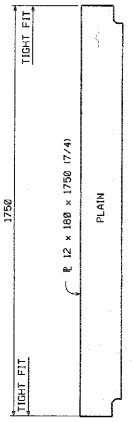


120~BRG. STIFF. MK. x2g
36 REQ'D. FOR SHIPMENT 1
42 REQ'D. FOR SHIPMENT 2
42 REQ'D. FOR SHIPMENT 3



816~CONN. ℄ MK. x2h
252 REQ'D. FOR SHIPMENT 1
288 REQ'D. FOR SHIPMENT 2
276 REQ'D. FOR SHIPMENT 3

12~CONN. ℄ MK. x2k (CG)
12 REQ'D. FOR SHIPMENT 3

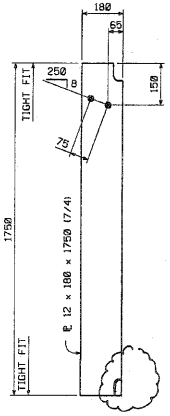


400~INTERM. STIFF. MK. x2m
120 REQ'D. FOR SHIPMENT 1
140 REQ'D. FOR SHIPMENT 2
140 REQ'D. FOR SHIPMENT 3

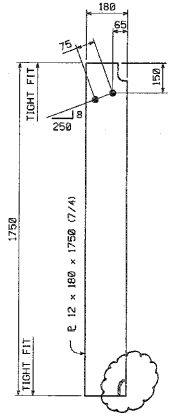
24~INTERM. STIFF. MK. x2n (CG)
8 REQ'D. FOR SHIPMENT 1
8 REQ'D. FOR SHIPMENT 2
8 REQ'D. FOR SHIPMENT 3

48~JACKING STIFF. MK. x2b (CG)
16 REQ'D. FOR SHIPMENT 1
16 REQ'D. FOR SHIPMENT 2
16 REQ'D. FOR SHIPMENT 3

160~JACKING STIFF. MK. x2d
48 REQ'D. FOR SHIPMENT 1
56 REQ'D. FOR SHIPMENT 2
56 REQ'D. FOR SHIPMENT 3



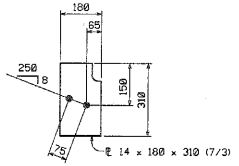
6~CONN. ℄ MK. x2s (CG)
2 REQ'D. FOR SHIPMENT 1
2 REQ'D. FOR SHIPMENT 2
2 REQ'D. FOR SHIPMENT 3



6~CONN. ℄ MK. x2w (CG)
2 REQ'D. FOR SHIPMENT 1
2 REQ'D. FOR SHIPMENT 2
2 REQ'D. FOR SHIPMENT 3

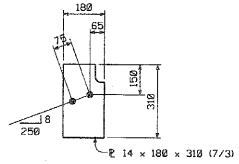
40~CONN. ℄ MK. x2ak
12 REQ'D. FOR SHIPMENT 1
14 REQ'D. FOR SHIPMENT 2
14 REQ'D. FOR SHIPMENT 3

40~CONN. ℄ MK. x2ah
12 REQ'D. FOR SHIPMENT 1
14 REQ'D. FOR SHIPMENT 2
14 REQ'D. FOR SHIPMENT 3



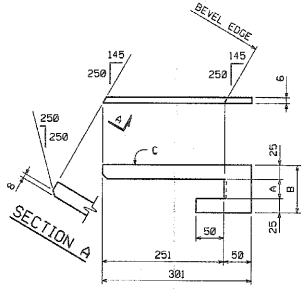
114~CONN. ℄ MK. x2p
35 REQ'D. FOR SHIPMENT 1
40 REQ'D. FOR SHIPMENT 2
39 REQ'D. FOR SHIPMENT 3

ONE~CONN. ℄ MK. x2an (CG)
SHIPMENT 3



114~CONN. ℄ MK. x2t
35 REQ'D. FOR SHIPMENT 1
40 REQ'D. FOR SHIPMENT 2
39 REQ'D. FOR SHIPMENT 3

ONE~CONN. ℄ MK. x2am (CG)
SHIPMENT 3



DRIP PLATE

MARK	REQ'D	SHIP. 1	SHIP. 2	SHIP. 3	A	B	C	REMARKS	REMARKS
x2aa	12	5	2	5	40	90	℄ 6 x 90 x 301 (7/5)	AS SHOWN	(CG)
x2ab	12	5	2	5	40	90	℄ 6 x 90 x 301 (7/5)	OPP. HAND	(CG)
x2ac	14	4	5	5	65	115	℄ 6 x 115 x 301 (7/5)	AS SHOWN	--
x2ad	14	4	5	5	65	115	℄ 6 x 115 x 301 (7/5)	OPP. HAND	--
x2af	6	2	2	2	80	130	℄ 6 x 130 x 301 (7/5)	AS SHOWN	--
x2ag	6	2	2	2	80	130	℄ 6 x 130 x 301 (7/5)	OPP. HAND	--

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
DOR INDICATES DIRECTION OF ROLLING
FOR GENERAL SHOP NOTES, SEE DWG. GN1.

CODE:30

SHOP DRAWING REVIEW

☐ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED. THIS ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORKS, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS SCHEDULED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☒ FURNISH AS CORRECTED
CORRECTIONS OR COMMENTS MADE ON THIS SHOP DRAWING DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND INFORMATION SHOWN COMPLIES WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.
VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dorsett Farms, Essex Rd. Bedford, NH 03102 603-344-1285
Job Number: 60611
Reviewed By: JTM
Date: 11/8/04

NOTE: (CG) INDICATES CORNER GRINDING IS REQUIRED. CORNER GRINDING IS NOT REQUIRED FOR MATERIAL ON THIS DRAWING UNLESS NOTED (CG).

NO.	REVISION	BY	DATE
△			
△			
△			

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, Pa 17601-6068
Phone 717/293-5211
A Division of High Industries, Inc.

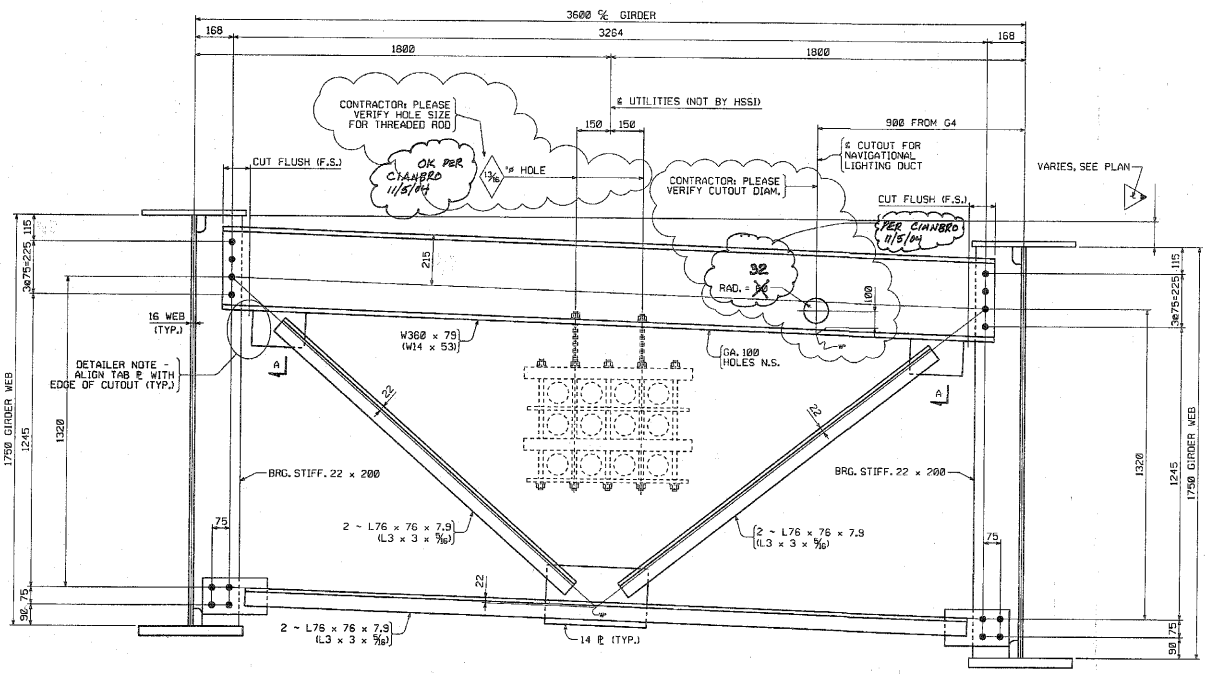
GIRDER JOB STANDARDS
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SSL CHK'D. BY: CG DATE: 8-11-04
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: X2 OF X2

METRIC
PLOTTED: 8/23/2004 10:49:00 AM
BY: dpainter

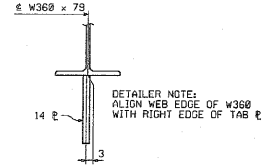
METRIC

METRIC	1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.	FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
			VT	



END CROSSFRAME LAYOUT

(LOOKING FROM CENTER OF EACH UNIT - UTILITIES SHOWN FOR BAY 3 ONLY)
(BAY 1 & BAY 2 SIMILAR)
(FOR ABUTS., PIER 7 & PIER 15)



SECTION A

SHOP DRAWING REVIEW

☐ REVIEWED AS REQUESTED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☒ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING THIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists Six Bedford Farms, Kilton Rd. Bedford, NH 03102 603 641 0888

Job Number: 5-0911
Reviewed By: DMH
Date: 11/5/04

NOTES:

FOR NOTES, SEE DRAWING WS1.
WORK THIS DRAWING WITH DRAWINGS WS1, WS4, WS5, WS8, WS9 & WS12.
ALL HOLES TO BE 13/16"ø FOR 7/8"ø H.S. BOLTS (U.N.).

NOTE
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DRAWING IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION. THIS DRAWING IS FOR REFERENCE ONLY, APPROVAL IS NOT REQUIRED.

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1170 Hornestead Road
Lancaster, PA 17601-0308
Phone 717/293-521
A Division of High Industries Inc.

TYPICAL DETAILS - CROSSFRAME LAYOUTS
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+058.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

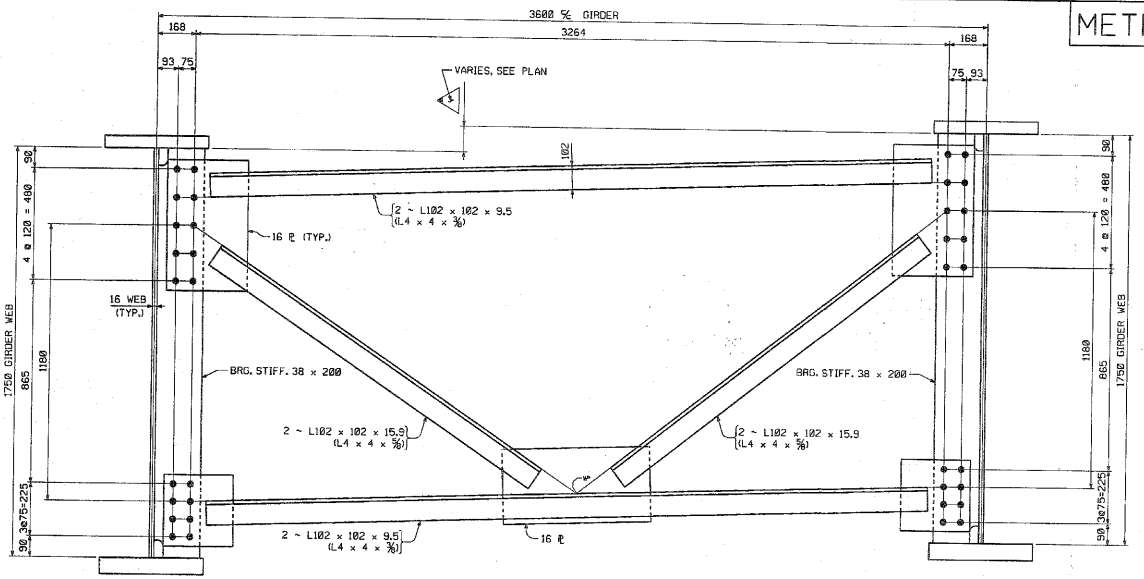
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: JSA CHK'D. BY: DAP DATE: 8-13-04
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: TD1 OF TD4

PLOTTED: 8/23/2004 12:58:08 PM BY: dpainter

METRIC

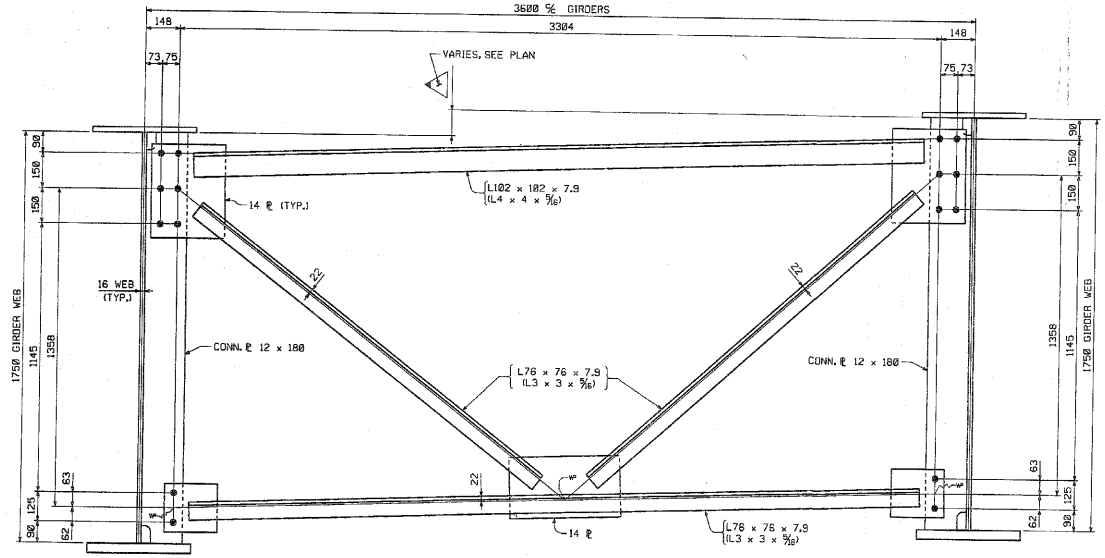
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



INTERMEDIATE PIER CROSSFRAME LAYOUT

(BAY 1 & BAY 2 - LOOKING STATIONS AHEAD)
(FOR PIERS 1 THRU 6, PIERS 8 THRU 14 & PIERS 16 THRU 22)



INTERMEDIATE CROSSFRAME LAYOUT

(BAY 1 & BAY 2 - LOOKING STATIONS AHEAD)

NOTE
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DRAWING IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION. THIS DRAWING IS FOR REFERENCE ONLY, APPROVAL IS NOT REQUIRED.

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ RESUBMIT AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists Six Bedford Farms, Kilvert Rd. Bedford, NH 03102 603-644-0888

Job Number: 5560.11
Reviewed By: BMH
Date: 11/8/04

NOTES:
FOR NOTES, SEE DRAWING WS1.
WORK THIS DRAWING WITH DRAWINGS WS1 THRU WS12.
ALL HOLES TO BE 15/16"ø FOR 7/8"ø H.S. BOLTS.

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1970 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5201
A Division of High Industries Inc.

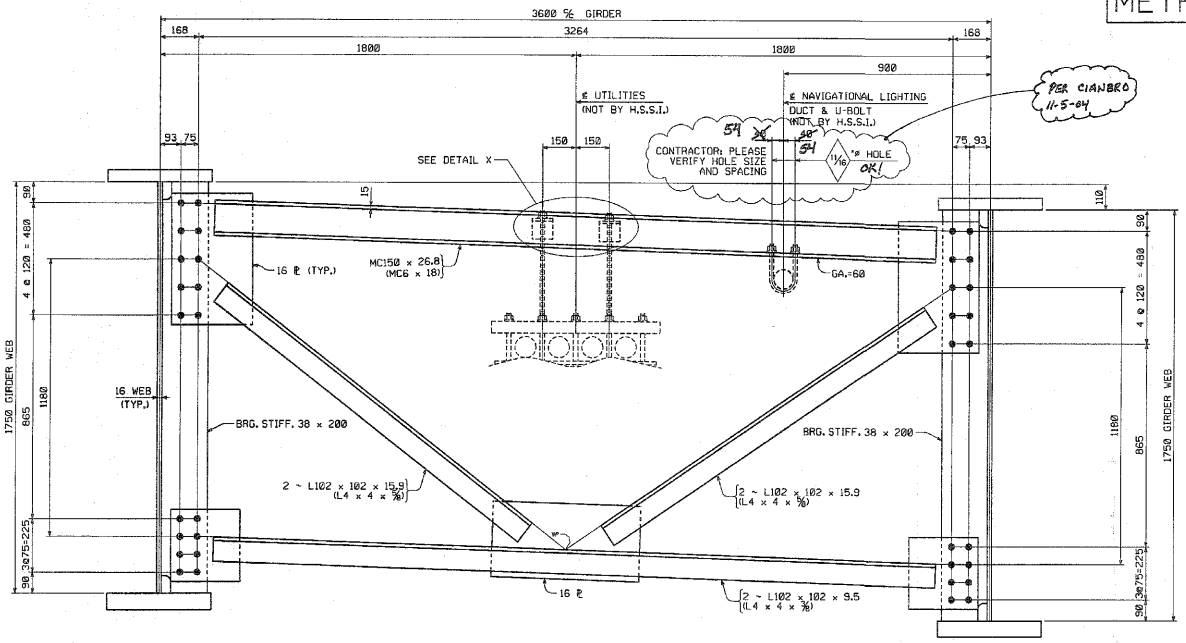
TYPICAL DETAILS ~ CROSSFRAME LAYOUTS
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+859.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: JSA CHK'D. BY: DAP DATE: 8-16-04
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: TD2 OF TD4

PLOTTED: 8/20/2004 8:25:02 PM
BY: dpurinton

METRIC

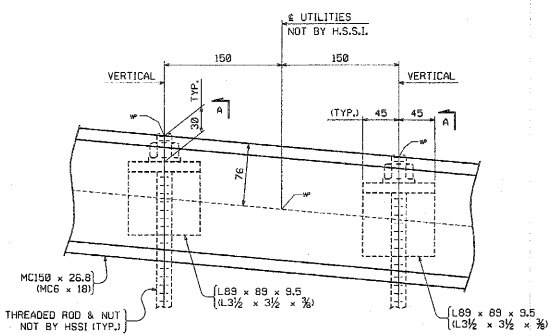
METRIC	1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.	FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
			VT	



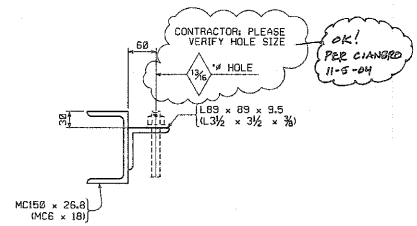
INTERMEDIATE PIER CROSSFRAME LAYOUT

(BAY 3 - LOOKING STATIONS AHEAD)

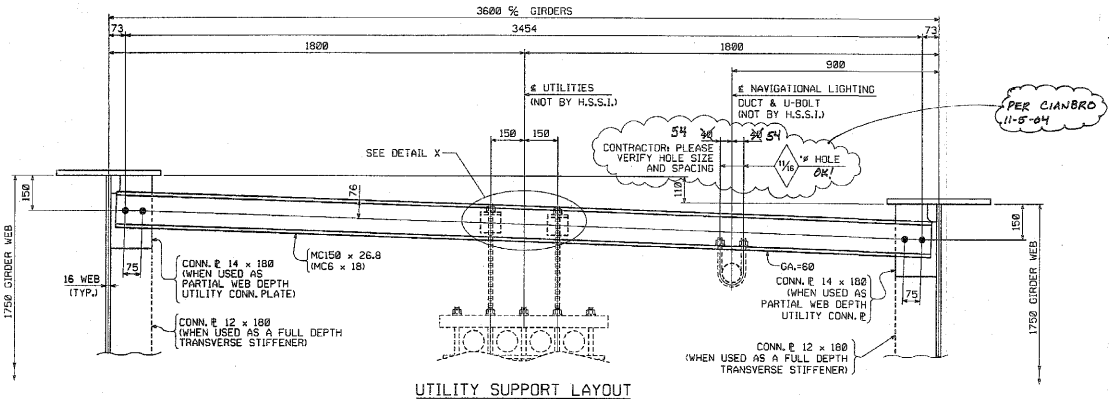
(FOR PIERS 1 THRU 6, PIERS 8 THRU 14 & PIERS 16 THRU 22)



DETAIL X



SECTION A



UTILITY SUPPORT LAYOUT

(BAY 3 - LOOKING STATIONS AHEAD)

SHOP DRAWING REVIEW

☐ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☒ FURNISH AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists Six Bedford Farms, Nikes Rd. Bedford, NH 03110 603 647 0563

Job Number: 5904.11
Reviewed By: JJH
Date: 11/1/04

NOTES:

FOR NOTES, SEE DRAWING WS1.
WORK THIS DRAWING WITH DRAWINGS WS1 THRU WS12.
ALL HOLES TO BE 13/16" ℄ FOR 7/8" ℄ H.S. BOLTS (U.N.).

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17601-2008
Phone 717/299-5211
A Division of High Industries, Inc.

TYPICAL DETAILS ~ CROSSFRAME & UTILITY SUPPORT LAYOUTS
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

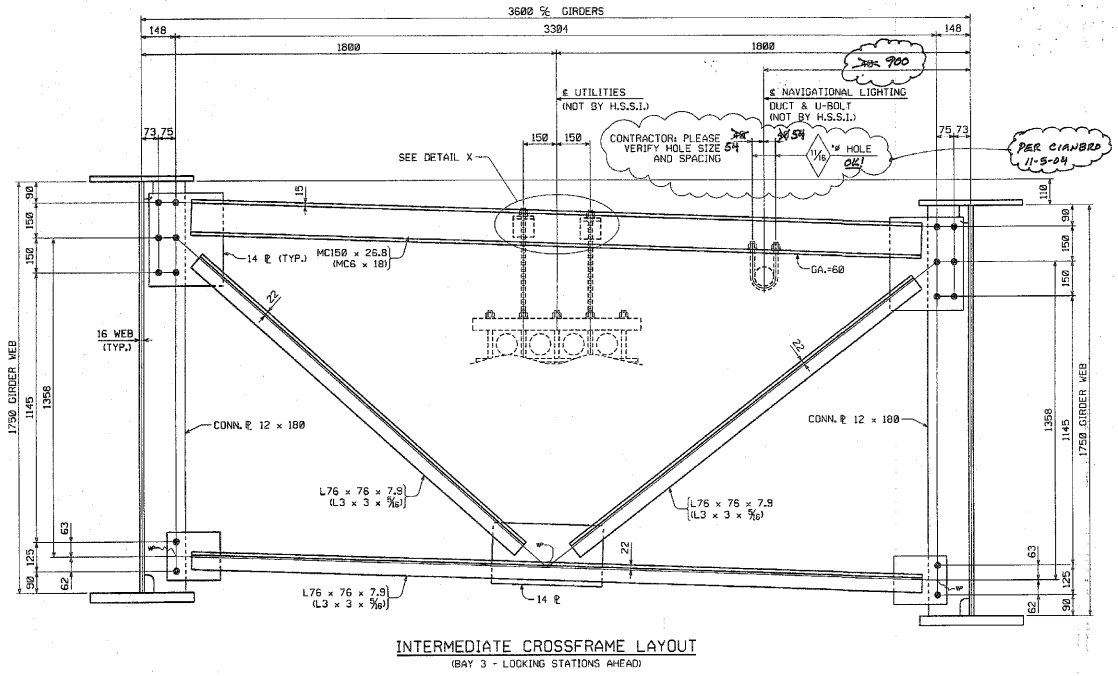
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: JSA CHK'D. BY: DAP DATE: 8-13-04
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: TD3 OF TD4

NOTE
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DRAWING IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION. THIS DRAWING IS FOR REFERENCE ONLY. APPROVAL IS NOT REQUIRED.

PLOTTED: 8/23/2004 12:36:03 PM
BY: dporter

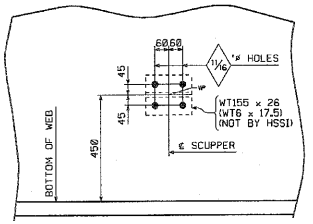
METRIC

METRIC	1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.	FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
			VT	

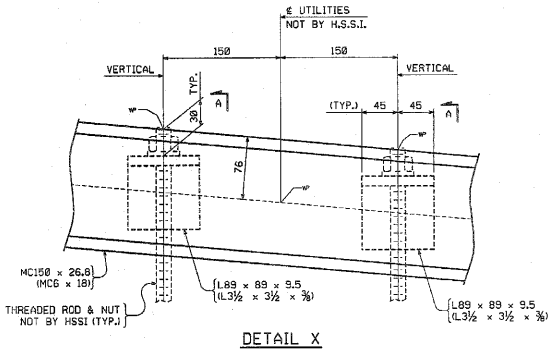


INTERMEDIATE CROSSFRAME LAYOUT

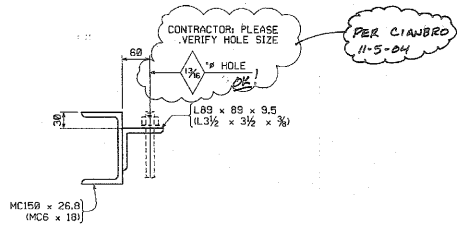
(BAY 3 - LOOKING STATIONS AHEAD)



SCUPPER SUPPORT LAYOUT



DETAIL X



SECTION A

SHOP DRAWING REVIEW

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☐ REJECTED ☐ RELEASE AND RESUBMIT ☒ FURNISH AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dunbarton Centre, Milton Rd. Dunbarton, NH 03052 603.624.5300

Job Number: 50911
Reviewed By: JMM
Date: 11/8/04

NOTES:

FOR NOTES, SEE DRAWING WS1.
WORK THIS DRAWING WITH DRAWINGS WS1 THRU WS12.
ALL HOLES TO BE 1⅝ø FOR ⅞ø H.S. BOLTS (U.N.).

****NOTE****
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NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC. 1170 Hempstead Road Lancaster, PA 17603-6008 Phone 717/299-5128 A Division of High Industries, Inc.

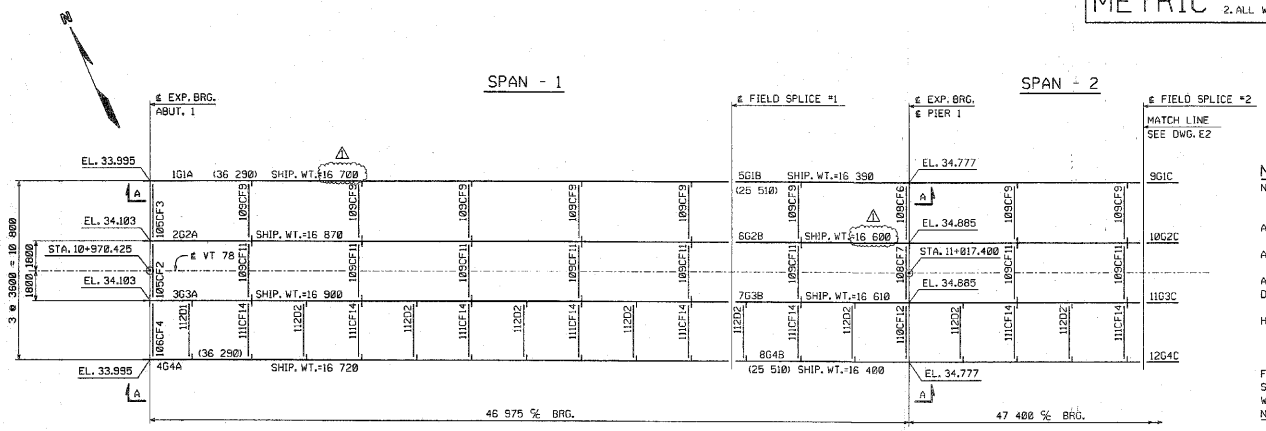
TYPICAL DETAILS ~ CROSSFRAME LAYOUTS
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE GLIDDEN (IH) MADE BY: JSA CHK'D. BY: DAP DATE: 8-16-04
CONTRACT NUMBER VT-04057-1,2&3 DRAWING NUMBER TD4 OF TD4

PLOTTED: 8/23/2004 12:35:09 PM BY: sbourbeau

METRIC

METRIC	1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.	FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	2. ALL WEIGHTS ARE IN KILOGRAMS.		VT	



ERECTION FRAMING PLAN
(SHIPMENT 1)

NOTES:

NO CREDIT WILL BE ALLOWED FOR WORK PERFORMED BY OTHERS IN REPLACING OR CORRECTING MATERIALS OR WORKMANSHIP COVERED BY THIS DRAWING UNLESS EXPRESSLY AUTHORIZED BY HIGH STEEL STRUCTURES, INC.

ALL FIELD CONNECTIONS IN UNPAINTED AREAS TO BE MADE WITH ⅞"ø HIGH STRENGTH (A325, TYPE 3) BOLTS.

ALL FIELD CONNECTIONS IN PAINTED AREAS TO BE MADE WITH ⅞"ø HIGH STRENGTH (A325, TYPE 1) BOLTS, MECH. GALV. ASTM B-695 CLASS 50.

ALL DIMENSIONS ARE GIVEN HORIZONTALLY (U.N.O.).

DIMENSIONS GIVEN THUS: (3G 290) ARE THE SHIPPING LENGTHS OUT TO OUT OF FASCIA GIRDERS.

HIGH STEEL STRUCTURES, INC. DOES NOT SUPPLY SHEAR STUDS, EXPANSION DAM MATERIAL, SCUPPERS OR ANY OTHER BRIDGE DRAINAGE MATERIAL, WT SUPPORTS AT DRAINAGE, ROD HANGERS OR HARDWARE AT UTILITIES AND BEARING ASSEMBLIES INCLUDING PADS AND ANCHOR BOLTS.

FOR SHEAR STUD LAYOUTS, SEE DRAWINGS E9, E10 & E11.

SEE DRAWINGS SA1, SA2 & SA3 FOR FIELD SPLICE PLATE MARKS AND LOCATIONS.

WORK THIS DRAWING WITH DRAWINGS E2 THRU E11.

NOTICE: WEIGHTS OF MEMBERS LISTED ON THESE DRAWINGS ARE ESTIMATED WEIGHTS AND ACTUAL WEIGHTS WILL VARY. HIGH STEEL STRUCTURES, INC. WILL NOT BE RESPONSIBLE FOR ANY ERECTION PROCEDURES, SHIPPING PROCEDURES, ETC. DEVELOPED USING ESTIMATED WEIGHTS AS SHOWN.

ERECTOR NOTE: ELEVATIONS, CAMBER CHECKS AND HORIZONTAL ALIGNMENT OF FIELD SPLICES MUST BE COMPLETED PRIOR TO FINAL BOLTING. HIGH STEEL STRUCTURES IS TO BE NOTIFIED AND CONSULTED, PRIOR TO FINAL BOLTING, IF SPLICE LOCATIONS ARE NOT WITHIN ACCEPTABLE TOLERANCE. BOTH VERTICAL & HORIZONTAL CORRECTION OF ANY UNACCEPTABLE SPLICES AFTER FINAL BOLTING WILL BE AT NO COST TO HIGH STEEL STRUCTURES.

NOTICE TO ERECTOR & CONTRACTOR: THIS STRUCTURAL STEEL IS BEING DELIVERED WITH THE FINAL FINISH COAT APPLIED. YOUR SPECIAL ATTENTION REQUIRES EXTREME CARE AND APPROPRIATE EQUIPMENT FOR HANDLING DURING ERECTION AND SUBSEQUENT FIELD OPERATIONS. HIGH STEEL STRUCTURES, INC. WILL NOT BE RESPONSIBLE FOR ANY TOUCH-UP REQUIRED DUE TO YOUR FAILURE TO PROPERLY PROTECT FINISH PAINT.

FOR PIERS 3 & 4, ANCHOR BOLTS MUST BE SET BEFORE CROSSFRAMES AT BEARINGS ARE ERECTED.

ALL FIELD BOLTS THRU BOTTOM FLANGE ARE TO HAVE HEADS UP.

ALL FIELD BOLTS THRU WEB OF FASCIA GIRDERS ARE TO HAVE HEADS ON OUTSIDE OF WEB.

THE SHIPPING MARKS SHOWN CONSIST OF THE PREFIX INDICATING THE SHEET NUMBER UPON WHICH THE PIECE IS DETAILED ALONG WITH THE SHIPPING PIECE MARK.

ALL ELEVATIONS AND STATIONS ARE GIVEN IN METERS.

ERECTOR NOTE: ALL BOLTS MUST BE LOCATED IN ACCORDANCE WITH THIS LIST OF FIELD CONNECTIONS. HIGH STEEL STRUCTURES WILL NOT BE RESPONSIBLE FOR FURNISHING ADDITIONAL BOLTS OR FOR ANY OTHER RELATED COSTS OR DAMAGES RESULTING FROM IMPROPER LOCATION OF BOLTS.

LIST OF FIELD CONNECTIONS

ONE WASHER PER BOLT UNLESS NOTED OTHERWISE

LINE	NO. REQ'D SHIP. 1	NO. REQ'D SHIP. 2	NO. REQ'D SHIP. 3	ACTUAL NO. REQ'D.	BOLT DIAM.	BOLT LENGTH	BOLTS / CONN.	# OF CONNS.	GRIP	THICKNESS OF PCS. CONNECTED				PIECES CONNECTED AND REMARKS	
1	2352	2688	2688	7728	⅞	3	84	92	40	12	16	12		WEB FIELD SPLICE	TYPE 3 (UNPAINTED AREA)
2	256	256	256	768	⅞	4¼	32	24	70	14	40	16		TOP FLG. SPLICE - FS1, FS7, FS8, FS15, FS16 & FS23	
3	160	160	160	480	⅞	4¼	40	12	70	14	40	16		TOP FLG. SPLICE - FS2, FS9 & FS17	
4	512	640	640	1792	⅞	3¾	32	56	62	14	32	16		TOP FLG. SPLICE - FS3, 4, 5&6, FS10, 11, 12, 13&14, FS18, FS19, 20, 21&22	
5	320	320	320	960	⅞	4½	40	24	78	18	40	20		BOTT. FLG. SPLICE - FS1, FS7, FS8, FS15, FS16 & FS23	
6	160	160	160	480	⅞	4¼	40	12	70	14	40	16		BOTT. FLG. SPLICE - FS2, FS9 & FS17	
7	512	640	640	1792	⅞	3¾	32	56	62	14	32	16		BOTT. FLG. SPLICE - FS3, 4, 5&6, FS10, 11, 12, 13&14, FS18, FS19, 20, 21&22	
8	648	756	756	2160	⅞	3½	18	120	54	16	38			INTERMED. PIER CROSSFRAMES TO STIFF.	
9	2016	2304	2208	6528	⅞	2½	8	816	26	14	12			INTERMED. CROSSFRAMES TO CONN. PLATE	
10	140	160	156	456	⅞	2¼	2	228	23.6	9.6	14			UTIL. SUPPORT D2 TO PART. DEPTH STIFF.	
11	48	56	56	160	⅞	2¼	2	80	21.6	9.6	12			UTIL. SUPPORT D2 TO FULL DEPTH STIFF.	
12															
13															
14	48	48	48	144	⅞	2½	4	36	31.4	9.4	22			END CROSSFRAME W TO STIFF.- ABUTS. 1&2, PIERS 7&15	TYPE 1 - GALV. (PAINTED AREA)
15	48	48	48	144	⅞	2¾	4	36	36	14	22			END FRAME GUSSET ℄ TO STIFF.- ABUTS. 1&2, PIERS 7&15	
16	8	8	8	24	⅞	2¼	2	12	21.6	9.6	12			UTIL. SUPPORT D1 TO FULL DEPTH STIFF.	
17	--	--	4	4	⅞	2¼	2	2	23.6	9.6	14			UTIL. SUPPORT D1 TO PART. DEPTH STIFF.	
18	--	--	96	96	⅞	2½	8	12	26	14	12			INTERMED. CROSSFRAMES TO CONN. PLATE	
19															

FIELD BOLT SUMMARY

(4% ADDITIONAL BOLTS ADDED + 3 EA. FOR TESTING)

ASTM A325 TYPE 3 BOLTS WITH HVY. HEX HEAD AND ASTM A563 GRADE DH3 HVY. HEX NUT

SHIP. 1	SHIP. 2	SHIP. 3	
336	336	336	1008 - ⅞"ø HIGH STRENGTH BOLTS x 0'-4½
602	602	602	1806 - ⅞"ø HIGH STRENGTH BOLTS x 0'-4¼
1068	1334	1334	3736 - ⅞"ø HIGH STRENGTH BOLTS x 0'-3¾
677	789	789	2255 - ⅞"ø HIGH STRENGTH BOLTS x 0'-3½
2449	2799	2799	8047 - ⅞"ø HIGH STRENGTH BOLTS x 0'-3
2100	2399	2299	6798 - ⅞"ø HIGH STRENGTH BOLTS x 0'-2½
199	228	223	650 - ⅞"ø HIGH STRENGTH BOLTS x 0'-2¼
7431	8487	8382	24 300 - ROUND. FLAT F436 WEATHERING WASHERS FOR ⅞"ø H.S. BOLTS

(RCT)

ASTM A325 TYPE 1 BOLTS WITH HVY. HEX HEAD AND ASTM A563 GRADE DH HVY. HEX NUTS, GALV. B695, CLASS 50

SHIP. 1	SHIP. 2	SHIP. 3	
53	53	53	159 - ⅞"ø HIGH STRENGTH BOLTS x 0'-2¾
53	53	153	259 - ⅞"ø HIGH STRENGTH BOLTS x 0'-2½
13	13	17	43 - ⅞"ø HIGH STRENGTH BOLTS x 0'-2¼
119	119	223	461 - ROUND. FLAT F436 WASH. FOR ⅞"ø H.S. BOLTS. GALV. B695, CLASS 50

(RCT)

(RCT) INDICATES ROTATIONAL CAPACITY TESTED BOLTS. DO NOT MIX NUTS, BOLTS AND WASHERS FROM DIFFERENT CONTAINERS UNLESS ALL NUTS, BOLTS AND WASHERS HAVE THE SAME LOT NUMBER.

SHIPMENT 1 WEIGHT: 2718.00 kg

SHIPMENT 2 WEIGHT: 3098.16 kg

SHIPMENT 3 WEIGHT: 3097.80 kg

TOTAL WEIGHT OF FIELD BOLTS: 8913.96 kg

(FIELD BOLT WEIGHT IS EXCLUDING GRIP)

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REMAKE AND RESUBMIT ☐ REMARK AS NOTED/CITED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Regional Plaza, Concord, NH 03301 603 344 0691

Job Number: 50411

Reviewed By: DPA

Date: 11/5/04

NO.	REVISION	BY	DATE
1			
2			
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH ℄ MEAN TEMPERATURE OF 45°F. (WEIGHT CHANGED)	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17605-0905
Phone 717/299-5211
A Division of Arch Industries, Inc.

ERECTION FRAMING PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO.: BRF-036-1(1)

CONTRACTOR: CIANBRO CORPORATION

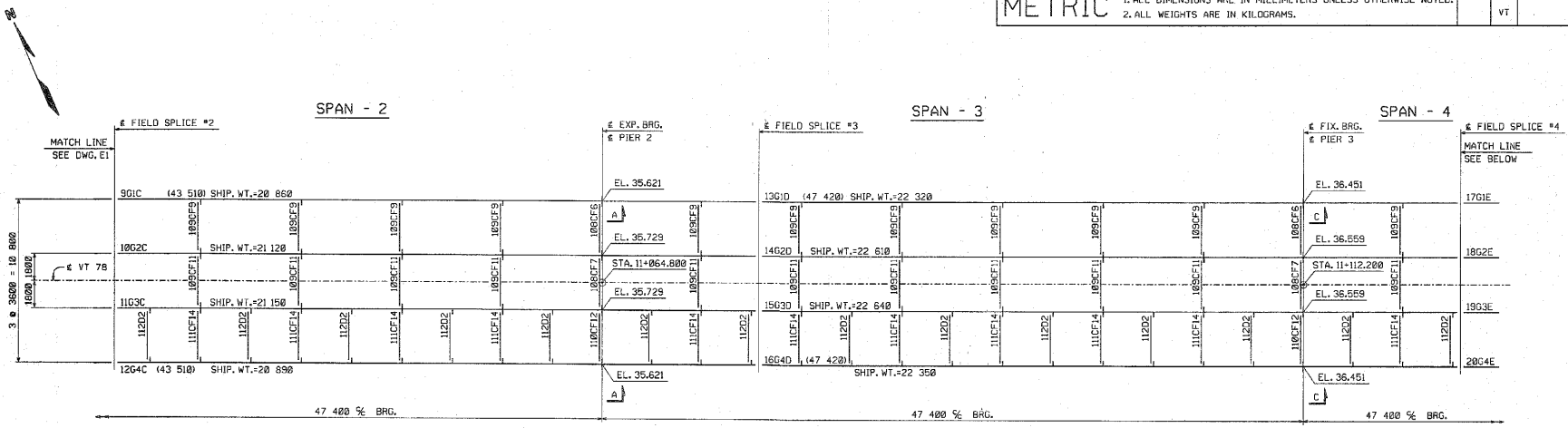
IN CHARGE: GLIDDEN (IH) MADE BY: JSA CHK'D. BY: DAP DATE: 8-24-04

CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: E1 OF E11

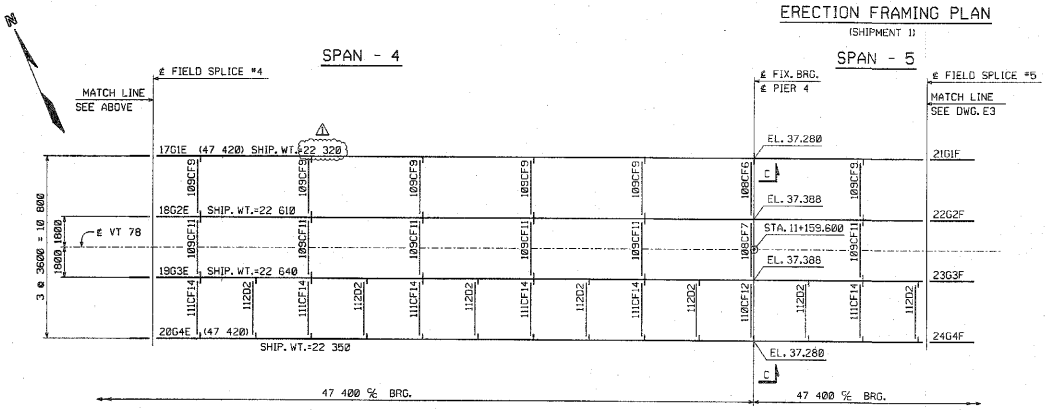
PLOTTED: 9/29/2004 8:31:31 PM
BY: dpeterson

METRIC

METRIC	1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.	FED. ROAD DEV. NO.	STATE VT	FED. AID PROJ. NO.

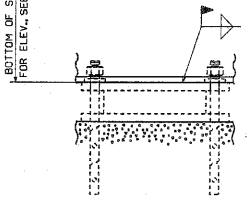


ERECTION FRAMING PLAN
(SHIPMENT 1)



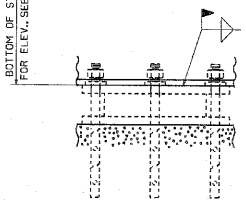
ERECTION FRAMING PLAN
(SHIPMENT 1)

CONTRACTOR NOTE:
ELEVATIONS ARE GIVEN TO BOTTOM OF STEEL - DO NOT POUR TO FINAL ELEVATIONS WITHOUT VERIFICATION OF BEARING HEIGHTS AND BRIDGE SEATS.



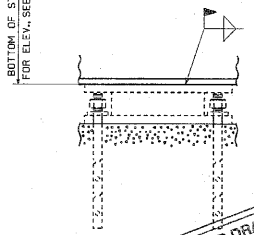
SECTION B

CONTRACTOR NOTE:
ELEVATIONS ARE GIVEN TO BOTTOM OF STEEL - DO NOT POUR TO FINAL ELEVATIONS WITHOUT VERIFICATION OF BEARING HEIGHTS AND BRIDGE SEATS.



SECTION C

CONTRACTOR NOTE:
ELEVATIONS ARE GIVEN TO BOTTOM OF STEEL - DO NOT POUR TO FINAL ELEVATIONS WITHOUT VERIFICATION OF BEARING HEIGHTS AND BRIDGE SEATS.



SECTION A

SHOP DRAWING REVIEW
VHB

NOTES:
FOR NOTES, SEE DRAWING E1.
WORK THIS DRAWING WITH DRAWINGS E1 & E3 THRU E11.

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F. (WEIGHT CHANGED)	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0066
Phone 717/299-5211
A Division of High Industries, Inc.

ERECTION FRAMING PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

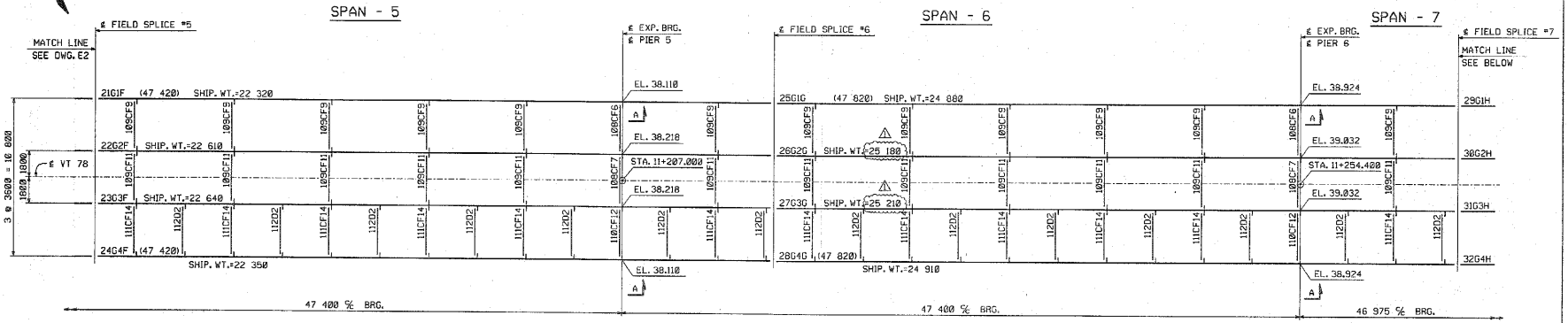
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: JSA CHK'D. BY: DAP DATE: 8-24-04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: E2 OF E11

PLOTTED: 9/28/2004 11:24:12 PM
BY: dponter
68

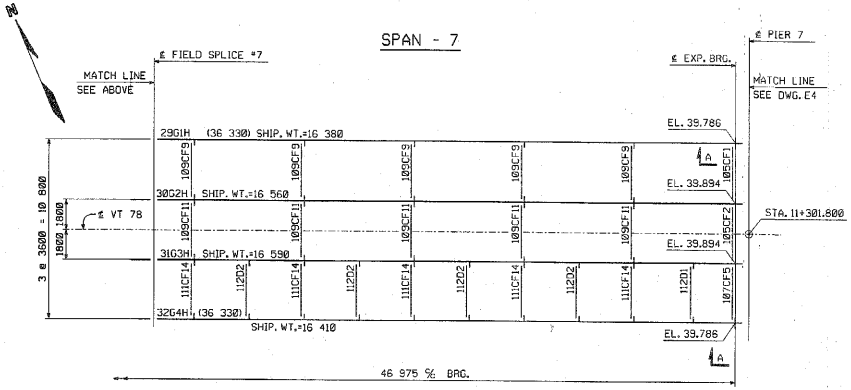
METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



ERECTION FRAMING PLAN
(SHIPMENT 1)



ERECTION FRAMING PLAN
(SHIPMENT 1)

NOTES:
FOR NOTES, SEE DRAWING E1.
WORK THIS DRAWING WITH DRAWINGS E1, E2 & E4 THRU E11.

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORKS, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☐ RECEIPT ACKNOWLEDGED
CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.
VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Rochester Place, Nashua NH Bedford, NH 03110 603 644 6800
Job Number: 59211
Reviewed By: JTM
Date: 11 Oct 04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F. (WEIGHT CHANGED)	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17601-0008
Phone 717/295-521
A Division of High Industries Inc.

ERECTION FRAMING PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

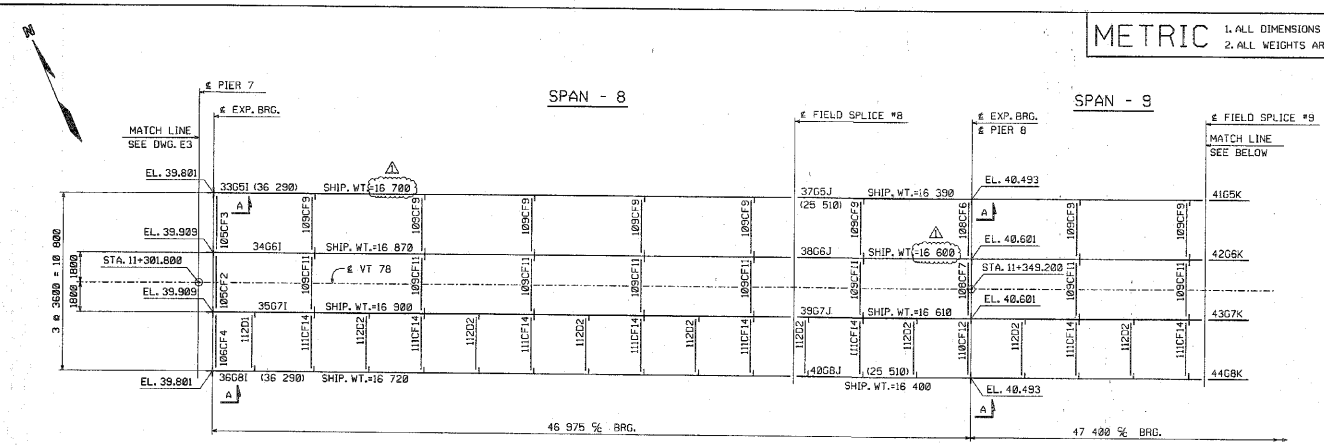
STATE CONTRACT OR REF. NO. BRF-038-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: JSA CHK'D. BY: DAP DATE: 8-24-04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: E3 OF E11

PLOTTED: 9/29/2004 12:54:13 PM
BY: dpenter

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



ERECTION FRAMING PLAN
(SHIPMENT 2)

SHOP DRAWING REVIEW

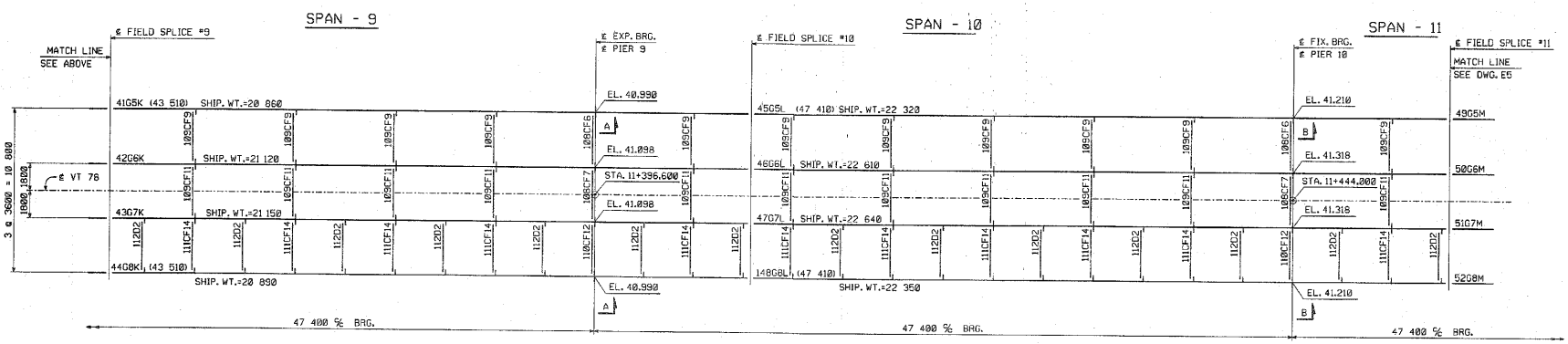
REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ REVISE AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING THE WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dunbarton Farms, Kidder Rd Bedford, NH 03102 603 644 0888

Job Number: 5504.11
Reviewed By: DMH
Date: 11/4/04



ERECTION FRAMING PLAN
(SHIPMENT 2)

NOTES:
FOR NOTES, SEE DRAWING E1.
WORK THIS DRAWING WITH DRAWINGS E1 THRU E3 & E5 THRU E11.

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F. (WEIGHT CHANGED)	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17601-6068
Phone 717/299-5211
A Division of High Industries, Inc.

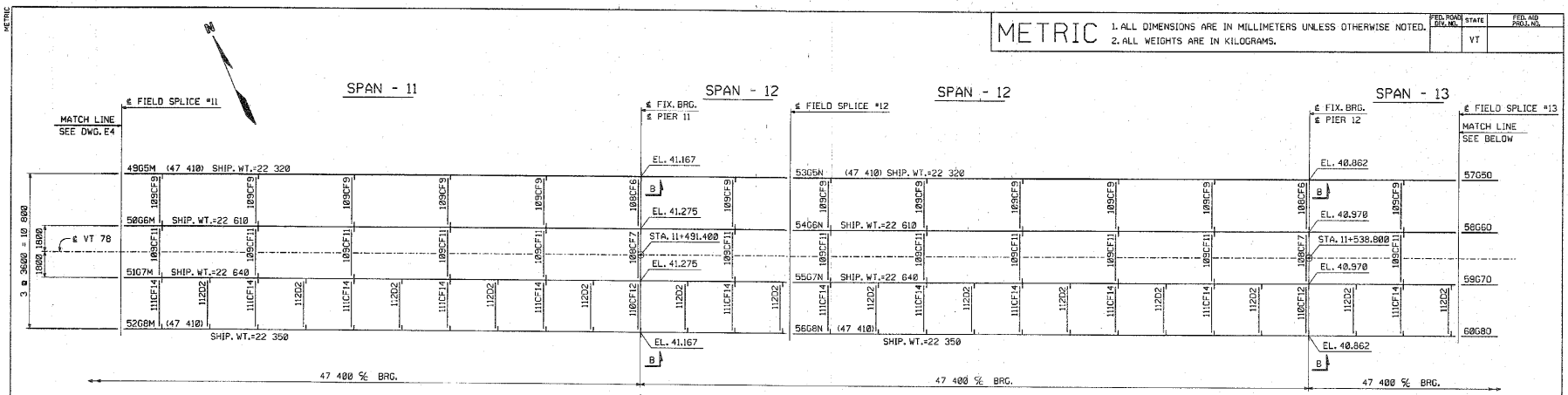
ERECTION FRAMING PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (JH) MADE BY: JSA CHK'D. BY: DAP DATE: 8-24-04
CONTRACT NUMBER VT-04057-2 DRAWING NUMBER E4 OF E11

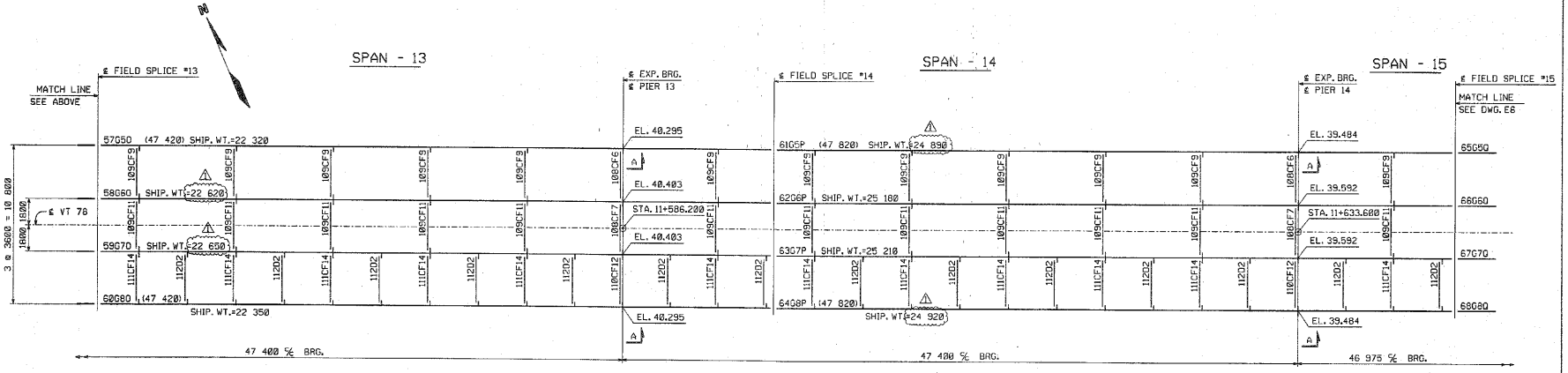
PLOTTED: 9/20/2004 12:29:45 PM BY: dpainter

METRIC

METRIC	FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.		VT	



ERECTION FRAMING PLAN
(SHIPMENT 2)



ERECTION FRAMING PLAN
(SHIPMENT 2)

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REVISED ☐ REVISE AND RESUBMIT ☐ HUMAN AS CONTRACTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: (1) DIMENSIONS AND QUANTITIES AND FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATION OF HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dorland Ferms, Kitson Rd. Scarfboro, NH 03870 603-844-0688

Job Number: 54041
Reviewed By: SMH
Date: 11/10/04

NOTES:
FOR NOTES, SEE DRAWING E1.
WORK THIS DRAWING WITH DRAWINGS E1 THRU E4 & E8 THRU E11.

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F. (WEIGHT CHANGED)	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-521
A Division of High Industries Inc.

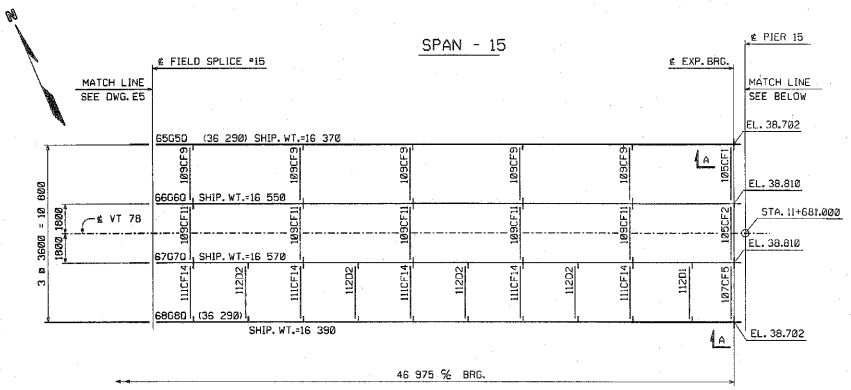
ERECTION FRAMING PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.18+970.425 TO STA.12+859.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (H) MADE BY: JSA CHK'D. BY: DAP DATE: 8-24-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: E5 OF E11

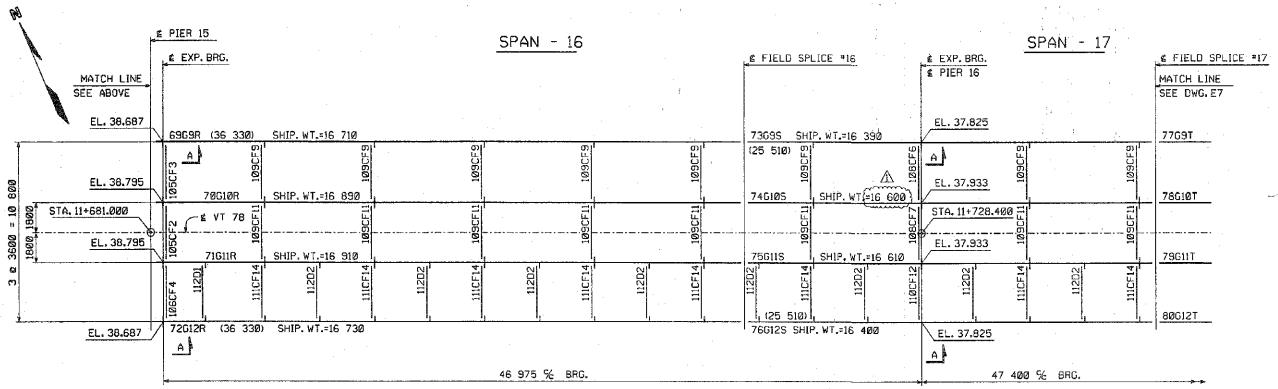
PLOTTED: 9/22/2004 12:28:46 PM BY: dpourier

METRIC

METRIC	1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.	FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	2. ALL WEIGHTS ARE IN KILOGRAMS.		VT	



ERECTION FRAMING PLAN
(SHIPMENT 2)



ERECTION FRAMING PLAN
(SHIPMENT 3)

NOTES:
FOR NOTES, SEE DRAWING E1.
WORK THIS DRAWING WITH DRAWINGS E1 THRU E5, E7 THRU E11.

SHOP DRAWING REVIEW

APPROVED AS RESUBMITTED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE IN THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REVISED ☐ NOTED ☐ RETURNED AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND DESIGN CONCEPT OF THE PROJECT AND NOTHING CONTAINED WITH THE INSTRUCTION SHALL IN ANY WAY CONSTITUTE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dunham Road, Milton, MA 02186 (508) 644-0080

Job Number: 5041.11
Reviewed By: JDA
Date: 11/19/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F. (WEIGHT CHANGED)	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1170 Harrisburg Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries, Inc.

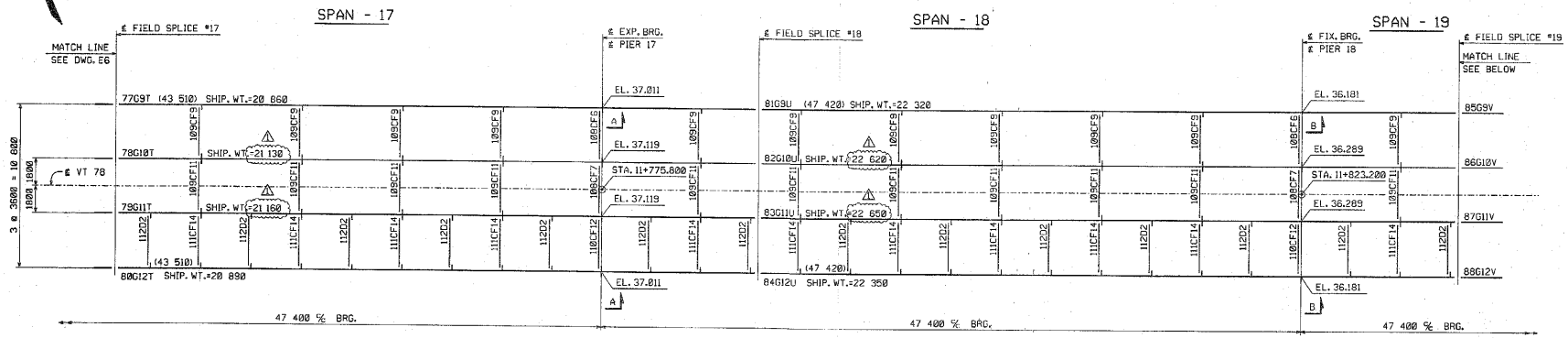
ERECTION FRAMING PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: JSA CHK'D. BY: DAP DATE: 8-24-04
CONTRACT NUMBER: VT-04057-2&3 DRAWING NUMBER: E6 OF E11

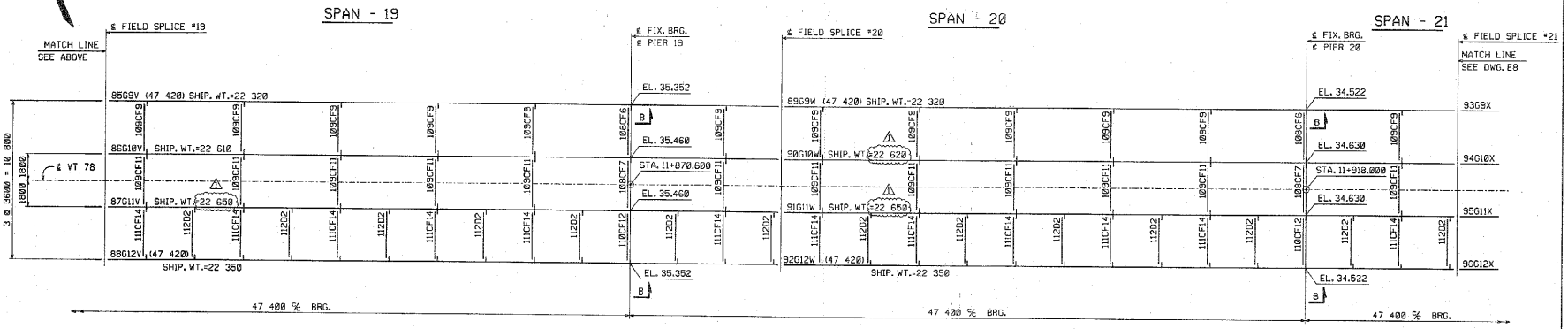
PLOTTED: 9/20/2004 11:24:17 PM BY: dpoorman

METRIC

METRIC	1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.	FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
			VT	



ERECTION FRAMING PLAN
(SHIPMENT 3)



ERECTION FRAMING PLAN
(SHIPMENT 3)

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONTRACT CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Bedford Farms, Route 114 Bedford, NH 03110 603 644 0200

Job Number: 62911
Reviewed By: JPM
Date: 11/1/04

NOTES:
FOR NOTES, SEE DRAWING E1.
WORK THIS DRAWING WITH DRAWINGS E1 THRU E6 & E8 THRU E11.

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F. (WEIGHT CHANGED)	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries, Inc.

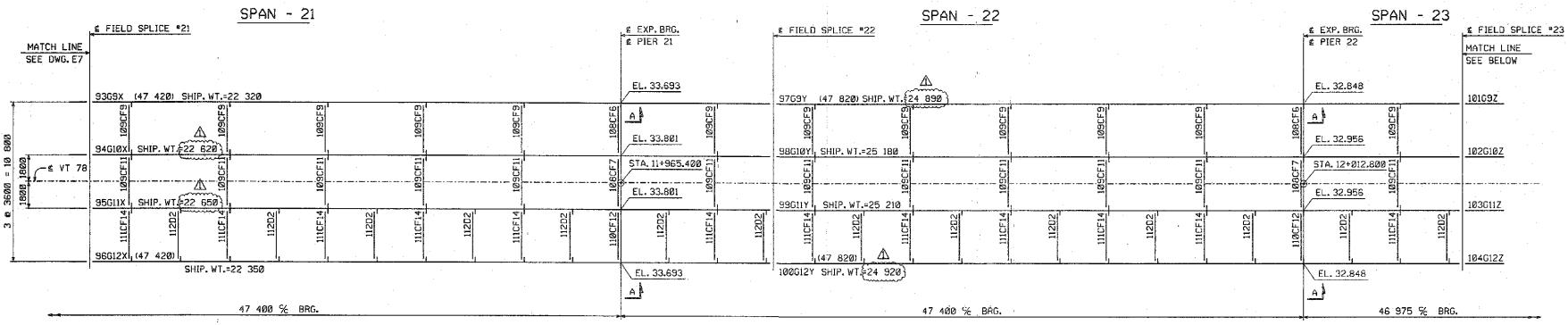
ERECTION FRAMING PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA. 10+970.425 TO STA. 12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: JSA CH'D. BY: DAP DATE: 8-24-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: E7 OF E11

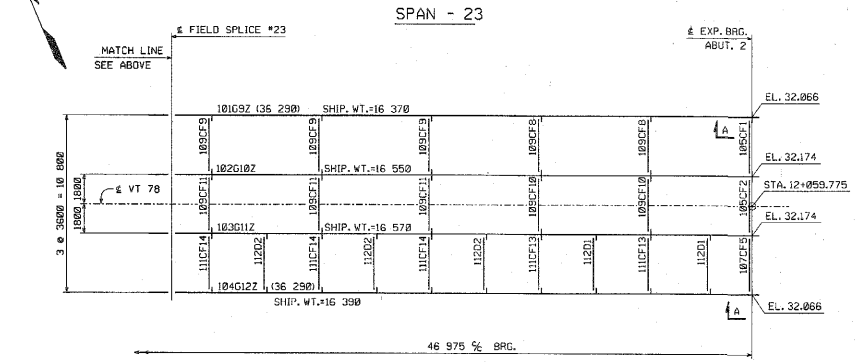
PLOTTED: 5/28/2004 12:19:19 PM BY: dpuerto

METRIC

METRIC	1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.	FED. ROAD DIV. NO.	STATE VT	FED. AID PROJ. NO.



ERECTION FRAMING PLAN
(SHIPMENT 3)



ERECTION FRAMING PLAN
(SHIPMENT 3)

NOTES:
FOR NOTES, SEE DRAWING E1.
WORK THIS DRAWING WITH DRAWINGS E1 THRU E7 & E9 THRU E11.

SHOP DRAWING REVIEW

☒ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWING DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLYING WITH ALL REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dartmouth Farms, 40th Rd. Portland, NH 03102 603 914 0888

Job Number: 50411
Reviewed By: BMM
Date: 11/8/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F. WEIGHT CHANGED!	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5241
A Division of High Industries, Inc.

ERECTION FRAMING PLAN
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

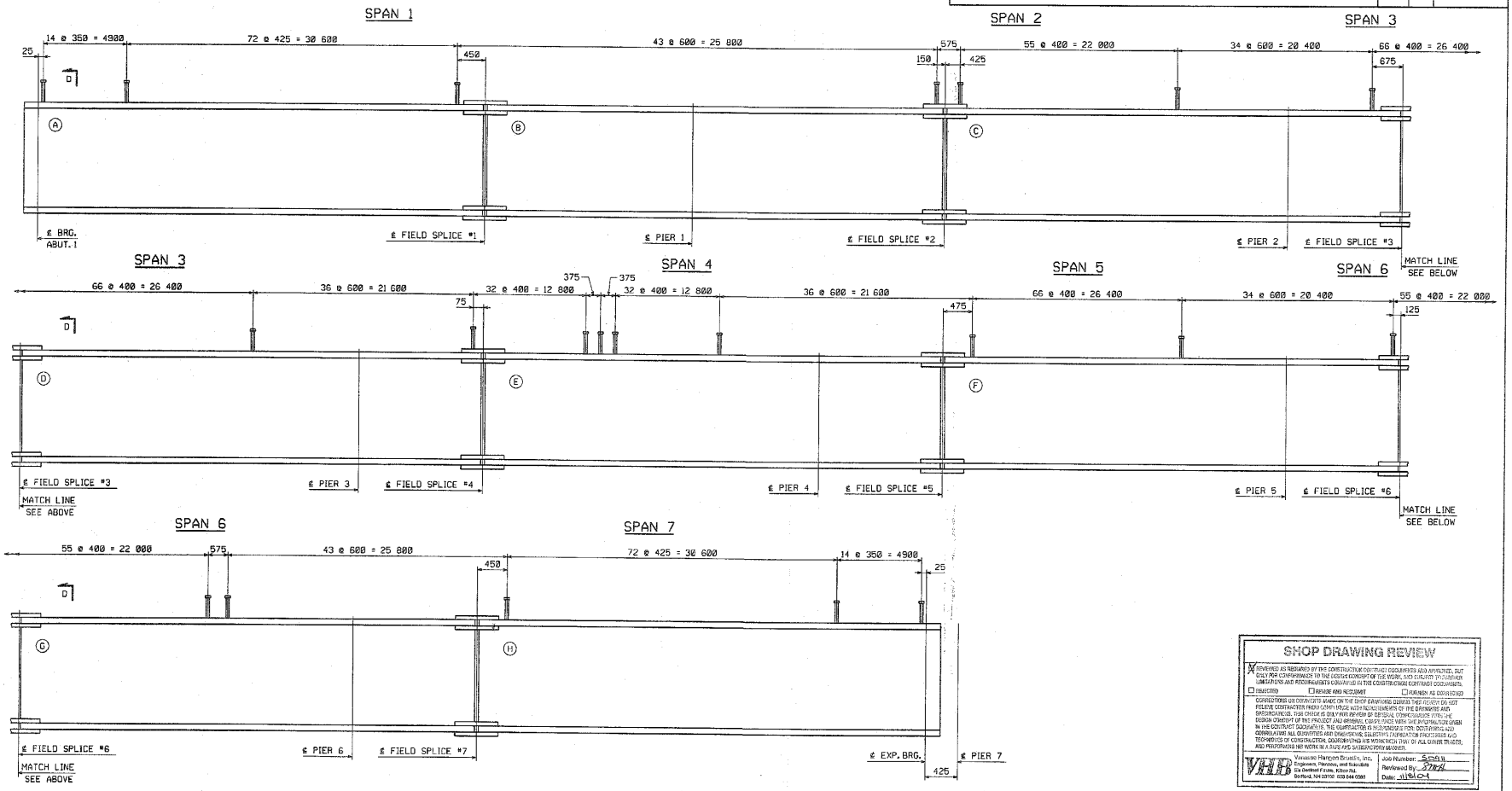
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (TH) MADE BY: JSA CHK'D BY: DAP DATE: 8-24-04
CONTRACT NUMBER VT-04057-3 DRAWING NUMBER E8 OF E11

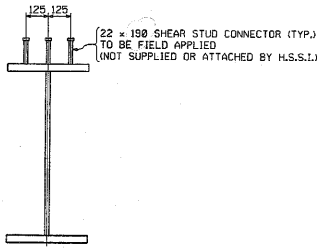
PLOTTED 9/20/2004 10:50:07 PM BY: dcounter

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	





SECTION D

SHEAR STUD CONNECTOR LOCATION LAYOUT
UNIT 1 ~ GIRDERS G1 THRU G4

NOTES:

FOR NOTES, SEE DRAWING E1.
WORK THIS DRAWING WITH DRAWINGS E1, E2 & E3.
(A) INDICATES SUFFIX MARK OF SHIPPING PIECE.

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO CERTAIN LIMITATIONS AND RESERVATIONS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ NOTED AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THE CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dartmouth Drive, Kitson Rd. Bedford, NH 03110 603 644 0580

Job Number: 55611
Reviewed By: DMH
Date: 9/15/04

NO.	REVISION	BY	DATE
△			
△			
△			

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-525
A Division of High Industries, Inc.

ERECTION PLAN ~ STUD LAYOUTS
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+058.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

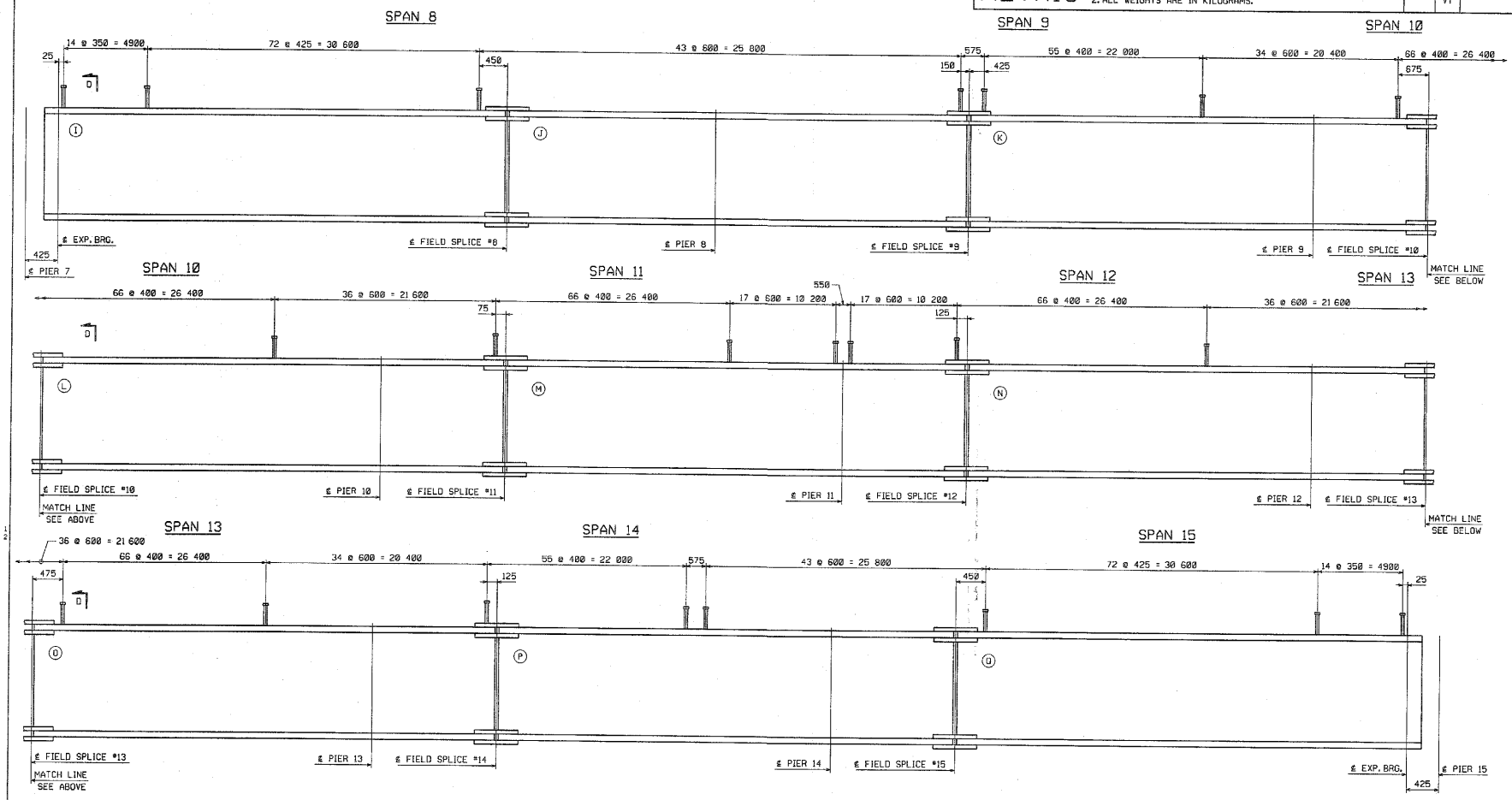
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: DAP CHK'D. BY: JSA DATE: 8/24/04
CONTRACT NUMBER VT-04057-1 DRAWING NUMBER E9 OF E11

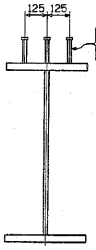
METRIC
BY: dpainter
PLOTTED: 8/26/2004 7:51:08 AM

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	





SECTION D

SHEAR STUD CONNECTOR LOCATION LAYOUT
UNIT 2 ~ GIRDERS G5 THRU G8

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED FOR ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND RESTRAINTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH ELEMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Wentworth Avenue, Williston, VT 05495 Bedford, NH 03110 603 644 0888

Job Number: 50614
Reviewed By: JSA
Date: 11/10/04

NOTES:
FOR NOTES, SEE DRAWING E1.
WORK THIS DRAWING WITH DRAWINGS E1, E4, E5 & E6.
(1) INDICATES SUFFIX MARK OF SHIPPING PIECE.

NO.	REVISION	BY	DATE
△			
△			
△			

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road, Lancaster, PA 17605-0008, Phone 717/299-5201
A Division of High Industries, Inc.

ERECTION PLAN ~ STUD LAYOUTS
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

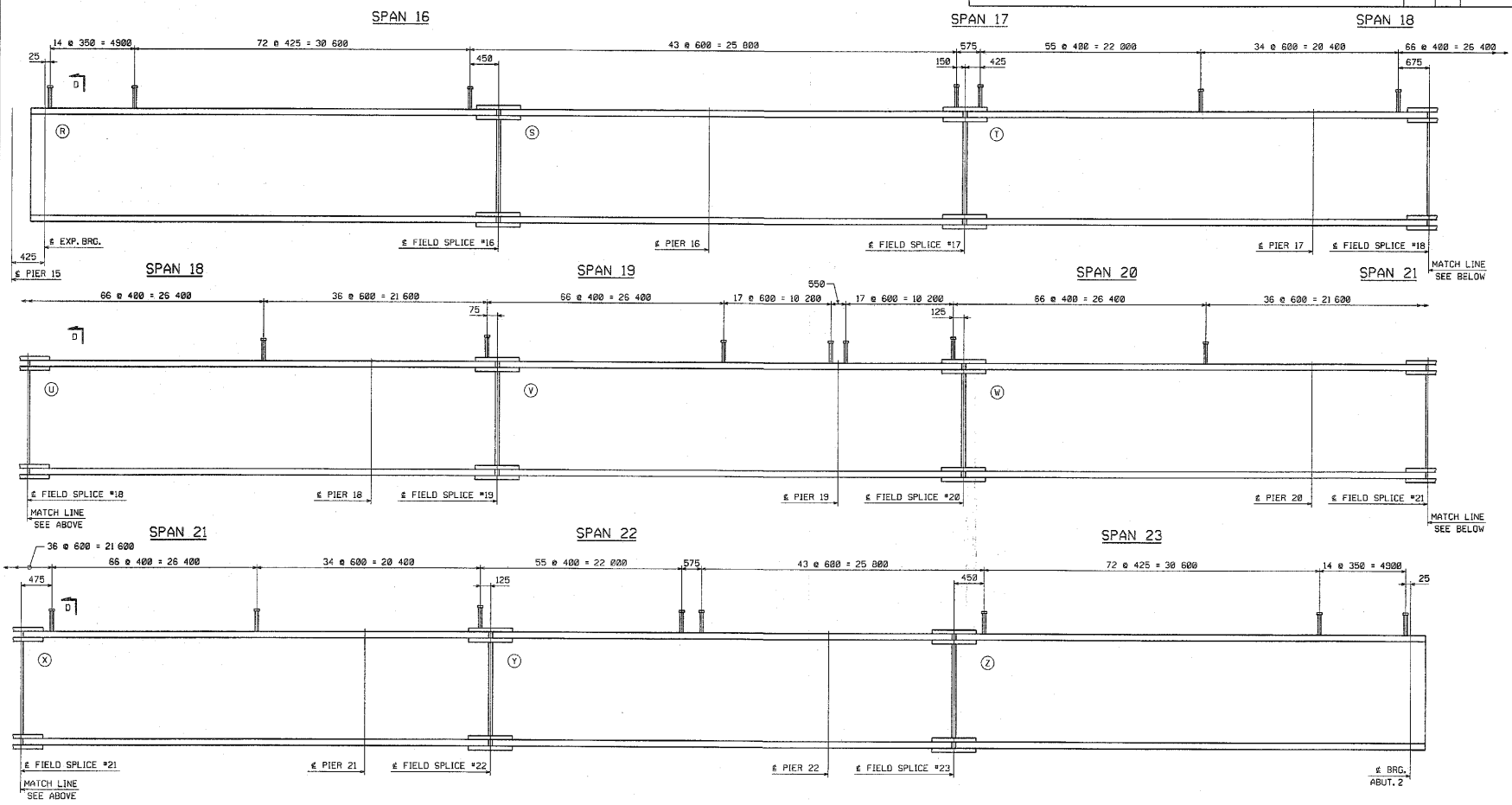
STATE CONTRACT OR REF. NO.: BRF-036-1(1)
CONTRACTOR: CIANBRO CORPORATION
IN CHARGE: GLIDDEN (DH) MADE BY: DAP CHK'D. BY: JSA DATE: 8/24/04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: E10 OF E11

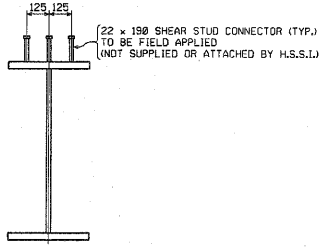
PLOTTED: 8/26/2004 7:50:08 AM
BY: dpoirier

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	





SECTION D

SHEAR STUD CONNECTOR LOCATION LAYOUT
UNIT 3 ~ GIRDERS G9 THRU G12

SHOP DRAWING REVIEW

☒ RECEIVED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ NOTED AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Bedford Farms Drive, Bedford, NH 03110 603 644 1800

Job Number: 56911
Reviewed By: JJM/AF
Date: 9/1/04

NOTES:
FOR NOTES, SEE DRAWING E1.
WORK THIS DRAWING WITH DRAWINGS E1, E6, E7 & E8.
Ⓡ INDICATES SUFFIX MARK OF SHIPPING PIECE.

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1170 Harrisburg Road
Lancaster, PA 17605-0068
Phone 717/295-5211
A Division of High Industries, Inc.

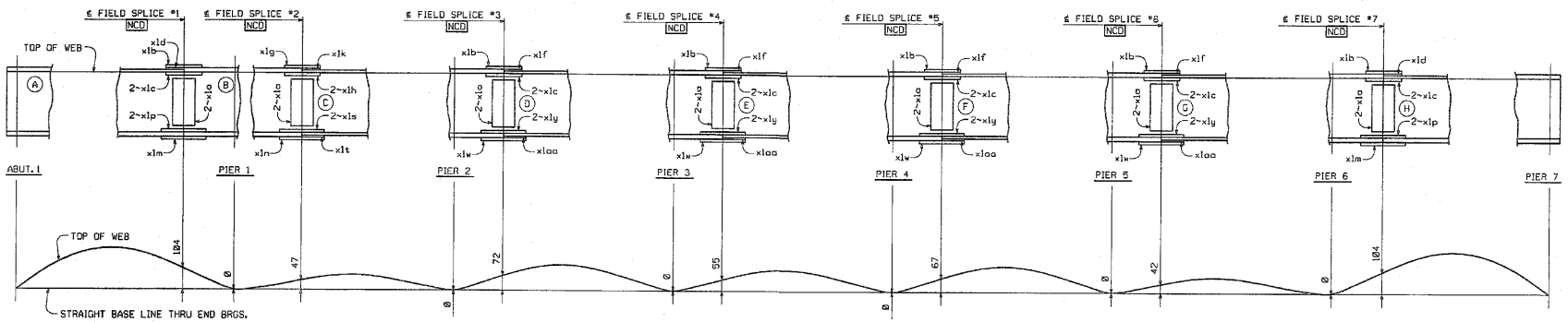
ERECTION PLAN ~ STUD LAYOUTS
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE GLIDDEN (JH) MADE BY DAP CHK'D. BY JSA DATE 8/24/04
CONTRACT NUMBER VT-04057-3 DRAWING NUMBER E11 OF E11

PLOTTED: 8/30/2004 7:25:11 AM
BY: dpaarlber

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



LINE ASSEMBLY DIAGRAM
(GIRDER LINES G1 THRU G4)

NOTES:
MATCH MARKING OF SPLICE PLATES IS NOT REQUIRED.
HOLES MARKED NCD ARE TO BE DRILLED FULL-SIZE USING A CNC MACHINING CENTER OR DRILLED FULL-SIZE USING DRILL TEMPLATES. HOLES TO BE $^{15}/_{16}$"ø.
FOR GIRDER MARKS, SEE THE ERECTION FRAMING PLAN DRAWINGS OR CALCULATION PLANS.
MINIMUM ONE LINE SET-UP AS REQUESTED BY SHOP INSPECTOR.
(A) INDICATES SUFFIX MARK OF SHIPPING PIECE.
FIELD SPLICE PLATES TO BE SHIPPED ON THE RIGHT END OF GIRDERS (A)(B)(C)(D)(E)(F) & (G).

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THIS WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Bedford Farms, Route 114 Bedford, NH 03110 603-644-0080
Job Number: 50944
Reviewed By: RPM
Date: 11/18/04

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17601-0008
Phone 717/293-521
A Division of High Industries, Inc.

SHOP ASSEMBLY DIAGRAM
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.18+370.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

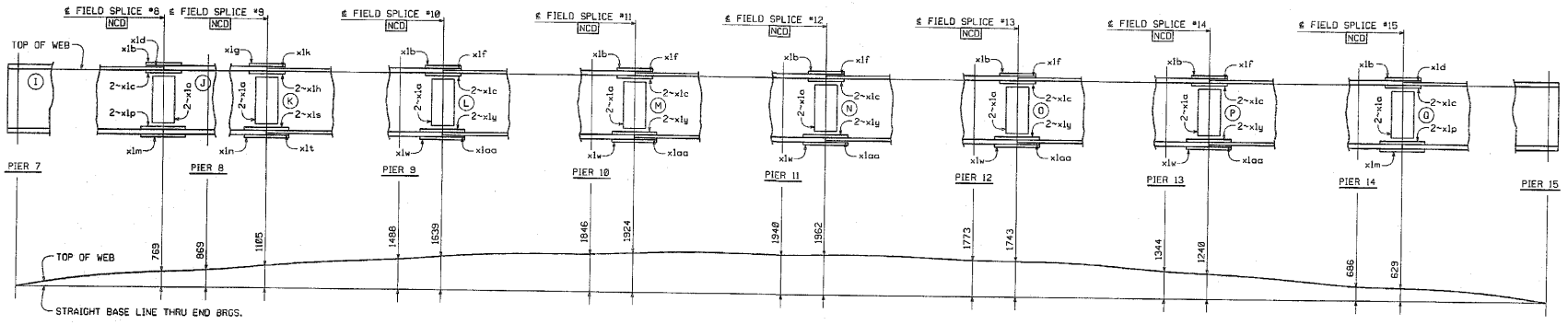
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR LANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SSL CHK'D. BY: CS DATE: 8-11-04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: SA1 OF SA3

PLOTTED: 8/25/2004 12:34:48 PM
BY: dpenner

METRIC

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



LINE ASSEMBLY DIAGRAM
(GIRDER LINES G5 THRU G8)

NOTES:

MATCH MARKING OF SPLICE PLATES IS NOT REQUIRED.
HOLES MARKED NCD ARE TO BE DRILLED FULL-SIZE USING A CNC MACHINING CENTER OR DRILLED FULL-SIZE USING DRILL TEMPLATES. HOLES TO BE 1 5/16".
FOR GIRDER MARKS, SEE THE ERECTION FRAMING PLAN DRAWINGS OR CALCULATION PLANS.
MINIMUM ONE LINE SET-UP AS REQUESTED BY SHOP INSPECTOR.
(I) INDICATES SUFFIX MARK OF SHIPPING PIECE.
FIELD SPLICE PLATES TO BE SHIPPED ON THE RIGHT END OF GIRDERS (J)(K)(L)(M)(N)(O) & (P).

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 99 Bedford Street, Boston, MA 02111 617-854-6400

Job Number: 52941
Reviewed By: JMM
Date: 10/5/04

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
3770 Hempstead Road
Lancaster, PA 17601-1005
Phone 717/299-521
A Division of High Industries, Inc.

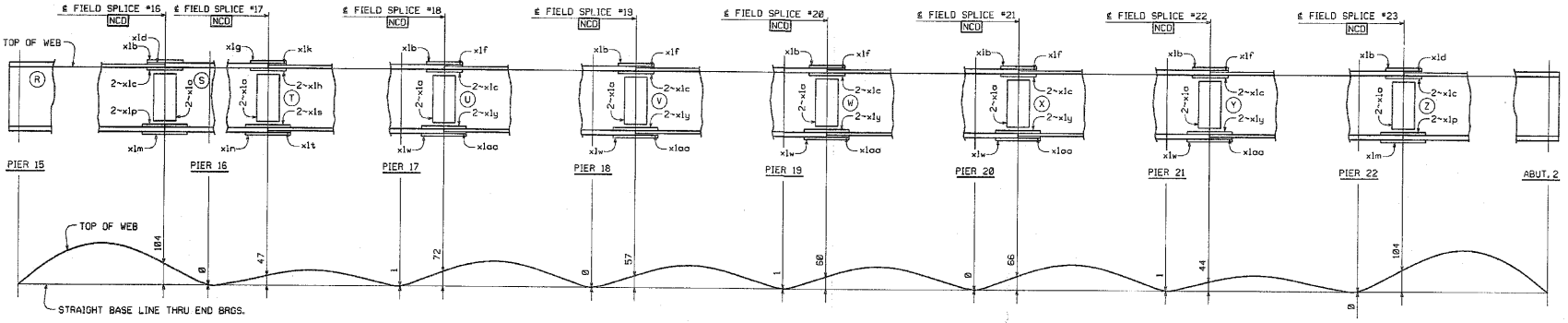
SHOP ASSEMBLY DIAGRAM
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SSL CHK'D. BY: CS DATE: 8-11-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: SA2 OF SA3

PLOTTED: 8/23/2004 12:04:43 PM BY: dpainter

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



LINE ASSEMBLY DIAGRAM
(GIRDER LINES G9 THRU G12)

NOTES:

MATCH MARKING OF SPLICE PLATES IS NOT REQUIRED.
HOLES MARKED NCD ARE TO BE DRILLED FULL-SIZE USING A CNC MACHINING CENTER OR DRILLED FULL-SIZE USING DRILL TEMPLATES. HOLES TO BE 15/16".
FOR GIRDER MARKS, SEE THE ERECTION FRAMING PLAN DRAWINGS OR CALCULATION PLANS.
MINIMUM ONE LINE SET-UP AS REQUESTED BY SHOP INSPECTOR.
(R) INDICATES SUFFIX MARK OF SHIPPING PIECE.
FIELD SPLICE PLATES TO BE SHIPPED ON THE RIGHT END OF GIRDERS (R)(S)(T)(U)(V)(W)(X) & (Y).

SHOP DRAWING REVIEW

[X] REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FIELD VARIATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
[ ] REJECTED [ ] REVISE AND RESUBMIT [ ] FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THOSE OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 8616 Bedford Farms, Route 114 Bedford, NH 03102 603 644 0800
Job Number: 5094
Reviewed By: STH
Date: 11/5/04

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
8770 Hempstead Road
Lancaster, PA 17601-0368
Phone 717/239-5211
A Division of High Industries, Inc.

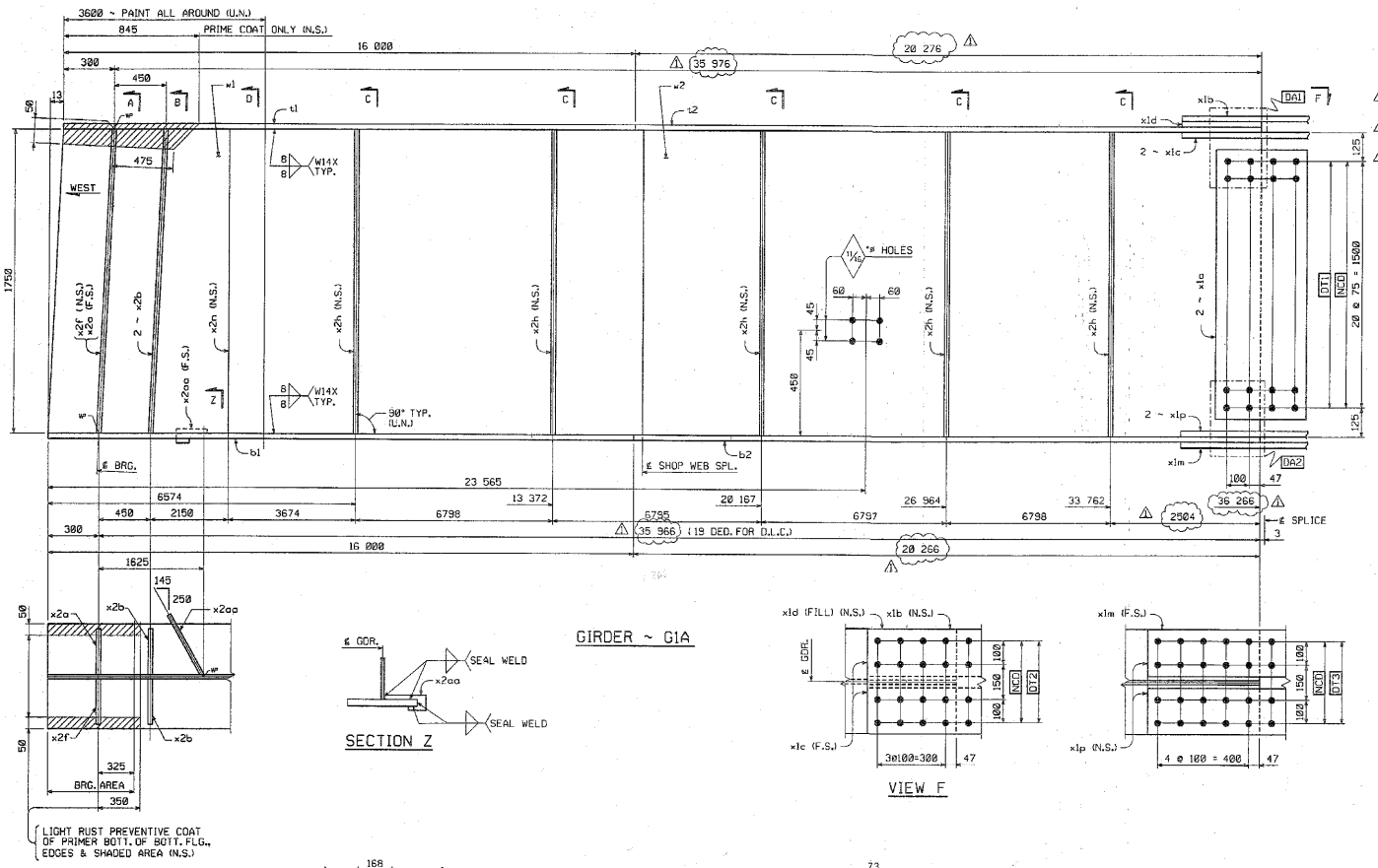
SHOP ASSEMBLY DIAGRAM
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+058.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SSA CHK'D. BY: CS DATE: 8-11-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: SA3 OF SA3

PLOTTED: 8/23/2004 12:34:49 PM BY: dpourner

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G1A	GIRDER					16 700
1	w1	PL 16 x 1750	16 907	(T)	3	11	3583.87
1	w2	PL 16 x 1750	19 999	(T)	3	8	4395.28
1	t1	PL 22 x 450	16 001	(T)	4	28	1243.38
1	t2	PL 22 x 450	20 227	(T)	4	27	1575.65
1	b1	PL 40 x 450	16 001	(T)	4	5	2260.68
1	b2	PL 40 x 450	20 267	(T)	4	4	2863.40
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1d	PL 18 x 450	392	FILL	6	4	24.92
1	x1m	PL 18 x 450	990	(T)	6	3	62.94
2	x1p	PL 20 x 200	990	(T)	6	2	31.08
1	x2a	PL 22 x 200	1 750		7	2	60.44
2	x2b	PL 22 x 200	1 750		7	2	60.44
1	x2f	PL 22 x 200	1 750		7	2	60.44
5	x2h	PL 12 x 180	1 750		7	4	29.67
1	x2n	PL 12 x 180	1 750		7	4	29.67
1	x2aa	PL 8 x 90	301		7	5	1.28
		TOTAL WEIGHT THIS SHEET:		18 892.83	kgs		

SHOP DRAWING REVIEW

☒ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING THIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ SUBMIT AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING THIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Bedford Farms, Route 3A Bedford, NH 03110 603 644 0800

Job Number: 50911
Reviewed By: JMH
Date: 11/5/04

SHOP NOTE

HOLES: 15/16" ø (U.N.)
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

CODE:130

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17601-6008
Phone 717/299-5201
A Division of High Industries Inc.

GIRDER G1A
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.12+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

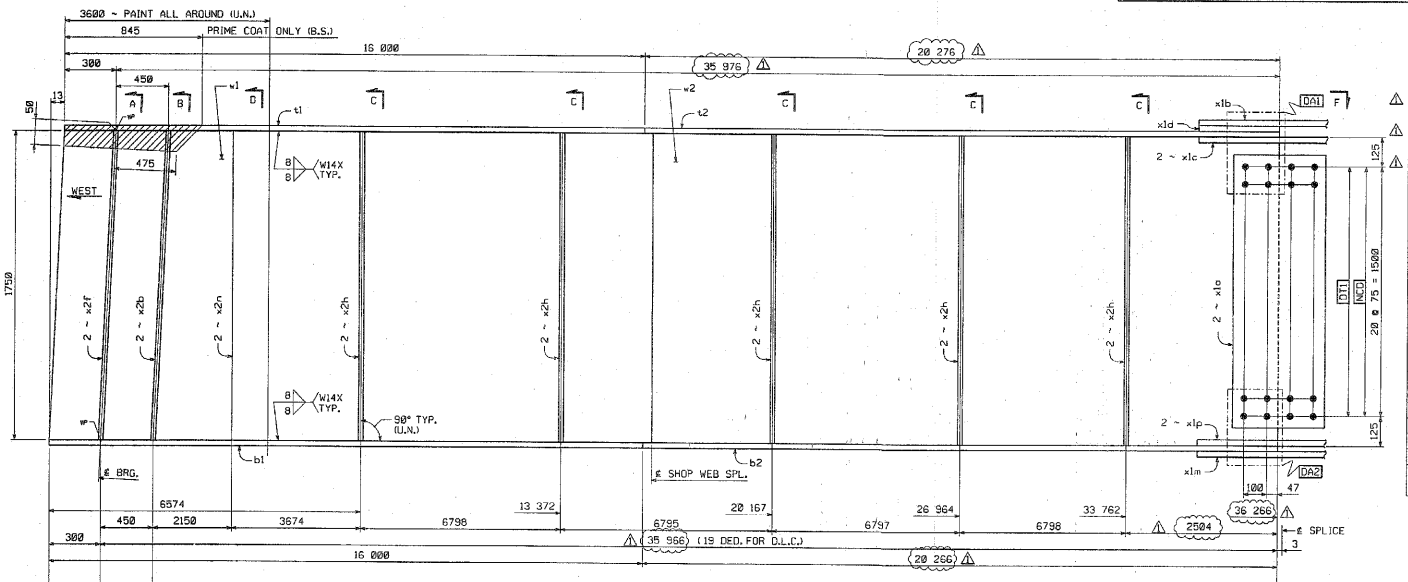
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SSL CHK'D. BY: CS DATE: 8-16-04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 1 OF 112

METRIC
PLOTTED: 9/29/2004 12:54:17 PM
BY: dpanner

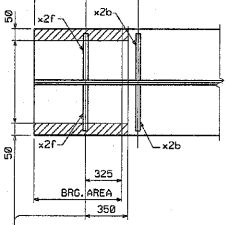
METRIC

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

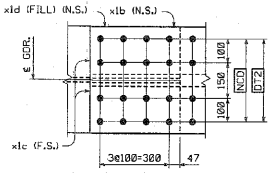
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

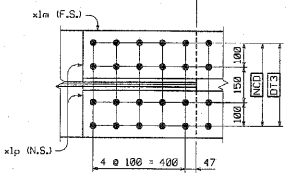


GIRDER ~ G2A

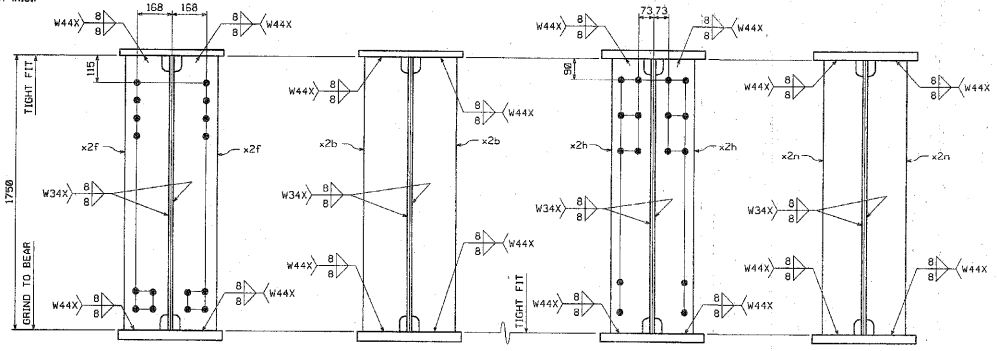


LIGHT RUST PREVENTIVE COAT OF PRIMER BOTT. OF BOTT. FLG., EDGES & SHADED AREA (N.S.)

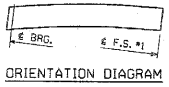




VIEW F



SECTION A SECTION B SECTION C SECTION D



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

CODE:130

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G2A	GIRDER					16 870
1	w1	PL 16 x 1750	16 307	(T)	3	11	3583.87
1	w2	PL 16 x 1750	19 999	(T)	3	8	4395.28
1	t1	PL 22 x 450	16 001	(T)	4	28	1243.38
1	t2	PL 22 x 450	20 277	(T)	4	27	1575.65
1	b1	PL 40 x 450	16 001	(T)	4	5	2269.69
1	b2	PL 40 x 450	20 287	(T)	4	4	2583.40
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	8	39.09
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1d	PL 18 x 450	392	FILL	6	4	24.92
1	x1m	PL 18 x 450	990	(T)	6	3	62.94
2	x1p	PL 20 x 200	990	(T)	6	2	31.08
2	x2b	PL 22 x 200	1 750		7	2	60.44
2	x2f	PL 22 x 200	1 750		7	2	60.44
10	x2h	PL 12 x 180	1 750		7	4	29.67
2	x2n	PL 12 x 180	1 750		7	4	29.67

TOTAL WEIGHT THIS SHEET: 16869.38 kgs

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO ANY SPECIFIC LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS REVIEW IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING ITS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists Six Bedford Farms, Kilton Rd. Bedford, NH 03110 603.644.0888
Job Number: 56911
Reviewed By: STH
Date: 9/16/04

NO.	REVISION	BY	DATE
2			
1			
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5201
A Division of High Industries, Inc.

GIRDER G2A
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

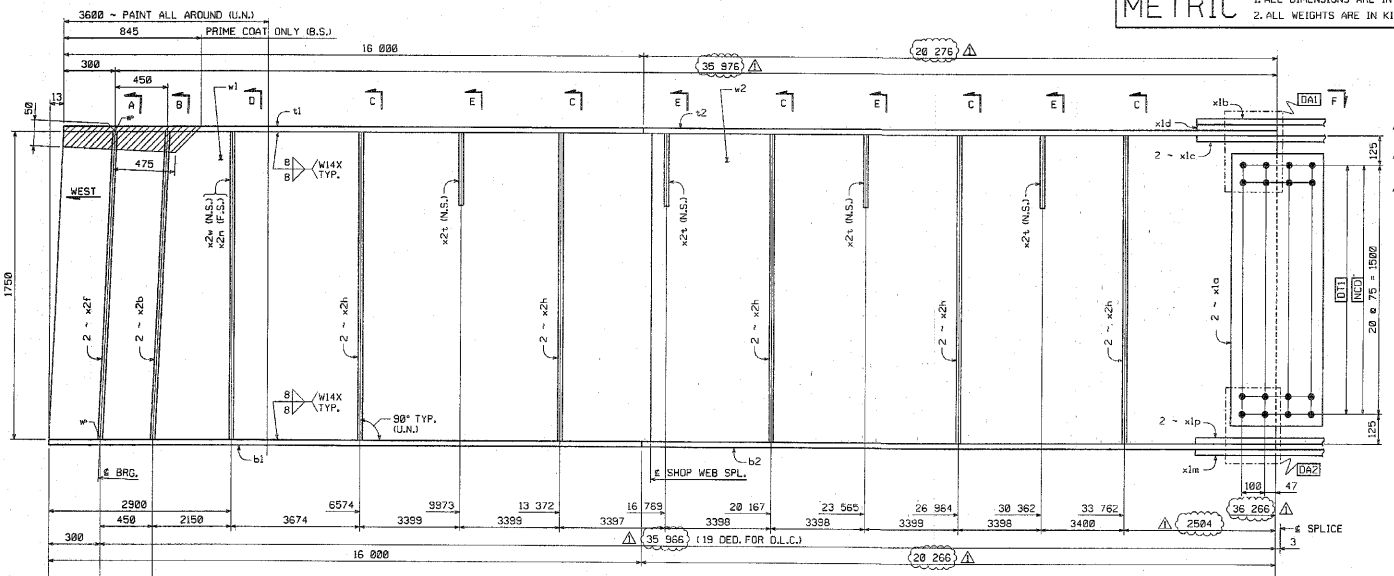
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: DAP CHK'D. BY: GS DATE: 8/18/04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 2 OF 112

PLOTTED: 9/28/2004 08:46 PM
BY: dporter

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

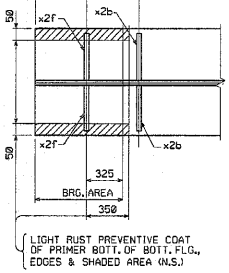


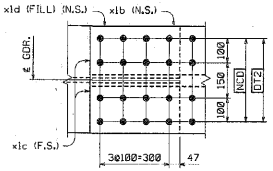
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G3A	GIRDER					18 900
1	w1	PL 18 x 1750	16 307	(T)	3	11	3589.87
1	w2	PL 16 x 1750	19 999	(T)	3	8	4395.28
1	t1	PL 22 x 450	16 001	(T)	4	28	1243.38
1	t2	PL 22 x 450	20 277	(T)	4	27	1573.65
1	b1	PL 40 x 450	18 001	(T)	4	5	2200.68
1	b2	PL 40 x 450	20 267	(T)	4	4	2883.49
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1d	PL 18 x 450	382	FILL	6	4	24.92
1	x1m	PL 18 x 450	980	(T)	6	3	62.94
2	x1p	PL 20 x 200	980	(T)	6	2	31.08
2	x2b	PL 22 x 200	1 750		7	2	59.44
2	x2f	PL 22 x 200	1 750		7	2	60.44
10	x2h	PL 12 x 180	1 750		7	4	29.67
1	x2n	PL 12 x 180	1 750		7	4	29.67
4	x2t	PL 14 x 180	310		7	3	8.43
1	x2w	PL 12 x 180	1 750		7	4	29.67

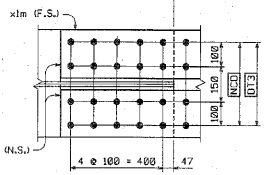
TOTAL WEIGHT THIS SHEET: 16893.9 kgs

GIRDER ~ G3A

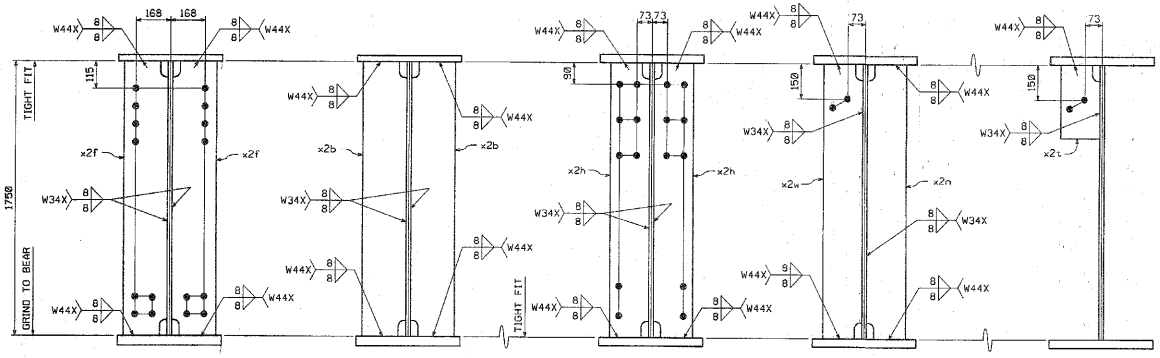




VIEW F



ORIENTATION DIAGRAM



SECTION A | SECTION B | SECTION C | SECTION D | SECTION E

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

CODE:130

SHOP DRAWING REVIEW

☒ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND SUBJECT TO LIMITATIONS AND RESPONSIBILITIES CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REMARK AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING THE WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Bedford Farms, Bilford Rd. Bedford, NH 03102 603-644-0888

Job Number: 5091.11
Reviewed By: SMF
Date: 9/16/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/293-521
A Division of High Industries, Inc.

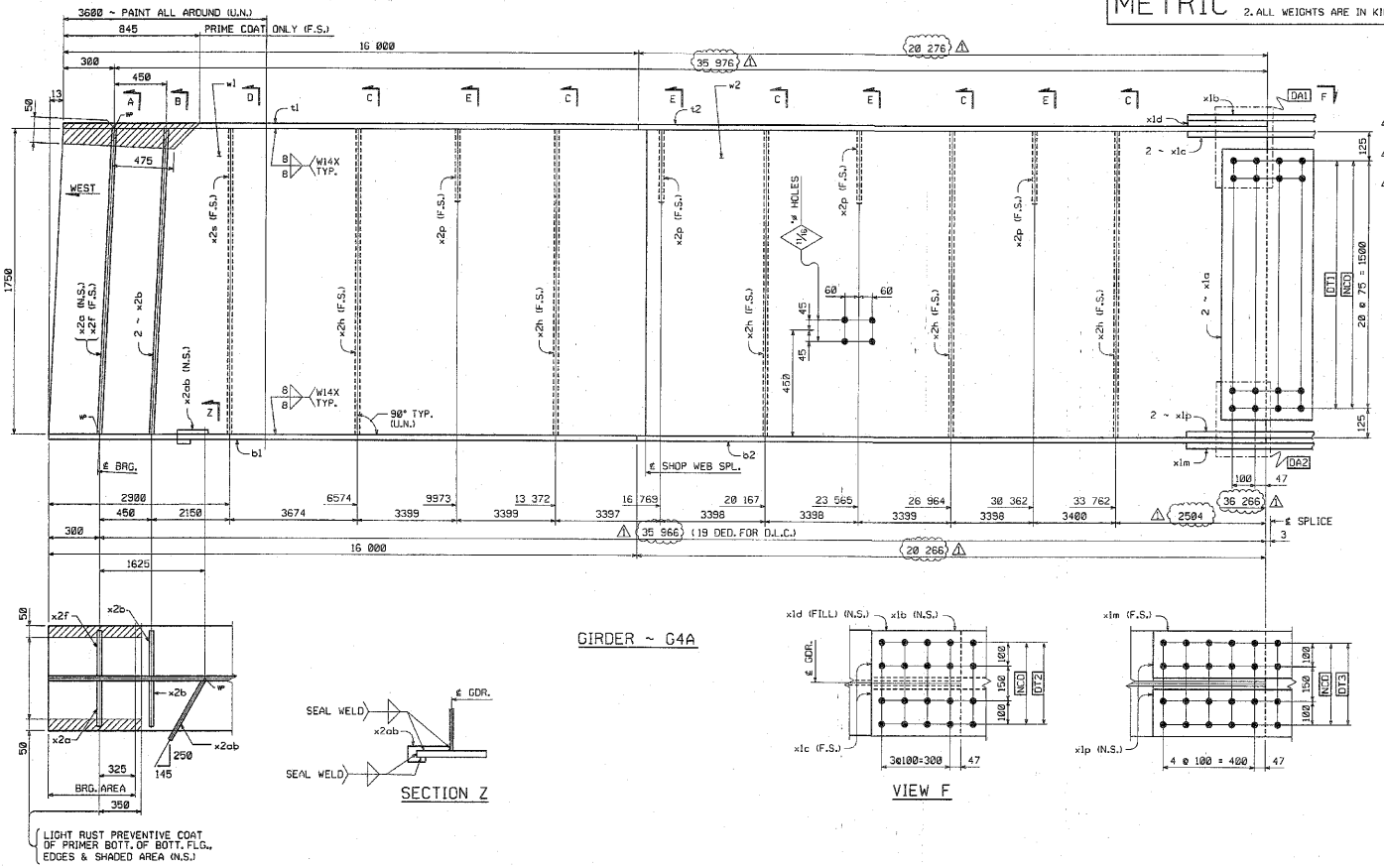
GIRDER	G3A
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.12+970.425 TO STA.12+055.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO.	BRF-036-1(1)
CONTRACTOR	CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH)	MADE BY: DAP CHK'D. BY: GS DATE: 8/18/04
CONTRACT NUMBER	VT-04057-1
DRAWING NUMBER	3 OF 112

PLOTTED: 9/20/2004 10:42 PM BY: dpainter

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



BILL OF MATERIAL

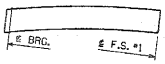
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G4A	GIRDER					16 720
1	w1	PL 16 x 1750	~~19 907~~	(T)	3	11	~~3583.87~~
1	w2	PL 16 x 1750	~~19 999~~	(T)	3	8	~~4395.28~~
1	t1	PL 22 x 450	~~18 001~~	(T)	4	28	~~1243.38~~
1	t2	PL 22 x 450	~~29 277~~	(T)	4	27	~~1575.65~~
1	b1	PL 40 x 450	~~18 001~~	(T)	4	5	~~2260.68~~
1	b2	PL 40 x 450	~~29 287~~	(T)	4	4	~~2868.40~~
2	x1a	PL 12 x 1800	400	(T)	6	1	~~86.26~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.09~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1d	PL 18 x 450	392	FILL	6	4	24.92
1	x1m	PL 18 x 450	890	(T)	6	3	62.94
2	x1p	PL 20 x 200	890	(T)	6	2	~~37.08~~
1	x2a	PL 22 x 200	1 750		7	2	~~60.44~~
2	x2b	PL 22 x 200	1 750		7	2	~~60.44~~
1	x2f	PL 22 x 200	1 750		7	2	~~60.44~~
5	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
4	x2p	PL 14 x 180	310		7	3	~~6.43~~
1	x2s	PL 12 x 180	1 750		7	4	29.67
1	x2ab	PL 8 x 90	301	SEE SHAPE NOTE 2	7	5	~~1.28~~

TOTAL WEIGHT THIS SHEET: 16717.16 kgs

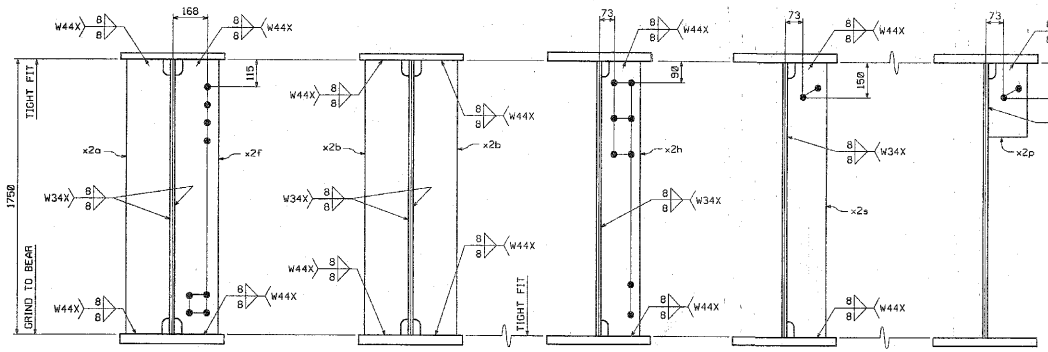
GIRDER ~ G4A

SECTION Z

VIEW F



ORIENTATION DIAGRAM



SECTION A SECTION B SECTION C SECTION D SECTION E

SHOP NOTE

HOLES: 15/16"ø (U.N.)
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

CODE:30

SHOP DRAWING REVIEW

☒ REVIEWED AS SUBMITTED BY THE CONSTRUCTION CONSULTANT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO CERTAIN LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONSULTANT DOCUMENTS.

☐ AS NOTED ☐ REVISE AND RESUBMIT ☐ REJECTED AS CONTRACTED

CONSULTANT'S REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB — Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists. 54 Dartford Farms, Milton Rd. Westford, NH 03032 603-644-2800

Job Number: 2331
Reviewed By: JMR
Date: 7/14/06

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0066
Phone 717/293-521
A Division of High Industries, Inc.

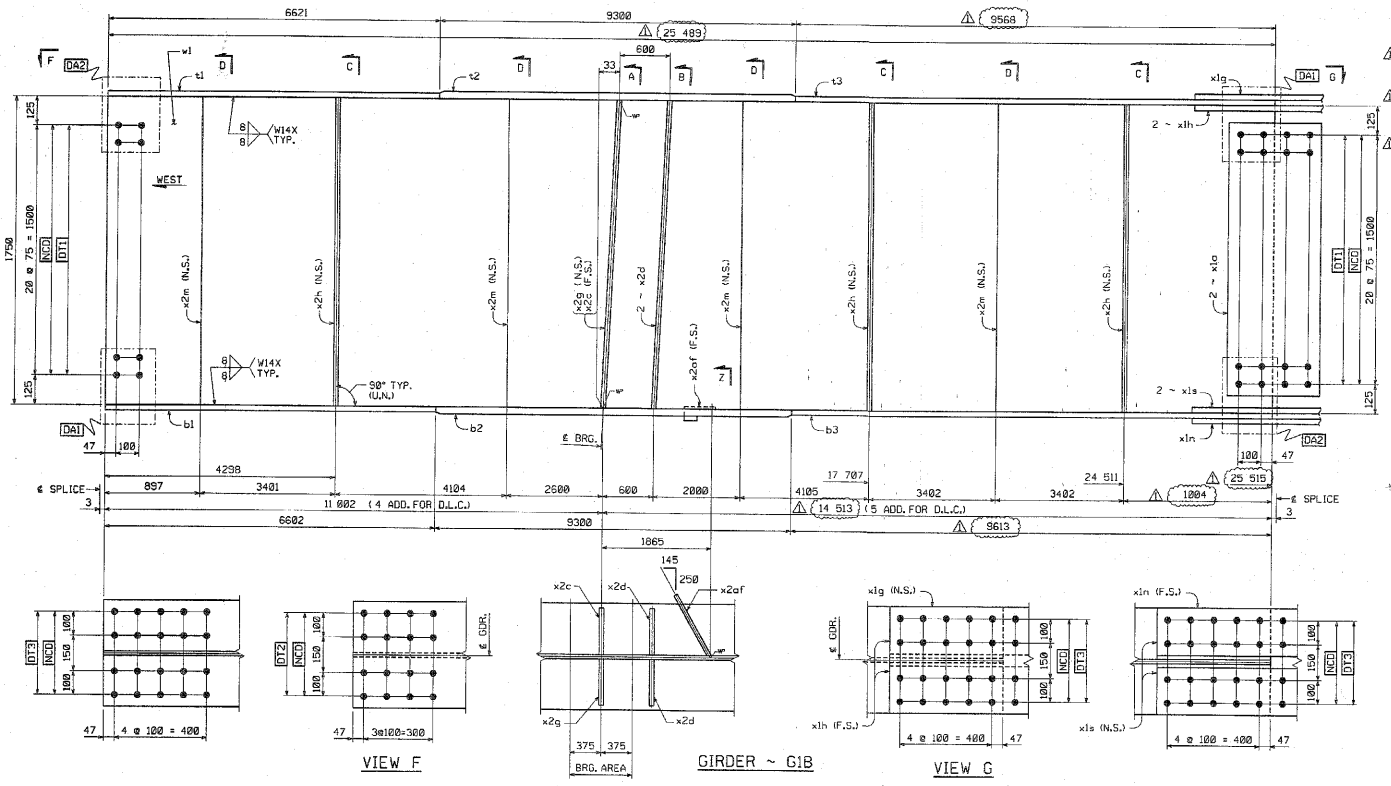
GIRDER	G4A
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO.	BRF-036-1(1)
CONTRACTOR	CIANBRO CORPORATION
IN CHARGE: GLIDDEN (LH)	MADE BY: DAP CHK'D. BY: GS DATE: 8/18/04
CONTRACT NUMBER: VT-04057-1	DRAWING NUMBER: 4 OF 112

PLOTTED: 9/20/2004 10:42:23 AM
BY: dcantor

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

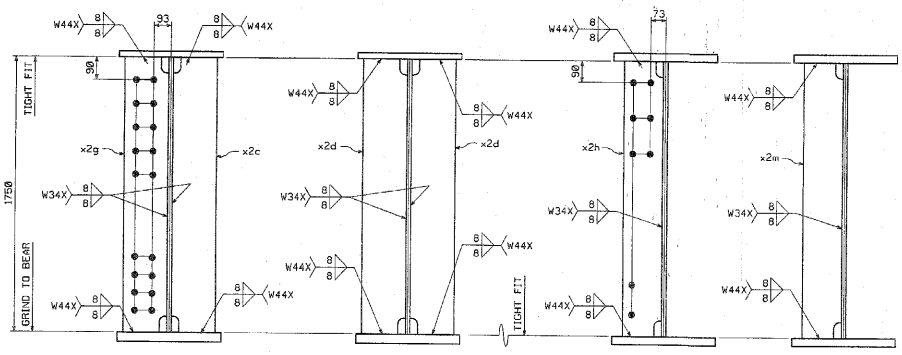
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



VIEW F

GIRDER ~ G1B

VIEW G

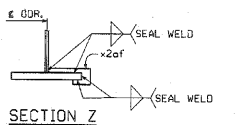


SECTION A

SECTION B

SECTION C

SECTION D



SECTION Z

SHOP NOTE

HOLES: $^{15}/_{16}$"ø

BOLTS: NONE

PAINT: (NONE) ⚠

FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

CODE:30

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA
ONE	G1B	GIRDER					16 390
1	w1	PL 16 x 1750	25 515	(T) 2 550.2	3	3	3867.65
1	t1	PL 40 x 450	6 621	(T)	4	10	833.44
1	t2	PL 80 x 450	9 300	(T)	4	1	2627.88
1	t3	PL 40 x 450	9 568	(T) 957.6	4	9	1351.84
1	b1	PL 40 x 450	6 602	(T)	4	11	832.76
1	b2	PL 80 x 450	9 300	(T)	4	1	2627.88
1	b3	PL 40 x 450	9 614	(T) 96 1.5	4	7	1358.30
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1g	PL 14 x 450	990	(T)	6	8	48.96
2	x1h	PL 16 x 200	990	(T)	6	5	24.67
1	x1n	PL 14 x 450	990	(T)	6	6	48.96
2	x1s	PL 16 x 200	990	(T)	6	5	24.67
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
3	x2h	PL 12 x 180	1 750		7	4	29.57
4	x2m	PL 12 x 180	1 750		7	4	29.57
1	x2af	PL 6 x 180	301		7	5	1.84
TOTAL WEIGHT THIS SHEET:				16 386.79	kgs		

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY TO CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND GENERALLY TO THE LIMITATIONS AND RESPONSIBILITIES OUTLINED IN THE CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ SUBMIT AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THIS SHOP DRAWING DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB — Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Economists 54 Rockwell Place, Kingston, NH 03848 603 644 2800

Job Number: 5041
Reviewed By: BMH
Date: 11/5/04

ORIENTATION DIAGRAM

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F & FIX PAINT NOTE.	DP	9/17/04

HIGH STEEL STRUCTURES, INC. — 1770 Hempstead Road, Lancaster, PA 17605-0058, Phone 717/293-521, A Division of High Industries, Inc.

GIRDER G1B

VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2

VT 78 STA.10+970.425 TO STA.12+059.775

TOWNS OF ALBURG AND SWANTON

COUNTIES OF GRAND ISLE AND FRANKLIN

STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)

CONTRACTOR CIANBRO CORPORATION

IN CHARGE: GLIDDEN (IH) MADE BY: SSL CHK'D. BY: CS DATE: 8-16-04

CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 5 OF 112

PLOTTED: 9/21/2004 8:07:52 AM BY: dpountain

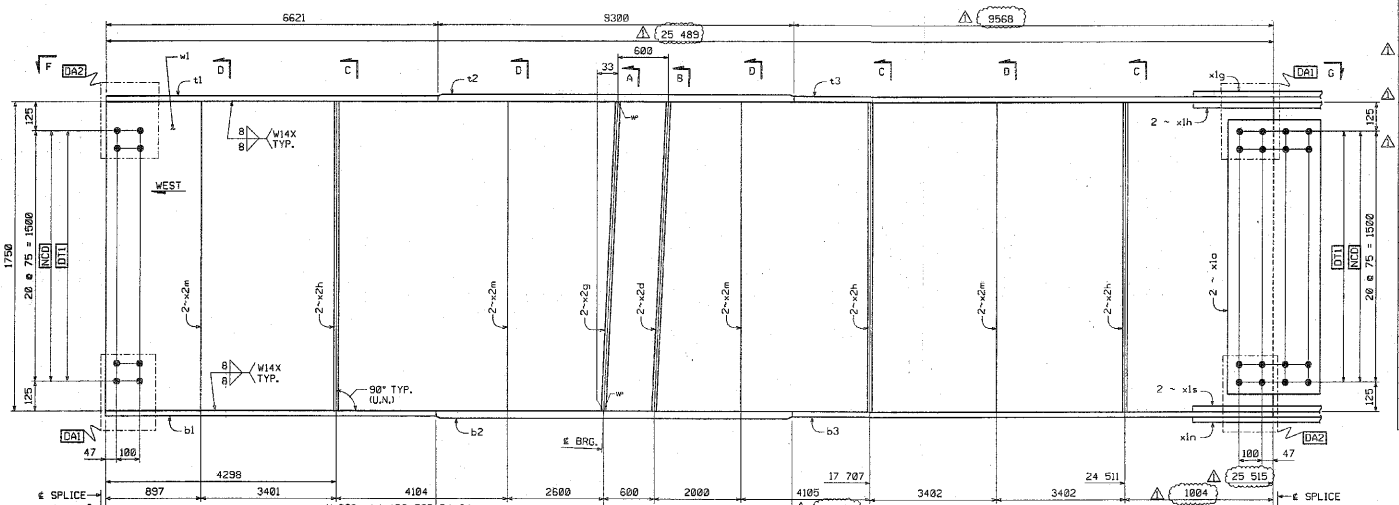
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

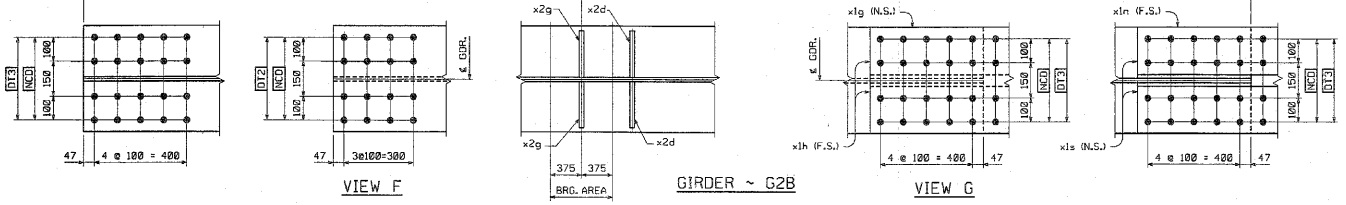
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

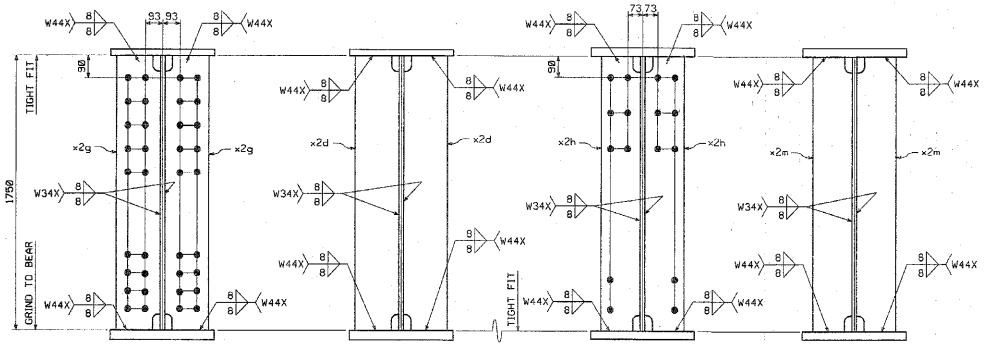
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G2B	GIRDER					16 600
1	w1	PL 16 x 1750	~~26 515~~	(T)	3	3	5607.55
1	t1	PL 40 x 450	6 621	(T)	4	10	~~835.44~~
1	t2	PL 80 x 450	9 300	(T)	4	1	~~2827.88~~
1	t3	PL 40 x 450	~~9 569~~	(T)	4	9	~~1351.04~~
1	b1	PL 40 x 450	6 602	(T)	4	11	~~932.76~~
1	b2	PL 80 x 450	9 300	(T)	4	1	~~2827.88~~
1	b3	PL 40 x 450	~~9 614~~	(T)	4	7	~~1358.90~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~80.28~~
1	x1g	PL 14 x 450	990	(T)	6	6	~~48.95~~
2	x1h	PL 16 x 200	990	(T)	6	5	~~24.67~~
1	x1n	PL 14 x 450	990	(T)	6	6	~~48.95~~
2	x1s	PL 16 x 200	990	(T)	6	5	~~24.67~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
6	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
6	x2m	PL 12 x 180	1 750		7	4	~~29.67~~

TOTAL WEIGHT THIS SHEET: ~~16 592.64~~ kgs





VIEW F GIRDER ~ G2B VIEW G



SECTION A SECTION B SECTION C SECTION D

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

CODE:30

SHOP DRAWING REVIEW

☒ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FUTURE LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ ORDER AND RESUBMIT ☐ FURNISH AS CORRECTED
CORRECTIONS OR COMMENTS MADE ON THIS SHOP DRAWING DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING THIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.
VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists Six Kimball Lane, Suite 210, Lebanon, NH 03766 603-448-1889
Job Number: 14960.00
Reviewed By: BMH
Date: 9/16/04

ORIENTATION DIAGRAM

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road, Lancaster, PA 17605-0008, Phone 717/293-5211
A Division of High Industries Inc.

GIRDER	G2B
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+058.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	

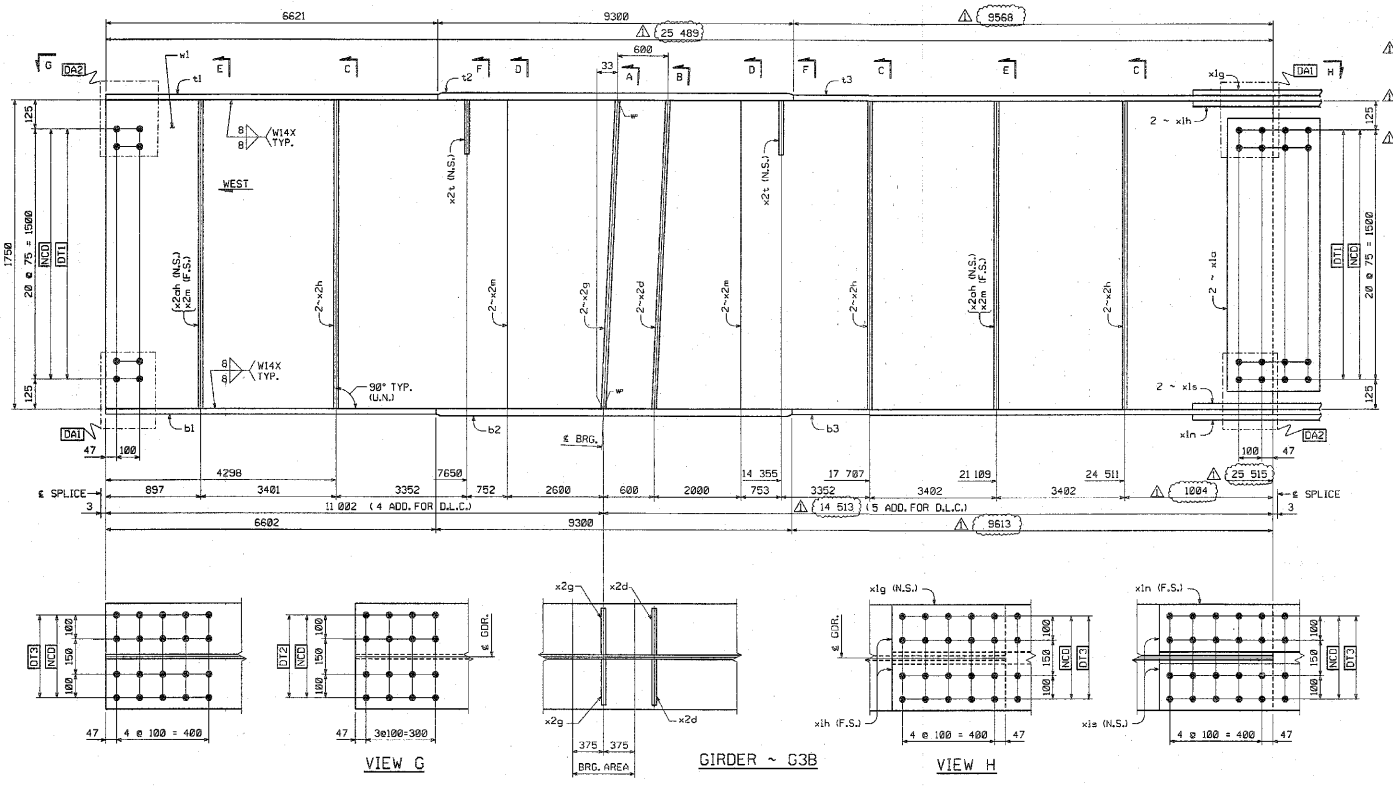
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: ERS CHK'D. BY: CG DATE: 8-18-04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 6 OF 112

PLOTTED: 9/20/2004 10:40:28 AM
DN: downtor

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



VIEW G | GIRDER ~ G3B | VIEW H

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G3B	GIRDER					16 610
1	w1	PL 16 x 1750	25 515	(T) 25500 2	3	3	5607.55
1	t1	PL 40 x 450	6 621	(T)	4	10	935.44
1	t2	PL 80 x 450	9 300	(T)	4	1	2627.88
1	t3	PL 40 x 450	9 589	(T) 9568	4	9	1351.94
1	b1	PL 40 x 450	6 602	(T)	4	11	932.76
1	b2	PL 80 x 450	9 300	(T)	4	1	2627.88
1	b3	PL 40 x 450	9 614	(T) 9613	4	7	1358.30
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1g	PL 14 x 450	990	(T)	6	6	48.95
2	x1h	PL 16 x 200	990	(T)	6	5	24.67
1	x1n	PL 14 x 450	990	(T)	6	6	48.95
2	x1s	PL 16 x 200	990	(T)	6	5	24.67
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
6	x2h	PL 12 x 180	1 750		7	4	29.67
6	x2m	PL 12 x 180	1 750		7	4	29.67
2	x2t	PL 14 x 180	310		7	3	8.13
2	x2ah	PL 12 x 180	1 750		7	4	29.67

TOTAL WEIGHT THIS SHEET: 16 604.9 kgs

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

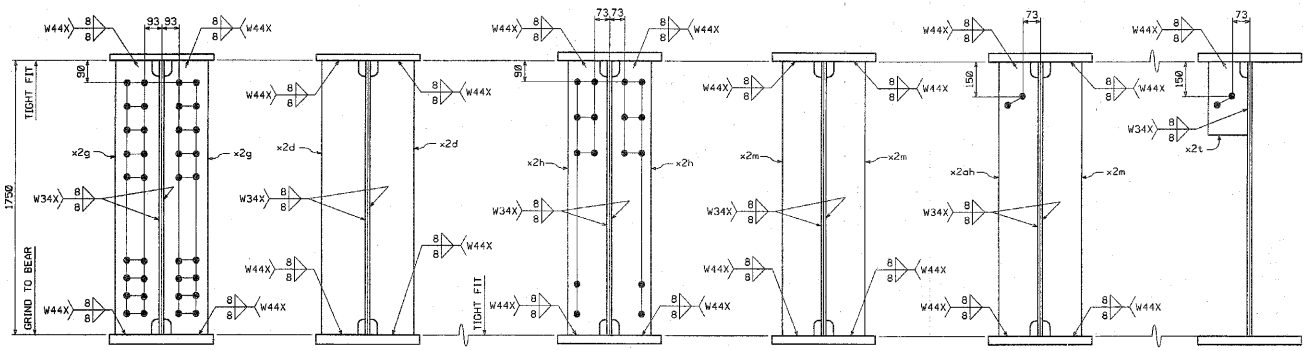
☐ REJECTED ☐ REVISE AND RESUBMIT ☐ RESUBMIT AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING THIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Job Number: 3C811
Engineers, Planners, and Scientists
54 Bedford Farms, Main Rd. Reviewed By: BMH
Bedford, NH 03110 603-644-2888 Date: 10/5/04

℄ F.S. #1 ℄ BRG. ℄ F.S. #2

ORIENTATION DIAGRAM



SECTION A | SECTION B | SECTION C | SECTION D | SECTION E | SECTION F

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, Pa 17605-0008
Phone 717/299-5211
A division of High Industries, Inc.

GIRDER	G3B
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (IH) MADE BY: SES CHK'D. BY: CG DATE: 8-18-04	
CONTRACT NUMBER: VT-04057-1	DRAWING NUMBER: 7 OF 112

CODE:30

METRIC
PLOTTED: 9/20/2004 08:43:58 PM BY: dpointer

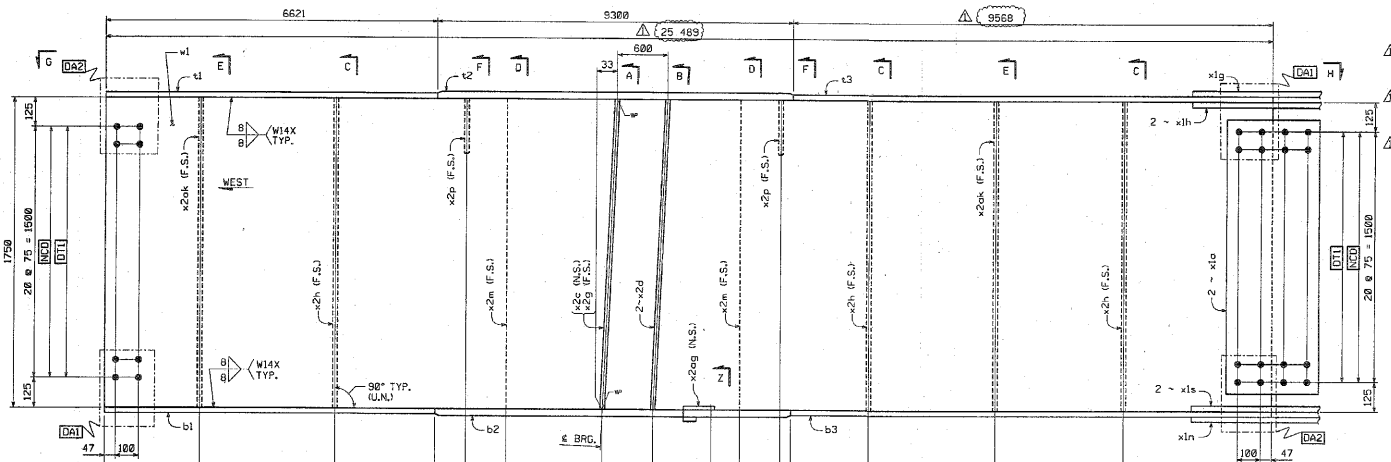
METRIC

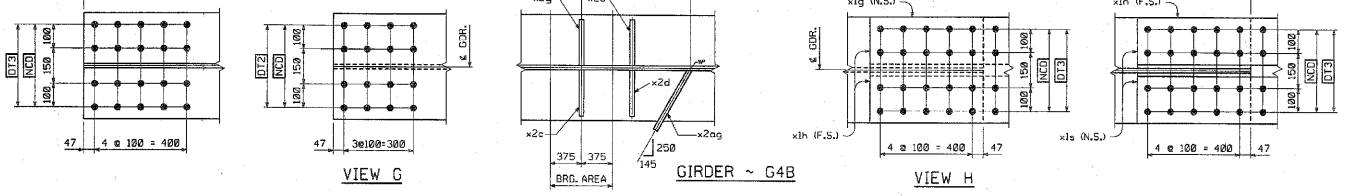
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G4B	GIRDER					16 400
1	w1	PL 16 x 1750	~~25 515~~	(T) 2502	3	3	~~5807.55~~
1	t1	PL 40 x 450	6 621	(T)	4	10	~~985.44~~
1	t2	PL 80 x 450	9 300	(T)	4	1	~~2627.88~~
1	t3	PL 40 x 450	~~9 569~~	(T) 9505	4	9	~~1351.94~~
1	b1	PL 40 x 450	6 602	(T)	4	11	~~932.76~~
1	b2	PL 80 x 450	9 300	(T)	4	1	~~2627.88~~
1	b3	PL 40 x 450	~~9 614~~	(T) 9563	4	7	~~1358.80~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.28~~
1	x1g	PL 14 x 450	990	(T)	6	6	~~48.95~~
2	x1h	PL 16 x 200	990	(T)	6	5	~~24.87~~
1	x1n	PL 14 x 450	990	(T)	6	6	~~48.95~~
2	x1s	PL 16 x 200	990	(T)	6	5	~~24.87~~
1	x2c	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
1	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
3	x2h	PL 12 x 180	1 750		7	4	~~29.87~~
2	x2m	PL 12 x 180	1 750		7	4	~~29.87~~
2	x2p	PL 14 x 180	310		7	3	~~8.13~~
1	x2ag	PL 6 x 130	301		7	5	~~1.84~~
2	x2ak	PL 12 x 180	1 750		7	4	~~29.87~~
		TOTAL WEIGHT THIS SHEET:		16 399.08	kgs		

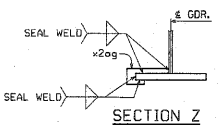




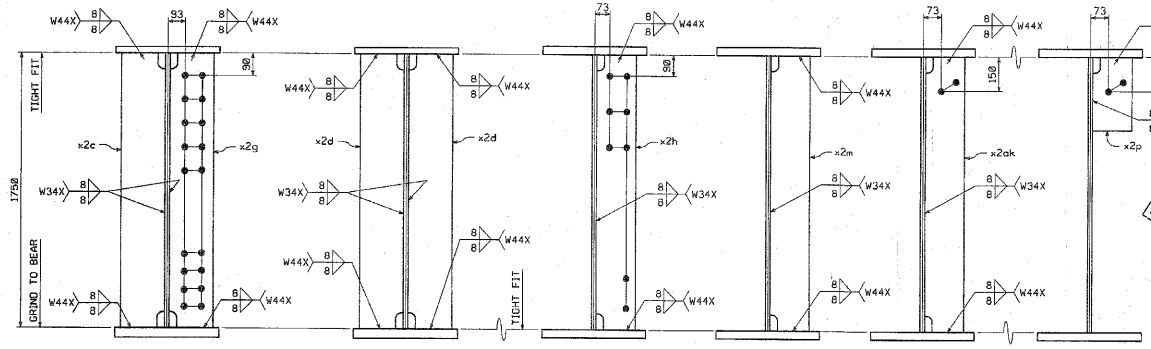
VIEW G

GIRDER ~ G4B

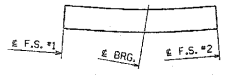
VIEW H



SECTION Z



SECTION A SECTION B SECTION C SECTION D SECTION E SECTION F



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"

BOLTS: NONE

PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

CODE:30

SHOP DRAWING REVIEW

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries, Inc.

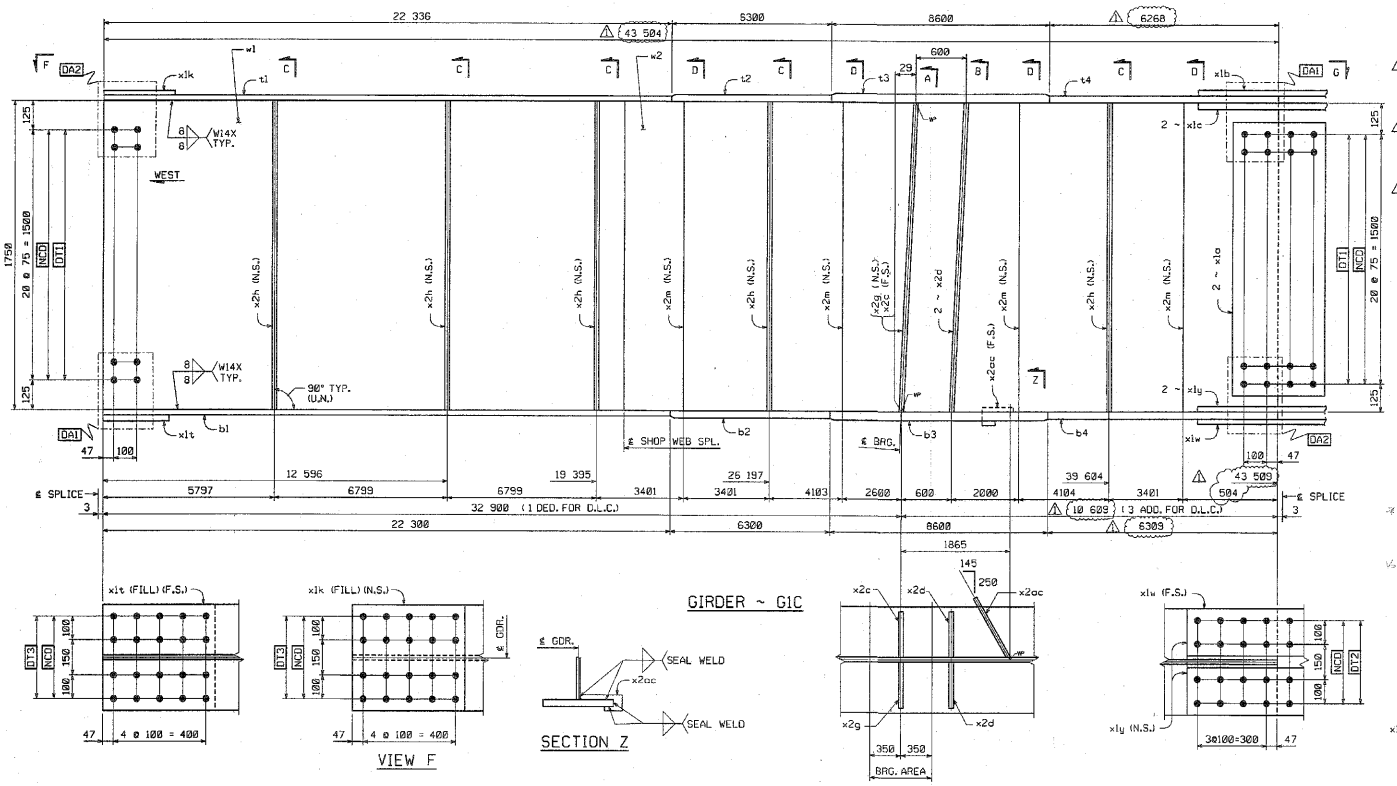
GIRDER	G4B
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.12+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-836-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (IH) MADE BY: ERS CHK'D. BY: CS DATE: 8-18-04	
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 8 OF 112	

PLOTTED: 9/20/2004 BY: dpoirier

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

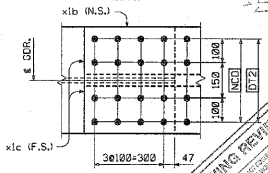
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



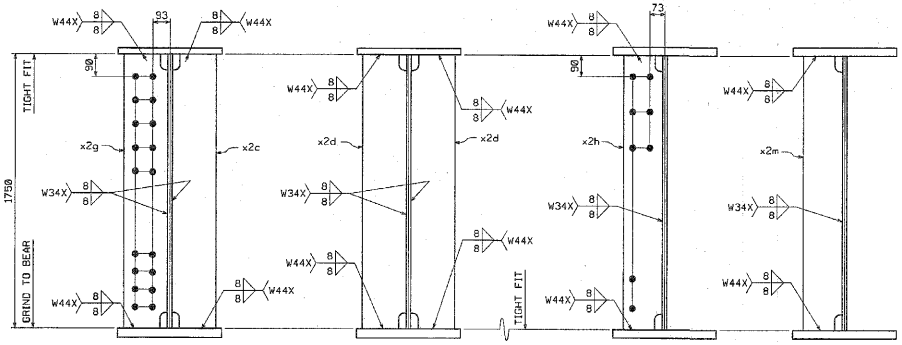
VIEW F

GIRDER ~ G1C

SECTION Z



VIEW G



SECTION A SECTION B SECTION C SECTION D

ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

CODE:30

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G1C	GIRDER					20 860
~~1~~	~~w1~~	~~PL 16 x 1750~~	~~19 908~~	~~(T)~~	~~3~~	~~9~~	~~4375.26~~
1	w2	PL 16 x 1750	~~23 668~~	(T)	3	2	~~5180.44~~
1	t1	PL 22 x 450	22 336	(T)	4	22	~~1785.64~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1674.44~~
1	t4	PL 32 x 450	6 268	(T)	4	16	~~708.45~~
1	b1	PL 22 x 450	22 300	(T)	4	24	~~1782.85~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1674.44~~
1	b4	PL 32 x 450	6 309	(T)	4	14	~~713.09~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~80.25~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~49.84~~
1	x1k	PL 18 x 450	492	FILL	6	4	31.28
1	x1t	PL 18 x 450	492	FILL	6	4	31.28
1	x1w	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~49.84~~
1	x2c	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
1	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
5	x2h	PL 12 x 180	1 750		7	4	~~29.87~~
4	x2m	PL 12 x 180	1 750		7	4	~~29.87~~
1	x2ac	PL 6 x ~~445~~	301		7	5	~~1.83~~

TOTAL WEIGHT THIS SHEET: ~~20853.62~~ kgs

SHOP DRAWING REVIEW
APPROVED AS NOTED
DO NOT RESUBMIT
Reviewed by: SDG
Date: 10/6/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH & MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0368
Phone 717/295-523
A Division of High Industries, Inc.

GIRDER	G1C
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+859.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE, GLIDDEN (IH) MADE BY: SSL CHK'D. BY: CS DATE: 8-16-04	
CONTRACT NUMBER VT-04057-1 DRAWING NUMBER 9 OF 112	

PLOTTED: 9/20/2004 10:43:37 PM
BY: dpoirier

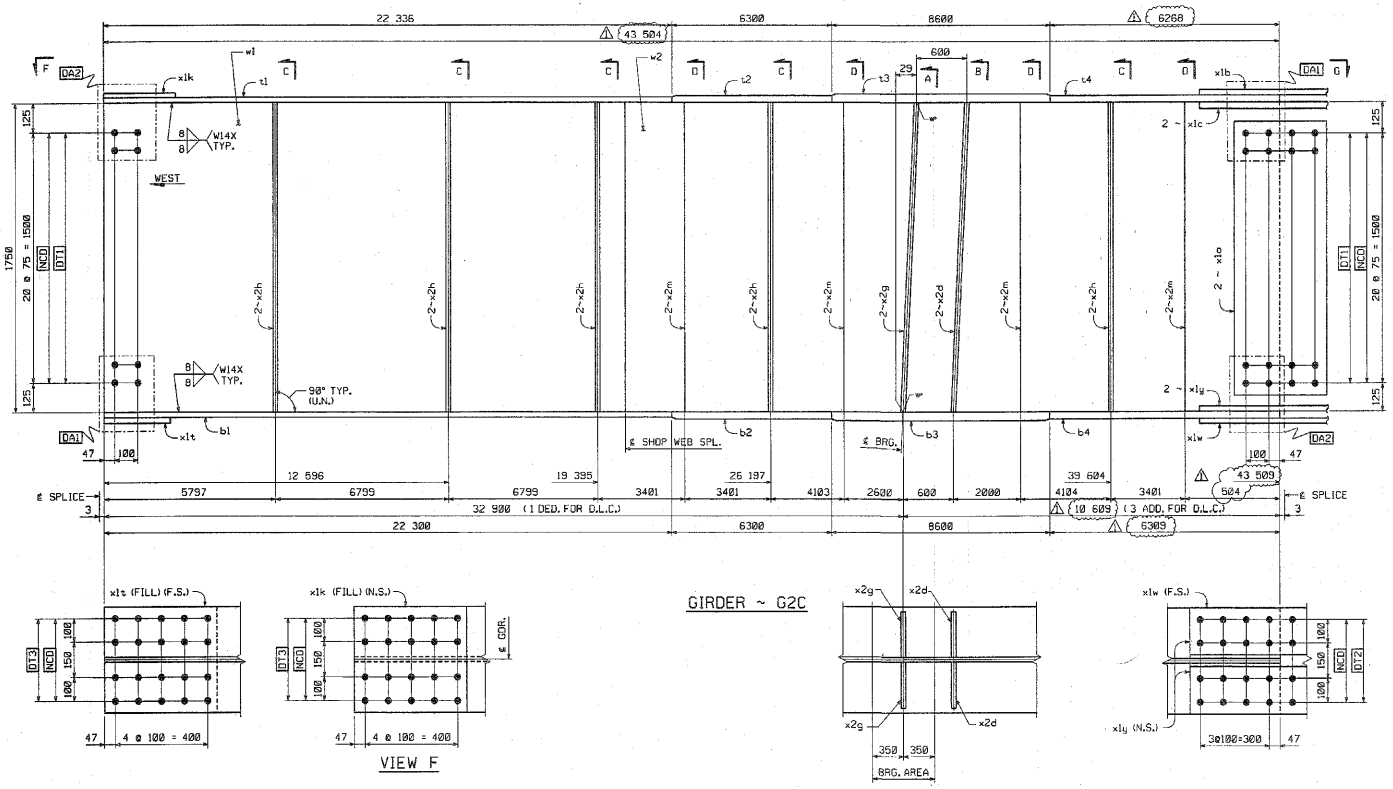
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

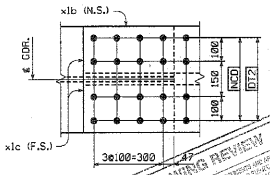
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G2C	GIRDER					21 120
1	w1	PL 16 x 1750	19 908	(T)	3	9	4375.26
1	w2	PL 16 x 1750	~~23 608~~	(T)	3	2	5488.44
1	t1	PL 22 x 450	22 336	(T)	4	22	1735.64
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 268	(T)	4	16	708.45
1	b1	PL 22 x 450	22 300	(T)	4	24	1732.85
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 309	(T)	4	14	713.09
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1k	PL 18 x 450	492	FILL	6	4	31.28
1	x1t	PL 18 x 450	492	FILL	6	4	31.28
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
10	x2h	PL 12 x 180	1 750		7	4	29.67
8	x2m	PL 12 x 180	1 750		7	4	29.67

TOTAL WEIGHT THIS SHEET: ~~21119.02~~ kgs

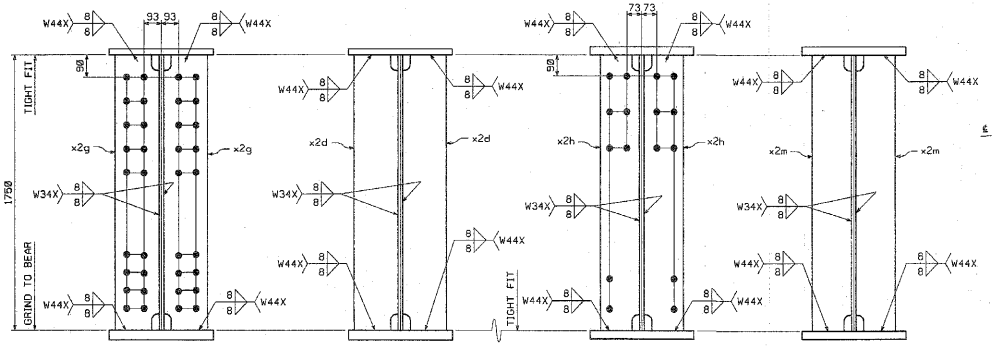


VIEW F

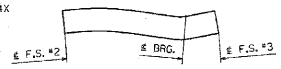
GIRDER ~ G2C



VIEW G



SECTION A SECTION B SECTION C SECTION D



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

CODE:30

SHOP DRAWING REVIEW — VEILS — Approved — Approved as Noted — Revise and Resubmit — Rejected — Received — Job Number 5041.11 — Reviewed By JWH — Date 9/15/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH & MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC. — 1770 Hempstead Road, Lancaster, PA 17605-0008, Phone 717/293-5211, A Division of High Industries, Inc.

GIRDER	G2C
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+058.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO.	BRF-036-1(1)
CONTRACTOR	CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH)	MADE BY: ERS CHK'D. BY: CS DATE: 8-18-04
CONTRACT NUMBER:	VT-04057-1 DRAWING NUMBER: 10 OF 112

PLOTTED: 9/20/2004 10:14:39 PM By: dcarter

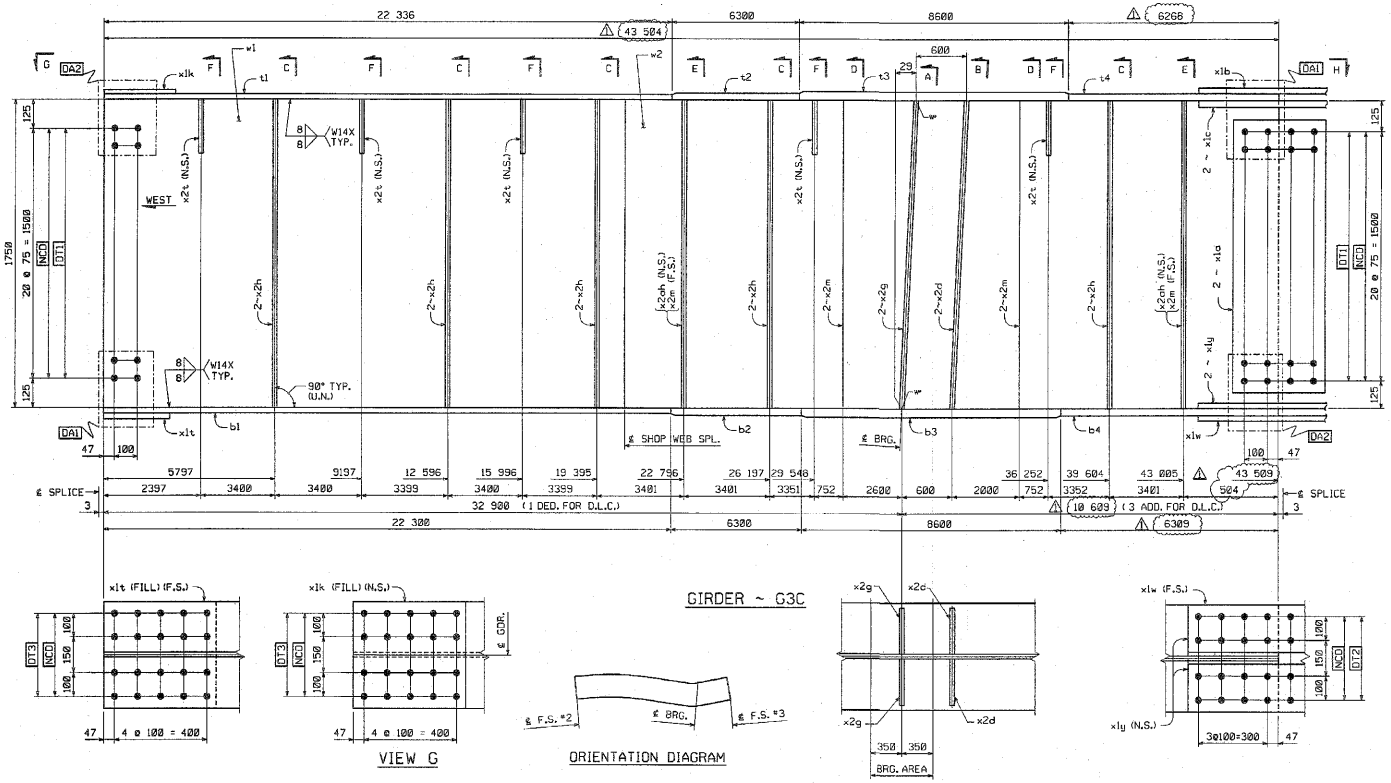
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G3C	GIRDER					21 150
1	w1	PL 16 x 1750	19 908	(T)	3	9	4375.28
1	w2	PL 16 x 1750	~~23 508~~	(T)	3	2	~~5168.44~~
1	t1	PL 22 x 450	22 336	(T)	4	22	1735.64
1	t2	PL 32 x 450	6 300	(T)	4	15	~~742.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	8 268	(T)	4	16	708.45
1	b1	PL 22 x 450	22 300	(T)	4	24	1732.85
1	b2	PL 32 x 450	6 300	(T)	4	15	~~742.07~~
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 309	(T)	4	14	~~713.09~~
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1k	PL 18 x 450	492	FILL	6	4	31.26
1	x1l	PL 18 x 450	492	FILL	6	4	31.26
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
10	x2h	PL 12 x 180	1 750		7	4	29.67
6	x2m	PL 12 x 180	1 750		7	4	29.67
5	x2t	PL 14 x 180	310		7	3	~~8.13~~
2	x2ah	PL 12 x 180	1 750		7	4	29.67

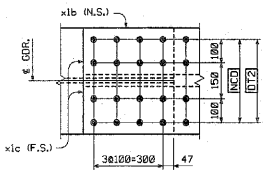
TOTAL WEIGHT THIS SHEET: ~~21149.68~~ kgs



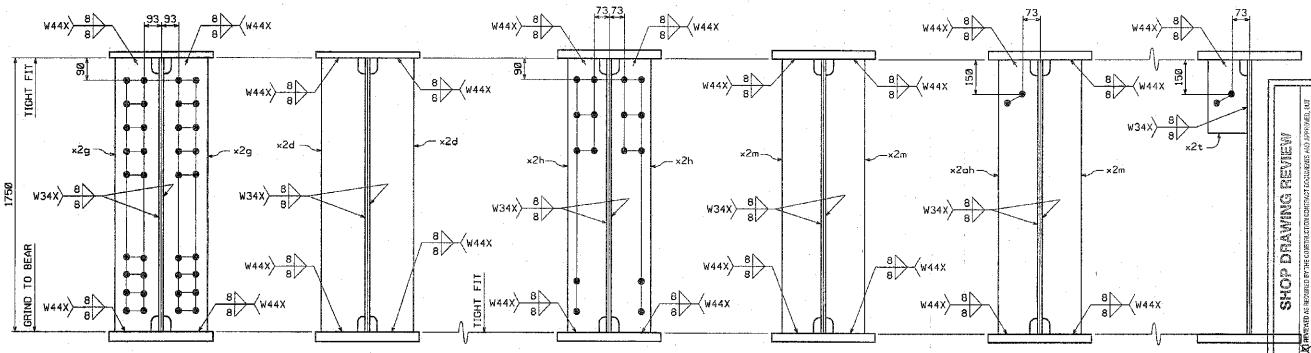
VIEW G

GIRDER ~ G3C

ORIENTATION DIAGRAM



VIEW H



SECTION A SECTION B SECTION C SECTION D SECTION E SECTION F

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

SHOP DRAWING REVIEW

NO.	REVISION	BY	DATE
2	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH & MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1172 Manheim Road
Lancaster, PA 17601-3005
Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER G3C
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION
STATE CONTRACT
FED. PROJ. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SRS CHK'D. BY: GS DATE: 8-18-04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 11 OF 112

CODE:30

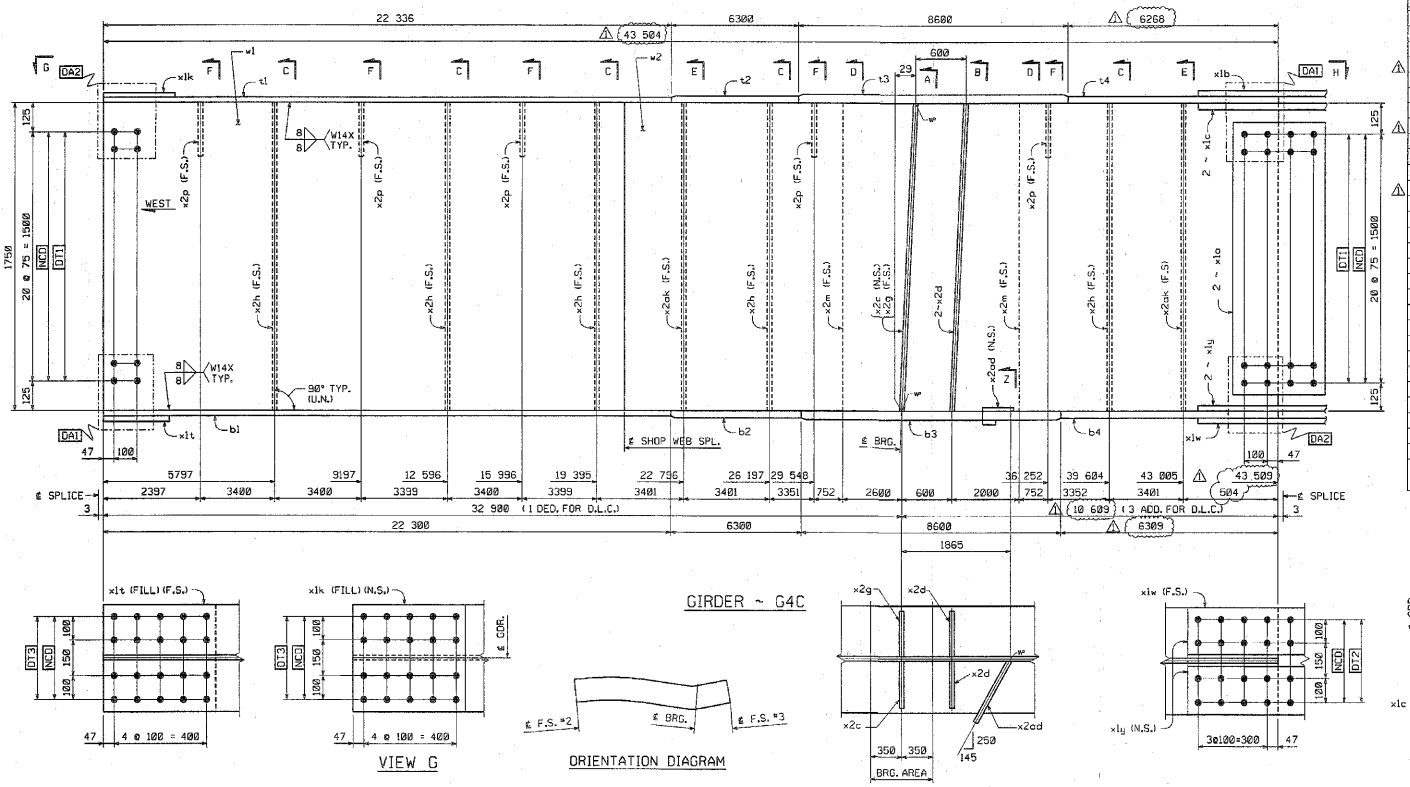
PLOTTED: 9/20/2004 10:42 PM By: dpainter

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

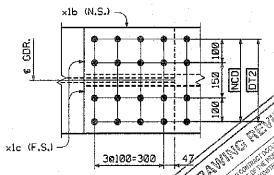
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G4C	GIRDER					20 880
1	w1	PL 16 x 1750	19 608	(T)	3	3	4375.28
1	w2	PL 16 x 1750	23 608	(T)	3	2	5488.44
1	t1	PL 22 x 450	22 336	(T)	4	22	1735.84
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 268	(T)	4	16	708.45
1	b1	PL 22 x 450	22 300	(T)	4	24	1732.65
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 309	(T)	4	14	713.09
2	x1a	PL 12 x 1800	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1k	PL 18 x 450	492	FILL	6	4	31.28
1	x1t	PL 18 x 450	492	FILL	6	4	31.28
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
5	x2h	PL 12 x 180	1 750		7	4	29.67
2	x2m	PL 12 x 180	1 750		7	4	29.67
5	x2p	PL 14 x 180	310		7	3	6.13
2	x2ak	PL 12 x 180	1 750		7	4	29.67
1	x2ad	PL 6 x 115	301		7	5	1.63
		TOTAL WEIGHT THIS SHEET:	20884.28	kgs			



VIEW G

GIRDER ~ G4C

ORIENTATION DIAGRAM

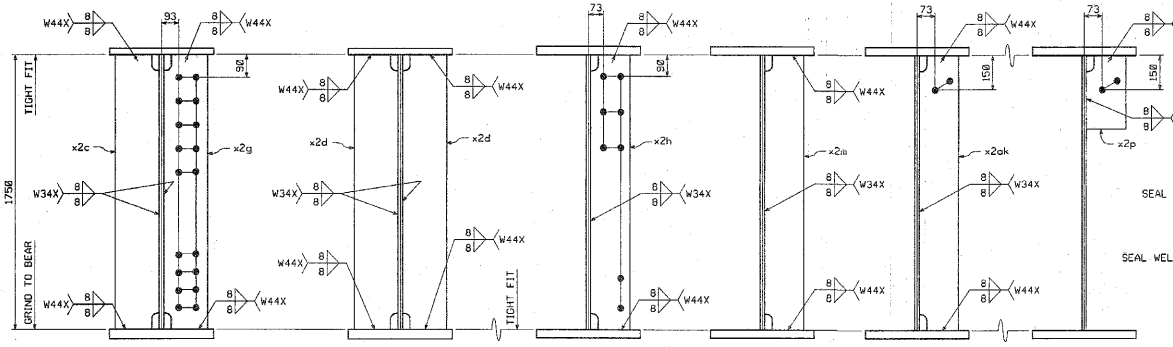


VIEW H

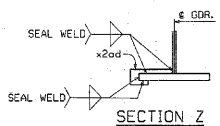
SHOP DRAWING REVIEW

SHOP NOTE

HOLES: NONE
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.



SECTION A SECTION B SECTION C SECTION D SECTION E SECTION F



SECTION Z

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/293-5211
A Division of High Industries Inc.

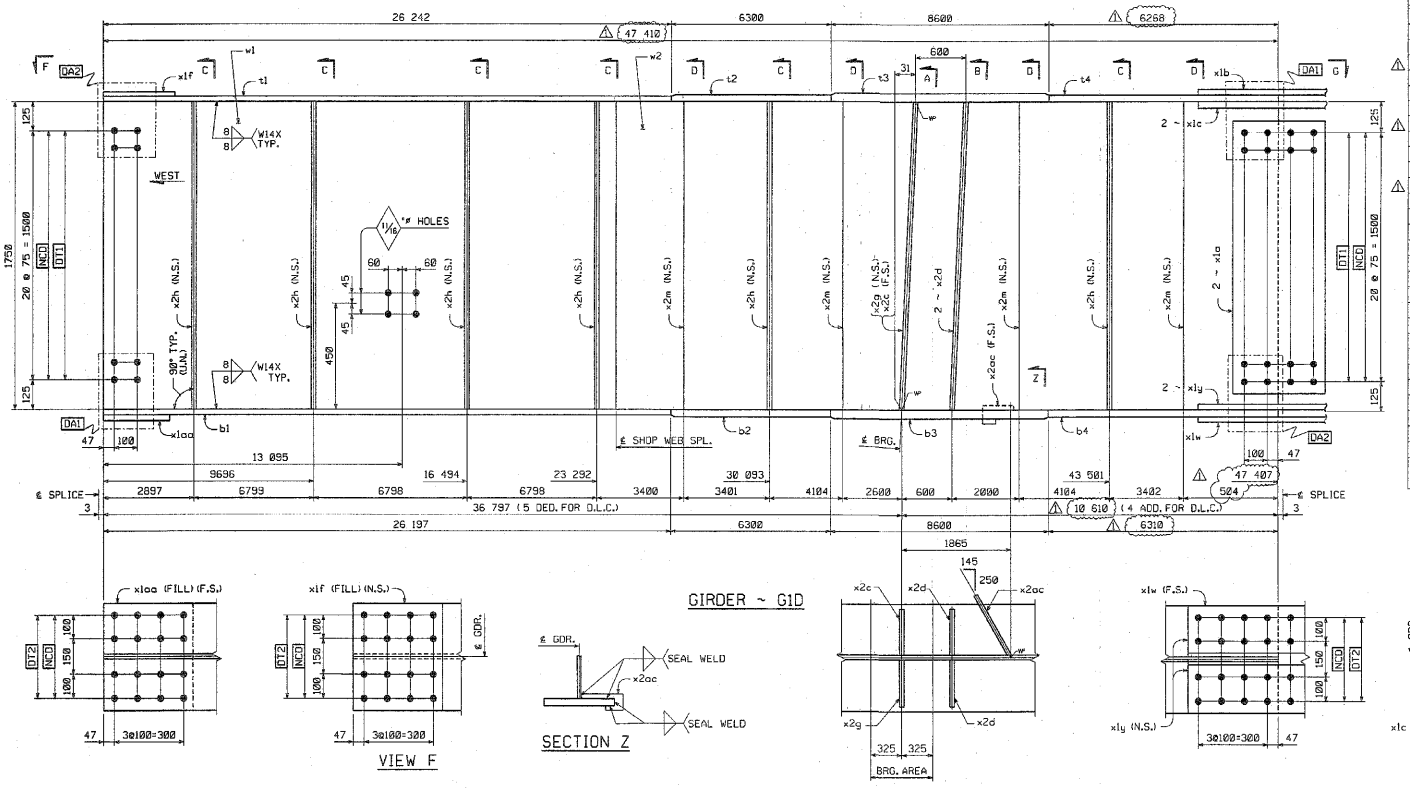
GIRDER	G4C
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO.	BRF-036-1(1)
CONTRACTOR	CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: ERS CHK'D. BY: GS DATE: 8-18-04	
CONTRACT NUMBER:	VT-04057-1
DRAWING NUMBER:	12 OF 112

CODE:130

PLOTTED: 9/20/2004 10:44:44 PM BY: dpainter

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



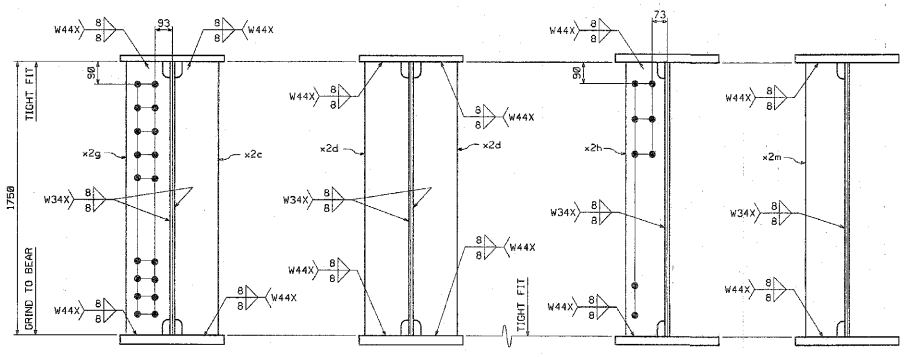
GIRDER ~ G1D

VIEW F

SECTION Z

VIEW G

ORIENTATION DIAGRAM



BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G1D	GIRDER					22 320
1	w1	PL 16 x 1750	23 813	(T)	3	4	5233.50
1	w2	PL 16 x 1750	23.640	(T)	3	2	5188.98
1	t1	PL 22 x 450	26 242	(T)	4	17	2699.16
1	t2	PL 32 x 450	6 300	(T)	4	15	712.97
1	t3	PL 65 x 450	8 601	(T)	4	2	1974.87
1	t4	PL 32 x 450	6 286	(T)	4	16	708.45
1	b1	PL 22 x 450	26 197	(T)	4	20	2035.67
1	b2	PL 32 x 450	6 300	(T)	4	15	712.97
1	b3	PL 65 x 450	8 601	(T)	4	2	1974.87
1	b4	PL 32 x 450	6 310	(T)	4	14	713.20
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
6	x2h	PL 12 x 160	1 750		7	4	28.67
4	x2m	PL 12 x 160	1 750		7	4	28.67
1	x2ac	PL 8 x 115	301		7	5	1.63
		TOTAL WEIGHT THIS SHEET:	22 344.	kgs			

SHOP NOTE

HOLES: 15/16"ø (U.N.)
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC2.

CODE:30

SHOP DRAWING REVIEW
RELEASED AS REVIEWED IN THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT SHALL NOT BE CONSTRUED AS A CHANGE IN THE CONTRACT DOCUMENTS AND SUBJECT TO CONTRACT REQUIREMENTS AND PROVISIONS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REVISE AND RESUBMIT ☐ REVIEW NOT REQUIRED ☐ DISAPPROVED
REVIEW OF THIS SHOP DRAWING COVERS ONLY THE GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR THE DIMENSIONS TO BE CONFIRMED AND CORRELATED AT THE JOB SITE, FOR INFORMATION THAT PERTAINS SOLELY TO THE FABRICATION PROCESSES OR TECHNIQUES OF CONSTRUCTION AND INSTALLATION, FOR COORDINATION OF THE WORK OF ALL TRADES, AND FOR PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER.
Reviewer: Vanessa Hayden Dundas, P.E.
Engineer of Record: Peter Lagos, P.E.
Job Number: 5524
Review By: 07/14
Date: 09/14/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone: 717/293-5211
A Division of High Industries, Inc.

GIRDER	G1D
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (IH) MADE BY: SSL CHK'D. BY: GS DATE: 8-16-04	
CONTRACT NUMBER: VT-04057-1	DRAWING NUMBER: 13 OF 112

PLOTTED: 5/20/2004 10:46:46 PM
BY: dbarrow

METRIC

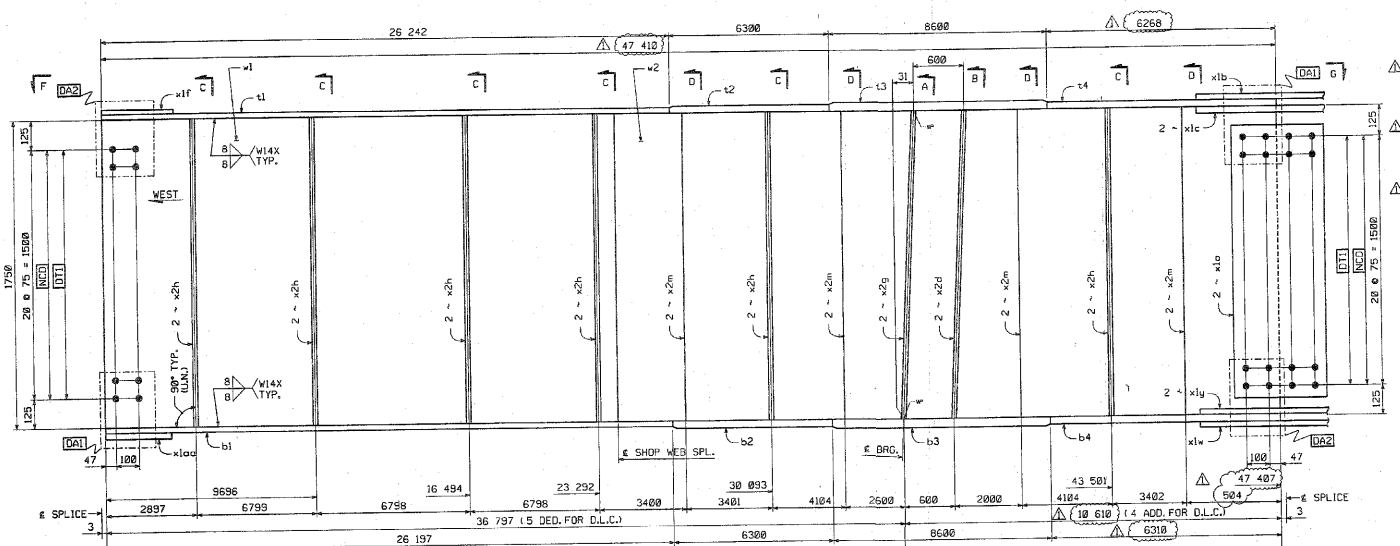
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

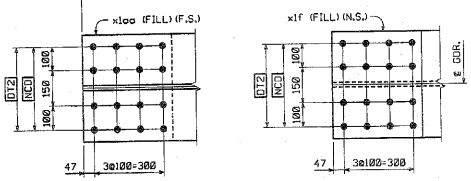
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G2D	GIRDER					22 610
~~1~~	~~w1~~	~~PL 16 x 1750~~	~~23 813~~	~~(T)~~	~~3~~	~~4~~	~~5233.50~~
1	w2	PL 16 x 1750	23 610	(T)	3	2	5188.88
1	t1	PL 22 x 450	26 242	(T)	4	17	2039.16
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 601	(T)	4	2	1974.67
1	t4	PL 32 x 450	6 268	(T)	4	16	708.45
1	b1	PL 22 x 450	26 197	(T)	4	20	2055.67
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 601	(T)	4	2	1974.67
1	b4	PL 32 x 450	6 310	(T)	4	14	713.20
2	x1a	PL 12 x 1600	400	(T)	6	1	66.26
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	32.66
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
12	x2h	PL 12 x 180	1 750		7	4	29.87
8	x2m	PL 12 x 180	1 750		7	4	29.87

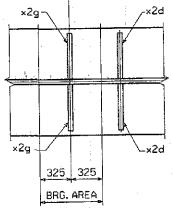
TOTAL WEIGHT THIS SHEET: ~~22 809.06~~ kgs

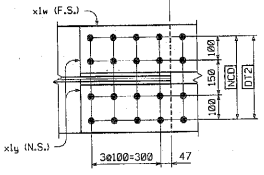


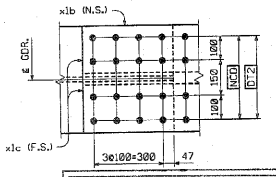


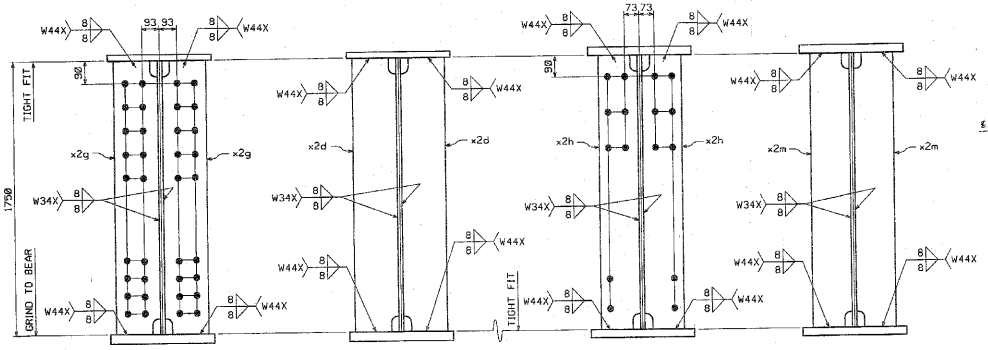
VIEW F

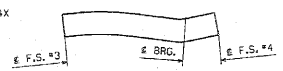
GIRDER ~ G2D











ORIENTATION DIAGRAM

SHOP NOTE

HOLES: $15/16$"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC2.

CODE:30

VERIFIED DRAWING REVIEW

☒ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR, AND SHALL HAVE COORDINATING ALL DIMENSIONS AND QUANTITIES, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING AND WORKING SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists
Job Number: 8031.01
Reviewed By: JCP/AK
Date: 11/16/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1170 Harrisburg Road
Lancaster, PA 17601-3000
Phone 717/299-5201
A Division of High Industries, Inc.

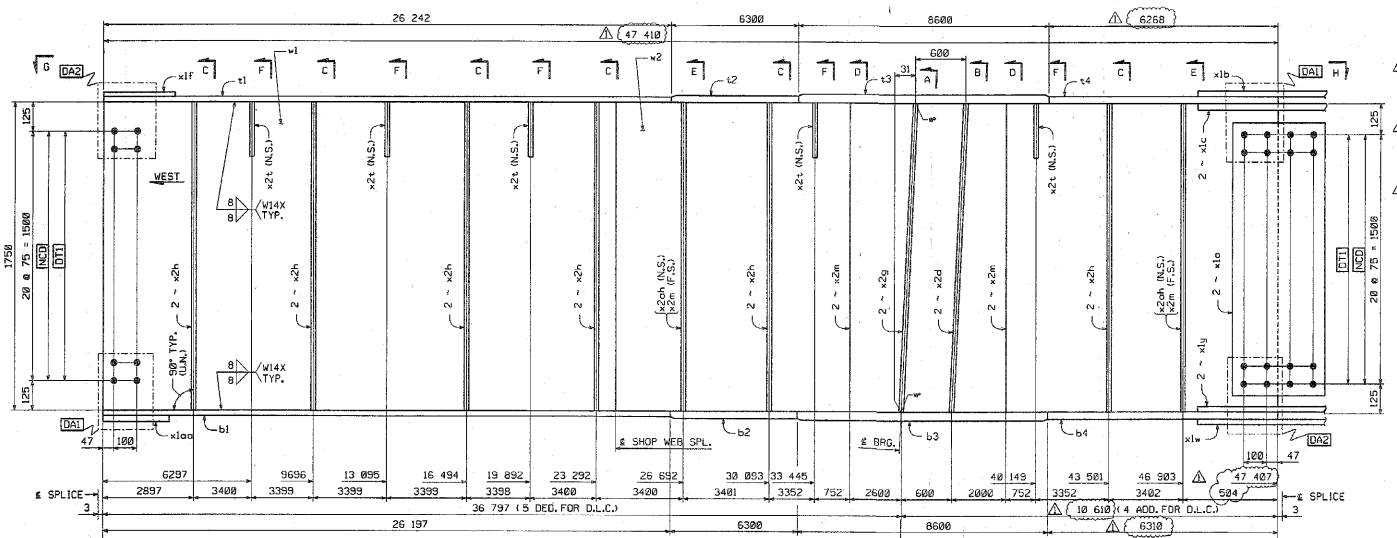
GIRDER G2D
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SSL CHK'D. BY: GS DATE: 8-18-04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 14 OF 112

PLOTTED: 9/28/2004 10:49 PM
BY: dpointer

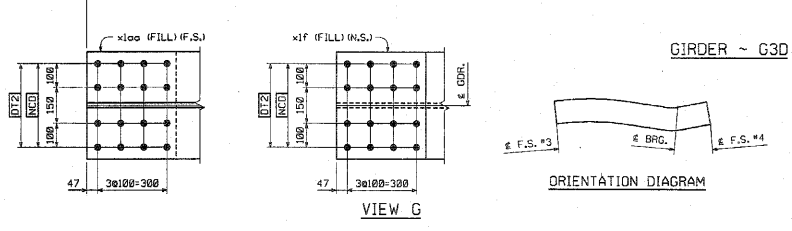
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



BILL OF MATERIAL

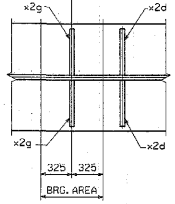
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G3D	GIRDER					22 640
1	w1	PL 16 x 1750	23 813	(T)	3	4	5233.50
1	w2	PL 16 x 1750	23 610	(T)	3	2	5188.88
1	t1	PL 22 x 450	26 242	(T)	4	17	2888.48
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 601	(T)	4	2	1974.67
1	t4	PL 32 x 450	6 268	(T)	4	16	708.45
1	b1	PL 22 x 450	29 197	(T)	4	20	2035.67
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 601	(T)	4	2	1974.67
1	b4	PL 32 x 450	6 310	(T)	4	14	713.20
2	x1a	PL 12 x 1600	400	(T)	6	1	60.26
1	x1b	PL 14 x 450	790	(T)	6	6	38.06
2	x1c	PL 18 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	8	38.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750	(T)	7	1	104.39
2	x2g	PL 38 x 200	1 750	(T)	7	1	104.39
12	x2h	PL 12 x 180	1 750	(T)	7	4	29.67
6	x2m	PL 12 x 180	1 750	(T)	7	4	29.67
5	x2t	PL 14 x 180	310	(T)	7	3	6.13
2	x2ah	PL 12 x 180	1 750	(T)	7	4	29.67
TOTAL WEIGHT THIS SHEET:			22 639.72	kgs			

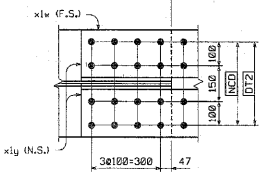


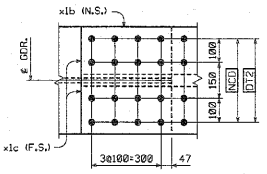
VIEW G

ORIENTATION DIAGRAM

GIRDER ~ G3D



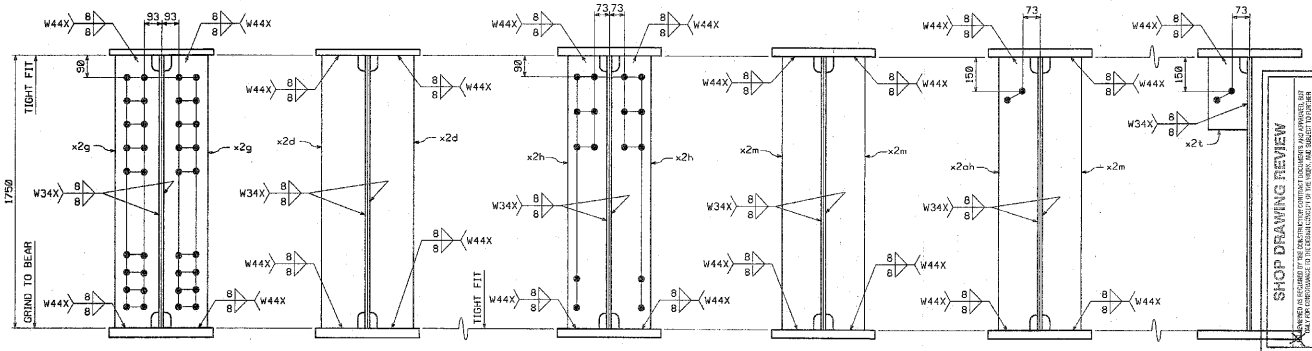




VIEW H

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC2.



SECTION A SECTION B SECTION C SECTION D SECTION E SECTION F

SHOP DRAWING REVIEW

CODE:130

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH & MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries Inc.

GIRDER	G3D
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	

IN CHARGE: GLIDDEN (IH) MADE BY: SSL CHK'D. BY: CS DATE: 8-18-04

CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 15 OF 112

PLOTTED: 9/20/2004 8:04:51 PM BY: dpeuster

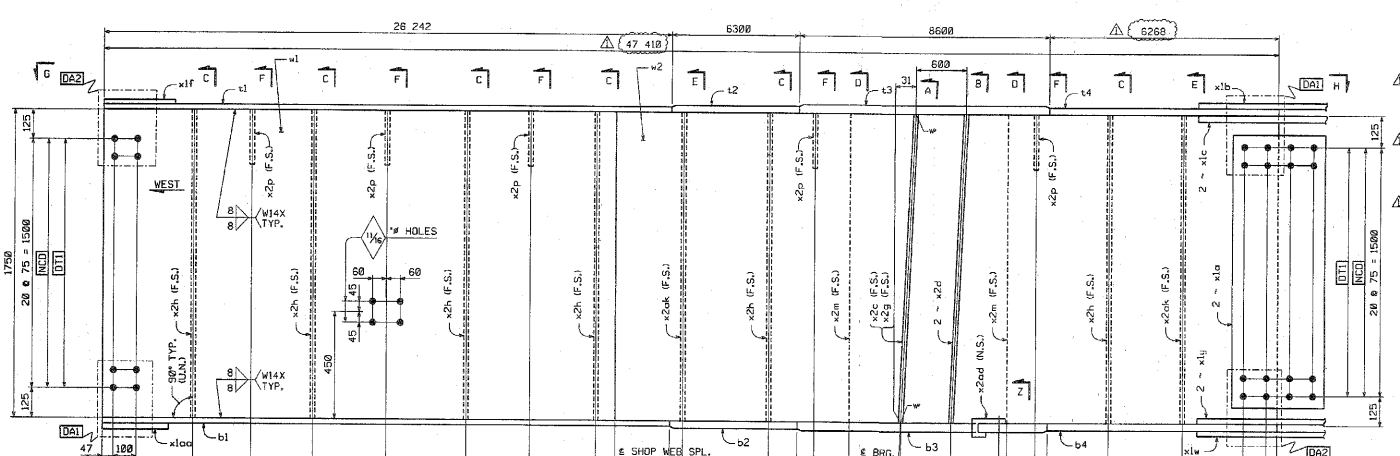
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.

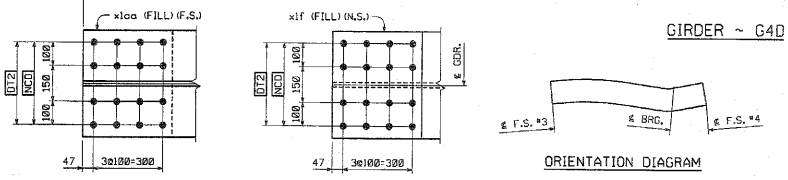
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G4D	GIRDER					22 350
1	w1	PL 16 x 1750	23 813	(T)	3	4	5233.50
1	w2	PL 16 x 1750	23 610	(T)	3	2	5188.88
1	t1	PL 22 x 450	26 242	(T)	4	17	2039.18
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 601	(T)	4	2	1974.67
1	t4	PL 32 x 450	6 268	(T)	4	16	708.45
1	b1	PL 22 x 450	26 197	(T)	4	20	2035.67
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 601	(T)	4	2	1974.67
1	b4	PL 32 x 450	6 310	(T)	4	14	713.20
2	x1a	PL 12 x 1600	400	(T)	6	1	60.29
1	x1b	PL 14 x 450	790	(T)	6	6	36.06
2	x1c	PL 16 x 200	790	(T)	6	5	18.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	36.06
2	x1y	PL 16 x 200	790	(T)	6	5	18.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
6	x2h	PL 12 x 180	1 750		7	4	29.67
2	x2m	PL 12 x 180	1 750		7	4	29.67
5	x2p	PL 14 x 180	310		7	3	6.13
1	x2ad	PL 8 x 145	301		7	5	1.63
2	x2ak	PL 12 x 180	1 750		7	4	29.67

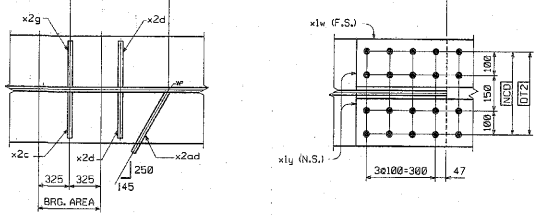
TOTAL WEIGHT THIS SHEET: 22 344.36 kgs

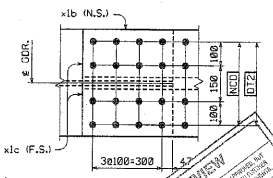




GIRDER ~ G4D

ORIENTATION DIAGRAM

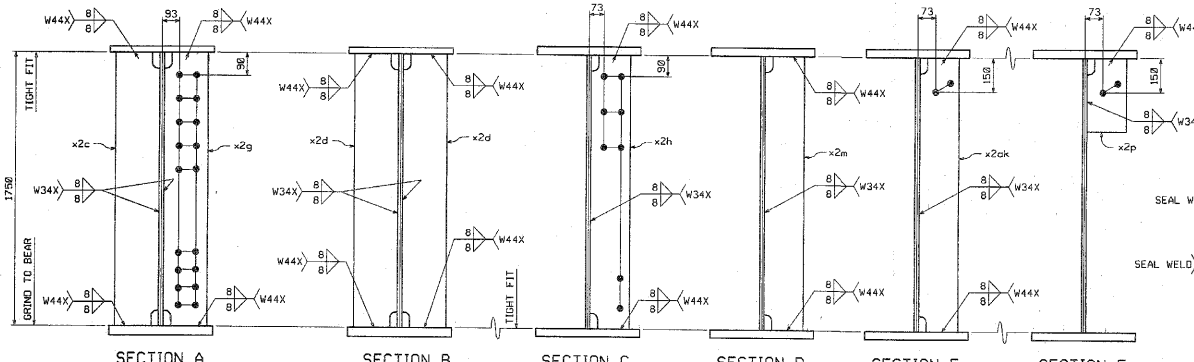


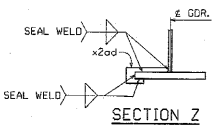


SHOP NOTE

HOLES: 15/16" ø (24mm)
BOLTS: NONE
PAINT: NONE
FOR GENERIC SHOP NOTES, SEE DWG. GN1
FOR WEB CAMBER DIAGRAM, SEE DWG. W2

SHOP DRAWING REVIEW





NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO ENSURE REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OR 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17608-0008
Phone 717/299-5211
A Division of High Industries Inc.

GIRDER G4D
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+058.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SSJ CHK'D. BY: CS DATE: 8-18-04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 16 OF 112

CODE:30

PLOTTED: 9/20/2004 10:45:4 PM By: dbaxter

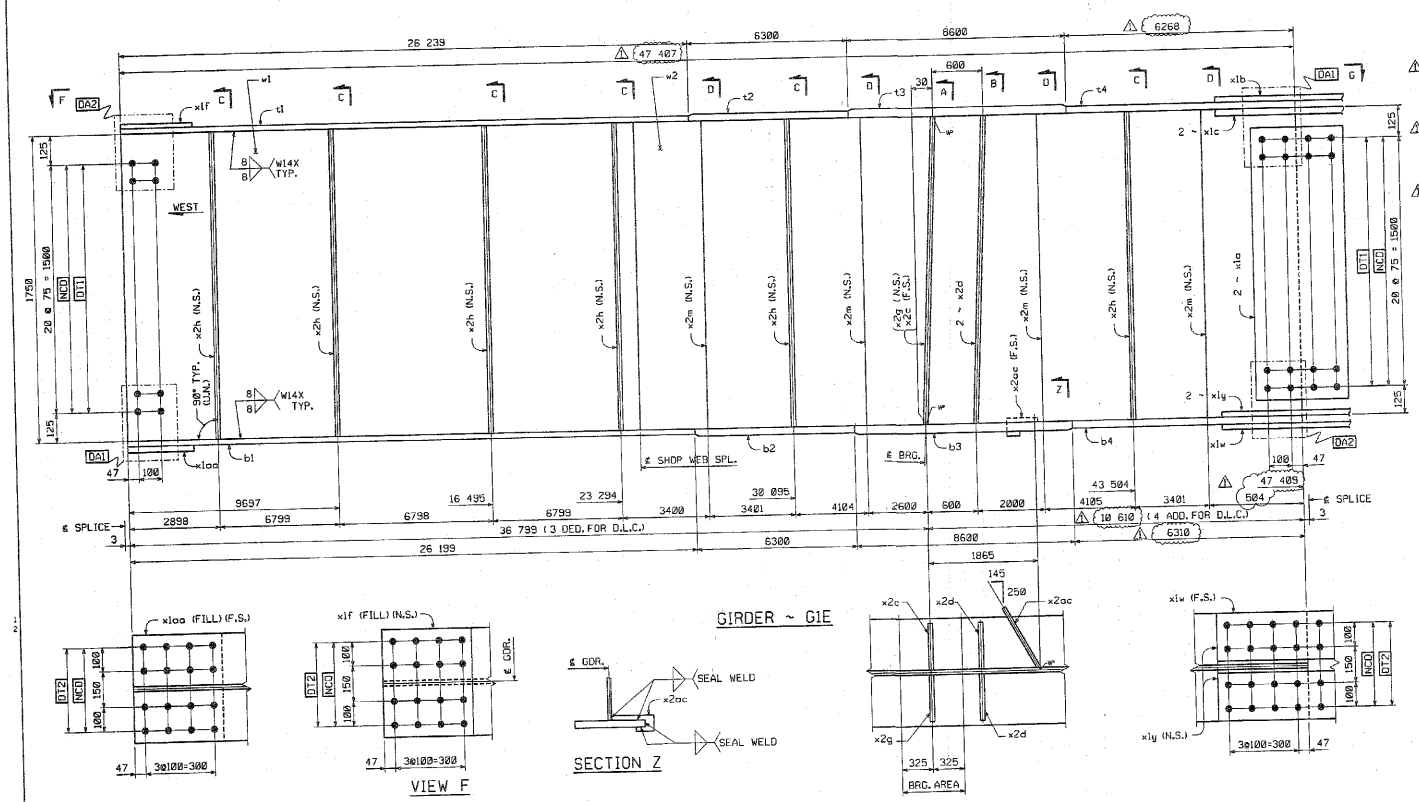
METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

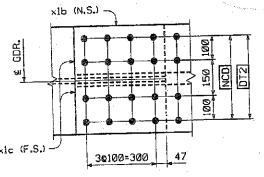
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G1E	GIRDER					22 320
~~1~~	~~w1~~	~~PL 16 x 1750~~	~~23 810~~	(T)	3	6	~~5232.84~~
1	w2	PL 16 x 1750	~~23 809~~	(T)	3	2	5188.66
1	t1	PL 22 x 450	26 239	(T)	4	18	~~2636.93~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	t4	PL 32 x 450	~~6 269~~	(T)	4	16	~~708.57~~
1	b1	PL 22 x 450	26 199	(T)	4	20	~~2095.82~~
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	b4	PL 32 x 450	~~6 311~~	(T)	4	14	~~713.31~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~90.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~99.06~~
2	x1c	PL 16 x 200	780	(T)	6	5	~~19.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	~~99.06~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
1	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
6	x2h	PL 12 x 180	1 750		7	4	~~29.87~~
4	x2m	PL 12 x 180	1 750		7	4	~~29.87~~
1	x2ac	PL 8 x ~~445~~	301		7	5	~~1.85~~
		TOTAL WEIGHT THIS SHEET:					~~22 342.81~~ kgs



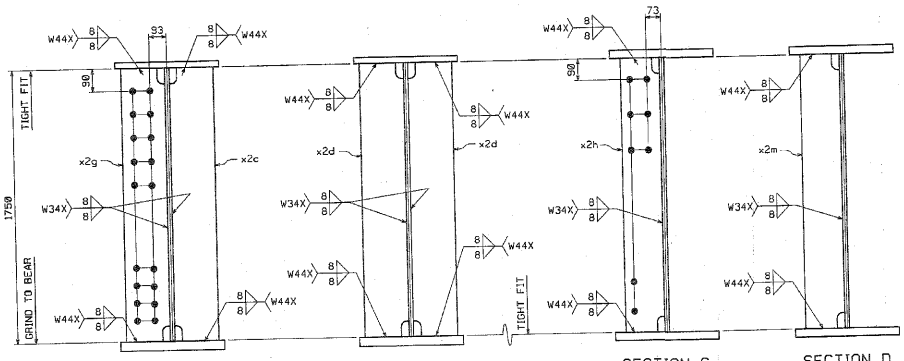
VIEW F

SECTION Z

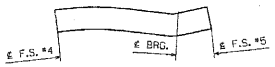
GIRDER ~ G1E



VIEW G



SECTION A SECTION B SECTION C SECTION D



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC2.

CODE:130

SHOP DRAWING REVIEW

NO.	REVISION	BY	DATE
	INCREASE LENGTH TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	CD	9/17/04

HIGH STEEL STRUCTURES, INC.
1170 Harrisburg Road
Lancaster, PA 17603-0008
Phone 717/299-5211
A Division of High Industries, Inc.

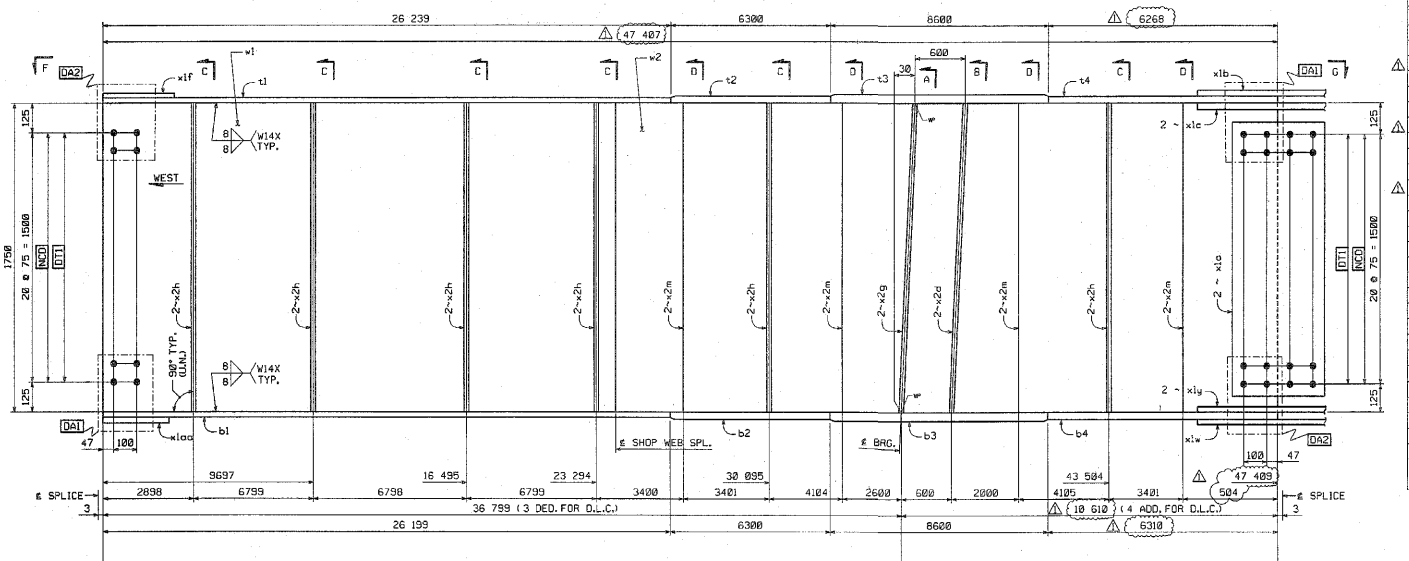
GIRDER G1E
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

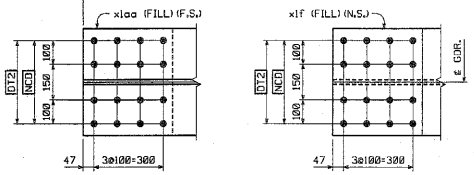
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY SSL CHK'D BY CS DATE 8-16-04
CONTRACT NUMBER VT-04057-1 DRAWING NUMBER 17 OF 112

PLOTTED: 9/24/2004 10:41:56 PM BY: dbpartier

METRIC

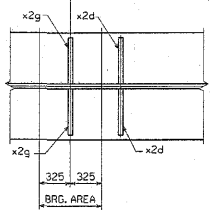
METRIC	1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.	FED. ROAD DIV. NO.	STATE VT	FED. AID PROJ. NO.

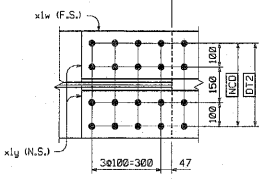


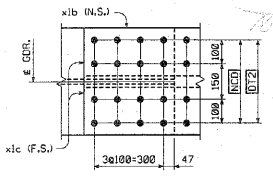


VIEW F

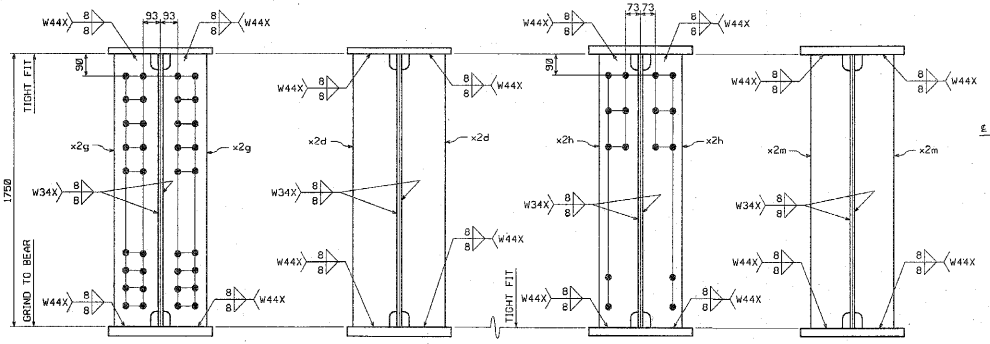
GIRDER ~ G2E

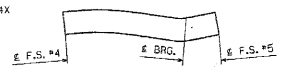






VIEW G





ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø

BOLTS: NONE

PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC2.

CODE:30

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G2E	GIRDER					22 610
1	~~w1~~	~~PL 16 x 1750~~	~~23 810~~	~~(T)~~	3	6	~~5202.84~~
1	w2	PL 16 x 1750	~~23 809~~	(T) 47408	3	2	~~8188.60~~
1	t1	PL 22 x 450	26 239	(T)	4	18	~~2038.93~~
1	t2	PL 32 x 450	6 300	(T)	4	16	~~712.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	t4	PL 32 x 450	~~6 269~~	(T) 6268	4	18	~~708.57~~
1	b1	PL 22 x 450	26 199	(T)	4	20	~~2035.92~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	b4	PL 32 x 450	~~6 311~~	(T) 6310	4	14	~~713.51~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~80.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	~~104.99~~
2	x2g	PL 38 x 200	1 750		7	1	~~104.99~~
12	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
8	x2m	PL 12 x 180	1 750		7	4	~~29.67~~

TOTAL WEIGHT THIS SHEET: ~~22 607.67~~ kgs

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND IS SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ ERRECT AS NOTED ☐ RESUBMIT AS CORRECTED

CORRECTIONS OR OBSERVATIONS NOTED ON THIS SHOP DRAWING DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING THIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING WORK IN A SAFE MANNER.

VIEWED — Vanasse Hangen Brustlin, Inc. — 99 Bedford Street, Suite 405, Bedford, NH 03110 603-644-0888 — Job Number: 5031.1 — Reviewed By: — Date: 11/12/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC. — 1170 Harrisburg Road, Lancaster, PA 17605-0009, Phone 717/299-5201, A Division of High Industries, Inc.

GIRDER	G2E
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+058.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	

STATE CONTRACT OR REF. NO. BRF-036-1(1)

CONTRACTOR CIANBRO CORPORATION

IN CHARGE: GLIDDEN (IH) MADE BY: EAS CHK'D. BY: CG DATE: 8-19-04

CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 18 OF 112

PLOTTED: 9/20/2004 8:45:56 PM BY: dpontier

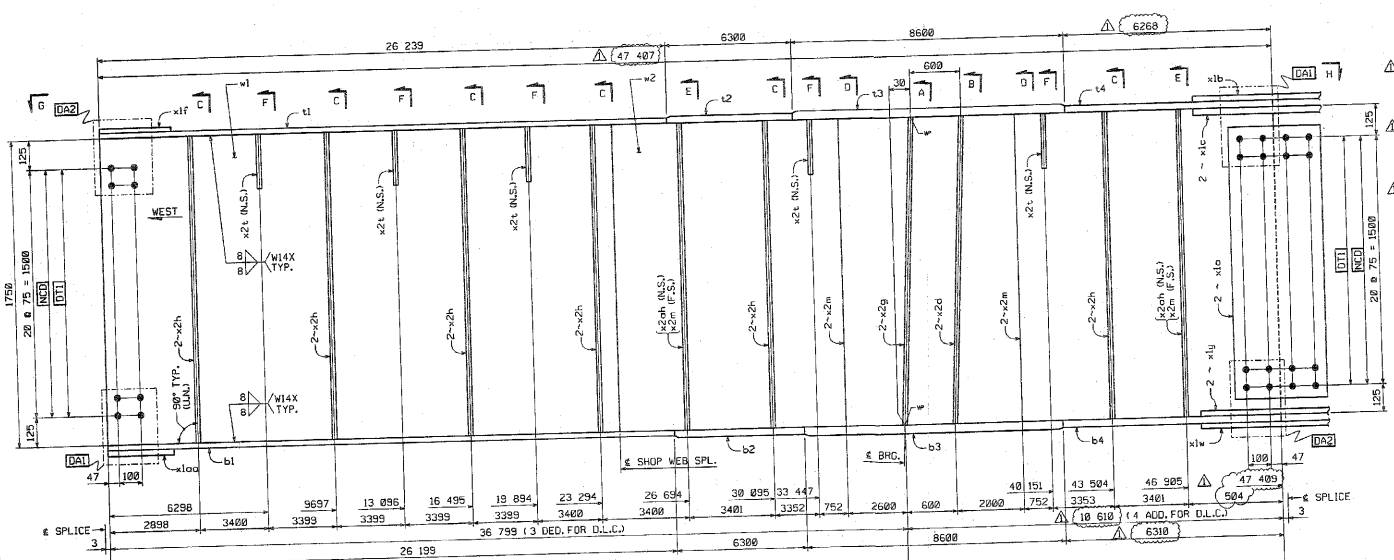
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

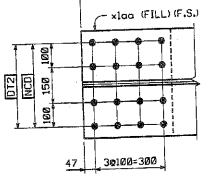
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

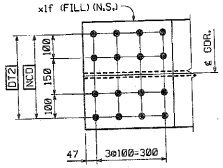
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA
ONE	G3E	GIRDER					22 640
4	w1	PL 16 x 1750	23 810	(T)	9	6	5232.84
1	w2	PL 16 x 1750	23 809	(T)	3	2	5198.66
1	t1	PL 22 x 450	28 239	(T)	4	18	2038.93
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 299	(T)	4	16	708.57
1	b1	PL 22 x 450	26 199	(T)	4	20	2035.82
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 311	(T)	4	14	713.31
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	98.06
2	x1c	PL 16 x 200	790	(T)	6	5	16.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	98.06
2	x1y	PL 16 x 200	790	(T)	6	5	16.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	104.38
2	x2g	PL 38 x 200	1 750		7	1	104.38
12	x2h	PL 12 x 180	1 750		7	4	29.67
6	x2m	PL 12 x 180	1 750		7	4	29.67
5	x2t	PL 14 x 180	310		7	3	6.13
2	x2ah	PL 12 x 180	1 750		7	4	29.67

TOTAL WEIGHT THIS SHEET: 22 636.33 kgs

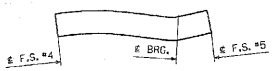




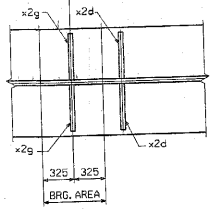
VIEW G

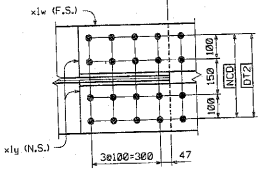


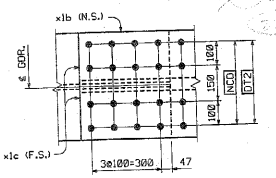
GIRDER ~ G3E



ORIENTATION DIAGRAM



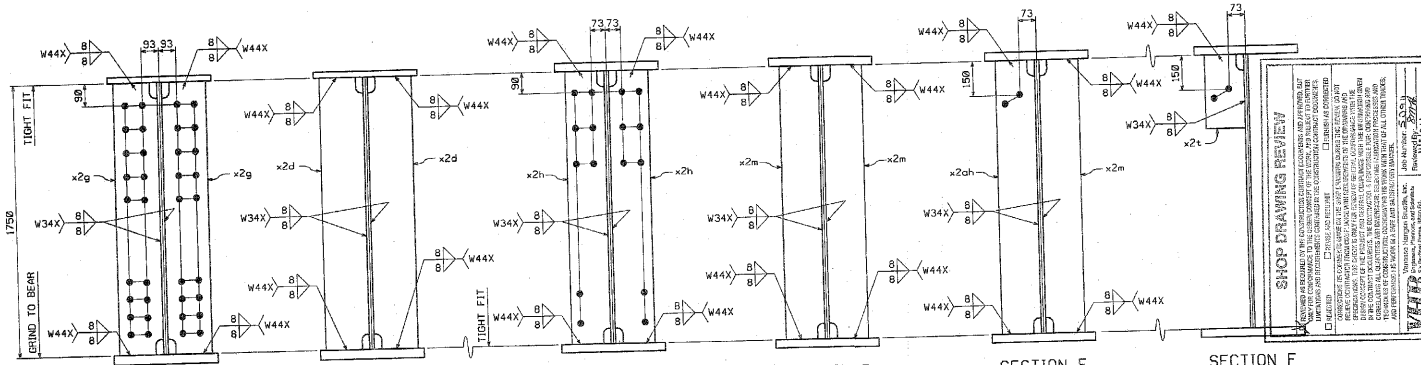




VIEW H

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC2.



SHOP DRAWING REVIEW

CODE: 30

2	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP 9/17/04
1	REVISION	BY DATE

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER	G3E
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.12+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT NO. REF. NO. BRF-036-1(11)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (IH) MADE BY: ERS CHK'D. BY: GS DATE: 8-19-04	
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 19 OF 112	

PLOTTED: 9/20/2004 10:08:11 PM BY: dpointer

METRIC

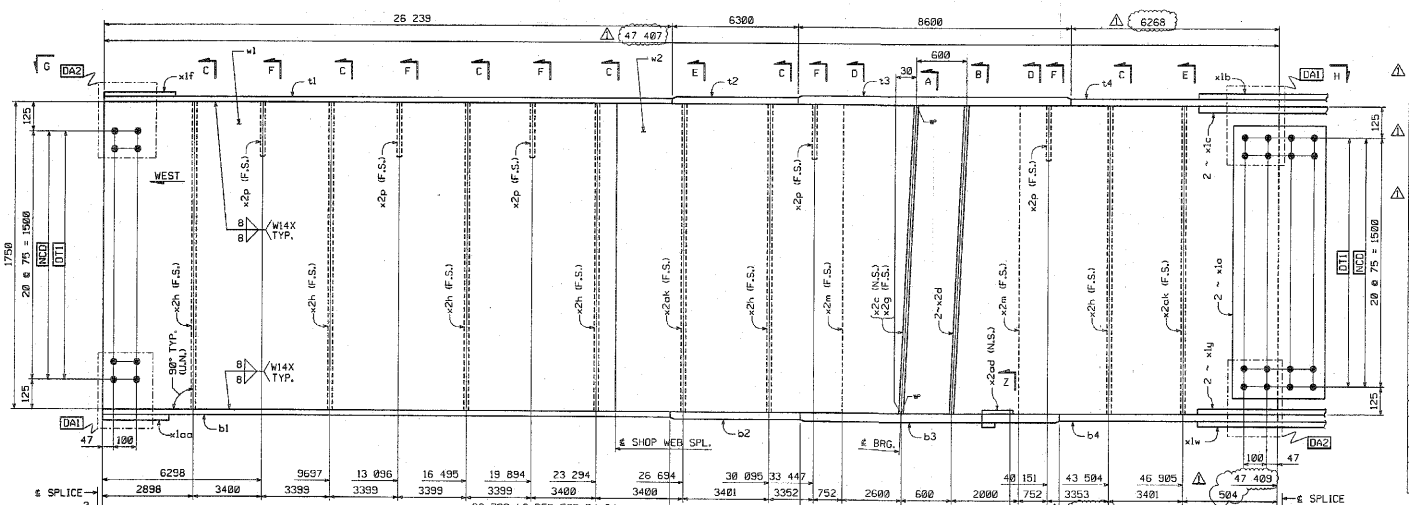
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

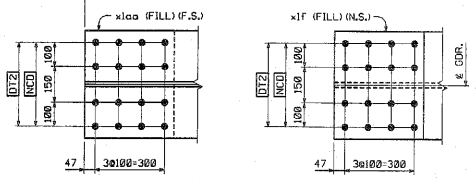
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

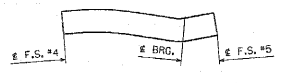
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G4E	GIRDER					22 350
1	w1	PL 16 x 1750	~~23 610~~	(T)	3	5	~~5232.84~~
1	w2	PL 16 x 1750	~~23 609~~	(T) 47407	3	2	~~5488.66~~
1	t1	PL 22 x 450	28 239	(T)	4	18	~~2088.93~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.97~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	t4	PL 32 x 450	~~6 269~~	(T) 6268	4	16	~~708.57~~
1	b1	PL 22 x 450	28 199	(T)	4	20	~~2095.82~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.97~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	b4	PL 32 x 450	~~6 311~~	(T) 6310	4	14	~~713.91~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~38.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~40.64~~
1	x1f	PL 10 x 450	392	FILL	6	7	~~13.85~~
1	x1w	PL 14 x 450	790	(T)	6	6	~~38.06~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~40.64~~
1	x1aa	PL 10 x 450	392	FILL	6	7	~~13.85~~
1	x2c	PL 38 x 200	1 750		7	1	~~104.99~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.99~~
1	x2g	PL 38 x 200	1 750		7	1	~~104.99~~
6	x2h	PL 12 x 180	1 750		7	4	~~20.67~~
2	x2m	PL 12 x 180	1 750		7	4	~~20.67~~
5	x2p	PL 14 x 180	310		7	3	~~6.13~~
2	x2ak	PL 12 x 180	1 750		7	4	~~20.67~~
1	x2ad	PL 8 x 175	301		7	5	~~1.83~~

TOTAL WEIGHT THIS SHEET: ~~22 349.47~~ kgs



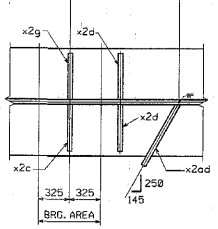


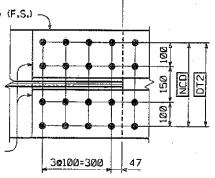
VIEW G

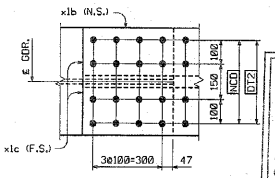


ORIENTATION DIAGRAM

GIRDER ~ G4E



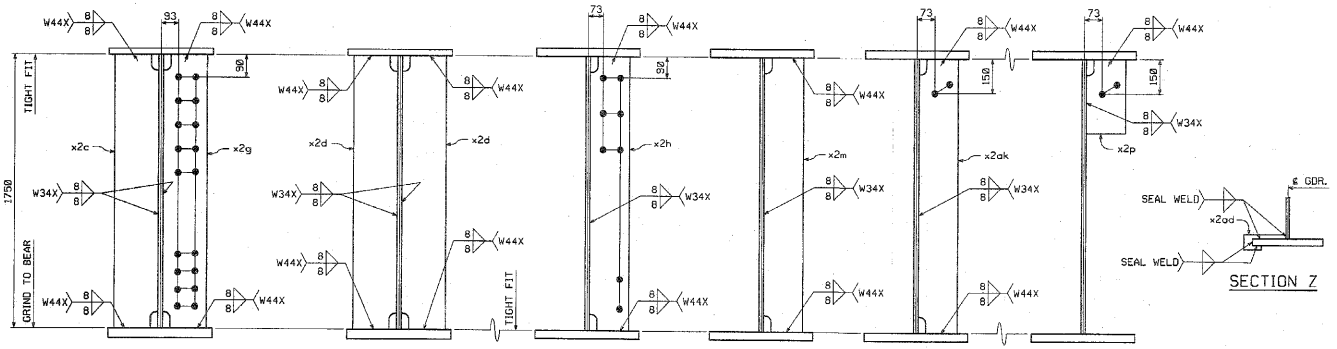




VIEW H

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. W2.



SECTION Z

SHOP DRAWING REVIEW

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17601-3008
Phone 717/299-5201
A Division of High Industries, Inc.

GIRDER	G4E
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.18+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (TH) MADE BY: ERS CHK'D. BY: CS DATE: 8-19-04
CONTRACT NUMBER VT-04057-1 DRAWING NUMBER 20 OF 112

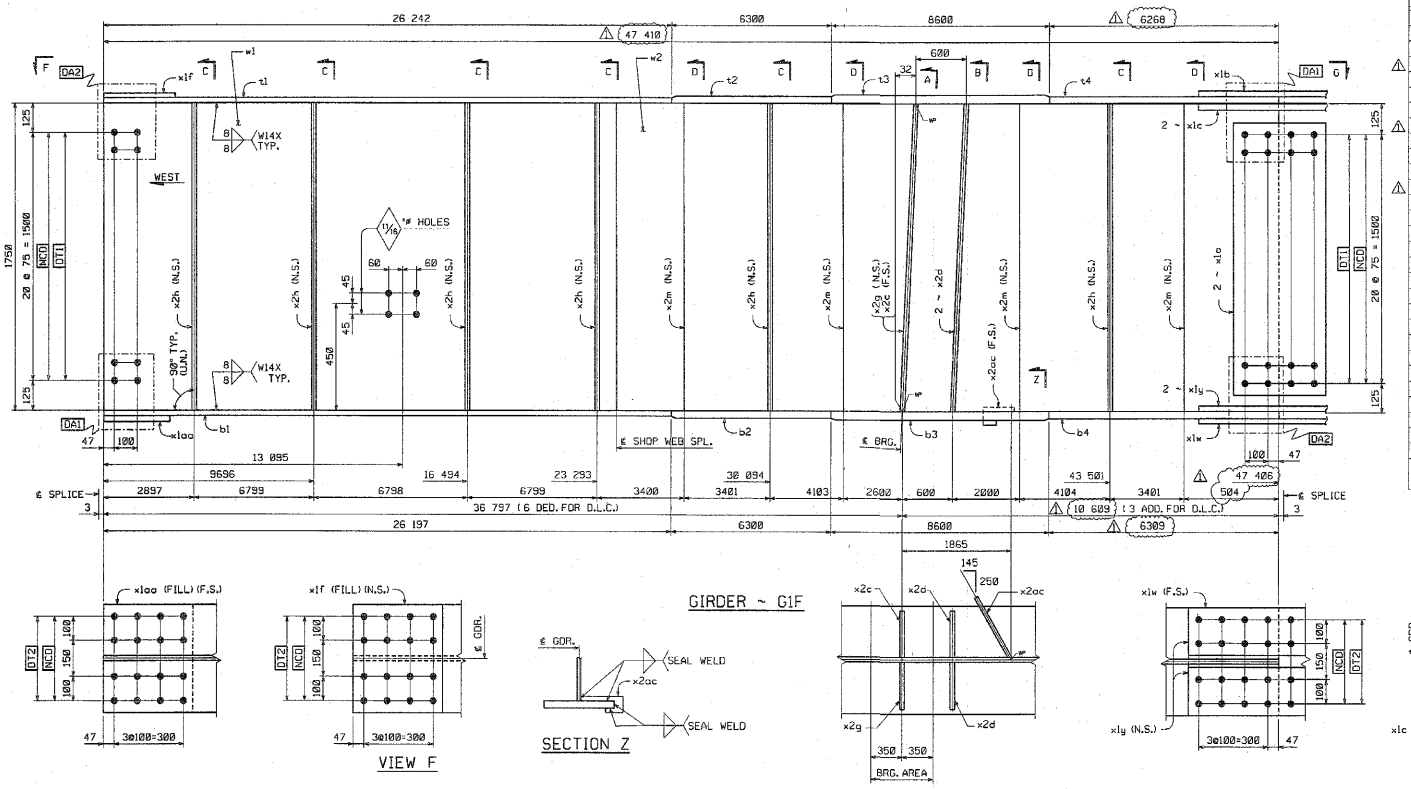
CODE:30

PLOTTED: 9/29/2004 10:58:03 AM BY: dsonter

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

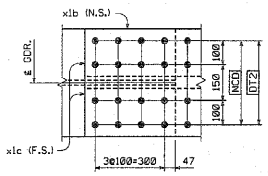
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



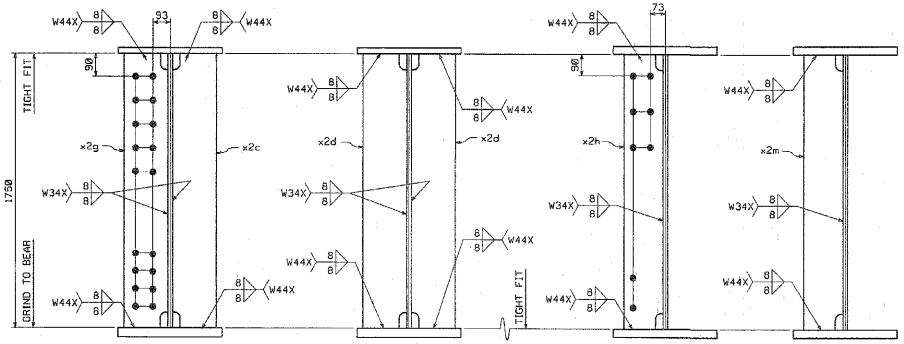
GIRDER ~ G1F

VIEW F

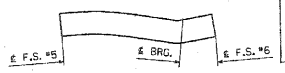
SECTION Z



VIEW G



SECTION A SECTION B SECTION C SECTION D



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 1⅛" (U.N.)
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC2.

CODE:130

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G1F	GIRDER					22 320
1	w1	PL 16 x 1750	23 612	(T)	3	4	~~5233.28~~
1	w2	PL 16 x 1750	~~23 609~~	(T)	3	5	~~5188.66~~
1	t1	PL 22 x 450	26 242	(T)	4	17	~~2038.16~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	t3	PL 65 x 450	~~8 601~~	(T)	4	2	1074.67
1	t4	PL 32 x 450	6 268	(T)	4	18	~~708.45~~
1	b1	PL 22 x 450	26 197	(T)	4	20	~~2035.67~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	b3	PL 65 x 450	~~8 601~~	(T)	4	2	1974.67
1	b4	PL 32 x 450	6 309	(T)	4	14	~~713.09~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~18.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~18.84~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
1	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
6	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
4	x2m	PL 12 x 180	1 750		7	4	~~29.67~~
1	x2ac	PL 6 x ~~715~~	301		7	5	1.63

TOTAL WEIGHT THIS SHEET: ~~22 313.45~~ kgs

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND ONLY TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ AMEND AND RESUBMIT ☐ RETURNED AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS FOR THE PURPOSE OF ENSURING CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FOR SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING ITS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING ITS WORK IN A SAFE AND SATISFACTORY MANNER.

Reviewed by: [illegible] Date: 9-22-04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH & MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5201
A Division of High Industries Inc.

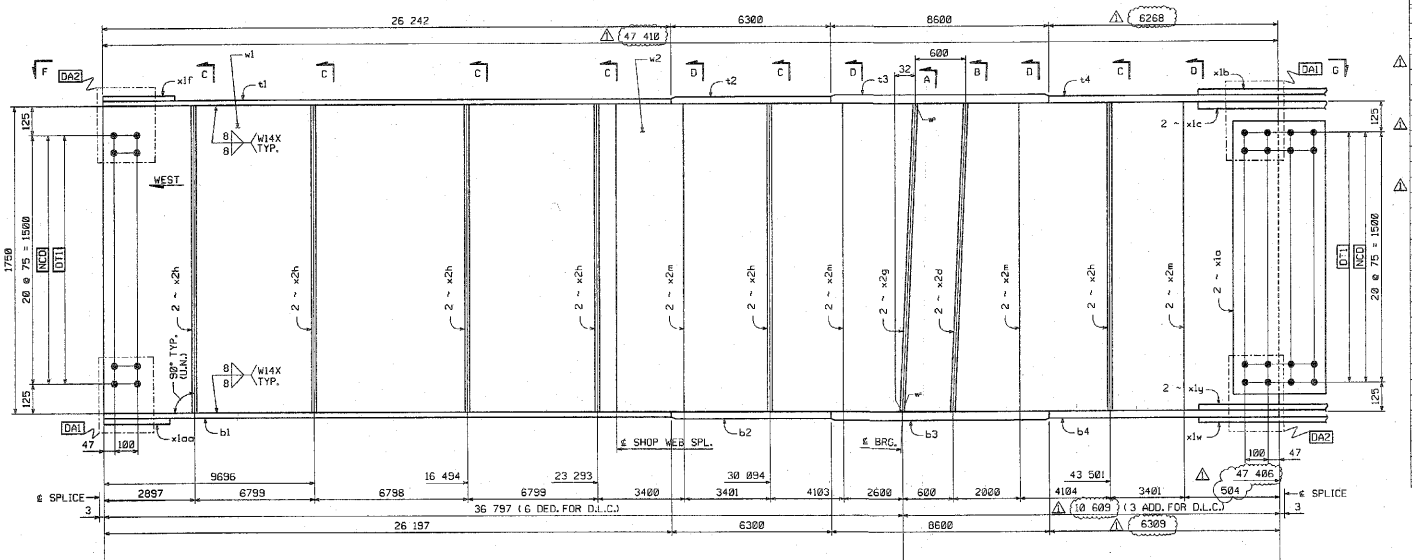
GIRDER	G1F
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN ((H) MADE BY: SSL CHK'D. BY: CS DATE: 8-17-04	
CONTRACT NUMBER VT-04057-1 DRAWING NUMBER 21 OF 112	

BY: dpuma
PLOTTED: 9/20/2004 10:58:05 PM

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

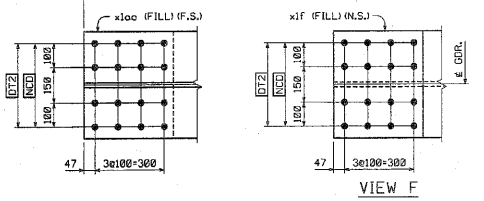
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



BILL OF MATERIAL

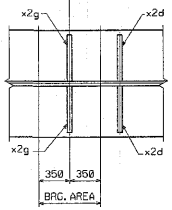
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G2F	GIRDER					22 610
1	w1	PL 16 x 1750	23 812	(T)	3	4	~~5233.26~~
1	w2	PL 16 x 1750	23 609	(T)	3	5	~~5188.66~~
1	t1	PL 22 x 450	26 242	(T)	4	17	~~2039.16~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	t3	PL 65 x 450	~~8 601~~	(T)	4	2	~~1974.67~~
1	t4	PL 32 x 450	6 268	(T)	4	16	~~706.45~~
1	b1	PL 22 x 450	28 197	(T)	4	20	~~2035.67~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	b3	PL 65 x 450	~~8 601~~	(T)	4	2	~~1974.67~~
1	b4	PL 32 x 450	6 309	(T)	4	14	~~713.09~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~38.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	8	8	~~38.06~~
2	x1y	PL 16 x 200	790	(T)	8	5	~~19.84~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
12	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
8	x2m	PL 12 x 180	1 750		7	4	~~29.67~~

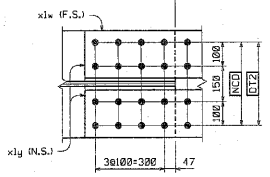
TOTAL WEIGHT THIS SHEET: ~~22 608.54~~ kgs

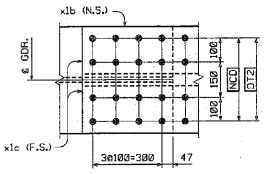


VIEW F

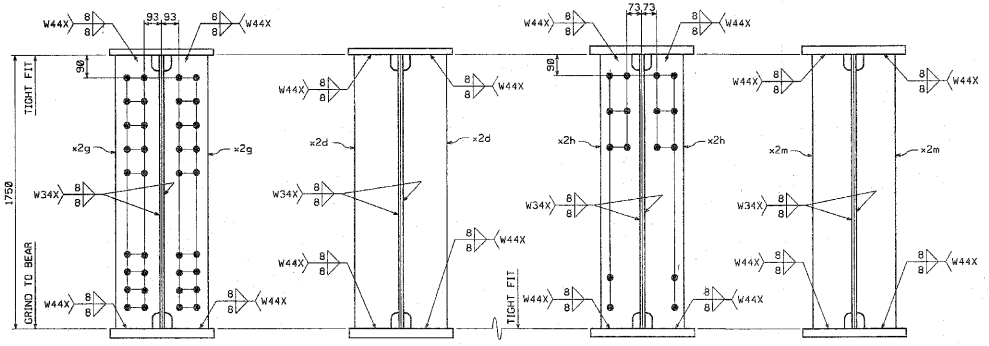
GIRDER ~ G2F

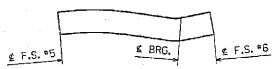






VIEW G





ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC2.

CODE:130

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE GENERAL CONCEPT OF THE WORK AND GENERATE TO ANY OTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ AMENDED ☐ NOTED AND RESUBMIT ☐ RESUBMIT AS CORRECTED

CORRECTIONS OR COMMENTS NOTED BY THE SHOP DRAWING REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH ADDENDUMS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

Reviewed By: RMH

NO.	REVISION	BY	DATE
2			
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17601-6008
Phone 717/299-5231
A Division of High Industries, Inc.

GIRDER	G2F
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.12+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO.	BRF-036-1(1)
CONTRACTOR	CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH)	MADE BY: SSJ CHK'D. BY: CS DATE: 8-19-04
CONTRACT NUMBER:	VT-04057-1
DRAWING NUMBER:	22 OF 112

PLOTTED: 9/20/2004 BY: dpeuster

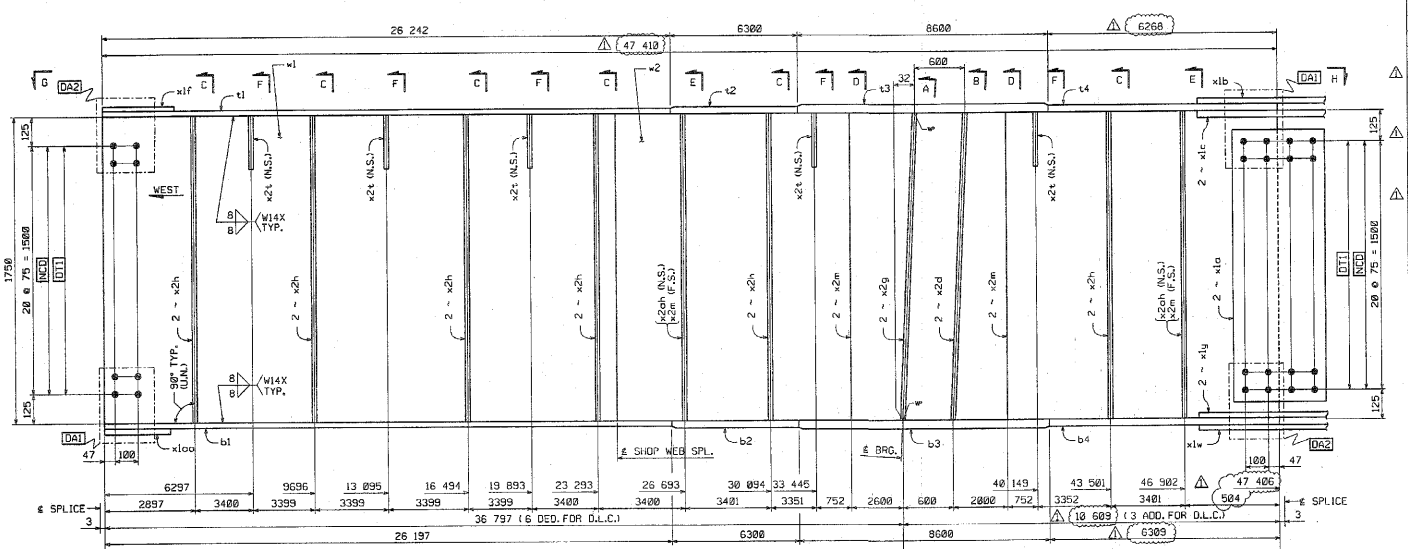
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

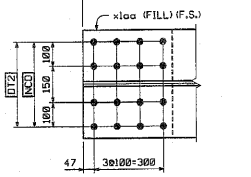
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

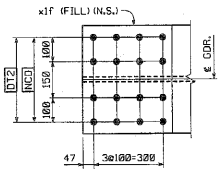
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G3F	GIRDER					22 640
1	w1	PL 16 x 1750	23 812	(T)	3	4	5233.28
1	w2	PL 16 x 1750	23 509	(T)	3	5	5188.66
1	t1	PL 22 x 450	26 242	(T)	4	17	2039.16
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 601	(T)	4	2	1974.67
1	t4	PL 32 x 450	6 268	(T)	4	16	708.45
1	b1	PL 22 x 450	28 197	(T)	4	20	2035.97
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 601	(T)	4	2	1974.67
1	b4	PL 32 x 450	6 309	(T)	4	14	713.09
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	8	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	8	39.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
12	x2h	PL 12 x 180	1 750		7	4	29.67
6	x2m	PL 12 x 180	1 750		7	4	29.67
5	x2t	PL 14 x 180	310		7	3	8.13
2	x2ah	PL 12 x 180	1 750		7	4	29.67

TOTAL WEIGHT THIS SHEET: 22 638.17 kgs

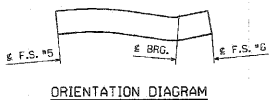




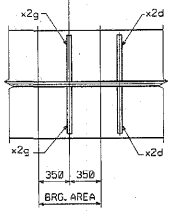
VIEW G

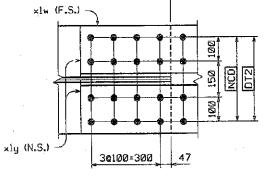


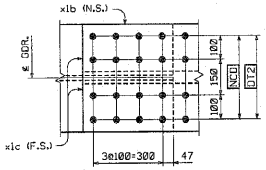
GIRDER ~ G3F



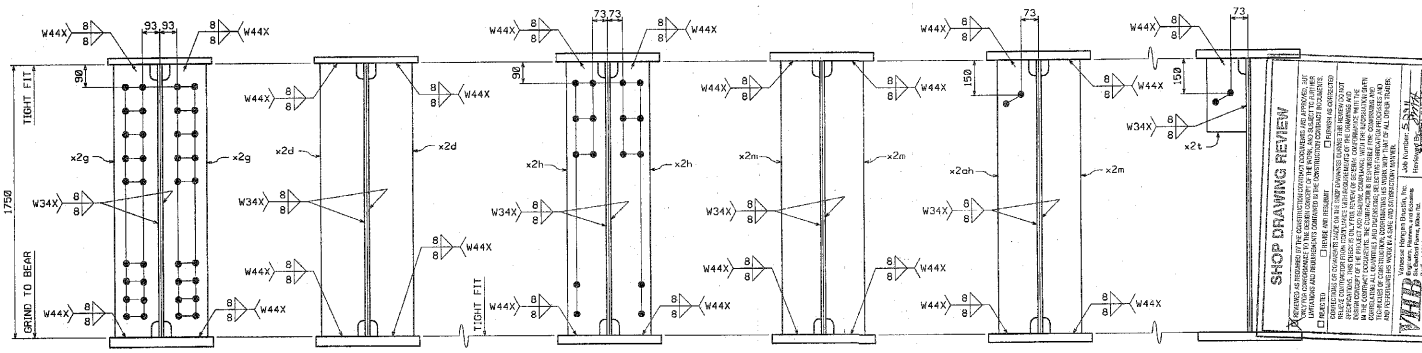
ORIENTATION DIAGRAM







VIEW H



SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC2.

SHOP DRAWING REVIEW

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17601-1008
Phone 717/299-5201
A Division of High Industries, Inc.

GIRDER G3F
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+053.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (JH) MADE BY: SSJ CHK'D. BY: GS DATE: 8-19-04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 23 OF 112

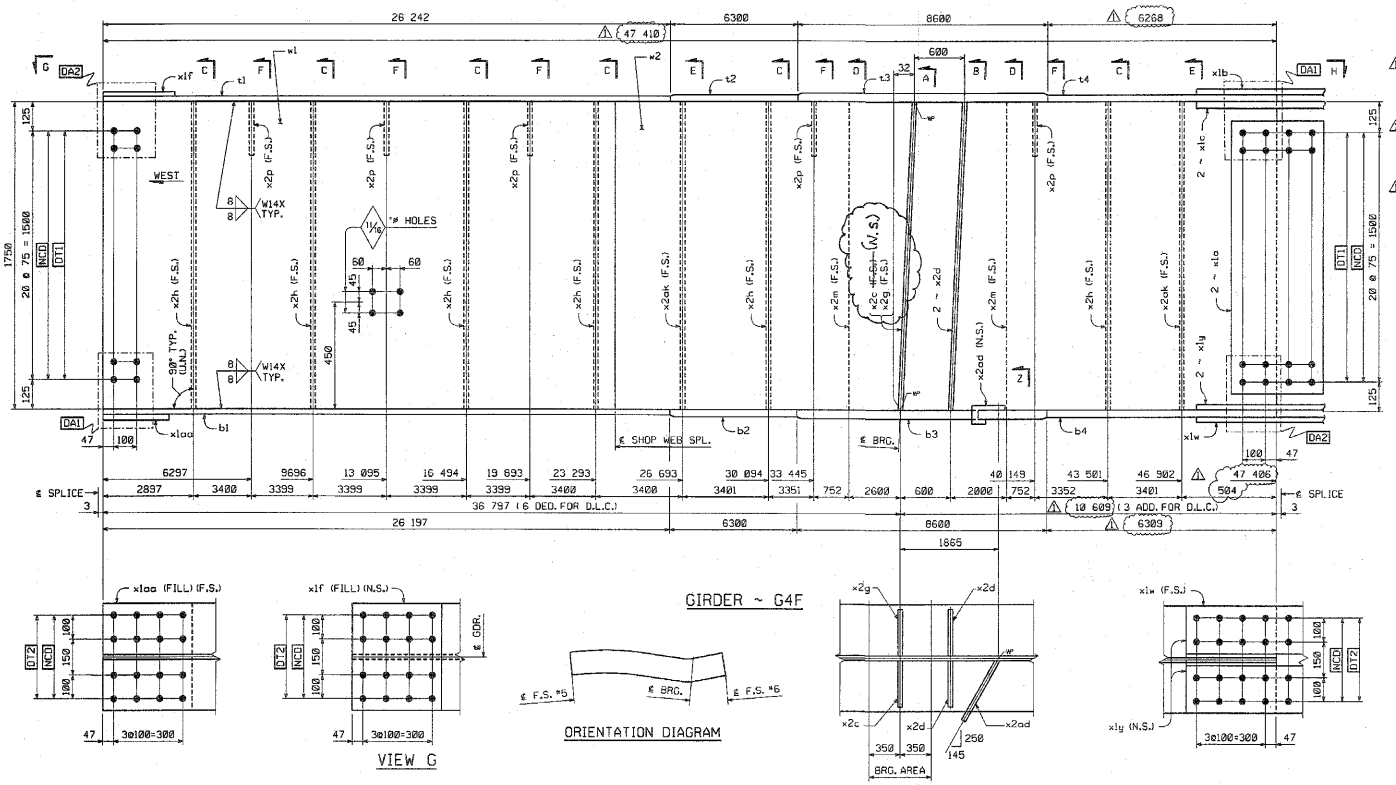
CODE:30

PLOTTED: 9/20/2004 BY: dpainter
h:\dgn\58 PM

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



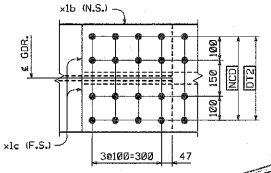
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G4F	GIRDER					22 350
1	w1	PL 16 x 1750	23 812	(T)	3	4	5233.28
1	w2	PL 16 x 1750	~~23 609~~	(T)	3	5	~~5188.66~~
1	t1	PL 22 x 450	26 242	(T)	4	17	~~2039.16~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.97~~
1	t3	PL 65 x 450	~~8 601~~	(T)	4	2	1974.67
1	t4	PL 32 x 450	6 268	(T)	4	18	~~708.45~~
1	b1	PL 22 x 450	26 197	(T)	4	20	~~2035.67~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.97~~
1	b3	PL 65 x 450	~~8 601~~	(T)	4	2	1974.67
1	b4	PL 32 x 450	6 309	(T)	4	14	~~713.98~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.26~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.65
1	x1w	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.65
1	x2c	PL 38 x 200	1 750		7	1	~~164.99~~
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
6	x2h	PL 12 x 180	1 750		7	4	~~20.67~~
2	x2m	PL 12 x 180	1 750		7	4	~~20.67~~
5	x2p	PL 14 x 180	310		7	3	~~6.13~~
1	x2ad	PL 6 x ~~115~~	301		7	5	~~1.83~~
2	x2ak	PL 12 x 180	1 750		7	4	~~20.67~~
		TOTAL WEIGHT THIS SHEET:	~~22 344.1~~	kgs			

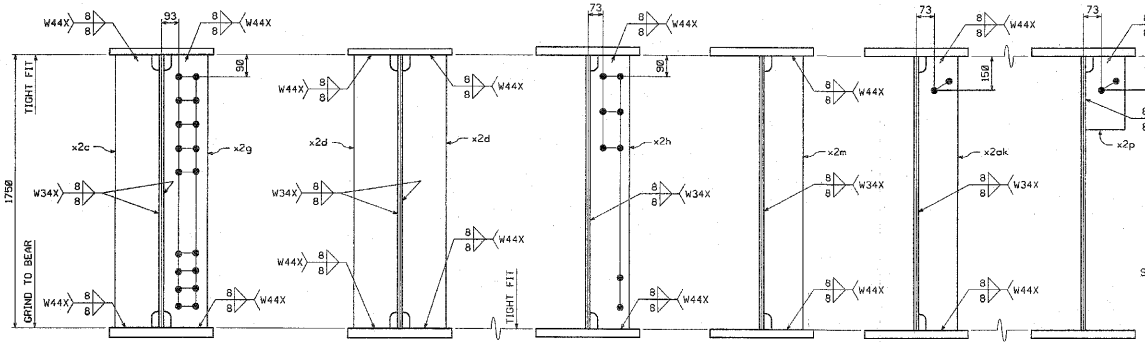
VIEW G

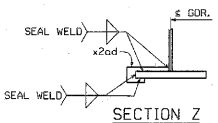
ORIENTATION DIAGRAM

GIRDER ~ G4F



VIEW H





SECTION Z

SHOP NOTE

HOLES: NONE
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. NO.
FOR WEB CAMBER DIAGRAM, SEE DWG. NO.

SHOP DRAWING REVIEW
REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND DESIGNED, FOR GENERAL CONFORMANCE TO THE DESIGN CONCEPT OF THE CONSTRUCTION CONTRACT DOCUMENTS.
LIMITATIONS
REVIEW AND APPROVAL DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR CORRECTNESS OF DIMENSIONS AND DETAILS AND CONFORMANCE TO THE CONTRACT DOCUMENTS. CONTRACTOR SHALL CONFIRM AND CORRELATE ALL QUANTITIES AND DIMENSIONS, SELECT FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATE HIS WORK WITH THAT OF ALL OTHER TRADES AND PERFORM WORK IN A SAFE AND SATISFACTORY MANNER.
REVIEWED BY: [illegible]
Job Number: 5501
Reviewed By: SCOTT
Date: 8/19/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER	G4F
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	

STATE CONTRACT OR REF. NO. BRF-036-1(11)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE GLIDDEN (IH) MADE BY: SSL CHK'D. BY: CS DATE: 8-19-04
CONTRACT NUMBER VT-04057-1 DRAWING NUMBER 24 OF 112

CODE:30

PLOTTED: 9/20/2004 10:29:02 PM
By: dpainter

METRIC

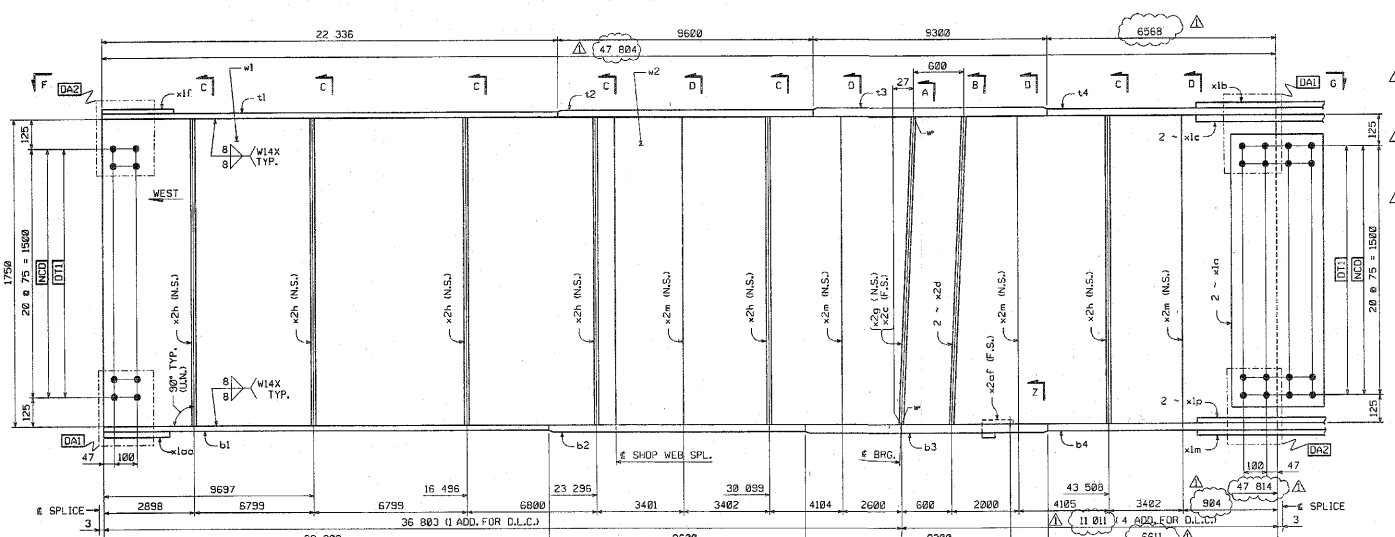
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

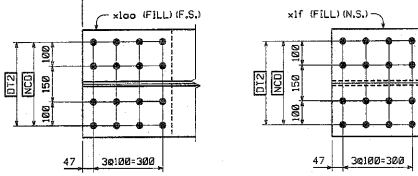
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

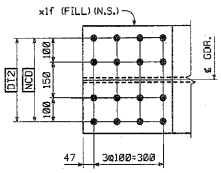
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G1G	GIRDER					24 880
1	w1	PL 16 x 1750	23 811	(T)	3	6	~~5233.06~~
1	w2	PL 16 x 1750	~~24 011~~	(T)	3	1	~~5277.01~~
1	t1	PL 22 x 450	22 336	(T)	4	22	~~1735.04~~
1	t2	PL 40 x 450	9 600	(T)	4	8	~~1356.32~~
1	t3	PL 80 x 450	9 300	(T)	4	1	~~2627.86~~
1	t4	PL 40 x 450	~~8 889~~	(T)	4	12	~~928.09~~
1	b1	PL 22 x 450	22 303	(T)	4	23	~~1733.08~~
1	b2	PL 40 x 450	9 600	(T)	4	8	~~1356.32~~
1	b3	PL 80 x 450	9 300	(T)	4	1	~~2627.86~~
1	b4	PL 40 x 450	~~6 612~~	(T)	4	11	~~934.17~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~38.05~~
2	x1c	PL 18 x 200	790	(T)	6	5	~~19.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1m	PL 18 x 450	990	(T)	6	3	~~62.04~~
2	x1p	PL 20 x 200	990	(T)	6	2	~~31.08~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
1	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
6	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
4	x2m	PL 12 x 180	1 750		7	4	~~29.67~~
1	x2af	PL 6 x 490	301		7	5	~~1.84~~

TOTAL WEIGHT THIS SHEET: ~~24 877.88~~ kgs

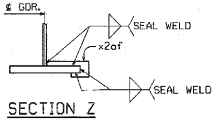




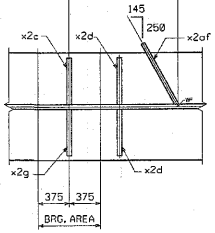
VIEW F

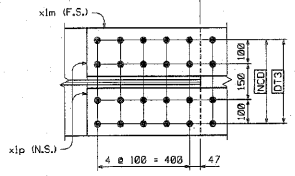


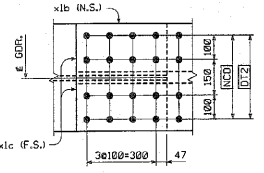
GIRDER ~ G1G



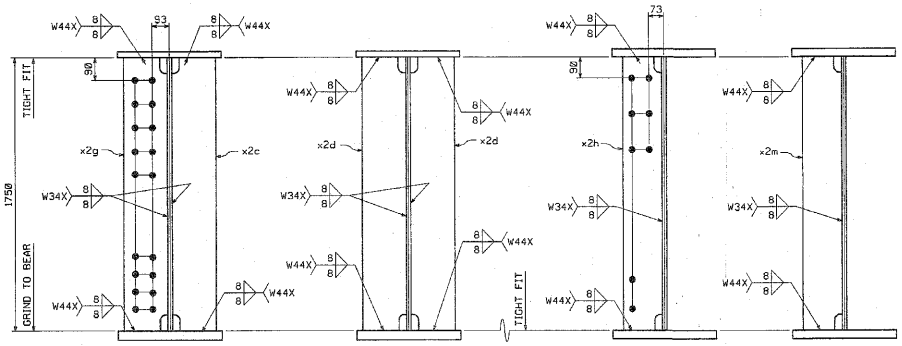
SECTION Z



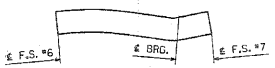




VIEW G



SECTION A SECTION B SECTION C SECTION D



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC2.

CODE:130

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND NOT FOR COMPLIANCE WITH THE ALL DETAILED ITEMS IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

Jon Koerner 9/20/04
Reviewed By: JSA
Date: 9/17/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17601-0008
Phone 717/299-521
A Division of High Industries Inc.

GIRDER	G1G
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SSL CHK'D. BY: CG DATE: 8-17-04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 25 OF 112

PLOTTED: 9/20/2004 1:40:48 PM BY: davenbar

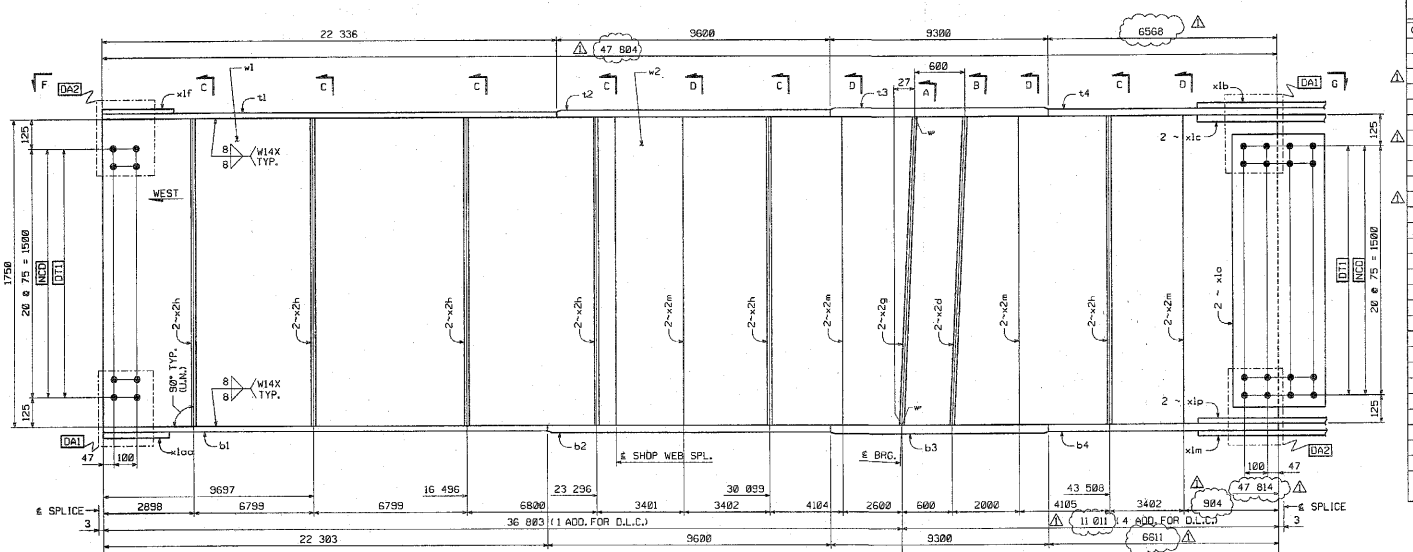
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

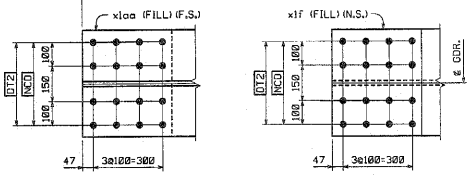
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG EA.
ONE	G2G	GIRDER					25 160
1	w1	PL 16 x 1750	23 811	(T)	3	6	5233.06
1	w2	PL 16 x 1750	24 011	(T)	3	1	5277.01
1	t1	PL 22 x 450	22 336	(T)	4	22	1785.84
1	t2	PL 40 x 450	9 600	(T)	4	8	1360.32
1	t3	PL 80 x 450	9 300	(T)	4	1	2627.88
1	t4	PL 40 x 450	6 569	(T)	4	12	928.09
1	b1	PL 22 x 450	22 303	(T)	4	23	1783.08
1	b2	PL 40 x 450	9 600	(T)	4	8	1356.32
1	b3	PL 80 x 450	9 300	(T)	4	1	2627.88
1	b4	PL 40 x 450	6 612	(T)	4	11	934.17
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.02
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1m	PL 18 x 450	990	(T)	6	3	62.94
2	x1p	PL 20 x 200	990	(T)	6	2	31.08
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
12	x2h	PL 12 x 180	1 750		7	4	29.67
8	x2m	PL 12 x 180	1 750		7	4	29.67

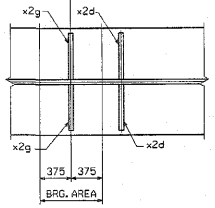
TOTAL WEIGHT THIS SHEET: ~~26 472.54~~ kgs

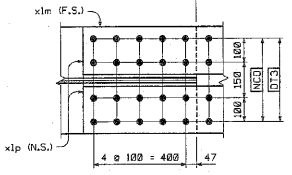


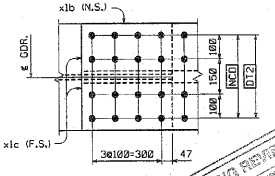
GIRDER ~ G2G



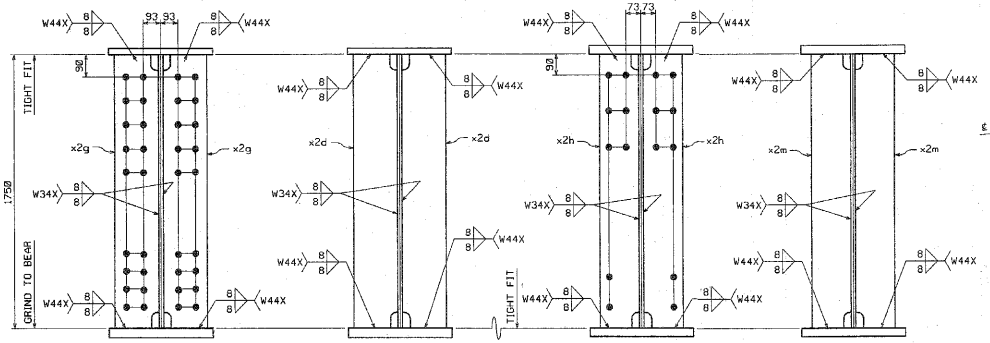
VIEW F

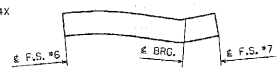






VIEW G





ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC2.

CODE:30

SHOP DRAWING REVIEW
X REVIEWED AS RESTRICTED BY THE ENGINEER'S CONTRACT DOCUMENTS AND, OTHERWISE, NO EXCEPTIONS OR COMMENTS ARE NOTED. CONTRACTOR REMAINS RESPONSIBLE FOR DIMENSIONS AND QUANTITIES, FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATION OF HIS WORK WITH THAT OF ALL OTHER TRADES AND THE SATISFACTORY PERFORMANCE OF HIS WORK. REVIEW SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR OF RESPONSIBILITY FOR DEVIATIONS FROM CONTRACT REQUIREMENTS UNLESS SUCH DEVIATIONS HAVE BEEN BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING AND HE HAS APPROVED THEM IN WRITING. REVIEW SHALL NOT BE CONSTRUED AS APPROVING PROCESSES OR SCHEDULES CONTRARY TO THE CONTRACT DOCUMENTS.
☐ REVISE AND RESUBMIT
☐ NOT REVIEWED
JOB NUMBER: 50-01
DATE: 9/14/04
BY: [illegible]

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1970 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-521
A Division of High Industries, Inc.

GIRDER	G2G
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.12+970.425 TO STA.12+259.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (IH) MADE BY: SRS CHK'D. BY: CS DATE: 8-19-04	
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 26 OF 112	

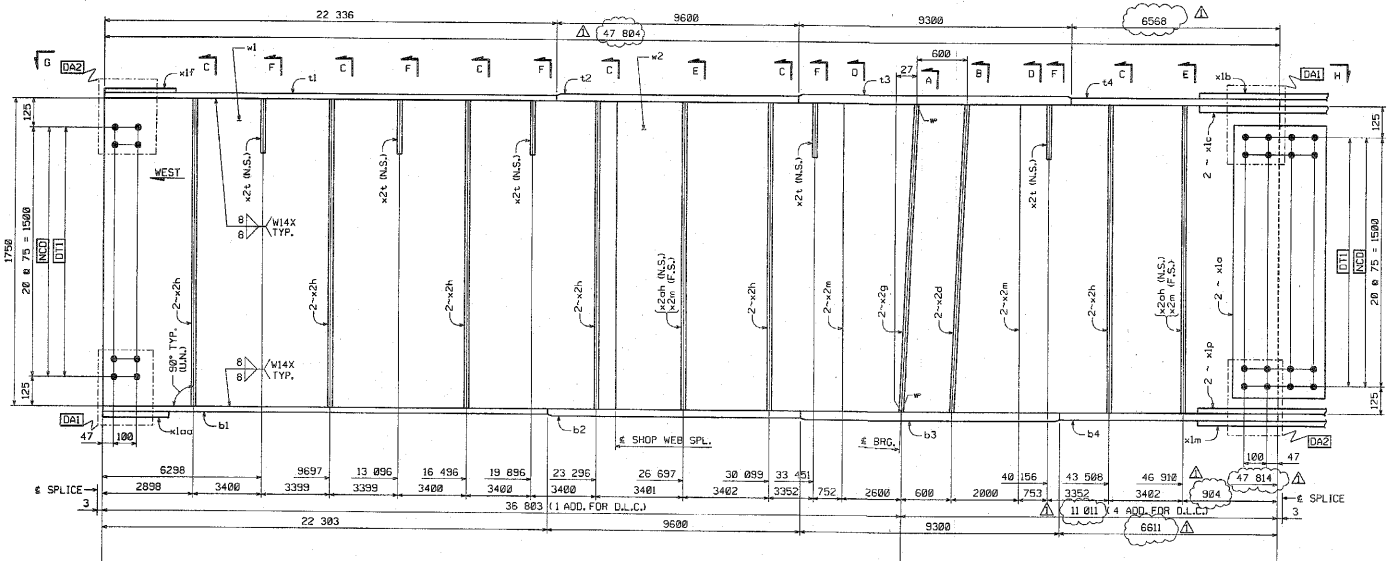
PLOTTED: 9/20/2004 8:06:21 PM BY: dpeuster

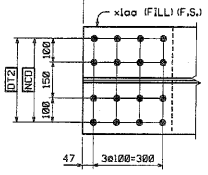
METRIC

METRIC

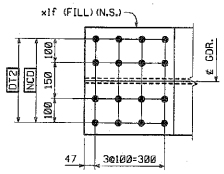
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

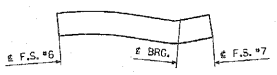




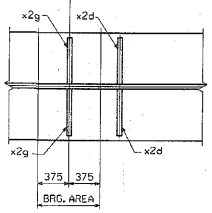
VIEW G

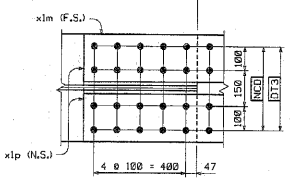


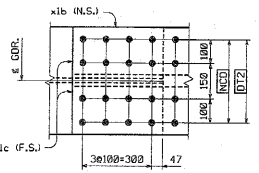
GIRDER ~ G3G



ORIENTATION DIAGRAM







VIEW H

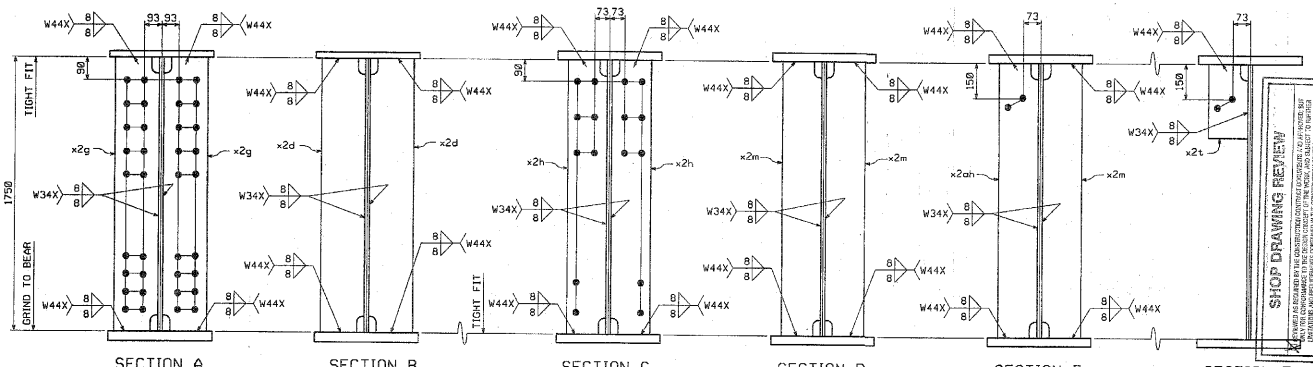
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G3G	GIRDER					25 210
~~1~~	~~w1~~	~~PL 16 x 1750~~	~~29 811~~	(T)	~~3~~	~~6~~	~~5233.06~~
1	w2	PL 16 x 1750	24 011	(T)	3	1	5277.01
1	t1	PL 22 x 450	22 336	(T)	4	22	1735.64
1	t2	PL 40 x 450	9 600	(T)	4	8	1356.32
1	t3	PL 80 x 450	9 300	(T)	4	1	2627.88
1	t4	PL 40 x 450	~~8 569~~	(T) 6568	4	12	~~926.89~~
1	b1	PL 22 x 450	22 303	(T)	4	23	~~1733.08~~
1	b2	PL 40 x 450	9 600	(T)	4	8	~~1356.32~~
1	b3	PL 80 x 450	9 300	(T)	4	1	~~2627.88~~
1	b4	PL 40 x 450	~~8 642~~	(T) 6611	4	11	~~934.17~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~49.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1m	PL 18 x 450	990	(T)	6	3	~~62.84~~
2	x1p	PL 20 x 200	990	(T)	6	2	~~31.08~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 36 x 200	1 750		7	1	~~104.59~~
2	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
12	x2h	PL 12 x 180	1 750		7	4	~~29.87~~
6	x2m	PL 12 x 180	1 750		7	4	~~29.67~~
5	x2t	PL 14 x 180	310		7	3	~~8.13~~
2	x2ah	PL 12 x 180	1 750		7	4	~~29.67~~

TOTAL WEIGHT THIS SHEET: ~~25 203.19~~ kgs

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC2.



SECTION A | SECTION B | SECTION C | SECTION D | SECTION E | SECTION F

SHOP DRAWING REVIEW

CODE:30

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1170 Harrisburg Road
Lancaster, PA 17603-6003
Phone 717/299-5211
A Division of High Industries Inc.

GIRDER G3G
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

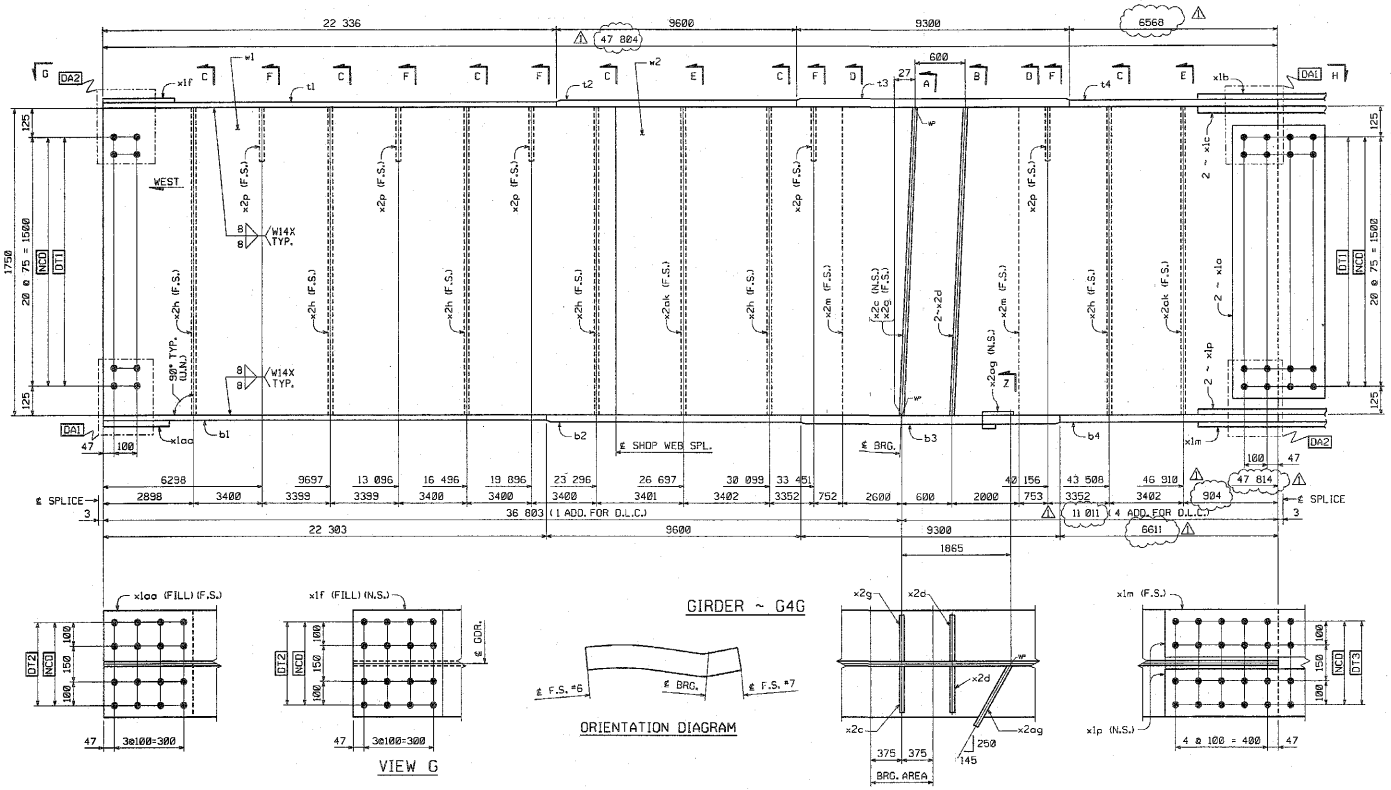
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SRS CHK'D. BY: CS DATE: 8-19-04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 27 OF 112

PLOTTED: 9/20/2004 BY: dpainter
Lat24x24 PM

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

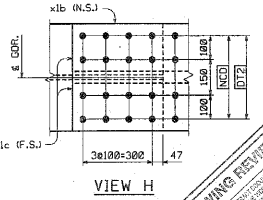
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



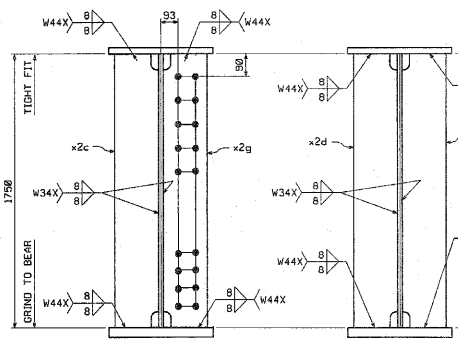
VIEW G

GIRDER ~ G4G

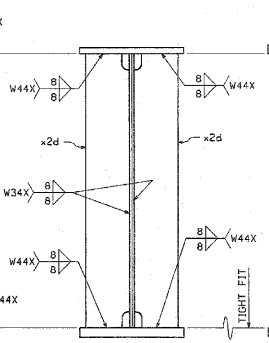
ORIENTATION DIAGRAM



VIEW H



SECTION A



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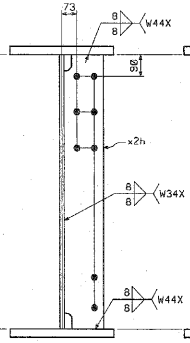
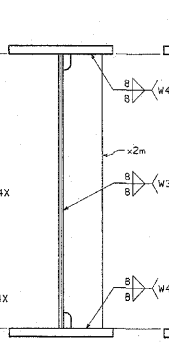
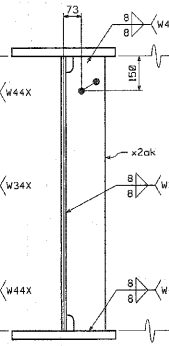


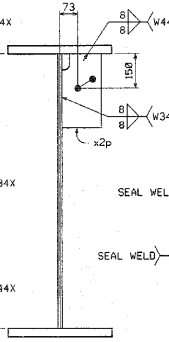
SECTION C



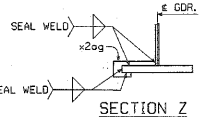
SECTION D



SECTION E



SECTION F



SECTION Z

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG EA.
ONE	G4G	GIRDER					24 910
1	w1	PL 16 x 1750	23 811	(T)	3	6	5233.06
1	w2	PL 16 x 1750	24 044	(T)	3	1	5277.01
1	t1	PL 22 x 450	22 336	(T)	4	22	1736.64
1	t2	PL 40 x 450	9 600	(T)	4	8	1350.92
1	t3	PL 80 x 450	9 300	(T)	4	1	2627.35
1	t4	PL 40 x 450	8 889	(T)	4	12	928.09
1	b1	PL 22 x 450	22 303	(T)	4	23	1733.08
1	b2	PL 40 x 450	9 600	(T)	4	8	1350.32
1	b3	PL 80 x 450	9 300	(T)	4	1	2627.35
1	b4	PL 40 x 450	8 812	(T)	4	11	934.17
2	x1a	PL 12 x 1800	400	(T)	6	1	80.26
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	49.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1m	PL 18 x 450	990	(T)	6	3	62.94
2	x1p	PL 20 x 200	990	(T)	6	2	31.08
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	104.38
2	x2d	PL 38 x 200	1 750		7	1	104.38
1	x2g	PL 38 x 200	1 750		7	1	104.38
6	x2h	PL 12 x 180	1 750		7	4	29.87
2	x2m	PL 12 x 180	1 750		7	4	29.87
5	x2p	PL 14 x 180	310		7	3	8.13
2	x2ak	PL 12 x 180	1 750		7	4	29.87
1	x2ag	PL 6 x 180	301		7	5	1.54
		TOTAL WEIGHT THIS SHEET:					24 908.34 kgs

SHOP DRAWING REVIEW

SHOP NOTE

HOLES: 1 5/16" ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17601-0308
Phone 717/299-921
A Division of High Industries Inc

GIRDER G4G

VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.12+970.425 TO STA.12+859.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

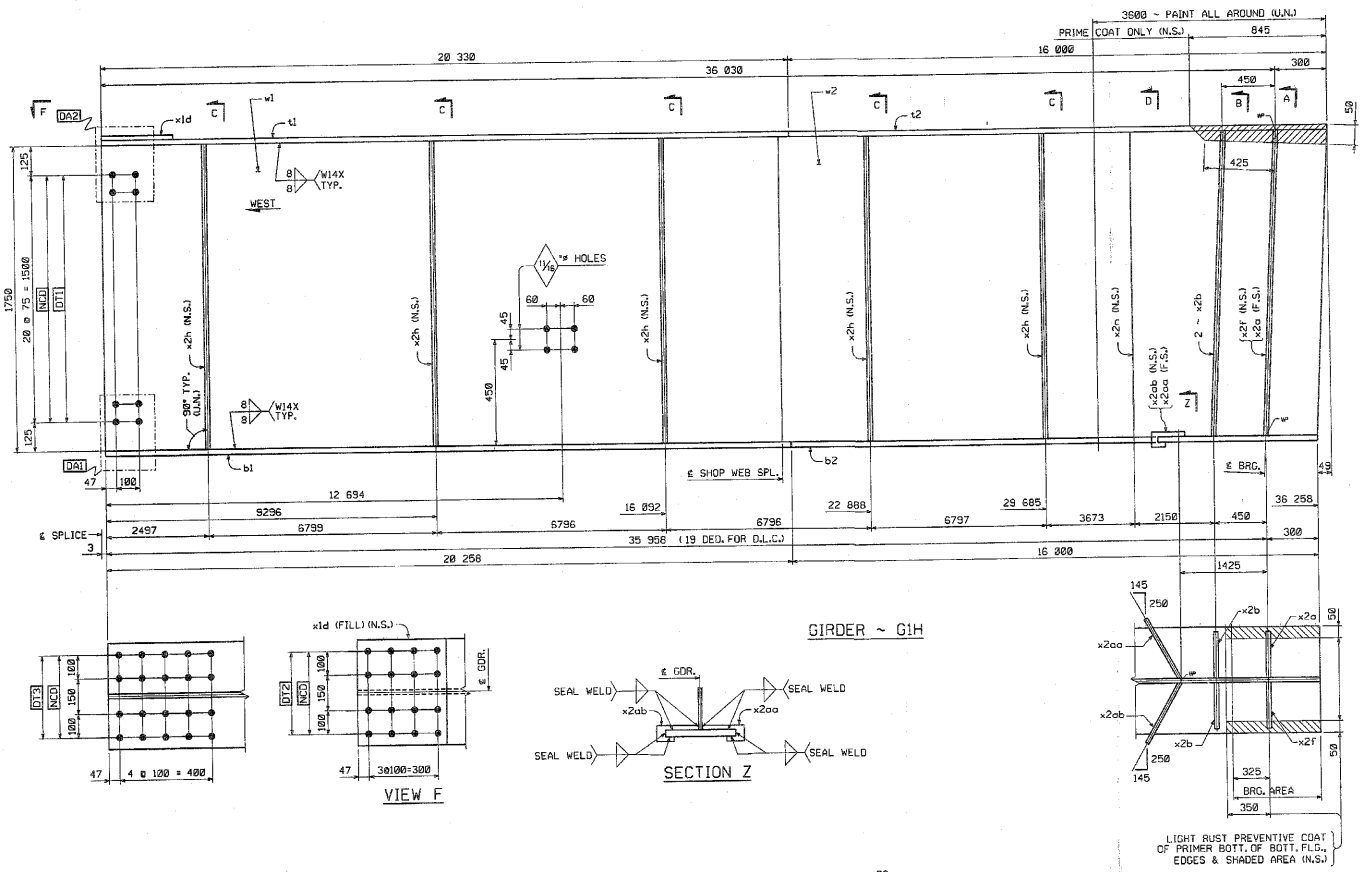
STATE CONTRACT OR REF. NO.: BRF-036-1(1)
CONTRACTOR: CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SES CHK'D. BY: CS DATE: 8-19-04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 28 OF 112

CODE=30

METRIC
PLOTTED: 9/20/2004 8:46:27 PM BY: dcarrier

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G1H	GIRDER					16 380
1	w1	PL 16 x 1750	19 089	(T)	3	8	~~4393.08~~
1	w2	PL 16 x 1750	15 342	(T) 36234	3	10	~~3531.66~~
1	t1	PL 22 x 450	20 351	(T) 7.15/36	4	20	~~1679.54~~
1	t2	PL 22 x 450	16 001	(T) 15002	4	28	~~1243.38~~
1	b1	PL 40 x 450	20 259	(T) 7.15/73	4	4	~~2852.27~~
1	b2	PL 40 x 450	18 001	(T) 15.000	4	5	~~2280.88~~
1	x1d	PL 18 x 450	392	FILL	6	4	~~24.92~~
1	x2a	PL 22 x 200	1 750		7	2	~~60.44~~
2	x2b	PL 22 x 200	1 750		7	2	~~60.44~~
1	x2f	PL 22 x 200	1 750		7	2	~~60.44~~
5	x2h	PL 12 x 180	1 750		7	4	~~39.87~~
1	x2n	PL 12 x 180	1 750		7	4	29.87
1	x2aa	PL 8 x ~~90~~	301		7	5	~~4.28~~
1	x2ab	PL 8 x ~~90~~	301		7	5	~~4.28~~
		TOTAL WEIGHT THIS SHEET:		~~16 378.86~~			kgs

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND ACCEPTED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND WITH THE LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ NOTED AND RECORDED ☐ EXCEPTIONS NOTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Surveyors Six Kimball Lane Williston, VT 05495 802-878-6100

Job Number: 56411
Reviewed By: BDM
Date: 11/10/04

SHOP NOTE

HOLES: 15/16" ⌀ (U.N.)
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC2.

CODE:30

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-521
A Division of High Industries Inc.

GIRDER G1H

VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(11)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLODEN (JH) MADE BY: SSL CHK'D. BY: CS DATE: 8-18-04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 29 OF 112

PLOTTED: 08/26/2004 07:55AM BY: cshaffer

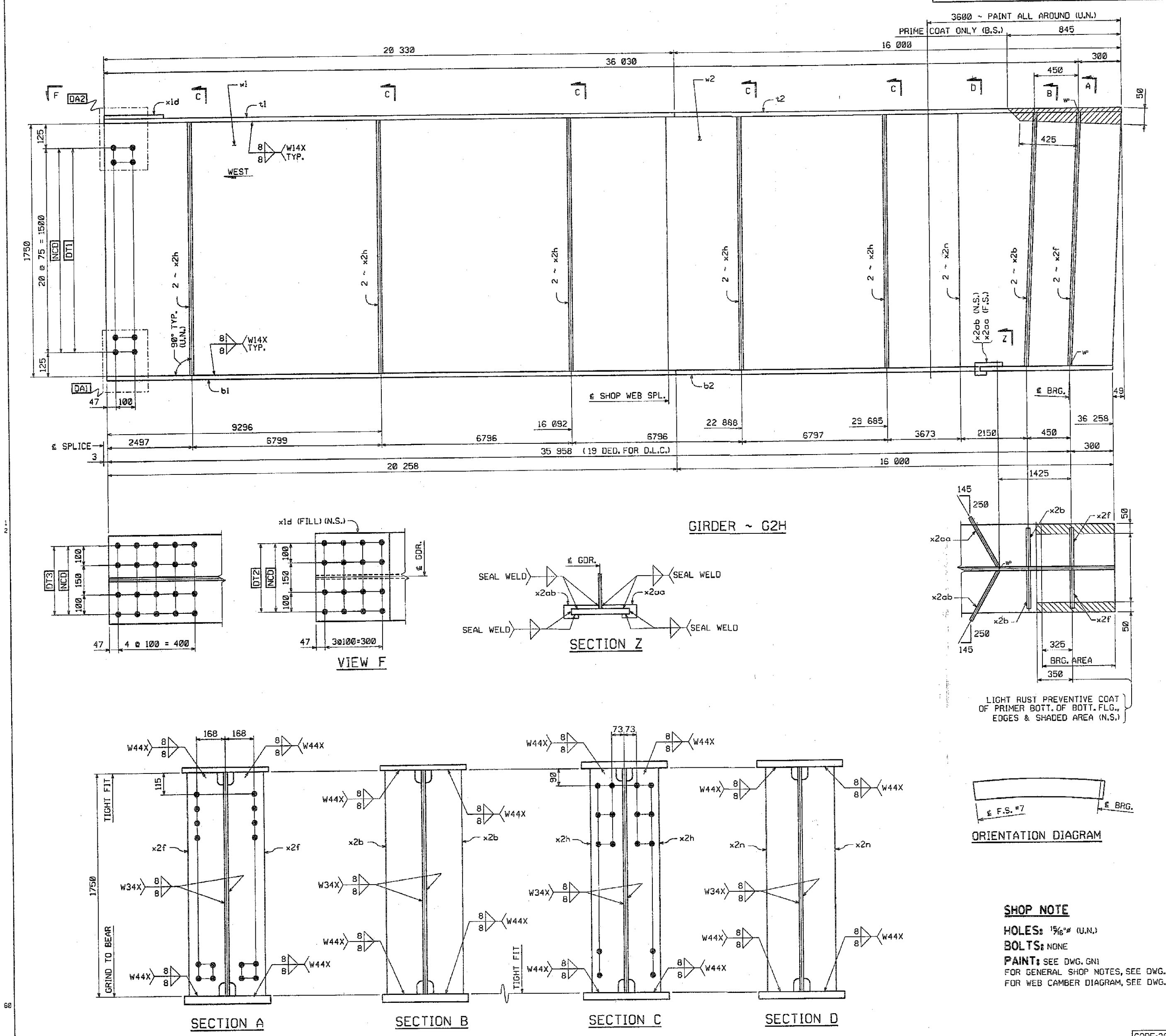
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G2H	GIRDER					16 560
1	w1	PL 16 x 1750	19 989	(T)	3	8	4393.08
1	w2	PL 16 x 1750	16 342	(T)	3	10	3591.56
1	t1	PL 22 x 450	20 331	(T)	4	26	1579.84
1	t2	PL 22 x 450	16 001	(T)	4	28	1243.38
1	b1	PL 40 x 450	20 259	(T)	4	4	2862.27
1	b2	PL 40 x 450	16 001	(T)	4	5	2260.68
1	x1d	PL 18 x 450	392	FILL	6	4	24.92
2	x2b	PL 22 x 200	1 750		7	2	60.44
2	x2f	PL 22 x 200	1 750		7	2	60.44
10	x2h	PL 12 x 180	1 750		7	4	29.67
2	x2n	PL 12 x 180	1 750		7	4	29.67
1	x2aa	PL 6 x 90	301		7	5	1.28
1	x2ab	PL 6 x 90	301		7	5	1.28

TOTAL WEIGHT THIS SHEET: 16 556.07 kgs



SHOP DRAWING REVIEW

Vanasse Hangen Brustlin, Inc.

SHOP NOTE

HOLES: 15/16"⌀ (U.N.)
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC2.

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER G2H
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SSL CHK'D. BY: CS DATE: 8-19-04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 30 OF 112

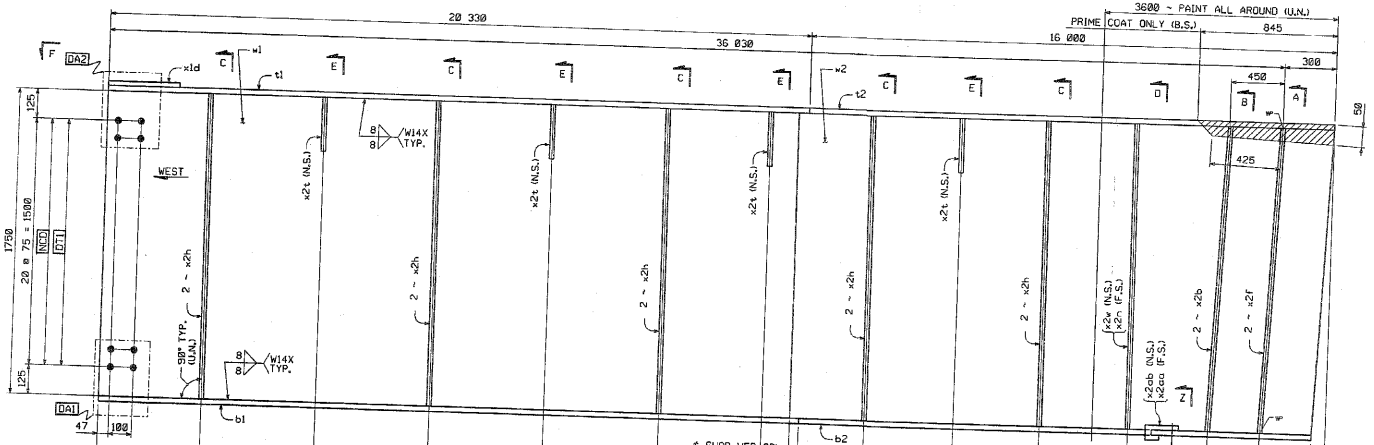
CODE:30

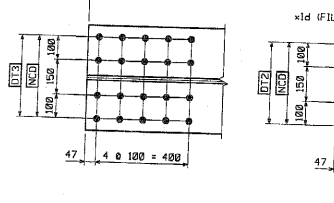
PLOTTED 08/20/2004

METRIC

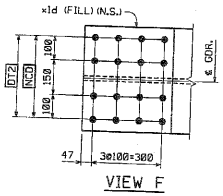
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

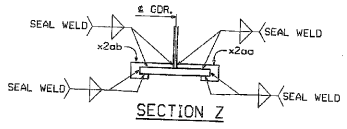
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	





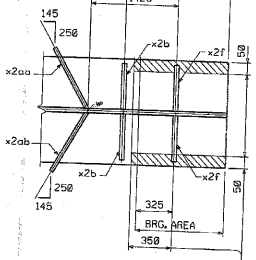
VIEW F





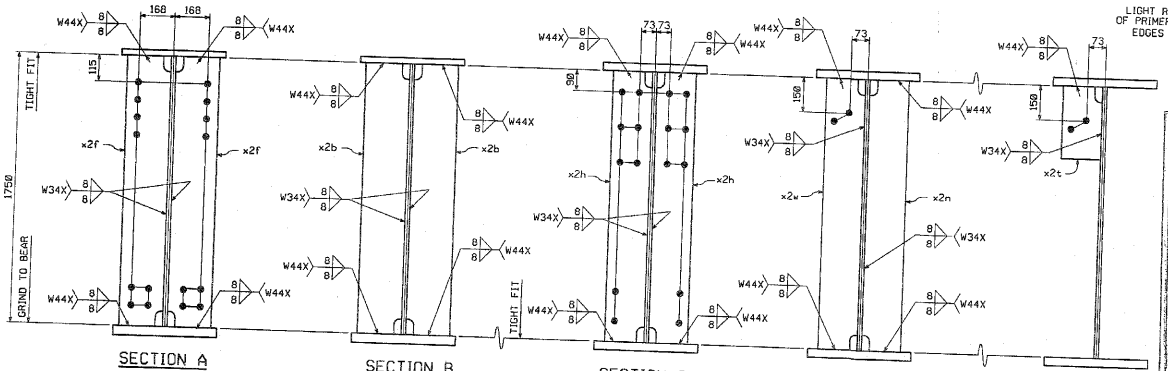
SECTION Z

GIRDER ~ G3H



LIGHT RUST PREVENTIVE COAT OF PRIMER BOTT. OF BOTT. FLG., EDGES & SHADED AREA (N.S.)

ORIENTATION DIAGRAM



SECTION A
SECTION B
SECTION C
SECTION D
SECTION E

SHOP DRAWING REVIEW

APPROVED AS REVIEWED (IF NO EXCEPTIONS OR NOTED COMMENTS ARE MADE, THE CONTRACTOR MAY PROCEED WITH FABRICATION, PROVIDED THAT HE COMPLIES WITH ALL OTHER REQUIREMENTS OF THE CONTRACT DOCUMENTS.)
☐ MAKE CORRECTIONS NOTED
☐ REVISE AND RESUBMIT
CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWING DURING THIS REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR THE DIMENSIONS TO BE CONFIRMED AND CORRELATED AT THE JOB SITE, FOR INFORMATION THAT PERTAINS SOLELY TO THE FABRICATION PROCESSES OF THE CONTRACTOR, SUCH AS CONSTRUCTION METHODS AND SEQUENCES, COORDINATION OF THE WORK OF VARIOUS TRADES, AND FOR SATISFACTORY PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL REVIEW, APPROVE AND SUBMIT SHOP DRAWINGS AND SAMPLES FOR ALL WORK AND MATERIALS IN THE CONTRACT DOCUMENTS SUFFICIENTLY IN ADVANCE OF CONSTRUCTION TO PERMIT ADEQUATE TIME FOR REVIEW OF SUBMITTALS. APPROVAL OF SUBMITTALS BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR DEVIATIONS FROM REQUIREMENTS OF THE CONTRACT DOCUMENTS UNLESS THE ENGINEER HAS BEEN SPECIFICALLY INFORMED OF SUCH DEVIATIONS AT THE TIME OF SUBMITTAL AND THE ENGINEER HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION. APPROVAL BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ERRORS AND OMISSIONS IN THE SHOP DRAWINGS OR OF RESPONSIBILITY FOR MEETING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS.
Reviewed by: [illegible]
Date: 8/19/04
Fabricator: Thompson Bridge Co., Inc.
Job Number: 5-Dec-11
Date: 12/19/2011

CODE:130

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG EA.	
ONE	G3H	GIRDER					16 590	
1	w1	PL 16 x 1750	19 989	(T)	3	8	4393.08	
1	w2	PL 16 x 1750	18 342	(T) 36.27#	3	10	3691.56	3773.43
1	t1	PL 22 x 450	20 331	(T) 20.35#	4	26	1579.84	1579.15
1	t2	PL 22 x 450	16 001	(T) 16.02#	4	28	1249.38	1243.44
1	b1	PL 40 x 450	20 259	(T) 20.28#	4	4	2862.27	2862.96
1	b2	PL 40 x 450	16 001	(T) 16.02#	4	5	2260.68	2260.68
1	x1d	PL 18 x 450	392	FILL	6	4	24.99	24.93
2	x2b	PL 22 x 200	1 750		7	2	60.44	120.88
2	x2f	PL 22 x 200	1 750		7	2	60.44	120.88
10	x2h	PL 12 x 180	1 750		7	4	29.67	296.73
1	x2n	PL 12 x 180	1 750		7	4	29.67	
4	x2t	PL 14 x 180	310		7	3	8.19	24.57
1	x2w	PL 12 x 180	1 750		7	4	29.67	
1	x2aa	PL 6 x 90	301	Vol= 7215	7	5	1.28	0.57
1	x2ab	PL 6 x 90	301		7	5	1.28	0.57

TOTAL WEIGHT THIS SHEET: 16 580.59 kgs

*See Sht 1 of 112

16 572.52 kg

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC2.

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5201
A Division of High Industries Inc.

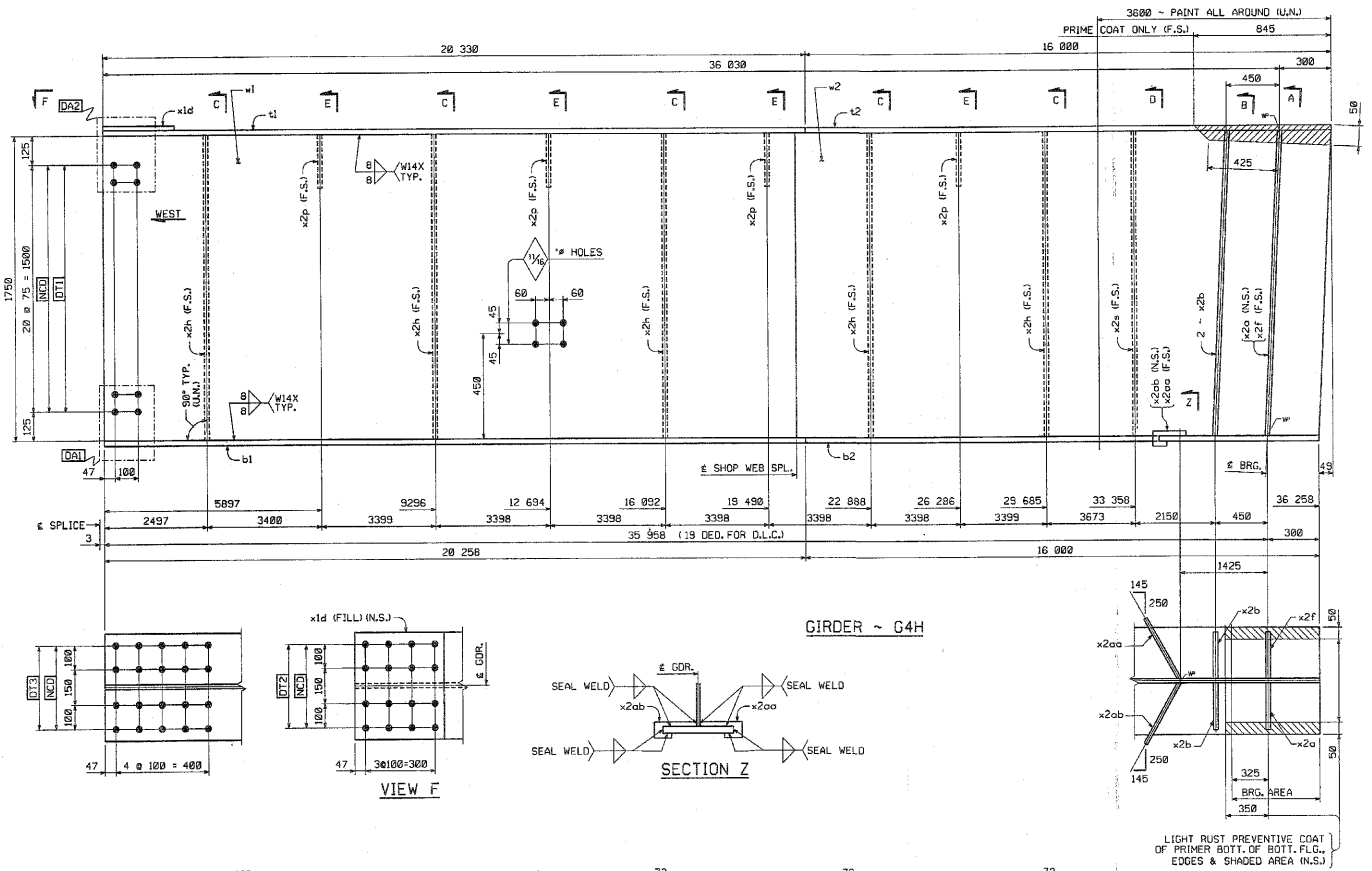
GIRDER G3H
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SSJ CHK'D. BY: CS DATE: 8-19-04
CONTRACT NUMBER: VT-04057-1
DRAWING NUMBER: 31 OF 112

PLOTTED: 08/25/2004 07:25:08 AM
BY: cshaffer

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

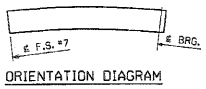


VIEW F

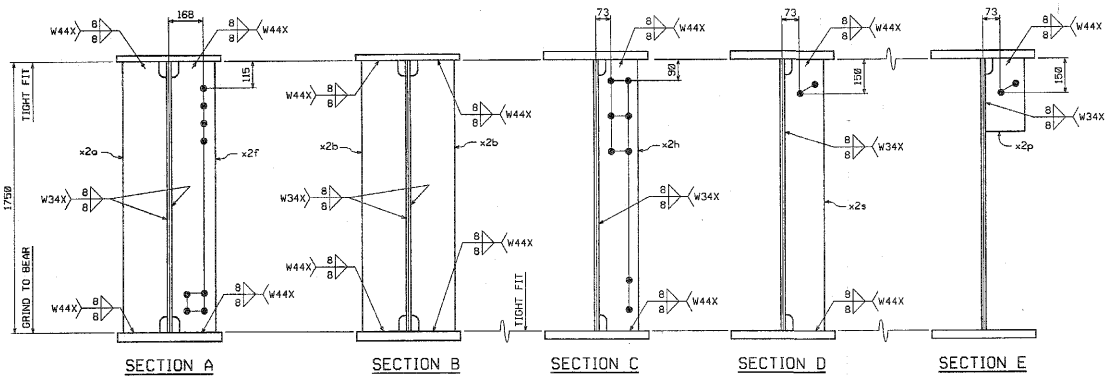
GIRDER ~ G4H

SECTION Z

LIGHT RUST PREVENTIVE COAT OF PRIMER BOTT. OF BOTT. FLG., EDGES & SHADED AREA (N.S.)



ORIENTATION DIAGRAM



BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G4H	GIRDER					16 410
1	w1	PL 18 x 1750	19 989	(T)	3	8	~~4393.08~~
1	w2	PL 16 x 1750	16 342	(T) 36214	3	10	~~3591.56~~
1	t1	PL 22 x 450	20 931	(T) 24930	4	26	~~1679.84~~
1	t2	PL 22 x 450	18 061	(T) 21660	4	28	~~1248.38~~
1	b1	PL 40 x 450	20 259	(T) 2 2278	4	4	~~2862.27~~
1	b2	PL 40 x 450	18 001	(T) 18000	4	5	~~2260.88~~
1	x1d	PL 18 x 450	392	FILL	6	4	~~24.52~~
1	x2a	PL 22 x 200	1 750		7	2	~~60.44~~
2	x2b	PL 22 x 200	1 750		7	2	~~60.44~~
1	x2f	PL 22 x 200	1 750		7	2	~~60.44~~
5	x2h	PL 12 x 160	1 750		7	4	~~96.67~~
4	x2p	PL 14 x 160	310		7	3	~~8.13~~
1	x2s	PL 12 x 160	1 750	*	7	4	29.67
1	x2aa	PL 6 x 90	301	V 16 7 1350	7	5	~~1.28~~
1	x2ab	PL 8 x 90	301	W 1 6	7	5	~~1.28~~
		TOTAL WEIGHT THIS SHEET:			~~16 402.88~~	kgs	

SHOP NOTE

HOLES: 15/16"ø (U.N.)
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC2.

SHOP DRAWING REVIEW

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17601-6008
Phone 717/293-1234
A Division of High Industries Inc.

GIRDER G4H
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+058.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

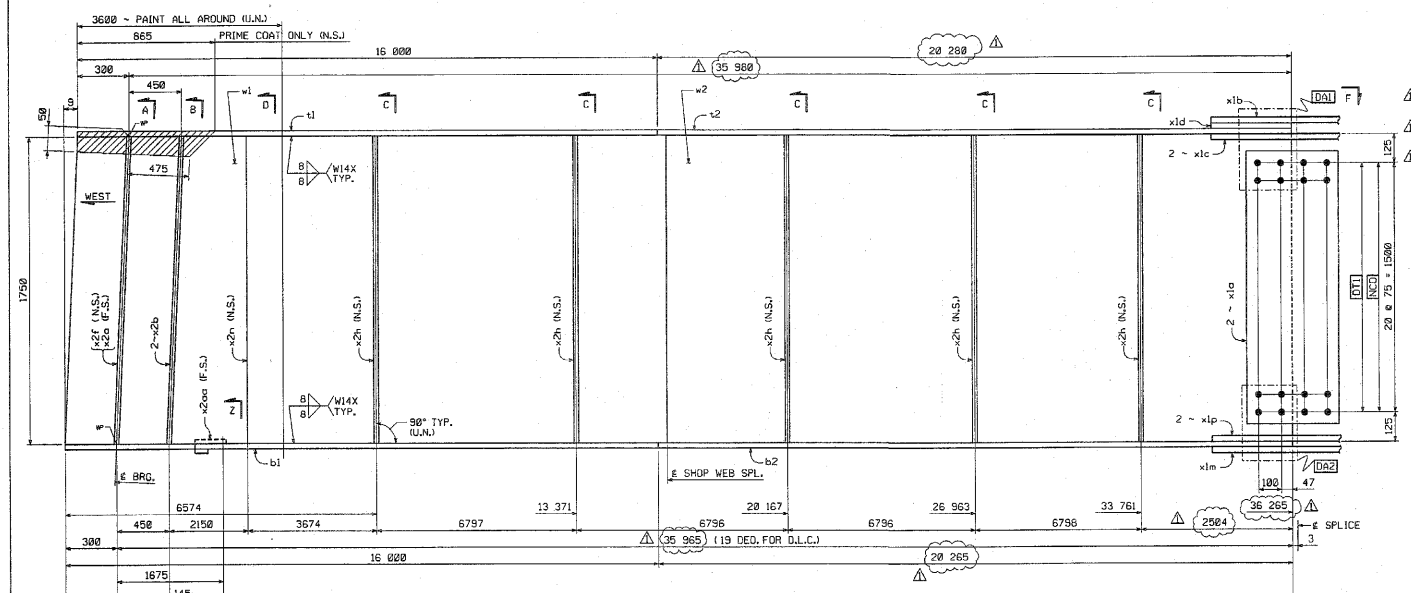
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SSL CHK'D. BY: CS DATE: 8-19-04
CONTRACT NUMBER: VT-04057-1 DRAWING NUMBER: 32 OF 112

CODE:30

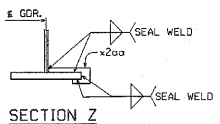
PLOTTED: 08/20/2004 07:50:43 AM
BY: cshotter

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

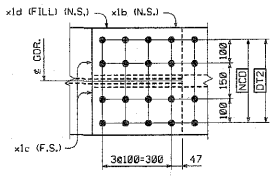
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



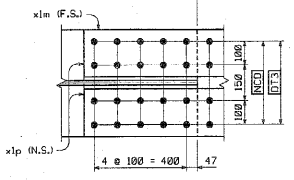
GIRDER ~ G5I

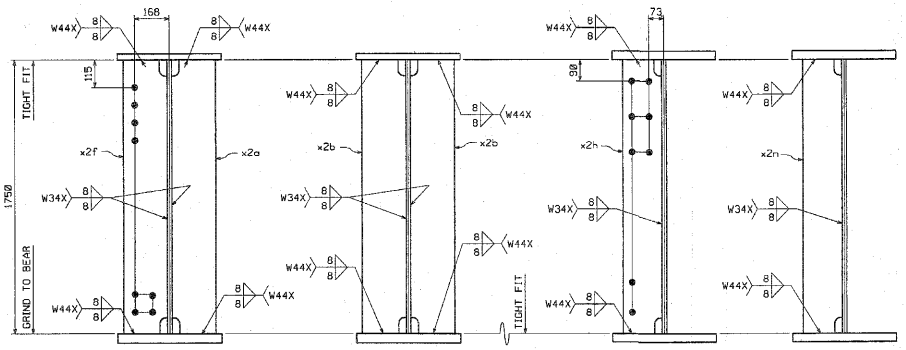


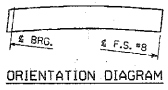
SECTION Z



VIEW F







ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G5I	GIRDER					16 700
~~1~~	~~w1~~	~~PL 16 x 1750~~	~~16 307~~	(T)	~~3~~	~~11~~	~~3583.87~~
1	w2	PL 16 x 1750	19 998	(T) 15277	3	8	4393.05
1	t1	PL 22 x 450	~~16 001~~	(T) 16001	4	28	1245.36
1	t2	PL 22 x 450	20 280	(T)	4	27	~~1575.86~~
1	b1	PL 40 x 450	~~16 001~~	(T) 16001	4	5	2260.68
1	b2	PL 40 x 450	20 265	(T)	4	4	2863.12
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1d	PL 18 x 450	392	FILL	6	4	24.82
1	x1m	PL 18 x 450	990	(T)	6	3	~~62.94~~
2	x1p	PL 20 x 200	990	(T)	6	2	31.08
1	x2a	PL 22 x 200	1 750		7	2	~~60.44~~
2	x2b	PL 22 x 200	1 750		7	2	60.44
1	x2f	PL 22 x 200	1 750		7	2	~~60.44~~
5	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
1	x2n	PL 12 x 180	1 750		7	4	29.67
1	x2aa	PL 6 x 90	301		7	5	~~4.38~~

TOTAL WEIGHT THIS SHEET: ~~16 692.36~~ kgs

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☐ RETURNED AS SUBMITTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. FOR CHECKS ONLY FOR REVIEW OF SHOPS CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Student Avenue, Williston Rd. Bedford, NH 03110 603-644-0800

Job Number: 5C011
Reviewed By: BTP-AL
Date: 9/16/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road Lancaster, PA 17605-0305 Phone 717/299-521
A Division of High Industries, Inc.

GIRDER G5I
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.12+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SRS CHK'D. BY: GS DATE: 8-19-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 33 OF 112

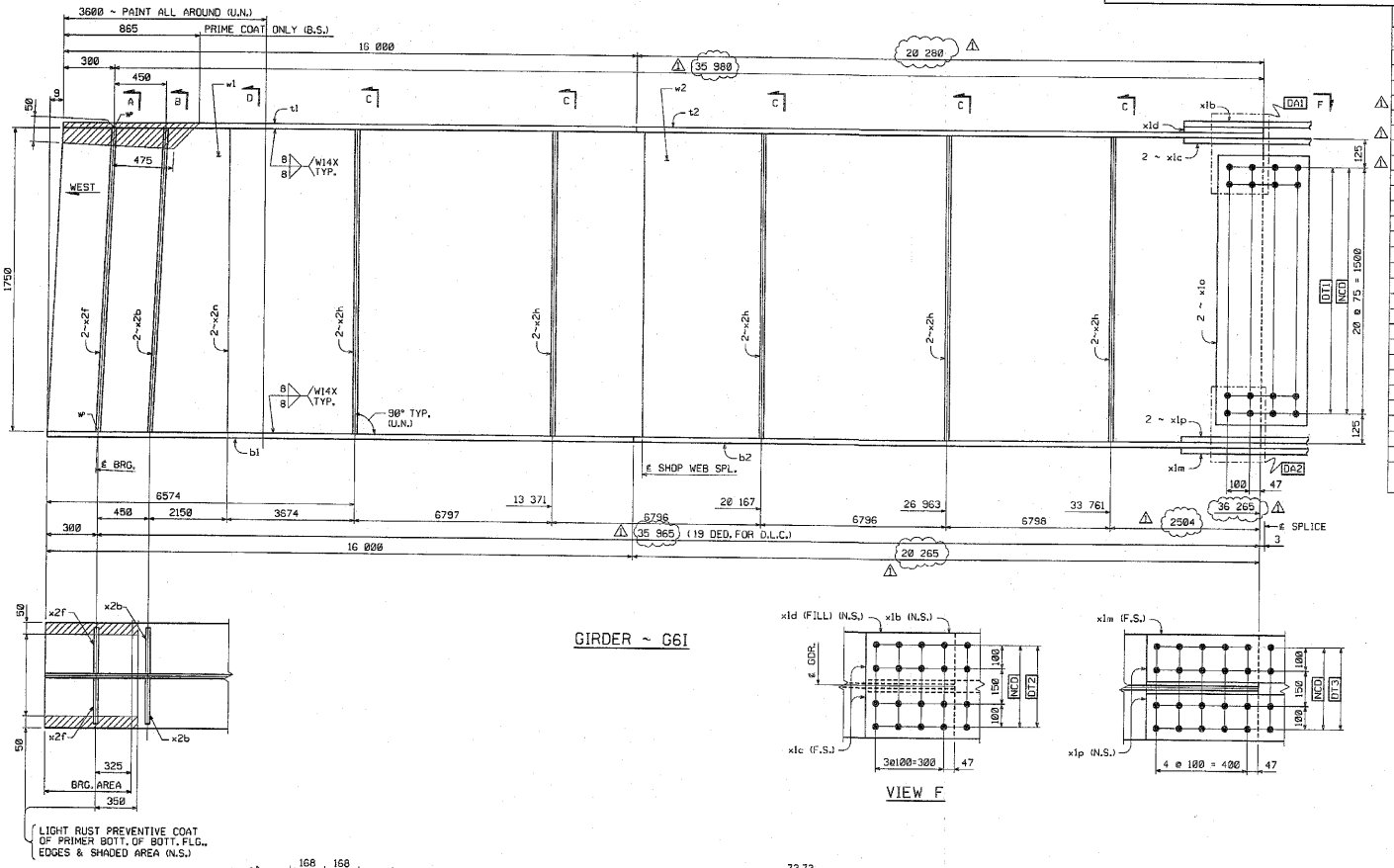
CODE138

METRIC
PLOTTED: 9/20/2004 08:03:41 BY: dpainter
02

METRIC

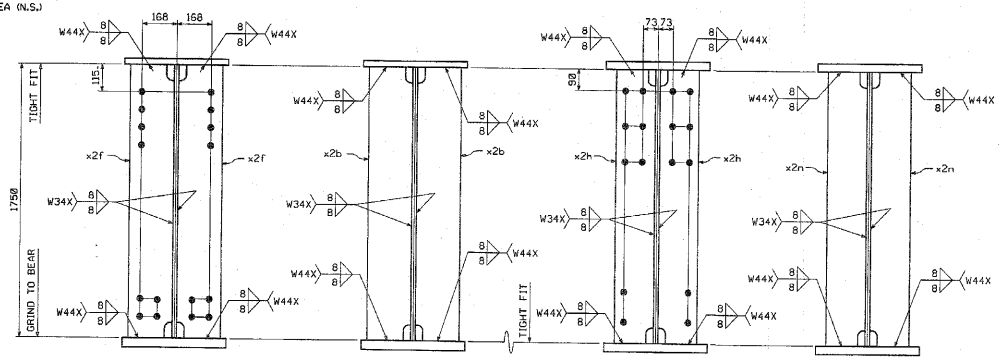
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

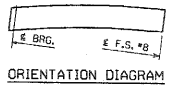
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



GIRDER ~ G6I

VIEW F





ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

CODE:30

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G6I	GIRDER					16 870
1	w1	PL 16 x 1750	16 807	(T)	3	11	3583.87
1	w2	PL 16 x 1750	19 998	(T)	3	6	4395.06
1	t1	PL 22 x 450	16 001	(T)	4	28	1245.36
1	t2	PL 22 x 450	20 280	(T)	4	27	1575.86
1	b1	PL 40 x 450	16 001	(T)	4	5	2260.68
1	b2	PL 40 x 450	20 265	(T)	4	4	2863.12
2	x1a	PL 12 x 1600	400	(T)	6	1	60.29
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1d	PL 18 x 450	392	FILL	6	4	24.92
1	x1m	PL 18 x 450	990	(T)	6	3	62.94
2	x1p	PL 20 x 200	990	(T)	6	2	31.08
2	x2b	PL 22 x 200	1 750		7	2	60.44
2	x2f	PL 22 x 200	1 750		7	2	60.44
10	x2h	PL 12 x 180	1 750		7	4	29.67
2	x2n	PL 12 x 180	1 750		7	4	29.67

TOTAL WEIGHT THIS SHEET: 16869.11 kgs

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND GENERALLY WITH THE CONTRACT DOCUMENTS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

☐ REJECTED ☐ NOTED AND RESUBMIT ☐ SUBMITTED AS CORRECTED

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Bedford Farms, Bldg Rd Bedford, NH 03102 603-344-0688

Job Number: 50811
Reviewed By: JJM
Date: 11/3/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH & MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, Pa. 17603-0008
Phone 717/293-5211
A Division of High Industries Inc.

GIRDER G6I
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

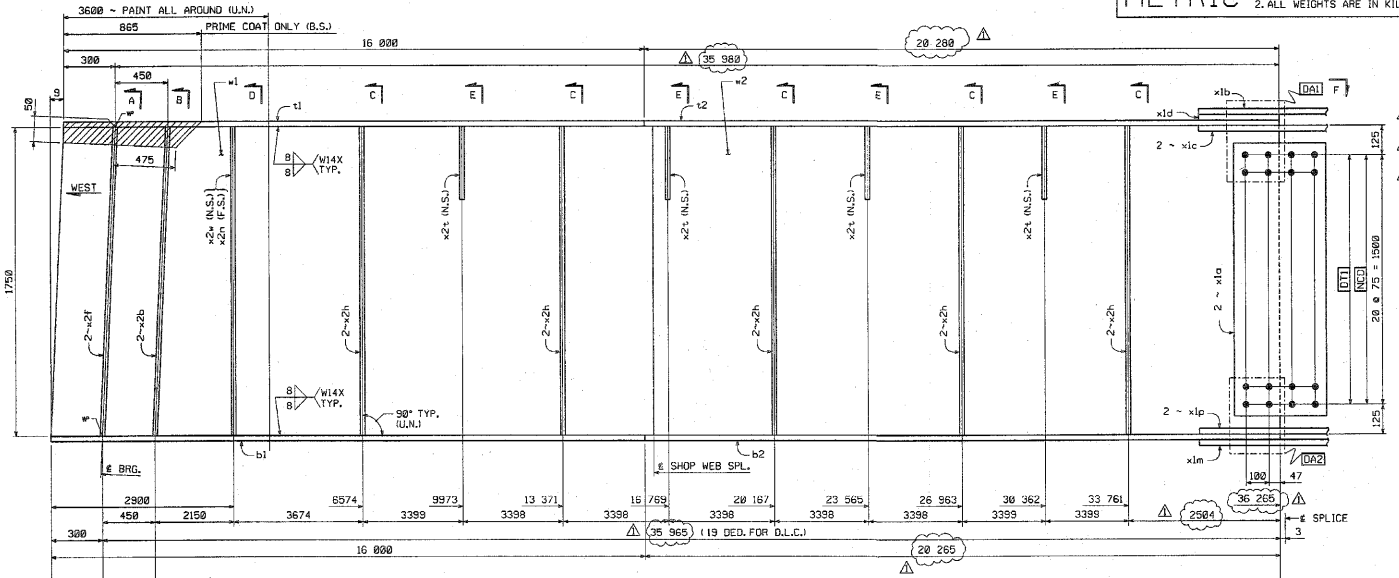
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: EES CHK'D. BY: GS DATE: 8-19-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 34 OF 112

PLOTTED: 9/29/2004 14:53:33 PM BY: dpoirier

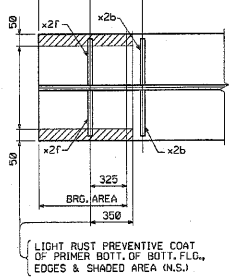
METRIC

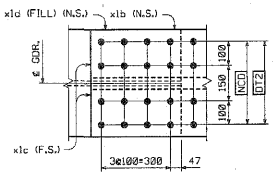
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

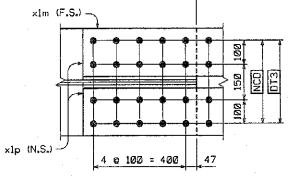


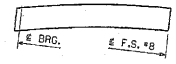
GIRDER ~ G7I





VIEW F





ORIENTATION DIAGRAM

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G7I	GIRDER					16 900
1	w1	PL 16 x 1750	16.367	(T)	3	11	3583.87
1	w2	PL 16 x 1750	19.998	(T)	4	8	4396.08
1	t1	PL 22 x 450	18.001	(T)	4	28	1243.36
1	t2	PL 22 x 450	20.280	(T)	4	27	1575.85
1	b1	PL 40 x 450	18.001	(T)	4	5	2260.68
1	b2	PL 40 x 450	20.265	(T)	4	4	2863.12
2	x1a	PL 12 x 1600	400	(T)	6	1	60.26
1	x1b	PL 14 x 450	790	(T)	6	6	39.08
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1d	PL 18 x 450	392	FILL	6	4	24.92
1	x1m	PL 18 x 450	990	(T)	6	3	62.94
2	x1p	PL 20 x 200	990	(T)	6	2	31.08
2	x2b	PL 22 x 200	1750		7	2	60.44
2	x2f	PL 22 x 200	1750		7	2	60.44
10	x2h	PL 12 x 180	1750		7	4	29.67
1	x2n	PL 12 x 180	1750		7	4	29.67
4	x2t	PL 14 x 180	310		7	3	6.13
1	x2w	PL 12 x 180	1750		7	4	29.67

TOTAL WEIGHT THIS SHEET: 16893.63 kgs

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

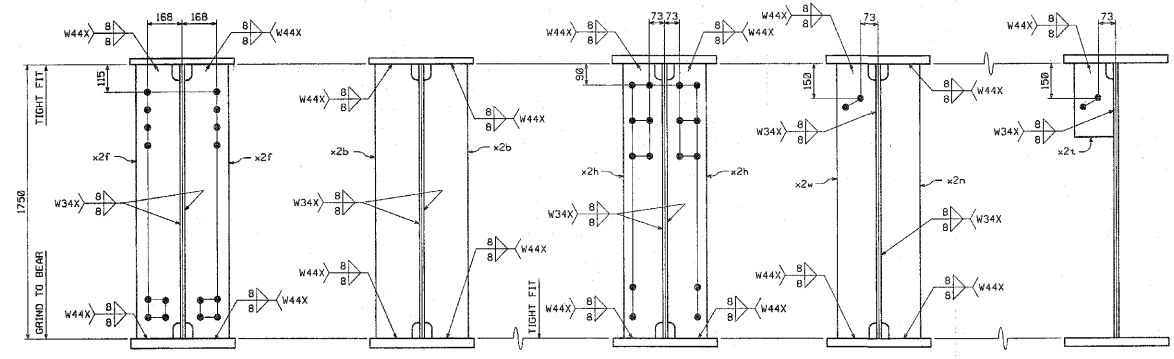
☐ REJECTED ☐ NOTED AND RESUBMIT ☐ APPROVE AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK ONLY CONFIRMS GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VERB — Vermont Hanger Diuguid, Inc. Engineers, Planners, and Scientists, P.O. Box 614 Rutland, Vermont 05702-0614 802-747-0888

Job Number: 5.04.11
Reviewed By: STM-W
Date: JULY 04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04



SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

CODE:30

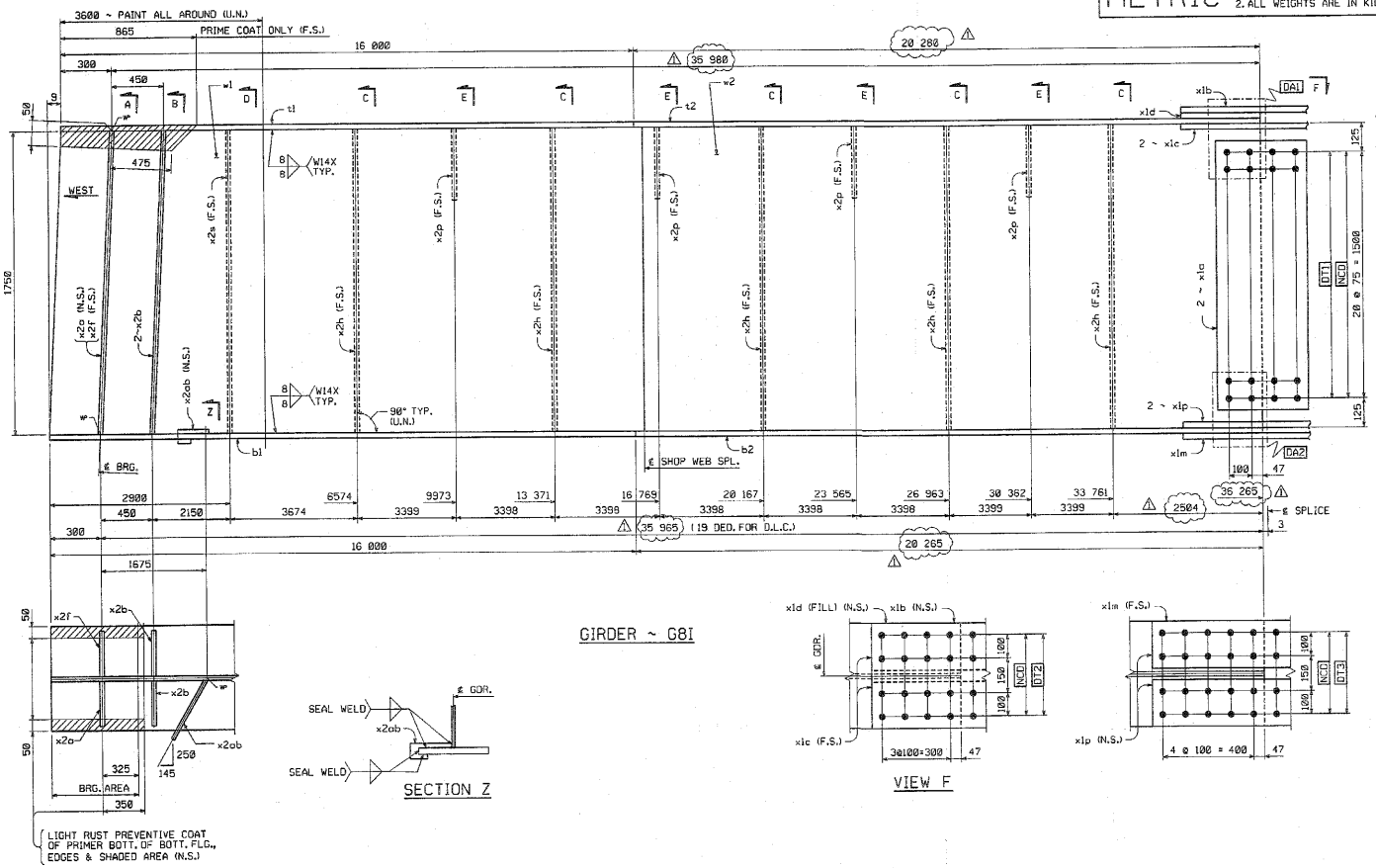
HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road, Lancaster, PA 17601-6008, Phone: 717/291-521
A Division of High Industries, Inc.

GIRDER	G7I
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.12+970.425 TO STA.12+859.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (IH) MADE BY: ERS CHK'D. BY: CS DATE: 8-19-04	
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 35 OF 112	

PLOTTED: 9/20/2004 8:26:06 PM
BY: dpountas

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

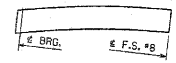
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



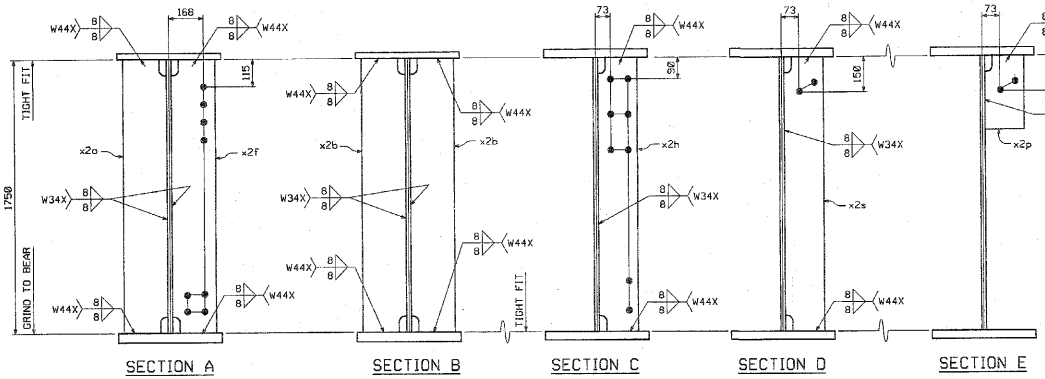
GIRDER ~ G8I

SECTION Z

VIEW F



ORIENTATION DIAGRAM



SHOP NOTE

HOLES: 15/16"ø

BOLTS: NONE

PAINT: SEE DWG. GN1

FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

CODE:130

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G8I	GIRDER					16 720
1	w1	PL 16 x 1750	18 307	(T)	3	11	3583.87
1	w2	PL 16 x 1750	~~19 998~~	(T)	3	8	~~4385.06~~
1	t1	PL 22 x 450	~~16 001~~	(T)	4	28	~~1249.36~~
1	t2	PL 22 x 450	20 280	(T)	4	27	~~1575.88~~
1	b1	PL 40 x 450	~~16 001~~	(T)	4	5	~~2260.68~~
1	b2	PL 40 x 450	20 265	(T)	4	4	~~2868.12~~
2	x1a	PL 12 x 1600	400	(T)	6	1	60.26
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.96~~
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1d	PL 16 x 450	392	FILL	6	4	24.92
1	x1m	PL 18 x 450	990	(T)	6	3	62.94
2	x1p	PL 20 x 200	990	(T)	6	2	~~31.08~~
1	x2a	PL 22 x 200	1 750		7	2	60.44
2	x2b	PL 22 x 200	1 750		7	2	~~60.44~~
1	x2f	PL 22 x 200	1 750		7	2	60.44
5	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
4	x2p	PL 14 x 180	310		7	3	8.13
1	x2s	PL 12 x 180	1 750		7	4	29.67
1	x2ab	PL 6 x 90	301		7	5	1.28

TOTAL WEIGHT THIS SHEET: ~~18716.89~~ kgs

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO ANY AND LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ REVIEWED AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dartmouth Corner, Highway 85 Bedford, NH 03102 603 644 0888

Job Number: 5004.11
Reviewed By: RTM
Date: 9/8/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

MIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17601-2008
Phone 717/295-525
A Division of High Industries, Inc.

GIRDER G8I
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.18+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE GLIDDEN (IH) MADE BY: ERS CHK'D. BY: CG DATE: 8-19-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 36 OF 112

PLOTTED: 9/20/2004 BY: dpainter

METRIC

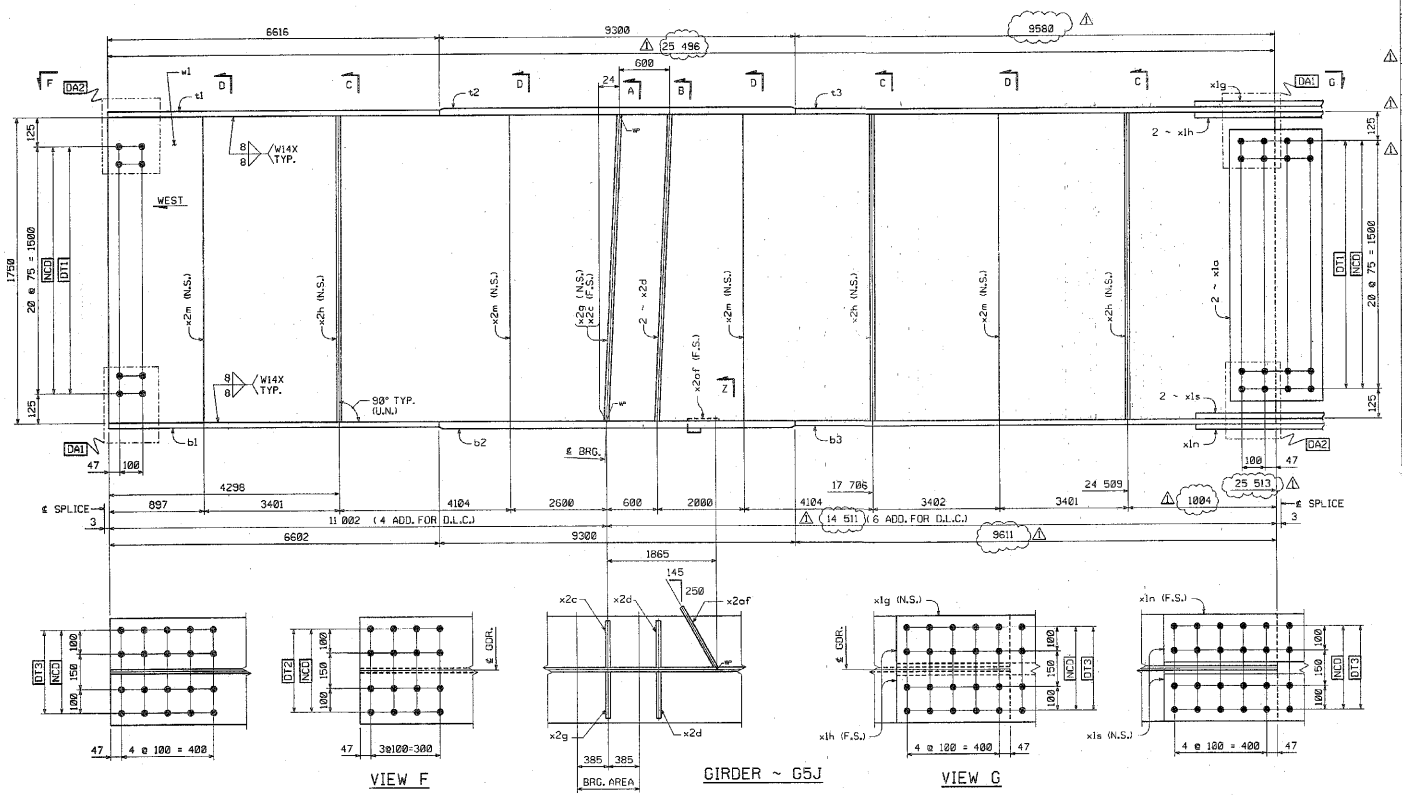
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

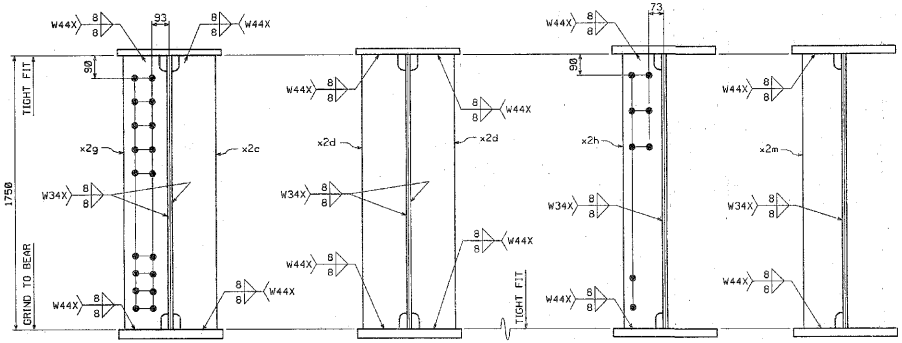
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G5J	GIRDER					16 390
1	w1	PL 16 x 1750	~~25 513~~	(T)	3	12	~~5807.11~~
1	t1	PL 40 x 450	6 616	(T)	4	11	~~934.73~~
1	t2	PL 60 x 450	9 300	(T)	4	1	~~2627.88~~
1	t3	PL 40 x 450	9 580	(T)	4	9	~~1353.60~~
1	b1	PL 40 x 450	6 602	(T)	4	11	~~932.76~~
1	b2	PL 80 x 450	9 300	(T)	4	1	~~2627.88~~
1	b3	PL 40 x 450	9 611	(T)	4	7	~~1357.88~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.28~~
1	x1g	PL 14 x 450	990	(T)	6	6	~~48.95~~
2	x1h	PL 16 x 200	~~990~~	(T)	6	5	~~24.87~~
1	x1n	PL 14 x 450	990	(T)	6	6	~~48.95~~
2	x1s	PL 16 x 200	990	(T)	6	5	~~24.87~~
1	x2c	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
1	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
3	x2h	PL 12 x 160	1 750		7	4	29.67
4	x2m	PL 12 x 160	1 750		7	4	29.87
1	x2af	PL 6 x ~~130~~	301		7	5	~~1.84~~

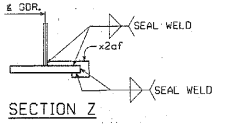
TOTAL WEIGHT THIS SHEET: ~~16 386.78~~ kgs



VIEW F — GIRDER ~ G5J — VIEW G



SECTION A — SECTION B — SECTION C — SECTION D



SECTION Z

ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

SHOP DRAWING REVIEW

X INCORPORATE AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, SUBJECT ONLY PER CONFORMANCE TO THE DESIGN CONCEPT OF THE PROJECT, AND COMPLIANCE TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ REVISED AS CORRECTED

CORRECTIONS OR CLARIFICATIONS MADE ON THE SHOP DRAWINGS MARKED THUS DO NOT DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING THE WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Oxford Farms, Jilton Rd. Bedford, NH 03110 603 644 0888

Job Number: 50411
Reviewed By: SMH
Date: 11/1/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-521
A Division of High Industries, Inc.

GIRDER G5J

VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (JH) MADE BY: SRS CHK'D. BY: CS DATE: 8-20-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 37 OF 112

CODE=30

PLOTTED: 9/20/2004 8:05:42 AM Bri counter

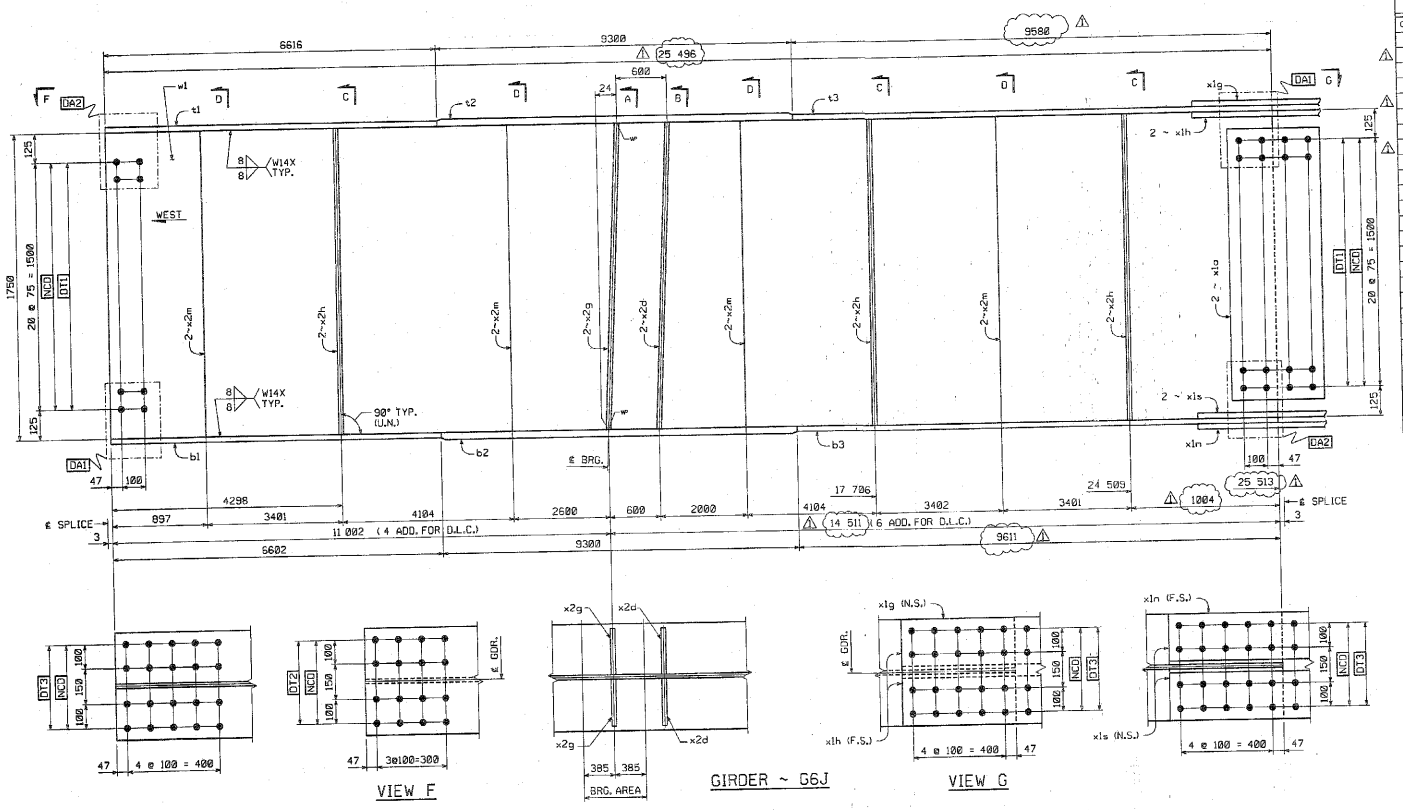
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G6J	GIRDER					16 600
1	w1	PL 16 x 1750	25 543	(T) 22 SQ FT	3	12	5607.11
1	t1	PL 40 x 450	6 616	(T)	4	11	934.73
1	t2	PL 60 x 450	9 300	(T)	4	1	2627.88
1	t3	PL 40 x 450	9 580	(T)	4	9	1363.50
1	b1	PL 40 x 450	6 602	(T)	4	11	932.76
1	b2	PL 60 x 450	9 300	(T)	4	1	2627.88
1	b3	PL 40 x 450	9 811	(T)	4	7	1357.88
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1g	PL 14 x 450	990	(T)	6	6	48.95
2	x1h	PL 16 x 200	990	(T)	6	5	24.87
1	x1n	PL 14 x 450	990	(T)	6	6	48.95
2	x1s	PL 16 x 200	990	(T)	6	5	24.87
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
6	x2h	PL 12 x 180	1 750		7	4	29.87
8	x2m	PL 12 x 180	1 750		7	4	29.87

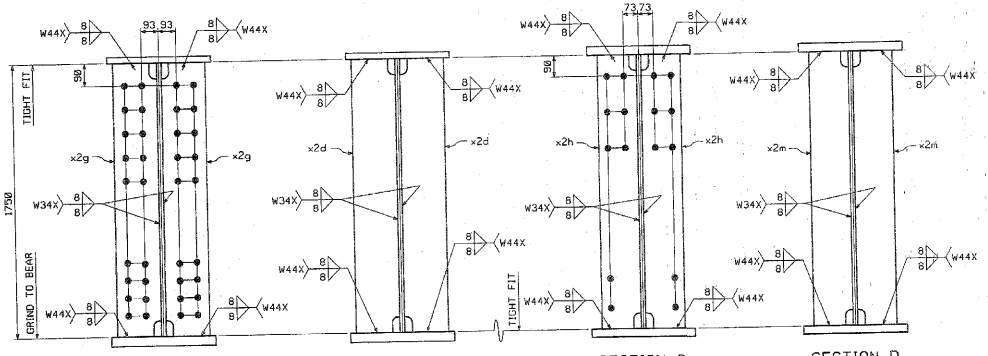
TOTAL WEIGHT THIS SHEET: 16 592.62 kgs



VIEW F

GIRDER ~ G6J

VIEW G



SECTION A SECTION B SECTION C SECTION D

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CONSTRUCTED

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VAIDS Vanasse Hangen Brustlin, Inc. Job Number: 50411
Reviewed By: [illegible]
Date: 9/16/04

ORIENTATION DIAGRAM

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Harrisburg Road
Lancaster, PA 17605-0008
Phone 717/293-5211
A Division of High Industries, Inc.

GIRDER G6J
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SRS CHK'D BY: CS DATE: 8-20-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 38 OF 112

CODE:30

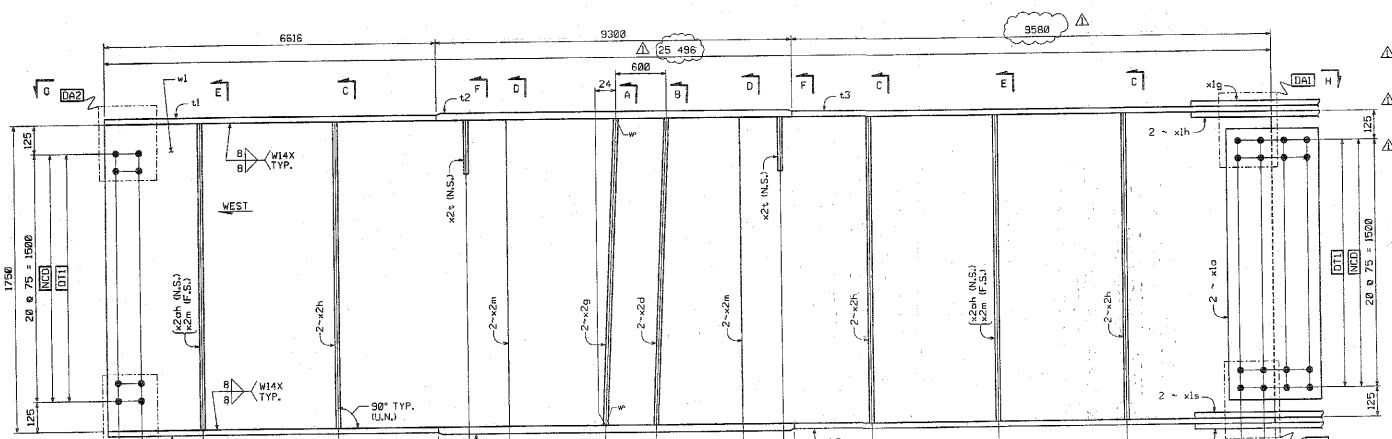
PLOTTED: 9/20/2004 10:09:19 PM BY: dpeirman

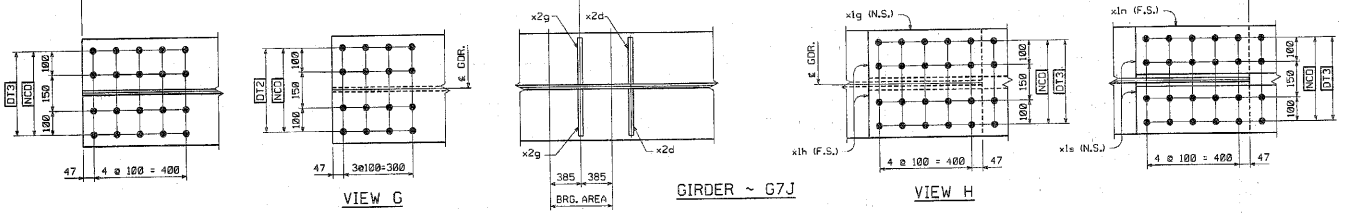
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G7J	GIRDER					16 610
1	w1	PL 16 x 1750	25 513	(T)	3	12	~~5807.11~~
1	t1	PL 40 x 450	6 816	(T)	4	11	~~934.73~~
1	t2	PL 80 x 450	9 300	(T)	4	1	~~2627.88~~
1	t3	PL 40 x 450	9 580	(T)	4	9	~~1353.50~~
1	b1	PL 40 x 450	6 602	(T)	4	11	~~932.76~~
1	b2	PL 80 x 450	9 300	(T)	4	1	~~2627.88~~
1	b3	PL 40 x 450	9 611	(T)	4	7	~~1357.86~~
2	x1e	PL 12 x 1600	400	(T)	6	1	~~80.28~~
1	x1g	PL 14 x 450	990	(T)	6	6	~~48.95~~
2	x1h	PL 16 x 200	990	(T)	6	5	~~24.87~~
1	x1n	PL 14 x 450	990	(T)	6	6	~~48.95~~
2	x1s	PL 16 x 200	990	(T)	6	5	~~24.87~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
6	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
6	x2m	PL 12 x 180	1 750		7	4	~~29.67~~
2	x2l	PL 14 x 180	310		7	3	~~8.13~~
2	x2ah	PL 12 x 180	1 750		7	4	~~29.67~~
TOTAL WEIGHT THIS SHEET:			16 604.88	kgs			





VIEW G

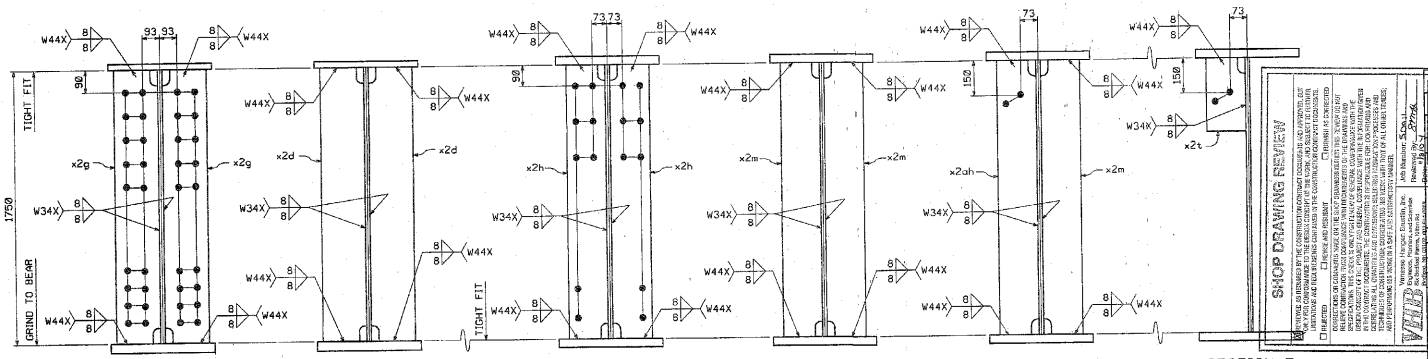
GIRDER ~ G7J

VIEW H

ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.



SECTION A SECTION B SECTION C SECTION D SECTION E SECTION F

SHOP DRAWING REVIEWED

CODE:30

NO.	REVISION	BY	DATE
1	INCREASE LENGTH TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/293-521
A Division of High Industries, Inc

GIRDER G7J
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: ERS CHK'D. BY: CS DATE: 8-20-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 39 OF 112

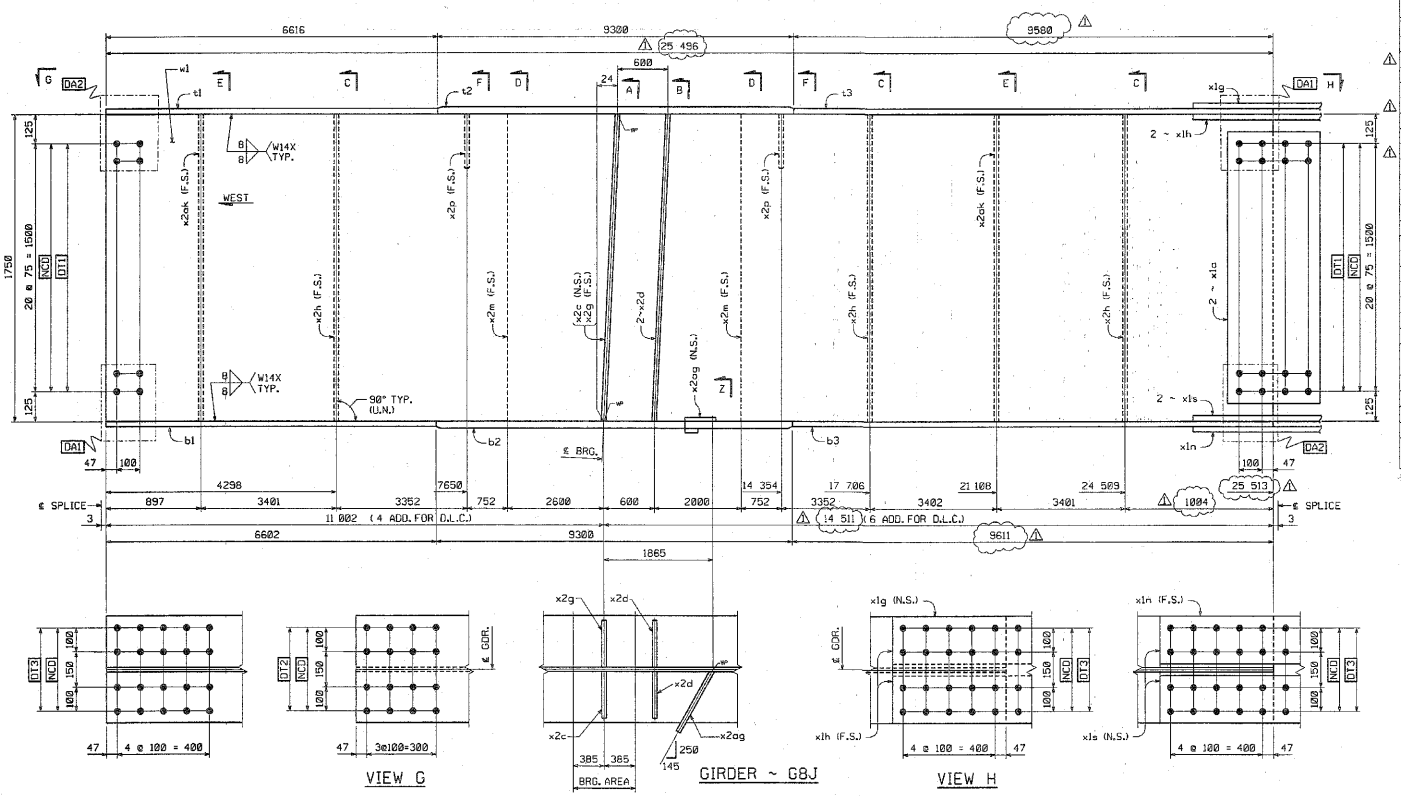
PLOTTED: 9/28/2004 8:05:46 PM
By: dspainter

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

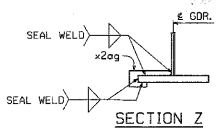
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G8J	GIRDER					16 400
1	w1	PL 16 x 1750	25 513	(T)	3	12	5807.11
1	t1	PL 40 x 450	6 616	(T)	4	11	934.73
1	t2	PL 80 x 450	9 300	(T)	4	1	2627.88
1	t3	PL 40 x 450	9 580	(T)	4	9	1353.50
1	b1	PL 40 x 450	6 602	(T)	4	11	932.76
1	b2	PL 80 x 450	9 300	(T)	4	1	2627.88
1	b3	PL 40 x 450	9 611	(T)	4	7	1357.88
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1g	PL 14 x 450	990	(T)	6	6	48.95
2	x1h	PL 16 x 200	990	(T)	6	5	24.67
1	x1n	PL 14 x 450	990	(T)	6	6	48.95
2	x1s	PL 16 x 200	990	(T)	6	5	24.67
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
3	x2h	PL 12 x 180	1 750		7	4	29.67
2	x2m	PL 12 x 180	1 750		7	4	29.67
2	x2p	PL 14 x 180	310		7	3	8.13
1	x2ag	PL 6 x 130	301		7	5	4.84
2	x2ak	PL 12 x 180	1 750		7	4	29.67
TOTAL WEIGHT THIS SHEET:			16 399.04	kgs			



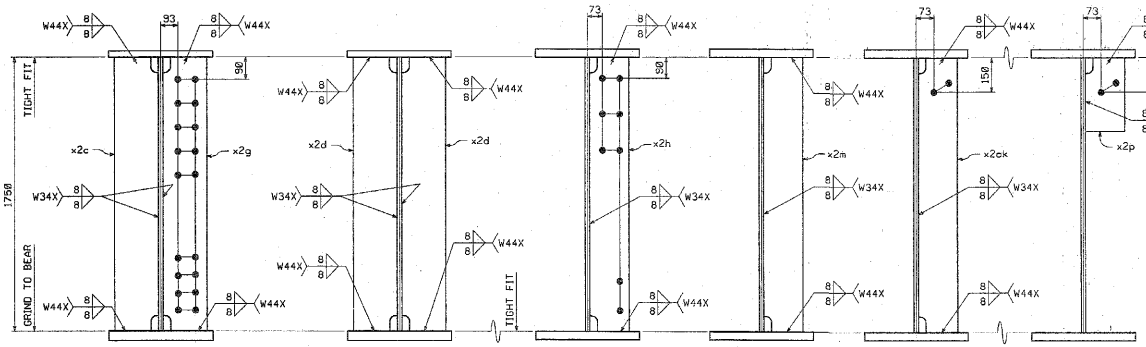
VIEW C

GIRDER ~ G8J

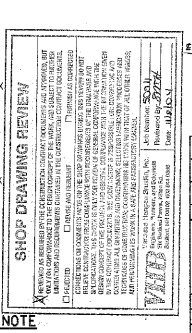
VIEW H

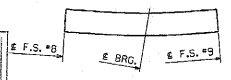


SECTION Z



SECTION A SECTION B SECTION C SECTION D SECTION E SECTION F





ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16" ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

CODE:30

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH & MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1970 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER G8J
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.18+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE GLIDDEN (IH) MADE BY BS CHK'D. BY CS DATE: 8-20-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 40 OF 112

PLOTTED: 9/20/2004 10:56:41 PM By: dpommer

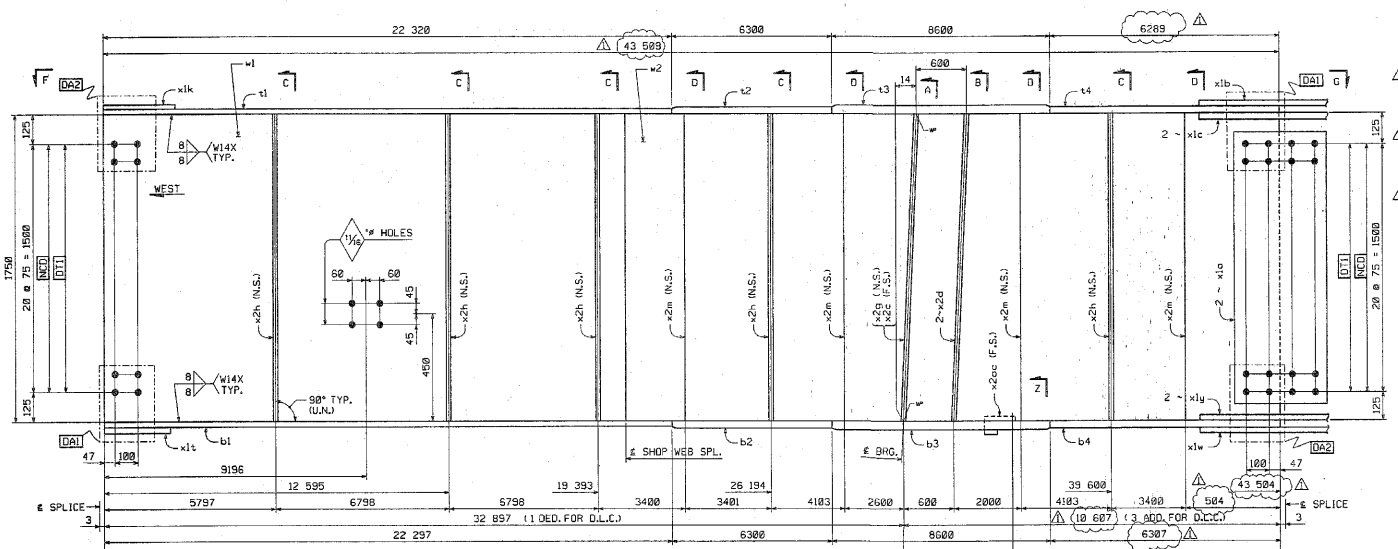
METRIC

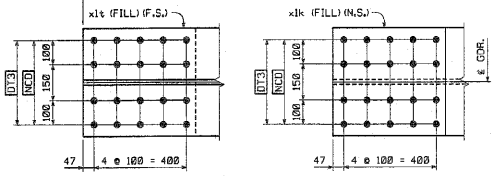
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

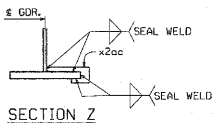
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G5K	GIRDER					20 850
1	w1	PL 18 x 1750	19 906	(T)	3	9	~~437 4.84~~
1	w2	PL 16 x 1750	23 605	(T) 4.556	3	7	~~5188.44~~
1	t1	PL 22 x 450	22 320	(T)	4	23	~~1734.40~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	t4	PL 32 x 450	6 289	(T)	4	15	~~710.88~~
1	b1	PL 22 x 450	22 297	(T)	4	24	~~1732.61~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	b4	PL 32 x 450	6 307	(T)	4	14	~~712.86~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~80.26~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~30.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1k	PL 18 x 450	492	FILL	6	4	31.28
1	x1t	PL 18 x 450	492	FILL	6	4	31.28
1	x1w	PL 14 x 450	790	(T)	6	8	~~89.06~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x2c	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2d	PL 35 x 200	1 750		7	1	~~104.39~~
1	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
5	x2h	PL 12 x 180	1 750		7	4	~~22.87~~
4	x2m	PL 12 x 180	1 750		7	4	~~29.67~~
1	x2ac	PL 6 x 115	301		7	5	~~1.63~~
		TOTAL WEIGHT THIS SHEET:		~~20853.85~~	kgs		



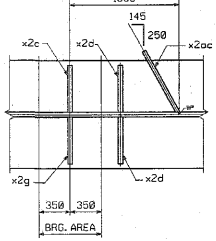


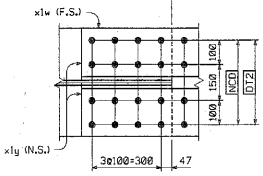
VIEW F

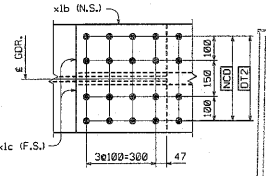


SECTION Z

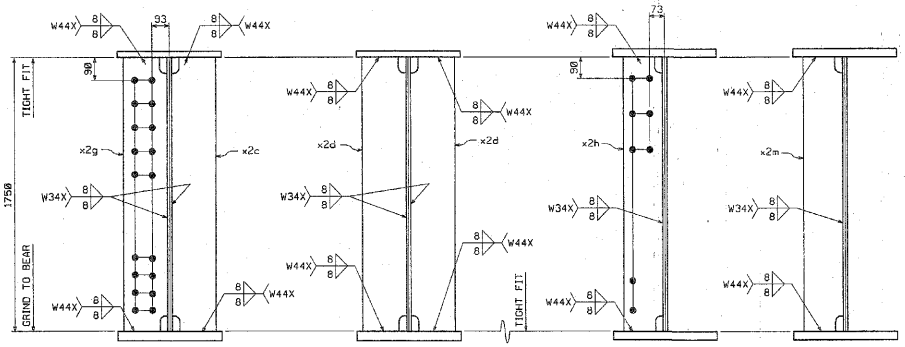
GIRDER ~ G5K



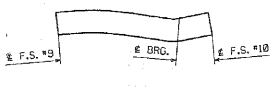




VIEW G



SECTION A SECTION B SECTION C SECTION D



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø (U.N.)
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC3.

CODE:30

SHOP DRAWING REVIEW

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0308
Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER	G5K
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (IH) MADE BY: ~~SRS~~ CHK'D. BY: ~~CS~~ DATE: 8-20-04	
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 41 OF 112	

PLOTTED: 9/20/2004 14:05:54 PM BY: dpainter

METRIC

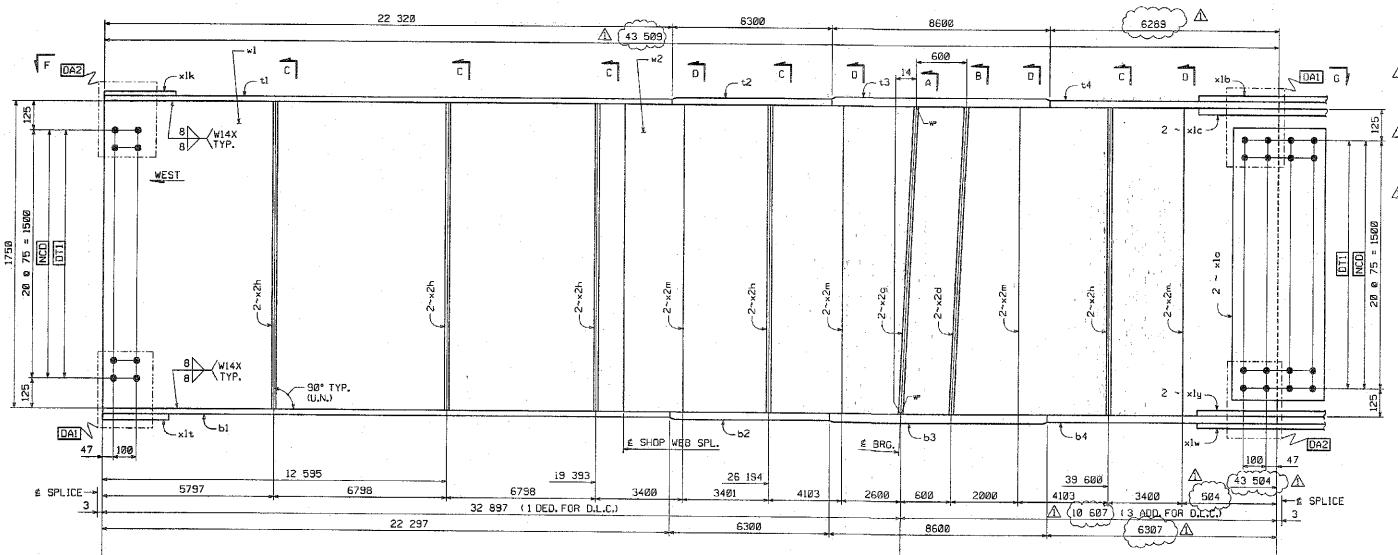
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

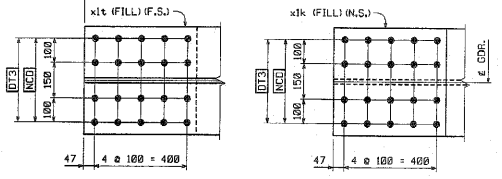
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G6K	GIRDER					21 120
1	w1	PL 16 x 1750	19 906	(T)	3	9	4374.84
1	w2	PL 16 x 1750	22 308	(T)	3	7	5488.44
1	t1	PL 22 x 450	22 320	(T)	4	23	1734.40
1	t2	PL 32 x 450	8 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	8 289	(T)	4	15	710.83
1	b1	PL 22 x 450	22 297	(T)	4	24	1732.01
1	b2	PL 32 x 450	8 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	8 307	(T)	4	14	712.86
2	x1a	PL 12 x 1800	400	(T)	6	1	60.26
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1k	PL 18 x 450	492	FILL	6	4	31.28
1	x1l	PL 18 x 450	492	FILL	6	4	31.28
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 18 x 200	790	(T)	6	5	19.84
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
10	x2h	PL 12 x 180	1 750		7	4	29.67
8	x2m	PL 12 x 180	1 750		7	4	29.67

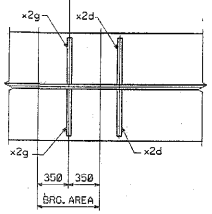
TOTAL WEIGHT THIS SHEET: ~~21119.25~~ kgs

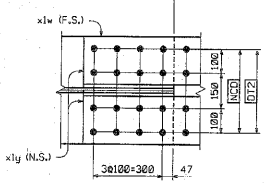


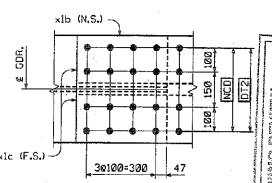


VIEW F

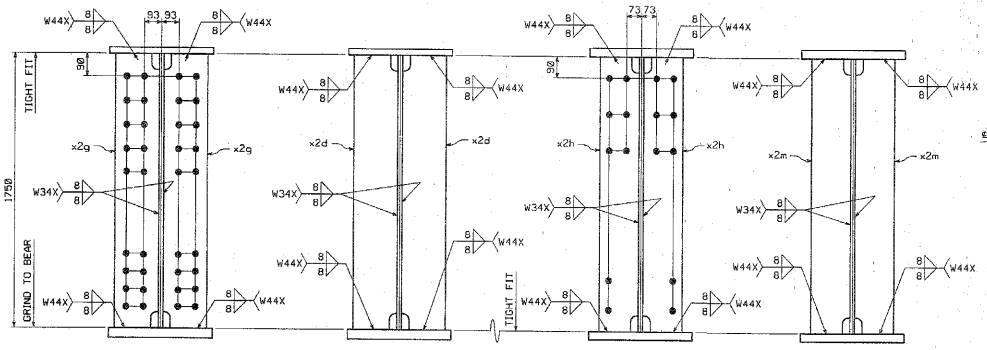
GIRDER ~ G6K



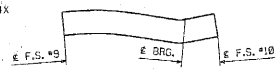




VIEW G



SECTION A SECTION B SECTION C SECTION D



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC3.

CODE:30

SHOP DRAWINGS REVIEW

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/24

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0066
Phone 717/299-5261
A Division of High Industries, Inc.

GIRDER G6K
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: BRS CHK'D. BY: CS DATE: 8-20-24
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 42 OF 112

PLOTTED: 9/20/2024 10:57 PM BY: dpainter

METRIC

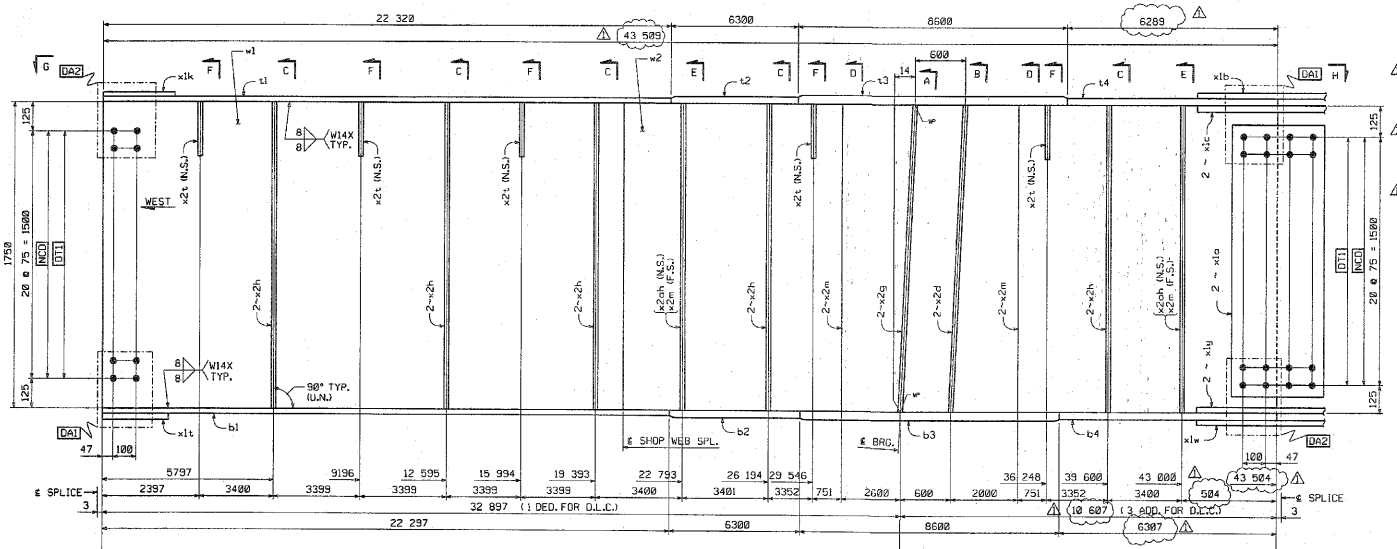
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

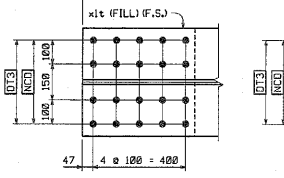
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

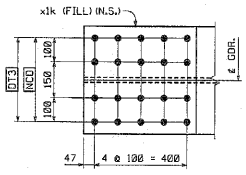
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G7K	GIRDER					21 150
~~1~~	~~w1~~	~~PL 16 x 1750~~	~~19 906~~	(T)	~~3~~	~~9~~	~~4374.84~~
1	w2	PL 16 x 1750	~~23 608~~	(T)	3	7	5186.44
1	t1	PL 22 x 450	22 320	(T)	4	23	~~1734.40~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	t4	PL 32 x 450	6 289	(T)	4	15	~~710.83~~
1	b1	PL 22 x 450	22 297	(T)	4	24	~~1732.61~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	b4	PL 32 x 450	6 307	(T)	4	14	~~712.96~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.29~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1k	PL 18 x 450	492	FILL	6	4	31.28
1	x1t	PL 18 x 450	492	FILL	6	4	31.28
1	x1w	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
10	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
6	x2m	PL 12 x 180	1 750		7	4	~~29.67~~
5	x2t	PL 14 x 180	310		7	3	~~6.13~~
2	x2ah	PL 12 x 180	1 750		7	4	~~29.67~~

TOTAL WEIGHT THIS SHEET: ~~21449.91~~ kgs

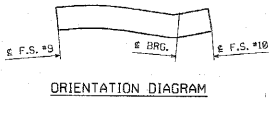




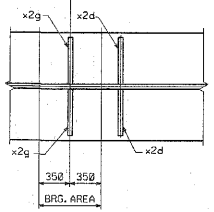
VIEW G

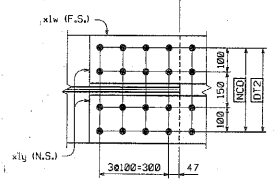


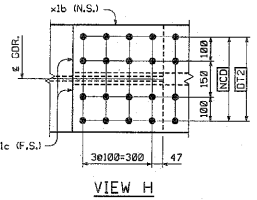
GIRDER ~ G7K



ORIENTATION DIAGRAM



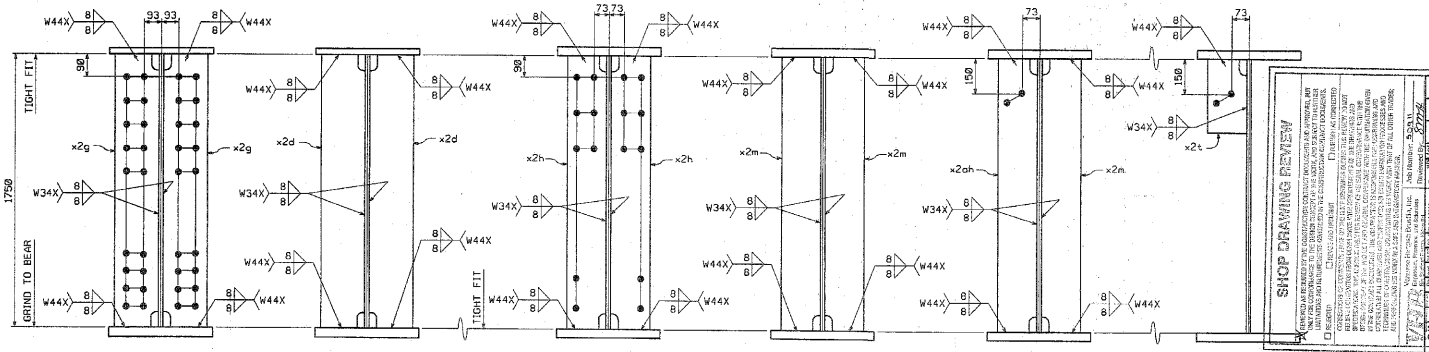




VIEW H

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC3.



SHOP DRAWING REVIEW

1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04
NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17601-6008
Phone 717/299-5201
A Division of High Industries, Inc.

GIRDER G7K
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT NO. REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: BRS CHK'D. BY: CS DATE: 8-20-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 43 OF 112

CODE:30

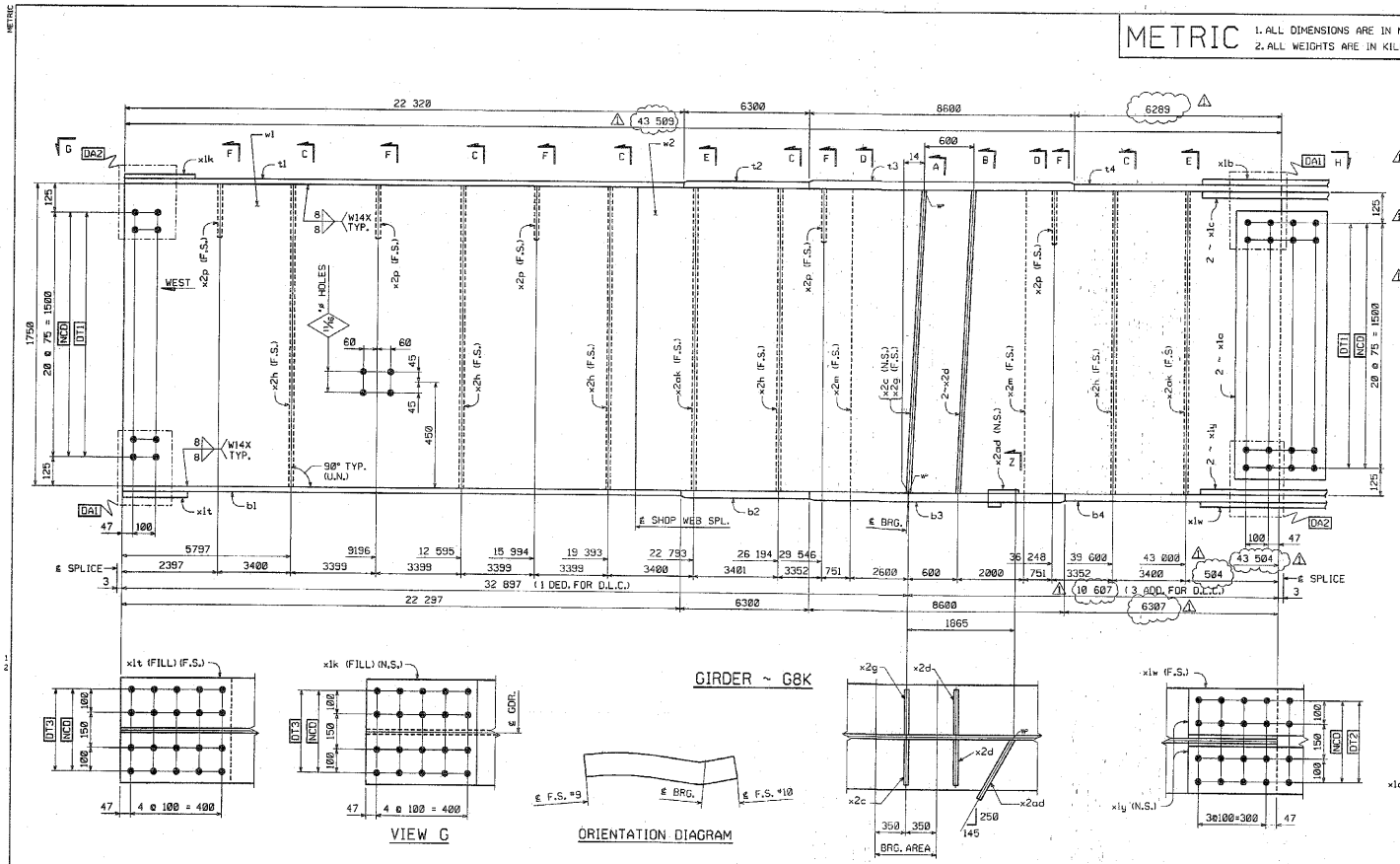
P_CUTTER 9/29/2004 08:00:00 PM
BY: dpuntar

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

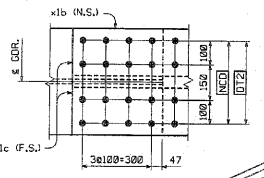
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G8K	GIRDER					20 890
~~1~~	~~w1~~	~~PL 16 x 1750~~	~~19 906~~	~~(T)~~	~~3~~	~~9~~	~~4374.84~~
1	w2	PL 16 x 1750	25 608	(T)	3	7	5185.64
1	t1	PL 22 x 450	22 320	(T)	4	23	~~4734.40~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~742.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	t4	PL 32 x 450	6 289	(T)	4	15	~~740.83~~
1	b1	PL 22 x 450	22 297	(T)	4	24	~~4732.81~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~742.07~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	b4	PL 32 x 450	6 307	(T)	4	14	~~742.86~~
2	x1a	PL 12 x 1800	400	(T)	6	1	~~80.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.05~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1k	PL 18 x 450	492	FILL	6	4	31.28
1*	x1t	PL 18 x 450	492	FILL	6	4	31.28
1	x1w	PL 14 x 450	790	(T)	6	6	~~39.05~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x2c	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
6	x2h	PL 12 x 180	1 750		7	4	~~29.87~~
2	x2m	PL 12 x 180	1 750		7	4	~~29.87~~
5	x2p	PL 14 x 180	310		7	3	~~8.18~~
2	x2ak	PL 12 x 180	1 750		7	4	~~29.87~~
1	x2ad	PL 8 x 145	301		7	5	~~1.83~~
TOTAL WEIGHT THIS SHEET:					20884.51	kgs	



VIEW G

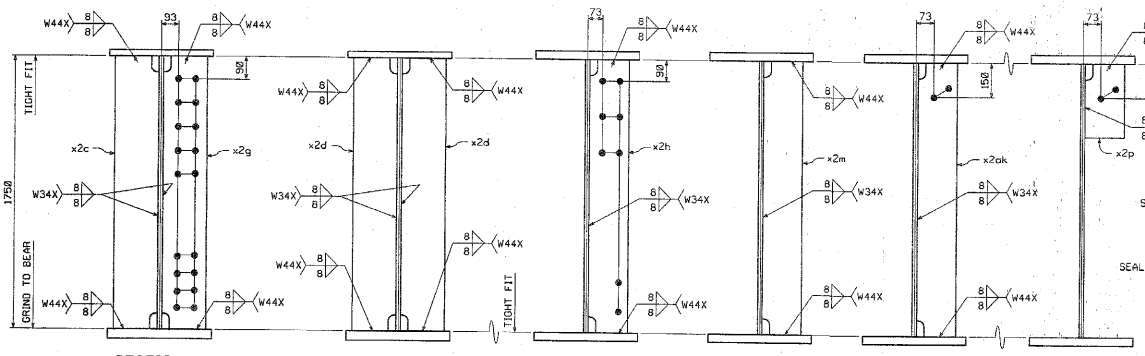
ORIENTATION DIAGRAM

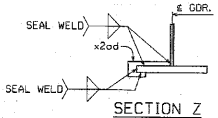


VIEW H

SHOP NOTE
HOLES: 13/16" ø TYP. U.N.O.
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. 1N1
FOR WEB CAMBER DIAGRAM, SEE DWG. 1N2

SHOP DRAWING REVIEW
ACCEPTED
ACCEPTED AS NOTED
REVISE AND RESUBMIT
NOT ACCEPTED
Date: 9/17/04





SECTION Z

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17602-0008
Phone 717/299-5201
A Division of High Industries, Inc.

GIRDER G8K
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+055.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE GLIDDEN (IH) MADE BY: ERS CHK'D. BY: CS DATE: 8-20-04
CONTRACT NUMBER VT-04057-2 DRAWING NUMBER 44 OF 112

CODE:30

PLOTTED: 9/28/2004 10:02:04 PM BY: dcanner

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

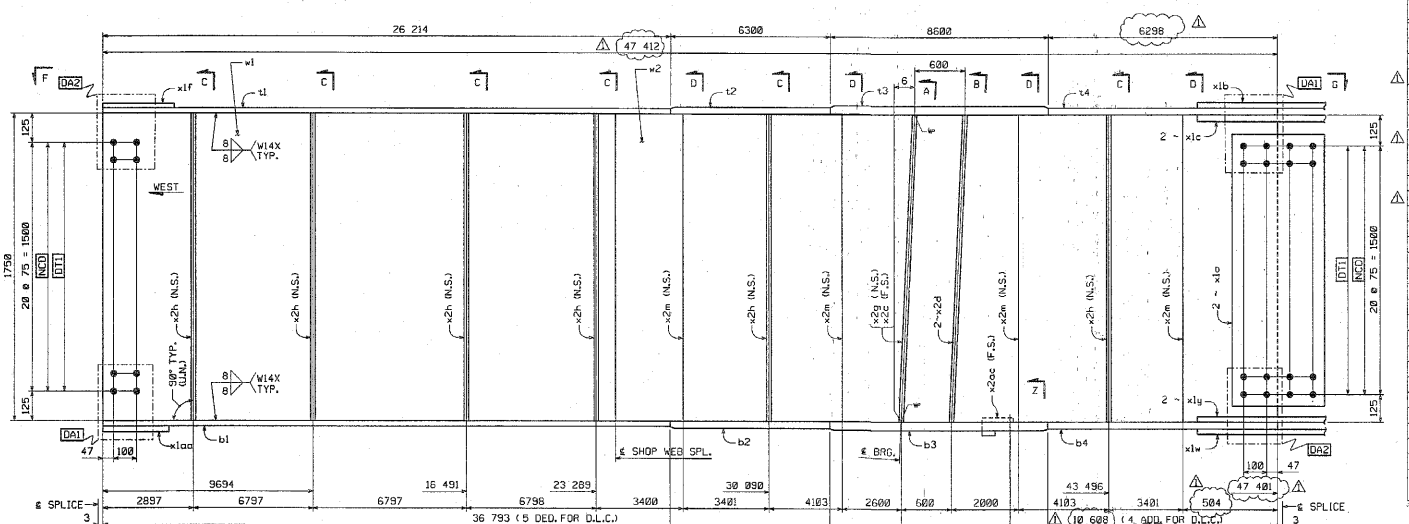
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

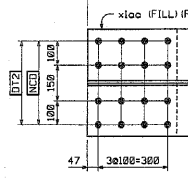
BILL OF MATERIAL

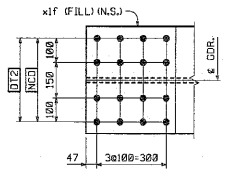
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G5L	GIRDER					22 320
1	~~w1~~	~~PL 16 x 1750~~	~~23 809~~	(T)	3	4	~~5232.82~~
1	w2	PL 16 x 1750	~~23 840~~	(T)	3	7	~~5488.66~~
1	t1	PL 22 x 450	26 214	(T)	4	19	~~2036.99~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	t4	PL 32 x 450	6 298	(T)	4	15	~~711.84~~
1	b1	PL 22 x 450	26 193	(T)	4	20	~~2035.30~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	b4	PL 32 x 450	6 308	(T)	4	14	~~712.97~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.96~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1f	PL 10 x 450	382	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	38.05
2	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1aa	PL 10 x 450	382	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
6	x2h	PL 12 x 150	1 750		7	4	~~29.67~~
4	x2m	PL 12 x 180	1 750		7	4	29.67
1	x2ac	PL 8 x ~~115~~	301	* Varies 71@Plan"	7	5	~~4.83~~

TOTAL WEIGHT THIS SHEET: ~~22 313.34~~ kgs

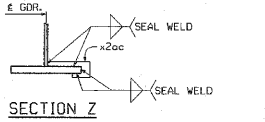
* SEE SHEET 1 OF 12





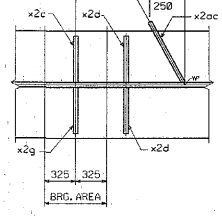


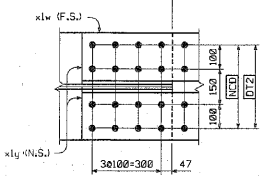
VIEW F

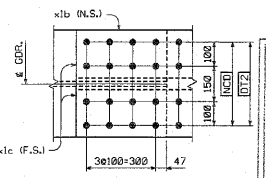


SECTION Z

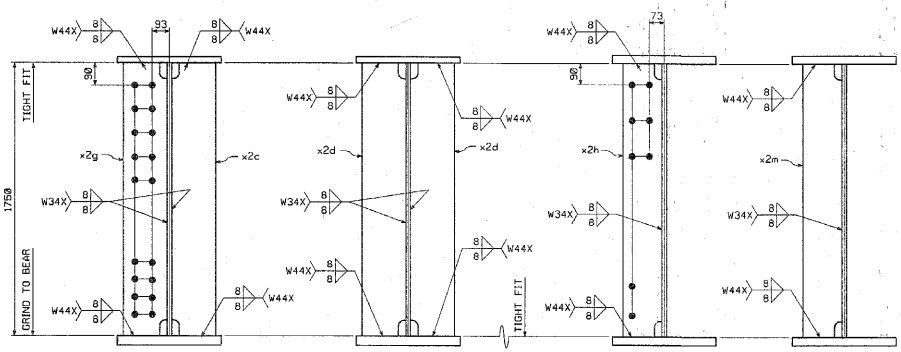
GIRDER ~ G5L



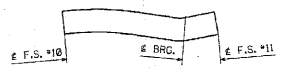




VIEW G



SECTION A SECTION B SECTION C SECTION D



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC3.

SHOP DRAWING REVIEW

Vollmer Engineering, Inc.
Job Number: 23011
Sheet Number: 2
Date: 11/04/24

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH ℄ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17601-0000
Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER G5L
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+859.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: BRS CHK'D. BY: CS DATE: 8-20-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 45 OF 112

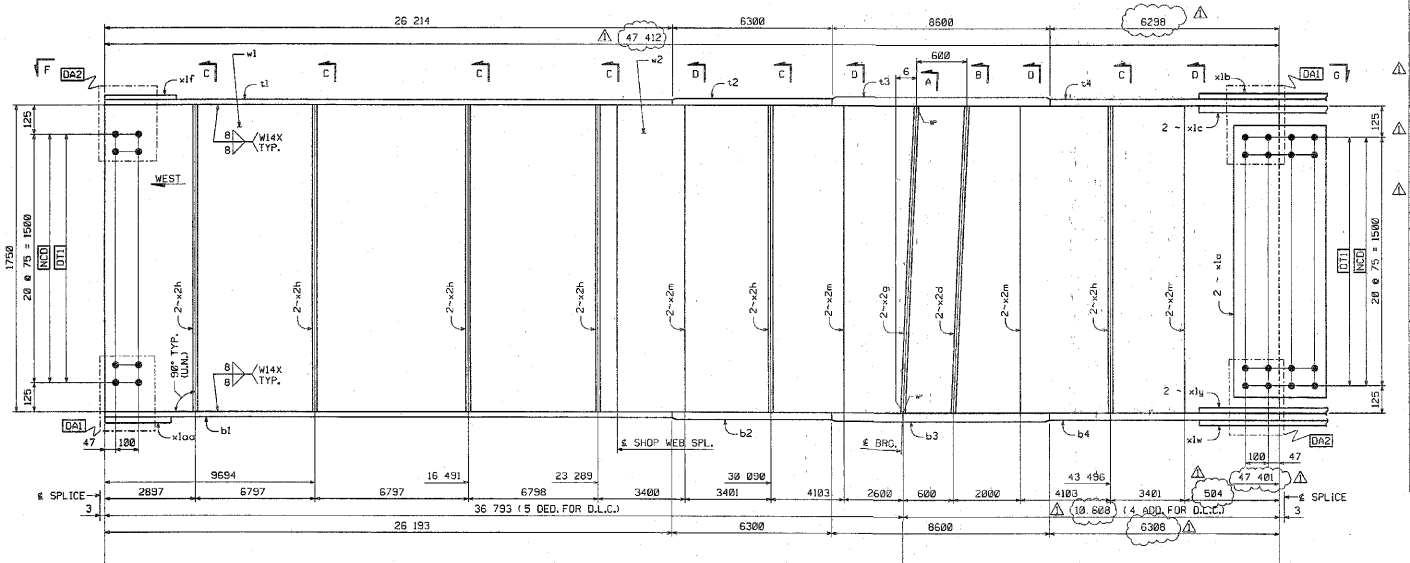
CODE:30

PLOTTED: 9/29/2024 11:45:09 PM By: dpainter

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

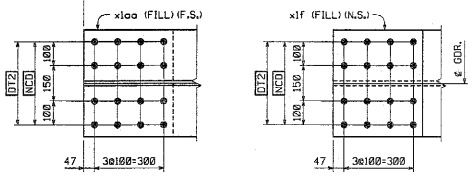
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



BILL OF MATERIAL

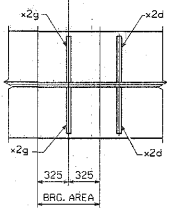
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G6L	GIRDER					22 610
1	W1	PL 16 x 1750	23 809	(T)	3	4	5232.62
1	w2	PL 16 x 1750	23 610	(T)	3	7	5188.88
1	t1	PL 22 x 450	26 214	(T)	4	19	2036.99
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 298	(T)	4	15	711.84
1	b1	PL 22 x 450	26 193	(T)	4	20	2035.36
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 308	(T)	4	14	712.97
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.64
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.64
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1750		7	1	104.39
2	x2g	PL 38 x 200	1750		7	1	104.39
12	x2h	PL 12 x 180	1750		7	4	29.67
8	x2m	PL 12 x 180	1750		7	4	29.67

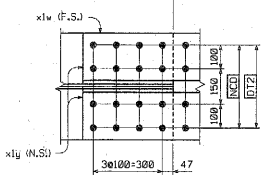
TOTAL WEIGHT THIS SHEET: ~~22 608.4~~ kgs

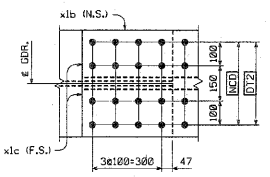


VIEW F

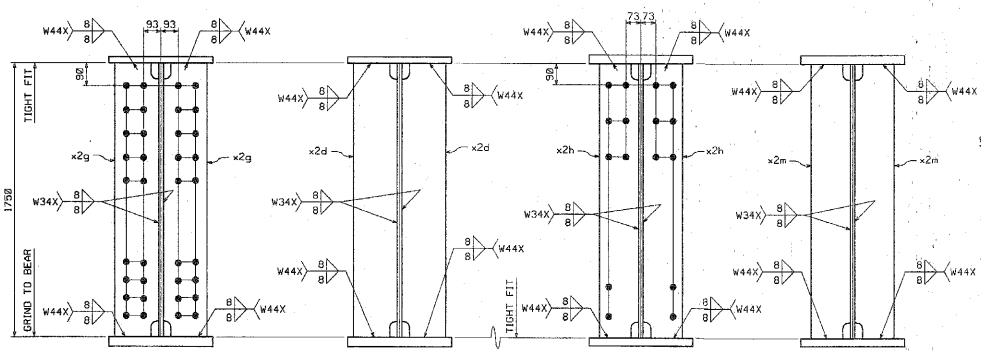
GIRDER ~ G6L



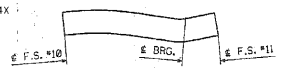




VIEW G



SECTION A SECTION B SECTION C SECTION D



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC3.

CODE:30

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND COMPLIANCE TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWING DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS OR SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING THE WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING WORK IN A SAFE AND SATISFACTORY MANNER.

REVIEWED By: Vermont Highway Division, Inc. Job Number: SCR-1
Date: 9/16/04 Reviewed By: [illegible]
Date: 9/16/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1772 Hempstead Road
Lancaster, PA 17601-3000
Phone 717/299-5211
A Division of High Industries Inc.

GIRDER	G6L
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE GLIDDEN (IH) MADE BY: SKS CHK'D. BY: GS DATE: 8-20-04	
CONTRACT NUMBER VT-04057-2 DRAWING NUMBER 46 OF 112	

PLOTTED: 9/20/2004 10:05:13 PM
BY: dpoirier

METRIC

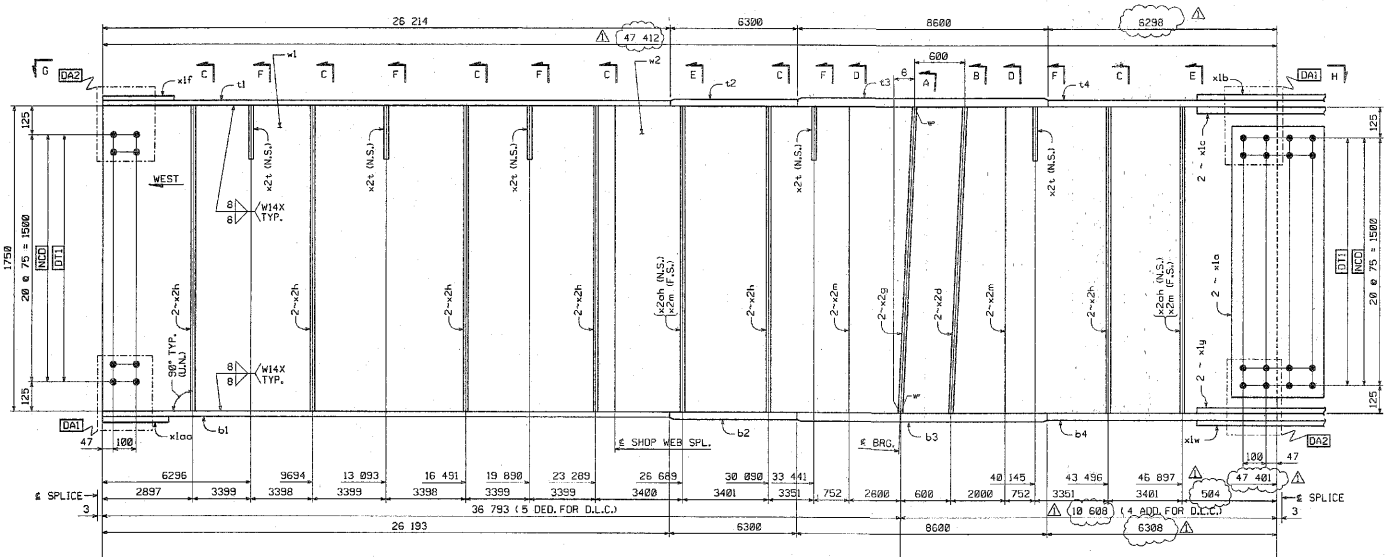
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

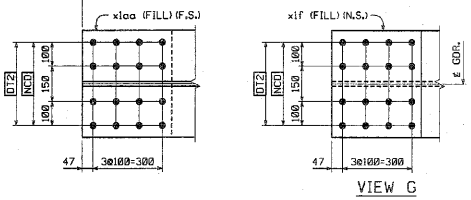
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G7L	GIRDER					22 640
1	w1	PL 16 x 1750	~~23 809~~	(T)	3	4	~~5232.62~~
1	w2	PL 16 x 1750	~~23 610~~	(T)	3	7	~~5188.88~~
1	t1	PL 22 x 450	26 214	(T)	4	19	~~2038.99~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~742.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	t4	PL 32 x 450	6 298	(T)	4	15	~~741.84~~
1	b1	PL 22 x 450	26 193	(T)	4	20	~~2036.35~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~742.07~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	b4	PL 32 x 450	6 308	(T)	4	14	~~743.87~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.04~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~19.04~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
12	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
6	x2m	PL 12 x 180	1 750		7	4	29.67
5	x2l	PL 14 x 180	310		7	3	~~6.13~~
2	x2sh	PL 12 x 180	1 750		7	4	~~29.67~~

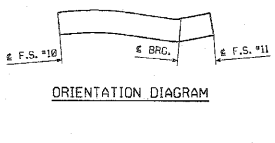
TOTAL WEIGHT THIS SHEET: ~~22 639.06~~ kgs



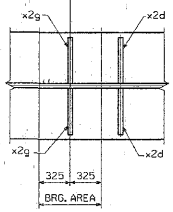


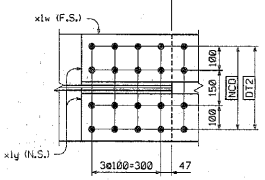
VIEW G

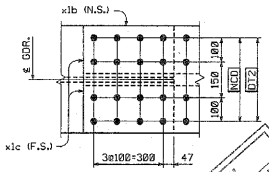
GIRDER ~ G7L



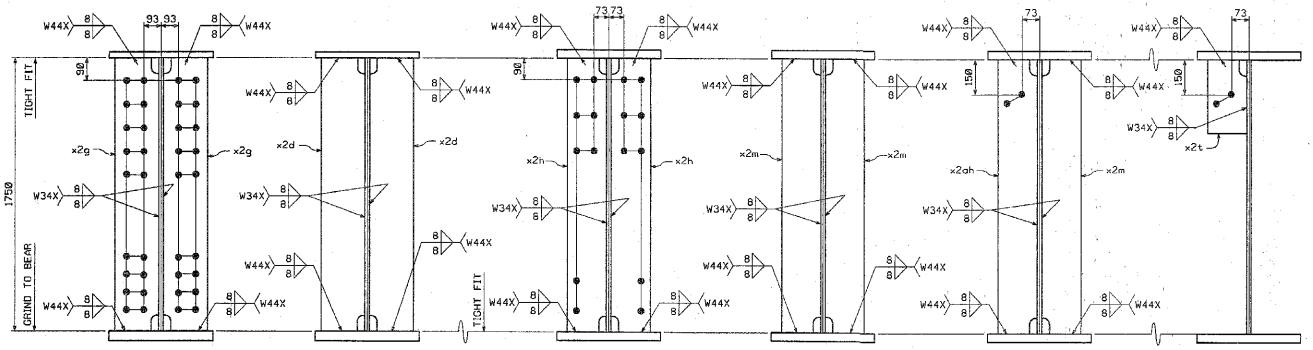
ORIENTATION DIAGRAM







VIEW H



SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN...
FOR WEB CAMBER DIAGRAM, SEE DWG. WD3.

SHOP DRAWING REVIEW
VT AGENCY OF TRANSPORTATION
REVIEWED FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS AND DESIGN CONCEPT OF THE PROJECT. REVIEW DOES NOT INDICATE APPROVAL OF ERRORS, OMISSIONS, QUANTITIES OR DIMENSIONS.
Date Received: 9/7/04
Date Reviewed: 9/7/04
By: MJ CN

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 40°F	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17601-0008
Phone 717/299-5261
A Division of High Industries Inc.

GIRDER G7L
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO.: BRF-036-1(1)
CONTRACTOR: CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SES CHK'D. BY: CS DATE: 8-20-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 47 OF 112

CODE:30

PLOTTED: 9/08/2004 08:26 PM BY: dpainter

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

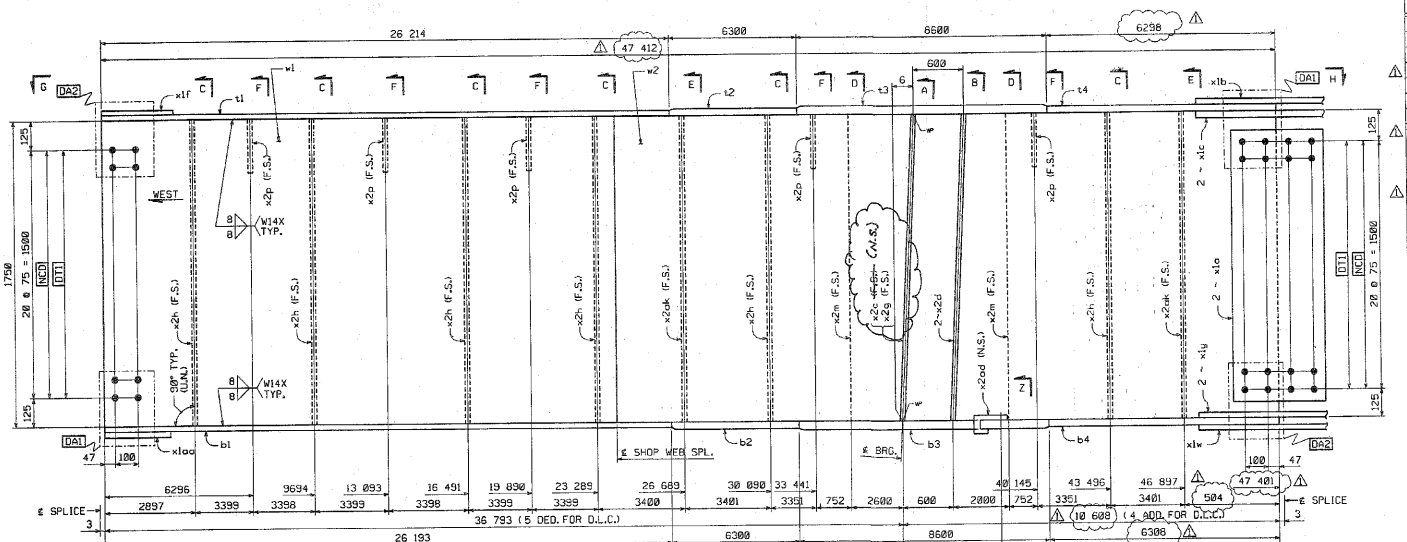
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

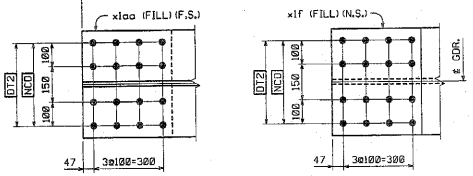
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G8L	GIRDER					22 350
1	w1	PL 16 x 1750	23 809	(T)	3	4	5232.62
1	w2	PL 16 x 1750	~~23 616~~	(T) *See Sheet 2 of 12	3	7	~~5190.19~~
1	t1	PL 22 x 450	26 214	(T)	4	19	~~2036.99~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	t4	PL 32 x 450	6 298	(T)	4	15	~~711.84~~
1	b1	PL 22 x 450	26 193	(T)	4	20	~~2035.38~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	b4	PL 32 x 450	6 308	(T)	4	14	~~742.97~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
1	x2g	PL 38 x 200	1 750		7	1	104.39
6	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
2	x2m	PL 12 x 180	1 750		7	4	~~29.67~~
5	x2p	PL 14 x 180	310		7	3	~~6.13~~
1	x2ad	PL 6 x ~~115~~ 901		* VOL. 1755cm³	7	5	~~1.83~~
2	x2ak	PL 12 x 180	1 750		7	4	~~29.67~~
		TOTAL WEIGHT THIS SHEET:			~~22 344~~		kgs

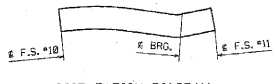
*See Sheet 9 of 12

22296.94 KG 2 Pieces



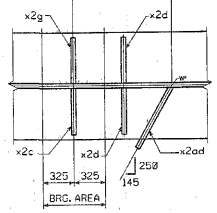


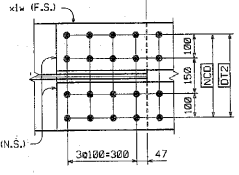
VIEW G

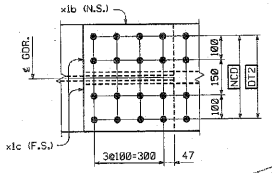


ORIENTATION DIAGRAM

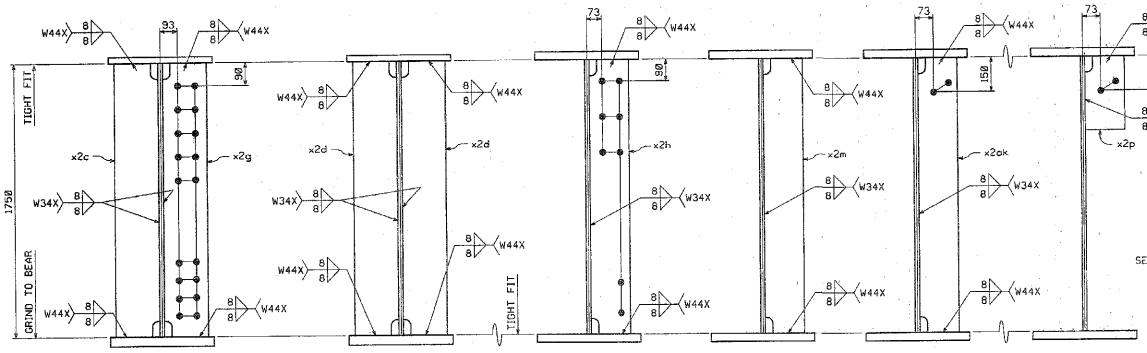
GIRDER ~ G8L

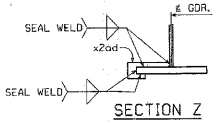






VIEW H





SECTION Z

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WEB.

SHOP DRAWING REVIEW
HIGH STEEL STRUCTURES, INC.
REVIEWED AS NOTED
Job Number: 2004-11
Date: 10/15/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, Pa 17601-2085
Phone 717/299-5211
A Division of High Industries Inc.

GIRDER	G8L
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (1-1) MADE BY: DES CHK'D. BY: GS DATE: 8-20-04	
CONTRACT NUMBER: VT-04057-2	DRAWING NUMBER: 48 OF 112

CODE:30

PLOTTED: 9/29/2004 8:08:01 PM BY: dpoirier

METRIC

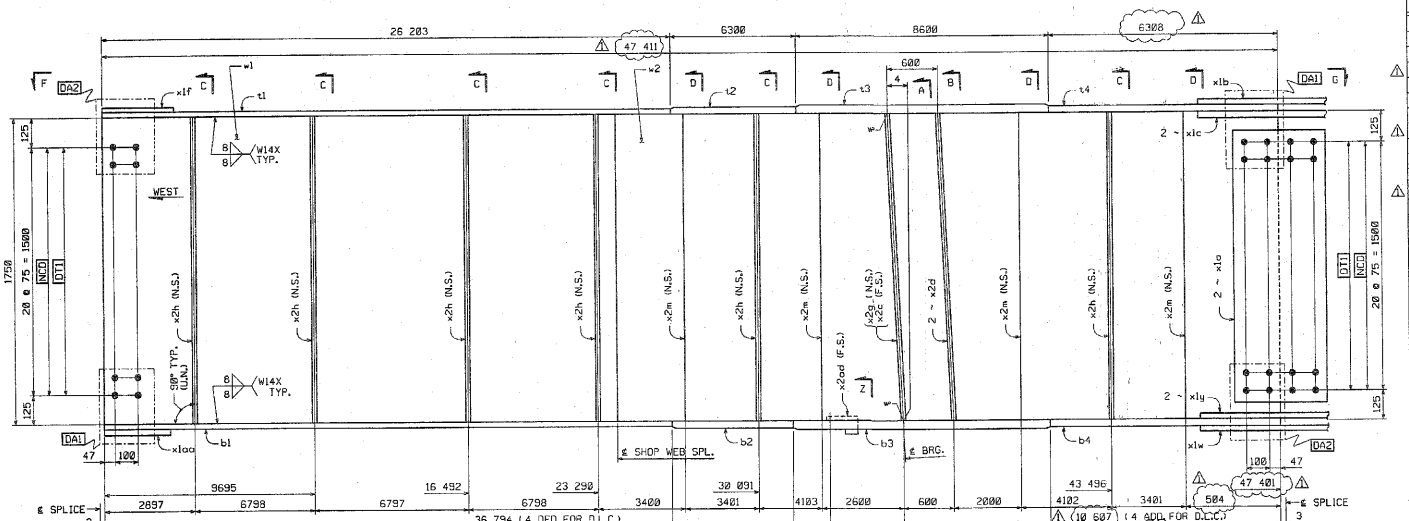
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

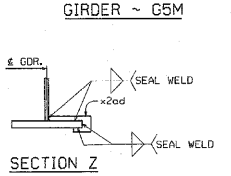
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G5M	GIRDER					22 320
~~1~~	w1	PL ~~16~~ x 1750	~~23 806~~	(T)	3	6	~~5232.40~~
1	w2	PL 18 x 1750	~~29 810~~	(T) 47 406	3	7	~~5188.88~~
1	t1	PL 22 x 450	28 203	(T)	4	19	2036.13
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	t4	PL 32 x 450	6 308	(T)	4	14	~~712.97~~
1	b1	PL 22 x 450	26 194	(T)	4	20	~~2035.43~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	b4	PL 32 x 450	6 307	(T)	4	14	~~712.86~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.26~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~18.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~18.84~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL ~~38~~ x 200	1 750		7	1	~~104.99~~
2	x2d	PL ~~38~~ x 200	1 750		7	1	~~104.99~~
1	x2g	PL ~~38~~ x 200	1 750		7	1	~~104.39~~
6	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
4	x2m	PL 12 x 180	1 750		7	4	~~29.67~~
1	x2ad	PL 6 x ~~115~~	301	Vol = 398.25 mm³	7	5	1.83
		TOTAL WEIGHT THIS SHEET:		~~22 313.36~~	kgs		

* SEE SHEET 9 OF 112

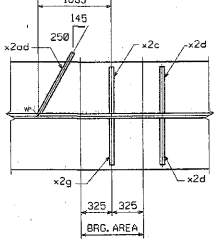


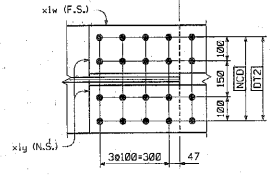
VIEW F

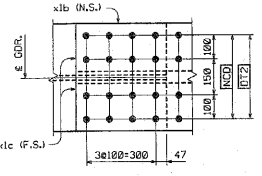


SECTION Z

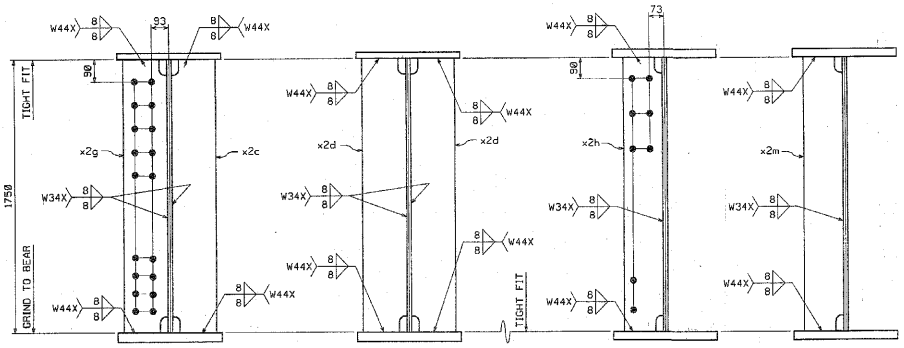
GIRDER ~ G5M







VIEW G



SECTION A SECTION B SECTION C SECTION D

ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC3.

CODE:30

SHOP DRAWING REVIEW

☒ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO (WITH LIMITATIONS AND RESPONSIBILITIES CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS).

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ QUESTION AS CORRECTED

CORRECTIONS ON DOCUMENTS MADE BY THE SHOP DRAWING REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH PROVISIONS OF THE CONTRACT DOCUMENTS. THIS REVIEW IS ONLY WITH REGARD TO GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB	Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dorchester Road Burlington, VT 05401 802-844-0099 Portland, ME (207) 828-1184 Rockland, MA (781) 871-1600	Job Number: 5099 Reviewed By: [illegible] Date: 10/8/04
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA 9/17/04
NO.	REVISION	BY DATE

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, Pa 17601-6006
Phone 717/293-5211
A Division of High Industries Inc.

GIRDER	G5M
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+858.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (IH) MADE BY: SSV CHK'D. BY: CS DATE: 8-20-04	
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 49 OF 112	

PLOTTED: 9/28/2004 10:26:34 PM
BY: dpainter

METRIC

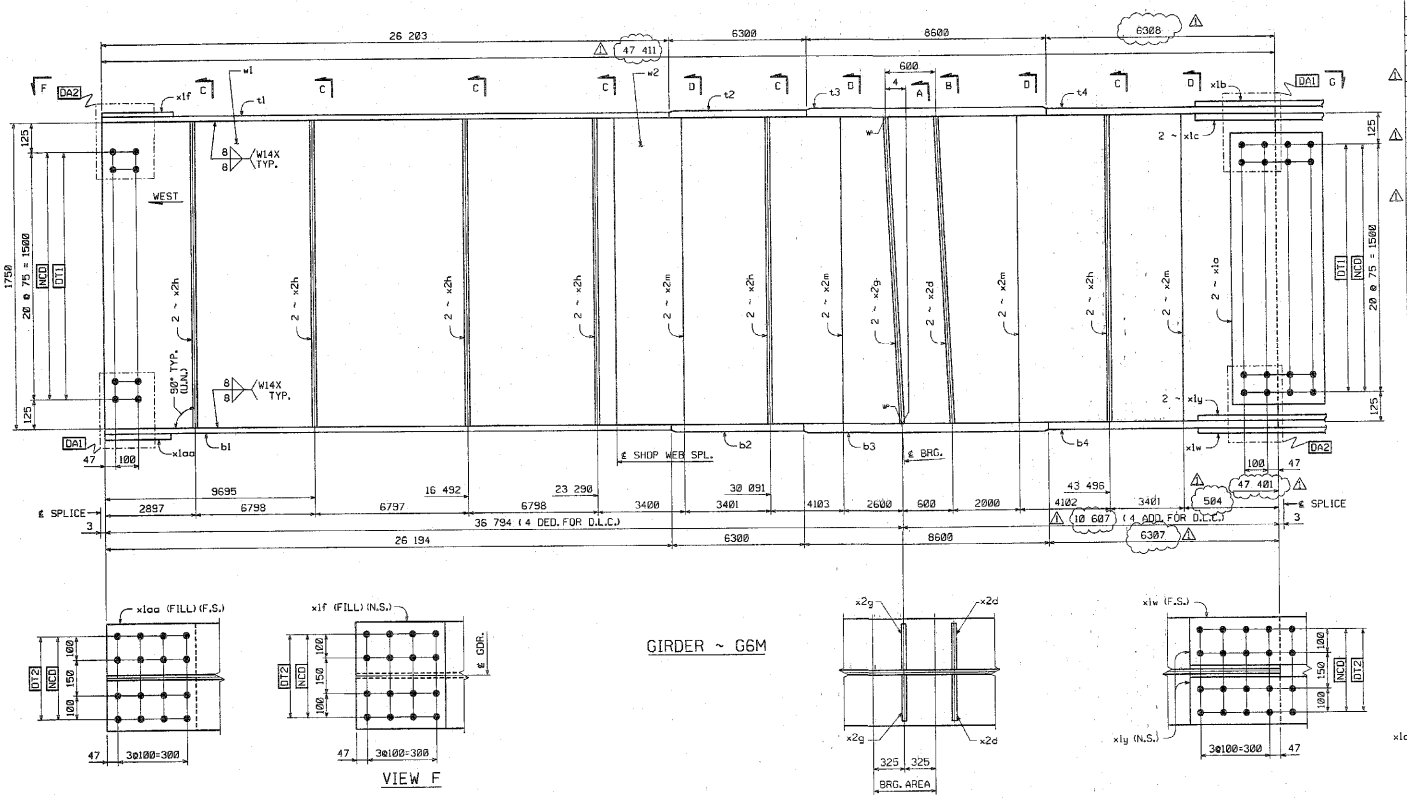
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

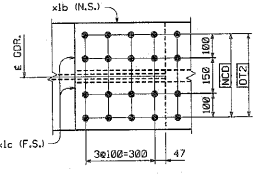
BILL OF MATERIAL

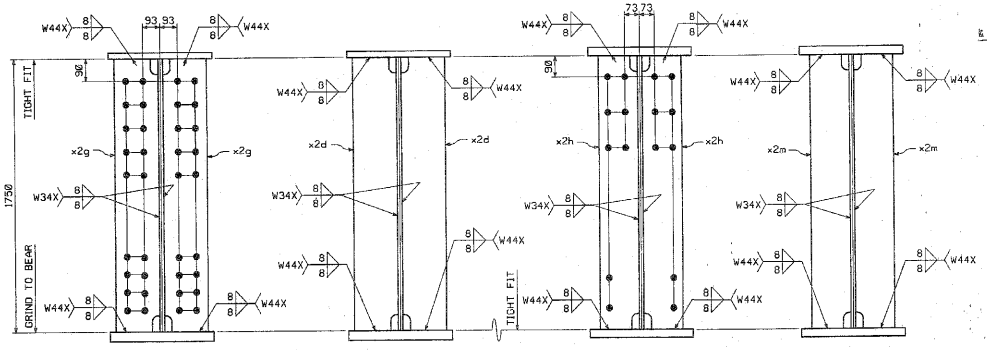
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHP. WT. KG. EA.
ONE	G6M	GIRDER					22 610
1	W1	PL 16 x 1750	23 808	(T)	3	8	5232.40
1	w2	PL 16 x 1750	23 610	(T)	3	7	~~5188.58~~
1	t1	PL 22 x 450	26 203	(T)	4	19	~~2030.13~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	t4	PL 32 x 450	6 308	(T)	4	14	~~712.97~~
1	b1	PL 22 x 450	26 194	(T)	4	20	~~2095.43~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	b4	PL 32 x 450	6 307	(T)	4	14	~~712.86~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~38.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	~~38.06~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
12	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
8	x2m	PL 12 x 180	1 750		7	4	29.67

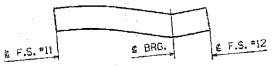
TOTAL WEIGHT THIS SHEET: ~~22 608.42~~ kgs



GIRDER ~ G6M







ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC3.

CODE:30

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, FIT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO CERTAIN LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REMAKE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

Wiss, Janney, Elstner Associates, Inc. — Engineers, Planners, and Scientists — 186 Bedford Farms, Kittery Rd, Bedford, NH 03110, 603-644-2800

Job Number: 30404
Reviewed By: Scott
Date: 9/17/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road, Lancaster, PA 17601-6095, Phone 717/299-5201
A Division of High Industries, Inc.

GIRDER	G6M
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+058.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (1H) MADE BY: SSJ CHK'D. BY: CS DATE: 8-20-04	
CONTRACT NUMBER: VT-04057-2	DRAWING NUMBER: 50 OF 112

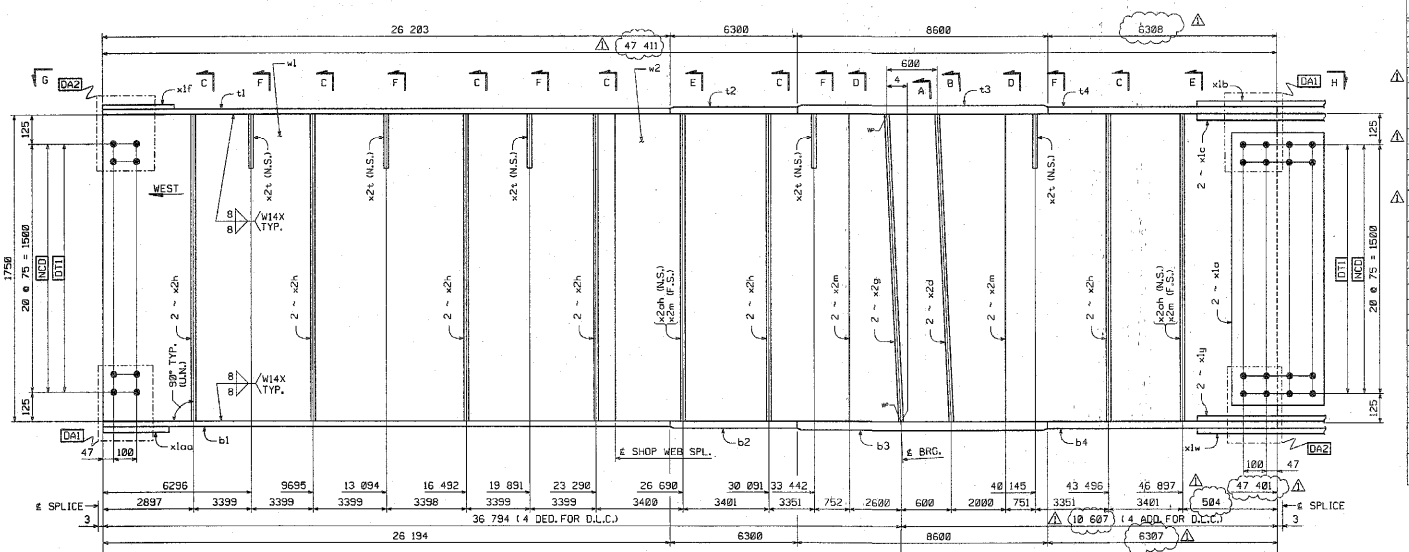
PLOTTED: 9/20/2004 11:46:37 AM
BY: dpoirier

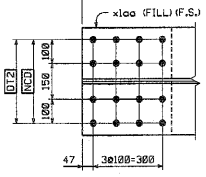
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

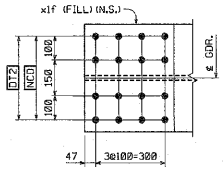
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G7M	GIRDER					22 640
~~1~~	~~w1~~	~~PL 16 x 1750~~	~~23 808~~	~~(T)~~	~~3~~	~~6~~	~~5232.40~~
1	w2	PL 16 x 1750	23 810	(T) 42.406	3	7	~~5468.88~~
1	t1	PL 22 x 450	26 203	(T)	4	19	~~2036.13~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	t4	PL 32 x 450	6 308	(T)	4	14	~~712.97~~
1	b1	PL 22 x 450	26 194	(T)	4	20	~~2035.43~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	b4	PL 32 x 450	6 307	(T)	4	14	~~712.86~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~90.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~99.96~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1f	PL 10 x 450	382	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	~~39.96~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1aa	PL 10 x 450	382	FILL	6	7	13.85
2	x2d	PL 38 x 200	1750		7	1	~~104.39~~
2	x2g	PL 38 x 200	1750		7	1	~~104.39~~
12	x2h	PL 12 x 180	1750		7	4	~~20.67~~
8	x2m	PL 12 x 180	1750		7	4	~~20.67~~
5	x2t	PL 14 x 180	310		7	3	~~6.43~~
2	x2ah	PL 12 x 180	1750		7	4	~~20.67~~
		TOTAL WEIGHT THIS SHEET:		~~22 639.08~~	kgs		

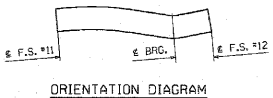




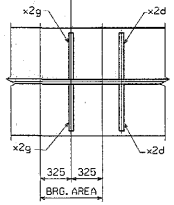
VIEW G

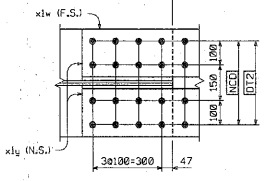


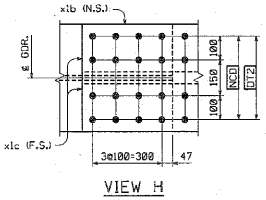
GIRDER ~ G7M



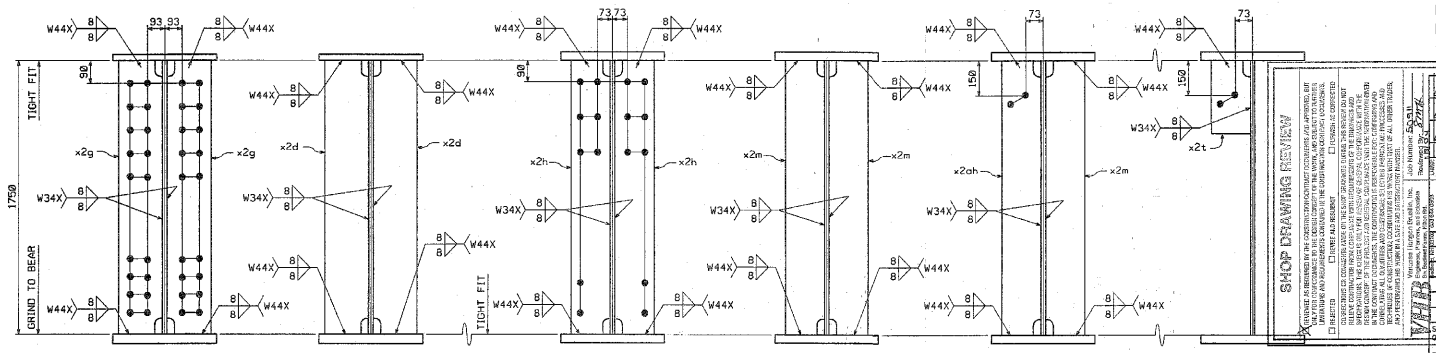
ORIENTATION DIAGRAM







VIEW H



SECTION A SECTION B SECTION C SECTION D SECTION E SECTION F

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC3.

SHOP DRAWING APPROVED

NO.	REVISION	BY	DATE
	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
770 Hempstead Road
Lancaster, PA 17605-0308
Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER G7M
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+978.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION
STATE CONTRACT REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (TH) MADE BY: SSU CHK'D. BY: CG DATE: 8-20-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 51 OF 112

CODE:130

PLOTTED: 9/28/2004 1:06:49 PM
BY: dbaumber

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG EA.
ONE	G8M	GIRDER					22 350
1	w1	PL 16 x 1750	23 806	(T)	3	6	~~5292.40~~
1	w2	PL 16 x 1750	~~23 810~~	(T)	3	7	~~5188.88~~
1	t1	PL 22 x 450	28 203	(T)	4	19	~~2038.43~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~742.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	t4	PL 32 x 450	6 308	(T)	4	14	~~742.97~~
1	b1	PL 22 x 450	26 194	(T)	4	20	~~2035.43~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~742.07~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	b4	PL 32 x 450	6 307	(T)	4	14	~~742.86~~
2	x1a	PL 12 x 1800	400	(T)	6	1	~~80.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~99.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	~~99.06~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	~~104.38~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.38~~
1	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
6	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
2	x2m	PL 12 x 180	1 750		7	4	~~29.67~~
5	x2p	PL 14 x 180	310		7	3	~~8.13~~
2	x2ak	PL 12 x 180	1 750		7	4	~~29.67~~
1	x2ac	PL 8 x ~~115~~	301		7	5	~~1.63~~
		TOTAL WEIGHT THIS SHEET:	~~22 344.02~~	kgs			

~~22 342.96~~

GIRDER ~ G8M

VIEW G

ORIENTATION DIAGRAM

VIEW H

SECTION A

SECTION B

SECTION C

SECTION D

SECTION E

SECTION F

SECTION Z

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC3.

SHOP DRAWING REVIEW

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1111 Homestead Road, Lancaster, Pa. 17601-6008, Phone 717/293-5211
A Division of High Industries, Inc.

GIRDER	G8M
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (IH) MADE BY: SSJ CHK'D. BY: DATE:	
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 52 OF 112	

CODE:30

PLOTTED: 9/20/2004 10:05:43 PM BY: dpainter

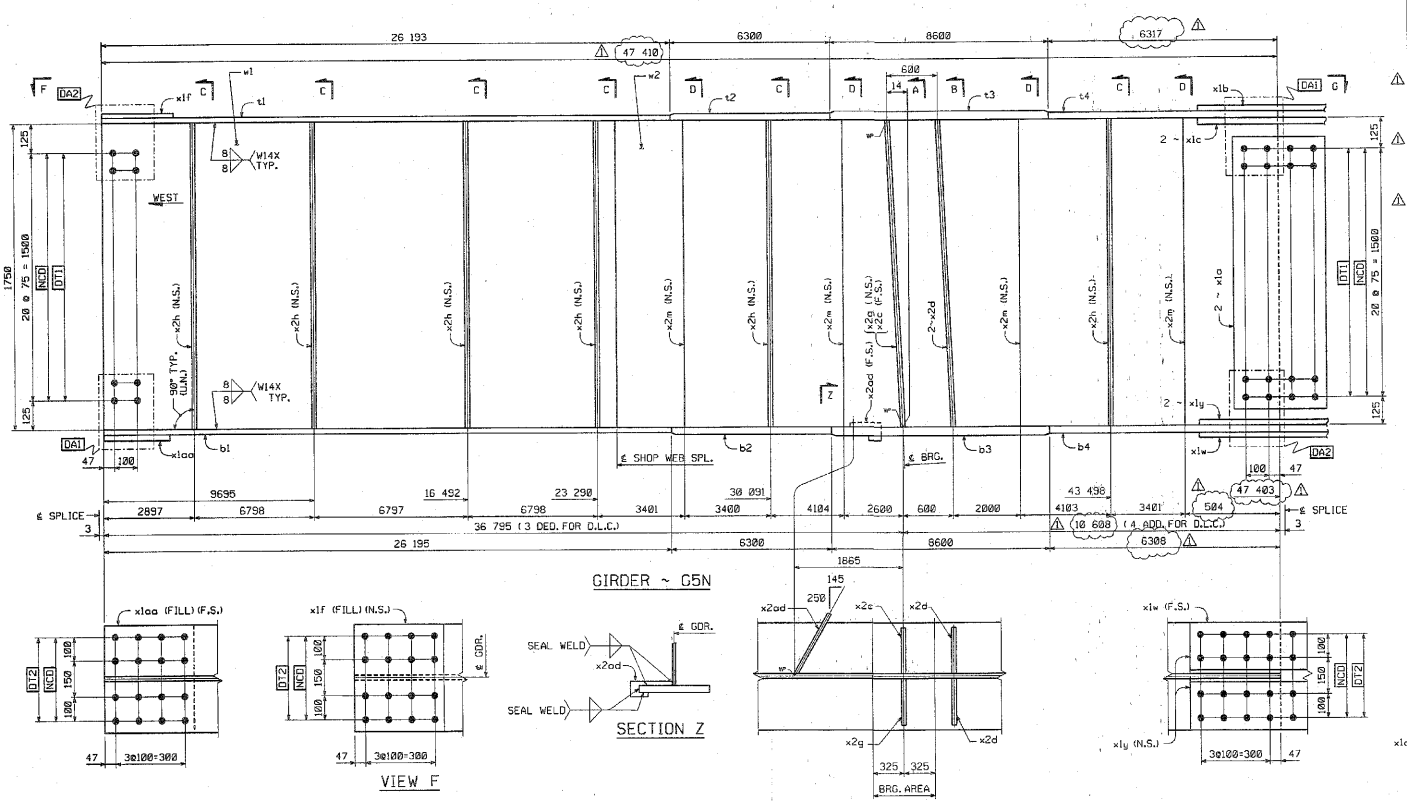
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

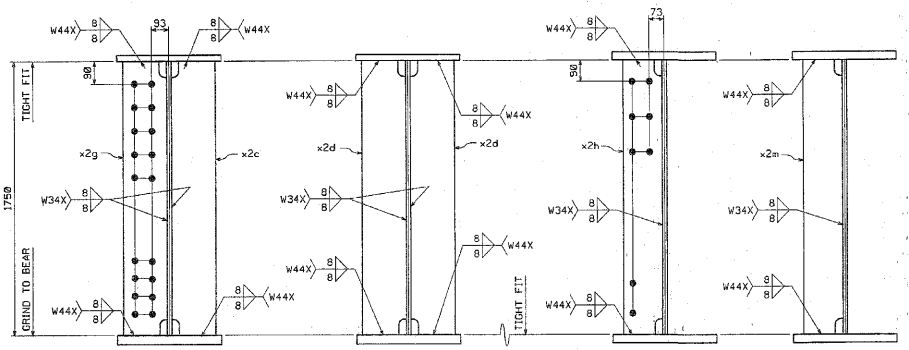
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

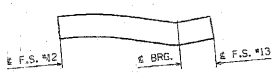
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G5N	GIRDER					22 320
1	w1	PL 16 x 1750	23 808	(T)	3	4	5232.40
1	w2	PL 16 x 1750	23 809	(T)	3	7	5188.86
1	t1	PL 22 x 450	26 193	(T)	4	20	2035.36
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 317	(T)	4	14	713.99
1	b1	PL 22 x 450	26 196	(T)	4	20	2035.51
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 308	(T)	4	14	712.97
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
6	x2h	PL 12 x 180	1 750		7	4	29.67
4	x2m	PL 12 x 180	1 750		7	4	29.67
1	x2ad	PL 6 x 115	301		7	5	1.63
		TOTAL WEIGHT THIS SHEET:	22 313.67	kgs			

SHEET REVISED 8-5-2005 SEE UPDATED SHEET 53 of 112 KMR 8/4/05







SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC3.

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONTRACT. HIGH CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FOLLOWING LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATION OF THE WORK WITH THAT OF ALL OTHER TRADES, AND SATISFACTORY PERFORMANCE OF THE WORK. [illegible]

Reviewed by: Wallace Flanigan Scallon, Inc. Engineers, Planners, and Surveyors Bedford, NH 03110 603-644-2800 — Job No./Ltr.: SCAU — Date: 9/16/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1170 Harrisburg Road, Lancaster, PA 17604-0008, Phone 717/299-5201
A Division of High Industries, Inc.

GIRDER	G5N
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE GLIDDEN (IH) MADE BY BRS CHK'D. BY CG DATE 8-23-04
CONTRACT NUMBER VT-04057-2 DRAWING NUMBER 53 OF 112

CODE:130

PLOTTED 9/20/2004 8:56:46 PM BY: dcarter

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

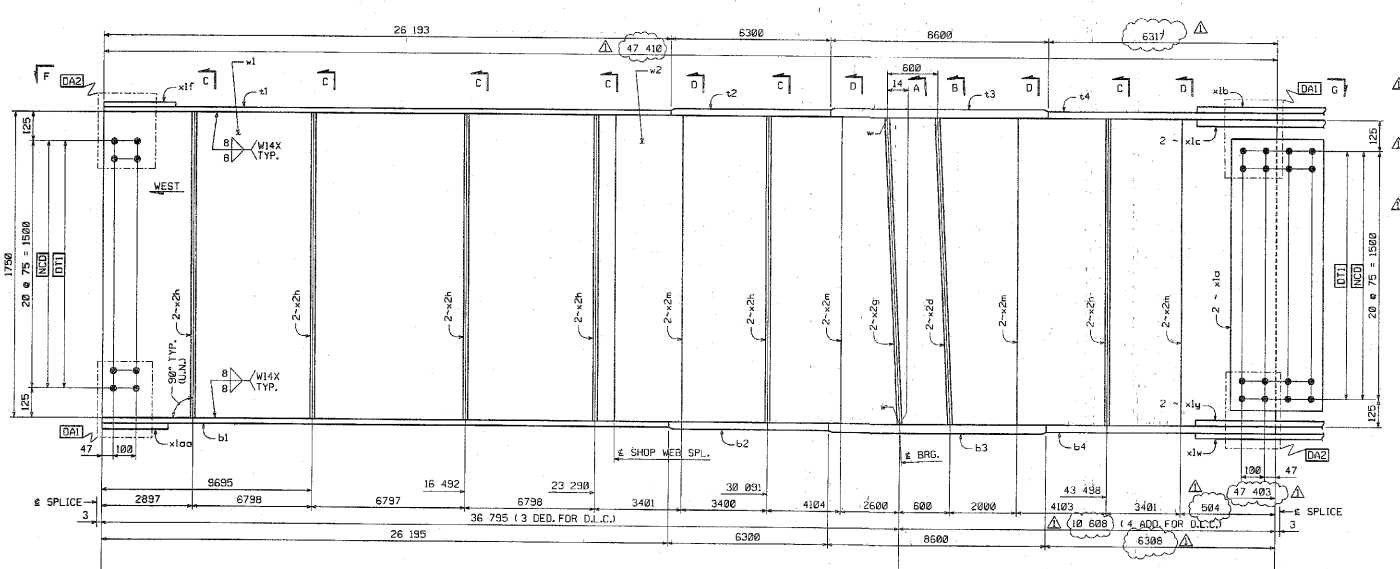
BILL OF MATERIAL

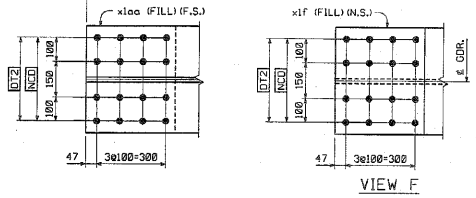
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G6N	GIRDER					22 610
1	w1	PL 16 x 1750	23 808	(T)	3	4	5232.40
1	w2	PL 16 x 1750	23 609	(T)	3	7	5188.66
1	t1	PL 22 x 450	26 193	(T)	4	20	2035.36
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 317	(T)	4	14	713.99
1	b1	PL 22 x 450	26 195	(T)	4	20	2035.51
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 308	(T)	4	14	712.97
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
12	x2h	PL 12 x 180	1 750		7	4	29.67
8	x2m	PL 12 x 180	1 750		7	4	29.67

TOTAL WEIGHT THIS SHEET: 22 606.64 kgs

SHEET REVISED 8-27-2004 SEE UPDATED SHEET SHOWN 112

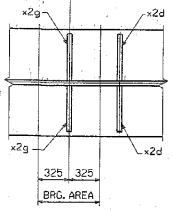
SMR 8-31-04

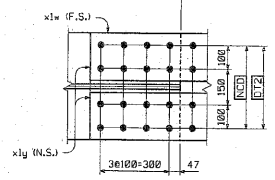


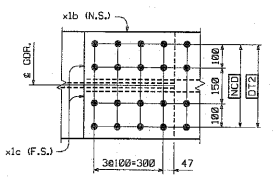


VIEW F

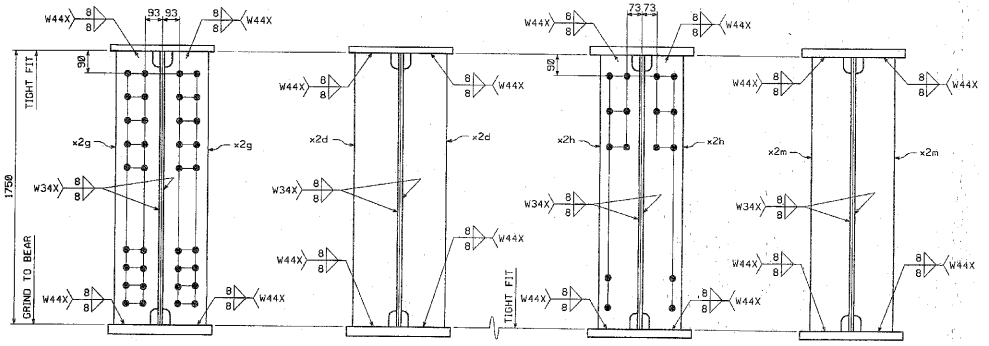
GIRDER ~ G6N

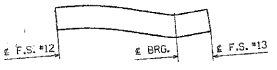






VIEW G





ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC3.

CODE:30

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND FOR RETURN OF DRAWINGS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REVISED ☐ RESUBMIT AND RESUBMIT ☐ NOT ACCEPTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THE CHECK & SUBSEQUENT REVIEW OF SHOP DRAWINGS DO NOT CONSTITUTE CHANGES IN THE DESIGN CONCEPT OF THE PROJECT AS SHOWN ON THE CONTRACT DRAWINGS AND SPECIFIED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTION & FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS AND PERFORMING NO WORK IN A SAFE AND SATISFACTORY MANNER.

Vanasse Hangen Brustlin, Inc. — Job Number: 5041.1
Engineers, Planners, and Scientists — Reviewed By: [illegible]
54 Boylston Palmer Mills Rd
Boylston, MA 01505 (508) 844-9000 — Date: 9/17/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1570 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/295-520
A Division of High Industries Inc.

GIRDER G6N

VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.18+970.425 TO STA.12+859.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: BRS CHK'D. BY: CS DATE: 8-23-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 54 OF 112

PLOTTED: 9/20/2004 10:06:19 AM BY: dpoirier

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

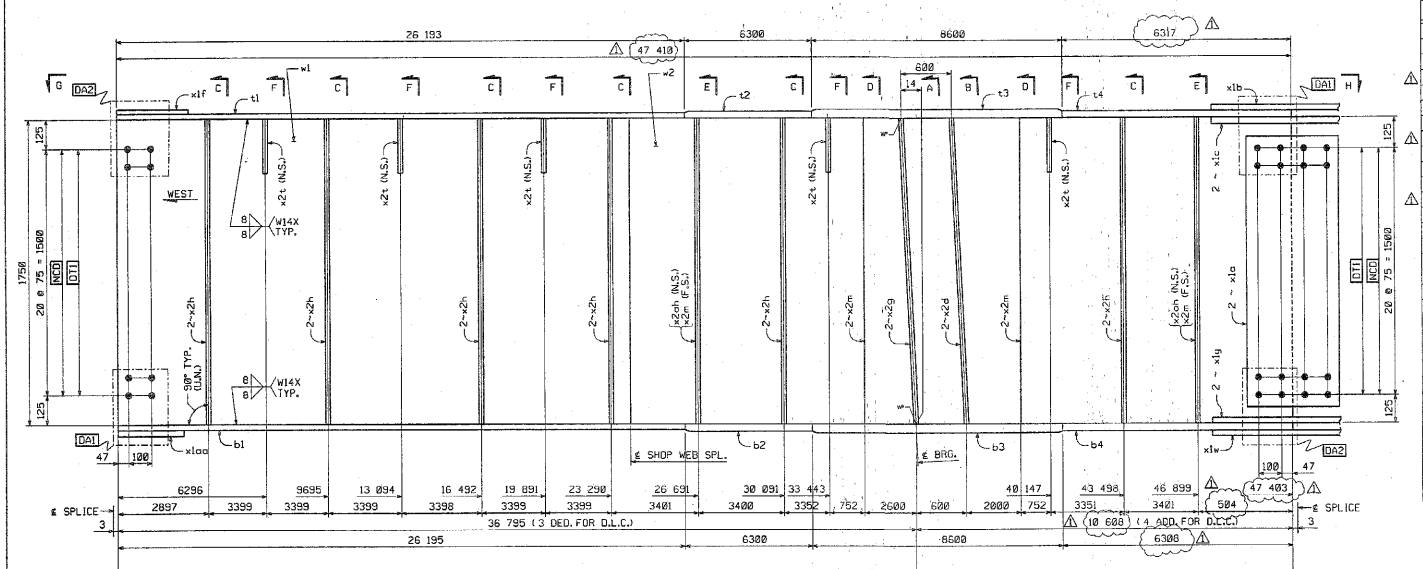
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

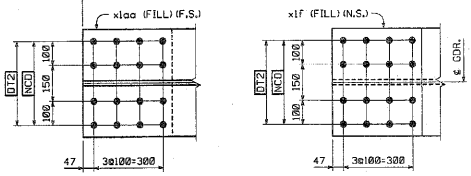
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G7N	GIRDER					22 640
1	w1	PL 16 x 1750	23 808	(T)	3	4	5232.40
1	w2	PL 16 x 1750	23 609	(T)	3	7	5188.66
1	t1	PL 22 x 450	26 193	(T)	4	20	2035.36
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 85 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 317	(T)	4	14	713.99
1	b1	PL 22 x 450	26 195	(T)	4	20	2035.51
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 85 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 308	(T)	4	14	712.97
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
12	x2h	PL 12 x 180	1 750		7	4	29.67
6	x2m	PL 12 x 180	1 750		7	4	29.67
5	x2l	PL 14 x 180	310		7	3	6.13
2	x2ah	PL 12 x 180	1 750		7	4	29.67

TOTAL WEIGHT THIS SHEET: 22 639.29 kgs

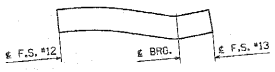
SHEET REVISED 8-5-2005 SEE UPDATED SHEET SPDTL2. SHEET UPDATED JAN 8-2006



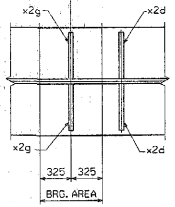


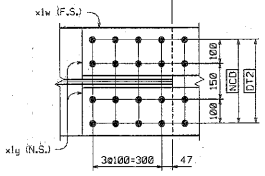
VIEW G

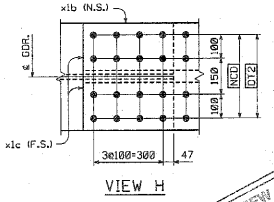
GIRDER ~ G7N



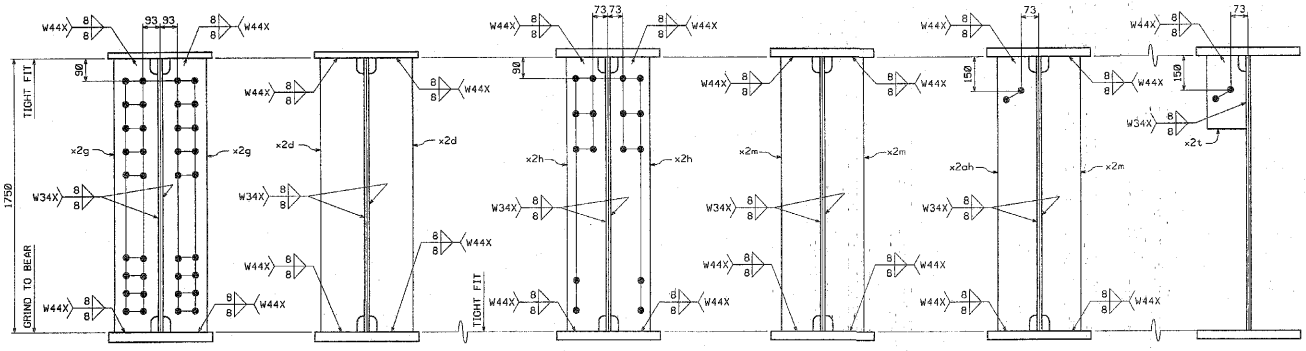
ORIENTATION DIAGRAM







VIEW H



SECTION A SECTION B SECTION C SECTION D SECTION E SECTION F

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC3.

SHOP DRAWING REVIEW

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE 15°C	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1170 Homestead Road
Lancaster, PA 17605-0038
Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER	G7N
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(11)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (JH) MADE BY: ERS CHK'D. BY: CG DATE: 8-23-04	
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 55 OF 112	

CODE:130

METRIC
PLOTTED: 9/28/2004 10:05:52 PM BY: dpcurtin

METRIC

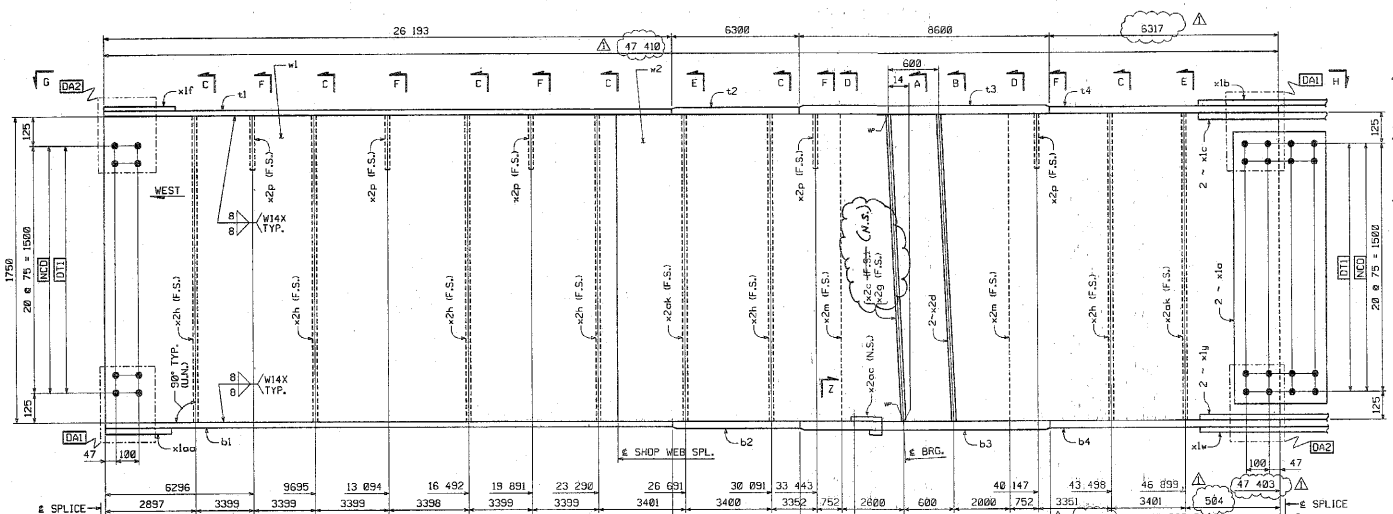
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

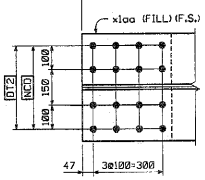
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

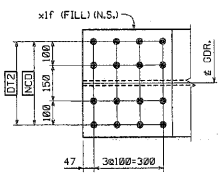
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	ORD.	ITEM	SHIP. WT. KG. EA.
ONE	G8N	GIRDER					22 350
1	w1	PL 16 x 1750	23 808	(T)	3	4	5232.40
1	w2	PL 16 x 1750	23 609	(T)	3	7	5188.65
1	t1	PL 22 x 450	26 193	(T)	4	20	2035.36
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 317	(T)	4	14	713.99
1	b1	PL 22 x 450	26 195	(T)	4	20	2035.51
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 308	(T)	4	14	712.97
2	x1a	PL 12 x 1600	400	(T)	8	1	60.28
1	x1b	PL 14 x 450	790	(T)	8	8	39.08
2	x1c	PL 16 x 200	790	(T)	8	5	19.84
1	x1f	PL 10 x 450	392	FILL	8	7	13.85
1	x1w	PL 14 x 450	790	(T)	8	8	39.08
2	x1y	PL 16 x 200	780	(T)	8	5	19.84
1	x1aa	PL 10 x 450	392	FILL	8	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
6	x2h	PL 12 x 180	1 750		7	4	29.67
2	x2m	PL 12 x 180	1 750		7	4	29.67
5	x2p	PL 14 x 180	310		7	3	6.13
1	x2ac	PL 6 x 115	301		7	5	1.63
2	x2ak	PL 12 x 180	1 750		7	4	29.67
TOTAL WEIGHT THIS SHEET:			22 344.23	kgs			

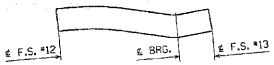
SHEET REVISED 8-5-2005 SEE UPDATED SHEET SW20 112 SWR 8-10-05



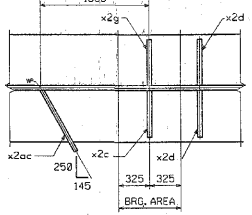


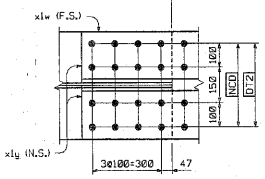


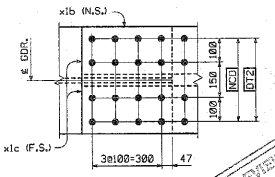
GIRDER ~ G8N

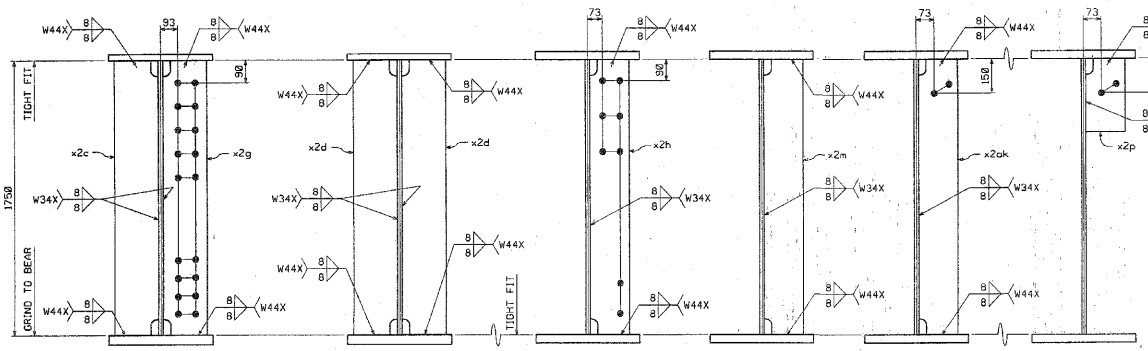


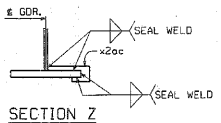
ORIENTATION DIAGRAM











SHOP NOTE

HOLES: 19/16
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC3.

SHOP DRAWING REVIEW — REVIEWED AS NOTED IN THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED. ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS ARE NOTED. THIS REVIEW DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE SHOP DRAWINGS. Approved By: Date: 8/17/05

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH & MEAN TEMPERATURE OF 40°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
170 Hempstead Road, Lancaster, PA 17601-0009, Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER	G8N
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	

STATE CONTRACT OR REF. NO.: BRF-036-1(1)
CONTRACTOR: CIANBRO CORPORATION
IN CHARGE: GLIDDEN (TH) MADE BY: ERS CHK'D. BY: CG DATE: 8-23-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBERS: 56 OF 112

CODE:30

PLOTTED: 9/20/2004 10:05:05 PM BY: dcarrier

METRIC

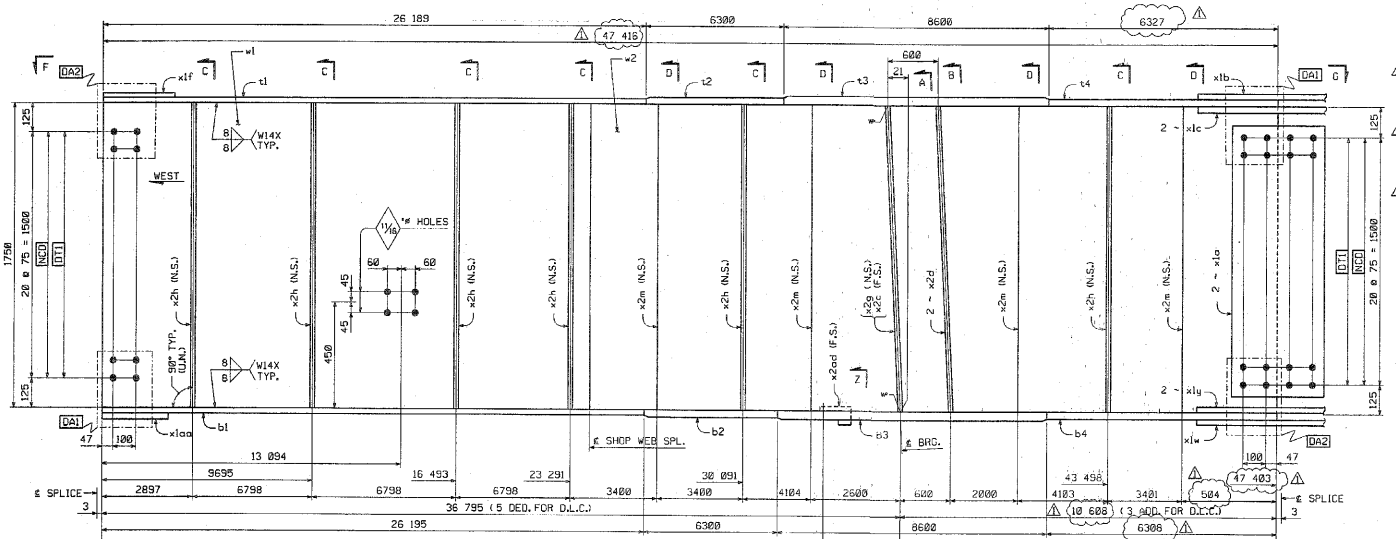
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

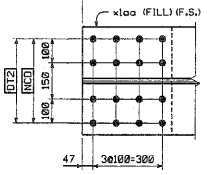
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G50	GIRDER					22 320
1	w1	PL 16 x 1750	23 812	(T)	3	4	~~5233.29~~
1	w2	PL 16 x 1750	~~23611~~	(T) 4/3 SHOP	3	7	~~5188.10~~
1	t1	PL 22 x 450	26 189	(T)	4	20	~~2035.84~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~742.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1874.44~~
1	t4	PL 32 x 450	6 327	(T)	4	13	~~715.12~~
1	b1	PL 22 x 450	26 195	(T)	4	20	~~2035.51~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~742.07~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1874.44~~
1	b4	PL 32 x 450	6 308	(T)	4	14	~~742.07~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~80.96~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
1	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
6	x2h	PL 12 x 180	1 750		7	4	~~29.87~~
4	x2m	PL 12 x 180	1 750		7	4	~~29.87~~
1	x2ad	PL 6 x ~~115~~	301	Volt 91 MDM	7	5	~~1.83~~

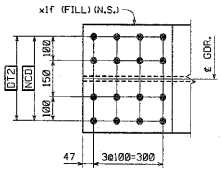
TOTAL WEIGHT THIS SHEET: ~~22 318.71~~ kgs

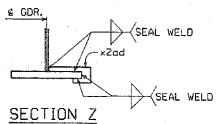


GIRDER ~ G50

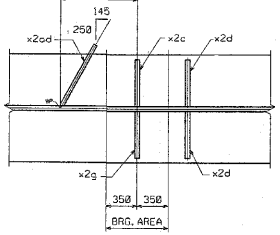


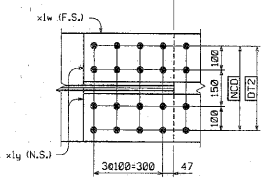
VIEW F

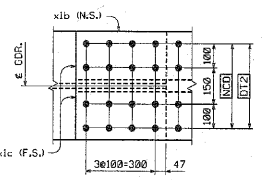




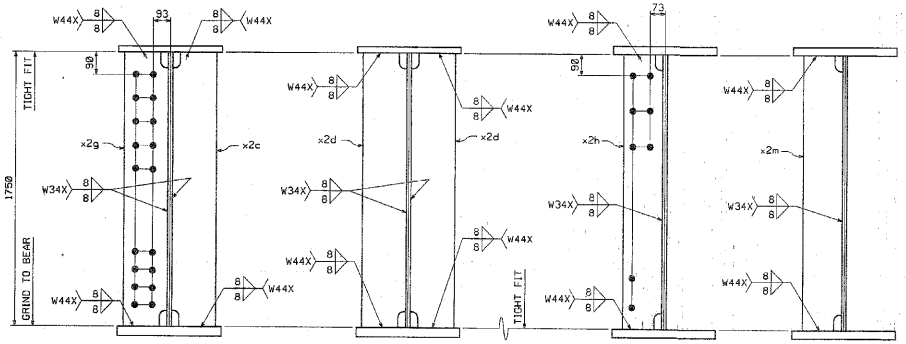
SECTION Z



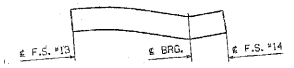




VIEW G



SECTION A SECTION B SECTION C SECTION D



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 1 1/16" ø (U.N.)
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC3.

CODE:30

SHOP DRAWING REVIEW

REVIEWED AS PREPARED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY WITH CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO PREVIOUS LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CONFORMANCE ON ASSEMBLY WORK ON THE SHOP DRAWINGS MEANS THIS REVIEW DID NOT REQUIRE CONTRACTOR TO FURNISH COMPONENTS WITH DIMENSIONS OTHER THAN SHOWN ON APPROVED SHOP DRAWINGS. THIS REVIEW DID NOT REVEAL ANY DEPARTURE FROM THE DESIGN CONCEPT OF THE PROJECT AND DID NOT REVEAL ANY CONFLICT WITH THE PROVISIONS GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING ALL WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER.

Vanasse Hangen Brustlin, Inc.
Engineers, Planners, and Scientists
Six Kimball Lane, Suite 2
Bedford, NH 03110 603 644 0888

Job Number: 3004
Reviewed By: PJH
Date: 11/3/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1710 Harrisburg Road
Lancaster, PA 17605-0008
Phone 717/293-521
A Division of High Industries Inc.

GIRDER	G50
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (JH) MADE BY: SSL CHK'D. BY: CS DATE: 8-23-04	
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 57 OF 112	

PLOTTED: 9/28/2004 10:56:56 PM
BY: dpainter

METRIC

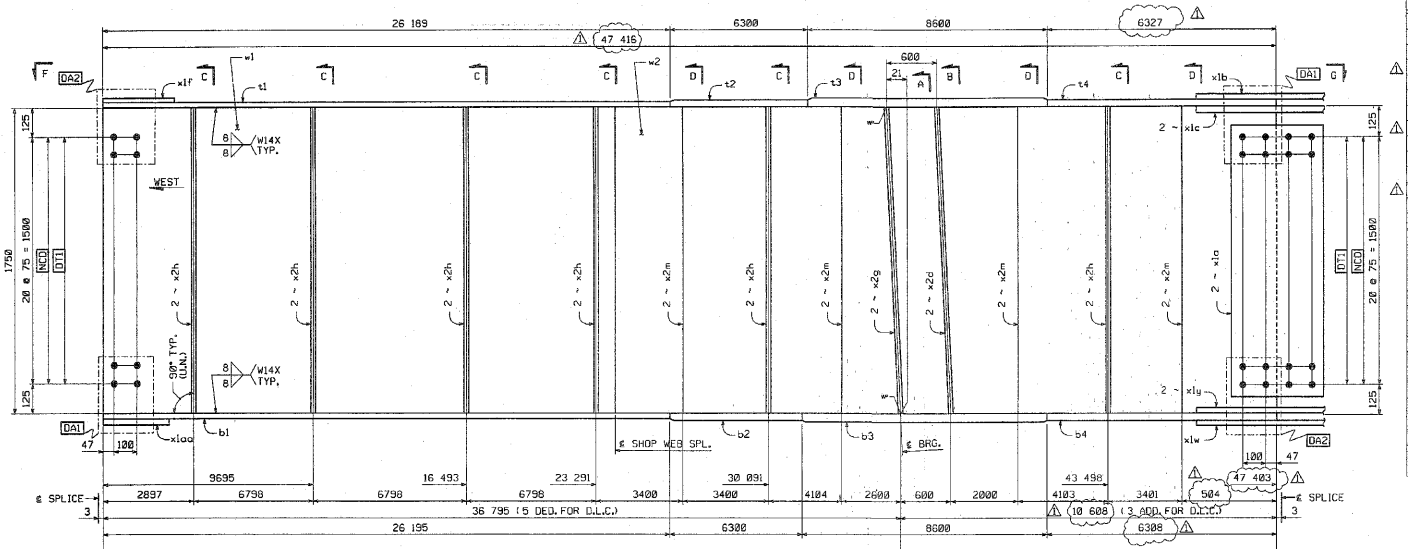
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

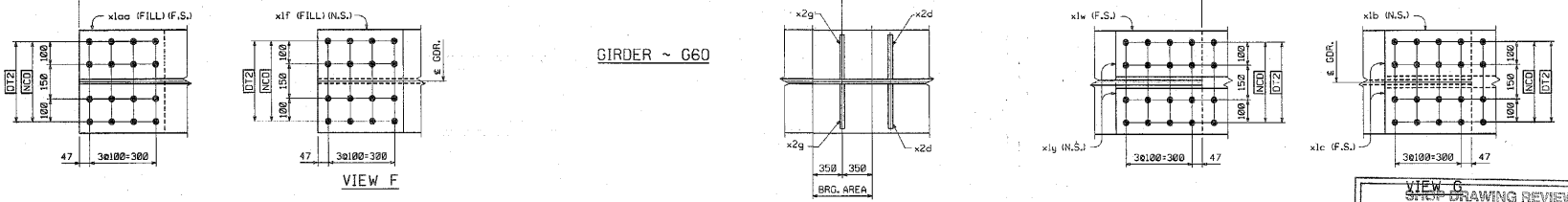
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

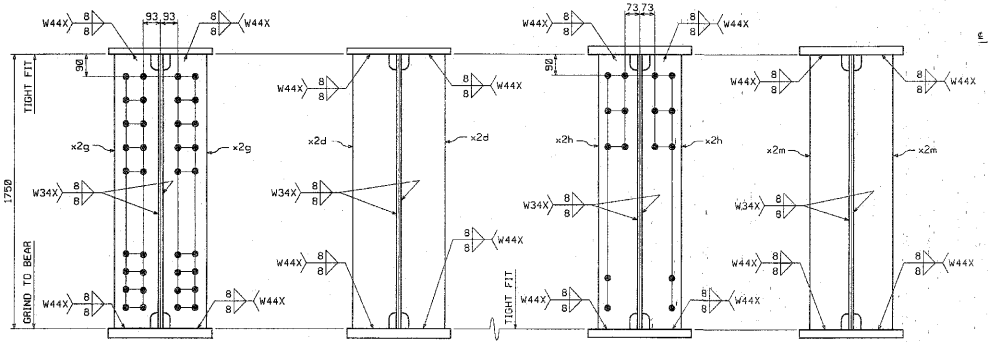
BILL OF MATERIAL

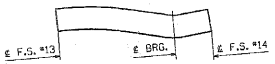
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G60	GIRDER					22 620
1	w1	PL 16 x 1750	23 842	(T)	3	4	5233.28
1	w2	PL 16 x 1750	23 811	(T)	3	7	5168.10
1	t1	PL 22 x 450	26 189	(T)	4	20	2035.04
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 327	(T)	4	13	715.12
1	b1	PL 22 x 450	26 195	(T)	4	20	2035.81
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 308	(T)	4	14	712.97
2	x1a	PL 12 x 1600	400	(T)	6	1	90.28
1	x1b	PL 14 x 450	790	(T)	6	6	99.00
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	382	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	99.00
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
12	x2h	PL 12 x 180	1 750		7	4	29.67
8	x2m	PL 12 x 180	1 750		7	4	29.67

TOTAL WEIGHT THIS SHEET: 22 610.77 kgs









ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC3.

CODE:30

VIEW G

STEEL DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FITTING, ERECTABILITY AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

Vermont Highway Supply, Inc. Job Number: 5041
Engineers, Planners, Surveyors
84 Bedford Farms, Route 114
Bedford, NH 03102 603-644-0888

Reviewed By: JSA
Date: 9/16/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0006
Phone 717/299-5211
A Division of HSS Industries, Inc.

GIRDER	G60
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE GLIDDEN (IH) MADE BY: SSL CHK'D. BY: GS DATE: 8-23-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 58 OF 112

PLOTTED: 9/28/2004 1:07:01 PM BY: dmonroe

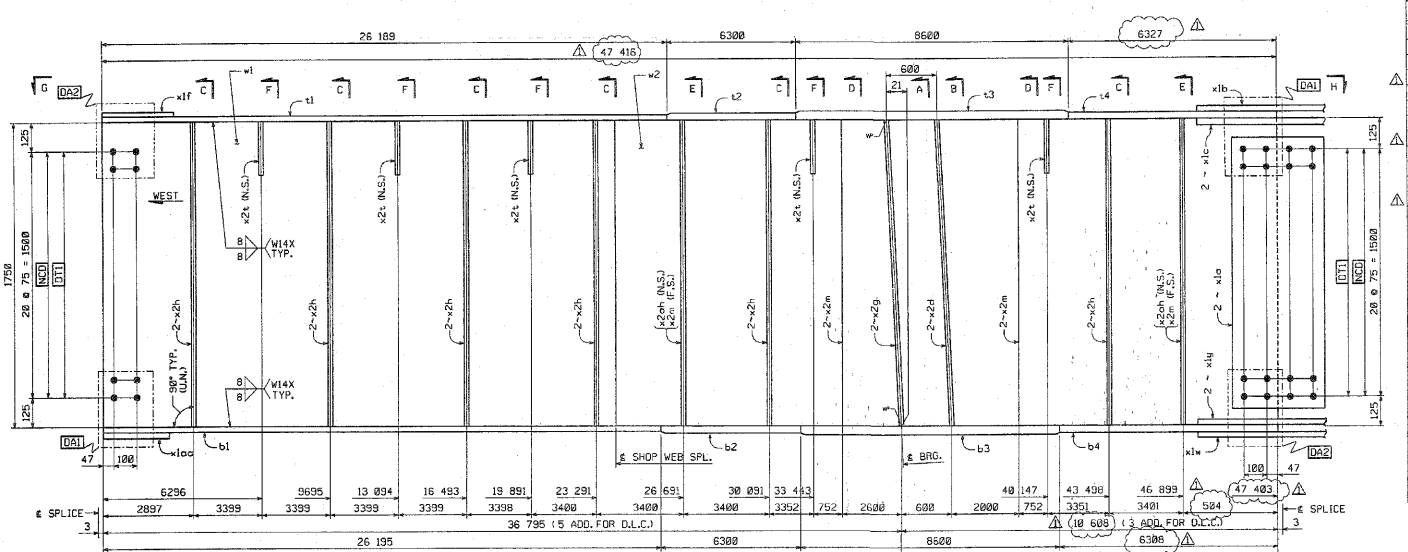
METRIC

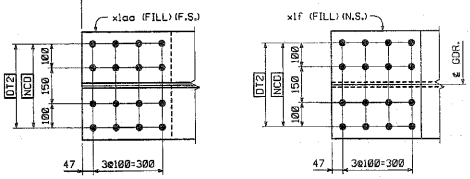
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

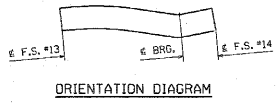
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G70	GIRDER					22 650
1	w1	PL 16 x 1750	23 812	(T)	3	4	6239.28
1	w2	PL 16 x 1750	23 811	(T)	3	7	6189.10
1	t1	PL 22 x 450	26 189	(T)	4	20	2035.04
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 85 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 327	(T)	4	13	715.12
1	b1	PL 22 x 450	26 195	(T)	4	20	2035.51
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 85 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 308	(T)	4	14	712.97
2	x1a	PL 12 x 1600	400	(T)	6	1	50.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.05
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	39.00
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
12	x2h	PL 12 x 180	1 750		7	4	29.67
6	x2m	PL 12 x 180	1 750		7	4	29.67
5	x2t	PL 14 x 180	310		7	3	6.13
2	x2ah	PL 12 x 180	1 750		7	4	29.67
		TOTAL WEIGHT THIS SHEET:		22 641.43	kgs		



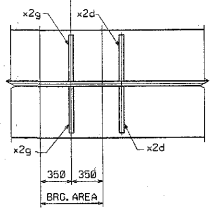


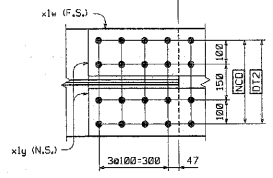
VIEW G

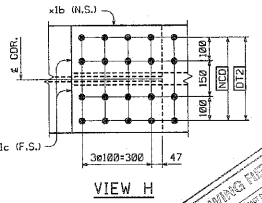
GIRDER ~ G70



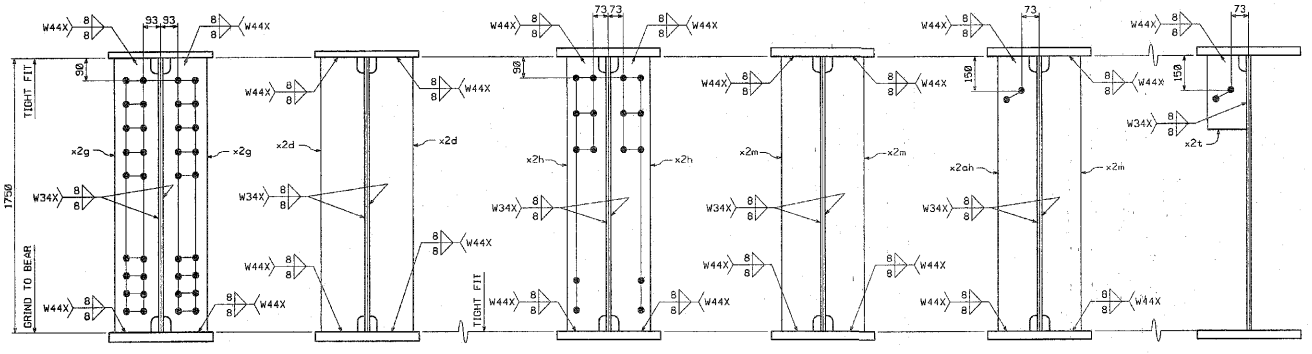
ORIENTATION DIAGRAM







VIEW H



SHOP DRAWING REVIEW

SHOP NOTE

HOLES: (15/16" ø)
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. W02.

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17601-6008
Phone 717/295-528
A Division of High Industries, Inc.

GIRDER G70

VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE GLIDDEN (IH) MADE BY: SSL CHK'D. BY: CS DATE: 8-23-04
CONTRACT NUMBER VT-04057-2 DRAWING NUMBER 59 OF 112

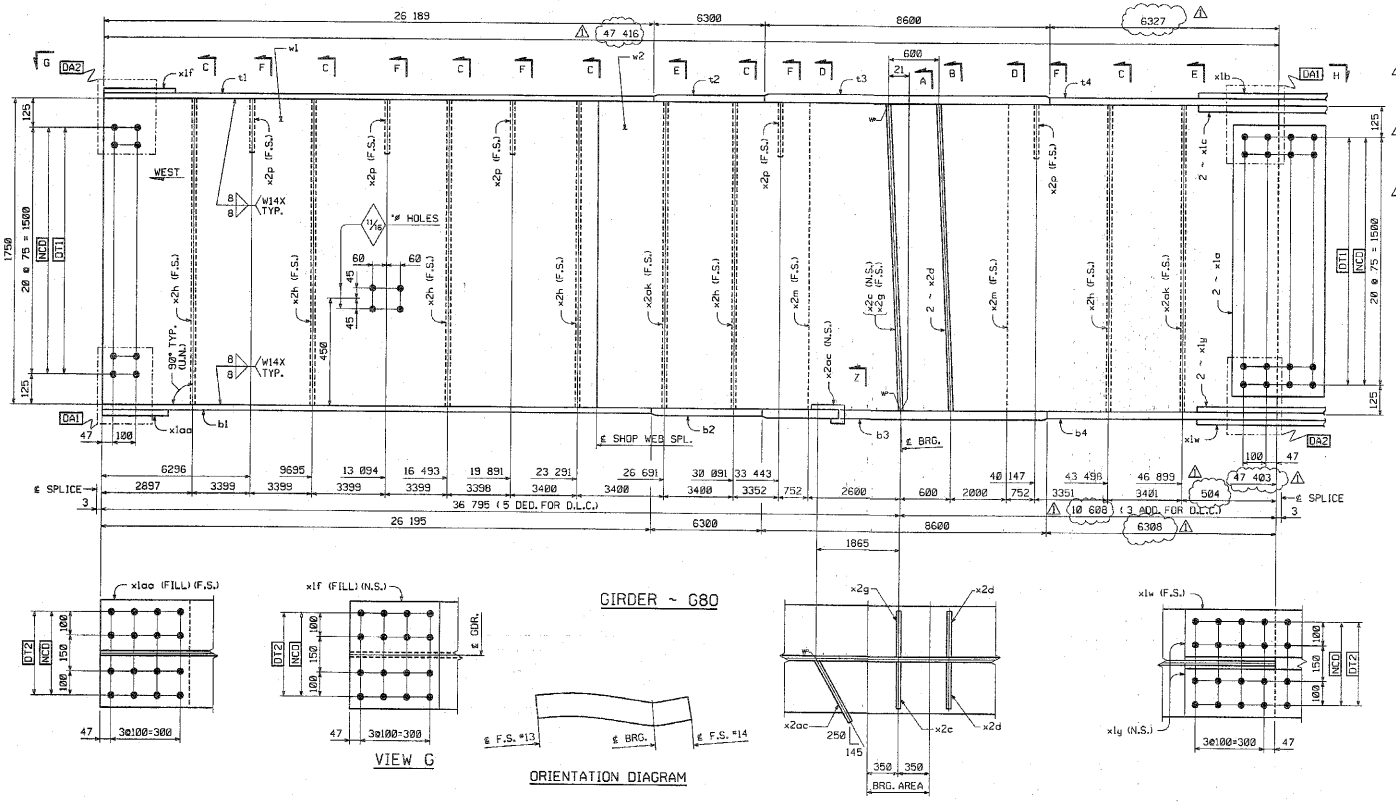
CODE:30

PLOTTED: 9/20/2004 1:40:04 PM
BY: dbarnhar

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. HIGHWAY DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

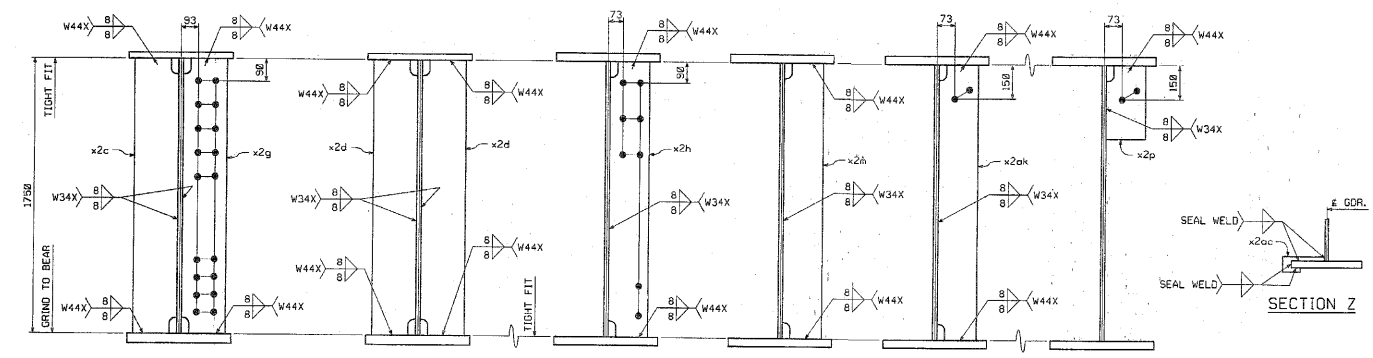


GIRDER ~ G80

VIEW G

ORIENTATION DIAGRAM

VIEW H



BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G80	GIRDER					22 350
1	w1	PL 18 x 1750	23 812	(T)	3	4	5233.28
1	w2	PL 16 x 1750	23 644	(T)	3	7	5488.19
1	t1	PL 22 x 450	28 189	(T)	4	20	2035.04
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 327	(T)	4	13	715.12
1	b1	PL 22 x 450	28 195	(T)	4	20	2035.51
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 308	(T)	4	14	712.97
2	x1a	PL 12 x 1600	400	(T)	6	1	60.29
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 10 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 15 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
6	x2h	PL 12 x 180	1 750		7	4	29.87
2	x2m	PL 12 x 180	1 750		7	4	29.87
5	x2p	PL 14 x 180	310		7	3	8.13
2	x2ak	PL 12 x 180	1 750		7	4	29.87
1	x2ac	PL 6 x 115	301		7	5	4.63

TOTAL WEIGHT THIS SHEET: 22 346.37 kgs

SHOP DRAWING REVIEW

SHOP NOTE

HOLES: 15/16" ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1
FOR WEB CAMBER DIAGRAM, SEE DWG. W13

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1170 Hempfield Road
Lancaster, PA 17605-0008
Phone 717/299-5261
A Division of High Industries, Inc.

GIRDER G80
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

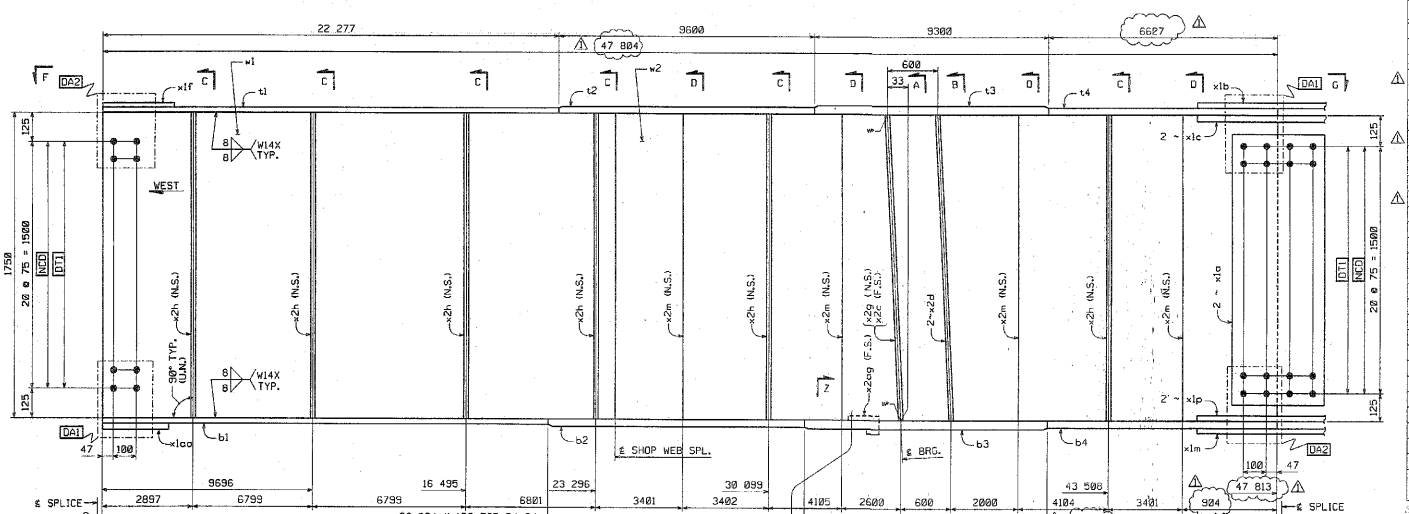
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SSJ CHK'D. BY: CG DATE: 8-23-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 60 OF 112

CODE:30

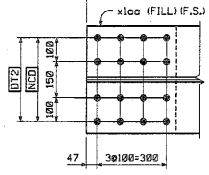
PLOTTED: 9/29/2004 8:07:08 PM BY: dpanther

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.

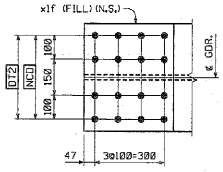
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

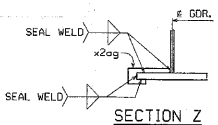


GIRDER ~ G5P

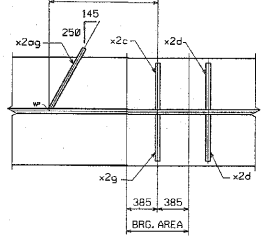


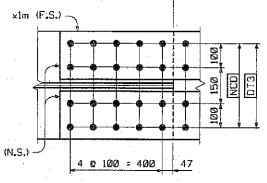
VIEW F

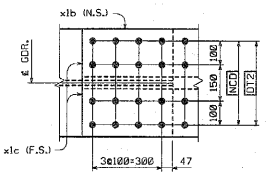




SECTION Z







VIEW G

SHOP DRAWING REVIEW

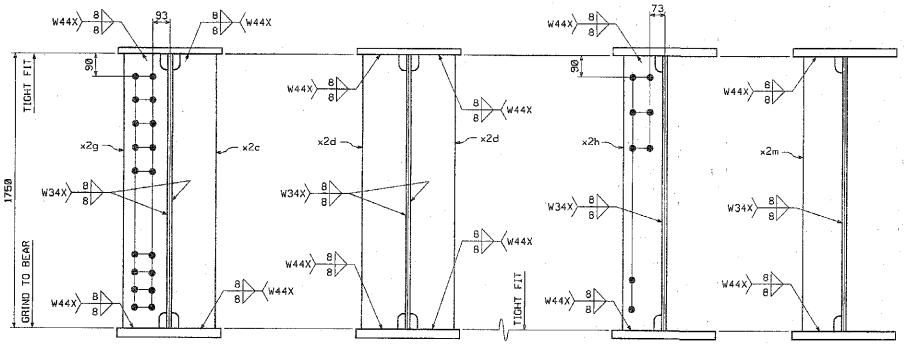
APPROVED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED FOR ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND COMPLIANCE TO FABRICATION AND ERECTION DATA CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

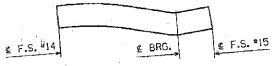
CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

Engineers, Planners, and Scientists
54 Rudnick Lane, Dover-Air
Bedford, NH 03110 (603) 644-0800

Reviewed By: [illegible]
Date: 10/15/04



SECTION A SECTION B SECTION C SECTION D



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø

BOLTS: NONE

PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

CODE:130

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G5P	GIRDER					24 890
1	w1	PL 16 x 1750	23 812	(T)	3	6	5233.28
1	w2	PL 16 x 1750	24 010	(T)	3	1	5276.79
1	t1	PL 22 x 450	22 277	(T)	4	25	1731.66
1	t2	PL 40 x 450	9 600	(T)	4	8	1356.32
1	t3	PL 80 x 450	9 300	(T)	4	1	2627.88
1	t4	PL 40 x 450	6 828	(T)	4	10	936.43
1	b1	PL 22 x 450	22 304	(T)	4	23	1735.16
1	b2	PL 40 x 450	9 600	(T)	4	8	1356.82
1	b3	PL 80 x 450	9 300	(T)	4	1	2627.89
1	b4	PL 40 x 450	6 610	(T)	4	11	933.86
2	x1a	PL 12 x 1600	400	(T)	6	1	60.29
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1m	PL 18 x 450	990	(T)	6	3	62.64
2	x1p	PL 20 x 200	990	(T)	6	2	31.06
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
6	x2h	PL 12 x 180	1 750		7	4	29.67
4	x2m	PL 12 x 180	1 750		7	4	29.67
1	x2ag	PL 6 x 130	301		7	5	1.84

TOTAL WEIGHT THIS SHEET: 24 881.23 kgs

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17601-0008
Phone 717/299-5201
A Division of MSX Industries, Inc.

GIRDER	G5P
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+659.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO.	BRF-036-1(1)
CONTRACTOR	CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH)	MADE BY: SRS CHK'D. BY: CG DATE: 8-23-04
CONTRACT NUMBER	VT-04057-2
DRAWING NUMBER	61 OF 112

PLOTTED: 9/20/2004 08:01 PM
BY: dpountner

METRIC

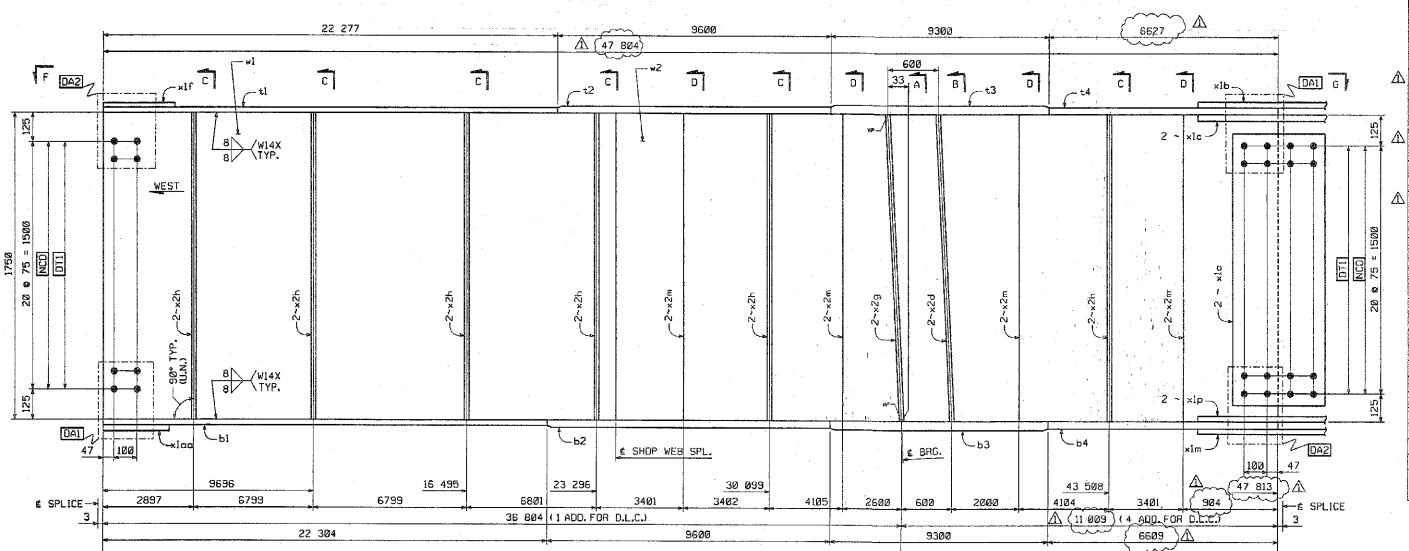
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

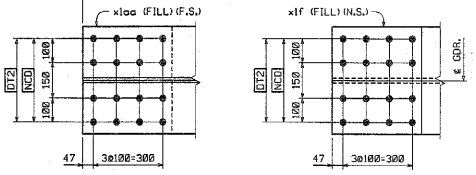
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G6P	GIRDER					25 180
1	w1	PL 16 x 1750	23 812	(T)	3	6	5233.28
1	w2	PL 16 x 1750	24 010	(T)	3	1	5276.79
1	t1	PL 22 x 450	22 277	(T)	4	25	1731.06
1	t2	PL 40 x 450	9 600	(T)	4	8	1356.32
1	t3	PL 80 x 450	9 300	(T)	4	1	2627.88
1	t4	PL 40 x 450	6 629	(T)	4	10	936.43
1	b1	PL 22 x 450	22 304	(T)	4	23	1733.16
1	b2	PL 40 x 450	9 600	(T)	4	8	1356.32
1	b3	PL 80 x 450	9 300	(T)	4	1	2627.88
1	b4	PL 40 x 450	6 610	(T)	4	11	933.89
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.05
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1m	PL 18 x 450	990	(T)	6	3	62.94
2	x1p	PL 20 x 200	990	(T)	6	2	31.08
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
12	x2h	PL 12 x 180	1 750		7	4	29.67
8	x2m	PL 12 x 180	1 750		7	4	29.67

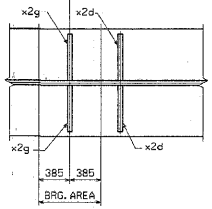
TOTAL WEIGHT THIS SHEET: 25 176.08 kgs

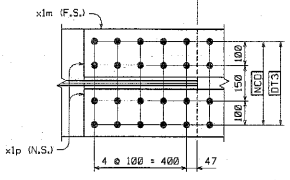


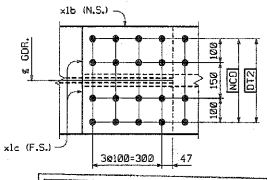


VIEW F

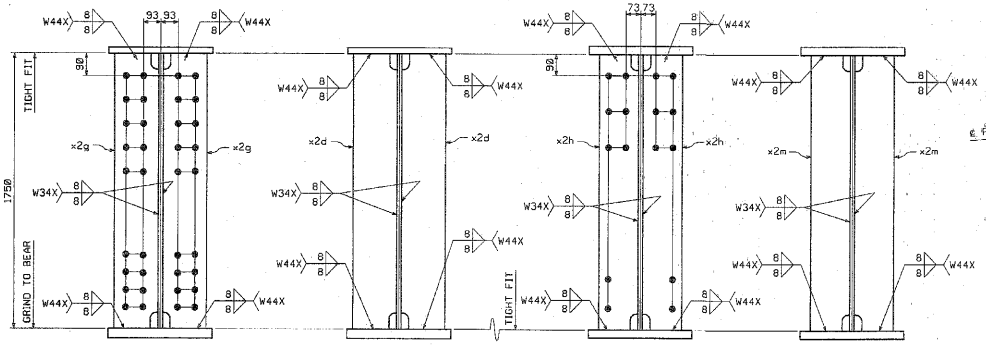
GIRDER ~ G6P



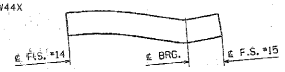




VIEW G



SECTION A SECTION B SECTION C SECTION D



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

CODE:130

SHOP DRAWING REVIEW

APPROVED AS RESUBMITTED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND RESERVATIONS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING ALL THE WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB — Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists, 54 Cambridge Park Drive, Suite 100, Cambridge, MA 02140-2308 (617) 924-1770

Job Number: 50911
Reviewed By: JSA
Date: 9/17/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1970 Hempstead Road, Lancaster, PA 17601-6008, Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER	G6P
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+058.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO.: BRF-036-1(1)	
CONTRACTOR: CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (IH) MADE BY: SRS CHK'D. BY: GG DATE: 8-23-04	
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 62 OF 112	

PLOTTED: 9/29/2004
MADE IN
BY: dpountar

METRIC

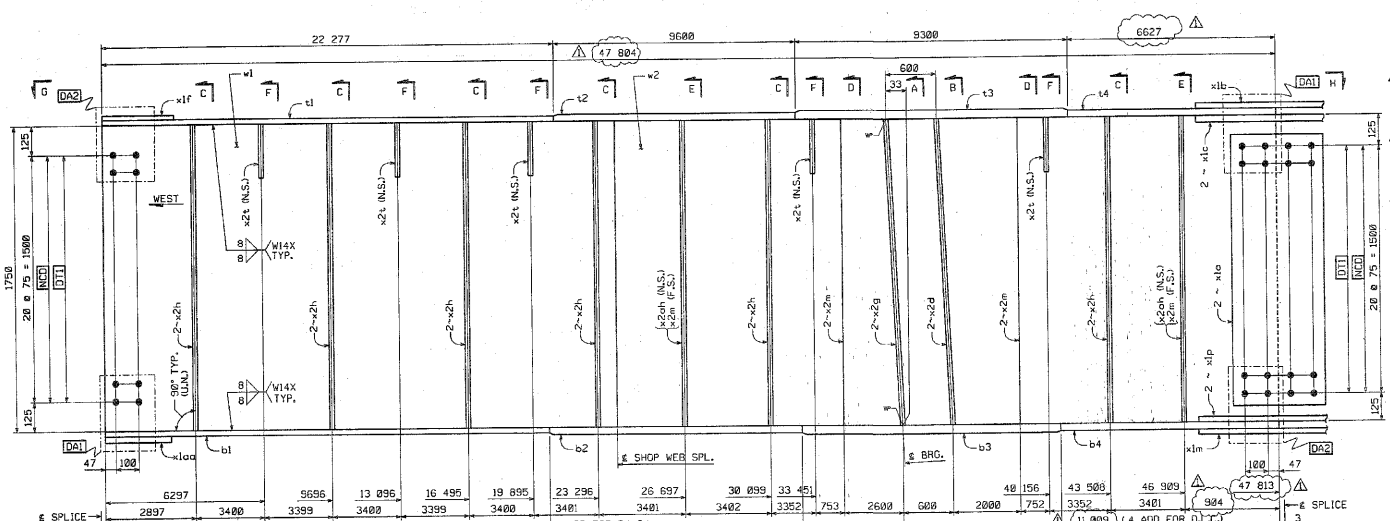
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

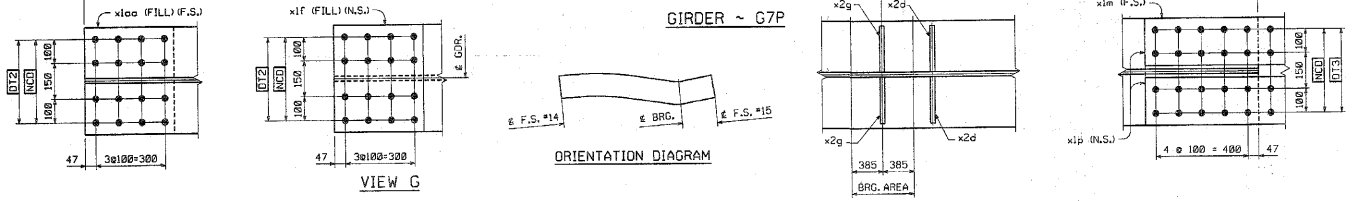
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	QTY.	ITEM	SHIP. WT. KG. EA.
ONE	G7P	GIRDER					25 210
1	w1	PL 18 x 1750	23 842	(T)	3	6	~~5293.28~~
1	w2	PL 16 x 1750	24 010	(T)	3	1	~~5276.79~~
1	t1	PL 22 x 450	22 277	(T)	4	25	~~1751.06~~
1	t2	PL 40 x 450	9 600	(T)	4	8	~~1356.92~~
1	t3	PL 80 x 450	9 300	(T)	4	1	~~2627.86~~
1	t4	PL 40 x 450	6 628	(T)	4	10	~~935.43~~
1	b1	PL 22 x 450	22 304	(T)	4	23	~~1733.15~~
1	b2	PL 40 x 450	9 600	(T)	4	8	~~1356.92~~
1	b3	PL 80 x 450	9 300	(T)	4	1	~~2627.86~~
1	b4	PL 40 x 450	6 610	(T)	4	11	~~933.89~~
2	x1a	PL 12 x 1600	400	(T)	8	1	~~90.25~~
1	x1b	PL 14 x 450	790	(T)	8	8	~~39.06~~
2	x1c	PL 16 x 200	790	(T)	8	5	~~19.84~~
1	x1f	PL 10 x 450	392	FILL	8	7	13.85
1	x1m	PL 18 x 450	990	(T)	6	3	~~62.64~~
2	x1p	PL 20 x 200	990	(T)	6	2	~~31.06~~
1	x1aa	PL 10 x 450	392	FILL	8	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
12	x2h	PL 12 x 180	1 750		7	4	~~29.87~~
6	x2m	PL 12 x 180	1 750		7	4	~~29.87~~
5	x2t	PL 14 x 180	310		7	3	~~6.13~~
2	x2ah	PL 12 x 180	1 750		7	4	~~29.87~~

TOTAL WEIGHT THIS SHEET: ~~25 206.74~~ kgs

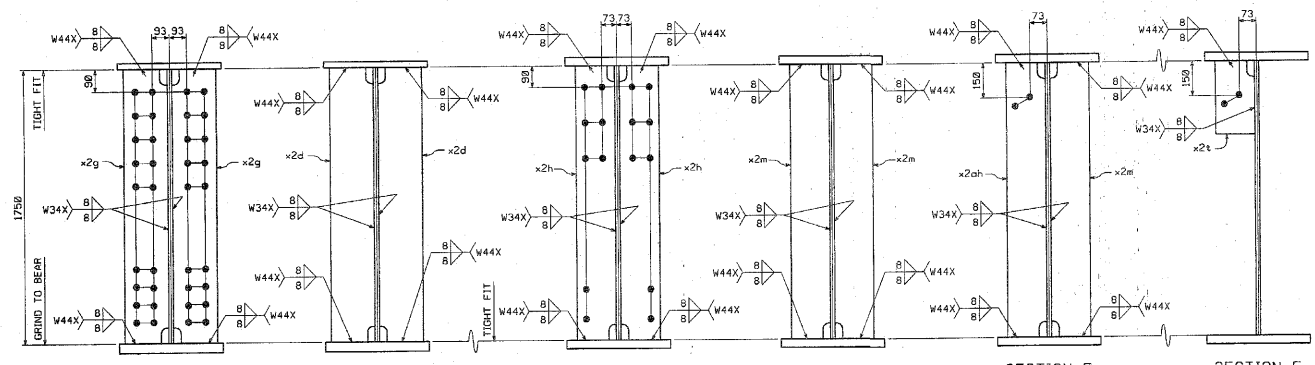




SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES SEE DWG. G1P
FOR WEB CAMBER DIAGRAM SEE DWG. G2P

SHOP DRAWING REVIEW
REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND COMPLIANCE WITH THE CONSTRUCTION CONTRACT DOCUMENTS. CONFIRMATION IS REQUIRED FOR DIMENSIONS, QUANTITIES AND FABRICATION PROCESSES. CONFIRMATION IS NOT REQUIRED FOR SHOP CONNECTIONS UNLESS SPECIFICALLY REQUESTED. REVISE AND RESUBMIT. NOT APPROVED. SEE REMARKS.
REVIEWED AS NOTED. MAKE CORRECTIONS NOTED AND COMPLY WITH COMMENTS ON THE SHOP DRAWINGS GIVEN BELOW AND ON ATTACHED MARKED COPIES. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING ALL TRADES, AND PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER. COMMENTS ON THE SHOP DRAWINGS SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR FROM COMPLIANCE WITH THE PROJECT SPECIFICATIONS OR CONTRACT DRAWINGS. THE CONTRACTOR REMAINS RESPONSIBLE FOR DETAILS AND ACCURACY, FOR CONFIRMING AND CORRECTING QUANTITIES AND DIMENSIONS, FOR FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, FOR COORDINATING THE WORK OF ALL SUBCONTRACTORS OR OF ANY SPECIALTY CONTRACTORS, FOR PERFORMING WORK IN A SAFE AND SATISFACTORY MANNER, AND FOR SATISFYING ALL REQUIREMENTS OF THE CONSTRUCTION CONTRACT DOCUMENTS.
REVIEWED BY: Modern Engineering & Construction Solutions, Inc. 54 Andrews Drive, Suite 101, West Henrietta, NY 14586 (585) 334-7310
Jon Harrison
Date: 10/8/04



NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1110 Homestead Road
Lancaster, PA 17601-0068
Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER G7P
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: BRS CHK'D. BY: CS DATE: 8-23-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 63 OF 112

CODE:30

PLOTTED: 9/24/2004 10:07:48 PM BY: dcarter

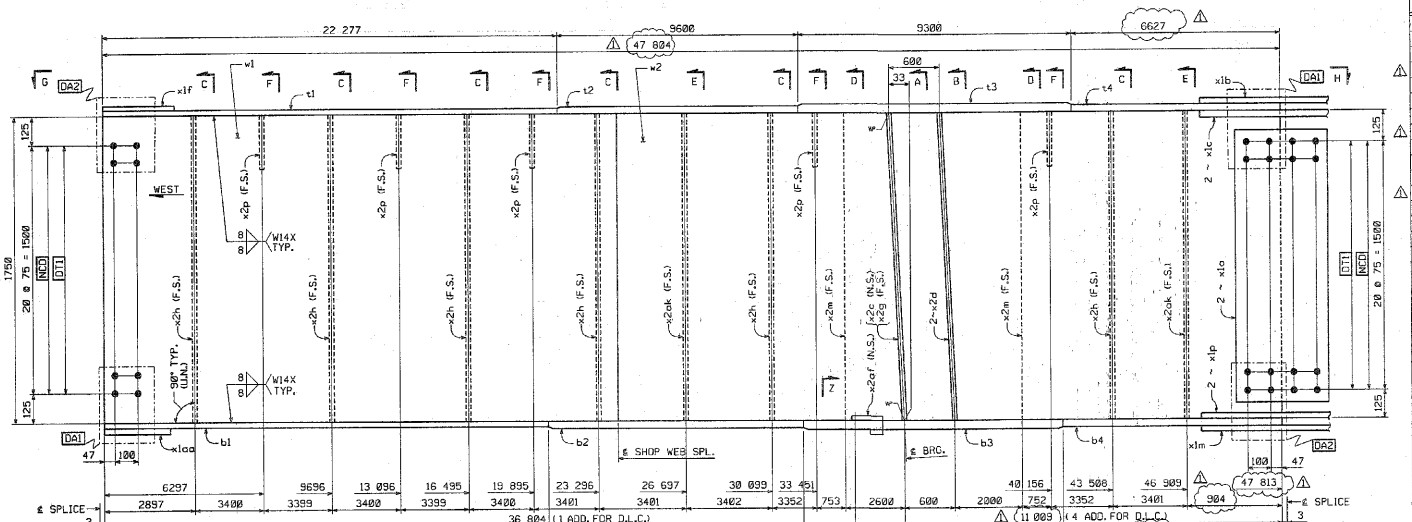
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

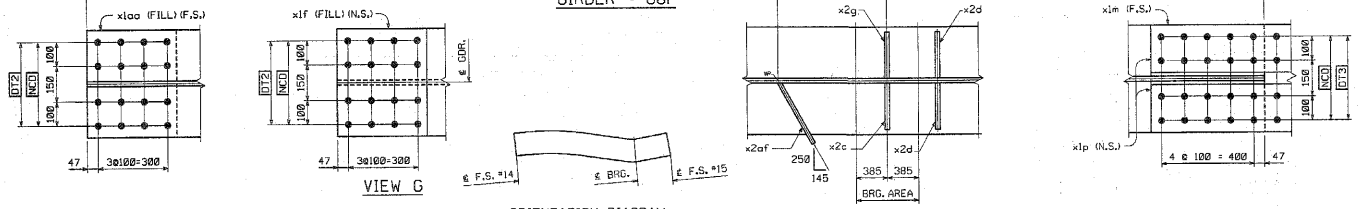
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP WT. KG. EA.
ONE	G8P	GIRDER					24 920
1	w1	PL 16 x 1750	23 842	(T)	3	6	5233.28
1	w2	PL 16 x 1750	24 610	(T)	3	1	5276.79
1	t1	PL 22 x 450	22 277	(T)	4	25	1731.05
1	t2	PL 40 x 450	9 600	(T)	4	8	1356.32
1	t3	PL 80 x 450	9 300	(T)	4	1	2627.88
1	t4	PL 40 x 450	6 628	(T)	4	10	936.43
1	b1	PL 22 x 450	22 304	(T)	4	23	1733.16
1	b2	PL 40 x 450	9 600	(T)	4	8	1356.32
1	b3	PL 80 x 450	9 300	(T)	4	1	2627.88
1	b4	PL 40 x 450	6 610	(T)	4	11	933.89
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	780	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1m	PL 16 x 450	990	(T)	6	3	62.94
2	x1p	PL 20 x 200	990	(T)	6	2	31.08
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
6	x2h	PL 12 x 180	1 750		7	4	20.67
2	x2m	PL 12 x 180	1 750		7	4	20.67
5	x2p	PL 14 x 180	310		7	3	6.13
1	x2af	PL 6 x 130	301		7	5	1.84
2	x2ak	PL 12 x 180	1 750		7	4	20.67
		TOTAL WEIGHT THIS SHEET:	24 911.89	kgs			

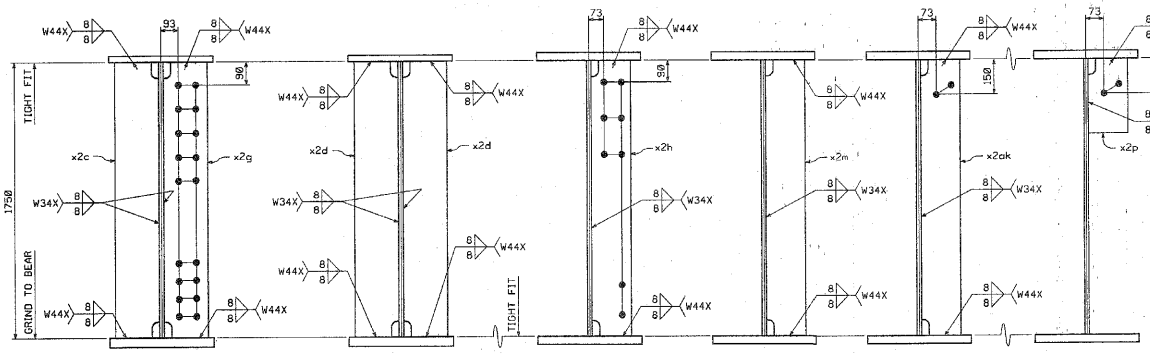
*SEE SHEET 5 of 112

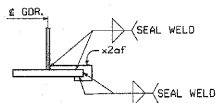


GIRDER ~ G8P



ORIENTATION DIAGRAM





SECTION Z

SHOP NOTE

HOLES: NONE

BOLTS: NONE

PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. GN1.

FOR WEB CAMBER DIAGRAM, SEE DWG. GN2.

SHOP DRAWING REVIEW
VERIFIED

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1710 Hempstead Road
Lancaster, PA 17601-6008
Phone: 717/295-6811
A Division of High Industries, Inc.

GIRDER	G8P
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+055.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (JH) MADE BY: EES CHK'D. BY: CG DATE: 8-23-04	
CONTRACT NUMBER: VT-04057-2	DRAWING NUMBER: 64 OF 112

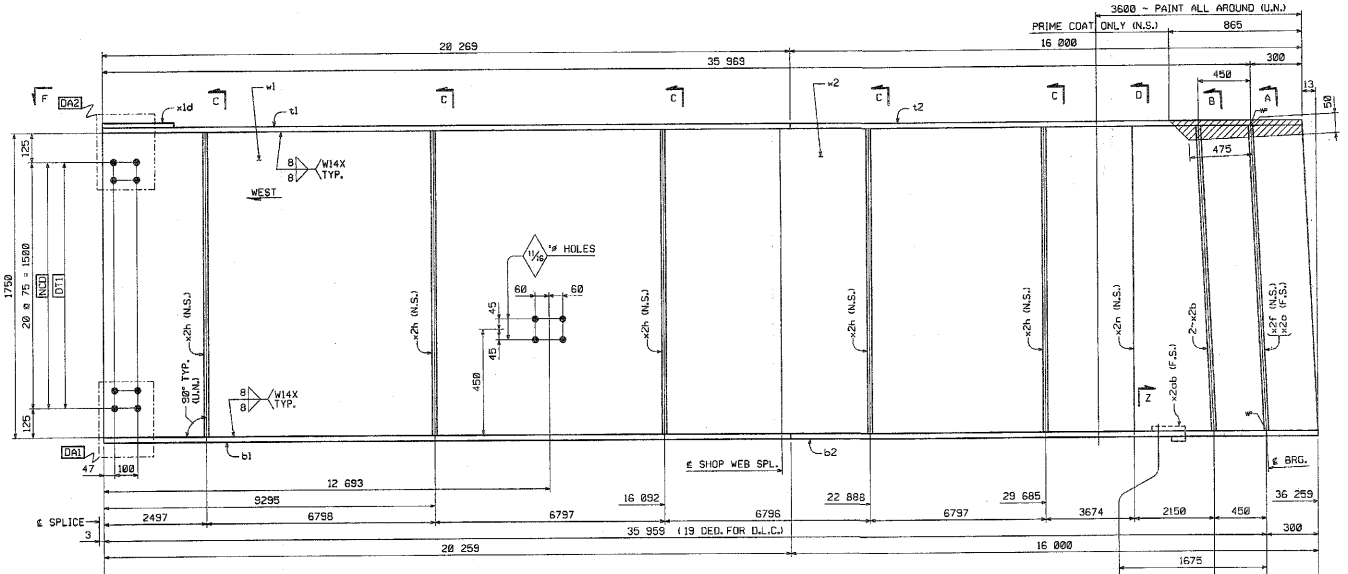
CODE:30

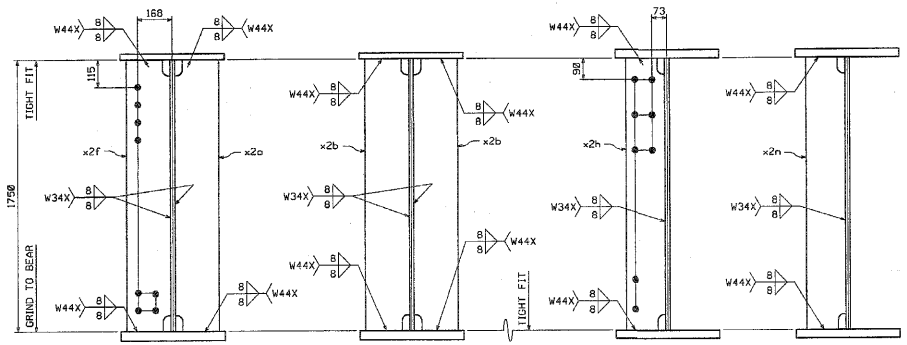
PLOTTED: 9/20/2004 1:07:22 PM BY: dbeamer

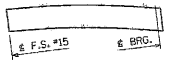
METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	







ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 1¹⁵/₁₆" ø (U.N.)
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

CODE:30

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G50	GIRDER					16 370
1	W1	PL 16 x 1750	19 992	(T)	3	8	4393.74
1	W2	PL 16 x 1750	16 307	(T)	3	11	3583.67
1	t1	PL 22 x 450	20 270	(T)	4	27	1575.10
1	t2	PL 22 x 450	16 000	(T)	4	26	1243.30
1	b1	PL 40 x 450	29 200	(T)	4	4	2862.41
1	b2	PL 40 x 450	16 000	(T)	4	5	2260.54
1	x1d	PL 18 x 450	392	FILL	6	4	24.92
1	x2a	PL 22 x 200	1 750		7	2	60.44
2	x2b	PL 22 x 200	1 750		7	2	120.88
1	x2f	PL 22 x 200	1 750		7	2	60.44
5	x2h	PL 12 x 180	1 750		7	4	29.57
1	x2n	PL 12 x 180	1 750		7	4	29.57
1	x2ab	PL 6 x 90	301		7	5	1.26

TOTAL WEIGHT THIS SHEET: 16364.92 kgs

SHOP DRAWING REVIEW

APPROVED AS FURNISHED BY THE CONSTRUCTION CONTINUITY BOOKSHELF AND APPROVED, BUT VERIFY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE OVERALL SYSTEM AND ALL INFORMATION AND RESTRICTIONS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REVISED ☐ NOTED ☐ NOT APPROVED ☐ RECEIPT ACKNOWLEDGED

CONTRACTOR OR CONTRACTING FIRM TO FULFILL ENTIRE CONTRACT REQUIREMENTS, INCLUDING ALL QUANTITIES AND DIMENSIONS; TO REVIEW AND COORDINATE ALL PORTIONS OF SHOP DRAWINGS WITH THE REQUIREMENTS OF ALL WORK AND WITH ALL APPLICABLE CODES AND REGULATIONS; TO APPROVE AND SUBMIT SHOP DRAWINGS; TO PERFORM CONSTRUCTION METHODS AND TECHNIQUES; AND TO COORDINATE ALL TRADES.

WEIS Weidlinger Associates, Inc. Structural, Blast, and Seismic Engineers. 84 Sutton Park Drive, Suite 104 Bedford, NH 03110 603 641 0258

Job Number: 5041
Reviewed By: BMH
Date: 11/5/04

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17601-6068
Phone 717/299-5201
A Division of High Industries, Inc.

GIRDER G50
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.12+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

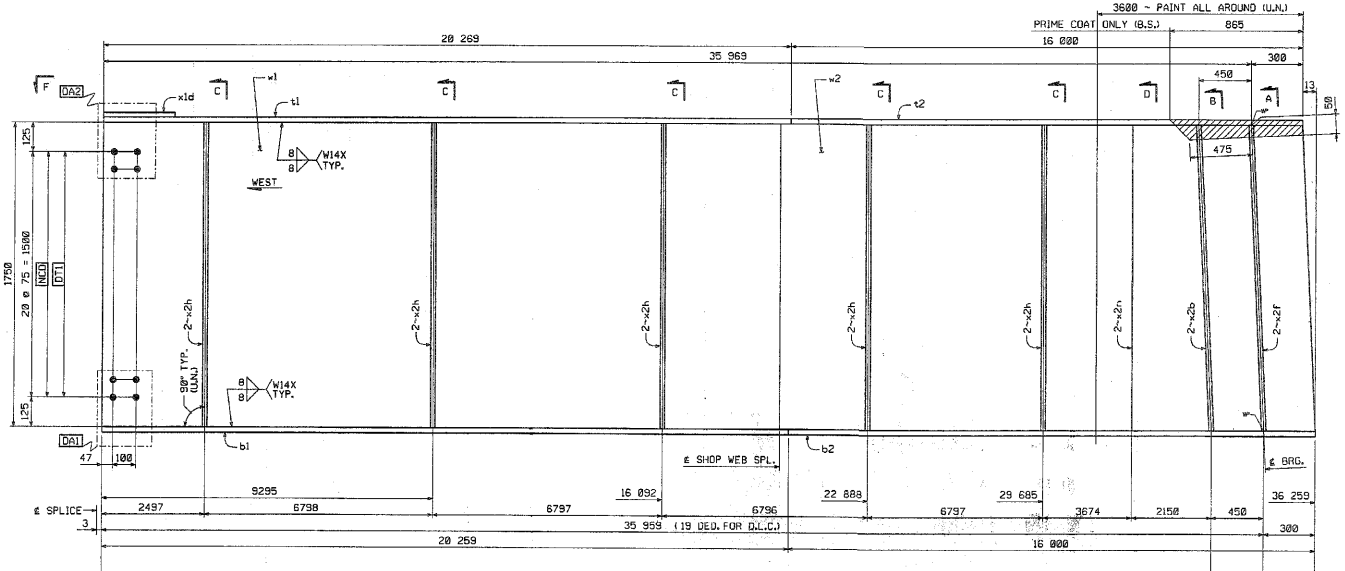
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SBS CHK'D. BY: GS DATE: 8-23-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 65 OF 112

PLOTTED: 09/20/2004 07:57:07 AM
By: cshaffer

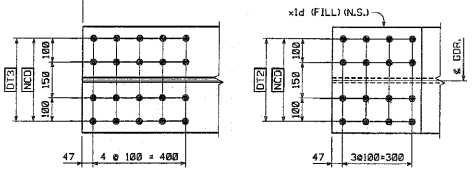
METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

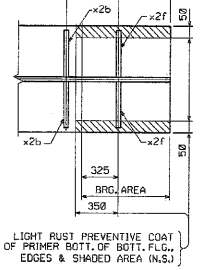
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



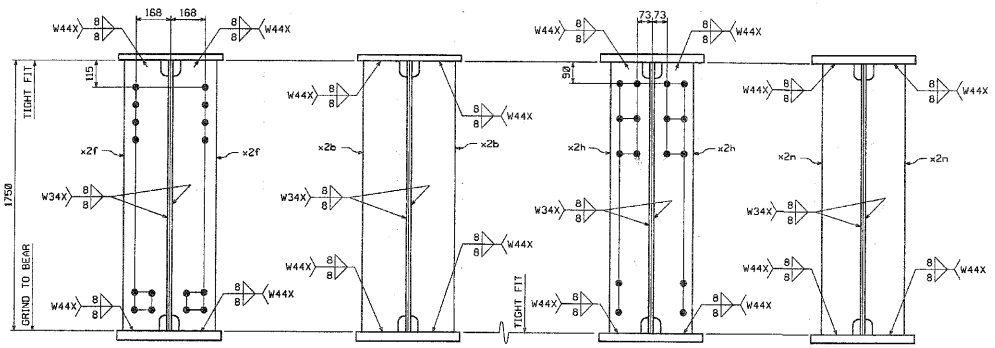
GIRDER ~ G60

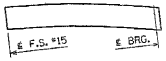


VIEW F



LIGHT RUST PREVENTIVE COAT OF PRIMER BOTT. OF BOTT. FLG., EDGES & SHADED AREA (N.S.)





ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: SEE DWG. GN1

FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

CODE=30

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG EA.
ONE	G60	GIRDER					16 550
1	w1	PL 16 x 1750	19 992	(T)	3	8	4383.74
1	w2	PL 16 x 1750	~~16 307~~	(T)	3	11	3585.87
1	t1	PL 22 x 450	20 270	(T)	4	27	1575.10
1	t2	PL 22 x 450	16 000	(T)	4	28	1243.30
1	b1	PL 40 x 450	20 280	(T)	4	4	2852.41
1	b2	PL 40 x 450	16 000	(T)	4	5	2280.54
1	x1d	PL 18 x 450	382	FILL	6	4	~~24.92~~
2	x2b	PL 22 x 200	1 750		7	2	~~60.44~~
2	x2f	PL 22 x 200	1 750		7	2	~~60.44~~
10	x2h	PL 12 x 180	1 750		7	4	~~29.87~~
2	x2n	PL 12 x 180	1 750		7	4	~~29.87~~

TOTAL WEIGHT THIS SHEET: 16541.67 kgs

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED. THIS ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND RELIEF TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ NOTED ☐ NOT REVIEWED

CORRECTIONS OR OMISSIONS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLYING WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR THE DIMENSIONS TO BE CONFIRMED AND CORRELATED AT THE JOBSITE, FOR INFORMATION THAT PERTAINS SOLELY TO THE FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATION OF THE WORK OF ALL OTHER TRADES, AND FOR PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dartmouth Avenue, Milton, NH 03851 603-644-2800

Job Number: 60911
Reviewed By: BMH
Date: 8/31/04

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17601-3008
Phone 717/293-521
A Division of High Industries Inc.

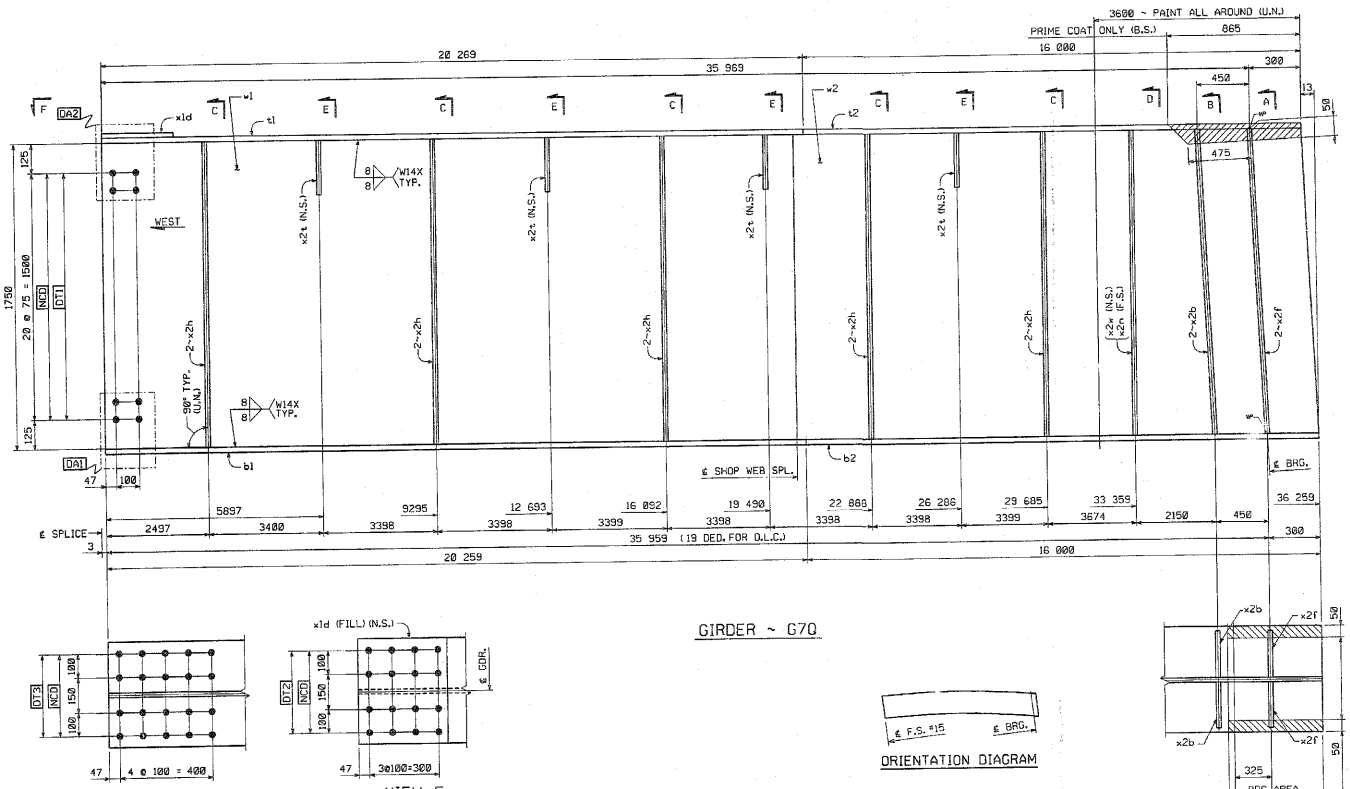
GIRDER G60
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+859.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: BRS CHK'D. BY: GS DATE: 8-23-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 66 OF 112

PLOTTED: 09/08/2004 07:47:08 AM BY: cdeitter

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

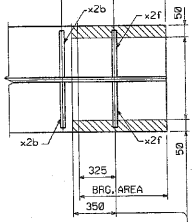
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

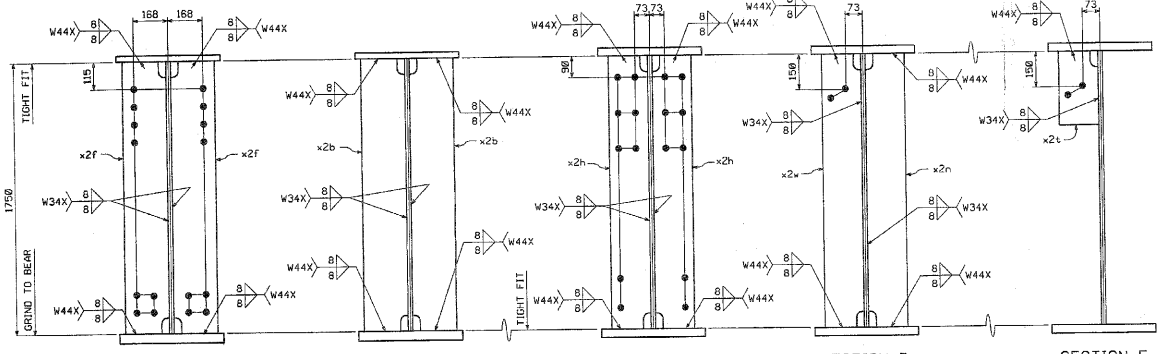


GIRDER - G70

VIEW F

ORIENTATION DIAGRAM





SECTION A SECTION B SECTION C SECTION D SECTION E

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G7Q	GIRDER					16 570
~~1~~	~~w1~~	~~PL 16 x 1750~~	~~19 892~~	~~(T)~~	~~3~~	~~8~~	~~4393.74~~
1	w2	PL 16 x 1750	16 302	(T)	3	11	3583.87
1	t1	PL 22 x 450	20 270	(T)	4	27	1675.10
1	t2	PL 22 x 450	16 000	(T)	4	28	~~1243.30~~
1	b1	PL 40 x 450	~~20 260~~	(T)	4	4	2862.41
1	b2	PL 40 x 450	16 000	(T)	4	5	~~2260.54~~
1	x1d	PL 18 x 450	392	FILL	6	4	~~24.92~~
2	x2b	PL 22 x 200	1 750		7	2	~~30.44~~
2	x2f	PL 22 x 200	1 750		7	2	~~30.44~~
10	x2h	PL 12 x 180	1 750		7	4	~~29.97~~
1	x2n	PL 12 x 180	1 750		7	4	~~29.97~~
4	x2t	PL 14 x 180	310		7	3	~~6.13~~
1	x2w	PL 12 x 180	1 750		7	4	~~29.97~~

TOTAL WEIGHT THIS SHEET: ~~16566.19~~ kgs

SHOP DRAWING REVIEW

[X] REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND FOUND TO BE ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORKS AND SUBJECT TO NOTICE OF LIMITATIONS AND RESPONSIBILITIES CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

[ ] REJECTED [ ] REVISE AND RESUBMIT [ ] FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH CONTRACT REQUIREMENTS OF THE CONTRACT AND SPECIFICATIONS. THIS CHECK IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dartmouth Street, Montpelier, VT 05602 802-864-0985

Job Number: 54011
Reviewed By: JMT
Date: 8/18/04

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road, Lancaster, PA 17601-0008, Phone 717/299-5211
A Division of High Industries, Inc.

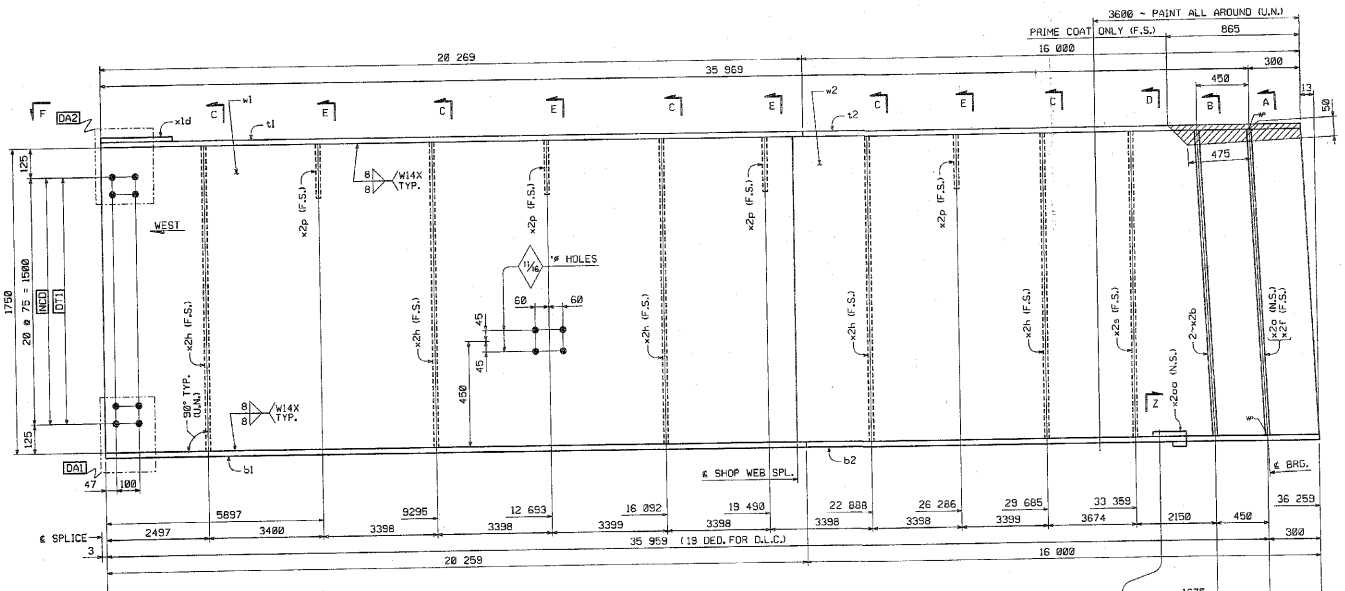
GIRDER	G70
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.18+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (JH) MADE BY: ERS CHK'D. BY: CS DATE: 8-23-04	
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 67 OF 112	

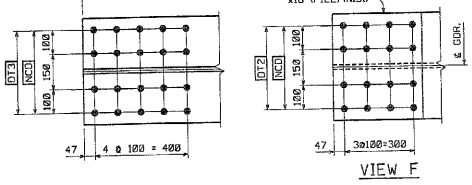
CODE:30

PLOTTED: 08/25/2004 07:57:13 AM BY: cshaffer

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

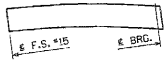
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



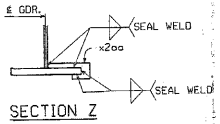


VIEW F

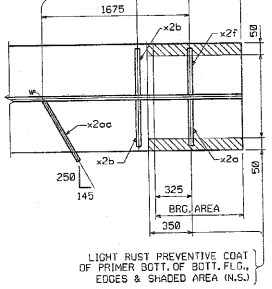
GIRDER ~ G8Q

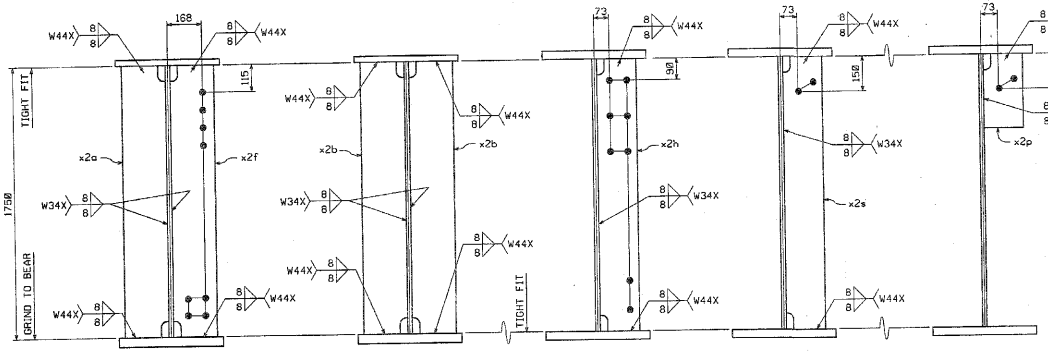


ORIENTATION DIAGRAM



SECTION Z





SECTION A SECTION B SECTION C SECTION D SECTION E

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G8Q	GIRDER					16 390
1	w1	PL 16 x 1750	19 992	(T)	3	8	4393.74
1	w2	PL 16 x 1750	18 307	(T)	3	11	3583.87
1	t1	PL 22 x 450	20 270	(T)	4	27	4575.10
1	t2	PL 22 x 450	16 000	(T)	4	28	1243.36
1	b1	PL 40 x 450	20 260	(T)	4	4	2862.41
1	b2	PL 40 x 450	16 000	(T)	4	5	2260.54
1	x1d	PL 18 x 450	392	FILL	6	4	24.92
1	x2a	PL 22 x 200	1 750		7	2	60.44
2	x2b	PL 22 x 200	1 750		7	2	60.44
1	x2f	PL 22 x 200	1 750		7	2	60.44
5	x2h	PL 12 x 180	1 750		7	4	29.67
4	x2p	PL 14 x 180	310		7	3	6.13
1	x2s	PL 12 x 180	1 750		7	4	29.67
1	x2aa	PL 6 x 90	301		7	5	1.28

TOTAL WEIGHT THIS SHEET: 16389.45 kgs

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE STEEL AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE COMMENTS BELOW.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR OMISSIONS MADE ON THE SHOP DRAWINGS DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND WORKMANLIKE MANNER.

VHB — Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Leland Farm, Williston, Vermont 05495-2082 802 844-0099

Job Number: 509.11
Reviewed By: BMH
Date: 11/18/04

SHOP NOTE

HOLES: 15/16" ø (U.N.)
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road, Lancaster, Pa 17601-0003, Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER G8Q
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.12+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(11)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: EBS CHK'D. BY: CG DATE: 8-23-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 68 OF 112

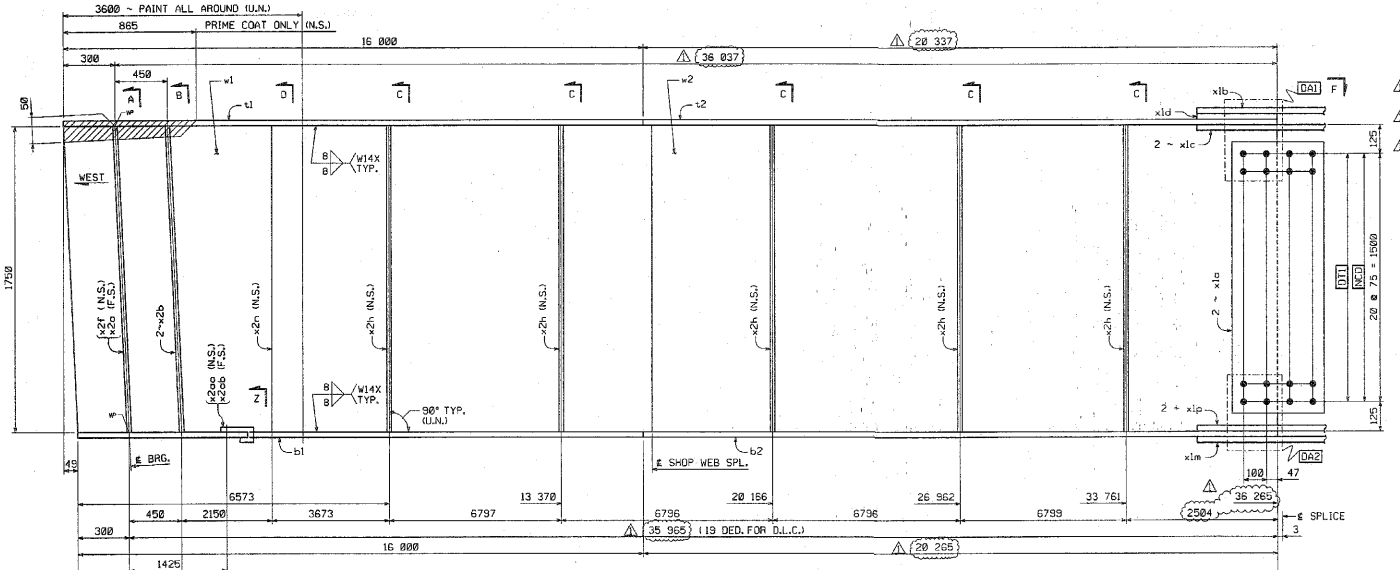
CODE:130

PLOTTED: 08/25/2004 07:57:17 AM
By: cmoffer

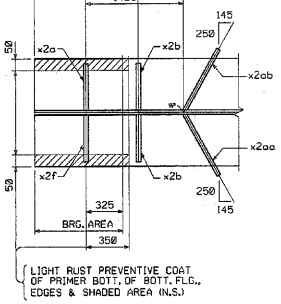
METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

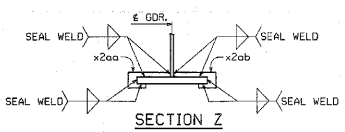
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



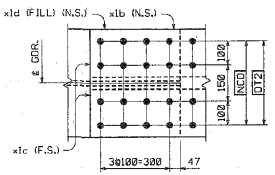
GIRDER ~ G9R



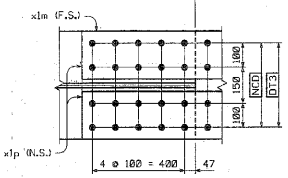
LIGHT RUST PREVENTIVE COAT OF PRIMER BOTT. OF BOTT. FLG., EDGES & SHADED AREA (N.S.)

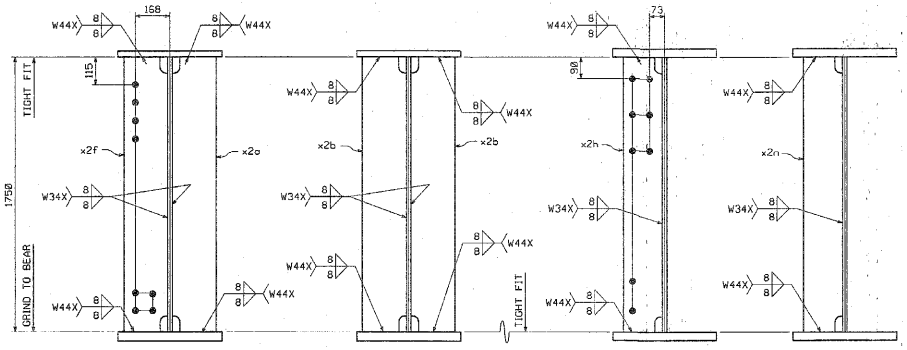


SECTION Z

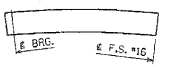


VIEW F





SECTION A SECTION B SECTION C SECTION D



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

CODE:30

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G9R	GIRDER					16 710
~~4~~	~~w1~~	~~PL 16 x 1750~~	~~16 342~~	~~(T)~~	~~3~~	~~10~~	~~3591.56~~
1	w2	PL 16 x 1750	19 996	(T)	3	8	4394.62
~~1~~	~~t1~~	~~PL 22 x 450~~	~~16 081~~	~~(T)~~	~~4~~	~~28~~	~~1243.38~~
~~1~~	~~t2~~	~~PL 22 x 450~~	~~20 337~~	~~(T)~~	~~4~~	~~26~~	~~1580.31~~
~~1~~	~~b1~~	~~PL 40 x 450~~	~~16 081~~	~~(T)~~	~~4~~	~~5~~	~~2286.86~~
1	b2	PL 40 x 450	20 285	(T)	4	4	2863.12
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1d	PL 18 x 450	392	FILL	6	4	~~24.92~~
1	x1m	PL 18 x 450	990	(T)	6	3	~~62.94~~
2	x1p	PL 20 x 200	990	(T)	6	2	~~31.08~~
1	x2a	PL 22 x 200	1 750		7	2	~~60.44~~
2	x2b	PL 22 x 200	1 750		7	2	60.44
1	x2f	PL 22 x 200	1 750		7	2	~~60.44~~
5	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
1	x2n	PL 12 x 180	1 750		7	4	29.67
1	x2aa	PL 6 x ~~90~~	301		7	5	~~1.25~~
1	x2ab	PL 6 x 90	301		7	5	~~1.28~~

TOTAL WEIGHT THIS SHEET: ~~16 705.32~~ kgs

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND BASICALLY IN FLATTER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR OBSERVATIONS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR ESTIMATED OVERALL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING WORK IN A SAFE AND SATISFACTORY MANNER.

VANASSE HANGEN BRUSTLIN, INC. Engineers, Planners, and Scientists 54 Portsmouth Avenue, Kingston, NH 03848 603 644 0888

Job Number: 8201
Reviewed By: BMM
Date: 11/10/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17605-0008
Phone 717-299-5211
A Division of High Industries, Inc.

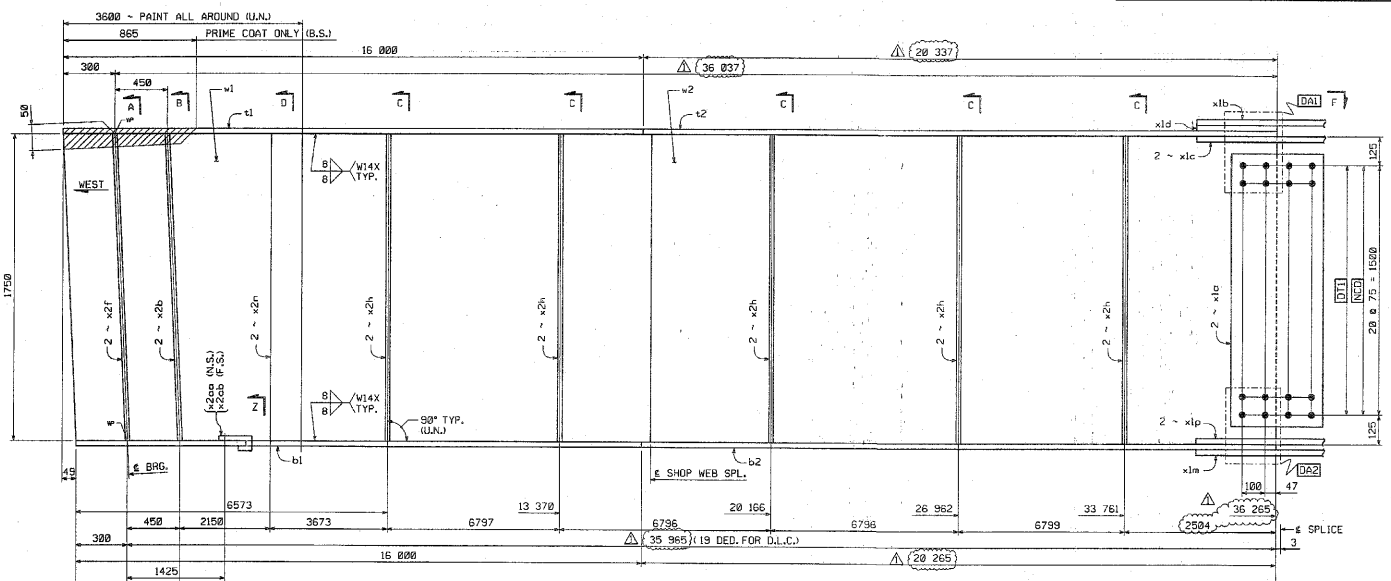
GIRDER	G9R
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(11)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (IH) MADE BY: SSL CHK'D. BY: CS DATE: 8-24-04	
CONTRACT NUMBER: VT-04057-3	DRAWING NUMBER: 69 OF 112

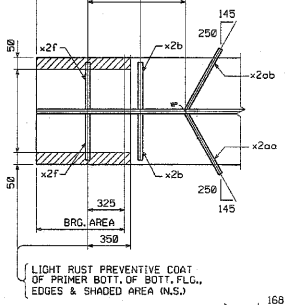
PLOTTED: 9/20/2004 - 8:07:24 PM
By: doomlaw

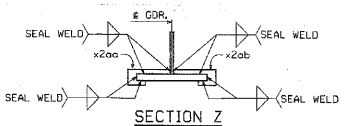
METRIC

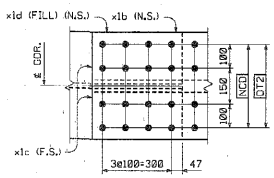
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

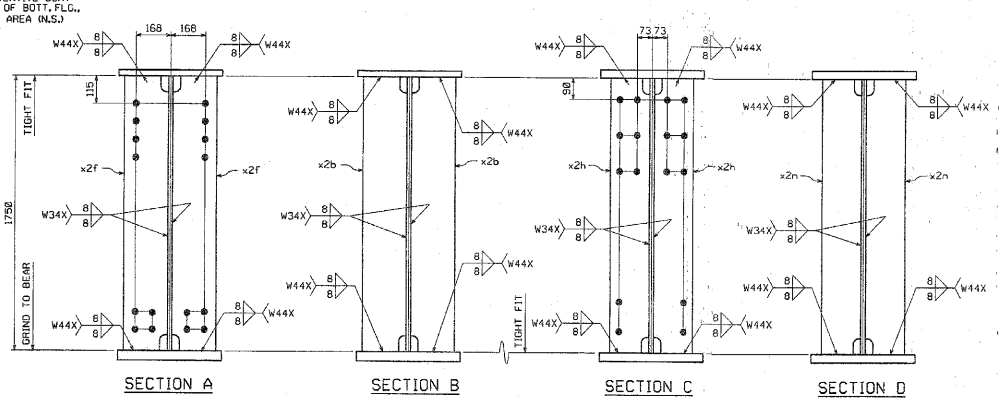
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

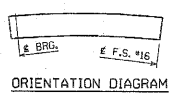












ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: SEE DWG. GN1

FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G10R	GIRDER					16 890
~~1~~	~~w1~~	~~PL 16 x 1750~~	~~16 342~~	~~(T)~~	~~3~~	~~10~~	~~3591.55~~
1	w2	PL 16 x 1750	19 996	(T)	3	8	4394.62
1	t1	PL 22 x 450	16 004	(T)	4	28	1243.38
1	t2	PL 22 x 450	20 337	(T)	4	26	1580.31
1	b1	PL 40 x 450	~~16 001~~	(T)	4	5	~~2368.68~~
1	b2	PL 40 x 450	20 285	(T)	4	4	2883.12
2	x1a	PL 12 x 1600	400	(T)	6	1	~~99.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1d	PL 18 x 450	392	FILL	6	4	~~24.92~~
1	x1m	PL 18 x 450	990	(T)	6	3	~~62.94~~
2	x1p	PL 20 x 200	980	(T)	6	2	~~31.08~~
2	x2b	PL 22 x 200	1 750		7	2	~~80.44~~
2	x2f	PL 22 x 200	1 750		7	2	~~80.44~~
10	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
2	x2n	PL 12 x 180	1 750		7	4	~~29.67~~
1	x2aa	PL 6 x 90	301		7	5	~~1.28~~
1	x2ab	PL 6 x 90	301		7	5	~~1.28~~

TOTAL WEIGHT THIS SHEET: ~~16883.34~~ kgs

SHOP DRAWING REVIEW

APPROVED AS REVISED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND ASSUMED NOT THERE LIMITATIONS AND REQUIREMENTS OF THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ RESUBMIT AS CORRECTED

CORRECTIONS OR COMMENTS NOTED ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS WHEN SHOPS ARE MADE. THIS CHECK IS ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTION AND FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING THE WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.

VHB — Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dorsett Plaza, Suite 105 Concord, NH 03301-5086

Job Number: 56811
Reviewed By: RPM
Date: 11/10/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5201
A Division of High Industries, Inc.

GIRDER	G10R
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.12+970.425 TO STA.12+859.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	

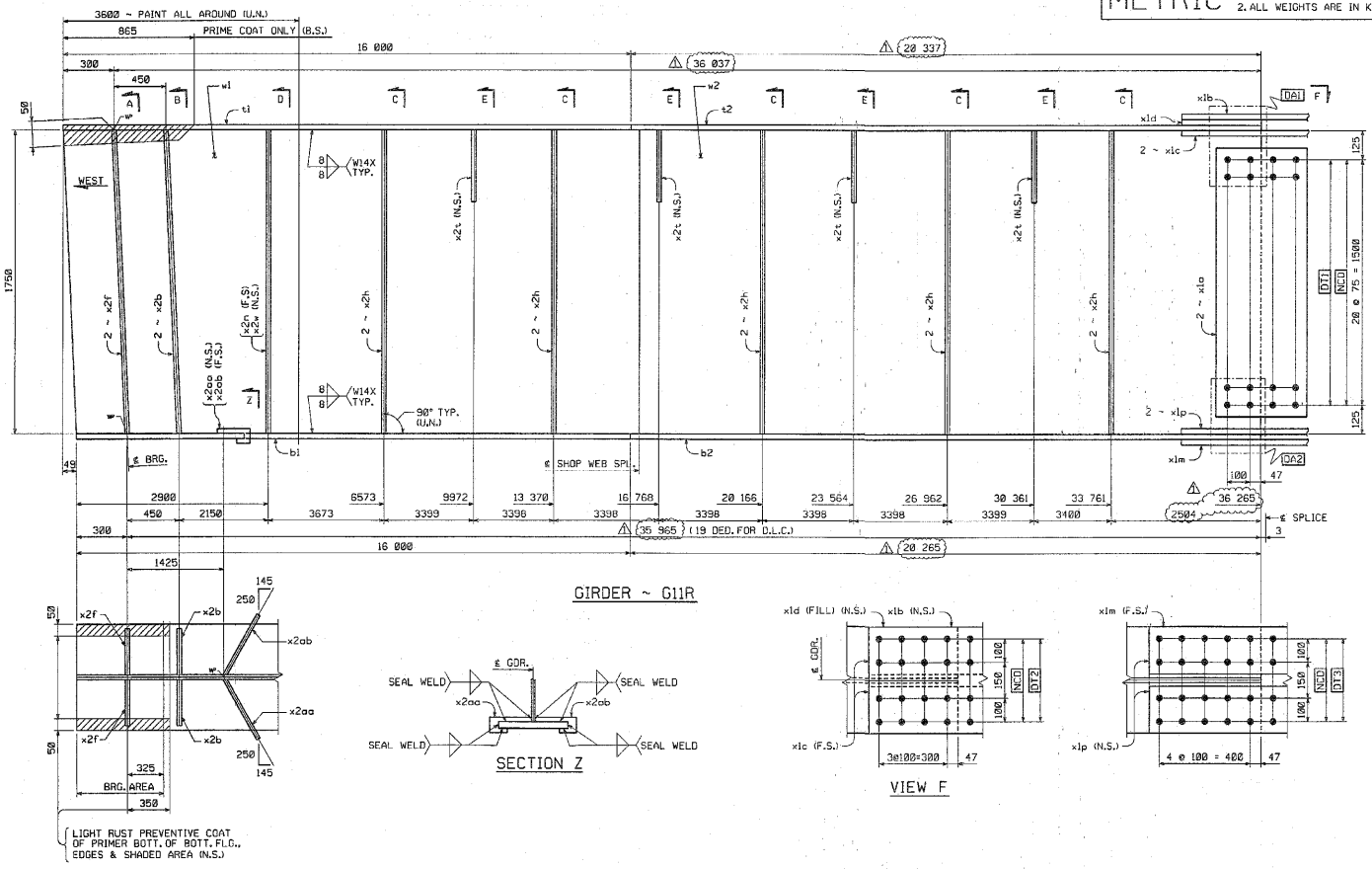
STATE CONTRACT OR REF. NO.: BRF-036-1(1)
CONTRACTOR: CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SSJ CHK'D. BY: CS DATE: 8-24-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 70 OF 112

CODE:30

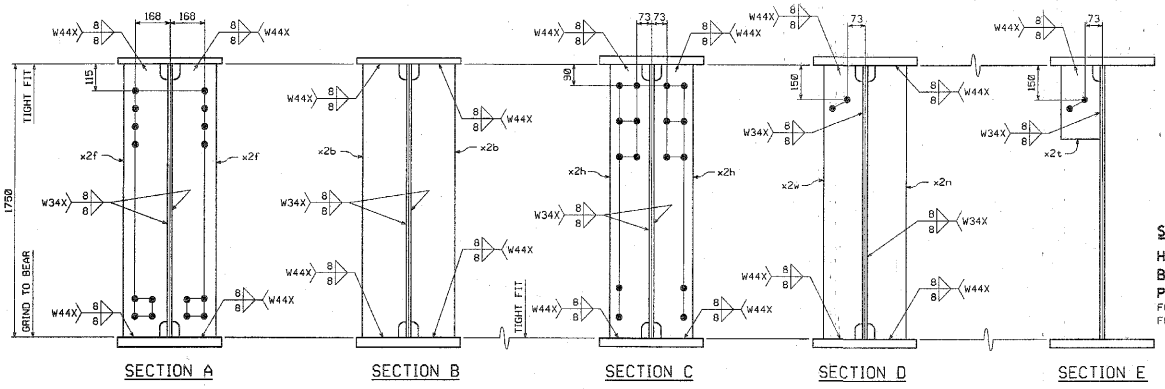
PLOTTED: 9/29/2004 1:07:26 PM
BY: dpainter

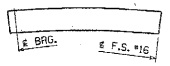
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



GIRDER ~ G11R





ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø

BOLTS: NONE

PAINT: SEE DWG. GN1

FOR GENERAL SHOP NOTES, SEE DWG. GN1.

FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

CODE:30

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	GRP. WT. KG. EA.
ONE	G11R	GIRDER					16 910
~~1~~	~~w1~~	~~PL 16 x 1750~~	~~16 342~~	(T)	3	10	~~3391.56~~
1	w2	PL 16 x 1750	~~19 998~~ 20 341	(T)	3	8	~~4394.82~~
1	t1	PL 22 x 450	~~16 001~~ 16 340	(T)	4	28	~~4249.38~~
1	t2	PL 22 x 450	20 337	(T)	4	26	1580.31
1	b1	PL 40 x 450	~~18 001~~ 18 000	(T)	4	5	~~2290.68~~
1	b2	PL 40 x 450	20 265	(T)	4	4	2883.12
2	x1a	PL 12 x 1800	400	(T)	6	1	~~60.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1d	PL 18 x 450	392	FILL	6	4	~~24.92~~
1	x1m	PL 16 x 450	990	(T)	6	3	~~62.94~~
2	x1p	PL 20 x 200	990	(T)	6	2	~~31.08~~
2	x2b	PL 22 x 200	1 750		7	2	~~60.44~~
2	x2f	PL 22 x 200	1 750		7	2	~~60.44~~
10	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
1	x2n	PL 12 x 180	1 750		7	4	~~29.67~~
4	x2t	PL 14 x 180	310		7	3	~~6.13~~
1	x2w	PL 12 x 180	1 750		7	4	~~29.67~~
1	x2aa	PL 6 x 90	301		7	5	~~1.28~~
1	x2ab	PL 6 x 90	301		7	5	~~1.28~~

TOTAL WEIGHT THIS SHEET: ~~16907.87~~ kgs

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED. FOR ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND SHALL NOT TO FURTHER LIMITATIONS AND REQUIREMENTS WHEN SHOWN TO BE IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ SUBMITTED TO RECEIVED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS SPECIFICATIONS. THIS REVIEW IS ONLY FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL CONFIRM AND CORRELATE ALL QUANTITIES AND DIMENSIONS, SELECT FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATE HIS WORK WITH THAT OF ALL OTHER TRADES AND PERFORM HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Designers 64 Beaver Street, Waterford, NY 12188-0019 Phone: 518-235-0500

Job Number: 50911
Reviewed By: DMH
Date: 11/5/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, Pa 17601-0008
Phone 717-299-521
A Division of High Industries Inc.

GIRDER G11R

VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2

VT 78 STA.12+970.425 TO STA.12+859.775

TOWNS OF ALBURG AND SWANTON

COUNTIES OF GRAND ISLE AND FRANKLIN

STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)

CONTRACTOR CIANBRO CORPORATION

IN CHARGE: GLIDDEN (IH) MADE BY: SSJ CHK'D. BY: CS DATE: 8-24-04

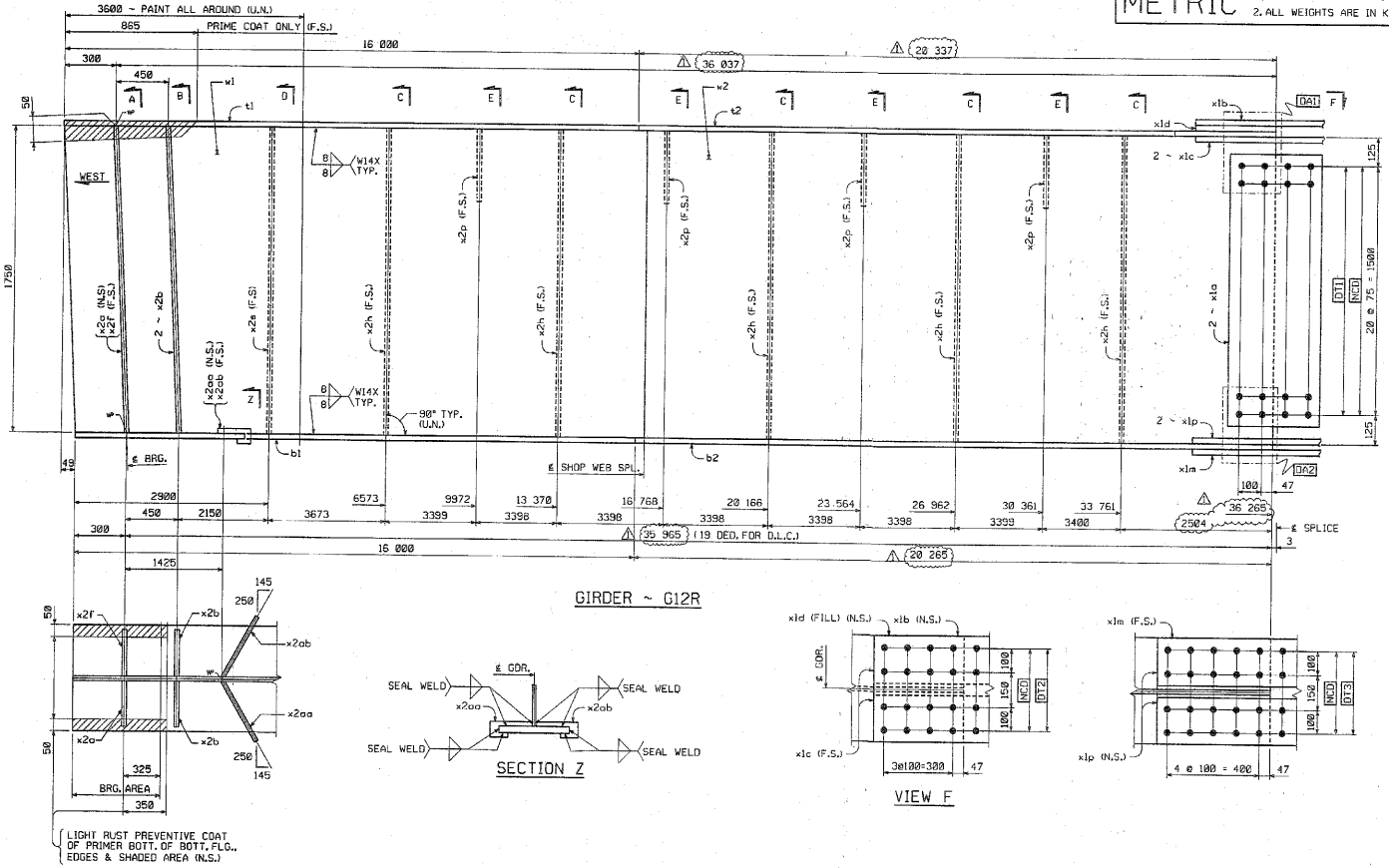
CONTRACT NUMBER VT-04057-3 DRAWING NUMBER 71 OF 112

PLOTTED: 9/20/2004 10:28 PM BY: dcarder

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G12R	GIRDER					16 730
1	w1	PL. 16 x 1750	16 342	(T)	3	10	3591.56
1	w2	PL. 16 x 1750	19 996	(T)	3	8	4394.62
1	t1	PL. 22 x 450	16 001	(T)	4	26	1243.38
1	t2	PL. 22 x 450	20 337	(T)	4	28	1580.31
1	b1	PL. 40 x 450	16 001	(T)	4	5	2260.68
1	b2	PL. 40 x 450	20 265	(T)	4	4	2863.12
2	x1a	PL. 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL. 14 x 450	790	(T)	6	6	39.06
2	x1c	PL. 16 x 200	790	(T)	6	5	19.84
1	x1d	PL. 18 x 450	392	FILL	6	4	24.92
1	x1m	PL. 16 x 450	990	(T)	6	3	62.94
2	x1p	PL. 20 x 200	990	(T)	6	2	31.08
1	x2a	PL. 22 x 200	1 750		7	2	60.44
2	x2b	PL. 22 x 200	1 750		7	2	60.44
1	x2f	PL. 22 x 200	1 750		7	2	60.44
5	x2h	PL. 12 x 180	1 750		7	4	29.87
4	x2p	PL. 14 x 180	310		7	3	6.13
1	x2s	PL. 12 x 180	1 750		7	4	29.87
1	x2aa	PL. 6 x 90	301		7	5	1.28
1	x2ab	PL. 6 x 90	301		7	5	1.28

TOTAL WEIGHT THIS SHEET: 16729.85 kgs

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS. LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FILE/MARK AS CORRECTED

CONTRACTOR OR SUBCONTRACTOR IS RESPONSIBLE FOR THE SHOP DRAWINGS, DESIGN AND PROCESS AND DOES NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH THE CONTRACT DOCUMENTS OR OF HIS RESPONSIBILITY FOR SPECIFIC DIMENSIONS, SHIP QUANTITIES, CORRECT CONSTRUCTION OF MATERIAL, COORDINATION OF WORK WITH THAT OF THE CONTRACTOR'S OTHER TRADES AND THE SATISFACTORY PERFORMANCE OF THE COMPLETED WORK. WHERE SHOP DRAWINGS OR SAMPLES SUBMITTED BY THE CONTRACTOR DEPART FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION AND CORRECTION OF ALL SUCH DEPARTURES WHETHER OR NOT SUCH DEPARTURES ARE BROUGHT TO THE ATTENTION OF THE ENGINEER AT THE TIME OF SUBMISSION AND THE ENGINEER SHALL ESTABLISH IN WRITING ANY SUCH DEPARTURE AT THE TIME OF REVIEW.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dartmouth Bridge, Nashua Redland, NH 03060 603-644-6888

Job Number: 55.94
Reviewed By: KPH
Date: 11/10/04

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

CODE:130

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road, Lancaster, PA 17601-3008
Phone 717/293-5211
A Division of High Industries, Inc.

GIRDER G12R
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.18+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO.: BRF-036-1(1)
CONTRACTOR: CIANBRO CORPORATION
IN CHARGE: GLIDDEN (H) MADE BY: SSL CHK'D. BY: CG DATE: 8-24-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 72 OF 112

PLOTTED: 9/20/2004 10:07:04 AM BY: dpainter

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

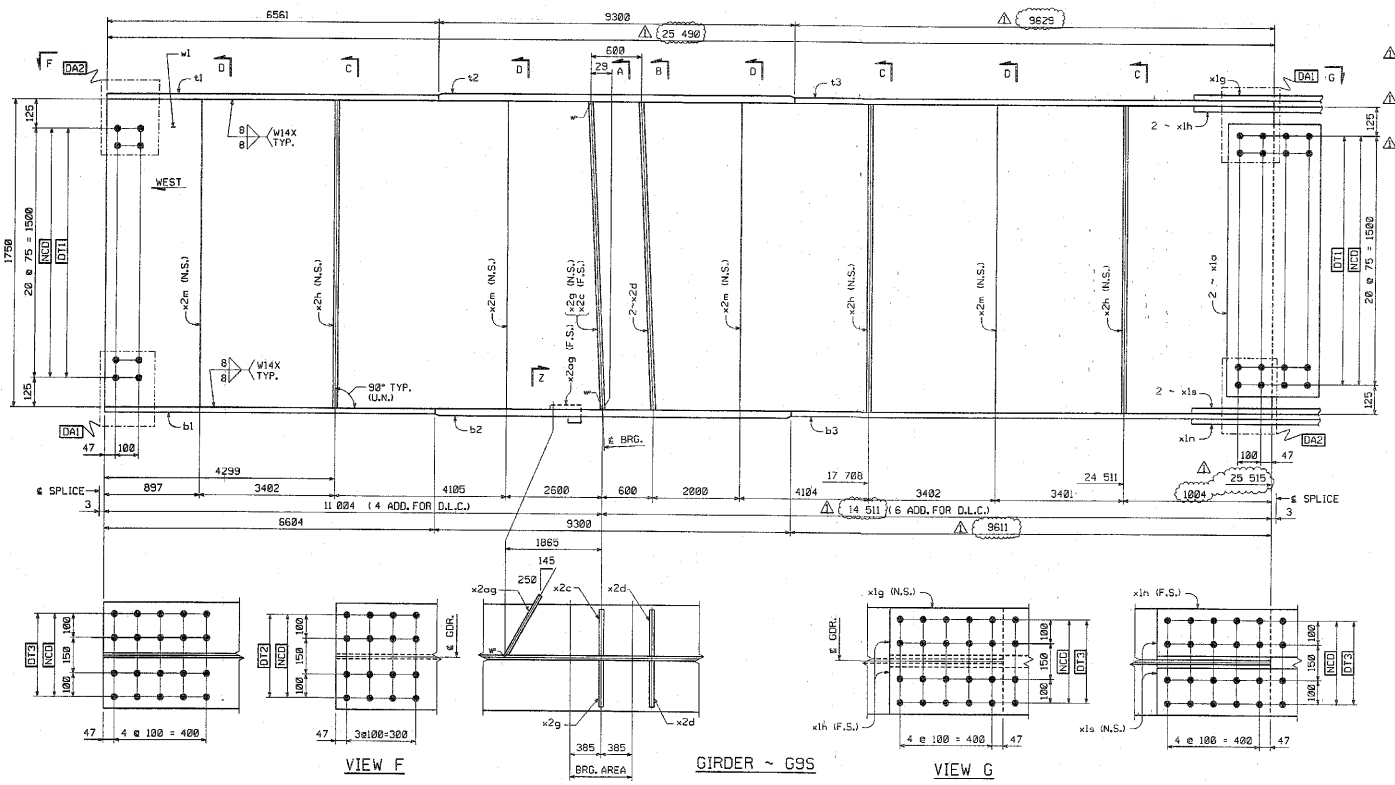
FED. RDWY DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G9S	GIRDER					16 380
1	w1	PL 16 x 1750	25 615	(T)	3	3	5607.55
1	t1	PL 40 x 450	6 561	(T)	4	12	926.95
1	t2	PL 80 x 450	9 300	(T)	4	1	2627.83
1	t3	PL 40 x 450	9 630	(T) 9629	4	6	1360.56
1	b1	PL 40 x 450	6 604	(T)	4	11	933.04
1	b2	PL 80 x 450	9 300	(T)	4	1	2627.83
1	b3	PL 40 x 450	9 612	(T) 9611	4	7	1358.02
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1g	PL 14 x 450	990	(T)	6	6	48.95
2	x1h	PL 16 x 200	990	(T)	6	5	24.87
1	x1n	PL 14 x 450	990	(T)	6	6	48.95
2	x1s	PL 16 x 200	990	(T)	6	5	24.87
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
3	x2h	PL 12 x 180	1 750		7	4	29.57
4	x2m	PL 12 x 180	1 750		7	4	29.57
1	x2ag	PL 6 x 130	301		7	5	1.84

TOTAL WEIGHT THIS SHEET: 16 386.93 kgs

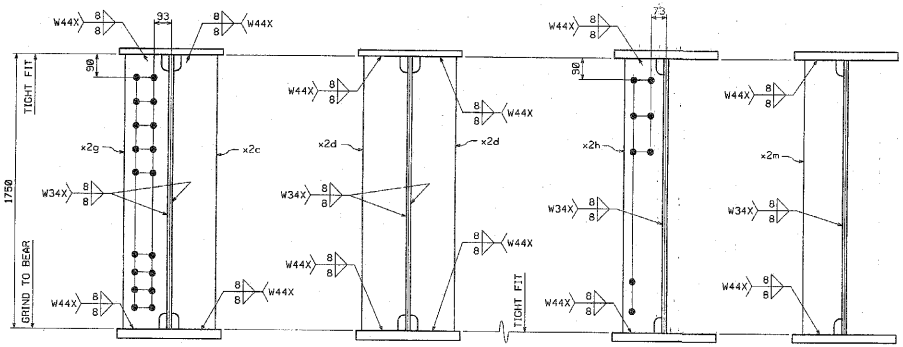
* See Girder Sheet #2

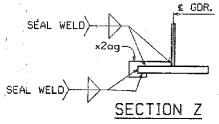


VIEW F

GIRDER ~ G9S

VIEW G





SECTION Z

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

CODE:30

SHOP DRAWING REVIEW

APPROVED AS REQUIRED BY THE CONTRACT DOCUMENTS. FABRICATION MAY PROCEED BUT ONLY FOR CONFORMANCE TO THE CUSTOM CONTENT OF THE REVIEW, AND SUBJECT TO ANY AND LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ SUBMIT AS CLARIFIED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLYING WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR THE DIMENSIONS TO BE CONFIRMED AND CORRELATED AT THE JOB SITE, FOR INFORMATION THAT PERTAINS SOLELY TO THE FABRICATION PROCESSES, FOR TECHNIQUES OF ASSEMBLY AND FOR THE SATISFACTORY PERFORMANCE OF THE WORK. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS AND SHALL OBTAIN WRITTEN APPROVAL BEFORE PROCEEDING WITH THE WORK AFFECTED THEREBY.

Reviewed by: [illegible] Date: 09/15/04

ORIENTATION DIAGRAM

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road, Lancaster, PA 17601-0068, Phone 717/299-521
A Division of High Industries Inc.

GIRDER	G9S
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.18+970.425 TO STA.12+859.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (IH) MADE BY: EAS CHK'D. BY: CS DATE: 8-24-04	
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 73 OF 112	

PLOTTED: 9/20/2004 10:07:03 PM
BY: dbaumler

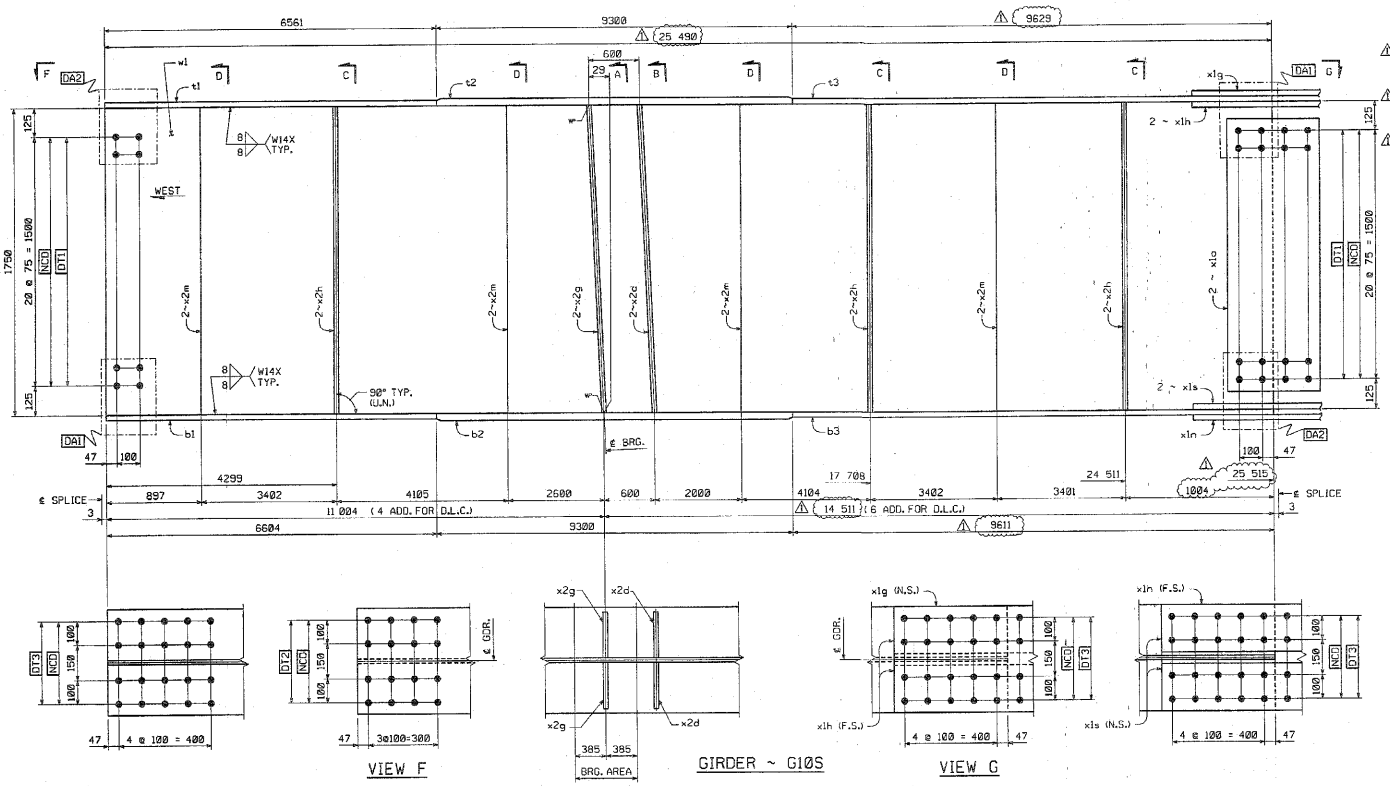
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

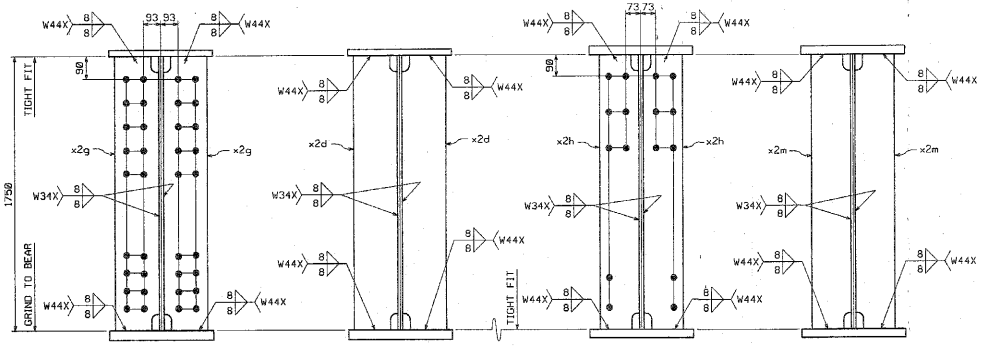
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA
ONE	G10S	GIRDER					16 600
1	w1	PL 16 x 1750	~~26 515~~	(T)	3	3	~~5607.55~~
1	t1	PL 40 x 450	6 561	(T)	4	12	~~926.96~~
1	t2	PL 80 x 450	9 300	(T)	4	1	~~2627.85~~
1	t3	PL 40 x 450	~~9 630~~	(T)	4	6	~~1360.56~~
1	b1	PL 40 x 450	6 604	(T)	4	11	~~933.04~~
1	b2	PL 80 x 450	9 300	(T)	4	1	~~2627.85~~
1	b3	PL 40 x 450	~~9 642~~	(T)	4	7	~~1368.02~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~90.28~~
1	x1g	PL 14 x 450	990	(T)	6	6	~~48.95~~
2	x1h	PL 16 x 200	990	(T)	6	5	~~24.87~~
1	x1n	PL 14 x 450	990	(T)	6	6	~~48.95~~
2	x1s	PL 16 x 200	990	(T)	6	5	~~24.87~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.99~~
2	x2g	PL 38 x 200	1 750		7	1	~~104.99~~
6	x2h	PL 12 x 180	1 750		7	4	~~29.87~~
8	x2m	PL 12 x 180	1 750		7	4	~~29.87~~

TOTAL WEIGHT THIS SHEET: ~~16 592.78~~ kgs



VIEW F GIRDER ~ G10S VIEW G

ORIENTATION DIAGRAM



SECTION A SECTION B SECTION C SECTION D

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

SHOP DRAWING REVIEW

☒ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE PROJECT AND FOR COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR.

☐ REVISED ☐ PLEASE SUBMIT CORRECTED ☐ NOT REVIEWED ☐ RETURNED FOR CORRECTIONS

CORRECTIONS OR COMMENTS MADE ON THIS SHOP DRAWING DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH CONTRACT DOCUMENTS. THE CONTRACTOR REMAINS RESPONSIBLE FOR DETAILS AND ACCURACY OF CONSTRUCTION, FOR COORDINATION OF THE WORK WITH THAT OF ALL OTHER TRADES, AND FOR SATISFACTORY PERFORMANCE OF THE WORK. REVIEW SHALL NOT BE CONSTRUED TO AMEND THE CONTRACT DOCUMENTS.

VAIB — Vermont Aluminum Erectors, Inc. Engineers, Fabricators and Erectors, 116 Bedford Farms, Route 114, Bedford, New Hampshire 03110-6604 (603) 644-5888

Job Number: 5041
Reviewed By: JJ/TK
Date: 9/21/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17608-0008
Phone 717/299-521
A Division of High Industries Inc.

GIRDER G10S
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: ERS CHK'D. BY: CG DATE: 8-24-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 74 OF 112

CODE:30

PLOTTED: 9/20/2004 1:47:35 PM BY: dnumber

METRIC

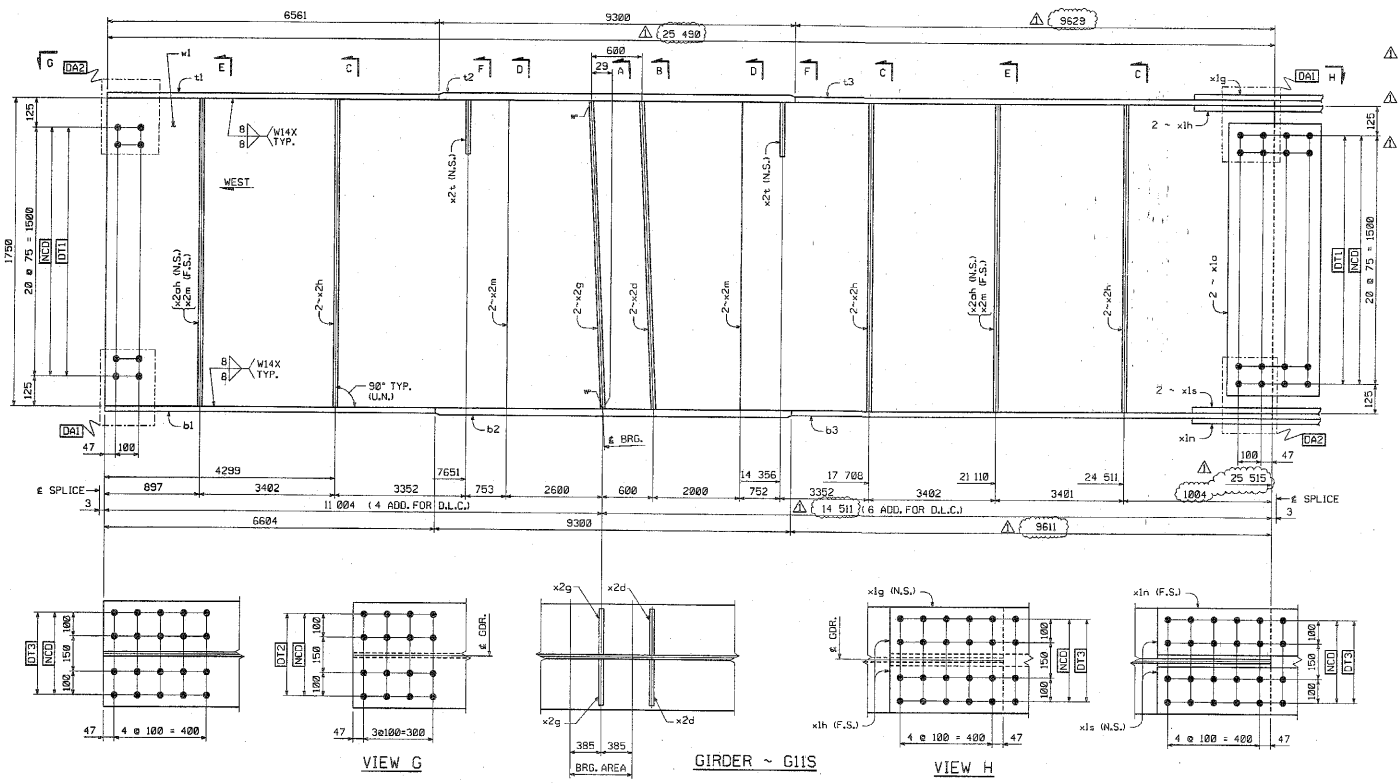
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

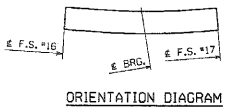
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

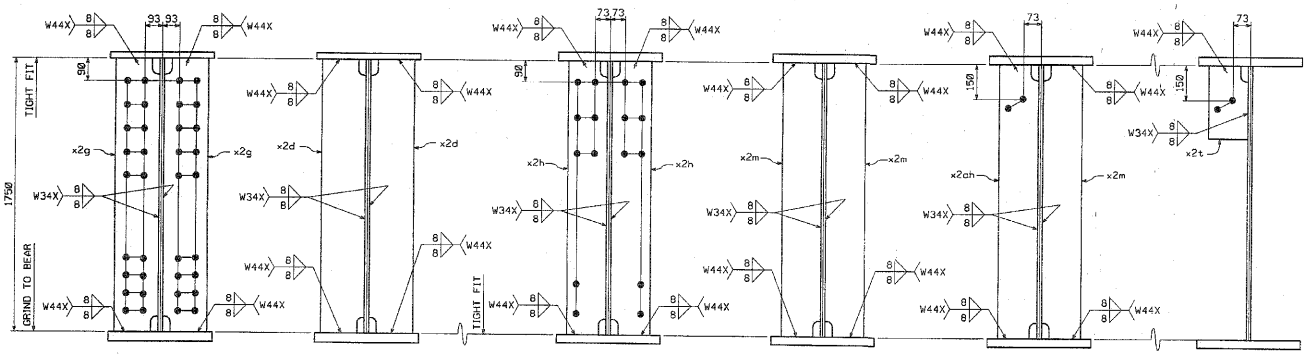
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G11S	GIRDER					16 610
1	w1	PL 16 x 1750	~~25 515~~	(T)	3	3	~~5687.55~~
1	t1	PL 40 x 450	6 561	(T)	4	12	~~926.96~~
1	t2	PL 80 x 450	9 300	(T)	4	1	~~2627.88~~
1	t3	PL 40 x 450	~~9 630~~	(T)	4	6	~~1360.58~~
1	b1	PL 40 x 450	6 604	(T)	4	11	~~933.04~~
1	b2	PL 80 x 450	9 300	(T)	4	1	~~2627.88~~
1	b3	PL 40 x 450	~~9 612~~	(T)	4	7	~~1358.02~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.28~~
1	x1g	PL 14 x 450	990	(T)	6	8	~~48.95~~
2	x1h	PL 16 x 200	990	(T)	6	5	~~24.97~~
1	x1n	PL 14 x 450	990	(T)	6	6	~~46.95~~
2	x1s	PL 16 x 200	990	(T)	6	5	~~24.97~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
6	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
8	x2m	PL 12 x 180	1 750		7	4	~~29.67~~
2	x2t	PL 14 x 180	310		7	3	~~6.13~~
2	x2ah	PL 12 x 180	1 750		7	4	~~29.67~~

TOTAL WEIGHT THIS SHEET: ~~16 005.04~~ kgs





ORIENTATION DIAGRAM



CODE:30

SHOP NOTE

HOLES: 15/16"
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

SHOP DRAWING REVIEW
VSTH
REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS. OUR REVIEW IS FOR GENERAL CONFORMANCE TO THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS. CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE CONTRACT DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATION OF HIS WORK WITH ALL OTHER TRADES AND THE SATISFACTORY PERFORMANCE OF HIS WORK. REVIEWED AS NOTED
Job Number: 5085
Reviewed By: JJ
Date: 9/15/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17601-6008
Phone 717/299-5201
A Division of High Industries, Inc.

GIRDER G11S
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+9/0.425 TO STA.12+058.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (III) MADE BY: EAS CHK'D. BY: CG DATE: 8-24-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 75 OF 112

PLOTTED: 9/20/2004 1:07:07 PM BY: dporter

METRIC

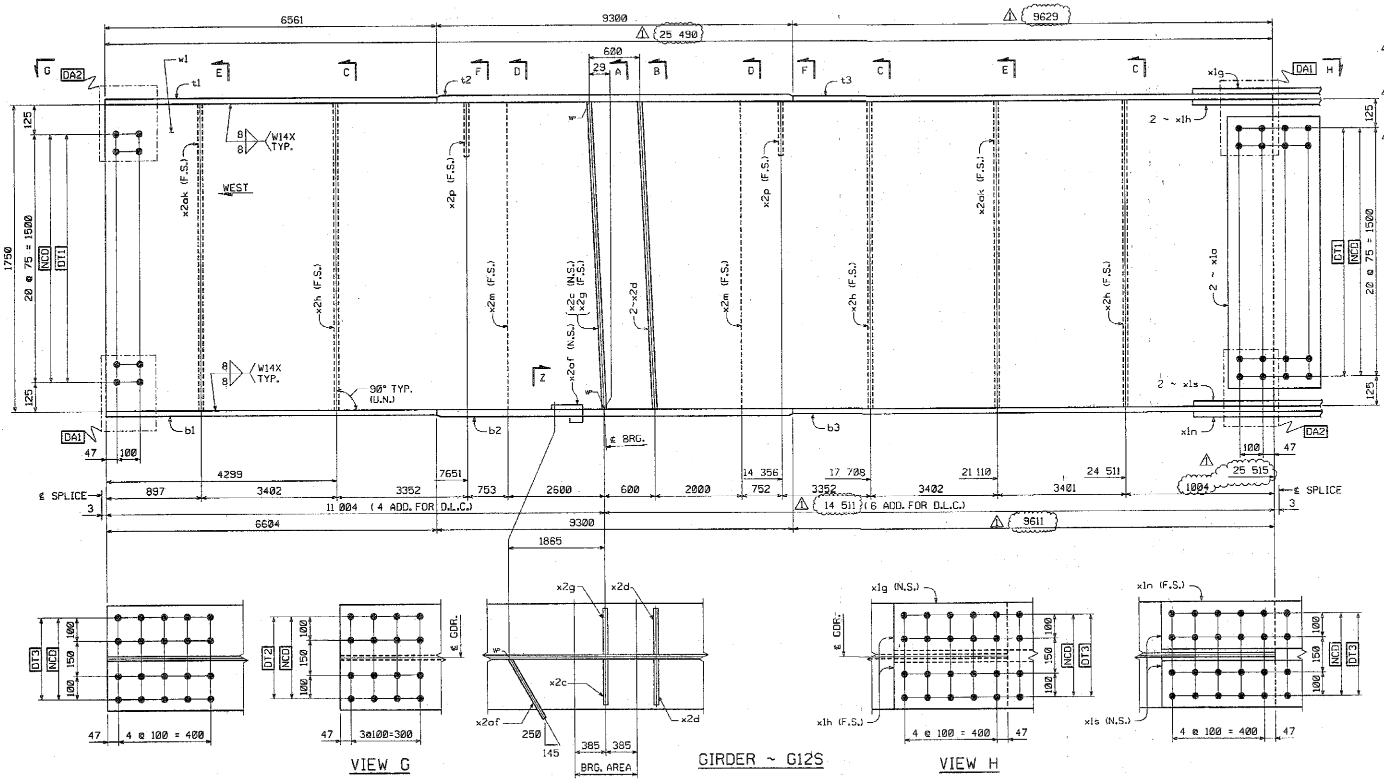
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

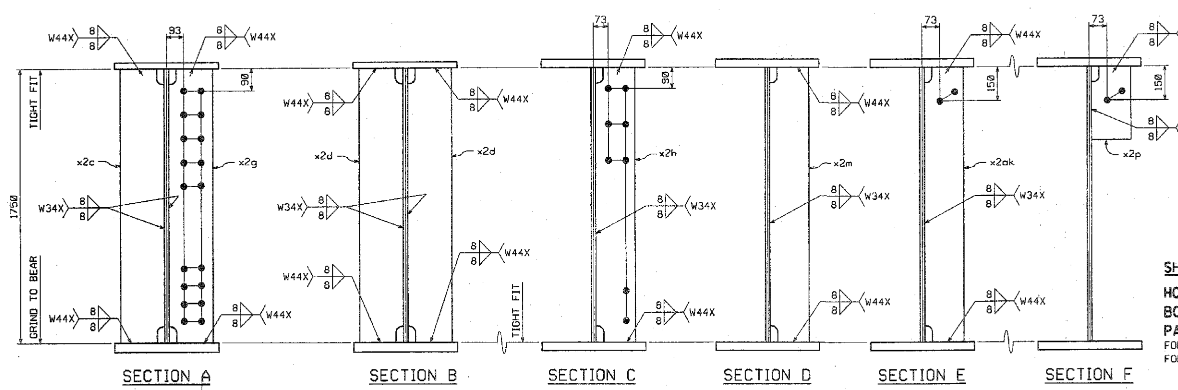
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

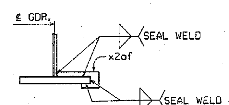
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G12S	GIRDER					16 400
1	w1	PL 16 x 1750	25 515	(T)	3	3	5607.55
1	t1	PL 40 x 450	6 561	(T)	4	12	926.96
1	t2	PL 80 x 450	9 300	(T)	4	1	2627.88
1	t3	PL 40 x 450	9 630	(T)	4	6	1360.56
1	b1	PL 40 x 450	6 604	(T)	4	11	933.04
1	b2	PL 80 x 450	9 300	(T)	4	1	2627.88
1	b3	PL 40 x 450	9 612	(T)	4	7	1358.02
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1g	PL 14 x 450	990	(T)	6	6	48.95
2	x1h	PL 16 x 200	990	(T)	6	5	24.87
1	x1n	PL 14 x 450	990	(T)	6	6	48.95
2	x1s	PL 16 x 200	990	(T)	6	5	24.87
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
3	x2h	PL 12 x 180	1 750		7	4	29.67
2	x2m	PL 12 x 180	1 750		7	4	29.67
2	x2p	PL 14 x 180	310		7	3	6.13
1	x2af	PL 6 x 130	301		7	5	1.84
2	x2ak	PL 12 x 180	1 750		7	4	29.67

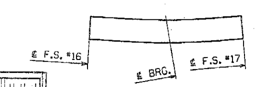
TOTAL WEIGHT THIS SHEET: 16 399.2 kgs







SECTION Z



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

SHOP DRAWING REVIEW

CODE:30

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER G12S
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: ERS CHK'D. BY: CS DATE: 8-24-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 76 OF 112

METRIC

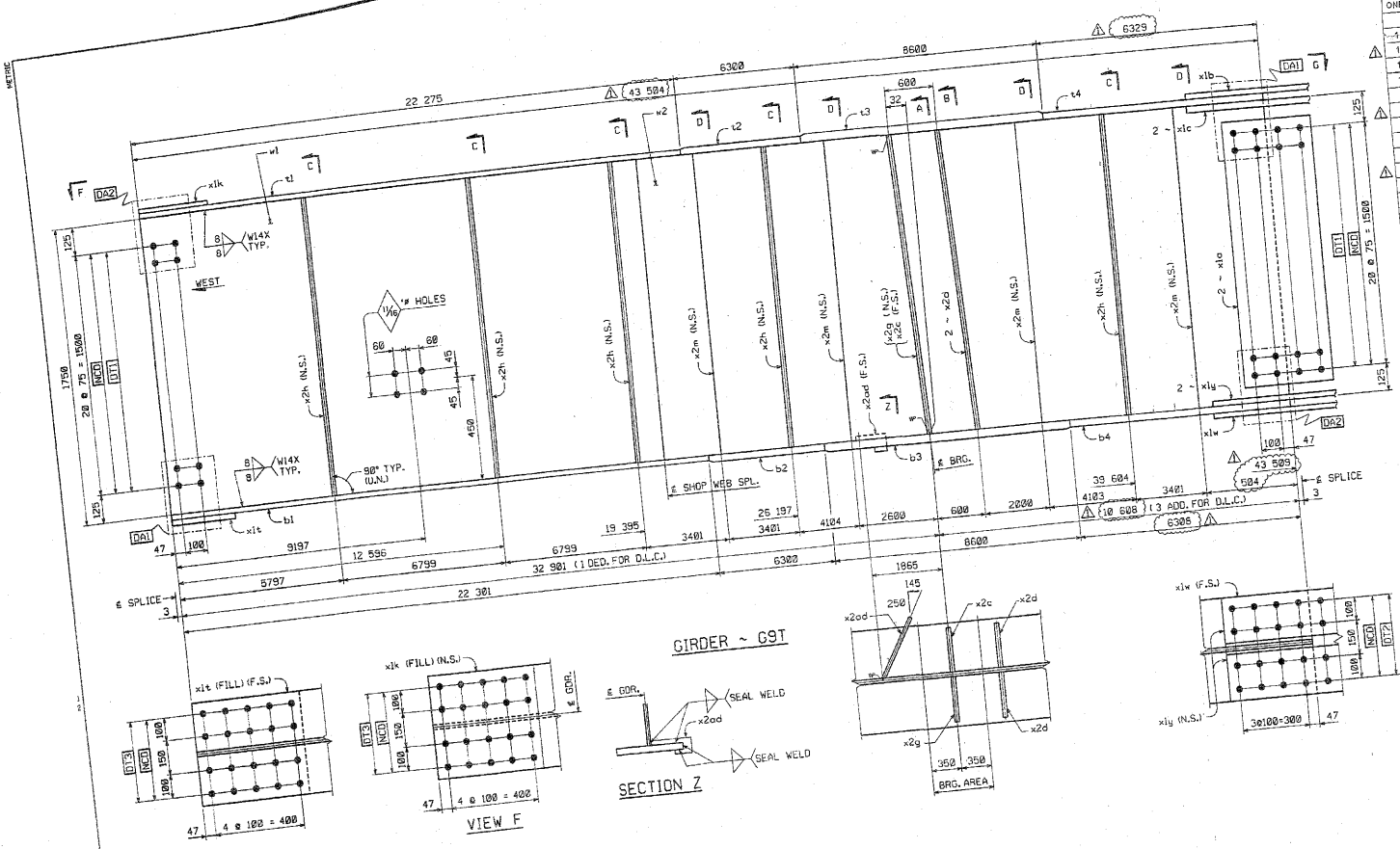
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

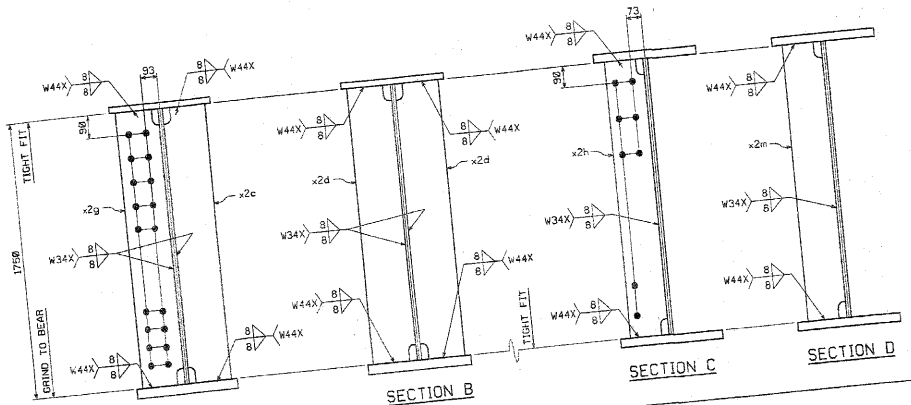
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G9T	GIRDER					20 860
1	w1	PL 16 x 1750	13 908	(T)	3	9	~~4375.29~~
1	w2	PL 16 x 1750	~~23 908~~	(T)	3	2	~~5126.14~~
1	t1	PL 22 x 450	22 275	(T)	4	25	~~1730.30~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~742.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	t4	PL 32 x 450	6 329	(T)	4	13	~~715.35~~
1	b1	PL 22 x 450	22 301	(T)	4	23	~~1732.92~~
1	b2	PL 32 x 450	6 300	(T)	4	16	~~742.07~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1824.44~~
1	b4	PL 32 x 450	6 308	(T)	4	14	~~742.97~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.00~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.64~~
1	x1k	PL 16 x 450	492	FILL	6	4	~~31.28~~
1	x1t	PL 16 x 450	492	FILL	6	4	~~31.28~~
1	x1w	PL 14 x 450	790	(T)	6	6	~~39.96~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x2c	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
1	x2g	PL 38 x 200	1 750		7	4	~~29.87~~
5	x2h	PL 12 x 180	1 750		7	4	~~29.87~~
4	x2m	PL 12 x 180	1 750		7	5	~~1.83~~
1	x2sd	PL 6 x 115	301				

TOTAL WEIGHT THIS SHEET: ~~20 856.74~~ kgs





SHOP NOTE

HOLES: 15/16" ø (U.N.)
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

CODE:130

SHOP DRAWING REVIEW
VTrans
REVIEWED AS REQUIRED BY THE CONTRACT DOCUMENTS. CONTRACTOR CONTINUES TO BE RESPONSIBLE FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS AND FOR ALL DIMENSIONS WHICH SHALL BE CONFIRMED AND CORRELATED AT THE JOBSITE. FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THIS REVIEW SHALL NOT BE CONSTRUED TO BE AMENDMENT OR VARIATION TO THE CONTRACT DOCUMENTS.
Job Number: 5000
Reviewed By: BMH
Date: 9/8/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH & MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17601-6008
Phone 717/299-5211
A Division of High Industries, Inc.

G9T

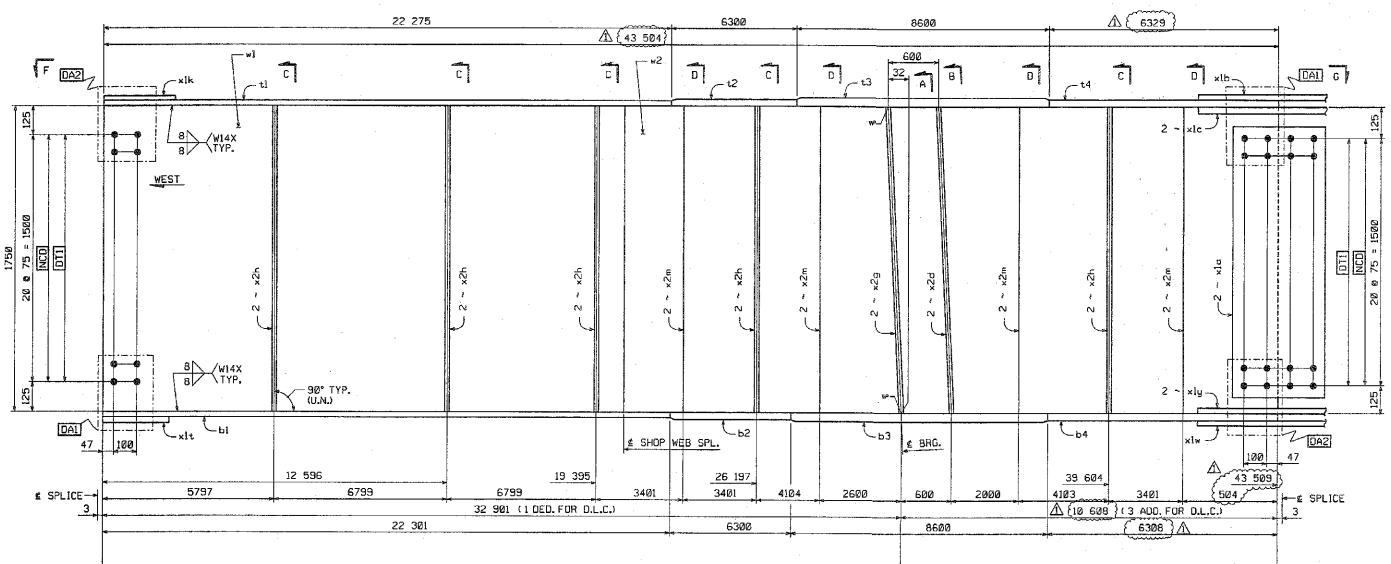
GIRDER
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(11)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE GLIDDEN (IH)
MADE BY SSL
CHK'D. BY CG
DATE 8-24-04
CONTRACT NUMBER VT-04057-3
DRAWING NUMBER 77 OF 112

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

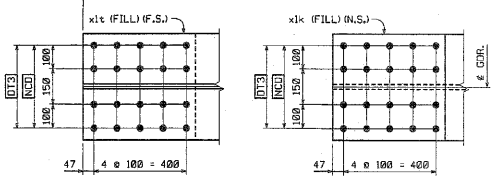
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



BILL OF MATERIAL

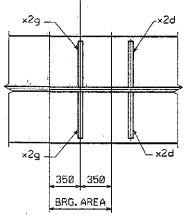
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA
ONE	G10T	GIRDER					21 130
1	w1	PL 16 x 1750	19 908	(T)	3	9	4375.28
1	w2	PL 16 x 1750	23 608	(T)	3	2	5188.44
1	t1	PL 22 x 450	22 275	(T)	4	25	1730.90
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 329	(T)	4	13	715.35
1	b1	PL 22 x 450	22 301	(T)	4	23	1732.92
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 308	(T)	4	14	712.97
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1k	PL 18 x 450	492	FILL	6	4	31.28
1	x1t	PL 18 x 450	492	FILL	6	4	31.28
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 18 x 200	790	(T)	6	5	19.84
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
10	x2h	PL 12 x 180	1 750		7	4	29.67
8	x2m	PL 12 x 180	1 750		7	4	29.67

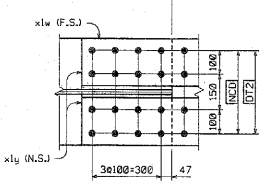
TOTAL WEIGHT THIS SHEET: ~~21 121.14~~ kgs

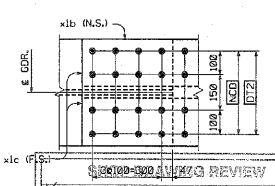


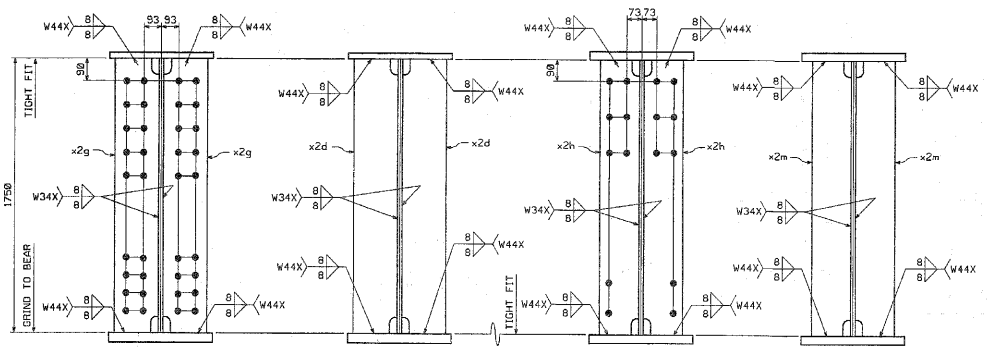
VIEW F

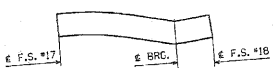
GIRDER ~ G10T











ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

3@100=300 AWMC REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND FOR COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. SUBJECT TO THE LIMITATIONS AND REQUIREMENTS OF THE CONSTRUCTION CONTRACT DOCUMENTS. GOOD CARE.

☐ REJECTED ☐ FURNISH AS MARKED ☐ RESUBMIT AND COPY RECEIVED

CONTRACTOR'S OR CONSTRUCTOR'S ACCEPTANCE OF THE SHOP DRAWINGS SHALL MEAN THAT THE CONTRACTOR HAS DETERMINED AND VERIFIED ALL MATERIALS, FIELD MEASUREMENTS AND FIELD CONSTRUCTION CRITERIA RELATED THERETO, OR WILL DO SO, AND HAS CHECKED AND COORDINATED THE INFORMATION CONTAINED WITHIN SUCH SHOP DRAWINGS WITH THE REQUIREMENTS OF THE WORK AND OF THE CONTRACT DOCUMENTS. CONTRACTOR'S ACCEPTANCE OF SHOP DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR DEVIATIONS FROM THE CONTRACT DOCUMENTS UNLESS THE CONTRACTOR HAS INFORMED THE ENGINEER IN WRITING OF SUCH DEVIATION AT THE TIME OF SUBMISSION AND THE ENGINEER HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION. THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE SHOP DRAWINGS BY THE ENGINEER'S APPROVAL THEREOF. CONTRACTOR'S ACCEPTANCE OF SHOP DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE SHOP DRAWINGS. CONTRACTOR'S ACCEPTANCE OF SHOP DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR PERFORMING ALL WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND FOR TECHNIQUES OF CONSTRUCTION, COORDINATION OF THE WORK WITH THAT OF ALL OTHER TRADES AND FOR PERFORMING ALL WORK SAFELY AND SATISFACTORILY.

VAID — Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Designers 64 Pleasant Street, Waterbury, Vermont 05676-1351 (802) 244-8999

Job No. Item 5091
Reviewed By: Smith
Date: 9/28/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17608-0008
Phone 717/293-5281
A Division of High Industries, Inc.

GIRDER	G10T
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.18+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO.	BRF-036-1(1)
CONTRACTOR	CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH)	MADE BY: SSJ CHK'D. BY: CG DATE: 8-24-04
CONTRACT NUMBER:	VT-04057-3 DRAWING NUMBER: 78 OF 112

CODE:30

PLOTTED: 9/28/2004 10:07:44 PM BY: dparker

METRIC

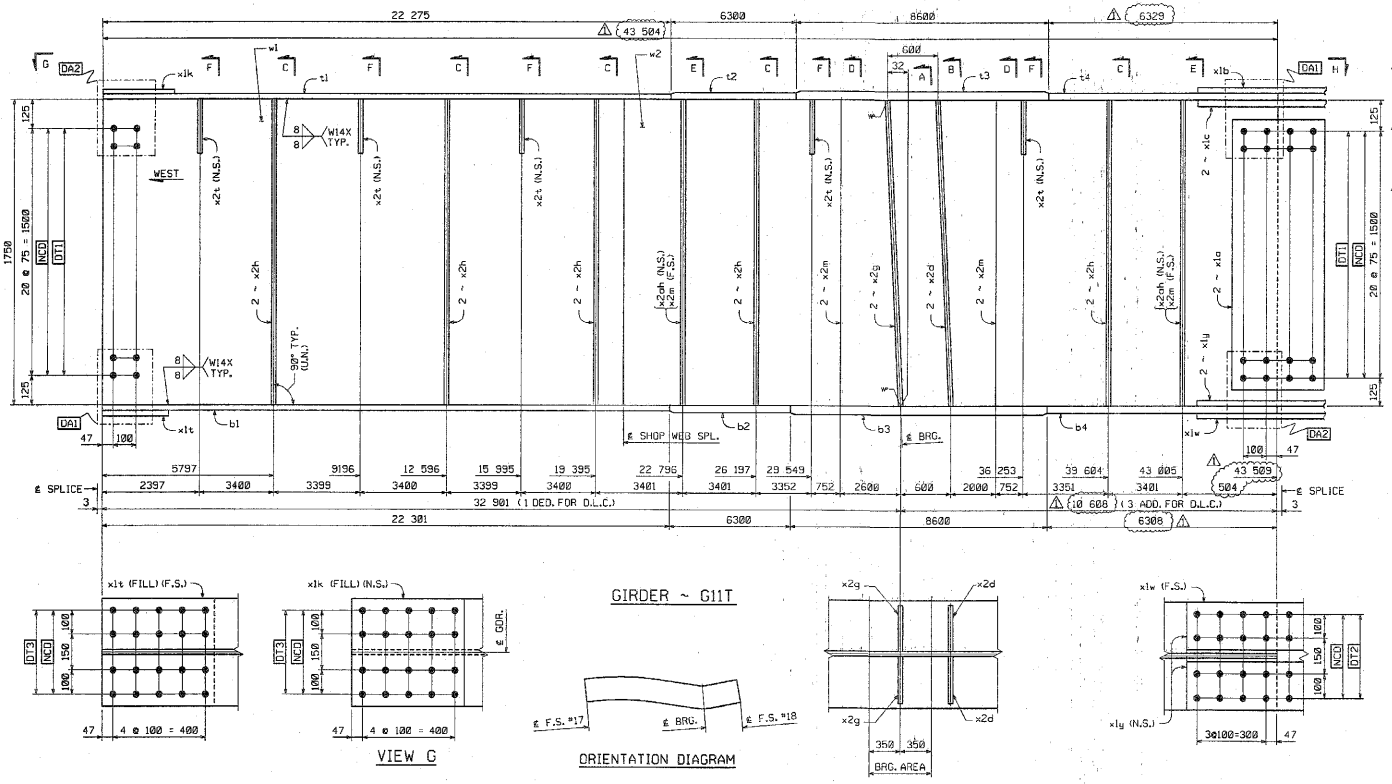
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G11T	GIRDER					21 160
1	w1	PL 16 x 1750	19 908	(T)	3	9	4375.28
1	w2	PL 16 x 1750	23 808	(T)	3	2	5188.44
1	t1	PL 22 x 450	22 275	(T)	4	25	1730.90
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 329	(T)	4	13	715.35
1	b1	PL 22 x 450	22 301	(T)	4	23	1732.92
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 308	(T)	4	14	712.97
2	x1a	PL 12 x 1800	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	38.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1k	PL 18 x 450	492	FILL	6	4	31.28
1	x1t	PL 18 x 450	492	FILL	6	4	31.28
1	x1w	PL 14 x 450	790	(T)	6	6	38.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
10	x2h	PL 12 x 180	1 750		7	4	29.67
6	x2m	PL 12 x 180	1 750		7	4	29.67
5	x2t	PL 14 x 180	310		7	3	6.13
2	x2ah	PL 12 x 180	1 750		7	4	29.67

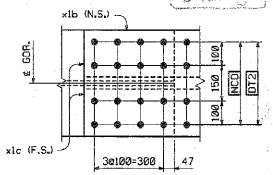
TOTAL WEIGHT THIS SHEET: 21 151.8 kgs



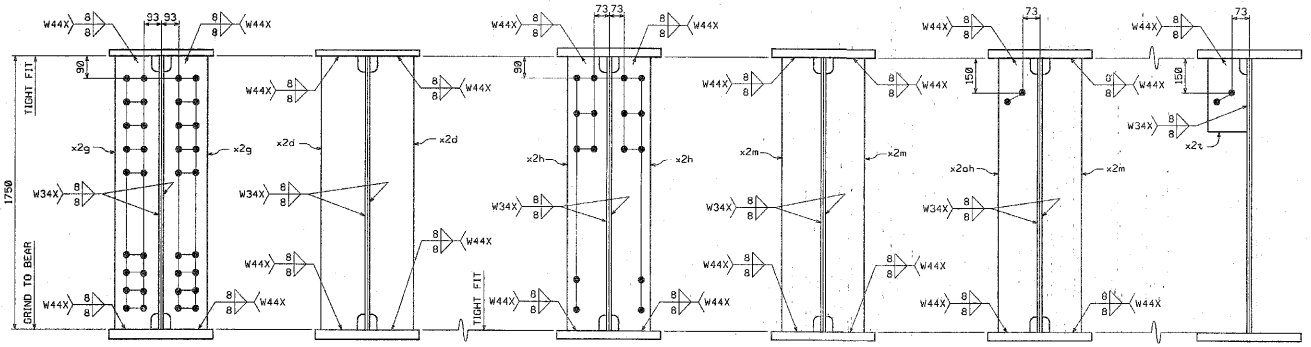
VIEW G

GIRDER ~ G11T

ORIENTATION DIAGRAM



VIEW H



SHOP NOTE

HOLES: NONE
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

SHOP DRAWING REVIEW

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Homestead Road
Lancaster, PA 17601-0308
Phone 717/299-523
A Division of High Industries, Inc.

GIRDER	G11T
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (IH) MADE BY: SSL CHK'D. BY: GS DATE: 8-24-04	
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 79 OF 112	

CODE:30

PLOTTED: 9/20/2004 10:47:46 PM BY: dpainter

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

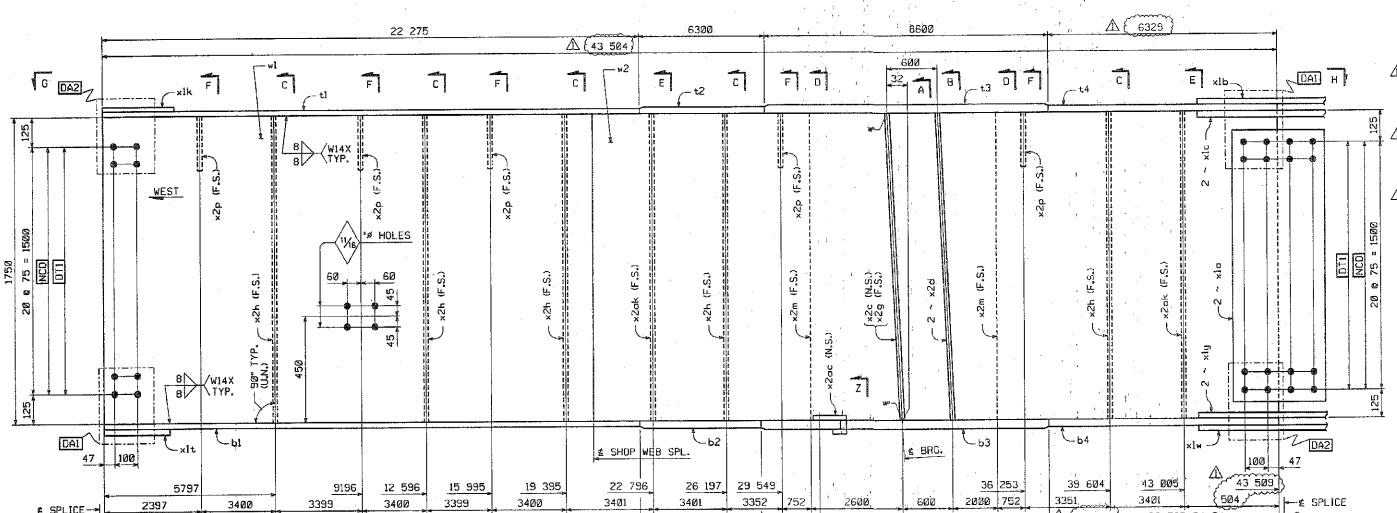
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

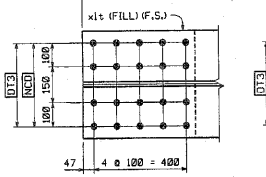
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G12T	GIRDER					20 890
1	wT	PL 16 x 1750	19 908	(T)	3	9	4375.28
1	w2	PL 16 x 1750	23 600	(T)	3	2	5168.44
1	t1	PL 22 x 450	22 275	(T)	4	25	1730.90
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 329	(T)	4	13	715.35
1	b1	PL 22 x 450	22 301	(T)	4	23	1732.82
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 308	(T)	4	14	712.97
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1k	PL 18 x 450	492	FILL	6	4	31.28
1	x1t	PL 18 x 450	492	FILL	6	4	31.28
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
5	x2h	PL 12 x 180	1 750		7	4	29.87
2	x2m	PL 12 x 180	1 750		7	4	29.87
6	x2p	PL 14 x 180	310		7	3	8.13
2	x2ak	PL 12 x 180	1 750		7	4	29.87
1	x2ac	PL 6 x 115	301		7	5	4.83

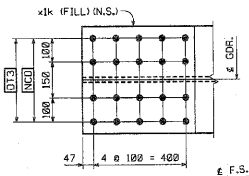
TOTAL WEIGHT THIS SHEET: 20 886.4 kgs

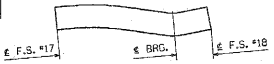
SEE SHEET NO. 112





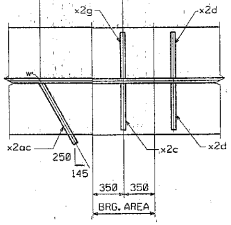
VIEW G

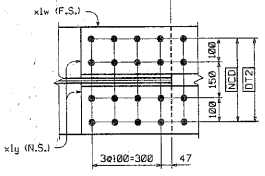


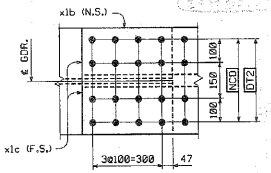


ORIENTATION DIAGRAM

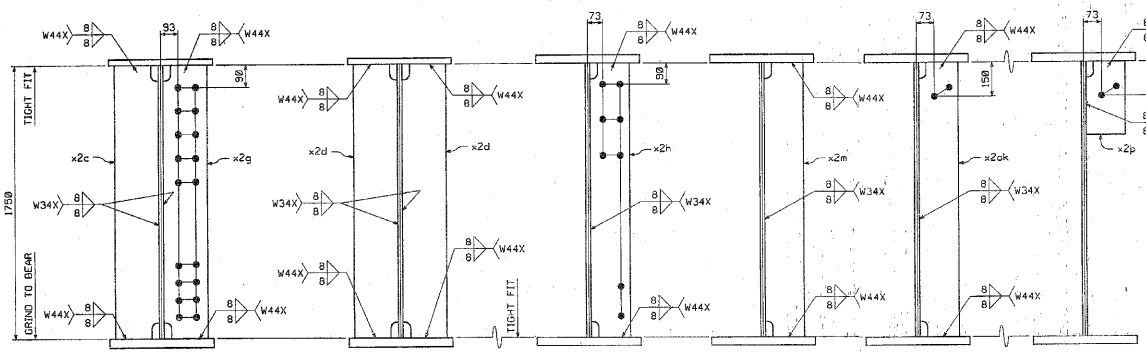
GIRDER ~ G12T



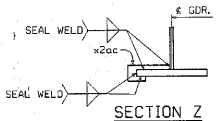




VIEW H



SECTION A SECTION B SECTION C SECTION D SECTION E SECTION F



SECTION Z

SHOP NOTE

HOLES: 19/16" ø HOLES
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

SHOP DRAWING REVIEW
THIS REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER. REVIEWED
Job Number: 6604
Reviewed By: DP
Date: 9/20/24

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/24

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17601-0045
Phone 717/299-5211
A Division of High Industries Inc.

GIRDER G12T

VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLODEN (IH) MADE BY: SSJ CHK'D. BY: CG DATE: 8-24-24
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 80 OF 112

CODE:30

PLOTTED: 9/20/2024 8:07:48 PM

METRIC

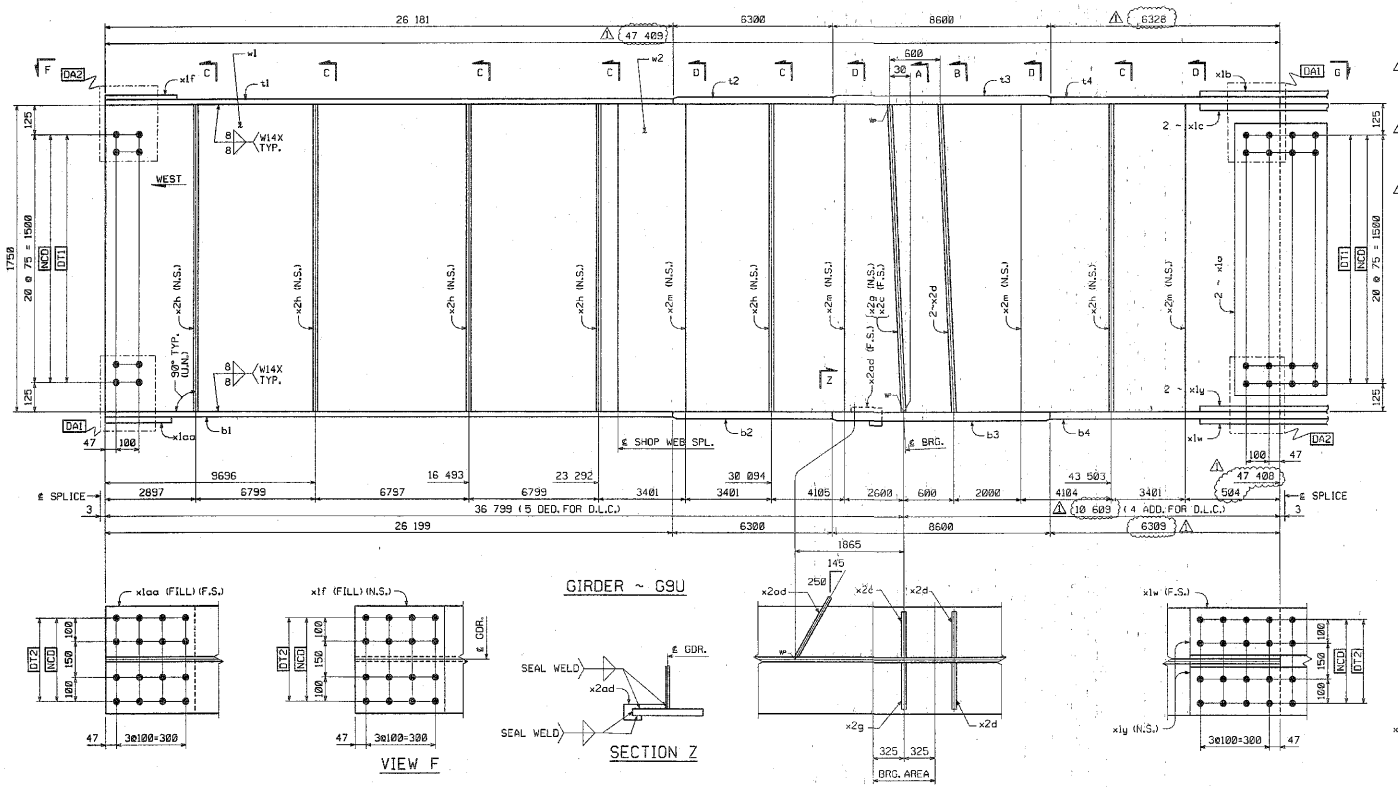
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G9U	GIRDER					22 320
1	w1	PL 16 x 1750	23 612	(T)	3	4	5233.28
1	w2	PL 16 x 1750	23 609	(T)	3	2	5188.66
1	t1	PL 22 x 450	26 181	(T)	4	20	2034.42
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 801	(T)	4	2	1974.67
1	t4	PL 32 x 450	6 328	(T)	4	13	715.24
1	b1	PL 22 x 450	26 199	(T)	4	20	2035.82
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 801	(T)	4	2	1974.67
1	b4	PL 32 x 450	6 309	(T)	4	14	713.09
2	x1a	PL 12 x 1600	400	(T)	6	1	50.26
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.64
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	30.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.64
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
6	x2h	PL 12 x 180	1 750		7	4	29.67
4	x2m	PL 12 x 180	1 750		7	4	29.67
1	x2ad	PL 8 x 115	301		7	5	1.63

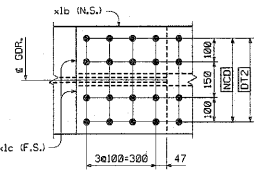
TOTAL WEIGHT THIS SHEET: 22 315.84 kgs



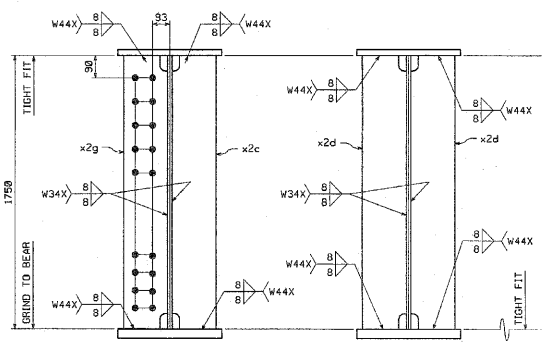
GIRDER ~ G9U

VIEW F

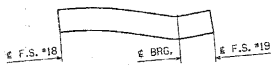
SECTION Z



VIEW G



SECTION A SECTION B SECTION C SECTION D



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø

BOLTS: NONE

PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC5.

CODE:130

SHOP DRAWING REVIEW

ALL WORK AS DETAILED BY THE CONTRACTOR CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ APPROVED AS CORRECTED

THE CONTRACTOR IS RESPONSIBLE FOR ALL DIMENSIONS, FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FOR SELECTING FABRICATION PROCESSES AND FOR THE SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THIS REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE CONSTRUCTION CONTRACT DOCUMENTS. THE MARKINGS OR COMMENTS SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR FROM COMPLIANCE WITH THE PROJECT REQUIREMENTS OR THE DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR REMAINS RESPONSIBLE FOR DETAILS AND ACCURACY OF CONSTRUCTION, FABRICATION AND COORDINATION OF THE WORK. THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR DEVIATIONS FROM REQUIREMENTS OF THE CONTRACT DOCUMENTS BY REVIEW OF SHOP DRAWINGS UNLESS THE CONTRACTOR HAS INFORMED THE ENGINEER IN WRITING OF SUCH DEVIATION AT THE TIME OF SUBMISSION AND THE ENGINEER HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION. THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR ERRORS IN SHOP DRAWINGS BY THE ENGINEER'S REVIEW OF THEM UNLESS THE ENGINEER GIVES WRITTEN APPROVAL TO A SPECIFIC ERROR OR DEVIATION.

Reviewed By: [illegible]
Date: 9/20/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH & MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1170 Hempfield Road
Lancaster, PA 17605-0308
Phone 717/299-526
A Division of High Industries Inc

GIRDER	G9U
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (IH) MADE BY: SRS CHK'D. BY: CS DATE: 8-24-04	
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 81 OF 112	

PLOTTED: 9/20/2004 10:05:51 PM BY: dpainter

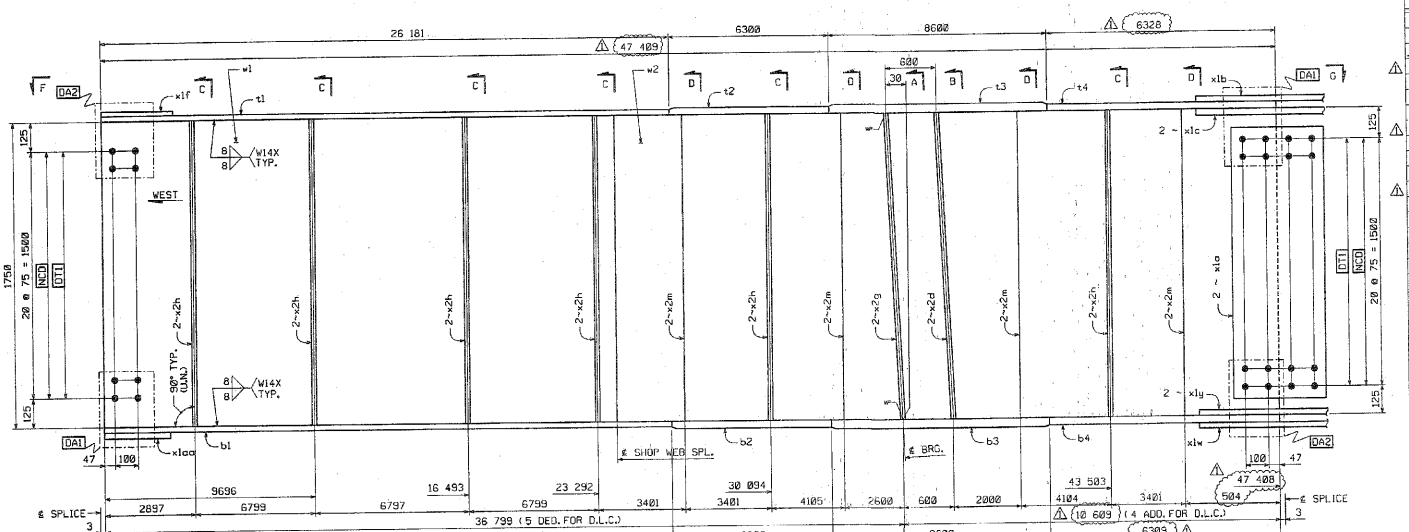
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

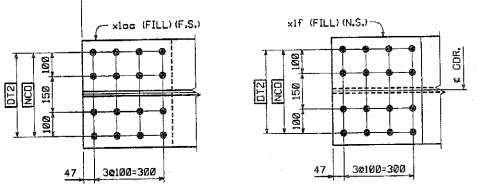
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G10U	GIRDER					22 820
1	w1	PL 16 x 1750	23 812	(T)	3	4	5233.28
1	w2	PL 16 x 1750	23 609	(T)	3	2	5188.98
1	t1	PL 22 x 450	26 181	(T)	4	20	2034.42
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 601	(T)	4	2	1974.67
1	t4	PL 32 x 450	6 328	(T)	4	13	715.24
1	b1	PL 22 x 450	26 198	(T)	4	20	2035.82
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 601	(T)	4	2	1974.67
1	b4	PL 32 x 450	6 309	(T)	4	14	713.09
2	x1a	PL 12 x 1800	400	(T)	6	1	88.29
1	x1b	PL 14 x 450	790	(T)	6	6	36.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	36.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
12	x2h	PL 12 x 180	1 750		7	4	29.67
8	x2m	PL 12 x 180	1 750		7	4	29.67

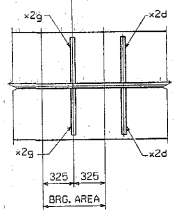
TOTAL WEIGHT THIS SHEET: 22 610.71 kgs

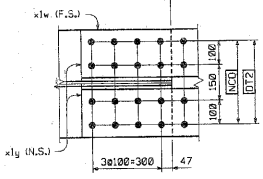


GIRDER ~ G10U

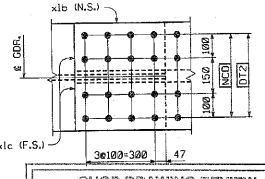


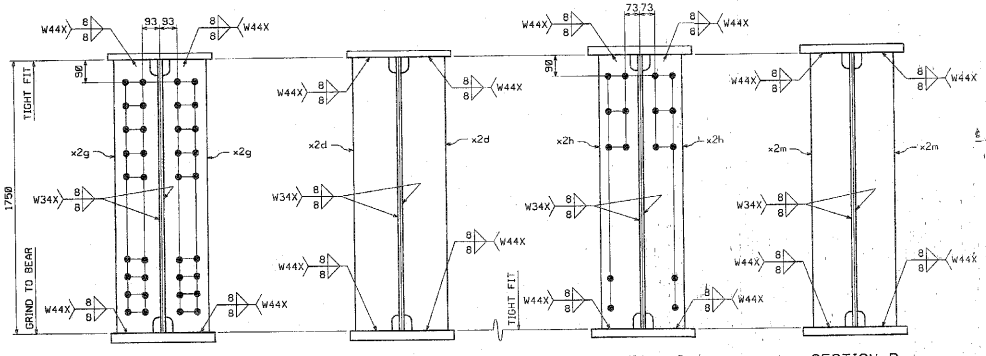
VIEW F

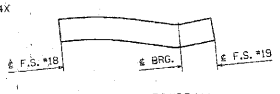




VIEW G







ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø

BOLTS: NONE

PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC5.

CODE:30

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECT FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 56 Rockwell Farms, Milton, Rd. Williston, VT 05495 802 879 0280

Job Number: 20011
Reviewed By: EMJ
Date: 10/5/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1170 Homestead Road
Lancaster, Pa 17608-0008
Phone 717/293-5211
A Division of High Industries, Inc.

GIRDER G10U

VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2

VT 78 STA.10+970.425 TO STA.12+059.775

TOWNS OF ALBURG AND SWANTON

COUNTIES OF GRAND ISLE AND FRANKLIN

STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(11)

CONTRACTOR CIANBRO CORPORATION

IN CHARGE GLIDDEN (IH) MADE BY: EBS CHK'D. BY: CS DATE: 6-24-04

CONTRACT NUMBER VT-04057-3 DRAWING NUMBER 82 OF 112

PLOTTED: 9/29/2004 10:07:53 PM BY: dpointer

METRIC

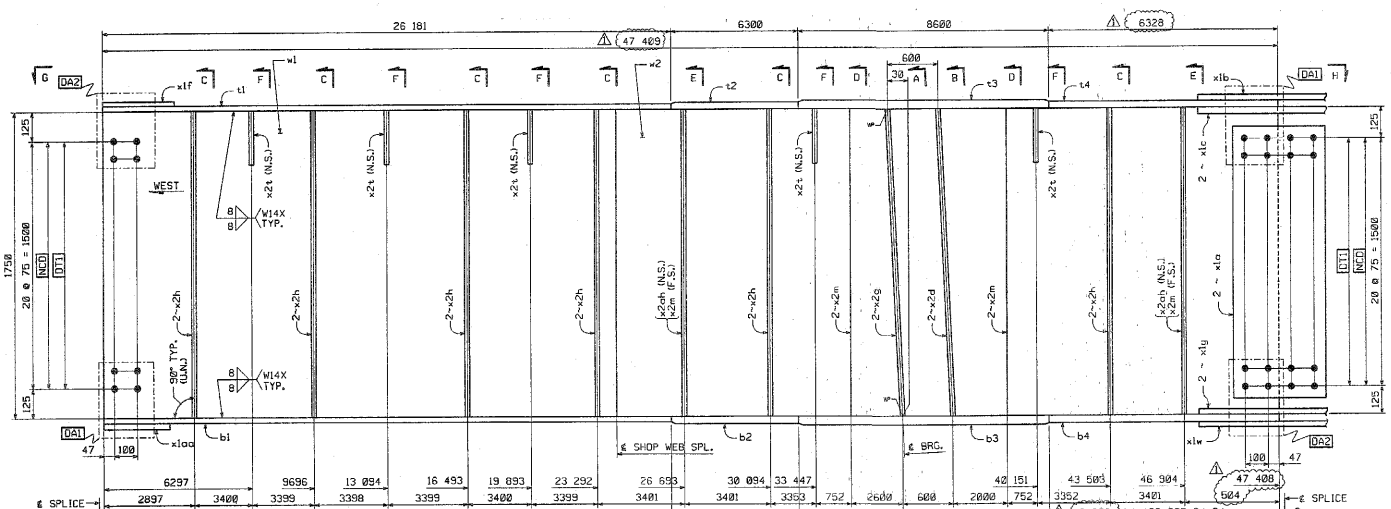
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

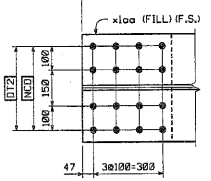
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

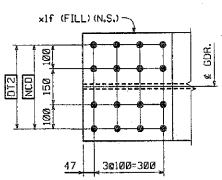
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G11U	GIRDER					22 850
1	w1	PL 16 x 1750	23 812	(T)	3	4	~~5293.28~~
1	w2	PL 16 x 1750	23 809	(T)	3	2	~~5198.66~~
1	t1	PL 22 x 450	26 181	(T)	4	20	~~2034.42~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	t3	PL 65 x 450	~~8 601~~	(T)	4	2	1974.67
1	t4	PL 32 x 450	6 328	(T)	4	13	~~715.24~~
1	b1	PL 22 x 450	26 199	(T)	4	20	2035.82
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	b3	PL 65 x 450	~~8 601~~	(T)	4	2	1974.67
1	b4	PL 32 x 450	6 309	(T)	4	14	~~713.08~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~90.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~38.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	~~38.06~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1aa	PL 10 x 450	392	FILL	8	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
12	x2h	PL 12 x 180	1 750		7	4	~~20.67~~
8	x2m	PL 12 x 180	1 750		7	4	~~20.67~~
5	x2t	PL 14 x 180	310		7	3	~~6.13~~
2	x2ah	PL 12 x 180	1 750		7	4	~~20.67~~

TOTAL WEIGHT THIS SHEET: ~~22 641.37~~ kgs

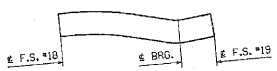




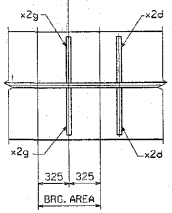
VIEW G

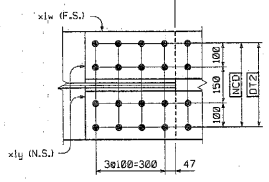


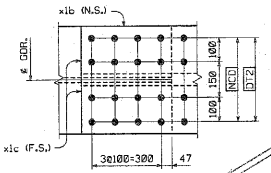
GIRDER ~ G11U



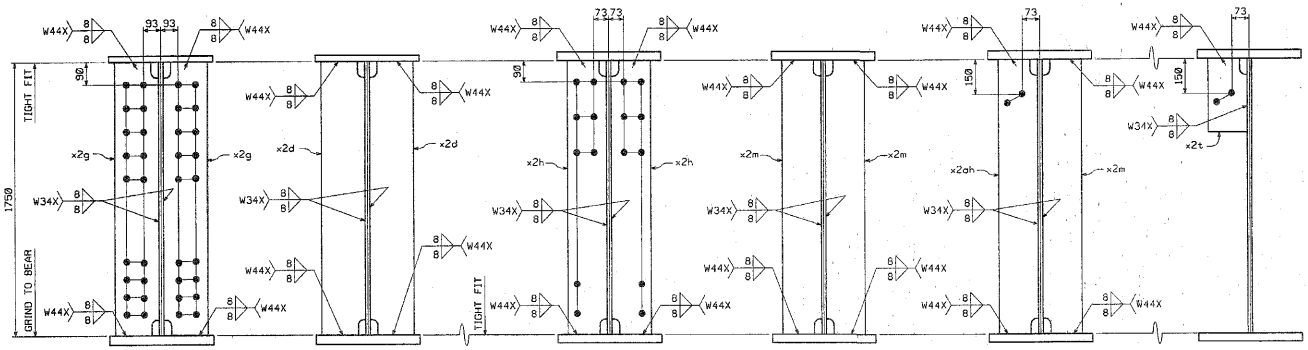
ORIENTATION DIAGRAM







VIEW H



CODE:138

SHOP NOTE

HOLES: 1 1/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC5.

SHOP DRAWING REVIEW

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
170 Hempstead Road
Lancaster, Pa. 17601-0008
Phone: 717/299-521
A Division of High Industries, Inc.

GIRDER	G11U
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	

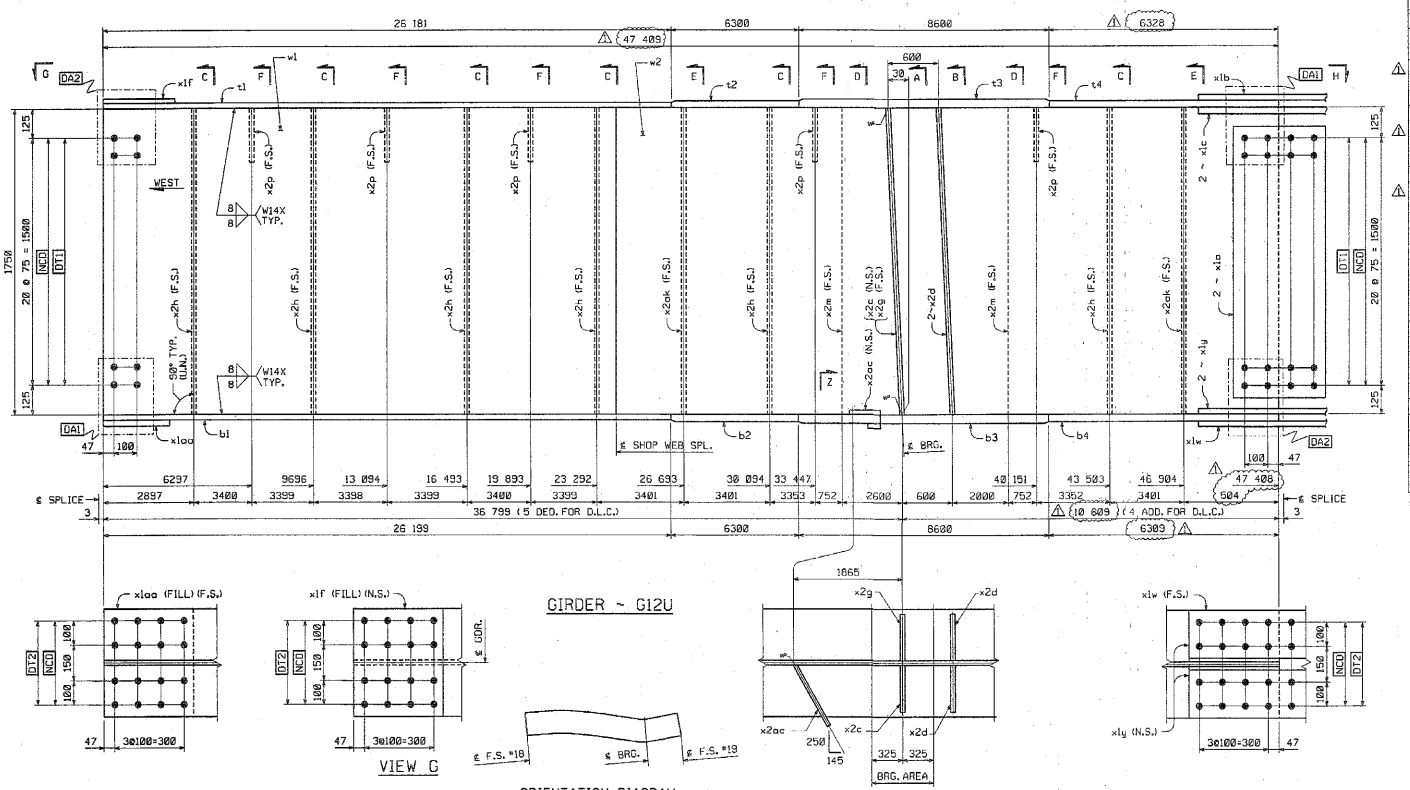
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE GLIDDEN (IH) MADE BY BRS CHK'D. BY GS DATE 8-24-04
CONTRACT NUMBER VT-04057-3 DRAWING NUMBER 83 OF 112

PLOTTED: 9/20/2004 1:47:55 PM
BY: daunaur

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

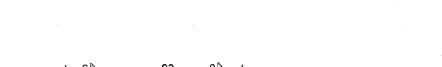
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



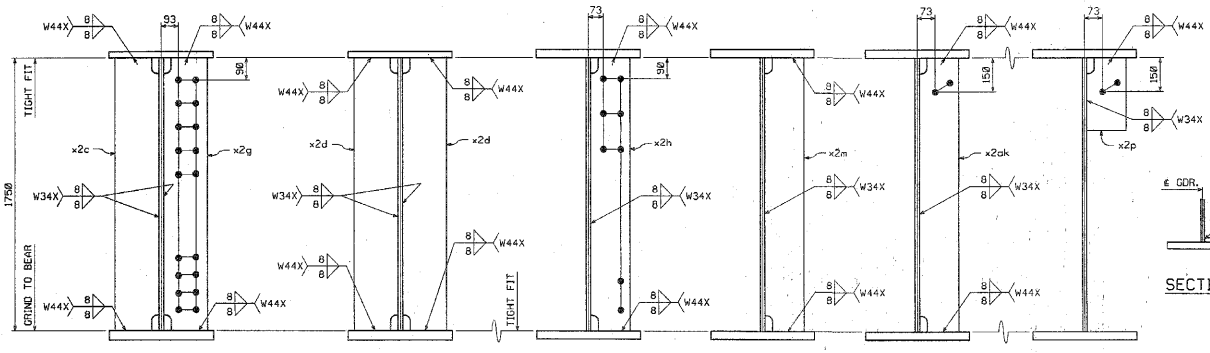
GIRDER ~ G12U

VIEW G

VIEW H



ORIENTATION DIAGRAM



SECTION A SECTION B SECTION C SECTION D SECTION E SECTION F

SECTION Z

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G12U	GIRDER					22 350
~~1~~	~~w1~~	~~PL 16 x 1750~~	~~23 812~~	~~(T)~~	~~3~~	~~4~~	~~5233.28~~
1	w2	PL 16 x 1750	23 609	(T)	3	2	~~5488.66~~
1	t1	PL 22 x 450	26 181	(T)	4	20	~~2084.42~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.97~~
1	t3	PL 65 x 450	~~8 601~~	(T)	4	2	~~1974.67~~
1	t4	PL 32 x 450	6 328	(T)	4	13	~~715.24~~
1	b1	PL 22 x 450	26 199	(T)	4	20	~~2035.82~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	b3	PL 65 x 450	~~8 601~~	(T)	4	2	~~1974.67~~
1	b4	PL 32 x 450	6 309	(T)	4	14	~~713.09~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~50.28~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	~~13.85~~
1	x1w	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
1	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
6	x2h	PL 12 x 180	1 750		7	4	~~28.67~~
2	x2m	PL 12 x 180	1 750		7	4	~~28.67~~
5	x2p	PL 14 x 180	310		7	3	~~8.13~~
1	x2ac	PL 8 x ~~115~~	301		7	5	~~4.63~~
2	x2ak	PL 12 x 180	1 750		7	4	~~28.67~~
		TOTAL WEIGHT THIS SHEET:	~~22 346.3~~		kgs		

SHOP NOTE

HOLES: 19 mm ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1

SHOP DRAWING REVIEW

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°C	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER G12U

VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE GLIDDEN (IH) MADE BY: SRS CHK'D. BY: CS DATE: 8-24-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 84 OF 112

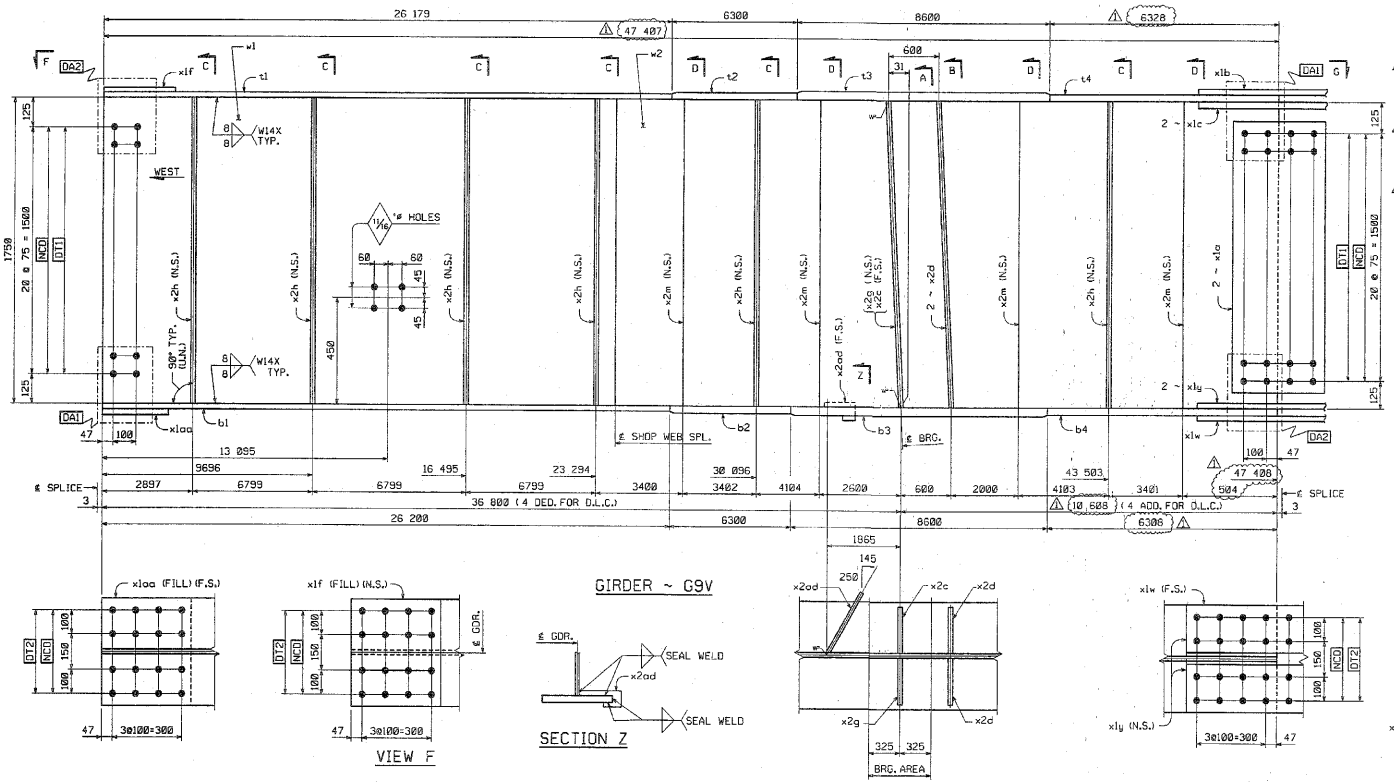
CODE=30

PLOTTED: 9/20/2004 10:07:57 PM
BY: dpainter

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

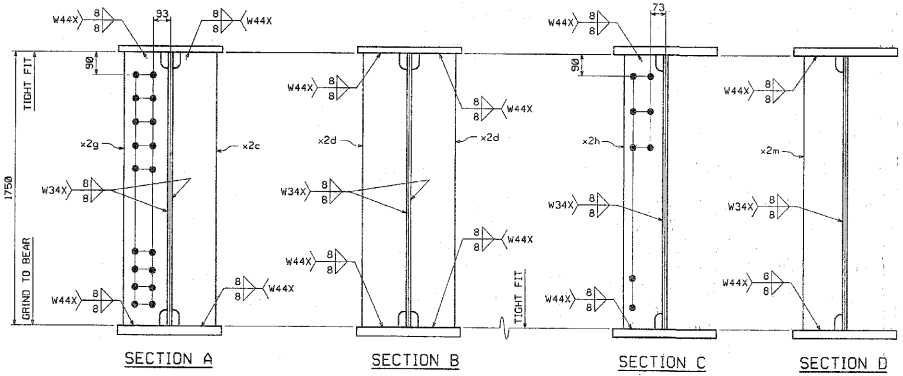
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

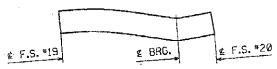


BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP WT. KG. EA.
ONE	G9V	GIRDER					22 320
~~1~~	~~w1~~	~~PL 16 x 1750~~	~~28 811~~	~~(T)~~	~~3~~	~~6~~	~~5293.06~~
1	w2	PL 16 x 1750	23 608	(T)	3	2	5188.44
1	t1	PL 22 x 450	26 179	(T)	4	21	2034.27
1	t2	PL 32 x 450	6 300	(T)	4	15	742.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 329	(T)	4	13	745.35
1	b1	PL 22 x 450	26 200	(T)	4	20	2035.90
1	b2	PL 32 x 450	6 300	(T)	4	15	742.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 329	(T)	4	14	745.35
2	x1a	PL 12 x 1600	400	(T)	6	1	50.28
1	x1b	PL 14 x 450	790	(T)	6	5	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
6	x2h	PL 12 x 180	1 750		7	4	29.67
4	x2m	PL 12 x 180	1 750		7	4	29.67
1	x2ad	PL 6 x 115	301		7	5	4.03

TOTAL WEIGHT THIS SHEET: ~~22 314.78~~ kgs





ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 1⅛"ø (U.N.)
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC5.

CODE:30

VIEW FOR DRAWING REVIEW

REVIEWED AS NOTED BY THE CONSTRUCTION CONTRACT DISTRIBUTORS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO ALL TERMS LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS BUILT DRAWINGS

FABRICATION OF STRUCTURE MAY BE MADE FROM THESE DRAWINGS ONLY WHEN SIGNED AS NOT REQUIRING REVISION. THE CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATION OF THE WORK OF ALL SUB-CONTRACTORS AND FOR PERFORMING NO PART OF THE WORK UNTIL ALL APPLICABLE DRAWINGS HAVE BEEN REVIEWED.

Vanasse Hangen Brustlin, Inc. Engineers, Planners and Surveyors 54 Regional Drive Concord, NH 03301 (603) 226-3990
Job Number: 50 31
Date: 11/8/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1170 Harrisburg Road
Lancaster, PA 17605-0008
Phone 717/293-521
A division of High Industries, Inc.

GIRDER G9V
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO.: BRF-036-1(1)
CONTRACTOR: CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SSJ CHK'D. BY: DATE:
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 85 OF 112

METRIC
BY: dpainter
PLOTTED: 9/20/2004 10:06:00 PM

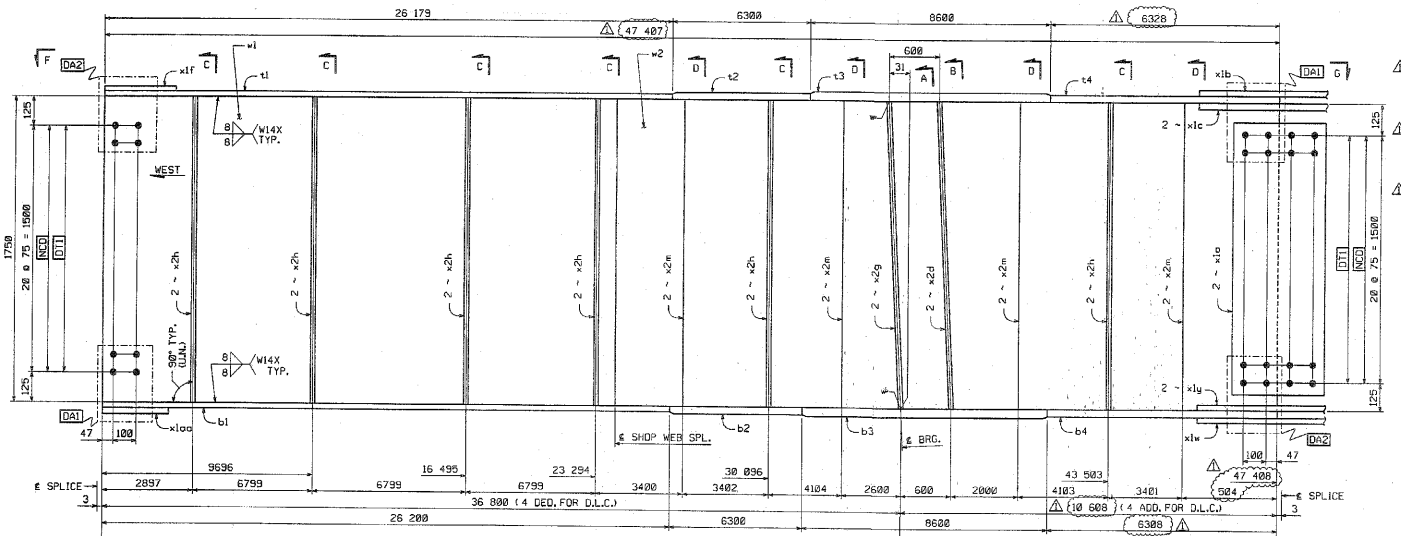
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

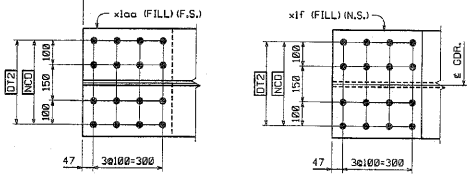
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA
ONE	G10V	GIRDER					22 610
1	w1	PL 16 x 1750	23 811	(T)	3	6	5233.06
1	w2	PL 16 x 1750	23 608	(T)	3	2	5188.44
1	t1	PL 22 x 450	26 179	(T)	4	21	2034.27
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 329	(T)	4	13	715.35
1	b1	PL 22 x 450	26 200	(T)	4	20	2035.80
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 309	(T)	4	14	713.09
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	8	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1l	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
12	x2h	PL 12 x 180	1 750		7	4	29.67
8	x2m	PL 12 x 180	1 750		7	4	29.67

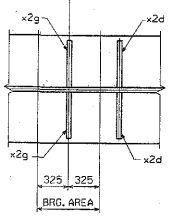
TOTAL WEIGHT THIS SHEET: 22 609.85 kgs

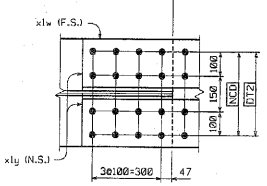


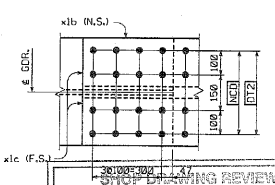


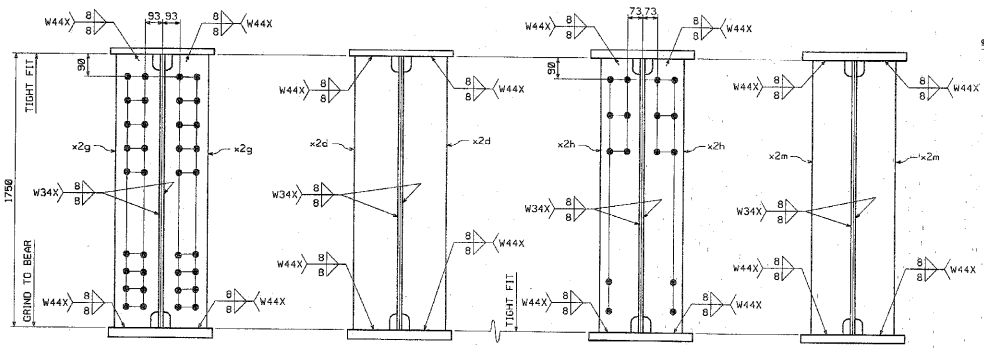
VIEW F

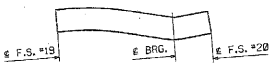
GIRDER ~ G10V











ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC5.

CODE:30

SHOP DRAWING REVIEW

VHB REVIEWED AS TO VIEW THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE WORKS, AND SUBJECT TO WITHIN LIMITATIONS AND MODIFICATIONS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR CONDITIONS MADE ON THE SHOP DRAWINGS MARKED TO THEM DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH FORM DIMENSIONS OF THE DRAWINGS AND SPECIFICATIONS, AND CHANGES OR OMISSIONS FROM DRAWINGS OR SPECIFICATIONS UNLESS DESIGN CONCEPT OF THE PROJECT AND MATERIAL CHARACTERISTICS ARE AFFECTED THEREBY AS EXPRESSED IN THE CONTRACT DOCUMENTS. FABRICATION IN ACCORDANCE WITH CORRECTIONS AND CONFORMATION ALL QUANTITIES AND DIMENSIONS, SELECTIONS FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATION OF THE WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Bedford Farms, Route 101 Bedford, NH 03110 603-644-0800

Job No./Item: 5004
Reviewed By: DMS
Date: 11/15/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17603-0008
Phone 717/299-5201
A Division of High Industries, Inc.

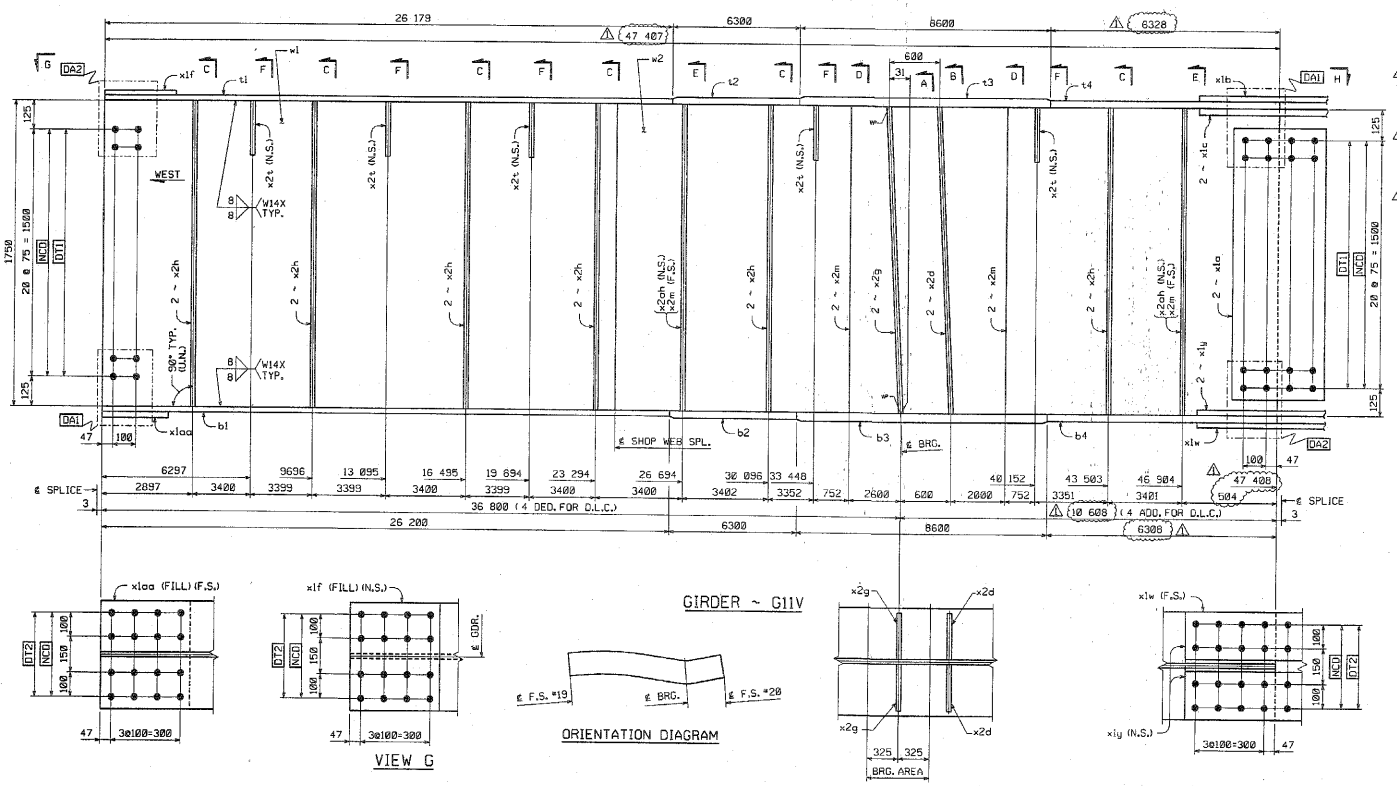
GIRDER	G10V
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (JH) MADE BY: SSL CHK'D. BY: CS DATE: 8-24-04	
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 86 OF 112	

PLOTTED: 9/23/2004 10:30:02 PM BY: dpainter

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

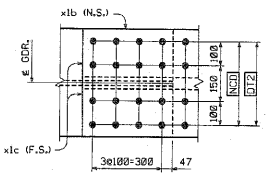
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



VIEW G

GIRDER ~ G11V

ORIENTATION DIAGRAM

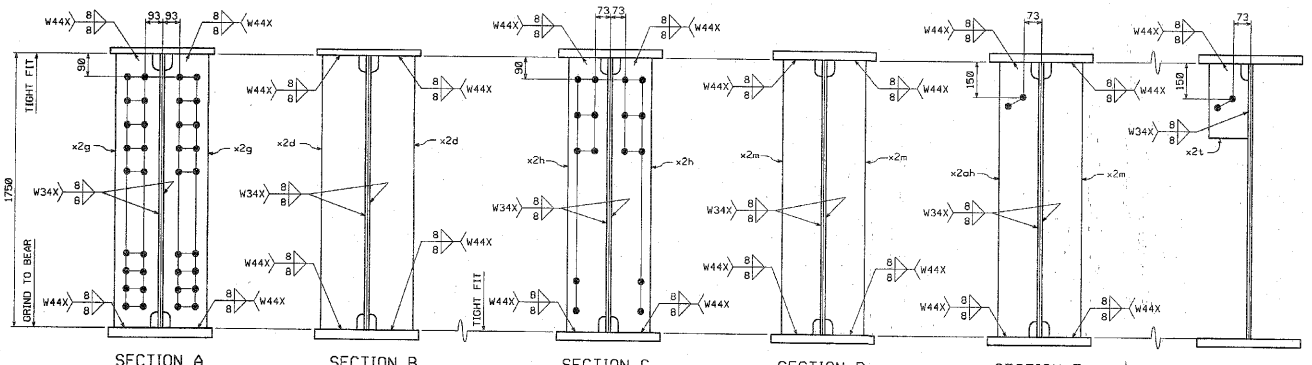


VIEW H

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP.WT. KG.EA.
ONE	G11V	GIRDER					22 650
1	w1	PL 16 x 1750	23 811	(T)	3	8	5233.06
1	w2	PL 16 x 1750	23 608	(T)	3	2	5188.44
1	t1	PL 22 x 450	26 179	(T)	4	21	2934.27
1	t2	PL 32 x 450	6 300	(T)	4	15	742.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 329	(T)	4	13	745.35
1	b1	PL 22 x 450	26 200	(T)	4	20	2935.90
1	b2	PL 32 x 450	6 300	(T)	4	15	742.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 309	(T)	4	14	713.09
2	x1a	PL 12 x 1800	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	8	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	8	39.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
12	x2h	PL 12 x 180	1 750		7	4	29.67
6	x2m	PL 12 x 180	1 750		7	4	29.67
5	x2t	PL 14 x 180	310		7	3	6.13
2	x2ah	PL 12 x 180	1 750		7	4	29.67

TOTAL WEIGHT THIS SHEET: ~~22 640.5~~ kgs



SHOP NOTE

HOLES: NONE

BOLTS: NONE

PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. GN1.

FOR WEB CAMBER DIAGRAM, SEE DWG. W25.

SHOP DRAWING REVIEW

VSTB

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.

1172 Hempstead Road
Lancaster, PA 17603-6008
Phone 717/299-523
A Division of Alga Industries, Inc.

GIRDER G11V

VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2

VT 78 STA.10+970.425 TO STA.12+059.775

TOWNS OF ALBURG AND SWANTON

COUNTIES OF GRAND ISLE AND FRANKLIN

STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)

CONTRACTOR CIANBRO CORPORATION

IN CHARGE: GLIDDEN (IH) MADE BY: SSL CHK'D. BY: GS DATE: 8-24-04

CONTRACT NUMBER: VT-040057-3 DRAWING NUMBER: 87 OF 112

CODE: 30

PLOTTED: 9/20/2004 10:00:04 PM BY: dcounter

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

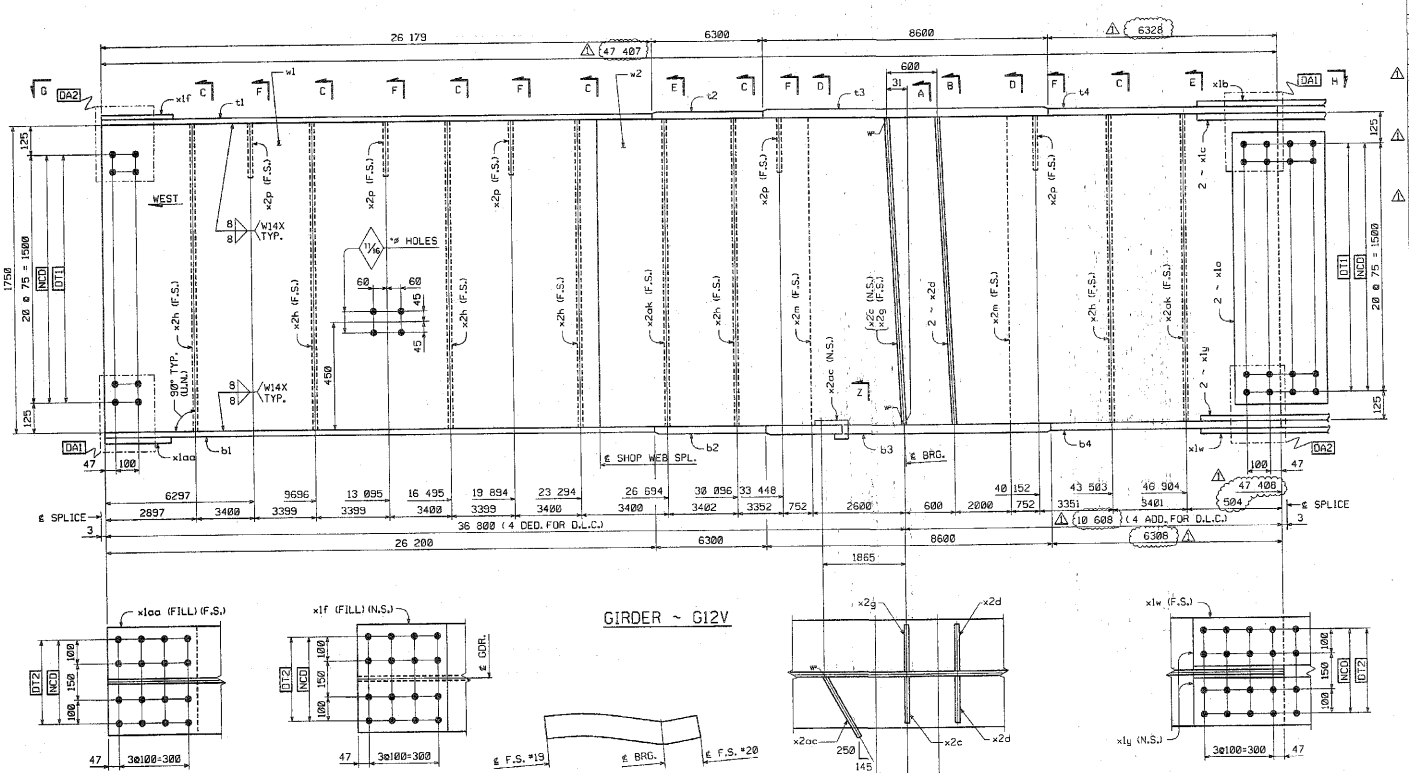
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

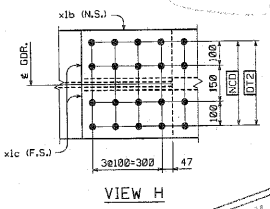
BILL OF MATERIAL

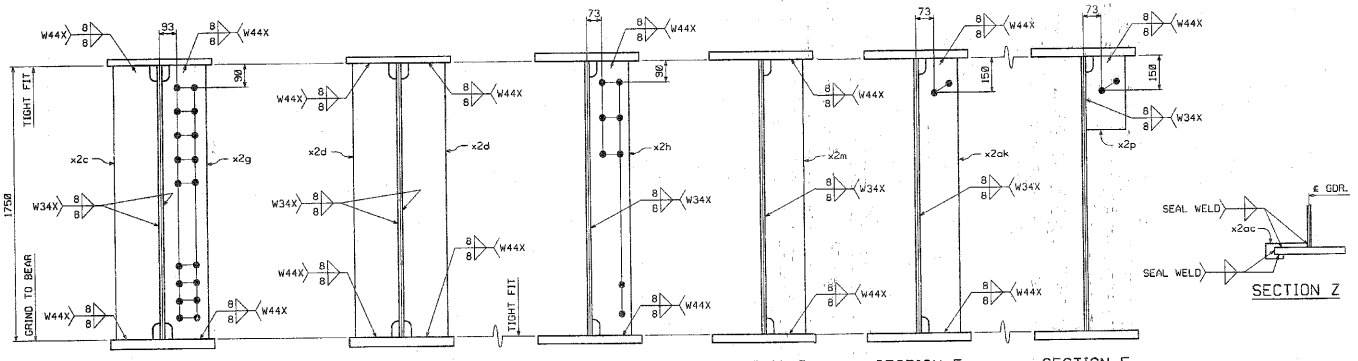
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA
ONE	G12V	GIRDER					22 350
1	WT	PL 16 x 1750	23 811	(T)	3	6	5233.08
1	w2	PL 16 x 1750	23.808	(T)	3	2	5188.44
1	t1	PL 22 x 450	26 179	(T)	4	21	2034.27
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 329	(T)	4	13	715.35
1	b1	PL 22 x 450	26 200	(T)	4	20	2035.80
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 308	(T)	4	14	713.09
2	x1a	PL 12 x 1600	400	(T)	6	1	30.28
1	x1b	PL 14 x 450	790	(T)	6	6	38.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
6	x2h	PL 12 x 180	1 750		7	4	29.67
2	x2m	PL 12 x 180	1 750		7	4	29.67
5	x2p	PL 14 x 180	310		7	3	8.13
2	x2ak	PL 12 x 180	1 750		7	4	29.67
1	x2ac	PL 6 x 115	301		7	5	1.69

TOTAL WEIGHT THIS SHEET: ~~22 345.44~~ kgs

* SEE SHEET 89 of 112







SHOP NOTE

HOLES: 1⅛" ø (T.N.)
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1
FOR WEB CAMBER DIAGRAM, SEE DWG. WC5

SHOP DRAWING REVIEW

NO.	REVISION	BY	DATE
3			
2			
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH & MEAN TEMPERATURE OF 25°C.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road, Lancaster, PA 17601-6008, Phone 717/299-5201
A Division of High Industries, Inc.

GIRDER G12V
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.12+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
DETAILED BY: SSL CHK'D BY: CS DATE: 8-24-04
IN CHARGE: GLIDDEN (IH)
CONTRACT NUMBER: VT-04057-3
DRAWING NUMBER: 88 OF 112

CODE:30

PLOTTED: 9/29/2004 10:08:07 PM
By: dpanchar

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA
ONE	G9W	GIRDER					22 320
1	w1	PL 16 x 1750	23 612	(T)	3	4	5233.28
1	w2	PL 16 x 1750	23 608	(T)	3	2	5188.44
1	t1	PL 22 x 450	26 180	(T)	4	21	2034.35
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 329	(T)	4	13	715.35
1	b1	PL 22 x 450	28 200	(T)	4	20	2035.90
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 340	(T)	4	14	716.29
2	x1a	PL 12 x 1600	400	(T)	6	1	60.26
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.54
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 18 x 200	790	(T)	6	5	19.54
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 36 x 200	1 750		7	1	104.39
2	x2d	PL 36 x 200	1 750		7	1	104.39
1	x2g	PL 36 x 200	1 750		7	1	104.39
6	x2h	PL 12 x 180	1 750		7	4	29.67
4	x2m	PL 12 x 180	1 750		7	4	29.67
1	x2ad	PL 6 x 115	301		7	5	1.65
		TOTAL WEIGHT THIS SHEET:	22 315.19	kgs			

GIRDER ~ G9W

SECTION Z

VIEW F

VIEW G

SECTION A

SECTION B

SECTION C

SECTION D

ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø

BOLTS: NONE

PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC5.

SHOP DRAWING REVIEW

REVIEWED AS NOTED. THE CONSTRUCTION CONTRACT DOCUMENTS ARE AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND BASIC TO CONTRACT LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ RESUBMIT ☐ REVISE AND RESUBMIT ☐ REJECTED ☐ NOTED AS CORRECTED

CONTRACTOR'S RESPONSIBILITIES: REVIEW OF THE SHOP DRAWINGS INCLUDED THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH PROJECT PLANS AND SPECIFICATIONS. THIS REVIEW ONLY CERTIFIES CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING ALL WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dartmouth Drive, Auburn Rd. Bedford, NH 03110 603 644 0888

Job Number: 50a...
Reviewed By: ...
Date: 9/21/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17601-6008
Phone 717/291-521
A Division of High Industries Inc.

GIRDER G9W

VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2

VT 78 STA.10+970.425 TO STA.12+059.775

TOWNS OF ALBURG AND SWANTON

COUNTIES OF GRAND ISLE AND FRANKLIN

STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)

CONTRACTOR CIANBRO CORPORATION

IN CHARGE: GLIDDEN (IH) MADE BY: ges CHK'D. BY: CG DATE: 8-25-04

CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 89 OF 112

CODE:130

METRIC

BY: dsavrier

PLOTTED: 9/20/2004 10:08:08 PM

60

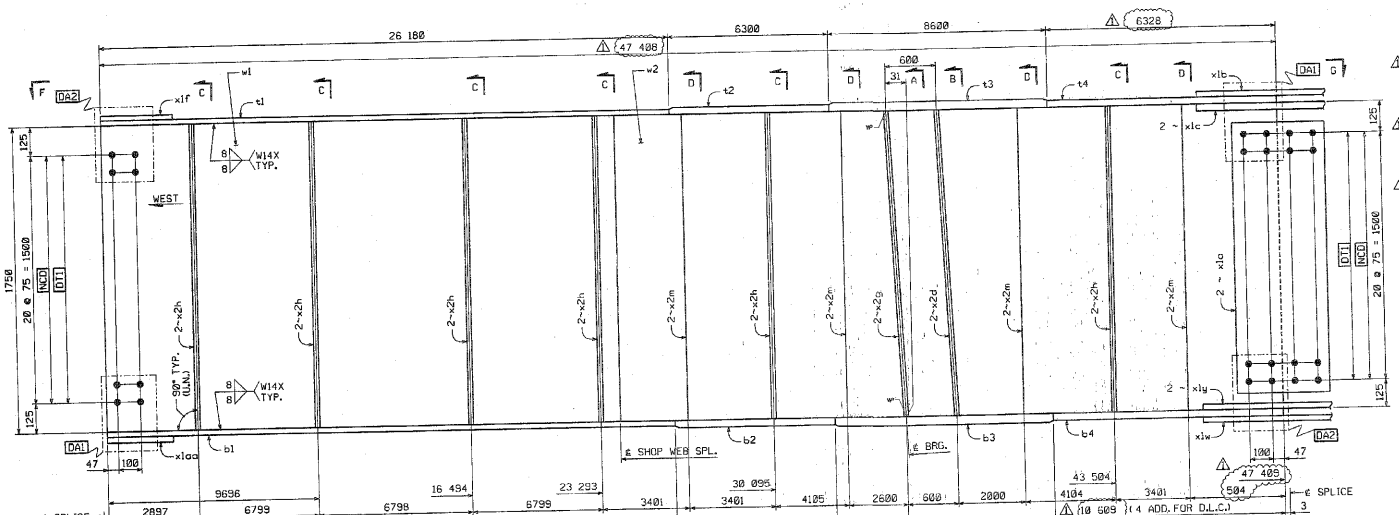
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

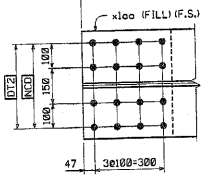
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

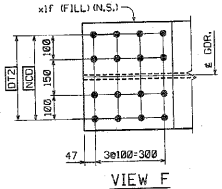
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G10W	GIRDER					22 620
1	w1	PL 16 x 1750	23 812	(T)	3	4	5233.28
1	w2	PL 16 x 1750	23 808	(T)	3	2	5188.44
1	t1	PL 22 x 450	26 180	(T)	4	21	2034.35
1	t2	PL 32 x 450	6 300	(T)	4	15	742.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 329	(T)	4	13	745.35
1	b1	PL 22 x 450	26 200	(T)	4	20	2035.90
1	b2	PL 32 x 450	6 300	(T)	4	15	742.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 310	(T)	4	14	743.20
2	x1a	PL 12 x 1800	400	(T)	6	1	80.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.95
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.95
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
12	x2h	PL 12 x 180	1 750		7	4	28.87
8	x2m	PL 12 x 180	1 750		7	4	28.87

TOTAL WEIGHT THIS SHEET: 22 610.26 kgs

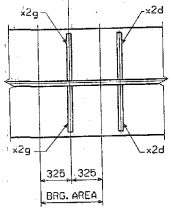


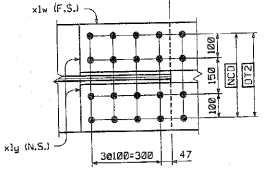


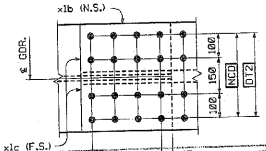


VIEW F

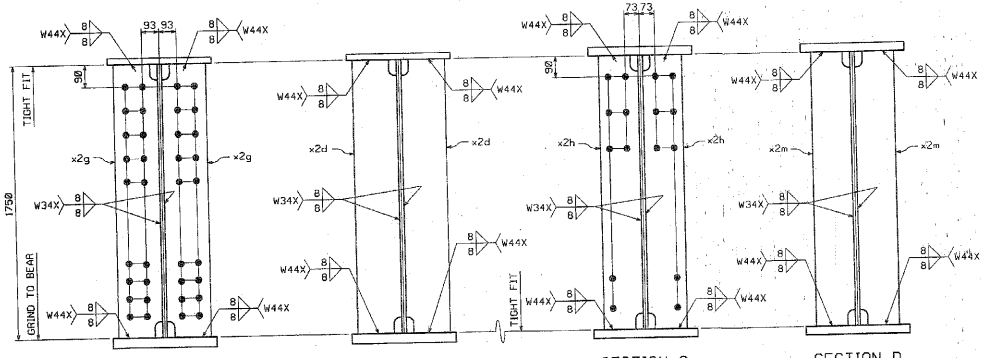
GIRDER ~ G10W

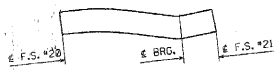






VIEW G





ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC5.

CODE:30

SHOP DRAWING REVIEW

REVIEWED AS REVISED ☐ REJECTED ☐ RECEIPT ONLY ☐ REVISE AND RESUBMIT ☐ SUBMIT AS CORRECTED

CONTRACTOR OR CONSTRUCTION MANAGER IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING THE WORK WITH THAT OF ALL OTHER TRADES AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Boulevard Farms, Bilton Rd. Bedford, NH 03102 603-644-0559

Job Number: 50821
Reviewed By: DMH
Date: 10/15/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Homestead Road, Lancaster, Pa 17601-6008, Phone 717/299-5201
A Division of High Industries, Inc.

	GIRDER G10W
	VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
	VT 78 STA.10+970.425 TO STA.12+059.775
	TOWNS OF ALBURG AND SWANTON
	COUNTIES OF GRAND ISLE AND FRANKLIN
	STATE OF VERMONT, AGENCY OF TRANSPORTATION
STATE CONTRACT OR REF. NO.	BRF-036-1(1)
CONTRACTOR	CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH)	MADE BY: ERS CHK'D. BY: CS DATE: 8-25-04
CONTRACT NUMBER:	VT-04057-3 DRAWING NUMBER: 90 OF 112

PLOTTED: 9/20/2004 1:28:11 PM BY: dpoirier

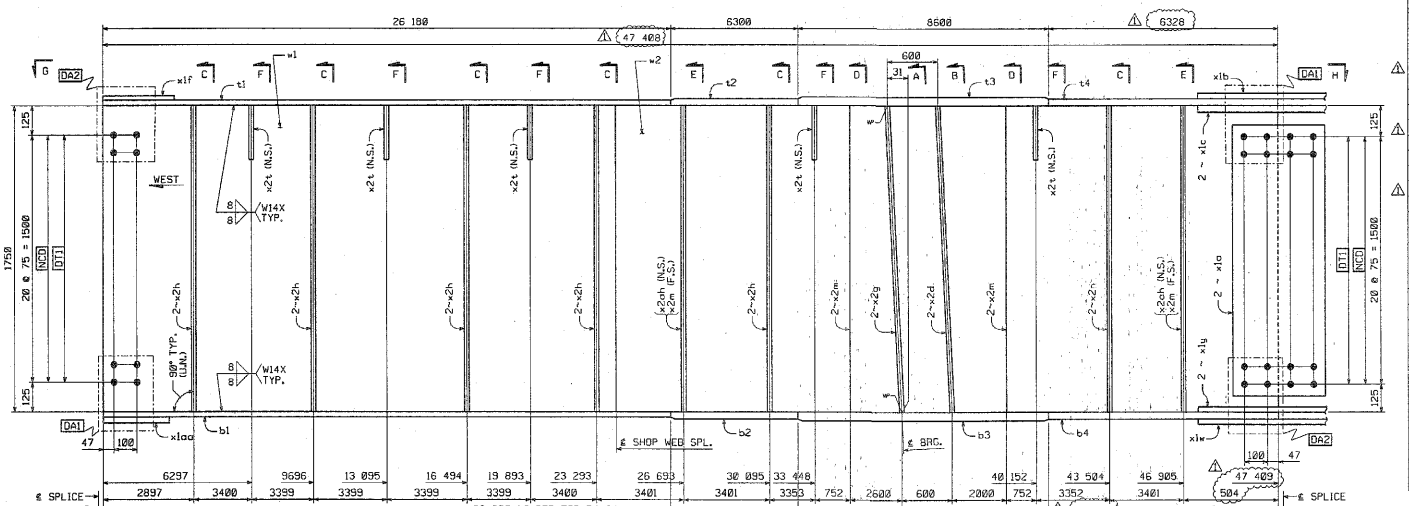
METRIC

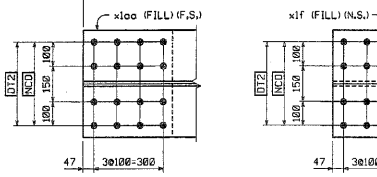
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

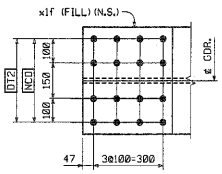
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G11W	GIRDER					22 650
1	w1	PL 16 x 1750	23 812	(T)	3	4	5233.28
1	w2	PL 16 x 1750	23 608	(T)	3	2	5188.44
1	t1	PL 22 x 450	26 180	(T)	4	21	2034.35
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	8 329	(T)	4	13	715.35
1	b1	PL 22 x 450	26 200	(T)	4	20	2035.90
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 310	(T)	4	14	713.20
2	x1a	PL 12 x 1600	400	(T)	6	1	60.26
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
12	x2h	PL 12 x 180	1 750		7	4	29.67
6	x2m	PL 12 x 180	1 750		7	4	29.67
5	x2t	PL 14 x 180	310		7	3	6.13
2	x2ah	PL 12 x 180	1 750		7	4	29.67
		TOTAL WEIGHT THIS SHEET:	22 640.81	kgs			

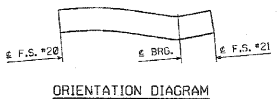




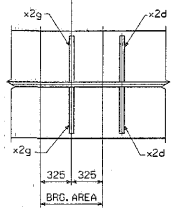
VIEW G

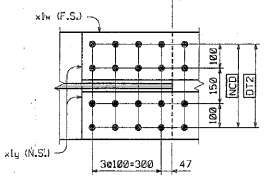


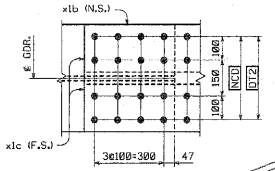
GIRDER ~ G11W



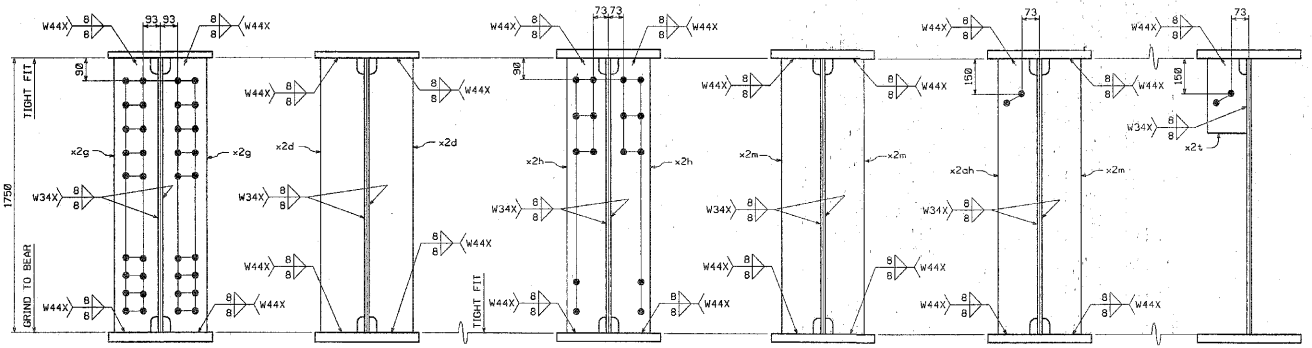
ORIENTATION DIAGRAM







VIEW H



SECTION A SECTION B SECTION C SECTION D SECTION E SECTION F

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE REQUIRED
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

SHOP DRAWING REVIEW
VERIFIED
Approved By: [illegible] 9/20/04
Reviewed By: [illegible] 9/20/04
DISCLAIMER: [illegible]

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER G11W

VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SRS CHK'D. BY: CS DATE: 8-25-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 91 OF 112

CODE:30

PLOTTED: 9/20/2004 1:08:03 PM BY: dpcurtis

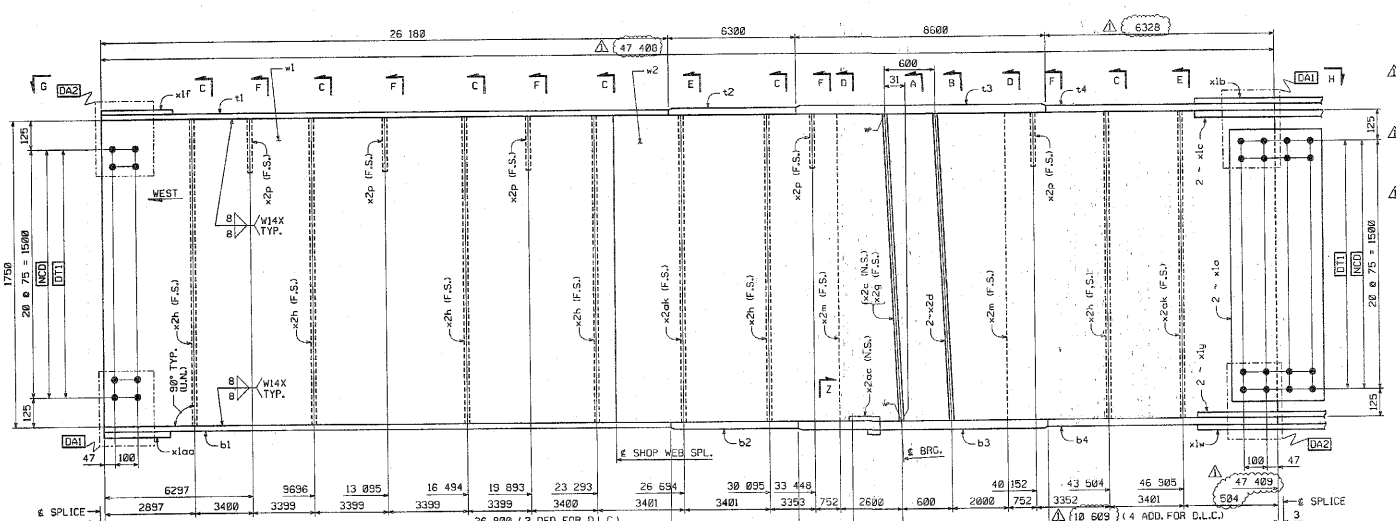
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

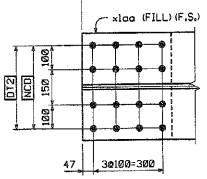
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

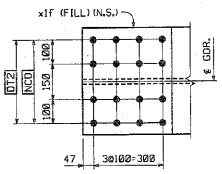
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G12W	GIRDER					22 350
1	w1	PL 16 x 1750	23 813	(T)	3	4	5233.28
1	w2	PL 16 x 1750	23 608	(T)	3	2	5188.44
1	t1	PL 22 x 450	26 180	(T)	4	21	2034.35
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	t4	PL 32 x 450	6 329	(T)	4	13	715.35
1	b1	PL 22 x 450	26 200	(T)	4	20	2035.90
1	b2	PL 32 x 450	6 300	(T)	4	15	742.07
1	b3	PL 65 x 450	8 600	(T)	4	3	1974.44
1	b4	PL 32 x 450	6 310	(T)	4	14	713.20
2	x1a	PL 12 x 1800	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
5	x2h	PL 12 x 180	1 750		7	4	29.87
2	x2m	PL 12 x 180	1 750		7	4	29.87
5	x2p	PL 14 x 180	310		7	3	6.13
1	x2ac	PL 8 x 445	301		7	5	4.69
2	x2ak	PL 12 x 180	1 750		7	4	29.87

TOTAL WEIGHT THIS SHEET: 22 345.85 kgs

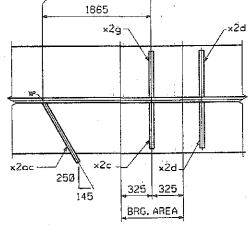




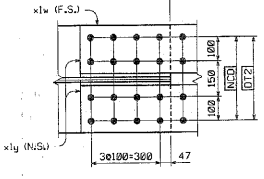
VIEW G

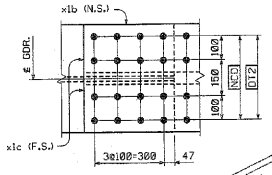


GIRDER ~ G12W

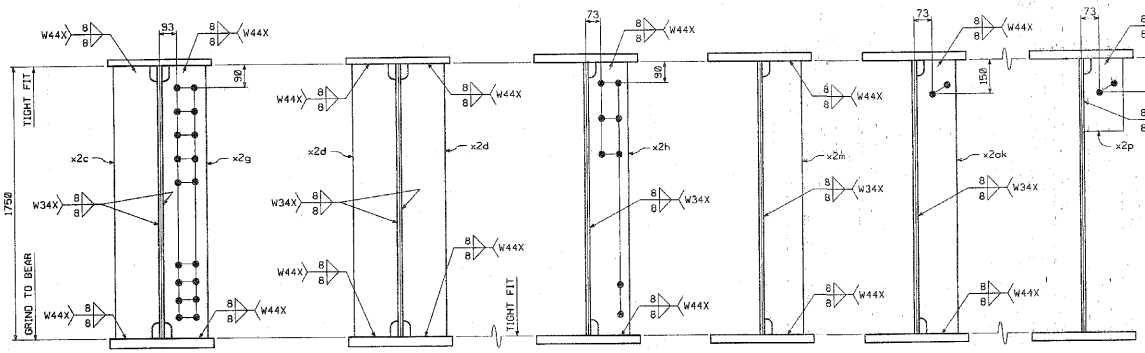


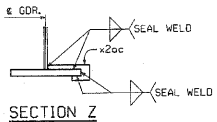
ORIENTATION DIAGRAM





VIEW H





SECTION Z

SHOP NOTE

HOLES: 15/16"ø
BOLTS: A325
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. W1.

SHOP DRAWING REVIEW
VIEWED
Reviewed By: STM
Date: 9/8/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1710 Hempstead Road
Lancaster, PA 17605-0305
Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER G12W
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: BRS CHK'D. BY: CS DATE: 8-25-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 92 OF 112

CODE:30

PLOTTED: 9/20/2004 10:46:46 PM By: dpaynter

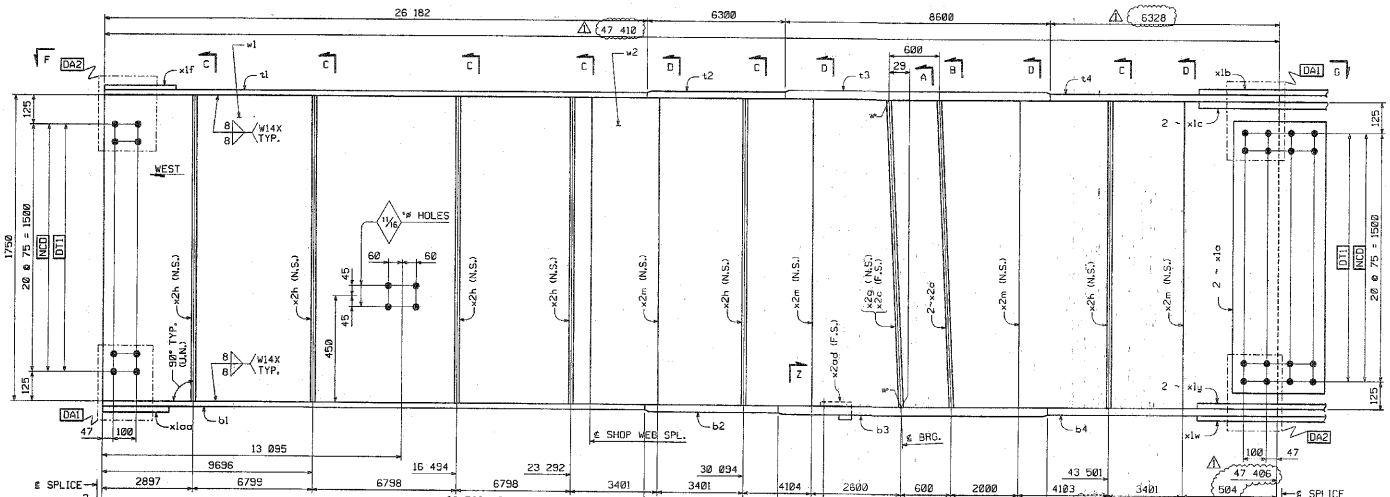
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

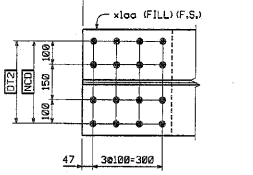
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

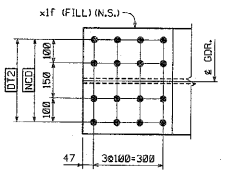
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP WT. KG. EA.
ONE	G9X	GIRDER					22 320
~~1~~	w1	PL 16 x 1750	~~23 813~~	(T)	3	4	~~5235.59~~
1	w2	PL 16 x 1750	23 809	(T)	3	5	~~5180.66~~
1	t1	PL 22 x 450	26 182	(T)	4	20	~~2884.50~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	t3	PL 65 x 450	~~8 601~~	(T)	4	2	1974.67
1	t4	PL 32 x 450	6 328	(T)	4	13	~~715.24~~
1	b1	PL 22 x 450	26 198	(T)	4	20	~~2885.74~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	b3	PL 65 x 450	~~8 601~~	(T)	4	2	1974.67
1	b4	PL 32 x 450	6 308	(T)	4	14	~~712.97~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~60.25~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.68~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	8	~~39.06~~
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
1	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
8	x2h	PL 12 x 160	1 750		7	4	~~29.67~~
4	x2m	PL 12 x 160	1 750		7	4	~~29.67~~
1	x2ad	PL 6 x ~~115~~	301		7	5	~~1.63~~

TOTAL WEIGHT THIS SHEET: 22 315.75 kgs

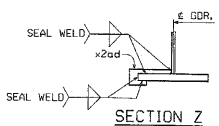




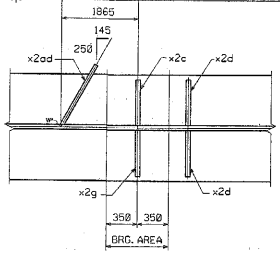
VIEW F

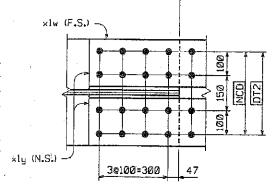


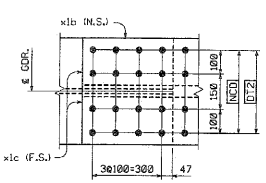
GIRDER ~ G9X



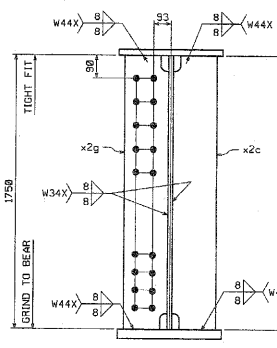
SECTION Z



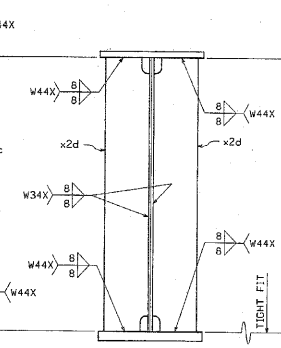




VIEW G



SECTION A



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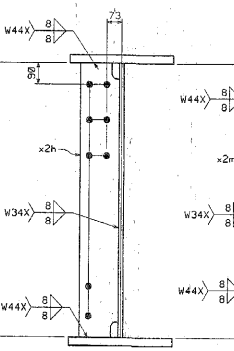
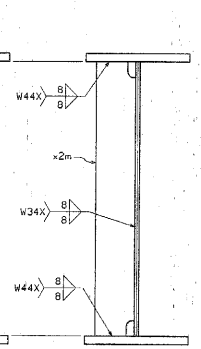
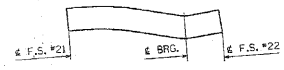


SECTION C



SECTION D



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16" (U.N.)
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC5.

CODE:38

SHOP DRAWING REVIEW

APPROVED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND SUBJECT TO LIMITATIONS AND RESPONSIBILITIES STATED IN THE CONTRACT FOR CONSTRUCTION.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ APPROVED AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING THE WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.

Reviewed by: [illegible] Date: 9/20/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH & MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
170 Hempstead Road
Lancaster, PA 17601-0008
Phone 717/299-521
A Division of High Industries, Inc.

GIRDER	G9X
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE GLIDDEN (IH) MADE BY ERS CHK'D. BY: CS DATE 8-25-04	
CONTRACT NUMBER VT-04057-3	DRAWING NUMBER 93 OF 112

PLOTTED: 9/29/2004 10:08:18 PM
BY: dpountar

METRIC

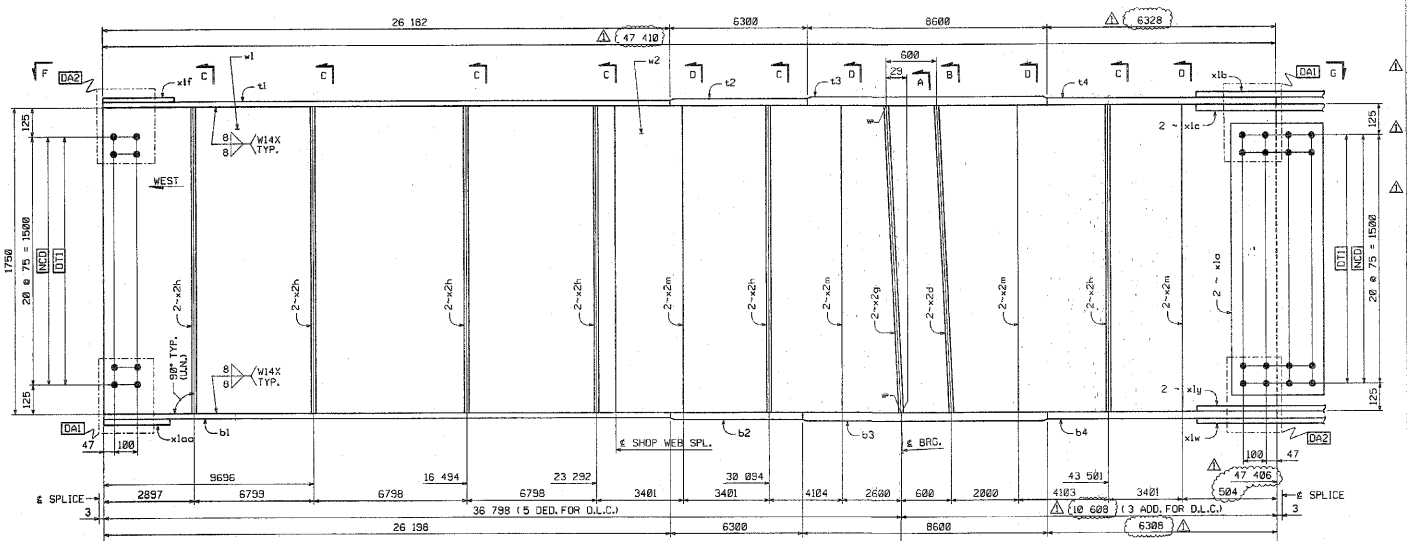
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

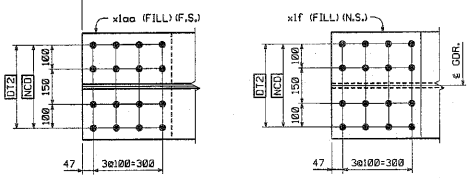
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G10X	GIRDER					22 620
-1	w1	PL 16 x 1750	23 813	(T)	3	4	~~5233.50~~
1	w2	PL 16 x 1750	23 809	(T)	3	5	~~5188.68~~
1	t1	PL 22 x 450	26 182	(T)	4	20	~~2034.59~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	t3	PL 65 x 450	8 601	(T)	4	2	~~1974.67~~
1	t4	PL 32 x 450	6 328	(T)	4	13	~~715.24~~
1	b1	PL 22 x 450	26 198	(T)	4	20	~~2035.74~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	b3	PL 65 x 450	8 601	(T)	4	2	~~1974.67~~
1	b4	PL 32 x 450	6 308	(T)	4	14	~~712.97~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~80.26~~
1	x1b	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	~~39.06~~
2	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	~~104.59~~
2	x2g	PL 38 x 200	1 750		7	1	~~104.59~~
12	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
8	x2m	PL 12 x 180	1 750		7	4	~~29.67~~

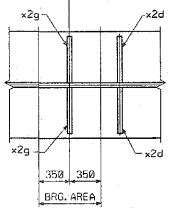
TOTAL WEIGHT THIS SHEET: ~~22 610.82~~ kgs

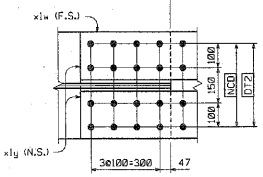


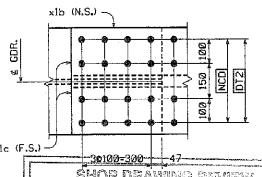


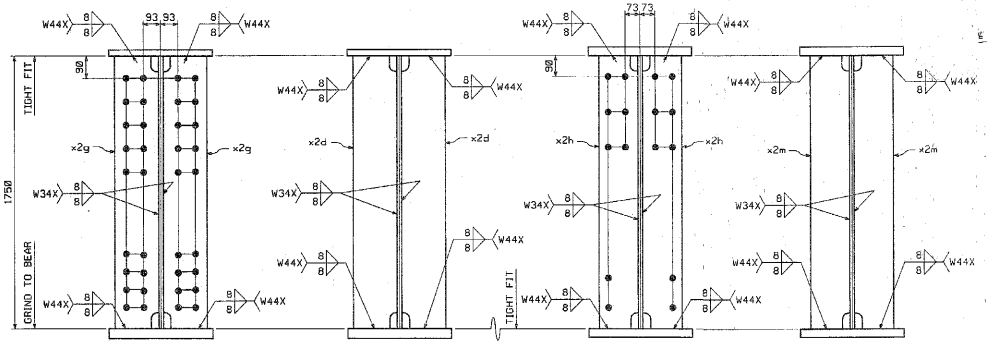
VIEW F

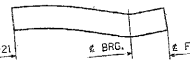
GIRDER ~ G10X











ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC5.

SHOP DRAWING REVIEW

VIEW C

☒ REVIEWED AS REQUIRED ☐ REVISE AND RESUBMIT ☐ REJECTED ☐ SUBMIT SPECIFIED ITEMS

CONSIDERATION OF CONCEPTS, DESIGN CONSTRUCTION METHODS OR DIMENSIONS SHOWN ON THESE SHOP DRAWINGS ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND COMPLIANCE TO INFORMATION AND REQUIREMENTS CONTAINED IN THE CONTRACT DOCUMENTS. REVIEW OF A SPECIFIC ITEM SHALL NOT INDICATE REVIEW OF ASSEMBLIES IN WHICH THE ITEM FUNCTIONS. THIS REVIEW SHALL NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS AND IS SUBJECT TO ALL PROVISIONS AND QUALIFICATIONS IN THE OWNER-CONTRACTOR AGREEMENT. THE CONTRACTOR REMAINS RESPONSIBLE FOR DETAILS AND ACCURACY OF THE FABRICATED UNITS, FOR CONFORMING TO THE CONTRACT DOCUMENTS, FOR COORDINATION OF THE WORK OF ALL TRADES AND FOR THE SATISFACTORY AND SAFE PERFORMANCE OF ALL CONSTRUCTION PROCESSES. CONTRACTOR SHALL CONFIRM AND CORRELATE ALL QUANTITIES AND DIMENSIONS, SELECT FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATE ALL TRADES AND PERFORM ALL WORK IN A MANNER AND CONSTRUCTION SEQUENCE THAT WILL NOT CAUSE ANY DELAY IN THE WORK OR ANY OTHER CONTRACTOR.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dunkirk Plaza, Suite 201 Bedford, NH 03110 603.644.0080

Job Number: 55911
Reviewed By: [illegible]
Date: 11/17/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH ℄ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempfield Road
Lancaster, PA 17605-0095
Phone 717/299-5201
A Division of High Industries, Inc.

GIRDER	G10X
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (IH) MADE BY: BRS CHK'D. BY: CG DATE: 8-25-04	
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 94 OF 112	

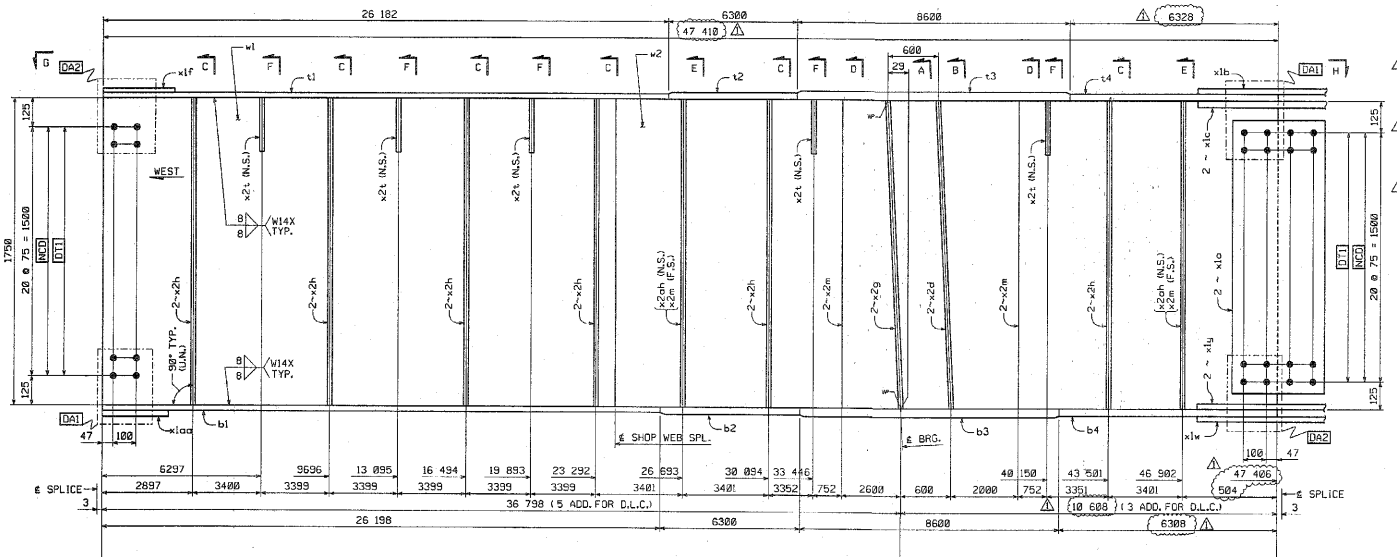
CODE:130

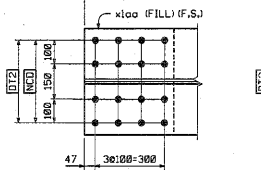
PLOTTED: 9/20/2004 BY: dcarter

METRIC

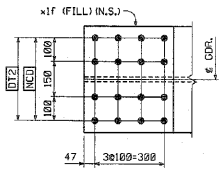
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

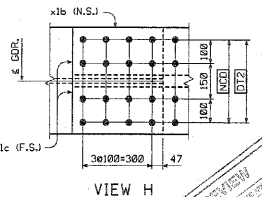




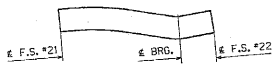
VIEW G



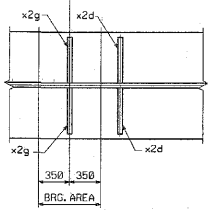
VIEW H

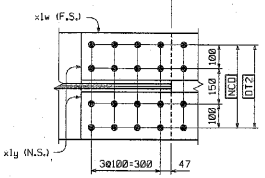


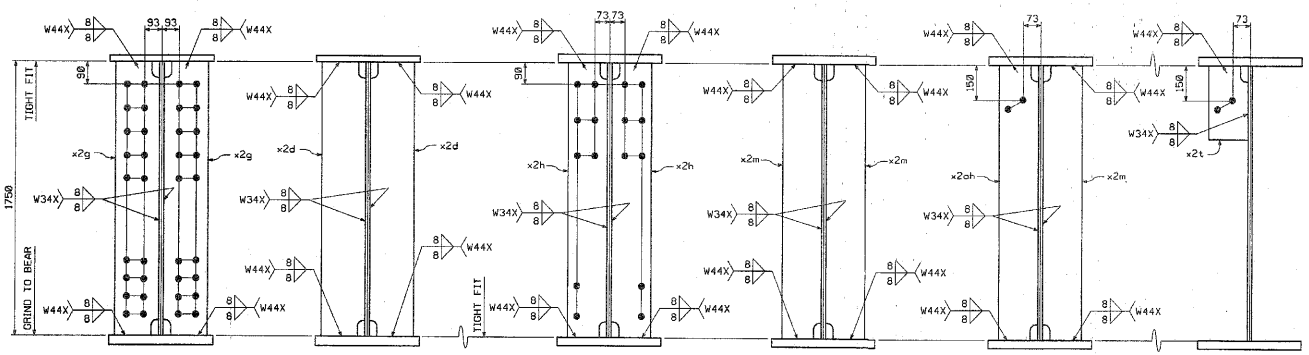
GIRDER ~ G11X



ORIENTATION DIAGRAM







SECTION A SECTION B SECTION C SECTION D SECTION E SECTION F

CODE:30

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G11X	GIRDER					22 650
1	W1	PL 16 x 1750	23 813	(T)	3	4	5233.50
1	w2	PL 16 x 1750	23 608	(T)	3	5	5188.66
1	t1	PL 22 x 450	26 182	(T)	4	20	2034.50
1	t2	PL 32 x 450	6 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 601	(T)	4	2	1974.67
1	t4	PL 32 x 450	6 328	(T)	4	13	715.24
1	b1	PL 22 x 450	26 198	(T)	4	20	2035.74
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 601	(T)	4	2	1974.67
1	b4	PL 32 x 450	6 308	(T)	4	14	712.97
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	39.06
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	104.39
2	x2g	PL 38 x 200	1 750		7	1	104.39
12	x2h	PL 12 x 180	1 750		7	4	29.87
6	x2m	PL 12 x 180	1 750		7	4	29.87
5	x2t	PL 14 x 180	310		7	3	6.13
2	x2ah	PL 12 x 180	1 750		7	4	29.87
		TOTAL WEIGHT THIS SHEET:		22 641.47	kgs		

SHOP DRAWING REVIEW
APPROVED
Reviewed By: ESN
Date: 11 Nov

SHOP NOTE

HOLES: NONE
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER	G11X
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+859.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(11)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (IH) MADE BY: EKS CHK'D. BY: CS DATE: 8-25-04	
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 95 OF 112	

PLOTTED: 9/28/2004 10:06:22 PM BY: dsnyder

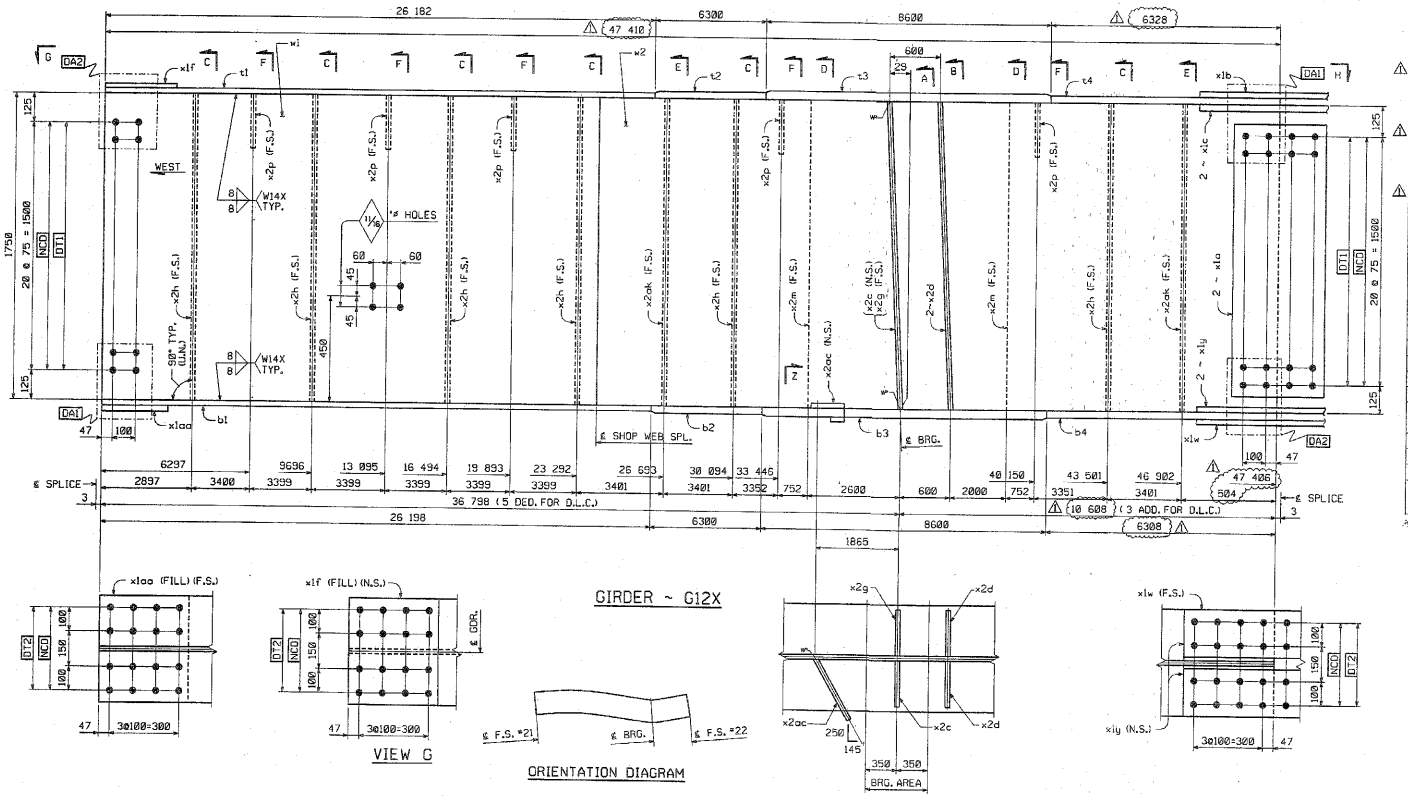
METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA
ONE	G12X	GIRDER					22 350
1	w1	PL 16 x 1750	23 813	(T)	3	4	5233.50
1	w2	PL 16 x 1750	23 609	(T)	3	5	6188.66
1	t1	PL 22 x 450	26 182	(T)	4	20	2034.60
1	t2	PL 32 x 450	8 300	(T)	4	15	712.07
1	t3	PL 65 x 450	8 601	(T)	4	2	1974.67
1	t4	PL 32 x 450	6 328	(T)	4	13	715.24
1	b1	PL 22 x 450	26 198	(T)	4	20	2035.74
1	b2	PL 32 x 450	6 300	(T)	4	15	712.07
1	b3	PL 65 x 450	8 601	(T)	4	2	1974.67
1	b4	PL 32 x 450	8 308	(T)	4	14	712.97
2	x1a	PL 12 x 1800	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	99.08
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1w	PL 14 x 450	790	(T)	6	6	39.00
2	x1y	PL 16 x 200	790	(T)	6	5	19.84
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
6	x2h	PL 12 x 180	1 750		7	4	29.87
2	x2m	PL 12 x 180	1 750		7	4	29.87
5	x2p	PL 14 x 180	310		7	3	9.13
2	x2ak	PL 12 x 180	1 750		7	4	29.87
1	x2ac	PL 8 x 115	301		7	5	1.83
		TOTAL WEIGHT THIS SHEET:	22 348.41	kgs			



SHOP NOTE

HOLES: 15/16" (D.N.)
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

SHOP DRAWING REVIEW

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 15°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries Inc.

GIRDER G12X
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.12+970.425 TO STA.12+058.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO.: BRF-036-1(1)
CONTRACTOR: CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SES CHK'D. BY: CS DATE: 8-25-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 96 OF 112

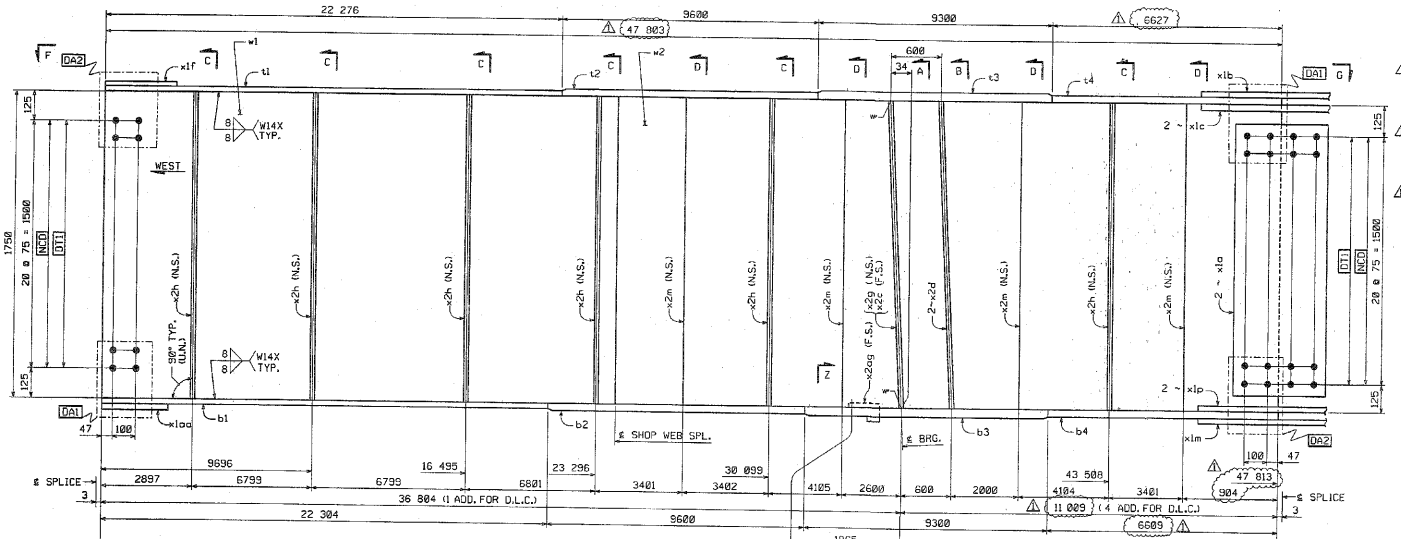
CODE:30

PLOTTED: 9/20/2004 1:08:15 PM

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

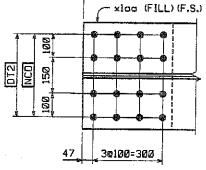
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



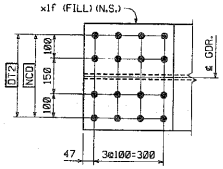
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	GRIP. WT. KG. EA.
ONE	G9Y	GIRDER					24 890
1	w1	PL 16 x 1750	23 812	(T)	3	6	5239.28
1	w2	PL 16 x 1750	24 010	(T)	3	1	5276.79
1	t1	PL 22 x 450	22 276	(T)	4	25	1730.08
1	t2	PL 40 x 450	9 600	(T)	4	8	1356.32
1	t3	PL 80 x 450	9 300	(T)	4	1	2827.88
1	t4	PL 40 x 450	6 020	(T)	4	10	936.43
1	b1	PL 22 x 450	22 304	(T)	4	23	1733.18
1	b2	PL 40 x 450	9 600	(T)	4	8	1356.32
1	b3	PL 80 x 450	9 300	(T)	4	1	2827.88
1	b4	PL 40 x 450	6 810	(T)	4	11	933.89
2	x1a	PL 12 x 1600	400	(T)	6	1	60.29
1	x1b	PL 14 x 450	790	(T)	6	6	38.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1m	PL 18 x 450	980	(T)	6	3	62.04
2	x1p	PL 20 x 200	990	(T)	6	2	31.08
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
8	x2h	PL 12 x 180	1 750		7	4	29.67
4	x2m	PL 12 x 180	1 750		7	4	29.67
1	x2ag	PL 8 x 130	301		7	5	1.84

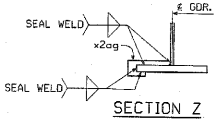
TOTAL WEIGHT THIS SHEET: 24 881.15 kgs



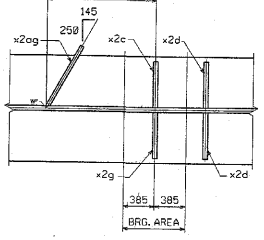
VIEW F

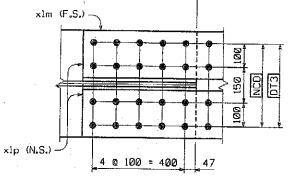


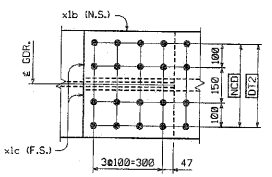
GIRDER ~ G9Y



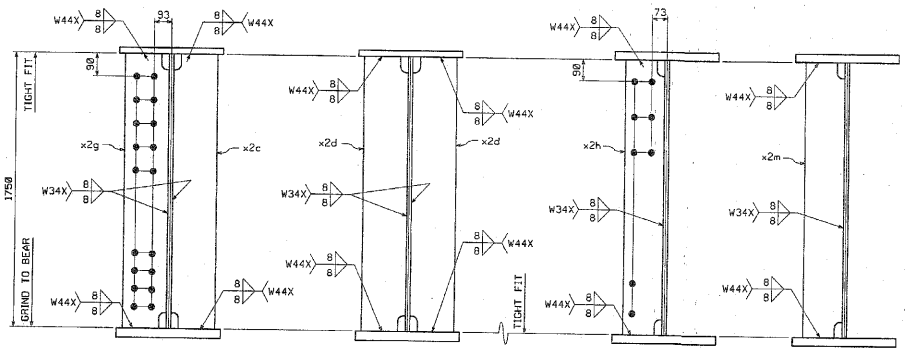
SECTION Z







VIEW G

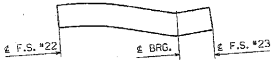


SECTION A

SECTION B

SECTION C

SECTION D



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

CODE:30

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED FOR ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ APPROVED AS CORRECTED

CONSIDERATION OF DETAILS INHERENT IN THE SHOP DRAWING DOES NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE CONTRACT AND SPECIFICATIONS. THIS REVIEW IS NOT AN AUTHORIZATION OF ANY DEVIATION FROM THE DESIGN CONCEPT OF THE PROJECT OR CONTRACT REQUIREMENTS UNLESS SUCH A DEVIATION IS NOTED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

REVIEWED	Vermont Structural Steel, Inc. P.O. Box 1000 Swanton, VT 05488	Job Number: 5091	
REVIEWED		Date: 9/20/04	
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04
NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17603-6006
Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER	G9Y
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (IH)	MADE BY: SSJ CHK'D. BY: CS DATE: 8-25-04
CONTRACT NUMBER: VT-04057-3	DRAWING NUMBER: 97 OF 112

PLOTTED: 9/20/2004 10:06:27 PM BY: dpomroy

METRIC

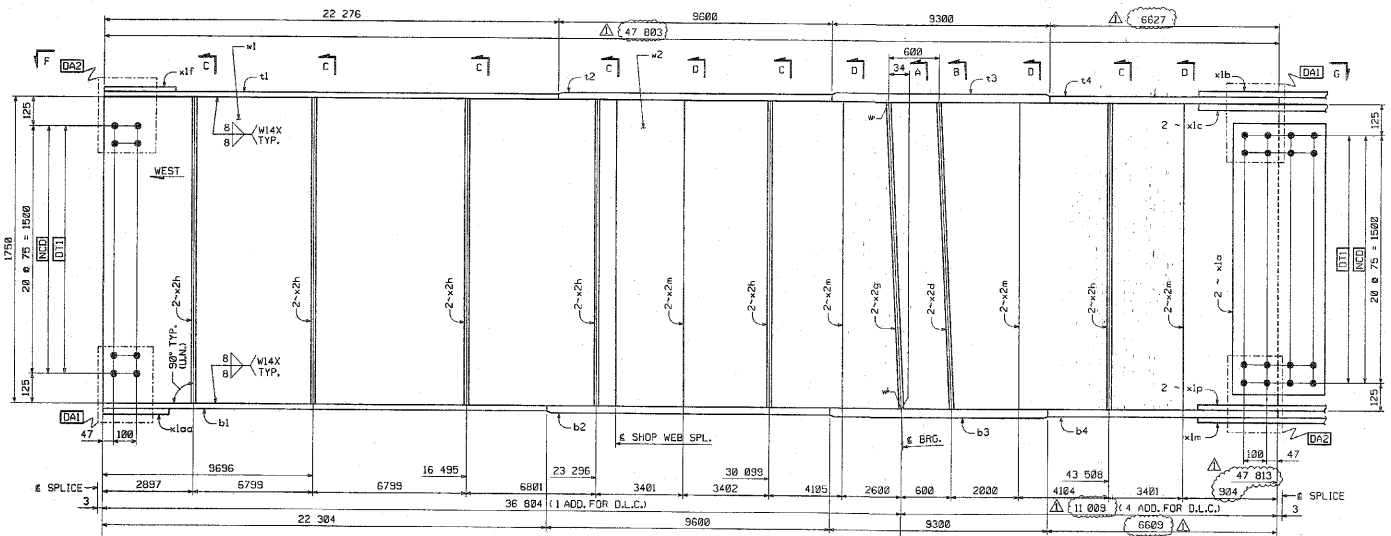
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

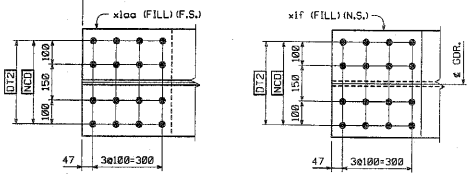
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G10Y	GIRDER					25 180
1	w1	PL 16 x 1750	23 812	(T)	3	6	5233.28
1	w2	PL 16 x 1750	24 040	(T) 47 803	3	1	5276.79
1	t1	PL 22 x 450	22 276	(T)	4	25	1730.98
1	t2	PL 40 x 450	9 600	(T)	4	8	4356.32
1	t3	PL 80 x 450	9 300	(T)	4	1	2627.88
1	t4	PL 40 x 450	6 628	(T) 6627	4	10	936.43
1	b1	PL 22 x 450	22 304	(T)	4	23	1733.16
1	b2	PL 40 x 450	9 600	(T)	4	8	4356.32
1	b3	PL 80 x 450	9 300	(T)	4	1	2627.88
1	b4	PL 40 x 450	6 619	(T) 6609	4	11	933.89
2	x1a	PL 12 x 1600	400	(T)	6	1	30.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1m	PL 18 x 450	990	(T)	6	3	62.94
2	x1p	PL 20 x 200	990	(T)	6	2	31.08
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	104.99
2	x2g	PL 38 x 200	1 750		7	1	104.99
12	x2h	PL 12 x 180	1 750		7	4	29.67
8	x2m	PL 12 x 180	1 750		7	4	29.67

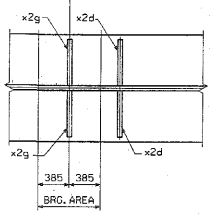
TOTAL WEIGHT THIS SHEET: ~~25 176.~~ kgs

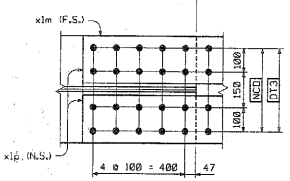


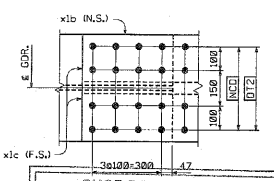


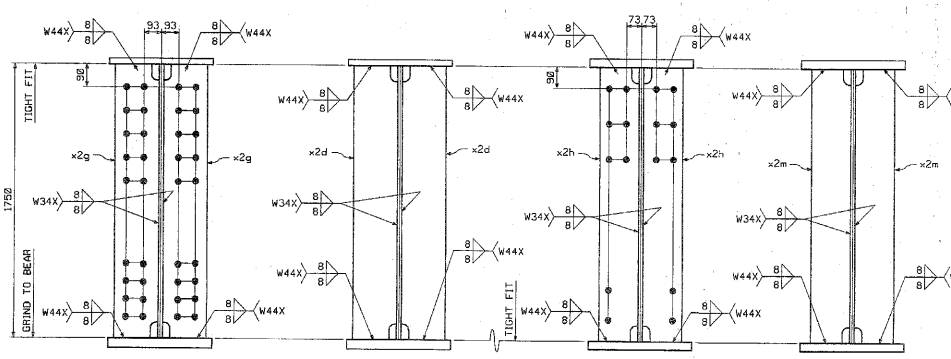
VIEW F

GIRDER ~ G10Y









ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

CODE:130

SHOP DRAWING REVIEW
VIEW G

X REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☐ RECEIVED AS CONTRACTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS, AND CHECK OF DETAILS IS NOT A REVIEW OF MATERIAL FURNISHED WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING THE WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Bedford Farms, Kilton Rd. Bedford, NH 03110 603 644 0888

Job Number: 5061.11
Reviewed By: DP
Date: 9/20/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
170 Hempstead Road, Lancaster, PA 17601-5008, Phone 717/299-5201
A Division of High Industries, Inc.

GIRDER G10Y
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO.: BRF-036-1(1)
CONTRACTOR: CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SSL CHK'D. BY: GS DATE: 8-25-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 98 OF 112

PLOTTED: 9/20/2004 10:05:29 PM BY: dscanlon

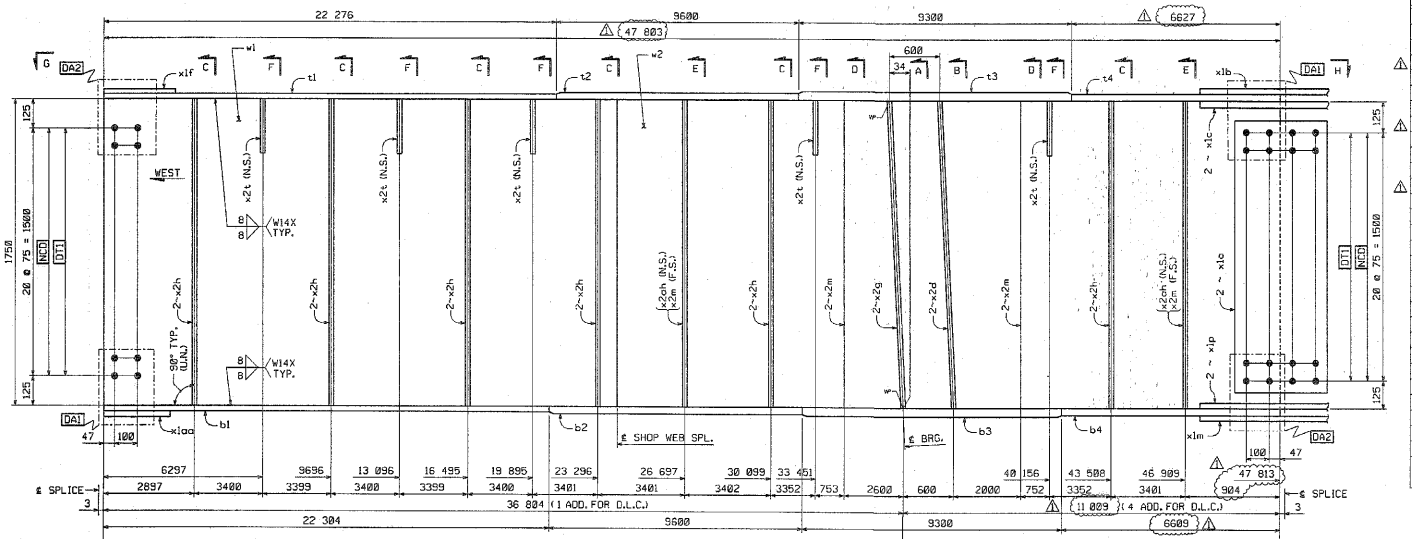
METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.

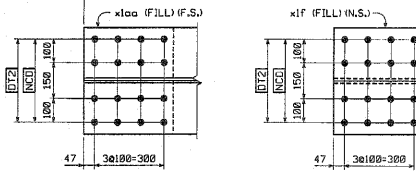
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

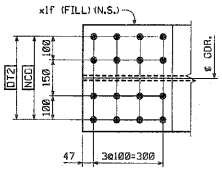
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA
ONE	G11Y	GIRDER					25 210
1	w1	PL 16 x 1750	23 842	(T)	3	6	5233.28
1	w2	PL 16 x 1750	24 010	(T)	3	1	5276.79
1	t1	PL 22 x 450	22 276	(T)	4	25	1730.96
1	t2	PL 40 x 450	9 600	(T)	4	8	1356.32
1	t3	PL 80 x 450	9 300	(T)	4	1	2627.88
1	t4	PL 40 x 450	6 626	(T)	4	10	936.43
1	b1	PL 22 x 450	22 304	(T)	4	23	1733.16
1	b2	PL 40 x 450	9 600	(T)	4	8	1356.32
1	b3	PL 80 x 450	9 300	(T)	4	1	2627.88
1	b4	PL 40 x 450	6 610	(T)	4	11	933.89
2	x1a	PL 12 x 1600	400	(T)	6	1	60.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1m	PL 18 x 450	990	(T)	6	3	62.94
2	x1p	PL 20 x 200	960	(T)	6	2	31.06
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 36 x 200	1 750		7	1	104.39
2	x2g	PL 36 x 200	1 750		7	1	104.39
12	x2h	PL 12 x 160	1 750		7	4	29.67
6	x2m	PL 12 x 160	1 750		7	4	29.67
5	x2i	PL 14 x 160	310		7	3	6.13
2	x2ah	PL 12 x 160	1 750		7	4	29.67

TOTAL WEIGHT THIS SHEET: ~~25 206.66~~ kgs

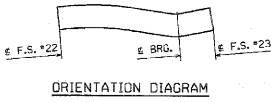




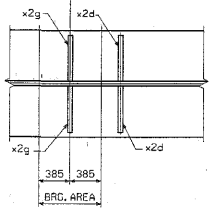
VIEW G

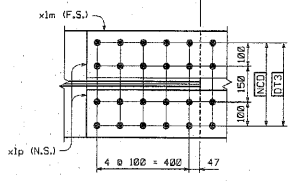


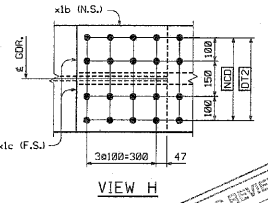
GIRDER ~ G11Y



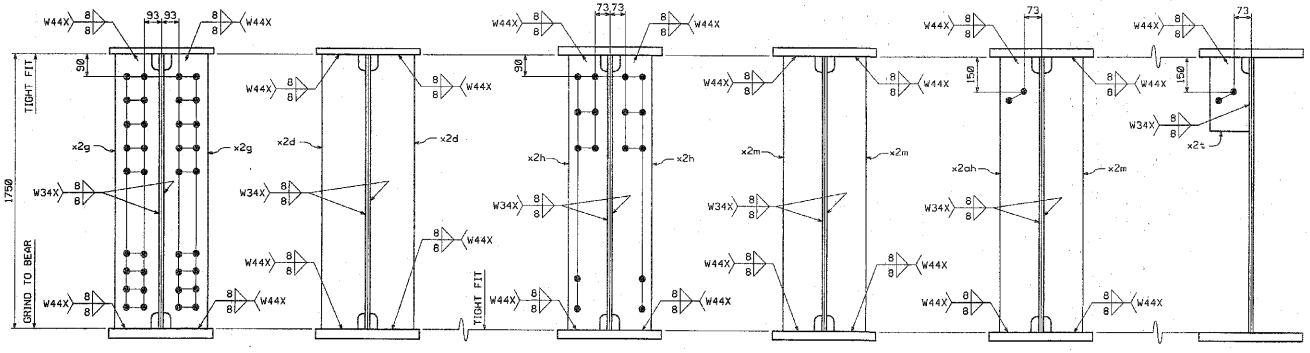
ORIENTATION DIAGRAM







VIEW H



SHOP NOTES:
HOLES: 15/16" ø
BOLTS: 7/8" ø
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. W64.

SHOP DRAWING REVIEW
VERIFY
Date: 11/15/04

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17601-0008
Phone 717/299-5291
A Division of High Industries, Inc.

GIRDER G11Y

VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: CLIDDEN (IH) MADE BY: SSL CHK'D. BY: CS DATE: 8-25-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 99 OF 112

CODE:30

PLOTTED: 9/20/2004 10:58:02 PM BY: dpainter

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHP. WT. KG. EA.
ONE	G12Y	GIRDER					24 920
1	w1	PL 16 x 1750	23 812	(T)	3	6	5233.28
1	w2	PL 16 x 1750	24 010	(T)	3	1	5276.70
1	t1	PL 22 x 450	22 276	(T)	4	25	1730.98
1	t2	PL 40 x 450	9 600	(T)	4	8	1356.32
1	t3	PL 80 x 450	9 300	(T)	4	1	2627.88
1	t4	PL 40 x 450	6 628	(T)	4	10	936.43
1	b1	PL 22 x 450	22 304	(T)	4	23	1733.16
1	b2	PL 40 x 450	9 600	(T)	4	8	1356.32
1	b3	PL 80 x 450	9 300	(T)	4	1	2627.88
1	b4	PL 40 x 450	6 610	(T)	4	11	933.89
2	x1a	PL 12 x 1600	400	(T)	6	1	30.28
1	x1b	PL 14 x 450	790	(T)	6	6	39.06
2	x1c	PL 16 x 200	790	(T)	6	5	19.84
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
1	x1m	PL 18 x 450	990	(T)	6	3	62.94
2	x1p	PL 20 x 200	990	(T)	6	2	31.88
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	104.39
2	x2d	PL 38 x 200	1 750		7	1	104.39
1	x2g	PL 38 x 200	1 750		7	1	104.39
6	x2h	PL 12 x 180	1 750		7	4	25.67
2	x2m	PL 12 x 180	1 750		7	4	25.67
5	x2p	PL 14 x 180	310		7	3	6.13
1	x2af	PL 6 x 130	301		7	5	1.84
2	x2ak	PL 12 x 180	1 750		7	4	25.67

TOTAL WEIGHT THIS SHEET: 24 911.84 kgs

GIRDER ~ G12Y

VIEW G

VIEW H

ORIENTATION DIAGRAM

SECTION A

SECTION B

SECTION C

SECTION D

SECTION E

SECTION F

SECTION Z

SHOP NOTE

HOLES: NONE

BOLTS: NONE

PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. GN1.

FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

SHOP DRAWING REVIEW

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, Pa 17601-0068
Phone 717/293-521
A Division of High Industries, Inc.

GIRDER	G12Y
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.12+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: GLIDDEN (IH) MADE BY: SSL CHK'D. BY: CG DATE: 8-25-24	
CONTRACT NUMBER VT-04057-3 DRAWING NUMBER 100 OF 112	

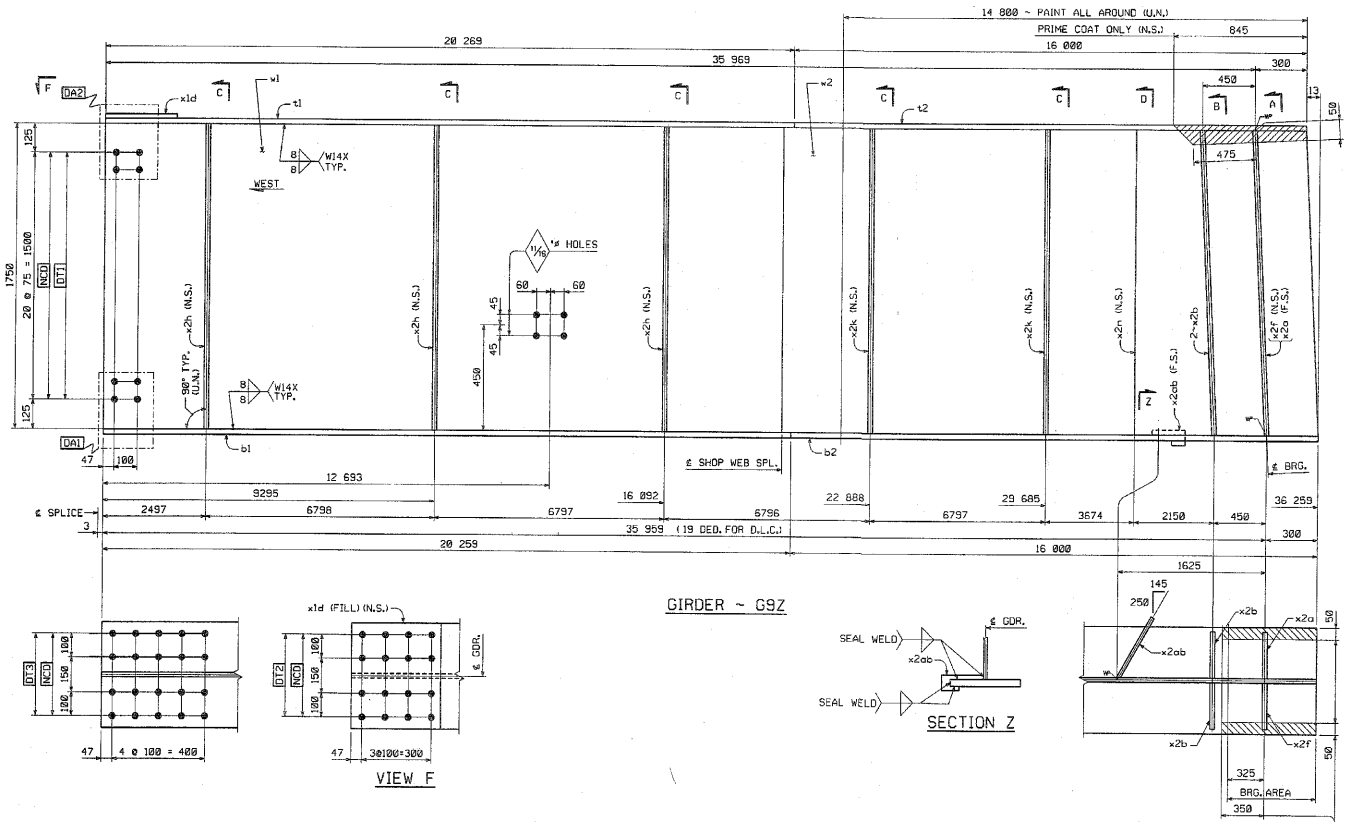
CODE:30

PLOTTED: 9/20/2004 8:08:54 PM BY: dpainter

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

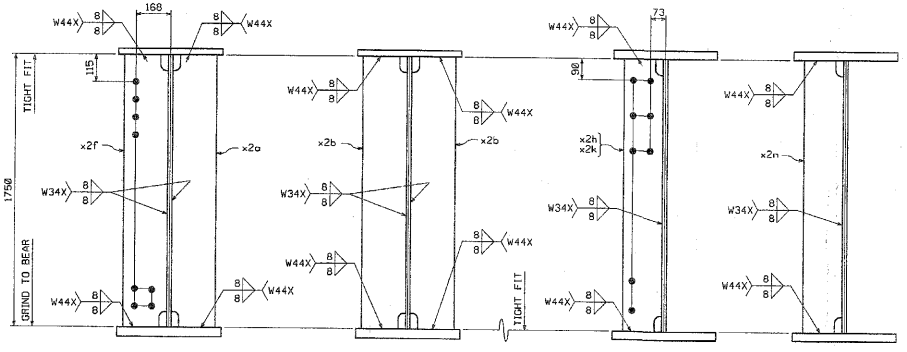


GIRDER ~ G9Z

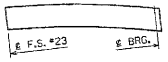
VIEW F

SECTION Z

LIGHT RUST PREVENTIVE COAT OF PRIMER BOTT. OF BOTT. FLG., EDGES & SHADED AREA (N.S.)



SECTION A SECTION B SECTION C SECTION D



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø (U.N.)
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

CODE:130

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G9Z	GIRDER					16 370
1	w1	PL 16 x 1750	19 992	(T)	3	8	4383.74
1	w2	PL 16 x 1750	18 307	(T)	3	11	3583.87
1	t1	PL 22 x 450	20 270	(T)	4	27	1575.10
1	t2	PL 22 x 450	16 000	(T)	4	28	1243.36
1	b1	PL 40 x 450	20 260	(T)	4	4	2862.41
1	b2	PL 40 x 450	16 000	(T)	4	5	2260.54
1	x1d	PL 18 x 450	392	FILL	6	4	24.92
1	x2a	PL 22 x 200	1 750		7	2	60.44
2	x2b	PL 22 x 200	1 750		7	2	60.44
1	x2f	PL 22 x 200	1 750		7	2	60.44
3	x2h	PL 12 x 180	1 750		7	4	29.87
2	x2k	PL 12 x 180	1 750		7	4	29.87
1	x2n	PL 12 x 180	1 750		7	4	29.87
1	x2ab	PL 6 x 90	301		7	5	1.28

TOTAL WEIGHT THIS SHEET: 46364.92 kgs

SHOP DRAWING REVIEW

X REVIEWED AS RETURNED BY THE CONSTRUCTION CONTRACTOR'S REPRESENTATIVE FOR CONFORMITY, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE PROJECT AND FOR COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.

☐ REJECTED ☐ NOTES AS NOTED ☐ SUBMIT AS CORRECTED

CORPORATION BY SIGNING BELOW NOTES WITH RESPECT TO ANY DEVIATIONS THAT THE SUBMITTER MAY HAVE REQUESTED FROM THE CONTRACT DOCUMENTS. CONTRACTOR FURTHER REPRESENTS THAT HE HAS DETERMINED AND VERIFIED ALL MATERIALS, FIELD MEASUREMENTS AND FIELD CONSTRUCTION CRITERIA RELATED THERETO, OR WILL DO SO, AND HAS CHECKED AND COORDINATED EACH SUCH MATERIAL WITH THE REQUIREMENTS OF THE WORK AND THE CONTRACT DOCUMENTS.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dartmouth Drive, Suite 204 Bedford, NH 03110 603 644 0088

Job Number: 5048
Reviewed By: BMM
Date: 11/8/04

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1790 Hempstead Road
Lancaster, PA 17601-0008
Phone 717/299-526
A Division of HSS Industries, Inc.

GIRDER G9Z
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

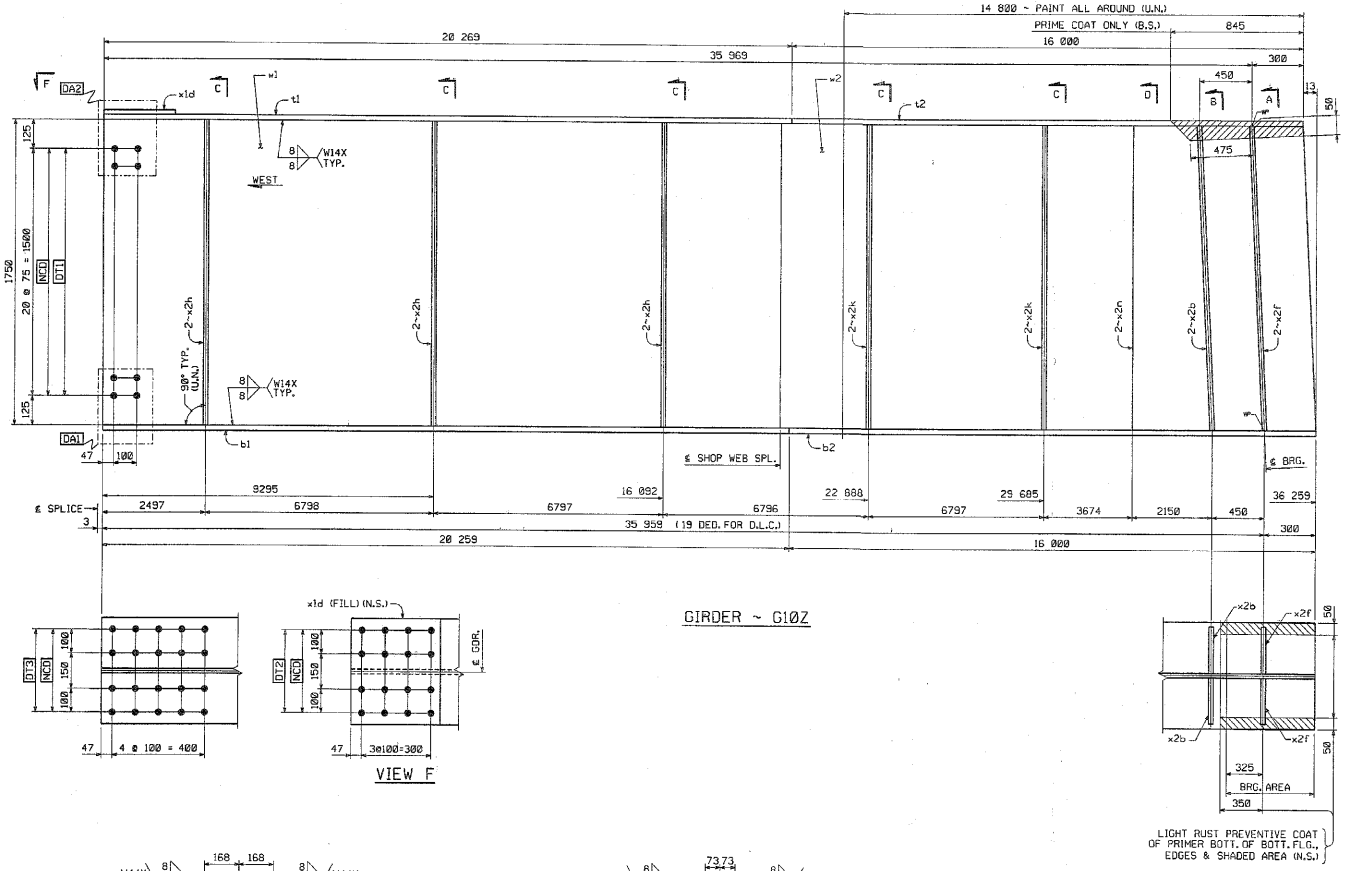
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SRS CHK'D BY: GS DATE: 9-25-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 101 OF 112

PLOTTED: 09/25/2004 08:26:03 AM
By: cshaffer

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

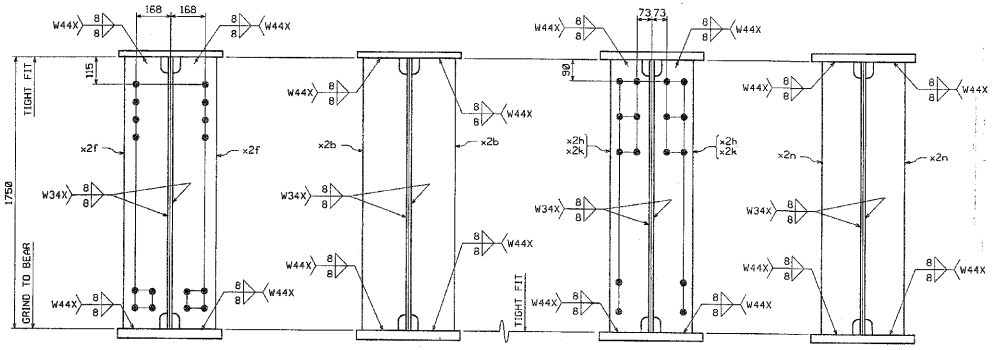
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



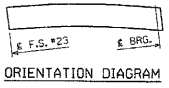
GIRDER ~ G10Z

VIEW F

LIGHT RUST PREVENTIVE COAT OF PRIMER BOTT. OF BOTT. FLG., EDGES & SHADED AREA (N.S.)



SECTION A SECTION B SECTION C SECTION D



ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G10Z	GIRDER					16 650
1	w1	PL 18 x 1750	19 992	(T)	3	8	4393.74
1	w2	PL 16 x 1750	16 307	(T)	3	11	3583.87
1	t1	PL 22 x 450	20 270	(T)	4	27	1576.10
1	t2	PL 22 x 450	16 000	(T)	4	28	1243.20
1	b1	PL 40 x 450	20 260	(T)	4	4	2652.41
1	b2	PL 40 x 450	16 000	(T)	4	5	2280.54
1	x1d	PL 18 x 450	392	FILL	6	4	24.82
2	x2b	PL 22 x 200	1 750		7	2	60.44
2	x2f	PL 22 x 200	1 750		7	2	60.44
6	x2h	PL 12 x 180	1 750		7	4	29.87
4	x2k	PL 12 x 180	1 750		7	4	29.87
2	x2n	PL 12 x 180	1 750		7	4	29.87

TOTAL WEIGHT THIS SHEET: 16541.67 kgs

SHOP DRAWING REVIEW

X APPROVED AS RECEIVED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ FURNISH AS REVISED ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWING DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK ONLY CONFIRMS IN GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL DIMENSIONS AND QUANTITIES, FABRICATION PROCESSES, AND TECHNIQUES OF CONSTRUCTION, COORDINATION OF THE WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Bedford Farms Drive Bedford, NH 03110 603.644.0888

Job Number: 53911
Reviewed By: SDM
Date: 11/16/04

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17601-0306
Phone 717/299-5201
A Division of High Industries, Inc.

GIRDER	G10Z
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE GLIDDEN (J-H) MADE BY: SDS CHK'D. BY: GS DATE: 8-25-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 102 OF 112

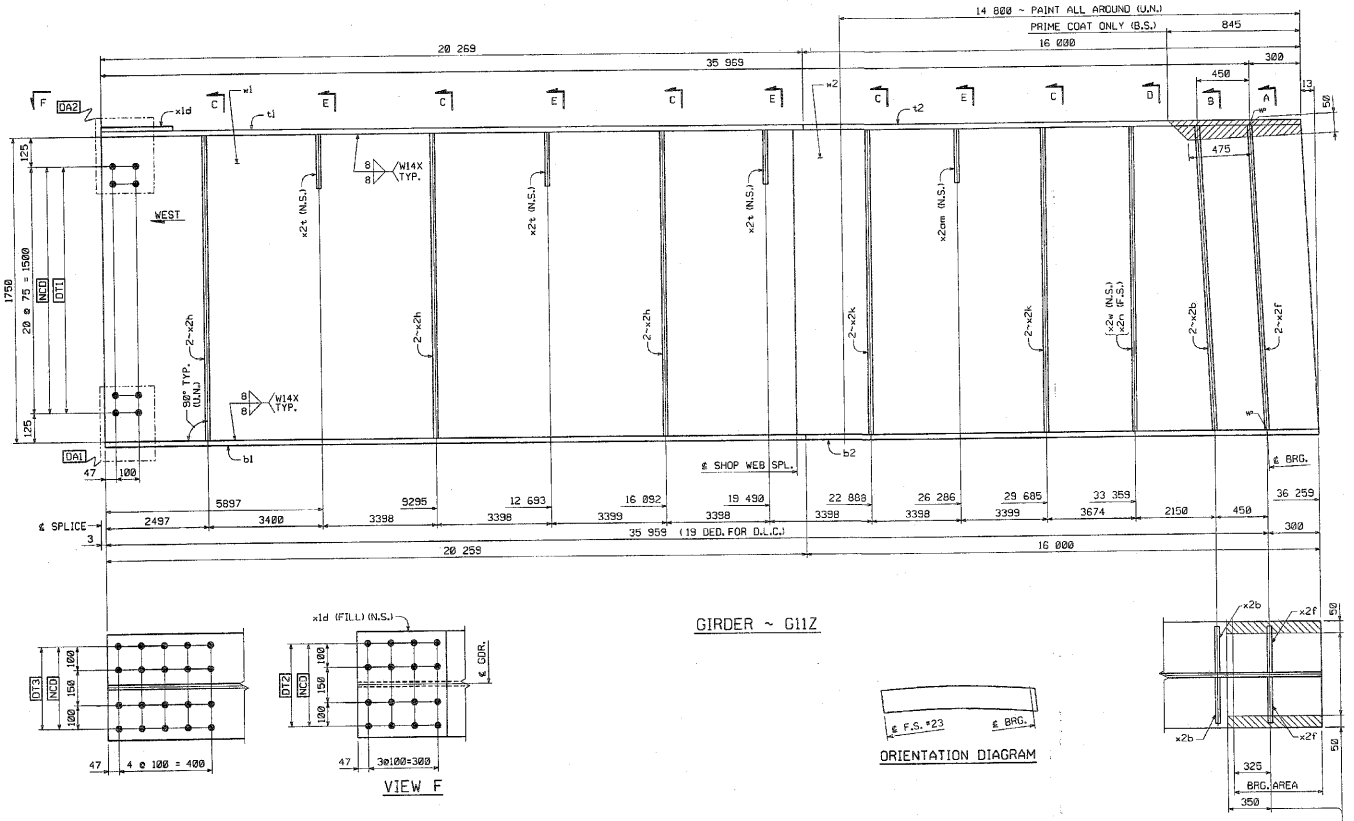
CODE: 30

METRIC
PLOTTED: 08/26/2004 09:26:29 AM
BY: chaffer

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

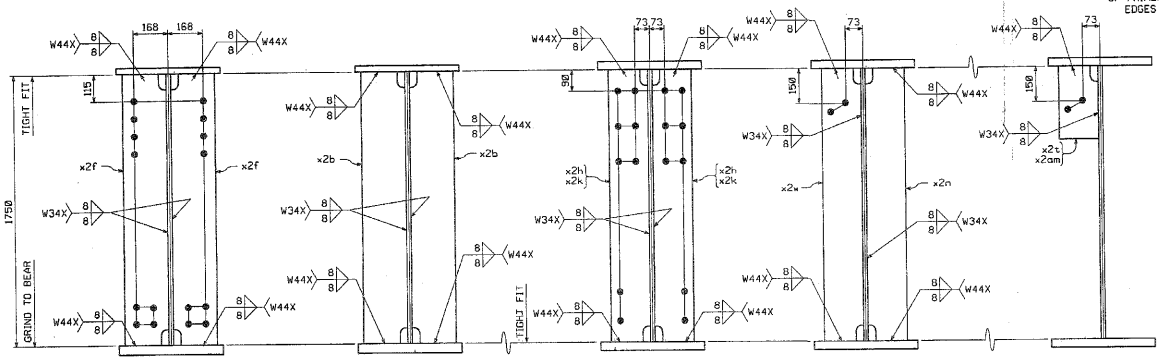


GIRDER ~ G11Z

VIEW F

ORIENTATION DIAGRAM

LIGHT RUST PREVENTIVE COAT OF PRIMER BOTT. OF BOTT. FLG., EDGES & SHADED AREA (N.S.)



SECTION A SECTION B SECTION C SECTION D SECTION E

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHP. WT. KG. EA.
ONE	G11Z	GIRDER					18 570
1	W1	PL 16 x 1750	19 992	(T)	3	8	4393.74
1	W2	PL 16 x 1750	16 307	(T)	3	11	3583.87
1	t1	PL 22 x 450	20 270	(T)	4	27	1575.10
1	t2	PL 22 x 450	16 000	(T)	4	28	1243.30
1	b1	PL 40 x 450	20 260	(T)	4	4	2862.41
1	b2	PL 40 x 450	16 000	(T)	4	5	2260.54
1	x1d	PL 18 x 450	392	FILL	6	4	24.92
2	x2b	PL 22 x 200	1 750		7	2	60.44
2	x2f	PL 22 x 200	1 750		7	2	60.44
6	x2h	PL 12 x 180	1 750		7	4	29.67
4	x2k	PL 12 x 180	1 750		7	4	29.67
1	x2n	PL 12 x 180	1 750		7	4	29.67
3	x2t	PL 14 x 180	310		7	3	6.13
1	x2w	PL 12 x 180	1 750		7	4	29.67
1	x2am	PL 14 x 180	310		7	3	6.13

TOTAL WEIGHT THIS SHEET: ~~16566.19~~ kgs

SHOP DRAWING REVIEW
WESTON

SHOP NOTE
HOLES: NONE
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17606-0008
Phone 717/299-5201
A Division of High Industries, Inc.

GIRDER G11Z
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

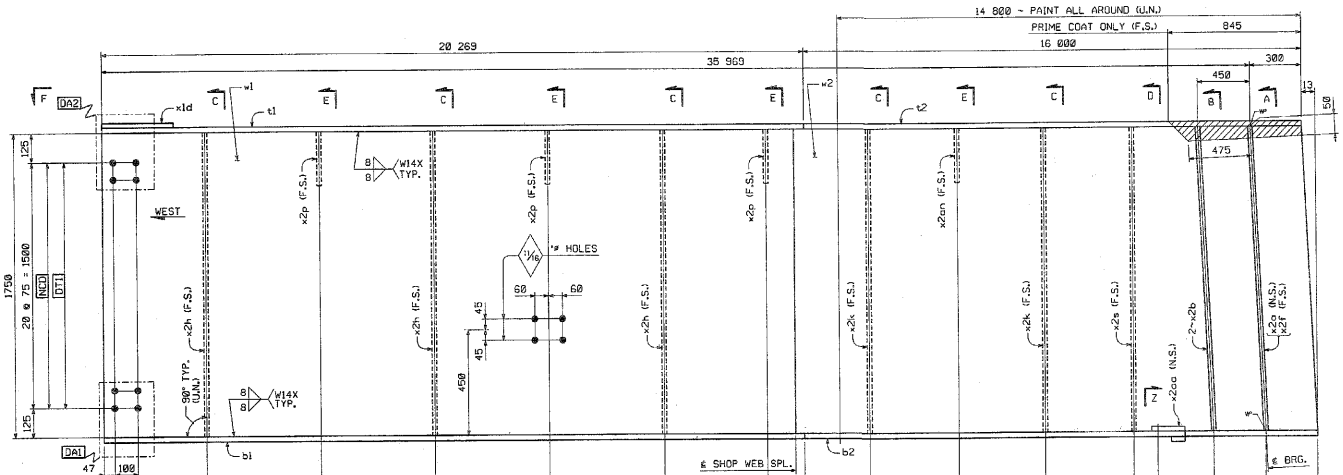
STATE CONTRACT OR REF. NO. BRF-936-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SRS CHK'D. BY: CS DATE: 8-25-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 103 OF 112

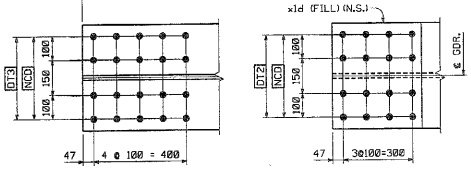
CODE:30

PLOTTED: 08/25/2004 09:22:24 AM
BY: cshaffer

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

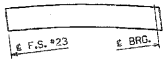
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



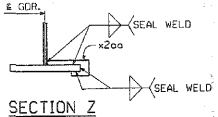


VIEW F

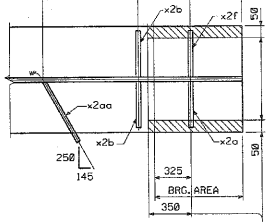
GIRDER ~ G12Z



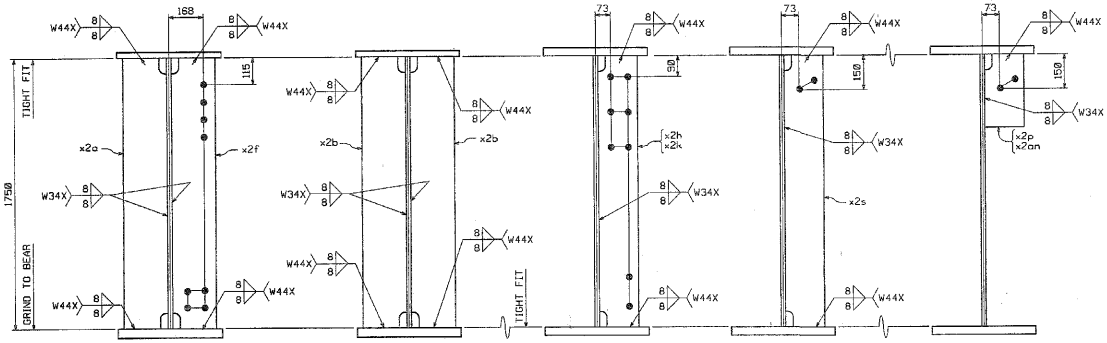
ORIENTATION DIAGRAM



SECTION Z



LIGHT RUST PREVENTIVE COAT OF PRIMER BOTT. OF BOTT. FLG., EDGES & SHADED AREA (N.S.)



SECTION A SECTION B SECTION C SECTION D SECTION E

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
ONE	G12Z	GIRDER					18 390
1	w1	PL 16 x 1750	19 992	(T)	3	8	4393.74
1	w2	PL 16 x 1750	16 307	(T)	3	11	3583.87
1	t1	PL 22 x 450	20 270	(T)	4	27	1575.10
1	t2	PL 22 x 450	16 000	(T)	4	28	1243.30
1	b1	PL 40 x 450	20 260	(T)	4	4	2602.41
1	b2	PL 40 x 450	16 000	(T)	4	5	2280.54
1	x1d	PL 18 x 450	392	FILL	8	4	24.92
1	x2a	PL 22 x 200	1 750		7	2	60.44
2	x2b	PL 22 x 200	1 750		7	2	60.44
1	x2f	PL 22 x 200	1 750		7	2	60.44
3	x2h	PL 12 x 180	1 750		7	4	29.67
2	x2k	PL 12 x 180	1 750		7	4	29.67
3	x2p	PL 14 x 180	310		7	3	8.13
1	x2s	PL 12 x 180	1 750		7	4	29.67
1	x2aa	PL 6 x 90	301		7	5	1.28
1	x2an	PL 14 x 180	310		7	3	8.13

TOTAL WEIGHT THIS SHEET: 18389.45 kgs

SHOP DRAWING REVIEW

☒ REVIEWED AS REQUIRED BY THE CONTRACTED CONTRACT DOCUMENTS AND APPROVED ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REVIEWED AS CORRECTED
☐ REJECTED
☐ REVISE AND RESUBMIT

SUBMITTALS OR CHANGES MADE ON THE SHOP DRAWINGS BY THIS REVIEW MAY NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. 54 Bedford Farms, Bedford, NH 03110 603-644-2800
Job Number: 5001
Reviewed By: [illegible]
Date: 11/01/04

SHOP NOTE

HOLES: 1⅛" ø (U.N.)
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC4.

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC. 1770 Hempstead Road Lancaster, PA 17605-0008 Phone 717/299-5201 A Division of High Industries, Inc.

GIRDER G12Z
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+058.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: BBS CHK'D. BY: CG DATE: 8-25-04
CONTRACT NUMBER: VT-04057-3 DRAWING NUMBER: 104 OF 112

CODE:30

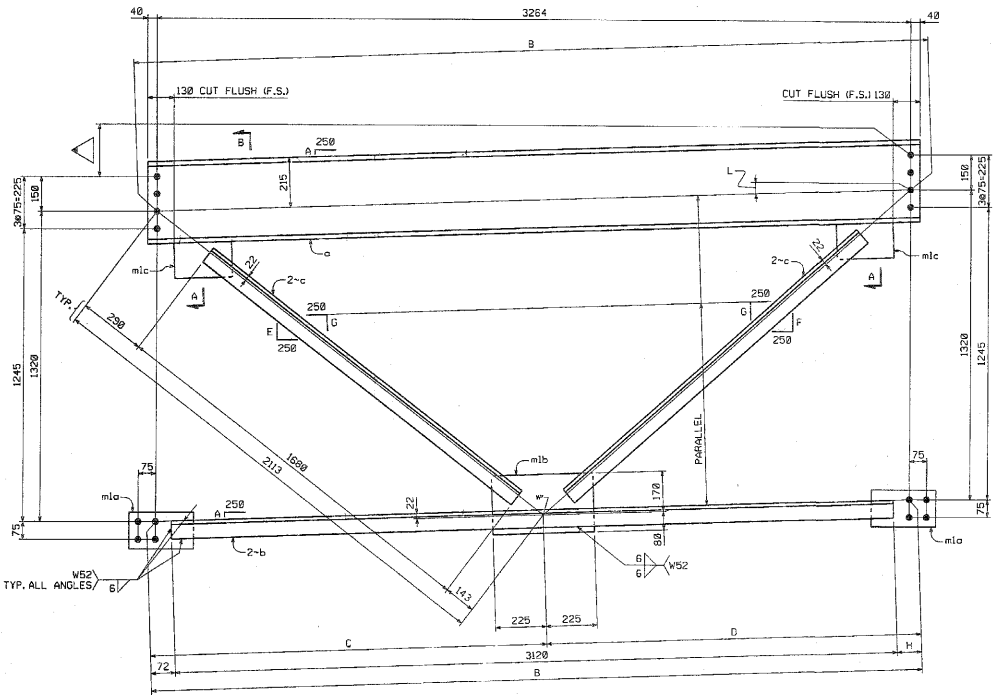
METRIC

PLOTTED: 08/25/2004 09:21:05 AM BY: cshaffer

METRIC

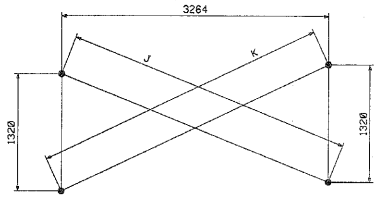
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



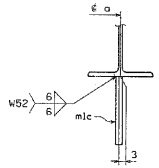
END CROSSFRAMES

MARK	◁	A	B	C	D	E	F	G	H	L
CF1	110	8	3266	1677	1589	192	220	205	74	1.93°
CF2	0	0	3264	1632	1632	206	206	206	72	0°
CF3	(-)110	(-)8	3266	1589	1677	220	192	205	74	(-)1.93°

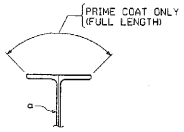


CHECK DIMENSIONS

MARK	J	K
CF1	3481	3564
CF2	3521	3521
CF3	3564	3481



SECTION A



SECTION B

SHIPMENT

1	2	3
ONE	ONE	ONE
2	2	2
ONE	ONE	ONE

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
3	CF1	CROSSFRAMES					411.62
3	a	W360 x 79	3 358	(W14 x 53)	11	1	265.28
6	b	L76 x 76 x 7.9	3 120	(L3 x 3 x 5/16)	11	7	28.05
12	c	L76 x 76 x 7.9	1 680	(L3 x 3 x 5/16)	11	7	15.10
6	m1a	PL 14 x 155	290		11	9	4.94
3	m1b	PL 14 x 250	450		11	9	12.36
6	m1c	PL 14 x 150	230		11	9	3.79
2	CF2	CROSSFRAMES					410.51
6	a	W360 x 79	3 344	(W14 x 53)	11	1	264.18
12	b	L76 x 76 x 7.9	3 120	(L3 x 3 x 5/16)	11	7	28.05
24	c	L76 x 76 x 7.9	1 680	(L3 x 3 x 5/16)	11	7	15.10
12	m1a	PL 14 x 155	290		11	9	4.94
6	m1b	PL 14 x 250	450		11	9	12.36
12	m1c	PL 14 x 150	230		11	9	3.79
3	CF3	CROSSFRAMES					411.62
3	a	W360 x 79	3 358	(W14 x 53)	11	1	265.28
6	b	L76 x 76 x 7.9	3 120	(L3 x 3 x 5/16)	11	7	28.05
12	c	L76 x 76 x 7.9	1 680	(L3 x 3 x 5/16)	11	7	15.10
6	m1a	PL 14 x 155	290		11	9	4.94
3	m1b	PL 14 x 250	450		11	9	12.36
6	m1c	PL 14 x 150	230		11	9	3.79
		TOTAL WEIGHT THIS SHEET:		4932.78	kgs		

SHIP. 1 WT~1644.26 kgs
SHIP. 2 WT~1644.26 kgs
SHIP. 3 WT~1644.26 kgs

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO CERTAIN LIMITATIONS AND NOTES AS NOTED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS AND SPECIFICATIONS. THIS REVIEW IS ONLY FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH THE GENERAL DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR REMAINS RESPONSIBLE FOR ALL DIMENSIONS AND QUANTITIES; FOR ALL FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATION OF HIS WORK WITH THAT OF ALL OTHER TRADES; AND FOR PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists. One Bradford Avenue, Williston Rd. Burlington, VT 05403 802 264-0880

Job Number: 50811
Reviewed By: [illegible]
Date: 11/8/04

SHOP NOTE

HOLES: 15/16
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.

CODE:63

NO.	REVISION	BY	DATE

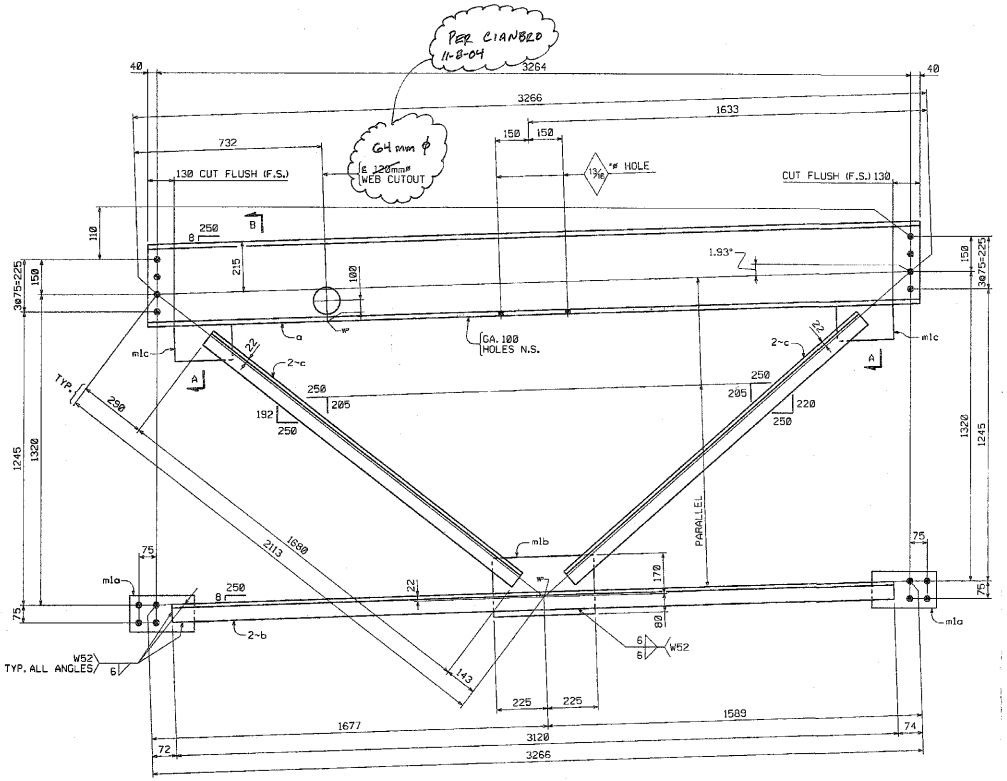
HIGH STEEL STRUCTURES, INC.
1170 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries, Inc.

CROSSFRAMES CF1 THRU CF3
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

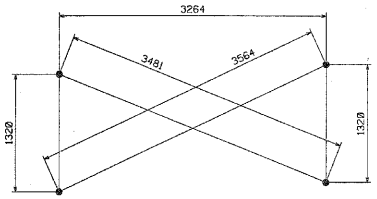
STATE CONTRACT OR REF. NO.: BRF-036-1(1)
CONTRACTOR: CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: BRS CHK'D. BY: JSA DATE: 8-24-04
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: 105 OF 112

PLOTTED: 08/25/2004 @ 08:26:28 AM
BY: schaffer

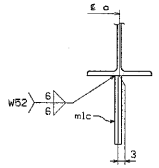
METRIC



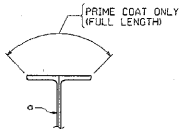
END CROSSFRAME ~ MK. CF4



CHECK DIMENSIONS



SECTION A



SECTION B

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

SHIPMENT		
1	2	3
ONE	ONE	ONE

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
3	CF4	CROSSFRAMES					411.62
3	a	W360 x 79	3 358	(W14 x 53)	11	1	265.28
6	b	L76 x 76 x 7.9	3 120	(L3 x 3 x 5/16)	11	7	28.05
12	c	L76 x 76 x 7.9	1 680	(L3 x 3 x 5/16)	11	7	15.10
6	m1a	PL 14 x 155	290		11	9	4.94
3	m1b	PL 14 x 250	450		11	9	12.36
6	m1c	PL 14 x 150	230		11	9	3.79

TOTAL WEIGHT THIS SHEET: 1234.86 kgs

SHIP. 1 WT~411.62 kgs
SHIP. 2 WT~411.62 kgs
SHIP. 3 WT~411.62 kgs

SHOP DRAWING REVIEW

☐ APPROVED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED SET ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND COMPLIANCE WITH THE LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS
☐ REJECTED ☐ REVISE AND RESUBMIT X APPROVED AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR THE DIMENSIONS TO BE CONFIRMED AND CORRELATED AT THE JOB SITE, FOR INFORMATION THAT PERTAINS SOLELY TO THE FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION (INCLUDING SEQUENCES AND PROCEDURES), AND FOR COORDINATION OF THE WORK OF ALL TRADES AND FOR PERFORMING NO PART OF THE WORK IN ERROR. SHOP DRAWINGS ARE NOT CHANGE ORDERS.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 56 Quarry Road, Milton, VT 05468 802-864-5683
Job Number: 50AU
Reviewed By: JJM
Date: 11/1/04

NO.	REVISION	BY	DATE
△			
△			
△			

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road, Lancaster, PA 17601-0068, Phone 717/295-6811
A Division of High Industries, Inc.

CROSSFRAME CF4
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SES CHK'D. BY: JSA DATE: 8-24-04
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: 106 OF 112

SHOP NOTE

HOLES: 15/16" ϕ (U.N.)
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.

CODE:63

PLOTTED: 08/25/2004 BY: schaffer
08d44.MR

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

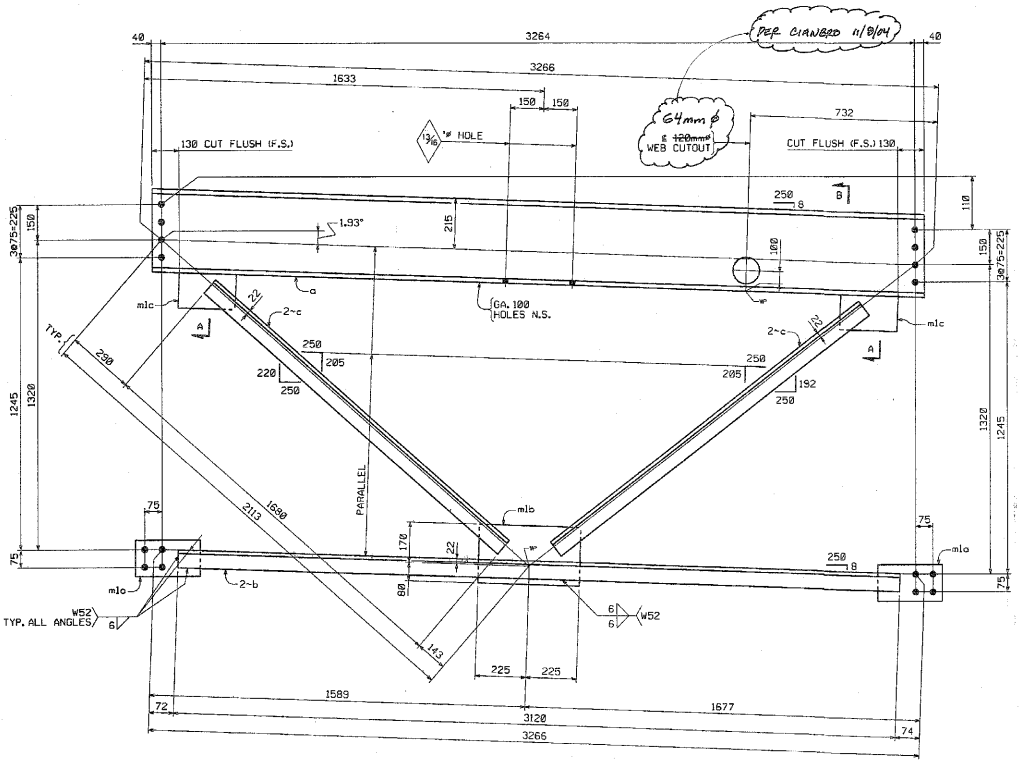
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

SHIPMENT		
1	2	3
ONE	ONE	ONE

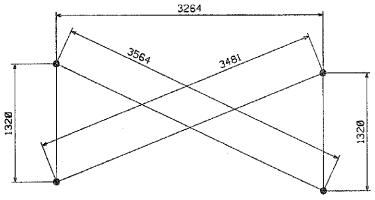
BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
3	CF5	CROSSFRAMES					411.62
3	a	W360 x 79	3 358	(W14 x 53)	11	1	265.28
6	b	L76 x 76 x 7.9	3 120	(L3 x 3 x 5/16)	11	7	28.05
12	c	L76 x 76 x 7.9	1 680	(L3 x 3 x 5/16)	11	7	15.10
6	m1a	PL 14 x 155	290		11	9	4.94
3	m1b	PL 14 x 250	450		11	9	12.36
6	m1c	PL 14 x 150	230		11	9	3.79
				TOTAL WEIGHT THIS SHEET:			1234.86 kgs

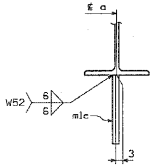
SHIP. 1 WT~411.62 kgs
SHIP. 2 WT~411.62 kgs
SHIP. 3 WT~411.62 kgs



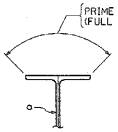
END CROSSFRAME ~ MK. CF5



CHECK DIMENSIONS



SECTION A



SECTION B

SHOP NOTE

HOLES: 15/16"ø (U.N.)
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.

SHOP DRAWING REVIEW

☐ REVIEWED AS SUBMITTED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED. FOR ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND RESTRICTIONS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☒ REVIEW AS CORRECTED

Job Number: S 5201
Reviewed By: [signature]
Date: 11/10/04

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, Pa 17601-6066
Phone 717/299-5211
A Division of High Industries Inc.

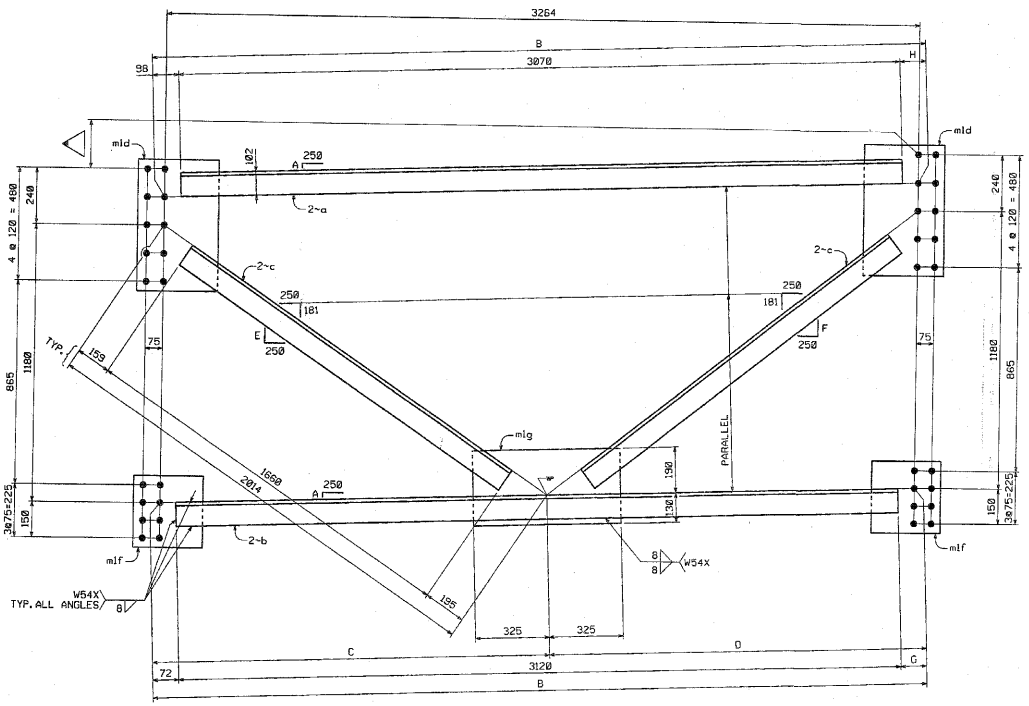
CROSSFRAME	CF5
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.10+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE: CLIDDEN (JH) MADE BY: BRS CHK'D. BY: JSA DATE: 8-24-04	
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: 107 OF 112	

CODE:63

PLOTTED: 09/26/2004 @ 9:21:44 AM BY: cahoffer

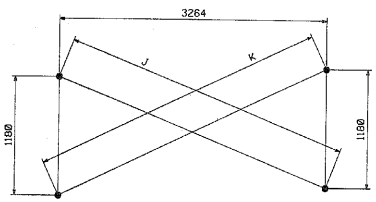
METRIC

METRIC	1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.	FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
			VT	



INTERMEDIATE PIER CROSSFRAMES

MARK	◁	A	B	C	D	E	F	G	H
CF6	110	8	3266	1673	1593	188	194	74	98
CF7	0	0	3264	1632	1632	181	181	72	96



CHECK DIMENSIONS

MARK	J	K
CF6	3435	3510
CF7	3471	3471

SHIPMENT			BILL OF MATERIAL								
1	2	3	NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG EA.
6	7	7	20	CF6	CROSSFRAMES					433.87
			40	a	L102 x 102 x 9.5	3 070	(L4 x 4 x 3/8)	11	4	44.39
			40	b	L102 x 102 x 9.5	3 120	(L4 x 4 x 3/8)	11	4	45.12
			80	c	L102 x 102 x 15.9	1 660	(L4 x 4 x 5/8)	11	3	38.78
			40	m1d	PL 16 x 360	560		11	8	25.32
			40	m1f	PL 16 x 300	305		11	8	11.49
			20	m1g	PL 16 x 320	650		11	8	26.12
6	7	7	20	CF7	CROSSFRAMES					433.87
			40	a	L102 x 102 x 9.5	3 070	(L4 x 4 x 3/8)	11	4	44.39
			40	b	L102 x 102 x 9.5	3 120	(L4 x 4 x 3/8)	11	4	45.12
			80	c	L102 x 102 x 15.9	1 660	(L4 x 4 x 5/8)	11	3	38.78
			40	m1d	PL 16 x 360	560		11	8	25.32
			40	m1f	PL 16 x 300	305		11	8	11.49
			20	m1g	PL 16 x 320	650		11	8	26.12
			TOTAL WEIGHT THIS SHEET:			17 354.80	kgs			

SHIP. 1 WT~5206.44 kgs
SHIP. 2 WT~6074.18 kgs
SHIP. 3 WT~6074.18 kgs

SHOP DRAWING REVIEW

X REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE PROJECT, AND SUBJECT TO FURTHER LIMITATIONS AND RESERVATIONS SET FORTH IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ EXCEPTION AS CHECKED

CORRECTIONS OR CLARIFICATIONS ON THE SHOP DRAWINGS GIVEN THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS REVIEW IS ONLY FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND FOR COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THIS REVIEW DOES NOT AUTHORIZE DEVIATIONS FROM CONTRACT REQUIREMENTS AND DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR ERRORS AND OMISSIONS IN THE SHOP DRAWINGS. THE CONTRACTOR MUST DETERMINE AND VERIFY ALL QUANTITIES AND DIMENSIONS, THE CONTRACTOR'S METHODS OF CONSTRUCTION AND FABRICATION, AND COORDINATION OF THE WORK WITH THAT OF ALL OTHER TRADES, AND PERFORM AND BE RESPONSIBLE FOR THE SAME AND ESTABLISH ALL PROJECTS.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Thatcher Pointe, Route 30 Bedford, NH 03110 603 644 0888

Job Number: 50611
Reviewed By: JMH
Date: 11/5/04

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1970 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5201
A Division of High Industries, Inc.

CROSSFRAMES CF6 & CF7
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.12+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (LH) MADE BY: SRS CHK'D. BY: JSA DATE: 8-24-04
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: 108 OF 112

SHOP NOTE

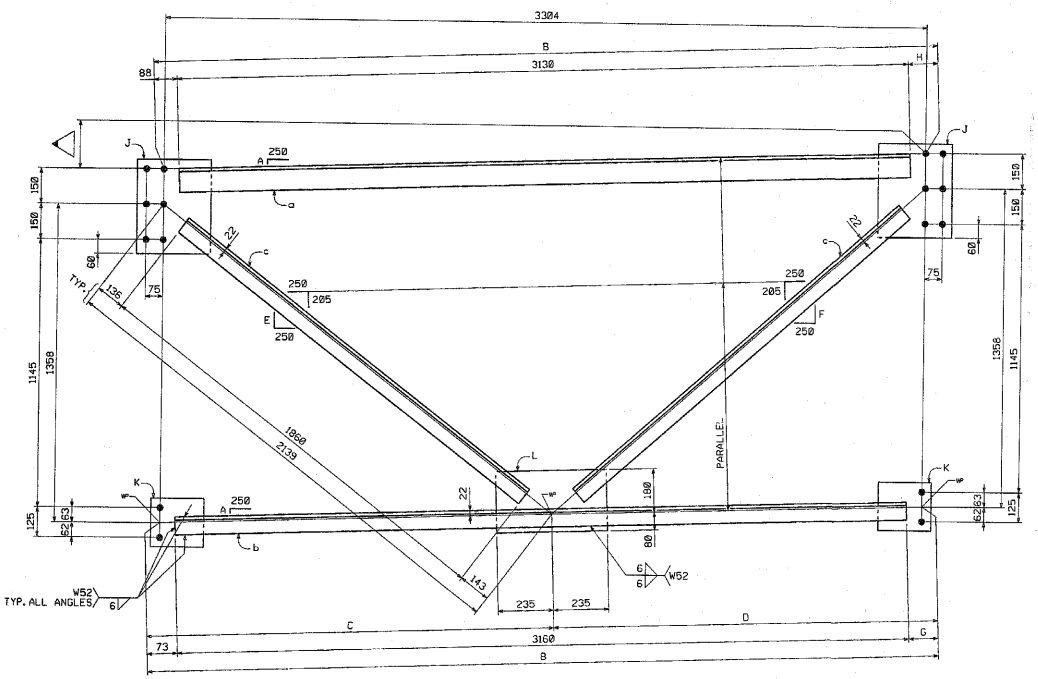
HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.

CODE:63

PLOTTED: 08/26/2004 09:21:47 AM By: cshaffner

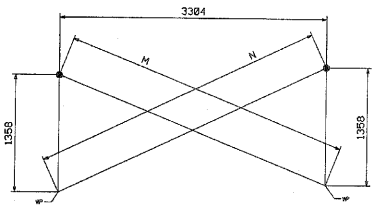
METRIC

METRIC	1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.	FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	2. ALL WEIGHTS ARE IN KILOGRAMS.		VT	



INTERMEDIATE CROSSFRAMES

MARK	◁	A	B	C	D	E	F	G	H	J	K	L	REMARKS
CF8	110	8	3306	1698	1608	192	220	73	88	m1h	m1k	m1m	PAINT
CF9	110	8	3306	1698	1608	192	220	73	88	m1n	m1p	m1s	NO PAINT
CF10	0	0	3304	1652	1652	205	205	71	86	m1h	m1k	m1m	PAINT
CF11	0	0	3304	1652	1652	205	205	71	86	m1n	m1p	m1s	NO PAINT



CHECK DIMENSIONS

MARK	M	N
CF8	3532	3615
CF9	3532	3615
CF10	3572	3572
CF11	3572	3572

SHIPMENT 1	2	3	NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
--	--	2	2	CF8	CROSSFRAMES					152.65
			2	a	L102 x 102 x 7.9	3 130	(L4 x 4 x 5/16)	11	5	38.00
			2	b	L76 x 76 x 7.9	3 160	(L3 x 3 x 5/16)	11	7	28.41
			4	c	L76 x 76 x 7.9	1 860	(L3 x 3 x 5/16)	11	7	16.72
			4	m1h	PL 14 x 330	400		11	9	14.51
			4	m1k	PL 14 x 205	230		11	9	5.18
			2	m1m	PL 14 x 260	470		11	9	13.43
42	48	46	136	CF9	CROSSFRAMES					152.65
			136	a	L102 x 102 x 7.9	3 130	(L4 x 4 x 5/16)	11	5	38.00
			136	b	L76 x 76 x 7.9	3 160	(L3 x 3 x 5/16)	11	7	28.41
			272	c	L76 x 76 x 7.9	1 860	(L3 x 3 x 5/16)	11	7	16.72
			272	m1n	PL 14 x 330	400		11	9	14.51
			272	m1p	PL 14 x 205	230		11	9	5.18
			136	m1s	PL 14 x 260	470		11	9	13.43
--	--	2	2	CF10	CROSSFRAMES					152.65
			2	a	L102 x 102 x 7.9	3 130	(L4 x 4 x 5/16)	11	5	38.00
			2	b	L76 x 76 x 7.9	3 160	(L3 x 3 x 5/16)	11	7	28.41
			4	c	L76 x 76 x 7.9	1 860	(L3 x 3 x 5/16)	11	7	16.72
			4	m1h	PL 14 x 330	400		11	9	14.51
			4	m1k	PL 14 x 205	230		11	9	5.18
			2	m1m	PL 14 x 260	470		11	9	13.43
42	48	48	136	CF11	CROSSFRAMES					152.65
			136	a	L102 x 102 x 7.9	3 130	(L4 x 4 x 5/16)	11	5	38.00
			136	b	L76 x 76 x 7.9	3 160	(L3 x 3 x 5/16)	11	7	28.41
			272	c	L76 x 76 x 7.9	1 860	(L3 x 3 x 5/16)	11	7	16.72
			272	m1n	PL 14 x 330	400		11	9	14.51
			272	m1p	PL 14 x 205	230		11	9	5.18
			136	m1s	PL 14 x 260	470		11	9	13.43
					TOTAL WEIGHT THIS SHEET:	42 131.40	kgs			

SHIP. 1 WT~12 822.60 kgs
SHIP. 2 WT~14 654.40 kgs
SHIP. 3 WT~14 654.40 kgs

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ APPROVED AS CORRECTED

CONTRACTOR OR FABRICATOR IS RESPONSIBLE FOR CONFORMING DETAILS THAT FURTHER DO NOT RELIEVE CONTRACTOR OF RESPONSIBILITY FOR CORRECTNESS OF SHOP DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF THE METHODS OR EQUIPMENT FURNISHED AND FOR CORRECTLY FITTING AND SHOWING THAT DIMENSIONS ON THE SHOP DRAWINGS WILL CONFORM TO THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE REVIEW OF SHOP DRAWINGS BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF COMPLIANCE WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATIONS THAT DO NOT CONFORM TO THE CONTRACT DOCUMENTS. APPROVAL DOES NOT EXTEND TO APPLICATION OF MATERIALS OR ASSEMBLY OF ELEMENTS SHOWN ON SHOP DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR THE CORRECT CONSTRUCTION OF FORMS AND FALSEWORK. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE WORK WITH THAT OF ALL OTHER TRADES AND PERFORMING NO WORK UNTIL ALL CONFLICTS HAVE BEEN RESOLVED.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Bartlett Pointe, Suite 104 Bedford, NH 03110 603 644 0888

Job Number: 53911
Reviewed By: BMM
Date: 11/8/04

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of Hoja Industries, Inc.

CROSSFRAMES CF8 THRU CF11
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.12+970.425 TO STA.12+859.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (JH) MADE BY: EAS CHK'D. BY: JSA DATE: 8-24-04
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: 109 OF 112

CODE:63

PLOTTED: 08/26/2004 09:21:51 AM
BY: cahoffer

METRIC

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

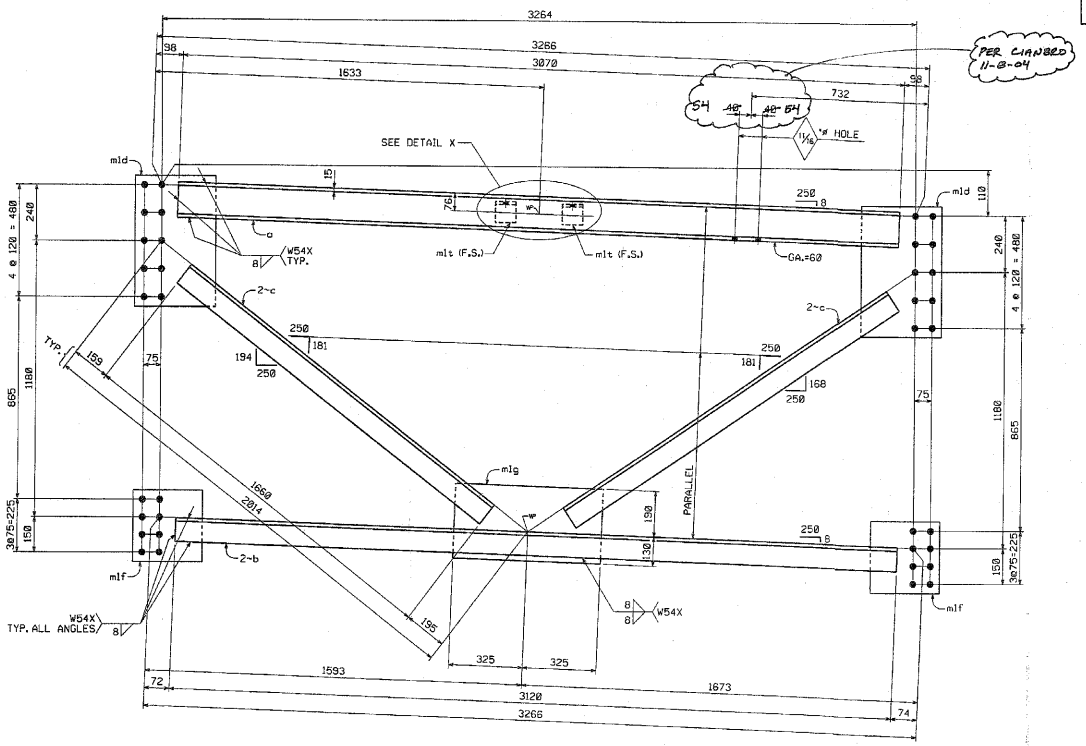
SHIPMENT		
1	2	3
6	7	7

BILL OF MATERIAL

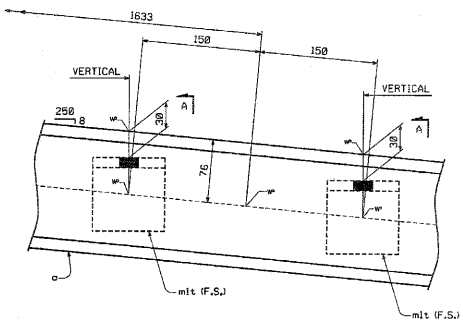
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
20	CF12	CROSSFRAMES					429.64
20	a	MC150 x 28.8	3 070	(MC6 x 18)	11	2	82.28
40	b	L102 x 102 x 9.5	3 120	(L4 x 4 x 3/8)	11	4	45.12
80	c	L102 x 102 x 15.9	1 660	(L4 x 4 x 5/8)	11	3	38.78
40	m1d	PL 16 x 360	560		11	8	25.32
40	m1f	PL 16 x 300	305		11	8	11.49
20	m1g	PL 16 x 320	650		11	8	26.12
40	m11	L89 x 89 x 9.5	90	(L3½ x 3½ x 3/8)	11	6	1.14

TOTAL WEIGHT THIS SHEET: 8592.80 kgs

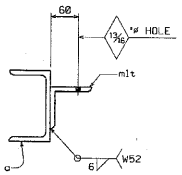
SHIP. 1 WT~2577.84 kgs
SHIP. 2 WT~3007.48 kgs
SHIP. 3 WT~3007.48 kgs



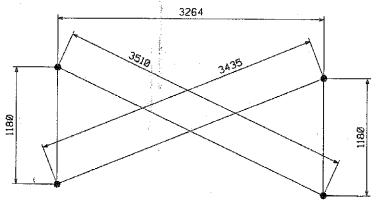
INTERMEDIATE PIER CROSSFRAME ~ MK. CF12



DETAIL X
(ENLARGED)



SECTION A



CHECK DIMENSIONS

SHOP NOTE

HOLES: 1⅛" (U.N.)
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.

SHOP DRAWING REVIEW

☐ REVIEWED AS REQUIRED BY THE CONSTRUCTION DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONTRACT DOCUMENTS.
☐ NOTED ☐ REVISE AND RESUBMIT ☒ SUBMISSION AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS AND SPECIFICATIONS. THIS CHECK ONLY APPROVES THE INFORMATION SHOWN TO THE LIMITED EXTENT SPECIFIED IN THE CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FABRICATING PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING ALL THE WORK WITH THAT OF ALL OTHER TRADES AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.

VHB — Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists, 54 Dedham Avenue, Suite 31, Bedford, NH 03110, 603-644-2800

Job Number: 8241
Reviewed By: RMH
Date: 11/5/04

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road, Lancaster, PA 17601-0008, Phone 717/295-6211
A Division of High Industries Inc.

CROSSFRAME CF12
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.12+970.425 TO STA.12+959.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-(11)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE GLIDDEN (TH) MADE BY: SRS CHK'D. BY: JSA DATE: 8-24-04
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: 110 OF 112

CODE:63

PLOTTED: 08/30/2004 08:21:54 AM
BY: cshaffer

METRIC

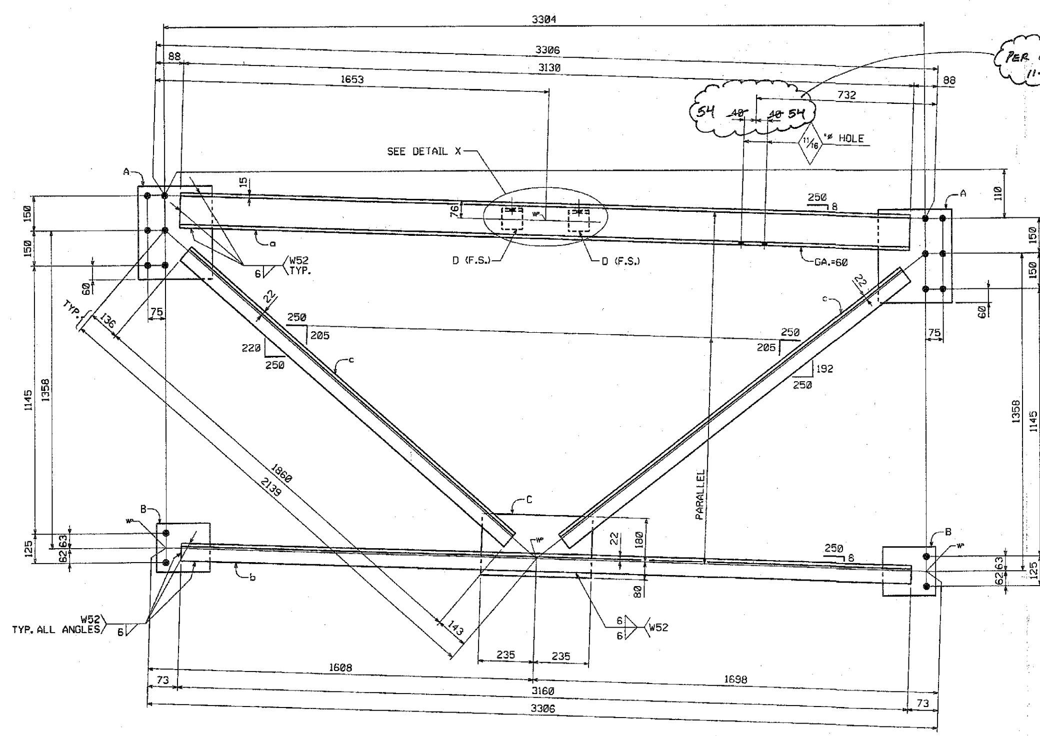
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

SHIPMENT 1	SHIPMENT 2	SHIPMENT 3	NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
--	--	2	2	CF13	CROSSFRAMES					200.82
			2	a	MC150 x 26.8	3 130	(MC6 x 18)	11	2	83.88
			2	b	L76 x 76 x 7.9	3 160	(L3 x 3 x 5/16)	11	7	28.41
			4	c	L76 x 76 x 7.9	1 860	(L3 x 3 x 5/16)	11	7	16.72
			4	m1h	PL 14 x 330	400		11	9	14.51
			4	m1k	PL 14 x 205	230		11	9	5.18
			2	m1m	PL 14 x 260	470		11	9	13.43
			4	m1w	L89 x 89 x 9.5	90	(L3½ x 3½ x 3/8)	11	6	1.14
42	48	46	136	CF14	CROSSFRAMES					200.82
			136	a	MC150 x 26.8	3 130	(MC6 x 18)	11	2	83.88
			136	b	L76 x 76 x 7.9	3 160	(L3 x 3 x 5/16)	11	7	28.41
			272	c	L76 x 76 x 7.9	1 860	(L3 x 3 x 5/16)	11	7	16.72
			272	m1n	PL 14 x 330	400		11	9	14.51
			272	m1p	PL 14 x 205	230		11	9	5.18
			136	m1s	PL 14 x 260	470		11	9	13.43
			272	m1t	L89 x 89 x 9.5	90	(L3½ x 3½ x 3/8)	11	6	1.14

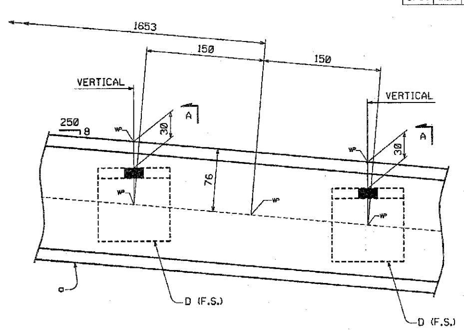
TOTAL WEIGHT THIS SHEET: 27 713.16 kgs

SHIP. 1 WT~8434.44 kgs
SHIP. 2 WT~9639.36 kgs
SHIP. 3 WT~9639.36 kgs

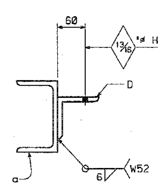


INTERMEDIATE CROSSFRAMES

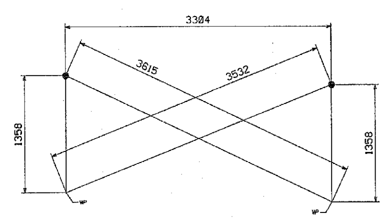
MARK	A	B	C	D	REMARKS
CF13	m1h	m1k	m1m	m1w	PAINT
CF14	m1n	m1p	m1s	m1t	NO PAINT



DETAIL X
(ENLARGED)



SECTION A



CHECK DIMENSIONS

SHOP DRAWING REVIEW

Vanasse Hangen Brustlin, Inc.
Job Number: 50811
Reviewed By: [illegible]
Date: 11/9/04

SHOP NOTE

HOLES: 15/16"⌀ (U.N.)
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.

NO.	REVISION	BY	DATE

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries Inc.

CROSSFRAMES CF13 & CF14
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: ERS CHK'D. BY: JSA DATE: 8-24-04
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: 111 OF 112
CODE:63

PLOTTED: 08/26/2004 09:21:56 AM
BY: cshaffer

METRIC

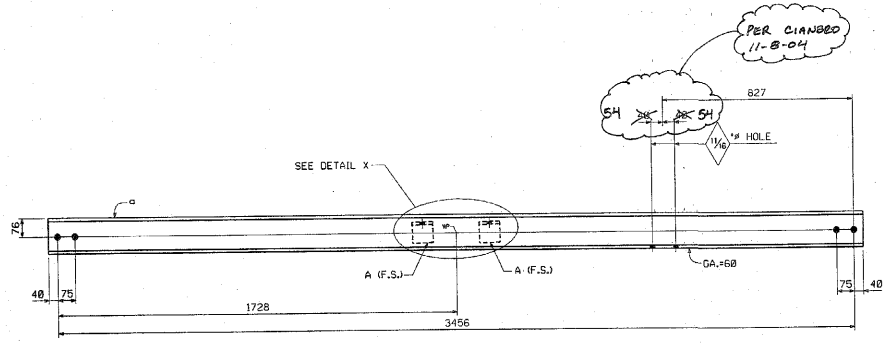
METRIC	1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.	FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
			VT	

SHIPMENT		
1	2	3
2	2	3
47	54	53

BILL OF MATERIAL

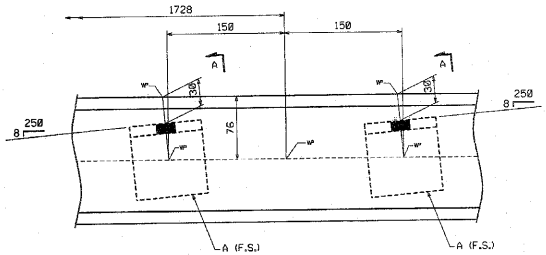
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG. EA.
7	D1	DIAPHRAGMS					97.04
7	a	MC150 x 26.8	3 536	(MC6 x 18)	10	1	94.76
14	m1y	L89 x 89 x 9.5	90	(L3½ x 3½ x 3/8)	10	2	1.14
154	D2	DIAPHRAGMS					97.04
154	a	MC150 x 26.8	3 536	(MC6 x 18)	10	1	94.76
308	m1aa	L89 x 89 x 9.5	90	(L3½ x 3½ x 3/8)	10	2	1.14
TOTAL WEIGHT THIS SHEET:				**16 623.44**	**kgs**		

SHIP. 1 WT~4754.96 kgs
SHIP. 2 WT~5434.24 kgs
SHIP. 3 WT~5434.24 kgs

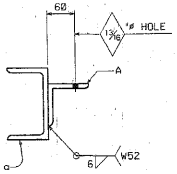


UTILITY SUPPORTS

MARK	A	REMARKS
D1	m1y	PAINT
D2	m1aa	NO PAINT



DETAIL X
(ENLARGED)



SECTION A

TOTAL WEIGHT SHIPMENT #1 ~ 691 939.23 kgs. ⚠
TOTAL WEIGHT SHIPMENT #2 ~ 787 206.02 kgs. ⚠
TOTAL WEIGHT SHIPMENT #3 ~ 787 289.47 kgs. ⚠

TOTAL WEIGHT FOR BID ITEM NUMBER 078 506.55: 2 266 434.72 kgs. ⚠

SHOP DRAWING REVIEW
X AS NOTED
REVIEWED BY: Jason
DATE: 9/29/04

SHOP NOTE

HOLES: 15/16" ø (U.N.)
BOLTS: NONE
PAINT: SEE DWG. GN1
FOR GENERAL SHOP NOTES, SEE DWG. GN1.

NO.	REVISION	BY	DATE
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F - REVISED WEIGHTS.	DP	9/20/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road
Lancaster, PA 17605-0008
Phone 717/299-5211
A Division of High Industries, Inc.

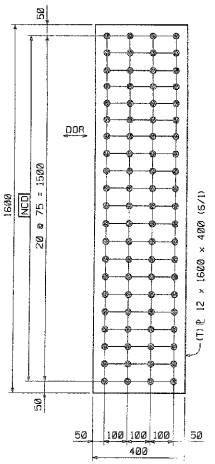
DIAPHRAGMS — D1 & D2
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.12+970.425 TO STA.12+859.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: SRS CHK'D. BY: JSA DATE: 9-24-04
CONTRACT VT-040057-1,2&3 DRAWING 112 OF 112

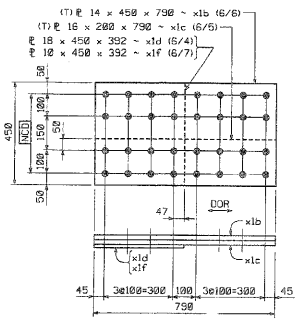
PLOTTED: 9/29/2004 8:26:44 AM BY: dpourier

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	



⚠192 ~SPLICE ℙ MK. x1a
56 REQ'D. FOR SHIPMENT 1
⚠72 REQ'D. FOR SHIPMENT 2
64 REQ'D. FOR SHIPMENT 3

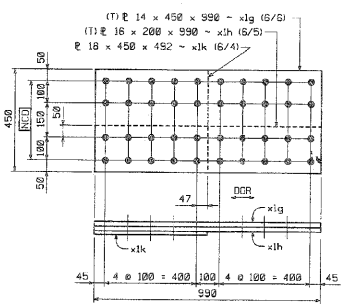


⚠84 ~SPLICE ℙ MK. x1b
24 REQ'D. FOR SHIPMENT 1
⚠32 REQ'D. FOR SHIPMENT 2
28 REQ'D. FOR SHIPMENT 3

⚠168 ~SPLICE ℙ MK. x1c
18 REQ'D. FOR SHIPMENT 1
⚠64 REQ'D. FOR SHIPMENT 2
56 REQ'D. FOR SHIPMENT 3

24 ~FILL ℙ MK. x1d
8 REQ'D. FOR SHIPMENT 1
8 REQ'D. FOR SHIPMENT 2
8 REQ'D. FOR SHIPMENT 3

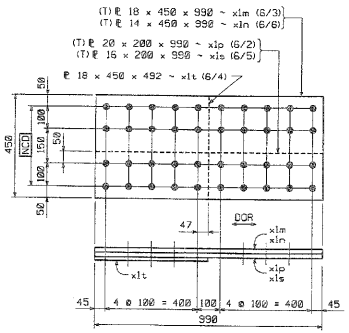
56 ~FILL ℙ MK. x1f
16 REQ'D. FOR SHIPMENT 1
20 REQ'D. FOR SHIPMENT 2
20 REQ'D. FOR SHIPMENT 3



12 ~SPLICE ℙ MK. x1g
4 REQ'D. FOR SHIPMENT 1
4 REQ'D. FOR SHIPMENT 2
4 REQ'D. FOR SHIPMENT 3

24 ~SPLICE ℙ MK. x1h
8 REQ'D. FOR SHIPMENT 1
8 REQ'D. FOR SHIPMENT 2
8 REQ'D. FOR SHIPMENT 3

12 ~FILL ℙ MK. x1k
4 REQ'D. FOR SHIPMENT 1
4 REQ'D. FOR SHIPMENT 2
4 REQ'D. FOR SHIPMENT 3



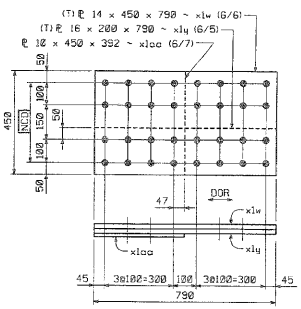
24 ~SPLICE ℙ MK. x1m
8 REQ'D. FOR SHIPMENT 1
8 REQ'D. FOR SHIPMENT 2
8 REQ'D. FOR SHIPMENT 3

12 ~SPLICE ℙ MK. x1n
4 REQ'D. FOR SHIPMENT 1
4 REQ'D. FOR SHIPMENT 2
4 REQ'D. FOR SHIPMENT 3

48 ~SPLICE ℙ MK. x1p
16 REQ'D. FOR SHIPMENT 1
16 REQ'D. FOR SHIPMENT 2
16 REQ'D. FOR SHIPMENT 3

24 ~SPLICE ℙ MK. x1s
8 REQ'D. FOR SHIPMENT 1
8 REQ'D. FOR SHIPMENT 2
8 REQ'D. FOR SHIPMENT 3

12 ~FILL ℙ MK. x1t
4 REQ'D. FOR SHIPMENT 1
4 REQ'D. FOR SHIPMENT 2
4 REQ'D. FOR SHIPMENT 3



⚠60 ~SPLICE ℙ MK. x1w
16 REQ'D. FOR SHIPMENT 1
⚠24 REQ'D. FOR SHIPMENT 2
20 REQ'D. FOR SHIPMENT 3

⚠120 ~SPLICE ℙ MK. x1y
32 REQ'D. FOR SHIPMENT 1
⚠48 REQ'D. FOR SHIPMENT 2
40 REQ'D. FOR SHIPMENT 3

56 ~FILL ℙ MK. x1aa
16 REQ'D. FOR SHIPMENT 1
20 REQ'D. FOR SHIPMENT 2
20 REQ'D. FOR SHIPMENT 3

NOTE: CORNER GRINDING IS REQUIRED FOR ALL MATERIAL ON THIS SHEET.

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
DOR INDICATES DIRECTION OF ROLLING
FOR GENERAL SHOP NOTES, SEE DWG. FN1.

SHOP DRAWING REVIEW

APPROVED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☐ APPROVED AS CORRECTED
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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dartmouth Drive, Auburn Rd. Bedford, NH 03110 603 314 0030
Job Number: 52371
Reviewed By: SWH
Date: 10/25/05

NO.	REVISION	BY	DATE
1	ADDED FIELD SPLICE	DRJ	8/5/05

HIGH STEEL STRUCTURES, INC.
170 Hempstead Road, Lancaster, PA 17605-0008 Phone 717/299-5211
A Division of High Industries, Inc.

GIRDER JOB STANDARDS
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+870.425 TO STA.12+859.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

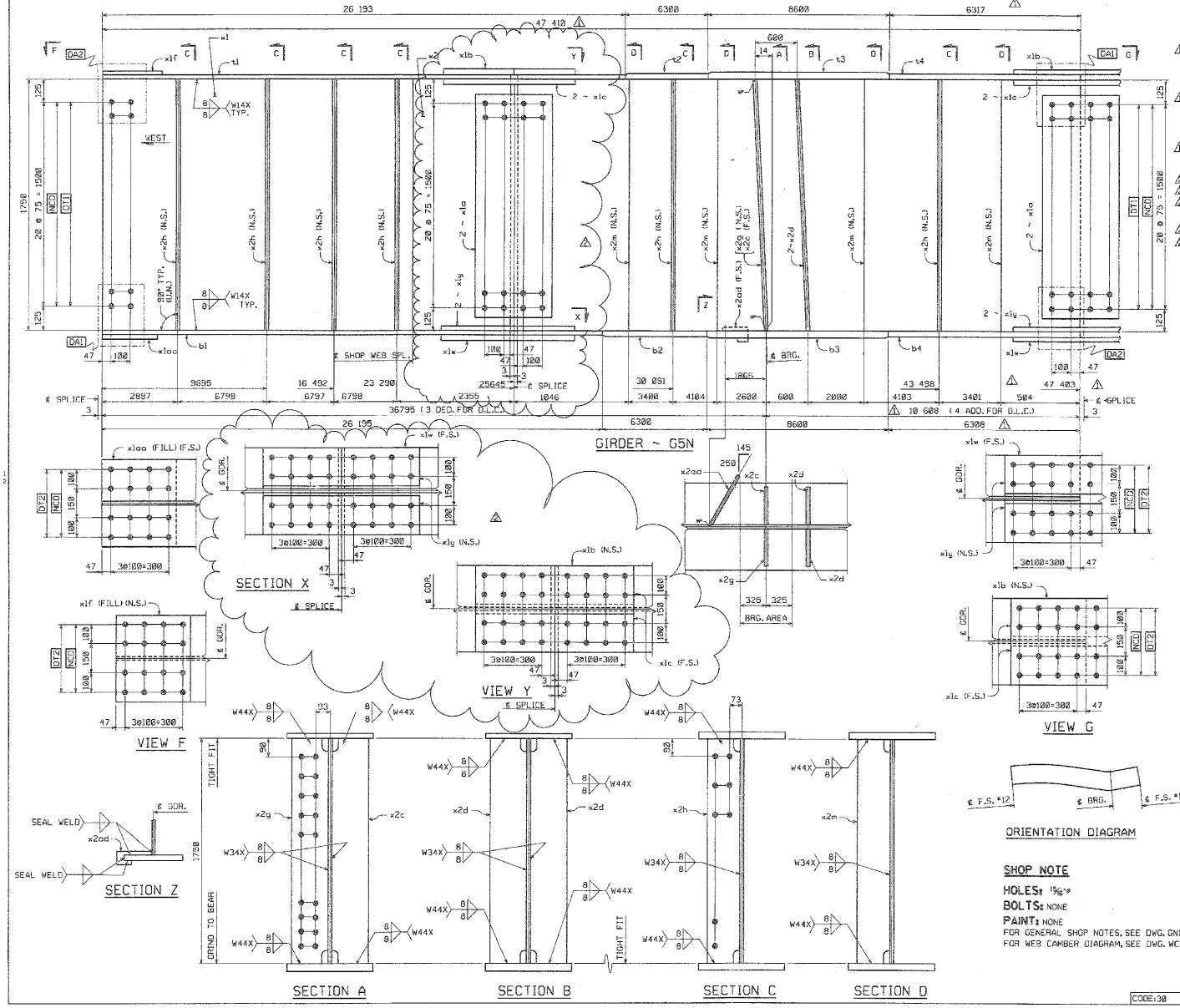
STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (JH) MADE BY: SSL CHK'D. BY: GS DATE: 8-11-04
CONTRACT NUMBER: VT-04057-1,2&3 DRAWING NUMBER: X1 OF X2

CODE:30

04057 X6 8/11/05 8/Resubmit For Approval TO:Cianbro Corporation

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO. | STATE: VT | FED. AID PROJ. NO.



BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG EA.
ONE	G5N	GIRDER					22 320
1	w1	PL 16 x 1750	23 808	(T)	3	4	5232.40
1	w2	PL 16 x 1750	~~23 809~~	(T) 4 746 ea	3	7	~~5158.66~~
1	t1	PL 22 x 450	~~28 193~~	(T) 3 618.7 ea	4	20	~~2035.36~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~742.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	t4	PL 32 x 450	6 317	(T)	4	14	~~713.99~~
1	b1	PL 22 x 450	26 195	(T) 3 618.7 ea	4	20	~~2035.36~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~742.07~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	b4	PL 32 x 450	6 308	(T)	4	14	~~712.97~~
2	x1a	PL 12 x 1600	400	(T)	6	1	~~80.28~~
12	x1b	PL 14 x 450	790	(T)	6	6	~~39.66~~
24	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
12	x1w	PL 14 x 450	790	(T)	6	6	~~39.66~~
24	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
1	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
6	x2h	PL 12 x 180	1 750		7	4	~~29.87~~
4	x2m	PL 12 x 180	1 750		7	4	~~29.87~~
1	x2ad	PL 6 x ~~115~~	301		7	5	~~1.63~~

TOTAL WEIGHT THIS SHEET: ~~22 319.87~~ kgs

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 99 Bedford Street, Boston, MA 02111-2621 Tel: (617) 728-7777 Fax: (617) 728-7782

Job Number: 52211
Reviewed By: EMH
Date: 10/25/05

NO.	REVISION	BY	DATE
2	ADDED FIELD SPLICE	DRJ	8/5/05
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC3.

CODE:30

1770 Hempstead Road, Lancaster, PA 17605-9008 Phone: 717/285-5211
HIGH STEEL STRUCTURES, INC.
A Division of High Industries, Inc.

GIRDER	G5N
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2	
VT 78 STA.12+970.425 TO STA.12+059.775	
TOWNS OF ALBURG AND SWANTON	
COUNTIES OF GRAND ISLE AND FRANKLIN	
STATE OF VERMONT, AGENCY OF TRANSPORTATION	
STATE CONTRACT OR REF. NO. BRF-036-1(1)	
CONTRACTOR CIANBRO CORPORATION	
IN CHARGE GLIDDEN (IH) MADE BY: SRS CHK'D. BY: CS DATE: 8-23-04	
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 53 OF 112	

PLOTTED: 8/17/05 10:29:21 AM By: kglidden

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO. | STATE: VT | FED. AID PROJ. NO.

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG EA.
ONE	G6N	GIRDER					22 890
1	w1	PL 16 x 1750	~~29 806~~	(T)	3	4	~~5232.43~~
1	w2	PL 16 x 1750	~~29 806~~	(T) 47 410 Δ	3	7	~~5180.68~~
1	t1	PL 22 x 450	~~28 193~~	(T) 26 193 Δ	4	20	~~3935.36~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~742.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	t4	PL 32 x 450	6 317	(T)	4	14	~~743.98~~
1	b1	PL 22 x 450	~~28 195~~	(T) 26 195 Δ	4	20	~~3935.57~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~742.07~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	b4	PL 32 x 450	6 308	(T)	4	14	~~712.97~~
4	x1a	PL 12 x 1600	400	(T)	6	1	~~90.28~~
2	x1b	PL 14 x 450	790	(T)	6	6	~~39.08~~
4	x1c	PL 18 x 200	790	(T)	6	5	~~49.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.65
2	x1w	PL 14 x 450	790	(T)	6	6	~~39.08~~
4	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.65
2	x2d	PL 38 x 200	1750		7	1	~~104.39~~
2	x2g	PL 38 x 200	1750		7	1	~~104.39~~
12	x2h	PL 12 x 180	1750		7	4	~~29.67~~
8	x2m	PL 12 x 180	1750		7	4	~~29.67~~
		TOTAL WEIGHT THIS SHEET:		~~22 886.7~~			kgs

Δ 2 Sum subtotal for Field Splice (2284.78)

GIRDER ~ G6N

SECTION X

VIEW Y

VIEW F

VIEW G

SECTION A

SECTION B

SECTION C

SECTION D

ORIENTATION DIAGRAM

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC3.

CODE:130

SHOP DRAWING REVIEW

☒ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ SUBMITTED ☐ REVISED AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 96 Bedford Street, Suite 102 Bedford, NH 03110 603-644-2800 | Job Number: 5234 | Reviewed By: SAM | Date: 10/5/05

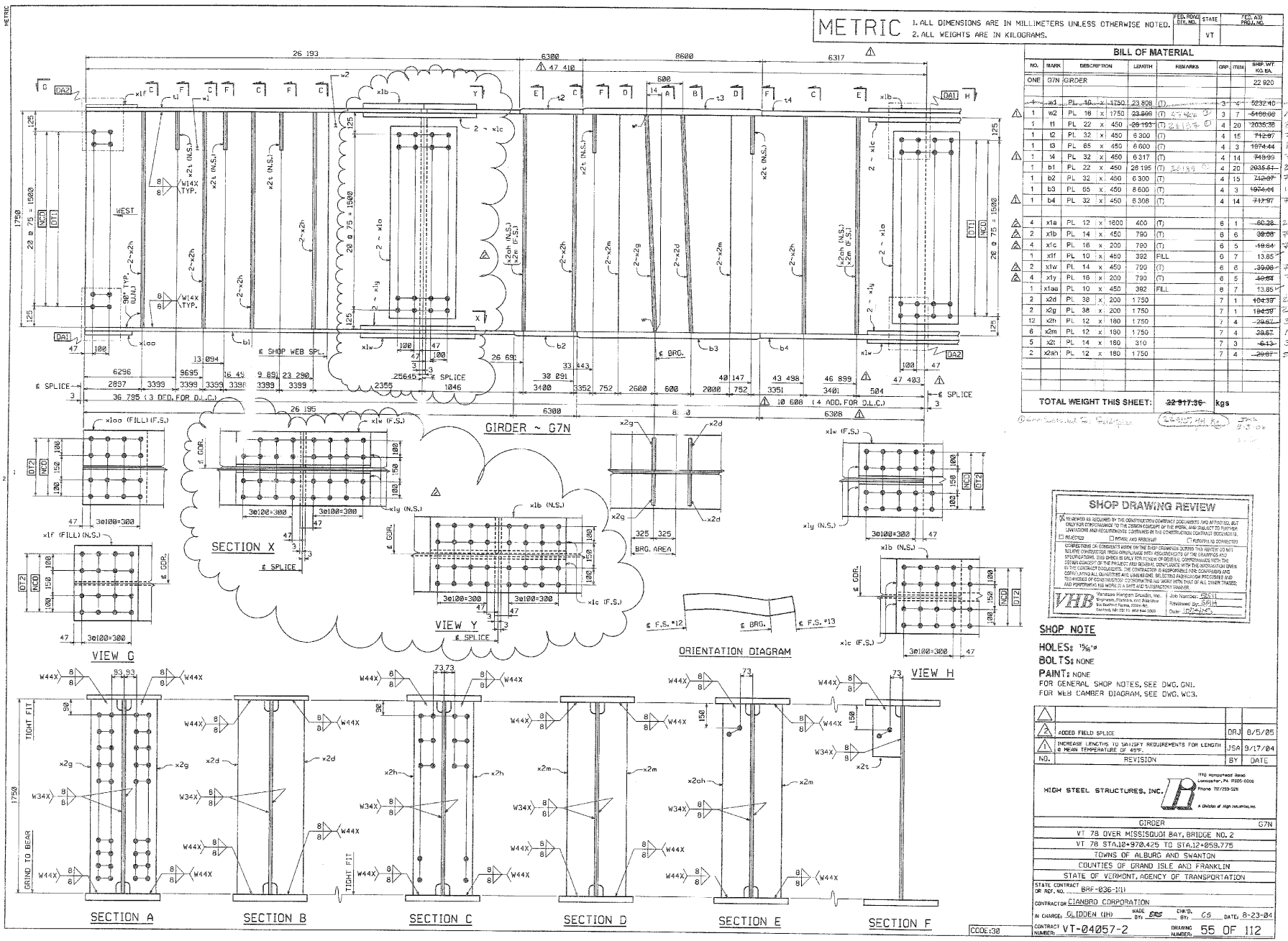
NO.	REVISION	BY	DATE
2	ADDED FIELD SPLICE	DRJ	8/5/05
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH & MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC. 1770 Hempstead Road, Lancaster, PA 17605-0008, Phone 717/299-5211, A Division of High Industries, Inc.

GIRDER G6N
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.18+970.425 TO STA.12+859.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO.: BRF-036-1(1)
CONTRACTOR: CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: EAS CHK'D. BY: CS DATE: 8-23-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 54 OF 112

04057 X6 8/11/05 8/Resubmit For Approval TO:Cianbro Corporation



BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT. KG EA.
ONE	G7N	GIRDER					22 920
4	w1	PL 10 x 1750	23 808	(T)	3	2	~~5232.10~~
1	w2	PL 16 x 1750	~~23 808~~	(T)	3	7	~~5168.68~~
1	t1	PL 22 x 450	~~28 193~~	(T)	4	20	~~2035.38~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.87~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	t4	PL 32 x 450	6 317	(T)	4	14	~~719.99~~
1	b1	PL 22 x 450	28 195	(T)	~~4~~	~~20~~	~~2035.51~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.87~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	b4	PL 32 x 450	6 308	(T)	4	14	~~717.97~~
4	x1a	PL 12 x 1600	400	(T)	6	1	~~60.28~~
2	x1b	PL 14 x 450	790	(T)	6	6	~~38.08~~
4	x1c	PL 16 x 200	790	(T)	6	5	~~48.64~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
2	x1w	PL 14 x 450	790	(T)	6	6	~~38.08~~
4	x1y	PL 16 x 200	790	(T)	6	5	~~48.64~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
12	x2h	PL 12 x 180	1 750		7	4	~~29.87~~
6	x2m	PL 12 x 180	1 750		7	4	~~29.87~~
5	x2t	PL 14 x 180	310		7	3	~~6.13~~
2	x2ah	PL 12 x 180	1 750		7	4	~~29.87~~

TOTAL WEIGHT THIS SHEET: ~~22 917.36~~ kgs

SHOP DRAWING REVIEW

This is reviewed as required by the construction contract documents and approved, but only for conformance to the design concept of the work, and subject to further limitations and requirements contained in the construction contract documents.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

Corrections or comments made on the shop drawings during this review do not relieve contractor from compliance with requirements of the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The contractor is responsible for confirming and correlating all quantities and dimensions, selecting fabrication processes and techniques of construction, coordinating this work with that of all other trades, and performing the work in a safe and satisfactory manner.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners and Scientists 54 Dunham Ridge, Hooksett, NH 03106 603-644-2800

Job Number: 52611
Reviewed by: BMH
Date: 10/24/05

SHOP NOTE

HOLES: 15/16"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP NOTES, SEE DWG. GN1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC3.

NO.	REVISION	BY	DATE
2	ADDED FIELD SPLICE	DRJ	8/5/05
1	INCREASE LENGTHS TO SATISFY REQUIREMENTS FOR LENGTH @ MEAN TEMPERATURE OF 45°F.	JSA	9/17/04

HIGH STEEL STRUCTURES, INC.
1770 Hempstead Road, Lancaster, PA 17605-0008, Phone 717/293-5211, A Division of High Industries, Inc.

GIRDER G7N
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO. BRF-036-1(1)
CONTRACTOR CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: ERS CHK'D. BY: CS DATE: 8-23-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 55 OF 112

CODE:38

04057 X6 8/11/05 8/Resubmit For Approval TO:Cianbro Corporation

METRIC 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 2. ALL WEIGHTS ARE IN KILOGRAMS.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	VT	

BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	GRP.	ITEM	SHIP. WT KG EA.
ONE	G8N	GIRDER					22 630
~~1~~	~~w1~~	~~PL 16 x 1750~~	~~23 808~~	(T)	~~3~~	~~4~~	~~5232.40~~
1	w2	PL 16 x 1750	~~23 808~~	(T) 47 410	3	7	~~5468.65~~
1	t1	PL 22 x 450	26 193	(T)	4	20	~~2036.36~~
1	t2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	t3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	t4	PL 32 x 450	6 317	(T)	4	14	~~713.99~~
1	b1	PL 22 x 450	26 195	(T)	4	20	~~2035.51~~
1	b2	PL 32 x 450	6 300	(T)	4	15	~~712.07~~
1	b3	PL 65 x 450	8 600	(T)	4	3	~~1974.44~~
1	b4	PL 32 x 450	6 308	(T)	4	14	~~712.97~~
4	x1a	PL 12 x 1600	400	(T)	6	1	~~60.28~~
2	x1b	PL 14 x 450	790	(T)	6	6	~~33.06~~
4	x1c	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1f	PL 10 x 450	392	FILL	6	7	13.85
2	x1w	PL 14 x 450	790	(T)	6	6	~~33.06~~
4	x1y	PL 16 x 200	790	(T)	6	5	~~19.84~~
1	x1aa	PL 10 x 450	392	FILL	6	7	13.85
1	x2c	PL 38 x 200	1 750		7	1	~~104.39~~
2	x2d	PL 38 x 200	1 750		7	1	~~104.39~~
1	x2g	PL 38 x 200	1 750		7	1	~~104.39~~
5	x2h	PL 12 x 180	1 750		7	4	~~29.67~~
2	x2m	PL 12 x 180	1 750		7	4	~~29.67~~
5	x2p	PL 14 x 180	310		7	3	6.15
1	x2ac	PL 6 x 115	301		7	5	~~1.65~~
2	x2ak	PL 12 x 180	1 750		7	4	~~29.67~~

TOTAL WEIGHT THIS SHEET: ~~22 622.29~~ kgs

Plan Estimated for Fabrication
* See Sheet 9 of 112

SHOP DRAWING REVIEW

APPROVED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED FOR ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE CONTRACT SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING THIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Regional Parkway, Kilmer Rd. Hartford, VA 05110 (802) 649-5999

Job Number: 52211
Reviewed By: SMH
Date: 10/25/05

SHOP NOTE

HOLES: 1⅛"ø
BOLTS: NONE
PAINT: NONE
FOR GENERAL SHOP [illegible]TES, SEE DWG. GN1.
FOR WEB CAMBER D[illegible]RAM, SEE DWG. WC3.

NO.		BY	DATE
3	ADDED FIELD [illegible]LICE	DRJ	8/5/05
2	REVISED MARK x2 [illegible](N.S.)	CS	11-11-04
1	INCREASE LENGTHS TO [illegible] & MEAN TEMPERATURE [illegible]	JSA	9/17/04

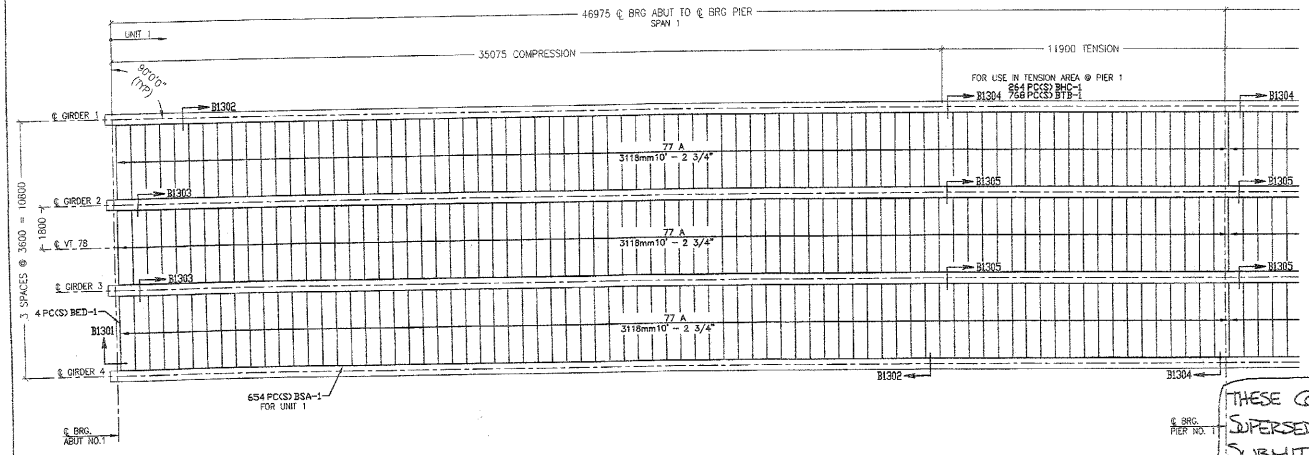
[illegible]FY REQUIREMENTS FOR LENGTH [illegible]STY.

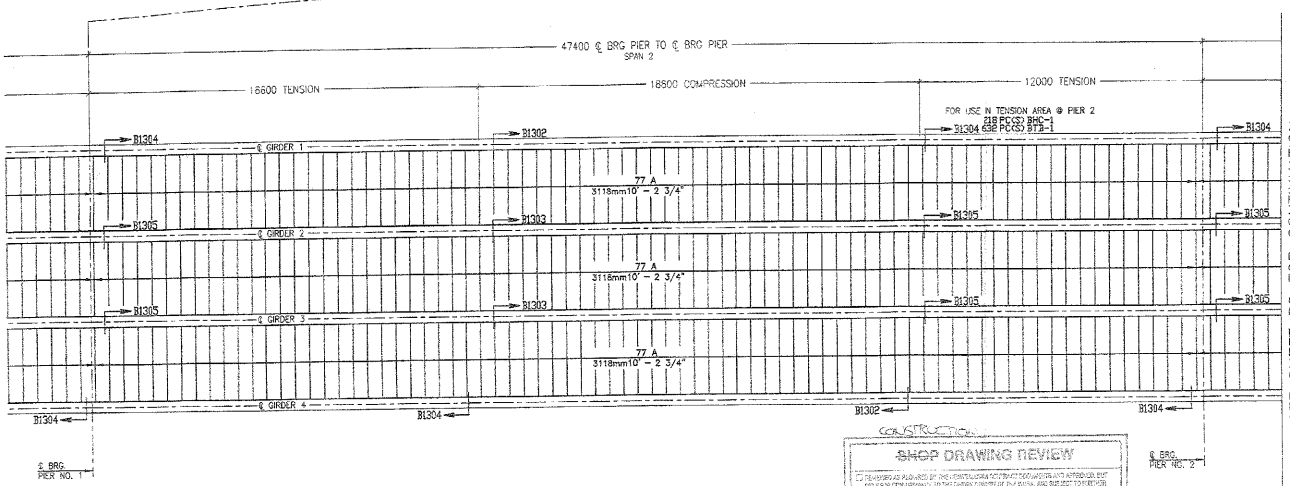
HIGH STEEL STRU[illegible]URES, INC. 1110 Hampstead Road Lancaster, PA 17605-0008 Phone 717/299-529 A Division of High Industries, Inc.

GIRDER G8N
VT 78 OVER MISSISQUOI BAY, BRIDGE NO. 2
VT 78 STA.10+970.425 TO STA.12+059.775
TOWNS OF ALBURG AND SWANTON
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT, AGENCY OF TRANSPORTATION

STATE CONTRACT OR REF. NO.: BRF-036-1(1)
CONTRACTOR: CIANBRO CORPORATION
IN CHARGE: GLIDDEN (IH) MADE BY: BRS CHK'D. BY: CS DATE: 8-23-04
CONTRACT NUMBER: VT-04057-2 DRAWING NUMBER: 56 OF 112

04057 X6 8/11/05 8/Resubmit For Approval TO:Cianbro Corporation





UNIT 1
BRIDGEFORM DECK PLAN
SPANS 1 & 2

114mm (4 1/2") X 305mm (12") PITCH 19 GA GALV G165 (MARK A)

SCALE: 1:100

CONSTRUCTION
SHOP DRAWING REVIEW

☐ REVIEWED AS PLANNED BY THIS CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT HOLDS NO CONSTRUCTION APPROVAL OR TAKES CHARGE OF QUANTITIES, AND SUBJECT TO REVISION UNTIL MARKS AND DESIGNATIONS ARE CONFIRMED BY THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ ADJUSTED ☐ REVISE AND RESUBMIT ☒ CHANGES AS NOTED/RED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWING DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR THE DIMENSIONS TO BE CONFIRMED AND CORRELATED AT THE JOB SITE; FOR INFORMATION THAT PERTAINS SOLELY TO THE FABRICATION PROCESSES OF THE CONTRACTOR, SUCH AS SHOP METHODS OR EQUIPMENT; FOR QUANTITIES; AND FOR SATISFACTORY AND SAFE PERFORMANCE OF THE WORK.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Bedford Street, Suite 220 Bristol, NH (603) 217-1396

Job Number: 12301.11
Reviewed By: KMC
Date: 6-27-05

GENERAL NOTES

MATERIAL NOTES:

1. WHEELING BRIDGE DECK FORM SHALL BE FABRICATED FROM QUALITY STRUCTURAL STEEL CONFORMING TO ASTM SPEC. A-653/A653M , GRADE 275 FOR 14 GA. – 18 GA. OR GRADE 550 FOR 19 GA. – 22 GA. ACCESSORIES TO BE GRADE 275.
2. GALVANIZED COATING CONFORMS TO LATEST REVISION OF ASTM A-924/A-924M, COATING G165.

ERECTION NOTES:

CRITICAL SAFETY CONCERN:

1. EACH SHEET MUST BE FASTENED TO SUPPORTS IMMEDIATELY UPON PLACEMENT TO AVOID HAZARD THAT COULD RESULT FROM HORIZONTAL MOVEMENT OR SUDDEN UPLIFT.
2. BRIDGE DECK FORM AND ACCESSORY MATERIALS NOT PROMPTLY ERECTED SHALL BE STORED OFF THE GROUND WITH ONE END ELEVATED FOR DRAINAGE.
3. GENERAL CONTRACTOR SHALL TAKE GRADES ON BEAMS AT MINIMUM OF 3048mm INTERVALS SO THAT DECK ERECTOR CAN ADJUST ELEVATION OF SUPPORTS TO FOLLOW FINISHED ROADWAY PROFILES. (3mm)
4. PRIOR TO PLACEMENT OF FORMS, THE CONTRACTOR SHALL ADVISE ERECTOR OF DIRECTION OF POUR. ERECTOR WILL PLACE FORM SHEETS IN OPPOSITE DIRECTION TO MINIMIZE DIFFERENTIAL DEFLECTION. (SEE CONTRACT PLAN SHEET SS17 FOR DECK POURING SEQUENCE & NOTES)
5. ALL SUPPORT ANGLES ARE TO BE WELDED TO TENSION BAR USING A 5mm X 51mm FILLET WELD SPACED AT 305mm ON CENTER WITH WELDS AT EACH END OF EACH SUPPORT.
6. SHEETS SHALL BEAR A MINIMUM OF 25mm ON ALL SUPPORTS.
7. ALL CUTTING OF FORM SHEETS AND ACCESSORY ITEMS SHALL BE DONE BY SAW, SHEAR OR OTHER APPROVED METHODS. CUTTING BY BURNING IS NOT PERMITTED.

IN TENSION ZONES

MISCELANEOUS NOTES:

1. CARE SHALL BE TAKEN TO AVOID DAMAGING THE INSTALLED FORM FROM EITHER STACKING OF MATERIALS, DROPPING EQUIPMENT OR HEAVY CONSTRUCTION TRAFFIC.
2. CONCRETE SHALL NOT BE DUMPED ON FORMS TO A DEPTH GREATER THAN 305mm ABOVE TOP OF FORM.
3. ANY ADDITIONAL CONCRETE REQUIRED DUE TO USE OF FORMS SHALL BE AT THE CONTRACTORS EXPENSE.
4. CALCIUM CHLORIDE (OR ANY ADMIXTURE CONTAINING SALTS) SHALL NOT BE USED IN THE CONCRETE PLACED ON FORMS.
5. WELDING TO GRIDER IS NOT PERMITTED (IN TENSION ZONES)
6. TRANSVERSE DECK SLAB CONSTRUCTION JOINTS SHALL BE CENTERED OVER THE BOTTOM FLUTES. 8mm WEEP HOLES SHALL BE FIELD DRILLED AT NOT LESS THAN 300mm ON CENTERS ALONG THE BOTTOM OF FLUTE.

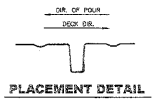
NOTE!
THESE CONSTRUCTION DRAWINGS SUPERSEDE THE PREVIOUSLY SUBMITTED DWGS THAT WERE STAMPED "FURNISH AS CORRECTED" ON 4/21/05

BRIDGEFORM ACCESSORIES

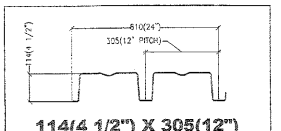
QUANTITIES UNIT 1 SPANS 1-7	QUANTITIES UNIT 2 SPANS 8-15	QUANTITIES UNIT 3 SPANS 16-23	MARK	GAGE	DESCRIPTION
654	750	750	BSA-1	10	FORM SUPPORT ANGLE 51mm X 88mm (2" X 3 1/2")
8	8	8	BED-1	14	END DAM 76mm X 76mm X 1.25" (3" X 3")
1,408	1,762	1,762	BHC-1	12	HOLD DOWN CLIP 102mm X 28mm X 51mm LONG (4" X 1" X 2")
4,096	5,152	5,152	BTB-1	10	TENSION BAR 51mm WIDE X 232mm LONG (2" X 9 1/8")
6,618	7,540	7,540	SFS-1	–	STYROFOAM BLOCKING 67mm X 114mm X 41mm X 1435mm LONG (2 5/8" X 4 1/2" X 1 5/8" X 56 1/2" LONG)
15,400	17,800	17,800	9mm HWH 6mm – 14 X 25mm SELF DRILLING CADMIUM PLATED SCREWS		

GRADE 275, GALVANIZED G-165 COATING
ALL ACCESSORIES TO BE 3048mm LONG (UNO)

ACCESSORY QUANTITY BASED ON LINEAR FOOTAGE REQUIRED. ALL CUT-OFFS MUST BE UTILIZED.



PLACEMENT DETAIL



114(4 1/2") X 305(12")

SECTIONAL PROPERTIES

PROFILE	GAGE	DESIGN THICKNESS	mm^4/mm	mm^3/mm	MARK
114(4 1/2") X 305(12")	19	1.060	3387.88	47.15	A
UNIT 1 – 1599 SHEETS @ 3118mm (10'-2 1/2")					
UNIT 2 – 1960 SHEETS @ 3118mm (10'-2 1/2")					
UNIT 3 – 1960 SHEETS @ 3118mm (10'-2 1/2")					

EACH SHEET MUST BE FASTENED TO SUPPORTS IMMEDIATELY UPON PLACEMENT TO AVOID HAZARD THAT COULD RESULT FROM HORIZONTAL MOVEMENT OR SUDDEN UPLIFT

Wheeling Corrugating Company since 1890
A DIVISION OF WHEELING-PITTSBURGH STEEL CORPORATION
1134 MARKET ST., WHEELING, WEST VIRGINIA 26003
PHONE (304) 234-2400
FAX (304) 234-2440

CIANBRO
MISSISSIQUOI BAY BRIDGES
VT 78 (PRINCIPAL ARTERIAL)
OVER MISSISQUOI BAY, BRIDGE NO. 2
COUNTIES (TOWNS) GRAND ISLE AND FRANKLIN
STATE HIGHWAY BRIDGE NO. 2 (NEW BRIDGE)

	DRAWN	CHECKED	DATE
STATE	GLH	LUCAS	5/28/05
PROJECT #	BRF 036 – 1 (1)		

CUSTOMER:
PROJECT:
LOCATION:
OWNER:

REVISIONS

PRINTS ISSUED

No.	DATE	FOR
0/8	3/28	APPROVAL
E-0/8	4/21	APPROVAL
E	4/23	APPROVAL
E	5/13	APPROVAL

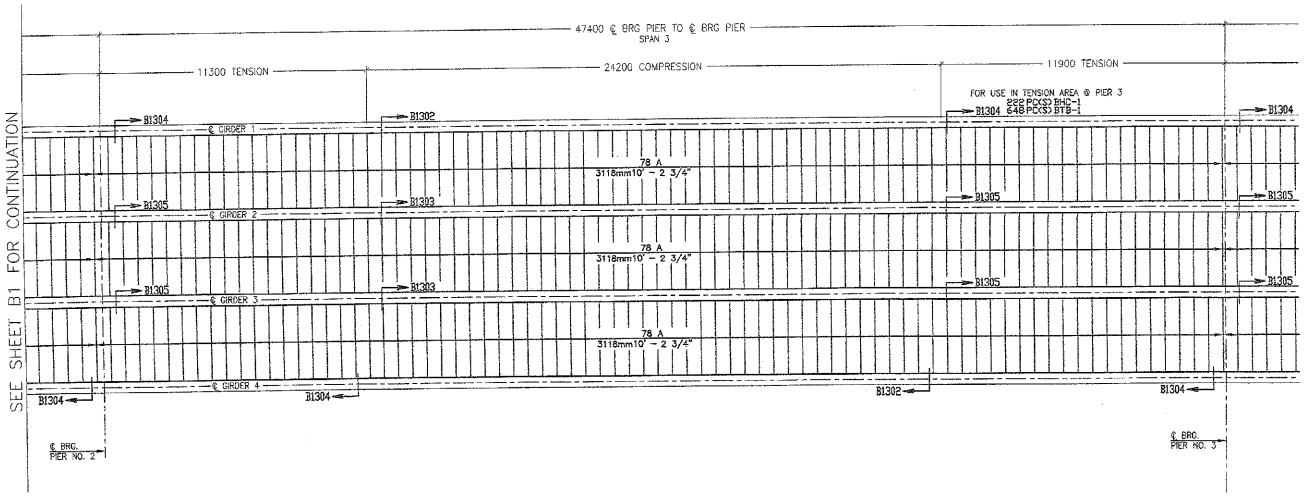
SYMBOLS
- = MDS LINE
- = MDA LINE
- = MDL MARK
- = MDA MARK
- E.O.D. = END OF DECK
- E.O.S. = END OF SLAB

SHEET NUMBER OF MDS SHEETS | DETAILING SHEET
SHEET LENGTH
PACK DRAWING NUMBER

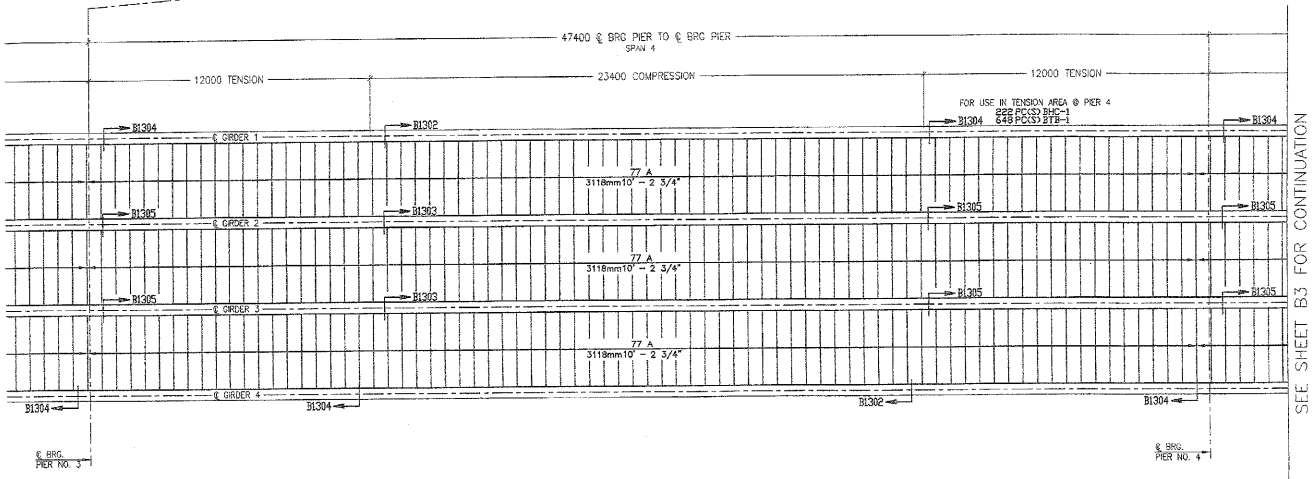
PROJECT #
BR-05-27

B1

SHEET 1 OF 13



MATCHLINE



UNIT 1
BRIDGEFORM DECK PLAN
SPANS 3 & 4

114mm (4 1/2") X 305mm (12") PITCH 19 GA GALV C165 (MARK A)

SCALE: 1:100

CONSTRUCTION

SHOP DRAWING REVIEW

REVIEWED AS NOTED BY THE CONTRACTOR. PARTIAL SUBMITTALS ARE NOT APPROVED. BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND SUBJECT TO FURTHER LIMITATIONS AND DISCREPANCIES CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

REJECTED — PLEASE MAKE CORRECTIONS — RESUBMISSION IS REQUIRED

CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; FABRICATION PROCESSES AND TECHNIQUES; COORDINATION OF THE WORK WITH ALL TRADES; AND PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER.

VHB — Vanasse Hangen Brustlin, Inc. — Engineers, Planners, and Scientists — 99 Bedford Street, Boston, MA — Job Number: 53011.11 — Reviewed By: KPM — Date: 5-27-05

EACH SHEET MUST BE FASTENED TO SUPPORTS IMMEDIATELY UPON PLACEMENT TO AVOID HAZARD THAT COULD RESULT FROM HORIZONTAL MOVEMENT OR SUDDEN UPLIFT

Wheeling Corrugating Company
since 1890
A DIVISION OF WHEELING-PITTSBURGH STEEL CORPORATION
1134 MARKET ST., WHEELING, WEST VIRGINIA 26003
(304) 234-2400 FAX: (304) 234-2487

CIANBRO
MISSISSIPPI BAY BRIDGE
VT 78 (PRINCIPAL ARTERIAL)
OVER MISSISQUOI BAY, BRIDGE NO. 2
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT FEDERAL AID PROJECT

	DRAWN	DATE	CHECKED	DATE
CUSTOMER:	GLH	5/21/05	LUCAS	5/29/05
PROJECT:				
LOCATION:				
OWNER:				

PROJECT # BRF 038 - 1 (1)

REVISIONS

PRINTS ISSUED

No.	DATE	FOR
D/E	7/28	APPROVAL
E-D/E	6/21	APPROVAL
E	6/22	APPROVAL
E	8/13	APPROVAL

SYMBOLS

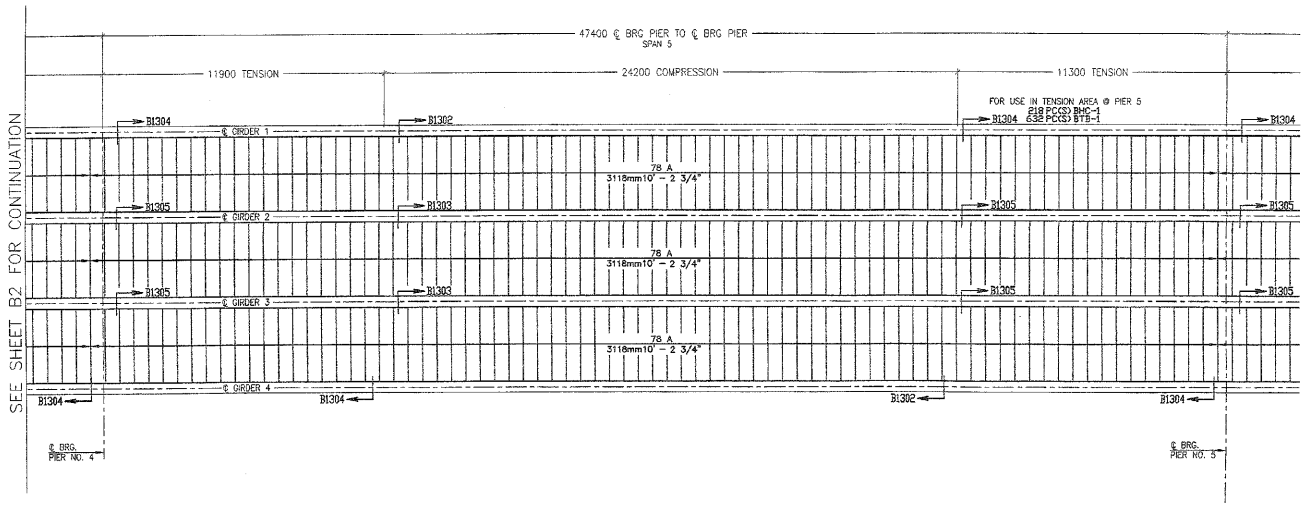
= SECT. LINE
= AREA LINE
= SECT. MARK
= AREA MARK
E.O.D. = END OF DECK
E.O.S. = END OF SLAB

SHEET LENGTH
SKEW ANGLE
LEDGE

PROJECT # BR-05-27

B2

SHEET 2 OF 13



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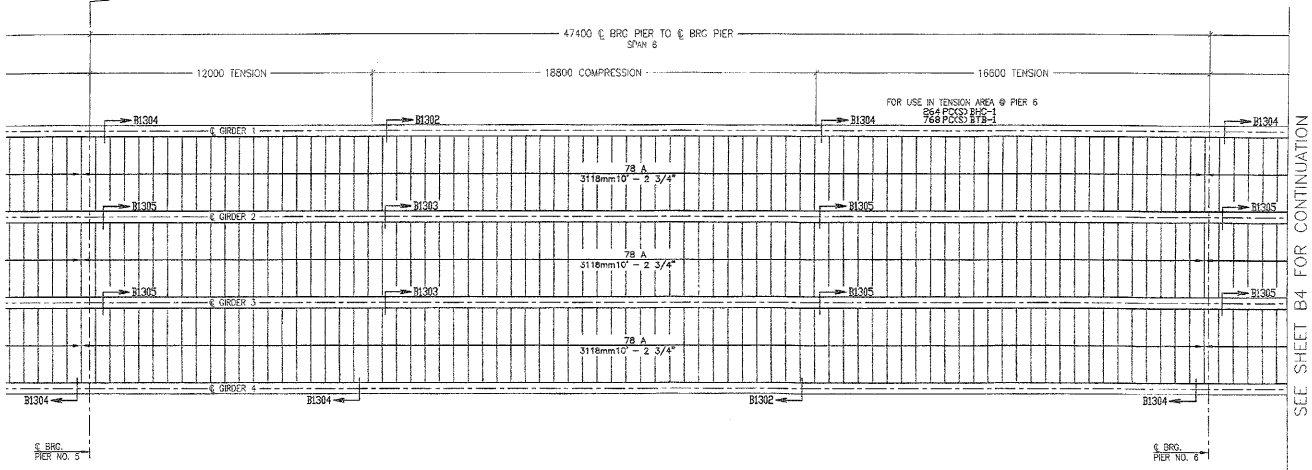


UNIT 1
BRIDGEFORM DECK PLAN
SPANS 5 & 6

114mm (4 1/2") X 305mm (12") PITCH 19 GA GALV G165 (MARK A)

SCALE: 1:100

CONSTRUCTION

~~SHOP~~ DRAWING REVIEW

☐ NO EXCEPTIONS TAKEN ☐ MAKE CORRECTIONS NOTED ☐ REVISE AS SUBMITTED

CORRECTIONS OR COMMENTS MADE ON SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE CONTRACT DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING THE WORK OF ALL TRADES AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineering, Planning, and Economics 8 Blanchard Road, Burlington, MA 01803 781 846 0000

Job Number: 30611.11
Reviewed By: JPH
Date: 5-27-05

EACH SHEET MUST BE FASTENED TO SUPPORTS IMMEDIATELY UPON PLACEMENT TO AVOID HAZARD THAT COULD RESULT FROM HORIZONTAL MOVEMENT OR SUDDEN UPLIFT

Wheeling Corrugating Company
Since 1890
A DIVISION OF WHEELING-PITTSBURGH STEEL CORPORATION
1134 MARKET ST., WHEELING, WV 26003-3544
PHONE: 304-234-2400 FAX: 304-234-2410

CIANBRO
MISSISQUOI BAY BRIDGE
VT 78 (PRINCIPAL ARTERIAL)
OVER MISSISQUOI RIVER, RIVER MILE NO. 9
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT AGENCY OF TRANSPORTATION
PROJECT # SRF 036 – 1 (1)

CUSTOMER:	
PROJECT:	
LOCATION:	
OWNER:	
DRAWN	DATE 3/21/05
CHECKED	DATE 5/26/05

REVISIONS

PRINTS ISSUED

No.	DATE	FOR
0/8	3/29	APPROVAL
E-0/8	4/21	APPROVAL
E	4/22	APPROVAL
F	5/13	APPROVAL

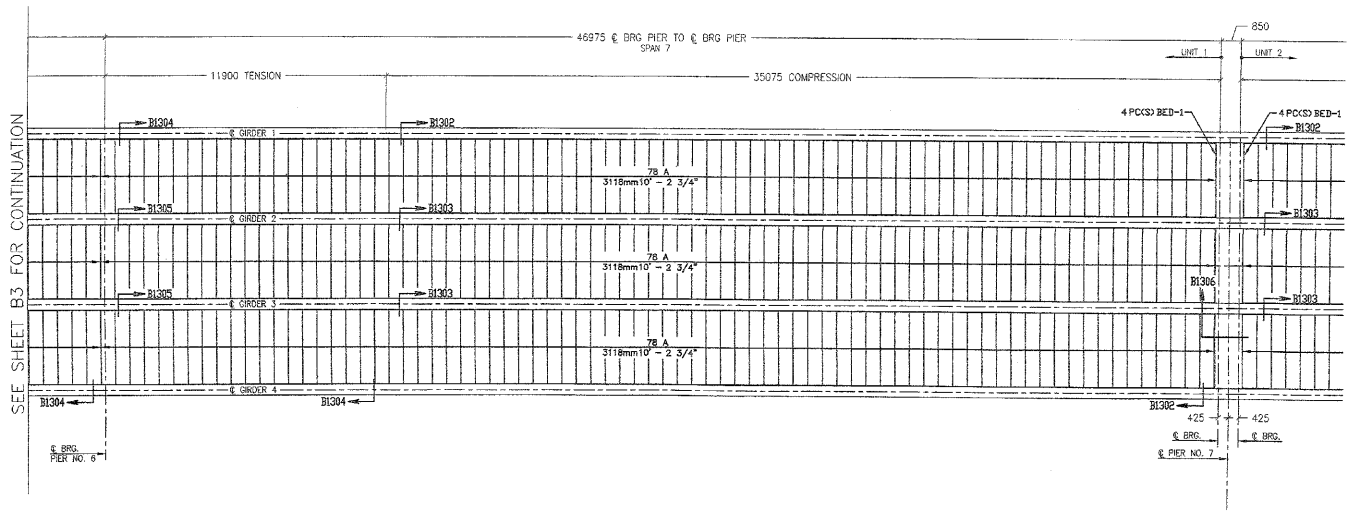
SYMBOLS

E.O.S. = END OF SHEET
E.O.S. = END OF SLAB

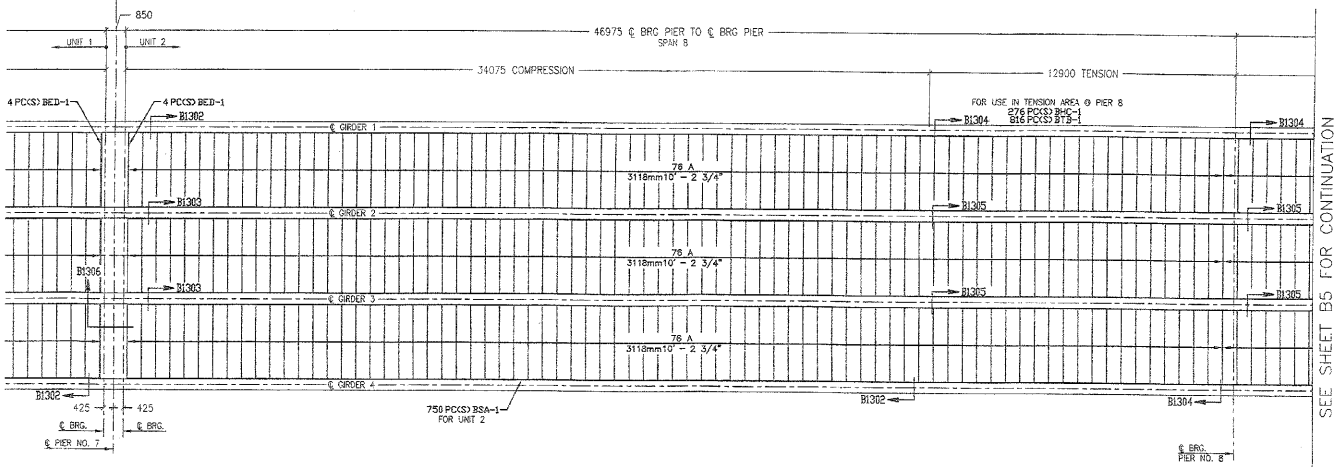
PROJECT #
BR-05-27

B3

SHEET 3 OF 13



MATCHLINE



UNIT 1 & 2
BRIDGEFORM DECK PLAN
SPANS 7 & 8

114mm (4 1/2") X 305mm (12") PITCH 19 GA GALV G165 (MARK A)

SCALE: 1:100

CONSTRUCTION
SHOP DRAWING REVIEW
APPROVED AS PROVIDED BY THE CONTRACT AND CONTRACT SPECIFICATIONS AND APPROVED, BID ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE WORK AND COMPLIANCE WITH THE CONTRACT DOCUMENTS. THIS APPROVAL DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ERRORS, OMISSIONS, DIMENSIONS, QUANTITIES, FABRICATION PROCESSES OR TECHNIQUES OF CONSTRUCTION.
REVISED AND RESUBMIT
SUBMISSION OR RESUBMISSION OF SHOP DRAWINGS FOR REVIEW SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR OF THE FULL RESPONSIBILITY FOR THE PROPER DESIGN OF DETAILS, DIMENSIONS AND ADJUSTMENT OF MATERIALS TO FIT THE WORK. THE CONTRACTOR SHALL VERIFY AND CHECK ALL DIMENSIONS, QUANTITIES, FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION INVOLVED IN THE WORK AND SHALL COORDINATE THE WORK WITH THAT OF ALL OTHER TRADES.
VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Cambridge Park Drive Cambridge, MA 02140 (617) 924-1770
Job Number: 53911.11
Reviewed By: RDM
Date: 5-27-05

EACH SHEET MUST BE FASTENED TO SUPPORTS IMMEDIATELY UPON PLACEMENT TO AVOID HAZARD THAT COULD RESULT FROM HORIZONTAL MOVEMENT OR SUDDEN UPLIFT

Wheeling Corrugating Company
Since 1890

CIANBRO
MISSISQUOI BAY BRIDGE
VT 78 (PRINCIPAL ARTERIAL)
OVER MISSISQUOI BAY BETWEEN NO. 2
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT AGENCY OF TRANSPORTATION
CUSTOMER:
PROJECT:
LOCATION:
OWNER:
DESIGNED 3/21/05
CHECKED LUCAS 5/26/05
PROJECT # BR 0527 - 1 (1)

REVISIONS

PRINTS ISSUED

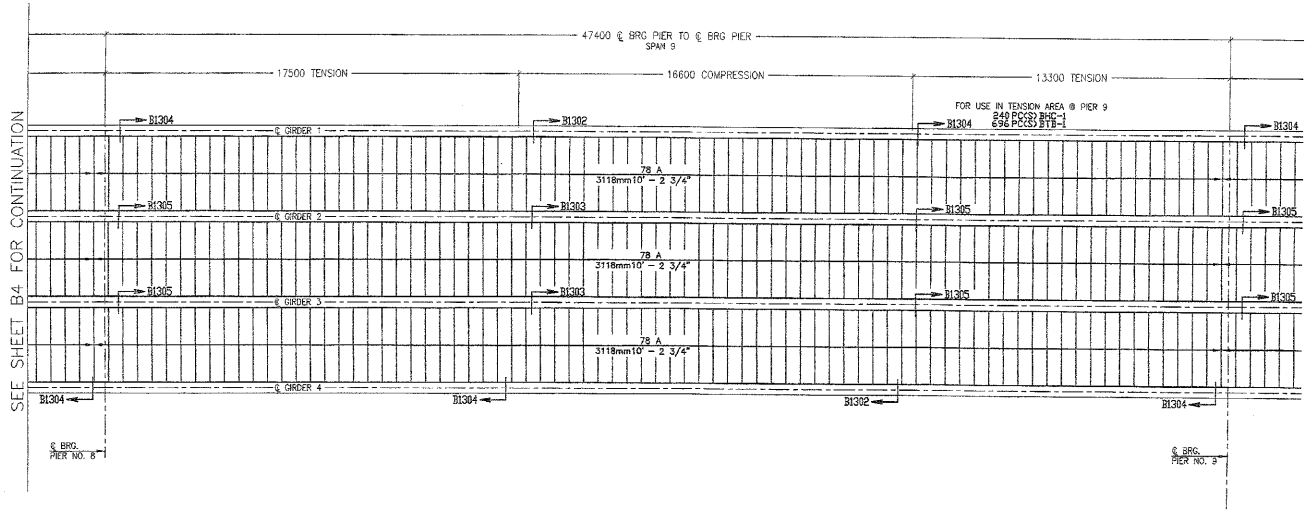
No.	DATE	FOR
0/4	3/28	APPROVAL
E-0/4	4/21	APPROVAL
E	4/22	APPROVAL
E	5/13	APPROVAL

SYMBOLS
SEQ. LINE
DISTRIBUTION = MTH. LINE
# = SEQ. MARK
E.O.D. = END OF DECK
E.O.S. = END OF SLAB
NUMBER OF DECK SHEETS
ORDERING SHEET
1 A
0 - 0
SHEET LENGTH
DECK GENERAL ARRANGEMENT

PROJECT # BR-05-27

B4

SHEET 4 OF 13



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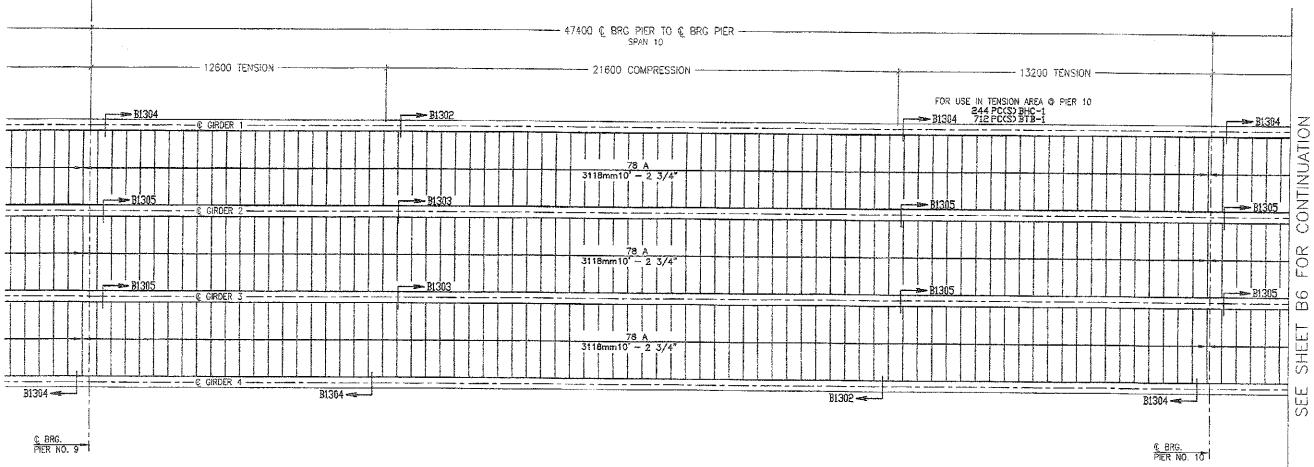


UNIT 2
BRIDGEFORM DECK PLAN
SPANS 9 & 10

114mm (4 1/2") X 305mm (12") PITCH 19 GA GALV G165 (MARK A)

SCALE: 1:100

CONSTRUCTION
SHOP DRAWING REVIEW

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners and Scientists 10 Dorrance Street, Suite 700 Providence, RI 02903-2015 401-421-1555

Job Number: 55611
Reviewed By: BMH
Date: 5-27-05

EACH SHEET MUST BE FASTENED TO SUPPORTS IMMEDIATELY UPON PLACEMENT TO AVOID HAZARD THAT COULD RESULT FROM HORIZONTAL MOVEMENT OR SUDDEN UPLIFT

Wheeling Corrugating Company
Since 1890
A DIVISION OF WHEELING-PITTSBURGH STEEL CORPORATION
1134 MARKET STREET, WHEELING, WV 26003
PHONE: (304) 234-2434
FAX: (304) 234-2434

CUSTOMER:
PROJECT: CIANBRO
MISSISQUOI BAY BRIDGE
VT 78 (PRINCIPAL ARTERY)
OVER VT 78 (PRINCIPAL ARTERY) NO. 2
COUNTIES OF GRAND ISLE AND FRANKLIN
LOCATION: STATE OF VERMONT AGENCY OF TRANSPORTATION
CONTRACT: CONTRACT NO. BRF 036 - 1 (1)

REVISIONS			
DESIGNATION	CHECKED	DATE	
GH1	LUCAS	3/28/05	

PRINTS ISSUED

No.	DATE	FOR
D/A	3/28	APPROVAL
C-1/A	4/21	APPROVAL
E	4/22	APPROVAL
E	5/13	APPROVAL

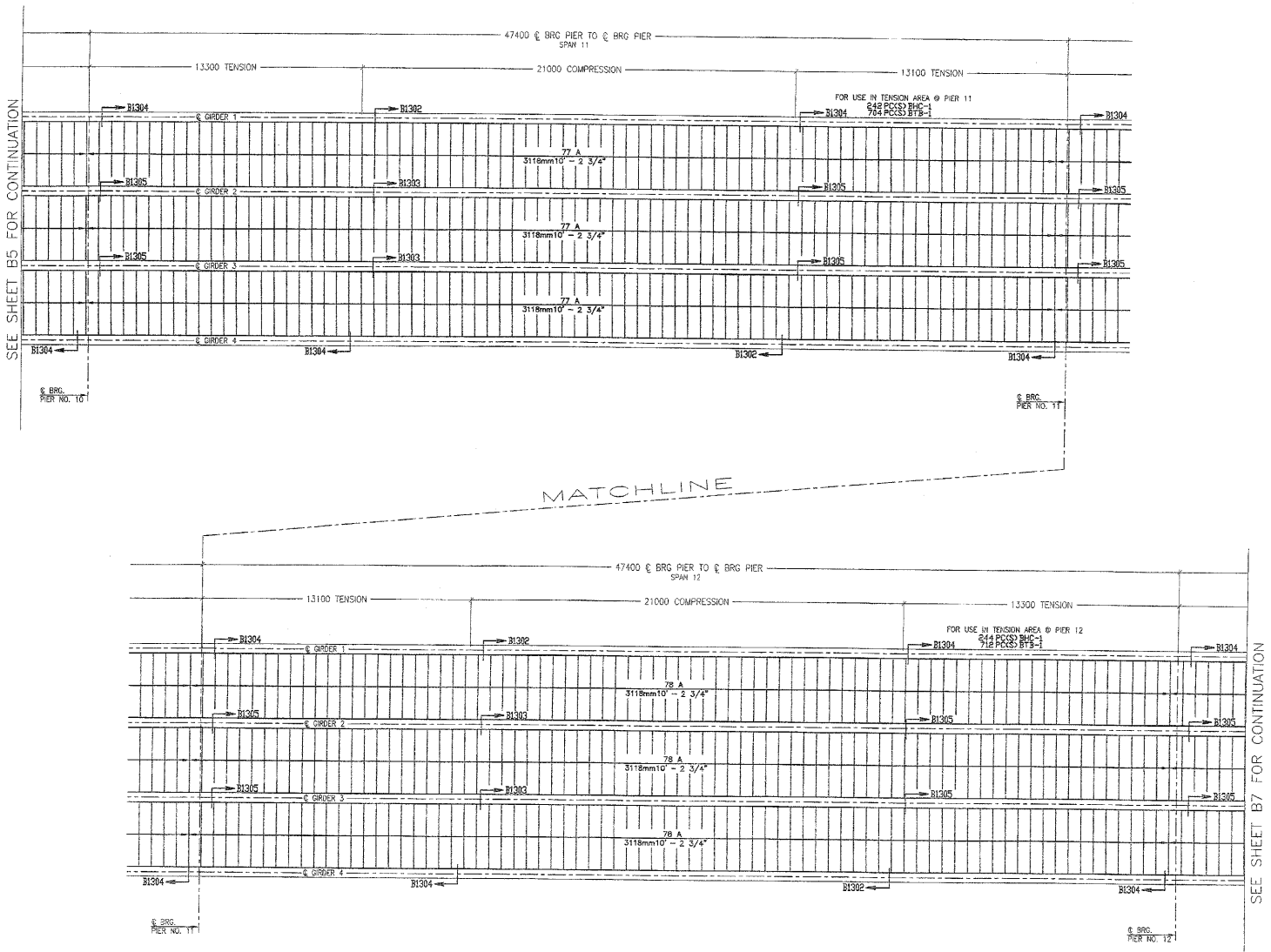
SYMBOLS
SEQ. LINE
AREA LINE
SEQ. MARK
AREA MARK
E.O.D. - END OF DECK
E.O.S. - END OF SLAB

DRAWING OR SHOP SHEETS: 1A 0 – 0
SHEET WIDTH 300N. STANDARD 1000MM

PROJECT # BR-05-27

B5

SHEET 5 OF 13



UNIT 2
BRIDGEFORM DECK PLAN
SPANS 11 & 12

114mm (4 1/2") X 305mm (12") PITCH 19 GA GALV G165 (MARK A)

SCALE: 1:100

CONSTRUCTION

SHOP DRAWING REVIEW

☐ REVIEWED AS TO CONFORMITY WITH THE CONSTRUCTION CONTRACT DOCUMENTS AND AS PROVIDED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND GENERAL COMPLIANCE WITH INFORMATION GIVEN IN THE CONTRACT DOCUMENTS.

☐ REVISED ☐ REVIEWED AS NOTED ☐ RESUBMIT

CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING ALL WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.

VHB — Vanasse Hangen Brustlin, Inc. — Job Number: 60611

Reviewed By: [illegible] Date: 5-27-25

EACH SHEET MUST BE FASTENED TO SUPPORTS IMMEDIATELY UPON PLACEMENT TO AVOID HAZARD THAT COULD RESULT FROM HORIZONTAL MOVEMENT OR SUDDEN UPLIFT

Wheeling Corrugating Company
Since 1890

CIANBRO
MISSISQUOI BAY BRIDGE
VT 78 (PRINCIPAL ARTERIAL) 2
OVER MISSISQUOI NATIONAL & WILDLIFE REFUGE
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT AGENCY OF TRANSPORTATION
PROJECT # BRF 0536 (1) (2)

CUSTOMER:
PROJECT:
LOCATION:
OWNER:
DESIGN: CHECKED: DATE: 3/21/05
DRAWN: CHECKED: DATE: 3/29/05
QH LHS 3/29/05

REVISIONS

PRINTS ISSUED

No.	DATE	FOR
C/S	3/29	APPROVAL
E-C/S	4/21	APPROVAL
E	4/22	APPROVAL
C	5/13	APPROVAL

SYMBOLS

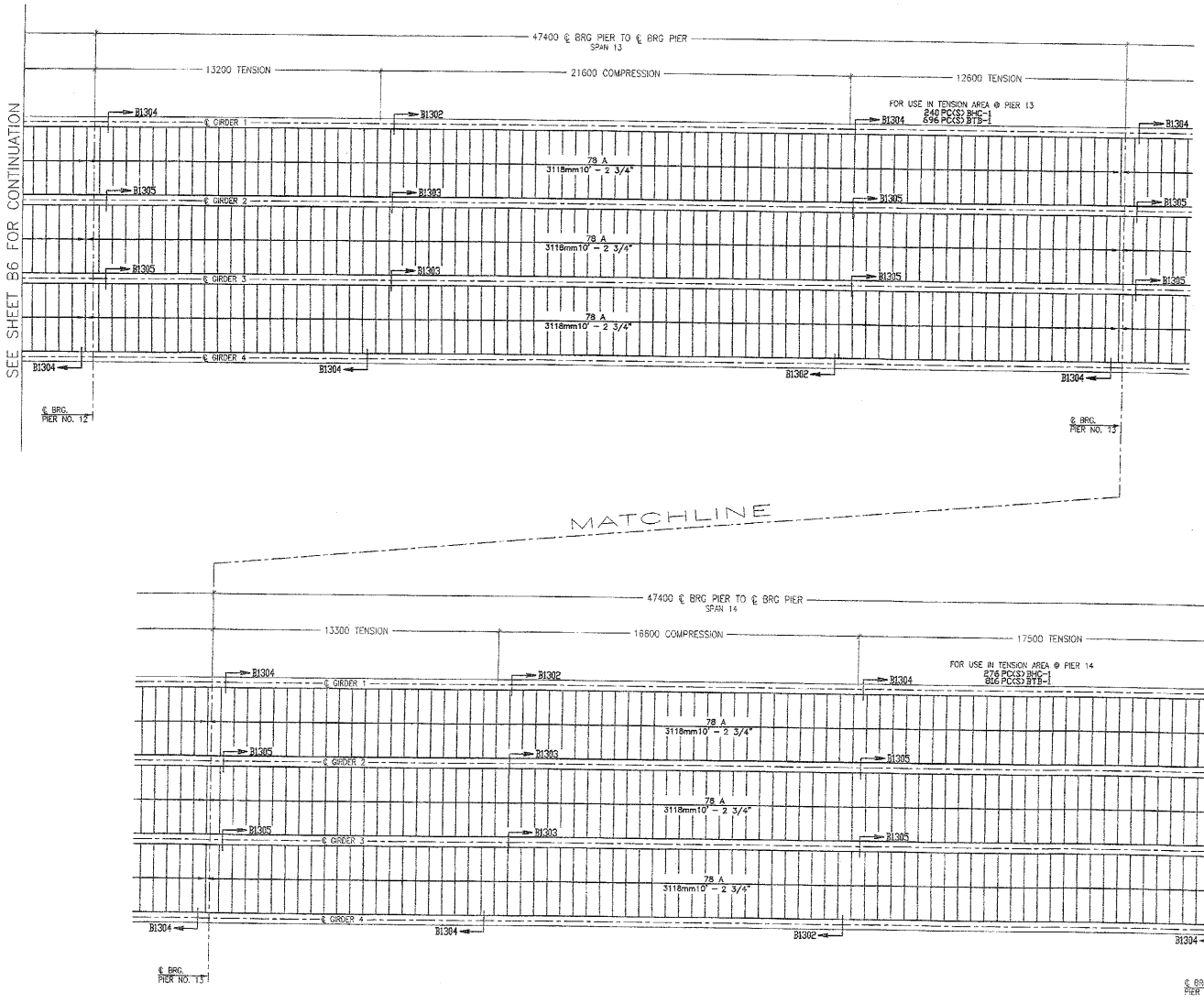
- SEG. LINE
- AREA LINE
- # SEG. MARK
- # AREA MARK
- E.O.D. = END OF DECK
- E.O.S. = END OF SLAB

BOUNDS OF DECK SHEETS — CENTERLINE SKEW — SHEET LENGTH — SKEW ANGLE, DEGREE

PROJECT # BR-05-27

B6

SHEET 6 OF 13



UNIT 2

BRIDGEFORM DECK PLAN

SPANS 13 & 14

114mm (4 1/2") X 305mm (12") PITCH 19 GA GALV G165 (MARK A)

SCALE: 1:100

CONSTRUCTION

SHOP DRAWING REVIEW

VRB

EACH SHEET MUST BE FASTENED TO SUPPORTS IMMEDIATELY UPON PLACEMENT TO AVOID HAZARD THAT COULD RESULT FROM HORIZONTAL MOVEMENT OR SUDDEN UPLIFT

Wheeling Corrugating Company since 1890

CUSTOMER: CIANBRO
PROJECT: MISSISQUOI BAY BRIDGE
LOCATION: VT 78 (PRINCIPAL ARTERIAL OVER MISSISQUOI BAY) BRIDGE NO. 2
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT AGENCY OF TRANSPORTATION
DRAWN: DLH | DATE: 3/21/05 | CHECKED: LJCPS | DATE: 3/28/05
PROJECT #: BRF 036 - 1 (1)

REVISIONS

PRINTS ISSUED

No.	DATE	FOR
0/8	3/29	APPROVAL
E-0/5	4/21	APPROVAL
E	4/22	APPROVAL
E	5/13	APPROVAL

SYMBOLS

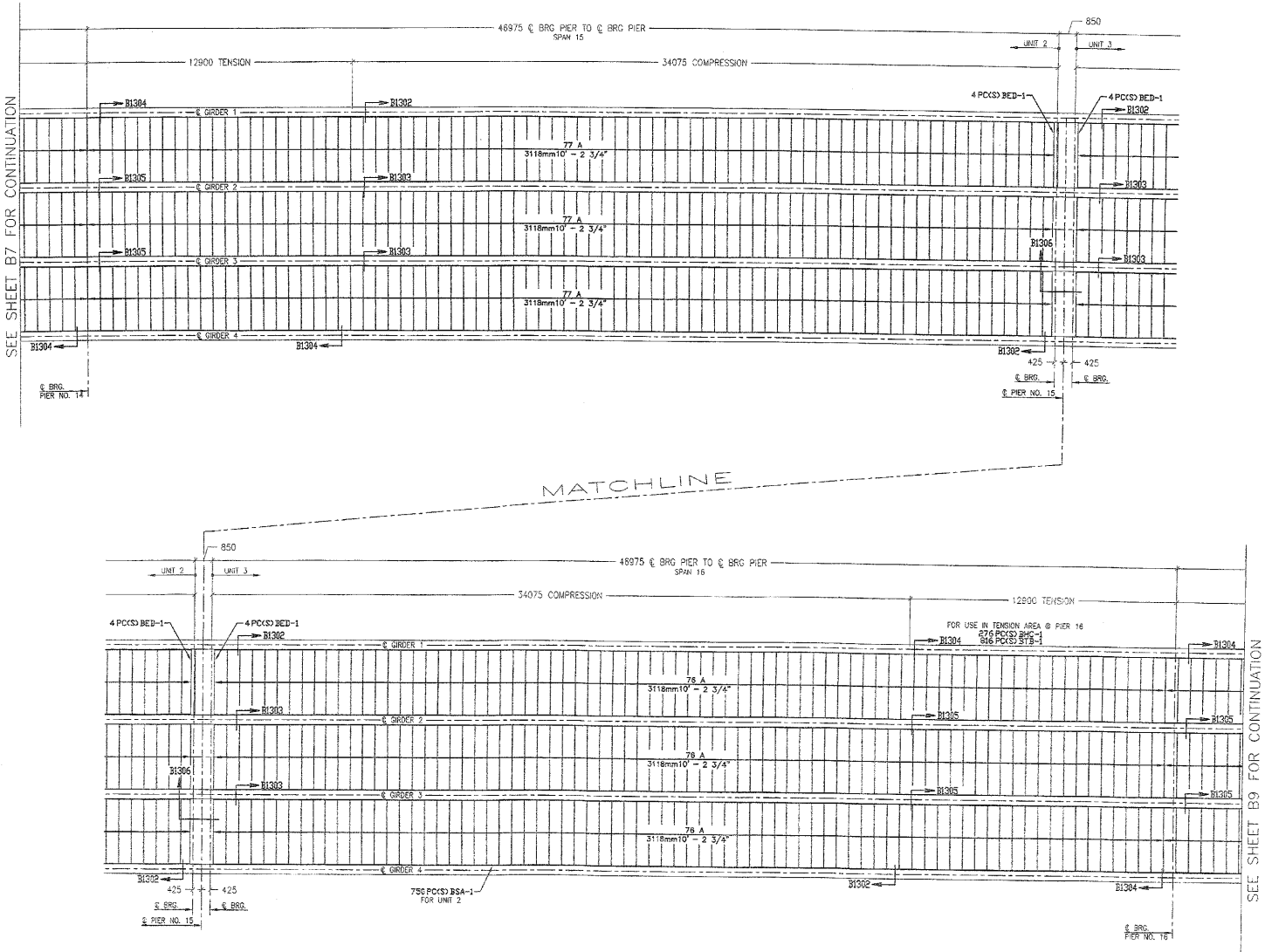
- = SOL. LINE
- = WELD LINE
- 7 = FIELD MARK
- F = WELD MARK
- E.O.D. = END OF DECK
- E.O.S. = END OF SLAB

SOURCE OF DECK SHEETS: 1A, 0 - 0, SHEET LOCATION, DECK DRAWING LOCATION

PROJECT # BR-05-27

B7

SHEET 7 OF 13



UNIT 2 & 3
BRIDGEFORM DECK PLAN
SPANS 15 & 16

114mm (4 1/2") X 305mm (12") PITCH 19 GA GALV C165 (MARK A)

SCALE: 1:100

CONSTRUCTION
SHOP DRAWING REVIEW
VHB Vanasse Hangen Brustlin, Inc.
Job Number: 5051.11
Reviewed By: BMM
Date: 5-27-05

EACH SHEET MUST BE FASTENED TO SUPPORTS IMMEDIATELY UPON PLACEMENT TO AVOID HAZARD THAT COULD RESULT FROM HORIZONTAL MOVEMENT OR SUDDEN UPLIFT

Wheeling Corrugating Company
since 1890

CIANBRO
MISSISQUOI (BAY) BRIDGE
VT ROUTE 105 OVER MISSISQUOI BAY
OVER MISSISQUOI BAY, BRIDGE NO. 2
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT AGENCY OF TRANSPORTATION
BRF 036 - 4 (1)

CUSTOMER:
PROJECT:
LOCATION:
OWNER:

REVISIONS	DRAWN	DATE	CHECKED	DATE
	GLH	5/27/05	LUCAS	5/28/05

PRINTS ISSUED

NO.	DATE	FOR
0/6	3/28	APPROVAL
C-0/6	4/21	APPROVAL
B	4/22	APPROVAL
E	5/13	APPROVAL

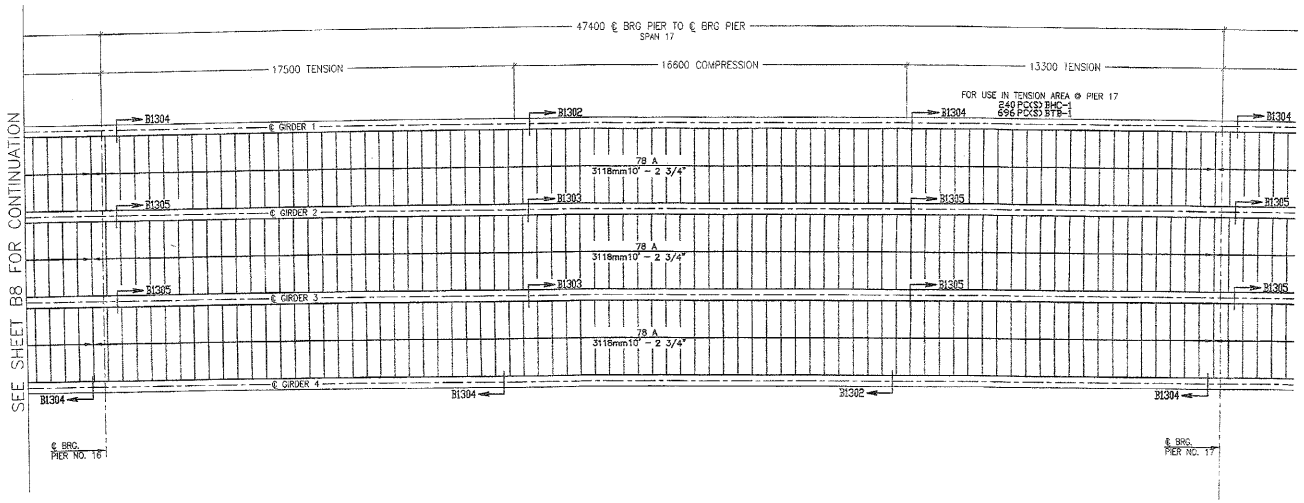
SYMBOLS
SKEW LINE
AREA LINE
SKEW NAME
AHEAD
E.O.D. - END OF DECK
E.O.S. - END OF SLAB

DESIGNER OF DECK SHEETS
DESIGNING ENGINEER
1 A
0 - 0
SHEET NUMBER
DRAFTSMAN'S INITIALS

PROJECT #
BR-05-27

B8

SHEET 8 OF 13



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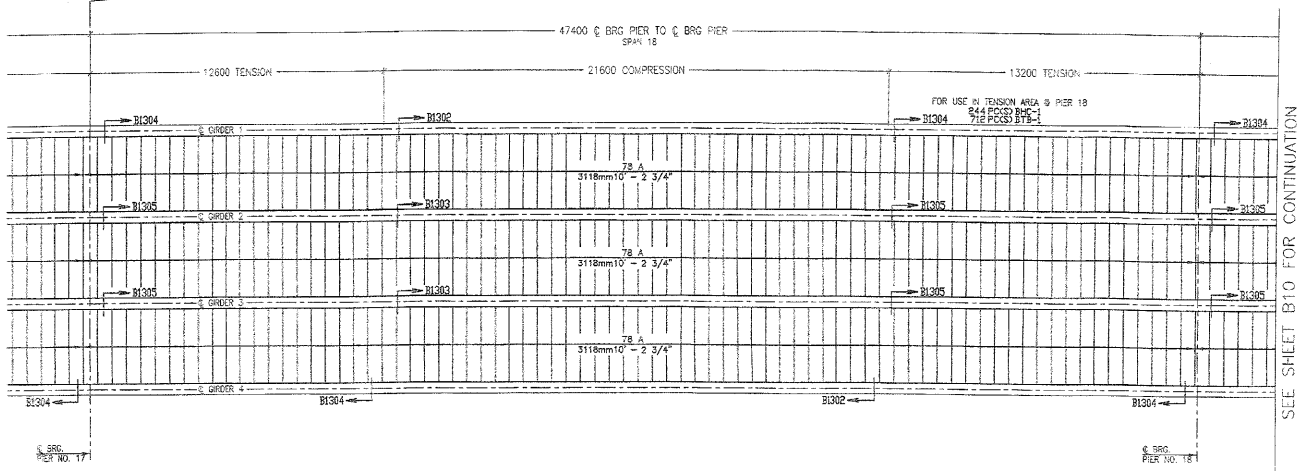


UNIT 3

BRIDGEFORM DECK PLAN

SPANS 17 & 18

114mm (4 1/2") X 305mm (12") PITCH 19 GA GALV G165 (MARK A)

SCALE: 1:100

CONSTRUCTION

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND CONFORMS TO THE DESIGN CONCEPT OF THE PROJECT. REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING THE WORK OF ALL SUBCONTRACTORS WITH THE WORK OF ALL OTHER TRADES AND PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc.

EACH SHEET MUST BE FASTENED TO SUPPORTS IMMEDIATELY UPON PLACEMENT TO AVOID HAZARD THAT COULD RESULT FROM HORIZONTAL MOVEMENT OR SUDDEN UPLIFT

Wheeling Corrugating Company
Since 1890

CIANBRO
MISSISSIPPI RIVER BRIDGE
VT 78 (PRINCIPAL ARTERIAL)
OVER MISSISQUOI RIV., BRIDGE NO. 2
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT AGENCY OF TRANSPORTATION

CUSTOMER:			
PROJECT:			
LOCATION:			
OWNER:	DRAWN	CHECKED	DATE
	GLH	LUCAS	5/28/05

DRF 036 - 1 (1)

REVISIONS

PRINTS ISSUED

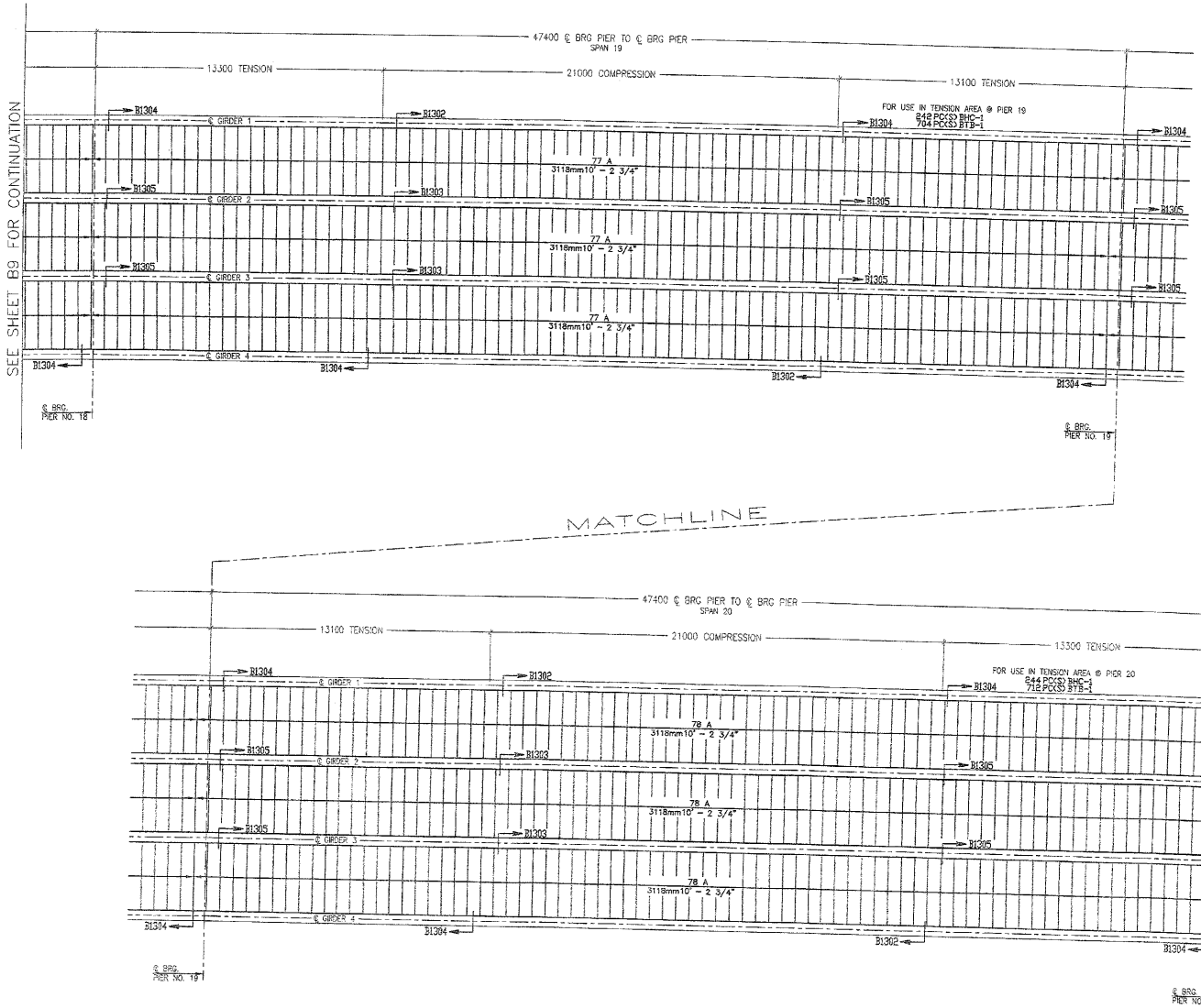
No.	DATE	FOR
D/E	3/29	APPROVAL
E-D/E	6/21	APPROVAL
E	4/22	APPROVAL
E	5/13	APPROVAL

SYMBOLS

PROJECT
BR-05-27

B9

SHEET 9 OF 13



UNIT 3

BRIDGEFORM DECK PLAN

SPANS 19 & 20

114mm (4 1/2") X 305mm (12") PITCH 19 GA GALV G165 (MARK A)

SCALE: 1:100

CONSTRUCTION

SHOP DRAWING REVIEW

VHB

EACH SHEET MUST BE FASTENED TO SUPPORTS IMMEDIATELY UPON PLACEMENT TO AVOID HAZARD THAT COULD RESULT FROM HORIZONTAL MOVEMENT OR SUDDEN UPLIFT

Wheeling Corrugating Company
Since 1890

CIANBRO
MISSISQUOI BAY BRIDGE
I-78 (PRINCIPAL ARTERIAL)
OVER MISSISQUOI BAY, ROUTE 2
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT AGENCY OF TRANSPORTATION
PROJECT # BRF 035 - 1 (1)

CUSTOMER:
PROJECT:
LOCATION:
DRAWN: QLH 3/21/05
CHECKED: LUCAS 3/29/05

REVISIONS

PRINTS ISSUED

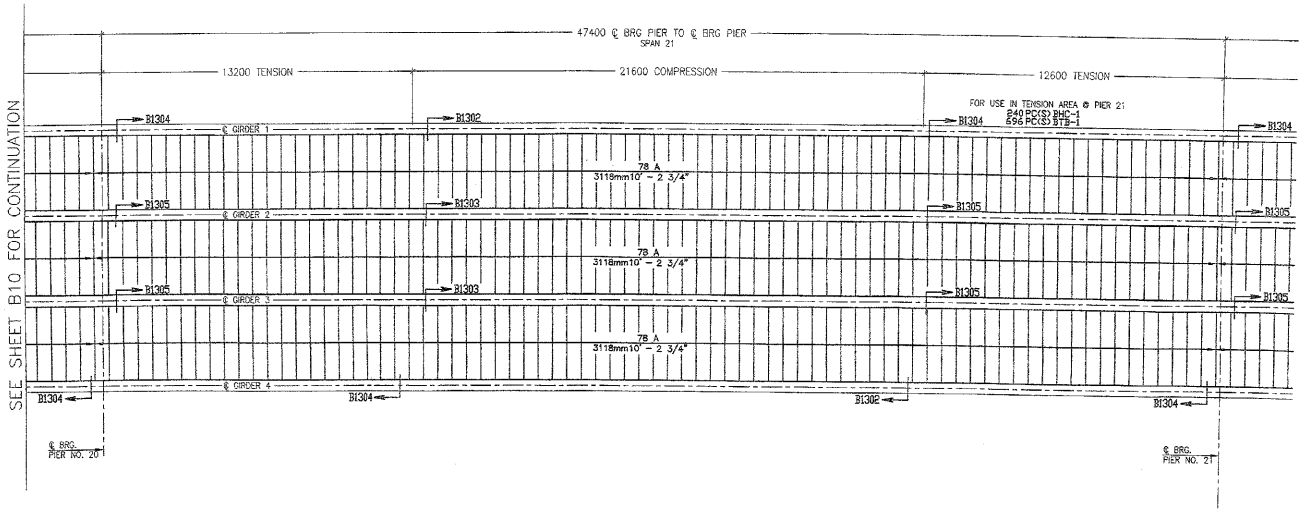
No.	DATE	FOR
0/8	3/29	APPROVAL
5-9/8	4/21	APPROVAL
6	4/22	APPROVAL
8	5/13	APPROVAL

SYMBOLS

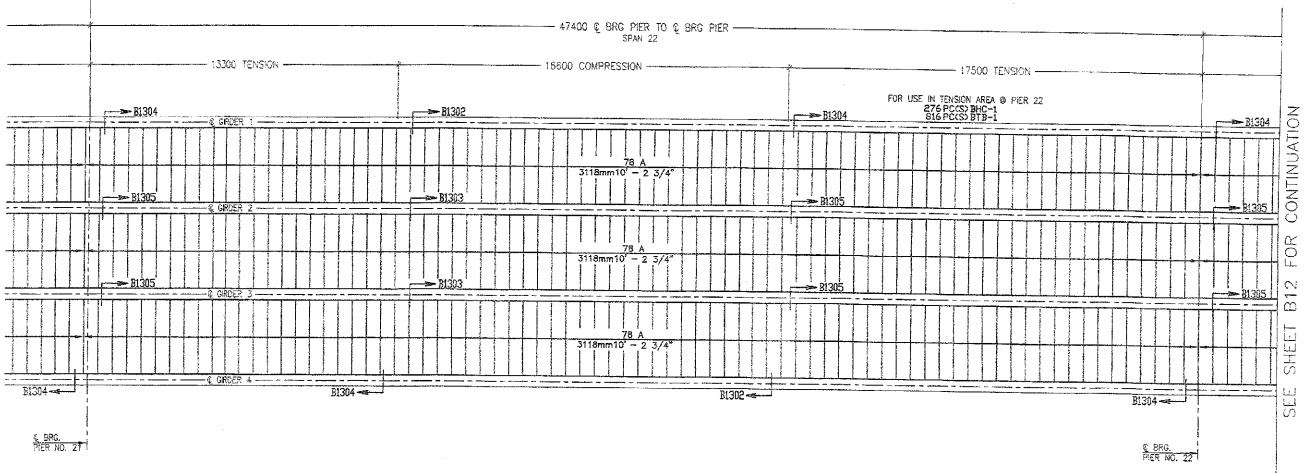
PROJECT # BR-05-27

B10

SHEET 10 OF 13



MATCHLINE



UNIT 3

BRIDGEFORM DECK PLAN

SPANS 21 & 22

114mm (4 1/2") X 305mm (12") PITCH 19 GA GALV G165 (MARK A)

SCALE: 1:100

CONSTRUCTION

SHOP DRAWING REVIEW

VHB

EACH SHEET MUST BE FASTENED TO SUPPORTS IMMEDIATELY UPON PLACEMENT TO AVOID HAZARD THAT COULD RESULT FROM HORIZONTAL MOVEMENT OR SUDDEN UPLIFT

Wheeling Corrugating Company since 1890

CIANBRO
MISSISSIPPI RIVER BRIDGE
VT 78 (PRINCIPAL ARTERIAL)
OVER MISSISQUOI BAY, BRIDGE NO. 2
CONNECTING GRAND ISLE AND FRANKLIN
STATE OF VERMONT AGENCY OF TRANSPORTATION

CUSTOMER:			
PROJECT:			
LOCATION:			
OWNER:			
REVISIONS	DATE	CHECKED	DATE
DRAWN	3/21/05	LUCAS	3/28/05
GLH			

PROJECT # BRF 035 - 1 (1)

PRINTS ISSUED

No.	DATE	FOR
0/B	3/29	APPROVAL
E-0/B	4/21	APPROVAL
E	4/22	APPROVAL
E	5/13	APPROVAL

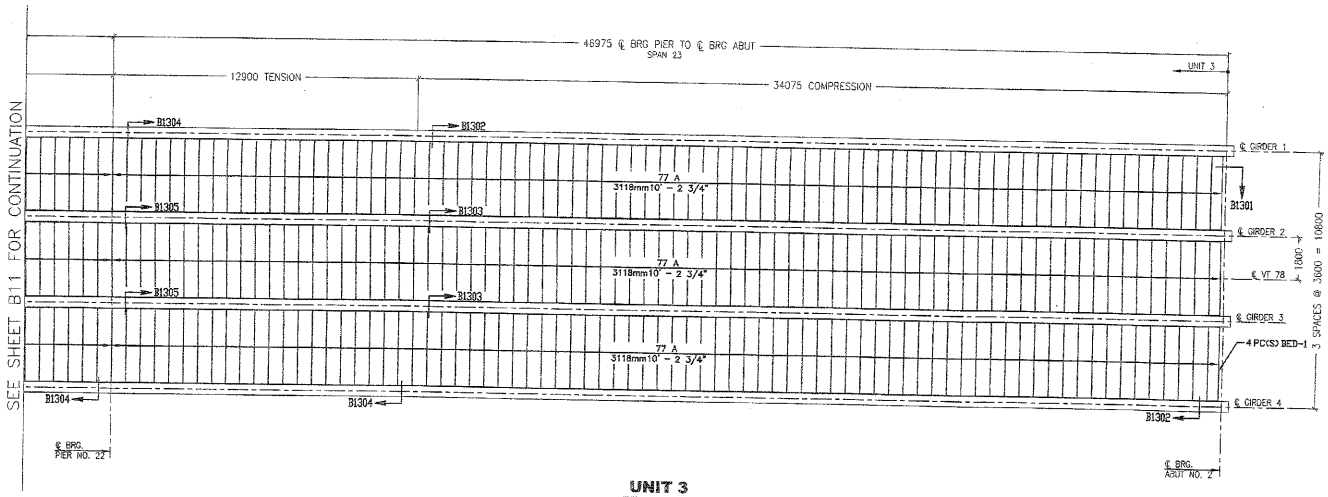
SYMBOLS

- SEQ. MARK
- AREA MARK
- STD. MARK
- APEX MARK
- E.O.D. - END OF DECK
- E.O.S. - END OF SLAB

PROJECT # BR-05-27

B11

SHEET 11 OF 13



UNIT 3

BRIDGEFORM DECK PLAN

SPAN 23

114mm (4 1/2") X 305mm (12") PITCH 19 GA GALV G165 (MARK A)

SCALE: 1:100

CONSTRUCTION

SHOP DRAWING REVIEW

☐ REJECTED NO EXCEPTIONS TAKEN ☐ CONSTRUCTION CONTRACT DOCUMENTS ARE REVISED BUT THIS ITEM IS NOT AFFECTED ☐ MADE AS NOTED ☐ SUBMIT NO. ___ COPIES OF REVISED SHOP DRAWINGS ☐ SUBMIT ___ COPIES OF REVISED CONSTRUCTION CONTRACT DOCUMENTS

☐ RESUBMIT ☐ SUBMIT FOR APPROVAL ☒ SUBMIT TO CONSTRUCTION

NOTICE TO CONTRACTOR: THIS REVIEW IS ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR REMAINS RESPONSIBLE FOR DIMENSIONS, QUANTITIES, FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATION OF HIS WORK WITH THAT OF ALL OTHER TRADES AND FOR PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB — Vanasse Hangen Brustlin, Inc. — Engineers, Planners, Economists — 54 Dorparen Parkway, Rochester, NH 03867-4853 — (603) 994-0909 — Job Number: 55711 — Reviewed By: BDM — Date: 5-17-21

EACH SHEET MUST BE FASTENED TO SUPPORTS IMMEDIATELY UPON PLACEMENT TO AVOID HAZARD THAT COULD RESULT FROM HORIZONTAL MOVEMENT OR SUDDEN UPLIFT

Wheeling Corrugating Company
Since 1890

CIANBRO
MISSISSIPPI RIVER BRIDGE
VT 78 (ROUTE 2 OVERPASS)
OVER MISSISSIQUI BAY, BRIDGE NO. 2
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT AGENCY OF TRANSPORTATION

	DRAWN	CHECKED	DATE	BRF 036 - 1 (1)
DESIGN			3/21/05	
DRAWN	QLH	LUCAS	3/29/05	

CUSTOMER:
PROJECT:
LOCATION:
OWNER:

REVISIONS

PRINTS ISSUED

No.	DATE	FOR
0/6	3/28	APPROVAL
E-0/6	4/21	APPROVAL
E	4/22	APPROVAL
E	5/13	APPROVAL

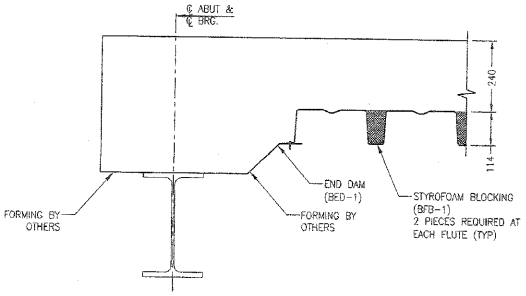
SYMBOLS

- = REF. LINE
- = AREA LINE
- = REF. MARK
- = AREA MARK
- E.O.G. = END OF GUSH
- E.O.S. = END OF SLAB

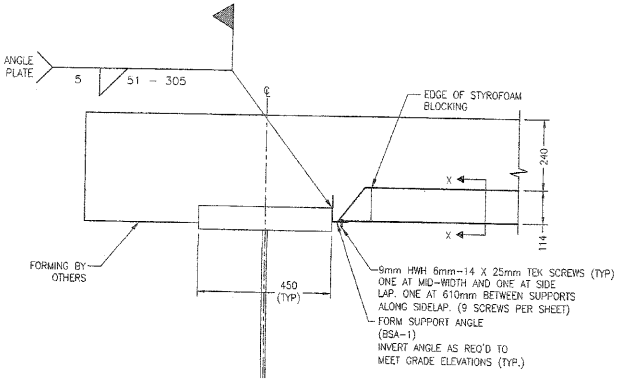
PROJECT #
BR-05-27

B12

SHEET 12 OF 13



SECTION B1301



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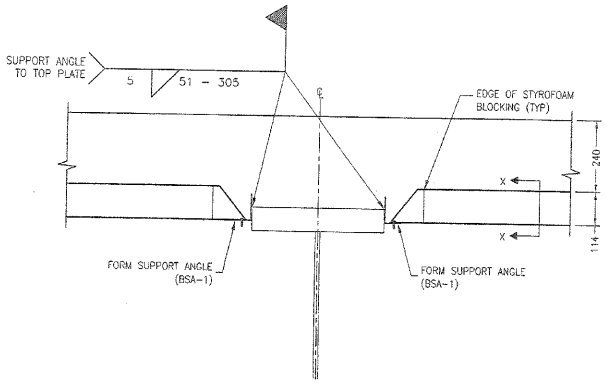

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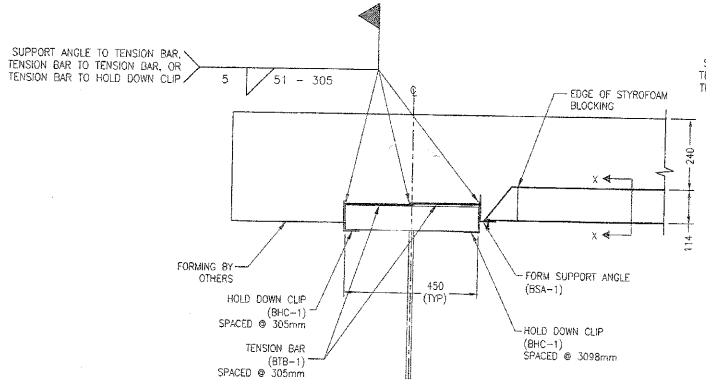

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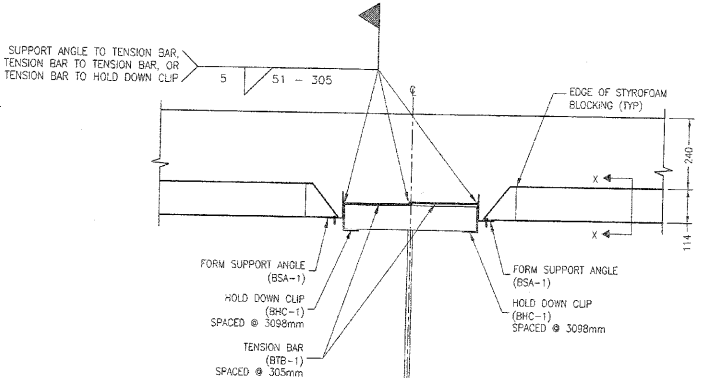

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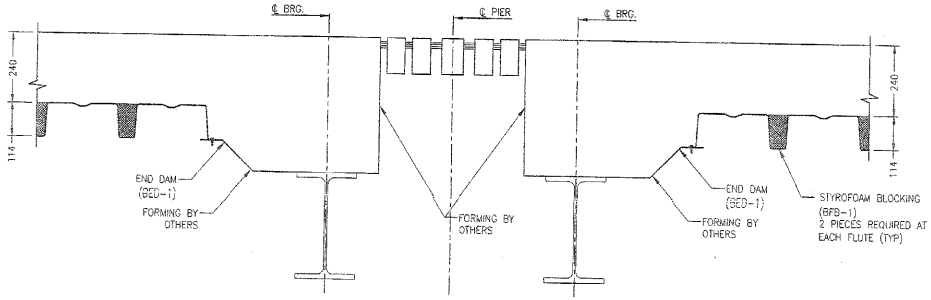
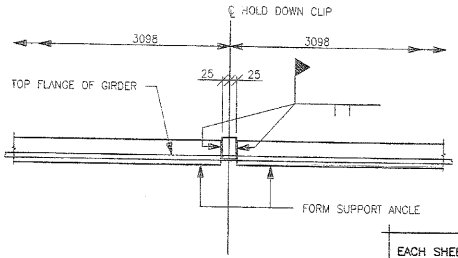


SECTION B1304



X-X

EACH SHEET MUST BE FASTENED TO SUPPORTS IMMEDIATELY UPON PLACEMENT TO AVOID HAZARD THAT COULD RESULT FROM HORIZONTAL MOVEMENT OR SUDDEN UPLIFT

CONSTRUCTION
SHOP DRAWING REVIEW

Wheeling Corrugating Company
Since 1890

CIANBRO
MISSISSAUGA BAY BRIDGE
MISSISSAUGA BAY, ANTIGONISH
OVER MISSISSAUGA BAY, BRIDGE NO. 2
COUNTIES OF GRAND ISLE AND FRANKLIN
STATE OF VERMONT AGENCY OF TRANSPORTATION
PROJECT # BRF 038-1 (1)

CUSTOMER:	DATE	CHECKED
PROJECT:	3/21/06	LUCAS
LOCATION:	3/28/06	
OWNER:		
DRAWN		
GLH		

REVISIONS

PRINTS ISSUED

NO.	DATE	FOR
D/S	3/29	APPROVAL
E-D/S	4/21	APPROVAL
E	4/22	APPROVAL
E	5/13	APPROVAL

SYMBOLS

- STEEL LINE
- ALUM. LINE
- STEEL MARK
- ALUM. MARK
- E.O.D. = END OF DECK
- E.O.S. = END OF SLAB

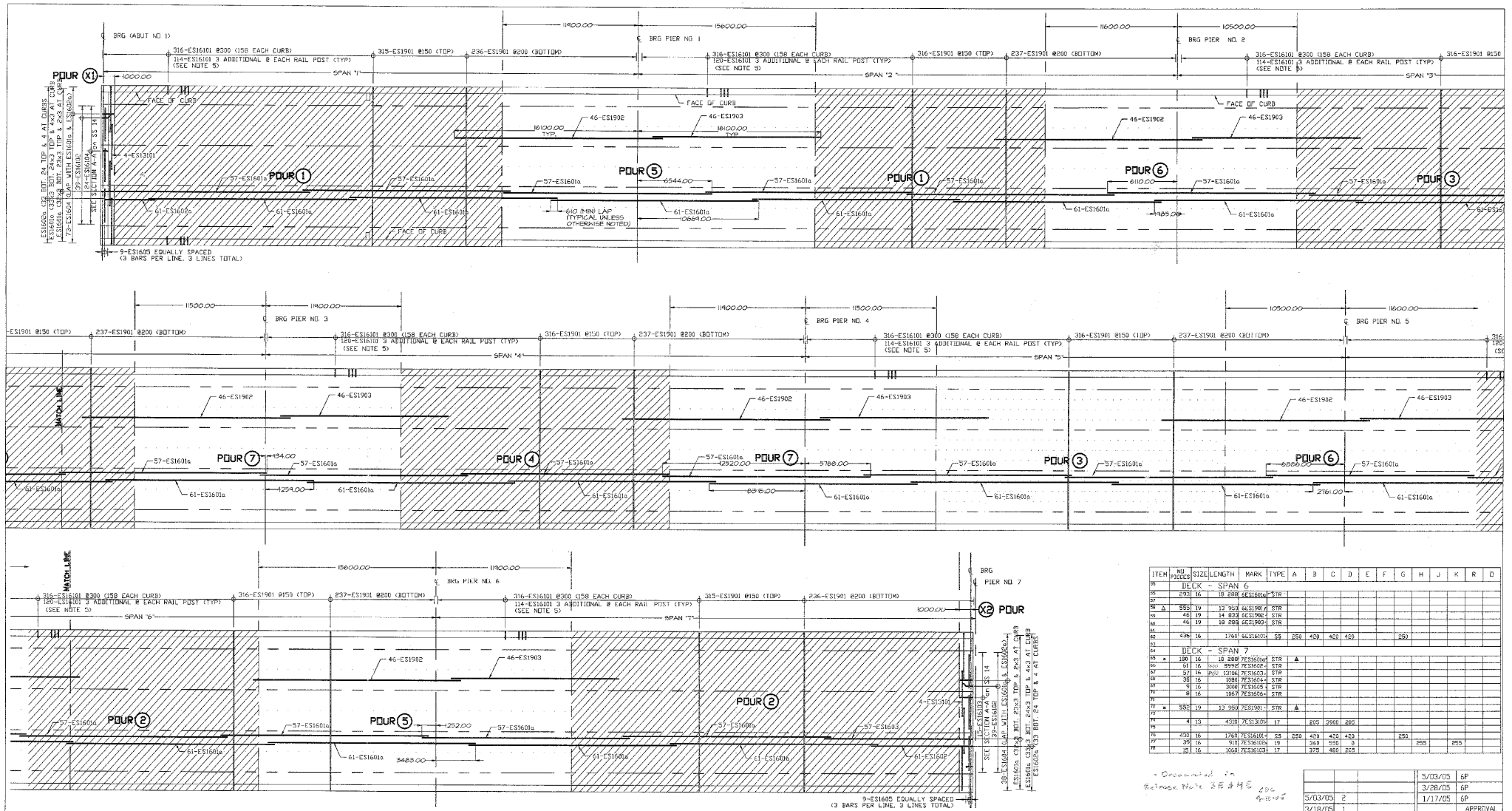
SHEET NO. (DESIGNATES SHEETS) — MATCHLINE LINES

SHEET NUMBER — TOTAL SHEETS IN CONTRACT

PROJECT # BR-05-27

B13

SHEET 13 OF 13



ITEM	NO PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K
	DECK - SPAN 1														
	354	16	18 288	6ES1601a	STR	▲									
	61	16	4410	7ES1602a	STR										
	73	16	3880	7ES1604	STR										
	9	16	3000	7ES1605	STR										
	8	16	1067	7ES1606	STR										
	551	19	13 950	6ES1901	STR	▲									
	46	19	14 833	6ES1902	STR										
	47	19	18 288	6ES1903	STR										
	4	13	4310	7ES13101	17		285	3980	365						
	430	16	1760	6ES16101	SS	250	420	420	420			250			
	39	16	910	7ES16102	19		360	550	0			255		255	
	24	16	910	7ES16104	17		375	330	205						

ITEM	NO PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G
	DECK - SPAN 2											
	354	16	18 288	6ES1601a	STR							
	553	19	13 950	6ES1901	STR							
	46	19	14 833	6ES1902	STR							
	46	19	18 288	6ES1903	STR							
	436	16	1760	6ES16101	SS	250	420	420	420			250
	DECK - SPAN 3											
	354	16	18 288	6ES1601a	STR	▲						
	8	16	1067	7ES1606	STR							
	553	19	13 950	6ES1901	STR	▲						
	46	19	14 833	6ES1902	STR							
	46	19	18 288	6ES1903	STR							
	436	16	1760	6ES16101	SS	250	420	420	420			250

ITEM	NO PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G
	DECK - SPAN 4											
	297	16	18 288	4ES1601a	STR							
	553	19	13 950	4ES1901	STR							
	46	19	14 833	4ES1902	STR							
	46	19	18 288	4ES1903	STR							
	436	16	1760	4ES16101	SS	250	420	420	420			250
	DECK - SPAN 5											
	355	16	18 288	5ES1601a	STR	▲						
	8	16	1067	5ES1606	STR							
	553	19	13 950	5ES1901	STR	▲						
	46	19	14 833	5ES1902	STR							
	46	19	18 288	5ES1903	STR							
	436	16	1760	5ES16101	SS	250	420	420	420			250

ITEM	NO PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	D
	DECK - SPAN 6																
	293	16	18 288	6ES1601a	STR												
	553	19	13 950	6ES1901	STR												
	46	19	14 833	6ES1902	STR												
	46	19	18 288	6ES1903	STR												
	436	16	1760	6ES16101	SS	250	420	420	420			250					
	DECK - SPAN 7																
*	180	16	18 288	7ES1601a	STR	▲											
	61	16	8995	7ES1602a	STR												
	57	16	13196	7ES1603	STR												
	38	16	1086	7ES1604	STR												
	9	16	3000	7ES1605	STR												
	8	16	1067	7ES1606	STR												
*	552	19	13 950	7ES1901	STR	▲											
	4	13	4310	7ES13101	17		285	3980	365								
	430	16	1760	7ES16101	SS	250	420	420	420			250					
	39	16	910	7ES16102	19		360	550	0			255		255			
	15	16	1060	7ES16103	17		375	480	205								

* Documented in Release Nos 150 & 260 (see 4-1-05)

REFERENCE DWG.

REINFORCING BARS
ASTM A615M GRADE 420

UNLESS NOTED
LAP ALL CONTINUOUS BARS

#10=____ #19=600 #29=____
#13=____ #22=____ #32=____
#16=610 #25=____ #36=____

Legend

IF Inside Face	H	Vertical/ Horizontal
OF Outside Face	EW	Each Way
NF Near Face	B/Bot	Bottom
FF Far Face	Top	Top
EF Each Face	SB	Support Bars

ALL REINF ON THIS DWG IS

EPOXY (EP) COATED REBAR

NOTICE

Shortages, improper fabrication or claims for any other reason must be reported to this company within a period of 15 days of delivery. This company reserves the right to field inspect prior to replacement or reconditioning of nonconforming material, and will not honor charges for work done in the field without specific authorization from this company.

REINFORCING STEEL PLACING DRAWINGS ONLY USE IN CONJUNCTION WITH CONTRACT DRAWINGS & SPECIFICATIONS. ELEVATIONS & DIMENSIONS SHOWN ON THIS DRAWING ARE FOR DETAILING PURPOSES ONLY AND SHOULD NOT BE USED FOR CONSTRUCTION UNLESS VERIFIED BY ENGINEER OR CONTRACTOR.

DATE	REV. NO.	DESCRIPTION	DATE	SENT FOR
			5/03/05	6P
			3/28/05	6P
5/03/05	2		1/17/05	6P
3/18/05	1			APPROVAL

BARKER STEEL CO., INC.
LITTLE

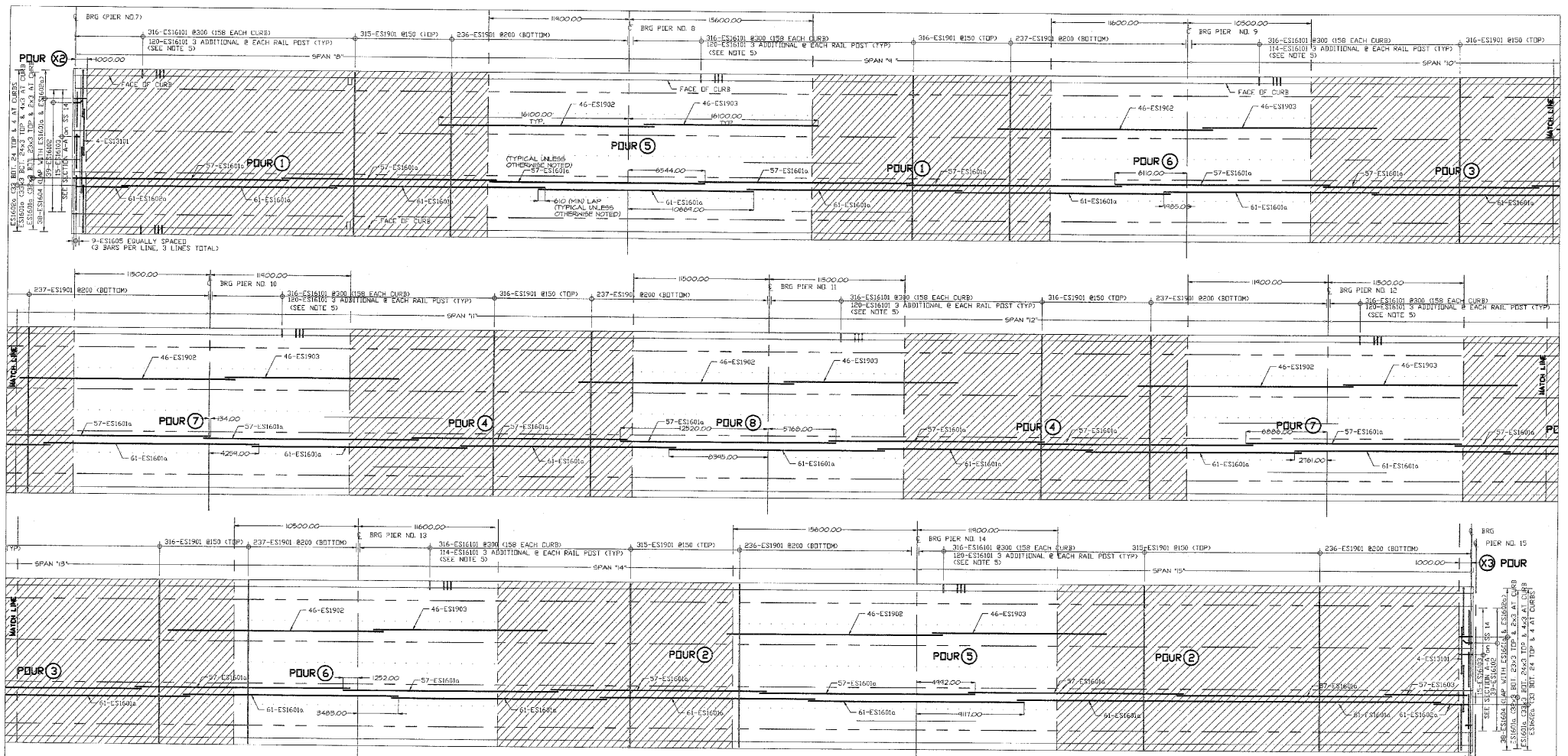
Scarborough, Me.

PROJECT	Alburg-Swanton BRF 036-1 VT/B Over Missisquoi Bay
LOCATION	Alburg-Swanton, Vt 05440
ARCHITECT	
ENGINEER	VANASSE HANGEN BRUSTLIN, INC.
CUSTOMER	CIANBRO CORP.

Drawn By:	Date:	Reviewed By:	Job No.
SH	01/17/05		10016044

Drawing Covers: DECK REINFORCING Spans 1 thru. 7

Drawing no. R01B



ITEM	NO PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K
DECK - SPAN 8															
	354	16	18 288	8ES1601a	STR										
*	60	16	4410	8ES1602a	STR										
	30	16	1080	8ES1604	STR										
	9	16	3060	8ES1605	STR										
	551	19	13 950	8ES1901	STR	▲									
	46	19	14 833	8ES1902	STR										
	46	19	18 288	8ES1903	STR										
	4	13	4310	8ES1310	17				205	3900	205				
	436	16	1760	8ES1601	S5	250	420	420	420				250		
	39	16	910	8ES1602	19				360	550	0			355	255
	15	16	1060	8ES1603	17				375	480	205				
DECK - SPAN 9															
Δ	356	16	18 288	9ES1601a	STR	▲									
	8	16	1067	9ES1606	STR										
	552	19	13 950	9ES1901	STR	▲									
	46	19	14 833	9ES1902	STR										
	46	19	18 288	9ES1903	STR										
	436	16	1760	9ES1601	S5	250	420	420	420				250		

ITEM	NO PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G
DECK - SPAN 10												
	354	16	18 288	10ES1601a	STR							
*	554	19	13 950	10ES1901	STR							
	46	19	14 833	10ES1902	STR							
	46	19	18 288	10ES1903	STR							
	430	16	1760	10ES16101	S5	250	420	420	420			250
DECK - SPAN 11												
*	837	16	18 288	11ES1601a	STR							
	553	19	13 950	11ES1901	STR							
	46	19	14 833	11ES1902	STR							
	46	19	18 288	11ES1903	STR							
	436	16	1760	11ES16101	S5	250	420	420	420			250
DECK - SPAN 12												
	354	16	18 288	12ES1601a	STR							
	553	19	13 950	12ES1901	STR							
	46	19	14 833	12ES1902	STR							
	46	19	18 288	12ES1903	STR							
	436	16	1760	12ES16101	S5	250	420	420	420			250

ITEM	NO PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K
DECK - SPAN 13															
	354	16	18 288	13ES1601a	STR	▲									
	8	16	1067	13ES1606	STR										
	553	19	13 950	13ES1901	STR	▲									
	46	19	14 833	13ES1902	STR										
*	47	19	18 288	13ES1903	STR										
	436	16	1760	13ES16101	S5	250	420	420	420				250		
DECK - SPAN 15															
	236	16	18 288	15ES1601a	STR	▲									
	61	16	2896	15ES1602a	STR										
	57	16	7010	15ES1603	STR										
	38	16	1080	15ES1604	STR										
	9	16	3000	15ES1605	STR										
	8	16	1067	15ES1606	STR										
Δ	553	19	13 950	15ES1901	STR	▲									
	4	13	4310	15ES1310	17				205	3900	205				
	436	16	1760	15ES16101	S5	250	420	420	420				250		
	39	16	910	15ES16102	19				360	550	0			355	255
	15	16	1060	15ES16103	17				375	480	205				

ITEM	NO PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G
DECK - SPAN 14												
	236	16	18 288	14ES1601a	STR							
	553	19	13 950	14ES1901	STR							
	46	19	14 833	14ES1902	STR							
	46	19	18 288	14ES1903	STR							
	430	16	1760	14ES16101	S5	250	420	420	420			250

REFERENCE DWG.

REINFORCING BARS
ASTM A615M GRADE 420

UNLESS NOTED
LAP ALL CONTINUOUS BARS

#10=____ #19=600 #29=____
#13=____ #22=____ #32=____
#16=600 #25=____ #36=____

Legend:

IF	Inside Face	V	Vertical
OF	Outside Face	H	Horizontal
NF	Near Face	EW	Each Way
FF	Far Face	B/Bot	Bottom
EF	Each Face	T	Top
		SB	Support Bars

NOTICE

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REINFORCING STEEL PLACING DRAWINGS ONLY USE IN CONJUNCTION WITH CONTRACT DRAWINGS & SPECIFICATIONS. ELEVATIONS & DIMENSIONS SHOWN ON THIS DRAWING ARE FOR DETAILING PURPOSES ONLY AND SHOULD NOT BE USED FOR CONSTRUCTION UNLESS VERIFIED BY ENGINEER OR CONTRACTOR.

ALL BARS TO BE EPOXY (EP) COATED REBAR

DATE	REV. NO.	DESCRIPTION	DATE	SENT FOR
			05/03/05	6P
				APPROVAL

BARKER STEEL CO., INC.

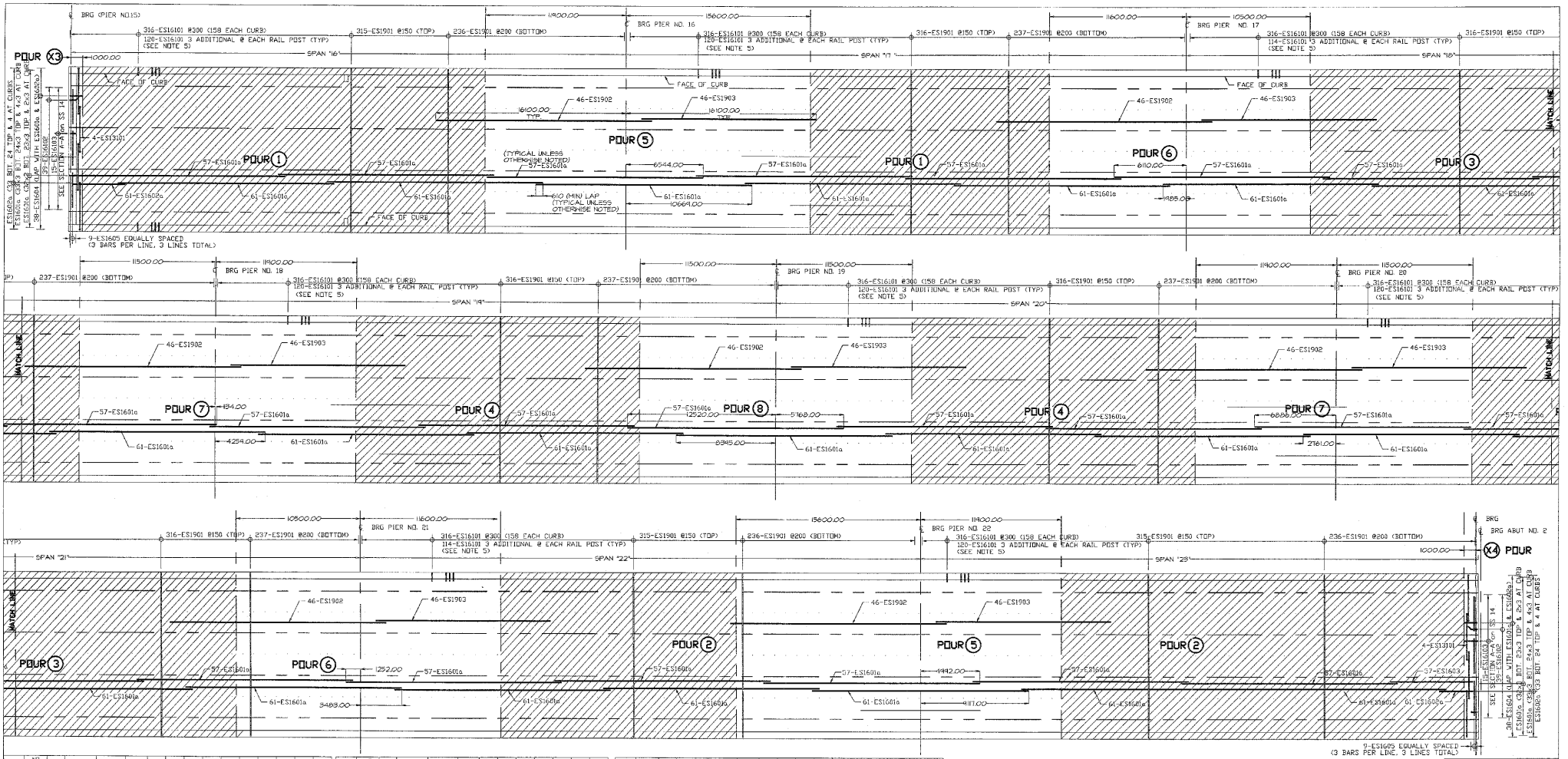
Scarborough, Me.
OFFICE

PROJECT	Alburg-Swanton BRF 036-1 VT78 Over Missisquoi Bay
LOCATION	Alburg-Swanton, Vt 05440
ARCHITECT	
ENGINEER	VANASSE HANGEN BRUSTLIN, INC.
CUSTOMER	CIANBRO CORP.

Drawn By	Date	Reviewed By	Job No.
HJS	5/03/05		10016044

Drawing Covers: DECK REINFORCING Spans 8 thru. 15

Drawing no. R01C



DECK - SPAN 16

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K
354	16	18	288	16ES1604a	STR										
61	16		440	16ES1604	STR										
38	16		1080	16ES1604	STR										
2	16		3000	16ES1605	STR										
551	19	13	950	16ES1901	STR	▲									
* 47	19	14	833	16ES1902	STR										
46	19	18	288	16ES1903	STR										
4	13		4310	16ES1610I	17			265	3990	265					
436	16		1760	16ES1610I	S5	250	420	420	420			250			
39	16		930	16ES1610J	19			360	550	0			255		255
15	16		1060	16ES1610J	17			375	480	265					

DECK - SPAN 17

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G
354	16	18	288	17ES1604a	STR	▲						
8	16		1067	17ES1606	STR							
* 554	19	13	950	17ES1701	STR	▲						
46	19	14	833	17ES1702	STR							
46	19	18	288	17ES1703	STR							
436	16		1760	17ES1610I	S5	250	420	420	420			250

DECK - SPAN 18

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G
354	16	18	288	18ES1604a	STR							
553	19	13	950	18ES1901	STR							
46	19	14	833	18ES1902	STR							
46	19	18	288	18ES1903	STR							
430	16		1760	18ES1610I	S5	250	420	420	420			250

DECK - SPAN 19

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G
237	16	18	288	19ES1604a	STR	▲						
8	16		1067	19ES1606	STR							
553	19	13	950	19ES1901	STR	▲						
△ 461	19	14	833	19ES1902	STR							
46	19	18	288	19ES1903	STR							
436	16		1760	19ES1610I	S5	250	420	420	420			250

DECK - SPAN 20

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G
* 335	16	18	288	20ES1604a	STR							
553	19	13	950	20ES1901	STR							
46	19	14	833	20ES1902	STR							
46	19	18	288	20ES1903	STR							
436	16		1760	20ES1610I	S5	250	420	420	420			250

DECK - SPAN 21

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K
354	16	18	288	21ES1604a	STR	▲									
8	16		1067	21ES1606	STR										
553	19	13	950	21ES1901	STR	▲									
461	19	14	833	21ES1902	STR										
46	19	18	288	21ES1903	STR										
436	16		1760	21ES1610I	S5	250	420	420	420			250			

DECK - SPAN 23

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K
236	16	18	288	23ES1604a	STR	▲									
61	16		2894	23ES1604	STR										
57	16		700	23ES1603	STR										
38	16		1060	23ES1604	STR										
* 10	16		3000	23ES1605	STR										
8	16		1067	23ES1606	STR										
551	19	13	950	23ES1901	STR	▲									
4	13		4310	23ES1310I	17			265	3990	265					
436	16		1760	23ES1610I	S5	250	420	420	420			250			
39	16		930	23ES1610J	19			360	550	0			255		255
15	16		1060	23ES1610J	17			375	480	265					

DECK - SPAN 22

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G
△ 238	16	18	288	22ES1604a	STR							
553	19	13	950	22ES1901	STR							
46	19	14	833	22ES1902	STR							
46	19	18	288	22ES1903	STR							
430	16		1760	22ES1610I	S5	250	420	420	420			250

REFERENCE DWG.

REINFORCING BARS
ASTM A615N GRADE 420

UNLESS NOTED
LAP ALL CONTINUOUS BARS

#10=____ #19= 800 #29=____
#13=____ #22=____ #32=____
#16= 610 #25=____ #36=____

Legend:

IF	Inside Face	V	Vertical
OF	Outside Face	H	Horizontal
NF	Near Face	EW	Each Way
FF	Far Face	B/Bot	Bottom
EF	Each Face	T	Top
		SB	Support Bars

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ALL REINF ON THIS DWG IS
EPOXY (EP) COATED REBAR

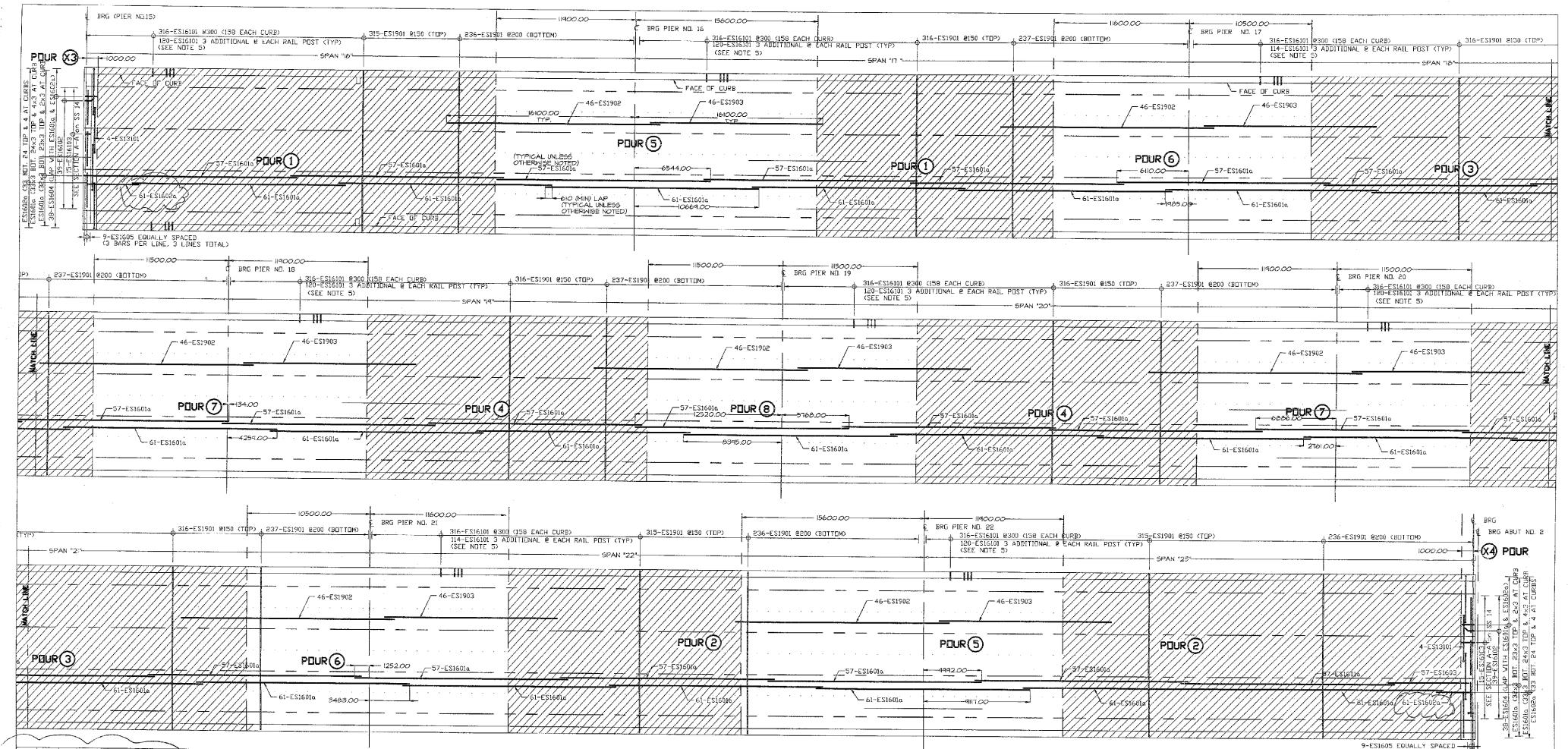
DATE	REV. NO.	DESCRIPTION	DATE	SENT FOR
			5/03/05	6P
				APPROVAL

BARKER STEEL CO., INC.
Scarborough, Me.
OFFICE

PROJECT	Alburg-Swanton BRF 036-1 VT78 Over Missisquoi Bay
LOCATION	Alburg-Swanton, Vt 05440
ARCHITECT	
ENGINEER	VANASSE HANGEN BRUSTLIN, INC.
CUSTOMER	CIANBRO CORP.

Drawn By:	Date:	Reviewed By:	Job No.
HJS	5/03/05		10016044

Drawing Covers: DECK REINFORCING Spans 16 thru. 23
Drawing no. R01D



ITEM	NO PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K
	DECK - SPAN 16														
	29	16	18 288	16ES16016	STR										
	61	16	1775 4490	16ES16020	STR										
	39	16	1080	16ES16014	STR										
	9	16	300	16ES16015	STR										
	551	19	13 950	16ES1901	STR	▲									
*	47	19	14 833	16ES1902	STR										
	46	19	18 288	16ES1903	STR										
	4	13	4310	16ES1901	17		205	3900	205						
	436	16	1760	16ES16101	SS	250	420	420	420			250			
	39	16	910	16ES16102	19		360	550	0			255			255
	15	16	1060	16ES16102	17		375	480	205						
	DECK - SPAN 17														
	354	16	18 288	17ES16016	STR	▲									
	8	16	206.7	17ES16016	STR										
*	554	19	13 950	17ES1701	STR	▲									
	46	19	14 833	17ES1702	STR										
	46	19	18 288	17ES1703	STR										
	436	16	1760	17ES16101	SS	250	420	420	420			250			

ITEM	NO PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G
	DECK - SPAN 18											
	354	16	18 288	18ES16016	STR							
	552	19	13 950	18ES1901	STR							
	46	19	14 833	18ES1902	STR							
	46	19	18 288	18ES1903	STR							
	436	16	1760	18ES16101	SS	250	420	420	420			250
	DECK - SPAN 19											
	237	16	18 288	19ES16016	STR	▲						
	8	16	206.7	19ES16016	STR							
Δ	48	19	14 833	19ES1902	STR	▲						
	46	19	18 288	19ES1903	STR							
	436	16	1760	19ES16101	SS	250	420	420	420			250
	DECK - SPAN 20											
*	355	16	18 288	20ES16016	STR							
	553	19	13 950	20ES1901	STR							
	46	19	14 833	20ES1902	STR							
	46	19	18 288	20ES1903	STR							
	436	16	1760	20ES16101	SS	250	420	420	420			250

ITEM	NO PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K
	DECK - SPAN 21														
	354	16	18 288	21ES16016	STR	▲									
	8	16	206.7	21ES16016	STR										
	553	19	13 950	21ES1901	STR	▲									
	46	19	14 833	21ES1902	STR										
	46	19	18 288	21ES1903	STR										
	436	16	1760	21ES16101	SS	250	420	420	420			250			
	DECK - SPAN 23														
	236	16	18 288	23ES16016	STR	▲									
	61	16	1775 4490	23ES16014	STR										
	57	16	1650	23ES16012	STR										
	39	16	1080	23ES16014	STR										
*	10	16	300	23ES16015	STR										
	0	16	166.7	23ES16016	STR										
	551	19	13 950	23ES1901	STR	▲									
	4	13	4310	23ES13101	17		205	3900	205						
	434	16	1760	23ES16101	SS	250	420	420	420			250			
	39	16	910	23ES16102	19		360	550	0			255			255
	15	16	1060	23ES16102	17		375	480	205						

ITEM	NO PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G
	DECK - SPAN 22											
Δ	238	16	18 288	22ES16016	STR							
	553	19	13 950	22ES1901	STR							
	46	19	14 833	22ES1902	STR							
	46	19	18 288	22ES1903	STR							
	436	16	1760	22ES16101	SS	250	420	420	420			250

REFERENCE DWG.

REINFORCING BARS
ASTM A615M GRADE 420

UNLESS NOTED
LAP ALL CONTINUOUS BARS
#10=___ #19=800 #29=___
#13=___ #22=___ #32=___
#16=800 #25=___ #36=___

Legend:

IF	Inside Face	V	Vertical
OF	Outside Face	H	Horizontal
NF	Near Face	EW	Each Way
FF	Far Face	B/Bot	Bottom
EF	Each Face	T	Top
		SB	Support Bars

NOTICE

Shortages, improper fabrication or claims for any other reason must be reported to this company within a period of 15 days of delivery. This company reserves the right to field inspect prior to replacement or reconditioning of nonconforming material, and will not honor charges for work done in the field without specific authorization from this company.

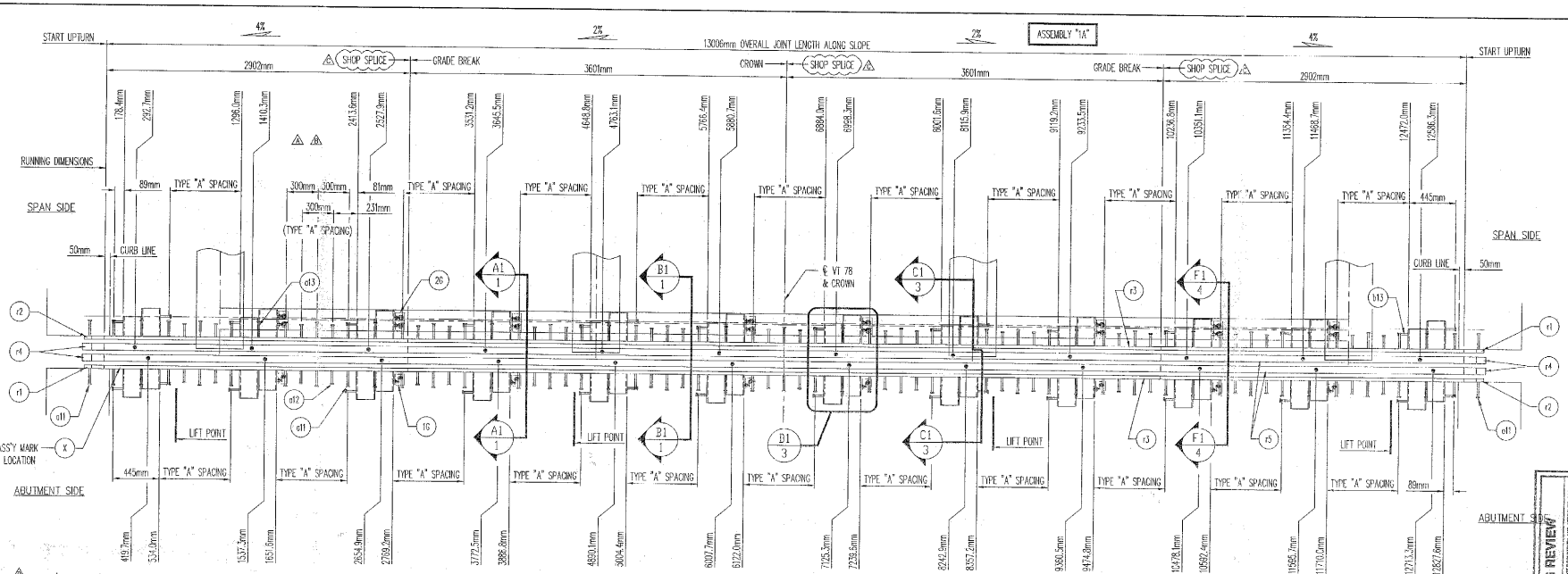
REINFORCING STEEL PLACING DRAWINGS ONLY USE IN CONJUNCTION WITH CONTRACT DRAWINGS & SPECIFICATIONS. ELEVATIONS & DIMENSIONS SHOWN ON THIS DRAWING ARE FOR DETAILING PURPOSES ONLY AND SHOULD NOT BE USED FOR CONSTRUCTION UNLESS VERIFIED BY ENGINEER OR CONTRACTOR.

ALL REINF ON THIS DWG IS
EPOXY (EP) COATED REBAR

DATE	NO	DESCRIPTION	DATE	SENT FOR
5/3/05	1	JENSEN BRUSTLIN	5/03/05	GP APPROVAL

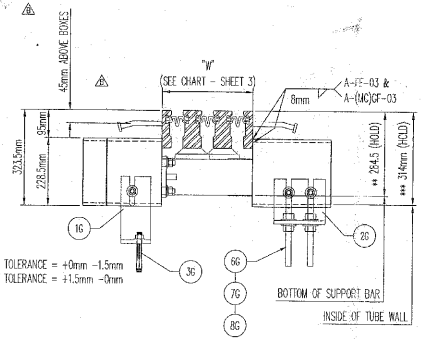
BARKER STEEL CO., INC.
Scarborough, Me.
OFFICE

PROJECT	Alburg-Swanton BRF 036-1 VT18 Over Missisquoi Bay
LOCATION	Alburg-Swanton, Vt 05440
ARCHITECT	
ENGINEER	VANASSE HANGEN BRUSTLIN, INC.
CUSTOMER	CIANBRO CORP.
Drawn By: HJS	Date: 5/03/05
Reviewed By:	Job No. 10016044
Drawing Content:	DECK REINFORCING Spans 16 thru 23
Drawing no.	R01D

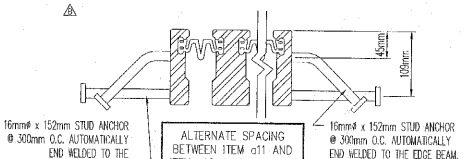


"D-240" MODULAR EXPANSION JOINT PLAN VIEW NO. 1

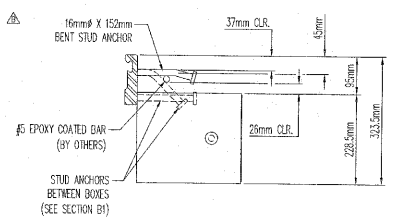
VT 78 OVER MISSISQUOI BAY
JOINTS LOCATED AT ABUTMENTS 1 & 2
(2) JOINTS REQUIRED
BOX SPACING = 1117.8mm



SECTION A1



SECTION B1 (EDGE BEAM ANCHORAGE)



SECTION THRU MODULAR EXPANSION JOINT @ SUPPORT BOX ASSEMBLY

SHOP NOTES:

- SEE SPLICE DETAILS ON SHEET 2
- SEE UPTURN DETAILS ON SHEET 2
- SEE GENERAL NOTES ON SHEET 2
- SEE TEMPERATURE ADJUSTMENT CHART ON SHEET 3
- SEE BILL OF MATERIALS ON SHEET 4
- SEE REMOVABLE PLATE DETAIL ON SHEET 8
- SEE BOX DETAILS ON SHEET 8
- SEE BAR DETAILS ON SHEET 9
- COVER PLATES NOT SHOWN FOR CLARITY PURPOSES (SEE COVER PLATE DETAILS ON SHEETS 14 & 15)

SHOP DRAWING REVIEW

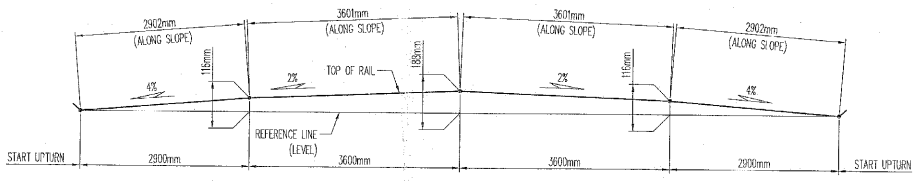
☐ RECEIVED AS REVIEWED BY THE CONSTRUCTION CONTRACT DOCUMENTS ARE APPROVED BUT ONLY THE CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND DOES NOT TO REVIEW THE DIMENSIONS OR QUANTITIES OF ITEMS SHOWN WHOSE ACCURACY MUST BE DETERMINED BY THE CONTRACTOR.
☐ RECEIVED AS CORRECTED
☐ RECEIVED

☐ REVIEWED AS NOTED
☐ REVISE AND RESUBMIT
☐ REJECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR THE DIMENSIONS WHICH ARE TO BE CONFIRMED AND CORRELATED AT THE JOB SITE, FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATION OF HIS WORK WITH THAT OF ALL OTHER TRADES, AND FOR PERFORMING ALL WORK IN A SAFE AND WORKMANLIKE MANNER.

VHB Vanasse Hangen Brustlin, Inc. 54 Cambridge Park Drive, Suite 100 Cambridge, MA 02140-2308 617.924.1770

Date Received: 6/9/06
Reviewed By: [illegible]
Date: 6/16/06



MODULAR EXPANSION JOINT PROFILE

FABRICATION NOTE:

- SHOP SHALL LOCATE SPLICES IN EDGE & CENTER BEAMS. MINIMUM SPLICE LENGTH SHALL BE 610mm FOR EDGE BEAMS & 1219mm FOR CENTER BEAMS.
- LOCATE SPLICE FOR CENTER BEAMS A MINIMUM 152mm FROM SUPPORT BARS.

REV.	DESCRIPTION	DATE	DFT.	CKD.
3	REMOVED BEND OPTION AT GRADE BREAKS; MODIFIED ITEMS IN TITLE BLOCK	04/02/06	NCS	JLW
2	MODIFIED EDGE BEAM STUD ANCHORS; REMOVED NOTE; ADDED DETAIL	01/19/06	RES	JLW
1	MODIFIED EDGE BEAM STUD ANCHORS; LOWERED SUPPORT BOXES ON EDGE BEAM	10/24/05	RES	JLW

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952.368.3900
FAX: 952.448.7000
DSBROWN.COM

LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
TOWN — ALBURG AND SWANTON
P.O. NO. — P078559 MIS
SUPERVISOR — MARK KACZINSKI
CUSTOMER — CIANBRO CORPORATION

ITEM	QUANTITY
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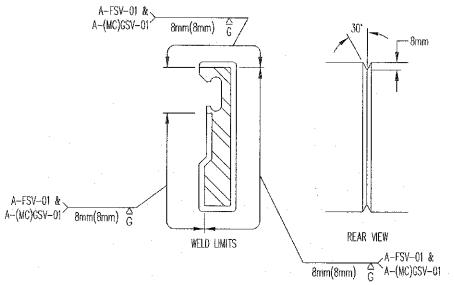
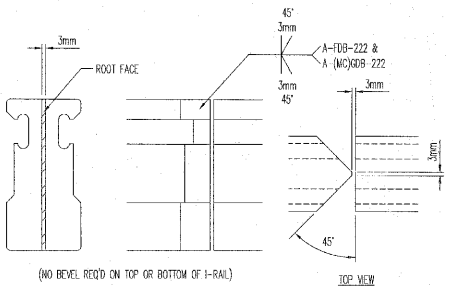
DESCRIPTION: "D-240" PLAN VIEW & STANDARD DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

SCALE	DRAWN BY	CHECKED BY	DATE	SHEET NOS.
N.T.S.	RES	JLW	03-04-05	1 OF 15
PROJECT NUMBER	PRODUCT CODE	RELEASE		
12244	1021	1		1

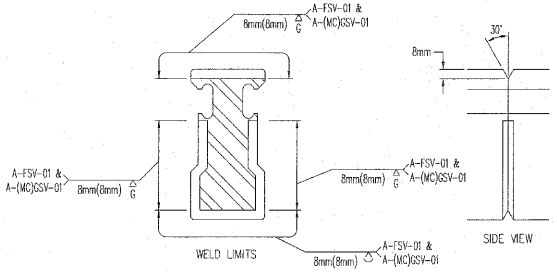


EDGE BEAM SHOP SPLICE DETAIL



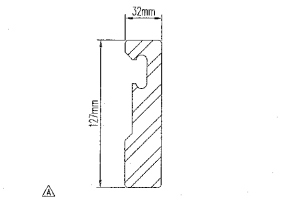
CENTER BEAM SHOP SPLICE DETAIL

COMPLETE PENETRATION WELD



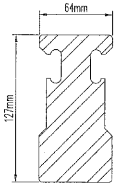
CENTER BEAM UPTURN SHOP SPLICE DETAIL

PARTIAL PENETRATION WELD (@ UPTURNS ONLY U.N.O.)



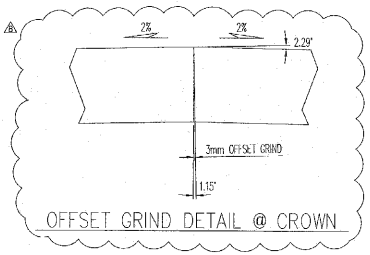
TYPICAL EDGE BEAM DETAIL

AASHTO M270M, GRADE 345 (ASTM-572) STEEL

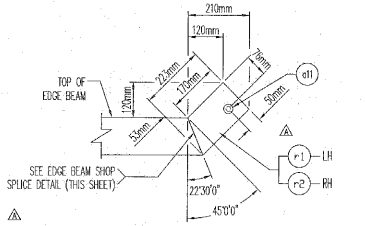


TYPICAL CENTER BEAM DETAIL

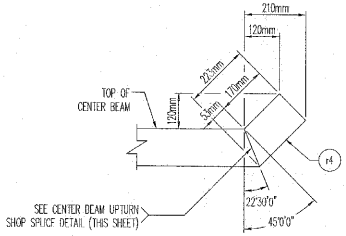
AASHTO M270M, GRADE 345 (ASTM-A572) STEEL



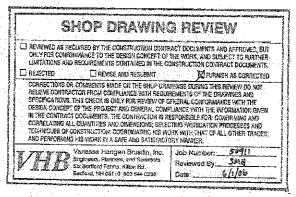
OFFSET GRIND DETAIL @ CROWN



TYPICAL EDGE BEAM UPTURN DETAIL



TYPICAL CENTER BEAM UPTURN DETAIL



SUPPLY VERMONT AOT WITH BONDING PROCEDURE FOR PTFE USED IN BEARING ASSEMBLY. PROVIDE A REFERENCE NOTE TO THIS PROCEDURE IN THESE GENERAL NOTES.

GENERAL NOTES

MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE STATE OF VERMONT AGENCY OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION", 2001 AND ITS LATEST REVISIONS AND AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" 17TH EDITION AND ITS LATEST REVISIONS AS MODIFIED BY THE SUPPLEMENTAL SPECIFICATIONS, CONTRACT PLANS, AND THE SPECIAL PROVISIONS.

△ EDGE BEAMS, CENTER BEAMS, AND SUPPORT BARS SHALL BE AASHTO M270M, GRADE 345 (ASTM-A572) OR GRADE 345W (ASTM-A588) STEEL. CENTER BEAMS AND SUPPORT BARS SHALL MEET CHARPY V-NOTCH REQUIREMENTS OF 27 J AT 4°C.

SUPPORT BOXES SHALL BE ASTM-A500, GRADE B STEEL.

STAINLESS STEEL SLIDING SURFACES SHALL BE ASTM-A240, TYPE 304, WITH A 2b FINISH.

STUD ANCHORS SHALL BE ASTM-A108, GRADE 1020 STEEL AND AUTOMATICALLY END WELDED WITH COMPLETE FUSION. REPAIR STUDS USING WELD PROCEDURE NO. A-SM-STUD-REP-01, A-FF-STUD-REP-01, OR A-(MC)GF-STUD-REP-01.

FULL PENETRATION BUTT WELDED CENTER BEAM SPLICE CONNECTIONS AND CENTER BEAM TO SUPPORT BAR CONNECTIONS SHALL BE 100% ULTRASONICALLY TESTED.

NEOPRENE STRIP SEAL SHALL MEET THE REQUIREMENTS OF AASHTO M 297 (ASTM D 3542).

WELDING SHALL COMPLY WITH THE REQUIREMENTS OF AASHTO / AWS D1.5 BRIDGE WELDING CODE.

INSPECTION OF THE EXPANSION JOINTS SHALL BE PERFORMED BY THE OS BROWN - CHASKA OPERATIONS QC DEPARTMENT.

ALL STEEL IN THE EXPANSION JOINT DEVICES, EXCEPT STAINLESS STEEL, SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111 (ASTM-A123). RADIUS ALL EDGES 2mm FOR GALVANIZING.

LIFTING DEVICES MAY BE WELDED TO PARTS FOR GALVANIZING IF NECESSARY. WHEN THEIR USE IS COMPLETE, REMOVE AND GRIND FLUSH ALL CONNECTION LOCATIONS. REPAIR GALVANIZE AREA PER ASTM A780.

MODULAR JOINTS SHALL BE EQUIPPED WITH TEMPERATURE ADJUSTMENT DEVICES TO ALLOW FOR ADJUSTMENTS PER FIELD ENGINEERS RECOMMENDATIONS.

NEOPRENE STRIP SEAL SHALL BE CONTINUOUS AND SHOP INSTALLED WITH A LUBRICANT ADHESIVE.

ALL STEEL SURFACES IN CONTACT WITH THE NEOPRENE SEAL SHALL BE CLEANED PRIOR TO THE INSTALLATION OF THE STRIP SEAL.

CARE SHALL BE TAKEN TO PREVENT DAMAGE DURING MOVING AND SHIPPING OF JOINTS.

MODULAR JOINTS SHALL FOLLOW ROADWAY SLOPE AND GRADE.

MODULAR JOINTS SHALL BE MARKED SHOWING JOINT TYPE AND PROPER LOCATION. MARKINGS SHALL BE VISIBLE AFTER JOINTS HAVE BEEN COMPLETELY INSTALLED.

MODULAR JOINTS SHALL BE DESIGNED TO ACCOMMODATE FATIGUE LOADING, PER DESIGN CRITERIA FOR MODULAR BRIDGE EXPANSION JOINTS AS SPECIFIED IN NCHRP REPORT 402.

ANY TIGHTLY ADHERENT WELD SPATTER NEED NOT BE REMOVED IN COATING AREAS TO BE CAST IN CONCRETE.

M8 16mm X 89mm A307 REMOVABLE PLATE BOLT (ITEM p25) MAY EITHER BE COATED WITH ZINC PLATING OR MECHANICAL GALVANIZING.

DIMENSIONS ARE GIVEN IN MILLIMETERS UNLESS OTHERWISE NOTED.

△ CERTIFICATION WILL BE PROVIDED OF THE OPENING MOVEMENT VIBRATION TEST AND THE SEAL PUSH OUT TEST.

△ SEE ATTACHED SHEETS FOR PRECOMPRESSED SPRING AND SLIDE BEARING DETAILS.

REV.	DESCRIPTION	DATE	DET.	CKD.
△	REMOVED OPTIONAL CENTER BEAM SPLICE DETAIL; MODIFIED ITEMS IN TITLE BLOCK; ADDED NOTES & OFFSET GRIND DETAIL	04/02/06	RES	JLW
△	REMOVED EDGE BEAM DETAILS; MODIFIED DETAIL DESCRIPTION	10/24/05	RES	JLW

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952.368.3000
FAX: 952.448.7000
DSBROWN.COM

LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
△ TOWN — ALBURG AND SWANTON
P.O. NO. — P078559 MIS
△ SUPERVISOR — MARK KACZINSKI
CUSTOMER — CIANBRO CORPORATION

ITEM	QUANTITY
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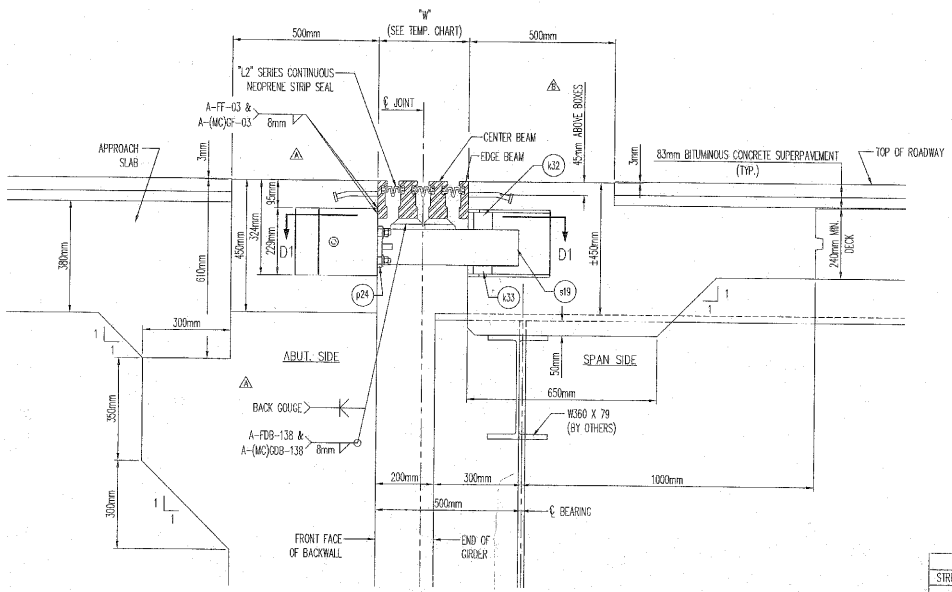
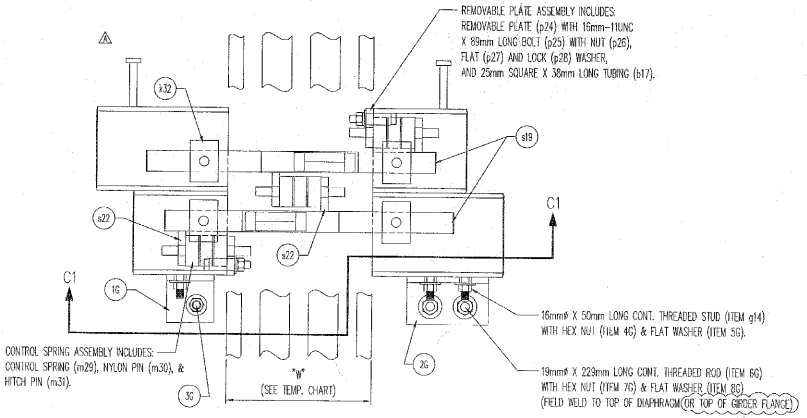
DESCRIPTION: STANDARD DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

SCALE	DRAWN BY	CHECKED BY	DATE	SHEET SHEETS
N.T.S.	RES	JLW	03-10-05	2 OF 15
PROJECT NUMBER	PROJECT CODE	RELEASE	SHEET	
12244	1021	1	2	

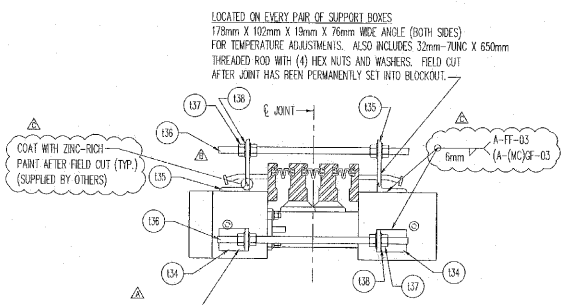


SECTION C1

DIMENSIONS SHOWN ARE AT MID. TEMP. (7°C)



SECTION D1



"D-240" TEMPERATURE ADJUSTMENT DETAIL

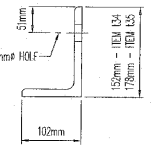
'L2' SERIES STRIP SEAL

L2-400 SEAL

"D-240" OPERATING DIMENSIONS "W"		
STRUCT. TEMP:	ABUTMENT NO. 1	ABUTMENT NO. 2
MAX.	191mm	191mm
32°C	263mm	256mm
27°C	272mm	267mm
22°C	282mm	278mm
17°C	292mm	289mm
12°C	301mm	300mm
7°C MID.	311mm	311mm
2°C	321mm	322mm
-3°C	330mm	333mm
-8°C	340mm	344mm
-13°C	350mm	355mm
-18°C	360mm	367mm
MIN.	431mm	431mm

TEMPERATURE ADJUSTMENT CHART

THERMAL MOVEMENT @ ABUT. 1 = 9.7mm / 5°C
THERMAL MOVEMENT @ ABUT. 2 = 11.1mm / 5°C



TEMPERATURE ADJUSTMENT ANGLE DETAIL

SHOP DRAWING REVIEW

☐ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORKS, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☒ APPROVED AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING THIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists
The Bedford Farms Mass Rt. Bedford, NH 03110 603-644-2800

Job Number: 50411
Reviewed by: SAS
Date: 6/1/06

INSTALLATION PROCEDURES

1) FIELD ENGINEER SHALL DETERMINE JOINT OPENING ON DAY OF INSTALLATION.

2) PLACE JOINT IN BLOCKOUT AND PROPERLY ALIGN BOTH HORIZONTALLY AND VERTICALLY. (JOINT MUST FOLLOW ROADWAY GRADE.)

3) MODIFY REBAR (AS DIRECTED BY THE ENGINEER) TO RECEIVE MODULAR EXPANSION JOINT.

4) TIGHTEN ALL EXPANSION JOINT SUPPORT CONNECTIONS. FIELD WELD THREADED RODS TO TOP OF DIAPHRAGMS (OR TOP OF GIRDER FLANGE).

5) AFTER JOINT IS SECURED, REMOVE TEMPORARY ADJUSTMENT DEVICES AS DIRECTED.

6) CONTRACTOR TO PLACE FORMWORK SO THAT NO CONCRETE FLOWS INTO BOXES AND JOINT GAP OPENINGS.

7) POUR AND VIBRATE CONCRETE INTO BLOCKOUT TO ENSURE PROPER CONSOLIDATION AROUND ALL EMBEDDED COMPONENTS. REMOVE FORMWORK AFTER CURE TIME, AS DETERMINED BY FIELD ENGINEER.

REV.	DESCRIPTION	DATE	DET.	CKD.
3	REMOVED NOTE IN SECTION C1; MODIFIED INSTALL NOTES, TEMP. ADJ. DETAIL, & ITEMS IN TITLE BLOCK	04/02/06	RES	JLW
2	ADDED BENT STUD ANCHORS ABOVE SUPPORT BOXES; REMOVED NOTE	01/19/06	RES	JLW
1	LOWERED SUPPORT BOXES ON EDGE BEAMS; MODIFIED SUPPORT BARS	10/24/05	RES	JLW

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952.368.3000
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LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
TOWN — ALBURG AND SWANTON
P.O. NO. — P078559 MIS
SUPERVISOR — MARK KACZINSKI
CUSTOMER — CIANBRO CORPORATION

ITEM	QUANTITY
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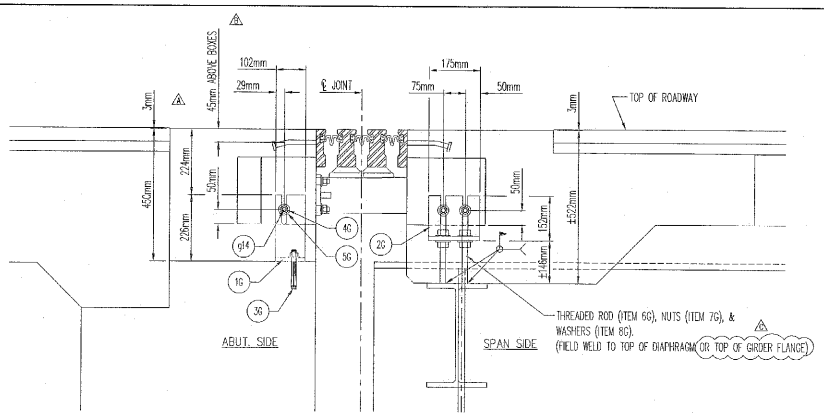
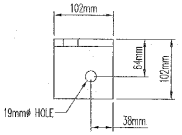
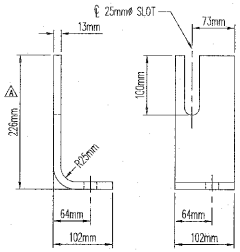
DESCRIPTION: "D-240" SECTIONS & STANDARD DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

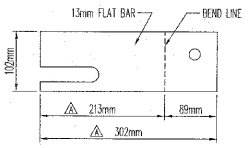
SCALE	DRAWN BY	CHECKED BY	DATE	APPROX. SHEETS
N.T.S.	RES	JLW	03-10-05	3 OF 15
PROJECT NUMBER		PROJECT CODE	RELEASE	SHEET
12244		1021	1	3



SECTION F1

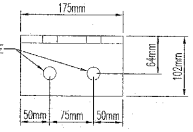


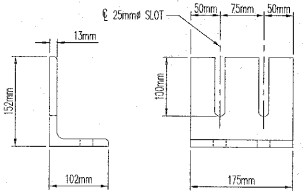




ITEM NO. 1G
(16) REQ'D.

JOINT SUPPORT BENT PLATE DETAIL





ITEM NO. 2G
(16) REQ'D.

JOINT SUPPORT ANGLE DETAIL

MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
	1A	2	"D-240" MODULAR EXPANSION JOINT	13426	HDG	
⚠	r1	4	EB 32 X 127 SS	A572	223	UPTURN PIECE	50-65
⚠	r2	4	EB 32 X 127 SS	A572	223	UPTURN PIECE	50-65
⚠	r3	4	EB 32 X 127 SS	A572	13112	UPTURN CUT BOTH ENDS	50-65
	r4	8	CB 64 X 127 SS	A572	223	CVN; UPTURN PIECE	50-72
	r5	4	CB 64 X 127 SS	A572	13112	CVN; UPTURN CUT BOTH ENDS	50-72
⚠ ⚠	a11	148	WS 16 X 167	A108		EDGE BEAM ANCHORAGE	29-10
⚠ ⚠	a12	88	WS 16 X 167	A108		EDGE BEAM ANCHORAGE (BEND 45° @ 50mm)	29-10
⚠	a13	48	WS 16 X 167	A108		EDGE BEAM ANCHORAGE (BEND 15° @ 50mm)	29-10
	b13	64	WS 16 X 106	A108		SUPPORT BOX ANCHORAGE	29-9
	g14	48	RB 16-11UNC CONT THRD	A36	50	JOINT SUPPORT ITEM	18-24
⚠	b15	48	TS 229 X 178 X 10	A500 GR. B	200	SUPPORT BOX	22-98
⚠	b16	48	TS 229 X 178 X 10	A500 GR. B	280	SUPPORT BOX	22-98
	b17	96	TS 25 X 25 X 3	A513	38	SUPPORT BOX ITEM	56-35
	b18	96	MI SUPPORT BOX END CAP			A606 TYPE 4 OR HDPE	
⚠ ⚠	g19a	48	PL 44 X 157	A572	620	CVN; SUPPORT BAR	19-251
⚠	s20	96	PL 16 GA. X 60	SS A240	165	2b, TYPE 304	56-71
	s21	96	PL 16 GA. X 60	SS A240	244	2b, TYPE 304	56-32
	s22	96	FB 16 X 64	A36	73	SPRING STOP	16-106
⚠							
	p24	48	PL 16 X 83	A36	140	REMOVABLE PLATE	19-18
	p25	96	MB 16 X 89 SQHD	A307 MG		REMOVABLE PLATE ITEM	24-5
	p26	96	HN 16	A563A MG		REMOVABLE PLATE ITEM	25-56
	p27	96	FW 16	F844 HDG		REMOVABLE PLATE ITEM	27-60
	p28	96	MW 16 LOCK	F844 HDG		REMOVABLE PLATE ITEM	28-10
	m29	72	MOD 80mm CONTROL SPRING			MA-91	56-3
	m30	72	MOD 80mm NYLON PIN			MA-91	56-34
	m31	144	MOD 80mm HITCH PIN			MA-91	56-7
	k32	96	PRECOMPRESSED SPRING				
	k33	96	SLIDE BEARING				
	t34	28	L 152 X 102 X 19	A36	76	TEMP. ADJUST. ITEM	56-47
	t35	48	L 178 X 102 X 19	A36	76	TEMP. ADJUST. ITEM	56-46
	t36	38	RB 32 CONT THRD	A36 ZP	650	TEMP. ADJUST. ITEM	18-34
	t37	152	HN 32	A563A ZP		TEMP. ADJUST. ITEM	25-117
	t38	152	FW 32	F844 ZP		TEMP. ADJUST. ITEM	27-100
	w39	3	MI GAL LUB ADHSV			D4070	1520
	w40	6	DSB NEO GLAND L2 102mm		13.4 M	80.4 M TOTAL	L2-SEAL
			JOINT SUPPORT ITEMS:				
⚠	1G	16	FB 13 X 102	A36 HDG	302	JOINT SUPPORT ITEM	16-96
	2G	16	L 152 X 102 X 13	A36 HDG	175	JOINT SUPPORT ITEM	15-86
	3G	18	CI 16 X 108			(16) RAWSET/REDHEAD HN-5842 OR EQ.	
	4G	50	HN 16	A563A MG		(48) JOINT SUPPORT ITEM	25-56
	5G	50	FW 16	F844 HDG		(48) JOINT SUPPORT ITEM	27-60
	6G	34	RB 19 CONT THRD	A193-B7 HDG	229	(32) JOINT SUPPORT ITEM	18-126
	7G	68	HN 19	A563A MG		(64) JOINT SUPPORT ITEM	25-59
	8G	68	FW 19	F844 MG		(64) JOINT SUPPORT ITEM	27-62

NOTE: ALL MATERIALS SPECIFICATION DESCRIPTIONS ARE ASTM, UNLESS OTHERWISE NOTED.

MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
		ENGLISH B.O.M. (REF. ONLY)				
	1A	2	"D-240" MODULAR EXPANSION JOINT	44'-0 9/16	HDG	
⚠	r1	4	EB 1 1/4 X 5 SS	A572	0'-8 3/4	UPTURN PIECE	50-65
⚠	r2	4	EB 1 1/4 X 5 SS	A572	0'-8 3/4	UPTURN PIECE	50-65
⚠	r3	4	EB 1 1/4 X 5 SS	A572	43'-0 1/4	UPTURN CUT BOTH ENDS	50-65
	r4	8	CB 2 1/2 X 5 SS	A572	0'-8 3/4	CVN; UPTURN PIECE	50-72
	r5	4	CB 2 1/2 X 5 SS	A572	43'-0 1/4	CVN; UPTURN CUT BOTH ENDS	50-72
⚠ ⚠	a11	148	WS 5/8 X 6 9/16	A108		EDGE BEAM ANCHORAGE	29-10
⚠ ⚠	a12	88	WS 5/8 X 6 9/16	A108		EDGE BEAM ANCHORAGE (BEND 45° @ 2")	29-10
⚠	a13	48	WS 5/8 X 6 9/16	A108		EDGE BEAM ANCHORAGE (BEND 15° @ 2")	29-10
	b13	64	WS 5/8 X 4 3/16	A108		SUPPORT BOX ANCHORAGE	29-9
	g14	48	RB 5/8-11UNC CONT THRD	A36	0'-1 15/16	JOINT SUPPORT ITEM	18-24
⚠	b15	48	TS 9 X 7 X 3/8	A500 GR. B	0'-7 7/8	SUPPORT BOX	22-98
⚠	b16	48	TS 9 X 7 X 3/8	A500 GR. B	0'-11	SUPPORT BOX	22-98
	b17	96	TS 1 X 1 X 1/8	A513	0'-1 1/2	SUPPORT BOX ITEM	56-35
	b18	96	MI SUPPORT BOX END CAP			A606 TYPE 4 OR HDPE	
⚠ ⚠	g19a	48	PL 1 3/4 X 6 3/16	A572	2'-0 7/16	CVN; SUPPORT BAR	19-251
⚠	s20	96	PL 16 GA. X 2 3/8	SS A240	0'-6 1/2	2b, TYPE 304	56-71
	s21	96	PL 16 GA. X 2 3/8	SS A240	0'-9 5/8	2b, TYPE 304	56-32
	s22	96	FB 5/8 X 2 1/2	A36	0'-2 7/8	SPRING STOP	16-106
⚠							
	p24	48	PL 5/8 X 3 1/4	A36	0'-5 1/2	REMOVABLE PLATE	19-18
	p25	96	MB 5/8 X 3 1/2 SQHD	A307 MG		REMOVABLE PLATE ITEM	24-5
	p26	96	HN 5/8	A563A MG		REMOVABLE PLATE ITEM	25-56
	p27	96	FW 5/8	F844 HDG		REMOVABLE PLATE ITEM	27-60
	p28	96	MW 5/8 LOCK	F844 HDG		REMOVABLE PLATE ITEM	28-10
	m29	72	MOD 80mm CONTROL SPRING			MA-91	56-3
	m30	72	MOD 80mm NYLON PIN			MA-91	56-34
	m31	144	MOD 80mm HITCH PIN			MA-91	56-7
	k32	96	PRECOMPRESSED SPRING				
	k33	96	SLIDE BEARING				
	t34	28	L 6 X 4 X 3/4	A36	0'-3	TEMP. ADJUST. ITEM	56-47
	t35	48	L 7 X 4 X 3/4	A36	0'-3	TEMP. ADJUST. ITEM	56-46
	t36	38	RB 1 1/4 CONT THRD	A36 ZP	2'-1 5/8	TEMP. ADJUST. ITEM	18-34
	t37	152	HN 1 1/4	A563A ZP		TEMP. ADJUST. ITEM	25-117
	t38	152	FW 1 1/4	F844 ZP		TEMP. ADJUST. ITEM	27-100
	w39	3	MI GAL LUB ADHSV			D4070	1520
	w40	6	DSB NEO GLAND L2 4"		43'-11 9/16	263'-9 3/8 TOTAL	L2-SEAL
			JOINT SUPPORT ITEMS:				
⚠	1G	16	FB 1/2 X 4	A36 HDG	0'-11 7/8	JOINT SUPPORT ITEM	16-96
	2G	16	L 6 X 4 X 1/2	A36 HDG	0'-6 7/8	JOINT SUPPORT ITEM	15-86
	3G	18	CI 5/8 X 4 1/4			(16) RAWSET/REDHEAD HN-5842 OR EQ.	
	4G	50	HN 5/8	A563A MG		(48) JOINT SUPPORT ITEM	25-56
	5G	50	FW 5/8	F844 HDG		(48) JOINT SUPPORT ITEM	27-60
	6G	34	RB 3/4 CONT THRD	A193-B7 HDG	0'-9	(32) JOINT SUPPORT ITEM	18-126
	7G	68	HN 3/4	A563A MG		(64) JOINT SUPPORT ITEM	25-59
	8G	68	FW 3/4	F844 MG		(64) JOINT SUPPORT ITEM	27-62

NOTE: ALL MATERIALS SPECIFICATION DESCRIPTIONS ARE ASTM, UNLESS OTHERWISE NOTED.

SHOP DRAWING REVIEW

☐ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO, FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☒ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Bischoff Drive, Essex Jct. Bedford, NH (617) 924-1770 (603) 644-0539

Job Number: 52411
Reviewed By: SAH
Date: 6/1/06

REV.	DESCRIPTION	DATE	DET.	CKD.
⚠	REMOVED NOTE IN SECTION F1; MODIFIED ITEMS IN BILL OF MATERIALS & TITLE BLOCK	04/02/06	RES	JLW
⚠	ADDED BENT STUD ANCHORS OVER SUPPORT BOXES; MODIFIED ITEMS IN BILL OF MATERIALS; REMOVED NOTE	01/19/06	RES	JLW
⚠	LOWERED SUPPORT BOXES ON EDGE BEAMS; MODIFIED ITEMS IN BILL OF MATERIALS	10/25/05	RES	JLW

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952.368.3000
FAX: 952.448.7000
DSBROWN.COM

LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
⚠ (TOWN) — ALBURG AND SWANTON
P.O. NO. — P078559 MIS
⚠ (SUPERVISOR — MARK KACZINSKI)
CUSTOMER — CIANBRO CORPORATION

ITEM	QUANTITY
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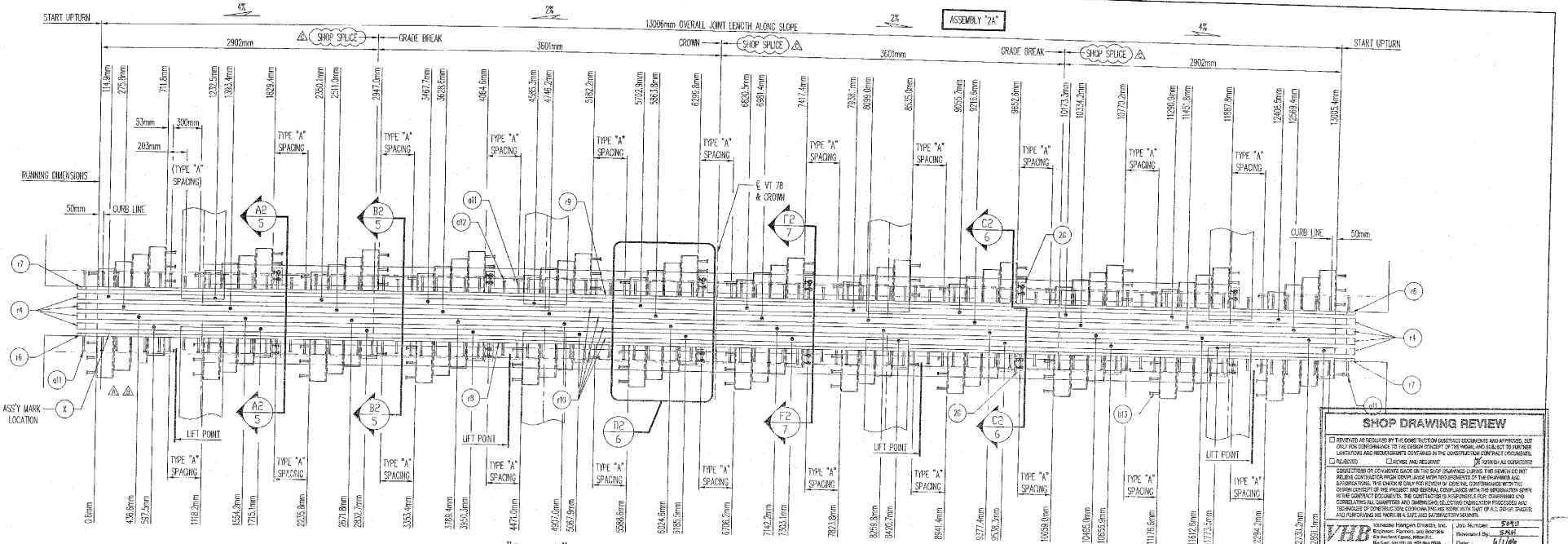
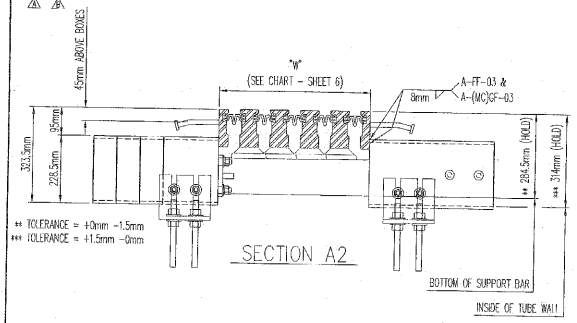
DESCRIPTION: "D-240" JOINT SUPPORT DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

SCALE	DRAWN BY	CHECKED BY	DATE	SHEET
N.T.S.	RES	JLW	03-16-05	4 OF 15
PROJECT NUMBER	PROJECT CODE	RELEASE	SHEET	
12244	1021	1	4	

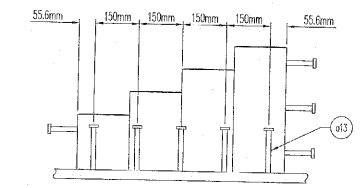


"D-400" MODULAR EXPANSION JOINT PLAN VIEW NO. 2

VT 78 OVER MISSISQUOI BAY
JOINT LOCATED AT PIERS 7 & 15
(7) JOINTS REQUIRED
BOX SPACING = 1117.6mm



SECTION A2



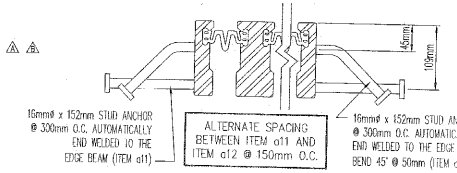
STUD ANCHOR LAYOUT ABOVE BOXES

FABRICATION NOTE:

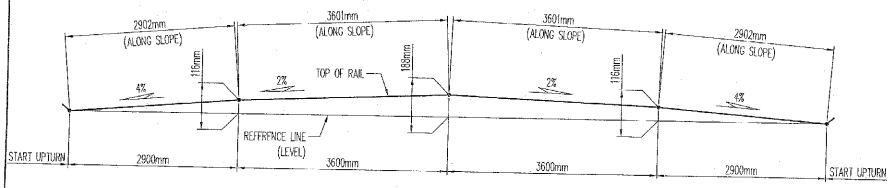
- SHOP SHALL LOCATE SPLICES IN EDGE & CENTER BEAMS. MINIMUM SPLICE LENGTH SHALL BE 610mm FOR EDGE BEAMS & 1219mm FOR CENTER BEAMS.
- LOCATE SPLICE FOR CENTER BEAMS A MINIMUM 152mm FROM SUPPORT BARS.

SHOP NOTES:

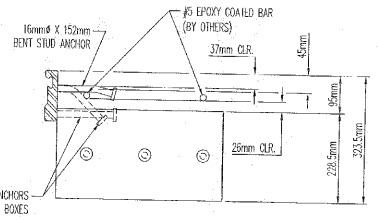
- SEE SPLICE DETAILS ON SHEET 2
- SEE UPTURN DETAILS ON SHEET 2
- SEE GENERAL NOTES ON SHEET 2
- SEE TEMPERATURE ADJUSTMENT CHART ON SHEET 6
- SEE BILL OF MATERIALS ON SHEET 7
- SEE REMOVABLE PLATE DETAIL ON SHEET 8
- SEE BOX DETAILS ON SHEETS 10 & 11
- SEE BAR DETAILS ON SHEETS 12 & 13
- COVER PLATES NOT SHOWN FOR CLARITY PURPOSES (SEE COVER PLATE DETAILS ON SHEETS 14 & 15)



SECTION B2 (EDGE BEAM ANCHORAGE)



MODULAR EXPANSION JOINT PROFILE



SECTION THRU MODULAR EXPANSION JOINT @ SUPPORT BOX ASSEMBLY

SHOP DRAWING REVIEW

☐ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☒ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dorchester Avenue, Suite 201 Burlington, VT 05401 802 864 0099

Job Number: 54411
Reviewed By: SAH
Date: 6/1/06

REV.	DESCRIPTION	DATE	DET.	CHK.
⚠	REMOVED BEND OPTION AT GRADE BREAKS; MODIFIED ITEMS IN TITLE BLOCK	04/02/06	RES	JLW
⚠	MODIFIED EDGE BEAM STUD ANCHORS; REMOVED NOTE; ADDED DETAIL	01/19/06	RES	JLW
⚠	MODIFIED EDGE BEAM STUD ANCHORS; LOWERED SUPPORT BOXES ON EDGE BEAMS	10/25/05	RES	JLW

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952.368.3000
FAX: 952.448.7090
DSBROWN.COM

LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
⚠ TOWN — ALBURG AND SWANTON
P.O. NO. — P078559 MS
⚠ SUPERVISOR — MARK KACZINSKI
CUSTOMER — CIANBRO CORPORATION

ITEM	QUANTITY
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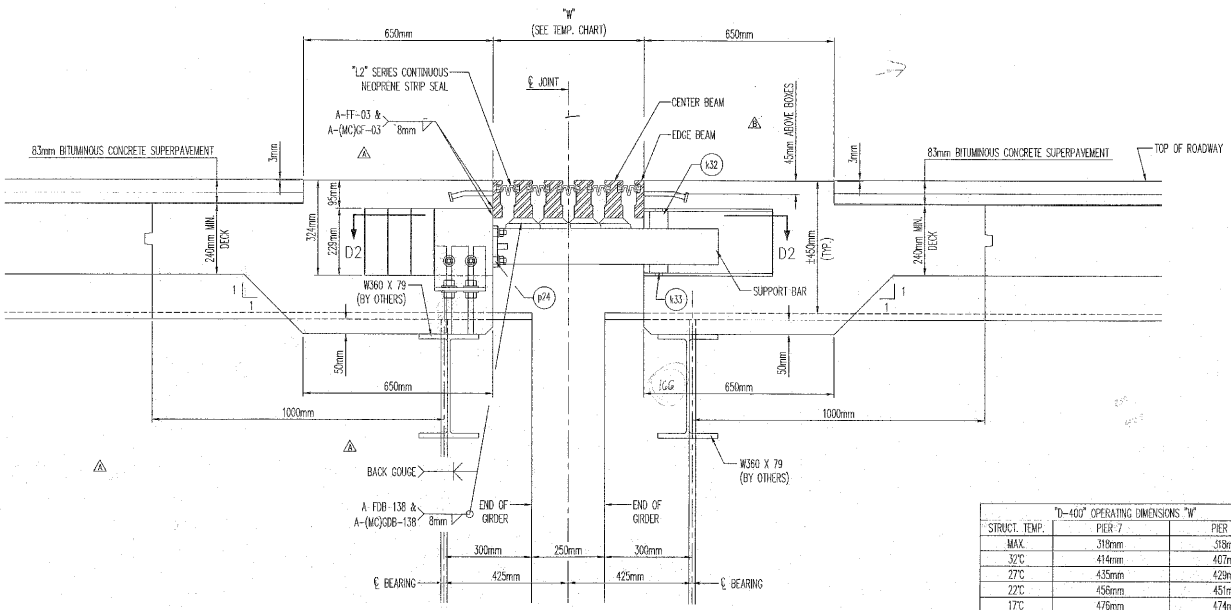
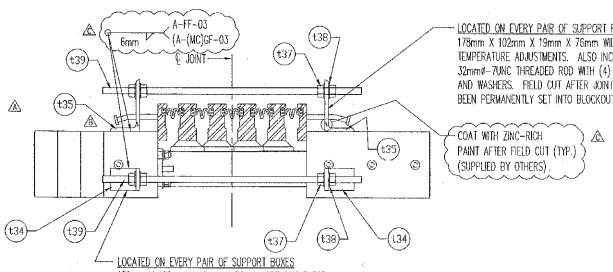
DESCRIPTION: "D-400" PLAN VIEW & STANDARD DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	SHEET SHEET
N.T.S.	RES	JLW	03-04-05	5 OF 15
PROJECT NUMBER: 12244	PROJECT DIR.: 1021	REVISION: 1	SHEET: 5	



SECTION C2

DIMENSIONS SHOWN ARE AT MID. TEMP. (7°C)

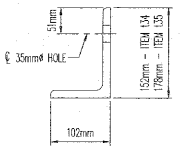


"D-400" TEMPERATURE ADJUSTMENT DETAIL

"D-400" OPERATING DIMENSIONS "W"		
STRUCT. TEMP.	PIER 7	PIER 15
MAX.	318mm	318mm
32°C	414mm	407mm
27°C	435mm	429mm
22°C	456mm	451mm
17°C	476mm	474mm
12°C	497mm	496mm
7°C MID.	518mm	518mm
2°C	539mm	540mm
-3°C	560mm	562mm
-8°C	580mm	585mm
-13°C	601mm	607mm
-18°C	622mm	629mm
MIN.	718mm	718mm

TEMPERATURE ADJUSTMENT CHART

THERMAL MOVEMENT @ PIER 7 = 20.8mm / 5°C
THERMAL MOVEMENT @ PIER 15 = 22.2mm / 5°C



TEMPERATURE ADJUSTMENT ANGLE DETAIL

SHOP DRAWING REVIEW

☐ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ FENCE AND RESUBMIT ☒ APPROVED AS CORRECTED

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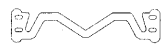
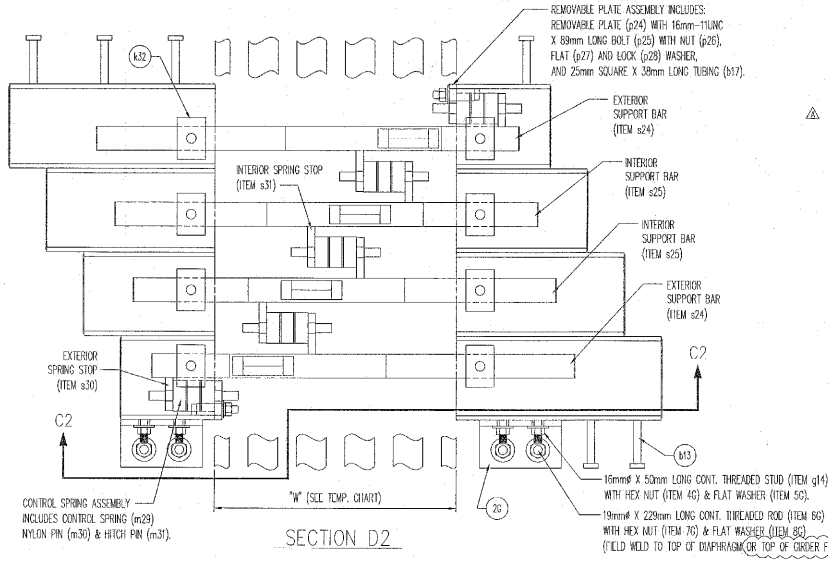
VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Braintree Hill Park, Suite 254 Braintree, MA (781) 849-6444 (508) 896-0999

Job Number: 52871
Reviewed By: SMH
Date: 6/1/06



'L2' SERIES STRIP SEAL

L2-400 SEAL



SECTION D2

INSTALLATION PROCEDURES

1) FIELD ENGINEER SHALL DETERMINE JOINT OPENING ON DAY OF INSTALLATION.
2) PLACE JOINT IN BLOCKOUT AND PROPERLY ALIGN BOTH HORIZONTALLY AND VERTICALLY. (JOINT MUST FOLLOW ROADWAY GRADE.)
3) MODIFY REBAR (AS DIRECTED BY THE ENGINEER) TO RECEIVE MODULAR EXPANSION JOINT.
4) TIGHTEN ALL EXPANSION JOINT SUPPORT CONNECTIONS. FIELD WELD THREADED RODS TO TOP OF DIAPHRAGMS (OR TOP OF GIRDER FLANGE).
5) AFTER JOINT IS SECURED, REMOVE TEMPORARY ADJUSTMENT DEVICES AS DIRECTED.
6) CONTRACTOR TO PLACE FORMWORK SO THAT NO CONCRETE FLOWS INTO BOXES AND JOINT GAP OPENINGS.
7) POUR AND VIBRATE CONCRETE INTO BLOCKOUT TO ENSURE PROPER CONSOLIDATION AROUND ALL EMBEDDED COMPONENTS. REMOVE FORMWORK AFTER CURE TIME, AS DETERMINED BY FIELD ENGINEER.

REV.	DESCRIPTION	DATE	DET.	CKD.
3	REMOVED NOTE IN SECTION C2; MODIFIED INSTALL NOTES, TEMP. ADJ. DETAIL, & ITEMS IN TITLE BLOCK	04/02/06	RES	J.W
2	ADDED STUD ANCHORS ABOVE SUPPORT BOXES; REMOVED NOTE	01/19/06	RES	J.W
1	LOWERED SUPPORT BOXES ON EDGE BEAMS; MODIFIED SUPPORT BARS	10/25/05	RES	J.W

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LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
TOWN — ALBURG AND SWANTON
P.O. NO. — P078559 MIS
SUPERVISOR — MARK KACZINSKI
CUSTOMER — CIANBRO CORPORATION

ITEM	QUANTITY
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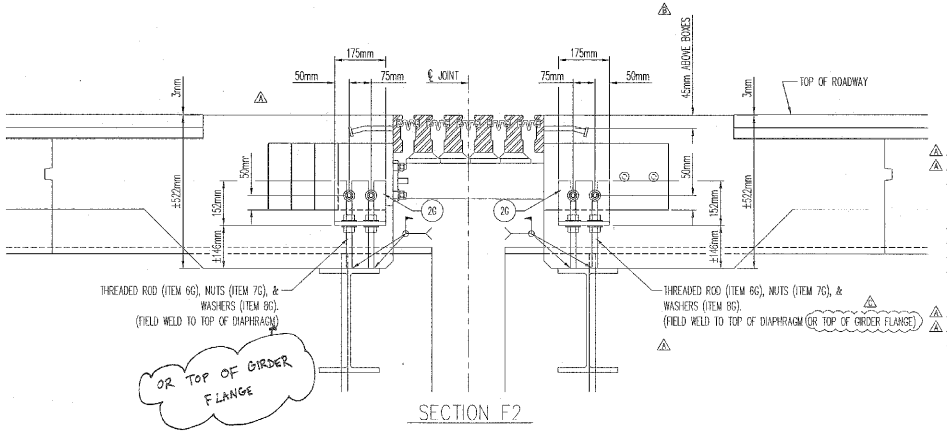
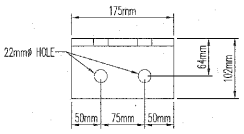
DESCRIPTION: "D-400" SECTIONS & STANDARD DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

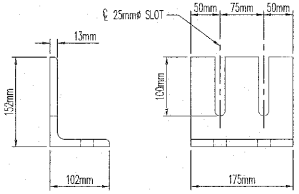
SCALE	DRAWN BY	DESIGNED BY	DATE	SHEET # OF #
N.T.S.	RES	JLW	03-11-05	6 OF 17

PROJECT NUMBER	PROJECT CODE	REVISED	SHEET
12244	1021	1	6



SECTION F2





ITEM NO. 2G
(24) REQ'D.

JOINT SUPPORT ANGLE DETAIL

MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
2A	2	"D-400" MODULAR EXPANSION JOINT	13426		HDG	
r6	4	EB 32 X 127 SS	A572	223	UPTURN PIECE	50-17
r7	4	EB 32 X 127 SS	A572	223	UPTURN PIECE	50-17
r8	2	EB 32 X 127 SS	A572	13112	UPTURN CUT BOTH ENDS	50-17
r9	2	EB 32 X 127 SS	A572	13112	UPTURN CUT BOTH ENDS	50-17
r4	16	CB 64 X 127 SS	A572	223	CVN; UPTURN PIECE	50-72
r10	8	CB 64 X 127 SS	A572	13112	CVN; UPTURN CUT BOTH ENDS	50-72
a11	96	WS 16 X 167	A108		EDGE BEAM ANCHORAGE	29-10
a12	44	WS 16 X 167	A108		EDGE BEAM ANCHORAGE (BEND 45° @ 50mm)	29-10
a13	240	WS 16 X 167	A108		EDGE BEAM ANCHORAGE (BEND 15° @ 50mm)	29-10
b13	168	WS 16 X 106	A108		SUPPORT BOX ANCHORAGE	29-9
g14	48	RB 16-1TUNC CONT THRD	A36	50	JOINT SUPPORT ITEM	18-24
b15	48	TS 229 X 178 X 10	A500 GR. B	200	SUPPORT BOX	22-98
b16	48	TS 229 X 178 X 10	A500 GR. B	280	SUPPORT BOX	22-98
b19	48	TS 229 X 178 X 10	A500 GR. B	360	SUPPORT BOX	22-98
b20	48	TS 229 X 178 X 10	A500 GR. B	439	SUPPORT BOX	22-98
b17	96	TS 25 X 25 X 3	A513	38	SUPPORT BOX ITEM	56-35
b18	192	MI SUPPORT BOX END CAP			A606 TYPE 4 OR HDPE	
s24a	48	PL 51 X 157	A572	907	CVN; EXTERIOR SUPPORT BAR	19-245
s25a	48	PL 51 X 157	A572	907	CVN; INTERIOR SUPPORT BAR	19-245
s26	96	PL 16 GA. X 67	SS A240	165	2b, TYPE 304	56-72
s27	96	PL 16 GA. X 67	SS A240	244	2b, TYPE 304	56-50
s28	96	PL 16 GA. X 67	SS A240	324	2b, TYPE 304	56-69
s29	96	PL 16 GA. X 67	SS A240	403	2b, TYPE 304	56-72
s30	48	FB 16 X 64	A36	70	EXTERIOR SPRING STOP	16-106
s31	144	FB 16 X 64	A36	87	INTERIOR SPRING STOP	16-106
p24	48	PL 16 X 83	A36	140	REMOVABLE PLATE	19-18
p25	96	MB 16 X 89 SQHD	A307 MG		REMOVABLE PLATE ITEM	24-5
p26	96	HN 16	A563A MG		REMOVABLE PLATE ITEM	25-56
p27	96	FW 16	F844 HDG		REMOVABLE PLATE ITEM	27-60
p28	96	MW 16 LOCK	F844 HDG		REMOVABLE PLATE ITEM	28-10
m29	120	MOD 80mm CONTROL SPRING			MA-91	56-3
m30	120	MOD 80mm NYLON PIN			MA-91	56-34
m31	240	MOD 80mm HITCH PIN			MA-91	56-7
k32	192	PRECOMPRESSED SPRING				
k33	192	SLIDE BEARING				
t34	48	L 152 X 102 X 19	A36	76	TEMP. ADJUST. ITEM	56-47
t35	48	L 178 X 102 X 19	A36	76	TEMP. ADJUST. ITEM	56-46
t39	48	RB 32 CONT THRD	A36 ZP	900	TEMP. ADJUST. ITEM	18-34
t37	192	HN 32	A563A ZP		TEMP. ADJUST. ITEM	25-117
t38	192	FW 32	F844 ZP		TEMP. ADJUST. ITEM	27-100
w39	5	MI GAL LUB ADHSV			D4070	1520
w40	10	DSB NEO GLAND L2 102mm		13.4 M	1.34 M TOTAL	L2-SEAL
		JOINT SUPPORT ITEMS:				
2G	24	L 152 X 102 X 13	A36 HDG	175	JOINT SUPPORT ITEM	15-86
4G	50	HN 16	A563A MG		(48) JOINT SUPPORT ITEM	25-56
5G	50	FW 16	F844 HDG		(48) JOINT SUPPORT ITEM	27-60
6G	50	RB 19 CONT THRD	A193-B7 HDG	229	(48) JOINT SUPPORT ITEM	18-126
7G	100	HN 19	A563A MG		(96) JOINT SUPPORT ITEM	25-59
8G	100	FW 19	F844 MG		(96) JOINT SUPPORT ITEM	27-62

NOTE: ALL MATERIALS SPECIFICATION DESCRIPTIONS ARE ASTM, UNLESS OTHERWISE NOTED.

MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
		ENGLISH B.O.M. (REF. ONLY)				
2A	2	"D-400" MODULAR EXPANSION JOINT		44'-0 9/16	HDG	
r6	4	EB 1 1/4 X 5 SS	A572	0'-8 3/4	UPTURN PIECE	50-17
r7	4	EB 1 1/4 X 5 SS	A572	0'-8 3/4	UPTURN PIECE	50-17
r8	2	EB 1 1/4 X 5 SS	A572	43'-0 1/4	UPTURN CUT BOTH ENDS	50-17
r9	2	EB 1 1/4 X 5 SS	A572	43'-0 1/4	UPTURN CUT BOTH ENDS	50-17
r4	16	CB 2 1/2 X 5 SS	A572	0'-8 3/4	CVN; UPTURN PIECE	50-72
r10	8	CB 2 1/2 X 5 SS	A572	43'-0 1/4	CVN; UPTURN CUT BOTH ENDS	50-72
a11	96	WS 5/8 X 6 9/16	A108		EDGE BEAM ANCHORAGE	29-10
a12	44	WS 5/8 X 6 9/16	A108		EDGE BEAM ANCHORAGE (BEND 45° @ 2")	29-10
a13	240	WS 5/8 X 6 9/16	A108		EDGE BEAM ANCHORAGE (BEND 15° @ 2")	29-10
b13	168	WS 5/8 X 4 3/16	A108		SUPPORT BOX ANCHORAGE	29-9
g14	48	RB 5/8-11UNC CONT THRD	A36	0'-1 15/16	JOINT SUPPORT ITEM	18-24
b15	48	TS 9 X 7 X 3/8	A500 GR. B	0'-7 7/8	SUPPORT BOX	22-98
b16	48	TS 9 X 7 X 3/8	A500 GR. B	0'-11	SUPPORT BOX	22-98
b19	48	TS 9 X 7 X 3/8	A500 GR. B	1'-2 3/16	SUPPORT BOX	22-98
b20	48	TS 9 X 7 X 3/8	A500 GR. B	1'-5 5/16	SUPPORT BOX	22-98
b17	96	TS 1 X 1 X 1/8	A513	0'-1 1/2	SUPPORT BOX ITEM	56-35
b18	192	MI SUPPORT BOX END CAP			A606 TYPE 4 OR HDPE	
s24a	48	PL 2 X 6 3/16	A572	2'-11 11/16	CVN; EXTERIOR SUPPORT BAR	19-245
s25a	48	PL 2 X 6 3/16	A572	2'-11 11/16	CVN; INTERIOR SUPPORT BAR	19-245
s26	96	PL 16 GA. X 2 5/8	SS A240	0'-6 1/2	2b, TYPE 304	56-72
s27	96	PL 16 GA. X 2 5/8	SS A240	0'-9 5/8	2b, TYPE 304	56-50
s28	96	PL 16 GA. X 2 5/8	SS A240	1'-0 3/4	2b, TYPE 304	56-69
s29	96	PL 16 GA. X 2 5/8	SS A240	1'-3 7/8	2b, TYPE 304	56-72
s30	48	FB 5/8 X 2 1/2	A36	0' 2 3/4	EXTERIOR SPRING STOP	16-106
s31	144	FB 5/8 X 2 1/2	A36	0'-3 7/16	INTERIOR SPRING STOP	16-106
p24	48	PL 5/8 X 3 1/4	A36	0'-5 1/2	REMOVABLE PLATE	19-18
p25	96	MB 5/8 X 3 1/2 SQHD	A307 MG		REMOVABLE PLATE ITEM	24-5
p26	96	HN 5/8	A563A MG		REMOVABLE PLATE ITEM	25-56
p27	96	FW 5/8	F844 HDG		REMOVABLE PLATE ITEM	27-60
p28	96	MW 5/8 LOCK	F844 HDG		REMOVABLE PLATE ITEM	28-10
m29	120	MOD 80mm CONTROL SPRING			MA-91	56-3
m30	120	MOD 80mm NYLON PIN			MA-91	56-34
m31	240	MOD 80mm HITCH PIN			MA-91	56-7
k32	192	PRECOMPRESSED SPRING				
k33	192	SLIDE BEARING				
t34	48	L 6 X 4 X 3/4	A36	0'-3	TEMP. ADJUST. ITEM	56-47
t35	48	L 7 X 4 X 3/4	A36	0'-3	TEMP. ADJUST. ITEM	56-46
t39	48	RB 1 1/4 CONT THRD	A36 ZP	2'-11 7/16	TEMP. ADJUST. ITEM	18-34
t37	192	HN 1 1/4	A563A ZP		TEMP. ADJUST. ITEM	25-117
t38	192	FW 1 1/4	F844 ZP		TEMP. ADJUST. ITEM	27-100
w39	5	MI GAL LUB ADHSV			D4070	1520
w40	10	DSB NEO GLAND L2 4"		43'-11 9/16	4.39'-7 5/8 TOTAL	L2-SEAL
		JOINT SUPPORT ITEMS:				
2G	24	L 6 X 4 X 1/2	A36 HDG	0'-6 7/8	JOINT SUPPORT ITEM	15-86
4G	50	HN 5/8	A563A MG		(48) JOINT SUPPORT ITEM	25-56
5G	50	FW 5/8	F844 HDG		(48) JOINT SUPPORT ITEM	27-60
6G	50	RB 3/4 CONT THRD	A193-B7 HDG	0'-9	(48) JOINT SUPPORT ITEM	18-126
7G	100	HN 3/4	A563A MG		(96) JOINT SUPPORT ITEM	25-59
8G	100	FW 3/4	F844 MG		(96) JOINT SUPPORT ITEM	27-62

NOTE: ALL MATERIALS SPECIFICATION DESCRIPTIONS ARE ASTM, UNLESS OTHERWISE NOTED.

REV.	DESCRIPTION	DATE	DET.	CKD.
3	REMOVED NOTE IN SECTION F2; MODIFIED ITEMS IN BILL OF MATERIALS & TITLE BLOCK	04/02/06	RES	J.W
2	ADDED STUD ANCHORS ABOVE SUPPORT BOXES; MODIFIED ITEMS IN BILL OF MATERIALS; REMOVED NOTE	01/19/06	RES	J.W
1	LOWERED SUPPORT BOXES ON EDGE BEAMS; MODIFIED ITEMS IN BILL OF MATERIALS	10/25/05	RES	J.W

SHOP DRAWING REVIEW

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Job Number: 52491
Reviewed By: SKB
Date: 6/1/06

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DSBROWN.COM

LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
TOWN — ALBURG AND SWANTON
P.O. NO. — P078559 MIS
SUPERVISOR — MARK KACZINSKI
CUSTOMER — CIANBRO CORPORATION

ITEM	QUANTITY
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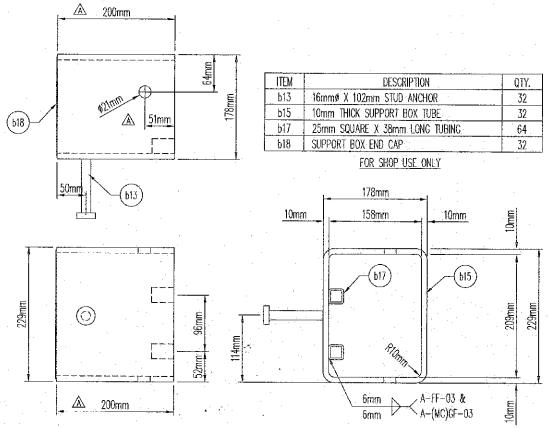
DESCRIPTION: "D-400" JOINT SUPPORT DETAILS & BILL OF MATERIALS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

SCALE	DRAWN BY	CHECKED BY	DATE	DRAWING SHEETS
N.T.S.	RES	JLW	03-18-05	7 OF 15

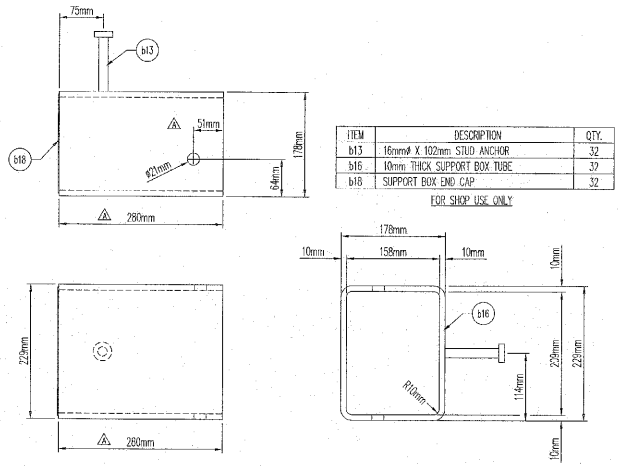
PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET
12244	1021	1	7



ITEM	DESCRIPTION	QTY.
b13	16mmØ X 102mm STUD ANCHOR	32
b15	10mm THICK SUPPORT BOX TUBE	32
b17	25mm SQUARE X 39mm LONG TUBING	64
b18	SUPPORT BOX END CAP	32

FOR SHOP USE ONLY

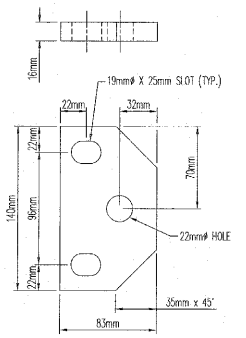
"D-240" SUPPORT BOX DETAIL
(SHORT LENGTH)
(32) REQUIRED
PLAN VIEW NO. 1



ITEM	DESCRIPTION	QTY.
b13	16mmØ X 102mm STUD ANCHOR	32
b16	10mm THICK SUPPORT BOX TUBE	32
b18	SUPPORT BOX END CAP	32

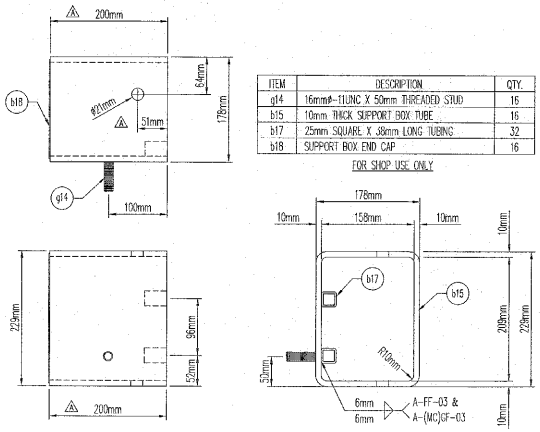
FOR SHOP USE ONLY

"D-240" SUPPORT BOX DETAIL
(LONG LENGTH)
(32) REQUIRED
PLAN VIEW NO. 1



ITEM NO. p24
(96) REQ'D.

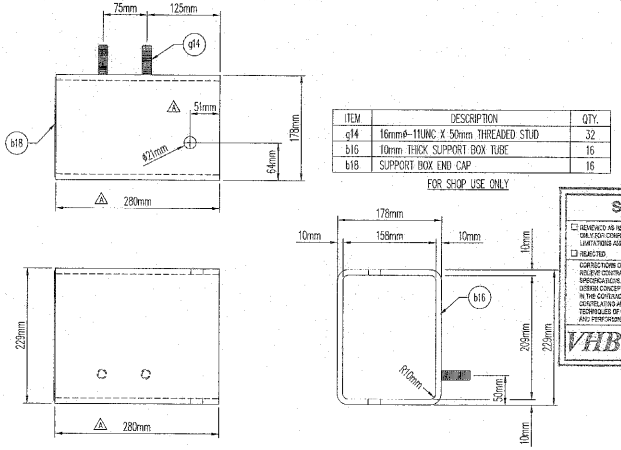
TYPICAL REMOVABLE PLATE DETAIL



ITEM	DESCRIPTION	QTY.
g14	16mmØ-11UNC X 50mm THREADED STUD	16
b15	10mm THICK SUPPORT BOX TUBE	16
b17	25mm SQUARE X 38mm LONG TUBING	32
b18	SUPPORT BOX END CAP	16

FOR SHOP USE ONLY

"D-240" SUPPORT BOX DETAIL
(SHORT LENGTH)
(16) REQUIRED
PLAN VIEW NO. 1



ITEM	DESCRIPTION	QTY.
g14	16mmØ-11UNC X 50mm THREADED STUD	32
b16	10mm THICK SUPPORT BOX TUBE	16
b18	SUPPORT BOX END CAP	16

FOR SHOP USE ONLY

"D-240" SUPPORT BOX DETAIL
(LONG LENGTH)
(16) REQUIRED
PLAN VIEW NO. 1

SHOP DRAWING REVIEW

☐ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☒ APPROVED AS CORRECTED

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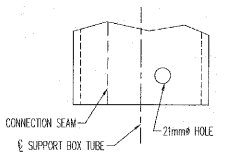
Job Number: 56411
Reviewed By: SAH
Date: 6/1/06



SHOP NOTE:

WHEN DRILLING 21mmØ HOLES INTO SUPPORT BOX TUBE, BE SURE THE SEAM OF THE TUBE IS ON THE OPPOSITE SIDE IN RELATIONSHIP TO THE ℄ OF BOX.

REV.	DESCRIPTION	DATE	DET.	CKD.
1	MODIFIED ITEMS IN TITLE BLOCK	04/02/06	RES	JLW
2	MODIFIED SUPPORT BOX LENGTHS	11/07/05	RES	JLW

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FAX: 419.257.0332
4201 NOREX DRIVE
CHASKA, MINNESOTA 55318
952.368.3000
FAX: 952.448.7000
DSBROWN.COM

LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
TOWN — ALBURG AND SWANTON
P.O. NO. — P078559 M8
SUPERVISOR — MARK KACZINSKI
CUSTOMER — CIANBRO CORPORATION

ITEM	QUANTITY
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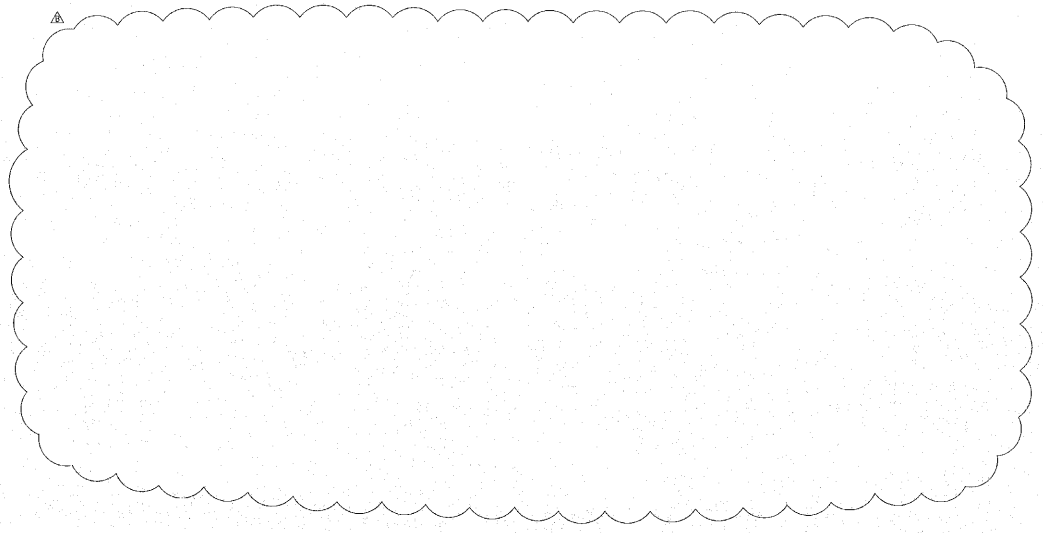
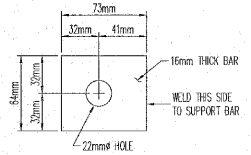
DESCRIPTION: "D-240" SUPPORT BOX DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

SCALE	DRAWN BY	CHECKED BY	DATE	SHEET SHEET
N.T.S.	RES	JLW	03-21-05	8 OF 15

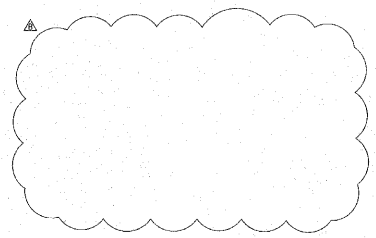
PROJECT NUMBER	PROJECT CODE	REVISE	SHEET
12244	1021	1	8

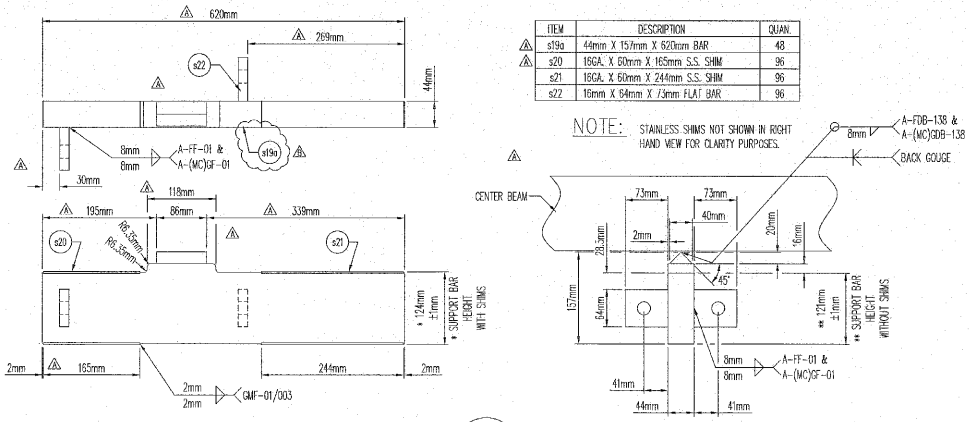




ITEM NO. s22
(96) REQ'D.

"D-240" SPRING STOP DETAIL





ITEM	DESCRIPTION	QUAN.
s19a	44mm X 157mm X 620mm BAR	48
s20	16GA. X 60mm X 165mm S.S. SHIM	96
s21	16GA. X 60mm X 244mm S.S. SHIM	96
s22	16mm X 64mm X 73mm FLAT BAR	96

NOTE: STAINLESS SHIMS NOT SHOWN IN RIGHT HAND VIEW FOR CLARITY PURPOSES.

"D-240" SUPPORT BAR DETAIL

SHOP DRAWING REVIEW

☐ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☒ REVISION AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Wentworth Avenue, Nashua, NH 03063 603 884 0000

Job Number: 56411
Reviewed By: SMH
Date: 6/1/06

REV.	DESCRIPTION	DATE	DET.	CKD.
B	REMOVED SUPPORT BAR & ORDER BAR DETAILS; MODIFIED ITEMS IN SUPPORT BAR DETAIL & TITLE BLOCK	04/02/06	RES	JLW
A	MODIFIED SUPPORT BAR DETAILS	10/25/05	RES	JLW

D.S. BROWN
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332
4201 NOREX DRIVE
CHASKA, MINNESOTA 55318
952.368.3000
FAX: 952.448.7000
DSBROWN.COM

LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
B (TOWN) — ALBURG AND SWANTON
P.O. NO. — P078559 M/S
B (SUPERVISOR — MARK KACZINSKI)
CUSTOMER — CIANBRO CORPORATION

ITEM	QUANTITY
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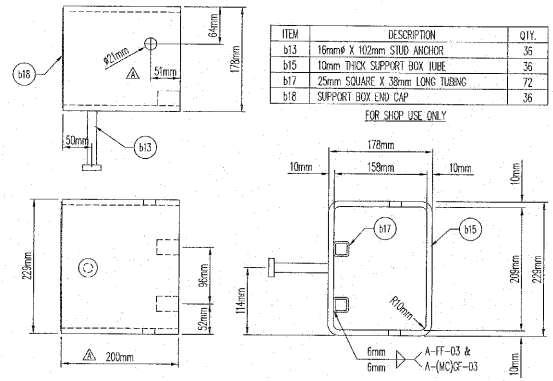
DESCRIPTION: "D-240" SUPPORT BAR DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

SCALE	DRAWN BY	CHECKED BY	DATE	BRIDGE SHEET
N.T.S.	RES	JLW	03-21-05	9 OF 15
PROJECT NUMBER	PROJECT CODE	RELEASE	SHEET	
12244	1021	1	9	

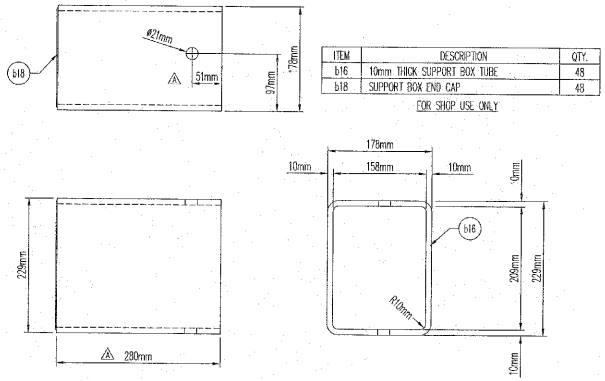


ITEM	DESCRIPTION	QTY.
b13	16mmø X 102mm STUD ANCHOR	36
b15	10mm THICK SUPPORT BOX TUBE	36
b17	25mm SQUARE X 38mm LONG TUBING	72
b18	SUPPORT BOX END CAP	36

FOR SHOP USE ONLY

"D-400" SUPPORT BOX DETAILS (SHORT LENGTH)

(36) REQUIRED
PLAN VIEW NO. 2

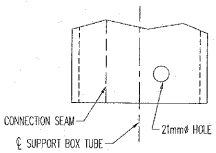


ITEM	DESCRIPTION	QTY.
b16	10mm THICK SUPPORT BOX TUBE	48
b18	SUPPORT BOX END CAP	48

FOR SHOP USE ONLY

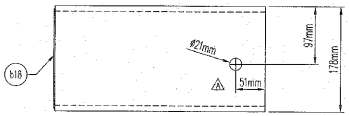
"D-400" INNER SUPPORT BOX DETAILS

(48) REQUIRED
PLAN VIEW NO. 2



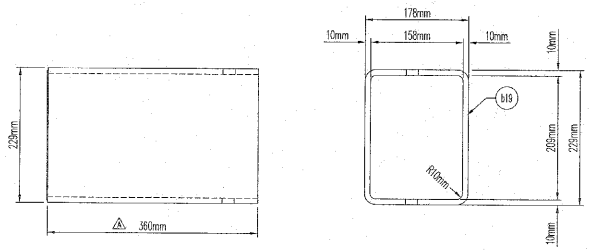
SHOP NOTE:

WHEN DRILLING 21mmø HOLES INTO SUPPORT BOX TUBE, BE SURE THE SEAM OF THE TUBE IS ON THE OPPOSITE SIDE IN RELATIONSHIP TO THE ℄ OF BOX.



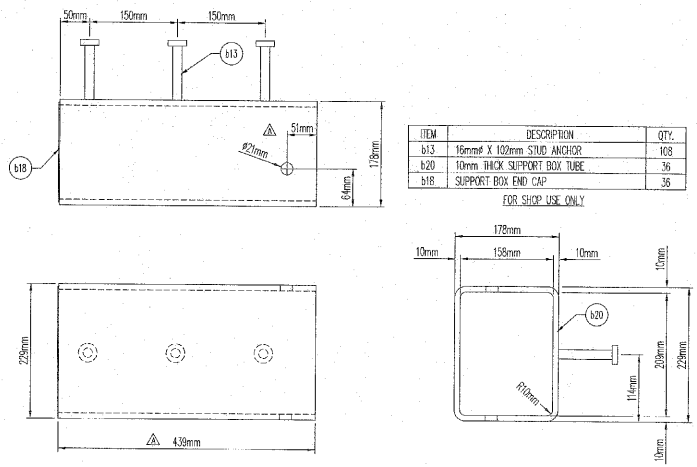
ITEM	DESCRIPTION	QTY.
b19	10mm THICK SUPPORT BOX TUBE	48
b18	SUPPORT BOX END CAP	48

FOR SHOP USE ONLY



"D-400" INNER SUPPORT BOX DETAILS

(48) REQUIRED
PLAN VIEW NO. 2



ITEM	DESCRIPTION	QTY.
b13	16mmø X 102mm STUD ANCHOR	108
b20	10mm THICK SUPPORT BOX TUBE	36
b18	SUPPORT BOX END CAP	36

FOR SHOP USE ONLY

"D-400" SUPPORT BOX DETAILS (LONG LENGTH)

(36) REQUIRED
PLAN VIEW NO. 2

SHOP DRAWING REVIEW

☐ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☒ FURNISH AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Wentworth Avenue, Suite 102 Londonderry, NH 03053 (603) 434-2800 Boston, MA (617) 924-1770

Job Number: 54411
Reviewed By: SMH
Date: 6/1/06

REV.	DESCRIPTION	DATE	DFT.	CKD.
2	MODIFIED ITEMS IN TITLE BLOCK	04/02/06	RES	JLW
1	MODIFIED SUPPORT BOX LENGTHS	11/07/05	RES	JLW

D.S. BROWN
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332
4201 NOREX DRIVE
CHASKA, MINNESOTA 55318
952.368.3000
FAX: 952.448.7000
DSBROWN.COM

LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
TOWN — ALBURG AND SWANTON
P.O. NO. — PO78559 MIS
SUPERVISOR — MARK KACZINSKI
CUSTOMER — CIANBRO CORPORATION

ITEM	QUANTITY
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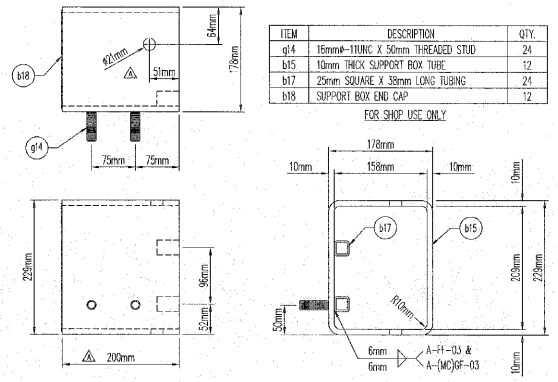
DESCRIPTION: "D-400" SUPPORT BOX DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

SCALE	DRAWN BY	CHECKED BY	DATE	SHEET SUBSET
N.T.S.	RES	JLW	03-21-05	10 OF 15

PROJECT NUMBER	PROJECT CODE	RELEASE	SHEET
12244	1021	1	10

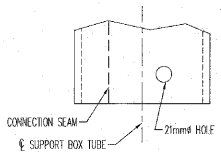


ITEM	DESCRIPTION	QTY.
g14	16mmø-11UNC X 50mm THREADED STUD	24
b15	10mm THICK SUPPORT BOX TUBE	12
b17	25mm SQUARE X 38mm LONG TUBING	24
b18	SUPPORT BOX END CAP	12

FOR SHOP USE ONLY

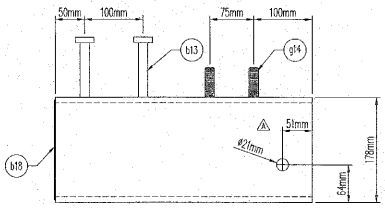
"D-400" SUPPORT BOX DETAILS (SHORT LENGTH)

(12) REQUIRED
PLAN VIEW NO. 2



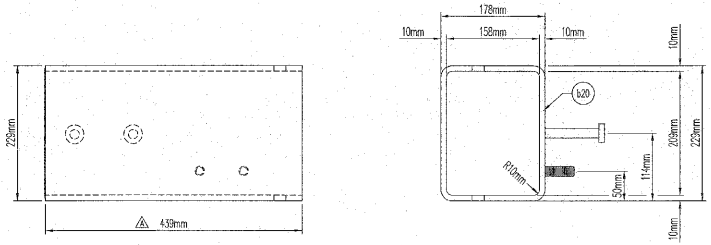
SHOP NOTE:

WHEN DRILLING 21mmø HOLES INTO SUPPORT BOX TUBE, BE SURE THE SEAM OF THE TUBE IS ON THE OPPOSITE SIDE IN RELATIONSHIP TO THE ℄ OF BOX.



ITEM	DESCRIPTION	QTY.
b13	16mmø X 102mm STUD ANCHOR	24
g14	16mmø-11UNC X 50mm THREADED STUD	24
b20	10mm THICK SUPPORT BOX TUBE	12
b18	SUPPORT BOX END CAP	12

FOR SHOP USE ONLY



"D-400" SUPPORT BOX DETAILS (LONG LENGTH)

(12) REQUIRED
PLAN VIEW NO. 2

SHOP DRAWING REVIEW

☐ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☒ APPROVED AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Bedford Road, Williston, Bedford, NH (01710) 603 644-0508

Job Number: 52410
Reviewed By: SMH
Date: 6/1/06

REV.	DESCRIPTION	DATE	DET.	CKD.
2	MODIFIED ITEMS IN TITLE BLOCK	04/02/06	RES	JLW
1	MODIFIED SUPPORT BOX LENGTHS	11/08/05	RES	JLW

D.S. BROWN
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332

4201 NOREX DRIVE
CHASKA, MINNESOTA 55318
952.368.3000
FAX: 952.448.7000

DSBROWN.COM

LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
TOWN — ALBURG AND SWANTON
P.O. NO. — P078559 MS
SUPERVISOR — MARK KACZINSKI
CUSTOMER — CIANBRO CORPORATION

ITEM	QUANTITY
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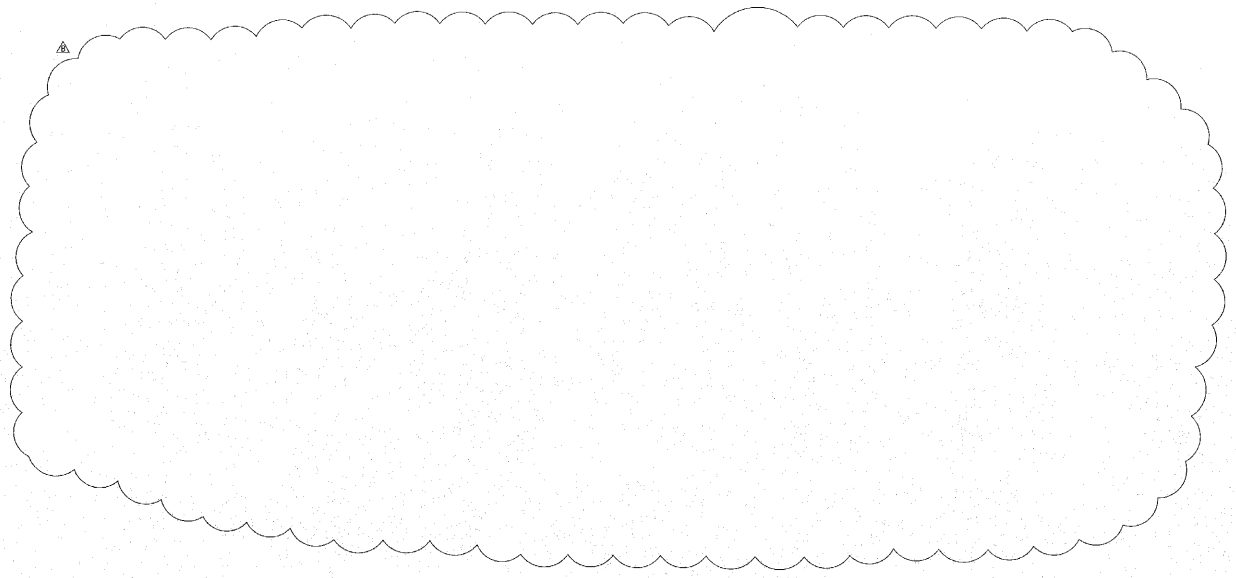
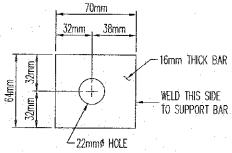
DESCRIPTION: "D-400" SUPPORT BOX DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

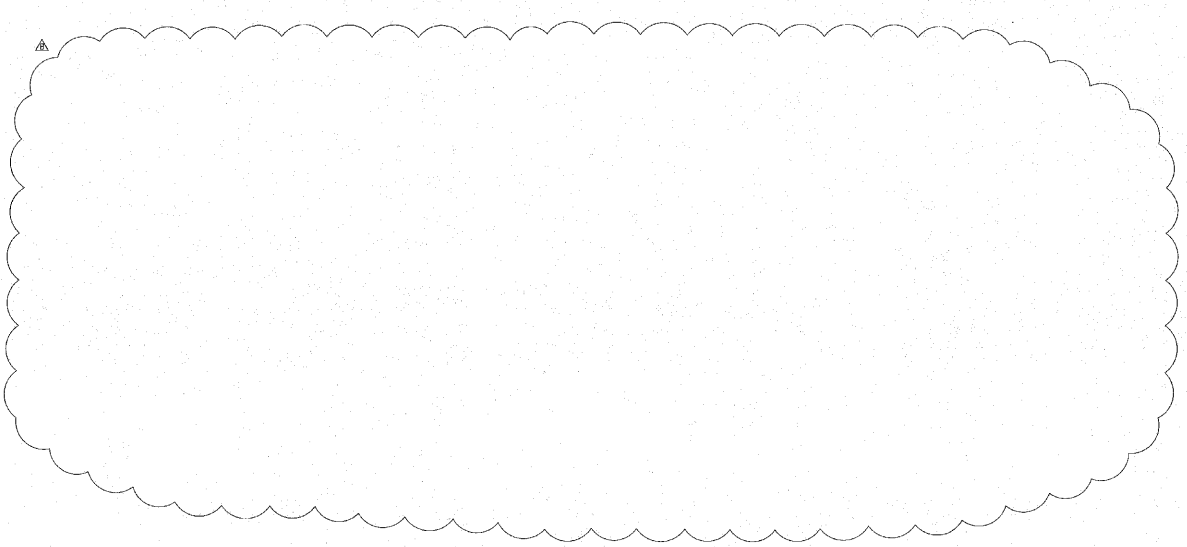
SCALE	DRAWN BY	DESIGNED BY	DATE	SHEET
N.T.S.	RES	JLW	03-22-05	11 OF 15

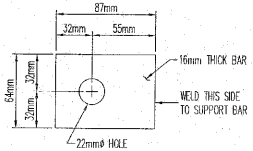
PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET
12244	1021	1	11





ITEM NO. s30
(48) REQ'D.
"D-400" EXTERIOR SPRING STOP DETAIL





ITEM NO. s31
(144) REQ'D.
"D-400" INTERIOR SPRING STOP DETAIL

SHOP DRAWING REVIEW

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☐ REJECTED ☐ REVISE AND RESUBMIT ☒ APPROVED AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners and Scientists 54 Bedford Road, Kittery, ME 03904 207 439 2222

Job Number: 8991
Reviewed By: JHN
Date: 6/1/06

REV.	DESCRIPTION	DATE	DET.	CKD.
2	REMOVED SUPPORT BAR DETAILS; MODIFIED ITEMS IN TITLE BLOCK	04/02/06	RES	JLW
1	MODIFIED SUPPORT BAR DETAILS	10/25/05	RES	JLW

D.S. BROWN
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332
4201 NOREX DRIVE
CHASKA, MINNESOTA 55318
952.368.3000
FAX: 952.448.7000
DSDROWN.COM

LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
2 TOWN — ALBURG AND SWANTON
P.O. NO. — P078559 MIS
2 SUPERVISOR — MARK KACZINSKI
CUSTOMER — CIANBRO CORPORATION

ITEM	QUANTITY
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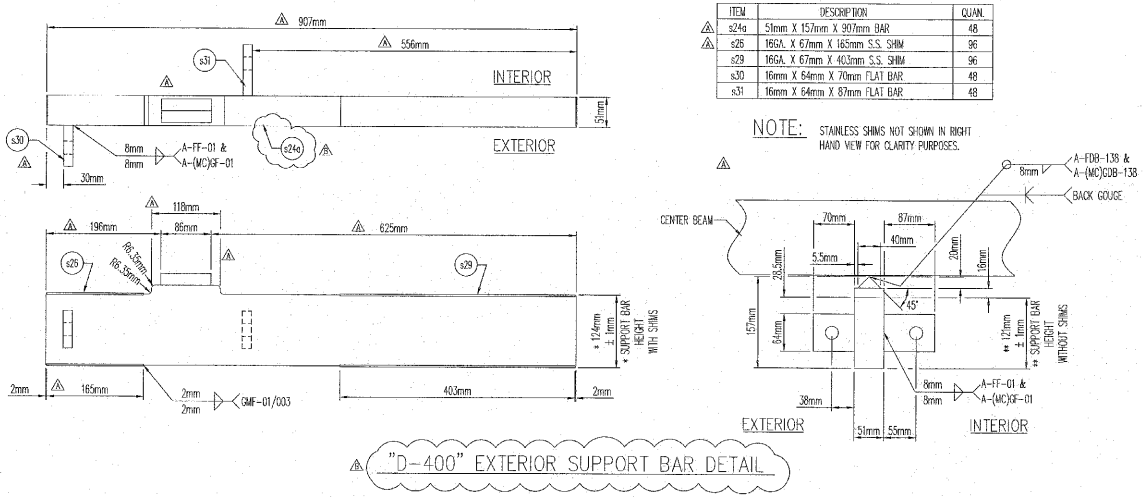
DESCRIPTION: "D-400" SUPPORT BAR DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	BRIDGE SURVEY:
N.T.S.	RES	JLW	03-22-05	12 OF 15

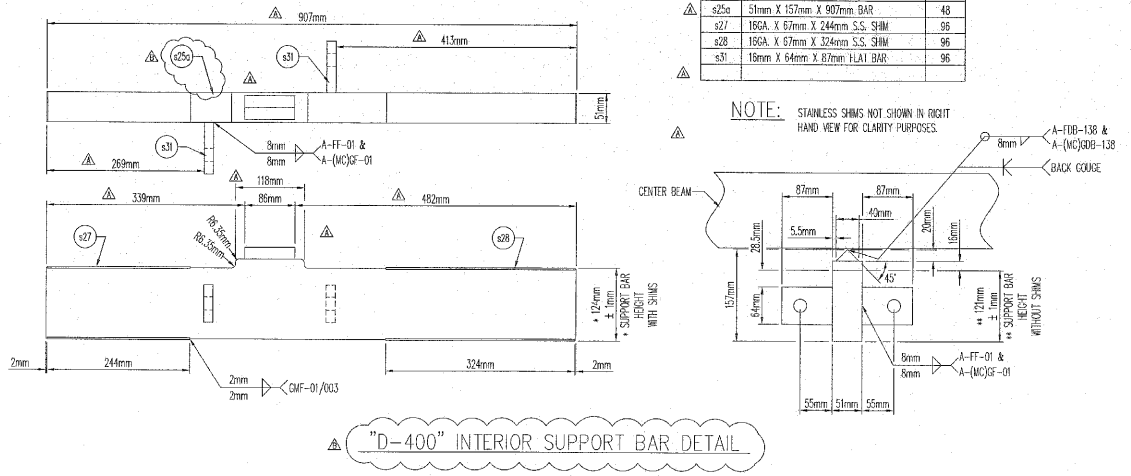
PROJECT NUMBER	PROJECT TYPE	RELEASE	SHEET
12244	1021	1	12



ITEM	DESCRIPTION	QUAN.
s24a	51mm X 157mm X 907mm BAR	48
s25	16GA. X 67mm X 165mm S.S. SHIM	96
s29	16GA. X 67mm X 403mm S.S. SHIM	96
s30	16mm X 64mm X 70mm FLAT BAR	48
s31	16mm X 64mm X 87mm FLAT BAR	48

NOTE: STAINLESS SHIMS NOT SHOWN IN RIGHT HAND VIEW FOR CLARITY PURPOSES.

"D-400" EXTERIOR SUPPORT BAR DETAIL



ITEM	DESCRIPTION	QUAN.
s25a	51mm X 157mm X 907mm BAR	48
s27	16GA. X 67mm X 244mm S.S. SHIM	96
s28	16GA. X 67mm X 324mm S.S. SHIM	96
s31	16mm X 64mm X 87mm FLAT BAR	96

NOTE: STAINLESS SHIMS NOT SHOWN IN RIGHT HAND VIEW FOR CLARITY PURPOSES.

"D-400" INTERIOR SUPPORT BAR DETAIL

SHOP DRAWING REVIEW

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Tenhoot Farms, Kittery Rd. Portland, NH 03110 603 644-2800

Job Number: 50911
Reviewed By: SAB
Date: 6/1/06

REV.	DESCRIPTION	DATE	DET.	CKD.
2	MODIFIED ITEMS IN SUPPORT BAR DETAIL & TITLE BLOCK	04/02/06	RES	JLW
1	MODIFIED OPTIONAL SUPPORT BAR DETAILS	10/25/05	RES	JLW

D.S. BROWN
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332
4201 NOREX DRIVE
CHASKA, MINNESOTA 55318
952.368.3000
FAX: 952.448.7000
DSBROWN.COM

LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
TOWN — ALBURG AND SWANTON
P.O. NO. — PO78559 MIS
SUPERVISOR — MARK KACZINSKI
CUSTOMER — CIANDRO CORPORATION

ITEM	QUANTITY
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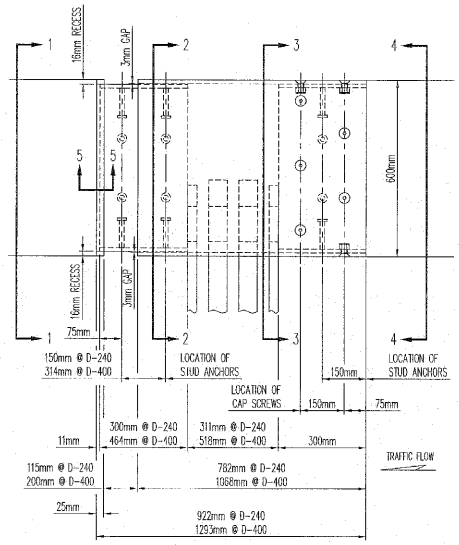
DESCRIPTION: "D-400" SUPPORT BAR DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

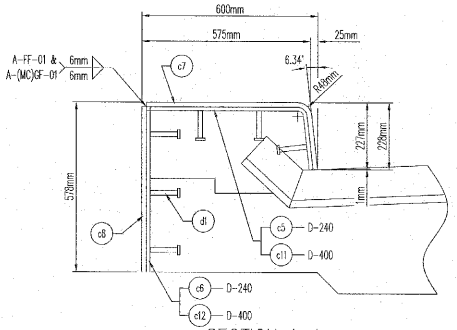
ISSUE:	DRAWN BY:	CHECKED BY:	DATE:	SHEET SERIES
N.I.S.	RES	JLW	03-22-05	13 OF 15

PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET
12244	1021	1	13



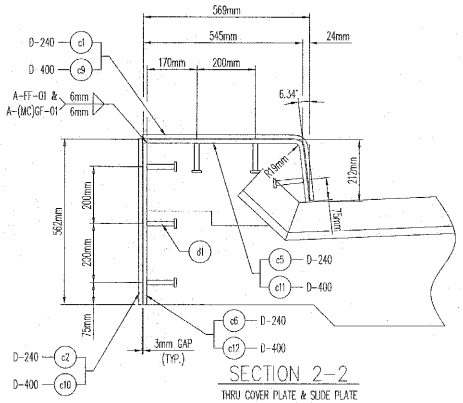
RH COVER PLATE PLAN VIEW

RH COVER PLATE ASSEMBLIES 1RH & 2RH
LOCATED AT ABUTMENT NOS. 1 & 2 (D-240)
PIERS 7 & 15 (D-400)
DIMENSIONS SHOWN ARE AT MID. TEMP. (7°C)



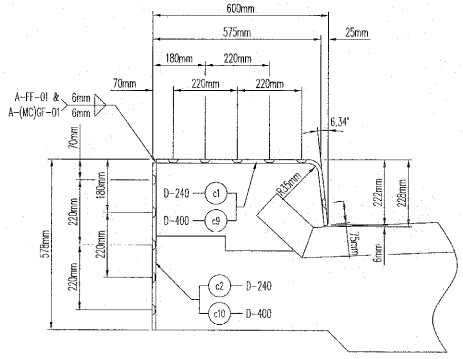
SECTION 1-1

THRU BUTT PLATE & SLIDE PLATE
OVERALL DIMENSIONS TO BUTT PLATE



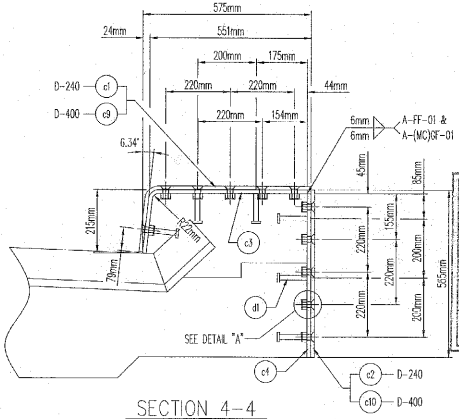
SECTION 2-2

THRU COVER PLATE & SLIDE PLATE
OVERALL DIMENSIONS TO SLIDE PLATE



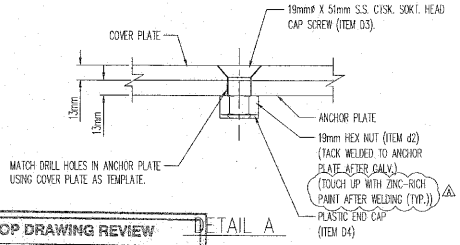
SECTION 3-3

THRU COVER PLATE

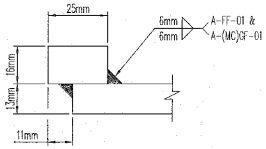


SECTION 4-4

THRU COVER PLATE & ANCHOR PLATE
OVERALL DIMENSIONS TO ANCHOR PLATE



DETAIL A



SECTION 5-5

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☒ FURNISH AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Tuckahoe Avenue, Suite 100 Richland, NY 13144-0549 315.641.2545

Job Number: 54911
Reviewed By: SM
Date: 6/1/06

REV.	DESCRIPTION	DATE	DET.	CKD.
A	ADDED NOTE TO DETAIL A; MODIFIED ITEMS IN TITLE BLOCK	04/02/06	RES	JLW

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952.368.3000
FAX: 952.448.7000

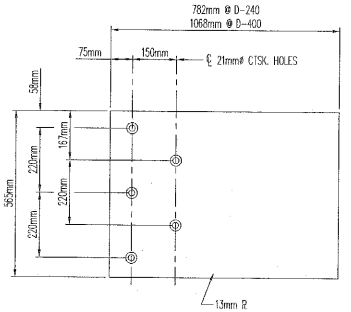
DSBROWN.COM

LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
A TOWN — ALBURG AND SWANTON
P.O. NO. — P078559 MIS
A SUPERVISOR — MARK KACZINSKI
CUSTOMER — CIANBRO CORPORATION

ITEM	QUANTITY
–	–
–	–
–	–
–	–
–	–
–	–
–	–
–	–

DESCRIPTION: COVER PLATE DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

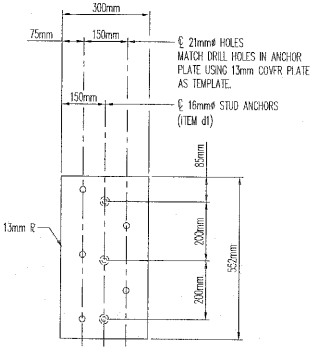
SCALE	DRAWN BY	CHECKED BY	DATE	SHEET SIZE
N.T.S.	RES	JLW	03-04-05	14 OF 15
PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET
12244	1021	1	14



ITEM NO. c2 (4) REQ'D. D-240

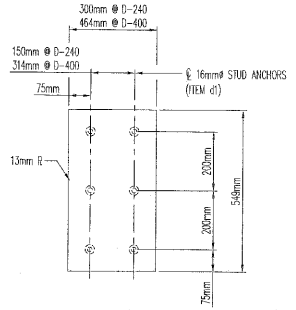
ITEM NO. c10 (4) REQ'D. D-400

BACK RH COVER PLATE



ITEM NO. c4 (8) REQ'D.

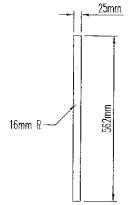
TYPICAL BACK ANCHOR PLATE



ITEM NO. c6 (4) REQ'D. D-240

ITEM NO. c12 (4) REQ'D. D-400

BACK RH SLIDE PLATE

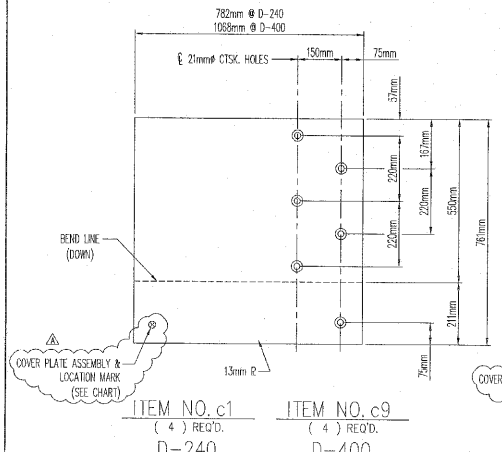


ITEM NO. c8 (8) REQ'D.

TYPICAL BACK BUTT PLATE

MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
1RH	4	D-240 RH COVER PLATE ASSEMBLY		922	HDG	
c1	4	PL 13 X 761	A572	782	FRONT COVER PLATE	19-55
c2	4	PL 13 X 565	A572	782	BACK COVER PLATE	19-55
c3	4	PL 13 X 300	A572	734	FRONT ANCHOR PLATE	19-55
c4	4	PL 13 X 300	A572	552	BACK ANCHOR PLATE	19-55
c5	4	PL 13 X 300	A572	726	FRONT SLIDE PLATE	19-55
c6	4	PL 13 X 300	A572	549	BACK SLIDE PLATE	19-55
c7	4	PL 16 X 25	A572	760	FRONT BUTT PLATE	19-57
c8	4	PL 16 X 25	A572	562	BACK BUTT PLATE	19-57
d1	72	WS 16 X 106	A108			29-9
d2	44	HN 19	A563A MG			25-59
D3	46	MB 19 X 51 SOKT FH CTSK	SS304/SS316		(44)	24-172
D4	46	MI 19 PLASTIC END CAP			(44) MCMASTER CARR # 9567K14	31-141
2RH	4	D-400 RH COVER PLATE ASSEMBLY		1293	HDG	
c9	4	PL 13 X 761	A572	1068	FRONT COVER PLATE	19-55
c10	4	PL 13 X 565	A572	1068	BACK COVER PLATE	19-55
c3	4	PL 13 X 300	A572	734	FRONT ANCHOR PLATE	19-55
c4	4	PI 13 X 300	A572	552	BACK ANCHOR PLATE	19-55
c11	4	PL 13 X 464	A572	726	FRONT SLIDE PLATE	19-55
c12	4	PL 13 X 464	A572	549	BACK SLIDE PLATE	19-55
c7	4	PL 16 X 25	A572	760	FRONT BUTT PLATE	19-57
c8	4	PL 16 X 25	A572	562	BACK BUTT PLATE	19-57
d1	72	WS 16 X 106	A108			29-9
d2	44	HN 19	A563A MG			25-59
D3	46	MB 19 X 51 SOKT FH CTSK	SS304/SS316		(44)	24-172
D4	46	MI 19 PLASTIC END CAP			(44) MCMASTER CARR # 9567K14	31-141

NOTE: ALL MATERIALS SPECIFICATION DESCRIPTIONS ARE ASTM, UNLESS OTHERWISE NOTED.

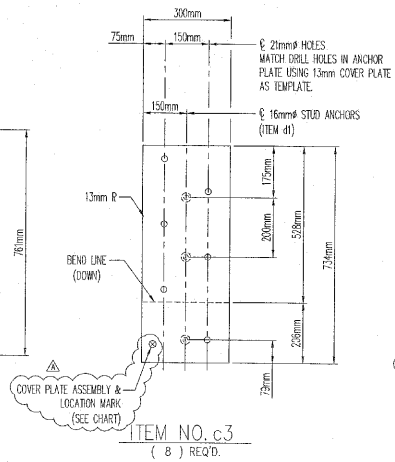


ITEM NO. c1 (4) REQ'D. D-240

ITEM NO. c9 (4) REQ'D. D-400

FRONT RH COVER PLATE

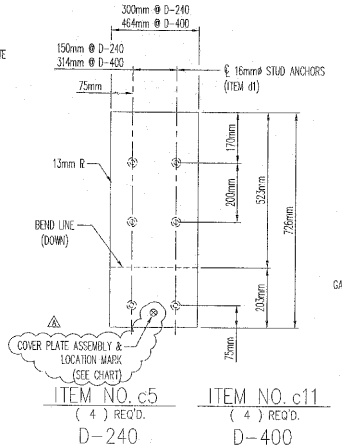
ITEM GROUP	LOCATION	QTY.
c1 & c2	ABUT. 1	2
c1 & c2	ABUT. 2	2
c9 & c10	PIER 7	2
c9 & c10	PIER 15	2



ITEM NO. c3 (8) REQ'D.

TYPICAL FRONT ANCHOR PLATE

ITEM GROUP	LOCATION	QTY.
c3 & c4	ABUT. 1	2
c3 & c4	ABUT. 2	2
c3 & c4	PIER 7	2
c3 & c4	PIER 15	2

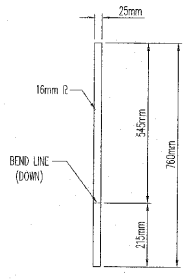


ITEM NO. c5 (4) REQ'D. D-240

ITEM NO. c11 (4) REQ'D. D-400

FRONT RH SLIDE PLATE

ITEM GROUP	LOCATION	QTY.
c5, c6, c7, c8	ABUT. 1	2
c5, c6, c7, c8	ABUT. 2	2
c11, c12, c7, c8	PIER 7	2
c11, c12, c7, c8	PIER 15	2



ITEM NO. c7 (8) REQ'D.

TYPICAL FRONT BUTT PLATE

COVER PLATE NOTES

ALL PLATES SHALL BE AASHTO M270 GRADE 345 (ASTM-A572) STEEL AND GALVANIZED IN ACCORDANCE WITH AASHTO M111 (ASTM-A123). (AFTER FABRICATION) RADIUS ALL EDGES 2mm FOR GALVANIZING.

COVER PLATES SHALL BE ATTACHED USING 19mmø X 51mm FLATHEAD CTSK. CAP SCREWS WITH HEX NUTS TACK WELDED TO BOTTOM OF ANCHOR PLATES.

PLASTIC CAPS SHALL BE UTILIZED ON BACK OF NUTS TO PREVENT CONCRETE FROM ENTERING THREADS.

SLIDE AND ANCHOR PLATE ASSEMBLIES SHALL BE ANCHORED USING 19mmø X 102mm LONG STUD ANCHORS. AUTOMATICALLY END WELDED TO PLATES AND HOT-DIPPED GALVANIZED WITH PLATES AFTER FABRICATION.

COVER PLATES SHALL BE MOUNTED TOWARDS ONCOMING TRAFFIC (SEE PLAN VIEW ON SHEET 14 OF 15).

MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
		ENGLISH B.O.M. (REF. ONLY)				
1RH	4	D-240 RH COVER PLATE ASSEMBLY		3'-0 5/16	HDG	
c1	4	PL 1/2 X 29 15/16	A572	2'-6 13/16	FRONT COVER PLATE	19-55
c2	4	PL 1/2 X 22 1/4	A572	2'-6 13/16	BACK COVER PLATE	19-55
c3	4	PL 1/2 X 11 13/16	A572	2'-4 7/8	FRONT ANCHOR PLATE	19-55
c4	4	PL 1/2 X 11 13/16	A572	1'-9 3/4	BACK ANCHOR PLATE	19-55
c5	4	PL 1/2 X 11 13/16	A572	2'-4 9/16	FRONT SLIDE PLATE	19-55
c6	4	PL 1/2 X 11 13/16	A572	1'-9 5/8	BACK SLIDE PLATE	19-55
c7	4	PL 5/8 X 1	A572	2'-5 15/16	FRONT BUTT PLATE	19-57
c8	4	PL 5/8 X 1	A572	1'-10 1/8	BACK BUTT PLATE	19-57
d1	72	WS 5/8 X 4 3/16	A108			29-9
d2	44	HN 3/4	A563A MG			25-59
D3	46	MB 3/4 X 2 SOKT FH CTSK	SS304/SS316		(44)	24-172
D4	46	MI 3/4 PLASTIC END CAP			(44) MCMASTER CARR # 9567K14	31-141
2RH	4	D-400 RH COVER PLATE ASSEMBLY		4'-2 7/8	HDG	
c9	4	PL 1/2 X 29 15/16	A572	3'-6 1/16	FRONT COVER PLATE	19-55
c10	4	PL 1/2 X 22 1/4	A572	3'-6 1/16	BACK COVER PLATE	19-55
c3	4	PL 1/2 X 11 13/16	A572	2'-4 7/8	FRONT ANCHOR PLATE	19-55
c4	4	PL 1/2 X 11 13/16	A572	1'-9 3/4	BACK ANCHOR PLATE	19-55
c11	4	PL 1/2 X 18 1/4	A572	2'-4 9/16	FRONT SLIDE PLATE	19-55
c12	4	PL 1/2 X 18 1/4	A572	1'-9 5/8	BACK SLIDE PLATE	19-55
c7	4	PL 5/8 X 1	A572	2'-5 15/16	FRONT BUTT PLATE	19-57
c8	4	PL 5/8 X 1	A572	1'-10 1/8	BACK BUTT PLATE	19-57
d1	72	WS 5/8 X 4 3/16	A108			29-9
d2	44	HN 3/4	A563A MG			25-59
D3	46	MB 3/4 X 2 SOKT FH CTSK	SS304/SS316		(44)	24-172
D4	46	MI 3/4 PLASTIC END CAP			(44) MCMASTER CARR # 9567K14	31-141

NOTE: ALL MATERIALS SPECIFICATION DESCRIPTIONS ARE ASTM, UNLESS OTHERWISE NOTED.

SHOP DRAWING REVIEW

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☐ REJECTED ☐ REVISE AND RESUBMIT ☒ REVIEWED AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Regional Ferry, Nbur Rd. Bedford, NH 03110 603 644 2888

Job Number: 52471
Reviewed By: SMR
Date: 6/7/06

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REV.	DESCRIPTION	DATE	DET.	CKD.
⚠	ADDED ASSEMBLY MARK NOTE & CHART; MODIFIED COVER PLATE NOTE & ITEMS IN TITLE BLOCK	04/02/06	RTS	JLW

LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
⚠ TOWN — ALBURG AND SWANTON
P.O. NO. — P078559 MIS
⚠ SUPERVISOR — MARK KACZINSKI
CUSTOMER — CIANDRO CORPORATION

ITEM	QUANTITY
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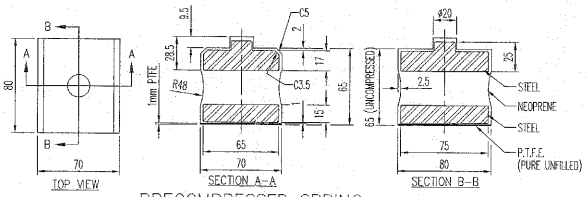
DESCRIPTION: COVER PLATE DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

SCALE	DRAWN BY	CHECKED BY	DATE	SHEET(S)
N.T.S.	RES	JLW	03-09-05	15 OF 15

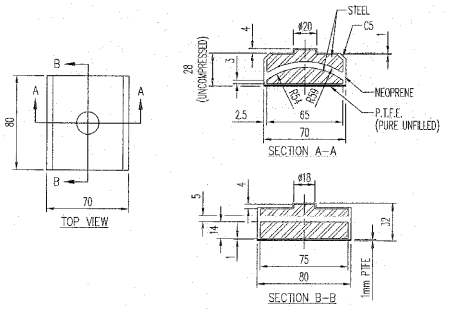
PROJECT NUMBER	PROJECT CODE	REVISE	SHT.
12244	1021	1	15



PRECOMPRESSED SPRING

SPECIFICATION:

1. ALL STEEL PARTS ARE TO BE GRADE GR50B
2. RUBBER REQUIREMENT: NEOPRENE
3. SHORE A DUROMETER: 65-70
4. LOAD DEFLECTION: 6mm AT LOAD OF 12kN
5. ALL SHARP EDGES TO BE RADIUS
6. NEOPRENE MATERIAL TO MEET ASTM D2000 LINE CALL OUT M3BC 717 B13 F17 K21 Z1
   WHERE Z1= COMPRESSION DEFLECTION OF MAX. 6mm AT 12kN FORCE
   (TO BE TESTED ON FINISHED PART)



SLIDE BEARING

SPECIFICATION:

1. ALL STEEL PARTS ARE TO BE GRADE GR50B
2. RUBBER REQUIREMENT: NEOPRENE
3. SHORE A DUROMETER: 60
4. LOAD DEFLECTION: 2.5mm AT LOAD OF 44.5kN
5. ALL SHARP EDGES TO BE RADIUS
6. NEOPRENE MATERIAL TO MEET ASTM D2000 LINE CALL OUT M3BC 617 B13 F17 K21 Z1
   WHERE Z1= COMPRESSION DEFLECTION OF MAX. 2.5mm AT 44.5kN FORCE
   (TO BE TESTED ON FINISHED PART)

SHOP DRAWING REVIEW

☐ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, NOT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 99 Bedford Street, Fifth Floor Boston, Massachusetts 02111-2621 617.728.7777

Job Number: 50137
Reviewed By: SAM
Date: 9/1/06

REV.	DESCRIPTION	DATE	DET.	CKD.

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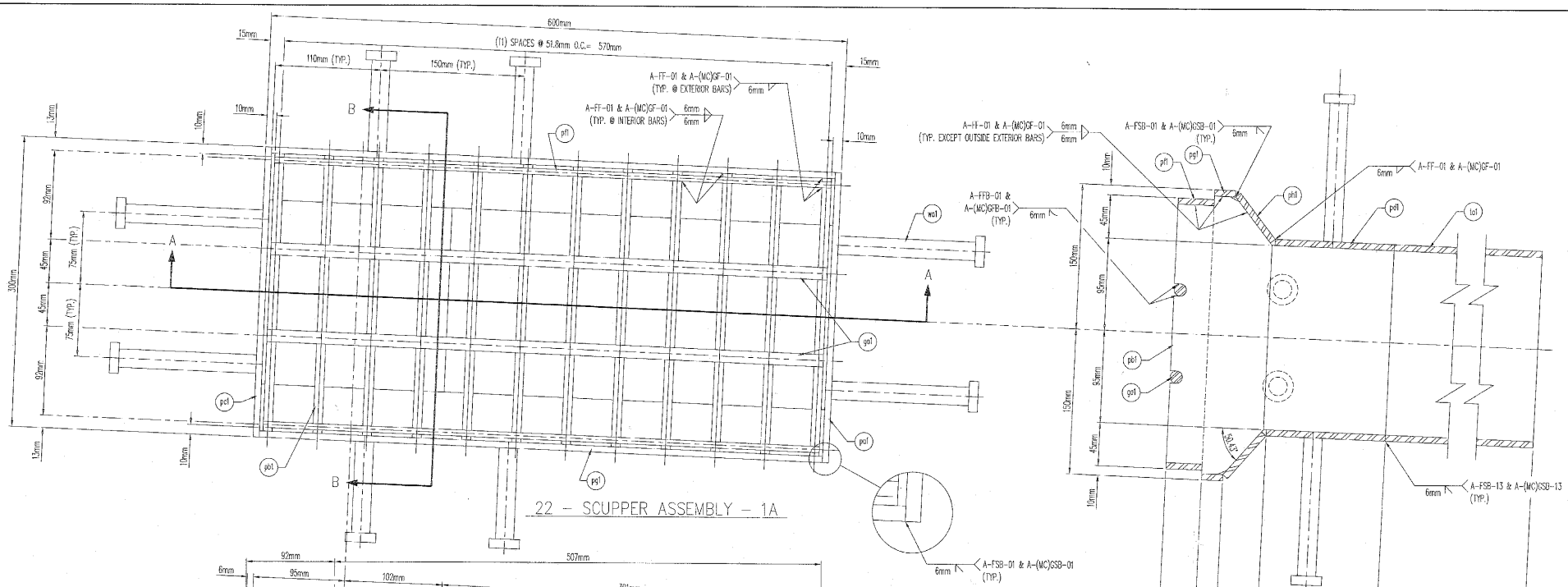
FAX: 419.257.0332
4201 NOREX DRIVE
CHASKA, MINNESOTA 55318
952.368.3000
FAX: 952.448.7000
DSBROWN.COM

ITEM	QUANTITY
LOCATION — VT 78 OVER MISSISQUOI BAY	–
BRIDGE — 2	–
PROJECT NO. — BRF 036-1 (1)	–
TOWN — ALBURG AND SWANTON	–
P.O. NO. — P078559 MIS	–
SUPERVISOR — MARK KACZINSKI	–
CUSTOMER — CIANBRO CORPORATION	–

DESCRIPTION: PRECOMPRESSED SPRING & BEARING DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

SCALE	DRAWN BY	DESIGNED BY	DATE	SHEET SHEETS
N.T.S.	RES	JLW	04-19-06	1 OF 1
PROJECT NUMBER	PROJECT CODE	PROGRAM	SHEET
12244	1021	1	16



SCUPPER DETAILS (ASSEMBLY 1A)

LOCATED ON NORTH & SOUTH SIDE OF VT 78 @ THE FOLLOWING LOCATIONS:

STA. 10+993.700	STA. 11+562.500
STA. 11+088.500	STA. 11+657.300
STA. 11+183.300	STA. 11+751.100
STA. 11+278.100	STA. 11+846.900
STA. 11+372.900	STA. 11+941.700
STA. 12+036.500	

SHOP DRAWING REVIEW

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dorchester Avenue, Williston Park, Burlington, VT 05401 802 864 0454

Job Number: 50411
Reviewed By: SDM
Date: 7-7-05

REV.	DESCRIPTION	DATE	DET.	CKD.
1	MODIFIED STUD ANCHOR LOCATIONS ON SCUPPER	06/21/05	RES	JEB

D.S. BROWN
309 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332
4201 NOREX DRIVE
CHASKA, MINNESOTA 55318
952.368.3000
FAX: 952.448.7000
DSBROWN.COM

LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
CITY — ALBURG AND SWANTON
P.O. NO. — P078559 MIS
DESIGNER — VANASSE HANGEN BRUSTLIN, INC.
CUSTOMER — CIANBRO CORPORATION

ITEM	QUANTITY
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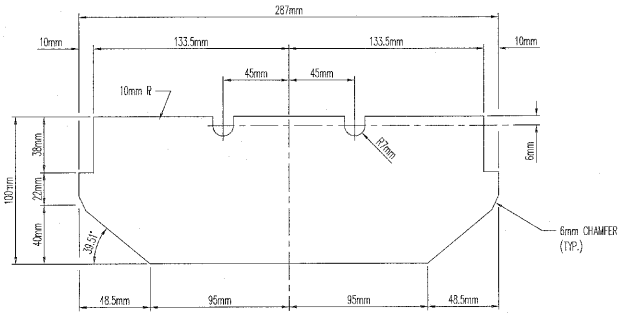
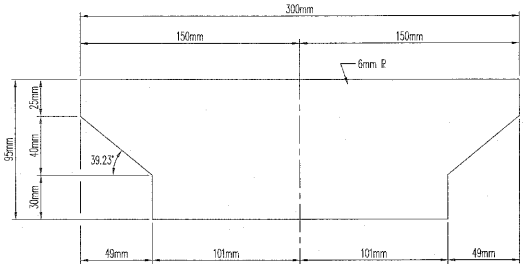
DESCRIPTION: SCUPPER DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	BRIDGE SHEET:
N.T.S.	RES	JEB	03-24-05	1 OF 3

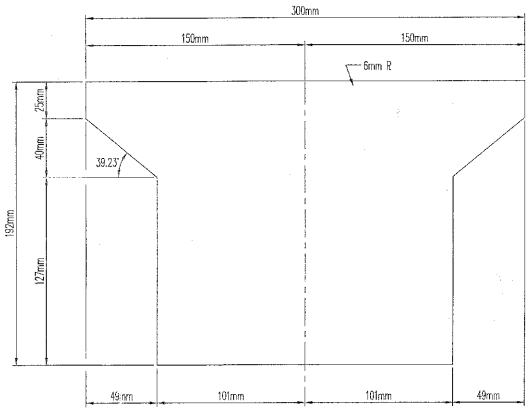
PROJECT NUMBER	PROJECT CODE	RELEASE	SHEET
12244	1235	1	1



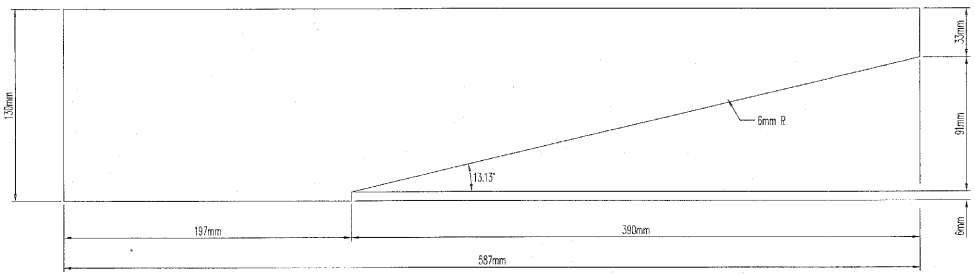
DETAIL (pb1)



DETAIL (pa1)



DETAIL (pc1)



DETAIL (pd1)

SHOP DRAWING REVIEW

☒ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ AS HERE AND RESUBMIT ☐ FURNISH AS CORRECTED

CONTRACTORS OR CONSULTANTS MAKE OR, THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Rudnick Farm, Main Rd. Bedford, NH 03110 603-644-2888

Job Number: 52417
Reviewed By: [illegible]
Date: 2-7-05

REV.	DESCRIPTION	DATE	DET.	CKD.

D.S. BROWN
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332
4201 NOREX DRIVE
CHASKA, MINNESOTA 55318
952.368.3000
FAX: 952.448.7000
DSBROWN.COM

LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
CITY — ALBURG AND SWANTON
P.O. NO. — P078559 MIS
DESIGNER — VANASSE HANGEN BRUSTLIN, INC.
CUSTOMER — CIANBRO CORPORATION

ITEM	QUANTITY
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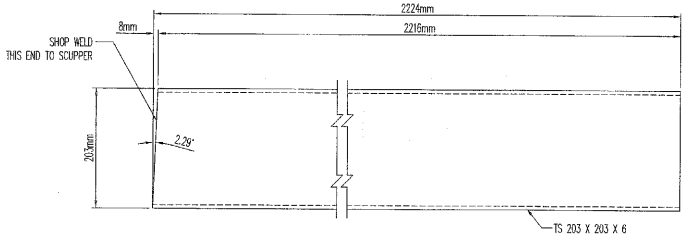
DESCRIPTION: SCUPPER DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

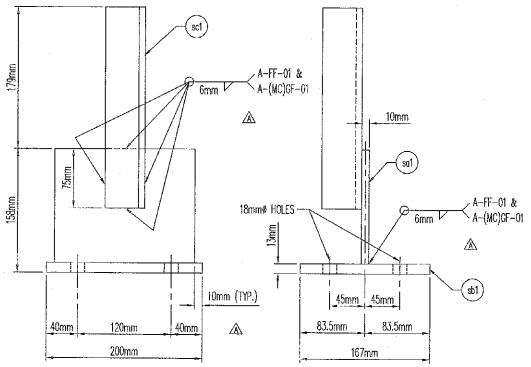
ISSUE	DRAWN BY	CHECKED BY	DATE	BRIDGE SHEET
N.T.S.	RES	JEB	03-30-05	2 OF 3
PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET	
12244	1235	1	2	



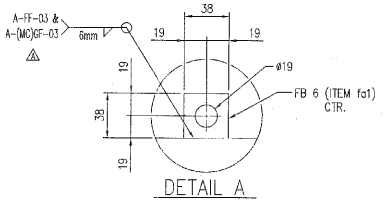
DETAIL (ta1)

MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
1A	22	SCUPPERS			HDG / P (SEE NOTE 8)	
pa1	22	PL 6 X 95	A36	300	SHAPE CUT	19-12
pb1	264	PL 10 X 100	A36	287	SHAPE CUT	19-14
pc1	22	PL 6 X 192	A36	300	SHAPE CUT	19-12
pd1	44	PL 6 X 130	A36	587	SHAPE CUT	19-12
pf1	44	PL 6 X 38	A36	580		19-12
pg1	44	PL 6 X 22	A36	588		19-12
ph1	44	PL 6 X 60	A36	588		19-12
pm1	22	PL 6 X 300	A36	402		19-12
qa1	44	RB 13	A36	580		18-3
wa1	176	WS 19 X 157	A108			29-16
ta1	22	TS 203 X 203 X 6	A500 GR. B	2224		22-35
fa1	44	FB 6 X 38	A36	38		16-27
⚠ 2A	22	SUPPORT ASSEMBLY			(HDG / P (SEE NOTE 8))	
⚠ sa1	22	PL 10 X 145	A36	180		19-14
sb1	22	PL 13 X 167	A36	200		19-16
sc1	22	L 51 X 51 X 10	A36	254		15-14
⚠ 2B	22	PL 6 X 105	A36	203	(HDG / P (SEE NOTE 8))	19-12
		FIELD HARDWARE:				
2AF	94	HB 16 X 57 HVY	A325 MG		(88) ROCAP	23-310
2BF	94	HN 16	A563DH MG		(88) ROCAP	25-20
2CF	188	FW 16	F436 MG		(176) ROCAP	27-41

MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
		ENGLISH B.O.M. (REF. ONLY)				
1A	22	SCUPPERS			HDG / P (SEE NOTE 8)	
pa1	22	PL 1/4 X 3 3/4	A36	0'-11 13/16	SHAPE CUT	19-12
pb1	264	PL 3/8 X 3 15/16	A36	0'-11 5/16	SHAPE CUT	19-14
pc1	22	PL 1/4 X 7 9/16	A36	0'-11 13/16	SHAPE CUT	19-12
pd1	44	PL 1/4 X 5 1/8	A36	1'-11 1/8	SHAPE CUT	19-12
pf1	44	PL 1/4 X 1 1/2	A36	1'-10 13/16		19-12
pg1	44	PL 1/4 X 7/8	A36	1'-11 1/8		19-12
ph1	44	PL 1/4 X 2 3/8	A36	1'-11 1/8		19-12
pm1	22	PL 1/4 X 11 13/16	A36	1'-3 13/16		19-12
qa1	44	RB 1/2	A36	1'-10 13/16		18-3
wa1	176	WS 3/4 X 6 3/16	A108			29-16
ta1	22	TS 8 X 8 X 1/4	A500 GR. B	7'-3 9/16		22-35
fa1	44	FB 1/4 X 1 1/2	A36	0'-1 1/2		16-27
⚠ 2A	22	SUPPORT ASSEMBLY			(HDG / P (SEE NOTE 8))	
⚠ sa1	22	PL 3/8 X 5 11/16	A36	0'-7 1/16		19-14
sb1	22	PL 1/2 X 6 9/16	A36	0'-7 7/8		19-16
sc1	22	L 2 X 2 X 3/8	A36	0'-10		15-14
⚠ 2B	22	PL 1/4 X 4 1/8	A36	0'-8	(HDG / P (SEE NOTE 8))	19-12
		FIELD HARDWARE:				
2AF	94	HB 5/8 X 2 1/4 HVY	A325 MG		(88) ROCAP	23-310
2BF	94	HN 5/8	A563DH MG		(88) ROCAP	25-20
2CF	188	FW 5/8	F436 MG		(176) ROCAP	27-41



22 - SUPPORT BRACKET - 2A



DETAIL A

GENERAL NOTES:

1.) MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE STATE OF VERMONT AGENCY OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION", 2001 AND ITS LATEST REVISIONS AND AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" 17TH EDITION AND ITS LATEST REVISIONS AS MODIFIED BY THE SUPPLEMENTAL SPECIFICATIONS, CONTRACT PLANS, AND THE SPECIAL PROVISIONS.

⚠ 2.) WELDING SHALL COMPLY WITH ANSI/AASHTO/AWS D1.5-2002 BRIDGE WELDING CODE.

3.) SCUPPER PLATES, BARS, AND ANGLES SHALL CONFORM TO AASHTO M270M, GRADE 250 (ASTM-A36) UNLESS NOTED OTHERWISE.

4.) DRAIN TUBE SHALL CONFORM TO ASTM-A500, GRADE B STEEL.

5.) STUD ANCHORS SHALL CONFORM TO ASTM-A108 AND SHALL BE ELECTRIC ARC END-WELDED WITH COMPLETE FUSION. FOR STUD REPAIR, USE WELD PROCEDURE A-SM-STUD-REP-01, A-FF-STUD-REP-01, OR A-(MC)GF-STUD-REP-01 AS REQUIRED.

6.) GALVANIZE ALL STEEL AFTER FABRICATION PER ASTM A123. RADIUS ALL EDGES 2mm FOR GALVANIZING.

7.) REPAIR DAMAGED GALVANIZING IN ACCORDANCE WITH ASTM A780.

⚠ 8.) PAINT:
⚠ EXTERIOR SURFACES OF DRAIN TUBE AND THE SUPPORT ASSEMBLY SHALL BE GIVEN A SHOP APPLIED PAINT SYSTEM AS INDICATED IN SUPPLEMENTAL SPECIFICATION 513, SECTION 513.06(f). SEE PAINT LIMITS ON SHEET 1. OVERSPRAY ALLOWED IN CONCRETE AREAS.
PREPARE SURFACES TO BE PAINTED PER SSPC-SP1 & SSPC-SP7
- BRUSH-OFF BLAST CLEANING, AFTER GALVANIZING.
INTERMEDIATE COAT: GALGSEAL WE 0.5 TO 1.0 mils DFT (12.5 TO 25 um)
FINISH COAT: CARBOTHANE 133 HB OF 3.0 TO 5.0 mils DFT (75 TO 125 um);
FEDERAL STANDARD NO. 595, COLOR NO. 20059 (DARK BROWN).

SHOP DRAWING REVIEW

☑ RECEIVED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Regional Farms, 40on Rd. Bedford, NH 03110 603-644-5500

Job Number: 2004
Reviewed By: GMH
Date: 7-7-05

D.S. BROWN
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332

4201 NOREX DRIVE
CHASKA, MINNESOTA 55318
952.368.3000
FAX: 952.448.7000

DSBROWN.COM

REV.	DESCRIPTION	DATE	DET.	CKD.
⚠	REVISED PAINT NOTES	07/5/05	BLB	JEB
⚠	MODIFIED WELDS, BRACKET PLATE, & GENERAL NOTES	06/21/05	RES	JEB

LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
CITY — ALBURG AND SWANTON
P.O. NO. — P078559 MIS
DESIGNER — VANASSE HANGEN BRUSTLIN, INC.
CUSTOMER — CIANBRO CORPORATION

ITEM	QUANTITY
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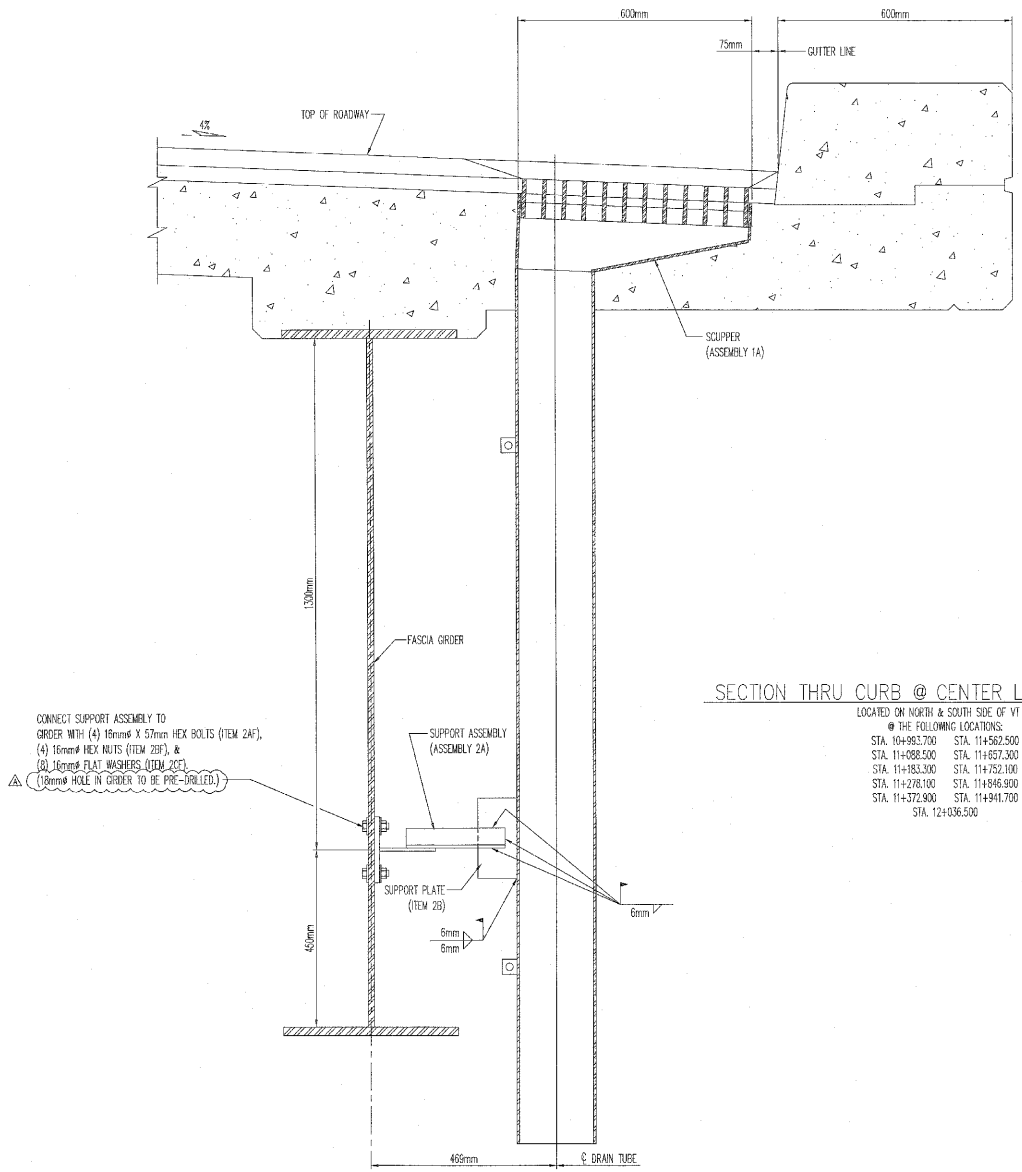
DESCRIPTION: SCUPPER DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	BRIDGE SHEETS:
N.T.S.	RES	JEB	03-24-05	3 OF 3

PROJECT NUMBER	PROJECT CODE	RELEASE	SHEET
12244	1235	1	3



SECTION THRU CURB @ CENTER LINE OF SCUPPER

LOCATED ON NORTH & SOUTH SIDE OF VT 78
@ THE FOLLOWING LOCATIONS:

STA. 10+993.700	STA. 11+562.500
STA. 11+088.500	STA. 11+657.300
STA. 11+183.300	STA. 11+752.100
STA. 11+278.100	STA. 11+846.900
STA. 11+372.900	STA. 11+941.700
STA. 12+036.500	

SHOP DRAWING REVIEW

RELEASED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ APPROVED AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists
Box Elder 4 Farms, Hilton Rd. Brattleboro, VT 05301 802-257-0329

Job Number: 52971
Reviewed By: JJP-W
Date: 7-7-05

REV.	DESCRIPTION	DATE	DET.	CKD.
1	MODIFIED DESCRIPTION FOR HOLES IN GIRDER	06/21/05	RES	JEB

D.S. BROWN
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332

4201 NOREX DRIVE
CHASKA, MINNESOTA 55318
952.368.3000
FAX: 952.448.7090

DSBROWN.COM

LOCATION — VT 78 OVER MISSISQUOI BAY
BRIDGE — 2
PROJECT NO. — BRF 036-1 (1)
CITY — ALBURG AND SWANTON
P.O. NO. — P078559 MIS
DESIGNER — VANASSE HANGEN BRUSTLIN, INC.
CUSTOMER — CIANDRO CORPORATION

ITEM	QUANTITY
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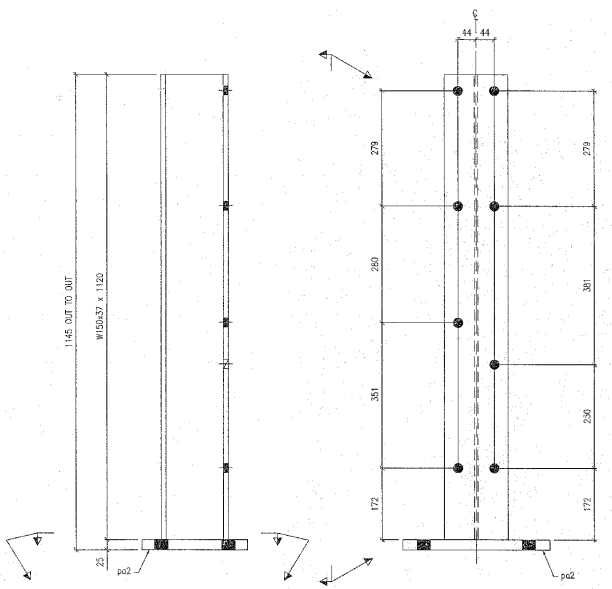
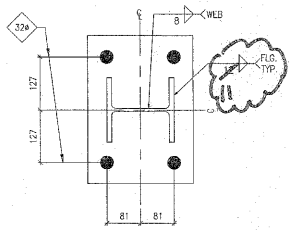
DESCRIPTION:
SCUPPER DETAILS
COUNTIES OF GRAND ISLE AND FRANKLIN, VERMONT

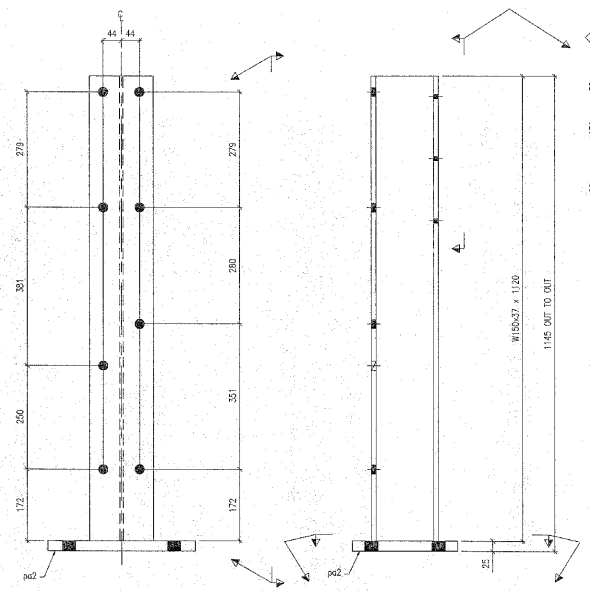
SCALE	DRAWN BY	DESIGNED BY	DATE
N.T.S.	RES	JEB	03-24-05

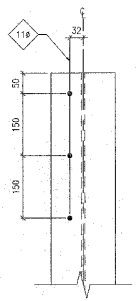
PROJECT NUMBER	PROJECT CODE	RELEASE	SHEET
12244	1235	1	E1



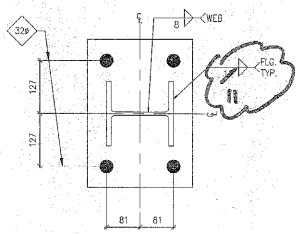


A3 ~ 343 REQ'D





FOR C3 ONLY



B3 ~ 342 REQ'D
C3 ~ ONE REQ'D (AS NOTED)

BILL OF MATERIAL

MARK SHP	MARK TEMP	QTY.	MATERIAL	LENGTH	GR.	REMARKS
A3		343	W150 x 37	1120		DRILL HD
	pa2	343	PL 25 x 254	356		DRILL HD
B3		342	W150 x 37	1120		DRILL HD
	pa2	342	PL 25 x 254	356		DRILL HD
C3		ONE	W150 x 37	1120		DRILL HD
	pa2	ONE	PL 25 x 254	356		DRILL HD
				TOTAL WEIGHT:		

FOR APPROVAL

SHOP DRAWING REVIEW

☐ REVIEWED AS REQUIRED BY THE CONTRACT DOCUMENTS. CONTRACTOR SHALL CORRECT AND RESUBMIT.

☐ REJECTED ☐ NOTED AND RETURNED ☑ REVISION AS SUBMITTED

CORRECTION OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DOES NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE CONTRACT DRAWINGS AND SPECIFICATIONS. WHERE A SHOP DRAWING OR SAMPLE SUBMITTAL IS CONSIDERED TO DEVIATE FROM REQUIREMENTS OF THE CONTRACT DOCUMENTS, CONTRACTOR SHALL SPECIFICALLY CALL THIS DEVIATION TO THE ATTENTION OF THE ENGINEER AND OBTAIN WRITTEN ACCEPTANCE OF THE DEVIATION. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FABRICATION PROCESSES, CONSTRUCTION METHODS AND TECHNIQUES OF CONSTRUCTION, COORDINATION OF THE WORK WITH THAT OF ALL OTHER TRADES AND FOR SAFETY PRECAUTIONS AND PROGRAMS.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners and Scientists 100 Summit Drive, Suite 101 Burlington, Vermont 05403-6810

Acc'd Revised as Noted: [illegible]
Signature: [illegible]
Date: 9-7-05

MAT'L : ASTM A709 GR 345	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	ø
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	08/06/04	JM	ISSUED FOR APPROVAL	BH

WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: BRIDGE RAIL POSTS

SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION PITTSFIELD MAINE

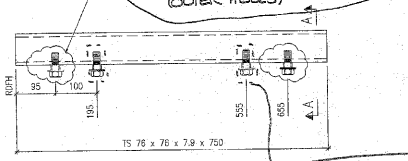
SHEET 03 ⚠
JOB 050004

NOTES:

1. ALL PARTS TO BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M.
2. REFERENCE ERECTION DRAWINGS E1 THRU E23.

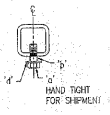
APPROVER PLEASE CONFIRM BACKING NUT REMOVED ALL LOCATIONS INDICATED

NO. BACKER NUTS REQ'D AT ALL LOCATIONS INDICATED (OUTER HOLES)

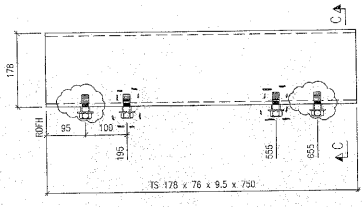


A4 ~ 12 REQ'D

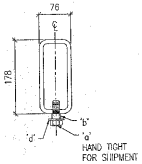
HOWEVER, BACKING NUTS REMOVED AT THESE LOCATIONS TYP.



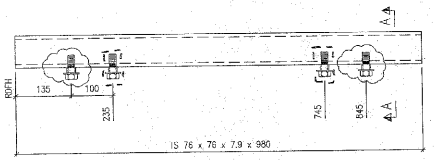
SECTION A-A



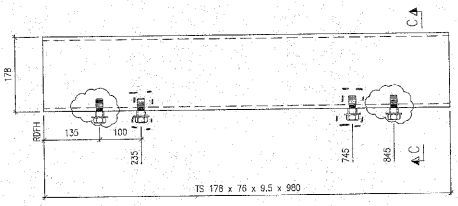
B4 ~ 4 REQ'D



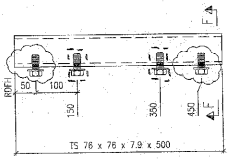
SECTION C-C



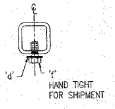
C4 ~ 12 REQ'D



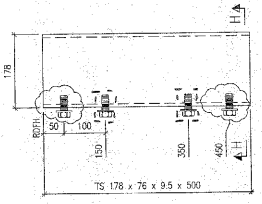
D4 ~ 4 REQ'D



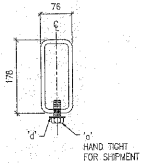
F4 ~ 528 REQ'D



SECTION F-F

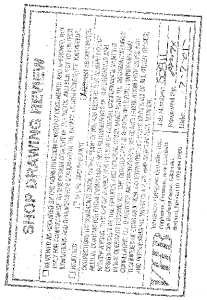


G4 ~ 176 REQ'D



SECTION H-H

ADD BACKER NUTS + TACK WELD DETAIL TO SECTIONS + BILL OF MAT'L LIST



NOTES:

1. ALL HOLES TO BE DRILLED AND TAPPED TO SUIT M16 AASHTO M 164M TYPE 1 BOLT.
2. ALL PARTS TO BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M.
3. REFERENCE ERECTION DRAWINGS E24, E25 AND E26.

BILL OF MATERIAL

MARK SHP	MARK TEMP	QTY.	MATERIAL	LENGTH	GR	REMARKS
A4		12	TS 76x76 x 7.9	750		TAPPED HD
	'a'	48	M16 BOLT	44		ASSHTO M 164M TYPE 1
	'b'	48	20# PIPE SCH. 40	13		
	'd'	48	M16 FLAT WASHER			ASTM F436
B4		4	TS 178x76 x 9.5	750		TAPPED HD
	'a'	16	M16 BOLT	44		ASSHTO M 164M TYPE 1
	'b'	16	20# PIPE SCH. 40	13		
	'd'	16	M16 FLAT WASHER			ASTM F436
C4		12	TS 76x76 x 7.9	980		TAPPED HD
	'a'	48	M16 BOLT	44		ASSHTO M 164M TYPE 1
	'b'	48	20# PIPE SCH. 40	13		
	'd'	48	M16 FLAT WASHER			ASTM F436
D4		4	TS 178x76 x 9.5	980		TAPPED HD
	'a'	16	M16 BOLT	44		ASSHTO M 164M TYPE 1
	'b'	16	20# PIPE SCH. 40	13		
	'd'	16	M16 FLAT WASHER			ASTM F436
F4		528	TS 76x76 x 7.9	500		TAPPED HD
	'f'	2112	M16 BOLT	38		ASSHTO M 164M TYPE 1
	'd'	2112	M16 FLAT WASHER			ASTM F436
G4		176	TS 178x76 x 9.5	500		TAPPED HD
	'a'	704	M16 BOLT	44		ASSHTO M 164M TYPE 1
	'd'	704	M16 FLAT WASHER			ASTM F436
				TOTAL WEIGHT:		

FOR APPROVAL

MAT'L :	ASTM A500 GR B
HOLES :	SEE NOTE 1
WELD :	
ELECTRODE :	E70XX
PREP :	SEE GN-1
PAINT :	SEE GN-1

FIELD BOLTS

GRADE:	A325
*	

REV.	DATE	BY	DESCRIPTION	CHK
2	03/25/05	RC	BACKING NUTS REMOVED	BH
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	08/06/04	JM	ISSUED FOR APPROVAL	BH

WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: BRIDGE RAIL TUBE SPLICE DETAILS

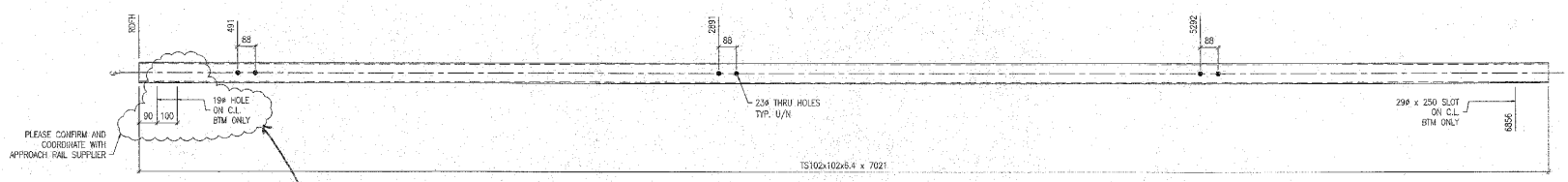
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION PITTSFIELD MAINE

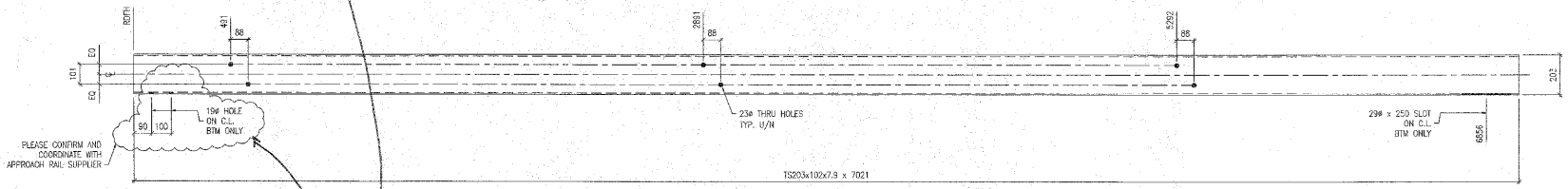
SHEET 04 ⚠
JOB 050004

BILL OF MATERIAL					
MARK SHOP / TEMP	QTY.	MATERIAL	LENGTH	GR.	REMARKS
A5	6	TS102x102x6.4	7021		GALV. HD
B5	2	TS203x102x7.9	7021		GALV. HD
		TOTAL WEIGHT:			

FOR APPROVAL



A5 ~ 6 REQ'D



B5 ~ 2 REQ'D

CIANBRO/CONTRACTOR TO VERIFY

SHOP DRAWING REVIEW

NOTES:

1. ALL PARTS TO BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M.
2. REFERENCE ERECTION DRAWINGS E24.

MATL : ASTM A500 GR.B	FIELD BOLTS		
HOLES : AS NOTED ON DWG.	GRADE: A325		
WELD :			
ELECTRODE : E70XX			
PREP : SEE GN-1			
PAINT : SEE GN-1			

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	18/06/04	JM	ISSUED FOR APPROVAL	BH

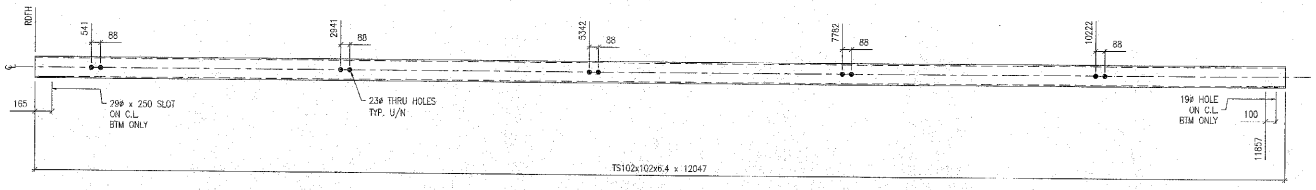
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG - SWANTON, VERMONT

DRAWING: BRIDGE RAILING DETAILS

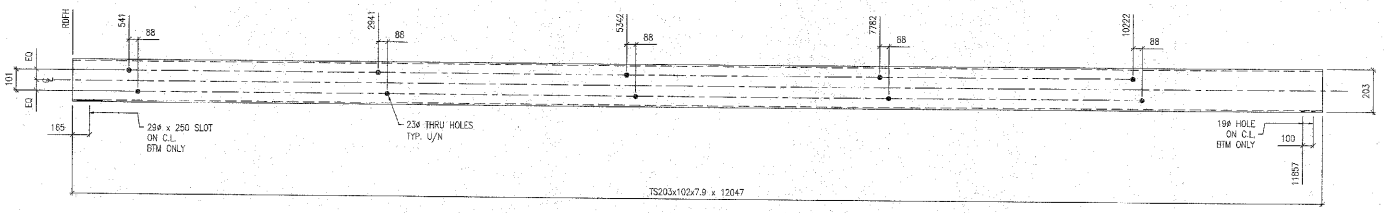
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION PITTSFIELD MAINE

SHEET 05 ⚠
JOB 050004



A6 ~ 6 REQ'D



B6 ~ 2 REQ'D

BILL OF MATERIAL

MARK SHP	MARK TEMP	QTY.	MATERIAL	LENGTH	GR.	REMARKS
A6		6	TS102x102x6.4	12047		GALV. HD
B6		2	TS203x102x7.9	12047		GALV. HD
				TOTAL WEIGHT:		

FOR APPROVAL

SHOP DRAWING REVIEW

VIB

NOTES:

1. ALL PARTS TO BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M.
2. REFERENCE ERECTION DRAWING E24.

MAT'L : ASTM A500 GR.B	FIELD BOLTS		
HOLES : AS NOTED ON DWG.	GRADE	A325	
WELD :	A		
ELECTRODE : E7DXX			
PREP : SEE GN-1			
PAINT : SEE GN-1			

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

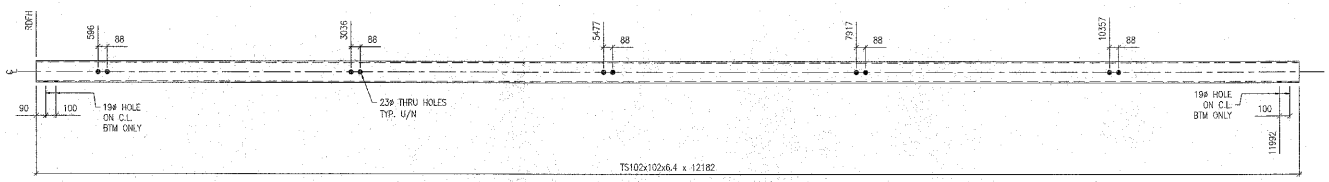
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG - SWANTON, VERMONT

DRAWING: BRIDGE RAILING DETAILS

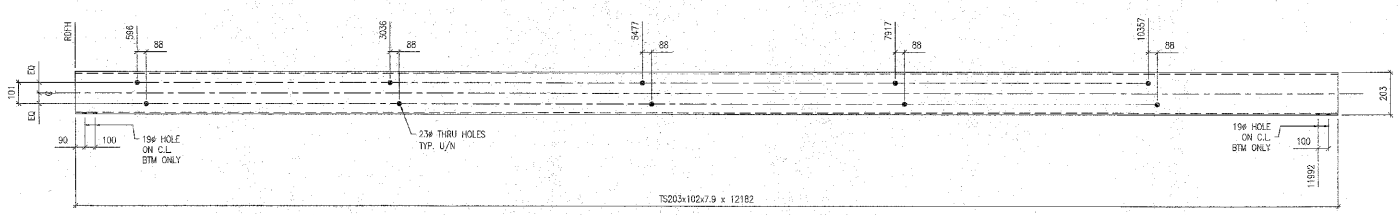
SCALE: N.T.S.
DRAWN: JM
CHECKD: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

SHEET 06
JOB 050004



A7 ~ 150 REQ'D



B7 ~ 50 REQ'D

BILL OF MATERIAL

MARK SHOP	MARK FIELD	QTY.	MATERIAL	LENGTH	GR.	REMARKS
A7		150	TS102x102x6.4	12182		SEE NOTE 1
B7		50	TS203x102x7.9	12182		SEE NOTE 1
			TOTAL WEIGHT:			

FOR APPROVAL

SHOP DRAWING REVIEW

☐ REVIEWED AS SUBMITTED ☐ REVISE AND RESUBMIT
☐ REJECTED ☐ FURNISH AS CORRECTED

CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF ASSEMBLY; PERFORMING WORK IN A SAFE MANNER; COORDINATING THE WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING WORK IN A SATISFACTORY AND WORKMANLIKE MANNER.

VHB

Reviewed By: [illegible]
Date: 7-7-05

NOTES:

1. ALL PARTS TO BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M.111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M.232M.
2. REFERENCE ERECTION DRAWING E24.

MAT'L : ASTM A500 GR.B	FIELD BOLTS
HOLES : AS NOTED ON DWG.	GRADE: A325
WELD :	ø
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG - SWANTON, VERMONT

DRAWING: BRIDGE RAILING DETAILS

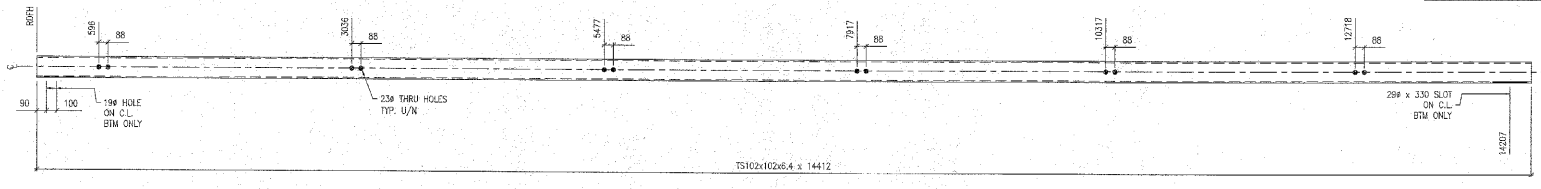
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

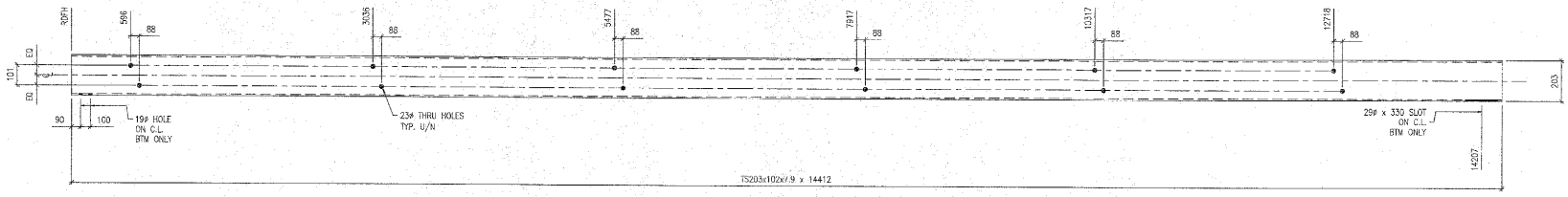
SHEET 07
JOB 050004

BILL OF MATERIAL					
MARK SHOP / ITEM	QTY.	MATERIAL	LENGTH	GR.	REMARKS
A8	6	TS102x102x6.4	14412		SEE NO
B8	2	TS203x102x7.9	14412		SEE NO
		TOTAL WEIGHT:			

FOR APPROVAL



A8 ~ 6 REQ'D



B8 ~ 2 REQ'D

SHOP DRAWING REVIEW

VHB

NOTES:

1. ALL PARTS TO BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M.
2. REFERENCE ERECTION DRAWINGS E24 AND E25.

MAT'L : ASTM A500 GR.B	FIELD BOLTS		
HOLES : AS NOTED ON DWG.	GRADE: A325		
WELD :			
ELECTRODE : E70XX			
PREP : SEE GN-1			
PAINT : SEE GN-1			

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

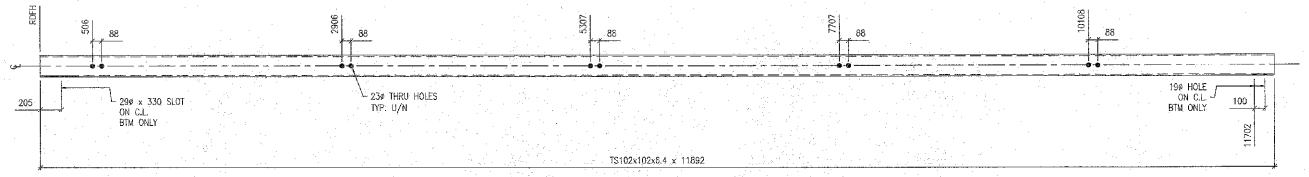
DRAWING: BRIDGE RAILING DETAILS

SCALE: N.T.S.
DRAWN: JM
CHECK: BH

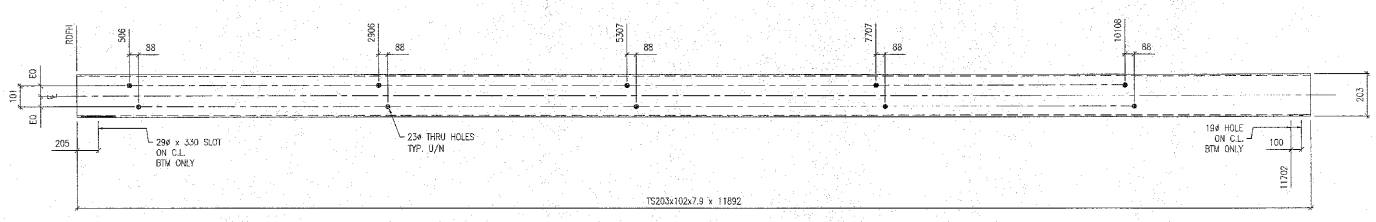
CIANBRO CORPORATION PITTSFIELD MAINE

SHEET 08

JOB 050004



A9 ~ 12 REQ'D



B9 ~ 4 REQ'D

BILL OF MATERIAL

MARK SHOP	MARK FIELD	QTY.	MATERIAL	LENGTH	GR.	REMARKS
A9		12	TS102x102x6.4	11892		GALV. HD
B9		4	TS203x102x7.9	11892		GALV. HD
				TOTAL WEIGHT:		

FOR APPROVAL

SHOP DRAWING REVIEW

VHB Vanasse Hangen Brustlin, Inc.
Engineers, Planners, Economists
Job Number: 50511
Reviewed By: [illegible]
Date: 11-09-05

NOTES:

1. ALL PARTS TO BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M.
2. REFERENCE ERECTION DRAWINGS E24, E25 AND E26.

MAT'L : ASTM A500 GR.B
HOLES : AS NOTED ON DWG.
WELD :
ELECTRODE : E70XX
PREP : SEE GN-1
PAINT : SEE GN-1

FIELD BOLTS
GRADE: A325

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

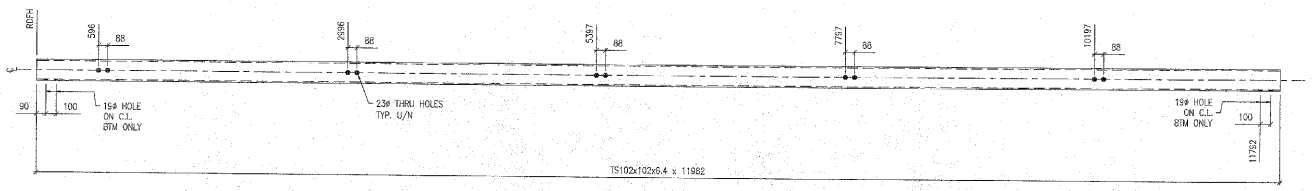
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG - SWANTON, VERMONT

DRAWING: BRIDGE RAILING DETAILS

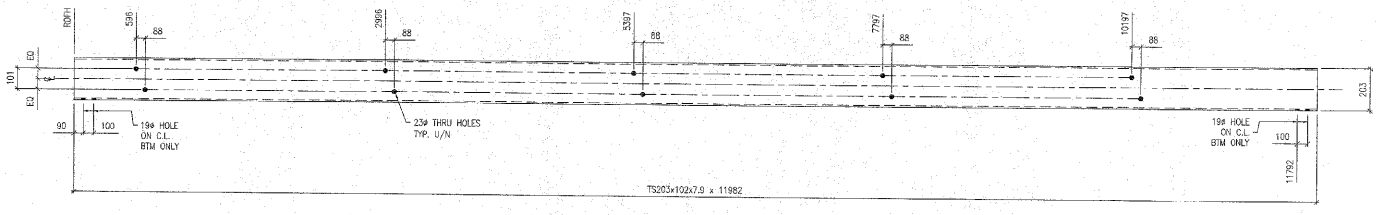
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

SHEET 09
JOB 050004



A10 ~ 348 REQ'D



B10 ~ 116 REQ'D

BILL OF MATERIAL

MARK SHP	MARK TEMP	QTY.	MATERIAL	LENGTH	GR.	REMARKS
A10		348	TS102x102x6.4	11982		BLK HD
B10		116	TS203x102x7.9	11982		BLK HD
			TOTAL WEIGHT:			

FOR APPROVAL

SHOP DRAWING REVIEW

☐ REVIEWED AS REVISED BY THE CONTRACTOR'S CERTIFICATION THAT SHOP DRAWINGS HAVE BEEN CHECKED AND APPROVED. SEE ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL REVIEW, APPROVE AND SUBMIT SPECIFIC MANUFACTURER'S DRAWINGS AND SCHEDULES REQUIRED BY THE CONTRACT DOCUMENTS WITH REASONABLE PROMPTNESS AND IN SUCH SEQUENCE AS TO CAUSE NO DELAY IN THE WORK OR IN THE WORK OF ANY OTHER CONTRACTOR. APPROVAL OF A SPECIFIC ITEM SHALL NOT INDICATE APPROVAL OF AN ASSEMBLY IN WHICH THE ITEM FUNCTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FOR SELECTING FABRICATION PROCESSES AND FOR THE TECHNIQUES OF ASSEMBLY. THE REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR DEVIATIONS FROM THE CONTRACT DOCUMENTS UNLESS THE CONTRACTOR HAS IN WRITING CALLED THE DEVIATIONS TO THE ATTENTION OF THE ENGINEER AT THE TIME OF SUBMISSION AND THE ENGINEER HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION. THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE SHOP DRAWINGS BY THE REVIEW.

☐ REJECTED ☐ SEE ATTACHED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR THE DIMENSIONS TO BE CONFIRMED AND CORRELATED AT THE JOB SITE, FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATION OF HIS WORK WITH THAT OF ALL OTHER TRADES AND THE SATISFACTORY PERFORMANCE OF HIS WORK.

VHB Vanasse Hangen Brustlin, Inc. | Title: Bridge Engineer | Date: 5/24/05

NOTES:

1. ALL PARTS TO BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M.
2. REFERENCE ERECTION DRAWINGS E25 AND E26.

MAT'L : ASTM A500 GR.B	FIELD BOLTS
HOLES : AS NOTED ON DWG.	GRADE: A325
WELD :	ø
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

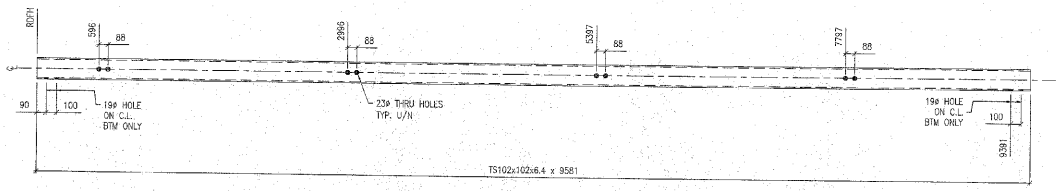
WORK: NETC 4 RAIL BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: BRIDGE RAILING DETAILS

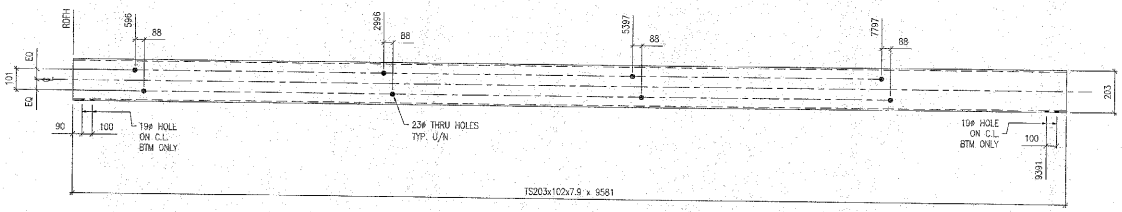
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

SHEET 10 ⚠
JOB 050004



A11 ~ 12 REQ'D



B11 ~ 4 REQ'D

BILL OF MATERIAL

MARK SHIP	MARK TEMP	QTY.	MATERIAL	LENGTH	GR.	REMARKS
A11		12	TS102x102x6.4	9581		GRV. HD
B11		4	TS203x102x7.9	9581		GRV. HD
			TOTAL WEIGHT:			

FOR APPROVAL

SHOP DRAWING REVIEW

VHB

NOTES:

1. ALL PARTS TO BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M.
2. REFERENCE ERECTION DRAWINGS E25 AND E26.

MAT'L :	ASTM A500 GR.B
HOLES :	AS NOTED ON DWG.
WELD :	
ELECTRODE :	E70XX
PREP :	SEE GN-1
PAINT :	SEE GN-1

FIELD BOLTS

GRADE:	A325
ø	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

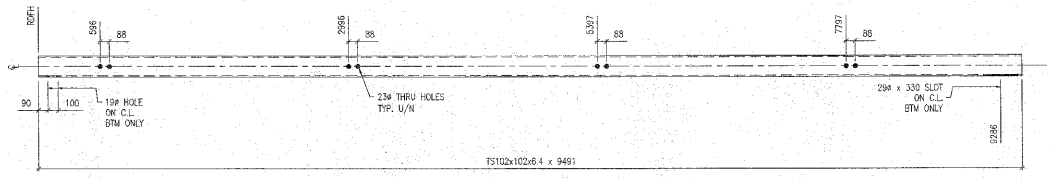
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: BRIDGE RAILING DETAILS

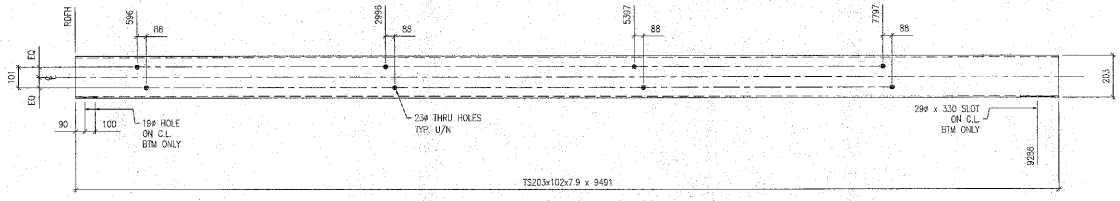
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

SHEET 11 ⚠
JOB 050004



A12 ~ 6 REQ'D



B12 ~ 2 REQ'D

BILL OF MATERIAL

MARK SHOP	MARK TEMP	QTY.	MATERIAL	LENGTH	GR.	REMARKS
A12		6	TS102x102x6.4	9491		GALV. HD
B12		2	TS203x102x7.9	9491		GALV. HD
			TOTAL WEIGHT:			

FOR APPROVAL

SHOP DRAWING REVIEW

VTB

NOTES:

1. ALL PARTS TO BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M.
2. REFERENCE ERECTION DRAWINGS E25 AND E26.

MAT'L : ASTM A500 GR.B
HOLES : AS NOTED ON DWG.
WELD :
ELECTRODE : E70XX
PREP : SEE GN-1
PAINT : SEE GN-1

FIELD BOLTS
GRADE: A325

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

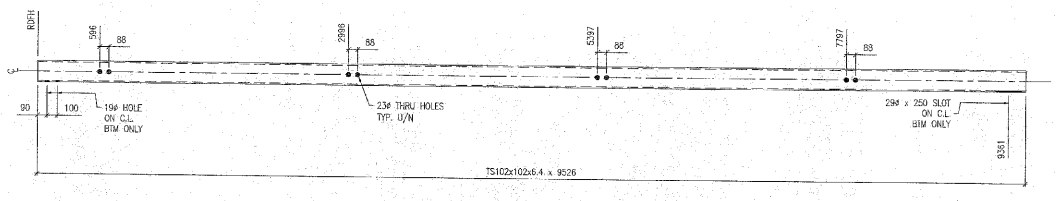
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG - SWANTON, VERMONT

DRAWING: BRIDGE RAILING DETAILS

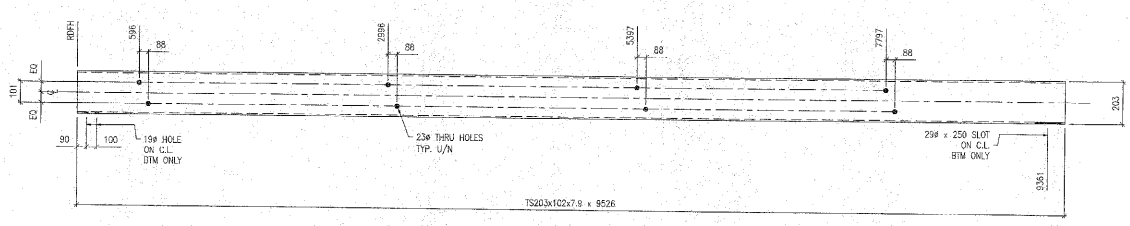
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

SHEET 12 ⚠
JOB 050004



A13 ~ 6 REQ'D



B13 ~ 2 REQ'D

BILL OF MATERIAL					
MARK SHIP	MARK TEMP	QTY.	MATERIAL	LENGTH	GR.	REMARKS
A13		6	TS102x102x6.4	9526		GALV. HD
B13		2	TS203x102x7.9	9526		GALV. HD
				TOTAL WEIGHT:		

FOR APPROVAL

SHOP DRAWING REVIEW

☐ APPROVED AS NOTED ☐ APPROVED AS CORRECTED ☐ REJECTED ☐ AMEND AND RESUBMIT ☑ SUBMIT AS SPECIFIED

COMMENTS: CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, QUANTITIES AND FABRICATION PROCESSES. REVIEW IS FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT AND GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS. REVIEW DOES NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH CONTRACT REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRECTING FIELD DIMENSIONS, FOR FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, FOR COORDINATION OF THE WORK WITH THAT OF ALL OTHER TRADES AND FOR PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Bedford, New York, Rochester, New Hampshire, and Boston, Massachusetts

Job Number: 50311

Reviewed By: BM

Date: 7-2-05

NOTES:

1. ALL PARTS TO BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M.
2. REFERENCE ERECTION DRAWING E26.

MAT'L : ASTM A500 GR.B	FIELD BOLTS
HOLES : AS NOTED ON DWG.	GRADE: A325
WELD :	
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG — SWANTON, VERMONT

DRAWING: BRIDGE RAILING DETAILS

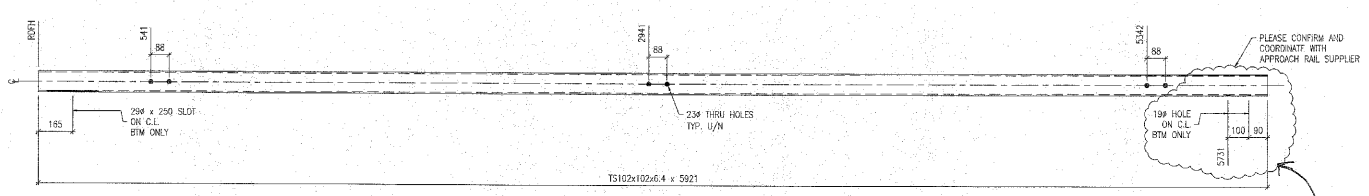
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

SHEET: 13 ⚠
JOB: 050004

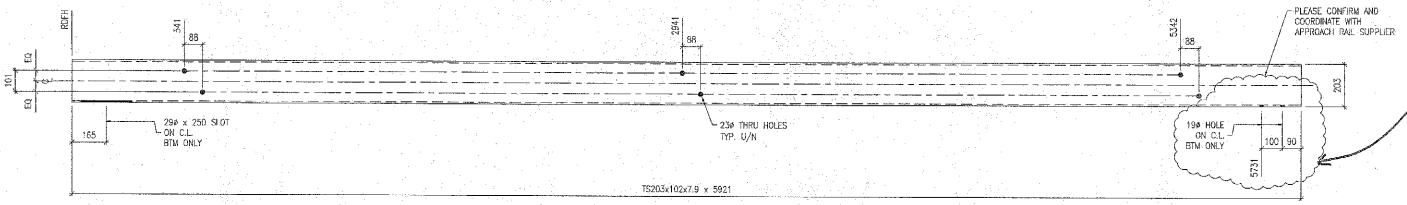
BILL OF MATERIAL					
MARK SHIP	MARK ITEM	QTY.	MATERIAL	LENGTH	GR. REMARKS
A14		6	TS102x102x6.4	5921	GRAV. HG
B14		2	TS203x102x7.9	5921	GRAV. HG
			TOTAL WEIGHT:		

FOR APPROVAL



A14 ~ 6 REQ'D

CIANBRO/CONTRACTOR TO VERIFY



B14 ~ 2 REQ'D

SHOP DRAWING REVIEW

VHB

NOTES:

1. ALL PARTS TO BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M.
2. REFERENCE ERECTION DRAWINGS E26.

MAT'L : ASTM A500 GR.B	FIELD BOLTS		
HOLES : AS NOTED ON DWG.	GRADE: A325		
WELD :	*		
ELECTRODE : E70XX			
PREP : SEE GN-1			
PAINT : SEE GN-1			

REV.	DATE	BY	DESCRIPTION	CHK.
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	16/06/04	JM	ISSUED FOR APPROVAL	BH

WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: BRIDGE RAILING DETAILS

SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION PITTSFIELD, MAINE

SHEET: 14
JOB: 050004

GENERAL NOTES

SPECIFICATIONS

ALL WORK AND MATERIALS SHALL CONFORM TO THE PROVISIONS OF SECTION 525 – RAILINGS OF THE STATE OF VERMONT AGENCY OF TRANSPORTATION "STANDARD SPECIFICATION FOR CONSTRUCTION.

TUBING AND POSTS SHALL MEET THE REQUIREMENTS OF SECTION 732 – RAILING MATERIALS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION EXCEPT THE DROP–WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING.

RAIL POSTS SHALL BE NORMAL TO GRADE.

RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE–EIGHTH TURN.

MATERIAL SPECIFICATIONS

RAIL TUBES:	ASTM A500, GRADE B
RAIL POSTS AND BASE PLATES:	ASTM A709/A709M, GRADE 345
ALL OTHER SHAPES AND PLATES:	ASTM A709/A709M, GRADE 250
ANCHOR STUDS:	ASTM A449
ALL OTHER BOLTS (U.N.O.):	AASHTO M 164M, TYPE 1

NUTS FOR AASHTO M 164M BOLTS AND FOR ANCHOR STUDS SHALL COMPLY WITH AASHTO M 291 (ASTM A563).

WASHERS SHALL COMPLY WITH AASHTO M 293 (ASTM F436) SPECIFICATIONS.

3 mm PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.

RAIL POSTS AND BASE PLATES SHALL BE TESTED FOR IMPACT PROPERTIES IN ACCORDANCE WITH ASTM A370 CHARPY IMPACT TESTING USING A TYPE 'A' SPECIMEN.

FABRICATION

ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 2 mm RADIUS AND FREE OF BURRS.

PAINT

ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M.

FOR APPROVAL

SHOP DRAWING REVIEW

VHB

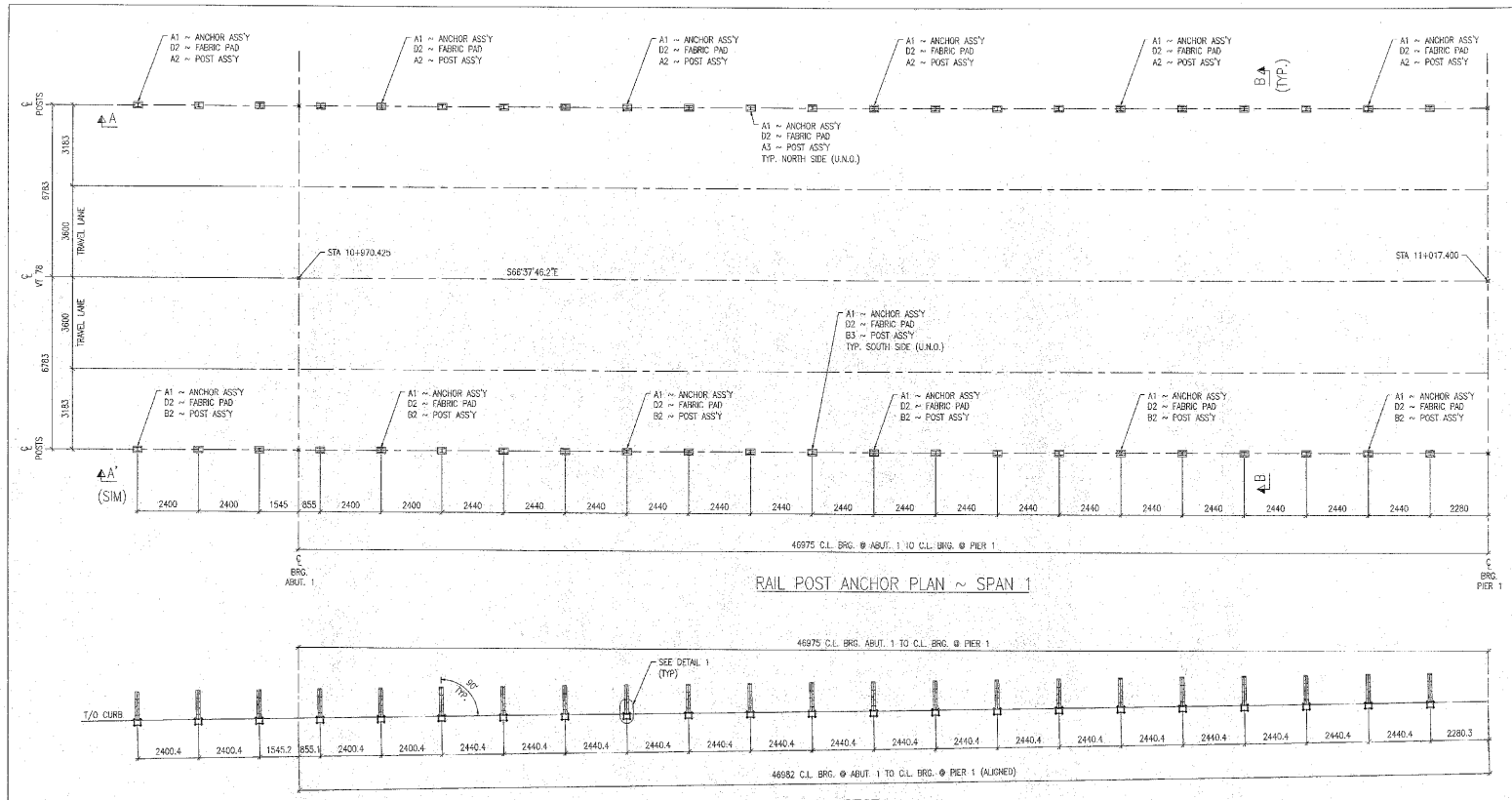
MAT'L : AS NOTED		FIELD BOLTS	
HOLES : 22ø (7/8") U.N.O.		GRADE: A325	
WELD :		x	
ELECTRODE : E70XX			
PREP : AS NOTED			
PAINT : AS NOTED			

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	18/06/04	JM	ISSUED FOR APPROVAL	BH

WORK: NBIC 4 RAIL–BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

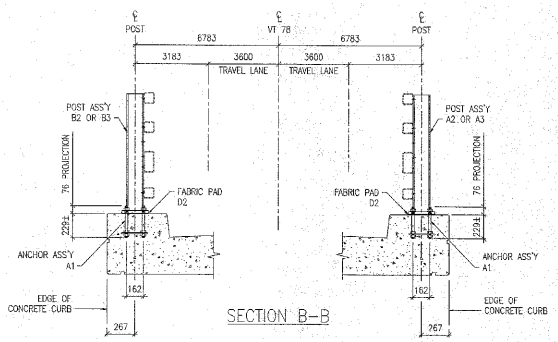
DRAWING: GENERAL NOTES

SCALE: N.T.S.	CIANBRO CORPORATION PITTSFIELD, MAINE	SHEET GN–1
DRAWN: JM		JOB 050004
CHECK: BH		

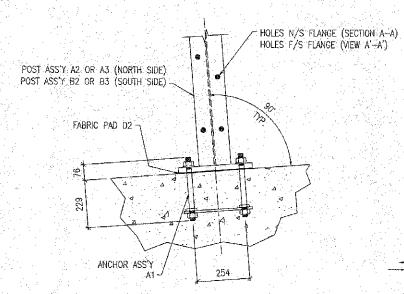


RAIL POST ANCHOR PLAN ~ SPAN 1

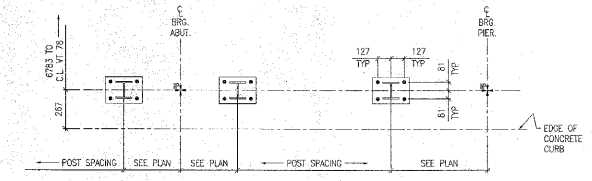
SECTION A-A
VIEW A'-A' (SIM)



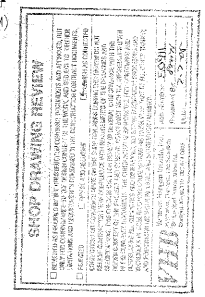
SECTION B-B



DETAIL 1



TYPICAL RAILING POST LAYOUT



NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E24.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

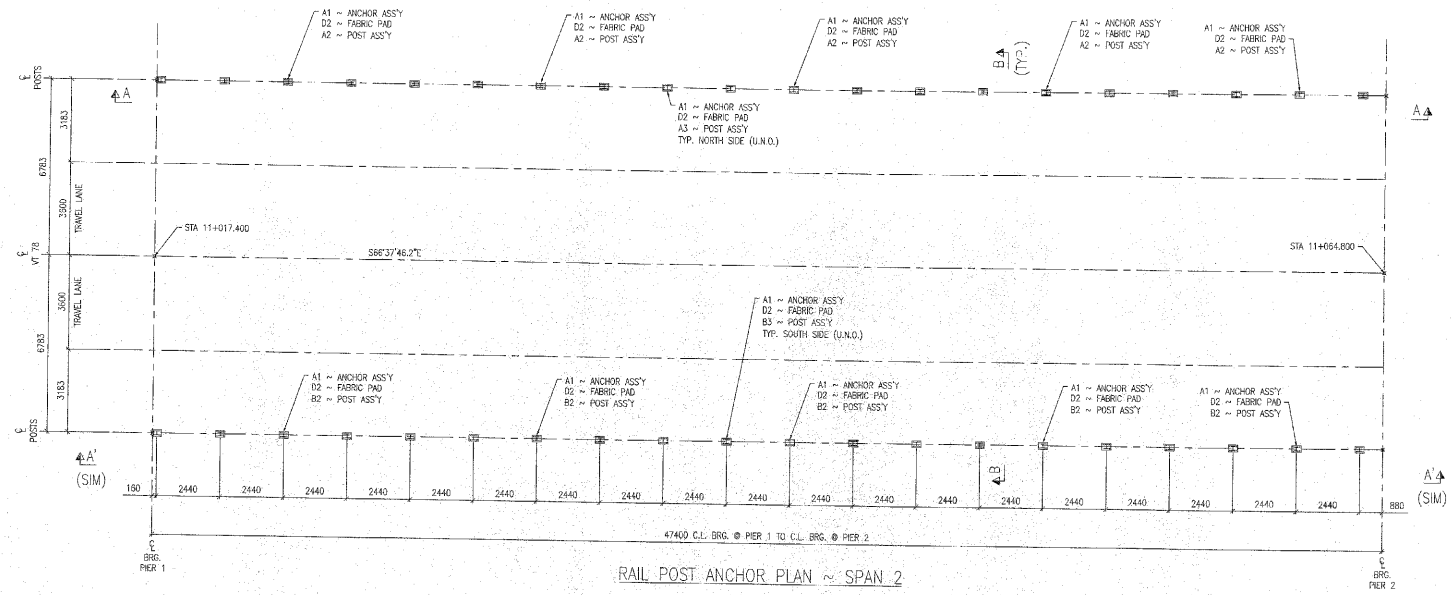
WORK: NBTC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN – SPAN 1

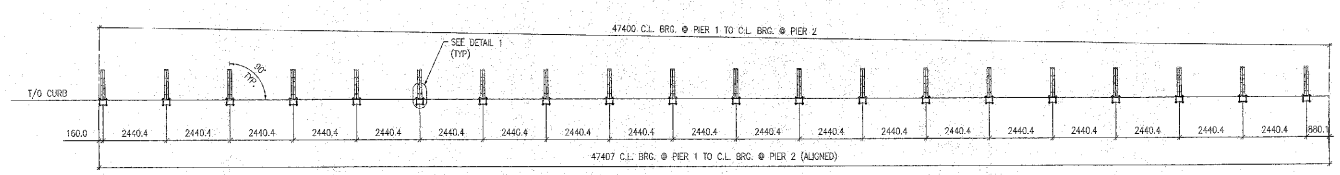
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

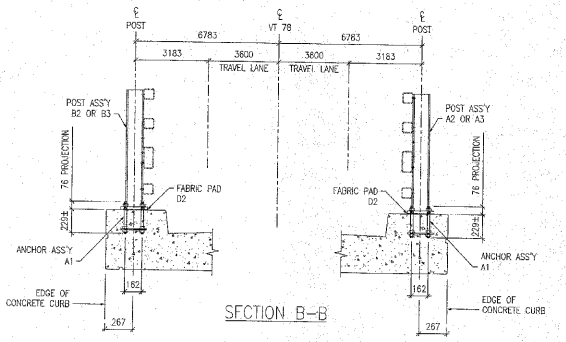
SHEET E1
JOB 050004



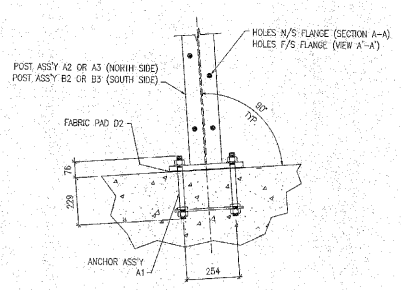
RAIL POST ANCHOR PLAN ~ SPAN 2



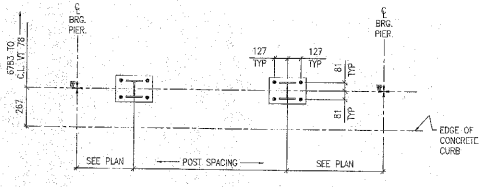
SECTION A-A
VIEW A'-A' (SIM)



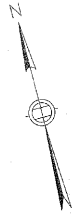
SECTION B-B



DETAIL 1



TYPICAL RAILING POST LAYOUT



FOR APPROVAL

SHOP DRAWING REVIEW

NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E24.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

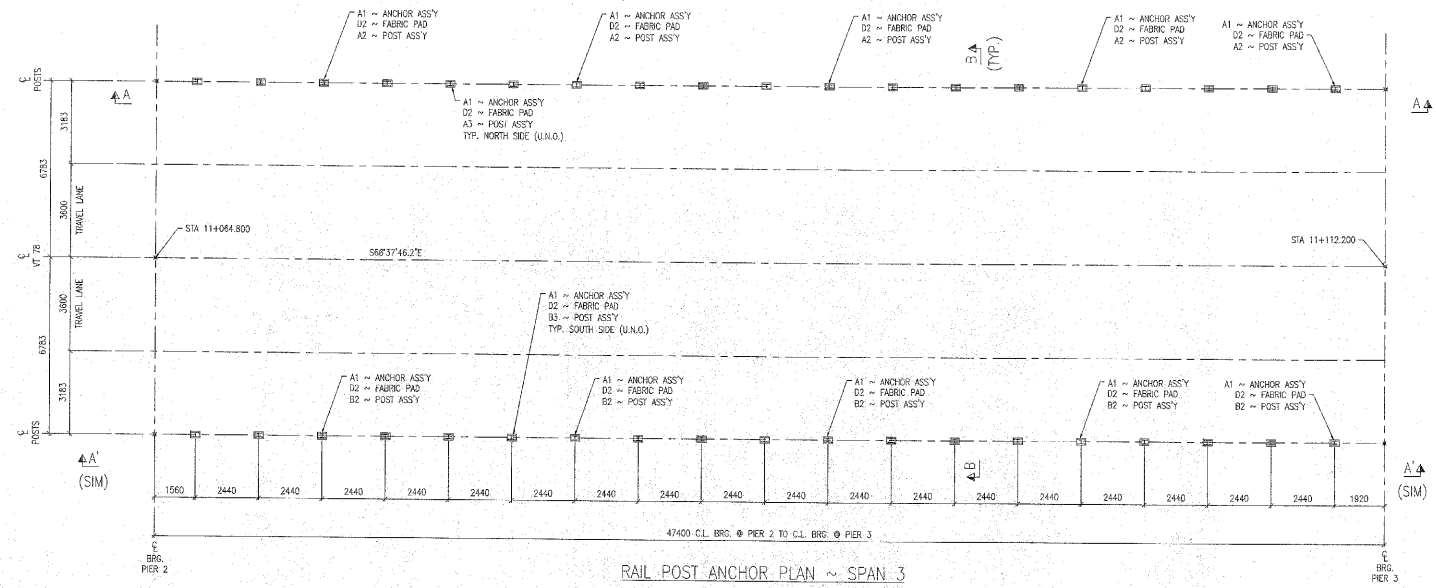
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN – SPAN 2

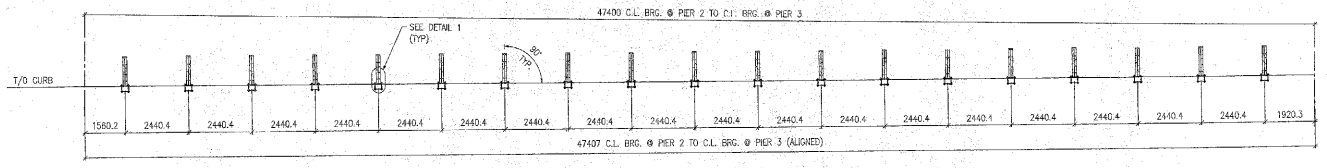
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

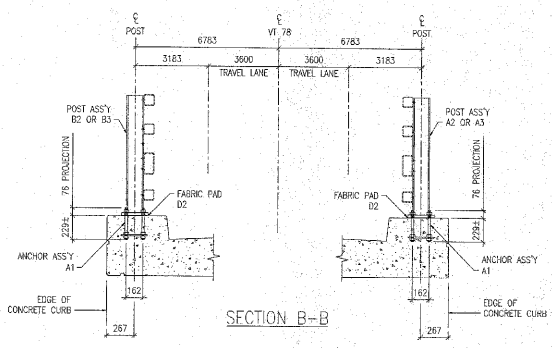
SHEET E2 (4)
JOB 050004



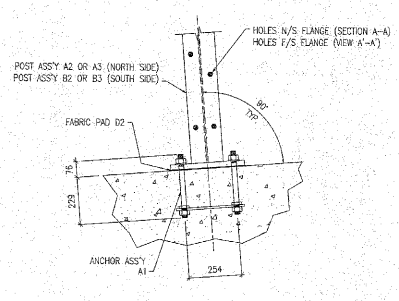
RAIL POST ANCHOR PLAN ~ SPAN 3



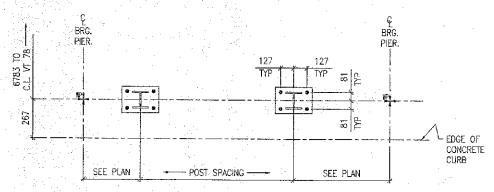
SECTION A-A
VIEW A'-A' (SIM)



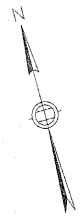
SECTION B-B



DETAIL 1



TYPICAL RAILING POST LAYOUT



FOR APPROVAL

SHOP DRAWING REVIEW

VHB Vanasse Hangen Brustlin, Inc. Transportation, Infrastructure, and Environment Burlington, VT 05403 802 844 0300

NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E24.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

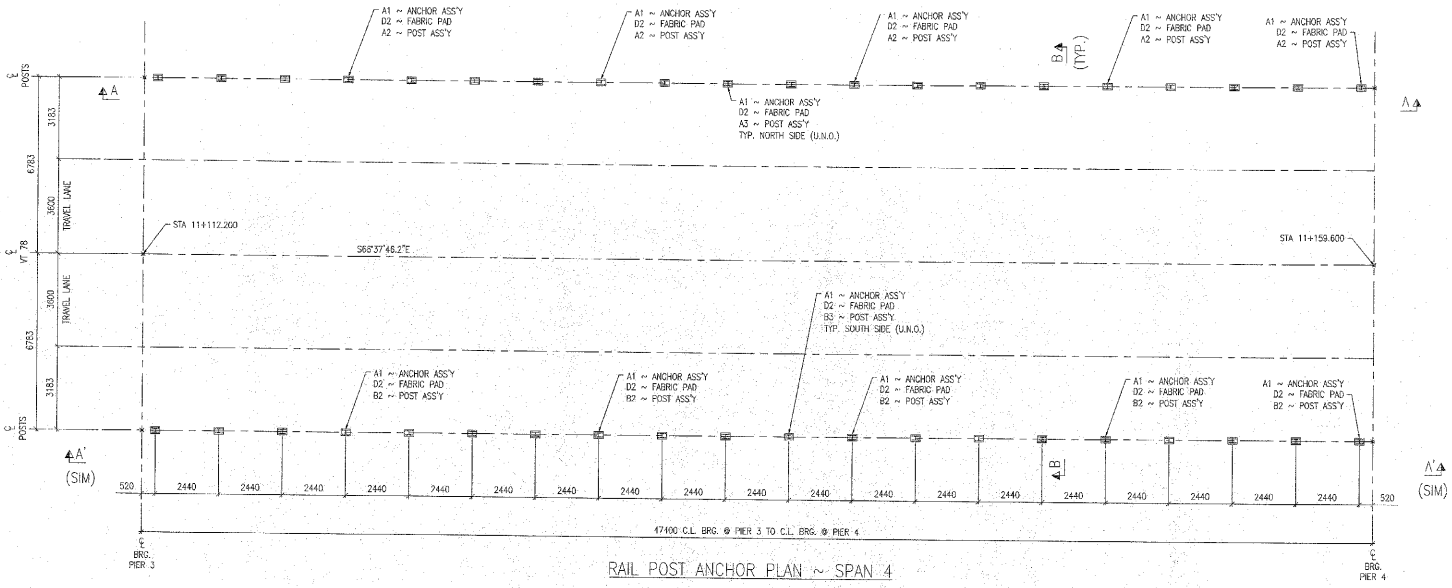
MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

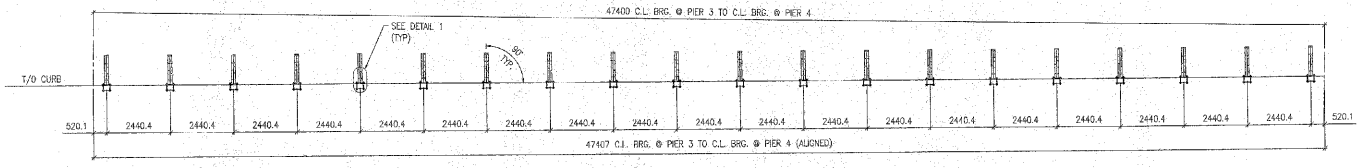
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG - SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN - SPAN 3

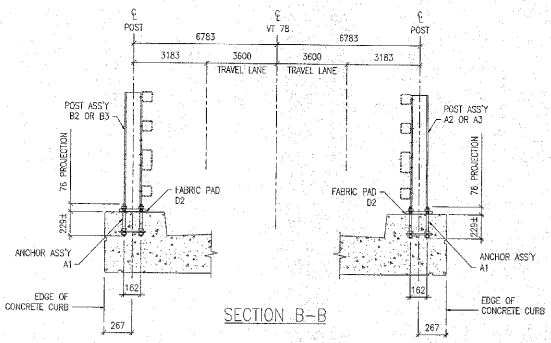
SCALE: N.T.S.	CIANBRO CORPORATION PITTSFIELD MAINE	SHEET	E3
DRAWN: JM		JOB	050004
CHECK: BH			



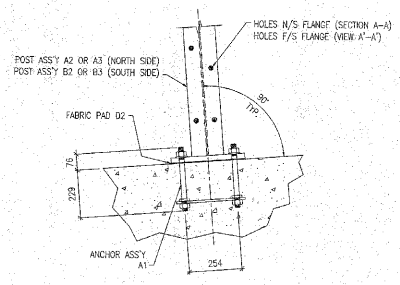
RAIL POST ANCHOR PLAN ~ SPAN 4



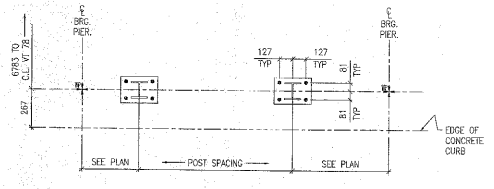
SECTION A–A
VIEW A'–A' (SIM)



SECTION B–B



DETAIL 1



TYPICAL RAILING POST LAYOUT

FOR APPROVAL

SHOP DRAWING REVIEW

NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E24.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

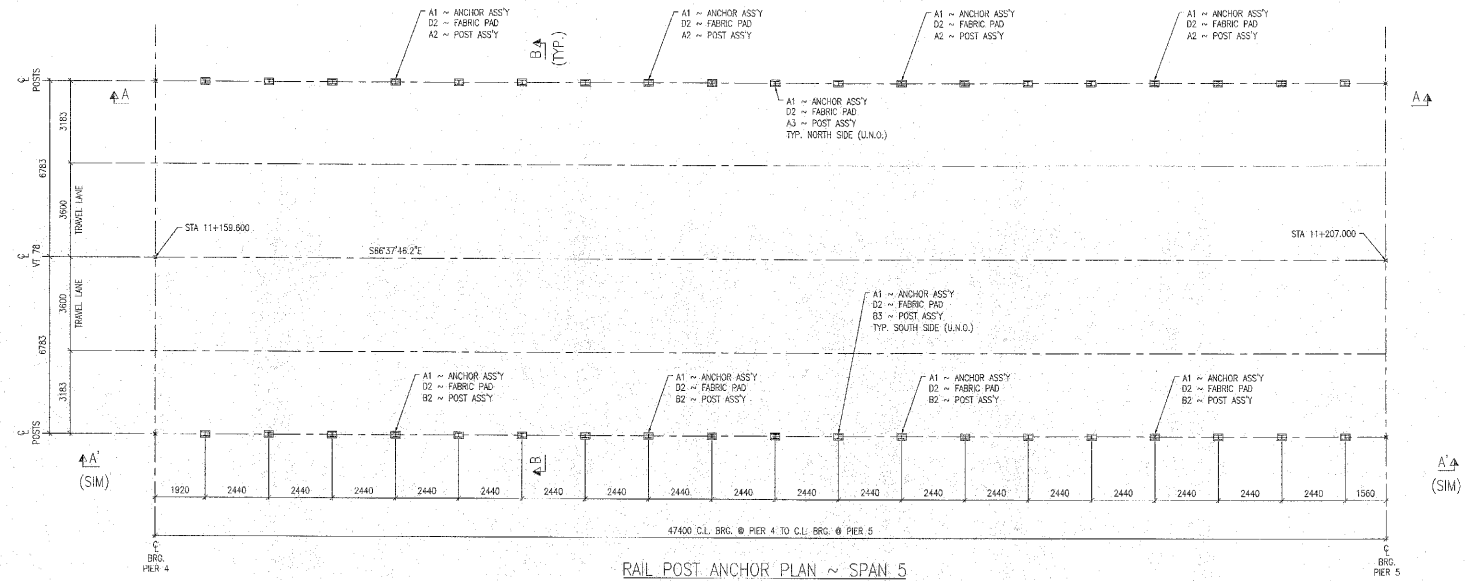
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN – SPAN 4

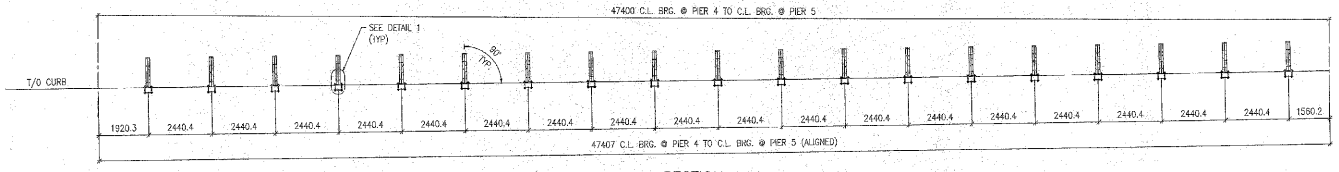
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

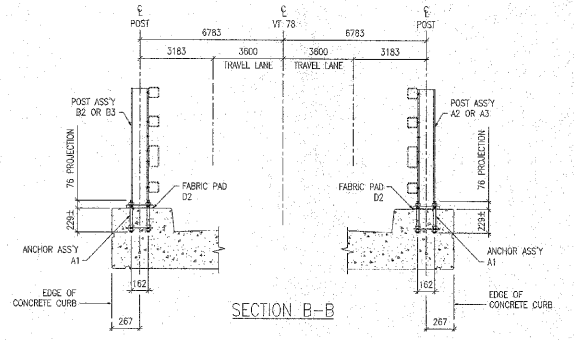
SHEET E4
JOB 050004



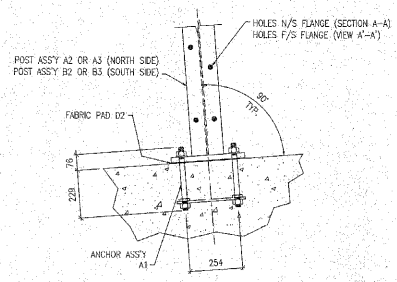
RAIL POST ANCHOR PLAN ~ SPAN 5



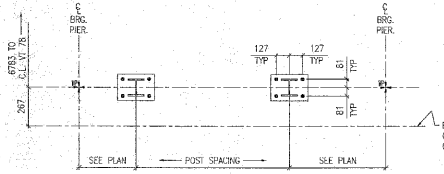
SECTION A-A
VIEW A'-A' (SIM)



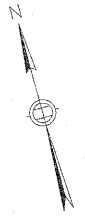
SECTION B-B



DETAIL 1



TYPICAL RAILING POST LAYOUT



FOR APPROVAL

SHOP DRAWING REVIEW

NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E24.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	*
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	RH
0	09/06/04	JM	ISSUED FOR APPROVAL	RH

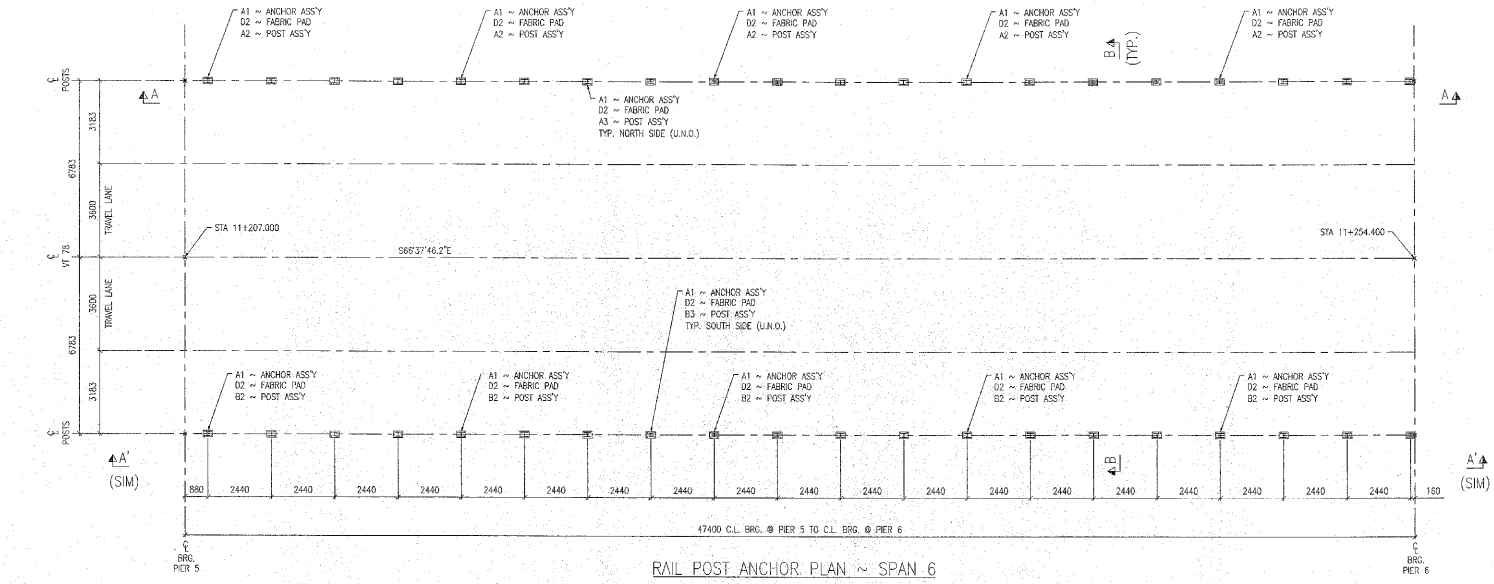
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN – SPAN 5

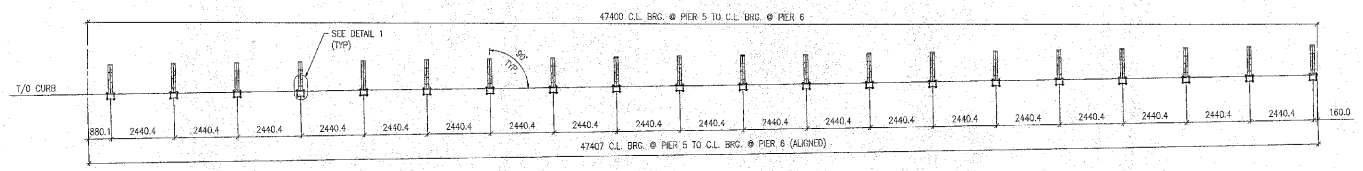
SCALE: N.T.S.
DRAWN: JM
CHECK: RH

CIANBRO CORPORATION
PITTSFIELD MAINE

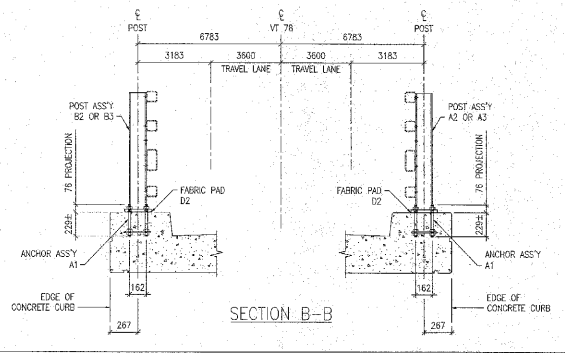
SHEET E5 ⚠
JOB 050004



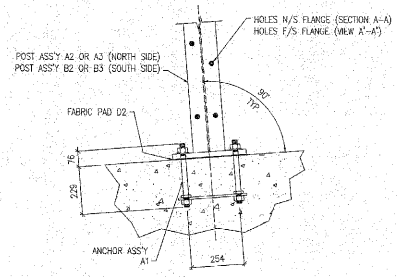
RAIL POST ANCHOR PLAN ~ SPAN 6



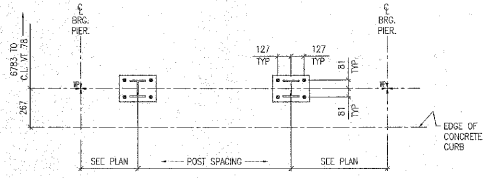
SECTION A-A
VIEW A'-A' (SIM)



SECTION B-B



DETAIL 1



TYPICAL RAILING POST LAYOUT

FOR APPROVAL

SHOP DRAWING REVIEW

NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E24.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	ø
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

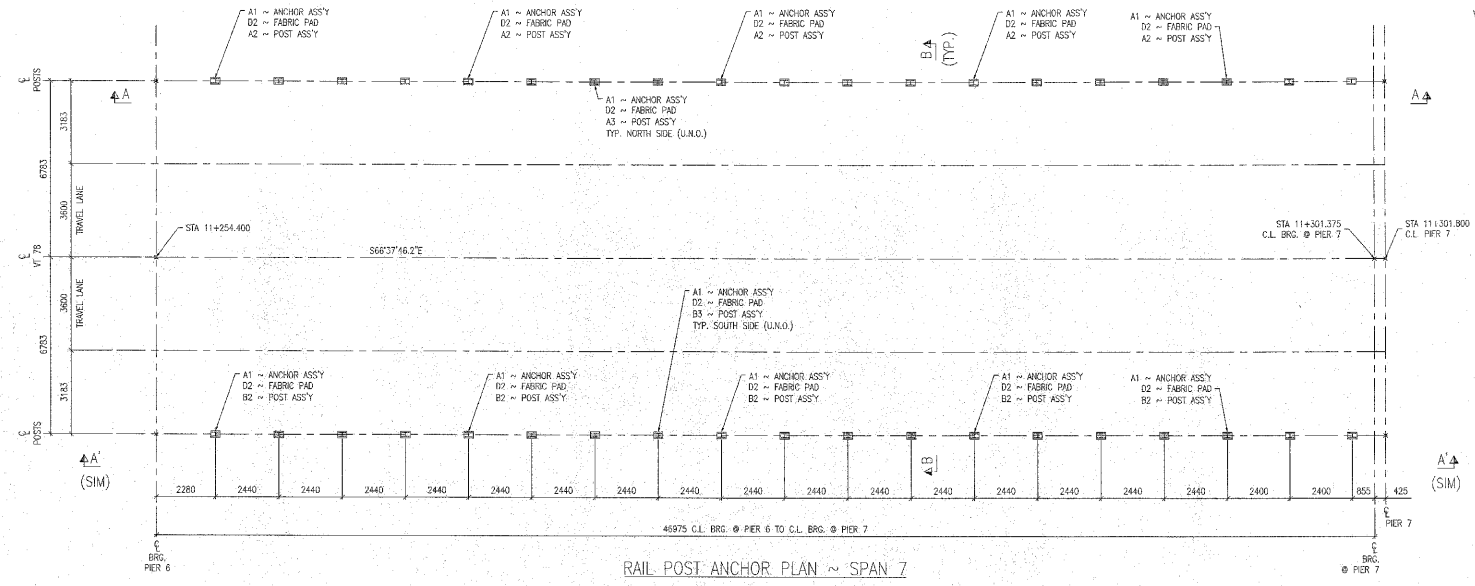
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG - SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN - SPAN 6

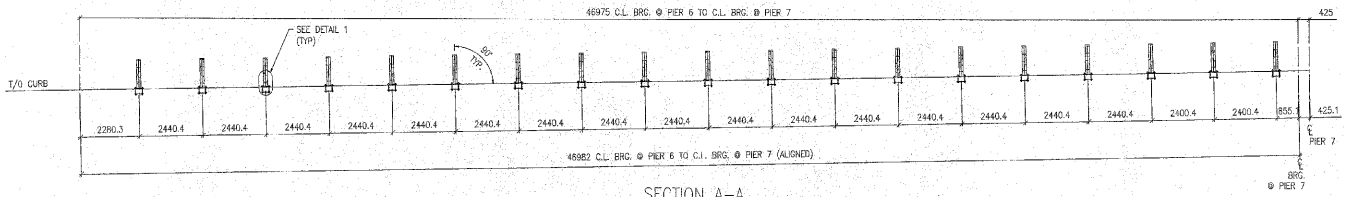
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

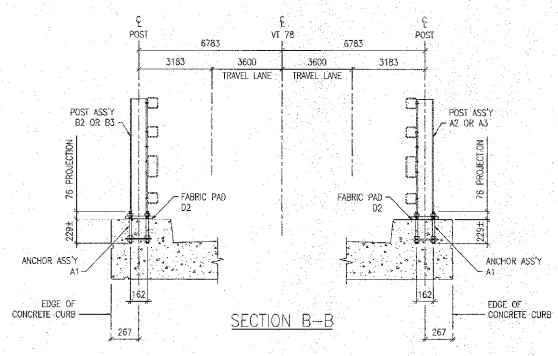
SHEET E6
JOB 050004



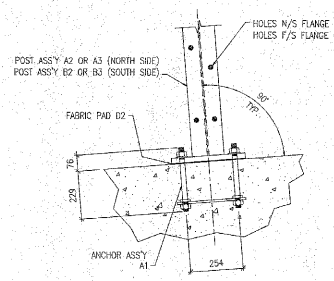
RAIL POST ANCHOR PLAN ~ SPAN 7



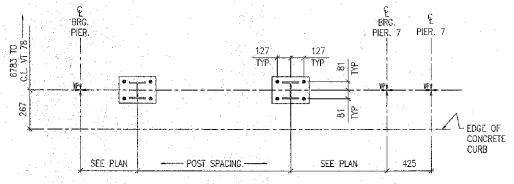
SECTION A–A
VIEW A'–A' (SIM)



SECTION B–B



DETAIL 1



TYPICAL RAILING POST LAYOUT

FOR APPROVAL

SHOP DRAWING REVIEW

NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E24.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

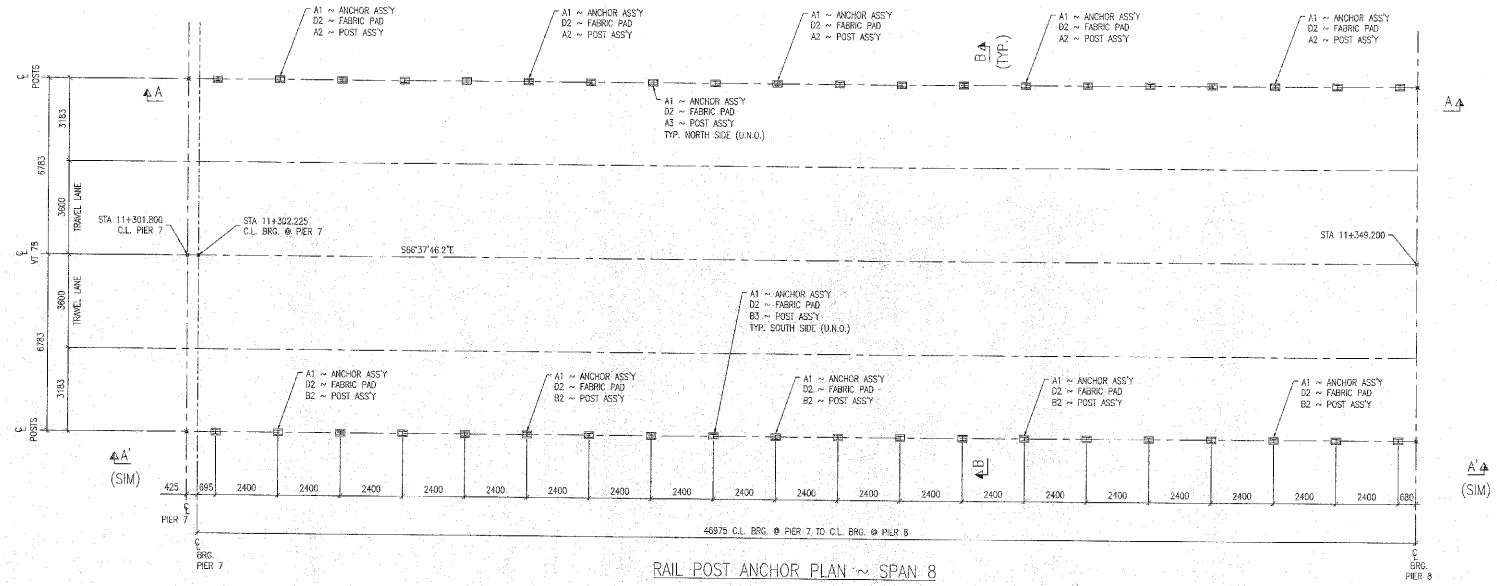
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN – SPAN 7

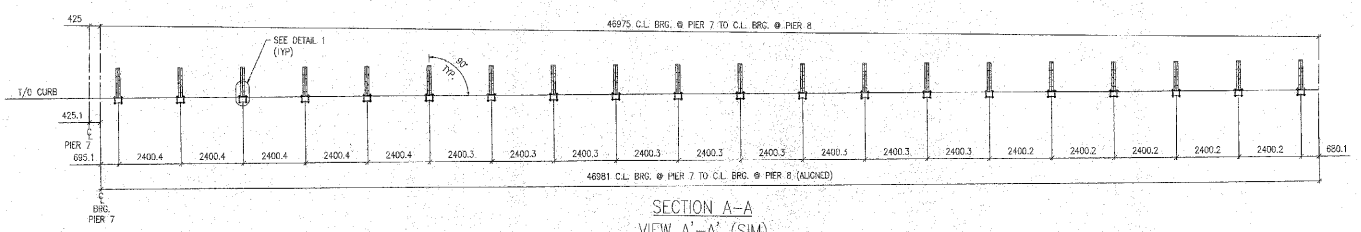
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

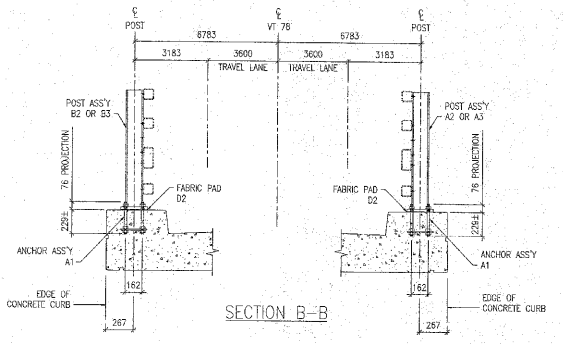
SHEET E7
JOB 050004



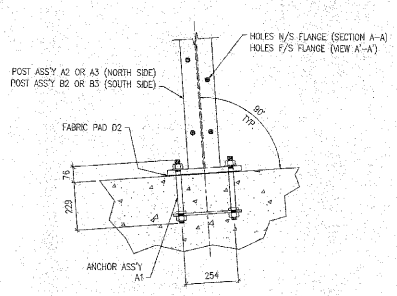
RAIL POST ANCHOR PLAN ~ SPAN 8



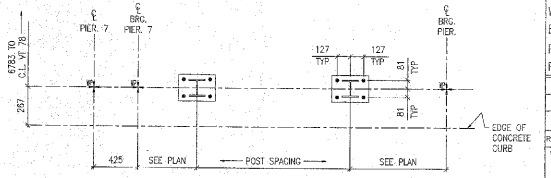
SECTION A–A
VIEW A'–A' (SIM)



SECTION B–B



DETAIL 1



TYPICAL RAILING POST LAYOUT

FOR APPROVAL

SHOP DRAWING REVIEW

NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E25.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

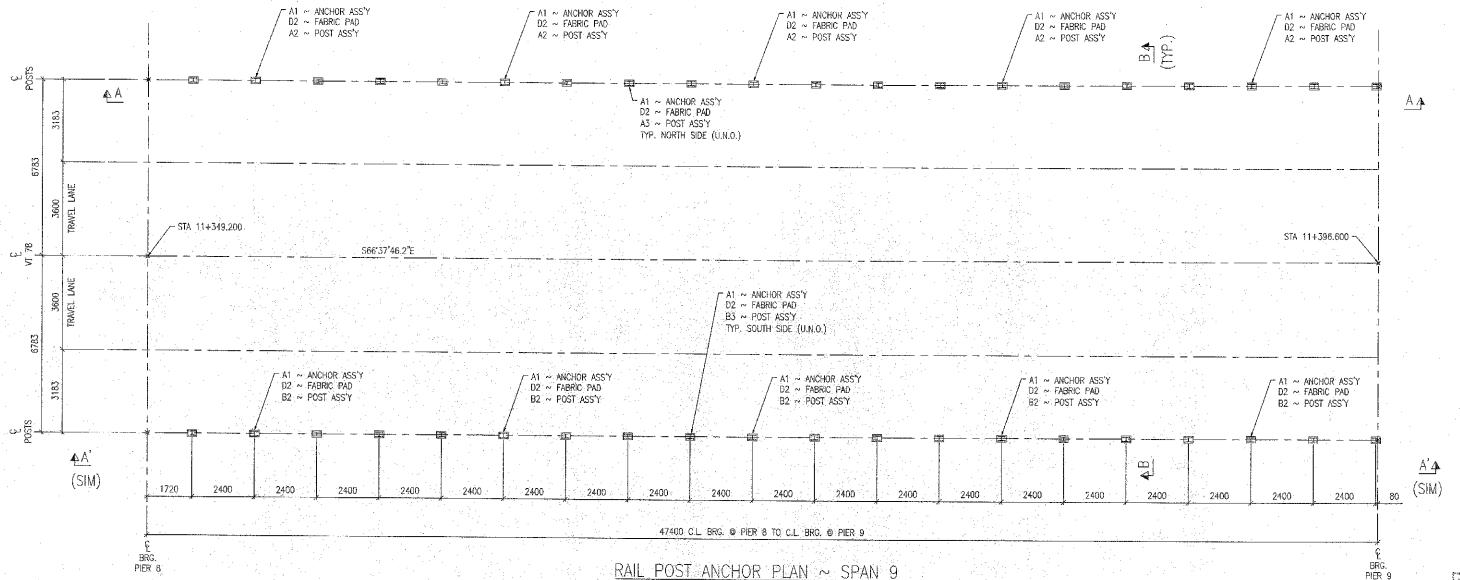
WORK: NETC 4 RAIL–BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN – SPAN 8

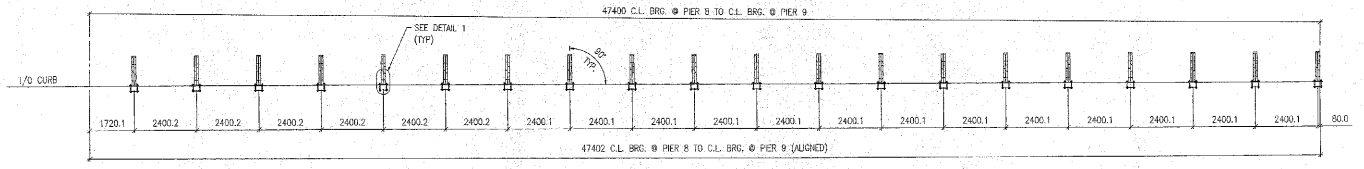
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

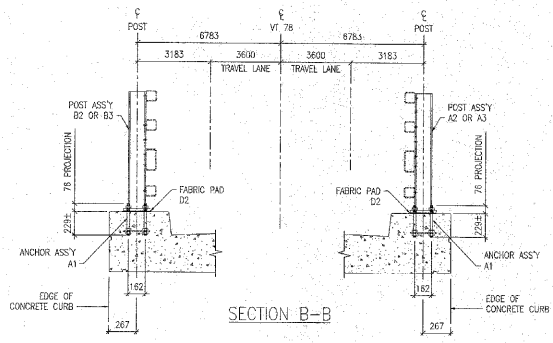
SHEET E8 ⚠1
JOB 050004



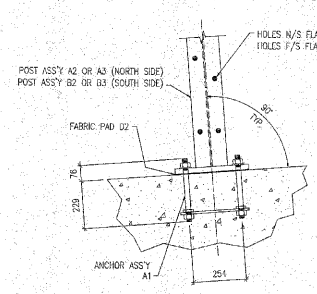
RAIL POST ANCHOR PLAN ~ SPAN 9



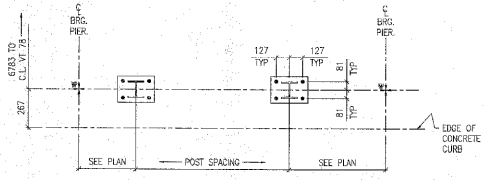
SECTION A-A
VIEW A'-A' (SIM)



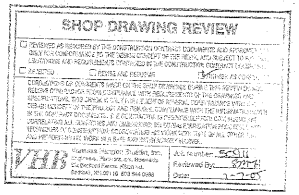
SECTION B-B



DETAIL 1



TYPICAL RAILING POST LAYOUT



NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E25.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

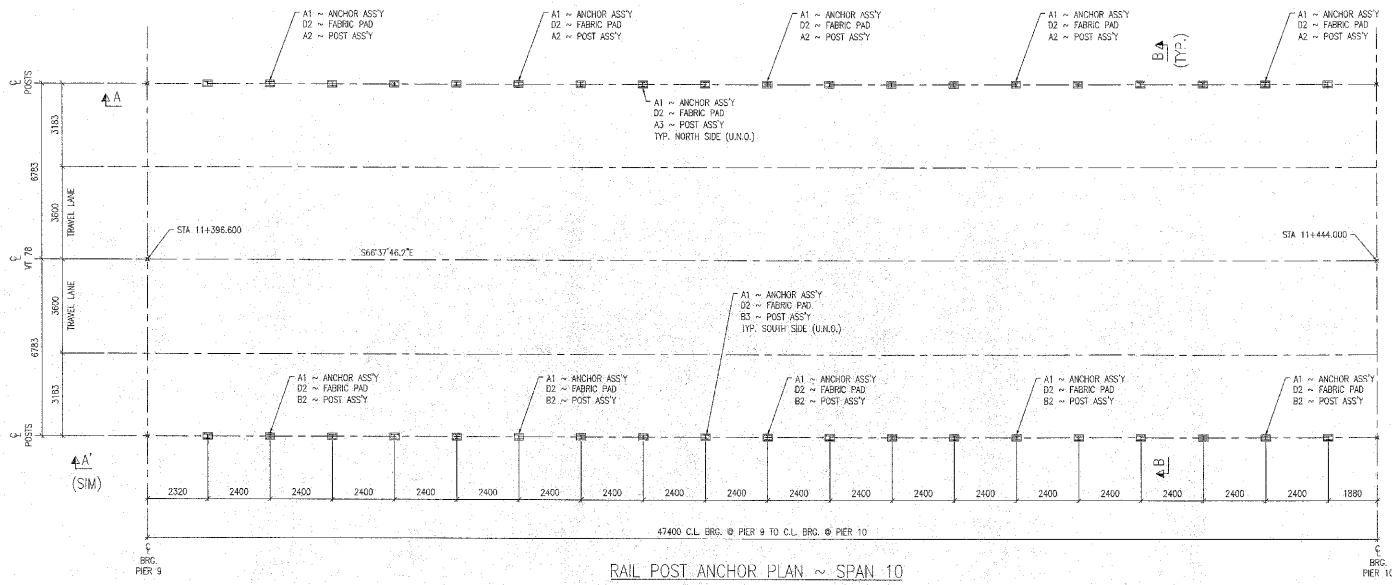
MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

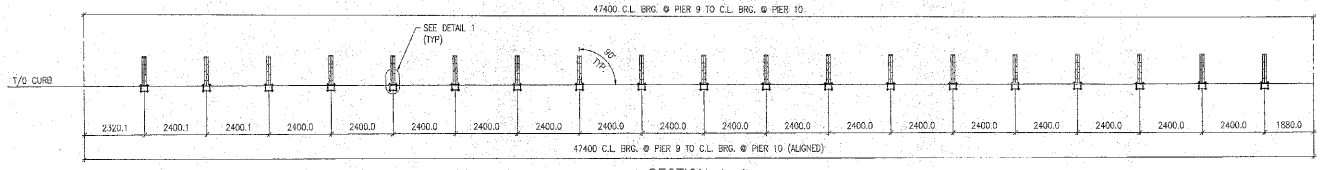
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG - SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN - SPAN 9

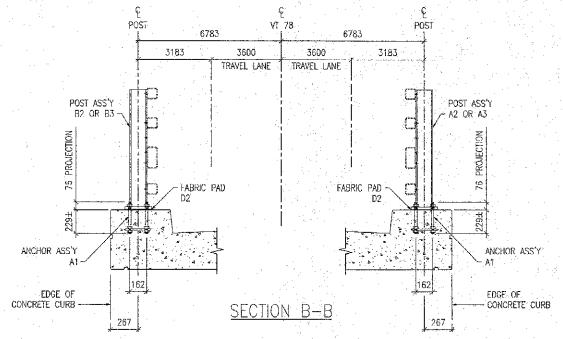
SCALE: N.T.S.	CIANBRO CORPORATION PITTSFIELD MAINE	SHEET	E9
DRAWN: JM		JOB	050004
CHECK: BH			



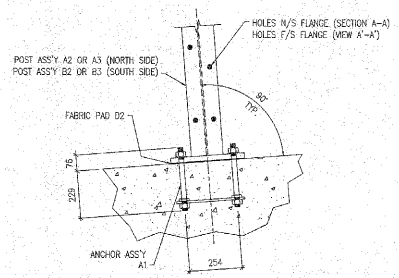
RAIL POST ANCHOR PLAN ~ SPAN 10



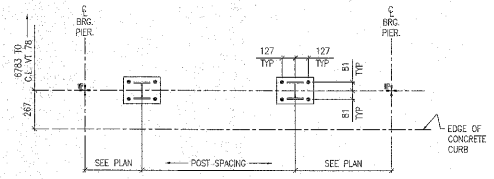
SECTION A-A
VIEW A'-A' (SIM)



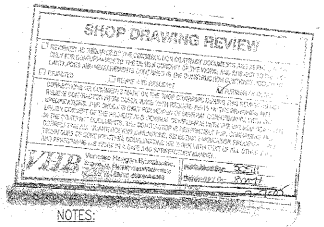
SECTION B-B



DETAIL 1



TYPICAL RAILING POST LAYOUT



NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E25.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	ø
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

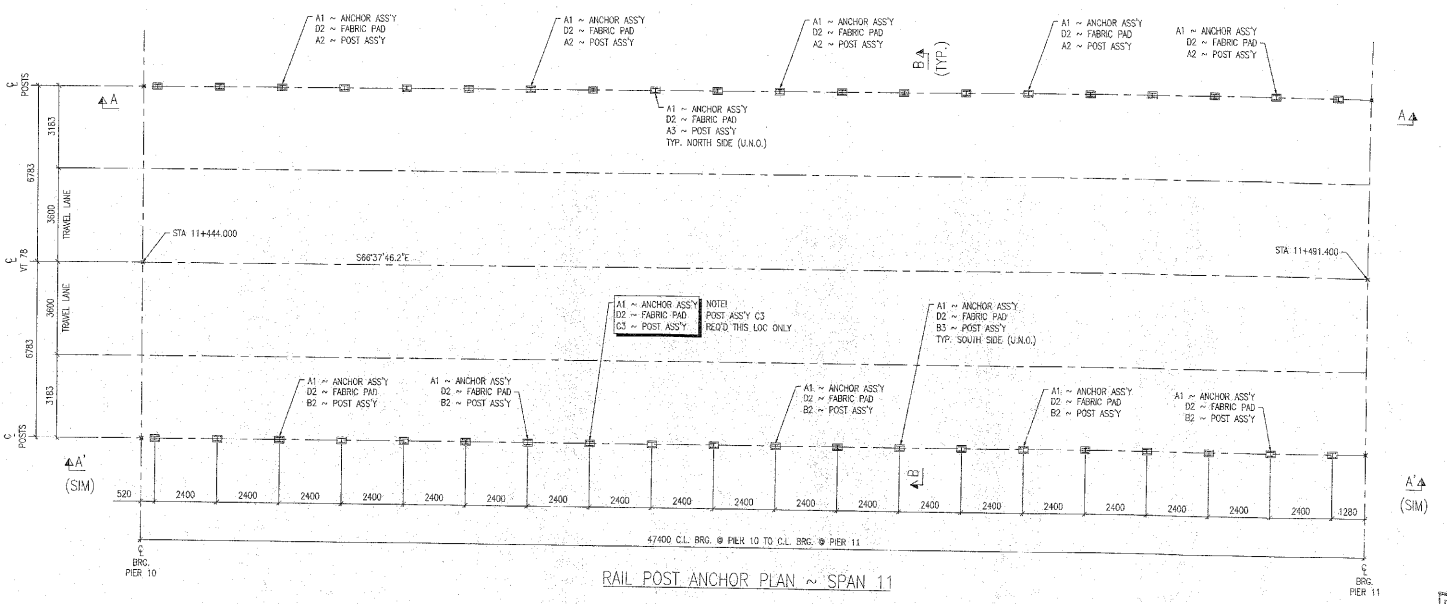
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG - SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN - SPAN 10

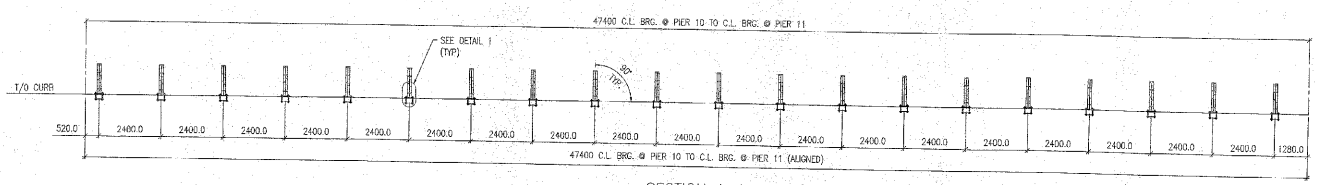
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

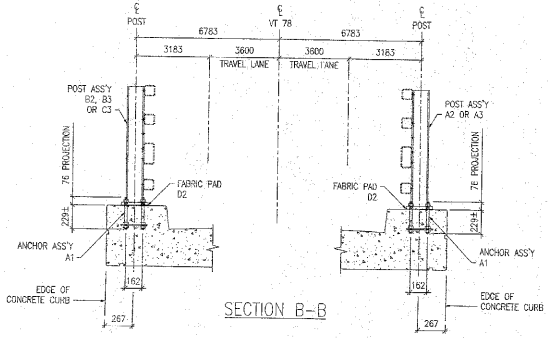
SHEET: E10
JOB: 050004



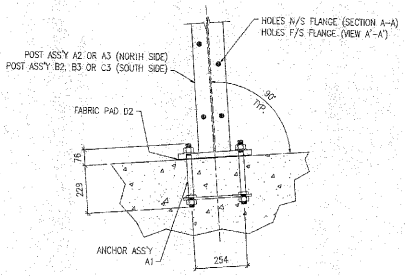
RAIL POST ANCHOR PLAN ~ SPAN 11



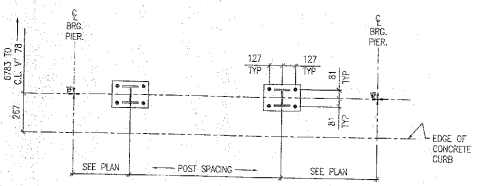
SECTION A-A
VIEW A'-A' (SIM)



SECTION B-B



DETAIL 1



TYPICAL RAILING POST LAYOUT

FOR APPROVAL

SHOP DRAWING REVIEW

NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E25.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

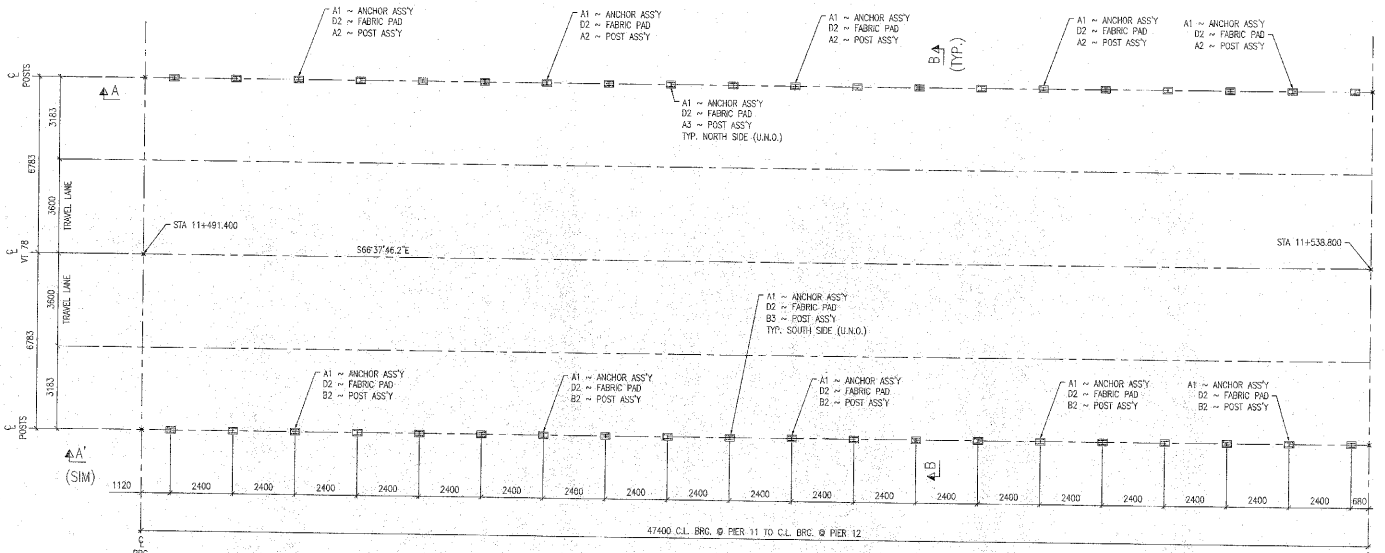
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN – SPAN 11

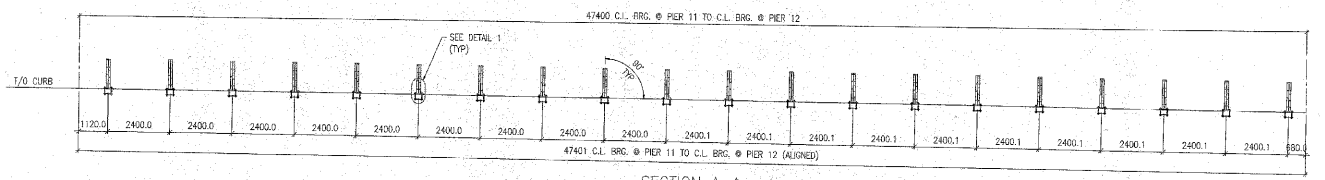
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

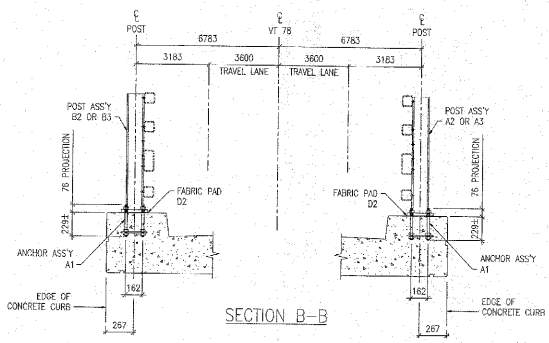
SHEET E11
JOB 050004



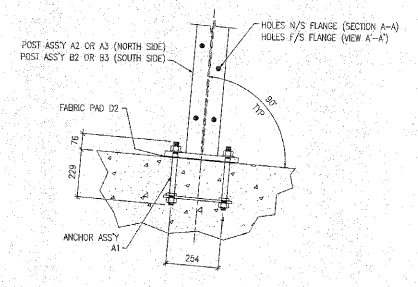
RAIL POST ANCHOR PLAN ~ SPAN 12



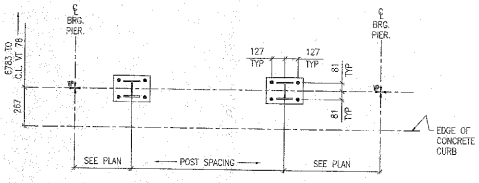
SECTION A-A
VIEW A'-A' (SIM)



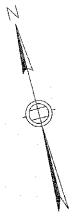
SECTION B-B



DETAIL 1



TYPICAL RAILING POST LAYOUT



FOR APPROVAL

SHOP DRAWING REVIEW

NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E25.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

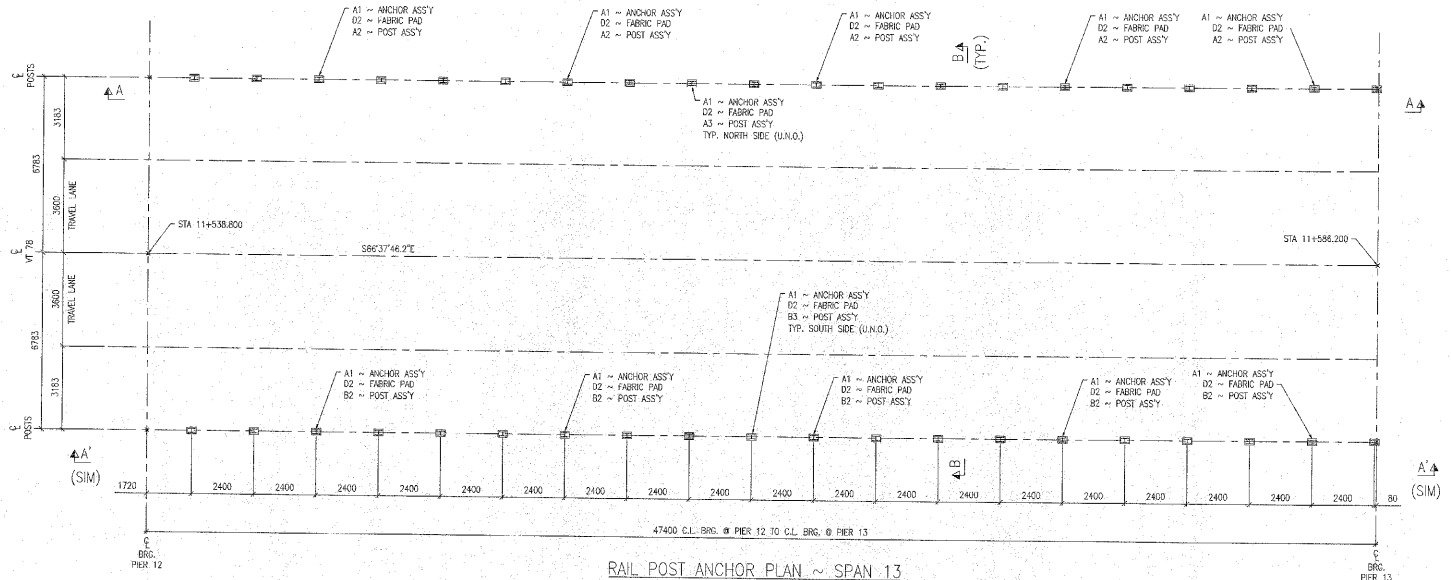
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG - SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN - SPAN 12

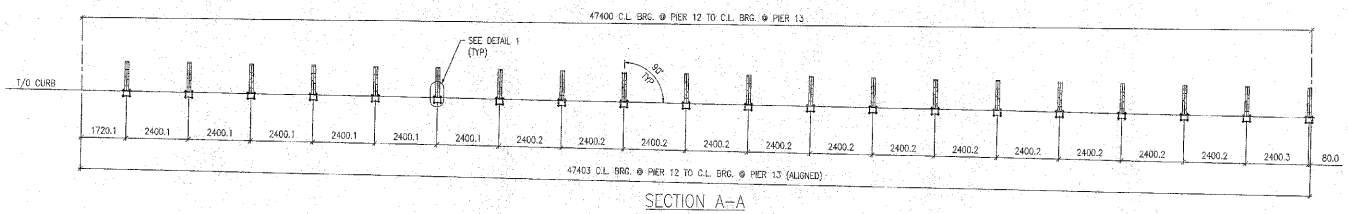
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

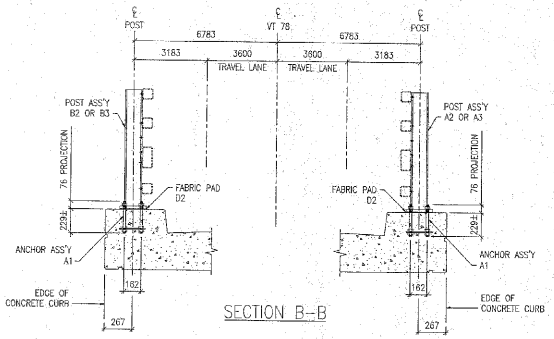
SHEET E12 ⚠
JOB 050004



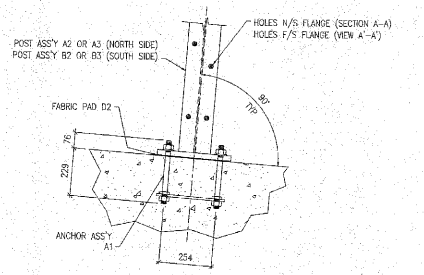
RAIL POST ANCHOR PLAN ~ SPAN 13



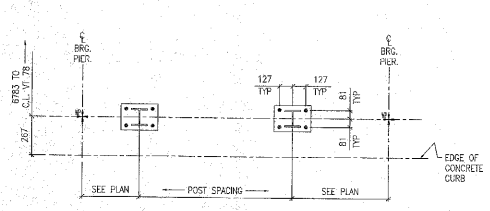
SECTION A-A
VIEW A'-A' (SIM)



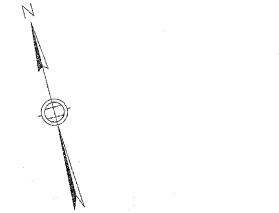
SECTION B-B

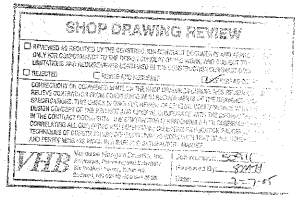


DETAIL 1



TYPICAL RAILING POST LAYOUT





NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E25.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

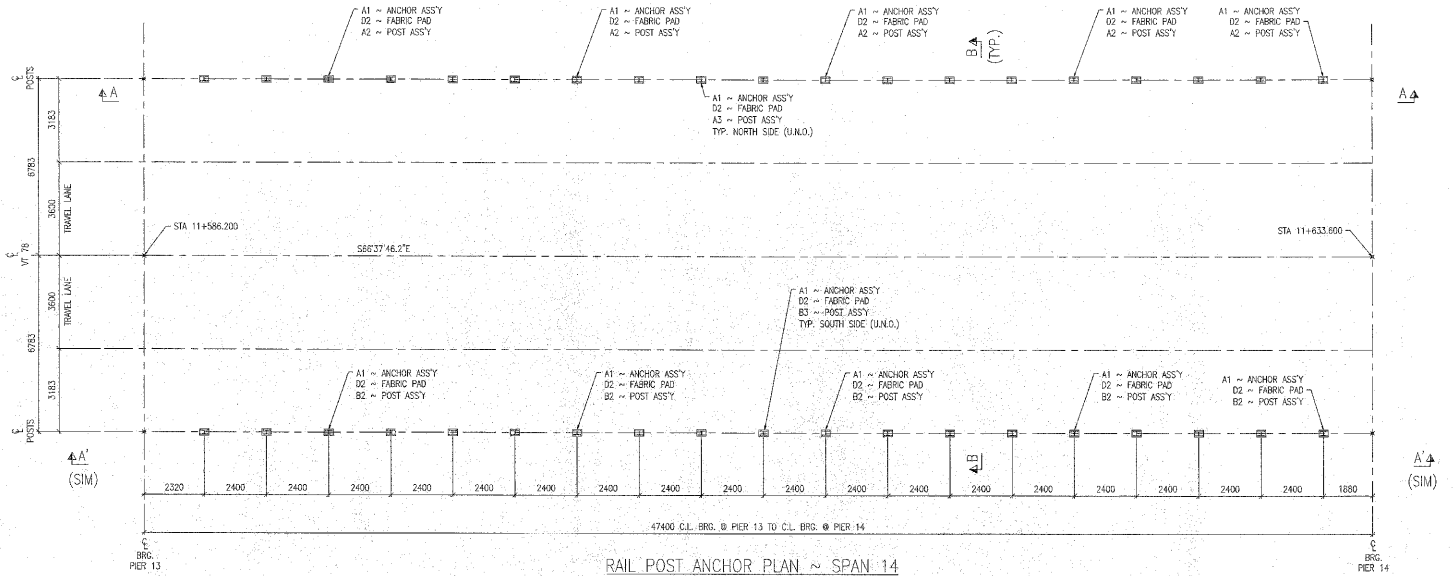
MAT'L : SEE GN-1	FIELD BOLTS		
HOLES : 22ø (7/8") U.N.O.	GRADE: A325		
WELD :	X		
ELECTRODE : E70XX			
PREP : SEE GN-1			
PAINT : SEE GN-1			

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

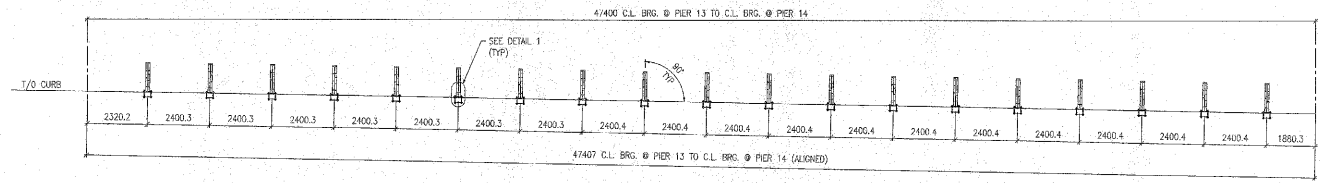
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG - SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN - SPAN 13

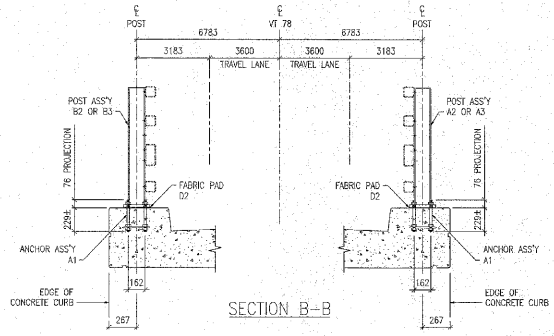
SCALE: N.T.S.	CIANBRO CORPORATION PITTSFIELD MAINE	SHEET	E13
DRAWN: JM		JOB	050004
CHECK: BH			



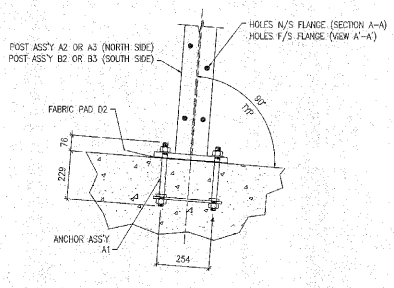
RAIL POST ANCHOR PLAN ~ SPAN 14



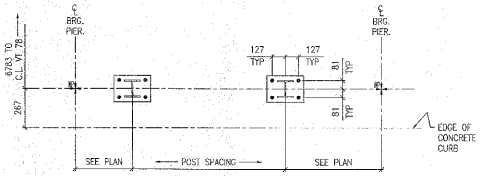
SECTION A-A
VIEW A'-A' (SIM)



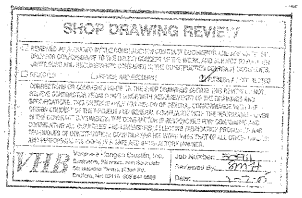
SECTION B-B



DETAIL 1



TYPICAL RAILING POST LAYOUT



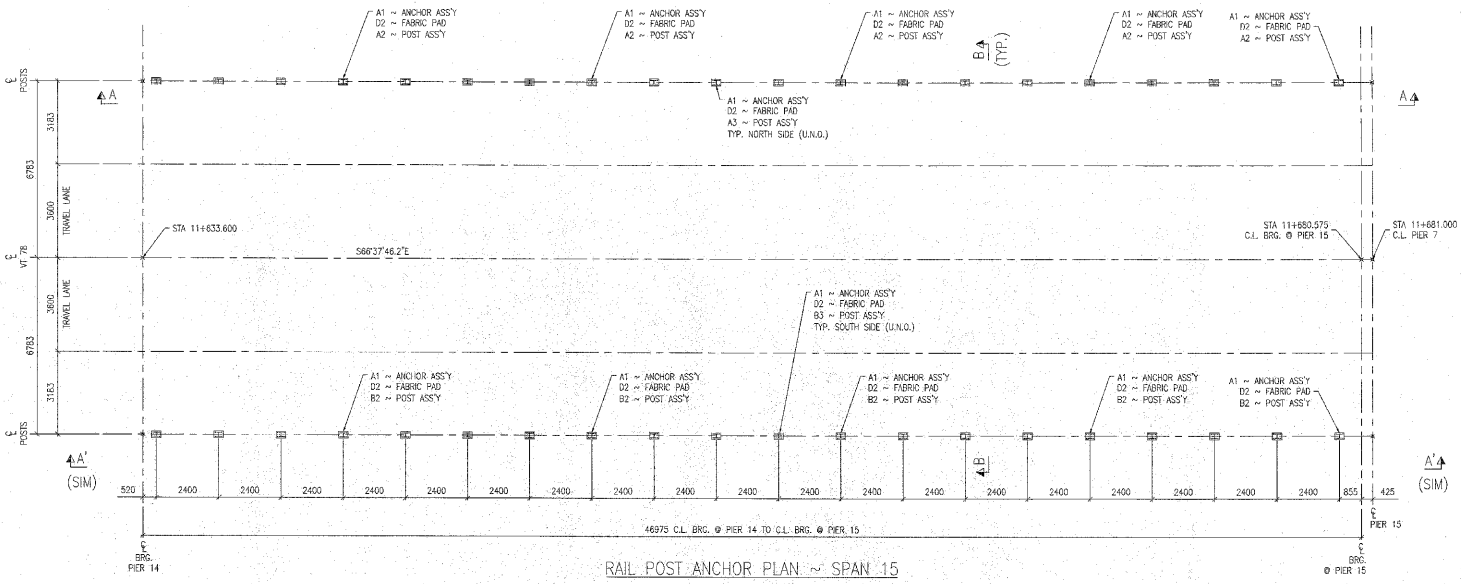
NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E25.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

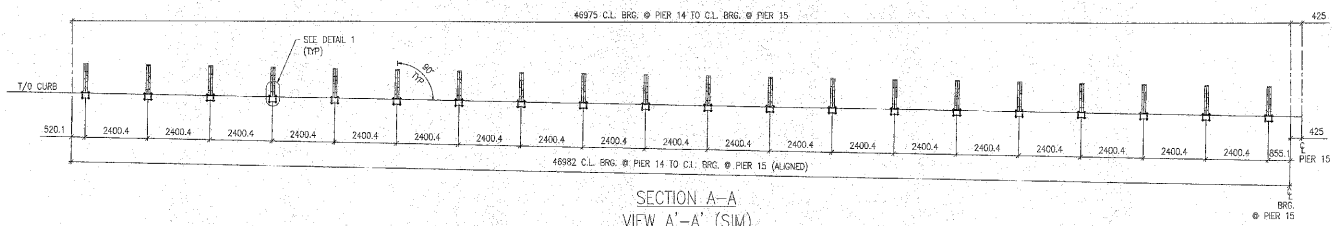
MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	*
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

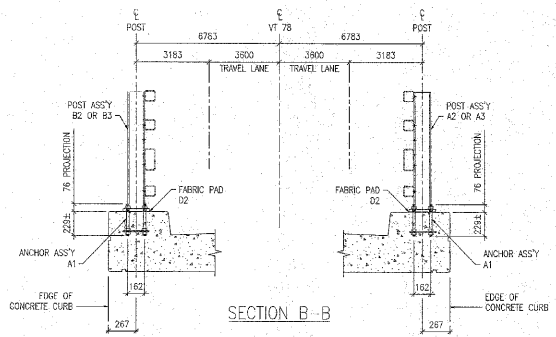
WORK	NETC 4 RAIL-BRIDGE RAILING VT. ROUTE 78 OVER MISSISQUOI BAY ALBURG – SWANTON, VERMONT
DRAWING	RAIL POST ANCHOR PLAN – SPAN 14
SCALE: N.T.S.	SHEET F14
DRAWN: JM	JOB 050004
CHECK: BH	CIANBRO CORPORATION PITTSFIELD MAINE



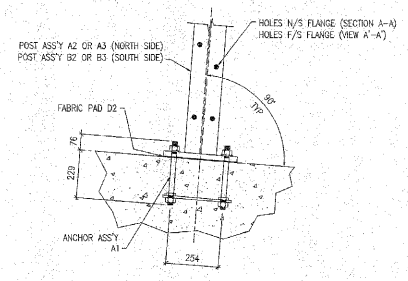
RAIL POST ANCHOR PLAN ~ SPAN 15



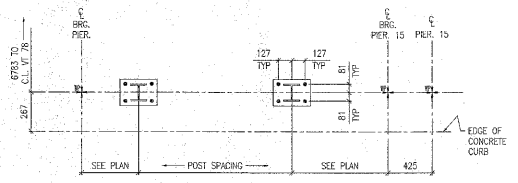
SECTION A–A
VIEW A'–A' (SIM)



SECTION B–B



DETAIL 1



TYPICAL RAILING POST LAYOUT

FOR APPROVAL

SHOP DRAWING REVIEW

NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E25.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

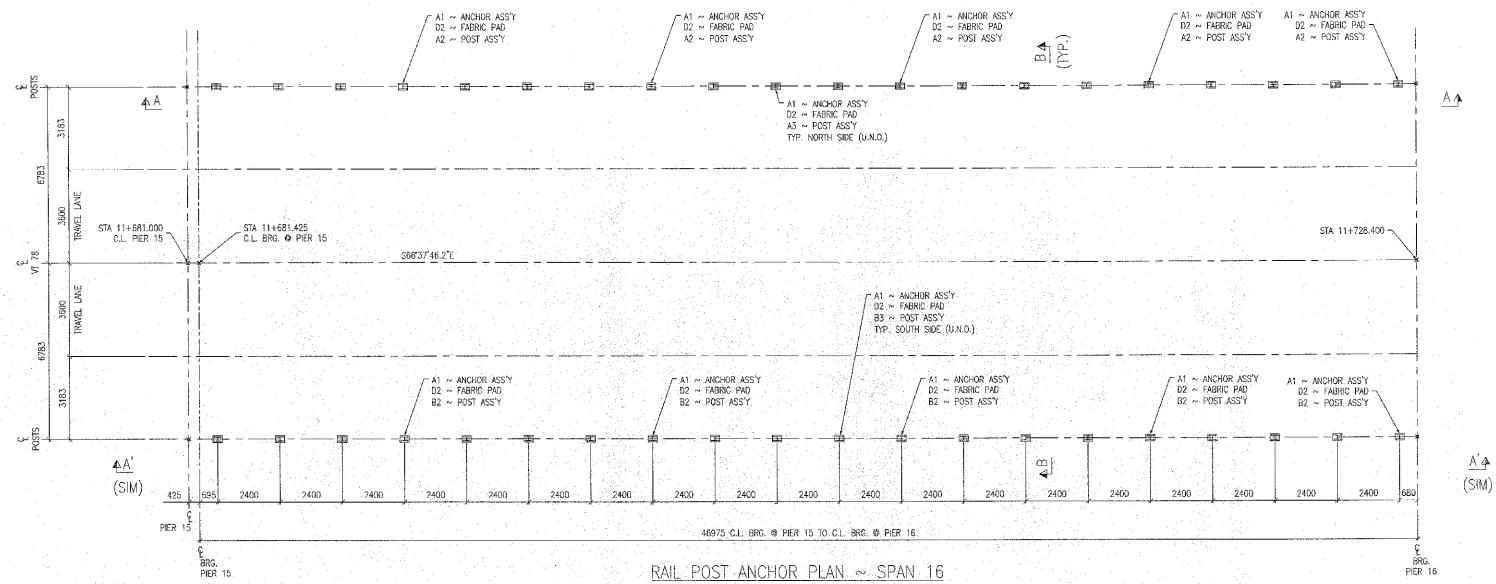
WORK: NETC 4 RAIL–BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN – SPAN 15

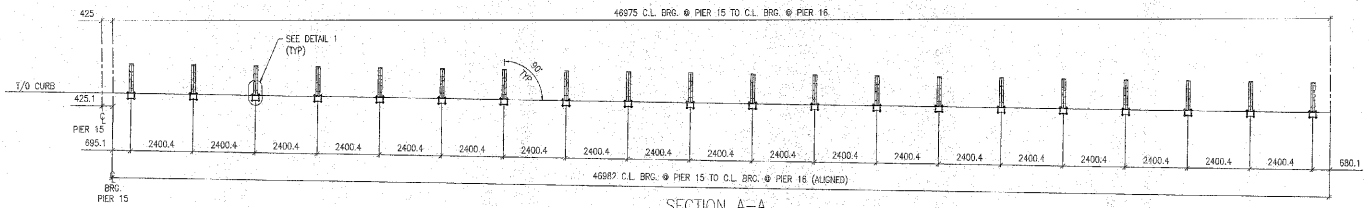
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

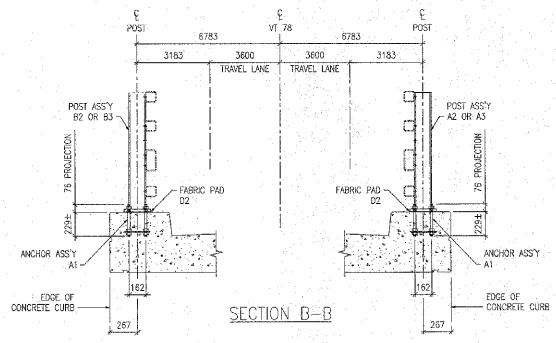
SHEET E15 1
JOB 050004



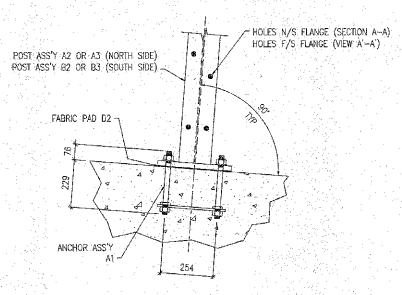
RAIL POST ANCHOR PLAN ~ SPAN 16



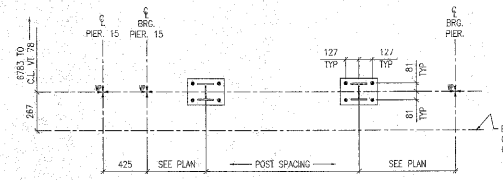
SECTION A–A
VIEW A'–A' (SIM)



SECTION B–B



DETAIL 1



TYPICAL RAILING POST LAYOUT

FOR APPROVAL

SHOP DRAWING REVIEW

VHB

NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E26.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

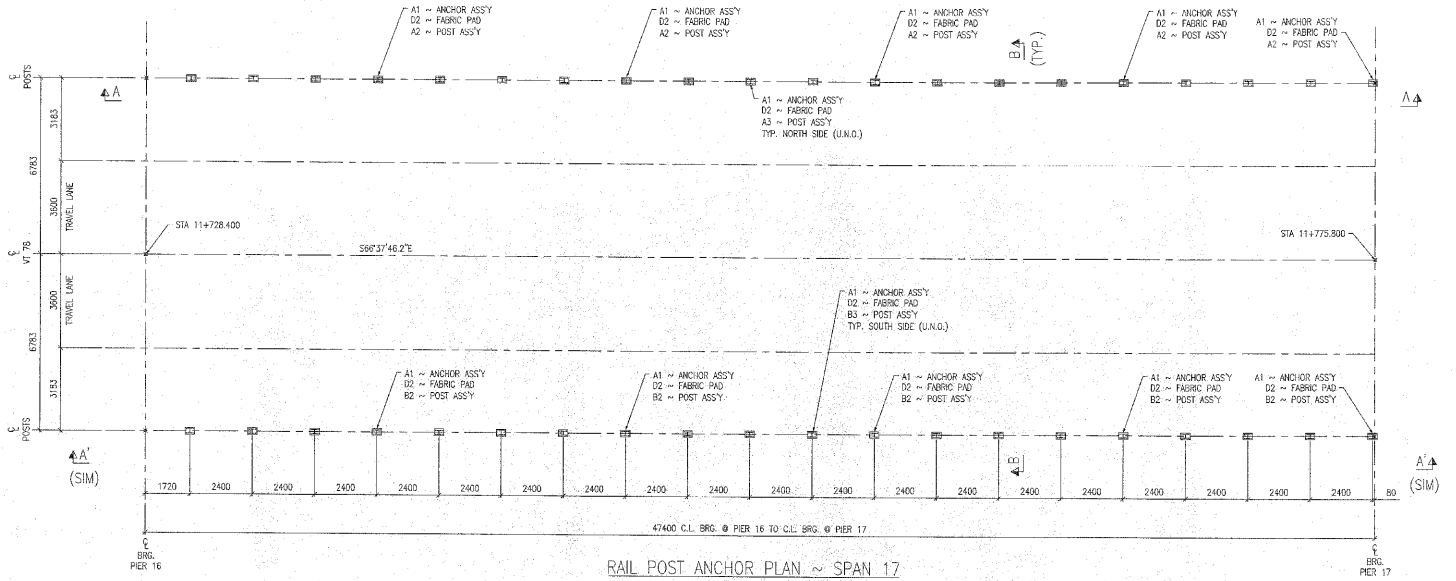
WORK: METC 4 RAIL–BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN – SPAN 16

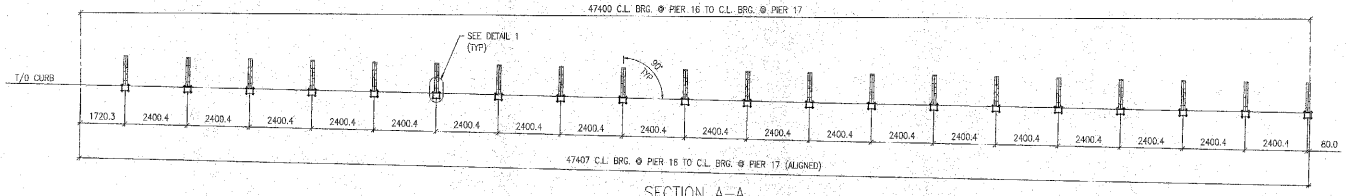
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD, MAINE

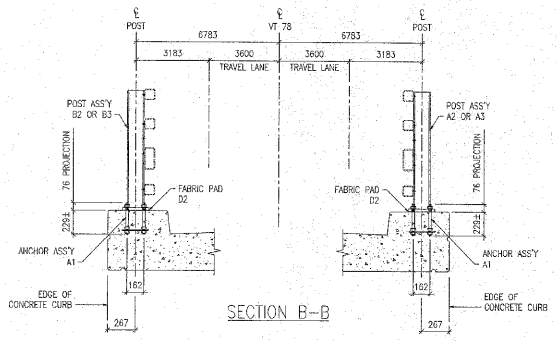
SHEET: E16 ⚠
JOB: 050004



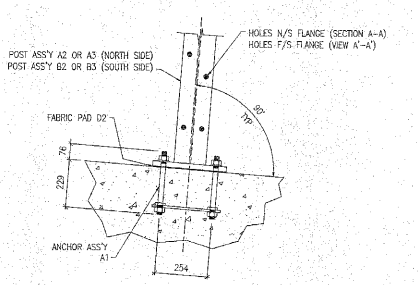
RAIL POST ANCHOR PLAN ~ SPAN 17



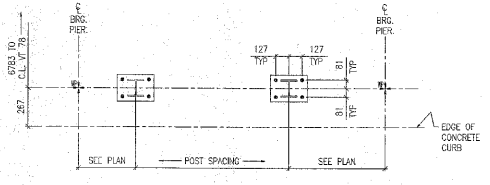
SECTION A-A
VIEW A'-A' (SIM)



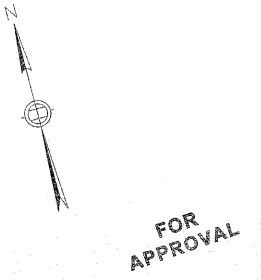
SECTION B-B

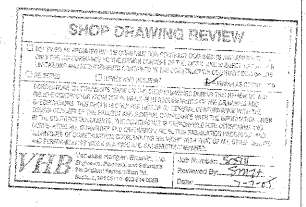


DETAIL 1



TYPICAL RAILING POST LAYOUT





NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E26.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

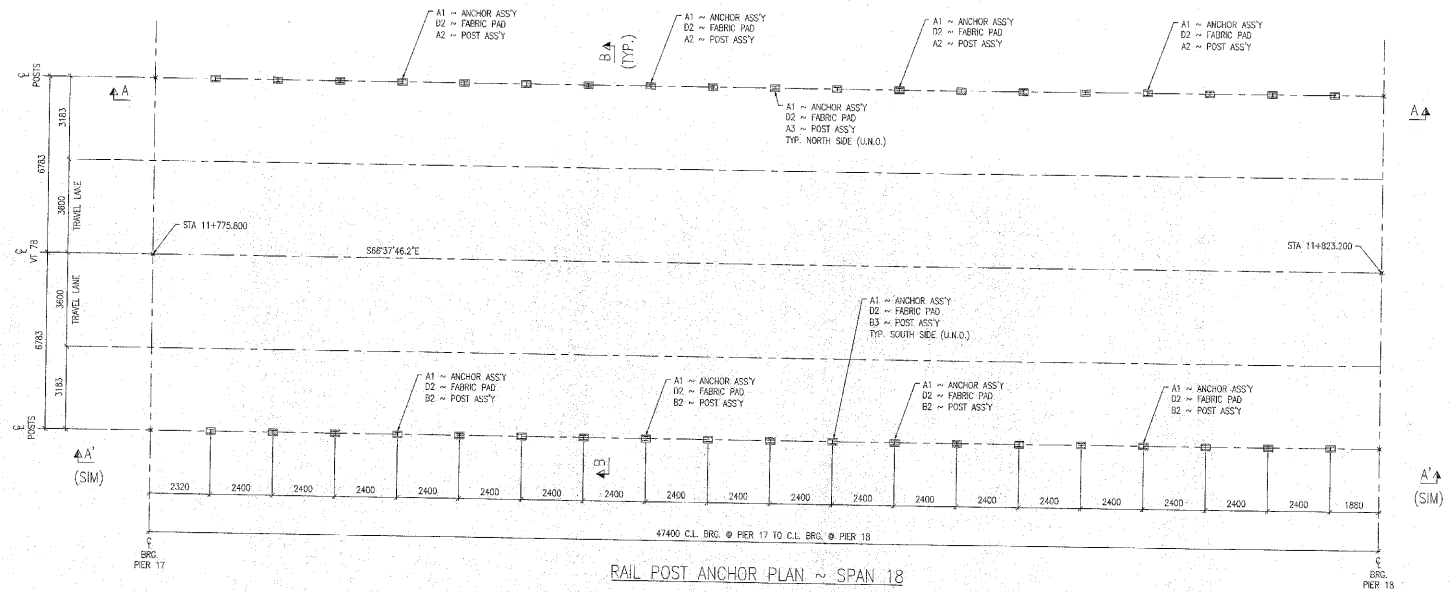
MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	ø
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

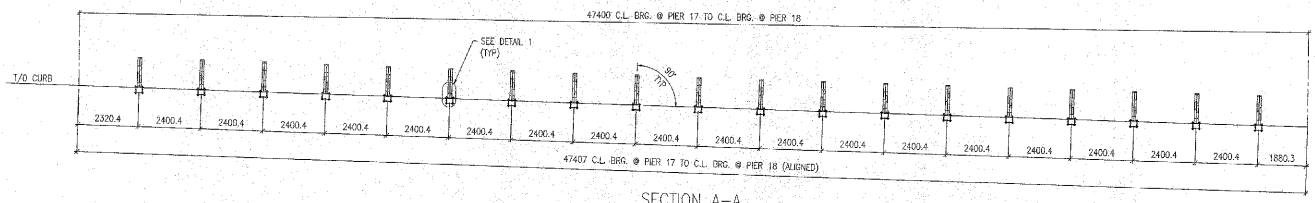
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN – SPAN 17

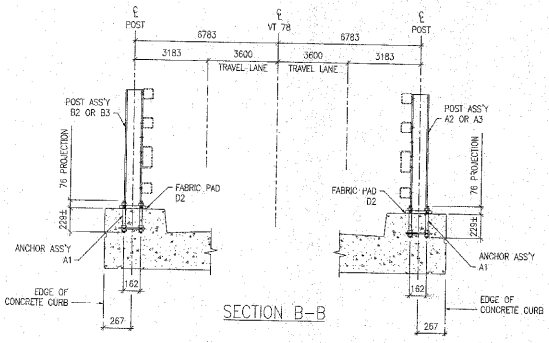
SCALE: N.T.S.	CIANBRO CORPORATION PITTSFIELD MAINE	SHEET	E17
DRAWN: JM		JOB	050004.
CHECK: BH			



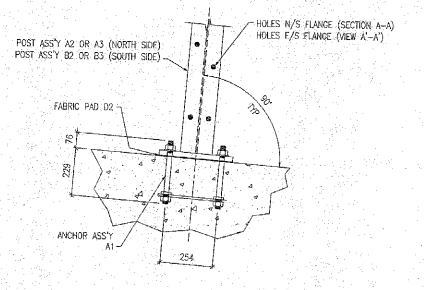
RAIL POST ANCHOR PLAN ~ SPAN 18



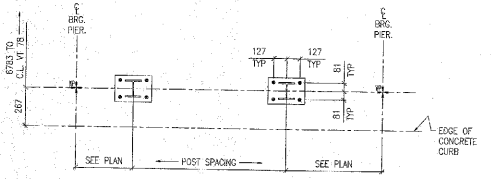
SECTION A–A
VIEW A'–A' (SIM)



SECTION B–B



DETAIL 1



TYPICAL RAILING POST LAYOUT

FOR APPROVAL

SHOP DRAWING REVIEW

APPROVED AS REQUESTED BY VHB. ANY DEVIATIONS FROM CONTRACT DOCUMENTS ARE LIMITED ONLY TO CONFORMANCE TO THE GENERAL CONCEPT OF THE PROJECT AND COMPLIANCE WITH LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONTRACT DOCUMENTS.

REJECTED — RESUBMIT AS NOTED

CONSTRUCTION OR CONSTRUCTION METHODS ARE NOT REVIEWED CLOSELY. THE CONTRACTOR SHALL REVIEW CONSTRUCTION METHODS FOR COMPLIANCE WITH CONTRACT DOCUMENTS, PLANS AND SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, DESIGN CONCEPT OF THE PROJECT AND ACCURACY OF ALL DIMENSIONS AND QUANTITIES. ALL WORK SHALL BE IN CONFORMANCE WITH THE CONTRACT DOCUMENTS AND APPLICABLE LAWS, CODES AND REGULATIONS. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES OF CONSTRUCTION, SEQUENCING, PROCEDURES, SAFETY PRECAUTIONS AND PROGRAMS AND FOR PERFORMING THE WORK IN A SAFE AND WORKMANLIKE MANNER.

VHB Vanasse Hangen Brustlin, Inc. Watertown, Massachusetts and Nationwide. No Dedham Plaza, Dedham, MA 02026-6807 781 329 5400

Job Number: 55511
Reviewed By: BH/JM
Date: 7-7-05

NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E26.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

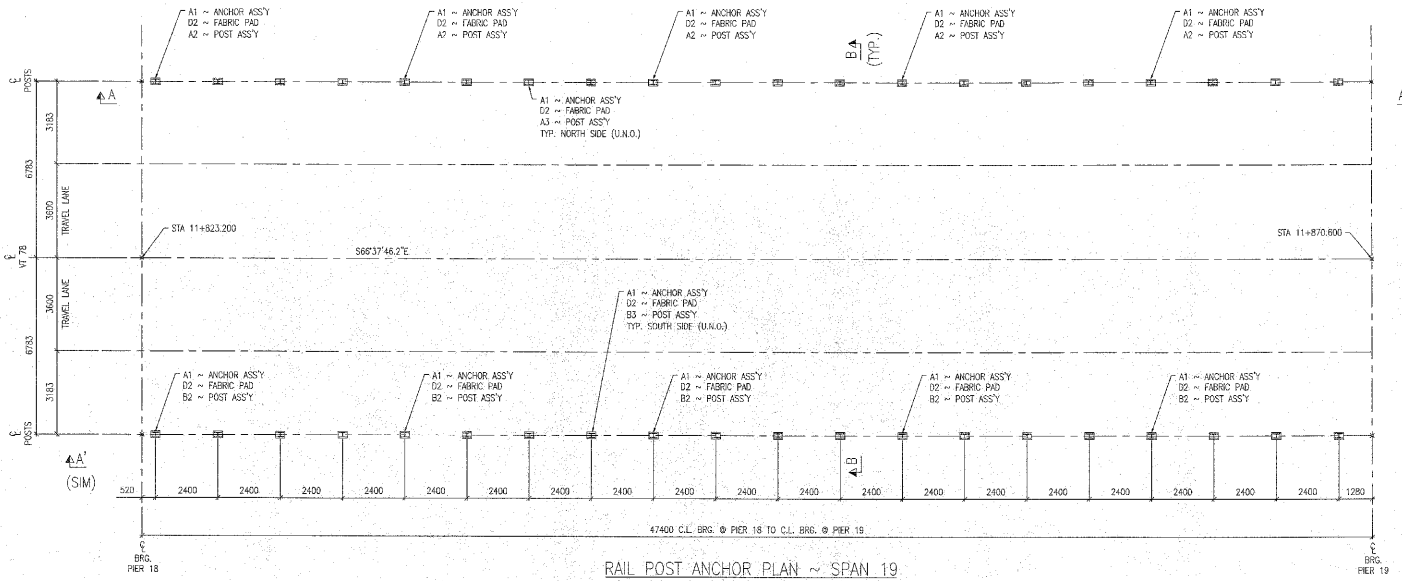
MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADES A325
WELD :	*
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

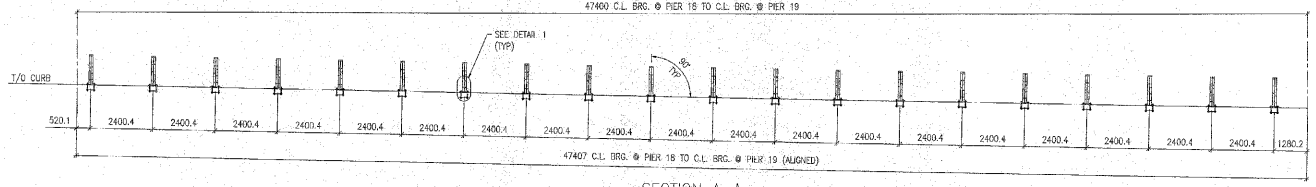
WORK: NBTC 4 RAIL–BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN – SPAN 18

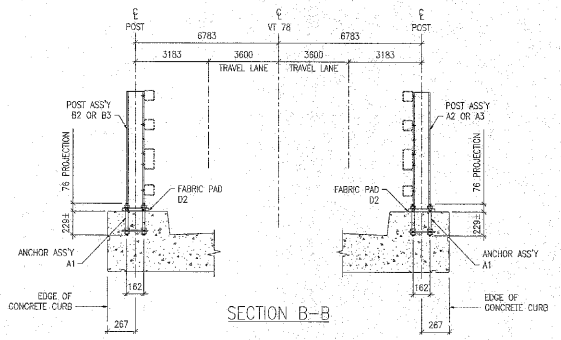
SCALE: N.T.S.	CIANBRO CORPORATION PITTSFIELD, MAINE	SHEET	E18
DRAWN: JM		JOB	050004
CHECK: BH			



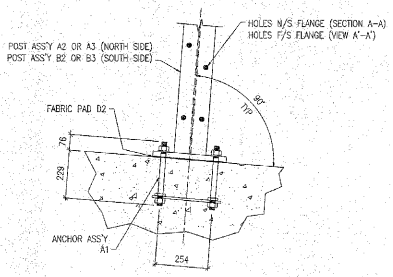
RAIL POST ANCHOR PLAN ~ SPAN 19



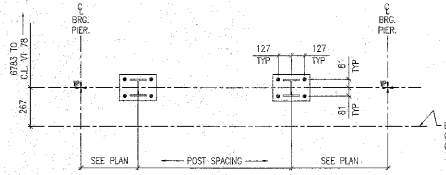
SECTION A–A
VIEW A'–A' (SIM)



SECTION B–B



DETAIL 1



TYPICAL RAILING POST LAYOUT

FOR APPROVAL

SHOP DRAWING REVIEW

VHB Vanasse Hangen Brustlin, Inc.

NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E26.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	K
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

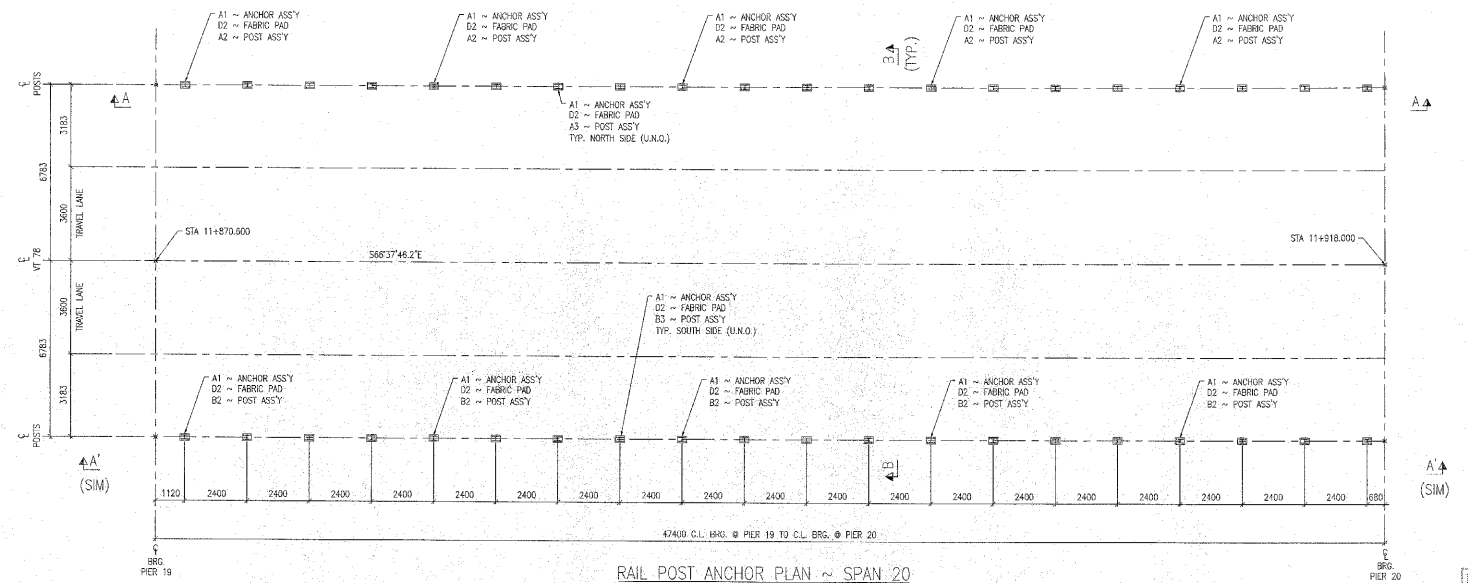
WORK: NETC 4 RAIL–BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN – SPAN 19

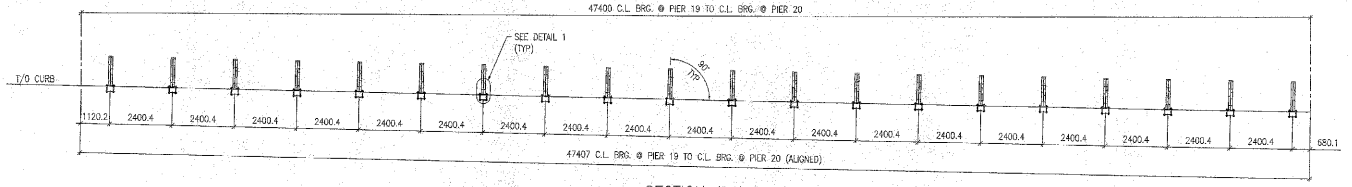
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

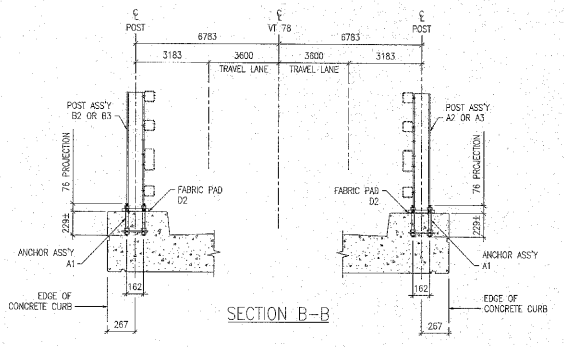
SHEET E19
JOB 050004



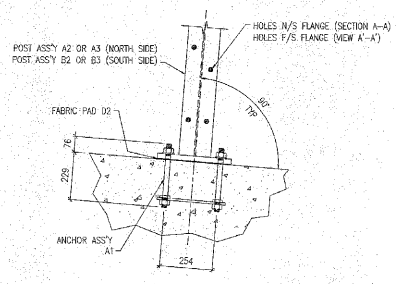
RAIL POST ANCHOR PLAN ~ SPAN 20



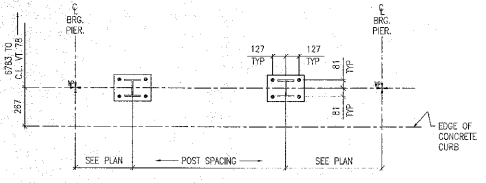
SECTION A–A
VIEW A'–A' (SIM)



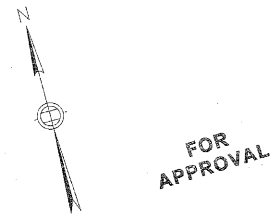
SECTION B–B



DETAIL 1



TYPICAL RAILING POST LAYOUT



SHOP DRAWING REVIEW

VHB Vanasse Hangen Brustlin, Inc.

NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E26.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

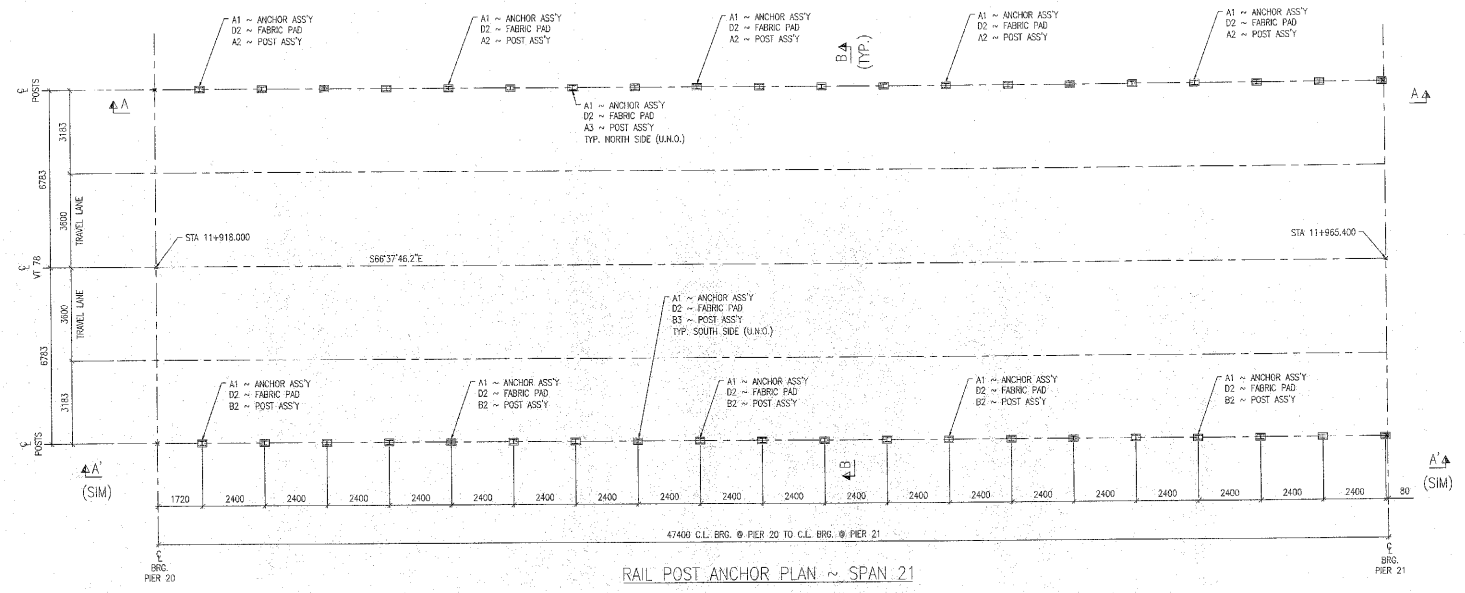
WORK: NETC 4 RAIL–BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN – SPAN 20

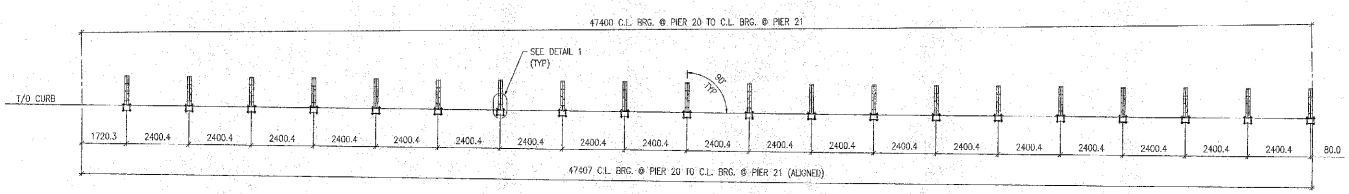
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

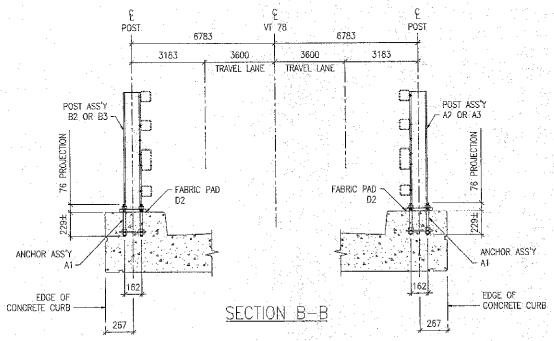
SHEET E20
JOB 050004



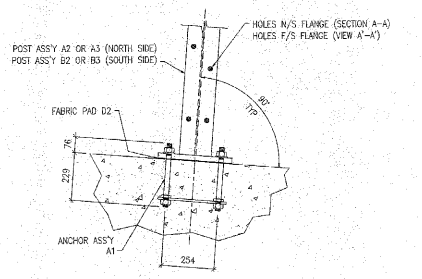
RAIL POST ANCHOR PLAN ~ SPAN 21



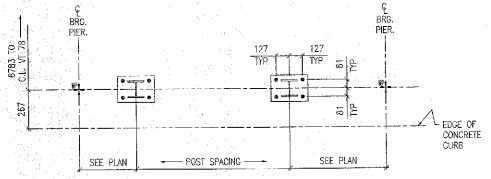
SECTION A-A
VIEW A'-A' (SIM)



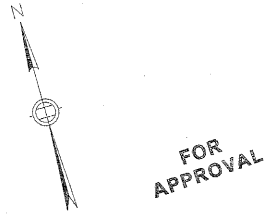
SECTION B-B



DETAIL 1



TYPICAL RAILING POST LAYOUT



SHOP DRAWING REVIEW

VHB

NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E26.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG - SWANTON, VERMONT

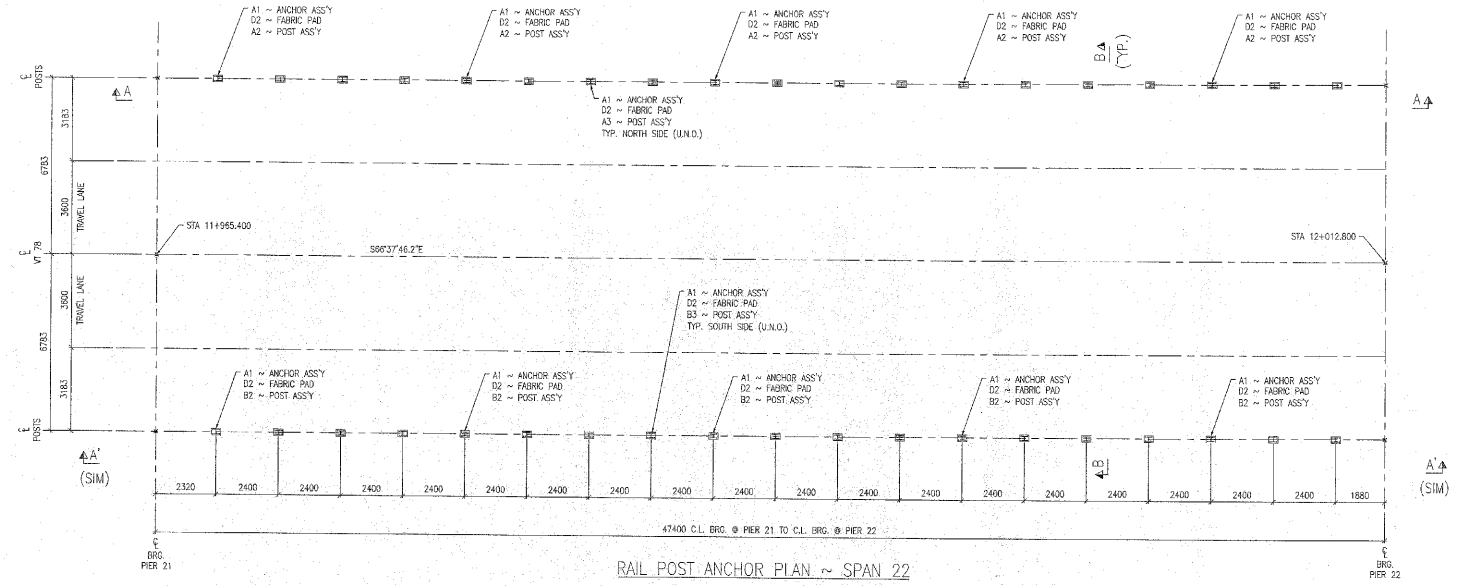
DRAWING: RAIL POST ANCHOR PLAN - SPAN 21

SCALE: N.T.S.
DRAWN: JM
CHECK: BH

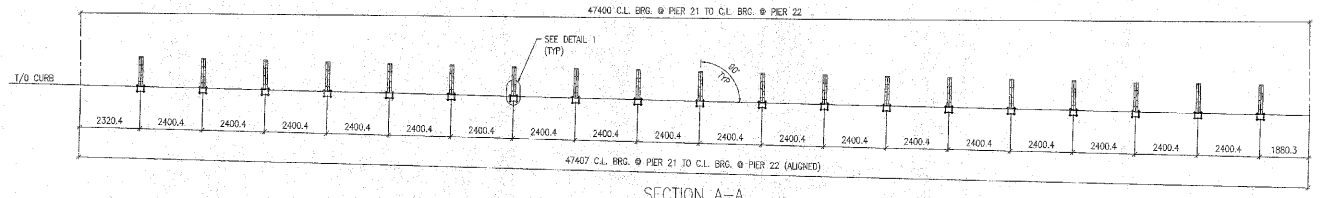
CIANBRO CORPORATION
PITTSFIELD MAINE

SHEET E21

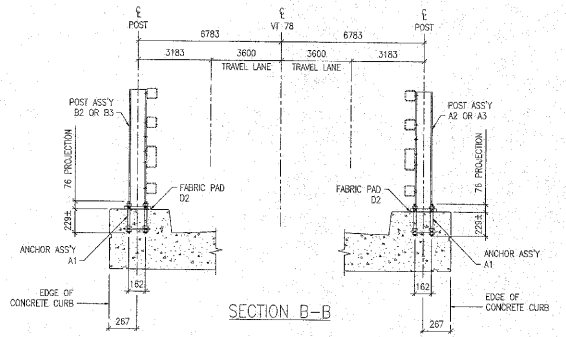
JOB 050004



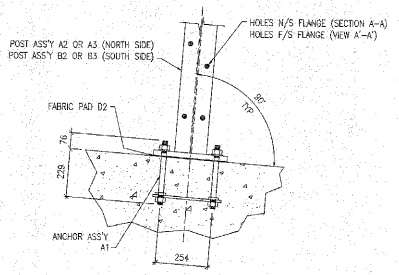
RAIL POST ANCHOR PLAN ~ SPAN 22



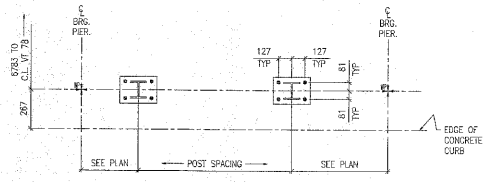
SECTION A-A
VIEW A'-A' (SIM)



SECTION B-B



DETAIL 1



TYPICAL RAILING POST LAYOUT

FOR APPROVAL

SHOP DRAWING REVIEW

☐ REVIEWED AS NOTED BY THIS ORGANIZATION IN CONFORMANCE WITH ALL APPLICABLE CONTRACT REQUIREMENTS. DATA IN ALL CALCULATIONS RESPONSIBILITY OF THE METAL FABRICATOR. THIS REVIEW DOES NOT INDICATE APPROVAL OF ERECTION METHODS OR SAFETY PRECAUTIONS.

☐ REJECTED ☐ REVISE AND RESUBMIT

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE CONTRACT DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Dutton Road, Sudbury, MA 01776 Tel (978) 443-7900 Fax (978) 443-7999

Job Number: 50004
Reviewed By: SMH
Date: 7-7-05

NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E26.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	*
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

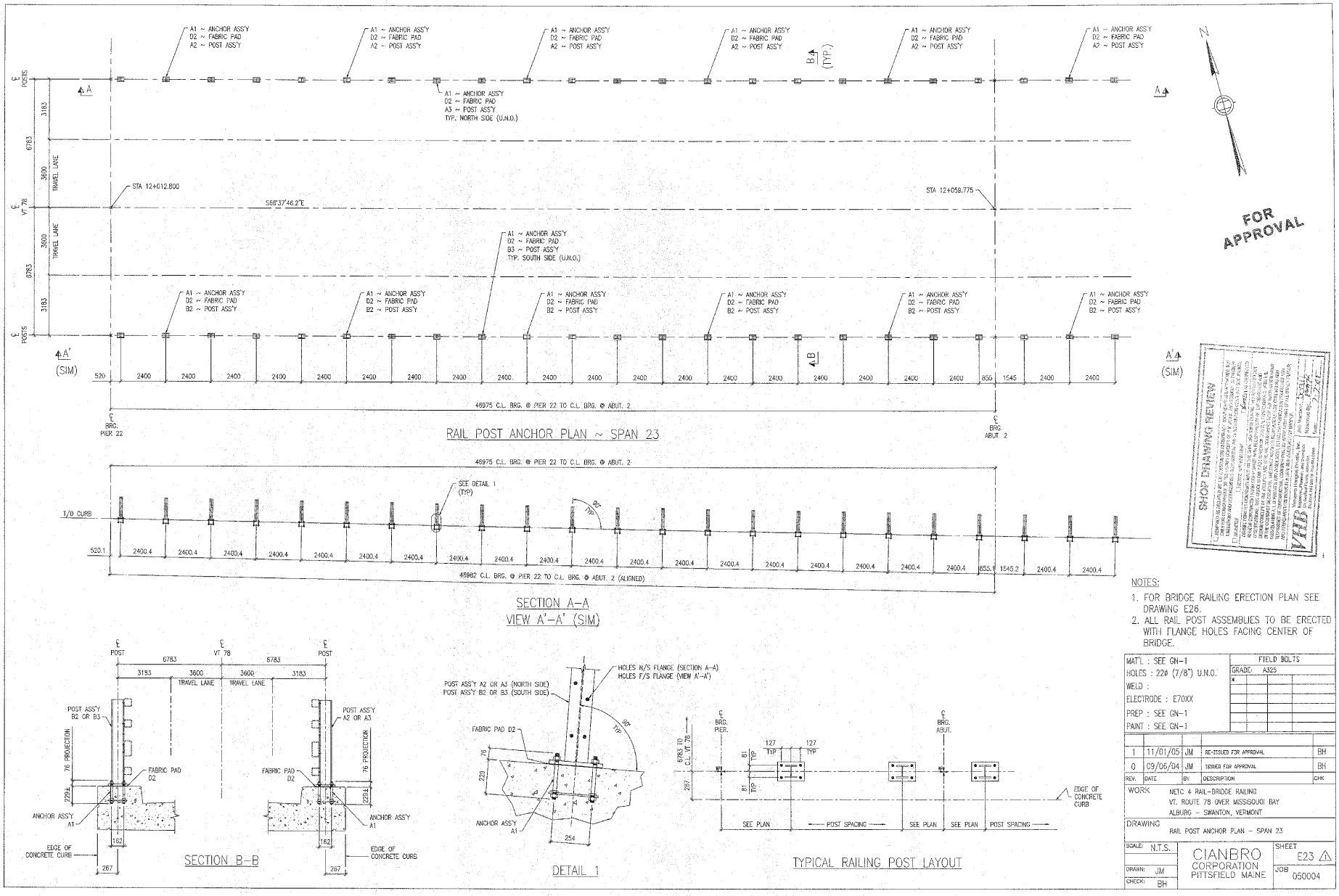
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG - SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN - SPAN 22

SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION PITTSFIELD, MAINE

SHEET: E22
JOB: 050004



SHOP DRAWING REVIEW

NOTES:

1. FOR BRIDGE RAILING ERECTION PLAN SEE DRAWING E26.
2. ALL RAIL POST ASSEMBLIES TO BE ERECTED WITH FLANGE HOLES FACING CENTER OF BRIDGE.

MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE: A325
WELD :	
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	09/06/04	JM	ISSUED FOR APPROVAL	BH

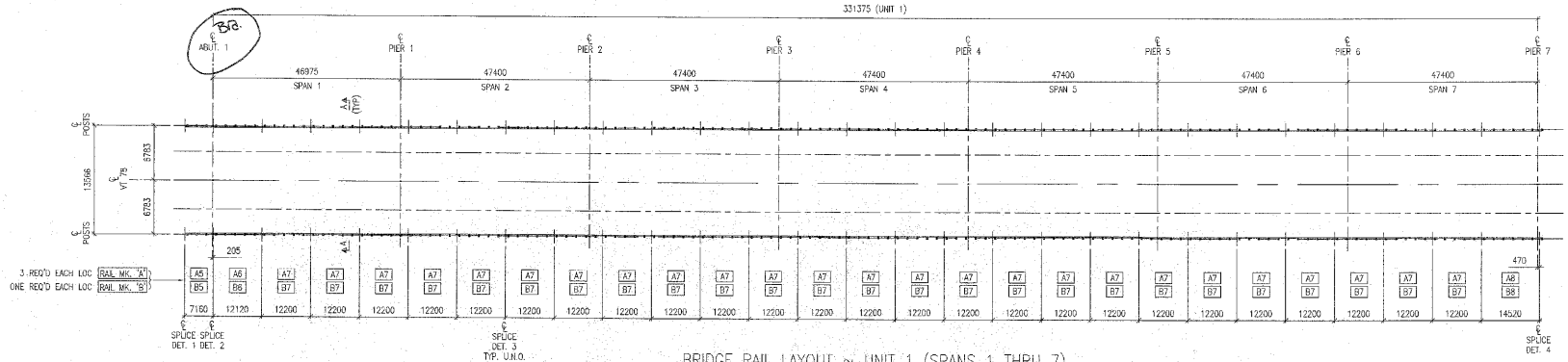
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG - SWANTON, VERMONT

DRAWING: RAIL POST ANCHOR PLAN - SPAN 23

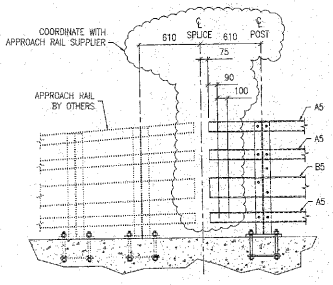
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

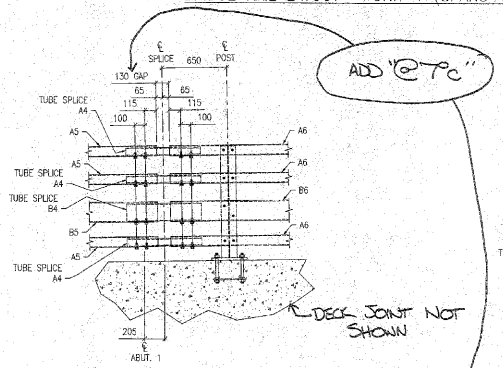
SHEET E23
JOB 050004



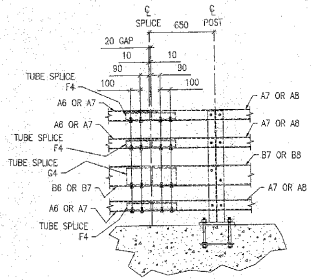
BRIDGE RAIL LAYOUT – UNIT 1 (SPANS 1 THRU 7)



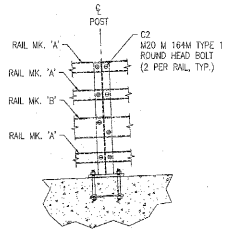
DETAIL 1
RAIL SPLICE @ APPROACH RAIL



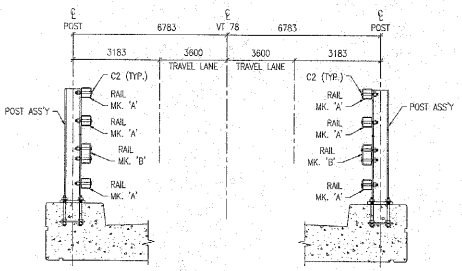
DETAIL 2
RAIL SPLICE @ ABUTMENT 1



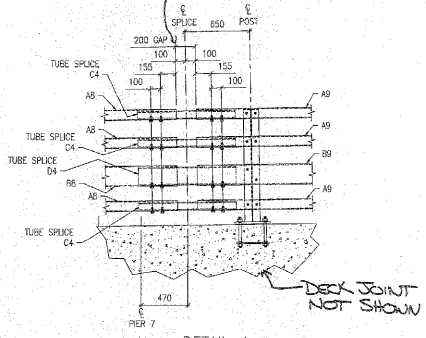
DETAIL 3
TYPICAL RAIL SPLICE



TYPICAL RAIL TO POST CONNECTION



SECTION A–A



DETAIL 4
RAIL SPLICE @ PIER 7

SHOP DRAWING REVIEW

NOTES:
1. WORK THIS DRAWING WITH E25 AND E26.

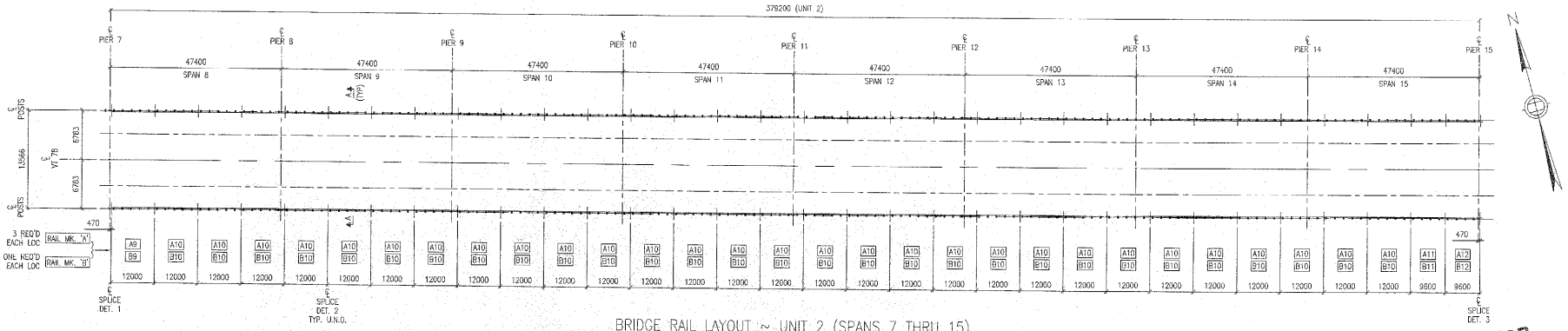
MAT'L : SEE GN-1		FIELD BOLTS	
HOLES : 22ø (7/8") U.N.O.		GRADE: A325	
WELD :		*	
ELECTRODE : E7GXX			
PREP : SEE GN-1			
PAINT : SEE GN-1			

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	18/06/04	JM	ISSUED FOR APPROVAL	BH

WORK: NETC 4 RAIL–BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: BRIDGE RAIL LAYOUT – UNIT 1 (SPANS 1 THRU 7)

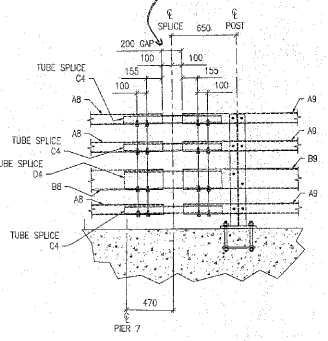
SCALE: N.T.S.	CIANBRO CORPORATION PITTSFIELD MAINE	SHEET	E24
DRAWN: JM		JOB	050004
CHECK: BH			



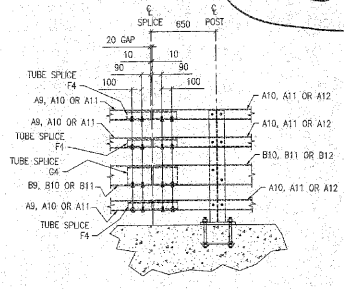
BRIDGE RAIL LAYOUT ~ UNIT 2 (SPANS 7 THRU 15)

FOR APPROVAL

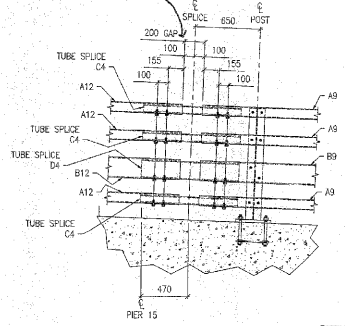
ADD "@ 70°C"



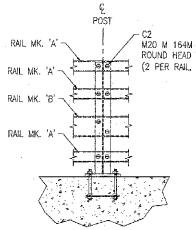
DETAIL 1
RAIL SPLICE @ PIER 7



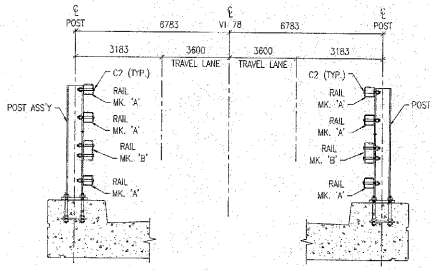
DETAIL 2
TYPICAL RAIL SPLICE



DETAIL 3
RAIL SPLICE @ PIER 15



TYPICAL RAIL TO POST CONNECTION



SECTION A-A

SHOP DRAWING REVIEWED

NOTES:

1. WORK THIS DRAWING WITH E24 AND E26.

MAT'L : SEE GN-1			FIELD BOLTS	
HOLES : 22ø (7/8") U.N.O.			GRADE: A325	
WELD :				
ELECTRODE : E70XX				
PREP : SEE GN-1				
PAINT : SEE GN-1				
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	18/06/04	JM	ISSUED FOR APPROVAL	BH
REV.	DATE	BY	DESCRIPTION	CHK

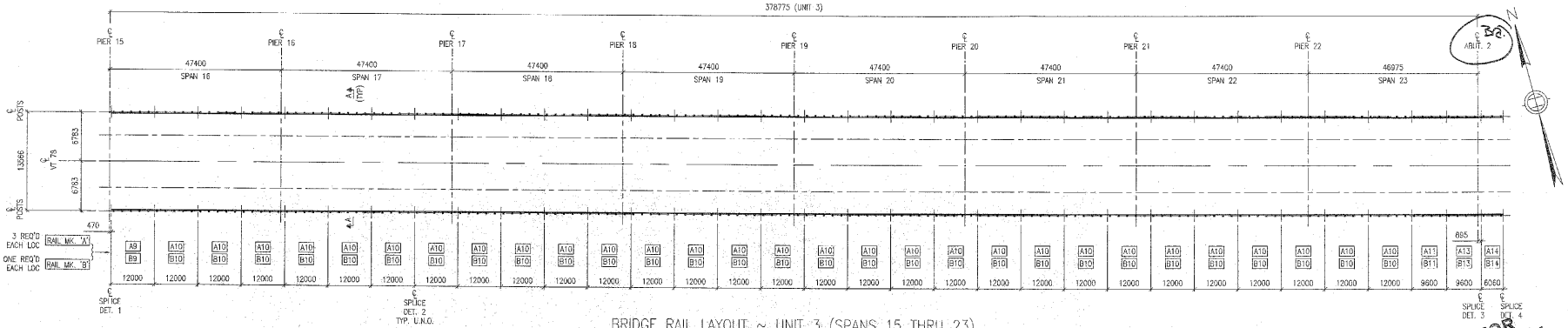
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG - SWANTON, VERMONT

DRAWING: BRIDGE RAIL LAYOUT - UNIT 2 (SPANS 7 THRU 15)

SCALE: N.T.S.
DRAWN: JM
CHECK: BH

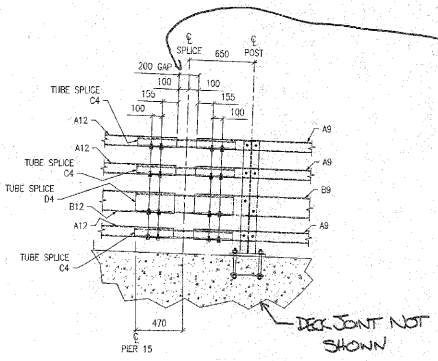
CIANBRO CORPORATION
PITTSFIELD MAINE

SHEET E25 ⚠
JOB 050004

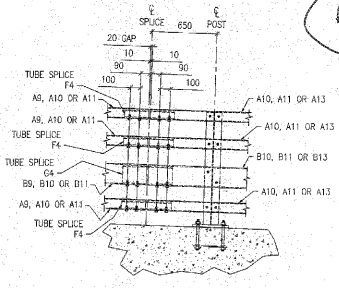


BRIDGE RAIL LAYOUT ~ UNIT 3 (SPANS 15 THRU 23)

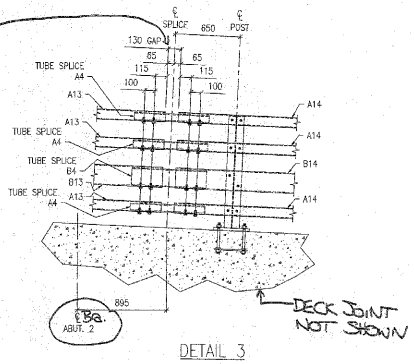
FOR APPROVAL



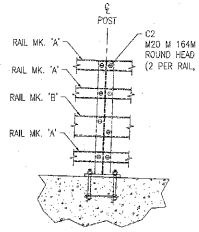
DETAIL 1
RAIL SPLICE @ PIER 15



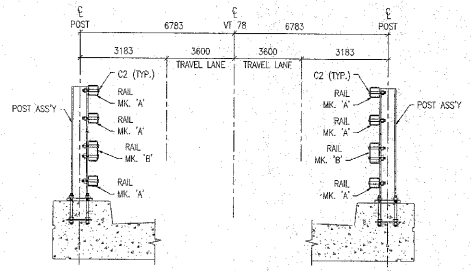
DETAIL 2
TYPICAL RAIL SPLICE



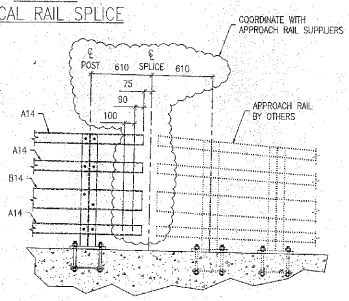
DETAIL 3
RAIL SPLICE @ ABUTMENT 2



TYPICAL RAIL TO POST CONNECTION



SECTION A-A



DETAIL 4
RAIL SPLICE @ APPROACH RAIL

SHOP DRAWING REVIEW

NOTES:
1. WORK THIS DRAWING WITH E24 AND E25.

MAT'L : SEE GN-1			FIELD BOLTS	
HOLES : 22ø (7/8") U.N.O.			GRADE: A325	
WELD :				
ELECTRODE : E70XX				
PREP : SEE GN-1				
PAINT : SEE GN-1				

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	18/06/04	JM	ISSUED FOR APPROVAL	BH

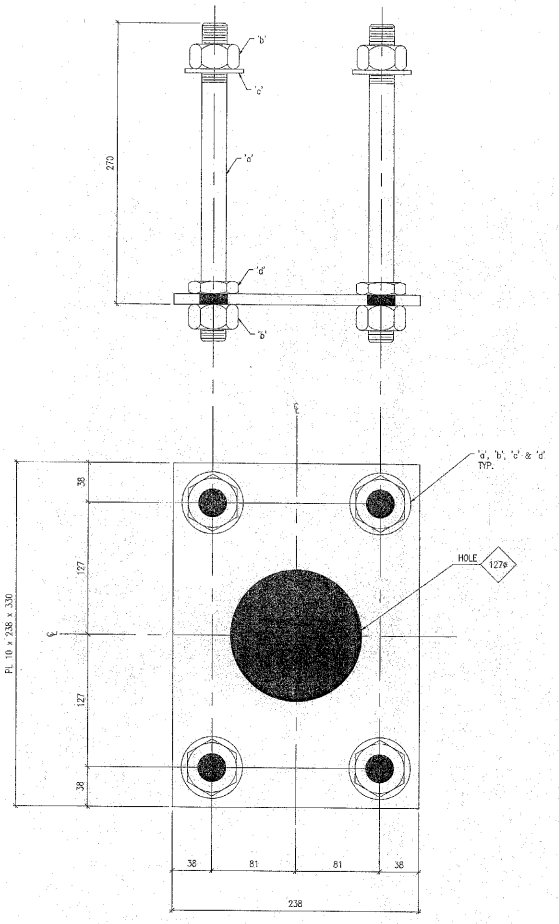
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG - SWANTON, VERMONT

DRAWING: BRIDGE RAIL LAYOUT - UNIT 3 (SPANS 15 THRU 23)

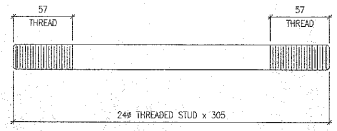
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION PITTSFIELD MAINE

SHEET E26 ⚠
JOB 050004



A1 ~ 916 REQ'D



DETAIL 'a'

BILL OF MATERIAL

MARK SHIP	MARK TEMP	QTY.	MATERIAL	LENGTH	GR.	REMARKS
A1		916	PL 10 x 238	330		
	'a'	3664	24ø THRD STUD	305		ASTM A449
	'b'	7328	24ø HEX NUT			ASTM A563
	'c'	3664	24ø FLAT WASHER			ASTM F436
	'd'	3664	24ø JAM NUT			ASTM A563
			TOTAL WEIGHT:			

FOR APPROVAL

SHOP DRAWING REVIEW

VHB

NOTES:

1. ALL PARTS TO BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M.
2. REFERENCE ERECTION DRAWINGS E1 THRU E23.

MAT'L : SEE GN-1	FIELD BOLTS		
HOLES : 27ø (1 1/16") U.N.O.	GRADE: A325		
WELD :			
ELECTRODE : E70XX			
PREP : SEE GN-1			
PAINT : SEE GN-1			

REV.	DATE	BY	DESCRIPTION	CHK.
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	08/06/04	JM	ISSUED FOR APPROVAL	BH

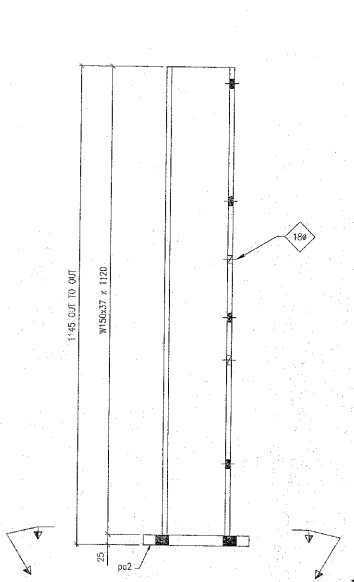
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG - SWANTON, VERMONT

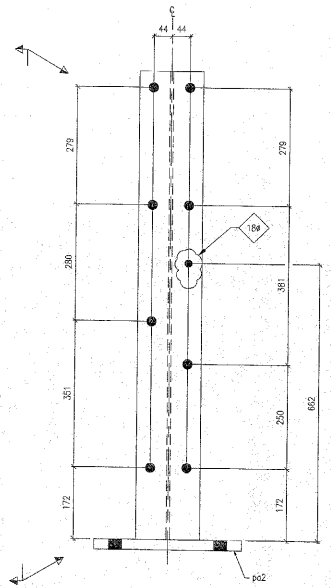
DRAWING: BRIDGE RAILING ANCHOR PLATES

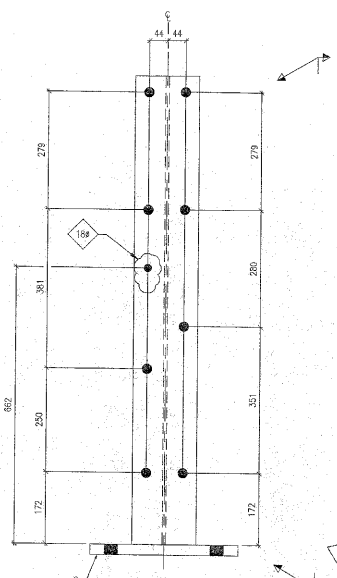
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

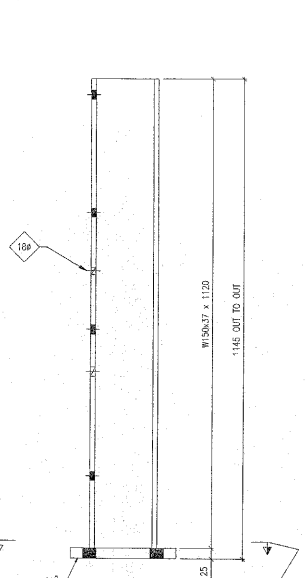
CIANBRO CORPORATION
PITTSFIELD MAINE

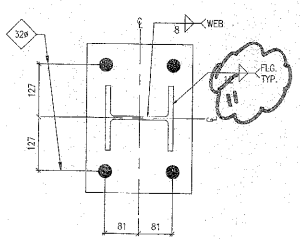
SHEET 01 (1)
JOB 050004



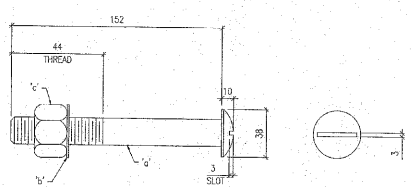




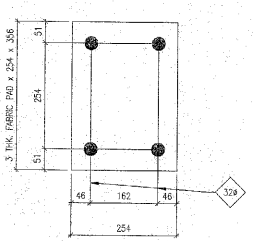




A2 ~ 115 REQ'D

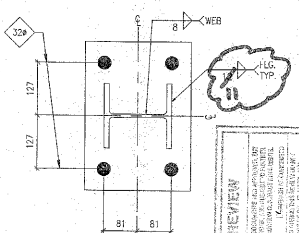


C2 ~ 7328 REQ'D

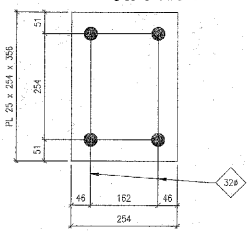


D2 ~ 916 REQ'D

FABRIC PAD



B2 ~ 115 REQ'D



DETAIL pa2

BILL OF MATERIAL

MARK SHP	MARK TEMP	QTY.	MATERIAL	LENGTH	GR.	REMARKS
A2		115	W150 x 37	1120		GALV. HD
	pa2	115	PL 25 x 254	356		GALV. HD
B2		115	W150 x 37	1120		GALV. HD
	pa2	115	PL 25 x 254	356		GALV. HD
C2		7328	BOLT ASSEMBLY			
	'a'	7328	20ø ROUND HEAD BOLT	152		M 164M TYPE 3 GALV. ASTM F436
	'b'	7328	20ø WASHER			GALV. ASTM A563
	'c'	7328	20ø LOCK NUT			
D2		916	3 THK x 254	356		HD
			MOULDED FABRIC PAD			
			TOTAL WEIGHT:			

FOR APPROVAL

SHOP DRAWING REVIEW

MAT'L : ASTM A709 GR 345	FIELD BOLTS			
HOLES : 22ø (7/8") U.N.O.	GRADE: A325			
WELD :	N			
ELECTRODE : E70XX				
PREP : SEE GN-1				
PAINT : SEE GN-1				

REV.	DATE	BY	DESCRIPTION	CHK
1	11/01/05	JM	RE-ISSUED FOR APPROVAL	BH
0	08/06/04	JM	ISSUED FOR APPROVAL	BH

WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: BRIDGE RAIL POSTS

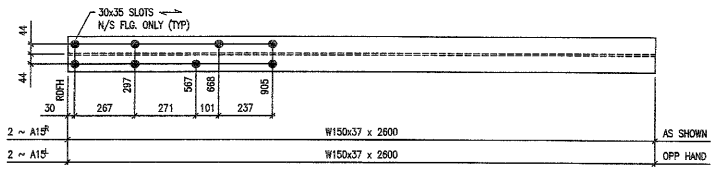
SCALE: N.T.S.
DRAWN: JM
CHECK: BH

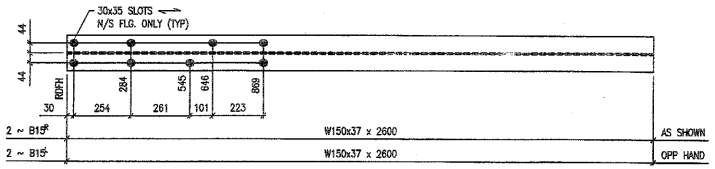
CIANBRO CORPORATION
PITTSFIELD MAINE

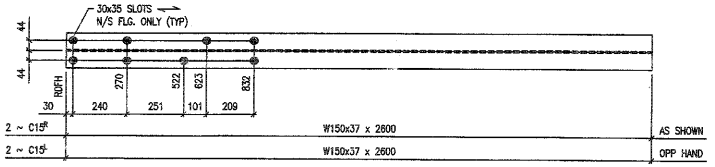
SHEET 02
JOB 050004

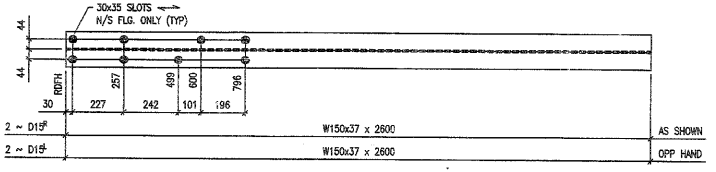
NOTES:

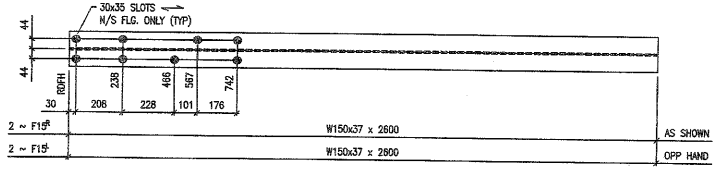
1. ALL PARTS TO BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M.
2. REFERENCE ERECTION DRAWINGS F1 THRU E23.

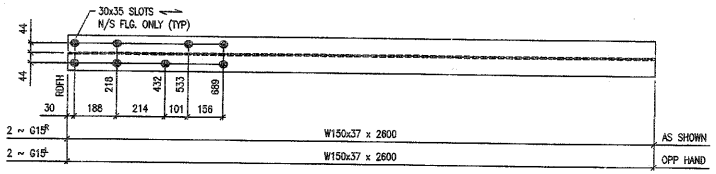


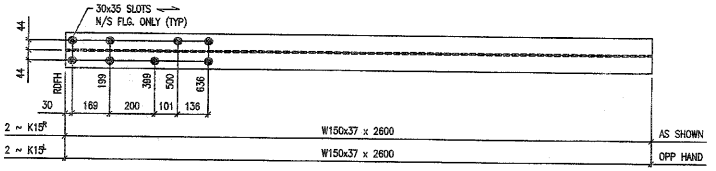


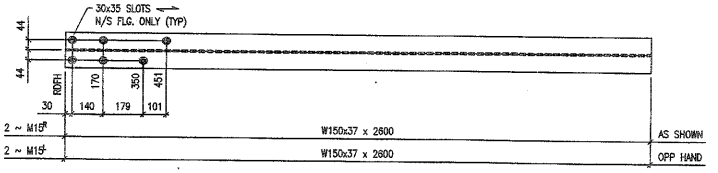


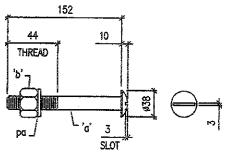




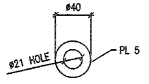








N15 ~ 248 REQ'D



DETAIL 'pa'

NOTES:

1. ALL PARTS TO BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M.
2. REFERENCE ERECTION DRAWINGS E27.

BILL OF MATERIAL

MARK SHIP	MARK TEMP	QTY.	MATERIAL	LENGTH	GR.	REMARKS
A15R/L		4	W150x37	2600		GALV. RD 28/2L
B15R/L		4	W150x37	2600		GALV. RD 28/2L
C15R/L		4	W150x37	2600		GALV. RD 28/2L
D15R/L		4	W150x37	2600		GALV. RD 28/2L
F15R/L		4	W150x37	2600		GALV. RD 28/2L
G15R/L		4	W150x37	2600		GALV. RD 28/2L
K15R/L		4	W150x37	2600		GALV. RD 28/2L
M15R/L		4	W150x37	2600		GALV. RD 28/2L
N15		248	BOLT ASSEMBLY			
	'a'	248	20# ROUND HEAD BOLT	152		H 1648 TYPE 1 GALV.
	'b'	248	20# LOCK NUT			GALV. M291, TYPE 1
	pa	248	PL 5 x 40	40		GALV. RD M270
			TOTAL WEIGHT:			

SHOP DRAWING REVIEW

☐ REVIEWED AS RETURNED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.
☐ REJECTED ☐ REVISE AND RESUBMIT ☑ FURNISH AS CORRECTED

CONNECTING OR DOCUMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS REVIEW IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Seabird Plaza, Suite 4 Bedford, NH 03110-4950 (603) 644-4900

Job Number: 40411
Reviewed By: SWM
Date: 8/15/06

MAT'L : ASTM A709 GR.345
HOLES : AS NOTED ON DWG.
WELD :
ELECTRODE : E70XX
PREP : SEE GN-1
PAINT : SEE GN-1

FIELD BOLTS
GRADE: A325

REV.	DATE	BY	DESCRIPTION	CHK
3	07/15/06	TS	REV. PER APP'L	RC
2	08/03/06	MN	REV. PER APP'L	RC
1	28/10/05	KC	REV. PER APPROVAL COMMENTS	BH

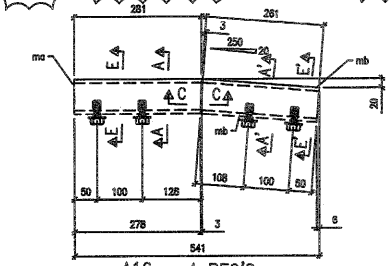
WORK: NETC 4 RAIL-BRIDGE RAILING - PROJECT NO. BRF036-1(1)
VT. ROUTE 78 OVER MISSISQUOI BAY - BRIDGE NO. 2
ALBURG - SWANTON, VERMONT

DRAWING: APPROACH RAIL POST DETAILS

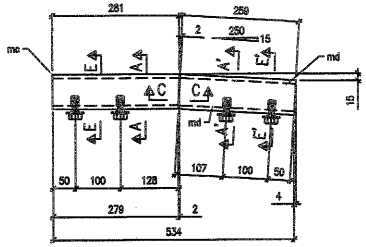
SCALE: N.T.S.
SUPERVISOR: T.S.
DRAWN: SG
CHECK: BH

CIANBRO CORPORATION
PITTSFIELD MAINE

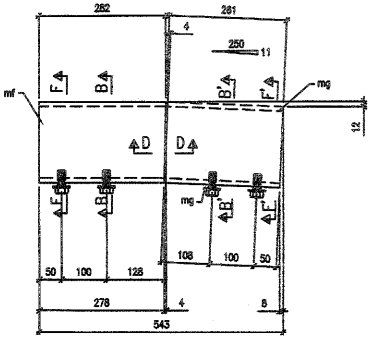
SHEET 15 ⚠3
JOB 050004



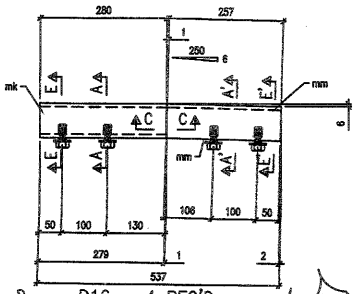
A16 ~ 4 REQ'D



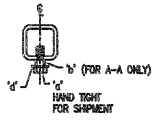
B16 ~ 4 REQ'D



C16 ~ 4 REQ'D

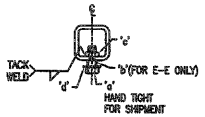


D16 ~ 4 REQ'D



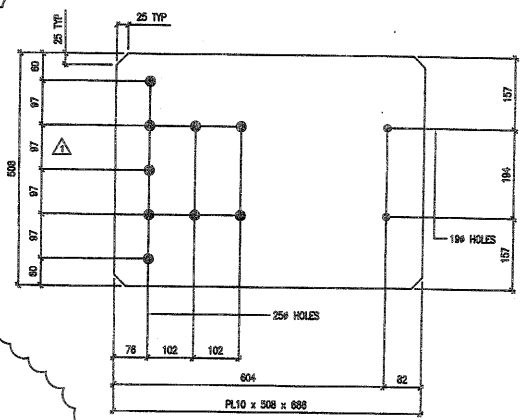
SECTION A-A

SECTION A'-A'

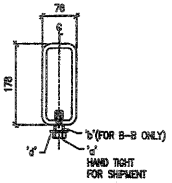


SECTION E-E

SECTION E'-E'

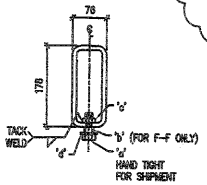


F16 ~ 4 REQ'D



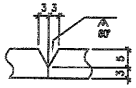
SECTION B-B

SECTION B'-B'



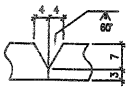
SECTION F-F

SECTION F'-F'



SECTION C-C

TYPICAL 4 SIDES



SECTION D-D

TYPICAL 4 SIDES

BILL OF MATERIAL

MARK SHOP	MARK FIELD	QTY.	MATERIAL	LENGTH	GR.	REMARKS
A16		4	APPROACH RAIL SPLICE			
ma		4	TS76x76x7.9	281		TAPPED NO DRILL
mb		4	TS76x76x7.9	261		TAPPED NO DRILL
'a'		16	M16 BOLT	44		ASSUMED IN GRADE TYPE 1
'b'		8	20ø PIPE SCH.40	13		
'c'		8	M16 HEX NUT			ASSM FOSS
'd'		16	M16 FLAT WASHER			ASSM FOSS
'f'		8	M16 BOLT	38		ASSUMED IN GRADE TYPE 1
B16		4	APPROACH RAIL SPLICE			
mc		4	TS76x76x7.9	281		TAPPED NO DRILL
md		4	TS76x76x7.9	259		TAPPED NO DRILL
'a'		16	M16 BOLT	44		ASSUMED IN GRADE TYPE 1
'b'		8	20ø PIPE SCH.40	13		
'c'		8	M16 HEX NUT			ASSM FOSS
'd'		16	M16 FLAT WASHER			ASSM FOSS
C16		4	APPROACH RAIL SPLICE			
mf		4	TS178x76x9.5	282		TAPPED NO DRILL
mg		4	TS178x76x9.5	261		TAPPED NO DRILL
'a'		16	M16 BOLT	44		ASSUMED IN GRADE TYPE 1
'b'		8	20ø PIPE SCH.40	13		
'c'		8	M16 HEX NUT			ASSM FOSS
'd'		16	M16 FLAT WASHER			ASSM FOSS
D16		4	APPROACH RAIL SPLICE			
mk		4	TS76x76x7.9	280		TAPPED NO DRILL
mm		4	TS76x76x7.9	257		TAPPED NO DRILL
'c'		16	M16 BOLT	44		ASSUMED IN GRADE TYPE 1
'b'		8	20ø PIPE SCH.40	13		
'c'		8	M16 HEX NUT			ASSM FOSS
'd'		16	M16 FLAT WASHER			ASSM FOSS
F16		4	PL10 x 308	686		ASSM ASSD GR 250
TOTAL WEIGHT:						

SHOP DRAWING REVIEW

☐ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, NOT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVIEW HAS RETURNED ☐ APPROVED AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Bedford Farms, Metro Pk, Bedford, NH 03110 603.644.0888

Job Number: 50931
Reviewed By: S.M.H.
Date: 08/15/06

NOTES:

1. ALL HOLES IN TS TO BE DRILLED AND TAPPED TO SUIT M16 AASHTO M 164M TYPE 1 BOLT UNO.
2. ALL PARTS TO BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M.
3. REFERENCE ERECTION DRAWING E27.

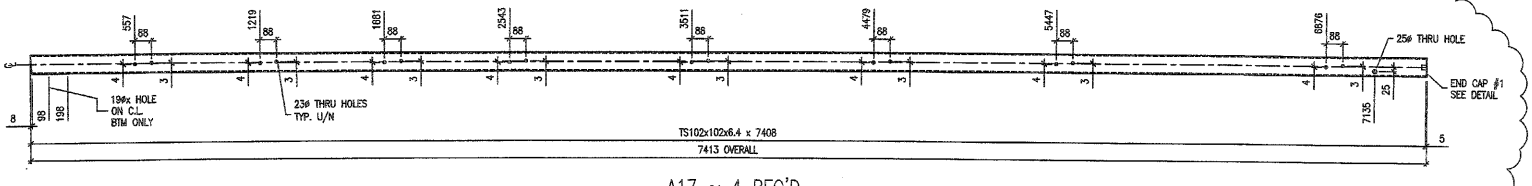
MAT'L : ASTM A500 GR B U.N.	FIELD BOLTS
HOLES : SEE NOTE 1	GRADE: A325
WELD :	
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
3	07/15/06	TS	REV. PER APP.	RC
2	08/03/06	MN	REV. PER CIANBRO RFI 888 AND APP.	RC
1	28/10/05	KC	REV. PER APPROVAL COMMENTS	BH

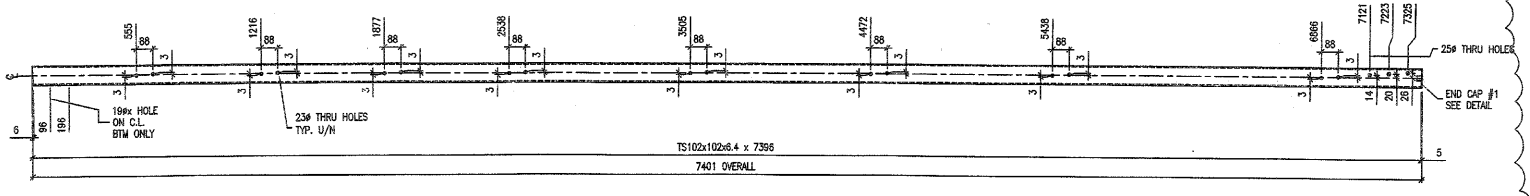
WORK NETC 4 RAIL-BRIDGE RAILING - PROJECT NO. BRF036-1(1)
VT. ROUTE 78 OVER MISSISQUOI BAY - BRIDGE NO. 2
ALBURG - SWANTON, VERMONT

DRAWING
APPROACH RAIL TUBE SPLICE DETAILS

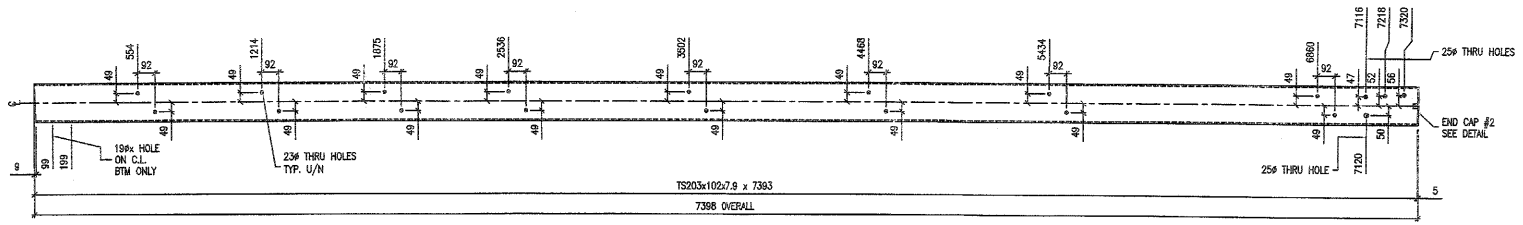
SCALE: N.T.S.	CIANBRO CORPORATION PITTSFIELD MAINE	SHEET 16
SUPERVISOR: T.S.		
DRAWN: SG		JOB 050004
CHECKED:		



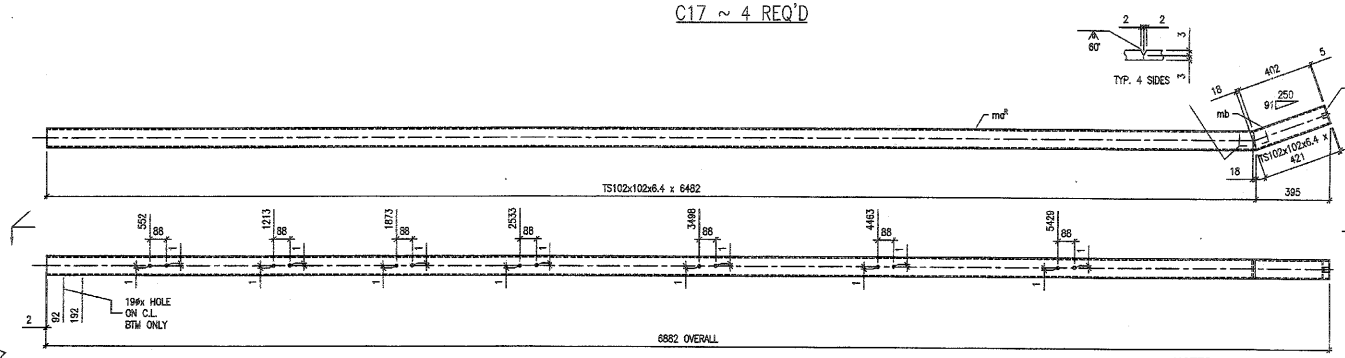
A17 ~ 4 REQ'D



B17 ~ 4 REQ'D



C17 ~ 4 REQ'D



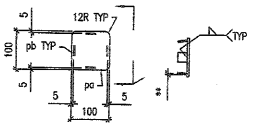
D17^{R} ~ 2 REQ'D (AS SHOWN)
D17^{L} ~ 2 REQ'D (OPP HAND)

NOTES:

1. ALL PARTS TO BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M.
2. REFERENCE ERECTION DRAWINGS E27.

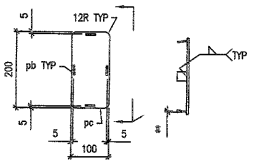
BILL OF MATERIAL

MARK SHIP	MARK TEMP	QTY.	MATERIAL	LENGTH	GR.	REMARKS
A17		4	TS102x102x6.4	7408		GALV. NO BCHE
	pa	4	PL5 x 100	100		GALV. SHPD ASTM A709
	pb	16	PL3 x 25	25		GALV. ASTM A709
B17		4	TS102x102x6.4	7396		GALV. NO BCHE
	pa	4	PL5 x 100	100		GALV. SHPD ASTM A709
	pb	16	PL3 x 25	25		GALV. ASTM A709
C17		4	TS203x102x7.9	7393		GALV. NO BCHE
	pc	4	PL5 x 100	200		GALV. SHPD ASTM A709
	pb	16	PL3 x 25	25		GALV. ASTM A709
D17 R/L		4	RAIL ASSEMBLY			25/PL
	maR/L	4	TS102x102x6.4	6482		GALV. NO 25/PL, BCHE
	mb	4	TS102x102x6.4	421		GALV. BCHE
	pa	4	PL5 x 100	100		GALV. ASTM A709
	pb	16	PL3 x 25	25		GALV. ASTM A709
				TOTAL WEIGHT:		



END CAP DETAIL #1

** – WELD pb TO pa IN TAPERED POSITION SUCH THAT CAP CAN BE JAMMED INTO RAIL TUBE



END CAP DETAIL #2

** – WELD pb TO pc IN TAPERED POSITION SUCH THAT CAP CAN BE JAMMED INTO RAIL TUBE

SHOP DRAWING REVIEW

MAT'L :	ASTM A500 GR.B U.N.
HOLES :	AS NOTED ON DWG.
WELD :	
ELECTRODE :	E70XX
PREP :	SEE GN-1
PAINT :	SEE GN-1

FIELD BOLTS

GRADE:	A325
ø	

REV.	DATE	BY	DESCRIPTION	CHK
3	07/15/06	TS	REV. PER APP.	RC
2	08/07/06	MN	REV. PER CIANBRO RFI 006 AND APP.	RC
1	28/10/05	KC	REV. PER APPROVAL COMMENTS	BH

WORK: NETC 4 RAIL–BRIDGE RAILING – PROJECT NO. BRF036-1(1)
VT. ROUTE 78 OVER MISSISQUOI BAY – BRIDGE NO. 2
ALBURG – SWANTON, VERMONT

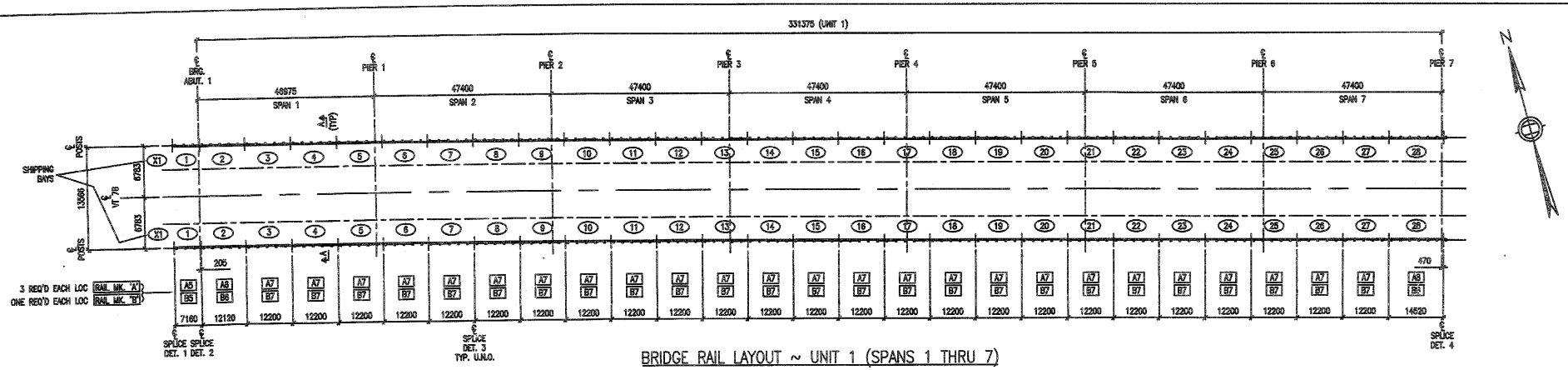
DRAWING: APPROACH RAILING DETAILS

SCALE:	N.T.S.
SUPERVISOR:	T.S.
DRAWN:	SG
CHECK:	BH

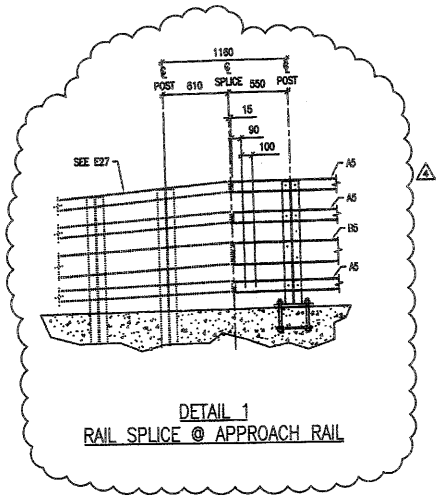
CIANBRO CORPORATION
PITTSFIELD MAINE

SHEET 17 (2)

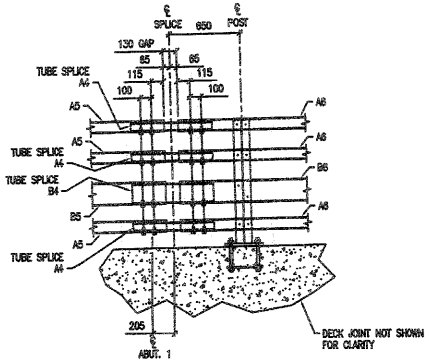
JOB 050004



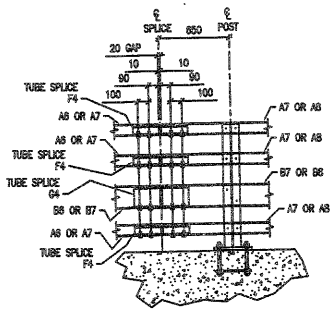
BRIDGE RAIL LAYOUT ~ UNIT 1 (SPANS 1 THRU 7)



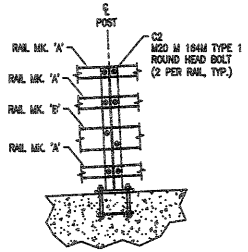
DETAIL 1
RAIL SPLICE @ APPROACH RAIL



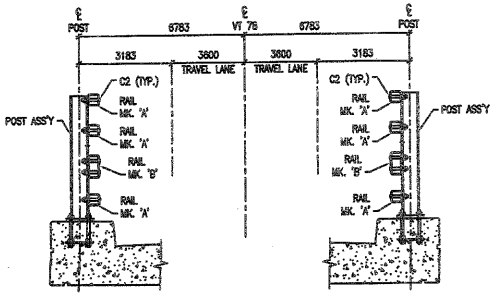
DETAIL 2
RAIL SPLICE @ ABUTMENT 1



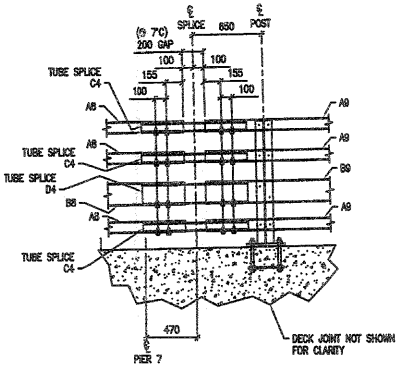
DETAIL 3
TYPICAL RAIL SPLICE



TYPICAL RAIL TO POST CONNECTION



SECTION A-A



DETAIL 4
RAIL SPLICE @ PIER 7

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND BASICALLY TO THE LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

REJECTED — REVISE AND RESUBMIT — APPROVED AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING THE WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Cranfield Road, Allston MA Bedford, MA (781) 932-3201 FAX (781) 944-0892

Job Number: 54AM
Reviewed By: SMM
Date: 8-15-06

NOTES:

1. WORK THIS DRAWING WITH E25 AND E26.

MAT'L : SEE GN-1		FIELD BOLTS	
HOLES : 22ø (7/8") U.N.O.		GRADE A325	
WELD :		ø	
ELECTRODE : E70XX			
PREP : SEE GN-1			
PAINT : SEE GN-1			

REV.	DATE	BY	DESCRIPTION	CHK
5	07/15/06	MN	REVD PER APP	RC
4	08/03/06	MN	REVD PER CIANBRO RFI 020	RC
3	13/02/06	RC	SHIPPING BAYS ADDED	BH

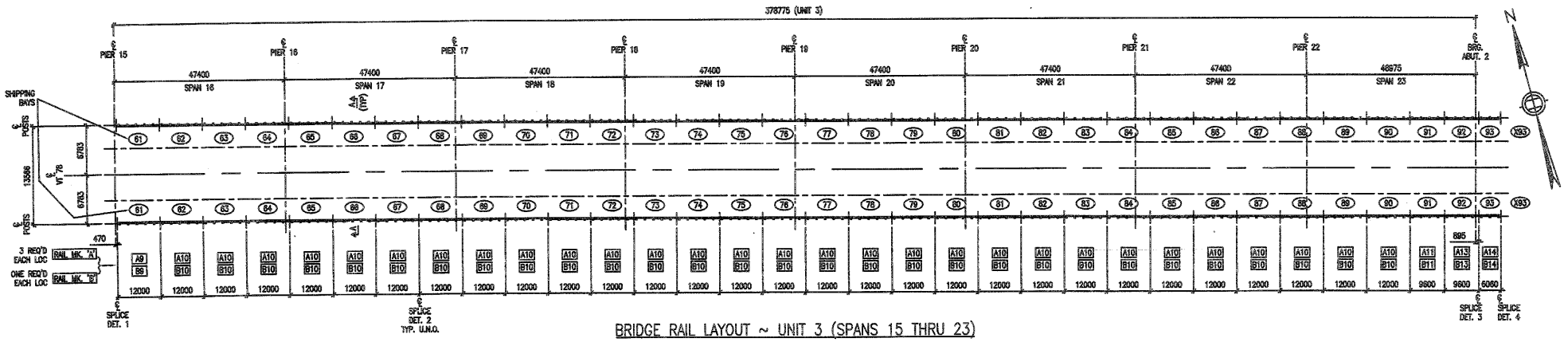
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG - SWANTON, VERMONT

DRAWING: BRIDGE RAIL LAYOUT - UNIT 1 (SPANS 1 THRU 7)

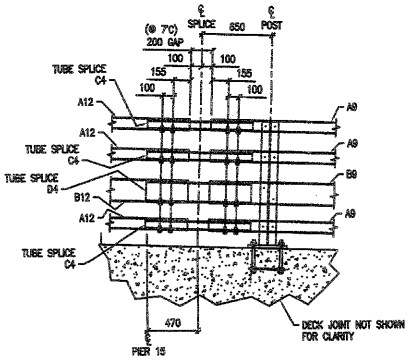
SCALE: N.T.S.
SUPERVISOR: T.S.
DRAWN: JM
CHECK: BH

CIANBRO CORPORATION PITTSFIELD MAINE

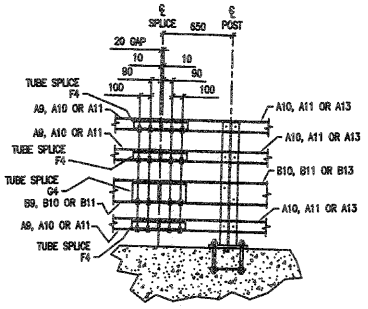
SHEET E24 ⚠
JOB 050004



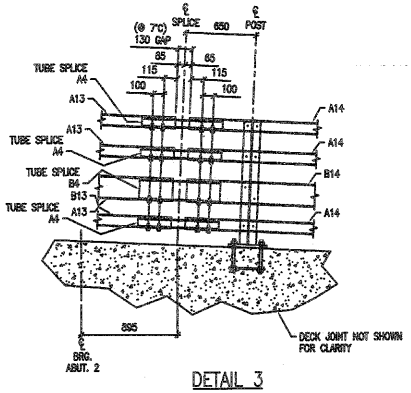
BRIDGE RAIL LAYOUT ~ UNIT 3 (SPANS 15 THRU 23)



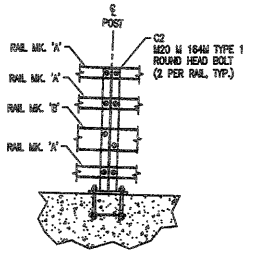
DETAIL 1
RAIL SPLICE @ PIER 15



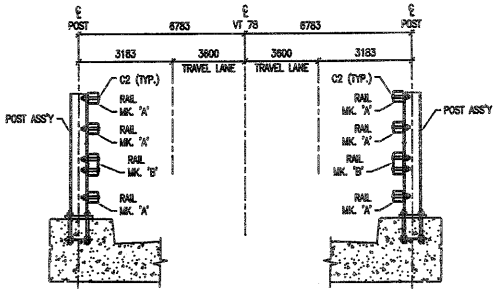
DETAIL 2
TYPICAL RAIL SPLICE



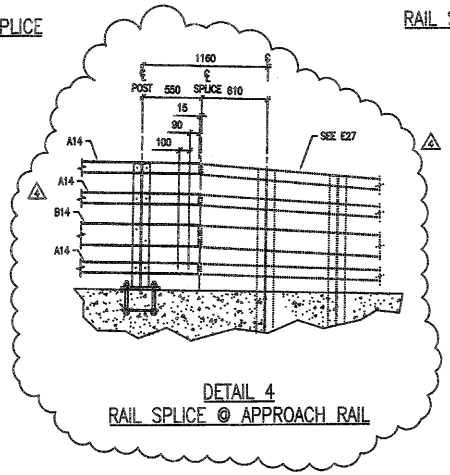
DETAIL 3
RAIL SPLICE @ ABUTMENT 2



TYPICAL RAIL TO POST CONNECTION



SECTION A-A



DETAIL 4
RAIL SPLICE @ APPROACH RAIL

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☒ MARKUP AS CORRECTED

CONNECTIONS OR CONGRUITS MADE BY THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR ELEMENTS OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR, CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Bedford Farms, Whole Rd. Bedford, New Hampshire 03110-6556

Job Number: 50414
Reviewed By: BAH
Date: 8-15-06

NOTES:

1. WORK THIS DRAWING WITH E24 AND E25.

MAT'L : SEE GN-1	FIELD BOLTS
HOLES : 22ø (7/8") U.N.O.	GRADE A325
WELD :	
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
5	07/15/06	TS	REV'S PER APP	RC
4	07/03/06	MN	REV'S PER CIANBRO RFI 006 AND APP	RC
3	13/02/06	RC	SHIPPING BAYS ADDED	BH

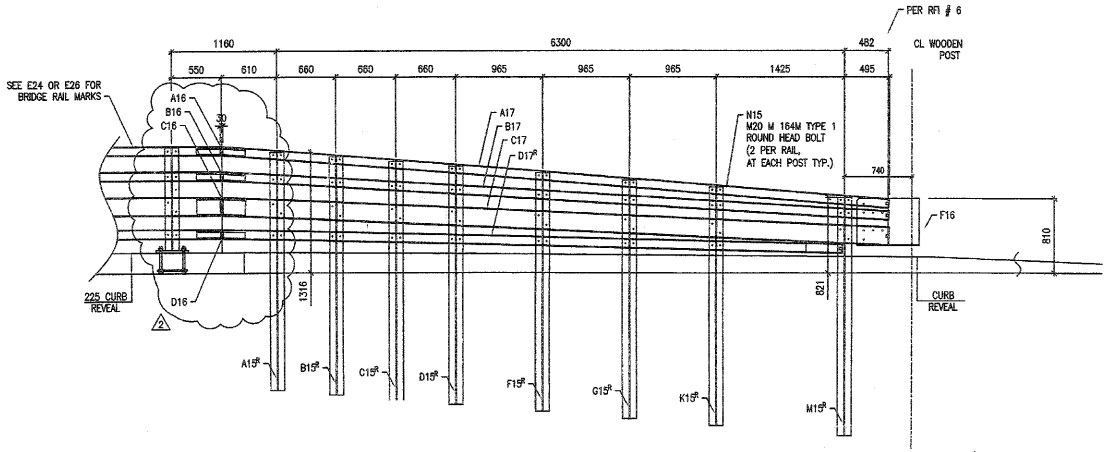
WORK: NETC 4 RAIL-BRIDGE RAILING
VT. ROUTE 78 OVER MISSISQUOI BAY
ALBURG – SWANTON, VERMONT

DRAWING: BRIDGE RAIL LAYOUT – UNIT 3 (SPANS 15 THRU 23)

SCALE: N.T.S.
SUPERVISOR: T.S.
DRAWN: JM
CHECKED: BH

CIANBRO CORPORATION PITTSFIELD MAINE

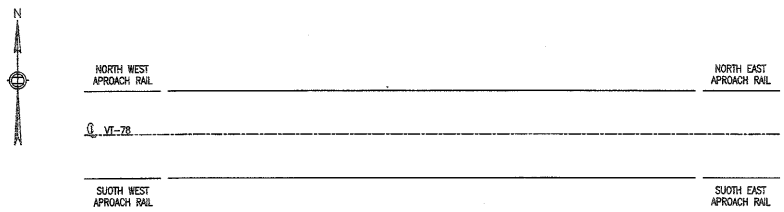
SHEET E26 ⚠
JOB 050004



APPROACH RAIL ELEVATION

(NORTH EAST RAIL SHOWN, SOUTH WEST RAIL SIMILAR)

(SOUTH EAST RAIL AND NORTH WEST RAIL OPPOSITE HAND)



KEY PLAN

NOTES:

1. WORK THIS DRAWING WITH E24, E25 AND E26.

SHOP DRAWING REVIEW

☐ REVIEWED AS NOTED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED SUBJECT TO THE GENERAL CONCEPT OF THE WORK AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners and Scientists 54 Becford Ramp, Mass Rd, Bedford, NH 03110 (603) 644-0888

Job Number: 58911
Reviewed By: SMW
Date: 8-15-06

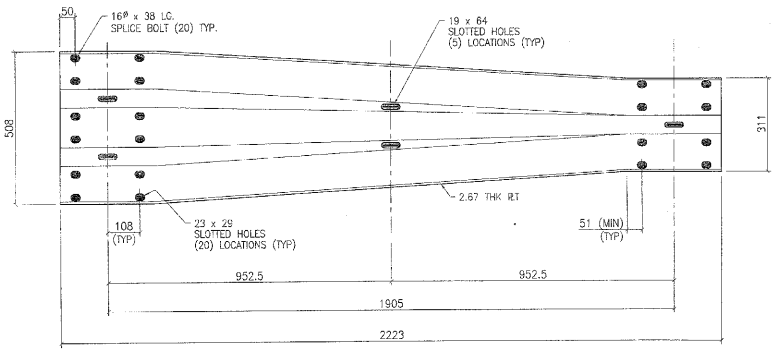
MAT'L : SEE GN-1	FIELD BOLTS
HOLES :	GRADE: A325
WELD :	
ELECTRODE : E70XX	
PREP : SEE GN-1	
PAINT : SEE GN-1	

REV.	DATE	BY	DESCRIPTION	CHK
3	07/15/06	TS	REV. PER APP.	RC
2	08/03/06	MN	REV. PER CIANBRO RFI 009 AND APP.	RC
1	28/10/05	KC	REV. PER APPROVAL COMMENTS	BH

WORK NETC 4 RAIL-APPROACH RAILING-PROJECT NO. BRFD36-1(1)
VT. ROUTE 78 OVER MISSISQUOI BAY - BRIDGE NO. 2
ALBURG - SWANTON, VERMONT

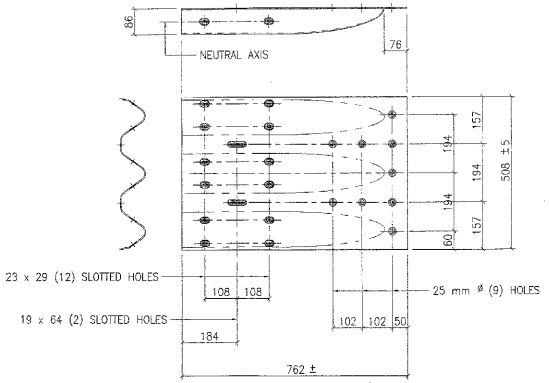
DRAWING
APPROACH RAIL LAYOUT

SCALE: N.T.S.	CIANBRO CORPORATION PITTSFIELD MAINE	SHEET E27 (2)
SUPERVISOR: T.S.		JOB 050004
DRAWN: SG		
CHECK: BH		



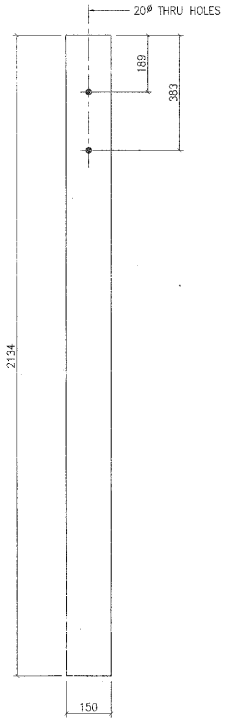
4 – THRIE BEAM TRANSITION PANELS – 1100A

(THRIE TRANSITION PANEL)
(REF: T-TRG12060-03)
(MATERIAL: 12 GAUGE, AASHTO M180 A2)



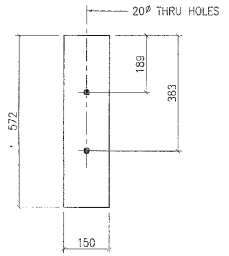
4 – THRIE BEAM TERMINAL SECTIONS – 1100D

(TERMINAL, GUARDRAIL – THRIE BEAM, END SHOE)
(REF: T-FLSG10-M)
(MATERIAL: 10 GAUGE, A570 GR. 50)



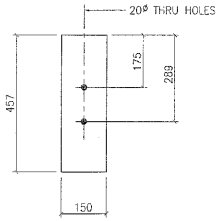
4 – APPROACH POSTS – 1100F

(REF: WOP00608840-4R) (#1)
(MATERIAL: 6 x 8 TIMBER (.60 CCA))



4 – APPROACH POST BLOCKS – 1100G

(REF: WOBL0608225) (#1)
(MATERIAL: 6 x 8 TIMBER (.60 CCA))

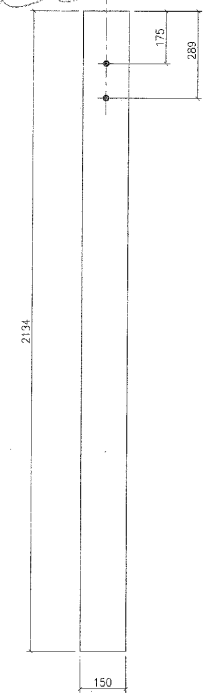


4 – APPROACH POST BLOCKS – 1100J

(REF: WOBL0608180-TR) (#2)
(MATERIAL: 6 x 8 TIMBER (.60 CCA))

MARK	QTY.	SIZE	LENGTH FT	LENGTH IN	ABM	REMARKS	WEIGHT	UNE #
								1
1100A	4	12 GAUGExSOB	2223			AASHTO M180 A2		2
								3
1100D	4	10 GAUGExSOB	762			A570 GR. 50		4
								5
1100F	4	6 x 8 TIMBER	2134			(.60 CCA)		6
								7
1100G	4	6 x 8 TIMBER	572			(.60 CCA)		8
								9
1100H	4	6 x 8 TIMBER	2134			(.60 CCA)		10
1100J	4	6 x 8 TIMBER	457			(.60 CCA)		11
								12

INCLUDE AND SUPPLY M16 M16XH BUTTON HEAD BOLTS (FOR SPLICES AND POST CONNECTION), NUTS, AND WASHERS FOR THE TRANSITION SECTION SHOWN ON THIS SHEET. ALL HARDWARE SHALL BE GALVANIZED.



4 – APPROACH POSTS – 1100H

(REF: WOP00608840-TR) (#2)
(MATERIAL: 6 x 8 TIMBER (.60 CCA))

SHOP DRAWING REVIEW

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VHB Vanasse Hangen Brustlin, Inc. Engineers, Planners, and Scientists 54 Routhed Farms, Kilton Rd. Bedford, NH 03110 603 644 0888

Job Number: 52511
Reviewed By: SMH
Date: 8-15-06

DRAWING NOTES:
ALL COPIES ARE PROHIBITED

MATERIAL: AS NOTED UNO
HOLES: AS NOTED Ø UNO
ELECTRODES: PER AWS D1.1

ENG. REF. DRG. No. SS46, S550, SKETCH, 980 & S-80173 E - DRG REF: -

GIANBRO *Fabrication & Coating Corp.*
Pittsfield, Maine - Baltimore, Maryland

PEOPLE PRIDE PROGRESS

COATINGS	GALVANIZING ☒YES ☐NO	MASKING REQD ☐YES ☒NO
SURFACE PREP:	SP1	
PRIME COAT:	HOT DIPPED GALVANIZED	
SECOND COAT:		
TOP COAT:		

DESCRIPTION: GUARDRAIL DETAILS - TRANSITION, END & POST

JOB: MISSISQUOI BRIDGE RAILING VT. ROUTE 78 OVER MISSISQUOI BAY - BRIDGE NO. 2 ALBURG - SWANTON, VERMONT

CUSTOMER: GIANBRO CORPORATION

DRAWN BY	DATE
C. Bane	5/31/06
CHKD BY	DATE
J. Moody	6/2/06
JOB COORDINATOR	
T. Swanson	REV. A
JOB NO.	DRG. NO.
050004	1100

REV.	REMARKS	DATE	DWN
A	FOR APPROVAL	6/5	XG