STATE OF VERMONT
AGENCY OF TRANSPORTATION

INDEX OF SHEETS

1	TITLE SHEET
2	PRELIMINARY INFORMATION SHEET
3	QUANTITY SHEET
4	RIGHT OF WAY SHEET
5	RIGHT OF WAY SHEET
6	TIE SHEET AND TYPICAL DETAILS
7	ROADWAY PLAN
8	PROFILE
9	PLAN AND ELEVATION
10	EROSION CONTROL PLAN
11	CONSTRUCTION NOTES
12	TRUSS REHABILITATION KEY & DETAILS
13	TRUSS REPAIR DETAILS (1 OF 2)
14	TRUSS REPAIR DETAILS (2 OF 2)
15	FLOOR SYSTEM FRAMING
16	GUSSET PLATE & SIDEWALK BRACKET DETAILS
17	DECK JOINT & SIDEWALK END DETAILS
18	SIDEWALK & ORNAMENTAL RAIL DETAILS
19	BEARING DETAILS
20	BRIDGE RAIL DETAILS
21	APPROACH RAIL DETAILS
22	ABUTMENT ELEVATIONS
23	ABUTMENT 1 MODIFICATIONS
24	ABUTMENT 2 MODIFICATIONS
25	REINFORCING STEEL SCHEDULE
26 – 31	ROADWAY CROSS SECTIONS
32 – 34	CHANNEL CROSS SECTIONS

STANDARDS

A-76M	6-13-97	E-111M	2-17-98
B-5M	1-3-00	E-120M	6-13-97
C-1M	1-3-00	E-121M	6-13-97
C-2AM	1-3-00	E-160M	6-13-97
C-3M	1-3-00	E-161M	6-13-97
E-100AM	2-2-98	E-162M	6-13-97
E-100M	6-13-97	E-163M	6-13-97
E-101M	6-13-97	E-164M	6-13-97
E-102AM	6-13-97	E-191M	2-1-99
E-102M	6-13-97	E-192M	12-28-98
E-103M	9-24-98	E-193M	6-13-97
E-106M	6-13-97	F-2M	1-3-00
E-107AM	6-13-97	G-1bM	6-13-97
E-107M	6-13-97	T-1M	6-13-97
E-108	6-13-97	T-2M	6-13-97

PROPOSED IMPROVEMENT
BRIDGE PROJECT

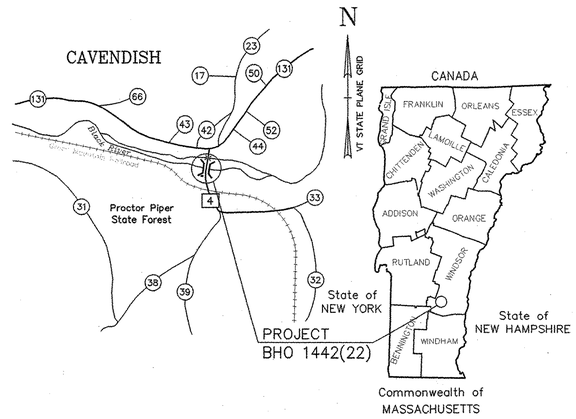
TOWN OF CAVENDISH
COUNTY OF WINDSOR

ROUTE NO. T.H. 4 (CLASS 2), BRIDGE NO. 12

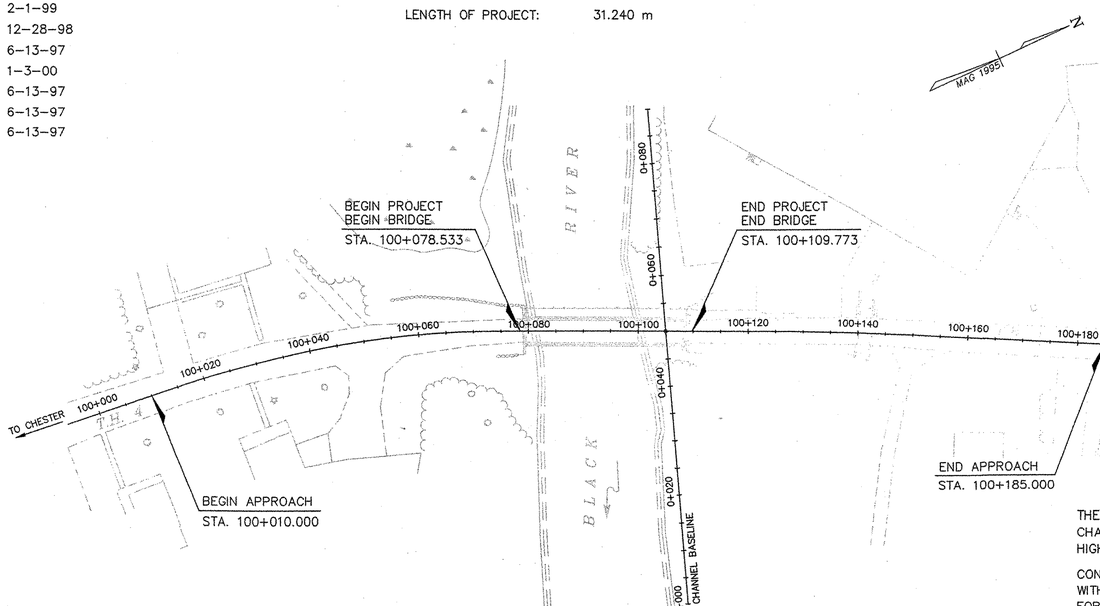
PROJECT LOCATION: BEGINNING AT A POINT 0.117 km SOUTH OF THE INTERSECTION OF VT 131 AND T.H. 4 AND EXTENDING NORTHERLY 31.24 m.

PROJECT DESCRIPTION: INSTALLATION OF A NEW FLOOR SYSTEM AND DECK, REHABILITATION OF EXISTING TRUSSES AND SUBSTRUCTURE AND ROADWAY APPROACHES

LENGTH OF STRUCTURE: 31.240 m
LENGTH OF ROADWAY: 0.000 m
LENGTH OF PROJECT: 31.240 m



LOCATION MAP



GRAPHIC SCALE
(IN METERS)
10 0 5 10 20 30 40
1:500

RECORD PLANS

CONTRACTOR: MILLER CONSTRUCTION INC. – WINDSOR VT
RESIDENT ENGINEER: GERALD COLBY
CONSTRUCTION BEGAN: APRIL 13, 2004
CONSTRUCTION COMPLETE: MAY 25, 2005
RECORD PLANS BY: G. COLBY & N. GARBACIK

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

BY _____ RESIDENT ENGINEER
DATE 2/6/06

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.

CONVENTIONAL SIGNS

- COUNTY LINE
- TOWN LINE
- LIMITS OF ACCESS
- POINT OF ACCESS
- FENCE LINE
- STONE WALL
- TRAVELED WAY
- GUARD RAIL
- RAILROAD
- SURVEY LINE
- CULVERT
- UTILITY POLE
- TREES
- CONTROL OF ACCESS
- PROPERTY LINE
- R.O.W.
- SR SLOPE RIGHTS
- TOP OF CUT
- TOE OF CONST. SLOPE

DATUM
VERTICAL NGVD 1927
HORIZONTAL ASSUMED

STATE OF VERMONT
CHRISTOPHER D. BAKER
No. 6270
REGISTERED PROFESSIONAL ENGINEER

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION.

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.

VANASSE HANGEN BRUSTLIN, INC.

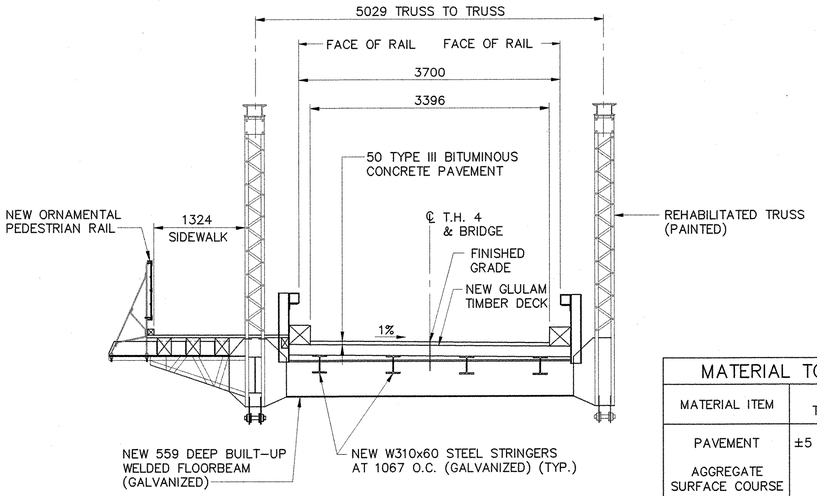
VAOT Metric

UNLESS OTHERWISE NOTED, ALL STATIONS ARE IN KILOMETERS, ALL ELEVATIONS ARE IN METERS, AND ALL DIMENSIONS ARE IN MILLIMETERS

SUBMITTED BY ORDER OF THE STATE TRANSPORTATION BOARD
APPROVED _____ DIRECTOR OF PROGRAM DEVELOPMENT DATE 1/30/04

PROJECT CAVENDISH BHO 1442(22)
SHEET 1 OF 34 SHEETS

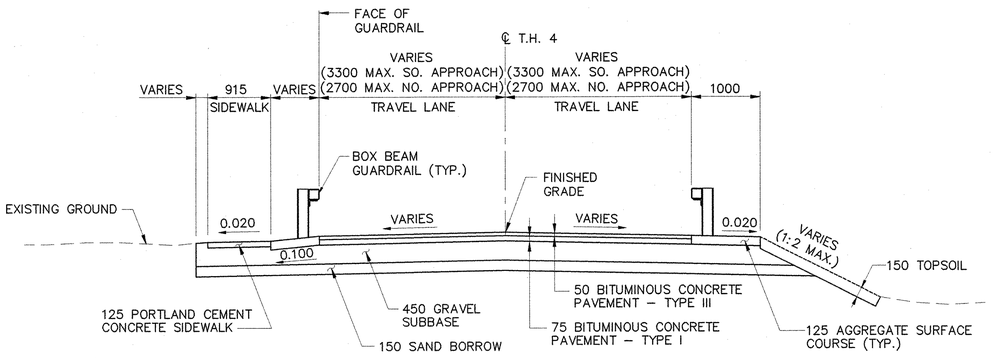
PLOTTED 1-21-04



TYPICAL BRIDGE SECTION

N.T.S.

MATERIAL TOLERANCES	
MATERIAL ITEM	THICKNESS TOLERANCE (mm)
PAVEMENT	±5 (TOTAL THICKNESS)
AGGREGATE SURFACE COURSE	±15
GRAVEL	±30
SAND BORROW	±30



TYPICAL ROADWAY SECTION

N.T.S.

SEEDING FORMULA URBAN AREAS

% 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			

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 FORMULAS 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.

HAY 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 CONJUCTION WITH UNDERDRAIN – SEE STANDARD SHEET D–2M.

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

FINAL HYDRAULICS REPORT

NOT Metric

HYDROLOGIC DATA

DRAINAGE AREA= 215 km²
CHARACTER OF TERRAIN: HILLY TO MOUNTAINOUS, WITH FLOODPLAIN DEVELOPMENT
CHARACTER & TYPE OF STREAM: SMALL, MEANDERING, ALLUVIAL, NON–INCISED FLOODPLAIN, WITH PERENNIAL BUT FLASHY FLOW HABIT
NATURE OF STREAMBED: SAND, GRAVEL, AND SMALL COBBLES

Q2.33=	88 cms	Q50=	345 cms
Q10=	195 cms	Q100=	427 cms
Q25=	280 cms	Q500=	671 cms

DATE OF FLOOD OF RECORD: NOVEMBER 1927, JULY 1973
WATER SURFACE ELEV.: UNKNOWN ESTIMATED DISCHARGE: UNKNOWN
NATURAL STREAM VELOCITY @ Q25 2.5 mps
ICE CONDITIONS: MODERATE TO HEAVY DEBRIS: LIGHT TO MODERATE
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEVATION RAPIDLY? YES
IS ORDINARY RISE RAPID? YES
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? YES
IF YES, DESCRIBE: CVPS DAM 925 m DOWNSTREAM

WATERSHED STORAGE ____ HEADWATERS X UNIFORM THROUGHOUT WATERSHED ____
IMMEDIATELY ABOVE SITE X

EXISTING STRUCTURE

STRUCTURE TYPE: PARKER PONY TRUSS YEAR BUILT: 1905
CLEAR SPAN (NORMAL TO STREAM): 29 m
VERTICAL CLEARANCE ABOVE STREAMBED: 3.5 m (SEE NOTE 3)
WATERWAY OF FULL OPENING: 120 m²
DISPOSITION OF STRUCTURE: REHABILITATE

TYPE OF MATERIAL UNDER SUBSTRUCTURE: UNKNOWN (PLANS OF THE EXISTING MASONRY ABUTMENTS AND SUBSURFACE CONDITIONS WERE UNAVAILABLE)

WATER SURFACE ELEV. (SEE NOTE 2)			
	Q2.33=	271.39	VELOCITY= 1.67 mps
	Q10=	272.42	" = 2.55 mps
	Q25=	273.00	" = 3.24 mps
	Q50=	273.43	" = 3.85 mps
	Q100=	273.95	" = 4.45 mps

LONG TERM STREAM BED CHANGES: UNKNOWN

IS THE ROADWAY OVERTOPPED BELOW THE Q100? NO FREQUENCY: > Q100
RELIEF ELEVATION: 273.10 DISCHARGE OVER ROAD @ Q100: N/A

UPSTREAM STRUCTURE: TOWN: CAVENDISH DISTANCE: 2.6 km
HIGHWAY NO.: GREEN MOUNTAIN R.R. STRUCTURE NO.: 130
STRUCTURE TYPE: THROUGH TRUSS
CLEAR SPAN: 41.5 m CLEAR HEIGHT: 3.5 m
YEAR BUILT: 1893 FULL WATERWAY: 115 m²

DOWNSTREAM STRUCTURE: TOWN: CAVENDISH DISTANCE: 0.9 km
HIGHWAY NO.: CVPS DAM STRUCTURE NO.: ____
STRUCTURE TYPE: ____
CLEAR SPAN: ____ CLEAR HEIGHT: ____
YEAR BUILT: ____ FULL WATERWAY: ____

PROPOSED STRUCTURE

STRUCTURE TYPE: PARKER PONY TRUSS
CLEAR SPAN (NORMAL TO STREAM): 29 m
VERTICAL CLEARANCE ABOVE STREAMBED: 3.7 m (SEE NOTE 3)
WATERWAY OF FULL OPENING: 120 m² (SEE NOTE 4)

WATER SURFACE ELEV. (SEE NOTE 2)			
	Q2.33=	271.39	VELOCITY= 1.67 mps
	Q10=	272.42	" = 2.55 mps
	Q25=	273.00	" = 3.24 mps
	Q50=	273.43	" = 3.85 mps
	Q100=	273.95	" = 4.45 mps

IS THE ROADWAY OVERTOPPED BELOW THE Q100? NO FREQUENCY: > Q100
RELIEF ELEVATION: 273.14 DISCHARGE OVER ROAD @ Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 272.77 (SEE NOTE 3)
VERTICAL CLEARANCE @ Q25 0.37 m (SEE NOTE 3)
SCOUR: 2.3 m (SEE NOTE 5)
REQUIRED CHANNEL PROTECTION: STONE FILL TYPE IV

PERMIT INFORMATION

AVERAGE DAILY FLOW: 5.0 cms
ORDINARY LOW WATER: 2.3 cms DEPTH: EL. 269.38
ORDINARY HIGH WATER: 37.6 cms DEPTH: EL. 270.22

ADDITIONAL COMMENTS

1. PEAK DISCHARGES FOR 10 YEAR, 50 YEAR, 100 YEAR AND 500 YEAR EVENTS WERE OBTAINED FROM FIS (APRIL 1981) AND 2.33 AND 25 YEAR EVENTS WERE APPROXIMATED USING GRAPHICAL METHODS.
2. WATER SURFACE ELEVATIONS AND VELOCITIES ARE PROVIDED AT A SECTION 25.3 m UPSTREAM OF THE EXISTING BRIDGE. VELOCITIES ARE PROVIDED AT THE BRIDGE.
3. THE AVERAGE LOW ELEVATION OF THE SUPERSTRUCTURE, AND VERTICAL CLEARANCE AT Q25 IS BASED ON THE BOTTOM CHORD ELEVATIONS.
4. WATERWAY OPENING FOR THE PROPOSED STRUCTURE CONSIDERED THE ESTIMATED LOCATION OF THE PROPOSED NEW STRINGERS, AND NEW BRIDGE PROFILE.
5. CLEAR WATER CONTRACTION SCOUR WAS BASED ON BED MATERIAL OF VERY COARSE GRAVEL TO SMALL COBBLES (D50 = 76 mm)
6. HYDRAULICS CONSIDERED CONSTRICTING AFFECTS OF UPSTREAM BUILDING.

DESIGN CRITERIA:
1. DESIGN LIVE LOAD AASHTO M18 (POSTING)
2. DESIGN SPAN ____
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL ____ ON LEDGE ____
4. ALLOWABLE LOAD FOR PILING TYPE ____ ESTIMATED LENGTH ____
5. ALLOWABLE STRESS FOR STRUCTURAL STEEL AASHTO M270 GRADE 345 TENSION 189 MPa
6. ALLOWABLE STRESS FOR REINFORCING STEEL GRADE 400 TENSION 160 MPa
7. ALLOWABLE STRESS FOR CONCRETE, HIGH PERFORMANCE CLASS A f'_c 30 MPa f_c 12 MPa

TRAFFIC MAINTENANCE:
1. IS TRAFFIC TO BE MAINTAINED? YES IF YES, ON EXISTING STRUCTURE NO OR ON TEMPORARY BRIDGE YES – CURRENTLY IN USE (EXISTING BRIDGE IS CLOSED TO TRAFFIC)
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY – TRAFFIC CONTROL SIGNALS REQUIRED –
MINIMUM CLEAR SPAN (NORMAL TO STREAM): – VERTICAL CLEARANCE ABOVE STREAMBED: –
WATERWAY OF FULL OPENING: –
ARE SIDEWALKS REQUIRED? – IF SO, ON WHAT SIDE? ____
STRUCTURE TYPE: –

LOAD RATING (METRIC TONNES)

STRESS LEVELS (WORKING STRESS)	TRUCK						
	M	MS	3S2	6 AXLE	3A.STR.	4A.STR.	5A.SEMI
INVENTORY 0.55 Fy = 114 MPa	12.2						
POSTED 0.67 Fy = 139 MPa	17.9						
OPERATING 0.75 Fy = 155 MPa	22.3						

TRAFFIC DATA

DESIGN SPEED = 40 KM/H
2003 ADT = 380
2003 DHV = 50
2003 ADTT = 15
2023 ADT = 520
2023 DHV = 75

2023 ADTT = 20
%D = 55
%T = 6
2003–2023 ESAL'S = 57,000
2003–2043 ESAL'S = 133,000

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of CAVENDISH	Bridge No. 12
	Log Sta.
Highway No. T.H. 4	Surv. Sta.

T.H. 4 OVER BLACK RIVER

PRELIMINARY INFORMATION SHEET

Designed By S.M. GUNN	Drawn By M.M. LANDREY
Checked By Date	Bridge Design Supervisor
T.S. BRYANT 1/04	S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
I.G.C. Info.	
Bridge Sheet No. 49912PIS	Sheet 2 of 36

PLOTTED 1–21–04

ITEM NO.	ITEM DESCRIPTION	UNIT	CHANNEL	SUPER-STRUCTURE	ABUTMENT 1	ABUTMENT 2	BRIDGE SUBTOTAL	ROADWAY	EROSION CONTROL	FULL E & C	TOTAL
201.10	CLEARING AND GRUBBING (INCL. INDIVIDUAL TREES AND STUMPS)	LS						1			1
203.15	COMMON EXCAVATION	CM						500			500
203.27	UNCLASSIFIED CHANNEL EXCAVATION	CM	635				635				635
203.28	EXCAVATION OF SURFACES AND PAVEMENTS	CM						60			60
203.31	SAND BORROW	CM						160			160
203.32	GRANULAR BORROW	CM						10			10
204.20	TRENCH EXCAVATION OF EARTH	CM							10		10
204.25	STRUCTURE EXCAVATION	CM			7	6	13				13
204.30	GRANULAR BACKFILL FOR STRUCTURES	CM			7	8	15				15
210.10	COLD PLANING – BITUMINOUS PAVEMENT	SM						300			300
301.15	SUBBASE OF GRAVEL	CM						400	40		440
401.10	AGGREGATE SURFACE COURSE	CM						30			30
404.65	EMULSFIED ASPHALT	KG						50			50
406.25	BITUMINOUS CONCRETE PAVEMENT (PG 58–28)	T		13			13	217			230
501.33	CONCRETE, HIGH PERFORMANCE CLASS A	CM			6	7	13	2			15
502.10	SHORING SUPERSTRUCTURE	LS		1			1				1
506.50	STRUCTURAL STEEL (ROLLED BEAM)	KG		7320			7320				7320
506.55	STRUCTURAL STEEL (PLATE GIRDER)	KG		1470			1470				1470
506.60	STRUCTURAL STEEL	KG		5400			5400				5400
506.60	STRUCTURAL STEEL (MOD.) (TRUSS PINS)	KG		210			210				210
507.15	REINFORCING STEEL	KG			406	454	860	105			965
507.16	DRILLING AND GROUTING DOWELS	M			9	11	20				20
513.25	STRUCTURAL PAINTING, SHOP APPLIED (4500 KG)	LS		1			1				1
513.25	STRUCTURAL PAINTING, SHOP APPLIED (GALV.) (10950 KG)	LS		1			1				1
513.30	STRUCTURAL PAINTING, FIELD APPLIED (8770 KG)	LS		1			1				1
513.36	CONTAINMENT & ENVIROMENTAL PROTECTION, FIELD (8770 KG)	LS		1			1				1
513.40	SURFACE PREPARATION, SHOP (4500 KG)	LS		1			1				1
513.41	SURFACE PREPARATION, FIELD (8770 KG)	LS		1			1				1
514.10	WATER REPELLENT	L		12			12				12
516.10	BRIDGE EXPANSION JOINT (ASPHALTIC PLUG TYPE)	M		6.8			6.8				6.8
522.25	STRUCTURAL LUMBER AND TIMBER – TREATED	CM		13.8			13.8				13.8
522.40	STRUCTURAL GLUED LAMINATED TIMBER	LS		1			1				1
525.15	METAL HAND RAILING (MOD.)	M		31			31				31
525.30	BRIDGE RAILING – 1 RAIL GALVANIZED BOX BEAM (MOD.)	M		61			61				61
529.10	REMOVAL OF BRIDGE PAVEMENT	SM		127			127				127
529.15	REMOVAL OF STRUCTURE (TEMPORARY BRIDGE)	EACH		1			1				1
529.20	PARTIAL REMOVAL OF STRUCTURE	EACH		1			1				1
529.25	REMOVAL OF CONCRETE OR MASONRY	CM			7	6	13				13
531.10	BEARING DEVICE ASSEMBLY (TRUSS)	EACH			2	2	4				4
531.10	BEARING DEVICE ASSEMBLY (STRINGER)	EACH			4	4	8				8
604.42	CHANGING ELEVATION OF SEWER MANHOLES	EACH						3			3
608.25	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	HR							10		10
613.10	STONE FILL, TYPE I	CM							10		10
613.13	STONE FILL, TYPE IV	CM	635				635				635
616.28	CAST-IN PLACE CEMENT CONCRETE CURB, TYPE B	M						12			12
618.10	PORTLAND CEMENT CONCRETE SIDEWALK, 125 MM	SM						46			46
620.11	CHAIN-LINK FENCE, 1.2 M (MOD.)	M						27			27
621.30	BOX BEAM GUARDRAIL	M						84.2			84.2
631.10	FIELD OFFICE – ENGINEERS	LS								1	1
631.16	TESTING EQUIPMENT – CONCRETE	LS								1	1
631.17	TESTING EQUIPMENT – BITUMINOUS	LS								1	1
631.18	TESTING EQUIPMENT – PROTECTIVE COATINGS	LS								1	1
631.25	FIELD OFFICE – TELEPHONE (N.A.B.I.)	LU								1	1
635.10	MOBILIZATION	LS						1			1
641.10	TRAFFIC CONTROL	LS						1			1
646.40	DURABLE 100 MM WHITE LINE	M						360			360
646.41	DURABLE 100 MM YELLOW LINE	M						230			230
649.31	GEOTEXTILE UNDER STONE FILL	SM	530				530				530
649.51	GEOTEXTILE FOR SILT FENCE	SM							350		350
651.15	SEED	KG						5	5		10
651.18	FERTILIZER	KG							50		50
651.20	AGRICULTURAL LIMESTONE	T							0.25		0.25
651.25	HAY MULCH	T							1		1
651.26	HAY BALES FOR EROSION CONTROL	EACH							20		20
651.35	TOPSOIL	CM							85		85
651.40	GRUBBING MATERIAL	SM	475				475				475
652.10	EROSION AND SEDIMENT CONTROL PLAN	LS							1		1
652.20	MONITORING EROSION AND SEDIMENT CONTROL PLAN	HR							100		100
652.30	FIELD MAINTENANCE OF EROSION AND SEDIMENT CONTROL PLAN (N.A.B.I.)	LU							1		1
654.10	EROSION MATTING	SM							20		20
675.20	TRAFFIC SIGNS, TYPE A	SM						2.7			2.7
675.301	FLANGED CHANNEL SIGN POST	M						20			20
675.50	REMOVING SIGNS	EACH						1			1
676.10	DELINEATORS WITH STEEL POSTS	EACH						4			4

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of CAVENDISH	Bridge No. 12
	Log Sta.
Highway No. T.H. 4	Surv. Sta.

T.H. 4 OVER BLACK RIVER

QUANTITY SHEET

Designed By W.M. MOSHER	Drawn By M.M. LANDREY
Checked By T.S. BRYANT Date 1/04	Bridge Design Supervisor S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
I.G.C. Info.	
Bridge Sheet No. 49912QTY	Sheet 3 of 34

PLOTTED 1-21-04

NOT Metric

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

TABLE OF PROJECT PROPERTY ACQUISITION

THE

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS			TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS
1A	MACK MOLDING COMPANY, INC.	8	100+045.0 LT.				DRIVE	(T)		WDOE	04-10-02	CAVENDISH	53	516-518	2.2M GRAVEL (7.2')
			100+041.2 LT.	100+042.7 LT.			INSTALL	(T)							SILT FENCE
			100+044.7 LT.	100+048.8 LT.			INSTALL	(T)							SILT FENCE
			100+055.0 LT.				INSTALL	(T)							HAY BALES
			100+066.8 LT.	100+077.0 LT.			CONST.	(T)	70SM±						753 S.F. ±
			100+070.0 LT.	100+079.2 LT.			CHANNEL	(P)	83.6SM±						900 S.F. ±
1B		8	100+102.7 RT.	100+110.6 RT.			CHANNEL	(P)	70.4SM±						758 S.F. ±
			100+104.2 RT.	100+111.9 RT.			CONST.	(T)	22.7SM±						244 S.F. ±
			100+122.9 RT.	100+126.3 RT.			INSTALL	(T)							SILT FENCE
			100+130.2 RT.	100+142.2 RT.			INSTALL	(T)							SILT FENCE
			100+132.9 RT.	100+142.2 RT.			SLOPE	(T)	30.7SM±						331 S.F. ±
1C		8	100+097.8 LT.	100+114.1 LT.			CHANNEL	(P)	103.7SM±						1116 S.F. ±
			100+098.5 LT.	100+120.0 LT.			CONST.	(T)	59.6SM±						642 S.F. ±
			100+135.0 LT.				DRIVE	(T)							12M GRAVEL (39.4')
2	SMITH, NATHANIEL N. & MCLAUGHLIN, MORGEN M.	8	100+074.7 RT.	100+081.5 RT.			CONST.	(T)	29.7SM±	WDOE	09-11-03	CAVENDISH	59	346-347	319 S.F. ±
			100+076.4 RT.	100+082.1 RT.			CHANNEL	(P)	59.8SM±						644 S.F. ±
3	GOMEZ, LINDA L.	8	100+142.2 RT.	100+147.0 RT.			SLOPE	(T)	10.6SM±	TEMP.	9-27-01	CAVENDISH	52	335	114 S.F. ±
			100+142.2 RT.	100+147.5 RT.			INSTALL	(T)		USE					SILT FENCE
			100+150.0 RT.				DRIVE	(T)		PERMIT					2.5M GRAVEL (8.2') ALSO ROW TO PARCEL #4
			100+150.0 RT.	100+155.2 RT.			INSTALL	(T)							SILT FENCE
4	CAVENDISH FIRE DISTRICT #2, INC.	8	100+150.0 RT.				DRIVE	(T)		TEMP. USE PERMIT	9-27-01	CAVENDISH	52	334	2.5M GRAVEL (8.2') ROW OVER PARCEL #3
5	LUDLOW TELEPHONE COMPANY														UTILITY
6	CENTRAL VERMONT PUBLIC SERVICE CORP.														UTILITY

REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
1	7, 8	PARCEL NO. 2 WINICK. CHANGE OWNER OF PARCEL TO: SMITH, NATHANIEL N. & MCLAUGHLIN, MORGEN M. PER C.O. 9221.	02-08-02	P.J.H.	R.P.D.
		REPRODUCIBLES TO STRUCTURES 10-7-03			

ACCT.mryan
\\vaot_cadd\filingcabinet$\93J012\RightOfWay\rJ012ed.dgn
DATE PLOTTED 07-OCT-2003

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

APPROVED: ROGER P. DUMAS DATE: 07-27-99
CHIEF, PLANS & TITLES

R.O.W. PLANS
CAVENDISH
BHO 1442(22)
R.O.W. SHEET 7 OF 8 SHEETS
SHEET 4 OF 34

Visit Metric

HEAVY DUTY STEEL BEAM GUARDRAIL

STA. 100+046.5 LT. – 100+078.5 LT.
STA. 100+063.0 RT. – 100+078.5 RT.
STA. 100+109.8 LT. – 100+128.5 LT.
STA. 100+109.8 RT. – 100+125.3 RT.

ANCHOR FOR STEEL BEAM RAIL

STA. 100+048.5 LT.
STA. 100+065.0 RT.
STA. 100+126.5 LT.
STA. 100+123.3 RT.

CONSTRUCT DRIVE

STA. 100+052 RT.
STA. 100+135 LT.
STA. 100+150 RT.
STA. 100+045 LT.

CONSTRUCT BITUMINOUS CONCRETE SIDEWALK

STA. 100+047.0 LT. – 100+079.0 LT.
STA. 100+109.8 LT. – 100+130.0 LT.

DURABLE 100 mm YELLOW LINE (DOUBLE CENTER LINE)

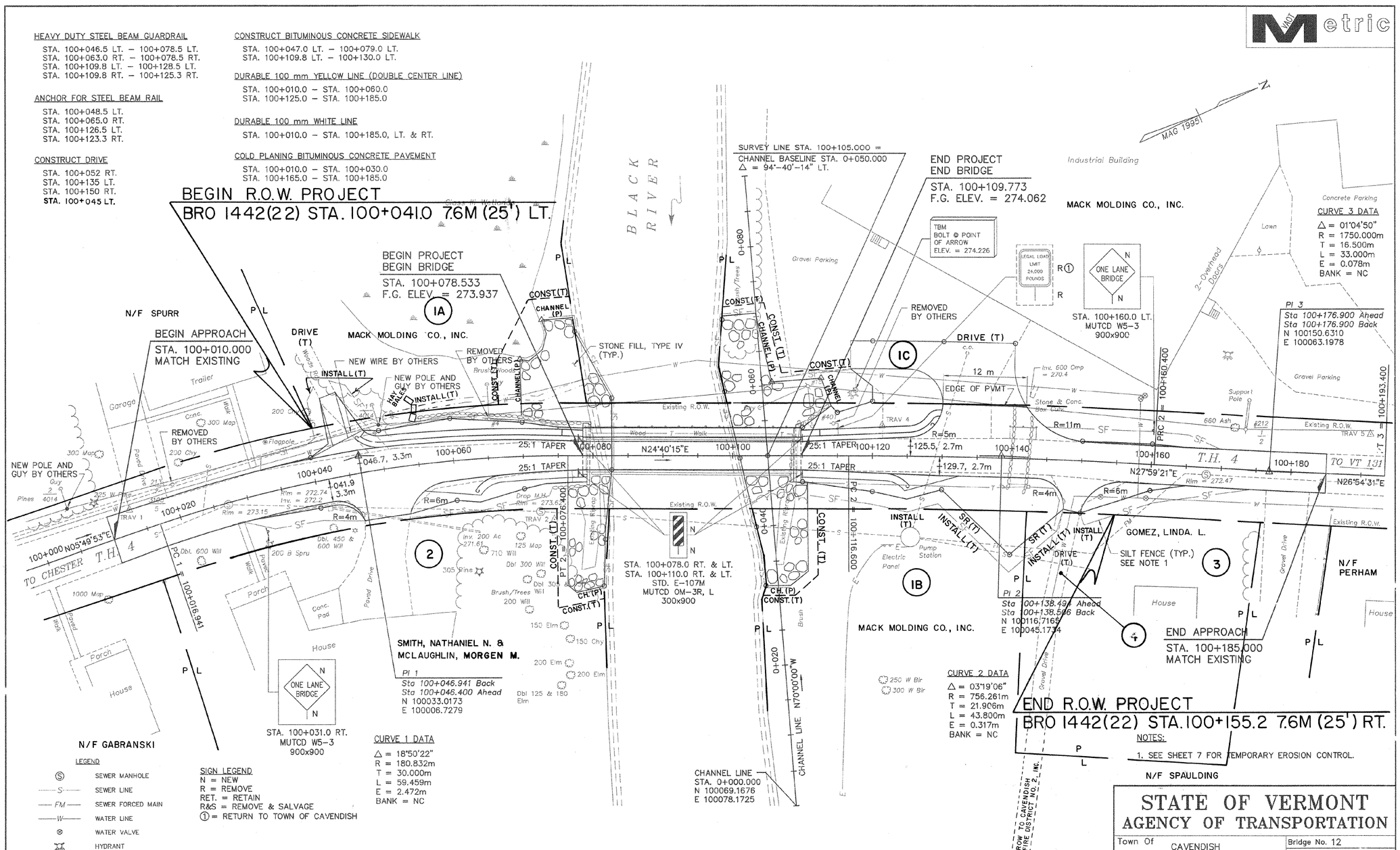
STA. 100+010.0 – STA. 100+060.0
STA. 100+125.0 – STA. 100+185.0

DURABLE 100 mm WHITE LINE

STA. 100+010.0 – STA. 100+185.0, LT. & RT.

COLD PLANING BITUMINOUS CONCRETE PAVEMENT

STA. 100+010.0 – STA. 100+030.0
STA. 100+165.0 – STA. 100+185.0



LEGEND

- SEWER MANHOLE
- SEWER LINE
- SEWER FORCED MAIN
- WATER LINE
- WATER VALVE
- HYDRANT
- UNDERGROUND TELEPHONE LINE
- SEWER CLEANOUT
- ELECTRICAL LINE
- STORM DRAIN
- STONE BOUND
- WETLAND
- LIGHT POLE

SIGN LEGEND

N = NEW
R = REMOVE
RET. = RETAIN
R&S = REMOVE & SALVAGE
① = RETURN TO TOWN OF CAVENDISH

NOTES:

1. SEE SHEET 7 FOR TEMPORARY EROSION CONTROL.

SEE ROW SHEET 6 OF 8 FOR EROSION CONTROL DETAILS

PLAN
SCALE: 1:250

5 0 5 10 15 20
GRAPHIC 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 TOWN OF CAVENDISH'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

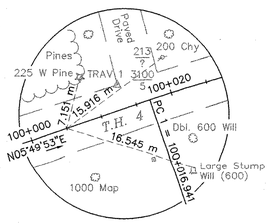
VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of CAVENDISH	Bridge No. 12
Highway No. T.H. 4	Log Sta. / Surv. Sta.
T.H. 4 OVER BLACK RIVER	
PLAN SHEET	
Designed By R.F. CLARK	Drawn By R.F. CLARK
Checked By Date	Bridge Design Supervisor Date
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
I.G.C. Info.	
ROW SHEET 8 OF 8	SHEET 5 OF 34

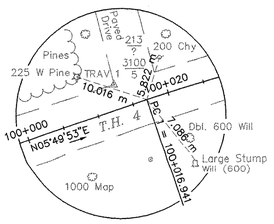
PLOTTED 3-18-99

Metric



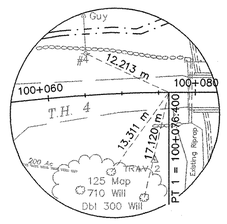
P.O.T. STA. 100+005.000
DESC
NORTHING = 99991.2933
EASTING = 100002.4666

P.O.T. STA. 100+005.000
N.T.S.



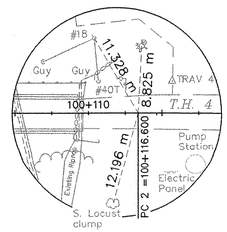
PC 1 STA. 100+016.941
DESC
NORTHING = 100003.1725
EASTING = 100003.6799

PC 1 STA. 100+016.941
N.T.S.



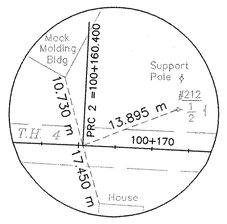
PT 1 STA. 100+076.400
DESC
NORTHING = 100060.2789
EASTING = 100019.2500

PT 1 STA. 100+076.400
N.T.S.



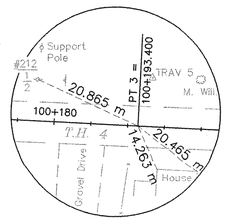
PC 2 STA. 100+116.600
DESC
NORTHING = 100096.8099
EASTING = 100036.0298

PC 2 STA. 100+116.600
N.T.S.



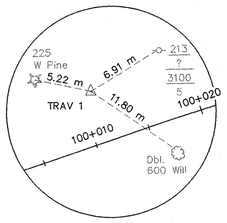
PRC 2 STA. 100+160.400
DESC
NORTHING = 100136.0604
EASTING = 100055.4540

PRC 2 STA. 100+160.400
N.T.S.



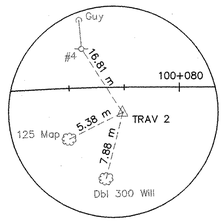
PT 3 STA. 100+193.400
DESC
NORTHING = 100165.3449
EASTING = 100070.6654

PT 3 STA. 100+193.400
N.T.S.



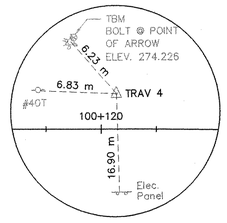
TRAV 1
DESC
NORTHING = 100000.0000
EASTING = 100000.0000
ELEVATION = 273.40

TRAV 1
N.T.S.



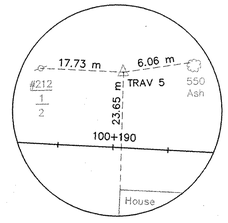
TRAV 2
DESC
NORTHING = 100054.7435
EASTING = 100026.7002
ELEVATION = 273.31

TRAV 2
N.T.S.



TRAV 4
DESC
NORTHING = 100102.9795
EASTING = 100034.1456
ELEVATION = 273.14

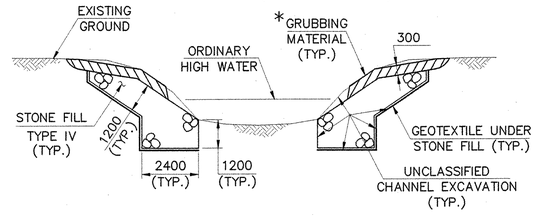
TRAV 4
N.T.S.



TRAV 5
DESC
NORTHING = 100166.0166
EASTING = 100064.4581
ELEVATION = 272.48

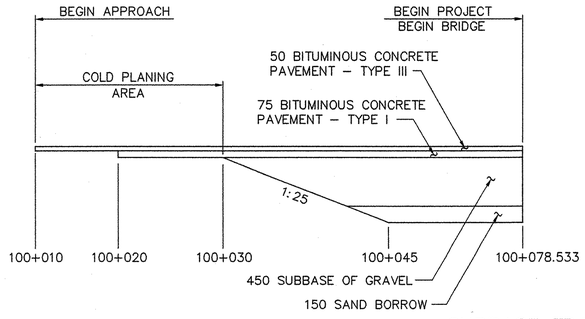
TRAV 5
N.T.S.

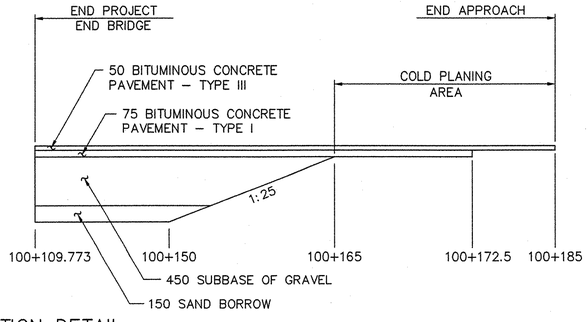
CONTINUE STONE FILL TO 300 mm BELOW EXISTING GROUND OR 600 mm ABOVE DESIGN FLOW ELEVATION. (LOWEST ELEVATION)



TYPICAL CHANNEL SECTION
N.T.S.

*GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.





SUBBASE TRANSITION DETAIL
STATIONS ALONG ℄
(ELEVATION IN CUT AND FILL)
N.T.S.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of CAVENDISH	Bridge No. 12
	Log Sta.
Highway No. T.H. 4	Surv. Sta.
T.H. 4 OVER BLACK RIVER	
TIE SHEET AND TYPICAL DETAILS	
Designed By VAOT/BRUNO/SMG	Drawn By R.F. CLARK
Checked By T.S. BRYANT Date 1/04	Bridge Design Supervisor T.S. BRYANT Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
	I.G.C. Info.
VANASSE HANGEN BRUSTLIN, INC.	Bridge Sheet No. 49912TIE Sheet 6 of 34

PLOTTED 1-21-04

NOT Metric

BOX BEAM GUARDRAIL

051 STA. 100+~~046.6~~ LT. – 100+078.5 LT.
STA. 100+063.0 RT. – 100+078.5 RT.
STA. 100+109.8 LT. – 100+127.5 LT.
STA. 100+109.8 RT. – 100+126.4 RT.

CONSTRUCT DRIVE

STA. 100+044 LT.
STA. 100+052 RT.
STA. 100+135 LT.
STA. 100+150 RT.

REPLACED WITH GRANITE CURB AT SAME LOCATIONS
~~CAST-IN-PLACE CEMENT CONCRETE CURB~~

STA. 100+075.5 – STA. 100+078.5, LT. & RT.
STA. 100+109.8 – STA. 100+112.8, LT. & RT.

CHAIN-LINK FENCE, 1.2 M

STA. 100+054.6 LT. – 100+078.5 LT.
STA. 100+109.6 LT. – 100+~~111.8~~ LT. 117.2

EXCAVATION OF SURFACES AND PAVEMENTS

STA. 100+030 – 100+078.5
STA. 100+109.8 – 100+165

PORTLAND CEMENT CONCRETE SIDEWALK, 125 mm

STA. 100+046.0 LT. – 100+075.5 LT.
STA. 100+109.8 LT. – 100+129.9 LT.

DURABLE 100 mm YELLOW LINE (DOUBLE CENTER LINE)

STA. 100+010.0 – STA. 100+060.0
STA. 100+125.0 – STA. 100+185.0

DURABLE 100 mm WHITE LINE

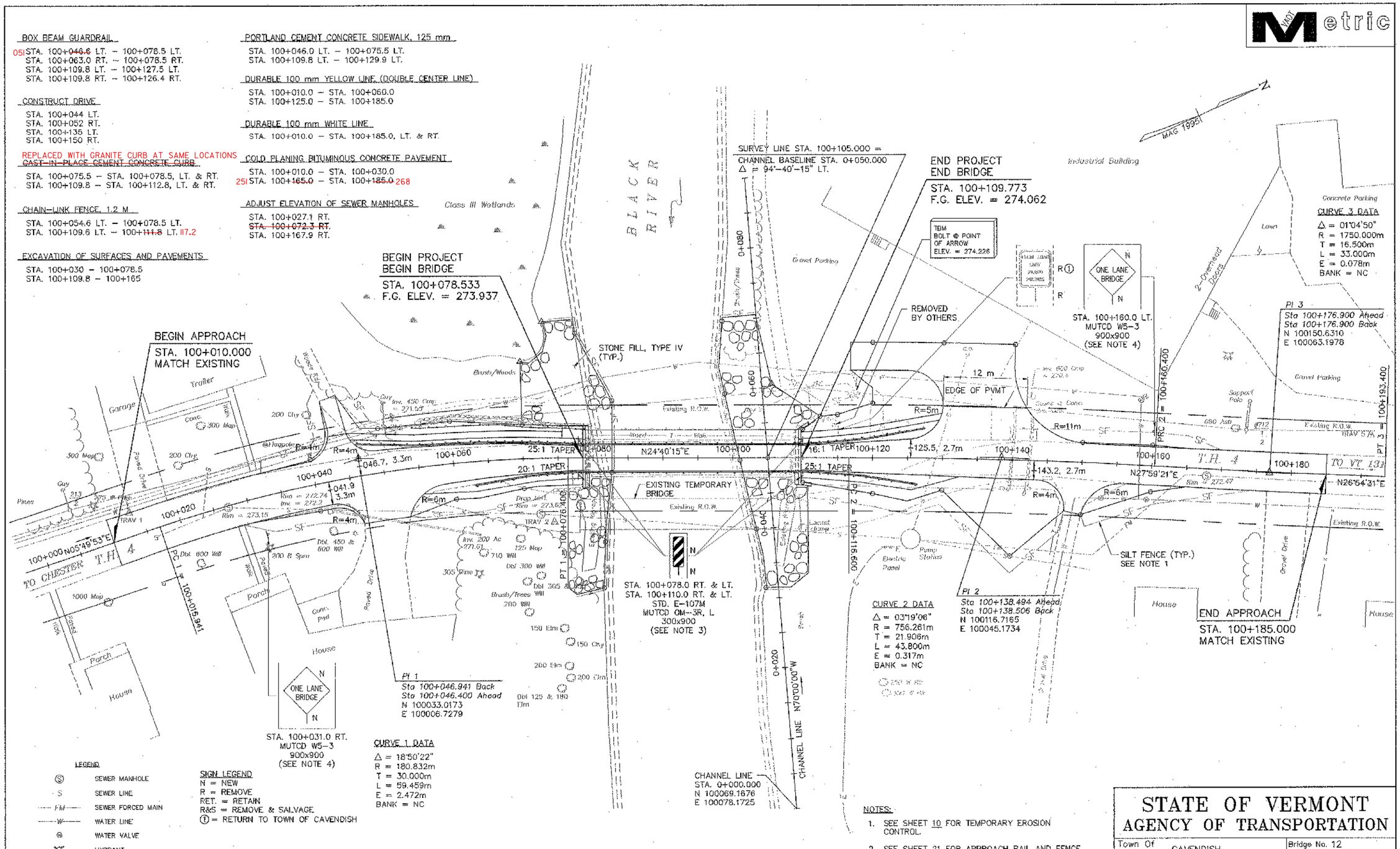
STA. 100+010.0 – STA. 100+185.0, LT. & RT.

COLD PLANING BITUMINOUS CONCRETE PAVEMENT

STA. 100+010.0 – STA. 100+030.0
251 STA. 100+~~165.0~~ – STA. 100+~~185.0~~ 268

ADJUST ELEVATION OF SEWER MANHOLES

STA. 100+027.1 RT.
~~STA. 100+072.3 RT.~~
STA. 100+167.9 RT.



LEGEND

- SEWER MANHOLE
- SEWER LINE
- SEWER FORCED MAIN
- WATER LINE
- WATER VALVE
- HYDRANT
- UNDERGROUND TELEPHONE LINE
- SEWER CLEANOUT
- ELECTRICAL LINE
- STORM DRAIN
- STONE BOUND
- WETLAND
- LIGHT POLE

SIGN LEGEND

N = NEW
R = REMOVE
RET. = RETAIN
R&S = REMOVE & SALVAGE
Ⓣ = RETURN TO TOWN OF CAVENDISH

STA. 100+031.0 RT.
MUTCD W5-3
900x900
(SEE NOTE 4)

PLAN
SCALE: 1:250

5 0 5 10 15 20
GRAPHIC SCALE
(IN METERS)

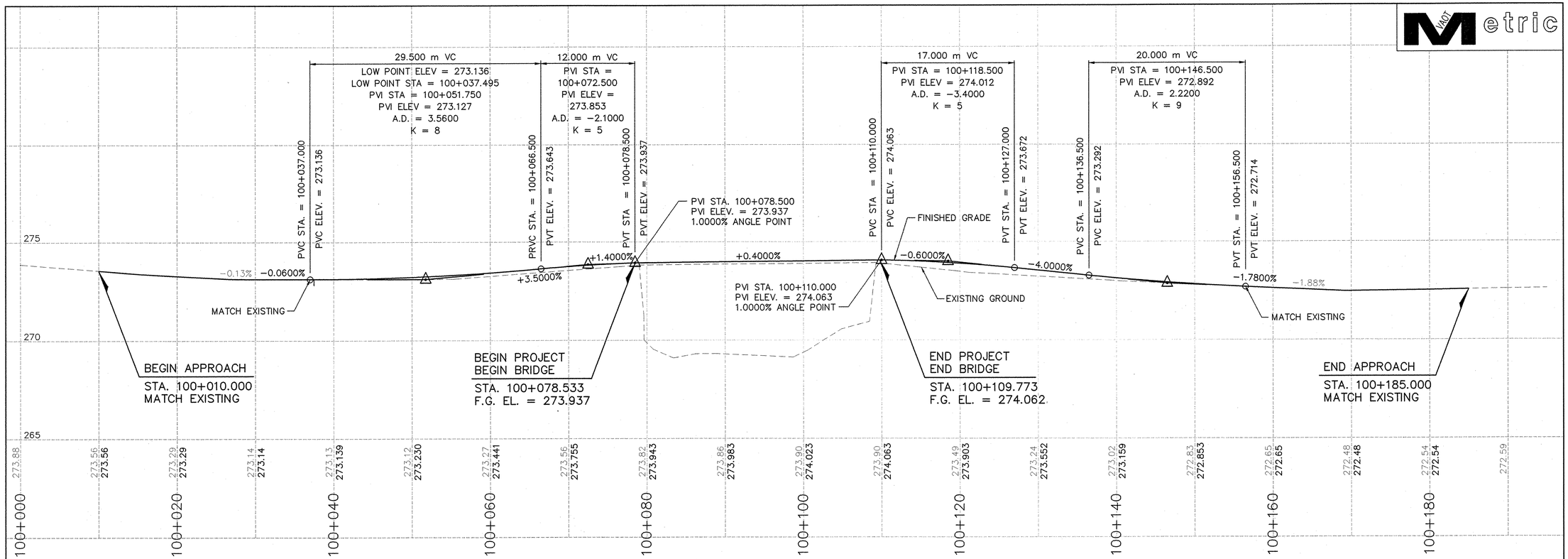
NOTES:

1. SEE SHEET 10 FOR TEMPORARY EROSION CONTROL.
2. SEE SHEET 21 FOR APPROACH RAIL AND FENCE DETAILS.
3. EACH OBJECT MARKER SIGN SHALL BE MOUNTED ON A SINGLE 4.5 kg/m FLANGED CHANNEL POST, 3.0 m LONG.
4. EACH ONE LANE BRIDGE SIGN SHALL BE MOUNTED ON A SINGLE 4.5 kg/m FLANGED CHANNEL POST, 4.0 m LONG.
5. SEE GENERAL NOTE 1 ON SHEET 11 FOR INFORMATION REGARDING EXISTING CONDITIONS.

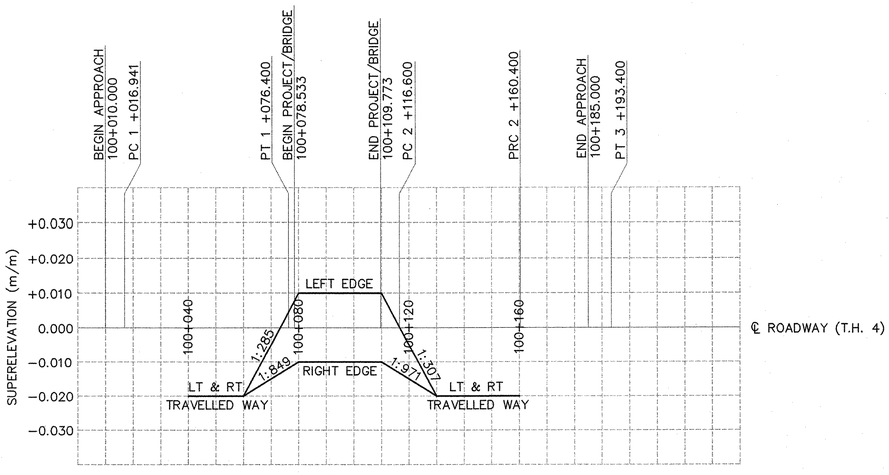
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of CAVENDISH	Bridge No. 12
	Log Sta.
Highway No. T.H. 4	Surv. Sta.
T.H. 4 OVER BLACK RIVER	
ROADWAY PLAN	
Designed By R.F. CLARK	Drawn By M.M. LANDREY
Checked By T.S. BRYANT Date 1/04	Bridge Design Supervisor S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
VANASSE HANGEN BRUSTLIN, INC.	I.G.C. Info.
	Bridge Sheet No. 49912PLN Sheet 7 of 34

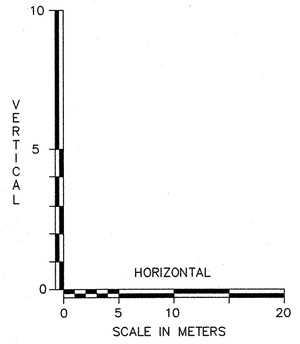
PLOTTED 7-21-04



PROFILE T.H. 4



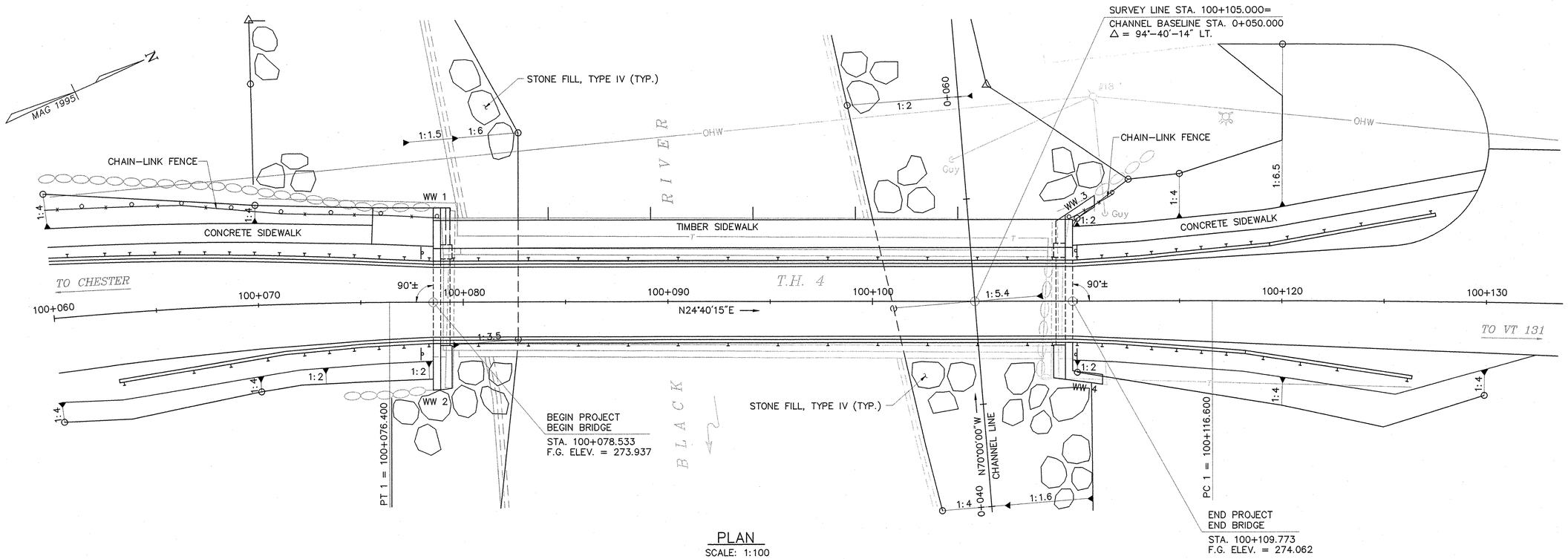
BANKING DIAGRAM



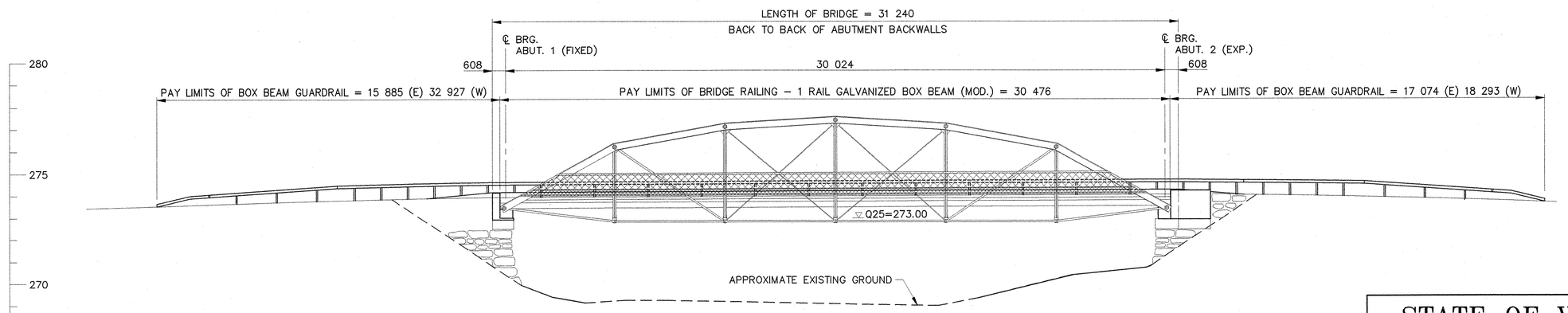
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of CAVENDISH	Bridge No. 12
	Log Sta.
Highway No. T.H. 4	Surv. Sta.
T.H. 4 OVER BLACK RIVER	
PROFILE	
Designed By R.F. CLARK	Drawn By R.F. CLARK
Checked By T.S. BRYANT Date 1/04	Bridge Design Supervisor S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
VANASSE HANGEN BRUSTLIN, INC.	I.G.C. Info.
	Bridge Sheet No. 49912PRO Sheet 8 of 34

PLOTTED 1-21-04



PLAN
SCALE: 1:100



ELEVATION
SCALE: 1:100

2 0 2 4 6 8 10
GRAPHIC SCALE
(IN METERS)

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of CAVENDISH	Bridge No. 12
Highway No. T.H. 4	Log Sta. / Surv. Sta.
T.H. 4 OVER BLACK RIVER	
PLAN & ELEVATION	
Designed By S.M. GUNN	Drawn By R.F. CLARK
Checked By T.S. BRYANT Date 1/04	Bridge Design Supervisor S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
I.G.C. Info.	
Bridge Sheet No. 49912EL	Sheet 9 of 34

VANASSE HANGEN BRUSTLIN, INC.

PLOTTED 1–21–04

LEGEND

SF — SILT FENCE

HAY BALE

MAG 1995

BEGIN PROJECT
BEGIN BRIDGE
STA. 100+078.533
F.G. ELEV. = 273.937

END PROJECT
END BRIDGE
STA. 100+109.773
F.G. ELEV. = 274.062

BEGIN APPROACH
STA. 100+010.000
MATCH EXISTING

END APPROACH
STA. 100+185.000
MATCH EXISTING

STONE CHECK DAM

BLACK RIVER

Class III Wetlands

Brush/Woods

Gravel Parking

Industrial Building

Concrete Parking

Lawn

2-Overhead Doors

Support Pole

Garage

Trailer

Conc. Walk

Woods Rd

Paved Drive

Porch

House

Conc. Pad

Pump Station

Electric Panel

Locust clump

Brush

Gravel Drive

Existing R.O.W.

Existing Riprap

Wood Walk

Flagpole

Guy

Pines

Dbl. 600 Will

Dbl. 450 & 600 Will

200 B Spru

Dbl 300 Will

Dbl 305 & Will

Brush/Trees

200 Will

125 Map

710 Will

305 Pine

1000 Map

300 Map

200 Chy

150 Elm

150 Chy

200 Elm

Dbl 125 & 180 Elm

660 Ash

250 W Bir

300 W Bir

Rim = 272.74
Inv. = 272.2
S =

Rim = 273.15

Drop Inl.
Rim = 273.6

Inv. 600 Cmp = 270.4

Inv. 650 Cmp = 269.5

Rim = 272.47

TRAV 1

TRAV 2

TRAV 5

#212

PC 1 = 100+016.941

PT 1 = 100+076.400

PC 2 = 100+116.600

PRC 2 = 100+160.400

PT 3 = 100+193.400

0+020 N70°00'00"W

CHANNEL LINE

TO CHESTER T.H. 4

T.H. 4 TO VT 131

100+000 100+020 100+040 100+060 100+080 100+100 100+120 100+140 100+160 100+180

0+020 0+040 0+060 0+080

DRAINAGE DITCH
WIDTH
150
VARIES
VARIES
GEOTEXTILE UNDER STONE FILL

SECTION

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

STONE FILL, TYPE I
FLOW
450
150
300
900
BOTTOM OF DRAINAGE DITCH
GEOTEXTILE UNDER STONE FILL
19 mm CRUSHED STONE (SUBSIDIARY TO TO ITEM 613.10)

ELEVATION

L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION

A L B

SPACING BETWEEN CHECK DAMS

TEMPORARY CHECK DAM DETAILS
NOT TO SCALE

PLAN
SCALE: 1:250

5 0 5 10 15 20
GRAPHIC SCALE
(IN METERS)

NOTES:

1. AN ALTERNATIVE TEMPORARY EROSION CONTROL PLAN MAY BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY THE STREAM ALTERATION ENGINEER AND RESIDENT ENGINEER.
2. REFER TO STANDARDS T-1M AND T-2M FOR ADDITIONAL DETAILS.
3. 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 105.23.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of CAVENDISH	Bridge No. 12
Highway No. T.H. 4	Log Sta.
	Surv. Sta.
T.H. 4 OVER BLACK RIVER	
EROSION CONTROL PLAN	
Designed By S.M. GUNN	Drawn By R.F. CLARK
Checked By T.S. BRYANT Date 1/04	Bridge Design Supervisor S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
I.G.C. Info.	
VANASSE HANGEN BRUSTLIN, INC.	Bridge Sheet No. 49912ERO Sheet 10 of 34

PLOTTED 1-21-04

VAOT Metric

GENERAL NOTES:

1. THESE PLANS DO NOT COMPLETELY REFLECT CONDITIONS THAT HAVE CHANGED SINCE PROJECT SURVEY IN 1995. THESE CHANGES INCLUDE BUT ARE NOT LIMITED TO INSTALLATION OF A TEMPORARY BRIDGE, REMOVAL OF STONE CULVERT (100+140±), AND FILL AND DRAINAGE IMPROVEMENTS IN THE NORTHWEST AND NORTHEAST QUADRANTS. THE SLOPE LIMITS SHOWN IN THE VICINITY OF STA. 100+140 AND THE MACK MOLDING DRIVE ARE OVERPREDICTED BECAUSE FILL HAS ALREADY BEEN PLACED IN THIS AREA.

2. DIMENSIONS, ANGLES, BEARINGS, AND ELEVATIONS SHOWN ON THESE CONTRACT PLANS HAVE BEEN OBTAINED FROM LIMITED FIELD INVESTIGATION AND FIELD SURVEY, AND MAY NOT ACCURATELY REFLECT ACTUAL FIELD CONDITIONS. ACCORDINGLY, THE CONTRACTOR WILL BE RESPONSIBLE FOR MAKING FIELD MEASUREMENTS OF ALL EXISTING CONDITIONS AFFECTING OR IMPACTED BY THE NEW WORK TO ASSURE CONSISTENCY WITH THE PROPOSED CONSTRUCTION. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ADVANCING THE WORK. **THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS SHOWN IN THESE PLANS PRIOR TO ANY FABRICATION.**

3. THE GENERAL SCOPE OF THE PROJECT INCLUDES, BUT IS NOT LIMITED TO:

   - IMPROVEMENTS TO THE APPROACH ROADWAYS AT BOTH ENDS OF BRIDGE
   - REHABILITATION OF THE EXISTING STEEL TRUSS, INCLUDING BOTTOM CHORD REPLACEMENT
   - REPLACEMENT OF THE BRIDGE FLOOR SYSTEM
   - CLEANING AND PAINTING OF THE EXISTING STEEL TRUSS
   - INSTALLATION OF NEW STEEL BRIDGE RAIL
   - REMOVAL OF EXISTING BACKWALLS AND PORTIONS OF BRIDGE SEATS, AND CONSTRUCTION OF NEW CONCRETE BACKWALLS AND BRIDGE SEATS AT BOTH ABUTMENTS
   - CONSTRUCTION OF NEW DECK END JOINTS AT BOTH ABUTMENTS
   - REPLACEMENT OF THE SIDEWALK FLOOR SYSTEM
   - REPLACEMENT OF SIDEWALK ORNAMENTAL RAILING ON EXISTING RAIL POSTS
   - REMOVAL OF EXISTING TEMPORARY BRIDGE

4. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AND ITS LATEST REVISIONS, AND THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 16TH EDITION, INCLUDING INTERIMS, BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO).

5. DESIGN LIVE LOAD FOR EXISTING STRUCTURE IS UNKNOWN. DESIGN LIVE LOAD FOR NEW COMPONENTS OF EXISTING STRUCTURE IS AN AASHTO M18 (H20–44) TRUCK.

6. PLANS OF THE 1955 AND 1974 REHABILITATIONS OF THE EXISTING BRIDGE ARE AVAILABLE, BUT ORIGINAL DESIGN AND SHOP DRAWINGS ARE NOT.

7. WORKING DRAWINGS REQUIRED FOR VARIOUS ITEMS OF THE WORK SHALL BE BASED ON ACTUAL FIELD MEASUREMENTS TAKEN BY THE CONTRACTOR, AND THE DRAWINGS SHALL BE SO NOTED.

8. THE BRIDGE IS CURRENTLY CLOSED TO TRAFFIC. TRAFFIC SHALL BE MAINTAINED DURING CONSTRUCTION ON THE EXISTING ADJACENT ONE LANE TEMPORARY BRIDGE.

9. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT DEBRIS FROM FALLING INTO THE BLACK RIVER DURING CONSTRUCTION.

10. ALL DIMENSIONS ARE HORZONTAL OR VERTICAL AND ARE GIVEN AT 20 DEGREES CELSIUS UNLESS OTHERWISE NOTED.

11. THE METHOD OF SHORING AND THE SEQUENCING OF TRUSS MEMBER REMOVAL PROPOSED BY THE CONTRACTOR SHALL BE SUBSTANTIATED WITH DESIGN CALCULATIONS PERFORMED AND STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF VERMONT. DETAILS AND CALCULATIONS OF PROPOSED SHORING, INCLUDING THE PROPOSED TRUSS MEMBER REMOVAL SEQUENCE, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AT LEAST TWO WEEKS PRIOR TO INSTALLATION OF THE SHORING. ALL COSTS FOR DESIGN, MATERIALS, INSTALLATION, AND REMOVAL OF SHORING SHALL BE INCLUDED IN ITEM 502.10, SHORING SUPERSTRUCTURE. IF THE CONTRACTOR CHOOSES TO REMOVE THE TRUSSES FOR DISMANTLING AND REHABILITATION OFFSITE, THE PROPOSED METHOD AND SEQUENCE OF REMOVAL, INCLUDING LIFTING POINTS AND ANY TEMPORARY SHORING REQUIRED, SHALL ALSO BE SUBSTANTIATED WITH DESIGN CALCULATIONS PERFORMED AND STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF VERMONT. IF THIS OPTION IS CHOSEN, ALL COSTS FOR REMOVING AND RE–ERECTING THE TRUSSES SHALL BE INCLUDED UNDER ITEM 502.10.

12. ITEM 529.15, REMOVAL OF STRUCTURE (TEMPORARY BRIDGE), SHALL INCLUDE COMPLETE REMOVAL AND PROPER DISPOSAL OF THE EXISTING TEMPORARY BRIDGE. THE SUPERSTRUCTURE AND THE TIMBER ABUTMENT BACKWALLS AND BRIDGE SEATS SHALL BE SALVAGED TO THE STATE. ITEM 529.15 SHALL ALSO INCLUDE: REMOVAL OF EXISTING PAVEMENT AND APPROACH ROADWAY FILL ON THE APPROACHES TO THE TEMPORARY BRIDGE; REGRADING AND PLACEMENT OF LOAM AND SEED AS DIRECTED BY THE ENGINEER IN THE AREAS WHERE THE TEMPORARY BRIDGE AND ITS APPROACHES HAVE BEEN REMOVED; REMOVAL OF ALL SIGNS FOR THE TEMPORARY BRIDGE AND DETOUR; REMOVAL OF AND SALVAGING TO THE STATE ALL STEEL W–BEAM GUARDRAIL AND POSTS ON THE APPROACHES TO THE TEMPORARY BRIDGE; AND REMOVAL OF THE GRAVEL BERMS AT EACH END OF THE EXISTING PERMANENT TRUSS BRIDGE. THE STEEL GUARDRAIL AND POSTS SHALL BE STORED ON SITE FOR PICK UP BY VTRANS DISTRICT FORCES. THE CONTRACTOR SHALL CONTACT FLOYD ROBERTS AT 802–251–2004 WHEN THE MATERIAL IS READY TO BE PICKED UP.

13. EXCAVATION BEHIND EXISTING ABUTMENT BACKWALLS AND WINGWALLS TO THE LIMITS SHOWN IN THE PLANS SHALL BE PAID AS ITEM 204.25, STRUCTURE EXCAVATION.

14. ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE, SHALL INCLUDE REMOVAL AND PROPER DISPOSAL OF EXISTING:

   - TIMBER BRIDGE DECK AND CURBS
   - STEEL STRINGERS AND FLOORBEAMS
   - BOTTOM LATERAL BRACING
   - BOTTOM CHORD OF BOTH TRUSSES
   - GUSSET PLATES AT FLOORBEAM–TO–TRUSS CONNECTIONS
   - STRINGER AND TRUSS BEARINGS
   - LOWER SECTION OF THE TRUSS TOP CHORD AT ALL 4 CORNERS OF THE BRIDGE
   - TRUSS PINS FROM TOP AND BOTTOM CHORDS OF BOTH TRUSSES
   - BOTTOM CHORD HANGER PLATES AT PANEL POINTS L1 – L5 IN BOTH TRUSSES, AND PORTIONS OF TRUSS VERTICAL AT PANEL POINT L2, UPSTREAM TRUSS ONLY
   - RIVETS AND BOLTS AS REQUIRED TO PERFORM ANY OF THE REMOVAL WORK INCLUDED IN THIS ITEM
   - SIDEWALK AND UPSTREAM TRUSS ORNAMENTAL RAILING
   - TIMBER SIDEWALK DECK AND STEEL SIDEWALK STRINGERS

15. REMOVAL OPERATIONS SHALL BE PERFORMED SO THAT ALL PORTIONS OF THE EXISTING STRUCTURE THAT ARE TO REMAIN ARE NOT DAMAGED. ANY PORTION OF THE EXISTING STRUCTURE THAT IS TO REMAIN THAT IS DAMAGED AS A RESULT OF THE CONTRACTOR'S REMOVAL OPERATIONS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

16. THE EXISTING STRUCTURAL STEEL ON THIS PROJECT WAS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD. THE REMOVED STRUCTURAL STEEL 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 STRUCTURAL STEEL.

17. ITEM 529.25, REMOVAL OF CONCRETE OR MASONRY, SHALL INCLUDE:

   - REMOVAL AND PROPER DISPOSAL OF THE EXISTING CONCRETE BACKWALLS, WINGWALLS, AND PORTIONS OF BRIDGE SEATS AT BOTH ABUTMENTS
   - REMOVAL OF PORTIONS OF STONE MASONRY WINGWALL AS NECESSARY TO CONSTRUCT THE CONCRETE SIDEWALK AND FENCE SUPPORT SLAB

18. THE PROPOSED SIDEWALK WILL CONNECT TO A SIDEWALK TO BE CONSTRUCTED BY THE TOWN ALONG THE WEST SIDE OF T.H. 4.

STRUCTURAL STEEL NOTES:

1. ALL NEW STRUCTURAL STEEL SHALL BE AASHTO M 270M, GRADE 345 PAINTED UNLESS OTHERWISE NOTED. ROADWAY AND SIDEWALK DECK JOINT PLATES SHALL BE AASHTO M 270M, GRADE 250.

2. ALL NEW STRINGERS; FLOORBEAMS; LATERAL BRACING RODS, CLEVISES, AND PINS; SIDEWALK STRINGER BEARING ANGLES; STRINGER, FLOORBEAM, AND LATERAL BRACING CONNECTION PLATES, ANGLES AND SPLICE PLATES; AND ROADWAY AND SIDEWALK DECK JOINT PLATES SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO M 111.

3. ITEM 506.50, STRUCTURAL STEEL (ROLLED BEAM), SHALL INCLUDE NEW GALVANIZED STRINGERS.

4. ITEM 506.55, STRUCTURAL STEEL (PLATE GIRDER), SHALL INCLUDE NEW GALVANIZED FLOORBEAMS.

5. ITEM 506.60, STRUCTURAL STEEL, SHALL INCLUDE ALL NEW STEEL NOT OTHERWISE DESIGNATED, INCLUDING BUT NOT LIMITED TO:

   - PAINTED BOTTOM CHORD MEMBERS (EYEBARS) FOR BOTH TRUSSES, INCLUDING PAINTED SPACERS
   - PAINTED LOWER SECTION OF THE TRUSS TOP CHORD AT ALL 4 CORNERS OF THE BRIDGE
   - GALVANIZED BOTTOM LATERAL BRACING RODS, CLEVISES, PINS, CONNECTION PLATES, AND ANGLES
   - PAINTED GUSSET PLATES AT FLOORBEAM–TO–TRUSS CONNECTIONS
   - GALVANIZED SPLICE PLATES AND CONNECTION ANGLES FOR FLOORBEAMS AND STRINGERS
   - PAINTED HANGER PLATES AT TRUSS PANEL POINTS L1 – L5 IN BOTH TRUSSES
   - PAINTED ANGLES AT BOTTOM OF TRUSS VERTICAL AT UPSTREAM TRUSS PANEL POINT L2
   - PAINTED WT SIDEWALK SUPPORT MEMBER, INCLUDING PAINTED SIDEWALK STRINGER CONNECTION PLATES
   - GALVANIZED ROADWAY AND SIDEWALK DECK JOINT PLATES
   - GALVANIZED SIDEWALK STRINGER BEARING ANGLES
   - 400 KG OF ADDITIONAL PAINTED STRUCTURAL STEEL FOR UNIDENTIFIED TRUSS REPAIRS. AFTER INITIAL REMOVAL OF TRUSS MEMBERS IDENTIFIED IN THE PLANS FOR REPLACEMENT, AND CLEANING OF THE AREAS OF THE REMAINING MEMBERS NOW EXPOSED, CONTACT THE VTRANS STRUCTURES PROJECT MANAGER. AN ENGINEER FROM VTRANS STRUCTURES WILL JOINTLY INSPECT THE TRUSS WITH THE RESIDENT TO DETERMINE IF ADDITIONAL TRUSS REPAIRS OR TRUSS MEMBER REPLACEMENTS ARE REQUIRED. PAYMENT OF ANY OF THIS ADDITIONAL 400KG QUANTITY WILL ONLY BE MADE FOR REPAIRS DIRECTED BY THE ENGINEER.

6. ALL FASTENERS REQUIRED TO COMPLETE THE WORK OF A STRUCTURAL STEEL PAY ITEM SHALL BE INCLUDED IN, AND INCIDENTAL TO, THAT PAY ITEM.

7. ALL BOLTED CONNECTIONS IN NEW AND EXISTING STEEL SHALL BE MADE WITH 19 OR 22 mm DIAMETER AASHTO M 164M TYPE I BOLTS AS NOTED. WHERE BOLT SIZE IS NOT NOTED, 19 mm DIAMETER BOLTS SHALL BE USED. BOLT HOLES IN NEW MATERIAL SHALL BE STANDARD HOLES 2 mm LARGER THAN BOLT DIAMETER UNLESS OTHERWISE NOTED.

8. ITEM 506.60, STRUCTURAL STEEL (MOD.) (TRUSS PINS), SHALL INCLUDE NEW PAINTED PINS AT ALL TRUSS PIN CONNECTIONS. NEW PINS FOR THE TRUSS PIN CONNECTIONS SHALL MEET THE FABRICATION TOLERANCES AND SURFACE FINISH REQUIREMENTS FOR BEARING PINS IN TABLE 18.5.1.5–1 IN DIVISION II OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

9. ITEM 525.15 METAL HAND RAILING (MOD.), SHALL INCLUDE NEW PAINTED ORNAMENTAL RAILING FOR SIDEWALK.

10. FIELD CONNECTION BOLTS FOR ALL STRUCTURAL COMPONENTS THAT HAVE BEEN PAINTED PRIOR TO BEING ERECTED SHALL BE ZINC COATED IN ACCORDANCE WITH AASHTO M298, CLASS 50, TYPE 1. FIELD PAINTING OF BOLTS SHALL INCLUDE BOTH THE INTERMEDIATE AND FINAL COATING SYSTEMS AFTER APPROVAL OF THE CONNECTIONS.

11. ALL THE NEW FLOORBEAMS, STRINGERS, AND TRUSS BOTTOM CHORD EYEBARS SHALL BE CHARPY V–NOTCH TESTED IN ACCORDANCE WITH SECTION 714.01.

12. DIMENSIONS OF STRUCTURAL STEEL SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE PREPARATION OF SHOP DRAWINGS TO ENSURE THAT ALL NEW STRUCTURAL STEEL FITS UP PROPERLY WITH THE EXISTING TRUSS. ALL TRUSS PINS BEING REPLACED SHALL BE FIELD MEASURED. ALL COSTS FOR FIELD MEASUREMENTS REQUIRED TO PREPARE THE STRUCTURAL STEEL SHOP DRAWINGS SHALL BE INCLUDED IN ITEM 506.60, STRUCTURAL STEEL, AND WILL NOT BE PAID SEPARATELY.

13. THE FABRICATION TOLERANCES AND SURFACE FINISH REQUIREMENTS FOR THE NEW TRUSS EYEBARS AND THE PIN HOLES IN THE EYEBARS SHALL BE AS SPECIFIED IN SECTIONS 11.4.10, 11.4.9.2, AND 11.4.6 IN DIVISION II OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. THE INSIDE EDGES OF THE PIN HOLES IN THE EYEBARS SHALL NOT BE PAINTED.

STRUCTURAL STEEL PAINTING NOTES:

1. ALL NEW AND EXISTING STRUCTURAL STEEL SHALL BE PAINTED UNLESS OTHERWISE NOTED. SURFACE PREPARATION, CONTAINMENT, AND PAINTING SHALL BE IN CONFORMANCE WITH SUPPLEMENTAL SPECIFICATION 513. THE SURFACE PREPARATION FOR THE REPAINTING OF THE EXISTING STEEL SHALL INCLUDE 100% REMOVAL OF THE EXISTING PAINT SYSTEM.

2. PAINTING OF NEW STEEL SHALL BE PAID FOR UNDER ITEM 513.40, SURFACE PREPARATION, SHOP, AND ITEM 513.25, STRUCTURAL PAINTING, SHOP APPLIED. ALL AREAS OF SHOP PAINTED ELEMENTS THAT ARE DAMAGED FROM TRANSPORTATION, HANDLING, OR ERECTION SHALL BE REPAINTED AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

3. GALVANIZING OF NEW STEEL SHALL BE PAID UNDER ITEM 513.25, STRUCTURAL PAINTING, SHOP APPLIED (GALV.).

4. PAINTING OF EXISTING STEEL SHALL BE PAID FOR UNDER ITEM 513.36, CONTAINMENT & ENVIRONMENTAL PROTECTION, FIELD; ITEM 513.41, SURFACE PREPARATION, FIELD; AND ITEM 513.30, STRUCTURAL PAINTING, FIELD APPLIED.

5. THE COLOR OF THE FINAL COAT OF PAINT SHALL BE GREEN AND SHALL CONFORM TO FEDERAL COLOR STANDARD NO. 595, COLOR CHIP NO. 14062.

BEARING NOTES:

1. TRUSS AND STRINGER BEARINGS SHALL BE PREFORMED FABRIC PAD TYPE AS DETAILED, AND SHALL BE PAID AS ITEM 531.10, BEARING DEVICE ASSEMBLY (TRUSS) AND ITEM 531.10, BEARING DEVICE ASSEMBLY (STRINGER), RESPECTIVELY.

2. ALL STEEL IN BEARING DEVICES, EXCEPT STAINLESS STEEL SLIDING SURFACES, SHALL BE AASHTO M 270M, GRADE 345, AND SHALL BE GALVANIZED OR METALIZED.

3. DRILL AND SET ANCHOR BOLTS WITH A MINIMUM OF 400 MILLIMETERS EMBEDMENT INTO BRIDGE SEATS. HOLES SHALL BE 70 MILLIMETERS DIAMETER. BOLTS SHALL BE SET IN A TYPE IV MORTAR. ALL COSTS FOR ANCHOR BOLTS, DRILLING OR CORING HOLES, AND MORTAR SHALL BE INCLUDED UNDER ITEM 531.10.

4. ANCHOR BOLTS SHALL BE SWEDGED WITH 100 MILLIMETERS OF THREAD. EXPANSION BEARING NUTS ARE TO BE DRAWN UP FINGER TIGHT AND THEN BACKED OFF 5 MILLIMETERS. THREADS SHALL BE BURRED ABOVE NUT TO PREVENT NUT REMOVAL.

CONCRETE NOTES:

1. CONCRETE IN RECONSTRUCTED ABUTMENT BACKWALLS, BRIDGE SEATS, AND WINGWALLS SHALL BE ITEM 501.33, CONCRETE, HIGH PERFORMANCE CLASS A, WITH A DESIGN STRENGTH OF $f'c = 30$ MPa.

2. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25 MILLIMETERS BY 25 MILLIMETERS, UNLESS OTHERWISE NOTED.

3. ITEM 514.10, WATER REPELLENT, SHALL BE APPLIED TO THE TOP AND FRONT FACE OF EACH ABUTMENT BACKWALL, BRIDGE SEAT, AND WINGWALL.

4. MINIMUM CLEAR COVER FOR REINFORCING STEEL IN THE ABUTMENTS SHALL BE 80 MILLIMETERS, UNLESS OTHERWISE NOTED.

5. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE ± 25 MILLIMETERS FOR SPACING, AND ± 5 MILLIMETERS FOR CLEARANCE.

6. ALL REINFORCING STEEL SHALL BE UNCOATED AND SHALL BE PAID AS ITEM 507.15, REINFORCING STEEL. DRILL AND GROUT BARS SHALL BE UNCOATED AND SHALL BE PAID AS ITEM 507.15, REINFORCING STEEL.

7. REINFORCING STEEL SHALL BE AASHTO M 31M, GRADE 420.

LUMBER AND TIMBER NOTES:

1. ALL LUMBER AND TIMBER SHALL BE SOUTHERN PINE, COASTAL DOUGLAS FIR, WESTERN HEMLOCK, OR OTHER EASTERN (LOCAL) MATERIAL OF NO. 1 GRADE OR BETTER. THE MINIMUM FIBER STRESS IN BENDING ABOUT EITHER AXIS SHALL BE 8.3 MPa FOR ALL LUMBER AND TIMBER.

2. UNLESS DIMENSIONS ARE NOTED AS NOMINAL, ALL LUMBER AND TIMBER SHALL BE FULL SIZE TO THE DIMENSIONS SHOWN IN THE PLANS.

3. ALL LUMBER AND TIMBER SHALL BE PRESERVATIVE TREATED WITH PRESERVATIVE TYPE IV, CHROMATE COPPER ARSENATE, IN ACCORDANCE WITH SUBSECTION 726.01.

4. ALL LUMBER AND TIMBER SHALL BE PAID UNDER ITEM 522.25, STRUCTURAL LUMBER AND TIMBER – TREATED, INCLUDING: ROADWAY CURBS, SHIMS BETWEEN DECK PANELS AND FLOORBEAMS, SIDEWALK TIMBER STRINGERS, SIDEWALK DECK PLANKS, SIDEWALK DECK NAILERS, SIDEWALK STRINGER END DIAPHRAGHMS, AND SIDEWALK STRINGER BEARING PLANKS.

5. ALL LUMBER AND TIMBER FASTENERS SHALL BE GALVANIZED STEEL UNLESS OTHERWISE NOTED. MALLEABLE IRON WASHERS SHALL BE USED WHERE HEADS AND NUTS OF BOLTS BEAR DIRECTLY ON TIMBER. ALL COSTS FOR LUMBER AND TIMBER FASTENERS, INCLUDING SPIKES, WOOD SCREWS, LAG SCREWS, BOLTS, CURB BOLTS, AND CONSTRUCTION ADHESIVE FOR SHIMS SHALL BE INCLUDED IN ITEM 522.25.

GLULAM TIMBER DECK NOTES:

1. THE GLULAM TIMBER DECK PANELS SHALL BE 1219 NOMINAL WIDE X 152 NOMINAL THICK. ABUTMENT BACKWALL AND BEARING SEAT ELEVATIONS HAVE BEEN CALCULATED ASSUMING AN ACTUAL DECK PANEL THICKNESS OF 130 mm. IF ACTUAL DECK PANEL THICKNESS IS NOT 130 mm, THESE ELEVATIONS SHALL BE ADJUSTED ACCORDINGLY.

2. THE MINIMUM DESIGN VALUES REQUIRED FOR THE GLULAM TIMBER DECK PANELS ARE:

   BENDING STRESS, Fby = 12.07 Mpa

   SHEAR STRESS PARALLEL TO GRAIN, Fv = 0.69 Mpa

   MODULUS OF ELASTICITY, E = 8,620 Mpa

3. THE FABRICATOR OF THE DECK PANELS SHALL DETERMINE C–CLIP SIZE AND SPACING FOR CONNECTION OF GLULAM DECK PANELS TO STRINGERS. DETAILS OF THE PROPOSED CONNECTION TYPE AND LAYOUT SHALL BE SUBMITTED WITH THE SHOP DRAWINGS FOR THE DECK PANELS. ALL GLULAM DECK PANEL CONNECTION HARDWARE SHALL BE GALVANIZED OR STAINLESS STEEL.

4. JOINTS BETWEEN GLULAM PANELS SHALL BE FILLED WITH AN APPROVED SEALANT.

5. THE GLULAM TIMBER DECK PANELS SHALL BE PRESERVATIVE TREATED WITH PRESERVATIVE TYPE II, PENTACHLOROPHENOL, IN ACCORDANCE WITH SUBSECTION 726.01, AND THE LATEST EDITION OF BEST MANAGEMENT PRACTICES FOR THE USE OF TREATED WOOD IN AQUATIC ENVIRONMENTS PUBLISHED BY THE WESTERN WOOD PRESERVERS INSTITUTE. POST TREATMENT CLEANING OF THE DECK PANELS TO MINIMIZE THE AMOUNT OF FREE PRESERVATIVE AT THE DECK PANEL SURFACES IS REQUIRED.

6. PRIOR TO PAVING THE DECK, BLOTTER MATERIAL SHALL BE APPLIED TO ABSORB ANY EXCESS PRESERVATIVE FROM THE DECK SURFACE. THE BLOTTER SHALL BE A MIXTURE OF DUST AND 10 TO 20% CRUSHED MATERIAL PASSING THE NO. 8 SIEVE, SPREAD AT A RATE OF 6 TO 8 KILOGRAMS/SQUARE METER. IMMEDIATELY AFTER SPREADING THE BLOTTER SHALL BE ROLLED WITH A RUBBER–TIRE ROLLER. AFTER A MINIMUM OF FIVE DAYS THE BLOTTER SHALL BE REMOVED WITH BROOMS AND PROPERLY DISPOSED OF. IF EXCESS PRESERVATIVE IS STILL VISIBLE ON THE DECK SURFACE, THE RESIDENT ENGINEER SHALL DIRECT THE CONTRACTOR TO REPEAT THE BLOTTER APPLICATION. THE DECK SHALL BE THOUROUGHLY CLEANED PRIOR TO APPLICATION OF THE PAVEMENT.

7. ALL COSTS FOR THE GLULAM DECK PANELS, INCLUDING CONNECTION HARDWARE, JOINT SEALANT, AND PRE–PAVING MEASURES TO REDUCE THE AMOUNT OF PRESERVATIVE TREATMENT AT THE DECK SURFACE, SHALL BE INCLUDED IN ITEM 522.40, STRUCTURAL GLUED LAMINATED TIMBER.

STATE OF VERMONT
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Town Of CAVENDISH	Bridge No. 12
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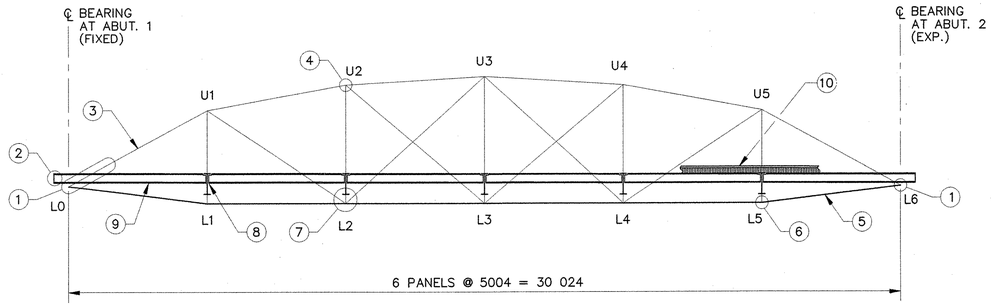
T.H. 4 OVER BLACK RIVER

CONSTRUCTION NOTES

Designed By W.M. MOSHER	Drawn By M.M. LANDREY
Checked By T.S. BRYANT Date 1/04	Bridge Design Supervisor S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
I.G.C. Info.	
Bridge Sheet No. 49912CN	Sheet 11 of 34

VANASSE HANGEN BRUSTLIN, INC.

PLOTTED 1–21–04



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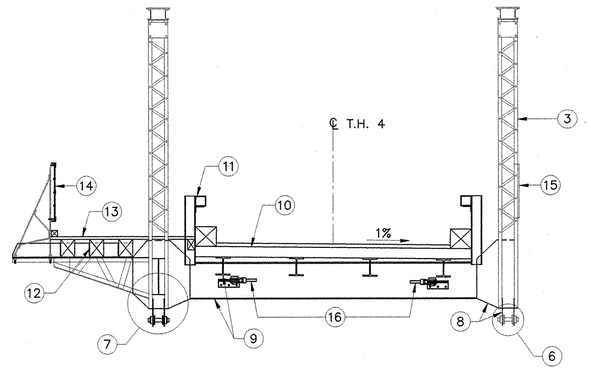

SECTION

TRUSS REHABILITATION KEY

(SEE NOTE 1)
NOT TO SCALE

1. REMOVE AND REPLACE EXISTING TRUSS BEARINGS WITH NEW BEARINGS. SPLICE NEW TOP CHORD SECTION ONTO EXISTING TOP CHORD.
2. REMOVE AND REPLACE EXISTING STRINGER BEARINGS WITH NEW STRINGER BEARINGS (TYPICAL ALL).
3. CLEAN AND PAINT ALL EXISTING TRUSS COMPONENTS TO REMAIN (TYP.).
4. REMOVE AND REPLACE–IN–KIND EXISTING TOP CHORD PINS AND NUTS WITH NEW TOP CHORD PINS AND NUTS. REMOVE AND REPLACE EXISTING BOLTS AT TOP CHORD PIN CONNECTION WITH NEW HS BOLTS (TYPICAL U1 – U5).
5. REMOVE AND REPLACE–IN–KIND EXISTING BOTTOM CHORD EYEBARS WITH NEW BOTTOM CHORD EYEBARS (TYPICAL L0 – L6).
6. REMOVE AND REPLACE–IN–KIND EXISTING TRUSS BOTTOM CHORD PINS AND NUTS WITH NEW BOTTOM CHORD PINS AND NUTS (TYPICAL L0 – L6).
7. REPAIR BOTTOM CHORD HANGER (L2 UPSTREAM ONLY).
8. REMOVE AND REPLACE GUSSET PLATE (FLOORBEAM–TO–TRUSS) WITH NEW GUSSET PLATE AND REPLACE BOTTOM CHORD HANGER PLATES (TYPICAL L1 – L5).
9. REMOVE AND REPLACE ALL EXISTING FLOORBEAMS AND STRINGERS WITH NEW FLOORBEAMS AND STRINGERS.
10. REMOVE AND REPLACE EXISTING TIMBER DECK WITH NEW TIMBER GLULAM DECK.
11. INSTALL NEW STEEL BRIDGE RAILING AND TIMBER CURB.
12. REMOVE AND REPLACE EXISTING STEEL SIDEWALK STRINGERS WITH NEW TIMBER SIDEWALK STRINGERS.
13. REMOVE AND REPLACE EXISTING TIMBER SIDEWALK WITH NEW TIMBER SIDEWALK.
14. REMOVE EXISTING STEEL ORNAMENTAL RAILING AND REPLACE WITH NEW STEEL ORNAMENTAL RAILING.
15. REMOVE EXISTING ORNAMENTAL RAILING.
16. REMOVE EXISTING BOTTOM LATERAL BRACING AND REPLACE WITH NEW BOTTOM LATERAL BRACING.

NOTES:

1. DOWNSTREAM TRUSS ELEVATION (LOOKING UPSTREAM) SHOWN. ALL REHABILITATION ITEMS APPLY TO BOTH TRUSSES, UNLESS OTHERWISE NOTED.
2. ALL NEW STRUCTURAL STEEL SHALL BE AASHTO M270M GRADE 345.
3. THE ORDER IN WHICH THE ELEMENTS OF WORK ARE LISTED IN THE TRUSS REHABILITATION KEY IS NOT INTENDED TO INDICATE A PROPOSED SEQUENCE OF WORK.

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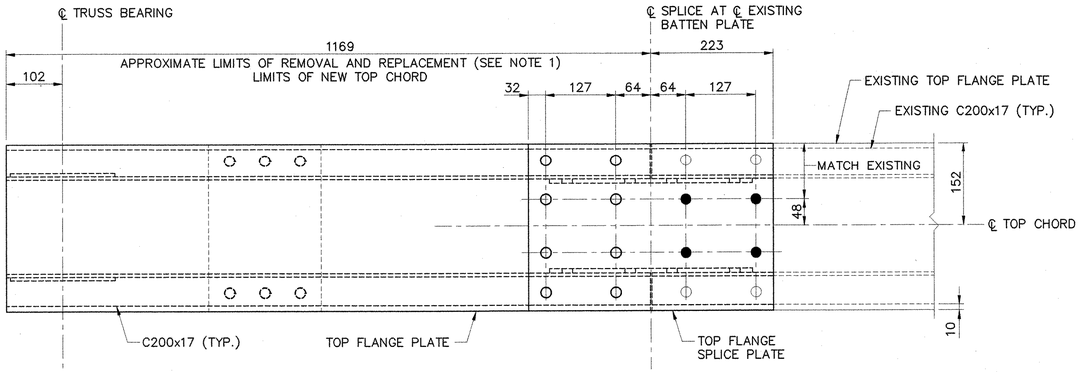
TRUSS REHABILITATION KEY & DETAILS

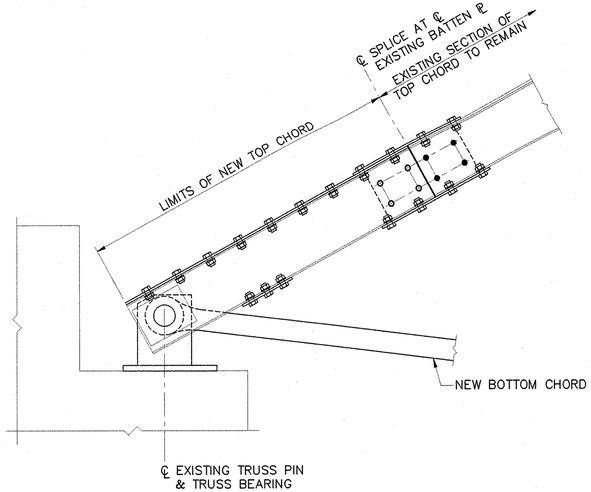
Designed By W.M. MOSHER	Drawn By M.M. LANDREY
Checked By T.S. BRYANT Date 1/04	Bridge Design Supervisor S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
I.G.C. Info.	
Bridge Sheet No. 49912TRK	Sheet 12 of 34

VANASSE HANGEN BRUSTLIN, INC.

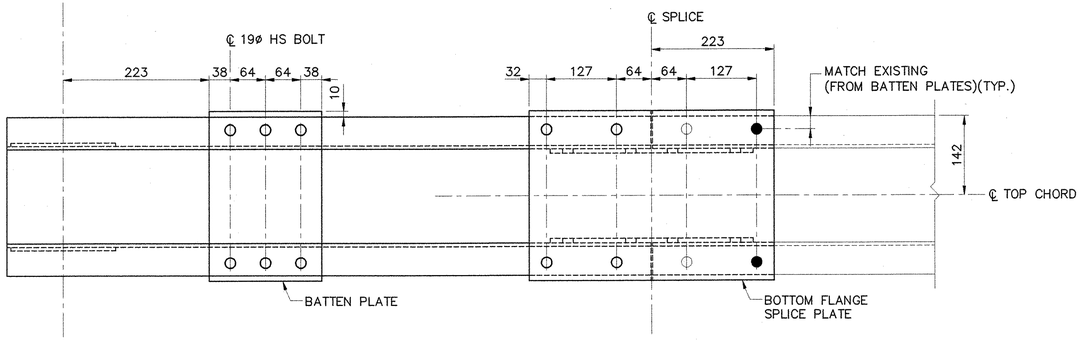
PLOTTED 1–21–04



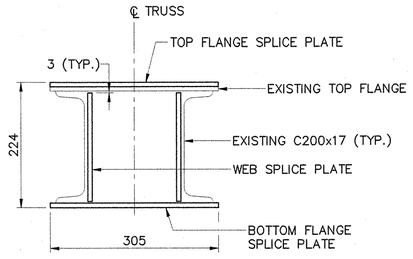
TOP FLANGE – PLAN
(TOP FLANGE PLATE BOLTS NOT SHOWN)



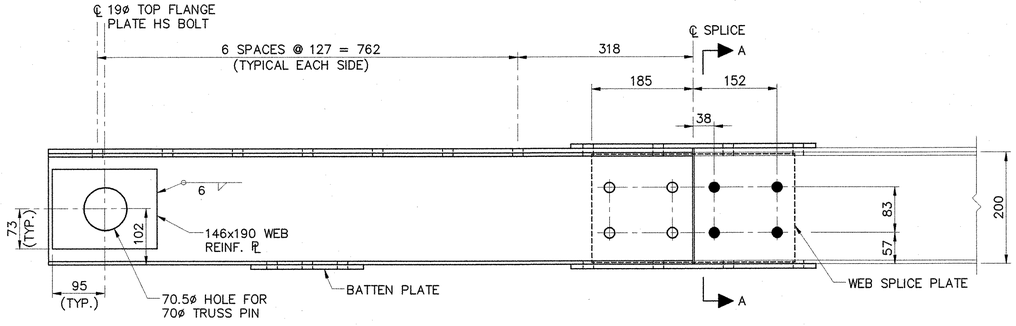
TYPICAL TRUSS END DETAIL
SCALE: 1:10



BOTTOM FLANGE – PLAN



SECTION A–A
SCALE: 1:5



ELEVATION

SPLICE DETAILS
SCALE: 1:5

NOTES:

1. REMOVE AND REPLACE EXISTING TOP CHORD MEMBER AND BATTEN PLATE WITH NEW BUILT–UP TOP CHORD MEMBER.
2. DIMENSIONS TO EXISTING RIVET HOLES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
3. ALL NEW AND EXISTING PLATES ARE 7.9 mm THICK UNLESS OTHERWISE NOTED.
4. MAXIMUM GAP BETWEEN EXISTING TOP CHORD AND NEW TOP CHORD SHALL BE 3 mm.

LEGEND

- ○ NEW 19ø HS BOLTS IN EXISTING RIVET HOLES
- ● NEW 19ø HS BOLTS IN HOLES DRILLED IN EXISTING MEMBERS
- ○ NEW 19ø HS BOLTS IN NEW MEMBERS

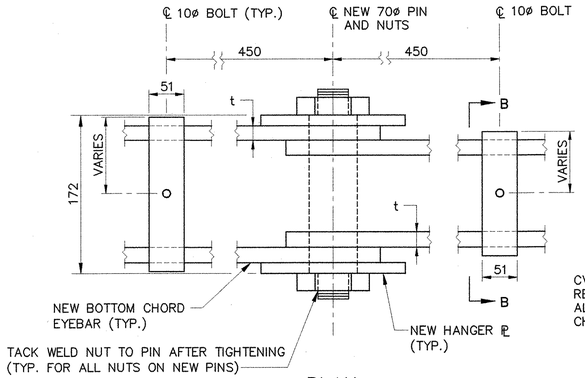
0 250 500
SCALE = 1:5

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

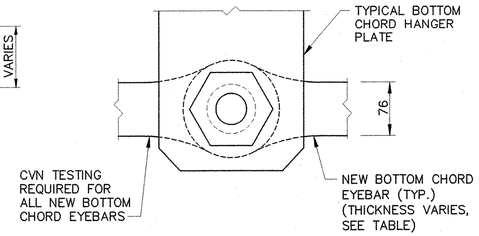
Town Of CAVENDISH	Bridge No. 12
	Log Sta.
Highway No. T.H. 4	Surv. Sta.
T.H. 4 OVER BLACK RIVER	
TRUSS REPAIR DETAILS (1 OF 2)	
Designed By W.M. MOSHER	Drawn By M.M. LANDREY
Checked By T.S. BRYANT Date 1/04	Bridge Design Supervisor S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
I.G.C. Info.	
Bridge Sheet No. 49912TRD	Sheet 13 of 34

PLOTTED 1–21–04



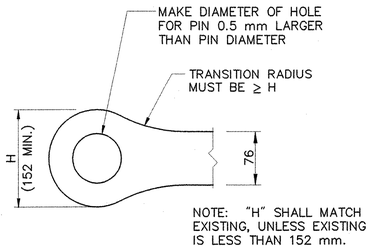
PLAN

(CONNECTION AT L1 SHOWN, OTHERS SIMILAR)

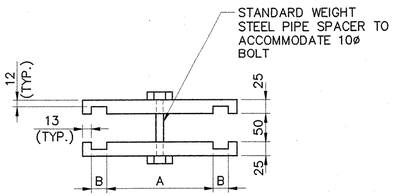


ELEVATION

(CONNECTION AT L1 SHOWN, OTHERS SIMILAR)



EYEBAR END DETAIL

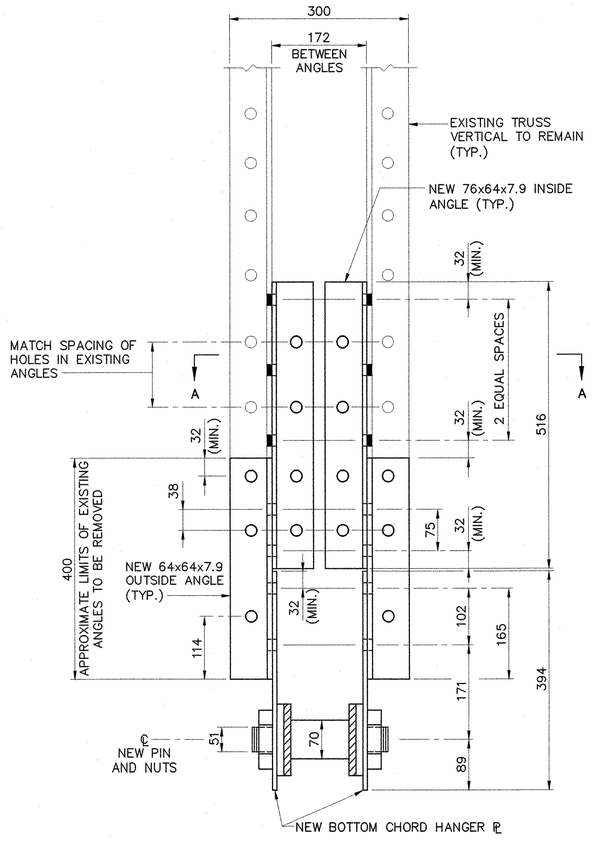


SECTION B–B

BOTTOM CHORD & SPACERS			
LOCATION	t	A	B
L0–L1	19	92	22
L1–L2	19	54	22
L2–L3	22.2	92	25
L3–L4	22.2	48	25
L4–L5	19	92	22
L5–L6	19	54	22

TRUSS BOTTOM CHORD REPLACEMENT DETAILS

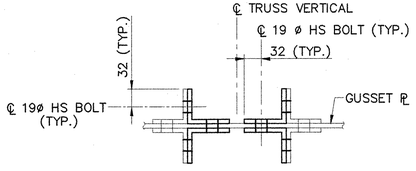
NOT TO SCALE



BOTTOM CHORD HANGER REPAIR AT UPSTREAM L2

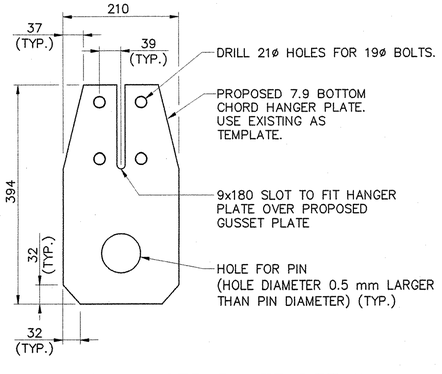
(GUSSET PLATE AND TRUSS DIAGONALS NOT SHOWN)

SCALE: 1:5



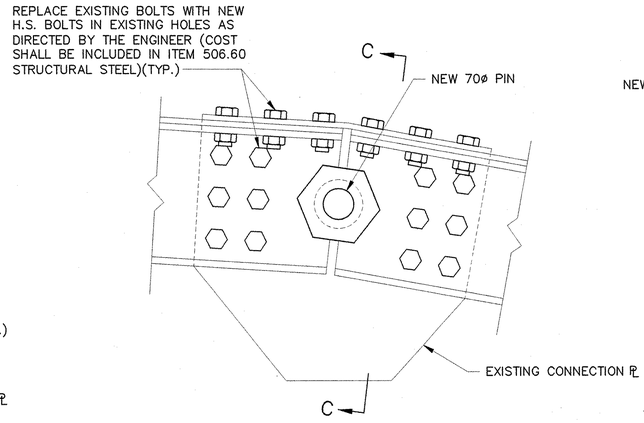
SECTION A–A

SCALE: 1:5

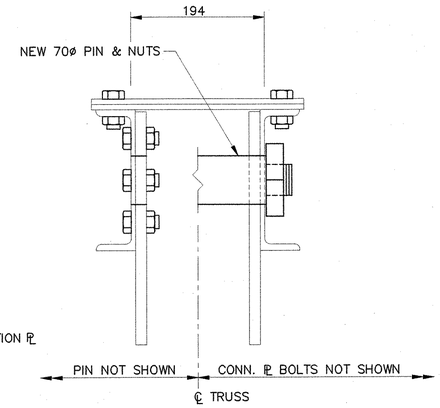


NEW BOTTOM CHORD HANGER PLATE DETAIL

SCALE: 1:5



ELEVATION



SECTION C–C

TYPICAL TOP CHORD PIN REPLACEMENT DETAILS

NOT TO SCALE

NOTES:

1. THE NEW BOTTOM CHORD HANGER PLATE DETAIL APPLIES TO REPLACEMENTS AT PANEL POINTS L1–L5.
2. ALL DIMENSIONS OF EXISTING COMPONENTS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.

LEGEND

- ○ NEW 19ø HS BOLTS IN NEW MEMBERS
- ● NEW 19ø HS BOLTS IN HOLES DRILLED IN EXISTING MEMBERS
- ○ EXISTING RIVETS TO REMAIN

0 250 500

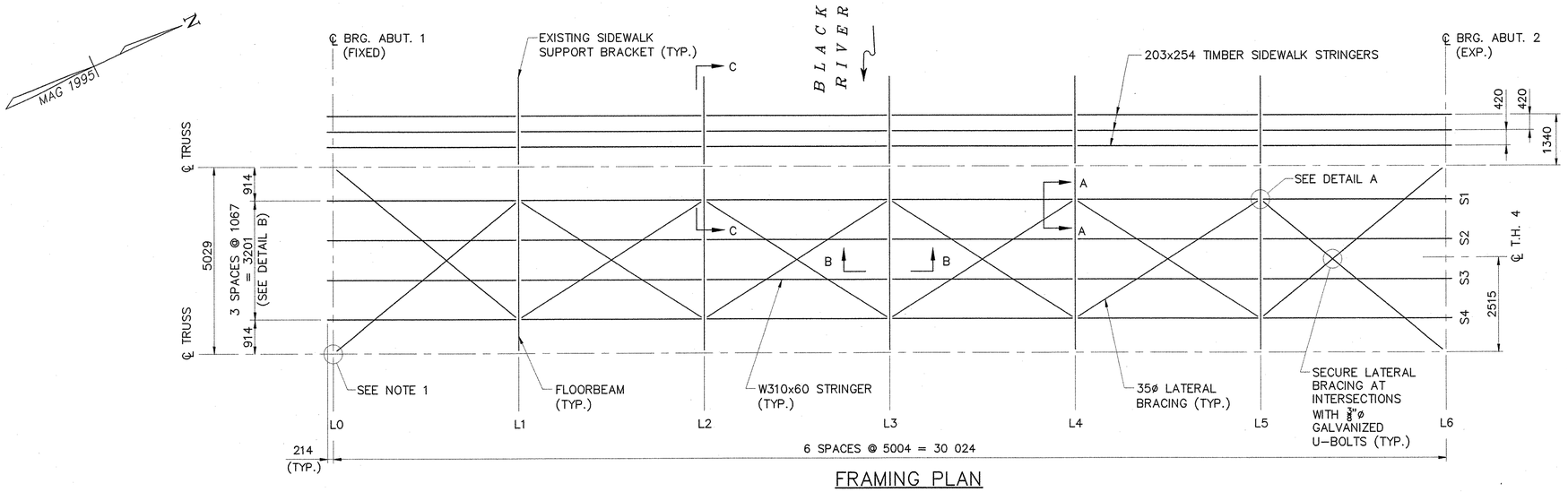
SCALE = 1:5

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of CAVENDISH	Bridge No. 12
	Log Sta.
Highway No. T.H. 4	Surv. Sta.
T.H. 4 OVER BLACK RIVER	
TRUSS REPAIR DETAILS (2 OF 2)	
Designed By W.M. MOSHER	Drawn By M.M. LANDREY
Checked By T.S. BRYANT Date 1/04	Bridge Design Supervisor S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
VANASSE HANGEN BRUSTLIN, INC.	I.G.C. Info.
	Bridge Sheet No. 49912FSD1 Sheet 14 of 34

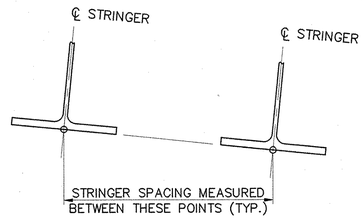
PLOTTED 1-21-04

NOT Metric



FRAMING PLAN

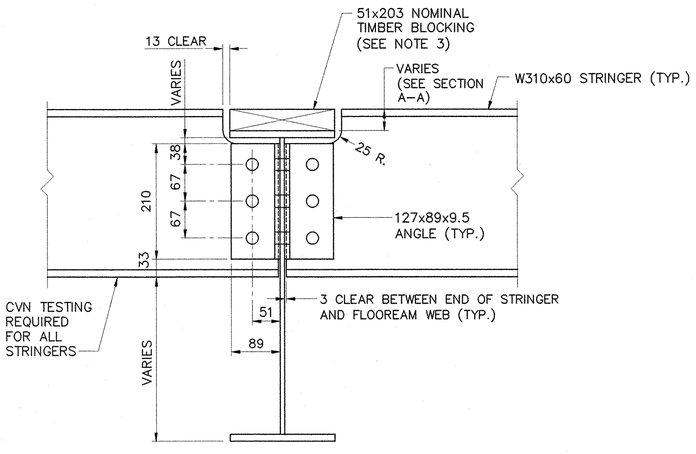
NOT TO SCALE



DETAIL B

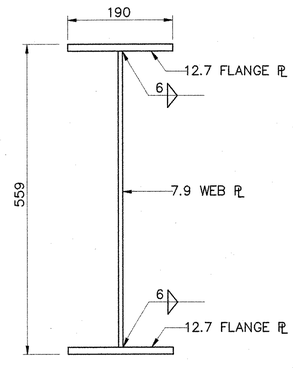
NOT TO SCALE

STRINGER	A	H	B
S1	39	38	37
S2	28	27	26
S3	18	17	16
S4	7	6	5



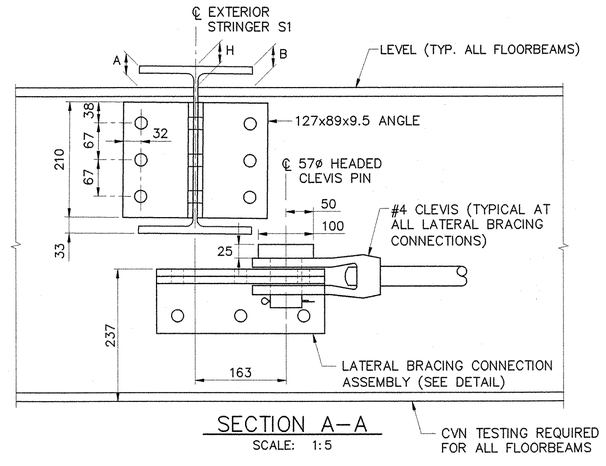
SECTION B–B

SCALE: 1:5



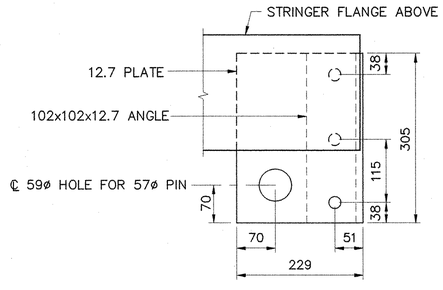
TYPICAL FLOOR BEAM SECTION

SCALE: 1:5

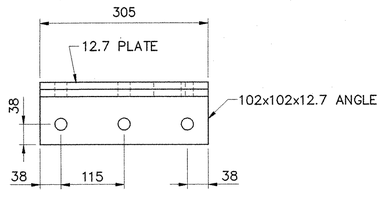


SECTION A–A

SCALE: 1:5



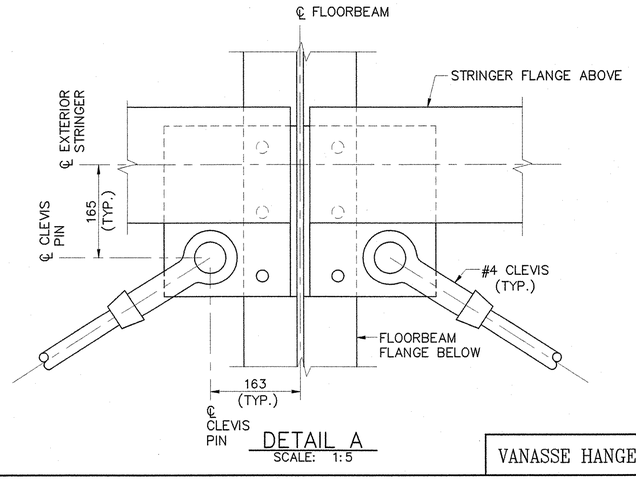
PLAN



ELEVATION

LATERAL BRACING CONNECTION ASSEMBLY DETAIL

SCALE: 1:5



DETAIL A

SCALE: 1:5

NOTES:

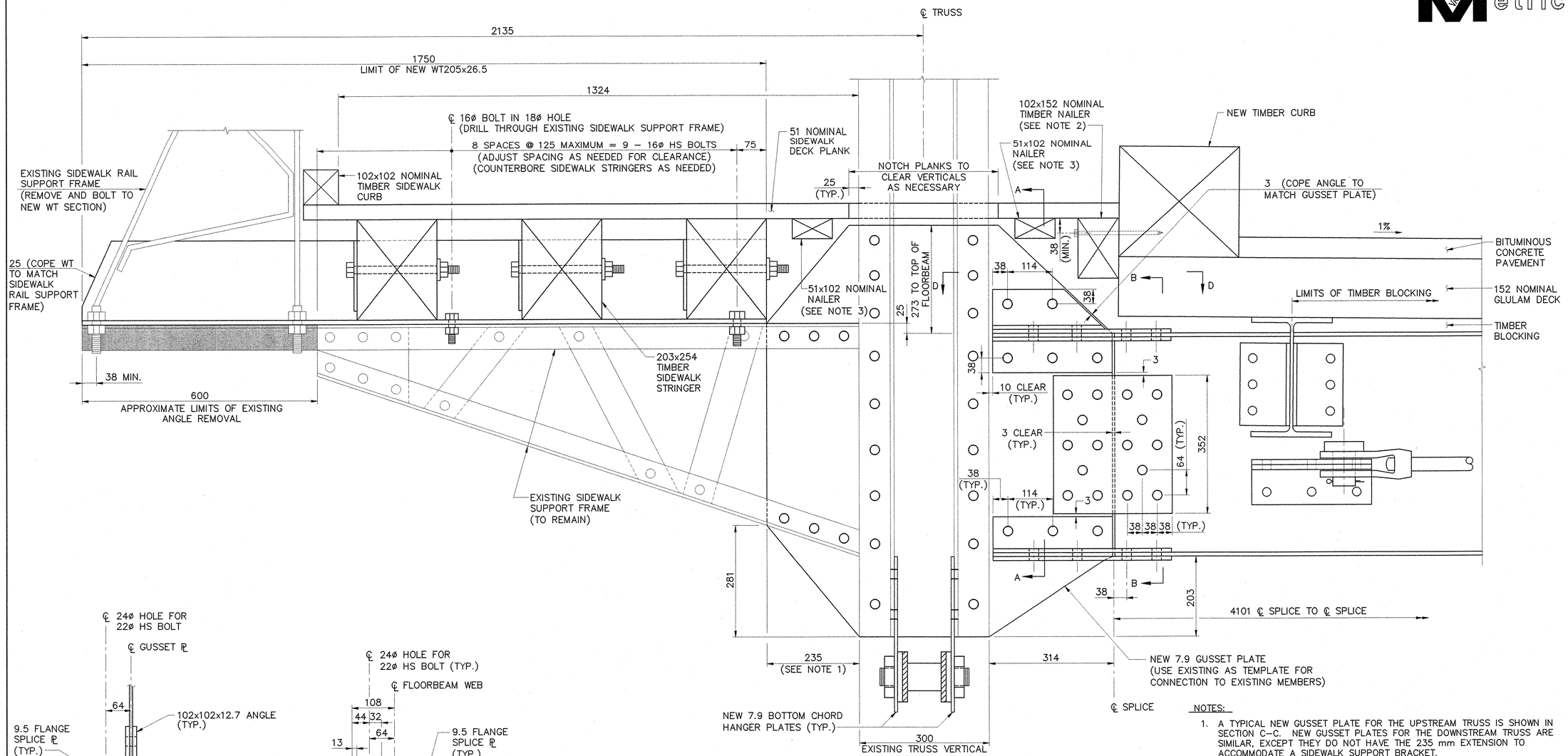
1. SEE TRUSS BEARING DETAILS FOR LATERAL BRACING CONNECTIONS AT TRUSS.
2. SEE SHEET 16 FOR SECTION C–C.
3. THE TIMBER BLOCKING ON THE FLOORBEAM SHALL BE TAPERED AS REQUIRED TO SUPPORT THE GLULAM DECK AND EXTEND IN ONE CONTINUOUS PIECE FROM ℄ EXTERIOR STRINGER TO ℄ EXTERIOR STRINGER. TEMPORARILY SECURE THE TIMBER BLOCKING WITH CONSTRUCTION ADHESIVE PRIOR TO PLACING GLULAM DECK. PERMANENTLY SECURE THE BLOCKING BY INSTALLING A MINIMUM OF FOUR EVENLY SPACED GALVANIZED SPIKES OR COUNTERSUNK LAG SCREWS DOWN THROUGH THE GLULAM DECK.
4. ALL BOLTED CONNECTIONS SHOWN SHALL BE MADE WITH 22ø BOLTS IN 24ø HOLES.
5. ALL LATERAL BRACING RODS SHALL BE 35ø AASHTO M 270 M, GRADE 345.
6. CLEVISES SHALL BE #4 WITH A MINIMUM SAFE WORKING LOAD OF 93.4 kN. CLEVIS PINS SHALL BE 57 mm DIAMETER, HEADED, AND SHALL INCLUDE COTTER PINS. ALL COSTS FOR CLEVISES AND CLEVIS PINS SHALL BE INCLUDED IN ITEM 506.60.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of CAVENDISH	Bridge No. 12
	Log Sta.
Highway No. T.H. 4	Surv. Sta.
T.H. 4 OVER BLACK RIVER	
FLOOR SYSTEM FRAMING	
Designed By W.M. MOSHER	Drawn By M.M. LANDREY
Checked By T.S. BRYANT Date 1/04	Bridge Design Supervisor S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
I.G.C. Info.	
Bridge Sheet No. 49912FSF	Sheet 15 of 34

VANASSE HANGEN BRUSTLIN, INC.

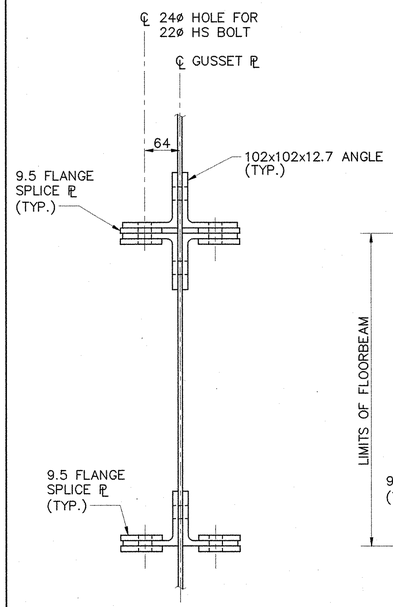
PLOTTED 1-21-04



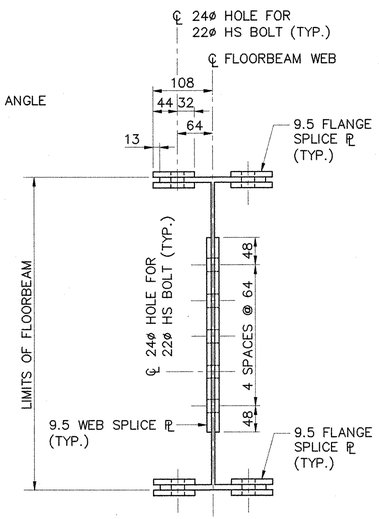
SECTION C–C
SCALE: 1:5

NOTES:

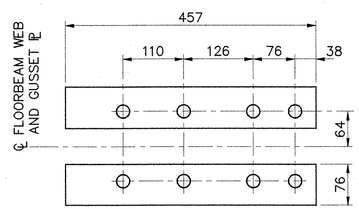
1. A TYPICAL NEW GUSSET PLATE FOR THE UPSTREAM TRUSS IS SHOWN IN SECTION C–C. NEW GUSSET PLATES FOR THE DOWNSTREAM TRUSS ARE SIMILAR, EXCEPT THEY DO NOT HAVE THE 235 mm EXTENSION TO ACCOMMODATE A SIDEWALK SUPPORT BRACKET.
2. ATTACH NAILER TO CURB WITH 6ø x 203 LONG LAG SCREWS AT 305 MAXIMUM SPACING. STOP NAILER 25 mm CLEAR ON EACH SIDE OF ALL BRIDGE RAIL POSTS.
3. WHERE SIDEWALK DECK PLANKS ARE NOTCHED OR DISCONTINUED TO CLEAR TRUSS MEMBERS, SUPPORT THE FREE ENDS OF THE PLANKS WITH 51x102 NOMINAL TIMBER NAILERS. EXTEND NAILERS AT LEAST ONE FULL PLANK WIDTH TO EACH SIDE OF OPENING. FASTEN TO EACH PLANK WITH TWO #10X76 LONG GALVANIZED WOOD SCREWS.



SECTION A–A
SCALE: 1:5



SECTION B–B
SCALE: 1:5



SECTION D–D
(TYPICAL FOR TOP & BOTTOM FLANGE SPLICE PLATES)
SCALE: 1:5

LEGEND

- ○ EXISTING RIVETS
- ● NEW 22ø HS BOLTS

0 250 500
SCALE = 1:5

VANASSE HANGEN BRUSTLIN, INC.

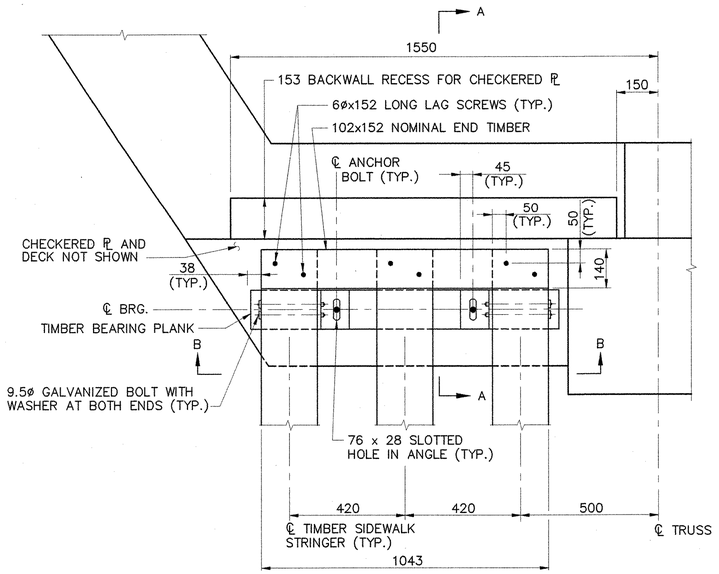
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of CAVENDISH	Bridge No. 12
	Log Sta.
Highway No. T.H. 4	Surv. Sta.
T.H. 4 OVER BLACK RIVER	

GUSSET PLATE & SIDEWALK BRACKET DETAILS

Designed By W.M. MOSHER	Drawn By M.M. LANDREY
Checked By T.S. BRYANT Date 1/04	Bridge Design Supervisor S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
I.G.C. Info.	
Bridge Sheet No. 49912FSD	Sheet 16 of 34

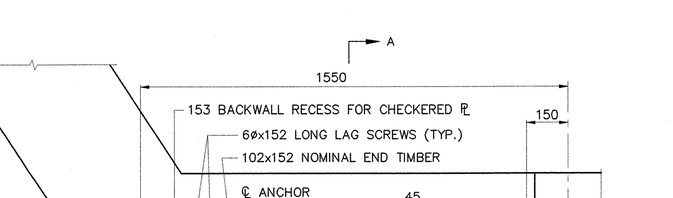
PLOTTED 1–21–04



TYPICAL SIDEWALK STRINGERS PLAN AT ABUTMENT

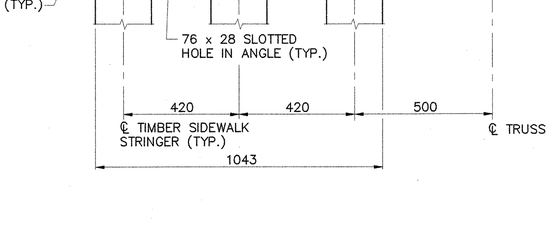
(ABUTMENT 2 SHOWN, ABUTMENT 1 SIMILAR)

SCALE: 1:10



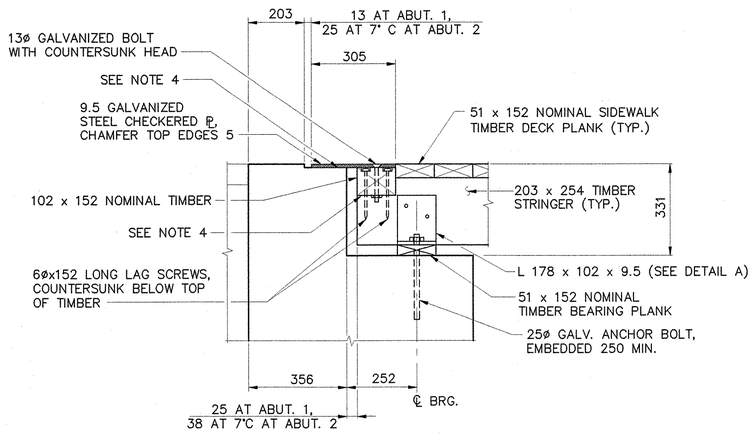
SECTION B–B

SCALE: 1:10



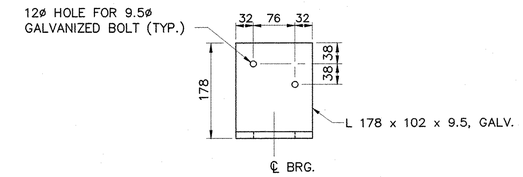
TYPICAL SIDEWALK DECK JOINT PLATE PLAN

SCALE: 1:10



SECTION A–A

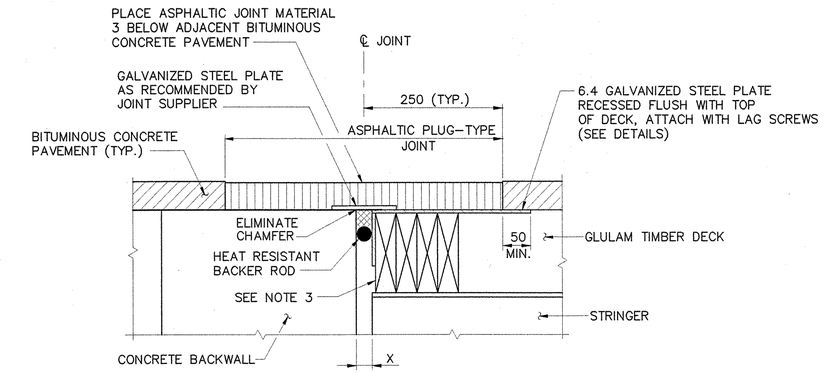
SCALE: 1:10



DETAIL A

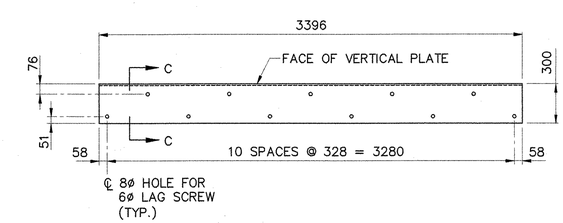
SCALE: 1:5

DECK END JOINT TEMPERATURE ADJUSTMENT TABLE		
TEMPERATURE	DIMENSION "X"	
	ABUT. 1	ABUT. 2
–9° C	38	44
–1° C	38	41
7° C	38	38
16° C	38	35
24° C	38	32
32° C	38	29
41° C	38	26



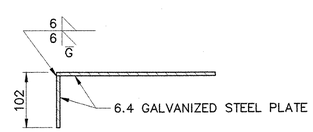
TYPICAL ROADWAY DECK END JOINT DETAIL

N.T.S.



TYPICAL ROADWAY DECK JOINT PLATE PLAN

NOT TO SCALE
(SEE NOTE 2)



SECTION C–C

SCALE: 1:5

0 250 500

SCALE = 1:5

0 200 400 600

SCALE IN MILLIMETERS
SCALE = 1:10

NOTES:

1. ASPHALTIC PLUG–TYPE JOINTS SHALL BE INSTALLED AT BOTH ABUTMENTS.
2. ATTACH PLATE TO DECK WITH 102 LONG 6.4ø LAG SCREWS.
3. CUT END OF END DECK PANELS AS NECESSARY TO ACHIEVE THE REQUIRED JOINT OPENINGS.
4. RECESS BACKWALL AND NOTCH STRINGERS SO TOP OF CHECKERED PLATE IS LEVEL WITH TOP OF WEARING SURFACE.
5. TIGHTEN ANCHOR BOLT NUTS FINGER TIGHT, THEN BACK OFF NUT 3 MILLIMETERS AND BURR THREADS.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

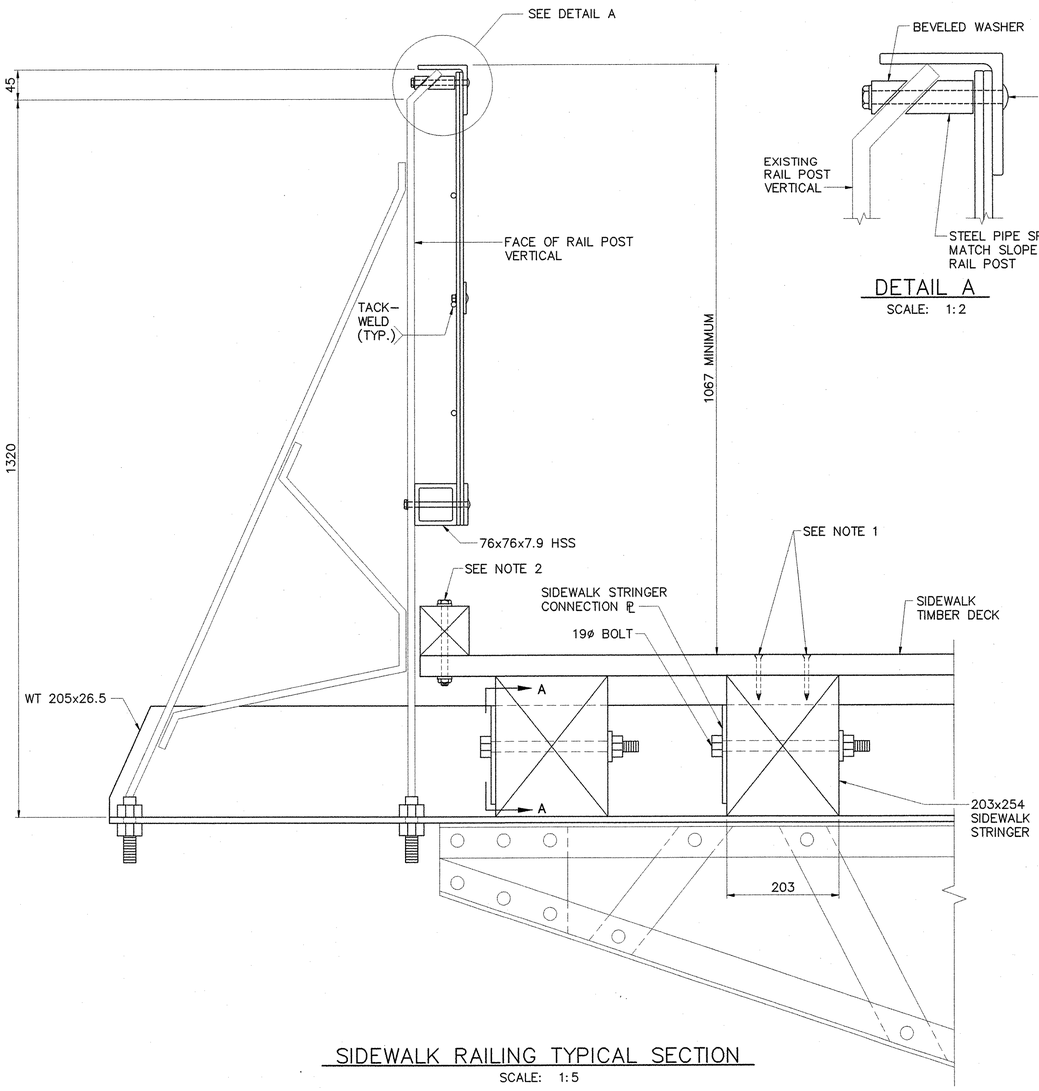
Town Of CAVENDISH	Bridge No. 12
	Log Sta.
Highway No. T.H. 4	Surv. Sta.
T.H. 4 OVER BLACK RIVER	

DECK JOINT & SIDEWALK END DETAILS

Designed By T.S. BRYANT	Drawn By K.D. WENTWORTH
Checked By T.S. BRYANT Date 1/04	Bridge Design Supervisor S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
I.G.C. Info.	
Bridge Sheet No. 49912DJD	Sheet 17 of 34

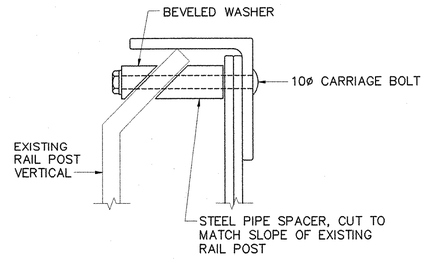
VANASSE HANGEN BRUSTLIN, INC.

PLOTTED 1–21–04



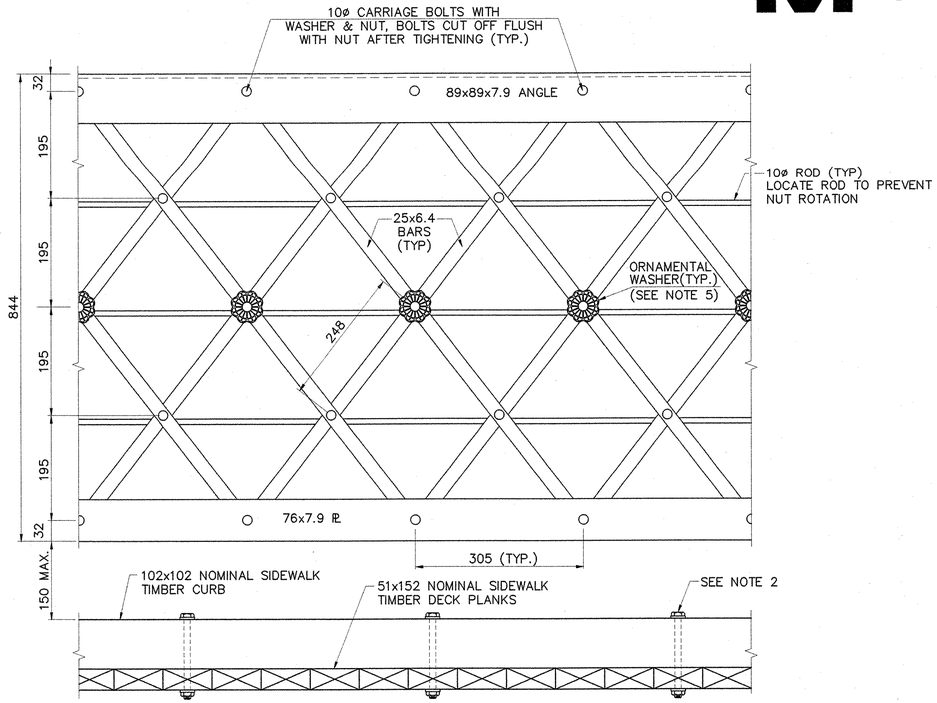
SIDEWALK RAILING TYPICAL SECTION

SCALE: 1:5



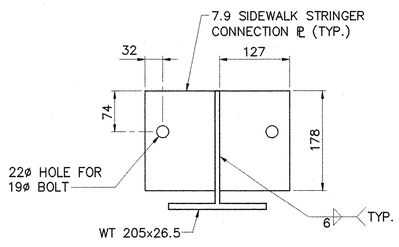
DETAIL A

SCALE: 1:2



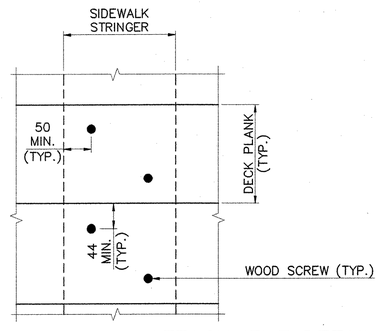
SIDEWALK RAILING ELEVATION

SCALE: 1:5



SECTION A–A

SCALE: 1:5



SIDEWALK DECK PLANK ATTACHMENT DETAIL

SCALE: 1:5

NOTES:

1. FASTEN DECK PLANKS TO EACH SIDEWALK STRINGER AND THE TIMBER NAILER WITH TWO #10x76 LONG GALVANIZED WOOD SCREWS.
2. ATTACH CURB TO DECK PLANKS WITH 6ø BOLTS SPACED AT 914 O.C. MAXIMUM. USE A WASHER UNDER BOTH BOLT HEAD AND NUT. INSTALL EACH BOLT AT THE CENTER OF A DECK PLANK.
3. FOR SIDEWALK RAILING, USE 10ø CARRIAGE BOLTS WITH WASHERS AND NUTS TO SECURE RAILING TO RAIL POST. FOR CONNECTIONS AT TOP OF POST USE BEVELED WASHER AND STEEL PIPE SPACER AS SHOWN. DRILL 11ø HOLES AT ℄ EXISTING RAIL POST VERTICAL TO ACCOMMODATE CONNECTION BOLTS (BURR THREADS AFTER TIGHTENING).
4. PROVIDE 25ø SLOTTED HOLE ATTACHMENT TO CHAIN LINK FENCE POSTS AT ABUTMENTS. ALSO PROVIDE A MIN. 76mm WIDE CLOSURE PLATE FROM TOP OF RAIL TO BOTTOM OF 76x76x7.9 HSS AT BOTH ENDS OF RAIL. SUBMIT DETAILS OF PROPOSED SLOTTED HOLE ATTACHMENT AND CLOSURE PLATES TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION OF THE SIDEWALK RAILING.
5. ORNAMENTAL WASHERS SHALL BE CAST IRON. PROVIDE SAMPLES OF SEVERAL STYLES TO THE TOWN, THROUGH THE ENGINEER, SO THAT THE TOWN CAN SELECT THE STYLE TO BE USED. USE THE SELECTED STYLE IN ALL LOCATIONS WHERE ORNAMENTAL WASHERS ARE REQUIRED.
6. ALL COMPONENTS OF THE SIDEWALK RAILING, INCLUDING ORNAMENTAL WASHERS, ATTACHMENT HARDWARE, 76x76x7.9 HSS MEMBERS, CLOSURE PLATES AT ENDS OF RAIL, AND HARDWARE FOR ATTACHING RAIL TO CHAIN LINK FENCE POSTS AT ABUTMENTS, SHALL BE INCLUDED IN ITEM 525.15, METAL HAND RAILING (MOD.).
7. ALL COMPONENTS OF THE SIDEWALK RAILING INCLUDING ALL ATTACHMENT HARDWARE, SHALL BE PAINTED. PAINTING OF THE SIDEWALK RAILING SHALL BE PAID FOR UNDER ITEM 513.40, SURFACE PREPARATION SHOP, AND ITEM 513.25, STRUCTURAL PAINTING, SHOP APPLIED.

0 250 500

SCALE = 1:5

VANASSE HANGEN BRUSTLIN, INC.

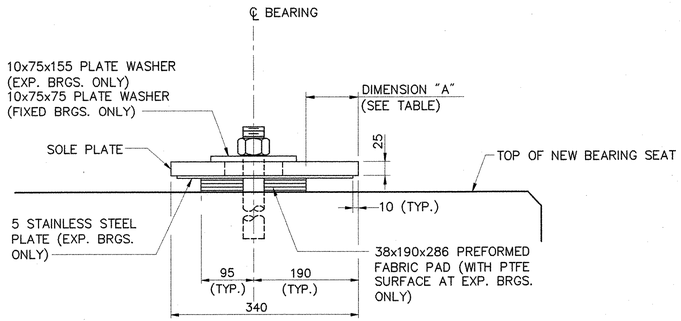
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of CAVENDISH	Bridge No. 12
	Log Sta.
Highway No. T.H. 4	Surv. Sta.
T.H. 4 OVER BLACK RIVER	

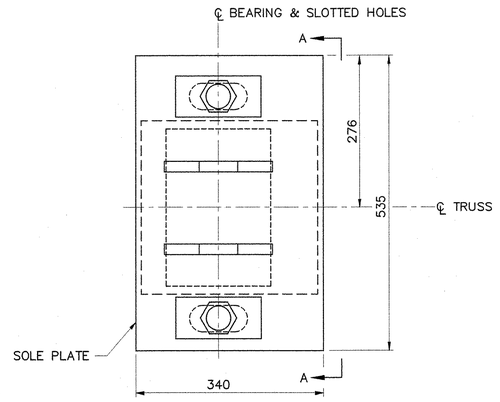
SIDEWALK & ORNAMENTAL RAIL DETAILS

Designed By W.M. MOSHER	Drawn By M.M. LANDREY
Checked By T.S. BRYANT Date 1/04	Bridge Design Supervisor S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
I.G.C. Info.	
Bridge Sheet No. 49912SWD	Sheet 18 of 34

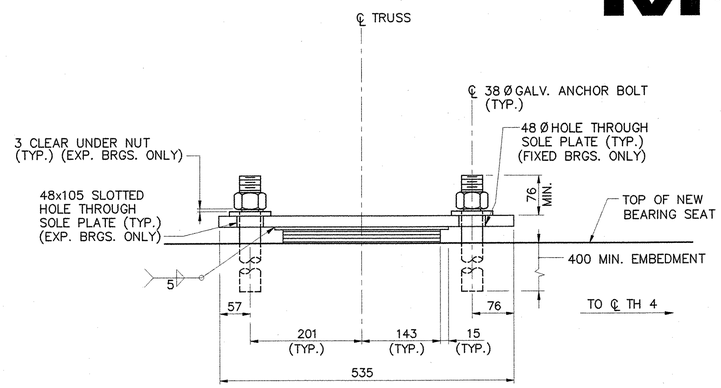
PLOTTED 1-21-04



SIDE ELEVATION



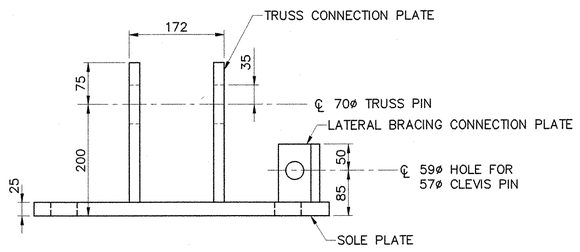
PLAN



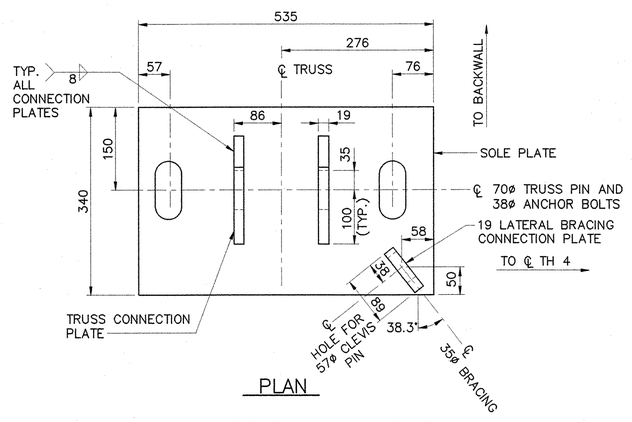
SECTION A–A

TRUSS EXPANSION BEARINGS AT ABUT. NO. 2

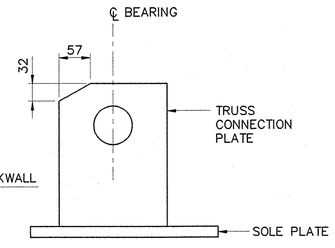
(FIXED BEARINGS SIMILAR)
(TRUSS AND DIAGONAL BRACING CONNECTION PLATES NOT SHOWN, SEE TRUSS EXPANSION BEARING SOLE PLATE DETAILS)
SCALE: 1:5



FRONT ELEVATION



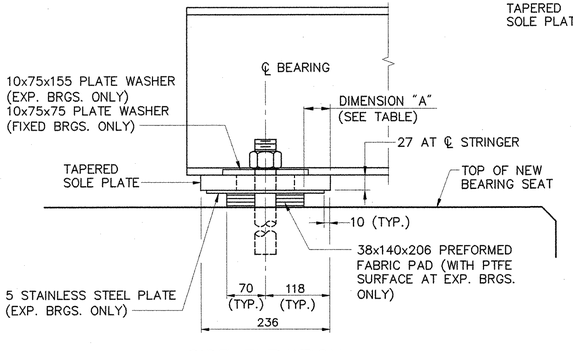
PLAN



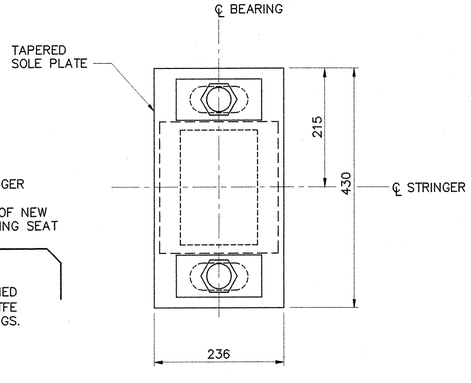
SIDE ELEVATION

TRUSS EXPANSION BEARING SOLE PLATE DETAILS

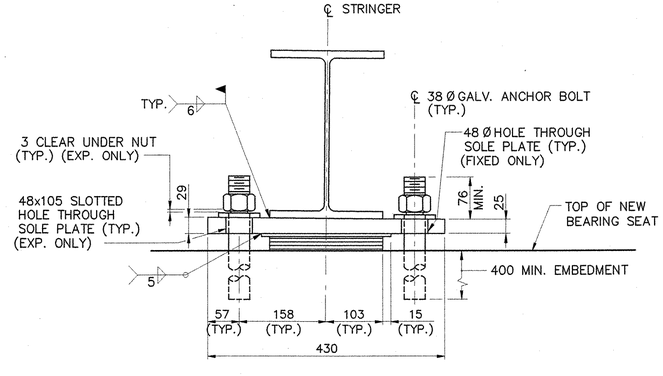
SCALE: 1:5



SIDE ELEVATION



PLAN



FRONT ELEVATION
(LOOKING UPSTATION)

STRINGER EXPANSION BEARINGS AT ABUT. NO. 2

(FIXED BEARINGS SIMILAR)
SCALE: 1:5

NOTES:

1. ABUTMENT NO. 1 DOWNSTREAM AND ABUTMENT NO. 2 UPSTREAM TRUSS BEARINGS SHOWN. OTHER TRUSS BEARINGS SIMILAR, OPPOSITE HAND.

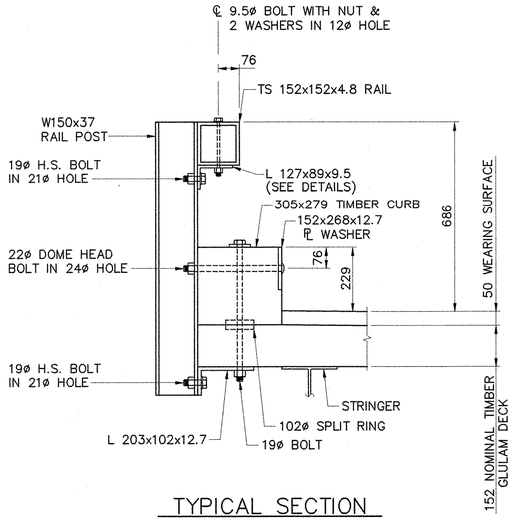
0 250 500

SCALE = 1:5

STATE OF VERMONT
AGENCY OF TRANSPORTATION

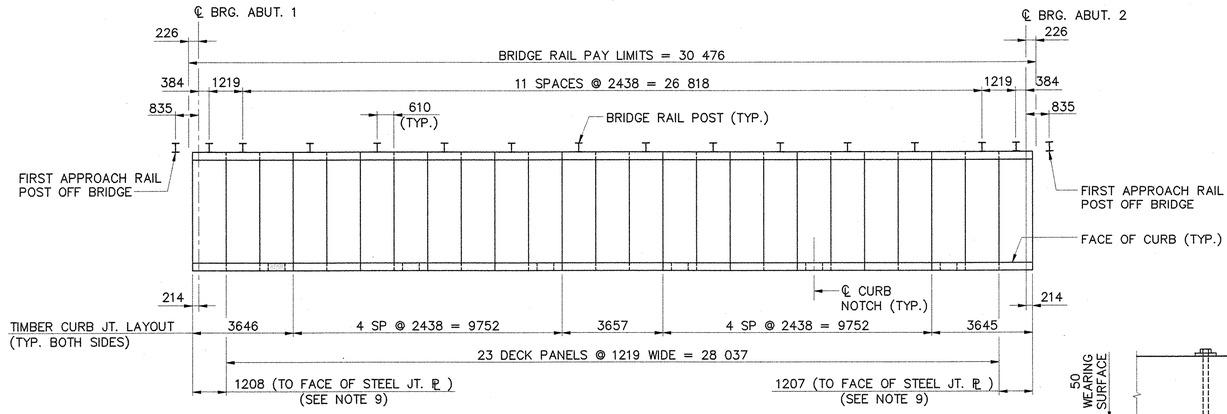
Town Of CAVENDISH	Bridge No. 12
	Log Sta.
Highway No. T.H. 4	Surv. Sta.
T.H. 4 OVER BLACK RIVER	
BEARING DETAILS	
Designed By W.M. MOSHER	Drawn By M.M. LANDREY
Checked By T.S. BRYANT Date 1/04	Bridge Design Supervisor S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
VANASSE HANGEN BRUSTLIN, INC.	I.G.C. Info.
	Bridge Sheet No. 49912BRG Sheet 19 of 34

PLOTTED 1-21-04



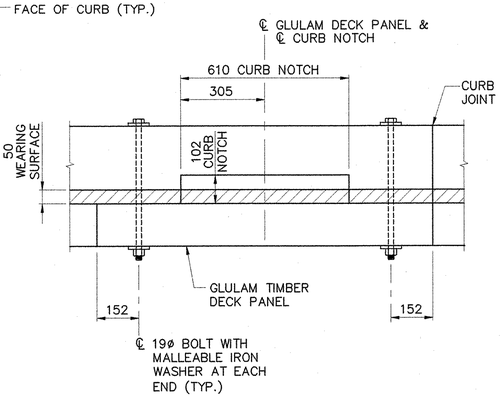
TYPICAL SECTION

(ALL BOLTS ARE HEX HEAD UNLESS OTHERWISE NOTED)
SCALE: 1:10



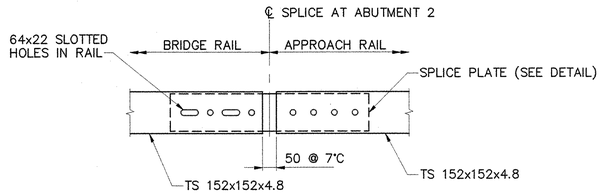
BRIDGE RAIL, CURB JOINT, AND DECK PANEL LAYOUT

SCALE: 1:100



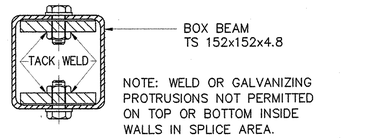
TYPICAL CURB ELEVATION

SCALE: 1:10



PLAN

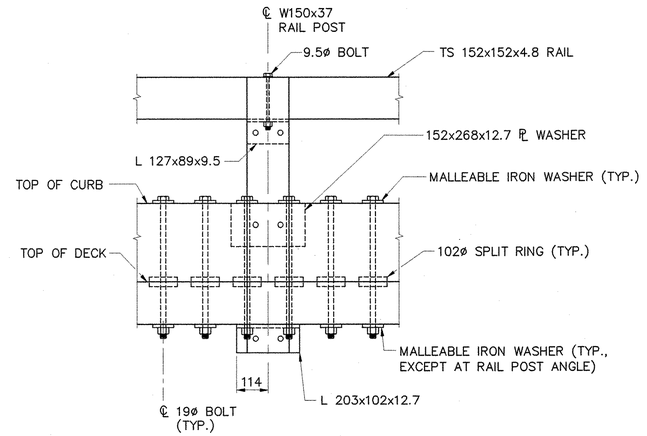
SCALE: 1:10



NOTE: WELD OR GALVANIZING PROTRUSIONS NOT PERMITTED ON TOP OR BOTTOM INSIDE WALLS IN SPLICE AREA.

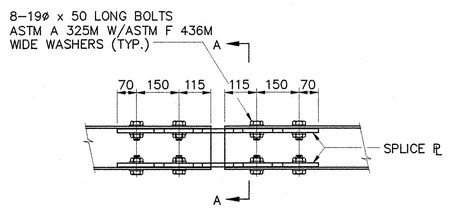
SECTION A–A

SCALE: 1:5



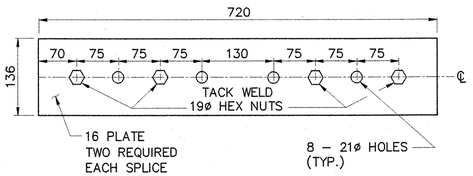
BACK ELEVATION

SCALE: 1:10



ELEVATION

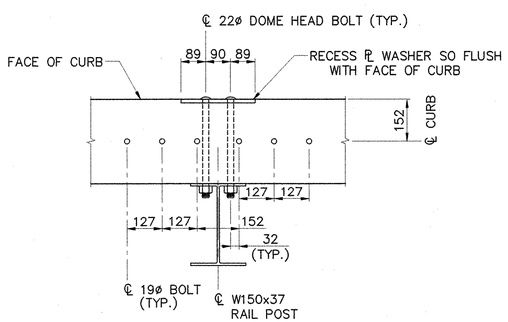
SCALE: 1:10



SPLICE PLATE DETAIL

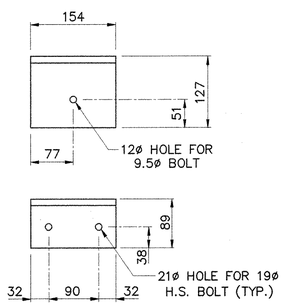
SCALE: 1:5

BRIDGE RAIL EXPANSION JOINT DETAILS



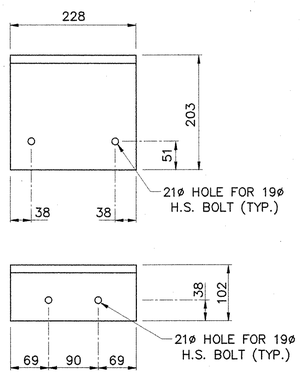
PLAN

(RAIL NOT SHOWN)
SCALE: 1:10



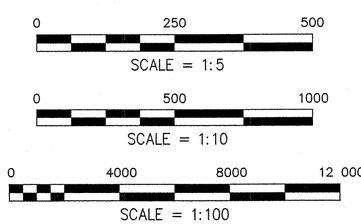
RAIL SUPPORT ANGLE DETAILS

SCALE: 1:5



POST TO DECK CONNECTION ANGLE DETAILS

SCALE: 1:5



NOTES:

1. BRIDGE RAIL LAYOUT IS THE SAME ON BOTH SIDES OF BRIDGE.
2. BRIDGE RAIL SECTIONS SHALL BE CONTINUOUS OVER A MINIMUM OF 2 POSTS.
3. SEE STANDARD SHEET G–1bM FOR TYPICAL RAIL SPLICE DETAILS.
4. ALL BRIDGE RAIL STRUCTURAL STEEL SHALL BE AASHTO M 270M, GRADE 345, EXCEPT FOR THE HSS RAIL WHICH SHALL BE ASTM A500, GRADE B. ALL COMPONENTS OF THE BRIDGE RAIL, INCLUDING BOLTS AND CONNECTION ANGLES, SHALL BE GALVANIZED.
5. ALL COSTS FOR BRIDGE RAIL POST–TO–DECK CONNECTION ANGLES, PLATE WASHERS AT FACE OF CURB, CURB BOLTS AND SPLIT RINGS, EXPANSION JOINT SPLICES AT ABUTMENT 2, AND RAIL SPLICES AT ALL OTHER LOCATIONS, SHALL BE INCLUDED IN ITEM 525.30, BRIDGE RAILING – 1 RAIL GALVANIZED BOX BEAM (MOD.).
6. H.S. BOLTS IN BRIDGE RAIL SHALL BE AASHTO M 164M TYPE I. ALL OTHER BRIDGE RAIL BOLTS, INCLUDING CURB BOLTS, SHALL BE ASTM F 568M, CLASS 4.6. SPLIT RINGS SHALL BE MANUFACTURED FROM SAE 1010 HOT–ROLLED CARBON STEEL IN ACCORDANCE WITH SAE J412 (SAE 1989).
7. SEE SHEET 21 FOR APPROACH RAIL LAYOUT.
8. AT ALL PANELS WITH BRIDGE RAIL POSTS, TIMBER CURB SHALL BE ATTACHED AS SHOWN IN THE BRIDGE RAIL PLAN AND BACK ELEVATION. AT ALL GLULAM DECK PANELS WITHOUT BRIDGE RAIL POSTS THE TIMBER CURB SHALL BE NOTCHED AND ATTACHED AS SHOWN IN THE TYPICAL CURB ELEVATION. ALL COSTS FOR CURB BOLTS IN DECK PANELS WITHOUT BRIDGE RAIL POSTS SHALL BE INCLUDED IN ITEM 522.25, STRUCTURAL LUMBER AND TIMBER – TREATED.
9. SEE SHEET 17 FOR TYPICAL ROADWAY DECK END JOINT DETAIL.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

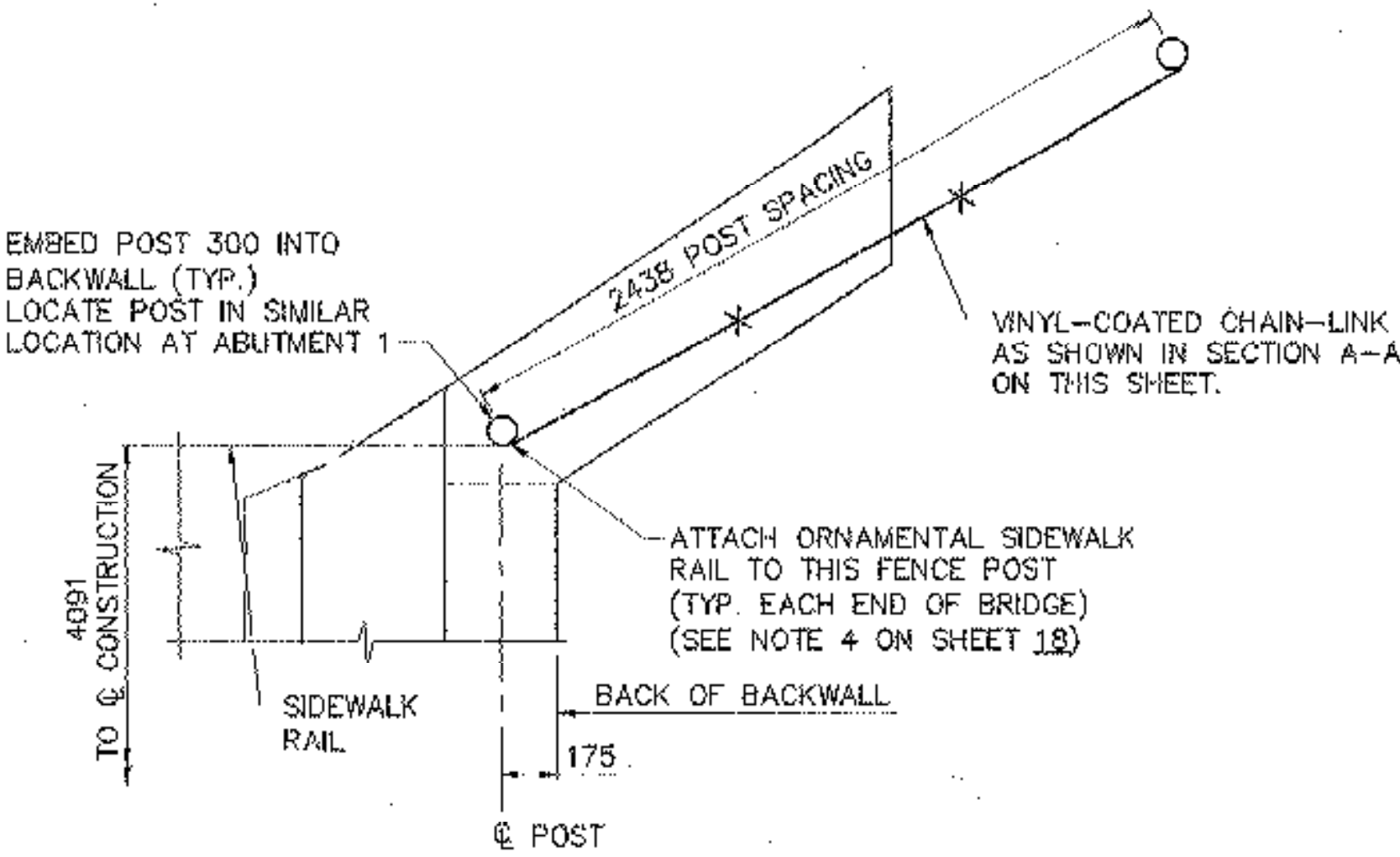
Town Of CAVENDISH	Bridge No. 12
Highway No. T.H. 4	Log Sta.
	Surv. Sta.
T.H. 4 OVER BLACK RIVER	
BRIDGE RAIL DETAILS	
Designed By T.S. BRYANT	Drawn By K.D. WENTWORTH
Checked By Date T.S. BRYANT 1/04	Bridge Design Supervisor C.D. BAKER Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
I.G.C. Info.	
VANASSE HANGEN BRUSTLIN, INC.	Bridge Sheet No. 49912BR1 Sheet 20 of 34

PLOTTED 1–21–04

762

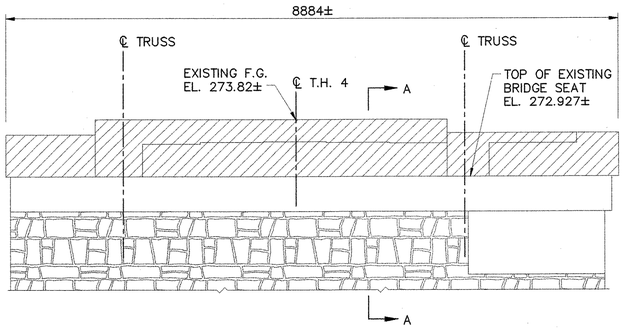
SECTION A–A

SCALE: 1:20



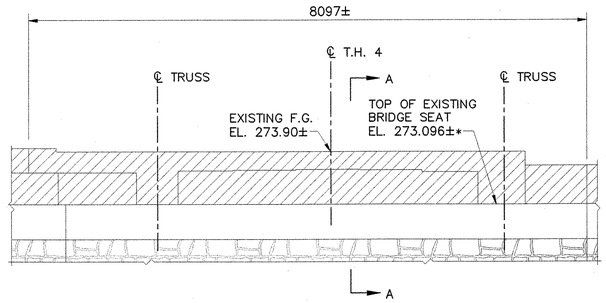
DETAIL A

SCALE: 1:20



EXISTING ABUTMENT 1 ELEVATION

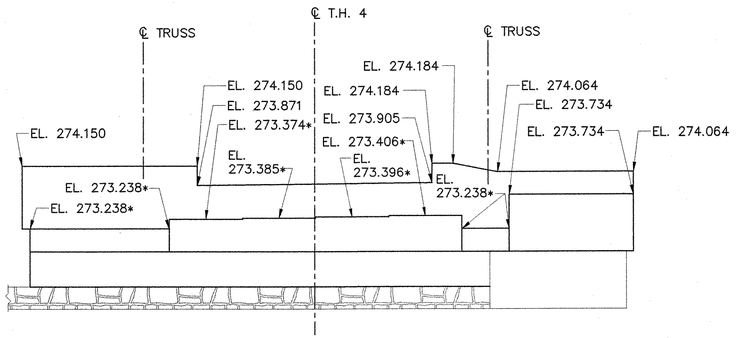
SCALE: 1:40



EXISTING ABUTMENT 2 ELEVATION

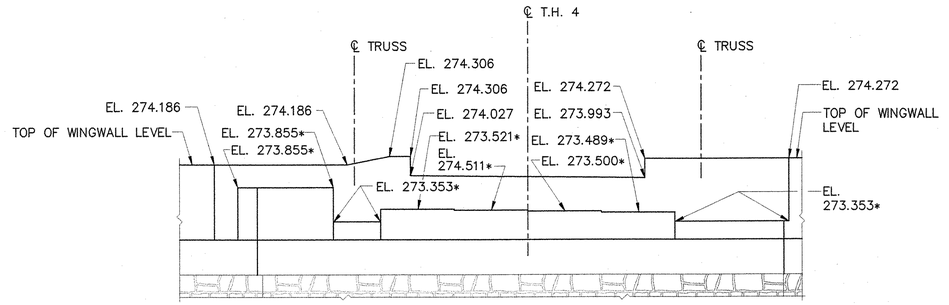
SCALE: 1:40

DENOTES LIMITS OF REMOVAL



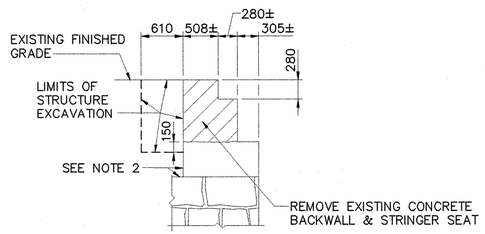
PROPOSED ABUTMENT 1 ELEVATION

SCALE: 1:40



PROPOSED ABUTMENT 2 ELEVATION

SCALE: 1:40



SECTION A–A

NOT TO SCALE

NOTES:

1. REMOVE ENTIRE ABUTMENT, INCLUDING WINGWALLS, ABOVE TOP OF EXISTING BRIDGE SEAT ELEVATION.
2. AN ASSUMED CONFIGURATION OF THE BACK OF EXISTING BACKWALL AND ABUTMENT IS SHOWN IN THE SECTION ON THIS SHEET. THE ACTUAL CONFIGURATION IS UNKNOWN.
3. ELEVATIONS WITH AN * ARE GIVEN AT ℄ BEARING. ALL OTHER ELEVATIONS ARE GIVEN AT FACE OF BACKWALL.

0 1000 2000 3000

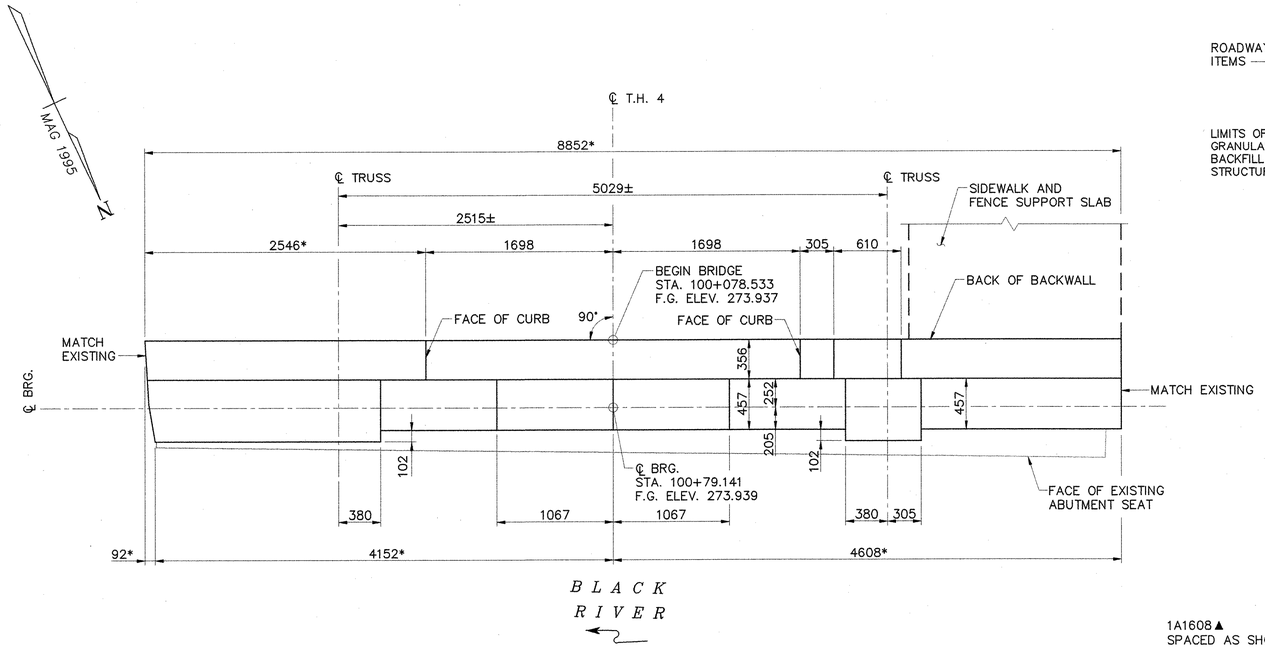
SCALE = 1:40

VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

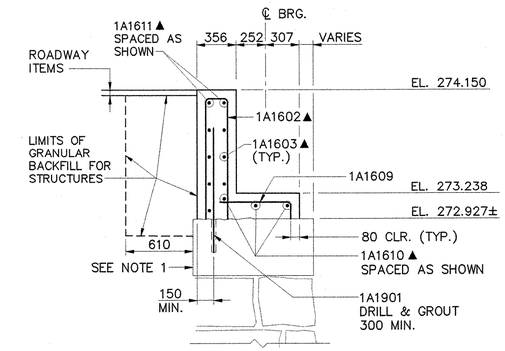
Town Of CAVENDISH	Bridge No. 12
	Log Sta.
Highway No. T.H. 4	Surv. Sta.
T.H. 4 OVER BLACK RIVER	
ABUTMENT ELEVATIONS	
Designed By T.S. BRYANT	Drawn By M.M. LANDREY
Checked By W.M. MOSHER Date 1/04	Bridge Design Supervisor S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
I.G.C. Info.	
Bridge Sheet No. 49912ABE	Sheet 22 of 34

PLOTTED 1-21-04



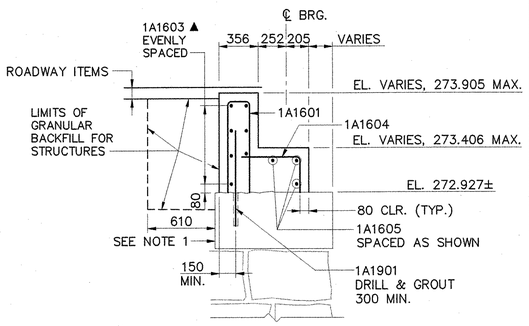
PROPOSED MASONRY PLAN

SCALE: 1:25



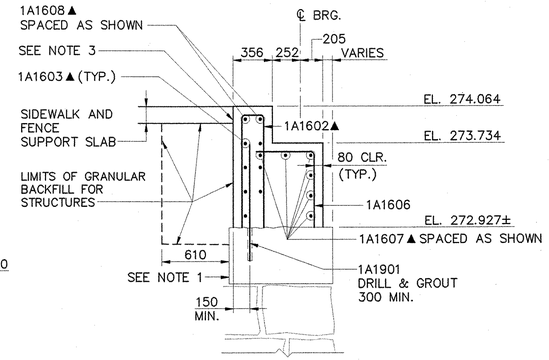
SECTION A–A

SCALE: 1:25



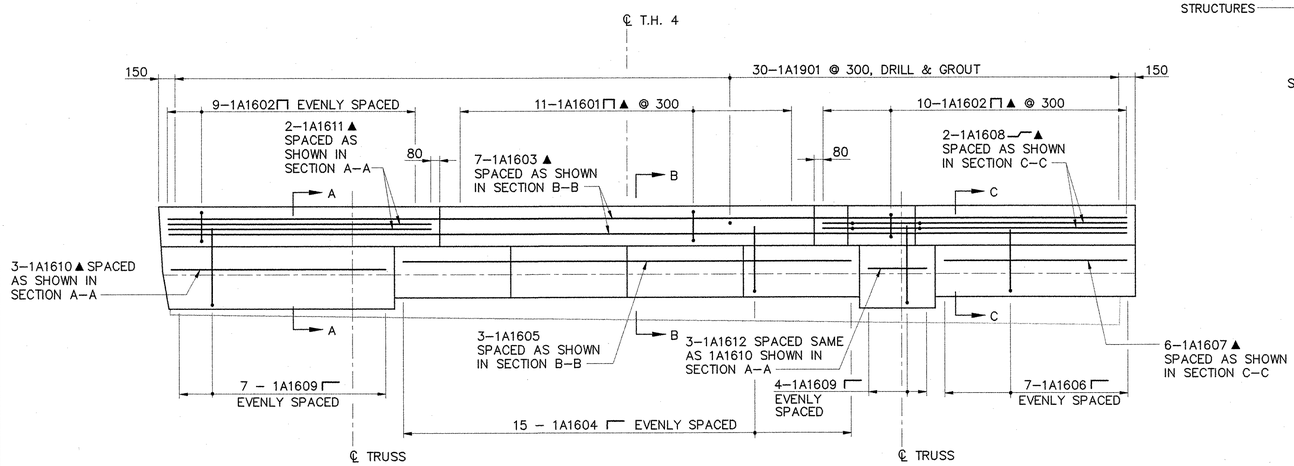
SECTION B–B

SCALE: 1:25



SECTION C–C

SCALE: 1:25



PROPOSED REINFORCEMENT PLAN

SCALE: 1:25

0 1000 2000 3000

SCALE = 1:25

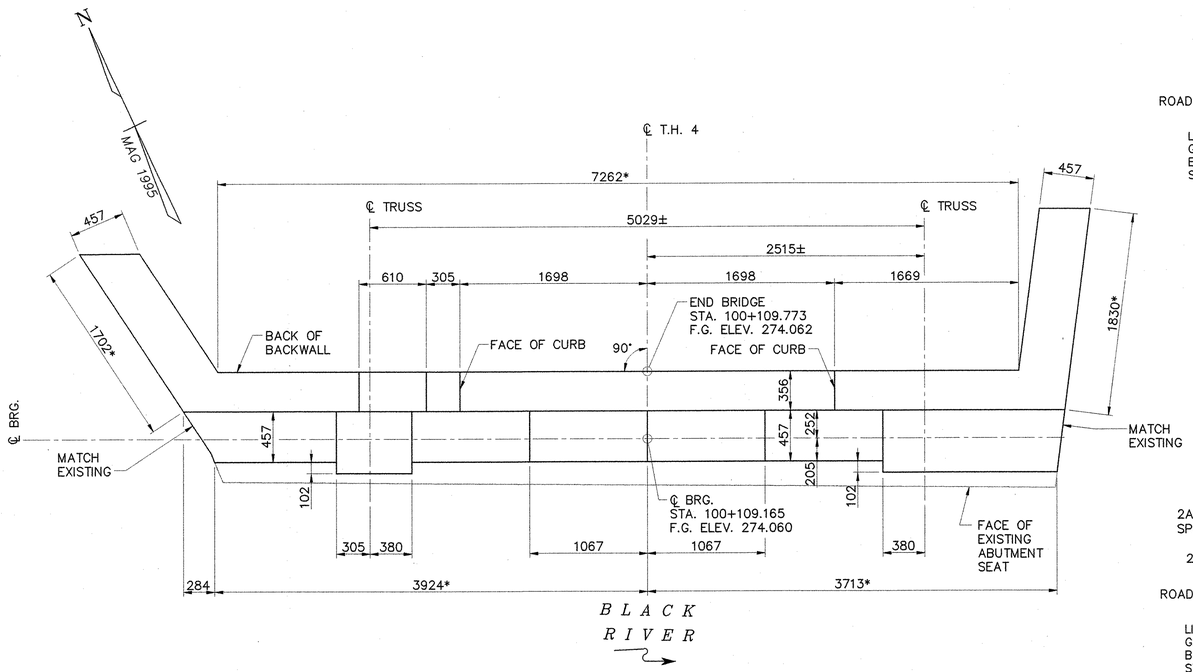
NOTES:

1. AN ASSUMED CONFIGURATION OF THE BACK OF EXISTING BACKWALL AND ABUTMENT IS SHOWN IN THE SECTIONS ON THIS SHEET. THE ACTUAL CONFIGURATION IS UNKNOWN.
2. ADJUST DIMENSIONS NOTED WITH AN * AS NECESSARY TO MATCH EXISTING ABUTMENT AND WINGWALL FACES.
3. PROVIDE BOND BREAKER APPROVED BY THE ENGINEER BETWEEN BACK OF ABUTMENT BACKWALL AND EDGE OF SIDEWALK AND FENCE SUPPORT SLAB. COSTS FOR BOND BREAKER SHALL BE INCIDENTAL TO ITEM 501.33, CONCRETE, HIGH PERFORMANCE CLASS A.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

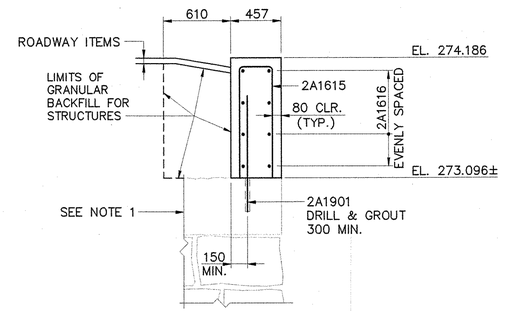
Town Of CAVENDISH	Bridge No. 12
	Log Sta.
Highway No. T.H. 4	Surv. Sta.
T.H. 4 OVER BLACK RIVER	
ABUTMENT 1 MODIFICATIONS	
Designed By T.S. BRYANT	Drawn By M.M. LANDREY
Checked By W.M. MOSHER Date 1/04	Bridge Design Supervisor S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
I.G.C. Info.	
VANASSE HANGEN BRUSTLIN, INC.	Bridge Sheet No. 49912AM1 Sheet 23 of 34

PLOTTED 1-21-04



PROPOSED MASONRY PLAN

SCALE: 1:25



SECTION A–A

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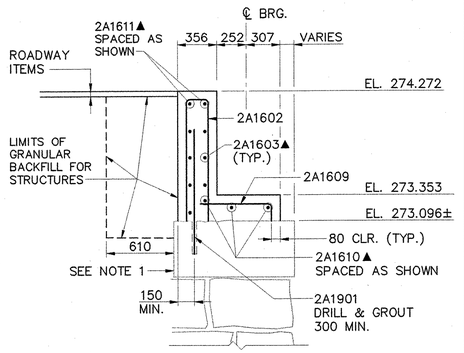
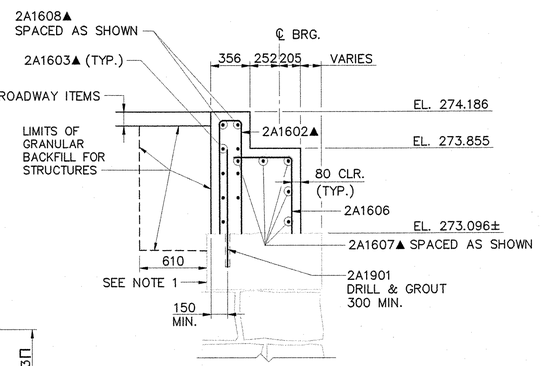


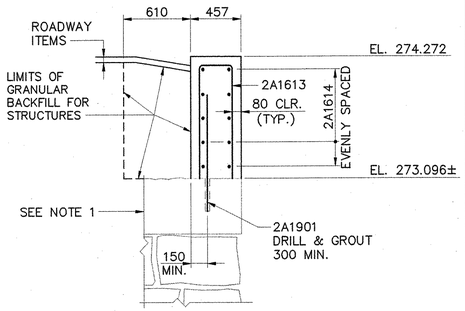
SECTION D–D

SCALE: 1:25



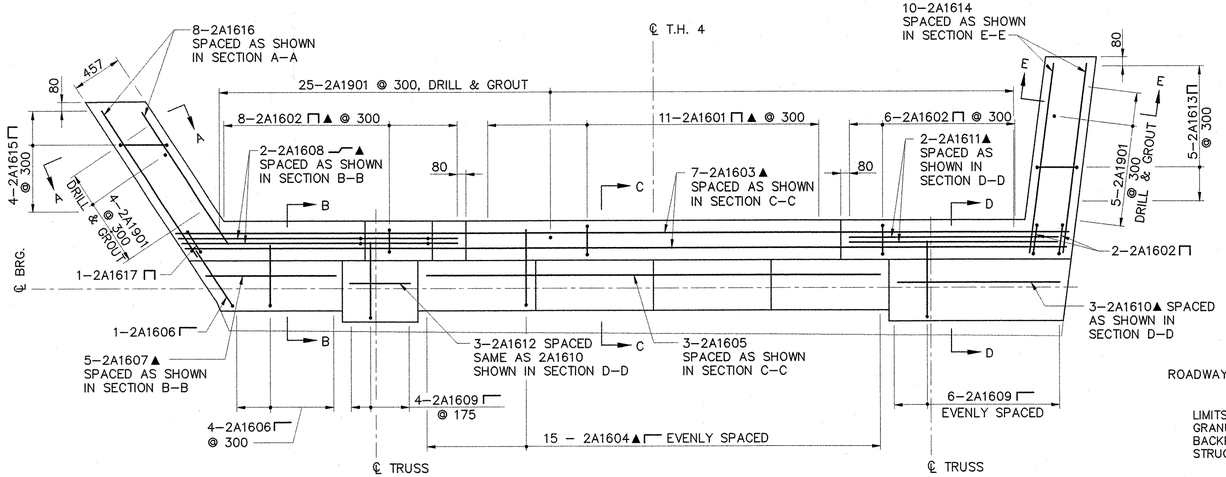
SECTION B–B

SCALE: 1:25



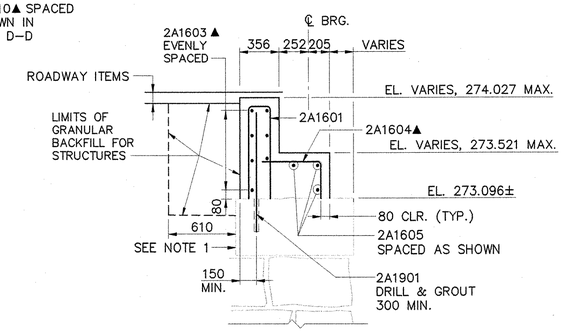
SECTION E–E

SCALE: 1:25



PROPOSED REINFORCEMENT PLAN

SCALE: 1:25



SECTION C–C

SCALE: 1:25

0 1000 2000 3000

SCALE = 1:25

NOTES:

1. AN ASSUMED CONFIGURATION OF THE BACK OF EXISTING BACKWALL AND ABUTMENT IS SHOWN IN THE SECTIONS ON THIS SHEET. THE ACTUAL CONFIGURATION IS UNKNOWN.
2. ADJUST DIMENSIONS NOTED WITH AN * AS NECESSARY TO MATCH EXISTING ABUTMENT AND WINGWALL FACES.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of CAVENDISH	Bridge No. 12
	Log Sta.
Highway No. T.H. 4	Surv. Sta.
T.H. 4 OVER BLACK RIVER	

ABUTMENT 2 MODIFICATIONS

Designed By T.S. BRYANT	Drawn By M.M. LANDREY
Checked By W.M. MOSHER Date 1/04	Bridge Design Supervisor S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
I.G.C. Info.	
Bridge Sheet No. 49912AM2	Sheet 24 of 34

VANASSE HANGEN BRUSTLIN, INC.

PLOTTED 1-21-04

	ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
					ABUTMENT NO. 1													
	1	7	16	8690	1A1603 ▲	STR												
	2	3	16	4120	1A1605	STR												
✳	3	6	16	1650	1A1607 ▲	STR												
	4	3	16	1980	1A1610 ▲	STR												
	5	2	16	2390	1A1611 ▲	STR												
	6	3	16	530	1A1612	STR												
	7																	
	8	11	16	2000	1A1601 ▲	17		900	200	900								
✳	9	19	16	2560	1A1602 ▲	17		1180	200	1180								
	10	15	16	950	1A1604 ▲	17		540	410	0								
	11	7	16	1350	1A1606	17		540	810	0								
	12	2	16	2760	1A1608 ▲	6	0	230	620	1910			0	120		610		2750
	13	11	16	880	1A1609	17		640	240	0								
	14																	
△	15	29	19	1170	1A1901	STR												
	16																	
	17				ABUTMENT NO. 2													
	18	7	16	8080	2A1603 ▲	STR												
	19	3	16	4120	2A1605	STR												
	20	5	16	1320	2A1607 ▲	STR												
	21	3	16	1530	2A1610 ▲	STR												
	22	2	16	1970	2A1611 ▲	STR												
	23	3	16	530	2A1612	STR												
✳	24	10	16	1670	2A1614	STR												
	25	8	16	1540	2A1616	STR												
	26																	
✳	27	11	16	1900	2A1601 ▲	17		850	200	850								
	28	16	16	2390	2A1602 ▲	17		1095	200	1095								
	29	15	16	890	2A1604 ▲	17		540	350	0								
	30	5	16	1220	2A1606 ▲	17		540	680	0								
	31	2	16	2610	2A1608 ▲	6	0	230	620	1760			0	120		610		2600
	32	10	16	820	2A1609	17		640	180	0								
	33	5	16	2510	2A1613	17		1100	310	1100								
	34	4	16	2570	2A1615	17		1010	550	1010								
	35	1	16	2260	2A1617	17		1010	240	1010								
	36																	
△	37	34	19	1090	2A1901	STR												
	38																	
	39				FENCE SUPPORT & SIDEWALK SLAB													
	40	9	16	2850	SW1603	STR												
	41																	
✳	42	11	16	2000	SW1601 ▲	17		300	1700	0								
✳	43	11	16	1335	SW1602	16	0	300	610	425				300		300		
	44																	
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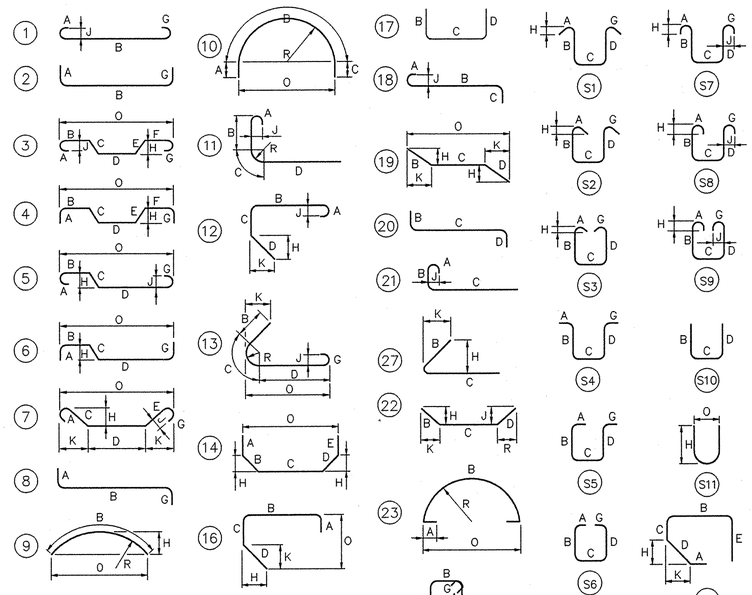


NOTES:

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING 55M SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-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° AND 135° HOOKS.
5. "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. "E" IN PREFIX DENOTES EPOXY COATED REINFORCING STEEL.
8. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
9. ✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. ▲ DENOTES BARS TO BE CUT TO FIT IN FIELD.

ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	MASS (kg/m)	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER (mm)	CROSS SECTIONAL AREA (mm²)	PERIMETER (mm)
#10	0.560	9.5	71	29.9
#13	0.994	12.7	129	39.9
#16	1.552	15.9	199	49.9
#19	2.235	19.1	284	59.8
#22	3.042	22.2	387	69.8
#25	3.973	25.4	510	79.9
#29	5.060	28.7	645	90.0
#32	6.404	32.3	819	101.3
#36	7.907	35.8	1006	112.5
#43	11.38	43.0	1452	135.1
#57	20.24	57.3	2581	180.1

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of CAVENDISH	Bridge No. 12
	Log Sta.
Highway No. TH 4	Surv. Sta.
T.H. 4 OVER BLACK RIVER	
REINFORCING STEEL SCHEDULE	
Designed By T.S. BRYANT	Drawn By M.M. LANDREY
Checked By Date T.S. BRYANT 1/04	Bridge Design Supervisor S.W. JOHNSON Date 1/04
PROJECT CAVENDISH	PROJECT NO. BHO 1442 (22)
I.G.C. Info.	
Bridge Sheet No. 50499REF	Sheet 25 of 34

VANASSE HANGEN BRUSTLIN, INC.

PLOTTED 1-21-04

VAOT Metric

+034
FLAG POLE

3300 3300

MATCH EXISTING MATCH EXISTING

Trailer

+031
200 B Spruce

House

Porch

275
270

273.14
273.14

35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35

100+030

+026.5
300 Maple

+022.0
200 Cherry

+020
POLE
213/? 3100/5

+021.0
Dbl 600 Pine

MATCH EXISTING MATCH EXISTING

275
270

273.29
273.29

35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35

100+020

MATCH EXISTING MATCH EXISTING

275
270

273.56
273.56

35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35

+009.0
225 W Pine

100+010

BEGIN APPROACH
STA. 100+010.000
MATCH EXISTING

+006.5
1000 Maple

Trestle

Porch

275
270

273.88

35 30 25 20 15 10 5 ℄ 5 10 15 20

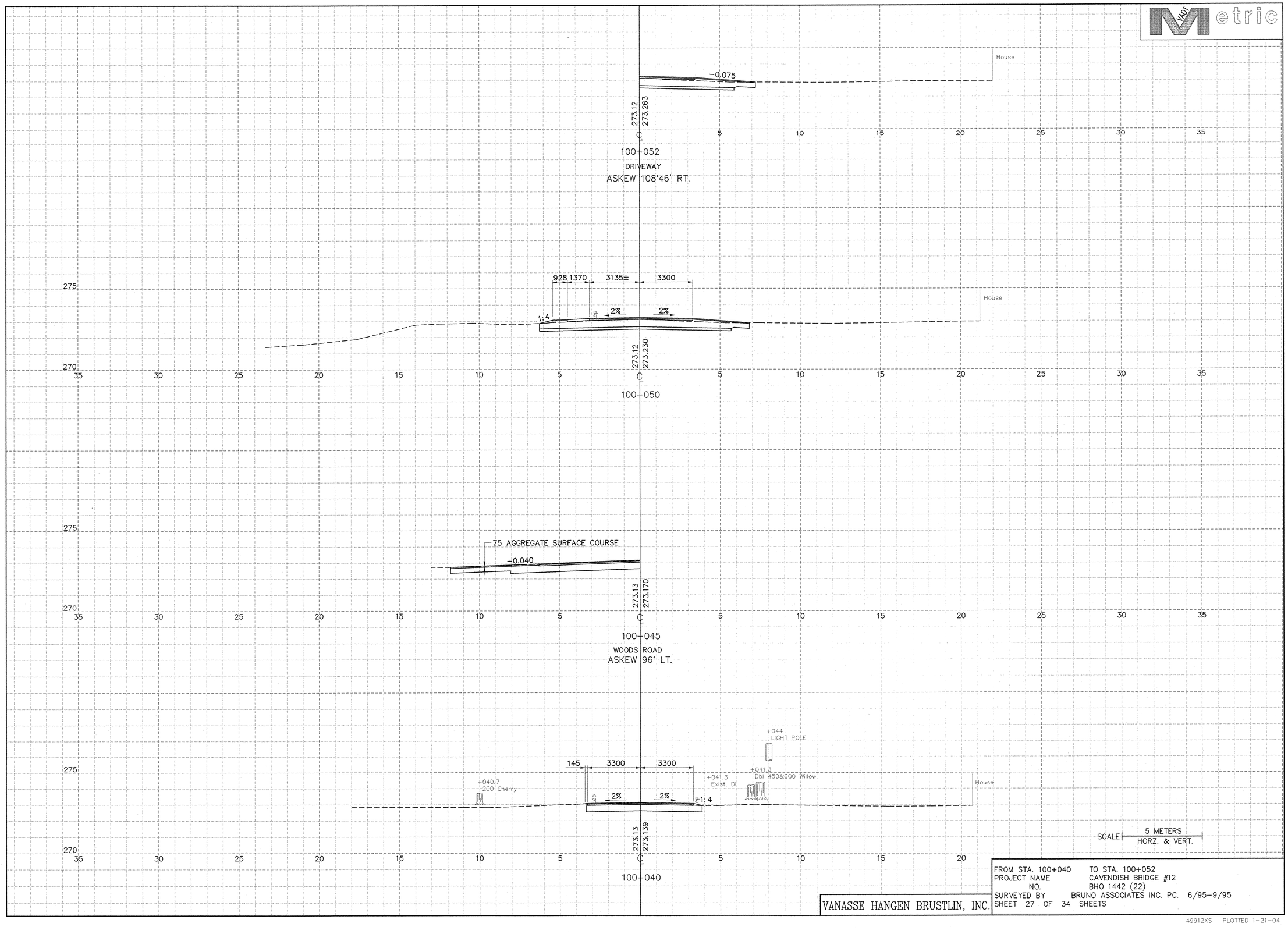
100+000

SCALE 5 METERS
HORZ. & VERT.

VANASSE HANGEN BRUSTLIN, INC.

FROM STA. 100+000	TO STA. 100+030
PROJECT NAME	CAVENDISH BRIDGE #12
NO.	BHO 1442 (22)
SURVEYED BY	BRUNO ASSOCIATES INC. PC. 6/95–9/95
SHEET 26 OF 34 SHEETS	

49912XS PLOTTED 1-21-04



FROM STA. 100+040 TO STA. 100+052
PROJECT NAME CAVENDISH BRIDGE #12
NO. BHO 1442 (22)
SURVEYED BY BRUNO ASSOCIATES INC. PC. 6/95-9/95
SHEET 27 OF 34 SHEETS

VANASSE HANGEN BRUSTLIN, INC.

49912XS PLOTTED 1-21-04

VAOT Metric

275
270
35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35

273.86
273.983

100+090

275
270
35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35

273.82
273.943

100+080

BEGIN PROJECT
BEGIN BRIDGE
STA. 100+078.533

+077.0
Sign

915 940 2120 2140 1330

0.5% 1.5%

1:3 1:4

Edge of Class III Wetland

1:1.5

STONE FILL, TYPE IV

+072.2
Dbl 300&300 Willow

Treeline

+069.2
125 Maple

275
270
35 30 25 20 15 10 5 ℄ 5 10 15 20

273.56
273.755

100+070

+065.4
POLE #4

915 830 2630 2670 1430

2% 2%

1:10 1:4 1:4

Treeline

275
270
35 30 25 20 15 10 5 ℄ 5 10 15 20

273.27
273.441

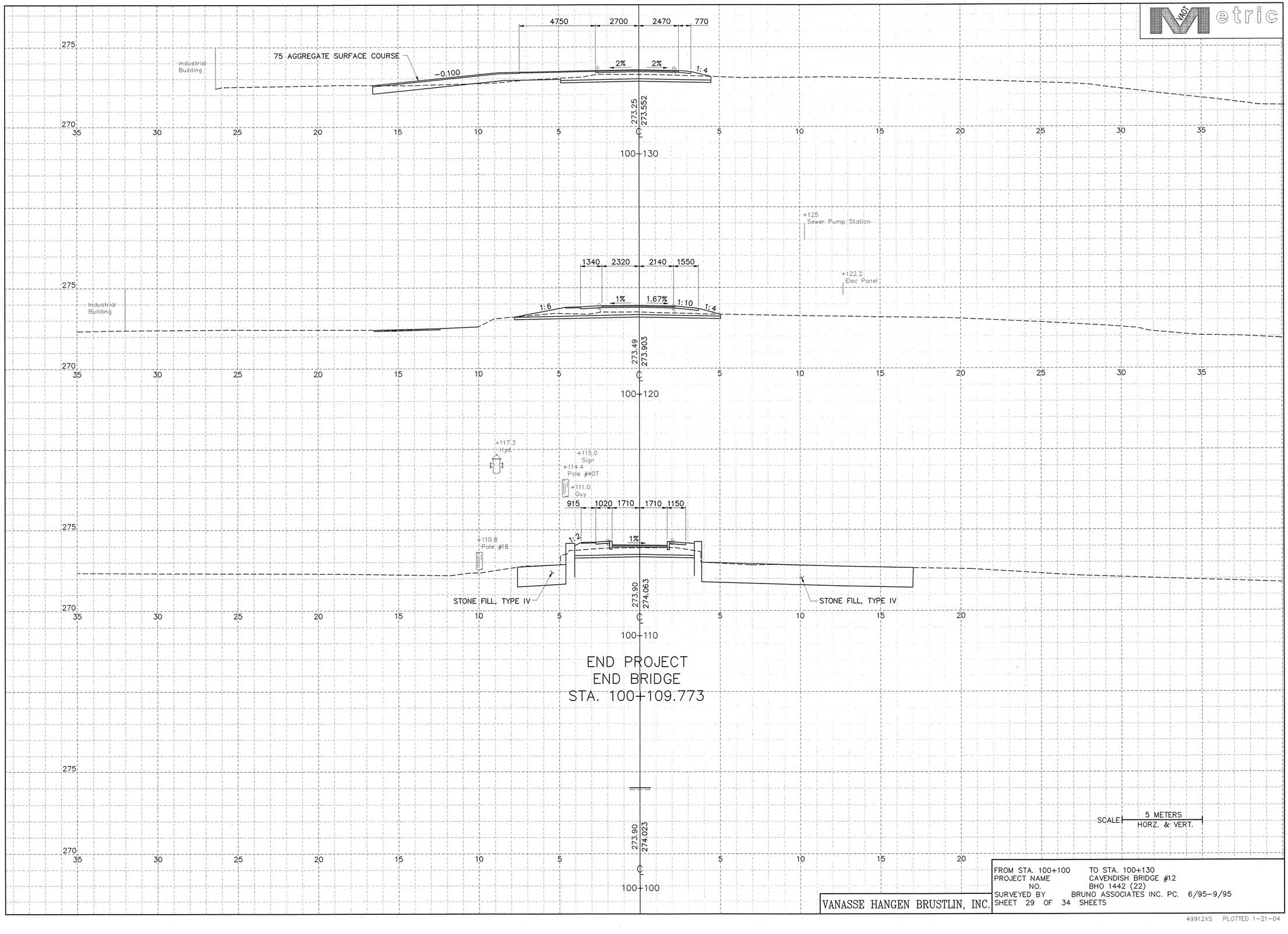
100+060

SCALE 5 METERS
HORZ. & VERT.

VANASSE HANGEN BRUSTLIN, INC.

FROM STA. 100+060	TO STA. 100+090
PROJECT NAME	CAVENDISH BRIDGE #12
NO.	BHO 1442 (22)
SURVEYED BY	BRUNO ASSOCIATES INC. PC. 6/95–9/95
SHEET 28 OF 34 SHEETS	

49912XS PLOTTED 1-21-04

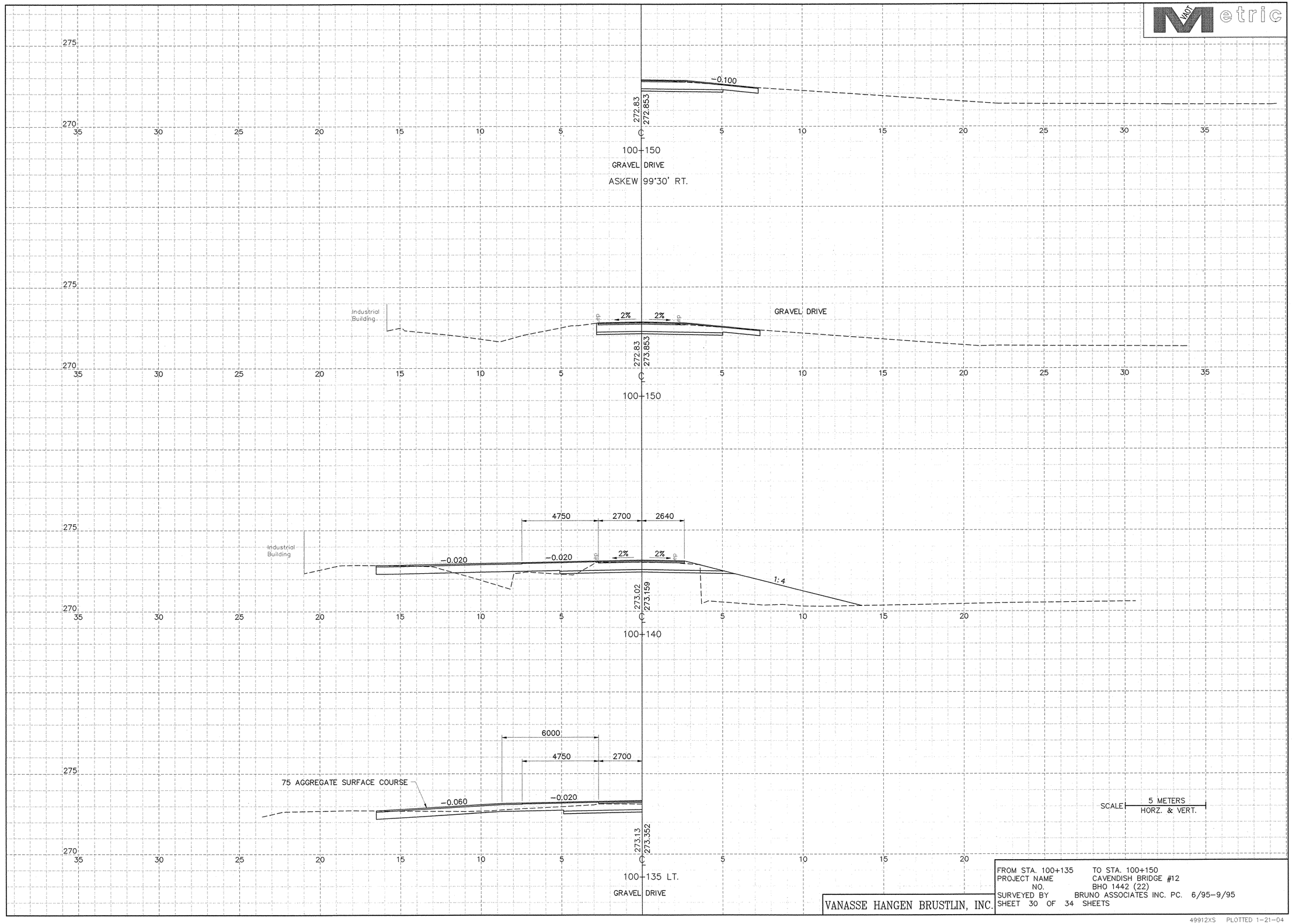


VANASSE HANGEN BRUSTLIN, INC.

FROM STA. 100+100 TO STA. 100+130
PROJECT NAME CAVENDISH BRIDGE #12
NO. BHO 1442 (22)
SURVEYED BY BRUNO ASSOCIATES INC. PC. 6/95–9/95
SHEET 29 OF 34 SHEETS

49912XS PLOTTED 1-21-04

MADOT Metric



VANASSE HANGEN BRUSTLIN, INC.

FROM STA. 100+135 TO STA. 100+150
PROJECT NAME CAVENDISH BRIDGE #12
NO. BHO 1442 (22)
SURVEYED BY BRUNO ASSOCIATES INC. PC. 6/95-9/95
SHEET 30 OF 34 SHEETS

49912XS PLOTTED 1-21-04

VAOT Metric

275
270
35 30 25 20 15 10 5 0 5 10 15 20 25 30 35

272.59
℄
100+190

+186.2
Fence

END APPROACH
STA. 100+185.000
MATCH EXISTING

DRIVE

MATCH EXISTING | MATCH EXISTING

272.54 272.54
℄
100+180

+177.0
Sign
+173.2
POLE #212/1/2
+171.7
660: Ash

MATCH EXISTING | MATCH EXISTING

272.48 272.48
℄
100+170

Industrial Building

1:4 2% 2% 1:4

House

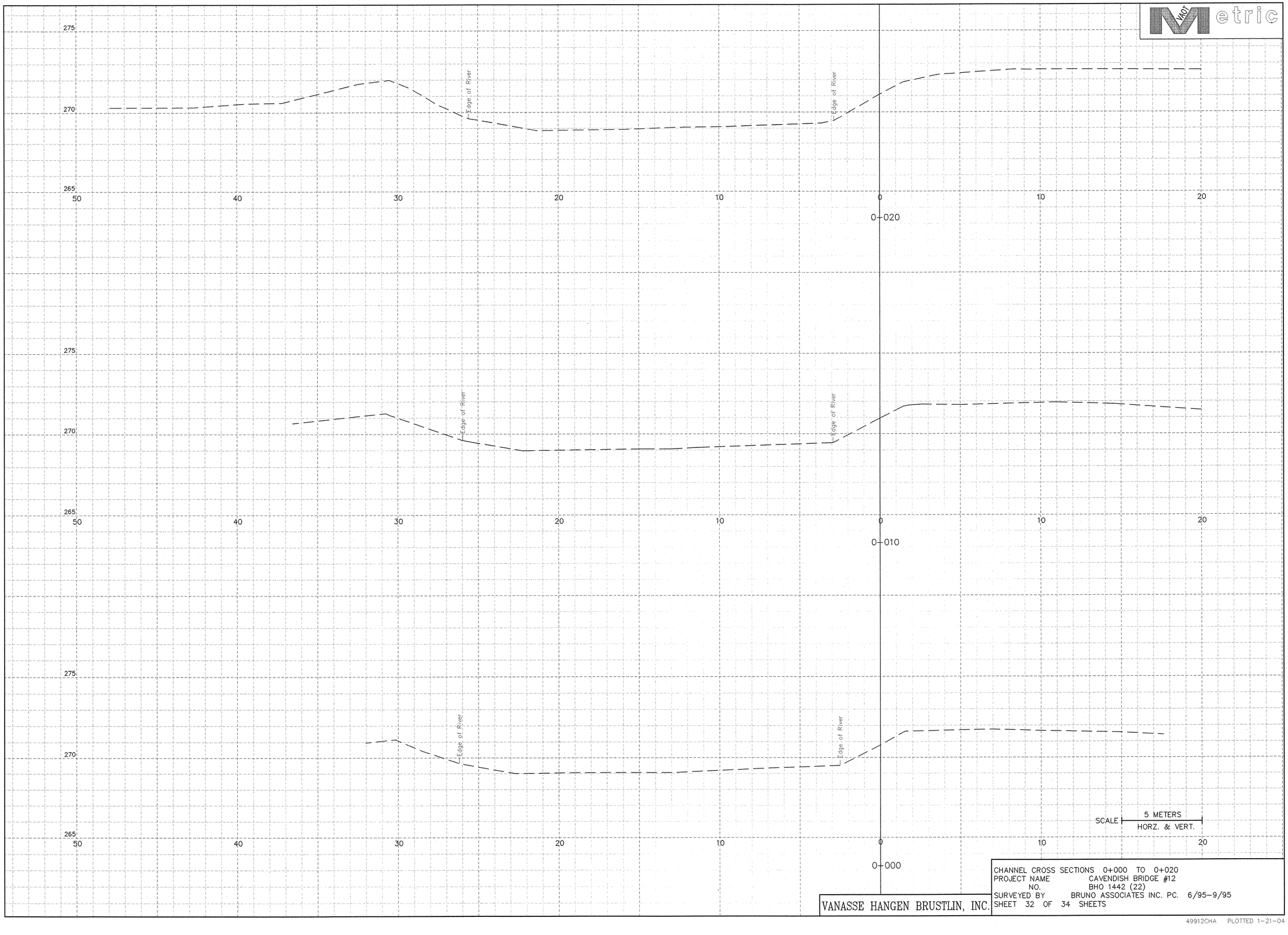
272.65 272.65
℄
100+160

SCALE 5 METERS
HORZ. & VERT.

FROM STA. 100+160 TO STA. 100+190
PROJECT NAME CAVENDISH BRIDGE #12
NO. BHO 1442 (22)
SURVEYED BY BRUNO ASSOCIATES INC. PC. 6/95-9/95
SHEET 31 OF 34 SHEETS

VANASSE HANGEN BRUSTLIN, INC.

49912XS PLOTTED 1-21-04

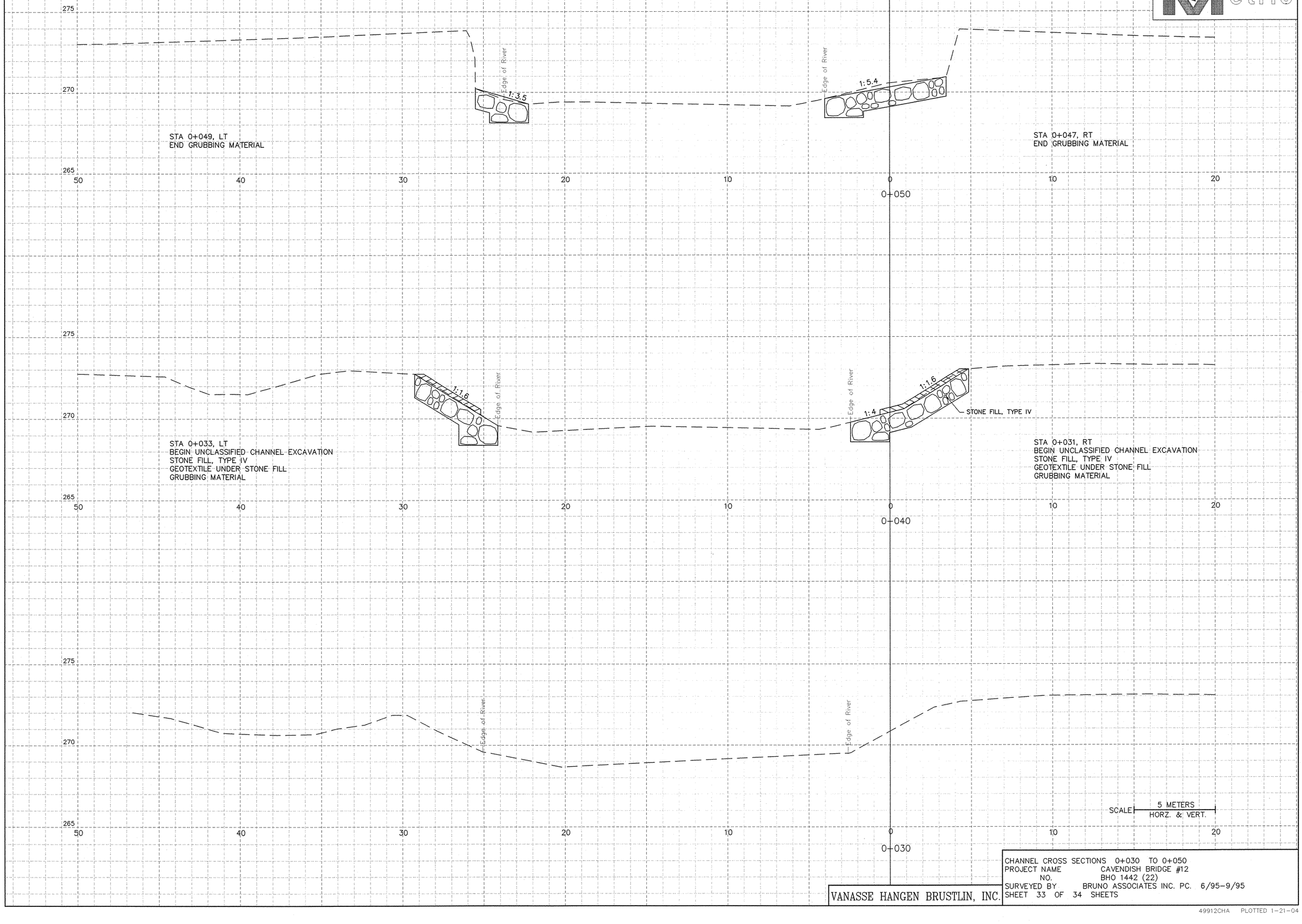


VANASSE HANGEN BRUSTLIN, INC.

CHANNEL CROSS SECTIONS 0+000 TO 0+020
PROJECT NAME CAVENDISH BRIDGE #12
NO. BHO 1442 (22)
SURVEYED BY BRUNO ASSOCIATES INC. PC. 6/95-9/95
SHEET 32 OF 34 SHEETS

49912CHA PLOTTED 1-21-04

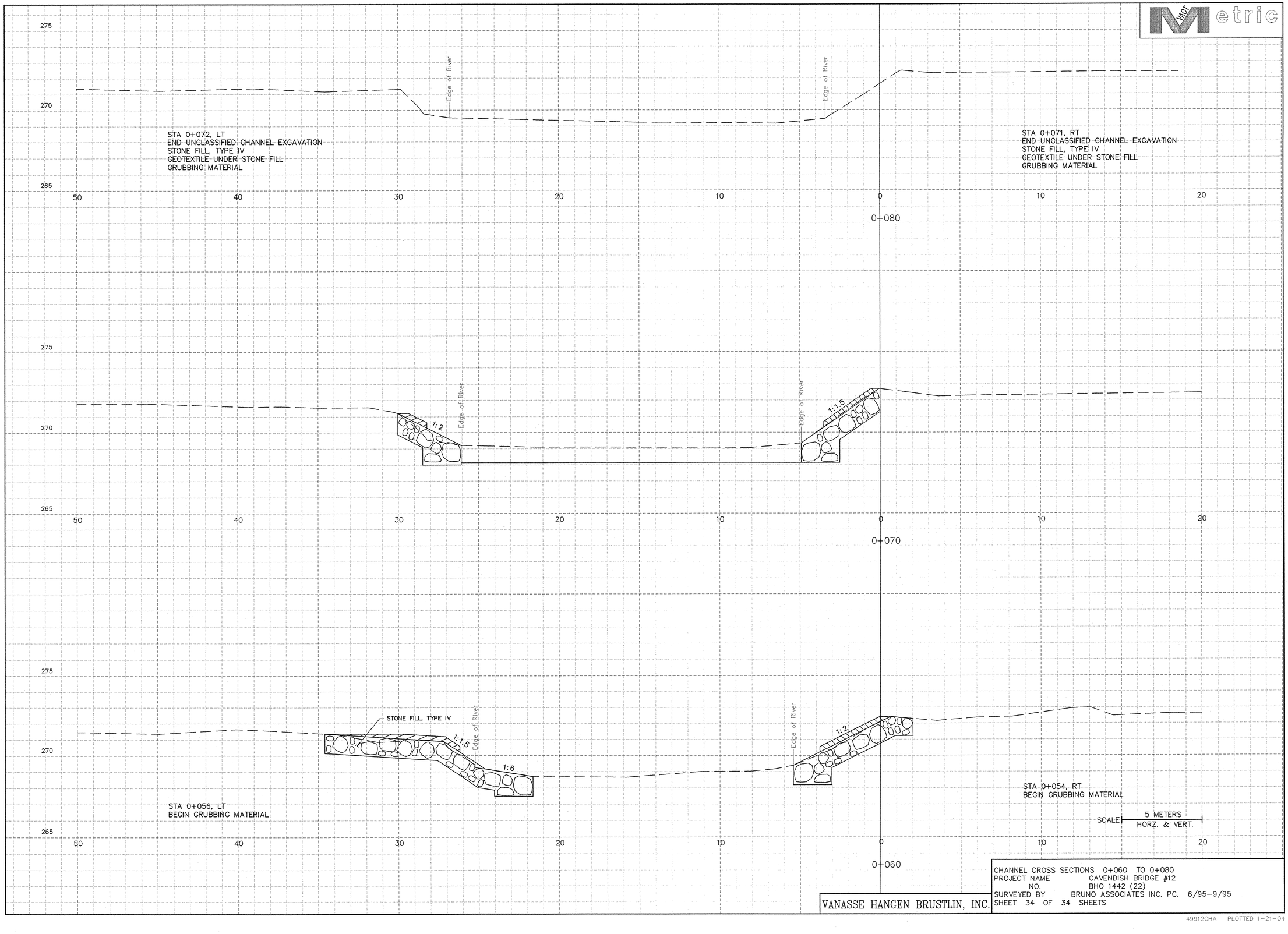
VAOT Metric



VANASSE HANGEN BRUSTLIN, INC.

CHANNEL CROSS SECTIONS 0+030 TO 0+050
PROJECT NAME CAVENDISH BRIDGE #12
NO. BHO 1442 (22)
SURVEYED BY BRUNO ASSOCIATES INC. PC. 6/95-9/95
SHEET 33 OF 34 SHEETS

49912CHA PLOTTED 1-21-04



VANASSE HANGEN BRUSTLIN, INC.

CHANNEL CROSS SECTIONS 0+060 TO 0+080
PROJECT NAME CAVENDISH BRIDGE #12
NO. BHO 1442 (22)
SURVEYED BY BRUNO ASSOCIATES INC. PC. 6/95-9/95
SHEET 34 OF 34 SHEETS

49912CHA PLOTTED 1-21-04

GENERAL NOTES:

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED ~~1990~~ 2001, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 1996, AND ITS LATEST REVISIONS.

2. THESE SHOP DRAWINGS WERE PREPARED IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS. THE D.S. BROWN COMPANY DOES NOT ACCEPT LIABILITY FOR THE DESIGN OF THE PRODUCTS DETAILED IN THESE SHOP DRAWINGS.

4. THE D.S. BROWN COMPANY IS TO ONLY SUPPLY THE PARTS SHOWN ON THIS DRAWING.

5. SURFACES TO BE GALVANIZED. PRIOR TO GALVANIZING, ALL CORNERS AND EDGES OF STEEL PLATES, SHAPES, ETC., SHALL BE GROUND TO A 1/16 INCH RADIUS.

6. WELDING PROCEDURES SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE MAXIMUM TEMPERATURE REACHED BY BONDED PTFE SURFACES TO A MAXIMUM OF 300°F (149°C). TEMPERATURES SHALL BE DETERMINED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS.

7. GALVANIZED NUTS SHALL BE LUBRICATED WITH A LUBRICANT CONTAINING A VISIBLE DYE THAT WILL PROVIDE VISUAL VERIFICATION OF THE LUBRICANT DURING INSTALLATION.

STRUCTURES COPY

RECEIVED
CK'D BY JWP CK'D BY _____
APR 29 2004
RESUBMIT _____ APPROVED As Noted
BY RRW DATE 5-12-04

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 — T.H. 4 OVER BLACK RIVER CAVENDISH
BRIDGE — 12
PROJECT — BHO 1442 (22)
F.A.P. NO. — –
P.O. NO. — 4013
DESIGNER — VANASSE HANGEN BRUSTLIN, INC.
CUSTOMER — MILLER CONSTRUCTION

ITEM	QUANTITY
–	–
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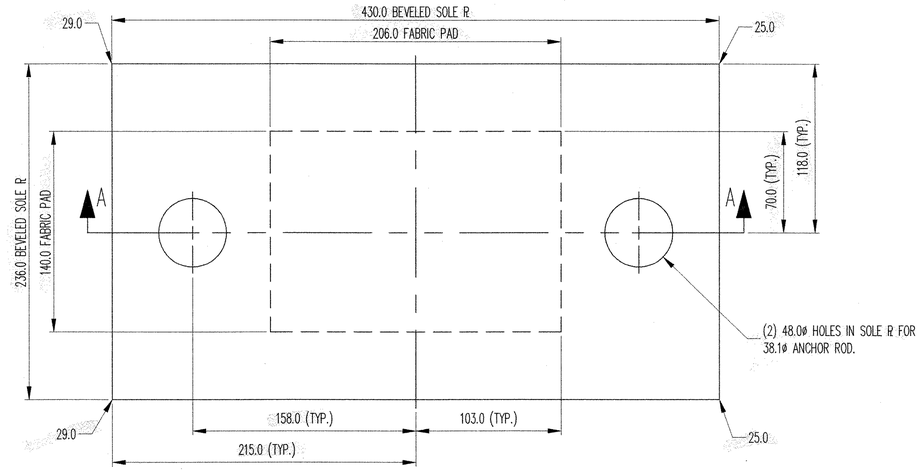
–	–
–	–

DESCRIPTION: GENERAL NOTES
WINDSOR COUNTY, VERMONT

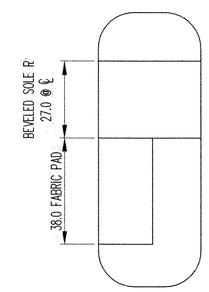
SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	B.COPPUSE	E.KELLEY	4/22/04	–
PROJECT NUMBER:	PRODUCT CODE:	RELEASE:	SHEET:	
11091	1106	1	GN1	

040 BB



PLAN VIEW

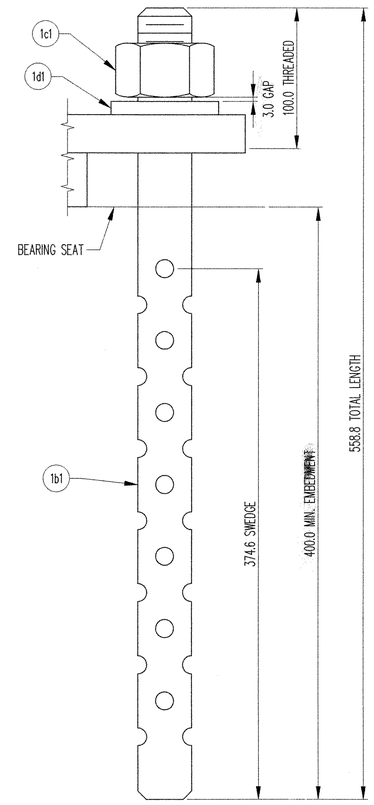
FIXED PREFORMED FABRIC BEARING
(4) REQ'D @ ABUT. 1, STRINGER



DETAIL 'A'

UP STATION

SECTION 'A–A'



ANCHOR ROD DETAIL

MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
1A	4	PREFORMED FABRIC BEARING				
1a1	4	38.0 X 206.0	VT 707.07	140.0	~~(AASHTO 18.4.10.1)~~	
1sp1	4	29.0 X 430.0	A709 GR 345	236.0	(AASHTO M270 GR 345); A123-HDG	
1B	8	SWEDGE ANCHOR ROD				
1b1	8	38.1ø X 558.8	A36		(AASHTO M183) 374.6 SWEDGE, 100.0 THREADED; A153-HDG	
1C	8	HEAVY HEX NUT				
1c1	8	38.1ø	A563-DH/A194-2H		(AASHTO M291-DH/M292-2H), SEE NOTE 7; A153-HDG	
1D	8	WASHER PLATE				
1d1	8	9.5 X 76.2	A36	76.2	41.3 DIA. HOLE; A153-HDG	

NOTE: ALL DIMENSIONS IN MILLIMETERS, UNLESS OTHERWISE NOTED.
NOTE: ALL MATERIAL SPECIFICATION DESCRIPTIONS ARE ASTM, UNLESS OTHERWISE NOTED.

13.01

AASHTO M270 Grade 345 O.K.

RECEIVED
CK'D BY_____ CK'D BY_____
APR 29 2004
RESUBMIT_____ APPROVED As Noted
BY RRW DATE 5-12-04

FOR GENERAL NOTES SEE SHEET GN1.

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 — T.H. 4 OVER BLACK RIVER CAVENDISH
BRIDGE — 12
PROJECT — BHO 1442 (22)
F.A.P. NO. — –
P.O. NO. — 4013
DESIGNER — VANASSE HANGEN BRUSTLIN, INC.
CUSTOMER — MILLER CONSTRUCTION

ITEM	QUANTITY
11091–1106–1	4 OF 4
–	–
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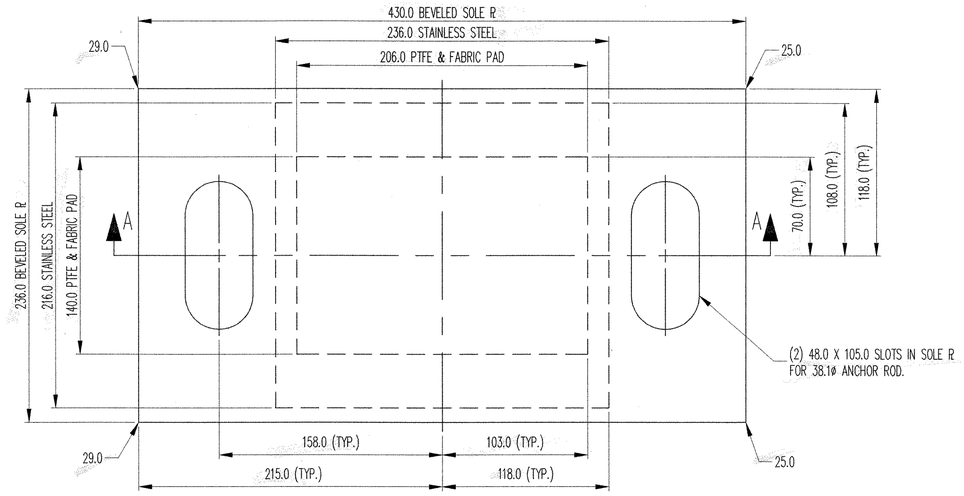
DESCRIPTION:
PREFORMED FABRIC BEARING
WINDSOR COUNTY, VERMONT

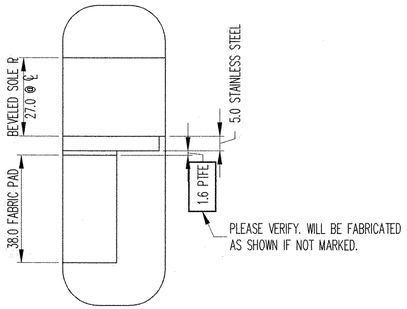
SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	B.COPPUS	E.KELLEY	4/22/04	–
PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET	
11091	1106	1	01	

1141 RR



PLAN VIEW

EXPANSION PREFORMED FABRIC BEARING
(4) REQ'D @ ABUT. 2, STRINGER



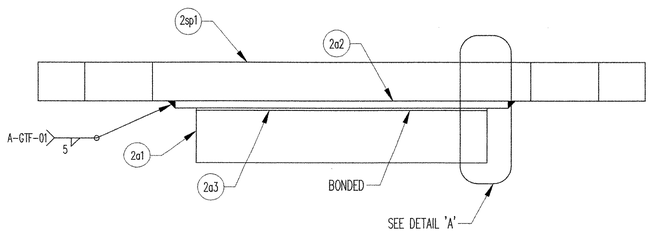
DETAIL 'A'

UP STATION

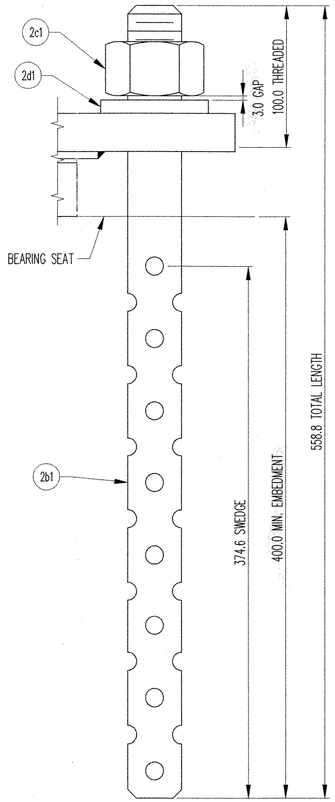
LOAD TABLE INFORMATION

LOAD DATA	
MAX DL + SDL REACTION (KIPS)	2.07
MAX LL (W/O I) REACTION (KIPS)	6.95
MAX DL+SDL+LL REACTION (KIPS)	9.02

PLEASE PROVIDE. WILL BE NEEDED FOR TESTING.



SECTION 'A-A'



ANCHOR ROD DETAIL

MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
2A	4	PREFORMED FABRIC BEARING	731.01			
2a1	4	38.0 X 206.0	VT ~~207.07~~	140.0	~~(AASHTO 18.4.10.1)~~	
2a2	4	5.0 X 236.0	A240, TYPE 304	216.0	#8 MIRROR FINISH; PLAIN	
2a3	4	1.6 X 206.0	PTFE	140.0	PURE VIRGIN UNFILLED	
2sp1	4	29.0 X 430.0	A709 GR 50	236.0	(AASHTO M270 GR 345); A123-HDG	
2B	8	SWEDGE ANCHOR ROD				
2b1	8	38.1ø X 558.8	A36		(AASHTO M183), 374.6 SWEDGE, 100.0 THREADED; A153-HDG	
2C	8	HEAVY HEX NUT				
2c1	8	38.1ø	A563-DH/A194-2H		(AASHTO M291-DH/M292-2H), SEE NOTE 7; A153-HDG	
2D	8	WASHER PLATE				
2d1	8	9.5 X 76.2	A36	155.8	41.3 DIA. HOLE; A153-HDG	

NOTE: ALL DIMENSIONS IN MILLIMETERS, UNLESS OTHERWISE NOTED.

NOTE: ALL MATERIAL SPECIFICATION DESCRIPTIONS ARE ASTM, UNLESS OTHERWISE NOTED.

RECEIVED
CK'D BY _____ OK'D BY _____
APR 29 2004
RESUBMIT _____ APPROVED: As Noted
BY RRW DATE 5-12-04

FOR GENERAL NOTES SEE SHEET GN1.

REV.	DESCRIPTION	DATE	DET.	CK'D.

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 — T.H. 4 OVER BLACK RIVER CAVENDISH
BRIDGE — 12
PROJECT — BHO 1442 (22)
F.A.P. NO. — –
P.O. NO. — 4013
DESIGNER — VANASSE HANGEN BRUSTLIN, INC.
CUSTOMER — MILLER CONSTRUCTION

ITEM	QUANTITY
11091-1106-2	4 OF 4
–	–
–	–
–	–
–	–
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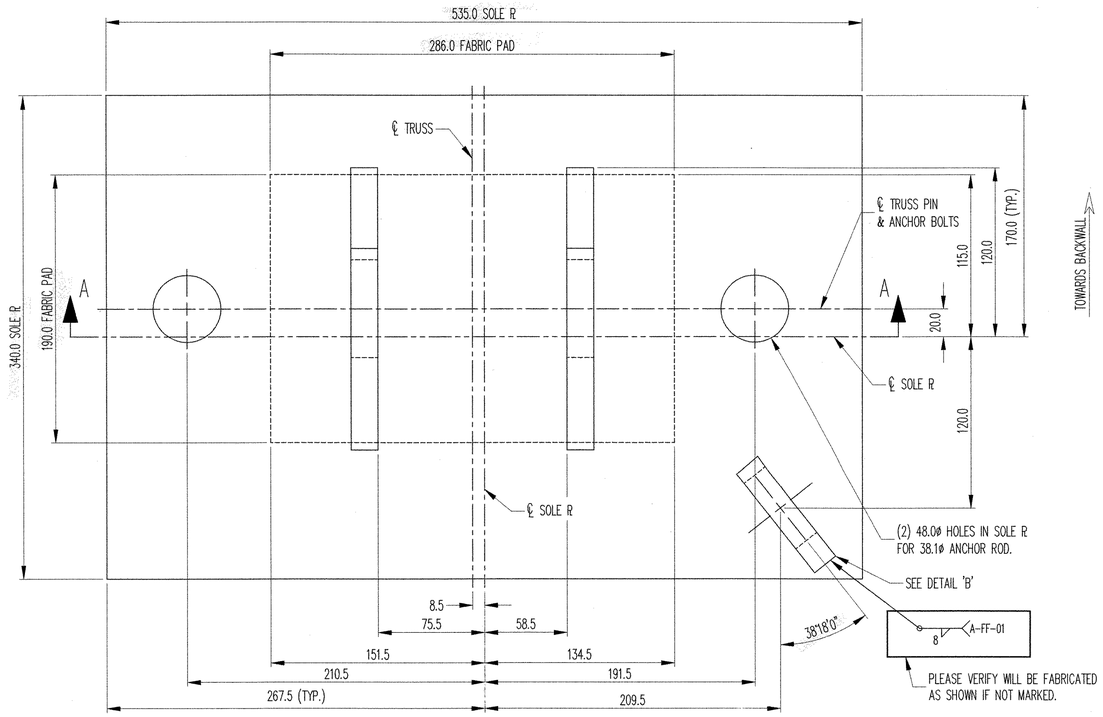
–	–
–	–

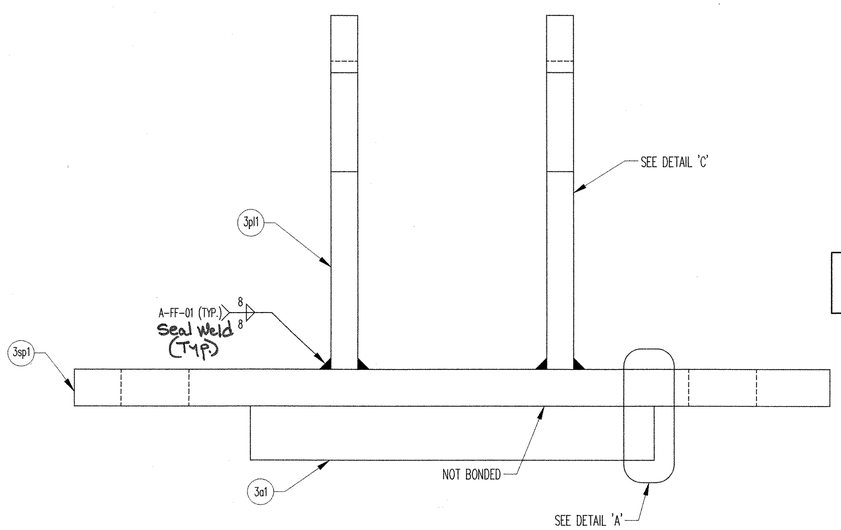
DESCRIPTION:
PREFORMED FABRIC BEARING
WINDSOR COUNTY, VERMONT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	B.COPPUS	E.KELLEY	4/22/04	–
PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET	
11091	1106	1	02	



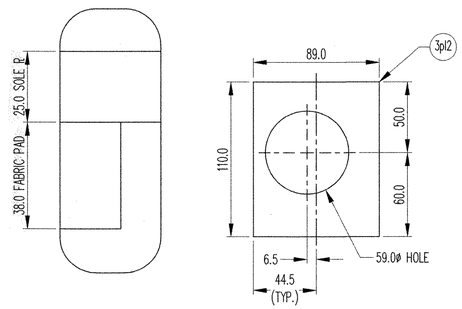
PLAN VIEW

FIXED PREFORMED FABRIC BEARING
(1) REQ'D @ ABUT. 1, TRUSS DOWNSTREAM



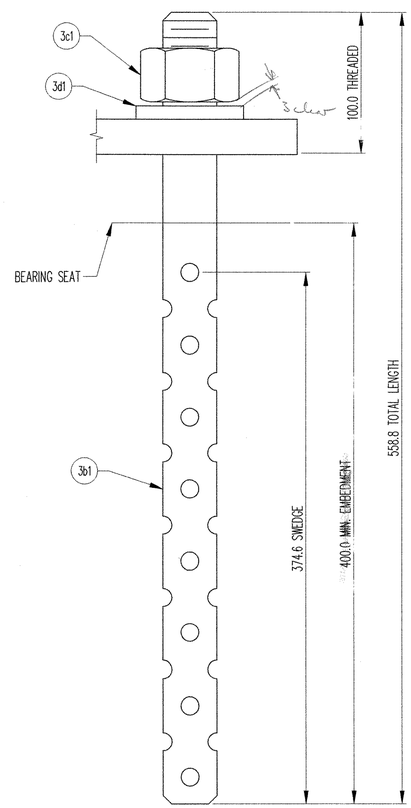
SECTION 'A-A'

TRUSS PINS & CLEVIS PINS SUPPLIED BY OTHERS.



DETAIL 'A'

DETAIL 'B'

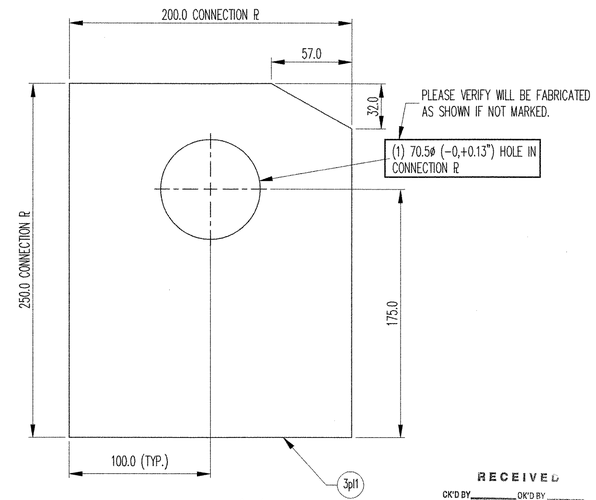


ANCHOR ROD DETAIL

MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
3A	1	PREFORMED FABRIC BEARING	731.01			
3a1	1	38.0 X 286.0	VT ~~207.07~~	190.0	~~(AASHTO 18.4.10.1)~~	
3pl1	2	19.0 X 200.0	A709 GR 345	250.0	(AASHTO M270 GR 345), CLIP CORNER; A123-HDG	
3pl2	1	19.0 X 89.0	A709 GR 345	110.0	(AASHTO M270 GR 345); A123-HDG	
3sp1	1	25.0 X 535.0	A709 GR 345	340.0	(AASHTO M270 GR 345); A123-HDG	
3B	2	SWEDGE ANCHOR ROD				
3b1	2	38.1ø X 558.8	A36		(AASHTO M183), 374.6 SWEDGE, 100.0 THREADED; A153-HDG	
3C	2	HEAVY HEX NUT				
3c1	2	38.1ø	A563-DH/A194-2H		(AASHTO M291-DH/ASTM A2H2-2H), SEE NOTE 7; A153-HDG	
3D	2	WASHER PLATE				
3d1	2	9.5 X 76.2	A36	76.2	41.3 DIA. HOLE; A153-HDG	

NOTE: ALL DIMENSIONS IN MILLIMETERS, UNLESS OTHERWISE NOTED.
NOTE: ALL MATERIAL SPECIFICATION DESCRIPTIONS ARE ASTM, UNLESS OTHERWISE NOTED.

TOWARDS BACKWALL



DETAIL 'C'

RECEIVED
CK'D BY_____ OK'D BY _____
APR 29 2004
RESUBMIT_____ APPROVED As Noted
BY RRW DATE 5-12-04

FOR GENERAL NOTES SEE SHEET GN1.

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 — T.H. 4 OVER BLACK RIVER CAVENDISH
BRIDGE — 12
PROJECT — BHO 1442 (22)
F.A.P. NO. — –
P.O. NO. — 4013
DESIGNER — VANASSE HANGEN BRUSTLIN, INC.
CUSTOMER — MILLER CONSTRUCTION

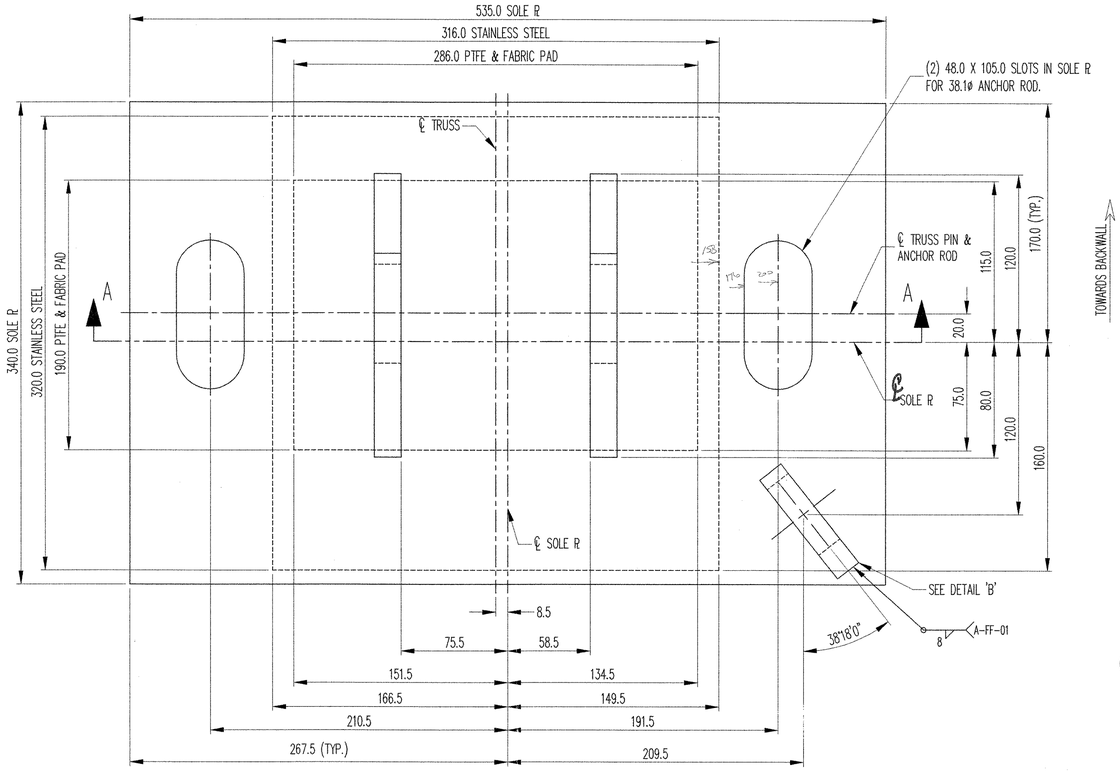
ITEM	QUANTITY
11091-1106-3	1 of 2

DESCRIPTION: PREFORMED FABRIC BEARING
WINDSOR COUNTY, VERMONT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	B.COPPUSE	E.KELLEY	4/22/04	–

PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET
11091	1106	1	03

NVR RR



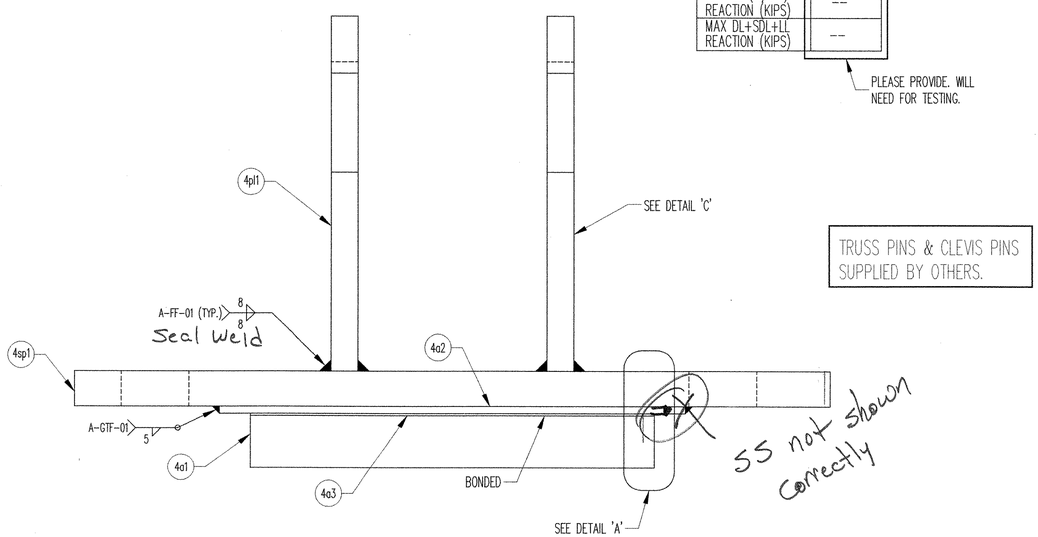
PLAN VIEW

EXPANSION PREFORMED FABRIC BEARING
1 (2) REQ'D @ ABUT. 2, TRUSS UPSTREAM

LOAD TABLE INFORMATION

LOAD DATA	
MAX DL + SDL REACTION (KIPS)	--
MAX LL (W/O I) REACTION (KIPS)	--
MAX DL+SDL+LL REACTION (KIPS)	--

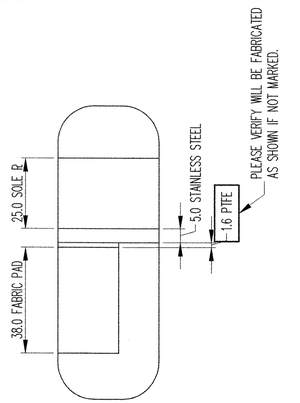
PLEASE PROVIDE. WILL NEED FOR TESTING.



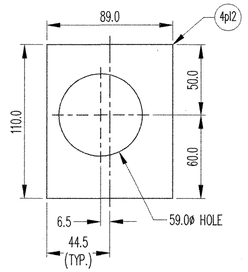
SS not shown correctly

SECTION 'A-A'

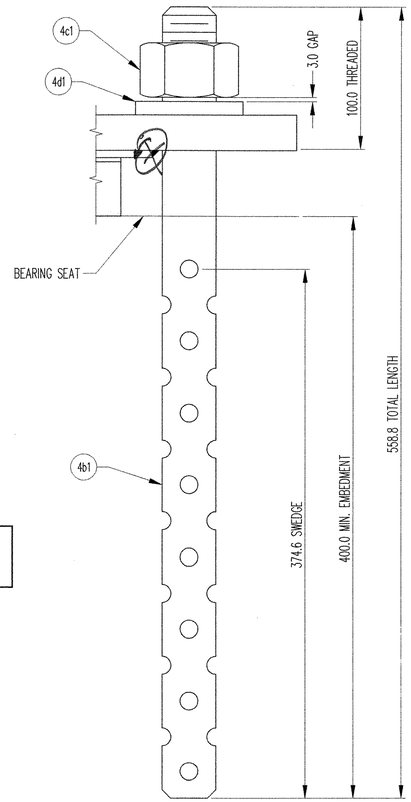
TRUSS PINS & CLEVIS PINS SUPPLIED BY OTHERS.



DETAIL 'A'



DETAIL 'B'



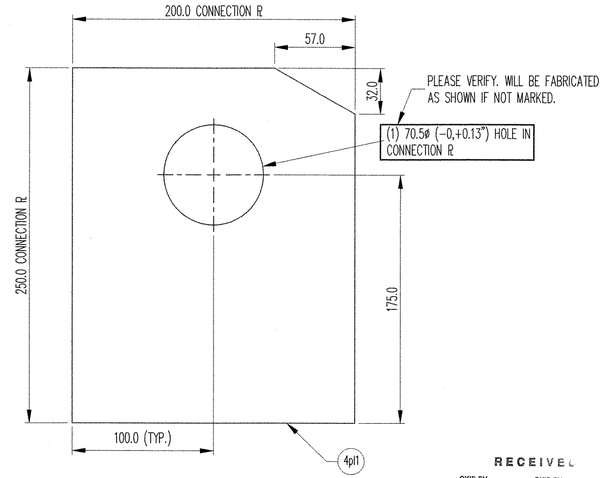
ANCHOR ROD DETAIL

MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
4A	1	PREFORMED FABRIC BEARING	731.01			
4a1	1	38.0 X 286.0	VT ~~407.07~~	190.0	~~(AASHTO 18.4.1B.1)~~	
4a2	1	5.0 X 316.0	A240, TYPE 304	320.0	#8 MIRROR FINISH; PLAIN	
4a3	1	1.6 X 286.0	PTFE	190.0	PURE VIRGIN UNFILLED	
4pl1	2	19.0 X 200.0	A709 GR 345	250.0	(AASHTO M270 GR 345), CLIP CORNER; A123-HDG	
4pl2	1	19.0 X 89.0	A709 GR 345	110.0	(AASHTO M270 GR 345); A123-HDG	
4sp1	1	25.0 X 535.0	A709 GR 345	340.0	(AASHTO M270 GR345); A123-HDG	
4B	2	SWEDGE ANCHOR ROD				
4b1	2	38.1ø X 558.8	A36		(AASHTO M183), 374.6 SWEDGE, 100.0 THREADED; A153-HDG	
4C	2	HEAVY HEX NUT				
4c1	2	38.1ø	A563-DH/A194-2H		(AASHTO M291-DH/M292-2H), SEE NOTE 7; A153-HDG	
4D	2	WASHER PLATE				
4d1	2	9.5 X 76.2	A36	152.4	41.3 DIA. HOLE; A153-HDG	

NOTE: ALL DIMENSIONS IN MILLIMETERS, UNLESS OTHERWISE NOTED.

NOTE: ALL MATERIAL SPECIFICATION DESCRIPTIONS ARE ASTM, UNLESS OTHERWISE NOTED.

TOWARDS BACKWALL



DETAIL 'C'

RECEIVED
CK'D BY ____ OK'D BY ____
APR 29 2004
RESUBMIT ____ APPROVED As Noted
BY RJW DATE 5-12-04

FOR GENERAL NOTES SEE SHEET GN1.

REV.	DESCRIPTION	DATE	DET.	CK'D.

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 — T.H. 4 OVER BLACK RIVER CAVENDISH
BRIDGE — 12
PROJECT — BHO 1442 (22)
F.A.P. NO. — –
P.O. NO. — –
DESIGNER — VANASSE HANGEN BRUSTLIN, INC.
CUSTOMER — MILLER CONSTRUCTION

ITEM	QUANTITY
11091-1106-4	1 of 2
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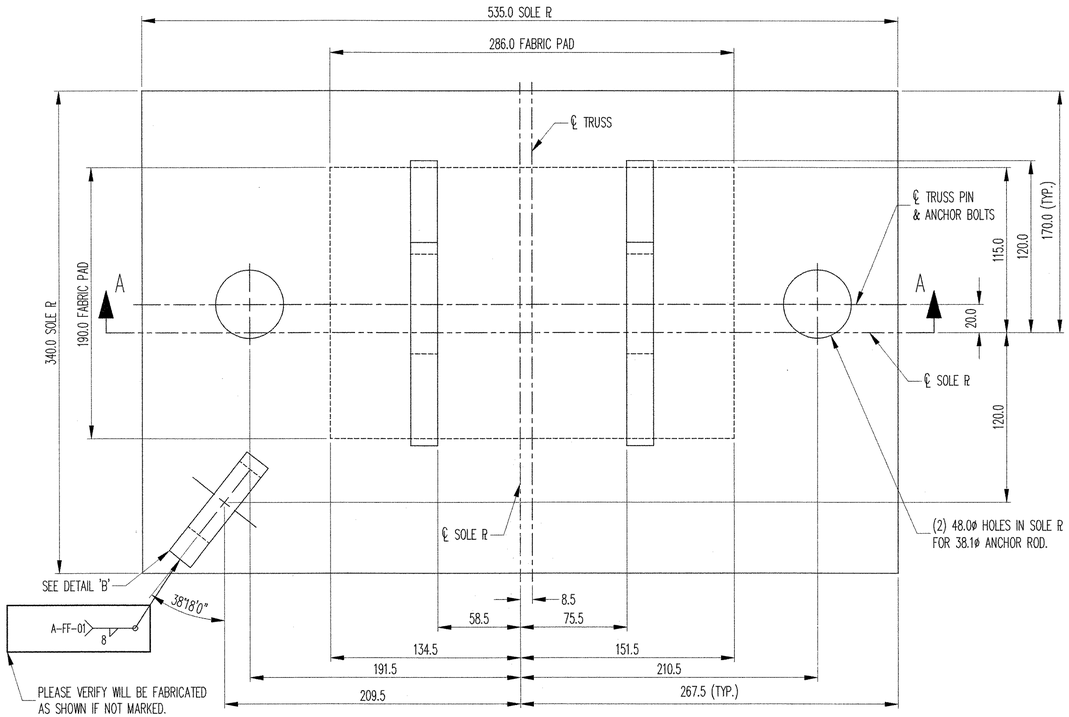
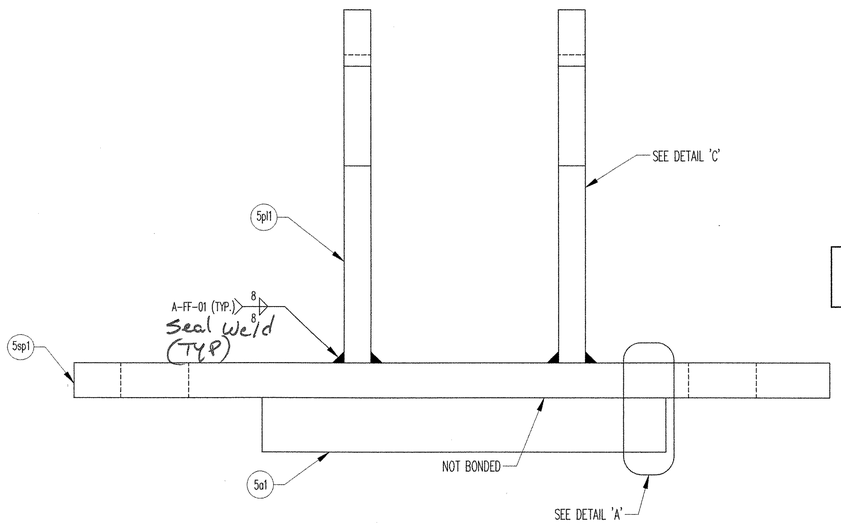
DESCRIPTION: PREFORMED FABRIC BEARING
WINDSOR COUNTY, VERMONT 04463

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	B.COPPUS	E.KELLEY	4/22/04	–
PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET	
11091	1106	1	04	



PLAN VIEW

FIXED PREFORMED FABRIC BEARING
(1) REQ'D @ ABUT. 1, TRUSS UPSTREAM

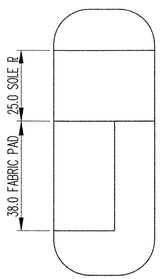


SECTION 'A-A'

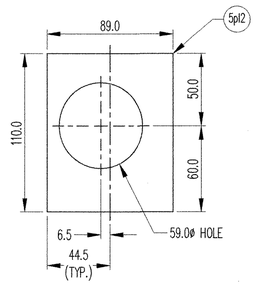
TRUSS PINS & CLEVIS PINS SUPPLIED BY OTHERS.

TOWARDS BACKWALL

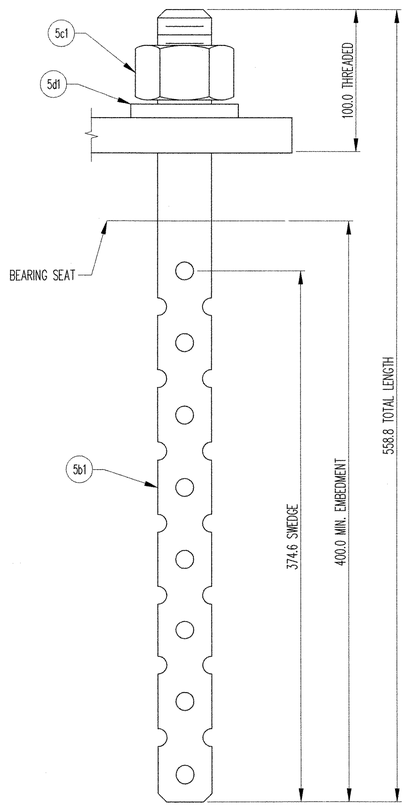
PLEASE VERIFY THAT THIS BEARING IS SHOWN AS REQUIRED BY NOTE 1 IN CONTRACT PLANS. WILL BE FABRICATED AS SHOWN IF NOT MARKED.



DETAIL 'A'



DETAIL 'B'

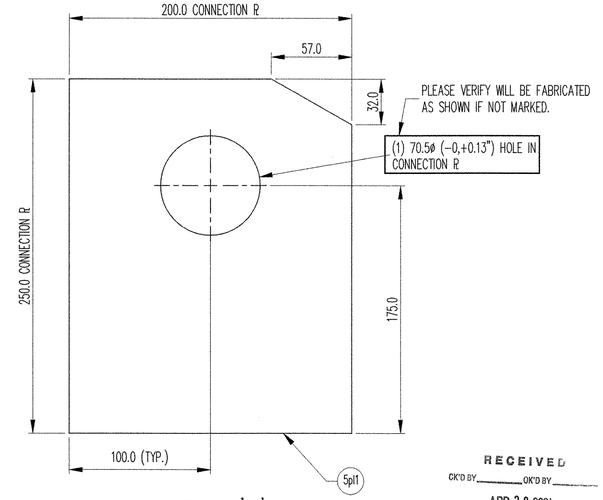


ANCHOR ROD DETAIL

MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
5A	1	PREFORMED FABRIC PAD	731.01			
5a1	1	38.0 X 286.0	VT ~~707.07~~	190.0	~~(AASHTO 18.4.10.1)~~	
5pl1	2	19.0 X 200.0	A709 GR 345	250.0	(AASHTO M270 GR 345), CLIP CORNER; A123-HDG	
5pl2	1	19.0 X 89.0	A709 GR 345	110.0	(AASHTO M270 GR345); A123-HDG	
5sp1	1	25.0 X 535.0	A709 GR 345	340.0	(AASHTO M270 GR 345); A123-HDG	
5B	2	SWEDGE ANCHOR ROD				
5b1	2	38.1ø X 558.8	A36		(AASHTO M183), 374.6 SWEDGE, 100.0 THREADED; A153-HDG	
5C	2	HEAVY HEX NUT				
5c1	2	38.1ø	A563-DH/A194-2H		(AASHTO M291-DH/M292-2H), SEE NOTE 7; A153-HDG	
5D	2	WASHER PLATE				
5d1	2	9.5 X 76.2	A36	76.2	41.3 DIA. HOLE; A153-HDG	

NOTE: ALL DIMENSIONS IN MILLIMETERS, UNLESS OTHERWISE NOTED.
NOTE: ALL MATERIAL SPECIFICATION DESCRIPTIONS ARE ASTM, UNLESS OTHERWISE NOTED.

TOWARDS BACKWALL



DETAIL 'C'

RECEIVED
CK'D BY _____ OK'D BY _____
APR 29 2004
RESUBMIT _____ APPROVED As Noted
BY RRW DATE 5-12-04

FOR GENERAL NOTES SEE SHEET GN1.

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 55316
952.368.3000
FAX: 952.448.7000
DSBROWN.COM

LOCATION — T.H. 4 OVER BLACK RIVER CAVENDISH
BRIDGE — 12
PROJECT — BHO 1442 (22)
F.A.P. NO. — –
P.O. NO. — 4013
DESIGNER — VANASSE HANGEN BRUSTLIN, INC.
CUSTOMER — MILLER CONSTRUCTION

ITEM	QUANTITY
11091-1106-3	1 of 2
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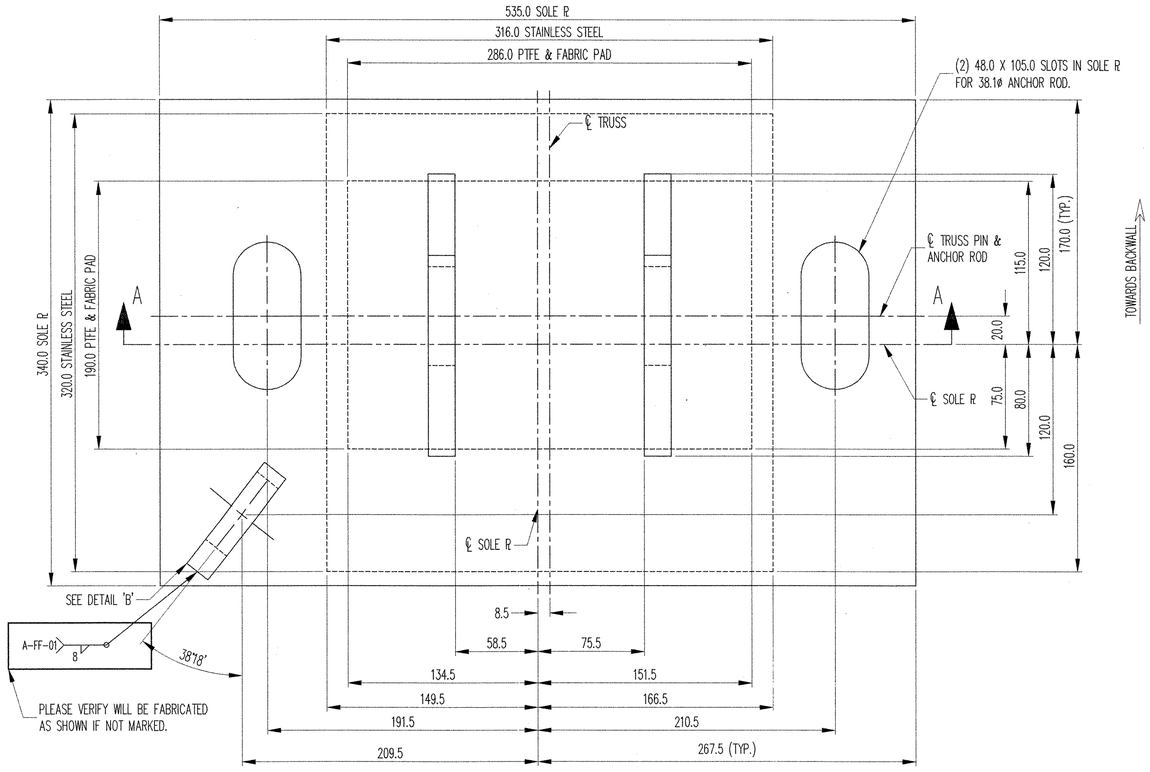
DESCRIPTION: PREFORMED FABRIC BEARING
WINDSOR COUNTY, VERMONT 045 BB

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	B.COPPUSE	E.KELLEY	4/22/04	–
PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET	
11091	1106	1	05	



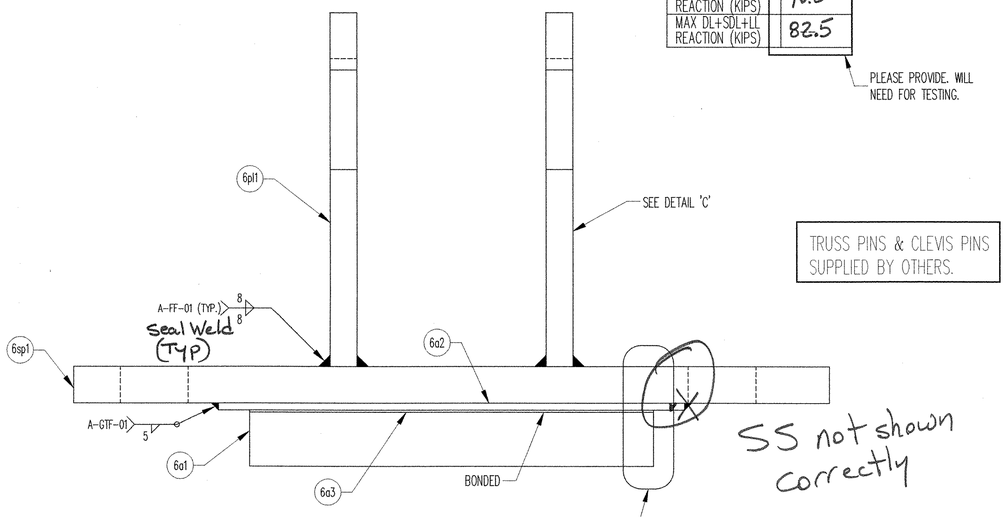
PLAN VIEW

EXPANSION PREFORMED FABRIC BEARING
1 ~~(2)~~ REQ'D @ ABUT. 2, TRUSS DOWNSTREAM

LOAD TABLE INFORMATION

LOAD DATA	
MAX DL + SDL REACTION (KIPS)	41.7
MAX LL (W/O I) REACTION (KIPS)	40.8
MAX DL+SDL+LL REACTION (KIPS)	82.5

PLEASE PROVIDE. WILL NEED FOR TESTING.

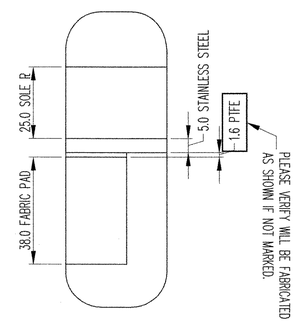


SS not shown correctly

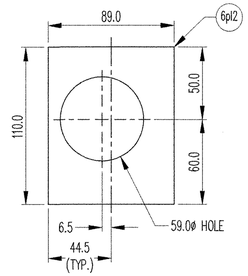
SECTION 'A-A'

TRUSS PINS & CLEVIS PINS SUPPLIED BY OTHERS.

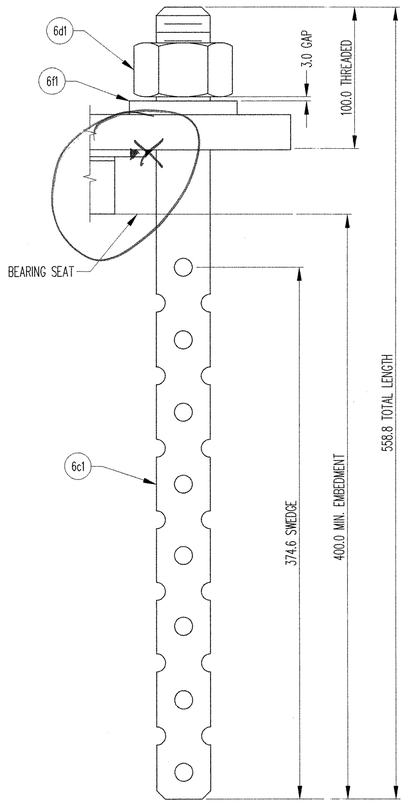
PLEASE VERIFY THAT THIS BEARING IS SHOWN AS REQUIRED BY NOTE 1 IN CONTRACT PLANS. WILL BE FABRICATED AS SHOWN IF NOT MARKED.



DETAIL 'A'

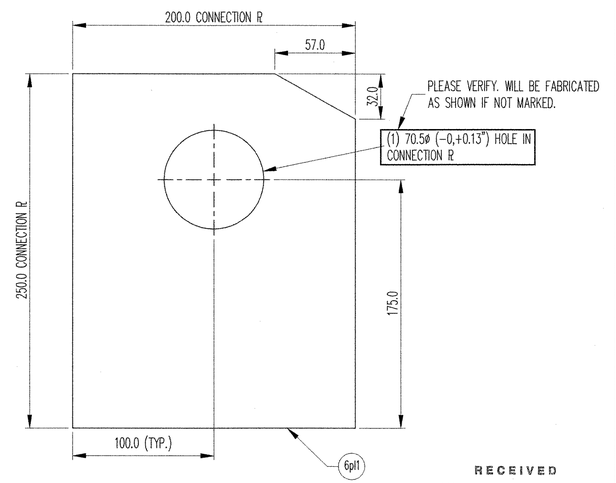


DETAIL 'B'



ANCHOR ROD DETAIL

TOWARDS BACKWALL



DETAIL 'C'

MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
6A	1	PREFORMED FABRIC PAD	~~734.01~~			
6a1	1	38.0 X 286.0	VT ~~407.07~~	190.0	~~(AASHTO 18.4.10.1)~~	
6a2	1	5.0 X 316.0	A240, TYPE 304	320.0	#8 MIRROR FINISH; PLAIN	
6a3	1	1.6 X 286.0	PTFE	190.0	PURE VIRGIN UNFILLED	
6pl1	2	19.0 X 200.0	A709 GR 345	250.0	(AASHTO M270 GR 345), CLIP CORNER; A123-HDG	
6pl2	1	19.0 X 89.0	A709 GR 345	110.0	(AASHTO M270 GR 345); A123-HDG	
6sp1	1	25.0 X 535.0	A709 GR 345	340.0	(AASHTO M270 GR 345); A123-HDG	
6B	2	SWEDGE ANCHOR ROD				
6b1	2	38.1ø X 558.8	A36		(AASHTO M183), 374.6 SWEDGE, 100.0 THREADED; A153-HDG	
6C	2	HEAVY HEX NUT				
6c1	2	38.1ø	A563-DH/A194-2H		(AASHTO M291-DH/M292-2H), SEE NOTE 7; A153-HDG	
6D	2	WASHER PLATE				
6d1	2	9.5 X 76.2	A36	152.4	41.3 DIA. HOLE; A153-HDG	

NOTE: ALL DIMENSIONS IN MILLIMETERS, UNLESS OTHERWISE NOTED.

NOTE: ALL MATERIAL SPECIFICATION DESCRIPTIONS ARE ASTM, UNLESS OTHERWISE NOTED.

RECEIVED
OK'D BY _____ OK'D BY _____
APR 29 2004
RESUBMIT _____ APPROVED As Noted
BY RRW DATE 5-12-04

FOR GENERAL NOTES SEE SHEET GN1.

REV.	DESCRIPTION	DATE	DET.	CK'D.

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

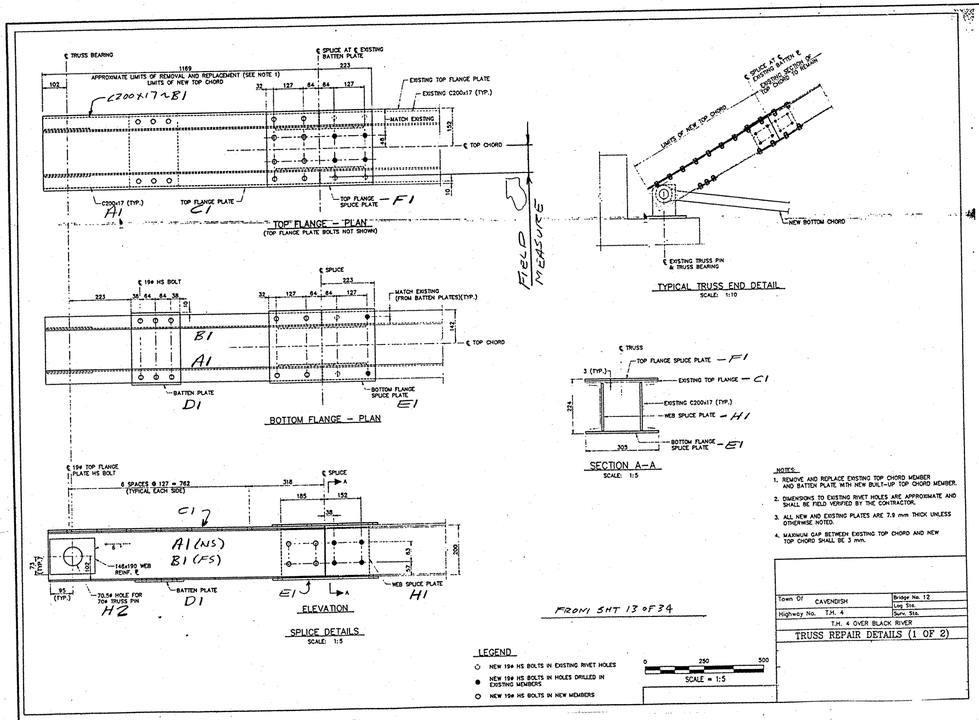
LOCATION — T.H. 4 OVER BLACK RIVER CAVENDISH
BRIDGE — 12
PROJECT — BHO 1442 (22)
F.A.P. NO. — –
P.O. NO. — –
DESIGNER — VANASSE HANGEN BRUSTLIN, INC.
CUSTOMER — MILLER CONSTRUCTION

ITEM	QUANTITY
11091-1106-4	1 of 2
–	–
–	–
–	–
–	–
–	–
–	–
–	–
–	–
–	–

DESCRIPTION: PREFORMED FABRIC BEARING
WINDSOR COUNTY, VERMONT 046 BB

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	B.COPPUSE	E.KELLEY	4/22/04	–
PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET	
11091	1106	1	06	

JOB NO. 236 | DRG. NO. E1



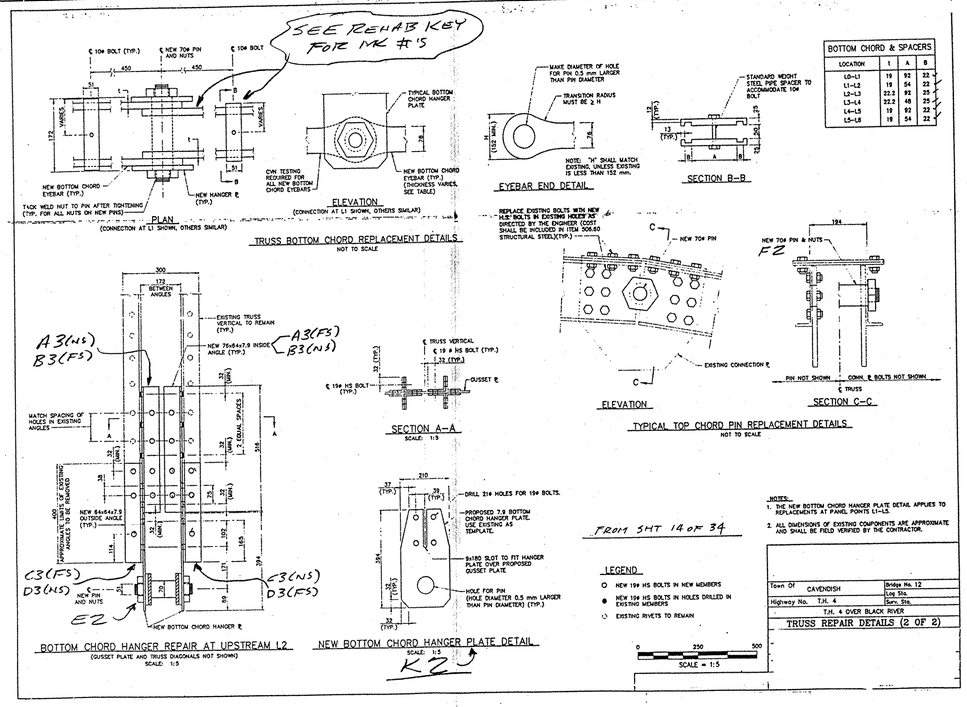
NOTES:
1. REMOVE AND REPLACE EXISTING TOP CHORD MEMBER AND BATTEN PLATE WITH NEW BUILT-UP TOP CHORD MEMBER.
2. DIMENSIONS TO EXISTING RIVET HOLES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
3. ALL NEW AND EXISTING PLATES ARE 7.9 mm THICK UNLESS OTHERWISE NOTED.
4. MAXIMUM GAP BETWEEN EXISTING TOP CHORD AND NEW TOP CHORD SHALL BE 3 mm.

FROM SHT 13 OF 34

LEGEND
- ○ NEW 19ø HS BOLTS IN EXISTING RIVET HOLES
- ● NEW 19ø HS BOLTS IN HOLES DRILLED IN EXISTING MEMBERS
- ○ NEW 19ø HS BOLTS IN NEW MEMBERS

SCALE = 1:5

Town Of CAVENDISH	Bridge No. 12
Highway No. T.H. 4	Log Sta.
	Surv. Sta.
T.H. 4 OVER BLACK RIVER	
TRUSS REPAIR DETAILS (1 OF 2)	



FROM SHT 14 OF 34

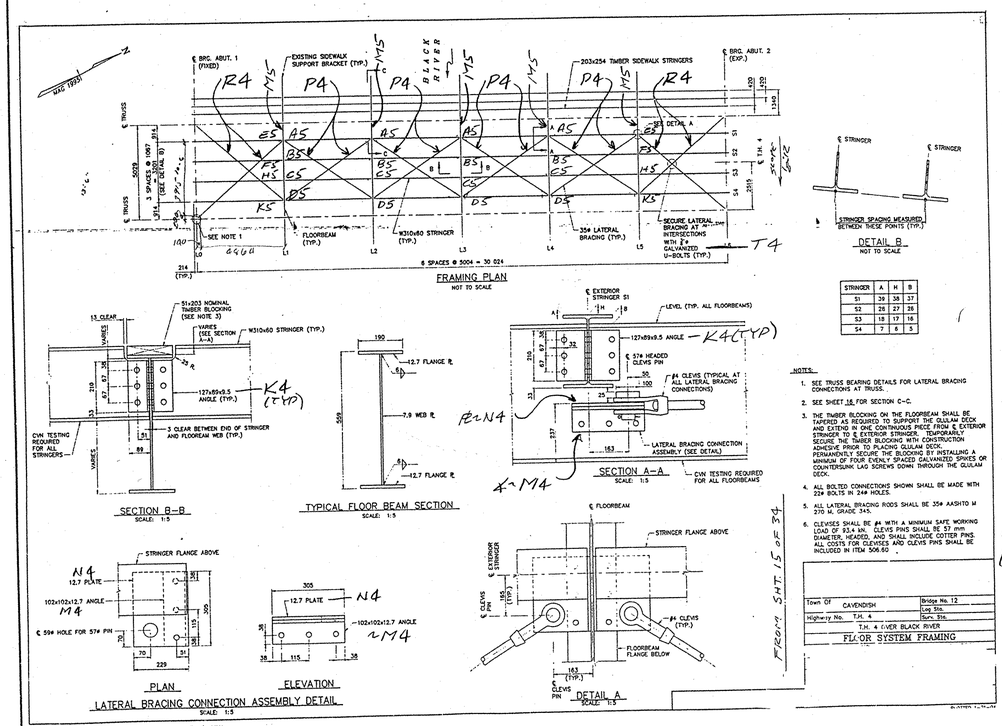
LEGEND
- ○ NEW 19ø HS BOLTS IN NEW MEMBERS
- ● NEW 19ø HS BOLTS IN HOLES DRILLED IN EXISTING MEMBERS
- ◌ EXISTING RIVETS TO REMAIN

SCALE = 1:5

BOTTOM CHORD & SPACERS			
LOCATION	t	A	B
L0-L1	19	92	22
L1-L2	19	54	22
L2-L3	22.2	92	25
L3-L4	22.2	48	25
L4-L5	19	92	22
L5-L6	19	54	22

NOTES:
1. THE NEW BOTTOM CHORD HANGER PLATE DETAIL APPLIES TO REPLACEMENTS AT PANEL POINTS L1-L5.
2. ALL DIMENSIONS OF EXISTING COMPONENTS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.

Town Of CAVENDISH	Bridge No. 12
Highway No. T.H. 4	Log Sta.
	Surv. Sta.
T.H. 4 OVER BLACK RIVER	
TRUSS REPAIR DETAILS (2 OF 2)	



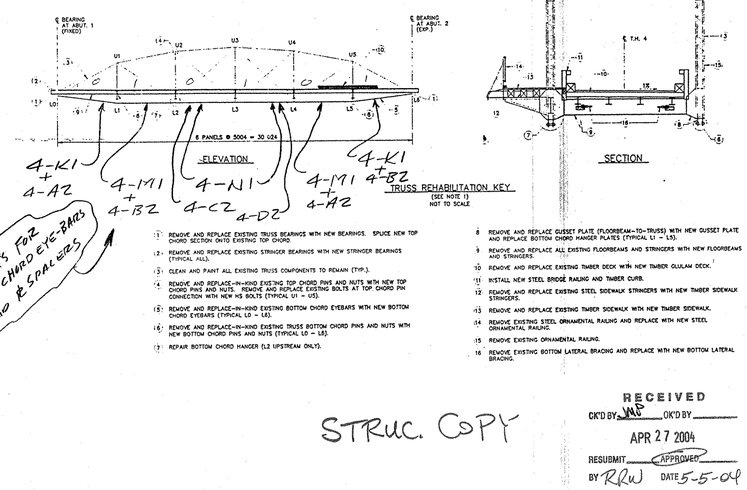
STRINGER	A	H	B
S1	39	38	37
S2	26	27	26
S3	18	17	16
S4	7	6	5

NOTES:
1. SEE TRUSS BEARING DETAILS FOR LATERAL BRACING CONNECTIONS AT TRUSS.
2. SEE SHEET 16 FOR SECTION C-C.
3. THE TIMBER BLOCKING ON THE FLOORBEAM SHALL BE TAPERED AS REQUIRED TO SUPPORT THE GUULAM DECK AND EXTEND IN ONE CONTINUOUS PIECE FROM S EXTERIOR STRINGER TO ℄ EXTERIOR STRINGER. SECURE THE TIMBER BLOCKING WITH CONSTRUCTION ADHESIVE TO THE UNDERSIDE OF THE GLULAM DECK. PERMANENTLY SECURE THE BLOCKING BY INSTALLING A MINIMUM OF FOUR EVENLY SPACED GALVANIZED SPIKES OR COUNTERSUNK LAG SCREWS DOWN THROUGH THE GLULAM DECK.
4. ALL BOLTED CONNECTIONS SHOWN SHALL BE MADE WITH 22ø BOLTS IN 24ø HOLES.
5. ALL LATERAL BRACING RODS SHALL BE 35ø AASHTO M 270 M, GRADE 345.
6. CLEVISES SHALL BE ø4 WITH A MINIMUM SAFE WORKING LOAD OF 53.4 kN. CLEVIS PINS SHALL BE 57 mm DIAMETER, HEADED, AND SHALL INCLUDE COTTER PINS. ALL COSTS FOR CLEVISES AND CLEVIS PINS SHALL BE INCLUDED IN ITEM 506.60

FROM SHT 15 OF 34

Town Of CAVENDISH	Bridge No. 12
Highway No. T.H. 4	Log Sta.
	Surv. Sta.
T.H. 4 OVER BLACK RIVER	
FLOOR SYSTEM FRAMING	

NOTE!
THIS DWG TO BE USED TO LOCATE STEEL ERECTION MARKS ONLY



1. REMOVE AND REPLACE EXISTING TRUSS BEARINGS WITH NEW BEARINGS. SPLICE NEW TOP CHORD SECTION ONTO EXISTING TOP CHORD.
2. REMOVE AND REPLACE EXISTING STRINGER BEARINGS WITH NEW STRINGER BEARINGS (TYPICAL ALL).
3. CLEAN AND PAINT ALL EXISTING TRUSS COMPONENTS TO REMAIN (TYP.).
4. REMOVE AND REPLACE-IN-KIND EXISTING TOP CHORD PINS AND NUTS WITH NEW TOP CHORD PINS AND NUTS. REMOVE AND REPLACE EXISTING BOLTS AT TOP CHORD PIN CONNECTION WITH NEW HS BOLTS (TYPICAL U1 - U5).
5. REMOVE AND REPLACE-IN-KIND EXISTING BOTTOM CHORD EYEBARS WITH NEW BOTTOM CHORD EYEBARS (TYPICAL L0 - L5).
6. REMOVE AND REPLACE-IN-KIND EXISTING TRUSS BOTTOM CHORD PINS AND NUTS WITH NEW BOTTOM CHORD PINS AND NUTS (TYPICAL L0 - L5).
7. REPAIR BOTTOM CHORD HANGER (L2 UPSTREAM ONLY).
8. REMOVE AND REPLACE GUSSET PLATE (FLOORBEAM-TO-TRUSS) WITH NEW GUSSET PLATE AND REPLACE BOTTOM CHORD HANGER PLATES (TYPICAL L1 - L5).
9. REMOVE AND REPLACE ALL EXISTING FLOORBEAMS AND STRINGERS WITH NEW FLOORBEAMS AND STRINGERS.
10. REMOVE AND REPLACE EXISTING TIMBER DECK WITH NEW TIMBER GLULAM DECK.
11. INSTALL NEW STEEL BRIDGE RAILING AND TIMBER CURB.
12. REMOVE AND REPLACE EXISTING STEEL SIDEWALK STRINGERS WITH NEW TIMBER SIDEWALK STRINGERS.
13. REMOVE AND REPLACE EXISTING TIMBER SIDEWALK WITH NEW TIMBER SIDEWALK.
14. REMOVE EXISTING STEEL ORNAMENTAL RAILING AND REPLACE WITH NEW STEEL ORNAMENTAL RAILING.
15. REMOVE EXISTING ORNAMENTAL RAILING.
16. REMOVE EXISTING BOTTOM LATERAL BRACING AND REPLACE WITH NEW BOTTOM LATERAL BRACING.

RECEIVED
OK'D BY MLS OK'D BY
APR 27 2004
RESUBMIT APPROVED
BY RRW DATE 5-5-04

STRUC. COPY

047 55

See DES. DWG 11 OF 34 FOR STRUCT. STEEL NOTES

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	4-23-04									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

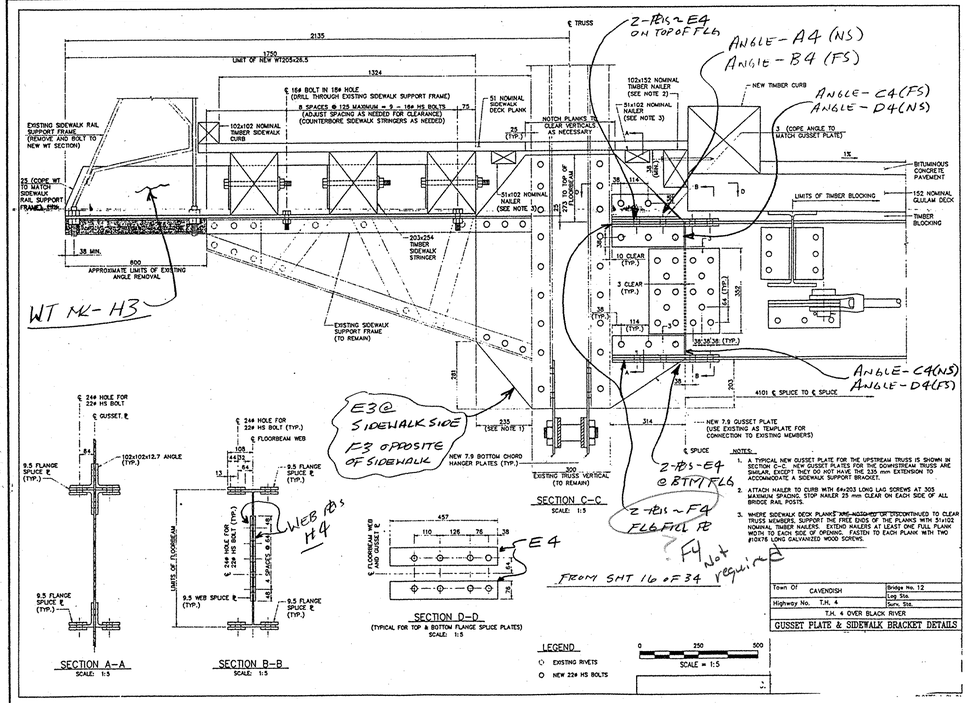
PROJECT NO. BHO 1442 (22) STATE PROJECT NO. BHO 1442 (22)
MATERIAL AASHTO M270M GR 345-250 ELECTRODES: HOLES: AS NTD SHOP BOLTS: —
SURFACE PREP. & PAINT:

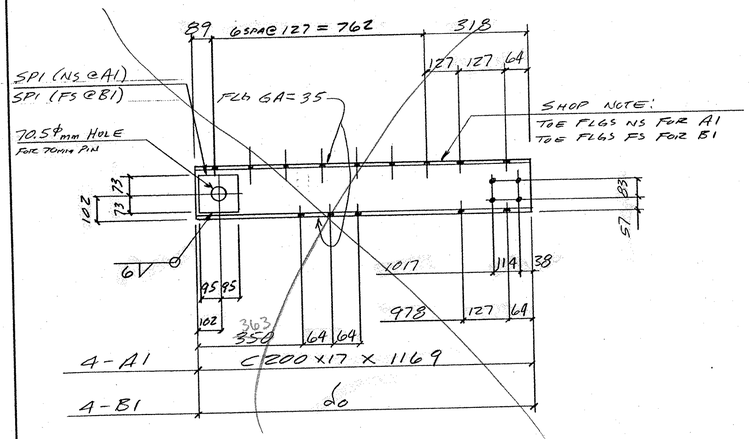
DESCRIPTION: SECTIONS & KEY
JOB: TH 4 OVER BLACK RIVER BRIDGE PROJECT CAVENDISH, VT
CUSTOMER: MILLER CONSTRUCTION

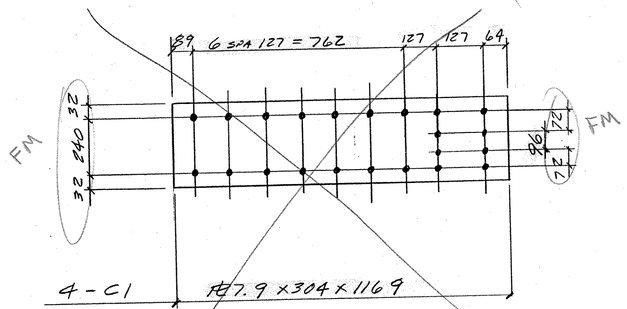
DRAWN BY	DATE
RLB	4-04
CHKD BY	
APPROV BY	
Q.A.	

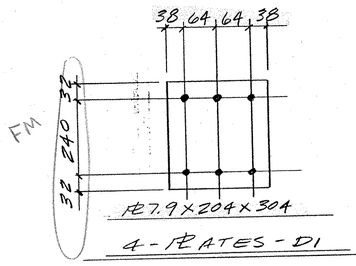
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO. 236 | DRG. NO. E1 | REV. △

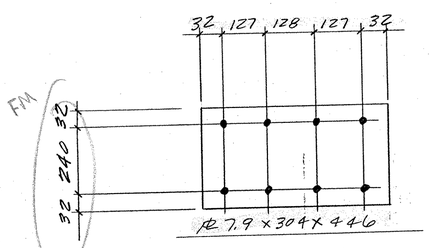

℄ TRUSS
2135
1720
LIMIT OF NEW WT205x26.5
1324
℄ 15# BOLT IN 18# HOLE (DRILL THROUGH EXISTING SIDEWALK SUPPORT FRAME) 8 SPACES @ 152 MAXIMUM = 9 - 15# HS BOLTS (ADJUST SPACING AS NEEDED FOR CLEARANCE) (COUNTERBORE SIDEWALK STRINGERS AS NEEDED)
EXISTING SIDEWALK RAIL SUPPORT FRAME (REMOVE AND BOLT TO NEW WT SECTION)
102x102 NOMINAL TIMBER SIDEWALK CURB
51 NOMINAL SIDEWALK DECK PLANK
NOTCH PLANKS TO CLEAR VERTICALS AS NECESSARY
102x152 NOMINAL TIMBER NAILER (SEE NOTE 2)
51x102 NOMINAL NAILER (SEE NOTE 3)
3 (COPE ANGLE TO MATCH GUSSET PLATES)
NEW TIMBER CURB
ANGLE - A4 (NS)
ANGLE - B4 (FS)
ANGLE - C4(FS)
ANGLE - D4(NS)
BITUMINOUS CONCRETE PAVEMENT
152 NOMINAL GULUAM DECK
LIMITS OF TIMBER BLOCKING
TIMBER BLOCKING
2.5 (COPE WT TO MATCH SIDEWALK RAIL SUPPORT FRAME) TYP.
38 MIN.
800 APPROXIMATE LIMITS OF EXISTING ANGLE REMOVAL
WT MK-H3
51x102 NOMINAL NAILER (SEE NOTE 3)
303x254 TIMBER SIDEWALK STRINGER
EXISTING SIDEWALK SUPPORT FRAME (TO REMAIN)
10 CLEAR (TYP.)
3 CLEAR (TYP.)
38 (TYP.)
114 (TYP.)
64 (TYP.)
300
38 (TYP.)
38 (TYP.)
38 (TYP.)



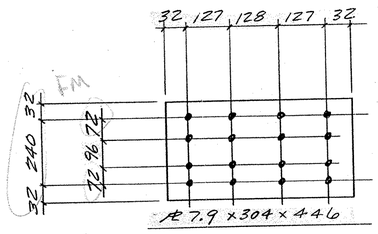




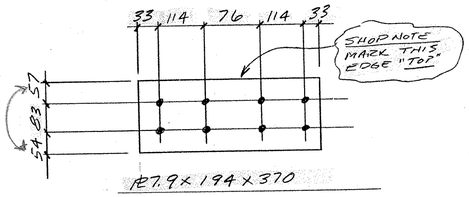
4 - ℄ RATES - D1



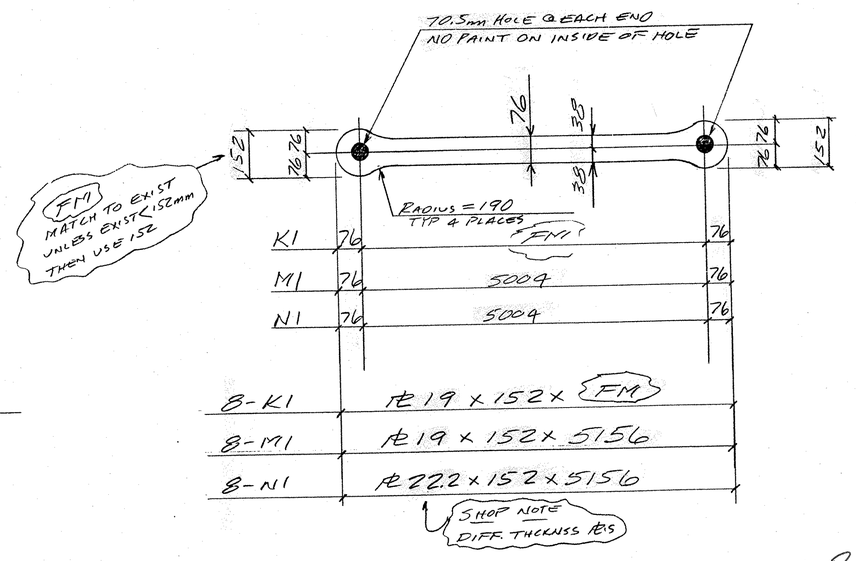
4 - ℄ RATES - E1



4 - ℄ RATES - F1



8 - ℄ RATES - H1



Channels & Bot. Batter ℄'s will be totally replaced for members L0-U1 & U5-L6 on both trusses

NOTE
FM = FIELD MEASURE

PLANS DRAWN USING
METRIC
DIMENSIONS

RECEIVED
CK'D BY JMP OK'D BY
APR 27 2004
RESUBMIT APPROVED As Noted
BY RRW DATE 5-5-04
04955

SHOP BILL

JOB NO. 236 DRG. NO. 1

ABM INFO PAGE	LINE	NO.	DESCRIPTION	X	LNGTH IN mm	ASSEM. MARK	SHIPPING MARK	REMARKS	WEIGHT
		4	C200 x 17		1169		A1	GR 345	
		4	do		1169		B1	GR 345	
		8	℄ 7.9 x 146		190	SP1			
		4	℄ 7.9 x 304		1169		C1		
		4	℄ 7.9 x 204		304		D1		
		4	℄ 7.9 x 304		446		E1		
		4	℄ 7.9 x 304		446		F1		
		8	℄ 7.9 x 194		370		H1		
		8	℄ 19 x 152		FM		K1		
		8	℄ 19 x 152		5156		M1		
		8	℄ 22.2 x 152		5136		N1		
			ALL BOLTS TO BE AASHTO M164M - TYPE I (GALV) (NUT COUNT)						
		96	M19 BOLTS		44		FIELD	W/NUT	
		112			50			W/NUT + REV. WASH	
		32	do		63		do	W/NUT	
		28	M19 BOLTS		44		FIELD	W/NUT	
		14	do		50		do		
		300	M22 BOLTS		57		FIELD	W/NUT	
		30	do		63		do	do	
		160	do		57		do	do	
		128	do		63		do	do	
		90	do		76		do	do	
		90	M16 BOLTS		44		FIELD	do	
			PAY ITEM 506.60						

@ TRUSS END REPAIR
@ BTM CHRD HANGER
@ STRINGERS & LATERAL BRACES
@ FLOOR BEAMS TO GUSSET ℄
@ WT FOR SIDEWALK

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	4-23-04									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

PROJECT NO. BHO 1442(22) STATE PROJECT NO. BHO 1442(22)

MATERIAL AASHTO M 270 GR 250 W/A ELECTRODES: PER PROC. HOLES: 21 Ø W/N SHOP BOLTS:

SURFACE PREP. & PAINT: Prep: SSPC - SP10
Paint: 3-Coat System C
Primer: Wasser - MC Zinc
Intermediate: Wasser - MC Ferrox B
Topcoat: Wasser - MC Luster Color - Green Federal Color Standard No. 595, Color Chip No 14062

DESCRIPTION: TRUSS REPAIR MAT'L. + BTM CHORD EYEBARS

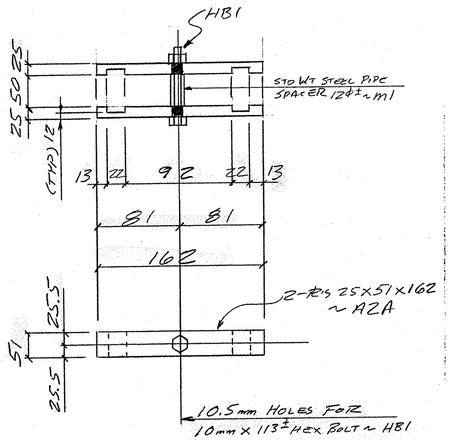
JOB: TH 4 OVER BLACK RIVER BRIDGE PROJECT CAVENDISH, VT

CUSTOMER: MILLER CONSTRUCTION

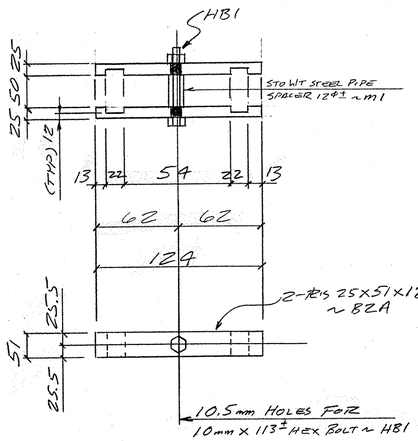
DRAWN BY	DATE
RLB	4-04
CHKD BY	
APPROV BY	
Q.A.	

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

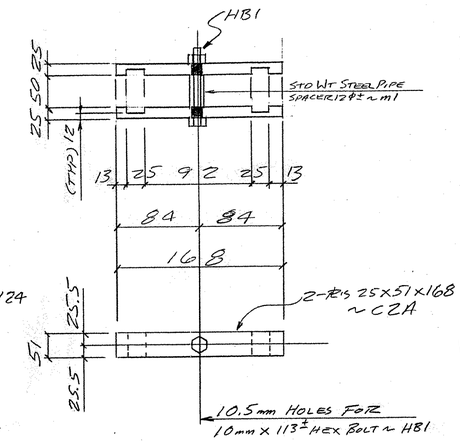
JOB NO. 236 DRG. NO. 1 REV. △



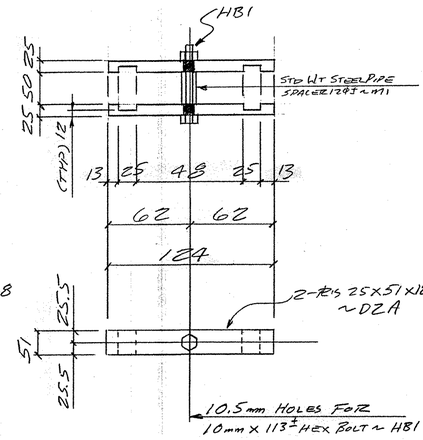
8 - PLATE ASSEMBLIES - A2



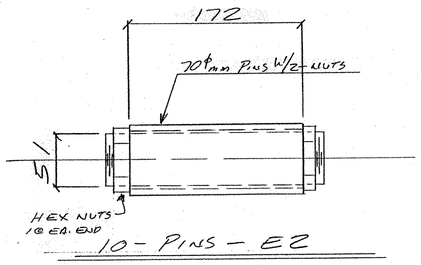
8 - PLATE ASSEMBLIES - B2



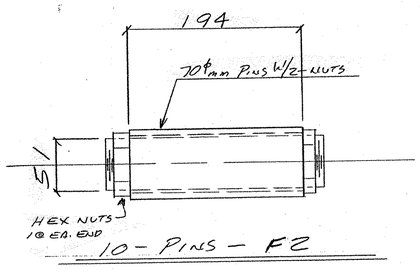
4 - PLATE ASSEMBLIES - C2



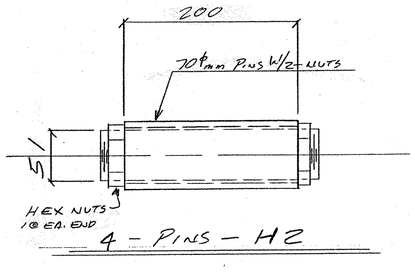
4 - PLATE ASSEMBLIES - D2



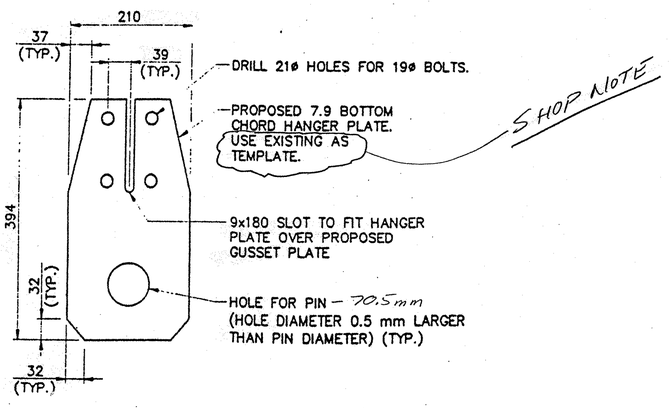
10 - PINS - E2



10 - PINS - F2



4 - PINS - H2



NEW BOTTOM CHORD HANGER PLATE DETAIL

2 - PLATES REQ'D - K2

ABM INFO PAGE	LINE	NO.	DESCRIPTION	LNGTH IN mm	ASSEM. MARK	SHIPPING MARK	REMARKS	WEIGHT
			SHOP BILL				JOB NO. 236	DRG. NO. 2
		8	PLATE ASSEMBLIES			A2		
		16	R 25X 51	162	A2A			
		8	10ϕmm HEX BOLT	113±	HB1			
		8	12ϕmm ±STD WT STEEL PIPE	50	m1			
		8	PLATE ASSEMBLIES			B2		
		16	R 25 X 51	124	B2A			
		8	HEX BOLT		HB1			
		8	STEEL PIPE		m1			
		4	PLATE ASSEMBLIES			C2		
		8	R 25 X 51	168	C2A			
		4	HEX BOLT		HB1			
		4	STEEL PIPE		m1			
		4	PLATE ASSEMBLIES			D2		
		8	R 25 X 51	124	D2A			
		4	HEX BOLT		HB1			
		4	STEEL PIPE		m1			
		10	70ϕmm PINS	172		E2	W/2-HEX NUTS	
		10	do	194		F2	do	
		4	do	200		H2	do	
		2	R 7.9 X 210	394			USE EXIST AS TEMPLATE	

PAY ITEM 506.60

OUT FOR APPROVAL	4-23-04										
OUT FOR APPROVAL											
ISSUED TO SHOP											
FIELD & OFFICE											
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER

PROJECT NO. BHO 1442 (22) STATE PROJECT NO. BHO 1442 (22)

MATERIAL: AASHTO M270 GR 250 W ELECTRODES: E70 Process HOLES: 21ϕ N SHOP BOLTS:

SURFACE PREP. & PAINT:
Prep: SSPC - SP10
Paint: 3-Coat System C
Primer: Wasser - MC Zinc
Intermediate: Wasser - MC Ferrox B
Topcoat: Wasser - MC Luster Color - Green Federal Color Standard No. 595, Color Chip No 14062

DESCRIPTION: SPACER PL's + PINS + BTM CHORD HANGER PL's & L2

JOB: TH 4 OVER BLACK RIVER BRIDGE PROJECT CAVENDISH, YT

CUSTOMER: MILLER CONSTRUCTION

DRAWN BY	DATE
RLB	4-04
CHKD BY	
APPROV BY	
Q.A.	

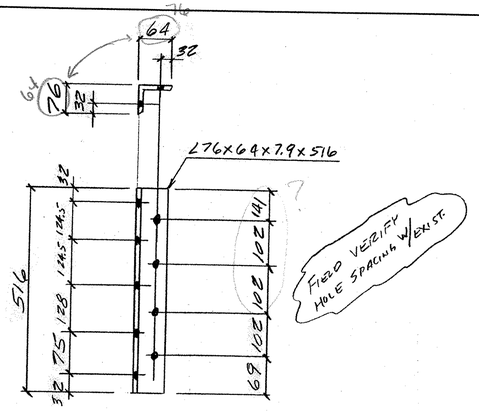
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO. 236 DRG. NO. 2 REV.

PLANS DRAWN USING **METRIC** DIMENSIONS

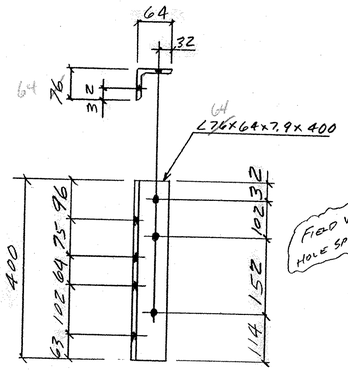
RECEIVED
OK'D BY JMP OK'D BY
APR 27 2004
RESUBMIT APPROVED
BY RLW DATE 5-5-04

050SS



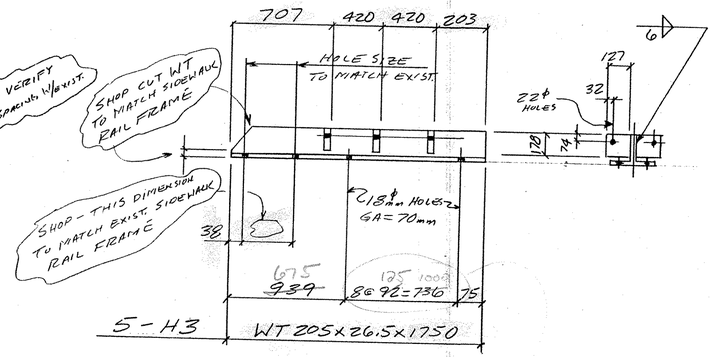
2- ANGLES - A3 (AS SHOWN)

2- do -B3 (EXACT OPP HAND)



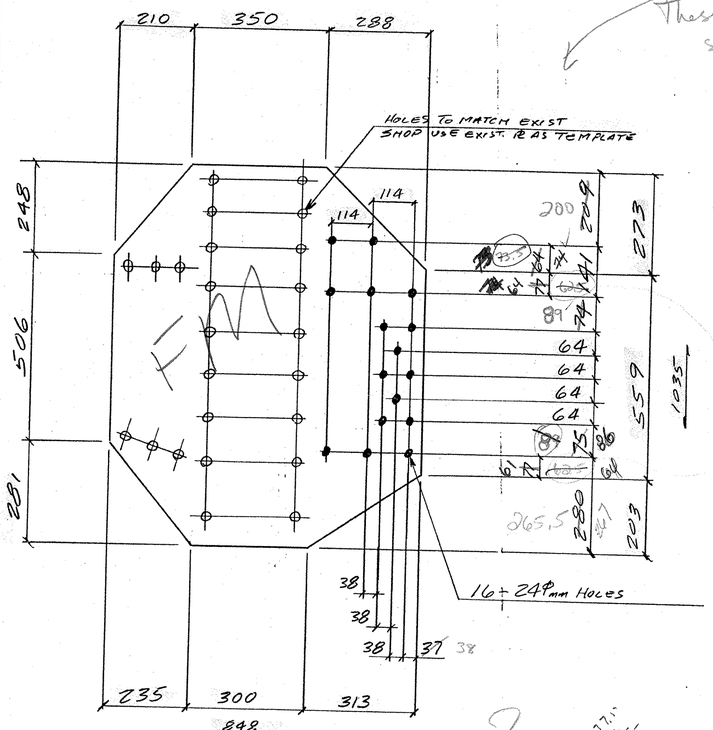
2- ANGLES - C3 (AS SHOWN)

2- do -D3 (EXACT OPP HAND)



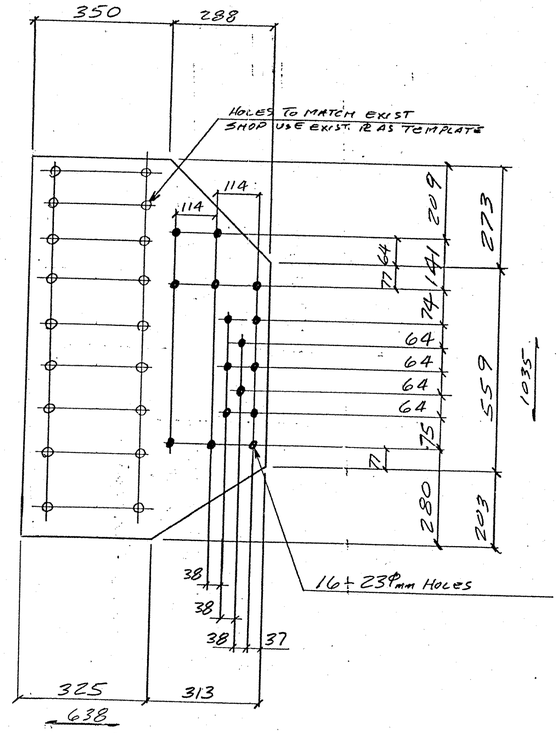
5-H3 WT205x26.5x1750

These need some changes



R7.9x848x1035

5-PLATES - E3



R7.9x638x1035

5-PLATES - F3

FM? In plans it says adjust as needed for clearance

PAY ITEM 506.60

ABM INFO PAGE	LINE	NO.	DESCRIPTION	LENGTH mm	ASSEM. MARK	SHIPPING MARK	REMARKS	WEIGHT
		2	L76x64x7.9	516				
		2	do	516				
		2	do	400				
		2	do	400				
		5	R7.9x848	1035				
		5	R7.9x638	1035				
		5	WT205x26.5	1750			6,12345	

PLANS DRAWN USING METRIC DIMENSIONS

RECEIVED
CK'D BY JMB OK'D BY
APR 27 2004
RESUBMIT APPROVED
BY DATE

057 55

OUT FOR APPROVAL	4/28/04
OUT FOR APPROVAL	
ISSUED TO SHOP	
FIELD & OFFICE	

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER

PROJECT NO. BHO 1442 (22) STATE PROJECT NO. BHO 1442 (22)

MATERIAL AASHTO M 270M/ASTM A709M GR 345 W ELECTRODES: Per Process HOLES: 21ø mm SHOP BOLTS:

SURFACE PREP. & PAINT:
Prep: SSPC - SP10
Paint: 3-Coat System C
Primer: Wasser - MC Zinc
Intermediate: Wasser - MC Ferrox B
Topcoat: Wasser - MC Luster Color - Green Federal Color Standard No. 595, Color Chip No 14062

DESCRIPTION: New #4 & L2 + Gusset #3

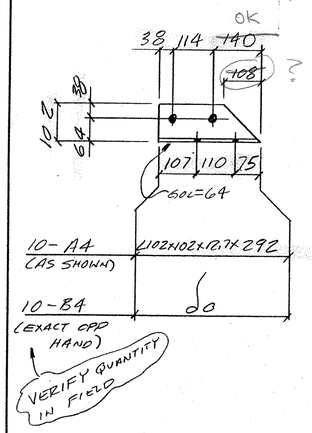
JOB: TH4 OVER BLACK RIVER BRIDGE PROJECT CAVENDISH, VT

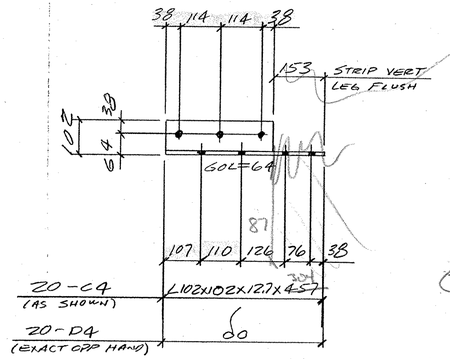
CUSTOMER: MILLER CONSTRUCTION

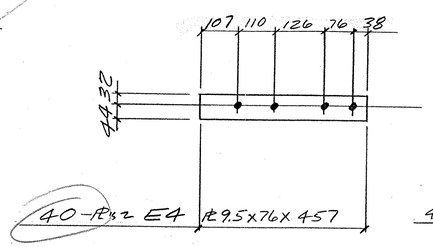
DRAWN BY	DATE
RLB	4-04
CHKD P.Y	
APPROV BY	
Q.A.	

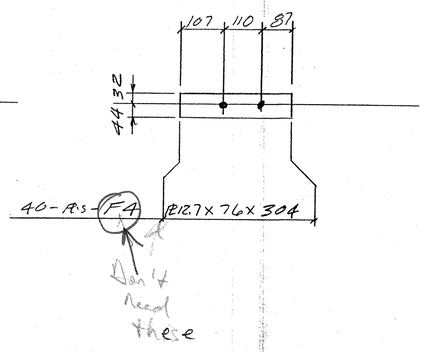
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

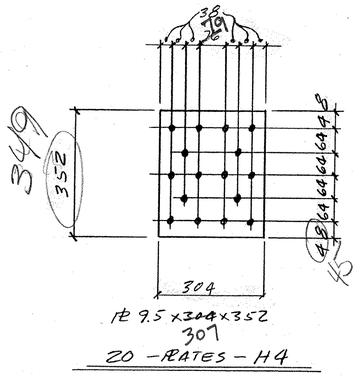
JOB NO. 236 DRG. NO. 3 REV. △

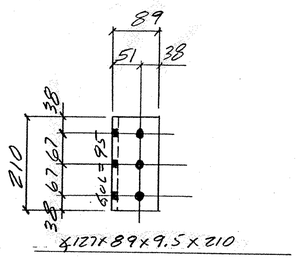


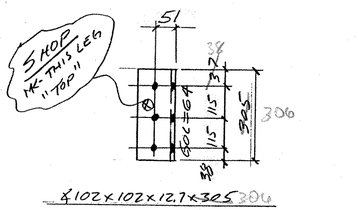


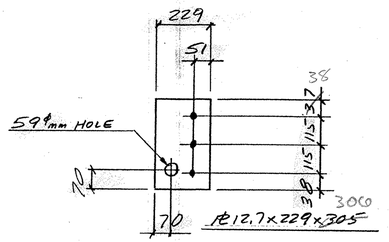


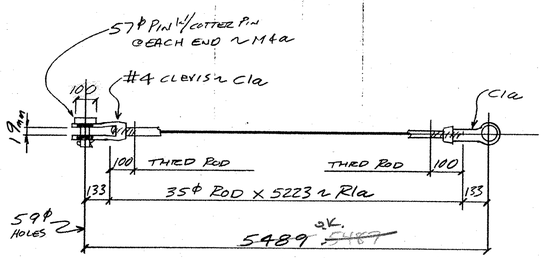


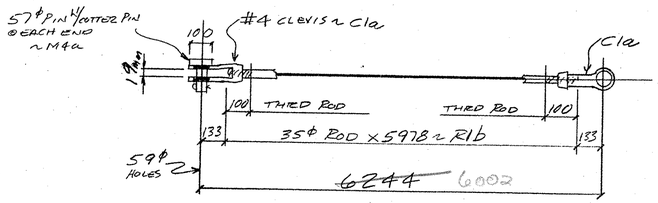


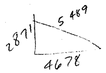


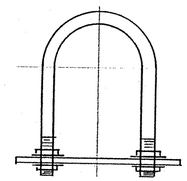












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CK'D BY JMP OK'D BY
APR 27 2004
RESUBMIT APPROVED
BY DATE

PLANS DRAWN USING
METRIC
DIMENSIONS

05255

SHOP BILL

JOB NO. 236 DRG. NO. 4

ABM INFO PAGE	ABM INFO LINE	NO.	DESCRIPTION	CUSTOMER'S NO.	ASSEM. MARK	SHIPPING MARK	REMARKS	WEIGHT
		10	L102x102x12.7	292		A4		
		10	do	292		B4		
		20	do	457		C4		
		20	do	457		D4		
		40	Pl9.5x76	457		E4		
		~~40~~	~~Pl12.7x76~~	~~304~~		~~F4~~		
		20	Pl9.5x~~304~~ 307	352		H4		
		~~80~~	L127x89x9.5	210		K4		
		20	L102x102x12.7	305		M4		
		20	Pl12.7x229	305		N4		
		8	BRACES			P4		
		8	35ϕ ROD	5223		R1a		
		16	#4 CLEVIS			C1a		
		16	57ϕ PINS			M4a	W/ COTTER PIN	
		4	BRACES			R4		
		4	35ϕ ROD	5978		R1b		
		8	#4 CLEVIS			C1a		
		8	57ϕ PINS			M4a		
		6	U-BOLTS			T4		
			38ϕ U-BOLT					
			FB3x2x0'-8					
			4-NUTS & 2 WASHERS				EACH	

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.
	OUT FOR APPROVAL	4/23/04				
	OUT FOR APPROVAL					
	ISSUED TO SHOP					
	FIELD & OFFICE					

NO.	DIA.	LGT	TYPE	WASHER

PROJECT NO. BHO 1442 (22) STATE PROJECT NO. BHO 1442 (22)

MATERIAL AASHTO M 270M GR 250 T/N ELECTRODES: PER PROCESS HOLES: 24ϕ T/N SHOP BOLTS:

SURFACE PREP. & PAINT: GALVANIZE AASHTO M 111

DESCRIPTION: GUSSET PL. SPLICE MATERIAL + LATERAL BRACING

JOB: TH4 OVER BLACK RIVER BRIDGE PROJECT CAVENDISH, VT

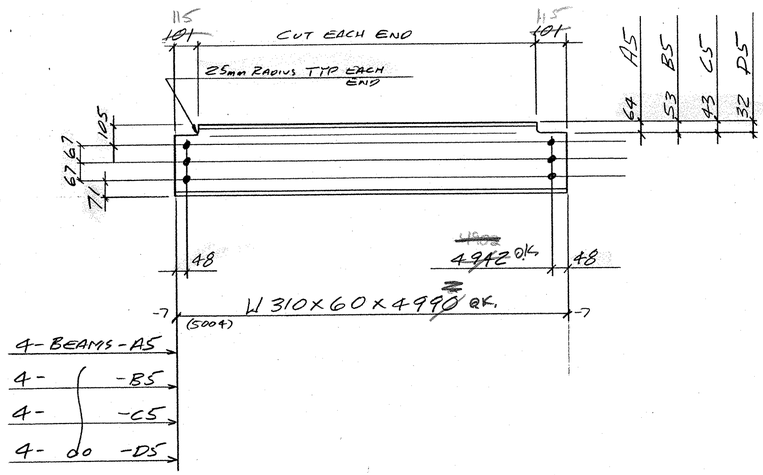
CUSTOMER: MILLER CONSTRUCTION

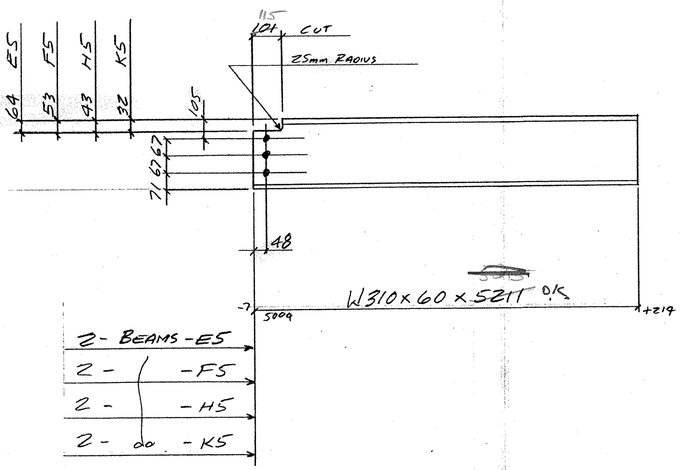
DRAWN BY	DATE
RLB	4-04
CHKD BY	
APPROV BY	
Q.A.	

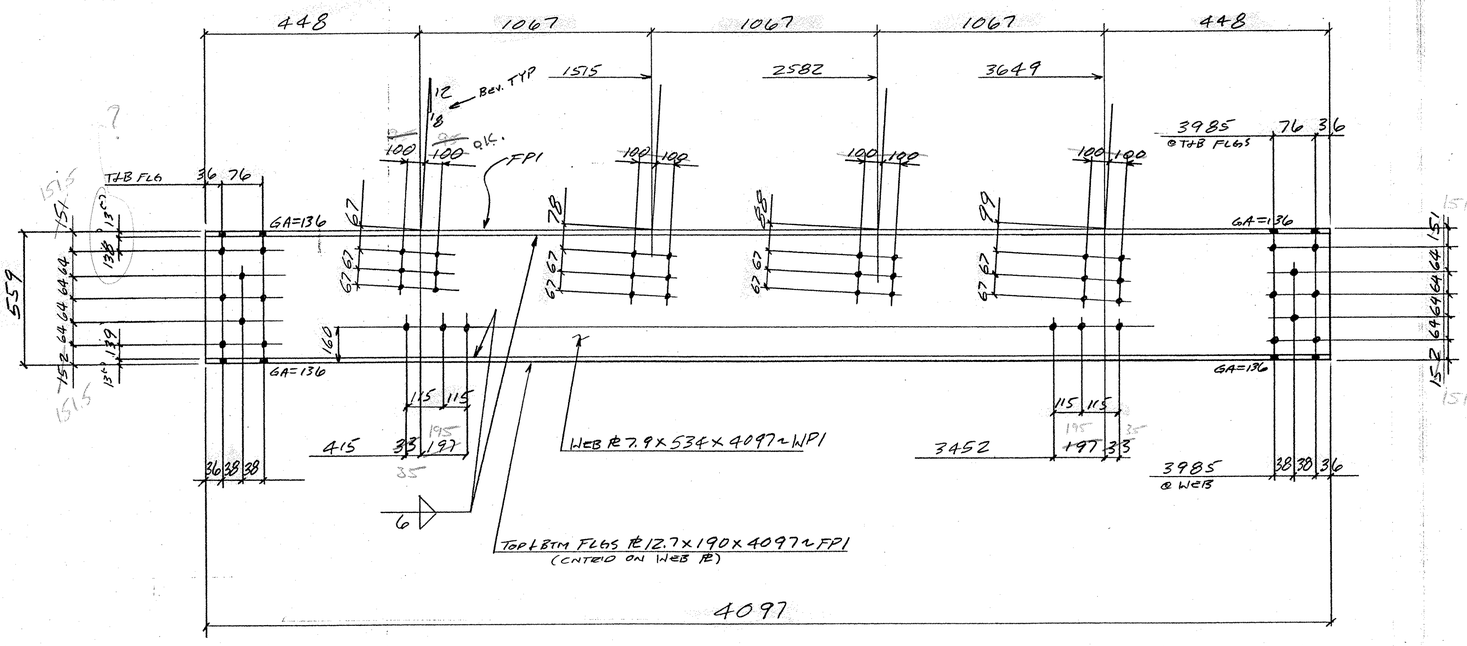
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO. 236 DRG. NO. 4 REV. △

1" = 1'-0







5 - FLOOR BEAMS - M5

ABM INFO PAGE	LINE	NO.	DESCRIPTION	LN WT/M	ASSEM. MARK	SHIPPING MARK	REMARKS	WEIGHT
			PAY ITEMS 506.50					
		4	W310x60	4990		A5	GR345	
		4		4990		B5		
		4		4990		C5		
		4		4990		D5		
		2		5211		E5		
		2		5211		F5		
		2		5211		H5		
		2	do	5211		K5	do	
			PAY ITEMS 506.55					
		5	FLOOR BEAMS			M5		
		10	PL12.7x190	4097	FPI			
		5	PL7.9x534	4097	WPI			

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	4-23-04									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

PROJECT NO. BHO 1442(22) STATE PROJECT NO. (BHO 1442(22))

MATERIAL: AASHTO M270M GR250 W | ELECTRODES: E70 SERIES | HOLES: 24Ø W | SHOP BOLTS:

SURFACE PREP. & PAINT:
GALVANIZE
AASHTO M111

PLANS DRAWN USING METRIC DIMENSIONS

RECEIVED
CK'D BY VMP OK'D BY
APR 27 2004
RESUBMIT APPROVED
BY DATE

053 SS

DESCRIPTION: STRINGERS & FLOOR BEAMS

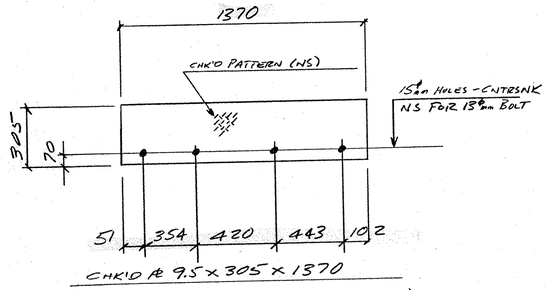
JOB: TH4 OVER BLACK RIVER BRIDGE PROJECT CAVENDISH, VT

CUSTOMER: MILLER CONSTRUCTION

DRAWN BY	DATE
RLB	4-04
CHKD BY	
APPROV BY	
Q.A.	

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

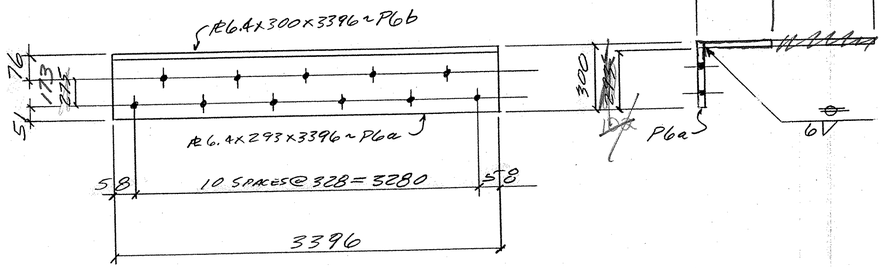
JOB NO. 236 | DRG. NO. 5 | REV. △



CHK'D ℞ 9.5 x 305 x 1370

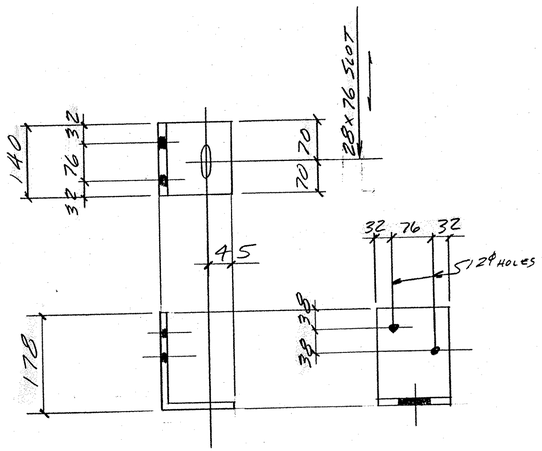
ONE - PLATE - A6 (AS SHOWN)

ONE - do - B6 (EXACT OPP HAND)



2 - PLATES - C6

300 76 223 3 173



℞ 178 x 102 x 9.5 x 140

4 - ANGLES - D6

PLANS DRAWN USING
METRIC
DIMENSIONS

RECEIVED
CK'D BY JMP OK'D BY
APR 27 2004
RESUBMIT APPROVED
BY DATE

054 55

ABM INFO PAGE	LINE	NO.	DESCRIPTION	LENGTH in mm	ASSEM. MARK	SHIPPING MARK	REMARKS	WEIGHT
		ONE	CHK'D ℞ 9.5 x 305	1370		A6		
		ONE	do	1370		B6		
		2	PLATES			C6		
		2	℞ 6.4 x 293	3396	P6a			
		2	℞ 6.4 x 300	3396	P6b			
		4	L 178 x 102 x 9.5	140		D6		
			BOLTS FOR ROADWAY & SIDEWALK JOINT RBS					
		8	13⁄8 F.H. CNTRSNK BOLTS	150		FIELD	4/UNK	
		22	6⁄8 LAG SCREWS	100		FIELD		
			ANCHOR BOLTS FOR SIDEWALK B126 ANGLES					
		4	25⁄8 HOOKED A-B 100 / 300	400		FIELD	4/UNK	

PAY ITEM 560.60

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	4-23-04									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

PROJECT NO. BHO 1442 (22) STATE PROJECT NO. BHO 1442 (22)

MATERIAL: AASHTO M 270M GR 250 U/N | ELECTRODES: PER PROCESS | HOLES: 8⁄8 U/N | SHOP BOLTS: —

SURFACE PREP. & PAINT:
GALVANIZE — PAY ITEM 518.25
AASHTO M 111

DESCRIPTION: SIDEWALK RBS & B'S

JOB:
TH4 OVER BLACK RIVER
BRIDGE PROJECT
CAVENDISH, VT

CUSTOMER: MILLER CONSTRUCTION

	DRAWN BY	DATE
	RLB	4-04
CHK'D BY		
APPROV BY		
Q.A.		

JOB NO.	DRG. NO.
236"	6
	REV. △

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

1" = 1'-0

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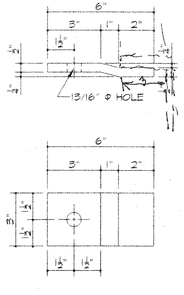
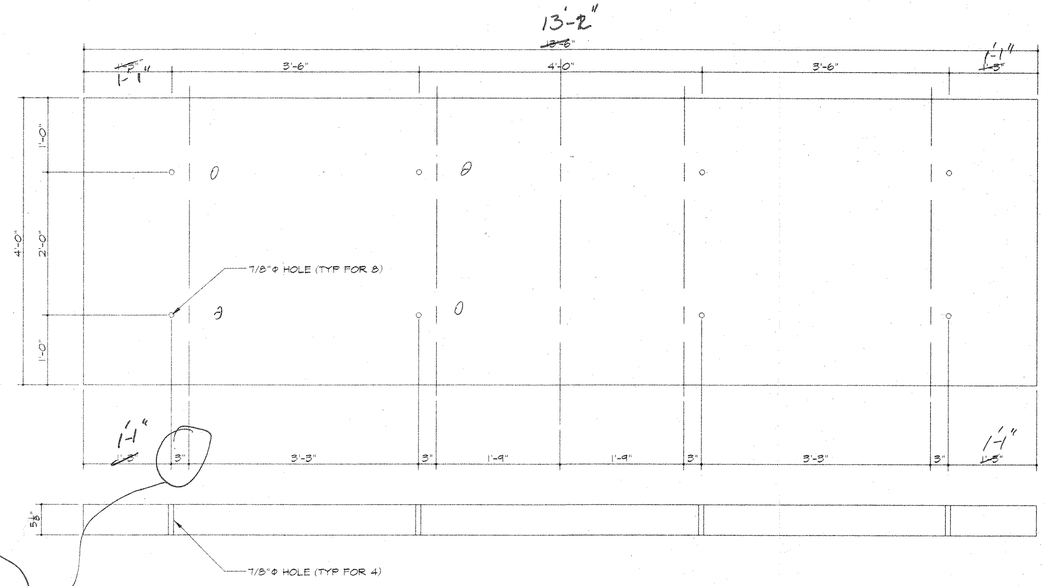


Steel Clips (200 ea) - Galvanized

Scale : 3" = 1'-0"

3/4" x 8" DOME HEAD DEND BOLT (GALV)

As per AASHTO M111M/M111



(25) Deck Panels

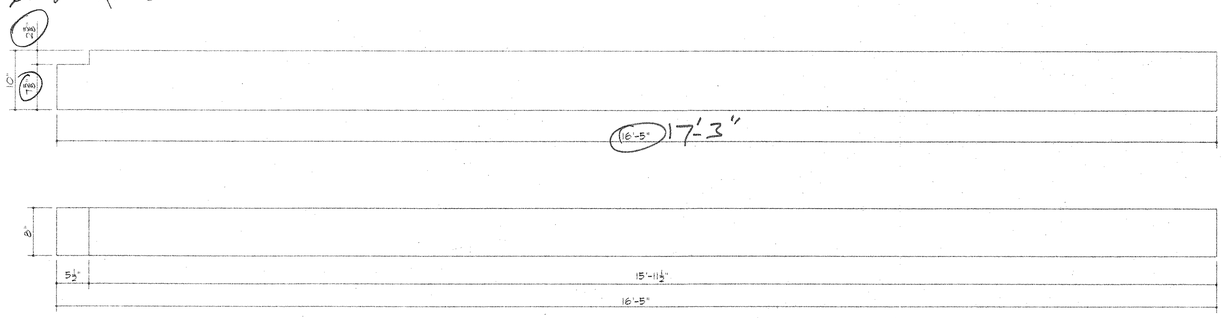
Scale : 1" = 1'-0"

DOUGLAS FIR GLULAM DECK PANEL
2400 Fb, TREATED PENTA PER
AWPA C-28

11-19-04
This dimension should have been 6" hole is 5½" to 6" hole is now over the flange.

RECEIVED
CK'D BY RRW OK'D BY
APR 19 2004
RESUBMIT APPROVED As Noted
BY RRW DATE 4/20/04

3/8 2 3/8 was correct Talked of fabricator on 4-20-04



Sidewalk Stringers

13 - 8x10 - 16'-5"
6 - 8x10 - 17'-3"

Scale : 1" = 1'-0"

Make (6) with notch
Make (13) without notch

DOUGLAS FIR #1 GRADE S4S
TREATED PENTA 0.60

STRUCTURES COPY

055

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(248) 634-6646 - Facsimile

SEAL
Michael C. Wise, P.E.
License No. 46158

SHEET TITLE
Shop Drawing

Black River Bridge
Cavendish, Vermont
Designed For: Art Thureson, Inc.
Drawn By: MCK Checked By: MCK

DATE
April 9, 2004
REVISED
- - - - - - - - - -
JOB NO.
04-0175
SHEET NO.
S-1
of 1