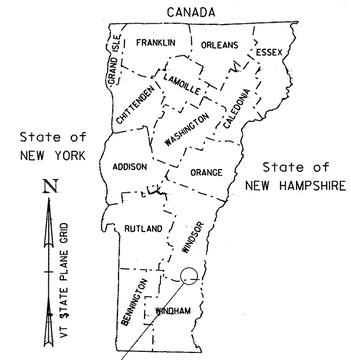
SEE SHEET 2 FOR INDEX OF SHEETS
AND LIST OF STANDARDS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

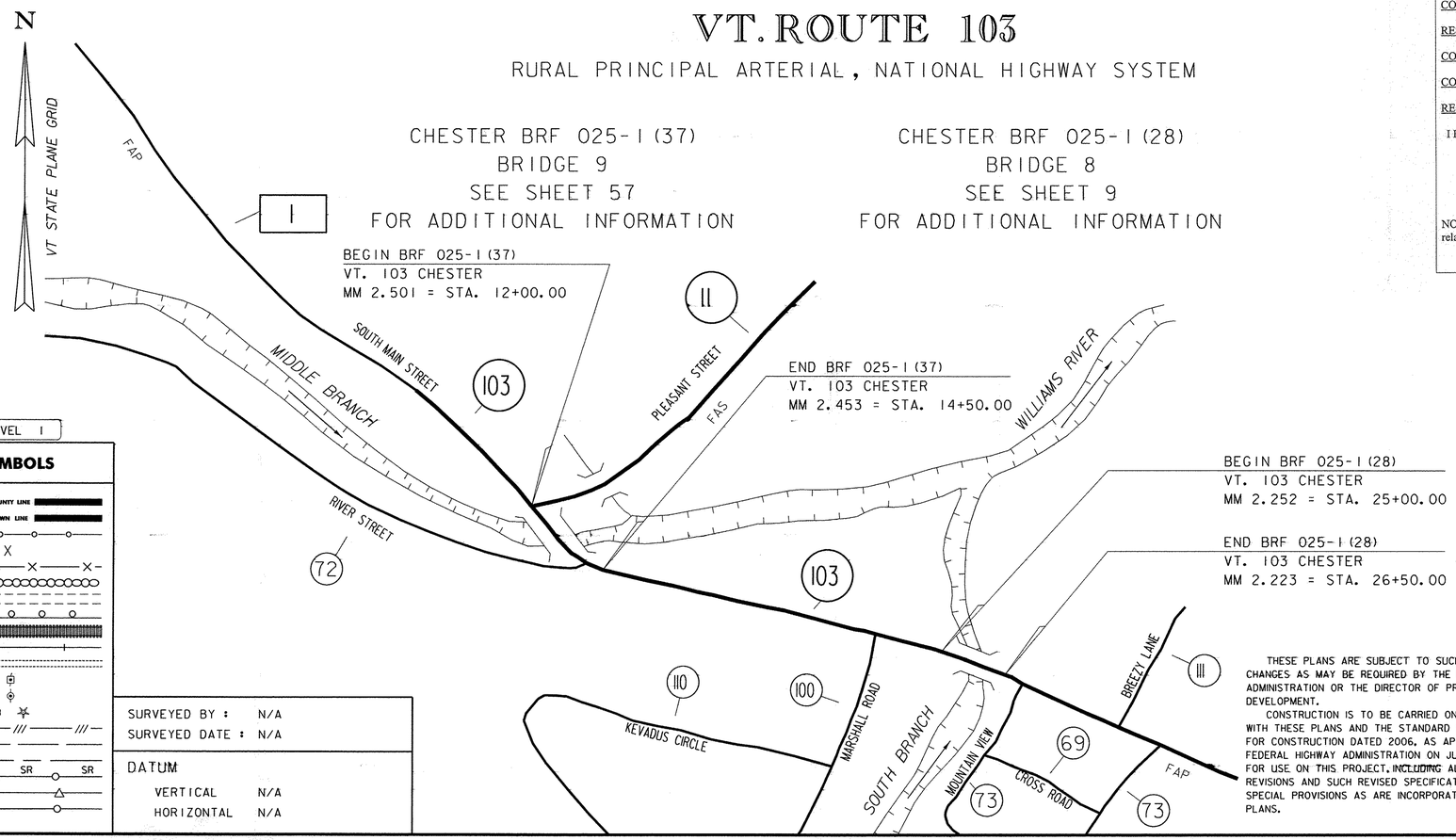


PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF CHESTER
COUNTY OF WINDSOR
VT. ROUTE 103

RURAL PRINCIPAL ARTERIAL, NATIONAL HIGHWAY SYSTEM

CHESTER BRF 025-1(37)
BRIDGE 9
SEE SHEET 57
FOR ADDITIONAL INFORMATION

CHESTER BRF 025-1(28)
BRIDGE 8
SEE SHEET 9
FOR ADDITIONAL INFORMATION



QUALITY ASSURANCE PROGRAM: LEVEL 1

CONVENTIONAL SYMBOLS

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

SURVEYED BY : N/A
SURVEYED DATE : N/A

DATUM
VERTICAL N/A
HORIZONTAL N/A

RECORD PLANS

CONTRACTOR: COLD RIVER BRIDGES, LLC- KEENE, NH
RESIDENT ENGINEER: JEREMY REED
CONSTRUCTION BEGAN: MAY 9, 2011
CONSTRUCTION COMPLETE: NOVEMBER 9, 2011
RECORD PLANS BY: JEREMY REED & JENNA HYDE

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

BY Jeremy Reed RESIDENT ENGINEER
DATE 1/23/14

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.

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

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED Ruth Stilcau DATE 9/9/10

PROJECT MANAGER : C.P. WILLIAMS

PROJECT NAME : CHESTER & CHESTER
PROJECT NUMBER : BRF 025-1(28)
& BRF 025-1(37)

SHEET 1 OF 124 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

INDEX OF SHEETS

COMPOSITE

BRF 025-1(28)s BRIDGE 8

BRF 025-1(37)s BRIDGE 9

STANDARDS

B-71	RESIDENTIAL AND COMMERCIAL DRIVES	7/8/2005
C-2A	PORTLAND CEMENT CONCRETE SIDEWALK DRIVE ENTRANCES WITH SIDEWALK ADJACENT TO CURB	10/14/2005
C-3A	SIDEWALK RAMPS	3/10/2008
C-10	CURBING	2/11/2008
D-1	PRECAST REINFORCED CONCRETE DROP INLET DETAILS	6/1/1994
E-100	CONSTRUCTION APPROACH SIGNS	1/2/2004
E-102	CONSTRUCTION SIGN DETAILS	6/30/2003
E-102A	CONSTRUCTION SIGN DETAILS	5/1/2004
E-106	TRAFFIC CONTROL - MISCELLANEOUS DETAILS	3/1/2004
E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	6/30/2003
E-107A	BREAKAWAY BARRICADE DETAILS	6/8/2009
E-110	MAJOR MAINTENANCE OPERATION LANE CLOSURE	8/8/1995
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	8/8/1995
E-123	GUIDE SIGN PLACEMENT - MISCELLANEOUS DETAILS	3/16/2004
E-127	ROUTE MARKINGS AT RURAL INTERSECTIONS	8/8/1995
E-134	BRIDGE NUMBER PLAQUE	8/8/1995
E-136B	STATE ROUTE MARKER SIGN DETAILS	8/8/1995
E-141	REGULATORY SIGN DETAILS	9/20/1995
E-160	FLANGED CHANNEL STEEL SIGN POST	5/20/1999
E-164	SQUARE STEEL SIGN POST	6/8/2009
E-191	PAVEMENT MARKING DETAILS	2/1/1999
E-193	PAVEMENT MARKING DETAILS	8/18/1995
G-1	STEEL BEAM GUARDRAIL WITH STEEL POSTS :: STEEL BEAM GUARDRAIL WITH WOOD POSTS	1/3/2000
G-1D	STEEL BEAM GUARDRAIL (40MPH & LESS) :: HEAVY DUTY STEEL BEAM GUARDRAIL :: STEEL BEAM MEDIAN BARRIER :: ANCHOR FOR STEEL BEAM RAIL	1/3/2000

STRUCTURES DETAILS

SD-501.00	CONCRETE DETAILS AND NOTES	4/22/2010
SD-502.00	CONCRETE DETAILS AND NOTES	4/22/2010
SD-516.10	BRIDGE JOINT ASPHALTIC PLUG DETAIL SHEET	4/22/2010
SD-601.00	STRUCTURAL STEEL DETAILS & NOTES	4/22/2010
SD-602.00	STRUCTURAL STEEL PLATE GIRDER DETAILS & NOTES	4/22/2010

PROJECT NAME: CHESTER & CHESTER
PROJECT NUMBER: BRF 025-1(28) & BRF 025-1(37)

FILE NAME: 84e061\CompositeExcel.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
INDEX OF SHEETS

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: E.R.CHARBONNEAU

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY (BRIDGE 8)	TRAINING (BRIDGE 8)	EROSION CONTROL (BRIDGE 8)	BRIDGE NO. 8	FULL C.E. ITEMS (BRIDGE 8)	ROADWAY (BRIDGE 9)	TRAINING (BRIDGE 9)	EROSION CONTROL (BRIDGE 9)	BRIDGE NO. 9	FULL C.E. ITEMS (BRIDGE 9)
0.5					0.5				
320					1050				
			180					575	
					115				
					5				
1					1				
			255					285	
			85					175	
340					690				
240					1050				
4					12				
175					715				
1					1				
			55						
			90						
			1						
								1	
			120					650	
			1					2	
								252300	
			2060						
			72						
			1200					13265	
								1	
			190						
			16					35	
								100	
			220					465	
			75					90	
			1						
								1	
			16						
								14	
								1	
			1						
								1	
			1						
								1	

TOTALS

GRAND TOTAL	FINAL
1	
1370	
755	
115	
5	
2	
540	
260	
1030	
1290	
16	
890	
2	
55	
90	
1	
1	
770	
3	
252300	
2060	
72	
14465	
1	
190	
51	
100	
685	
165	
1	
1	
16	
14	
1	
1	
1	
1	
1	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER	ROUND
LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	
CY	COMMON EXCAVATION	203.15	
CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27	
CY	TRENCH EXCAVATION OF EARTH	204.20	
CY	TRENCH EXCAVATION OF ROCK	204.21	
CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	
CY	STRUCTURE EXCAVATION	204.25	
CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	
SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10	
CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	
CWT	EMULSIFIED ASPHALT	404.65	
TON	BITUMINOUS CONCRETE PAVEMENT	406.25	
LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	
CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	
LF	PRE-EXCAVATION OF INTEGRAL ABUTMENT PILES	503.20	
LS	FURNISHING EQUIPMENT FOR DRIVING PILING (BRIDGE 8)	504.10	
LS	FURNISHING EQUIPMENT FOR DRIVING PILING (BRIDGE 9)	504.10	
LF	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 12 X 84	505.265	
EACH	DYNAMIC PILE LOADING TEST	505.45	
LB	STRUCTURAL STEEL, CURVED PLATE GIRDER	506.56	
LB	REINFORCING STEEL	507.15	
LF	DRILLING AND GROUTING DOWELS	507.16	
LB	EPOXY COATED REINFORCING STEEL	507.17	
LS	SHEAR CONNECTORS (1684 - 7/8" X 7")	508.15	
LF	GROUTING SHEAR KEYS	510.24	
GAL	WATER REPELLENT, SILANE	514.10	
LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10	
SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20	
LF	JOINT SEALER, HOT POURED	524.11	
EACH	REMOVAL OF STRUCTURE (1300 SF - EST.)	529.15	
EACH	REMOVAL OF STRUCTURE (4985 SF - EST.)	529.15	
EACH	BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD	531.11	
EACH	BEARING DEVICE ASSEMBLY, INTEGRAL ABUTMENT	531.14	
LS	PRECAST CONCRETE STRUCTURE (8" DECK SLABS)	540.10	
LS	PRECAST CONCRETE STRUCTURE (ABUTMENT #1 BRIDGE 8)	540.10	
LS	PRECAST CONCRETE STRUCTURE (ABUTMENT #1 BRIDGE 9)	540.10	
LS	PRECAST CONCRETE STRUCTURE (ABUTMENT #2 BRIDGE 8)	540.10	
LS	PRECAST CONCRETE STRUCTURE (ABUTMENT #2 BRIDGE 9)	540.10	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT NAME: CHESTER & CHESTER
PROJECT NUMBER: BRF 025-1(28) & BRF 025-1(37)

FILE NAME: M:\86e041\Compositeexcel.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
COMPOSITE QUANTITY SHEET #1

PLOT DATE: 09/20/2010
DRAWN BY: D.D.BEARD
CHECKED BY: E.R.CHARBONNE

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY (BRIDGE 8)	TRAINING (BRIDGE 8)	EROSION CONTROL (BRIDGE 8)	BRIDGE NO. 8	FULL C.E. ITEMS (BRIDGE 8)	ROADWAY (BRIDGE 9)	TRAINING (BRIDGE 9)	EROSION CONTROL (BRIDGE 9)	BRIDGE NO. 9	FULL C.E. ITEMS (BRIDGE 9)	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
													BEGIN OPTION AA					
					84					84		LF	18" CAAP .060 (2-2/3 X 1/2)	601.0215				
					84					84		LF	18" PCCSP .064 (2-2/3 X 1/2)	601.0415				
					84					84		LF	18" CPEP	601.0915				
													END OPTION AA					
					1					1		EACH	PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE	604.18				
					2					2		EACH	CHANGING ELEVATION OF DROP INLETS, CATCH BASINS, OR MANHOLES	604.40				
					1					1		EACH	CHANGING ELEVATION OF SEWER MANHOLES	604.42				
		10					10			20		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25				
1					1					2		TON	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15				
		10					10			20		CY	STONE FILL, TYPE I	613.10				
			140							140		CY	STONE FILL, TYPE III	613.12				
								635		635		CY	STONE FILL, TYPE IV	613.13				
51					105					156		LF	PRECAST REINFORCED CONCRETE CURB, TYPE B	616.26				
35					35					70		SY	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	618.10				
					4					4		SF	DETECTABLE WARNING SURFACE	618.30				
					133					133		LF	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21				
4										4		EACH	MANUFACTURED TERMINAL SECTION, TANGENT (TL-2)	621.51				
					4					4		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60				
182					210					392		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
360					530					890		LF	TEMPORARY TRAFFIC BARRIER	621.90				
1										1		EACH	ADJUST ELEVATION OF VALVE BOX	629.20				
90					90					180		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
450					720					1170		HR	FLAGGERS	630.15				
				0.5					0.5	1		LS	FIELD OFFICE, ENGINEERS	631.10				
				0.5					0.5	1		LS	TESTING EQUIPMENT, CONCRETE	631.16				
				0.5					0.5	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
				1500					1500	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26				
	260					260				520		HR	EMPLOYEE TRAINEESHIP	634.10				
0.5					0.5					1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
1										1		LS	TRAFFIC CONTROL	641.10				
0.5					0.5					1		LS	PUBLIC RELATIONS OFFICER	641.12				
4										4		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15				
500					970					1470		LF	4 INCH WHITE LINE	646.20				
500					890					1390		LF	4 INCH YELLOW LINE	646.21				
					76					76		LF	DURABLE 24 INCH STOP BAR	646.480				
					8					8		EACH	DURABLE LETTER OR SYMBOL	646.490				
					72					72		LF	DURABLE CROSSWALK MARKING	646.500				
500					1570					2070		LF	TEMPORARY 4 INCH WHITE LINE	646.600				
500					1665					2165		LF	TEMPORARY 4 INCH YELLOW LINE	646.610				

PROJECT NAME: CHESTER & CHESTER
PROJECT NUMBER: BRF 025-1(28) & BRF 025-1(37)

FILE NAME: M:\86e041\Compositeexcel.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
COMPOSITE QUANTITY SHEET #2

PLOT DATE: 09/20/2010
DRAWN BY: D.D.BEARD
CHECKED BY: E.R.CHARBONNE

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY (BRIDGE 8)	TRAINING (BRIDGE 8)	EROSION CONTROL (BRIDGE 8)	BRIDGE NO. 8	FULL C.E. ITEMS (BRIDGE 8)	ROADWAY (BRIDGE 9)	TRAINING (BRIDGE 9)	EROSION CONTROL (BRIDGE 9)	BRIDGE NO. 9	FULL C.E. ITEMS (BRIDGE 9)	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
					165					165		SF	PAVEMENT MARKING MASK	646.86				
			210					675		885		SY	GEOTEXTILE UNDER STONE FILL	649.31				
		30					120			150		SY	GEOTEXTILE FOR SILT FENCE	649.51				
		50					380			430		SY	GEOTEXTILE FOR FILTER CURTAIN	649.61				
		10					20			30		LB	SEED	651.15				
		20					80			100		LB	FERTILIZER	651.18				
		1					1			2		TON	AGRICULTURAL LIMESTONE	651.20				
		1					1			2		TON	HAYMULCH	651.25				
		10					30			40		CY	TOPSOIL	651.35				
		65					75			140		SY	GRUBBING MATERIAL	651.40				
		1								1		LS	EPSC PLAN (BRIDGE 8)	652.10				
							1			1		LS	EPSC PLAN (BRIDGE 9)	652.10				
		8					15			23		HR	MONITORING EPSC PLAN	652.20				
		1					1			2		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
		65					580			645		SY	TEMPORARY EROSION MATTING	653.20				
		16					16			32		CY	VEHICLE TRACKING PAD	653.35				
							4			4		EACH	INLET PROTECTION DEVICE, TYPE I	653.40				
		220					60			280		LF	BARRIER FENCE	653.50				
		210					705			915		LF	PROJECT DEMARCATION FENCE	653.55				
0.66					69.09					69.75		SF	TRAFFIC SIGNS, TYPE A	675.20				
20										20		LF	FLANGED CHANNEL SIGN POST	675.301				
					80					80		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
8					28					36		EACH	REMOVING SIGNS	675.50				
					1					1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50				
			10					128		138		CY	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT)	900.608				
4					1					5		EACH	SPECIAL PROVISION (GUARDRAIL APPROACH SECTION TO CONCRETE BRIDGE RAILING)(TL-2)	900.620				
					3					3		EACH	SPECIAL PROVISION (GUARDRAIL APPROACH SECTION TO CONCRETE BRIDGE RAILING)(TL-3)	900.620				
			2							2		EACH	SPECIAL PROVISION (PRECAST APPROACH SLAB, SUPER-SLAB)(BRIDGE 8)	900.620				
								2		2		EACH	SPECIAL PROVISION (PRECAST APPROACH SLAB, SUPER-SLAB)(BRIDGE 9)	900.620				
								249		249		LF	SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION)	900.640				
			122.5							122.5		LF	SPECIAL PROVISION (BRIDGE RAILING, TEXAS)	900.640				
			253							253		LF	SPECIAL PROVISION (PRESTRESSED CONCRETE, NEXT D BEAMS)(NEXT 28 D)	900.640				
1										1		LU	SPECIAL PROVISION (INCENTIVE/DISINCENTIVE) (BRIDGE 8) (N.A.B.I.)	900.650				
					1					1		LU	SPECIAL PROVISION (INCENTIVE/DISINCENTIVE) (BRIDGE 9) (N.A.B.I.)	900.650				
								280		280		SF	SPECIAL PROVISION (RETAINING WALL)	900.670				

PROJECT NAME: CHESTER & CHESTER
PROJECT NUMBER: BRF 025-1(28) & BRF 025-1(37)

FILE NAME: M:\86e041\Compositeexcel.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
COMPOSITE QUANTITY SHEET #3

PLOT DATE: 09/20/2010
DRAWN BY: D.D.BEARD
CHECKED BY: E.R.CHARBONNE

TRAFFIC CONTROL NOTES:

TRAFFIC WILL BE MAINTAINED ON A REGIONAL DETOUR VIA VT RT 11 BETWEEN CHESTER AND SPRINGFIELD AND INTERSTATE 91 BETWEEN EXITS 6 AND 7.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DETOUR AND CONSTRUCTION SIGNING. THE EXACT LOCATION WILL BE COORDINATED BETWEEN THE RESIDENT ENGINEER AND THE CONTRACTOR AND SHALL BE IN ACCORDANCE WITH M.U.T.C.D.

TRAFFIC CONTROL WARNING SIGNS SHALL BE PROVIDED PER STANDARDS E-100, E-102 AND E-102A. ADDITIONAL PROJECT CONSTRUCTION SIGNS SHALL BE INSTALLED AS REQUIRED BY THE RESIDENT ENGINEER. ALL ON AND OFF PROJECT SIGNS AND BARRICADES AS REQUIRED FOR THE DETOUR AND/OR ORDERED BY THE RESIDENT ENGINEER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PAID FOR UNDER THE ITEM 641.10, "TRAFFIC CONTROL". ALL SIGNS AND BARRICADES SHALL BE INSPECTED DAILY AND REPAIRED AS NECESSARY. ALL SIGNS AND BARRICADES SHALL BE CLEARED OF DUST AND DEBRIS WEEKLY.

PORTABLE CHANGEABLE MESSAGE SIGNS "PCMS" SHALL BE PLACED AT THE APPROXIMATE LOCATIONS SHOWN ON THE PLANS OR WHERE DESIGNATED BY THE RESIDENT ENGINEER. TWO SIGNS SHALL BE PLACED AT THE PROJECT LOCATION 14 DAYS PRIOR TO THE START OF CONSTRUCTION TO WARN OF THE IMPENDING DETOURS. THESE SHALL THEN BE REMOVED AND DEPLOYED TO THE LOCATIONS SHOWN ONCE CONSTRUCTION HAS BEGUN. PAYMENT FOR THESE SIGNS SHALL BE INCLUDED IN ITEM 641.15 "PORTABLE CHANGEABLE MESSAGE SIGN"

THE STATE ROUTE MARKERS USED FOR THE DETOUR AS SHOWN ON THE PLANS, SHALL FOLLOW STANDARDS E-127 AND E-136B. THESE SIGNS SHALL BE REMOVED AT THE END OF THE CONSTRUCTION PERIOD. THESE SIGNS AND THEIR REMOVAL SHALL BE PAID FOR UNDER ITEM 641.10 "TRAFFIC CONTROL"

ITEM 641.12 "PUBLIC RELATIONS OFFICER" SHALL BE USED FOR THE COORDINATION OF DETOUR INFORMATION AND TRAFFIC DELAYS FOR THE PUBLIC.

ACCESS TO ALL EXISTING DRIVES AND SIDE ROADS SHALL BE MAINTAINED AT ALL TIMES DURING ALL PHASES OF CONSTRUCTION.

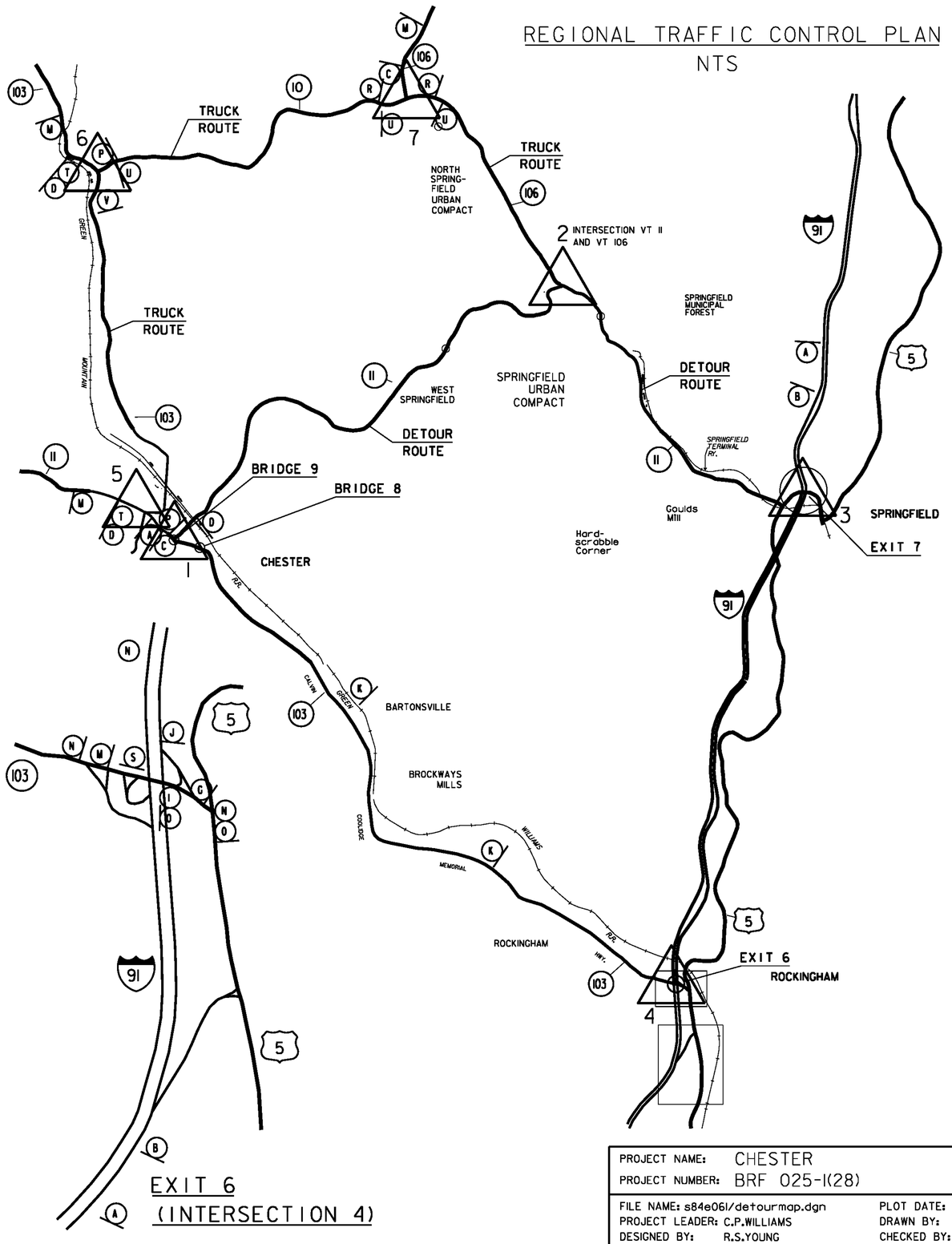
INSTALLATION OF DETOUR SIGNS SHALL NOT BLOCK ANY EXISTING TRAFFIC CONTROL SIGN ASSEMBLIES AND SHALL MODIFY OR BE PLACED ADJACENT TO EXISTNG SIGN ASSEMBLIES WHEN POSSIBLE. THE CONTRACTOR SHALL WHENEVER POSSIBLE MAINTAIN AT LEAST 200 FEET BETWEEN SIGN ASSEMBLIES.

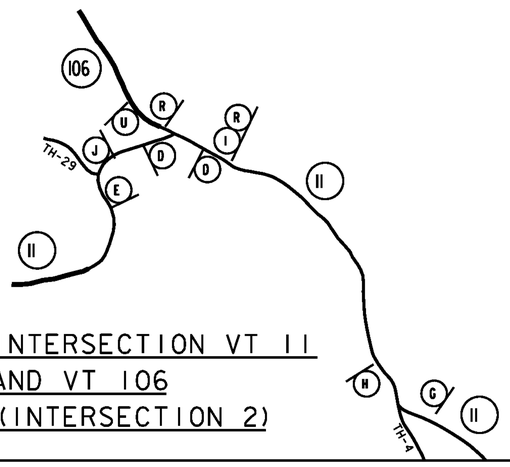
EXISTING SIGNS THAT ARE IN CONFLICT WITH THE TRAFFIC FLOW OF THE DETOUR SHALL BE REMOVED OR COVERED BY THE CONTRACTOR. ALL SIGNS REMOVED OR COVERED SHALL BE REPLACED OR UNCOVERED WHEN THE TRAFFIC CONTROL PLAN IS DISASSEMBLED. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 641.10 "TRAFFIC CONTROL"

CONTACT DIG-SAFE AT 1-888-344-7233 PRIOR TO BREAKING GROUND TO INSTALL ANY SIGN POSTS.

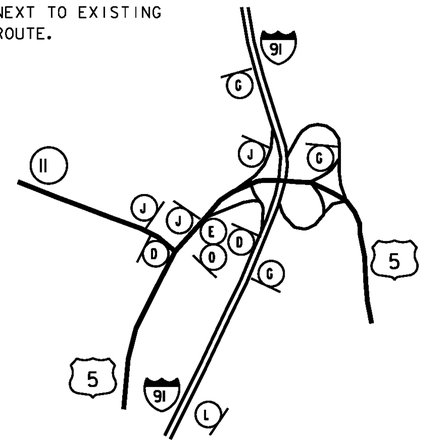
DETOUR CONFIRMATION SIGNS "D" & "J" SHALL BE PLACED NEXT TO EXISTING CONFIRMATION SIGNS ALONG THE DETOUR ROUTE AND TRUCK ROUTE.

REGIONAL TRAFFIC CONTROL PLAN
NTS





INTERSECTION VT 11 AND VT 106 (INTERSECTION 2)



EXIT 7 (INTERSECTION 3)

EXIT 6 (INTERSECTION 4)

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(28)
FILE NAME: s84e061/detourmap.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
REGIONAL DETOUR MAP	SHEET 6 OF 124

DETOUR SIGN PLACEMENT:

1△ VT-103 SOUTHBOUND	B	"A", PCMS, "BRIDGE CLOSED, VT-103 CHESTER, JUNE XX TO AUGUST XX."
	B	"C", "DETOUR SOUTH VT-103"
VT-11 EASTBOUND	A	"D", "DETOUR SOUTH VT-103"
VT-11 WESTBOUND	A	"P", "END DETOUR NORTH VT-103"
2△ VT-11 EASTBOUND	B	"D", "DETOUR SOUTH VT-103"
	B	"E", "DETOUR SOUTH VT-103"
	A	"D", "DETOUR SOUTH VT-103"
	A	"H", "DETOUR SOUTH VT-103"
VT-11 WESTBOUND	B	"G", "DETOUR NORTH VT-103"
	B	"I", "DETOUR NORTH VT-103"
	B	"R", "TRUCK ROUTE, DETOUR NORTH VT-103"
	A	"J", "DETOUR NORTH VT-103"
VT-106 SOUTHBOUND	B	"U", "TRUCK ROUTE, DETOUR SOUTH VT-103"
VT-106 NORTHBOUND	A	"R", "TRUCK ROUTE, DETOUR NORTH VT-103"
3△ EXIT 7 - I-91 SOUTH	B	"A", PCMS, "BRIDGE CLOSED, VT-103 CHESTER, JUNE XX TO AUGUST XX."
	B	"B", *, "ROCKINGHAM USE EXIT 6, VT-103 THRU TRAFFIC, USE EXIT 7"
	B	"G", *, "DETOUR NORTH VT-103" (BEFORE OFF RAMP)
	B	"J", "DETOUR NORTH VT-103" (OFF RAMP)
	A	"D", *, "DETOUR SOUTH VT-103"
VT-11 WESTBOUND	A	"J", "DETOUR NORTH VT-103"
EXIT 7 - I-91 NORTH	B	"L", PCMS,"VT-103, THRU TRAFFIC, USE EXIT 7"
	B	"G", *, "DETOUR NORTH VT-103" (BEFORE RAMP)
	B	"G", *, "DETOUR NORTH VT-103" (ON RAMP)
VT-11 EASTBOUND	B	"D", "DETOUR SOUTH VT-103"
	B	"E", "DETOUR SOUTH VT-103"
	B	"O", "INTERSTATE WEIGHT LIMITS APPLY"
VT-103 NORTHBOUND		BETWEEN EXIT 6 AND BRIDGE 8
		"K", "BRIDGE CLOSED X MILES AHEAD LOCAL TRAFFIC ONLY"
		"K", "BRIDGE CLOSED X MILES AHEAD LOCAL TRAFFIC ONLY"
		X IS LOCATION SPECIFIC, I SET EVERY 3 MILES FROM BRIDGE 8
4△ EXIT 6 - I-91 NORTH	B	"A", PCMS, "BRIDGE CLOSED, VT-103 CHESTER, JUNE XX TO AUGUST XX."
	B	"B", *, "ROCKINGHAM USE EXIT 6, VT-103 THRU TRAFFIC, USE EXIT 7"
	A	"J", *, "DETOUR NORTH VT-103"
VT-103 NORTHBOUND	B	"G, "DETOUR NORTH VT-103"
	B	"N", "VT103, THRU TRAFFIC, DETOUR VIA I-91N TO EXIT 7"
	B	"O", "INTERSTATE WEIGHT LIMITS APPLY
	A	"M", "BRIDGE CLOSED, VT103 CHESTER, SOUTH OF JCT VT 11, X/XX TO X/XX"
	A	"N", "VT103, THRU TRAFFIC, DETOUR VIA I-91N TO EXIT 7"
VT-103 SOUTHBOUND	B	"I", "DETOUR NORTH VT-103"
	B	"O", "INTERSTATE WEIGHT LIMITS APPLY"
I-91 SOUTH	B	"N", *, "VT103, THRU TRAFFIC, DETOUR VIA I-91N TO EXIT 7"
	A	"S", *, "END DETOUR SOUTH VT-103"
5△ VT-11 EASTBOUND	B	"M", "BRIDGE CLOSED, VT103 CHESTER, SOUTH OF JCT VT 11, X/XX TO X/XX"
	B	"T", "TRUCK ROUTE, DETOUR SOUTH VT-103"
	B	"D", "DETOUR SOUTH VT-103"
6△ VT-103 SOUTHBOUND	B	"M", "BRIDGE CLOSED, VT103 CHESTER, SOUTH OF JCT VT 11, X/XX TO X/XX"
	B	"T", "TRUCK ROUTE, DETOUR SOUTH VT-103"
	B	"D", "DETOUR SOUTH VT-103"
VT-103 NORTHBOUND	B	"V", "TRUCK ROUTE, DETOUR SOUTH VT-103"
VT-10 EASTBOUND	A	"U", "TRUCK ROUTE, DETOUR SOUTH VT-103"
VT-10 WESTBOUND	B	"P", "END DETOUR NORTH VT-103"
7△ VT-106 SOUTHBOUND	B	"M", "BRIDGE CLOSED, VT103 CHESTER, SOUTH OF JCT VT 11, X/XX TO X/XX"
	B	"C", "DETOUR SOUTH VT-103"
	A	"U", "TRUCK ROUTE, DETOUR SOUTH VT-103"
VT-106 NORTHBOUND	B	"R", "TRUCK ROUTE, DETOUR NORTH VT-103"
VT-10 EASTBOUND	B	"U", "TRUCK ROUTE, DETOUR SOUTH VT-103"
VT-10 WESTBOUND	A	"R", "TRUCK ROUTE, DETOUR NORTH VT-103"

LEGEND

[A] - PLACE SIGN AFTER INTERSECTION
[B] - PLACE SIGN BEFORE INTERSECTION
* - SIGN SHALL MEET FREEWAY OR SPECIAL SIZE REQUIREMENTS

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: s84e061/s95b168detour.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
DETOUR NOTES

PLOT DATE: 20-SEP-2010
DRAWN BY: M.FESSEL
CHECKED BY: R.S.YOUNG
SHEET 7 OF 124

A (3)

B	R	I	D	G	E		
C	L	O	S	E	D		
V	T		1	0	3		

PORTABLE CHANGABLE SIGN – PHASE 1

	C	H	E	S	T	E	R
*	M	M	M	M		D	D
*	M	M	M	M		D	D

PORTABLE CHANGABLE SIGN – PHASE 2

* M=MONTH
D=DAY

B (2)

ROCKINGHAM USE
EXIT 6
VT 103 THRU TRAFFIC
USE EXIT 7 TO VT 11

B/W

C (2)

DETOUR B/O
SOUTH G/W
VERMONT 103 G/W
← B/O

D (14)

DETOUR B/O
SOUTH G/W
VERMONT 103 G/W
↑ B/O

E (2)

DETOUR B/O
SOUTH G/W
VERMONT 103 G/W
↗ B/O

F (0)

DETOUR B/O
SOUTH G/W
VERMONT 103 G/W
↱ B/O

G (5)

DETOUR B/O
NORTH G/W
VERMONT 103 G/W
↗ B/O

H (2)

DETOUR B/O
SOUTH G/W
VERMONT 103 G/W
↖ B/O

I (2)

DETOUR B/O
NORTH G/W
VERMONT 103 G/W
← B/O

J (14)

DETOUR B/O
NORTH G/W
VERMONT 103 G/W
↑ B/O

K (2)

BRIDGE CLOSED
X MILES AHEAD
LOCAL TRAFFIC ONLY

B/W

L (1)

V	T		1	0	3		
T	H	R	U				
T	R	A	F	F	I	C	

PORTABLE CHANGABLE SIGN – PHASE 1

U	S	E					
E	X	I	T		7		

PORTABLE CHANGABLE SIGN – PHASE 2

M (4)

BRIDGE CLOSED
VT-103 CHESTER
S. OF JCT VT-11
X/XX TO X/XX

B/W

N (3)

VT-103
THRU TRAFFIC
DETOUR VIA I-91N
TO EXIT 7

B/W

O (3)

INTERSTATE WEIGHT
LIMITS APPLY

B/W

P (2)

END DETOUR B/O
NORTH G/W
VERMONT 103 G/W

Q (0) **NOT USED**

R (4)

TRUCK ROUTE B/O
DETOUR B/O
NORTH G/W
VERMONT 103 G/W
↑ B/O

S (1)

END DETOUR B/O
SOUTH G/W
VERMONT 103 G/W

T (2)

TRUCK ROUTE B/O
DETOUR B/O
SOUTH G/W
VERMONT 103 G/W
← B/O

U (4)

TRUCK ROUTE B/O
DETOUR B/O
SOUTH G/W
VERMONT 103 G/W
↑ B/O

V (1)

TRUCK ROUTE B/O
DETOUR B/O
SOUTH G/W
VERMONT 103 G/W
→ B/O

SIGN COLORS

B/W: BLACK LETTERING ON WHITE BACKGROUND
G/W: GREEN LETTERING ON WHITE BACKGROUND
B/O: BLACK LETTERING ON ORANGE BACKGROUND

THE ESTIMATED NUMBER OF EACH SIGN PACKAGE REQUIRED IS REPRESENTED BY THE NUMBER UNDERNEATH EACH LETTER DESIGINATOR.

SUGGESTED NONSTANDARD SIGN SIZES

SIGN	ROAD TYPE	WIDTH	HEIGHT	LETTER SIZE
B	INTERSTATE	11′	7′	10 D
M	CONVENTIONAL	8′	4′	7 D
N	INTERSTATE	11′	7′	10 D
N	CONVENTIONAL	8′	4′	7 D
O	CONVENTIONAL	8′	3′	7 D

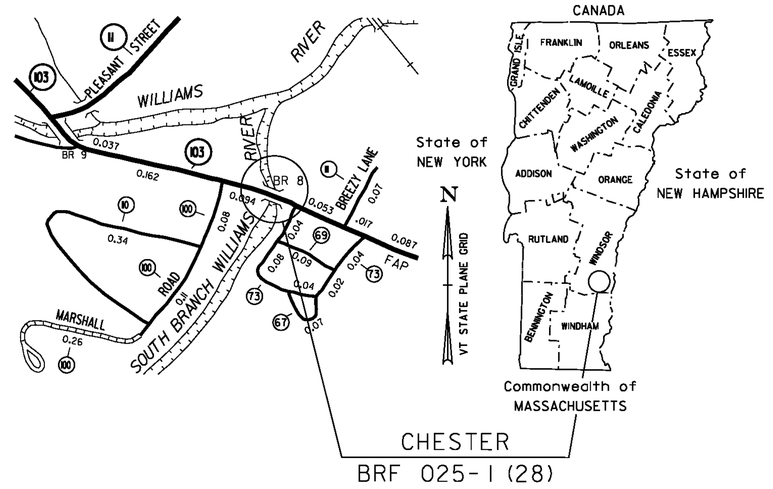
PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: s84e061/s95b168detour.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
DETOUR SIGNS

PLOT DATE: 20-SEP-2010
DRAWN BY: M.FESSEL
CHECKED BY: R.S.YOUNG
SHEET 8 OF 124

SEE SHEET 2 FOR INDEX AND LIST OF STANDARDS

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF CHESTER

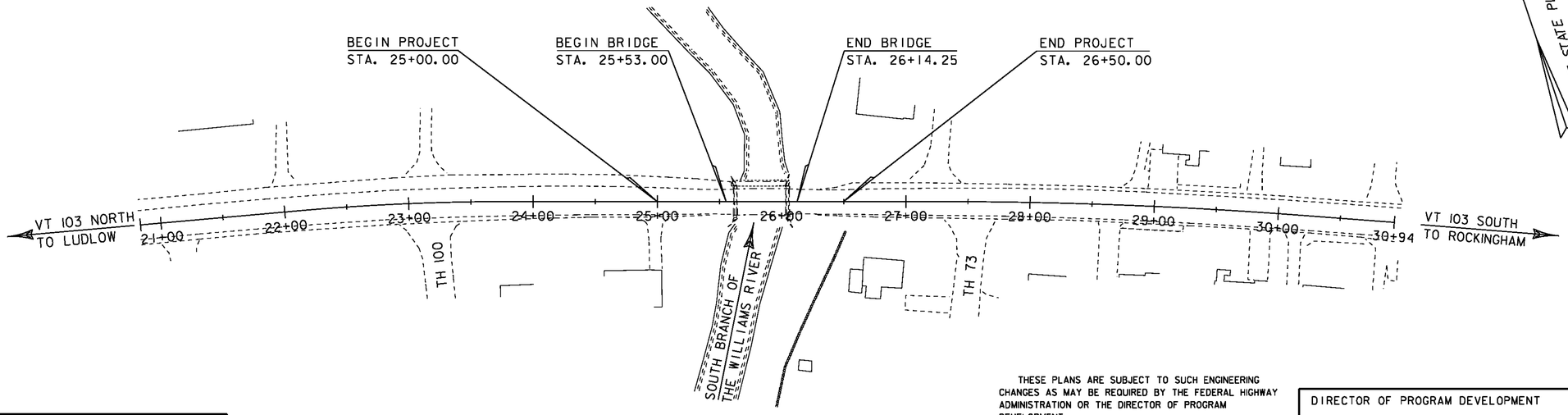
COUNTY OF WINDSOR

ROUTE NO : VT 103 RURAL PRINCIPAL ARTERIAL NATIONAL HIGHWAY SYSTEM BRIDGE NO : 8

PROJECT LOCATION : 0.27 MILES SOUTHEAST OF JUNCTION WITH VT ROUTE 11 (PLEASANT STREET)

PROJECT DESCRIPTION : THE PROJECT SHALL CONSIST OF THE REPLACEMENT OF THE EXISTING STRUCTURE WITH A NEW STRUCTURE INCLUDING RELATED ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE : 61.25 FEET.
LENGTH OF ROADWAY : 88.75 FEET.
LENGTH OF PROJECT : 150.00 FEET.



QUALITY ASSURANCE PROGRAM: LEVEL I

CONVENTIONAL SYMBOLS

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

SURVEYED BY : GILMAN
SURVEYED DATE : 09/08/98

DATUM
VERTICAL : NAVD 88
HORIZONTAL : NAD 83 (92)

SCALE 1" = 50'-0
50 0 50

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

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

PLOTTED 20-SEP-2010

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE _____

PROJECT MANAGER : C. P. WILLIAMS

PROJECT NAME : CHESTER
PROJECT NUMBER : BRF 025-1(28)

SHEET 9 OF 124 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version 09.02.02

LRFD

INDEX OF SHEETS

PLAN SHEETS

STANDARDS LIST

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2013	7200	1100	50	8.3	730
2033	8600	1300	50	10.8	1100

20 year ESAL for flexible pavement from 2013 to 2033 : 5927000

40 year ESAL for flexible pavement from 2013 to 2053 : 13731000

Design Speed : 30 mph

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: Jan. 8, 2009

DRAINAGE AREA : 11.0 sq. mi.
CHARACTER OF TERRAIN : Hilly to mountainous, mostly forested.
STREAM CHARACTERISTICS : Sinuous, slightly incised with a wide floodplain.
NATURE OF STREAMBED : Mostly cobbles with some gravel.

PEAK FLOW DATA

Q 2.33 =	700 cfs	Q 50 =	2570 cfs
Q 10 =	1600 cfs	Q 100 =	3080 cfs
Q 25 =	2100 cfs	Q 500 =	4510 cfs

DATE OF FLOOD OF RECORD : September 1938
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ Q50 = 8.9 fps
ICE CONDITIONS : Moderate
DEBRIS: Moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes
IS ORDINARY RISE RAPID? Yes
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE:

WATERSHED STORAGE: 1%
HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single span steel beam bridge with concrete deck
YEAR BUILT: 1924
CLEAR SPAN(NORMAL TO STREAM): 39'
VERTICAL CLEARANCE ABOVE STREAMBED: 7'
WATERWAY OF FULL OPENING: 240 sq. ft.
DISPOSITION OF STRUCTURE: Remove and replace
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See borings.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	573.9'	VELOCITY =	7.1 fps
Q10 =	575.6'	"	10.8 fps
Q25 =	576.3'	"	9.4 fps
Q50 =	577.4'	"	6.6 fps
Q100 =	577.5'	"	7.7 fps

LONG TERM STREAMBED CHANGES: None noted.

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Between Q10 and Q25
RELIEF ELEVATION: 576.1'
DISCHARGE OVER ROAD @Q100: 1840 cfs

UPSTREAM STRUCTURE

TOWN: Chester
DISTANCE: 5,500'
HIGHWAY # : T.H. 3, VT Route 35 & FAS 0125
STRUCTURE #: 7
CLEAR SPAN: 72'
CLEAR HEIGHT: 7.5'
YEAR BUILT: 1949
FULL WATERWAY:
STRUCTURE TYPE: Single span steel beam bridge

DOWNSTRUCTURE STRUCTURE

TOWN: Confluence with Middle Branch Williams River
DISTANCE: 600'
HIGHWAY # :
STRUCTURE #:
CLEAR SPAN:
CLEAR HEIGHT:
YEAR BUILT:
FULL WATERWAY:
STRUCTURE TYPE:

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A STR	4A STR	5A SEMI
TONNAGE	**20**	**36**	**36**	**66**	**30**	**34.5**	**38**
INVENTORY	1.44	1.08					
POSTING							
OPERATING	1.87	1.39	1.74	1.04	1.35	1.22	1.42
COMMENTS:							

PILE DRIVING AND TESTING REQUIREMENTS

1. NOMINAL PILE DRIVING CAPACITY	R_{ndr}:	**245.00 KIP**
2. PILE TEST RESISTANCE FACTOR	ϕ:	**0.65**
3. MAXIMUM PILE TIP ELEVATION		**SEE BELOW**

4. SEE GENERAL NOTES FOR REQUIRED PILE PENETRATION ELEVATIONS.

PROPOSED STRUCTURE

STRUCTURE TYPE: Single span pre-cast concrete beam bridge

CLEAR SPAN(NORMAL TO STREAM): 53'
VERTICAL CLEARANCE ABOVE STREAMBED: 7'
WATERWAY OF FULL OPENING: 290 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	573.9'	VELOCITY=	7.3 fps
Q10 =	575.5'	"	10.4 fps
Q25 =	576.3'	"	8.4 fps
Q50 =	576.8'	"	6.8 fps
Q100 =	577.2'	"	5.8 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Between Q10 and Q25
RELIEF ELEVATION: 576.1'
DISCHARGE OVER ROAD @Q100: 1700 cfs

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 577.1'
VERTICAL CLEARANCE: @ Q50 = 0.3'

SCOUR: Less than 1' of contraction scour up to Q500.

REQUIRED CHANNEL PROTECTION: Stone Fill, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW:	20 cfs	
ORDINARY LOW WATER:	10 cfs	DEPTH OR ELEVATION: 0.5'
ORDINARY HIGH WATER:	300 cfs	2.0'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: No temporary bridge required. Traffic will use an offsite detour.
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TRAFFIC ON AN OFF SITE DETOUR.
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. SIDEWALKS ARE NOT NECESSARY

DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	d_P:	0.0 INCH
3. DESIGN SPAN	L:	56.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	---
5. PRESTRESSING STRAND (0.60 INCH DIAMETER - LOW RELAX)	f_y:	270 KSI
6. PRESTRESSED CONCRETE STRENGTH	f'_c:	8.0 KSI
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	6.0 KSI
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'_c:	--- KSI
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'_c:	--- KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'_c:	3.5 KSI
11. CONCRETE, CLASS C	f'_c:	--- KSI
12. REINFORCING STEEL	f_y:	60 KSI
13. STRUCTURAL STEEL AASHTO M270	f_y:	---
14. SOIL UNIT WEIGHT	γ:	0.140 KCF
15. NOMINAL BEARING RESISTANCE OF SOIL	q_n:	--- KSF
16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
17. NOMINAL BEARING RESISTANCE OF ROCK	q_n:	120.0 KSF
18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	0.45
19. NOMINAL AXIAL PILE RESISTANCE	q_p:	245.0 KIPS
20. PILE YIELD STRENGTH ASTM A572	f_y:	50 KSI
21. PILE SIZE		HP 12X 84
22. EST. PILE LENGTH	L_p:	18 FT
23. PILE RESISTANCE FACTOR	ϕ:	0.65
24. LATERAL PILE DEFLECTION	Δ:	---
25. BASIC WIND SPEED	V_{3s}:	---
26. MINIMUM GROUND SNOW LOAD	p_g:	---
27. SEISMIC DATA PGA : ---	S_s:	---
	S_1:	---

PROJECT NAME: **CHESTER**
PROJECT NUMBER: **BRF 025-1(28)**

FILE NAME: **s84e061excel.dgn**
PROJECT LEADER: **C.P.WILLIAMS**
DESIGNED BY: **R.S.YOUNG**
BRIDGE #8 PRELIMINARY INFORMATION SHEET

PLOT DATE: 9/28/2010
DRAWN BY: **M.FESSEL**
CHECKED BY: **H.I.SALLS**
SHEET 10 OF 124

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AND ITS LATEST REVISIONS, THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, DATED 2007, AND ITS LATEST REVISIONS, AND PCI NORTHEAST'S NEXT D STANDARDS DATED JANUARY 2010.

2. THE BRIDGE IS DESIGNED FOR HL-93 LIVE LOAD.

3. EXISTING SIGNS NOT REUSED SHALL REMAIN PROPERTY OF THE STATE OF VERMONT. THESE SIGNS SHALL BE STOCKPILED ON THE PROJECT SITE AND THEN LOADED ON A TRUCK SUPPLIED BY DISTRICT 2. CONTACT DTA. TAMMY ELLIS AT (802) 254-5011 TO ARRANGE REMOVAL FROM THE PROJECT SITE.

4. ITEM 529.15 "REMOVAL OF STRUCTURE" SHALL BE USED FOR REMOVAL OF THE EXISTING STRUCTURE INCLUDING THE SUPERSTRUCTURE, AND ANY PORTION OF THE ABUTMENTS OUTSIDE THE LIMITS OF STRUCTURE EXCAVATION OR UNCLASSIFIED CHANNEL EXCAVATION. THE ABUTMENTS SHALL BE REMOVED TO ELEVATION 573 FEET.

5. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.

6. THE LARGE PINE TREE AT STATION 25+55 LEFT SHALL BE REMOVED. THE BRANCHES OF THE TWO ASH TREES AT STATION 26+06 LEFT SHALL BE TRIMMED BACK BEHIND THE R.O.W. LINE. THIS WORK SHALL BE PAID UNDER ITEM 201.10 "CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS".

7. THE SIDEWALK AND RAMPS LOCATED OFF THE BRIDGE SHALL BE CONSTRUCTED ACCORDING TO STANDARD C-2A. SIDEWALK AND RAMPS SHALL BE PAID FOR UNDER THE ITEM 618.10, "PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH."

8. THE CONTRACTOR SHALL BE MADE AWARE THAT EXISTING WATER AND SEWER LINES ARE WITHIN THE CONSTRUCTION LIMITS OF BRIDGE 8. SEE SPECIAL PROVISIONS.

EARTHWORK AND RELATED ITEMS

9. THE "STONE FILL, TYPE III" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE NEW BEAMS ARE SET.

10. "STONE FILL, TYPE I" SHALL BE USED FOR EROSION CONTROL AS SHOWN ON THE PLANS AND/OR AT THE DISCRETION OF THE RESIDENT ENGINEER.

PILES

11. THE PILES SHALL BE HP 12 X 84.

12. PILE SHOES SHALL BE REQUIRED AND SHALL CONFORM TO SECTION 505.04(e).

13. THE TOPS OF THE PILES AFTER DRIVING SHALL NOT VARY FROM THE POSITION SHOWN ON THE PLANS BY MORE THAN 3 INCHES. THE PILE ORIENTATION SHALL NOT VARY BY MORE THAN 5 DEGREES. THE CONTRACTOR SHALL DEMONSTRATE HOW THE TOLERANCES WILL BE MET TO THE SATISFACTION OF THE ENGINEER REGARDLESS OF INSTALLATION METHOD.

14. THE PILES SHALL BE EMBEDDED IN THE GROUND A MINIMUM OF 18 FEET BELOW THE BOTTOM OF PILE CAP OR TO BEDROCK. THE PILES SHALL BE DRIVEN TO A NOMINAL RESISTANCE OF 245 KIPS AS DETERMINED BY THE RESULTS OF DYNAMIC TESTING, AS INTERPRETED BY THE RESIDENT ENGINEER.

15. FOR ESTIMATING PURPOSES, THE PILE TIP ELEVATIONS WERE ASSUMED AS SHOWN ON THE BORING LOGS. THE ACTUAL IN PLACE LENGTHS MAY VARY.

16. TO ENSURE THAT THE NOMINAL RESISTANCE HAS BEEN ATTAINED AND TO PREVENT THE OVERSTRESSING OF THE PILES DURING DRIVING OPERATIONS, DYNAMIC TESTING SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 505.04 (c) - 2 OF THE STANDARD SPECIFICATIONS. PAYMENT FOR PILE TESTING SHALL BE MADE UNDER ITEM 505.45 "DYNAMIC PILE LOADING TEST". A MINIMUM OF ONE DYNAMIC PILE TEST SHALL BE CONDUCTED ON THE FIRST PILE DRIVEN FOR ABUTMENT NO. 1, FOR A TOTAL OF 1 TEST. MORE TESTS MAY BE REQUIRED BY THE RESIDENT ENGINEER.

17. DUE TO THE PRESENCE OF BOULDERS THE CONTRACTOR MAY PRE-EXCAVATE MATERIAL TO BEDROCK PRIOR TO DRIVING PILES.

    - IF PILES ARE DRIVEN AFTER PRE-EXCAVATION THEN THE DYNAMIC TESTING NEED NOT BE PERFORMED.
    - IF PILES ARE DRIVEN WITHOUT PRE-EXCAVATION, THE CONTRACTOR SHALL DEMONSTRATE AN INCREASED ABILITY TO STAY WITHIN THE LOCATION, ROTATION, AND VERTICALLY TOLERANCES.

18. PAYMENT FOR PRE-EXCAVATION SHALL BE UNDER ITEM 503.20, "PRE-EXCAVATION OF INTEGRAL ABUTMENT PILES". CASINGS NEED NOT BE USED. SEE GENERAL SPECIAL PROVISIONS.

CONCRETE

19. THE FOOTING AT ABUTMENT # 2 SHALL BE HIGH PERFORMANCE CONCRETE, CLASS B.

20. WATER REPELLENT, SILANE, SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES, EXCEPT THE UNDERSIDE OF THE DECK BETWEEN DRIP NOTCHES.

21. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE:
    SPACING: +/- 1 INCH
    CLEARANCE: +/- 1/4 INCH

PRECAST ABUTMENTS AND POST-TENSIONING

22. IF VERTICAL CONSTRUCTION JOINTS ARE REQUIRED BY THE CONTRACTOR FOR SHIPMENT OF THE ABUTMENTS, THEN THE SECTIONS SHALL BE KEYED AND MATCH CAST. A JOINT DETAIL SHALL BE SHOWN ON THE FABRICATION DRAWINGS.

23. ANY POST-TENSIONING STRANDS AND CONDUIT SHALL ADHERE TO THE REQUIREMENTS OF SECTION 510. GALVANIZED ANCHOR ASSEMBLIES, CONDUIT, AND POST-TENSIONING STRANDS SHALL BE INCLUDED UNDER ITEM 540.10, "PRECAST CONCRETE STRUCTURE (ABUTMENT #1 BRIDGE 8) AND/OR "PRECAST CONCRETE STRUCTURE (ABUTMENT #2 BRIDGE 8)" AS APPROPRIATE.

24. GALVANIZE ANCHOR ASSEMBLIES AFTER FABRICATION ACCORDING TO AASHTO M232M/M 232.

25. DESIGN VALUES

    A. CONCRETE COMPRESSIVE STRENGTH: f'c = 5000 PSI.
    B. POST-TENSIONING STRANDS: 0.5 INCH DIAMETER, 270 KSI, LOW RELAXATION 7-WIRE STRANDS.
    C. ASSUMED MODULUS OF ELASTICITY IS 28,500 KSI.
    D. THERE SHALL BE 2 STRANDS PER CONDUIT.
    E. THE JACKING FORCE PER STRAND = 32 KIPS
    F. REINFORCING STEEL SHALL BE EPOXY COATED.

26. GROUT FOR THE ABUTMENT # 1 CAVITIES SHALL MEET THE REQUIREMENTS OF SELF-CONSOLIDATING CONCRETE. SEE SPECIAL PROVISIONS. ALL COSTS ASSOCIATED WITH GROUTING THE CAVITIES SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 540.10, "PRECAST CONCRETE STRUCTURE (ABUTMENT #1 BRIDGE 8)."

27. GROUT FOR ABUTMENT #2 SHALL MEET THE REQUIREMENTS OF SECTION 510.13. THE GROUT AND PLASTIC SHIMS SHALL BE INCIDENTAL TO ITEM 540.10, "PRECAST CONCRETE STRUCTURE (ABUTMENT #2 BRIDGE 8)."

28. PROPOSED SEQUENCE OF CONSTRUCTION

    ABUTMENT #1
    A. PREPARE AND GRADE FOUNDATION TO REQUIRED ELEVATION.
    B. DRIVE PILES.
    C. PLACE PRECAST ABUTMENTS AND INSTALL TRANSVERSE STRANDS (IF MORE THAN ONE UNIIT). USE A CALIBRATED JACK TO TENSION TO 3 KIPS TO REMOVE SAG.
    D. GROUT VERTICAL SHEAR KEY
    E. GROUT SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 1000 psi BASED ON MANUFACTURER'S RECOMMENDATIONS, PRIOR TO STRESSING. THE GROUT NEED NOT BE CURED FOR THREE DAYS PRIOR TO COMMENCING OF POST-TENSIONING.
    F. PROVIDE APPROPRIATE CUBE MOLDS AS DESCRIBED IN AASHTO T106 FOR 3 SETS OF 3 DAY CUBES, 3 SETS OF 28 DAY CUBES, AND A MINIMUM OF 3 MORE CUBES TO TEST FOR THE 1000 psi MINIMUM.
    G. STRESS POST-TENSIONING STRANDS USING A CALIBRATED JACK OPERATED BY QUALIFIED PERSONNEL, WHO HAVE PREVIOUS EXPERIENCE IN POST-TENSIONING.
    H. GROUT PILE CAVITIES.
    I. BACKFILL.

    ABUTMENT #2
    A. PREPARE BEDROCK FOR FOOTING PLACEMENT.
    B. PLACE CAST-IN-PLACE FOOTING. MEMBRANE FORMING CURING COMPOUND AS SPECIFIED IN SUBSECTION 501.17(b)(6) WILL BE ALLOWED TO CURE THE FOOTING CONCRETE.
    C. PLACE ABUTMENT STEM ONCE FOOTING CONCRETE HAS OBTAINED 75 PERCENT OF THE COMPRESSIVE STRENGTH SPECIFIED IN TABLE 501.03A.
    D. GROUT VERTICAL CONSTRUCTION JOINT (IF PRESENT). GROUT BOTTOM OF STEM. GROUT SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 2000 psi BASED ON MANUFACTURER'S RECOMMENDATIONS, PRIOR TO BACKFILLING.
    E. PROVIDE APPROPRIATE CUBE MOLDS AS DESCRIBED IN AASHTO T106 FOR 3 SETS OF 3 DAY CUBES, 3 SETS OF 28 DAY CUBES, AND A MINIMUM OF 3 MORE CUBES TO TEST FOR THE 2000 psi MINIMUM.
    F. BACKFILL.

    ALTERNATE SEQUENCE OF CONSTRUCTION MAY BE SUBMITTED FOR APPROVAL BY THE PROJECT MANAGER.

NEXT D BEAMS

29. NEXT D BEAMS ARE A NONPROPRIETARY SHAPE DEVELOPED BY PCI NORTHEAST (PCINE). STANDARDIZED SECTION PROPERTIES AND DETAILS MAY BE FOUND AT HTTP://WWW.PCINE.ORG.

30. DESIGN VALUES

    A. CONCRETE COMPRESSIVE STRENGTH: f'c = 8000 PSI.
    B. CONCRETE COMPRESSIVE STRENGTH AT RELEASE: f'ci = 6000 PSI
    C. PRESTRESSING STRANDS: .6 INCH DIAMETER, 270 KSI, LOW-RELAXATION 7-WIRE STRANDS
    D. ASSUMED MODULUS OF ELASTICITY IS 28,500 KSI.
    E. THE JACKING FORCE PER STRAND = 47 KIPS
    F. SERVICE LOADS

MEMBER MOMENT	627 K-FT
SUPERIMPOSED DEAD LOAD MOMENT	280 K-FT
LIVE LOAD AND IMPACT MOMENT	1228 K-FT
DEAD LOAD REACTION	65 KIPS
LIVE LOAD AND IMPACT REACTION	99 KIPS
TOTAL REACTION	164 KIPS
FINAL CAMBER	1 9/16 INCHES

31. THE CURTAIN WALLS SHALL BE CAST ONTO THE ENDS OF THE NEXT D BEAMS BY THE PRESTRESS CONCRETE FABRICATOR. THE CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 540. PAYMENT FOR THE CURTAIN WALLS SHALL BE INCLUDED IN ITEM 900.640, "SPECIAL PROVISION (PRESTRESSED CONCRETE NEXT D BEAMS)(NEXT 28 D)."

32. ENDS OF FLANGES IN CONTACT WITH GROUT SHALL BE SANDBLASTED PRIOR TO DELIVERY AND POWER WASHED WITH WATER PRIOR TO ERECTION OF THE BEAMS.

33. FILL FLANGE CONNECTION WITH TYPE IV MORTAR ACCORDING TO SECTION 510. MORTAR SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 7000 PSI AND SHALL BE EXTENDED WITH AGGREGATE. GROUTING SHALL BE PAID FOR UNDER ITEM 510.24, "GROUTING SHEAR KEYS."

34. METHOD OF FORMING FLANGE CONNECTION SHALL BE DETERMINED BY THE CONTRACTOR. THE FORMS SHALL BE REMOVABLE AND ABLE TO ACCOMMODATE DIFFERENTIAL CAMBER. FORM SUPPORTS SHALL NOT PENETRATE THROUGH THE TOP OF POUR UNLESS APPROVED BY THE ENGINEER.

35. THE FABRICATOR MAY ALTER THE DESIGN AS DETAILED IN THESE PLANS TO ACCOMMODATE THEIR SPECIFIC OPERATION. THIS ALTERATION MUST BE DESIGNED BY A PROFESSIONAL ENGINEER AND MEET THE ABOVE CRITERIA.

36. PROPOSED SEQUENCE OF CONSTRUCTION

    A. LAY OUT WORKING LINES THE ENTIRE WIDTH OF THE BRIDGE ALONG CENTERLINE OF BEARING MEASURED FROM A SINGLE WORKING POINT. THE WORKING LINES SHALL BE BASED ON THE NOMINAL BEAM WIDTHS.
    B. VERIFY THE BEAM SEAT ELEVATIONS AND TAKE CORRECTIVE ACTION IF NECESSARY.
    C. INSTALL BEARINGS
    D. ERECT THE BEAMS TO FIT WITHIN THE WORKING LINES. PLACE CLOSED CELL FOAM BETWEEN CURTAIN WALL AND ABUTMENT.
    E. CONSTRUCT FORMS FOR THE FLANGE AND CURTAIN WALL CONNECTION POURS.
    F. GROUT CONNECTIONS BETWEEN BEAMS AND CURE.
    G. BACKFILL AND PREPARE GRADE FOR APPROACH SLABS.

    ALTERNATE SEQUENCE OF CONSTRUCTION MAY BE SUBMITTED FOR APPROVAL BY THE PROJECT MANAGER.

SUBSTRUCTURES ON BEDROCK

37. FOOTINGS OR SUBFOOTINGS FOR SUBSTRUCTURES FOUNDED ON BEDROCK SHALL BE PLACED ON CLEAN COMPETENT ROCK. ALL LOOSE ROCK AND DEBRIS SHALL BE REMOVED.

38. UPON COMPLETION OF THE EXCAVATION FOR SUBSTRUCTURES FOUNDED ON BEDROCK AND PRIOR TO PLACING FORMWORK, THE RESIDENT ENGINEER SHALL NOTIFY THE PROJECT MANAGER AND THE VTRANS STATE GEOLOGIST. THE GEOLOGIST WILL DETERMINE IF THE BEDROCK IS COMPETENT TO OBTAIN THE NOMINAL BEARING RESISTANCE AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL NOTIFY THE GEOLOGIST 72 HOURS PRIOR TO WHEN THE ANALYSIS WILL BE NEEDED.

39. ANY BEDROCK THAT NEEDS TO BE REMOVED SHALL BE PAID FOR WITH THE CORRESPONDING EXCAVATION ITEM INCLUDED IN THE CONTRACT. OVERBREAKAGE BEYOND THE AVERAGE MAXIMUM ALLOWANCE SPECIFIED IN SUBSECTIONS 204.09(B)(1) WILL BE AT THE CONTRACTOR'S EXPENSE.

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(28)

FILE NAME: s84e061/Str/notes.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 8 GENERAL NOTES	SHEET 11 OF 124

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES							TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
0.5					0.5		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				
320					320		CY	COMMON EXCAVATION	203.15				**EARTHWORKS SUMMARY**
			180		180		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27				FILL AVAILABLE
1					1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22		320	CY	COMMON EXCAVATION (320 x 1.0)
			255		255		CY	STRUCTURE EXCAVATION	204.25		54	CY	CHANNEL EXCAVATION (180 x 0.3)
			85		85		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30		0	CY	UNDERDRAIN EXCAVATION (0 x 0.9)
340					340		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10		76.5	CY	STRUCTURE EXCAVATION (255 x 0.3)
240					240		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35		0	CY	TRENCH EXCAVATION OF EARTH (0 x 0.9)
4					4		CWT	EMULSIFIED ASPHALT	404.65		4.5	CY	ROUNDING
175					175		TON	BITUMINOUS CONCRETE PAVEMENT	406.25		455	**CY**	**TOTAL FILL AVAILABLE**
1					1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50				**FILL REQUIRED**
			55		55		CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34		1	CY	PLANIMETERED FILL (1 CY EARTH + 0 CY GRANULAR)
			90		90		LF	PRE-EXCAVATION OF INTEGRAL ABUTMENT PILES	503.20		1.15	CY	FACTORED FILL (x1.15)
			1		1		LS	FURNISHING EQUIPMENT FOR DRIVING PILING (BRIDGE 8)	504.10		3.85	CY	ROUNDING
			120		120		LF	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 12 X 84	505.265		5	**CY**	**TOTAL FILL REQUIRED**
			1		1		EACH	DYNAMIC PILE LOADING TEST	505.45		450	**CY**	**TOTAL WASTE**
			2060		2060		LB	REINFORCING STEEL	507.15				
			72		72		LF	DRILLING AND GROUTING DOWELS	507.16				
			1200		1200		LB	EPOXY COATED REINFORCING STEEL	507.17				
			190		190		LF	GROUTING SHEAR KEYS	510.24				
			16		16		GAL	WATER REPELLENT, SILANE	514.10				
			220		220		SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20				
			75		75		LF	JOINT SEALER, HOT POURED	524.11				
			1		1		EACH	REMOVAL OF STRUCTURE (1300 SF - EST.)	529.15				
			16		16		EACH	BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD	531.11				
			1		1		LS	PRECAST CONCRETE STRUCTURE (ABUTMENT #1 BRIDGE 8)	540.10				
			1		1		LS	PRECAST CONCRETE STRUCTURE (ABUTMENT #2 BRIDGE 8)	540.10				
		10			10		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25				
1					1		TON	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15				
		10			10		CY	STONE FILL, TYPE I	613.10				
			140		140		CY	STONE FILL, TYPE III	613.12				
51					51		LF	PRECAST REINFORCED CONCRETE CURB, TYPE B	616.26				
35					35		SY	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	618.10				
4					4		EACH	MANUFACTURED TERMINAL SECTION, TANGENT (TL-2)	621.51				
182					182		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
360					360		LF	TEMPORARY TRAFFIC BARRIER	621.90				
1					1		EACH	ADJUST ELEVATION OF VALVE BOX	629.20				
90					90		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
450					450		HR	FLAGGERS	630.15				
				0.5	0.5		LS	FIELD OFFICE, ENGINEERS	631.10				

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(28)

FILE NAME: s84e061excel.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
QUANTITY SHEET #1

PLOT DATE: 09/20/2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 12 OF 124

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES								TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
				0.5	0.5		LS	TESTING EQUIPMENT, CONCRETE	631.16				
				0.5	0.5		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
				1500	1500		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26				
	260				260		HR	EMPLOYEE TRAINEESHIP	634.10				
0.5					0.5		LS	MOBILIZATION/DEMOBILIZATION	635.11				
1					1		LS	TRAFFIC CONTROL	641.10				
0.5					0.5		LS	PUBLIC RELATIONS OFFICER	641.12				
4					4		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15				
500					500		LF	4 INCH WHITE LINE	646.20				
500					500		LF	4 INCH YELLOW LINE	646.21				
500					500		LF	TEMPORARY 4 INCH WHITE LINE	646.600				
500					500		LF	TEMPORARY 4 INCH YELLOW LINE	646.610				
			210		210		SY	GEOTEXTILE UNDER STONE FILL	649.31				
		30			30		SY	GEOTEXTILE FOR SILT FENCE	649.51				
		50			50		SY	GEOTEXTILE FOR FILTER CURTAIN	649.61				
		10			10		LB	SEED	651.15				
		20			20		LB	FERTILIZER	651.18				
		1			1		TON	AGRICULTURAL LIMESTONE	651.20				
		1			1		TON	HAY MULCH	651.25				
		10			10		CY	TOPSOIL	651.35				
		65			65		SY	GRUBBING MATERIAL	651.40				
		1			1		LS	EPSC PLAN (BRIDGE 8)	652.10				
		8			8		HR	MONITORING EPSC PLAN	652.20				
		1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
		65			65		SY	TEMPORARY EROSION MATTING	653.20				
		16			16		CY	VEHICLE TRACKING PAD	653.35				
		220			220		LF	BARRIER FENCE	653.50				
		210			210		LF	PROJECT DEMARCATION FENCE	653.55				
0.66					0.66		SF	TRAFFIC SIGNS, TYPE A	675.20				
20					20		LF	FLANGED CHANNEL SIGN POST	675.301				
8					8		EACH	REMOVING SIGNS	675.50				
			10		10		CY	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT)	900.608				
4					4		EACH	SPECIAL PROVISION (GUARDRAIL APPROACH SECTION TO CONCRETE BRIDGE RAILING)(TL-2)	900.620				
			2		2		EACH	SPECIAL PROVISION (PRECAST APPROACH SLAB, SUPER-SLAB)(BRIDGE 8)	900.620				
			122.5		122.5		LF	SPECIAL PROVISION (BRIDGE RAILING, TEXAS)	900.640				
			253		253		LF	SPECIAL PROVISION (PRESTRESSED CONCRETE, NEXT D BEAMS)(NEXT 28 D)	900.640				
1					1		LU	SPECIAL PROVISION (INCENTIVE / DISINCENTIVE) (BRIDGE 8) (N.A.B.I.)	900.650				

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(28)

FILE NAME: s84e061excel.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
QUANTITY SHEET #2

PLOT DATE: 09/20/2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 13 OF 124

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

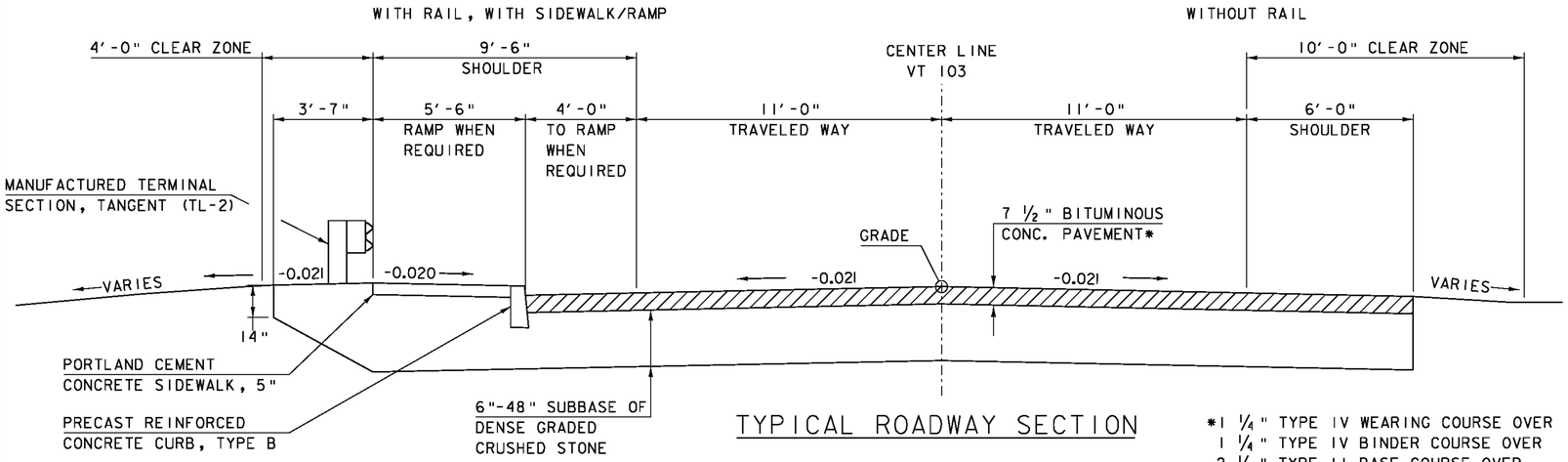
SUMMARY OF BRIDGE QUANTITIES / TOTALS / DESCRIPTIONS

SUPERSTRUCTURE	ABUTMENT 1	ABUTMENT 2	APPROACH SLABS	CHANNEL	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER
				180	180	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27
	110	145			255	CY	STRUCTURE EXCAVATION	204.25
	44	41			85	CY	GRANULAR BACKFILL FOR STRUCTURES	204.30
	3	52			55	CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34
	90				90	LF	PRE-EXCAVATION OF INTEGRAL ABUTMENT PILES	503.20
	1				1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING (BRIDGE 8)	504.10
	120				120	LF	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 12 X 84	505.265
	1				1	EACH	DYNAMIC PILE LOADING TEST	505.45
		2060			2060	LB	REINFORCING STEEL	507.15
		72			72	LF	DRILLING AND GROUTING DOWELS	507.16
985	120	95			1200	LB	EPOXY COATED REINFORCING STEEL	507.17
190					190	LF	GROUTING SHEAR KEYS	510.24
14	1	1			16	GAL	WATER REPELLENT, SILANE	514.10
220					220	SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20
	37.5	37.5			75	LF	JOINT SEALER, HOT POURED	524.11
1					1	EACH	REMOVAL OF STRUCTURE (1300 SF - EST.)	529.15
	8	8			16	EACH	BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD	531.11
	1				1	LS	PRECAST CONCRETE STRUCTURE (ABUTMENT #1 BRIDGE 8)	540.10
		1			1	LS	PRECAST CONCRETE STRUCTURE (ABUTMENT #2 BRIDGE 8)	540.10
	80	60			140	CY	STONE FILL, TYPE III	613.12
	95	115			210	SY	GEOTEXTILE UNDER STONE FILL	649.31
10					10	CY	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT)	900.608
			2		2	EACH	SPECIAL PROVISION (PRECAST APPROACH SLAB, SUPER-SLAB)(BRIDGE 8)	900.620
122.5					122.5	LF	SPECIAL PROVISION (BRIDGE RAILING, TEXAS)	900.640
253					253	LF	SPECIAL PROVISION (PRESTRESSED CONCRETE, NEXT D BEAMS)(NEXT 28 D)	900.640

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

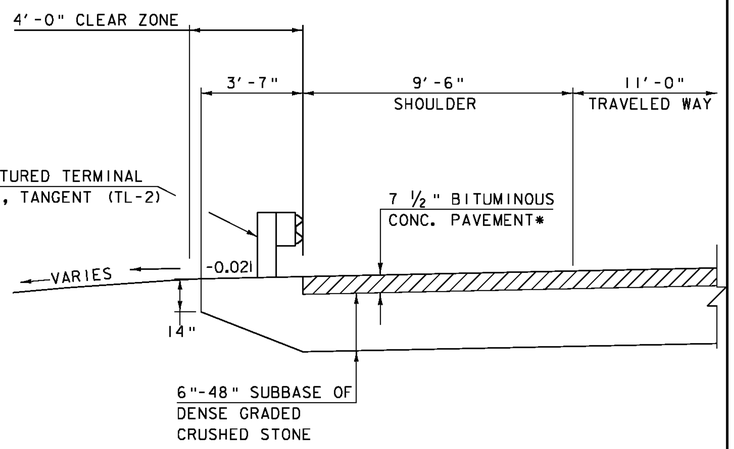
PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(28)
FILE NAME: s84e061excel.dgn
PLOT DATE: 09/20/2010
PROJECT LEADER: C.P.WILLIAMS
DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG
CHECKED BY: R.S.YOUNG
BRIDGE QUANTITY SHEET #1
SHEET 14 OF 124



TYPICAL ROADWAY SECTION

SCALE: 3/8"=1'-0"

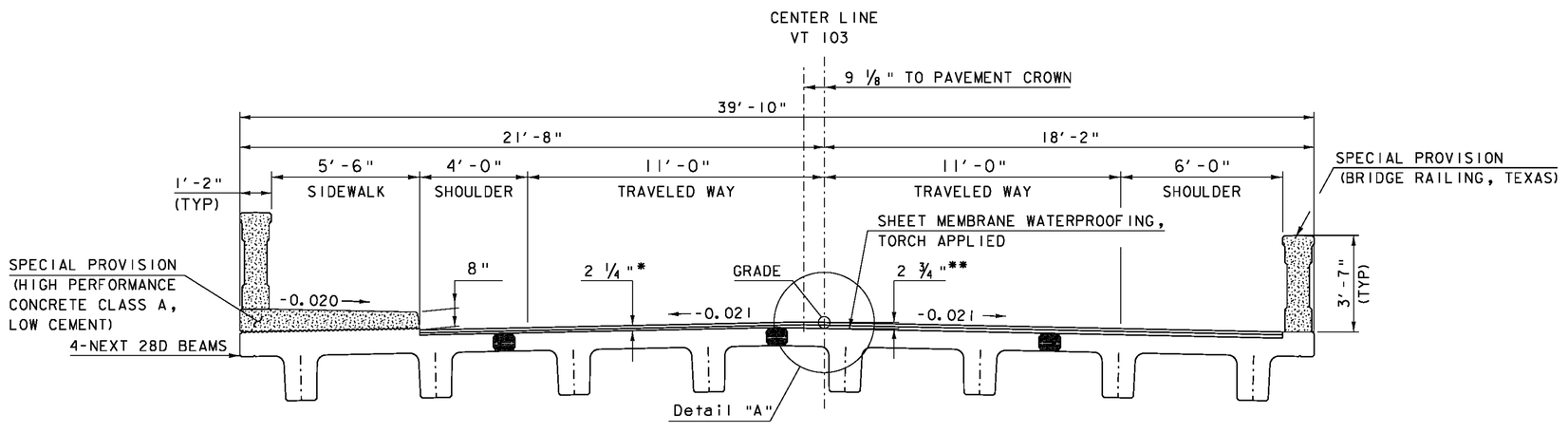
*1 1/4" TYPE IV WEARING COURSE OVER
1 1/4" TYPE IV BINDER COURSE OVER
2 1/2" TYPE II BASE COURSE OVER
2 1/2" TYPE II BASE COURSE



TYPICAL ROADWAY SECTION

WITH RAIL, WITHOUT SIDEWALK/RAMP
SCALE: 3/8"=1'-0"

NOTE:
PAVEMENT SHALL BE A MARSHALL MIX PAID FOR UNDER THE ITEM 406.25, "BITUMINOUS CONCRETE PAVEMENT".

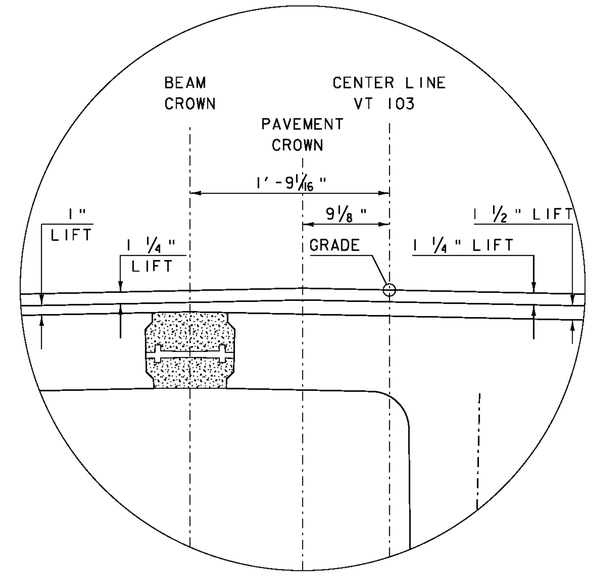


*1 1/4" TYPE IV WEARING COURSE OVER
1" TYPE IV BINDER COURSE

PROPOSED TYPICAL BRIDGE SECTION

SCALE: 3/8"=1'-0"

**1 1/4" TYPE IV WEARING COURSE OVER
1 1/2" TYPE IV BINDER COURSE



Detail "A"

MATERIAL TOLERANCES

(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

SCALE 3/8" = 1'-0
1 0 1 2 3 4

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(28)

FILE NAME: 84e061/Str/typ.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 8 TYPICAL SECTIONS

PLOT DATE: 20-SEP-2010
DRAWN BY: M.FESSEL
CHECKED BY: R.S.YOUNG
SHEET 15 OF 124

GPS CONTROL POINTS

HVCTRL #1

DOTTAVIO AZ MK

NORTH = 273787.07
EAST = 1619869.46
ELEV. = 577.75

GENERAL LOCATION, 10.4 MI (16.7 KM) NORTHWEST OF BELLOWS FALLS, 6 MI (9.7 KM) SOUTHWEST OF SPRINGFIELD AND 5.5 MI (8.9 KM) NORTH OF GRAFTON. TO REACH FROM THE JUNCTION OF VT ROUTE 103 AND VT ROUTE 11 (EAST) IN CHESTER PROCEED SOUTHEAST ON VT ROUTE 103 FOR .8 MI (1.3 KM) TO THE MARK ON THE RIGHT (WEST). THE MARK IS 75.5 FT (23.0 M) SOUTHEAST OF THE SOUTHEAST CORNER OF THE PUTNEY PASTA BUILDING, 70 FT (21.3 M) SOUTH OF A SEWER MANHOLE, 48 FT (14.6 M) WEST OF AND LEVEL WITH THE CENTERLINE OF ROUTE 103, 14 FT (4.3 M) SOUTHEAST OF A FIRE HYRANT AND 8.5 FT (2.6 M) EAST OF UTILITY POLE NUMBER 3/88/3/40 AND A FIBERGLASS WITNESS POST. OWNERSHIP UNKNOWN.

HVCTRL #2

DOTTAVIO

NORTH = 275233.88
EAST = 1619439.55
ELEV. = 563.37

GENERAL LOCATION, 10.7 MI (17.2 KM) NORTHWEST OF BELLOWS FALLS, 6 MI (9.7 KM) SOUTHWEST OF SPRINGFIELD AND 5.5 MI (8.9 KM) NORTH OF GRAFTON. TO REACH FROM THE JUNCTION OF VT ROUTE 103 AND VT ROUTE 11 (EAST) IN CHESTER PROCEED SOUTHEAST ON VT ROUTE 103 FOR .5 MI (0.8 KM) TO THE MARK ON THE RIGHT (WEST). THE MARK IS 64 FT (19.5 M) NORTHEAST OF THE NORTHEAST CORNER OF DIAMOND JIMS LOG CABIN RESTAURANT, 34.5 FT (10.5 M) WEST OF AND 1 FT (0.3 M) HIGHER THAN THE CENTERLINE OF ROUTE 103, 19 FT (5.8 M) SOUTH OF THE CENTERLINE OF THE NORTHERLY PAVED DRIVE ENTRANCE TO THE SAID RESTAURANT, 10 FT (3.0 M) NORTH OF THE NORTHEAST CORNER OF A PAVED PARKING LOT, AND 6.2 FT (1.9 M) NORTHEAST OF UTILITY POLE NUMBER 79-1 AND A FIBERGLASS WITNESS POST. OWNERSHIP RAY DOTTAVIO, PHONE NO. (802) 875-4040.

TRAVERSE TIES

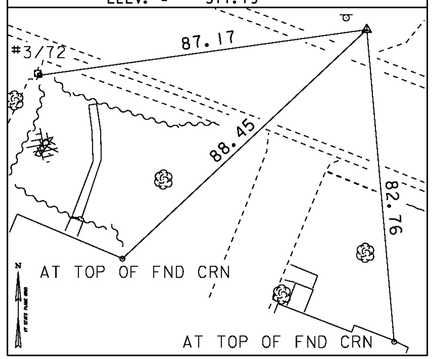
HVCTRL #3

NORTH = 275583.42
EAST = 1618985.42
ELEV. = 568.66

PK Nail
not Tied

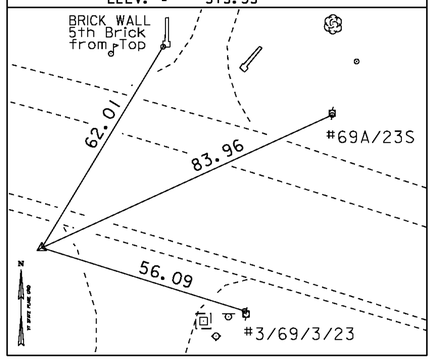
HVCTRL #4

NORTH = 275824.63
EAST = 1618453.45
ELEV. = 577.79



HVCTRL #5

NORTH = 275970.12
EAST = 1617888.75
ELEV. = 575.35



NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

• Main Traverse Completed 09/08/98 by R.Gilman P.C. & T. Companion

ALIGNMENT COORD

* CURVE DATA CURRENT AS OF 8/18/2010

ALIGNMENT COORDINATES			
VT RT 103			
	STATION	NORTHING	EASTING
POB	20+83.44	276042.5407	1617696.8364
PC #1	22+09.30	276012.9376	1617816.1631
PT #1	23+79.43	275965.6128	1617982.5237
PC #2	27+27.76	275853.8874	1618312.4494
PT #2	30+16.56	275751.0095	1618582.2270
POE	30+39.64	275720.8416	1618653.1603
CHANNEL			
	STATION	NORTHING	EASTING
POB	10+00.00	275828.9628	1618152.2252
POE	11+75.00	275994.7169	1618208.3552

CURVE (1)
DELTA = 5°06'14" RT
D = 3°00'00"
R = 1909.86'
T = 85.12'
L = 170.13'
E = 1.90'

CURVE (2)
DELTA = 4°19'55" RT
D = 1°30'00"
R = 3819.72'
T = 144.47'
L = 288.80'
E = 2.73'

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)
ADJUSTMENT Compass

PROJECT NAME: Chester
PROJECT NUMBER: BRF 025-1(28)S

FILE NAME: 84e061\survey\x84e061ti.dgn
PROJECT LEADER:
DESIGNED BY:
BRIDGE 8 TIE SHEET

PLOT DATE: 20-SEP-2010
DRAWN BY: R. Bullock
CHECKED BY:
SHEET 16 OF 124

CONSRUCT 5' PAVED APRON
STA 24+98 RT - 12' WIDTH

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 25+11 LT - 25+61 LT
STA 26+06 LT - 26+57 LT
STA 25+23 RT - 25+61 RT
STA 26+07 RT - 26+45 RT

REMOVE GRAVEL BAR
STA 10+41 RT - 10+61 RT

MAIN LINE STA. 25+84.00 =
CHANNEL LINE STA. 10+75.00
△ = 90° 00' 00" LT

SPECIAL PROVISION (GUARDRAIL APPROACH SECTION TO CONCRETE BRIDGE RAILING) (TL-2)
STA 25+41.50 LT - 25+53.00 LT
STA 26+14.25 LT - 26+25.75 LT
STA 25+41.50 RT - 25+53.00 RT
STA 26+14.25 RT - 26+25.75 RT

REMOVING SIGNS
STA 22+56 RT
STA 25+59 LT
STA 25+59 RT
STA 25+61 RT
STA 26+07 LT
STA 26+07 RT
STA 26+13 LT

TRAFFIC SIGNS, TYPE A
STA 25+49 RT
STA 26+19 LT

ADJUST ELEVATION OF VALVE BOX
STA 26+31 RT

REMOVING LARGE TREES
STA 25+55 LT

TRIM TREES
STA 26+06 LT

4" WHITE LINE
STA 24+50.00 LT - 27+00.00 LT
STA 24+50.00 RT - 27+00.00 RT

4" YELLOW LINE
STA 24+50.00 - 27+00.00 (CL DOUBLE)

MANUFACTURED TERMINAL SECTION, TANGENT (TL-2)
STA 25+14.60 LT - 25+41.50 LT
STA 26+25.75 LT - 26+52.65 LT
STA 25+14.60 RT - 25+41.50 RT
STA 26+25.75 RT - 26+52.65 RT

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
STA 25+28.00 LT - 25+53.00 LT
STA 26+14.25 LT - 26+40.00 LT

PRECAST REINFORCED CONCRETE CURB, TYPE B
STA 25+28.00 LT - 25+53.00 LT
STA 26+14.25 LT - 26+40.00 LT

CURVE (1)
DELTA = 5°06'14" RT
D = 3°00'00"
R = 1909.86'
T = 85.12'
L = 170.13'
E = 1.90'

PI #1
STA 22+94.42 BK=
STA 22+94.31 AHD

BEGIN APPROACH
STA 24+50.00

END APPROACH
BEGIN PROJECT
STA 25+00.00

BEGIN BRIDGE
STA 25+53.00
FG = 579.92

END BRIDGE
STA 26+14.25
FG = 580.26

END PROJECT
BEGIN APPROACH
STA 26+50.00

END APPROACH
STA 27+00.00

CURVE (2)
DELTA = 4°19'55" RT
D = 1°30'00"
R = 3819.72'
T = 144.47'
L = 288.80'
E = 2.73'

POB
11+75.00

POB CHANNEL
10+00.00

N18° 42' 28.32"E

PT
23+79.43

PC
27+27.76

MATCHLINE STA 28+50

BENCH MARK # 1
RRSIP
COMB #3/69/3/23
ELEV. = 577.04 FT

BENCH MARK # 2
CHISELED SQUARE
ON ABUTMENT
ELEV. = 579.50 FT

BENCH MARK # 3
RRSIP #3/72
ELEV. = 579.37 FT

22+56 RT
25+61 RT
25+59 RT
25+49 RT
26+07 RT
26+19 LT
26+13 LT
26+07 LT

EXISTING BRIDGE DATA
CONCRETE TWO GIRDER BUILT IN 1924,
SPAN LENGTH = 44 FEET
STRUCTURE LENGTH = 46 FEET
DECK WIDTH OUT TO OUT = 25.3 FEET
BRIDGE WIDTH CURB TO CURB = 20.6 FEET

LAYOUT 1

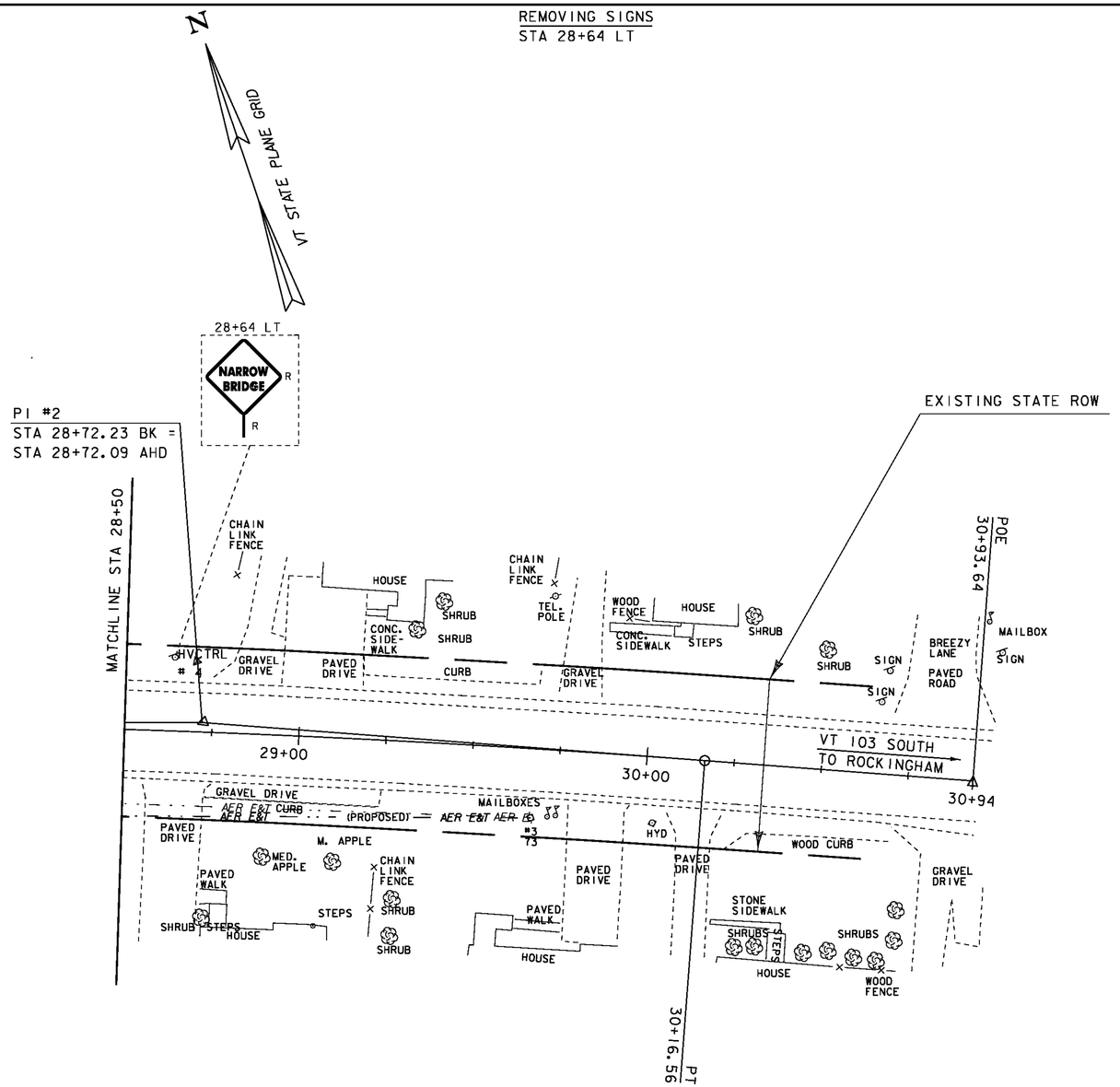
SCALE 1" = 20'-0
20 0 20

LEGEND
N NEW
R REMOVE
RET RETAIN

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(28)

FILE NAME: 84e061/Str/bdr.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 8 LAYOUT 1
PLOT DATE: 20-SEP-2010
DRAWN BY: M.FESSEL
CHECKED BY: R.S.YOUNG
SHEET 17 OF 124

REMOVING SIGNS
STA 28+64 LT



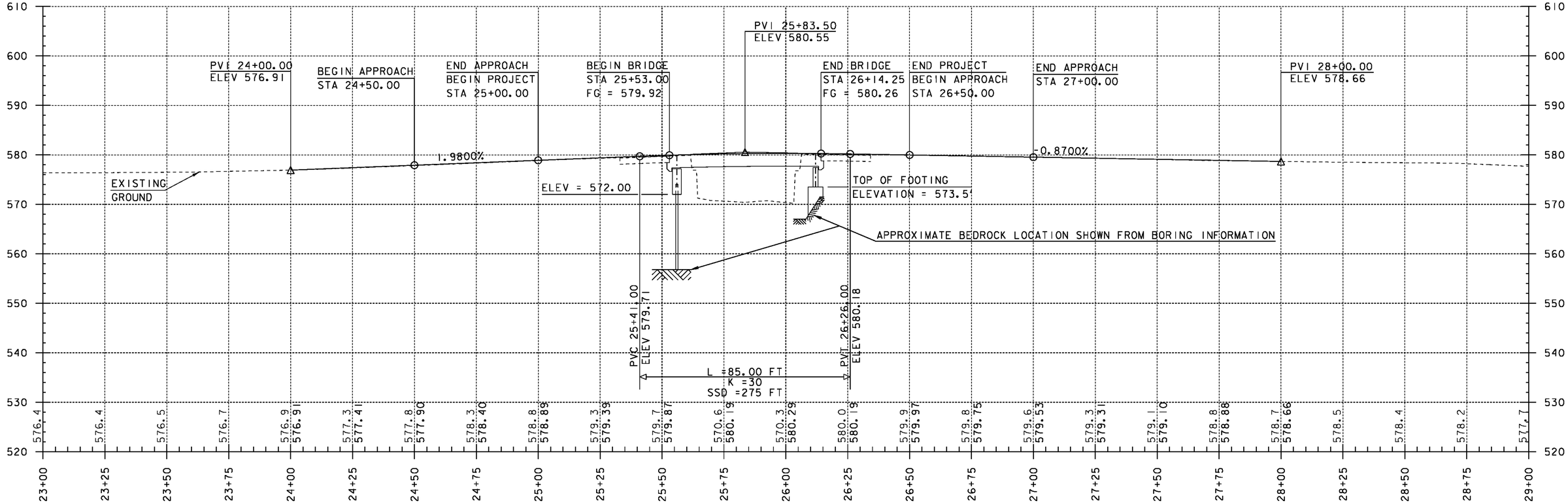
LAYOUT 2

SCALE 1" = 20'-0
20 0 20

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(28)

FILE NAME: 84e061/Str/bdr.dgn		PLOT DATE:	20-SEP-2010
PROJECT LEADER:	C.P.WILLIAMS	DRAWN BY:	M.FESSEL
DESIGNED BY:	R.S.YOUNG	CHECKED BY:	R.S.YOUNG
BRIDGE 8 LAYOUT 2		SHEET	18 OF 124

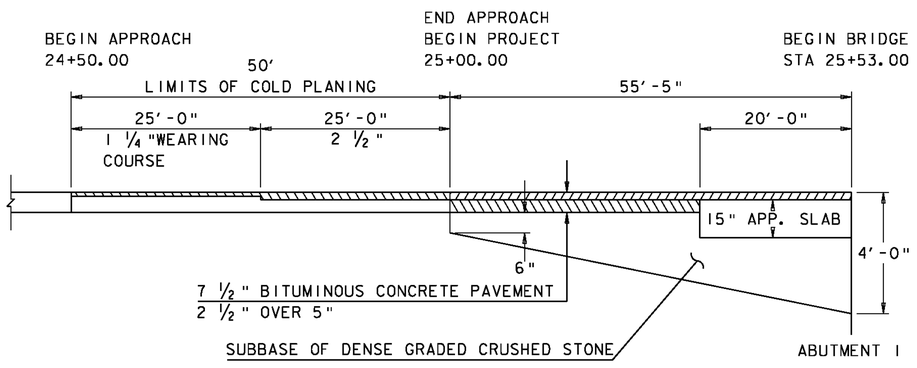
VT103 PROFILE



NOTES:

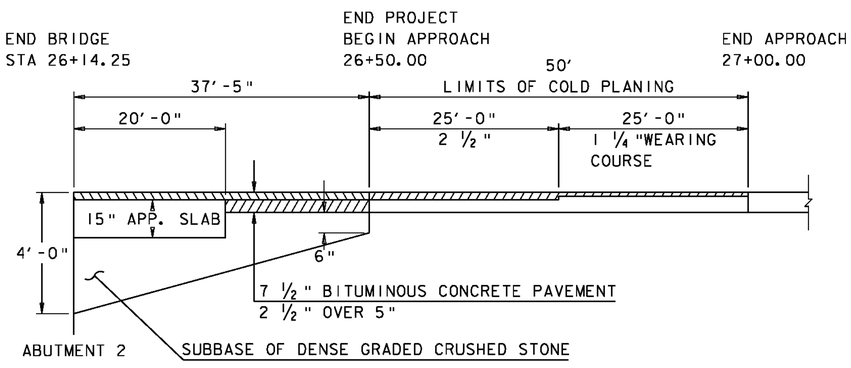
GRADES SHOWN TO THE NEAREST TENTH
ARE EXISTING GROUND ALONG ℄.

GRADES SHOWN TO THE NEAREST
HUNDREDTH ARE FINISH GRADE ALONG ℄.



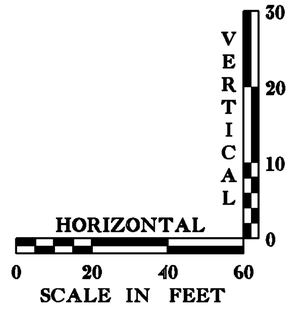
BEGIN PROJECT MATERIAL TRANSITION

NOT TO SCALE

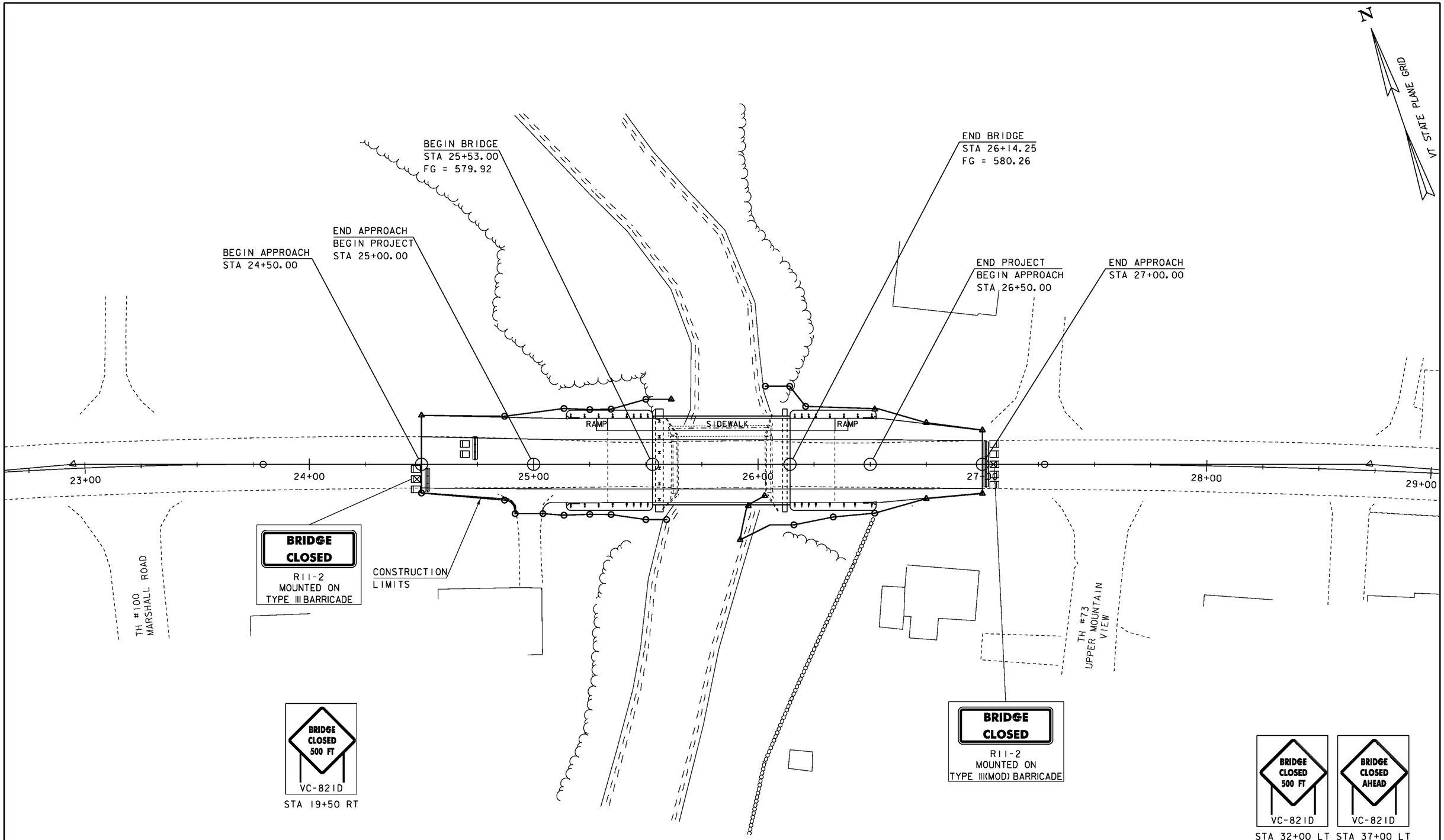


END PROJECT MATERIAL TRANSITION

NOT TO SCALE



PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(28)
FILE NAME: 84e061/Str/s84e061pro.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 8 PROFILE SHEET	SHEET 19 OF 124



NOTE: 1: THE CONTRACTOR SHALL PROVIDE TEMPORARY TRAFFIC BARRIER AS POSITIVE PROTECTION DURING THE BRIDGE CLOSURE. PAYMENT SHALL BE UNDER 621.90 "TEMPORARY TRAFFIC BARRIER"

2: ANY LINE STRIPING TARGETS USED SHALL BE INCIDENTAL TO ITEM 641.10 "TRAFFIC CONTROL".

TRAFFIC CONTROL LAYOUT

SCALE 1" = 20'-0

20 0 20

LEGEND

- TYPE III BARRICADE
- TYPE III (MOD) BARRICADE
- TEMPORARY TRAFFIC BARRIER

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(28)
FILE NAME: s84e061traffic.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 8 TRAFFIC CONTROL LAYOUT	SHEET 20 OF 124

MARK	STATION	OFFSET	REMARKS	POLE NUMBER
UP1	23+45	25' RT	REMOVE	3/69/3/23
UP2	25+35	18' RT	REMOVE	3/70/24
UP3	26+23	15' RT	REMOVE	3/71/3/25
UP4	27+93	21' RT	REMOVE	3/72
UP5	23+45	24' RT	NEW-PERMANENT	CV69/35/u(56)
UP6	25+34	26' RT	NEW-PERMANENT	70/45/3
UP7	26+23	28' RT	NEW-PERMANENT-W/TEMPORARY PUSH BRACE	71/45/3
UP8	27+92	26' RT	NEW-PERMANENT	72/45/3
UP9	26+27	52' LT	RETAG-W/ TEMPORARY GUY	CV71S/35/5(90)

(TEMP) = TEMPORARY UTILITY RELOCATION
(PROPOSED) = PROPOSED UTILITY ROUTE

UTILITIES RELOCATION

SCALE 1" = 20'-0
20 0 20

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(28)
FILE NAME: 84e061/Str/bdr_utilities.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 8 UTILITIES RELOCATION	SHEET 21 OF 124

SOIL CLASSIFICATION

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

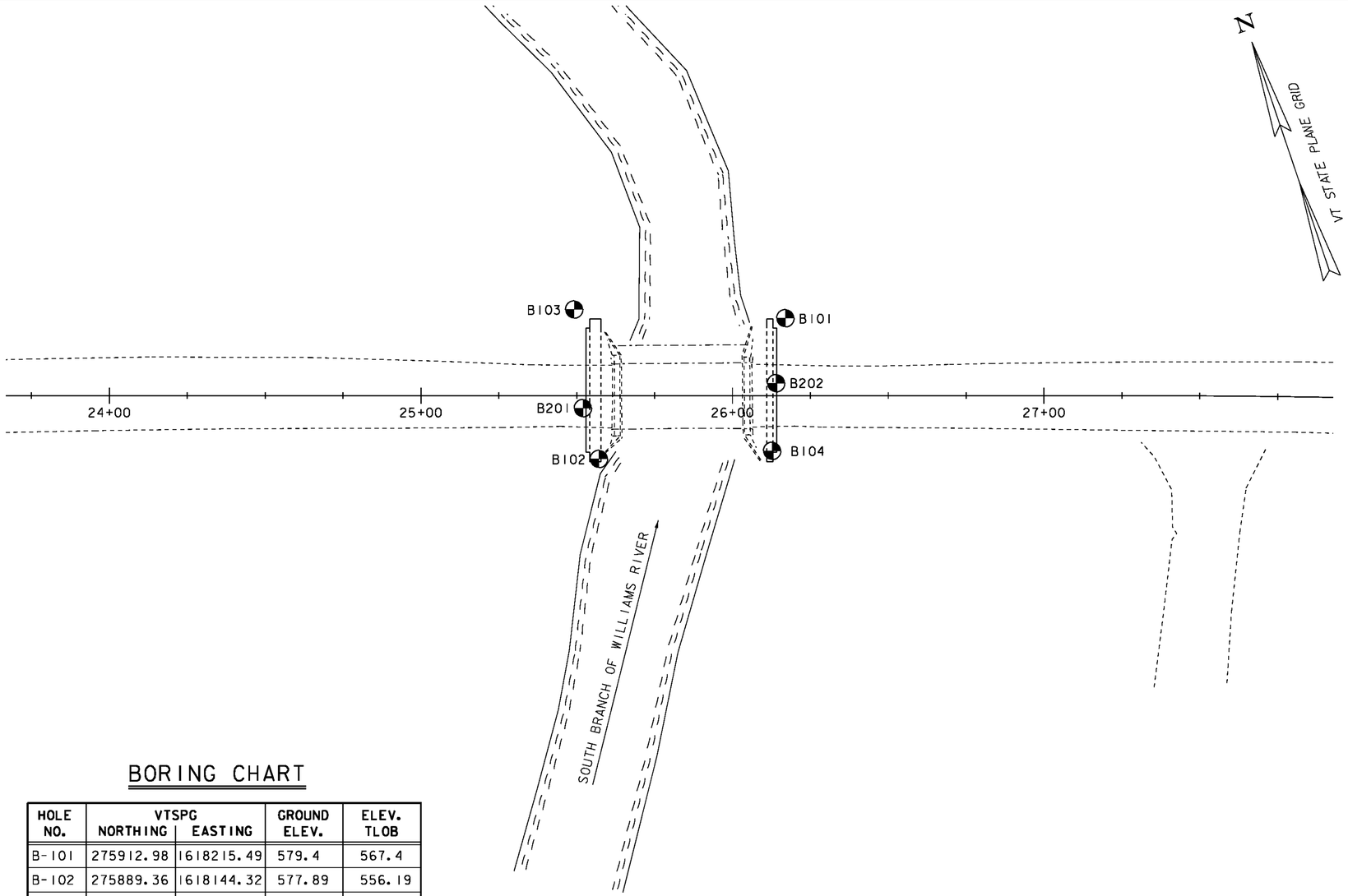
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

▼	Water Elevation
⊕	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O.D. Sampler 1 3/8" I.D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1 1/8"
BX	Core Size 1 5/8"
NX	Core Size 2 1/8"
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	To Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)

COLOR

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



BORING CHART

HOLE NO.	VTSPG NORTHING	VTSPG EASTING	GROUND ELEV.	ELEV. TLOB
B-101	275912.98	1618215.49	579.4	567.4
B-102	275889.36	1618144.32	577.89	556.19
B-103	275937.37	1618152.19	579.3	557.5
B-104	275873.99	1618197.81	576.67	566.97
B-201	275906.47	1618144.69	580.20	556.70
B-202	275894.16	1618205.98	580.50	571.4

BORING PLAN

SCALE 1" = 20'-0

20 0 20

DEFINITIONS (AASHTO)

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

BOULDER - A rock fragment with an average dimension > 12 inches.

COBBLE - Rock fragments with an average dimension between 3 and 12 inches.

GRAVEL - Rounded particles of rock < 3" and > 0.0787" (#10 sieve).

SAND - Particles of rock < 0.0787" (#10 sieve) and > 0.0029" (#200 sieve).

SILT - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

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

VARVED - Alternate layers of silt and clay.

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

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

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

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

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

DIP - Inclination of bed with a horizontal plane.

GENERAL NOTES

1. The subsurface explorations shown herein were made between 11/03/06 and 01/22/09 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

PROJECT NAME: CHESTER

PROJECT NUMBER: BRF 025-1(28)

FILE NAME: s84e061bor.dgn
PROJECT LEADER: C. P. WILLIAMS
DESIGNED BY: R. S. YOUNG
BORING INFORMATION SHEET

PLOT DATE: 20-SEP-2010
DRAWN BY: M. FESSEL
CHECKED BY: R. S. YOUNG
SHEET 22 OF 124

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

BORING NUMBER: B-101
SHEET 1 of 1
DATE STARTED: 11/03/06
DATE COMPLETED: 11/07/06

PROJECT NAME: CHESTER
SITE NAME: VT 103
STATION: 26+16.97
OFFSET: -24.87
VTSPG: N 275912.98 ft E 1618215.49 ft

PROJECT NUMBER: BRF 025-1(28)S
SITE NUMBER: BR 8
GROUND ELEVATION: 579.4 ft
GROUNDWATER DEPTH: 8.2 ft 11/07/06
PROJECT PIN NUMBER: 84E061

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: WERNER

BORING RIG: LAG TRACK RIG w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

TOP OF FOOTING ELEVATION = 573.5

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		A-2-4, SlSa, brn, Moist, Rec. = 0.9 ft	7	12.8	17.2	61.6	21.2
		Field Note:, Lost water at 3.3 ft.					
5		Field Class:, No sample, Cobbles, Cleaned casing.					
		A-2-4, SlSa, brn, Moist, Rec. = 0.4 ft	R	27.8	6.7	72.0	21.3
		Cobbles & Boulders, 6.9 ft - 9.8 ft					
10		Field Class:, A-2-4, Gr Sa, brn, Moist, Rec. = 0.2 ft, Insufficient sample for testing.	R				
		Cored ahead, Advanced casing, Cleaned casing, 10.5 ft - 11.8 ft					
				Top of Bedrock @	12.0 ft		(567.40)
		Gray-white, Quartz-Biotite-Plagioclase Gneiss, Quartz rich, Competent, Dip runs from 0 to 80., Hard, Unweathered, NXMDC, 12.0 ft - 17.0 ft, Rec. = 4.1 ft	1	82	83	80	7 4 5 4 4
15							
		Gray-white, Biotite-Quartz-Plagioclase Gneiss, Competent, Dip runs from 0 to 80., Hard, Unweathered, NXMDC, 17.0 ft - 21.8 ft, Rec. = 4.7 ft	2	98	90	80	8 9 8 10 8
20							
		Hole stopped @ 21.8 ft					
25							

LOG OF BORING CHESTER BRF 025-1(28)S.GPJ VT ADT.GDT 12/15/08

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

BORING NUMBER: B-102
SHEET 1 of 1
DATE STARTED: 11/07/06
DATE COMPLETED: 11/13/06

PROJECT NAME: CHESTER
SITE NAME: VT 103
STATION: 25+57.14
OFFSET: 20.33
VTSPG: N 275889.36 ft E 1618144.32 ft

PROJECT NUMBER: BRF 025-1(28)S
SITE NUMBER: BR 8
GROUND ELEVATION: 577.89 ft
GROUNDWATER DEPTH: 7.1 ft 11/09/06
PROJECT PIN NUMBER: 84E061

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: WERNER

BORING RIG: LAG TRACK RIG w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

BOTTOM OF PILE CAP = 572.00

ESTIMATED PILE TIP

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		A-2-4, SlSa, brn, Moist, Rec. = 0.3 ft	3	16.9	6.9	71.9	21.2
		NXDC,Cobbles, 2.1 ft - 4.9 ft					
5		Visual Class:, Broken Rock with sand, brn, Wet, Rec. = 0.5 ft	38	10.0			
		NXDC,Cobbles, Cleaned out casing., 6.4 ft - 8.9 ft					
		Wood, 8.9 ft - 9.8 ft, Used roller core bit.					
10		Field Class:, A-1-b, Sa Gr, gry, Wet, Rec. = 0.5 ft, Insufficient sample for testing.	41	9.6			
		NXDC,Boulders, Cleaned out casing., 11.8 ft - 16.0 ft					
15							
		A-4, SaSi, gry, Moist, Sample retrieved from core barrel.		9.1	3.9	43.9	52.2
20		No Recovery, 19.7 ft - 20.2 ft	R				
				Top of Bedrock @	21.7 ft		(556.19)
		Gray-white, Layered Biotite-Quartz-Plagioclase Gneiss, Competent, Dip runs from 0 to 80., Hard, Unweathered, NXMDC, 21.7 ft - 22.4 ft, Rec. = 2.8 ft	1	97	81	80	5 5
		White-gray, Quartz-Biotite-Plagioclase Gneiss, Quartz rich, Competent., Hard, Unweathered, 22.4 ft - 24.6 ft					6
25		White-gray, Quartz-Biotite-Plagioclase Gneiss, Quartz rich, Competent, Dip runs from 0 to 80., Hard, Unweathered, NXMDC, 24.6 ft - 26.6 ft, Rec. = 4.9 ft	2	100	95	80	6 7
		Gray-white, Biotite-Quartz-Plagioclase Gneiss, Competent., Hard, Unweathered, 26.6 ft - 28.9 ft					7 5 7
30		White-gray, Quartz-Biotite-Plagioclase Gneiss, Quartz rich, Competent., Hard, Unweathered, 28.9 ft - 29.5 ft	3	70	73	40	5
		White-gray, Quartz-Biotite-Plagioclase Gneiss, Quartz rich, Competent., Hard, Unweathered, NXMDC, 29.5 ft - 31.5 ft, Rec. = 1.4 ft					6
		Hole stopped @ 31.5 ft					

LOG OF BORING CHESTER BRF 025-1(28)S.GPJ VT ADT.GDT 12/15/08

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(28)

FILE NAME: 84e061/Str/s84e061bor.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 8 BORING LOGS 1

PLOT DATE: 20-SEP-2010
DRAWN BY: M&R LAB
CHECKED BY: R.S.YOUNG
SHEET 23 OF 124

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

BORING NUMBER: B-103
SHEET 1 of 1
DATE STARTED: 11/14/06
DATE COMPLETED: 11/14/06

PROJECT NAME: CHESTER
SITE NAME: VT 103
STATION: 25+49.19
OFFSET: -27.67
VTSPG: N 275937.37 ft E 1618152.19 ft

PROJECT NUMBER: BRF 025-1(28)S
SITE NUMBER: BR 8
GROUND ELEVATION: 579.3 ft
GROUNDWATER DEPTH: 8.3 ft 11/14/06
PROJECT PIN NUMBER: 84E061

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: WERNER

BORING RIG: LAG TRACK RIG w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

BOTTOM OF PILE CAP = 572.00

ESTIMATED PILE TIP

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		A-2-4, GrSa, brn, Moist, Rec. = 0.7 ft	20	19.4	24.9	58.6	16.5
		Cobbles, No Recovery, 2.0 ft - 9.8 ft, Cleaned out casing.					
5							
10		A-1-b, GrSa, brn, Wet, Rec. = 0.9 ft	22	12.8	46.5	47.1	6.4
		Field Note:, Cleaned out casing					
15		A-1-b, SaGr, brn, Wet, Rec. = 0.8 ft	22	10.9	47.2	44.6	8.2
		Field Note:, Cleaned out casing					
20		A-2-4, GrSlSa (HP), gry, Moist, Rec. = 1.0 ft	R	9.5	25.1	41.8	33.1
		Field Note:, Cleaned out casing		Top of Bedrock @ 21.8 ft			(557.50)
		Gray-white, Layered Biotite-Quartz-Plagioclase Gneiss, Competent, Dip runs from 0 to 40., Hard, Unweathered, NXMDC, 21.8 ft - 23.2 ft, Rec. = 4.7 ft	1	96	93	40	6
		White-gray, Quartz-Biotite-Plagioclase Gneiss, Quartz rich, Competent,, Hard, Unweathered, 23.2 ft - 26.7 ft					7
25							7
							5
							6
		White-gray, Quartz-Biotite-Plagioclase Gneiss, Quartz rich, Competent, Dip runs from 0 to 40., Hard, Unweathered, NXMDC, 26.7 ft - 31.6 ft, Rec. = 4.6 ft	2	94	70	40	5
							6
							7
30							7
							6
		Hole stopped @ 31.6 ft					

LOG OF BORING CHESTER BRF 025-1(28)S.GPJ VT AOT.GDT 12/15/08

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

BORING NUMBER: B-104
SHEET 1 of 1
DATE STARTED: 11/15/06
DATE COMPLETED: 11/15/06

PROJECT NAME: CHESTER
SITE NAME: VT 103
STATION: 26+12.73
OFFSET: 17.73
VTSPG: N 275873.99 ft E 1618197.81 ft

PROJECT NUMBER: BRF 025-1(28)S
SITE NUMBER: BR 8
GROUND ELEVATION: 576.67 ft
GROUNDWATER DEPTH: 5.2 ft 11/15/06
PROJECT PIN NUMBER: 84E061

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: WERNER

BORING RIG: LAG TRACK RIG w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

TOP OF FOOTING ELEVATION = 573.5

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		A-2-4, GrSa, brn, Moist, Rec. = 0.7 ft	3	17.8	20.8	64.8	14.4
5		Field Class:, A-1-b, Gr Sa with Wood, Rec. = 0.3 ft, Insufficient sample for testing.	4				
				Top of Bedrock @ 9.7 ft			(566.97)
10		Gray-white, Biotite-Quartz-Plagioclase Gneiss, Competent, Dip runs from 0 to 80., Hard, Unweathered, NXMDC, 9.7 ft - 10.5 ft, Rec. = 0.8 ft	1	100	100	80	8
		Gray-white, Biotite-Quartz-Plagioclase Gneiss, Competent, Dip runs from 0 to 80., Hard, Unweathered, NXMDC, 10.5 ft - 11.0 ft, Rec. = 4.9 ft	2	100	73	80	9
		Quartz vein., 11.0 ft - 12.4 ft					9
		Gray-white, Biotite-Quartz-Plagioclase Gneiss, Competent, Hard, Unweathered, 12.4 ft - 15.4 ft					6
15							6
							5
		Gray-white, Biotite-Quartz-Plagioclase Gneiss, Competent, Dip runs from 0 to 80., Hard, Unweathered, NXMDC, 15.4 ft - 17.7 ft, Rec. = 3.6 ft	3	92	79	80	6
							5
		Quartz vein., 17.7 ft - 18.0 ft					5
		Biotite-Quartz-Plagioclase Gneiss, 18.0 ft - 18.4 ft					6
		Quartz vein., 18.4 ft - 19.3 ft					
20		Hole stopped @ 19.3 ft					
25							

LOG OF BORING CHESTER BRF 025-1(28)S.GPJ VT AOT.GDT 12/15/08

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(28)

FILE NAME: 84e061/Str/s84e061bor.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 8 BORING LOGS 2

PLOT DATE: 20-SEP-2010
DRAWN BY: M&R LAB
CHECKED BY: R.S.YOUNG
SHEET 24 OF 124

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

BORING NUMBER: B-201
SHEET 1 of 1
DATE STARTED: 1/20/09
DATE COMPLETED: 1/21/09

PROJECT NAME: CHESTER
SITE NAME: VT 103
STATION: 25+52
OFFSET: -4.50
VTSPG: N 275906.53 ft E 1618144.78 ft

PROJECT NUMBER: BRF 025-1(28)S
SITE NUMBER: BR 8
GROUND ELEVATION: 580.2 ft
GROUNDWATER DEPTH: 9.6 ft 1/21/09
PROJECT PIN NUMBER: 84E061

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

BORING RIG: LARGE SKID RIG w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE:
CHECKED BY: NSM

BOTTOM OF PILE CAP = 572.00
ESTIMATED PILE TIP

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / ROD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		Asphalt Pavement, 0.0 ft – 0.6 ft					
		Field Class:, GrSa, brn, Moist					
5		Field Class:, Gr, brn, Moist					
		Field Class:, Cobbles, BXDC, Cored ahead					
10							
15							
20							
				Top of Bedrock @ 23.5 ft			(556.7)
25		Silver-gray, Biotite Schist, Dip varied from 20 to 60 degrees. Competent below 24 ft., Moderately hard, Unweathered, BXMDC, 23.5 ft – 28.5 ft, Rec. = 5.0 ft	1	100	60		9 12 10 10 10
30		Silver-gray, Biotite Schist, Dip varied from 20 to 60 degrees. Competent., Moderately hard, Unweathered, BXMDC, 28.5 ft – 33.5 ft, Rec. = 5.0 ft	2	100	66		10 10 10 10 10
		Hole stopped @ 33.5 ft					
35							

LOG OF BORING CHESTER BRF 025-1(28)S.GPJ VT AOT.GDT 3/11/09

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

BORING NUMBER: B-202
SHEET 1 of 1
DATE STARTED: 1/22/09
DATE COMPLETED: 1/22/09

PROJECT NAME: CHESTER
SITE NAME: VT 103
STATION: 26+14
OFFSET: -5.50
VTSPG: N 275894.31 ft E 1618205.86 ft

PROJECT NUMBER: BRF 025-1(28)S
SITE NUMBER: BR 8
GROUND ELEVATION: 580.49 ft
GROUNDWATER DEPTH: 9.4 ft 1/22/09
PROJECT PIN NUMBER: 84E061

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

BORING RIG: LARGE SKID RIG w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE:
CHECKED BY: NSM

TOP OF FOOTING ELEVATION = 573.5

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / ROD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		Asphalt Pavement, 0.0 ft – 0.6 ft					
		Field Class:, Sa, brn, Moist					
5		Field Class:, Cobbles					
		Field Class:, GrSa, brn, Moist					
		Field Class:, Cobbles, BXDC, Cored ahead.					
				Top of Bedrock @ 9.1 ft			(571.39)
10		Silver-gray, Biotite Schist, Competent., Moderately hard, Unweathered, BXMDC, 9.1 ft – 14.1 ft, Rec. = 4.6 ft	1	92	82	55	10 10 10 10 10
15		Silver-gray, Biotite Schist, Competent., Moderately hard, Unweathered, BXMDC, 14.1 ft – 19.1 ft, Rec. = 5.0 ft	2	100	95	55	10 10 10 10 10
		Hole stopped @ 19.1 ft					
20							
25							

LOG OF BORING CHESTER BRF 025-1(28)S.GPJ VT AOT.GDT 3/11/09

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(28)

FILE NAME: 84e061/Str/s84e061bor.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 8 BORING LOGS 3

PLOT DATE: 20-SEP-2010
DRAWN BY: M&R LAB
CHECKED BY: R.S.YOUNG
SHEET 25 OF 124

N

VT STATE PLANE GRID

L. PINE

MAIN LINE STA. 25+84.00 =
CHANNEL LINE STA. 10+75.00
Δ = 90° 00' 00" LT

L. PINE

10" A.C. UNDERGROUND SANITARY SEWER PIPE →

2 ASH

STONE FILL
TYPE III (TYP)

M. MAPLE

M. MAPLE

SEWER
MANHOLE

1+00

1:1.5

SIDEWALK

RAMP

RAMP

BEGIN APPROACH
STA 24+50.00

BEGIN PROJECT
STA 25+00.00

BEGIN APPROACH SLAB
STA 25+33.00

BEGIN BRIDGE
STA 25+53.00
FG = 579.92

1:1.5

END BRIDGE
STA 26+14.25
FG = 580.26

END APPROACH SLAB
STA 26+34.25

END PROJECT
STA 26+50.00

END APPROACH
STA 27+00.00

30" CGMP

25+00

℄ BEARING
STA 25+56.00
FG = 579.97

90°
SKEW

26+00

℄ BEARING
STA 26+12.00
FG = 580.27

27+00

1:3.5

18" CGMP →

2'-1½"

FIRST POST OFF
BRIDGE TO END
BRIDGE RAIL (TYP)

10+50

1:1.5

1:1.5

WSO
VALVE

WSO
VALVE

PC
27+17.16

R5'-0"
(TYP)

WSO
VALVE

6" CIP (APPROXIMATE LOCATION)

LILAC

SOUTH BRANCH OF
THE WILLIAMS RIVER

N18°42'28.32"E

M. MAPLE

PLAN

SCALE: 1" = 10'-0"

MED.
ELM

POB CHANNEL
10+00.00

10+00

600
590
580
570
560

61'-3" - RT & LT - PAY LIMITS OF BRIDGE RAIL 11'-6"
SPECIAL PROVISION (BRIDGE RAILING, TEXAS)
SPECIAL PROVISION (GUARDRAIL APPROACH SECTION TO
CONCRETE BRIDGE RAILING) (TL-2) (TYP). SEE SHEET 39.

61'-3" - BACK OF ABUT 1 TO BACK OF ABUT 2

MANUFACTURED TERMINAL SECTION, TANGENT (TL-2)
(TYP)

56'-0" ℄ BEARING TO ℄ BEARING

EXPANSION

Q 50 = 576.8

EXPANSION

STONE FILL
TYPE III (TYP)

10" A.C. UNDERGROUND SANITARY SEWER PIPE FLOW →

600
590
580
570

ELEVATION @ UPSTREAM FASCIA

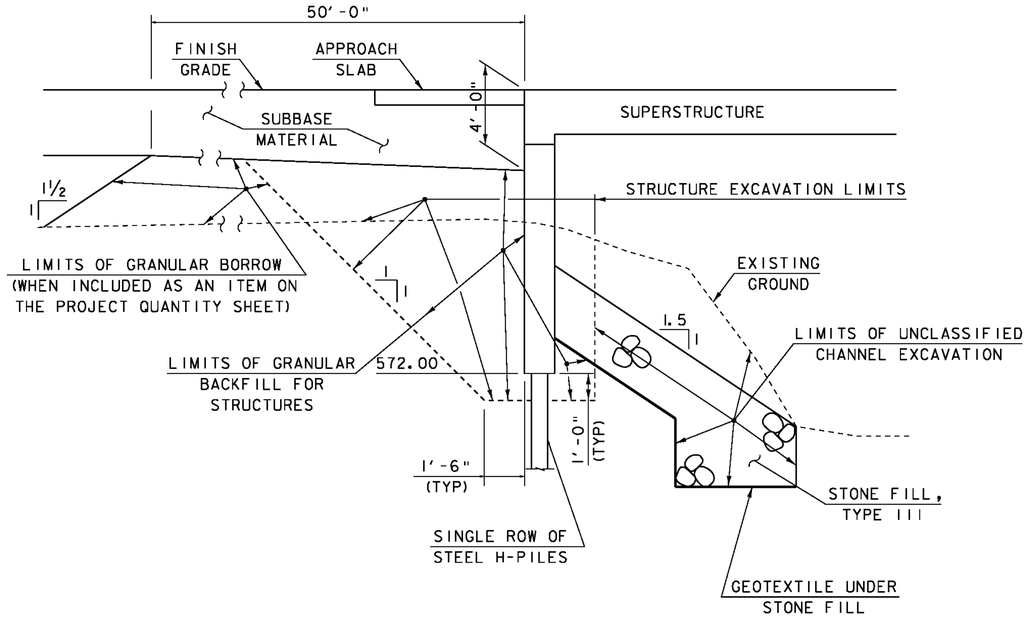
SCALE: 1" = 10'-0"

SCALE 1" = 10'-0
10 0 10

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(28)

FILE NAME: 84e061/Str/s84e061pe.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 8 PLAN AND ELEVATION

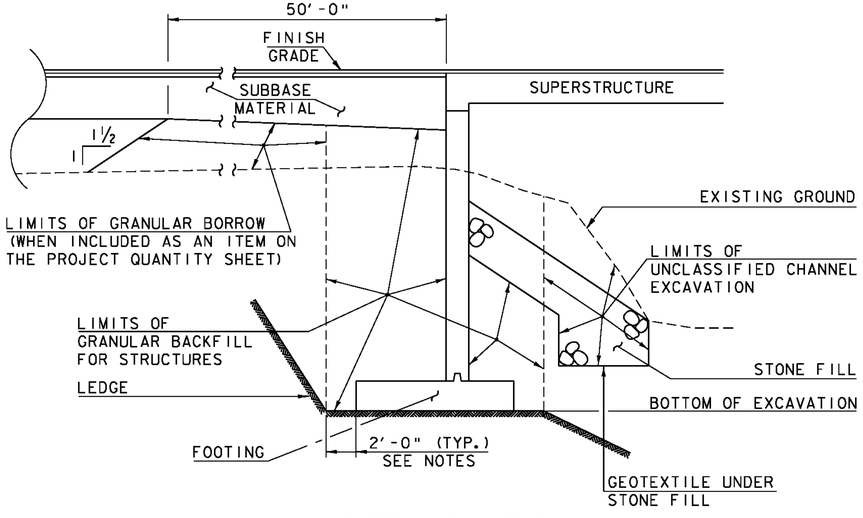
PLOT DATE: 20-SEP-2010
DRAWN BY: M.FESSEL
CHECKED BY: R.S.YOUNG
SHEET 26 OF 124



TYPICAL INTEGRAL ABUTMENT SECTION

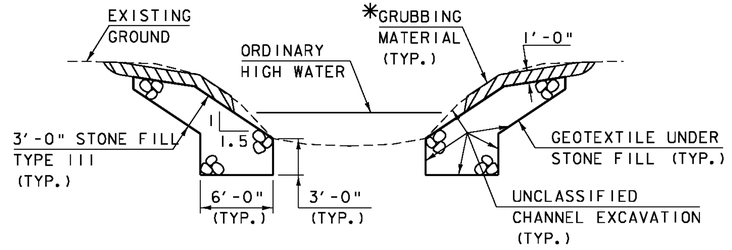
NOT TO SCALE

NOTE. ACTUAL EXCAVATION LIMITS SHALL BE DETERMINED BY THE CONTRACTOR. HOWEVER, ONLY THE EXCAVATION BETWEEN THE LIMITS SHOWN WILL BE PAID FOR UNDER ITEM 204.25 "STRUCTURE EXCAVATION".



EARTHWORK SECTION

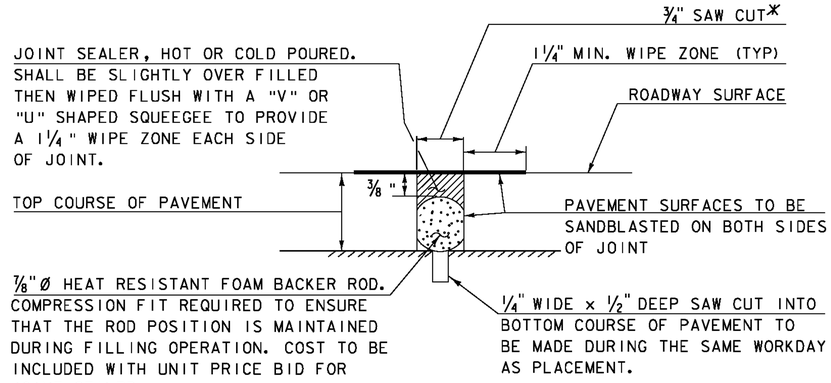
(NOT TO SCALE)



TYPICAL CHANNEL SECTION

(NOT TO SCALE)

*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.

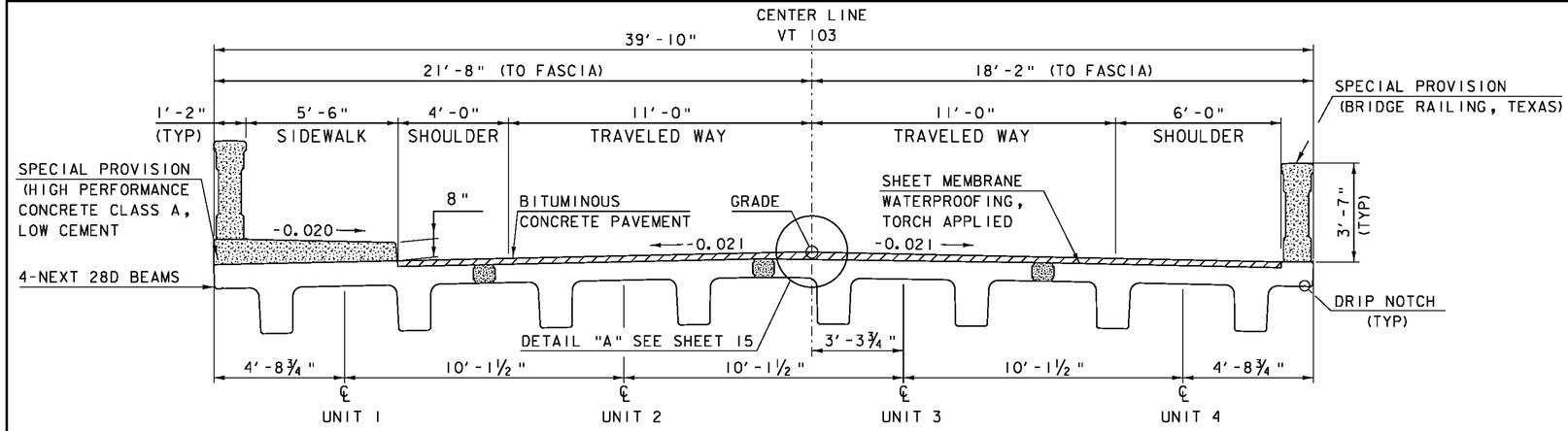


SAWED PAVEMENT JOINT DETAIL

(NOT TO SCALE)

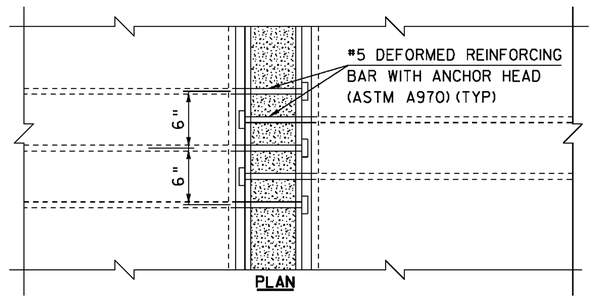
*JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF CONCRETE DECK. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING THE JOINT SEALER.

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(28)	
FILE NAME: 84e061/Str/84e061details.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE & MISCELLANEOUS DETAILS	SHEET 27 OF 124

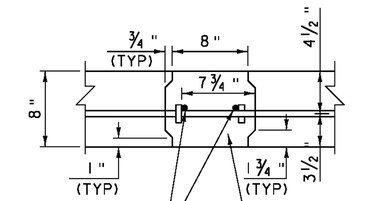


BRIDGE TYPICAL SECTION

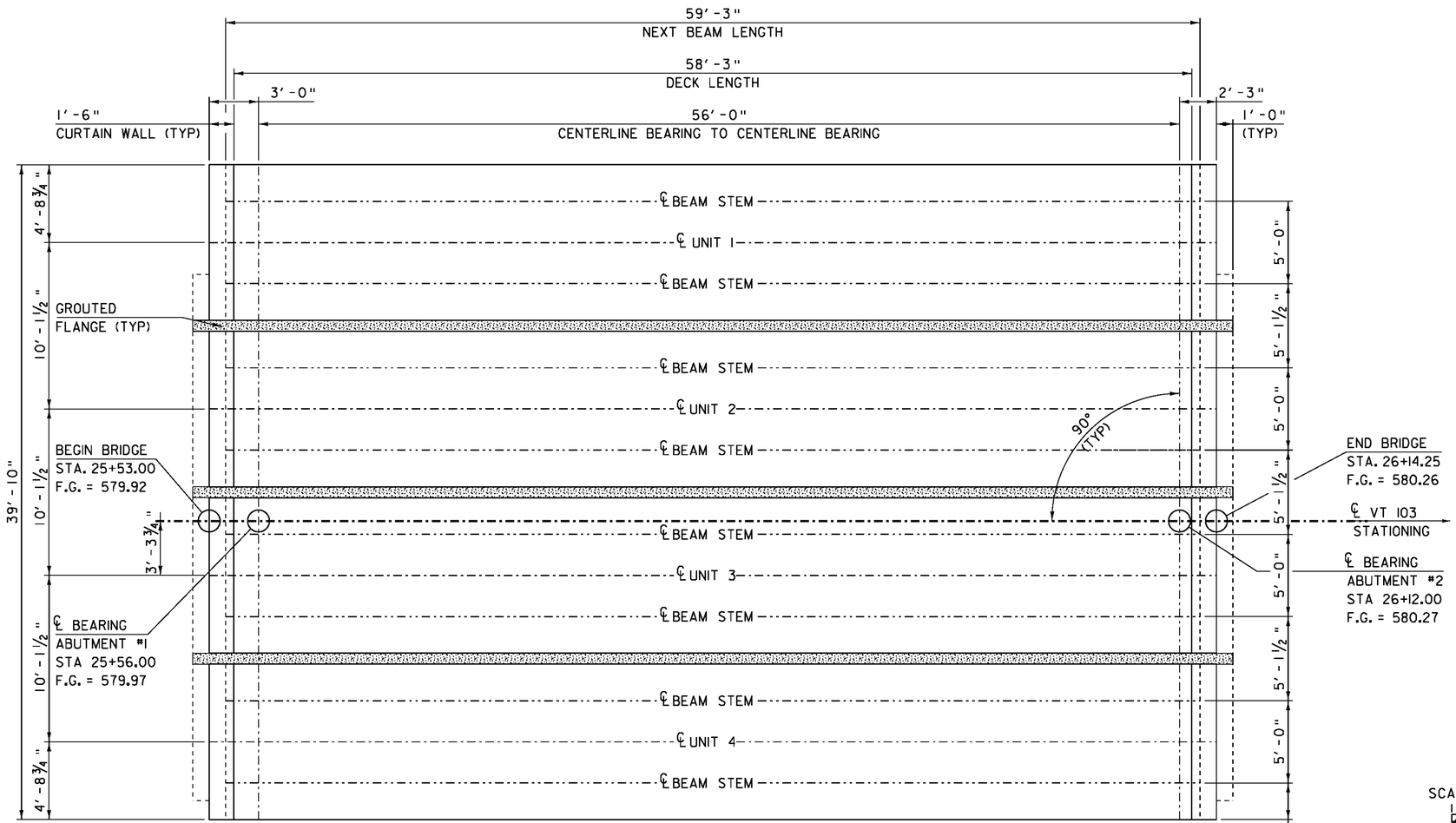
SCALE ⅜" = 1'-0



PLAN



SECTION



BRIDGE PLAN

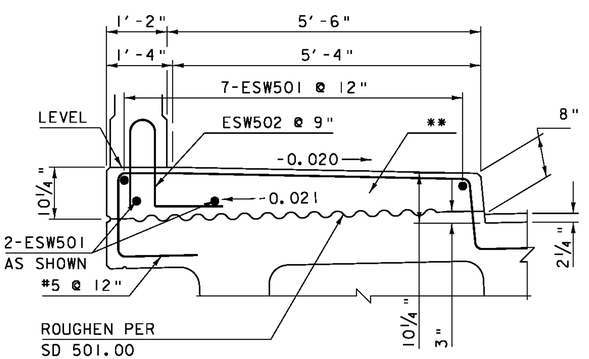
SCALE: ¼" = 1'-0"

FLANGE CONNECTION DETAILS

SCALE 1½" = 1'-0"

*TWO #5 BARS SHALL BE PLACED AS SHOWN ALONG ENTIRE LENGTH OF JOINT. PAYMENT SHALL BE INCIDENTAL TO SPECIAL PROVISION (PRESTRESSED CONCRETE, NEXT D BEAMS) (NEXT 28 D).

**SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT)



SIDEWALK DETAIL (FINAL POSITION)

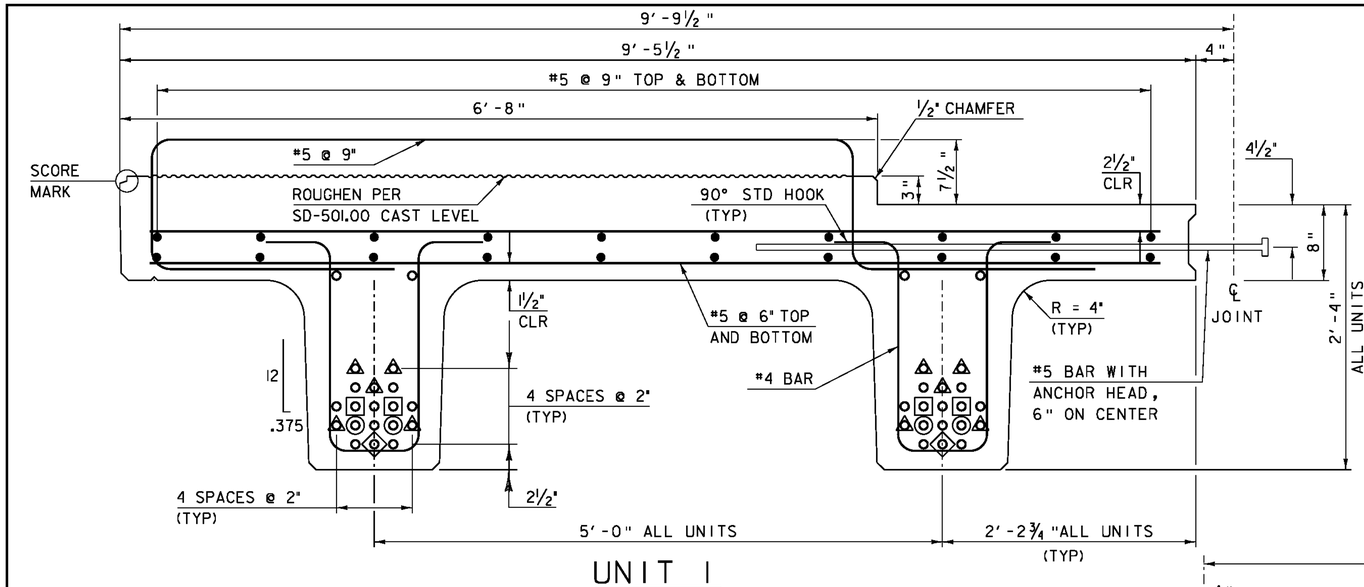
N. T. S.

SCALE ¼" = 1'-0"
1 0 2 4 6

SCALE ⅜" = 1'-0"
1 0 1 2 3 4

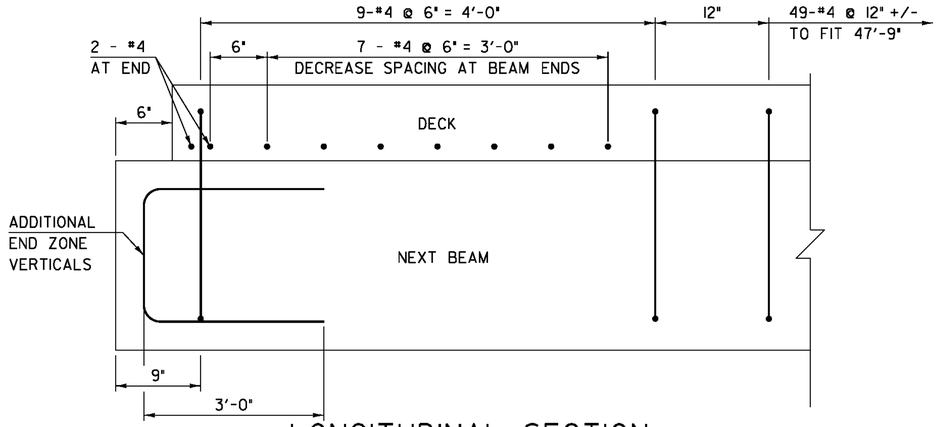
SCALE 1½" = 1'-0"
1 9 6 3 0

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(28)
FILE NAME: 84e061/Str/84e061sup.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 8 FRAMING PLAN	SHEET 28 OF 124



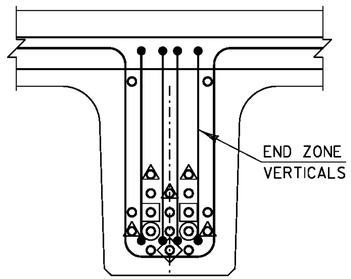
UNIT 1

SCALE: 1½" = 1'-0"



LONGITUDINAL SECTION

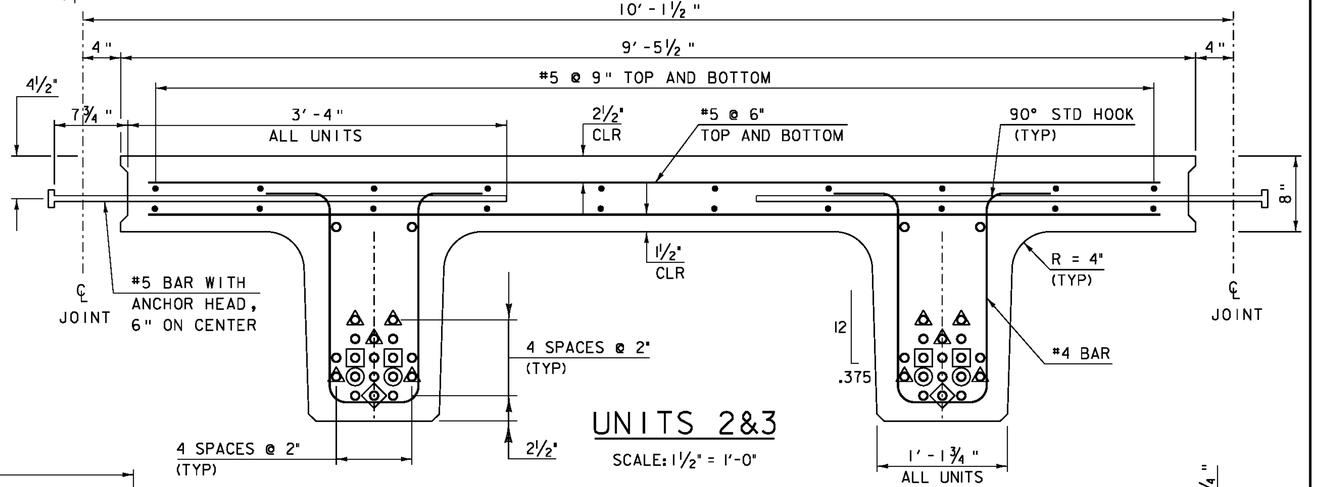
SCALE: 1½" = 1'-0"



◇ - DEBONDED 12'
○ - DEBONDED 8'
□ - DEBONDED 4'
△ - DEBONDED 6"

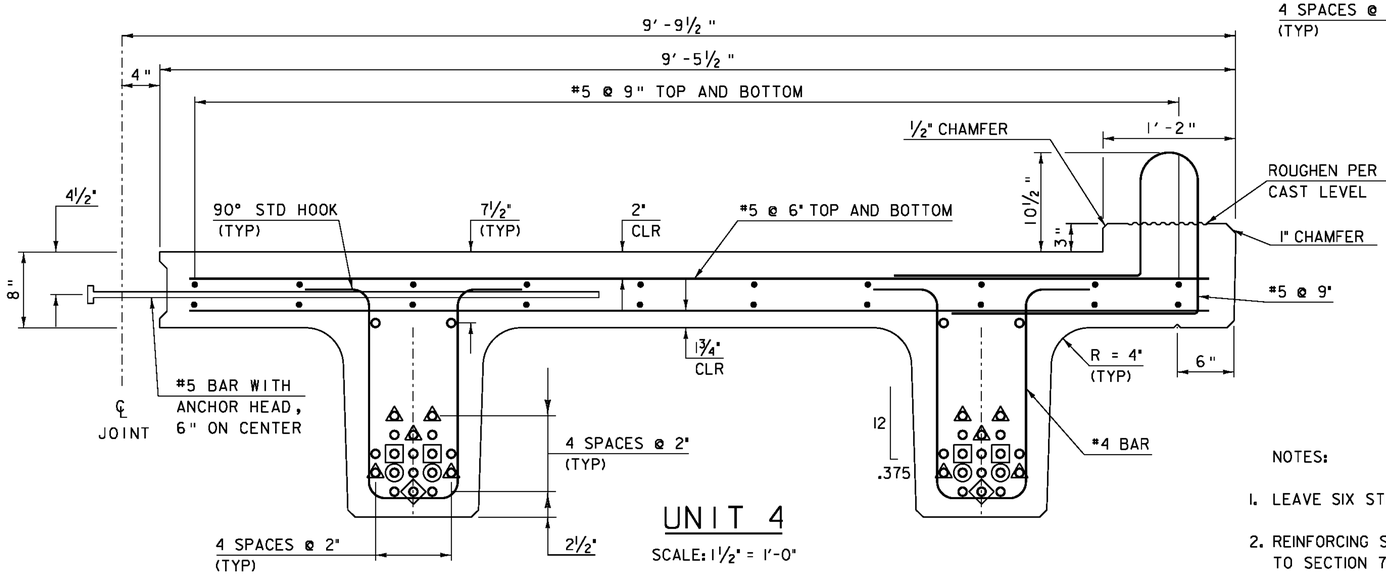
END SECTION

SCALE: 1½" = 1'-0"



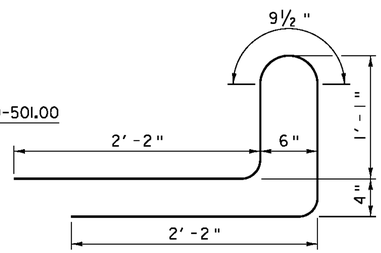
UNITS 2&3

SCALE: 1½" = 1'-0"



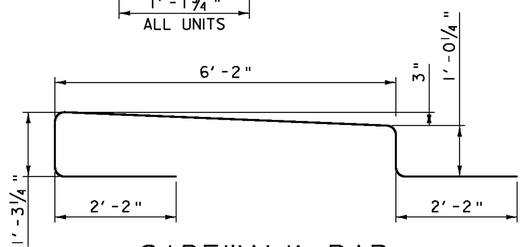
UNIT 4

SCALE: 1½" = 1'-0"



RAILING BAR

SCALE: 1½" = 1'-0"



SIDEWALK BAR

SCALE: ¾" = 1'-0"

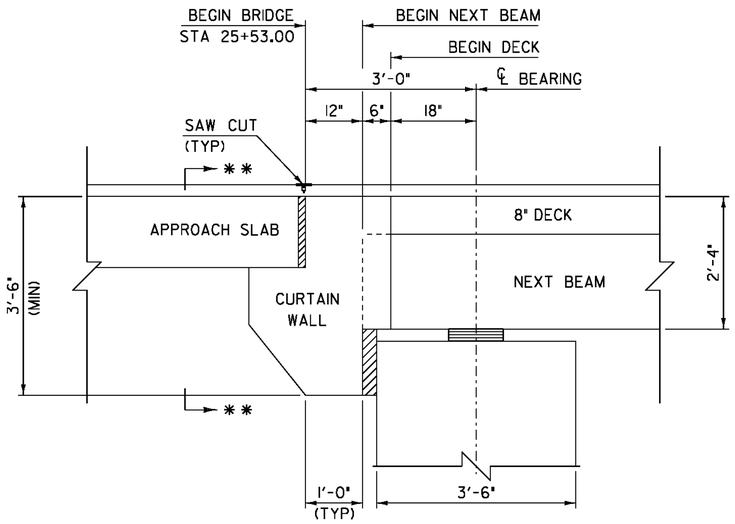
NOTES:

1. LEAVE SIX STRANDS 1'-6" LONG AS SHOWN ON SHEET 30
2. REINFORCING STEEL SHALL BE EPOXY COATED ACCORDING TO SECTION 713.07.

SCALE ¾" = 1'-0"
0 1 2

SCALE 1½" = 1'-0"
9 6 3 0 1

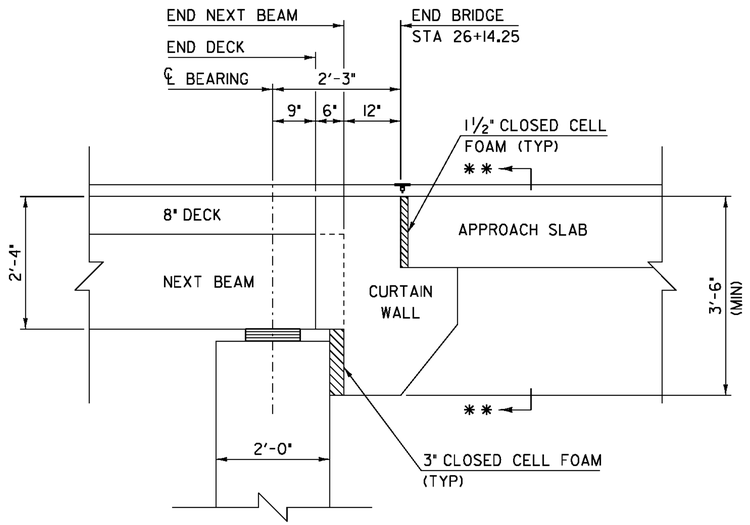
PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(28)
FILE NAME: 84e061/Str/84e061sup.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 8 NEXT BEAM TYPICAL SECTIONS	SHEET 29 OF 124



BRIDGE END DETAIL ABUTMENT 1

SCALE: 3/4" = 1'-0"

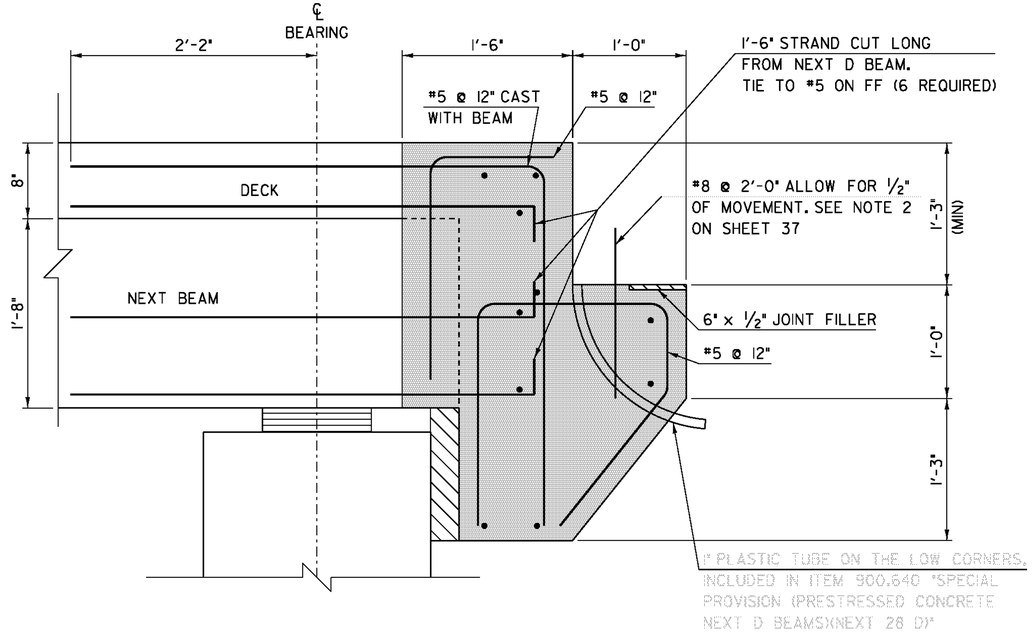
** SEE SHEET 31 FOR
CURTAIN WALL END VIEWS



BRIDGE END DETAIL ABUTMENT 2

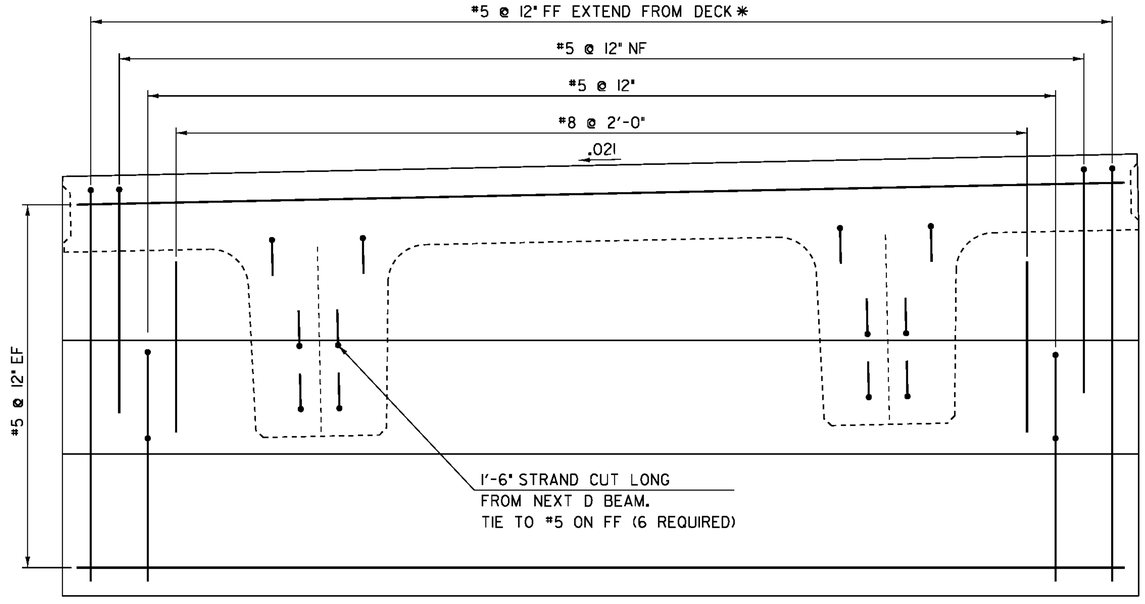
SCALE: 3/4" = 1'-0"

* 12 ADDITIONAL BARS SHALL BE USED AT THE JOINT LOCATIONS. PAYMENT SHALL BE INCIDENTAL TO ITEM 900.640 SPECIAL PROVISION (PRESTRESSED CONCRETE, NEXT D BEAMS)(NEXT 28 D)



PRECAST CONCRETE CURTAIN WALL REINFORCING TYPICAL

SCALE: 1 1/2" = 1'-0"



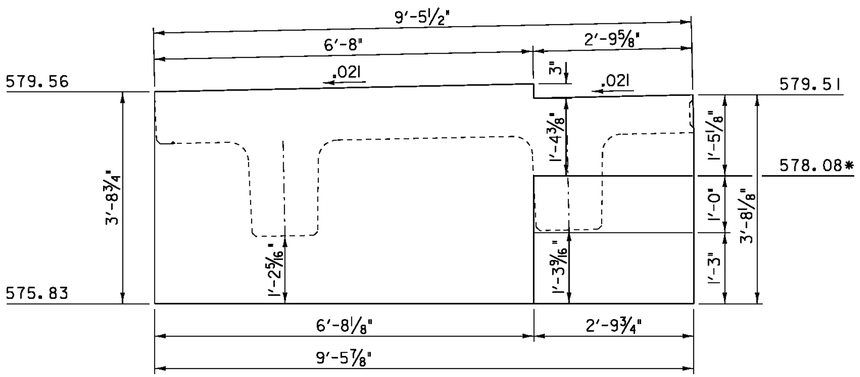
PRECAST CONCRETE CURTAIN WALL REINFORCING ELEV.

SCALE: 1 1/2" = 1'-0"

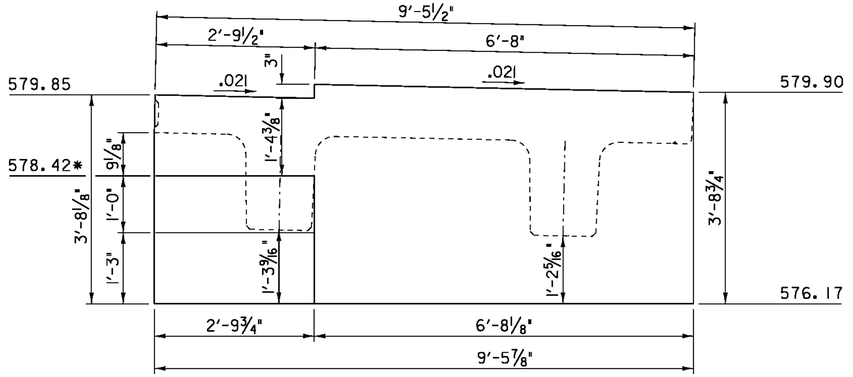
SCALE 3/4" = 1'-0"
0 1 2

SCALE 1 1/2" = 1'-0"
9 6 3 0

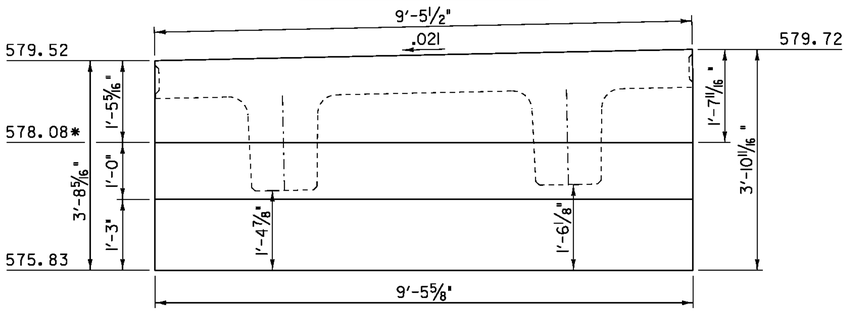
PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(28)	
FILE NAME: 84e061/Str/sub.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 8 BRIDGE END DETAILS	SHEET 30 OF 124



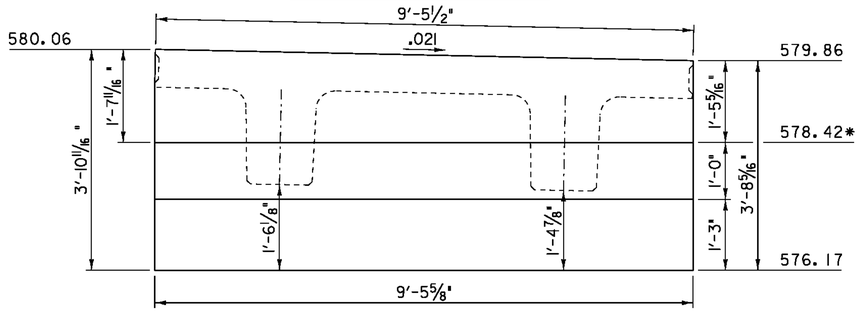
ABUTMENT #1, UNIT 1



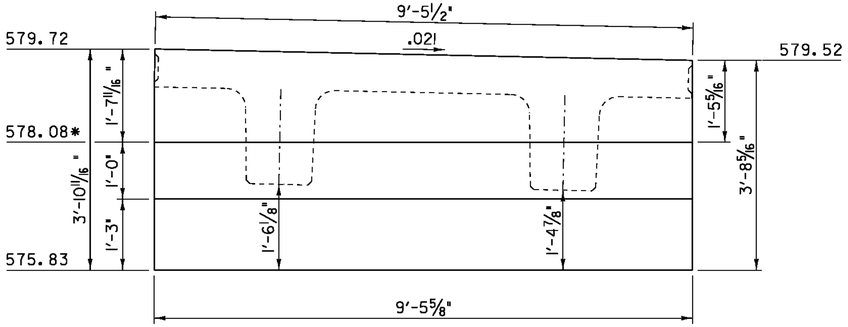
ABUTMENT #2, UNIT 1



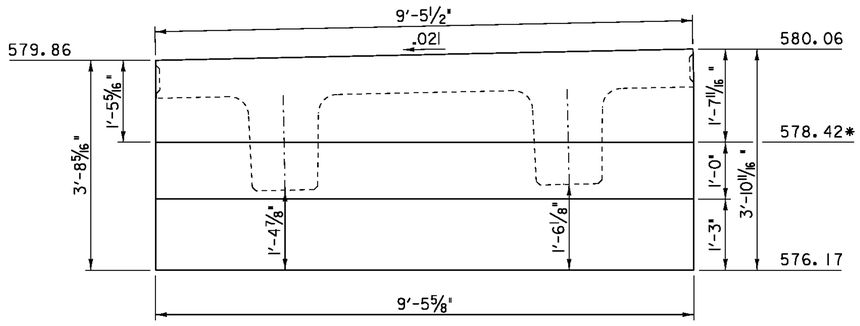
ABUTMENT #1, UNIT 2



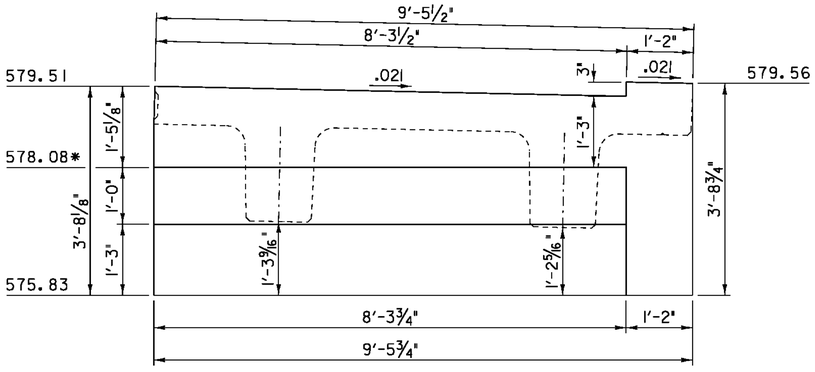
ABUTMENT #2, UNIT 2



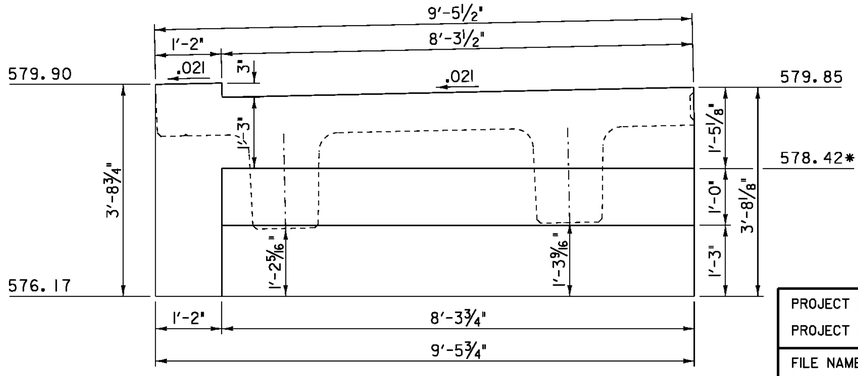
ABUTMENT #1, UNIT 3



ABUTMENT #2, UNIT 3



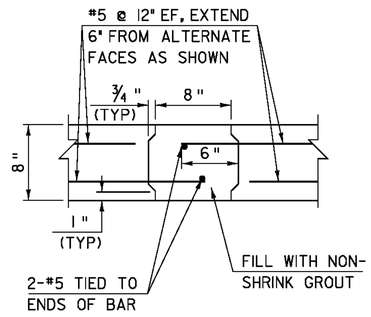
ABUTMENT #1, UNIT 4



ABUTMENT #2, UNIT 4

*APPROACH SLAB SEAT ELEVATIONS

NOTE:
SEAT ELEVATIONS MAY BE ADJUSTED WHEN THE FINAL APPROACH SLAB DIMENSIONS AND CONNECTION DETAILS HAVE BEEN DETERMINED. SEE NOTE 2 SHEET 37.



CURTAIN WALL CONNECTION DETAILS
SCALE: 1½" = 1'-0"

SCALE ¾" = 1'-0"
TYPICAL UNLESS
OTHERWISE NOTED

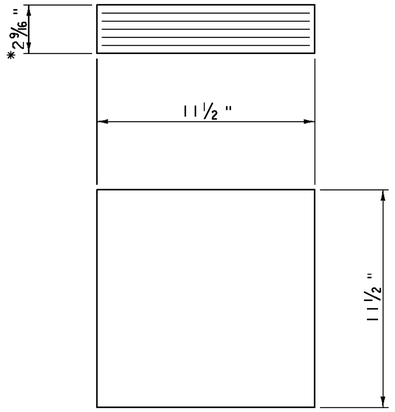
SCALE ¾" = 1'-0"
0 1 2

SCALE 1½" = 1'-0"
9 6 3 0 1

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(28)

FILE NAME: 84e061/Structures/sub.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: H.I. SALLS
BRIDGE 8 CURTAIN WALL DETAILS

PLOT DATE: 21-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 31 OF 124



ELASTOMERIC BEARING DETAIL

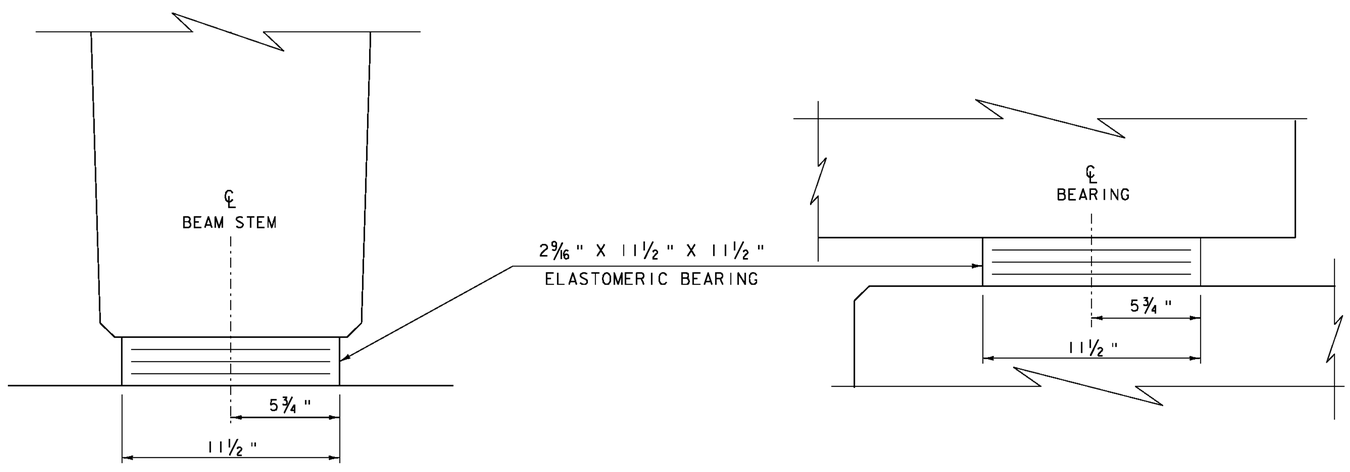
* 2 - 1/8 " EXTERIOR LAYERS OF ELASTOMER
4 - 1/2 " INTERIOR LAYERS OF ELASTOMER
5 - 1/16 " STEEL REINFORCING PLATES

SCALE 3" = 1'-0"

Design Load (kip)	Service Limit State	Vertical	Max	91.7
			Min	41.0
			Permanent	41.8
			Transverse	----
			Longitudinal	----
	Strength Limit State		Vertical	140.8
			Transverse	----
			Longitudinal	----
Translation (in)	Service Limit State	Irreversible	Transverse	0
			Longitudinal	1/16
		Reversible	Transverse	3/16
			Longitudinal	1/2
Rotation (rad)	Service Limit State	Irreversible	Transverse	0.000
			Longitudinal	0.033
		Reversible	Transverse	0.000
			Longitudinal	0.007

BEARING NOTES

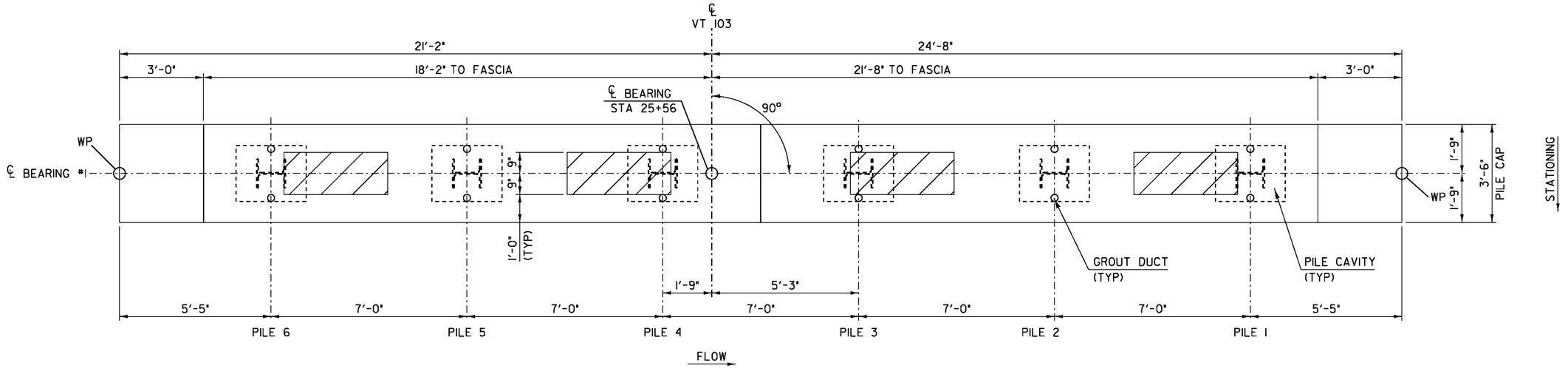
1. BEARINGS SHALL CONFORM TO THE APPLICABLE SUBSECTIONS OF STANDARD SPECIFICATIONS SECTIONS 531 AND 731.
2. ALL REINFORCEMENT BETWEEN LAYERS OF ELASTOMER SHALL BE STEEL AASHTO M270M/M270 GRADE 36. ALL INTERNAL STEEL PLATES SHALL BE SAND BLASTED AND FREE OF COATINGS, RUST AND MILL SCALE. THE PLATES SHALL BE FREE OF SHARP EDGES AND BURRS.
3. STEEL REINFORCED ELASTOMERIC BEARINGS SHALL HAVE A MINIMUM 1/8 " EDGE SEAL OF ELASTOMER INTEGRAL WITH BEARING OVER ALL INTERNAL PLATES.
4. THE ELASTOMER WAS DESIGNED WITH A SHEAR MODULUS OF 100 PSI +/- 15%
5. THE ELASTOMER SHALL MEET THE REQUIREMENTS OF LOW TEMPERATURE ZONE D, GRADE 4.
6. THE CONCRETE UNDER THE BEARING DEVICE SHALL BE LEVEL.
7. ALL DESIGNS DONE FOR THE BEARINGS SHALL BE PER THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 4TH EDITION AND ITS LATEST REVISIONS.
8. ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN ON THE PLANS.
9. BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATIVE CONFIGURATION.
10. THE CONTRACTOR IS ADVISED TO HAVE A MINIMUM OF 16 - 1/4 "x12 1/2 "x12 1/2 " GALVANIZED STEEL SHIMS AVAILABLE FOR USE FOR ELEVATION ADJUSTMENTS UPON THE SETTING OF THE SUPERSTRUCTURE UNITS. THE SHIMS SHALL BE FABRICATED ACCORDING TO SECTION 531 AND SHALL BE INCLUDED UNDER ITEM 531.11,"BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD".



ELASTOMERIC BEARING DETAILS

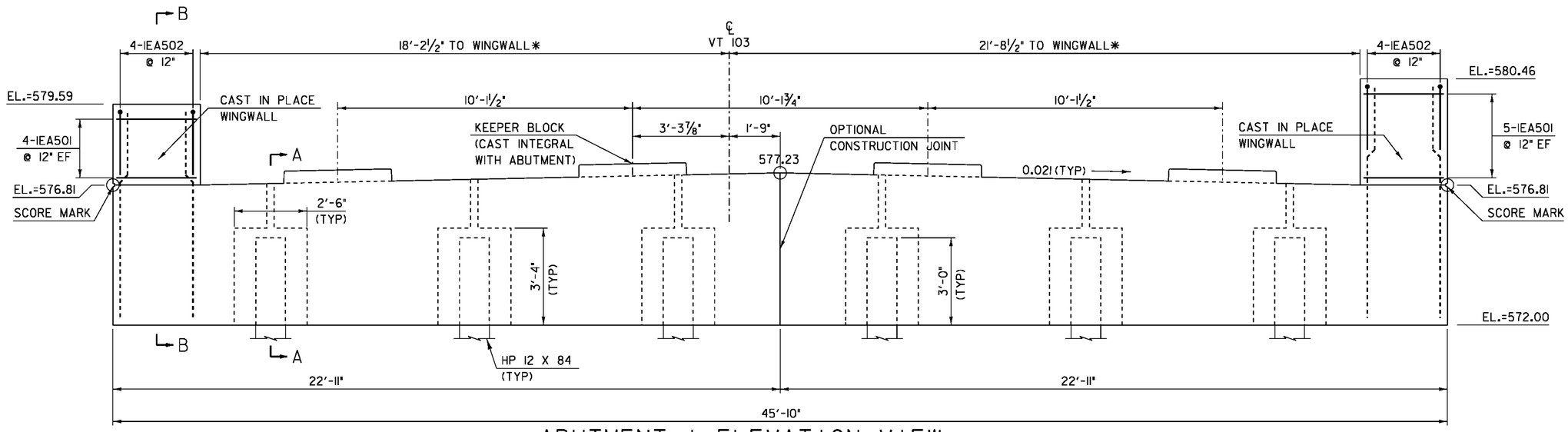
SCALE 3" = 1'-0"

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(28)
FILE NAME: 84e061/Str/84e061details.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 8 ELASTOMERIC BEARING DETAILS	SHEET 32 OF 124



ABUTMENT 1 PLAN VIEW

SCALE ½" = 1'-0



ABUTMENT 1 ELEVATION VIEW

SCALE ½" = 1'-0

SEE SHEET 34
FOR SECTIONS "A-A" & "B-B"

* PROVIDE ½" PREFORMED JOINT FILLER BETWEEN FASCIA AND WINGWALLS

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SCALE ½" = 1'-0"
1 0 1 2

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(28)
FILE NAME: 84e061/str/sub.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 8 ABUTMENT 1 DETAILS	SHEET 33 OF 124

NOTES:

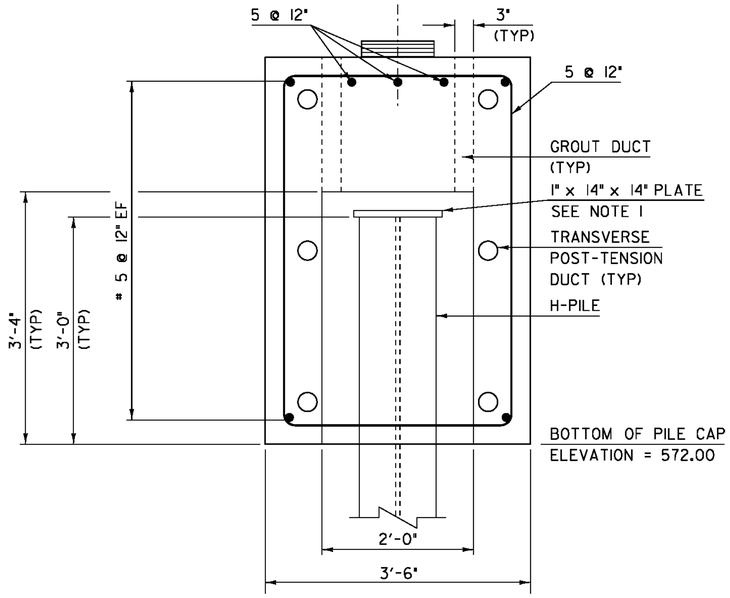
1. UNLESS OTHERWISE NOTED, ABUTMENTS SHALL BE PRECAST CONCRETE ACCORDING TO SECTION 540.

2. ONCE PILES HAVE BEEN CUT TO THEIR FINAL ELEVATIONS, 1" x 14" x 14" STEEL PLATES SHALL BE WELDED TO THE TOP OF THE PILES. PAYMENT FOR THE PLATES SHALL BE INCIDENTAL TO ITEM 505.265 "STEEL PILING FOR INTEGRAL ABUTMENTS, HP 12 X 84"

3. PILE CAVITY GROUT DUCTS (FILL AND VENT) SHALL BE CORRUGATED.

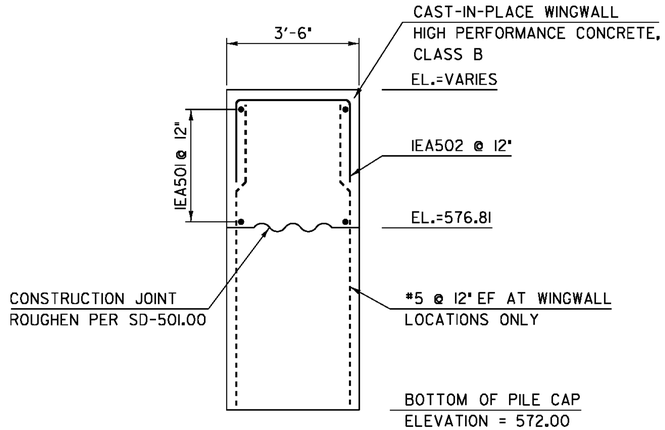
4. SEE GENERAL NOTES FOR ADDITIONAL FABRICATION, CONSTRUCTION, AND SEQUENCE NOTES.

5. REINFORCING FOR THE PRECAST ABUTMENTS SHALL BE EPOXY COATED ACCORDING TO SUBSECTION 713.07



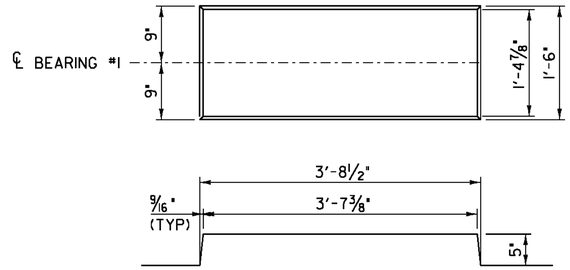
SECTION A-A

SCALE 1" = 1'-0



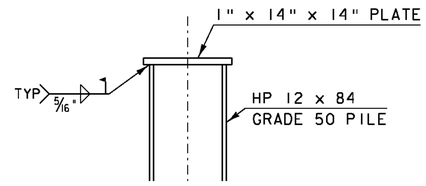
SECTION B-B

SCALE 1/2" = 1'-0



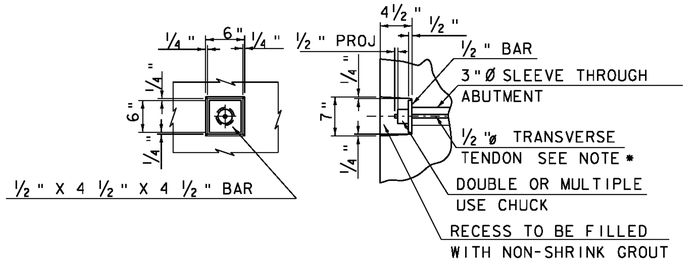
KEEPER BLOCK DETAIL

SCALE 1" = 1'-0



PILE PLATES (TYP)

SCALE 1" = 1'-0"



1/2 "Ø TRANSVERSE TENDON DETAIL

(NOT TO SCALE)

*TRANSVERSE TIES SHALL BE COVERED BY SEAMLESS POLYPROPYLENE SHEATH (WITH CORROSION INHIBITER GREASE BETWEEN SHEATH AND STRAND) FOR THE LENGTH OF STRAND, EXCEPT AT ANCHORAGE LOCATIONS.

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

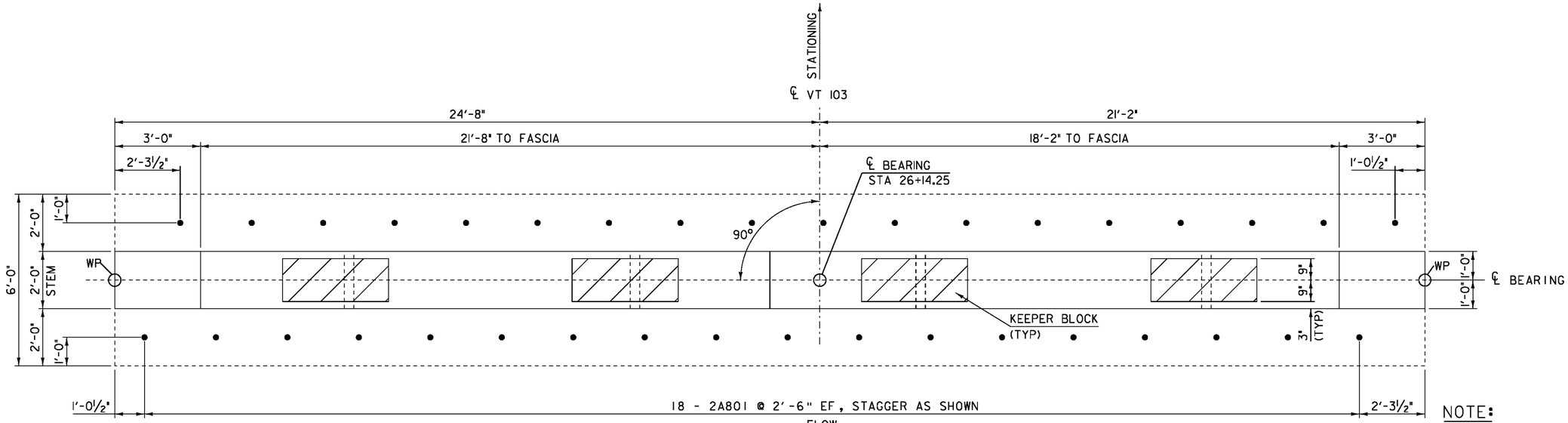
SCALE 1/2" = 1'-0"
0 1 2

SCALE 1" = 1'-0"
1 9 6 3 0 1 2

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(28)

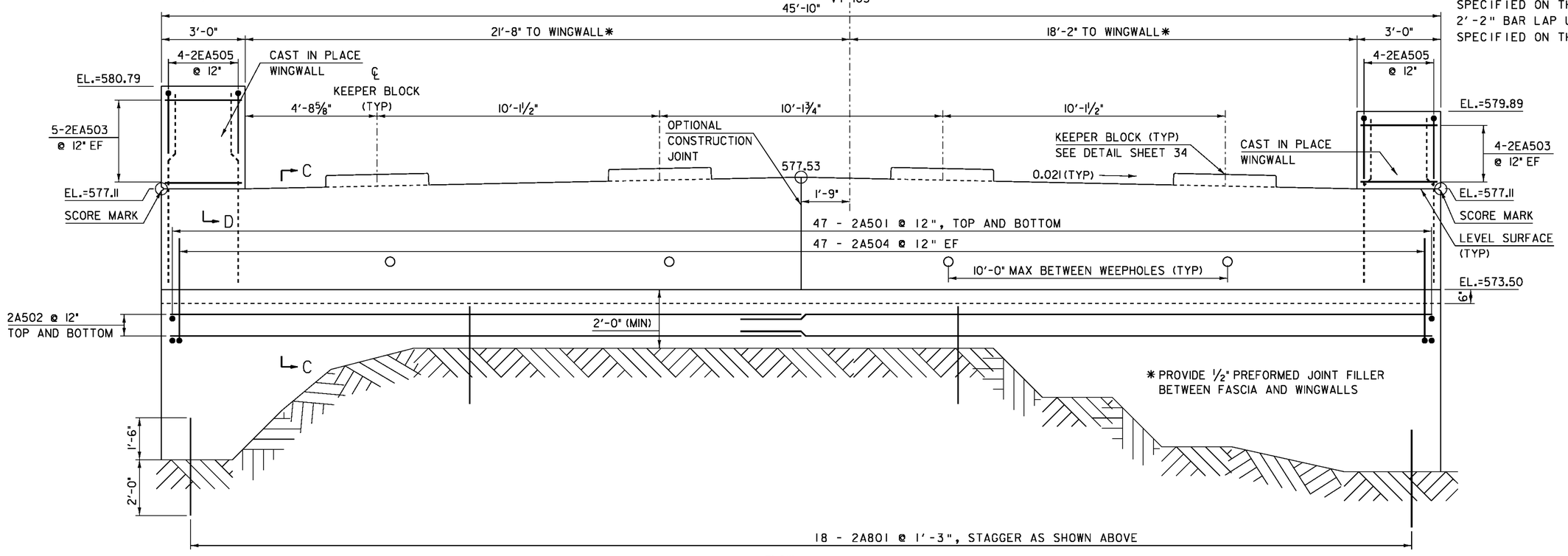
FILE NAME: 84e061/str/sub.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 8 ABUTMENT 1 SECTIONS

PLOT DATE: 20-SEP-2010
DRAWN BY: M.FESSEL
CHECKED BY: R.S.YOUNG
SHEET 34 OF 124



ABUTMENT 2 PLAN VIEW

SCALE ½" = 1'-0



ABUTMENT 2 ELEVATION VIEW

SCALE ½" = 1'-0

SEE SHEET 36
FOR SECTIONS "C-C" & "D-D"

NOTE:

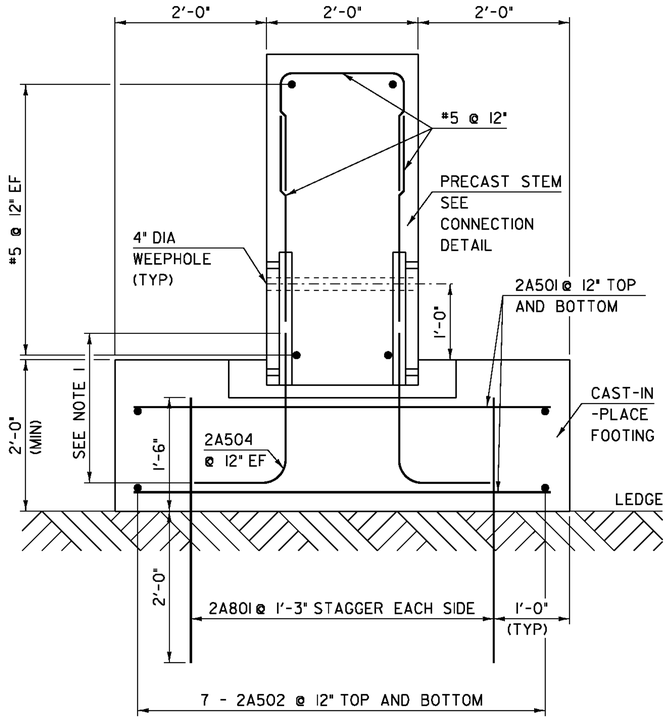
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SCALE ½" = 1'-0"
0 1 2

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(28)

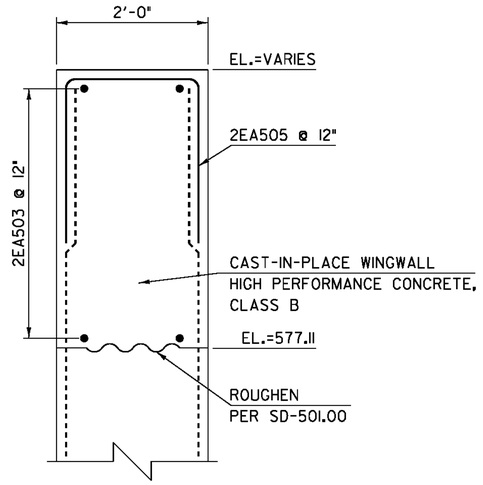
FILE NAME: 84e061/Str/sub.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 8 ABUTMENT 2 DETAILS

PLOT DATE: 20-SEP-2010
DRAWN BY: M.FESSEL
CHECKED BY: R.S.YOUNG
SHEET 35 OF 124



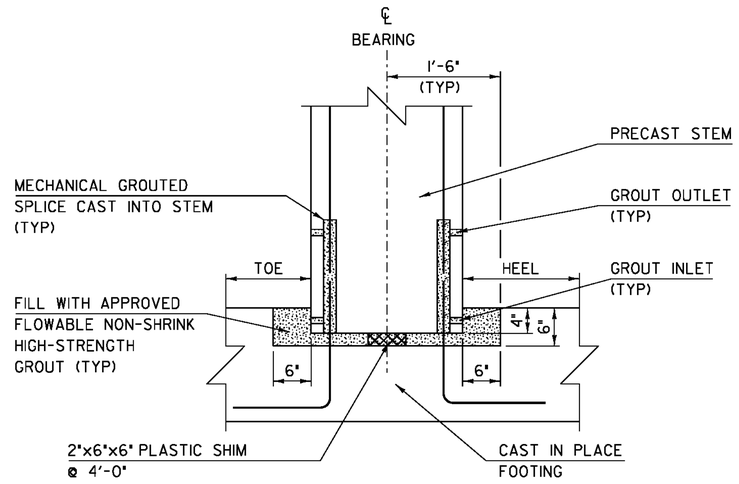
SECTION C-C

SCALE 1" = 1'-0



SECTION D-D

SCALE 1" = 1'-0



CONNECTION DETAIL

SCALE 1" = 1'-0

NOTES:

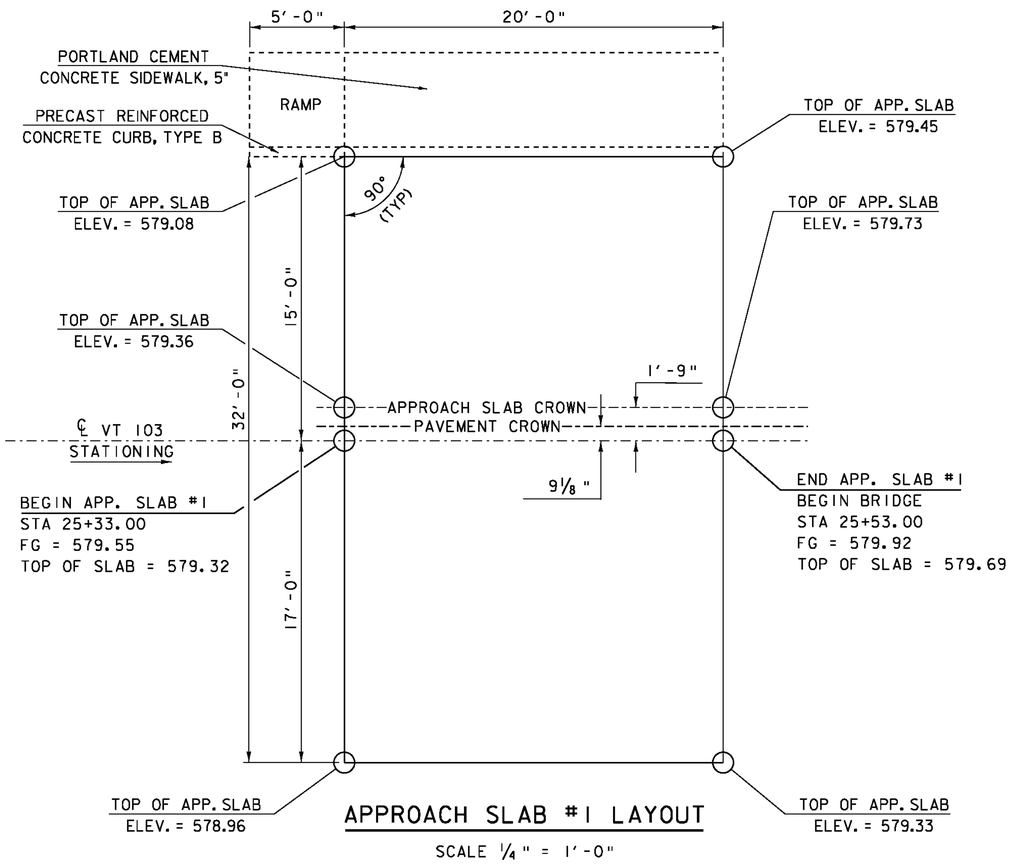
1. LEG LENGTH SHALL MEET THE REQUIREMENTS OF THE MECHANICAL GROUTED CONNECTION, 3'-0" LEG IS PROVIDED FOR ESTIMATING PURPOSES.
2. DURING FABRICATION OF THE PRECAST STEM A TEMPLATE SHALL BE CREATED BY THE STEM FABRICATOR TO LOCATE THE MECHANICAL GROUT CONNECTORS. THE TEMPLATE SHALL BE USED FOR FIELD PLACEMENT OF THE VERTICAL FOOTING REINFORCEMENT TO BE INCERTED INTO THE MECHANICAL GROUT CONNECTORS.
3. THE CONNECTION FROM THE PRECAST STEM TO THE FOOTING SHALL BE INCLUDED IN THE FABRICATION DRAWINGS. THE MECHANICAL GROUTED CONNECTION SHALL MEET THE REQUIREMENTS OF ASTM 1034 AND SHALL HAVE A YEILD STRENGTH OF 125% OF THE REINFORCING STEEL YIELD STRENGTH .
4. SEE GENERAL NOTES FOR ADDITIONAL FABRICATION, CONSTRUCTION,AND SEQUENCE NOTES.
5. REINFORCING FOR THE PRECAST STEM SHALL BE EPOXY COATED ACCORDING TO SUBSECTION 713.07.
6. THE NUMBER OF DOWELS TO BE DRILLED AND GROUTED WAS DETERMINED ASSUMING THE BEDROCK TO BE SMOOTH AND AT AN INCLINE OF 45 DEGREES. THE NUMBER OF DOWELS MAY BE REDUCED WITH APPROVAL OF THE PROJECT MANAGER ONCE BEDROCK IS EXPOSED AND THE ACTUAL SURFACE ROUGHNESS AND PROFILE IS DETERMINED.

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

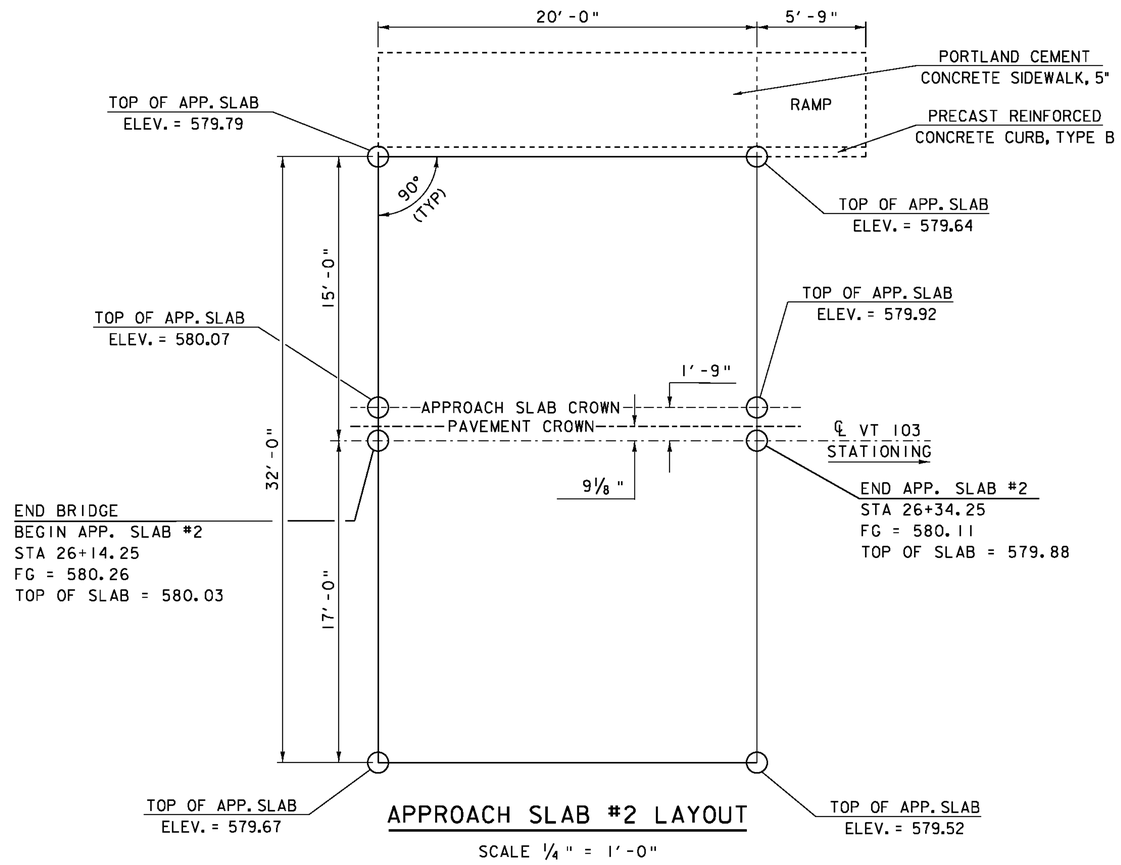
SCALE 1" = 1'-0"
1 9 6 3 0 1 2

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(28)	
FILE NAME: 84e061/str/sub.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 8 ABUTMENT 2 SECTIONS	SHEET 36 OF 124



APPROACH SLAB #1 LAYOUT

SCALE ¼" = 1'-0"

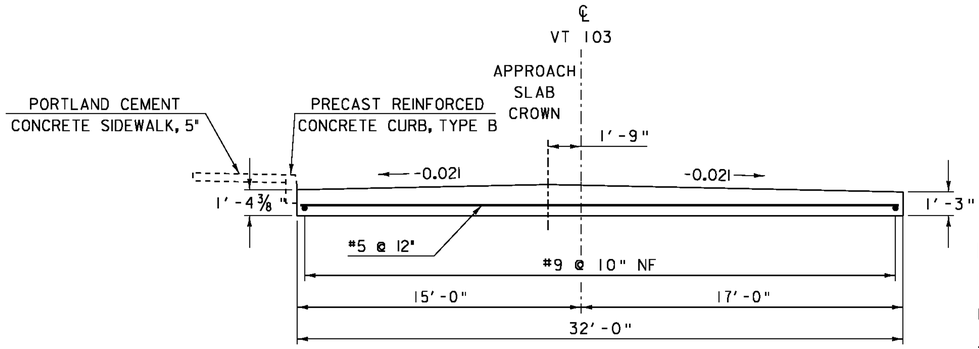


APPROACH SLAB #2 LAYOUT

SCALE ¼" = 1'-0"

NOTES:

1. THE APPROACH SLABS SHALL BE THE SUPER-SLAB SYSTEM FOR FORT MILLER.
2. THE CONNECTION DETAIL TO THE APPROACH SLAB BRACKET SHALL BE COORDINATED BETWEEN PRECAST FABRICATORS. THE DETAILS SHALL BE SHOWN ON THE FABRICATION DRAWINGS.
3. THE LOCATION OF CONSTRUCTION JOINTS NEEDED FOR SHIPMENT OF THE APPROACH SLABS SHALL BE DETERMINED BY THE FABRICATOR. THREE LONGITUDINAL JOINTS ARE ALLOWED AND SHALL BE DESIGNED TO PROVIDE ADAQUATE SHEAR RESISTANCE. THE CONNECTION DETAILS SHALL BE SHOWN ON THE FABRICATION DRAWINGS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING UNIFORM CONTACT BETWEEN THE APPROACH SLABS AND THE SUBBASE MATERIAL TO THE SATISFACTION OF THE ENGINEER. THE DRAWINGS SHALL INDICATE THE MEANS AND METHODS NECESSARY TO INSTALL THE APPROACH SLABS TO THE ELEVATIONS SPECIFIED.
5. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING APPROACH SLABS TO RESIST LIFTING STRESSES. INSTALLATION SEQUENCE AND LIFTING PLAN SHALL BE SHOWN ON THE CONSTRUCTION DRAWINGS. THE REINFORCING STEEL IN THE FINAL CONDITION SHALL BE SHOWM ON THE CONSTRUCTION DRAWING, INCLUDING THE REINFORCING STEEL FOR PICK POINTS AND TO ACCOMIDATE SHIPPING.
6. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
7. PAYMENT FOR THE APPROACH SLABS, ALL LABOR, TOOLS, AND MATERIALS NEEDED FOR PLACEMENT SHALL BE INCLUDED UNDER ITEM 900.620 "SPECIAL PROVISION (PRECAST APPROACH SLAB, SUPER-SLAB) (BRIDGE 8)".



APPROACH SLAB TYPICAL

SCALE ¼" = 1'-0"

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

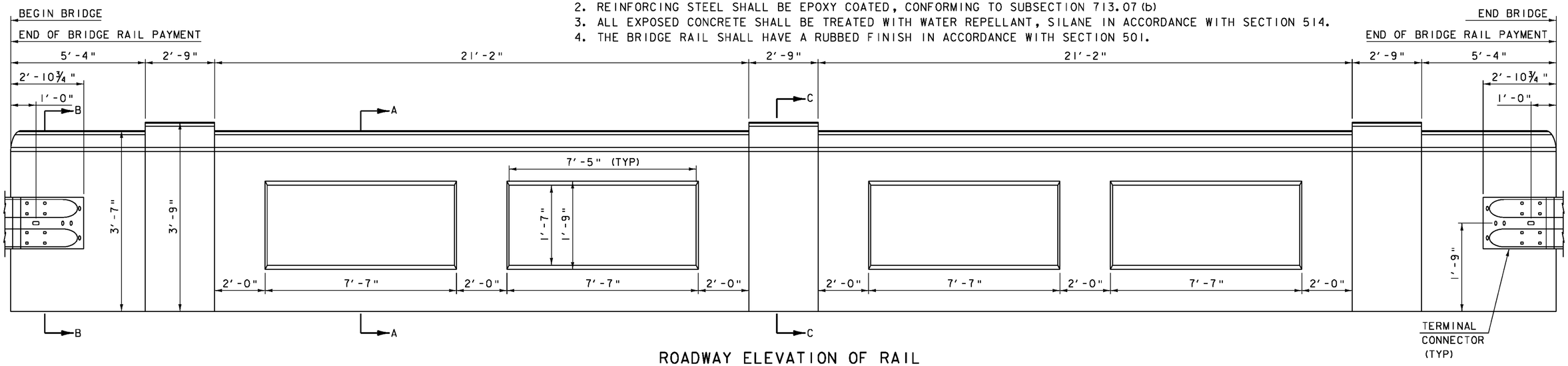
SCALE ¼" = 1'-0"
1 0 2 4 6

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(28)

FILE NAME: 84e061\s84e064slab.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
PLOT DATE: 20-SEP-2010
DRAWN BY: M.FESSEL
CHECKED BY: R.S.YOUNG

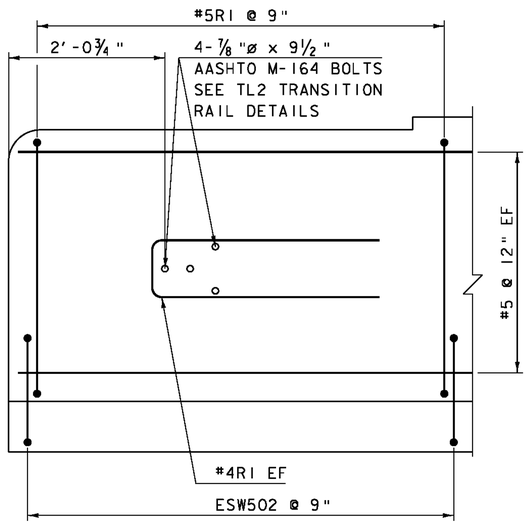
BRIDGE 8 PRECAST APPROACH SLAB DETAILS

NOTE: 1. BRIDGE RAIL SHALL BE PAID FOR UNDER ITEM 900.640 "SPECIAL PROVISION (BRIDGE RAILING, TEXAS)"
2. REINFORCING STEEL SHALL BE EPOXY COATED, CONFORMING TO SUBSECTION 713.07(b)
3. ALL EXPOSED CONCRETE SHALL BE TREATED WITH WATER REPELLANT, SILANE IN ACCORDANCE WITH SECTION 514.
4. THE BRIDGE RAIL SHALL HAVE A RUBBED FINISH IN ACCORDANCE WITH SECTION 501.



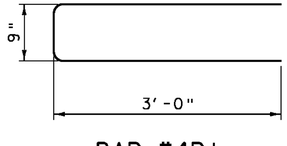
ROADWAY ELEVATION OF RAIL

SCALE: VERTICAL: 1" = 1'-0"
HORIZONTAL: ½" = 1'-0"



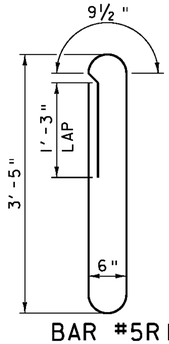
TYPICAL REINFORCING PLACEMENT

SCALE 1" = 1'-0"



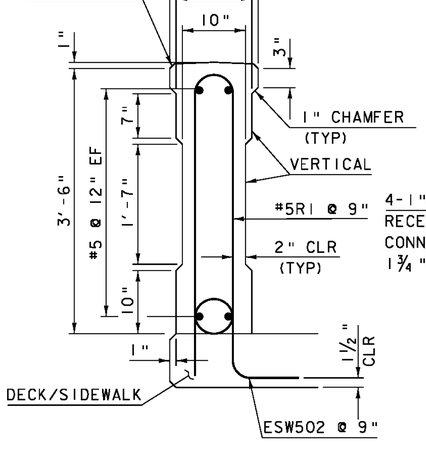
BAR #4R1

SCALE 1" = 1'-0"
8 - REQUIRED



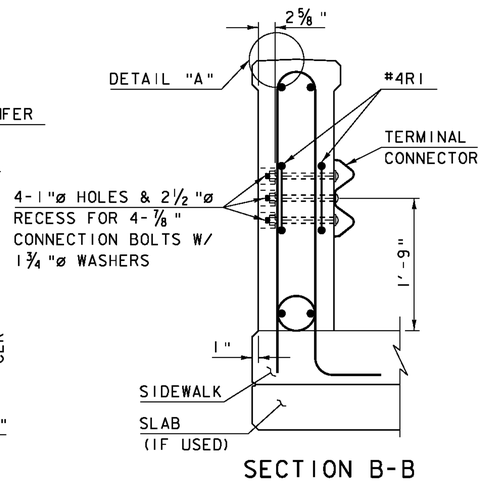
BAR #5R1

SCALE 1" = 1'-0"
164 - REQUIRED



SECTION A-A

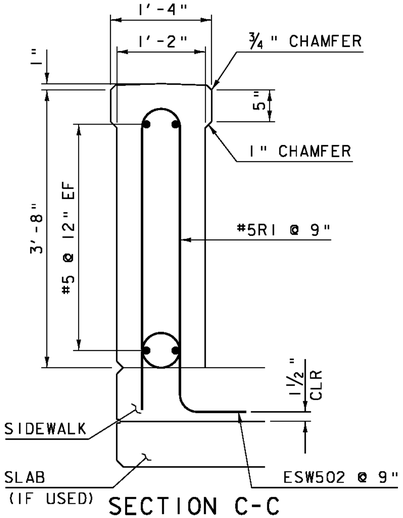
SCALE 1" = 1'-0"



SECTION B-B

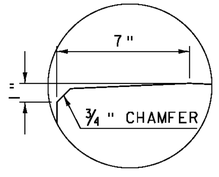
SCALE 1" = 1'-0"

HOLES AND RECESSES ARE TO BE FORMED OR CORED, PERCUSSION DRILLING IS NOT PERMITTED.



SECTION C-C

SCALE 1" = 1'-0"



DETAIL "A"

SCALE 3" = 1'-0"

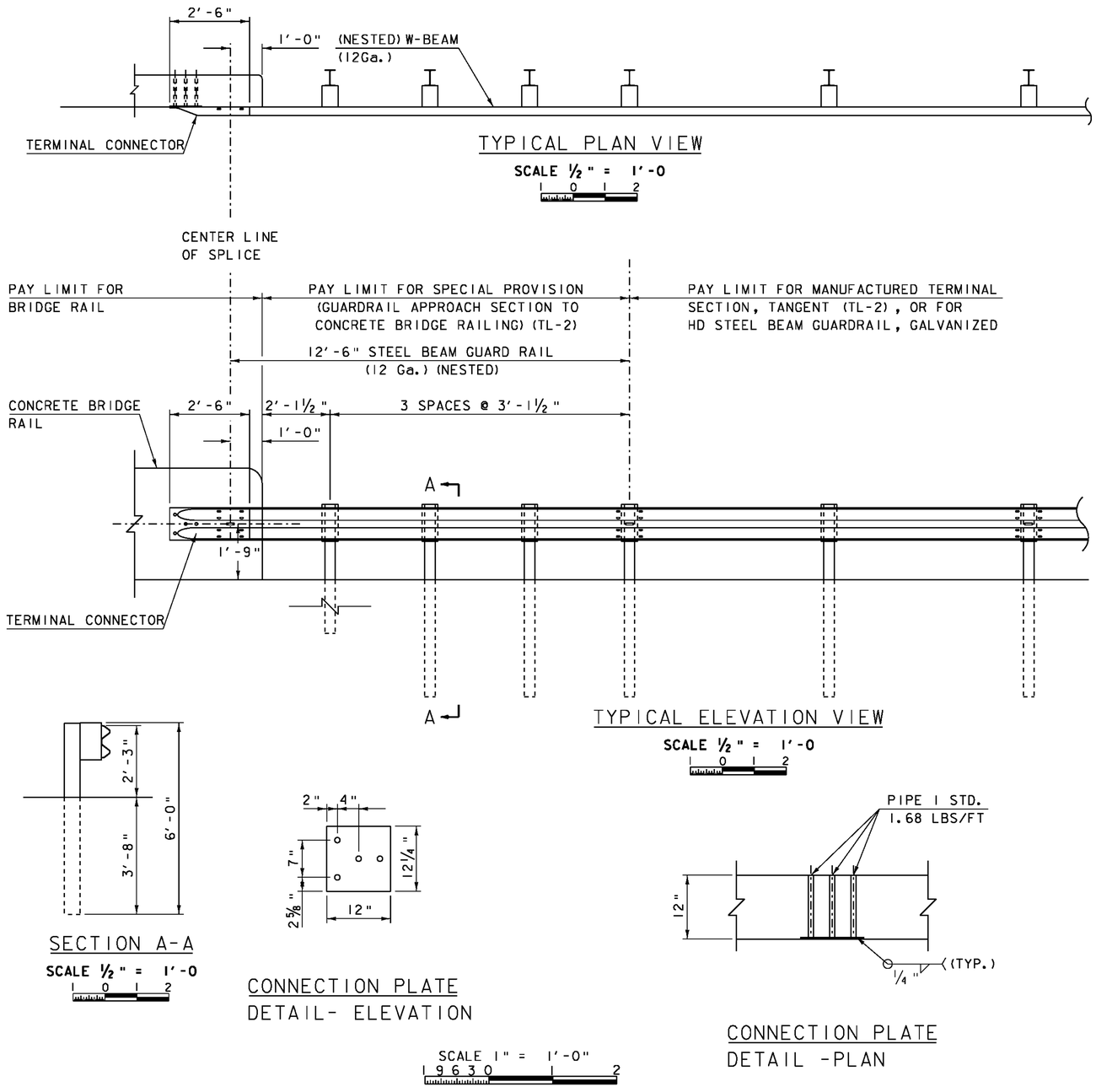
NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SCALE ½" = 1'-0"
0 1 2

SCALE 1" = 1'-0"
1 9 6 3 0 1 2

SCALE 3" = 1'-0"
1 9 6 3 0 1

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(28)	
FILE NAME: 84e061\s84e061rail.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: E.R.CHARBONNEAU
BRIDGE 8 BRIDGE RAIL DETAIL	SHEET 38 OF 124



TYPICAL PLAN VIEW

SCALE ½" = 1'-0

TYPICAL ELEVATION VIEW

SCALE ½" = 1'-0

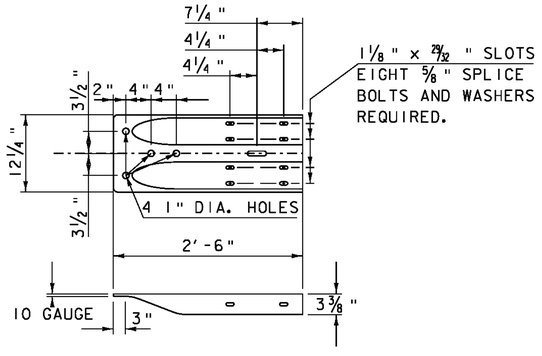
SECTION A-A

SCALE ½" = 1'-0

CONNECTION PLATE
DETAIL- ELEVATION

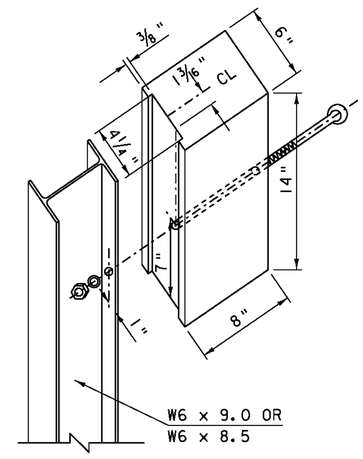
CONNECTION PLATE
DETAIL -PLAN

SCALE 1" = 1'-0"



TERMINAL CONNECTOR

SCALE 1" = 1'-0"



BLOCKOUT TO
POST DETAIL

NTS

SCALE ½" = 1'-0

GENERAL NOTES

1. A COMPOSITE MATERIAL POST AND/OR BLOCKOUT FROM THE APPROVED PRODUCTS LIST MAY BE SUBSTITUTED FOR A POST AND/OR BLOCKOUT OF SIMILAR DIMENSIONS.
2. REFER TO STANDARD DRAWINGS G-1 AND G-1D FOR ADDITIONAL DETAILS.
3. THE TERMINAL CONNECTOR SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.620 "SPECIAL PROVISION (GUARDRAIL APPROACH SECTION TO CONCRETE BRIDGE RAILING) (TL-2)". THE CONNECTION PLATE SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.640 "SPECIAL PROVISION (BRIDGE RAILING, TEXAS)".
4. ON THE SIDEWALK SIDE OF THE BRIDGE THE APPROACH RAIL HEIGHT SHALL TRANSITION FROM 2'-3" REFERENCED FROM THE SIDEWALK TO 2'-3" REFERENCED FROM GRADE IN 37'-6".

THE USE OF THIS RAILING IS RESTRICTED TO DESIGN SPEEDS OF 45 MPH OR LESS.

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(28)
FILE NAME: s84e061rail.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
TL-2 TRANSITION RAIL DETAILS	SHEET 39 OF 124

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	SIGN DIMENSIONS WIDTH (in)	SIGN DIMENSIONS HEIGHT (in)	NEW & SALVAGED SIGNS "A"	NEW & SALVAGED SIGNS "B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	FLANGED CHANNEL lb/ft 2.0	FLANGED CHANNEL lb/ft 3.0	SQUARE STEEL (in) 1.75 (1.88 lb/ft)	SQUARE STEEL (in) 2.0 (2.42 lb/ft)	SQUARE STEEL (in) 2.5 (3.35 lb/ft)	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) 3.0 (1.3 lb/ft)	TUBULAR ALUMINUM Ø (in) 4.0 (1.7 lb/ft)	TUBULAR ALUMINUM Ø (in) 4.0 MOD (1.7 lb/ft)	FOUNDATION	TUBULAR STEEL Ø (in) 3.0 (7.6 lb/ft)	TUBULAR STEEL Ø (in) 3.5 (9.0 lb/ft)	TUBULAR STEEL Ø (in) 4.0 (10.8 lb/ft)	TUBULAR STEEL Ø (in) 5.0 (14.6 lb/ft)	W-SHAPE STEEL FTG. SIZE 24"	W-SHAPE STEEL FTG. SIZE 30"	W-SHAPE STEEL WEIGHT	W-SHAPE STEEL POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL: DETAIL ON SHEET NUMBER	SIGN DETAIL: STD. SHEET NUMBER
												OPTION ITEMS																							
25+49 RT	BRIDGE NO.8 VT 103	1	6	8	0.33						1		X																				VD-701		E-134
26+19 LT	BRIDGE NO.8 VT 103	1	6	8	0.33						1		X																				VD-701		E-134
											2	FT	FT 16	FT	FT	FT	FT		EA	LB	LB	LB		LB	LB	LB	LB								
TOTALS					SF 0.66	SF	EA.	SF				FT 20			FT					LB			EA.	LB				EA.	EA.	LB					

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(28)

FILE NAME: s84e061/Str/tss.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 8 TRAFFIC SIGN SUMMARY

PLOT DATE: 20-SEP-2010
DRAWN BY: M.FESSEL
CHECKED BY: R.S.YOUNG

STATE OF VERMONT
AGENCY OF TRANSPORTATION

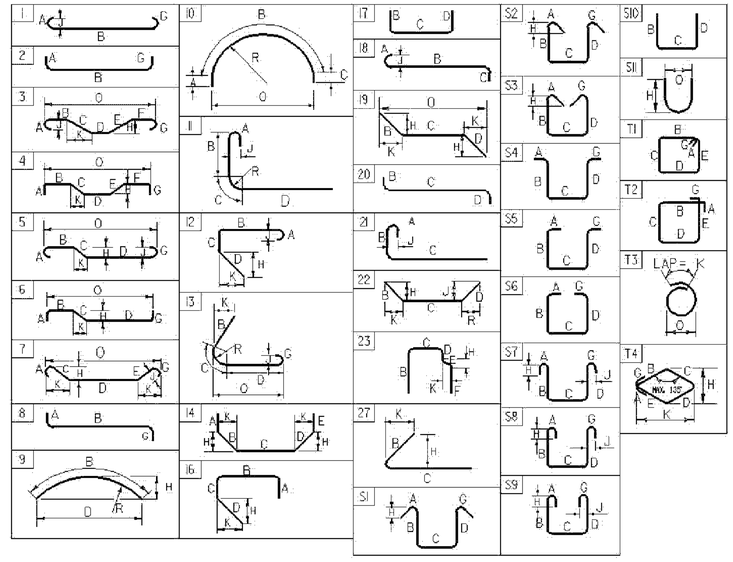
REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	ABUTMENT #1																
✳	19	5	2'- 6"	1EA501	STR												
✳	9	5	7'- 4"	1EA502	S10		2'- 2"	3'- 0"	2'- 2"								
	ABUTMENT #2																
✳	95	5	5'- 6"	2A501	STR												
✳	29	5	23'- 9"	2A502	STR												
	18	5	2'- 6"	2EA503	STR												
	94	5	4'- 6"	2A504	17		1'- 6"	3'- 0"	---								
	8	5	5'- 10"	2EA505	S10		2'- 2"	1'- 6"	2'- 2"								
△	38	8	3'- 6"	2A801	STR												
	SIDEWALK																
△	20	5	31'- 6"	ESW501	STR												
	82	5	3'- 10"	ESW502	S7	0'- 10"	1'- 1"	0'- 10"	---			---	1'- 1"	0'- 6"			

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-SI). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS 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. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION DIAMETER INCHES	AREA INCHES ^{2}	PERIMETER INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.044	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(28)

FILE NAME: s84e061excel.dgn
PROJECT MANAGER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 8 REINFORCING STEEL SCHEDULE

PLOT DATE: 9/15/2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 41 OF 124

CONSRUCT 5' PAVED APRON
STA 24+98 RT - 12' WIDTH

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 25+11 LT - 25+61 LT
STA 26+06 LT - 26+57 LT
STA 25+23 RT - 25+61 RT
STA 26+07 RT - 26+45 RT

REMOVE GRAVEL BAR
STA 10+41 RT - 10+61 RT

SPECIAL PROVISION (GUARDRAIL APPROACH SECTION TO CONCRETE BRIDGE RAILING) (TL-2)
STA 25+41.50 LT - 25+53.00 LT
STA 26+14.25 LT - 26+25.75 LT
STA 25+41.50 RT - 25+53.00 RT
STA 26+14.25 RT - 26+25.75 RT

REMOVING SIGNS
STA 22+56 RT
STA 25+59 LT
STA 25+59 RT
STA 25+61 RT
STA 26+07 LT
STA 26+07 RT
STA 26+13 LT

TRAFFIC SIGNS, TYPE A
STA 25+49 RT
STA 26+19 LT

ADJUST ELEVATION OF VALVE BOX
STA 26+31 RT

REMOVING LARGE TREES
STA 25+55 LT

TRIM TREES
STA 26+06 LT

4" WHITE LINE
STA 24+50.00 LT - 27+00.00 LT
STA 24+50.00 RT - 27+00.00 RT

4" YELLOW LINE
STA 24+50.00 - 27+00.00 (CL DOUBLE)

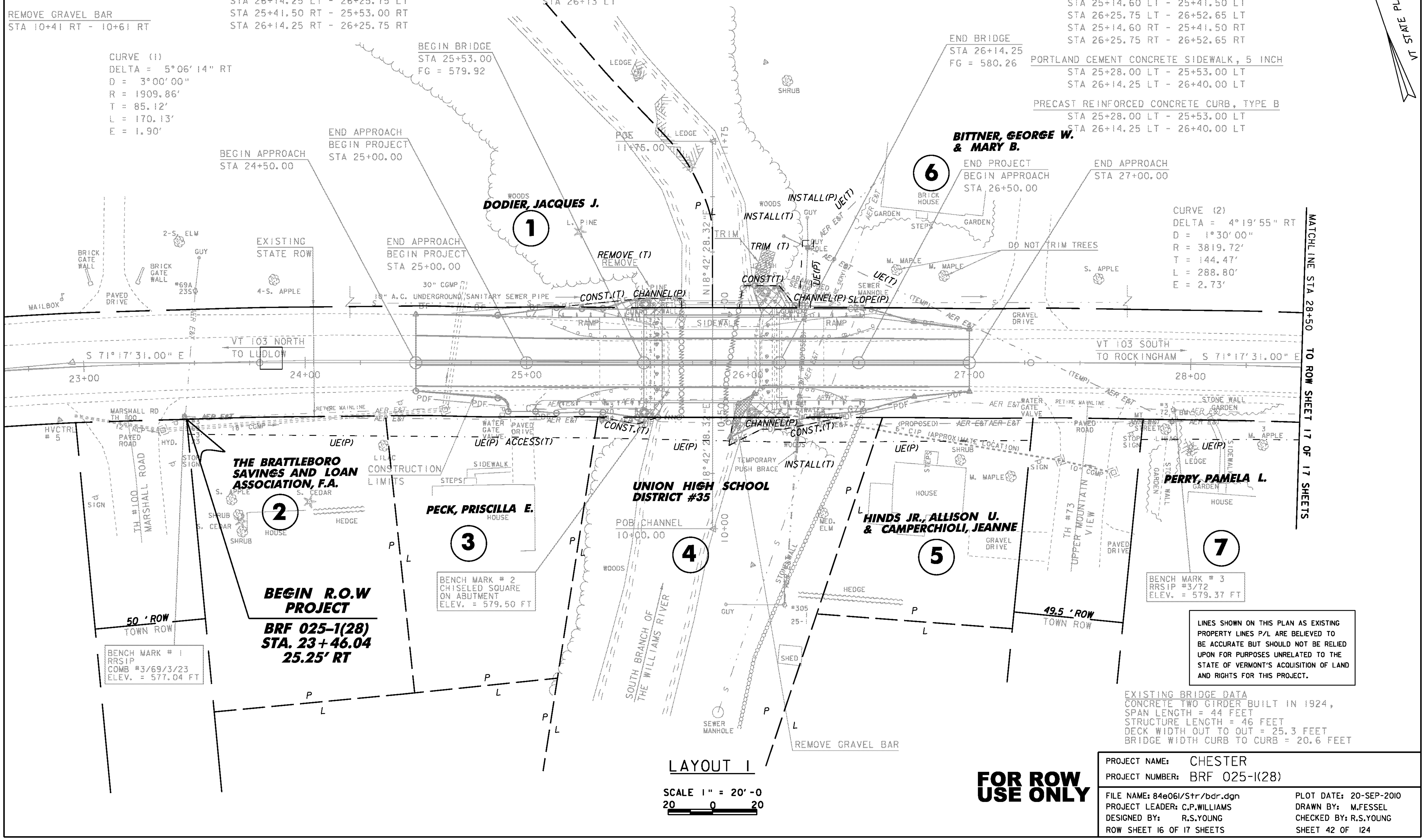
MANUFACTURED TERMINAL SECTION, TANGENT (TL-2)
STA 25+14.60 LT - 25+41.50 LT
STA 26+25.75 LT - 26+52.65 LT
STA 25+14.60 RT - 25+41.50 RT
STA 26+25.75 RT - 26+52.65 RT

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
STA 25+28.00 LT - 25+53.00 LT
STA 26+14.25 LT - 26+40.00 LT

PRECAST REINFORCED CONCRETE CURB, TYPE B
STA 25+28.00 LT - 25+53.00 LT
STA 26+14.25 LT - 26+40.00 LT

CURVE (1)
DELTA = 5°06'14" RT
D = 3°00'00"
R = 1909.86'
T = 85.12'
L = 170.13'
E = 1.90'

CURVE (2)
DELTA = 4°19'55" RT
D = 1°30'00"
R = 3819.72'
T = 144.47'
L = 288.80'
E = 2.73'

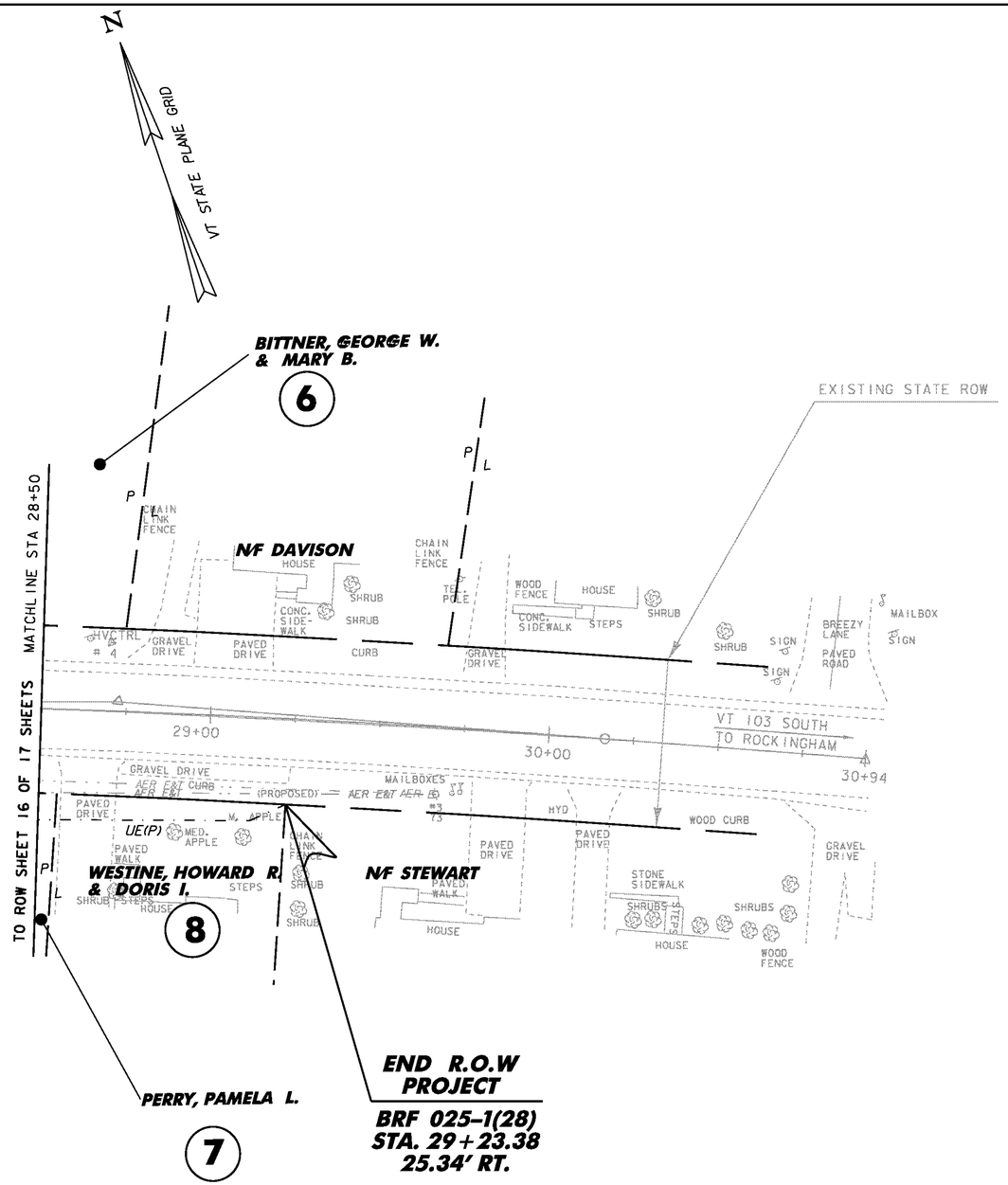


LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

EXISTING BRIDGE DATA
CONCRETE TWO GIRDER BUILT IN 1924,
SPAN LENGTH = 44 FEET
STRUCTURE LENGTH = 46 FEET
DECK WIDTH OUT TO OUT = 25.3 FEET
BRIDGE WIDTH CURB TO CURB = 20.6 FEET

FOR ROW USE ONLY

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(28)	
FILE NAME: 84e061/Str/bdr.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
ROW SHEET 16 OF 17 SHEETS	SHEET 42 OF 124



LAYOUT 2

SCALE 1" = 20'-0

20 0 20

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

FOR ROW USE ONLY

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(28)

FILE NAME: 84e061/Str/bdr.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
ROW SHEET 17 OF 17 SHEETS

PLOT DATE: 20-SEP-2010
DRAWN BY: M.FESSEL
CHECKED BY: R.S.YOUNG
SHEET 43 OF 124

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA					REMARKS
					AREA±	AREA±	TYPE	(T)/(P)	AREA ±	TITLE	DATE	TOWN / CITY	BOOK	PAGE	
1	DODIER, JACQUES J.	16	25+14.57 LT	25+69.98 LT			CONST.	(T)	73 SF						INCLUDES PDF & EC
			25+35.88 LT	25+61.25 LT			CHANNEL	(P)	83 SF						
			25+55.22 LT				REMOVE	(T)							TREE (PINE)
2	THE BRATTLEBORO SAVINGS AND LOAN ASSOCIATION, F.A.	16	23+46.04 RT	24+37.25 RT			UTILITY	(P)	716 SF	QCD	05/13/10	CHESTER	100	130-132	
3	PECK, PRISCILLA E.	16	24+36.37 RT	25+32.21 RT			UTILITY	(P)	883 SF	WD	03/19/10	CHESTER	100	79-80	
			24+98.00 RT				ACCESS	(T)							ACCESS THRU BARRICADES
4	UNION HIGH SCHOOL DISTRICT #35 (GREEN MOUNTIAN UNION HIGH SCHOOL)	16	25+30.74 RT	26+60.74 RT			UTILITY	(P)	1,308 SF	WD	06/04/10	CHESTER	100	194-196	
			25+32.22 RT	25+59.25 RT			CONST.	(T)	41 SF						INCLUDES PDF & EC
			25+91.39 RT	26+42.41 RT			CONST.	(T)	136 SF						
			25+92.00 RT	26+27.56 RT			CHANNEL	(P)	97 SF						
			26+23.00 RT				INSTALL	(T)	41 SF						PUSH BRACE, (UTILITY)
5	HINDS, JR., ALLISON U. & CAMPERCHIOLI, JEANNE	16	26+56.98 RT	27+28.87 RT.			UTILITY	(P)	734 SF	WD	04/08/10	CHESTER	100	104-105	
6	BITTNER, GEORGE W. & MARY B.	16, 17	25+96.00 LT	26+05.46 LT			CONST.	(T)	71 SF	WD	03/19/10	CHESTER	100	81-83	INCLUDES PDF & EC
			26+03.23 LT	26+17.63 LT			CHANNEL	(P)	111 SF						
			26+07.00 LT				TRIM	(T)							TREES
			26+11.30 LT	26+53.47 LT			SLOPE	(P)	46 SF						INCLUDES PDF & EC
			26+15.66 LT				INSTALL	(T)							GUY WIRE & ANCHOR
			26+23.14 LT	26+29.72 LT			UTILITY	(P)	153 SF						
			26+26.84 LT				INSTALL	(P)							GUY WIRE & ANCHOR
			26+27.00 LT	26+61.63 LT			UTILITY	(T)							AERIAL WIRE
			26+27.00 LT	26+84.39 LT			UTILITY	(T)							"DO NOT TRIM" TREES, AERIAL WIRE
7	PERRY, PAMELA L.	16, 17	27+77.99 RT	28+55.39 RT			UTILITY	(P)	644 SF						
8	WESTINE, HOWARD R. & DORIS I.	17	28+55.14 RT	29+23.37 RT			UTILITY	(P)	398 SF	WD	03/19/10	CHESTER	100	84-85	
9	TOWN OF CHESTER		23+46.04 RT	29+23.38 RT											UTILITY
10	CENTRAL VERMONT PUBLIC SERVICE CORPORATION		23+46.04 RT	29+23.38 RT											UTILITY
11	COMCAST OF CONNECTICUT, ETC LLC		23+46.04 RT	29+23.38 RT											UTILITY
12	TELEPHONE OPERATING COMPANY OF VERMONT LLC		23+46.04 RT	29+23.38 RT											UTILITY

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE
1	15,16	PARCEL NO. 3 PECK. REMOVE KATHLEEN PECK-TRAVERSE AS AN OWNER. PER C.O. 9580.	12/08/09
		MADE BY: MR APPROVED BY: HP	
		ELECTRONIC PDFS TO STRUCTURES	08/30/10

PLAN LEGEND

- EXISTING RIGHT-OF-WAY
- TAKING WITH ACCESS
- TAKING WITHOUT ACCESS
- CLEAR ZONE (CZ)
- PROPERTY LINE (P/L)
- TOE OF SLOPE
- TOP OF CUT
- SLOPE RIGHT (SR (P))
- CONSTRUCTION RIGHT (CONST. (T))
- PROJECT DEMARCATION FENCE (PDF)

EC -EROSION CONTROL
(P) -PERMANENT
(T) -TEMPORARY
DR. -DRAINAGE RIGHT
DIT. -DITCHING RIGHT
CH. -CHANNEL RIGHT
DRIVE -DRIVE RIGHT
CUL. -CULVERT RIGHT
C&T -CLEARING & TRIMMING RIGHT
SR -SLOPE RIGHT
UE -UTILITY EASEMENT

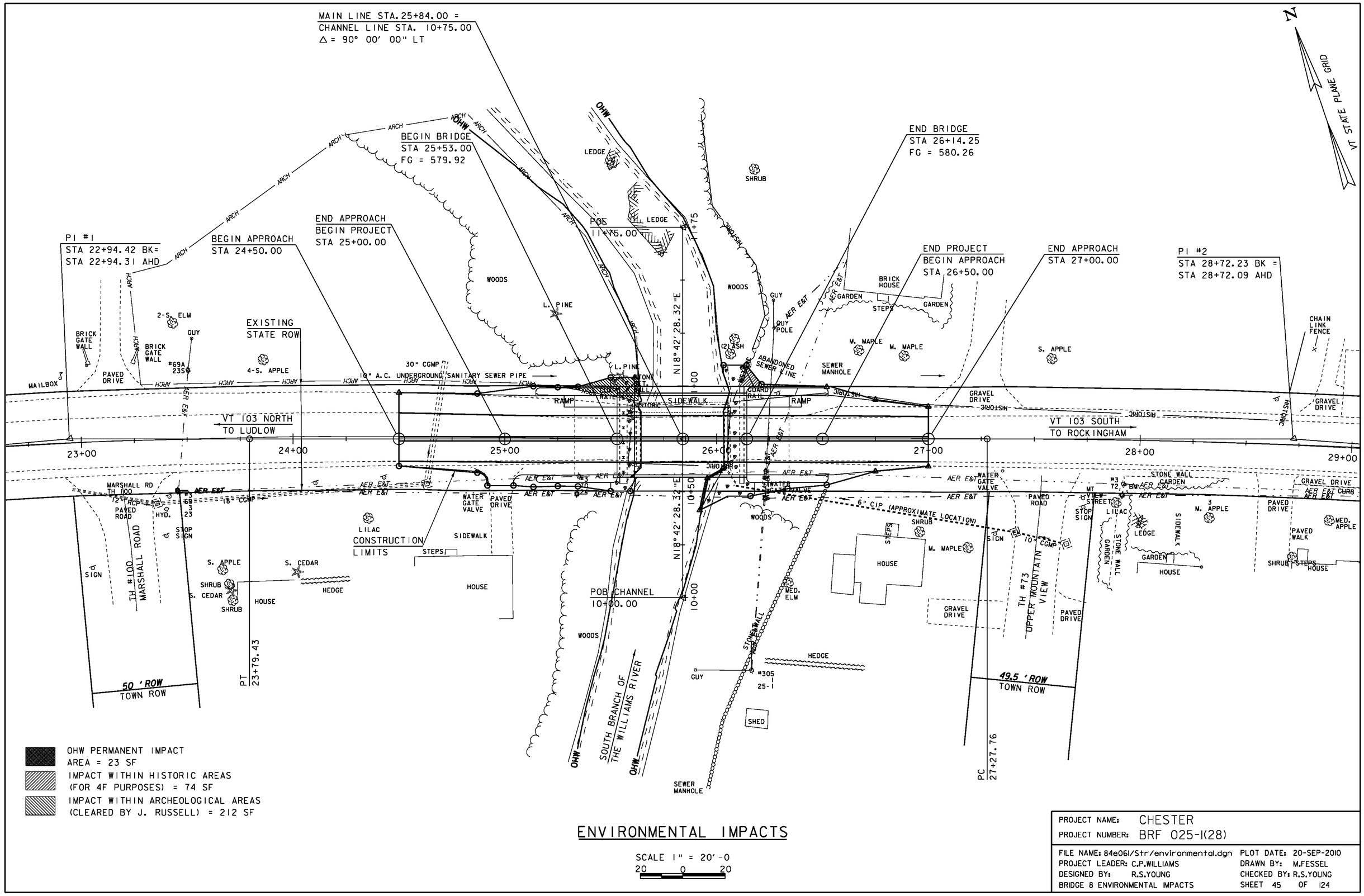
PLOT DATE 08/30/10

APPROVED: HARRY PETROVS DATE: 11-12-09
CHIEF, PLANS & TITLES

PROJECT NAME: **CHESTER**
PROJECT NUMBER: **BRF 025-1(28)**

FILE NAME: **r84e061detail.xls**
PROJECT LEADER: **C. WILLIAMS**
DESIGNED BY: **R. YOUNG**
ROW SHEET 15 OF 17

PLOT DATE:
DRAWN BY: **MT**
CHECKED BY: **JB**
SHEET **44** OF **124**



ENVIRONMENTAL IMPACTS

SCALE 1" = 20'-0

20 0 20

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(28)
FILE NAME: 84e061/Str/environmental.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 8 ENVIRONMENTAL IMPACTS	SHEET 45 OF 124

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REMOVAL AND REPLACEMENT OF BRIDGE 8, LOCATED ON VT 103 IN CHESTER, WINDSOR COUNTY, VERMONT .THE NEW BRIDGE WILL BE A PRECAST CONCRETE GIRDER CONSTRUCTION, SPANNING 56 FEET OVER THE SOUTH BRANCH OF THE WILLIAMS RIVER. THE WORK WILL ALSO INCLUDE RELATED APPROACH AND CHANNEL WORK. THE ROAD WILL BE CLOSED DURING CONSTRUCTION. TRAFFIC WILL BE REROUTED WITH A REGIONAL DETOUR-SEE PLANS.

NOTE: AREA OF DISTURBANCE SHALL INCLUDE LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, INCLUDING ANY WASTE, STAGING AND BORROW AREAS WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.23 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE PROJECT SITE IS LOCATED WITHIN A RURAL VILLAGE SETTING WITH MULTIPLE HOUSES AND BUILDINGS IN CLOSE PROXIMITY TO ONE ANOTHER. THERE ARE OVERHEAD UTILITIES WHICH WILL BE RELOCATED PRIOR TO CONSTRUCTION.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

THE SOUTH BRANCH OF THE WILLIAMS RIVER IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE RIVER IS CLASSIFIED AS SINUOUS, SLIGHTLY INCISED, WITH A WIDE FLOODPLAIN. THE STREAM BED CONSISTS OF MOSTLY COBBLES WITH SOME GRAVEL. THE TRIBUTARY AREA AT THE BRIDGE CROSSING IS 11.0 SQUARE MILES. THERE ARE A NUMBER OF DROP INLETS ON SITE DRAINING FROM THE ROADWAY TO THE RIVER.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF HARDWOOD TREES, BRUSH AND GRASS. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS AFFECTED BY REMOVAL AND REPLACEMENT OF BRIDGE # 8. UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE III AS SPECIFIED ON THE PLANS. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF WINDSOR, VERMONT. SOIL ON THE PROJECT SITE IS URBAN LAND-COLTON-CROGHAN COMPLEX, 0% TO 8% SLOPES, "K FACTOR" = 0.24/0.17.
NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING: 0.0-0.23 = LOW EROSION POTENTIAL; 0.24-0.36 = MODERATE EROSION POTENTIAL: 0.37 AND HIGHER = HIGH EROSION POTENTIAL

1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: YES - THE BRIDGE IS HISTORICAL ALONG WITH SOME PROPERTY ON THE NORTHEAST SIDE OF THE BRIDGE. THERE ARE ARCHEOLOGICAL AREAS ON THE NORTHWEST SIDE OF THE BRIDGE WHICH ARE TO BE AVOIDED DURING CONSTRUCTION.
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: SOUTH BRANCH WILLIAMS RIVER
WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION PRACTICES. THEY HAVE BEEN PROPOSED BY THE DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFIC MEANS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS THAT CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED. PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES. BARRIER FENCE (BF) SHALL BE USED TO DELINEATE THE AREA OF HISTORICAL AND ARCHEOLOGICAL SIGNIFIGANCE

1.4.2 LIMIT DISTURBANCE AREA

PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE. FOR PROJECTS WHICH FALL UNDER THE CONSTRUCTION GENERAL PERMIT, ONLY THE ACREAGE LISTED ON THE PERMIT AUTHORIZATION MAY BE EXPOSED AT ANY GIVEN TIME.
MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

PHASING PLAN

1.4.3 SITE ENTRANCE/EXIT STABILIZATION

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MNIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTORS PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES. LOCATIONS TO BE DETERMINED BY THE CONTRACTOR.

1.4.4 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK.

SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN

FILTER CURTAIN WILL INSTALLED AS PROPOSED ON THE EPSC PLAN.

1.4.5 DIVERT UPLAND RUNOFF

DIVERSIONARY MEASURES SHALL BE USED TO INTERCEPT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIRECT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDIED WHILE TRAVELING OVER EXPOSED SOILS ON THE CONSTRUCITON SITE.

THE PROJECT AREA IS RELATIVELY FLAT. THEREFORE IT IS NOT ANTICIPATED THAT DIVERSION MEASURES WILL BE NECESSARY.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSIVE POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

STONE CHECK DAMS ARE NOT ANTICIPATED FOR THIS PROJECT.

1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH PERMIT CONDITIONS.

UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE III AS SPECIFIED ON THE PLANS.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE OR IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT 3-9020 AUTHORIZATION.

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

1.4.10 STABILIZE SOIL AT FINAL GRADE

EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

1.4.11 DE-WATERING ACTIVITIES

DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

THE USE OF COFFERDAMS IS NOT ANTICIPATED.

1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR CONSTRUCTION GENERAL PERMIT AUTHORIZATION STIPULATIONS.

1.5 SEQUENCE AND STAGING

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

1.5.1 CONSTRUCTION SEQUENCE

1.5.2 OFF-SITE ACTIVITIES

IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SUBSECTIONS 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

1.5.3 UPDATES

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(28)
FILE NAME: s84e06epscnarrative.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 8 EPSC NARRATIVE	SHEET 46 OF 124

LEGEND

- AER E&T — AERIAL ELECTRIC & TELEPHONE
- ARCH — ARCHEOLOGICAL AREA
- HISTORIC — HISTORIC AREA
- P / L — PROPERTY LINE
- RIPARIAN BUFFER
- S — SANITARY SEWER PIPE

N

VT STATE PLANE GRID

RIPARIAN BUFFER

RIPARIAN BUFFER

LEDGE

LEDGE

SHRUB

WOODS

WOODS

WOODS

L. PINE

L. PINE

GUY

GUY POLE

ASH

BRICK HOUSE

GARDEN

STEPS

GARDEN

M. MAPLE

M. MAPLE

S. APPLE

CHAIN LINK FENCE

BRICK GATE WALL

BRICK GATE WALL

2-S. ELM

GUY

#69A 23S

EXISTING STATE ROW

4-S. APPLE

MAILBOX

PAVED DRIVE

30" CGMP

10" A.C. UNDERGROUND SANITARY SEWER PIPE

STONE WALL

GUARD RAIL

GUARD RAIL

ABANDONED SEWER LINE

SEWER MANHOLE

GRAVEL DRIVE

HVCTRL #4

GRAVEL DRIVE

VT 103 NORTH TO LUDLOW

VT 103 SOUTH TO ROCKINGHAM

23+00 24+00 25+00 26+00 27+00 28+00 29+00

MARSHALL RD TH 100

HVCTRL # 5

PAVED ROAD

#3 72 RCP

#3 23 HYD.

18" CGMP

#3 70 24

#3 25

WATER GATE VALVE

PAVED DRIVE

WATER GATE VALVE

6" CIP (APPROX. MATE LOCATION)

PAVED ROAD

MT VIEW STREET

#3 72 RCP

STONE WALL

GARDEN

GRAVEL DRIVE

AER E&T CURB

STOP SIGN

LILAC

3 M. APPLE

PAVED DRIVE

MED. APPLE

SIDEWALK

STEPS

PAVED WALK

SHRUB

STEPS

HOUSE

SIGN

TH #100 MARSHALL ROAD

S. APPLE

S. CEDAR

SHRUB

S. CEDAR

SHRUB

HOUSE

HEDGE

HOUSE

SIDEWALK

STEPS

HOUSE

SHRUB

M. MAPLE

SIGN

10" CGMP

TH #73 UPPER MOUNTAIN VIEW

LILAC

LEDGE

GARDEN

STONE WALL

GARDEN

HOUSE

BENCH MARK # 1
RRSIP
COMB #3/69/3/23
ELEV. = 577.04 FT

50 ' ROW
TOWN ROW

BENCH MARK # 2
CHISELED SQUARE
ON ABUTMENT
ELEV. = 579.50 FT

SOUTH BRANCH OF THE WILLIAMS RIVER

WOODS

MED. ELM

STONE WALL

GUY

#305 25-

HEDGE

SHED

SEWER MANHOLE

GRAVEL DRIVE

49.5 ' ROW
TOWN ROW

BENCH MARK # 3
RRSIP #3/72
ELEV. = 579.37 FT

EXISTING BRIDGE DATA
CONCRETE TWO GIRDER BUILT IN 1924,
SPAN LENGTH = 44 FEET
STRUCTURE LENGTH = 46 FEET
DECK WIDTH OUT TO OUT = 25.3 FEET
BRIDGE WIDTH CURB TO CURB = 20.6 FEET

SCALE 1" = 20'-0
20 0 20

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(28)
FILE NAME: s84e06lbdr_ero.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 8 EXISTING CONDITIONS SITE PLAN	SHEET 47 OF 124

LEGEND

EROSION MATTING

PDF PROJECT DEMARCATION FENCE

BF BARRIER FENCE

RIPARIAN BUFFER

SILT FENCE

FILTER CURTAIN

N

VT STATE PLANE GRID

RIPARIAN BUFFER

RIPARIAN BUFFER

POE
11+75.00

11+75

N18° 42' 28.32"E

10+00

AER E&T

(TEMP) AER E&T

(PROPOSED) AER E&T

CONSTRUCTION LIMITS

TEMPORARY PUSH BRACE

POB CHANNEL
10+00.00

50 ' ROW

49.5 ' ROW

23+00 24+00 25+00 26+00 27+00 28+00 29+00

SCALE 1" = 20'-0
20 0 20

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(28)	
FILE NAME: s84e06lbdr_ero.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 8 CONSTRUCTION SITE PLAN	SHEET 48 OF 124

LEGEND

RIPARIAN BUFFER ZONE

EROSION MATTING

SEED AND MULCH

N

VT STATE PLANE GRID

RIPARIAN BUFFER

RIPARIAN BUFFER

AER E&T

RAMP

SIDEWALK

RAMP

23+00

24+00

25+00

26+00

27+00

28+00

29+00

AER E&T

AER E&T

AER E&T

AER E&T

AER E&T

AER E&T

AER E&T

AER E&T

AER E&T

CONSTRUCTION LIMITS

SCALE 1" = 20'-0

20 0 20

PROJECT NAME: CHESTER

PROJECT NUMBER: BRF 025-1(28)

FILE NAME: s84e06lbdr_ero.dgn

PROJECT LEADER: C.P.WILLIAMS

DESIGNED BY: R.S.YOUNG

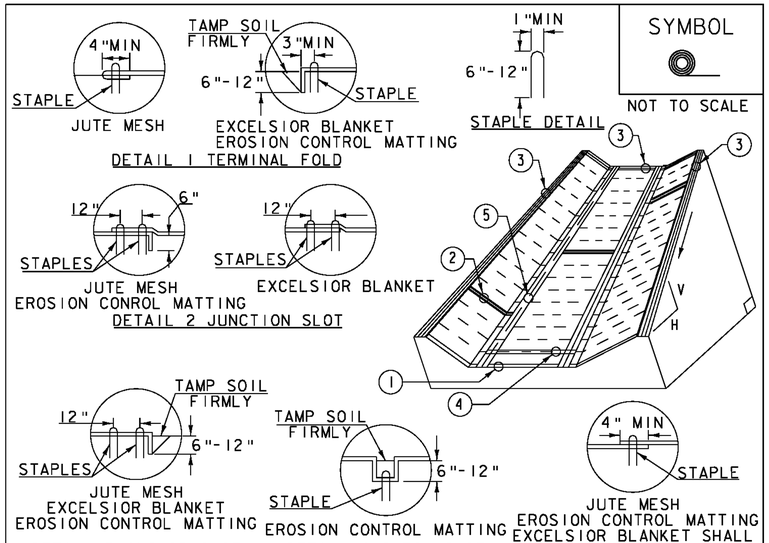
DRAWN BY: M.FESSEL

CHECKED BY: R.S.YOUNG

BRIDGE 8 FINAL CONDITIONS SITE PLAN

PLOT DATE: 20-SEP-2010

SHEET 49 OF 124



CONSTRUCTION SPECIFICATIONS

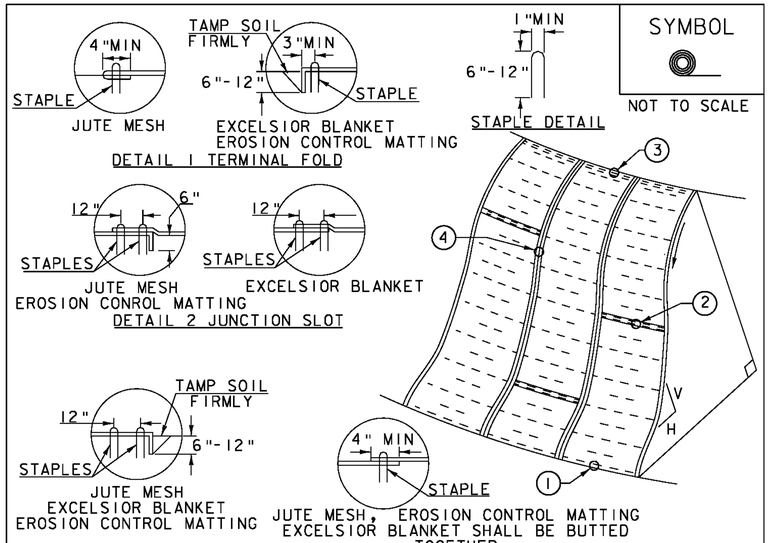
1. EROSION MATTING, CHECK SLOTS, SHALL BE SPACED IN DITCH CHANNEL SO THAT ONE OCCURS WITHIN EACH 50' ON SLOPES OF MORE THAN 4% AND LESS THAN 6%. ON SLOPES OF 6% OR MORE, THEY SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25'.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ROLLED EROSION CONTROL PRODUCT (RECP) DITCH

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) ~~OR PERMANENT EROSION MATTING (PAY ITEM 653.21).~~

REVISIONS		
MARCH 8, 2007		JMF
APRIL 16, 2007		WHF
JANUARY 13, 2009		WHF



CONSTRUCTION SPECIFICATIONS

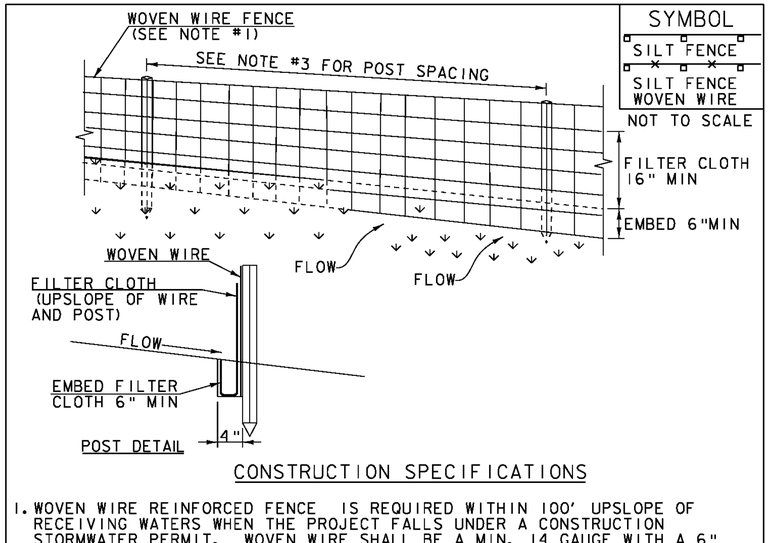
1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) ~~OR PERMANENT EROSION MATTING (PAY ITEM 653.21).~~

REVISIONS		
APRIL 16, 2007		JMF
JANUARY 13, 2009		WHF



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.51) ~~OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).~~

REVISIONS		
MARCH 21, 2008		WHF
DECEMBER 11, 2008		WHF
JANUARY 13, 2009		WHF

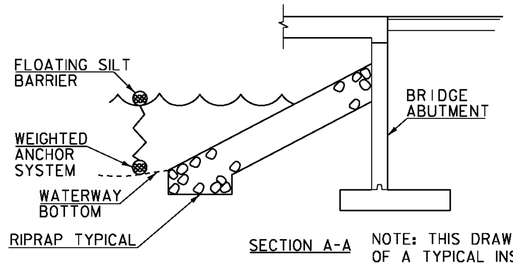
PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(28)

FILE NAME: s84e06erodetails.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 8 EROSION CONTROL DETAILS 1

PLOT DATE: 20-SEP-2010
DRAWN BY: M.FESSEL
CHECKED BY: R.S.YOUNG
SHEET 50 OF 124

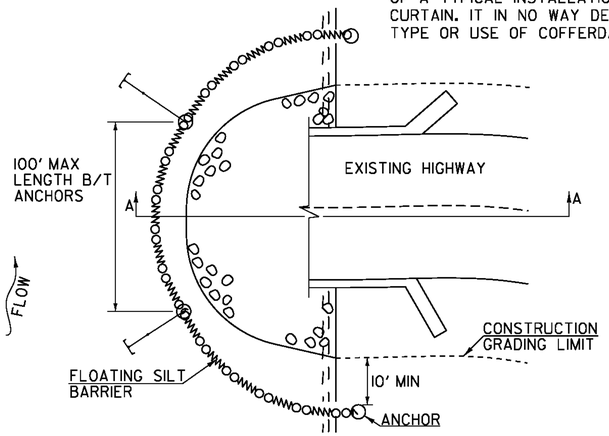
SYMBOL

NOT TO SCALE



SECTION A-A

NOTE: THIS DRAWING IS A DEPICTION OF A TYPICAL INSTALLATION OF FILTER CURTAIN. IT IN NO WAY DEFINES THE TYPE OR USE OF COFFERDAM IF USED.



CONSTRUCTION SPECIFICATIONS

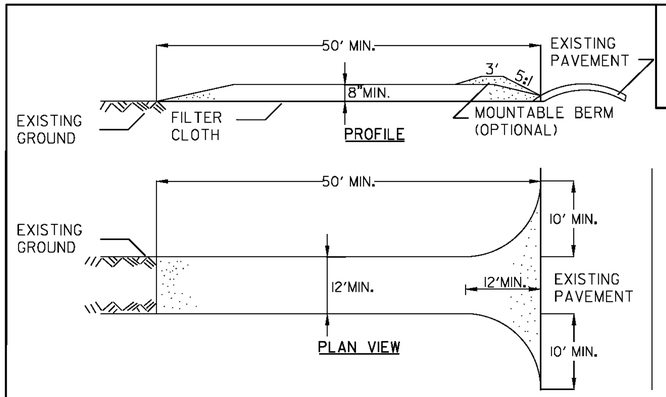
1. FILTER CURTAIN SHALL NOT BE PLACED ACROSS A FLOWING WATERWAY, OR IN A WATERWAY WITH STREAM VELOCITIES GREATER THAN 1.5 FEET/SECOND.
2. MAXIMUM 100' LENGTH BETWEEN ANCHORS.
3. LAST SECTION SHALL TERMINATE A MINIMUM OF 10' BEYOND LIMIT OF DISTURBANCE.
4. THE WEIGHTED ANCHOR SYSTEM SHALL BE A TYPE WHICH ALLOWS THE CURTAIN TO CONFORM TO THE BOTTOM OF THE WATERWAY.
5. THE CURTAIN SHALL BE REMOVED BY SLOWLY PULLING TOWARD THE SHORE MINIMIZING THE ESCAPE OF SEDIMENTS INTO WATERWAY.

FILTER CURTAIN

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 FOR GEOTEXTILE FOR FILTER CURTAIN (PAY ITEM 649.61).

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF
SEPTEMBER 4, 2009	WHF

SYMBOL



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 1-4" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH APPLIES).
3. THICKNESS - NOT LESS THAN EIGHT (8) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

STABILIZED CONSTRUCTION ENTRANCE

NOTES:
REFER TO 'THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- ' FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS ITEM SHALL BE PAID FOR UNDER ITEM 653.35 VEHICLE TRACKING PAD

REVISIONS	
FEBRUARY 9, 2007	WHF
MARCH 8, 2007	JMF

VAOT RURAL AREA MIX

LBS/AC					
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
37.5%	22.5	45	CREEPING RED FESCUE	85%	98%
37.5%	22.5	45	TALL FESCUE	90%	95%
5.0%	3	6	RED TOP	90%	95%
15.0%	9	18	BIRDSFOOT TREFOIL	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	85%	95%
100%	60	120			

VAOT URBAN AREA MIX

LBS/AC					
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
42.5%	34	68	CREEPING RED FESCUE	85%	98%
10.0%	8	16	PERENNIAL RYE GRASS	90%	95%
42.5%	34	68	KENTUCKY BLUE GRASS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	85%	95%
100%	80	160			

GENERAL GUIDANCE

FERTILIZER		LIME	
BROADCAST	HYDROSEED	BROADCAST	HYDROSEED
10-20-10	19-19-19	PELLETIZED	LIQUID
500 LBS/AC		2 TONS/AC	4.4 GAL/AC

CONSTRUCTION GUIDANCE

1. RURAL SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
2. URBAN SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LAWN AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
5. HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
6. TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
7. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED
8. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANSCAPE MAUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

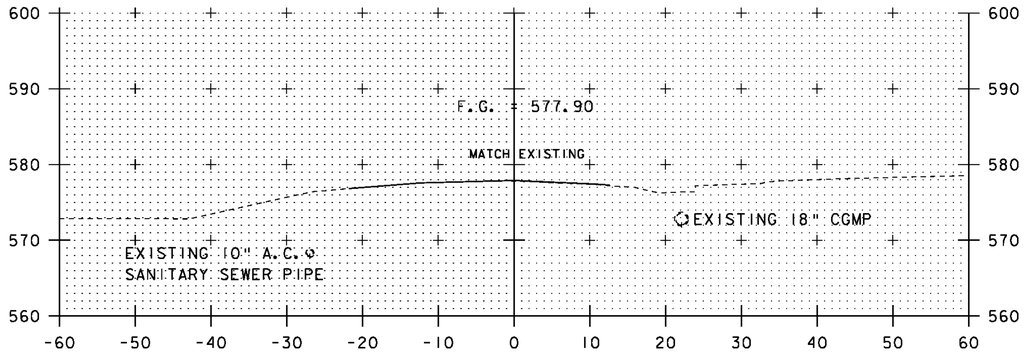
TURF ESTABLISHMENT

REVISIONS	
JUNE 23, 2009	WHF
JANUARY 15, 2010	WHF

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(28)

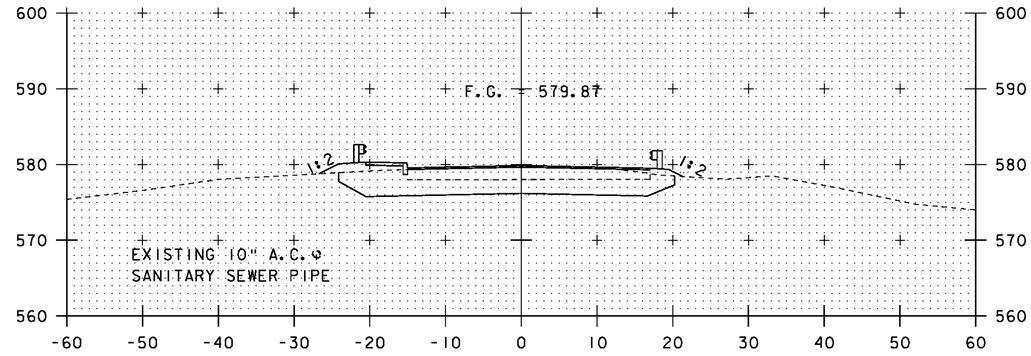
FILE NAME: s84e06lerodetails.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 8 EROSION CONTROL DETAILS 2

PLOT DATE: 20-SEP-2010
DRAWN BY: M.FESSEL
CHECKED BY: R.S.YOUNG
SHEET 51 OF 124



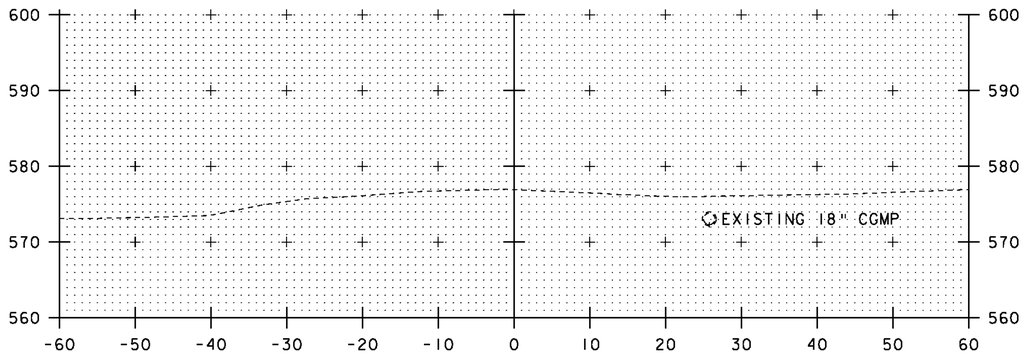
24+50

BEGIN APPROACH
STA 24+50.00

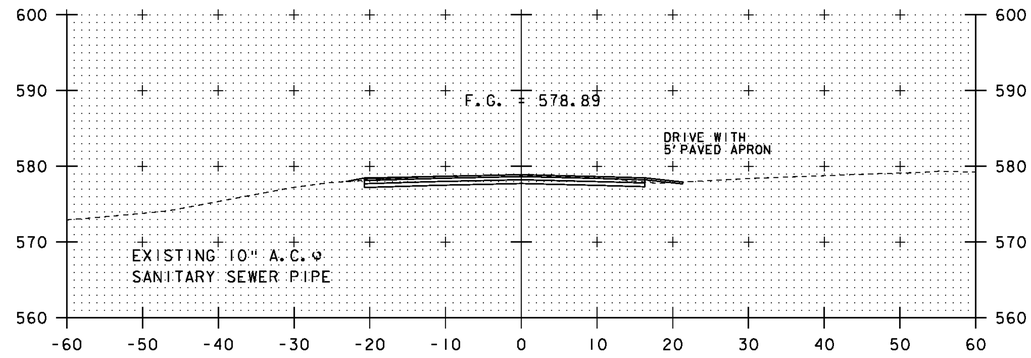


BEGIN BRIDGE
STA 25+53.00

25+50



24+00



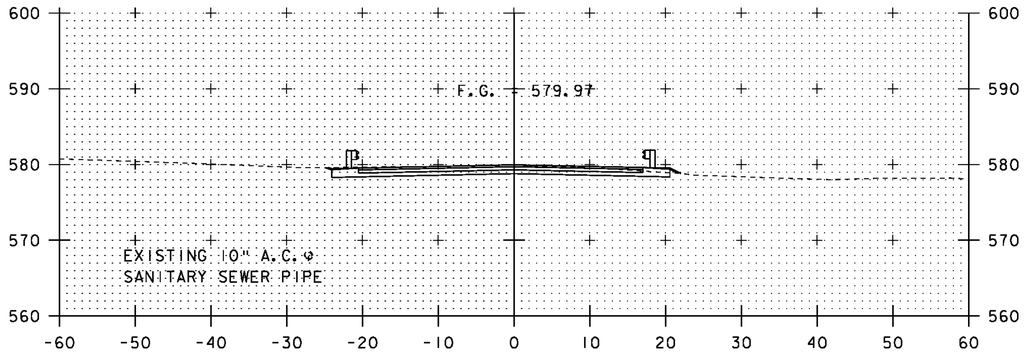
25+00

BEGIN PROJECT

STA. 24+00 TO STA. 25+50

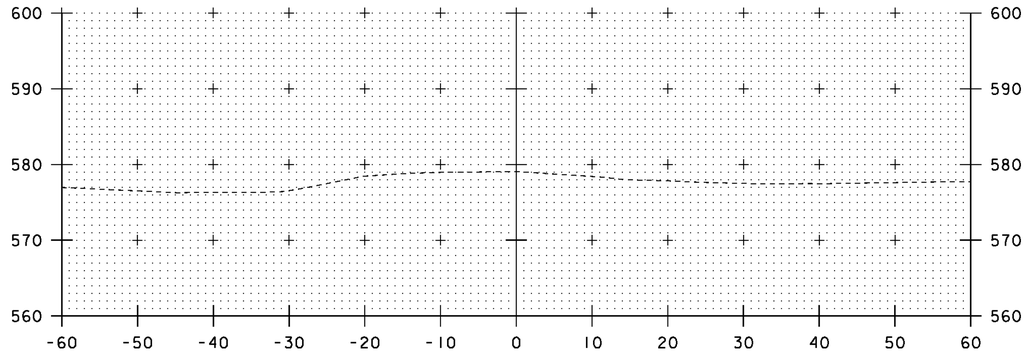
SCALE 1" = 10'-0
10 0 10

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(28)
FILE NAME: s84e061/Str/xsl.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE & MAINLINE CROSS SECTIONS 1	SHEET 52 OF 124



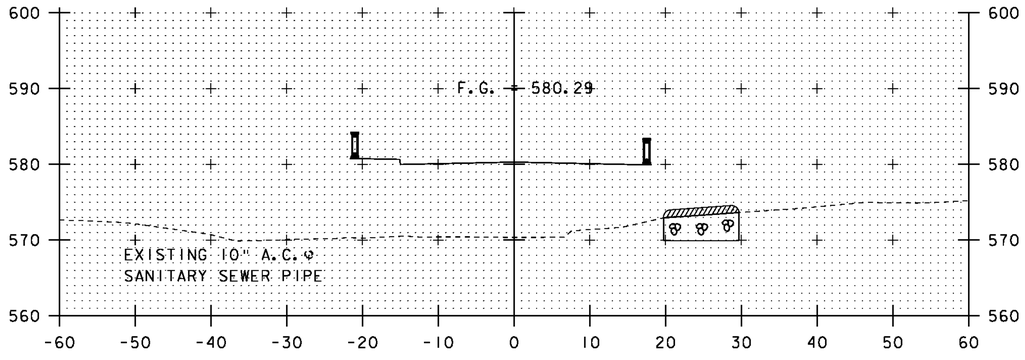
26+50

END PROJECT
STA 26+50.00

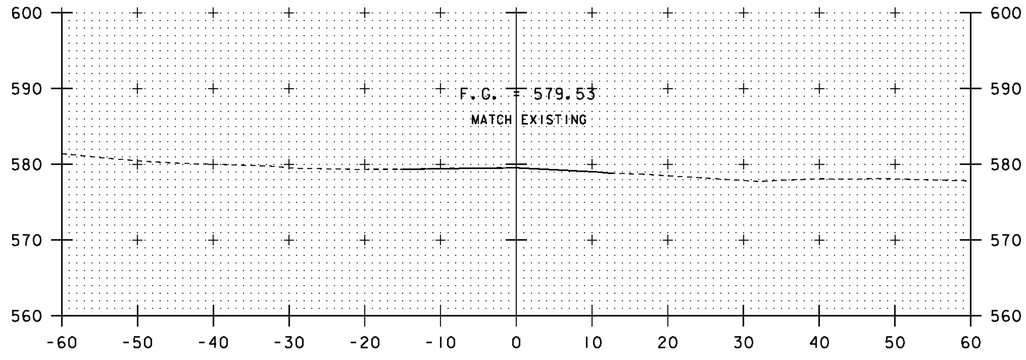


27+50

END BRIDGE
STA 26+14.25



26+00



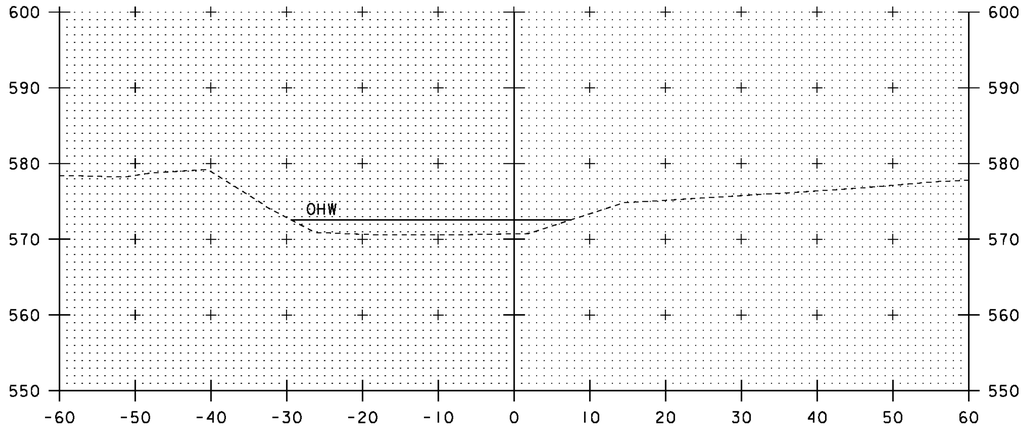
27+00

END APPROACH
STA 27+00.00

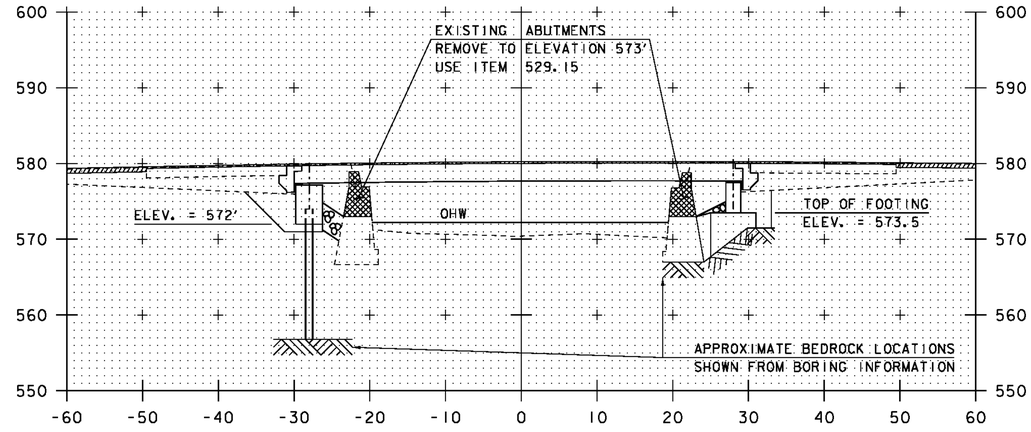
STA. 26+00 TO STA. 27+50

SCALE 1" = 10'-0
10 0 10

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(28)
FILE NAME: s84e061/Str/xsl.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 8 MAINLINE CROSS SECTIONS 2	SHEET 53 OF 124



10+25

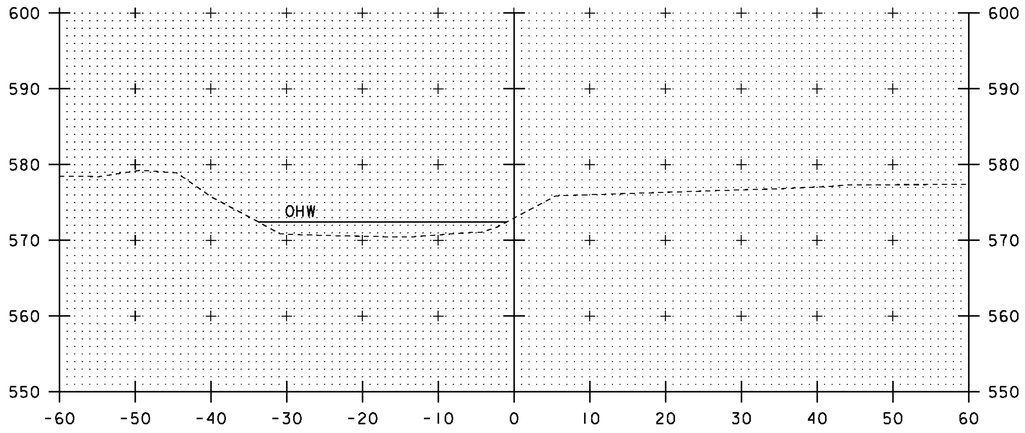


10+75

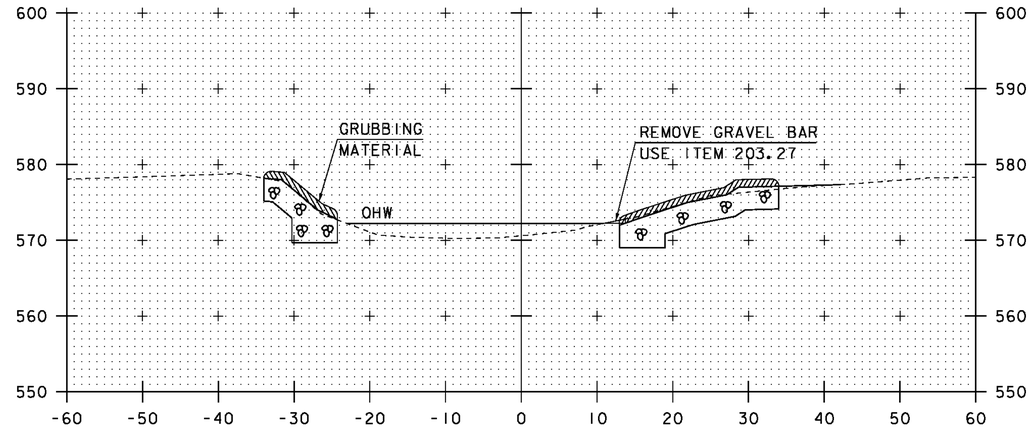
BEGIN STONE FILL, TYPE III
GEOTEXTILE UNDER STONE FILL
GRUBBING MATERIAL
UNCLASSIFIED CHANNEL EXCAVATION
STA 10+50.35 LT

END GRUBBING MATERIAL
STA 10+57.00 LT AND RT

END REMOVAL OF GRAVEL BAR
STA 10+61.00 RT



10+00



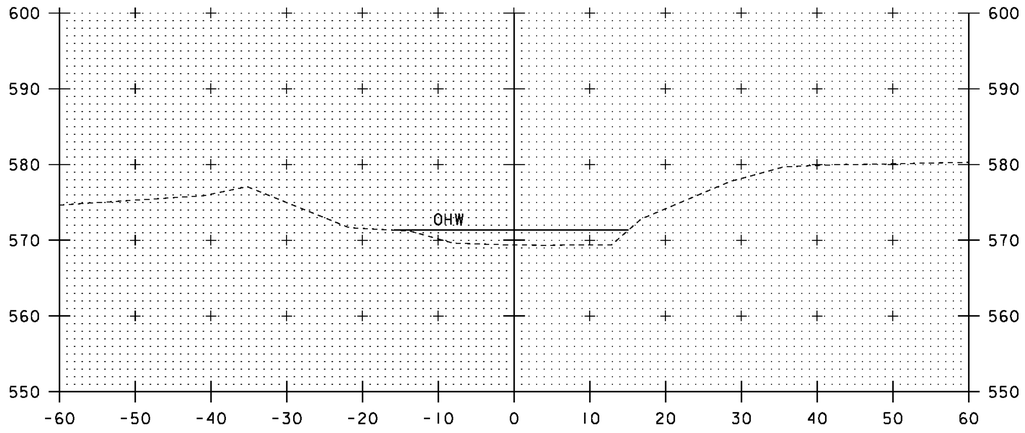
10+50

BEGIN REMOVAL OF GRAVEL BAR
STONE FILL, TYPE III
GEOTEXTILE UNDER STONE FILL
GRUBBING MATERIAL
STA 10+41.30 RT
UNCLASSIFIED CHANNEL EXCAVATION
STA 10+48.00 RT

STA. 10+00 TO STA. 10+75

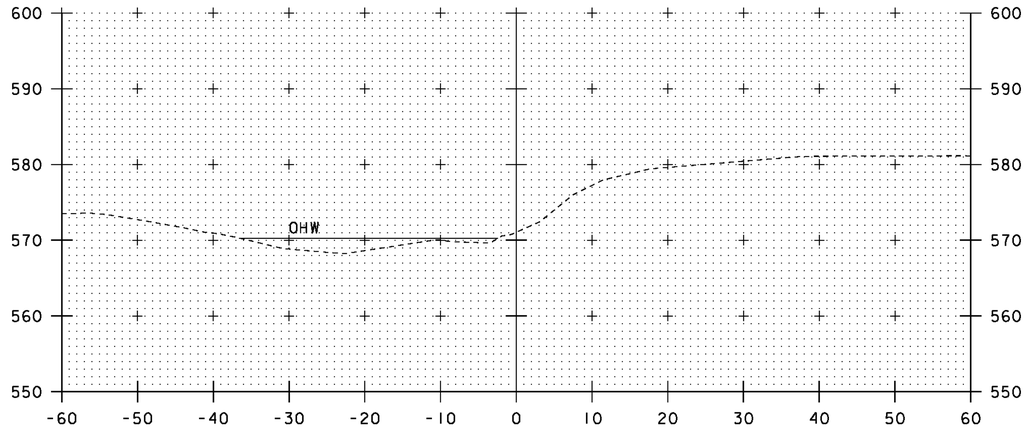
SCALE 1" = 10'-0
10 0 10

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(28)
FILE NAME: s84e061/Str/xsl.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 8 CHANNEL CROSS SECTIONS 1	SHEET 54 OF 124



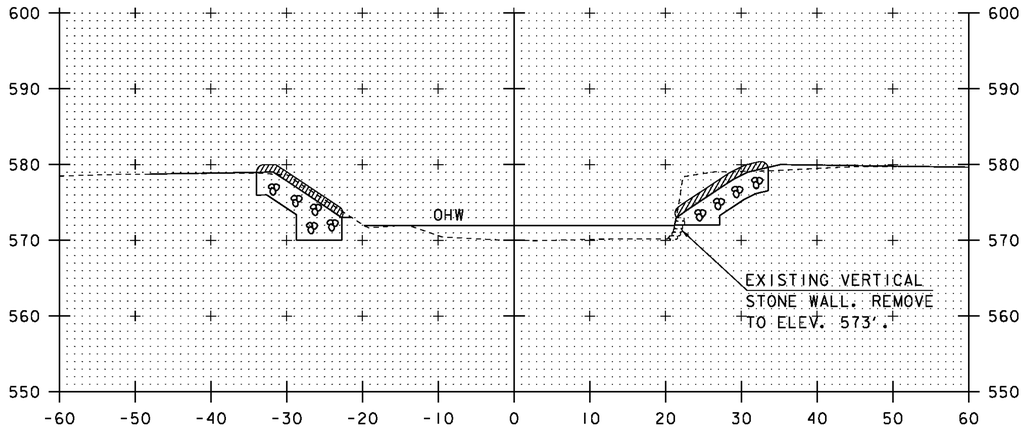
END STONE FILL, TYPE III
GEOTEXTILE UNDER STONE FILL
GRUBBING MATERIAL
UNCLASSIFIED CHANNEL EXCAVATION
STA 11+04.00 LT

11+25



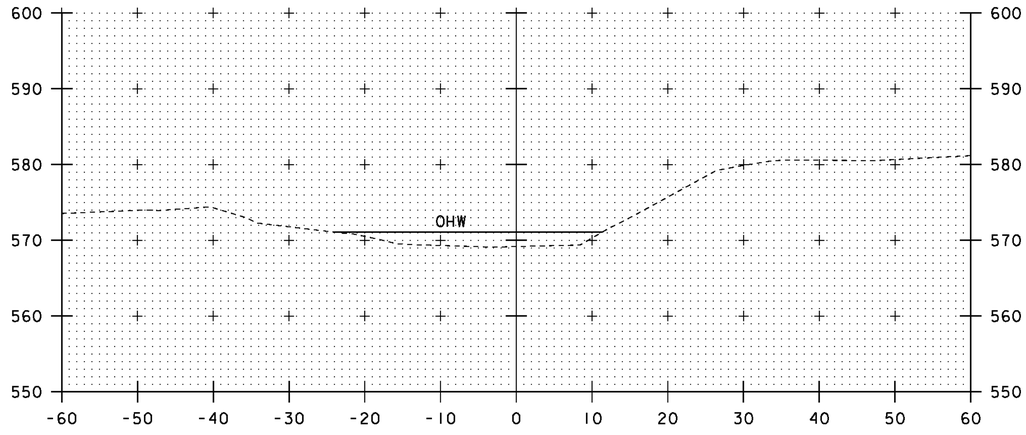
11+75

END STONE FILL, TYPE III
GEOTEXTILE UNDER STONE FILL
GRUBBING MATERIAL
UNCLASSIFIED CHANNEL EXCAVATION
STA 11+10.00 RT



11+00

BEGIN GRUBBING MATERIAL
STA 10+96.50 LT AND RT



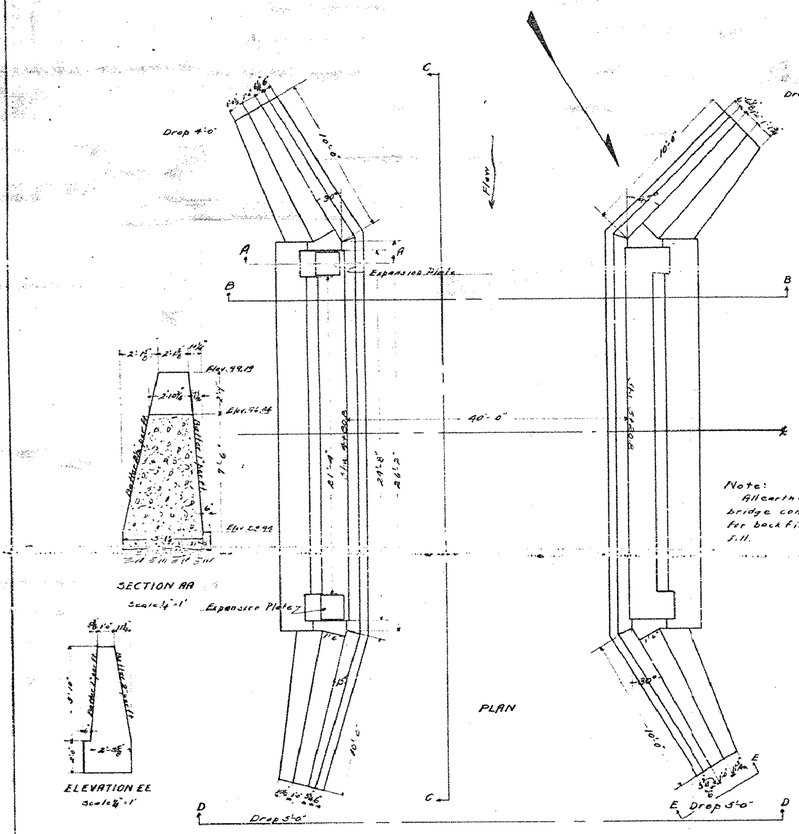
11+50

STA. 11+00 TO STA. 11+75

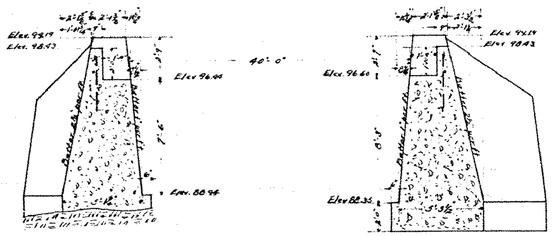
SCALE 1" = 10'-0
10 0 10

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(28)
FILE NAME: s84e061/Str/xsl.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 8 CHANNEL CROSS SECTIONS 2	SHEET 55 OF 124

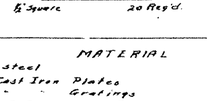
U. S. ROAD	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	Vt.	46		9	9



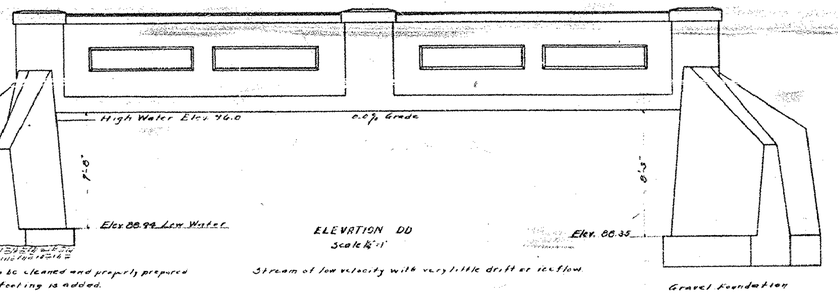
SECTION AA
Scale ½"=1'



SECTION BB
Scale ½"=1'



MATERIAL	
Steel	60#
4 Cast Iron Plates	652#
4 " Gratings	72#
1-2-4 Concrete in Ballast Wall	2.7 cu.yds
1-2½-5 " " Abuts. and Wings	113.8 "

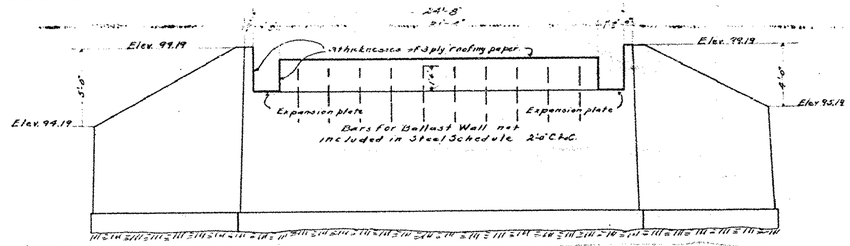


ELEVATION DD
Scale ½"=1'

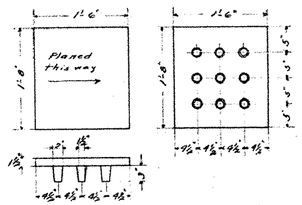
Note: Rock to be cleaned and properly prepared before footing is added.

Stream of low velocity with very little drift or ice flow.

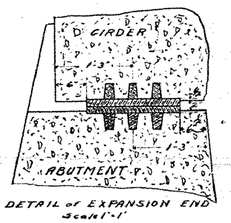
Note:
All earth excavation made during bridge construction, not used for back fill, to be used as road fill.

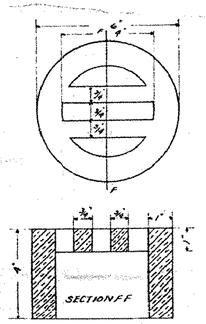


ELEVATION CC



4 Required





4 Required

PLANS
of
ABUTMENTS
BRIDGE STA 5+00
FED. AID PROJECT NO. 46
CHESTER, VT
OVER S. B. WILLIAMS Brook.

BR. NO. 8

Designed by	A.J. Runnels	7/10/23
Drawn by	G.L. Field	7/14/23
Traced by	G.L.F.	7/24/23
Checked by	A.J.R.	7/25/23
Series F No. 46 Filed		
Sheet 9 of 9		

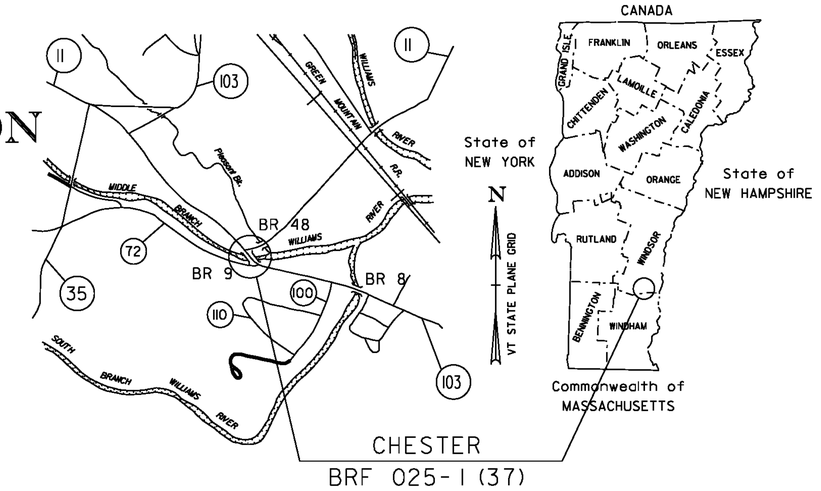
1924

N. T. S.

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(28)	
FILE NAME: 84e061/Str/s84e061scans.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 8 REFERENCE PLANS	SHEET 56 OF 124

SEE SHEET 2 FOR INDEX AND LIST OF STANDARDS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

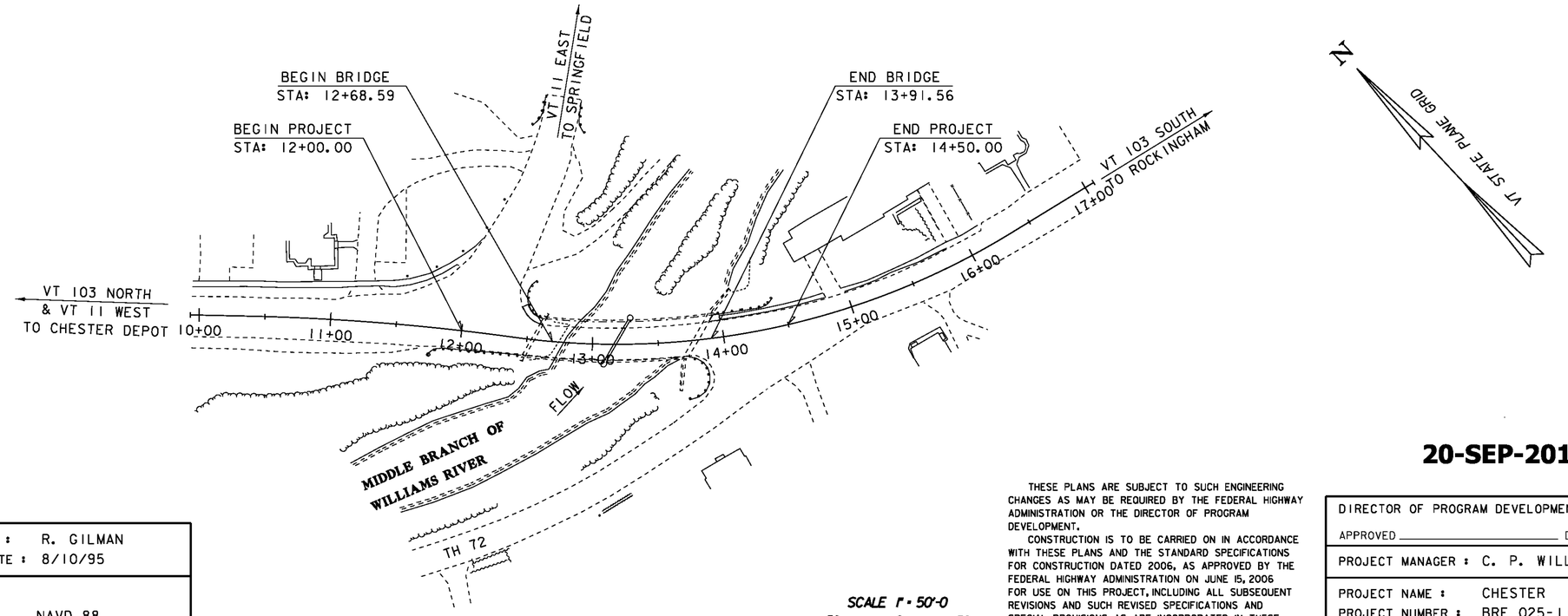


PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF CHESTER
COUNTY OF WINDSOR

ROUTE NO: VT RT 103, PRINCIPAL ARTERIAL, NATIONAL HIGHWAY SYSTEM, BRIDGE 9

PROJECT LOCATION:	BEGINNING AT APPROXIMATELY THE JUNCTION OF VT 103 AND VT 11 (PLEASANT ST.), AND EXTENDING SOUTHEAST ALONG VT 103 FOR 250 FT.
PROJECT DESCRIPTION:	THE PROJECT SHALL CONSIST OF THE REPLACEMENT OF THE EXISTING STRUCTURE WITH A NEW STRUCTURE, INCLUDING RELATED ROADWAY AND CHANNEL WORK
LENGTH OF STRUCTURE:	122.97 FEET
LENGTH OF ROADWAY:	127.03 FEET
LENGTH OF PROJECT:	250.00 FEET



QUALITY ASSURANCE PROGRAM: LEVEL 1

CONVENTIONAL SYMBOLS

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

SURVEYED BY : R. GILMAN
SURVEYED DATE : 8/10/95

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83/92

SCALE 1" = 50'-0
50 0 50

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

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

20-SEP-2010

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE _____

PROJECT MANAGER : C. P. WILLIAMS

PROJECT NAME : CHESTER
PROJECT NUMBER : BRF 025-1(37)

SHEET 57 OF 124 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version 09.02.00

LRFD

INDEX OF SHEETS

PLAN SHEETS

STANDARDS LIST

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: December 2008

DRAINAGE AREA : 33.5 sq. mi.
CHARACTER OF TERRAIN : Hilly to mountainous, mixed use, mostly rural
STREAM CHARACTERISTICS : Sinuous, incised
NATURE OF STREAMBED : Mostly gravel, cobbles

PEAK FLOW DATA

Q 2.33 =	1650 cfs	Q 50 =	5525 cfs
Q 10 =	3450 cfs	Q 100 =	6600 cfs
Q 25 =	4400 cfs	Q 500 =	9250 cfs

DATE OF FLOOD OF RECORD 1938
ESTIMATED DISCHARGE: unknown
WATER SURFACE ELEV.: unknown
NATURAL STREAM VELOCITY: @ Q50 = 11.3 fps
ICE CONDITIONS : moderate
DEBRIS: little to moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? yes
IS ORDINARY RISE RAPID? yes
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? no
IF YES, DESCRIBE: N/A

WATERSHED STORAGE: 1%
HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: 2-span continuous rolled beam
YEAR BUILT: 1935
CLEAR SPAN(NORMAL TO STREAM): 2 spans @ 62' = 124' (111' normal clear span)
VERTICAL CLEARANCE ABOVE STREAMBED: 10'
WATERWAY OF FULL OPENING: 850 sq. ft.
DISPOSITION OF STRUCTURE: Remove
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See borings

WATER SURFACE ELEVATIONS AT:

Q2.33 =	576.5'	VELOCITY =	7.6 fps
Q10 =	578.5'	"	9.5 fps
Q25 =	579.4'	"	10.1 fps
Q50 =	580.4'	"	10.7 fps
Q100 =	581.3'	"	11.3 fps

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: N/A
RELIEF ELEVATION: 582.4'
DISCHARGE OVER ROAD @Q100: N/A

UPSTREAM STRUCTURE

TOWN: Chester
HIGHWAY # : VT 35 (TH 3) FAS 0125
CLEAR SPAN:
YEAR BUILT: 1940
STRUCTURE TYPE: Single span steel beam bridge
DISTANCE: 2,350'
STRUCTURE #: 9
CLEAR HEIGHT: 14'
FULL WATERWAY:

DOWNSTREAM STRUCTURE

TOWN: Chester
HIGHWAY # : Green Mountain Railway Bridge
CLEAR SPAN:
YEAR BUILT:
STRUCTURE TYPE:
DISTANCE: 2,070'
STRUCTURE #:
CLEAR HEIGHT:
FULL WATERWAY:

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	HL-20	HL-93	3S2	6 AXLE	3A STR	4A STR	5A SEMI
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY	3.35	2.35					
POSTING							
OPERATING	4.34	3.05	2.84	1.81	2.99	2.64	2.63
COMMENTS:	0						

PILE DRIVING AND TESTING REQUIREMENTS

1. NOMINAL PILE DRIVING CAPACITY — Rn: 555.00 KIP
2. PILE TEST RESISTANCE FACTOR — ϕ: 0.65
3. MAXIMUM PILE TIP ELEVATION — SEE BELOW
4. SEE GENERAL NOTES FOR REQUIRED PILE PENETRATION ELEVATIONS

PROPOSED STRUCTURE

STRUCTURE TYPE: Single span curved girder bridge

CLEAR SPAN(NORMAL TO STREAM): 105'
VERTICAL CLEARANCE ABOVE STREAMBED: 10'
WATERWAY OF FULL OPENING: 880 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	575.7'	VELOCITY=	9.2 fps
Q10 =	577.7'	"	11.1 fps
Q25 =	578.6'	"	11.7 fps
Q50 =	579.7'	"	11.7 fps
Q100 =	580.7'	"	11.8 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: N/A
RELIEF ELEVATION: 582.4'
DISCHARGE OVER ROAD @Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 581.1'
VERTICAL CLEARANCE: @ Q50 = 1.4'

SCOUR: 1.0' at Q500

REQUIRED CHANNEL PROTECTION: Stone Fill, Type IV

PERMIT INFORMATION

AVERAGE DAILY FLOW:	70 cfs	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	30 cfs	0.5'
ORDINARY HIGH WATER:	710 cfs	3.0'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: None
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

Traffic will be detoured, so no temporary bridge required.
Velocities reported are channel velocities.
Elevations used are NAVD 88.

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TRAFFIC ON AN OFF SITE DETOUR.
2. TRAFFIC SIGNALS ARE NOT REQUIRED.
3. SIDEWALKS ARE NOT REQUIRED

DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	d_p:	0.0 INCH
3. DESIGN SPAN	L:	120.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	---
5. PRESTRESSING STRAND (0.50 INCH DIAMETER - LOW RELAX)	f_y:	270 KSI
6. PRESTRESSED CONCRETE STRENGTH	f'_c:	---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	---
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'_c:	---
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'_c:	4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'_c:	3.5 KSI
11. CONCRETE, CLASS C	f'_c:	---
12. REINFORCING STEEL	f_y:	60 KSI
13. STRUCTURAL STEEL AASHTO M270 (WEATHERING)	f_y:	50 KSI
14. BACKFILL UNIT WEIGHT	γ:	0.140 KCF
15. NOMINAL BEARING RESISTANCE OF SOIL	q_n:	---
16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
17. NOMINAL BEARING RESISTANCE OF ROCK	q_n:	---
18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
19. NOMINAL AXIAL PILE RESISTANCE	q_p:	555.0 KIPS
20. PILE YIELD STRENGTH ASTM A572	f_y:	50 KSI
21. PILE SIZE		HP 12X 84
22. EST. PILE LENGTH	L_p:	50 FT
23. PILE RESISTANCE FACTOR	ϕ:	0.65
24. LATERAL PILE DEFLECTION	Δ:	0.35 INCH
25. BASIC WIND SPEED	V_{3s}	---
26. MINIMUM GROUND SNOW LOAD	p_g	---
27. SEISMIC DATA PGA ---	S_s	---
	S_1	---

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2013	7200	1100	50	8.3	730
2033	9600	1300	50	10.8	1100

20 year ESAL for flexible pavement from 2013 to 2033 : 5927000
40 year ESAL for flexible pavement from 2013 to 2053 : 13731000
Design Speed : 30 mph

PROJECT NAME: **CHESTER**
PROJECT NUMBER: **BRF 025-1(37)**

FILE NAME: 95b168/95b168excel.dgn
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: H.I. SALLS
PLOT DATE: 9/17/2010
DRAWN BY: H.I. SALLS
CHECKED BY: R.S. YOUNG
BRIDGE 9 PRELIMINARY INFORMATION SHEET
SHEET 58 OF 124

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, DATED 2007, AND ITS LATEST REVISIONS.

2. THE BRIDGE WAS DESIGNED FOR THE HL-93 LIVE LOAD WITH NO ALLOWANCE FOR FUTURE PAVEMENT.

3. EXISTING SIGNS NOT REUSED SHALL REMAIN PROPERTY OF THE STATE OF VERMONT. THESE SIGNS SHALL BE STOCKPILED ON THE PROJECT SITE AND THEN LOADED ON A TRUCK SUPPLIED BY DISTRICT 2. CONTACT D.T.A. TAMMY ELLIS AT (802) 254-5011 TO ARRANGE REMOVAL FROM THE PROJECT SITE.

4. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE

5. ITEM 529.15 "REMOVAL OF STRUCTURE" SHALL BE USED FOR REMOVAL OF THE EXISTING STRUCTURE INCLUDING THE SUPERSTRUCTURE, PIER, AND ABUTMENTS OUTSIDE THE LIMITS OF STRUCTURE EXCAVATION OR UNCLASSIFIED CHANNEL EXCAVATION. THE PIER SHALL BE REMOVED TO ELEVATION 570.00 FEET, ABUTMENT #1 SHALL BE REMOVED TO ELEVATION 582.00 FEET, AND ABUTMENT #2 SHALL BE REMOVED TO ELEVATION 574.00 FEET.

6. THE CONTRACTOR SHALL BE MADE AWARE THAT EXISTING WATER AND SEWER LINES ARE WITHIN THE CONSTRUCTION LIMITS OF BRIDGE 9. SEE SPECIAL PROVSIONS.

EARTHWORK AND RELATED ITEMS

7. TEMPORARY CONSTRUCTION FILLS WITHIN THE WATERCOURSE FOR ANY PURPOSE SHALL CONSIST OF CLEAN STONE FILL ONLY. NO OTHER FILLING IN THE STREAM SHALL OCCUR WITHOUT THE APPROVAL OF THE STREAM ALTERATION ENGINEER.

8. THE "STONE FILL, TYPE IV" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE NEW STEEL GIRDERS ARE SET.

9. "STONE FILL, TYPE I" SHALL BE USED FOR EROSION CONTROL AS SHOWN IN THE PLANS AND/OR AT THE DISCRETION OF THE RESIDENT ENGINEER. PAYMENT FOR MATERIAL AND PLACEMENT SHALL BE MADE UNDER ITEM 613.10, "STONE FILL, TYPE I".

PILES

10. THE PILES SHALL BE HP 12 x 84.

11. PILE SHOES SHALL BE REQUIRED AND SHALL CONFORM TO SECTION 505.04(e).

12. PILES SHALL BE DRIVEN WITHIN 3 INCHES OF THE LOCATION SHOWN ON THE PLANS. THE PILE ORIENTATION SHALL NOT VARY BY MORE THAN 5 DEGREES. THE CONTRACTOR SHALL DEMONSTRATE HOW THE TOLERANCE WILL BE MET TO THE SATISFACTION OF THE RESIDENT ENGINEER.

13. TO ENSURE THAT THE NOMINAL CAPACITY HAS BEEN ATTAINED AND TO PREVENT THE OVERSTRESSING OF THE PILES DURING DRIVING OPERATIONS, DYNAMIC TESTING SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 505.04 (c) - 2 OF THE STANDARD SPECIFICATIONS. PAYMENT FOR PILE TESTING SHALL BE MADE UNDER ITEM 505.45 "DYNAMIC PILE LOADING TEST". A MINIMUM OF ONE DYNAMIC PILE TEST SHALL BE CONDUCTED ON THE FIRST PILE DRIVEN FOR EACH SUBSTRUCTURE UNIT, FOR A TOTAL OF 2 TESTS. MORE TESTS MAY BE REQUIRED BY THE RESIDENT ENGINEER.

14. THE PILES SHALL BE DRIVEN TO A NOMINAL RESISTANCE OF 555 KIPS, AS DETERMINED BY THE RESULTS OF DYNAMIC TESTING, AS INTERPRETED BY THE RESIDENT ENGINEER. HOWEVER, THE PILES SHALL BE DRIVEN TO A MINIMUM DEPTH OF 23 FEET BELOW THE BOTTOM OF THE PILE CAP ELEVATION.

15. FOR ESTIMATING PURPOSES, THE PILE TIP ELEVATIONS WERE ASSUMED TO BE AS SHOWN ON THE BORING LOGS. THE ACTUAL IN PLACE LENGTH MAY VARY.

STEEL

16. THE EXISTING STRUCTRAL STEEL IS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD. THE CONTRACTOR SHELL FOLLOW ALL APPLICABLE REGULATIONS WHEN HANDELING AND WORKING WITH THIS STEEL. 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 REMOVED EXISTING STRUCTURAL STEEL.

CONCRETE

17. CONCRETE USED FOR THE DECK CLOSURE POUR AND CURTAIN WALL SHALL BE SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT).

18. WATER REPELLENT, SILANE, SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES, EXCEPT THE UNDERSIDE OF THE DECK BETWEEN DRIP NOTCHES.

19. FLEMING BRACKETS OR SIMILAR FALSEWORK SHALL BE SPACED AS REQUIRED BY DESIGN, BUT SHALL BE LIMITED TO A MAXIMUM SPACING OF 4 FEET. THE DESIGN OF FALSEWORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

20. ALL SUPERSTRUCTURE REINFORCING STEEL SHALL BE EPOXY COATED.

21. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE:
    SPACING: +/- 1 INCH
    CLEARANCE: +/- 1/4 INCH

PRECAST CONCRETE DECK SLABS AND POST-TENSIONING

22. DESIGN VALUES

    A. CONCRETE COMPRESSIVE STRENGTH: f'c = 5000 psi.
    B. POST-TENSIONING STRANDS: 0.5 INCH DIAMETER, 270 ksi, LOW RELAXATION 7-WIRE STRANDS.
    C. ASSUMED MODULUS OF ELASTICITY IS 28,500 Ksi.
    D. THERE SHALL BE 3 STRANDS PER CONDUIT.
    E. DESIGN BASED ON THE FOLLOWING POST-TENSION CONDUIT PARAMETERS:
       COEFFICIENT OF FRICTION = 0.23
       WOBBLE FRICTION COEFFICIENT = 0.0002/FT
       IF THE PROPOSED CONDUIT DOES NOT MEET THESE VALUES, THEN THE CONTRACTOR SHALL ADJUST THE JACKING FORCE TO PRODUCE THE FINAL POST-TENSIONING FORCE LISTED BELOW.
    F. THE JACKING FORCE PER STRAND = 32 KIPS
    G. THE FINAL FORCE PER STRAND = 29 KIPS (AFTER ALL LOSSES DUE TO FRICTION, ANCHORAGE SET AND ELASTIC SHORTENING).

23. ALL DECK PANELS SHALL BE CAST FOR A MINIMUM OF 56 DAYS PRIOR TO POST TENSIONING.

24. DECK PANELS MUST BE ALLOWED TO SLIDE ON GIRDERS DURING POST TENSIONING.

25. CONDUIT SHALL BE GROUTED AFTER POST-TENSIONING. THE GROUT SHALL BE A NON-BLEEDING GROUT MEETING THE REQUIREMENTS OF ASTM C 1107 (GRADE C).

26. POST-TENSIONING AND GROUTING SHALL BE PERFORMED BY QUALIFIED PERSONEL WITH PREVIOUS EXPERIENCE IN PRE-CAST DECK PLACEMENT.

27. SHEAR KEY FACES SHALL BE SANDBLASTED PRIOR TO DELIVERY AND PRESSURE WASHED WITH WATER PRIOR TO ERECTION OF THE SLABS.

28. BEGIN POST TENSIONING AT THE CENTER OF PANELS. DO NOT ALLOW MORE THAN 12.5% OF THE POST TENSIONING FORCE TO BE ECCENTRIC AT ANY TIME. SUBMIT STRESSING SEQUENCE TO THE PROJECT MANAGER AS PART OF THE ERECTION PLAN.

29. THE CONTRACTOR IS RESPONSIBLE FOR DESIGN OF ALL LIFTING POINTS, POST TENSIONING ELEMENTS IN THE ANCHORAGE ZONE AND ADDITIONAL REINFORCEMENT IN THE ANCHORAGE ZONE (REQUIRED FOR SPLITTING, BURSTING, SPALLING, ETC.) INCLUDING THE LOCAL ZONE (REGION IMMEDIATELY SURROUNDING THE POST TENSIONING DEVICE). THE CONTRACTOR IS RESPONSIBLE FOR CONSIDERATION OF ADDITIONAL STRESSES DUE TO HANDLING. DESIGN MUST CONFORM TO AASHTO LRFD SPECIFICATIONS.

30. GALVANIZE BEARING PLATE ANCHOR HEADS AND METAL TRUMPETS AT ANCHORAGES ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. DO NOT GALVANIZE STRAND GRIPPING WEDGES.

31. POST-TENSIONING STRANDS AND CONDUIT SHALL MEET THE REQUIREMENTS OF SECTION 510.

32. ANCHOR ASSEMBLIES, CONDUIT, GROUT FOR THE CONDUIT, MECHANICAL CONNECTORS, AND POST-TENSIONING STRANDS SHALL BE INCLUDED IN ITEM 540.10, "PRECAST CONCRETE STRUCTURE (8" DECK SLABS)."

33. PROPOSED SEQUENCE OF CONSTRUCTION:

    A. ERECT DECK SLABS.
    B. ADJUST SLABS TO GRADE USING LEVELING DEVICES. ALL LEVELING BOLTS SHALL BE TORQUED TO APPROXIMATELY THE SAME VALUE WITHIN 20 PERCENT
    C. INSTALL POST-TENSIONING STRANDS LOOSE IN CONDUIT AND SEAL CONDUIT.
    D. PLACE GROUT IN TRANSVERSE JOINTS ONLY. THE GROUT SHALL BE RODDED OR VIBRATED TO ENSURE ALL VOIDS ARE FILLED.
    E. GROUT SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 1000 psi BASED ON MANUFACTURER'S RECOMMENDATIONS, PRIOR TO STRESSING. THE GROUT NEED NOT BE CURED FOR THREE DAYS PRIOR TO THE COMMENCING OF POST-TENSIONING.
    F. PROVIDE APPROPRIATE CUBE MOLDS AS DESCRIBED IN AASHTO T106 FOR 3 SETS OF 3 DAY CUBES, 3 SETS OF 28 DAY CUBES, AND A MINIMUM OF 3 MORE CUBES TO TEST FOR THE 1000 psi MINIMUM.
    G. STRESS POST-TENSIONING STRANDS USING A CALIBRATED JACK.
    H. INSTALL SHEAR CONNECTORS.
    I. GROUT POST-TENSIONING CONDUIT, SHEAR CONNECTOR POCKETS, AND HAUNCHES BETWEEN GIRDERS AND THE BOTTOM OF THE DECK.
    J. POUR THE CLOSURE POUR CONCRETE.
    K. LEVELING BOLTS MAY BE REMOVED. GROUT BOLT RECESS.

    ALTERNATE SEQUENCE OF CONSTRUCTION MAY BE SUBMITTED FOR APPROVAL BY THE PROJECT MANAGER.

PRECAST ABUTMENTS AND POST-TENSIONING

34. IF VERTICAL CONSTRUCTION JOINTS ARE REQUIRED BY THE CONTRACTOR FOR SHIPMENT OF THE ABUTMENTS, THEN THE SECTIONS SHALL BE KEYED AND MATCH CAST. A JOINT DETAIL SHALL BE SHOWN ON THE FABRICATION DRAWINGS.

35. ANY POST-TENSIONING STRANDS AND CONDUIT SHALL ADHERE TO THE REQUIREMENTS OF SECTION 510. ANCHOR ASSEMBLIES, CONDUIT, AND POST-TENSIONING STRANDS SHALL BE INCLUDED IN ITEM 540.10, "PRECAST CONCRETE STRUCTURE (ABUTMENT #1 BRIDGE 9)" AND 540.10, "PRECAST CONCRETE STRUCTURE (ABUTMENT #2 BRIDGE 9)."

36. GALVANIZE POST-TENSIONING ANCHOR ASSEMBLIES AFTER FABRICATION ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

37. DESIGN VALUES

    A. CONCRETE COMPRESSIVE STRENGTH: f'c = 5000 psi.
    B. POST-TENSIONING STRANDS: 0.5 INCH DIAMETER, 270 ksi, LOW RELAXATION 7-WIRE STRANDS.
    C. ASSUMED MODULUS OF ELASTICITY IS 28,500 Ksi.
    D. THERE SHALL BE 2 STRANDS PER CONDUIT.
    E. THE JACKING FORCE PER STRAND = 33 KIPS
    F. REINFORCING STEEL SHALL BE EPOXY COATED.

38. GROUT FOR THE ABUTMENT CAVITIES SHALL MEET THE REQUIREMENTS OF SELF-CONSOLIDATING CONCRETE. SEE SPECIAL PROVISIONS. ALL COSTS ASSOCIATED WITH GROUTING THE CAVITIES SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 540.10, "PRECAST CONCRETE STRUCTURE (ABUTMENT #1 BRIDGE 9)" AND 540.10, "PRECAST CONCRETE STRUCTURE (ABUTMENT #2 BRIDGE 9)."

39. PROPOSED SEQUENCE OF CONSTRUCTION

    A. PREPARE AND GRADE FOUNDATION TO REQUIRED ELEVATION.
    B. DRIVE PILES
    C. PLACE PRECAST ABUTMENTS AND INSTALL TRANSVERSE STRANDS (IF MORE THAN ONE SUBSTRUCTURE UNIT). USE A CALIBRATED JACK TO TENSION TO 3 KIPS TO REMOVE SAG.
    D. GROUT VERTICAL SHEAR KEY
    E. GROUT SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 1000 psi BASED ON MANUFACTURER'S RECOMMENDATIONS, PRIOR TO STRESSING. THE GROUT NEED NOT BE CURED FOR THREE DAYS PRIOR TO COMMENCING OF POST-TENSIONING.
    F. PROVIDE APPROPRIATE CUBE MOLDS AS DESCRIBED IN AASHTO T106 FOR 3 SETS OF 3 DAY CUBES, 3 SETS OF 28 DAY CUBES, AND A MINIMUM OF 3 MORE CUBES TO TEST FOR THE 1000 psi MINIMUM.
    G. STRESS POST-TENSIONING STRANDS USING A CALIBRATED JACK OPERATED BY QUALIFIED PERSONNEL WITH PERVIOUS EXPERIENCE IN POST-TENSIONING.
    H. GROUT PILE CAVITIES.
    I. BACKFILL ABUTMENTS IN COORDINATION WITH RETAINING WALL BACKFILL.

    ALTERNATE SEQUENCE OF CONSTRUCTION MAY BE SUBMITTED FOR APPROVAL BY THE PROJECT MANAGER.

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: 95bl68\s95bl68gennotes.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 GENERAL NOTES

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES

					ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS
					0.5				
					1050				
								575	
					115				
					5				
					1				
								285	
								175	
					690				
					1050				
					12				
					715				
					1				
								1	
								650	
								2	
								252300	
								13265	
								1	
								35	
								100	
								465	
								90	
								1	
								14	
								1	
								1	
								1	
					84				
					84				
					84				
					1				
					2				
					1				
							10		
					1				
							10		
								635	

TOTALS

GRAND TOTAL	FINAL
0.5	
1050	
575	
115	
5	
1	
285	
175	
690	
1050	
12	
715	
1	
1	
650	
2	
252300	
13265	
1	
35	
100	
465	
90	
1	
14	
1	
1	
1	
84	
84	
84	
1	
2	
1	
10	
1	
10	
635	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER	ROUND
LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	
CY	COMMON EXCAVATION	203.15	
CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27	
CY	TRENCH EXCAVATION OF EARTH	204.20	
CY	TRENCH EXCAVATION OF ROCK	204.21	
CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	
CY	STRUCTURE EXCAVATION	204.25	
CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	
SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10	
CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	
CWT	EMULSIFIED ASPHALT	404.65	
TON	BITUMINOUS CONCRETE PAVEMENT	406.25	
LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	
LS	FURNISHING EQUIPMENT FOR DRIVING PILING (BRIDGE 9)	504.10	
LF	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 12 X 84	505.265	
EACH	DYNAMIC PILE LOADING TEST	505.45	
LB	STRUCTURAL STEEL, CURVED PLATE GIRDER	506.56	
LB	EPOXY COATED REINFORCING STEEL	507.17	
LS	SHEAR CONNECTORS (1684 - 7/8" X 7")	508.15	
GAL	WATER REPELLENT, SILANE	514.10	
LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10	
SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20	
LF	JOINT SEALER, HOT POURED	524.11	
EACH	REMOVAL OF STRUCTURE (4985 SF - EST.)	529.15	
EACH	BEARING DEVICE ASSEMBLY, INTEGRAL ABUTMENT	531.14	
LS	PRECAST CONCRETE STRUCTURE (8" DECK SLABS)	540.10	
LS	PRECAST CONCRETE STRUCTURE (ABUTMENT #1 BRIDGE 9)	540.10	
LS	PRECAST CONCRETE STRUCTURE (ABUTMENT #2 BRIDGE 9)	540.10	
	BEGIN OPTION AA		
LF	18" CAAP .060 (2-2/3 X 1/2)	601.0215	
LF	18" PCCSP .064 (2-2/3 X 1/2)	601.0415	
LF	18" CPEP	601.0915	
	END OPTION AA		
EACH	PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE	604.18	
EACH	CHANGING ELEVATION OF DROP INLETS, CATCH BASINS, OR MANHOLES	604.40	
EACH	CHANGING ELEVATION OF SEWER MANHOLES	604.42	
HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	
TON	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15	
CY	STONE FILL, TYPE I	613.10	
CY	STONE FILL, TYPE IV	613.13	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		EARTHWORKS SUMMARY
		FILL AVAILABLE
320	CY	COMMON EXCAVATION (320 x 1.0)
54	CY	CHANNEL EXCAVATION (180 x 0.3)
0	CY	UNDERDRAIN EXCAVATION (0 x 0.9)
76.5	CY	STRUCTURE EXCAVATION (255 x 0.3)
0	CY	TRENCH EXCAVATION OF EARTH (0 x 0.9)
4.5	CY	ROUNDING
455	**CY**	**TOTAL FILL AVAILABLE**
		FILL REQUIRED
1	CY	PLANIMETERED FILL (1 CY EARTH + 0 CY GRANULAR)
1.15	CY	FACTORED FILL (x1.15)
3.85	CY	ROUNDING
5	**CY**	**TOTAL FILL REQUIRED**
450	**CY**	**TOTAL WASTE**

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: s95b16Squantitysheets.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
QUANTITY SHEET #1

PLOT DATE: 09/20/2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 60 OF 124

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
					ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
					105					105		LF	PRECAST REINFORCED CONCRETE CURB, TYPE B	616.26				
					35					35		SY	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	618.10				
					4					4		SF	DETECTABLE WARNING SURFACE	618.30				
					133					133		LF	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21				
					4					4		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60				
					210					210		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
					530					530		LF	TEMPORARY TRAFFIC BARRIER	621.90				
					90					90		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
					720					720		HR	FLAGGERS	630.15				
									0.5	0.5		LS	FIELD OFFICE, ENGINEERS	631.10				
									0.5	0.5		LS	TESTING EQUIPMENT, CONCRETE	631.16				
									0.5	0.5		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
									1500	1500		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26				
						260				260		HR	EMPLOYEE TRAINEESHIP	634.10				
					0.5					0.5		LS	MOBILIZATION/DEMOBILIZATION	635.11				
					0.5					0.5		LS	PUBLIC RELATIONS OFFICER	641.12				
					970					970		LF	4 INCH WHITE LINE	646.20				
					890					890		LF	4 INCH YELLOW LINE	646.21				
					76					76		LF	DURABLE 24 INCH STOP BAR	646.480				
					8					8		EACH	DURABLE LETTER OR SYMBOL	646.490				
					72					72		LF	DURABLE CROSSWALK MARKING	646.500				
					1570					1570		LF	TEMPORARY 4 INCH WHITE LINE	646.600				
					1665					1665		LF	TEMPORARY 4 INCH YELLOW LINE	646.610				
					165					165		SF	PAVEMENT MARKING MASK	646.86				
								675		675		SY	GEOTEXTILE UNDER STONE FILL	649.31				
							120			120		SY	GEOTEXTILE FOR SILT FENCE	649.51				
							380			380		SY	GEOTEXTILE FOR FILTER CURTAIN	649.61				
							20			20		LB	SEED	651.15				
							80			80		LB	FERTILIZER	651.18				
							1			1		TON	AGRICULTURAL LIMESTONE	651.20				
							1			1		TON	HAYMULCH	651.25				
							30			30		CY	TOPSOIL	651.35				
							75			75		SY	GRUBBING MATERIAL	651.40				
							1			1		LS	EPSC PLAN (BRIDGE 9)	652.10				
							15			15		HR	MONITORING EPSC PLAN	652.20				
							1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
							580			580		SY	TEMPORARY EROSION MATTING	653.20				
							16			16		CY	VEHICLE TRACKING PAD	653.35				
							4			4		EACH	INLET PROTECTION DEVICE, TYPE I	653.40				
							60			60		LF	BARRIER FENCE	653.50				

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: s95b16Squantitysheets.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
QUANTITY SHEET #2

PLOT DATE: 09/20/2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 61 OF 124

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
					ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							705			705		LF	PROJECT DEMARCATION FENCE	653.55				
					69.09					69.09		SF	TRAFFIC SIGNS, TYPE A	675.20				
					80					80		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
					28					28		EACH	REMOVING SIGNS	675.50				
					1					1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50				
								128		128		CY	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT)	900.608				
					1					1		EACH	SPECIAL PROVISION (GUARDRAIL APPROACH SECTION TO CONCRETE BRIDGE RAILING)(TL-2)	900.620				
					3					3		EACH	SPECIAL PROVISION (GUARDRAIL APPROACH SECTION TO CONCRETE BRIDGE RAILING)(TL-3)	900.620				
								2		2		EACH	SPECIAL PROVISION (PRECAST APPROACH SLAB, SUPER-SLAB)(BRIDGE 9)	900.620				
								249		249		LF	SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION)	900.640				
					1					1		LU	SPECIAL PROVISION (INCENTIVE/DISINCENTIVE) (BRIDGE 9) (N.A.B.I.)	900.650				
								280		280		SF	SPECIAL PROVISION (RETAINING WALL)	900.670				

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: s95b16Squantitysheets.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
QUANTITY SHEET #3

PLOT DATE: 09/20/2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 62 OF 124

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

SUMMARY OF BRIDGE QUANTITIES

APPROACH SLAB 1	APPROACH SLAB 2	ABUTMENT 1	ABUTMENT 2	DECK, SIDEWALK, AND RAILING	TOTALS BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER
		400	175		575	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27
		35	250		285	CY	STRUCTURE EXCAVATION	204.25
		88	87		175	CY	GRANULAR BACKFILL FOR STRUCTURES	204.30
				1	1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING (BRIDGE 9)	504.10
		325	325		650	LF	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 12 X 84	505.265
		1	1		2	EACH	DYNAMIC PILE LOADING TEST	505.45
				252300	252300	LB	STRUCTURAL STEEL, CURVED PLATE GIRDER	506.56
		5243	5825	2197	13265	LB	EPOXY COATED REINFORCING STEEL	507.17
				1	1	LS	SHEAR CONNECTORS (1684 - 7/8" X 7")	508.15
		7	7	21	35	GAL	WATER REPELLENT, SILANE	514.10
40	60				100	LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10
				465	465	SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20
43	47				90	LF	JOINT SEALER, HOT POURED	524.11
				1	1	EACH	REMOVAL OF STRUCTURE (4985 SF - EST.)	529.15
		7	7		14	EACH	BEARING DEVICE ASSEMBLY, INTEGRAL ABUTMENT	531.14
				1	1	LS	PRECAST CONCRETE STRUCTURE (8" DECK SLABS)	540.10
		1			1	LS	PRECAST CONCRETE STRUCTURE (ABUTMENT #1 BRIDGE 9)	540.10
			1		1	LS	PRECAST CONCRETE STRUCTURE (ABUTMENT #2 BRIDGE 9)	540.10
		445	190		635	CY	STONE FILL, TYPE IV	613.13
		455	220		675	SY	GEOTEXTILE UNDER STONE FILL	649.31
		51	55	22	128	CY	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT)	900.608
1	1				2	EACH	SPECIAL PROVISION (PRECAST APPROACH SLAB, SUPER-SLAB)(BRIDGE 9)	900.620
				249	249	LF	SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION)	900.640
		205	75		280	SF	SPECIAL PROVISION (RETAINING WALL)	900.670

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: s95b16Squantitysheets.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE QUANTITY SHEET #1

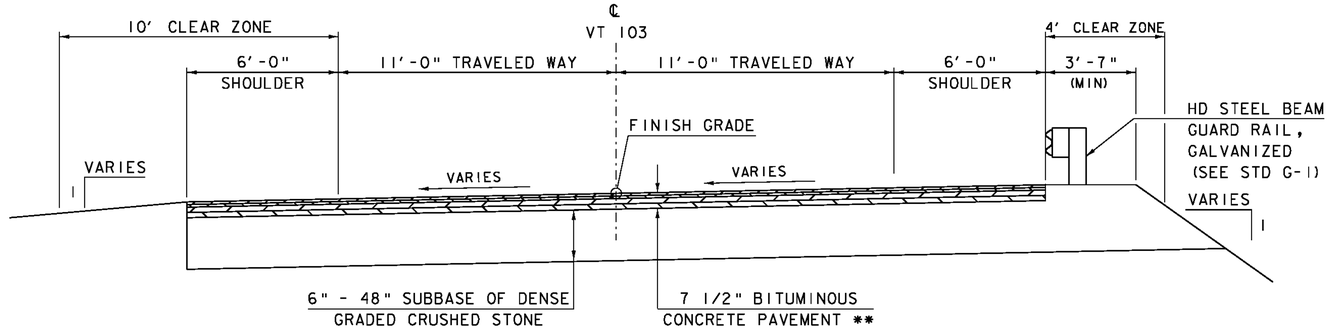
PLOT DATE: 09/20/2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 63 OF 124

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE DETAIL SHEET

STATION	STATION	POS	ASKEW	INLET/OUTLET TYPE		DITCH		PIPE ARCH			PIPE		ALLOWABLE OPTIONS						PIPE ELBOW	ES	CB	PROD	DEPTH DI	CONC CLASS B	REINF STEEL	DI GRATE	CHAN ELEV	CRM	TRENCH EXCAVATION		COMM EXC	UNC CHAN EXC	STRUCT EXCAV	GRAN BKFILL STRUCT	GRAN BORR	EROS MATT	STONE FILL		MARKER POSTS			FLAG	REMARKS
			NO. DEG	INLET	OUTLET	IN	OUT	SPAN IN	RISE IN	L FT	D IN	L FT	PCCSP TH	CAAP TH	RCP CL	CSP TH	CPEP SL	PCCSP PI TH	NO. DEG	EA	EA		FT	B CY	LBS	TYPE	EA	CY	EARTH CY	ROCK CY	CY	CY	CY	CY	CY	SY	CY	TYPE	LT EA	RT EA			
14+06.86	14+08.84	LT		RCDI	RIVER																		9			D				30	2.65											1	EXISTING 18" RCP, 15" RCP, & RCDI; REMOVE
14+43.03	14+07.66	LT		DI	DI																									7	1											2	EXISTING 12" RCP, PARTIAL REMOVAL
14+43.03	14+17.55	LT		DI	RCP						18	34	.064	.06			X				X		9			D				35												2	NEW PRECAST DI AND 18" PIPE, MERGE INTO EXISTING 12" RCP
12+40.15	12+83.18	LT		DI	SF																									15	1.2											3	REMOVE 12" RCP
12+39.20	12+93.53	LT		DI	SF						18	50	.064	.06			X						7				1			27												3	INSTALL 18" PIPE, ADJUST DI ELEVATION
31+50.94		RT		DI	DITCH																		6.5				1																4	ADJUST DI ELEVATION
TOTAL											84											1					2		114	4.85													
ROUNDING											0											0					0		1	.15													
ROUNDED TOTAL											84											1					2		115	5													

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(37)
FILE NAME:	M:\95b168\s95b168excel.dgn
PROJECT LEADER:	C.P.WILLIAMS
DESIGNED BY:	R.S.YOUNG
BRIDGE 9 DRAINAGE DETAIL SHEET	
PLOT DATE:	9/13/2010
DRAWN BY:	D.D.BEARD
CHECKED BY:	H.I.SALLS
SHEET	64 OF 124



TYPICAL WITHOUT GUARDRAIL

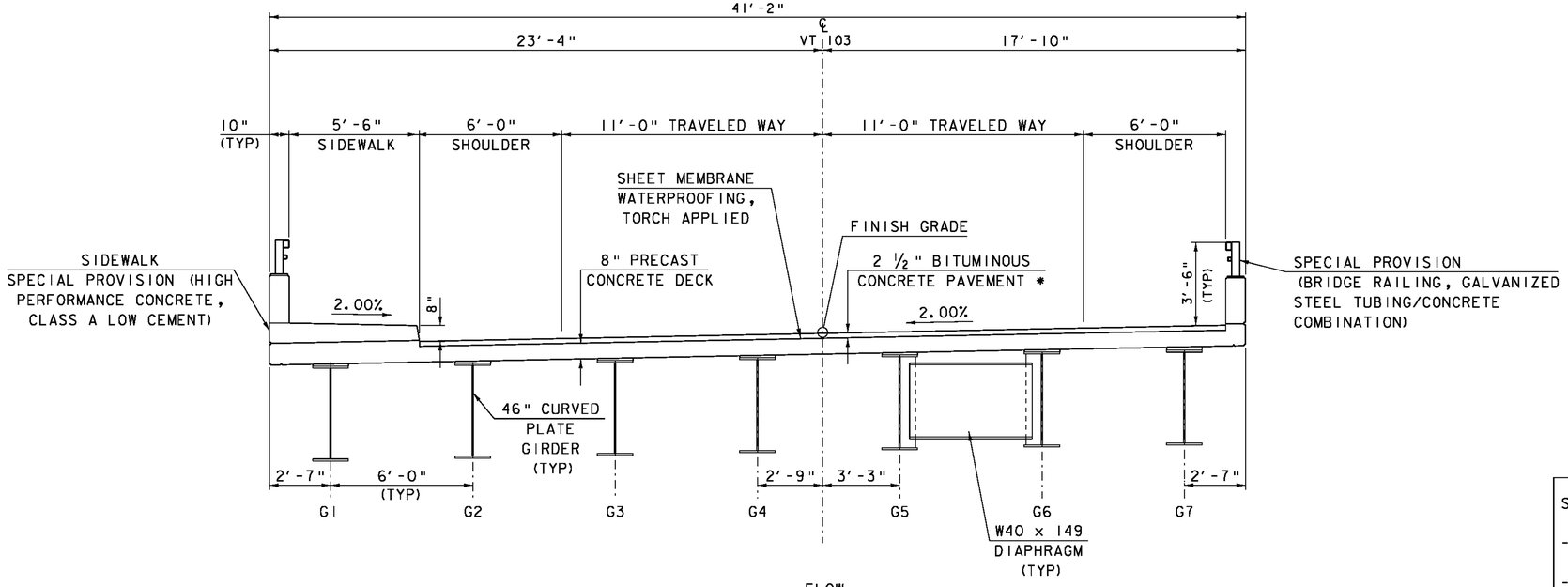
TYPICAL WITH GUARDRAIL

TYPICAL ROADWAY SECTION

SCALE 1" = 3'-0"

** 1¼" TYPE IV OVER
1¼" TYPE IV OVER
2½" TYPE II OVER
2½" TYPE II

NOTE:
PAVEMENT SHALL BE A MARSHALL MIX PAID FOR UNDER THE ITEM 406.25, "BITUMINOUS CONCRETE PAVEMENT".



TYPICAL BRIDGE SECTION

SCALE 1" = 3'-0"

* 1¼" TYPE IV OVER
1¼" TYPE IV

NOTE: ALL TRANSVERSE DIMENSIONS ARE RADIAL

SCALE 1" = 3'-0"
3 0 3

MATERIAL TOLERANCES

(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- ¼"
- AGGREGATE SURFACE COURSE	+/- ½"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: Structures\s95bl68typ.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: H.I.SALLS
BRIDGE 9 TYPICAL SECTIONS

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 65 OF 124

GPS CONTROL POINTS

HVCTRL #1

DOTTAVID AZ
NORTH = 273787.07
EAST = 1619869.4
ELEV. = 577.75

GENERAL LOCATION, 10.4 MI (16.7 KM) NORTHWEST OF BELLOWS FALLS, 6 MI (9.7 KM) SOUTHWEST OF SPRINGFIELD AND 5.5 MI (8.9 KM) NORTH OF GRAFTON. TO REACH FROM THE JUNCTION OF VT ROUTE 103 AND VT ROUTE 11 (EAST) IN CHESTER PROCEED SOUTHEAST ON VT ROUTE 103 FOR .8 MI (1.3 KM) TO THE MARK ON THE RIGHT (WEST). THE MARK IS 75.5 FT (23.0 M) SOUTHEAST OF THE SOUTHEAST CORNER OF THE PUTNEY PASTA BUILDING, 70 FT (21.3 M) SOUTH OF A SEWER MANHOLE, 48 FT (14.6 M) WEST OF AND LEVEL WITH THE CENTERLINE OF ROUTE 103, 14 FT (4.3 M) SOUTHEAST OF A FIRE HYRANT AND 8.5 FT (2.6 M) EAST OF UTILITY POLE NUMBER 3/88/3/40 AND A FIBERGLASS WITNESS POST. OWNERSHIP UNKNOWN.

HVCTRL #2

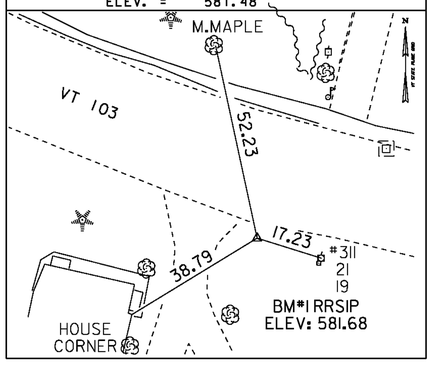
DOTTAVID
NORTH = 275233.89
EAST = 1619439.55
ELEV. = 563.37

GENERAL LOCATION, 10.7 MI (17.2 KM) NORTHWEST OF BELLOWS FALLS, 6 MI (9.7 KM) SOUTHWEST OF SPRINGFIELD AND 5.5 MI (8.9 KM) NORTH OF GRAFTON. TO REACH FROM THE JUNCTION OF VT ROUTE 103 AND VT ROUTE 11 (EAST) IN CHESTER PROCEED SOUTHEAST ON VT ROUTE 103 FOR .5 MI (0.8 KM) TO THE MARK ON THE RIGHT (WEST). THE MARK IS 64 FT (19.5 M) NORTHEAST OF THE NORTHEAST CORNER OF DIAMOND JIMS LOG CABIN RESTAURANT, 34.5 FT (10.5 M) WEST OF AND 1 FT (0.3 M) HIGHER THAN THE CENTERLINE OF ROUTE 103, 19 FT (5.8 M) SOUTH OF THE CENTERLINE OF THE NORTHERLY PAVED DRIVE ENTRANCE TO THE SAID RESTAURANT, 10 FT (3.0 M) NORTH OF THE NORTHEAST CORNER OF A PAVED PARKING LOT, AND 6.2 FT (1.9 M) NORTHEAST OF UTILITY POLE NUMBER 79-1 AND A FIBERGLASS WITNESS POST. OWNERSHIP RAY DOTTAVIO, PHONE NO. (802) 875-4040.

TRAVERSE TIES

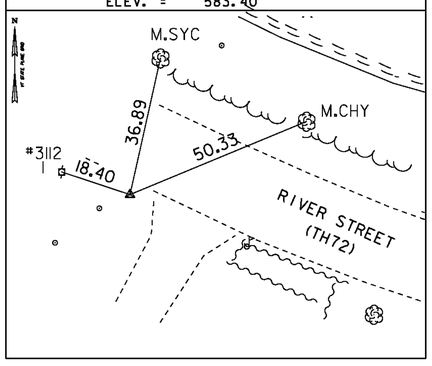
HVCTRL #5

NORTH = 276126.16
EAST = 1617215.26
ELEV. = 581.48



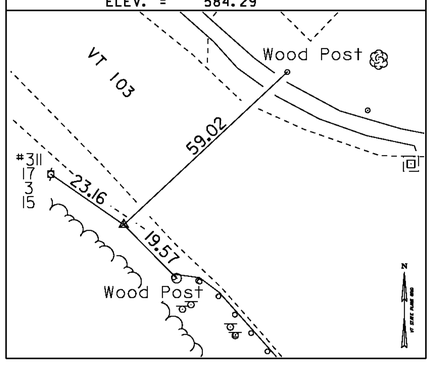
HVCTRL #6

NORTH = 276240.29
EAST = 1616774.90
ELEV. = 583.40



HVCTRL #7

NORTH = 276380.71
EAST = 1616874.59
ELEV. = 584.29



NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

* Main traverse Completed 8/10/95 by R.Gilman P.C. & T.Companion

ALIGNMENT COORD

* ALIGNMENT CURRENT AS OF 8/19/2010

VT 103 CURVE 1 DATA
DELTA = 6°37'33"
D = 3°15'00"
R = 1762.95'
T = 102.05'
L = 203.87'
E = 2.95'

VT 103 CURVE 2 DATA
DELTA = 39°21'20"
D = 10°00'00"
R = 572.96'
T = 204.90'
L = 393.56'
E = 35.54'

VT 11 CURVE 3 DATA
DELTA = 19°18'18"
D = 17°37'46"
R = 325.00'
T = 55.28'
L = 109.50'
E = 4.67'

VT 11 CURVE 4 DATA
DELTA = 21°55'07"
D = 90°00'00"
R = 63.66'
T = 12.33'
L = 24.35'
E = 1.18'

TH 72 CURVE 5 DATA
DELTA = 18°38'52"
D = 8°29'18"
R = 675.00'
T = 110.82'
L = 219.69'
E = 9.04'

TH 72 CURVE 6 DATA
DELTA = 63°07'29"
D = 163°42'08"
R = 35.00'
T = 21.50'
L = 38.56'
E = 6.08'

ALIGNMENT COORDINATES			
VT RT 103			
	STATION	NORTHING	EASTING
POB	9+93.39	276512.1859	1616777.1664
PC #1	10+36.11	276482.3245	1616807.7253
PRC#1	12+39.98	276331.7350	1616944.9838
PT #1	16+33.54	276131.3473	1617274.7365
POE	17+07.45	276116.4750	1617347.1323
VT RT 11			
	STATION	NORTHING	EASTING
POB	30+00.00	276439.0802	1617098.2569
PC #2	30+01.60	276438.1148	1617096.9746
PT #2	31+11.11	276388.0929	1617000.1456
PC #3	31+38.20	276379.8699	1616974.3304
PT #3	31+62.55	276368.2725	1616953.0839
POE	31+92.00	276349.5073	1616930.3902
TH 72 (RIVER ROAD)			
	STATION	NORTHING	EASTING
POB	50+00.00	276256.3263	1616773.9325
PC #4	50+14.85	276249.9593	1616787.3506
PT #4	52+34.54	276189.4488	1616997.5338
PC #5	52+67.00	276185.6405	1617029.7724
PT #5	53+05.56	276201.0239	1617063.0264
POE	53+23.00	276215.5448	1617072.6785

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)
ADJUSTMENT Compass

PROJECT NAME: Chester
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: 95bl68\survey\x95bl68ti.dgn
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: R.S. YOUNG
TIE SHEET

PLOT DATE: 20-SEP-2010
DRAWN BY: R. Bullock
CHECKED BY: R.S. YOUNG
SHEET 66 OF 124

SEE DRAINAGE DETAIL SHEET
FOR DRAINAGE FLAG DESCRIPTIONS

REMOVAL OF EXISTING GUARD RAIL
STA 11+74.90 RT - 12+47.15 RT
STA 13+72.26 RT - 13+86.19 RT
STA 12+46.39 LT - 12+60.27 LT
STA 13+94.87 LT - 14+42.44 LT

HD STEEL BEAM GUARD RAIL, GALVANIZED
STA 11+94.90 RT - 12+44.75 RT
STA 31+40.00 LT - 12+57.54 LT
STA 53+06.95 LT - 52+49.95 LT
STA 14+26.01 LT - 14+38.85 LT

SPECIAL PROVISION (GUARDRAIL APPROACH SECTION TO CONCRETE BRIDGE RAILING) (TL-3)
STA 12+44.75 RT - 12+62.25 RT
STA 12+57.54 LT - 12+76.20 LT
STA 14+06.65 LT - 14+26.01 LT

CONSTRUCT 5' PAVED APRON*
STA 14+49.83 RT 21' WIDE
* PAVEMENT FOR DRIVE SHALL BE ONE LIFT 3" THICK

SPECIAL PROVISION (BRIDGE RAIL, GALVANIZED STEEL TUBING/CONCRETE COMBINATION)
STA 12+62.25 RT - 13+81.90 RT
STA 12+76.20 LT - 14+06.65 LT

ANCHOR FOR STEEL BEAM GUARD RAIL
STA 12+06.95 RT
STA 14+26.01 LT
STA 31+62.80 LT
STA 52+60.35 LT

SPECIAL PROVISION (GUARDRAIL APPROACH SECTION TO CONCRETE BRIDGE RAILING) (TL-2)
STA 13+81.90 RT - 13+91.10 RT

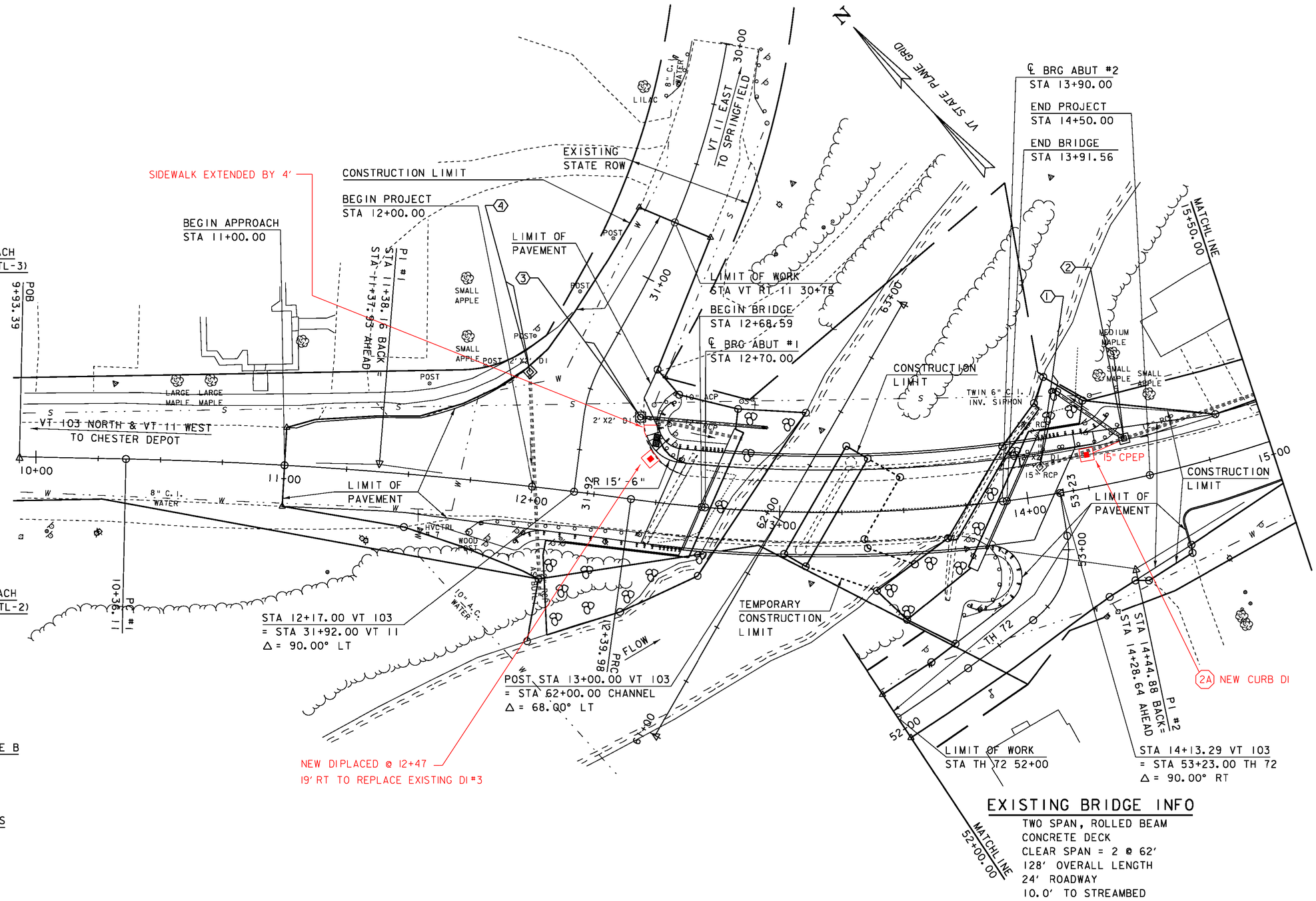
PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
STA 12+42.99 LT - 12+76.61 LT
STA 14+02.21 LT - 14+30.78 LT

DETECTABLE WARNING SURFACE
STA 12+46.00 LT

PRECAST REINFORCED CONCRETE CURB, TYPE B
STA 12+50.82 RT - 12+62.28 RT
STA 12+42.99 LT - 12+74.59 LT
STA 14+02.21 LT - 14+30.78 LT

CHANGING ELEVATION OF SEWER MANHOLES
STA 31+46.55 LT

CHANGING ELEVATION OF DROP INLETS, CATCH BASINS, OR MANHOLES
STA 31+50.62 RT
STA 31+56.80 LT



EXISTING BRIDGE INFO

TWO SPAN, ROLLED BEAM
CONCRETE DECK
CLEAR SPAN = 2 @ 62'
128' OVERALL LENGTH
24' ROADWAY
10.0' TO STREAMBED
BUILT 1935

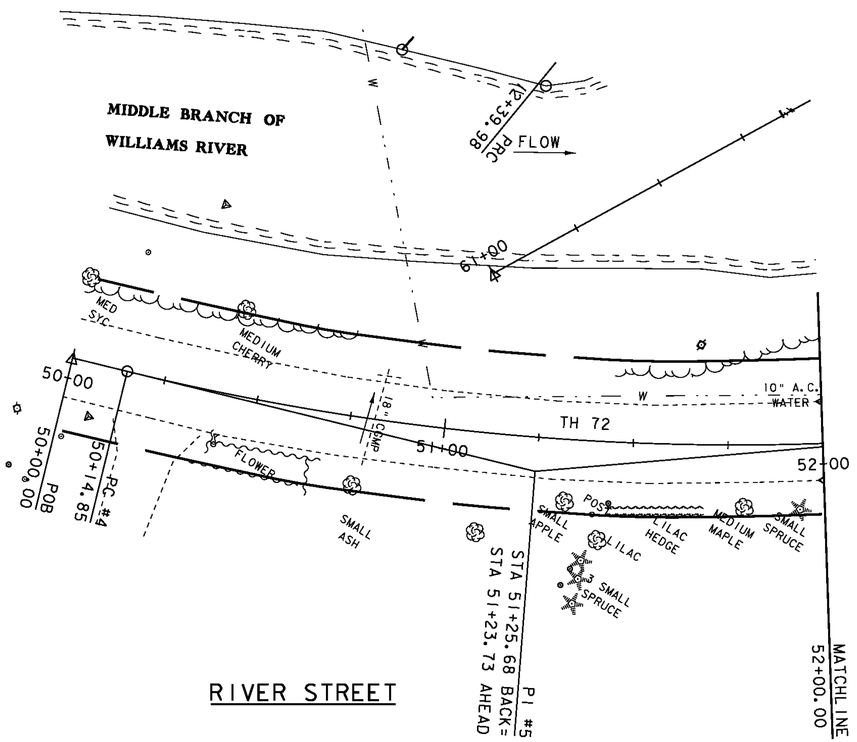
LAYOUT #1

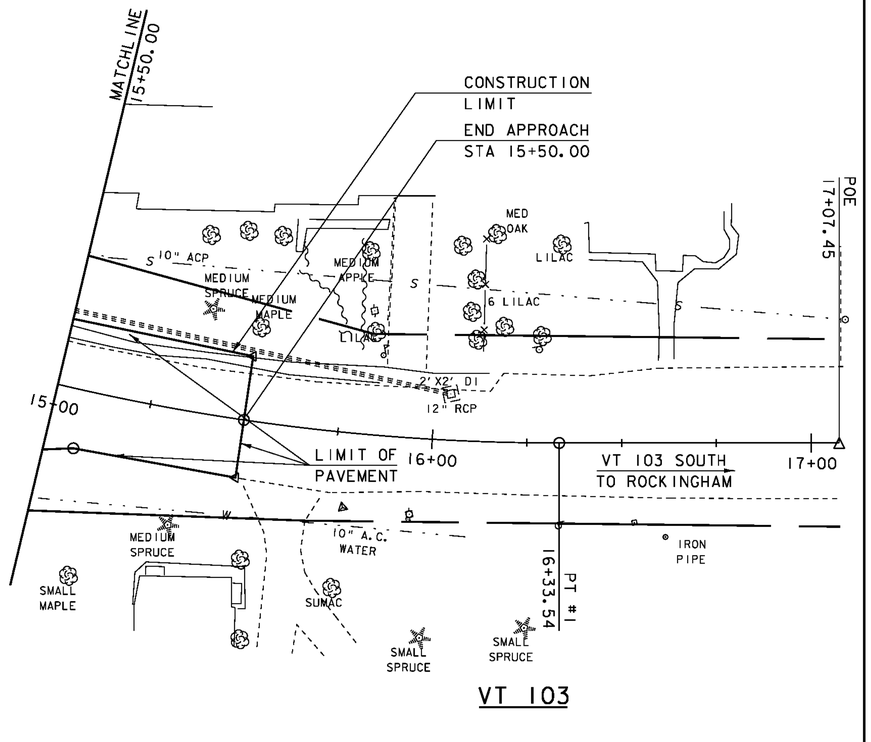
SCALE 1" = 20'-0
20 0 20

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: 95b168\s95b168bdr.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 LAYOUT SHEET #1

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 67 OF 124

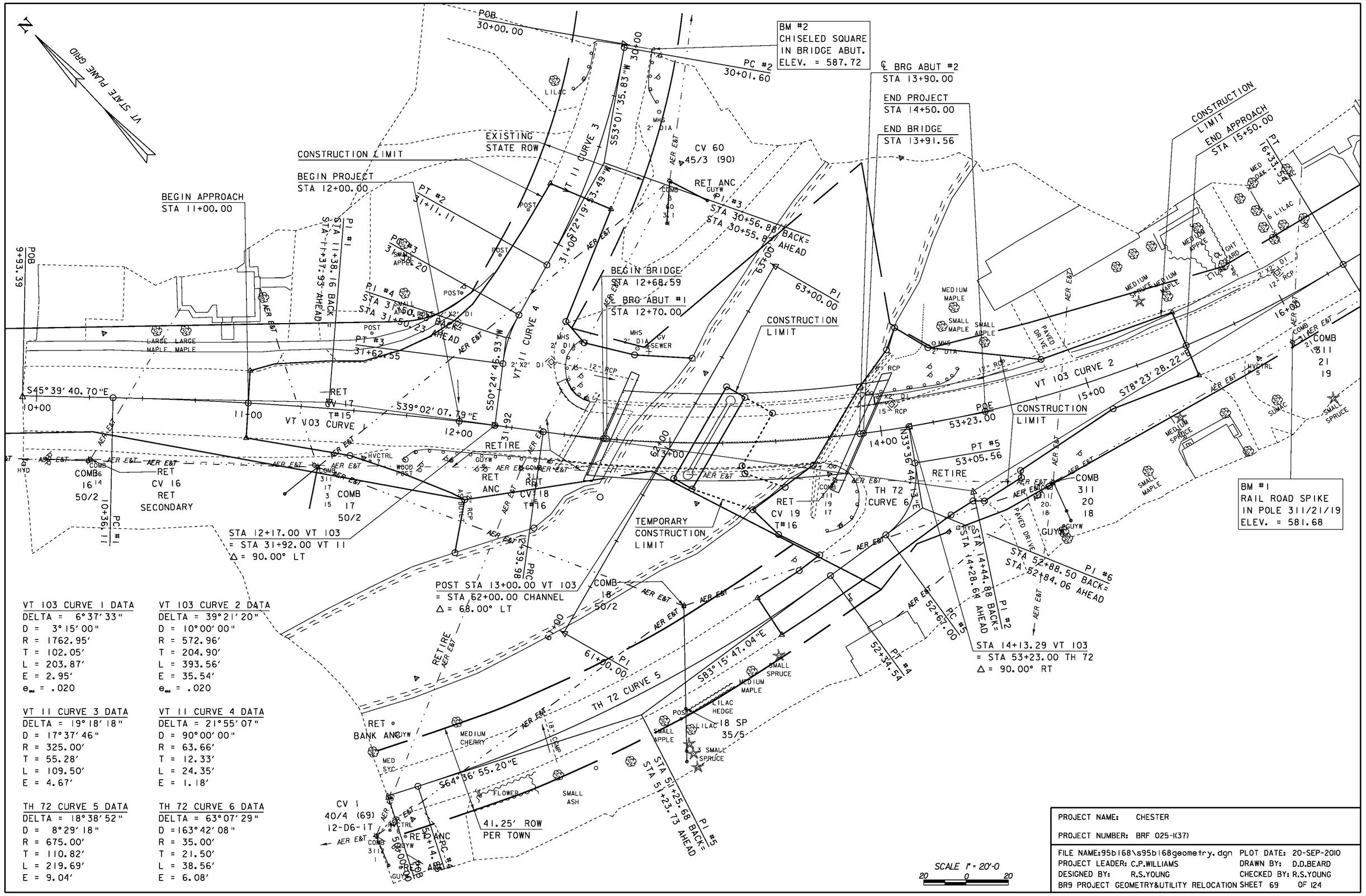




LAYOUT #2

SCALE 1" = 20'-0
20 0 20

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME:95b168\s95b168bdr.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 9 LAYOUT SHEET #2	SHEET 68 OF 124

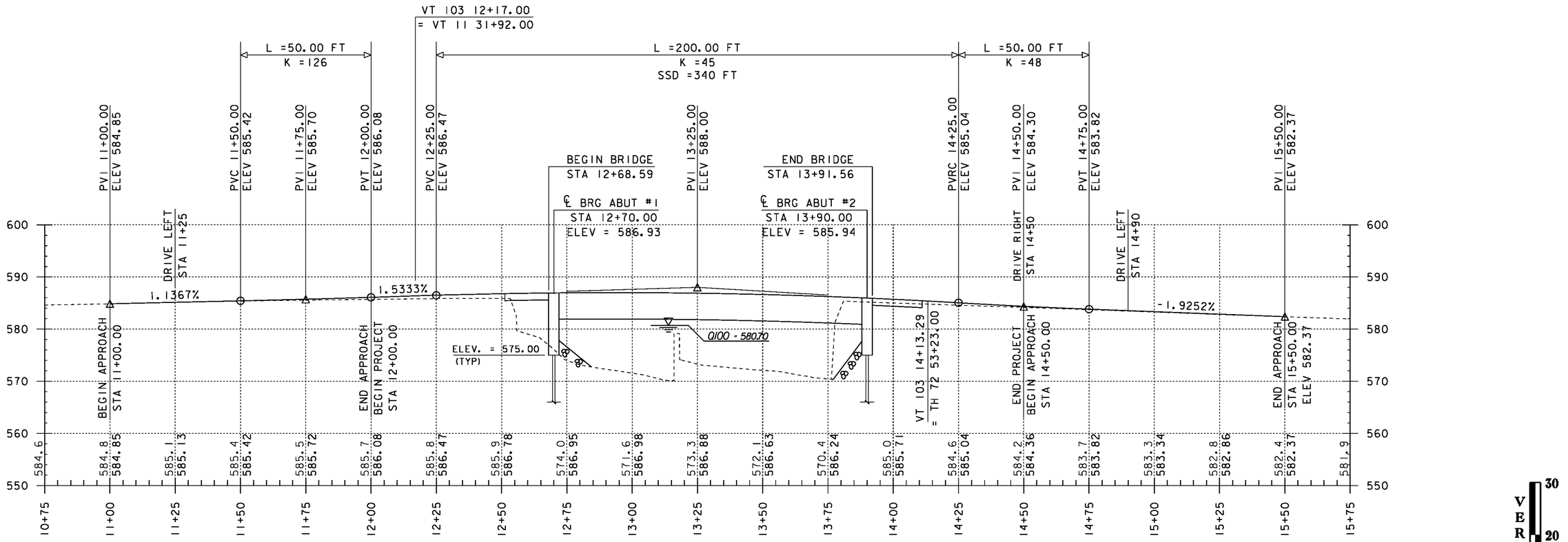


VT 103 CURVE 1 DATA	VT 103 CURVE 2 DATA
DELTA = 6°37'33"	DELTA = 39°21'20"
D = 3°15'00"	D = 10°00'00"
R = 1762.95'	R = 572.96'
T = 102.05'	T = 204.90'
L = 203.87'	L = 393.56'
E = 2.95'	E = 35.54'
e_{max} = .020	e_{max} = .020

VT 11 CURVE 3 DATA	VT 11 CURVE 4 DATA
DELTA = 19°18'18"	DELTA = 21°55'07"
D = 17°37'46"	D = 90°00'00"
R = 325.00'	R = 63.66'
T = 55.28'	T = 12.33'
L = 109.50'	L = 24.35'
E = 4.67'	E = 1.18'

TH 72 CURVE 5 DATA	TH 72 CURVE 6 DATA
DELTA = 18°38'52"	DELTA = 63°07'29"
D = 8°29'18"	D = 163°42'08"
R = 675.00'	R = 35.00'
T = 110.82'	T = 21.50'
L = 219.69'	L = 38.56'
E = 9.04'	E = 6.08'

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(37)
FILE NAME:	95b168\s95b168geometry.dgn
PLOT DATE:	20-SEP-2010
PROJECT LEADER:	C.P.WILLIAMS
DRAWN BY:	D.D.BEARD
DESIGNED BY:	R.S.YOUNG
CHECKED BY:	R.S.YOUNG
BR9 PROJECT GEOMETRY&UTILITY RELOCATION	SHEET 69 OF 124



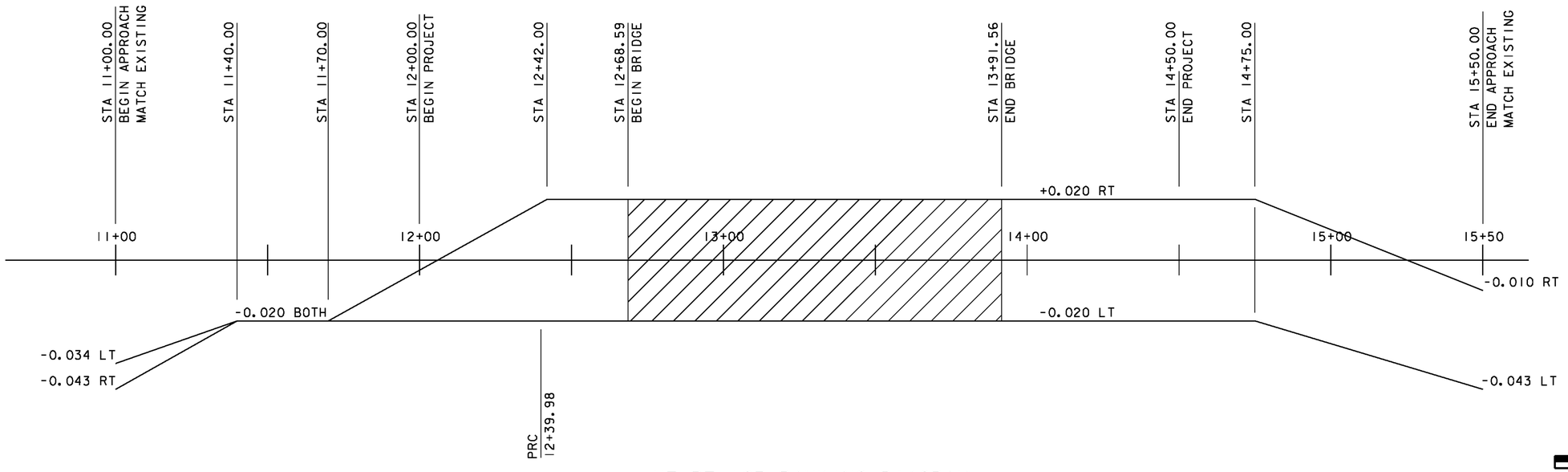
VT RT 103 PROFILE

NOTE:

GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG ℄

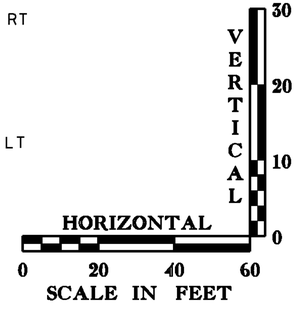
GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG ℄

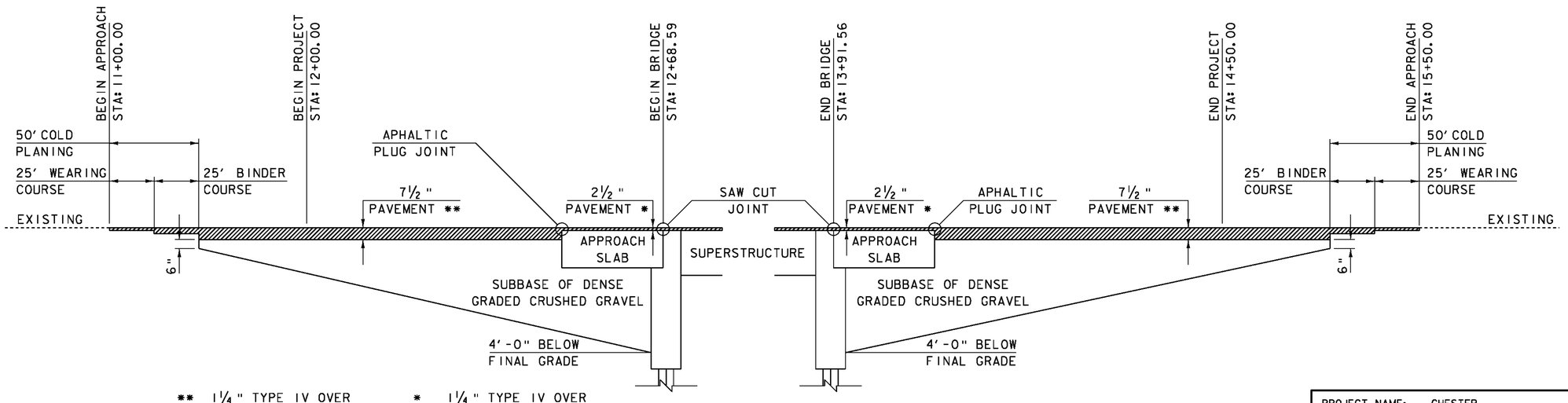
PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME: 95b168\s95b168pro.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 9 PROFILE SHEET	SHEET 70 OF 124



VT RT 103 BANKING DIAGRAM

HORIZONTAL SCALE : 1" = 20'-0"
VERTICAL SCALE : 1" = .02'/'





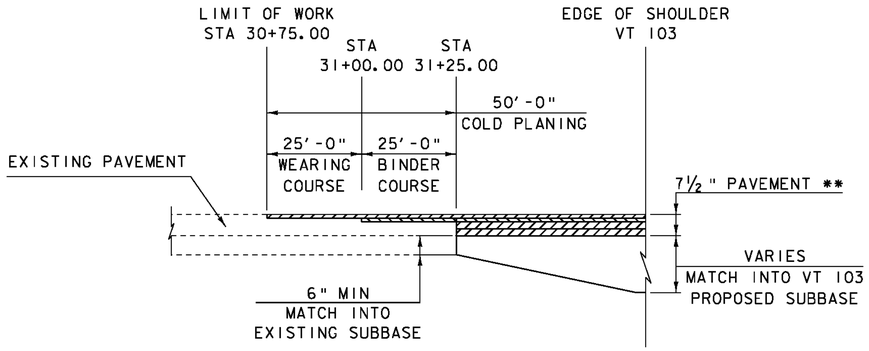
** 1¼" TYPE IV OVER
1¼" TYPE IV OVER
2½" TYPE II OVER
2½" TYPE II

* 1¼" TYPE IV OVER
1¼" TYPE IV

VT RT 103 TRANSITION DIAGRAMS

N. T. S.

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME: 95b168\s95b168pro.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 9 BANKING & TRANSITION DIAGRAM	SHEET 71 OF 124

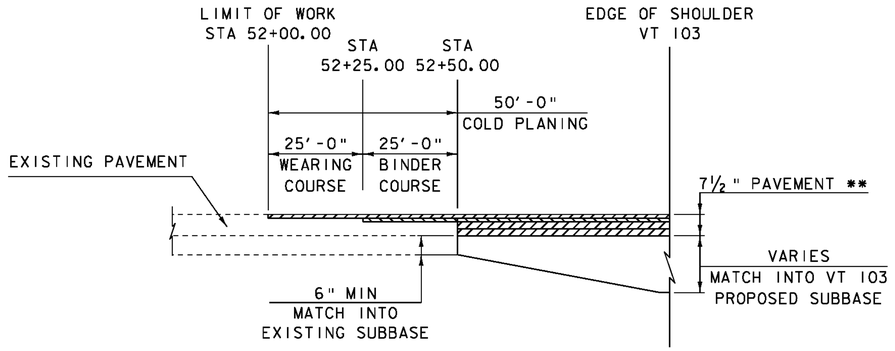


** 1¼" TYPE IV OVER
1¼" TYPE IV OVER
2½" TYPE II OVER
2½" TYPE II

VT RT 11 MATERIAL TRANSITION

HORIZONTAL SCALE: 1" = 20'-0"
VERTICAL SCALE: NOT TO SCALE

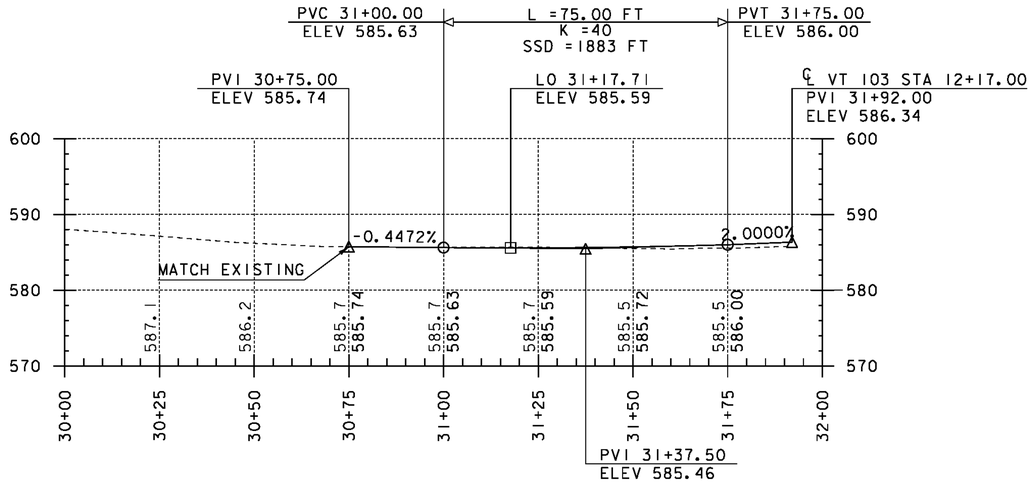
SCALE 1" = 20'-0"
20 0 20



TH 72 MATERIAL TRANSITION

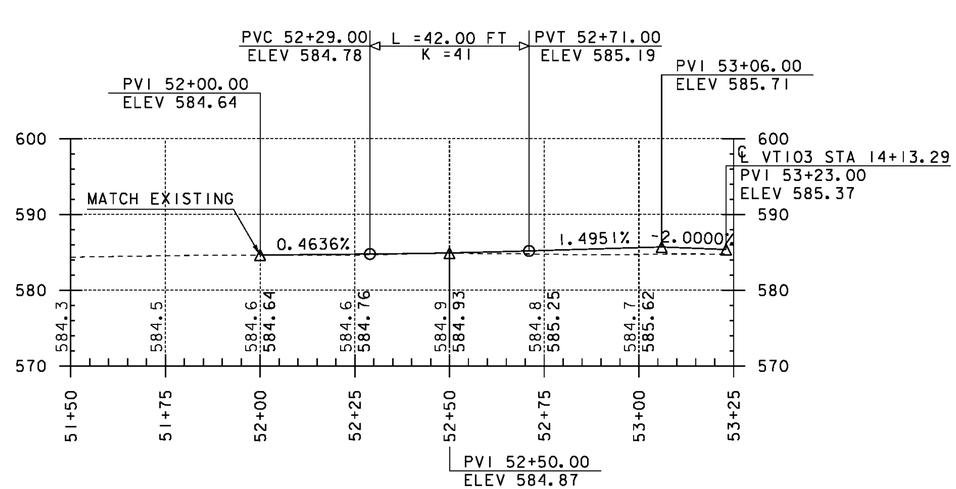
HORIZONTAL SCALE: 1" = 20'-0"
VERTICAL SCALE: NOT TO SCALE

SCALE 1" = 20'-0"
20 0 20



VT RT 11 PROFILE

ALONG ℄ ALIGNMENT



TH 72 PROFILE

ALONG ℄ ALIGNMENT

VERTICAL 0 10 20 30
HORIZONTAL 0 20 40 60
SCALE IN FEET

NOTE:

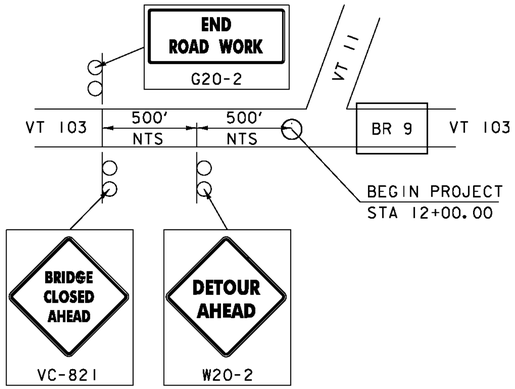
GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG ℄

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG ℄

PROJECT NAME:	CHESTER		
PROJECT NUMBER:	BRF 025-1(37)		
FILE NAME:	95bl68\s95bl68pro.dgn	PLOT DATE:	20-SEP-2010
PROJECT LEADER:	C.P.WILLIAMS	DRAWN BY:	L.J.STONE
DESIGNED BY:	H.I. SALLS	CHECKED BY:	R.S.YOUNG
BRIDGE 9 VT RT 11 & TH 72 PROFILE SHEET		SHEET 72	OF 124

NOTES:

1. THE CONTRACTOR SHALL PROVIDE TEMPORARY TRAFFIC BARRIER AS POSITIVE PROTECTION DURING THE BRIDGE CLOSURE. PAYMENT SHALL BE UNDER ITEM 621.90 "TEMPORARY TRAFFIC BARRIER".
2. ANY REQUIRED LINE STRIPING TARGETS SHALL BE INCIDENTAL TO ITEM 641.10 "TRAFFIC CONTROL"
3. EXISTING CONFLICTING PAVEMENT MARKINGS SHALL BE COVERED WITH BLACK PAVEMENT MARKING MASK.



VT 103 NORTH APPROACH SIGNS

VT 103 SOUTH APPROACH SIGNS

TEMPORARY 4" WHITE LINE
STA 11+00 RT/LT - 31+00 RT/LT
STA 52+50 RT/LT - 15+25 RT/LT

TEMPORARY 4" YELLOW LINE (DBL)
STA 11+00 - 31+00
STA 52+50 - 15+25

LEGEND
- TYPE III BARRICADE
- TYPE III (MOD) BARRICADE
- TEMPORARY TRAFFIC BARRIER

TRAFFIC CONTROL LAYOUT

SCALE 1" = 20'-0"
20 0 20

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME: s95b168detour.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: E.L.RUSTAY
BRIDGE 9 TRAFFIC CONTROL LAYOUT	SHEET 73 OF 124

SOIL CLASSIFICATION

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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

COMMONLY USED SYMBOLS

▼	Water Elevation
⊕	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O.D. Sampler 1 3/8" I.D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1 1/8"
BX	Core Size 1 5/8"
NX	Core Size 2 1/8"
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	To Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)

COLOR

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

DEFINITIONS (AASHTO)

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

BOULDER - A rock fragment with an average dimension > 12 inches.

COBBLE - Rock fragments with an average dimension between 3 and 12 inches.

GRAVEL - Rounded particles of rock < 3" and > 0.0787" (#10 sieve).

SAND - Particles of rock < 0.0787" (#10 sieve) and > 0.0029" (#200 sieve).

SILT - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

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

VARVED - Alternate layers of silt and clay.

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

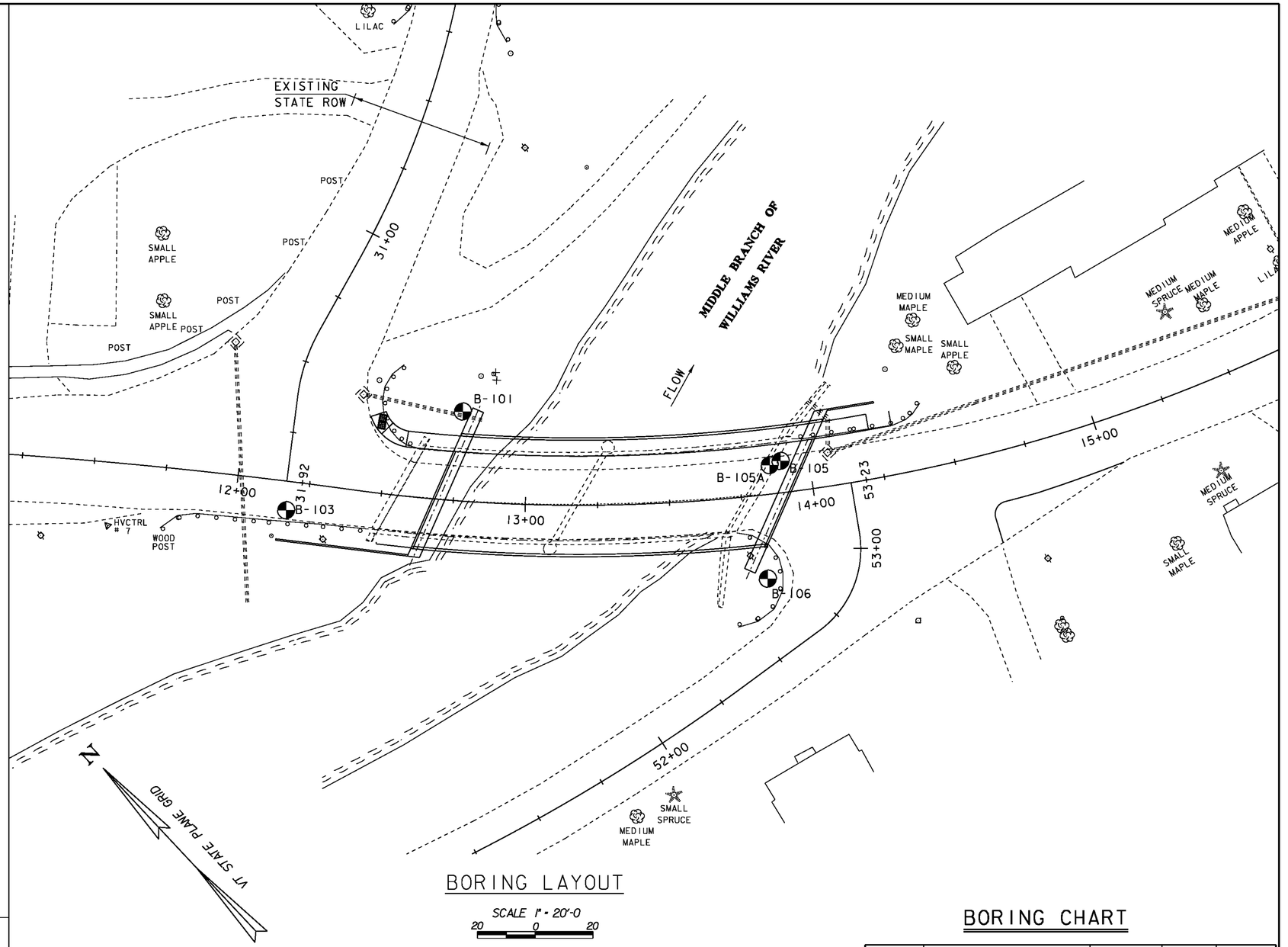
MUCK - Soft organic soil (containing > 10% organic material.

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

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

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

DIP - Inclination of bed with a horizontal plane.



BORING LAYOUT

SCALE 1" = 20'-0

20 0 20

GENERAL NOTES

1. The subsurface explorations shown herein were made between 02/03/09 and 04/09/09 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

BORING CHART

HOLE NO.	VTSPG NORTHING	VTSPG EASTING	STATION	OFFSET	ELEV OF LEDGE
B-101	276326.55	1616990.57	12+76.00	-31.00	526.37
B-103	276342.22	1616923.35	12+18.00	10.00	524.65
B-105	276233.15	1617057.43	13+90.00	-11.00	UNK.
B-105A	276236.57	1617053.20	13+86.00	-10.00	524.20
B-106	276215.83	1617021.04	13+81.00	29.00	526.78

PROJECT NAME: CHESTER

PROJECT NUMBER: BRF-025-1(37)

FILE NAME: b168\s95b168bor.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: H.I.SALLS
BORING INFORMATION SHEET

PLOT DATE: 20-SEP-2010
DRAWN BY: H.I.SALLS
CHECKED BY: R.S. YOUNG
SHEET 74 OF 124

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

BORING NUMBER: B-101
SHEET 1 of 1
DATE STARTED: 2/03/09
DATE COMPLETED: 2/05/09

PROJECT NAME: CHESTER
SITE NAME: VT-103
STATION: 12+76
OFFSET: -31.00
VTSPG: N 276326.55 ft E 1616990.57 ft

PROJECT NUMBER: BRF 025-1(37)SC
SITE NUMBER: BR-9
GROUND ELEVATION: 583.47 ft
GROUNDWATER DEPTH: 9.5 ft 2/04/09
PROJECT PIN NUMBER: 95B168

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

BORING RIG: LARGE SKID RIG w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: NSM

BOTTOM OF PILE CAP = 575.00

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		Visual Classification, A-2-4, GrSiSa with roots & leaves, brn, Moist, Rec. = 0.8 ft	30	29.8			
		A-2-4, GrSa, brn, MTW, Rec. = 0.5 ft	16	23.5	23.4	58.6	18.0
		A-1-b, SaGr, brn, MTW, Rec. = 0.7 ft	15	18.8	43.9	43.0	13.1
		A-1-b, GrSa, brn, MTW, Rec. = 1.4 ft	12	14.5	32.7	57.4	9.9
		A-1-a, SaGr, brn, Wet, Rec. = 1.0 ft	28	19.0	63.0	31.6	5.4
10		A-1-a, SaGr, brn, Wet, Rec. = 1.1 ft	41	10.7	61.7	26.7	11.6
		A-4, GrSiSa, gry, MTW, Rec. = 1.2 ft	41	14.8	24.2	38.0	37.8
		A-4, SaGrSi, gry, MTW, Rec. = 0.7 ft	25	14.8	37.1	23.4	39.5
		A-4, SaSi, gry, MTW, Rec. = 1.4 ft	35	17.0	16.1	41.6	42.3
		A-2-4, SiSa, gry, MTW, Rec. = 1.3 ft	43	22.1	0.7	68.7	30.6
20		A-3, Sa, gry, MTW, Rec. = 1.7 ft	62	17.8	4.8	86.2	9.0
		Field Class:, BXMDC, Cobbles					
		Field Class:, BXMDC, Boulder, Advanced casing.					
30							
		Field Class:, BXMDC, Cobbles, Advanced casing.					
40		Field Note:, No recovery, Appears to be cobbles and silt, Changed bit	R				
		A-1-a, SaGr, gry, MTW, Rec. = 0.4 ft, Broken rock was within sample.	R	8.3	65.4	28.0	6.6
50		A-3, Sa, gry, MTW, Rec. = 0.3 ft	R	17.3	0.8	92.2	7.0
		Field Note:, No recovery, Appears to be sand	R				
				Top of Bedrock @ 57.1 ft			
60		Gray, Biotite Gneiss, Competent, Very hard, Unweathered, BXMDC, 57.1 ft - 62.1 ft, Rec. = 5.0 ft	1	100	48	20	14 12 12 12 12
		Gray, Biotite Gneiss, Competent, Very hard, Unweathered, BXMDC, 62.1 ft - 67.1 ft, Rec. = 5.0 ft	2	100	44	20	12 12 12 12 12
		Hole stopped @ 67.1 ft					

ESTIMATED PILE TIP

LOG OF BORING CHESTER BRF 025-1(37)SC.GPJ VT AOT.GDT 5/13/09

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

BORING NUMBER: B-103
SHEET 1 of 1
DATE STARTED: 3/20/09
DATE COMPLETED: 4/09/09

PROJECT NAME: CHESTER
SITE NAME: VT-103
STATION: 12+18
OFFSET: 10.00
VTSPG: N 276342.22 ft E 1616923.35 ft

PROJECT NUMBER: BRF 025-1(37)SC
SITE NUMBER: BR-9
GROUND ELEVATION: 585.45 ft
GROUNDWATER DEPTH: 13.0 ft 4/08/09
PROJECT PIN NUMBER: 95B168

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: PORTER

BORING RIG: LAG TRACK RIG #09 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: NSM

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		Asphalt Pavement, 0.0 ft - 0.8 ft					
		A-1-b, SaGr, brn, Moist, Rec. = 1.0 ft	37	13.6	48.3	39.3	12.4
		A-2-4, GrSa, brn, Moist, Rec. = 1.0 ft, Advanced & cleaned out casing to 8.0 ft.	7	18.3	27.7	54.2	18.1
		A-1-a, SaGr, brn, Moist, Rec. = 1.0 ft, Broken Rock was within sample.	40	9.6	62.1	30.7	7.2
10		BXDC, Cobbles, 10.0 ft - 11.0 ft					
		A-2-4, GrSa, brn, Moist, Rec. = 1.5 ft	30	13.5	25.4	60.0	14.6
		BXDC, Cobbles, 18.0 ft - 20.0 ft					
20		A-4, SaSi, gry, Moist, Rec. = 1.4 ft	44	20.5	5.1	30.6	64.3
		A-2-4, GrSa, gry, Moist, Rec. = 1.2 ft, Broken Rock was within sample.	68	14.1	35.9	46.0	18.1
30		A-4, SaGrSi, gry, Moist, Rec. = 1.4 ft, Broken Rock was within sample.	88	12.8	35.7	28.0	36.3
		Visual Classification, Very Fine Sand					
		BXMDC, Cobbles, 37.8 ft - 41.8 ft					
40		Visual Classification, Appears to be Sand					
		Visual Classification, Appears to be Silty Sand					
50							
				Top of Bedrock @ 60.8 ft			
60		Gray, Biotite Gneiss, Competent, Very hard, Unweathered, BXMDC, 60.8 ft - 65.8 ft, Rec. = 4.8 ft	1	96	58	35	7 6 7 7 7
		Hole stopped @ 65.8 ft					
70							

ESTIMATED PILE TIP

LOG OF BORING CHESTER BRF 025-1(37)SC.GPJ VT AOT.GDT 5/13/09

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: s95b168bor.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: H.I.SALLS
BRIDGE 9 BORING LOG - SHEET 1

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 75 OF 124

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

BORING NUMBER: B-105
SHEET 1 of 1
DATE STARTED: 2/11/09
DATE COMPLETED: 2/13/09

PROJECT NAME: CHESTER
SITE NAME: VT-103
STATION: 13+90
OFFSET: -11.00
VTSPG: N 276233.15 ft E 1617057.43 ft

PROJECT NUMBER: BRF 025-1(37)SC
SITE NUMBER: BR-9
GROUND ELEVATION: 584.84 ft
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 95B168

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

BORING RIG: LARGE SKID RIG w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: NSM

BOTTOM OF PILE CAP = 575.00

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		Asphalt Pavement, 0.0 ft – 0.7 ft					
		Field Note:, No Recovery	R				
		BXDC, Concrete, 1.5 ft – 2.5 ft					
		A-2-4, SiGrSa, gry, MTW, Rec. = 1.2 ft	49	13.3	26.9	46.6	26.5
5		A-1-b, SaGr, gry, Wet, Rec. = 0.5 ft	13	10.5	55.5	33.5	11.0
		A-1-b, SaGr, gry, Wet, Rec. = 1.1 ft	22	9.5	47.1	40.7	12.2
		A-1-a, SaGr, gry, Wet, Rec. = 0.7 ft	R	9.7	63.9	25.9	10.2
10		Field Note:, BXDC, Cleaned out casing to 10.5 ft.					
		A-2-4, GrSa, gry, Wet, Rec. = 0.4 ft	12	15.1	32.8	49.9	17.3
		Field Class:, BXDC, Cobbles					
15		A-2-4, SiGrSa, gry, Wet, Rec. = 1.3 ft	43	12.5	36.6	41.1	22.3
		A-2-4, GrSiSa, gry, Wet, Rec. = 1.4 ft	64	10.8	20.8	47.8	31.4
20		A-2-4, SiSa, gry, Wet, Rec. = 1.2 ft	34	17.3	11.1	68.3	20.6
25		A-2-4, GrSa, gry, Wet, Rec. = 0.6 ft	R	13.2	32.6	54.8	12.6
30		Field Class:, BXDC, Cobbles, Cored ahead.					
35		Field Class:, BXDC, Cobbles, Changed bit. Very hard drilling.					
		Field Note:, Casing broke off. About 5 ft of casing remains in hole. Hole stopped @ 35.0 ft					

LOG OF BORING CHESTER BRF 025-1(37)SC.GPJ VT_AOT.GDT 5/13/09

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

BORING NUMBER: B-105A
SHEET 1 of 1
DATE STARTED: 2/13/09
DATE COMPLETED: 3/18/09

PROJECT NAME: CHESTER
SITE NAME: VT-103
STATION: 13+86
OFFSET: -10.00
VTSPG: N 276236.57 ft E 1617053.20 ft

PROJECT NUMBER: BRF 025-1(37)SC
SITE NUMBER: BR-9
GROUND ELEVATION: 584.9 ft
GROUNDWATER DEPTH: 15.5 ft 3/18/09
PROJECT PIN NUMBER: 95B168

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

BORING RIG: LARGE SKID RIG w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: NSM

BOTTOM OF PILE CAP = 575.00

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / ROD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		BXDC, Cobbles, 2.5 ft – 9.5 ft					
10		BXDC, Cobbles, 13.0 ft – 14.0 ft					
		BXDC, Cored ahead, 17.2 ft – 19.0 ft					
20		BXDC, Cored ahead, 19.1 ft – 21.0 ft					
		BXDC, Cobbles, 22.5 ft – 24.0 ft					
		BXDC, Boulder, 25.0 ft – 27.0 ft					
		BXDC, Cobbles, 27.0 ft – 31.0 ft					
30		BXDC, Cored ahead, 33.5 ft – 35.0 ft					
		A-1-b, GrSa, gry, Wet, Rec. = 0.9 ft	R	11.2	42.4	42.9	14.7
		Field Note:, Pulled out casing. Changed bit. Changed casing from 4" to 3.5".					
40		No Recovery, 40.0 ft – 41.0 ft	R				
		BXMDC, Cobbles, 41.0 ft – 42.5 ft					
		A-4, SiSa, gry, Wet, Rec. = 0.6 ft	84	21.5	2.8	60.2	37.0
50		A-3, Sa, gry, Wet, Rec. = 0.8 ft	R	23.6	0.0	92.4	7.6
		A-4, SaSi, gry, MTW, Rec. = 0.6 ft	R	27.6	0.0	26.7	73.3
				22.5	0.0	24.0	76.0
60		A-4, SaSi, gry, MTW, Rec. = 0.7 ft	R	Top of Bedrock @ 60.7 ft			
		Gray, Biotite Gneiss, Competent, Very hard, Unweathered, BXWDC, 60.7 ft – 65.7 ft, Rec. = 4.8 ft	1	96	60	35	5 5 10 10 12
70		Gray, Biotite Gneiss, Competent, Very hard, Unweathered, BXWDC, 65.7 ft – 70.7 ft, Rec. = 4.85 ft	2	97	70	35	7 11 10 12 18
		Hole stopped @ 70.7 ft					

ESTIMATED PILE TIP

LOG OF BORING CHESTER BRF 025-1(37)SC.GPJ VT_AOT.GDT 5/13/09

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: s95b168bor.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: H.I.SALLS
BRIDGE 9 BORING LOG - SHEET 2

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 76 OF 124

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

BORING NUMBER: B-106
SHEET 1 of 1
DATE STARTED: 2/09/09
DATE COMPLETED: 2/11/09

PROJECT NAME: CHESTER
SITE NAME: VT-103
STATION: 13+81
OFFSET: 29.00
VTSPG: N 276215.83 ft E 1617021.04 ft

PROJECT NUMBER: BRF 025-1(37)SC
SITE NUMBER: BR-9
GROUND ELEVATION: 584.78 ft
GROUNDWATER DEPTH: 10.8 ft 2/10/09
PROJECT PIN NUMBER: 95B168

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

BORING RIG: LARGE SKID RIG w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: NSM

BOTTOM OF PILE CAP = 575.00

ESTIMATED PILE TIP

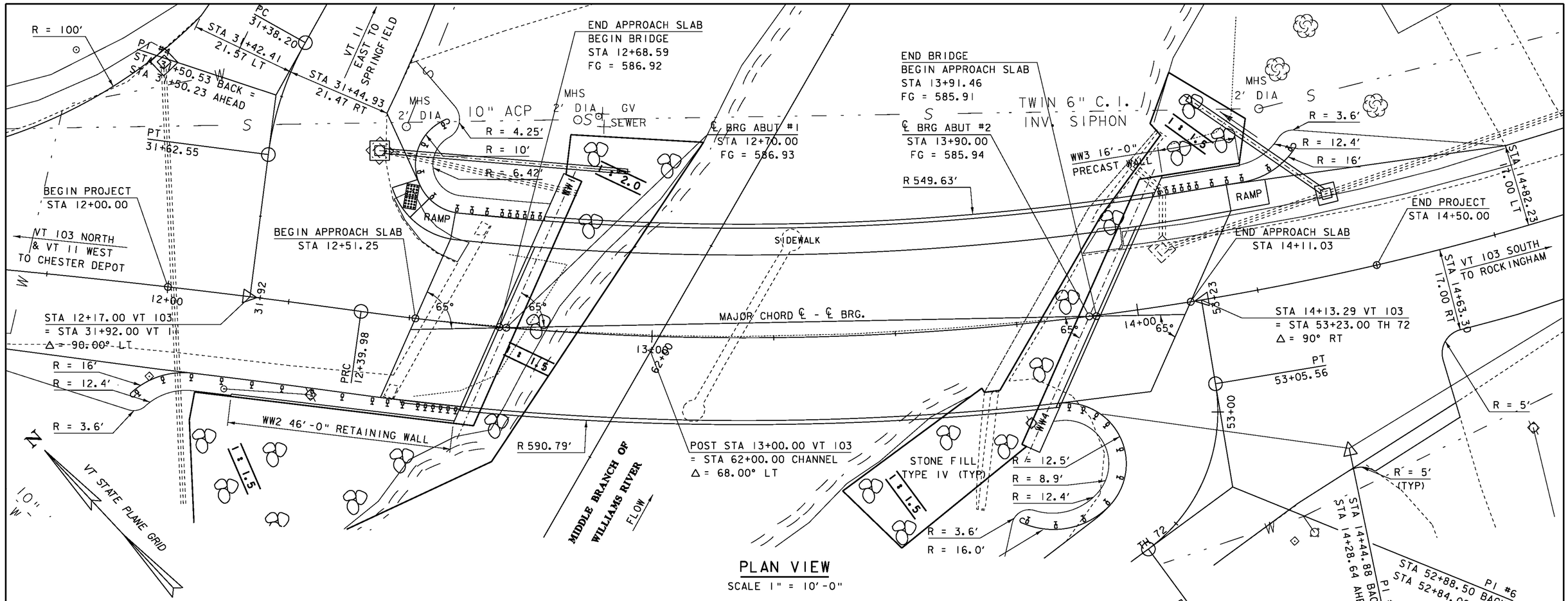
DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)	LL (%)	PI (%)
		A-2-4, SiSa, brn, Moist, Rec. = 1.1 ft, Very srtong petroleum odor.	49	9.0	17.6	58.9	23.5		
		A-1-a, SaGr, brn, Moist, Rec. = 1.1 ft, Very srtong petroleum odor.	14	6.3	52.1	41.4	6.5		
		A-2-4, GrSa, brn, Moist, Rec. = 0.9 ft	13	7.5	30.3	56.0	13.7		
		A-1-b, GrSa, brn, Moist, Rec. = 1.0 ft	18	9.8	37.7	45.5	16.8		
		A-1-b, GrSa, brn, MTW, Rec. = 0.8 ft	27	7.8	44.7	44.9	10.4		
10		A-1-b, GrSa, brn, MTW, Rec. = 0.5 ft	R	10.9	35.5	47.0	17.5		
		BXDC, Boulder, 10.6 ft - 12.0 ft	23	17.9	21.8	63.5	14.7		
		A-2-4, GrSa, gry, Wet, Rec. = 0.8 ft	9	18.3	32.2	59.4	8.4		
		A-3, GrSa, gry, Wet, Rec. = 0.3 ft, There was one stone in sample.	25						
		Field Note:, No Recovery, Stone in sampler.	17	16.1	20.3	48.8	30.9		
20		A-2-4, GrSlSa, gry, Wet, Rec. = 0.9 ft	36	18.8	10.0	52.8	37.2		
		A-4, SiSa, gry, Wet, Rec. = 1.5 ft							
		A-4, SaSi, gry, Wet, Rec. = 1.6 ft	78	20.2	10.5	29.5	60.0		
30		A-6, SiCl, gry, Wet, Rec. = 0.7 ft	6	35.1	0.0	2.3	97.7	39	15
		BXDC, Boulder, 32.3 ft - 34.5 ft							
		A-2-4, SiSa, gry, Wet, Rec. = 0.4 ft	R	12.1	19.6	50.1	30.3		
40		BXMDC, Boulder, 38.8 ft - 41.8 ft							
		A-2-4, GrSlSa, gry, Wet, Rec. = 0.5 ft	R	11.0	26.6	43.8	29.6		
50		A-2-4, SiSa, gry, Wet, Rec. = 0.7 ft	R	20.1	0.0	69.3	30.7		
		A-2-4, SiSa, gry, Wet, Rec. = 0.7 ft	R	21.2	0.8	74.2	25.0		
				Top of Bedrock @ 58.0 ft					
60		Black and gray, Biotite Gneiss, Competent, Very hard, Unweathered, BXMDC, 58.0 ft - 63.0 ft, Rec. = 4.9 ft	1	98	52	20	6 10 10 10 10		
		Black and gray, Biotite Gneiss, Competent, Very hard, Unweathered, BXMDC, 63.0 ft - 68.0 ft, Rec. = 4.2 ft	2	84	48	20	10 10 10 9 8		
		Hole stopped @ 68.0 ft							
70									

LOG OF BORING CHESTER BRF 025-1(37)SC.GPJ VT AOT.GDT 5/13/09

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

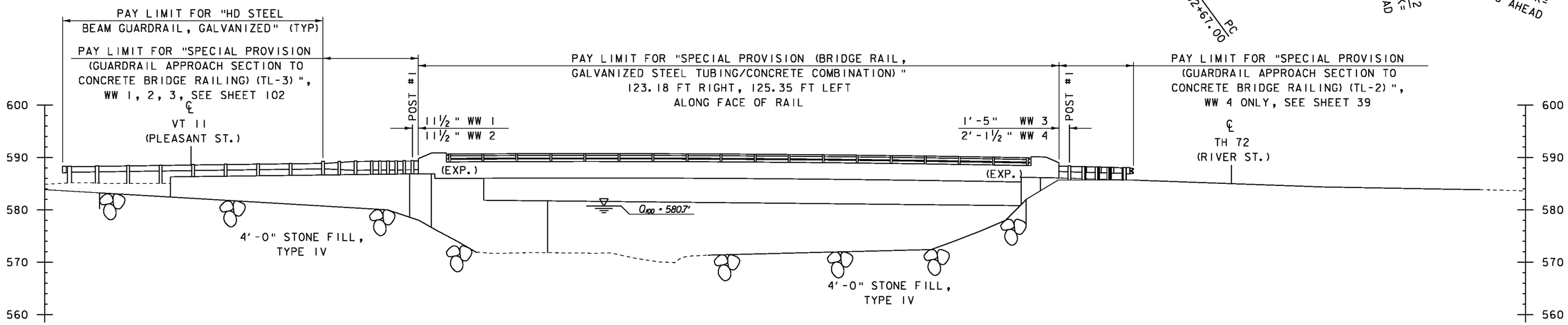
FILE NAME: s95b168bor.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: H.I.SALLS
BRIDGE 9 BORING LOG - SHEET 3

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 77 OF 124



PLAN VIEW

SCALE 1" = 10'-0"

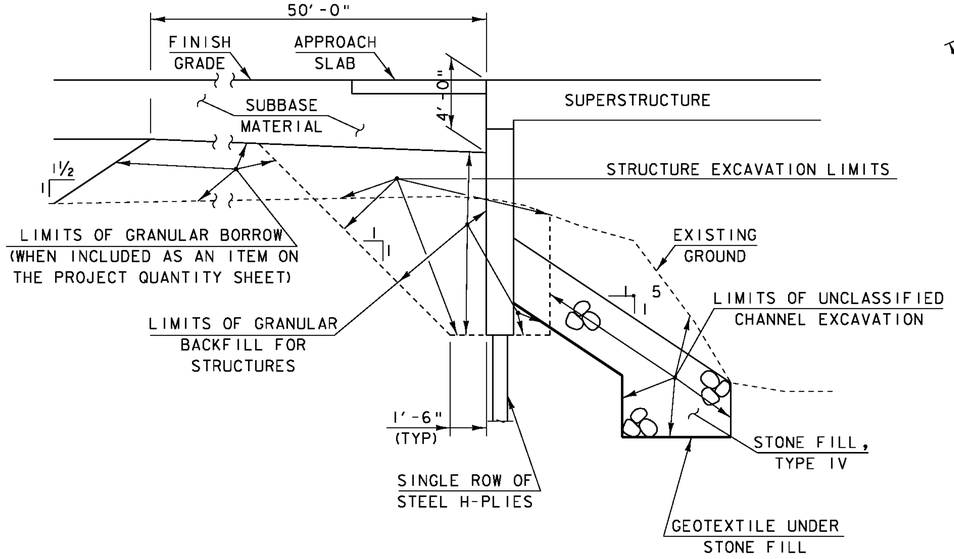


ELEVATION AT UPSTREAM FASCIA

SCALE 1" = 10'-0"

SCALE 1" = 10'-0"
10 0 10

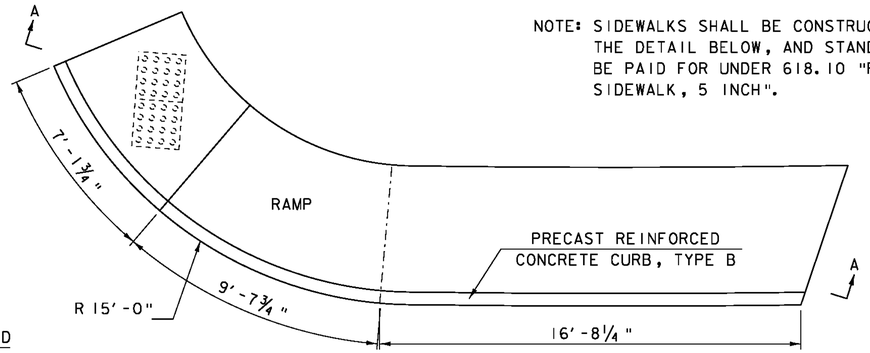
PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME: s95bl68pe.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: H.I.SALLS
BRIDGE 9 PLAN AND ELEVATION	SHEET 78 OF 124



TYPICAL ABUTMENT SECTION

NOT TO SCALE

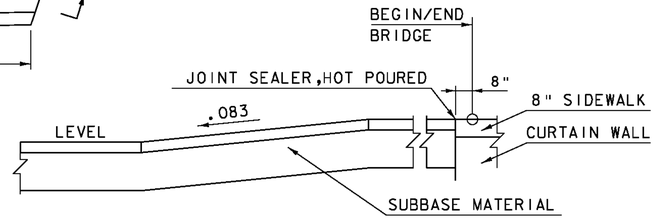
1. ACTUAL EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR. HOWEVER, ONLY THE EXCAVATION BETWEEN THE LIMITS SHOWN WILL BE PAID FOR UNDER THE ITEM 204.25 "STRUCTURE EXCAVATION".



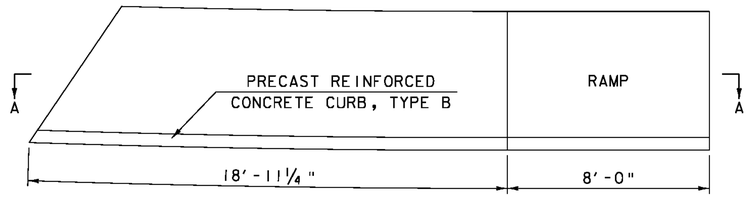
SIDEWALK PLAN

(STA 12+42.99 LT - 12+76.61 LT)

NOTE: SIDEWALKS SHALL BE CONSTRUCTED ACCORDING TO THE DETAIL BELOW, AND STANDARD C-3A. SIDEWALKS SHALL BE PAID FOR UNDER 618.10 "PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH".

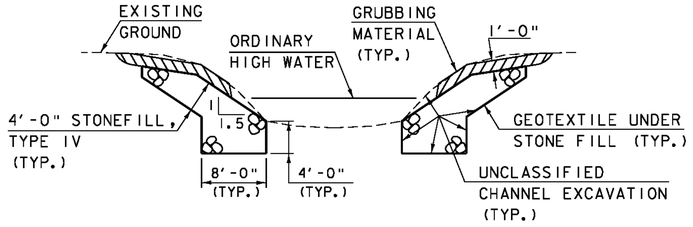


SECTION "A-A"



SIDEWALK PLAN

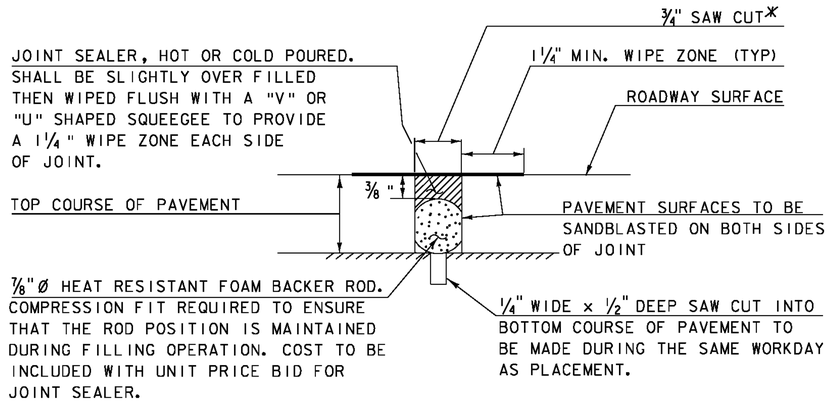
(STA 14+02.21 LT - 14+30.78 LT)



TYPICAL CHANNEL SECTION

(NOT TO SCALE)

NOTE: 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.

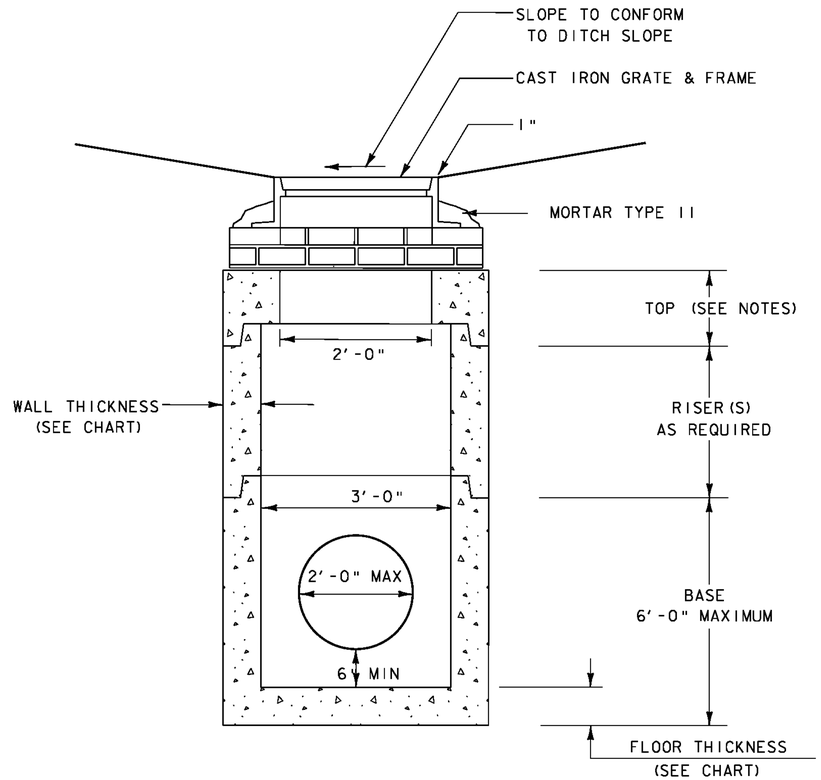


SAWED PAVEMENT JOINT DETAIL

(NOT TO SCALE)

*JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF CONCRETE DECK. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING THE JOINT SEALER.

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME: 95b168\s95b168typ.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 9 MISCELLANEOUS DETAIL SHEET	SHEET 79 OF 124



PRECAST DROP INLET
IN DITCH

N.T.S.

NOTES

1. ALL PRECAST CONCRETE DROP INLETS AND CATCH BASINS SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH SUBSECTION 705.04.

2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL INVERT ELEVATIONS, PIPE SIZES AND LOCATIONS SHOWN PRIOR TO ORDERING THE PRECAST COMPONENTS.

3. SEE STANDARD D-16 FOR CAST IRON FRAME AND GRATE DETAILS.

4. THE TOP SECTIONS MAY BE EITHER THE FLAT TOPS AS SHOWN OR CONE SECTIONS. IF CONE SECTIONS ARE USED THEY MAY EITHER BE CONCENTRIC OR ECCENTRIC. PIPES ARE NOT TO ENTER CONE SECTIONS.

5. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN ANGLE OF 11 DEGREES CENTERED IN THE WIDTH OF THE JOINT. ALL SECTIONS SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT.

6. ALL SECTIONS WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 1'-0" OF OUTSIDE SURFACE BETWEEN HOLES. NO MORE THAN 75% OF A HORIZONTAL CROSS SECTION SHALL BE HOLES. HOLES SHALL BE NO CLOSER THAN 3" TO A JOINT.

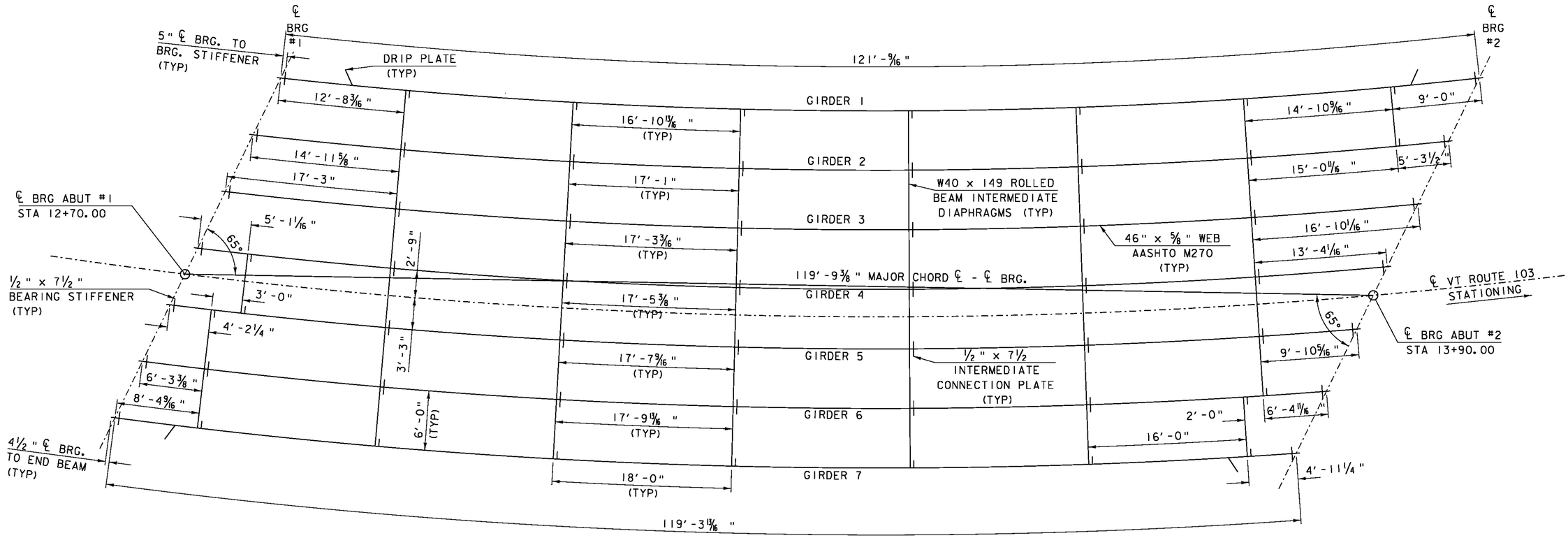
SIZING CHART

DIAMETER	WALL THICKNESS	FLOOR THICKNESS
4'-0" OR SMALLER	5¼"	6"
5'-0"	6"	8"
6'-0"	7"	8"
7'-0"	8"	10"
8'-0"	9¼"	10"

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

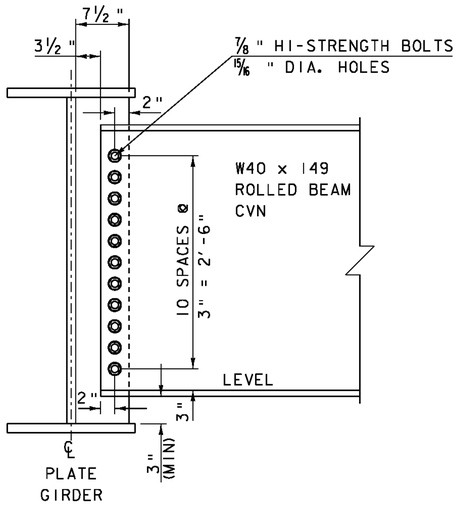
FILE NAME: 95b168\s95b168utility.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
PRECAST DROP INLET DETAILS

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 80 OF 124



FRAMING PLAN

SCALE 3/16" = 1'-0"



NOTE: GIRDER 1 HAS A MAXIMUM SWEEP DISTANCE OF 3'-3 3/4"
GIRDER 2 HAS A MAXIMUM SWEEP DISTANCE OF 3'-3 1/8"
GIRDER 3 HAS A MAXIMUM SWEEP DISTANCE OF 3'-2 1/2"
GIRDER 4 HAS A MAXIMUM SWEEP DISTANCE OF 3'-1 15/16"
GIRDER 5 HAS A MAXIMUM SWEEP DISTANCE OF 3'-1 3/8"
GIRDER 6 HAS A MAXIMUM SWEEP DISTANCE OF 3'-0 13/16"
GIRDER 7 HAS A MAXIMUM SWEEP DISTANCE OF 3'-0 1/4"
FIELD SPLICING OF NEW STEEL CURVED GIRDERS WILL NOT BE ALLOWED

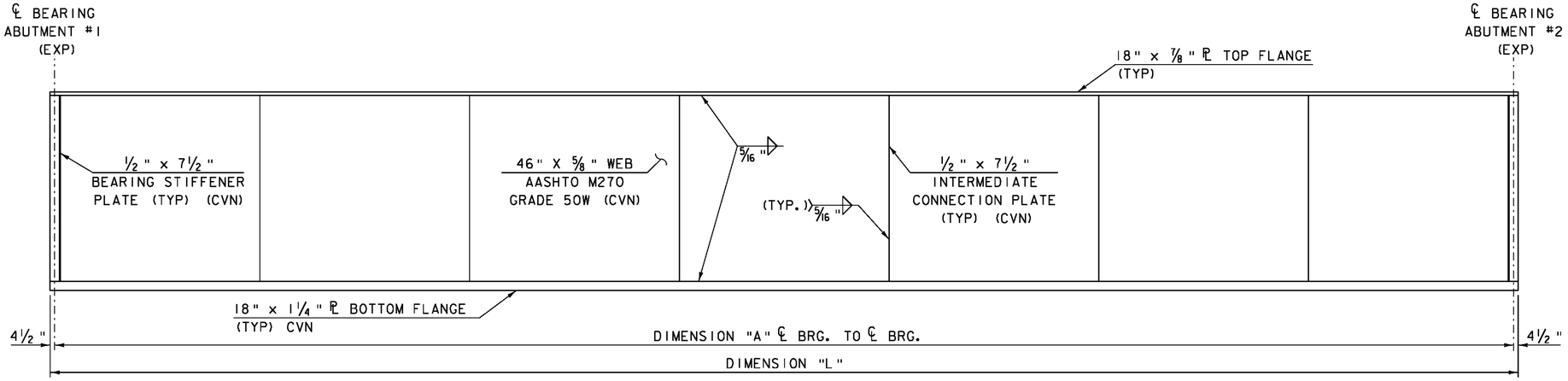
NOTE: CONTRACTOR MAY SUBMIT AN EQUIVALENT PLATE DIAPHRAGMS INSTEAD OF THE ROLLED BEAM

INTERMEDIATE DIAPHRAGM DETAIL

N. T. S.

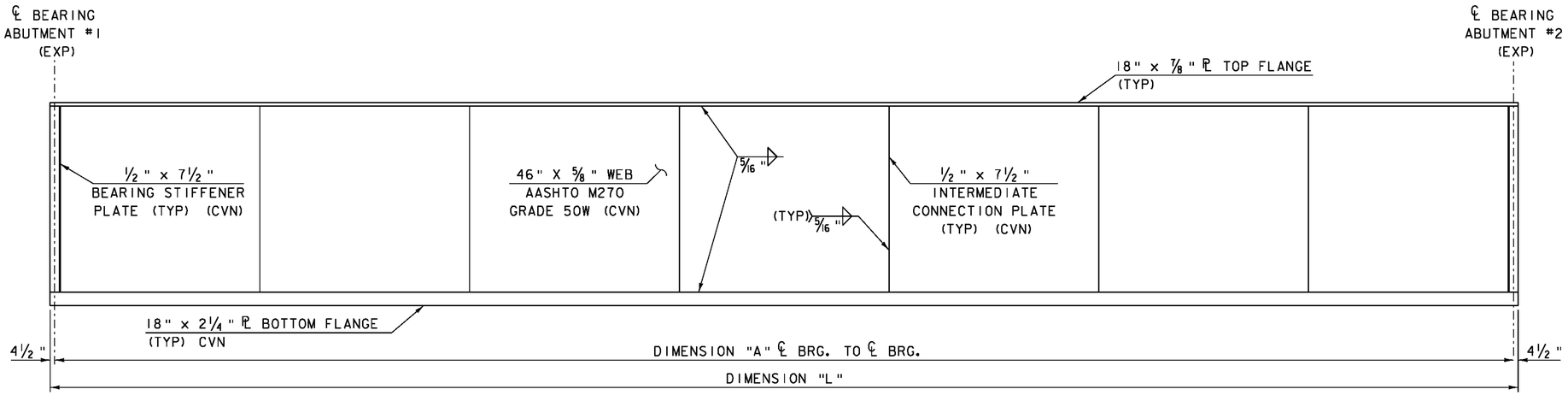
SCALE 3/16" = 1'-0"
0 2 4 6 8

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(37)
FILE NAME: Structures\s95bl68sup.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: E.R.CHARBONNEAU	CHECKED BY: R.S.YOUNG
BRIDGE 9 FRAMING PLAN	SHEET 81 OF 124



GIRDERS #1, 2, 3, & 4 ELEVATION

VERTICAL SCALE : 3/4" = 1'-0"
HORIZINTAL SCALE : 3/16" = 1'-0"



GIRDERS #5, 6, & 7 ELEVATION

VERTICAL SCALE : 3/4" = 1'-0"
HORIZINTAL SCALE : 3/16" = 1'-0"

GIRDER NUMBER	"A"	"L"	RADIUS
1	121.05'	121.80'	552.21'
2	120.73'	121.48'	558.21'
3	120.42'	121.17'	564.21'
4	120.13'	120.88'	570.21'
5	119.85'	120.60'	576.21'
6	119.58'	120.33'	582.21'
7	119.31'	120.06'	588.21'

1. DIMENSIONS SHOWN ARE ALONG THE ARC OF THE ℄ OF THE GIRDER.

2. BEARING STIFFENERS SHALL BE PLUMB AND PERPENDICULAR TO THE WEB IN THEIR FINAL POSITION.

3. SHEAR STUDS SHALL BE PLACED AT BLOCKOUT LOCATIONS AFTER DECK PANEL INSTALLATION. SHEAR STUDS SHALL BE SPACED AT 18 INCHES IN THE CLOSURE POUR AREA.

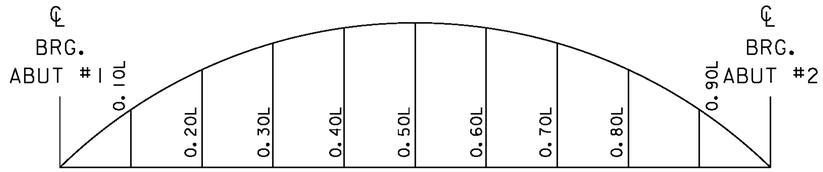
SCALE 3/4" = 1'-0"
1 0 1 2

SCALE 3/16" = 1'-0"
1 0 2 4 6 8

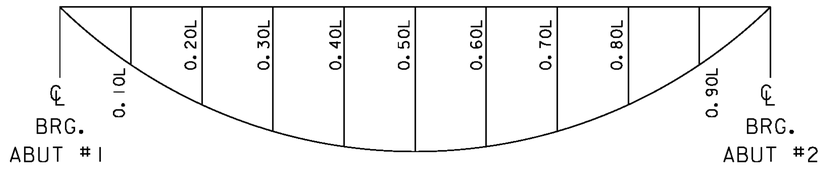
PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: Structures\s95bl68sup.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: E.R.CHARBONNEAU
BRIDGE 9 GIRDER DETAILS

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 82 OF 124



CAMBER DIAGRAM
SEE TABLES BELOW



DEAD LOAD DEFLECTION DIAGRAM
SEE TABLES BELOW

GIRDER 1	.10L	.20L	.30L	.40L	.50L	.60L	.70L	.80L	.90L
STEEL DEFLECTION	0 7/16 "	0 7/8 "	1 3/16 "	1 3/8 "	1 7/16 "	1 7/16 "	1 1/4 "	0 7/8 "	0 1/2 "
SLAB & SUPER DEFLECTION	1 1/4 "	2 5/16 "	3 3/16 "	3 3/4 "	3 15/16 "	3 3/4 "	3 3/16 "	2 3/8 "	1 1/4 "
TOTAL DEFLECTION	1 11/16 "	3 3/16 "	4 3/8 "	5 1/8 "	5 3/8 "	5 3/16 "	4 7/16 "	3 1/4 "	1 3/4 "
RESIDUAL CAMBER	1 3/4 "	3 1/16 "	4 1/16 "	4 5/8 "	4 13/16 "	4 5/8 "	4 1/16 "	3 1/16 "	1 3/4 "
TOTAL CAMBER	3 3/16 "	6 1/4 "	8 7/16 "	9 3/4 "	10 3/16 "	9 13/16 "	8 1/2 "	6 5/16 "	3 1/2 "

GIRDER 2	.10L	.20L	.30L	.40L	.50L	.60L	.70L	.80L	.90L
STEEL DEFLECTION	0 1/2 "	0 15/16 "	1 1/4 "	1 1/2 "	1 9/16 "	1 3/8 "	1 1/4 "	0 15/16 "	0 1/2 "
SLAB & SUPER DEFLECTION	1 5/16 "	2 7/16 "	3 5/16 "	3 7/8 "	4 "	3 15/16 "	3 5/16 "	2 3/8 "	1 1/4 "
TOTAL DEFLECTION	1 13/16 "	3 3/8 "	4 9/16 "	5 3/8 "	5 9/16 "	5 5/16 "	4 9/16 "	3 5/16 "	1 3/4 "
RESIDUAL CAMBER	1 3/4 "	3 1/16 "	4 1/16 "	4 5/8 "	4 13/16 "	4 5/8 "	4 1/16 "	3 1/16 "	1 3/4 "
TOTAL CAMBER	3 9/16 "	6 7/16 "	8 5/8 "	10 "	10 3/8 "	9 15/16 "	8 5/8 "	6 3/8 "	3 1/2 "

GIRDER 3	.10L	.20L	.30L	.40L	.50L	.60L	.70L	.80L	.90L
STEEL DEFLECTION	0 9/16 "	1 "	1 3/8 "	1 5/8 "	1 11/16 "	1 9/16 "	1 5/16 "	1 "	0 1/2 "
SLAB & SUPER DEFLECTION	1 3/8 "	2 9/16 "	3 7/16 "	4 "	4 1/8 "	3 15/16 "	3 3/8 "	2 3/8 "	1 5/16 "
TOTAL DEFLECTION	1 15/16 "	3 9/16 "	4 13/16 "	5 5/8 "	5 13/16 "	5 1/2 "	4 11/16 "	3 3/8 "	1 13/16 "
RESIDUAL CAMBER	1 3/4 "	3 1/16 "	4 1/16 "	4 5/8 "	4 13/16 "	4 5/8 "	4 1/16 "	3 1/16 "	1 3/4 "
TOTAL CAMBER	3 11/16 "	6 5/8 "	8 7/8 "	10 1/4 "	10 5/8 "	10 1/8 "	8 3/4 "	6 7/16 "	3 9/16 "

GIRDER 4	.10L	.20L	.30L	.40L	.50L	.60L	.70L	.80L	.90L
STEEL DEFLECTION	0 5/8 "	1 1/8 "	1 1/2 "	1 3/4 "	1 13/16 "	1 11/16 "	1 7/16 "	1 1/16 "	0 9/16 "
SLAB & SUPER DEFLECTION	1 3/8 "	2 5/8 "	3 9/16 "	4 1/8 "	4 5/16 "	4 1/16 "	3 7/16 "	2 7/16 "	1 1/4 "
TOTAL DEFLECTION	2 "	3 3/4 "	5 1/16 "	5 7/8 "	6 1/8 "	5 3/4 "	4 7/8 "	3 1/2 "	1 13/16 "
RESIDUAL CAMBER	1 3/4 "	3 1/16 "	4 1/16 "	4 5/8 "	4 13/16 "	4 5/8 "	4 1/16 "	3 1/16 "	1 3/4 "
TOTAL CAMBER	3 3/4 "	6 13/16 "	9 1/8 "	10 1/2 "	10 15/16 "	10 3/8 "	8 15/16 "	6 9/16 "	3 9/16 "

GIRDER 5	.10L	.20L	.30L	.40L	.50L	.60L	.70L	.80L	.90L
STEEL DEFLECTION	0 5/8 "	1 3/16 "	1 5/8 "	1 7/8 "	1 15/16 "	1 13/16 "	1 9/16 "	1 1/8 "	0 9/16 "
SLAB & SUPER DEFLECTION	1 1/2 "	2 11/16 "	3 11/16 "	4 1/4 "	4 1/2 "	4 1/4 "	3 9/16 "	2 5/16 "	1 3/8 "
TOTAL DEFLECTION	2 1/8 "	3 7/8 "	5 5/16 "	6 1/8 "	6 7/16 "	6 1/16 "	5 1/8 "	3 11/16 "	1 15/16 "
RESIDUAL CAMBER	1 3/4 "	3 1/16 "	4 1/16 "	4 5/8 "	4 13/16 "	4 5/8 "	4 1/16 "	3 1/16 "	1 3/4 "
TOTAL CAMBER	3 7/8 "	6 15/16 "	9 3/8 "	10 3/4 "	11 1/4 "	10 11/16 "	9 3/16 "	6 3/4 "	3 11/16 "

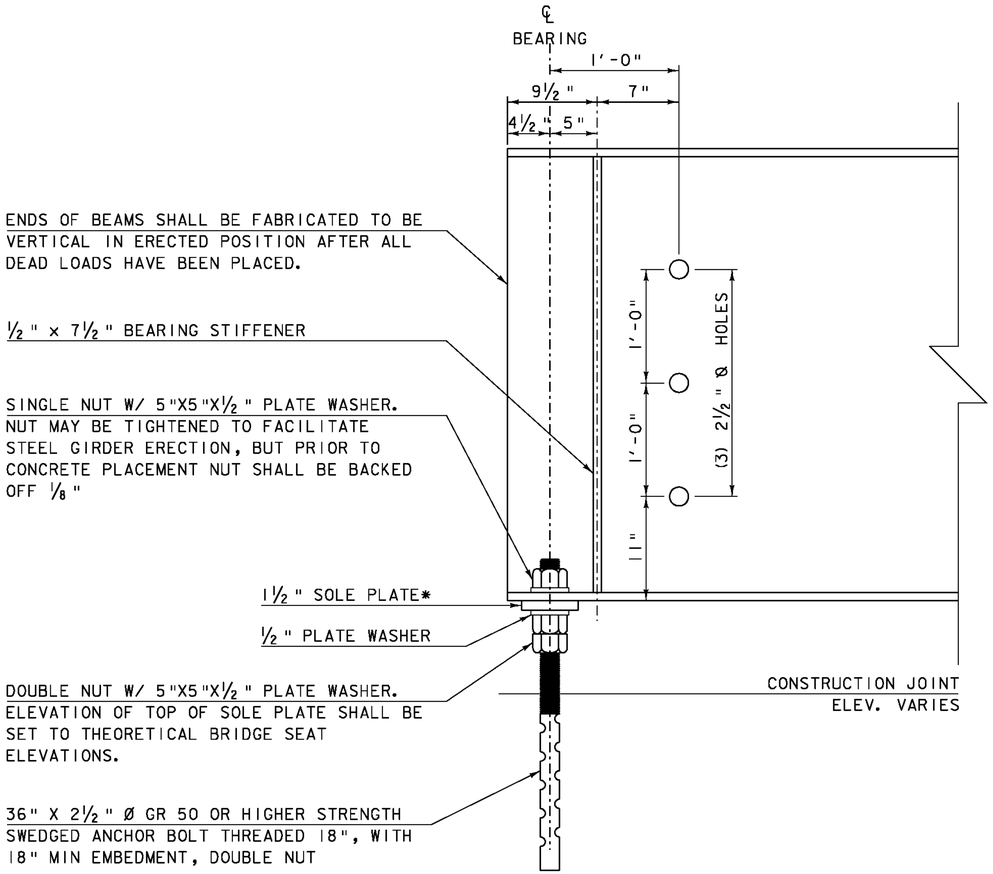
GIRDER 6	.10L	.20L	.30L	.40L	.50L	.60L	.70L	.80L	.90L
STEEL DEFLECTION	0 11/16 "	1 1/4 "	1 3/4 "	2 "	2 1/8 "	2 "	1 11/16 "	1 3/16 "	0 5/8 "
SLAB & SUPER DEFLECTION	1 1/2 "	2 13/16 "	3 13/16 "	4 1/2 "	4 5/8 "	4 7/16 "	3 3/4 "	2 3/4 "	1 7/16 "
TOTAL DEFLECTION	2 3/16 "	4 1/16 "	5 9/16 "	6 1/2 "	6 3/4 "	6 7/16 "	5 7/16 "	3 15/16 "	2 1/16 "
RESIDUAL CAMBER	1 3/4 "	3 1/16 "	4 1/16 "	4 5/8 "	4 13/16 "	4 5/8 "	4 1/16 "	3 1/16 "	1 3/4 "
TOTAL CAMBER	3 15/16 "	7 1/8 "	9 5/8 "	11 1/8 "	11 9/16 "	11 1/16 "	9 1/2 "	7 "	3 13/16 "

GIRDER 7	.10L	.20L	.30L	.40L	.50L	.60L	.70L	.80L	.90L
STEEL DEFLECTION	0 11/16 "	1 5/16 "	1 13/16 "	2 1/8 "	2 1/4 "	2 3/16 "	1 7/8 "	1 3/8 "	0 3/4 "
SLAB & SUPER DEFLECTION	1 9/16 "	2 15/16 "	4 "	4 11/16 "	4 7/8 "	4 5/8 "	3 15/16 "	2 7/8 "	1 9/16 "
TOTAL DEFLECTION	2 1/4 "	4 1/4 "	5 13/16 "	6 13/16 "	7 1/8 "	6 13/16 "	5 13/16 "	4 1/4 "	2 5/16 "
RESIDUAL CAMBER	1 3/4 "	3 1/16 "	4 1/16 "	4 5/8 "	4 13/16 "	4 5/8 "	4 1/16 "	3 1/16 "	1 3/4 "
TOTAL CAMBER	4 "	7 5/16 "	9 7/8 "	11 7/16 "	11 15/16 "	11 7/16 "	9 7/8 "	7 5/16 "	4 1/16 "

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: Structures\s95bl68sup.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: E.R.CHARBONNEAU
BRIDGE 9 CAMBER AND DEFLECTION DETAILS

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 83 OF 124



ELEVATION VIEW END OF STEEL MEMBER AT ABUTMENT

SCALE 1 ½" = 1'-0

NOTES:

1. THE SOLE PLATES, ANCHOR BOLTS, WASHERS AND NUTS SHALL BE PAID FOR UNDER ITEM 531.14, "BEARING DEVICE ASSEMBLY, INTEGRAL ABUTMENT" AND SHALL CONFORM TO SECTION 531.
2. ANCHOR BOLTS SHALL BE 2½" DIAMETER, TYPE I BOLTS MEETING ASTM A449. NUTS SHALL MEET AASHTO M291. THE CONTRACTOR SHALL ENSURE THAT THE ANCHOR BOLTS ARE INSTALLED IN A PLUMB POSITION. ONE EXTRA ANCHOR BOLT SHALL BE SUPPLIED FOR TESTING PURPOSES.
3. ALL STEEL IN BEARING DEVICE ASSEMBLY SHALL BE AASHTO M270M/M270 GR 36 UNLESS OTHERWISE NOTED.
4. SUBSTITUTIONS FOR BEARING DEVICE ASSEMBLY COMPONENT MATERIALS AND SIZES SHALL BE DETAILED ON THE FABRICATION DRAWINGS. ALL SUBSTITUTIONS SHALL BE APPROVED BY THE PROJECT MANAGER PRIOR TO FABRICATION AS PER SUBSECTION 506.04.

THEORETICAL TOP OF SOLE PLATE ELEVATIONS		
ABUTMENT #1	ABUTMENT #2	
581.50	580.17	GIRDER 1
581.61	580.39	GIRDER 2
581.72	580.59	GIRDER 3
581.83	580.80	GIRDER 4
581.86	580.92	GIRDER 5
581.97	581.11	GIRDER 6
582.07	581.30	GIRDER 7

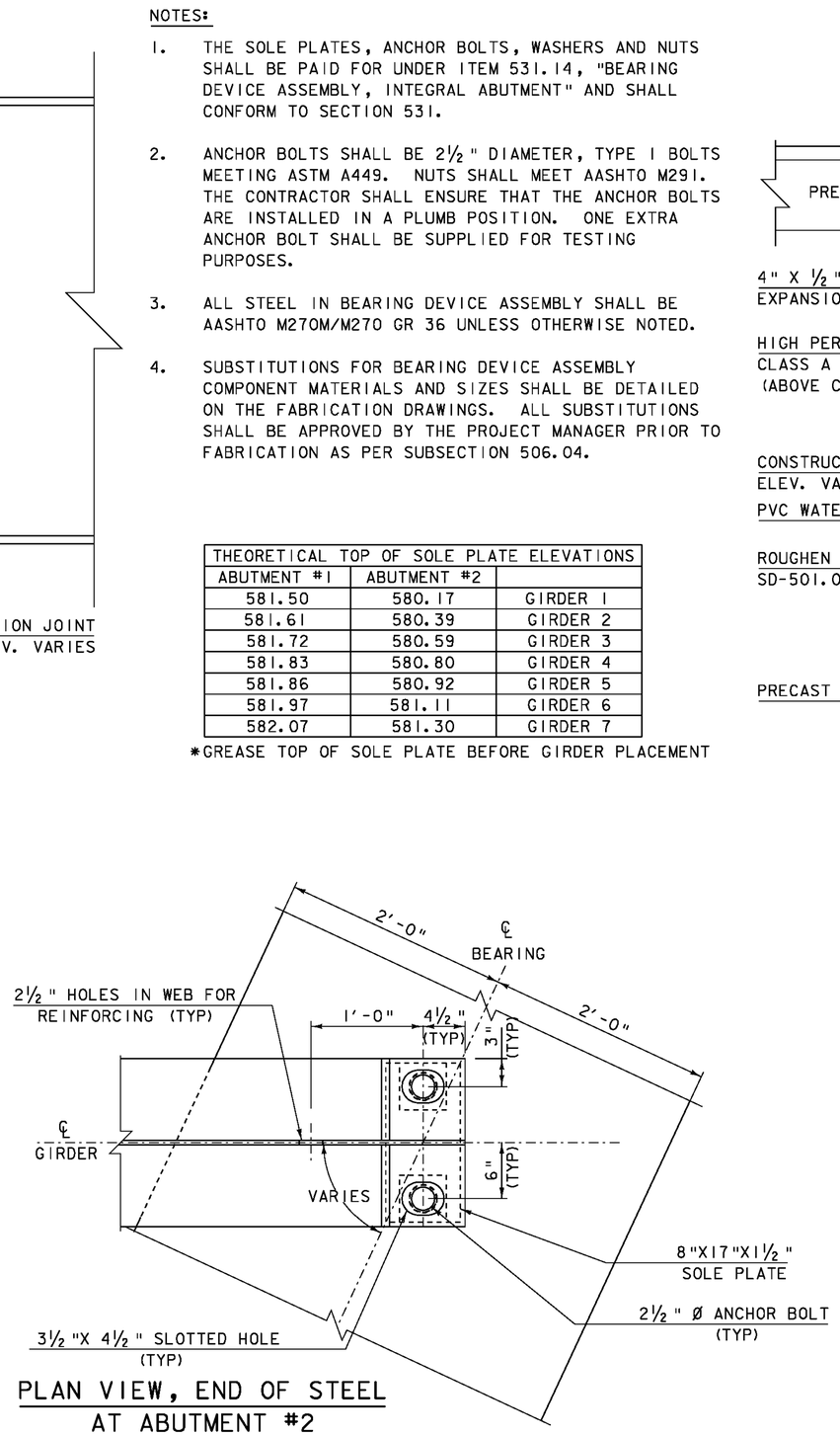
*GREASE TOP OF SOLE PLATE BEFORE GIRDER PLACEMENT

1½" SOLE PLATE DETAIL

SCALE 1 ½" = 1'-0

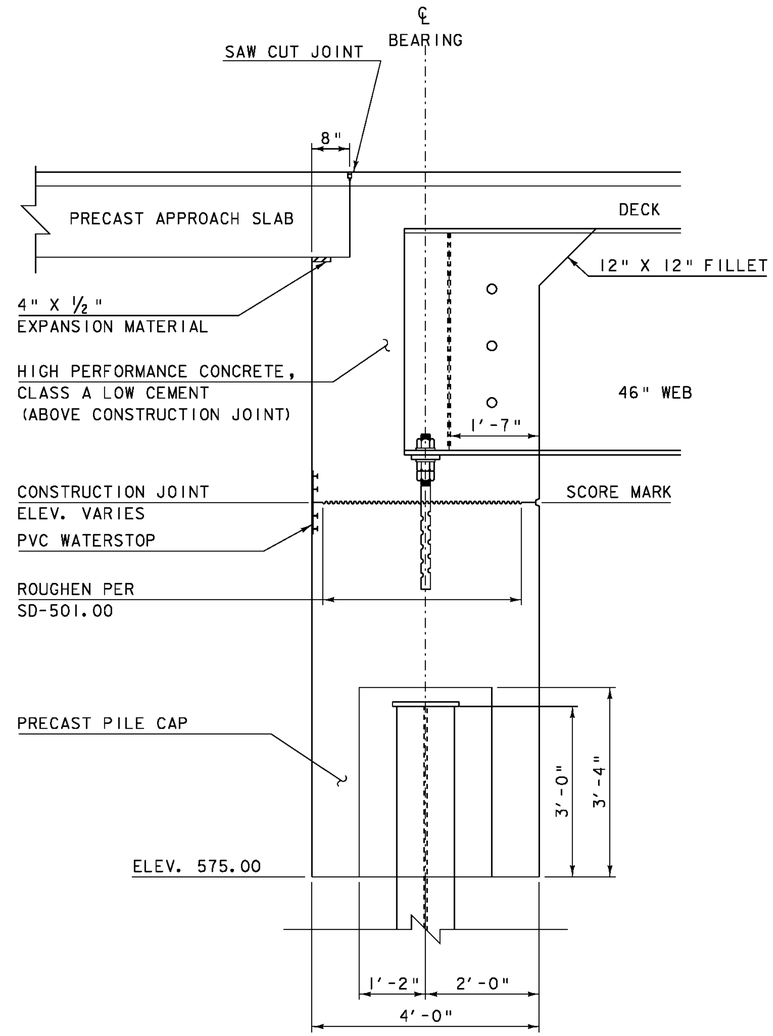
½" PLATE WASHER DETAIL

SCALE 1 ½" = 1'-0



PLAN VIEW, END OF STEEL AT ABUTMENT #2

REVERSE GIRDER FOR ABUTMENT #1
SCALE 1½" = 1'-0



BRIDGE END DETAIL AND ABUTMENT TYPICAL SECTION

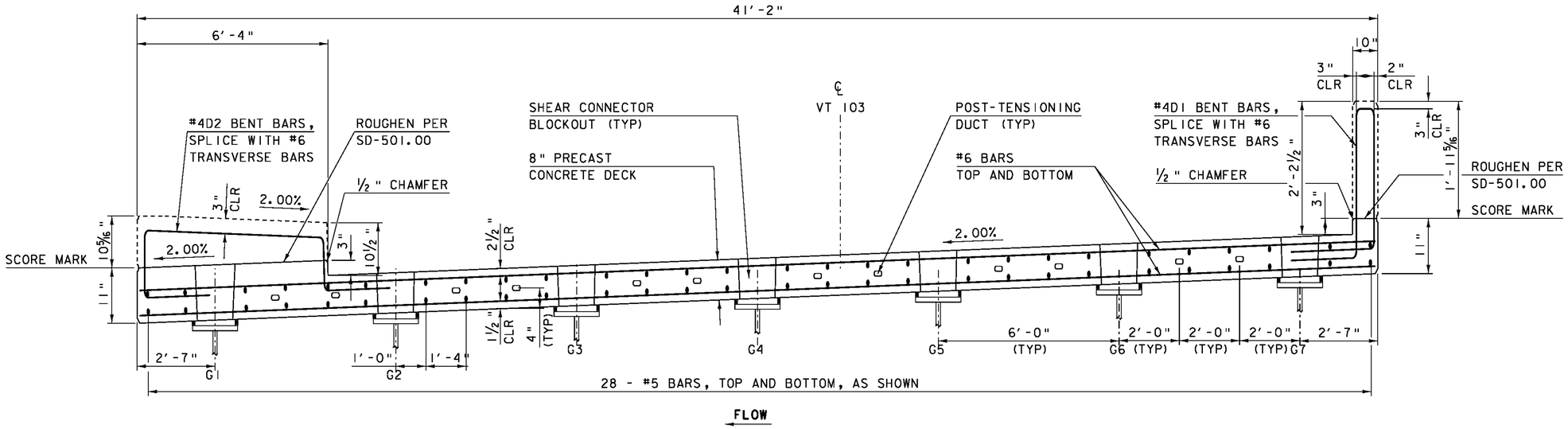
SCALE ¾" = 1'-0

SCALE ¾"- 1'-0
0 1 2

SCALE 1½"- 1'-0
1 9 6 3 0 1

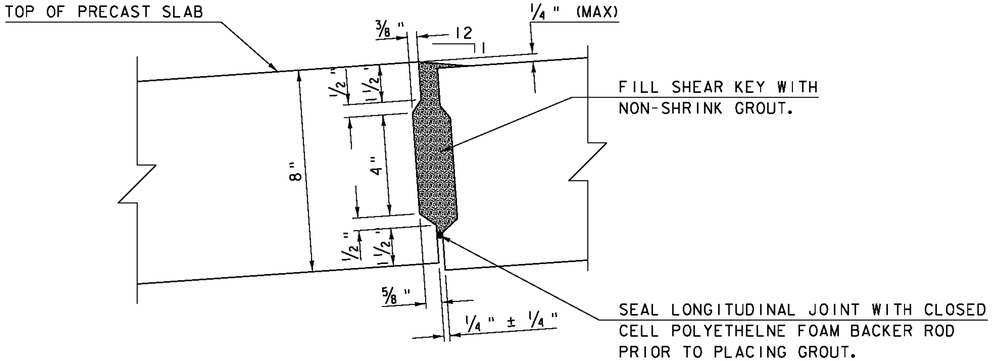
PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(37)

FILE NAME: 95b168\s95b168sub.dgn	PLOT DATE: 21-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 9 BEARING DETAILS	SHEET 84 OF 124



PRECAST SLAB TYPICAL SECTION

HORIZONTAL SCALE : 1/2 " = 1'-0"
VERTICAL SCALE : 1/4 " = 1'-0"



TRANSVERSE SHEAR KEY DETAILS

N. T. S.

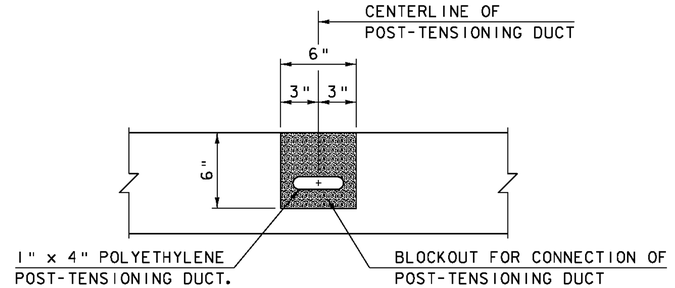
1: THE SLAB SHALL BE PLACED AT THE NOMINAL SPACING SHOWN ON THE PLANS WITH A 1/4 " WIDE GAP BETWEEN THE SLABS. THE WIDTH OF THIS GAP CAN VARY DUE TO TOLERANCES OF THE SLABS.

2: GROUT FOR SHEAR KEYS SHALL BE RODDED OR VIBRATED TO ENSURE THAT ALL VOIDS IN THE SHEAR KEYS ARE FILLED.

3: POST-TENSIONING DUCT SHOWN IS FOR 3 - 1/2 " DIA. PRESTRESSING STRANDS. ALTERNATE DUCTS MAY BE USED. THE CONNECTION OF THE DUCT SHALL BE WATERTIGHT.

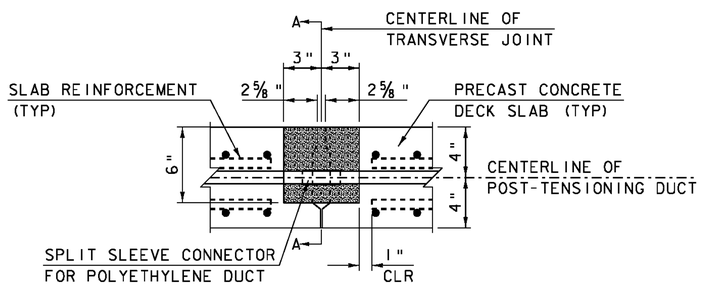
4: FILL BLOCKOUT WITH NON-SHRINK GROUT SIMULTANEOUSLY WITH THE TRANSVERSE SHEAR KEYS.

5: FORM SHEAR KEY ALONG INTERFACE OF PRECAST SLABS AND CLOSURE POUR.



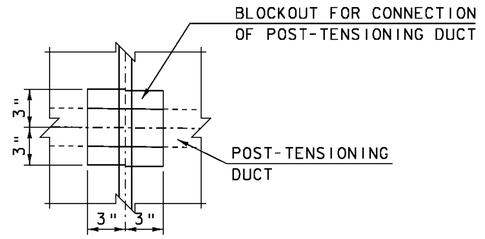
SECTION "A-A"

N. T. S.



TYPICAL SECTION-TRAVERSE DECK JOINT AT POST-TENSIONING DUCT

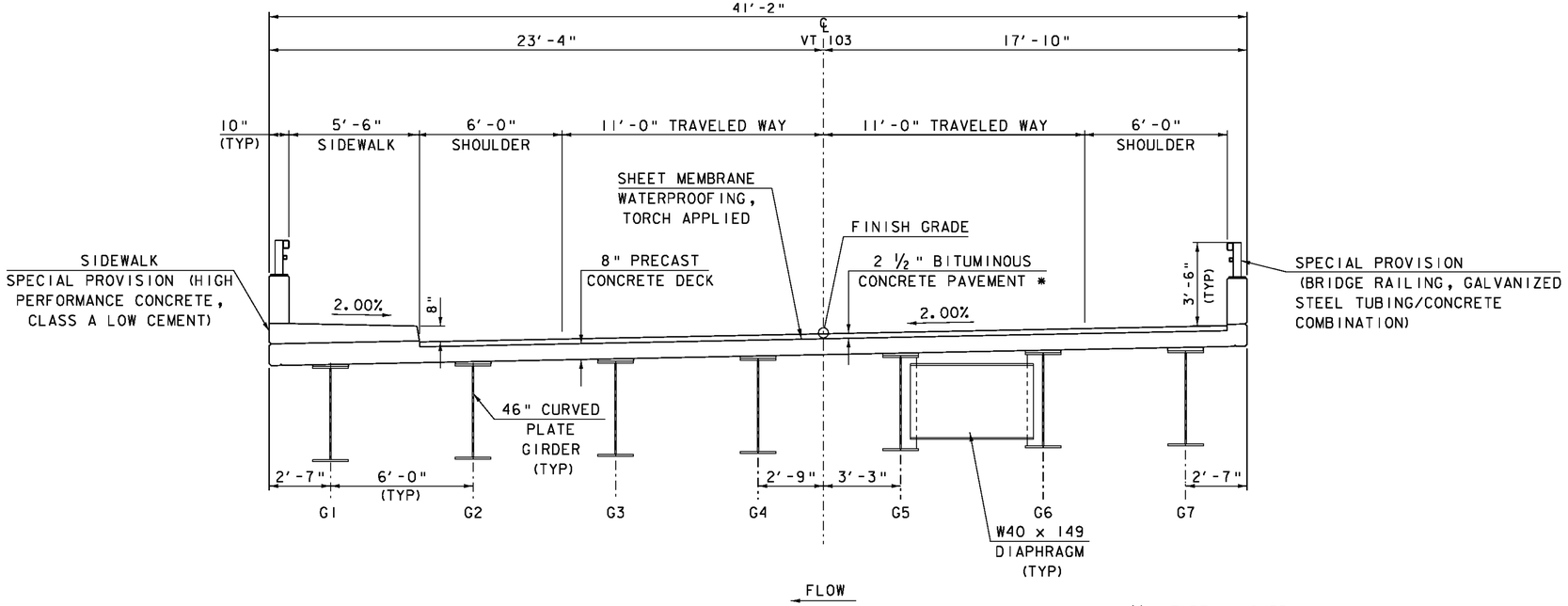
N. T. S.



PLAN - BLOCKOUT FOR POST-TENSIONING DUCT

N. T. S.

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(37)
FILE NAME: Structures\s95bl68sup.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: E.R.CHARBONNEAU	CHECKED BY: R.S.YOUNG
BR9 PRECAST DECK REINFORCING TYP. SEC.	SHEET 85 OF 124

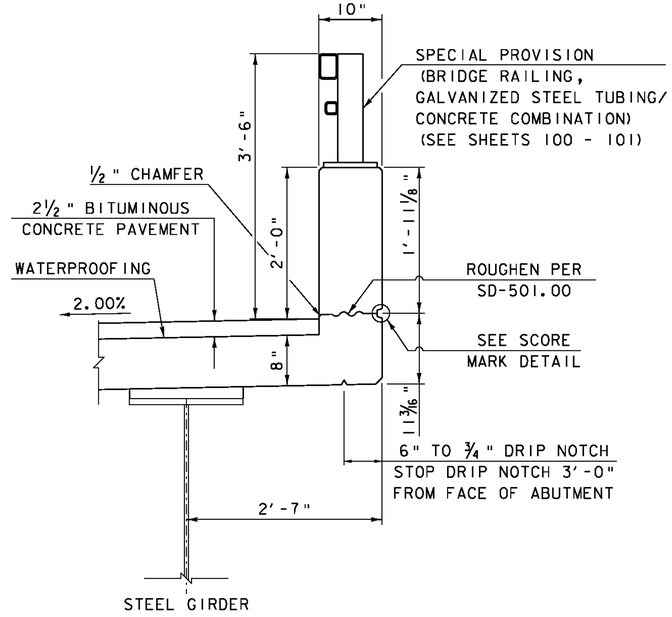


TYPICAL BRIDGE SECTION

SCALE 1" = 3'-0"

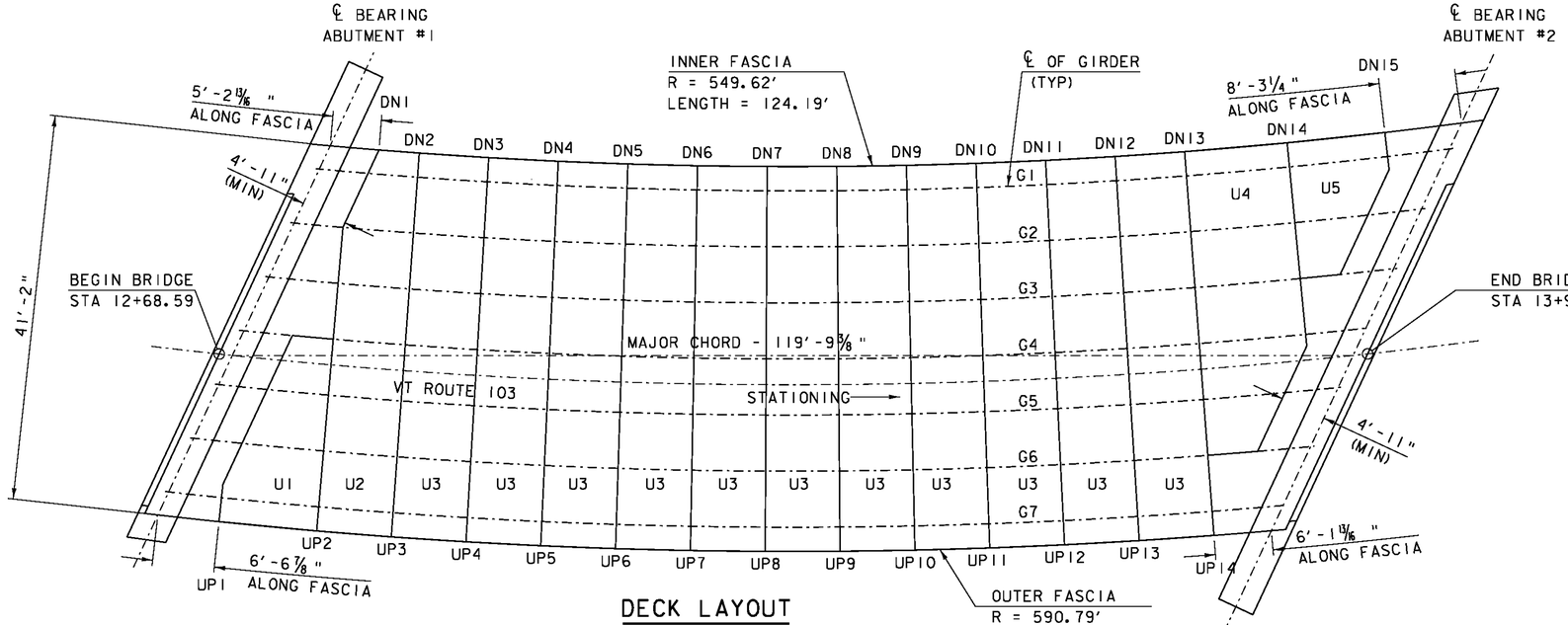
* 1¼" TYPE IV OVER 1¼" TYPE IV

NOTE: ALL TRANSVERSE DIMENSIONS ARE RADIAL



TYPICAL RAIL W/O SIDEWALK

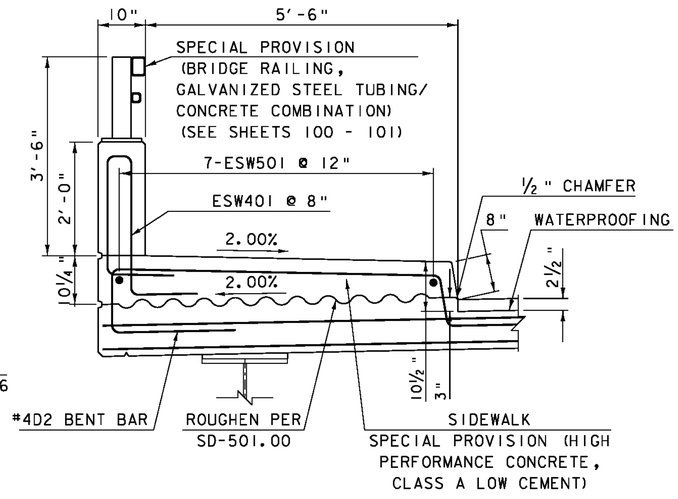
N.T.S.



DECK LAYOUT

SCALE ⅛" = 1'-0"

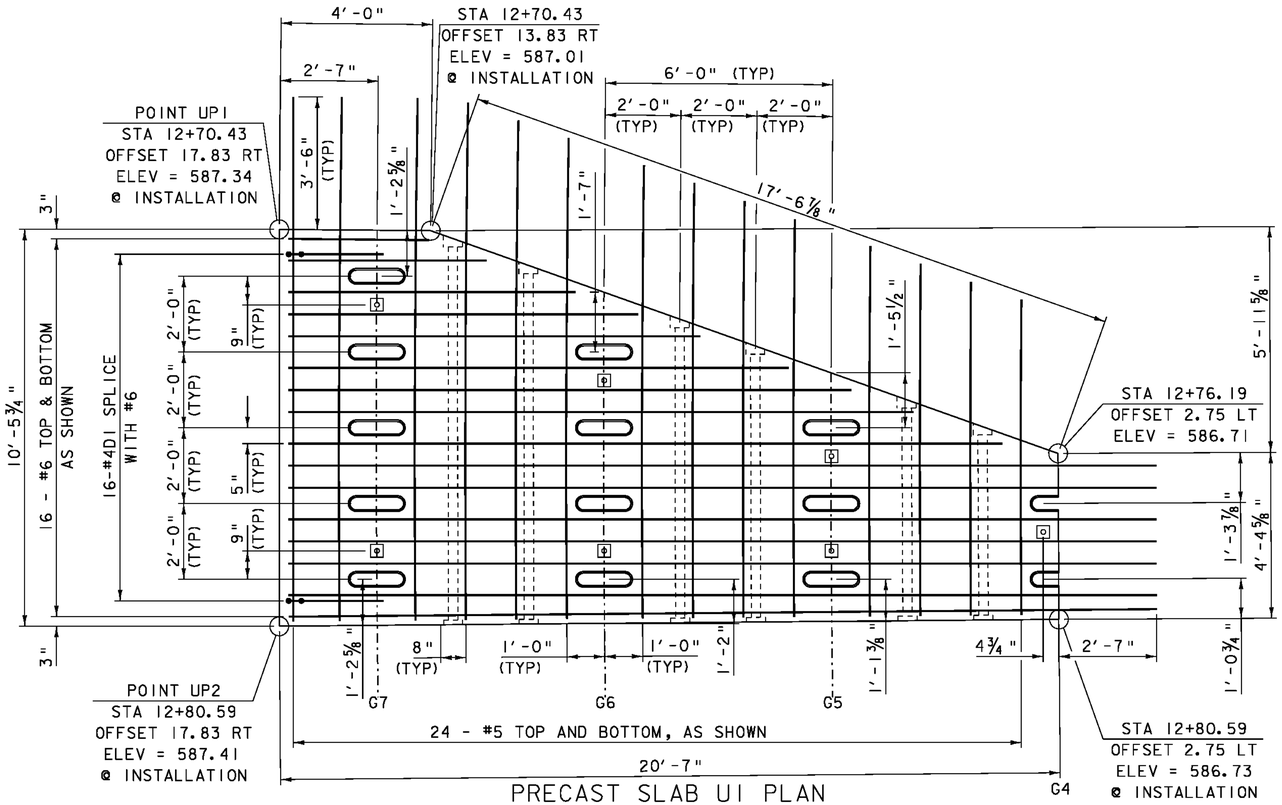
1 0 2 4 6 8



TYPICAL RAIL WITH SIDEWALK

N.T.S.

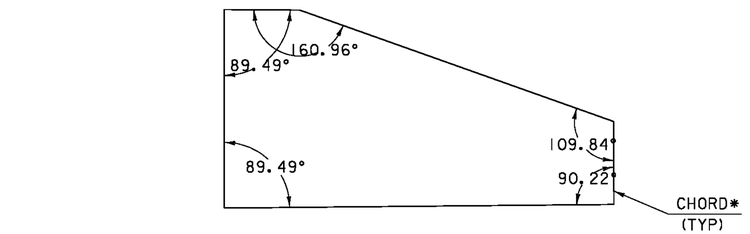
PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(37)
FILE NAME: Structures\s95bl68sup.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: E.R.CHARBONNEAU	CHECKED BY: R.S.YOUNG
BRIDGE 9 DECK LAYOUT DETAILS	SHEET 86 OF 124



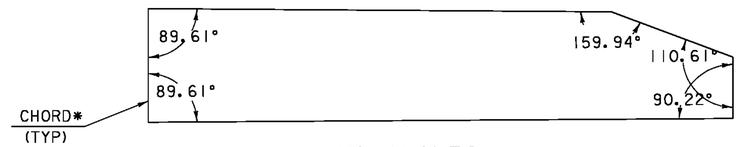
PRECAST SLAB U1 PLAN

SCALE ½" = 1'-0"

FLOW

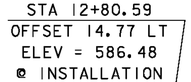


U1 ANGLES



U2 ANGLES

* ANGLES ARE IN REFERENCE TO THE CHORD BETWEEN POINTS OF CURVATURE AT THE CORNERS. THE SLAB FASCIAS SHALL BE FORMED RADIAL.



PRECAST SLAB U2 PLAN

SCALE ½" = 1'-0"

FLOW

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

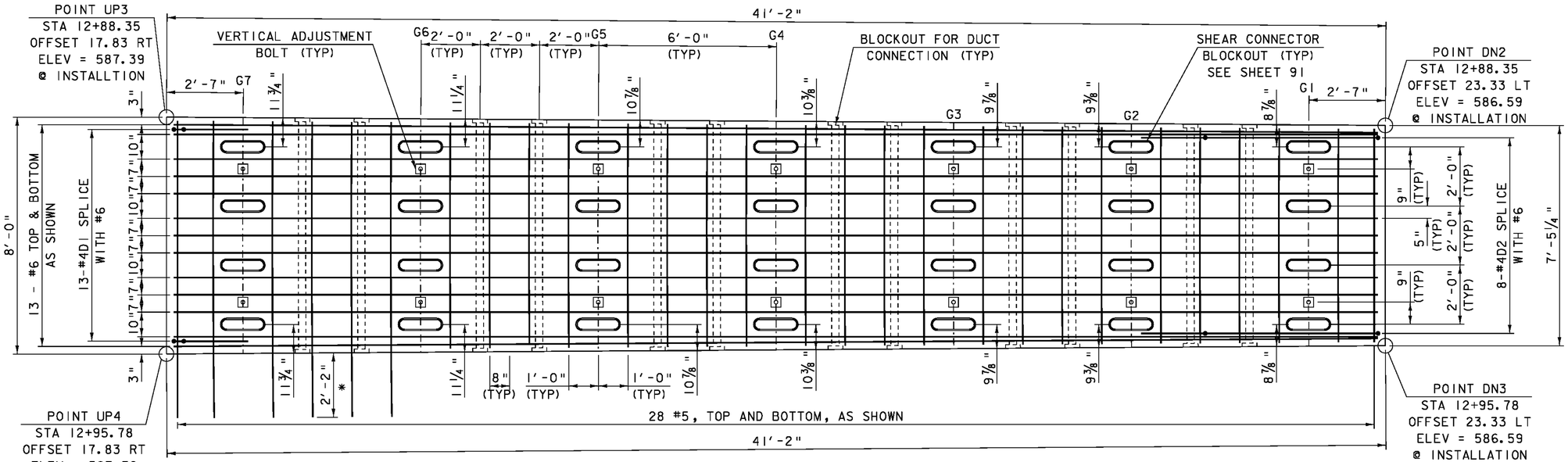
SCALE ½" = 1'-0"

0 1 2

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: 95bl68\s95bl68deckpanels.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: H.I.SALLS
BRIDGE 9 PRECAST DECK SLAB DETAILS 1

PLOT DATE: 21-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 87 OF 124



PRECAST SLAB U3 PLAN (11 REQUIRED)

* REQUIRED FOR 1 UNIT ONLY
PLACE ADJACENT TO U4
(POINT UP14)

SCALE ½" = 1'-0"

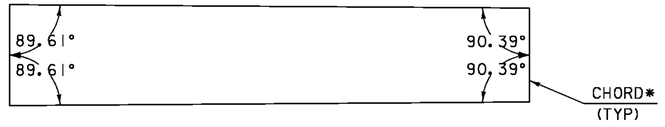
FLOW →

UPSTREAM FASCIA POINTS					
POINT	STATION	OFFSET (FT RT)	SLAB FINAL ELEV.	SDL DEFLECTION	SLAB ELEV. @INSTALLATION
UP3	12+88.35	17.83'	587.39'	11/16 "	587.45'
UP4	12+96.11	17.83'	587.39'	7/8 "	587.46'
UP5	13+03.87	17.83'	587.38'	1 "	587.46'
UP6	13+11.63	17.83'	587.35'	1 1/16 "	587.44'
UP7	13+19.38	17.83'	587.31'	1 1/8 "	587.40'
UP8	13+27.14	17.83'	587.26'	1 1/8 "	587.35'
UP9	13+34.90	17.83'	587.20'	1 1/8 "	587.29'
UP10	13+42.66	17.83'	587.12'	1 "	587.20'
UP11	13+50.42	17.83'	587.02'	7/8 "	587.09'
UP12	13+58.18	17.83'	586.92'	3/4 "	586.98'
UP13	13+65.94	17.83'	586.80'	9/16 "	586.84'
UP14	13+73.70	17.83'	586.66'	5/16 "	586.68'

DOWNSTREAM FASCIA POINTS					
POINT	STATION	OFFSET (LT)	SLAB FINAL ELEV.	SDL DEFLECTION	SLAB ELEV. @INSTALLATION
DN2	12+88.35	23.33'	586.57'	5/16 "	586.59'
DN3	12+96.11	23.33'	586.57'	7/16 "	586.60'
DN4	13+03.87	23.33'	586.56'	5/8 "	586.61'
DN5	13+11.63	23.33'	586.53'	3/4 "	586.59'
DN6	13+19.38	23.33'	586.49'	13/16 "	586.55'
DN7	13+27.14	23.33'	586.44'	7/8 "	586.51'
DN8	13+34.90	23.33'	586.38'	7/8 "	586.45'
DN9	13+42.66	23.33'	586.30'	7/8 "	586.37'
DN10	13+50.42	23.33'	586.20'	7/8 "	586.27'
DN11	13+58.18	23.33'	586.10'	13/16 "	586.16'
DN12	13+65.94	23.33'	585.98'	3/4 "	586.04'
DN13	13+73.70	23.33'	585.84'	5/8 "	585.89'

NOTES
1: SLAB ELEVATIONS WERE CALCULATED AT THE UPSTREAM (UP) AND DOWNSTREAM (DN) SCORE MARK ELEVATIONS. SEE SHEET 85.

2: SLAB ELEVATION AT INSTALLATION ASSUMES THAT ALL DECK SLABS ARE IN PLACE.



U3 ANGLES

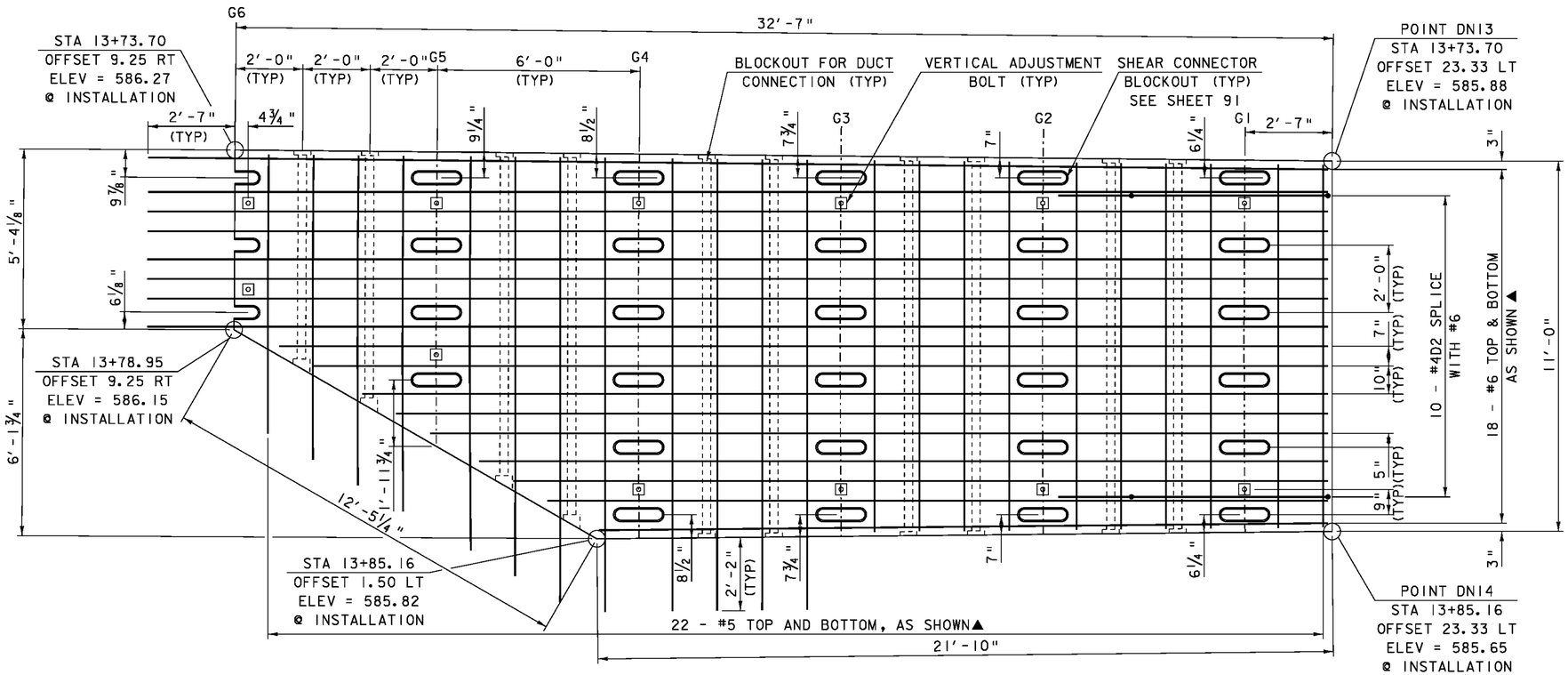
* ANGLES ARE IN REFERENCE TO THE CHORD BETWEEN POINTS OF CURVATURE AT THE CORNERS. THE SLAB FASCIAS SHALL BE FORMED RADIAL.

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SCALE ½" = 1'-0"
1 0 1 2

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

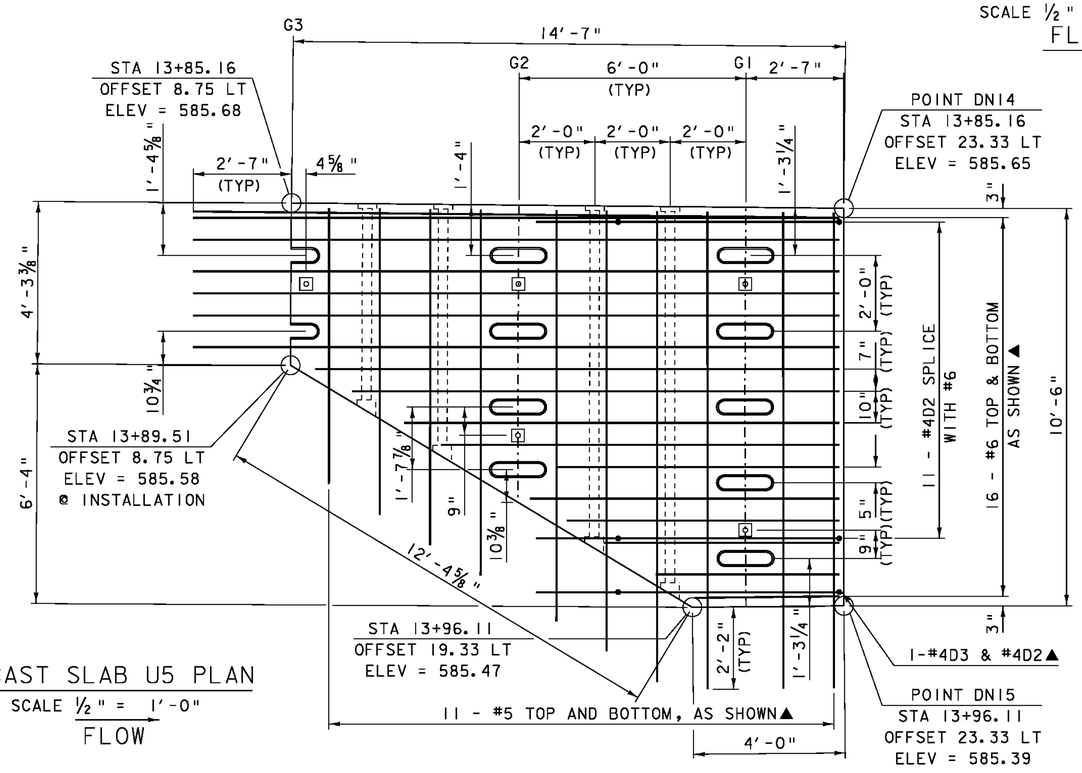
FILE NAME: 95b168\s95b168deckpanels.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: H.I.SALLS
BRIDGE 9 PRECAST DECK SLAB DETAILS 2
PLOT DATE: 21-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 88 OF 124



PRECAST SLAB U4 PLAN

SCALE ½" = 1′-0"

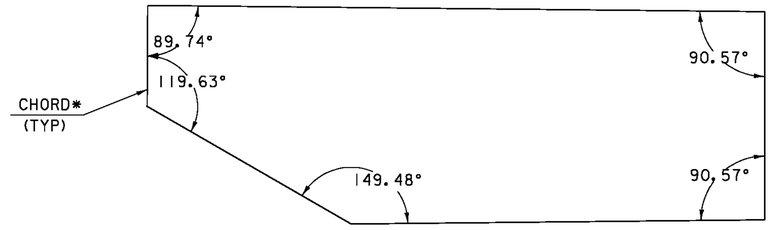
FLOW



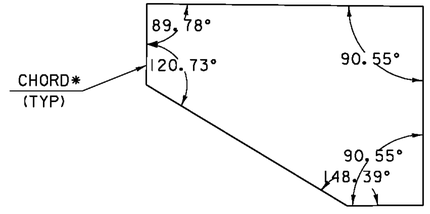
PRECAST SLAB U5 PLAN

SCALE ½" = 1′-0"

FLOW



U14 ANGLES



U15 ANGLES

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2′-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

* ANGLES ARE IN REFERENCE TO THE CHORD BETWEEN POINTS OF CURVATURE AT THE CORNERS. THE SLAB FASCIAS SHALL BE FORMED RADIAL.

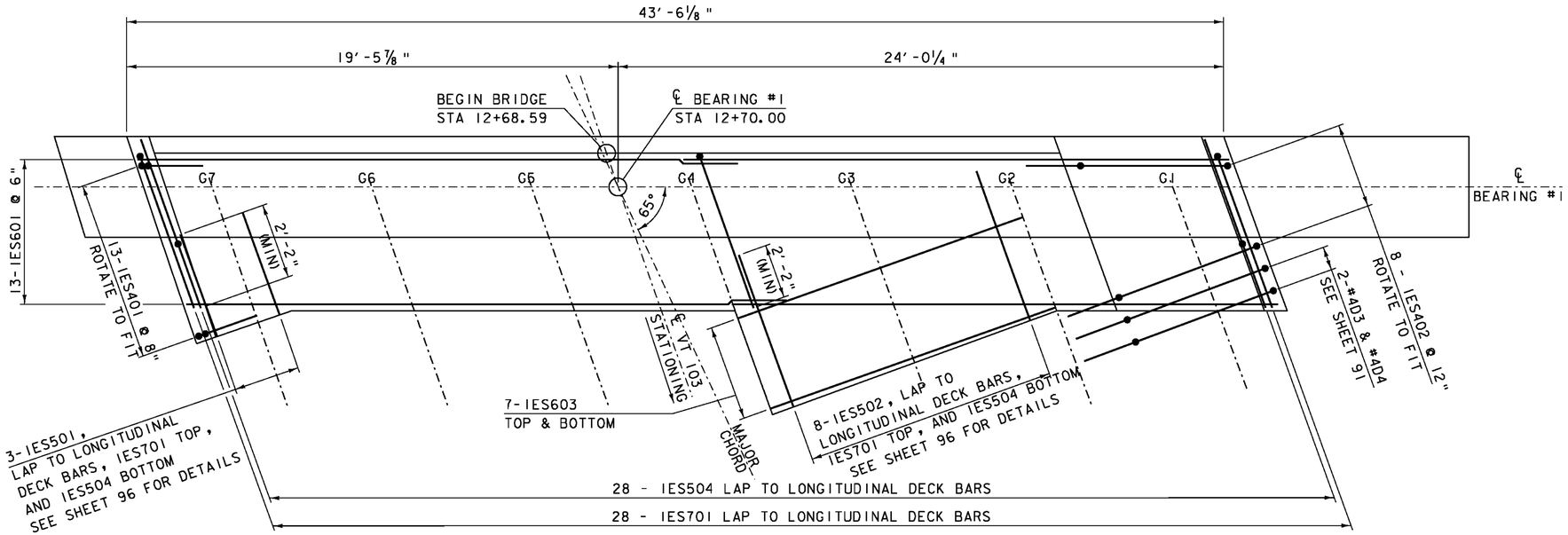
SCALE ½" = 1′-0"

0 1 2

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

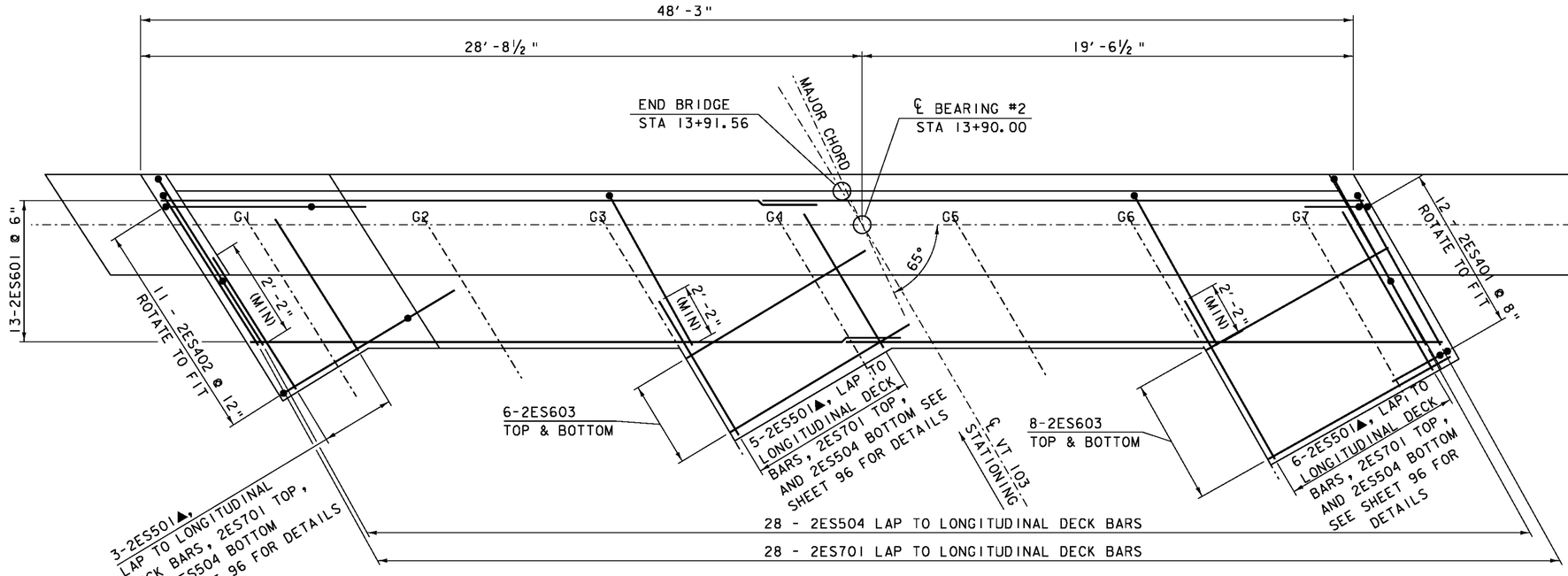
FILE NAME: 95bl68\s95bl68deckpanels.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: H.I.SALLS
BRIDGE 9 PRECAST DECK SLAB DETAILS 3

PLOT DATE: 21-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 89 OF 124



ABUTMENT #1 CLOSURE POUR REINFORCING

SCALE ⅜" = 1′-0"
NOTE: REBAR IN PRECAST SLABS NOT SHOWN



ABUTMENT #2 CLOSURE POUR REINFORCING

SCALE ⅜" = 1′-0"
NOTE: REBAR IN PRECAST SLABS NOT SHOWN

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2′-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

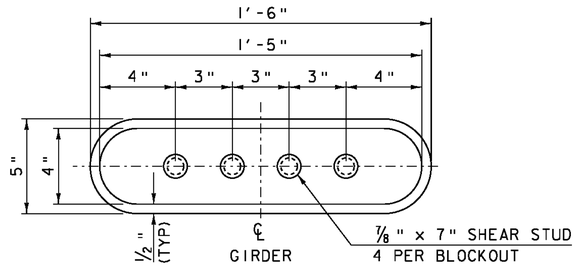
SCALE ⅜" = 1′-0"
0 2 3 4

SCALE ¾" = 1′-0"
0 2

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: 95b168\s95b168sub.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 CLOSURE POUR DETAILS

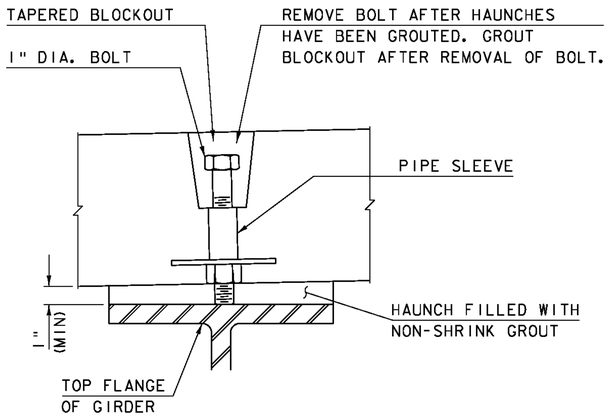
PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 90 OF 124



NOTE: ALTERNATE BLOCKOUTS MAY BE USED AS LONG AS THE NUMBER OF SHEAR STUDS PER GIRDER PER SLAB REMAINS THE SAME

SHEAR CONNECTOR BLOCKOUT DETAIL

SCALE 3" = 1'-0"



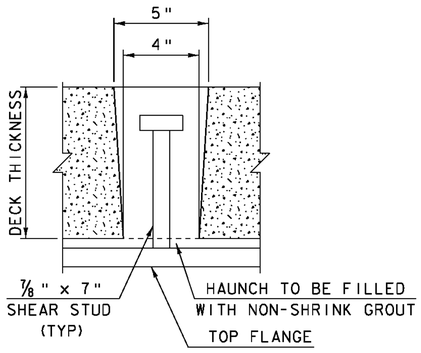
VERTICAL ADJUSTMENT DETAIL

SCALE 3" = 1'-0"

NOTES:

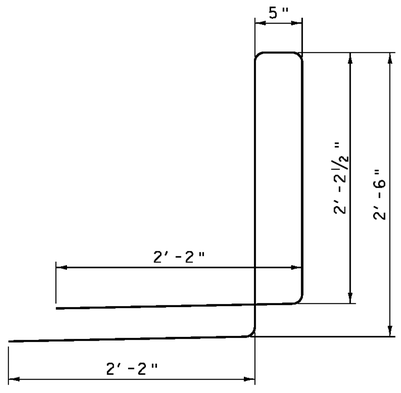
THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE LEVELING DEVICE BASED ON THE WEIGHT OF THE SLABS AND THE NUMBER OF DEVICES.

ALTERNATE DEVICES MAY BE SUBSTITUTED WITH APPROVAL FROM THE PROJECT MANAGER.



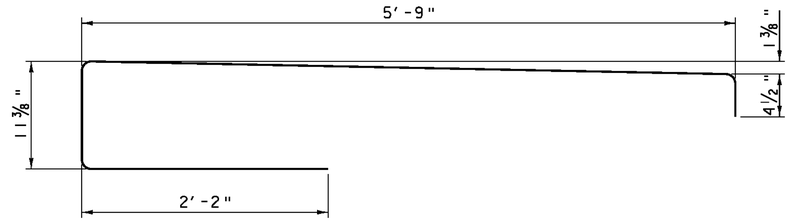
SHEAR CONNECTOR BLOCKOUT SECTION

SCALE 3" = 1'-0"



BAR #4D1

(172 - REQUIRED)
SCALE 6" = 1'-0"

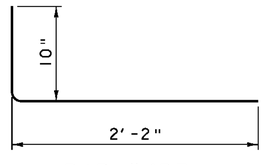


BAR #4D4

(2 - REQUIRED)
SCALE 6" = 1'-0"

BAR #4D2

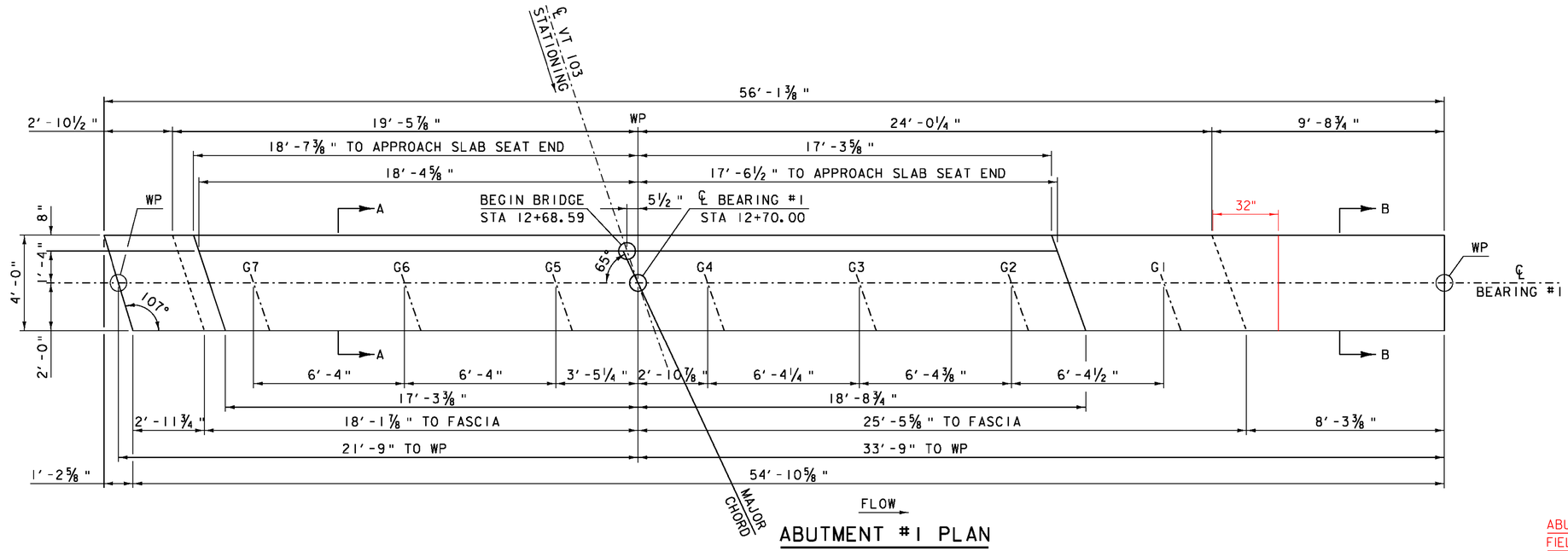
(114 - REQUIRED)
SCALE 6" = 1'-0"



BAR #4D3

(2 - REQUIRED)
SCALE 6" = 1'-0"

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(37)
FILE NAME: 95bl68\s95bl68deckpanels.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: H.I.SALLS	CHECKED BY: R.S.YOUNG
BR9 PRECAST DECK MISCELLANEOUS DETAILS	SHEET 91 OF 124

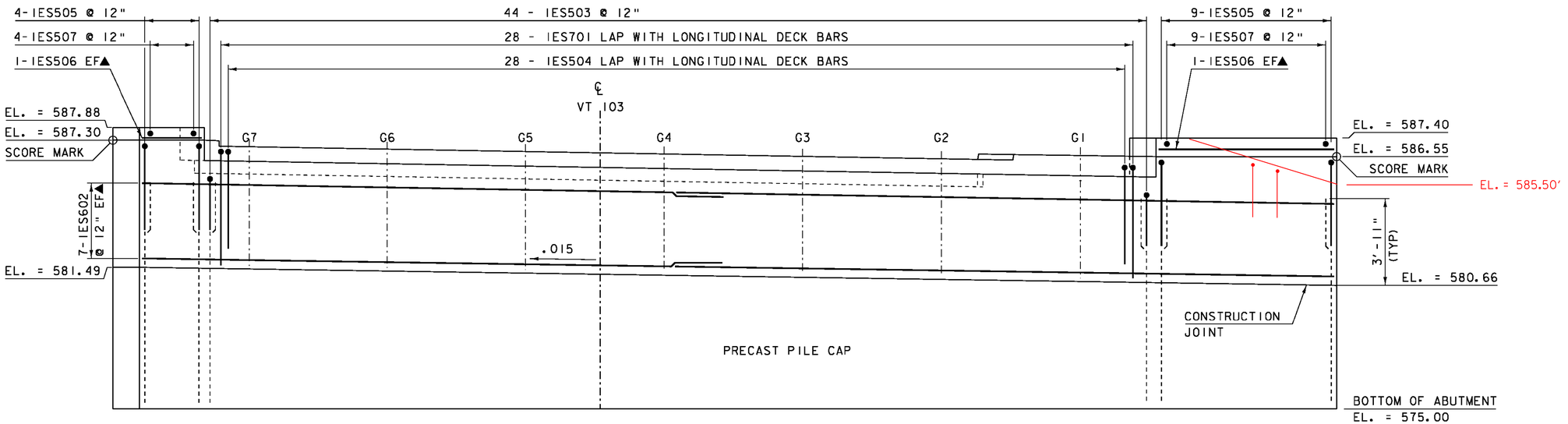


ABUTMENT #1 PLAN

SCALE ⅜" = 1′-0"

SEE SHEET 96 FOR SECTIONS "A-A" & "B-B"

ABUTMENT #1, WW1
FIELD CHANGES
LOWERED CONCRETE HEIGHT
AND ANGLED WING WALL



ABUTMENT #1 ELEVATION

SCALE ⅜" = 1′-0"

NOTE:

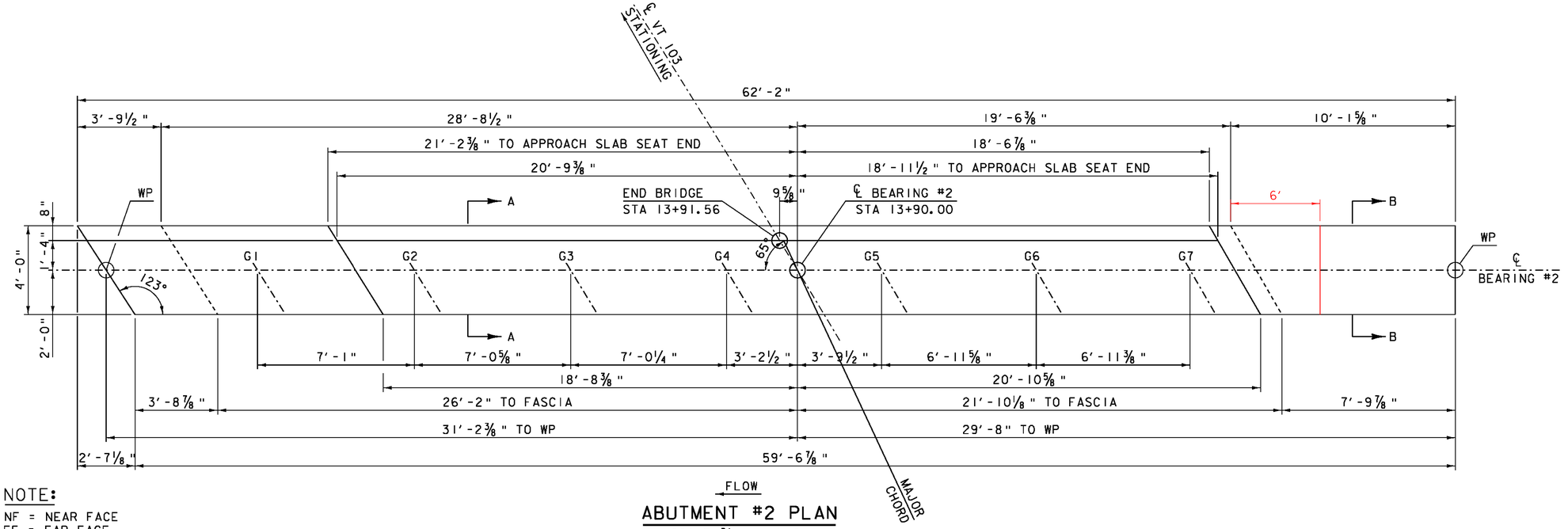
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2′-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SCALE ⅜" = 1′-0"
0 1 2 3 4

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: 95b168\s95b168sub.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 ABUTMENT 1 DETAILS

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 92 OF 124



ABUTMENT #2 PLAN

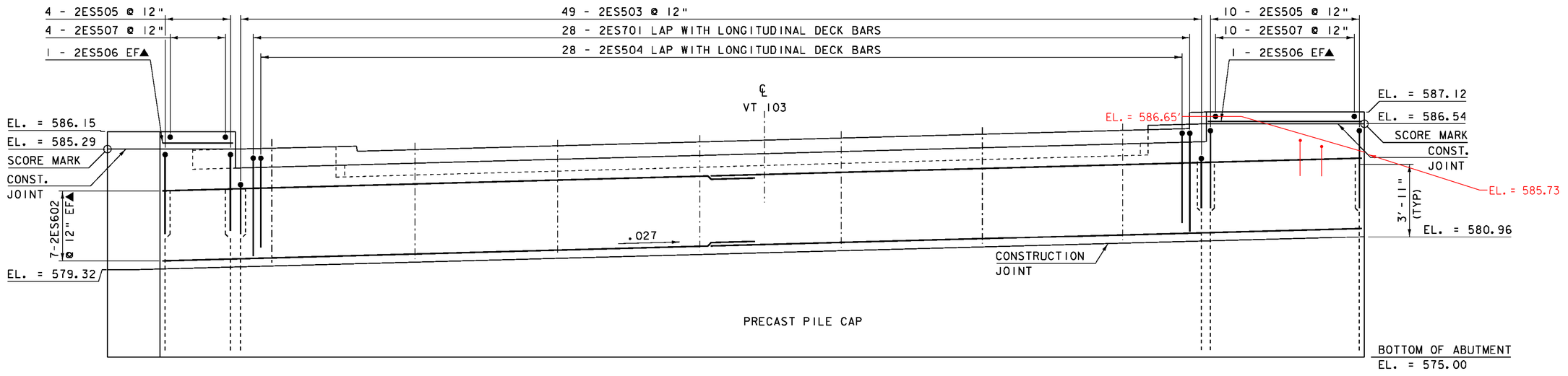
SCALE ⅜" = 1′-0"

SEE SHEET 96 FOR SECTIONS "A-A" & "B-B"

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2′-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

ABUTMENT #2, WW4
FIELD CHANGES:
LOWERED CONCRETE HEIGHT AND ANGLED WINGWALL

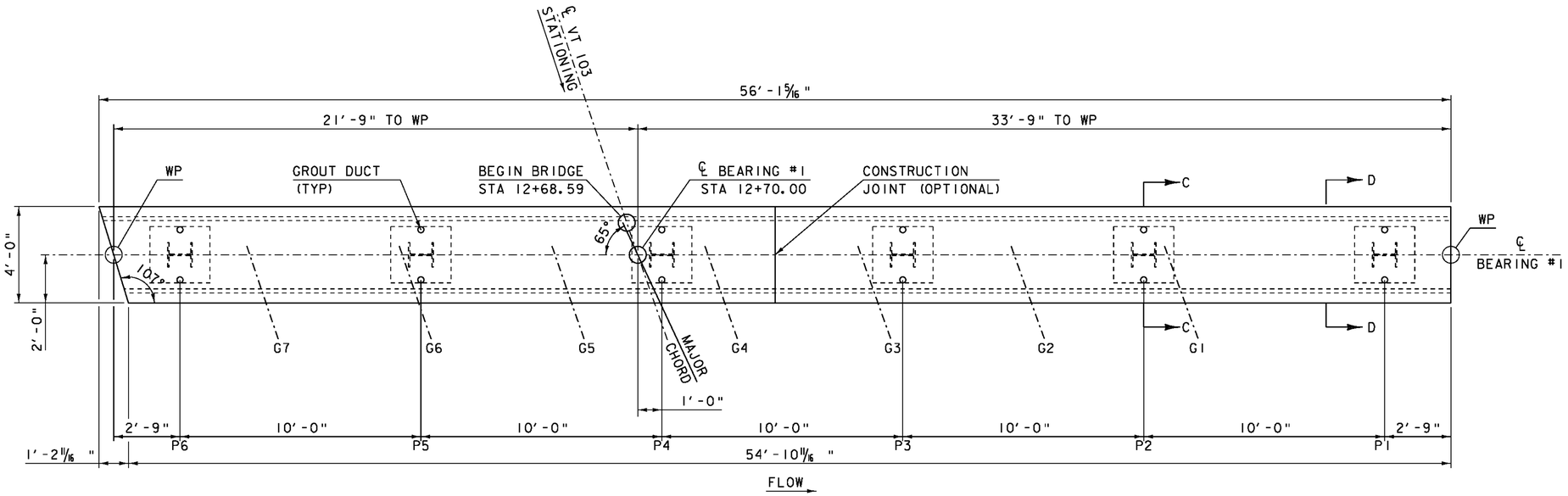


ABUTMENT #2 ELEVATION

SCALE ⅜" = 1′-0"

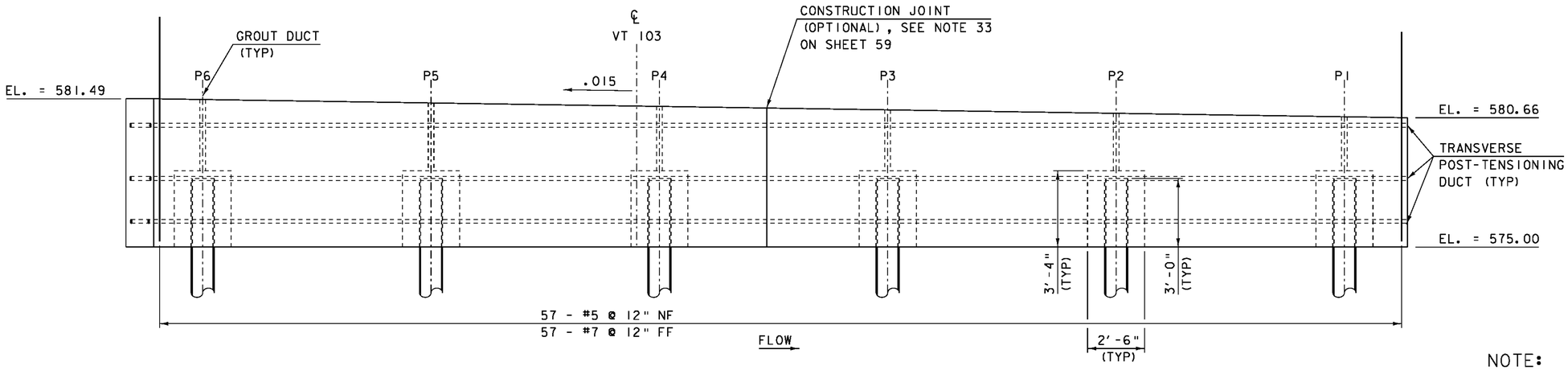
SCALE ⅜" = 1′-0"
1 0 1 2 3 4

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME: 95b168\s95b168sub.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 9 ABUTMENT 2 DETAILS	SHEET 93 OF 124



ABUTMENT #1 PILE CAP PLAN

SCALE 3/8" = 1'-0"



ABUTMENT #1 PILE CAP ELEVATION

SCALE 3/8" = 1'-0"

NOTES:

1. ONCE PILES HAVE BEEN CUT TO THEIR FINAL ELEVATIONS, 1" x 14" x 14" STEEL PLATES SHALL BE WELDED TO THE TOP OF THE PILES. PAYMENT FOR THE PLATES SHALL BE INCIDENTAL TO ITEM 505.265 "STEEL PILING FOR INTEGRAL ABUTMENTS, HP 12 X 84"
2. PILE CAVITY GROUT (FILL AND VENT) DUCTS SHALL BE CORRUGATED.
3. SEE GENERAL NOTES FOR ADDITIONAL FABRICATION, CONSTRUCTION, AND SEQUENCE NOTES.
4. SEE SHEET 96 FOR SECTIONS "C-C" & "D-D"

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

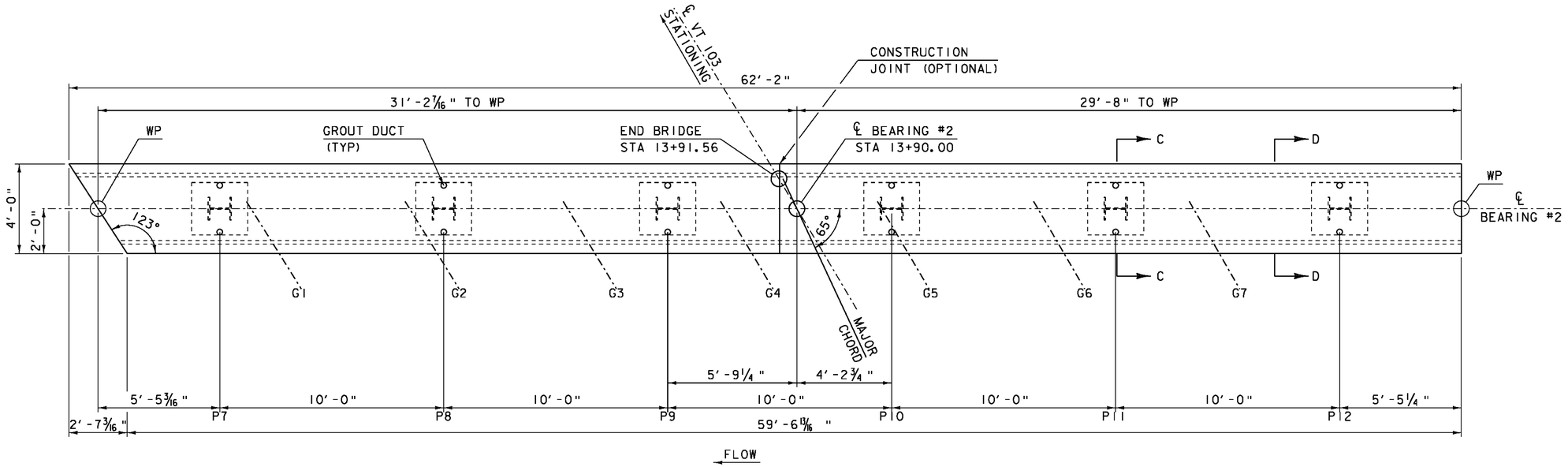
SCALE 3/8" = 1'-0"
1 0 1 2 3 4

SCALE 3/4" = 1'-0"
1 0 1 2

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

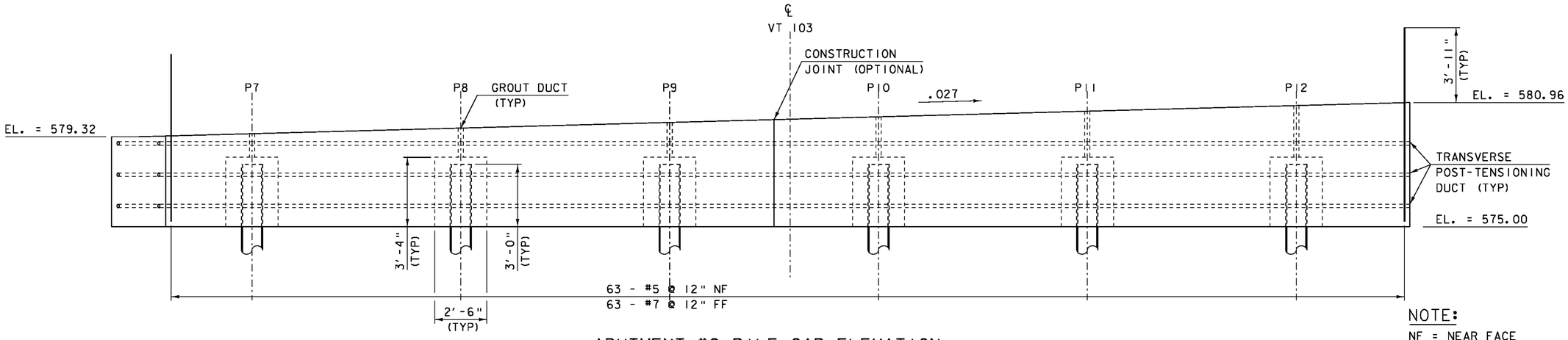
FILE NAME: 95b168\s95b168sub.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 ABUTMENT 1 PRECAST PILE CAP

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 94 OF 124



ABUTMENT #2 PILE CAP PLAN

SCALE 3/8" = 1'-0"



ABUTMENT #2 PILE CAP ELEVATION

SCALE 3/8" = 1'-0"

NOTES:

1. ONCE PILES HAVE BEEN CUT TO THEIR FINAL ELEVATIONS, 1" x 14" x 14" STEEL PLATES SHALL BE WELDED TO THE TOP OF THE PILES. PAYMENT FOR THE PLATES SHALL BE INCIDENTAL TO ITEM 505.265 "STEEL PILING FOR INTEGRAL ABUTMENTS, HP 12 X 84"
2. PILE CAVITY GROUT (FILL AND VENT) DUCTS SHALL BE CORRUGATED.
3. SEE GENERAL NOTES FOR ADDITIONAL FABRICATION, CONSTRUCTION, AND SEQUENCE NOTES.
4. SEE SHEET 96 FOR SECTIONS "C-C" & "D-D"

NOTE:

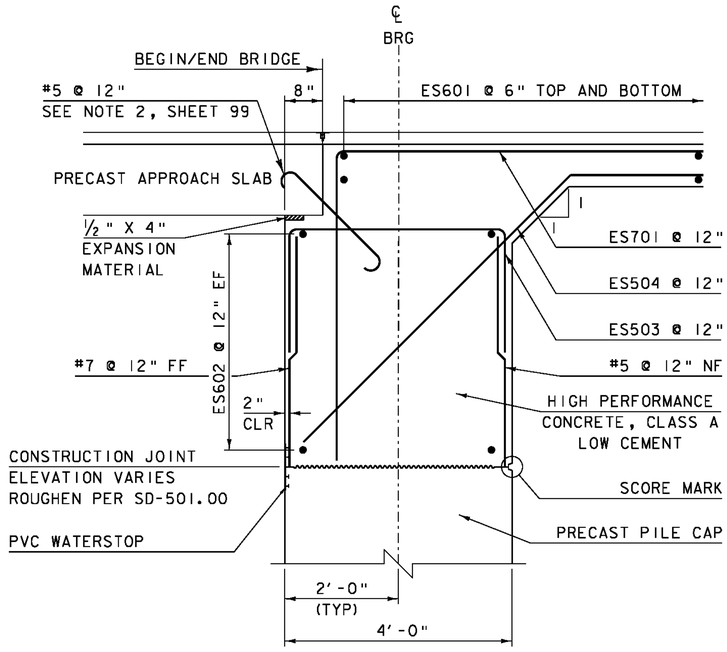
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SCALE 3/8" = 1'-0"
1 0 1 2 3 4

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

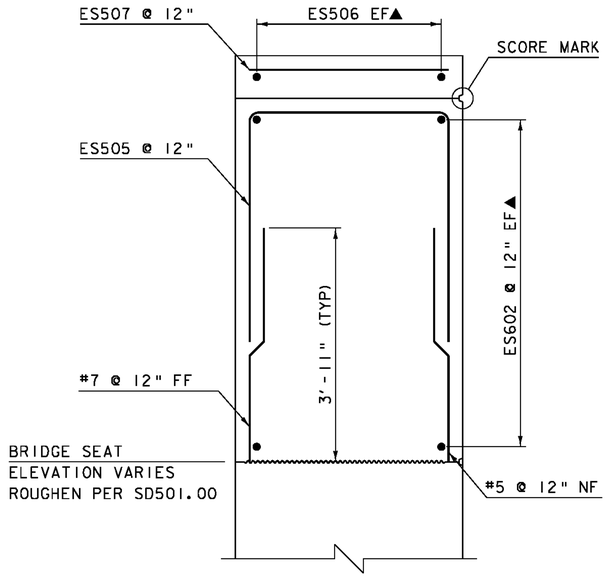
FILE NAME: 95b168\s95b168sub.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 ABUTMENT 2 PRECAST PILE CAP

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 95 OF 124



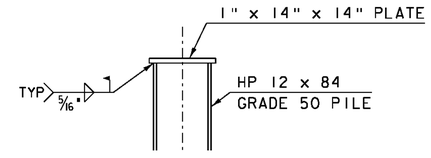
CURTAIN WALL SECTION "A-A"

SCALE 3/4 " = 1'-0"
SEE SHEETS 92 - 93



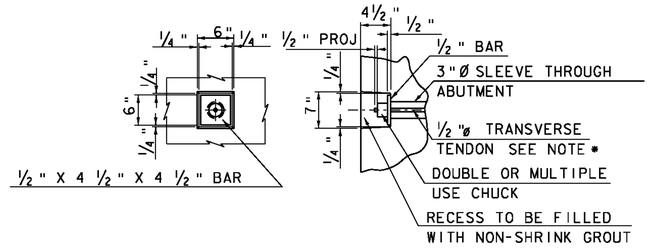
CURTAIN WALL SECTION "B-B"

SCALE 3/4 " = 1'-0"
SEE SHEETS 92 - 93



PILE PLATES (TYP)

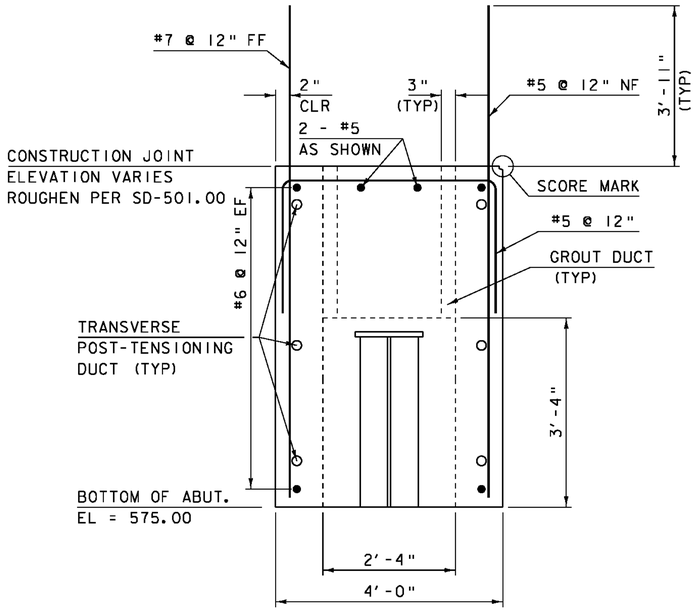
SCALE 3/4 " = 1'-0"



1/2 "Ø TRANSVERSE TENDON DETAIL

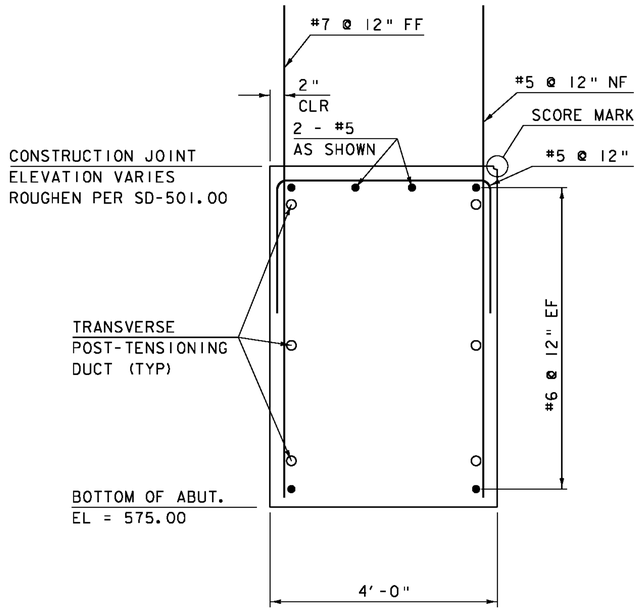
(NOT TO SCALE)

*TRANSVERSE TIES SHALL BE COVERED BY SEAMLESS POLYPROPYLENE SHEATH (WITH CORROSION INHIBITER GREASE BETWEEN SHEATH AND STRAND) FOR THE LENGTH OF STRAND, EXCEPT AT ANCHORAGE LOCATIONS.



PILE CAP SECTION "C-C"

SCALE 3/4 " = 1'-0"
SEE SHEETS 94 - 95



PILE CAP SECTION "D-D"

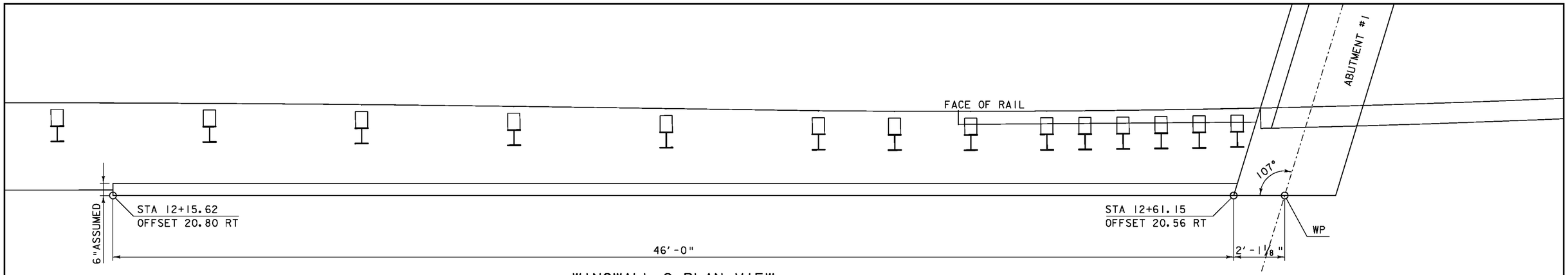
SCALE 3/4 " = 1'-0"
SEE SHEETS 94 - 95

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

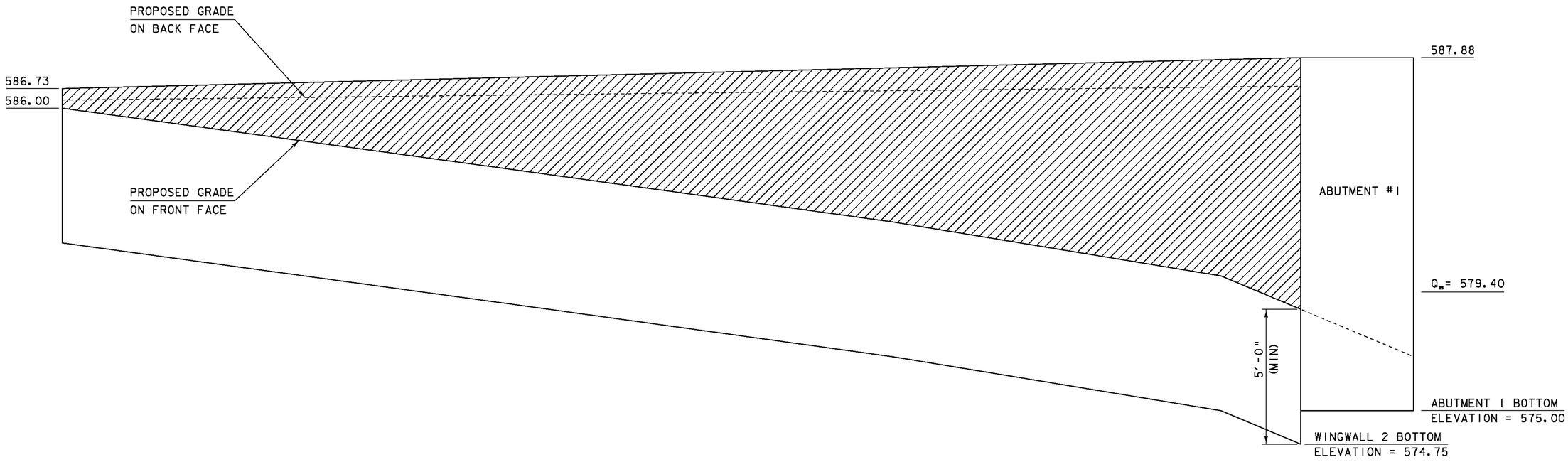
SCALE 3/4 " = 1'-0"
0 1 2

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME: 95b168\s95b168sub.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 9 ABUTMENT SECTIONS	SHEET 96 OF 124



WINGWALL 2 PLAN VIEW

SCALE 1/2" = 1'-0"



PAY LIMITS OF ITEM 900.670 "SPECIAL PROVISION (RETAINING WALL)

WINGWALL 2 ELEVATION VIEW

SCALE 1/2" = 1'-0"

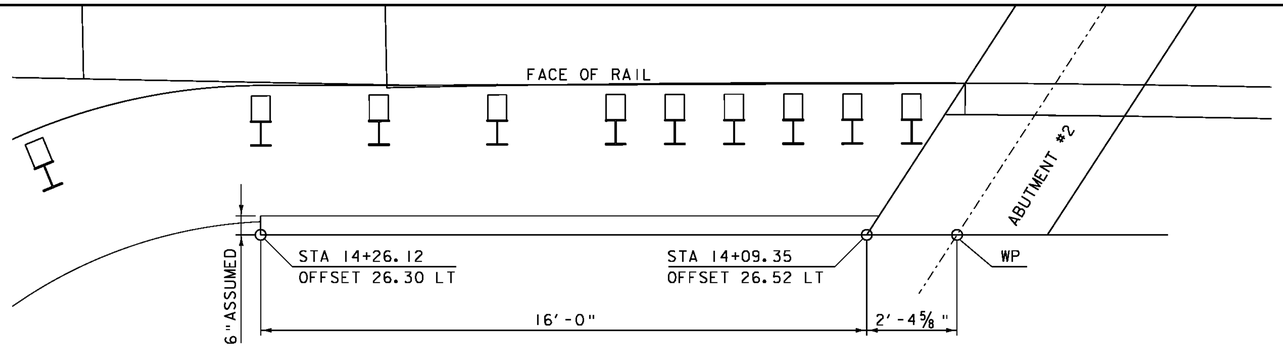
SEE SHEET 98 FOR
ADDITIONAL INFORMATION
AND TYPICAL SECTION

SCALE 1/2" = 1'-0"
0 1 2

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

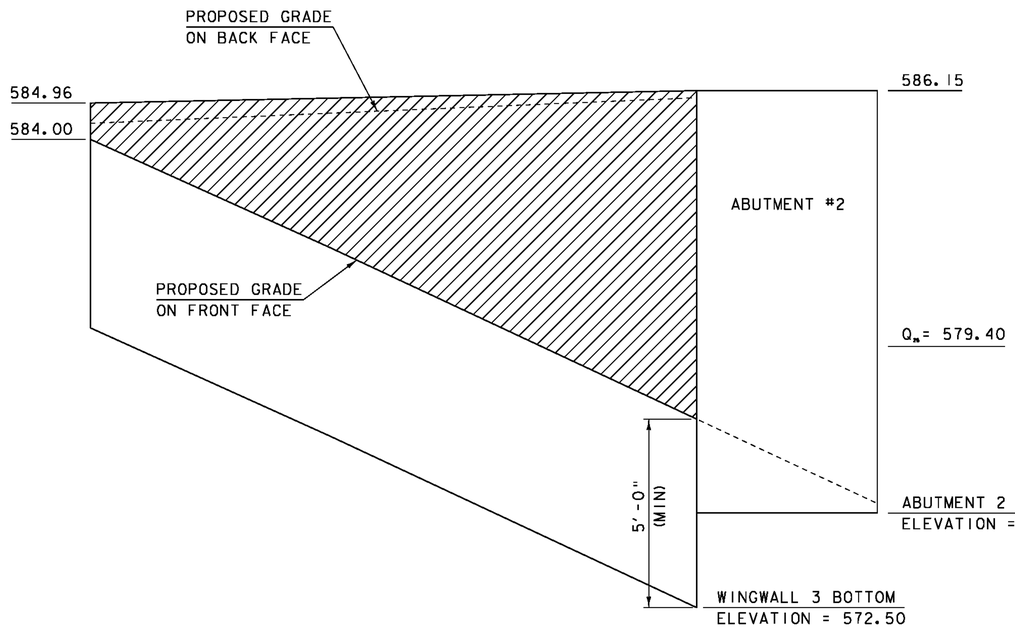
FILE NAME: 95b168\s95b168sub.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 WINGWALL 2 DETAILS

PLOT DATE: 21-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: E.R.CHARBONNEAU



WINGWALL 3 PLAN VIEW

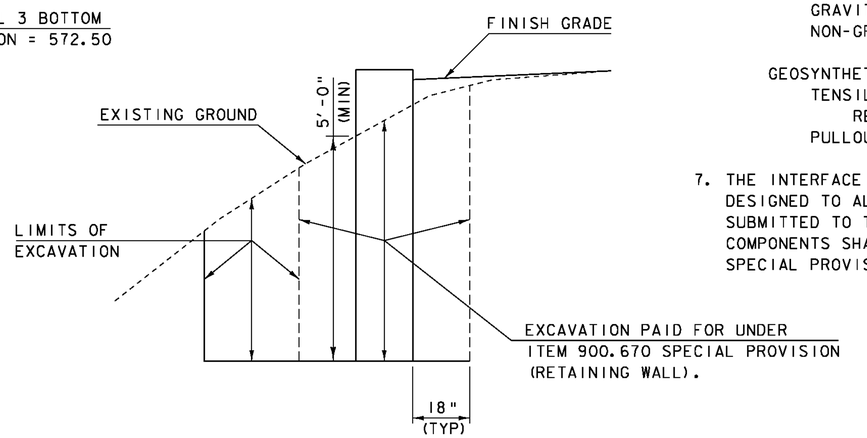
SCALE ½" = 1'-0"



PAY LIMITS OF ITEM 900.670 "SPECIAL PROVISION (RETAINING WALL)

WINGWALL 3 ELEVATION VIEW

SCALE ½" = 1'-0"



TYPICAL WINGWALL EXCAVATION DETAIL

N. T. S.

NOTES:

1. WINGWALL 2 AND WINGWALL 3 SHALL BE SELECTED FROM THE LIST OF WALLS ON THE APPROVED RETAINING WALL DOCUMENT AVAILABLE FROM VAOT MATERIALS & RESEARCH WEB SITE. THE RETAINING WALL SHALL HAVE CONCRETE FACING.

2. THE WALL SHALL BE PAID FOR UNDER ITEM 900.670 "SPECIAL PROVISION (RETAINING WALL)".

3. THE BOTTOM OF WALL SHALL BE A MINIMUM OF 5 FEET BELOW THE FINISH GRADE IN THE FRONT OF WALL.

4. THE WALL SHALL BE DESIGNED IN ACCORDANCE WITH 2007 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND ITS LATEST REVISIONS. THE DESIGN SHALL INCLUDE THE EFFECT OF ALL LOADS INCLUDING BUT NOT LIMITED TO LIVE LOAD, VEHICLE IMPACT ON ADJACENT GUARDRAIL AND POSTS, EARTH SURCHARGE, AND HYDROSTATIC PRESSURE.

5. THE TYPE OF WALL SELECTED SHALL BE COMPATIBLE WITH ADJACENT OBSTRUCTIONS SUCH AS DRAINAGE FEATURES AND GUARD RAIL POSTS. ANY CHANGES TO THE REINFORCING OR ANCHORING SYSTEM SHALL BE DETAILED IN THE FABRICATION DRAWINGS.

6. THE FOLLOWING SOIL PROPERTIES SHALL BE USED IN THE DESIGN OF WINGWALL 2 AND WINGWALL 3:

FOUNDATION SOIL DESIGN VALUES	
NOMINAL BEARING RESISTANCE:	8.9 KSF
FOUNDATION SOIL PARAMETERS	
UNIT WEIGHT:	120 PCF
FRICTION ANGLE:	32°
RETAINED SOIL PARAMETERS	
UNIT WEIGHT:	130 PCF
FRICTION ANGLE:	32°
REINFORCED SOIL PARAMETERS (IF APPLICABLE)	
UNIT WIEGHT:	140 PCF
FRICTION ANGLE:	34°
BEARING RESISTANCE FACTORS (STRENGTH LIMIT STATE)	
MSEW:	0.65
GRAVITY/SEMI-GRAVITY (PROPRIETARY SYSTEM):	0.55
NON-GRAVITY CANTILEVERED AND ANCHORED:	0.45
SLIDING RESISTANCE FACTORS	
MSEW:	1.0
GRAVITY/SEMI-GRAVITY (PROPRIETARY SYSTEM):	1.0
NON-GRAVITY CANTILEVERED AND ANCHORED:	0.8
GEOSYNTHETIC RESISTANCE FACTORS (IF APPLICABLE)	
TENSILE RESISTANCE OF GEOSYNTHETIC REINFORCEMENT AND CONNECTORS:	0.9
PULLOUT RESISTANCE OF TENSILE REINFORCEMENT:	0.9

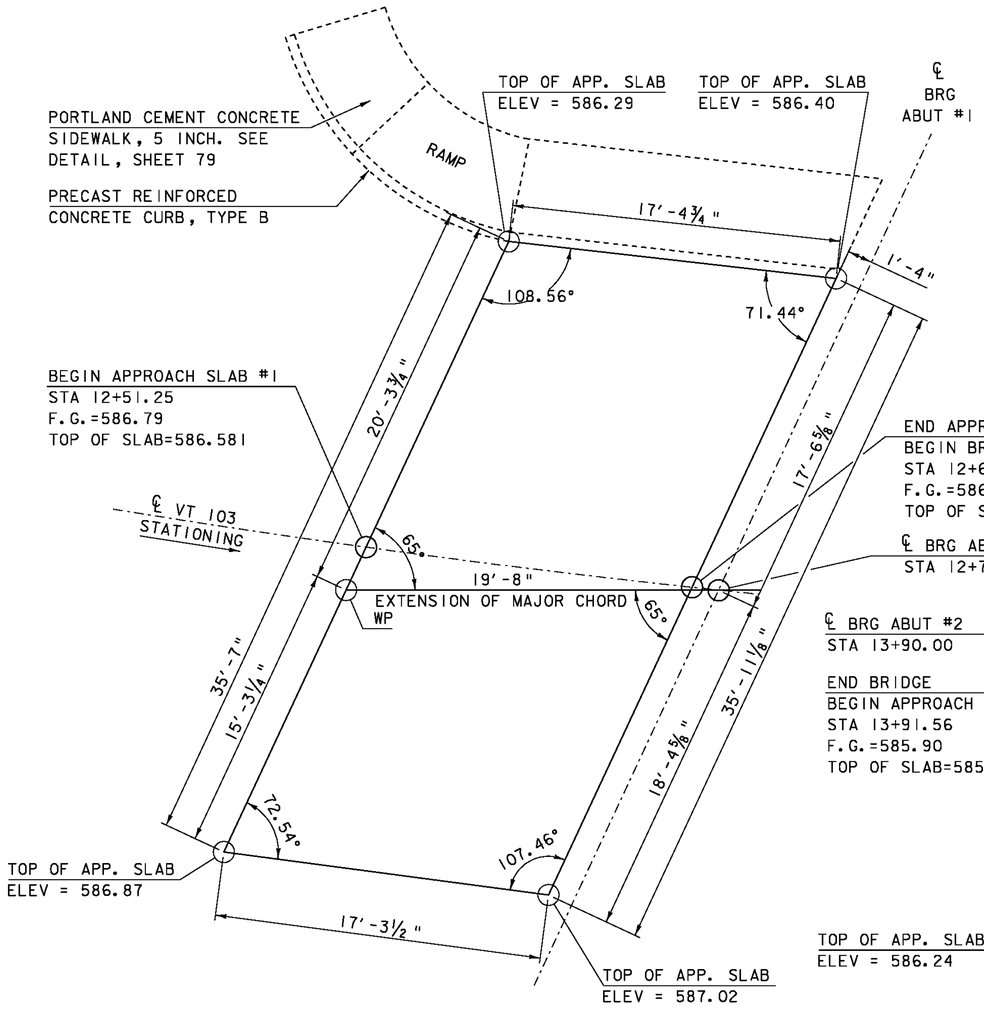
7. THE INTERFACE BETWEEN THE WINGWALL AND THE ABUTMENT STEM SHALL BE DESIGNED TO ALLOW 0.5 INCHES OF MOVEMENT. A JOINT DETAIL SHALL BE SUBMITTED TO THE PROJECT MANAGER FOR REVIEW AND APPROVAL. ALL COMPONENTS SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 900.670 SPECIAL PROVISION (RETAINING WALL).

SCALE ½" = 1'-0"
1 0 1 2

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

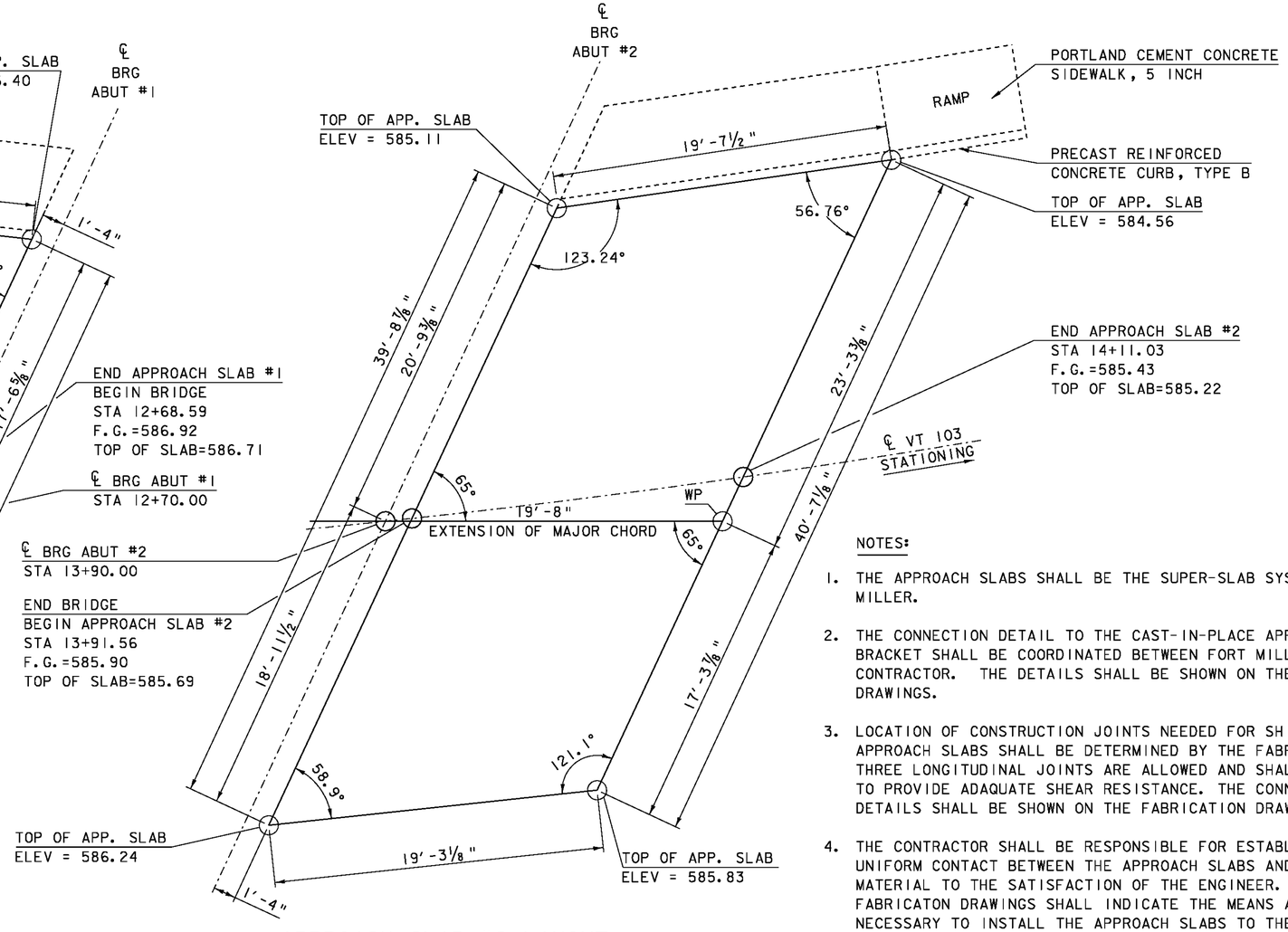
FILE NAME: 95b168\s95b168sub.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 WINGWALL 3 DETAILS

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: E.R.CHARBONNEAU



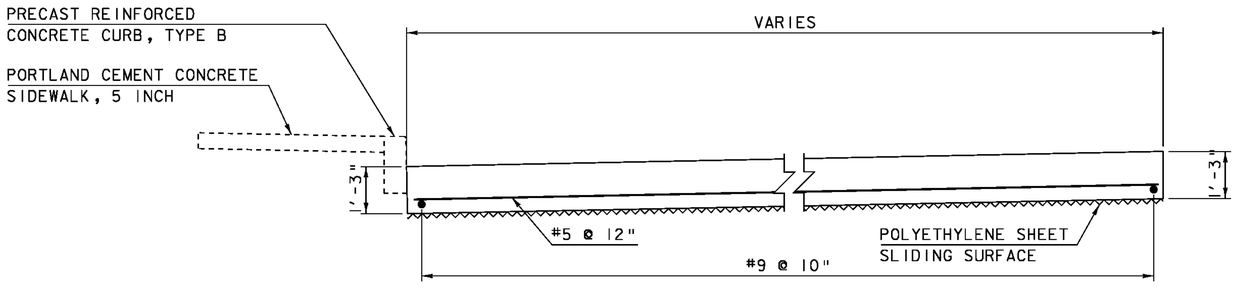
APPROACH SLAB #1 LAYOUT

SCALE ¼" = 1'-0"



APPROACH SLAB #2 LAYOUT

SCALE ¼" = 1'-0"



APPROACH SLAB TYPICAL

SCALE ½" = 1'-0"

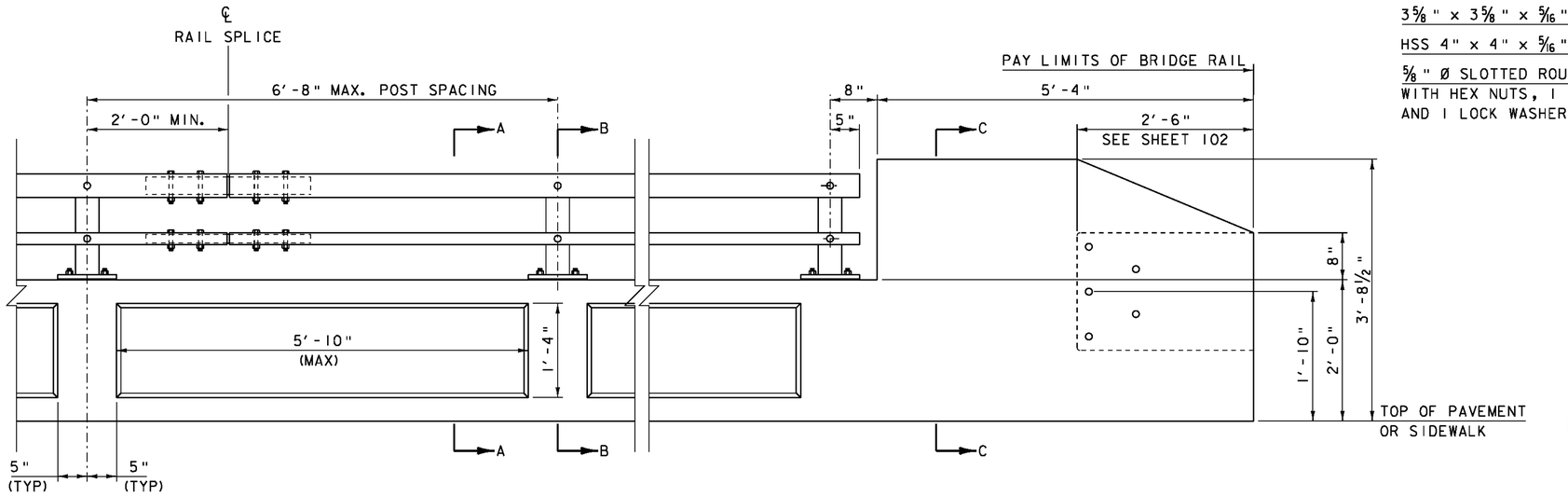
NOTES:

1. THE APPROACH SLABS SHALL BE THE SUPER-SLAB SYSTEM BY FORT MILLER.
2. THE CONNECTION DETAIL TO THE CAST-IN-PLACE APPROACH SLAB BRACKET SHALL BE COORDINATED BETWEEN FORT MILLER AND THE CONTRACTOR. THE DETAILS SHALL BE SHOWN ON THE FABRICATION DRAWINGS.
3. LOCATION OF CONSTRUCTION JOINTS NEEDED FOR SHIPMENT OF THE APPROACH SLABS SHALL BE DETERMINED BY THE FABRICATOR(S). THREE LONGITUDINAL JOINTS ARE ALLOWED AND SHALL BE DESIGNED TO PROVIDE ADAQUATE SHEAR RESISTANCE. THE CONNECTION DETAILS SHALL BE SHOWN ON THE FABRICATION DRAWINGS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING UNIFORM CONTACT BETWEEN THE APPROACH SLABS AND THE SUBBASE MATERIAL TO THE SATISFACTION OF THE ENGINEER. THE FABRICATON DRAWINGS SHALL INDICATE THE MEANS AND METHODS NECESSARY TO INSTALL THE APPROACH SLABS TO THE ELEVATIONS SPECIFIED.
5. A 10 MIL POLYETHYLENE SHEET SHALL BE PLACED UNDER THE SLAB TO ALLOW FOR SLIDING.
6. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING APPROACH SLABS TO RESIST LIFTING STRESSES. INSTALLATION SEQUENCE AND LIFTING PLAN SHALL BE SHOWN ON THE CONSTRUCTION DRAWINGS.
7. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
8. PAYMENT FOR THE APPROACH SLABS, POLYETHYLENE SHEET, ALL LABOR, TOOLS, AND MATERIALS NEEDED FOR PLACEMENT SHALL BE INCLUDED UNDER ITEM 900.620 "SPECIAL PROVISION (PRECAST APPROACH SLAB, SUPER-SLAB) (BRIDGE 9)"

SCALE ½" = 1'-0"
1 0 1 2

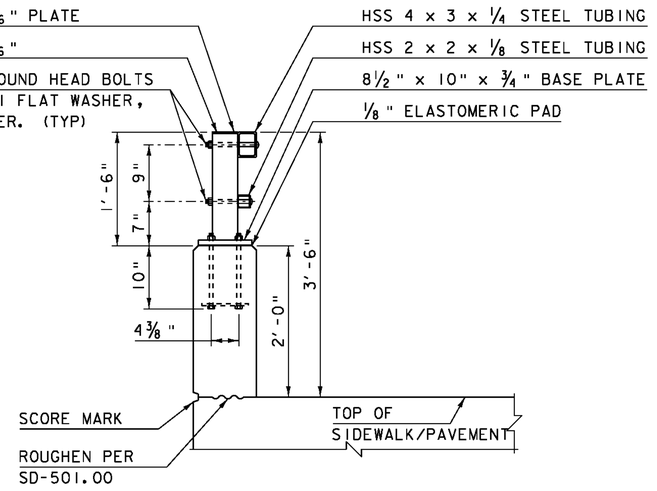
SCALE ¼" = 1'-0"
1 0 2 4 6

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(37)
FILE NAME: 95b168\s95b168slab.dgn	PLOT DATE: 21-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 9 PRECAST APPROACH SLAB LAYOUT	SHEET 99 OF 124



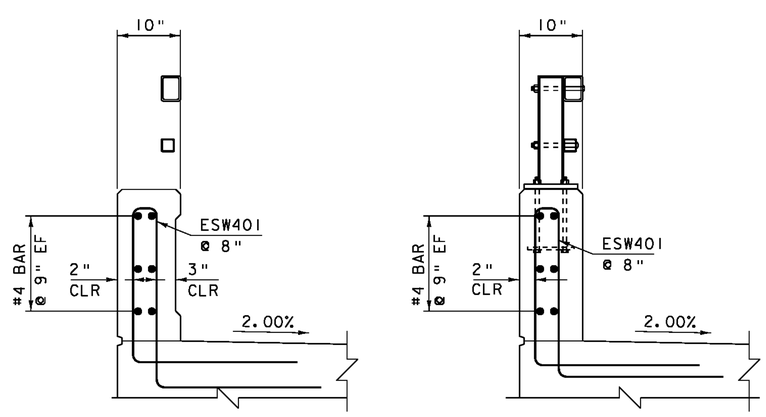
RAILING & END WALL APPROACH

SCALE 1"=1'-0"



RAIL TYPICAL SECTION

SCALE 1"=1'-0"

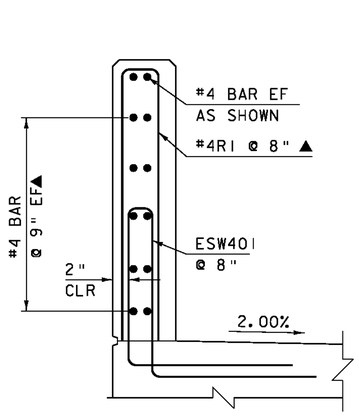


SECTION A-A

SCALE 1"=1'-0"

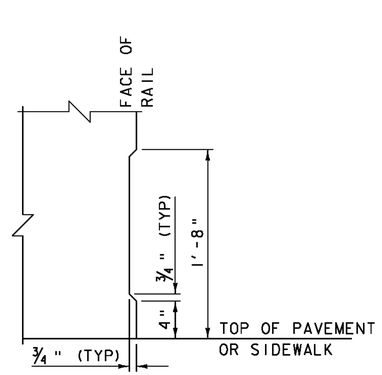
SECTION B-B

SCALE 1"=1'-0"



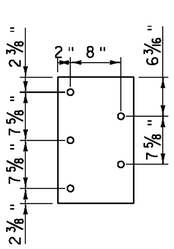
SECTION C-C

SCALE 1"=1'-0"



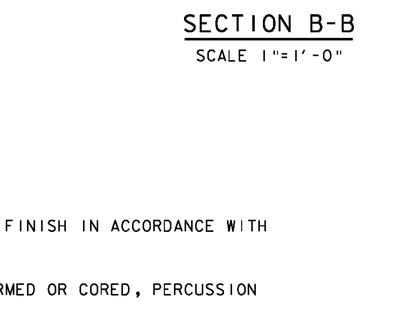
ASTHETIC TREATMENT DETAIL

SCALE 1½"=1'



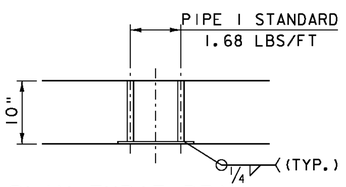
ELEVATION THRIE-BEAM CONNECTION PLATE DETAIL

SCALE 1" = 1'-0"



BAR #4R1

SCALE 1"=1'-0"
(36 - REQUIRED)



PLAN THRIE-BEAM CONNECTION PLATE DETAIL

SCALE 1" = 1'-0"

SCALE 1" = 1'-0"
9 6 3 0 2

SCALE 1½" = 1'-0"
9 6 3 0 1

NOTES:

1. BRIDGE RAIL SHALL HAVE A RUBBED FINISH IN ACCORDANCE WITH SECTION 501.
2. HOLES AND RECESSES ARE TO BE FORMED OR CORED, PERCUSSION DRILLING IS NOT ALLOWED

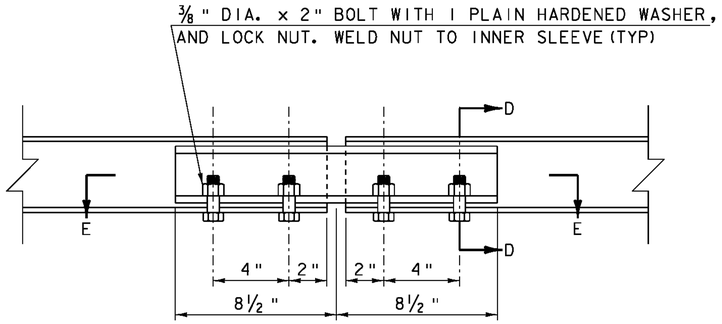
NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

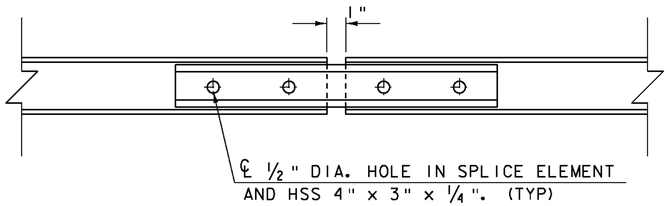
PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: s95bl68rail.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 BRIDGE RAIL DETAIL 1

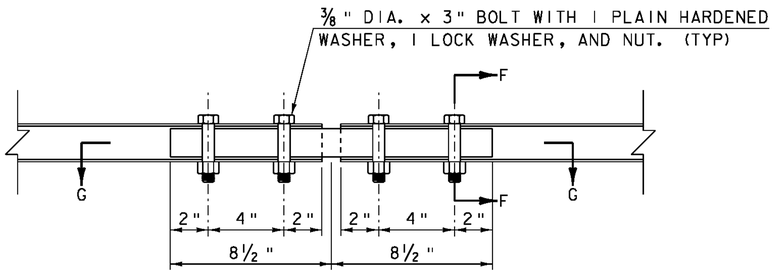
PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: H.I.SALLS
SHEET 100 OF 124



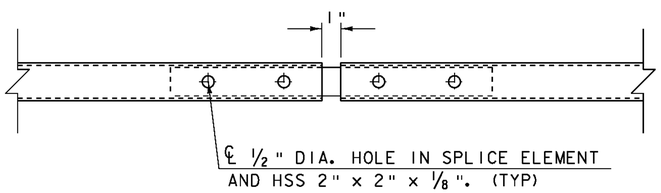
TOP RAIL SPLICE DETAIL



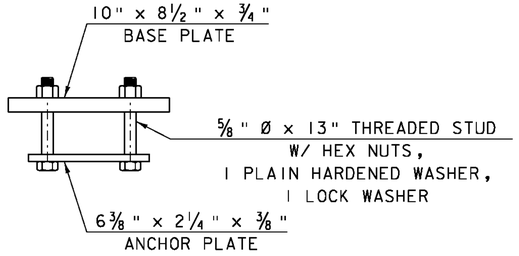
SECTION E-E



BOTTOM RAIL SPLICE DETAIL
ELEVATION VIEW

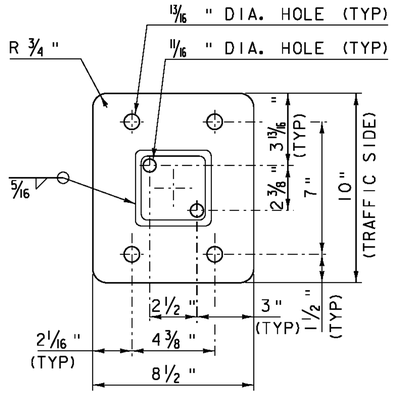


SECTION G-G



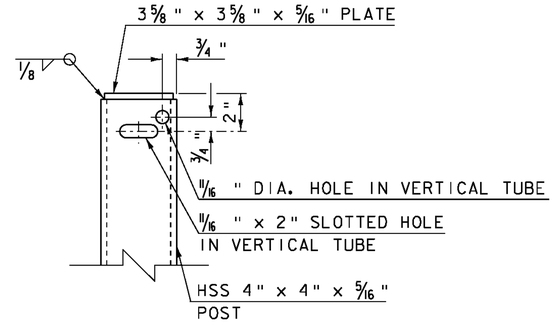
RAIL POST ANCHORAGE

N. T. S.



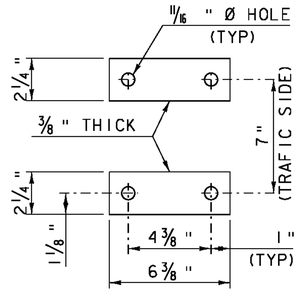
BASE PLATE

N. T. S.



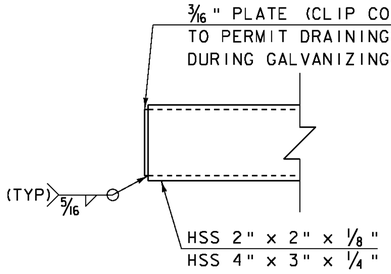
VERTICAL TUBE DETAIL
(FRONT VIEW)

N. T. S.



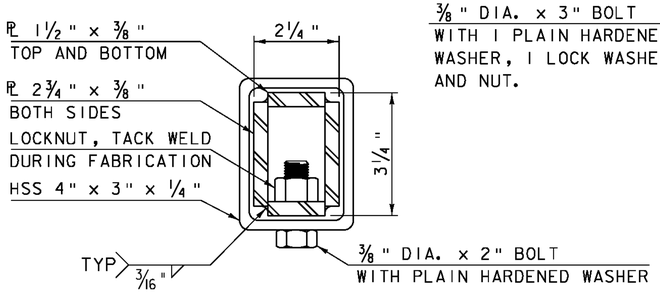
ANCHOR PLATES

N. T. S.



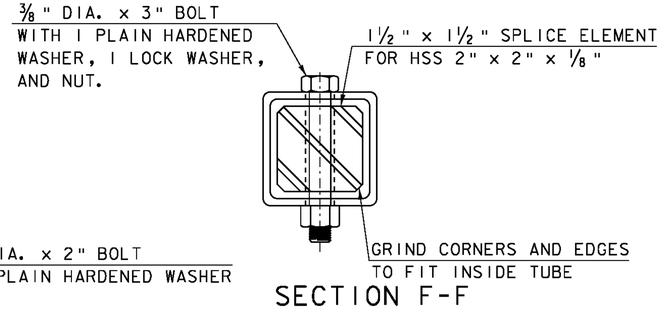
END OF RAIL DETAIL

N. T. S.



SECTION D-D
(INNER SLEEVE)

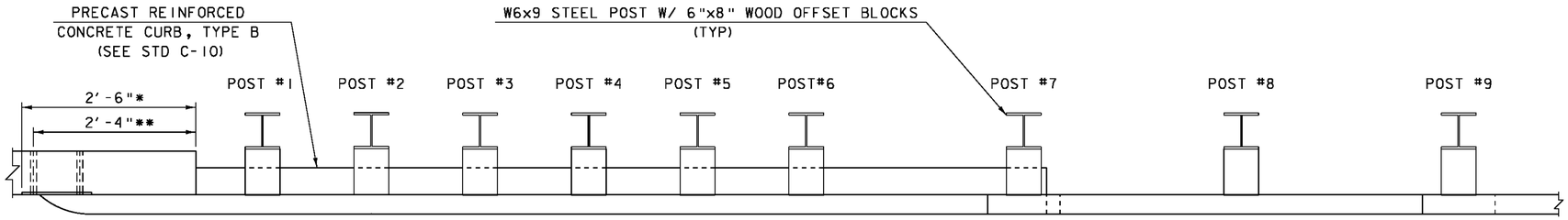
N. T. S.



SECTION F-F

N. T. S.

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(37)
FILE NAME: s95bl68rail.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: H.I.SALLS
BRIDGE 9 BRIDGE RAIL DETAIL 2	SHEET 101 OF 124

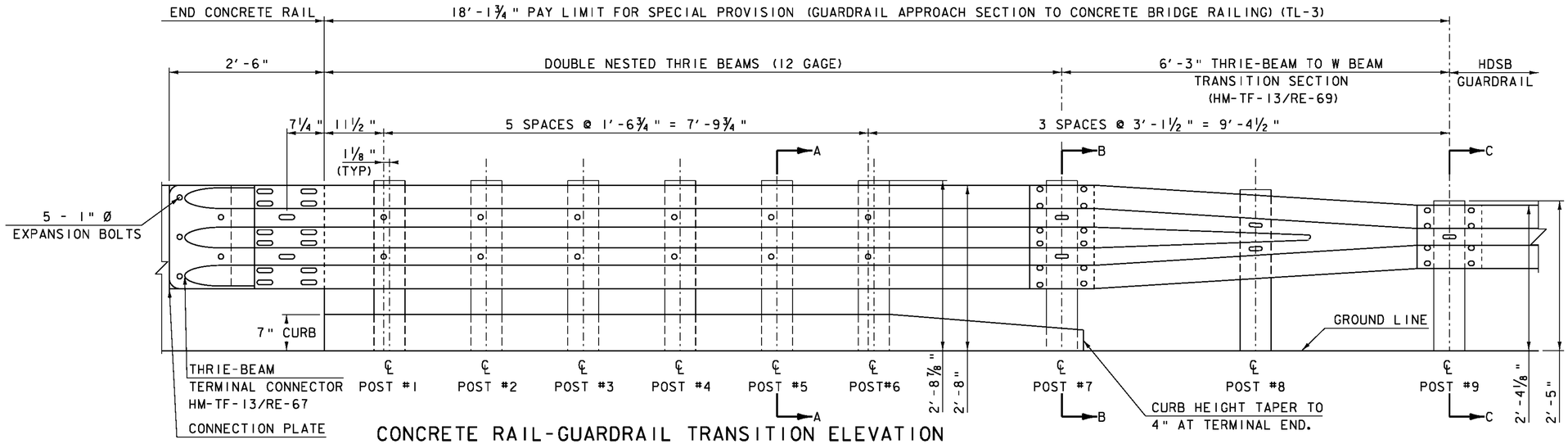


* THIS DIMENSION WILL BE 1'-11½" ON WINGWALL #3

** THIS DIMENSION WILL BE 1'-9½" ON WINGWALL #3

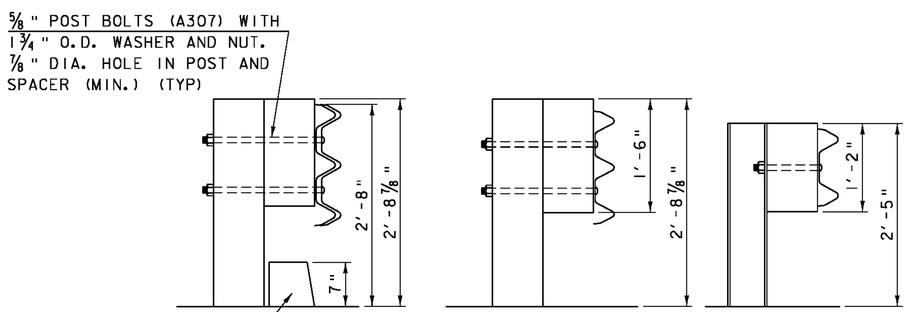
CONCRETE RAIL-GUARDRAIL TRANSITION PLAN

SCALE 1" = 1'-0"



CONCRETE RAIL-GUARDRAIL TRANSITION ELEVATION

SCALE 1" = 1'-0"



SECTION A-A SECTION B-B SECTION C-C

NOTE:

1. THRIE-BEAM TERMINAL CONNECTOR SHALL BE INCLUDED IN THE UNIT BID PRICE OF ITEM 900.620 SPECIAL PROVISION (GUARDRAIL APPROACH SECTION TO CONCRETE BRIDGE RAILING) (TL3). THE CONNECTION PLATE AND PIPE SHALL BE INCLUDED IN THE UNIT BID PRICE OF ITEM 900.640 SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION).
2. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, A COMPOSITE MATERIAL POST AND/OR BLOCKOUT FROM THE APPROVED PRODUCTS LIST MAY BE SUBSTITUTED FOR A POST AND/OR BLOCKOUT OF SIMILAR DIMENSIONS.
3. REFER TO STANDARD DRAWINGS G-1 AND G-1D FOR ADDITIONAL DETAILS.

SCALE 1" = 1'-0"
1 9 6 3 0 1 2

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: s95bl68rail.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
TL-3 TRANSITION RAIL DETAILS

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: H.I.SALLS
SHEET 102 OF 124

STATE OF VERMONT
AGENCY OF TRANSPORTATION

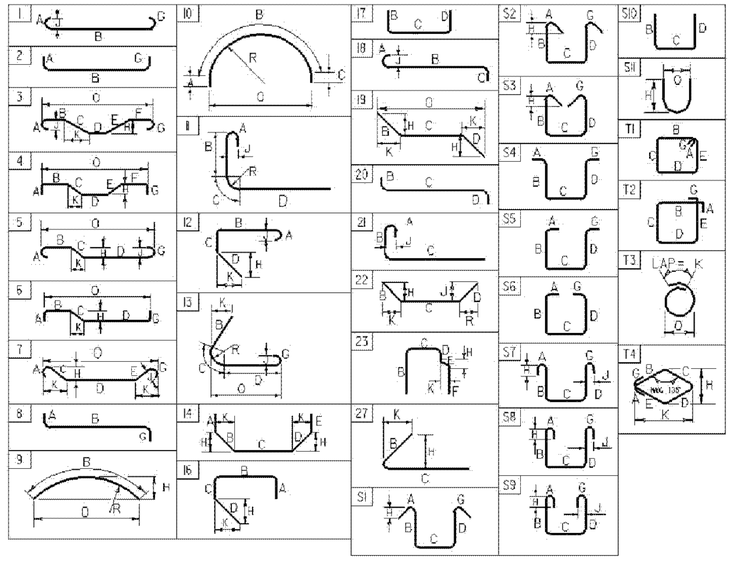
REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	ABUTMENT #1																
	13	4	9'- 6"	1ES401	S5	2'- 2"	2'- 3"	0'- 5"	2'- 6"			2'- 2"					
△	10	4	11'- 10"	1ES402	S5	2'- 2"	0'- 11"	5'- 9"	0'- 10"			2'- 2"					
	6	5	3'- 9"	1ES501	STR												
✳	17	5	6'- 10"	1ES502	STR												
	44	5	7'- 11"	1ES503	S10		2'- 2"	3'- 7"	2'- 2"								
✳	29	5	9'- 7"	1ES504	22		7'- 7"	2'- 0"	---								
	13	5	11'- 5"	1ES505	S10		3'- 11"	3'- 7"	3'- 11"								
▲	4	5	9'- 2"	1ES506	STR												
	13	5	3'- 6"	1ES507	STR												
✳	53	6	22'- 10"	1ES601	STR												
▲	28	6	29'- 1"	1ES602	STR												
✳	15	6	11'- 9"	1ES603	STR												
△	30	7	12'- 0"	1ES701	17		5'- 4"	6'- 8"	---								
	ABUTMENT #2																
✳	13	4	9'- 6"	2ES401	S5	2'- 2"	2'- 3"	0'- 5"	2'- 6"			2'- 2"					
✳	12	4	11'- 10"	2ES402	S5	2'- 2"	1'- 0"	5'- 9"	0'- 9"			2'- 2"					
✳	29	5	7'- 9"	2ES501	STR												
	49	5	7'- 11"	2ES503	S10		2'- 2"	3'- 7"	2'- 2"								
	28	5	9'- 7"	2ES504	22		7'- 7"	2'- 0"	---								
✳	15	5	11'- 7"	2ES505	S10		4'- 0"	3'- 7"	4'- 0"								
▲	4	5	9'- 7"	2ES506	STR												
	14	5	3'- 6"	2ES507	STR												
	52	6	25'- 2"	2ES601	STR												
✳ ▲	29	6	32'- 2"	2ES602	STR												
✳	29	6	8'- 1"	2ES603	STR												
△	30	7	12'- 0"	2ES701	17		5'- 4"	6'- 8"	---								
	SIDEWALK																
△	191	4	9'- 2"	ESW401	S5	2'- 2"	2'- 0"	0'- 5"	2'- 5"			2'- 2"					
△	30	5	32'- 10"	ESW501	STR												

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-SI). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS 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. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION DIAMETER INCHES	AREA INCHES ^{2}	PERIMETER INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.044	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: \95b168\s95b168excel.dgn
PROJECT MANAGER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 REINFORCING STEEL SCHEDULE

PLOT DATE: 8/31/2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 103 OF 124

REMOVING SIGNS

12+11.10 RT
12+29.00 RT
12+45.20 RT
12+51.15 LT (X2)
12+57.60 LT (X12)
12+58.90 LT
13+74.65 RT
13+76.10 RT
13+82.50 RT
13+96.10 LT
14+28.00 LT (X3)
20+20.00 LT (NARROW BRIDGE)
52+25.05 LT (X2)

TRAFFIC SIGNS, TYPE A

12+12.65 RT
12+34.10 RT
12+54.75 LT (X2)
12+73.30 LT (X12)
13+86.20 RT
14+26.20 LT (X3)
52+25.05 LT (X2)

SQUARE TUBE SIGN POST AND ANCHOR

12+12.65 RT (X2)
12+34.10 RT
12+54.75 LT
12+73.30 LT (X2)
13+86.20 RT
14+26.20 LT
52+25.05 LT

4" WHITE LINE

11+00.00 LT - 30+75.00 RT
11+00.00 RT - 13+93.40 RT
30+75.00 LT - 15+50.00 LT
14+57.50 RT - 15+50.00 RT

4" YELLOW LINE (DBL)

11+00.00 - 11+61.90 CL
12+39.50 - 13+93.40 CL
14+57.50 - 15+50.00 CL
30+75.00 - 31+58.00 CL
52+50.00 - 53+00.00 CL

DURABLE 24" STOP BAR

11+83.50 - 12+16.20 LT
14+14.60 - 14+58.00 RT

DURABLE LETTER OR SYMBOL

12+05 LT (X4)
14+20 RT (X4)

DURABLE CROSSWALK MARKING

11+68.70 - 12+41.70 LT

CROSSWALK NOT INSTALLED

SIGN NOT REUSED DUE TO CONDITION

N STA: 12+55 LT

N STA: 12+73 LT

N STA: 14+26 LT

N STA: 12+34 RT

N STA: 12+13 RT

N STA: 13+86 RT

N STA: 52+25 LT

NOTE: EXISTING SIGN POSTS MEET TEI 08-201

LEGEND

RET: RETAIN
N: NEW
R: REMOVE
R&S: REMOVE AND SALVAGE
S: SALVAGE SIGN
B-B: BACK TO BACK

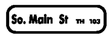
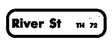
TRAFFIC SIGNS AND PAVEMENT MARKINGS

SCALE 1" = 20'-0
20 0 20

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME: 95b168\s95b168sign.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 9 SIGNS AND PAVEMENT MARKINGS	SHEET 104 OF 124

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) lb/ft 1.75 1.88	2.0 2.42	2.5 3.35	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft 3.0 1.3	4.0 1.7	4.0 MOD 1.7	TUBULAR STEEL Ø (in) FOUNDATION	lb/ft 3.0 7.6	3.5 9.0	4.0 10.8	5.0 14.6	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN REQUIRED	REMARKS	SIGN DETAIL DETAIL IN SHS	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																										
12+12.65 RT		1	48	24	8						2					X		X																WI-7	X		
12+34.10 RT		1	6	8	.33						1				X			X																VD-701			E-134
12+54.75 LT		1	42	12	3.5						1					X		X																D3-1 MOUNTED OVER RI-1	X		
		1	42	12	3.5																													D3-1 MOUNTED OVER RI-1	X		
12+73.30 LT		1	24	12	2						2						X	X															X	M3-1 GREEN ON WHITE SHEETING	X		
		1	30	24	5																																E-136B
		2	21	15	2.2																													M6-3 GREEN ON WHITE SHEETING	X		
		1	24	12	2																													M3-4 GREEN ON WHITE SHEETING	X		
		3	24	24	4																																E-136B
		2	24	12	2																													M3-2 GREEN ON WHITE SHEETING	X		
		2	21	15	2.2																													M6-1 GREEN ON WHITE SHEETING	X		
13+86.20 RT		1	42	12	3.5						1					X		X																D3-1	X		
14+26.20 LT		1	24	24	4						1					X		X																D9-2	X		
		1	21	15	2.2																													M6-1 - MOUNTED UNDER D9-2 WHITE ON BLUE SHEETING	X		
		1	6	8	.33																													VD-701 - MOUNTED BELOW M6-1			E-134
	POST TOTALS											FT	FT	FT	FT 12.0	FT 39.75	FT 11.6		EA	LB	LB	LB		LB	LB	LB	LB									
	SUB-TOTAL	SF 59.09	SF	EA.	SF							FT			FT 63.35					LB			EA.	LB				EA.	EA.	LB						
	TOTALS	SF 69.09	SF	EA.	SF							FT			FT 76.10					LB			EA.	LB				EA.	EA.	LB						

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND VTRANS "SIGN POST DESIGN GUIDELINE."
SHS = STANDARD HIGHWAY SIGNS

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: 95b168\s95b168sign.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 TRAFFIC SIGN SUMMARY SHEET 1
PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY:
SHEET 105 OF 124

STATE OF VERMONT
AGENCY OF TRANSPORTATION

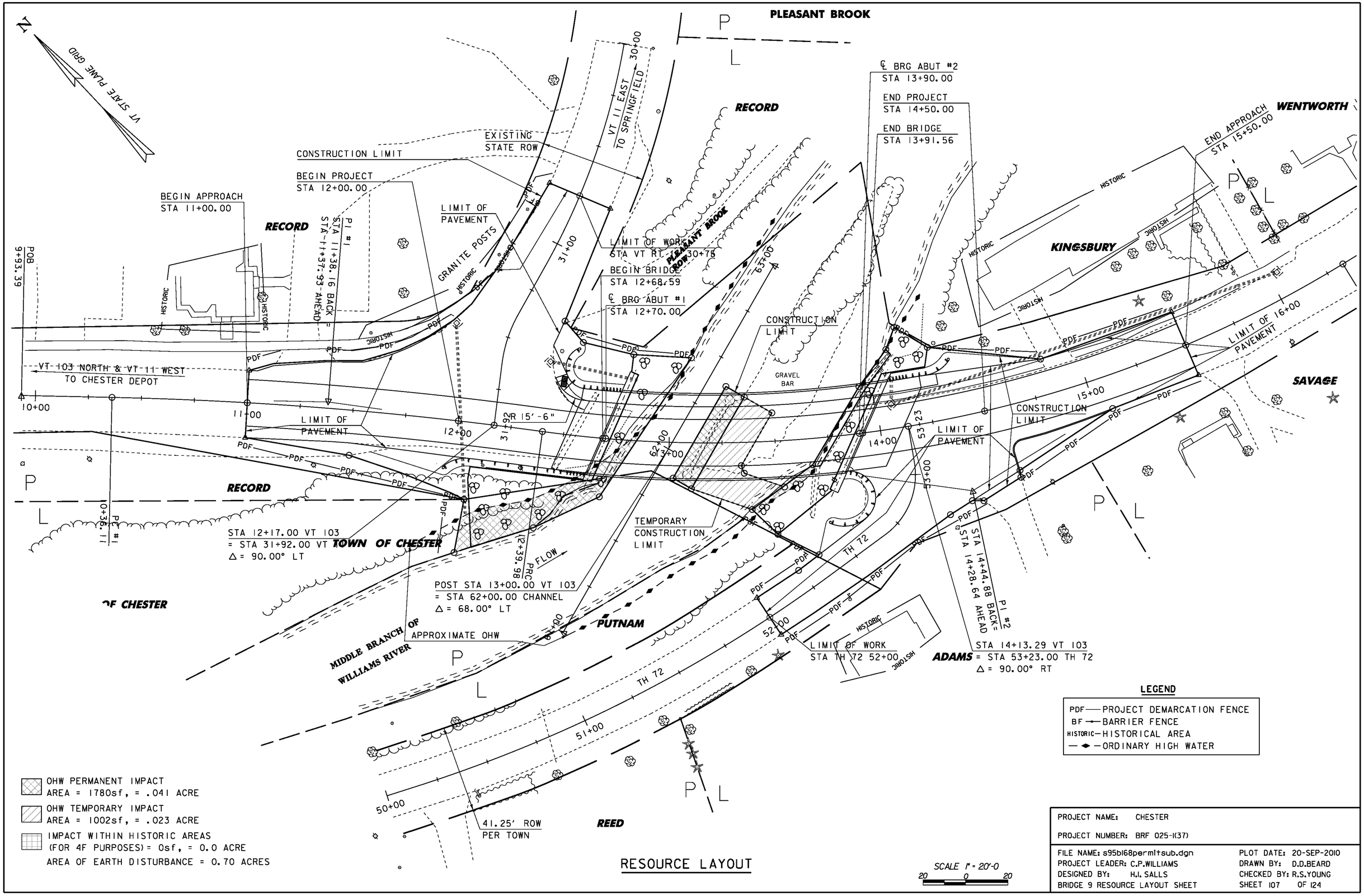
TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	SIGN DIMENSIONS WIDTH (in)	SIGN DIMENSIONS HEIGHT (in)	NEW & SALVAGED SIGNS "A"	NEW & SALVAGED SIGNS "B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	FLANGED CHANNEL lb/ft 2.0	FLANGED CHANNEL lb/ft 3.0	SQUARE STEEL (in) 1.75 lb/ft 1.88	SQUARE STEEL (in) 2.0 lb/ft 2.42	SQUARE STEEL (in) 2.5 lb/ft 3.35	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) 3.0 lb/ft 1.3	TUBULAR ALUMINUM Ø (in) 4.0 lb/ft 1.7	TUBULAR ALUMINUM Ø (in) 4.0 MOD lb/ft 1.7	FOUND-ATION	TUBULAR STEEL Ø (in) 3.0 lb/ft 7.6	TUBULAR STEEL Ø (in) 3.5 lb/ft 9.0	TUBULAR STEEL Ø (in) 4.0 lb/ft 10.8	TUBULAR STEEL Ø (in) 5.0 lb/ft 14.6	W-SHAPE STEEL FTG. SIZE 24"	W-SHAPE STEEL FTG. SIZE 30"	W-SHAPE STEEL WEIGHT	W-SHAPE STEEL POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL: DETAIL IN SHS	SIGN DETAIL: DETAIL ON SHEET NUMBER	SIGN DETAIL: STD. SHEET NUMBER
												OPTION ITEMS																								
53+25.25 LT		1	24	30	5						1						X	X															VR-017 - MOUNTED BELOW R2-1			E-141
		1	24	30	5																												R2-1	X		
POST TOTALS												FT	FT	FT	FT	FT	FT 12.75		EA	LB	LB	LB		LB	LB	LB	LB									
SUB-TOTAL					SF 10.0	SF	EA.	SF				FT			FT 12.75					LB			EA.	LB				EA.	EA.	LB						
TOTALS					SF 69.09	SF	EA.	SF				FT			FT 76.10					LB			EA.	LB				EA.	EA.	LB						

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND VTRANS "SIGN POST DESIGN GUIDELINE."
SHS = STANDARD HIGHWAY SIGNS

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: 95b168\s95b168sign.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 TRAFFIC SIGN SUMMARY SHEET 2
PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY:



PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME: s95bl68permitsub.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: H.I. SALLS	CHECKED BY: R.S.YOUNG
BRIDGE 9 RESOURCE LAYOUT SHEET	SHEET 107 OF 124

EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF BRIDGE #9, INCLUDING ALL OF ABUTMENT #1 AND ABUTMENT #2, ALONG WITH MINIMAL APPROACH AND CHANNEL WORK, INCLUDING THE REMOVAL OF AN EXISTING PIER. COFFERDAMS WILL NOT BE REQUIRED WITHIN THE WATERWAY. BRIDGE #9 IS LOCATED IN THE TOWN OF CHESTER ON VT RT 103 AT THE INTERSECTION OF VT RT 103 AND VT RT 11, AND SPANS THE MIDDLE BRANCH OF THE WILLIAMS RIVER. A TEMPORARY BRIDGE WILL NOT BE USED. THE NEW BRIDGE IS A CONCRETE DECK ON SEVEN STEEL BEAMS SPANNING 121 FEET, ALL SLOPES AND ALL VEGETATION WILL BE RETURNED TO THEIR ORIGINAL CONDITION THROUGH STANDARD SEED AND MULCH PRACTICES. STONE FILL TYPE IV WILL BE USED TO STABILIZE THE RIVER BANKS. EXISTING STONE FILL WILL BE STABILIZED, WITHIN THE STONE FILL LIMITS, AND WHERE DEEMED NECESSARY BY THE RESIDENT ENGINEER.

NOTE: AREA OF DISTURBANCE SHALL INCLUDE LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, INCLUDING ANY WASTE, STAGING AND BORROW AREAS WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS.

TOTAL AREA OF DISTURBANCE IS APPROXIMATELY .70 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE PROJECT SITE IS A FAIRLY LEVEL RESIDENTIAL AREA WITH PATCHES OF WOODED AREAS. THE LAND AT THE PROJECT SITE HAS LOW SLOPES WITH STEEP RIVER BANKS. THERE ARE A NUMBER OF HOMES AND BUILDINGS NEAR THE PROJECT SITE AND AN OVERHEAD POWER LINE THAT IS GOING TO BE RELOCATED. THERE IS ALSO A BURIED SEWER LINE THAT RUNS NEAR THE BRIDGE.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

THE MIDDLE BRANCH OF THE WILLIAMS RIVER IS THE ONLY WATER SOURCE ON OR NEAR THE PROJECT LOCATION. THE RIVER IS CLASSIFIED AS SINUOUS, WITH A STABLE CHANNEL AND A STREAMBED MADE UP OF SANDY GRAVEL AND COBBLES. THE TRIBUTARY AREA AT THE BRIDGE CROSSING IS 33.5 SQ MILES. THIS RIVER DOES HAVE A TENDENCY OF RISING RAPIDLY.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA IS MADE UP OF GRASS AND MIXED TREES AND BUSHES. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS AFFECTED BY THE REMOVAL AND REPLACEMENT OF THE SUPERSTRUCTURE, ABUTMENTS AND PIER. AFTER THE PROJECT IS FINISHED THE SLOPES WILL BE STABILIZED WITH STONE FILL AND VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF WINDSOR, VERMONT. SOIL ON THE PROJECT SITE IS COLTON-CROGHAN COMPLEX, 0% TO 8% SLOPES, THE SOIL HAS A “K FACTOR” = 0.24. THE SOIL IS CONSIDERED MODERATELY ERODABLE.

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING: 0.0-0.23 = LOW EROSION POTENTIAL; 0.24-0.36 = MODERATE EROSION POTENTIAL: 0.37 AND HIGHER = HIGH EROSION POTENTIAL.

1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: THERE ARE A SERIES OF FIVE GRANITE POSTS TO THE NORTH OF THE PROJECT THAT ARE HISTORIC. THERE ARE A NUMBER OF HOUSES IN THE VICINITY THAT ARE HISTORIC. NO HISTORIC AREAS ARE TO BE DISTURBED.
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: MIDDLE BRANCH OF THE WILLIAMS RIVER
WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION CONTROLS. THEY HAVE BEEN PROPOSED BY THE DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFIC MEANS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

1.4.1 MARK SITE BOUNDARIES
SITE BOUNDARIES AND AREAS THAT CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED: PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES. BARRIER FENCE (BF) WILL BE USED TO DELINEATE THE AREA OF HISTORICAL SIGNIFICANCE.

1.4.2 LIMIT DISTURBANCE AREA
PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE.

MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS, OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

1.4.3 STABILIZE CONSTRUCTION EXIT
TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF INTO RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTERS PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED IN THE EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

1.4.4 INSTALL SEDIMENT BARRIERS
SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK.

SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

FILTER CURTAIN WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

1.4.5 DIVERT UPLAND RUNOFF
DIVERSIONARY MEASURES SHALL BE USED TO INTERCEPT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIVERT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDIED WHILE TRAVELLING OVER EXPOSED SOILS ON THE CONSTRUCTION SITE.

THE PROJECT AREA IS RELATIVELY FLAT. THEREFORE IT IS NOT ANTICIPATED THAT DIVERSION MEASURES WILL NECESSARY.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF
CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSIVE POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

DI PROTECTION SHALL BE INSTALLED AS PROPOSED ON THE PLANS.

1.4.7 CONSTRUCT PERMANENT CONTROLS
PERMANENT STORMWATER TREATMENT PRACTICES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH PERMIT CONDITIONS.

1.4.8 STABILIZE EXPOSED SOILS
ALL AREAS OF DISTURBANCE MUST, AT A MINIMUM, HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE.

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES GREATER THAT 1:3.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

1.4.9 WINTER STABILIZATION
VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15TH THROUGH APRIL 15TH). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

1.4.10 STABILIZE SOIL AT FINAL GRADE
EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER, AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES GREATER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

1.4.11 DE-WATERING ACTIVITIES
DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

THE USE OF COFFERDAMS IS NOT ANTICIPATED ON THIS PROJECT.

1.4.12 INSPECT YOUR SITE
INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR CONSTRUCTION GENERAL PERMIT AUTHORIZATION STIPULATIONS.

1.5 SEQUENCE AND STAGING

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

1.5.1 CONSTRUCTION SEQUENCE

1.5.2 OFF-SITE ACTIVITIES
IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SUBSECTIONS 105.25 - 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

1.5.3 UPDATES

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME: 95bl68\s95bl68ero.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 9 EROSION CONTROL NARRATIVE	SHEET 108 OF 124

PLEASANT BROOK

RECORD

WENTWORTH

VT STATE PLANE GRID

N

RECORD

GRANITE POSTS

HISTORIC

AER E&T

PLEASANT BROOK ROW

KINGSBURY

2' X2' DI

12" RCP

GRAVEL BAR

15" RCP

SAVAGE

RECORD

TOWN OF CHESTER

FLOW

TOWN OF CHESTER

MIDDLE BRANCH OF WILLIAMS RIVER

PUTNAM

ADAMS

18" CGMP

REED

SAUL

10+00

11+00

12+00

13+00

14+00

15+00

16+00

30+00

31+00

31+92

51+00

52+00

53+00

53+23

570

580

585

SCALE 1" = 20'-0

20 0 20

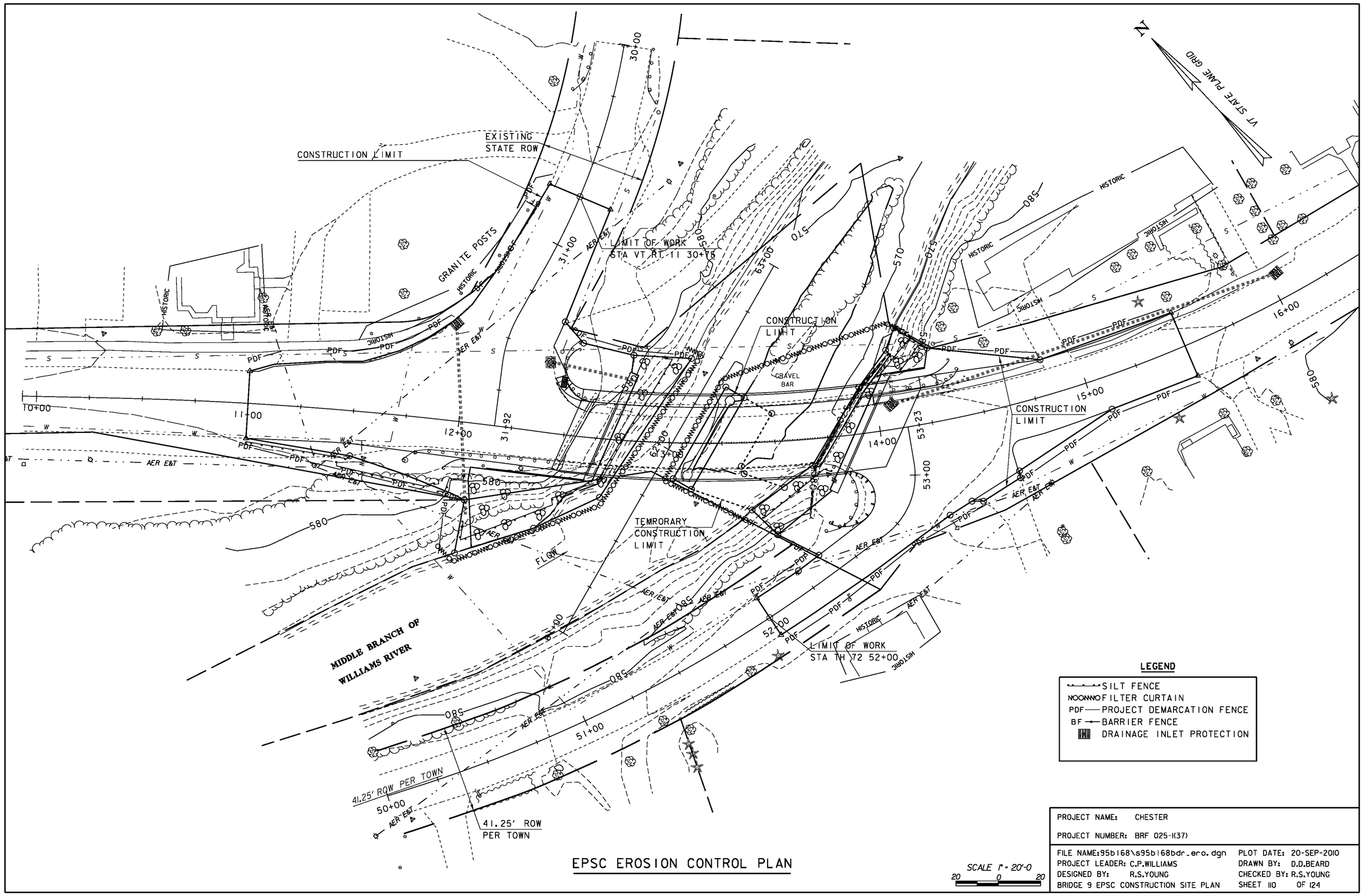
EPSC EXISTING CONDITIONS

PROJECT NAME: CHESTER

PROJECT NUMBER: BRF 025-1(37)

FILE NAME:95b168\s95b168bdr_ero.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 EPSC EXISTING CONDITIONS

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: H.I.SALLS
SHEET 109 OF 124



EPSC EROSION CONTROL PLAN

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME: 95b168\s95b168bdr_ero.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 9 EPSC CONSTRUCTION SITE PLAN	SHEET 110 OF 124

EPSC FINAL CONDITIONS

SCALE 1" = 20'-0

20 0 20

LEGEND

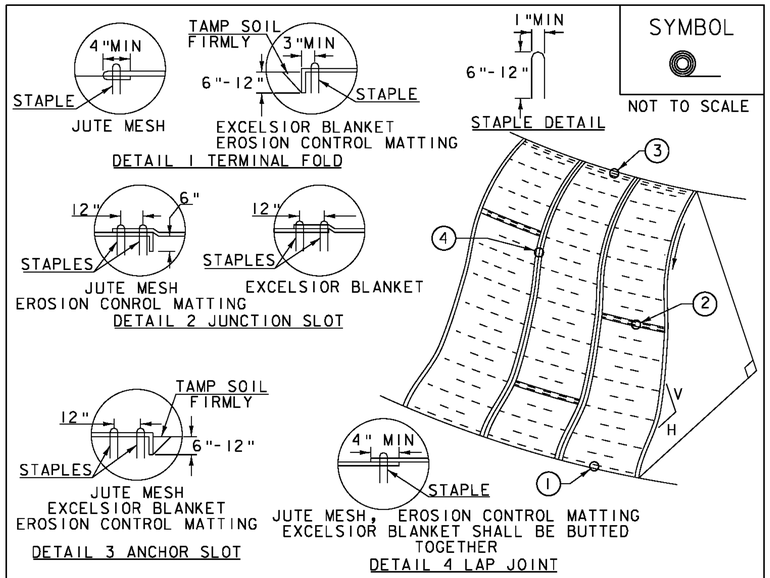
EROSION CONTROL MATTING

SEEDED AREA

PROJECT NAME: CHESTER

PROJECT NUMBER: BRF 025-1(37)

FILE NAME: 95b168\s95b168bdr_ero.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 9 EPSC FINAL CONDITIONS	SHEET 111 OF 124



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

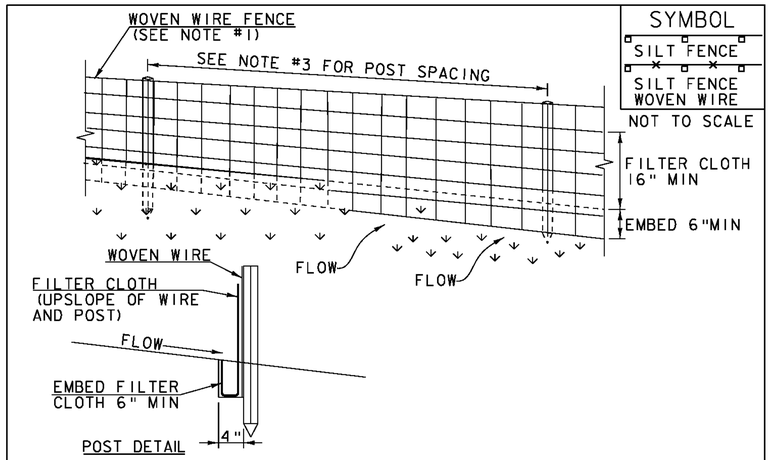
1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) ~~OR PERMANENT EROSION MATTING (PAY ITEM 653.21).~~

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF



SYMBOL

SILT FENCE

SILT FENCE WOVEN WIRE

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

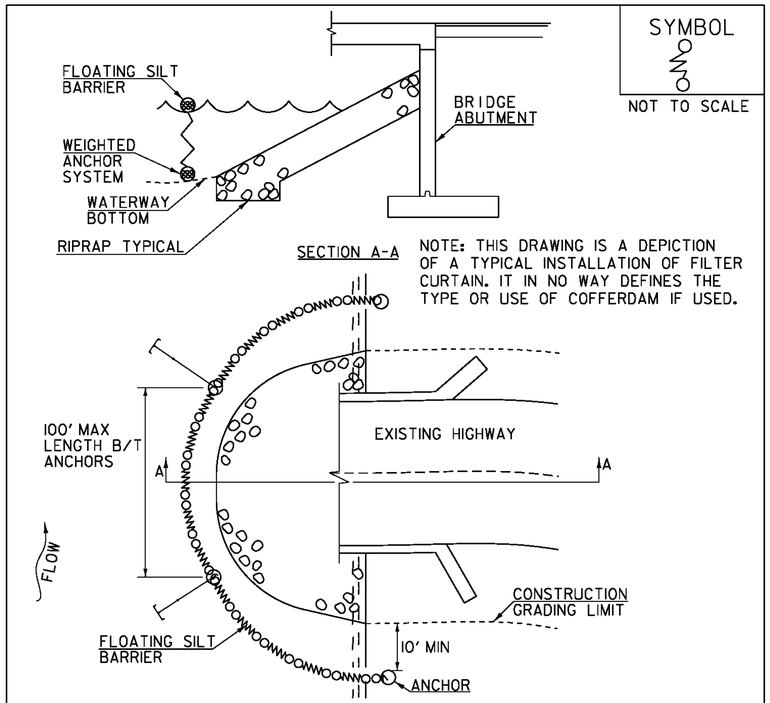
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.51) ~~OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).~~

REVISIONS	
MARCH 21, 2008	WHF
DECEMBER 11, 2008	WHF
JANUARY 13, 2009	WHF



SYMBOL

NOT TO SCALE

NOTE: THIS DRAWING IS A DEPICTION OF A TYPICAL INSTALLATION OF FILTER CURTAIN. IT IN NO WAY DEFINES THE TYPE OR USE OF COFFERDAM IF USED.

CONSTRUCTION SPECIFICATIONS

1. FILTER CURTAIN SHALL NOT BE PLACED ACROSS A FLOWING WATERWAY, OR IN A WATERWAY WITH STREAM VELOCITIES GREATER THAN 1.5 FEET/SECOND.
2. MAXIMUM 100' LENGTH BETWEEN ANCHORS.
3. LAST SECTION SHALL TERMINATE A MINIMUM OF 10' BEYOND LIMIT OF DISTURBANCE.
4. THE WEIGHTED ANCHOR SYSTEM SHALL BE A TYPE WHICH ALLOWS THE CURTAIN TO CONFORM TO THE BOTTOM OF THE WATERWAY.
5. THE CURTAIN SHALL BE REMOVED BY SLOWLY PULLING TOWARD THE SHORE MINIMIZING THE ESCAPE OF SEDIMENTS INTO WATERWAY.

FILTER CURTAIN

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 FOR GEOTEXTILE FOR FILTER CURTAIN (PAY ITEM 649.61).

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF
SEPTEMBER 4, 2009	WHF

PROJECT NAME: CHESTER

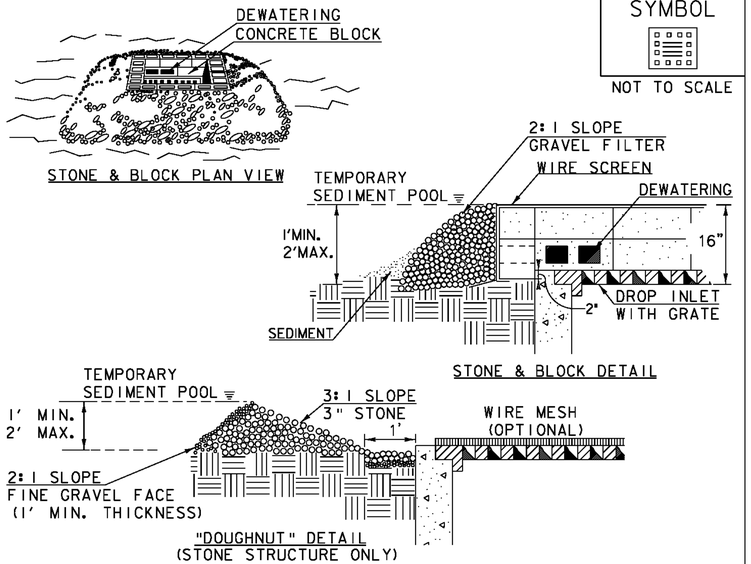
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: 95bl68\s95bl68erodet.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 EPSC DETAILS

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: H.I.SALLS
SHEET 112 OF 124

SYMBOL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2" MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.
2. HARDWARE CLOTH OR ½" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
3. USE CLEAN STONE OR GRAVEL ½"- ¾" IN DIAMETER PLACED 2" BELOW TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.
4. FOR STONE STRUCTURES ONLY, A 1' THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3" STONE AS SHOWN ON THE DRAWINGS.
5. MAXIMUM DRAINAGE AREA 1 ACRE

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

STONE & BLOCK DROP INLET PROTECTION

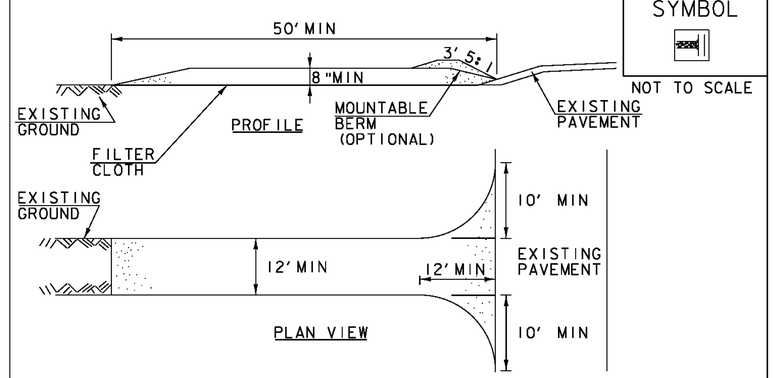
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE I (PAY ITEM 653.40).

REVISIONS	
MARCH 6, 2008	WHF
JANUARY 13, 2009	WHF

SYMBOL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH- NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
3. THICKNESS- NOT LESS THAN 8".
4. WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
6. SURFACE WATER- ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

STABILIZED CONSTRUCTION ENTRANCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR VEHICLE TRACKING PAD (PAY ITEM 653.35) OR AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: CHESTER

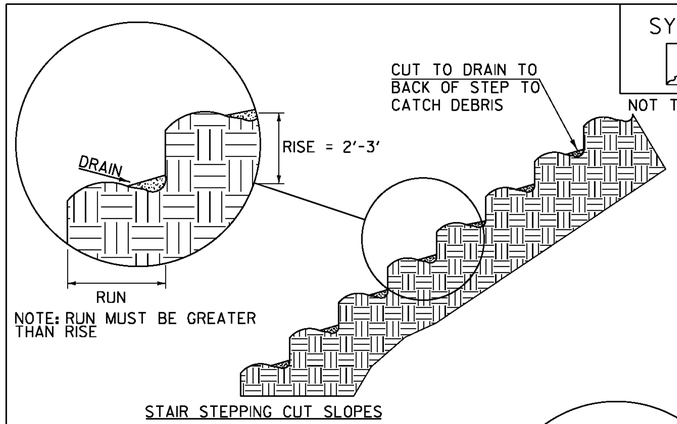
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: 95bl68\s95bl68erodet.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 EPSC DETAILS

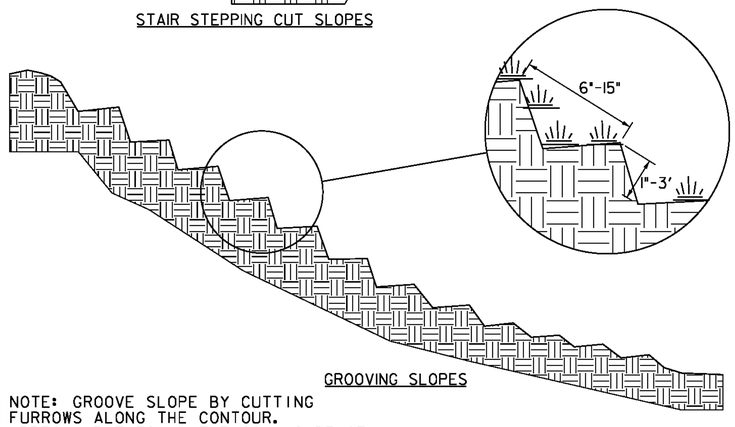
PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: H.I.SALLS
SHEET 113 OF 124

SYMBOL

NOT TO SCALE



STAIR STEPPING CUT SLOPES



GROOVING SLOPES

NOTE: GROOVE SLOPE BY CUTTING
FURROWS ALONG THE CONTOUR.
IRREGULARITIES IN THE SOIL SURFACE
CATCH RAINWATER AND RETAIN LIME,
FERTILIZER AND SEED.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SURFACE ROUGHENING

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF

VAOT RURAL AREA MIX

	LBS/AC				
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
37.5%	22.5	45	CREEPING RED FESCUE	85%	98%
37.5%	22.5	45	TALL FESCUE	90%	95%
5.0%	3	6	RED TOP	90%	95%
15.0%	9	18	BIRDSFOOT TREFOIL	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	85%	95%
100%	60	120			

VAOT URBAN AREA MIX

	LBS/AC				
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
42.5%	34	68	CREEPING RED FESCUE	85%	98%
10.0%	8	16	PERENNIAL RYE GRASS	90%	95%
42.5%	34	68	KENTUCKY BLUE GRASS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	85%	95%
100%	80	160			

GENERAL GUIDANCE

FERTILIZER		LIME	
BROADCAST	HYDROSEED	BROADCAST	HYDROSEED
10-20-10	19-19-19	PELLETIZED	LIQUID
500 LBS/AC		2 TONS/AC	4.4 GAL/AC

CONSTRUCTION GUIDANCE

1. RURAL SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
2. URBAN SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LAWN AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
5. HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
6. TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
7. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED
8. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANSCAPE MAUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

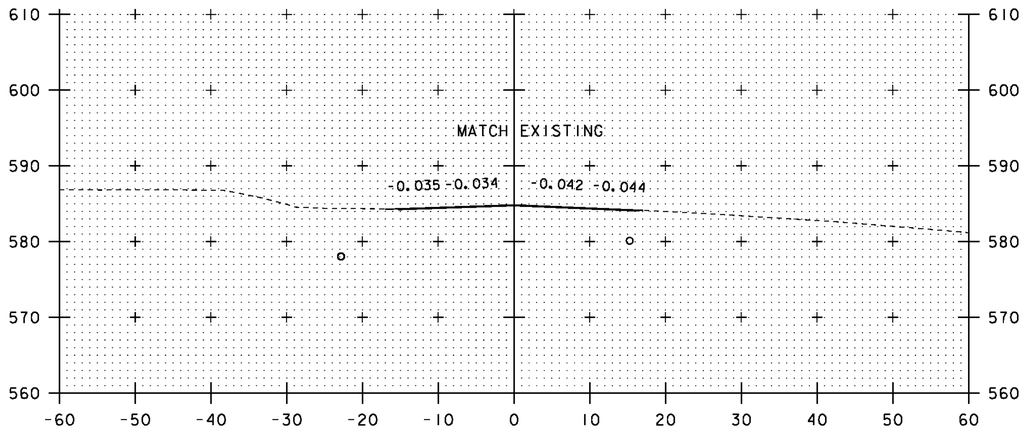
REVISIONS	
JUNE 23, 2009	WHF
JANUARY 15, 2010	WHF

PROJECT NAME: CHESTER

PROJECT NUMBER: BRF 025-1(37)

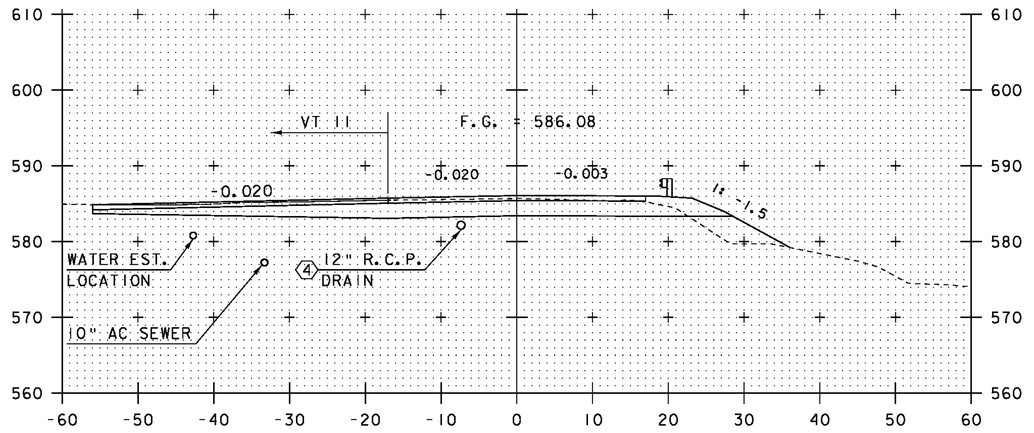
FILE NAME: 95b168\s95b168erodet.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 EPSC DETAILS

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: H.I.SALLS
SHEET 114 OF 124



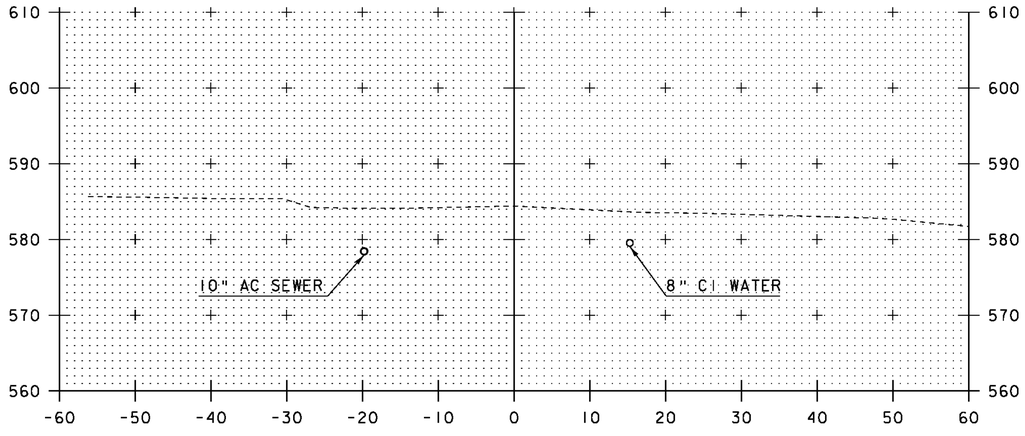
BEGIN APPROACH
STATION 11+00.00

11+00

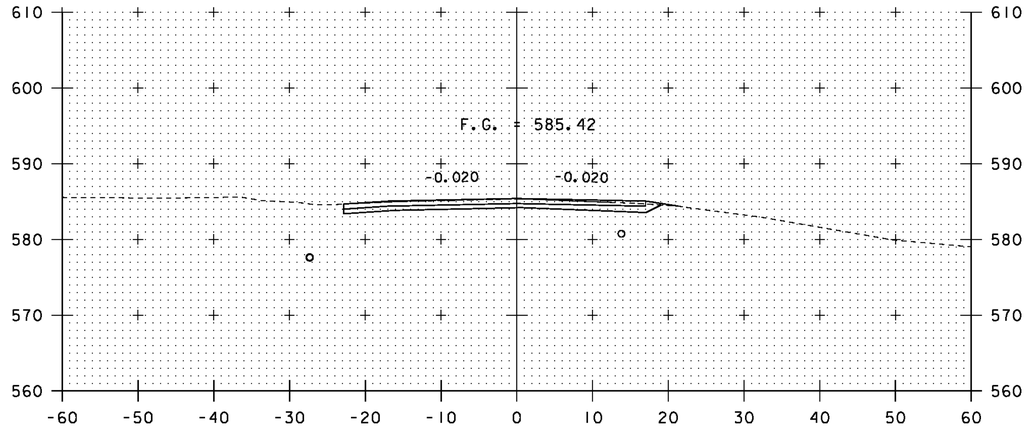


BEGIN PROJECT
STATION 12+00.00

12+00



10+50



11+50

SCALE 1" = 10'-0
10 0 10

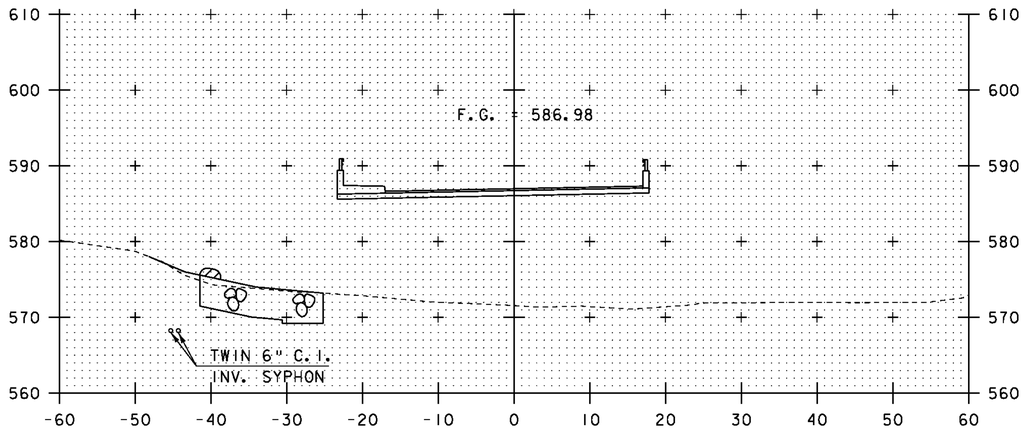
STA. 10+50 TO STA. 12+00

PROJECT NAME: CHESTER

PROJECT NUMBER: BRF 025-1(37) SC

FILE NAME: s95bl68xsl.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 MAINLINE CROSS SECTIONS

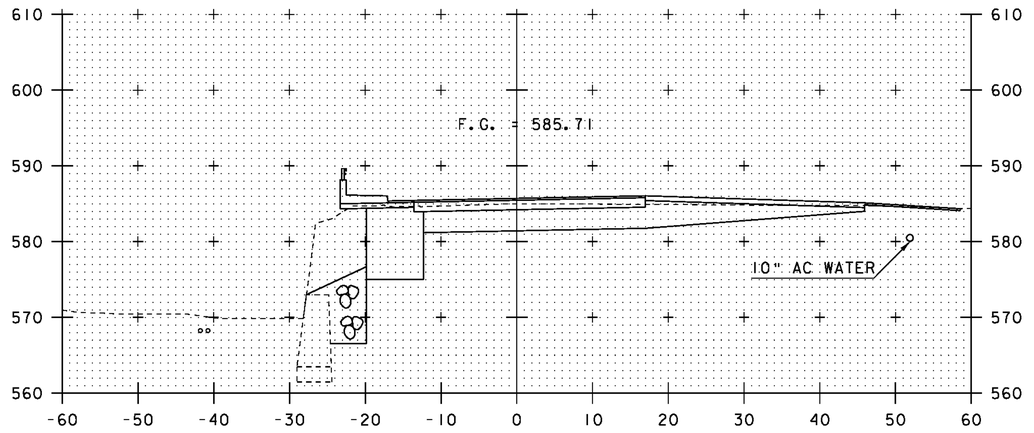
PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 115 OF 124



℄ BEARING ABUTMENT #1
STATION 12+70.00

13+00

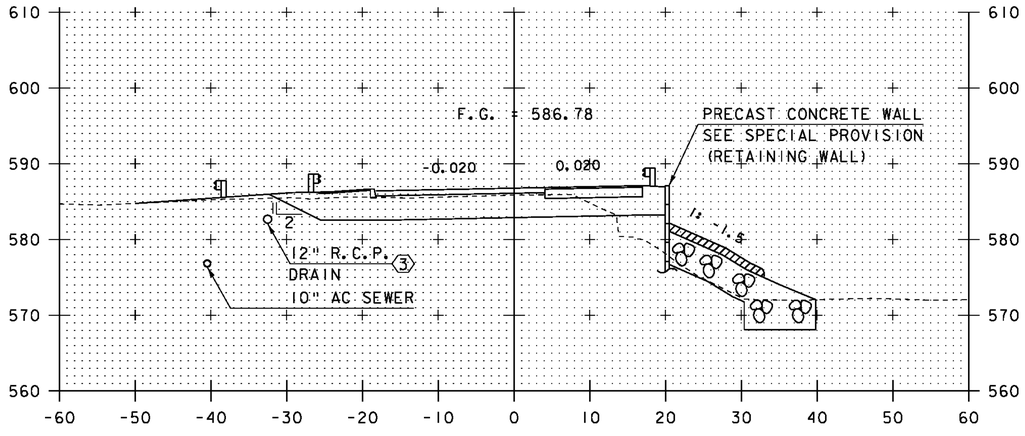
BEGIN BRIDGE
STATION 12+68.59



℄ BEARING ABUTMENT #2
STATION 13+90.00

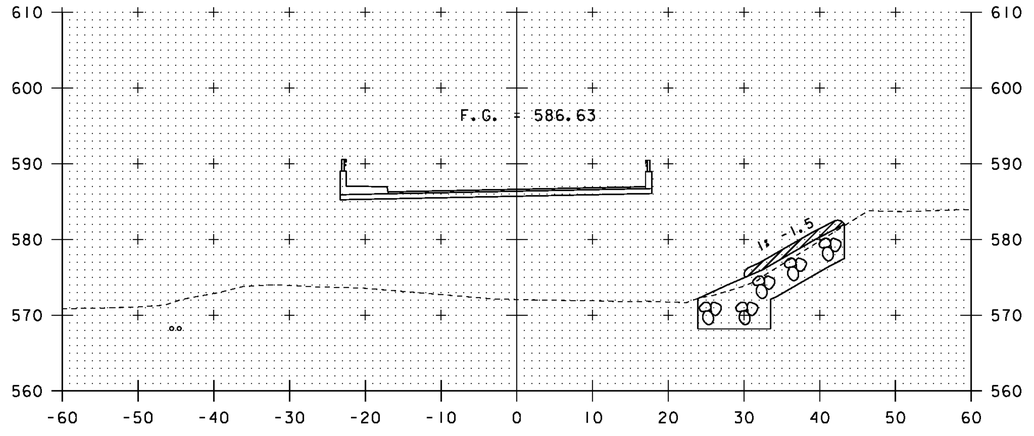
14+00

END BRIDGE
STATION 13+91.56



③ INLET ELEV = 581.66
OUTLET ELEV = 576.25 EST

12+50



13+50

SCALE 1" = 10'-0
10 0 10

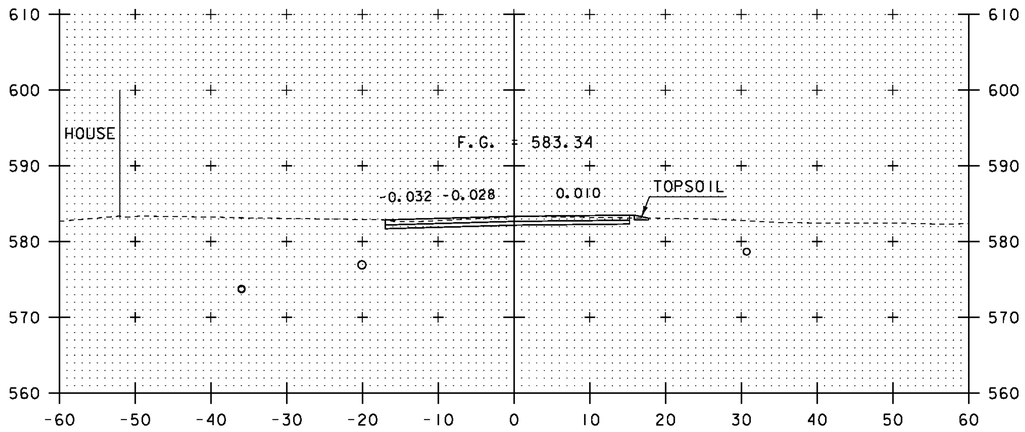
STA. 12+50 TO STA. 14+00

PROJECT NAME: CHESTER

PROJECT NUMBER: BRF 025-1(37) SC

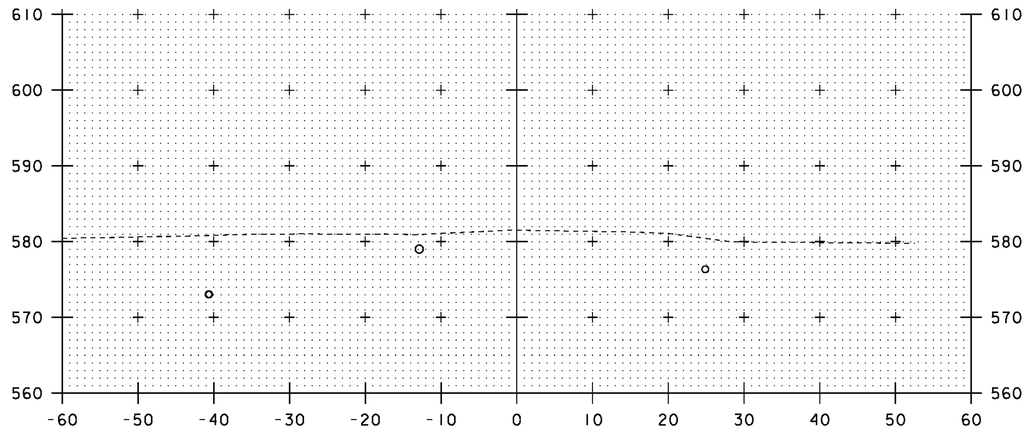
FILE NAME: s95b168xsl.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 MAINLINE CROSS SECTIONS

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 116 OF 124

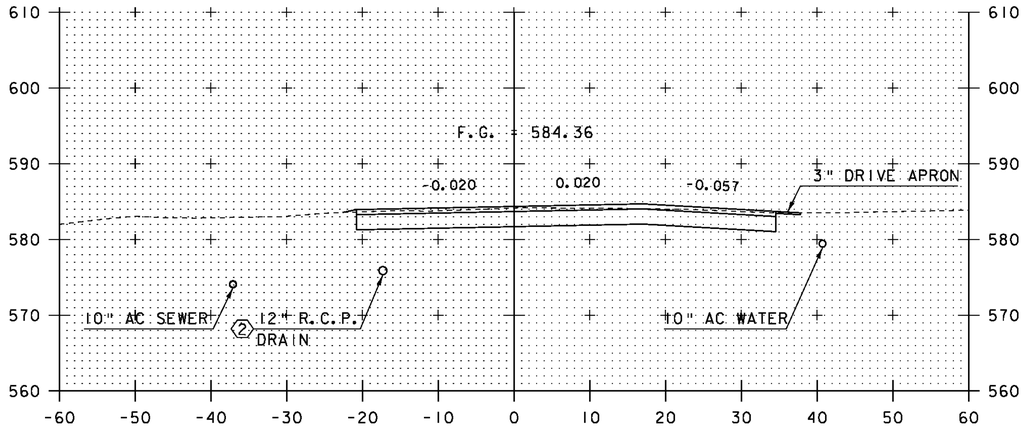


BEGIN 3" TOPSOIL
STATION 14+58.50 RT

15+00



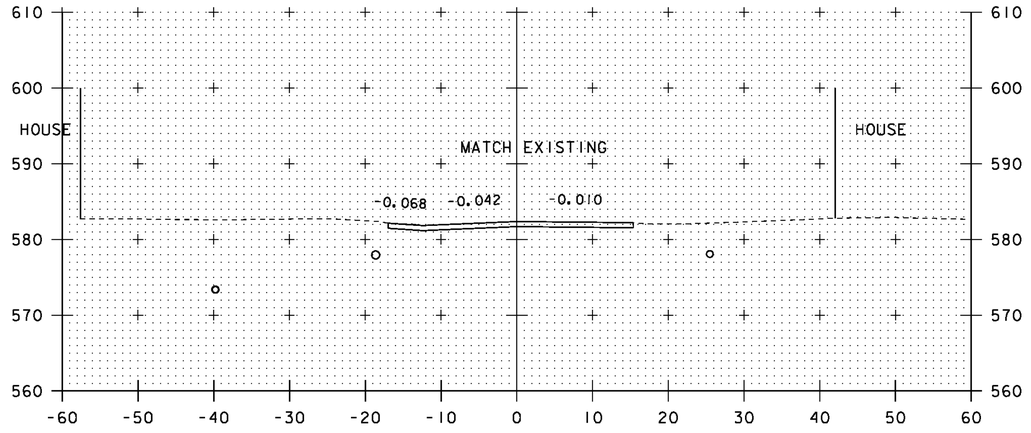
16+00



END PROJECT
STATION 14+50.00

14+50

②STA 14+37.76 LT
INLET ELEV = 575.00 EST
OUTLET ELEV = 574.00 EST



END APPROACH
STATION 15+50.00
END 3" TOPSOIL
STATION 15+07.65 RT

15+50

SCALE 1" = 10'-0
10 0 10

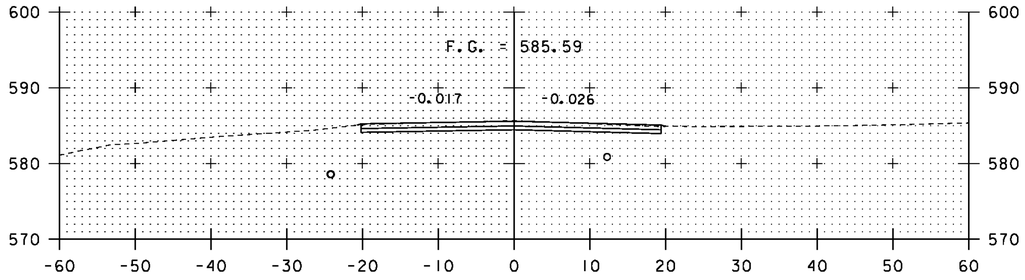
STA. 14+50 TO STA. 16+00

PROJECT NAME: CHESTER

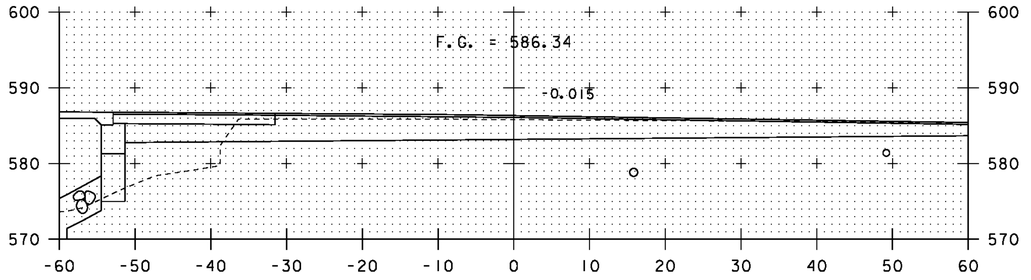
PROJECT NUMBER: BRF 025-1(37) SC

FILE NAME: s95bl68xsl.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 MAINLINE CROSS SECTIONS

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 117 OF 124

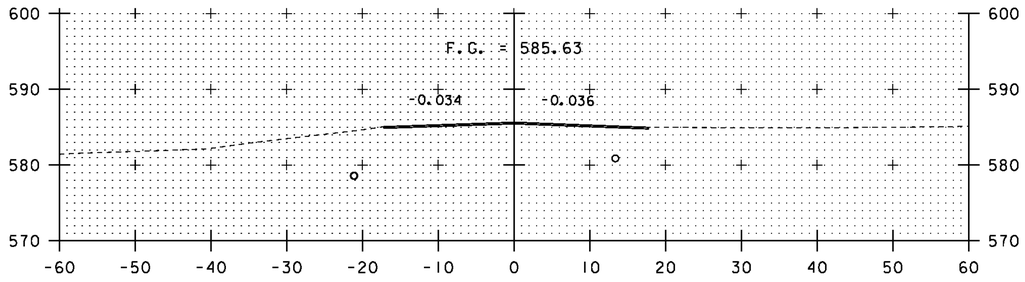


31+25

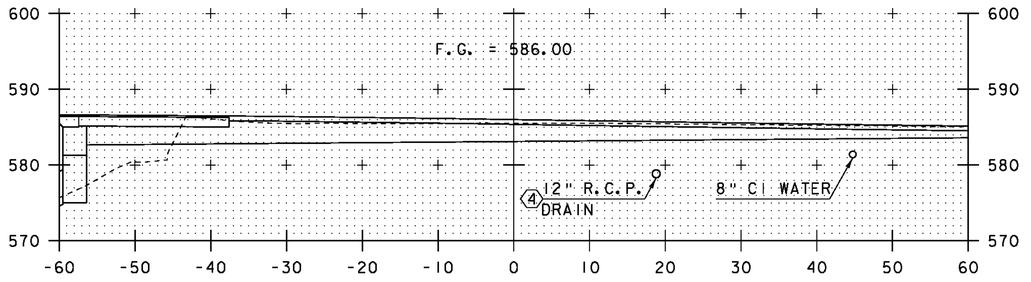


31+92

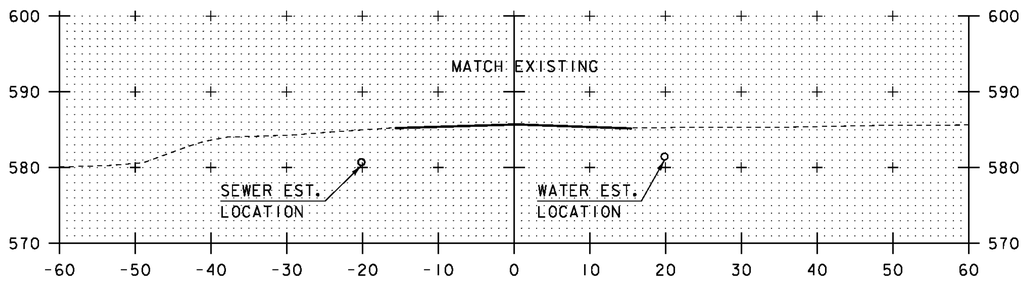
=STA 12+17.00 ℄ VT 103



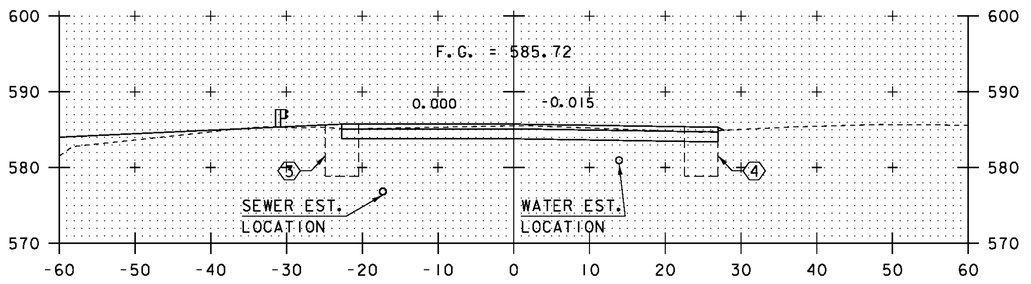
31+00



31+75



30+75



31+50

SCALE 1" = 10'-0

10 0 10

STA. 30+75 TO STA. 31+92

PROJECT NAME: CHESTER

PROJECT NUMBER: BRF 025-1(37) SC

FILE NAME:

PROJECT LEADER: C.P.WILLIAMS

DESIGNED BY: R.S.YOUNG

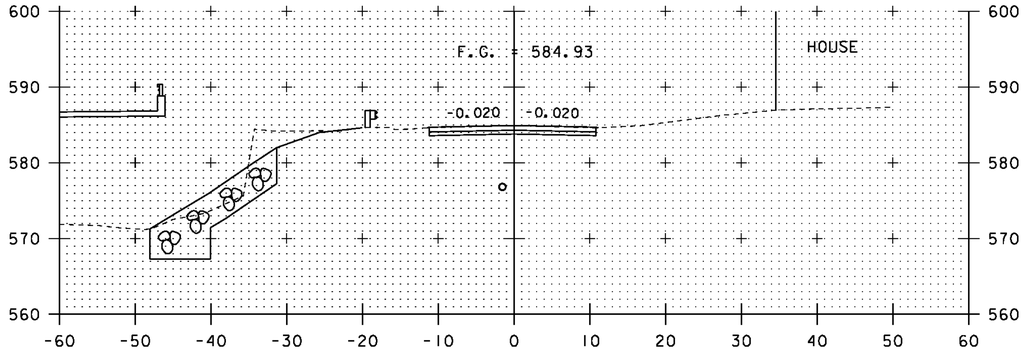
BRIDGE 9 VT RT 11 CROSS SECTIONS

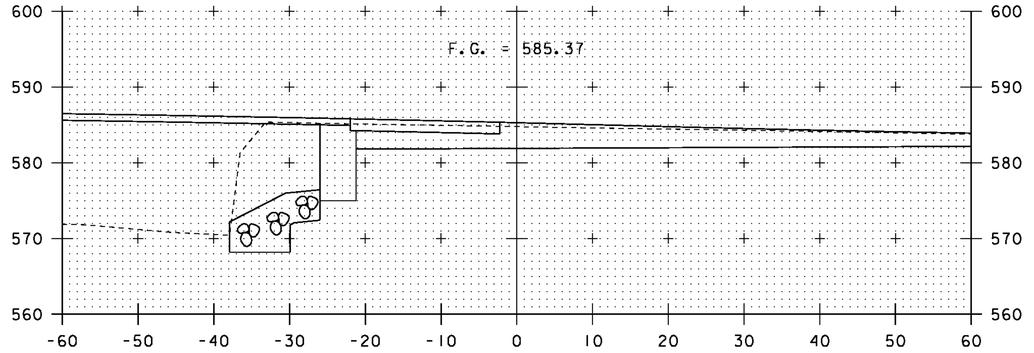
PLOT DATE: 20-SEP-2010

DRAWN BY: D.D.BEARD

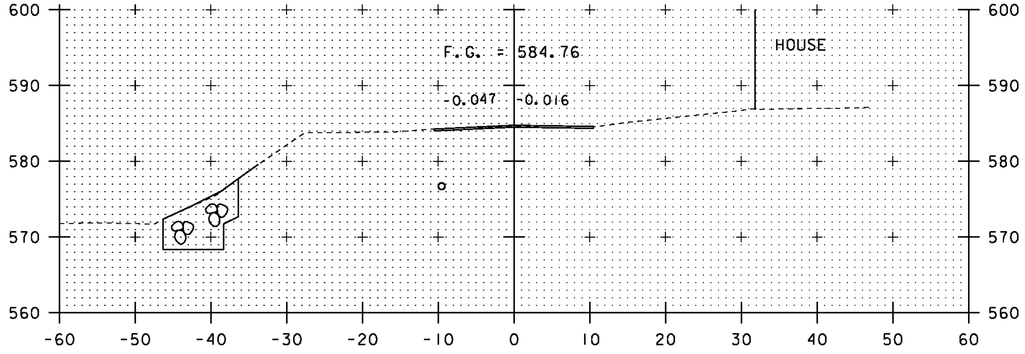
CHECKED BY: R.S.YOUNG

SHEET 118 OF 124



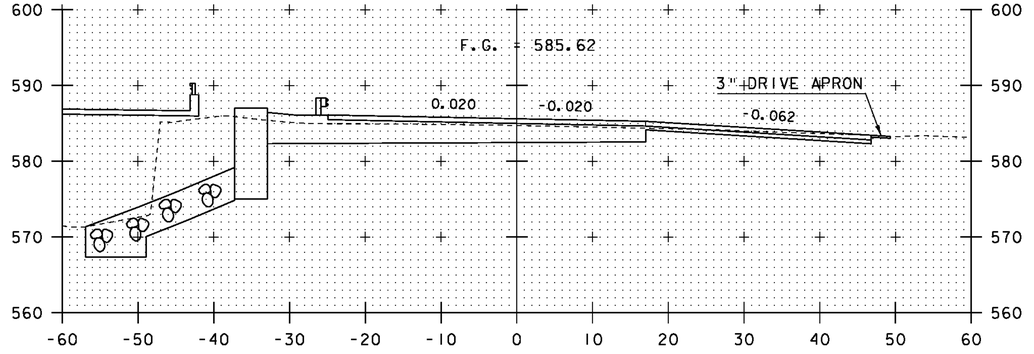


52+50

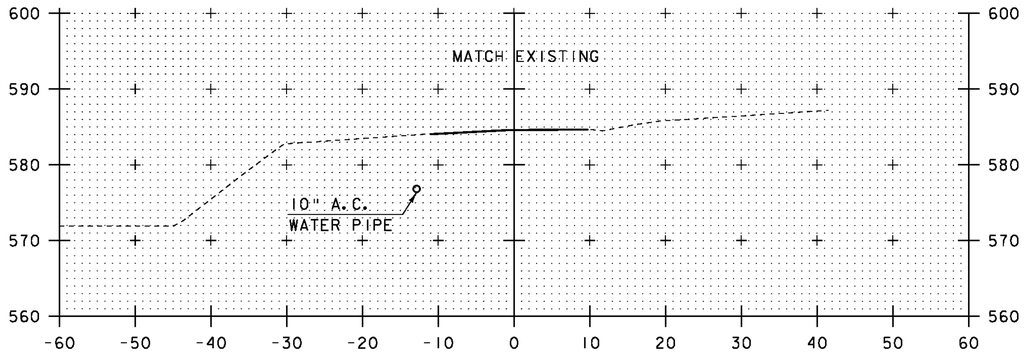


53+23

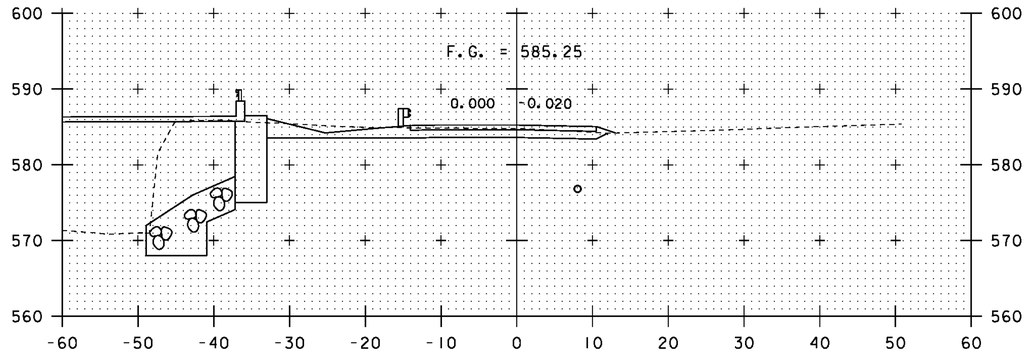
=STA 14+13.29 ℄ VT 103



52+25



53+00



52+00

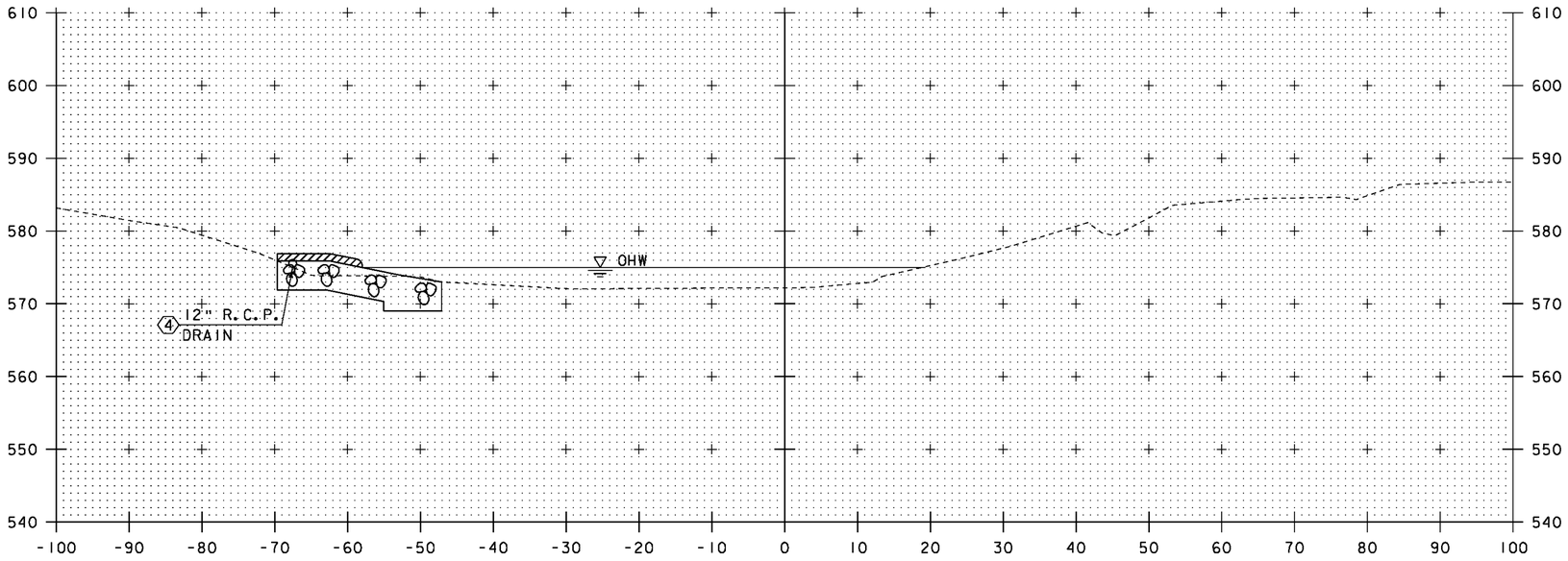
52+75

SCALE 1" = 10'-0

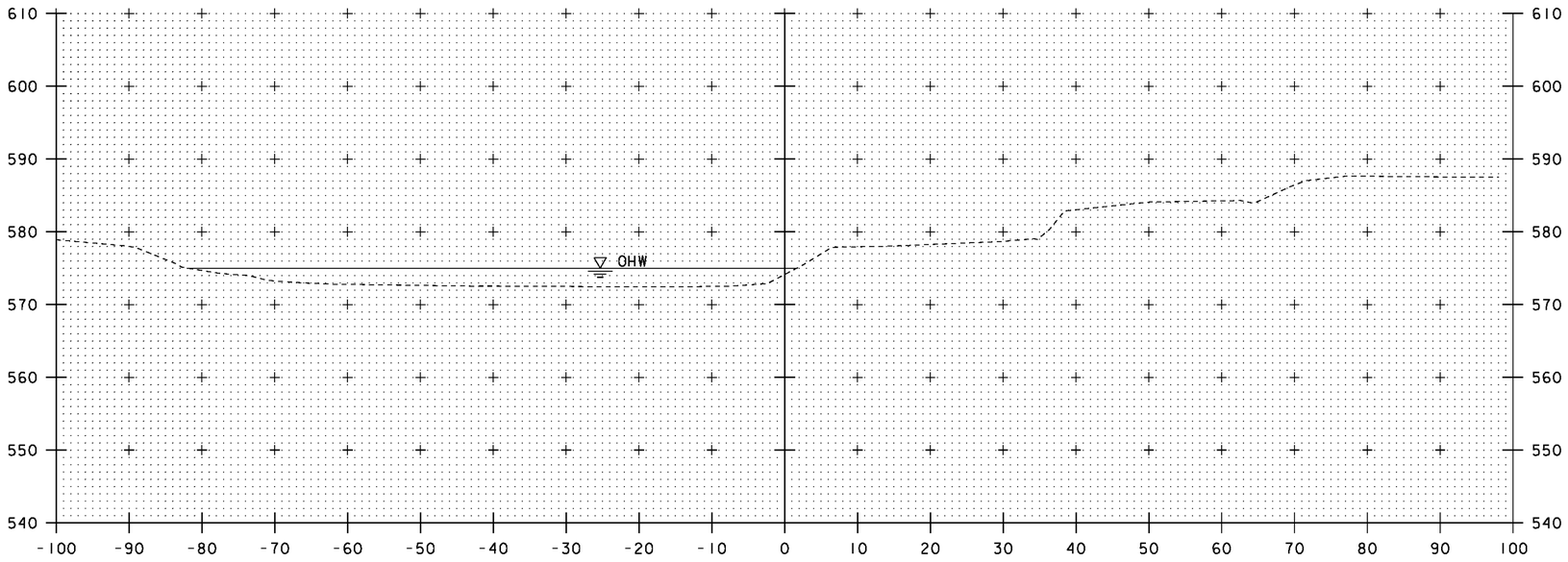
10 0 10

STA. 52+00 TO STA. 53+23

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37) SC	
FILE NAME:	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 9 TH 72 CROSS SECTIONS	SHEET 119 OF 124



61+25



STA: 61+06.80 LT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN STONE FILL TYPE IV
BEGIN GRUBBING MATERIAL

61+00

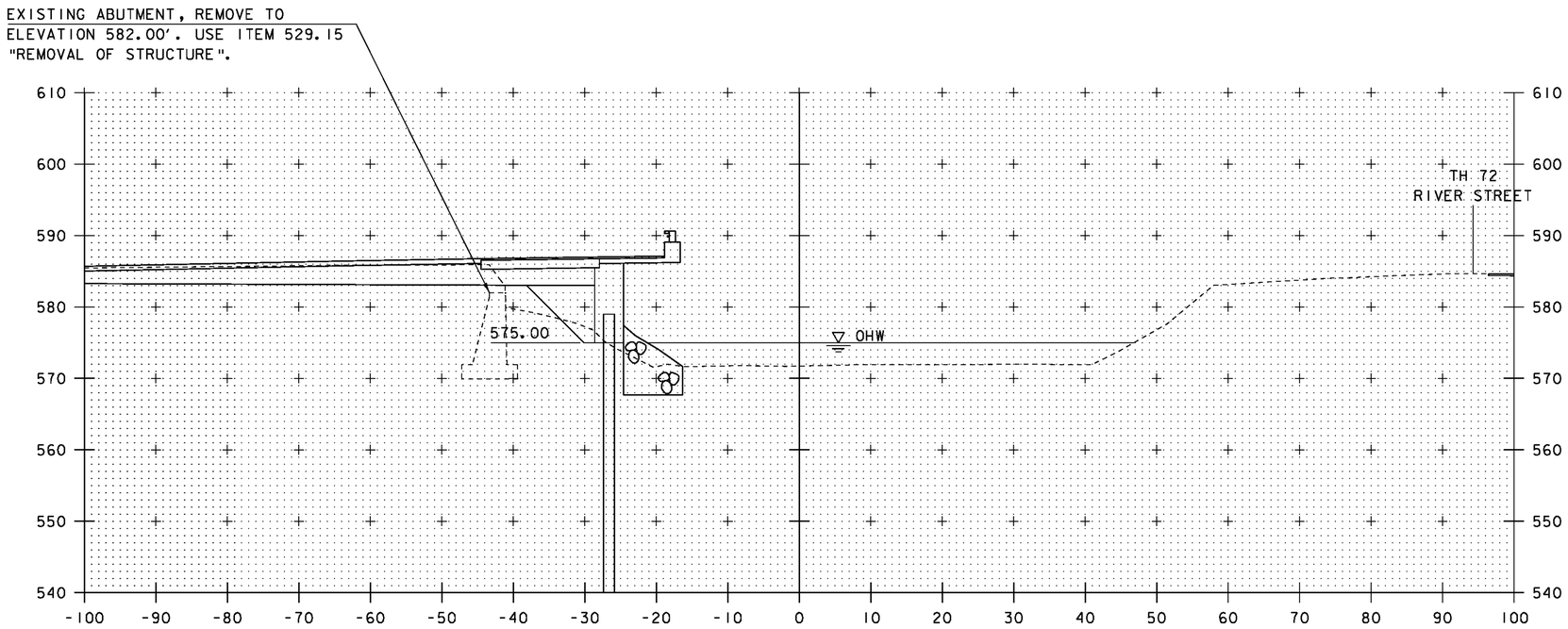
SCALE 1" = 10'-0
10 0 10

STA. 61+00 TO STA. 61+25

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37) SC

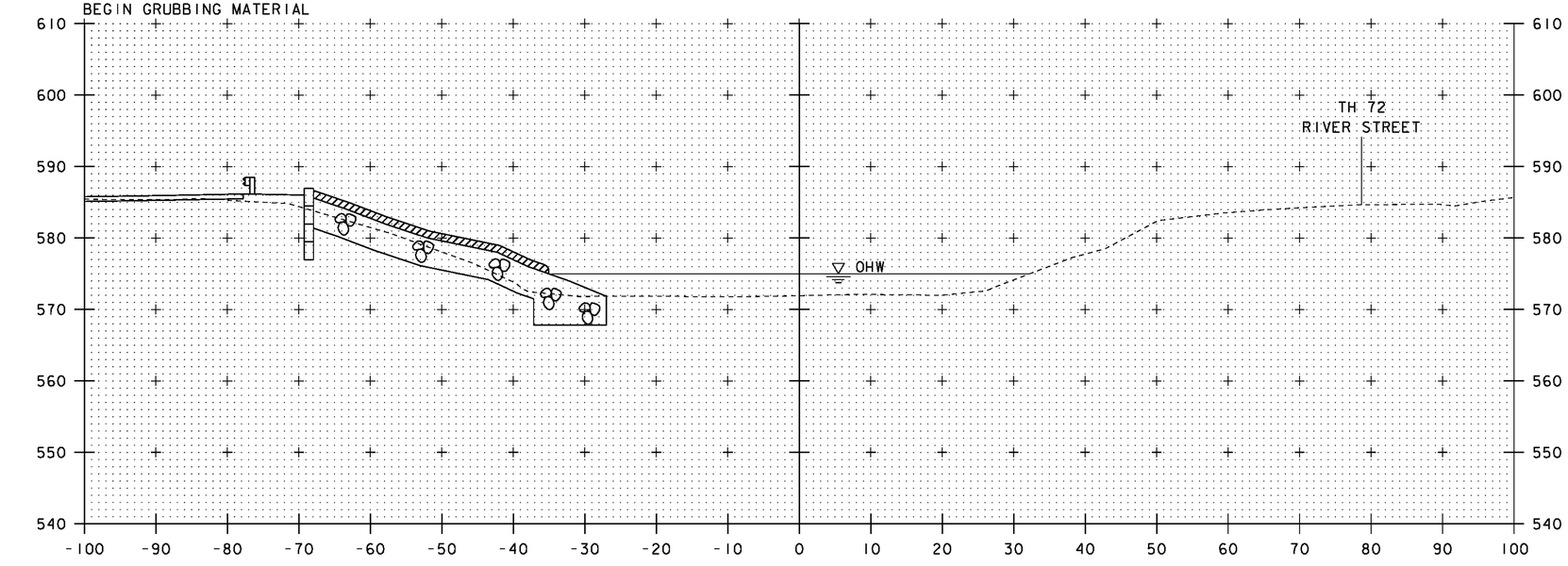
FILE NAME: s95bl68xsl.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 CHANNEL CROSS SECTIONS

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 120 OF 124



STA: 61+90.50 RT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN STONE FILL TYPE IV
BEGIN GRUBBING MATERIAL

61+75



61+50

SCALE 1" = 10'-0
10 0 10

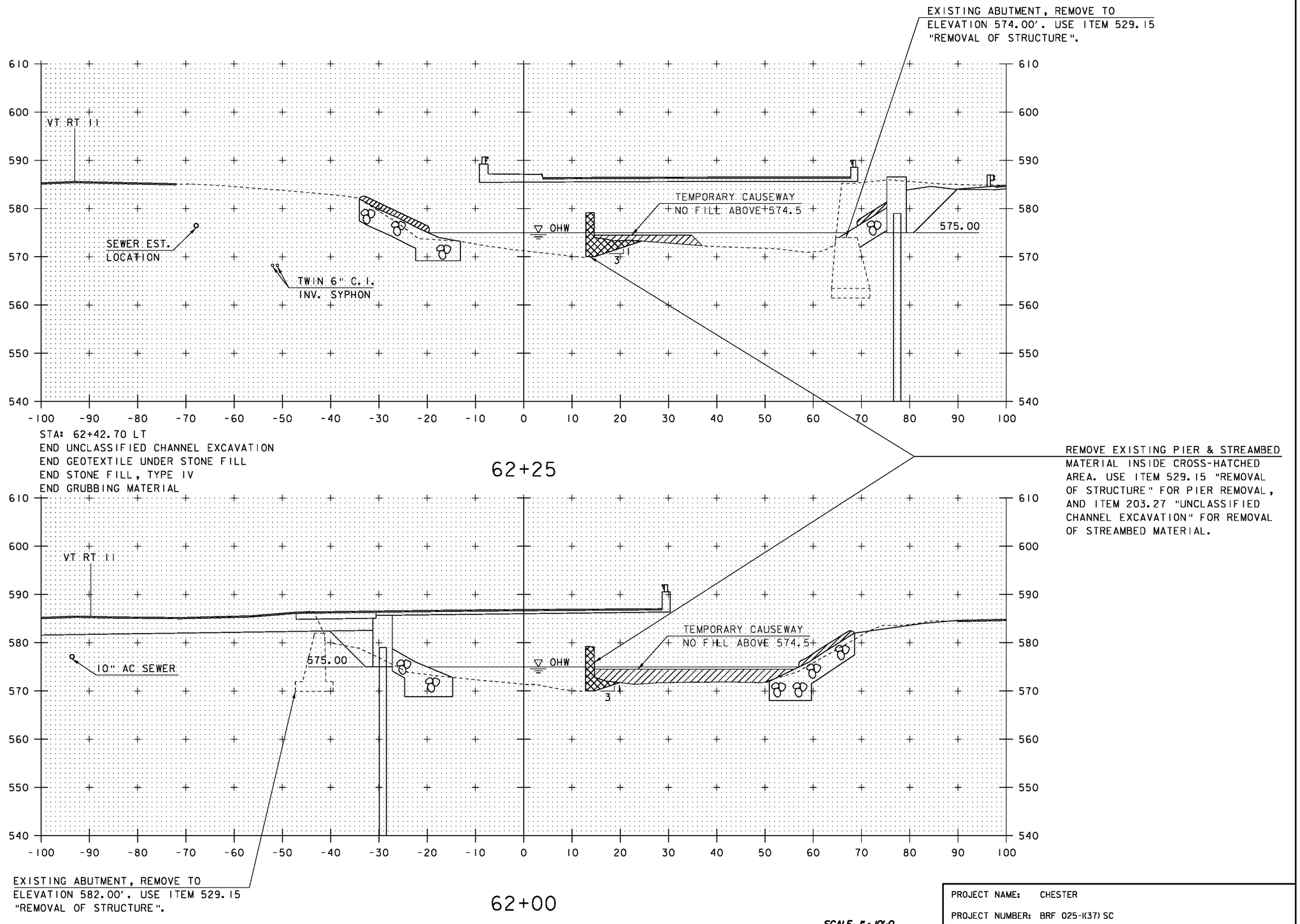
STA. 61+50 TO STA. 61+75

PROJECT NAME: CHESTER

PROJECT NUMBER: BRF 025-1(37) SC

FILE NAME: s95b168xs2.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 CHANNEL CROSS SECTIONS

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 121 OF 124



SCALE 1" = 10'-0

10 0 10

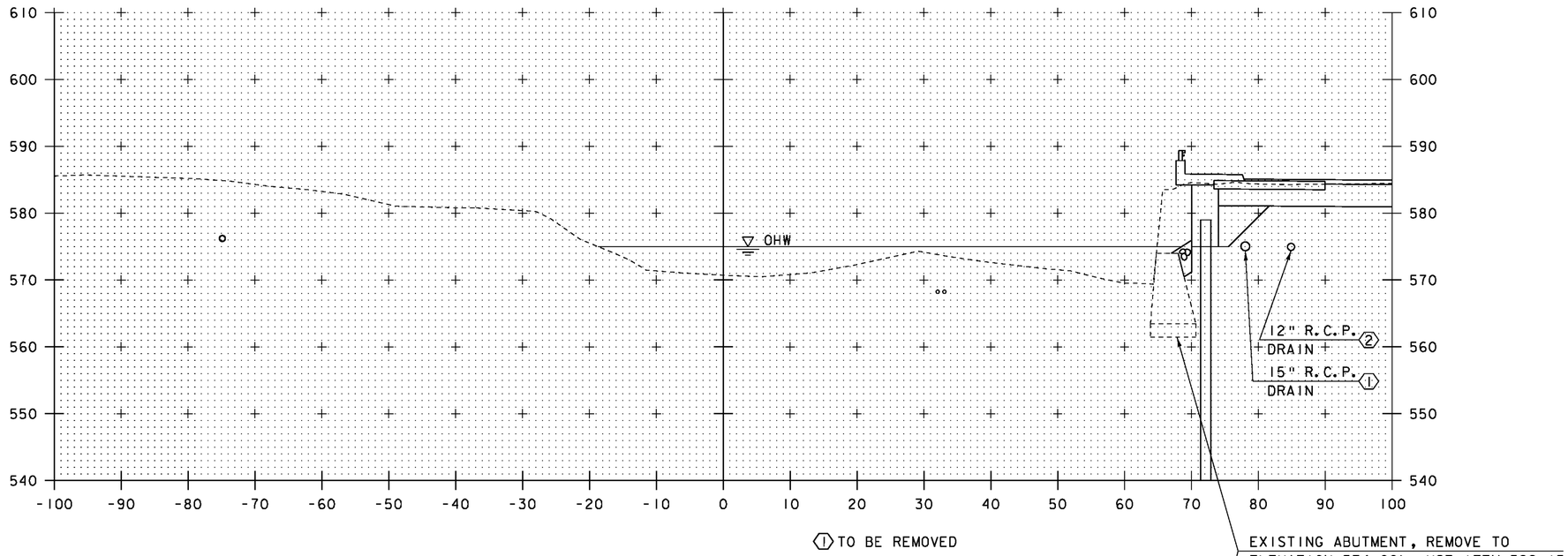
STA. 62+00 TO STA. 62+25

PROJECT NAME: CHESTER

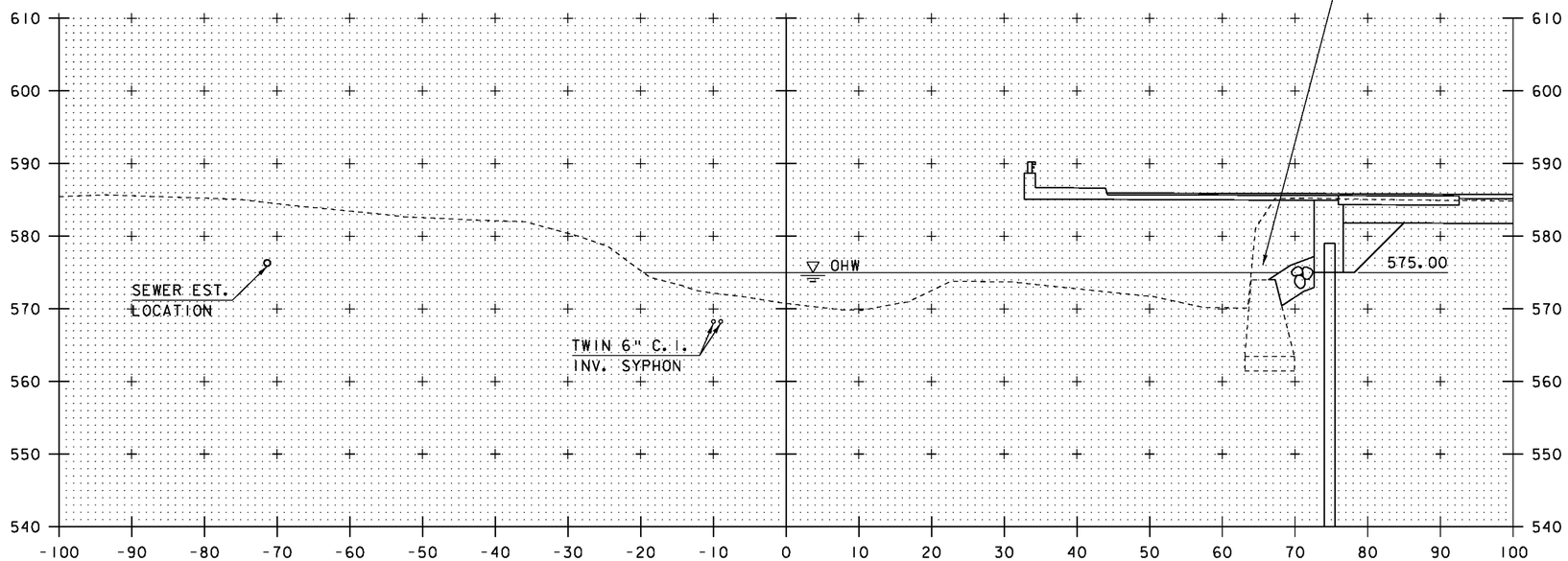
PROJECT NUMBER: BRF 025-1(37) SC

FILE NAME: s95b168xs3.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 CHANNEL CROSS SECTIONS

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 122 OF 124



62+75



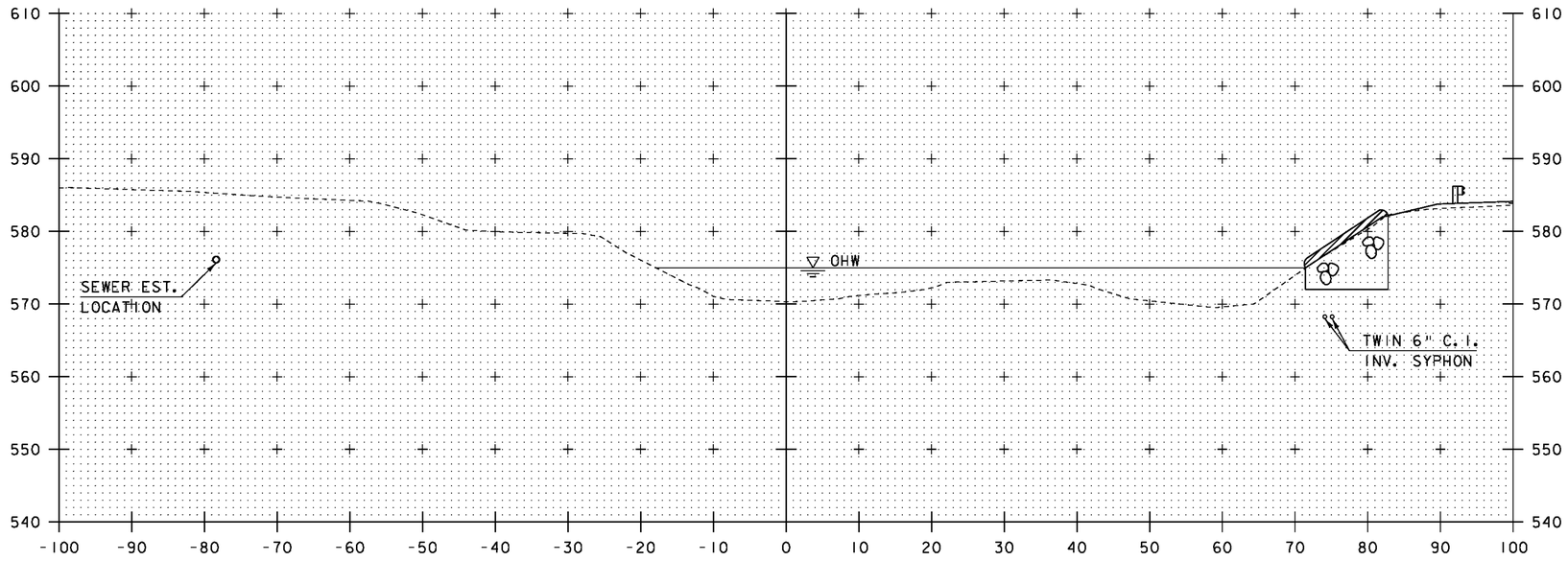
62+50

SCALE 1" = 10'-0

10 0 10

STA. 62+50 TO STA. 62+75

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37) SC	
FILE NAME: s95b168xs4.dgn	PLOT DATE: 20-SEP-2010
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
BRIDGE 9 CHANNEL CROSS SECTIONS	SHEET 123 OF 124



STA: 63+03.10 RT
END UNCLASSIFIED CHANNEL EXCAVATION
END GEOTEXTILE UNDER STONE FILL
END STONE FILL, TYPE IV
END GRUBBING MATERIAL

63+00

SCALE 1" = 10'-0
10 0 10

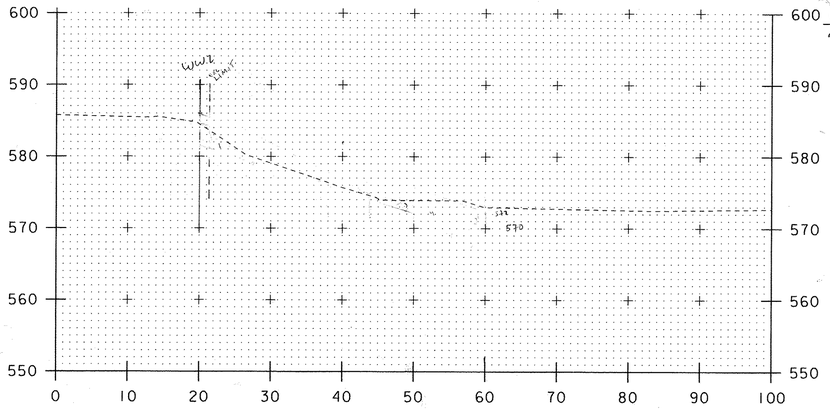
STA. 63+00 TO STA. 63+00

PROJECT NAME: CHESTER

PROJECT NUMBER: BRF 025-1(37) SC

FILE NAME: s95bl68xs5.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
BRIDGE 9 CHANNEL CROSS SECTIONS

PLOT DATE: 20-SEP-2010
DRAWN BY: D.D.BEARD
CHECKED BY: R.S.YOUNG
SHEET 124 OF 124



UNCLASSIFIED CHANNEL EXC:

- SIDES HERE

$\frac{2'+2'}{2} \cdot 7' = 19\,SF$

$.75' \cdot 19' = 14.25\,SF$

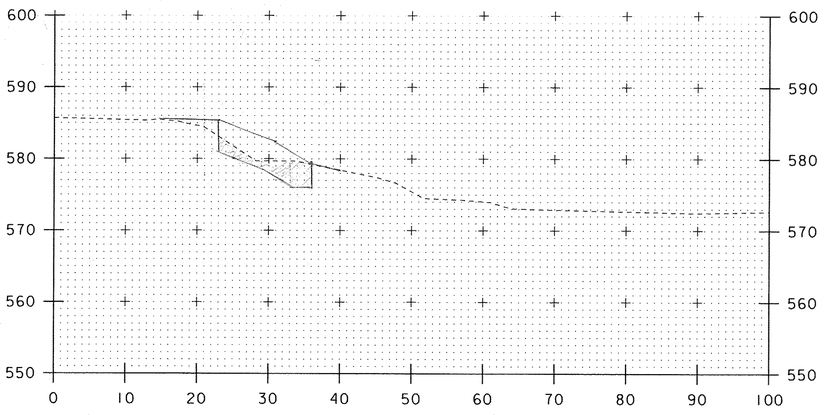
$\frac{.75+2}{2} \cdot 5 = 6.875\,SF$

$\frac{2'+2'}{2} \cdot 10 = 30\,SF$

$65.125\,SF$

Recomputed after locating pins 3-17-11

12+10



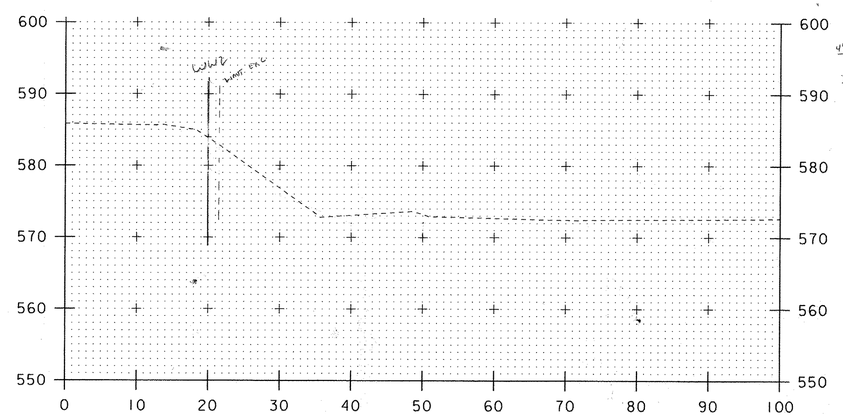
Unc. Chan Exc.

$\left(\frac{2+11}{2}\right)(6) + \left(\frac{11+3}{2}\right)(4) + (6.5)(3) = 28.5$

Stone Fill, Type IV

$(11.5)(4.0) + \frac{5+3.5}{2}(3) = 58.75$

12+00



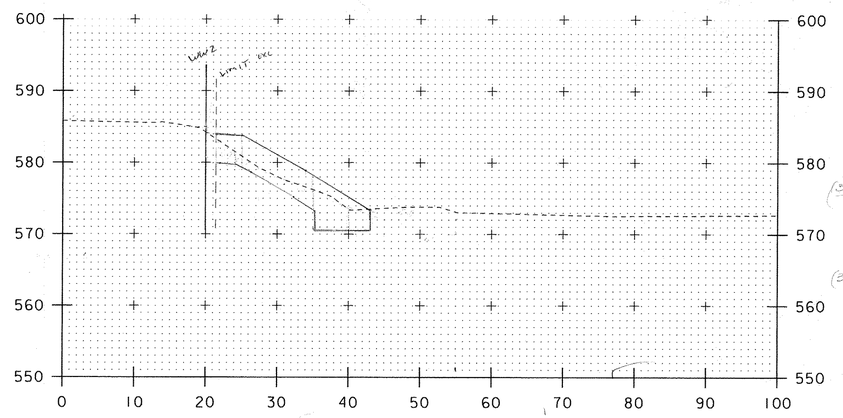
UNCLASSIFIED CHANNEL EXC:

$\frac{4'+0}{2} \cdot 13' = 26\,SF$

$3' \times 10' = 30\,SF$

$56\,SF$

12+30



UNCLASSIFIED CHANNEL EXC:

$\frac{7'+5'}{2} \cdot 17' = 29.75\,SF$

$3' \times 10' = 30\,SF$

59.75

Unc. Chan. Exc.

$\left(\frac{3.4+1.3}{2}\right)(2.7) + \left(\frac{18+3}{2}\right)(11) + \left(\frac{5.8+2.8}{2}\right)(5) + (3)(3) = 63.9$

Stone Fill, Type IV

$(3.5)(4) + (11.5)(4) + \left(\frac{7.5+3}{2}\right)(3) = 102$

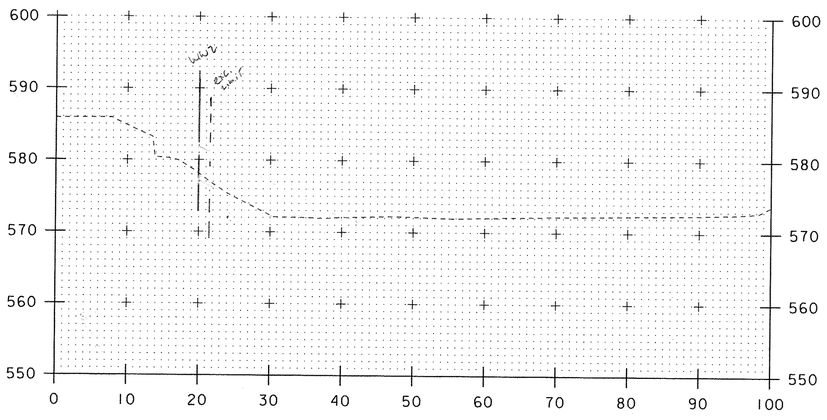
12+20

SCALE 1" = 10'-0"

10 0 10

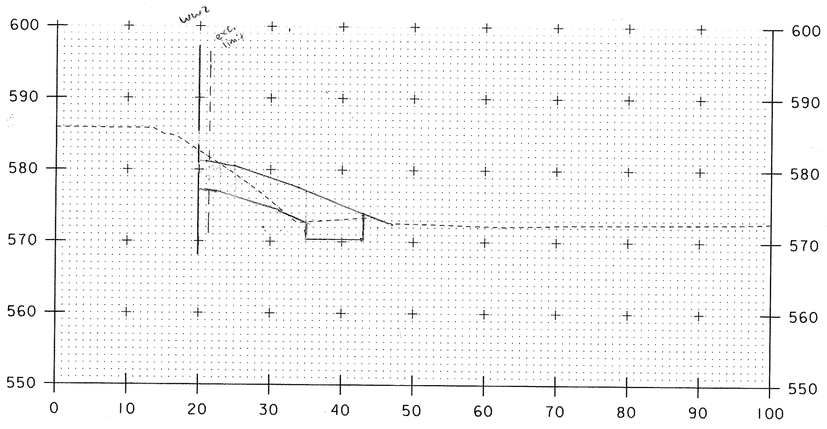
STA. 12+00 TO STA. 12+30

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME: s95bl68xsl.dgn	PLOT DATE: 19-MAY-2011
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: ------
CONSTRUCTION CROSS SECTIONS	SHEET 1 OF 1



UNCLASSIFIED CHANNEL EXC:
NEGLIGIBLE
2'·10' = 30 SF ✓

12+50

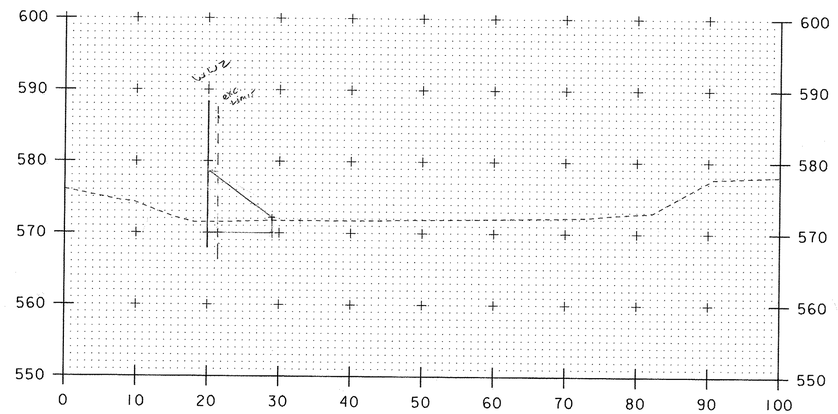


UNCLASSIFIED CHANNEL EXC:
$\frac{2.5'+10'}{2}$ · 12' = 15.0 SF ✓
3'·10' = 30 SF
45 SF

$(3)(1)+.5(4)(9)+\left(\frac{2.5+7}{2}\right)(8) = 52\square'$ ✓

Stone Fill, Type IV
$\left(\frac{4+15}{2}\right)(15)+\left(\frac{6.8+3.8}{2}\right)(3) = 103\square'$ ✓

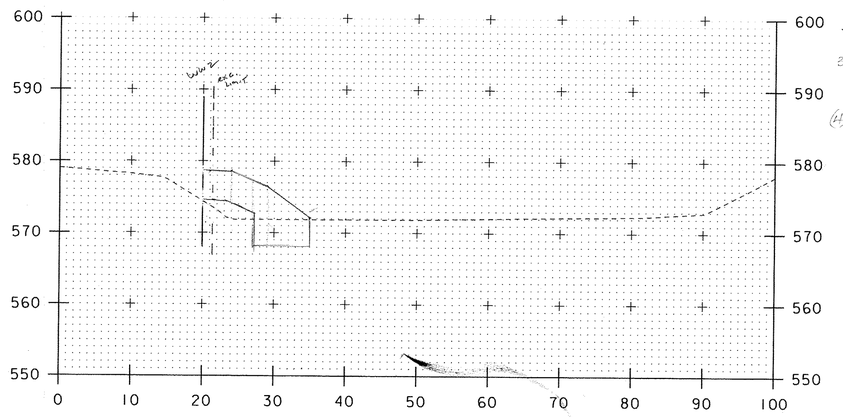
12+40



UNCLASSIFIED CHANNEL EXC:
ENDS @ ZERO @ 12+75
1.75·7.5 = 13.1 SF ✓

Stone Fill, Type IV
$\left(\frac{2'+8.5}{2}\right)(9') = 47.25$

12+70 use for 12+65 corner of A-1/W-W-2



UNCLASSIFIED CHANNEL EXC:
3.8(8) = 30.4 SF ✓

Stone Fill, Type IV
$(4)(4)+(3)(4.5)+\left(\frac{9.2+8}{2}\right)(5)$
$+\left(\frac{8+4}{2}\right)(6) = 82.7\square'$ ✓

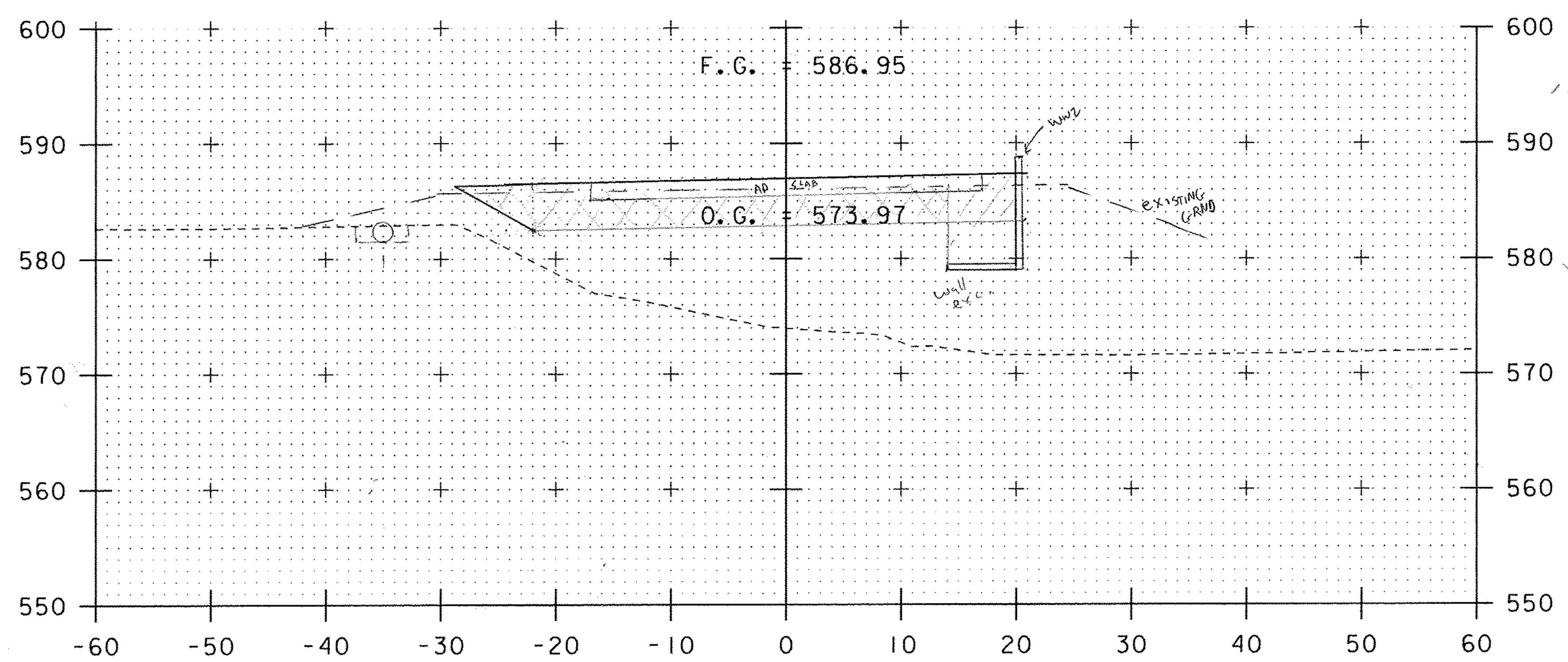
12+60

JTC 6/1/11

SCALE 1" = 10'-0"
10 0 10

STA. 12+40 TO STA. 12+70

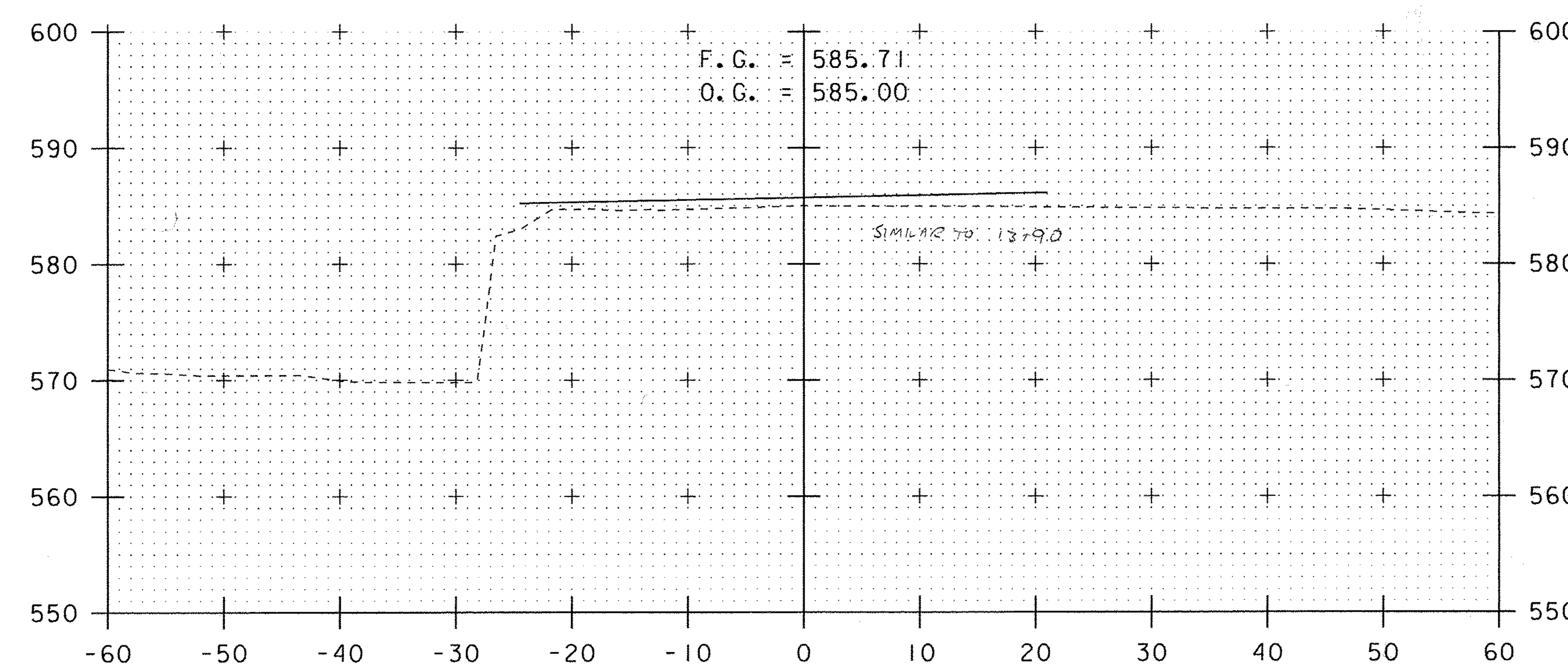
PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME: s95bl68xsl.dgn	PLOT DATE: 19-MAY-2011
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: ------
CONSTRUCTION CROSS SECTIONS	SHEET 1 OF 1



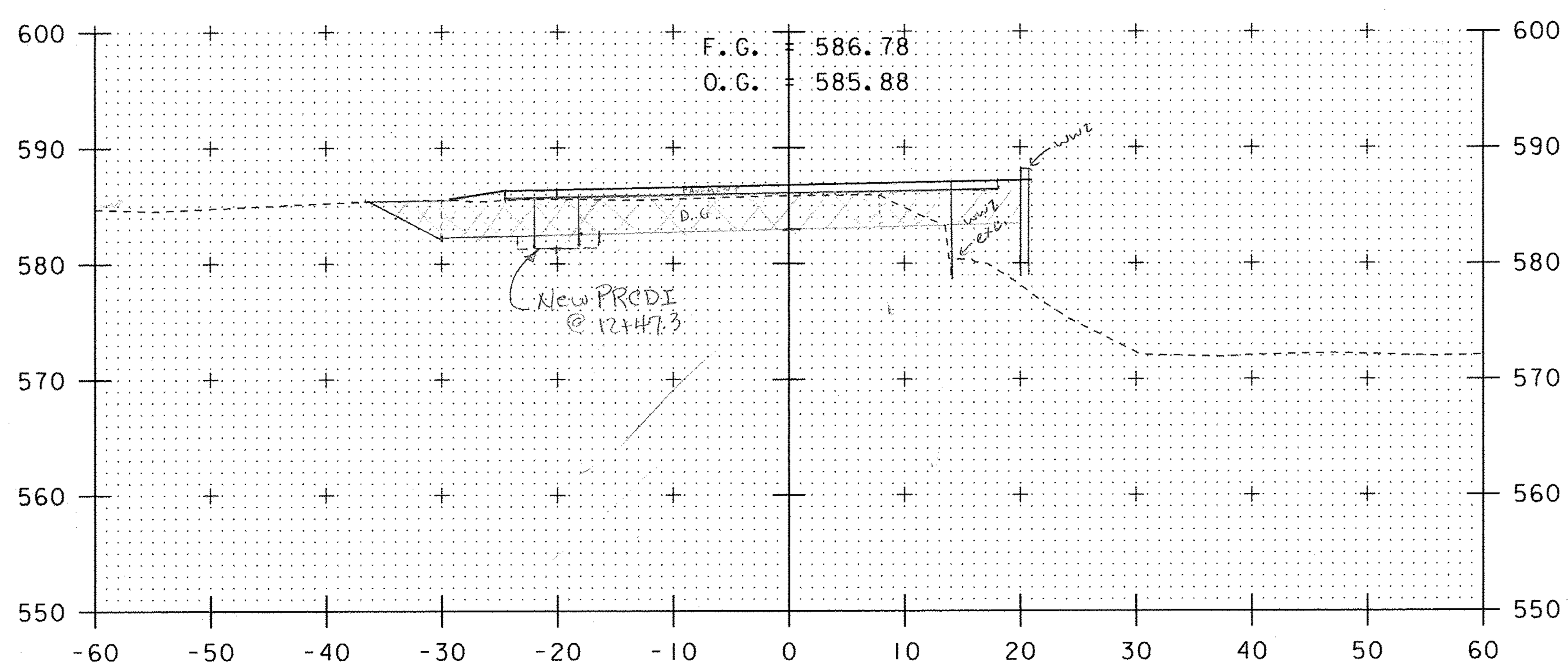
12+75/12+70

DENSE GRADED:
ENDS @ 12+70
(42'·4') − (17/12·34) = 119.8 SF
5.5'·4'·1/2 = 11 SF
130.8 SF

COMMON EXC:
ENDS @ 12+70
36'·3' = 108 SF
3'·5'·1/2 = 7.5 SF
115.5 SF



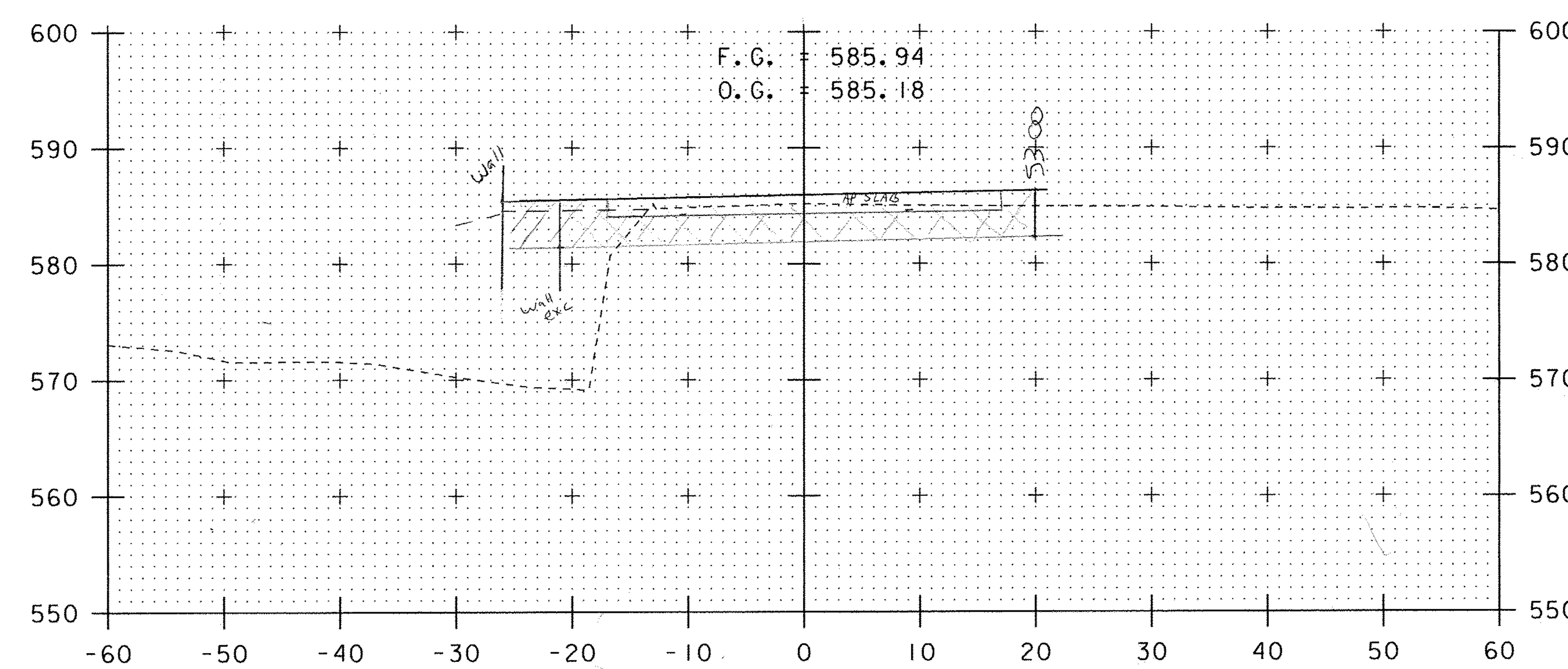
14+00



12+50

DENSE GRADED:
50'·3' = 150 SF
4.5'·1'/2 = 2.25 SF
1'·1' = 1 SF
5'·3'/2 = 7.5 SF
160.75 SF

COMMON EXC:
38'·3' = 114 SF
5'·3'/2 = 7.5 SF
5'·3'/2 = 7.5 SF
129 SF



13+90

DENSE GRADED:
STARTS @ 13+90
46·4' − (17/12·34) = 115.8 SF
135.8 SF

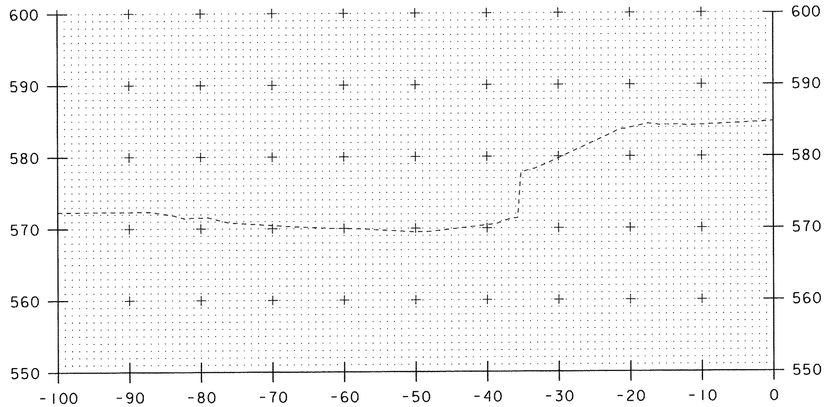
COMMON EXC.
STARTS @ 13+90
41'·2.5' = 102.5 SF

SCALE 1" = 10'-0"
10 0 10

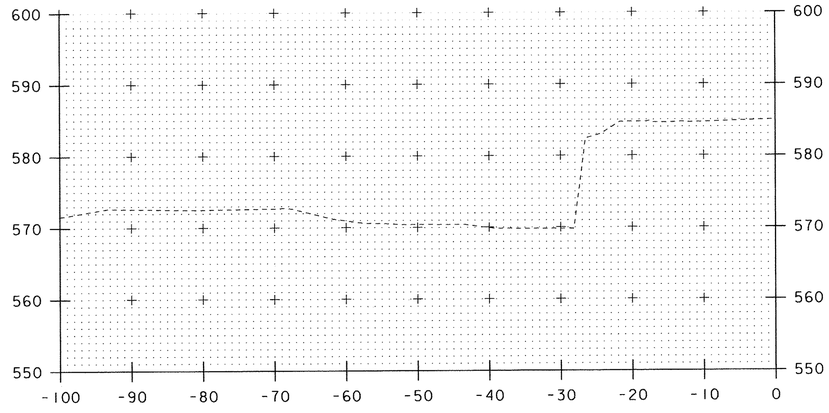
STA. 12+50 TO STA. 12+75

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(37)

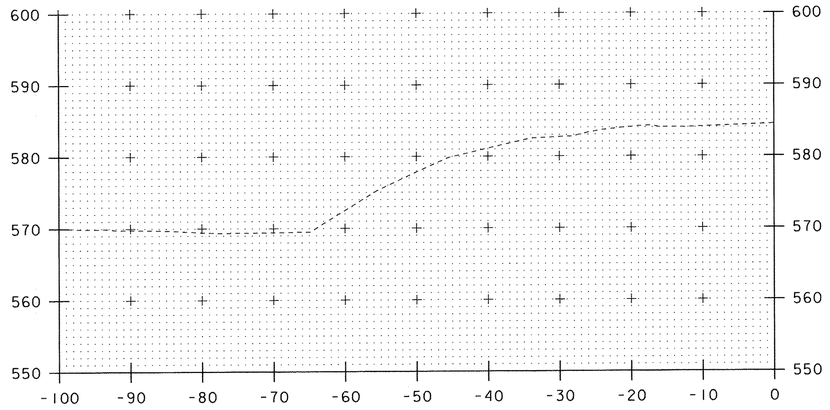
FILE NAME: s95bl68xsl.dgn	PLOT DATE: 13-JUN-2011
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: ------
CONSTRUCTION CROSS SECTIONS	SHEET 1 OF 1



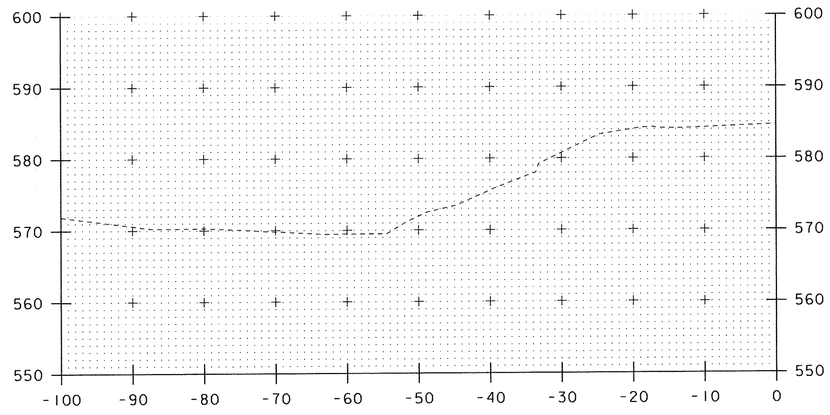
14+10



14+00



14+30



14+20

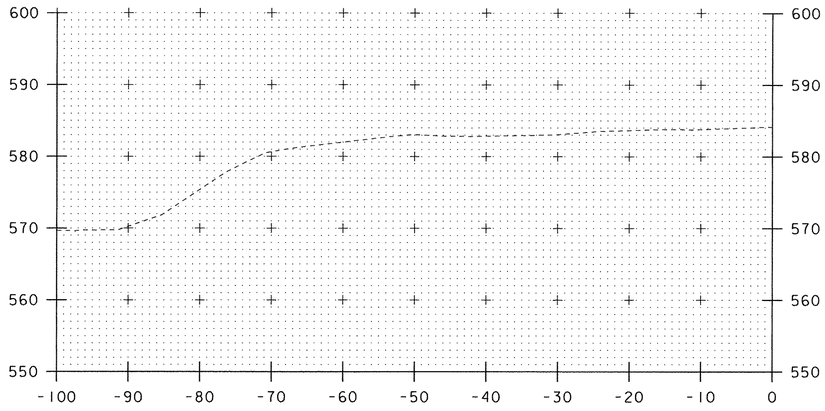
SCALE 1" = 10'-0"
10 0 10

STA. 14+00 TO STA. 14+30

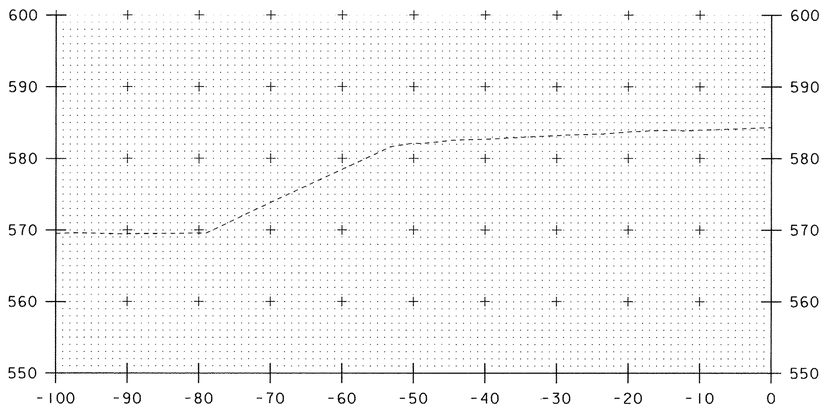
PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: s95bl68xsl.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
CONSTRUCTION CROSS SECTIONS

PLOT DATE: 19-MAY-2011
DRAWN BY: D.D.BEARD
CHECKED BY: ------
SHEET 1 OF 1



14+50



14+40

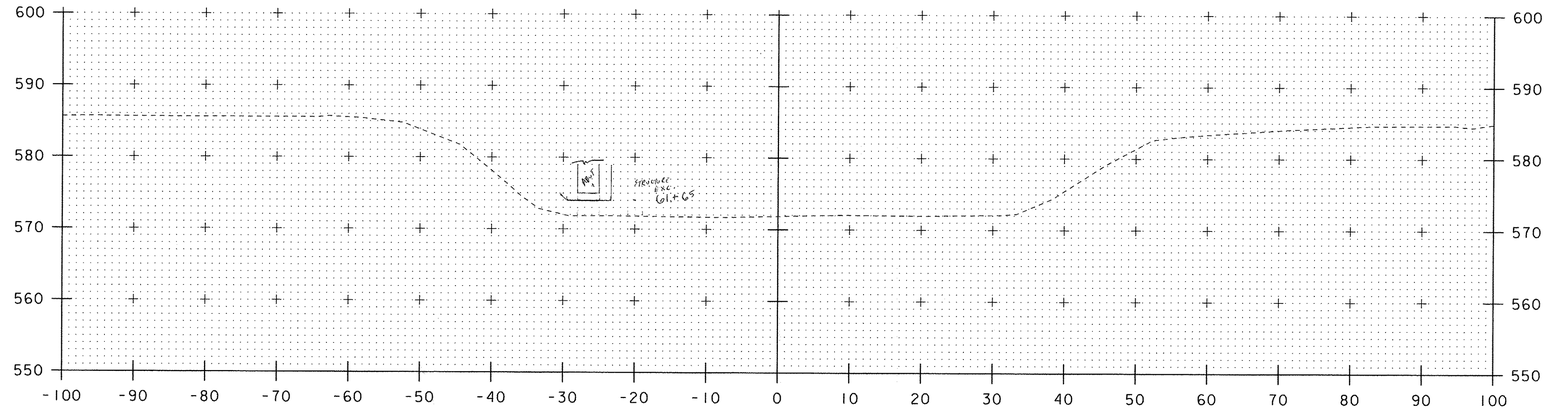
SCALE 1" = 10'-0"
10 0 10

STA. 14+40 TO STA. 14+50

PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: s95b168xsl.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
CONSTRUCTION CROSS SECTIONS

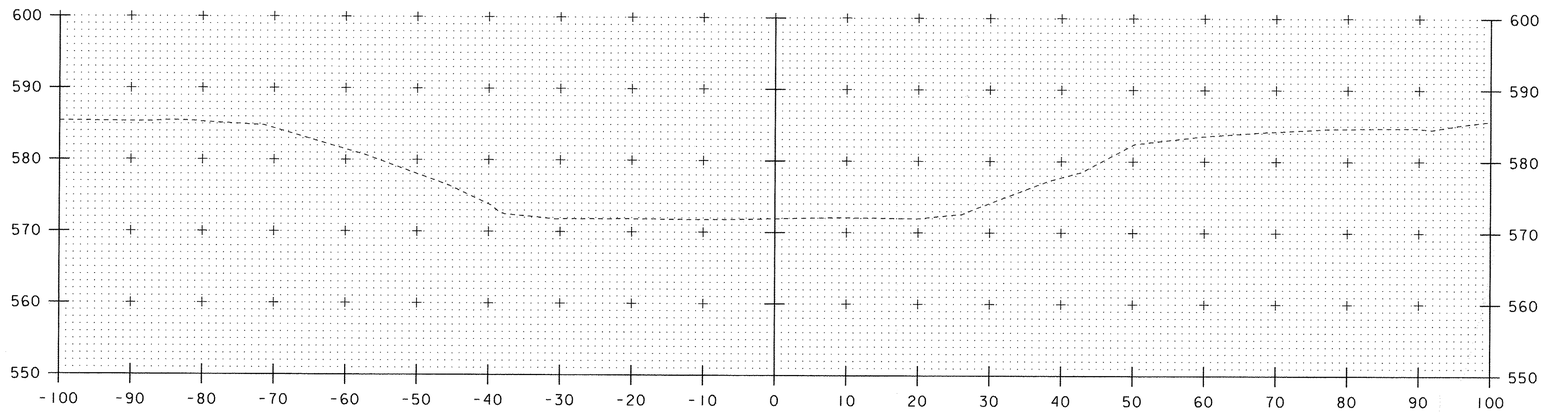
PLOT DATE: 19-MAY-2011
DRAWN BY: D.D.BEARD
CHECKED BY: ------
SHEET 1 OF 1



STRUCTURE EXC.: NO EXC. @ 61+65

LT:

61+60



UNCLASSIFIED CHANNEL EXC.: STARTS @ ZERO @ 61+62

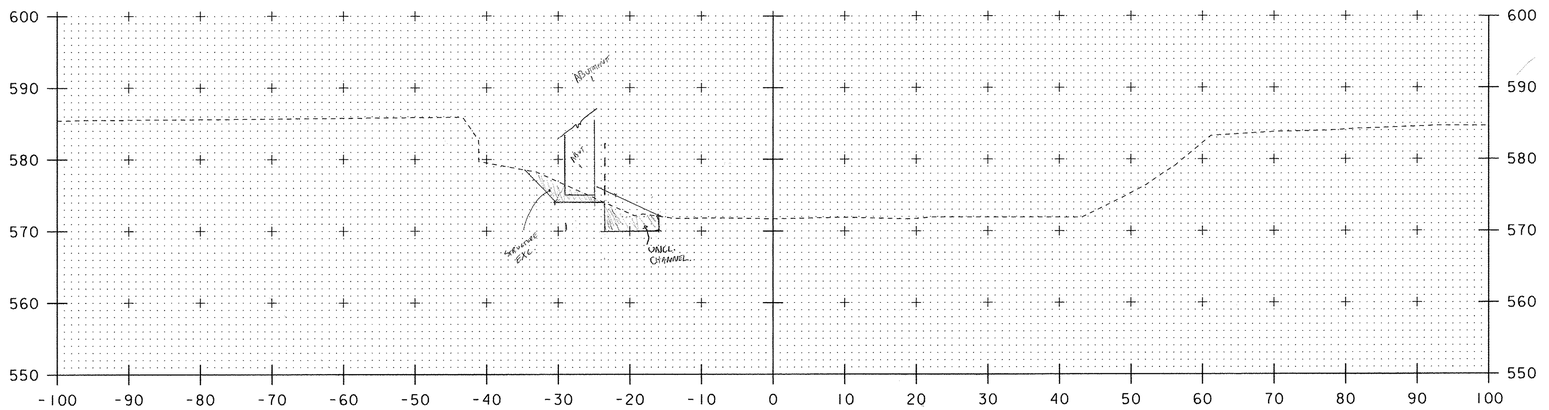
STRUCTURE EXC.: LT STARTS @ 61+65, STARTS @ ZERO

61+50

SCALE 1" = 10'-0"
10 0 10

STA. 61+50 TO STA. 61+60

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(37)
FILE NAME: s95b168xsl.dgn	PLOT DATE: 19-MAY-2011
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: ------
CONSTRUCTION CROSS SECTIONS	SHEET 1 OF 1



UNCLASSIFIED CHANNEL EXC:

LT: $\frac{3.5'+2'}{2} \cdot 7.5 = 20.6$ SF ✓

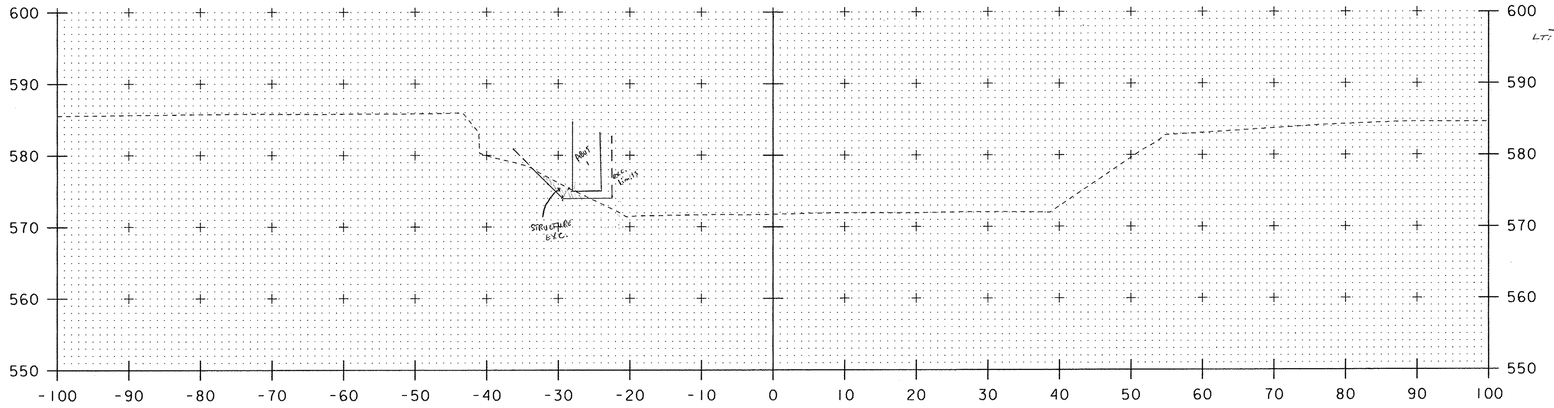
STRUCTURE EXC:

LT: $\frac{2.75}{2} \cdot 6 = 8.25$ SF ✓

$\frac{2.75}{2} \cdot 6 = 8.25$ SF ✓

16.5 SF

61+80



UNCLASSIFIED CHANNEL EXC:

LT: SLOPES @ ZERO @ 61+68 ✓

STRUCTURE EXC:

LT: $\frac{1.5' \cdot 5'}{2} = 3.75$ ✓

$\frac{1.5' \cdot 3'}{2} = 2.25$ ✓

6 SF ✓

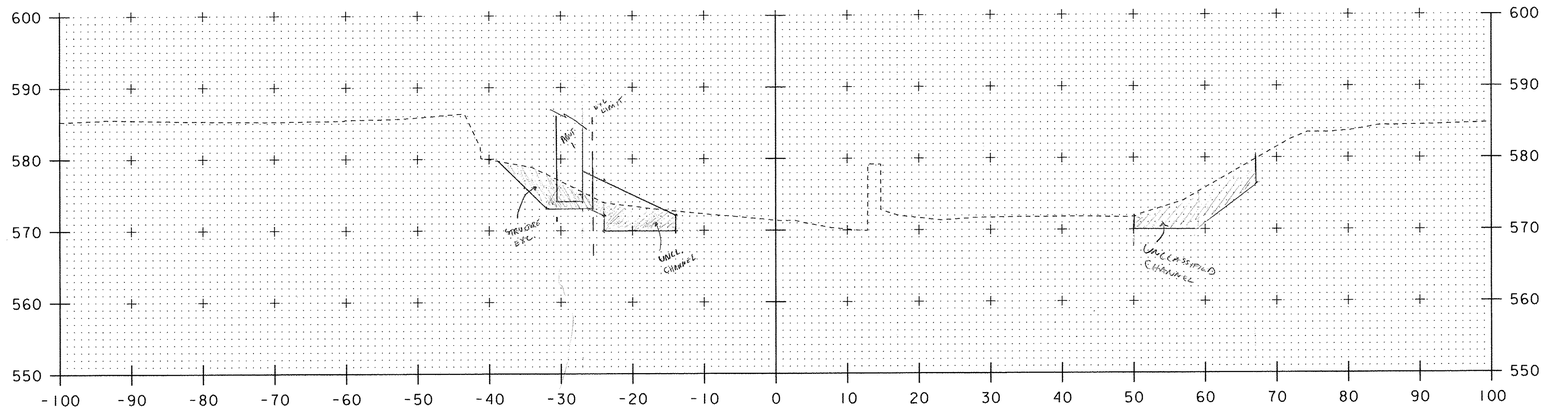
61+70

SCALE 1" = 10'-0"

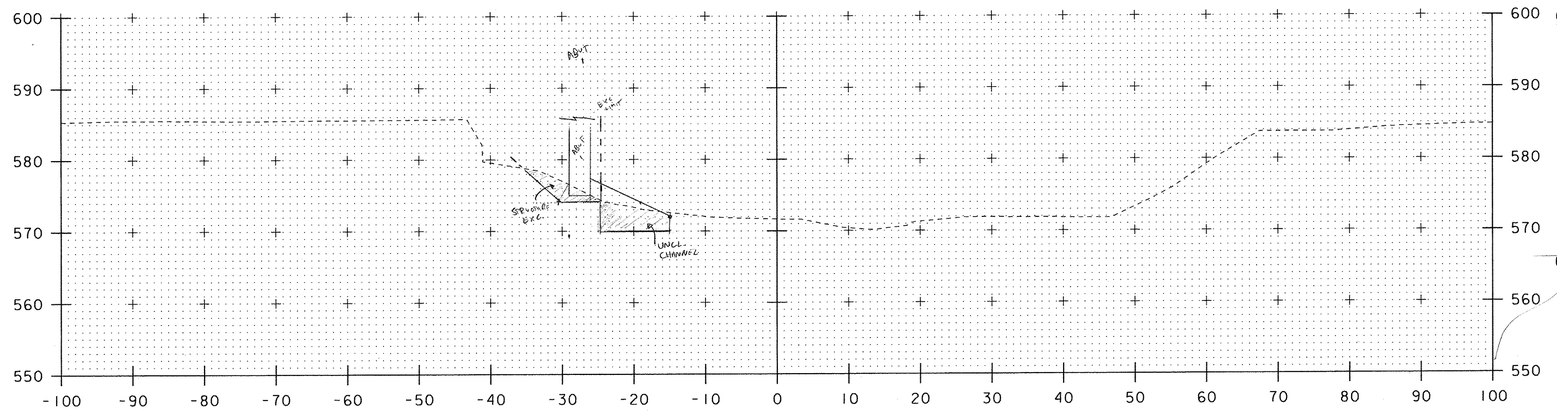
10 0 10

STA. 62+00 TO STA. 62+80

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(37)
FILE NAME: s95bl68xsl.dgn	PLOT DATE: 19-MAY-2011
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: ------
CONSTRUCTION CROSS SECTIONS	SHEET 1 OF 1



62+00

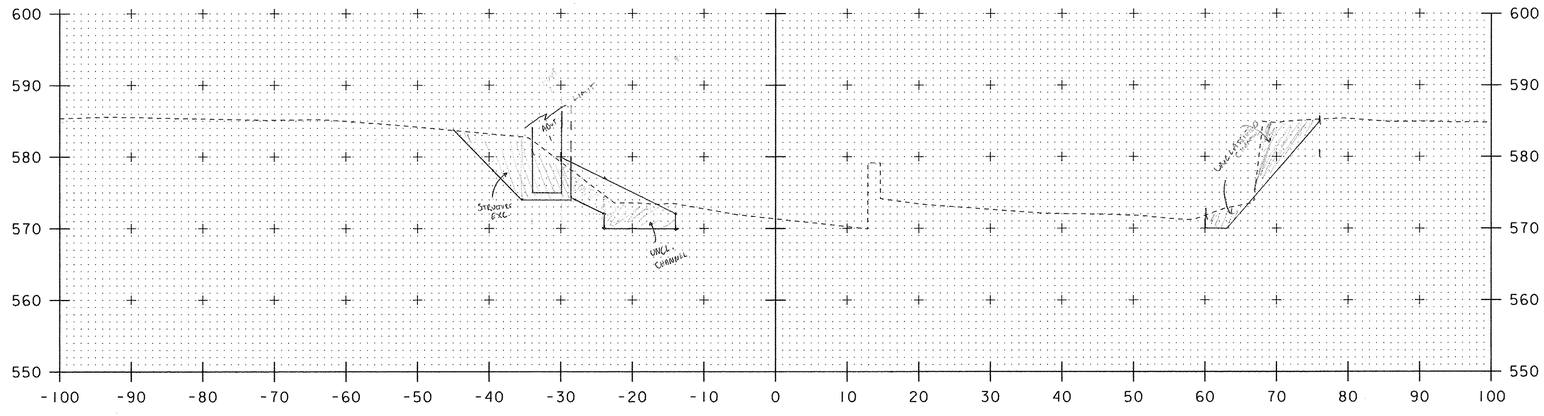


61+90

SCALE 1" = 10'-0"
10 0 10

STA. 62+90 TO STA. 62+00

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BRF 025-1(37)
FILE NAME: s95bl68xsl.dgn	PLOT DATE: 19-MAY-2011
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: ------
CONSTRUCTION CROSS SECTIONS	SHEET 1 OF 1



UNCLASSIFIED CHANNEL EXC:

LT: $\frac{9.5+5}{2} \cdot 4.5 = 13.5$ SF ✓

$3' \cdot 10' = 30$ SF ✓

43.5 SF ✓

51 ADJ

STRUCTURE EXCAVATION:

LT: $\frac{10'}{2} \cdot 9' = 45$ SF ✓

$\frac{4+9}{2} \cdot 7' = 45.5$ SF ✓

90.5 SF ✓

ENDS @ 62+25 @ SAME AREA

UNCLASSIFIED CHANNEL EXC:

RT: $\frac{1}{2} \cdot 10.8 = 40$ ✓

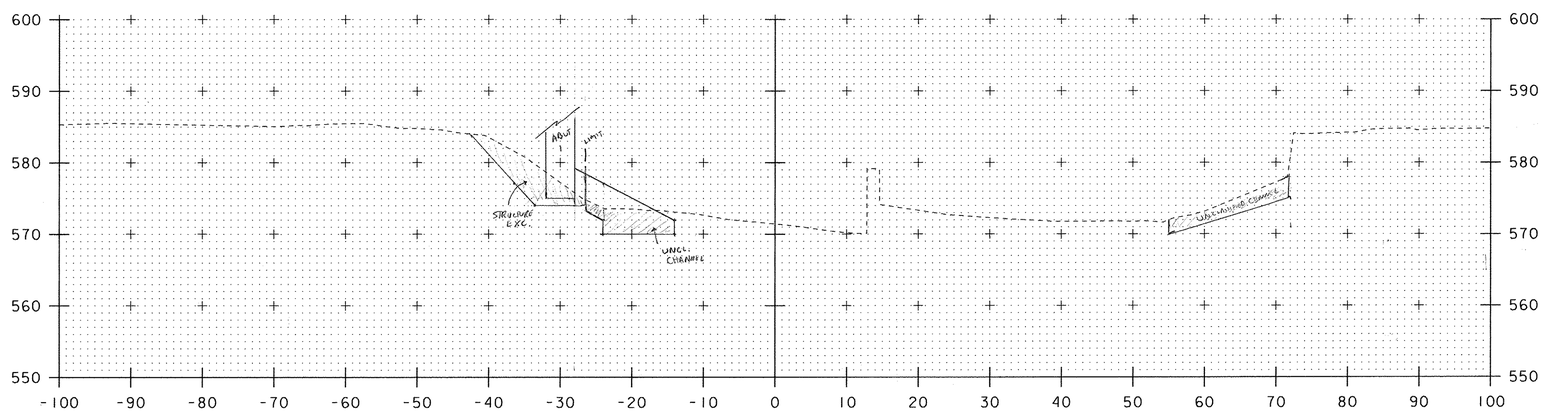
COUNTED = 11 ✓

51 SF ✓

STRUCTURE EXC:

RT: STARTS @ 62+20 @ SAME AREA AS 62+30

62+20



UNCLASSIFIED CHANNEL EXC:

LT: $1' \cdot 25' = 2.5$ SF ✓

$3' \cdot 10' = 30$ SF ✓

32.5 SF ✓

STRUCTURE EXC:

LT: $\frac{4.75}{2} \cdot 13 = 30.9$ SF ✓

$\frac{4.75}{2} \cdot 6 = 14.25$ SF ✓

45.15 SF ✓

UNCLASSIFIED CHANNEL EXC:

RT:

$\frac{7+31}{2} \cdot 17' = 42.5$ SF ✓

62+10

SCALE 1" = 10'-0"

10 0 10

STA. 62+00 TO STA. 62+20

PROJECT NAME: CHESTER

PROJECT NUMBER: BRF 025-1(37)

FILE NAME: s95b168xsl.dgn

PROJECT LEADER: C.P.WILLIAMS

DESIGNED BY: R.S.YOUNG

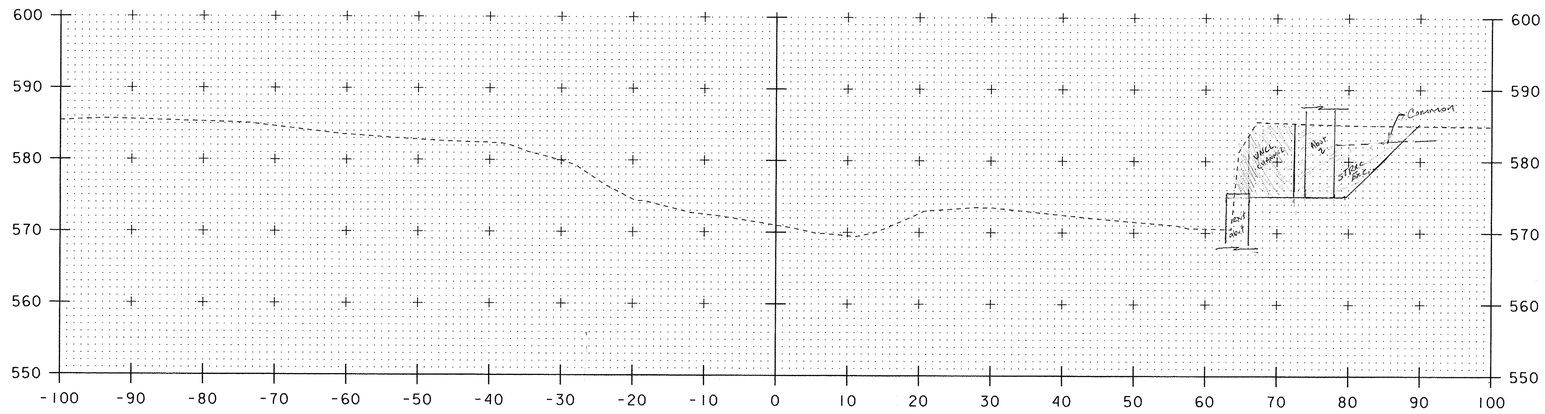
CONSTRUCTION CROSS SECTIONS

PLOT DATE: 19-MAY-2011

DRAWN BY: D.D.BEARD

CHECKED BY: ------

SHEET 1 OF 1

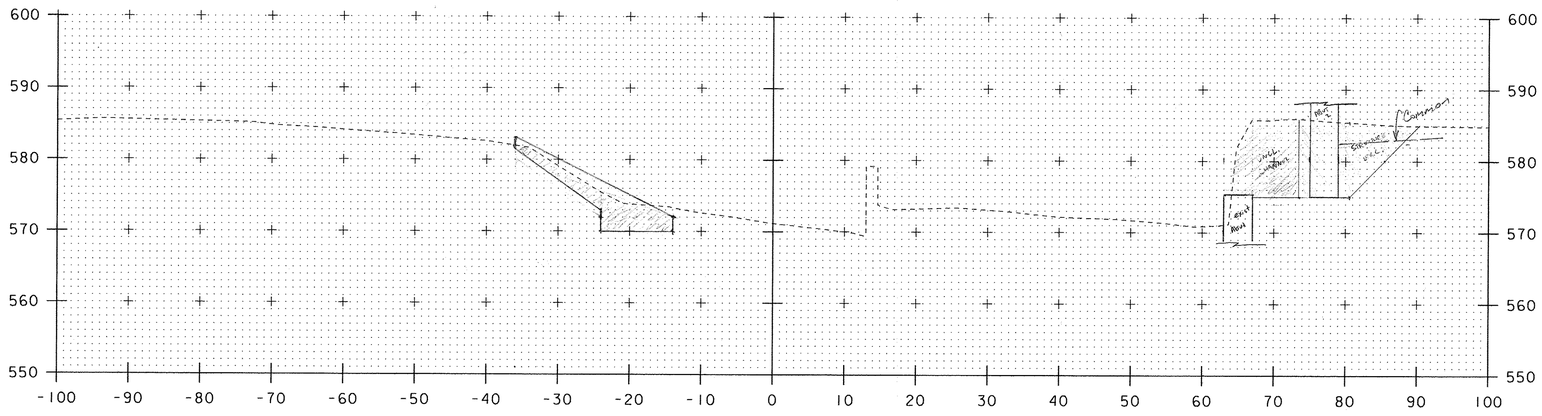


UNCLASSIFIED CHANNEL EXC:
LT: ENDS @ 62+44

UNCLASSIFIED CHANNEL EXC:
RT: $\frac{8.6}{2} \cdot 10' = 70$ SF ✓

STRUCTURE EXC:
RT: $10' \cdot 7' = 70$ SF ✓
$10' \cdot 10' \cdot \frac{1}{2} = 50$ SF ✓
120 SF ✓

62+40



UNCLASSIFIED CHANNEL EXC:
LT: $\frac{1'+2'}{2} \cdot 14' = 21$ SF ✓
$3.25 \cdot 10 = 32.5$ SF ✓
53.5 SF ✓

UNCLASSIFIED CHANNEL EXC:
RT $11' \cdot \frac{9.5+7}{2} = 90.75$ SF ✓

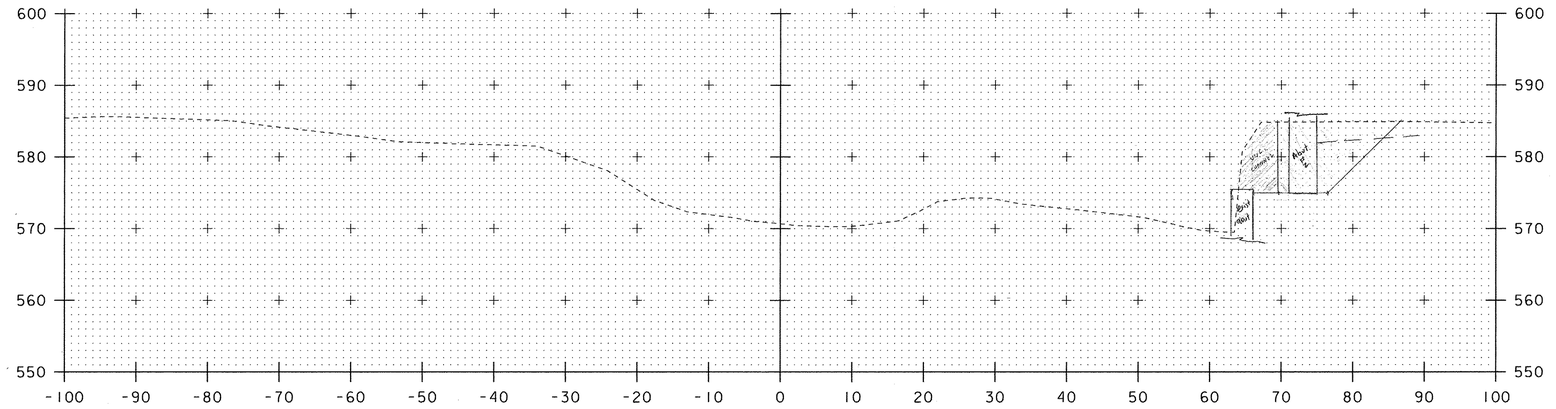
STRUCTURE EXC:
RT:
$10.5' \cdot 7' = 73.5$ SF ✓
$10' \cdot 10' \cdot \frac{1}{2} = 50$ SF ✓
123.5 SF ✓

62+30

SCALE 1" = 10'-0"
10 0 10

STA. 62+30 TO STA. 62+40

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME: s95bl68xsl.dgn	PLOT DATE: 19-MAY-2011
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: ------
CONSTRUCTION CROSS SECTIONS	SHEET 1 OF 1



UNCLASSIFIED CHANNEL EXC:

RT: $\frac{5.5+7}{2} \cdot 10' = 42.5$ SF ✓

STRUCTURE EXC:

RT

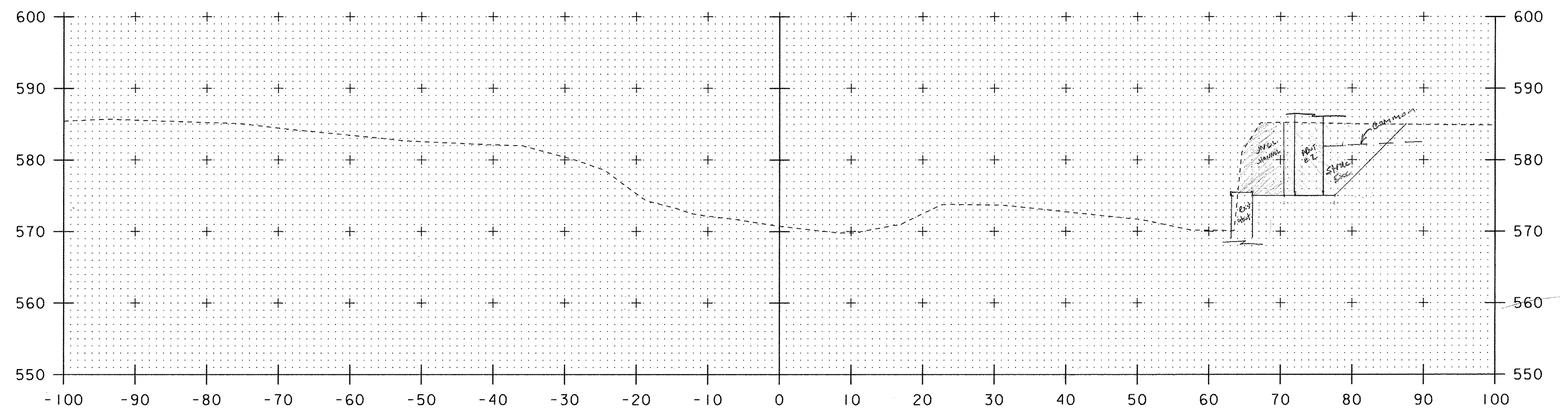
$10' \cdot 7' = 70$ SF ✓

$10' \cdot 10'\frac{1}{2} = 50$ SF ✓

120 SF ✓

90

62+60



UNCLASSIFIED CHANNEL EXC:

RT $\frac{6.5+4}{2} \cdot 10' = 52.5$ SF ✓

STRUCTURE EXC:

RT

$10' \cdot 7' = 70$ SF ✓

$10' \cdot 10'\frac{1}{2} = 50$ SF ✓

120 SF ✓

95

62+50

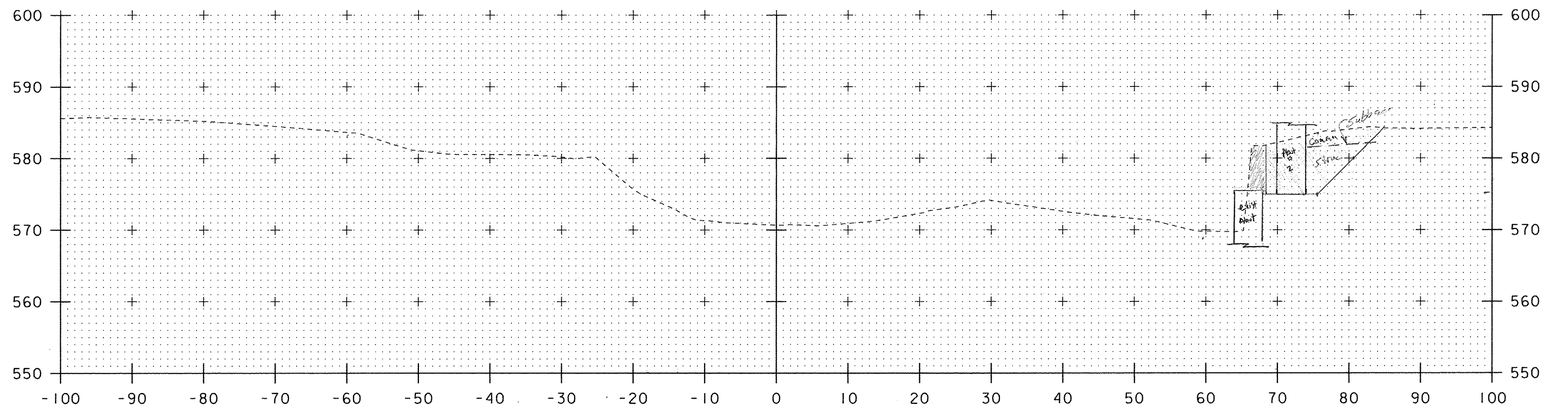
NC 6/8/11

SCALE 1" = 10'-0"

10 0 10

STA. 62+50 TO STA. 62+60

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME: s95bl68xsl.dgn	PLOT DATE: 19-MAY-2011
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: ------
CONSTRUCTION CROSS SECTIONS	SHEET 1 OF 1



UNCLASSIFIED CHANNEL EXC:

R_T $\frac{2.5+7}{2} \cdot 6.5 = 14.625$ SF ✓

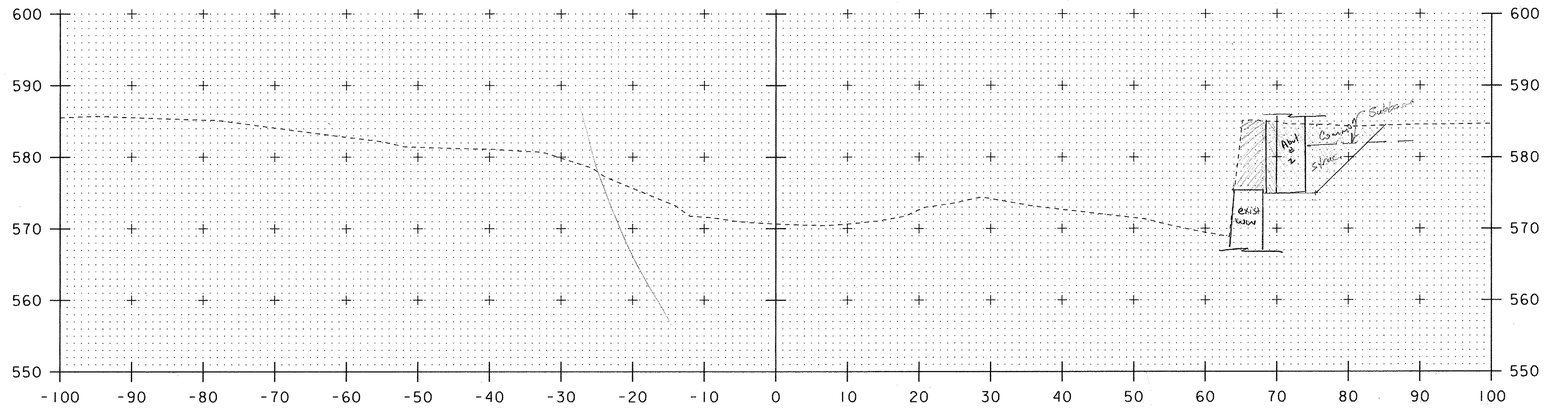
STRUCTURE EXC:

R_T $\frac{6.5+9}{2} \cdot 7' = 54.25$ ✓

$10' \cdot 10' \cdot \frac{1}{2} = 50$ ✓

~~104.25~~ 78 SF ✓

62+80



UNCLASSIFIED CHANNEL EXC:

R_T $\frac{4.5+3}{2} \cdot 9.5' = 35.625$ ✓

STRUCTURE EXC:

RT: $7' \cdot 10' = 70$ SF ✓

$10' \cdot 10' \cdot \frac{1}{2} = 50$ SF

~~120~~ 89 SF ✓

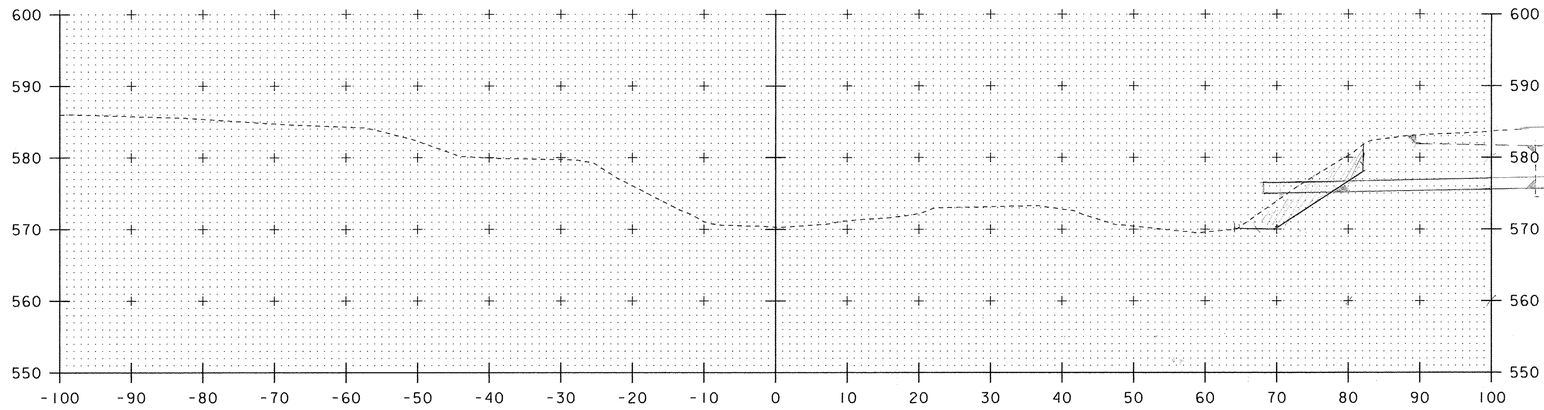
62+70

SCALE 1" = 10'-0"

10 0 10

STA. 62+70 TO STA. 62+80

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME: s95b168xsl.dgn	PLOT DATE: 19-MAY-2011
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: ------
CONSTRUCTION CROSS SECTIONS	SHEET 1 OF 1

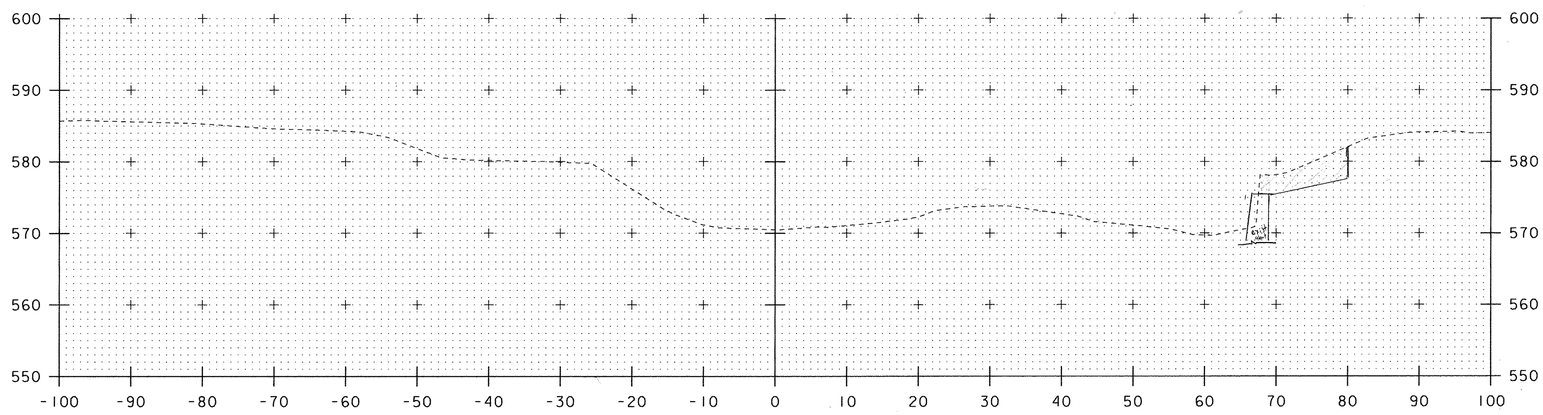


UNCLASSIFIED CHANNEL EXC:

RT ENDS @ 63+01 (SAME AS 63+00)

18'. 3' = 54 SF ✓

63+00



UNCLASSIFIED CHANNEL EXC:

RT: $\frac{3+4}{2} \cdot 12' = 42$ SF ✓

STRUCTURE EXC:

RT: ENDS @ 62+83 @ SAME AREA AS 62+90

62+90

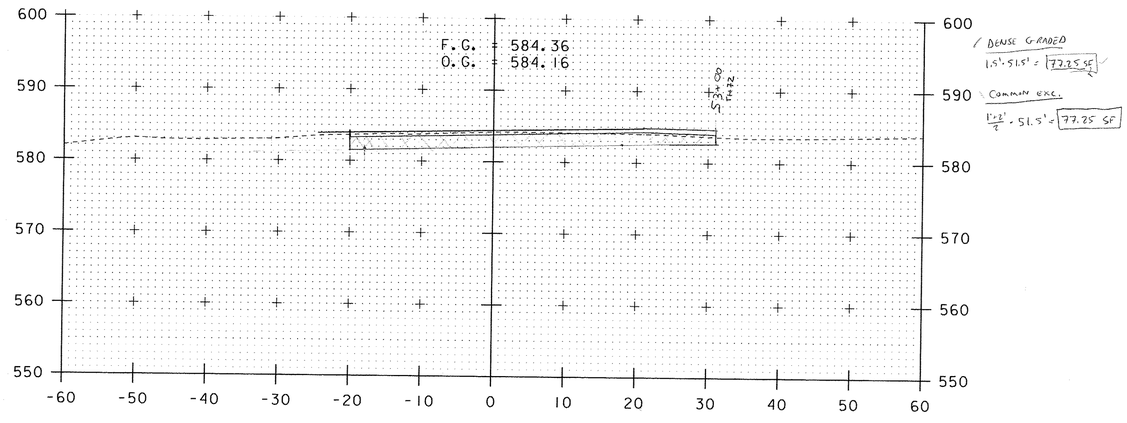
SCALE 1" = 10'-0"

10 0 10

STA. 62+90 TO STA. 63+00

JC 6/8/11

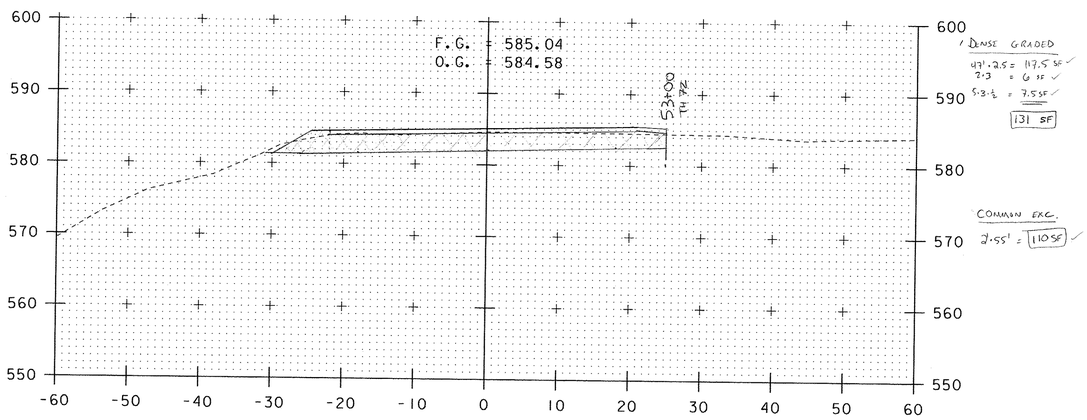
PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME: s95b168xsl.dgn	PLOT DATE: 19-MAY-2011
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: ------
CONSTRUCTION CROSS SECTIONS	SHEET 1 OF 1



DENSE GRADED
1.5'·51.5' = 77.25 SF

COMMON EXC.
$\frac{1'+2'}{2}$ · 51.5' = 77.25 SF

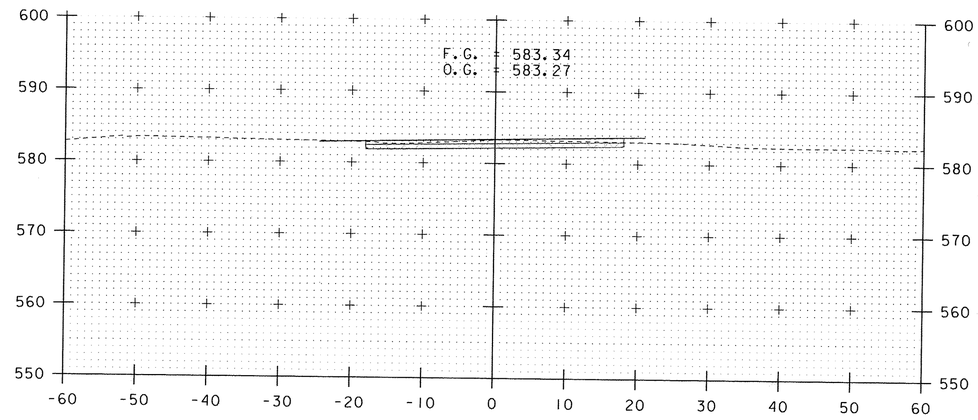
14+50



DENSE GRADED
47'·2.5 = 117.5 SF
2·3 = 6 SF
5·3·½ = 7.5 SF
131 SF

COMMON EXC.
2·55' = 110 SF

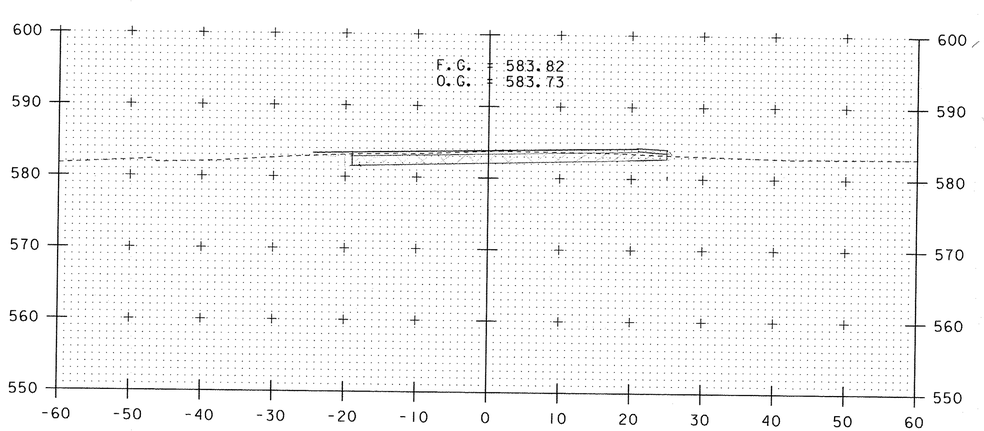
14+25



DENSE GRADED:
.5'·36' = 18 SF

COMMON EXC.
.6'·36' = 21.6 SF

15+00



DENSE GRADED
1'·44' = 44 SF

COMMON EXC.
$\frac{1.5'+1.75'}{2}$ · 44' = 47.5 SF

14+75

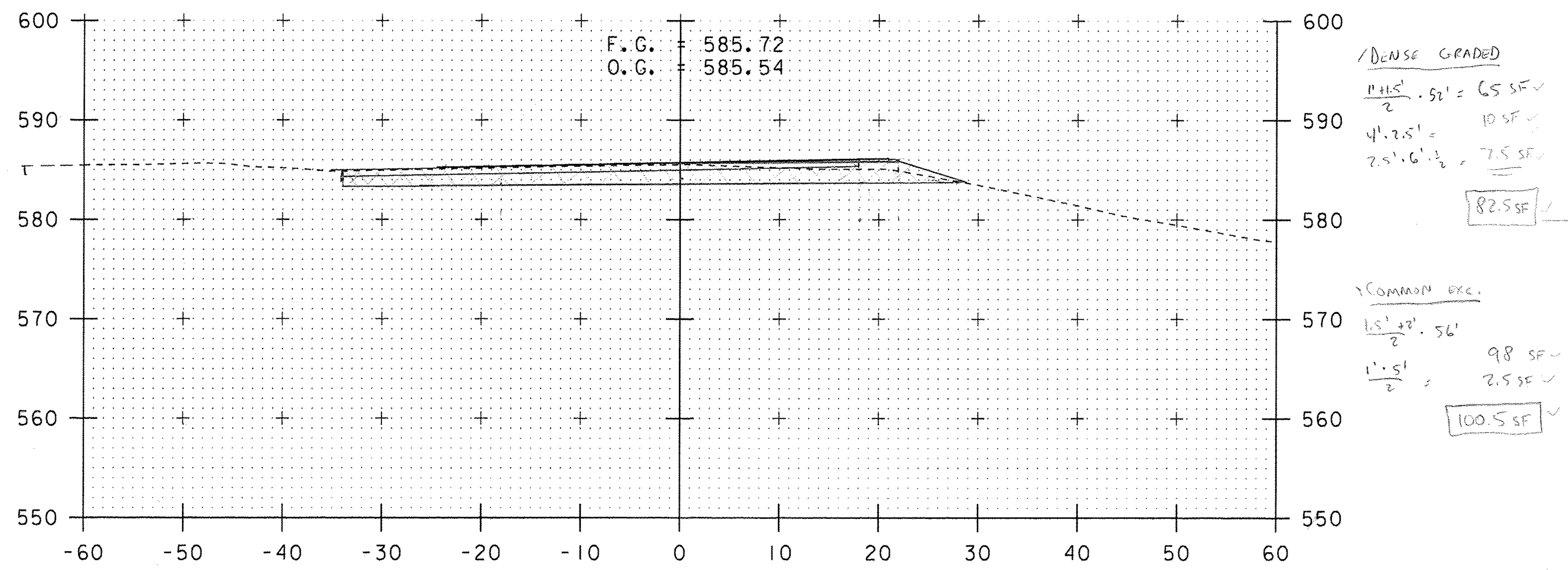
SCALE 1" = 10'-0"
10 0 10

STA. 14+25 TO STA. 15+00

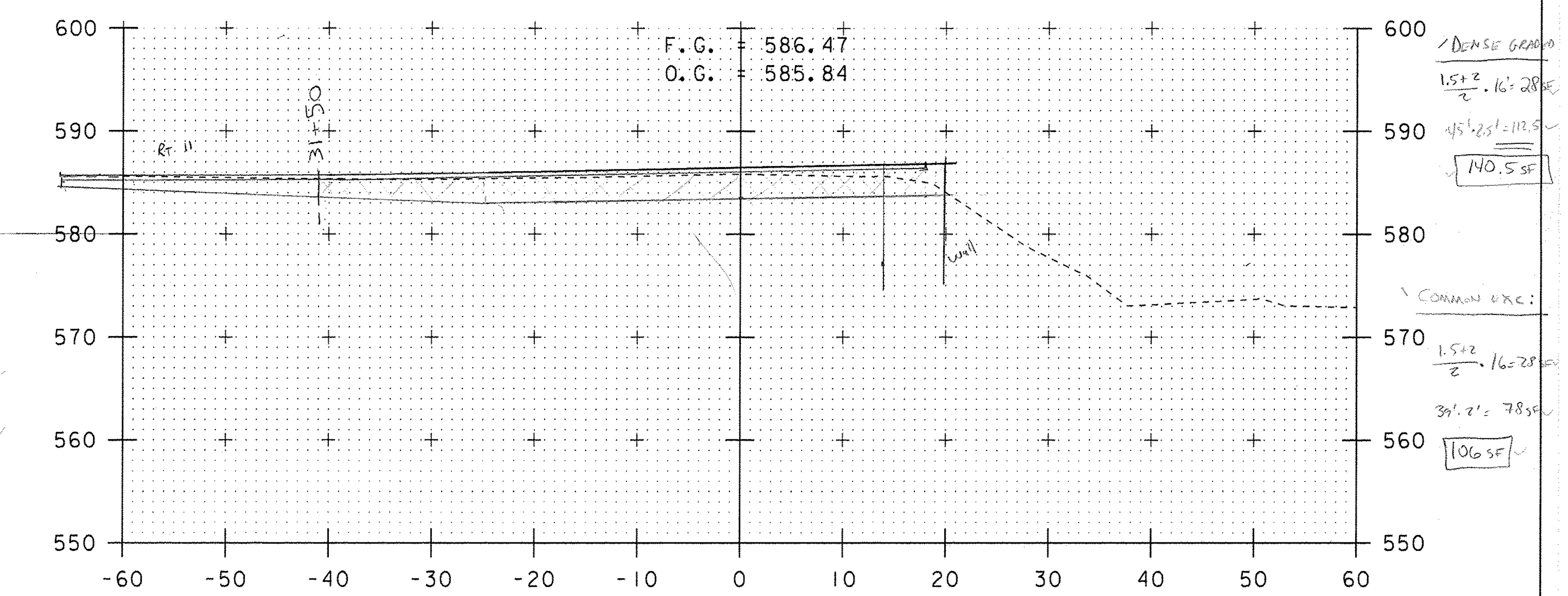
PROJECT NAME: CHESTER
PROJECT NUMBER: BRF 025-1(37)

FILE NAME: s95b168xsl.dgn
PROJECT LEADER: C.P.WILLIAMS
DESIGNED BY: R.S.YOUNG
CONSTRUCTION CROSS SECTIONS

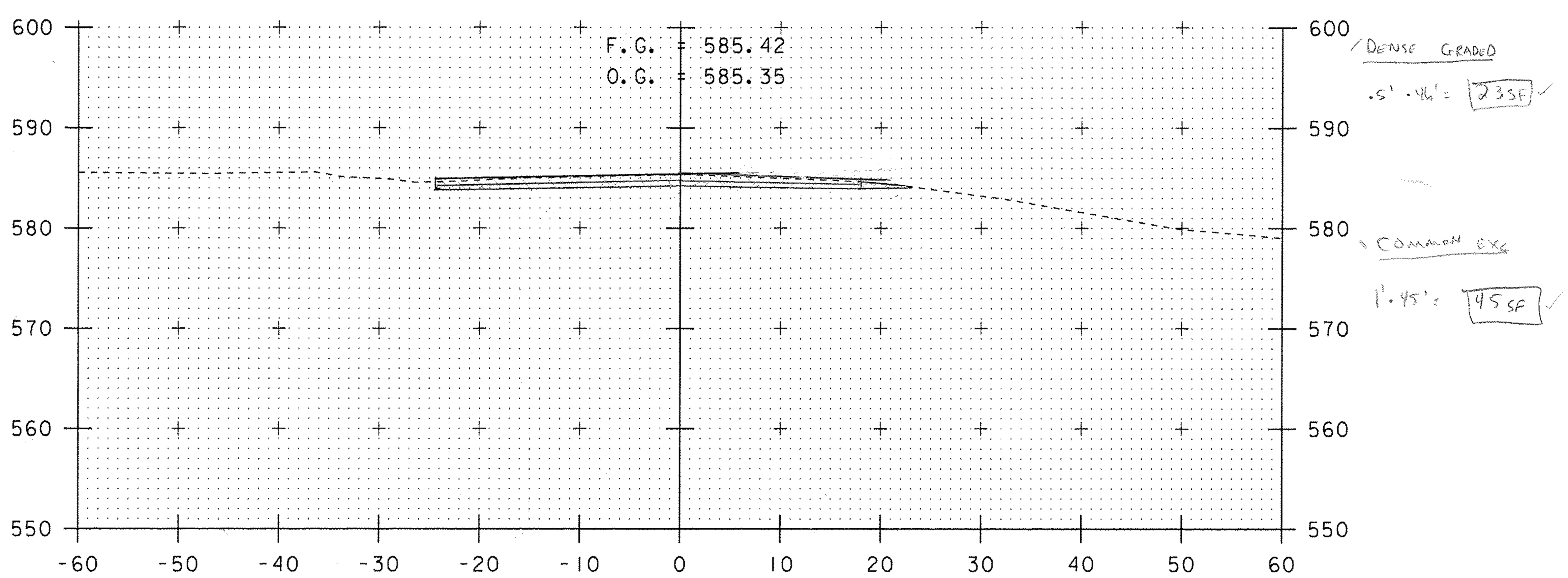
PLOT DATE: 13-JUN-2011
DRAWN BY: D.D.BEARD
CHECKED BY: ------
SHEET 1 OF 1



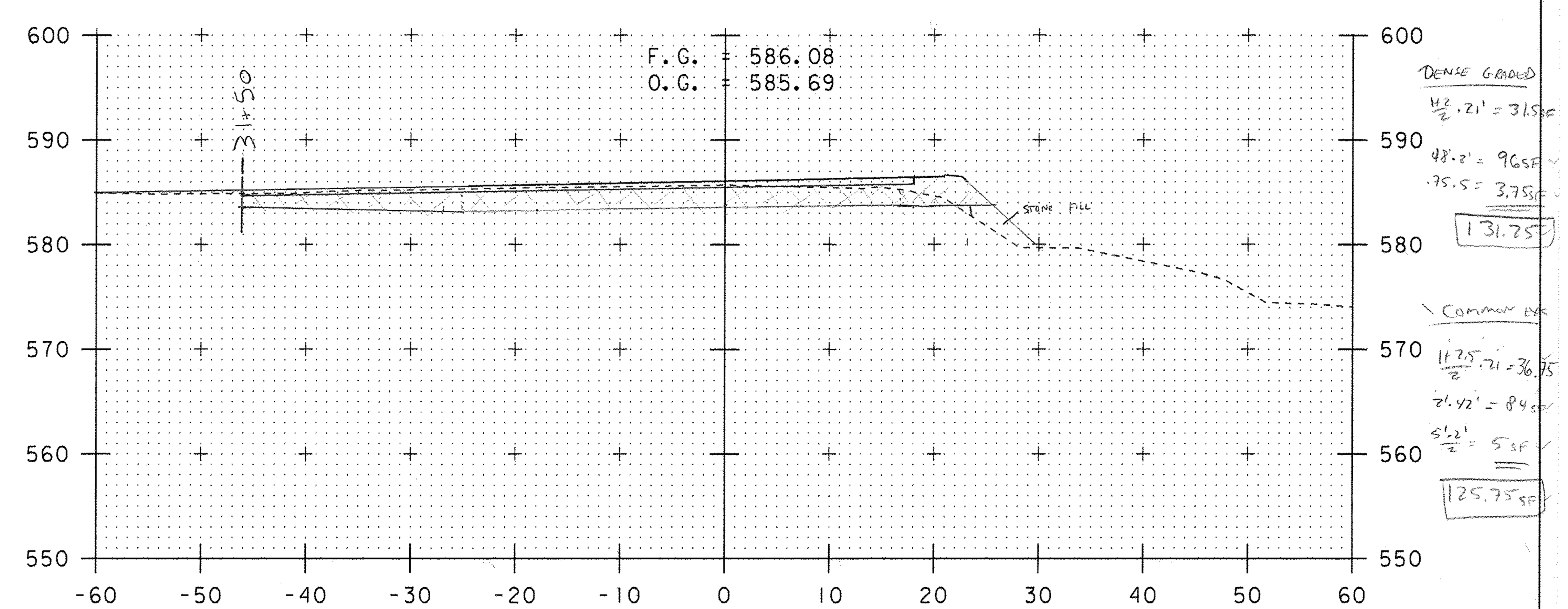
11+75



12+25



11+50 BEGIN SUBBASE



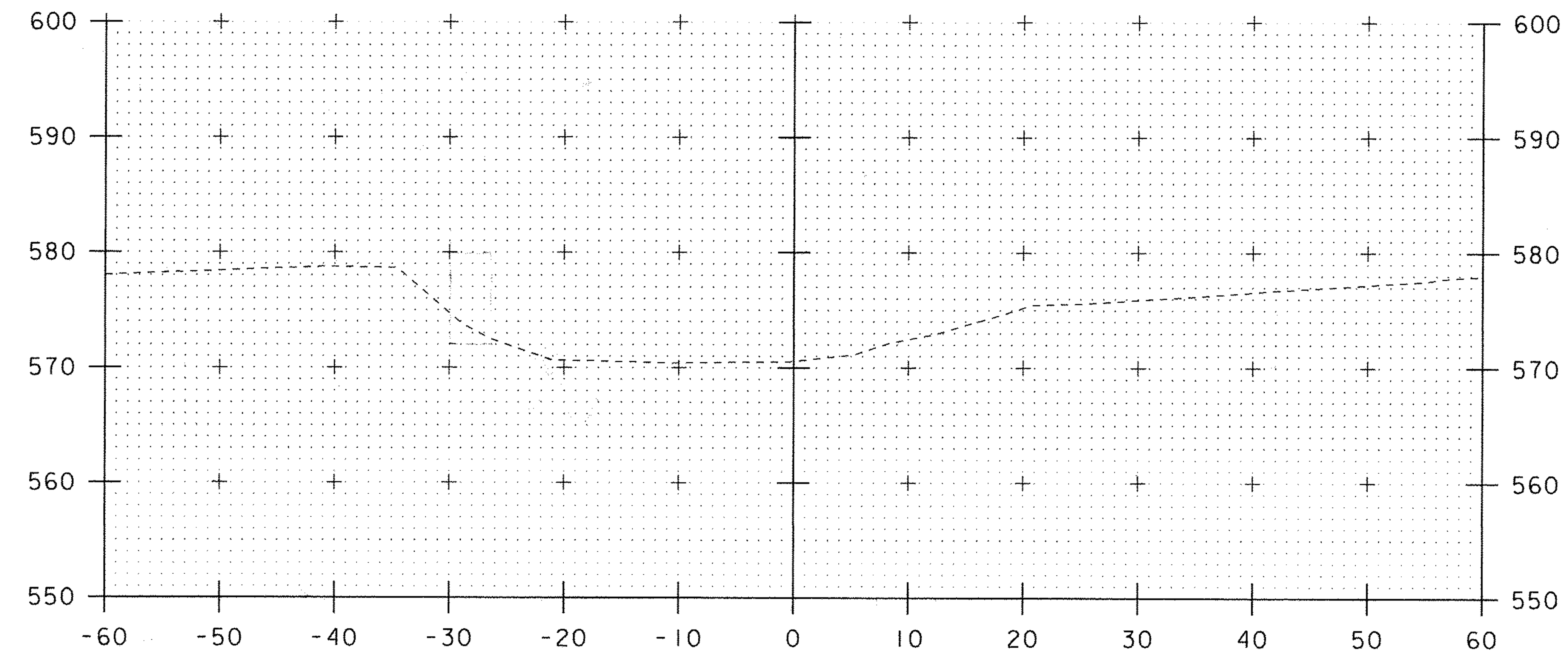
12+00

SCALE 1" = 10'-0"

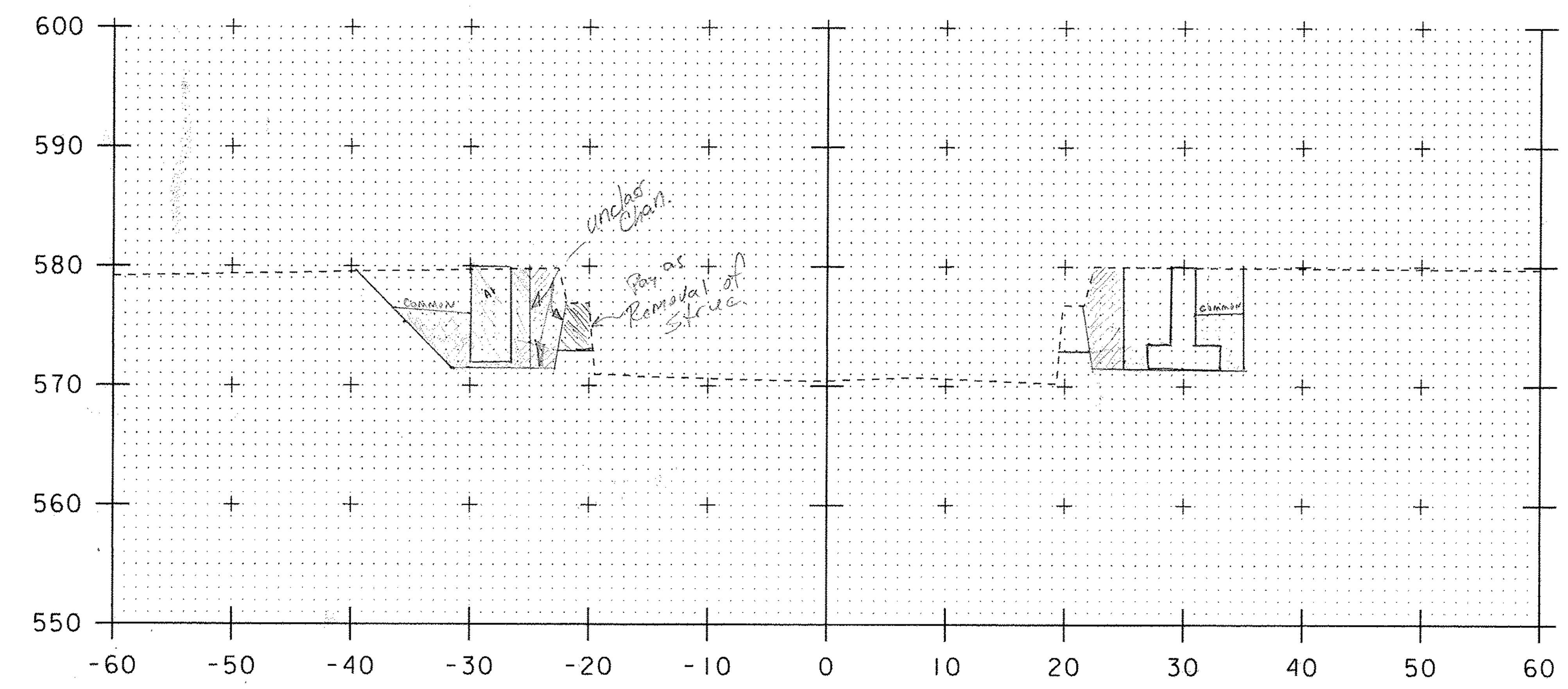
10 0 10

STA. 11+50 TO STA. 12+25

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(37)	
FILE NAME: s95b168xsl.dgn	PLOT DATE: 13-JUN-2011
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: ------
CONSTRUCTION CROSS SECTIONS	SHEET 1 OF 1

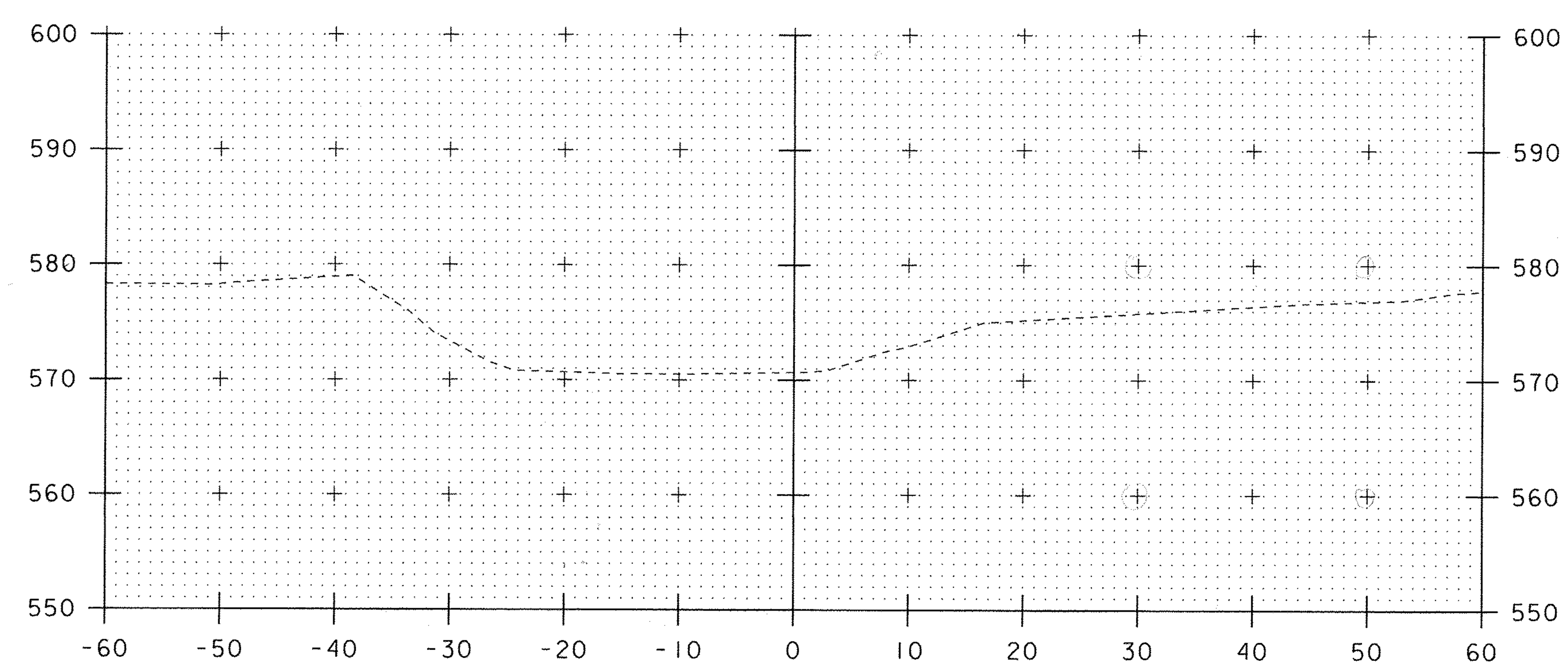


10+40

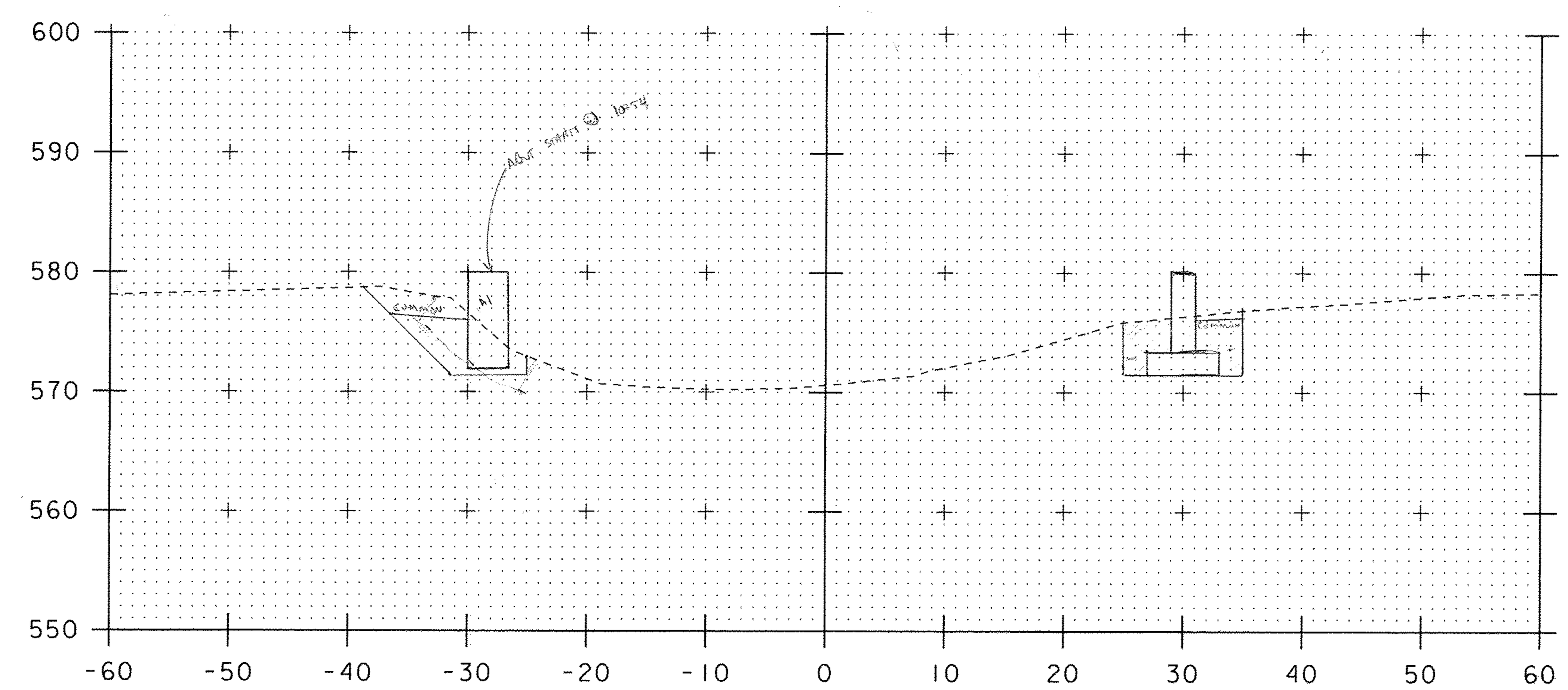


10+70

GRANULAR BACKFILL — INCLUDES GF BETWEEN OLD ABUT. & NEW
RT @ 10+70 = 2.2 + 25.4 = 14
LT @ 10+70 = 18
STRUCTURE EXC.
RT @ 10+70 = 69
LT @ 10+70 = 32.5
UNCLASSIFIED CHANNEL
RT @ 10+70 = 8.5 · 3 = 25.5
LT @ 10+70 = 23.4



10+30



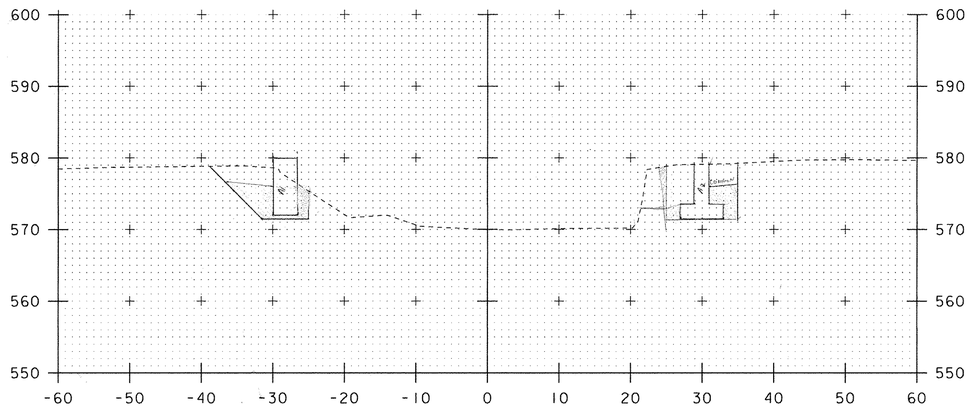
~~10+50~~ 10+54

STRUCTURE STARTS

GRANULAR BACKFILL
RT @ 10+52 = 42.5
RT @ 10+54 = 25.5
LT @ 10+52 = 31.25
LT @ 10+54 = 20.75
STRUCTURE EXC.
RT @ 10+52 = 42.5
LT @ 10+52 = 31.25
UNCLASSIFIED CHANNEL STARTS @ ZERO @ 10+54

SCALE 1" = 10'-0

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(28)	
FILE NAME: s84e061/Str/xsl.dgn	PLOT DATE: 23-JUN-2011
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
CONST BR 8 CHANNEL CROSS SECTIONS 1	SHEET 1 OF 1



11+00

STRUCTURE ENDS HERE

GRANULAR BACKFILL :

RT @ 11+00
2.2 = 4 ✓
+2.5.4 ×10 ✓ = 14 ✓ 16

RT @ 11+02
= 14 + (2.6) = 26 ✓ 28

LT @ 11+00
3.5.5 = 1.75 ✓
1.5+6.5/2 · 4.5 = 18 ✓
19.75 ✓ 22

LT @ 11+02
19.75 + (8.5·½) =
32.75 ✓ 44

STRUCTURE EXC :

RT @ 11+02
10.75 = 75 ✓
75 − (7.4) = 63 ✓ 63

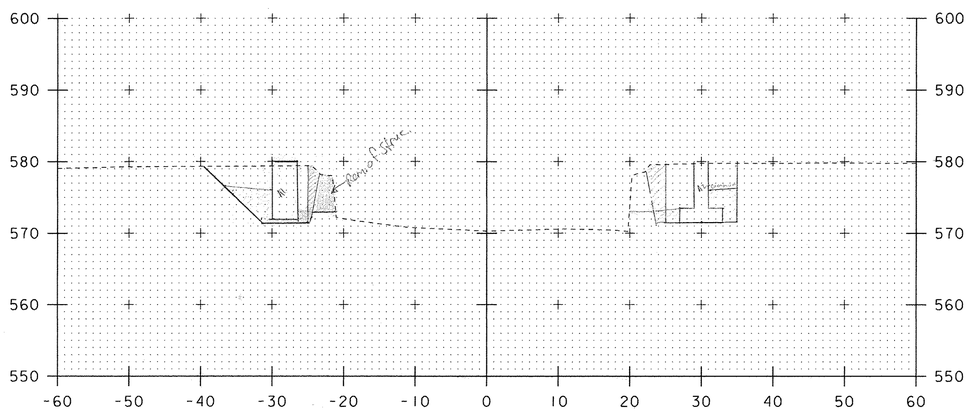
LT @ 11+02
1.5+6.5/2 · 4.5 = 18 ✓
5.5 = 25 ✓
3.3½ = 4.5 ✓
47.5 ✓ 48

UNCLASSIFIED CHANNEL

RT @ 11+00 RT
1.7.5/2 = 3.75 ✓ 4

LT @ 11+00

Planimetered by RRW



10+90

GRANULAR BACKFILL

RT @ 10+90
(2.2)+(2.5.4) = 14 ✓ 28

LT @ 10+90
SAME AS 11+00 = 19.75 ✓ 22

STRUCTURE EXC

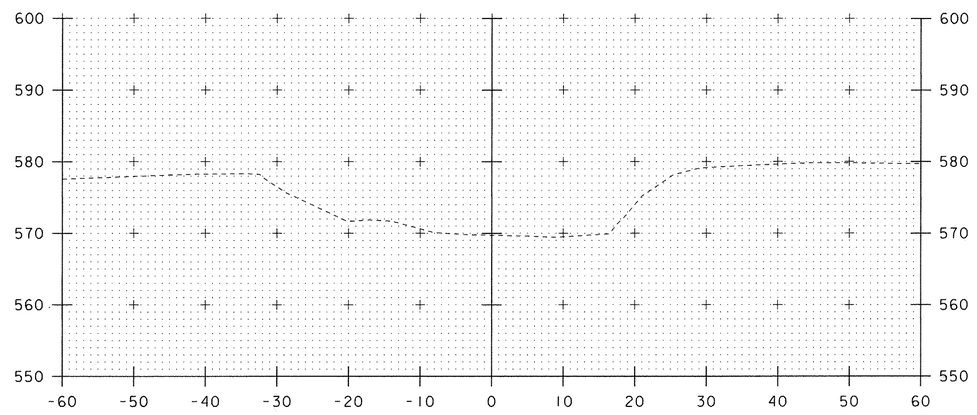
RT @ 10+90
10.8.5 = 85 ✓
85 − 12 = 73 ✓ 87

LT @ 10+90
8.5 = 40 ✓
1.5+6.5/2 · 4.5 = 18 ✓
58 ✓ 60

UNCLASSIFIED CHANNEL

RT @ 10+90
1.5+3/2 · 8 = 18 ✓ 14

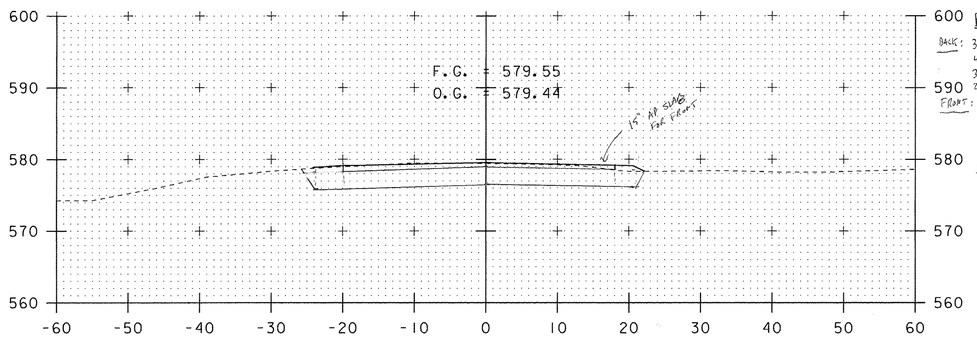
LT @ 10+90
7.5.2.½ = 7.5 ✓ 8



11+10

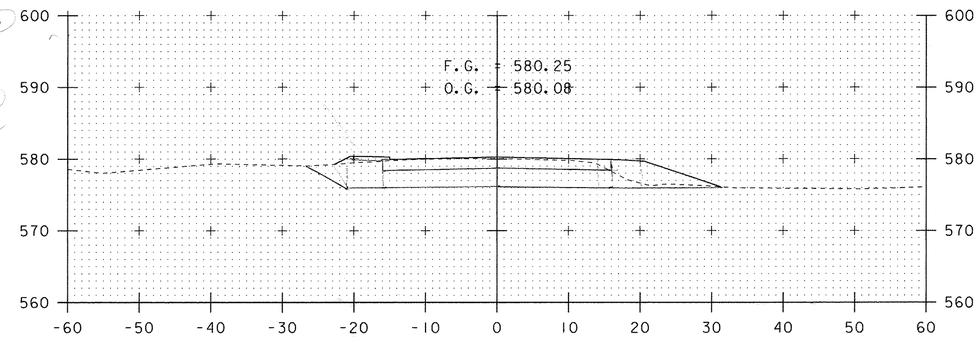
SCALE 1" = 10'-0
10 0 10

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(28)	
FILE NAME: s84e061/Str/xsl.dgn	PLOT DATE: 23-JUN-2011
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
CONST BR 8 CHANNEL CROSS SECTIONS 2	SHEET 1 OF 1



DENSE GRADED (120)
BACK: 38'.2.5' = 95
4'.3' = 12
3'.3.5' = 10.5
2'.1.5' = 3
FRONT: 38'.1.58' = 60.04 (60)
4'.3' = 12
7'.3.5' = 10.5
2'.1.5' = 3
85.5
COMMON EXC
45'.3' = 135
130

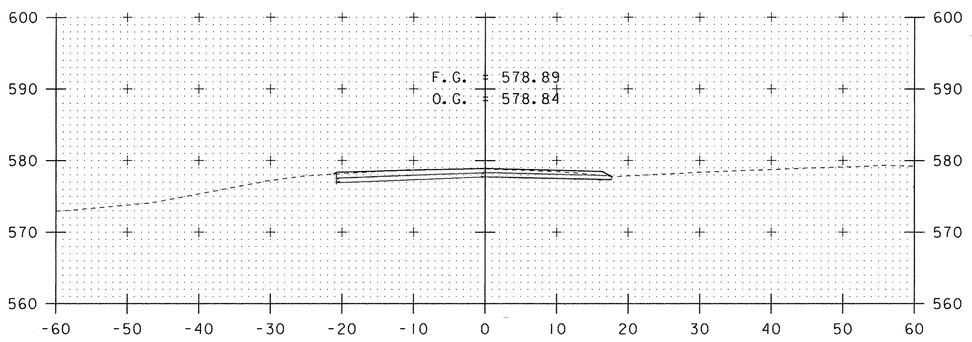
25+33 START OF A.P. SLAB



DENSE GRADED (ends @ 15)
2.5'.32' = 80
5'.4' = 20
3.5.6.½ = 10.5
4'.4' = 16
4.10.½ = 20
146.5
145
COMMON EXC (ends @ 15)
35'.4' = 140
6'.3.5'.½ = 10.5
4'.3.5' = 14
3.5.½ = 7.5
172
158

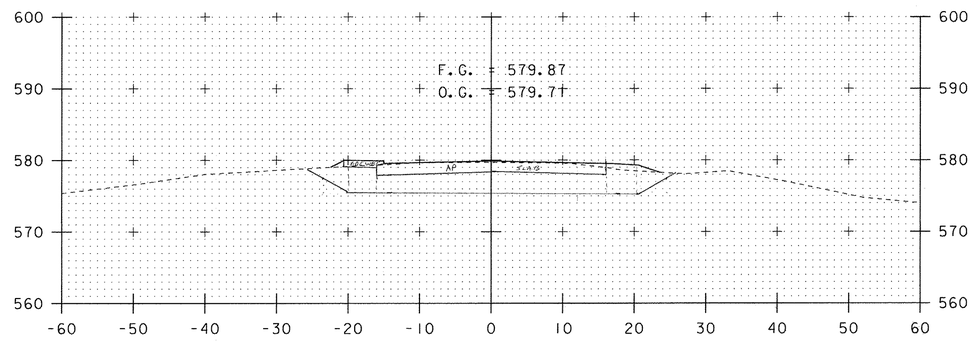
26+15

Maintained by RKW



DENSE GRADED
.5' . 38.5' = 19.25SF
32
COMMON EXC
1.175 . 21 = 23.6
1.115+.5 / 2 . 17.5 = 14.22
37.8
38

25+00

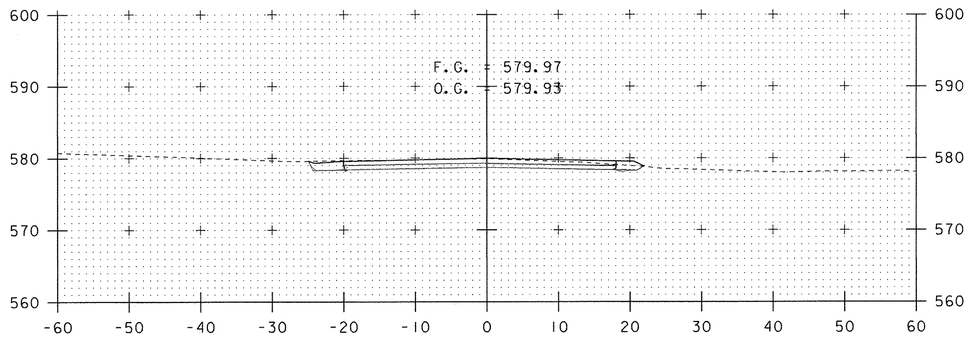


DENSE GRADED (ends @ 52)
32'.2.5' = 80
4'.3.5' = 14
4'.4' = 16
4'.5'.½ = 10
6'.3'.½ = 9
129
139
COMMON EXC (ends @ 52)
4'.32' = 128
6'.3'.½ = 9
4½+3' / 2 . 8 = 28
3.5.½ = 7.5
172.5
160

25+50 / 25+52

SCALE 1" = 10'-0
10 0 10

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(28)	
FILE NAME: s84e061/Str/xsl.dgn	PLOT DATE: 23-JUN-2011
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
CONST BR 8 MAINLINE CROSS SECTIONS 1	SHEET 1 OF 1



26+50

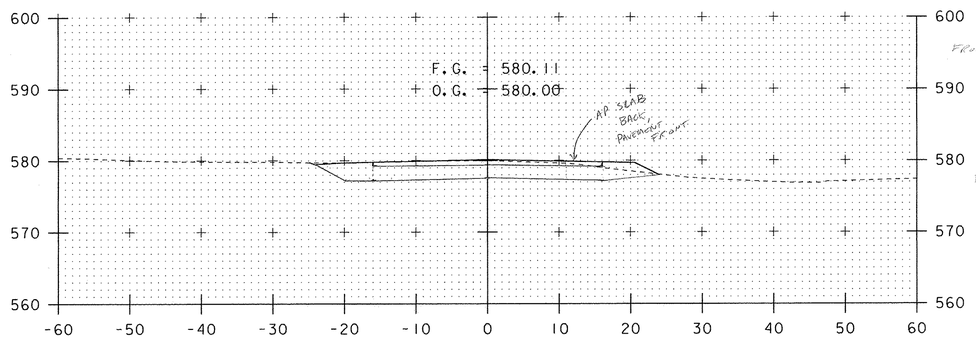
DENSE GRADED (ENDS @ 26+50)

.5 · 38 = 19 ✓
4 · 1.5 = 6 ✓
1.75 · 3 = 5.25 ✓
30.25 ✓ (31)

COMMON EXC (ENDS @ 26+50)

1.125 · 25 = 28.125 ✓
$\frac{1.125+5}{2}$ · 21 = 17.1 ✓
45.2 ✓ (60)

Photocopied by RPW



26+34

DENSE GRADED

FRONT: 21' · 32 = 67.2 ✓
2.75 · 4 = 11 ✓
3.8 · ½ = 12 ✓
2.5 · 4 · ½ = 5 ✓
95.2 ✓ (92)

BACK
1.1' · 32 = 35.2 ✓ ~15
2.75 · 4 = 11 ✓
3.8 · ½ = 12 ✓
2.5 · 4 · ½ = 5 ✓
63.2 ✓ (51)

COMMON EXC

25 · 31 = 85.25 ✓
2.75 · 4 · ½ = 5.5 ✓
2.75 · 13 · ½ = 17.8 ✓
108.5 ✓ (105)

SCALE 1" = 10'-0
10 0 10

PROJECT NAME: CHESTER	
PROJECT NUMBER: BRF 025-1(28)	
FILE NAME: s84e061/Str/xsl.dgn	PLOT DATE: 23-JUN-2011
PROJECT LEADER: C.P.WILLIAMS	DRAWN BY: D.D.BEARD
DESIGNED BY: R.S.YOUNG	CHECKED BY: R.S.YOUNG
CONST BR 8 MAINLINE CROSS SECTIONS 2	SHEET 1 OF 1

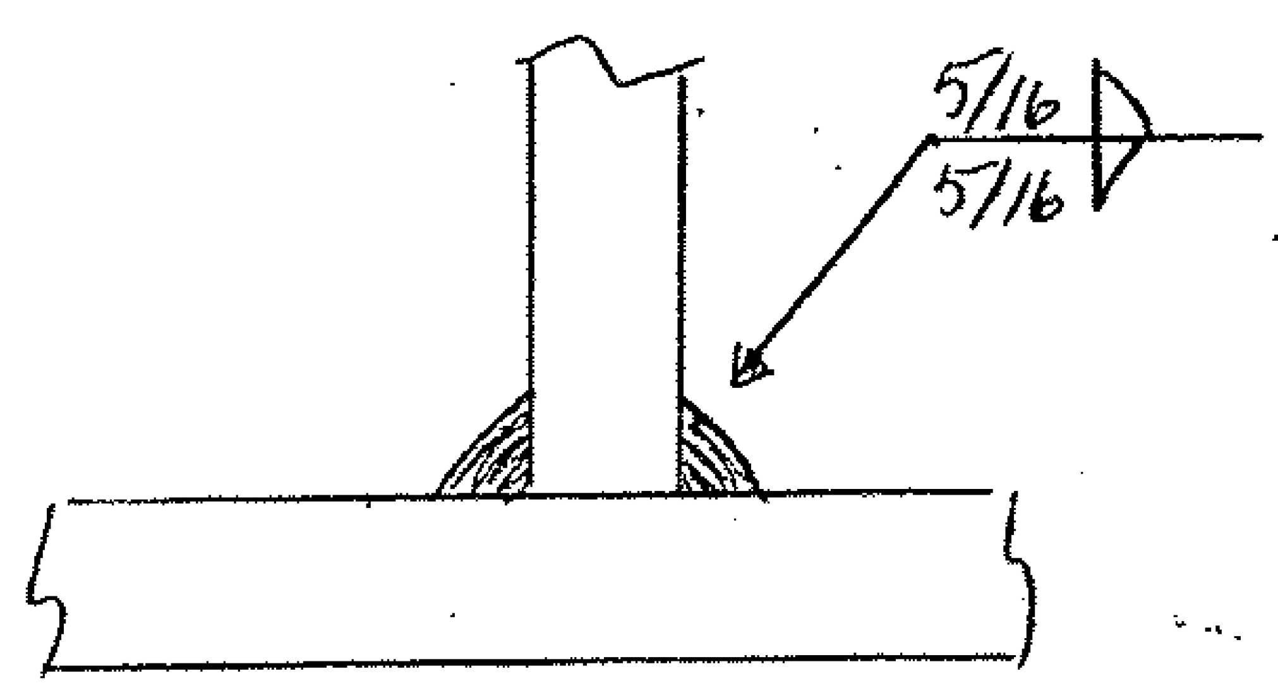
Casco Bay Steel Structures, Inc.
75 Spring Hill Road
Saco, Maine 04072
Phone: (207) 282-7360
Fax: (207) 282-117[illegible]

WELDING PROCEDURE SPECIFICATION

Material specification ASTM-709-Gr36-50-50W/A709M Gr 250-345-345W
Welding process Flux Cored Arc welding (FCAW)
Manual or machine Semi AUTO
Position of welding FlaT - Horizonal
Filler metal specification AWS A5-29
Filler metal classification E81T1-Ni1-H4 ESAB
Flux NA
Shielding gas 75% AR - 25% CO_2 Flow rate 35 CFH +8 -4
Single or multiple pass Single / Multiple Elec Ex 5/8 ± 1/4
Single or multiple arc Single
Welding current DC
Polarity DCEP
Welding progression See deTail
Root treatment wire brush - area To be Free of loose Scale, Slag, rust & Moisture
Preheat and interpass temperature To 20mm (3/4) 10 (50), 20+ (3/4+) To 40 (1½) 20 (70), 40+ (1½) To 60 (2½) 65 C (15[illegible] over 60 (2½) 110 (225)
Postheat temperature NA
Heat Input Min 27.7 KJ/in Max 43.6 KJ/in PQR FCM #8 39.6 KJ/in

WELDING PROCEDURE

VT-AOT Chester
Br No. 9 - Proj No. BRF0251 37
AWS 5-13
CBSS No 476
AWS D1-5

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed	Joint detail: FilleT
		287	29	13	
	1/16	258 To 315	26.8 To 31	11.4 To 14	

VTrans RECEIVED
CK BY ____ OK BY JWC
DEC 16 2010
RESUBMIT ____ APPROVED ✓
BY ____ DATE 12/16/10

AWS QC 1 PAUL E. GOODALE 03100201 CWI

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 101
Revision no.
Contractor Casco Bay STeel
Authorized By Paul E. Goodale
Date 12-6-06

Form III-2

Casco Bay Steel Structures, Inc.

WELDING PROCEDURE SPECIFICATION

Material specification ASTM 709 - Gr 36-50-50W
Welding process Submerged Arc welding
Manual or machine Machine
Position of welding FlaT + HorizonTal
Filler metal specification A5-23
Filler metal classification F8A2-ENIK-Ni1-H8
Flux Lincoln 960 - ElecTrode LA-75
Shielding gas NA Flow rate NA
Single or multiple pass BoTh
Single or multiple arc single
Welding current DC
Polarity DCEP
Welding progression See DeTail
Root treatment grind-wirebrush-Free of Mill scale, Slag-RusT & MoisTure
Preheat and interpass temperature See Table
Postheat temperature As Req
Heat Input Min 39.8 Max 62.5 FCM 14-56.8 KJ/in

VTRANS
RESUBMIT ___ APPROVED ✓
BY
DATE 12/16/10

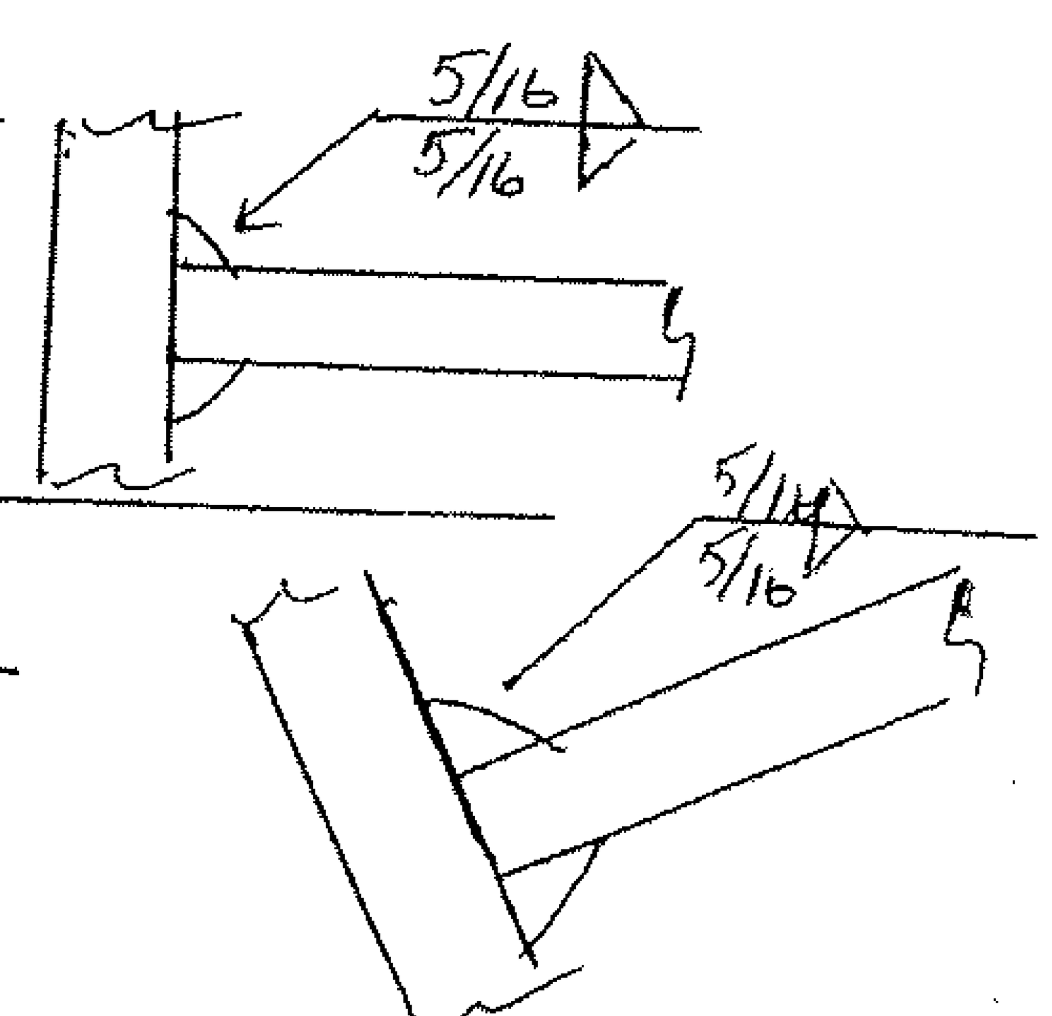
VT-AOT Chester
Br No, 9 - Proj No. BRF0251-37
CBSS NO 476

Minimum Preheat and Interpass Temperature, °C [°F]

Welding Process (Base Metal)	To 20 mm [3/4 in] Incl.	Over 20 mm [3/4 in] to 40 mm [1-1/2 in] Incl.	Over 40 mm [1-1/2 in] to 65 mm [2-1/2 in] Incl.	Over 65 mm [2-1/2 in]
	Thickness of Thickest Part at Point of Welding, mm [in]			
SAW; GMAW; FCAW; SMAW (M270M [M270] [A 709M (A 709)] Gr. 250 [36], 345 [50], 345W [50W], HPS 345W [HPS 50W])	10 [50]	20 [70]	65 [150]	110 [225]
SAW; GMAW; FCAW; SMAW (M270M [M270] [A 709M (A 709)] Gr. HPS 485W [HPS 70W], 690 [100], 690W [100W])*	10 [50]	50 [125]	80 [175]	110 [225]

WELDING PROCEDURE

Pass no.	Electrode size	Welding current Amperes	Welding current Volts	Travel speed	Sec, 5-13 AWS D1-5 Joint detail FilleT
AS REQ	5/32	600	30	19	2F
		640 TO 560	32 TO 28	21 TO 17	1F



This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 201-A
Revision no.

Contractor Casco Bay STeel
Authorized By Paul E. Fourdulo
Date 1-11-10

Casco Bay Steel Structures, Inc.

WELDING PROCEDURE SPECIFICATION

Material specification A S T M 709 - Gr 36 - 50 - 50W
Welding process Submerged Arc Welding
Manual or machine Machine
Position of welding Flat + Horizontal
Filler metal specification A5-23
Filler metal classification F8A2-ENIK-Ni1-H8
Flux Lincoln 960 - ElecTrode LA-75
Shielding gas NA Flow rate NA
Single or multiple pass Both
Single or multiple arc Single
Welding current DC
Polarity DC EP
Welding progression See Detail
Root treatment grind-wirebrush-Free of Mill scale, Slag-RUST & MoisTure
Preheat and interpass temperature See Table
Posfheat temperature AS REQ
Heat Input Min 39.8 Max 62.5 FCM 14 - 56.8 KJ/in

VTRANS
JWC
DEC 13 2010
RESUBMIT APPROVED ✓
BY DATE 12/16/10

Minimum Preheat and Interpass Temperature, °C [°F]

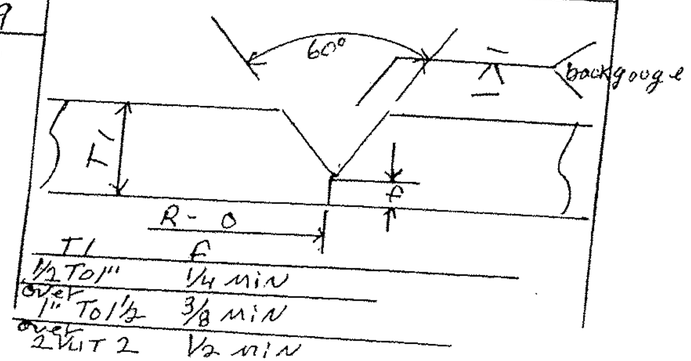
Welding Process (Base Metal)	To 20 mm [3/4 in] Incl.	Over 20 mm [3/4 in] to 40 mm [1-1/2 in] Incl.	Over 40 mm [1-1/2 in] to 65 mm [2-1/2 in] Incl.	Over 65 mm [2-1/2 in]
		Thickness of Thickest Part at Point of Welding, mm [in]		
SAW; GMAW; FCAW; SMAW (M270M [M270] [A 709M (A 709)] Gr. 250 [36], 345 [50], 345W [50W], HPS 345W [HPS 50W])	10 [50]	20 [70]	65 [150]	110 [225]
SAW; GMAW; FCAW; SMAW (M270M [M270] [A 709M (A 709)] Gr. HPS 485W [HPS 70W], 690 [100], 690W [100W])*	10 [50]	50 [125]	80 [175]	110 [225]

VT-AOT Chester
Br.NO.9 - ProjNO. BRF 025137
CBSS NO 476

WELDING PROCEDURE

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed
		600	30	19
AS REQ	5/32	640 TO 560	32 TO 28	21 TO 17

Sec. 5-13
AWS D1-5 Joint detail B-L2C-S



This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 202-A
Revision no.

Contractor Casco Bay Steel
Authorized By Paul E. Goodwin
Date 1-11-10

Casco Bay Steel Structures, Inc.

WELDING PROCEDURE SPECIFICATION

Material specification A S T M 709 - Gr 36-50-50W

Welding process Submerged Arc welding

Manual or machine Machine

Position of welding FlaT + HorizonTal

Filler metal specification A5-23

Filler metal classification F8A2-ENIK-Nil-H8

Flux Lincoln 960 - ElecTrode LA-75

Shielding gas NA Flow rate NA

Single or multiple pass BoTh

Single or multiple arc Single

Welding current DC

Polarity DCEP

Welding progression See DeTail

Root treatment grind-wirebrush-Free of Mill scale, Slag-RusT & MoisTure

Preheat and interpass temperature See Table

Postheat temperature As Req

Heat Input Min 39.8 Max 62.5 FCM 14-56.8 KJ/in

Minimum Preheat and Interpass Temperature, °C [°F]

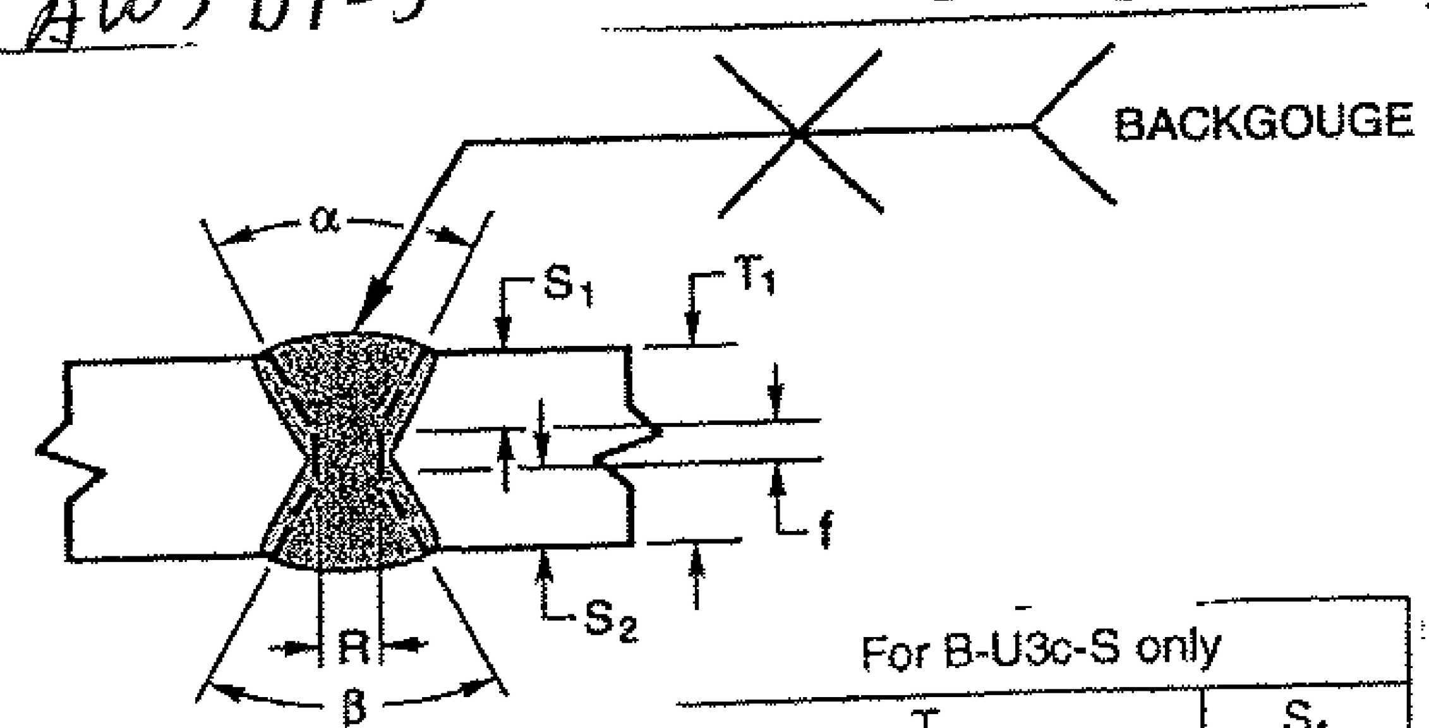
VT-AOT Chester
Br No, 9 - Proj No. BRF0251-37
CBSS No 476

Welding Process (Base Metal)	To 20 mm [3/4 in] Incl.	Thickness of Thickest Part at Point of Welding, mm [in]: Over 20 mm [3/4 in] to 40 mm [1-1/2 in] Incl.	Over 40 mm [1-1/2 in] to 65 mm [2-1/2 in] Incl.	Over 65 mm [2-1/2 in]
SAW; GMAW; FCAW; SMAW (M270M [M270] [A 709M (A 709)] Gr. 250 [36], 345 [50], 345W [50W], HPS 345W [HPS 50W])	10 [50]	20 [70]	65 [150]	110 [225]
SAW; GMAW; FCAW; SMAW (M270M [M270]				

Pass no.	Electrode size	Welding current: Amperes	Volts	Travel speed
		600	30	19
AS REQ	5/32	640 TO 560	32 TO 28	21 TO 17

Sec. 5-13
AWS D1-5

Joint detail B-U3c-S



For B-U3c-S only

T_1 Over	T_1 to	S_1
2	2-1/2	1-3/8
2-1/2	3	1-3/4
3	3-5/8	2-1/8
3-5/8	4	2-1/2
4	4-3/4	2-3/4
4-3/4	5-1/2	3
5-1/2	6-1/4	3-3/4

For $T_1 > 6\text{-}1/4$ or $T_1 \leq 2$
$S_1 = 2/3 (T_1 - 1/4)$

VTRANS
CK BY JUC
DEC 15 2010
RESUBMIT ____ APPROVED ✓
BY DATE 12/16/10

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 202-B

Revision no.

Contractor Casco Bay Steel

Authorized By Paul E. Goodale

Date 12-10-2010

75 Spring Hill Road
Saco, Maine 04072

Phone: (207) 282-7360

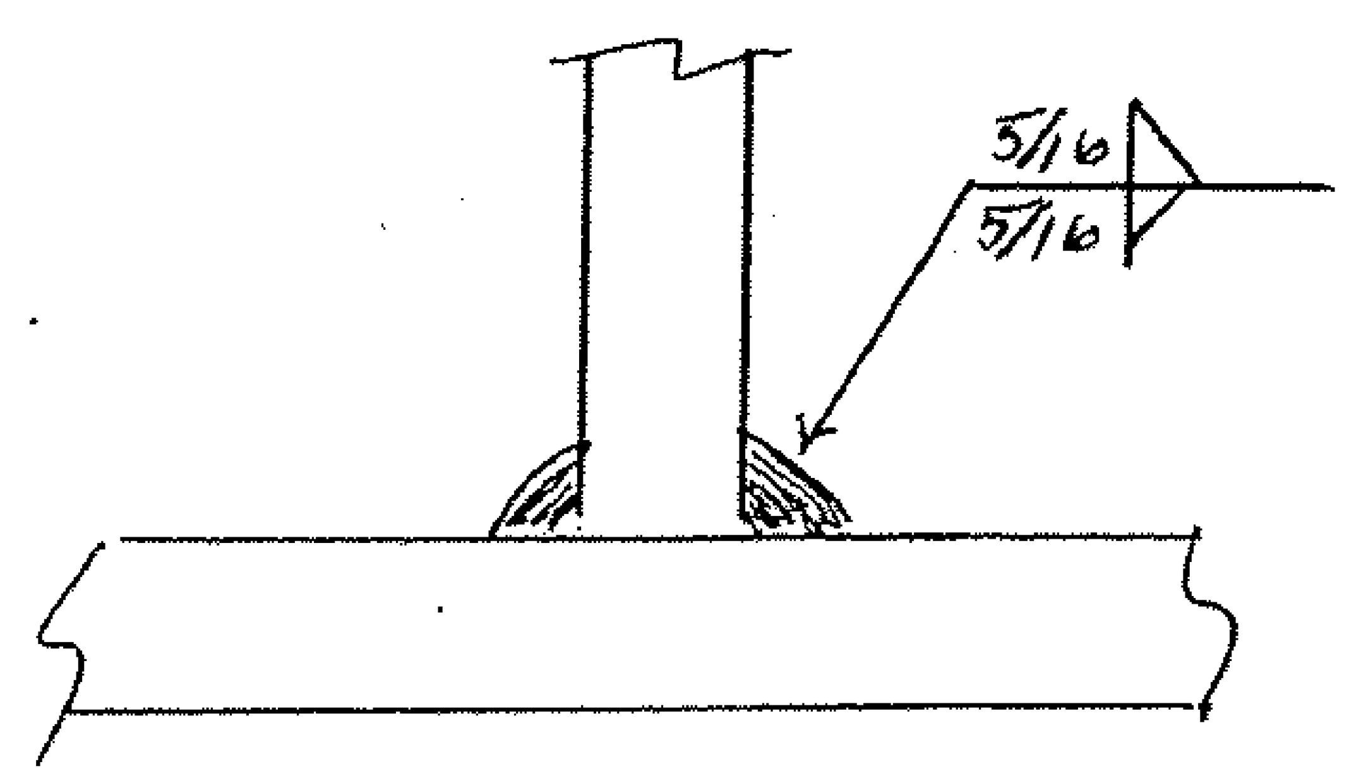
Fax: (207) 282-117

WELDING PROCEDURE SPECIFICATION

Material specification ASTM-A709/A709M Gr36(250) - A50(345) - A50W (345)
Welding process Submerged Arc welding
Manual or machine Machine
Position of welding Horizontal (2F)
Filler metal specification AWS A5-23
Filler metal classification F8A2-ENi1K-Ni1 Lincoln
Flux Lincoln 960 with LA75 Elec.
Shielding gas NA Flow rate NA
Single or multiple pass Single
Single or multiple arc Single
Welding current DC
Polarity DCEN
Welding progression See Joint Detail
Root treatment Blast clean - wire brush - Free of loose scale & Moisture
Preheat and interpass temperature 3/4-50F, 3/4 To 1 1/2-70F, 1 1/2+ To 2 1/2-150F over 2 1/2-225
Postheat temperature NA
Heat Input Min 30.3 KJ/in Max 47.6 KJ/in PQR-FCM #9-43.3 KJ/in

WELDING PROCEDURE

VT-AOT Chester
Br No. 9 - Proj No. BRF0251-37
AWS 5-13
CBSS No 476
AWS D1-5

Pass no.	Electrode size	Welding current Amperes	Welding current Volts	Travel speed	Joint detail Fillet
		293	32	13IPM	
	3/32	270 To 322	30 To 34	11 To 14	

VTRANS
APPROVED BY JWC
2010
RESUBMIT ___ APPROVED ✓
BY ___ DATE 12/16/10

AWS QC 1
PAUL E. GOODALE
03100201
CWI

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 250
Revision no.
Contractor Casco Bay Steel
Authorized By Paul E. Goodale
Date 12-6-06

Form III-2

Casco Bay Steel Structures, Inc.

5 Industry Road
South Portland, Maine 04106

hone: (207) 772-2533 Fax: (207) 772-0580

WELDING PROCEDURE SPECIFICATION

Material specification ASTM 709-Gr 36-50-50W (250-345-345W)
Welding process Shielded Metal Arc Welding (SMAW)
Manual or machine Manual
Position of welding Flat (1F), Horizontal (2F)
Filler metal specification ANSI/AWS A5.1 - A5.5
Filler metal classification E7018 - 8018 C1/C3 - 7028
Flux NA
Shielding gas NA Flow rate NA
Single or multiple pass Single and multiple
Single or multiple arc Single
Welding current AC/DC
Polarity STraight / Reverse
Welding progression
Root treatment Meet AWS SPECIFICATION
Preheat and interpass temperature To 3/4(19) 50°F(10°) 3/4(19) To 1 1/2(38) 70°(20°) 1 1/2(38) To 2 1/2(63.5) 150°F(65°) over 2 1/2(63.5) 225°F(110°)
Posfheat temperature NA
Heat Input Min NA Max NA

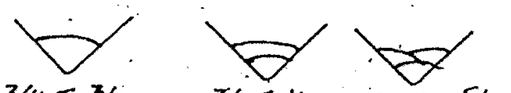
VT-AOT Chester
Br NO.9 - Proj NO. BRF025137
CBSS NO 476

(metric) WELDING PROCEDURE

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed
AS REQ.	2018 1/8 (3.2)	70-170	22-26	AS REQ
	5/32 (3.9)	120-225	22-26	
	3/16 (4.8)	170-300	24-27	
	8018 1/8 (3.2)	90-160	22-26	
	5/32 (3.9)	120-225	22-26	
	3/16 (4.8)	180-290	24-27	
	7028 5/32 (3.9)	170-290	22-26	
	3/16 (4.8)	210-330	24-27	

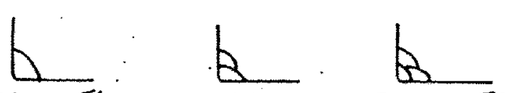
AWS D1.5 Joint detail Fillet

1F



3/16 To 3/8 (5 To 10) | 3/8 To 1/2 (10 To 13) | 1/2 To 5/8 (13 To 16)

2F



3/16 To 5/16 (5 To 8) | 3/8 (10) | 7/16 To 5/8 (11 To 16)

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable AWS codes or contract specifications

AWS QC 1 PAUL E. HOODALE 05100201 CWI

Procedure no. 401
Revision no.
Form III-2

Contractor Casco Bay Steel
Authorized By Paul E. Hoodale
Date 8/25/10

VERMONT

State of Vermont
PDD/Structures Design Section
One National Life Drive
Montpelier, VT 05633-5001
www.aot.state.vt.us

[phone] 802-828-2621
[fax] 802-828-3566
[ttd] 800-253-0191

Agency of Transportation

April 11, 2011

The Fort Miller Company, Inc.
P.O. Box 98
Schuylerville, NY 12871

Re: Chester BRF 025-1(28) VT 103, Bridge 8

We have reviewed the Precast Concrete Approach Slab details [Item #900.620, Special Provision (Precast Approach Slab, Super-Slab)(Bridge 8)] for the above project (Vendor's Job #12511) received in this office on 4/4/11.

All sheets (S1 – S3) are Approved or Approved As Noted. Please see the comments in red on the attached drawings.

Advance notification as specified in Subsection 540.06 must be provided. Any material fabricated prior to the notification date or receipt of the approved drawings, is subject to rejection without further cause.

Please let me know if you have questions.

Sincerely,

Christopher P. Williams, P.E.
Structures Project Manager

Attachments
cc: [X] Resident Engineer – Jeremy Reed
[X] Concrete Inspector – Jim Wild
[X] Contractor – Cold River Bridges
[X] Materials & Research (C&IA Unit) - letter only
[X] Construction Division - letter only
[X] Files (CPW)

VTrans Working to Get You There
Vermont Agency of Transportation

GENERAL NOTES:

1) FINE GRADING OF EXISTING SUBBASE SHALL BE COMPLETED BY CONTRACTOR WITH A $\frac{1}{8}$" TOLERANCES TO FOLLOW (SUPER-SLAB™) SYSTEM GRADING TOLERANCES.
2) CONTRACTOR SHALL INSTALL PRECAST CONCRETE APPROACH SLABS (SUPER-SLAB™) IN ACCORDANCE WITH ITEM# 900.620
3) CONTRACTOR TO CLEAN AND FILL CRACKS AND JOINTS IN ACCORDANCE WITH CONTRACT PLANS.
4) CONTRACTOR SHALL PROVIDE AND INSTALL PRECAST CONCRETE APPROACH SLAB BEDDING & DOWEL GROUT.
5) POSITION OF REINFORCEMENT TO BE MAINTAINED WITH THERMOPLASTIC CHAIRS OR PLASTIC TIPPED BOLSTERS.
6) FABRICATION OF PRECAST APPROACH SLABS SHALL CONFORM TO ITEM# 900.620.
7) FORT MILLER TO PROVIDE PRECAST CONCRETE (SUPER-SLAB™) INSTALLATION & GRADING MANUALS TO THE CONTRACTOR.

CONCRETE DATA:

CONCRETE COMPRESSIVE STRENGTH:

28-DAY STRENGTH = 5,000 psi
STRIPPING STRENGTH = ~~3,500 psi~~ 3,000 psi.

MIX DESIGN:

MIX CODE: SP249
SUBMITTED UNDER SEPARATE COVER.

CURING:

ALL SUPER-SLAB APPROACH SLAB WILL BE PRECAST INSIDE A FULLY ENCLOSED, HEATED BUILDING. THEREFORE, DURING THE CASTING, CURING AND STRIPPING PHASES THE UNITS WILL NOT BE SUBJECTED TO DIRECT SUNLIGHT, DRYING WINDS OR AMBIENT TEMPERATURES OUTSIDE OF THE 50°F – 80°F RANGE.

AFTER EACH OF THE SLABS ARE CAST AND AS SOON AS THE LAST FINISHING OPERATION IS COMPLETED THE TOP-IN-FORM SURFACE OF THE UNITS WILL BE COVERED WITH ONE (1) LAYER OF WHITE POLYETHYLENE FILM SUPPORTED IN SUCH A WAY AS TO PREVENT ANY MARRING OF THE UNITS' TOP SURFACES.

ALL OF THE UNITS WILL REMAIN IN THE CASTING FORM(S) WITH THE WHITE POLYETHYLENE FILM COVERING THEIR TOP SURFACES UNTIL THE UNITS HAVE REACHED ~~70%~~ 60% OF THE SPECIFIED 28-DAY CYLINDER STRENGTH AS DETERMINED BY CYLINDERS KEPT DIRECTLY NEXT TO AND SUBJECTED TO THE SAME CONDITIONS AS THE UNITS THAT THEY REPRESENT. AFTER THIS STRENGTH HAS BEEN ATTAINED THE UNITS MAY BE REMOVED FROM THE CASTING FORMS (BUT SHALL REMAIN IN THE BUILDING) AND THEN THE TOP SURFACE OF THE SUPER-SLABS SHALL BE COVERED WITH TWO LAYERS OF APPROVED BURLAP PRE-SOAKED AND FULLY SATURATED WITH WATER. THE BURLAP SHALL THEN BE COVERED WITH ONE (1) LAYER OF LAPPED WHITE POLYETHYLENE FILM. THE BURLAP LAYERS SHALL BE KEPT CONTINUOUSLY WET USING A SOAKER HOSE ON TOP OF THE BURLAP AND BELOW THE POLYETHYLENE SHEET. THE WET BURLAP AND WHITE POLYETHYLENE SHALL REMAIN IN PLACE UNTIL THE SPECIFIED 28-DAY CYLINDER STRENGTH HAS BEEN ATTAINED. AT THAT TIME THE BURLAP AND POLYETHYLENE MAY BE REMOVED FROM THE APPROACH SLABS AND MAY BE REMOVED FROM THE BUILDING FOR STORAGE.

TOLERANCES:

ALL UNITS SHALL BE CHECKED FOR COMPLIANCE WITH THE TOLERANCES LISTED BELOW, AFTER THE UNITS HAVE COMPLETED THE CURING PHASE AND WITHIN THREE DAYS OF ACTUAL SHIPMENT. THE INSPECTOR SHALL DOCUMENT ANY UNIT WITH DIMENSIONS OUT OF TOLERANCE. ANY UNIT WHICH FAILS TO MEET THESE TOLERANCES COULD BE SUBJECT TO REJECTION.

LENGTH, WIDTH, THICKNESS: $\pm\frac{3}{16}$"
OVERALL PANEL SQUARENESS:
DIFFERENCE IN
DIAGONALS NOT TO EXCEED $\frac{3}{16}$"
EDGE SQUARENESS: $\frac{1}{8}$" IN 10" (IN RELATION
TO TOP AND BOTTOM
SURFACES)
LIFTING LOCATION: ±6"
GROUT CHANNEL LOCATION: ±4"

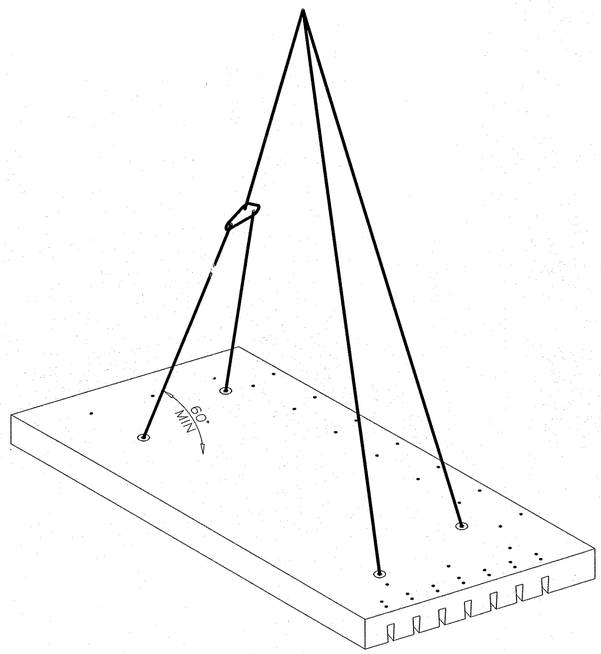
PRODUCTION SCHEDULE:

1) UNITS SHALL BE FABRICATED ON A FIVE DAY SCHEDULE. NUMBER OF UNITS TO BE PRODUCED PER DAY SHALL BE (1)±.
2) MARKING: EACH UNIT SHALL BE MARKED WITH THE FOLLOWING INFORMATION:
PROJECT#: BRF 025-1 – RTE 103
DATE CAST AGENCY: VAOT
FM PROJECT #12511 MARK#

MANUFACTURING SPECIFICATION: VAOT

FOAM GASKET REPAIR PROCEDURE:

PRIOR TO INSTALLATION, ALL PANELS SHALL BE INSPECTED BY THE CONTRACTOR FOR MISSING OR DAMAGED GASKET MATERIAL. ANY GASKET MATERIAL THAT HAS BEEN DISPLACED OR WILL OTHERWISE COMPROMISE THE GROUTING OPERATION SHALL BE REPLACED BY THE CONTRACTOR IN THE FIELD.



LIFTING SCHEME

ALL LIFTING TO BE ACCOMPLISHED USING EQUALIZATION SLINGS WHERE ALL LIFTING ANCHORS ARE TO BE ENGAGED DURING LIFTING. MINIMUM 60° SLING ANGLE REQUIRED.

SHIPPING:

1) NO UNIT SHALL BE SHIPPED UNTIL THE REQUIRED 28-DAY STRENGTH HAS BEEN ATTAINED.
2) EACH UNIT SHALL BE CLEARLY MARKED WITH THE MARKINGS DESCRIBED ABOVE UNDER "PRODUCTION SCHEDULE".
3) ALL MARKINGS SHALL BE INDELIBLE AND SHALL BE PLACED ON A SURFACE WHICH WILL NOT BE EXPOSED TO VIEW, AFTER CONSTRUCTION IS COMPLETE.

MISCELLANEOUS NOTES:

1) PANEL LIFTING INSERTS TO BE DAYTON SUPERIOR P-52 8Tx13$\frac{3}{8}$" SWIFT LIFT HDG ANCHOR.
2) LIFTING TO BE ACCOMPLISHED USING DAYTON SUPERIOR P-50 8T SWIFT LIFT LIFTING EYE.
3) ALL FEMALE END TIE BARS TO BE #6 SUPERIOR DB-SAE COUPLERS ($\frac{7}{8}$"ø-9UNC THREAD).
4) ALL MALE END TIE BARS TO BE #6 SUPERIOR DI "DOWEL-INS" ($\frac{7}{8}$"ø-9UNC THREAD).
5) CONTRACTOR SUPPLIED ITEMS INCLUDE THE FOLLOWING:
A) STRUCTURAL GROUT USED FOR TRANSVERSE & LONGITUDINAL CONNECTIONS.
B) BEDDING GROUT FOR UNDER SLAB.
C) STRUCTURAL GROUT FOR ALL LIFTING POCKETS.
D) CABLES/SHACKLES/UNEQUAL LENGTH SLINGS FOR UNLOADING & SETTING.
E) GROUT PUMP.
F) DEMO SAW TO SAW CUT JOINTS.
G) HIGHWAY JOINT SEALING MATERIAL, AS PER SPECIFICATION.
H) BOND BREAKING AGENT.
I) BACKER ROD
J) GREAT STUFF FOAM OR GROUT DAM MATERIAL.

SHIP LOOSE:

1) P-50 8T SWIFT LIFTING EYE (TO BE RETURNED) – (8) EA ITEM# 5338
2) 1" x 1" FOAM GASKET MATERIAL – (30) FT ITEM# 17863
3) FOAM GASKET GLUE – (1) QT ITEM# 21999
4) TECHNICAL SUPPORT ITEM# 7026
5) #6 DAYTON SUPERIOR D-108 HEADED EPOXY DOWEL-INS @ 6$\frac{3}{4}$" LONG – (54) EA ITEM# XXX

*ALL PRODUCTS MARKED "TO BE RETURNED" WILL BE RETURNED TO FORT MILLER VIA COMMON CARRIER AT THE EXPENSE OF THE CONTRACTOR.

RECEIVED
MAR 31 2011
COLD RIVER BRIDGES LLC

TABLE OF CONTENTS ⚠

TABLE OF UNITS

MK #	QTY ea	AREA sf	VOL cy	WT tons
S8-1	1	127.74	5.91	11.97
S8-2	1	134.37	6.22	12.59
S8-3	1	194.19	8.99	18.20
S8-4	1	177.22	8.20	16.62
S8-5	1	127.74	5.91	11.97
S8-6	1	134.37	6.22	12.59
S8-7	1	194.19	8.99	18.20
S8-8	1	177.22	8.20	16.62

RECEIVED
CKD BY LSS CKD BY RSY
APR 04 2011
RESUBMIT ____ APPROVED As Noted
BY CJW DATE 4/11/11

*SUPER-SLAB® IS PROTECTED UNDER AT LEAST ONE OF US PATENT NUMBERS; 6,607,329 B2, 6,663,315, 6,709,192 AND 6,899,489 AND OTHER U.S. AND FOREIGN PATENTS PENDING. SUPER-SLAB® IS A REGISTERED US TRADEMARK OWNED BY THE FORT MILLER CO., INC.

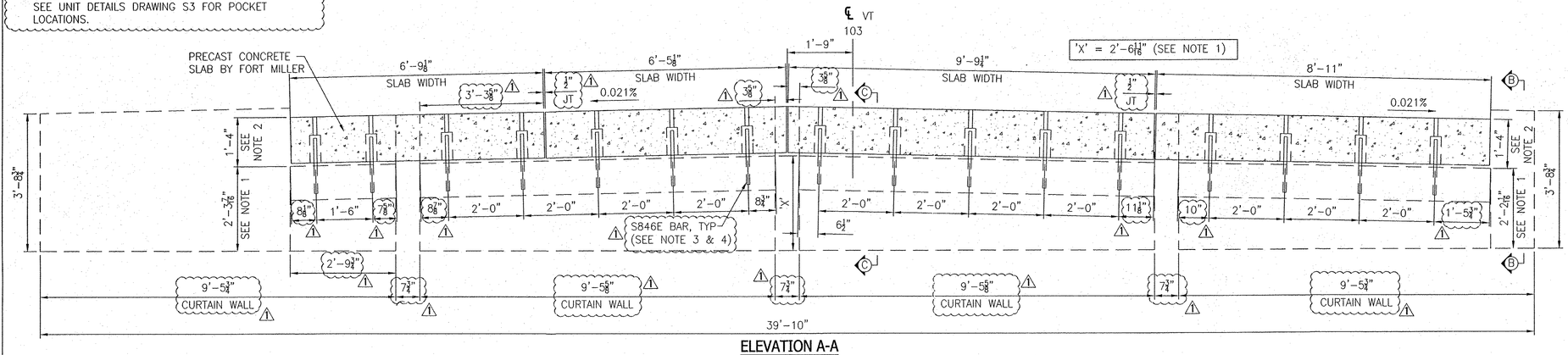
NO.	DATE	BY	REVISIONS
⚠1	3-28-11	TDS	PER ENG. COMMENTS, T.O.C., T.O.U.

THE FORT MILLER Co., Inc.
P.O. BOX 98
SCHUYLERVILLE, NY 12871
(518) 695-5000
(518) 695-4970 FAX
WWW.FORTMILLER.COM

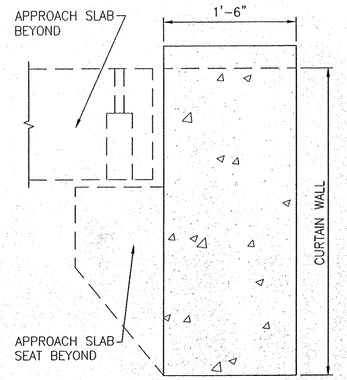
F.M. JOB NO. 12511
DATE: 2-21-11
DRN. BY: TDS
CHK. BY: SDH
SCALE: NONE
SHEET NO. 1 OF 3
DWG. NO. S1

PROJECT LOCATION: TOWN OF CHESTER - ROUTE 103
PROJECT: BRF 025-1(28) - BRIDGE #8
ITEM# 900.620
SUBJECT: NOTE SHEET
CONTRACTOR: COLD RIVER BRIDGES, LLC.
CONTRACTOR ADDRESS: PO BOX 1076
WALPOLE, NH 03608
ENGINEER/ARCHITECT VAOT

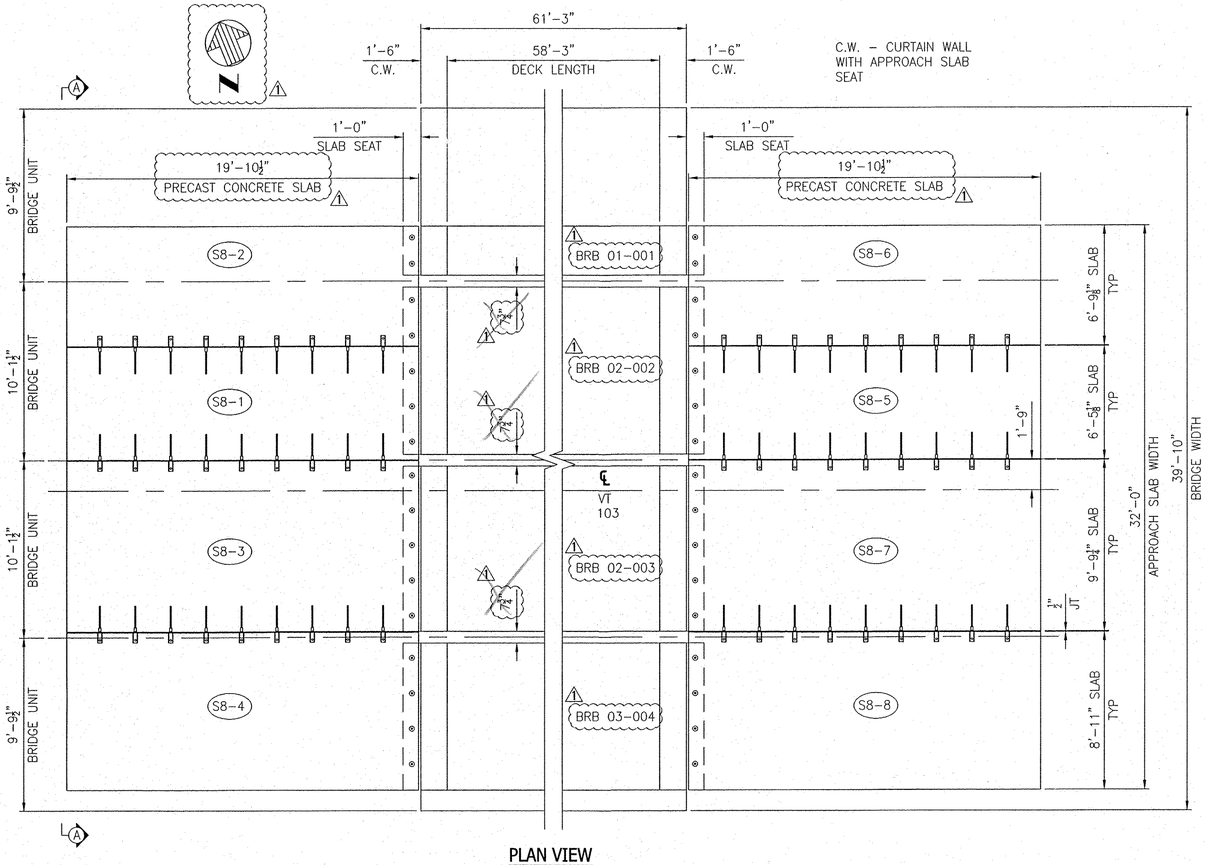
NOTES:
1. THE CURTAIN WALL APPROACH SLAB SEAT TO BE PARALLEL WITH THE TOP OF THE NEXT BEAM DECK.
2. THE APPROACH SLAB SEAT NEEDS TO BE 1'-4" DEEP FOR A 1'-3" APPROACH SLAB. SECTION C-C SHOWS THE REQUIRED SEAT DIMENSIONS.
3. ALL S846E BARS PROTRUDING FROM CURTAIN WALL TO BE PERPENDICULAR TO APPROACH SEAT.
4. DIMENSIONS SHOWN FOR THE S846E BARS ARE TAKEN ON THE CURTAIN WALLS NOT PRECAST SLABS. SEE UNIT DETAILS DRAWING S3 FOR POCKET LOCATIONS.



ELEVATION A-A



SECTION B-B
CURTAIN WALL

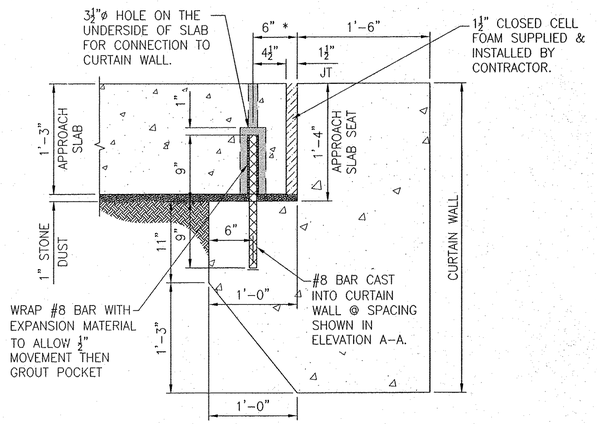


PLAN VIEW

SETTING SEQUENCE:

WEST SIDE: SEQUENTIALLY S8-1 THRU S8-4 OR S8-1, S8-3, THEN S8-2 OR S8-4 NEXT.

EAST SIDE: SEQUENTIALLY S8-5 THRU S8-8 OR S8-5, S8-7, THEN S8-6 OR S8-8 NEXT.



SECTION C-C
APPROACH SLAB SEAT
* CRITICAL DIMENSION

RECEIVED
CK'D BY [illegible] CK'D BY [illegible]
APR 0 4 2011
RESUBMIT ____ APPROVED As Noted
BY CPW DATE 4/4/11

*SUPER-SLAB® IS PROTECTED UNDER AT LEAST ONE OF US PATENT NUMBERS; 6,607,329 B2, 6,663,315, 6,709,192 AND 6,899,489 AND OTHER U.S. AND FOREIGN PATENTS PENDING. SUPER-SLAB® IS A REGISTERED US TRADEMARK OWNED BY THE FORT MILLER CO., INC.

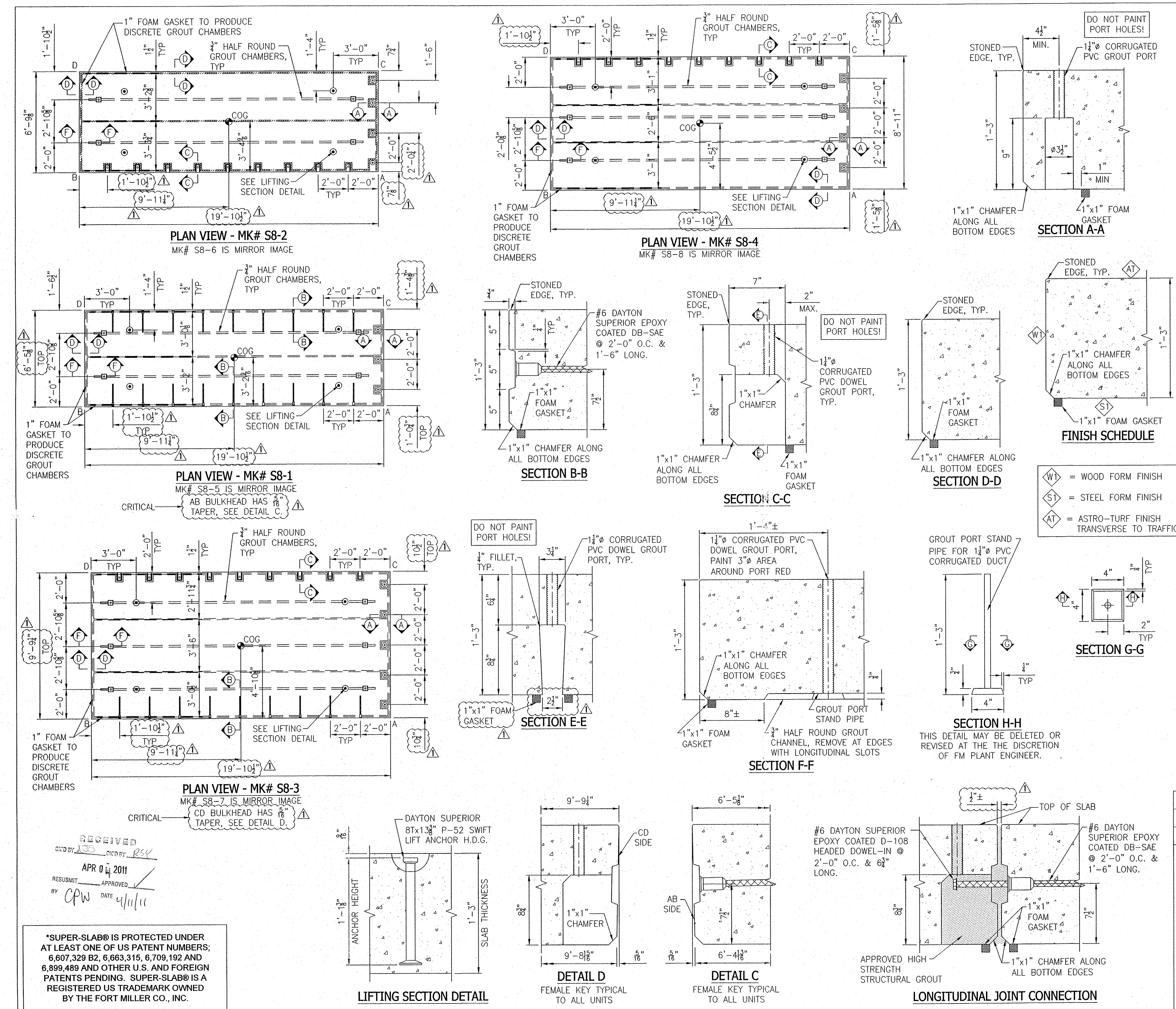
NO.	DATE	BY	REVISIONS
1	3-28-11	TDS	PER ENG. COMMENTS, ADDED NOTES & DIMENSIONS

THE FORT MILLER Co., Inc.
P.O. BOX 98
SCHUYLERVILLE, NY 12871
(518) 695-5000
(518) 695-4970 FAX
WWW.FORTMILLER.COM

F.M. JOB NO. 12511

PROJECT LOCATION: TOWN OF CHESTER - ROUTE 103
PROJECT: BRF 025-1(28) - BRIDGE #8
ITEM# 900.620
SUBJECT: PLAN, SECTION & DETAILS
CONTRACTOR: COLD RIVER BRIDGES, LLC.
CONTRACTOR ADDRESS: PO BOX 1076
WALPOLE, NH 03608
ENGINEER/ARCHITECT VAOT

DATE: 2-21-11
DRN. BY: TDS
CHK. BY: SDH
SCALE: NONE
SHEET NO. 2 OF 3
DWG. NO. S2



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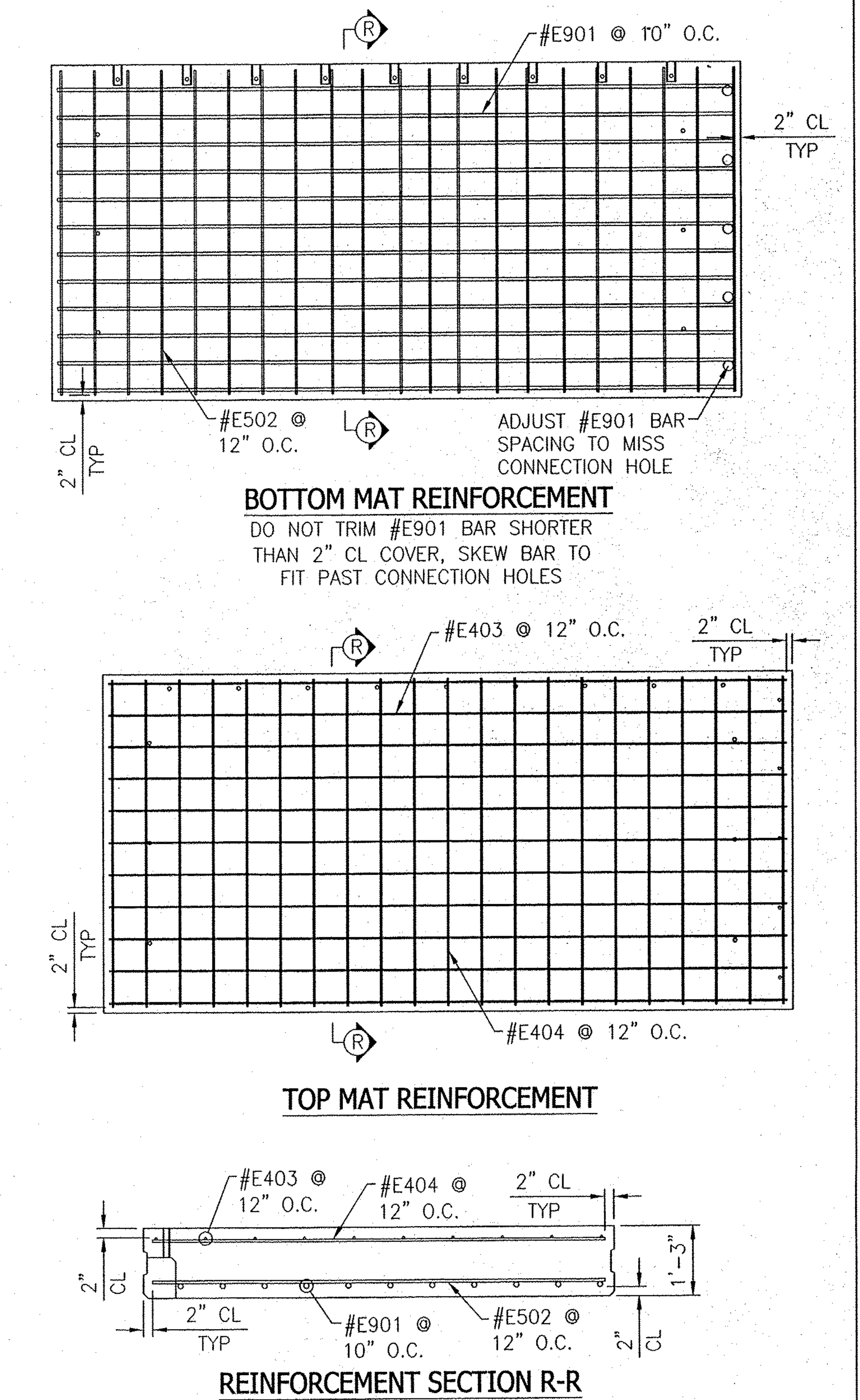


REINFORCEMENT SECTION ⚠1

	E901		E502		E403		E404	
	QTY	LENGTH	QTY	LENGTH	QTY	LENGTH	QTY	LENGTH
S8-1	9	19' 6 1/2"	21	6' 1"	8	19' 6 1/2"	21	6' 1"
S8-2	9	19' 6 1/2"	21	6' 5"	8	19' 6 1/2"	21	6' 5"
S8-3	13	19' 6 1/2"	21	9' 5 1/4"	11	19' 6 1/2"	21	9' 5 1/4"
S8-4	12	19' 6 1/2"	21	8' 7"	10	19' 6 1/2"	21	8' 7"
S8-5	9	19' 6 1/2"	21	6' 1"	8	19' 6 1/2"	21	6' 1"
S8-6	9	19' 6 1/2"	21	6' 5"	8	19' 6 1/2"	21	6' 5"
S8-7	13	19' 6 1/2"	21	9' 5 1/4"	11	19' 6 1/2"	21	9' 5 1/4"
S8-8	12	19' 6 1/2"	21	8' 7"	10	19' 6 1/2"	21	8' 7"

ALL REINFORCEMENT IS EPOXY COATED.

NO.	DATE	BY	REVISIONS
⚠1	3-28-11	TDS	PER ENG. COMMENTS, ADDED NOTES

THE FORT MILLER Co., Inc.
P.O. BOX 98
SCHUYLERVILLE, NY 12871
(518) 695-5000
(518) 695-4970 FAX
WWW.FORTMILLER.COM

F.M. JOB NO. 12511
DATE: 2-21-11
DRN. BY: TDS
CHK. BY: SDH
SCALE: NONE
SHEET NO. 3 OF 3

PROJECT LOCATION: TOWN OF CHESTER - ROUTE 103
PROJECT: BRF 025-1(28) - BRIDGE #8
ITEM# 900.620
SUBJECT: UNIT PLAN, REINFORCEMENT & SECTION DETAILS
CONTRACTOR: COLD RIVER BRIDGES, LLC.
CONTRACTOR ADDRESS: PO BOX 1076
WALPOLE, NH 03608
ENGINEER/ARCHITECT VAOT

DWG. NO. S3

GENERAL NOTES:

1. DO NOT SCALE FROM THE DRAWINGS. IF A REQUIRED DIMENSION IS NOT PROVIDED, CONSULT THE ENGINEER.

2. IF ANY OF THE WORK TO BE DONE AS SHOWN ON THE DRAWINGS DOES NOT CORRESPOND WITH THE EXISTING FIELD CONDITIONS, CONTACT THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK IN QUESTION.

3. FIELD VERIFY ALL ELEVATIONS PRIOR TO THE START OF CONSTRUCTION. IF THERE ARE ANY DISCREPANCIES, CONSULT THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK IN QUESTION.

4. SHOP DRAWINGS WERE DEVELOPED USING THE FOLLOWING RESOURCES FOR THE CONTRACT:
STATE OF VERMONT AGENCY OF TRANSPORTATION, PROPOSED IMPROVEMENT BRIDGE PROJECT
TOWN OF CHESTER
COUNTY OF WINDSOR
ROUTENO: VT RT 103, PRINCIPAL ARTERIAL, NATIONAL HIGHWAY SYSTEM, BRIDGE 9
DATED 20-SEPT-2010, WITH REVISION DATE OF NONE.

5. IF THERE IS ADDITIONAL INFORMATION PERTINENT TO THE FABRICATION AND INSTALLATION OF THESE UNITS THAT IS NOT CONTAINED WITHIN THE RESOURCES LISTED ABOVE IT SHALL BE BROUGHT TO THE ATTENTION OF MICHIE CORPORATION. FAILURE TO MAKE SUCH ADDITIONAL INFORMATION AVAILABLE SHALL RELIEVE MICHIE CORPORATION OF ALL LIABILITIES ARISING FROM ERRORS OR OMISSIONS RELATED TO THE OMITTED INFORMATION.

WING WALL NOTES:

1. WING WALLS ARE DESIGNED IN ACCORDANCE WITH AASHTO "LRFD BRIDGE DESIGN SPECIFICATIONS", 4TH EDITION AND VAOT PROJECT SPECIFICAITONS.

2. WING WALLS ARE DESIGNED FOR LIVE LOAD SURCHARGE (PER AASHTO) AND BACKFILL MATERIAL IS ASSUMED TO HAVE THE DESIGN PARAMETERS LISTED IN THE PRECAST DESIGN CRITERIA.

3. WING WALLS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 POUNDS PER SQUARE INCH (P.S.I). THE CONCRETE SHALL BE SELF CONSOLIDATING CONCRETE.

4. ALL BACKFILL SHALL COMPLY WITH ~~PROJECT SPECIFICATIONS.~~ THE BACKFILL SHALL BE PLACED PER VAOT SPECIFICATIONS.

5. ALL EXPOSED EDGES EXCEPT WHERE NOTED SHALL BE CHAMFERED 3/4". ALL EXPOSED SURFACES SHALL BE TREATED WITH SILANE-SILOXANE (OR AS SPECIFIED BY CONTRACT SPECIFICATIONS) TO 1'-0" BELOW FINISHED GRADE BY OTHERS.

Subsection 704.08,
Granular Backfill
For Structures

Structures Copy

FABRICATION PLANT PRODUCTION SCHEDULE

1. DAILY PRODUCTION WILL PROCEED AT THE RATE OF APPROXIMATELY ONE WINGWALL SECTION EVERY DAY IN ONE LOT. UNIT WILL BE CAST IN A SIMILAR SEQUENCE AS IT IS TO BE TRANSPORTED AND FIELD ERECTED AS ORDERED BY THE CONTRACTOR. A DETAILED PLANT PRODUCTION SCHEDULE WILL BE KEPT AT THE PRECASTER'S FABRICATING PLANT AND MADE AVAILABLE TO INSPECTORS AS REQUIRED.

PRECAST DESIGN CRITERIA

1. APPLICABLE CODES: VAOT STANDARD SPECIFICATION FOR CONSTRUCTION, 2006; CONCRETE STEEL REINFORCING INSTITUTE; BRIDGE DESIGN SPECIFICATIONS, AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION, 2007 WITH 2008 REVISIONS

2. FOUNDATION SOIL PERAMETERS:
- *8.9 KSF NOMINAL SOIL BEARING RESISTANCE
- –UNIT WEIGHT OF SOIL: 120 PCF
- - 32° SOIL FRICTION ANGLE

3. RETAINED SOIL PERAMETERS:
- *130 PCF UNIT WEIGHT
- *32° SOIL FRICTION ANGLE

4. RESISTANCE FACTORS:
- 0.45 BEARING
- 0.8 SLIDING
- 0.95 FLEXING
- 0.90 SHEAR

5. CONCRETE DESIGN STRENGTH:
- F'c = 5,000 PSI @ 28 DAYS
- F'ci = 2,500 PSI (STRIPPING)

4. THESE PLANS ARE FOR SHOP PRODUCTION AND ARE NOT INTENDED TO REPLACE THE CONSTRUCTION REQUIREMENTS OF THE CONTRACT PLANS.

MATERIALS

1. ALL CONCRETE SHALL COMPLY WITH VAOT STANDARD SPECIFICATIONS 540.
2. REINFORCING STEEL SHALL CONFORM TO ASTM A-615 GRADE 60, UNCOATED.
ALL BARS ARE TO BE BENT COLD.
3. SUPPORTS FOR REINFORCEMENT SHALL COMPLY WITH CRSI RECOMMENDATIONS.
4. CASTING DATE SHALL BE SHOWN ON EACH PIECEMARK.

CURING

1. SHALL COMPLY WITH VAOT STANDARD SPECIFICATION 540.08.

PIECE MARKS

EACH PIECEMARK # WILL HAVE THE FOLLOWING STENCILED ONTO IT:

1. PIECEMARK NUMBER
2. DATE OF CASTING
3. LOT NUMBER - IF APPLICABLE
4. VT PROJECT NO. BRF 025-1 (37) (BRIDGE#9)
5. MICHIE CORPORATION, INC.
6. CONTRACTORS NAME

TOLERANCES: PER AASHTO M259

PRODUCTION CONTROL PROCEDURES

1. CYLINDER SAMPLING AND CURING:
A. A MINIMUM OF TWO (2) CYLINDERS PER LOT WILL BE MADE IN ACCORDANCE WITH ASTM C31. CYLINDERS WILL BE TESTED IN ACCORDANCE WITH ASTM C39.
B. AIR CONTENT (ASTM C231), SPREAD PER SCC GUIDELINES, AND TEMPERATURE TESTS WILL BE TAKEN INITIALLY FOR FIRST LOAD. NOT TO EXCEED TEN (10) CUBIC YARDS.
C. THE CYLINDERS SHALL BE KEPT WITH THE PIECE UNTIL STRIPPING STRENGTH IS MET. A SUFFICIENT NUMBER OF CYLINDERS SHALL BE PREPARED FOR STRIPPING AND 28 DAY STRENGTH TESTING.

NOTE: 1 AIR TEST 1ST LOAD

2. CYLINDER BREAKS:
A. FOR EARLY STRENGTH VERIFICATION, CYLINDERS MAY BE BROKEN AT ANY TIME UP TO 28 DAYS AFTER CASTING. IF THE AVERAGE STRENGTH OF TWO (2) CYLINDERS MEETS OR EXCEEDS THE REQUIRED 28 DAY STRENGTH (WITH EACH CYLINDER HAVING A MINIMUM OF 95% OF THE REQUIRED 28 DAY STRENGTH), THE LOT SHALL BE ACCEPTED FOR STRENGTH.

3. QUALITY CONTROL TEST AND EQUIPMENT:
CYLINDER TESTER: FORNEY 500 SERIES WITH DR-2 DIGITAL READOUT CALIBRATED ANNUALLY

AIR METER: PRESSURE METER BY FORNEY (CALIBRATED MONTHLY)

SLUMP CONE: STANDARD 8" BASE, 4" AT RIM, 12" IN HEIGHT MEASURED IN ACCORDANCE WITH SCC GUIDELINES

SCALES FOR UNIT WEIGHT: MEASURED IN ACCORDANCE WITH ASTM C143 100 LBS. CAPACITY CALIBRATED TO THE NEAREST 1/10TH POUND YEARLY

CYLINDER MOLDS: 4" DIAMETER X 8" PLASTIC

4. CONCRETE TESTING AND AIR METER CALIBRATION WILL BE DONE BY PLANT PERSONNEL (ACI GRADE I CERTIFIED) ALL TESTING PRODUCERS WILL BE OBSERVED BY VAOT INSPECTORS OR AUTHORIZED REPRESENTATIVES.

CASTING, STORAGE, SHIPPING, & ERECTING

WINGWALLS SHALL BE FABRICATED AS FOLLOWS:
- WING FOOTING SHALL BE CAST FLAT ON A STEEL CASTING PLATE. AFTER STRIPPING STRENGTHS HAVE BEEN ACHIEVED, FOOTING SHALL BE STOOD UP INTO A VERTICAL POSITION.
- WING STEM SHALL BE CAST ON A STEEL CASTING PLATE AGAINST THE FOOTING.
- WINGS MAY BE STOOD UP OR LEFT LYING FLAT AND WILL BE CURED AND TRANSPORTED EITHER WAY.
- IF WINGS ARE TO BE STOOD UP ON THE PROJECT SITE, IT SHALL BE DONE ON A SUBGRADE MATERIAL THAT WILL ALLOW FOR PRODUCT TO ROTATE ON BASE WITHOUT DAMAGE. THEY SHALL BE STOOD UP USING LIFTING ACHORS CAST IN THE BACK SURFACE OF THE WALL.
- WINGS SHALL BE MOVED INTO POSITION USING TWO LIFTERS ON THE FRONT SURFACE AND TWO LIFTERS ON THE TOP OF THE FOOTING SURFACE.
- ALL PRODUCTS SHALL BE MOVED AND ERECTED UTILIZING CHAINS OR STRAPS ATTACHED TO PROVIDED LIFTING ANCHORS.
- IT IS THE RESPONSIBILITY OF THE ERECTOR TO PROVIDE THE PROPER EQUIPMENT, CABLES AND PULLEYS TO SAFELY AND PROPERLY HANDLE THE PRECAST PRODUCTS. DETAILED HANDLING REQUIREMENTS SHALL BE COORDINATED BETWEEN THE PRECAST FABRICATOR AND ERECTORS.

PRECAST CUTOFF WALL NOTES:

1. ALL FOUNDATION CONCRETE (INCLUDING PEDESTAL WALL) SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 5,000 P.S.I. CEMENT USED SHALL MEET THE REQUIREMENTS OF ASTM C-150.

3. UNLESS NOTED OTHERWISE, ALL REINFORCING SHALL MEET THE REQUIREMENTS OF ASTM A-615 GRADE 60 DEFORMED STEEL BARS FOR CONCRETE REINFORCING. ALL BARS SHALL BE BENT COLD.

4. ALL EXPOSED EDGES EXCEPT WHERE NOTED SHALL BE CHAMFERED 3/4".

5. ALL FOOTINGS SHALL BE PLACED ON 1'-0" OF ¾" CRUSHED STONE. ALL TOPSOIL, LOOSE FILL, AND DELETERIOUS MATERIALS SHALL BE REMOVED BEFORE PLACING BACKFILL.

6. EACH CUTOFF WALL SHALL BE PROVIDED WITH 2 LIFTING ANCHORS IN THE TOP FOR SETTING.

7. EACH SECTION SHALL WEIGH AS SHOWN.

PROJECT:

VAOT # BRF 025-1 (37)
VT RT 103,
PRINCIPAL ARTERIAL,
NATIONAL HIGHWAY SYSTEM,
BRIDGE 9

CHESTER, VT

RECEIVED
CK'D BY LJB OK'D BY RSY
MAR 23 2011
RESUBMIT ______ APPROVED As Noted
BY GPW DATE 3/30/11

LIST OF SHEETS:

C1.0- COVER SHEET

S1.0 - PLAN, ELEVATION & CONNECTION DETAILS

S2.0 - WINGWALL DETAILS

S3.0 - WINGWALL & CUTOFF WALL DETAILS

△ 3/21/2011 REVISED NOTES PER AGENCY COMMENTS TAF
No. Date Revision By

STATE OF VERMONT — THOMAS A. FRENCH — NO. 8071 — Structural — LICENSED PROFESSIONAL ENGINEER — 3/23/11

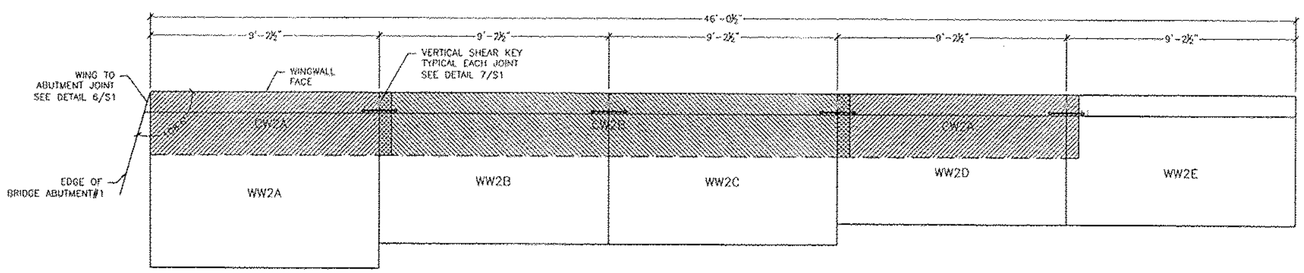
MICHIE
MICHIE CORPORATION, INC.
173 BUXTON INDUSTRIAL DRIVE-PO BOX 370
HENNIKER, NH 03242
PHONE: 603-428-3218
FAX: 603-428-7426

Vermont Rte. 103 Bridge #9
Chester, VT
Wingwalls Cover Sheet

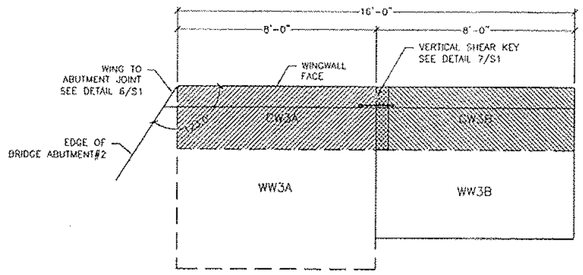
Project No. 1240 | Designed by: PJL | Drawn by: PDH | Checked by: TAF | Scale: AS SHOWN

Prepared for:
Cold River Bridges, LLC
187 Whitcomb Rd
Walpole, NH 03068

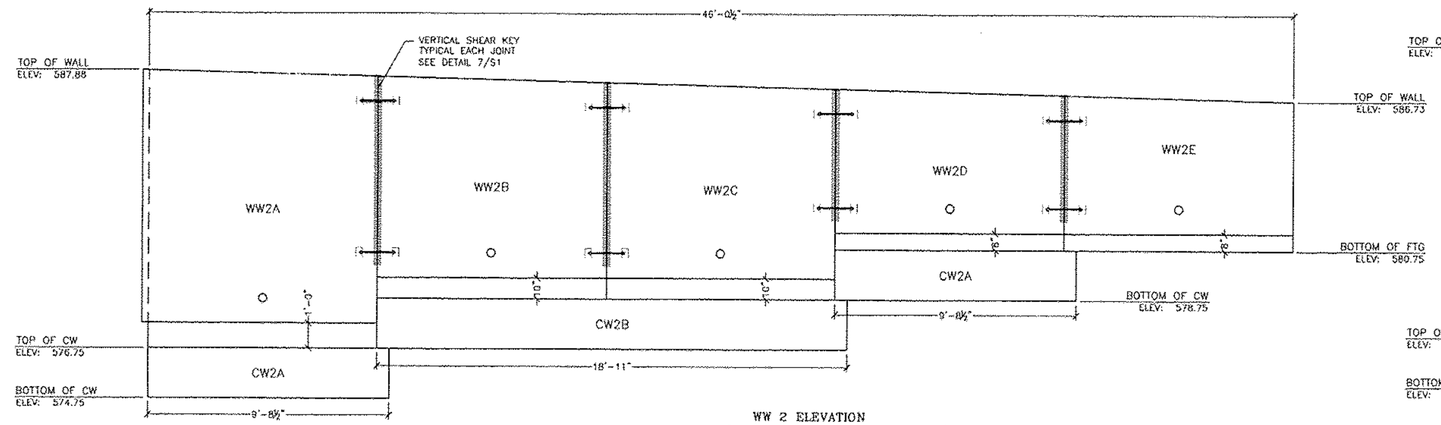
DWG NO.
C1



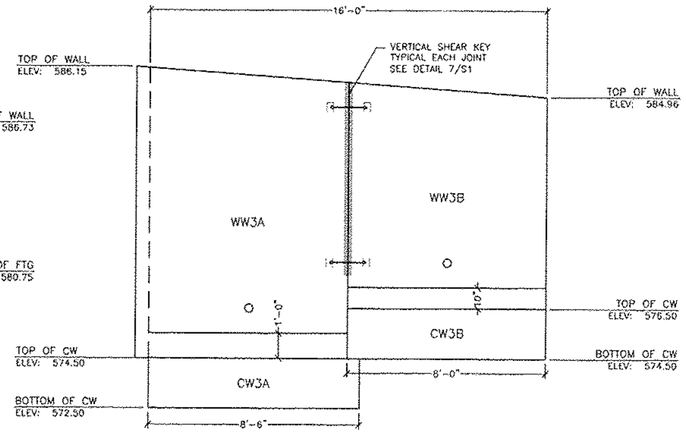
1 S1.0 WW 2 PLAN VIEW
⅜" = 1'-0"



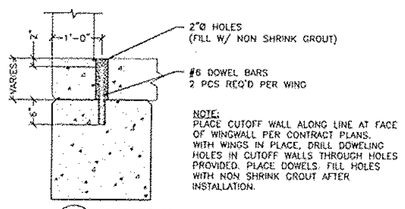
3 S1.0 WW 3 PLAN VIEW
⅜" = 1'-0"



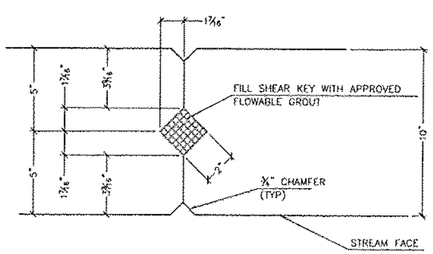
2 S1.0 WW 2 ELEVATION (LOOKING AT BACKFILL SIDE)
⅜" = 1'-0"



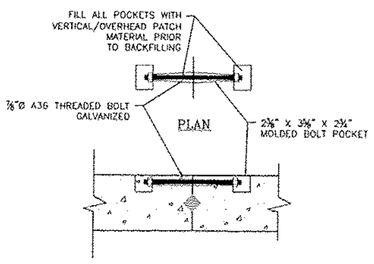
4 S1.0 WW 3 ELEVATION (LOOKING AT BACKFILL SIDE)
⅜" = 1'-0"



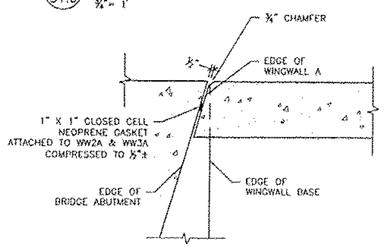
5 S1.0 CUTOFF WALL CONNECTION
¾" = 1'



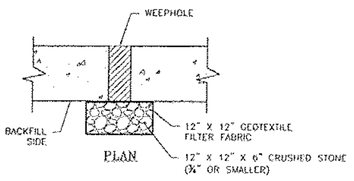
7 S1.0 VERTICAL SHEAR KEY DETAIL
SCALE 3" = 1'-0"



9 S1.0 BOLT POCKET CONNECTION DETAILS
1" = 1'-0"



6 S1.0 WING TO ABUTMENT PLACEMENT DETAIL
1" = 1'-0"



8 S1.0 WEEPHOLE BACKFILL DETAIL
1" = 1'-0"

RECEIVED
CK'D BY LJS OK'D BY BSY
MAR 2 3 2011
RESUBMIT ____ APPROVED ✓
BY CPW DATE 3/30/11

No.	Date	Revision	By
1	3/22/2011	REVISED NOTES PER AGENCY COMMENTS	LJS

MICHIE CORPORATION, INC.
173 BUXTON INDUSTRIAL PARK/P.O. BOX 870
HENNIKER, NH 03242
PHONE: 603-428-7218
FAX: 603-428-7408

Vermont Rte. 103 Bridge #9
Chester, VT

Wingwalls
Plan, Elevation, & Connection Details

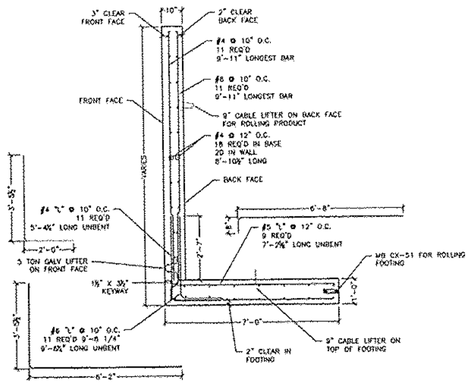
Project No. 1249 | Date: 2/15/2011 | Designed by: PTA | Drawn by: PSH | Checked by: TVG | Scale: AS SHOWN

Prepared for:
Cold River Bridges, LLC
187 Whitcomb Rd
Walpole, NH 03068

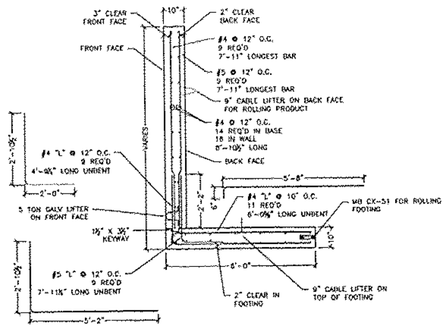
DWG NO.
S 1.0

NOTE: ¾" CHAMFER ON 4 SIDES OF TOP AND 4 VERTICALS OF WALL.

RECEIVED
OK'D BY LSS OK'D BY RSY
MAR 2 3 2011
RESUBMIT ____ APPROVED ✓
BY CPW DATE 3/30/11



1A S2.0 WW2A REINFORCING
N.T.S.



2A S2.0 WW2B REINFORCING
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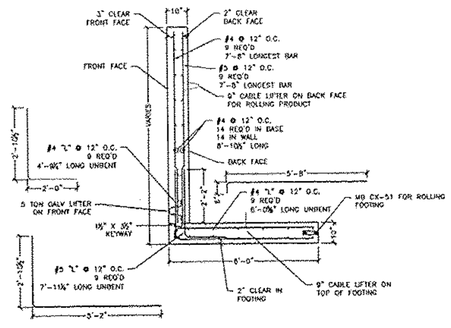

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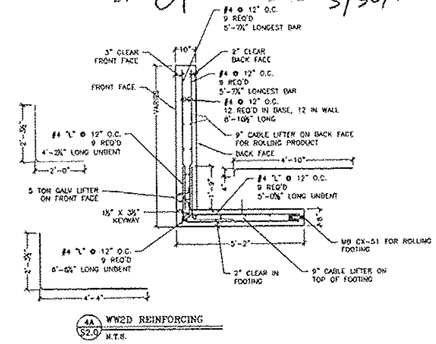

4A S2.0 WW2D REINFORCING
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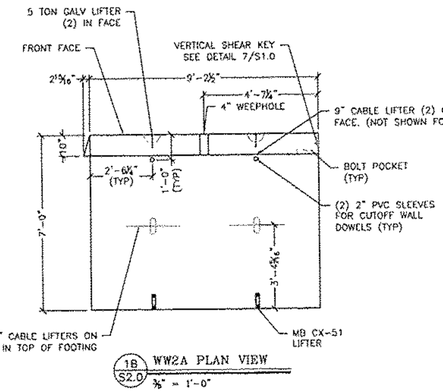
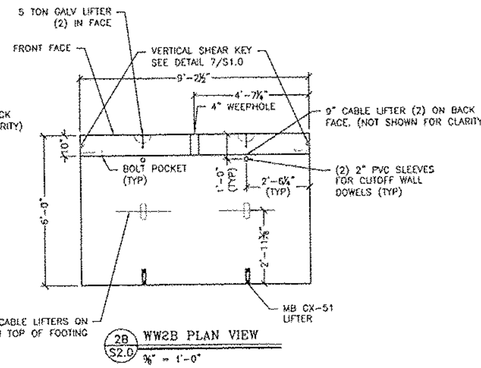
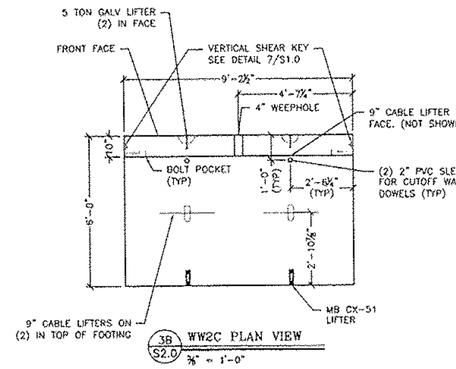


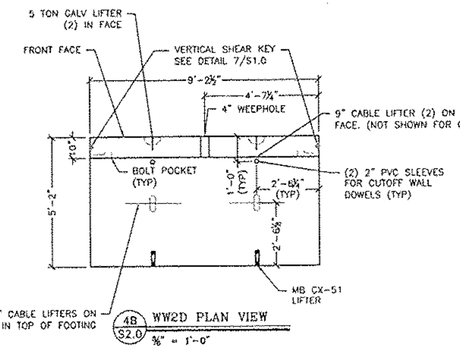
1B S2.0 WW2A PLAN VIEW
⅜" = 1'-0"



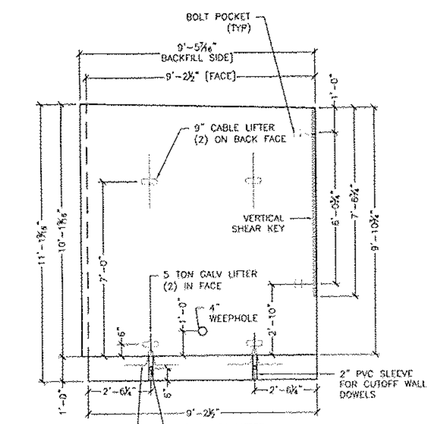
2B S2.0 WW2B PLAN VIEW
⅜" = 1'-0"



3B S2.0 WW2C PLAN VIEW
⅜" = 1'-0"



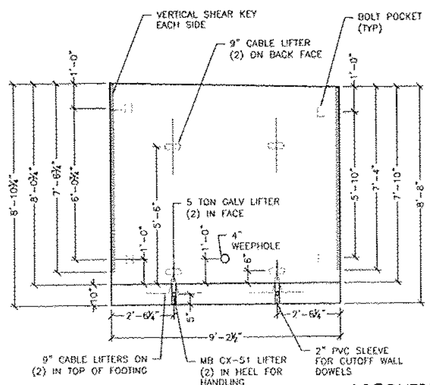
4B S2.0 WW2D PLAN VIEW
⅜" = 1'-0"



1C S2.0 WW2A ELEVATION VIEW
⅜" = 1'-0"

1 REQUIRED
EACH SECTION WEIGHS:
22,000#
BASE: (2.39CY)
WALL: (2.85CY)

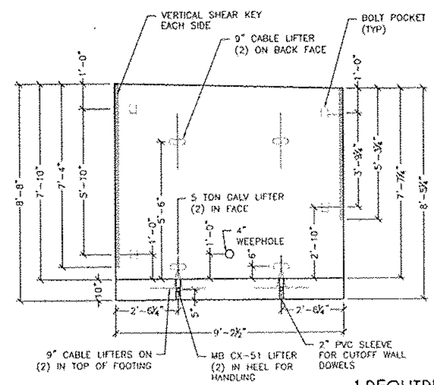
(LOOKING AT BACKFILL SIDE)



2C S2.0 WW2B ELEVATION VIEW
⅜" = 1'-0"

1 REQUIRED
EACH SECTION WEIGHS:
16,670#
BASE: (1.71CY)
WALL: (2.26CY)

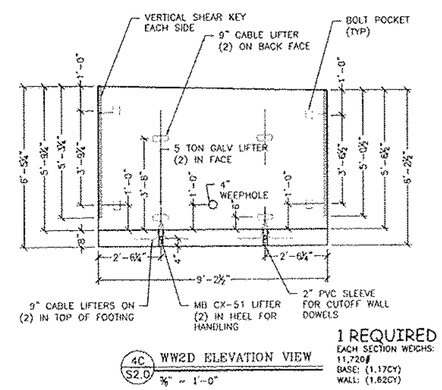
(LOOKING AT BACKFILL SIDE)



3C S2.0 WW2C ELEVATION VIEW
⅜" = 1'-0"

1 REQUIRED
EACH SECTION WEIGHS:
16,380#
BASE: (1.71CY)
WALL: (2.19CY)

(LOOKING AT BACKFILL SIDE)



4C S2.0 WW2D ELEVATION VIEW
⅜" = 1'-0"

1 REQUIRED
EACH SECTION WEIGHS:
11,720#
BASE: (1.17CY)
WALL: (1.62CY)

(LOOKING AT BACKFILL SIDE)

No.	Date	Revisions	By
1	3/23/11	REVISED PER STATE AGENCY COMMENTS	TAF

MICHIE CORPORATION, INC.
173 BOSTON INDUSTRIAL DRIVE PO BOX 870
HENNIKER, NH 03242
PHONE: 603-428-3218
FAX: 603-428-7428

Vermont Rte. 103 Bridge #9
Chester, VT
Wingwall Details

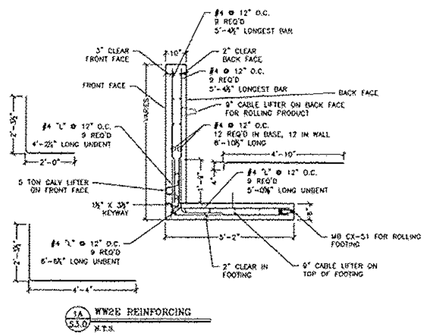
Project No. 1240
Date: 2/15/2011
Designed by: PJM
Drawn by: PJM
Checked by: TAF
Scale: AS SHOWN

Prepared for:
Cold River Bridges, LLC
187 Whitcomb Rd
Walpole, NH 03068

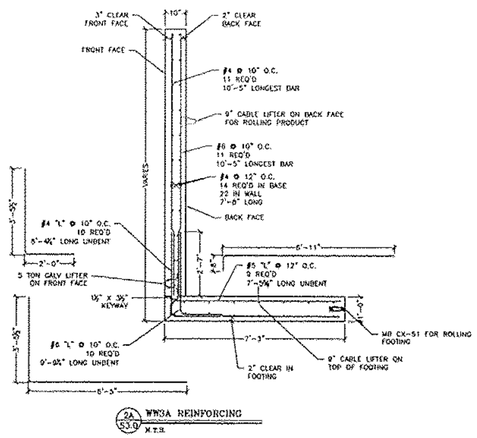
DWG NO.
S2.0

NOTE: ¾" CHAMFER ON 4 SIDES OF TOP AND 4 VERTICALS OF WALL.

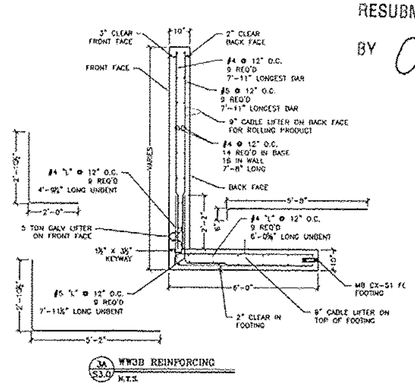
RECEIVED
CK'D BY LSS OK'D BY RSY
MAR 2 3 2011
RESUBMIT ____ APPROVED ✓
BY CPW DATE 3/30/11



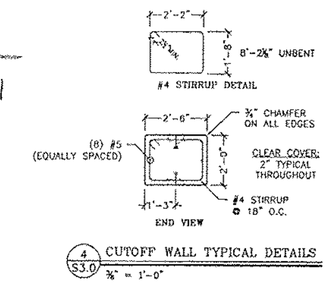
1A S3.0 WW2E REINFORCING
3/8" = 1'-0"



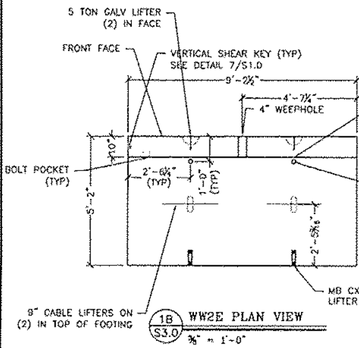
2A S3.0 WW3A REINFORCING
3/8" = 1'-0"



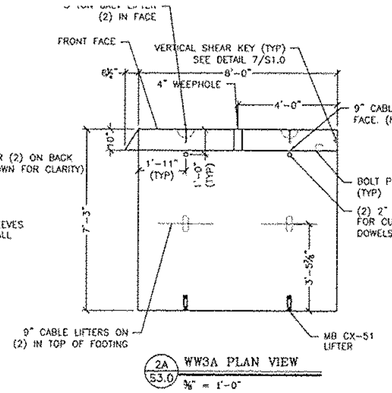
3A S3.0 WW3B REINFORCING
3/8" = 1'-0"



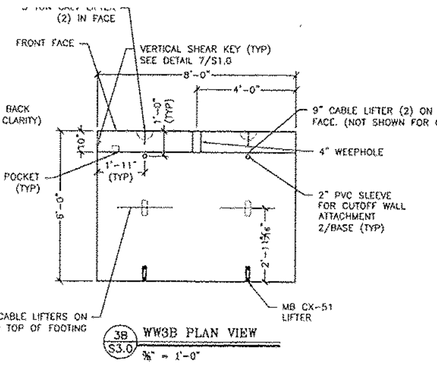
4 S3.0 CUTOFF WALL TYPICAL DETAILS
3/8" = 1'-0"



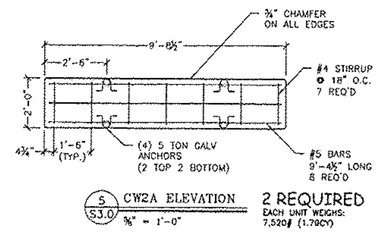
1B S3.0 WW2E PLAN VIEW
3/8" = 1'-0"



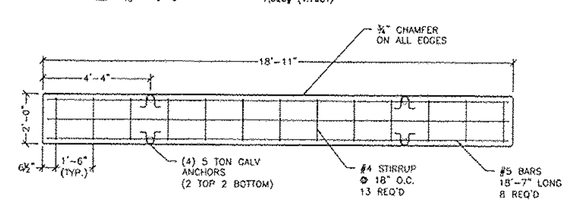
2A S3.0 WW3A PLAN VIEW
3/8" = 1'-0"



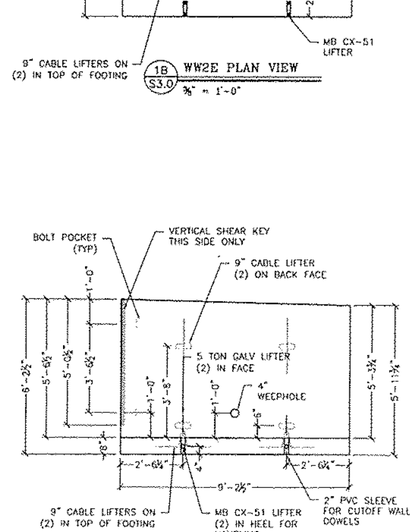
3B S3.0 WW3B PLAN VIEW
3/8" = 1'-0"



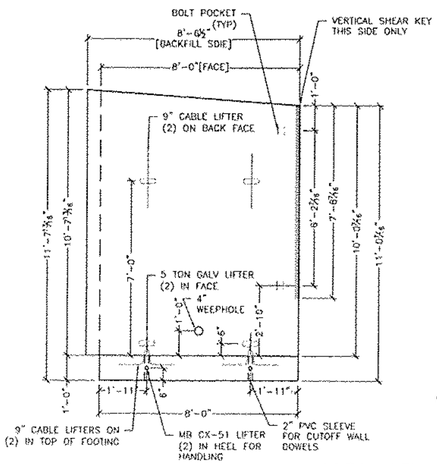
5 S3.0 CW2A ELEVATION
3/8" = 1'-0"
2 REQUIRED
EACH UNIT WEIGHS: 7,520# (1.79CY)



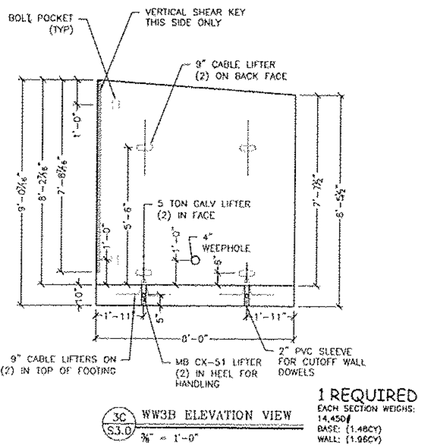
6 S3.0 CW2B ELEVATION
3/8" = 1'-0"
1 REQUIRED
EACH UNIT WEIGHS: 14,700# (3.50CY)



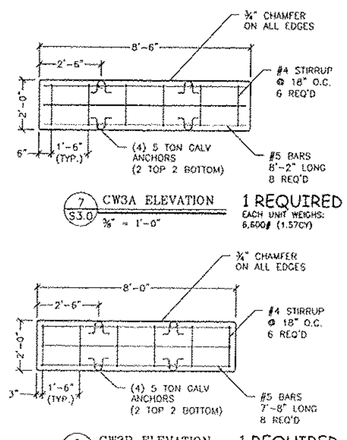
1C S3.0 WW2E ELEVATION VIEW
3/8" = 1'-0"
(LOOKING AT BACKFILL SIDE)
1 REQUIRED
EACH SECTION WEIGHS: 11,420# BASE: (1.17CY) WALL: (1.55CY)



2A S3.0 WW3A ELEVATION VIEW
3/8" = 1'-0"
1 REQUIRED
EACH SECTION WEIGHS: 19,780# BASE: (2.15CY) WALL: (2.56CY)



3C S3.0 WW3B ELEVATION VIEW
3/8" = 1'-0"
1 REQUIRED
EACH SECTION WEIGHS: 14,450# BASE: (1.48CY) WALL: (1.98CY)
(LOOKING AT BACKFILL SIDE)



7 S3.0 CW3A ELEVATION
3/8" = 1'-0"
1 REQUIRED
EACH UNIT WEIGHS: 9,600# (1.57CY)

8 S3.0 CW3B ELEVATION
3/8" = 1'-0"
1 REQUIRED
EACH UNIT WEIGHS: 8,220# (1.48CY)

No.	Revisions	By	Date
1	REVISED PER VTRANS COMMENTS	TAS	3/22/2011

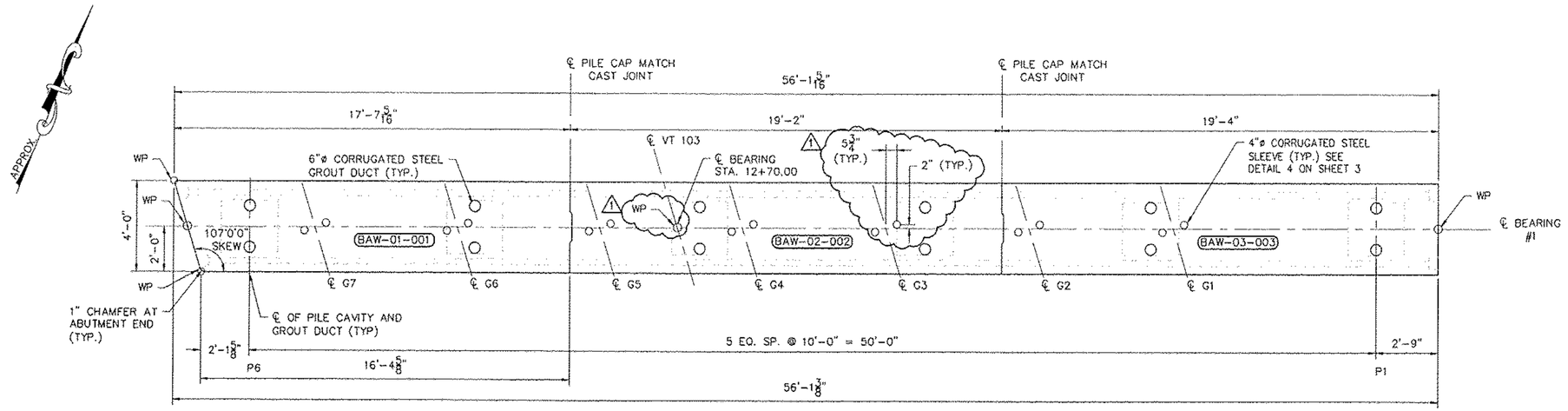
MICHIE CORPORATION, INC.
173 BUCKTON INDUSTRIAL DRIVE-PO BOX 870
HOOKSETT, NEW HAMPSHIRE 03106
PHONE: 603-428-7223
FAX: 603-428-7426

Vermont Rte. 103 Bridge #9
Chester, VT
Wingwall & Cutoff Wall Details

Scale: AS SHOWN
Checked by: TAS
Drawn by: PBH
Designed by: PBH
Project No. 1240
Date: 2/25/11

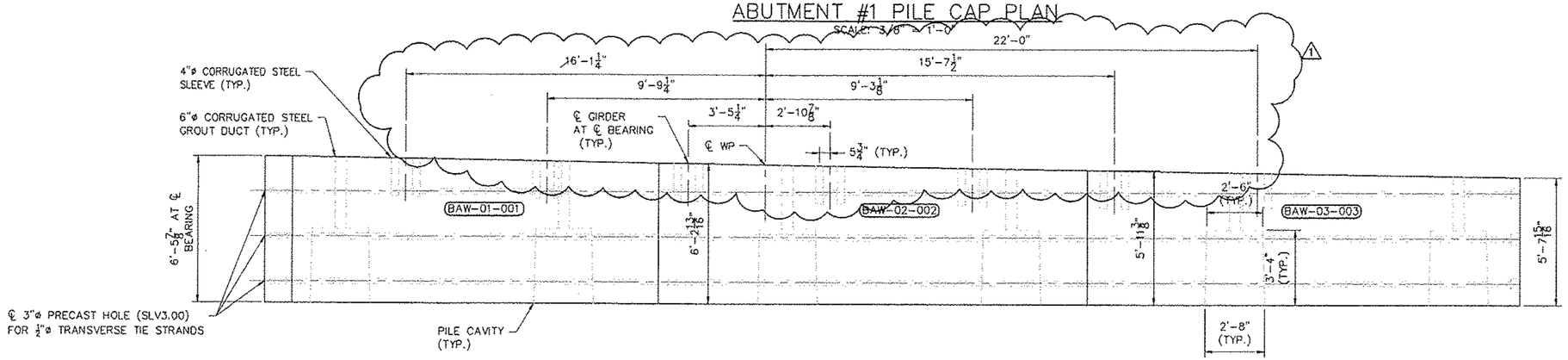
Prepared for:
Cold River Bridges, LLC
187 Whitcomb Rd
Walpole, NH 03068

DWG NO. S3.0



ABUTMENT #1 PILE CAP PLAN

SCALE: 3/8" = 1'-0"



ABUTMENT #1 PILE CAP ELEVATION

SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. PANELS SHALL BE LIFTED UTILIZING A MINIMUM SLING ANGLE = 60°.
2. CONTRACTOR TO ENSURE RIGGING DURING LIFTING OPERATIONS ENGAGES ALL FOUR LIFT ANCHORS.

SUGGESTED SEQUENCE OF CONSTRUCTION:

1. PREPARE AND GRADE FOUNDATION TO REQUIRED ELEVATION.
2. DRIVE PILES. THE PILES' TOP SHALL BE WITHIN 3" OF PLAN LOCATION.
3. PLACE PRECAST ABUTMENTS. APPLY A SLOW SETTING EPOXY TO THE MATING ENDS AT MATCH-CAST JOINT. THE EPOXY SHOULD BE APPLIED PER MANUFACTURERS' RECOMMENDATIONS.
4. INSTALL TRANSVERSE STRANDS. USE A CALIBRATED JACK TO TENSION TO 3 KIPS.
5. ONCE EPOXY HAS CURED PER MANUFACTURERS' RECOMMENDATIONS APPLY FINAL POST-TENSIONING FORCE.
6. FINAL JACKING FORCE PER STRAND IS 33 KIPS. STRESS POST-TENSIONING STRANDS USING A CALIBRATED JACK OPERATED BY QUALIFIED PERSONNEL WITH PREVIOUS EXPERIENCE IN POST-TENSIONING.
9. PLACE AND SECURE THE 9" WIDE SEAL WRAP AT EACH JOINT, ABUTMENT, IN THE BACK OF THE STEM. DAMPPROOF AND THEN BACKFILL AS RECOMMENDED.
10. VERIFY ABUTMENT ELEVATIONS AND GROUT PILE CAVITIES.
11. BACKFILL ABUTMENTS IN COORDINATION WITH RETAINING WALL BACKFILL.

STRUCTURES COPY

RECEIVED
CK'D BY JSS OK'D BY KSG
MAR 11 2011
RESUBMIT ____ APPROVED ✓
BY CPW DATE 3/28/11

STATE OF VERMONT CHARLES H. SWANSON No. 0126 Structural LICENSED PROFESSIONAL ENGINEER

CONSTRUCTION SET
FEBRUARY 18, 2011

REVISION NO.	REVISION DATE
1	MARCH 09, 2011

Hoyle, Tanner & Associates, Inc.
125 College Street, 4th Floor Burlington, VT 05401
Tel (802)860-1331 • Fax (802)860-6490 • www.hoyletanner.com

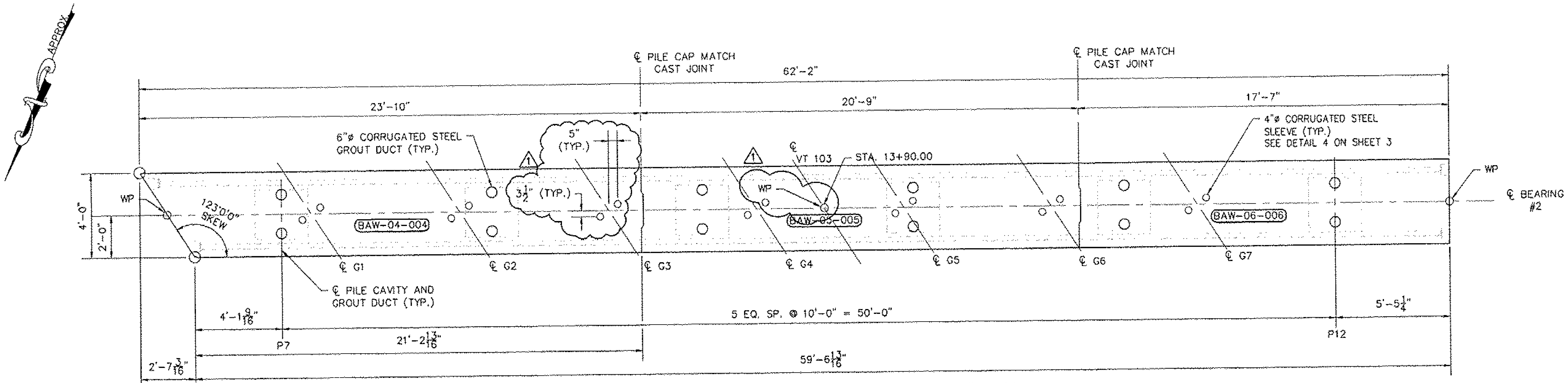
DRAWN BY: APN	DATE: FEBRUARY 2011
CHECKED BY: CHS	PROJECT NO.: 122435.00

W.E. DAILEY INC.
AIRPORT ROAD • SAINTSBURY, VT 05262
PRECAST CONCRETE PRODUCTS
TEL: (802) 442-4418 FAX: (802) 442-4719

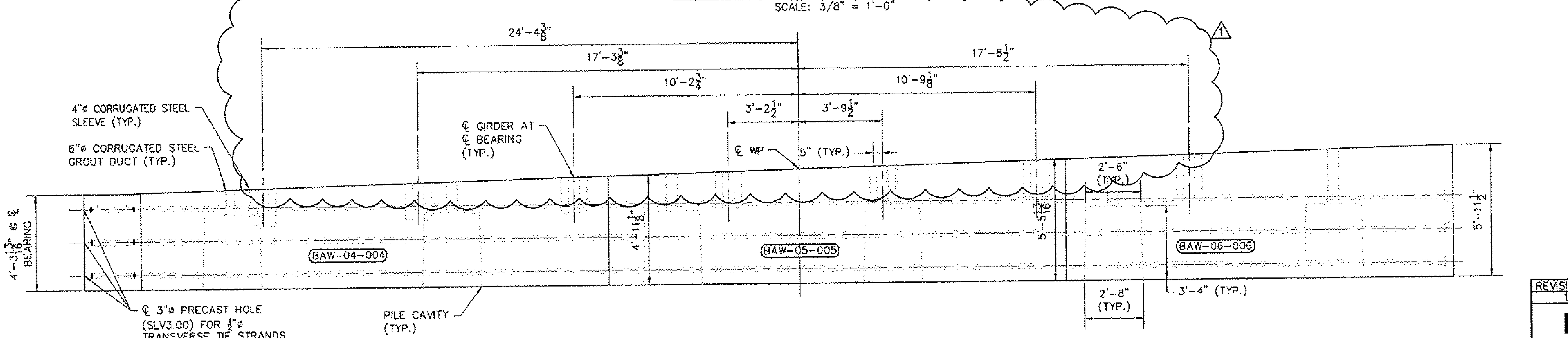
CHESTER, VT
VT 103
BRIDGE #9

PROJECT NO.: BRF 025-1 (37)

SHEET 1 OF 15



ABUTMENT #2 PILE CAP PLAN
SCALE: 3/8" = 1'-0"



ABUTMENT #2 PILE CAP ELEVATION
SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. PANELS SHALL BE LIFTED UTILIZING A MINIMUM SLING ANGLE = 60°.
2. CONTRACTOR TO ENSURE RIGGING DURING LIFTING OPERATIONS ENGAGES ALL FOUR LIFT ANCHORS.

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CK'D BY LJS OK'D BY RSY
MAR 11 2011
RESUBMIT ____ APPROVED ✓
BY CPW DATE 3/28/11

SUGGESTED SEQUENCE OF CONSTRUCTION:

1. PREPARE AND GRADE FOUNDATION TO REQUIRED ELEVATION.
2. DRIVE PILES. THE PILES' TOP SHALL BE WITHIN 3" OF PLAN LOCATION.
3. PLACE PRECAST ABUTMENTS. APPLY A SLOW SETTING EPOXY TO THE MATING ENDS AT MATCH-CAST JOINT. THE EPOXY SHOULD BE APPLIED PER MANUFACTURERS' RECOMMENDATIONS.
4. INSTALL TRANSVERSE STRANDS. USE A CALIBRATED JACK TO TENSION TO 3 KIPS.
5. ONCE EPOXY HAS CURED PER MANUFACTURERS' RECOMMENDATIONS APPLY FINAL POST-TENSIONING FORCE.
6. FINAL JACKING FORCE PER STRAND IS 33 KIPS. STRESS POST-TENSIONING STRANDS USING A CALIBRATED JACK OPERATED BY QUALIFIED PERSONNEL WITH PREVIOUS EXPERIENCE IN POST-TENSIONING.
9. PLACE AND SECURE THE 9" WIDE SEAL WRAP AT EACH JOINT, ABUTMENT, IN THE BACK OF THE STEM. DAMPPROOF AND THEN BACKFILL AS RECOMMENDED.
10. VERIFY ABUTMENT ELEVATIONS AND GROUT PILE CAVITIES.
11. BACKFILL ABUTMENTS IN COORDINATION WITH RETAINING WALL BACKFILL.

STATE OF VERMONT — LICENSED PROFESSIONAL ENGINEER — No. 8120

CONSTRUCTION SET
FEBRUARY 18, 2011

REVISION NO.	REVISION DATE
1	MARCH 09, 2011

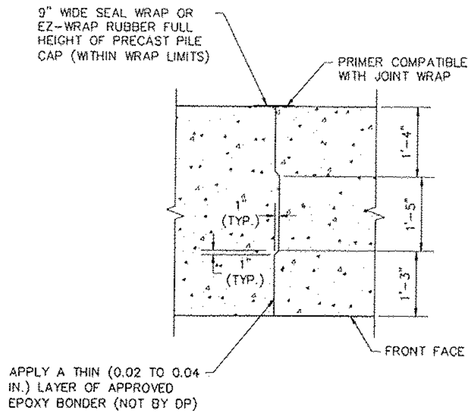
Hoyle, Tanner & Associates, Inc.
125 College Street, 4th Floor Burlington, VT 05401
Tel (802)860-1331 • Fax (802)860-6499 • www.hoyletanner.com

DRAWN BY: AFN | DATE: FEBRUARY 2011
CHECKED BY: CHS | PROJECT NO: 122435.00

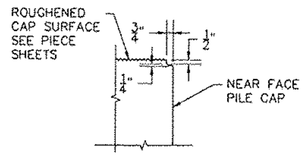
Wm. E. DAILEY INC.
AIRPORT ROAD, SHAFTSBURY, VT 05262
PRECAST CONCRETE PRODUCTS
TEL: (802) 442-4418 FAX: (802) 442-4719

CHESTER, VT
VT 103
BRIDGE #9
PROJECT NO.: BRF 025-1 (37)

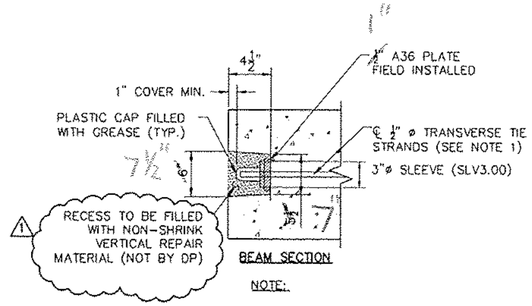
SHEET 2 OF 15



① TYPICAL PILE CAP MATCH CAST JOINT – PLAN VIEW
SCALE: ½" = 1'-0"

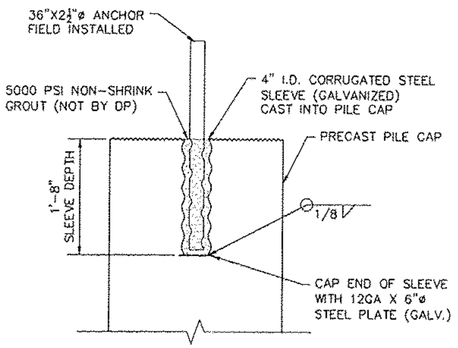


② SCORE MARK DETAIL
SCALE: 1½" = 1'-0"

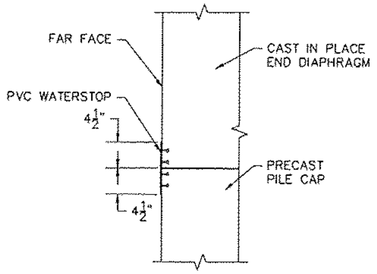


NOTE:
1. TRANSVERSE TIES SHALL BE COVERED BY A SEAMLESS POLYPROPYLENE SHEATH (WITH CORROSION INHIBITING GREASE BETWEEN THE STRAND AND SHEATH) FOR THE FULL LENGTH OF THE STRAND EXCEPT AT THE ANCHORAGE LOCATION.
2. POST-TENSION STRANDS: 0.5"ø, 270 KSI, LOW RELAXATION 7-WIRE STRANDS.
3. FINAL JACKING FORCE = 33 KIPS.

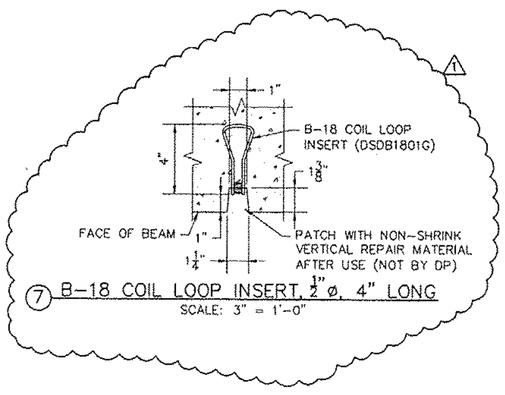
③ TRANSVERSE TIE ANCHORAGE DETAILS
SCALE: NTS



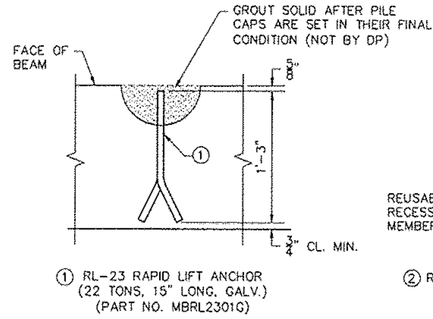
④ BEAM ANCHOR BOLT DETAIL
SCALE: 1" = 1'-0"



⑤ PVC WATERSTOP DETAIL
SCALE: 1" = 1'-0"



⑦ B-18 COIL LOOP INSERT, 1" ø, 4" LONG
SCALE: 3" = 1'-0"



① RL-23 RAPID LIFT ANCHOR (22 TONS, 15" LONG, GALV.) (PART NO. MBRL2301G)

② RL-45 RECESS MEMBER (22 TONS)

⑥ RAPID LIFT ANCHOR AND RECESS MEMBER
SCALE: 1½" = 1'-0"

NOTE:
DP = DAILEY PRECAST

RECEIVED
CK'D BY LSS OK'D BY KSY
MAR 1 1 2011
RESUBMIT ____ APPROVED As Noted
BY CPW DATE 3/28/11

STATE OF VERMONT — CHARLES H. SPAULDING — No. 8170 — Structural — LICENSED PROFESSIONAL ENGINEER

CONSTRUCTION SET
FEBRUARY 18, 2011

REVISION NO.	REVISION DATE
1	MARCH 09, 2011

Hoyle, Tanner & Associates, Inc.
125 College Street, 4th Floor Burlington, VT 05401
Tel (802)860-1331 • Fax (802)860-6499 • www.hoyletanner.com

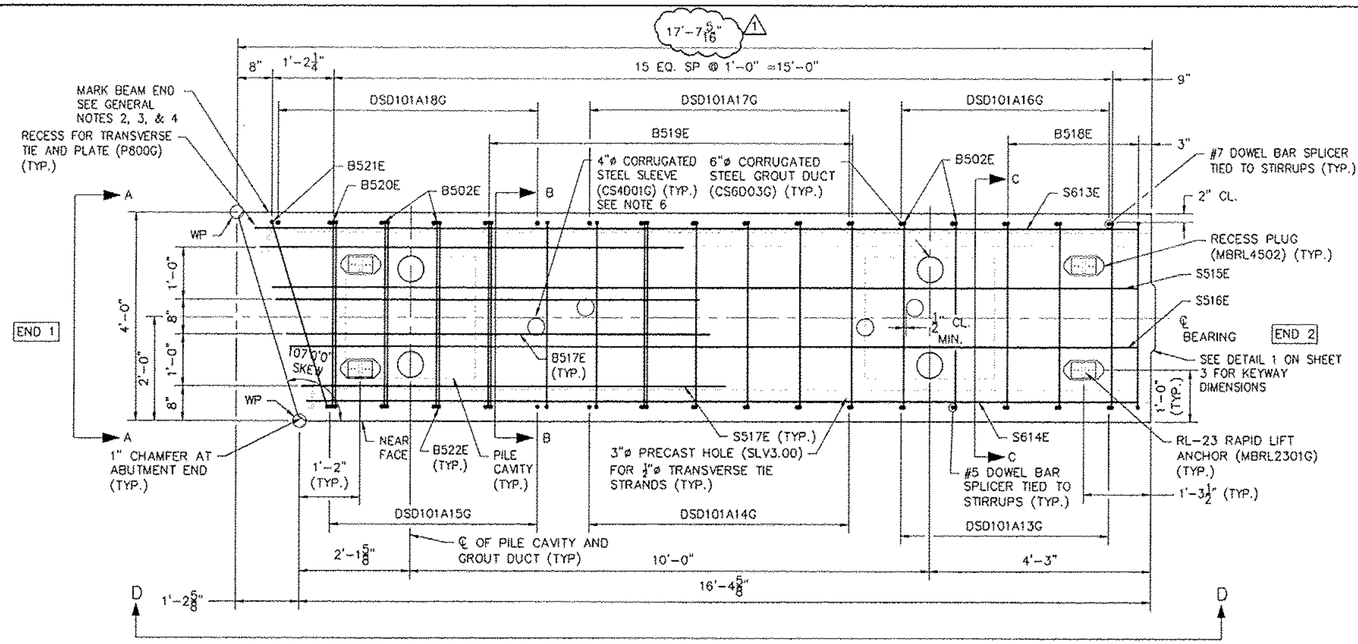
DRAWN BY: APN	DATE: FEBRUARY 2011
CHECKED BY: CHS	PROJECT NO: 122435.00

W.E. DAILEY INC.
ARMORY ROAD • SWANTON, VT 05488
PRECAST CONCRETE PRODUCTS
TEL: (802) 442-4418 FAX: (802) 442-4719

CHESTER, VT
VT 103
BRIDGE #9

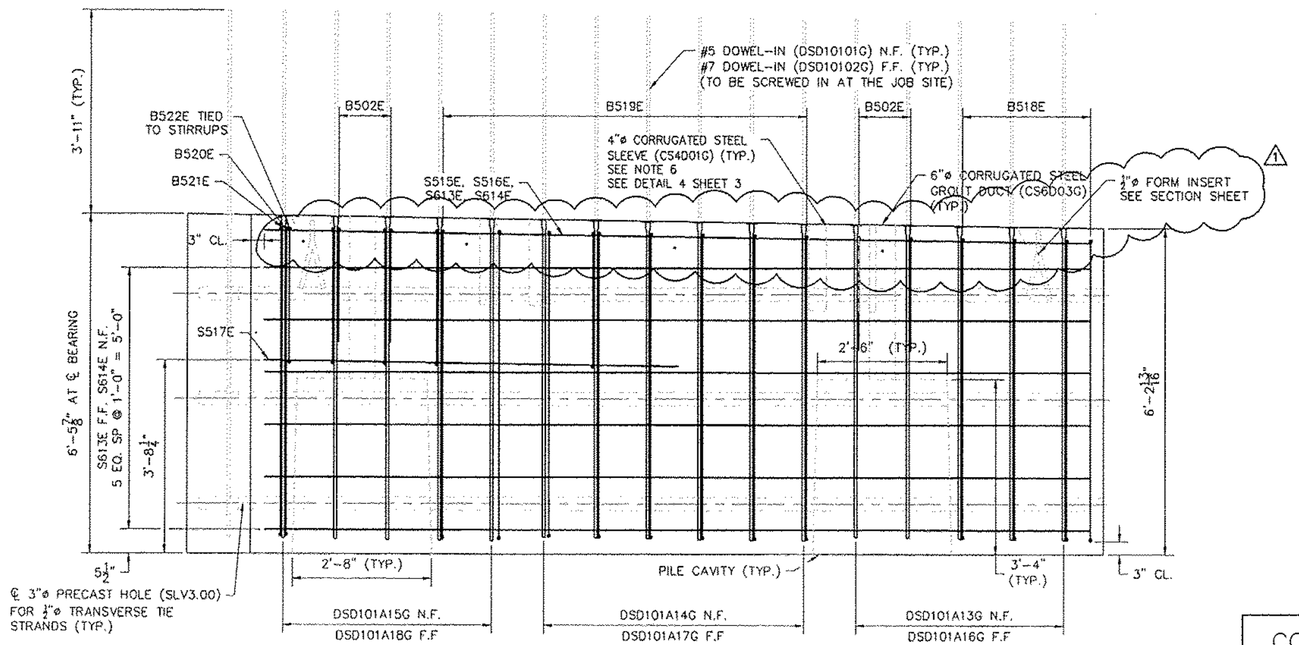
PROJECT NO.: BRF 025-1 (37)

SHEET 3 OF 15



④ BAW-01 REINF. LAYOUT PLAN

SCALE: 1/4" = 1'-0"



⑤ BAW-01 SECTION D – ELEVATION

SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. SEE PLAN SHEETS 1, 2, & 3 FOR PLAN AND DETAILS.
2. ALL ABUTMENT PILE CAPS ARE LABELED AS FOLLOWS: PRODUCT TYPE-IDENTIFICATION NUMBER-SEQUENCE NUMBER.
3. MARK BAW-01 "NORTH END", FOLLOWED BY THE CORRESPONDING BEAM LABEL.
4. FABRICATOR IS TO MARK ABUTMENT CAP END WITHIN CLOSE PROXIMITY TO THE NOTED END.
5. LIGHT SANDBLAST MATCH-CAST END PRIOR TO SHIPMENT TO REMOVE ANY FORM OIL, GREASE, LAITANCE, ETC.
6. SEE SHEET 1 FOR SLEEVE LOCATIONS. 4"ø SLEEVES ARE LOCATION CRITICAL.

RECEIVED
OK'D BY LSS OK'D BY KSY
MAR 1 1 2011
RESUBMIT ____ APPROVED ✓
BY CPW DATE 3/28/11

REVISION NO.	REVISION DATE
1	MARCH 09, 2011

Hoyle, Tanner & Associates, Inc.
125 College Street, 4th Floor Burlington, VT 05401
Tel (802)860-1331 • Fax (802)860-6499 • www.hoyletanner.com

DRAWN BY: APN DATE: FEBRUARY 2011
CHECKED BY: CHS PROJECT NO: 122435.00

W.E. DAILEY INC.
ARMORY ROAD-SWANTON, VT 05262
PRECAST CONCRETE PRODUCTS
TEL: (802) 442-4418 FAX: (802) 442-4719

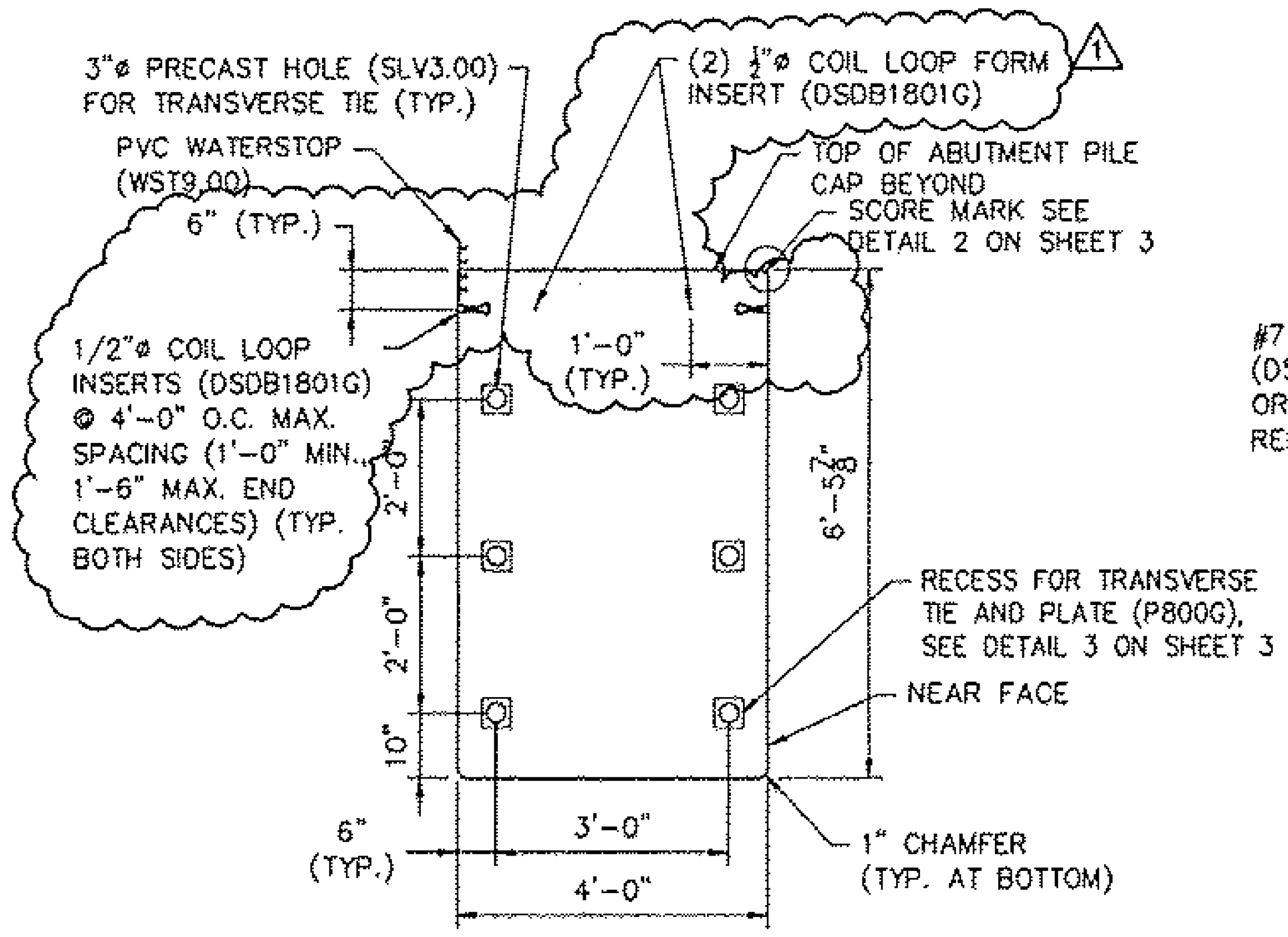
STATE OF VERMONT — CHARLES H. SPAULDING — No. 8126 — Structural — LICENSED PROFESSIONAL ENGINEER

CONSTRUCTION SET
FEBRUARY 18, 2011

CHESTER, VT
VT 103
BRIDGE #9

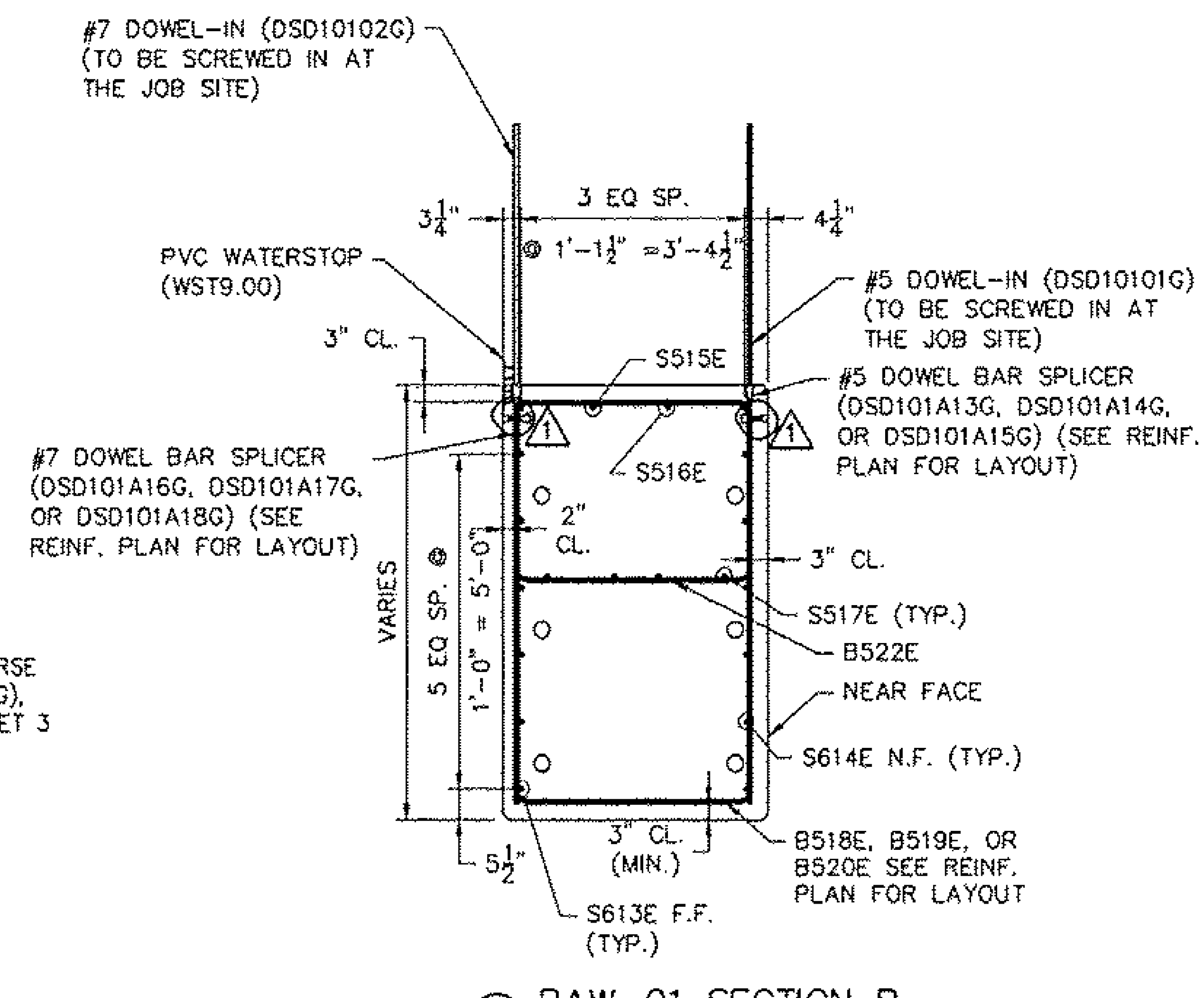
PROJECT NO.: BRF 025-1 (37)

SHEET 4 OF 15



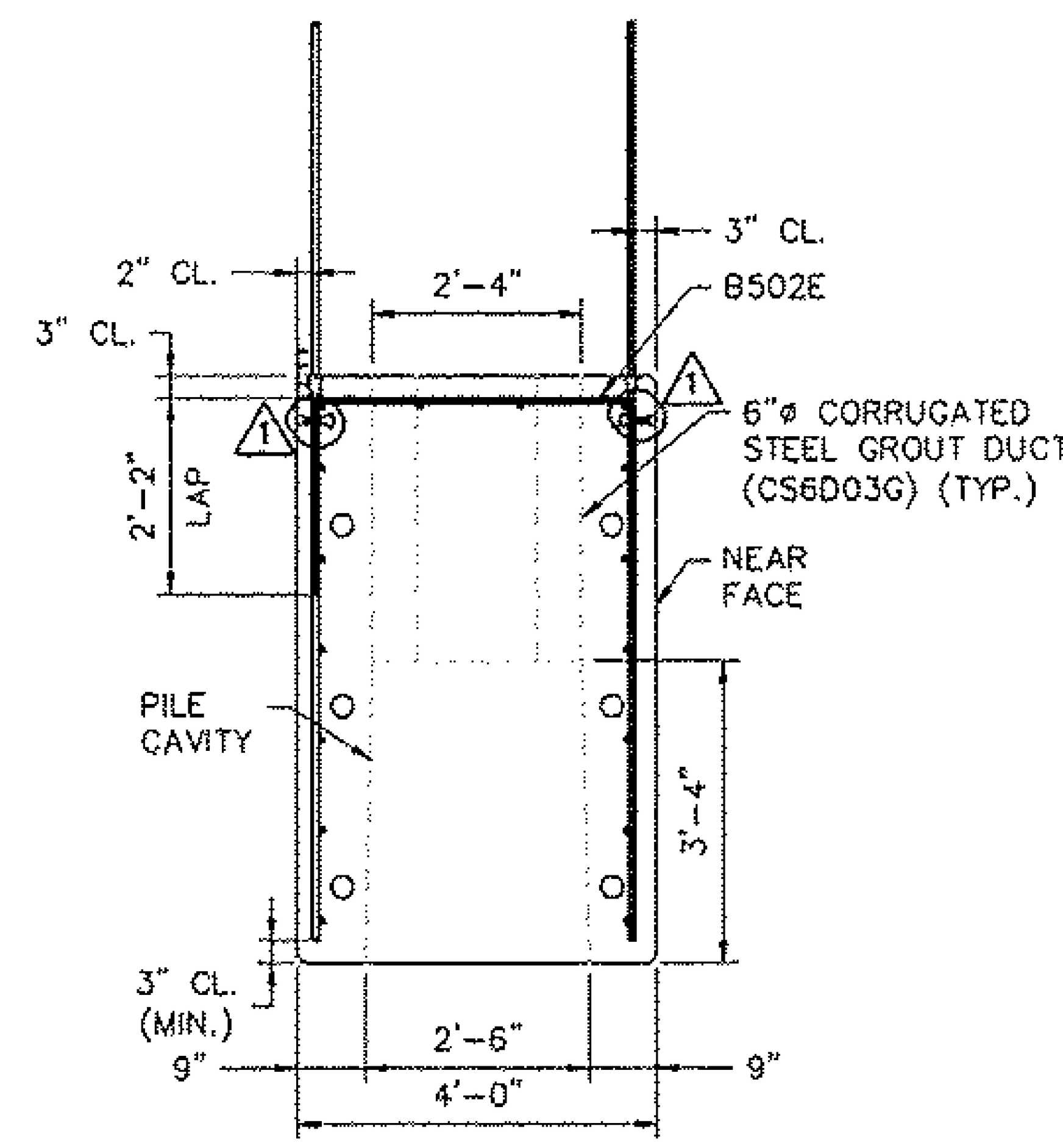
1 BAW-01 SECTION A

SCALE: ½" = 1'-0"



2 BAW-01 SECTION B

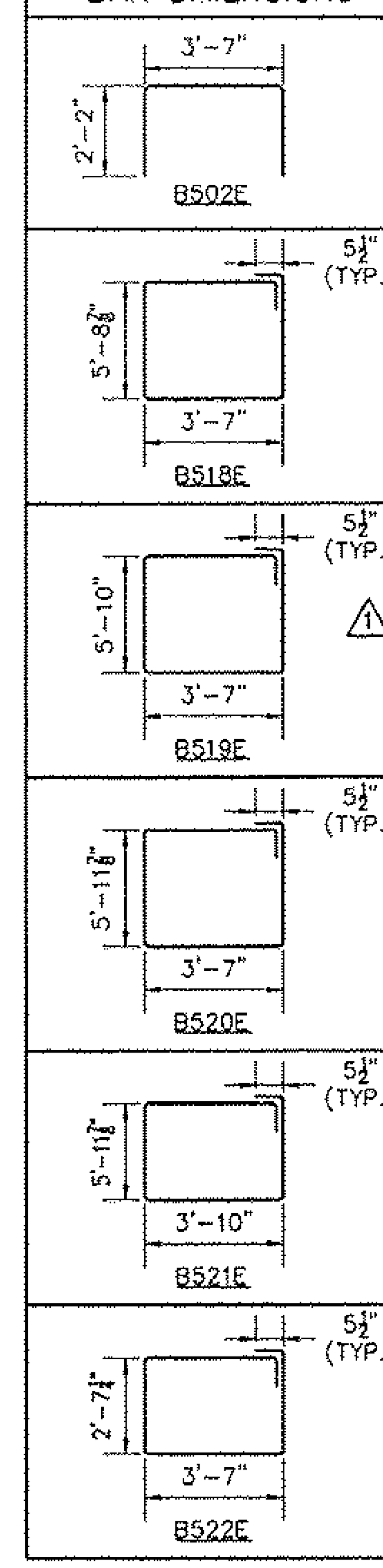
SCALE: ½" = 1'-0"



3 BAW-01 SECTION C

SCALE: ½" = 1'-0"

BAR DIMENSIONS



NOTE:
REBAR DIMENSIONS ARE OUT TO OUT.

PARTS & PART NUMBERS		
PART NO.	DESCRIPTION	QTY.
B502E	#5 X 7'-11" EPOXY COATED	4
S613E	#6 X 16'-11⅞" EPOXY COATED	7
S614E	#6 X 15'-11⅜" EPOXY COATED	7
S515E	#5 X 16'-7⅝" EPOXY COATED	1
S516E	#5 X 16'-3⅜" EPOXY COATED	1
S517E	#5 X 7'-7¼" EPOXY COATED	4
B518E	#5 X 19'-6¾" EPOXY COATED	4
B519E	#5 X 19'-9" EPOXY COATED	8
B520E	#5 X 20'-0¾" EPOXY COATED	1
B521E	#5 X 20'-6¾" EPOXY COATED	1
B522E	#5 X 13'-3½" EPOXY COATED	5
DSDB1801G	½"ø, 4" LONG, COIL LOOP INSERT	12
CS4D01G	~~4"ø CORRUGATED STEEL~~ SLEEVE 1'-8" LONG, GALV.	4
WST9.00	PVC WATERSTOP 18'-4⁵⁄₁₆" LONG BASE SEAL TYPE 771 BY GREENSTREAK	1
MBRL2301G	RAPID LIFT, 22 TON, 15" LONG, GALV.	4
MBRL4502	RECESS PLUG, 22 TON	4
SLV3.00	3" I.D. RIGID PLASTIC SLEEVE	6
CS6D03G	6" ø CORRUGATED STEEL PIPE, GALV., 3'-2" LONG (MAX.)	4
DSD101A13G	#5 DOWEL BAR SPLICER, 5'-11⅞" LONG	5
DSD101A14G	#5 DOWEL BAR SPLICER, 6'-1" LONG	6
DSD101A15G	#5 DOWEL BAR SPLICER, 6'-5⅛" LONG	5
DSD101A16G	#7 DOWEL BAR SPLICER, 5'-11⅞" LONG	5
DSD101A17G	#7 DOWEL BAR SPLICER, 6'-1" LONG	6
DSD101A18G	#7 DOWEL BAR SPLICER, 6'-5⅛" LONG	6
	VERMONT STATE MIX DESIGN	

NOTE:
ALL ITEMS LISTED ABOVE ARE SUGGESTED PRODUCTS. FABRICATOR MAY SUBSTITUTE APPROVED EQUALS AS NECESSARY.

PARTS & PART NUMBERS		
	DO NOT CAST – SHIP TO JOBSITE	
DSD10101G	#5 DOWEL-IN, 4'-0⅛" LONG	16
DSD10102G	#7 DOWEL-IN, 4'-0⅛" LONG	17
P800G	~~½"X4½"X4½"~~ GALVANIZED PLATE	6

1"×6"×6"

MATERIAL SPECIFICATION

CONCRETE:
28 DAY STRENGTH: 5000 PSI
RELEASE STRENGTH: 3000 PSI
MILD REINFORCING: AASHTO M31, GRADE 60, EPOXY COATED

FINISHES
ENDS: FORM FINISH
TOP: RAKE FINISH, ¼" AMPLITUDE
BOTTOM: FORM FINISH
SIDES: FORM FINISH

DUNNAGE:
STORAGE: BELOW LIFT ANCHORS
SHIPPING: BELOW LIFT ANCHORS

BAW-01
TOTAL WEIGHT: 57,960 LBS
CONC. YARDAGE: 14.31 CY

RECEIVED
OK'D BY LJS OK'D BY RSY
MAR 11 2011
RESUBMIT______ APPROVED As Noted
BY GPW DATE 3/28/11

STATE OF VERMONT
CHARLES H. EMERSON
No. 8126
LICENSED PROFESSIONAL ENGINEER

REVISION NO.	REVISION DATE
1	MARCH 09, 2011

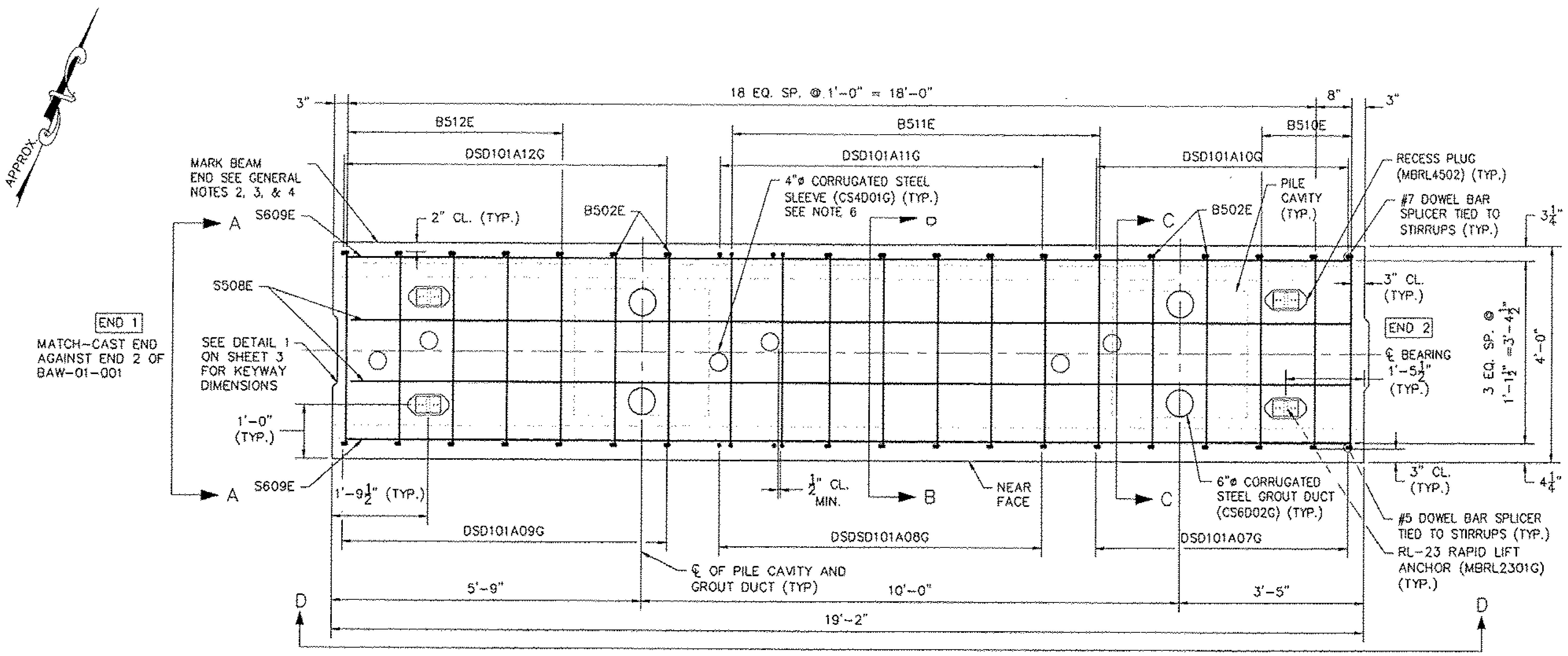
Hoyle, Tanner & Associates, Inc.
125 College Street, 4th Floor Burlington, VT 05401
Tel (802)860-1331 • Fax (802)860-6499 • www.hoyletanner.com

DRAWN BY: AFN | DATE: FEBRUARY 2011
CHECKED BY: CHS | PROJECT NO: 122435.00

Wm.E. DAILEY INC.
AIRPORT ROAD - SHAFTSBURY, VT 05262
PRECAST CONCRETE PRODUCTS
TEL: (802) 442-4418 FAX: (802) 442-4719

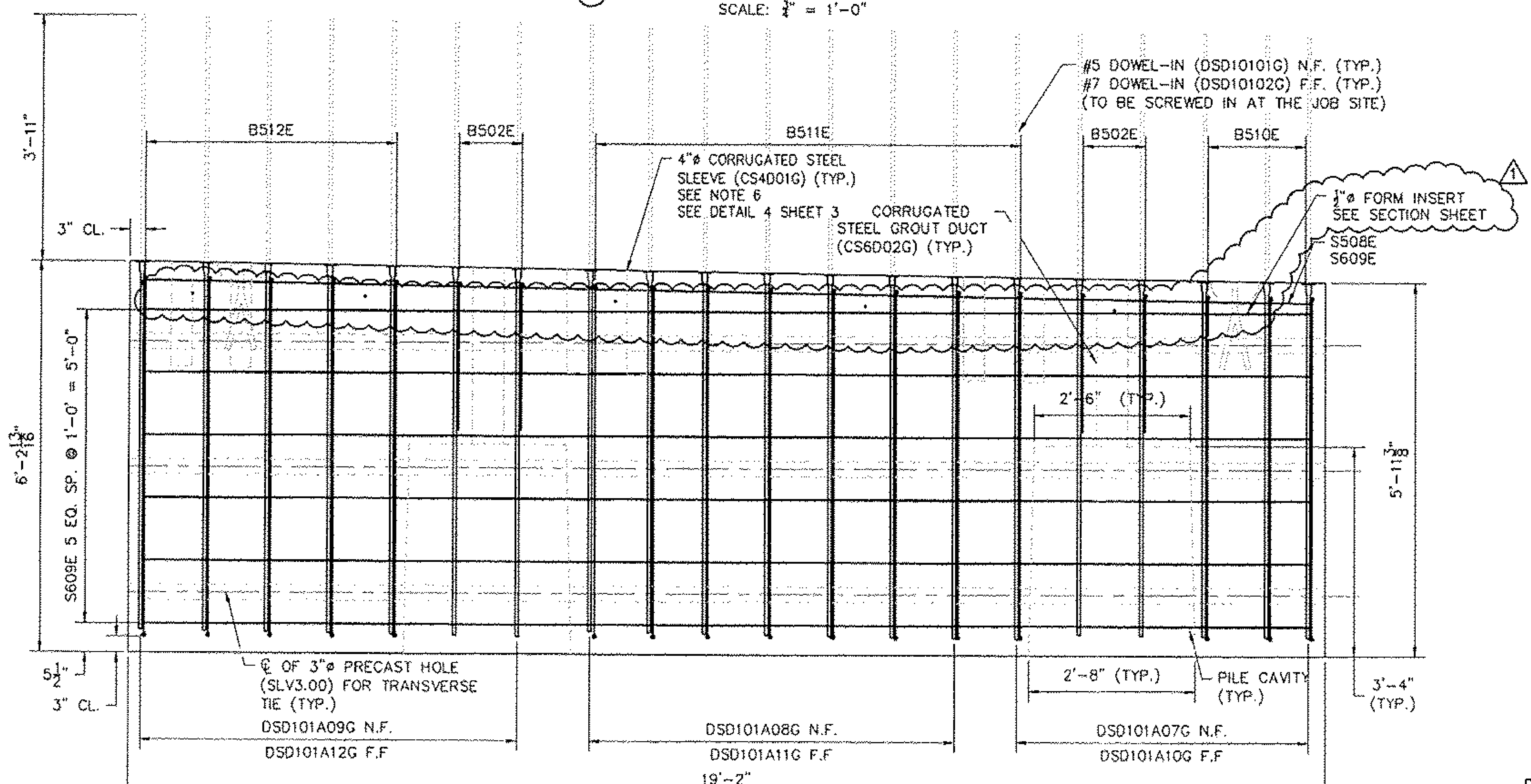
CHESTER, VT
VT 103
BRIDGE #9
PROJECT NO.: BRF 025-1 (37)

CONSTRUCTION SET
FEBRUARY 18, 2011



④ BAW-02 REINF. LAYOUT PLAN

SCALE: ⅜" = 1'-0"



⑤ BAW-02 SECTION D – ELEVATION

SCALE: ⅜" = 1'-0"

GENERAL NOTES:

1. SEE PLAN SHEETS 1, 2, & 3 FOR PLAN AND DETAILS.
2. ALL ABUTMENT PILE CAPS ARE LABELED AS FOLLOWS: PRODUCT TYPE-IDENTIFICATION NUMBER-SEQUENCE NUMBER.
3. MARK BAW-02 "NORTH END", FOLLOWED BY THE CORRESPONDING BEAM LABEL.
4. FABRICATOR IS TO MARK ABUTMENT CAP END WITHIN CLOSE PROXIMITY TO THE NOTED END.
5. LIGHT SANDBLAST MATCH-CAST END PRIOR TO SHIPMENT TO REMOVE ANY FORM OIL, GREASE, LAITANCE, ETC.
6. SEE SHEET 1 FOR SLEEVE LOCATIONS. 4"ø SLEEVES ARE LOCATION CRITICAL.

RECEIVED
OK'D BY LJS OK'D BY KSY
MAR 1 1 2011
RESUBMIT ____ APPROVED ✓
BY GPW DATE 3/28/11

REVISION NO.	REVISION DATE
1	MARCH 09, 2011

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W.E. DAILEY INC.
PRECAST CONCRETE PRODUCTS

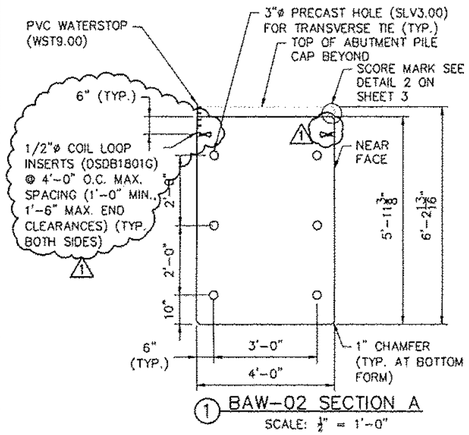
CONSTRUCTION SET
FEBRUARY 18, 2011

CHESTER, VT
VT 103
BRIDGE #9

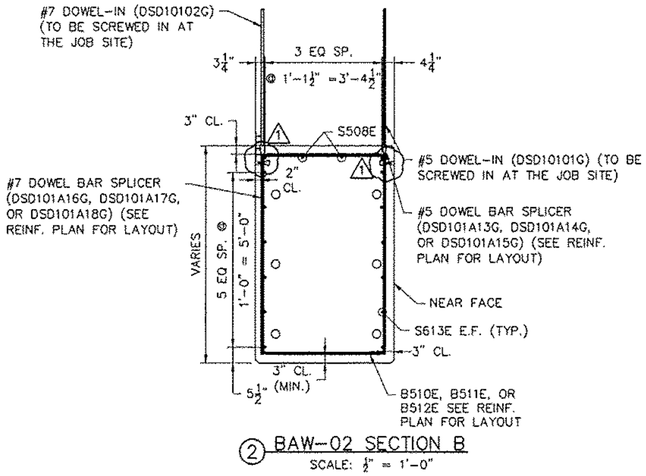
PROJECT NO.: BRF 025-1 (37)

SHEET 6 OF 15

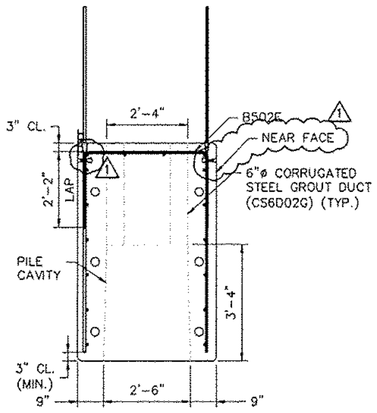
RECEIVED
OK'D BY LSS OK'D BY RSY
MAR 1 1 2011
RESUBMIT ____ APPROVED ✓
BY CPW DATE 3/28/11



1 BAW-02 SECTION A
SCALE: ½" = 1'-0"

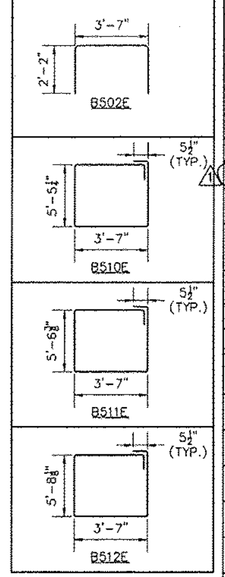


2 BAW-02 SECTION B
SCALE: ½" = 1'-0"



3 BAW-02 SECTION C
SCALE: ½" = 1'-0"

BAR DIMENSIONS



NOTE:
REBAR DIMENSIONS ARE OUT TO OUT.

PARTS & PART NUMBERS

PART NO.	DESCRIPTION	QTY.
B502E	#5 X 7'-11" EPOXY COATED	4
S508E	#5 X 18'-5" EPOXY COATED	2
S609E	#6 X 18'-7" EPOXY COATED	14
B510E	#5 X 18'-11½" EPOXY COATED	3
B511E	#5 X 19'-1⅞" EPOXY COATED	8
B512E	#5 X 19'-5¼" EPOXY COATED	5
DSDB1801G	½"ø, 4" LONG, COIL LOOP INSERT	12
CS4D01G	4"ø CORRUGATED STEEL SLEEVE 1'-8" LONG, GALV.	6
WST9.00	PVC WATERSTOP 19'-2" LONG BASE SEAL TYPE 771 BY GREENSTREAK	1
MBRL2301G	RAPID LIFT, 22 TON, 15" LONG, GALV.	4
MBRL4502	RECESS PLUG, 22 TON	4
SLV3.00	3" I.D. RIGID PLASTIC SLEEVE	6
CS6D02G	6" ø CORRUGATED STEEL PIPE, GALV. 2'-10" LONG (MAX.)	4
DSD101A07G	#5 DOWEL BAR SPLICER, 5'-8¼" LONG	6
DSD101A08G	#5 DOWEL BAR SPLICER, 5'-9⅜" LONG	7
DSD101A09G	#5 DOWEL BAR SPLICER, 5'-10⅞" LONG	7
DSD101A010G	#7 DOWEL BAR SPLICER, 5'-8¼" LONG	6
DSD101A11G	#7 DOWEL BAR SPLICER, 5'-9⅝" LONG	7
DSD101A12G	#7 DOWEL BAR SPLICER, 5'-10⅞" LONG	7
	VERMONT STATE MIX DESIGN	
	DO NOT CAST - SHIP TO JOBSITE	
DSD10101G	#5 DOWEL-IN, 4'-0⅜" LONG	20
DSD10102G	#7 DOWEL-IN, 4'-0⅝" LONG	20

NOTE:
ALL ITEMS LISTED ABOVE ARE SUGGESTED PRODUCTS. FABRICATOR MAY SUBSTITUTE APPROVED EQUALS AS NECESSARY.

MATERIAL SPECIFICATION

CONCRETE:
28 DAY STRENGTH: 5000 PSI
RELEASE STRENGTH: 3000 PSI
MILD REINFORCING: AASHTO M31, GRADE 60, EPOXY COATED

FINISHES
ENDS: FORM FINISH
TOP: RAKE FINISH, ¼" AMPLITUDE
BOTTOM: FORM FINISH
SIDES: FORM FINISH

DUNNAGE:
STORAGE: BELOW LIFT ANCHORS
SHIPPING: BELOW LIFT ANCHORS

BAW-02
TOTAL WEIGHT: 63,109 LBS
CONC. YARDAGE: 15.58 CY

CONSTRUCTION SET
FEBRUARY 18, 2011

REVISION NO.	REVISION DATE
1	MARCH 09, 2011

Hoyle, Tanner & Associates, Inc.
125 College Street, 4th Floor Burlington, VT 05401
Tel (802)860-1331 • Fax (802)860-6499 • www.hoyletanner.com

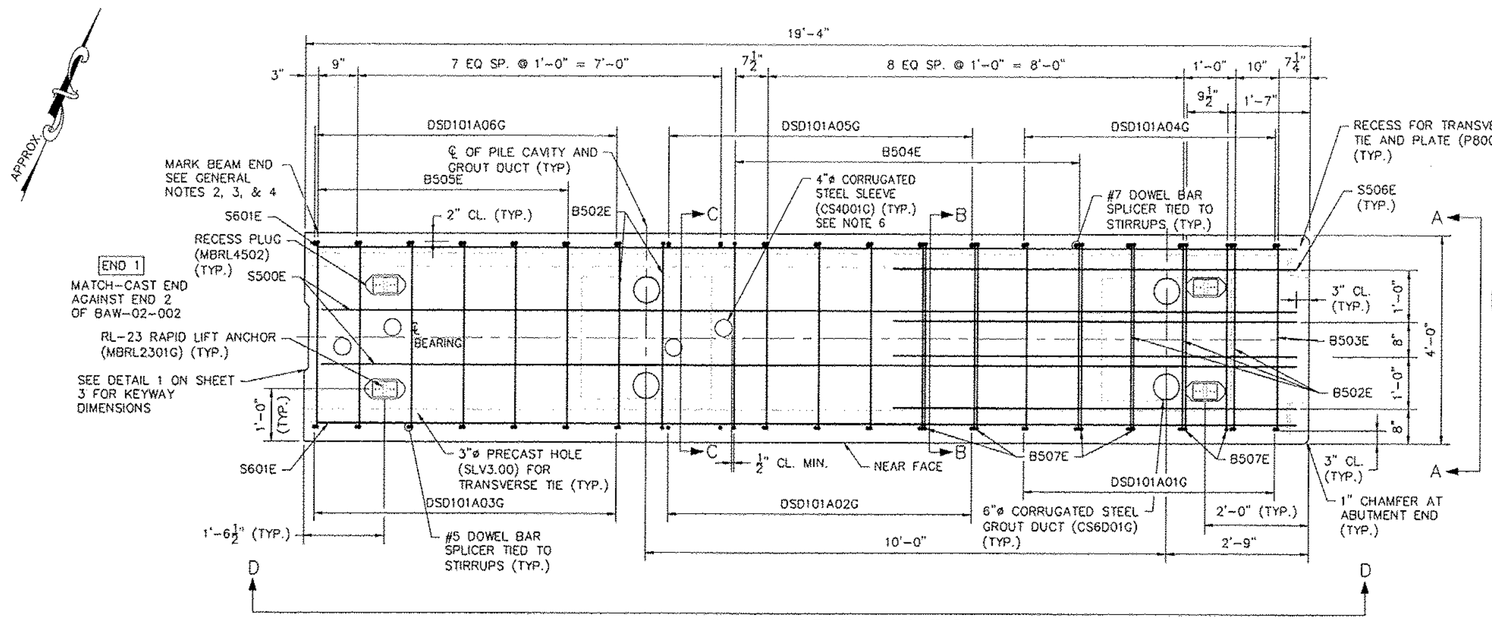
DRAWN BY: AFN | DATE: FEBRUARY 2011
CHECKED BY: CHS | PROJECT NO: 122435.00

W.E. DAILEY INC.
AIRPORT ROAD SHAFTSBURY, VT 05262
PRECAST CONCRETE PRODUCTS
TEL: (802) 442-4418 FAX: (802) 442-4719

CHESTER, VT
VT 103
BRIDGE #9

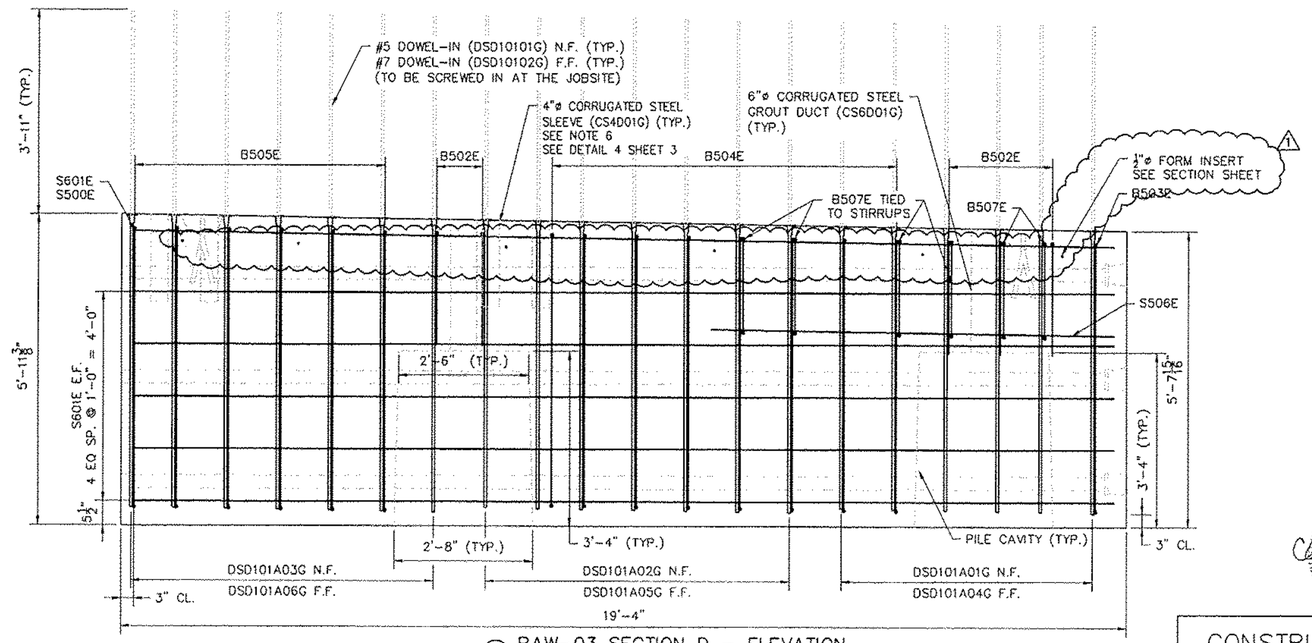
PROJECT NO.: BRF 025-1 (37)

SHEET 7 OF 15



④ BAW-03 REINF. LAYOUT PLAN

SCALE: ¾" = 1'-0"



⑤ BAW-03 SECTION D - ELEVATION

SCALE: ¾" = 1'-0"

RECEIVED
OK'D BY JJS OK'D BY RCY
MAR 1 1 2011
RESUBMIT ____ APPROVED ✓
BY CPW DATE 3/28/11

GENERAL NOTES:

1. SEE PLAN SHEETS 1, 2, & 3 FOR PLAN AND DETAILS.
2. ALL ABUTMENT PILE CAPS ARE LABELED AS FOLLOWS: PRODUCT TYPE-IDENTIFICATION NUMBER-SEQUENCE NUMBER.
3. MARK BAW-03 "NORTH END", FOLLOWED BY THE CORRESPONDING BEAM LABEL.
4. FABRICATOR IS TO MARK ABUTMENT PILE CAP END WITHIN CLOSE PROXIMITY TO THE NOTED END.
5. LIGHT SANDBLAST MATCH-CAST END PRIOR TO SHIPMENT TO REMOVE ANY FORM OIL, GREASE, LAITANCE, ETC.
6. SEE SHEET 1 FOR SLEEVE LOCATIONS. 4"ø SLEEVES ARE LOCATION CRITICAL.

REVISION NO.	REVISION DATE
1	MARCH 09, 2011

Hoyle, Tanner & Associates, Inc.
125 College Street, 4th Floor Burlington, VT 05401
Tel: (802)860-1331 • Fax (802)860-6489 • www.hoyletanner.com

DRAWN BY: APN | DATE: FEBRUARY 2011
CHECKED BY: CHS | PROJECT NO: 122435.00

W.E. DAILEY INC.
AMHERST ROAD - SWANTON, VT 05762
PRECAST CONCRETE PRODUCTS
TEL: (802) 442-4416 FAX: (802) 442-4719

STATE OF VERMONT CHARLES H. SWANSON No. 3126 Structural LICENSED PROFESSIONAL ENGINEER

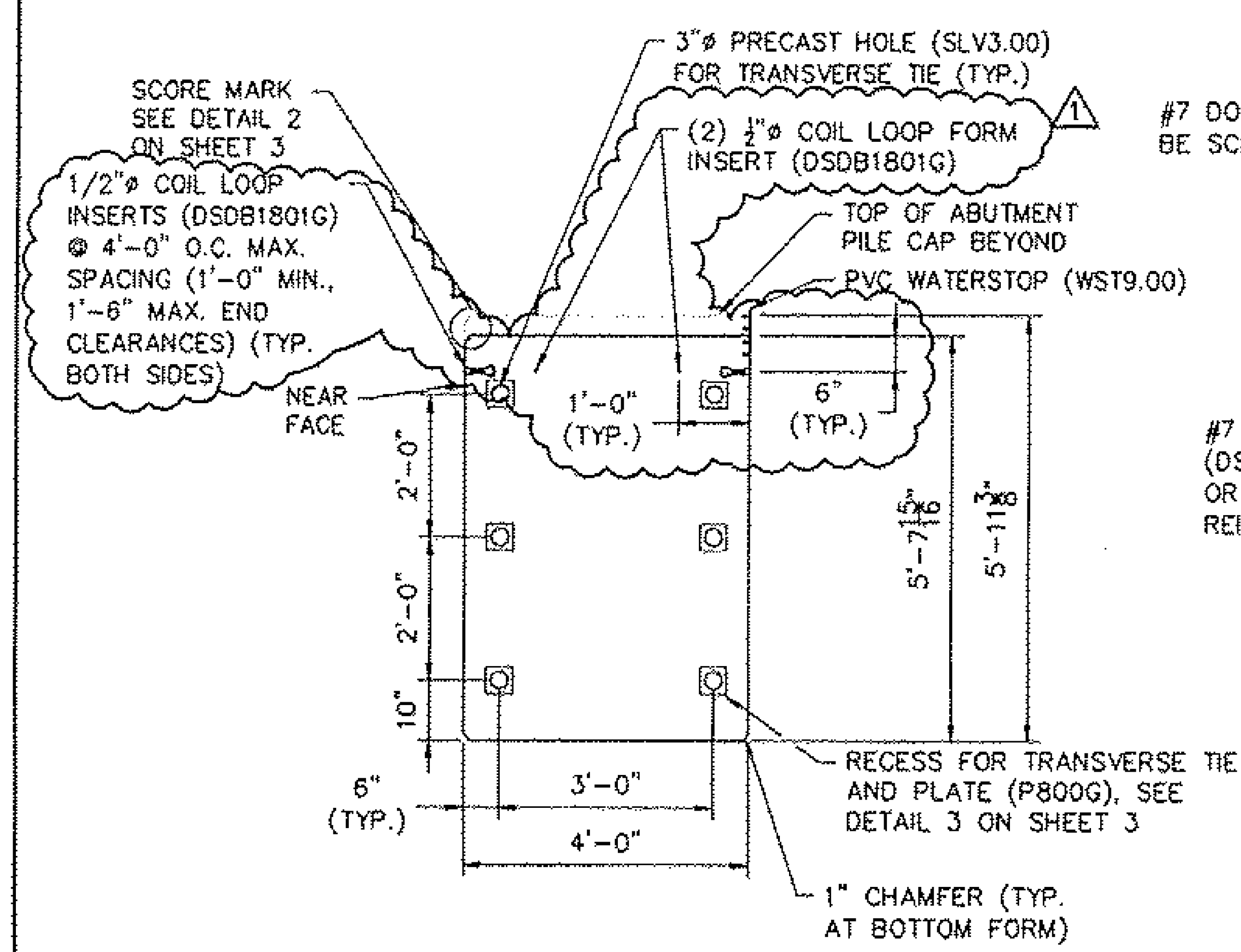
CONSTRUCTION SET
FEBRUARY 18, 2011

CHESTER, VT
VT 103
BRIDGE #9

PROJECT NO.: BRF 025-1 (37)

SHEET 8 OF 15

RECEIVED
OK'D BY LDS OK'D BY RSY
MAR 1 1 2011
RESUBMIT ____ APPROVED As Noted
BY CPW DATE 3/28/11



(1) BAW-03 SECTION A
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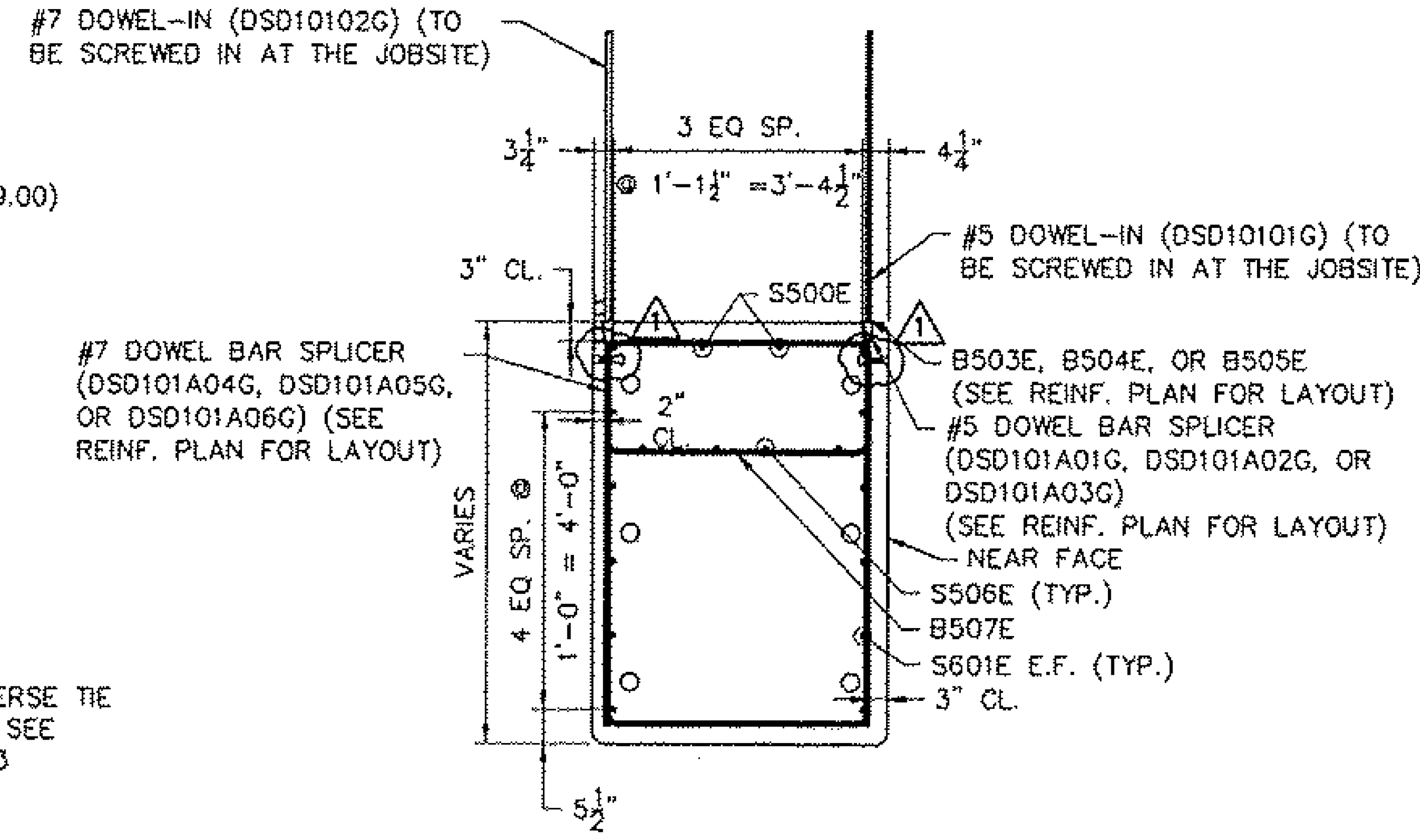
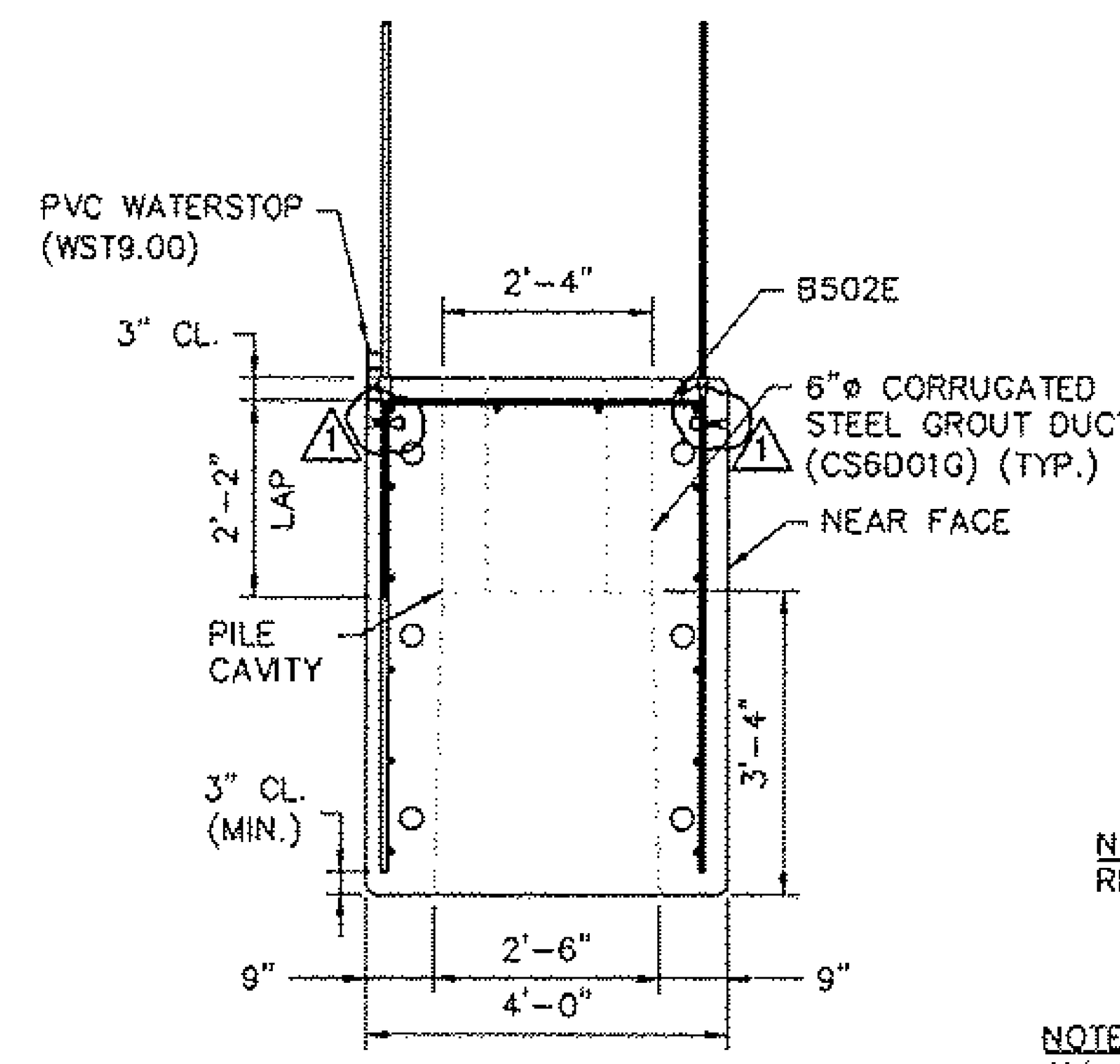
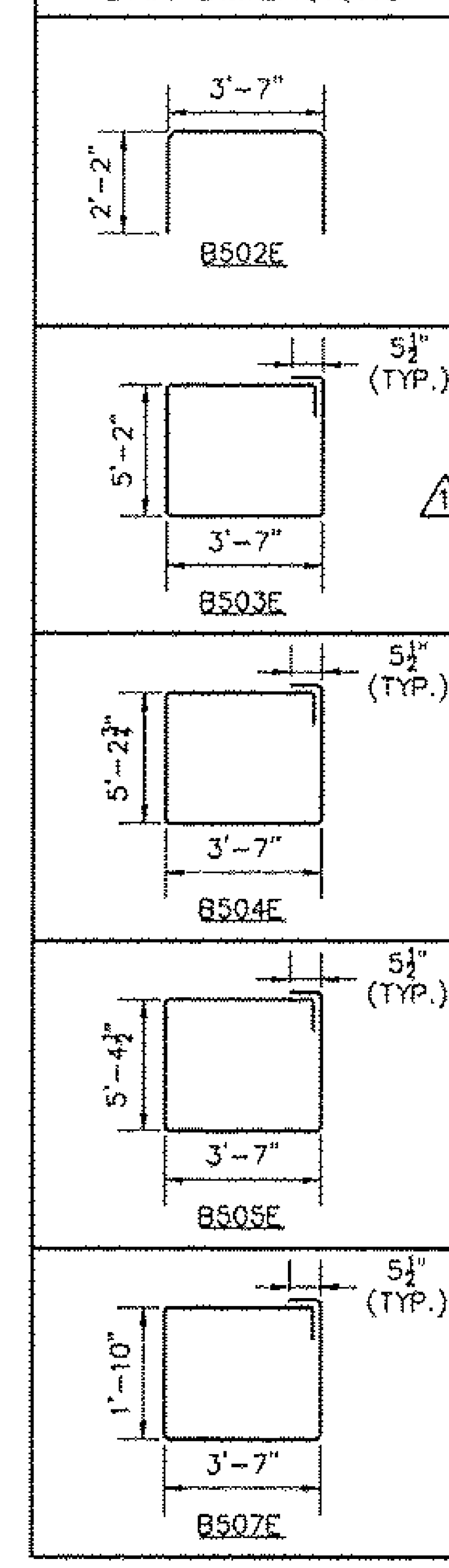


(2) BAW-03 SECTION B
SCALE: 1/2" = 1'-0"



(3) BAW-03 SECTION C
SCALE: 1/2" = 1'-0"

BAR DIMENSIONS



NOTE:
REBAR DIMENSIONS ARE OUT TO OUT.

PARTS & PART NUMBERS

PART NO.	DESCRIPTION	QTY.
S500E	#5 X 18'-7 1/2" EPOXY COATED	2
S601E	#6 X 18'-9 1/2" EPOXY COATED	12
B502E	#5 X 7'-11" EPOXY COATED	5
B503E	#5 X 18'-5" EPOXY COATED	1
B504E	#5 X 18'-6 1/2" EPOXY COATED	8
B505E	#5 X 18'-10" EPOXY COATED	6
S506E	#5 X 7'-9" EPOXY COATED	4
B507E	#5 X 11'-9" EPOXY COATED	6
DADB1801G	1/2"ø, 4" LONG, COIL LOOP INSERT	14
CS4D01G	4"ø CORRUGATED STEEL SLEEVE 1'-8" LONG, GALV.	4
WST9.00	PVC WATERSTOP 19'-4" LONG BASE SEAL TYPE 771 BY GREENSTREAK	1
MBRL2301G	RAPID LIFT, 22 TON, 15" LONG, GALV.	4
MBRL4502	RECESS PLUG, 22 TON	4
SLV3.00	3" I.D. RIGID PLASTIC SLEEVE	6
CS6D01G	6" ø CORRUGATED STEEL PIPE, GALV., 2'-6 1/2" LONG (MAX.)	4
DSD101A01G	#5 DOWEL BAR SPLICER, 5'-5" LONG	6
DSD101A02G	#5 DOWEL BAR SPLICER, 5'-6 1/8" LONG	7
DSD101A03G	#5 DOWEL BAR SPLICER, 5'-7 1/4" LONG	7
DSD101A04G	#7 DOWEL BAR SPLICER, 5'-5" LONG	6
DSD101A05G	#7 DOWEL BAR SPLICER, 5'-6 1/8" LONG	7
DSD101A06G	#7 DOWEL BAR SPLICER, 5'-7 1/4" LONG	7
	VERMONT STATE MIX DESIGN	
	DO NOT CAST – SHIP TO JOBSITE	
DSD10101G	#5 DOWEL-IN, 4'-0 1/8" LONG	20
DSD10102G	#7 DOWEL-IN, 4'-0 3/8" LONG	20
P800G	~~1"X4 1/2"X4 1/2"~~ GALVANIZED PLATE 1"×6"×6"	6

NOTE:
ALL ITEMS LISTED ABOVE ARE SUGGESTED PRODUCTS. FABRICATOR MAY SUBSTITUTE APPROVED EQUALS AS NECESSARY.

MATERIAL SPECIFICATION

CONCRETE:
28 DAY STRENGTH: 5000 PSI
RELEASE STRENGTH: 3000 PSI
MILD REINFORCING: AASHTO M31, GR 60 EPOXY COATED

FINISHES
ENDS: FORM FINISH
TOP: RAKE FINISH, 1/4" AMPLITUDE
BOTTOM: FORM FINISH
SIDES: FORM FINISH

DUNNAGE:
STORAGE: BELOW LIFT ANCHORS
SHIPPING: BELOW LIFT ANCHORS

BAW-03
TOTAL WEIGHT: 60,334 LBS
CONC. YARDAGE: 14.89 CY

REVISION NO.	REVISION DATE
1	MARCH 09, 2011

Hoyle, Tanner & Associates, Inc.
125 College Street, 4th Floor Burlington, VT 05401
Tel (802)860-1331 • Fax (802)860-6499 • www.hoyletanner.com

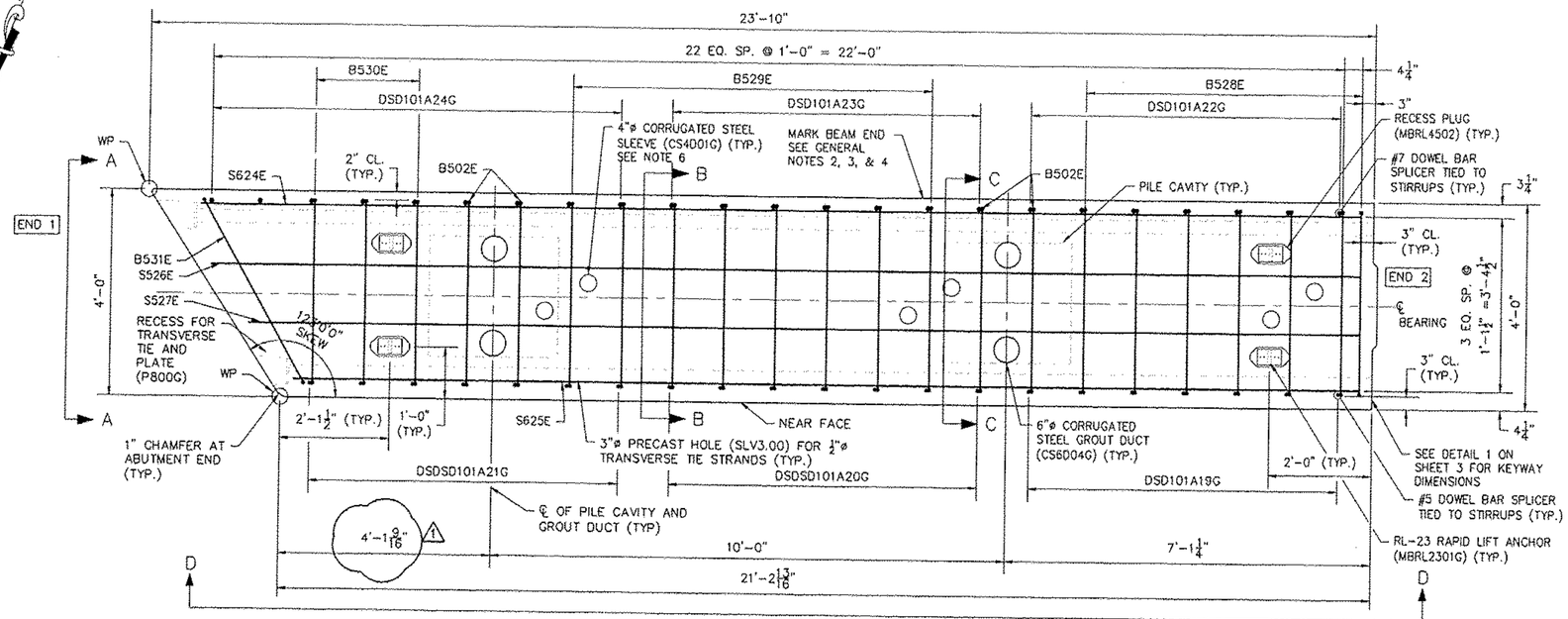
DRAWN BY: AFN | DATE: FEBRUARY 2011
CHECKED BY: CHS | PROJECT NO: 122435.00

Wm.E. DAILEY INC.
AIRPORT ROAD–SHAFTSBURY, VT 05262
PRECAST CONCRETE PRODUCTS
TEL: (802) 442-4418 FAX: (802) 442-4719

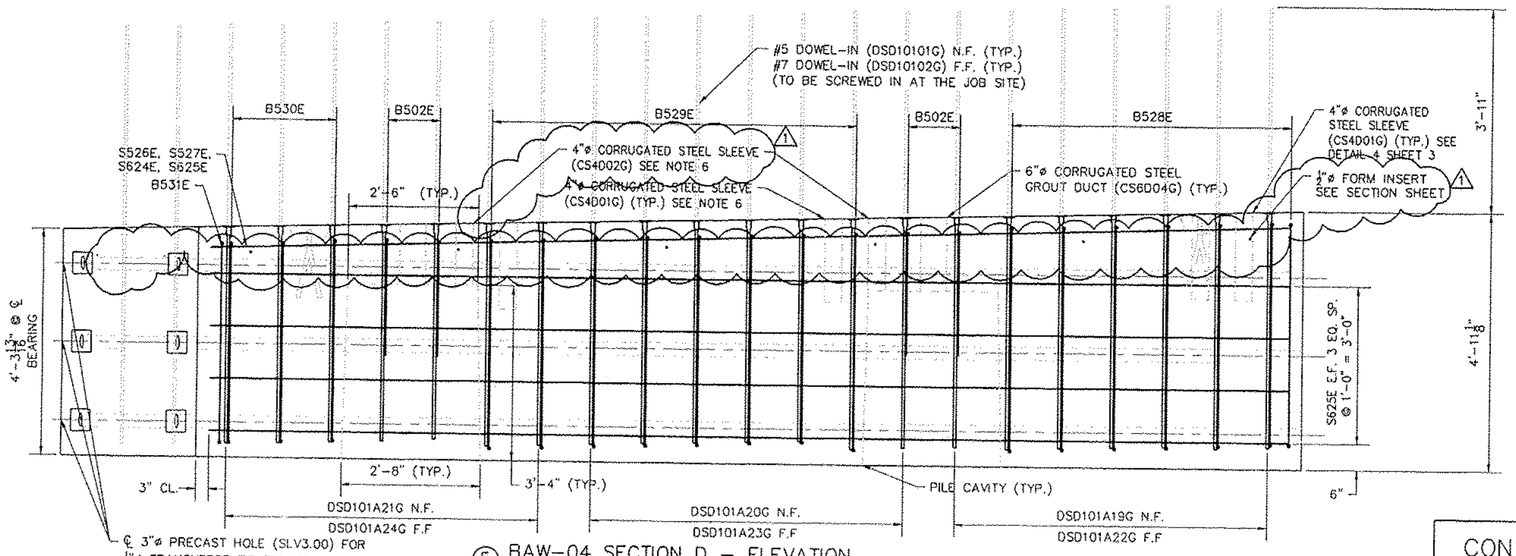
CONSTRUCTION SET
FEBRUARY 18, 2011

CHESTER, VT
VT 103
BRIDGE #9
PROJECT NO.: BRF 025-1 (37)

RECEIVED
OK'D BY LSS OK'D BY RSY
MAR 1 1 2011
RESUBMIT ____ APPROVED ✓
BY CPW DATE 3/28/11



④ BAW-04 REINF. LAYOUT PLAN
SCALE: ¾" = 1'-0"



⑤ BAW-04 SECTION D – ELEVATION
SCALE: ¾" = 1'-0"

GENERAL NOTES:

1. SEE PLAN SHEETS 1, 2, & 3 FOR PLAN AND DETAILS.
2. ALL ABUTMENT PILE CAPS ARE LABELED AS FOLLOWS: PRODUCT TYPE-IDENTIFICATION NUMBER-SEQUENCE NUMBER.
3. MARK BAW-04 "SOUTH END", FOLLOWED BY THE CORRESPONDING BEAM LABEL.
4. FABRICATOR IS TO MARK ABUTMENT CAP END WITHIN CLOSE PROXIMITY TO THE NOTED END.
5. LIGHT SANDBLAST MATCH-CAST END PRIOR TO SHIPMENT TO REMOVE ANY FORM OIL, GREASE, LAITANCE, ETC.
6. SEE SHEET 2 FOR SLEEVE LOCATIONS. 4"ø SLEEVES ARE LOCATION CRITICAL.

REVISION NO.	REVISION DATE
1	MARCH 09, 2011

Hoyle, Tanner & Associates, Inc.
125 College Street, 4th Floor Burlington, VT 05401
Tel (802)860-1331 • Fax (802)860-6499 • www.hoylestanner.com

DRAWN BY: APN	DATE: FEBRUARY 2011
CHECKED BY: CRS	PROJECT NO: 12435.00

W.E. DAILEY INC.
AMHERST ROAD SWANTON, VT 05488
PRECAST CONCRETE PRODUCTS
TEL: (802) 442-4416 FAX: (802) 442-4719

STATE OF VERMONT CHARLES H. SMALLEY NO. 0120 Registered LICENSED PROFESSIONAL ENGINEER

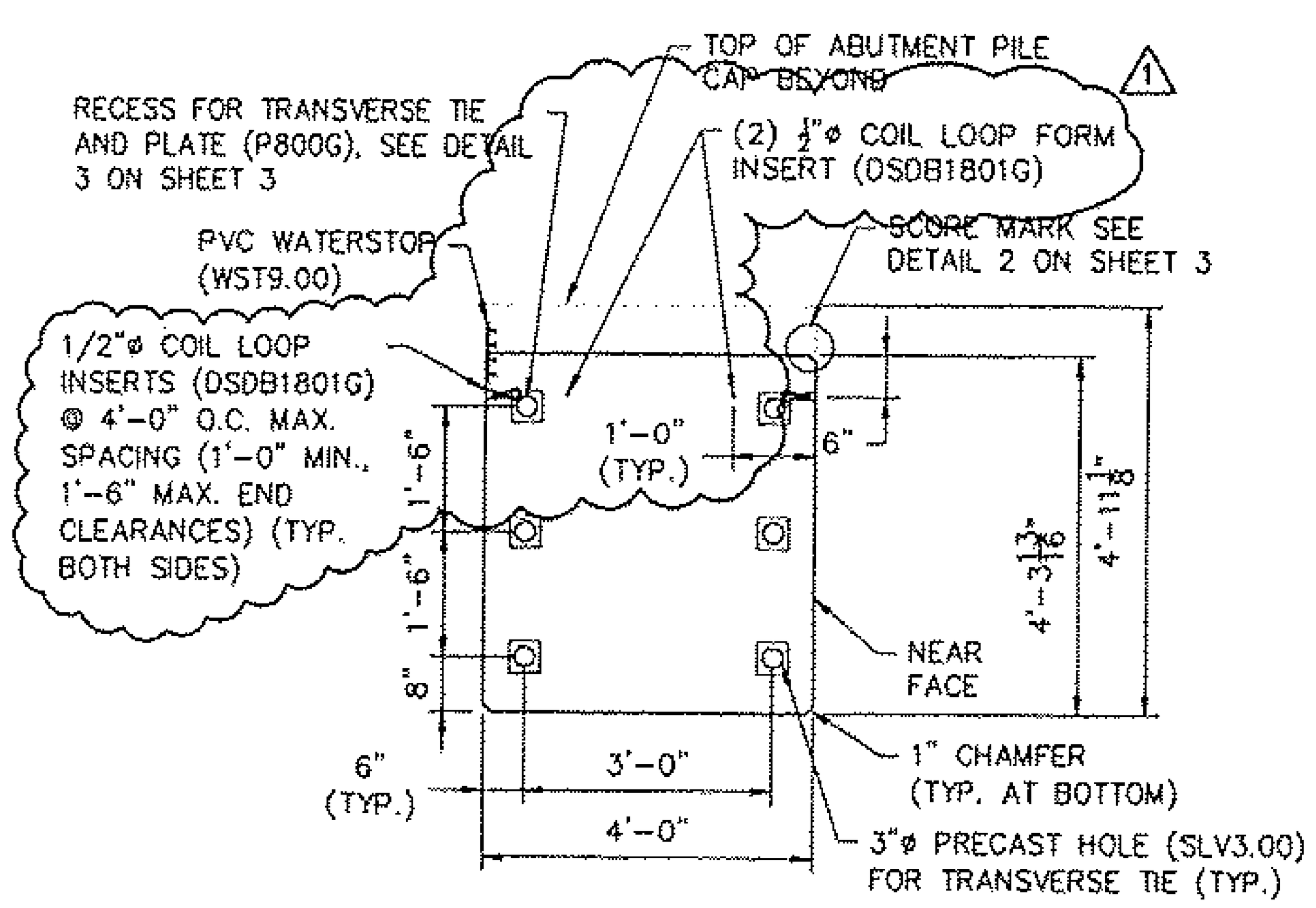
CONSTRUCTION SET
FEBRUARY 18, 2011

CHESTER, VT
VT 103
BRIDGE #9

PROJECT NO.: BRF 025-1 (37)

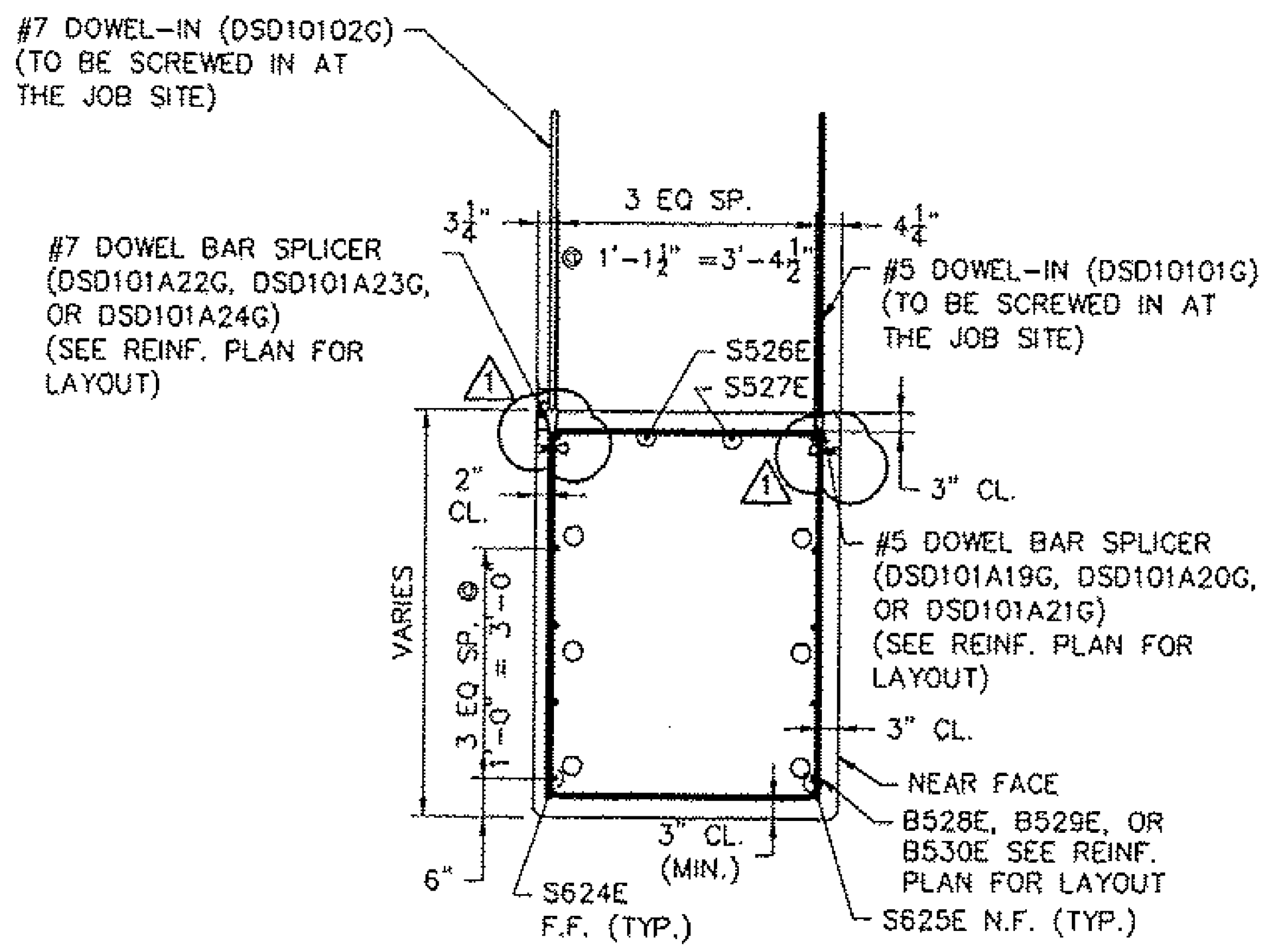
SHEET 10 OF 15

RECEIVED
OK'D BY LJS OK'D BY RSY
MAR 11 2011
RESUBMIT ____ APPROVED As Noted
BY CPW DATE 3/28/11



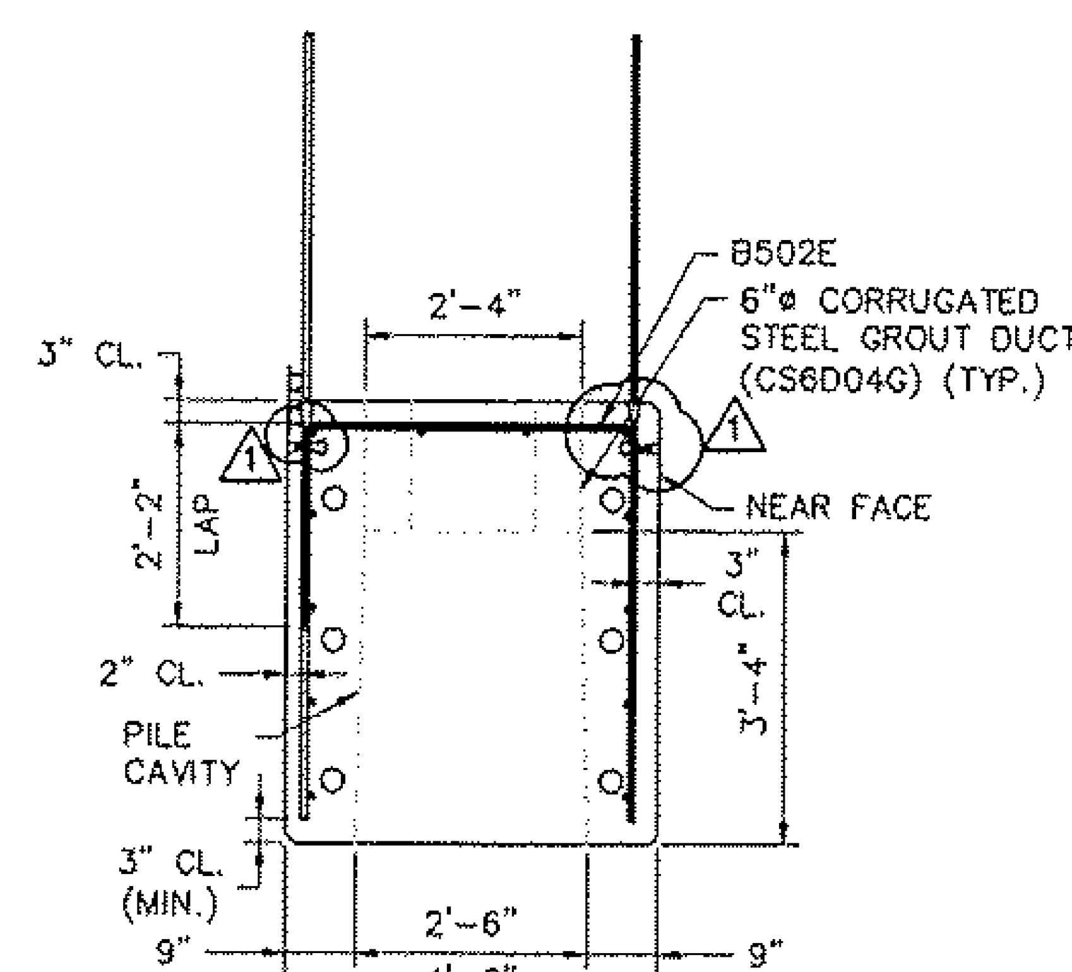
① BAW-04 SECTION A

SCALE: 1/2" = 1'-0"



② BAW-04 SECTION B

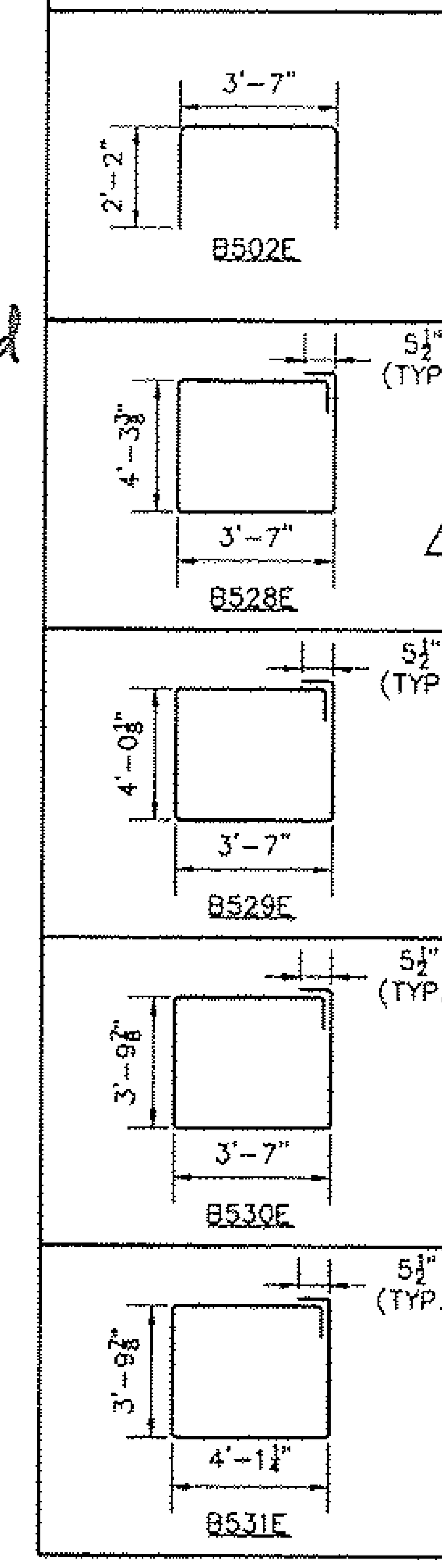
SCALE: 1/2" = 1'-0"



③ BAW-04 SECTION C

SCALE: 1/2" = 1'-0"

BAR DIMENSIONS



NOTE:
REBAR DIMENSIONS ARE OUT TO OUT.

PARTS & PART NUMBERS

PART NO.	DESCRIPTION	QTY.
B502E	#5 X 7'-11" EPOXY COATED	4
S624E	#6 X 22'-6 7/8" EPOXY COATED	5
S625E	#6 X 20'-8 1/4" EPOXY COATED	5
S526E	#5 X 22'-4 1/4" EPOXY COATED	1
S527E	#5 X 21'-7 3/8" EPOXY COATED	1
B528E	#5 X 16'-7 3/4" EPOXY COATED	7
B529E	#5 X 16'-2 3/4" EPOXY COATED	8
B530E	#5 X 15'-8 3/4" EPOXY COATED	3
B531E	#5 X 16'-9 1/4" EPOXY COATED	1
DSDB1801G	1/2"ø, 4" LONG, COIL LOOP INSERT	15
CS4D01G	4"ø CORRUGATED STEEL SLEEVE 1'-8" LONG, GALV.	4
CS4D02G	4"ø CORRUGATED STEEL SLEEVE 1'-2" LONG, GALV.	2
WST9.00	PVC WATERSTOP 23'-10" LONG BASE SEAL TYPE 771 BY GREENSTREAK	1
MBRL2301G	RAPID LIFT, 22 TON, 15" LONG, GALV.	4
MBRL4502	RECESS PLUG, 22 TON	4
SLV3.00	3" I.D. RIGID PLASTIC SLEEVE	6
CS6D04G	6" ø CORRUGATED STEEL PIPE, GALV., 1'-5" LONG (MAX.)	4
DSD101A19G	#5 DOWEL BAR SPLICER, 4'-6" LONG	7
DSD101A20G	#5 DOWEL BAR SPLICER, 4'-3 3/4" LONG	7
DSD101A21G	#5 DOWEL BAR SPLICER, 4'-1 1/2" LONG	7
DSD101A22G	#7 DOWEL BAR SPLICER, 4'-6" LONG	7
DSD101A23G	#7 DOWEL BAR SPLICER, 4'-3 3/4" LONG	7
DSD101A24G	#7 DOWEL BAR SPLICER, 4'-1 1/8" LONG	9
	VERMONT STATE MIX DESIGN	
	DO NOT CAST - SHIP TO JOBSITE	
DSD10101G	#5 DOWEL-IN, 4'-0 3/8" LONG	21
DSD10102G	#7 DOWEL-IN, 4'-0 3/8" LONG	23
P800G	~~1/2"X4 1/2"X4 1/2"~~ GALVANIZED PLATE	6

1"x6"x6"

NOTE:
ALL ITEMS LISTED ABOVE ARE SUGGESTED PRODUCTS. FABRICATOR MAY SUBSTITUTE APPROVED EQUALS AS NECESSARY.

MATERIAL SPECIFICATION

CONCRETE:
28 DAY STRENGTH: 5000 PSI
RELEASE STRENGTH: 3000 PSI
MILD REINFORCING: AASHTO M31, GRADE 60, EPOXY COATED

FINISHES
ENDS: FORM FINISH
TOP: RAKE FINISH, 1/4" AMPLITUDE
BOTTOM: FORM FINISH
SIDES: FORM FINISH

DUNNAGE:
STORAGE: BELOW LIFT ANCHORS
SHIPPING: BELOW LIFT ANCHORS

BAW-04
TOTAL WEIGHT: 55,348 LBS
CONC. YARDAGE: 13.67 CY

CONSTRUCTION SET
FEBRUARY 18, 2011

REVISION NO.	REVISION DATE
1	MARCH 09, 2011

Hoyle, Tanner & Associates, Inc.

125 College Street, 4th Floor Burlington, VT 05401
Tel (802)860-1331 • Fax (802)860-6499 • www.hoyletanner.com

DRAWN BY: AFN DATE: FEBRUARY 2011
CHECKED BY: CHS PROJECT NO: 122439.00

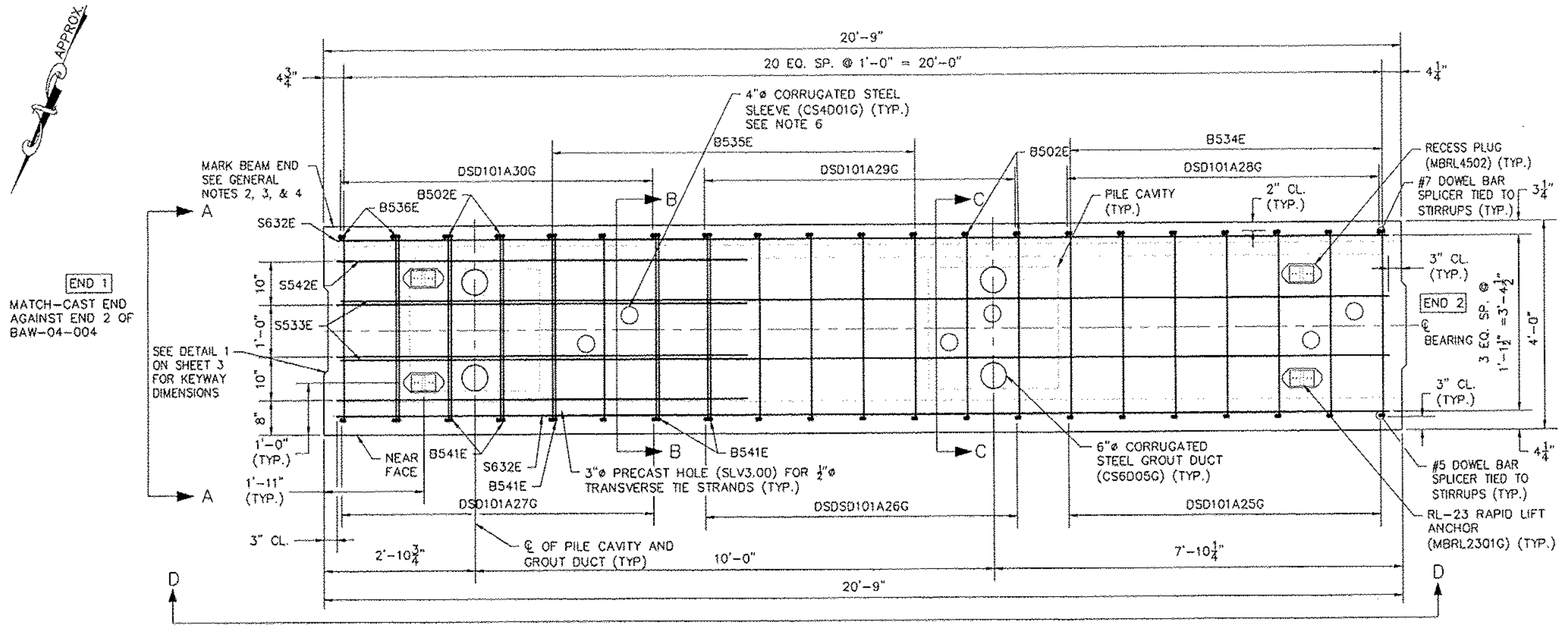
WM. E. DAILEY INC.
AIRPORT ROAD - SHAFTSBURY, VT 05262
PRECAST CONCRETE PRODUCTS

STATE OF VERMONT LICENSED PROFESSIONAL ENGINEER

CHESTER, VT
VT 103
BRIDGE #9

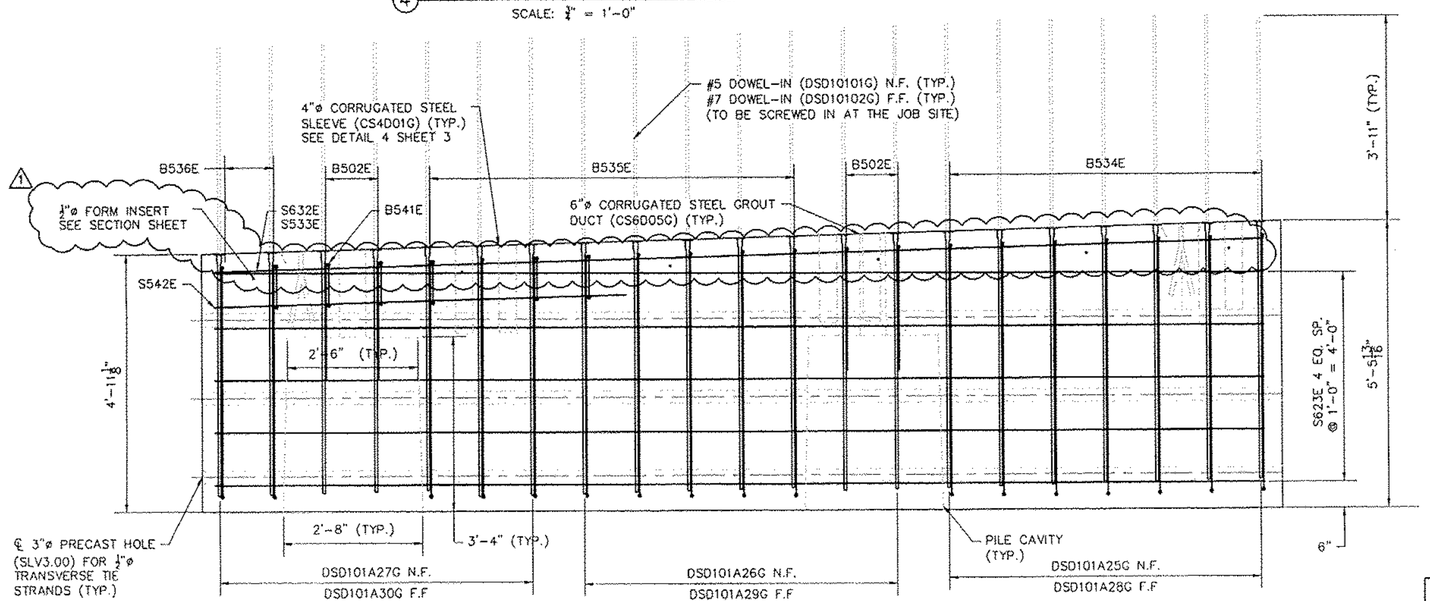
PROJECT NO.: BRF 025-1 (37)

SHEET 11 OF 15



④ BAW-05 REINF. LAYOUT PLAN

SCALE: ¾" = 1'-0"



⑤ BAW-05 SECTION D – ELEVATION

SCALE: ¾" = 1'-0"

GENERAL NOTES:

1. SEE PLAN SHEETS 1, 2, & 3 FOR PLAN AND DETAILS.
2. ALL ABUTMENT PILE CAPS ARE LABELED AS FOLLOWS: PRODUCT TYPE-IDENTIFICATION NUMBER-SEQUENCE NUMBER.
3. MARK BAW-05 "SOUTH END", FOLLOWED BY THE CORRESPONDING BEAM LABEL.
4. FABRICATOR IS TO MARK ABUTMENT CAP END WITHIN CLOSE PROXIMITY TO THE NOTED END.
5. LIGHT SANDBLAST MATCH-CAST END PRIOR TO SHIPMENT TO REMOVE ANY FORM OIL, GREASE, LAITANCE, ETC.
6. SEE SHEET 2 FOR SLEEVE LOCATIONS. 4"ø SLEEVES ARE LOCATION CRITICAL.

RECEIVED
OK'D BY LJS OK'D BY RST
MAR 11 2011
RESUBMIT _____ APPROVED ✓
BY CPW DATE 3/28/11

REVISION NO.	REVISION DATE
1	MARCH 09, 2011

Hoyle, Tanner & Associates, Inc.
125 College Street, 4th Floor Burlington, VT 05401
Tel (802)860-1331 • Fax (802)860-6499 • www.hoyletanner.com

DRAWN BY: ARN	DATE: FEBRUARY 2011
CHECKED BY: CHS	PROJECT NO: 122435.00

W.E. DAILEY INC.
ASHWORTH ROAD - SHAFTSBURY, VT 05262
PRECAST CONCRETE PRODUCTS
TEL: (802) 442-4478 FAX: (802) 442-4719

STATE OF VERMONT — CHARLES H. SWANSON — No. 8126 — Structural — LICENSED PROFESSIONAL ENGINEER

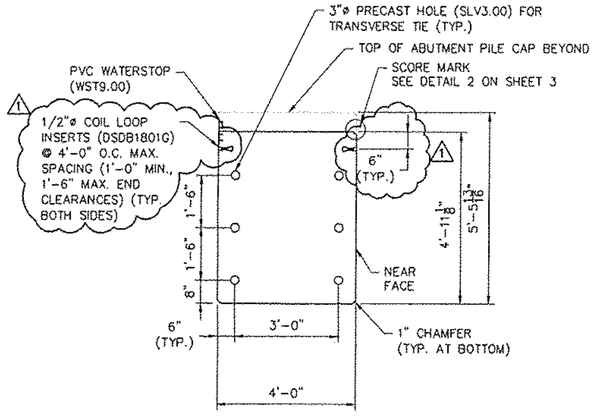
CONSTRUCTION SET
FEBRUARY 18, 2011

CHESTER, VT
VT 103
BRIDGE #9

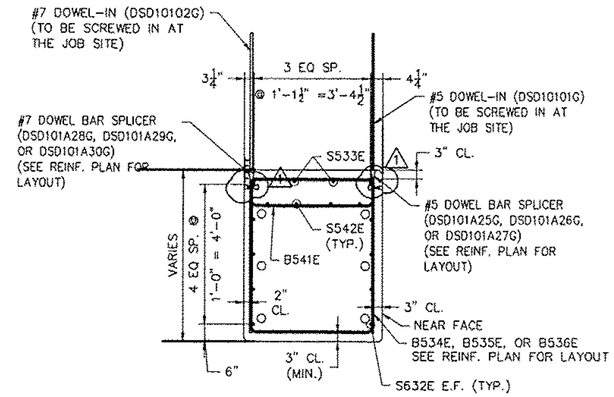
PROJECT NO.: BRF 025-1 (37)

SHEET 12 OF 15

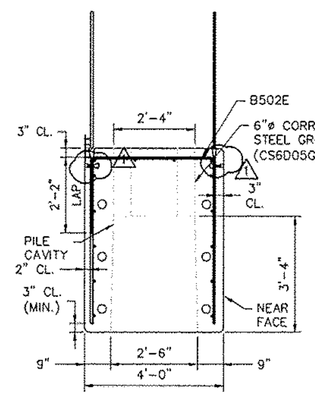
RECEIVED
OK'D BY LJS OK'D BY KSY
MAR 1 1 2011
RESUBMIT APPROVED
BY CPW DATE 3/28/11



① BAW-05 SECTION A
SCALE: ½" = 1'-0"

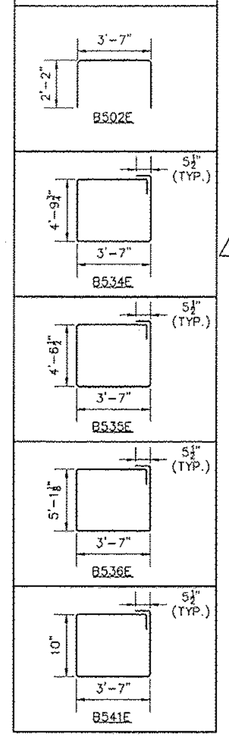


② BAW-05 SECTION B
SCALE: ½" = 1'-0"



③ BAW-05 SECTION C
SCALE: ½" = 1'-0"

BAR DIMENSIONS



NOTE:
REBAR DIMENSIONS ARE OUT TO OUT.

PARTS & PART NUMBERS

PART NO.	DESCRIPTION	QTY.
B502E	#5 X 7'-11" EPOXY COATED	4
S632E	#6 X 20'-3" EPOXY COATED	12
S533E	#5 X 20'-2" EPOXY COATED	2
B534E	#5 X 17'-8½" EPOXY COATED	7
B535E	#5 X 17'-2" EPOXY COATED	8
B536E	#5 X 16'-11½" EPOXY COATED	2
B541E	#5 X 8'-9" EPOXY COATED	6
S542E	#5 X 7'-10½" EPOXY COATED	4
⚠1 DSDB1801G	1"ø, 4" LONG, COIL LOOP INSERT	12
CS4D01G	4"ø CORRUGATED STEEL SLEEVE 1'-8" LONG, GALV.	6
WST9.00	PVC WATERSTOP 20'-9" LONG BASE SEAL TYPE 771 BY GREENSTREAK	1
MBRL2301G	RAPID LIFT, 22 TON, 15" LONG, GALV.	4
MBRL4502	RECESS PLUG, 22 TON	4
SLV3.00	3" I.D. RIGID PLASTIC SLEEVE	6
CS6D05G	6" ø CORRUGATED STEEL PIPE, GALV., 2'-0" LONG (MAX.)	4
DSD101A25G	#5 DOWEL BAR SPLICER, 5'-0¾" LONG	7
DSD101A26G	#5 DOWEL BAR SPLICER, 4'-10½" LONG	7
DSD101A27G	#5 DOWEL BAR SPLICER, 4'-8⅛" LONG	7
DSD101A28G	#7 DOWEL BAR SPLICER, 5'-0¾" LONG	7
DSD101A29G	#7 DOWEL BAR SPLICER, 4'-10½" LONG	7
DSD101A30G	#7 DOWEL BAR SPLICER, 4'-8⅛" LONG	7
	VERMONT STATE MIX DESIGN	
	DO NOT CAST - SHIP TO JOBSITE	
DSD10101G	#5 DOWEL-IN, 4'-0⅛" LONG	21
DSD10102G	#7 DOWEL-IN, 4'-0⅜" LONG	21

NOTE:
ALL ITEMS LISTED ABOVE ARE SUGGESTED PRODUCTS. FABRICATOR MAY SUBSTITUTE APPROVED EQUALS AS NECESSARY.

MATERIAL SPECIFICATION

CONCRETE:
28 DAY STRENGTH: 5000 PSI
RELEASE STRENGTH: 3000 PSI
MILD REINFORCING: AASHTO M31, GRADE 60, EPOXY COATED

FINISHES
ENDS: FORM FINISH
TOP: RAKE FINISH, ¼" AMPLITUDE
BOTTOM: FORM FINISH
SIDES: FORM FINISH

QUNNAGE:
STORAGE: BELOW LIFT ANCHORS
SHIPPING: BELOW LIFT ANCHORS

BAW-05
TOTAL WEIGHT: 58,201 LBS
CONC. YARDAGE: 14.37 CY

REVISION NO.	REVISION DATE
1	MARCH 09, 2011

Hoyle, Tanner & Associates, Inc.
125 College Street, 4th Floor Burlington, VT 05401
Tel (802)860-1331 • Fax (802)860-6499 • www.hoyletanner.com

DRAWN BY: AFN DATE: FEBRUARY 2011
CHECKED BY: CHS PROJECT NO: 122435.00

W.E. DAILEY INC.
AMHERST ROAD • SWANTON, VT 05488
PRECAST CONCRETE PRODUCTS
TEL: (802) 442-4418 FAX: (802) 442-4719

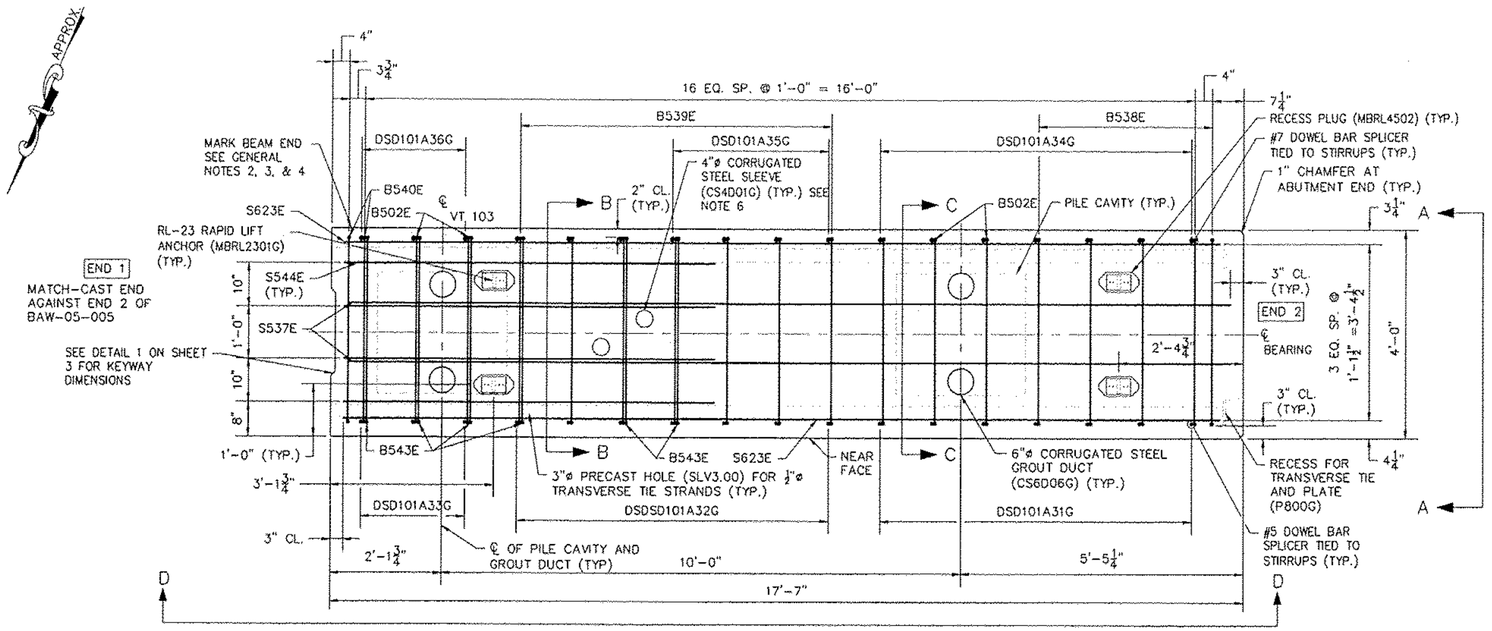
STATE OF VERMONT CHARLES H. SPAULDING No. 8126 Consultant LICENSED PROFESSIONAL ENGINEER

CONSTRUCTION SET
FEBRUARY 18, 2011

CHESTER, VT
VT 103
BRIDGE #9

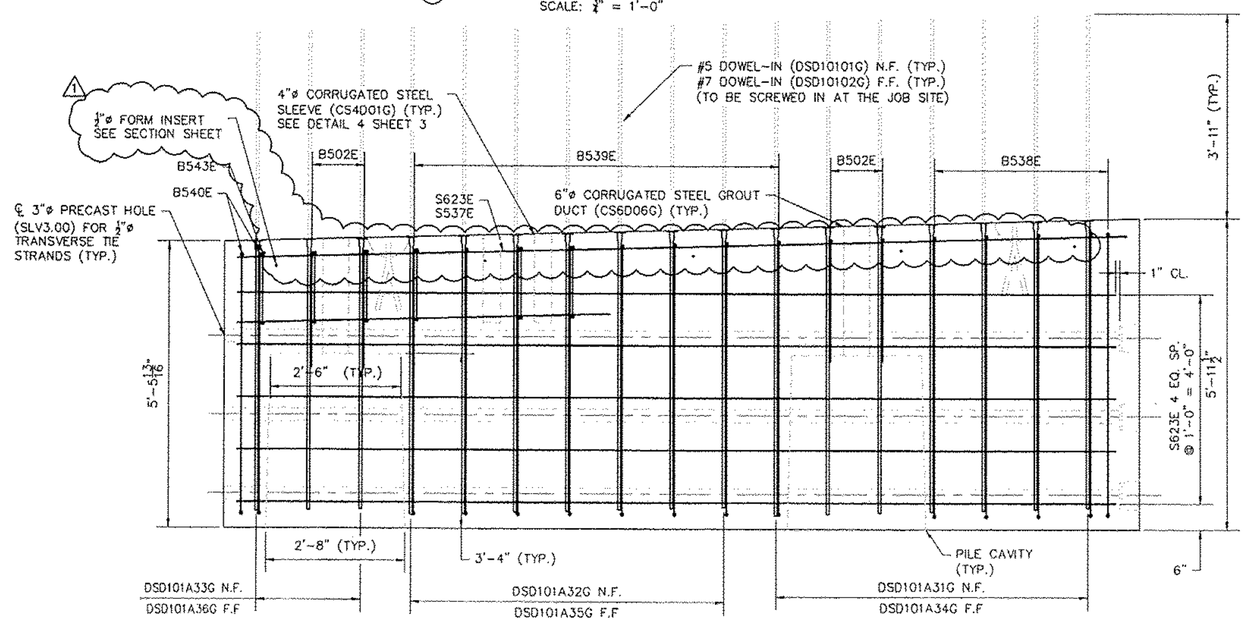
PROJECT NO.: BRF 025-1 (37)

SHEET 13 OF 15



④ BAW-06 REINF. LAYOUT PLAN

SCALE: ¾" = 1'-0"



⑤ BAW-06 SECTION D – ELEVATION

SCALE: ¾" = 1'-0"

GENERAL NOTES:

1. SEE PLAN SHEETS 1, 2, & 3 FOR PLAN AND DETAILS.
2. ALL ABUTMENT PILE CAPS ARE LABELED AS FOLLOWS: PRODUCT TYPE–IDENTIFICATION NUMBER–SEQUENCE NUMBER.
3. MARK BAW-06 "SOUTH END", FOLLOWED BY THE CORRESPONDING BEAM LABEL.
4. FABRICATOR IS TO MARK ABUTMENT CAP END WITHIN CLOSE PROXIMITY TO THE NOTED END.
5. LIGHT SANDBLAST MATCH-CAST END PRIOR TO SHIPMENT TO REMOVE ANY FORM OIL, GREASE, LAITANCE, ETC.
6. SEE SHEET 2 FOR SLEEVE LOCATIONS. 4"ø SLEEVES ARE LOCATION CRITICAL.

RECEIVED

OK'D BY CJS OK'D BY KSY

MAR 11 2011

RESUBMIT____ APPROVED ✓

BY CPW DATE 3/28/11

REVISION NO.	REVISION DATE
1	MARCH 09, 2011

Hoyle, Tanner & Associates, Inc.
125 College Street, 4th Floor Burlington, VT 05401
Tel (802)860-1331 • Fax (802)860-6499 • www.hoylestanner.com

DRAWN BY: APN	DATE: FEBRUARY 2011
CHECKED BY: CHS	PROJECT NO: 12243S.00

W.E. DAILEY INC.
AIRPORT ROAD - SHAFTSBURY, VT 05262
PRECAST CONCRETE PRODUCTS
TEL: (802) 442-5418 FAX: (802) 442-4719

STATE OF VERMONT — CHRISTOPHER H. SARGENT — No. 8126 — Supervisor — LICENSED PROFESSIONAL ENGINEER

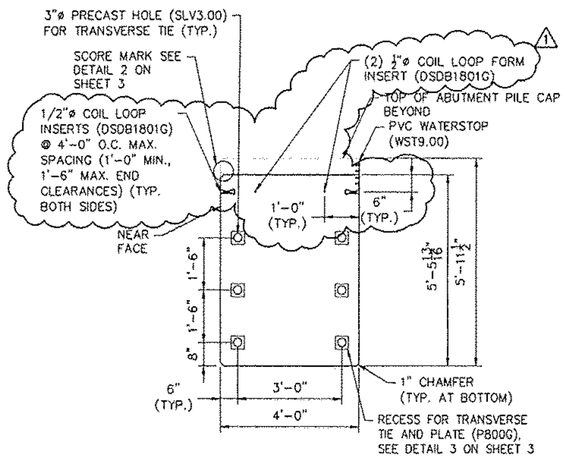
CONSTRUCTION SET
FEBRUARY 18, 2011

CHESTER, VT
VT 103
BRIDGE #9

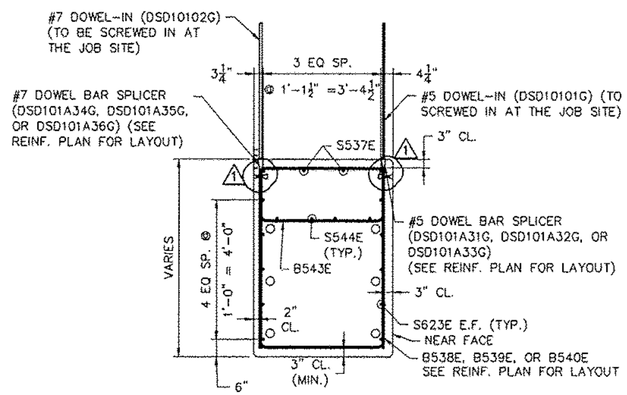
PROJECT NO.: BRF 025-1 (37)

SHEET 14 OF 15

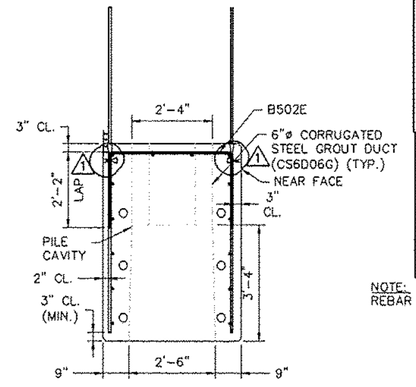
RECEIVED
O'K'D BY LSS O'K'D BY JRS
MAR 1 1 2011
RESUBMIT ____ APPROVED As Noted
BY CPW DATE 3/28/11



1 BAW-06 SECTION A
SCALE: 1/2" = 1'-0"

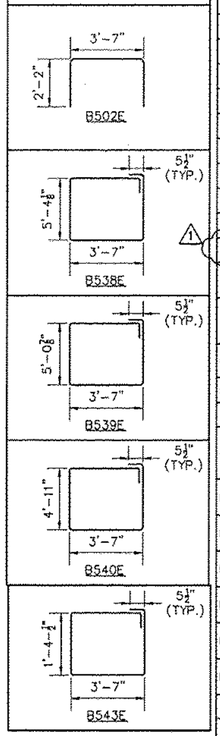


2 BAW-06 SECTION B
SCALE: 1/2" = 1'-0"



3 BAW-06 SECTION C
SCALE: 1/2" = 1'-0"

BAR DIMENSIONS



NOTE:
REBAR DIMENSIONS ARE OUT TO OUT.

PARTS & PART NUMBERS		
PART NO.	DESCRIPTION	QTY.
B502E	#5 X 7'-11" EPOXY COATED	4
S623E	#6 X 16'-10 1/2" EPOXY COATED	12
S537E	#5 X 17'-0" EPOXY COATED	2
B538E	#5 X 18'-9 1/4" EPOXY COATED	5
B539E	#5 X 18'-2 3/4" EPOXY COATED	8
B540E	#5 X 17'-11" EPOXY COATED	2
B543E	#5 X 11'-5" EPOXY COATED	6
S544E	#5 X 7'-1 3/4" EPOXY COATED	4
DSDB1801G	1/2"ø, 4" LONG, COIL LOOP INSERT	12
CS4D01G	4"ø CORRUGATED STEEL SLEEVE 1'-8" LONG, GALV.	2
WST9.00	PVC WATERSTOP 17'-7" LONG BASE SEAL TYPE 771 BY GREENSTREAK	1
MBRL2301G	RAPID LIFT, 22 TON, 15" LONG, GALV.	4
MBRL4502	RECESS PLUG, 22 TON	4
SLV3.00	3" I.D. RIGID PLASTIC SLEEVE	6
CS6D06G	6" ø CORRUGATED STEEL PIPE, GALV., 2'-6" LONG (MAX.)	4
DSD101A31G	#5 DOWEL BAR SPLICER, 5'-6 3/8" LONG	7
DSD101A32G	#5 DOWEL BAR SPLICER, 5'-4" LONG	7
DSD101A33G	#5 DOWEL BAR SPLICER, 5'-2" LONG	3
DSD101A34G	#7 DOWEL BAR SPLICER, 5'-6 3/8" LONG	7
DSD101A35G	#7 DOWEL BAR SPLICER, 5'-4" LONG	7
DSD101A36G	#7 DOWEL BAR SPLICER, 5'-2" LONG	3
	VERMONT STATE MIX DESIGN	
	DO NOT CAST - SHIP TO JOBSITE	
DSD10101G	#5 DOWEL-IN, 4'-0 3/8" LONG	17
DSD10102G	#7 DOWEL-IN, 4'-0 3/8" LONG	17
P800G	1/2"x4 1/2"x4 1/2" GALVANIZED PLATE	6

NOTE:
ALL ITEMS LISTED ABOVE ARE SUGGESTED PRODUCTS. FABRICATOR MAY SUBSTITUTE APPROVED EQUALS AS NECESSARY.

1"x6"x6"

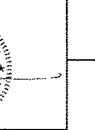
MATERIAL SPECIFICATION

CONCRETE:
28 DAY STRENGTH: 5000 PSI
RELEASE STRENGTH: 3000 PSI
MILD REINFORCING: AASHTO M31, GRADE 60, EPOXY COATED

FINISHES
ENDS: FORM FINISH
TOP: RAKE FINISH, 1/4" AMPLITUDE
BOTTOM: FORM FINISH
SIDES: FORM FINISH

DUNNAGE:
STORAGE: BELOW LIFT ANCHORS
SHIPPING: BELOW LIFT ANCHORS

BAW-06
TOTAL WEIGHT: 53,747 LBS
CONC. YARDAGE: 13.27 CY



CONSTRUCTION SET
FEBRUARY 18, 2011

REVISION NO.	REVISION DATE
1	MARCH 09, 2011

Hoyle, Tanner & Associates, Inc.
125 College Street, 4th Floor Burlington, VT 05401
Tel (802)860-1331 • Fax (802)860-6493 • www.hoyletanner.com

DRAWN BY: AFN | DATE: FEBRUARY 2011
CHECKED BY: DHS | PROJECT NO: 122435.00

WM. E. DAILEY, INC.
AMHERST ROAD - SALISBURY, VT 05262
PRECAST CONCRETE PRODUCTS
TEL: (802) 442-4418 FAX: (802) 442-4719

CHESTER, VT
VT 103
BRIDGE #9

PROJECT NO.: BRF 025-1 (37)

SHEET 15 OF 15

GENERAL NOTES:

1) FINE GRADING OF EXISTING SUBBASE SHALL BE COMPLETED BY CONTRACTOR WITH A ⅛" TOLERANCES TO FOLLOW (SUPER-SLAB™) SYSTEM GRADING TOLERANCES.
2) CONTRACTOR SHALL INSTALL PRECAST CONCRETE APPROACH SLABS (SUPER-SLAB™) IN ACCORDANCE WITH ITEM# 900.620
3) CONTRACTOR TO CLEAN AND FILL CRACKS AND JOINTS IN ACCORDANCE WITH CONTRACT PLANS.
4) CONTRACTOR SHALL PROVIDE AND INSTALL PRECAST CONCRETE APPROACH SLAB BEDDING & DOWEL GROUT.
5) POSITION OF REINFORCEMENT TO BE MAINTAINED WITH THERMOPLASTIC CHAIRS OR PLASTIC TIPPED BOLSTERS.
6) FABRICATION OF PRECAST APPROACH SLABS SHALL CONFORM TO ITEM# 900.620.
7) FORT MILLER TO PROVIDE PRECAST CONCRETE (SUPER-SLAB™) INSTALLATION & GRADING MANUALS TO THE CONTRACTOR.

CONCRETE DATA:

CONCRETE COMPRESSIVE STRENGTH:

28-DAY STRENGTH = 5,000 psi
STRIPPING STRENGTH = 3,500 psi ⚠

MIX DESIGN:

MIX CODE: SP249
SUBMITTED UNDER SEPARATE COVER.

CURING:

ALL SUPER-SLAB APPROACH SLAB WILL BE PRECAST INSIDE A FULLY ENCLOSED, HEATED BUILDING. THEREFORE, DURING THE CASTING, CURING AND STRIPPING PHASES THE UNITS WILL NOT BE SUBJECTED TO DIRECT SUNLIGHT, DRYING WINDS OR AMBIENT TEMPERATURES OUTSIDE OF THE 50°F – 80°F RANGE.

AFTER EACH OF THE SLABS ARE CAST AND AS SOON AS THE LAST FINISHING OPERATION IS COMPLETED THE TOP-IN-FORM SURFACE OF THE UNITS WILL BE COVERED WITH ONE (1) LAYER OF WHITE POLYETHYLENE FILM SUPPORTED IN SUCH A WAY AS TO PREVENT ANY MARRING OF THE UNITS' TOP SURFACES.

ALL OF THE UNITS WILL REMAIN IN THE CASTING FORM(S) WITH THE WHITE POLYETHYLENE FILM COVERING THEIR TOP SURFACES UNTIL THE UNITS HAVE REACHED 70% OF THE SPECIFIED 28-DAY CYLINDER STRENGTH AS DETERMINED BY CYLINDERS KEPT DIRECTLY NEXT TO AND SUBJECTED TO THE SAME CONDITIONS AS THE UNITS THAT THEY REPRESENT. AFTER THIS STRENGTH HAS BEEN ATTAINED THE UNITS MAY BE REMOVED FROM THE CASTING FORMS (BUT SHALL REMAIN IN THE BUILDING) AND THEN THE TOP SURFACE OF THE SUPER-SLABS SHALL BE COVERED WITH TWO LAYERS OF APPROVED BURLAP PRE-SOAKED AND FULLY SATURATED WITH WATER. THE BURLAP SHALL THEN BE COVERED WITH ONE (1) LAYER OF LAPPED WHITE POLYETHYLENE FILM. THE BURLAP LAYERS SHALL BE KEPT CONTINUOUSLY WET USING A SOAKER HOSE ON TOP OF THE BURLAP AND BELOW THE POLYETHYLENE SHEET. THE WET BURLAP AND WHITE POLYETHYLENE SHALL REMAIN IN PLACE UNTIL THE SPECIFIED 28-DAY CYLINDER STRENGTH HAS BEEN ATTAINED. AT THAT TIME THE BURLAP AND POLYETHYLENE MAY BE REMOVED FROM THE APPROACH SLABS AND MAY BE REMOVED FROM THE BUILDING FOR STORAGE.

TOLERANCES:

ALL UNITS SHALL BE CHECKED FOR COMPLIANCE WITH THE TOLERANCES LISTED BELOW, AFTER THE UNITS HAVE COMPLETED THE CURING PHASE AND WITHIN THREE DAYS OF ACTUAL SHIPMENT. THE INSPECTOR SHALL DOCUMENT ANY UNIT WITH DIMENSIONS OUT OF TOLERANCE. ANY UNIT WHICH FAILS TO MEET THESE TOLERANCES COULD BE SUBJECT TO REJECTION.

LENGTH, WIDTH, THICKNESS: ±3/16"
OVERALL PANEL SQUARENESS: DIFFERENCE IN DIAGONALS NOT TO EXCEED 3/16"
EDGE SQUARENESS: ⅛" IN 10" (IN RELATION TO TOP AND BOTTOM SURFACES)
LIFTING LOCATION: ±6"
GROUT CHANNEL LOCATION: ±4"

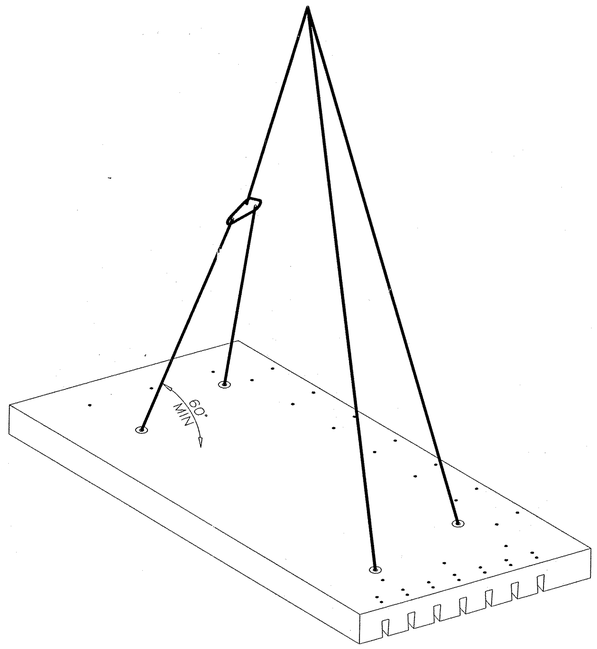
PRODUCTION SCHEDULE:

1) UNITS SHALL BE FABRICATED ON A FIVE DAY SCHEDULE. NUMBER OF UNITS TO BE PRODUCED PER DAY SHALL BE (1)±.
2) MARKING: EACH UNIT SHALL BE MARKED WITH THE FOLLOWING INFORMATION:
   PROJECT#: BRF 025-1 – RTE 103
   DATE CAST AGENCY: VAOT
   FM PROJECT #12511 MARK#

MANUFACTURING SPECIFICATION: VAOT

FOAM GASKET REPAIR PROCEDURE:

PRIOR TO INSTALLATION, ALL PANELS SHALL BE INSPECTED BY THE CONTRACTOR FOR MISSING OR DAMAGED GASKET MATERIAL. ANY GASKET MATERIAL THAT HAS BEEN DISPLACED OR WILL OTHERWISE COMPROMISE THE GROUTING OPERATION SHALL BE REPLACED BY THE CONTRACTOR IN THE FIELD.



LIFTING SCHEME

ALL LIFTING TO BE ACCOMPLISHED USING EQUALIZATION SLINGS WHERE ALL LIFTING ANCHORS ARE TO BE ENGAGED DURING LIFTING. MINIMUM 60° SLING ANGLE REQUIRED.

SHIPPING:

1) NO UNIT SHALL BE SHIPPED UNTIL THE REQUIRED 28-DAY STRENGTH HAS BEEN ATTAINED.
2) EACH UNIT SHALL BE CLEARLY MARKED WITH THE MARKINGS DESCRIBED ABOVE UNDER "PRODUCTION SCHEDULE".
3) ALL MARKINGS SHALL BE INDELIBLE AND SHALL BE PLACED ON A SURFACE WHICH WILL NOT BE EXPOSED TO VIEW, AFTER CONSTRUCTION IS COMPLETE.

MISCELLANEOUS NOTES:

1) PANEL LIFTING INSERTS TO BE DAYTON SUPERIOR P-52 8Tx13⅜" SWIFT LIFT HDG ANCHOR.
2) LIFTING TO BE ACCOMPLISHED USING DAYTON SUPERIOR P-50 8T SWIFT LIFT LIFTING EYE.
3) ALL FEMALE END TIE BARS TO BE #6 SUPERIOR DB-SAE COUPLERS (⅝"ø-9UNC THREAD).
4) ALL MALE END TIE BARS TO BE #6 SUPERIOR DI "DOWEL-INS" (⅝"ø-9UNC THREAD).
5) CONTRACTOR SUPPLIED ITEMS INCLUDE THE FOLLOWING:
   A) STRUCTURAL GROUT USED FOR TRANSVERSE & LONGITUDINAL CONNECTIONS.
   B) BEDDING GROUT FOR UNDER SLAB.
   C) STRUCTURAL GROUT FOR ALL LIFTING POCKETS.
   D) CABLES/SHACKLES/UNEQUAL LENGTH SLINGS FOR UNLOADING & SETTING.
   E) GROUT PUMP.
   F) DEMO SAW TO SAW CUT JOINTS.
   G) HIGHWAY JOINT SEALING MATERIAL, AS PER SPECIFICATION.
   H) BOND BREAKING AGENT.
   I) BACKER ROD
   J) GREAT STUFF FOAM OR GROUT DAM MATERIAL.

SHIP LOOSE:

1) P-50 8T SWIFT LIFTING EYE (TO BE RETURNED) – (8) EA ITEM# 5338
2) 1" x 1" FOAM GASKET MATERIAL – (30) FT ITEM# 17863
3) FOAM GASKET GLUE – (1) QT ITEM# 21999
4) TECHNICAL SUPPORT ITEM# 7026
5) #6 DAYTON SUPERIOR D-108 HEADED EPOXY DOWEL-INS @ 6¼" LONG – (45) EA ITEM# XXX

*ALL PRODUCTS MARKED "TO BE RETURNED" WILL BE RETURNED TO FORT MILLER VIA COMMON CARRIER AT THE EXPENSE OF THE CONTRACTOR.

TABLE OF CONTENTS ⚠

TABLE OF UNITS

MK #	QTY ea	AREA sf	VOL cy	WT tons
S9-1	1	146.74	6.79	13.76
S9-2	1	146.74	6.79	13.76
S9-3	1	146.26	6.77	13.71
S9-4	1	146.26	6.77	13.71
S9-5	1	165.57	7.67	15.52
S9-6	1	165.57	7.67	15.52
S9-7	1	163.61	7.57	15.34
S9-8	1	163.61	7.57	15.34

NOTE TO CONTRACTOR:
THIS SHOP DRAWING REPRESENTS OUR INTERPRETATION OF THE PLANS AND SPECIFICATIONS, AND OUR CONTRACTURAL OBLIGATIONS FOR THIS PROJECT. PRIOR TO THE MANUFACTURE OF ANY ITEM FOR THIS PROJECT, ALL DIMENSIONS, METHODS OF CONSTRUCTION AND EXISTING CONDITIONS MUST BE CHECKED, CORRECTED AND/OR APPROVED BY OUR CUSTOMER. NO ITEM WILL BE SCHEDULED FOR PRODUCTION UNTIL WE HAVE BEEN NOTIFIED IN WRITING THAT OUR DRAWINGS HAVE BEEN APPROVED FOR FABRICATION. APPROVAL DELAYS WILL RESULT IN FABRICATION DELAYS. ANY ITEM THAT IS FABRICATED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS THAT DOES NOT FIT THE CUSTOMER'S REQUIREMENTS WILL BE REMADE AND SHIPPED TO THE PROJECT ONLY AT THE CUSTOMER'S EXPENSE, AND ONLY AFTER RECEIPT OF A PURCHASE ORDER TO COVER THE ADDED EXPENSE. WE ASSUME NO RESPONSIBILITY FOR THE ALTERING OF OUR PRODUCTS TO ACCOMMODATE OTHER TRADES UNLESS REQUIRED INFORMATION IS FURNISHED AND SHOWN ON OUR SHOP DRAWINGS AT THE TIME THEY ARE APPROVED FOR FABRICATION BY OUR CUSTOMER.

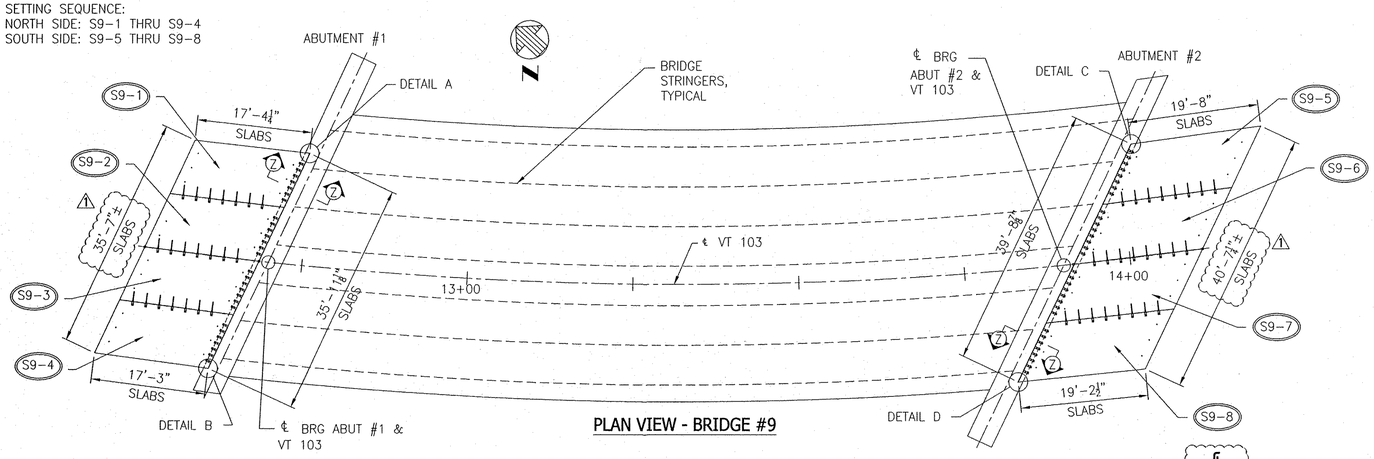
NO.	DATE	BY	REVISIONS
⚠	3-23-11	TDS	PER ENG. COMMENTS, T.O.C.

THE FORT MILLER Co., Inc.
P.O. BOX 98
SCHUYLERVILLE, NY 12871
(518) 695-5000
(518) 695-4970 FAX
WWW.FORTMILLER.COM

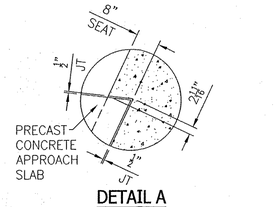
F.M. JOB NO. 12511
DATE: 2-16-11
DRN. BY: TDS
CHK. BY: SDH
SCALE: NONE
SHEET NO. 1 OF 4
DWG. NO. P1

PROJECT LOCATION: TOWN OF CHESTER - ROUTE 103
PROJECT: BRF 025-1(37) - BRIDGE #9
ITEM# 900.620
SUBJECT: NOTE SHEET
CONTRACTOR: COLD RIVER BRIDGES, LLC.
CONTRACTOR ADDRESS: PO BOX 1076
WALPOLE, NH 03608
ENGINEER/ARCHITECT VAOT

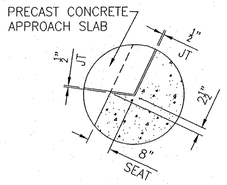
SETTING SEQUENCE:
NORTH SIDE: S9-1 THRU S9-4
SOUTH SIDE: S9-5 THRU S9-8



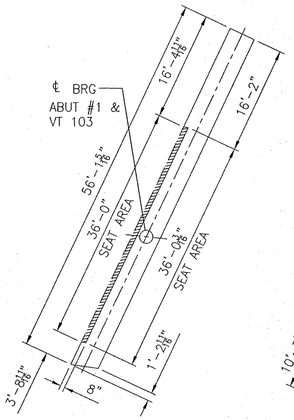
PLAN VIEW - BRIDGE #9



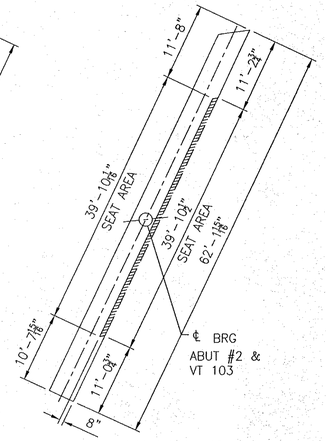
DETAIL A



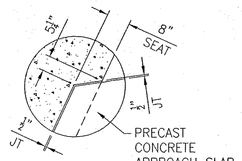
DETAIL B



ABUTMENT #1



ABUTMENT #2



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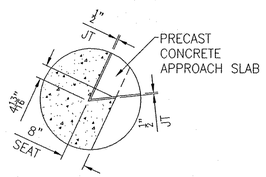
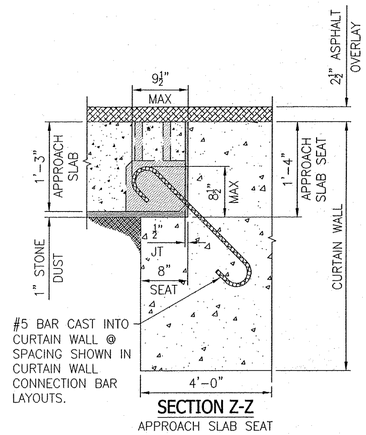
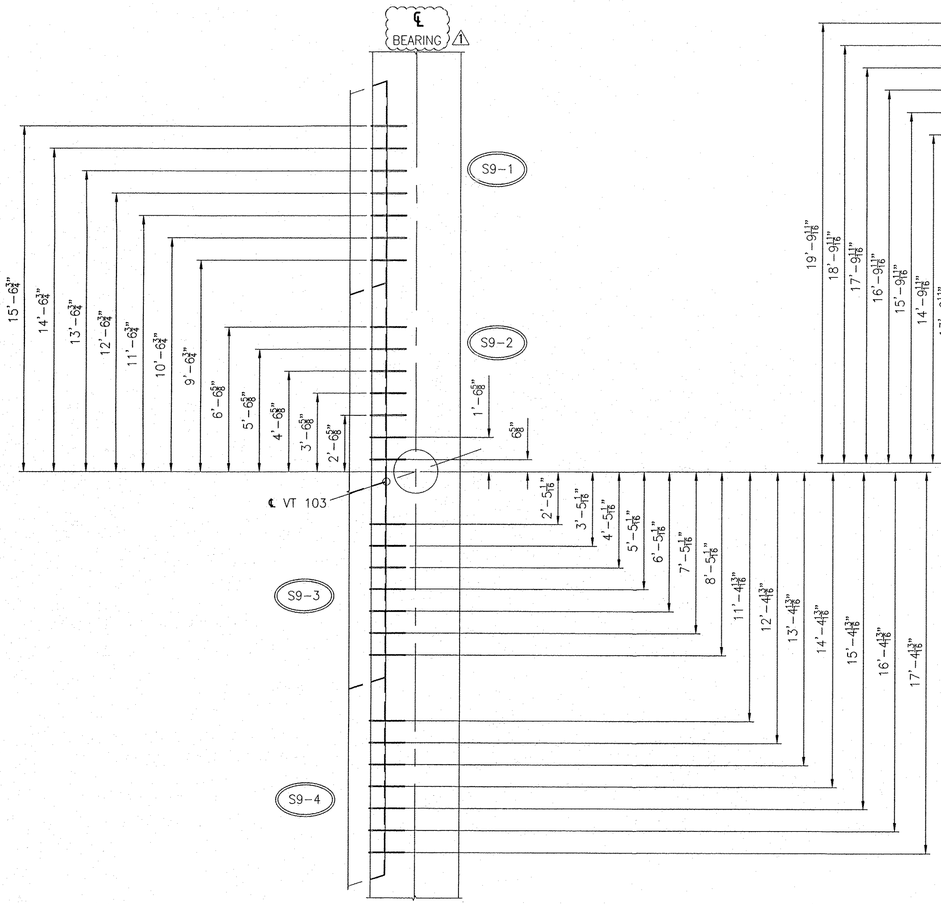


DETAIL D



SECTION Z-Z
APPROACH SLAB SEAT



CURTAIN WALL CONNECTION BAR LAYOUT
ABUTMENT #1

CURTAIN WALL CONNECTION BAR LAYOUT
ABUTMENT #2

RECEIVED
CK'D BY LJS CK'D BY KRS
MAR 29 2011
RESUBMIT APPROVED
BY CPW DATE 3/30/11

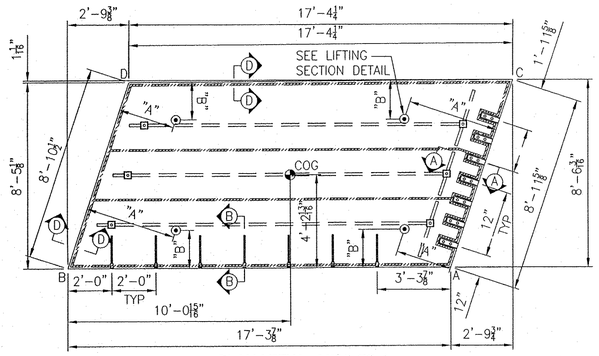
NO.	DATE	BY	REVISIONS
1	3-23-11	TDS	PER ENG. COMMENTS

THE FORT MILLER Co., Inc.
P.O. BOX 98
SCHUYLERVILLE, NY 12871
(518) 695-5000
(518) 695-4970 FAX
WWW.FORTMILLER.COM

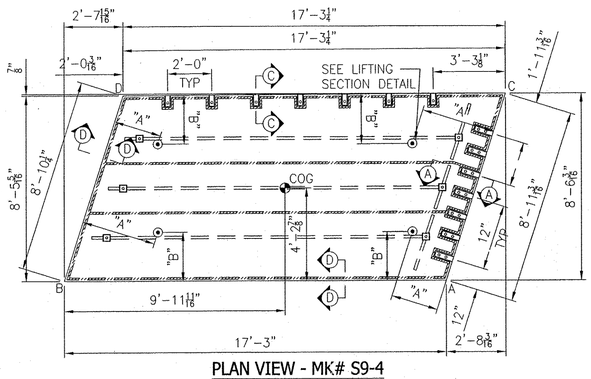
F.M. JOB NO. 12511

PROJECT LOCATION: TOWN OF CHESTER - ROUTE 103
PROJECT: BRF 025-1(37) - BRIDGE #9
ITEM# 900.620
SUBJECT: PLAN & ABUTMENT DETAILS
CONTRACTOR: COLD RIVER BRIDGES, LLC.
CONTRACTOR ADDRESS: PO BOX 1076
WALPOLE, NH 03608
ENGINEER/ARCHITECT VAOT

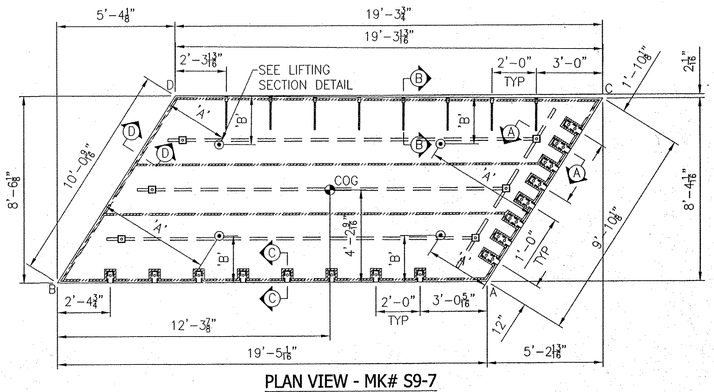
DATE: 2-16-11
DRN. BY: TDS
CHK. BY: SDH
SCALE: NONE
SHEET NO. 2 OF 4
DWG. NO. P2



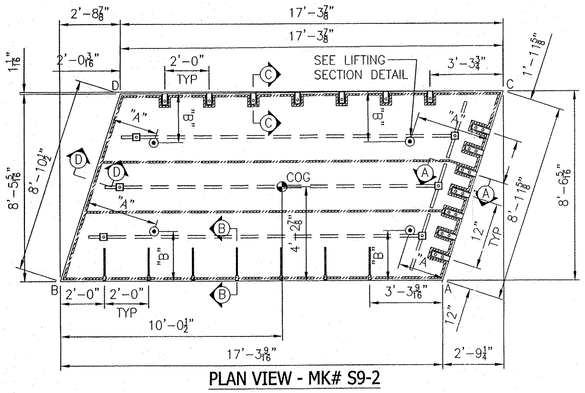
PLAN VIEW - MK# S9-1



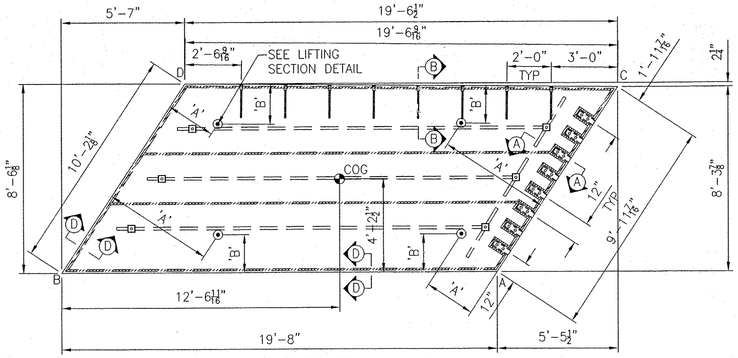
PLAN VIEW - MK# S9-4



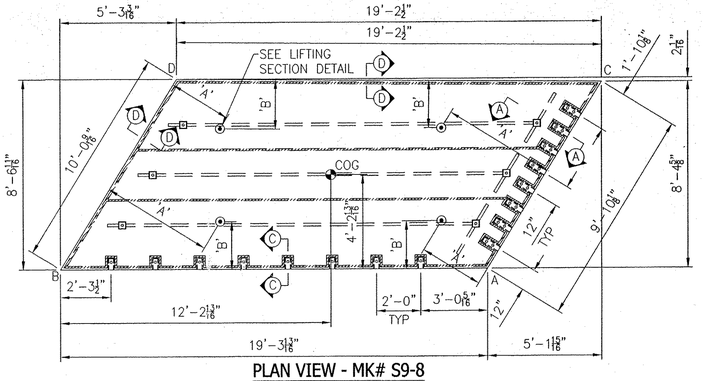
PLAN VIEW - MK# S9-7



PLAN VIEW - MK# S9-2



PLAN VIEW - MK# S9-5



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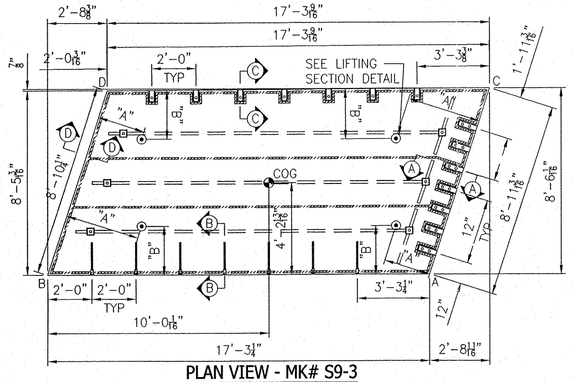
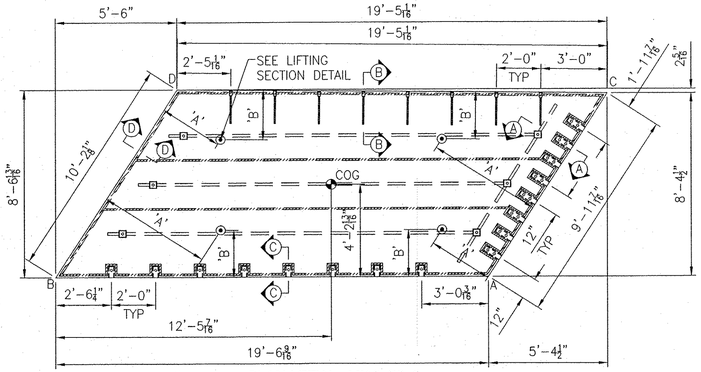


PLAN VIEW - MK# S9-3



PLAN VIEW - MK# S9-6

S9-1 LIFTING		
CORNER	A	B
A	2'-6 1/4"	1'-8 3/4"
B	4'-1 1/2"	1'-8 3/4"
C	4'-1"	1'-9"
D	2'-6 1/2"	1'-8 1/2"

S9-2 LIFTING		
CORNER	A	B
A	2'-1"	2'-3"
B	3'-3 1/4"	2'-3"
C	3'-3 3/4"	2'-3 1/4"
D	2'-1 1/2"	2'-2 1/2"

S9-3 LIFTING		
CORNER	A	B
A	2'-1 1/2"	2'-2 3/4"
B	3'-4 1/2"	2'-2 3/4"
C	3'-4"	2'-3"
D	2'-1 3/4"	2'-2 1/2"

S9-4 LIFTING		
CORNER	A	B
A	2'-1 1/2"	2'-3"
B	3'-4 1/4"	2'-3"
C	3'-4"	2'-3"
D	2'-1 3/4"	2'-2 1/2"

S9-1 DIAGONALS	
AD	16'-9 11/16"
BC	21'-10 3/8"

S9-2 DIAGONALS	
AD	16'-9 7/8"
BC	21'-9 5/8"

S9-3 DIAGONALS	
AD	16'-10 1/16"
BC	21'-8 3/4"

S9-4 DIAGONALS	
AD	16'-10 1/4"
BC	21'-8 1/8"

S9-5 DIAGONALS	
AD	16'-5 1/2"
BC	26'-5 5/8"

S9-6 DIAGONALS	
AD	16'-5 7/16"
BC	26'-3 1/2"

S9-7 DIAGONALS	
AD	16'-5 7/16"
BC	26'-0 3/8"

S9-8 DIAGONALS	
AD	16'-5 3/8"
BC	25'-10 7/16"

S9-5 LIFTING		
CORNER	A	B
A	2'-3 1/2"	1'-8 1/2"
B	4'-11 1/2"	1'-8 1/2"
C	5'-0 1/4"	1'-8 1/4"
D	2'-2 3/4"	1'-9 1/2"

S9-6 LIFTING		
CORNER	A	B
A	2'-11"	2'-1 3/4"
B	5'-1 1/4"	2'-1 3/4"
C	5'-2"	2'-1 1/2"
D	2'-10 1/4"	2'-2 3/4"

S9-7 LIFTING		
CORNER	A	B
A	2'-11"	2'-1 1/2"
B	5'-0 3/4"	2'-1 1/2"
C	5'-1 1/2"	2'-1 1/4"
D	2'-10 1/4"	2'-2 1/4"

S9-8 LIFTING		
CORNER	A	B
A	2'-10 3/4"	2'-1 3/4"
B	5'-0 1/2"	2'-1 3/4"
C	5'-1"	2'-1 1/2"
D	2'-10"	2'-2 1/2"

SEE SHEET 4 FOR ALL SECTIONS SHOWN ON THIS SHEET

RECEIVED
GRD BY 255 OKD BY RSH
MAR 29 2011
RESUBMIT APPROVED
BY CPW DATE 3/30/11

NOTES:
SEE SHEET 4 FOR ALL SECTIONS SHOWN ON THIS SHEET.
SEE SHEET 4 FOR LIFTING SECTION DETAIL.

NO.	DATE	BY	REVISIONS

THE FORT MILLER Co., Inc.
P.O. BOX 98
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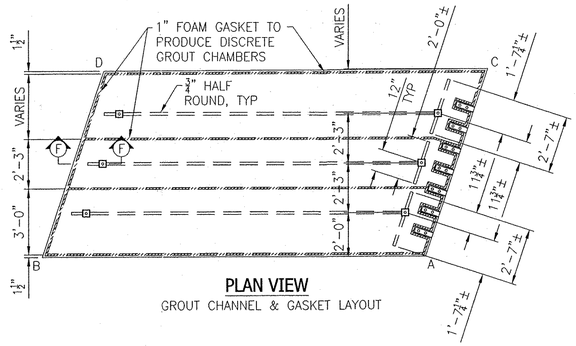
WWW.FORTMILLER.COM

F.M. JOB NO. 12511

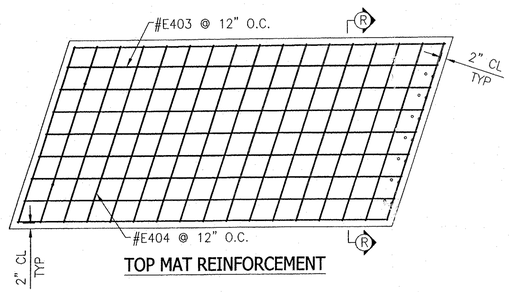
DATE: 2-16-11
DRN. BY: TDS
CHK. BY: SDH
SCALE: NONE
SHEET NO. 3 OF 4

PROJECT LOCATION: TOWN OF CHESTER - ROUTE 103
PROJECT: BRF 025-1(37) - BRIDGE #9
ITEM# 900.620
SUBJECT: UNIT PLAN VIEWS
CONTRACTOR: COLD RIVER BRIDGES, LLC.
CONTRACTOR ADDRESS: PO BOX 1076
WALPOLE, NH 03608
ENGINEER/ARCHITECT VAOT

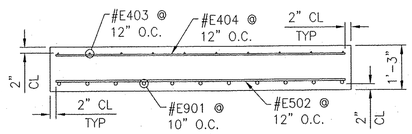
DWG. NO.
P3



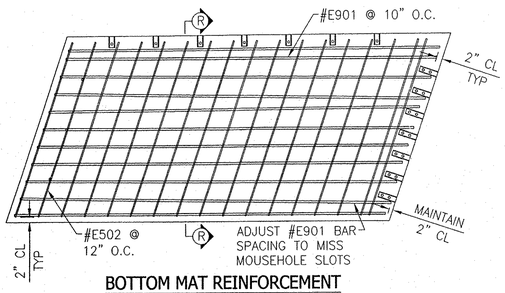
PLAN VIEW
GROUT CHANNEL & GASKET LAYOUT



TOP MAT REINFORCEMENT



REINFORCEMENT SECTION R-R

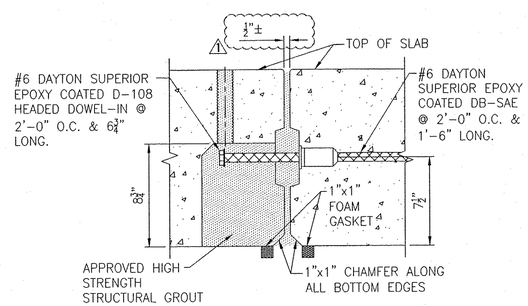


BOTTOM MAT REINFORCEMENT
DO NOT TRIM #E901 BAR SHORTER THAN 2" CL COVER, SKEW BAR TO FIT PAST MOUSEHOLES

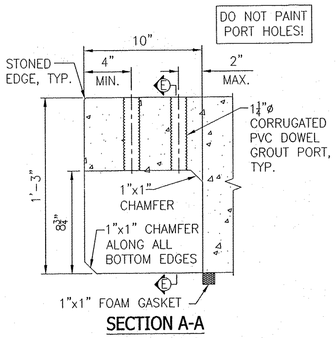
REINFORCEMENT SECTION

	E901		E502		E403		E404	
	QTY	LENGTH	QTY	LENGTH	QTY	LENGTH	QTY	LENGTH
S9-1	11	17' 0"	18	8' 11 1/2"	10	17' 0"	18	8' 11 1/2"
S9-2	11	17' 0"	18	8' 11 1/2"	10	17' 0"	18	8' 11 1/2"
S9-3	11	17' 0"	18	8' 11 1/2"	10	17' 0"	18	8' 11 1/2"
S9-4	11	17' 0"	18	8' 11 1/2"	10	17' 0"	18	8' 11 1/2"
S9-5	11	19' 3 1/4"	18	9' 10"	10	19' 3 1/4"	18	9' 10"
S9-6	11	19' 3 1/4"	18	9' 10"	10	19' 3 1/4"	18	9' 10"
S9-7	11	19' 3 1/4"	18	9' 10"	10	19' 3 1/4"	18	9' 10"
S9-8	11	19' 3 1/4"	18	9' 10"	10	19' 3 1/4"	18	9' 10"

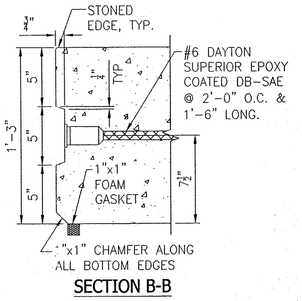
ALL REINFORCEMENT IS EPOXY COATED.



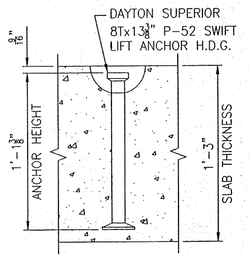
LONGITUDINAL JOINT CONNECTION



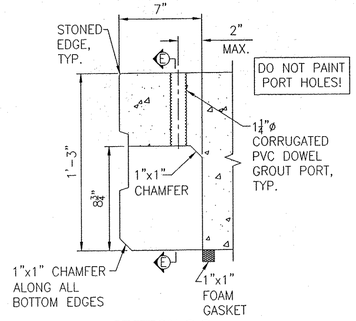
SECTION A-A



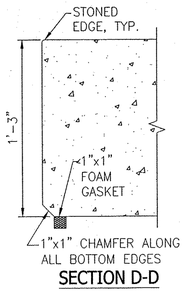
SECTION B-B



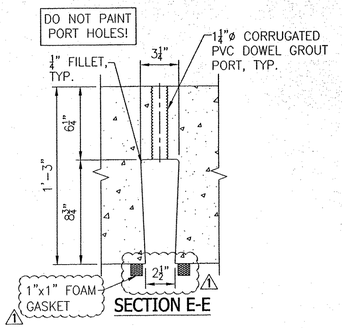
LIFTING SECTION DETAIL



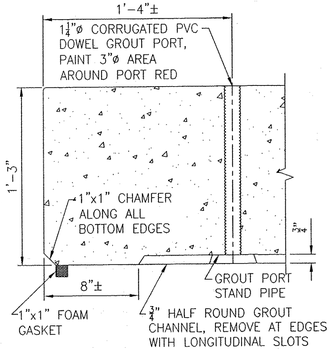
SECTION C-C



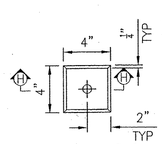
SECTION D-D



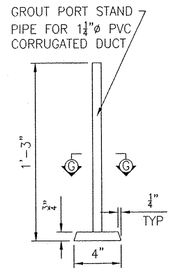
SECTION E-E



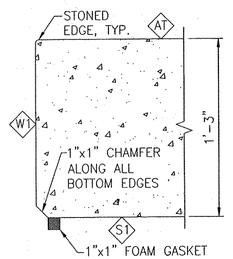
SECTION F-F



SECTION G-G



SECTION H-H
THIS DETAIL MAY BE DELETED OR REVISED AT THE THE DISCRETION OF FM PLANT ENGINEER.



FINISH SCHEDULE

W1 = WOOD FORM FINISH
S1 = STEEL FORM FINISH
AT = ASTRO-TURF FINISH TRANSVERSE TO TRAFFIC

RECEIVED
DKD BY LSS DKD BY RLK
MAR 29 2011
RESUBMIT APPROVED
BY CPW DATE 3/30/11

NO.	DATE	BY	REVISIONS
1	3-23-11	TDS	PER ENG. COMMENTS

THE FORT MILLER Co., Inc.
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WWW.FORTMILLER.COM

F.M. JOB NO. 12511
DATE: 2-16-11
DRN. BY: TDS
CHK. BY: SDH
SCALE: NONE
SHEET NO. 4 OF 4

PROJECT LOCATION: TOWN OF CHESTER - ROUTE 103
PROJECT: BRF 025-1(37) - BRIDGE #9
ITEM# 900.620
SUBJECT: SECTIONS, REINFORCEMENT & GROUT CHANNEL DETAILS
CONTRACTOR: COLD RIVER BRIDGES, LLC.
CONTRACTOR ADDRESS: PO BOX 1076
WALPOLE, NH 03608
ENGINEER/ARCHITECT VAOT

DWG. NO.
P4

GENERAL NOTES:

1) FINE GRADING OF EXISTING SUBBASE SHALL BE COMPLETED BY CONTRACTOR WITH A $\frac{1}{8}$" TOLERANCES TO FOLLOW (SUPER-SLAB™) SYSTEM GRADING TOLERANCES.
2) CONTRACTOR SHALL INSTALL PRECAST CONCRETE APPROACH SLABS (SUPER-SLAB™) IN ACCORDANCE WITH ITEM# 900.620
3) CONTRACTOR TO CLEAN AND FILL CRACKS AND JOINTS IN ACCORDANCE WITH CONTRACT PLANS.
4) CONTRACTOR SHALL PROVIDE AND INSTALL PRECAST CONCRETE APPROACH SLAB BEDDING & DOWEL GROUT.
5) POSITION OF REINFORCEMENT TO BE MAINTAINED WITH THERMOPLASTIC CHAIRS OR PLASTIC TIPPED BOLSTERS.
6) FABRICATION OF PRECAST APPROACH SLABS SHALL CONFORM TO ITEM# 900.620.
7) FORT MILLER TO PROVIDE PRECAST CONCRETE (SUPER-SLAB™) INSTALLATION & GRADING MANUALS TO THE CONTRACTOR.

CONCRETE DATA:

CONCRETE COMPRESSIVE STRENGTH:

28-DAY STRENGTH = 5,000 psi
STRIPPING STRENGTH = ~~3,500 psi~~ 3,000 psi

MIX DESIGN:

MIX CODE: SP249
SUBMITTED UNDER SEPARATE COVER.

CURING:

ALL SUPER-SLAB APPROACH SLAB WILL BE PRECAST INSIDE A FULLY ENCLOSED, HEATED BUILDING. THEREFORE, DURING THE CASTING, CURING AND STRIPPING PHASES THE UNITS WILL NOT BE SUBJECTED TO DIRECT SUNLIGHT, DRYING WINDS OR AMBIENT TEMPERATURES OUTSIDE OF THE 50°F – 80°F RANGE.

AFTER EACH OF THE SLABS ARE CAST AND AS SOON AS THE LAST FINISHING OPERATION IS COMPLETED THE TOP-IN-FORM SURFACE OF THE UNITS WILL BE COVERED WITH ONE (1) LAYER OF WHITE POLYETHYLENE FILM SUPPORTED IN SUCH A WAY AS TO PREVENT ANY MARRING OF THE UNITS' TOP SURFACES.

ALL OF THE UNITS WILL REMAIN IN THE CASTING FORM(S) WITH THE WHITE POLYETHYLENE FILM COVERING THEIR TOP SURFACES UNTIL THE UNITS HAVE REACHED ~~70%~~ 60% OF THE SPECIFIED 28-DAY CYLINDER STRENGTH AS DETERMINED BY CYLINDERS KEPT DIRECTLY NEXT TO AND SUBJECTED TO THE SAME CONDITIONS AS THE UNITS THAT THEY REPRESENT. AFTER THIS STRENGTH HAS BEEN ATTAINED THE UNITS MAY BE REMOVED FROM THE CASTING FORMS (BUT SHALL REMAIN IN THE BUILDING) AND THEN THE TOP SURFACE OF THE SUPER-SLABS SHALL BE COVERED WITH TWO LAYERS OF APPROVED BURLAP PRE-SOAKED AND FULLY SATURATED WITH WATER. THE BURLAP SHALL THEN BE COVERED WITH ONE (1) LAYER OF LAPPED WHITE POLYETHYLENE FILM. THE BURLAP LAYERS SHALL BE KEPT CONTINUOUSLY WET USING A SOAKER HOSE ON TOP OF THE BURLAP AND BELOW THE POLYETHYLENE SHEET. THE WET BURLAP AND WHITE POLYETHYLENE SHALL REMAIN IN PLACE UNTIL THE SPECIFIED 28-DAY CYLINDER STRENGTH HAS BEEN ATTAINED. AT THAT TIME THE BURLAP AND POLYETHYLENE MAY BE REMOVED FROM THE APPROACH SLABS AND MAY BE REMOVED FROM THE BUILDING FOR STORAGE.

TOLERANCES:

ALL UNITS SHALL BE CHECKED FOR COMPLIANCE WITH THE TOLERANCES LISTED BELOW, AFTER THE UNITS HAVE COMPLETED THE CURING PHASE AND WITHIN THREE DAYS OF ACTUAL SHIPMENT. THE INSPECTOR SHALL DOCUMENT ANY UNIT WITH DIMENSIONS OUT OF TOLERANCE. ANY UNIT WHICH FAILS TO MEET THESE TOLERANCES COULD BE SUBJECT TO REJECTION.

LENGTH, WIDTH, THICKNESS: $\pm\frac{3}{16}$"
OVERALL PANEL SQUARENESS:
DIFFERENCE IN
DIAGONALS NOT TO EXCEED $\frac{3}{16}$"
EDGE SQUARENESS: $\frac{1}{8}$" IN 10" (IN RELATION
TO TOP AND BOTTOM
SURFACES)
LIFTING LOCATION: ±6"
GROUT CHANNEL LOCATION: ±4"

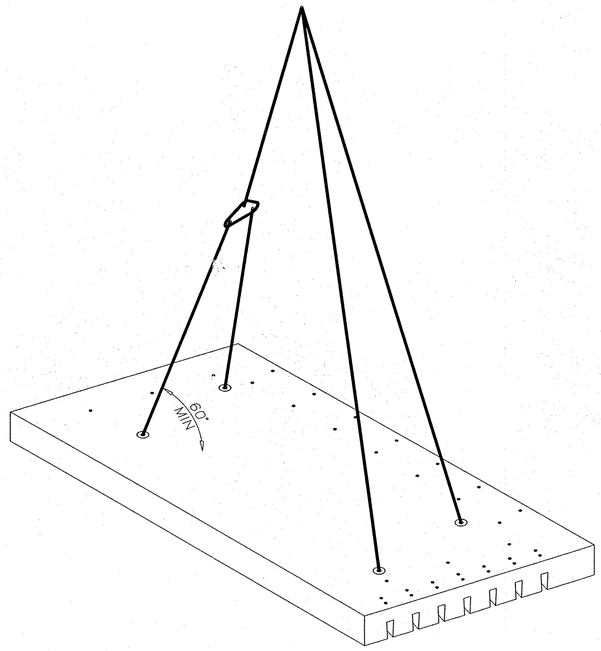
PRODUCTION SCHEDULE:

1) UNITS SHALL BE FABRICATED ON A FIVE DAY SCHEDULE. NUMBER OF UNITS TO BE PRODUCED PER DAY SHALL BE (1)±.
2) MARKING: EACH UNIT SHALL BE MARKED WITH THE FOLLOWING INFORMATION:
PROJECT#: BRF 025-1 – RTE 103
DATE CAST AGENCY: VAOT
FM PROJECT #12511 MARK#

MANUFACTURING SPECIFICATION: VAOT

FOAM GASKET REPAIR PROCEDURE:

PRIOR TO INSTALLATION, ALL PANELS SHALL BE INSPECTED BY THE CONTRACTOR FOR MISSING OR DAMAGED GASKET MATERIAL. ANY GASKET MATERIAL THAT HAS BEEN DISPLACED OR WILL OTHERWISE COMPROMISE THE GROUTING OPERATION SHALL BE REPLACED BY THE CONTRACTOR IN THE FIELD.



LIFTING SCHEME

ALL LIFTING TO BE ACCOMPLISHED USING EQUALIZATION SLINGS WHERE ALL LIFTING ANCHORS ARE TO BE ENGAGED DURING LIFTING. MINIMUM 60° SLING ANGLE REQUIRED.

SHIPPING:

1) NO UNIT SHALL BE SHIPPED UNTIL THE REQUIRED 28-DAY STRENGTH HAS BEEN ATTAINED.
2) EACH UNIT SHALL BE CLEARLY MARKED WITH THE MARKINGS DESCRIBED ABOVE UNDER "PRODUCT ON SCHEDULE".
3) ALL MARKINGS SHALL BE INDELIBLE AND SHALL BE PLACED ON A SURFACE WHICH WILL NOT BE EXPOSED TO VIEW, AFTER CONSTRUCTION IS COMPLETE.

MISCELLANEOUS NOTES:

1) PANEL LIFTING INSERTS TO BE DAYTON SUPERIOR P-52 8Tx13$\frac{3}{8}$" SWIFT LIFT HDG ANCHOR.
2) LIFTING TO BE ACCOMPLISHED USING DAYTON SUPERIOR P-50 8T SWIFT LIFT LIFTING EYE.
3) ALL FEMALE END TIE BARS TO BE #6 SUPERIOR DB-SAE COUPLERS ($\frac{7}{8}$"ø-9UNC THREAD).
4) ALL MALE END TIE BARS TO BE #6 SUPERIOR DI "DOWEL-INS" ($\frac{7}{8}$"ø-9UNC THREAD).
5) CONTRACTOR SUPPLIED ITEMS INCLUDE THE FOLLOWING:
A) STRUCTURAL GROUT USED FOR TRANSVERSE & LONGITUDINAL CONNECTIONS.
B) BEDDING GROUT FOR UNDER SLAB.
C) STRUCTURAL GROUT FOR ALL LIFTING POCKETS.
D) CABLES/SHACKLES/UNEQUAL LENGTH SLINGS FOR UNLOADING & SETTING.
E) GROUT PUMP.
F) DEMO SAW TO SAW CUT JOINTS.
G) HIGHWAY JOINT SEALING MATERIAL, AS PER SPECIFICATION.
H) BOND BREAKING AGENT.
I) BACKER ROD
J) GREAT STUFF FOAM OR GROUT DAM MATERIAL.

SHIP LOOSE:

1) P-50 8T SWIFT LIFTING EYE (TO BE RETURNED) – (8) EA ITEM# 5338
2) 1" x 1" FOAM GASKET MATERIAL – (30) FT ITEM# 17863
3) FOAM GASKET GLUE – (1) QT ITEM# 21999
4) TECHNICAL SUPPORT ITEM# 7026
5) #6 DAYTON SUPERIOR D-108 HEADED EPOXY DOWEL-INS @ 6$\frac{1}{4}$" LONG – (54) EA ITEM# XXX

*ALL PRODUCTS MARKED "TO BE RETURNED" WILL BE RETURNED TO FORT MILLER VIA COMMON CARRIER AT THE EXPENSE OF THE CONTRACTOR.

RECEIVED
MAR 31 2011
COLD RIVER BRIDGES LLC

TABLE OF CONTENTS ⚠

TABLE OF UNITS ⚠

MK #	QTY ea	AREA sf	VOL cy	WT tons
S8-1	1	127.74	5.91	11.97
S8-2	1	134.37	6.22	12.59
S8-3	1	194.19	8.99	18.20
S8-4	1	177.22	8.20	16.62
S8-5	1	127.74	5.91	11.97
S8-6	1	134.37	6.22	12.59
S8-7	1	194.19	8.99	18.20
S8-8	1	177.22	8.20	16.62

RECEIVED
GK'D BY DS OK'D BY RST
APR 04 2011
RESUBMIT APPROVED A. Nichols
BY CPW DATE 4/11/11

NOTE TO CONTRACTOR:
THIS SHOP DRAWING REPRESENTS OUR INTERPRETATION OF THE PLANS AND SPECIFICATIONS, AND OUR CONTRACTURAL OBLIGATIONS FOR THIS PROJECT. PRIOR TO THE MANUFACTURE OF ANY ITEM FOR THIS PROJECT, ALL DIMENSIONS, METHODS OF CONSTRUCTION AND EXISTING CONDITIONS MUST BE CHECKED, CORRECTED AND/OR APPROVED BY OUR CUSTOMER. NO ITEM WILL BE SCHEDULED FOR PRODUCTION UNTIL WE HAVE BEEN NOTIFIED IN WRITING THAT OUR DRAWINGS HAVE BEEN APPROVED FOR FABRICATION. APPROVAL DELAYS WILL RESULT IN FABRICATION DELAYS. ANY ITEM THAT IS FABRICATED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS THAT DOES NOT FIT THE CUSTOMER'S REQUIREMENTS WILL BE REMADE AND SHIPPED TO THE PROJECT ONLY AT THE CUSTOMER'S EXPENSE, AND ONLY AFTER RECEIPT OF A PURCHASE ORDER TO COVER THE ADDED EXPENSE. WE ASSUME NO RESPONSIBILITY FOR THE ALTERING OF OUR PRODUCTS TO ACCOMMODATE OTHER TRADES UNLESS REQUIRED INFORMATION IS FURNISHED AND SHOWN ON OUR SHOP DRAWINGS AT THE TIME THEY ARE APPROVED FOR FABRICATION BY OUR CUSTOMER.

NO.	DATE	BY	REVISIONS
⚠	3-28-11	TDS	PER ENG. COMMENTS, T.O.C., T.O.U.

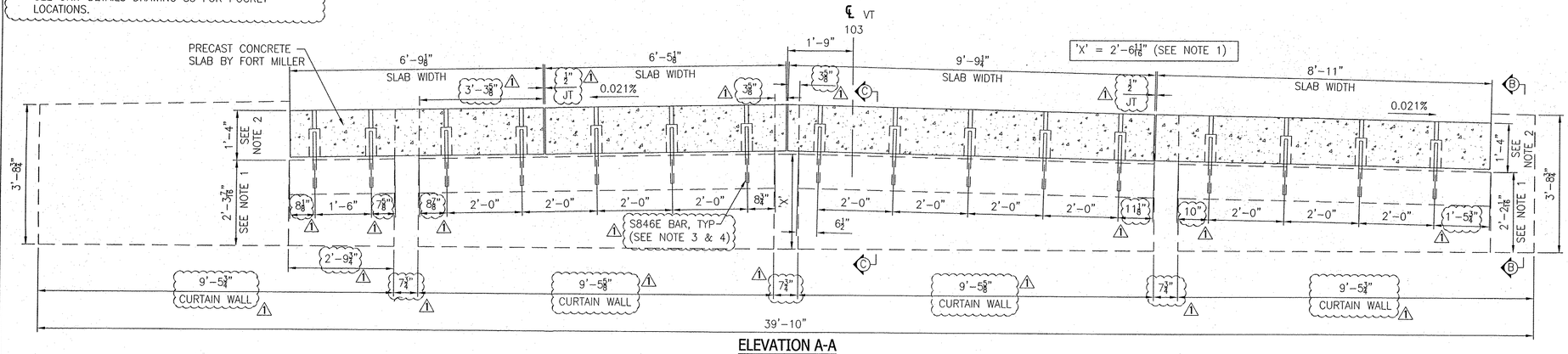
THE FORT MILLER Co., Inc.
P.O. BOX 98
SCHUYLERVILLE, NY 12871
(518) 695-5000
(518) 695-4970 FAX
WWW.FORTMILLER.COM

F.M. JOB NO. 12511
DATE: 2-21-11
DRN. BY: TDS
CHK. BY: SDH
SCALE: NONE
SHEET NO. 1 OF 3

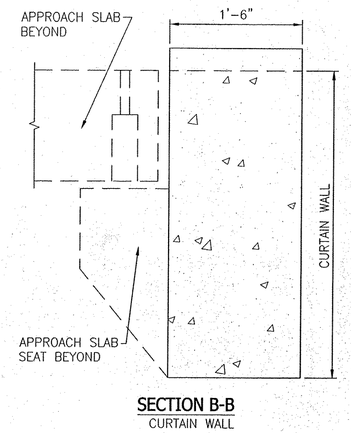
PROJECT LOCATION: TOWN OF CHESTER - ROUTE 103
PROJECT: BRF 025-1(28) - BRIDGE #8
ITEM# 900.620
SUBJECT: NOTE SHEET
CONTRACTOR: COLD RIVER BRIDGES, LLC.
CONTRACTOR ADDRESS: PO BOX 1076
WALPOLE, NH 03608
ENGINEER/ARCHITECT VAOT

DWG. NO. S1

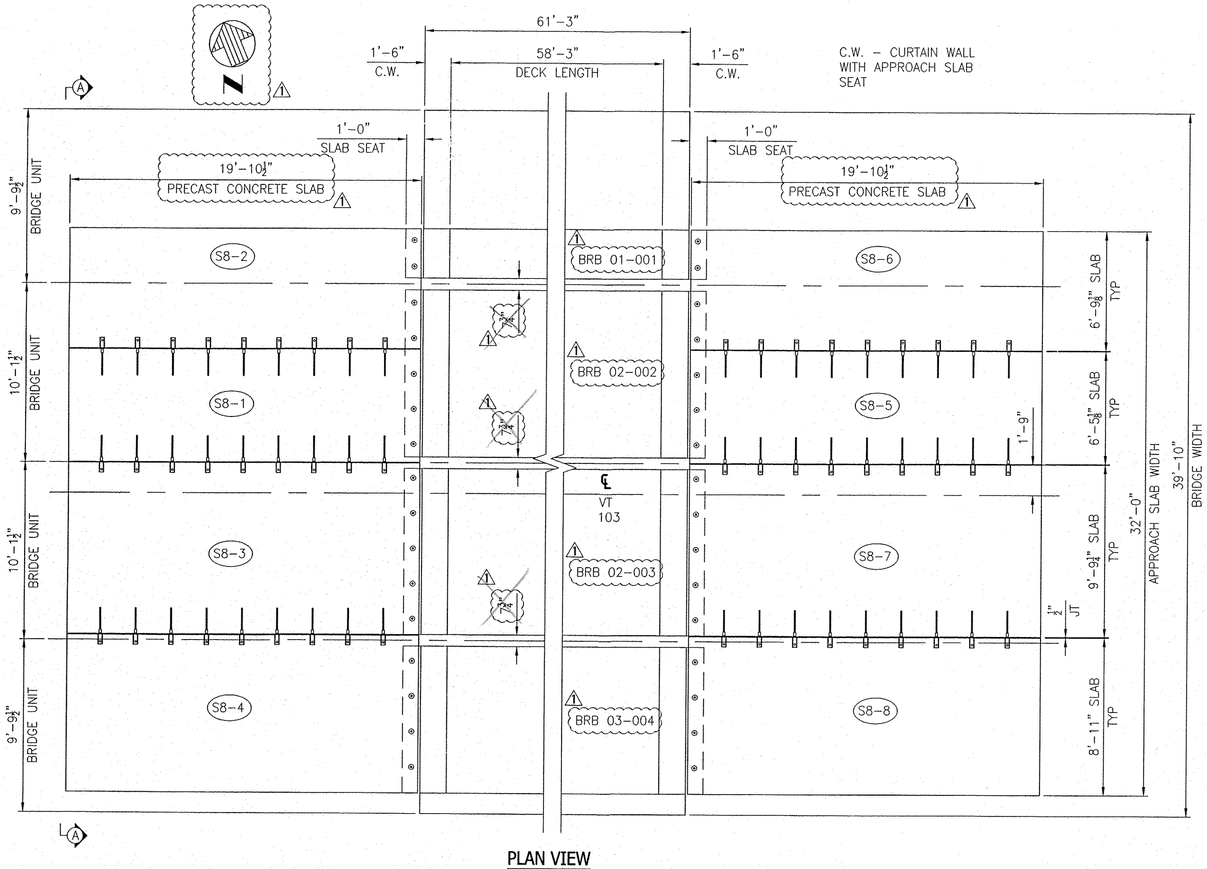
NOTES:
1. THE CURTAIN WALL APPROACH SLAB SEAT TO BE PARALLEL WITH THE TOP OF THE NEXT BEAM DECK.
2. THE APPROACH SLAB SEAT NEEDS TO BE 1'-4" DEEP FOR A 1'-3" APPROACH SLAB. SECTION C-C SHOWS THE REQUIRED SEAT DIMENSIONS.
3. ALL S846E BARS PROTRUDING FROM CURTAIN WALL TO BE PERPENDICULAR TO APPROACH SEAT.
4. DIMENSIONS SHOWN FOR THE S846E BARS ARE TAKEN ON THE CURTAIN WALLS NOT PRECAST SLABS. SEE UNIT DETAILS DRAWING S3 FOR POCKET LOCATIONS.



ELEVATION A-A



SECTION B-B
CURTAIN WALL

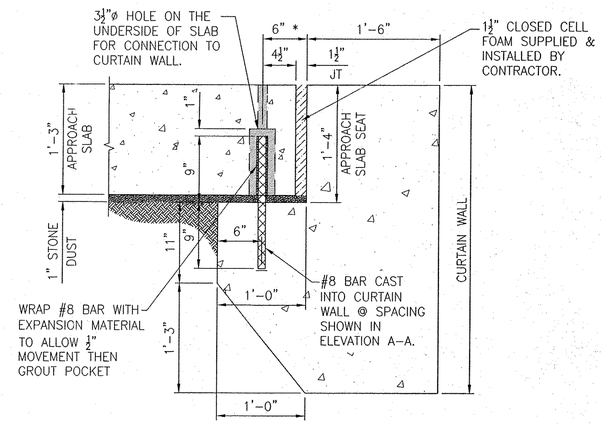


PLAN VIEW

SETTING SEQUENCE:

WEST SIDE: SEQUENTIALLY S8-1 THRU S8-4 OR S8-1, S8-3, THEN S8-2 OR S8-4 NEXT.

EAST SIDE: SEQUENTIALLY S8-5 THRU S8-8 OR S8-5, S8-7, THEN S8-6 OR S8-8 NEXT.



SECTION C-C
APPROACH SLAB SEAT
* CRITICAL DIMENSION

RECEIVED
CK'D BY ____ OK'D BY ____
APR 04 2011
RESUBMIT ____ APPROVED ____
BY CPW DATE 4/11/11

*SUPER-SLAB® IS PROTECTED UNDER AT LEAST ONE OF US PATENT NUMBERS; 6,607,329 B2, 6,663,315, 6,709,192 AND 6,899,489 AND OTHER U.S. AND FOREIGN PATENTS PENDING. SUPER-SLAB® IS A REGISTERED US TRADEMARK OWNED BY THE FORT MILLER CO., INC.

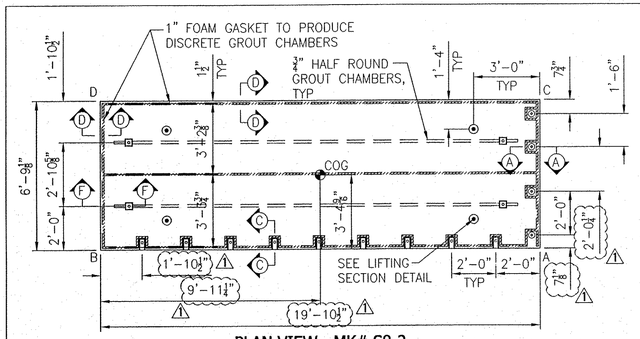
NO.	DATE	BY	REVISIONS
1	3-28-11	TDS	PER ENG. COMMENTS, ADDED NOTES & DIMENSIONS

THE FORT MILLER Co., Inc.
P.O. BOX 98
SCHUYLERVILLE, NY 12871
(518) 695-5000
(518) 695-4970 FAX
WWW.FORTMILLER.COM

F.M. JOB NO. 12511

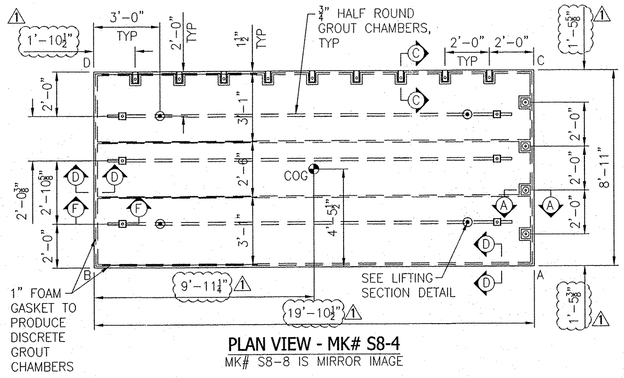
PROJECT LOCATION: TOWN OF CHESTER - ROUTE 103
PROJECT: BRF 025-1(28) - BRIDGE #8
ITEM# 900.620
SUBJECT: PLAN, SECTION & DETAILS
CONTRACTOR: COLD RIVER BRIDGES, LLC.
CONTRACTOR ADDRESS: PO BOX 1076
WALPOLE, NH 03608
ENGINEER/ARCHITECT VAOT

DATE: 2-21-11
DRN. BY: TDS
CHK. BY: SDH
SCALE: NONE
SHEET NO. 2 OF 3
DWG. NO. S2



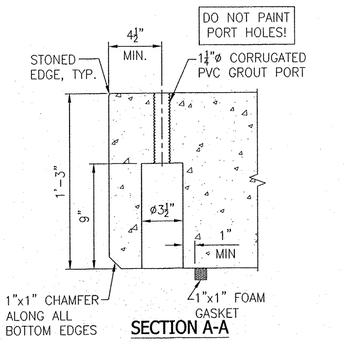
PLAN VIEW - MK# S8-2

MK# S8-6 IS MIRROR IMAGE

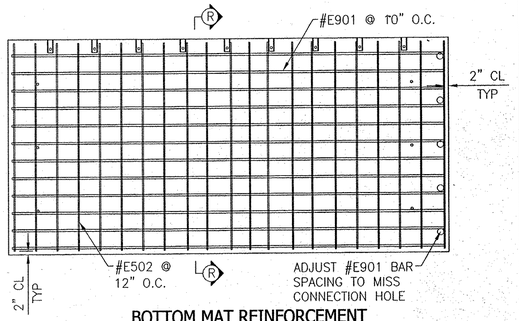


PLAN VIEW - MK# S8-4

MK# S8-8 IS MIRROR IMAGE

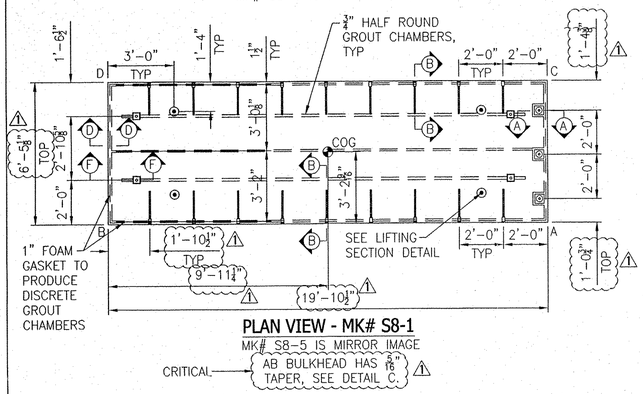


SECTION A-A



BOTTOM MAT REINFORCEMENT

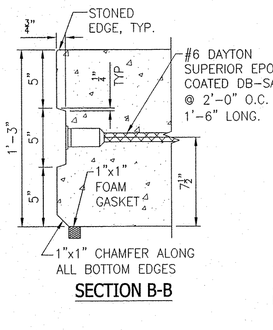
DO NOT TRIM #E901 BAR SHORTER THAN 2" CL COVER, SKEW BAR TO FIT PAST CONNECTION HOLES



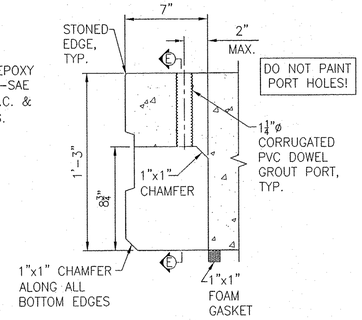
PLAN VIEW - MK# S8-1

MK# S8-5 IS MIRROR IMAGE

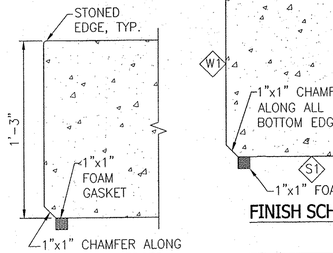
CRITICAL — AB BULKHEAD HAS 3/16" TAPER, SEE DETAIL C.



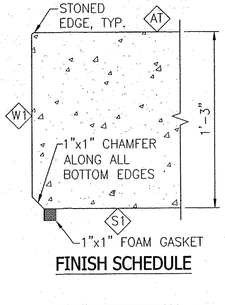
SECTION B-B



SECTION C-C

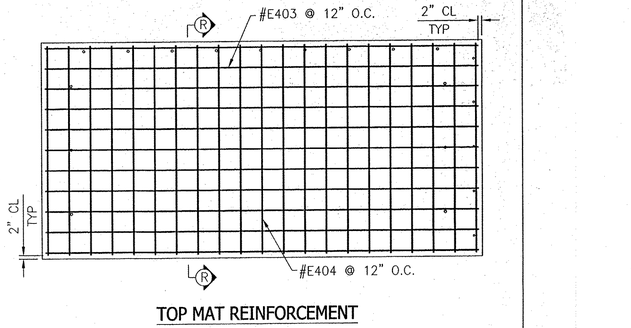


SECTION D-D

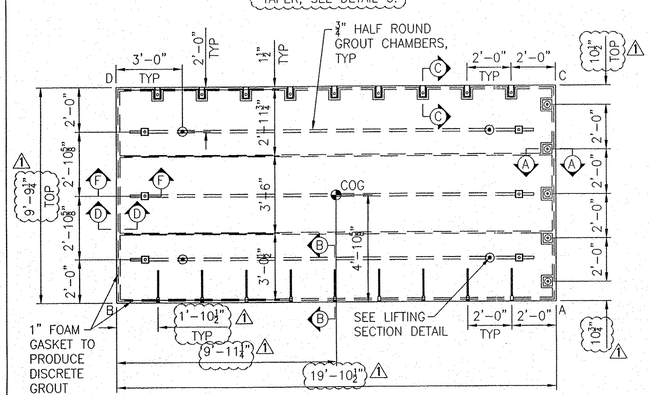


FINISH SCHEDULE

◇W1 = WOOD FORM FINISH
◇S1 = STEEL FORM FINISH
◇AT = ASTRO-TURF FINISH TRANSVERSE TO TRAFFIC



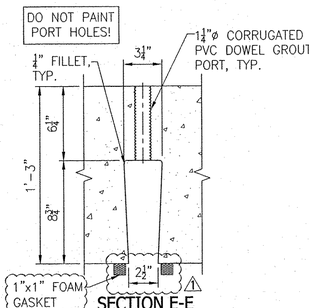
TOP MAT REINFORCEMENT



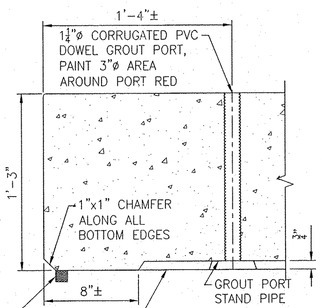
PLAN VIEW - MK# S8-3

MK# S8-7 IS MIRROR IMAGE

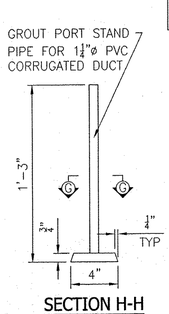
CRITICAL — CD BULKHEAD HAS 3/16" TAPER, SEE DETAIL D.



SECTION E-E

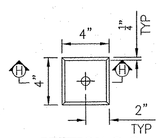


SECTION F-F

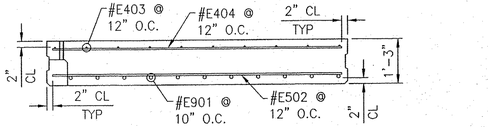


SECTION H-H

THIS DETAIL MAY BE DELETED OR REVISED AT THE THE DISCRETION OF FM PLANT ENGINEER.



SECTION G-G

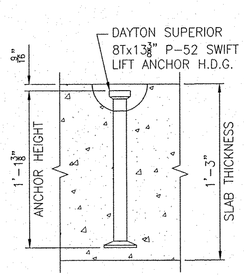


REINFORCEMENT SECTION R-R

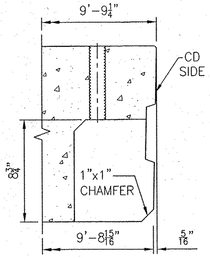
REINFORCEMENT SECTION ⚠1

	E901		E502		E403		E404	
	QTY	LENGTH	QTY	LENGTH	QTY	LENGTH	QTY	LENGTH
S8-1	9	19' 6 1/2"	21	6' 1"	8	19' 6 1/2"	21	6' 1"
S8-2	9	19' 6 1/2"	21	6' 5"	8	19' 6 1/2"	21	6' 5"
S8-3	13	19' 6 1/2"	21	9' 5 1/4"	11	19' 6 1/2"	21	9' 5 1/4"
S8-4	12	19' 6 1/2"	21	8' 7"	10	19' 6 1/2"	21	8' 7"
S8-5	9	19' 6 1/2"	21	6' 1"	8	19' 6 1/2"	21	6' 1"
S8-6	9	19' 6 1/2"	21	6' 5"	8	19' 6 1/2"	21	6' 5"
S8-7	13	19' 6 1/2"	21	9' 5 1/4"	11	19' 6 1/2"	21	9' 5 1/4"
S8-8	12	19' 6 1/2"	21	8' 7"	10	19' 6 1/2"	21	8' 7"

ALL REINFORCEMENT IS EPOXY COATED.

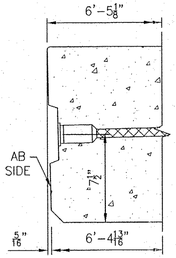


LIFTING SECTION DETAIL



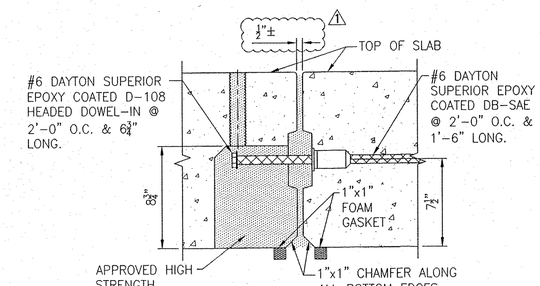
DETAIL D

FEMALE KEY TYPICAL TO ALL UNITS



DETAIL C

FEMALE KEY TYPICAL TO ALL UNITS



LONGITUDINAL JOINT CONNECTION

RECEIVED
OK'D BY [illegible] OK'D BY RSH
APR 04 2011
RESUBMIT ____ APPROVED ____
BY CPW DATE 4/11/11

*SUPER-SLAB® IS PROTECTED UNDER AT LEAST ONE OF US PATENT NUMBERS; 6,607,329 B2, 6,663,315, 6,709,192 AND 6,899,489 AND OTHER U.S. AND FOREIGN PATENTS PENDING. SUPER-SLAB® IS A REGISTERED US TRADEMARK OWNED BY THE FORT MILLER CO., INC.

NO.	DATE	BY	REVISIONS
⚠1	3-28-11	TDS	PER ENG. COMMENTS, ADDED NOTES

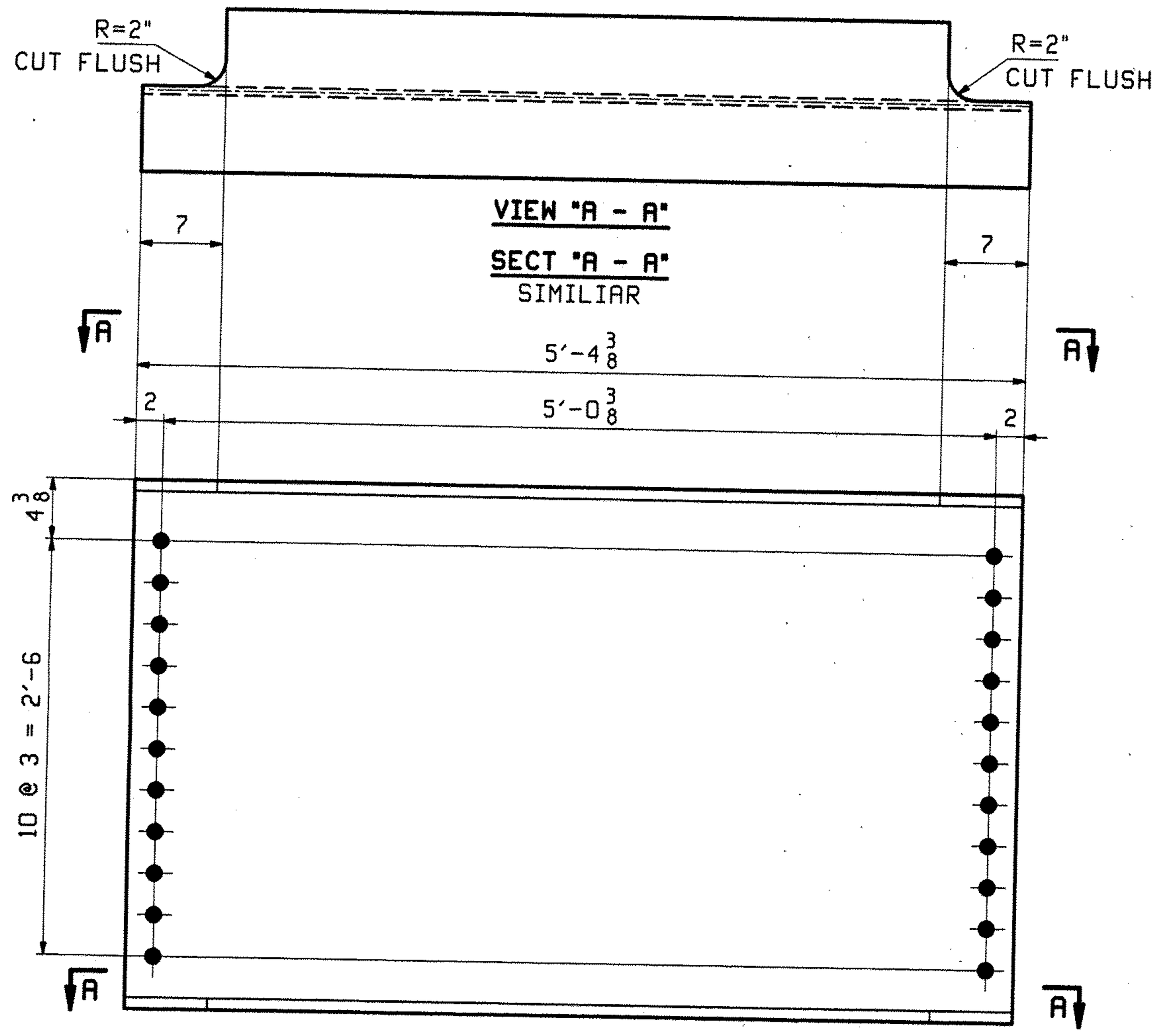
THE FORT MILLER Co., Inc.
P.O. BOX 98
SCHUYLERVILLE, NY 12871
(518) 695-5000
(518) 695-4970 FAX
WWW.FORTMILLER.COM

F.M. JOB NO. 12511

PROJECT LOCATION: TOWN OF CHESTER - ROUTE 103
PROJECT: BRF 025-1(28) - BRIDGE #8
ITEM# 900.620
SUBJECT: UNIT PLAN, REINFORCEMENT & SECTION DETAILS
CONTRACTOR: COLD RIVER BRIDGES, LLC.
CONTRACTOR ADDRESS: PO BOX 1076
WALPOLE, NH 03608
ENGINEER/ARCHITECT VAOT

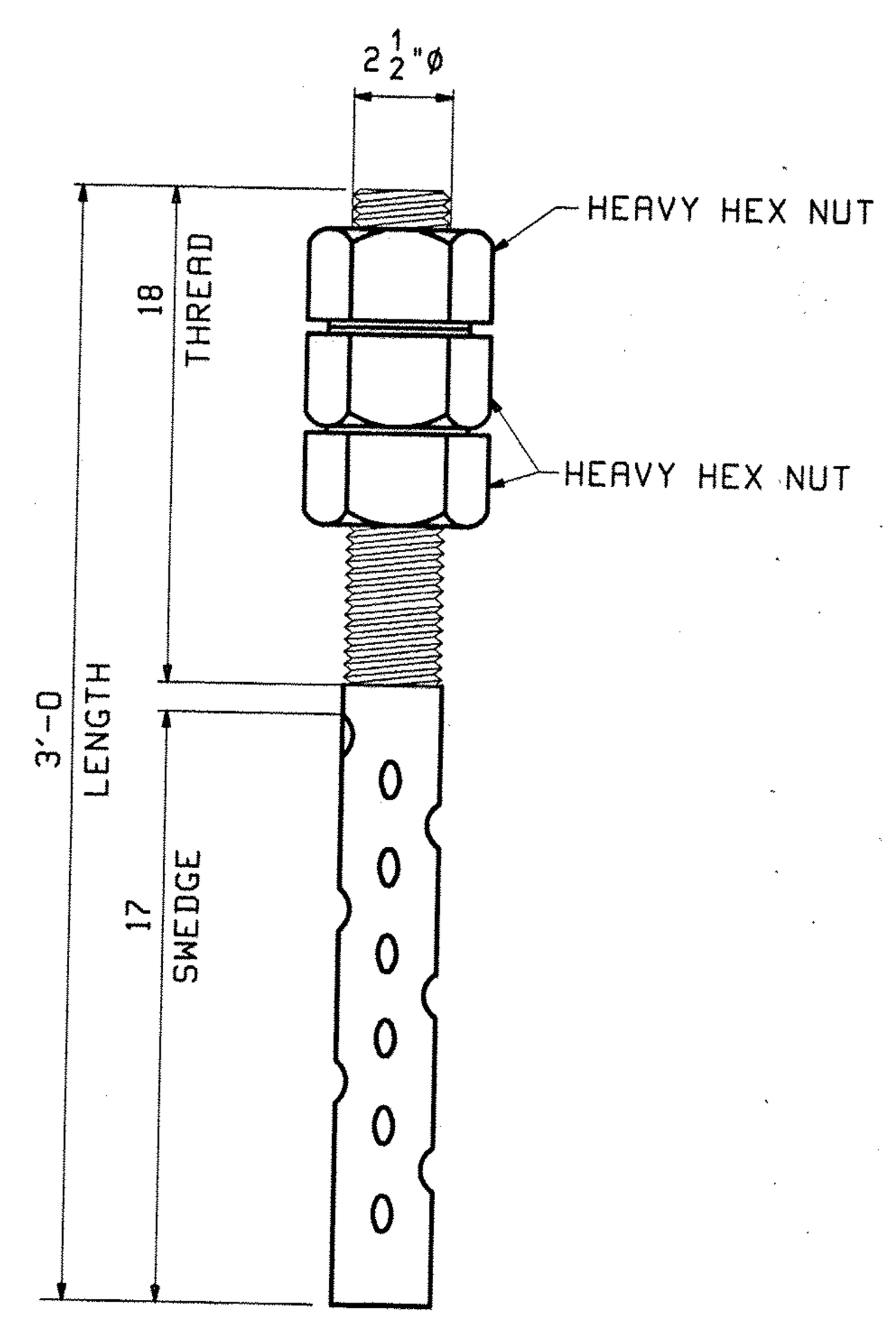
DATE: 2-21-11
DRN. BY: TDS
CHK. BY: SDH
SCALE: NONE
SHEET NO. 3 OF 3

DWG. NO. S3



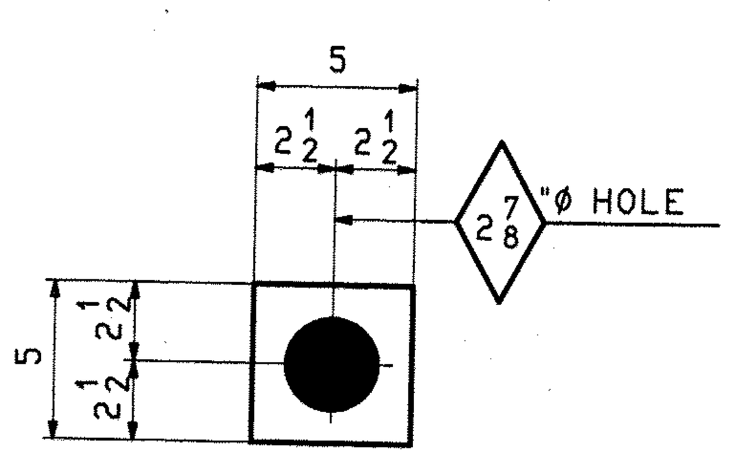
40 ~ DIAPHRAGMS ~ 8D1

SSPC-SP6 10



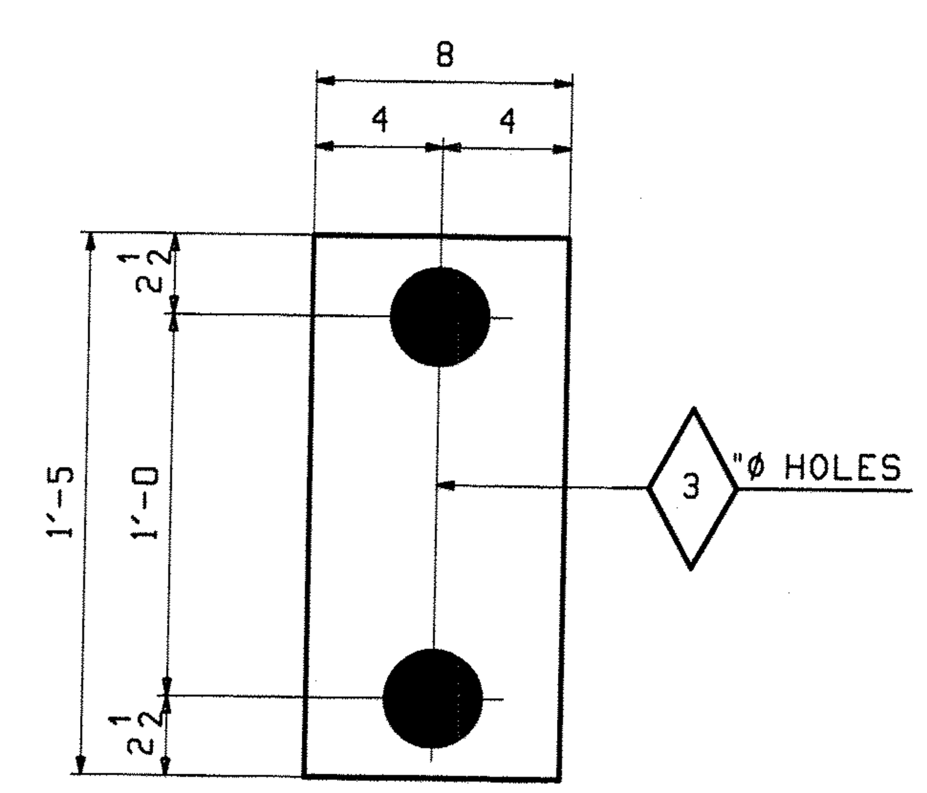
28 ~ SWEDGE ANCHOR BOLT ~ 8AB1

SHOP NOTE:
FABRICATE 1 EXTRA ANCHOR BOLT 2 1/2"ø x 3'-0
AS SHOWN ABOVE FOR TESTING PURPOSES.



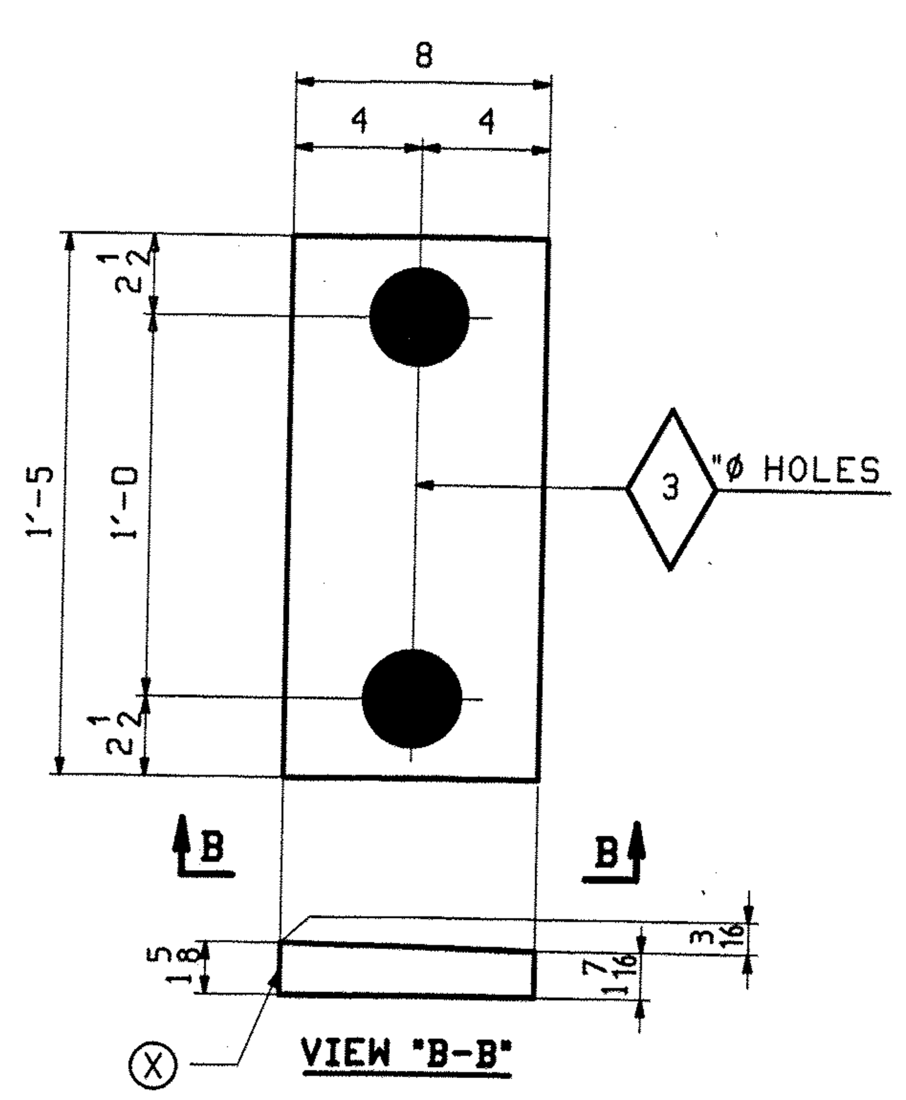
56 ~ PLATE WASHERS ~ 8M1

SSPC-SP6 10



7 ~ SOLE PLATES ~ 8M2

SSPC-SP6 10



7 ~ SOLE PLATES ~ 8M3

SSPC-SP6 10

(X) DENOTES THICKER SIDE OF SOLE PL

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.		REV.
								476	8		
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES	
		8D1	40		DIAPHRAGMS				799		
4	E		40		W 40x149	5	4 3/8	M270-50WT2			
		8AB1	28		ANCHOR BOLTS				17		
4	K		28		2 1/2 ø BLT	3	0	SWEDGED A449			
4	L		84		2 1/2 ø HHN			M291			
		8M1	56		PLATE WASHER				4		
4	G		56		PL 1/2x5	0	5	M270-36			
		8M2	7		SOLE PLATE				58		
4	H		7		PL 1 1/2x8	1	5	M270-36			
		8M3	7		SOLE PLATE				63		
4	J		7		PL 1 5/8x8	1	5	F1S M270-36			

RECEIVED ELC RSY
DEC 14 2010
APPROVED As NOTED
CPW DATE 12/30/10

FOR GENERAL NOTES SEE GN1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0		~			DEC 9 2010	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50WT2 (U.N)	AS NOTED	15/16" ø (U.N)	N/A

DESCRIPTION: DIAPHRAGMS

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

TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG CHKD: DO	DATE: 11/18 DATE: 12/02
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	8
CUSTOMER:	Cold River Bridges		REV. △

GENERAL NOTES

NOTE TO ENGINEER:
THESE NOTES ARE NOT INTENDED TO BE ALL INCLUSIVE AND COMPLIANCE WITH RELEVANT SPECIFICATIONS REMAIN UNCHANGED.

CONSTRUCTION SPECIFICATIONS

1) ALL MATERIAL AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006 WITH LATEST REVISIONS AND THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS FOR HIGHWAY BRIDGES DATED 2007 AND ITS LATEST REVISIONS.

MATERIAL SPECIFICATIONS

1) UNLESS OTHERWISE NOTED, ALL STEEL TO BE UNPAINTED AASHTO M270 GRADE 50W.

2) MATERIAL NOTED "CVN" OR "T2" ON DETAIL DRAWINGS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF VERMONT STANDARD SPECIFICATIONS SECTION 714.01.

3) HIGH STRENGTH BOLTS: ASTM A325 (AASHTO M164) 7/8" DIA., TYPE 3. NUTS SHALL BE A563 (TYPE 3) GRADE C3.

BOLTS & NUTS SHALL BE ROTATIONAL CAPACITY TESTED. DO NOT MIX NUTS & BOLTS FROM DIFFERENT CONTAINERS UNLESS ALL BOLTS & NUTS HAVE THE SAME LOT NUMBER.

FABRICATION

1) ALL HOLES SHALL BE DRILLED FULL SIZE (UN).

WELDING

1) THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5-08 BRIDGE WELDING CODE AND IN ADDITION TO SPECIFICATIONS SHOWN ABOVE. ALL WELDING WILL BE DETAILED TO PRE-QUALIFIED JOINTS, UNLESS PROHIBITED BY THE DESIGNER.

2) WELDING OF MAIN LOAD CARRYING MEMBERS AND ATTACHMENTS SHALL BE PERFORMED USING THE AUTOMATIC SUBMERGED ARC & SHIELDED METAL ARC PROCESSES. ALL WELDS ARE CONTINUOUS U.N.

3) NON DESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATION.

4) SEE DETAIL "WS1" ON THIS DRAWING FOR WELD TERMINATION DETAIL.

FIELD CONNECTIONS

1) ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH STRENGTH A-325 BOLTS (UN), INSTALLED PER SECTION 506.19(c). SEE DWG E1 FOR FIELD BOLT SIZES.

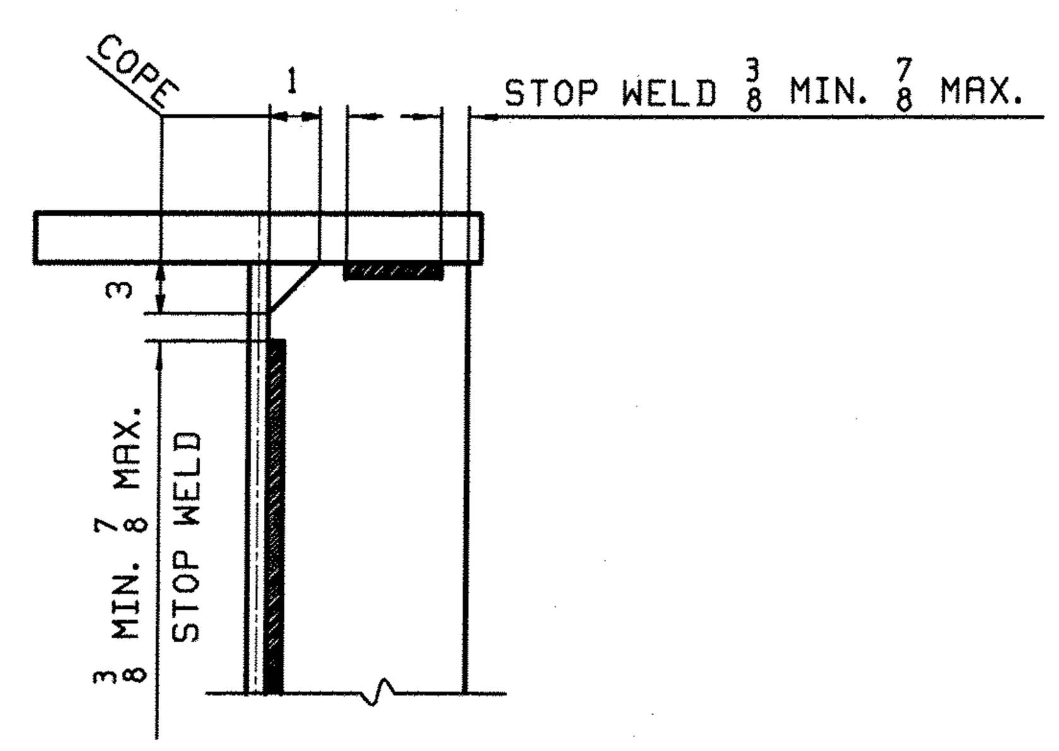
2) BOLTS SHALL HAVE HEAVY HEX NUT, HEAVY HEX HEAD, AND AT LEAST ONE FLAT WASHER EACH. WASHER TO BE PLACED UNDER TURNED ELEMENT.

3) PIECE MARKS WILL BE LOCATED AS SHOWN ON ERECTION DRAWINGS.

CLEANING

1) ALL STEEL SHALL BE BLAST CLEANED IN ACCORDANCE WITH SSPC SP-~~6~~10 (U.N.)

2) STRUCTURAL STEEL SHALL NOT BE PAINTED.



DETAIL "WS1"

ELC
APPROVED AS NOTED
BY CPW DATE 12/30/10

RECEIVED
DEC 13 2010
COLD RIVER BRIDGES LLC

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0		~			DEC 9 2010	

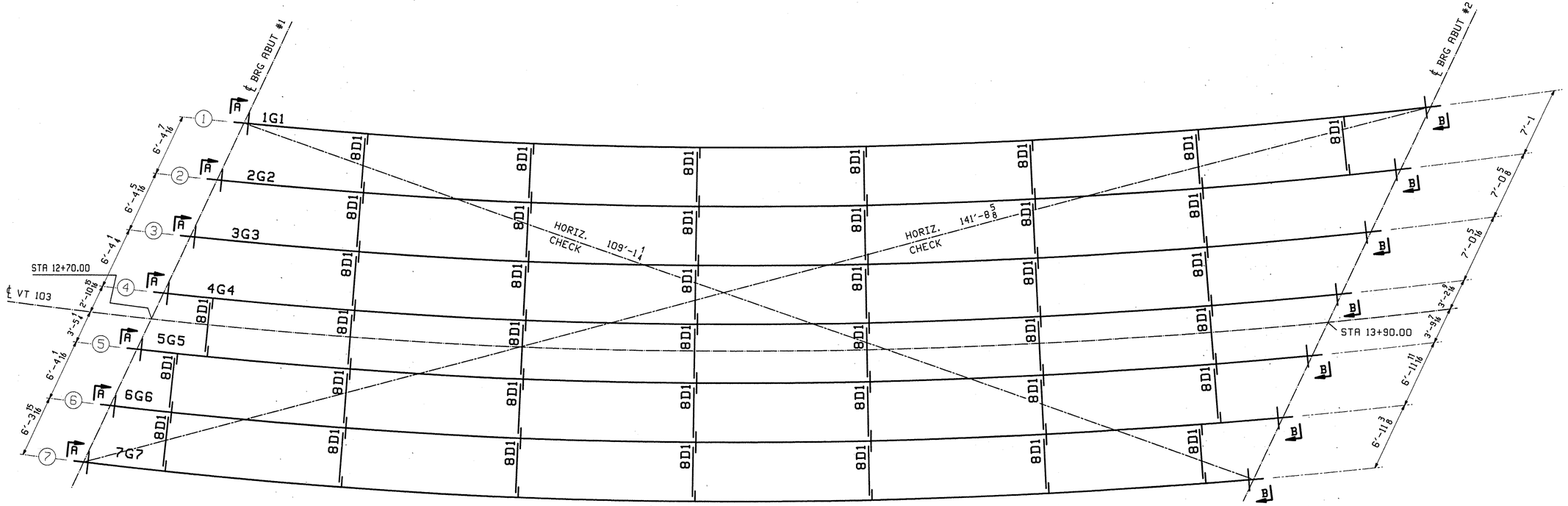
MATERIAL:	SURFACE PREP. & PAINT:	HOLES: AS NOTED	SHOP BOLTS: AS NOTED

DESCRIPTION: GENERAL NOTES

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

TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/19
		CHKD: DO	DATE: 11/29
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	GN1
CUSTOMER:	Cold River Bridges		REV. △

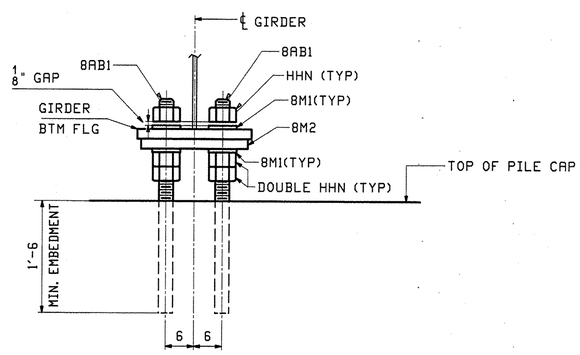


FRAMING PLAN

ANCHOR BOLT PLAN

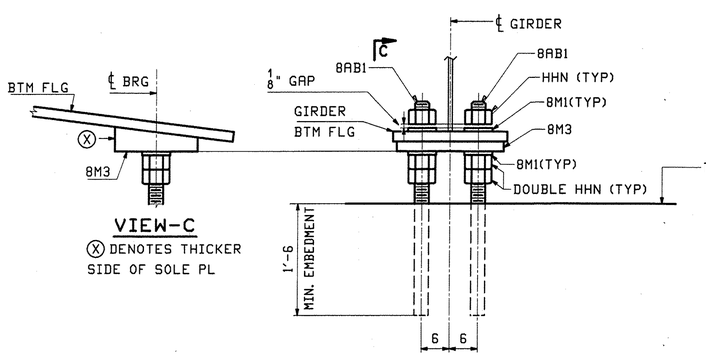
FIELD BOLT LIST							A325 Type 3 BOLTS							VTE RTE 103
LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS /CONN	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED						WASH CODE	PIECES CONNECTED AND REMARKS
1														
2	880	7/8	2 1/2	11	80	1 1/8	1/2	5/8					1	CONN. STIFF TO W40X149
3														
WASHER CODES														
1: 1 Hard Flat Washer														

FIELD BOLT SUMMARY			EXACT COUNT		VTE RTE 103
LINE	NO. OF BOLTS	BOLT DIAM.	TYPE	BOLT LEN	ACTUAL COUNT	REMARKS
1	880	7/8	A325 Type 3	2 1/2	880	
2						
3	880	Hard Flat Washers for 7/8 ø BOLT				
4						
5						
6						



SECTION - A

NOTE: GREASE TOP OF SOLE ℄ BEFORE GIRDER PLACEMENT



VIEW-C

Ⓧ DENOTES THICKER SIDE OF SOLE PL

SECTION - B

NOTE: GREASE TOP OF SOLE ℄ BEFORE GIRDER PLACEMENT

ELC RSY

CPW 12/30/10

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					DEC 9 2010	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:

DESCRIPTION: FRAMING PLAN & ANCHOR BOLT PLAN

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

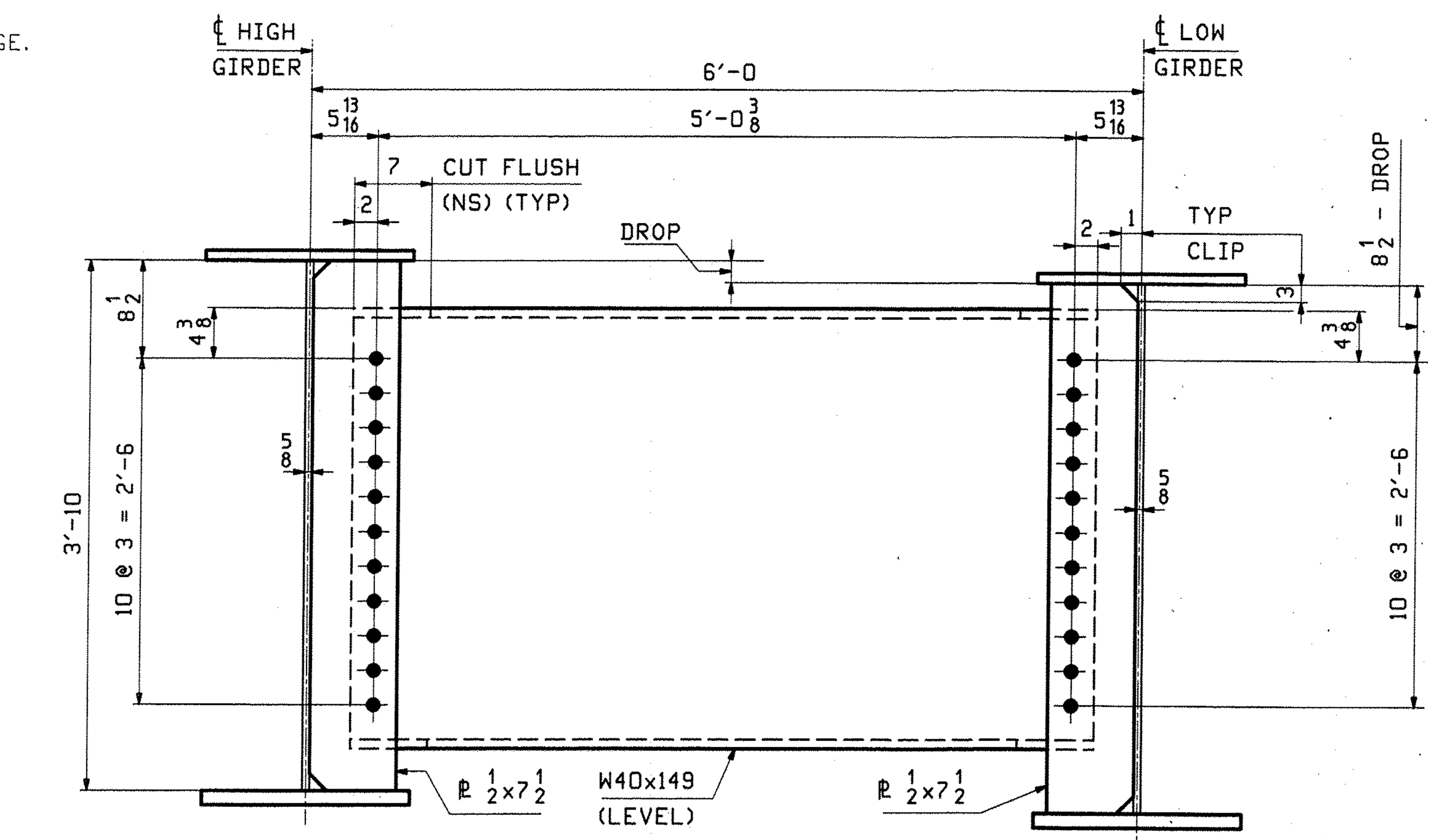
TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/18
		CHKD: DO	DATE: 12/02
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	E1
CUSTOMER:	Cold River Bridges		REV. △

CALCULATION PLAN

NOTES
1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG BOTT OF WEB WITH CORRECTIONS MADE FOR VERTICAL CURVE, GRADE & DL CAMBER (UN).
2. TRANSVERSE DIMENSIONS ARE IN A HORIZ. PLANE (UN).
3. DROP ARROW POINTS TOWARDS LOW END OF MEMBER.
4. ENDS OF GIRDERS AND BRG. STIFF'S ARE VERTICAL AFTER DL ROTATION.
5. CF STIFF ARE NORMAL TO GRADE.
6. BOTT PT NUMBERS =TOP PT NUMBERS + 200.
7. FOR LAYOUTS SEE TYPICAL LAYOUT BELOW.
8. COMBINE INT. CROSSFRAMES FOR DIFF IN DROPS OF +/- 1/8
9. CROSSFRAME DROPS ARE CALCULATED IN THE 70% CAMBERED SHAPE OF THE BRIDGE.

Line	LEN A	GRADE ABUT 1	GRADE ABUT 2
1	121'-0 1/8	.0021	-.0242
2	120'-8 1/4	.0028	-.0234
3	120'-4 9/16	.0035	-.0222
4	120'-1	.0047	-.0217
5	119'-9 9/16	.0055	-.0211
6	119'-6 5/16	.0062	-.0206
7	119'-3	.0068	-.0199



TYPICAL LAYOUT

NOTES:
ALL FIT-UP MAT'L IS AASHTO M270-GR50WT2
ALL HOLES ARE 15/16ø FOR 7/8" A325-3 BOLTS

ELC RS4 12/20/10 ✓ CPW 12/20/10

** NOTE **
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION AND CONNECTION SPACING. THIS DWG IS SUBMITTED FOR INFORMATION ONLY & IS NOT INTENDED FOR SHOP FABRICATION. DETAIL DWGS WILL SHOW ALL WELDING AND DIMENSIONS REQ'D FOR FABRICATION.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					DEC 9 2010	

MATERIAL: | SURFACE PREP. & PAINT: | HOLES: AS NOTED | SHOP BOLTS:

DESCRIPTION: CALCULATION PLAN & TYPICAL LAYOUT

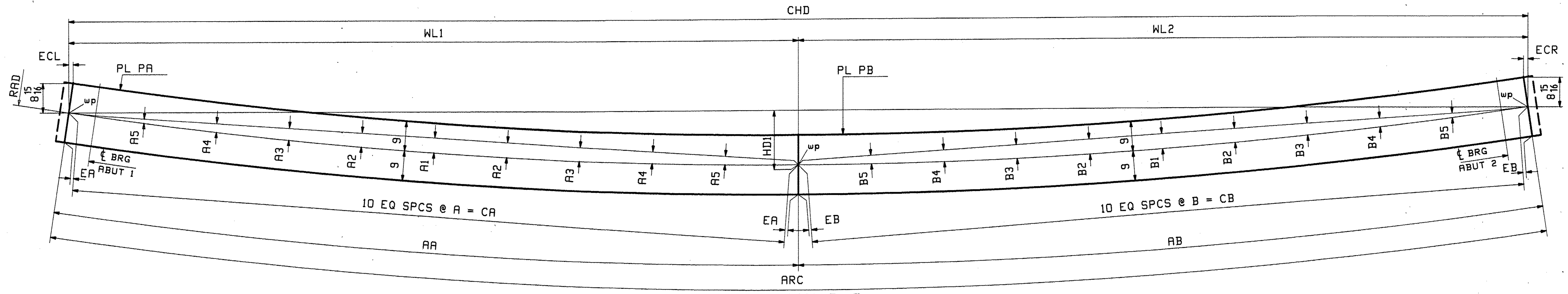
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 3030

STRUCTURE: VT 103 over Middle Branch Williams Rv.
Bridge 9
CHESTER
County of Windsor

DRAWN: TG DATE: 11/18
CHKD: DO DATE: 11/29

LOCATION: Town of Chester
PROJ NO. BRF 025-1(37)
CUSTOMER: Cold River Bridges

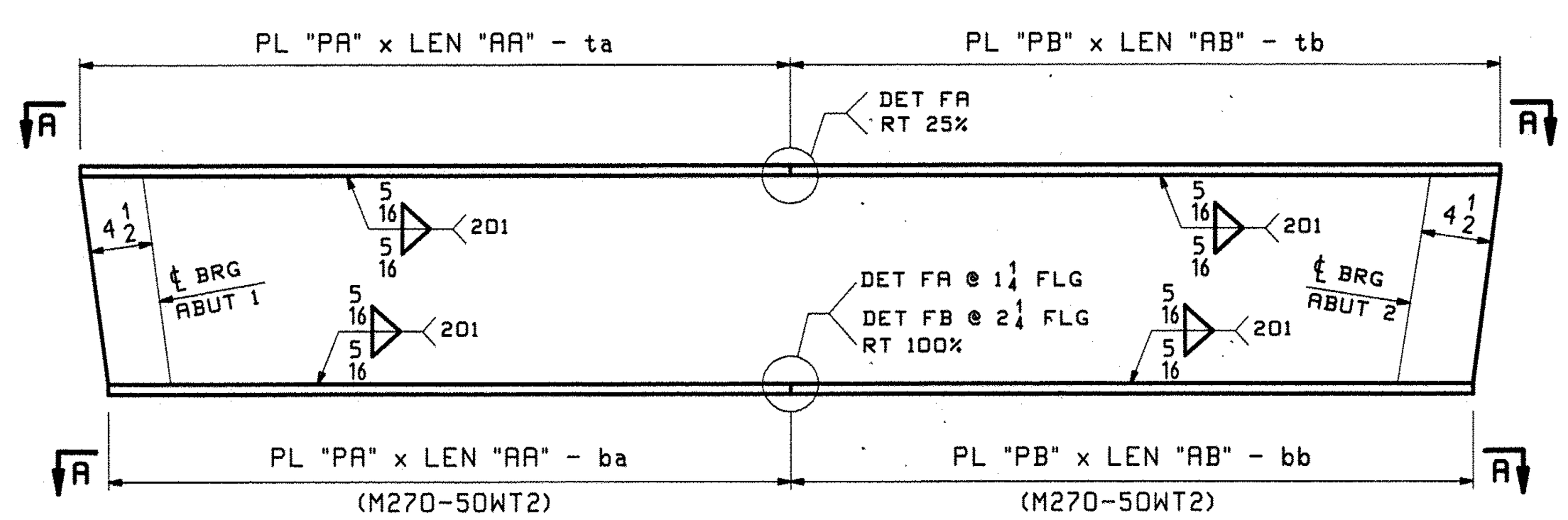
JOB NO. 476
DWG NO. WS1
REV. △



SECTION A-A

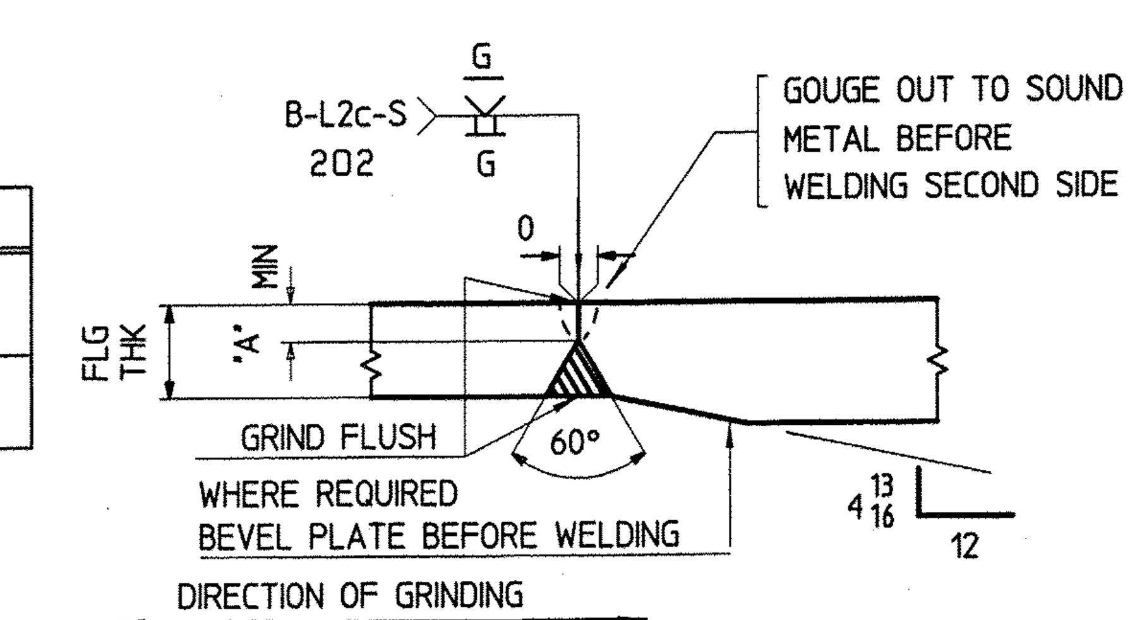
LOCATION	RAD	ARC	CHD	AA	AB	EA	A1	A2	A3	A4	A5	A	CA	EB	B1	B2	B3	B4	B5	B	CB	ECL	ECR	WL1	WL2	HD1
1G1 TOP FLG	552.21	121'-10 1/4	121'-7 5/16	43'-6	78'-4 1/4	3/8	5 1/8	4 15/16	4 5/16	3 5/16	1 7/8	4'-4 3/16	43'-5 7/8	5/8	1'-4 11/16	1'-4	1'-2	10 11/16	6	7'-9 15/16	78'-3 7/16	1	1	43'-4 9/16	78'-2 3/4	3'-1
1G1 BTM FLG	552.21	121'-9 1/8	121'-6 3/16	43'-6	78'-3 1/8	3/8	5 1/8	4 15/16	4 5/16	3 5/16	1 7/8	4'-4 3/16	43'-5 7/8	5/8	1'-4 5/8	1'-3 15/16	1'-2	10 5/8	6	7'-9 13/16	78'-2 5/16	1	1	43'-4 9/16	78'-1 5/8	3'-0 15/16
2G2 TOP FLG	558.21	121'-6 7/16	121'-3 9/16	43'-6	78'-0 7/16	3/8	5 1/16	4 7/8	4 1/4	3 1/4	1 13/16	4'-4 3/16	43'-5 7/8	5/8	1'-4 3/8	1'-3 11/16	1'-1 3/4	10 1/2	5 7/8	7'-9 9/16	77'-11 11/16	1	1	43'-4 5/8	77'-10 15/16	3'-0 7/16
2G2 BTM FLG	558.21	121'-5 1/4	121'-2 3/8	43'-6	77'-11 1/4	3/8	5 1/16	4 7/8	4 1/4	3 1/4	1 13/16	4'-4 3/16	43'-5 7/8	5/8	1'-4 5/16	1'-3 11/16	1'-1 11/16	10 7/16	5 7/8	7'-9 7/16	77'-10 1/2	1	1	43'-4 5/8	77'-9 3/4	3'-0 3/8
3G3 TOP FLG	564.21	121'-2 3/4	120'-11 15/16	43'-6	77'-8 3/4	3/8	5	4 13/16	4 1/4	3 3/16	1 13/16	4'-4 3/16	43'-5 7/8	5/8	1'-4 1/16	1'-3 7/16	1'-1 1/2	10 1/4	5 13/16	7'-9 3/16	77'-8	15/16	15/16	43'-4 5/8	77'-7 5/16	2'-11 15/16
3G3 BTM FLG	564.21	121'-1 9/16	120'-10 3/4	43'-6	77'-7 9/16	3/8	5	4 13/16	4 1/4	3 3/16	1 13/16	4'-4 3/16	43'-5 7/8	5/8	1'-4	1'-3 3/8	1'-1 7/16	10 1/4	5 3/4	7'-9 1/16	77'-6 13/16	15/16	15/16	43'-4 5/8	77'-6 1/8	2'-11 7/8
4G4 TOP FLG	570.21	120'-11 1/4	120'-8 1/2	43'-6	77'-5 1/4	5/16	5	4 3/4	4 3/16	3 3/16	1 13/16	4'-4 3/16	43'-5 7/8	5/8	1'-3 3/4	1'-3 1/8	1'-1 1/4	10 1/8	5 11/16	7'-8 7/8	77'-4 9/16	15/16	15/16	43'-4 5/8	77'-3 7/8	2'-11 7/16
4G4 BTM FLG	570.21	120'-10	120'-7 5/16	43'-6	77'-4	5/16	5	4 3/4	4 3/16	3 3/16	1 13/16	4'-4 3/16	43'-5 7/8	5/8	1'-3 3/4	1'-3 1/8	1'-1 3/16	10 1/16	5 11/16	7'-8 3/4	77'-3 5/16	15/16	15/16	43'-4 11/16	77'-2 5/8	2'-11 3/8
5G5 TOP FLG	576.21	120'-7 7/8	120'-5 1/4	53'-0	67'-7 7/8	7/16	7 5/16	7	6 1/8	4 11/16	2 5/8	5'-3 9/16	52'-11 3/4	1/2	11 15/16	11 7/16	10	7 5/8	4 5/16	6'-9 1/8	67'-7 7/16	15/16	15/16	52'-10 11/16	67'-6 9/16	3'-1 5/16
5G5 BTM FLG	576.21	120'-6 9/16	120'-3 15/16	53'-0	67'-6 9/16	7/16	7 5/16	7	6 1/8	4 11/16	2 5/8	5'-3 9/16	52'-11 3/4	1/2	11 7/8	11 3/8	10	7 5/8	4 1/4	6'-9	67'-6 1/8	15/16	15/16	52'-10 11/16	67'-5 1/4	3'-1 1/4
6G6 TOP FLG	582.21	120'-4 11/16	120'-2 1/8	53'-0	67'-4 11/16	7/16	7 1/4	6 15/16	6 1/16	4 5/8	2 5/8	5'-3 9/16	52'-11 3/4	1/2	11 11/16	11 1/4	9 13/16	7 1/2	4 3/16	6'-8 13/16	67'-4 1/4	15/16	15/16	52'-10 3/4	67'-3 3/8	3'-0 3/4
6G6 BTM FLG	582.21	120'-3 5/16	120'-0 3/4	53'-0	67'-3 5/16	7/16	7 1/4	6 15/16	6 1/16	4 5/8	2 5/8	5'-3 9/16	52'-11 3/4	1/2	11 11/16	11 3/16	9 13/16	7 7/16	4 3/16	6'-8 11/16	67'-2 7/8	15/16	15/16	52'-10 3/4	67'-2	3'-0 11/16
7G7 TOP FLG	588.21	120'-1 9/16	119'-11 1/16	53'-0	67'-1 9/16	3/8	7 3/16	6 7/8	6	4 9/16	2 9/16	5'-3 9/16	52'-11 13/16	1/2	11 1/2	11	9 5/8	7 3/8	4 1/8	6'-8 1/2	67'-1 1/8	15/16	15/16	52'-10 3/4	67'-0 5/16	3'-0 1/4
7G7 BTM FLG	588.21	120'-0	119'-9 1/2	53'-0	67'-0	3/8	7 3/16	6 7/8	6	4 9/16	2 9/16	5'-3 9/16	52'-11 13/16	1/2	11 7/16	11	9 5/8	7 5/16	4 1/8	6'-8 3/8	66'-11 9/16	15/16	15/16	52'-10 3/4	66'-10 3/4	3'-0 3/16

LOCATION	PL PA	PL PB
1G1 TOP FLG	PL 7/8 x 18-ta (3/E)	PL 7/8 x 18-tb (2/N)
1G1 BTM FLG	PL 1 1/4 x 18-ba (1/S)	PL 1 1/4 x 18-bb (1/J)
2G2 TOP FLG	PL 7/8 x 18-ta (3/E)	PL 7/8 x 18-tb (2/Q)
2G2 BTM FLG	PL 1 1/4 x 18-ba (1/S)	PL 1 1/4 x 18-bb (1/L)
3G3 TOP FLG	PL 7/8 x 18-ta (3/E)	PL 7/8 x 18-tb (2/S)
3G3 BTM FLG	PL 1 1/4 x 18-ba (1/S)	PL 1 1/4 x 18-bb (1/N)
4G4 TOP FLG	PL 7/8 x 18-ta (3/E)	PL 7/8 x 18-tb (2/U)
4G4 BTM FLG	PL 1 1/4 x 18-ba (1/S)	PL 1 1/4 x 18-bb (1/Q)
5G5 TOP FLG	PL 7/8 x 18-ta (3/C)	PL 7/8 x 18-tb (2/W)
5G5 BTM FLG	PL 2 1/4 x 18-ba (1/G)	PL 2 1/4 x 18-bb (1/A)
6G6 TOP FLG	PL 7/8 x 18-ta (3/C)	PL 7/8 x 18-tb (2/Y)
6G6 BTM FLG	PL 2 1/4 x 18-ba (1/G)	PL 2 1/4 x 18-bb (1/C)
7G7 TOP FLG	PL 7/8 x 18-ta (3/C)	PL 7/8 x 18-tb (3/A)
7G7 BTM FLG	PL 2 1/4 x 18-ba (1/G)	PL 2 1/4 x 18-bb (1/E)

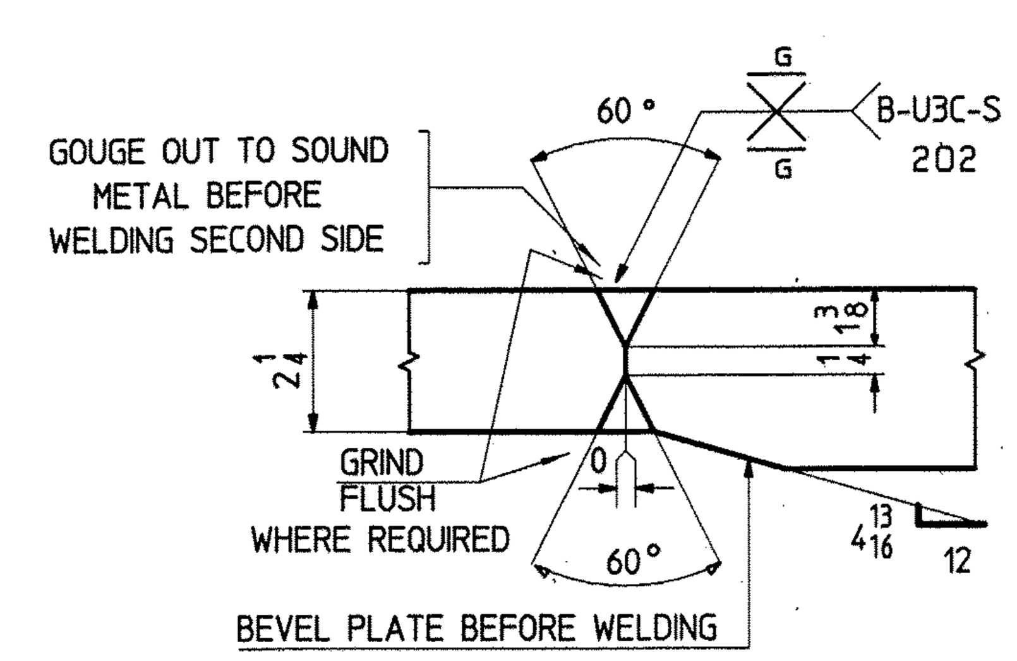


FLANGE DIAGRAM FOR 1G1 - 7G7

FLG THK	'A'
7/8	1/4
1 1/4	3/8



FLANGE PLATE SPLICE DETAIL "FA"



FLANGE PLATE SPLICE DETAIL "FB"

FOR GENERAL NOTES SEE SHEET GN1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50W (U.N)	SSPC-SP6/10	N/A	N/A

DESCRIPTION: FLANGE DIAGRAM

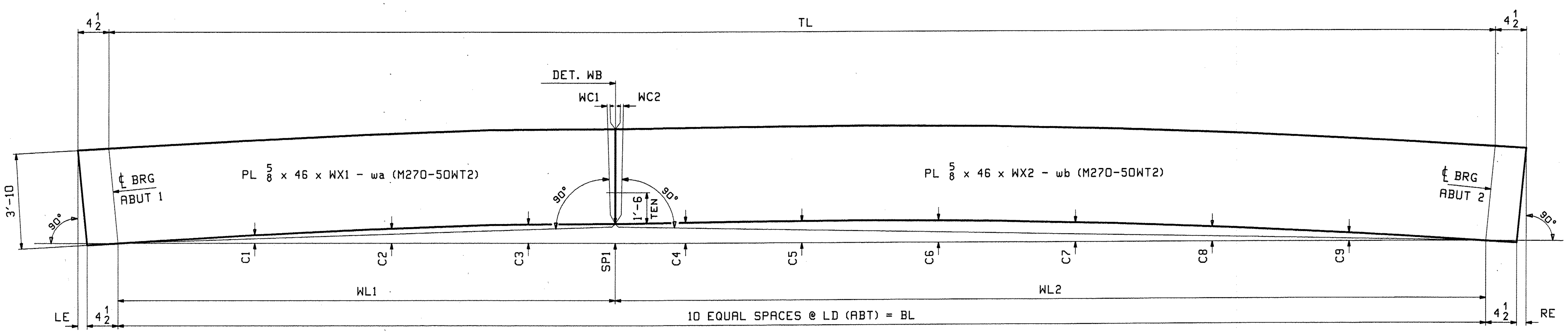
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

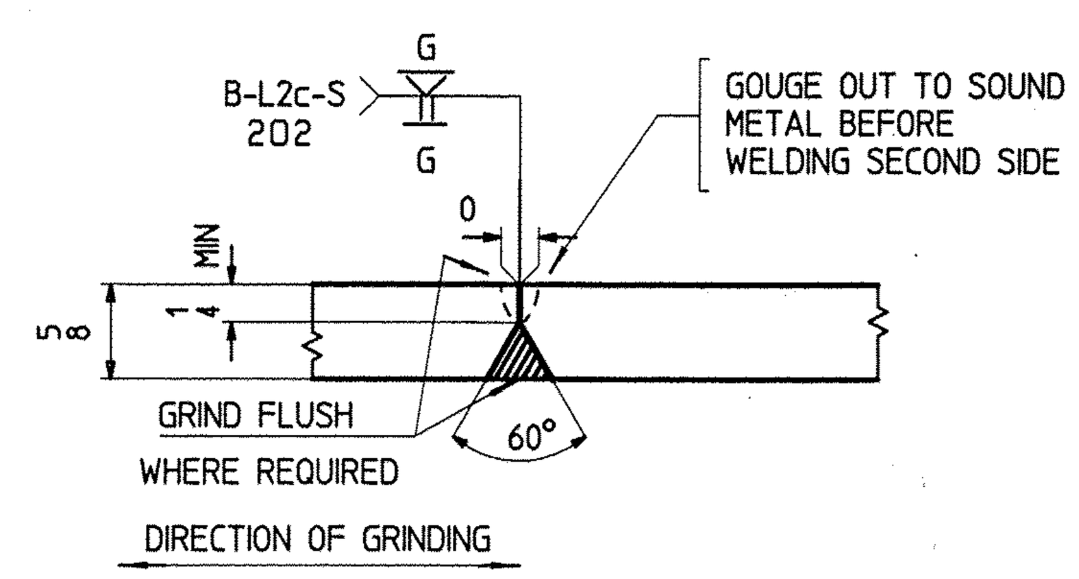
TENSOR 3030

STRUCTURE: VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor

DRAWN: TG DATE: 11/18
CHKD: DO DATE: 11/30

LOCATION: Town of Chester
PROJ NO. BRF 025-1(37)
CUSTOMER: Cold River Bridges
JOB NO. 476
DWG NO. F1
REV. △





WEB PLATE SPLICE DETAIL "WB"

CAMBER DIAGRAM FOR 1G1 - 7G7

MARK	TL	BL	LE	RE	WL1	WL2	WX1	WX2	SP1	WC1	WC2	LD	C1	C2	C3	C4	C5	C6	C7	C8	C9	PG/LINE	PG/LINE
1G1	121'-1 1/4	121'-0 1/8	1 1/16	1/16	41'-1 1/2	79'-10 5/8	41'-7 1/8	80'-3 5/8	8 15/16	13/16	7/16	12'-1 1/4	3 7/16	6 1/4	8 7/16	9 3/4	10 3/16	9 13/16	8 1/2	6 5/16	3 1/2	2/ L	1/ U
2G2	120'-9 7/16	120'-8 1/4	1 1/16	1/8	41'-1 1/2	79'-6 3/4	41'-7 1/8	79'-11 3/4	9 3/16	7/8	7/16	12'-0 7/8	3 9/16	6 7/16	8 5/8	10	10 3/8	9 15/16	8 5/8	6 3/8	3 1/2	2/ L	1/ W
3G3	120'-5 3/4	120'-4 9/16	1 1/16	1/8	41'-1 1/2	79'-3 1/16	41'-7 1/8	79'-8 1/16	9 7/16	7/8	7/16	12'-0 1/2	3 11/16	6 5/8	8 7/8	10 1/4	10 5/8	10 1/8	8 3/4	6 1/2	3 1/2	2/ L	1/ Y
4G4	120'-2 1/4	120'-1	1 1/16	3/16	41'-1 1/2	78'-11 1/2	41'-7 3/16	79'-4 1/2	9 11/16	7/8	1/2	12'-0 1/8	3 3/4	6 13/16	9 1/8	10 1/2	10 15/16	10 3/8	8 7/8	6 9/16	3 9/16	2/ L	2/ A
5G5	119'-10 7/8	119'-9 9/16	1 1/16	1/4	50'-7 1/2	69'-2 1/16	51'-1 3/16	69'-7 1/4	10 15/16	13/16	5/8	11'-11 3/4	3 7/8	6 15/16	9 5/16	10 13/16	11 1/4	10 11/16	9 1/8	6 3/4	3 11/16	2/ J	2/ G
6G6	119'-7 11/16	119'-6 5/16	1 1/16	5/16	50'-7 1/2	68'-10 13/16	51'-1 3/16	69'-4	11 1/4	7/8	5/8	11'-11 3/8	3 15/16	7 1/8	9 5/8	11 1/8	11 9/16	11 1/16	9 1/2	7	3 13/16	2/ J	2/ E
7G7	119'-4 9/16	119'-3	1 1/16	1/2	50'-7 1/2	68'-7 1/2	51'-1 3/16	69'-0 3/4	11 9/16	7/8	5/8	11'-11 1/8	4	7 5/16	9 7/8	11 7/16	11 15/16	11 7/16	9 7/8	7 5/16	4 1/16	2/ J	2/ C

ELC RSY
As Noted
GPW 12/30/10

FOR GENERAL NOTES SEE SHEET GN1

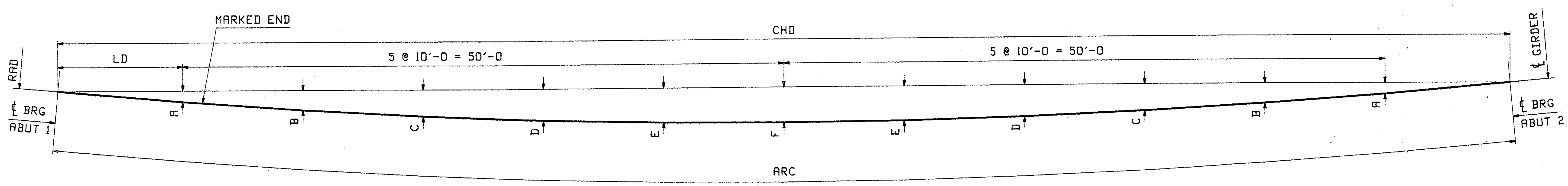
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					DEC 9 2010	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50WT2	SSPC-SP6/10	N/A	N/A

DESCRIPTION: CAMBER DIAGRAM

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG CHKD: DO	DATE: 11/18 DATE: 11/30
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	C1
CUSTOMER:	Cold River Bridges		REV. △



HEAT CURVING DIAGRAM FOR 1G1 - 7G7

MARK	ARC	CHD	RAD	LD	A	B	C	D	E	F
1G1	121'-0 1/8	120'-9 1/4	552'-2 1/2	10'-4 5/8	1'-0 1/2	1'-10 5/16	2'-5 15/16	2'-11 3/8	3'-2 5/8	3'-3 3/4
2G2	120'-8 1/4	120'-5 7/16	558'-2 1/2	10'-2 11/16	1'-0 3/16	1'-9 7/8	2'-5 7/16	2'-10 13/16	3'-2	3'-3 1/8
3G3	120'-4 9/16	120'-1 13/16	564'-2 1/2	10'-0 15/16	11 7/8	1'-9 7/16	2'-4 15/16	2'-10 1/4	3'-1 7/16	3'-2 1/2
4G4	120'-1	119'-10 5/16	570'-2 1/2	9'-11 3/16	11 9/16	1'-9 1/16	2'-4 7/16	2'-9 11/16	3'-0 13/16	3'-1 7/8
5G5	119'-9 9/16	119'-7	576'-2 1/2	9'-9 1/2	11 1/4	1'-8 5/8	2'-3 15/16	2'-9 3/16	3'-0 5/16	3'-1 5/16
6G6	119'-6 5/16	119'-3 13/16	582'-2 1/2	9'-7 7/8	10 15/16	1'-8 1/4	2'-3 1/2	2'-8 5/8	2'-11 3/4	3'-0 3/4
7G7	119'-3	119'-0 9/16	588'-2 1/2	9'-6 1/4	10 11/16	1'-7 7/8	2'-3 1/16	2'-8 1/8	2'-11 3/16	3'-0 1/4

ELC RSY
DEC 30 2010
OPW 12/30/10

FOR GENERAL NOTES SEE SHEET GN1
ALL DIMENSIONS ARE GIVEN AT THE BOTT OF WEB

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					DEC 9 2010	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES: N/A	SHOP BOLTS: N/A

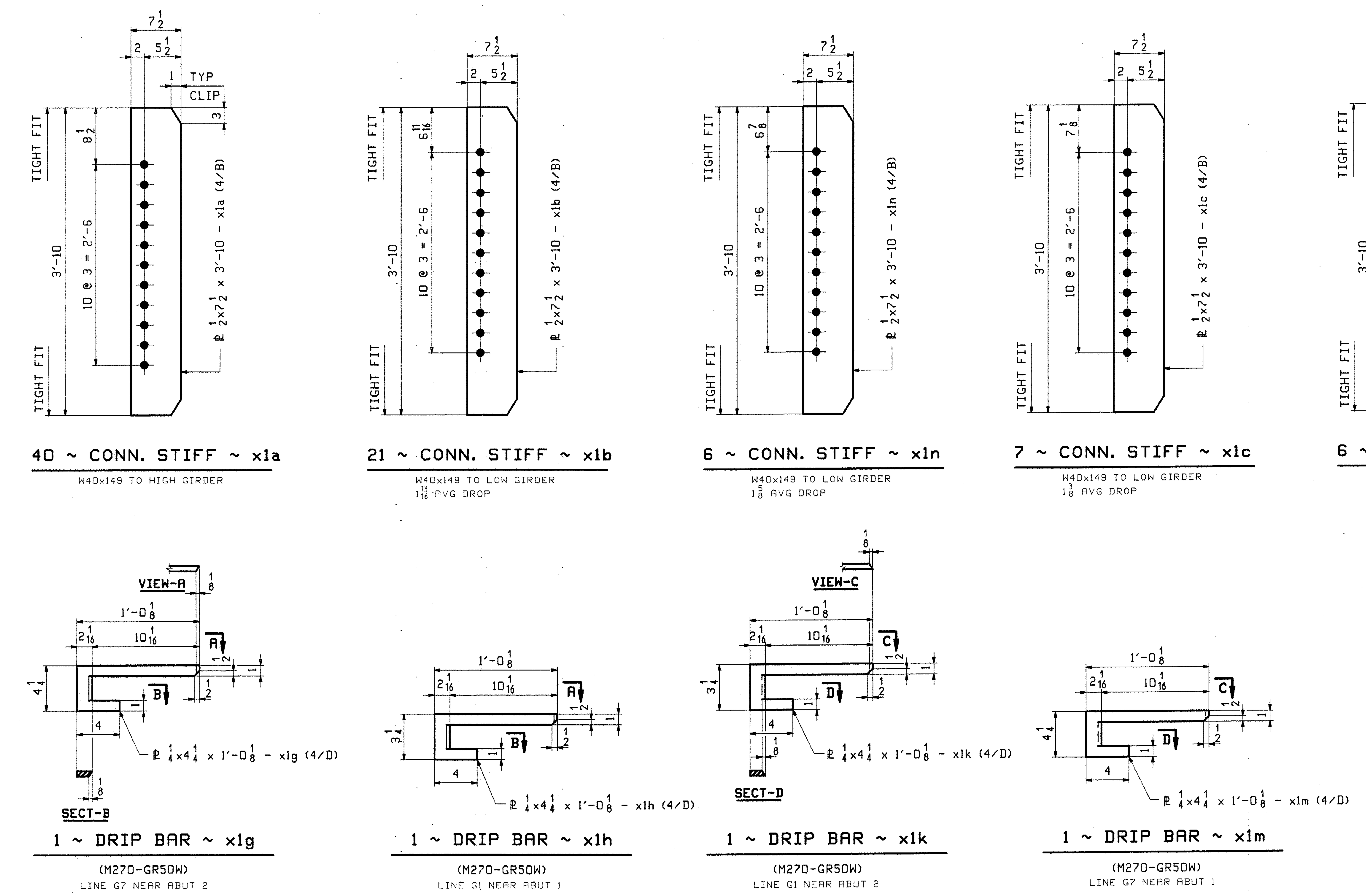
DESCRIPTION: HEAT CURVING DIAGRAM

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

TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/18
		CHKD: DO	DATE: 11/30
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	HC1
CUSTOMER:	Cold River Bridges		REV. △

Fri, Dec 3, 2010 02:31:29 PM /users/jobs/3030/HC1 Rev0



As Noted
12/30/10

FOR GENERAL NOTES SEE SHEET GN1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50WT2 (U.N)	SSPC-SP6/10	15/16" ø	N/A

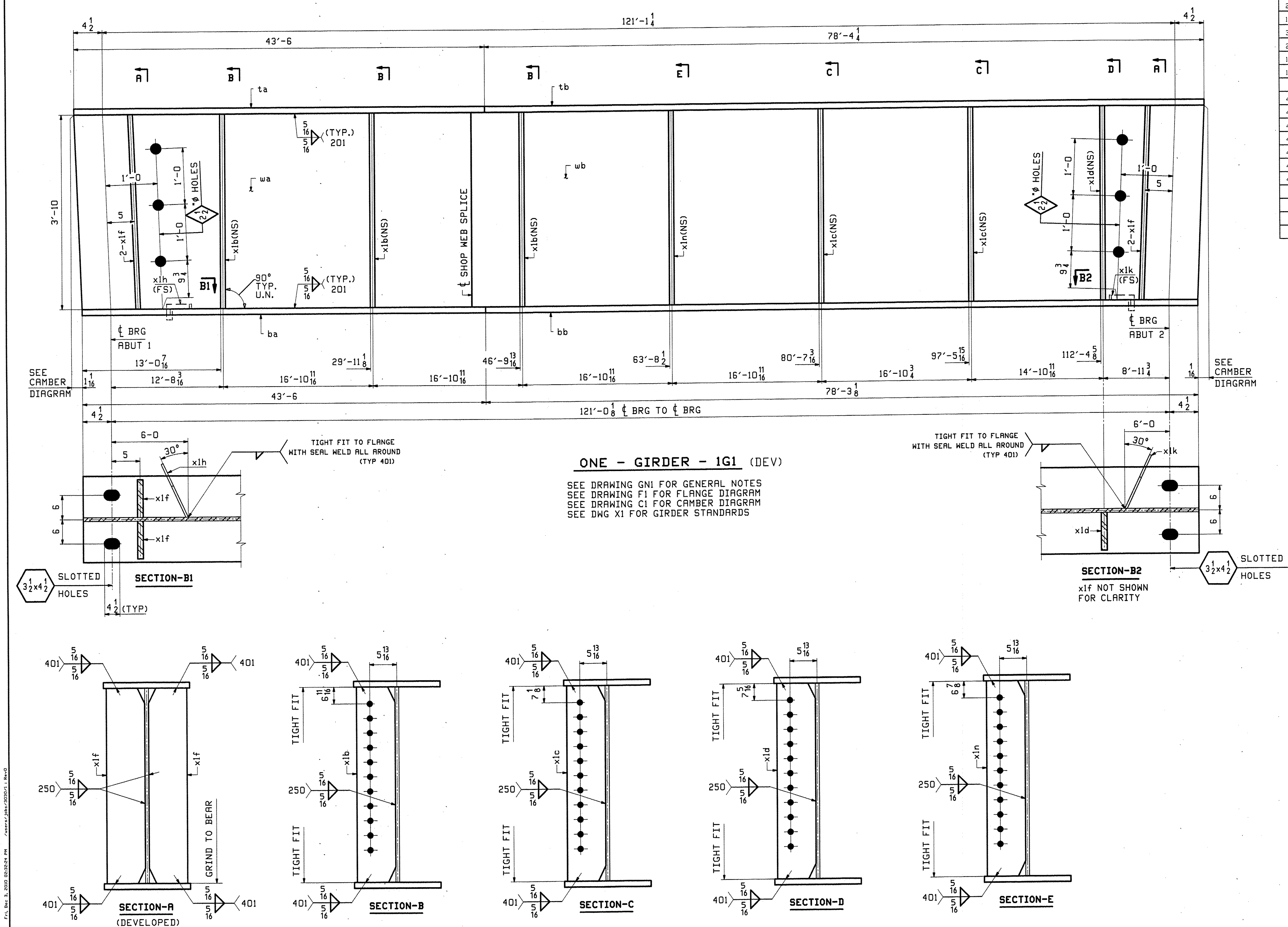
DESCRIPTION: GIRDER STANDARDS

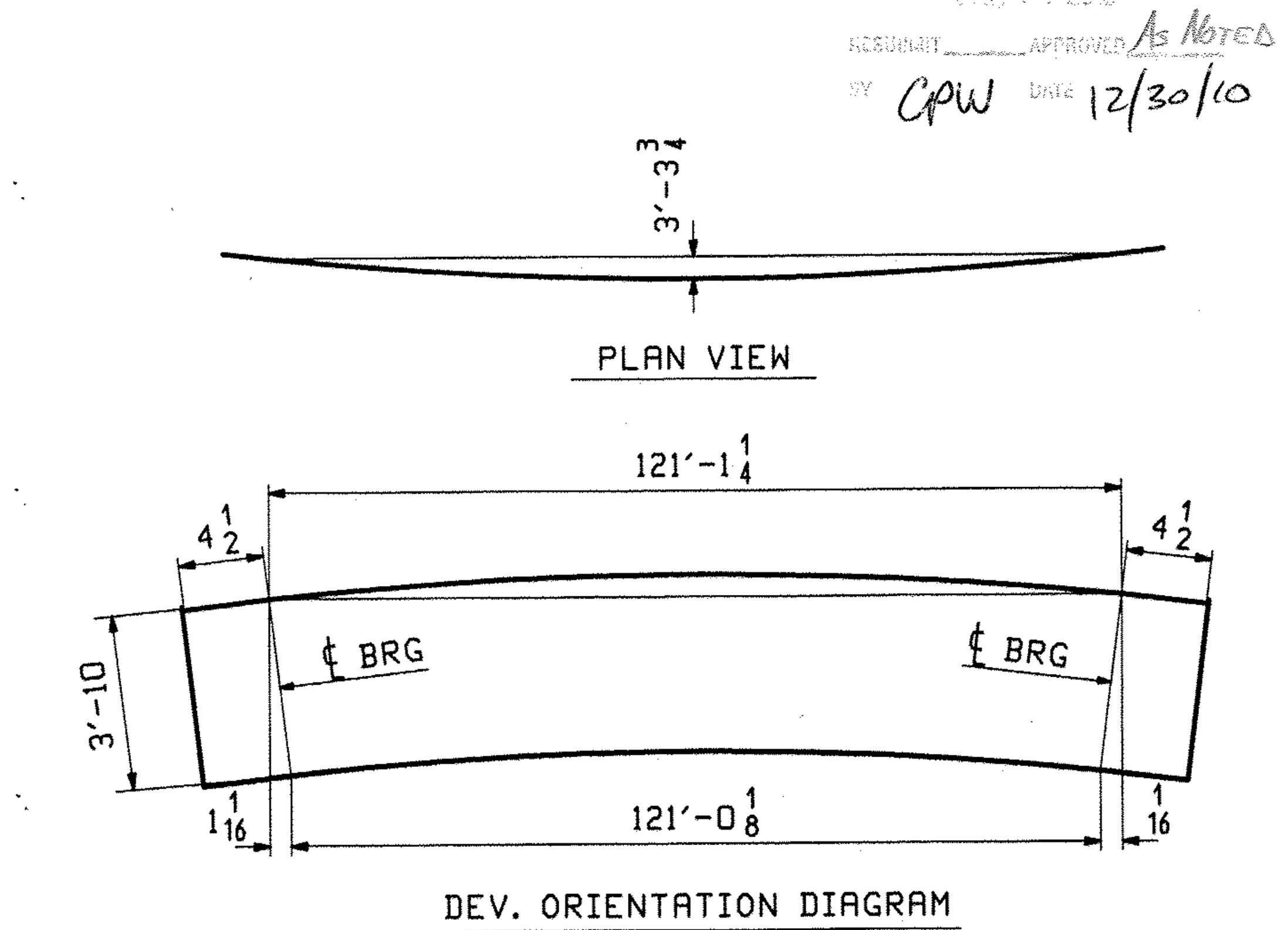
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/18
		CHKD: DO	DATE: 11/30
LOCATION:	Town of Chester	JOB NO.	DWG NO. X1
PROJ NO.	BRF 025-1(37)	476	
CUSTOMER:	Cold River Bridges		REV. △

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								476	1	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		1G1	1		GIRDER				28322	
2	L		1	wa	PL $\frac{5}{8}$x46	41	7 $\frac{1}{8}$	M270-50WT2		
1	U		1	wb	PL $\frac{5}{8}$x46	80	3 $\frac{5}{8}$	M270-50WT2		
3	E		1	ta	PL $\frac{7}{8}$x18	43	6			
2	N		1	tb	PL $\frac{7}{8}$x18	78	4 $\frac{1}{4}$			
1	S		1	ba	PL 1 $\frac{1}{4}$x18	43	6	M270-50WT2		
1	J		1	bb	PL 1 $\frac{1}{4}$x18	78	3 $\frac{1}{8}$	M270-50WT2		
4	B		3	x1b	PL $\frac{1}{2}$x7 $\frac{1}{2}$	3	10	M270-50WT2		
4	B		2	x1c	PL $\frac{1}{2}$x7 $\frac{1}{2}$	3	10	M270-50WT2		
4	B		1	x1d	PL $\frac{1}{2}$x7 $\frac{1}{2}$	3	10	M270-50WT2		
4	C		4	x1f	PL $\frac{1}{2}$x7 $\frac{1}{2}$	3	10	(MIE) M270-50WT2		
4	D		1	x1h	PL $\frac{1}{4}$x3 $\frac{1}{4}$	1	0 $\frac{1}{8}$			
4	D		1	x1k	PL $\frac{1}{4}$x3 $\frac{1}{4}$	1	0 $\frac{1}{8}$			
4	B		1	x1n	PL $\frac{1}{2}$x7 $\frac{1}{2}$	3	10	M270-50WT2		





As Noted
CPW 12/30/10

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					DEC 9 2010	

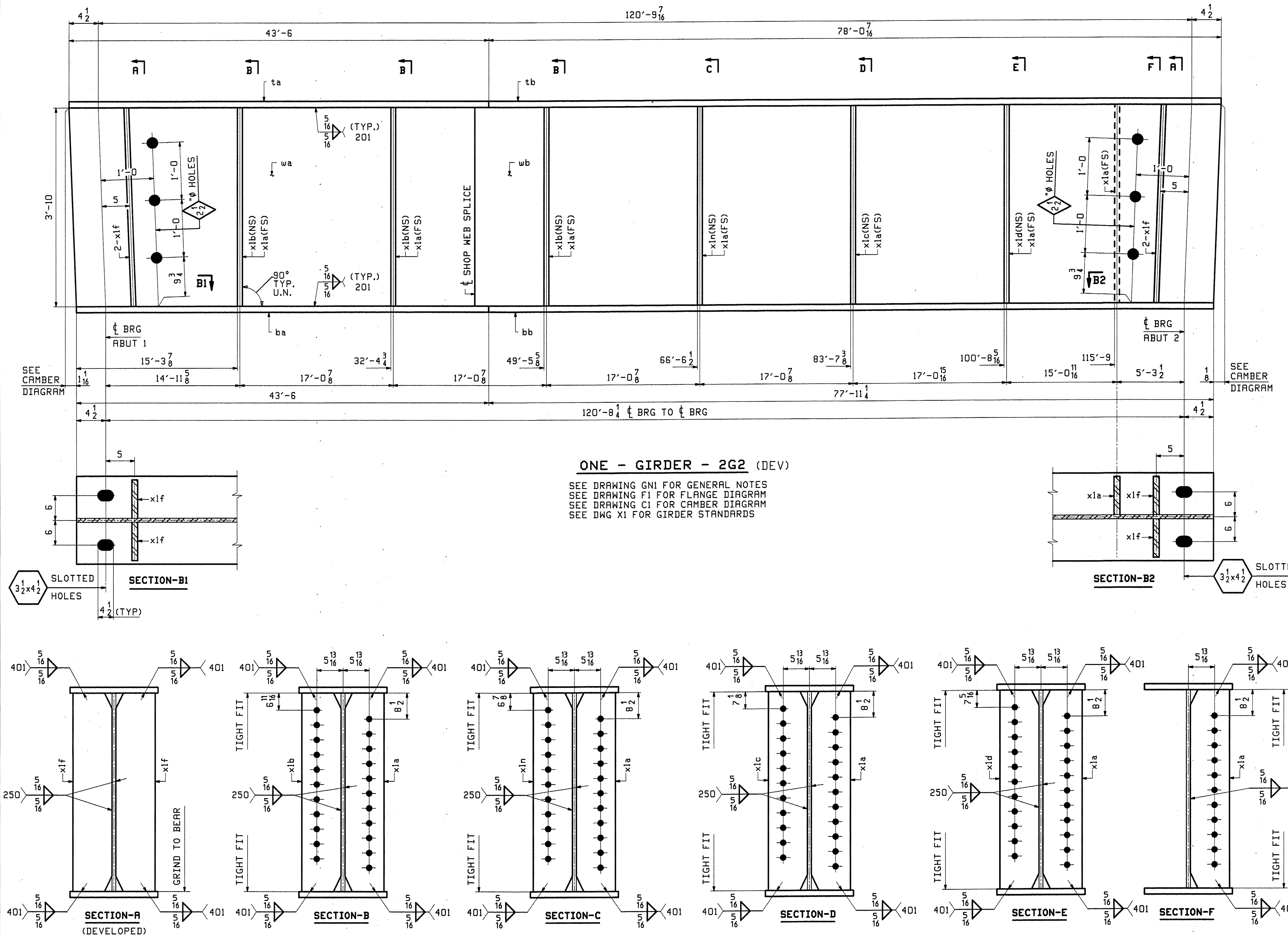
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50W (U.N)	SSPC-SP~~8~~10	$\frac{15}{16}$" Ø (U.N)	N/A

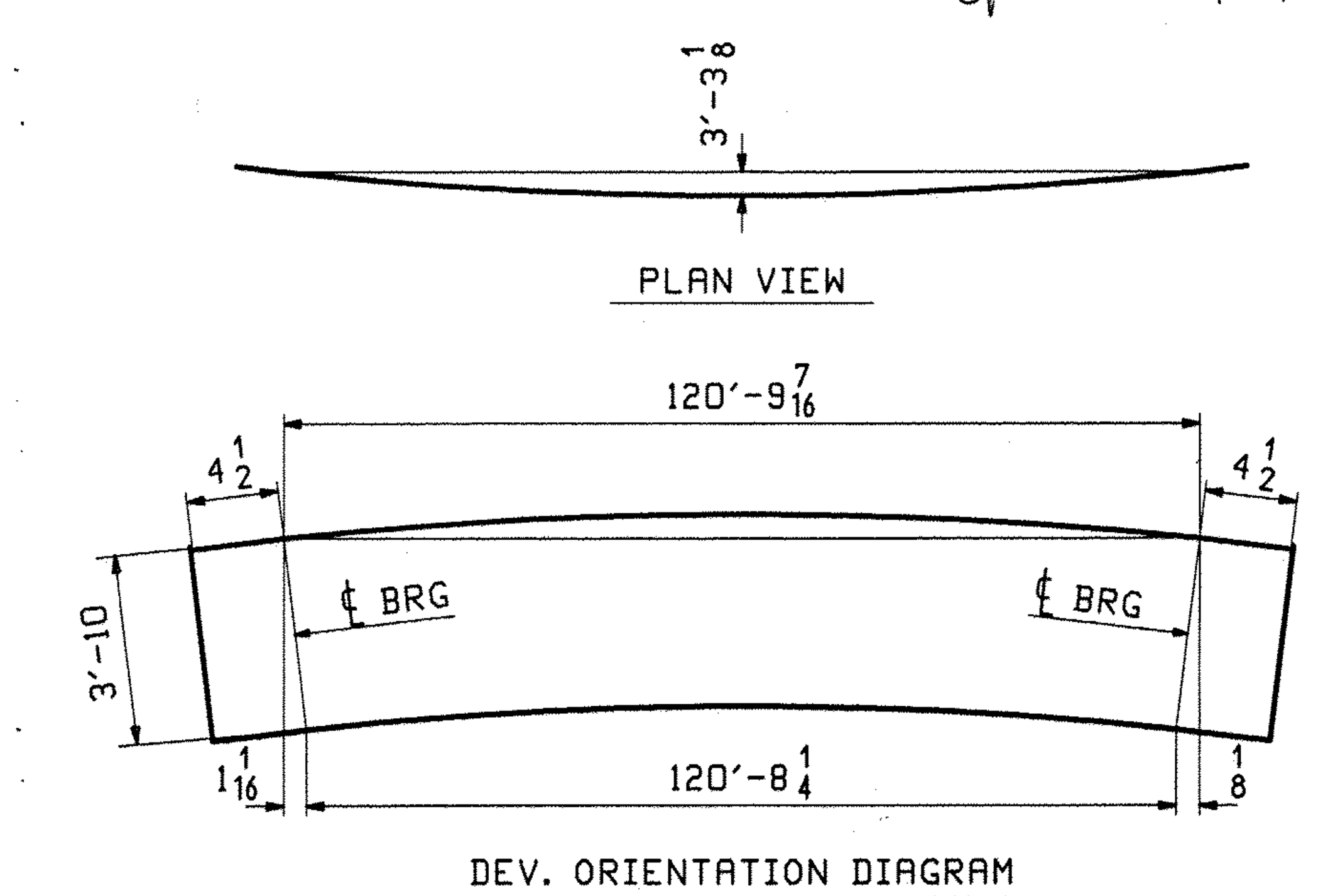
DESCRIPTION: GIRDER 1G1

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG CHKD: DO	DATE: 11/19 DATE: 11/30
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	1
CUSTOMER:	Cold River Bridges		REV. △

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								476	2	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		2G2	1		GIRDER				28536	
2	L		1	wa	PL $\frac{5}{8}$x46	41	7$\frac{1}{8}$	M270-50WT2		
1	W		1	wb	PL $\frac{5}{8}$x46	79	11$\frac{3}{4}$	M270-50WT2		
3	E		1	ta	PL $\frac{7}{8}$x18	43	6			
2	Q		1	tb	PL $\frac{7}{8}$x18	78	0$\frac{7}{16}$			
1	S		1	ba	PL 1$\frac{1}{4}$x18	43	6	M270-50WT2		
1	L		1	bb	PL 1$\frac{1}{4}$x18	77	11$\frac{1}{4}$	M270-50WT2		
4	B		7	x1a	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		
4	B		3	x1b	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		
4	B		1	x1c	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		
4	B		1	x1d	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		
4	C		4	x1f	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	(MIE) M270-50WT2		
4	B		1	x1n	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		





REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					DEC 2010	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50W (U.N)	SSPC-SP6/10	$\frac{15}{16}$ ø (U.N)	N/A

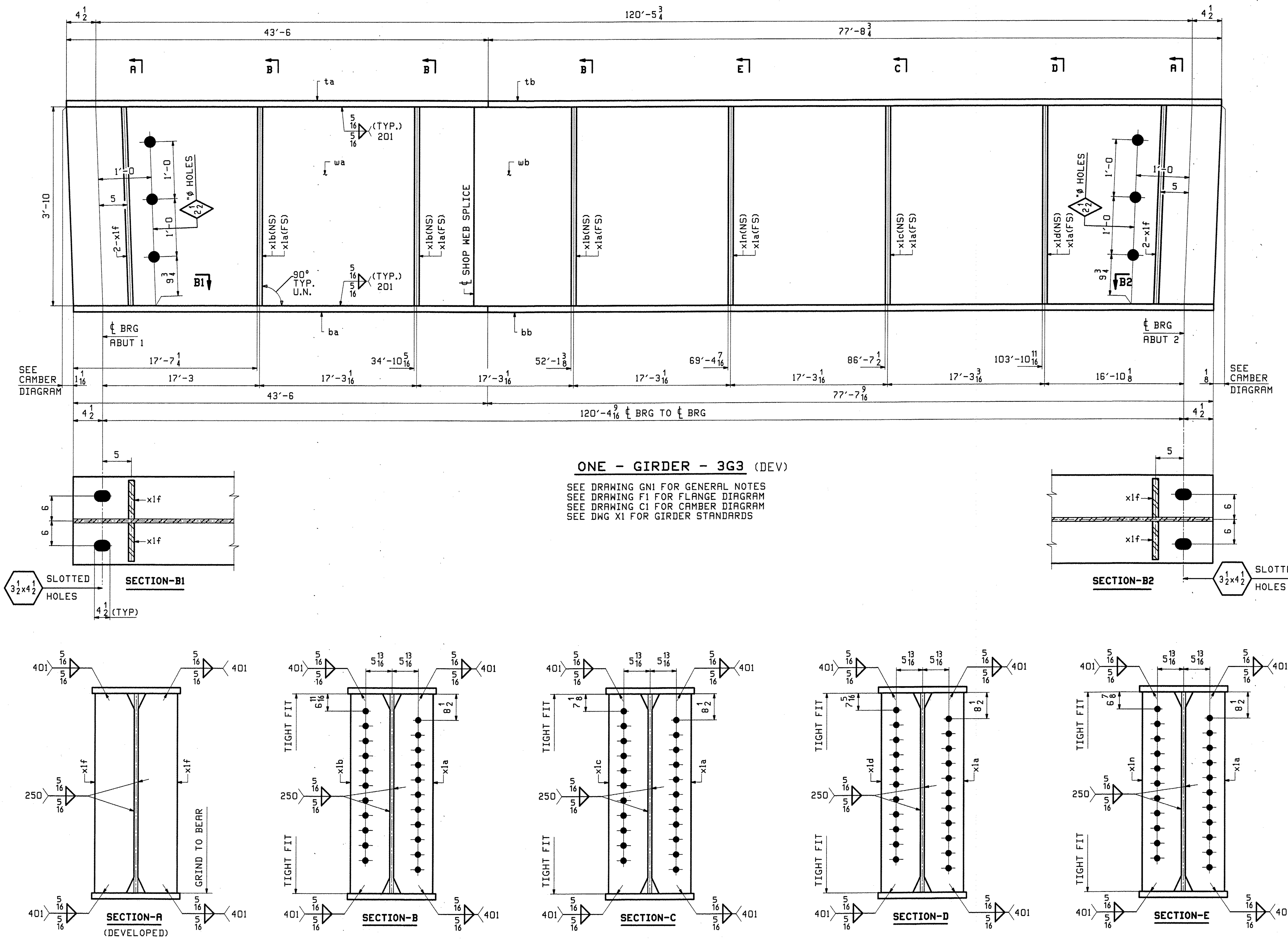
DESCRIPTION: GIRDER 2G2

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

TENSOR 3030

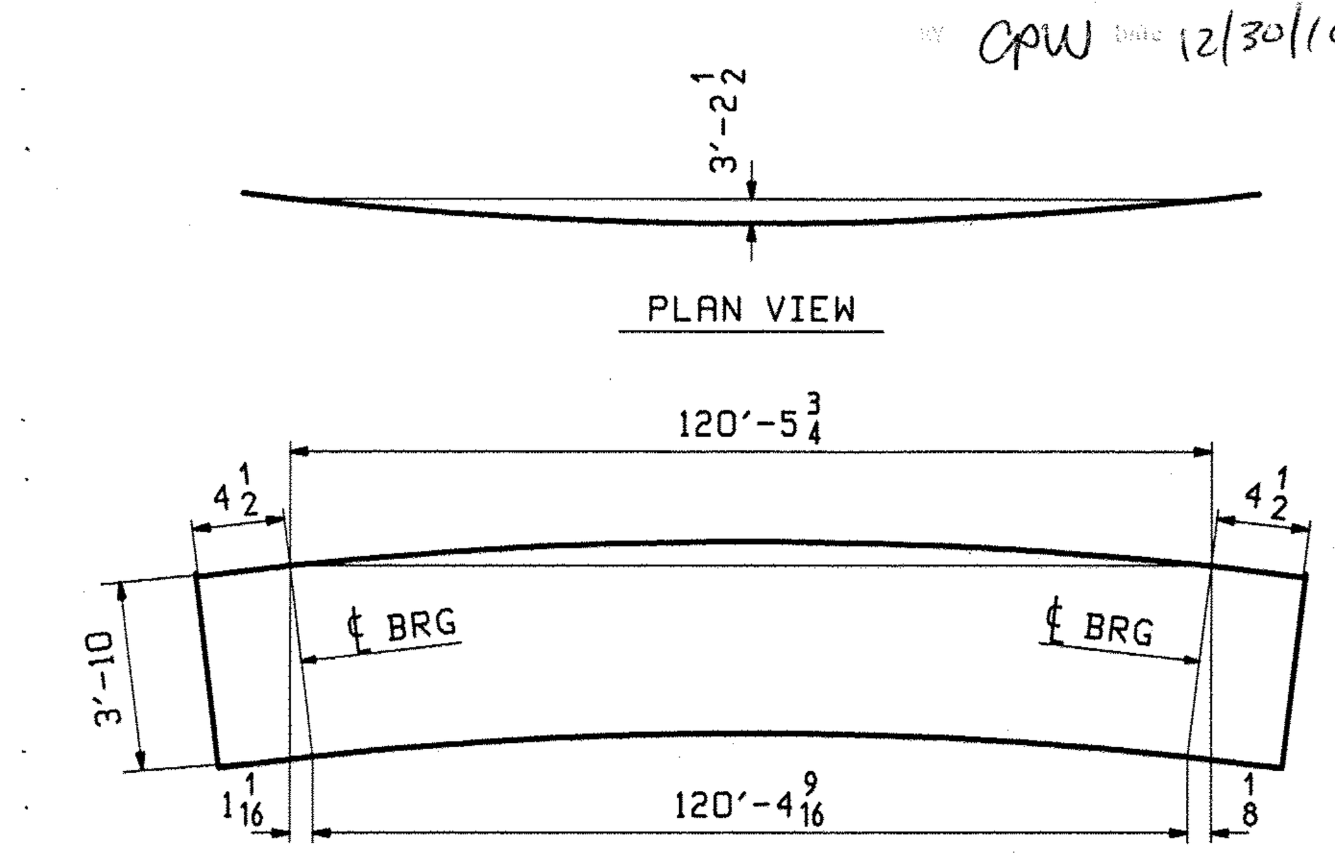
STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/19
		CHKD: DO	DATE: 11/30
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	2
CUSTOMER:	Cold River Bridges		REV. △

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								476	3	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		3G3	1		GIRDER				28417	
2	L		1	wa	PL $\frac{5}{8}$x46	41	7$\frac{1}{8}$	M270-50WT2		
1	Y		1	wb	PL $\frac{5}{8}$x46	79	8$\frac{1}{16}$	M270-50WT2		
3	E		1	ta	PL $\frac{7}{8}$x18	43	6			
2	S		1	tb	PL $\frac{7}{8}$x18	77	8$\frac{3}{4}$			
1	S		1	ba	PL 1$\frac{1}{4}$x18	43	6	M270-50WT2		
1	N		1	bb	PL 1$\frac{1}{4}$x18	77	7$\frac{9}{16}$	M270-50WT2		
4	B		6	x1a	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		
4	B		3	x1b	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		
4	B		1	x1c	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		
4	B		1	x1d	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		
4	C		4	x1f	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	(M1E) M270-50WT2		
4	B		1	x1n	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		



ONE - GIRDER - 3G3 (DEV)

SEE DRAWING GN1 FOR GENERAL NOTES
SEE DRAWING F1 FOR FLANGE DIAGRAM
SEE DRAWING C1 FOR CAMBER DIAGRAM
SEE DWG X1 FOR GIRDER STANDARDS



DEV. ORIENTATION DIAGRAM

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0		~			DEC 9 2010	

MATERIAL: M270-GR50W (U.N) | SURFACE PREP. & PAINT: SSPC-SP6/10 | HOLES: $\frac{15}{16}$" ø (U.N) | SHOP BOLTS: N/A

DESCRIPTION: GIRDER 3G3

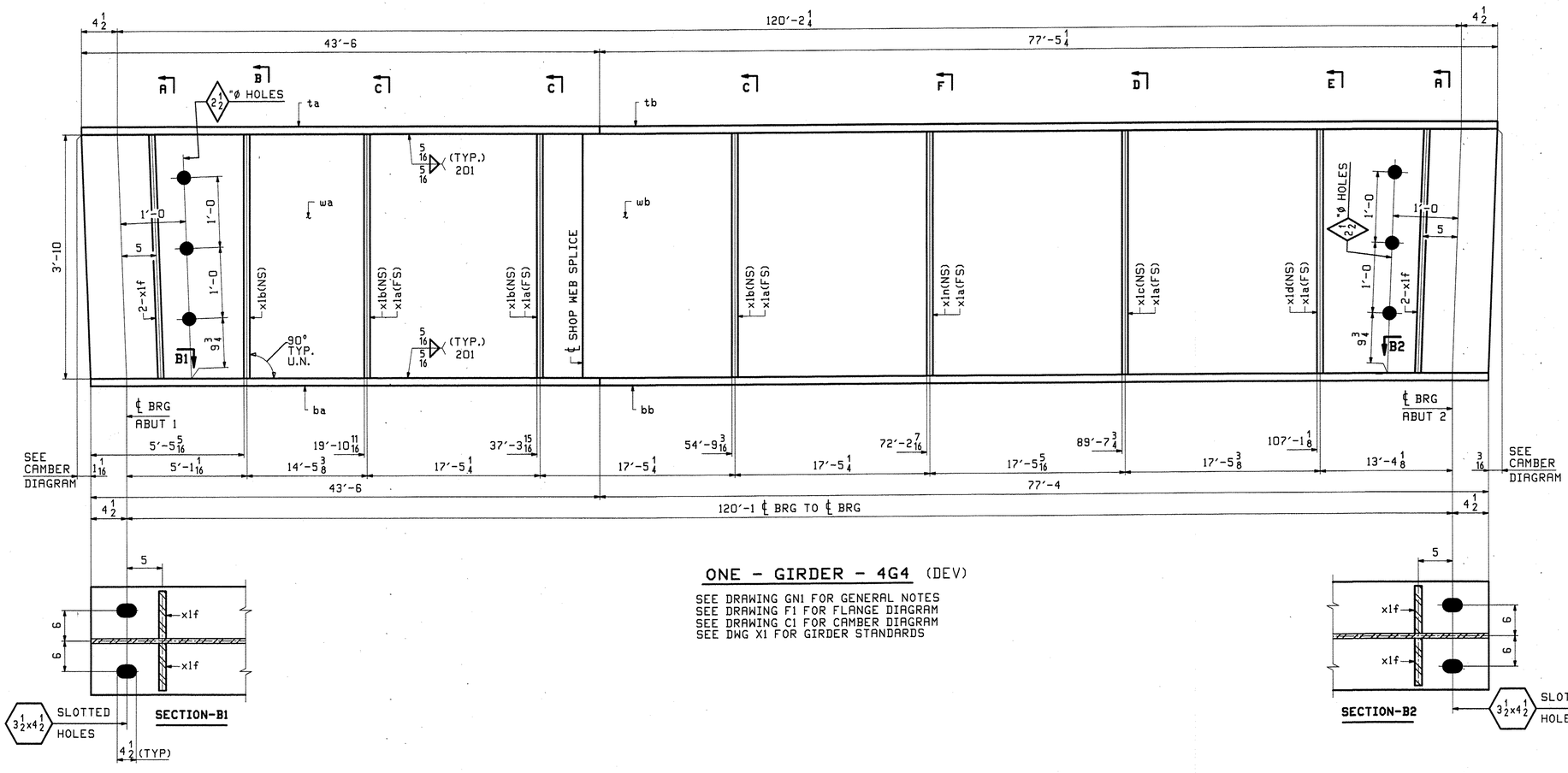
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 3030

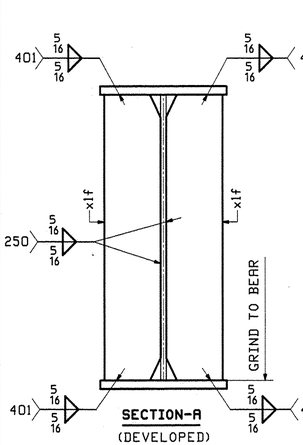
STRUCTURE: VT 103 over Middle Branch Williams Rv.
Bridge 9
CHESTER
County of Windsor

DRAWN: TG DATE: 11/19
CHKD: DO DATE: 11/30

LOCATION: Town of Chester
PROJ NO. BRF 025-1(37)
CUSTOMER: Cold River Bridges

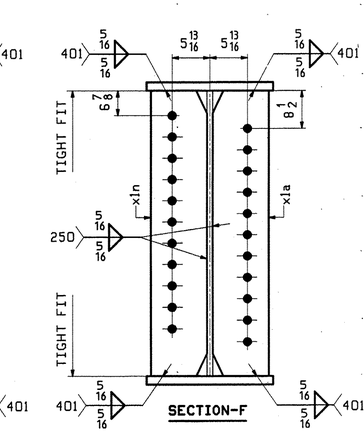
JOB NO. 476
DWG NO. 3
REV. △

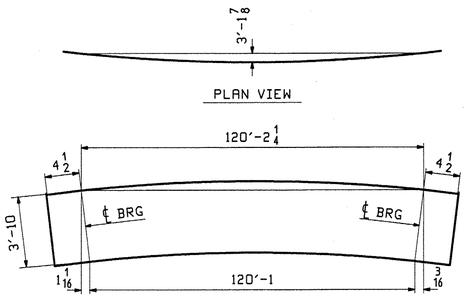




ONE - GIRDER - 4G4 (DEV)

SEE DRAWING GN1 FOR GENERAL NOTES
SEE DRAWING F1 FOR FLANGE DIAGRAM
SEE DRAWING C1 FOR CAMBER DIAGRAM
SEE DWG X1 FOR GIRDER STANDARDS





DEV. ORIENTATION DIAGRAM

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								476	4	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		4G4	1		GIRDER				28395	
2	L		1	wa	PL 5/8x46	41	7 3/16	M270-50WT2		
2	A		1	wb	PL 5/8x46	79	4 1/2	M270-50WT2		
3	E		1	ta	PL 7/8x18	43	6			
2	U		1	tb	PL 7/8x18	77	5 1/4			
1	S		1	ba	PL 1 1/4x18	43	6	M270-50WT2		
1	Q		1	bb	PL 1 1/4x18	77	4	M270-50WT2		
4	B		6	x1a	PL 1/2x7 1/2	3	10	M270-50WT2		
4	B		4	x1b	PL 1/2x7 1/2	3	10	M270-50WT2		
4	B		1	x1c	PL 1/2x7 1/2	3	10	M270-50WT2		
4	B		1	x1d	PL 1/2x7 1/2	3	10	M270-50WT2		
4	C		4	x1f	PL 1/2x7 1/2	3	10	(MIE) M270-50WT2		
4	B		1	x1n	PL 1/2x7 1/2	3	10	M270-50WT2		

ELC RSH
APPROVED AS NOTED
CPW 12/30/10

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					DEC 9 2010	

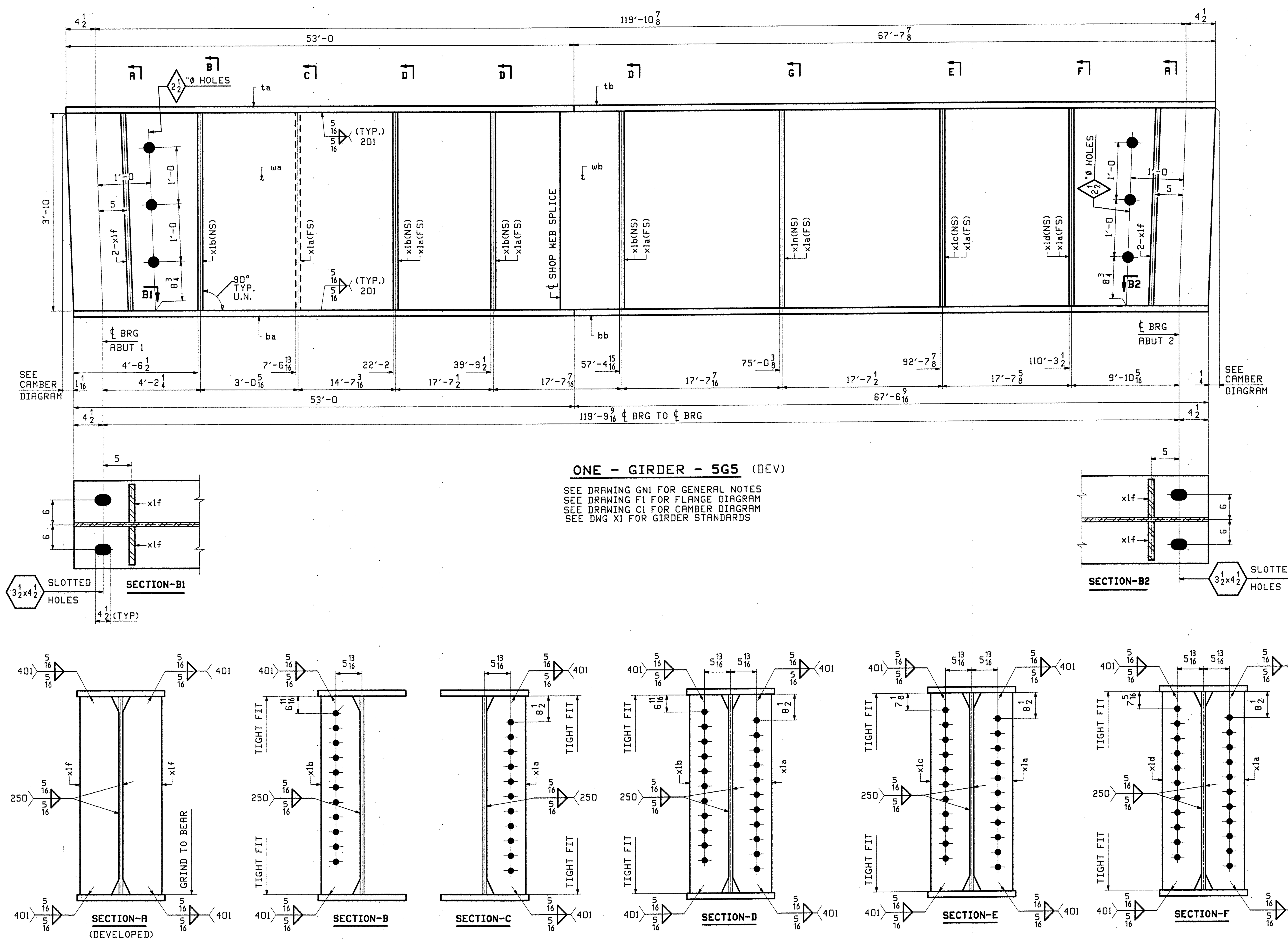
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50W (U.N)	SSPC-SP6/○	15/16" Ø (U.N)	N/A

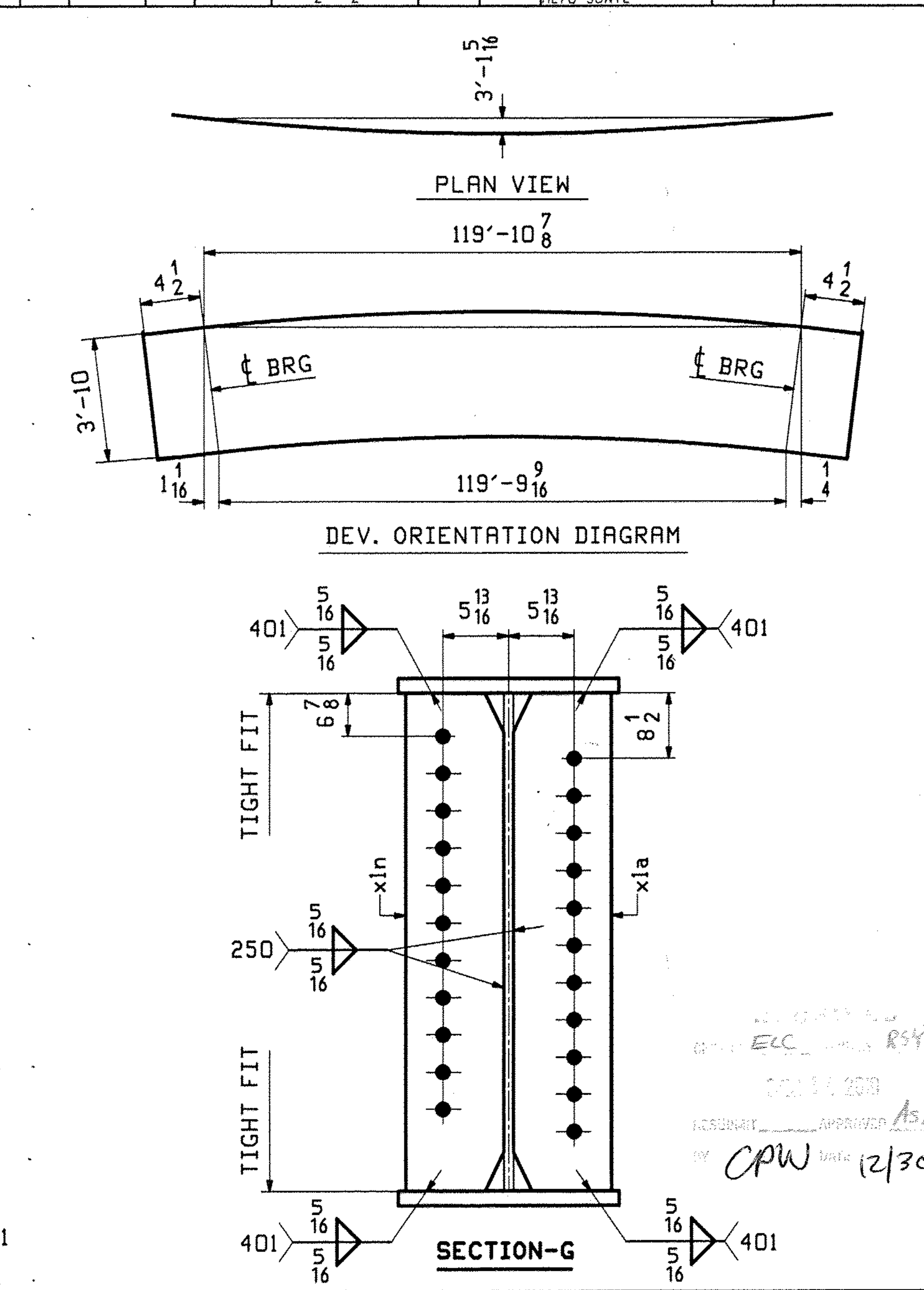
DESCRIPTION: GIRDER 4G4

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/19
		CHK'D: DO	DATE: 12/01
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	4
CUSTOMER:	Cold River Bridges		REV. △

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								476	5	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		5G5	1		GIRDER				35768	
2	J		1	wa	PL $\frac{5}{8}$x46	51	1$\frac{3}{16}$	M270-50WT2		
2	G		1	wb	PL $\frac{5}{8}$x46	69	7$\frac{1}{4}$	M270-50WT2		
3	C		1	ta	PL $\frac{7}{8}$x18	53	0			
2	W		1	tb	PL $\frac{7}{8}$x18	67	7$\frac{7}{8}$			
1	G		1	ba	PL 2$\frac{1}{4}$x18	53	0	M270-50WT2		
1	A		1	bb	PL 2$\frac{1}{4}$x18	67	6$\frac{9}{16}$	M270-50WT2		
4	B		7	x1a	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		
4	B		4	x1b	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		
4	B		1	x1c	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		
4	B		1	x1d	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		
4	C		4	x1f	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	(M1E) M270-50WT2		
4	B		1	x1n	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		





CPW 12/30/10

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					DEC 9 2010	

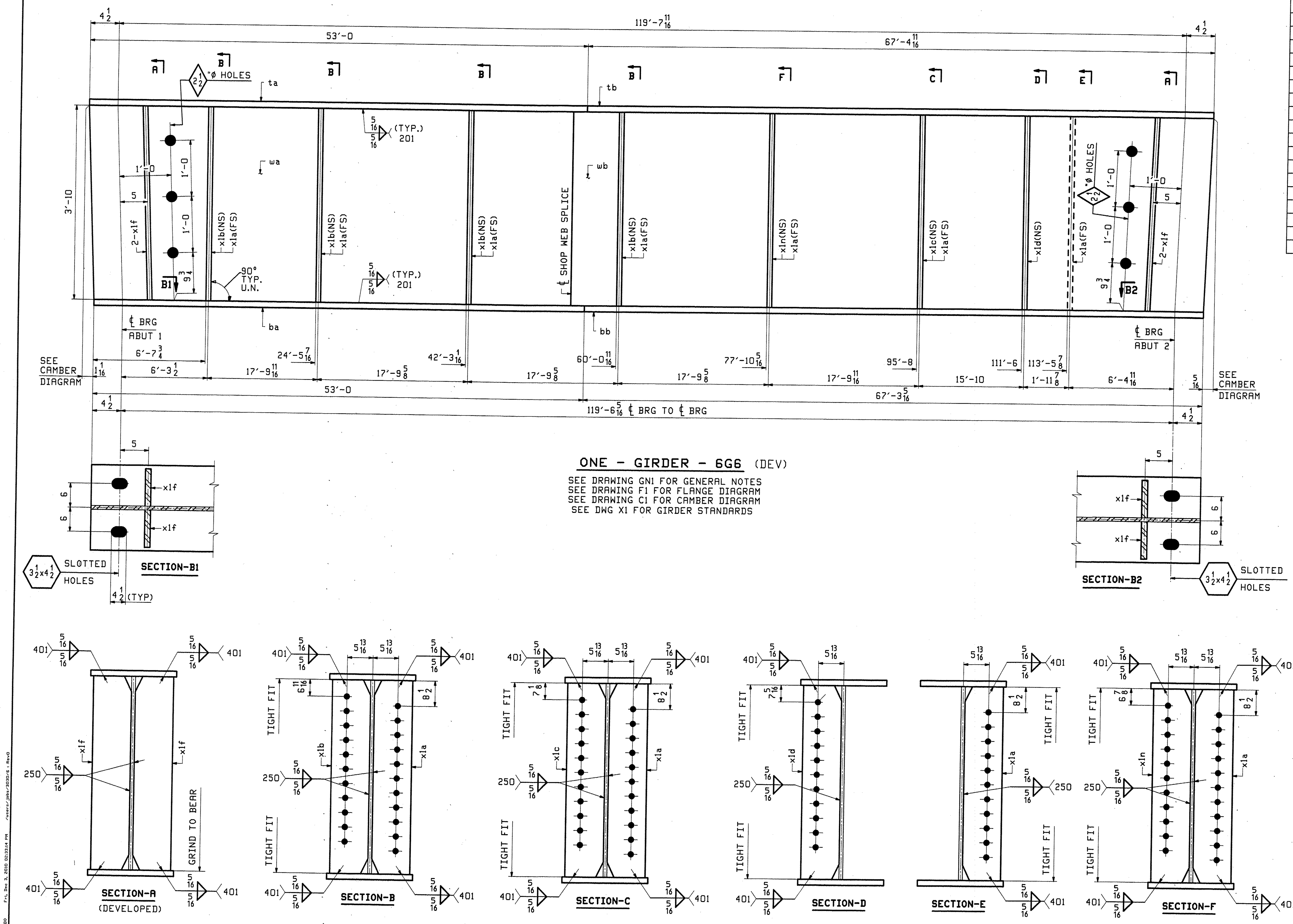
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50W (U.N)	SSPC-SP6 10	$\frac{15}{16}$" ø (U.N)	N/A

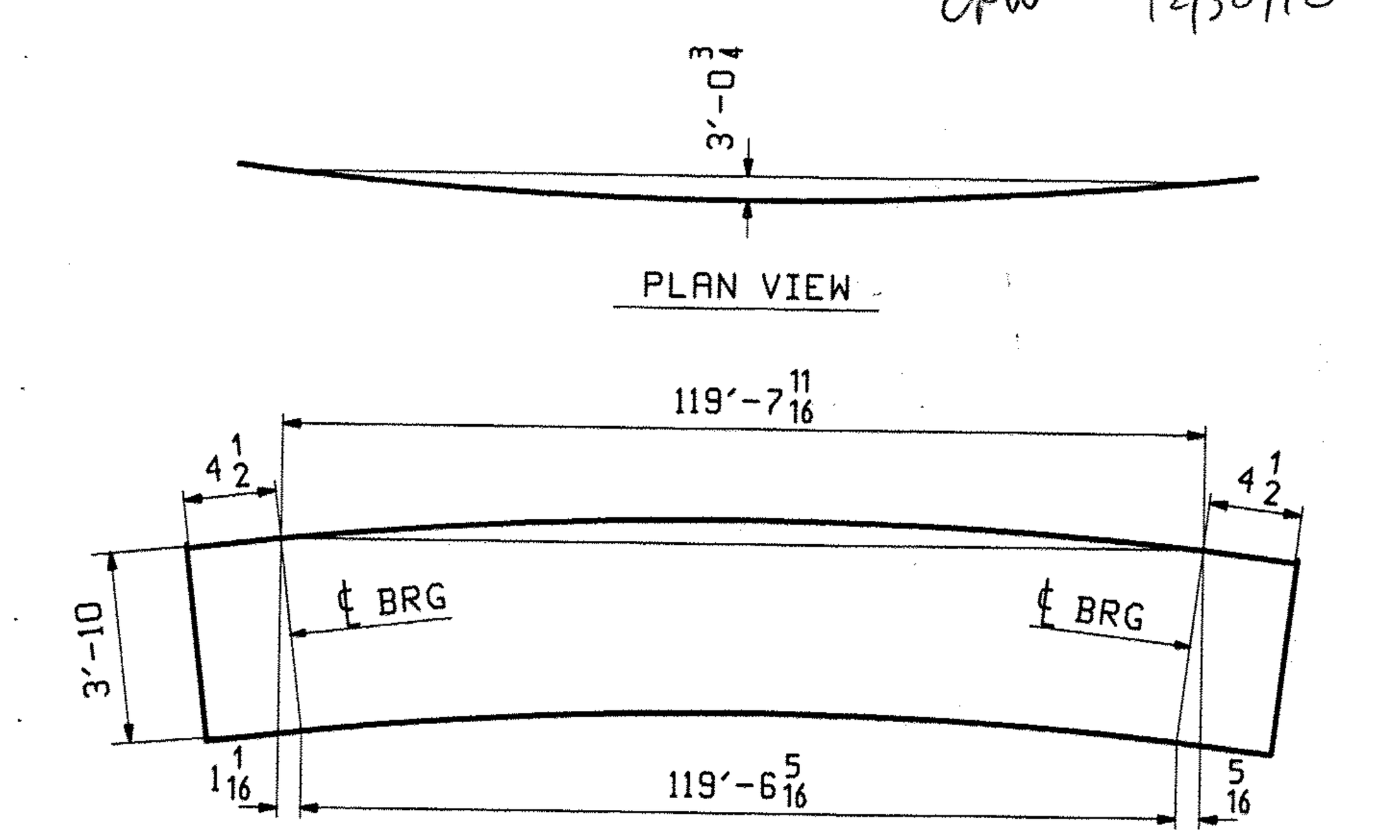
DESCRIPTION: GIRDER 5G5

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

TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/19
		CHKD: DO	DATE: 12/01
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	5
CUSTOMER:	Cold River Bridges		REV. △





DEV. ORIENTATION DIAGRAM

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								476	6	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		6G6	1		GIRDER				35690	
2	J		1	wa	PL 5/8x46	51	1 3/16	M270-50WT2		
2	E		1	wb	PL 5/8x46	69	4	M270-50WT2		
3	C		1	ta	PL 7/8x18	53	0			
2	Y		1	tb	PL 7/8x18	67	4 11/16			
1	G		1	ba	PL 2 1/4x18	53	0	M270-50WT2		
1	C		1	bb	PL 2 1/4x18	67	3 5/16	M270-50WT2		
4	B		7	x1a	PL 1/2x7 1/2	3	10	M270-50WT2		
4	B		4	x1b	PL 1/2x7 1/2	3	10	M270-50WT2		
4	B		1	x1c	PL 1/2x7 1/2	3	10	M270-50WT2		
4	B		1	x1d	PL 1/2x7 1/2	3	10	M270-50WT2		
4	C		4	x1f	PL 1/2x7 1/2	3	10	(MIE) M270-50WT2		
4	B		1	x1n	PL 1/2x7 1/2	3	10	M270-50WT2		

ELC RSY
As Noted
OPW 12/30/10

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0		~			DEC 9 2010	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50W (U.N)	SSPC-SP6/10	15/16" ø (U.N)	N/A

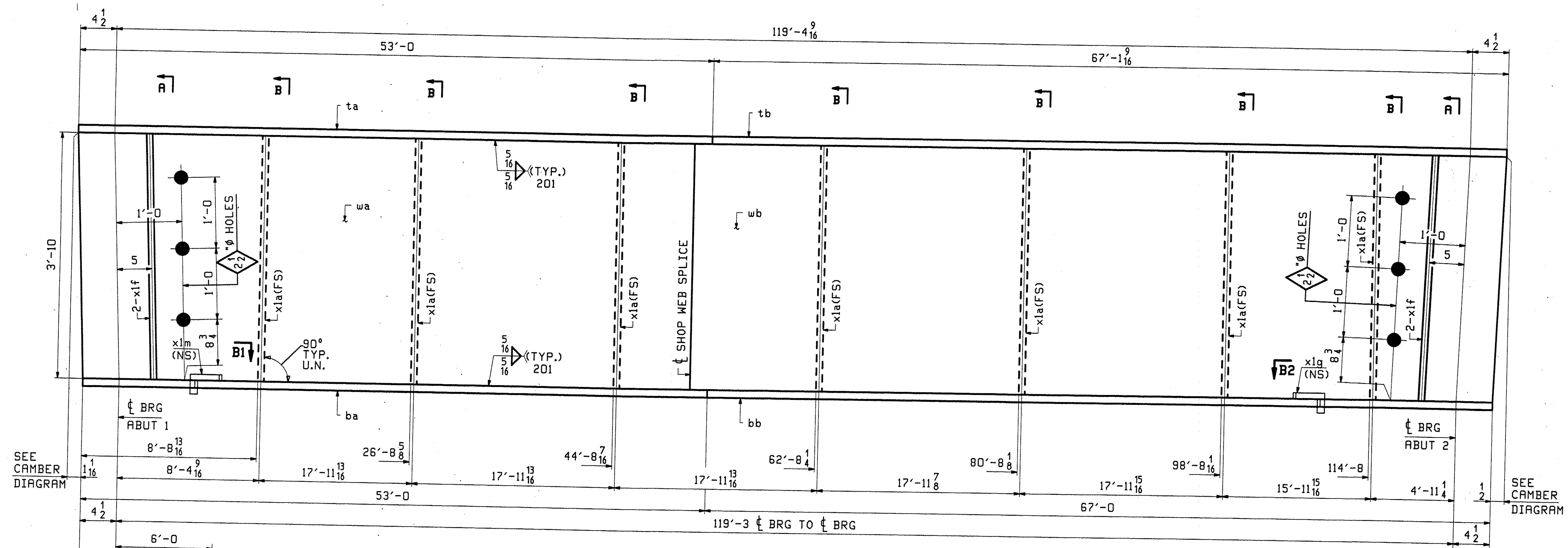
DESCRIPTION: GIRDER 6G6

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

TENSOR 3030

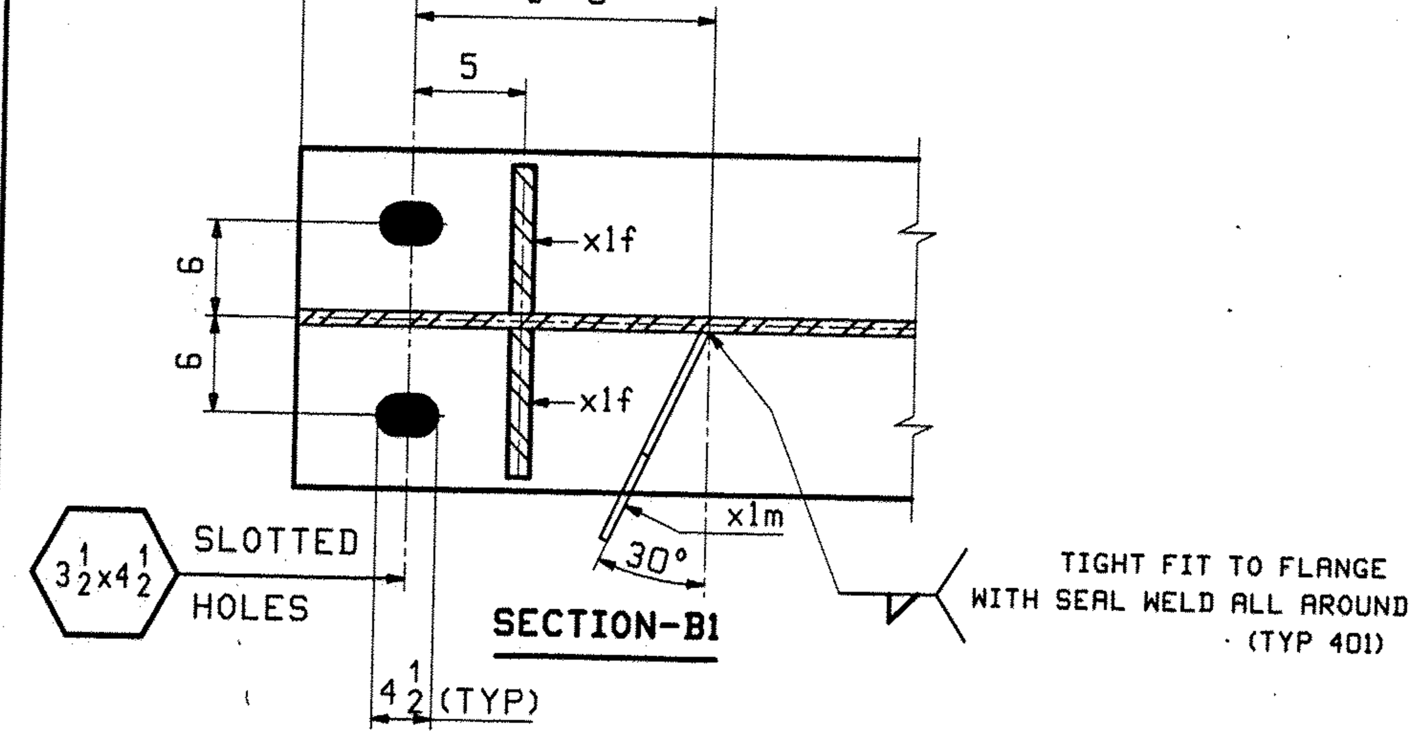
STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/19
		CHKD: DO	DATE: 12/01
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	6
CUSTOMER:	Cold River Bridges		REV. △

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								476	7	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		7G7	1		GIRDER				35276	
2	J		1	wa	PL $\frac{5}{8}$x46	51	$1\frac{3}{16}$	M270-50WT2		
2	C		1	wb	PL $\frac{5}{8}$x46	69	$0\frac{3}{4}$	M270-50WT2		
3	C		1	ta	PL $\frac{7}{8}$x18	53	0			
3	A		1	tb	PL $\frac{7}{8}$x18	67	$1\frac{9}{16}$			
1	G		1	ba	PL $2\frac{1}{4}$x18	53	0	M270-50WT2		
1	E		1	bb	PL $2\frac{1}{4}$x18	67	0	M270-50WT2		
4	B		7	x1a	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	M270-50WT2		
4	C		4	x1f	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	(M1E) M270-50WT2		
4	D		1	x1g	PL $\frac{1}{4}$x$4\frac{1}{4}$	1	$0\frac{1}{8}$			
4	D		1	x1m	PL $\frac{1}{4}$x$4\frac{1}{4}$	1	$0\frac{1}{8}$			

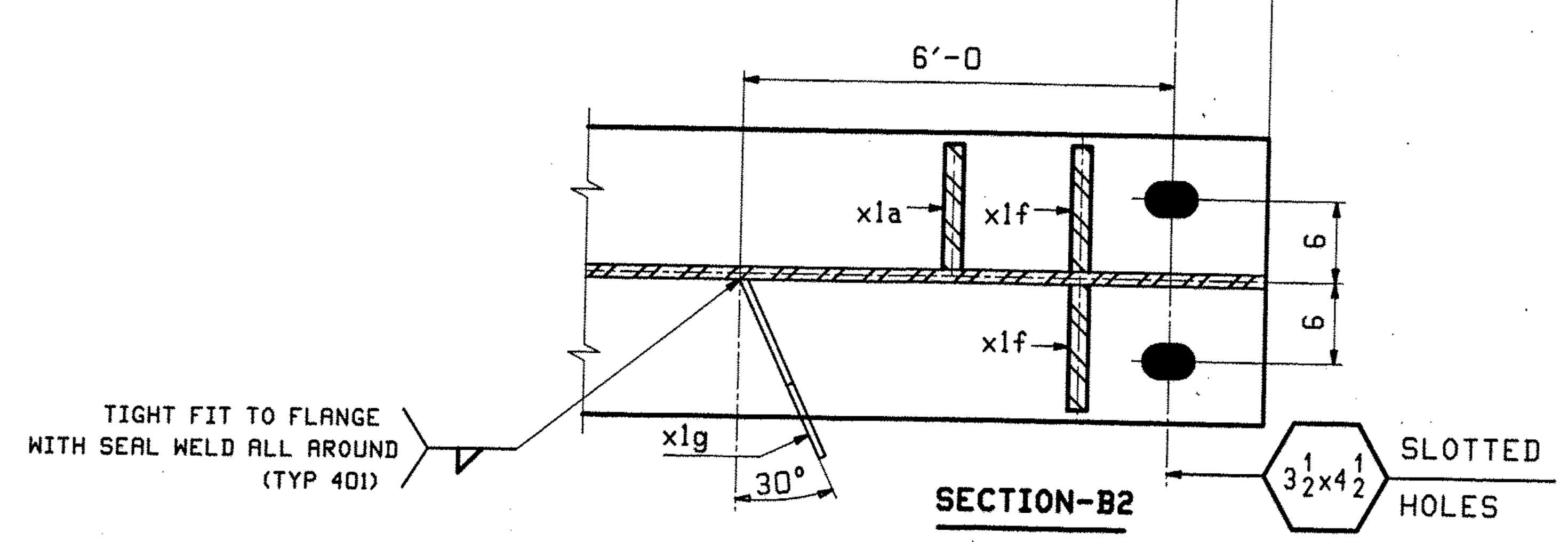


ONE - GIRDER - 7G7

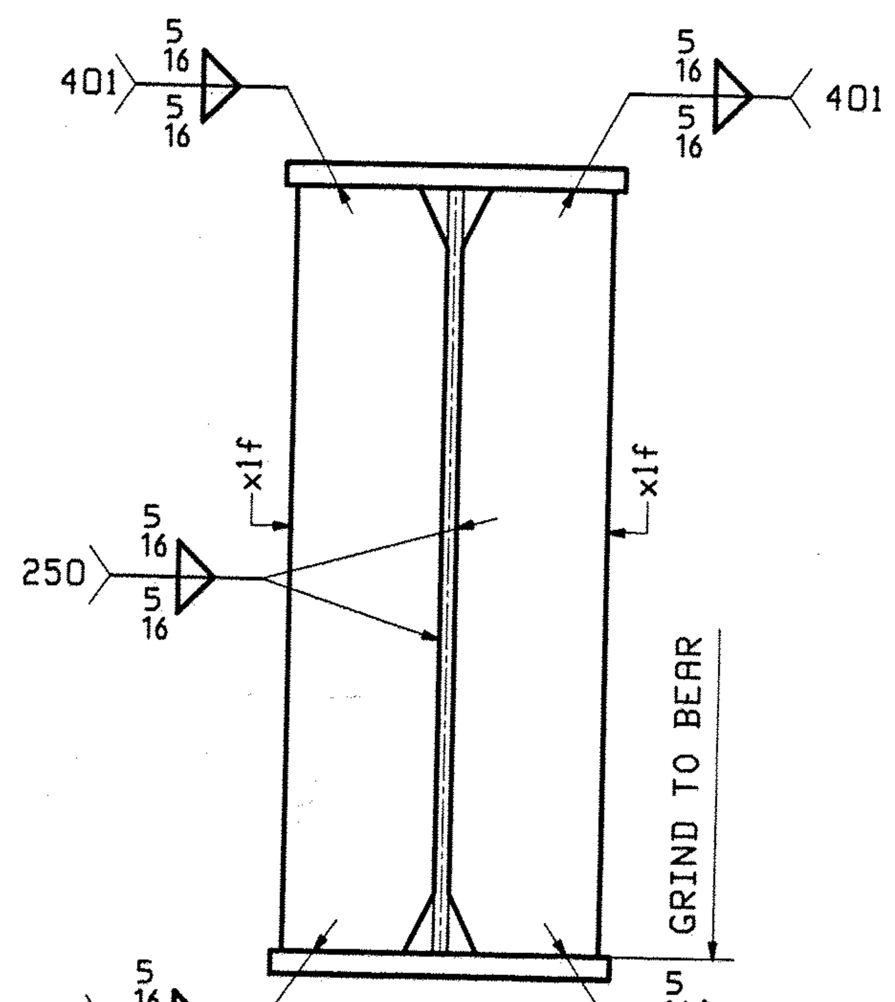
SEE DRAWING GN1 FOR GENERAL NOTES
SEE DRAWING F1 FOR FLANGE DIAGRAM
SEE DRAWING C1 FOR CAMBER DIAGRAM
SEE DWG X1 FOR GIRDER STANDARDS



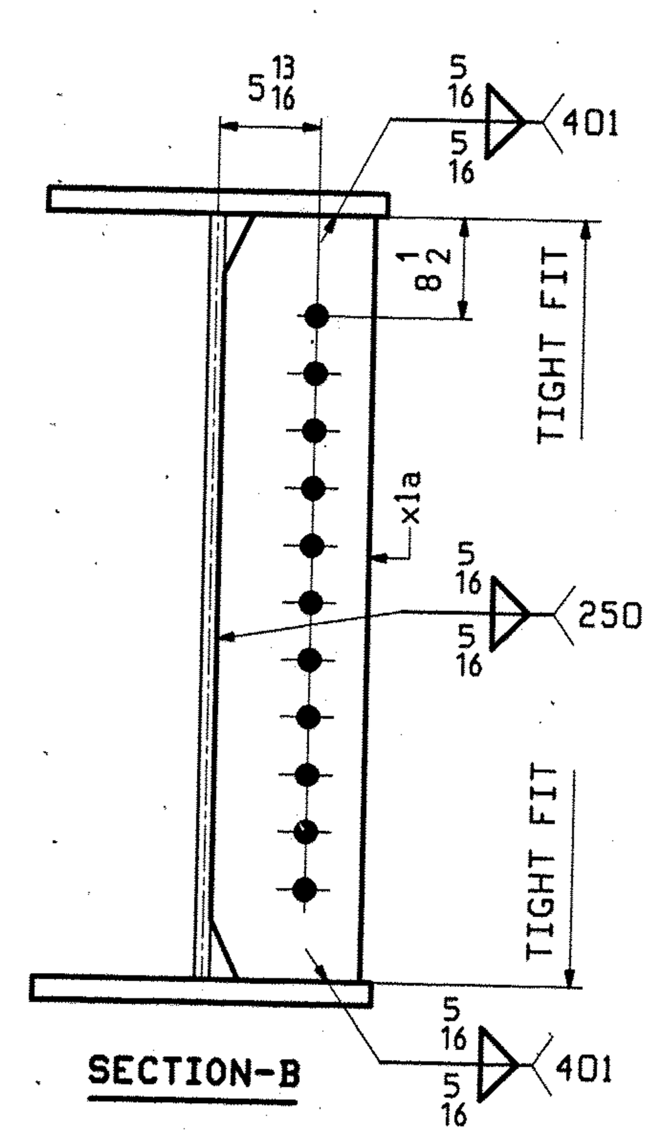
SECTION-B1



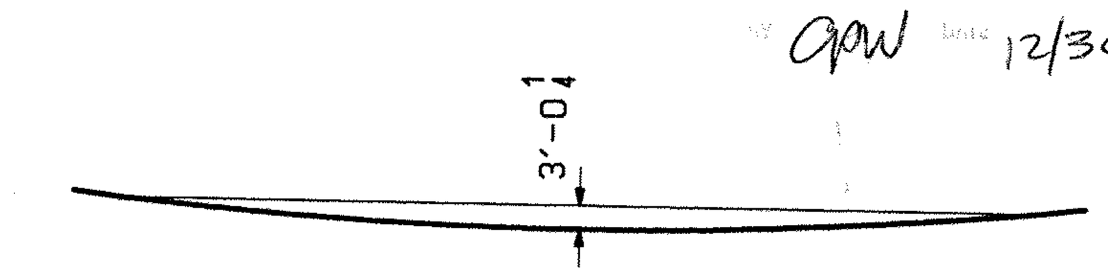
SECTION-B2



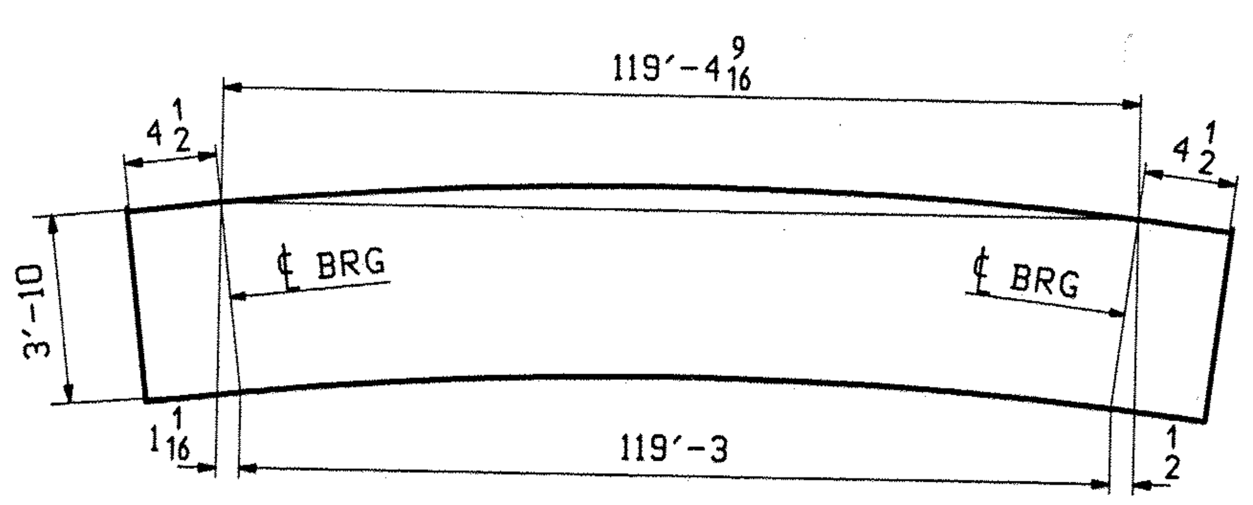
SECTION-A
(DEVELOPED)



SECTION-B



PLAN VIEW



DEV. ORIENTATION DIAGRAM

ELC RSY
As Noted
GOW 12/30/10

0		~			DEC 9 2010	
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50W (U.N)	SSPC-SP6 10	$\frac{15}{16}$" ø (U.N)	N/A

DESCRIPTION: GIRDER 7G7

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

TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/19
		CHKD: DO	DATE: 12/01
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	7
CUSTOMER:	Cold River Bridges		REV. △

GENERAL NOTES

> NOTE TO ENGINEER:
> THESE NOTES ARE NOT INTENDED TO BE ALL INCLUSIVE AND COMPLIANCE WITH RELEVANT SPECIFICATIONS REMAIN UNCHANGED.

CONSTRUCTION SPECIFICATIONS

1) ALL MATERIAL AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006 WITH LATEST REVISIONS AND THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS FOR HIGHWAY BRIDGES DATED 2007 AND ITS LATEST REVISIONS.

MATERIAL SPECIFICATIONS

1) UNLESS OTHERWISE NOTED, ALL STEEL TO BE UNPAINTED AASHTO M270 GRADE 50W.

2) MATERIAL NOTED "CVN" OR "T2" ON DETAIL DRAWINGS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF VERMONT STANDARD SPECIFICATIONS SECTION 714.01.

3) HIGH STRENGTH BOLTS: ASTM A325 (AASHTO M164) 7/8" DIA., TYPE 3. NUTS SHALL BE A563 (TYPE 3) GRADE C3.

BOLTS & NUTS SHALL BE ROTATIONAL CAPACITY TESTED.
DO NOT MIX NUTS & BOLTS FROM DIFFERENT CONTAINERS UNLESS ALL BOLTS & NUTS HAVE THE SAME LOT NUMBER.

FABRICATION

1) ALL HOLES SHALL BE DRILLED FULL SIZE (UN).

WELDING

1) THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5-08 BRIDGE WELDING CODE AND IN ADDITION TO SPECIFICATIONS SHOWN ABOVE. ALL WELDING WILL BE DETAILED TO PRE-QUALIFIED JOINTS, UNLESS PROHIBITED BY THE DESIGNER.

2) WELDING OF MAIN LOAD CARRYING MEMBERS AND ATTACHMENTS SHALL BE PERFORMED USING THE AUTOMATIC SUBMERGED ARC & SHIELDED METAL ARC PROCESSES. ALL WELDS ARE CONTINUOUS U.N.

3) NON DESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATION.

4) SEE DETAIL "WS1" ON THIS DRAWING FOR WELD TERMINATION DETAIL.

FIELD CONNECTIONS

1) ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH STRENGTH A-325 BOLTS (UN), INSTALLED PER SECTION 506.19(c). SEE DWG E1 FOR FIELD BOLT SIZES.

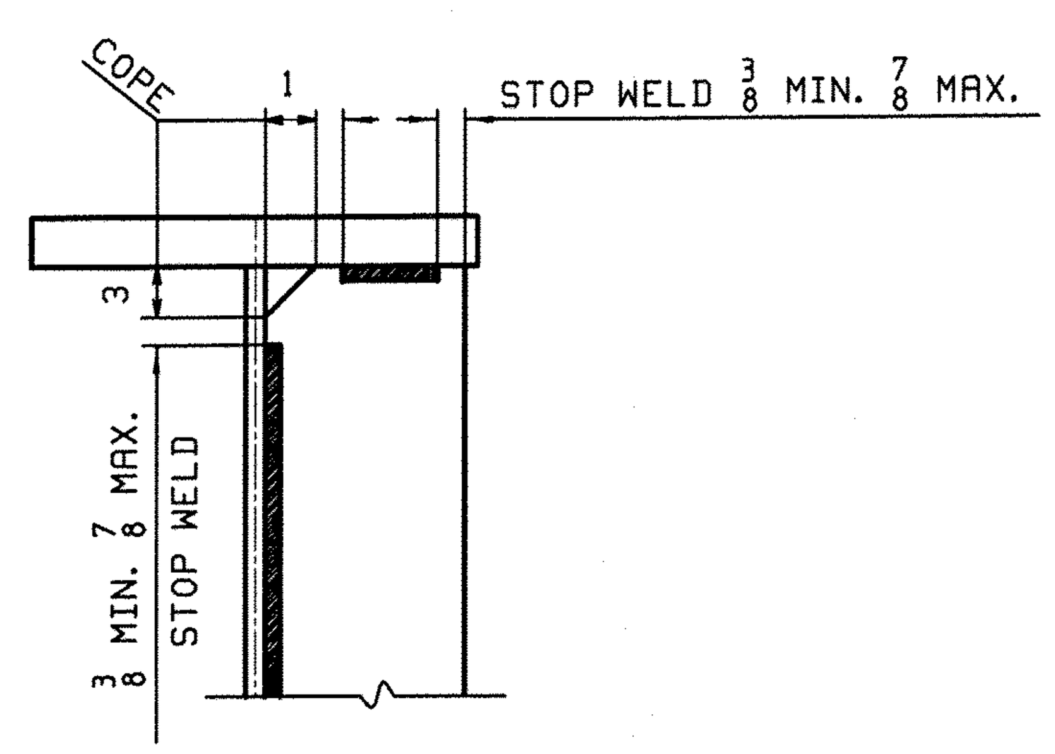
2) BOLTS SHALL HAVE HEAVY HEX NUT, HEAVY HEX HEAD, AND AT LEAST ONE FLAT WASHER EACH. WASHER TO BE PLACED UNDER TURNED ELEMENT.

3) PIECE MARKS WILL BE LOCATED AS SHOWN ON ERECTION DRAWINGS.

CLEANING

1) ALL STEEL SHALL BE BLAST CLEANED IN ACCORDANCE WITH SSPC SP-~~6~~ 10. (U.N.)

2) STRUCTURAL STEEL SHALL NOT BE PAINTED.



DETAIL "WS1"

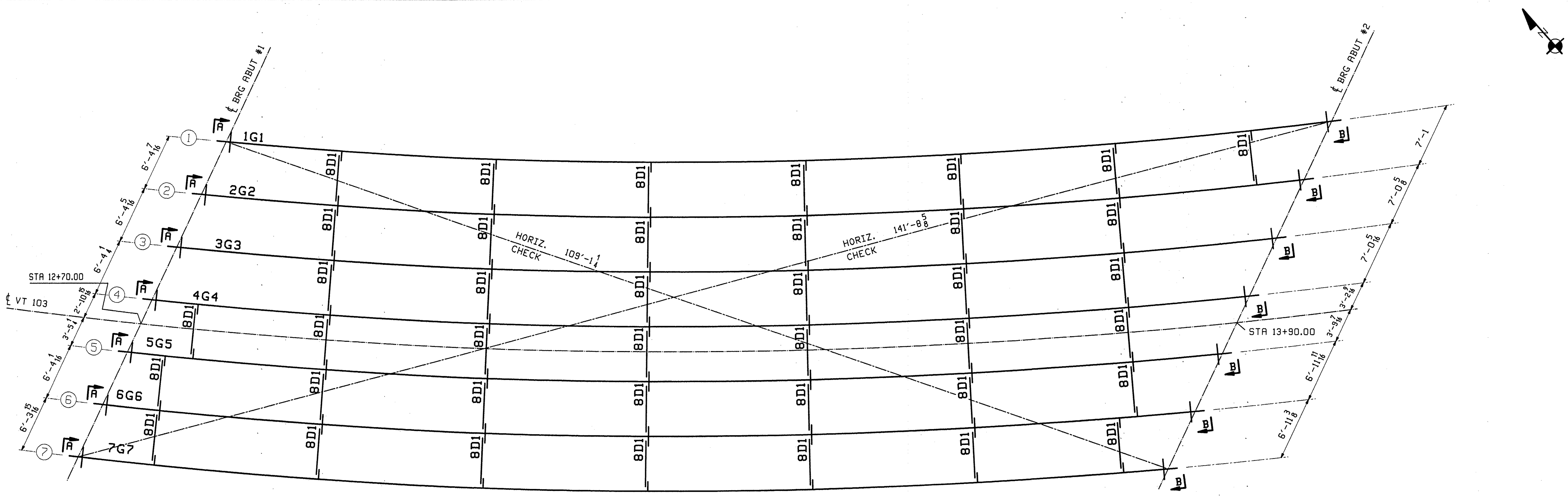
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0		~			DEC 9 2010	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
		AS NOTED	AS NOTED

DESCRIPTION: GENERAL NOTES

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/19
		CHKD: DO	DATE: 11/29
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	GN1
CUSTOMER:	Cold River Bridges		REV. △

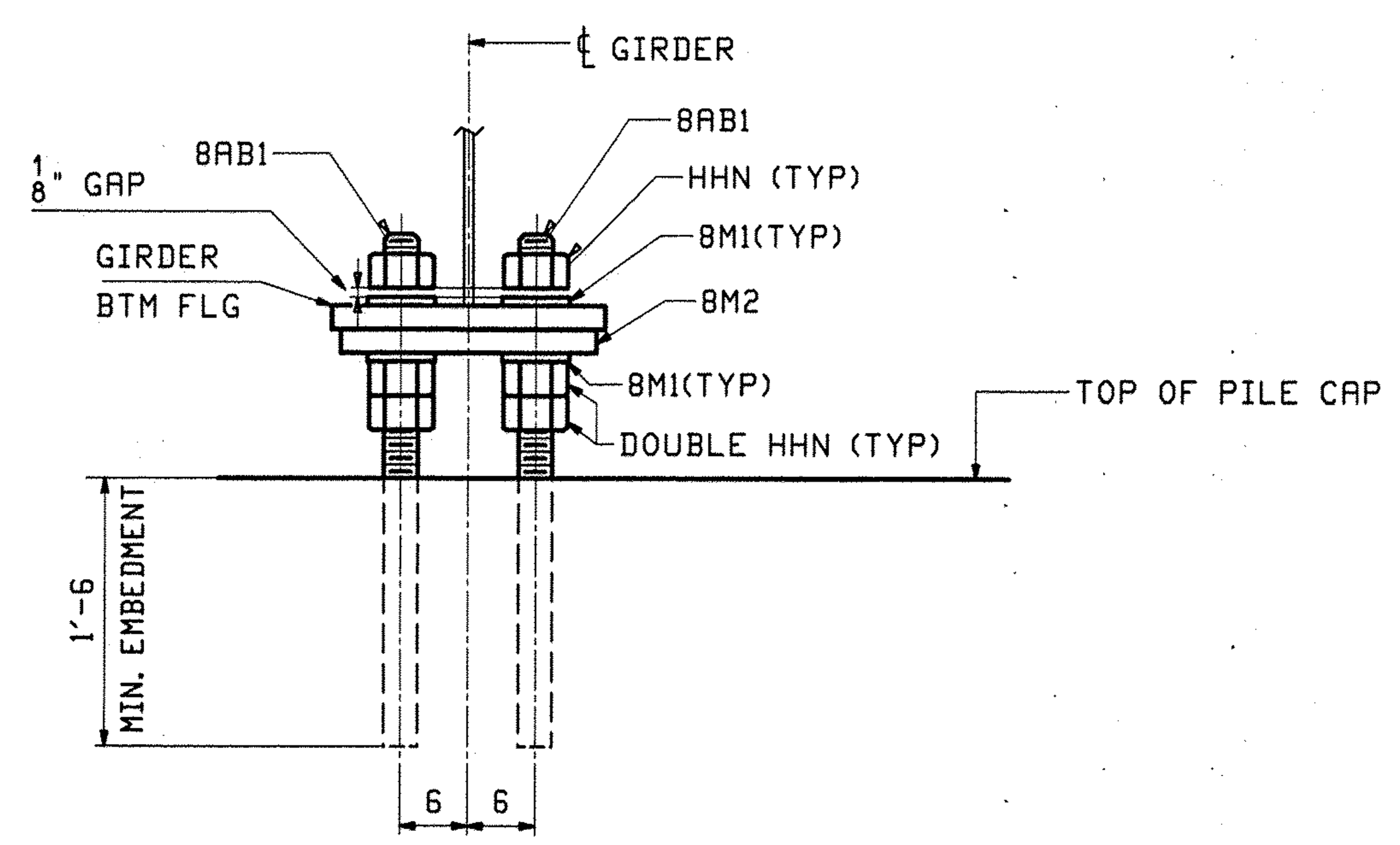


FRAMING PLAN

ANCHOR BOLT PLAN

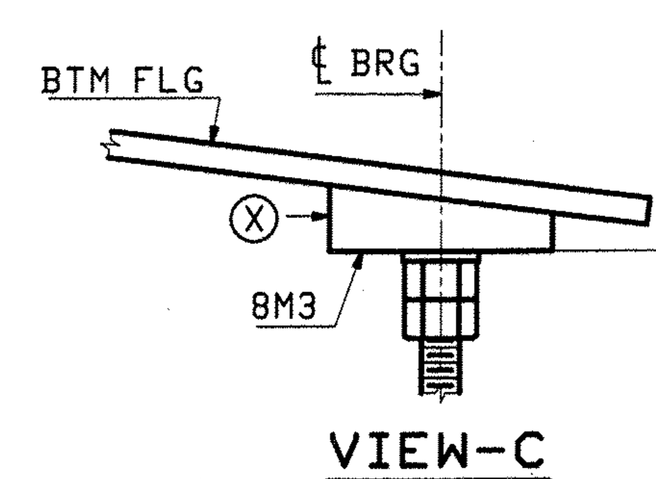
FIELD BOLT LIST							A325 Type 3 BOLTS							VTE RTE 103
LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS /CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED						WASH CODE	PIECES CONNECTED AND REMARKS
1														
2	880	7/8	2 1/2	11	80	1 1/8	1/2	5/8					1	CONN. STIFF TO W40X149
3														
WASHER CODES														
1: 1 Hard Flat Washer														

FIELD BOLT SUMMARY			EXACT COUNT			VTE RTE 103
LINE	NO. OF BOLTS	BOLT DIAM.	TYPE	BOLT LEN	ACTUAL COUNT	REMARKS
1	880	7/8	A325 Type 3	2 1/2	880	
2						
3	880	Hard Flat Washers for 7/8 ⌀ BOLT				
4						
5						
6						



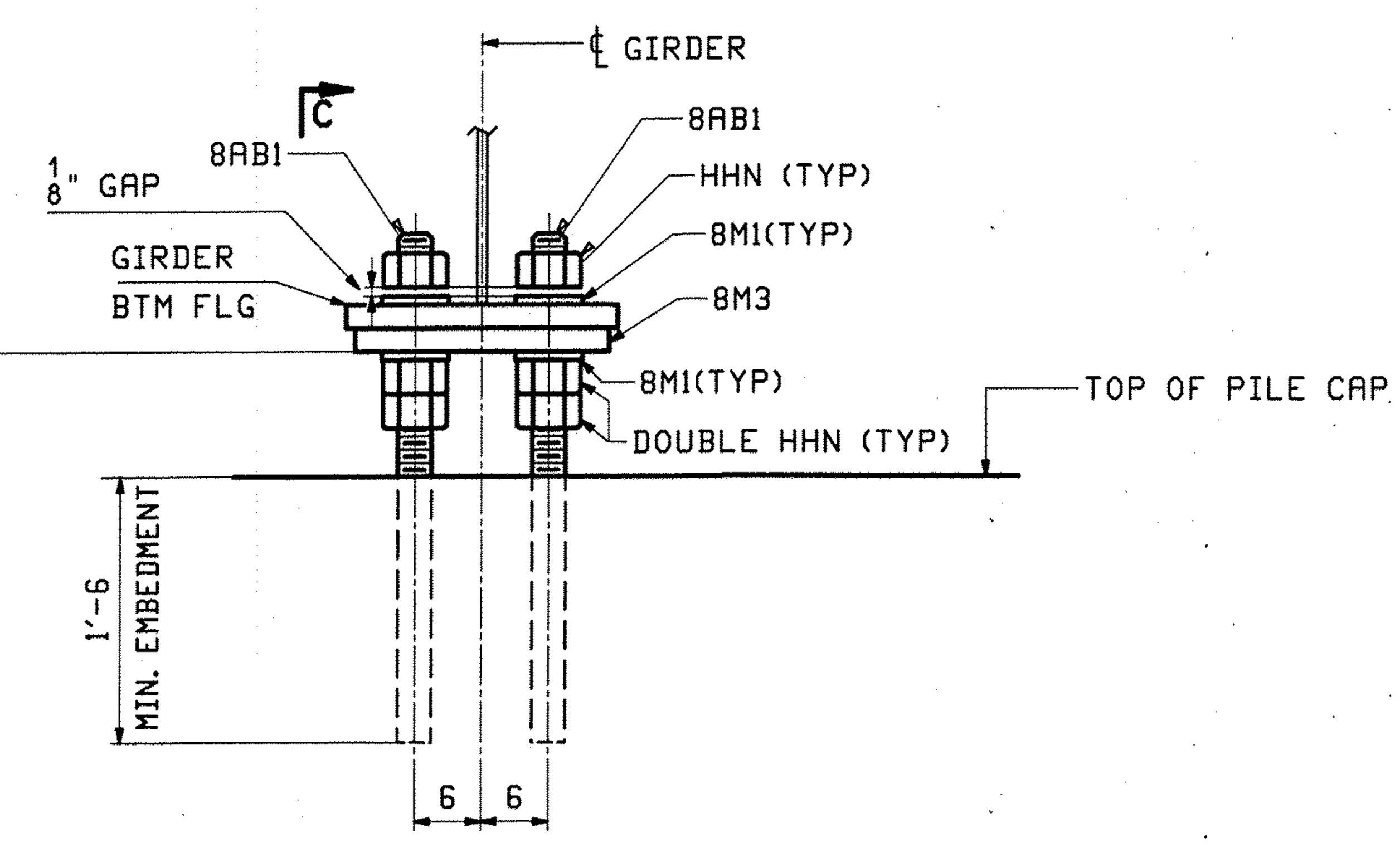
SECTION - A

NOTE: GREASE TOP OF SOLE ℙ BEFORE GIRDER PLACEMENT



VIEW-C

Ⓧ DENOTES THICKER SIDE OF SOLE PL



SECTION - B

NOTE: GREASE TOP OF SOLE ℙ BEFORE GIRDER PLACEMENT

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					DEC 9 2010	

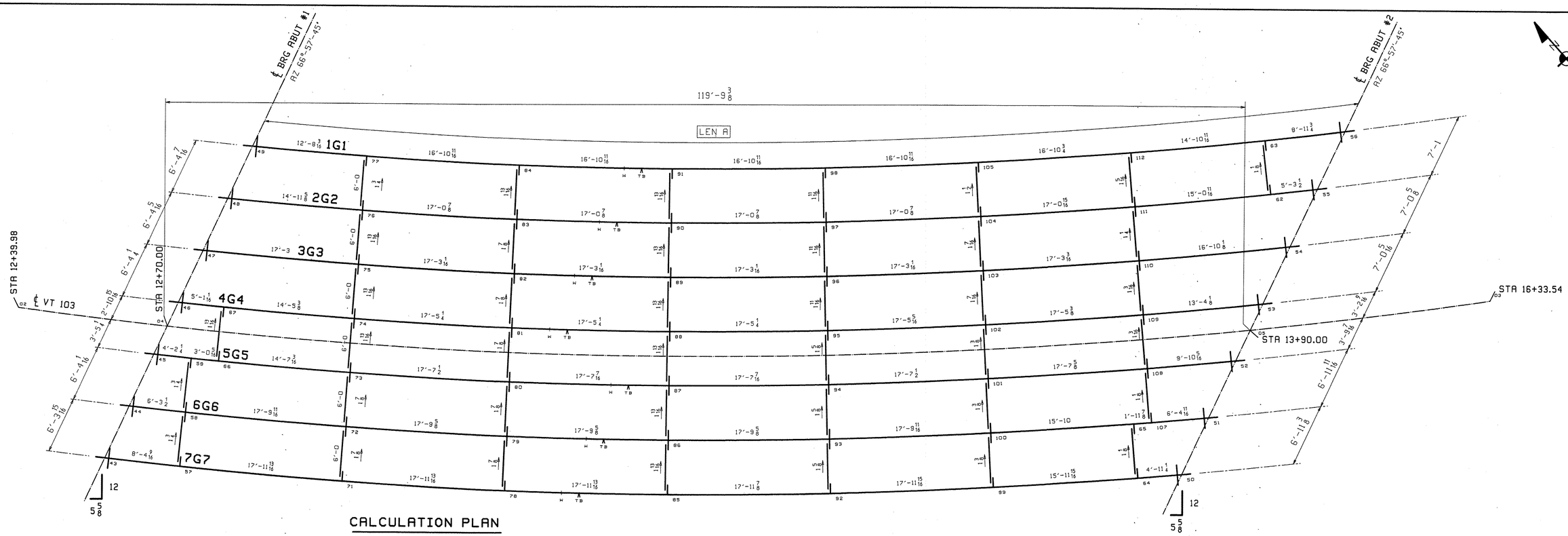
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:

DESCRIPTION: FRAMING PLAN & ANCHOR BOLT PLAN

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

TENSOR 3030

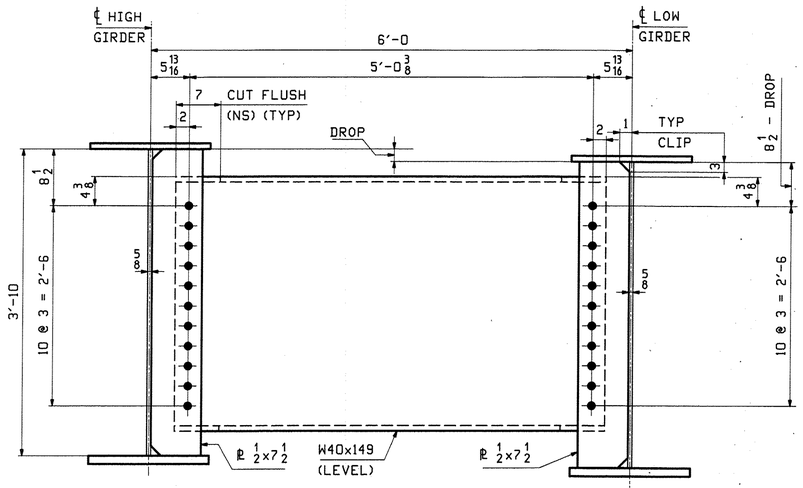
STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG CHKD: DO	DATE: 11/18 DATE: 12/02
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	E1
CUSTOMER:	Cold River Bridges		REV. △



CALCULATION PLAN

NOTES
1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG BOTT OF WEB WITH CORRECTIONS MADE FOR VERTICAL CURVE, GRADE & DL CAMBER (UN).
2. TRANSVERSE DIMENSIONS ARE IN A HORIZ. PLANE (UN).
3. DROP ARROW POINTS TOWARDS LOW END OF MEMBER.
4. ENDS OF GIRDERS AND BRG. STIFF'S ARE VERTICAL AFTER DL ROTATION.
5. CF STIFF ARE NORMAL TO GRADE.
6. BOTT PT NUMBERS =TOP PT NUMBERS + 200.
7. FOR LAYOUTS SEE TYPICAL LAYOUT BELOW.
8. COMBINE INT. CROSSFRAMES FOR DIFF IN DROPS OF +/- 1/8
9. CROSSFRAME DROPS ARE CALCULATED IN THE 70% CAMBERED SHAPE OF THE BRIDGE.

Line	LEN A	GRADE ABUT 1	GRADE ABUT 2
1	121'-0 1/8	.0021	-.0242
2	120'-8 1/4	.0028	-.0234
3	120'-4 9/16	.0035	-.0222
4	120'-1	.0047	-.0217
5	119'-9 9/16	.0055	-.0211
6	119'-6 5/16	.0062	-.0206
7	119'-3	.0068	-.0199



TYPICAL LAYOUT

NOTES:
ALL FIT-UP MAT'L IS AASHTO M270-GR50WT2
ALL HOLES ARE 15/16ø FOR 7/8" A325-3 BOLTS

RECEIVED
CK'D BY ELC OK'D BY RSY
DEC 14 2010
RESUBMIT ____ APPROVED ✓
BY CPW DATE 12/30/10

**** NOTE ****
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION AND CONNECTION SPACING. THIS DWG IS SUBMITTED FOR INFORMATION ONLY & IS NOT INTENDED FOR SHOP FABRICATION. DETAIL DWGS WILL SHOW ALL WELDING AND DIMENSIONS REQ'D FOR FABRICATION.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					DEC 9 2010	

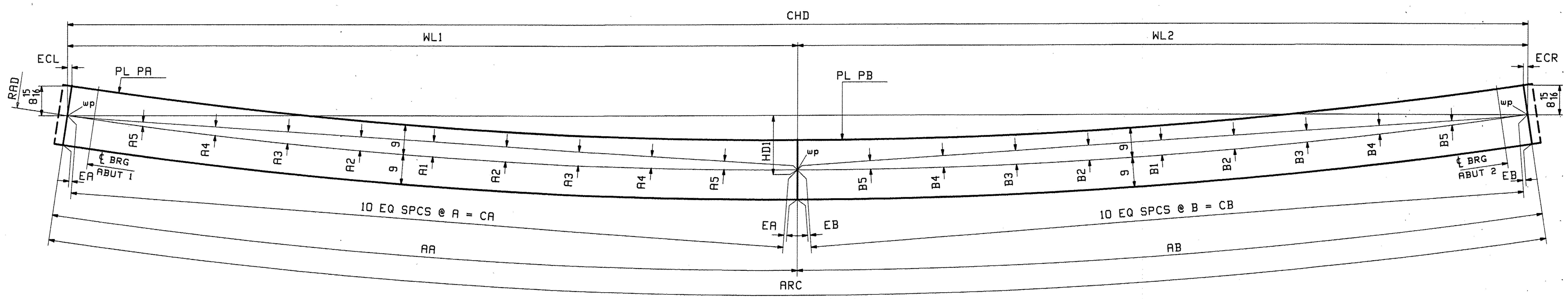
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
		AS NOTED	

DESCRIPTION: CALCULATION PLAN & TYPICAL LAYOUT

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

TENSOR 3030

STRUCTURE: VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/18
	CHK'D: DO	DATE: 11/29
LOCATION: Town of Chester	JOB NO.	DWG NO.
PROJ NO. BRF 025-1(37)	476	WS1
CUSTOMER: Cold River Bridges		REV. △



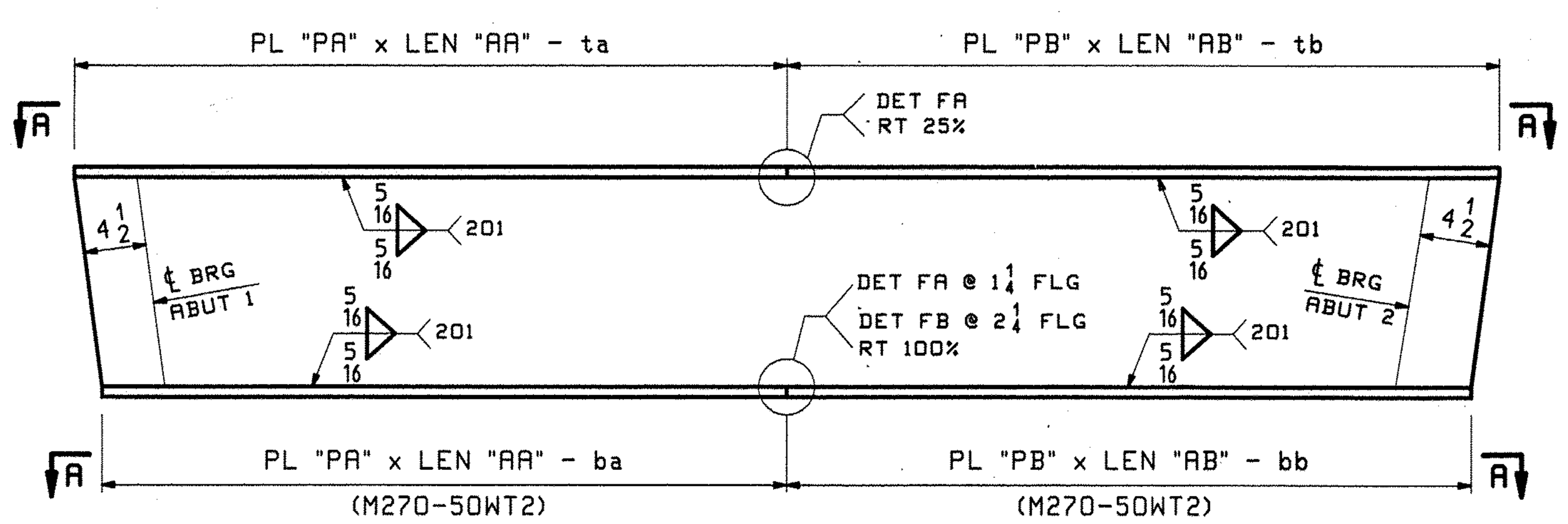
SECTION A-A

LOCATION	RAD	ARC	CHD	AA	AB	EA	A1	A2	A3	A4	A5	A	CA	EB	B1	B2	B3	B4	B5	B	CB	ECL	ECR	WL1	WL2	HD1
1G1 TOP FLG	552.21	121'-10 1/4	121'-7 5/16	43'-6	78'-4 1/4	3/8	5 1/8	4 15/16	4 5/16	3 5/16	1 7/8	4'-4 3/16	43'-5 7/8	5/8	1'-4 11/16	1'-4	1'-2	10 11/16	6	7'-9 15/16	78'-3 7/16	1	1	43'-4 9/16	78'-2 3/4	3'-1
1G1 BTM FLG	552.21	121'-9 1/8	121'-6 3/16	43'-6	78'-3 1/8	3/8	5 1/8	4 15/16	4 5/16	3 5/16	1 7/8	4'-4 3/16	43'-5 7/8	5/8	1'-4 5/8	1'-3 15/16	1'-2	10 5/8	6	7'-9 13/16	78'-2 5/16	1	1	43'-4 9/16	78'-1 5/8	3'-0 15/16
2G2 TOP FLG	558.21	121'-6 7/16	121'-3 9/16	43'-6	78'-0 7/16	3/8	5 1/16	4 7/8	4 1/4	3 1/4	1 13/16	4'-4 3/16	43'-5 7/8	5/8	1'-4 3/8	1'-3 11/16	1'-1 3/4	10 1/2	5 7/8	7'-9 9/16	77'-11 11/16	1	1	43'-4 5/8	77'-10 15/16	3'-0 7/16
2G2 BTM FLG	558.21	121'-5 1/4	121'-2 3/8	43'-6	77'-11 1/4	3/8	5 1/16	4 7/8	4 1/4	3 1/4	1 13/16	4'-4 3/16	43'-5 7/8	5/8	1'-4 5/16	1'-3 11/16	1'-1 11/16	10 7/16	5 7/8	7'-9 7/16	77'-10 1/2	1	1	43'-4 5/8	77'-9 3/4	3'-0 3/8
3G3 TOP FLG	564.21	121'-2 3/4	120'-11 15/16	43'-6	77'-8 3/4	3/8	5	4 13/16	4 1/4	3 3/16	1 13/16	4'-4 3/16	43'-5 7/8	5/8	1'-4 1/16	1'-3 7/16	1'-1 1/2	10 1/4	5 13/16	7'-9 3/16	77'-8	15/16	15/16	43'-4 5/8	77'-7 5/16	2'-11 15/16
3G3 BTM FLG	564.21	121'-1 9/16	120'-10 3/4	43'-6	77'-7 9/16	3/8	5	4 13/16	4 1/4	3 3/16	1 13/16	4'-4 3/16	43'-5 7/8	5/8	1'-4	1'-3 3/8	1'-1 7/16	10 1/4	5 3/4	7'-9 1/16	77'-6 13/16	15/16	15/16	43'-4 5/8	77'-6 1/8	2'-11 7/8
4G4 TOP FLG	570.21	120'-11 1/4	120'-8 1/2	43'-6	77'-5 1/4	5/16	5	4 3/4	4 3/16	3 3/16	1 13/16	4'-4 3/16	43'-5 7/8	5/8	1'-3 3/4	1'-3 1/8	1'-1 1/4	10 1/8	5 11/16	7'-8 7/8	77'-4 9/16	15/16	15/16	43'-4 5/8	77'-3 7/8	2'-11 7/16
4G4 BTM FLG	570.21	120'-10	120'-7 5/16	43'-6	77'-4	5/16	5	4 3/4	4 3/16	3 3/16	1 13/16	4'-4 3/16	43'-5 7/8	5/8	1'-3 3/4	1'-3 1/8	1'-1 3/16	10 1/16	5 11/16	7'-8 3/4	77'-3 5/16	15/16	15/16	43'-4 11/16	77'-2 5/8	2'-11 3/8
5G5 TOP FLG	576.21	120'-7 7/8	120'-5 1/4	53'-0	67'-7 7/8	7/16	7 5/16	7	6 1/8	4 11/16	2 5/8	5'-3 9/16	52'-11 3/4	1/2	11 15/16	11 7/16	10	7 5/8	4 5/16	6'-9 1/8	67'-7 7/16	15/16	15/16	52'-10 11/16	67'-6 9/16	3'-1 5/16
5G5 BTM FLG	576.21	120'-6 9/16	120'-3 15/16	53'-0	67'-6 9/16	7/16	7 5/16	7	6 1/8	4 11/16	2 5/8	5'-3 9/16	52'-11 3/4	1/2	11 7/8	11 3/8	10	7 5/8	4 1/4	6'-9	67'-6 1/8	15/16	15/16	52'-10 11/16	67'-5 1/4	3'-1 1/4
6G6 TOP FLG	582.21	120'-4 11/16	120'-2 1/8	53'-0	67'-4 11/16	7/16	7 1/4	6 15/16	6 1/16	4 5/8	2 5/8	5'-3 9/16	52'-11 3/4	1/2	11 11/16	11 1/4	9 13/16	7 1/2	4 3/16	6'-8 13/16	67'-4 1/4	15/16	15/16	52'-10 3/4	67'-3 3/8	3'-0 3/4
6G6 BTM FLG	582.21	120'-3 5/16	120'-0 3/4	53'-0	67'-3 5/16	7/16	7 1/4	6 15/16	6 1/16	4 5/8	2 5/8	5'-3 9/16	52'-11 3/4	1/2	11 11/16	11 3/16	9 13/16	7 7/16	4 3/16	6'-8 11/16	67'-2 7/8	15/16	15/16	52'-10 3/4	67'-2	3'-0 11/16
7G7 TOP FLG	588.21	120'-1 9/16	119'-11 1/16	53'-0	67'-1 9/16	3/8	7 3/16	6 7/8	6	4 9/16	2 9/16	5'-3 9/16	52'-11 13/16	1/2	11 1/2	11	9 5/8	7 3/8	4 1/8	6'-8 1/2	67'-1 1/8	15/16	15/16	52'-10 3/4	67'-0 5/16	3'-0 1/4
7G7 BTM FLG	588.21	120'-0	119'-9 1/2	53'-0	67'-0	3/8	7 3/16	6 7/8	6	4 9/16	2 9/16	5'-3 9/16	52'-11 13/16	1/2	11 7/16	11	9 5/8	7 5/16	4 1/8	6'-8 3/8	66'-11 9/16	15/16	15/16	52'-10 3/4	66'-10 3/4	3'-0 3/16

LOCATION	PL PA	PL PB
1G1 TOP FLG	PL 7/8 x 18-ta (3/E)	PL 7/8 x 18-tb (2/N)
1G1 BTM FLG	PL 1 1/4 x 18-ba (1/S)	PL 1 1/4 x 18-bb (1/J)
2G2 TOP FLG	PL 7/8 x 18-ta (3/E)	PL 7/8 x 18-tb (2/Q)
2G2 BTM FLG	PL 1 1/4 x 18-ba (1/S)	PL 1 1/4 x 18-bb (1/L)
3G3 TOP FLG	PL 7/8 x 18-ta (3/E)	PL 7/8 x 18-tb (2/S)
3G3 BTM FLG	PL 1 1/4 x 18-ba (1/S)	PL 1 1/4 x 18-bb (1/N)
4G4 TOP FLG	PL 7/8 x 18-ta (3/E)	PL 7/8 x 18-tb (2/U)
4G4 BTM FLG	PL 1 1/4 x 18-ba (1/S)	PL 1 1/4 x 18-bb (1/Q)
5G5 TOP FLG	PL 7/8 x 18-ta (3/C)	PL 7/8 x 18-tb (2/W)
5G5 BTM FLG	PL 2 1/4 x 18-ba (1/G)	PL 2 1/4 x 18-bb (1/A)
6G6 TOP FLG	PL 7/8 x 18-ta (3/C)	PL 7/8 x 18-tb (2/Y)
6G6 BTM FLG	PL 2 1/4 x 18-ba (1/G)	PL 2 1/4 x 18-bb (1/C)
7G7 TOP FLG	PL 7/8 x 18-ta (3/C)	PL 7/8 x 18-tb (3/A)
7G7 BTM FLG	PL 2 1/4 x 18-ba (1/G)	PL 2 1/4 x 18-bb (1/E)

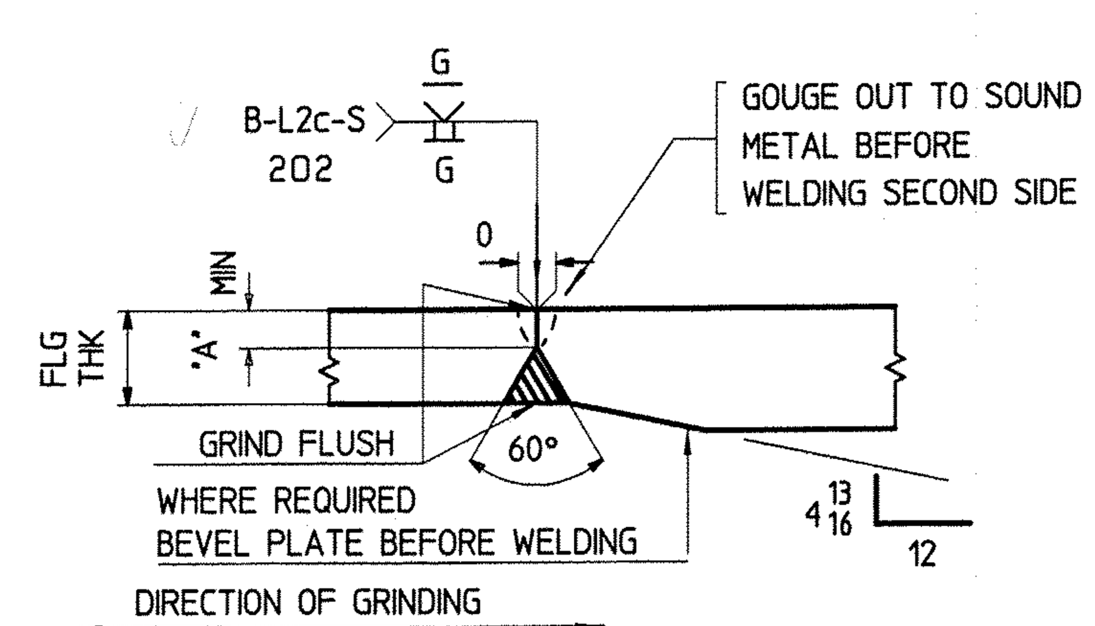
RECEIVED
CK'D BY ELC OK'D BY RSY
DEC 14 2010
RESUBMIT ___ APPROVED As Noted
BY GPW DATE 12/30/10

FOR GENERAL NOTES SEE SHEET GN1

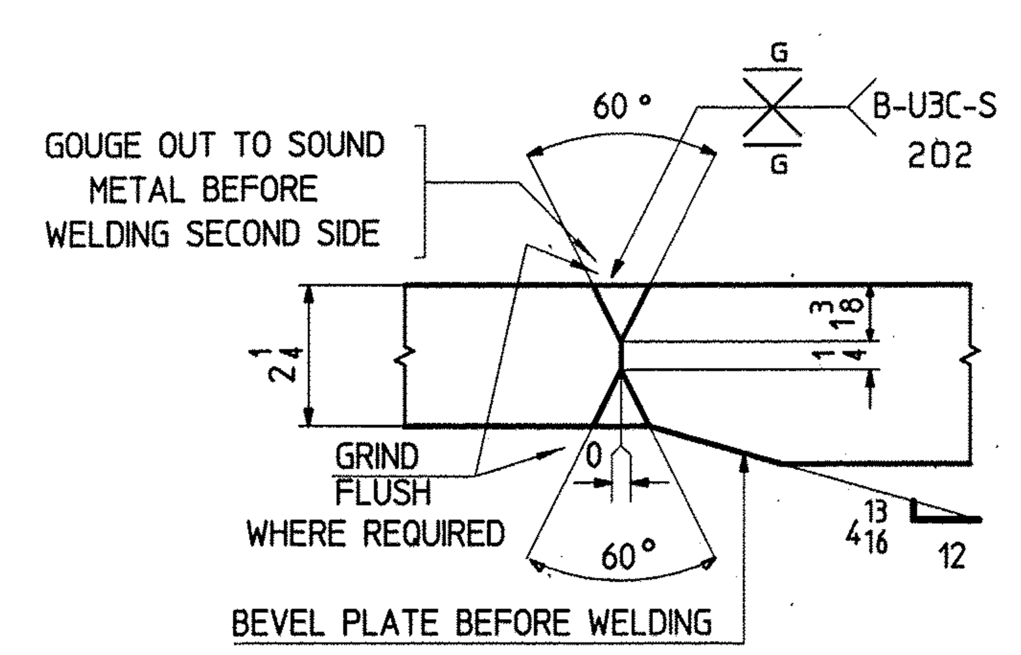


FLANGE DIAGRAM FOR 1G1 - 7G7

FLG THK	'A'
7/8	1/4
1 1/4	3/8



FLANGE PLATE SPLICE DETAIL "FA"



FLANGE PLATE SPLICE DETAIL "FB"

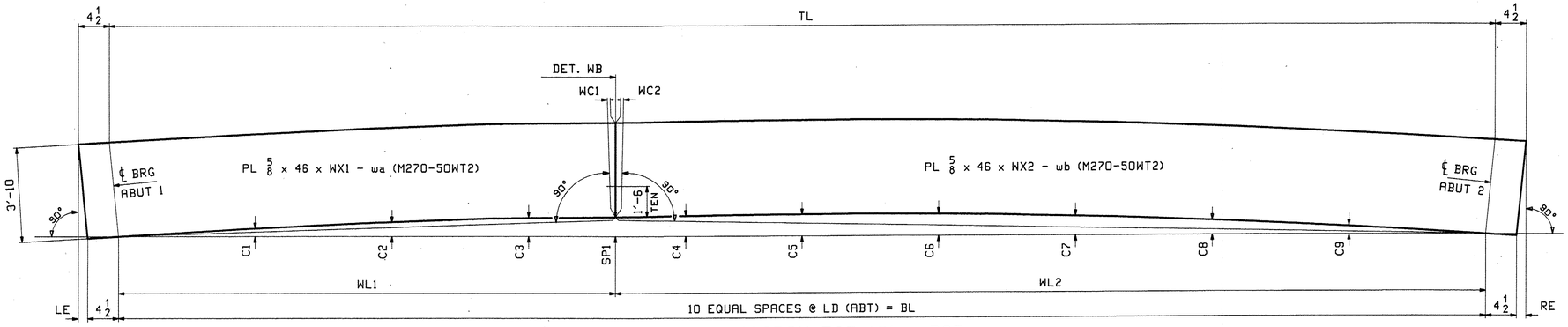
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0		~			DEC 9 2010	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50W (U.N)	SSPC-SP6 10	N/A	N/A

DESCRIPTION: FLANGE DIAGRAM

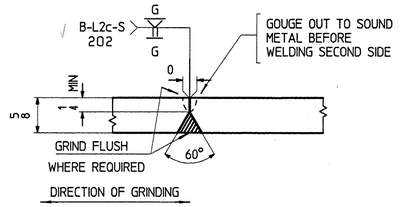
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/18
		CHKD: DO	DATE: 11/30
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	F1
CUSTOMER:	Cold River Bridges		REV. △



CAMBER DIAGRAM FOR 1G1 - 7G7

MARK	TL	BL	LE	RE	WL1	WL2	WX1	WX2	SP1	WC1	WC2	LD	C1	C2	C3	C4	C5	C6	C7	C8	C9	PG/LINE	PG/LINE
1G1	121'-1 1/4	121'-0 1/8	1 1/16	1/16	41'-1 1/2	79'-10 5/8	41'-7 1/8	80'-3 5/8	8 15/16	13/16	7/16	12'-1 1/4	3 7/16	6 1/4	8 7/16	9 3/4	10 3/16	9 13/16	8 1/2	6 5/16	3 1/2	2/ L	1/ U
2G2	120'-9 7/16	120'-8 1/4	1 1/16	1/8	41'-1 1/2	79'-6 3/4	41'-7 1/8	79'-11 3/4	9 3/16	7/8	7/16	12'-0 7/8	3 9/16	6 7/16	8 5/8	10	10 3/8	9 15/16	8 5/8	6 3/8	3 1/2	2/ L	1/ W
3G3	120'-5 3/4	120'-4 9/16	1 1/16	1/8	41'-1 1/2	79'-3 1/16	41'-7 1/8	79'-8 1/16	9 7/16	7/8	7/16	12'-0 1/2	3 11/16	6 5/8	8 7/8	10 1/4	10 5/8	10 1/8	8 3/4	6 1/2	3 1/2	2/ L	1/ Y
4G4	120'-2 1/4	120'-1	1 1/16	3/16	41'-1 1/2	78'-11 1/2	41'-7 3/16	79'-4 1/2	9 11/16	7/8	1/2	12'-0 1/8	3 3/4	6 13/16	9 1/8	10 1/2	10 15/16	10 3/8	8 7/8	6 9/16	3 9/16	2/ L	2/ A
5G5	119'-10 7/8	119'-9 9/16	1 1/16	1/4	50'-7 1/2	69'-2 1/16	51'-1 3/16	69'-7 1/4	10 15/16	13/16	5/8	11'-11 3/4	3 7/8	6 15/16	9 5/16	10 13/16	11 1/4	10 11/16	9 1/8	6 3/4	3 11/16	2/ J	2/ G
6G6	119'-7 11/16	119'-6 5/16	1 1/16	5/16	50'-7 1/2	68'-10 13/16	51'-1 3/16	69'-4	11 1/4	7/8	5/8	11'-11 3/8	3 15/16	7 1/8	9 5/8	11 1/8	11 9/16	11 1/16	9 1/2	7	3 13/16	2/ J	2/ E
7G7	119'-4 9/16	119'-3	1 1/16	1/2	50'-7 1/2	68'-7 1/2	51'-1 3/16	69'-0 3/4	11 9/16	7/8	5/8	11'-11 1/8	4	7 5/16	9 7/8	11 7/16	11 15/16	11 7/16	9 7/8	7 5/16	4 1/16	2/ J	2/ C



WEB PLATE SPLICE DETAIL "WB"

RECEIVED
CK'D BY EAC DATE BY RST
DEC 19 2019
RESUBMIT APPROVED AS NOTED
BY CPW DATE 12/30/10

FOR GENERAL NOTES SEE SHEET GN1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					DO	DWL

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50WT2	SSPC-SP6	N/A	N/A

DESCRIPTION: CAMBER DIAGRAM

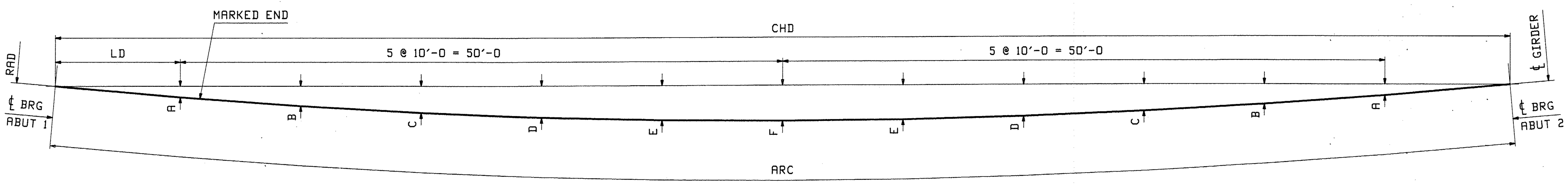
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 3030

STRUCTURE: VT 103 over Middle Branch Williams Rv.
Bridge 9
CHESTER
County of Windsor

DRAWN:	DATE:
TG	11/18
CHK'D:	DATE:
DO	11/30

LOCATION: Town of Chester
PROJ NO. BRF 025-1(37)
CUSTOMER: Cold River Bridges

JOB NO. 476
DWG NO. C1
REV. 0



HEAT CURVING DIAGRAM FOR 1G1 - 7G7

MARK	ARC	CHD	RAD	LD	A	B	C	D	E	F
1G1	121'-0 1/8	120'-9 1/4	552'-2 1/2	10'-4 5/8	1'-0 1/2	1'-10 5/16	2'-5 15/16	2'-11 3/8	3'-2 5/8	3'-3 3/4
2G2	120'-8 1/4	120'-5 7/16	558'-2 1/2	10'-2 11/16	1'-0 3/16	1'-9 7/8	2'-5 7/16	2'-10 13/16	3'-2	3'-3 1/8
3G3	120'-4 9/16	120'-1 13/16	564'-2 1/2	10'-0 15/16	11 7/8	1'-9 7/16	2'-4 15/16	2'-10 1/4	3'-1 7/16	3'-2 1/2
4G4	120'-1	119'-10 5/16	570'-2 1/2	9'-11 3/16	11 9/16	1'-9 1/16	2'-4 7/16	2'-9 11/16	3'-0 13/16	3'-1 7/8
5G5	119'-9 9/16	119'-7	576'-2 1/2	9'-9 1/2	11 1/4	1'-8 5/8	2'-3 15/16	2'-9 3/16	3'-0 5/16	3'-1 5/16
6G6	119'-6 5/16	119'-3 13/16	582'-2 1/2	9'-7 7/8	10 15/16	1'-8 1/4	2'-3 1/2	2'-8 5/8	2'-11 3/4	3'-0 3/4
7G7	119'-3	119'-0 9/16	588'-2 1/2	9'-6 1/4	10 11/16	1'-7 7/8	2'-3 1/16	2'-8 1/8	2'-11 3/16	3'-0 1/4

RECEIVED
CK'D BY ELC CK'D BY RSS
DEC 14 2010
APPROVED As Noted
BY APW DATE 12/30/10

FOR GENERAL NOTES SEE SHEET GN1
ALL DIMENSIONS ARE GIVEN AT THE BOTT OF WEB

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					DEC 9 2010	

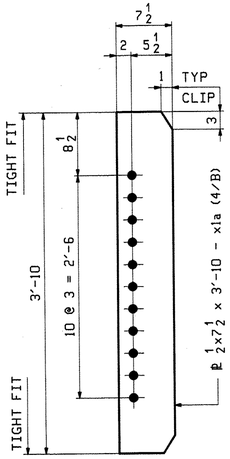
MATERIAL:	SURFACE PREP. & PAINT:	HOLES: N/A	SHOP BOLTS: N/A

DESCRIPTION: HEAT CURVING DIAGRAM

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

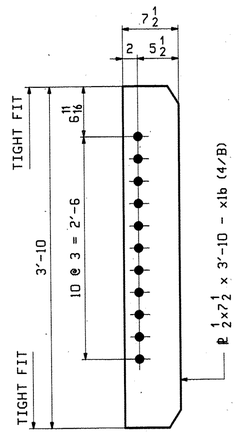
TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/18
		CHKD: DO	DATE: 11/30
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	HC1
CUSTOMER:	Cold River Bridges		REV. △



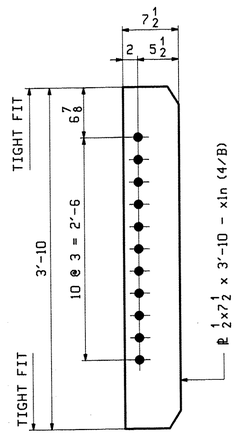
40 ~ CONN. STIFF ~ x1a

W40x149 TO HIGH GIRDER



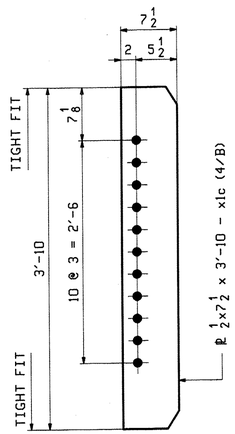
21 ~ CONN. STIFF ~ x1b

W40x149 TO LOW GIRDER
1 13/16 AVG DROP



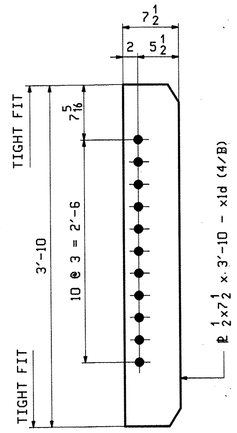
6 ~ CONN. STIFF ~ x1n

W40x149 TO LOW GIRDER
1 5/8 AVG DROP



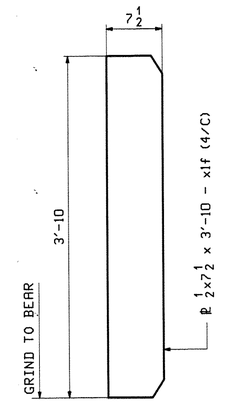
7 ~ CONN. STIFF ~ x1c

W40x149 TO LOW GIRDER
1 3/8 AVG DROP

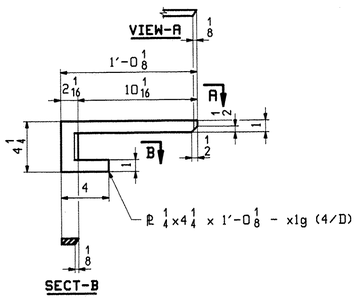


6 ~ CONN. STIFF ~ x1d

W40x149 TO LOW GIRDER
1 3/16 AVG DROP

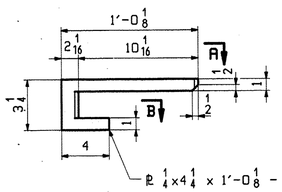


28 ~ BRG STIFF ~ x1f



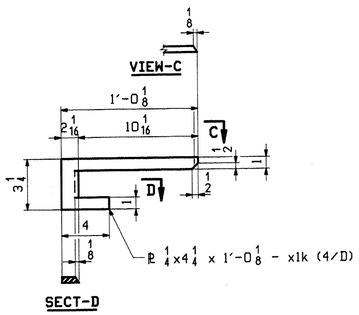
1 ~ DRIP BAR ~ x1g

(M270-GR50W)
LINE G7 NEAR ABUT 2



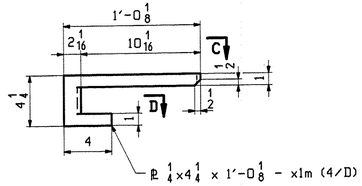
1 ~ DRIP BAR ~ x1h

(M270-GR50W)
LINE G1 NEAR ABUT 1



1 ~ DRIP BAR ~ x1k

(M270-GR50W)
LINE G1 NEAR ABUT 2



1 ~ DRIP BAR ~ x1m

(M270-GR50W)
LINE G7 NEAR ABUT 1

RECEIVED
CK'D BY ELC ORD BY KSS
DEC 14 2018
RESUBMIT APPROVED As Noted
BY OPW DATE 12/30/10

FOR GENERAL NOTES SEE SHEET GN1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50WT2 (U.N)	SSPC-SP6	15/16 ø	N/A

DESCRIPTION: GIRDER STANDARDS

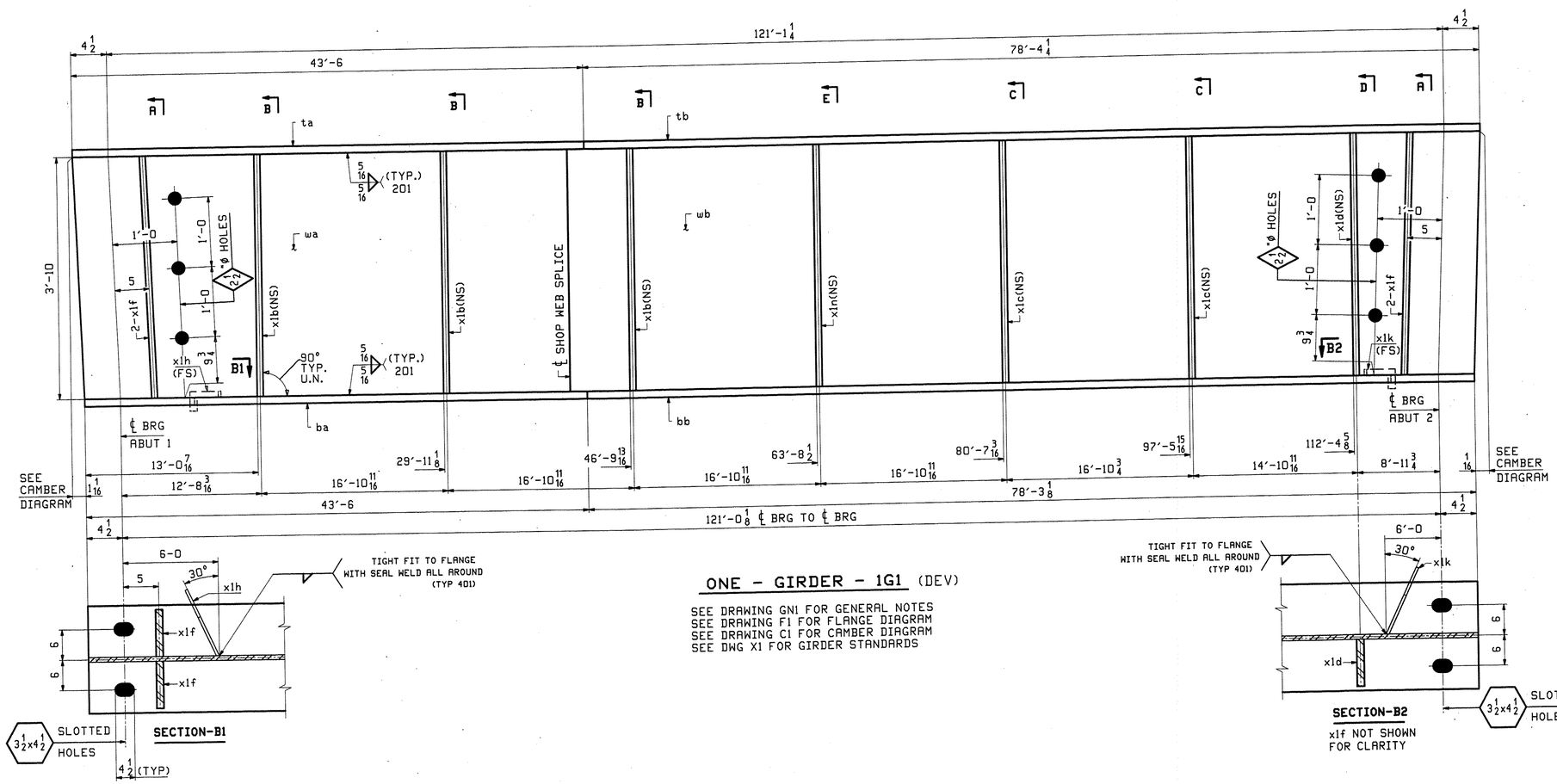
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/18
		CHK'D: DO	DATE: 11/30
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	X1
CUSTOMER:	Cold River Bridges		REV. △

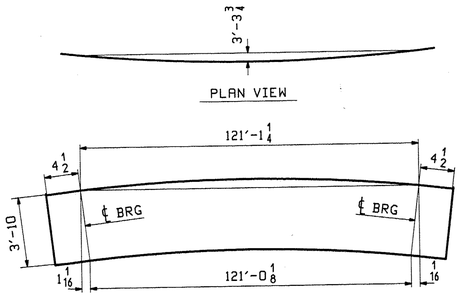
Fri, Dec 3, 2010 03:30:14 PM /users/jobs/3030/X1.dgn
DO

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		1G1	1		GIRDER				28322	
2	L		1	wa	PL $\frac{5}{8}$x46	41	$7\frac{1}{8}$	M270-50WT2		
1	U		1	wb	PL $\frac{5}{8}$x46	80	$3\frac{5}{8}$	M270-50WT2		
3	E		1	ta	PL $\frac{7}{8}$x18	43	6			
2	N		1	tb	PL $\frac{7}{8}$x18	78	$4\frac{1}{4}$			
1	S		1	ba	PL $1\frac{1}{4}$x18	43	6	M270-50WT2		
1	J		1	bb	PL $1\frac{1}{4}$x18	78	$3\frac{1}{8}$	M270-50WT2		
4	B		3	x1b	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		
4	B		2	x1c	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		
4	B		1	x1d	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		
4	C		4	x1f	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	(MIE) M270-50WT2		
4	D		1	x1h	PL $\frac{1}{4}$x3$\frac{1}{4}$	1	$0\frac{1}{8}$			
4	D		1	x1k	PL $\frac{1}{4}$x3$\frac{1}{4}$	1	$0\frac{1}{8}$			
4	B		1	x1n	PL $\frac{1}{2}$x7$\frac{1}{2}$	3	10	M270-50WT2		

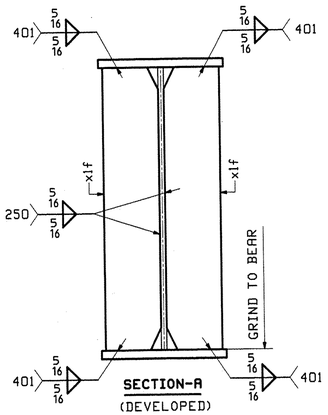


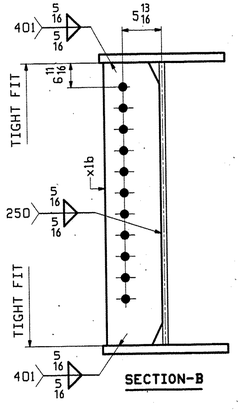
ONE - GIRDER - 1G1 (DEV)

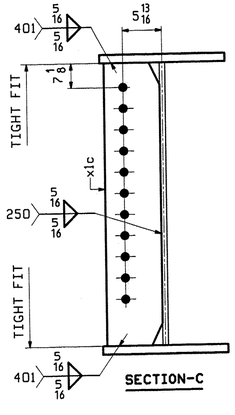
SEE DRAWING GN1 FOR GENERAL NOTES
SEE DRAWING F1 FOR FLANGE DIAGRAM
SEE DRAWING C1 FOR CAMBER DIAGRAM
SEE DWG X1 FOR GIRDER STANDARDS

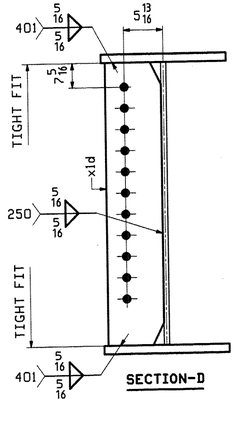


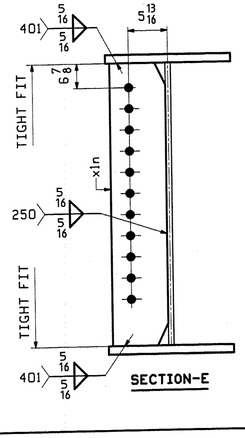
DEV. ORIENTATION DIAGRAM











RECEIVED
CKD BY ELC ORD BY BSK
DEC 14 2010
RESUBMIT ____ APPROVED As Noted
BY CPW DATE 12/30/10

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					DEC 13 2010	

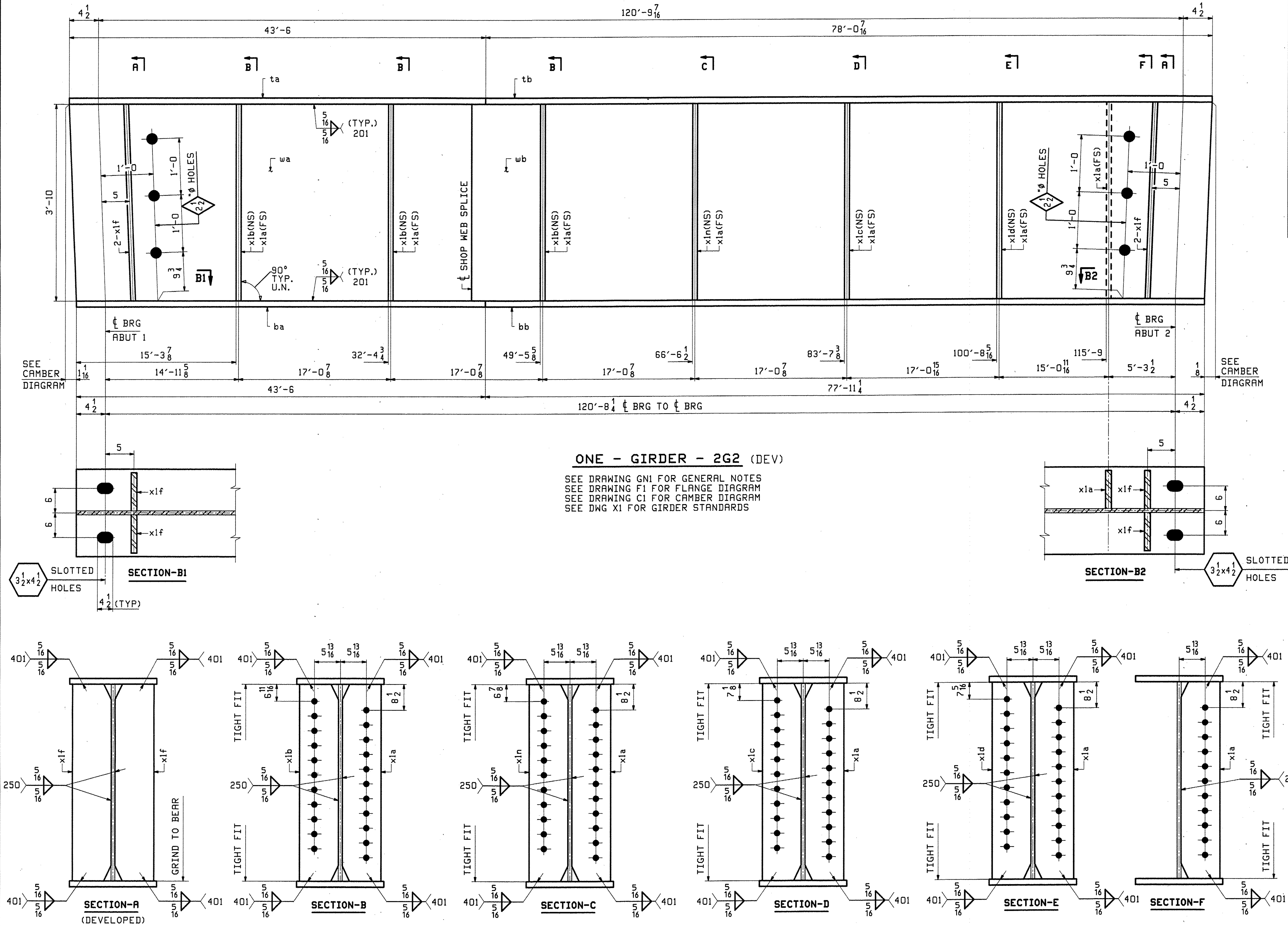
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50W (U.N)	SSPC-SP6/10	$\frac{15}{16}$" ø (U.N)	N/A

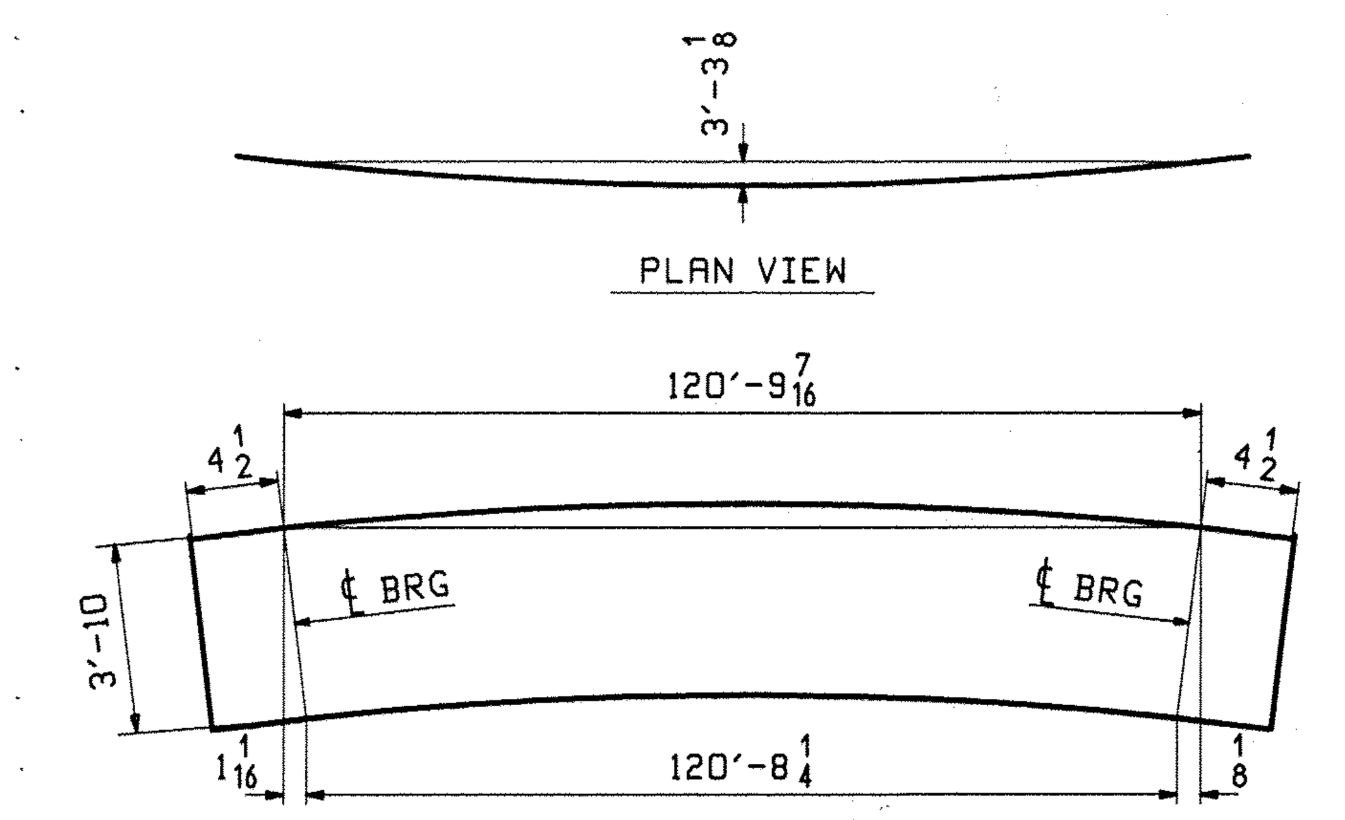
DESCRIPTION: GIRDER 1G1

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 3030

STRUCTURE: VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/19	
	CHKD: DO	DATE: 11/30	
LOCATION: Town of Chester	JOB NO.	DWG NO.	
PROJ NO. BRF 025-1(37)	476	1	
CUSTOMER: Cold River Bridges		REV. △	

Fri, Dec 3, 2010 03:32:24 PM /users/jake/3030v1 | RevD





RECEIVED
DEC 14 2010
APPROVED As Noted
BY CPW DATE 12/30/10

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								476	2	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		2G2	1		GIRDER				28536	
2	L		1	wa	PL 5/8x46	41	7 1/8	M270-50WT2		
1	W		1	wb	PL 5/8x46	79	11 3/4	M270-50WT2		
3	E		1	ta	PL 7/8x18	43	6			
2	Q		1	tb	PL 7/8x18	78	0 7/16			
1	S		1	ba	PL 1 1/4x18	43	6	M270-50WT2		
1	L		1	bb	PL 1 1/4x18	77	11 1/4	M270-50WT2		
4	B		7	x1a	PL 1/2x7 1/2	3	10	M270-50WT2		
4	B		3	x1b	PL 1/2x7 1/2	3	10	M270-50WT2		
4	B		1	x1c	PL 1/2x7 1/2	3	10	M270-50WT2		
4	B		1	x1d	PL 1/2x7 1/2	3	10	M270-50WT2		
4	C		4	x1f	PL 1/2x7 1/2	3	10	(MIE) M270-50WT2		
4	B		1	x1n	PL 1/2x7 1/2	3	10	M270-50WT2		

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0		~			DEC 9 2010	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50W (U.N)	SSPC-SP6 10	15/16" ø (U.N)	N/A

DESCRIPTION: GIRDER 2G2

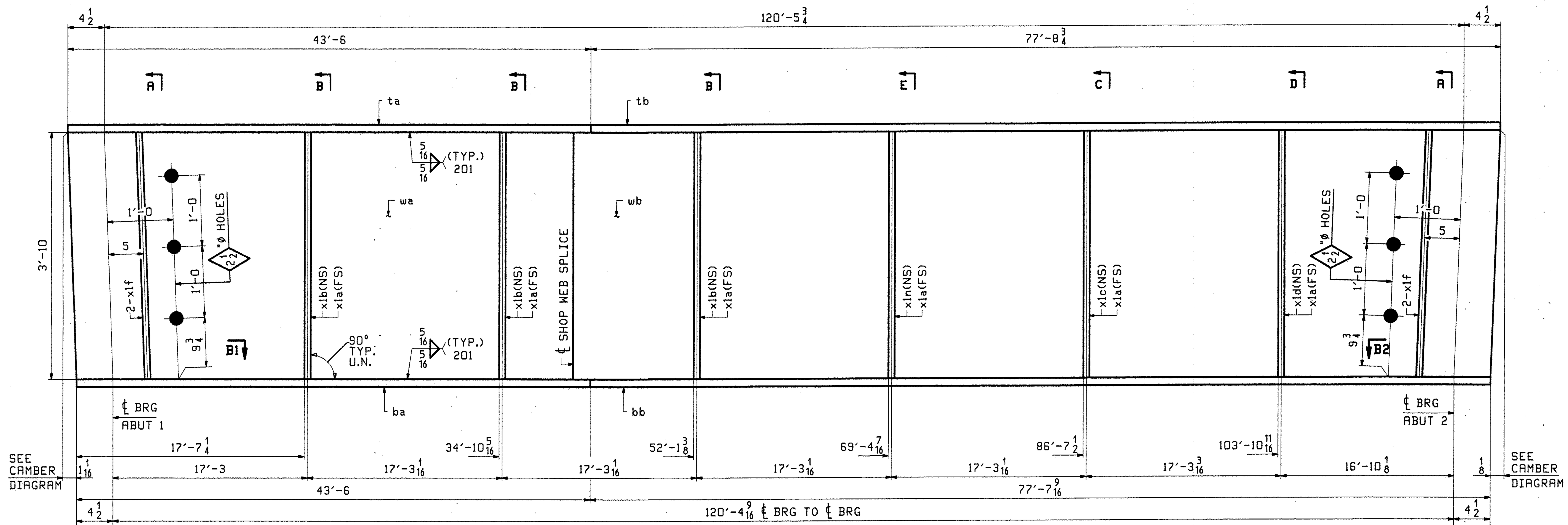
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG CHKD: DO	DATE: 11/19 DATE: 11/30
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	2
CUSTOMER:	Cold River Bridges		REV. △

BILL OF MATERIAL

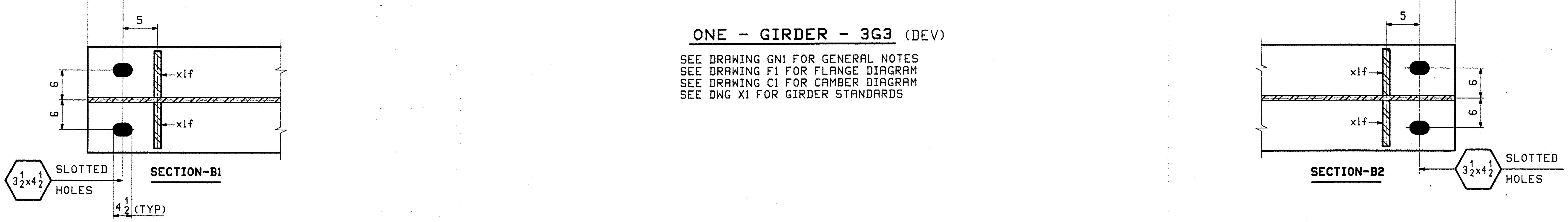
ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		3G3	1		GIRDER				28417	
2	L		1	wa	PL $\frac{5}{8}$x46	41	7 $\frac{1}{8}$	M270-50WT2		
1	Y		1	wb	PL $\frac{5}{8}$x46	79	8 $\frac{1}{16}$	M270-50WT2		
3	E		1	ta	PL $\frac{7}{8}$x18	43	6			
2	S		1	tb	PL $\frac{7}{8}$x18	77	8 $\frac{3}{4}$			
1	S		1	ba	PL 1 $\frac{1}{4}$x18	43	6	M270-50WT2		
1	N		1	bb	PL 1 $\frac{1}{4}$x18	77	7 $\frac{9}{16}$	M270-50WT2		
4	B		6	x1a	PL $\frac{1}{2}$x7 $\frac{1}{2}$	3	10	M270-50WT2		
4	B		3	x1b	PL $\frac{1}{2}$x7 $\frac{1}{2}$	3	10	M270-50WT2		
4	B		1	x1c	PL $\frac{1}{2}$x7 $\frac{1}{2}$	3	10	M270-50WT2		
4	B		1	x1d	PL $\frac{1}{2}$x7 $\frac{1}{2}$	3	10	M270-50WT2		
4	C		4	x1f	PL $\frac{1}{2}$x7 $\frac{1}{2}$	3	10	(MIE) M270-50WT2		
4	B		1	x1n	PL $\frac{1}{2}$x7 $\frac{1}{2}$	3	10	M270-50WT2		

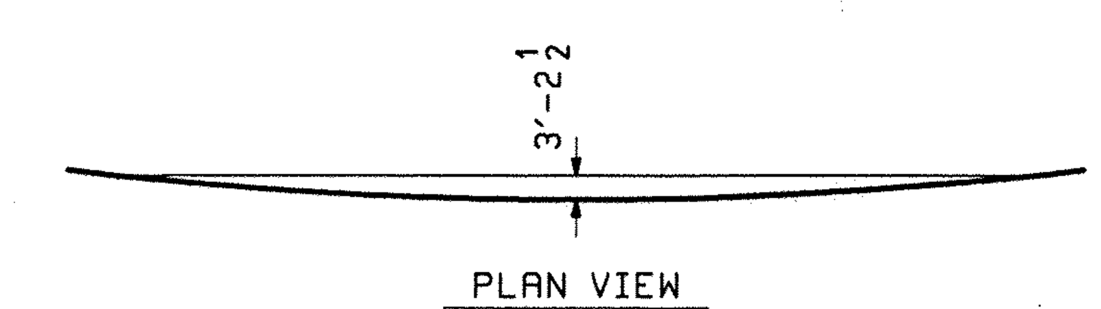
JOB NO. 476 — DRAWING NO. 3 — REV.

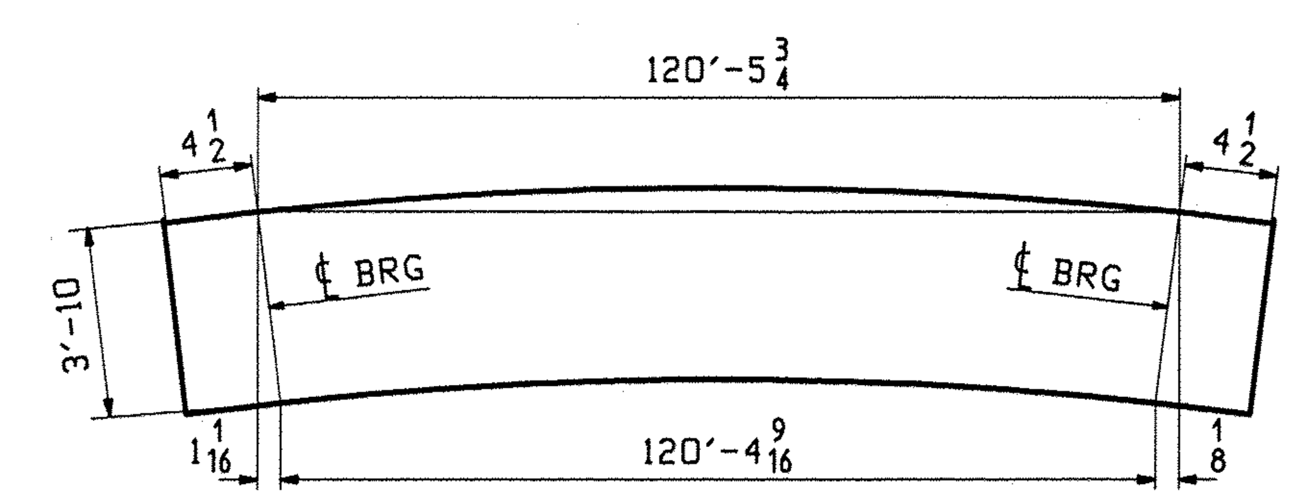


ONE - GIRDER - 3G3 (DEV)

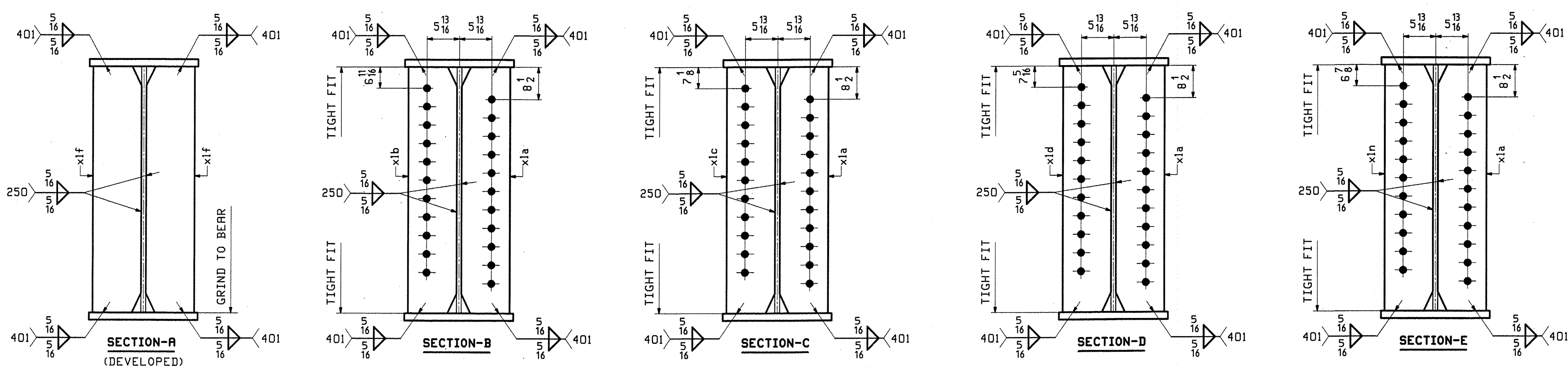
SEE DRAWING GN1 FOR GENERAL NOTES
SEE DRAWING F1 FOR FLANGE DIAGRAM
SEE DRAWING C1 FOR CAMBER DIAGRAM
SEE DWG X1 FOR GIRDER STANDARDS







DEV. ORIENTATION DIAGRAM



REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0		~			DEC 9 2010	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50W (U.N)	SSPC-SP6 10	$\frac{15}{16}$" ø (U.N)	N/A

DESCRIPTION: GIRDER 3G3

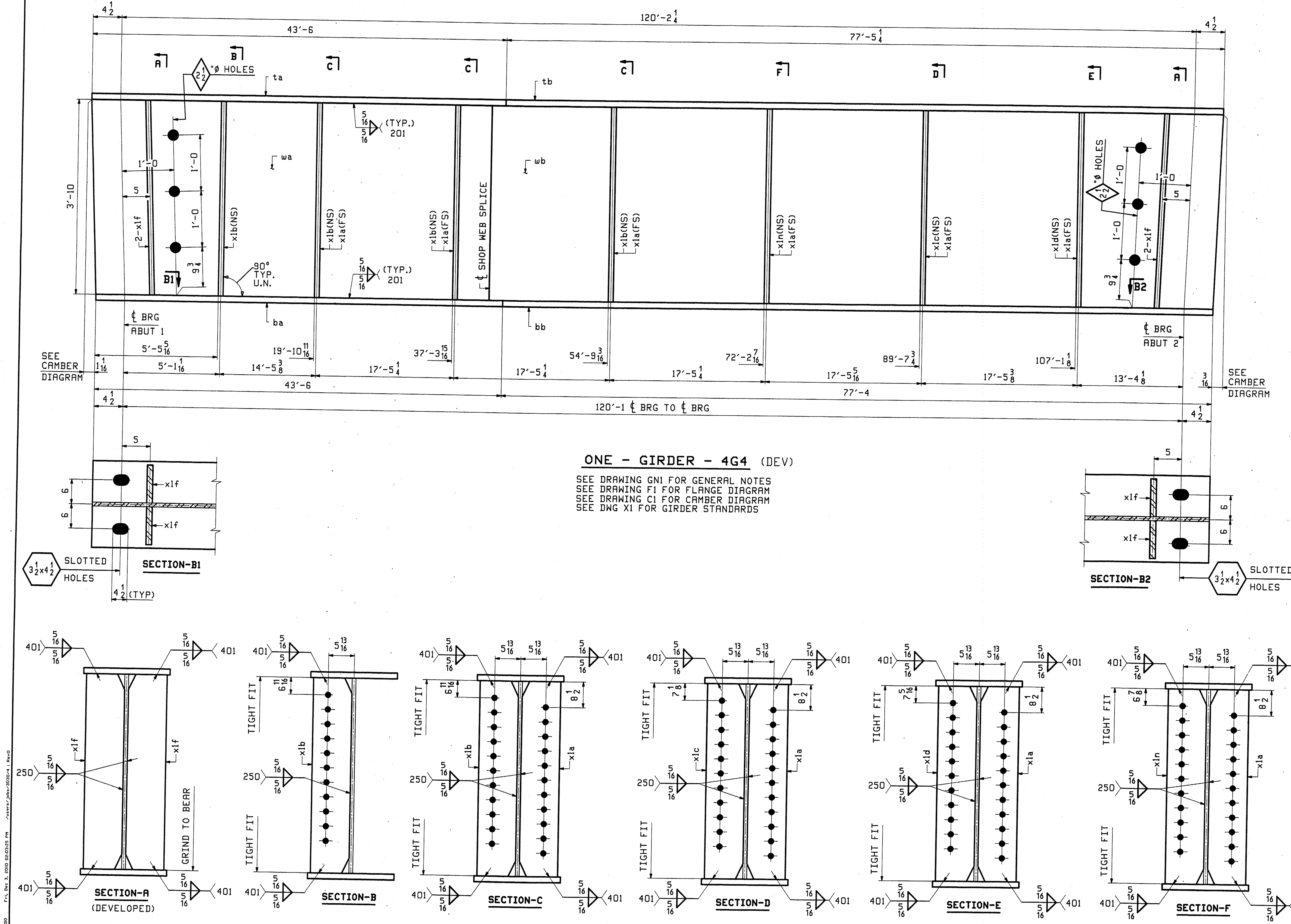
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/19
		CHKD: DO	DATE: 11/30
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	3
CUSTOMER:	Cold River Bridges		REV. △

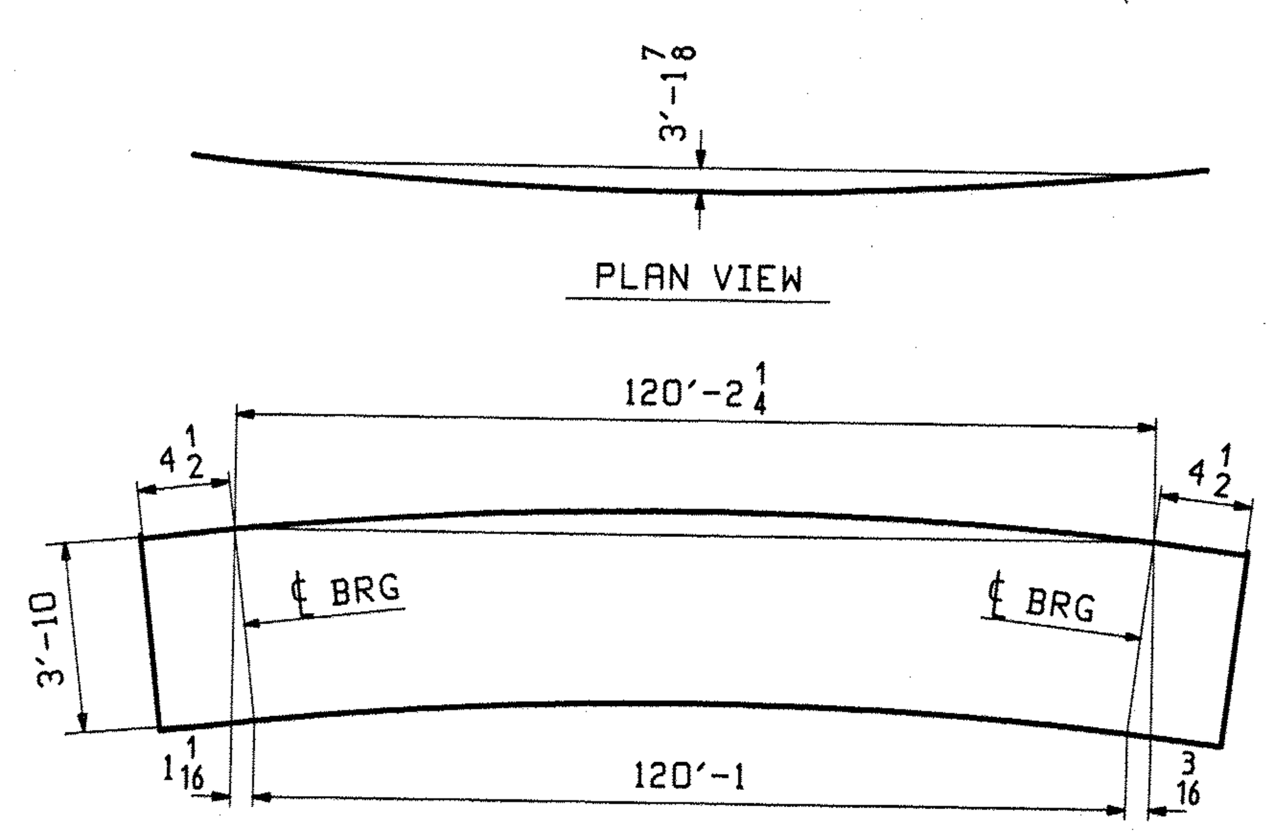
RECEIVED DEC 14 2010 — APPROVED As Noted — BY: CPW DATE: 12/30/10

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								476	4	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		4G4	1		GIRDER				28399	
2	L		1	wa	PL $\frac{5}{8}$x46	41	$7\frac{3}{16}$	M270-50WT2		
2	A		1	wb	PL $\frac{5}{8}$x46	79	$4\frac{1}{2}$	M270-50WT2		
3	E		1	ta	PL $\frac{7}{8}$x18	43	6			
2	U		1	tb	PL $\frac{7}{8}$x18	77	$5\frac{1}{4}$			
1	S		1	ba	PL $1\frac{1}{4}$x18	43	6	M270-50WT2		
1	Q		1	bb	PL $1\frac{1}{4}$x18	77	4	M270-50WT2		
4	B		6	x1a	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	M270-50WT2		
4	B		4	x1b	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	M270-50WT2		
4	B		1	x1c	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	M270-50WT2		
4	B		1	x1d	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	M270-50WT2		
4	C		4	x1f	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	(M1E) M270-50WT2		
4	B		1	x1n	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	M270-50WT2		



ONE - GIRDER - 4G4 (DEV)

SEE DRAWING GN1 FOR GENERAL NOTES
SEE DRAWING F1 FOR FLANGE DIAGRAM
SEE DRAWING C1 FOR CAMBER DIAGRAM
SEE DWG X1 FOR GIRDER STANDARDS



DEV. ORIENTATION DIAGRAM

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					DEC 9 2010	

MATERIAL: M270-GR50W (U.N)	SURFACE PREP. & PAINT: SSPC-SP6 10	HOLES: $\frac{15}{16}$" ø (U.N)	SHOP BOLTS: N/A

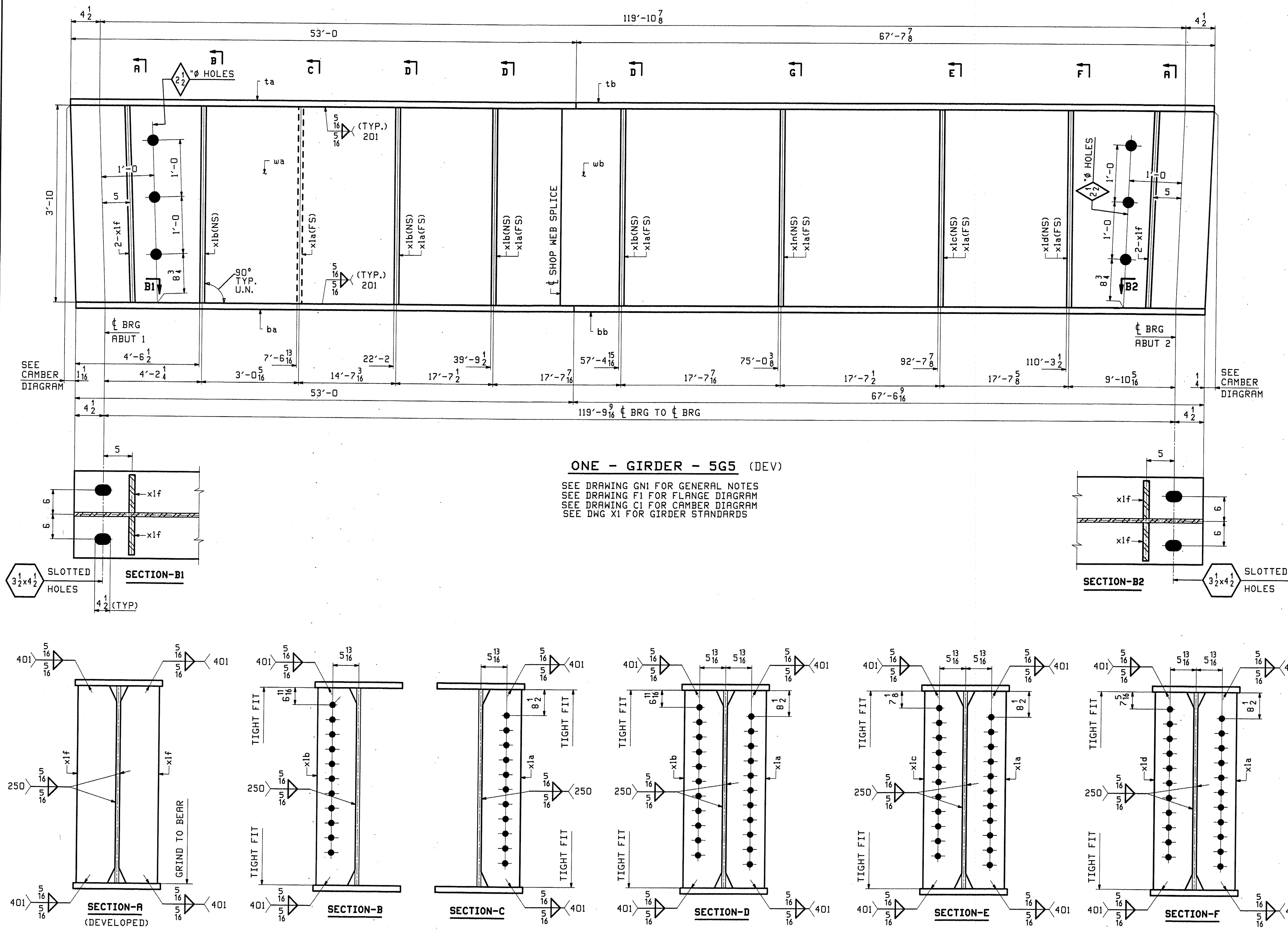
DESCRIPTION: GIRDER 4G4

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

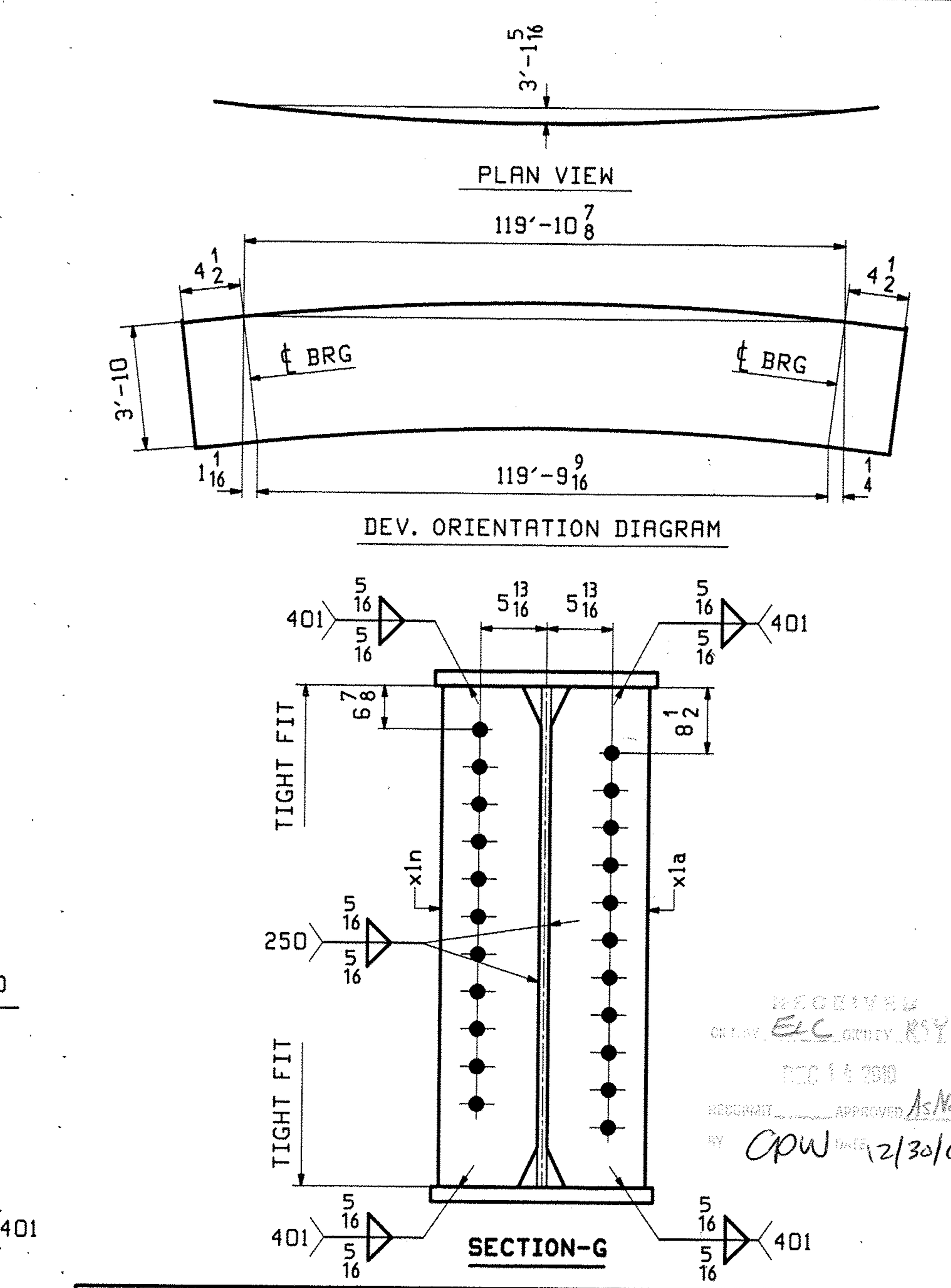
TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG CHKD: DO	DATE: 11/19 DATE: 12/01
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	4
CUSTOMER:	Cold River Bridges		REV. △

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								476	5	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		5G5	1		GIRDER				35768	
2	J		1	wa	PL $\frac{5}{8}$x46	51	$1\frac{3}{16}$	M270-50WT2		
2	G		1	wb	PL $\frac{5}{8}$x46	69	$7\frac{1}{4}$	M270-50WT2		
3	C		1	ta	PL $\frac{7}{8}$x18	53	0			
2	W		1	tb	PL $\frac{7}{8}$x18	67	$7\frac{7}{8}$			
1	G		1	ba	PL $2\frac{1}{4}$x18	53	0	M270-50WT2		
1	A		1	bb	PL $2\frac{1}{4}$x18	67	$6\frac{9}{16}$	M270-50WT2		
4	B		7	x1a	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	M270-50WT2		
4	B		4	x1b	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	M270-50WT2		
4	B		1	x1c	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	M270-50WT2		
4	B		1	x1d	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	M270-50WT2		
4	C		4	x1f	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	(M1E) M270-50WT2		
4	B		1	x1n	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	M270-50WT2		



SEE DRAWING GN1 FOR GENERAL NOTES
SEE DRAWING F1 FOR FLANGE DIAGRAM
SEE DRAWING C1 FOR CAMBER DIAGRAM
SEE DWG X1 FOR GIRDER STANDARDS



RECEIVED DEC 14 2010 — APPROVED As Noted — BY CPW 12/30/10

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0		~			DEC 9 2010	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50W (U.N)	SSPC-SP6 10	$\frac{15}{16}$" Ø (U.N)	N/A

DESCRIPTION: GIRDER 5G5

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

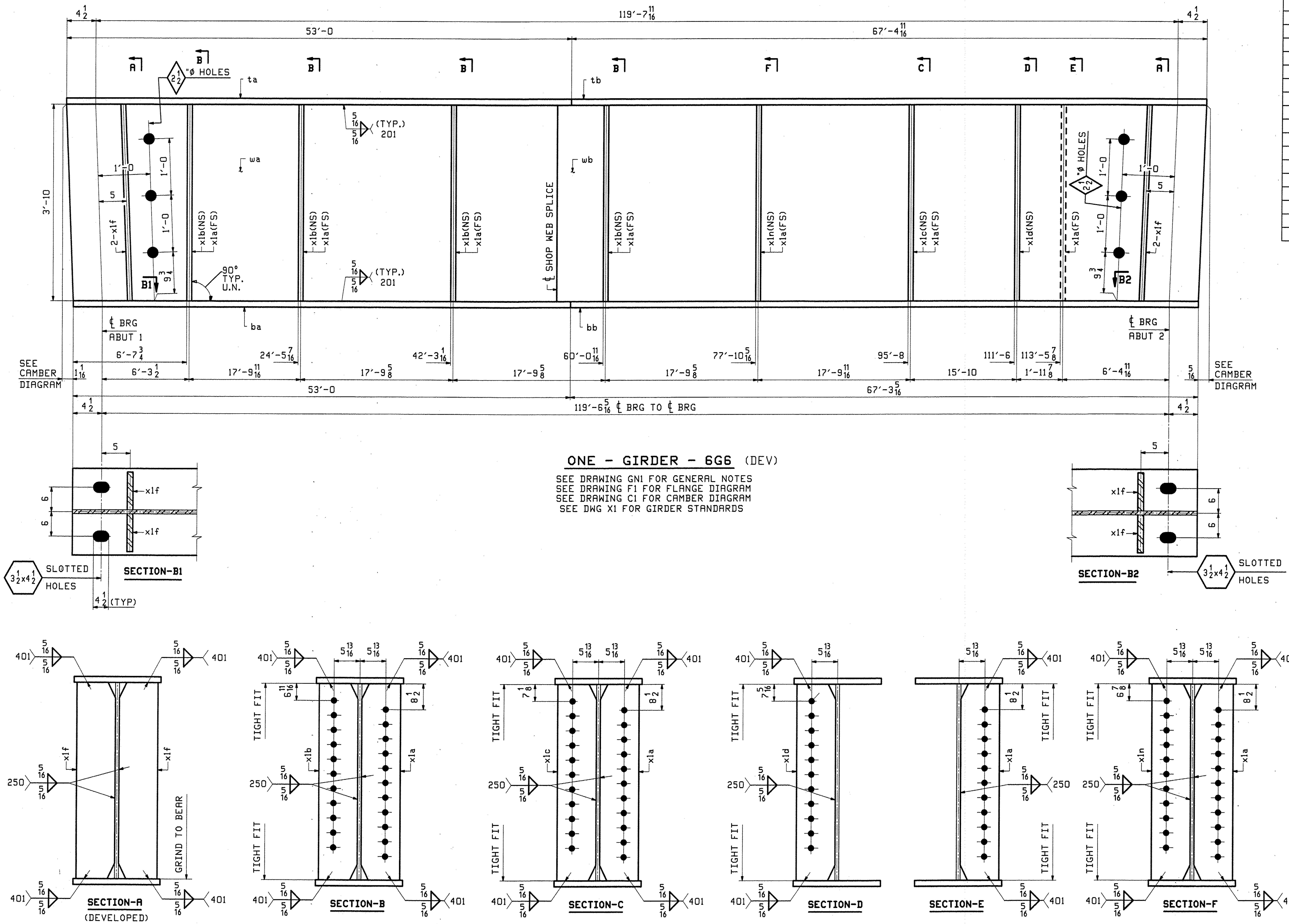
TENSOR 3030

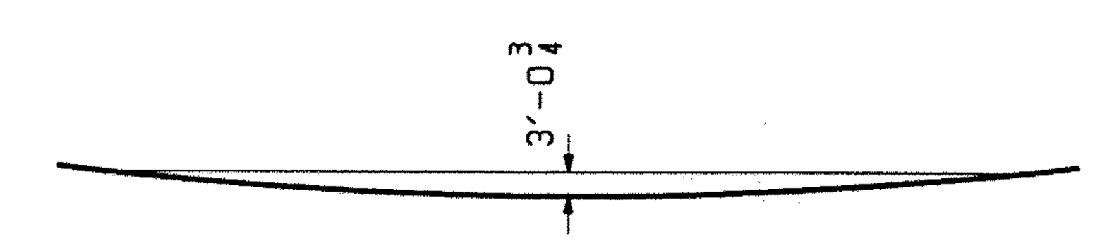
STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG DATE: 11/19	CHKD: DO DATE: 12/01
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	5
CUSTOMER:	Cold River Bridges		REV. △

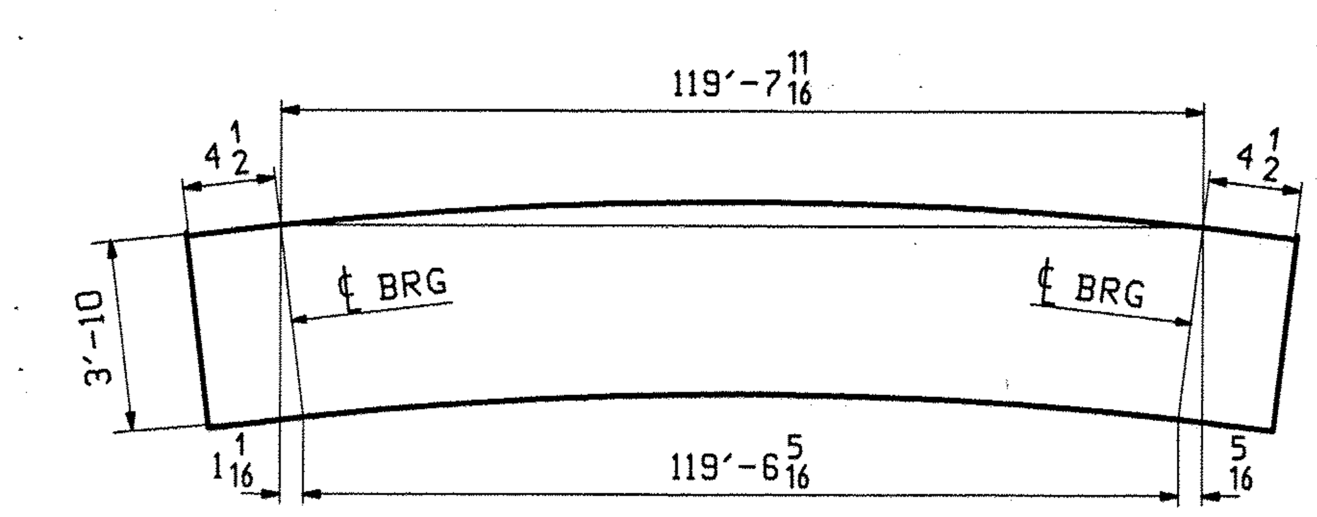
BILL OF MATERIAL

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		6G6	1		GIRDER				35690	
2	J		1	wa	PL $\frac{5}{8}$x46	51	$1\frac{3}{16}$	M270-50WT2		
2	E		1	wb	PL $\frac{5}{8}$x46	69	4	M270-50WT2		
3	C		1	ta	PL $\frac{7}{8}$x18	53	0			
2	Y		1	tb	PL $\frac{7}{8}$x18	67	$4\frac{11}{16}$			
1	G		1	ba	PL $2\frac{1}{4}$x18	53	0	M270-50WT2		
1	C		1	bb	PL $2\frac{1}{4}$x18	67	$3\frac{5}{16}$	M270-50WT2		
4	B		7	x1a	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	M270-50WT2		
4	B		4	x1b	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	M270-50WT2		
4	B		1	x1c	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	M270-50WT2		
4	B		1	x1d	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	M270-50WT2		
4	C		4	x1f	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	(M1E) M270-50WT2		
4	B		1	x1n	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	M270-50WT2		

JOB NO. 476 — DRAWING NO. 6 — REV.







DEV. ORIENTATION DIAGRAM

RECEIVED ELC DEC 14 2010 APPROVED AS NOTED BY GPW DATE 12/30/10

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0		~			DEC 9 2010	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50W (U.N)	SSPC-SP6 10	$\frac{15}{16}$" ø (U.N)	N/A

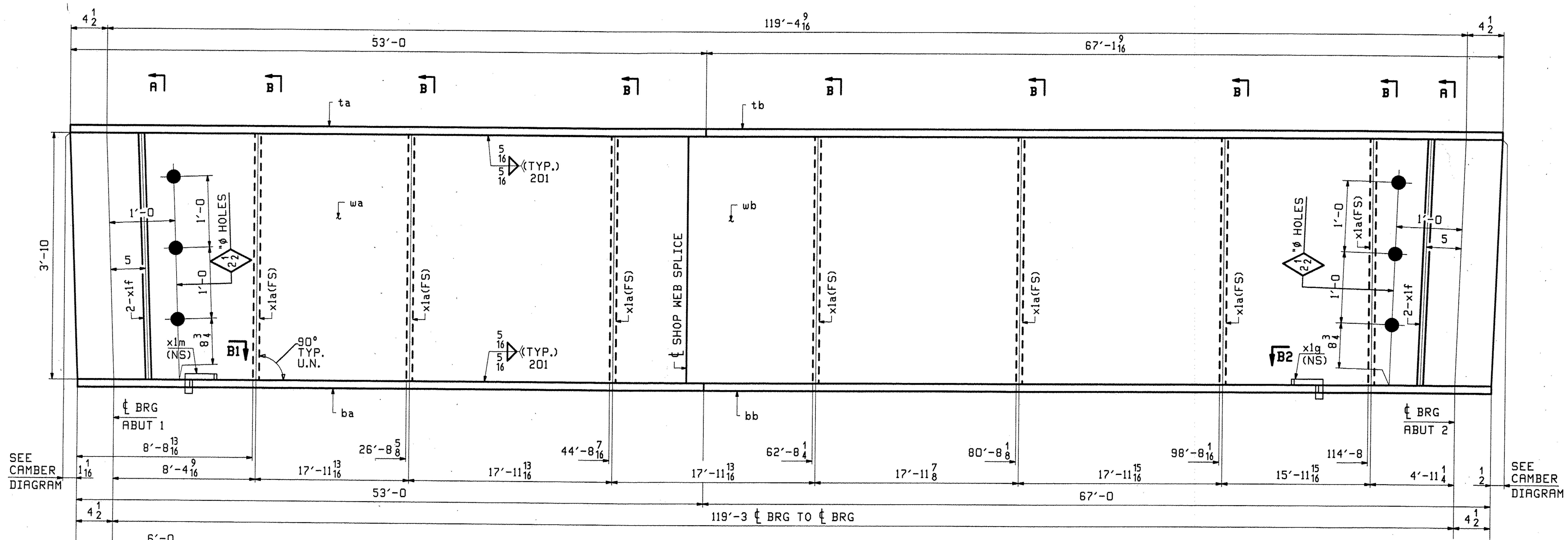
DESCRIPTION: GIRDER 6G6

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

TENSOR 3030

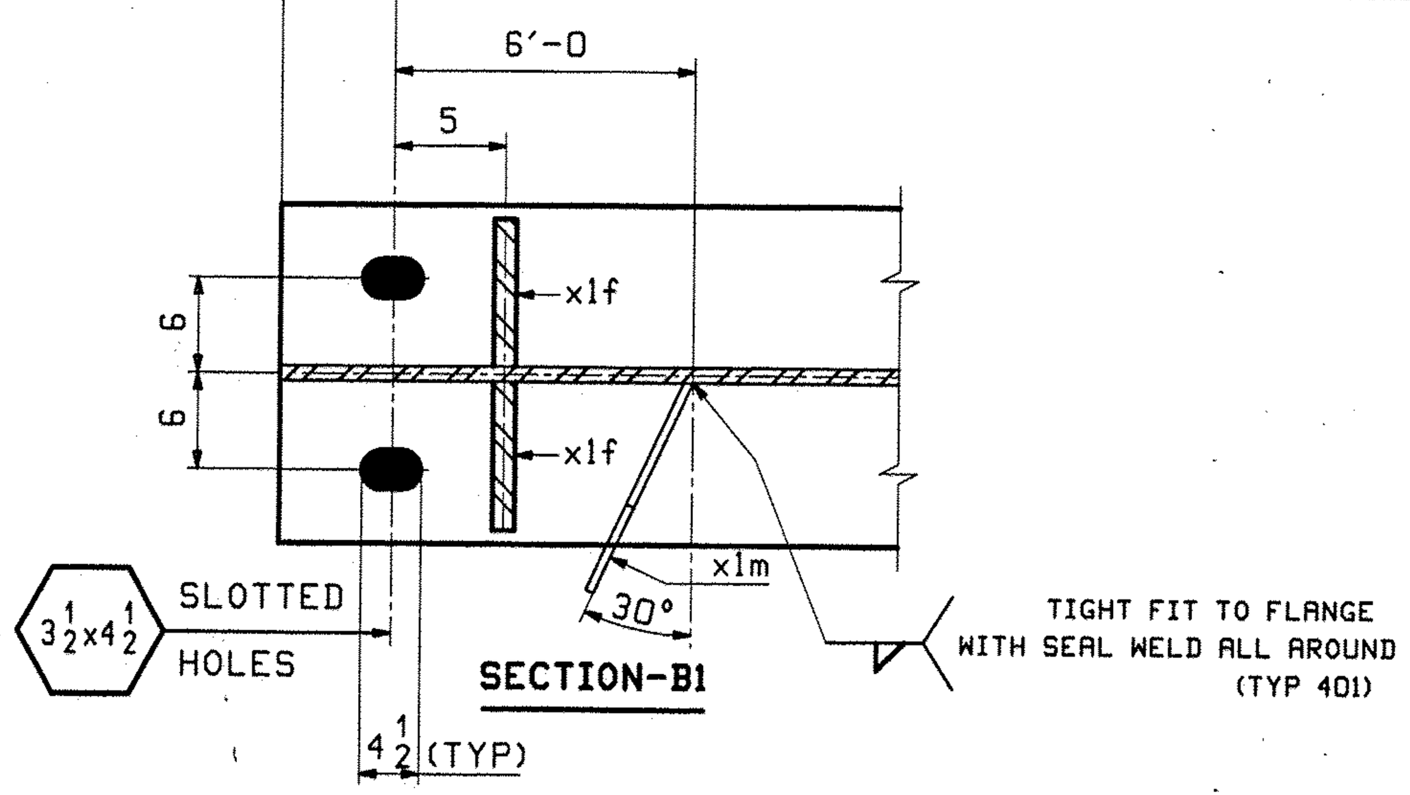
STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/19
		CHKD: DO	DATE: 12/01
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	6
CUSTOMER:	Cold River Bridges		REV. △

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								476	7	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		7G7	1		GIRDER				35276	
2	J		1	wa	PL $\frac{5}{8}$x46	51	$1\frac{3}{16}$	M270-50WT2		
2	C		1	wb	PL $\frac{5}{8}$x46	69	$0\frac{3}{4}$	M270-50WT2		
3	C		1	ta	PL $\frac{7}{8}$x18	53	0			
3	A		1	tb	PL $\frac{7}{8}$x18	67	$1\frac{9}{16}$			
1	G		1	ba	PL $2\frac{1}{4}$x18	53	0	M270-50WT2		
1	E		1	bb	PL $2\frac{1}{4}$x18	67	0	M270-50WT2		
4	B		7	x1a	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	M270-50WT2		
4	C		4	x1f	PL $\frac{1}{2}$x$7\frac{1}{2}$	3	10	(MIE) M270-50WT2		
4	D		1	x1g	PL $\frac{1}{4}$x$4\frac{1}{4}$	1	$0\frac{1}{8}$			
4	D		1	x1m	PL $\frac{1}{4}$x$4\frac{1}{4}$	1	$0\frac{1}{8}$			

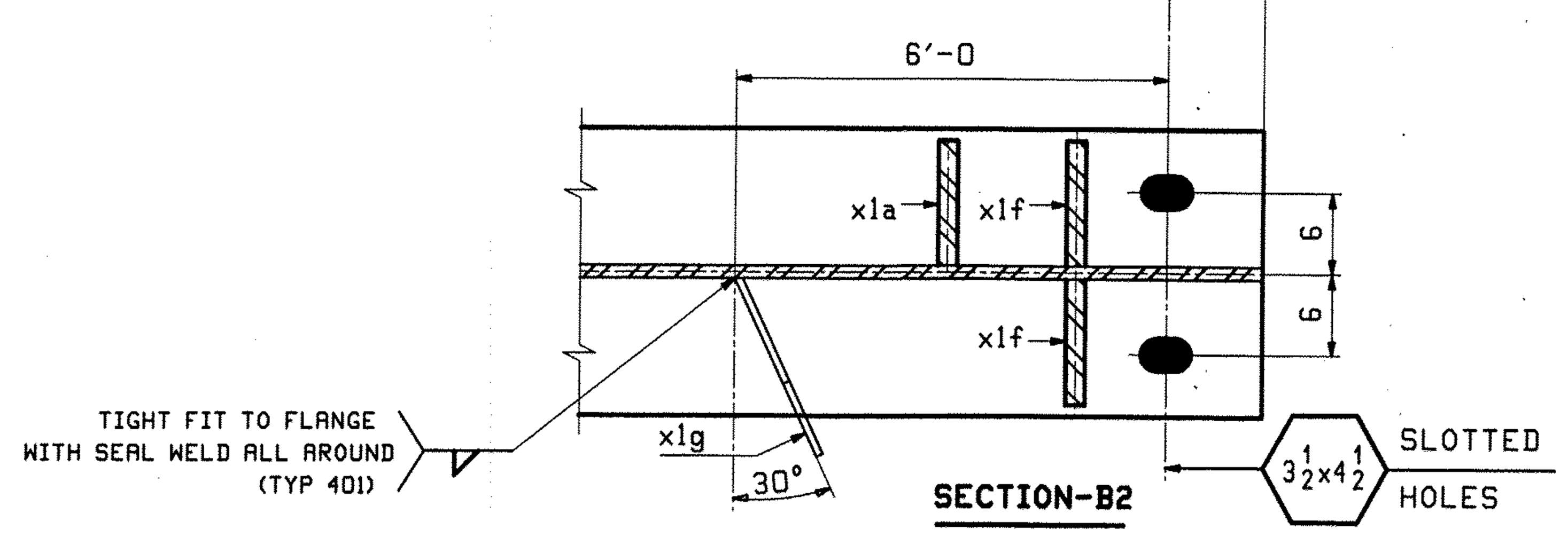


ONE - GIRDER - 7G7

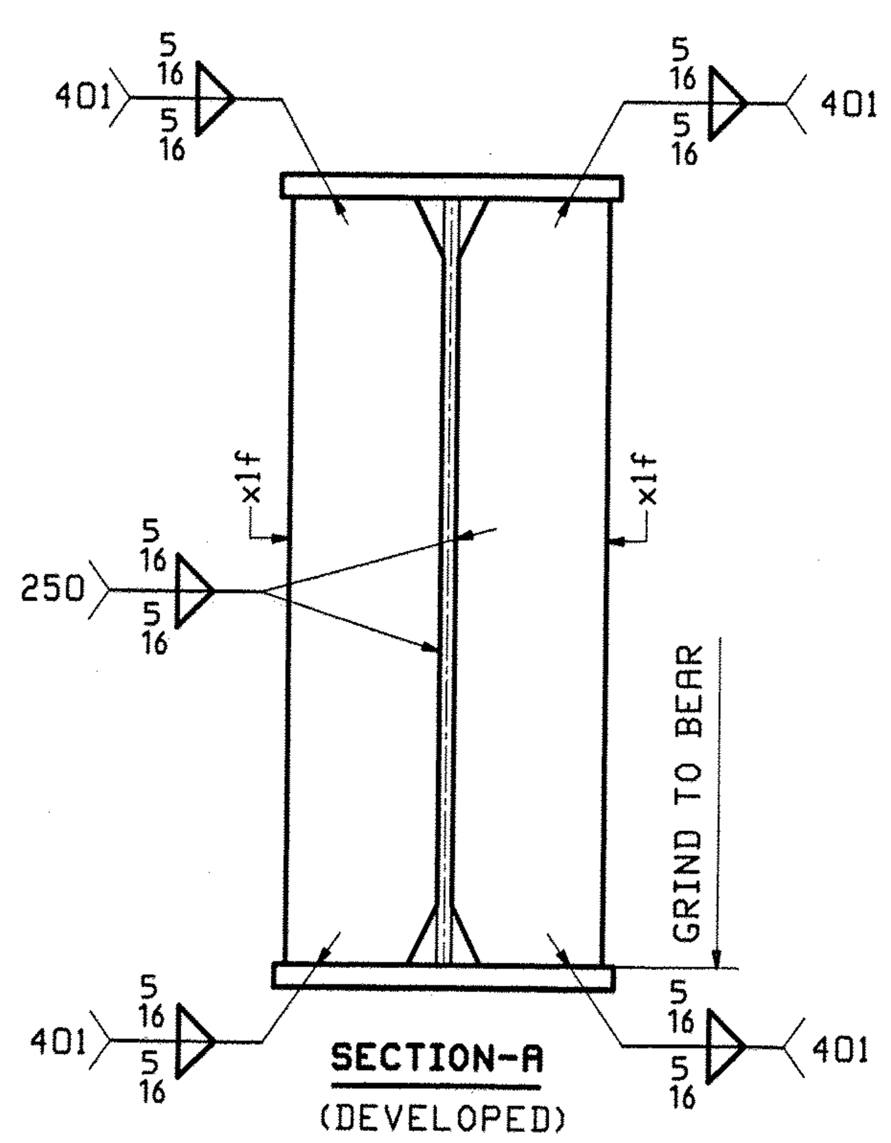
SEE DRAWING GN1 FOR GENERAL NOTES
SEE DRAWING F1 FOR FLANGE DIAGRAM
SEE DRAWING C1 FOR CAMBER DIAGRAM
SEE DWG X1 FOR GIRDER STANDARDS



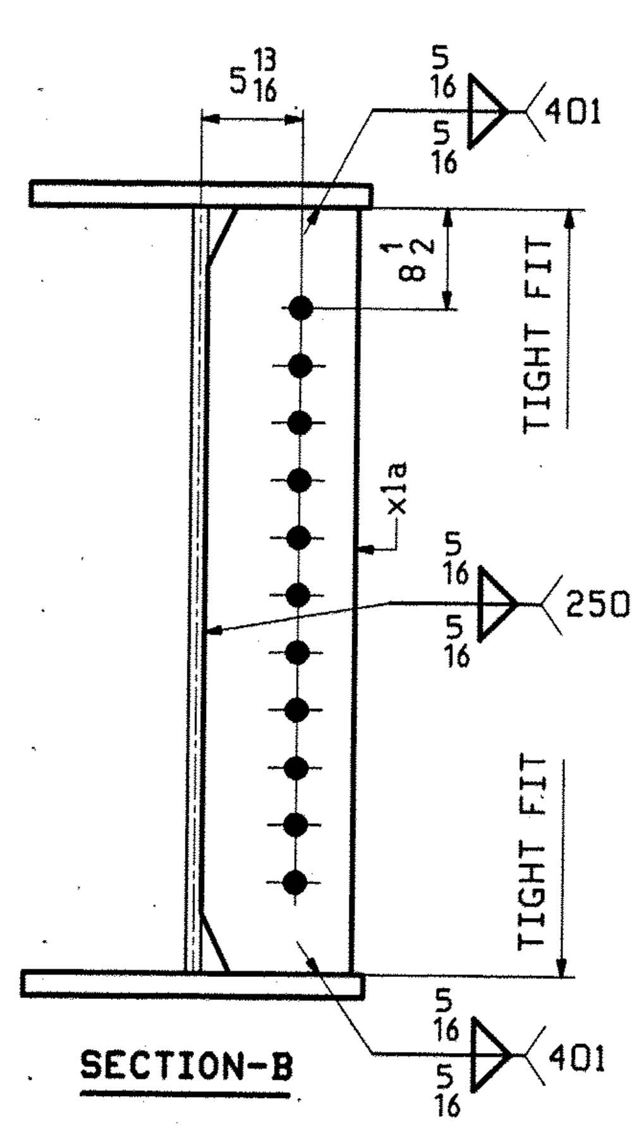
SECTION-B1



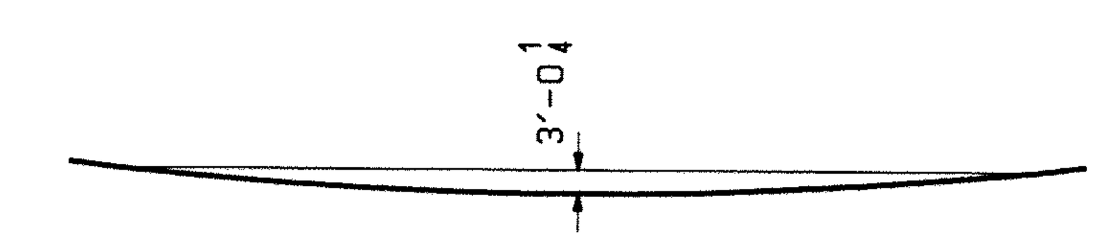
SECTION-B2



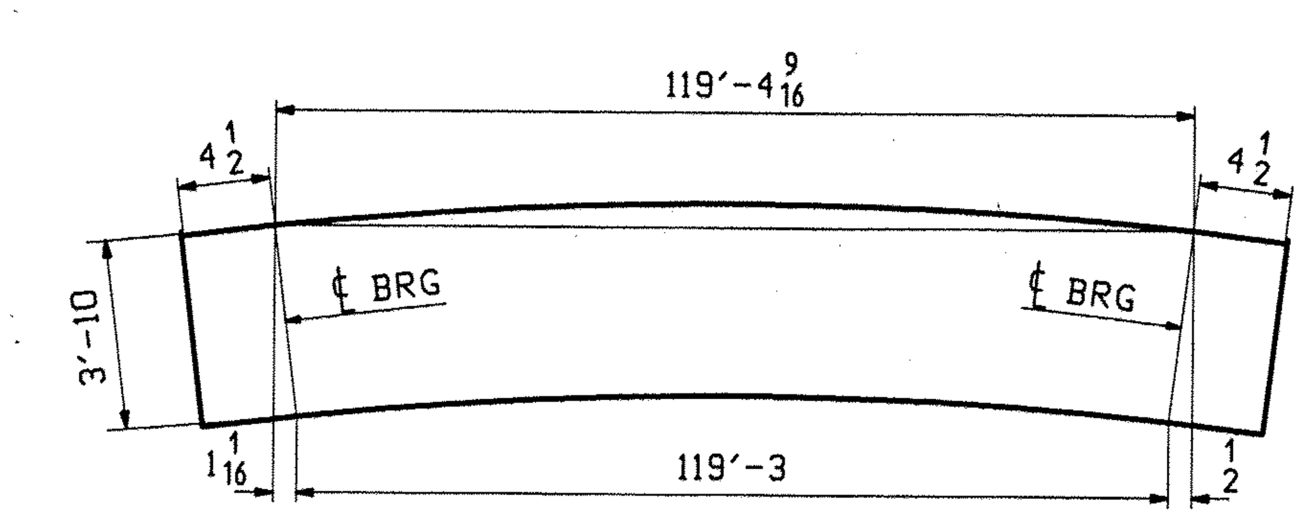
SECTION-A
(DEVELOPED)



SECTION-B



PLAN VIEW



DEV. ORIENTATION DIAGRAM

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0		~			DEC 9 2010	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50W (U.N)	SSPC-SP6 10	$\frac{15}{16}$" ø (U.N)	N/A

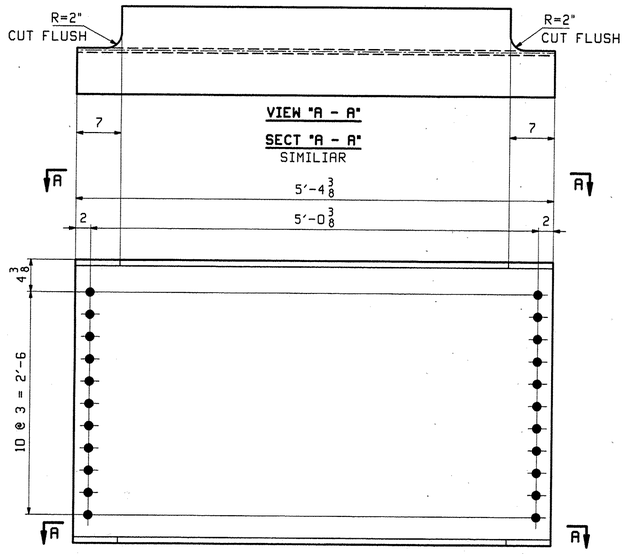
DESCRIPTION: GIRDER 7G7

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

TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/19
		CHKD: DO	DATE: 12/01
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	7
CUSTOMER:	Cold River Bridges		REV. △

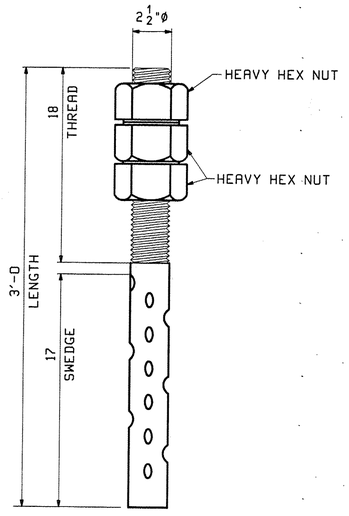
ELC DEC 14 2010 APPROVED As Noted BY CPW 12/30/10



40 ~ DIAPHRAGMS ~ 8D1

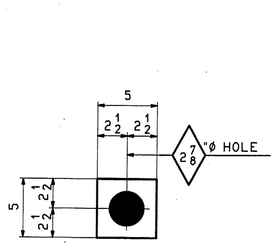
SSPC-SP6/10

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								476	8	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		8D1	40		DIAPHRAGMS				799	
4	E		40		W 40x149	5	4 3/8	M270-50WT2		
		8AB1	28		ANCHOR BOLTS				17	
4	K		28		2 1/2 ø BLT	3	0	SWEDGED A449		
4	L		84		2 1/2 ø HHN			M291		
		8M1	56		PLATE WASHER				4	
4	G		56		PL 1/2x5	0	5	M270-36		
		8M2	7		SOLE PLATE				58	
4	H		7		PL 1 1/2x8	1	5	M270-36		
		8M3	7		SOLE PLATE				63	
4	J		7		PL 1 5/8x8	1	5	FIS M270-36		



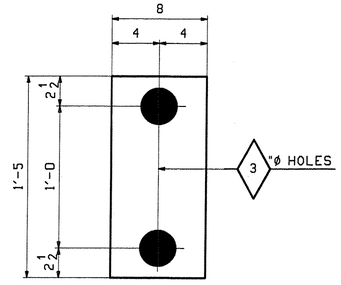
28 ~ SWEDGE ANCHOR BOLT ~ 8AB1

SHOP NOTE:
FABRICATE 1 EXTRA ANCHOR BOLT 2 1/2"ø x 3'-0
AS SHOWN ABOVE FOR TESTING PURPOSES.



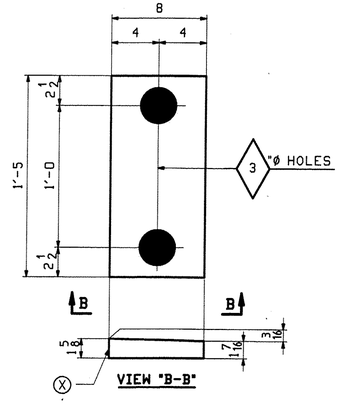
56 ~ PLATE WASHERS ~ 8M1

SSPC-SP6/10



7 ~ SOLE PLATES ~ 8M2

SSPC-SP6/10



7 ~ SOLE PLATES ~ 8M3

SSPC-SP6/10

(X) DENOTES THICKER SIDE OF SOLE PL

ELC 12.14.2010 AS NOTED CPW 12/30/10

FOR GENERAL NOTES SEE GN1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-GR50WT2 (U.N)	AS NOTED	15/16" ø (U.N)	N/A

DESCRIPTION: DIAPHRAGMS

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

TENSOR 3030

STRUCTURE:	VT 103 over Middle Branch Williams Rv. Bridge 9 CHESTER County of Windsor	DRAWN: TG	DATE: 11/18
		CHKD: DO	DATE: 12/02
LOCATION:	Town of Chester	JOB NO.	DWG NO.
PROJ NO.	BRF 025-1(37)	476	8
CUSTOMER:	Cold River Bridges		REV. △

REINFORCED ELASTOMERIC BEARING FABRICATION SHEET 1103- Page #: 1

Project #: 31939-1103-1 (16 OF 16) Customer: COLD RIVER BRIDGES (PO #001051)

County: WINDSOR State: VT Structure: BRIDGE #8

Pad I.D./Loc.: ABUTMENTS Quantity (Including Full Size Sample(s) - If Req'd): 16

Certifications Are Required — Testing Req'd: ☐ YES, see below ☑ NO, random in-house only — Sample Req'd: ☐ YES - (If not full size, create another sheet) ☑ NO

State D.O.T. Spec. Number (If Specified): VT DOT SEC 531 & 731 Project # (req'd for cert.s) BRF 025-1(28)

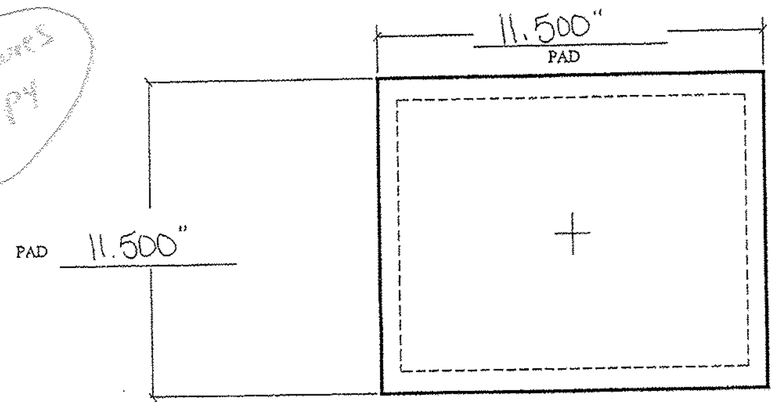
Special Notes: _____

Shim Steel Spec. (Circle One): A709 GR.36(250) (A1011 GR.36(250)-Type 1) Other: _____

Durometer Requirement (Circle One): ~~50±5~~ ~~60±5~~ Other: — Shear Modulus Requirement: 100 psi ±15%

Neoprene Grade (Circle One): 3 (4) Other Grade or Natural Rubber: NATURAL RUBBER

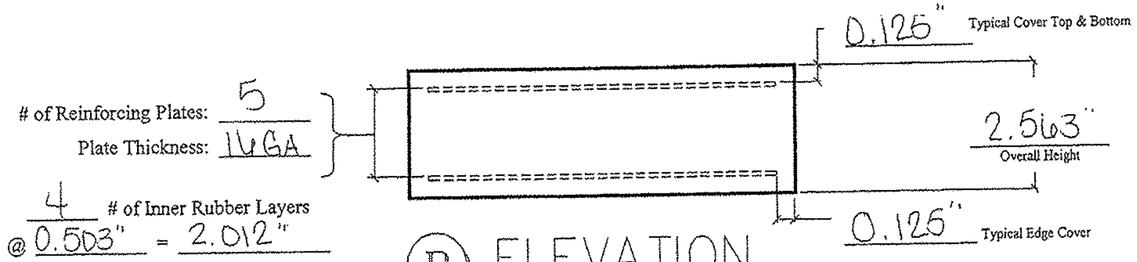
Structures Copy



A PLAN
NOT TO SCALE

DESIGN LOADS (SERVICE)
max-91.7 Kips

RECEIVED
CKD: JSS CKD: RST
DEC 27 2010
RESUBMIT _____ APPROVED ✓
BY CPW DATE 12/30/10



B ELEVATION
NOT TO SCALE

Name: Natasha Ariss Date: 12-22-10

This shop drawing was 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 the shop drawings.

The D.S. Brown Company • 300 East Cherry Street • North Baltimore, Ohio 45872-0158
Phone: (419) 257-3561 • Fax: (419) 257-2200