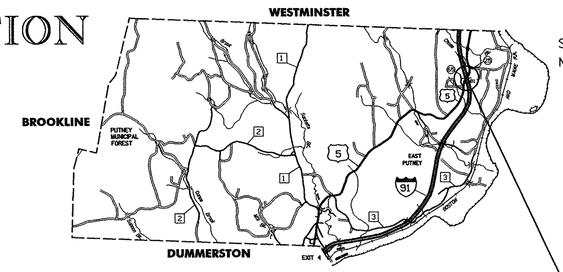
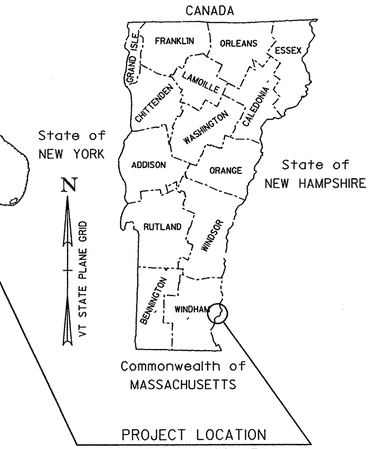
INDEX OF SHEETS:

SEE SHEET 2

STATE OF VERMONT
AGENCY OF TRANSPORTATION





PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF PUTNEY

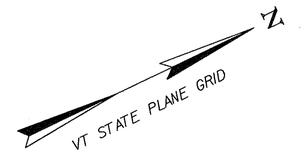
COUNTY OF WINDHAM

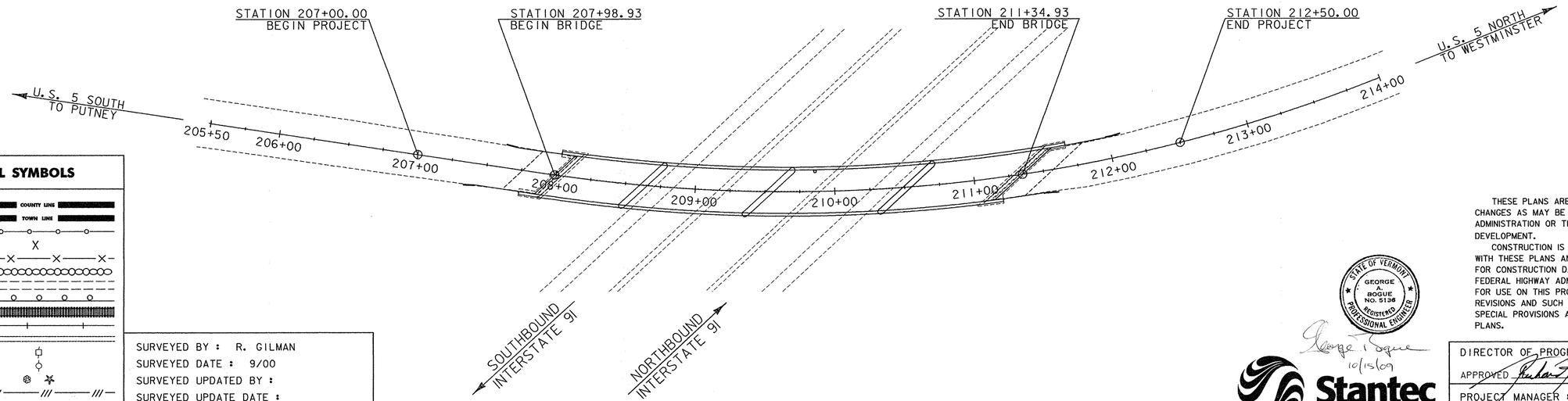
ROUTE NO.: U.S. ROUTE 5 FAS (MAJOR COLLECTOR), BRIDGE 19A

PROJECT LOCATION: BEGINNING AT A POINT ON U.S. ROUTE 5 APPROXIMATELY 0.07 MILES NORTH OF THE INTERSECTION WITH TOWN HIGHWAY 65 (TAYLOR ROAD) AND PROCEEDING NORTHERLY FOR 0.10 MILE.

PROJECT DESCRIPTION: REPLACEMENT OF THE EXISTING BRIDGE DECK, GUARDRAIL, CURB, STEEL BEAMS AND PIER CAPS INCLUDING ABUTMENT CURTAIN WALLS, BRIDGE SEATS, APPROACH SLABS AND ALL EXISTING APPROACH PAVEMENT. INSTALLATION/REMOVAL OF TEMPORARY BRIDGE AND DETOUR.

LENGTH OF STRUCTURE = 336.00 FEET
LENGTH OF ROADWAY = 214.00 FEET
LENGTH OF PROJECT = 550.00 FEET





RECORD PLANS

CONTRACTOR: J. A. MCDONALD INC. – LYNDON CENTER, VT

RESIDENT ENGINEER: DARYL BASSETT

CONSTRUCTION BEGAN: MARCH 1, 2010

CONSTRUCTION COMPLETE: JUNE 22, 2011

RECORD PLANS BY: DARYL BASSETT & JENNA HYDE

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

BY _____ RESIDENT ENGINEER

DATE 10/2/12

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

CONVENTIONAL 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 : 9/00
SURVEYED UPDATED BY :
SURVEYED UPDATE DATE :

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)

0 40 80
40 SCALE @ FULL SIZE
SCALE IN FEET

STATE OF VERMONT
GEORGE A. BOGUE
NO. 5136
REGISTERED
PROFESSIONAL ENGINEER

George A Bogue
10/15/09

Stantec
Stantec Consulting Services Inc.
55 Green Mountain Drive
South Burlington VT U.S.A. 05403
Tel. 802.864.0223
Fax. 802.864.0165
www.stantec.com

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 _____ DATE 10-20-09

PROJECT MANAGER : SHERWARD FARNSWORTH

PROJECT NAME : PUTNEY

PROJECT NUMBER : IM 091-1(31)

SHEET 1 OF 75 SHEETS

INDEX OF SHEETS

1	TITLE
2	PRELIMINARY INFORMATION AND INDEX
3-4	TYPICAL SECTIONS
5-8	QUANTITY SHEETS
8A	TIE SHEET
9	LAYOUT PLAN
10-11	MAINLINE PROFILES
12-14	TEMPORARY DETOUR PROFILES
15	EPSC NARRATIVE
16-18	EPSC PLANS
19-21	EPSC DETAILS
22	US 5 TRAFFIC CONTROL PLAN
23	NOT USED
24	PLAN & ELEVATION
25	PROJECT GENERAL NOTES
26	DECK REINFORCEMENT PLAN
27	DECK REINFORCEMENT SECTION
28	FRAMING PLAN
29-31	GIRDER DETAILS 1- 3
32	FIXED BEARING DETAILS
33	EXPANSION BEARING DETAILS
34	EXPANSION JOINT PLAN
35-36	EXPANSION JOINT DETAILS 1- 2
37-38	DOWNSPOUT DETAILS 1- 2
39	APPROACH SLAB PLAN AND DETAILS
40-45	ABUTMENT PLANS AND DETAILS
46	PIER DETAILS
47-48	REINFORCING STEEL SCHEDULE 1-2
49-52	BRIDGE AND APPROACH RAIL DETAILS
53-57	MAINLINE SECTIONS
58-62	TEMPORARY DETOUR SECTIONS
63	BANKING DIAGRAM
64-69	NOT USED

1958 RECORD DRAWINGS
FOR REFERENCE ONLY

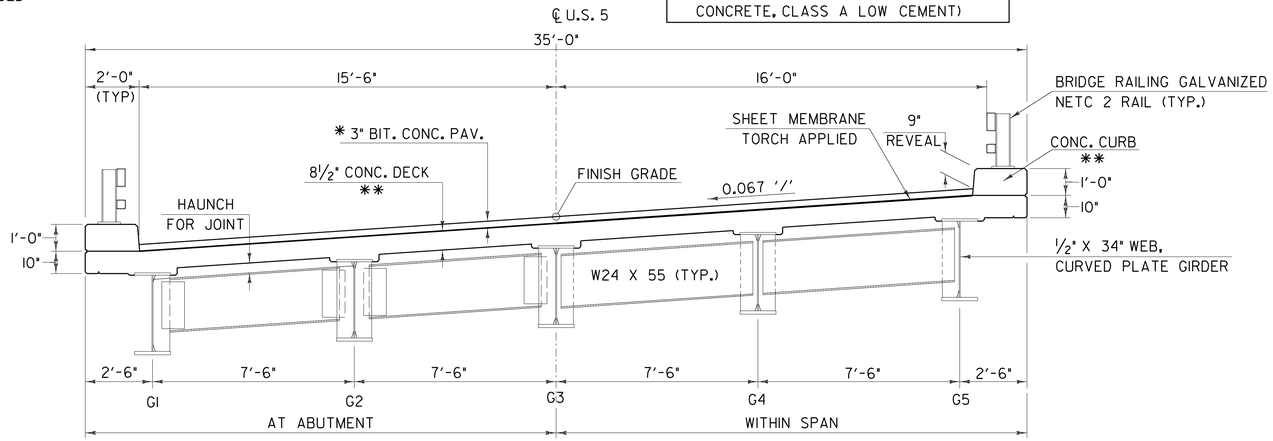
70	GENERAL PLAN
71	ABUTMENTS NO. 1 AND 2
72	PIERS A, B AND C
73	APPROACH SLAB
74	STRUCTURAL STEEL PLAN
75	STRUCTURAL DETAILS

STANDARDS

C-10	CURBING	02/11/08
D-3	TREATED GUTTERS	06/01/94
D-33	REINFORCED CONCRETE STRAIGHT HEADWALL	03/12/07
E-100	CONSTRUCTION APPROACH SIGNS	01/02/04
E-101	CONSTRUCTION SIGN DETAILS	05/30/03
E-102	CONSTRUCTION SIGN DETAILS	06/30/03
E-102A	CONSTRUCTION SIGN DETAILS	05/01/04
E-103	MAINLINE TRAFFIC CONTROL DIVIDED HIGHWAY ONE LANE CLOSED	03/01/04
E-106	TRAFFIC CONTROL MISCELLANEOUS DETAILS	03/01/04
E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	06/30/03
E-107A	BREAKAWAY BARRICADE DETAILS	06/08/09
E-108	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS	06/08/09
E-108A	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS FOR PAVING	06/08/09
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08/08/95
E-140	REGULATORY SIGN DETAILS	08/30/96
E-152	WARNING SIGN DETAILS	05/01/04
F-1	WOVEN WIRE FENCE WITH STEEL POSTS	06/01/94
F-2	CHAIN LINK FENCE, TYPE I DETAILS	06/01/94
G-1	STEEL BEAM GUARDRAIL WITH STEEL POSTS	01/03/00
G-15	BREAKAWAY CABLE TERMINAL WITH STEEL POSTS	06/01/94
G-18	PRECAST CONCRETE TEMPORARY TRAFFIC BARRIER	06/01/94
G-19	GENERIC GRADING PLANS FOR GUARDRAIL END TERMINALS	11/15/02
G-1D	STEEL BEAM GUARDRAIL APPROACH END TERMINAL	01/03/00

* TWO 1½" LIFTS MEDIUM DUTY BIT. CONC. PAVEMENT (TYPE IV)

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



PROPOSED BRIDGE TYPICAL SECTION ALL HORIZONTAL DIMENSIONS RADIAL

SCALE: ⅜" = 1'-0"

EXISTING STRUCTURE

1. STRUCTURE TYPE FOUR SIMPLE SPAN STEEL BEAM OVERALL LENGTH 331 FEET INVENTORY RATING HS-20
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS SPAN 1 (59.82 FEET), SPAN 2 (88.56 FEET), SPAN 3 (97.17 FEET), SPAN 4 (79.24 FEET)
3. CLEAR SPAN LENGTH(S) NORMAL TO STREAM N/A
4. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM N/A VERTICAL CLEARANCE ABOVE STREAMBED
5. WATER SURFACE ELEVATION @ Q 2.33 N/A WATER SURFACE ELEVATION @ Q N/A
6. WATER SURFACE ELEVATION AT FLOOD OF RECORD N/A YEAR N/A ESTIMATED DISCHARGE N/A
7. DOES ALL WATER PASS THROUGH EXISTING STRUCTURE? N/A IF NOT, AT WHAT FREQUENCY AND ELEVATION DOES RELIEF OCCUR? N/A
   ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF N/A
8. TYPE OF SUBSTRUCTURE FOUNDATION MATERIAL N/A
9. DISPOSITION OF STRUCTURE REMOVE ENTIRE SUPERSTRUCTURE INCLUDING PIER CAPS AND REPLACE. • SEE NOTE BELOW.

NEW STRUCTURE

STRUCTURE GEOMETRY:
1. STRUCTURE TYPE 4 SPAN CONTINUOUS STEEL CURVED PLATE GIRDER OVERALL LENGTH 335.24
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS 60.65 - 90.28 - 98.61 - 78.88
3. VERTICAL CLEARANCE ABOVE STREAMBED OR ROAD UNDER MINIMUM 16'-6"
4. CLEAR SPAN LENGTH(S) NORMAL TO STREAM N/A
5. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM N/A
6. ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES? YES

ALLOWABLE STRESSES:
1. DESIGN LIVE LOAD AASHTO HS-25
2. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A ON LEDGE N/A
3. ALLOWABLE LOAD FOR PILING N/A TYPE N/A ESTIMATED LENGTH N/A
4. ALLOWABLE STRESS FOR STRUCTURAL STEEL AASHTO M 270M/M 270 TENSION
5. ALLOWABLE STRESS FOR REINFORCING STEEL GRADE 60 TENSION 60,000 PSI COMPRESSION
6. ALLOWABLE STRESS FOR CONCRETE HPC-A (LOW CEMENT) f_c 4000 PSI f_c 1600 PSI
   HPC-B f_c 3500 PSI f_c 1400 PSI

TRAFFIC MAINTENANCE:
1. IS TRAFFIC TO BE MAINTAINED? YES IF YES, ON EXISTING STRUCTURE NO OR ON TEMPORARY BRIDGE YES
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY TWO WAY TRAFFIC CONTROL SIGNALS REQUIRED NO
   MINIMUM CLEAR SPAN SEE PLAN MINIMUM CLEAR HEIGHT 16'-3" OVER INTERSTATE MINIMUM WATERWAY AREA N/A
   ARE SIDEWALKS REQUIRED? NO IF SO, ON WHAT SIDE?

CONSTRUCTION SCOPE:

THE MAIN ELEMENTS OF CONSTRUCTION FOR THIS PROJECT INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

- ERECTION OF CONSTRUCTION SIGNING FOR BOTH US5 & I-91
- EROSION PREVENTION AND SEDIMENT CONTROL
- CONSTRUCTION OF A TWO WAY TEMPORARY BRIDGE
- PARTIAL REMOVAL OF THE EXISTING BRIDGE, TO INCLUDE THE ENTIRE SUPERSTRUCTURE; THE ABUTMENTS DOWN TO THE EXISTING FOOTINGS; ENTIRE APPROACH SLABS AND THE PIER CAPS.
- CONSTRUCTION OF NECESSARY SUBSTRUCTURES AND COMPLETE NEW REPLACEMENT OF THE SUPERSTRUCTURE WITH A FOUR SPAN STEEL CURVED GIRDER.
- CONSTRUCTION OF ROADWAY APPROACHES & RELATED FEATURES
- REMOVAL OF THE TEMPORARY BRIDGE, APPROACHES AND TRAFFIC CONTROL SIGNS
- PROJECT CLEAN UP AND COMPLETION

NOTE:
TEMPORARY BRIDGE OPENED TO TRAFFIC MAY THROUGH OCTOBER.
NO WINTER TRAFFIC ALLOWED.

ADDITIONAL DESIGN CONSIDERATIONS

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2004	1600	230	51	5	110
2024	2100	280	57	7	210

18 Kip ESAL for flexible pavement from 2004 to 2024: 910,000
18 Kip ESAL for flexible pavement from 2004 to 2044: 2,322,000
Design speed: 45 MPH

LOAD RATING (TONS)

STRESS LEVELS	TRUCK H	HS	352	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY 0.55 Fy=	65	45					
POSTED 0.67 Fy=	108	75	155		122	125	147
OPERATING 0.75 Fy=		63	130	129			

REVISIONS

NO.	DESCRIPTION	BY & DATE

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STATE OF VERMONT
AGENCY OF TRANSPORTATION

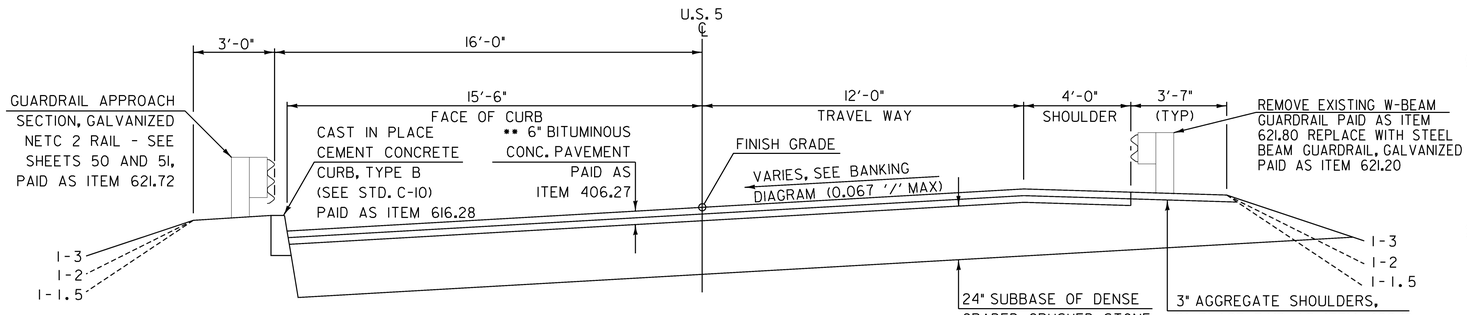
Town Of PUTNEY	Bridge No. 19A
Highway No. U.S. ROUTE 5	Log Sta.
	Surv. Sta.

PRELIMINARY INFORMATION AND INDEX

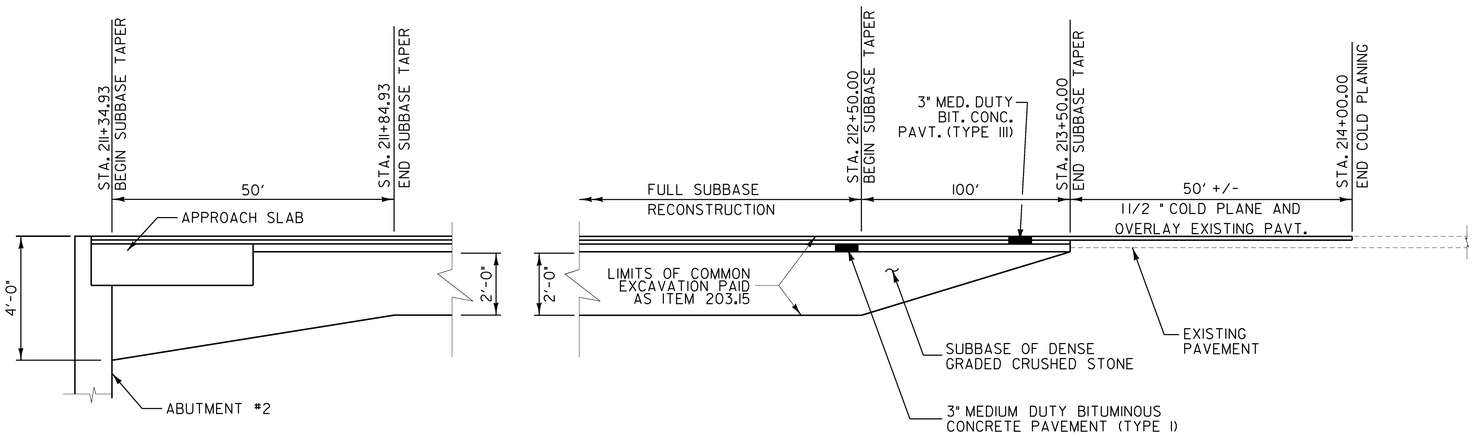
Designed By	Drawn By
Checked By Date: T. KNIGHT 7/09	Bridge Design Supervisor: G. BOGUE Date 7/09
PROJECT: PUTNEY	PROJECT NO.: IM 091-1(31)
CAD Drawing Name: ...\Plot Files\02 z93 Sheet.dgn	Date: 10/19/2009
Bridge Sheet No.	Sheet 2 of 75

TYPICAL SECTIONS

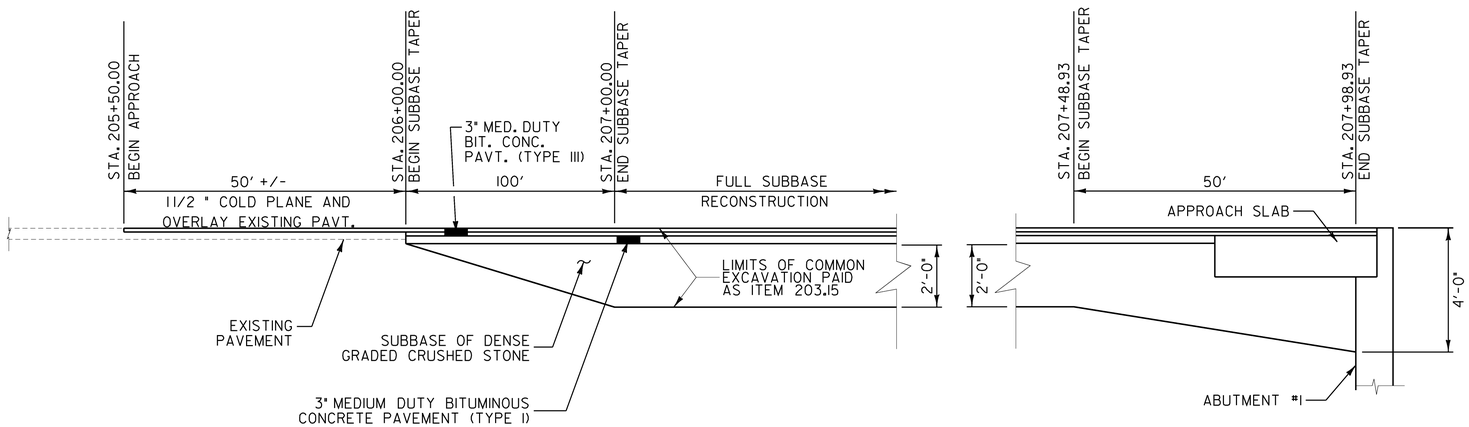
** 3" MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT (TWO 1 1/2 " LIFTS - TYPE 111)
** 3" MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT (ONE LIFT - TYPE 1)
24" SUBBASE OF DENSE GRADED CRUSHED STONE



US ROUTE 5 TYPICAL SECTION
NOT TO SCALE



TYPICAL APPROACH SECTION-NORTH APPROACH
NOT TO SCALE



TYPICAL APPROACH SECTION-SOUTH APPROACH
NOT TO SCALE

MATERIAL ITEM THICKNESSES/TOLERANCE

BITUMINOUS CONCRETE PAVEMENT (TOTAL DEPTH)	+/- 1/4"
DENSE GRADED CRUSHED STONE	+/- 1"

URBAN MIX SEEDING FORMULA

% WT	LBS/A	NAME
37.5	45	CREEPING RED FESCUE
31.25	37.5	KENTUCKY BLUE GRASS
31.25	37.5	WINTER HARDY, PERENNIAL RYE
100	120	

CONSERVATION MIX SEEDING FORMULA

% WT	LBS/A	NAME
35	35	CREEPING RED FESCUE
23	23	KENTUCKY BLUE GRASS
15	15	ANNUAL RYE
11	11	WINTER HARDY, PERENNIAL RYE (VARIETY PENNFINE, MANHATTAN OR SIMILAR VARIETY)
6	6	WHITE CLOVER
10	10	HIGHLAND BENTGRASS
100	100	

SEEDING NOTES

1. SEED MIXTURE IN LAWN AREAS AROUND DWELLINGS AND WITHIN STREET LIMITS SHALL BE URBAN MIX CONFORMING TO THE ABOVE TABLE. FOR SEEDING BETWEEN SEPTEMBER 1 AND OCTOBER 1, WINTER RYE SHALL BE USED IN ADDITION TO THE URBAN MIX AT AN APPLICATION RATE OF 120 POUNDS PER ACRE.
2. SEED MIXTURE IN ALL OTHER DISTURBED AREAS SHALL BE CONSERVATION MIX CONFORMING TO THE ABOVE TABLE. FOR SEEDING BETWEEN SEPTEMBER 1 AND OCTOBER 1, WINTER RYE SHALL BE USED IN ADDITION TO THE URBAN MIX AT AN APPLICATION RATE OF 100 POUNDS PER ACRE.
3. THE SEED MIXTURE SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE FROM ALL NOXIOUS SEED.
4. SEED - TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.
5. FERTILIZER - FORMULA 19-19-19 TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS/ACRE.
6. AGRICULTURAL LIMESTONE - TO BE APPLIED AT A RATE OF 2 TONS/ACRE OR AS DIRECTED BY THE ENGINEER.
7. EROSION MATTING - TO BE PLACED ON EARTH SLOPES WITH 1:3 SLOPE OR STEEPER AND IN ALL DRAINAGE DITCHES.
8. HAY MULCH - TO BE PLACED ON ALL DISTURBED AREAS NOT REQUIRING EROSION MATTING AT THE RATE OF 2 TONS/ACRE OR AS DIRECTED BY THE ENGINEER.
9. TOPSOIL - TO BE USED WITH SEED, AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. TOPSOIL SHALL BE PLACED AT 2" DEEP.

NOTES

10. THE COLD PLANING AND PAVING SHALL MATCH THE EXISTING BY THE USE OF A VERTICAL BUTT JOINT. SEE DETAIL ON SHEET 4.
11. GRASS GROWING ADJACENT TO PAVEMENT OR THROUGH CRACKS IN THE PAVEMENT WHICH MAY HAMPER THE PLACEMENT OF NEW BITUMINOUS CONCRETE SHALL BE REMOVED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER. PAYMENT FOR THIS WORK WILL NOT BE MADE DIRECTLY, BUT WILL BE CONSIDERED INCIDENTAL TO ITEM 406.27 OR 528.11.
12. EMULSIFIED ASPHALT TO BE APPLIED ON EXISTING PAVEMENT, BETWEEN ALL COURSES OF BITUMINOUS CONCRETE PAVEMENT AND ON COLD PLANED SURFACES, AT THE RATE OF 0.025 GAL/SY OR AS DIRECTED BY THE ENGINEER. THIS WILL BE PAID FOR AS ITEM 404.65.
13. EXISTING SHOULDER MATERIAL DEEMED UNSUITABLE BY THE ENGINEER, SHALL BE EXCAVATED TO A DEPTH OF 3" OR AS DIRECTED BY THE ENGINEER.

    EXCAVATION WILL BE PAID USING ITEM 608.15 OR 608.25.

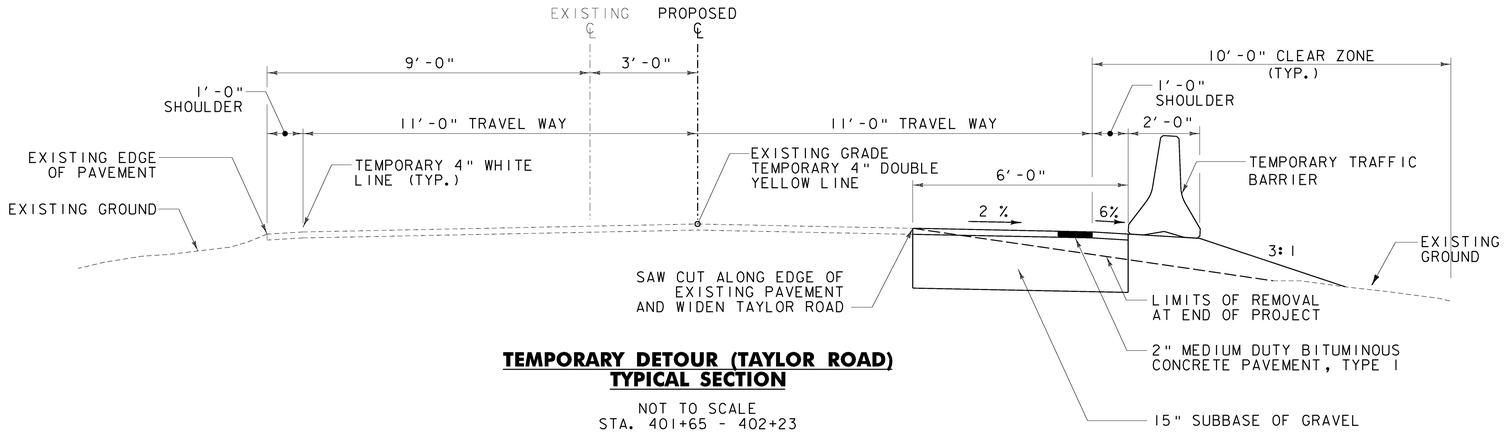
    MATERIAL REMOVED SHALL BE REPLACED WITH AGGREGATE SHOULDERS, IN PLACE ITEM 402.10 AS DIRECTED BY THE ENGINEER. COLD PLANE GRINDINGS MAY BE USED INSTEAD OF AGGREGATE SHOULDERS TO BACK UP THE NEW PAVEMENT AS DIRECTED BY THE ENGINEER. THIS WILL BE PAID UNDER ITEM 402.10.

    EXCAVATED MATERIAL SHALL BE SPREAD ON THE ADJACENT SLOPES OR REMOVED FROM PROJECT, AS DIRECTED BY THE ENGINEER.
14. ITEM 203.40 SHOULDER BERM REMOVAL IS APPROPRIATE ONLY IN AREAS OF RETAINED GUARDRAIL.
15. FOR PG BINDER REQUIREMENTS, SEE SECTION 406 OF THE GENERAL SPECIAL PROVISIONS.
16. TERMINAL FLARES SHALL BE CAPPED WITH AN ESTIMATED 3" DEPTH OF AGGREGATE SHOULDER MATERIAL UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PAYMENT SHALL BE INCIDENTAL TO 621.50 MANUFACTURED TERMINAL SECTION, FLARED.

PROJECT NAME: PUTNEY
PROJECT NUMBER: IM 091-1(131)

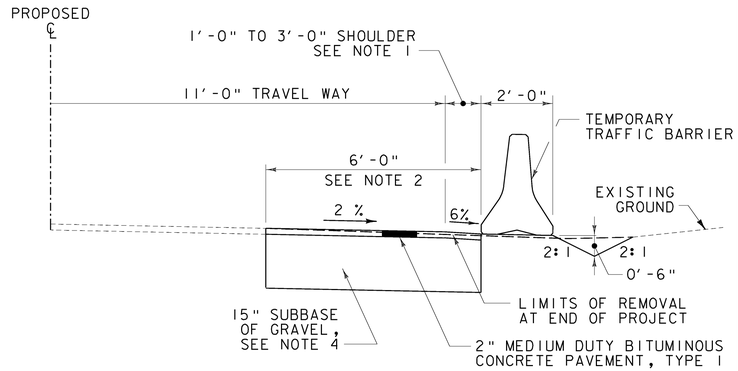
FILE NAME: ...\03 z93al48typ roadway.ptf PLOT DATE: 10/19/2009
PROJECT LEADER: G. BOGUE DRAWN BY: R. WALKER
DESIGNED BY: E. ALLING CHECKED BY: G. GOYETTE
TYPICAL SECTIONS - ROADWAY SHEET 3 OF 75

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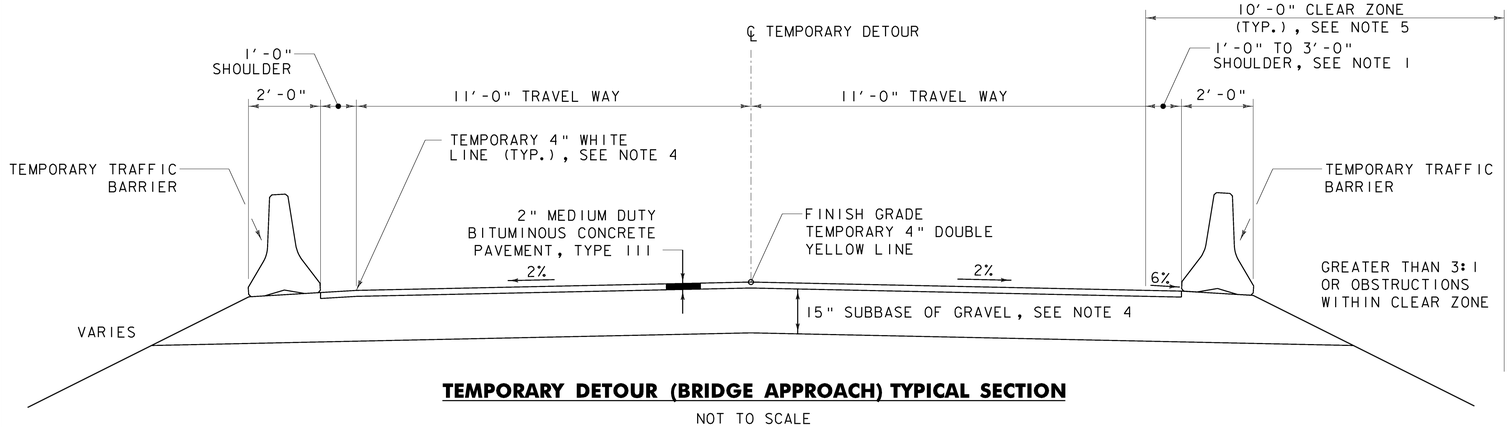
TEMPORARY DETOUR (TAYLOR ROAD)
TYPICAL SECTION

NOT TO SCALE
STA. 401+65 - 402+23



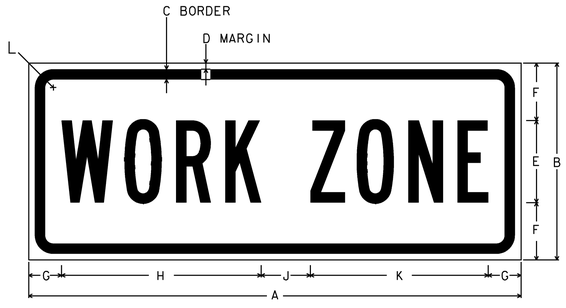
TEMPORARY DETOUR (TAYLOR ROAD)
SHOULDER TREATMENT

NOT TO SCALE
STA. 402+23 - 406+04



TEMPORARY DETOUR (BRIDGE APPROACH) TYPICAL SECTION

NOT TO SCALE
STA. 406+04 - 408+41
STA. 410+36 - 412+49

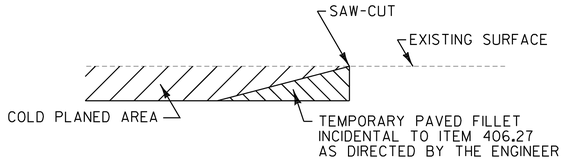


DIMENSIONS (INCHES)											
	A	B	C	D	E	F	G	H	J	K	L
MIN.	24	8	0.375	0.375	4B	2	2	9.5	2	8.5	1.5
SPEC.	30	12	0.375	0.625	5B	3.5	2	12.2	3	8.5	1.5
EXPWY.	36	12	0.50	0.75	6B	3	2.5	14.8	3	8.5	1.875
FWY.	48	18	0.625	0.875	8B	4	3.5	19.1	4	8.5	2.25

NOTE: THE SIGN IS TO HAVE A BLACK LEGEND ON AN ORANGE RETROREFLECTIVE BACKGROUND THAT IS ASTM TYPE 7, 8 OR 9. THE TEXT IS TO BE "B-TYPE".

WORK ZONE SIGN DETAIL

NOT TO SCALE



DETAIL AT VERTICAL COLD PLANE JOINTS

NOTES:

1. PROVIDE 3' PAVED SHOULDER FROM STATION 405+00 RT TO 407+25 RT, TAPER 50' ON EITHER END.
2. BOX CUT WIDTH TRANSITIONS FROM 6' TO FULL WIDTH TYPICAL (SEE TEMP. DETOUR (BRIDGE APPROACH) TYPICAL SECTION) FROM STA. 405+12 - 406+04.
3. SEE SHEETS 12 - 14 AND SHEET 22 FOR PROFILE, LOCATION AND ALIGNMENT OF TEMPORARY BRIDGE AND DETOUR.
4. ALL WORK REQUIRED TO CONSTRUCT TEMPORARY BRIDGE APPROACHES FROM STA. 400+00 - 412+49 INCLUDING BUT NOT LIMITED TO EARTHWORKS, BACKFILL, TEMPORARY SHEETING OR OTHER RETAINING STRUCTURES, TEMPORARY TRAFFIC BARRIER, SUBBASE, CULVERTS, DITCHES, TEMPORARY PAVEMENT AND PAVEMENT MARKINGS AND OTHER INCIDENTAL ITEMS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 528.11, TWO-WAY TEMPORARY BRIDGE.
5. THE HORIZONTAL SIGHT DISTANCE FROM STATION 405+12 TO 407+27, RT SHALL BE INCREASED TO PROVIDE ADDITIONAL HORIZONTAL SIGHT DISTANCE FOR 50 MPH DESIGN SPEED. SEE SHEET 22 FOR CLEARING LIMITS.

Stantec

PROJECT NAME: PUTNEY
PROJECT NUMBER: IM 091-1(31)

FILE NAME: ...\04 z93a148typ detour.ptf | PLOT DATE: 10/19/2009
PROJECT LEADER: G. BOGUE | DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING | CHECKED BY: G. GOYETTE
TYPICAL SECTIONS-TEMPORARY DETOUR | SHEET 4 OF 75

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
					1					1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	-	**EARTHWORKS SUMMARY**		
					1300					1300		CY	COMMON EXCAVATION	203.15	36	1264	CY	COMMON EXCAVATION (1264 x 1.0)
					130					130		CY	SOLID ROCK EXCAVATION	203.16	EST.	98	CY	SOLID ROCK EXCAVATION (130 (EST.) x 0.75)
					210					210		LF	SHOULDER BERM REMOVAL	203.40	7	224	CY	TRENCH EXCAVATION OF EARTH (299 x 0.75)
					300					300		CY	TRENCH EXCAVATION OF EARTH	204.20	1	1586	CY	TOTAL FILL AVAILABLE
					4					4		CY	TRENCH EXCAVATION OF ROCK	204.21	1	-29	CY	FILL REQUIRED FOR US ROUTE 5
					1					1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	EST.	1557	CY	US ROUTE 5 WASTE
								213		213		CY	STRUCTURE EXCAVATION	204.25	-			
								130		130		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	-			
					380					380		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10	2			
					1170					1170		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	9			
					20					20		CY	AGGREGATE SHOULDERS, IN PLACE	402.10	2			
					10					10		CWT	EMULSIFIED ASPHALT	404.65	3	**MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT**		
					1025			225		1250		TON	MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT	406.27	8	893	TON	US 5
					1					1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	-	124	TON	TAYLOR ROAD OVERLAY
								326		326		CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	-	225	TON	BRIDGE
								391000		391000		LB	STRUCTURAL STEEL, CURVED PLATE GIRDER	506.56	-	8	TON	ROUNDING
								335		335		LB	STRUCTURAL STEEL	506.60	-	1250	TON	TOTAL
					516			28000		28516		LB	REINFORCING STEEL	507.15	-	THE FOLLOWING ITEMS HAVE BEEN INCLUDED IN ROADWAY QUANTITES FOR THE CONSTRUCTION OF CULVERT AT STATION 212+00:		
								113260		113260		LB	EPOXY COATED REINFORCING STEEL	507.17	-	516	LB	507.15 - REINFORCING STEEL
								1		1		LS	SHEAR CONNECTORS (6087 - 7/8" X 7")	508.15	-	3	CY	541.25 - CONCRETE, CLASS B
								1		1		LS	STRUCTURAL PAINTING, SHOP APPLIED	513.25	-	50	LF	601.092 - 24" CPEP
								1		1		LS	SURFACE PREPARATION, SHOP	513.40	-			
								97		97		GAL	WATER REPELLENT, SILANE	514.10	-			
								107		107		LF	BRIDGE EXPANSION JOINT, VERMONT	516.11	-			
								1150		1150		SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20	-			
								710		710		LF	REMOVAL OF EXISTING RAILING	525.10	-			
								710		710		LF	BRIDGE RAILING, GALVANIZED NETC 2 RAIL	525.33	-			
					1					1		LS	TWO-WAY TEMPORARY BRIDGE (5760 SF - EST.)	528.11	-			
								1		1		EACH	PARTIAL REMOVAL OF STRUCTURE	529.20	-			
								20		20		EACH	BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD	531.11	-			
								5		5		EACH	BEARING DEVICE ASSEMBLY, STEEL	531.13	-			
					3					3		CY	CONCRETE, CLASS B	541.25	-			
								15		15		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I	580.13	EST.			
								15		15		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II	580.14	EST.			
								3		3		CY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS III	580.15	EST.			
					60					60		LF	18" CPEP	601.0915	-			
					50					50		LF	24" CPEP	601.0920	-			
					1					1		EACH	18" CPEP ELBOW	601.5814	-			
					1					1		EACH	18" CPEPES	601.7015	-			

Stantec

PROJECT NAME: PUTNEY
PROJECT NUMBER: IM 091-1(31)

FILE NAME: ...\05-07 z93al48quantity.ptf
PROJECT LEADER: G. BOGUE
DESIGNED BY: E. ALLING
QUANTITY SHEET 1

PLOT DATE: 10/19/2009
DRAWN BY: E. ALLING
CHECKED BY: G. GOYETTE

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
							135			135		LB	SEED, WINTER RYE	651.17	5			
							1570			1570		LB	FERTILIZER	651.18	10			
							6.5			6.5		TON	AGRICULTURAL LIMESTONE	651.20	0.2			
							6.5			6.5		TON	HAY MULCH	651.25	0.2			
							790			790		CY	TOPSOIL	651.35	9			
							1			1		LS	EPSC PLAN	652.10	-			
							100			100		HR	MONITORING EPSC PLAN	652.20	EST.			
							1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30	-			
							7220			7220		SY	TEMPORARY EROSION MATTING	653.20	12			
							10			10		CY	TEMPORARY STONE CHECK DAM, TYPE I	653.25	1			
							40			40		CY	VEHICLE TRACKING PAD	653.35	10			
							4			4		EACH	INLET PROTECTION DEVICE, TYPE I	653.40	-			
							400			400		LF	BARRIER FENCE	653.50	-			
							2100			2100		LF	PROJECT DEMARCATION FENCE	653.55	48			
					1					1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50	-			
								406		406		CY	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT)	900.608	-			
								1		1		LS	SPECIAL PROVISION (PUBLIC PROTECTION FOR BRIDGE PROJECTS)	900.645	-			

Stantec

PROJECT NAME: PUTNEY
PROJECT NUMBER: IM 091-1(31)

FILE NAME: ...\05-07 z93a148quantity.ptf
PROJECT LEADER: G. BOGUE
DESIGNED BY: E. ALLING
QUANTITY SHEET 3

PLOT DATE: 10/19/2009
DRAWN BY: E. ALLING
CHECKED BY: G. GOYETTE
SHEET 7 OF 75

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

SUMMARY OF BRIDGE QUANTITIES								TOTALS	DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
SUPER-STRUCTURE	APPROACH SLABS 1	APPROACH SLABS 2	ABUT. NO. 1	ABUT. NO.2	PIER 1	PIER 2	PIER 3	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
			104	109				213	CY	STRUCTURE EXCAVATION	204.25			
			60	70				130	CY	GRANULAR BACKFILL FOR STRUCTURES	204.30			
195	15	15						225	TON	MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT	406.27			
	38	38	70	90	28	30	32	326	CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34			
391000								391000	LB	STRUCTURAL STEEL, CURVED PLATE GIRDER	506.56			
			175	160				335	LB	STRUCTURAL STEEL	506.60			
			5380	6170	5100	5500	5850	28000	LB	REINFORCING STEEL	507.15			
98800	5670	6330	1100	1360				113260	LB	EPOXY COATED REINFORCING STEEL	507.17			
1								1	LS	SHEAR CONNECTORS (6087 - 7/8" X 7")	508.15			
1								1	LS	STRUCTURAL PAINTING, SHOP APPLIED	513.25			
1								1	LS	SURFACE PREPARATION, SHOP	513.40			
40			10	10	12	12	13	97	GAL	WATER REPELLENT, SILANE	514.10			
			45	62				107	LF	BRIDGE EXPANSION JOINT, VERMONT	516.11			
1150								1150	SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20			
710								710	LF	REMOVAL OF EXISTING RAILING	525.10			
710								710	LF	BRIDGE RAILING, GALVANIZED NETC 2 RAIL	525.33			
1								1	EACH	PARTIAL REMOVAL OF STRUCTURE	529.20			
			5	5	5		5	20	EACH	BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD	531.11			
						5		5	EACH	BEARING DEVICE ASSEMBLY, STEEL	531.13			
					5	5	5	15	SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I	580.13			
					5	5	5	15	SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II	580.14			
					1	1	1	3	CY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS III	580.15			
318								318	LF	SNOW BARRIER, GALVANIZED	620.75			
			2	2				4	EACH	GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL	621.72			
400			3	3				406	CY	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT)	900.608			
1								1	LS	SPECIAL PROVISION (PUBLIC PROTECTION FOR BRIDGE PROJECTS)	900.645			

Stantec

PROJECT NAME: PUTNEY
PROJECT NUMBER: IM 091-1(31)

FILE NAME: ...\05-07 z93a148quantity.ptf
PROJECT LEADER: G. BOGUE
DESIGNED BY: E. ALLING
BRIDGE QUANTITY SHEET

PLOT DATE: 10/19/2009
DRAWN BY: E. ALLING
CHECKED BY: G. GOYETTE
SHEET 8 OF 75

GPS CONTROL POINTS

HVCTRL #1

STANDARD DISK STAMPED
Duno AZ MK

N = 184590.543
E = 1648708.176
ELEV. = 553.05

To reach from the intersection of Interstate I-91 north and Exit 4 ramp in Putney, go north along I-91 for 4.5 MI to the site of the mark on the left. The mark is set flush in the northeast corner of a 1.2 M x 1.8 M concrete pad for a drop inlet. The mark is 0.05 MI south of the US Route 5 bridge over the interstate.
The mark is located 5.8 M west of the west edge of pavement of I-91 north bound lane., 7.1 M east of the east edge of pavement of I-91 south bound lane, 1.0 M north of the south edge of the concrete DI, 0.2 M south of the north edge of the concrete DI, and 0.3 M west of a fiberglass witness post.

HVCTRL #2

STANDARD DISK STAMPED
Duno

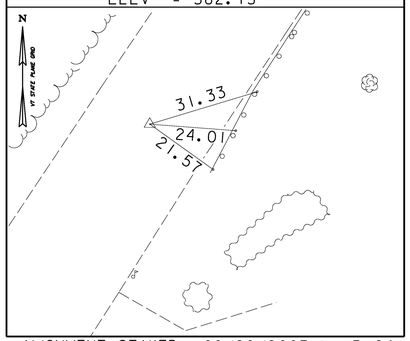
N = 186132.423
E = 1648229.810
ELEV. = 547.64

To reach from the intersection of Interstate I-91 north and Exit 4 ramp in Putney, go north along I-91 for 4.8 MI to the site of the mark on the left. The mark is set flush in the northeast corner of a 1.2m x 1.2m concrete pad for a drop inlet. The mark is 0.25 MI north of the US Route 5 bridge over the interstate.
The mark is located 5.8 M west of and about 1m lower than the west edge of pavement of I-91 north bound lane., 7.0m east of and about 1m lower than the east edge of pavement of I-91 south bound lane, 1.1m north of the south edge of the concrete DI, 0.15m south of the north edge of the concrete DI, and 0.7m west of a fiberglass witness post.

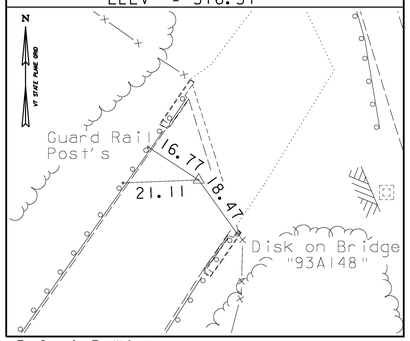
* NO Traverse was run: GPS control in project area 09/02/00 R. Gilman P.C. & R. Bullock
• DESCRIPTION PROVIDED BY VERMONT AGENCY OF TRANSPORTATION GEODETIC SURVEY UNIT
• TO ALLOW THE STATE PLANE COORDINATES TO FIT THE AGENCY DESIGN PLANE, SUBTRACT 100,000 FROM THE NORTHING AND SUBTRACT 1,600,000 FROM THE EASTING

ALIGNMENT TIES

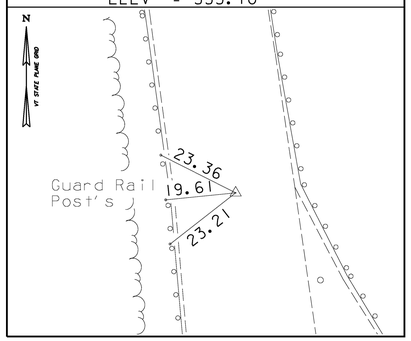
POT 205+50.00
NORTH = 84392.21
EAST = 48445.99
ELEV = 582.15



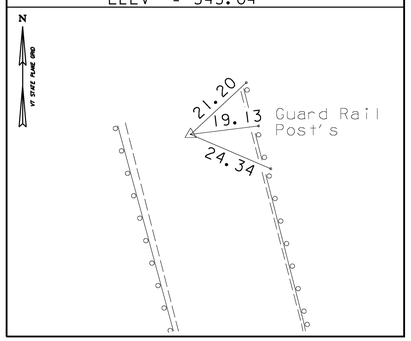
PC 207+95.65
NORTH = 84595.76
EAST = 48583.50
ELEV = 576.51



POC 216+00.00
NORTH = 85360.53
EAST = 48773.21
ELEV = 553.10



POC 218+00.00
NORTH = 85556.48
EAST = 48734.47
ELEV = 543.04



NORTH =
EAST =

* ALIGNMENT STAKED 09/29/2003 by R.Gilman P.C. & P.Winters

ALIGNMENT COORDINATES

	NORTHING	EASTING
MAINLINE POB STA. 205+00.00	84350.11	48418.00
MAINLINE PC STA. 207+95.65	84595.76	48583.50
MAINLINE PT STA. 219+68.11	85713.93	48676.00
MAINLINE POE STA. 220+00.04	85742.30	48662.72

	NORTHING	EASTING
DETOUR POB STA. 400+00.00	84098.06	48276.23
DETOUR PT STA. 400+88.82	84184.12	48299.05
DETOUR PC STA. 405+12.42	84605.99	48337.26
DETOUR PT STA. 407+26.99	84788.70	48437.78
DETOUR PC STA. 410+27.81	84971.99	48676.31
DETOUR PT STA. 412+48.52	85160.82	48777.31

	NORTHING	EASTING
TAYLOR ROAD POB STA. 600+00.00	84734.94	48386.04
TAYLOR ROAD PC STA. 600+20.73	84747.81	48369.29
TAYLOR ROAD PT STA. 600+70.46	84790.89	48348.79
TAYLOR ROAD POE STA. 601+98.31	84917.90	48355.60

	NORTHING	EASTING
I-91 POB STA. 1198+00.00	84516.22	48728.05
I-91 POE STA. 1203+00.00	84994.01	48580.70

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)
ADJUSTMENT none

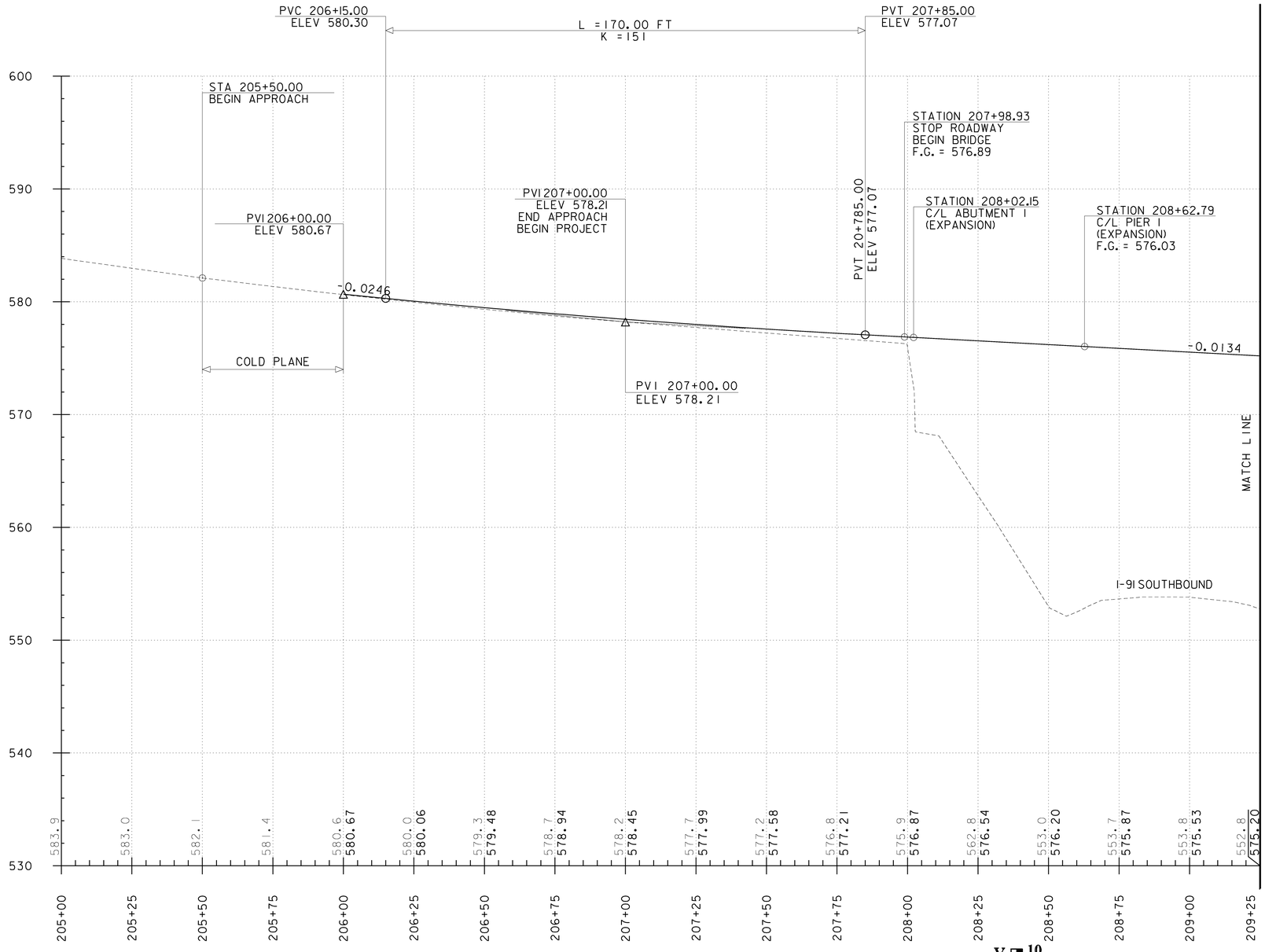
NOTES:

1. ELEVATIONS GIVEN FOR THE ALIGNMENT COORDINATES REFLECT EXISTING CONDITIONS SURVEYED ON SEPTEMBER 2000.

Stantec

PROJECT NAME: PUTNEY
PROJECT NUMBER: IM 091-1(31)

FILE NAME: ...\Plot Files\08 z93al48tie.ptf PLOT DATE: 10/19/2009
PROJECT LEADER: G. BOGUE DRAWN BY: R. BULLOCK
DESIGNED BY: CHECKED BY: G. GOYETTE
TIE SHEET SHEET 8A OF 75

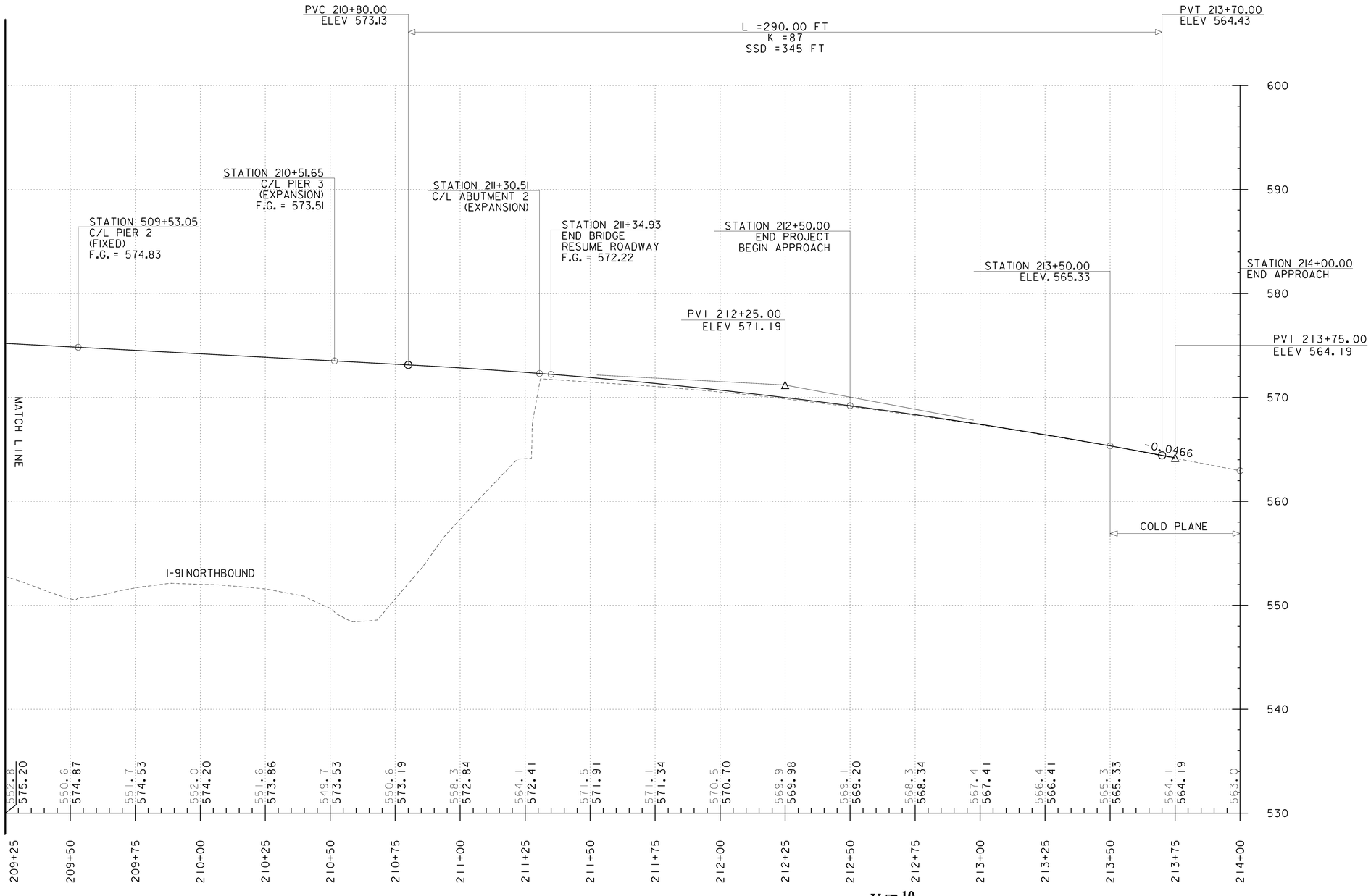


MAINLINE PROFILE

NOTES:
1. ELEVATIONS SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG CENTERLINE
2. ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG CENTERLINE

Stantec

PROJECT NAME: PUTNEY	
PROJECT NUMBER: IM 091-1(31)	
FILE NAME: ...\10 z93a148 pro 1.ptf	PLOT DATE: 10/19/2009
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: G. GOYETTE
MAINLINE PROFILE 1	SHEET 10 OF 75



MAINLINE PROFILE

VERTICAL 0 5 10
HORIZONTAL 0 20 40
SCALE IN FEET

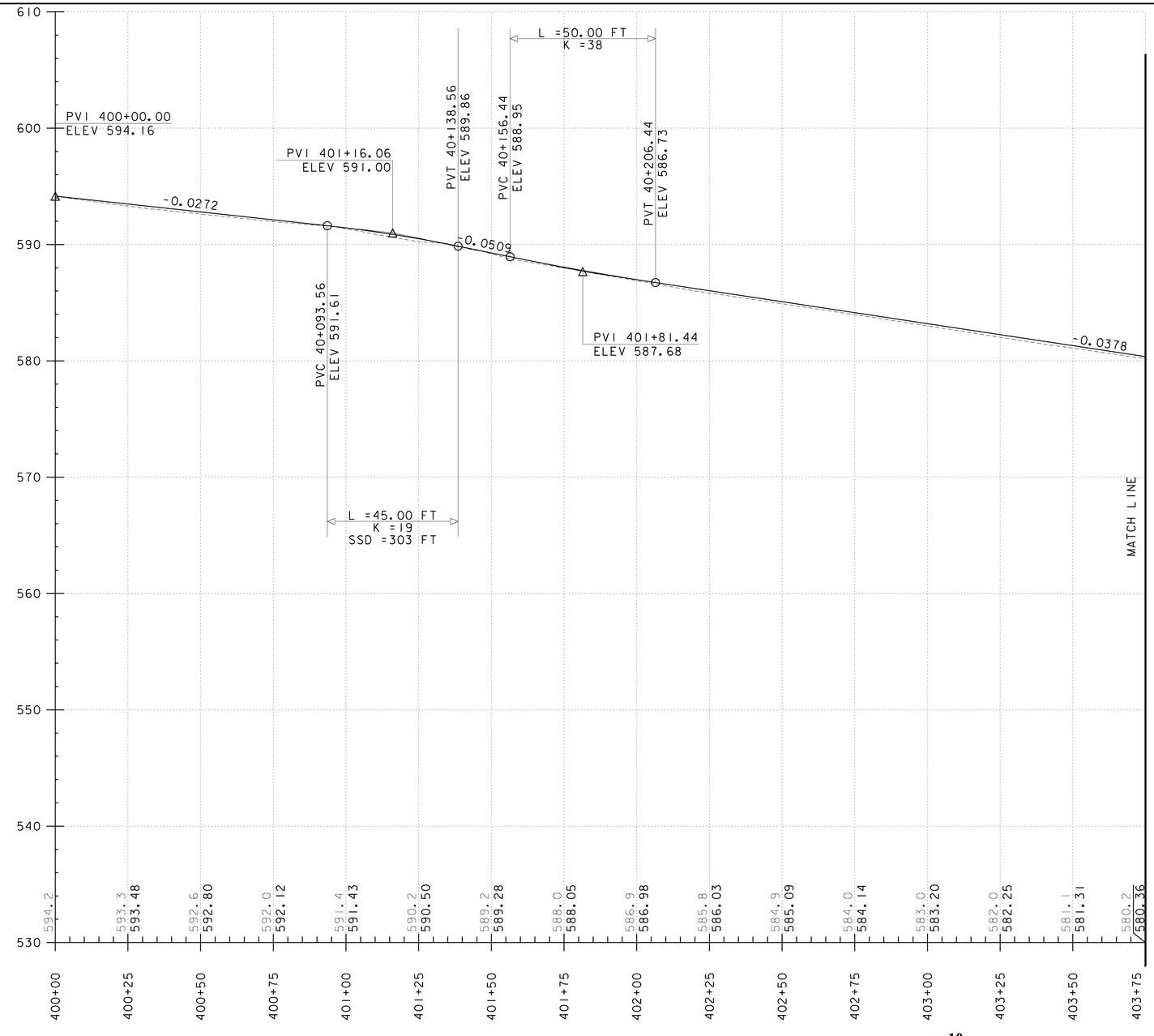
NOTES:
1. ELEVATIONS SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG CENTERLINE
2. ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG CENTERLINE

Stantec

PROJECT NAME: PUTNEY
PROJECT NUMBER: IM 091-1(31)

FILE NAME: ...\11z93a148 pro 2.ptf
PROJECT LEADER: G. BOGUE
DESIGNED BY: E. ALLING
MAINLINE PROFILE 2

PLOT DATE: 10/19/2009
DRAWN BY: E. ALLING
CHECKED BY: G. GOYETTE
SHEET 11 OF 75



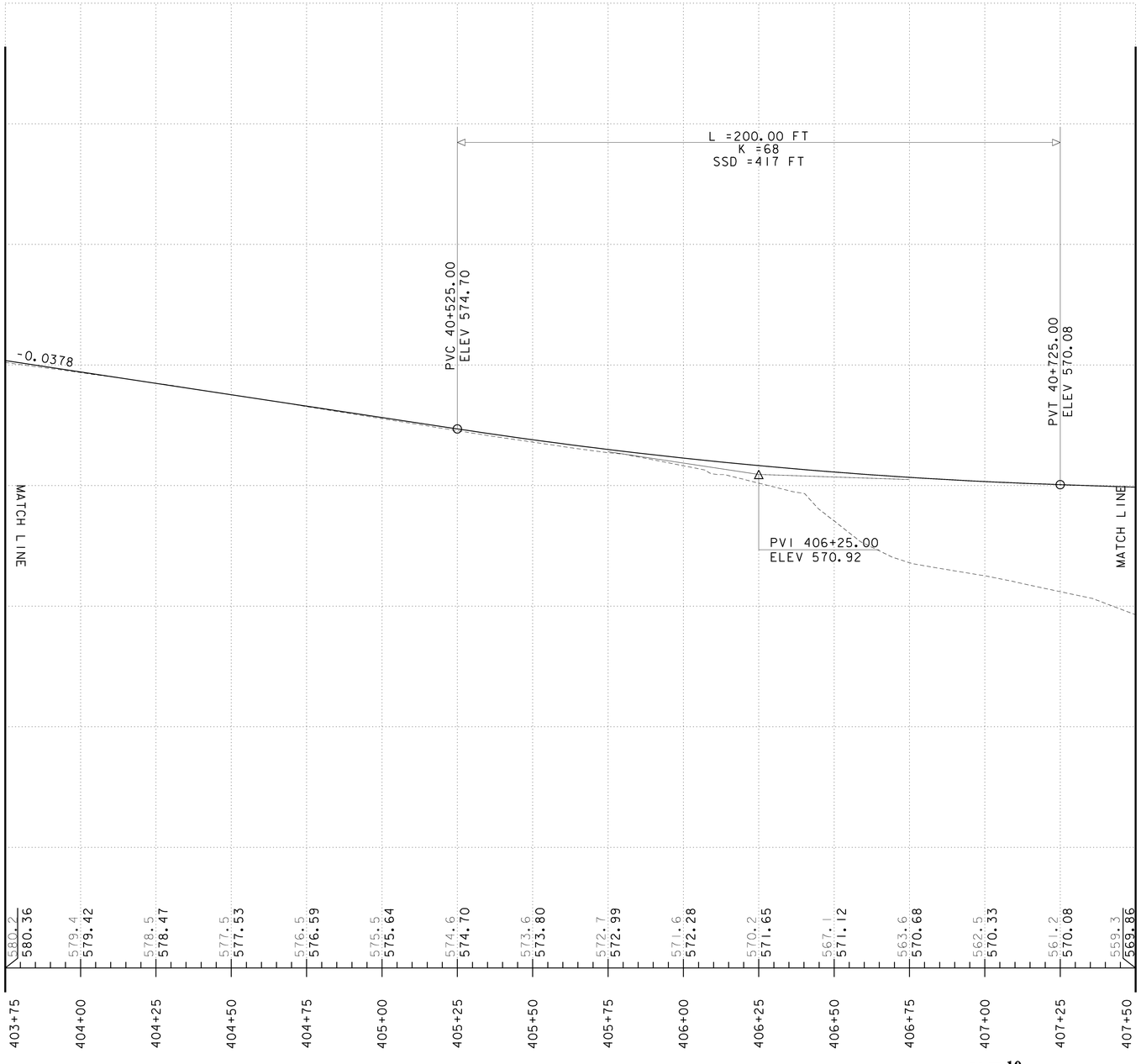
NOTES:
1. ELEVATIONS SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG CENTERLINE.
2. ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG CENTERLINE.

VERTICAL 10 5 0
HORIZONTAL 0 20 40
SCALE IN FEET

Stantec

PROJECT NAME: PUTNEY
PROJECT NUMBER: IM 091-1(31)

FILE NAME: ...\12 z93a148 pro temp_detour.dgn PLOT DATE: 10/19/2009
PROJECT LEADER: G. BOGUE DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING CHECKED BY: G. GOYETTE
TEMPORARY DETOUR PROFILE 1 SHEET 12 OF 75

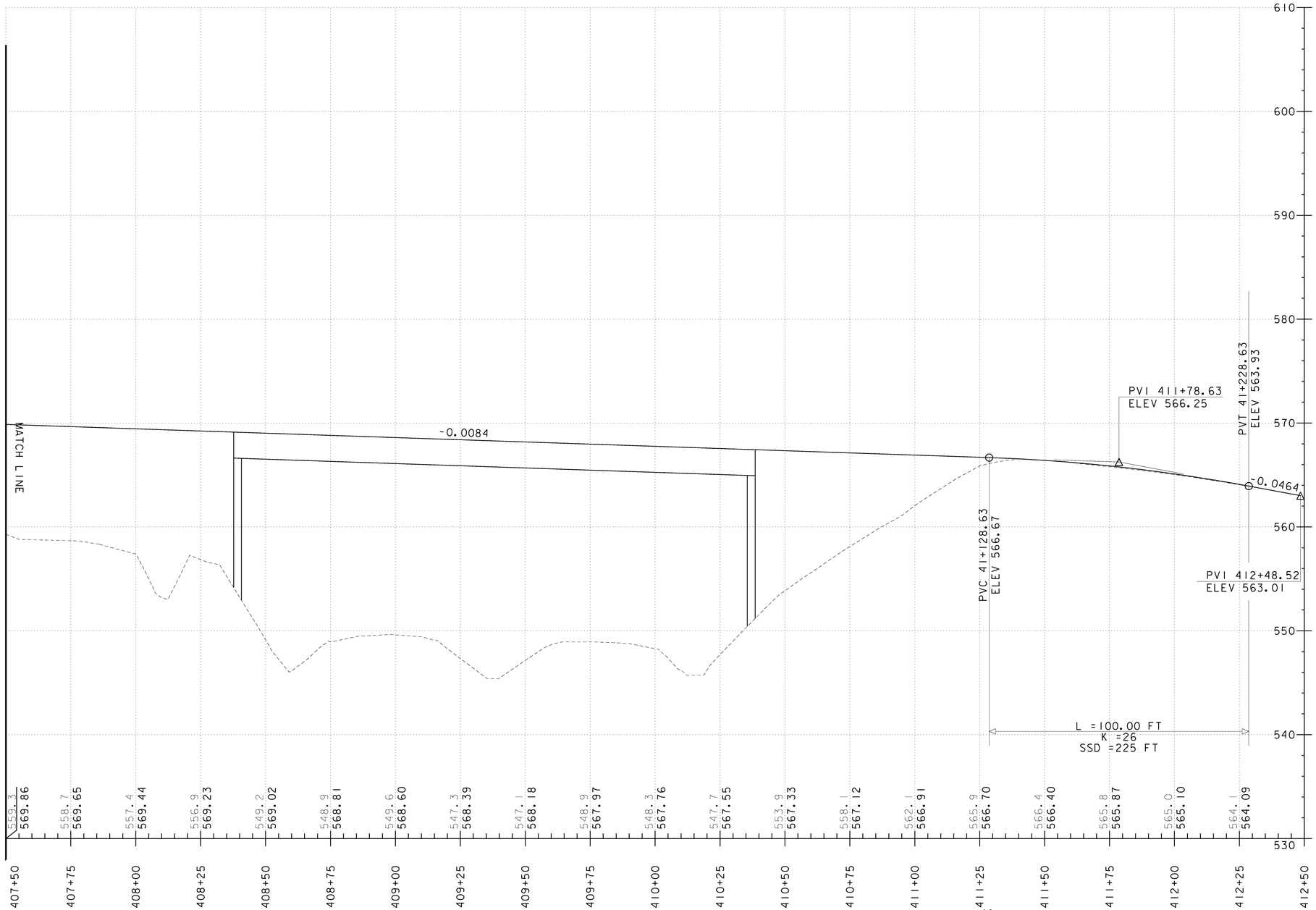


NOTES:
1. ELEVATIONS SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG CENTERLINE.
2. ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG CENTERLINE.

Stantec

PROJECT NAME: PUTNEY
PROJECT NUMBER: IM 091-1(31)

FILE NAME: ...\13 z93a148 pro temp_detour2.dgn PLOT DATE: 10/19/2009
PROJECT LEADER: G. BOGUE DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING CHECKED BY: G. GOYETTE
TEMPORARY DETOUR PROFILE 2 SHEET 13 OF 75



NOTES:
1. ELEVATIONS SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG CENTERLINE.
2. ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG CENTERLINE.

Stantec

PROJECT NAME: PUTNEY	
PROJECT NUMBER: IM 091-1(31)	
FILE NAME: ...\14 z93a148 pro temp_detour3.dgn	PLOT DATE: 10/19/2009
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: G. GOYETTE
TEMPORARY DETOUR PROFILE 3	SHEET 14 OF 75

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES REHABILITATION OF BRIDGE 19A ON U.S. ROUTE 5 OVER INTERSTATE 91 IN PUTNEY, VERMONT. IT INCLUDES REPLACEMENT OF THE EXISTING BRIDGE DECK, GUARDRAIL, CURB, STEEL BEAMS AND PIER CAPS AS WELL AS THE REPLACEMENT OF THE ABUTMENTS AND WING WALLS DOWN TO THE EXISTING FOOTINGS. THE PROJECT WILL ALSO INCLUDE THE INSTALLATION OF A TWO WAY TEMPORARY BRIDGE DETOUR LOCATED IMMEDIATELY NORTH OF THE EXISTING STRUCTURE THAT WILL REQUIRE FILLED APPROACHES AND TEMPORARY ABUTMENTS TYPICALLY UTILIZING DRIVEN SHEET PILES. THE TOTAL DISTURBED AREA (EXCLUDING OFFSITE WASTE, BORROW AND STAGING AREAS) IS 2.20 ACRES. THE SITE, BASED ON NAD 83/92, IS LOCATED AT 84516.5014 N, 48529.9546 E.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS ON-SITE WASTE, BORROW AND STAGING AREAS, AND OTHER EARTH DISTURBING ACTIVITIES WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS AS SHOWN ON THE ATTACHED EPSC PLAN.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST TWO CONSTRUCTION SEASONS WITH MINIMUM WINTER WORK.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE LONG GRADUAL CURVED ALIGNMENT HAS FILLED APPROACHES ON EACH END WITH THE FOLLOWING FEATURES:
A PRIVATE DRIVE TO A SINGLE FAMILY HOME IMMEDIATELY PRECEEDS THE SOUTHERN APPROACH AND THE FRONT LAWN FOR THIS RESIDENCE RUNS ALONG THE TOE OF THE EXISTING 2-3 FEET HIGH FILL SLOPE. ON THE OTHER SIDE OF U.S. ROUTE 5, A SMALL SEASONAL DRAINAGE DITCH RUNS ALONG THE WOODED TOE OF FILL SLOPE. THIS DITCH LINE DRAINS BACK TOWARDS INTERSTATE 91 AND IS APPROXIMATELY 2 FEET BELOW THE ROADWAY AT THE BEGIN APPROACH AND APPROXIMATELY 10 FEET BELOW THE ROADWAY AT THE WINGWALL OF ABUTMENT 1. THE TEMPORARY DETOUR WILL BE LOCATED IN THIS AREA AND THE DITCHLINE WILL REQUIRE A SLIGHT RELOCATION SIX TO EIGHT FEET OUTSIDE ITS EXISTING LOCATION TO ACCOMODATE THE SHEET PILES OR OTHER MEANS ASSOCIATED WITH THE TEMPORARY ABUTMENT. THE NORTHERN APPROACH IS COMPRISED OF HIGHER FILL SLOPES 30 FEET HIGH OR MORE ON EACH SIDE OF U.S. ROUTE 5.

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

THERE IS A SINGLE DROP INLET LOCATED APPROXIMATELY 75 FEET BEYOND THE BRIDGE ON THE NORTH SIDE OF THE ROADWAY. IT IS PRESUMED TO DRAIN INTO A DITCH AT THE TOE OF THE FILL SLOPE ALTHOUGH NO PIPE WAS IDENTIFIED IN THE SURVEY. THIS DITCHLINE RECEIVES WATER FROM THE OPPOSITE SIDE OF INTERSTATE 91 THROUGH A LONG CULVERT, DRAINS NORTH ALONGSIDE U.S. ROUTE 5 AND LIES WELL OUTSIDE THE PREDICTED LIMITS OF CONSTRUCTION FOR THE TEMPORARY DETOUR. HOWEVER, MEASURES WILL HAVE TO BE TAKEN TO PREVENT SEDIMENT ASSOCIATED WITH THE TEMPORARY DETOUR FROM ENTERING THIS DRAINAGE FEATURE.

1.2.3 VEGETATION

WOODS OCCUPY THE AREAS BEYOND THE TOE OF SLOPE ON THE NORTH SIDE OF U.S. ROUTE 5 AT THE SOUTHERN END OF THE PROJECT AND BOTH SIDES OF ROUTE 5 AT THE NORTHERN END OF THE PROJECT. THE WOODED AREAS CONSIST OF MIXED HARDWOOD AND SOFTWOOD.

1.2.4 SOILS

ACCORDING TO THE SOIL CONSERVATION SERVICE, THE SOIL TYPE FOR THIS AREA OF VERMONT IS CLASSIFIED AS DUMMERSTON (60"+ DEEP)-MACOMBER (20"-40"+ DEEP)-TACONIC (0"-20") AND DESCRIBED AS VERY DEEP TO SHALLOW, GENTLY SLOPING TO VERY STEEP, SOMEWHAT EXCESSIVELY DRAINED AND WELL DRAINED SOILS THAT FORMED IN LOAMY GLACIAL TILL. THE RESPECTIVE SOIL ERODIBILITY COEFFICIENTS ARE 0.32 - 0.24 - 0.24. THERE ARE NO KNOWN SENSITIVE RESOURCE AREAS WITHIN OR IMMEDIATELY OUTSIDE THE PROJECT LIMITS.

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: NO
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: JOINER BROOK
WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT FALLS UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES FOR LOW RISK PROJECTS. ANY MODIFICATIONS TO THE PROJECT THAT INCREASE THE RISK TO ENVIRONMENTAL RESOURCES SHALL BE EVALUATED IN ACCORDANCE WITH THE PERMIT REQUIREMENTS. 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 POLLLUTION 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 CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED. PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES. BECAUSE THIS PROJECT FALLS UNDER THE CGP 3-9020, BARRIER FENCE SHALL BE USED INSTEAD OF PROJECT DEMARCATION FENCE WITHIN 100 FEET OF A WATER RESOURCE (STREAM, BROOK, LAKE, POND, WETLAND, ETC).

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.

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 CONTRACTOR'S PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED ON 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. BECAUSE THIS PROJECT FALLS UNDER THE CGP 3-9020, WOVEN WIRE REINFORCED SILT FENCE SHALL BE USED INSTEAD OF SILT FENCE WITHIN 100 FEET UPSLOPE OF RECEIVING WATERS.

STONE AND BLOCK INLET PROTECTION SHALL BE USED AROUND ALL DRAINAGE INLETS IN PAVEMENT.

FILTER FABRIC INLET PROTECTION SHALL BE USED AROUND ALL DRAINAGE INLETS IN VEGETATED AREAS.

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 REALTIVELY FLAT. THERFORE IT IS NOT ANTICPIATED 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 WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN, AT A MINIMUM.

1.4.7 CONSTRUCT PERMANENT CONTROLS

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

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 WILL BE NECESSARY WHEN THE PROJECT EXTENDS 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.

TREATMENT OF DEWATERING COFFERDAM IS ANTICIPATED. A LOCATION FOR TREATMENT HAS BEEN PROPOSED AND IS SHOWN ON THE PLANS. HOWEVER THE SPECIFIC MEANS FOR TREATMENT OF DISCHARGE SHALL BE PROVIDED BY THE CONTRACTOR.

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

Stantec

PROJECT NAME: PUTNEY
PROJECT NUMBER: IM 091-1(31)

FILE NAME: ...\21z93a148ero narrative.ptf PLOT DATE: 10/19/2009
PROJECT LEADER: G. BOGUE DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING CHECKED BY: G. GOYETTE
EPSC NARRATIVE SHEET 15 OF 75



SOIL CLASSIFICATION

DUMMERSTON SILT LOAM
VERY STONY
8 - 15% SLOPES
"K FACTOR" 0.28
CLASSIFIED HIGHLY ERODIBLE

0 40 80
SCALE

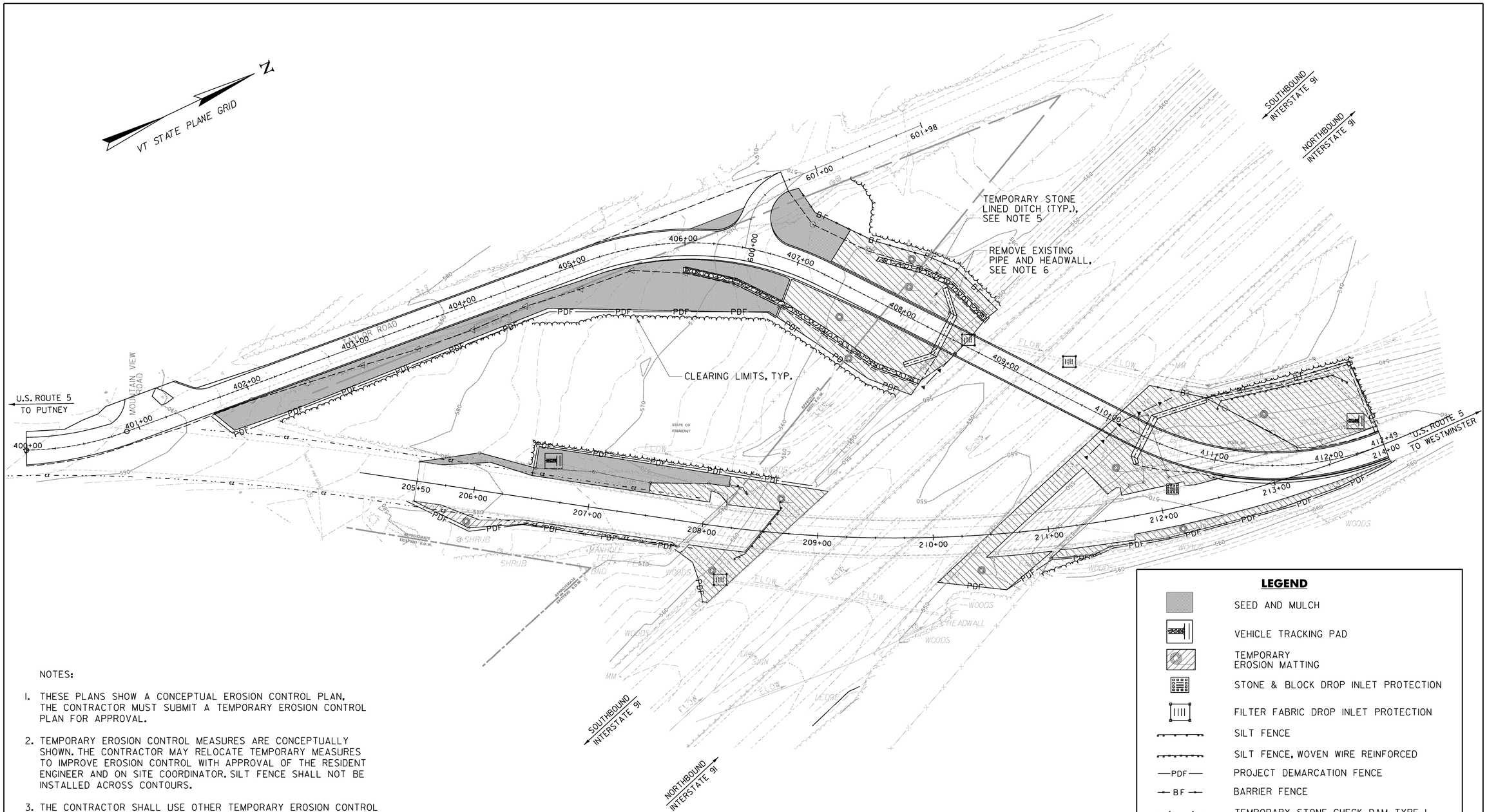
THIS SHEET IS FOR EROSION PREVENTION AND SEDIMENT CONTROL ONLY

Stantec

EPSC EXISTING CONDITIONS SITE PLAN

PROJECT NAME: PUTNEY
PROJECT NUMBER: IM-091-1(31)

FILE NAME: ...\Plot Files\15 z93a148ero 1.pltf PLOT DATE: 10/19/2009
PROJECT LEADER: G. BOGUE DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING CHECKED BY: G. GOYETTE
EPSC EXISTING CONDITIONS SITE PLAN SHEET 16 OF 75



LEGEND

- SEED AND MULCH
- VEHICLE TRACKING PAD
- TEMPORARY EROSION MATTING
- STONE & BLOCK DROP INLET PROTECTION
- FILTER FABRIC DROP INLET PROTECTION
- SILT FENCE
- SILT FENCE, WOVEN WIRE REINFORCED
- PDF — PROJECT DEMARCATION FENCE
- BF — BARRIER FENCE
- TEMPORARY STONE CHECK DAM, TYPE I
- CLEARING LIMITS, TYP.

NOTES:

1. THESE PLANS SHOW A CONCEPTUAL EROSION CONTROL PLAN, THE CONTRACTOR MUST SUBMIT A TEMPORARY EROSION CONTROL PLAN FOR APPROVAL.
2. TEMPORARY EROSION CONTROL MEASURES ARE CONCEPTUALLY SHOWN. THE CONTRACTOR MAY RELOCATE TEMPORARY MEASURES TO IMPROVE EROSION CONTROL WITH APPROVAL OF THE RESIDENT ENGINEER AND ON SITE COORDINATOR. SILT FENCE SHALL NOT BE INSTALLED ACROSS CONTOURS.
3. THE CONTRACTOR SHALL USE OTHER TEMPORARY EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION OR AS DIRECTED BY THE RESIDENT ENGINEER AND ON SITE COORDINATOR.
4. REFER TO TEMPORARY EROSION CONTROL DETAIL SHEETS FOR ADDITIONAL DETAILS.
5. SEE TEMPORARY DETOUR CROSS-SECTIONS FOR TEMPORARY STONE LINED DITCH DETAILS. PAYMENT SHALL BE INCIDENTAL TO 528.11, TWO WAY TEMPORARY BRIDGE.
6. PAYMENT TO REMOVE PIPE AND HEADWALL FOR CONSTRUCTION OF TEMPORARY BRIDGE APPROACH SHALL BE INCIDENTAL TO ITEM 528.11.

0 40 80
SCALE

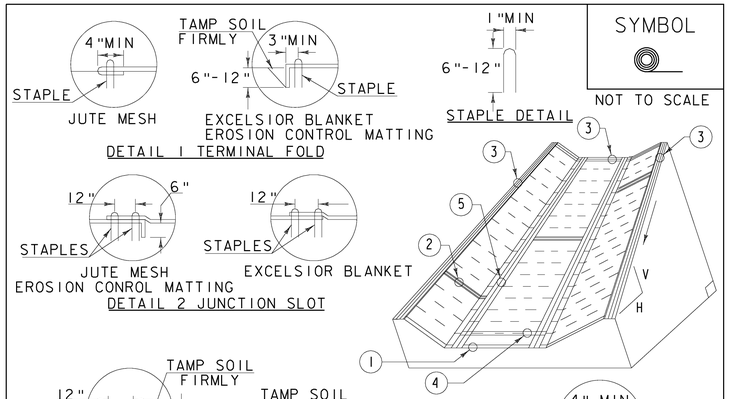
THIS SHEET IS FOR EROSION PREVENTION AND SEDIMENT CONTROL ONLY

Stantec

EPSC CONSTRUCTION SITE PLAN

PROJECT NAME: PUTNEY
PROJECT NUMBER: IM-091-1(31)

FILE NAME: ...\Plot Files\16 z93a148ero 2.pltPLOT DATE: 10/19/2009
PROJECT LEADER: G. BOGUE DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING CHECKED BY: G. GOYETTE
EPSC CONSTRUCTION SITE PLAN SHEET 17 OF 75



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

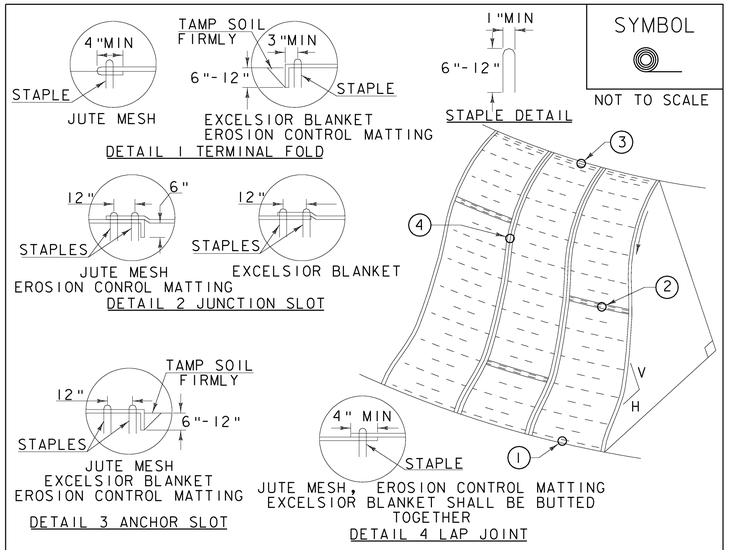
1. EROSION MATTING, CHECK SLOTS, SHALL BE SPACED IN DITCH CHANNEL SO THAT ONE OCCURS WITHIN EACH 50' ON SLOPES OF MORE THAN 4% AND LESS THAN 6%. ON SLOPES OF 6% OR MORE, THEY SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25'.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO 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



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

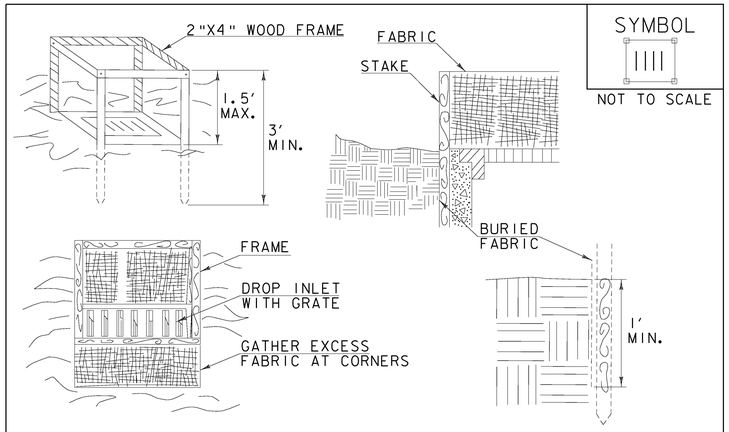
1. APPLY TO SLOPES GREATER THAN 3H: IV OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 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

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN APPARENT OPENING SIZE OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2"x 4" WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3'.
4. SPACE STAKES EVENLY AROUND INLET 3' APART AND DRIVE A MINIMUM 18" DEEP. SPANS GREATER THAN 3' MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1' MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
7. MAXIMUM DRAINAGE AREA 1 ACRE

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

FILTER FABRIC 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 7, 2008	WHF
JANUARY 13, 2009	WHF

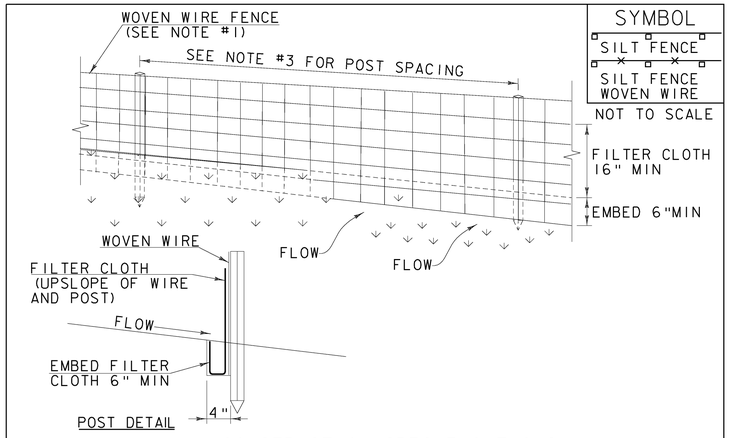
EPSC DETAIL SHEETS

Stantec

PROJECT NAME: PUTNEY
PROJECT NUMBER: IM-091-1(31)

FILE NAME: ...\18 z93al48erodet.ptf
PROJECT LEADER: G. BOGUE
DESIGNED BY: VTRANS
EPSC DETAILS SHEET - 1

PLOT DATE: 10/19/2009
DRAWN BY: VTRANS
CHECKED BY:
SHEET 19 OF 75



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. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

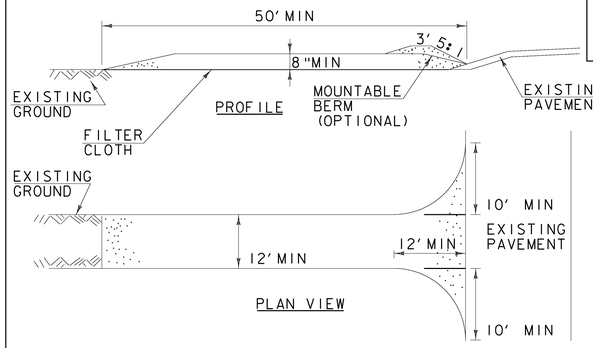
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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

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.

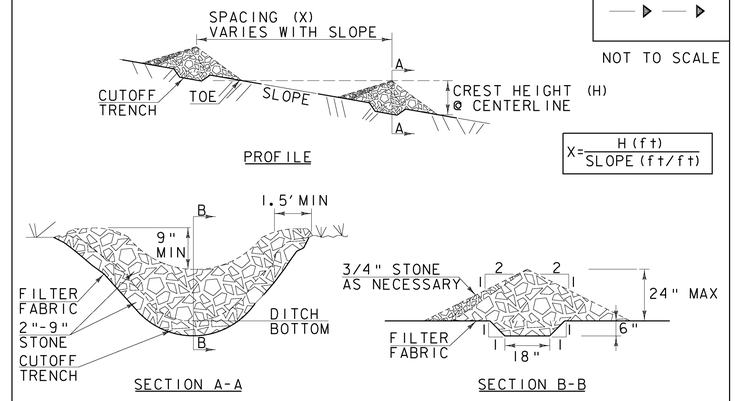
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. CHECK DAMS SHALL BE SPACED SO THAT THE ELEVATION OF THE CREST OFTHE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. 3/4" FILTERING STONE MAY BE ADDED TO THE FACE OF THE CHECK DAM AS NECESSARY.
4. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
5. PROTECT CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
6. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
7. MAXIMUM DRAINAGE AREA 2 ACRES.

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

CHECK DAM

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 TEMPORARY STONE CHECK DAM, TYPE I (PAY ITEM 653.25)

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF

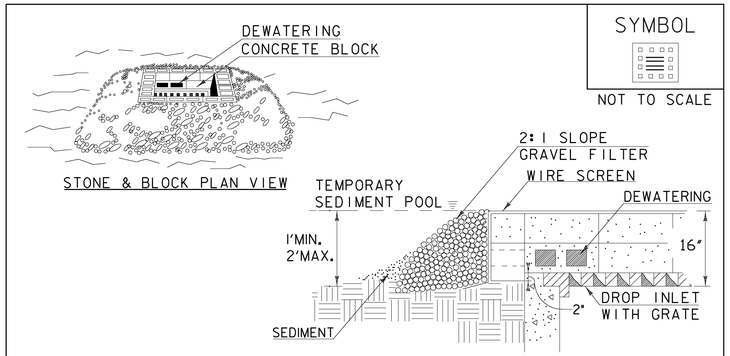
EPSC DETAIL SHEETS

Stantec

PROJECT NAME: PUTNEY
PROJECT NUMBER: IM-091-1(31)

FILE NAME: ...\19 z93a148erodet 2.ptf
PROJECT LEADER: G. BOGUE
DESIGNED BY: VTRANS
EPSC DETAILS SHEET - 2

PLOT DATE: 10/19/2009
DRAWN BY: VTRANS
CHECKED BY:
SHEET 20 OF 75



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

Stantec

PROJECT NAME: PUTNEY
PROJECT NUMBER: IM-091-1(31)

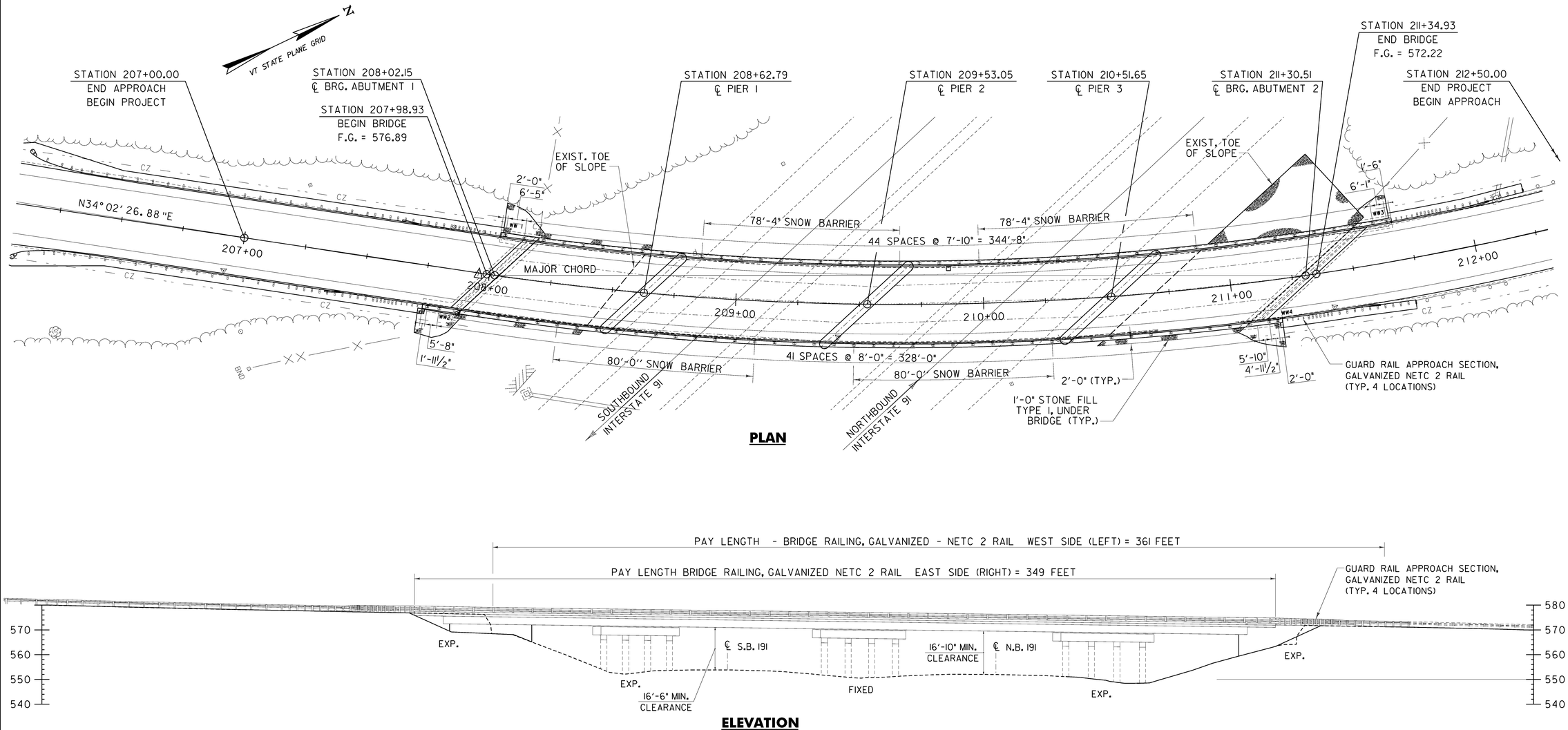
FILE NAME: ...\20 z93a148erodet 3.ptf
PROJECT LEADER: G. BOGUE
DESIGNED BY: VTRANS
EPSC DETAILS SHEET – 3

PLOT DATE: 10/19/2009
DRAWN BY: VTRANS
CHECKED BY:
SHEET 21 OF 75

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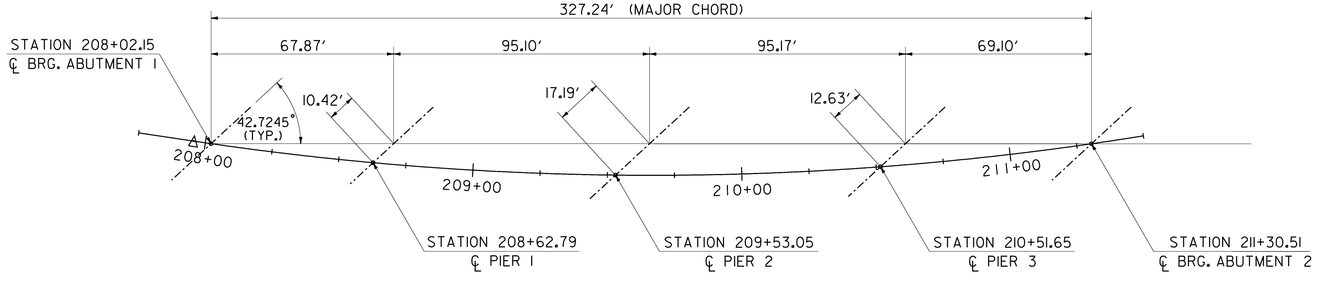
Stantec

PROJECT NAME:	PUTNEY
PROJECT NUMBER:	IM-091-1(31)
FILE NAME: ...\plot files\23 z93al48blank.ptf	PLOT DATE: 10/19/2009
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: G. GOYETTE
BLANK SHEET	SHEET 23 OF 75



PLAN

ELEVATION



SURVEY LAYOUT PLAN
N.T.S.

0 20 40
20 SCALE IN FEET

Stantec

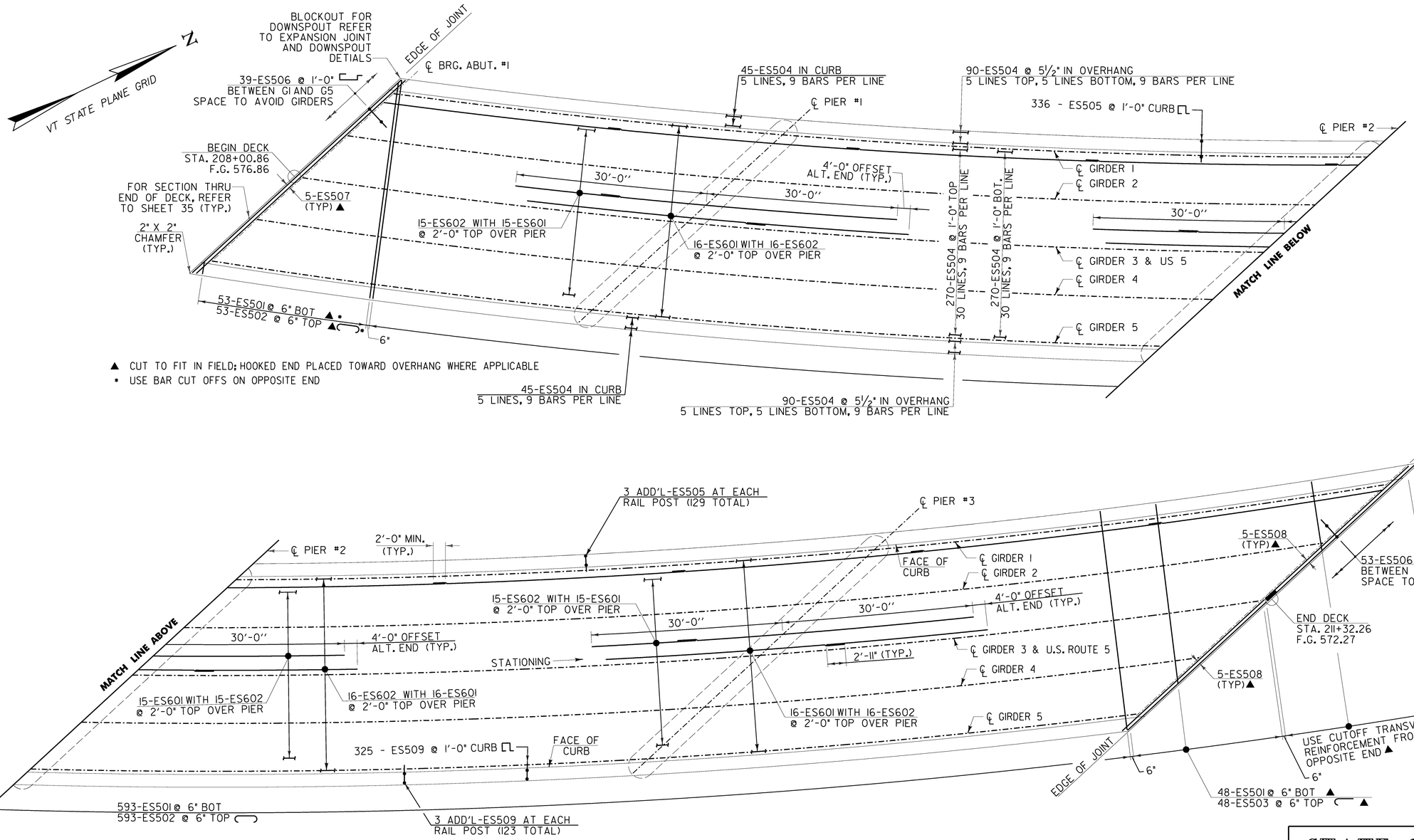
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	PUTNEY	Bridge No.	19A
Highway No.	U.S. ROUTE 5	Log Sta. / Surv. Sta.	

U.S. ROUTE 5 OVER I-91

PLAN AND ELEVATION

Designed By	T. KNIGHT	Drawn By	R. WALKER
Checked By	T. KNIGHT	Date	07/09
Bridge Design Supervisor	G. BOGUE	Date	07/09
PROJECT	PUTNEY	PROJECT NO.	IM 091-1(31)
CAD Drawing Name:	...\Plot Files\24 z93bridgeplan1	Date	10/19/2009
Bridge Sheet No.		Sheet	24 of 75



DECK REINFORCEMENT PLAN

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

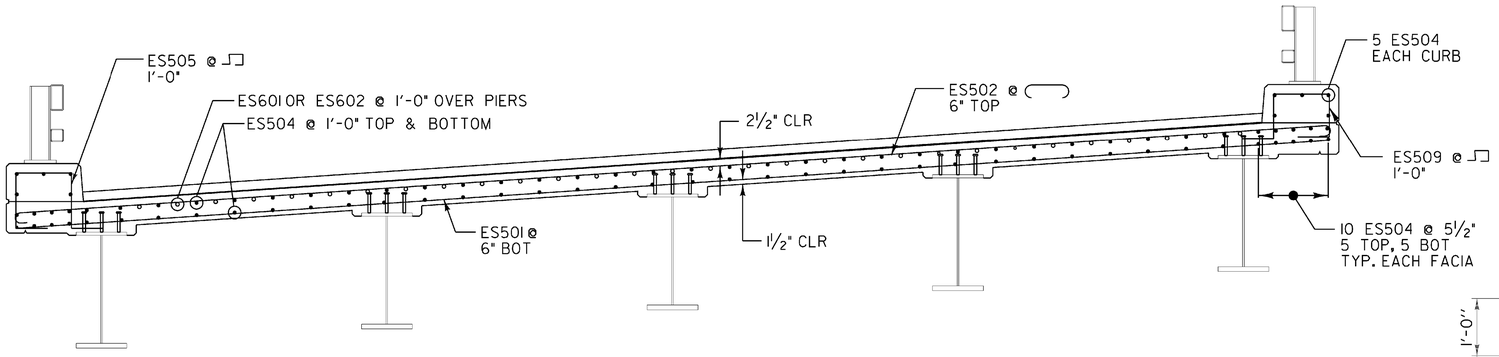
NOTES:

1. FOR TYPICAL REINFORCEMENT SECTION, REFER TO SHEET 27.
2. FOR DECK PLACEMENT SEQUENCE, REFER TO SHEET 27.

Stantec

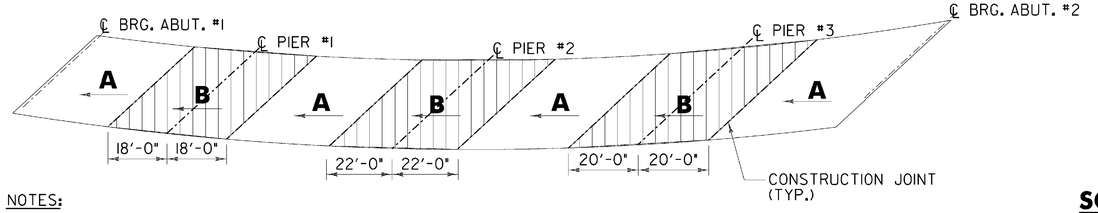
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of PUTNEY	Bridge No. 19A
Highway No. U.S. ROUTE 5	Log Sta. / Surv. Sta.
U.S. ROUTE 5 OVER I-91	
DECK REINFORCEMENT PLAN	
Designed By T. KNIGHT	Drawn By E. ALLING
Checked By T. KNIGHT — Date 06/09	Bridge Design Supervisor G. BOGUE — Date 06/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Drawing Name: ...\Plot Files\26 z93bdr.dgn	Plotted: 10/19/2009
Bridge Sheet No.	Sheet 26 of 75



TYPICAL DECK REINFORCEMENT SECTION

SCALE 1/2 " = 1'-0"



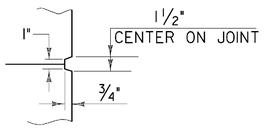
NOTES:

1. IT IS MANDATORY THAT THE DECK CONCRETE BE PLACED FIRST IN THE POSITIVE MOMENT REGIONS MARKED **A**. CONCRETE SHALL BE PLACED CONTINUOUSLY WITH THE CONCRETE REMAINING PLASTIC THROUGH OUT THE PLACEMENT.
2. ALL AREAS MARKED **A** SHALL BE PLACED DURING THE SAME WORK PERIOD.
3. THE CONCRETE SHALL BE DEPOSITED PARALLEL TO THE CENTERLINE OF BEARING SO AS TO LOAD THE GIRDERS EQUALLY, ARROWS INDICATE THE DIRECTION OF PLACEMENT.
4. TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINTS, AS SHOWN ON THIS SHEET, SHALL BE USED BETWEEN ADJACENT DECK PLACEMENTS.
5. A NINETY-SIX (96) HOUR DELAY BETWEEN THE COMPLETION OF PLACEMENT **A** SHALL BE OBSERVED BEFORE PLACEMENT **B**.
6. THE CONTRACTOR MAY SUBMIT, IN WRITING, AN ALTERNATE PLACEMENT SEQUENCE TO THE ENGINEER FOR REVIEW AND APPROVAL.

DECK PLACED IN ONE POUR

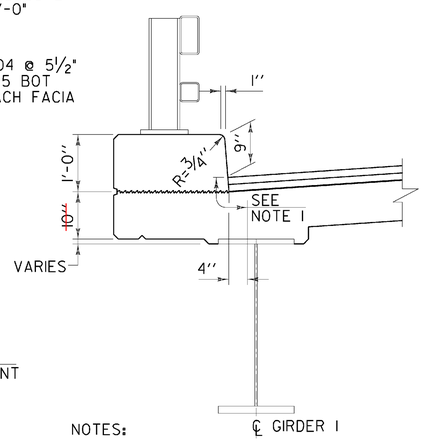
DECK PLACEMENT SEQUENCE

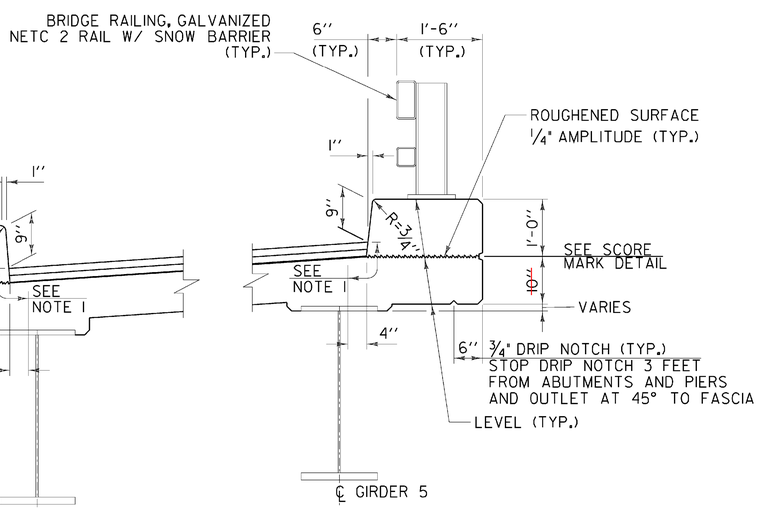
NOT TO SCALE



SCORE MARK DETAIL

NOT TO SCALE



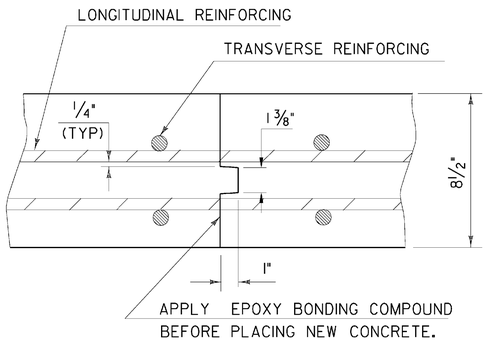


NOTES:

1. INDICATES AREA ALONG THE DECK AND UP THE FACE OF THE CURB FOR PLACEMENT OF 2 COATS OF POLYURETHANE MEMBRANE.
2. POLYURETHANE MEMBRANE AND BLAST CLEANING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SHEET MEMBRANE WATERPROOFING, TORCH APPLIED.
3. SHEET MEMBRANE WATERPROOFING, TORCH APPLIED SHALL EXTEND TO THE FACE OF THE CURB AS SHOWN.
4. BLAST CLEAN 3 FEET FROM THE FACE OF THE CURB AND 3 INCHES UP THE CURB FACE PRIOR TO PLACING MEMBRANE.
5. ALL CONCRETE IN THE CURB SHALL BE ITEM 900.608 SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT).

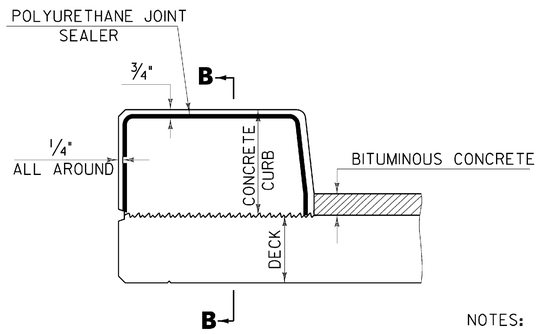
TYPICAL CURB SECTION

SCALE 3/4" = 1'-0"



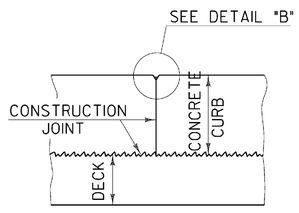
TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS

NOT TO SCALE



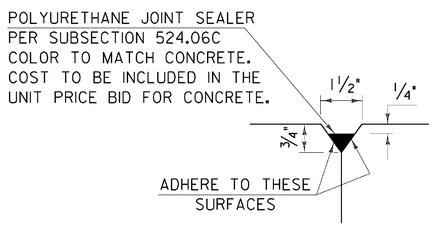
TYPICAL CURB JOINT

NOT TO SCALE



SECTION B – B

NOT TO SCALE



DETAIL "B"

NOT TO SCALE

NOTES:

1. CONSTRUCTION JOINTS THROUGH CONCRETE CURBS SHALL BE SPACED MAXIMUM 15'-0" CENTER TO CENTER AND SHALL BE 1'-6" MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. CONCRETE SHALL BE PLACED IN ALTERNATING SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.
2. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CURB CONSTRUCTION JOINTS.
3. THE CURB POUR SEQUENCE SHALL FOLLOW THE ORDER OF THE DECK POUR SEQUENCE. THE ENTIRE DECK SHALL BE POURED PRIOR TO THE CURB.

Stantec

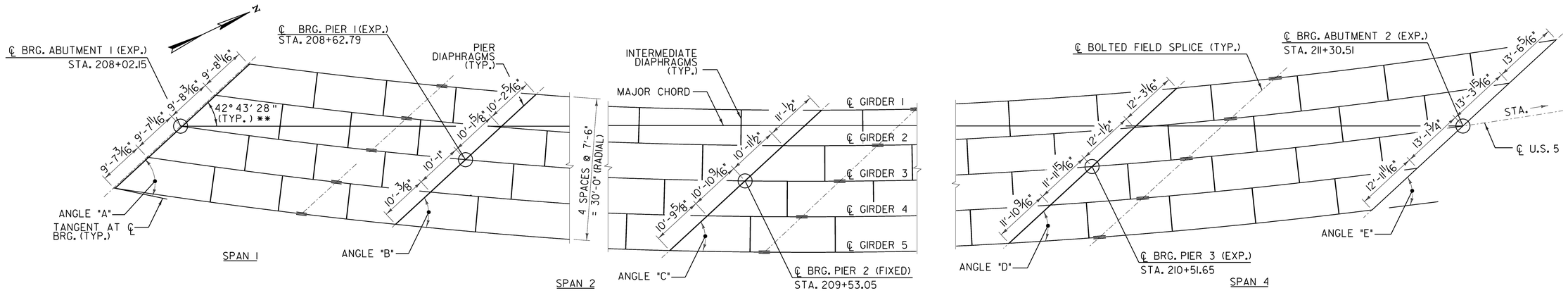
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	PUTNEY	Bridge No.	19A
Highway No.	U.S. ROUTE 5	Log Sta.	
		Surv. Sta.	

U.S. ROUTE 5 OVER I-91

DECK REINFORCEMENT SECTION

Designed By	T. KNIGHT	Drawn By	E. ALLING
Checked By	Date	Bridge Design Supervisor	
T. KNIGHT	06/09	G. BOGUE	Date 06/09
PROJECT	PUTNEY	PROJECT NO.	IM 091-1(31)
CAD Drawing Name:	...\27 z93a148rei_dd.dgn	Date:	10/19/2009
Bridge Sheet No.		Sheet 27 of 75	



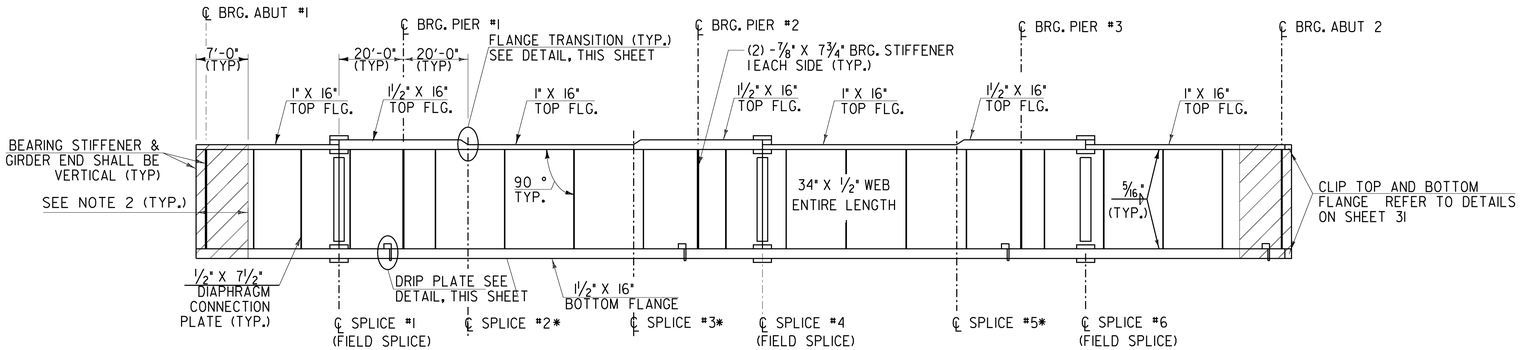
** ℄ BRG. TO MAJOR CHORD

FRAMING PLAN

SCALE 3/32" = 1'-0"

10 4 8 12 16

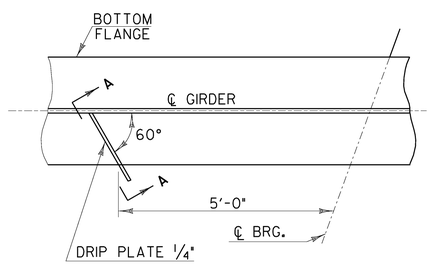
GIRDER NO.	ANGLE "A"	ANGLE "B"	ANGLE "C"	ANGLE "D"	ANGLE "E"
1	51°31'55"	48°34'01"	44°09'58"	39°22'53"	35°34'40"
2	51°14'07"	48°14'14"	43°46'52"	38°55'31"	35°03'13"
3	50°56'01"	47°54'05"	43°23'19"	38°27'31"	34°30'56"
4	50°37'35"	47°33'34"	42°59'16"	37°58'51"	33°57'46"
5	50°18'50"	47°12'40"	42°34'42"	37°29'29"	33°23'40"



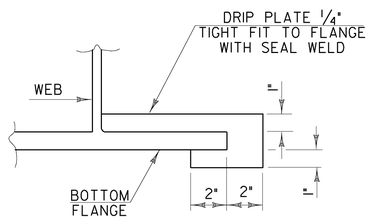
GIRDER PLATE SIZES

NOT TO SCALE

*OPTIONAL FIELD SPLICE, SEE NOTE 4



PLAN

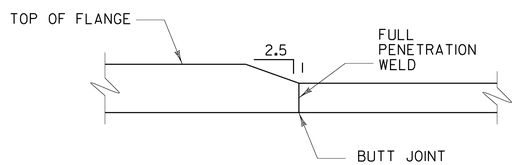


SECTION A – A

NOTE: DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FASCIA GIRDERS ON THE HIGH SIDE OF ALL PIERS AND ABUTMENTS.

DRIP PLATE DETAIL

NOT TO SCALE



FLANGE THICKNESS TRANSITION DETAIL

NOT TO SCALE

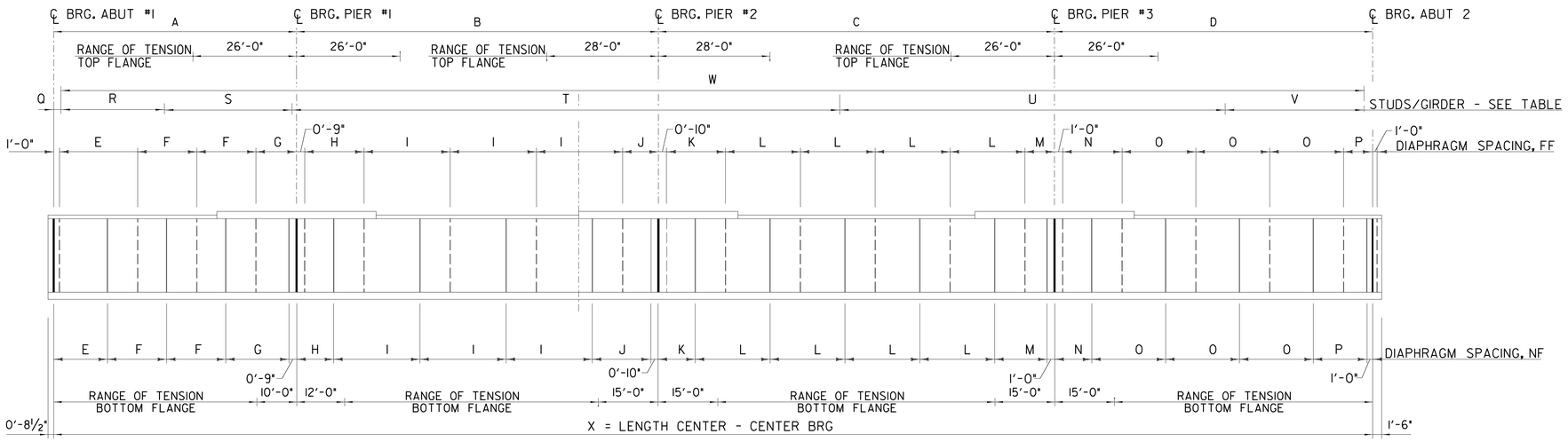
NOTES:

1. FOR DIAPHRAGM LAYOUT AND GIRDER DIMENSIONS REFER TO SHEET 29.
2. ALL STRUCTURAL STEEL INCLUDING, GIRDERS, CROSS FRAMES, BEARING PLATES AND GUSSET PLATES WITHIN A DISTANCE OF 7 FEET FROM THE END OF THE GIRDERS WILL BE COATED WITH A PROTECTIVE PAINT SYSTEM AND GREASE RUSTPROOFING COMPOUND. THE FINAL PAINT COAT TO BE DARK BROWN, FEDERAL COLOR CHIP NO. 20059. THIS WORK SHALL BE PAID FOR UNDER ITEM 513.25, "STRUCTURAL PAINTING, SHOP APPLIED" AND 513.40, "SURFACE PREPARATION". SEE SECTION 513 OF THE STANDARD SPECIFICATIONS.
3. FOR BOLTED FIELD SPLICE DETAILS, REFER TO SHEET 30. SPLICES #2, #3 AND #5 ARE OPTIONAL FIELD SPLICES. THE CONTRACTOR MAY ELECT TO PROVIDE A BOLTED FIELD SPLICE AT THESE LOCATIONS IN PLACE OF SPLICES #1, #4 AND #6. A MAXIMUM OF THREE FIELD SPLICES PER GIRDER WILL BE ALLOWED.
4. FOR RANGES OF TENSION, REFER TO SHEET 29. ALL FLANGE AND WEB PLATES WITHIN THE RANGE OF TENSION SHALL BE CHARPY V NOTCH TESTED.
5. ALL DIAPHRAGM MEMBERS SHALL BE CHARPY V NOTCH TESTED. FOR DIAPHRAGM DETAILS REFER TO SHEET 31.
6. FOR CAMBER AND DEAD LOAD DEFLECTION DIAGRAMS, SEE SHEET 30.
7. THE ENDS OF GIRDERS AND BEARING STIFFENERS SHALL BE VERTICAL UNDER DEAD LOAD.

Stantec

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of PUTNEY	Bridge No. 19A
Highway No. U.S. ROUTE 5	Log Sta. / Surv. Sta.
U.S. ROUTE 5 OVER I-91	
FRAMING PLAN	
Designed By G. BOGUE	Drawn By T. KNIGHT
Checked By G. BOGUE Date 06/09	Bridge Design Supervisor G. BOGUE Date 07/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Drawing Name: ...\Plot Files\28 z93bridgeplan.dgn	Plotted: 10/19/2009
Bridge Sheet No.	Sheet 28 of 75



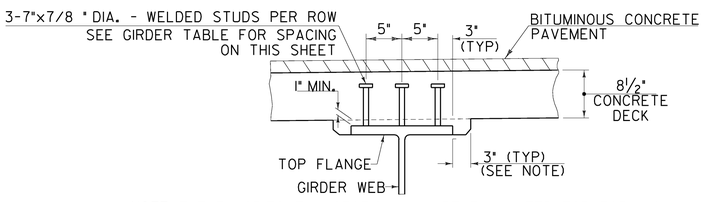
GIRDER ELEVATION

NOT TO SCALE

NOTE:
NF = NEAR FACE
FF = FAR FACE

		GIRDER 1		GIRDER 2		GIRDER 3		GIRDER 4		GIRDER 5	
			G1 - NF	G2 - FF	G2 - NF	G3 - FF	B3 - NF	G4 - FF	G4 - NF	G5 - FF	
C.C. BRG	A	61'-2 5/16"		60'-11 1/4"		60'-7 11/16"		60'-4 1/4"		60'-0 5/16"	
	B	91'-5 1/4"		90'-10 1/16"		90'-3 1/8"		89'-8 7/16"		89'-2"	
	C	100'-4 5/16"		99'-5 13/16"		98'-7 3/16"		97'-9 1/16"		96'-11 3/8"	
	D	80'-10 1/16"		79'-10"		78'-10 5/16"		77'-11 1/4"		77'-0 1/16"	
BEARING STIFFENER AND DIAPHRAGM CONNECTIONS	E	-	14'-9 3/8"	20'-1 1/16"	14'-7 1/2"	19'-10 1/4"	14'-7 11/16"	19'-9 3/4"	14'-6"	19'-7 5/16"	-
	F	-	14'-9"	14'-10 3/16"	14'-8"	14'-9 3/16"	14'-6"	14'-7 1/8"	14'-5"	14'-6 1/8"	-
	G	-	16'-2 9/16"	10'-11 5/16"	16'-2 3/4"	10'-3 1/16"	16'-3"	10'-4 1/4"	16'- 3 1/4"	10'-5 3/8"	-
	H	-	9'-11 5/8"	16'-2 1/2"	9'-10 1/4"	16'-0 1/8"	10'-3 3/16"	16'-4 1/16"	10'-2 3/8"	16'-2 5/16"	-
	I	-	21'-6"	21'-7 11/16"	21'-4"	21'-5 11/16"	21'-0"	21'-1 5/16"	20'-10"	20'-11 5/16"	-
	J	-	16'-1 5/8"	8'-11 1/2"	16'-1 13/16"	9'- 0 5/16"	16'-1 5/16"	9'-2 1/2"	16'- 2 1/16"	9'-3 1/16"	-
	K	-	8'-8 1/4"	16'-0 5/16"	8'-9 7/16"	16'-0 5/16"	8'-11 3/16"	16'-0 3/4"	9'-1 3/16"	16'-1 3/4"	-
	L	-	18'-8"	18'-9 1/2"	18'-5"	18'-6 7/16"	18'-2"	18'-3 7/16"	17'-11"	18'- 0 3/8"	-
	M	-	16'- 0 11/16"	7'-5 3/8"	16'- 0 3/8"	7'-7 1/8"	16'-0"	7'-8 3/16"	15'-11 11/16"	7'-10 1/8"	-
	N	-	7'-1 5/16"	15'-11 1/4"	7'-1 13/16"	15'-9 1/16"	7'-6 3/8"	15'-11 3/4"	7'-7 9/16"	15'-11 1/16"	-
	O	-	18'-5"	18'-6 7/16"	18'-2"	18'-3 7/16"	17'-10"	17'-11 3/16"	17'-7"	17'-8 3/16"	-
	P	-	17'-5 1/2"	7'-3 7/16"	17'-2 3/16"	7'-2 5/16"	16'-9 5/16"	7'-1 3/8"	16'-6 11/16"	7'- 0 5/8"	-
SHEAR STUD LAYOUT	Q	4 1/4"		3 1/2"		1 1/8"		5 3/8"		3"	
	R	24 SP. @ 1'-3" = 30'-0"		29 SP. @ 1'-3" = 36'-3"		28 SP. @ 1'-3" = 35'-0"		28 SP. @ 1'-3" = 35'-0"		28 SP. @ 1'-3" = 35'-0"	
	S	64 SP. @ 6" = 32'-0"		50 SP. @ 6" = 25'-0"		50 SP. @ 6" = 25'-0"		50 SP. @ 6" = 25'-0"		50 SP. @ 6" = 25'-0"	
	T	165 SP. @ 10" = 137'-6"		174 SP. @ 10" = 145'-0"		173 SP. @ 10" = 144'-2"		172 SP @ 10" = 143'-4"		171 SP. @ 10" = 142'-6"	
	U	129 SP. @ 9" = 96'-9"		107 SP. @ 9" = 80'-3"		108 SP. @ 9" = 81'-0"		106 SP. @ 9" = 79'-6"		127 SP. @ 9" = 95'-3"	
	V	37 SP. @ 12" = 37'-0"		44 SP. @ 12" = 44'-0"		43 SP. @ 12" = 43'-0"		42 SP. @ 12" = 42'-0"		25 SP. @ 12" = 25'-0"	
	W	420 ROWS X 3 STUDS PER ROW = 1260 STUDS		405 ROWS X 3 STUDS PER ROW = 1215 STUDS		403 ROWS X 3 STUDS PER ROW = 1209 STUDS		399 ROWS X 3 STUDS PER ROW = 1197 STUDS		402 ROWS X 3 STUDS PER ROW = 1206 STUDS	
RADIUS		1130'-11"		1138'-5"		1145'-11"		1153'-5"		1160'-11"	
X		333'-11 9/16"		331'-1 1/8"		328'-4 5/16"		325'-9"		323'-3 1/8"	

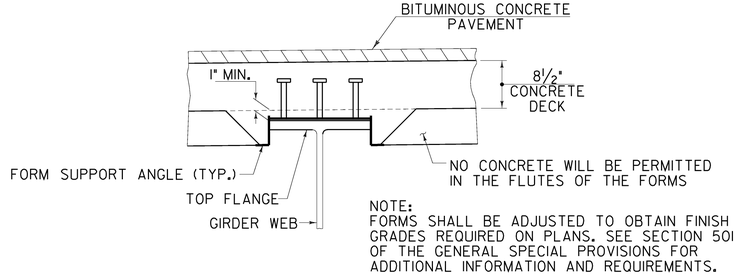
GIRDER DIMENSION TABLE



NOTE: THE 3" HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES. SYSTEMS SHALL BE SUBMITTED FOR APPROVAL TO THE STRUCTURES ENGINEER. ANY VOIDS RESULTING FROM THIS FORMING SYSTEM SHALL BE FILLED WITH MORTAR, TYPE IV OR AN EQUIVALENT PRODUCT FROM THE APPROVED PRODUCTS LIST (SEE SUBSECTION 707.03).

HAUNCH AND SHEAR CONNECTOR DETAILS

NOT TO SCALE



NOTE:
FORMS SHALL BE ADJUSTED TO OBTAIN FINISH GRADES REQUIRED ON PLANS. SEE SECTION 501 OF THE GENERAL SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

ALTERNATE HAUNCH DETAIL (STAY-IN-PLACE FORMS)

NOT TO SCALE

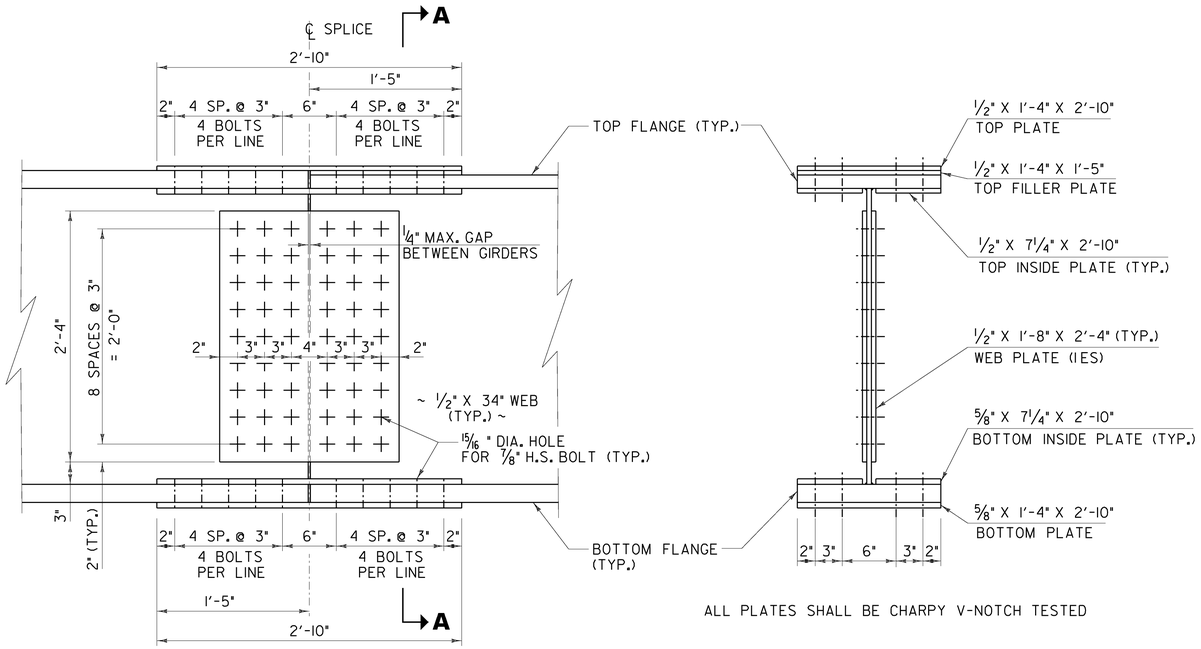
NOTES:

1. GIRDER DIMESIONS ARE GIVEN ALONG CENTERLING OF GIRDER.
2. FOR ADDITIONAL NOTES REFER TO SHEET 28.

Stantec

STATE OF VERMONT
AGENCY OF TRANSPORTATION

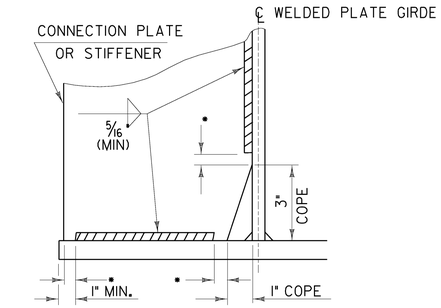
Town Of PUTNEY	Bridge No. 19A
Highway No. U.S. ROUTE 5	Log Sta. Surv. Sta.
U.S. ROUTE 5 OVER I-91	
GIRDER DETAILS I	
Designed By G. BOGUE	Drawn By T. KNIGHT
Checked By G. BOGUE Date 06/09	Bridge Design Supervisor G. BOGUE Date 07/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Drawing Name: ...\Plot Files\29 z93bridgedet6	Plot Date: 10/19/2009
Bridge Sheet No.	Sheet 29 of 75



ELEVATION

SECTION A–A

ALL PLATES SHALL BE CHARPY V-NOTCH TESTED



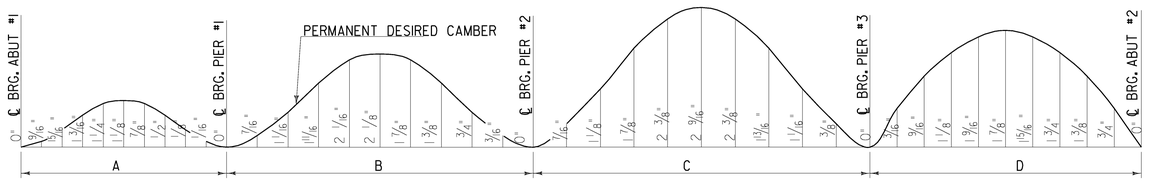
▪NO WELD FOR 3/8" MIN. 7/8" MAX. (EXCEPT MUST MAINTAIN 1" MINIMUM FROM EDGE OF FLANGE) STOP WELD 1/4" FROM PLATE END)

WELD TERMINATION AND COPING DETAILS FOR STEEL MEMBERS

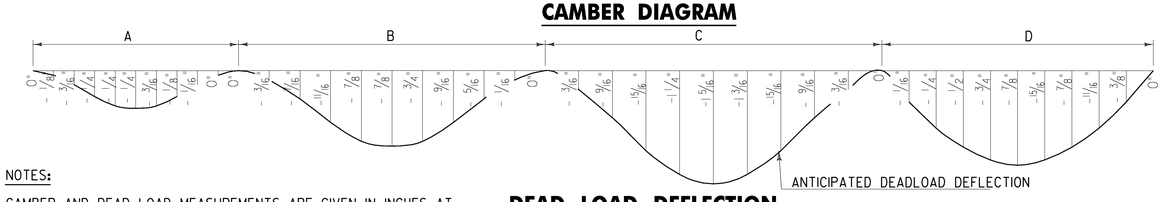
NOT TO SCALE

BOLTED FIELD SPLICE DETAILS

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



CAMBER DIAGRAM

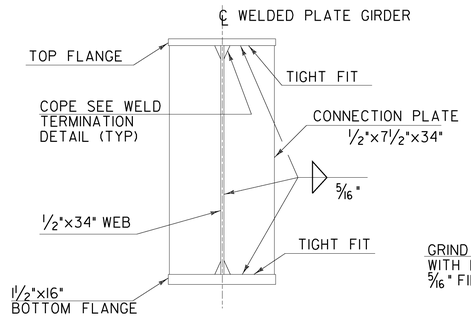


DEAD LOAD DEFLECTION

NOT TO SCALE

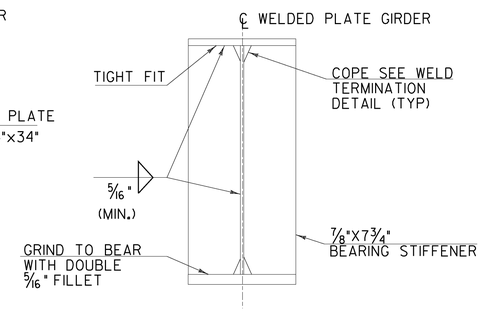
NOTES:

1. CAMBER AND DEAD LOAD MEASUREMENTS ARE GIVEN IN INCHES AT SPAN TENTH POINTS.
2. DEAD LOAD DEFLECTIONS SHOWN ARE FOR ALL DEAD LOADS AND SUPERIMPOSED DEAD LOADS INCLUDING GIRDER AND DIAPHRAGM WEIGHTS. DESIGN DEAD LOAD DEFLECTIONS SHOWN ARE BASED ON THE AVERAGE OF GIRDERS 1 THRU 5.
3. CAMBER DIAGRAM INCLUDES RESIDUAL CAMBER, WHICH EXCEEDS THE VERTICAL CURVE CORRECTION. ADDITIONAL CORRECTION FOR VERTICAL CURVATURE IS NOT REQUIRED.



INTERMEDIATE CONNECTION PLATES

NOT TO SCALE



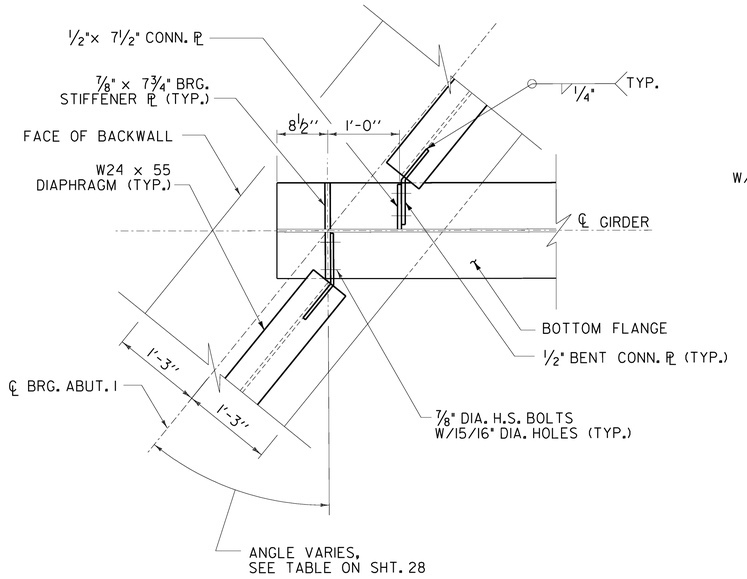
BEARING STIFFENERS

NOT TO SCALE

Stantec

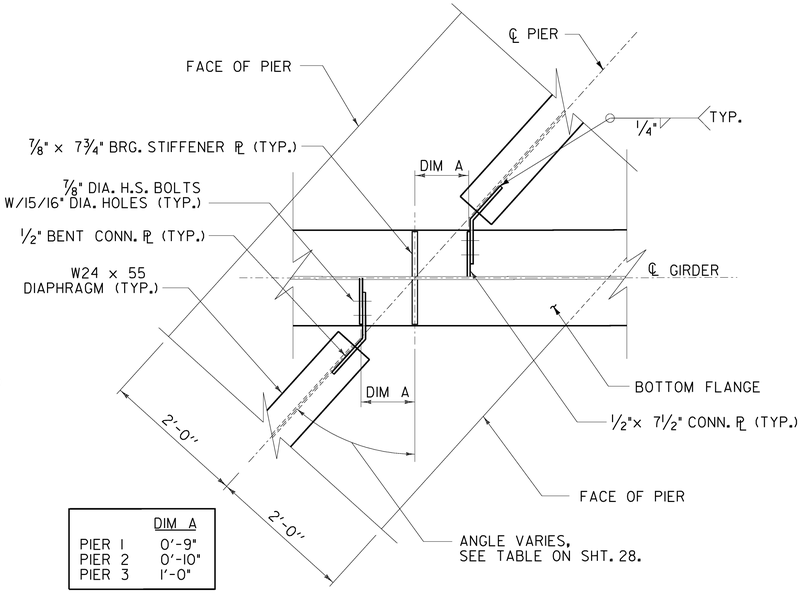
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of PUTNEY	Bridge No. 19A
Highway No. U.S. ROUTE 5	Log Sta. / Surv. Sta.
U.S. ROUTE 5 OVER I-91	
GIRDER DETAILS 2	
Designed By G. BOGUE	Drawn By E. ALLING
Checked By G. BOGUE Date 06/09	Bridge Design Supervisor G. BOGUE Date 07/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Drawing Name: ...\Plot Files\30 z93dtl2.dgn	Plotted: 10/19/2009
Bridge Sheet No.	Sheet 30 of 75



PARTIAL PLAN ABUT. 1 DIAPHRAGM

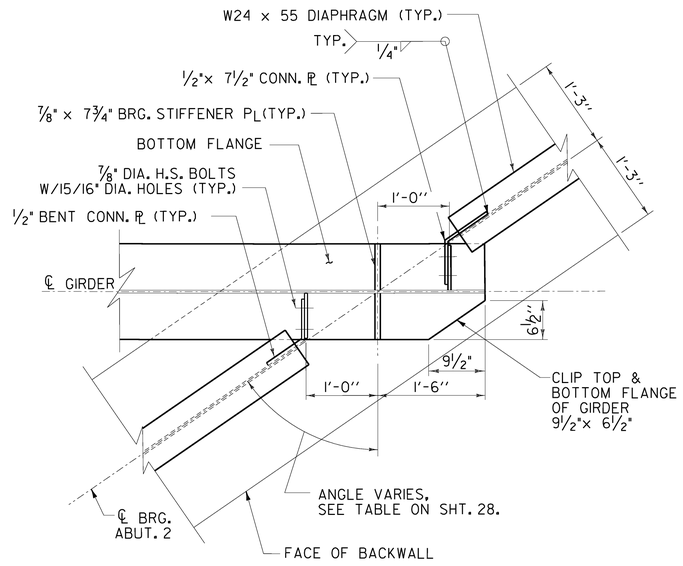
1" = 1'-0"



	DIM A
PIER 1	0'-9"
PIER 2	0'-10"
PIER 3	1'-0"

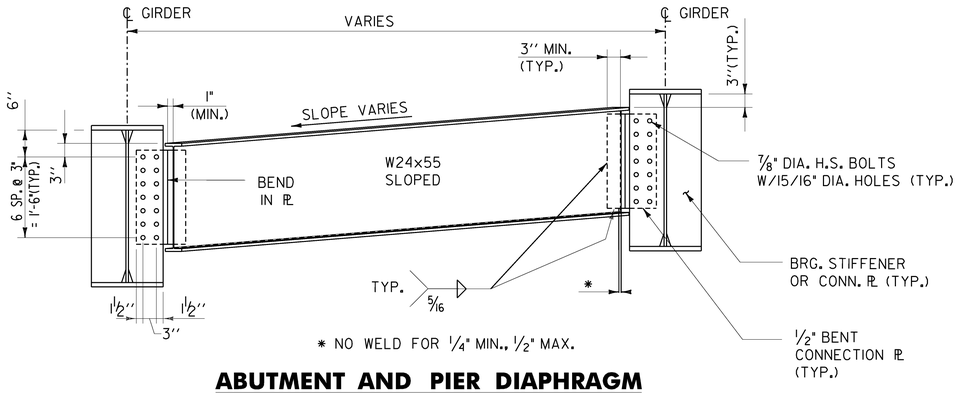
PARTIAL PLAN PIER DIAPHRAGM

1" = 1'-0"



PARTIAL PLAN ABUT. 2 DIAPHRAGM

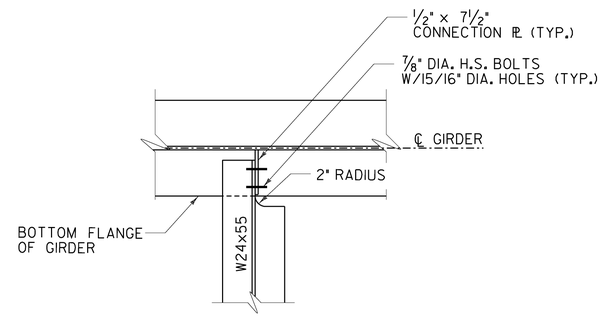
1" = 1'-0"



* NO WELD FOR 1/4" MIN., 1/2" MAX.

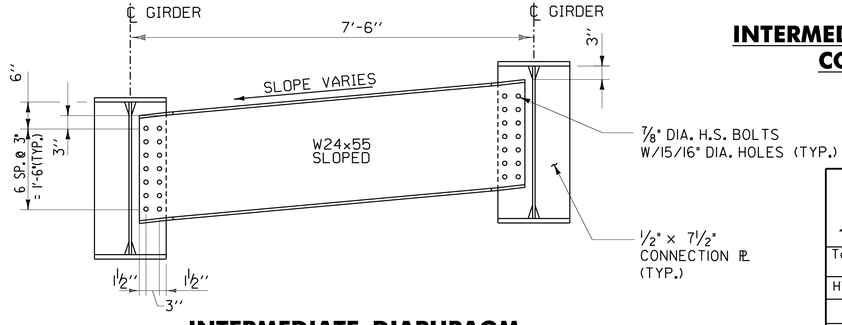
ABUTMENT AND PIER DIAPHRAGM

3/4" = 1'-0"



INTERMEDIATE DIAPHRAGM CONNECTION

1" = 1'-0"



INTERMEDIATE DIAPHRAGM

3/4" = 1'-0"

STATE OF VERMONT
AGENCY OF TRANSPORTATION

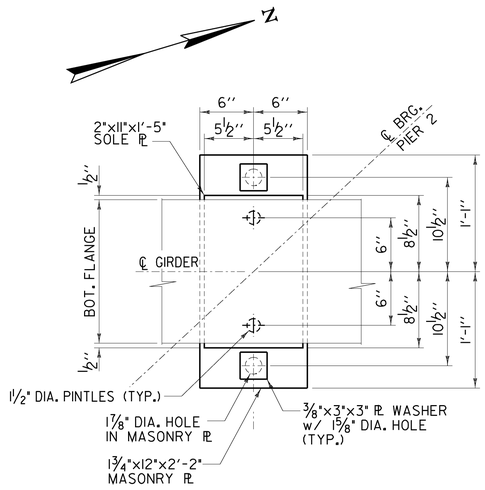
Town Of	PUTNEY	Bridge No.	19A
Highway No.	U.S. ROUTE 5	Log Sta. / Surv. Sta.	

U.S. ROUTE 5 OVER I-91

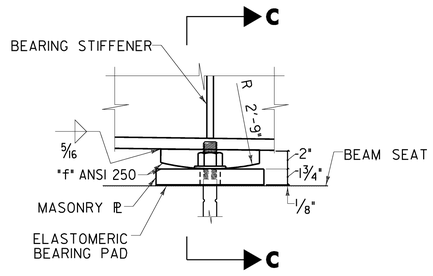
GIRDER DETAILS 3

Designed By	G. BOGUE	Drawn By	R. WALKER
Checked By	T. KNIGHT	Date	06/09
Bridge Design Supervisor	G. BOGUE	Date	06/09
PROJECT	PUTNEY	PROJECT NO.	IM 091-1(31)
CAD Drawing Name:	...\Plot Files\31z93a.dgn	Plot Date:	10/19/2009
Bridge Sheet No.		Sheet	31 of 75

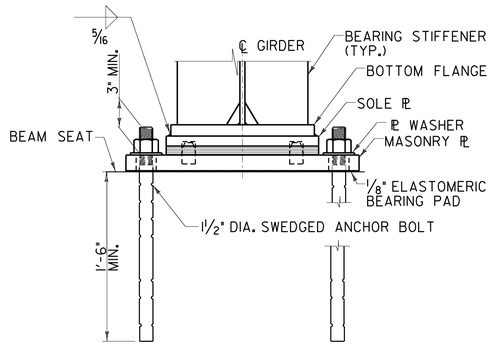
Stantec



PLAN



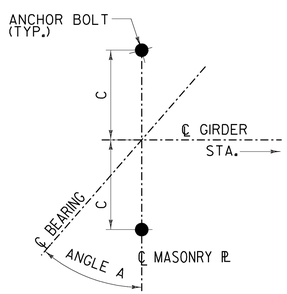
ELEVATION



SECTION C–C

STEEL FIXED BEARINGS – PIER 2

SCALE: I½" = I'-0"

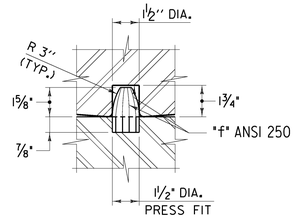


ANCHOR BOLT LAYOUT PLAN

NOT TO SCALE

ANCHOR BOLT LAYOUT TABLE – ANGLE A

LOCATION:	ABUT I.	PIER I	PIER 2	PIER 3	ABUT. 2
DIM C:	I0"	II"	I0½"	II"	I0"
GIRDER I	38°28'5"	4I°25'59"	45°50'2"	50°37'7"	54°25'20"
GIRDER 2	38°45'53"	4I°45'46"	46°I3'8"	5I°4'29"	54°56'47"
GIRDER 3	39°3'59"	42°5'55"	46°36'4I"	5I°32'29"	55°29'4"
GIRDER 4	39°22'25"	42°26'26"	47°0'44"	52°I'9"	56°2'I4"
GIRDER 5	39°4I'I0"	42°47'20"	47°25'I8"	52°30'3I"	56°36'20"



PINTLE DETAIL

NOT TO SCALE

BEARING NOTES:

I. BEARINGS SHALL CONFORM TO APPLICABLE SUBSECTIONS OF THE STANDARD SPECIFICATION SECTIONS 53I AND 73I.

2. FIXED AND EXPANSION BEARINGS SHALL BE PAID FOR UNDER THE ITEMS 53I.I3 AND ITEM 53I.II RESPECTIVELY.

3. FABRICATION DRAWINGS CONFORMING TO STANDARD SPECIFICATION SUBSECTION 53I.03 SHALL BE SUBMITTED TO INCLUDE WELDING AND VULCANIZING PROCEDURES.

4. THE CONCRETE SURFACE UNDER THE BEARING DEVICE SHALL BE LEVEL.

5. ELASTOMERIC BEARINGS SHALL BE VIRGIN NATURAL RUBBER, HARDNESS (SHORE "A" DUROMETER) OF 60, GRADE 3 CONFORMING TO AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES (DIVISION II) TABLE I8.4.5.I-IB.

6. STEEL REINFORCED ELASTOMERIC BEARING DESIGN METHOD = B. BEARINGS SHALL BE TESTED IN ACCORDANCE WITH THE REQUIREMENTS FOR STEEL REINFORCED ELASTOMERIC BEARINGS OF THE AASHTO STANDARD SPECIFICATIONS DIVISION II, SECTION I8.7.

7. ELASTOMERIC BEARING DESIGN CRITERIA:

   ABUTMENT I AND 2 BEARINGS
   A. MASONRY PLATE TO CONCRETE DESIGN PRESSURE = I050 P.S.I. MAXIMUM.
   B. DESIGN DEAD LOAD REACTION = I45 KIPS/BEARING
   C. DESIGN LIVE LOAD REACTION = 94 KIPS/BEARING
   D. LATERAL DESIGN LOAD = 29 KIPS/BEARING

   PIER I AND 3 BEARINGS
   A. MASONRY PLATE TO CONCRETE DESIGN PRESSURE = I050 P.S.I. MAXIMUM.
   B. DESIGN DEAD LOAD REACTION = 46 KIPS/BEARING
   C. DESIGN LIVE LOAD REACTION = 7I KIPS/BEARING
   D. LATERAL DESIGN LOAD = 9.2 KIPS/BEARING

8. ALL STEEL IN BEARING DEVICES SHALL BE AASHTO M 270M/M 270, (ASTM A-709) GRADE 36 (MIN.).

9. ANCHOR BOLTS SHALL HAVE A MINIMUM OF I'-6" EMBEDMENT INTO THE CONCRETE AND SHALL CONFORM TO STANDARD SPECIFICATION SUBSECTION 7I4.08.

I0. ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. ALL WASHERS SHALL BE ⅜" PLATE (MINIMUM). PAYMENT FOR ANCHOR BOLTS, NUTS AND WASHERS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE BEARINGS.

II. BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER STANDARD SPECIFICATION SUBSECTIONS 53I.04(b) AND 506.I5(a) AND (b). AREAS OF DAMAGED GALVANIZING SHALL BE COATED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 5I3. AREAS OF DAMAGED METAILIZING SHALL BE COATED WITH THE SAME SEALANT USED BY THE BEARING SUPPLIER.

I2. THE TEMPERATURE SETTING RANGE FOR INSTALLATION OF THE ELASTOMERIC BEARINGS WITHOUT THE NEED FOR ADJUSTMENT IS 20 TO 70 F.°

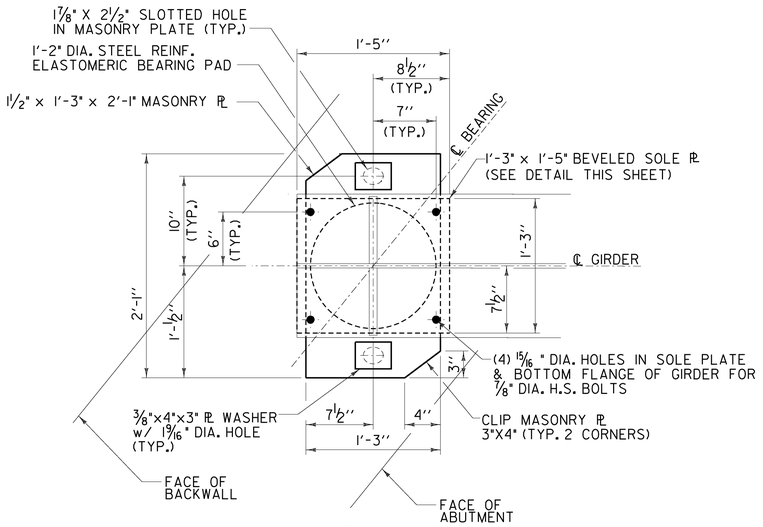
I3. BEARING SURFACES MARKED "f" SHALL BE FINISHED IN ACCORDANCE WITH AASHTO DIVISION II, SECTION II.4.6.

I4. DRILLING TO INSTALL ANCHOR BOLTS IN PIER CAPS WILL NOT BE ALLOWED.

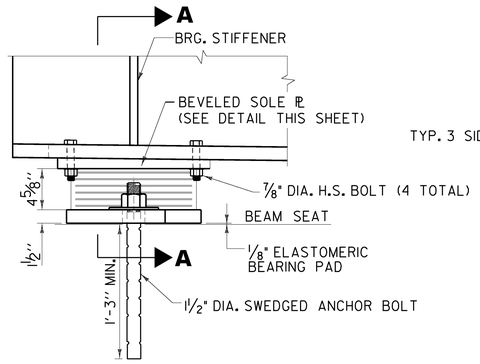
Stantec

STATE OF VERMONT
AGENCY OF TRANSPORTATION

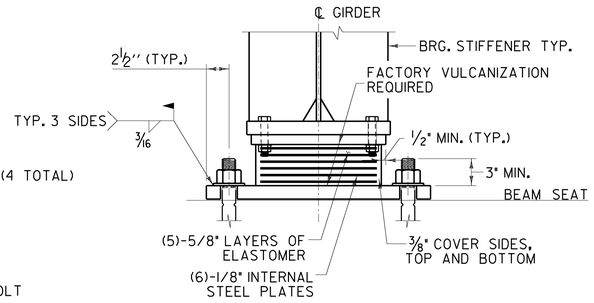
Town Of PUTNEY	Bridge No. 19A
Highway No. U.S. ROUTE 5	Log Sta. / Surv. Sta.
U.S. ROUTE 5 OVER I-9I	
FIXED BEARING DETAILS	
Designed By T. KNIGHT	Drawn By T. KNIGHT
Checked By G. BOGUE Date 06/09	Bridge Design Supervisor G. BOGUE Date 06/09
PROJECT PUTNEY	PROJECT NO. IM 09I-I(3I)
CAD Drawing Name: ...\32 z93a148brgs_det.dgn	Plot Date: I0/I9/2009
Bridge Sheet No.	Sheet 32 of 75



PLAN



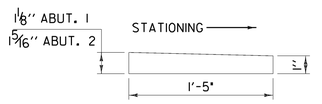
ELEVATION



SECTION A-A

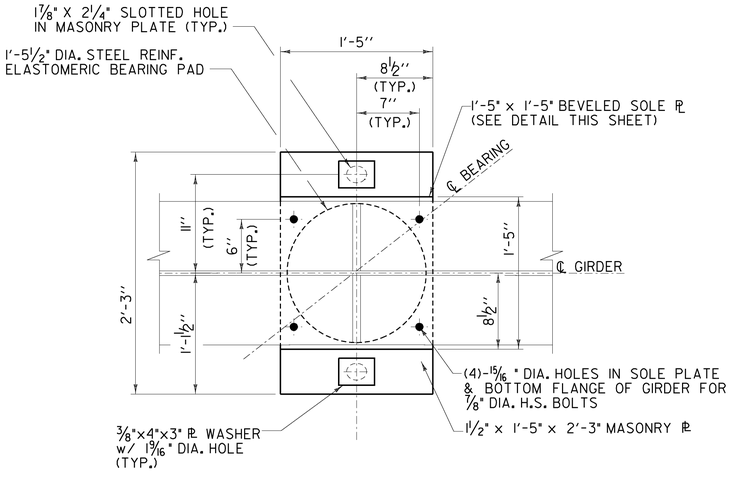
EXPANSION BEARINGS - ABUTMENTS

ABUT. 1 SHOWN (ABUT. 2 SIMILAR)

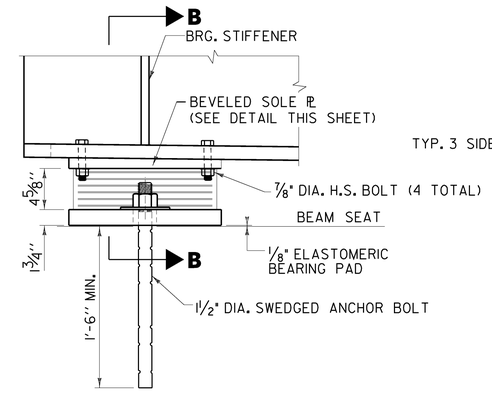


ABUTMENT BEVELED SOLE PLATE

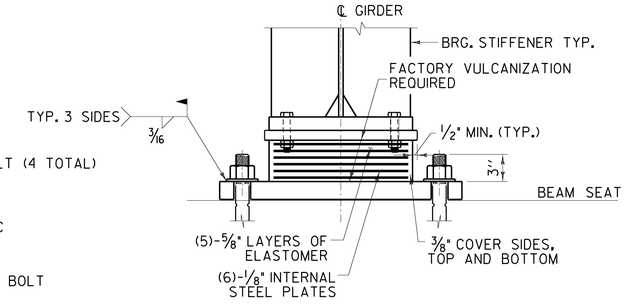
NTS



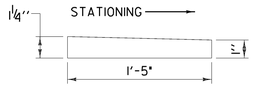
PLAN



ELEVATION



SECTION B-B



PIER 1 AND 3 BEVELED SOLE PLATE

NTS

EXPANSION BEARINGS - PIERS 1 AND 3

PIER 3 SHOWN (PIER 1 SIMILAR)

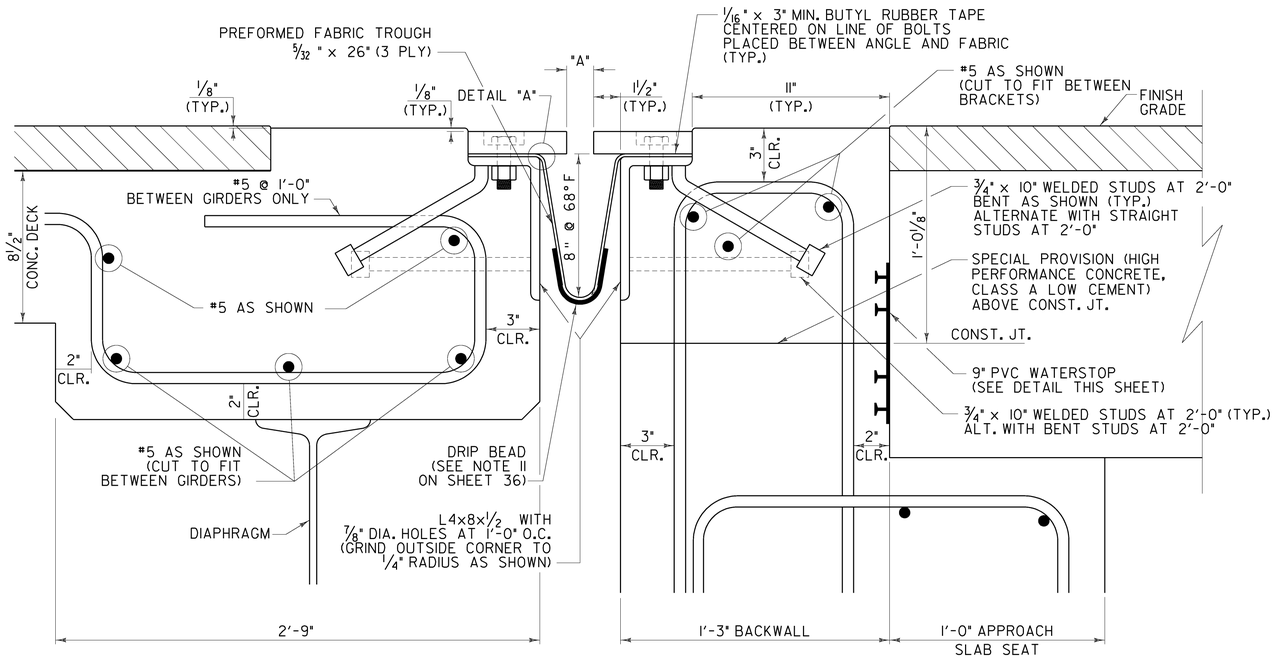
NOTES:

1. FOR BEARING NOTES, REFER TO SHEET 32.

SHEET SCALE: 1½" = 1'-0" U.N.O.

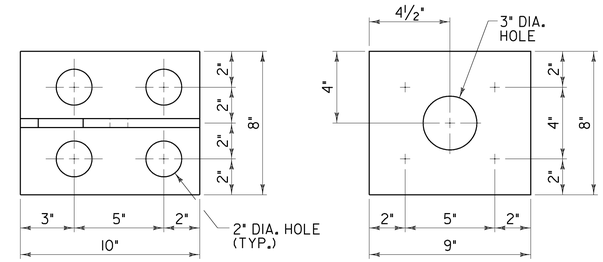
Stantec

STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of PUTNEY	Bridge No. 19A
Highway No. U.S. ROUTE 5	Log Sta. / Surv. Sta.
U.S. ROUTE 5 OVER I-91	
EXPANSION BEARING DETAILS	
Designed By T. KNIGHT	Drawn By T. KNIGHT
Checked By G. BOGUE Date 06/09	Bridge Design Supervisor G. BOGUE Date 06/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Drawing Name: ...\33 z93a148brgs_dtl2.dgn	Date: 10/19/2009
Bridge Sheet No.	Sheet 33 of 75



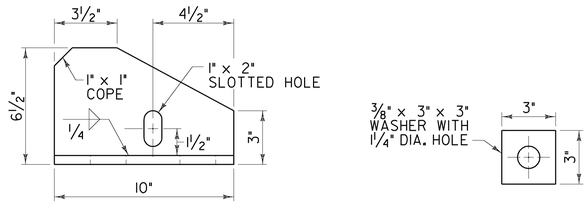
TYPICAL SECTION BETWEEN GIRDERS

(NORMAL TO ℄ BEARING)



PLAN

PLATE PLAN

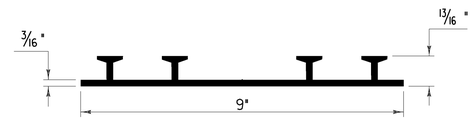


ELEVATION

WASHER FOR BRACKET

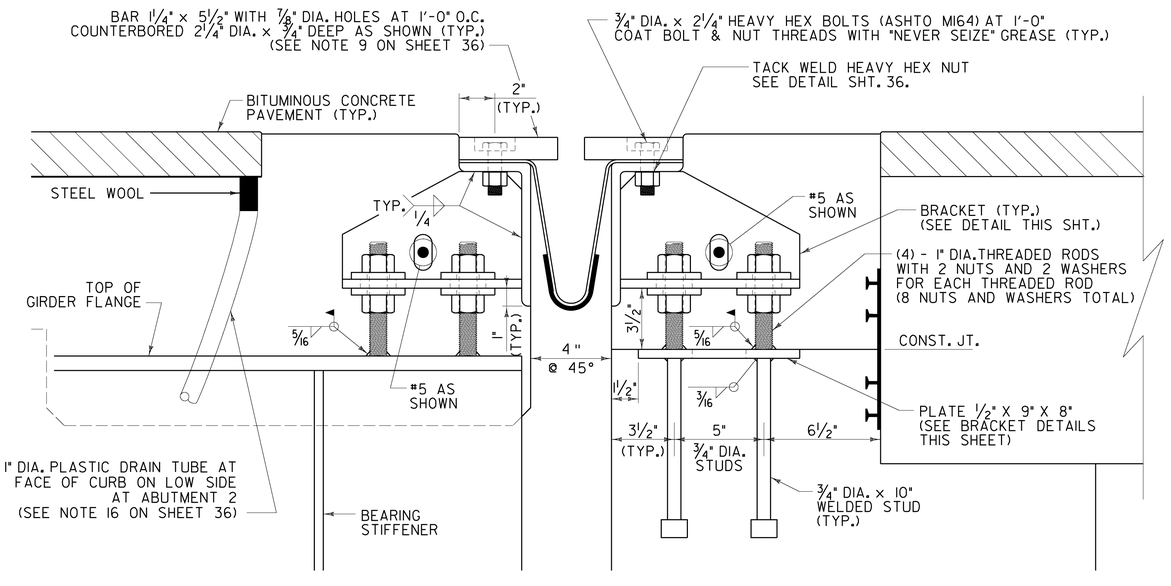
NOTE: ALL PLATES SHALL BE 1/2" THICK U.N.O.

BRACKET DETAILS



P. V. C. WATERSTOP FOR CONSTRUCTION JOINTS

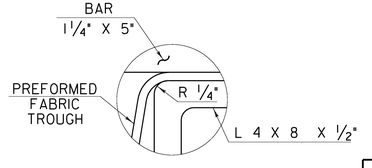
THE COSTS FOR P. V. C. WATERSTOP SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE. OTHER CONFIGURATIONS MAY BE USED UPON APPROVAL OF THE STRUCTURES ENGINEER.



TYPICAL SECTION AT GIRDERS

(NORMAL TO ℄ BEARING)

TEMP	"A" DIST
0° F	1 5/8"
15° F	1 11/16"
30° F	1 3/16"
45° F	1"
60° F	13/16"
75° F	9/16"
90° F	3/8"
105° F	3/16"



DETAIL "A"

NOT TO SCALE

FOR EXPANSION JOINT NOTES REFER TO SHEET 36.

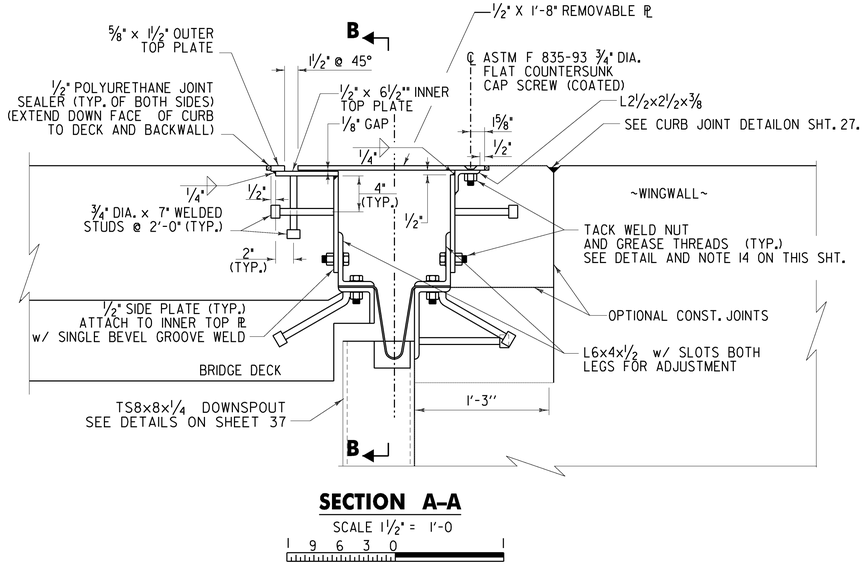
SHEET SCALE 3" = 1'-0 (UNLESS NOTED OTHERWISE)

1 9 6 3 0 1

Stantec

STATE OF VERMONT
AGENCY OF TRANSPORTATION

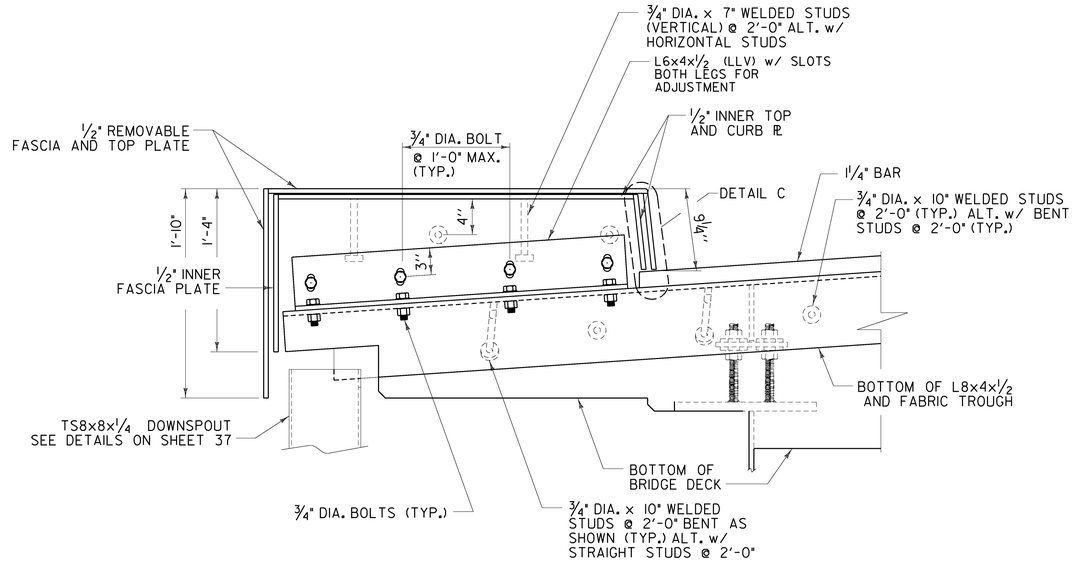
Town Of PUTNEY	Bridge No. 19A
Highway No. U.S. ROUTE 5	Log Sta. / Surv. Sta.
U.S. ROUTE 5 OVER I-91	
EXPANSION JOINT DETAILS 1	
Designed By T. KNIGHT	Drawn By T. KNIGHT
Checked By G. BOGUE Date 06/09	Bridge Design Supervisor G. BOGUE Date 06/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Drawing Name: ...\35 z93a148Expjt2.dgn	Plot Date: 10/19/2009
Bridge Sheet No.	Sheet 35 of 75



SECTION A-A

SCALE 1 1/2" = 1'-0

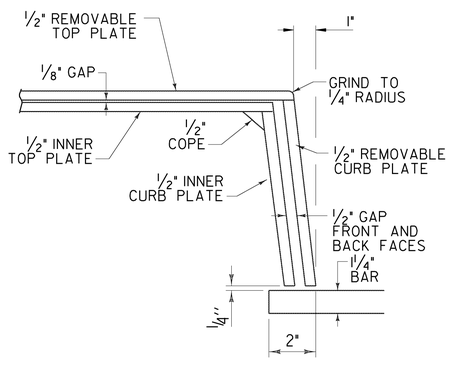
1 9 6 3 0



SECTION B-B

SCALE 1 1/2" = 1'-0

1 9 6 3 0

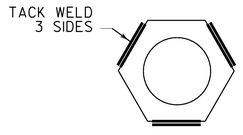


DETAIL C

NOT TO SCALE

NOTES:

1. DETAILS ON SHEETS 34 THRU 36 ARE FOR ITEM 516.11, "BRIDGE EXPANSION JOINT, VERMONT".
2. THE PREFORMED FABRIC MATERIAL SHALL BE CONTINUOUS AND SHALL CONFORM TO SUBSECTION 707.07.
3. BUTYL RUBBER TAPE SHALL CONFORM TO SUBSECTION 707.12.
4. THE FINAL FINISH OF THE EXPANSION DEVICE SHALL BE COVERED DURING THE PLACING OF BRIDGE DECK CONCRETE.
5. ALL STEEL COMPONENTS SHALL BE AASHTO M 270M/M 270 GRADE 36 GALVANIZED OR METALIZED AS PER SUBSECTION 506.15, UNLESS OTHERWISE SPECIFIED. THREADED RODS SHALL CONFORM TO ASTM A307, GRADE C. THE NUTS FOR THE THREADED RODS SHALL BE ASTM A563.
6. THE ITEM 516.11, "BRIDGE EXPANSION JOINT, VERMONT" SHALL INCLUDE THE FABRICATION AND ERECTION OF THE COMPLETE JOINT ASSEMBLY INCLUDING ALL STEEL PLATES, BRACKETS, ANGLES, WELDED STUDS OR RODS, PREFORMED FABRIC DRAIN TROUGH MATERIAL, BUTYL RUBBER TAPE AND ANY OTHER MISCELLANEOUS MATERIAL NECESSARY TO INSTALL JOINT.
7. THE 8"x4"x1/2" ANGLES SHALL BE FURNISHED AS ONE CONTINUOUS PIECE. THE 1 1/4" X 5 1/2" BARS EACH SIDE OF THE JOINT SHALL BE PROVIDED IN FOUR EQUAL SEGMENTS.
8. COAT CONCRETE CONTACT SURFACES WITH EPOXY BONDING COMPOUND. PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 516.11 "BRIDGE EXPANSION JOINT, VERMONT".
9. FILL COUNTER BORED HOLES WITH HOT POURED JOINT SEALER AFTER BOLT INSTALLATION. PAYMENT FOR THE WORK SHALL BE INCIDENTAL TO ITEM 516.11.
10. PAYMENT FOR WATERSTOP SHALL BE INCIDENTAL TO CONTRACT ITEM 501.34.
11. A DRIP BEAD OF 1/4" X 7" STRIP OF PREFORMED MATERIAL SHALL BE CEMENTED TO THE BOTTOM OF THE FABRIC TROUGH USING AN ADHESIVE APPROVED BY THE MANUFACTURER. THE DRIP BEAD SHALL BE APPLIED 1" FROM THE DOWNSPOUT END OF THE TROUGH.
12. FABRIC TROUGH SHALL BE THOROUGHLY CLEANED AND FLUSHED AFTER THE PAVING OPERATION (INCIDENTAL TO COST OF PAVING).
13. THE EXPANSION JOINT SHALL BE SHOP ASSEMBLED AND SHIPPED AS ONE UNIT.
14. PROJECTING THREADS OF THE 3/4" BOLTS IN THE JOINT SHALL BE GREASED BY CONTRACTOR PRIOR TO PLACING ADJACENT CONCRETE. THIS WILL FACILITATE BOLT REMOVAL IF REQUIRED IN THE FUTURE.
15. ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1/16" RADIUS AND BE FREE OF BURRS PRIOR TO GALVANIZING.
16. A 1" DIAMETER PLASTIC TUBE (CONFORMING TO STANDARD SPECIFICATION 740.01) SHALL BE INSTALLED AS SHOWN AT THE FACE OF THE CURB. THE UPPER END IS TO BE PLUGGED WITH STEEL WOOL AND THE LOWER END IS TO EXTEND BELOW THE BOTTOM OF THE ADJACENT GIRDER. THE DRAIN TUBES SHALL BE FASTENED TO THE GIRDERS USING A METHOD APPROVED BY THE ENGINEER.



NUT WELD DETAIL

NOT TO SCALE

Stantec

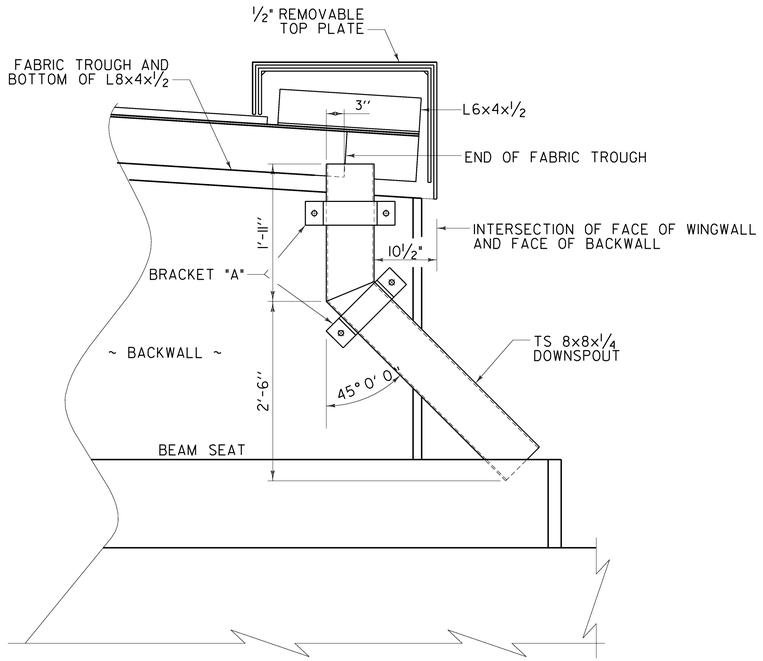
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	PUTNEY	Bridge No.	19A
Highway No.	U.S. ROUTE 5	Log Sta. / Surv. Sta.	

U.S. ROUTE 5 OVER I-91

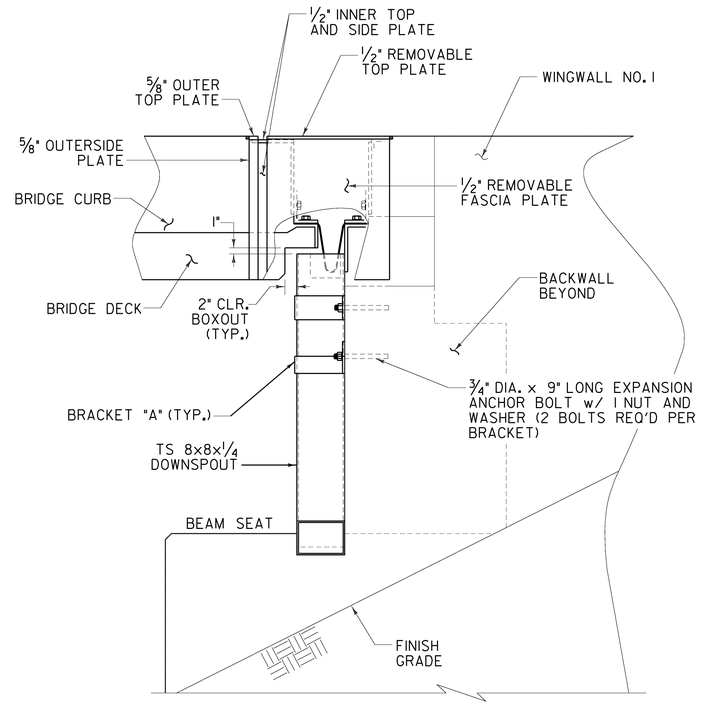
EXPANSION JOINT DETAILS 2

Designed By T. KNIGHT		Drawn By T. KNIGHT	
Checked By G. BOGUE	Date 06/09	Bridge Design Supervisor G. BOGUE	Date 06/09
PROJECT PUTNEY		PROJECT NO. IM 091-1(31)	
CAD Drawing Name: ...\36 z93al48Expjt3.dgn		Plot Date: 10/19/2009	
Bridge Sheet No.		Sheet 36 of 75	



ABUTMENT 1 – DOWNSPOUT FRONT ELEVATION

SCALE 1" = 1'-0

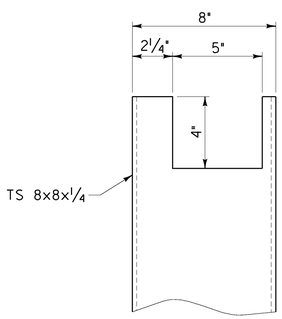


ABUTMENT 1 – DOWNSPOUT SIDE ELEVATION

SCALE 1" = 1'-0

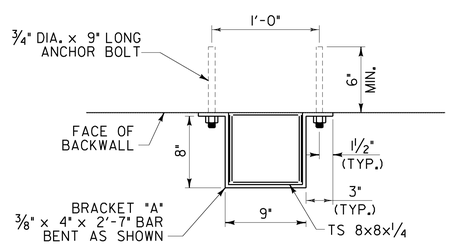
DOWNSPOUT NOTES

1. HOLLOW STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500 OR A501.
2. ALL PLATES, BARS, AND ANGLES SHALL CONFORM TO AASHTO M 270M/M 270 GRADE 36.
3. DOWNSPOUTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123 AFTER FABRICATION.
4. ALL BOLTS AND RELATED HARDWARE SHALL BE ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A513 (AASHTO M 232M/M 232).
5. IN AREAS WHERE THE GALVANIZING HAS BEEN REMOVED FROM THE DOWNSPOUT EITHER BY CUTTING, BURNING, WELDING, PLACING, OR ANY OTHER MEANS, IT SHALL BE REPAIRED BY THOROUGHLY CLEANING THE DAMAGED AREAS WITH A WIRE BRUSH AND PAINTING THE DAMAGED AREAS WITH TWO COATS OF AN APPROVED SEALANT. PAYMENT WILL BE CONSIDERED INCIDENTAL TO CONTRACT ITEM 506.60.
6. ALL MATERIALS AND INSTALLATION COSTS FOR THE DOWNSPOUT, INCLUDING STEEL TUBING, RELATED HARDWARE, AND ANCHOR BOLTS SHALL BE PAID FOR UNDER ITEM 506.60 "STRUCTURAL STEEL".
7. FOR ABUTMENT 2 DOWNSPOUT DETAILS REFER TO SHEET 38.



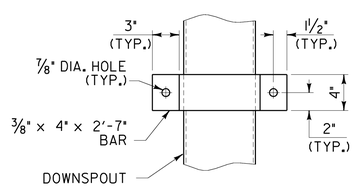
DOWNSPOUT CUTOUT FOR TROUGH

SCALE 3" = 1'-0



DETAIL FOR ATTACHING DOWNSPOUT TO BACKWALL

SCALE 1 1/2" = 1'-0



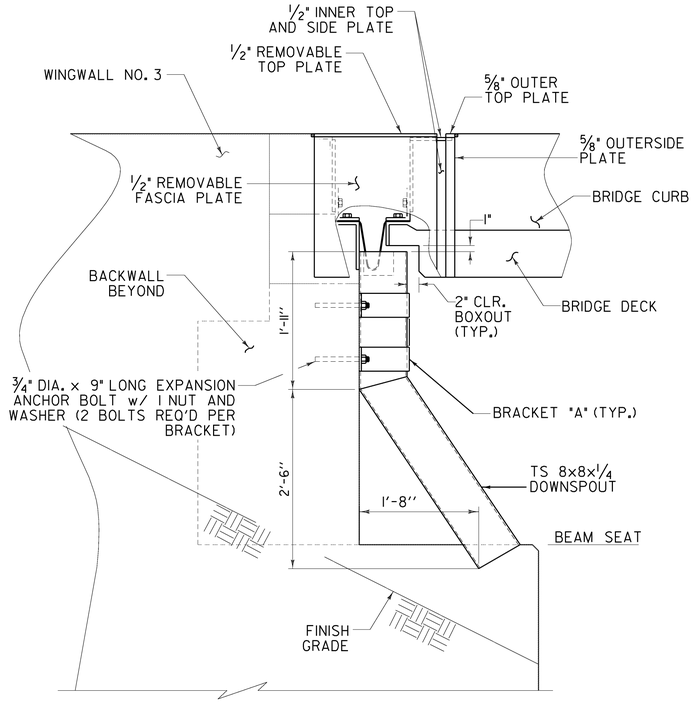
ELEVATION VIEW OF BRACKET A

SCALE 1 1/2" = 1'-0

Stantec

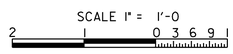
STATE OF VERMONT
AGENCY OF TRANSPORTATION

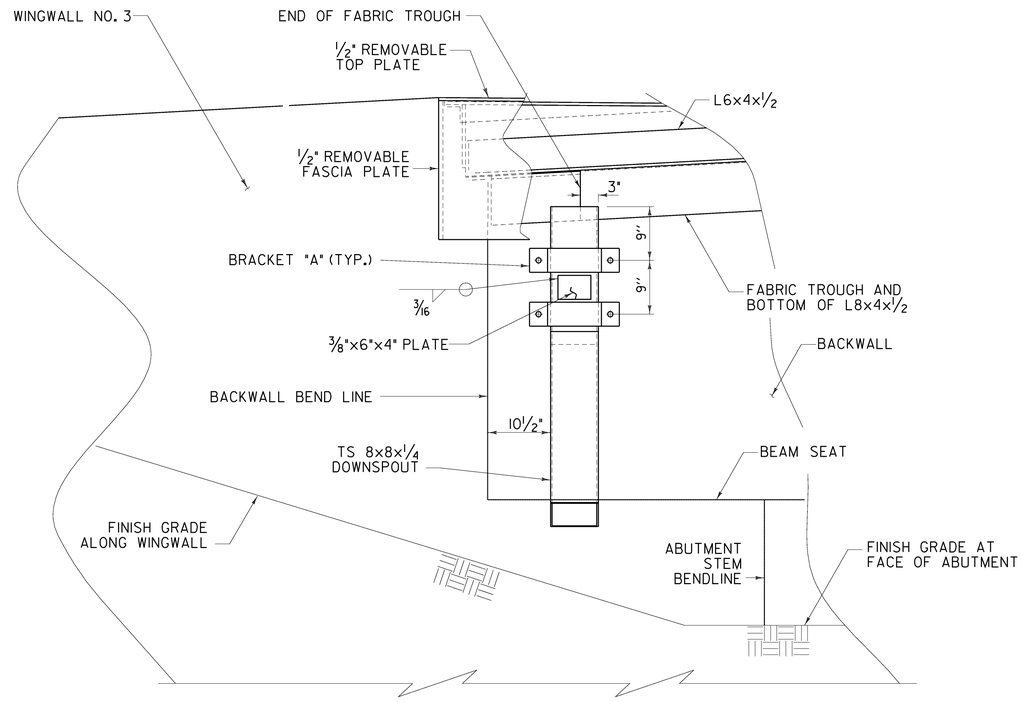
Town Of	PUTNEY	Bridge No.	19A
Highway No.	U.S. ROUTE 5	Log Sta. / Surv. Sta.	
U.S. ROUTE 5 OVER I-91			
DOWNSPOUT DETAILS 1			
Designed By T. KNIGHT		Drawn By R. WALKER	
Checked By T. KNIGHT	Date 06/09	Bridge Design Supervisor G. BOGUE	Date 06/09
PROJECT	PUTNEY	PROJECT NO.	IM 091-1(31)
CAD Drawing Name:	...\Plot Files\37 z938168a.dgn	Plotted:	10/19/2009
Bridge Sheet No.		Sheet 37 of 75	



ABUTMENT 2 – DOWNSPOUT SIDE ELEVATION

SCALE 1" = 1'-0

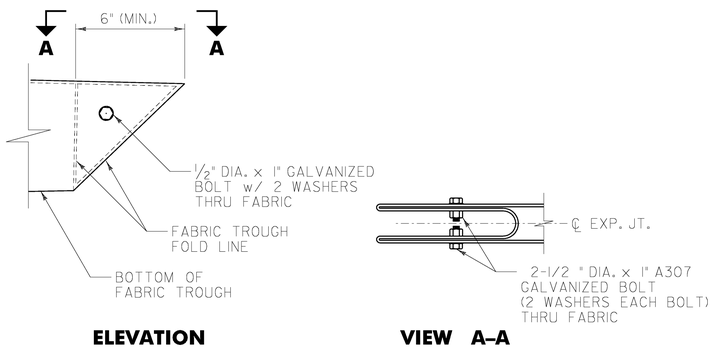




ABUTMENT 2 – DOWNSPOUT FRONT ELEVATION

SCALE 1" = 1'-0





ELEVATION **VIEW A–A**

FOLDED TROUGH END DETAILS

NOT TO SCALE

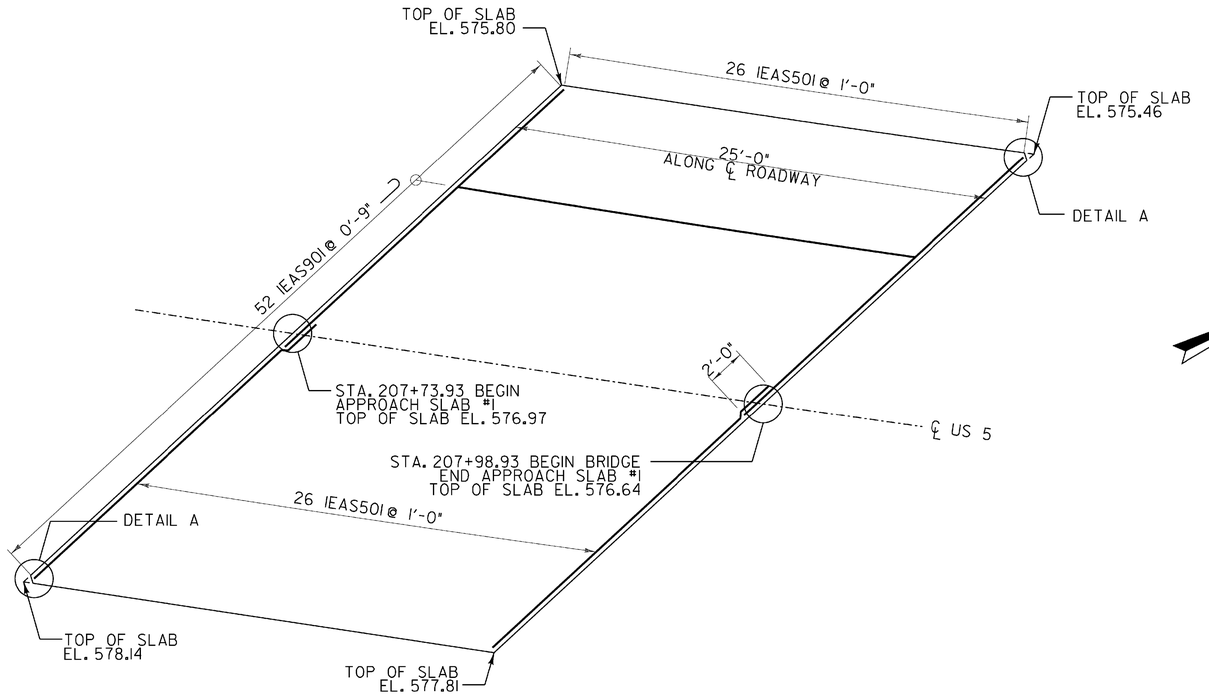
NOTE:

1. FOR TROUGH CUTOUT AND BRACKET DETAILS, REFER TO SHEET 37.

Stantec

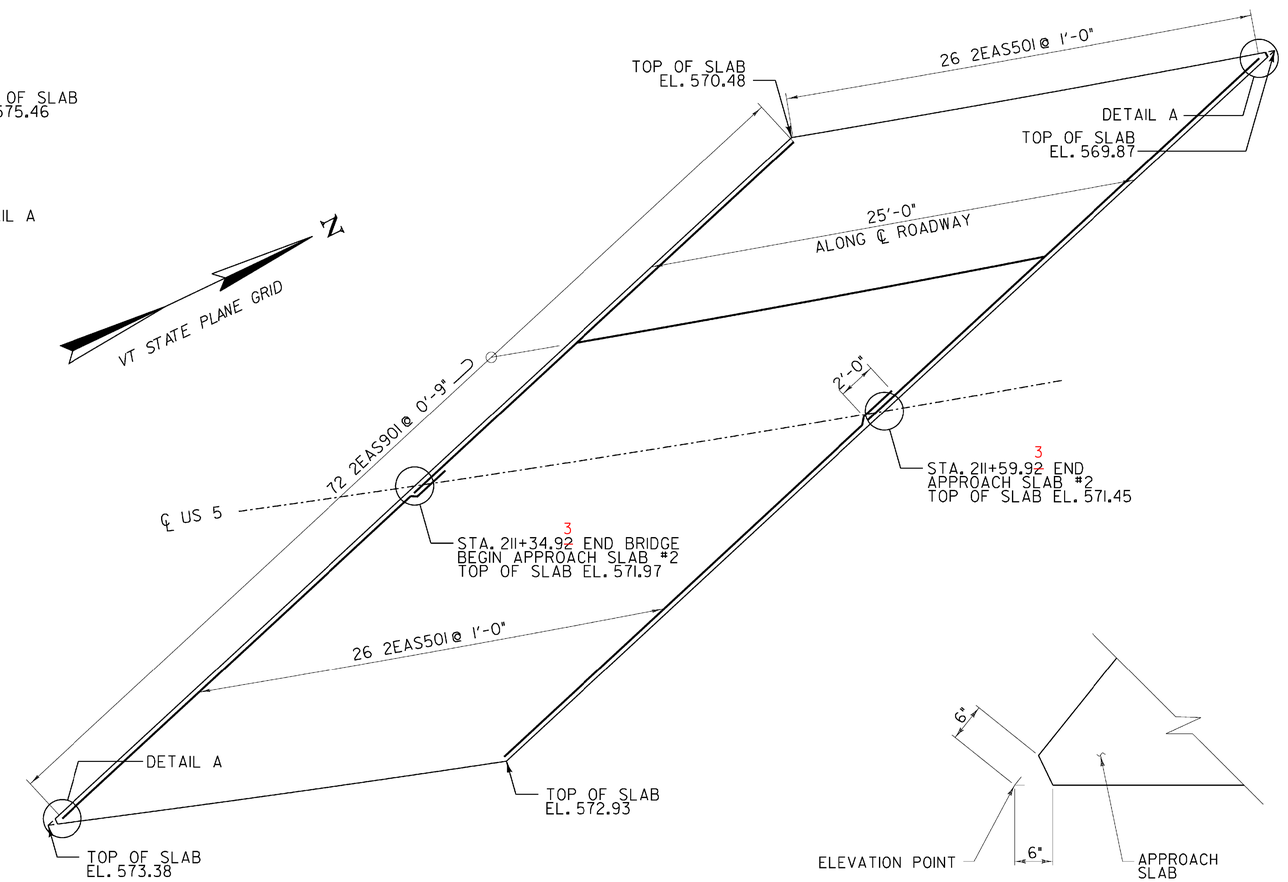
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of PUTNEY	Bridge No. 19A
Highway No. U.S. ROUTE 5	Log Sta. / Surv. Sta.
U.S. ROUTE 5 OVER I-91	
DOWNSPOUT DETAILS 2	
Designed By T. KNIGHT	Drawn By R. WALKER
Checked By T. KNIGHT Date 06/09	Bridge Design Supervisor G. BOGUE Date 06/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Drawing Name: ...\Plot Files\38 z938 dBB2.ps	10/19/2009
Bridge Sheet No.	Sheet 38 of 75



APPROACH SLAB #1

SCALE 1/4 " = 1'-0"

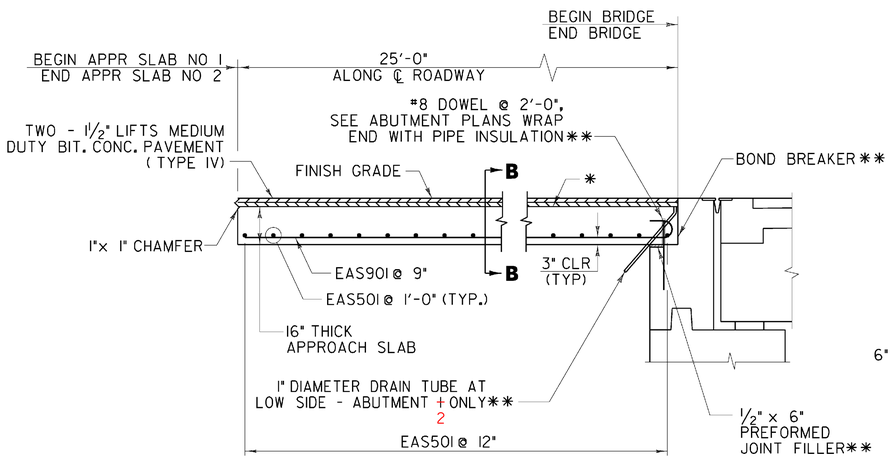


APPROACH SLAB #2

SCALE 1/4 " = 1'-0"

DETAIL A

NOT TO SCALE



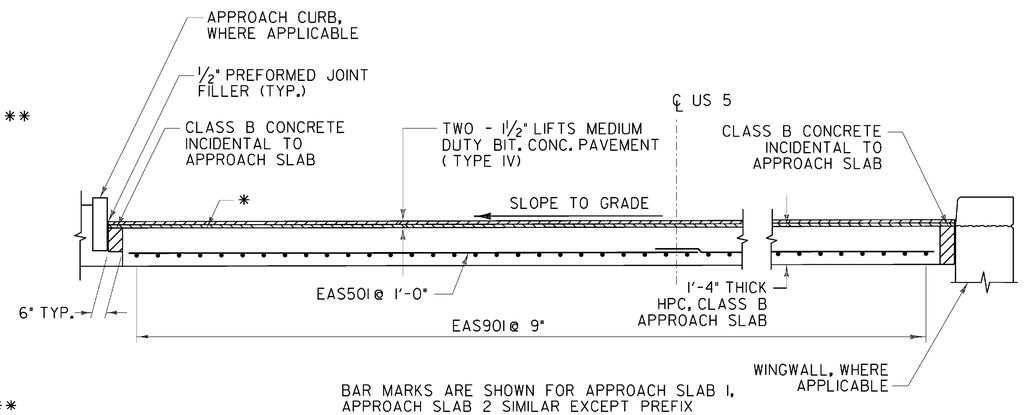
BAR MARKS ARE SHOWN FOR APPROACH SLAB 1,
APPROACH SLAB 2 SIMILAR EXCEPT PREFIX

TYPICAL APPROACH SLAB CROSS SECTION

NOT TO SCALE

** PAYMENT INCIDENTAL TO CONTRACT ITEM 501.34.

* EMULSIFIED ASPHALT AS DIRECTED BY ENGINEER
DO NOT APPLY BARRIER MEMBRANE TO TOP
OF APPROACH SLAB



BAR MARKS ARE SHOWN FOR APPROACH SLAB 1,
APPROACH SLAB 2 SIMILAR EXCEPT PREFIX

SECTION B-B

NOT TO SCALE

Stantec

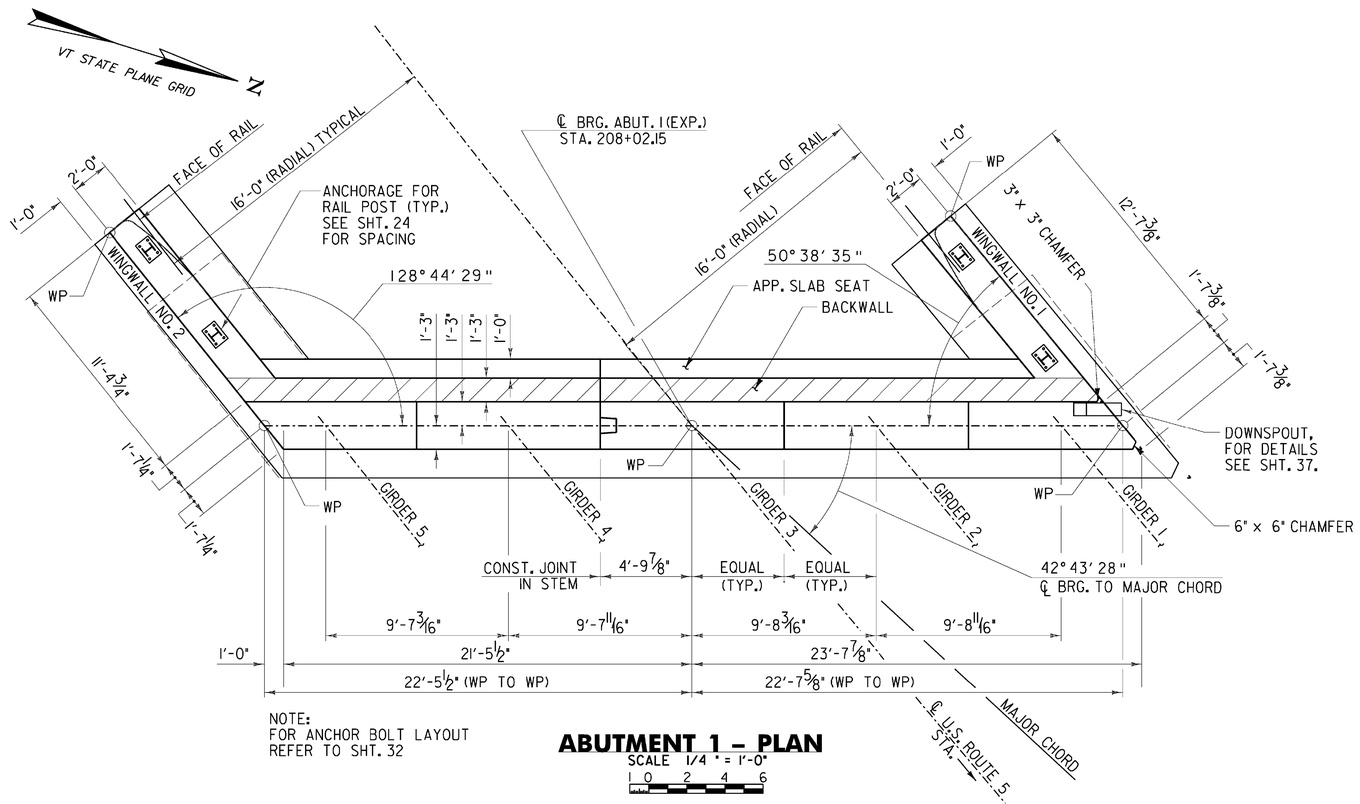
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of PUTNEY	Bridge No. 19A
Highway No.	Log Sta. / Surv. Sta.

U.S. ROUTE 5 OVER I-91

APPROACH SLAB PLAN AND DETAILS

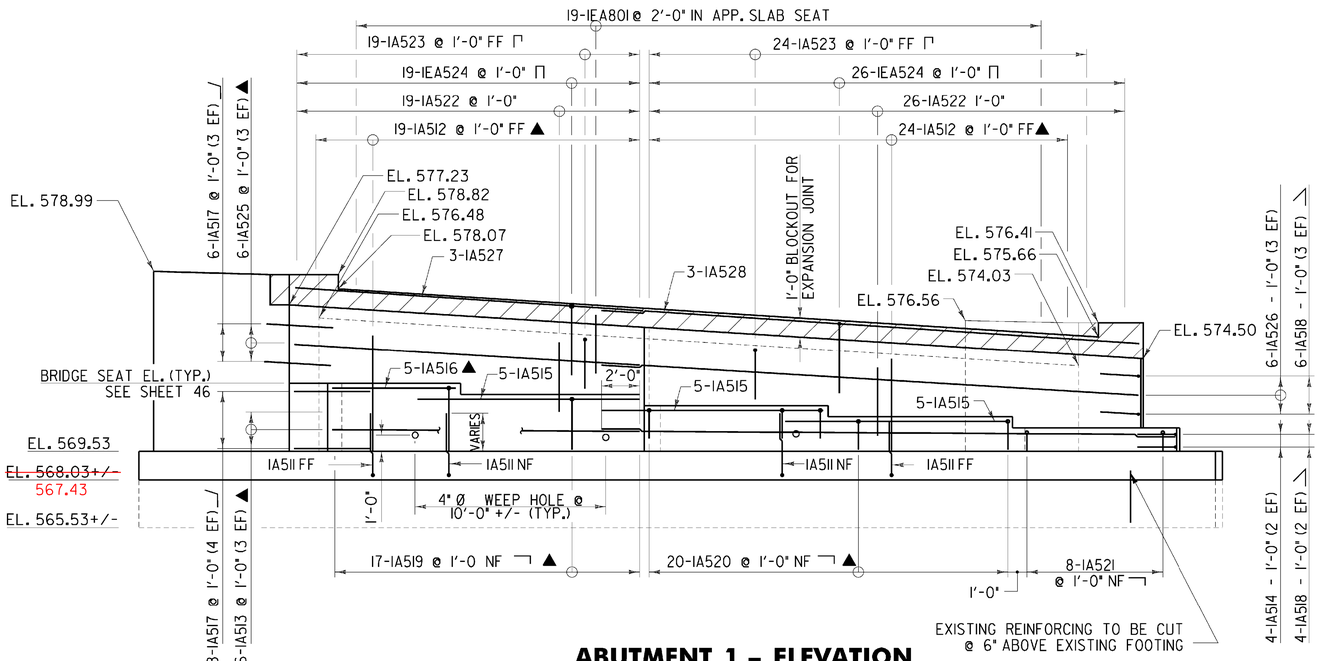
Designed By T. KNIGHT	Drawn By R. WALKER
Checked By T. KNIGHT — Date 06/09	Bridge Design Supervisor G. BOGUE — Date 06/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Drawing Name: ...\Plot Files\39 z93bbbapprs	Date 10/19/2009
Bridge Sheet No.	Sheet 39 of 75



NOTE:
FOR ANCHOR BOLT LAYOUT
REFER TO SHT. 32

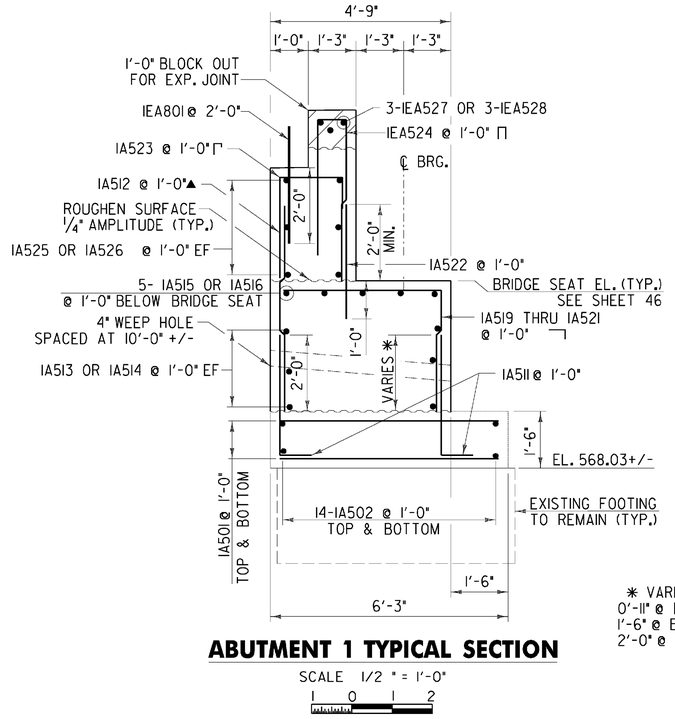
ABUTMENT 1 – PLAN

SCALE 1/4 " = 1'-0"



ABUTMENT 1 – ELEVATION

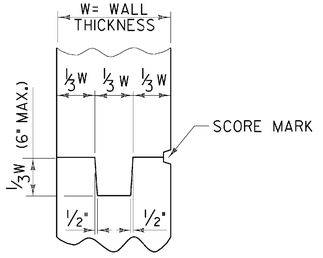
SCALE 1/4" = 1'-0"



ABUTMENT 1 TYPICAL SECTION

SCALE 1/2 " = 1'-0"

✱ VARIES
0'-11" @ BRIDGE SEAT 1
1'-6" @ BRIDGE SEAT 2
2'-0" @ BRIDGE SEATS 3 - 5



TYPICAL CONCRETE CONSTRUCTION JOINT DETAIL

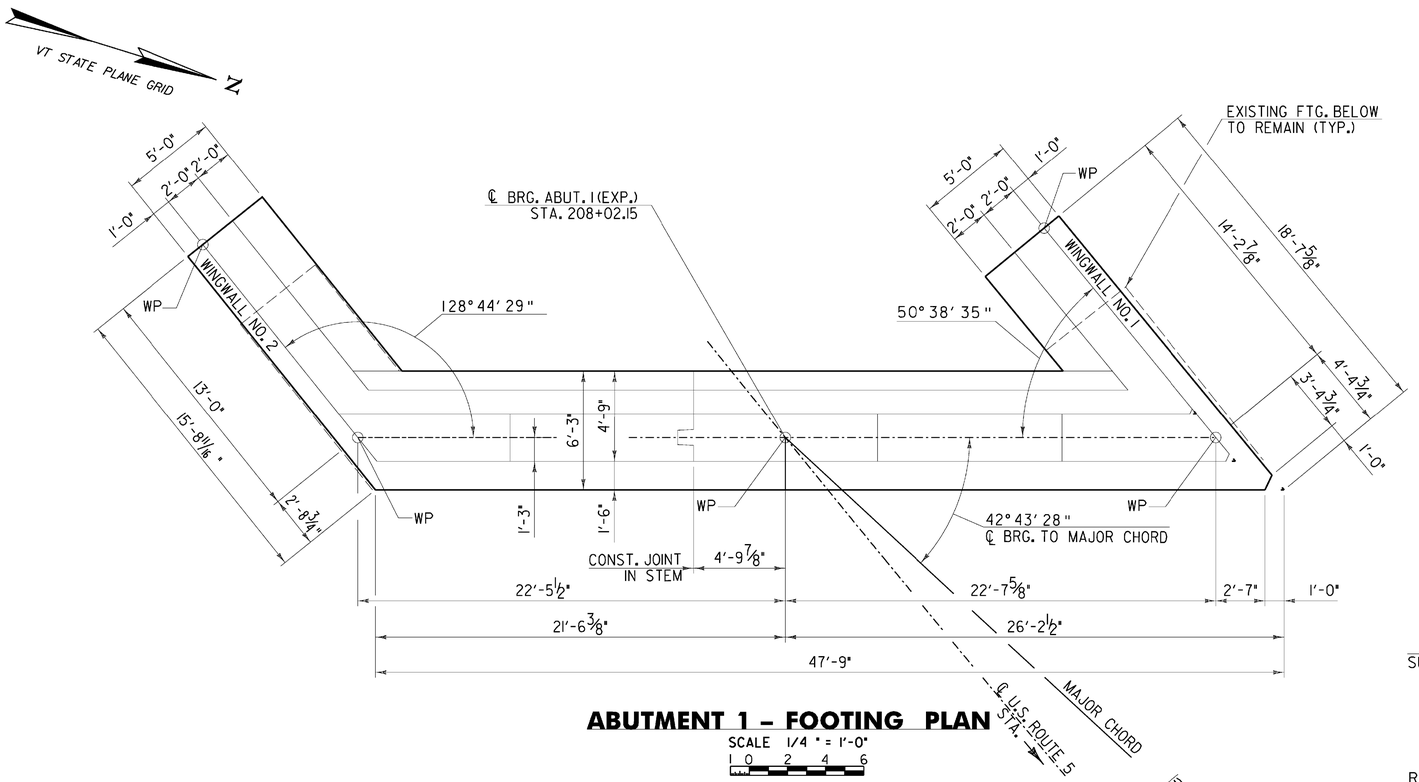
N.T.S.

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

Stantec

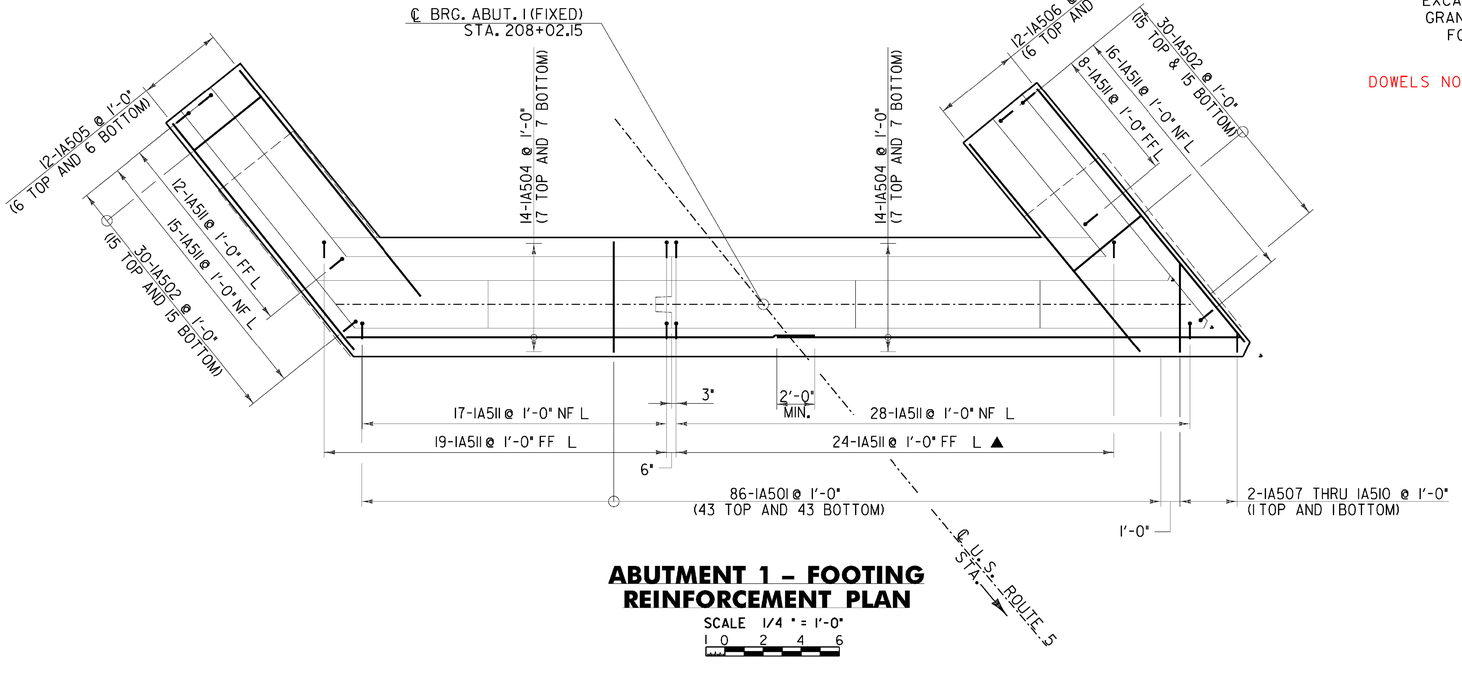
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of PUTNEY	Bridge No. 19A
Highway No.	Log Sta. / Surv. Sta.
U.S. ROUTE 5 OVER I-91	
ABUTMENT 1 PLAN AND ELEVATION	
Designed By T. KNIGHT	Drawn By R. WALKER
Checked By T. KNIGHT Date 06/09	Bridge Design Supervisor C. BOGUE Date 06/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Drawing Name: ...\Plot Files\40 z93x68a.dgn	Plotted On 10/19/2009
Bridge Sheet No.	Sheet 40 of 75



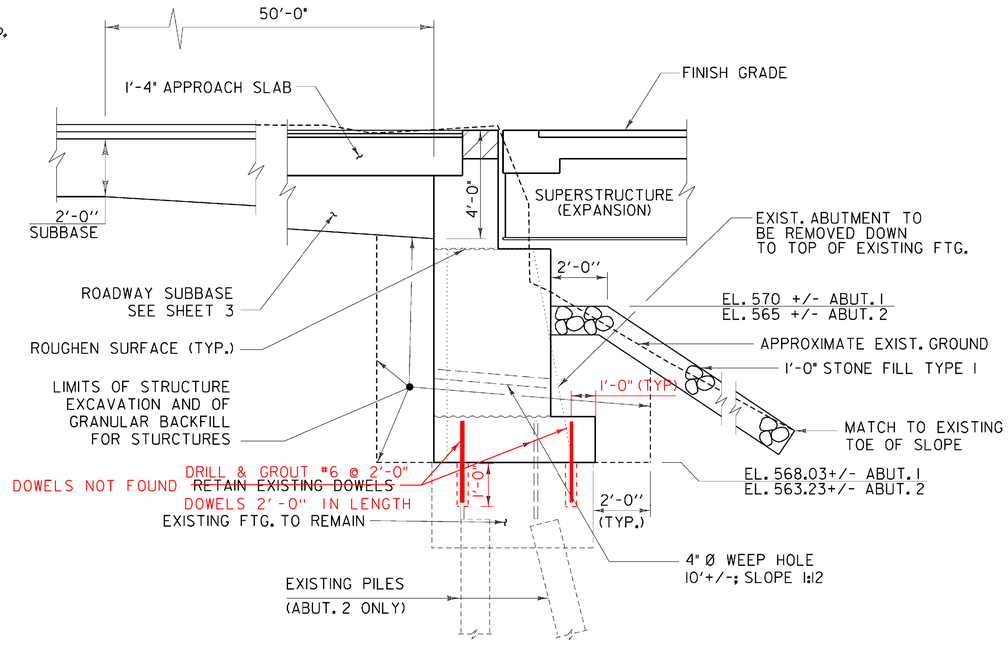
ABUTMENT 1 – FOOTING PLAN

SCALE 1/4 " = 1'-0"



ABUTMENT 1 – FOOTING REINFORCEMENT PLAN

SCALE 1/4 " = 1'-0"



TYPICAL ABUTMENT SECTION

NOT TO SCALE

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

Stantec

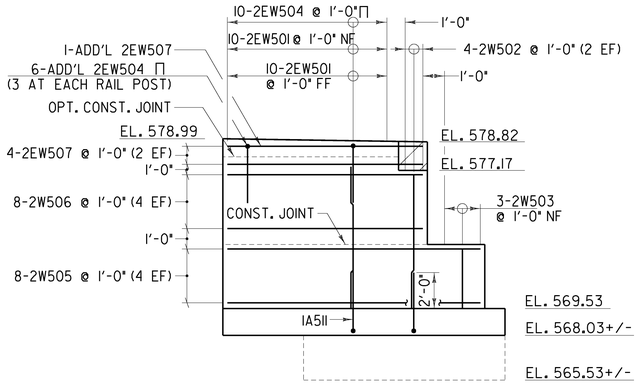
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of PUTNEY	Bridge No. 19A
Highway No.	Log Sta.
	Surv. Sta.

U.S. ROUTE 5 OVER I-91

ABUTMENT 1 FOOTING

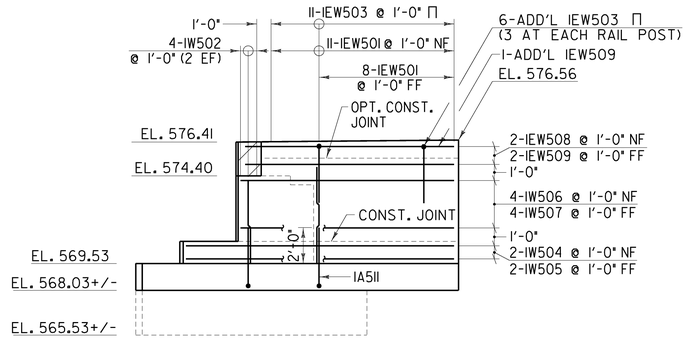
Designed By T. KNIGHT	Drawn By R. WALKER
Checked By T. KNIGHT Date 06/09	Bridge Design Supervisor G. BOGUE Date 06/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Drawing Name: ...\41z93a148abtfftg1.dgn	Plot Date: 10/19/2009
Bridge Sheet No.	Sheet 41 of 75



WINGWALL No. 2 ELEVATION

SCALE 1/4 " = 1'-0"

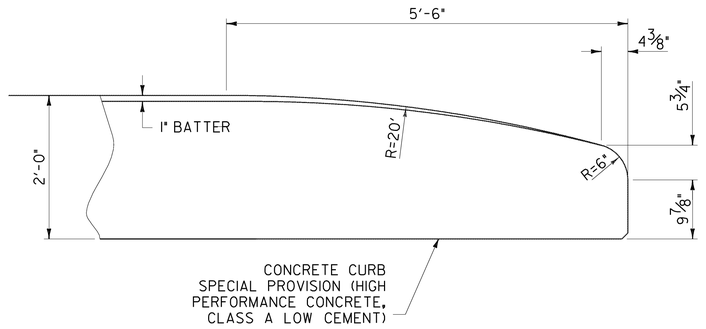
1 0 2 4 6



WINGWALL No. 1 ELEVATION

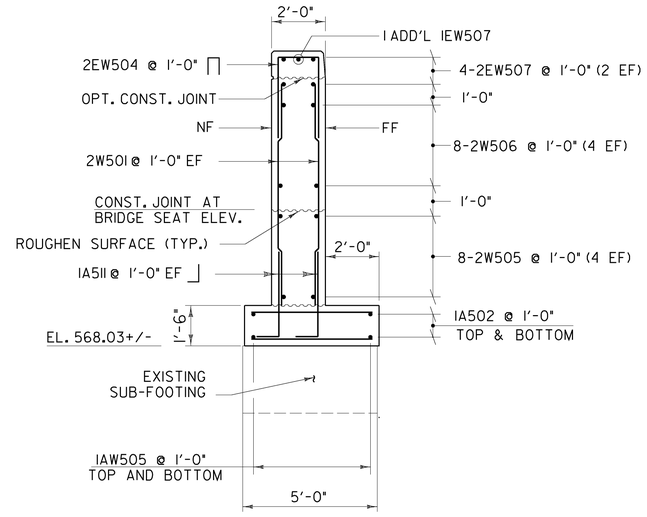
SCALE 1/4 " = 1'-0"

1 0 2 4 6



FLARED END FOR WINGWALL CURB

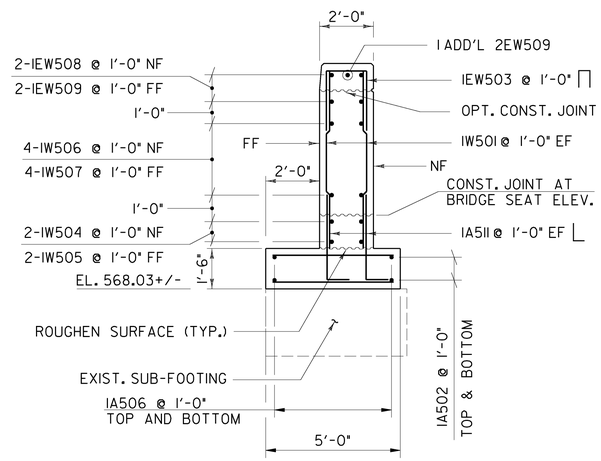
NOT TO SCALE



WINGWALL No. 2 SECTION

SCALE 3/8" = 1'-0"

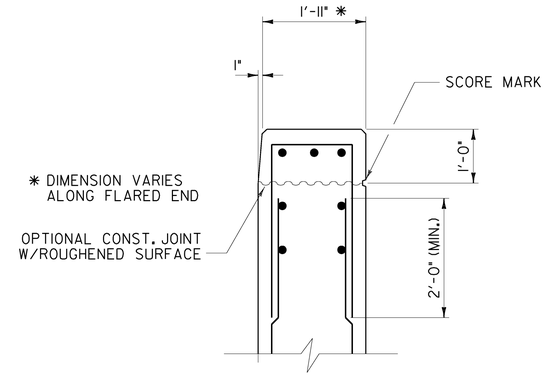
1 0 1 2 3 4



WINGWALL No. 1 SECTION

SCALE 3/8" = 1'-0"

1 0 1 2 3 4



TOP OF WINGWALL DETAIL

N.T.S.

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

Stantec

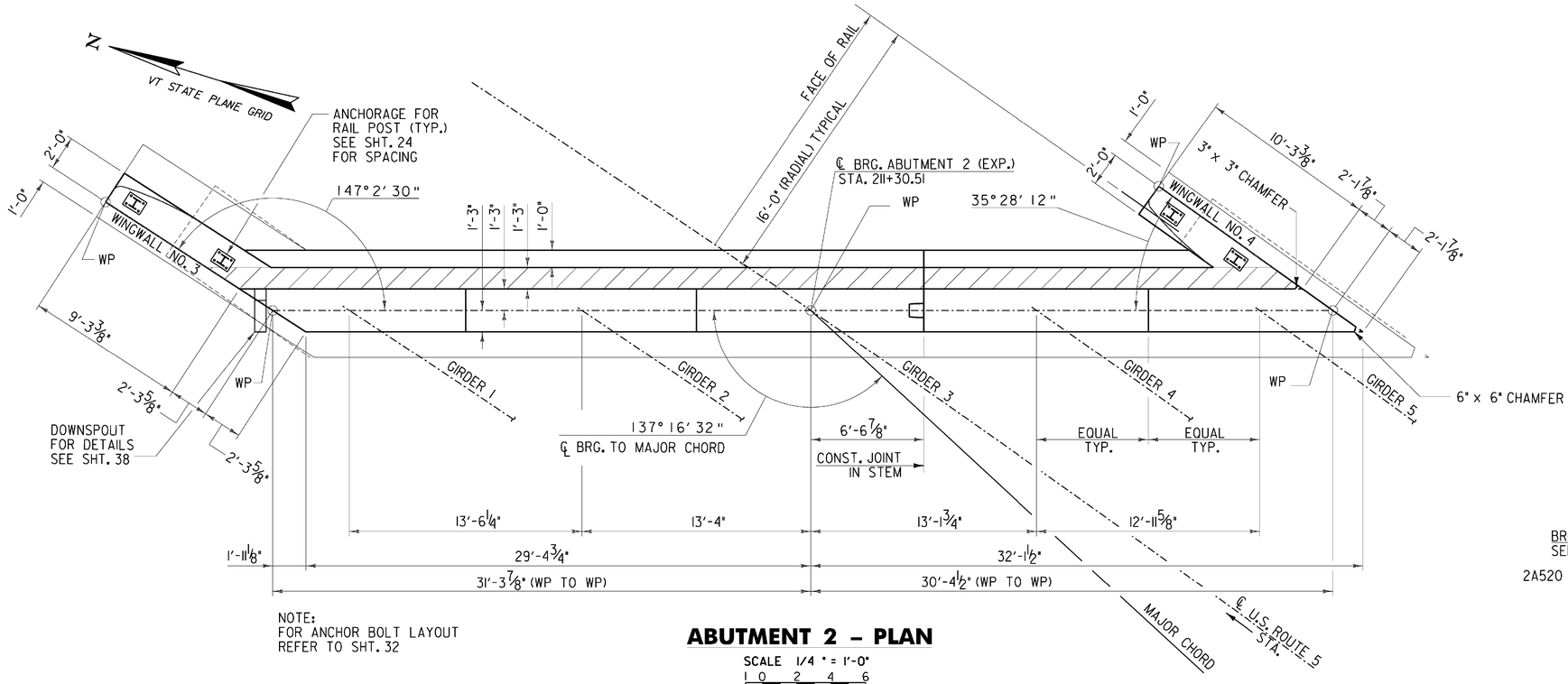
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of PUTNEY	Bridge No. 19A
Highway No.	Log Sta.
	Surv. Sta.

U.S. ROUTE 5 OVER I-91

ABUTMENT 1 WINGWALL DETAILS

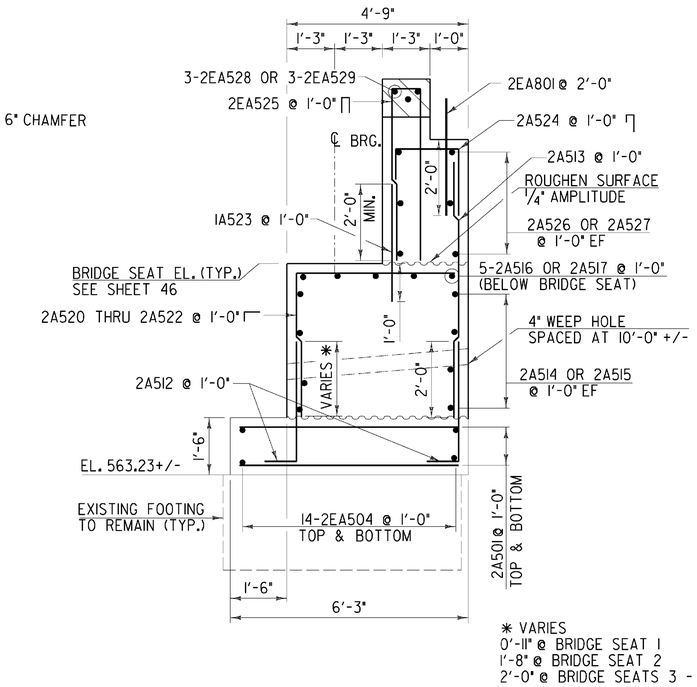
Designed By T. KNIGHT	Drawn By R. WALKER
Checked By Date	Bridge Design Supervisor
T. KNIGHT 06/09	G. BOGUE Date 06/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Drawing Name: ...\42 z93a148abtlww.dgn	Plot Date: 10/19/2009
Bridge Sheet No.	Sheet 42 of 75



NOTE:
FOR ANCHOR BOLT LAYOUT
REFER TO SHT. 32

ABUTMENT 2 – PLAN

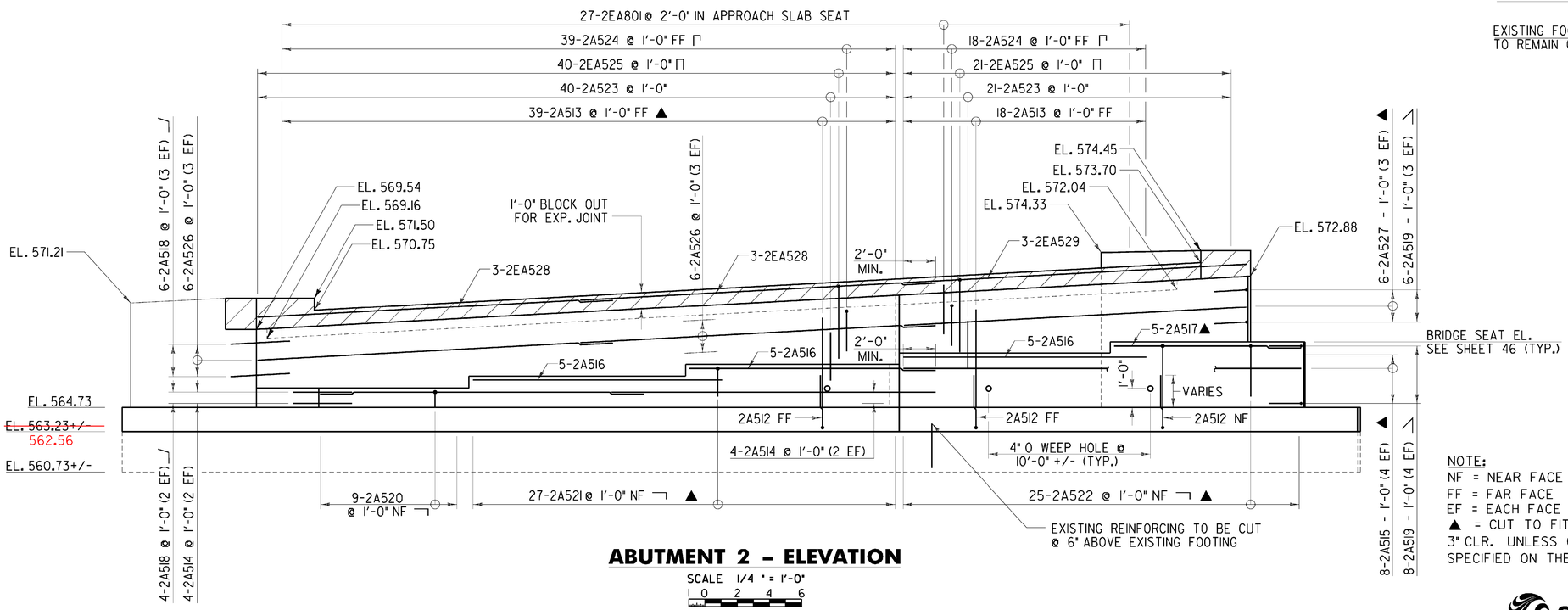
SCALE 1/4 " = 1'-0"
1 0 2 4 6



* VARIES
0'-11" @ BRIDGE SEAT 1
1'-8" @ BRIDGE SEAT 2
2'-0" @ BRIDGE SEATS 3 - 5

ABUTMENT 2 TYPICAL SECTION

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



ABUTMENT 2 – ELEVATION

SCALE 1/4 " = 1'-0"
1 0 2 4 6

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

Stantec

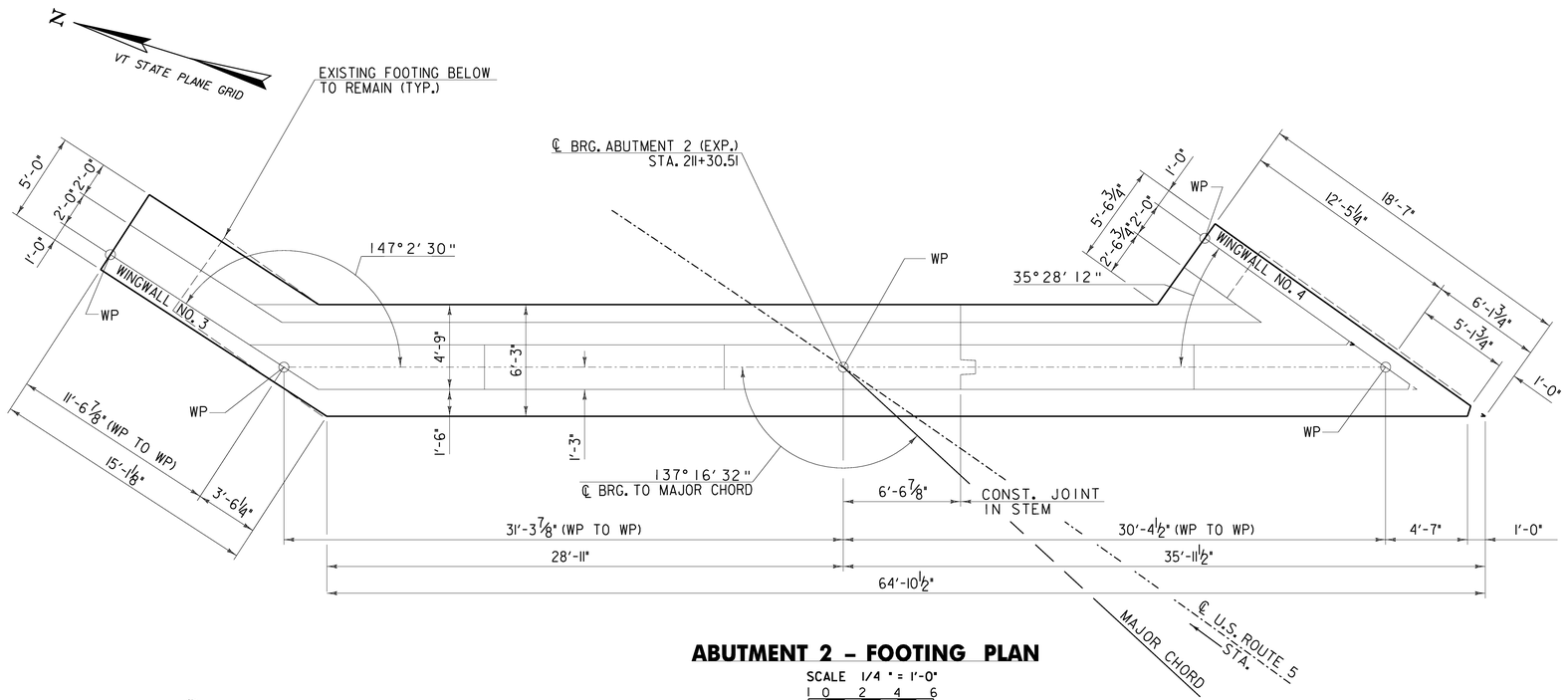
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of PUTNEY	Bridge No. 19A
Highway No.	Log Sta.
	Surv. Sta.

U.S. ROUTE 5 OVER I-91

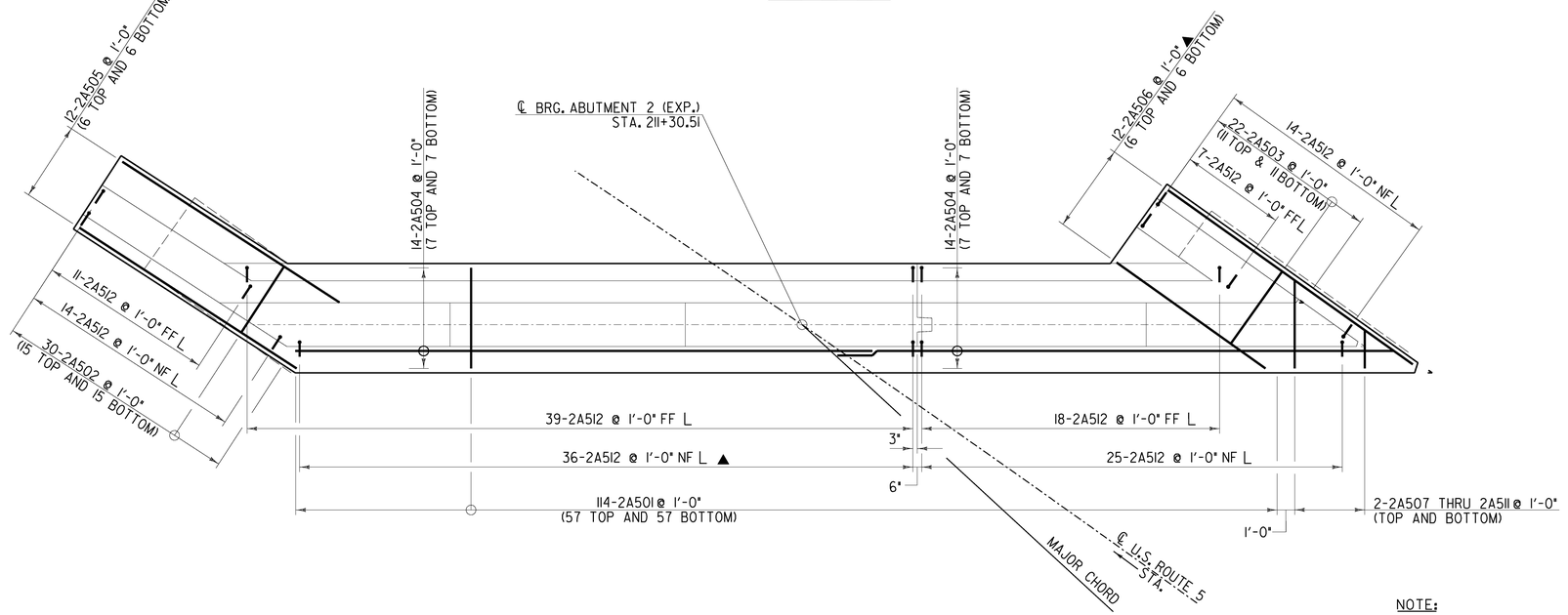
ABUTMENT 2 PLAN AND ELEVATION

Designed By T. KNIGHT	Drawn By R. WALKER
Checked By T. KNIGHT Date 06/09	Bridge Design Supervisor G. BOGUE Date 06/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Drawing Name: ...\Plot Files\43 z93bia02a.dgn	10/19/2009
Bridge Sheet No.	Sheet 43 of 75



ABUTMENT 2 – FOOTING PLAN

SCALE 1/4 " = 1'-0"
1 0 2 4 6



ABUTMENT 2 – FOOTING REINFORCEMENT

SCALE 1/4 " = 1'-0"
1 0 2 4 6

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

Stantec

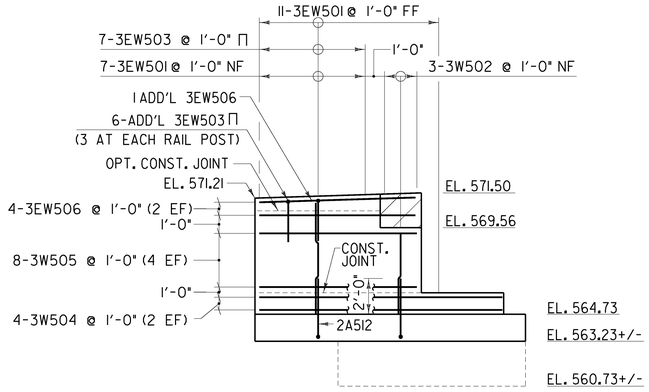
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of PUTNEY	Bridge No. 19A
Highway No.	Log Sta. / Surv. Sta.

U.S. ROUTE 5 OVER I-91

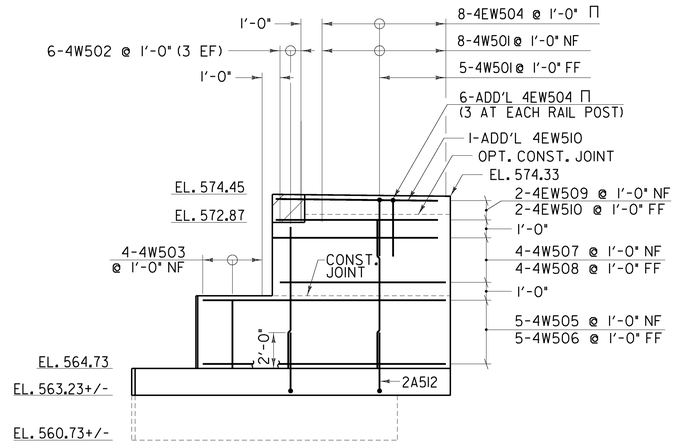
ABUTMENT 2 FOOTING

Designed By T. KNIGHT	Drawn By R. WALKER
Checked By T. KNIGHT Date 06/09	Bridge Design Supervisor G. BOGUE Date 06/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Drawing Name: ...\44 z93a148abtftg2.dgn	Date: 10/19/2009
Bridge Sheet No.	Sheet 44 of 75



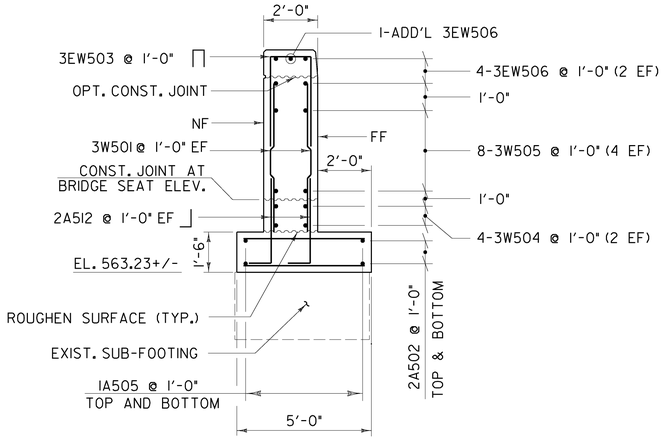
WINGWALL No. 3 ELEVATION

SCALE 1/4 " = 1'-0"



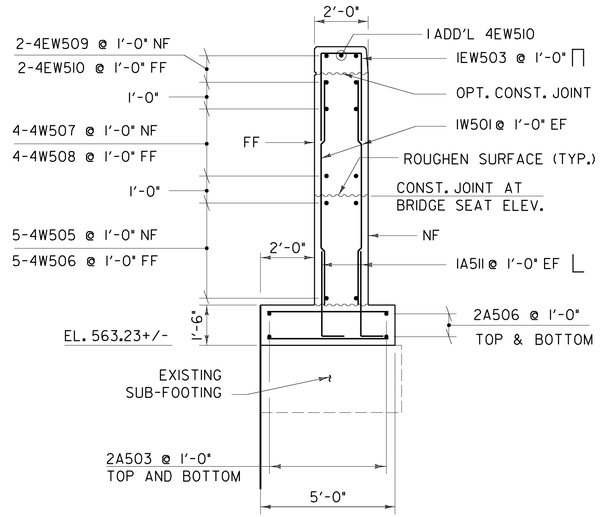
WINGWALL No. 4 ELEVATION

SCALE 1/4 " = 1'-0"



WINGWALL No. 3 SECTION

SCALE 3/8" = 1'-0"



WINGWALL No. 4 SECTION

SCALE 3/8" = 1'-0"

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

Stantec

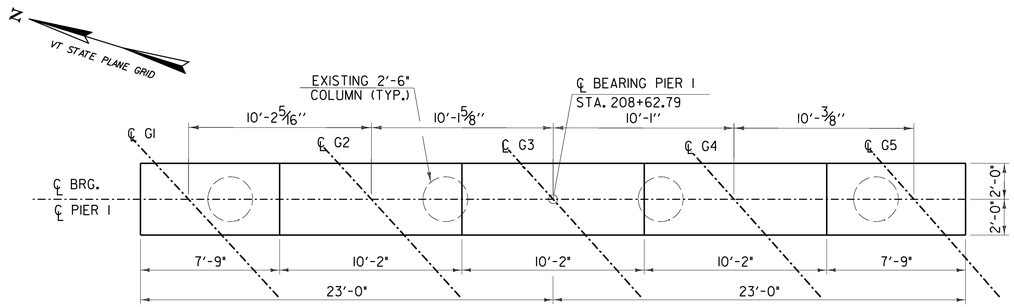
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of PUTNEY	Bridge No. 19A
Highway No.	Log Sta. / Surv. Sta.

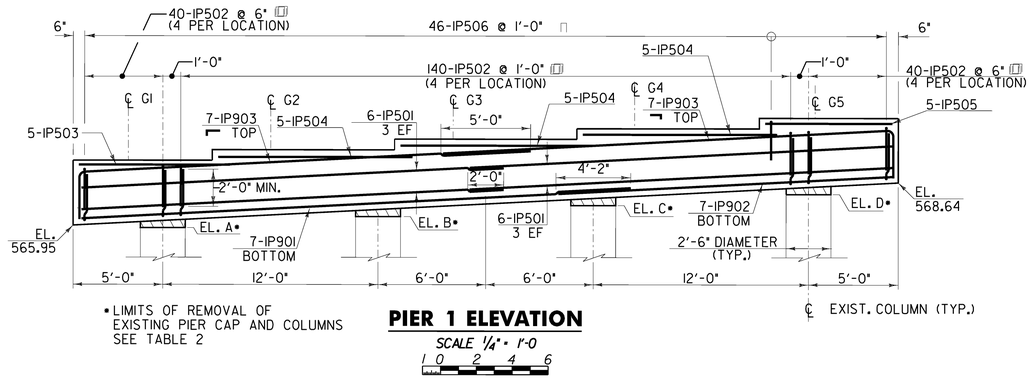
U.S. ROUTE 5 OVER I-91

ABUTMENT 2 WINGWALL DETAILS

Designed By T. KNIGHT	Drawn By R. WALKER
Checked By T. KNIGHT Date 07/09	Bridge Design Supervisor G. BOGUE Date 07/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Drawing Name: ...\45 z93al48abt2 w4pt1	Plot Date: 10/19/2009
Bridge Sheet No.	Sheet 45 of 75



PIER 1 PLAN

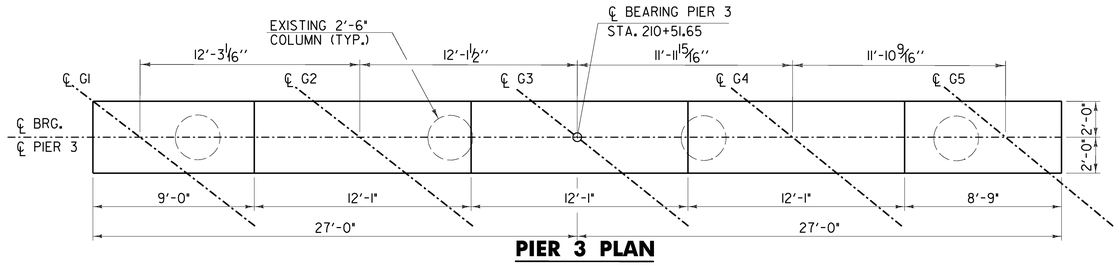


• LIMITS OF REMOVAL OF EXISTING PIER CAP AND COLUMNS SEE TABLE 2

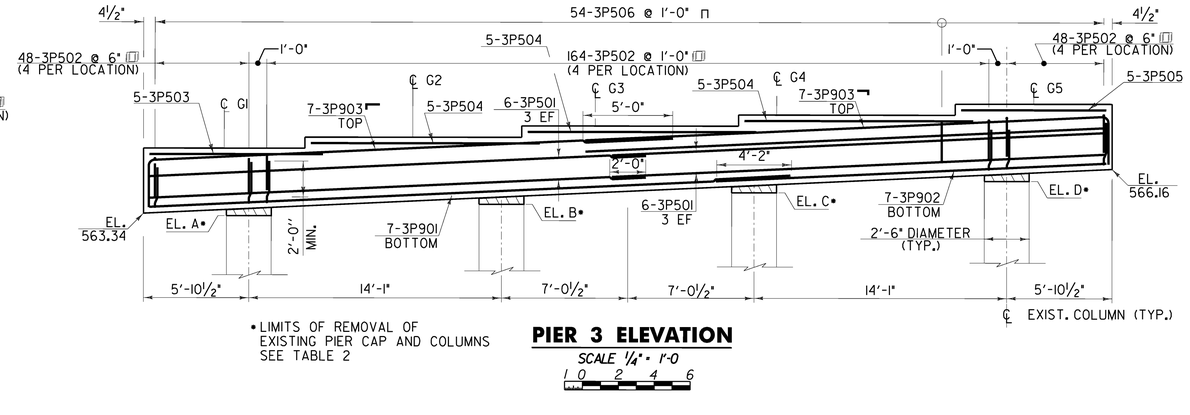
PIER 1 ELEVATION

SCALE 1/4" = 1'-0

℄ EXIST. COLUMN (TYP.)



PIER 3 PLAN

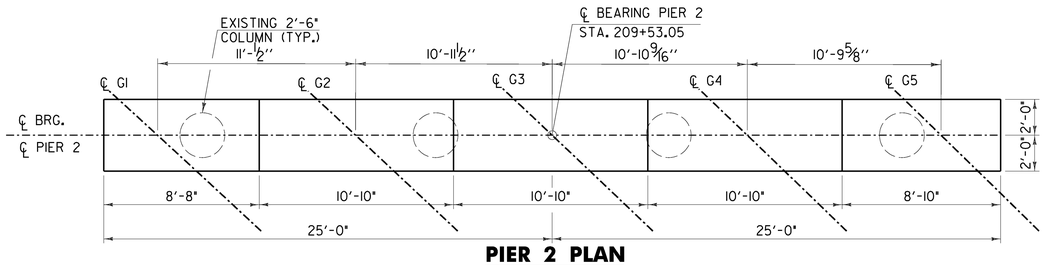


• LIMITS OF REMOVAL OF EXISTING PIER CAP AND COLUMNS SEE TABLE 2

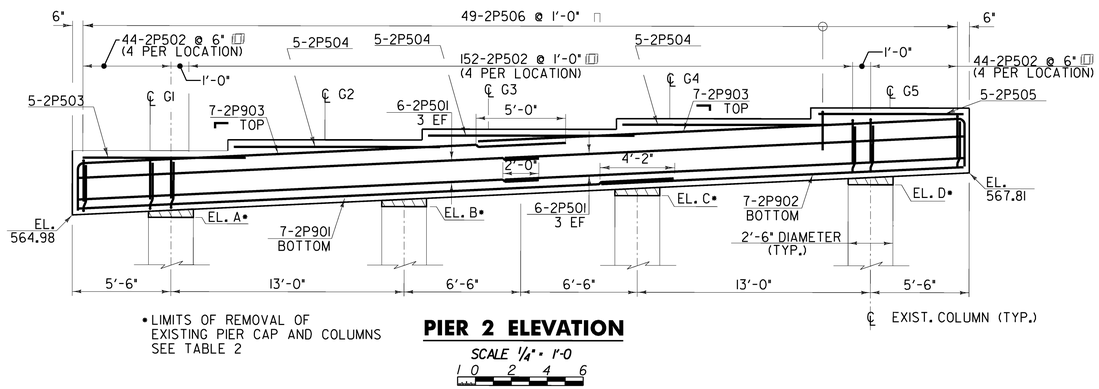
PIER 3 ELEVATION

SCALE 1/4" = 1'-0

℄ EXIST. COLUMN (TYP.)



PIER 2 PLAN

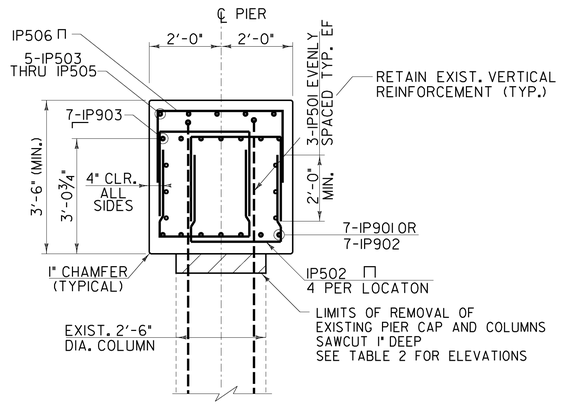


• LIMITS OF REMOVAL OF EXISTING PIER CAP AND COLUMNS SEE TABLE 2

PIER 2 ELEVATION

SCALE 1/4" = 1'-0

℄ EXIST. COLUMN (TYP.)



PIER CAP TYPICAL SECTION

SCALE 1/2" = 1'-0

NOTE: PIER CAP 1 SHOWN, PIER CAPS 2 & 3 SIMILAR EXCEPT PREFIX.

TABLE 1 - BRIDGE SEAT ELEVATIONS					
GIRDER NO.	ABUT #1	PIER #1	PIER #2	PIER #3	ABUT #2
1	570.76	569.91	568.98	567.31	565.93
2	571.35	570.50	569.59	567.94	566.67
3	571.93	571.10	570.20	568.57	567.39
4	572.52	571.69	570.81	569.20	568.09
5	573.10	572.28	571.41	569.82	568.78

TABLE 2 - ELEVATION LIMITS OF REMOVAL OF PIER CAP AND COLUMNS			
EL.	PIER #1	PIER #2	PIER #3
A	565.9	564.9	563.3
B	566.6	565.6	564.0
C	567.3	566.4	564.7
D	568.0	567.1	565.5

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of PUTNEY	Bridge No. 19A
Highway No. U.S. ROUTE 5	Log Sta. / Surv. Sta.
U.S. ROUTE 5 OVER I-91	
PIER DETAILS	
Designed By G. BOGUE	Drawn By T. KNIGHT
Checked By G. BOGUE Date 06/09	Bridge Design Supervisor G. BOGUE Date 06/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Drawing Name: ...\46 z93al48piercap.dgn	Plot Date: 10/19/2009
Bridge Sheet No.	Sheet 46 of 75

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STATE OF VERMONT
AGENCY OF TRANSPORTATION

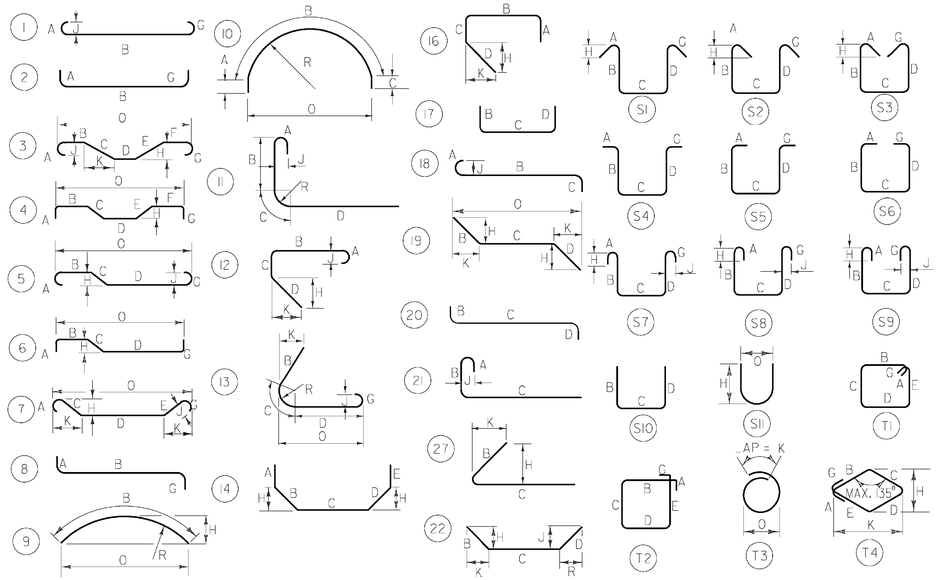
REINFORCING STEEL SCHEDULE

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
				APPROACH SLAB #1													
	52	5	20'-6"	1EAS501	STR												
	52	9	25'-9"	1EAS901	1	1'-3"	24'-6"					-					
				APPROACH SLAB #2													
	52	5	28'-0"	2EAS501	STR												
	72	9	25'-9"	2EAS901	1	1'-3"	24'-6"					-					
				DECK													
⚠ ▲	694	5	34'-~~7~~6	ES501	STR												
⚠ ▲	646	5	35'-~~9~~8	ES502	1	0'-7"	34'-7"					0'-7"					
⚠ † ▲	48	5	35'-~~2~~1	ES503	1	0'-7"	34'-7"					-					
⚠	810	5	3~~89~~6'-~~3~~5	ES504	STR												
	465	5	5'-11"	ES505	S5	0'-10"	1'-5"	1'-5"	1'-5"			0'-10"					
	92	5	5'-7"	ES506	S5	0'-10"	0'-10"	2'-3"	0'-10"			0'-10"					
▲	5	5	44'-5"	ES507	STR												
▲	10	5	31'-6"	ES508	STR												
	448	5	5'-7"	ES509	S5	0'-10"	1'-3"	1'-5"	1'-3"			0'-10"					
	93	6	40'-0"	ES601	STR												
△	95	6	23'-0"	ES602	STR												
				ABUTMENT #1													
	86	5	5'-9"	1A501	STR.												
	60	5	4'-6"	1A502	STR.												
				1A503	THIS MARK IS NOT USED												
	28	5	25'-0"	1A504	STR.												
	12	5	15'-3"	1A505	STR.												
▲	12	5	17'-2"	1A506	STR.												
	2	5	4'-8"	1A507	STR.												
	2	5	3'-7"	1A508	STR.												
	2	5	2'-6"	1A509	STR.												
	2	5	1'-5"	1A510	STR.												
▲	139	5	4'-1"	1A511	17	10"	3'-3"	-									
* ▲	44	5	6'-2"	1A512	STR.												
	6	5	16'-2"	1A513	STR.												
	10	5	30'-2"	1A514	STR.												
	15	5	11'-9"	1A515	STR.												
▲	5	5	10'-0"	1A516	STR.												
	14	5	4'-0"	1A517	19	2'-0"	2'-0"					1'-7"		1'-3"			
	10	5	4'-0"	1A518	27	2'-0"	2'-0"					1'-6"		1'-3"			
▲	17	5	7'-7"	1A519	17	-	4'-3"	3'-4"									
▲	20	5	6'-5"	1A520	17	-	4'-3"	2'-2"									
	8	5	5'-3"	1A521	17	-	4'-3"	1'-0"									
	45	5	3'-0"	1A522	STR.												
	43	5	5'-3"	1A523	17	2'-8"	1'-9"	10"									
	45	5	8'-9"	1A5E24	17	4'-0"	9"	4'-0"									
	9	5	18'-5"	1A525	STR.												
	9	5	28'-3"	1A526	STR.												
	3	5	18'-5"	1EA527	STR.												
	3	5	28'-3"	1EA528	STR.												
△	21	8	3'-1"	1EA801	STR.												

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
				ABUTMENT #2													
	114	5	5'-9"	2A501	STR.												
	30	5	4'-6"	2A502	STR.												
	22	5	5'-1"	2A503	STR.												
	28	5	33'-0"	2A504	STR.												
	12	5	14'-9"	2A505	STR.												
▲	12	5	17'-1"	2A506	STR.												
	2	5	5'-0"	2A507	STR.												
	2	5	4'-4"	2A508	STR.												
	2	5	3'-7"	2A509	STR.												
	2	5	2'-11"	2A510	STR.												
▲	2	5	2'-2"	2A511	STR.												
▲	164	5	4'-1"	2A512	17		10"	3'-3"	-								
* ▲	55	5	6'-9"	2A513	STR.												
	8	5	23'-6"	2A514	STR.												
▲	8	5	24'-8"	2A515	STR.												
	15	5	15'-5"	2A516	STR.												
▲	5	5	11'-7"	2A517	STR.												
	10	5	4'-0"	2A518	19		2'-0"	2'-0"					1'-1"		1'-8"		
	14	5	4'-0"	2A519	27		2'-0"	2'-0"					1'-2"		1'-7"		
	9	5	5'-2"	2A520	17		11"	4'-3"									
▲	27	5	6'-8"	2A521	17		2'-5"	4'-3"									
▲	25	5	8'-1"	2A522	17		3'-10"	4'-3"									
	61	5	3'-0"	2A523	STR.												
	59	5	5'-1"	2A524	17		10"	1'-9"	2'-6"								
	61	5	9'-9"	2EA525	17		4'-6"	9"	4'-6"								
	12	5	22'-0"	2A526	STR.												
▲	6	5	21'-3"	2A527	STR.												
	6	5	22'-0"	2EA528	STR.												
	3	5	21'-3"	2EA529	STR.												
△	29	8	3'-1"	2EA801	STR.												
				WINGWALL #1													
	19	5	5'-5"	1W501	STR.												
	4	5	4'-7"	1W502	STR.												
*	18	5	7'-10"	1EW503	17		3'-2"	1'-6"	3'-2"								
	2	5	14'-11"	1W504	STR.												
	2	5	13'-10"	1W505	STR.												
	4	5	11'-11"	1W506	STR.												
	4	5	10'-7"	1W507	STR.												
	2	5	11'-4"	1EW508	STR.												
	3	5	10'-2"	1EW509	STR.												
				WINGWALL #2													
*	21	5	8'-0"	2W501	STR.												
	4	5	7'-5"	2W502	STR.												
	3	5	3'-4"	2W503	STR.												
*	17	5	7'-10"	2EW504	17		3'-2"	1'-6"	3'-2"								
	8	5	14'-1"	2W505	STR.												
	8	5	11'-0"	2W506	STR.												
	5	5	10'-7"	2EW507	STR.												
				WINGWALL #3													
*	19	5	5'-3"	3W501	STR.												
	3	5	4'-6"	3W502	STR.												
*	14	5	8'-2"	3EW503	17		3'-4"	1'-6"	3'-4"								
	4	5	13'-6"	3W504	STR.												
	8	5	8'-11"	3W505	STR.												
	5	5	8'-6"	3EW506	STR.												
				WINGWALL #4													
	13	5	8'-3"	4W501	STR.												
	6	5	7'-10"	4W502	STR.												
	5	5	3'-9"	4W503	STR.												
*	15	5	7'-10"	4EW504	17		3'-2"	1'-6"	3'-2"								
	5	5	13'-6"	4W505	STR.												
	5	5	11'-5"	4W506	STR.												
	4	5	9'-5"	4W507	STR.												
	4	5	7'-2"	4W508	STR.												
	2	5	8'-9"	4EW509	STR.												
	3	5	6'-7"	4EW510	STR.												

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 "SPECIFICATION FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31(ASTM A 615-91). 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 "C" 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 PREFIX DENOTES EPOXY COATED REINFORCING STEEL.
12. † DENOTES USE CUTOFF PORTION FOR TESTING PURPOSES.



ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION: DIAMETER INCHES	CROSS SECTIONAL AREA SQ. INCHES	PERIMETER INCHES
#3	.376	.375	.11	1.178
#4	.668	.500	.20	1.571
#5	1.043	.625	.31	1.963
#6	1.502	.750	.44	2.356
#7	2.044	.875	.60	2.749
#8	2.670	1.000	.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

Stantec

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of PUTNEY	Bridge No. 19A
Highway No.	Log Sta.
	Surv. Sta.

U.S. ROUTE 5 OVER I-91

REINFORCING STEEL SCHEDULE 1

Designed By T. KNIGHT	Drawn By R. WALKER
Checked By D. HARRINGTON Date 07/09	Bridge Design Supervisor G. BOGUE Date 06/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Dwg: ...\Plot Files\47 z93a148rss.ptf	Plot Date: 10/19/2009
Bridge Sheet No.	Sheet 47 of 75

STATE OF VERMONT
AGENCY OF TRANSPORTATION

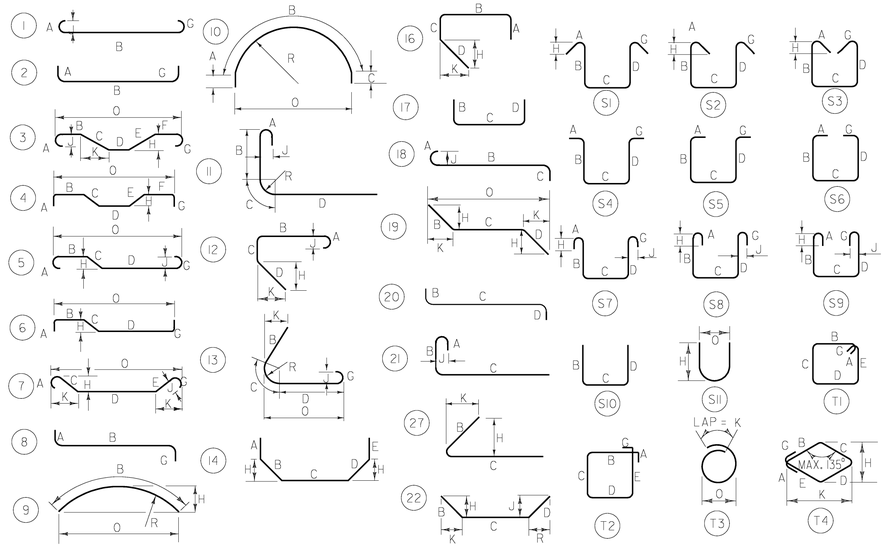
REINFORCING STEEL SCHEDULE

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
				PIER #1													
	12	5	23'-8"	1P501	STR.												
	220	5	7'-2"	1P502	17		2'-5"	2'-4"	2'-5"								
*	6	5	8'-5"	1P503	STR.												
	15	5	10'-10"	1P504	STR.												
*	6	5	7'-1"	1P505	STR.												
	46	5	7'-4"	1P506	17		2'-0"	3'-4"	2'-0"								
	7	9	30'-9"	1P901	STR.												
△	9	9	18'-9"	1P902	STR.												
	14	9	27'-11"	1P903	17		2'-9"	25'-2"									
				PIER #2													
	12	5	25'-8"	2P501	STR.												
	248	5	7'-2"	2P502	17		2'-5"	2'-4"	2'-5"								
	5	5	9'-4"	2P503	STR.												
	15	5	11'-6"	2P504	STR.												
	5	5	8'-2"	2P505	STR.												
	49	5	7'-4"	2P506	17		2'-0"	3'-4"	2'-0"								
	7	9	33'-3"	2P901	STR.												
	7	9	20'-3"	2P902	STR.												
	14	9	29'-11"	2P903	17		2'-9"	27'-2"									
				PIER #3													
	12	5	27'-8"	3P501	STR.												
	260	5	7'-2"	3P502	17		2'-5"	2'-4"	2'-5"								
	5	5	9'-8"	3P503	STR.												
	15	5	12'-9"	3P504	STR.												
	5	5	8'-1"	3P505	STR.												
	54	5	7'-4"	3P506	17		2'-0"	3'-4"	2'-0"								
	7	9	35'-10"	3P901	STR.												
	7	9	21'-8"	3P902	STR.												
	14	9	31'-11"	3P903	17		2'-9"	29'-2"									

ITEM	NO. PIECES	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 "SPECIFICATION FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-91). 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 PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



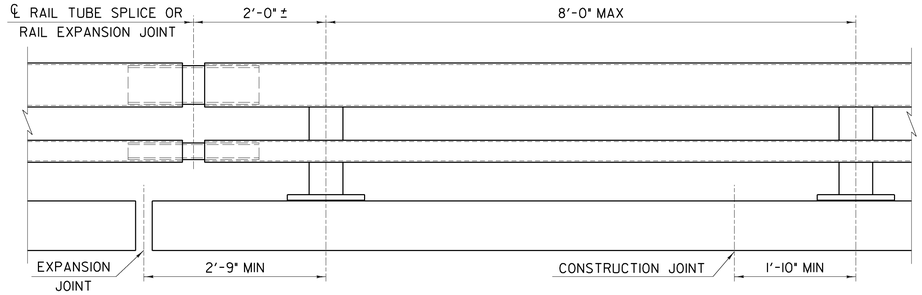
ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION DIAMETER INCHES	CROSS SECTIONAL AREA SQ. INCHES	PERIMETER INCHES
#3	.376	.375	.11	1.178
#4	.668	.500	.20	1.571
#5	1.043	.625	.31	1.963
#6	1.502	.750	.44	2.356
#7	2.044	.875	.60	2.749
#8	2.670	1.000	.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

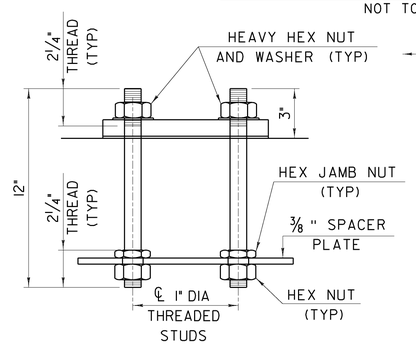
Stantec

STATE OF VERMONT
AGENCY OF TRANSPORTATION

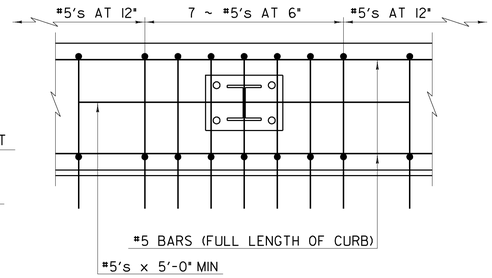
Town Of PUTNEY	Bridge No. 19A
Highway No.	Log Sta.
	Surv. Sta.
U.S. ROUTE 5 OVER I-91	
REINFORCING STEEL SCHEDULE 2	
Designed By T. KNIGHT	Drawn By R. WALKER
Checked By D. HARRINGTON Date 07/09	Bridge Design Supervisor G. BOGUE Date 06/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Dwg: ...\Plot Files\48 z93a148rss.ptf	Plot Date: 10/19/2009
Bridge Sheet No.	Sheet 48 of 75



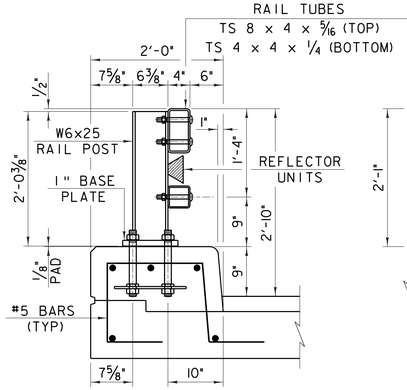
BRIDGE RAILING ELEVATION
NOT TO SCALE



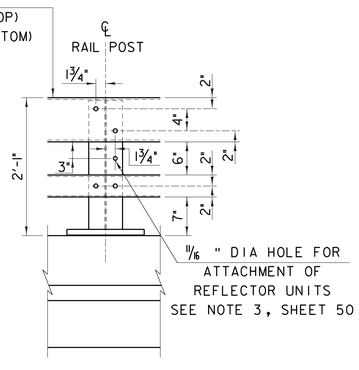
RAIL POST ANCHORAGE
NOT TO SCALE



CURB REINFORCING PLAN
NOT TO SCALE



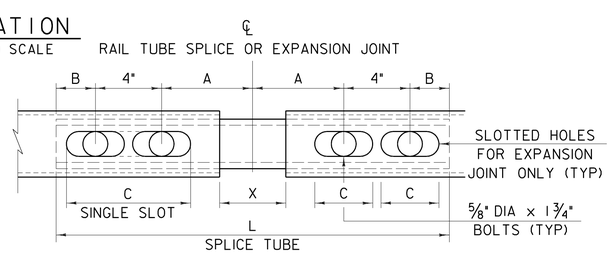
TYPICAL SECTION
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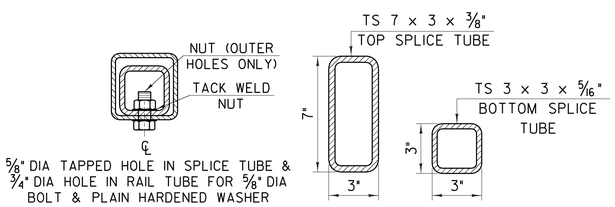
ELEVATION
NOT TO SCALE

SPLICE TABLE					
T	A	B	C	L	X
N/A	4"	2"	--	20"	¾"
EXPANSION JOINT TABLE					
<4"	4"	2"	2½"	20"	2½"
>4" <6½"	5½"	2⅜"	3½"	23¾"	4"
>6½" <9"	6½"	3⅜"	9"*	27¾"	5"
>9" <13"	8½"	4⅜"	11"*	33¾"	7"

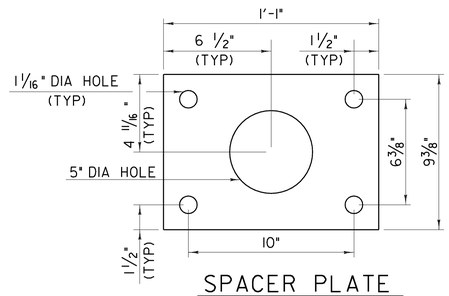
T = TOTAL MOVEMENT BETWEEN BRIDGE
EXPANSION JOINTS. SEE NOTE 6.
* = SINGLE SLOT



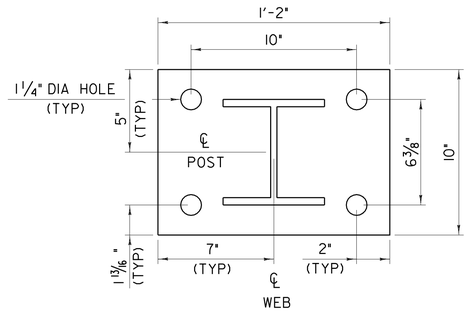
RAIL TUBE SPLICE AND RAIL EXPANSION JOINT DETAIL
(BOTTOM VIEW)
NOT TO SCALE



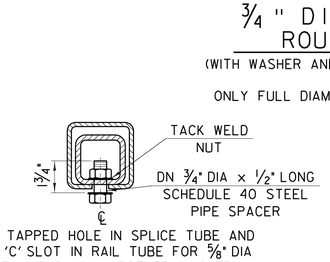
RAIL TUBE SPLICE SECTION
NOT TO SCALE



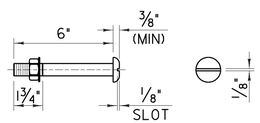
SPACER PLATE
NOT TO SCALE



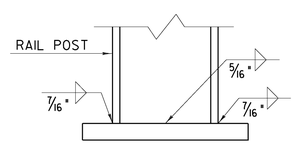
POST AND BASE PLATE
NOT TO SCALE



EXPANSION JOINT SECTION
FOR DETAILS NOT SHOWN,
SEE "RAIL TUBE SPLICE SECTION."
NOT TO SCALE



¾" DIA M164 (TYPE I) ROUND HEAD BOLT
(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT)
(SEE NOTE #9)
ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.
NOT TO SCALE



BASE WELD DETAIL
NOT TO SCALE

NOTES

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE PROVISIONS OF SECTION 525, "METAL RAILINGS" OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION."
2. TUBING AND POSTS SHALL MEET THE REQUIREMENTS OF SECTION 732, "RAILING MATERIALS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION" EXCEPT THE DROP-WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING DETAILED HEREIN.
3. ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1/16" RADIUS AND BE FREE OF BURRS.
4. RAIL POSTS SHALL BE SET NORMAL TO GRADE.
5. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO (2) RAIL POSTS AND PREFERABLY TO AT LEAST FOUR (4) POSTS.
6. RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING A SUPERSTRUCTURE EXPANSION JOINT. EXPANSION JOINT WIDTH SHALL BE "X" AT 45°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
7. ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111M/M 111, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M/M 232.
8. RAIL POSTS ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.
9. RAIL TUBES SHALL BE ATTACHED USING ¾" FULL DIAMETER BODY AASHTO M164 (TYPE 1) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 1/16" LARGER THAN THE BOLT SIZE.
10. HOLES IN RAILS FOR RAIL TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO ERECTION.
11. IF THERE IS A CONFLICT BETWEEN THESE STANDARD DETAILS AND THE DESIGN, THE REQUIREMENTS OF THE DESIGN DRAWINGS SHALL BE FOLLOWED.
12. ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY.
13. THE FABRICATOR SHALL SUBMIT FABRICATION DRAWINGS INCLUDING WELDING PROCEDURES TO THE STRUCTURES ENGINEER FOR APPROVAL IN ACCORDANCE WITH SUB SECTION 525.03. ALL WELDING SHALL CONFORM WITH SUB SECTION 506.10.
14. RAIL POSTS AND BASE PLATES SHALL BE TESTED FOR IMPACT PROPERTIES IN ACCORDANCE WITH ASTM A-370 CHARPY IMPACT TESTING USING TYPE A SPECIMEN.

MATERIALS

RAIL TUBES.....ASTM A500, GRADE B OR ASTM A501
RAIL POSTS AND BASE PLATES.....ASTM A709A709M, GRADE 50
ALL OTHER SHAPES AND PLATES.....ASTM A709/A709M, GRADE 36
ANCHOR STUDS.....ASTM A449
ALL OTHER BOLTS (UNLESS NOTED).....AASHTO M164, TYPE 1

NUTS FOR AASHTO M164 BOLTS AND FOR ANCHOR STUDS SHALL COMPLY WITH AASHTO M291 (ASTM A563).

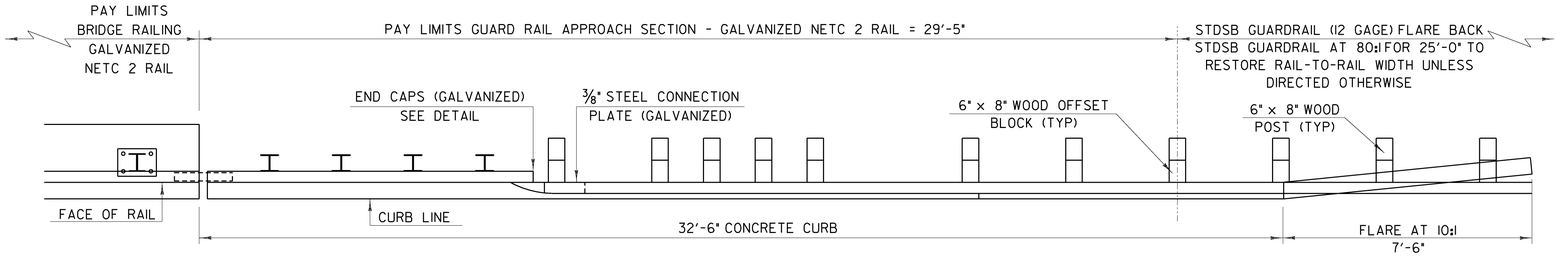
WASHERS SHALL COMPLY WITH AASHTO M293 (ASTM F436) SPECIFICATIONS.

⅛" PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.

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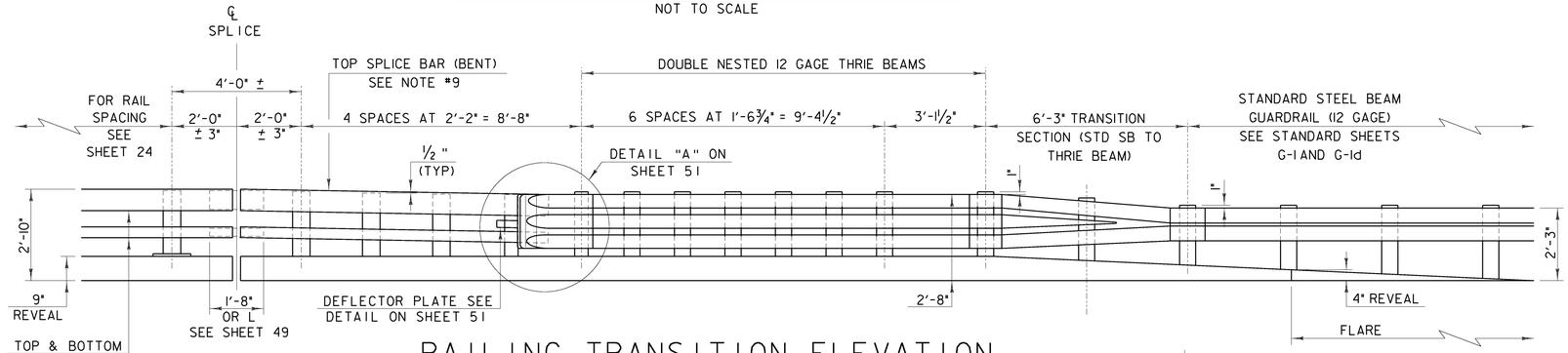
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	PUTNEY	Bridge No.	19A
Highway No.	U.S. ROUTE 5	Log Sta.	
		Surv. Sta.	
U.S. ROUTE 5 OVER I-91			
BRIDGE RAILING - NETC 2 RAIL			
Designed By VTRANS		Drawn By VTRANS	
Checked By T. KNIGHT	Date 06/09	Bridge Design Supervisor G. BOGUE	Date 06/09
PROJECT	PUTNEY	PROJECT NO.	IM 091-1(31)
CAD Drawing Name:	...\49 z93al48brail.prt	Plot Date:	10/19/2009
Bridge Sheet No.		Sheet 49 of 75	



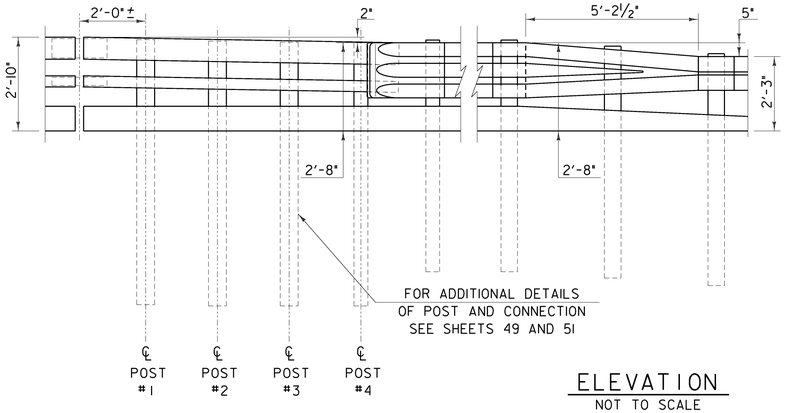
RAILING TRANSITION PLAN

NOT TO SCALE



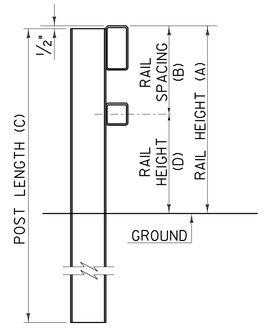
RAILING TRANSITION ELEVATION

NOT TO SCALE



ELEVATION

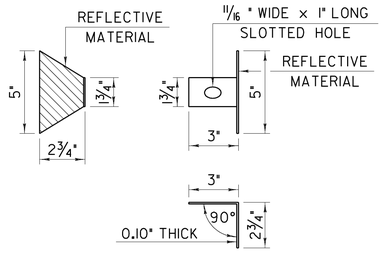
NOT TO SCALE



TYPICAL SECTION

NOT TO SCALE

POST NUMBER	RAIL HEIGHT (A)	RAIL SPACING (B)	POST LENGTH (C)	RAIL HEIGHT (D)
1	2'-9 1/2"	1'-3 3/4"	8'-0"	1'-5 3/4"
2	2'-9"	1'-3 1/2"	8'-0"	1'-5 1/2"
3	2'-8 1/2"	1'-3 3/16"	8'-0"	1'-5 5/16"
4	2'-8"	1'-2 7/8"	8'-0"	1'-5 1/8"



DELINEATION DEVICE DETAILS

NOT TO SCALE

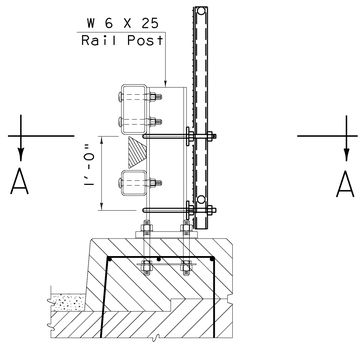
NOTES

1. REFER TO SHEET 49 FOR ADDITIONAL DETAILS, NOTES AND MATERIAL SPECIFICATIONS.
2. PAYMENT FOR GUARD RAIL APPROACH SECTION - GALVANIZED NETC 2 RAIL SHALL INCLUDE THE TERMINAL CONNECTOR, THE CONNECTION PLATE, THE DEFLECTOR PLATE, RAIL, POSTS, BLOCKS AND ATTACHMENT HARDWARE.
3. THE REFLECTORIZED ALUMINUM DELINEATION IS TO BE ERECTED EVERY 30' (OR CLOSEST POST) WITH A 5/8" DIAMETER BOLT. DELINEATORS SHALL MEET SPECIFICATION REQUIREMENTS FOR ASTM B209 ALLOY 5052-H32.
4. REFLECTIVE MATERIAL SHALL MEET REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE OF ENCAPSULATED LENS SILVER OR AMBER. AMBER IS TO BE INSTALLED ON THE DRIVERS' LEFT AND SILVER ON THEIR RIGHT.
5. ON BRIDGES WITH A SIDWALK, DELINEATORS ARE NOT TO BE INSTALLED ON THE SIDEWALK SIDE OF THE BRIDGE (I.E. DELINEATORS INSTALLED ONLY ON THE CURB SIDE AND ON THE APPROACH ON THE CURB SIDE). PAYMENT SHALL BE INCIDENTAL TO ALL OTHER ITEMS.
6. ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.
7. ALL BRIDGE APPROACH RAIL MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED.
8. CARRIAGE BOLTS SHALL BE AASHTO M164 AND NUTS SHALL BE ASTM A563 GRADE A OR BETTER (GALVANIZED).
9. WELD TOP SPLICE BAR TO FIT BEND. USE COMPLETE PENETRATION WELD (B-U2).
10. THE CONCRETE CURB WILL BE PAID FOR AS ITEM 616.28, "CAST-IN-PLACE CONCRETE CURB, TYPE B."

STATE OF VERMONT
AGENCY OF TRANSPORTATION

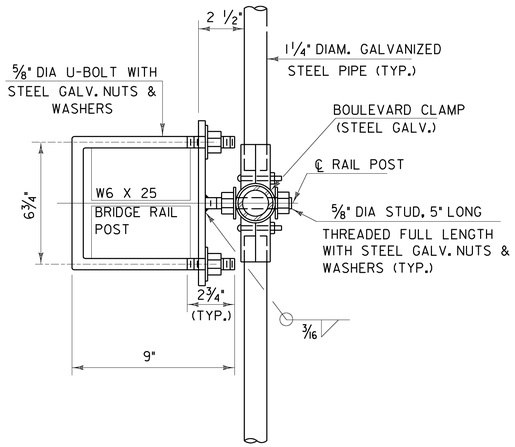
Town Of PUTNEY	Bridge No. 19A
Highway No. U.S. ROUTE 5	Log Sta. / Surv. Sta.
U.S. ROUTE 5 OVER I-91	
NETC 2 RAIL – THRIE BEAM APPROACH RAIL 1	
Designed By VTRANS	Drawn By VTRANS
Checked By T. KNIGHT Date 06/09	Bridge Design Supervisor G. BOGUE Date 06/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Drawing Name: ...\50 z93al48brail2.prt	Plot Date: 10/19/2009
Bridge Sheet No.	Sheet 50 of 75

Stantec



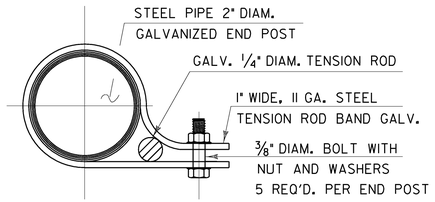
TYPICAL SECTION

NOT TO SCALE
NOTE: FOR DIMENSIONS SEE SHEETS 49 AND 50



SECTION A-A

NOT TO SCALE

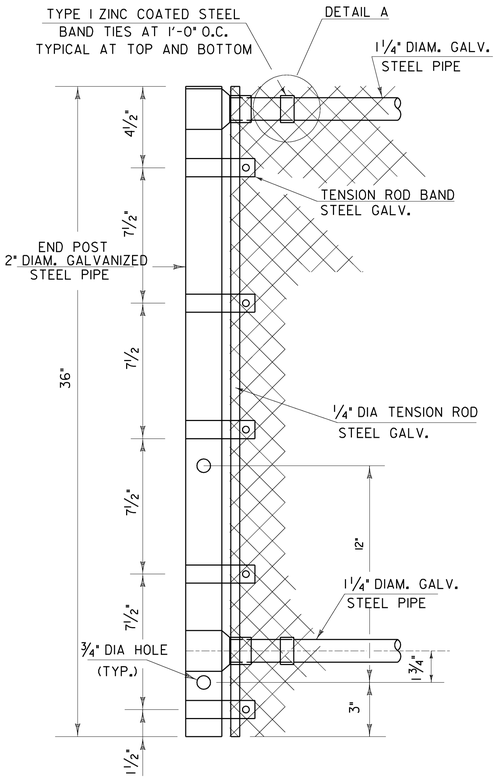


TENSION ROD BAND

NOT TO SCALE

PLAN VIEW AT END POST

NOT TO SCALE

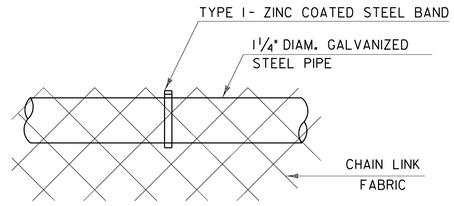


END POST DETAILS

NOT TO SCALE

NOTES

1. THREADS OF STUDS AND U-BOLTS TO BE 5/8-11 UNC.
2. ALL CONNECTION PLATES TO BE GALVANIZED AFTER FABRICATION.
3. 1 ¼" PIPE LENGTH SHALL BE FIELD CUT TO FIT POST SPACING.
4. CHAIN LINK FABRIC TO BE KNUCKLED TOP AND BOTTOM.
5. ALL BOLTS, THREADED STUDS AND WASHERS SHALL CONFORM TO THE SPECIFICATIONS FOR AASHTO M-164, TYPE 1. NUTS SHALL CONFORM TO AASHTO M-291.
6. ALL STEEL PLATES SHALL CONFORM TO THE SPECIFICATION FOR AASHTO M 270M/M 270 GRADE 36.
7. ALL GALVANIZING SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-181 WITH HARDWARE AND FITTINGS CONFORMING TO THE REQUIREMENTS OF AASHTO M 111M/M 111 OR AASHTO M 232M/M 232 WHICHEVER IS APPLICABLE. ALL BOLTS, NUTS AND WASHERS SHALL BE EITHER HOT-DIP GALVANIZED IN ACCORDANCE WITH THE ABOVE AASHTO REQUIREMENTS OR MECHANICALLY GALVANIZED USING A MECHANICALLY DEPOSITED PROCESS CONFORMING TO THE REQUIREMENTS OF AASHTO M-298, CLASS 110.
8. GALVANIZED CHAIN-LINK FABRIC SHALL BE TYPE I (ZINC) CLASS D AS SPECIFIED IN AASHTO M-181.
9. SNOW BARRIER SHALL BEGIN AT THE BRIDGE RAIL POST WHICH WILL PROVIDE A MINIMUM DISTANCE OF 20' (AS SHOWN) OR AS DIRECTED BY THE ENGINEER.
10. ALL REFERENCES TO THE DIAMETERS OF GALVANIZED STEEL PIPE SHALL REFER TO THE OUTSIDE DIAMETER (O.D.).
11. ALL POSTS, RAILS AND HARDWARE SHALL BE ZINC COATED AND CONFORM TO THE REQUIREMENTS OF AASHTO M-181, GRADE 1 OR GRADE 2.



DETAIL A

NOT TO SCALE

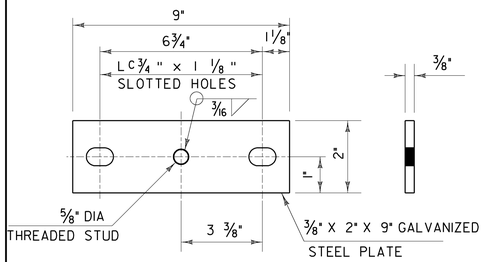
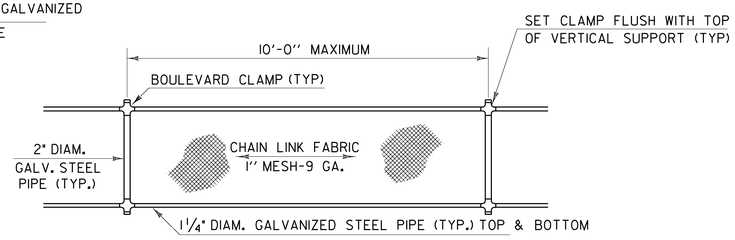


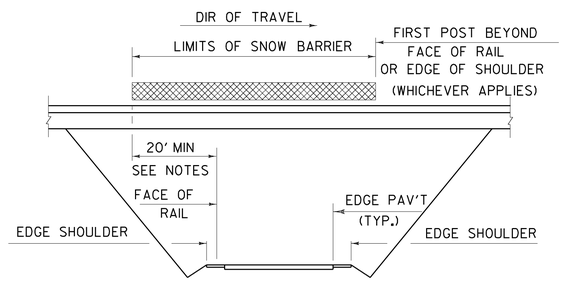
PLATE DETAILS

NOT TO SCALE



ELEVATION SNOW BARRIER

NOT TO SCALE



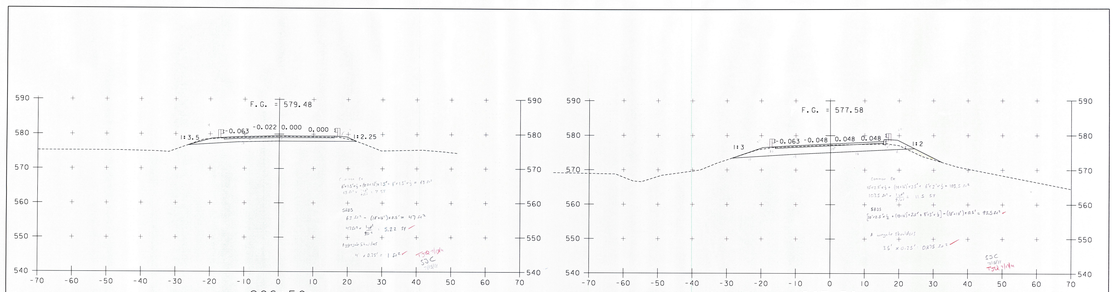
SCHEMATIC SNOW BARRIER LIMITS

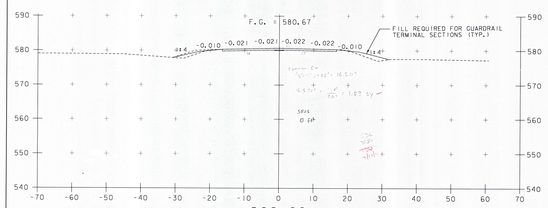
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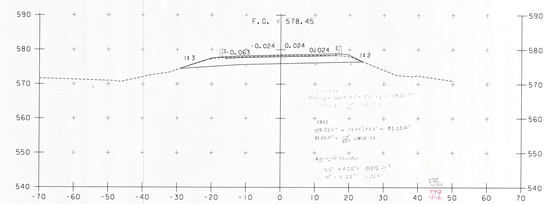
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of PUTNEY	Bridge No. 19A
Highway No. U.S. ROUTE 5	Log Sta. / Surv. Sta.
U.S. ROUTE 5 OVER I-91	
SNOW FENCE FOR NETC 2 RAIL	
Designed By VTRANS	Drawn By VTRANS
Checked By T. KNIGHT Date 06/09	Bridge Design Supervisor G. BOGUE Date 06/09
PROJECT PUTNEY	PROJECT NO. IM 091-1(31)
CAD Drawing Name: ...\52 z93al48brail4.pltd	Plot Date: 10/19/2009
Bridge Sheet No.	Sheet 52 of 75

Stantec





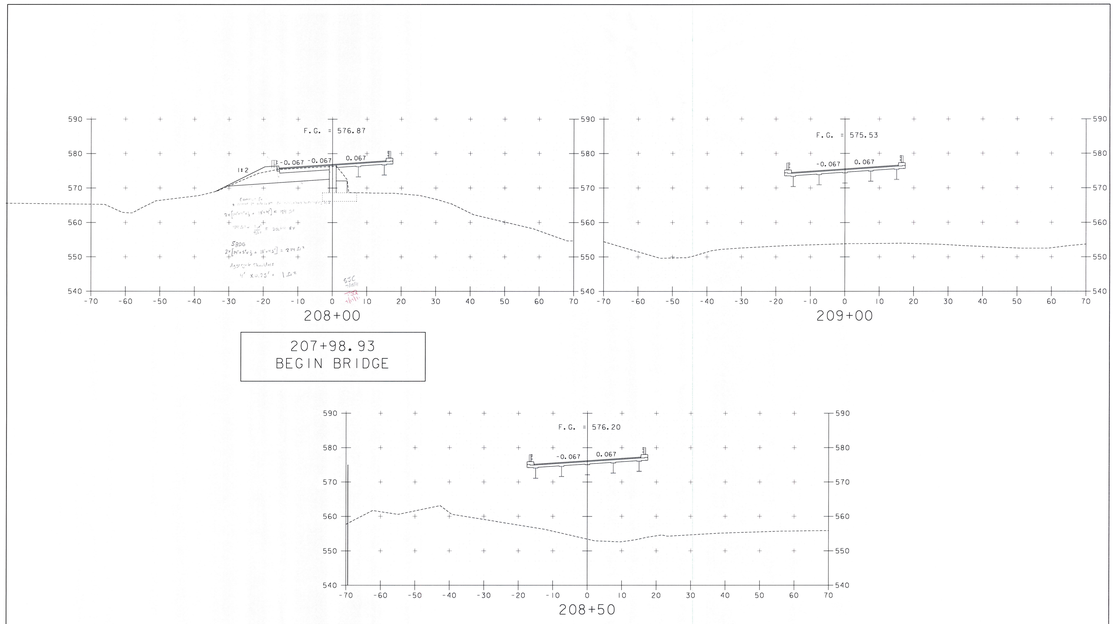


205+50
BEGIN COLD PLANING

0 10 20
SCALE

Stantec

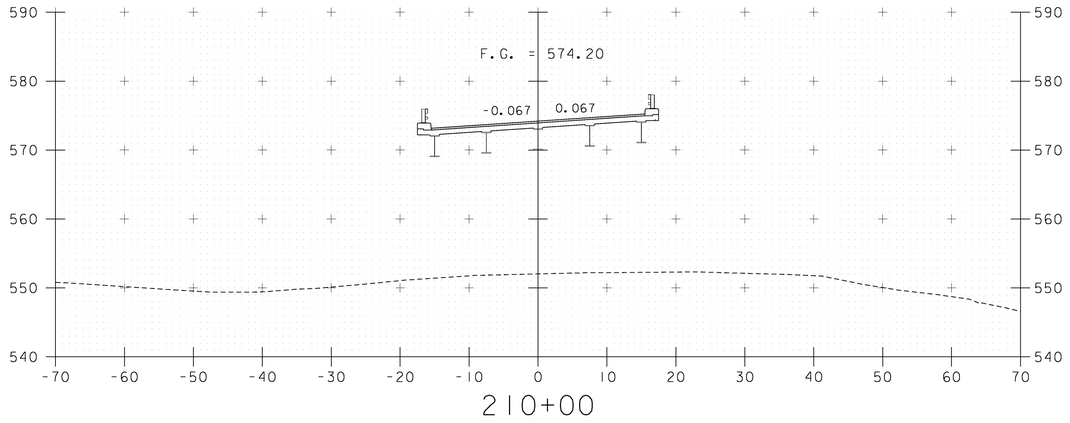
PROJECT NAME: PUTNEY	
PROJECT NUMBER: IM 091-1(31)	
FILE NAME: ...\53-57 #330489mainXsects.dgn	PLOT DATE: 10/19/2009
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: G. GOYETTE
MAINLINE SECTIONS 1	SHEET 53 OF 75



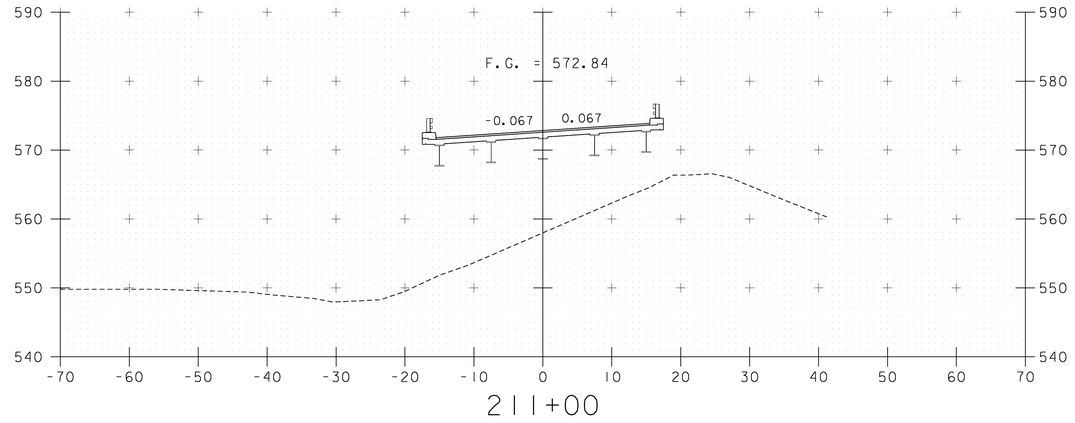
0 10 20
SCALE

Stantec

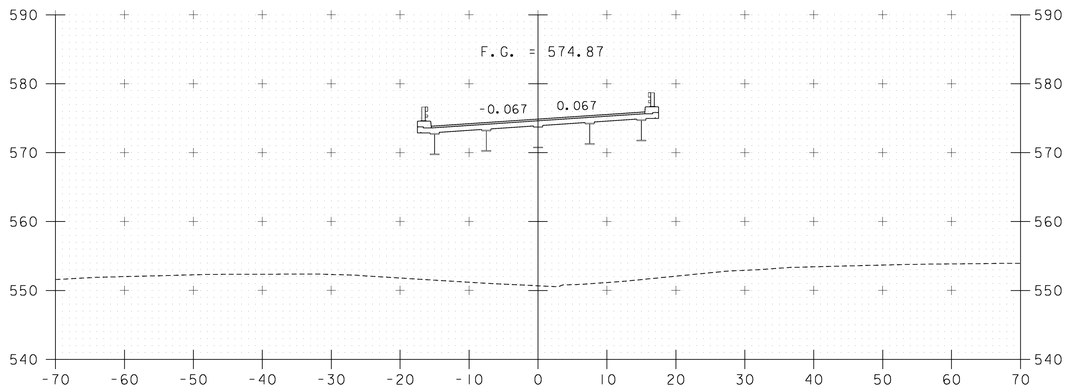
PROJECT NAME: PUTNEY	
PROJECT NUMBER: IM 091-1(31)	
FILE NAME: ...\53-57 z93of48mainlinexs.prf	PLOT DATE: 10/19/2009
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: G. GOYETTE
MAINLINE SECTIONS 2	SHEET 54 OF 75



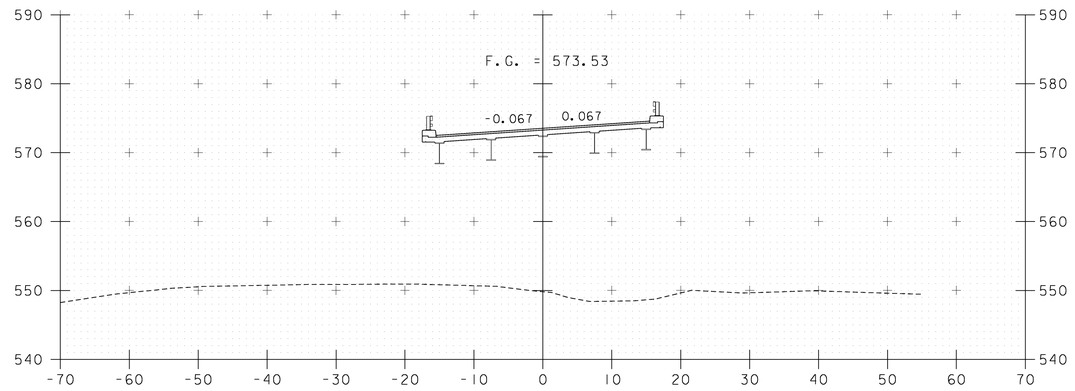
210+00



211+00



209+50



210+50

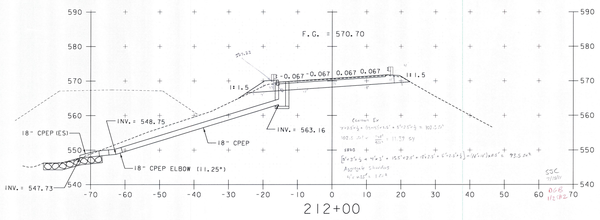
0 10 20
SCALE

Stantec

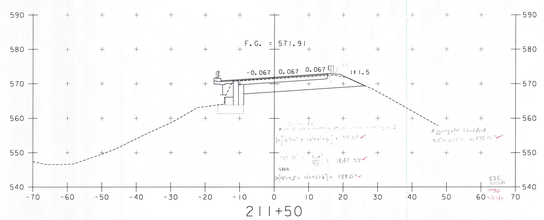
PROJECT NAME: PUTNEY
PROJECT NUMBER: IM 091-1(31)

FILE NAME: ...\53-57 z93al48mainlinexs.ptf
PROJECT LEADER: G. BOGUE
DESIGNED BY: E. ALLING
MAINLINE SECTIONS 3

PLOT DATE: 10/19/2009
DRAWN BY: E. ALLING
CHECKED BY: G. GOYETTE
SHEET 55 OF 75



212+00



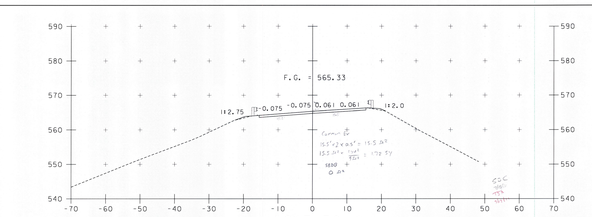
211+50

211+34.93
END BRIDGE

0 10 20
SCALE

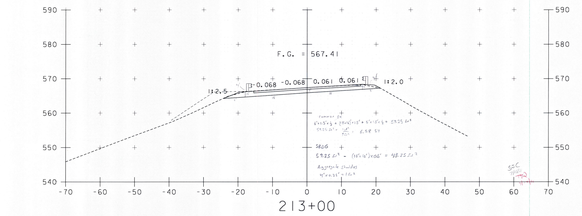
Stantec

PROJECT NAME:	PUTNEY
PROJECT NUMBER:	IM 091-1(31)
FILE NAME:	...\53-57 z93of48mdlnlinexs.prf
PLOT DATE:	10/19/2009
PROJECT LEADER:	G. BOGUE
DRAWN BY:	E. ALLING
DESIGNED BY:	E. ALLING
CHECKED BY:	G. GOYETTE
MAINLINE SECTIONS 4	SHEET 56 OF 75

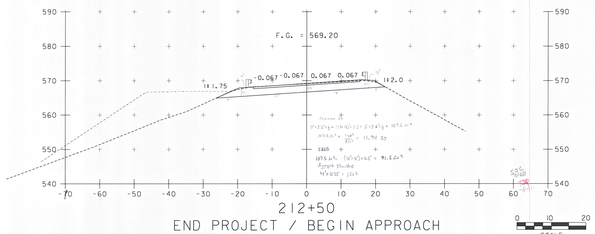


213+50

BEGIN COLD PLANING / END APPROACH



213+00



212+50

END PROJECT / BEGIN APPROACH

214+00

END COLD PLANING

0 10 20

SCALE

Stantec

PROJECT NAME: PUTNEY

PROJECT NUMBER: IM 091-1(31)

FILE NAME: ...\53-57 293a48malnlinexs.ptf

PROJECT LEADER: G. BOGUE

DESIGNED BY: E. ALLING

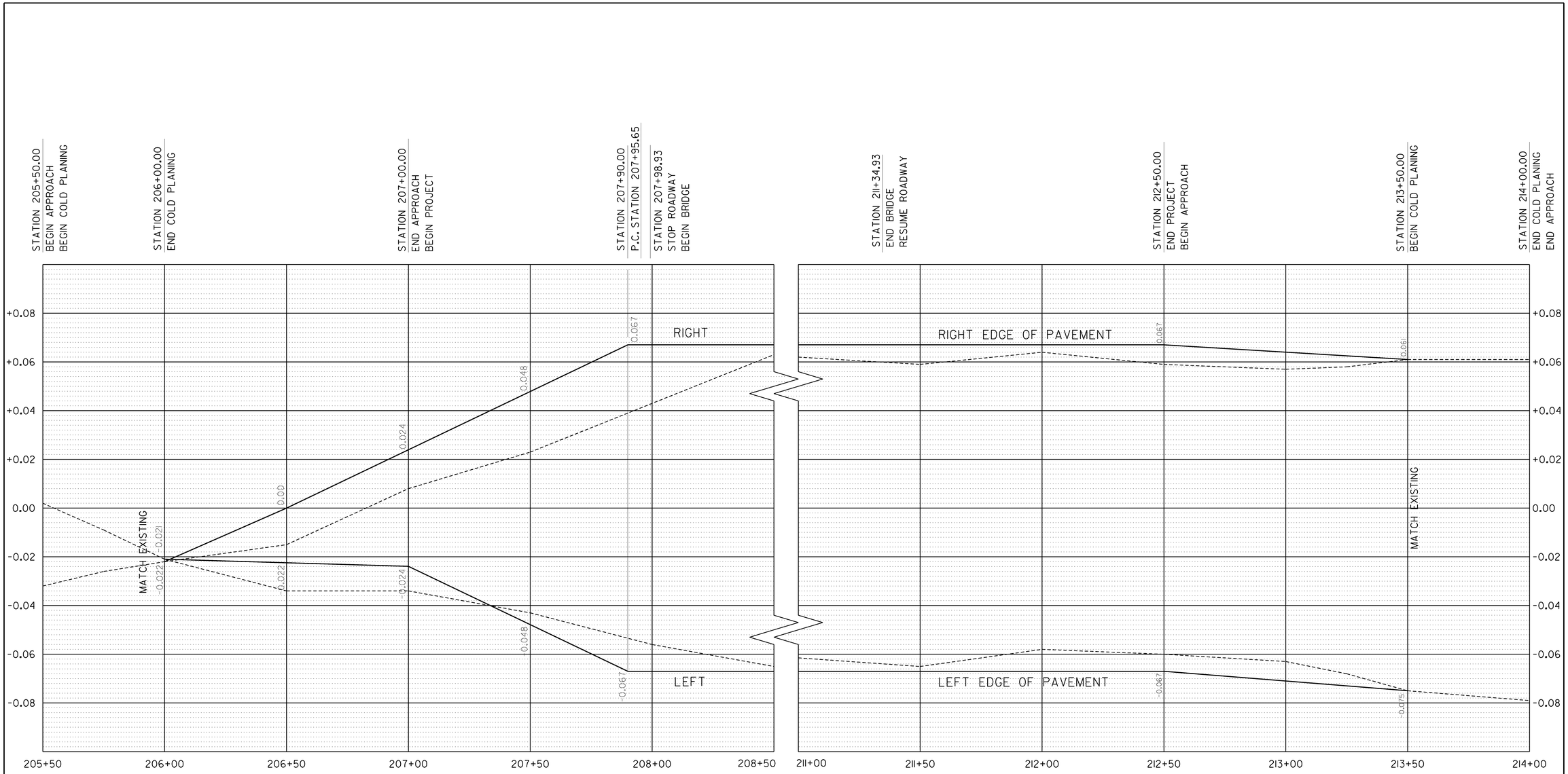
MAINLINE SECTIONS 5

PLOT DATE: 10/19/2009

DRAWN BY: E. ALLING

CHECKED BY: G. GOYETTE

SHEET 57 OF 75



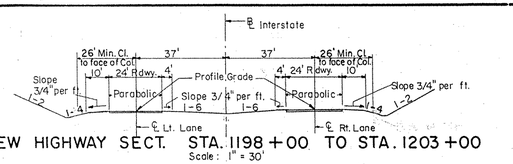
MAINLINE BANKING DIAGRAM

EXISTING BANKING

NEW BANKING

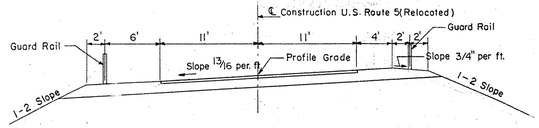
Stantec

PROJECT NAME: PUTNEY	
PROJECT NUMBER: IM 091-1(31)	
FILE NAME: ...\Plot Files\63 z93al48bd.ptf	PLOT DATE: 10/19/2009
PROJECT LEADER: G. BOGUE	DRAWN BY: R. WALKER
DESIGNED BY: E. ALLING	CHECKED BY: G. GOYETTE
BANKING DIAGRAM	SHEET 63 OF 75



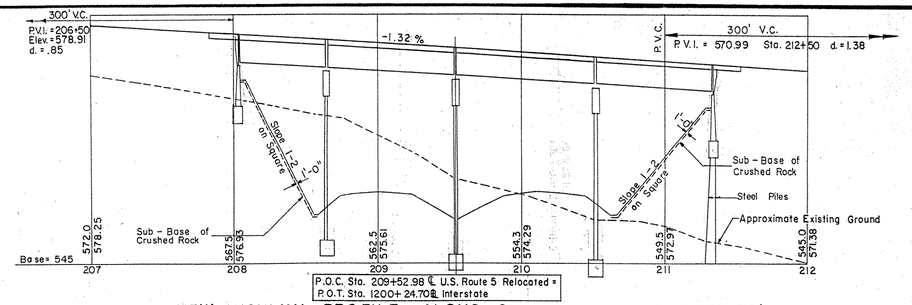
NEW HIGHWAY SECT. STA. 1198 + 00 TO STA. 1203 + 00

Scale: 1" = 30'



NEW HIGHWAY SECT. STA. 207 + 90.5 TO STA. 212 + 00

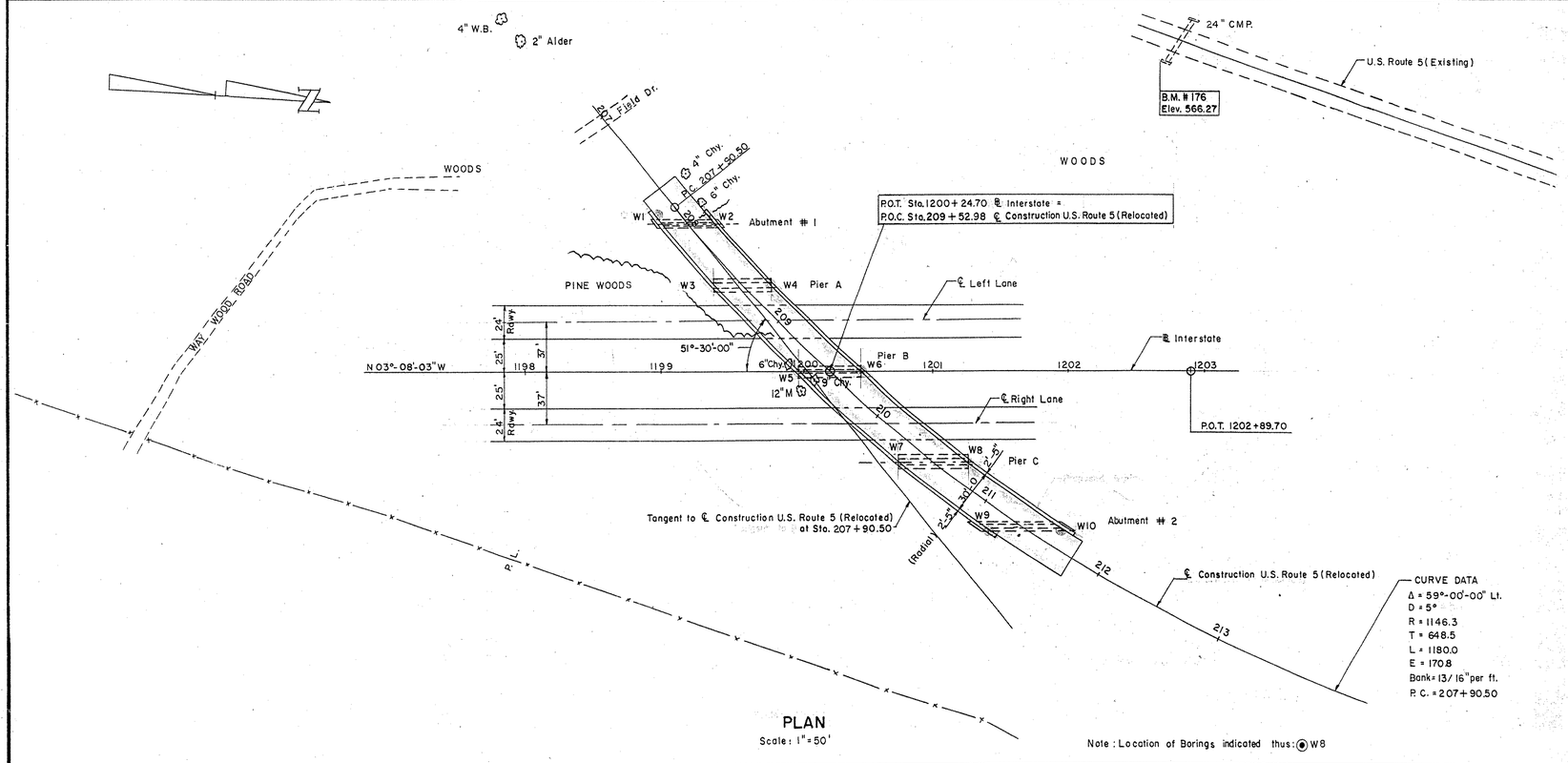
Scale: 1" = 8'



P.O.C. Sta. 209+52.98 ℄ U.S. Route 5 Relocated =
P.O.T. Sta. 1200+24.70 ℄ Interstate

NEW HIGHWAY PROFILE ALONG ℄ U.S. ROUTE 5 (RELOCATED)

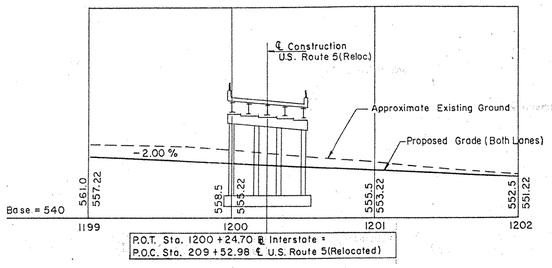
Scale: Hor. 1" = 50'
Vert. 1" = 10'



PLAN

Scale: 1" = 50'

Note: Location of Borings indicated thus: ◉ W8



PROFILE OF PROPOSED INTERSTATE

Scale: Hor. 1" = 50'
Vert. 1" = 20'

SUMMARY OF QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	NET	OVER-RUN	TOTAL	FINAL	
	107	Structure Excavation	C.Y.	~~484~~	~~49~~	~~533~~	437	✓
	204	Sub-base of Crushed Rock (Mod.)	C.Y.	~~175~~	~~26~~	~~201~~	213	✓
	222	Gravel Backfill	C.Y.	~~70~~	~~20~~	~~90~~	159	✓
	361-B	Bit. Conc. Pavement (S.A. 5-22-61)	Tons	155 ✓	~~28~~	~~178~~	155	✓
	401-B	Concrete Class B (Mod.)	C.Y.	~~835~~	~~41~~	~~876~~	913	✓
	402	Reinforcing Steel	Lbs.	~~134,636~~	–	~~134,636~~	134,350	✓
	403	Spiral Reinforcement (S. 68.3.19)	L.S.	1 ✓	–	1 ✓	1	✓
	404-A	Structural Steel	Lbs.	~~495,890~~	~~9,900~~	~~505,790~~	492,245	✓
	407	Asphaltic-Asbestos Coating	S.Y.	88 ✓	–	88 ✓	88	✓
	504	Steel Piling	L.F.	~~440~~	–	~~440~~	535	✓
	556-C	Granite Bridge Curb (Type I)	L.F.	~~709~~	–	~~709~~	712	✓
	572	Bridge Railing (Mod.) (S.A. 9-14-60)	L.F.	648 ✓	–	648 ✓	648	✓
	501	Furnishing Equip. for Driving Piles	Required				1	✓
	503	Splices for Steel Piling	Ea.	~~=~~	–	~~=~~	0	✓
✓	318	Tar Emulsion for Bridge Floors (Sup. Spec. 5-25-61) ✓				0 ✓	385	✓
✓	372	Joint Sealer, Hot Poured Elastic Type (Sup. Spec. 6-14-61) ✓				0 ✓	273	✓

HIGHWAY NO. R1.1 Sec.1 NAME OF HIGHWAY Interstate
STRUCTURE NO. [illegible] COUNTY Windham TOWN Putney
PROJECT NO. I 91-1(10) LOCATION Sta: 1200 + 24.70

B. P. R. DIV. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	VT.	I 91-1(10)	121	328

FOUNDATION INFORMATION

OBTAINED FOR DESIGN PURPOSES ONLY, AND THE STATE ASSUMES NO RESPONSIBILITY WHATSOEVER FOR THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN. BOULDERS MAY BE ENCOUNTERED AT ANY PIER OR ABUTMENT LOCATION. FOR BORING LOGS, SEE SHEET NO. 121

GENERAL NOTES

DESIGN SPECIFICATIONS:

AASHO 1957 Edition and as modified by Vermont Dept. of Highways.

LIVE LOAD:

H20-S16-44 and Military Loading.

DESIGN STRESSES:

Structural Steel fs = 18,000 p.s.i.
Reinforcing Steel fs = 20,000 p.s.i.
Concrete fc = 1,200 p.s.i. for f'c = 3,000 p.s.i.

CLEARANCE:

Horizontal: as shown on drawings.
Vertical: ~~15'-3"~~ 16'-5" (Lt. Lane Interstate).

SUPERSTRUCTURE:

30' Roadway, 1'-6" Safety Walks, as per SCB-30-56.
4 simple spans, rolled beams, composite designs, similar to SCB-30-56. (64'-89'-99'-79' As Modified)
Aluminum bridge railing, or galvanized bridge railing, and granite bridge curb as per SB-5G-57 (1&2).
Bearing and diaphragm connections as per SB-20-56,
Approach Slabs as per SB-AS-45° Skew-57. As Modified.

SUBSTRUCTURE:

Open piers, round columns continuous footings.
Stub abutments.

FOUNDATIONS:

Piers: Spread Footings.
North Abutment: Steel Piles, 35 Ton Design Load.
South Abutment: Spread Footing.

LIST OF SHEETS

IM 091-1(31)
This sheet for information only

SHEET NO.	DESCRIPTION
121	GENERAL PLAN
122	BORINGS
123	PLAN & ELEVATION
124	ABUTMENTS NO. 1 & 2
125	PIERS A, B & C
126	APPROACH SLABS
127	STRUCTURAL STEEL PLAN
128	STRUCTURAL DETAILS
129	REINFORCING SCHEDULE
130, 47 & 8, 52A, 52, 53, 54 & 8, 57	

PUTNEY - BRIDGE 19A
NH F019-1(15)

SHEET NO. 70 OF 75

FOR REFERENCE ONLY

BR 17

BRIDGE 17
GENERAL PLAN

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

INTERSTATE PROJECT in the town of PUTNEY

INTERSTATE Sta. 1200 + 24.70
UNDER
U.S. ROUTE 5 (REL.) Sta. 209 + 52.98

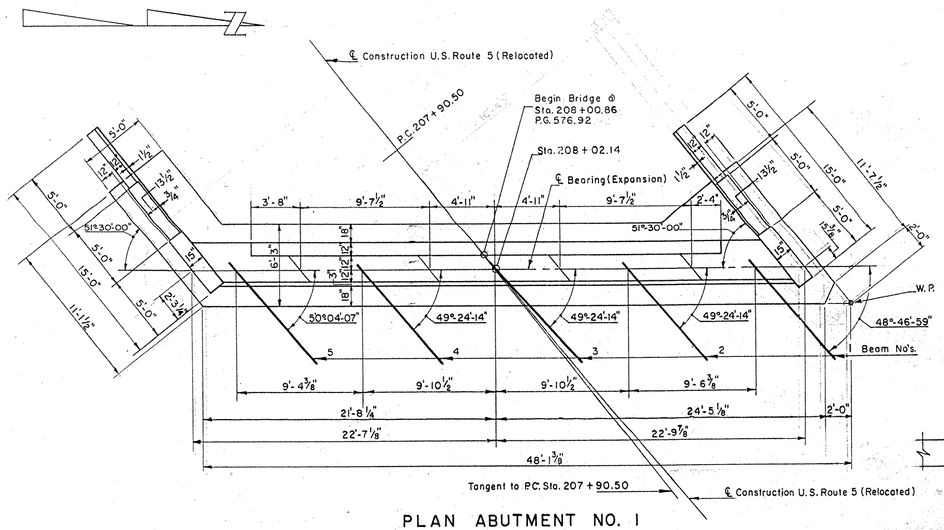
APPROVED BY John Clarkeson DATE 2/24/58

THE CLARKESON ENGINEERING CO. INC.
CONSULTING ENGINEERS
BOSTON MASSACHUSETTS

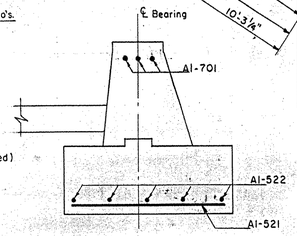
SURVEYED BY	CHECKED BY	SCALE AS NOTED
DRAWN BY H.B.C.	IN CHARGE J.V.B.	DATE 10-25-57

PROJECT NO. I 91-1(10) | SHEET 121 OF 328

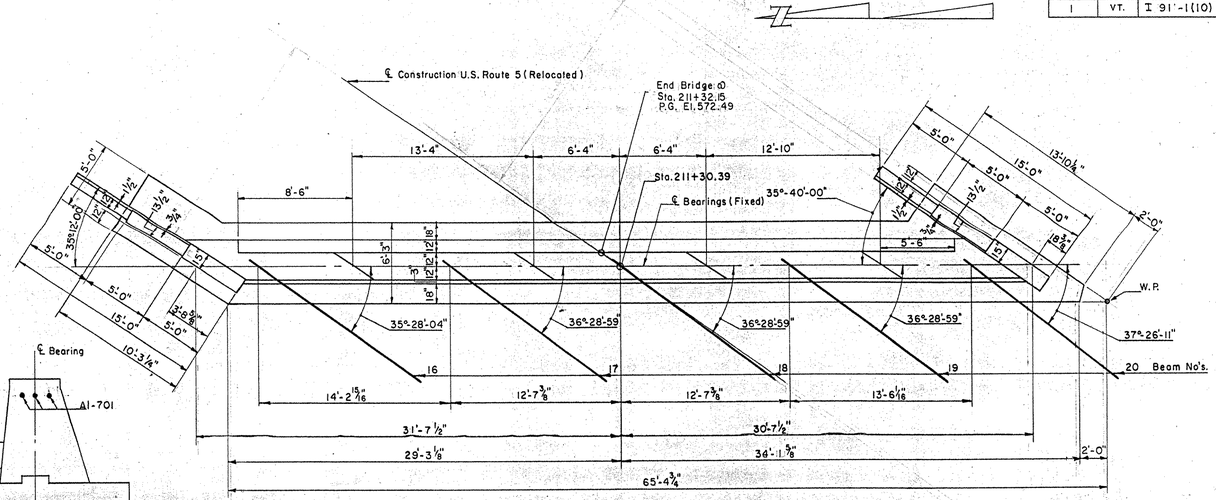
B. P. R. DIV. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	VT.	I 91-1(10)	124	328



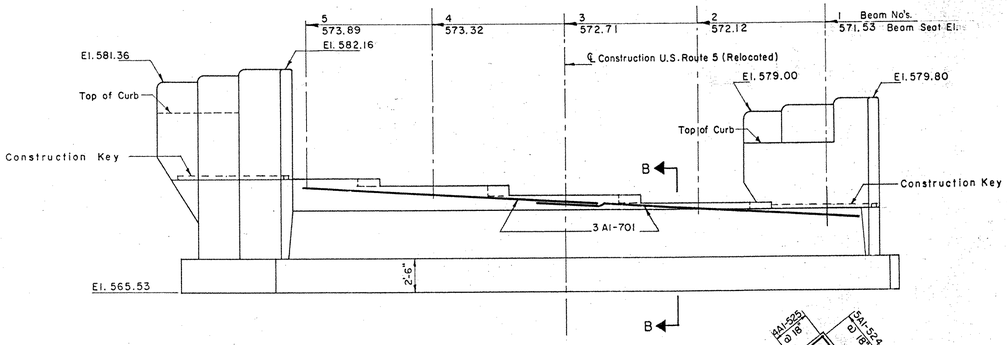
PLAN ABUTMENT NO. 1
SCALE: 3/16" = 1'-0"



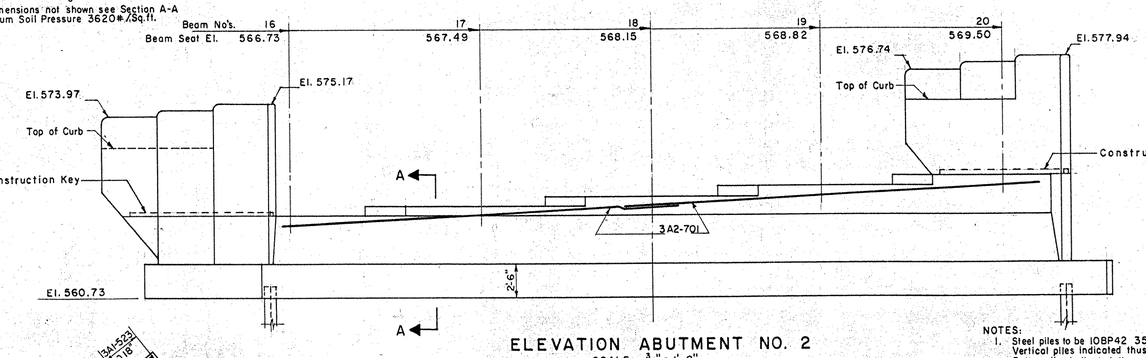
SECTION B-B
SCALE: 3/8" = 1'-0"
For Dimensions not shown see Section A-A
Maximum Soil Pressure 3620#/Sq.ft.



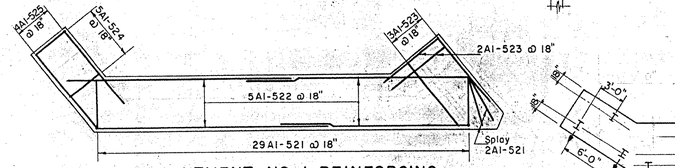
PLAN ABUTMENT NO. 2
SCALE: 3/16" = 1'-0"



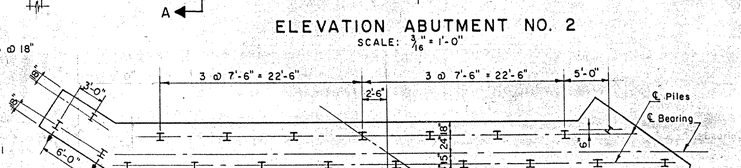
ELEVATION ABUTMENT NO. 1
SCALE: 3/16" = 1'-0"



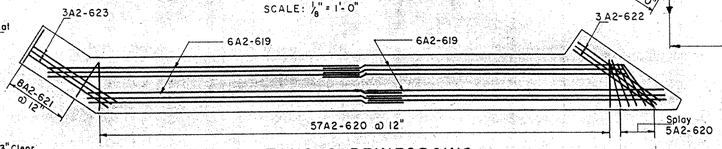
ELEVATION ABUTMENT NO. 2
SCALE: 3/16" = 1'-0"



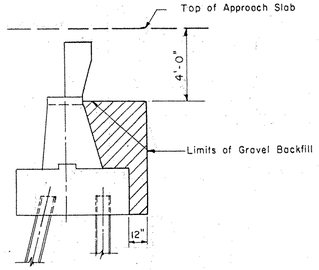
ABUTMENT NO. 1 REINFORCING
SCALE: ⅛" = 1'-0"



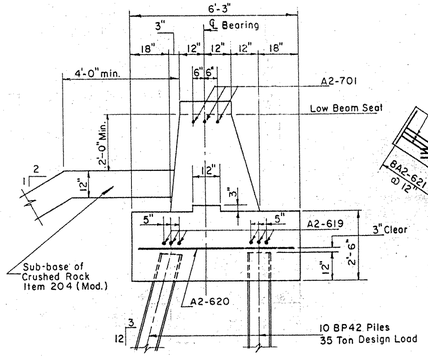
PILE PLAN ABUTMENT NO. 2
SCALE: ⅛" = 1'-0"



ABUTMENT NO. 2 REINFORCING
SCALE: ⅛" = 1'-0"



LIMITS OF GRAVEL BACKFILL
SCALE: ¼" = 1'-0"



SECTION A-A
SCALE: ⅜" = 1'-0"

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	ABUTMENT NO. 1 NET	OVER-RUN	TOTAL	FINAL	ABUTMENT NO. 2 NET	OVER-RUN	TOTAL	FINAL
107	Structure Excavation	C.Y.	~~31~~	~~3~~	~~34~~	77 ✓	~~22~~ ✓	~~2~~	~~24~~	22 ✓
204	Sub-base of Crushed Rock	C.Y.	~~75~~	~~11~~	~~86~~					
222	Gravel Backfill	C.Y.	~~29~~	~~8~~	~~37~~					
401-B	Concrete Class B (Mod.)	C.Y.	64 ✓	~~3~~	~~67~~					
402	Reinforcing Steel	LBS.			See Reinfo					
407	Asphaltic-Asbestos Coating	S.Y.	10 ✓	—	10 ✓					
504	Steel Piling	L.F.	N O N E							
503	Splices for Steel Piling	Ea.	None							

PUTNEY - BRIDGE 19A
NH F019-1(15)

SHEET NO. 71 OF 75

FOR REFERENCE ONLY

NOTES:
1. Steel piles to be 10BP42 35 Ton design load. Vertical piles indicated thus ‡ Batter piles indicated thus ‡
2. For estimating purposes piles are assumed to be 22' long.
3. Slope area between bridge seats ¼/Ft. Entire exposed top of bridge seats to be covered with ½" of Asphaltic Asbestos coating after superstructure is in place.
4. Prior to driving piles, rock free fill shall be placed under the abutment area to approximately the pile cutoff elevation and with a surface area of least (2) two feet outside the abutment area. After piles are driven, the fill shall be excavated to the elevation of the bottom of footing.
5. A layer of Sub Base of Crushed Rock Item 204 (Mod.) one (1) foot thick shall be placed on the embankments in front of the abutment. The edges of the area to be in line with the end posts and parallel to the ℄ of the Roadway.
6. Beam Seat Elevations are at top of concrete.

IM 091-1(31)
This sheet for information only

BR 17

ABUTMENTS NO. 1 AND 2

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

INTERSTATE PROJECT in the town of
PUTNEY

INTERSTATE STA. 1200+24.70
UNDER
U.S. ROUTE 5 (REL.) STA. 209+52.98

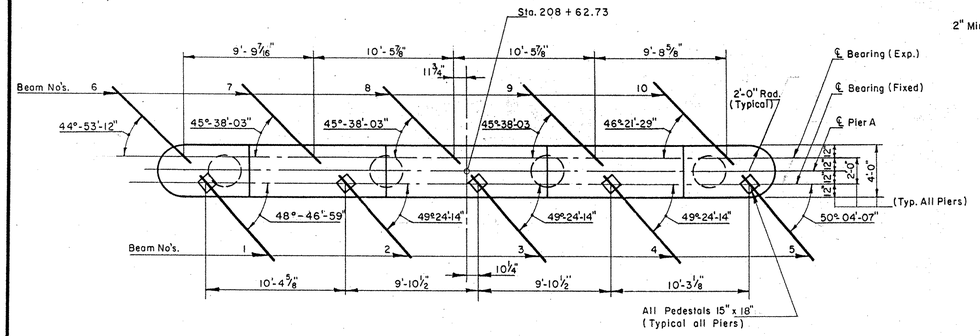
THE CLARKESON ENGINEERING CO., INC.
CONSULTING ENGINEERS
BOSTON MASSACHUSETTS

SURVEYED BY DRAWN BY D.E.S.	CHECKED BY IN CHARGE D.S. J.V.B.	SCALE AS NOTED DATE 10-25-57

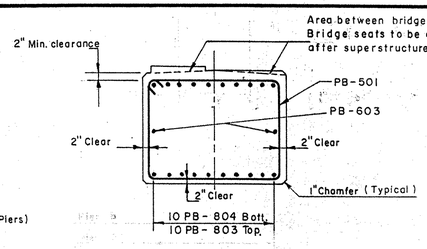
PROJECT NO. I 91-1(10) SHEET 124 OF 328

CONTRACT NO. #

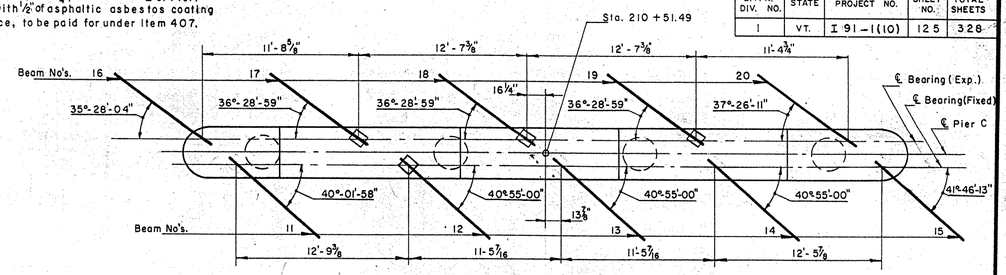
B.P.R. DIV. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	VT.	I 91-1(10)	125	328



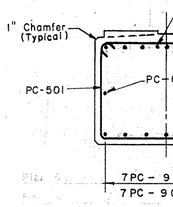
PLAN PIER A
SCALE: 3/16" = 1'-0"



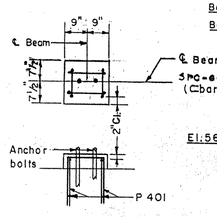
SECTION B-B
SCALE: 1/2" = 1'-0"



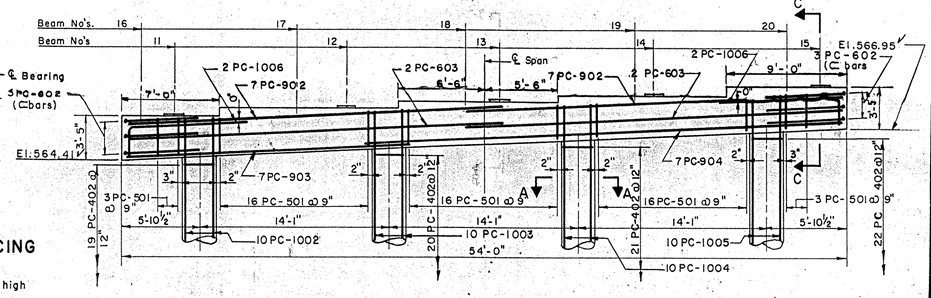
PLAN PIER C
SCALE: 3/16" = 1'-0"



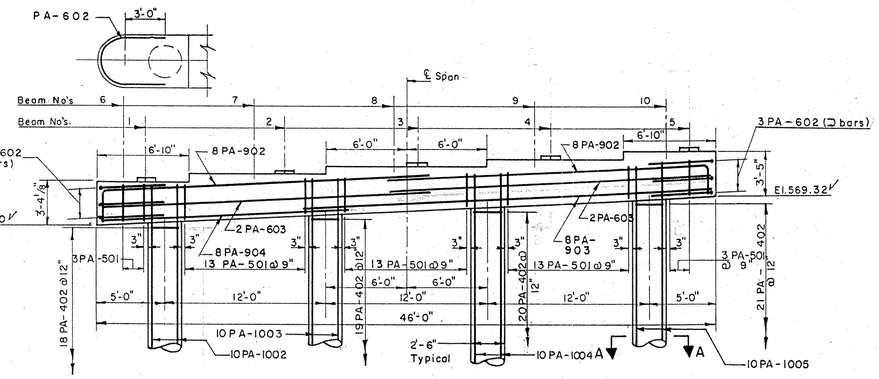
SECTION C-C
SCALE: 1/2" = 1'-0"



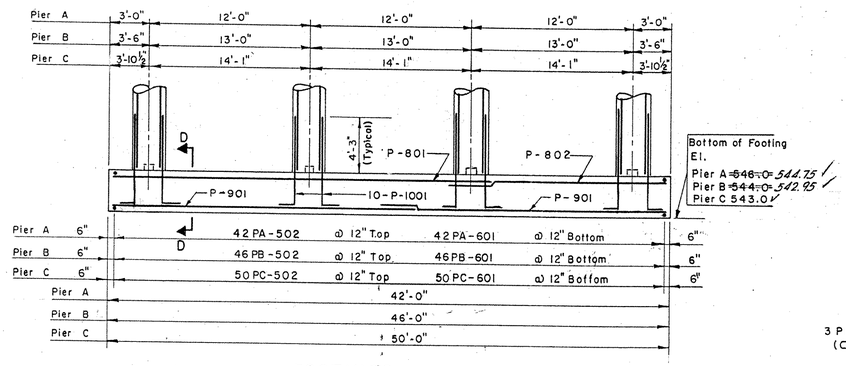
PEDESTAL REINFORCING
Scale 1/2" = 1'-0"
NOTE: If pedestal is less than 3" high omit reinforcing.



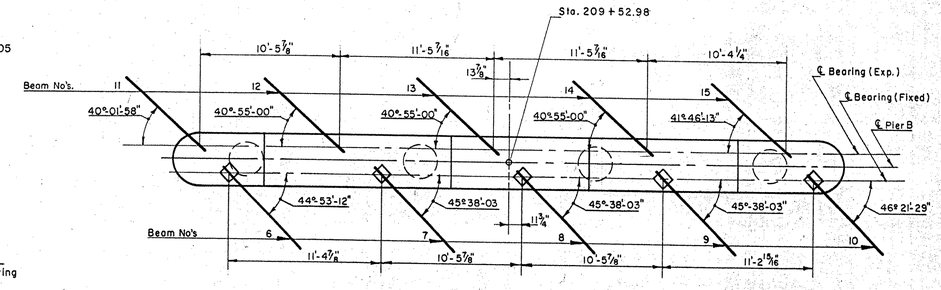
ELEVATION PIER C
SCALE: 3/16" = 1'-0"



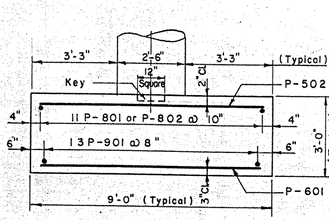
ELEVATION PIER A
SCALE: 3/16" = 1'-0"



FOOTINGS
SCALE: 3/16" = 1'-0"

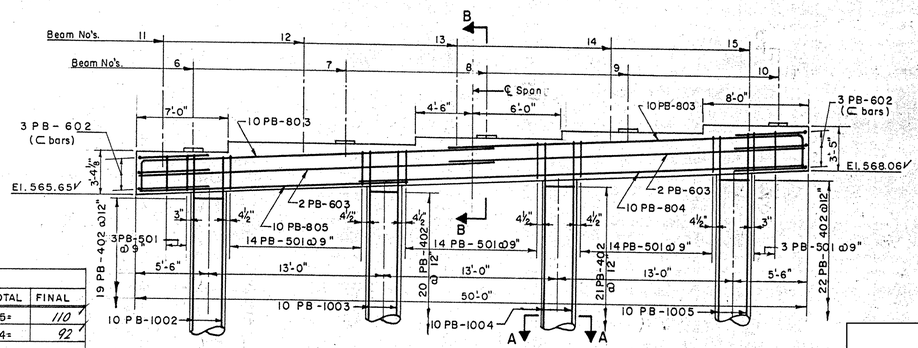


PLAN PIER B
SCALE: 3/16" = 1'-0"



SECTION D-D
SCALE: 3/8" = 1'-0"
Max. Bearing Pressure 4260 #/□'

SECTION A-A
NOT TO SCALE



ELEVATION PIER B
SCALE: 3/16" = 1'-0"

SCHEDULE OF BRIDGE SEAT ELEVATIONS

BEAM NO.	PIER A		BEAM NO.	BEAM NO.	PIER B		BEAM NO.	BEAM NO.	PIER C		BEAM NO.
1	570.73	570.34	6	6	569.28	569.01	11	11	567.83	567.83	16
2	571.34	570.93	7	7	569.92	569.60	12	12	568.50	568.46	17
3	571.93	571.54	8	8	570.51	570.24	13	13	569.10	569.11	18
4	572.51	572.16	9	9	571.10	570.88	14	14	569.70	569.77	19
5	573.13	572.74	10	10	571.73	571.47	15	15	570.37	570.37	20

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	PIER A				PIER B				PIER C			
			NET	OVER-RUN	TOTAL	FINAL	NET	OVER-RUN	TOTAL	FINAL	NET	OVER-RUN	TOTAL	FINAL
107	Structure Excavation	C.Y.	~~145~~	~~15~~	~~160~~	137 ✓	~~127~~	~~13~~	~~140~~	131 ✓	~~159~~	~~16~~	~~175~~	110 ✓
401-B	Concrete Class B (Mod.)	C.Y.	~~79~~	~~4~~	~~83~~	97 ✓	~~85~~	~~4~~	~~89~~	102 ✓	~~90~~	~~4~~	~~94~~	92 ✓
402	Reinforcing Steel	L.BS	See Reinforcing Steel Schedule Sheet No. 129											
407	Asphaltic Asbestos Coating	S.Y.	20 ✓	=0=	20 ✓	20 ✓	22 ✓	=0=	22 ✓	22 ✓	23 ✓	=0=	23 ✓	23 ✓

IM 091-1(31)
This sheet for information only
BR 17

PUTNEY - BRIDGE 19A
NH F019-1(15)

SHEET NO. 72 OF 75

FOR REFERENCE ONLY

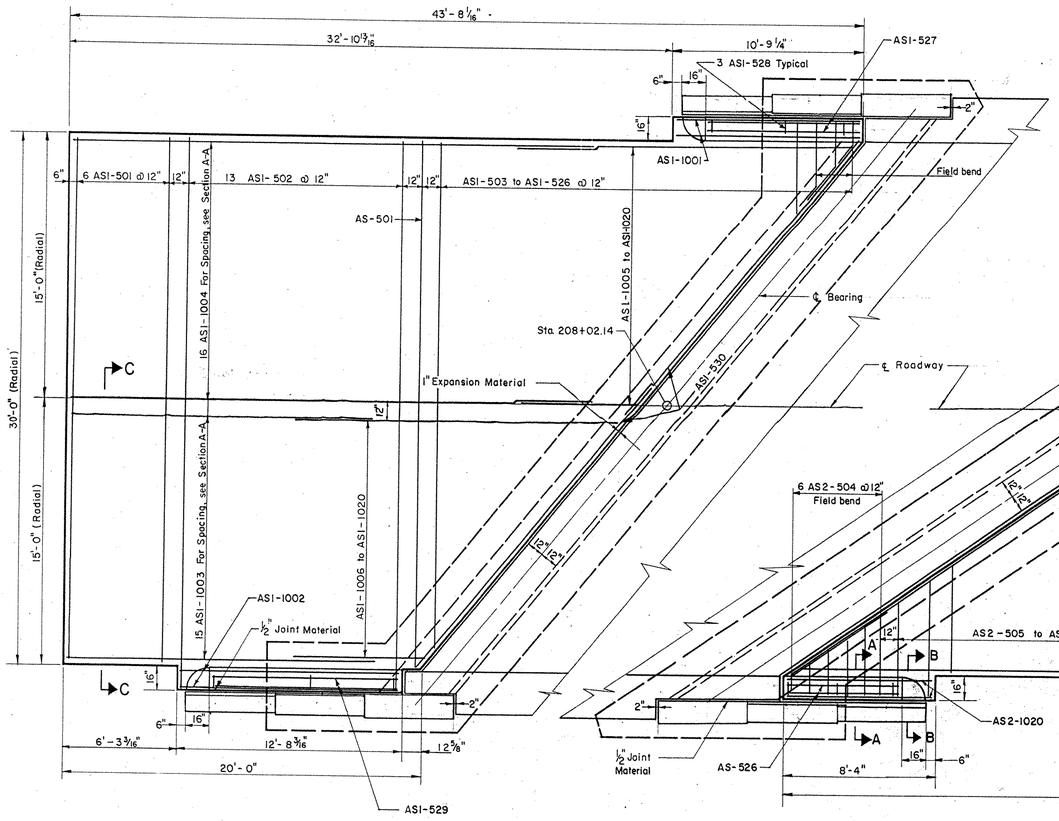
PIERS A, B AND C
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
INTERSTATE PROJECT in the town of
PUTNEY
INTERSTATE STA. 1200 + 24.70
UNDER
U.S. ROUTE 5 (REL.) STA. 209 + 52.98

THE CLARKESON ENGINEERING CO. INC.
CONSULTING ENGINEERS
BOSTON MASSACHUSETTS

SURVEYED BY DRAWN BY D.E.S.	CHECKED BY D.M.S. IN CHARGE J.V.B.	SCALE AS NOTED DATE 10/22/57

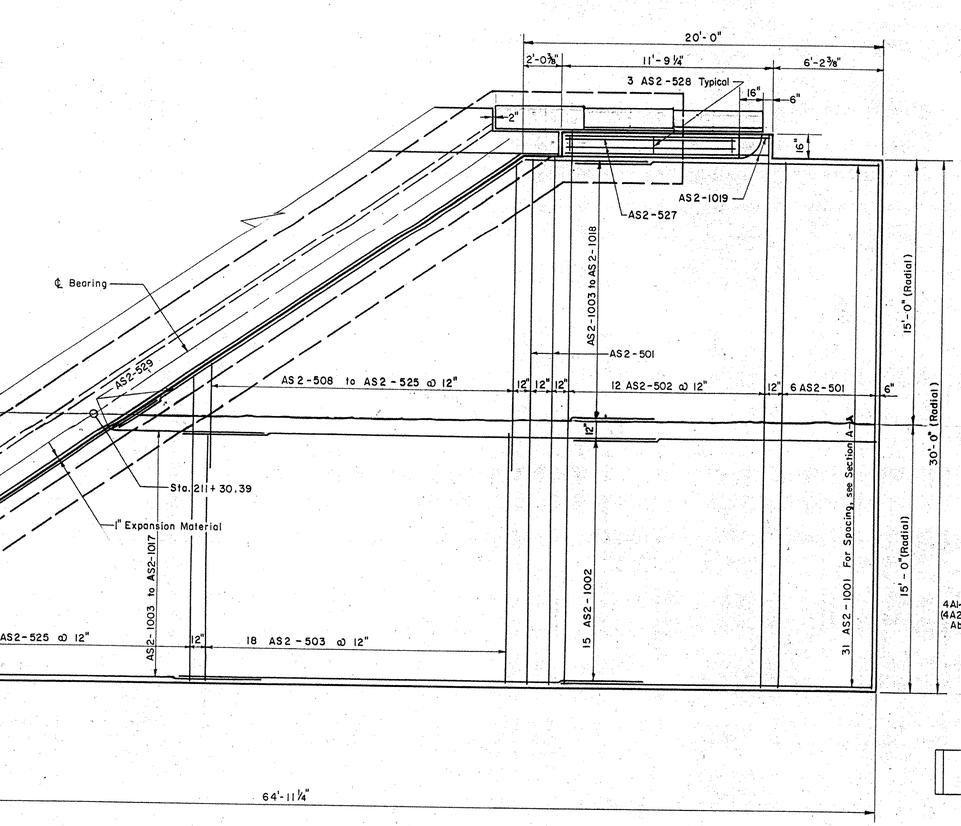
PROJECT NO. I 91-1(10) OF 328

B.P.R. DIV. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	VT.	I 91-1(10)	126	328



APPROACH SLAB ABUTMENT NO. 1

Scale: ¼"=1'-0"



APPROACH SLAB ABUTMENT NO. 2

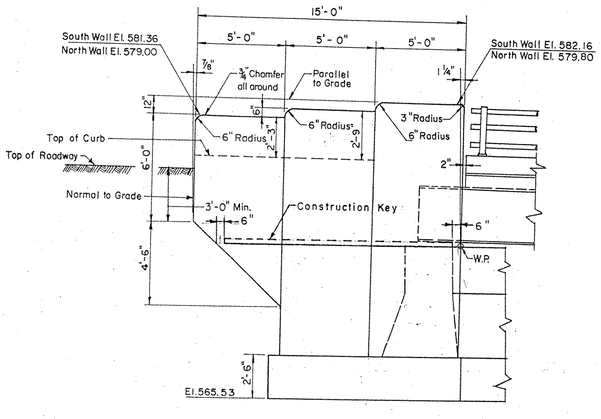
Scale: ¼"=1'-0"

For Sections A-A & B-B, see Standard Sheet SB-AS 45° skew 57.

TYPICAL WINGWALL REINFORCING

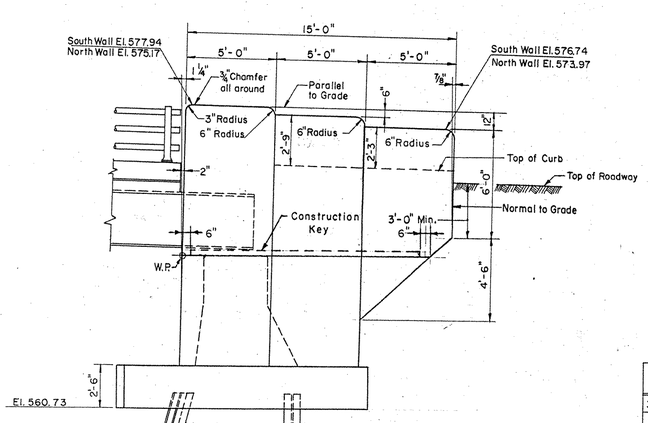
Scale: ¼"=1'-0"

Note: South Wall Abutment #1 shown, North Wall as noted.
For Abutment # 2, bars are prefixed "A2"



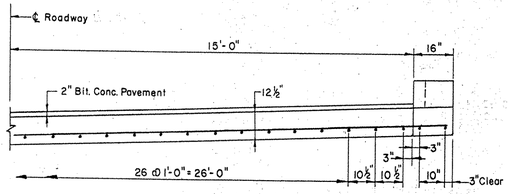
SOUTH WALL ABUTMENT NO. 1
NORTH WALL ABUTMENT NO. 1 (SIMILAR)

Scale: ¼"=1'-0"



SOUTH WALL ABUTMENT NO. 2
NORTH WALL ABUTMENT NO. 2 (SIMILAR)

Scale: ¼"=1'-0"



SECTION C - C

Scale: ⅜"=1'-0"

ESTIMATED QUANTITIES

ITEM NO	DESCRIPTION	UNIT	APPROACH SLABS (2) NET	OVER-RUN	TOTAL	FINAL
361-B	Bituminous Concrete Pavement	Ton	28	=4=	=32=	28
401-B	Concrete, Class B (Mod.)	C.Y.	=90=			
402	Reinforcing Steel	Lbs.	See Reinforci			
556-C	Granite Bridge Curb (Type 1)	L.F.	See General F			

PUTNEY - BRIDGE 19A
NH F019-1(15)

SHEET NO. 73 OF 75

FOR REFERENCE ONLY

IM 091-1(31)
This sheet for information only

BR 17

APPROACH SLAB

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

INTERSTATE PROJECT in the town of
PUTNEY

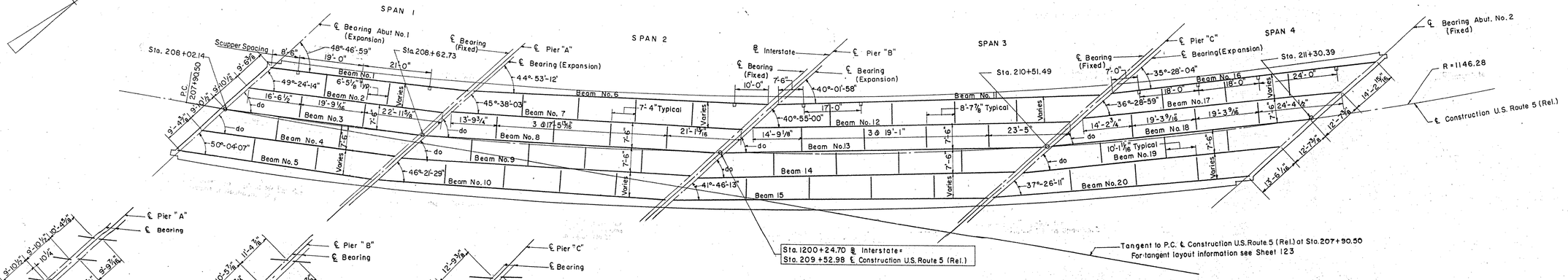
INTERSTATE STA. 1200+24.70
UNDER
U.S. ROUTE 5 (REL.) STA. 209+52.98

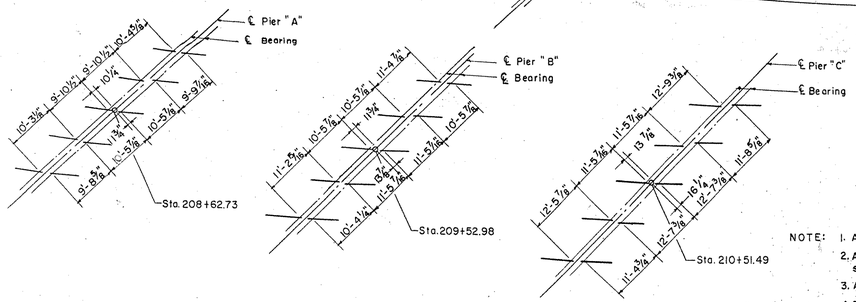
THE CLARKESON ENGINEERING CO. INC.
BOSTON CONSULTING ENGINEERS MASSACHUSETTS

SURVEYED BY	CHECKED BY D.S.	SCALE AS NOTED
DRAWN BY F.P.D.	IN CHARGE J.V.B.	DATE 10-23-57

PROJECT NO. I 91-1(10) SHEET 126 OF 328

B. P. R. DIV. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	VT.	I 91 -1(10)	127	328

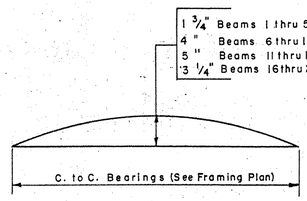




FRAMING PLAN

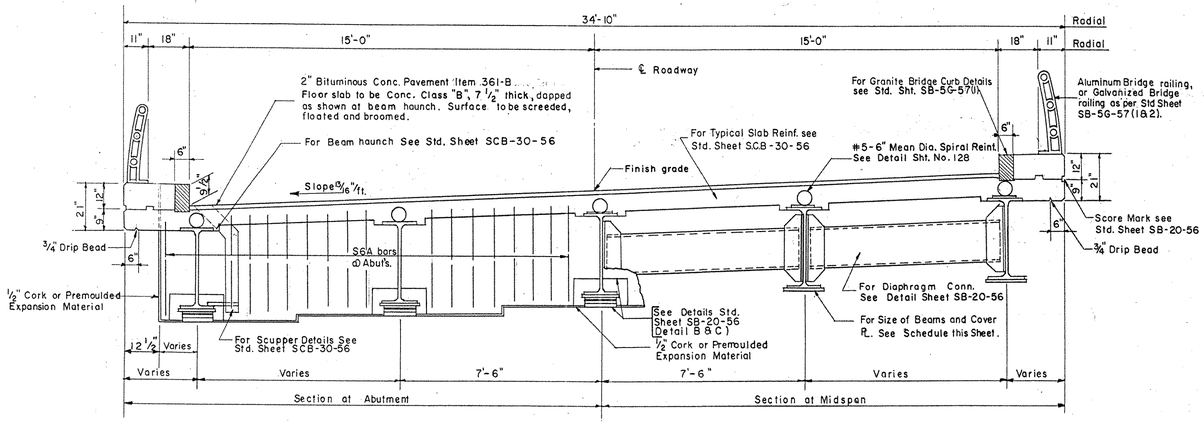
SCALE 1/16" = 1'-0"

NOTE:
1. All Diaphragms 18 ℄ 42.7.
2. All Beams shall be rolled to a true circular camber with the middle ordinate as shown on this sheet.
3. All dimensions are horizontal dimensions.
4. For bearing details, see Std. sheet SB-20-56.
5. Scuppers to be paid for under Item 404-A Structural steel.
6. All beams and cover plates shall conform to A. S. T. M. Designation A 373. All other Structural steel shall conform to Designation A7 or A373.



CAMBER DIAGRAM

NO SCALE



TYPICAL CROSS SECTION

SCALE 3/8" = 1'-0"

BEAM & COVER R. SCHEDULE			
BEAM NO.	C. to C. BEARINGS	BEAM SIZE	COVER PLATES
1	59'-9 7/8"	36WF150	10"x5/8"x38'-0" Bottom
2	59'-3 3/16"	do	do
3	do	do	do
4	do	do	do
5	58'-8 3/16"	do	do
6	88'-6 1/4"	36WF300	14"x 1"x 52'-8" Bottom
7	87'-5 1/8"	do	do
8	do	do	do
9	do	do	do
10	86'-4 3/8"	do	do
11	97'-2"	do	Top 12"x 1/2" x 63'-6" Bot. 18"x 5/16 x 66'-9"
12	95'- 5 1/8"	do	do
13	do	do	do
14	do	do	do
15	93'-9 7/8"	do	do
16	79'-2 7/8"	36WF194	14"x 1 1/4" x 54'-0" Bot.
17	77'-2 3/8"	do	do
18	do	do	do
19	do	do	do
20	75'- 6 1/16"	do	do

IM 091-1(31)
This sheet for information only

BR 17

STRUCTURAL STEEL PLAN

PUTNEY - BRIDGE 19A
NH F019-1(15)

SHEET NO. 74 OF 75

FOR REFERENCE ONLY

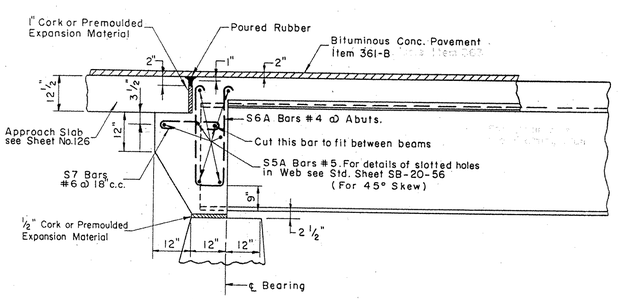
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
INTERSTATE PROJECT in the town of PUTNEY
INTERSTATE STA. 1200+24.70
UNDER
U.S. ROUTE 5 (REL.) STA. 209+52.98

THE CLARKESON ENGINEERING CO. INC.
CONSULTING ENGINEERS
BOSTON MASSACHUSETTS

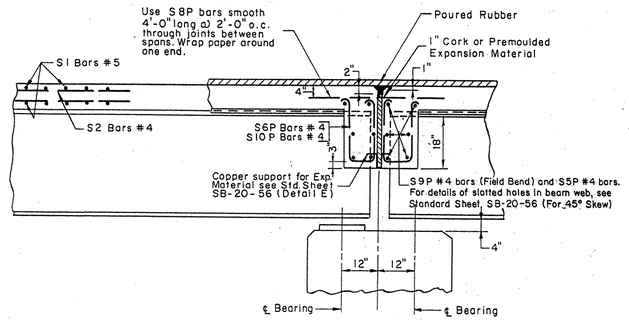
SURVEYED BY	CHECKED BY D. S.	SCALE AS NOTED
DRAWN BY H.B.C.	IN CHARGE J.V.B.	DATE

PROJECT NO. I 91-(10) SHEET 127 OF 328

B.P.R. DIV. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	VT.	I 91-1(10)	128	328



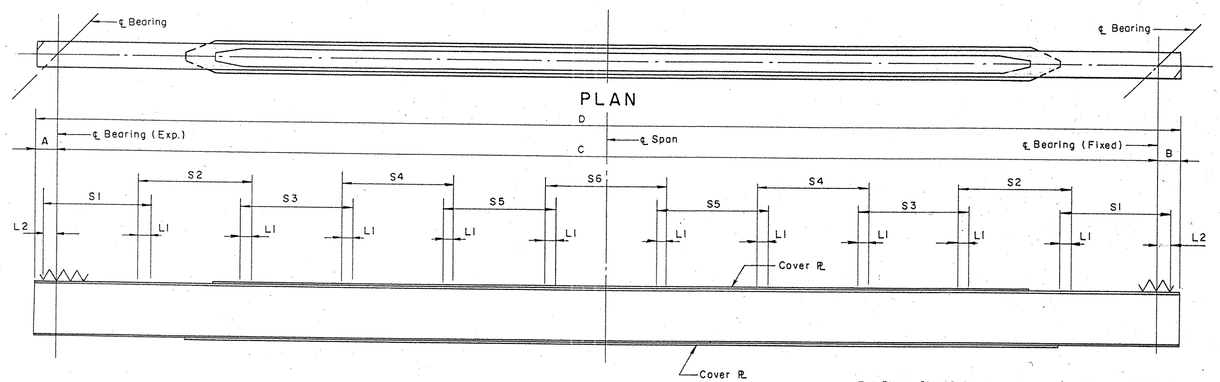
ELEVATION AT ABUTMENTS



ELEVATION AT PIERS

TYPICAL ELEVATION OF BEAM (SQUARE)

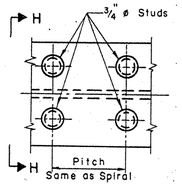
Scale: ½" = 1'-0"



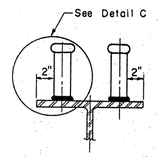
ELEVATION OF BEAMS

Not To Scale

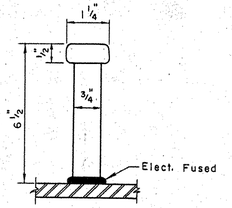
Note: 1. For Beam Size & Cover ℞s See Beam & Cover ℞ Schedule Sheet 127
For Cover ℞ Details See Sheet SB-30-56.
2. Cut Flanges at ℄ Bearing as per Standard Sheet SB-22-58.



PLAN



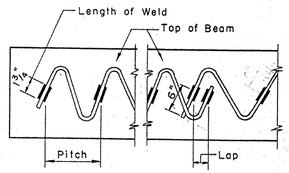
SECTION H-H

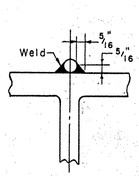


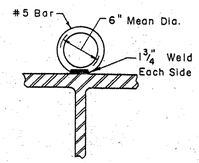
DETAIL C

ALTERNATE SHEAR CONNECTOR

Not To Scale







SPIRAL WELDING DETAILS

Not To Scale

SPIRAL SCHEDULE

Beam No.	A	B	C	D	S1	S2	S3	S4	S5	S6	L1	L2	No. Units Per Bm.
1	9"	12 15/16"	59'-9 7/8"	61'-7 13/16"	27 @ 4½" = 10'-1½"	19 @ 6½" = 10'-3½"	13 @ 9½" = 10'-3½"				2"	4 9/16"	6
2,3,&4	9"	9"	59'-3 3/16"	60'-9 3/8"	26 @ 4½" = 9'-9"	do	do				↑	3 3/8"	6
5	9"	12 5/8"	58'-8 3/16"	60-5 13/16"	25 @ 4½" = 9'-4½"	do	do					2 3/8"	6
6	14"	14"	88'-6 3/4"	90'-10 3/4"	30 @ 4" = 10'-0"	25 @ 5" = 10'-5"	17 @ 7" = 9'-11"	12 @ 10" = 10'-0"		8 @ 15" = 10'-0"		4 5/8"	9
7,8,&9	9"	9"	87'-5 1/8"	88'-11 1/8"	do	do	16 @ 7" = 9'-4"	do		do		4 7/16"	9
10	13 9/16"	13 9/16"	86'-4 3/8"	88'-7 1/2"	do	24 @ 5" = 10'-0"	17 @ 7" = 9'-11"	do		7 @ 15" = 8'-9"		5 5/16"	9
11	15 5/8"	15 5/8"	97'-2"	99'-9 1/4"	do	27 @ 4½" = 10'-1½"	21 @ 6" = 10'-6"	13 @ 9" = 9'-9"	8 @ 14" = 9'-4"			4½"	10
12,13,&14	9"	9"	95'-5 1/8"	96'-11 1/8"	do	do	do	12 @ 9" = 9'-0"	do			5 15/16"	10
15	15"	15"	93'-9 7/8"	96'-3 7/8"	do	do	22 @ 6" = 11'-0"	13 @ 9" = 9'-9"	6 @ 14" = 7'-0"			2 9/16"	10
16	17 11/16"	9"	79'-2 7/8"	81'-5 9/16"	32 @ 4" = 10'-8"	25 @ 5" = 10'-5"	16 @ 7" = 9'-4"	11 @ 11" = 10'-1"				3 9/16"	8
17,18,&19	9"	9"	77'-2 3/8"	78'-8 3/8"	do	do	do	10 @ 11" = 9'-2"				4 3/16"	8
20	16 3/4"	9"	75'-6 1/16"	77'-7 13/16"	do	do	do	9 @ 11" = 8'-3"			↓ 2"	4"	8

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	NET	OVERRUN	TOTAL	FINAL
361-B	Bit. Concrete Pavement	Tons	127 ✓	~~4.9~~	~~146~~	127 ✓
401-B	Concrete Class B (Mod.)	C.Y.	~~347~~	~~17~~	~~364~~	389 ✓
402	Reinforcing Steel	LBS.	See Reinforcing Schedule Sheet No. 130.			
403	Spiral Reinforcement (5685)	L.S.	1 ✓	—	1 ✓	1 ✓
404-A	Structural Steel	LBS.	~~195,890~~	~~9,900~~	~~205,790~~	192245 ✓

PUTNEY - BRIDGE 19A
NH F019-1(15)

SHEET NO. 75 OF 75

FOR REFERENCE ONLY

IM 091-1(31)
This sheet for information only
BR 17

STRUCTURAL DETAILS

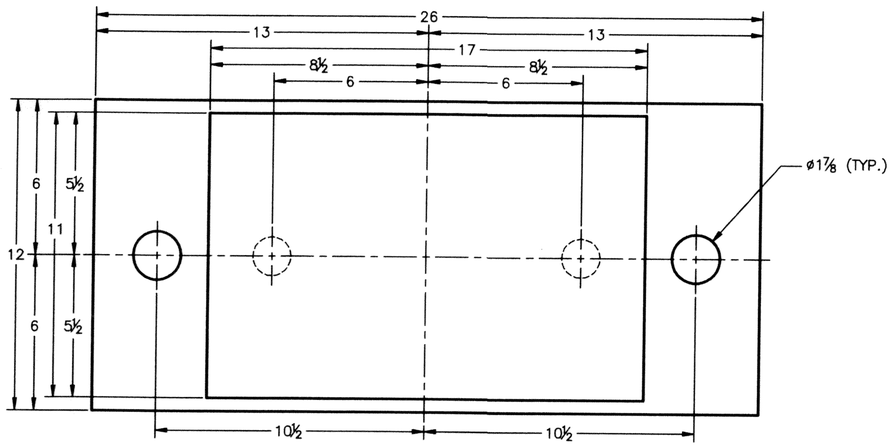
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

INTERSTATE PROJECT in the town of
PUTNEY
INTERSTATE STA. 1200 + 24.70
UNDER
U.S. ROUTE 5 (REL.) STA. 209 + 52.98

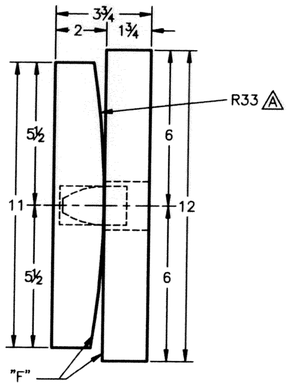
THE CLARKESON ENGINEERING CO., INC.
CONSULTING ENGINEERS
BOSTON MASSACHUSETTS

SURVEYED BY DRAWN BY V.S.	CHECKED BY D.S. IN CHARGE V.V.B.	SCALE AS NOTED DATE 10/23/57

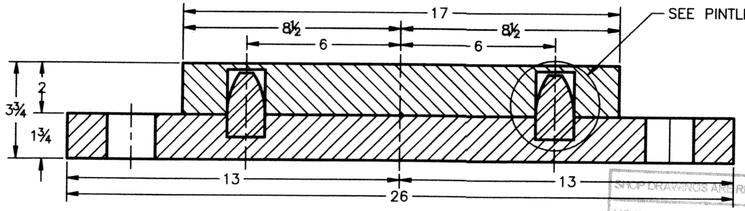
PROJECT NO. I 91-1(10) | SHEET 128 OF 328



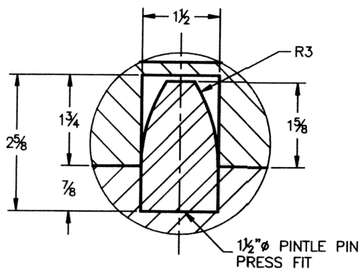
PLAN VIEW
QTY REQ'D = 5 ASSY.
PIER 2



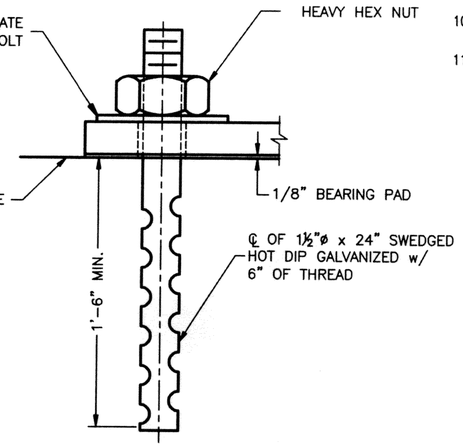
SIDE VIEW



ELEVATION VIEW



PINTLE PIN DETAIL



ANCHOR BOLT DETAIL
QTY. REQ'D = 10, 2 PER BEARING

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE
NO EXCEPTION TAKEN
REVISE AS NOTED
RESUBMISSION NOT REQUIRED
REVISE AS NOTED
RESUBMISSION REQUIRED
REJECTED
DATE 2/23/10
SIGNATURE
Stantec
REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS, AND ERRORS OR OMISSIONS ON SHOP DRAWINGS.

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
- -	A	PER ENGINEER'S MARK	2/23/10	C.A.M.

NOTES:

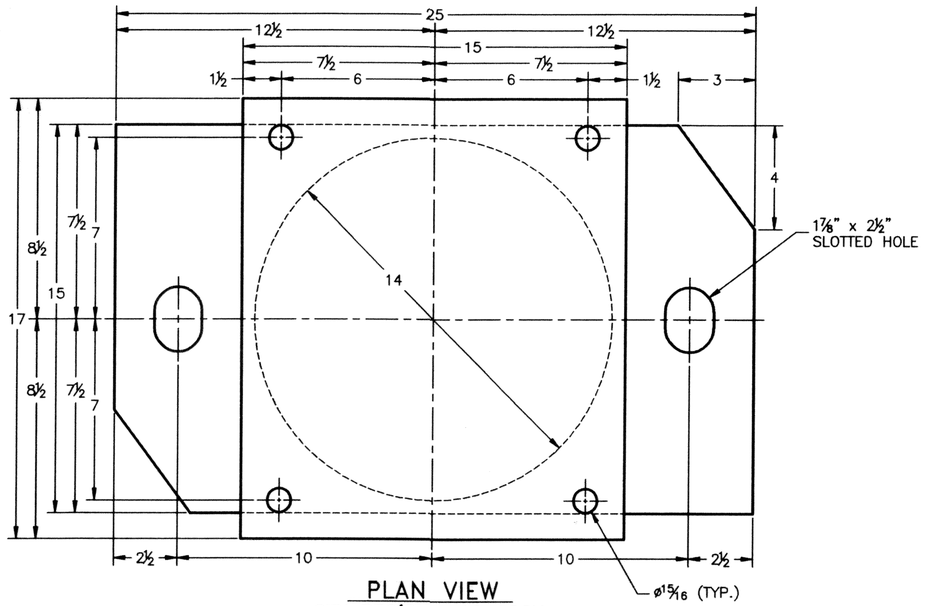
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4. ALL STEEL PRODUCED IN THE U.S.A.
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6. TOLERANCES: THICKNESS -0+1/16"
   PLAN -0+1/16"
7. MANUFACTURING FACILITY LOCATION:
   AMSCOT STRUCTURAL PRODUCTS INC.
   241 EAST BLACKWELL STREET
   DOVER, NJ 07801
8. ALL DIMENSIONS ARE IN INCHES.
9. ALL BEARING DEVICES SHALL BE GALVANIZED AS PER STANDARD SPECIFICATIONS 506.15 AND 531.04(b), AS MODIFIED BY THE GENERAL SPECIAL PROVISIONS.
10. ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.
11. BEARING SURFACES MARKED "F" SHALL BE FINISH IN ACCORDANCE WITH AASHTO DIVISION II, SECTION 11.4.6.

VERMONT AGENCY OF TRANSPORTATION
PROPOSED IMPROVEMENT BRIDGE PROJECT
TOWN OF PUTNEY, COUNTY OF WINDHAM
US RT. 5 FAS (MAJOR COLLECTOR), BRIDGE 19A

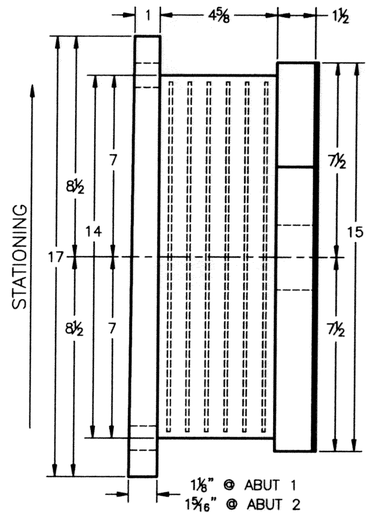
STEEL ROCKER BEARING DETAIL

AMSCOT
STRUCTURAL PRODUCTS CORP.
DOVER, NJ JOB # 3363

SCALE: N.T.S.	CHECKED: B.F.	DRAWN BY: C.A.M.
DATE: 1/29/10		REVISION: A
FOR: J.A. MCDONALD, INC.		
DWG NO: JAM10A1RA		SHEET NO. 1 OF 3



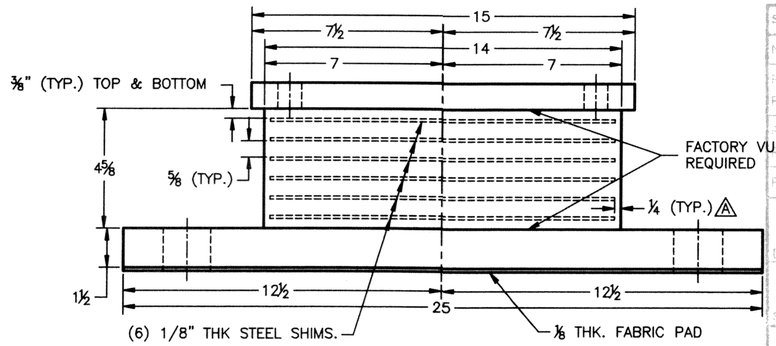
PLAN VIEW
QTY REQ'D = 10 ASSY.
ABUTMENTS 1 & 2



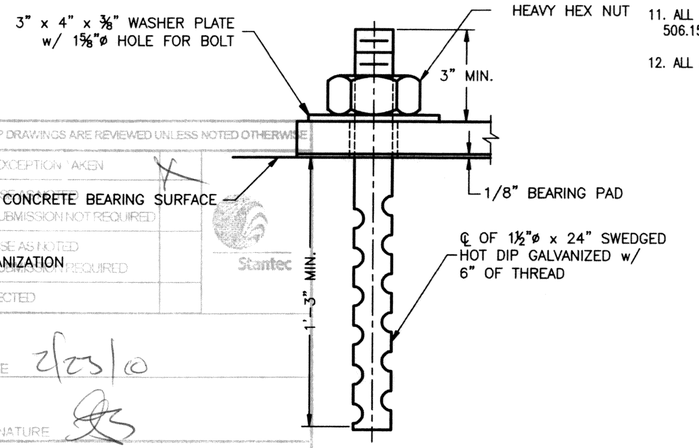
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
- -	A	PER ENGINEER'S MARK	2/23/10	C.A.M.

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ELEVATION VIEW



ANCHOR BOLT DETAIL
QTY. REQ'D = 20, 2 PER BEARING

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE
NO EXCEPTION TAKEN X
REVISE AS NOTED
RESUBMISSION NOT REQUIRED
REVISE AS NOTED
RESUBMISSION REQUIRED
REJECTED
DATE 2/23/10
SIGNATURE
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VERMONT AGENCY OF TRANSPORTATION
PROPOSED IMPROVEMENT BRIDGE PROJECT
TOWN OF PUTNEY, COUNTY OF WINDHAM
US RT. 5 FAS (MAJOR COLLECTOR), BRIDGE 19A

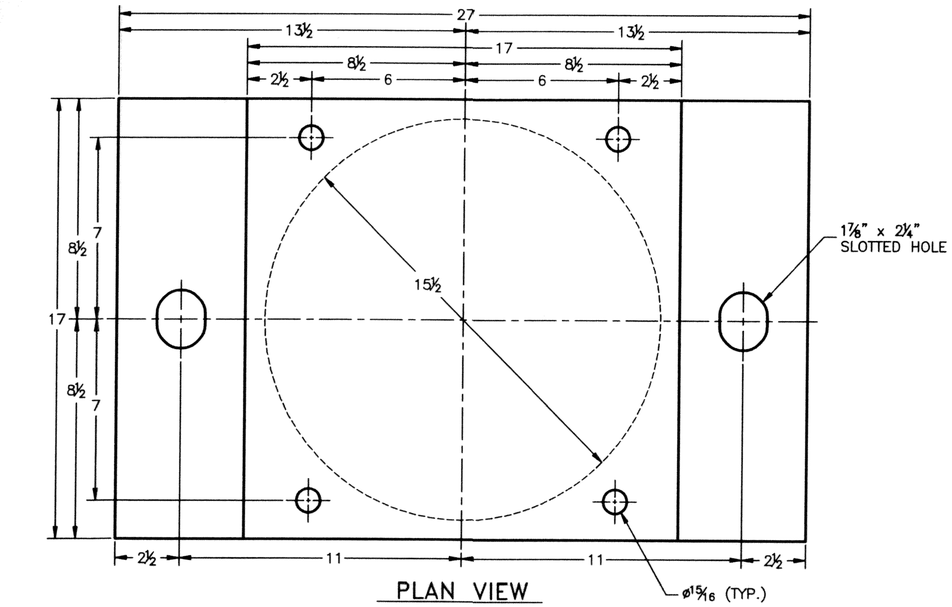
EXPANSION ELASTOMERIC BEARING DETAIL

AMSCOT
STRUCTURAL PRODUCTS CORP.
DOVER, NJ

JOB # 3383

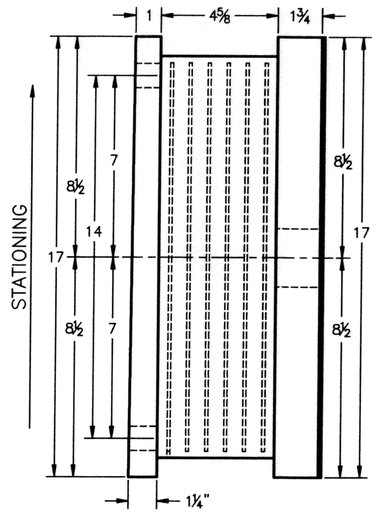
SCALE: N.T.S.	CHECKED: B.F.	DRAWN BY: C.A.M.	
DATE: 1/29/10		REVISION: A	
FOR: J.A. MCDONALD, INC.			
DWG NO: JAM10A2RA		SHEET NO. 2 OF 3	

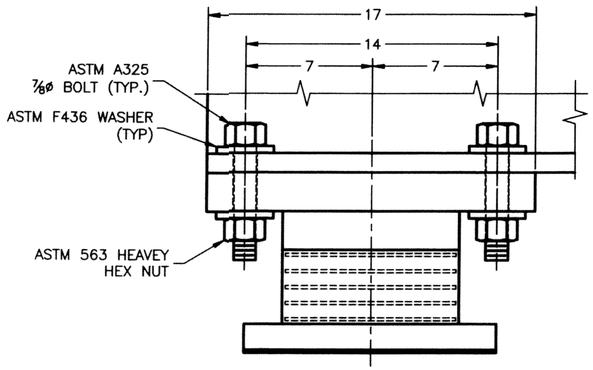
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
- -	A	PER ENGINEER'S MARK	2/23/10	C.A.M.



PLAN VIEW

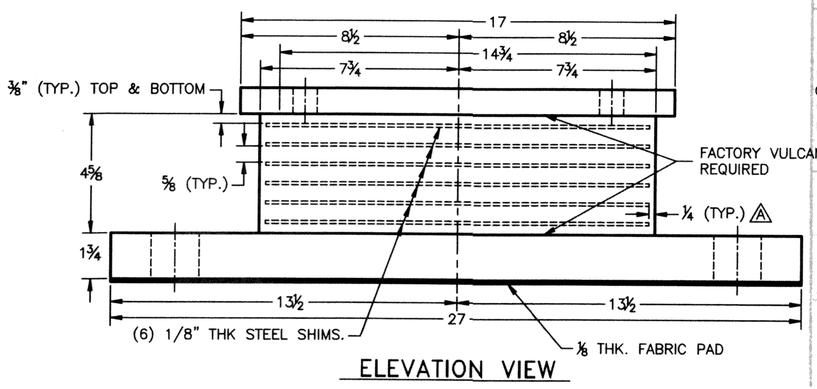
QTY REQ'D = 10 ASSY.
PIERS 1 & 3



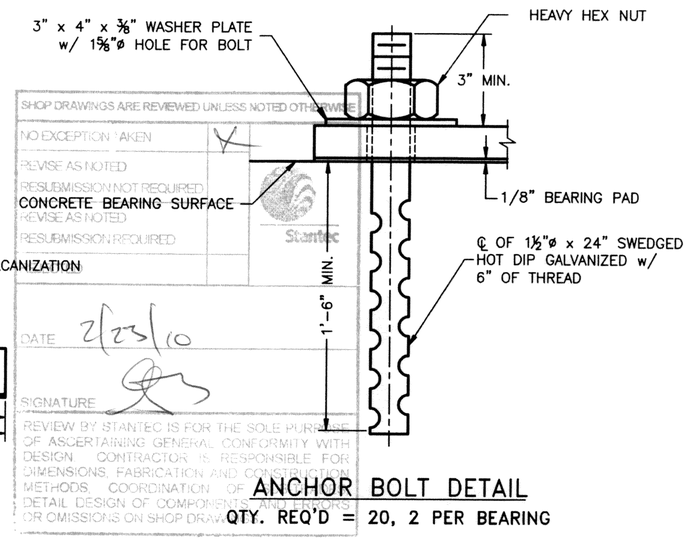


SOLE PLATE TO FLANGE
CONNECTION DETAIL
(ALL BEARINGS)

** FOR NOTES SEE SHEET 2 OF 3



ELEVATION VIEW



ANCHOR BOLT DETAIL

QTY. REQ'D = 20, 2 PER BEARING

VERMONT AGENCY OF TRANSPORTATION
PROPOSED IMPROVEMENT BRIDGE PROJECT
TOWN OF PUTNEY, COUNTY OF WINDHAM
US RT. 5 FAS (MAJOR COLLECTOR), BRIDGE 19A

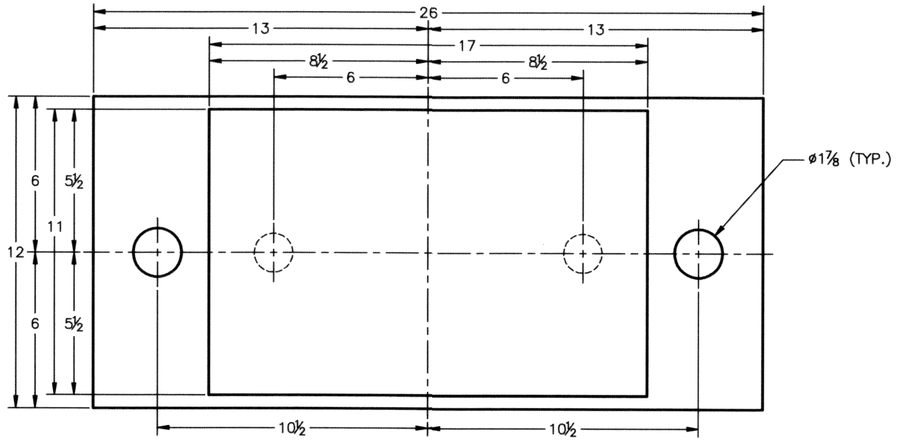
EXPANSION ELASTOMERIC BEARING DETAIL

AMSCOT

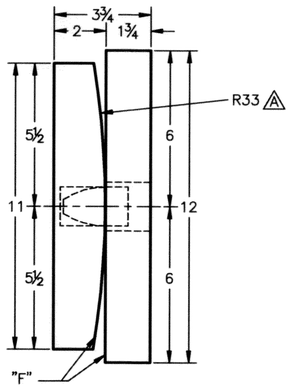
STRUCTURAL PRODUCTS CORP.
DOVER, NJ

JOB # 3383

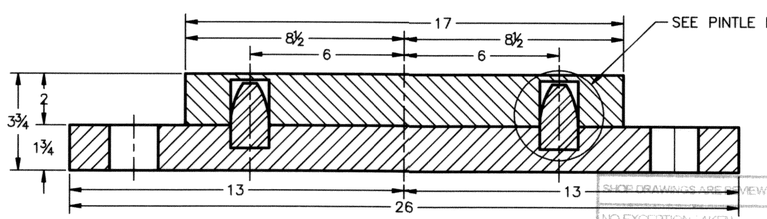
SCALE: N.T.S.	CHECKED: B.F.	DRAWN BY: C.A.M.
DATE: 1/29/10		REVISION: A
FOR: J.A. MCDONALD, INC.		
DWG NO: JAM10A3RA		SHEET NO. 3 OF 3



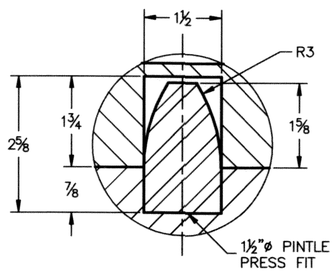
PLAN VIEW
QTY REQ'D = 5 ASSY.
PIER 2



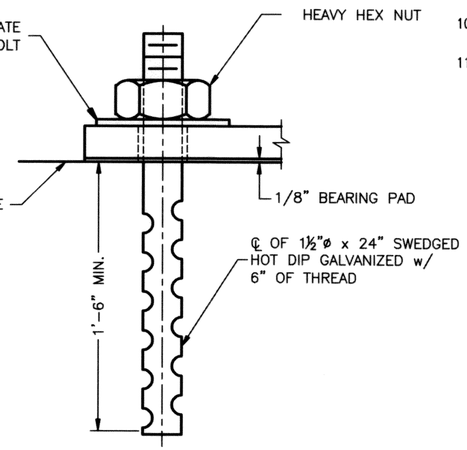
SIDE VIEW



ELEVATION VIEW



PINTLE PIN DETAIL



ANCHOR BOLT DETAIL
QTY. REQ'D = 10, 2 PER BEARING

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE
NO EXCEPTION TAKEN X
REVISE AS NOTED
RESUBMISSION NOT REQUIRED
REVISE AS NOTED
RESUBMISSION REQUIRED
REJECTED
Stantec
DATE 2/23/10
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REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
- -	A	PER ENGINEER'S MARK	2/23/10	C.A.M.

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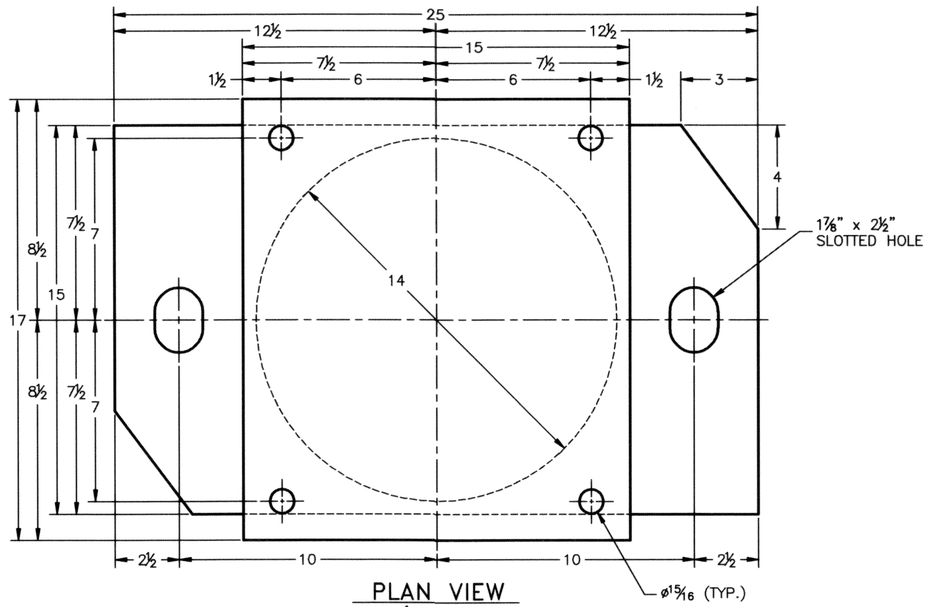
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VERMONT AGENCY OF TRANSPORTATION
PROPOSED IMPROVEMENT BRIDGE PROJECT
TOWN OF PUTNEY, COUNTY OF WINDHAM
US RT. 5 FAS (MAJOR COLLECTOR), BRIDGE 19A

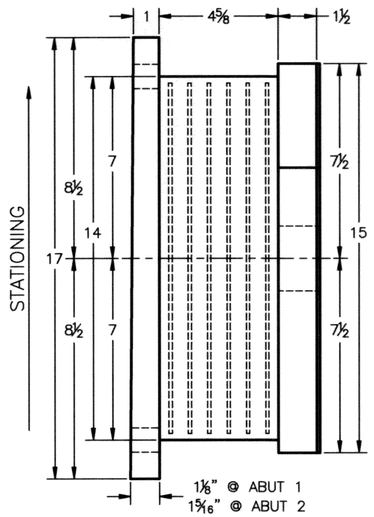
STEEL ROCKER BEARING DETAIL

AMSCOT
STRUCTURAL PRODUCTS CORP.
DOVER, NJ JOB # 3383

SCALE: N.T.S.	CHECKED: B.F.	DRAWN BY: C.A.M.
DATE: 1/29/10		REVISION: A
FOR: J.A. MCDONALD, INC.		
DWG NO: JAM10A1RA		SHEET NO. 1 OF 3



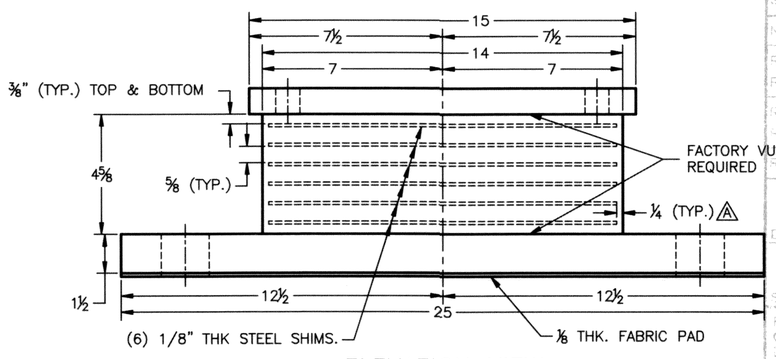
PLAN VIEW
QTY REQ'D = 10 ASSY.
ABUTMENTS 1 & 2



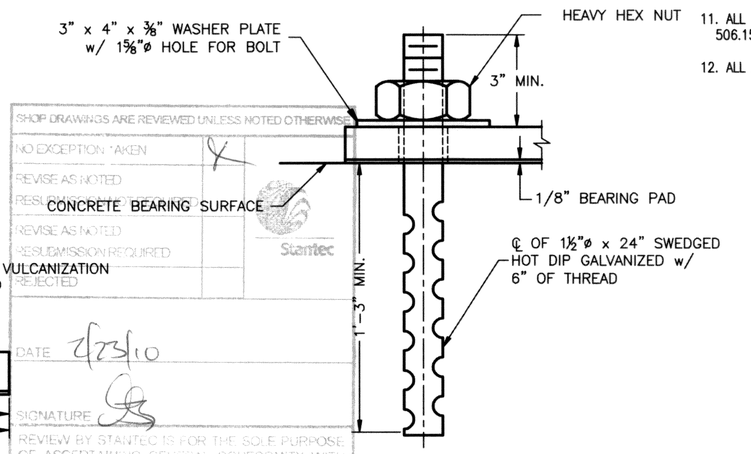
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
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ELEVATION VIEW



ANCHOR BOLT DETAIL
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REVISE AS NOTED
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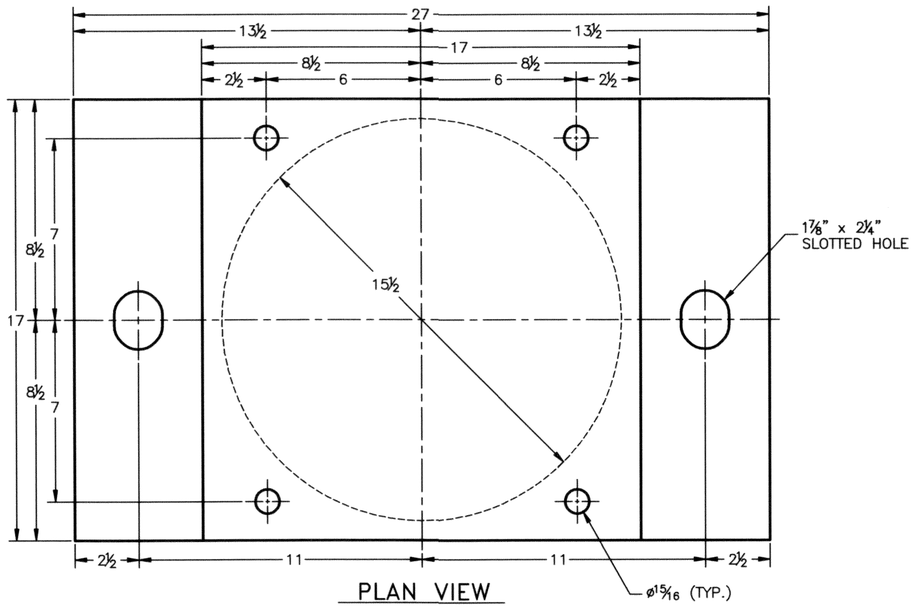
VERMONT AGENCY OF TRANSPORTATION
PROPOSED IMPROVEMENT BRIDGE PROJECT
TOWN OF PUTNEY, COUNTY OF WINDHAM
US RT. 5 FAS (MAJOR COLLECTOR), BRIDGE 19A

EXPANSION ELASTOMERIC BEARING DETAIL

AMSCOT
STRUCTURAL PRODUCTS CORP.
DOVER, NJ JOB # 3363

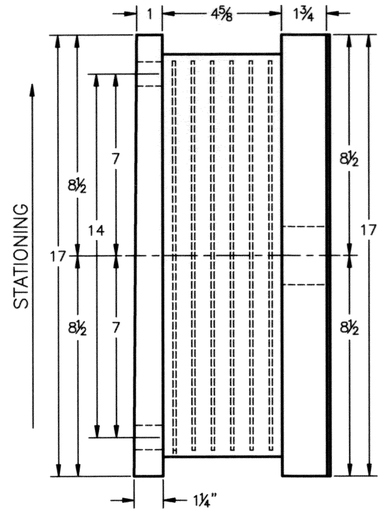
SCALE: N.T.S.	CHECKED: B.F.	DRAWN BY: C.A.M.	
DATE: 1/29/10		REVISION: A	
FOR: J.A. MCDONALD, INC.			
DWG NO: JAM10A2RA		SHEET NO. 2 OF 3	

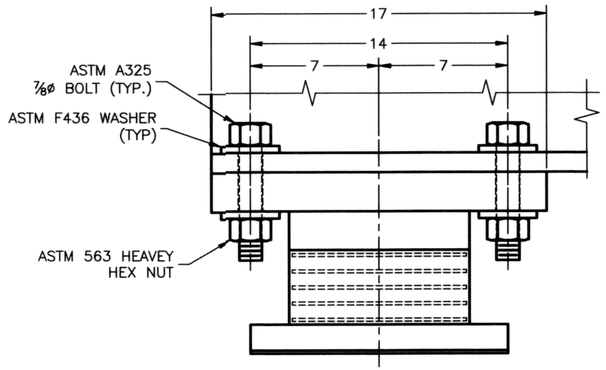
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
- -	A	PER ENGINEER'S MARK	2/23/10	C.A.M.



PLAN VIEW

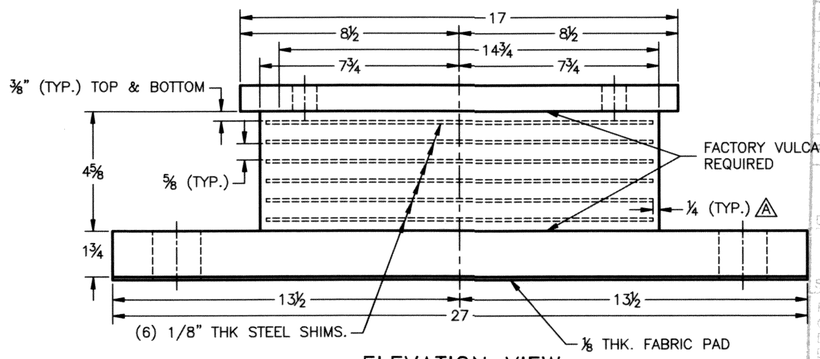
QTY REQ'D = 10 ASSY.
PIERS 1 & 3



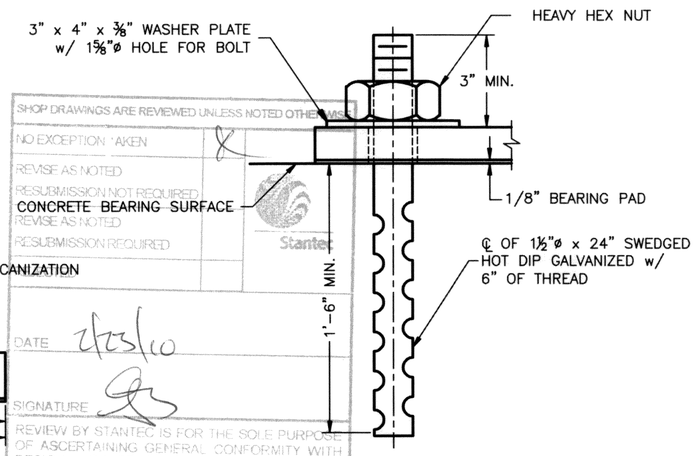


SOLE PLATE TO FLANGE
CONNECTION DETAIL
(ALL BEARINGS)

** FOR NOTES SEE SHEET 2 OF 3



ELEVATION VIEW



ANCHOR BOLT DETAIL

QTY. REQ'D = 20, 2 PER BEARING

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE
NO EXCEPTION TAKEN
REVISE AS NOTED
RESUBMISSION NOT REQUIRED
CONCRETE BEARING SURFACE
REVISE AS NOTED
RESUBMISSION REQUIRED
Stantec
DATE 2/23/10
SIGNATURE
REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF ALL TRADES AND DETAIL DESIGN OF COMPONENTS AND DETAILS. ERRORS OR OMISSIONS ON SHOP DRAWINGS ARE NOT RELIEVED

VERMONT AGENCY OF TRANSPORTATION
PROPOSED IMPROVEMENT BRIDGE PROJECT
TOWN OF PUTNEY, COUNTY OF WINDHAM
US RT. 5 FAS (MAJOR COLLECTOR), BRIDGE 19A

EXPANSION ELASTOMERIC BEARING DETAIL

AMSCOT
STRUCTURAL PRODUCTS CORP.
DOVER, NJ

JOB # 3363

SCALE: N.T.S.	CHECKED: B.F.	DRAWN BY: C.A.M.	
DATE: 1/29/10		REVISION: A	
FOR: J.A. MCDONALD, INC.			
DWG NO: JAM10A3RA		SHEET NO. 3 OF 3	

GENERAL NOTES

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 2002 AND ITS LATEST REVISIONS.

MATERIAL SPECIFICATIONS

1) UNLESS OTHERWISE NOTED, ALL STEEL TO BE UNPAINTED AASHTO M270 (ASTM A709) 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" DIAMETER, TYPE 3, IN 15/16" DIAMETER HOLES, UNLESS NOTED OTHERWISE. NUTS SHALL BE A563 (TYPE 3) GRADE C3. IN PAINTED AREAS, USE ASTM 325 (AASHTO M164) TYPE 1 (GALV PER AASHTO M232) BOLTS, NUTS AND WASHERS.

   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 PUNCHED OR DRILLED FULL SIZE (UN).

WELDING

1) THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5-02 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-10.

PAINTING

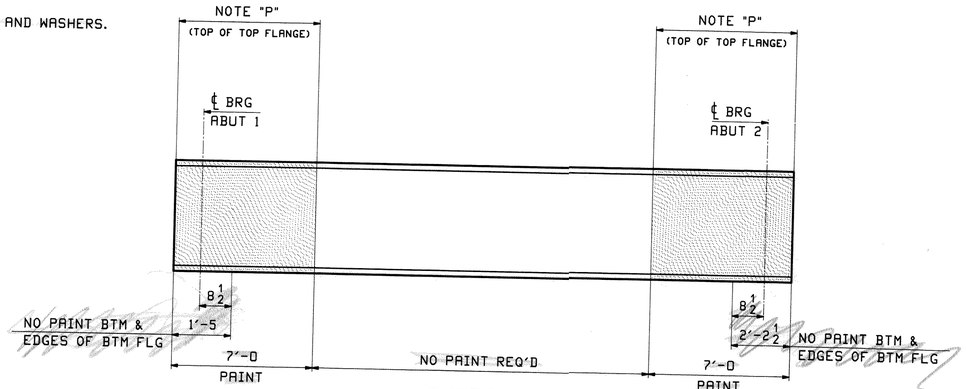
1) THE GIRDER ENDS & ABUTMENT DIAPHRAGMS WITHIN 7'-0 OF THE ENDS OF STEEL AT ABUT 1 & ABUT 2 SHALL BE PAINTED, EXCEPT AS NOTED (SEE SKETCH "P1").

2) THE PAINT SYSTEM AND ITS APPLICATION SHALL CONFORM TO SECTION 513 OF THE STANDARD SPECIFICATIONS.

   THE PAINT SYSTEM SHALL BE AS FOLLOWS:
   PRIMER: CARBOLINE 859 ORGANIC ZINC RICH PRIMER ~ 3.0 - 5.0 MILS DFT.
   INTERMEDIATE: CARBOLINE 888 EPOXY ~ 4.0 - 6.0 MILS DFT.
   TOPCOAT: CARBOLINE 133 HB ALIPHATIC POLYURETHANE ~ 2.0 - 4.0 MILS DFT.

   TOP COAT COLOR: DARK BROWN FED COLOR #20059

3) PRIME COAT ONLY WITHIN 3" OF ALL HOLES WITHIN THE PAINTED AREA.

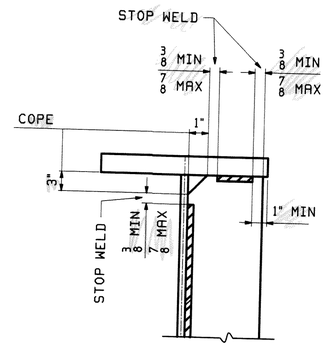


SKETCH "P1"

NOTE "P"
PAINT WITH A LIGHT RUST-PREVENTATIVE COAT OF PRIMER (SEE SECTION "P1")



TYPICAL SECTION "P1"



DETAIL "WS1"

STIFFENER WELD TERMINATION

NOTE TO ENGINEER:
THESE NOTES ARE NOT INTENDED TO
COMPLIANCE WITH RELEVANT SPECIFI

REV.	DATE	REMARKS	DWN	CHK
0				

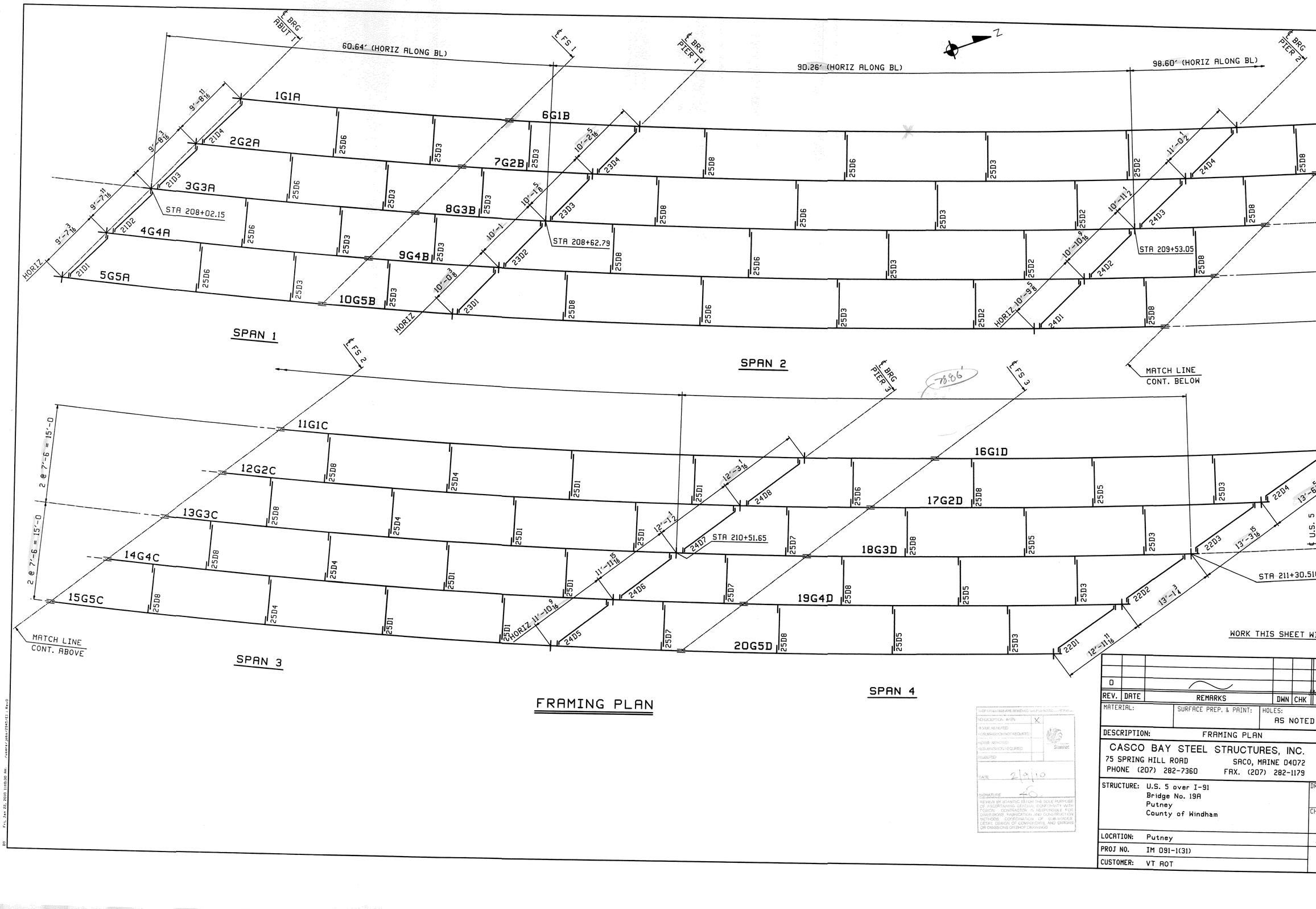
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:
		AS NOTE

DESCRIPTION: GENERAL NOTES

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putnam
County of Windham

LOCATION: Putney
PROJ NO. IM 091-1(3)
CUSTOMER: VT AOT



WORK THIS SHEET W

REV.	DATE	REMARKS	DWN	CHK
0				

MATERIAL:

SURFACE PREP. & PAINT:

HOLES: AS NOTED

DESCRIPTION: FRAMING PLAN

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

LOCATION: Putney

PROJ NO. IM 091-1(31)

CUSTOMER: VT ROT

SHOP DRAWINGS AND REVIEWED SHOP DRAWINGS - REVIEW
NO EXCEPTION TAKEN
REVIEWED AS NOTED - RESUBMISSION NOT REQUIRED
REVIEWED AS NOTED - RESUBMISSION REQUIRED
REJECTED
DATE 2/4/10
SIGNATURE
REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL COMPLIANCE WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS, AND ERRORS OR OMISSIONS ON SHOP DRAWINGS.

FIELD BOLT LIST — A325 Type 3 BOLTS

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														**FIELD SPLICE 1, 2 & 3**
3	600	7/8	4	40	15	2 1/2	1/2	1 1/2	1/2				1	TOP FLG SPLICE
4	810	7/8	3	54	15	1 1/2	1/2	1/2	1/2				1	WEB SPLICE
5	600	7/8	4 1/4	40	15	2 3/4	5/8	1 1/2	5/8				1	BTM FLG SPLICE
6														
7														**INT. DIAPHRAGMS**
8	1792	7/8	2 1/4	14	128	7/8	3/8	1/2					1	W DIAPH TO STIFF
9														
10														**PIER DIAPHRAGMS**
11	336	7/8	2 1/2	14	24	1	1/2	1/2					1	BENT PL TO CONN STIFF
12														

WASHER CODES

1: 1 Hard Flat Washer

FIELD BOLT LIST — A325 Type 1 BOLTS — MECH. GALV.

LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS /CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED						WASH CODE	PIECES CONNECTED AND REMARKS
13														
14														**END DIAPH @ ABUT 1 (EAST OR**
15														**X END) & ABUT 2**
16	168	7/8	2 2 1/2	14	12	1	1/2	1/2					1	BENT PL TO CONN STIFF
17														
18														**END DIAPH @ ABUT 1 (WEST)**
19	56	7/8	2 3/4	14	4	1 3/8	1/2	7/8					1	BENT PL TO BRG STIFF
20														

WASHER CODES

1: 1 Hard Flat Washer

FIELD BOLT SUMMARY — 2% + 2 ADDED, MIN. 2 EXTRA

LINE	NO. OF BOLTS	BOLT DIAM.	TYPE	BOLT LEN	ACTUAL COUNT	REMARKS
1	173	7/8	A325 Type 1	2 1/2	168	MECH GALVANIZED
2	59	7/8	A325 Type 1	2 3/4	56	MECH GALVANIZED
3						
4	232	Hard Flat Washers for 7/8 ø BOLT				MECH GALVANIZED (F436)
5						
6						
7	1830	7/8	A325 Type 3	2 1/4	1792	
8	345	7/8	↑	2 1/2	336	
9	828	7/8	↕	3	810	
10	614	7/8	↓	4	600	
11	614	7/8	A325 Type 3	4 1/4	600	
12						
13	4231	Hard Flat Washers for 7/8 ø BOLT				(F436-3)
14						
15						
16						

SHOP DRAWINGS ARE REVIEWED ONLY WITH NOTED EXCEPTIONS

NOTED/EXCEPTIONS TAKEN X

REVISE AS NOTED

RESUBMISSION NOT REQUIRED

REVISE AS NOTED

RESUBMISSION REQUIRED

REJECTED

DATE 2/9/10

SIGNATURE

REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS, AND ERRORS OR OMISSIONS ON SHOP DRAWINGS

BOLTS & NUTS SHALL BE ROTATIONAL CAPACITY TESTED.
DO NOT MIX NUTS & BOLTS FROM DIFFERENT CONTAINERS
UNLESS ALL BOLTS & NUTS HAVE THE SAME LOT NUMBER.

WORK THIS SHEET WITH E1

REV.	DATE	REMARKS	DWN	CHK	APVL
0					JAN 2 8 2010

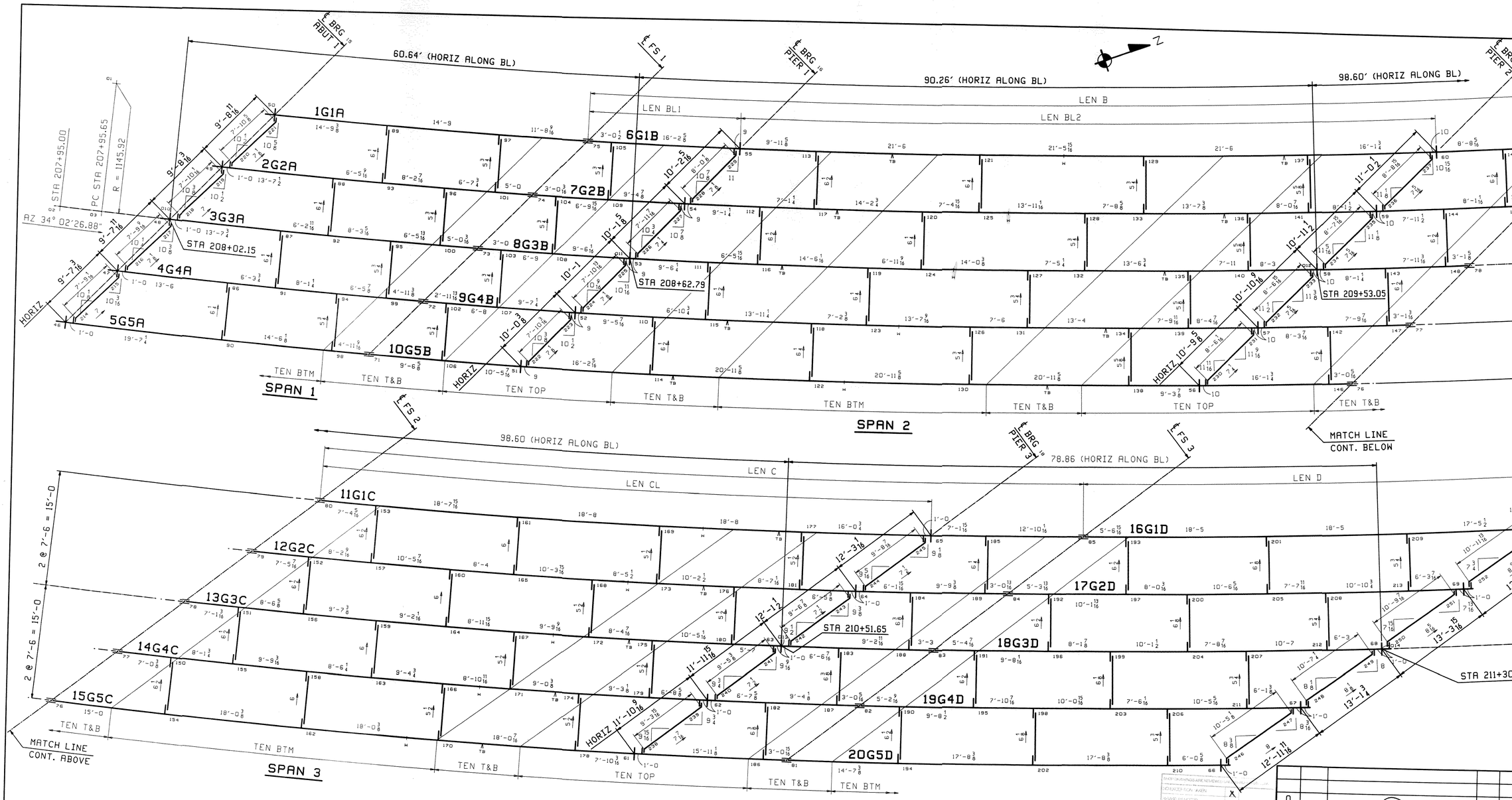
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP
		AS NOTED	A

DESCRIPTION: FIELD BOLTS

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

STRUCTURE:	U.S. 5 over I-91 Bridge No. 19A Putney County of Windham	DRAWN: TS CHKD: DO
LOCATION:	Putney	JOB NO.
PROJ NO.	IM 091-1(31)	438
CUSTOMER:	VT AOT	

D0 Fri Jan 29, 2010 10:08:43 am J:\projects\2045\02 - Bridge\D\



CALCULATION PLAN

Line	LEN A	LEN BL1	LEN BL2	LEN B	LEN CL	LEN C	LEN D	GRADE				
								Abut 1	Pier 1	Pier 2	Pier 3	Abut 2
1	41'-2 15/16	20'-0 1/8	91'-5 5/16	131'-5 1/2	80'-5	100'-5	60'-10 7/16	-.0070	-.0125	-.0128	-.0158	-.0213
2	40'-11 1/4	20'-0	90'-10 3/16	130'-10 3/16	79'-5 13/16	99'-5 15/16	59'-10	-.0075	-.0124	-.0129	-.0148	-.0201
3	40'-7 3/4	20'-0 1/16	90'-3 3/16	130'-3 5/16	78'-7 1/4	98'-7 3/8	58'-10 5/16	-.0072	-.0123	-.0128	-.0143	-.0192
4	40'-4 1/4	20'-0 1/16	89'-8 1/2	129'-8 5/8	77'-9 1/8	97'-9 3/16	57'-11 3/16	-.0073	-.0122	-.0127	-.0139	-.0186
5	40'-0 15/16	20'-0 1/16	89'-2 1/16	129'-2 3/16	76'-11 3/8	96'-11 7/16	57'-0 3/4	-.0064	-.0122	-.0130	-.0138	-.0179

**** NOTE ****
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DWG IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION.

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, INT STIFF & FIELD SPLICES ARE NORMAL TO GRADE.
6. BOTT PT NUMBERS =TOP PT NUMBERS + 300.
7. FOR LAYOUTS SEE "TD" SHEETS.
8. CROSSFRAME DROPS ARE CALCULATED IN THE 70% CAMBERED SHAPE OF THE BRIDGE.

REV.	DATE	REMARKS	DWN	CH
0				

MATERIAL: | SURFACE PREP. & PAINT: | HOLES: AS NOT

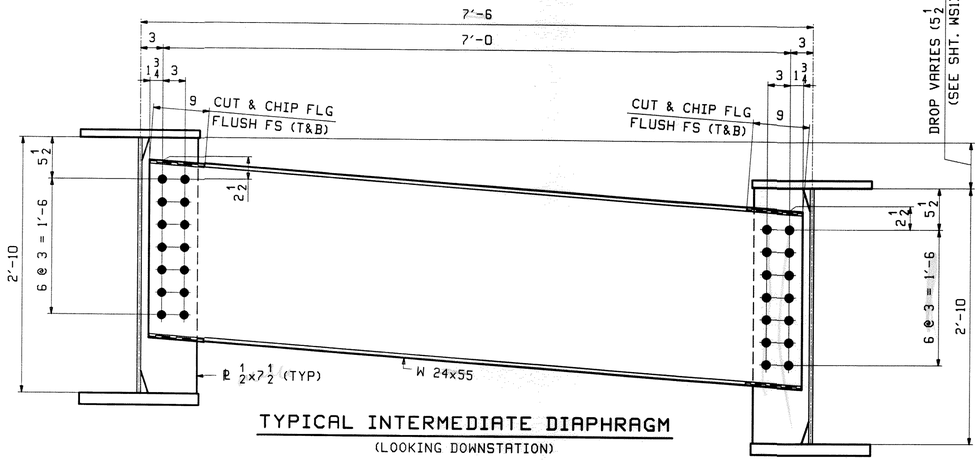
DESCRIPTION: CALCULATION PLAN

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 0407
PHONE (207) 282-7360 FAX. (207) 282-1179

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

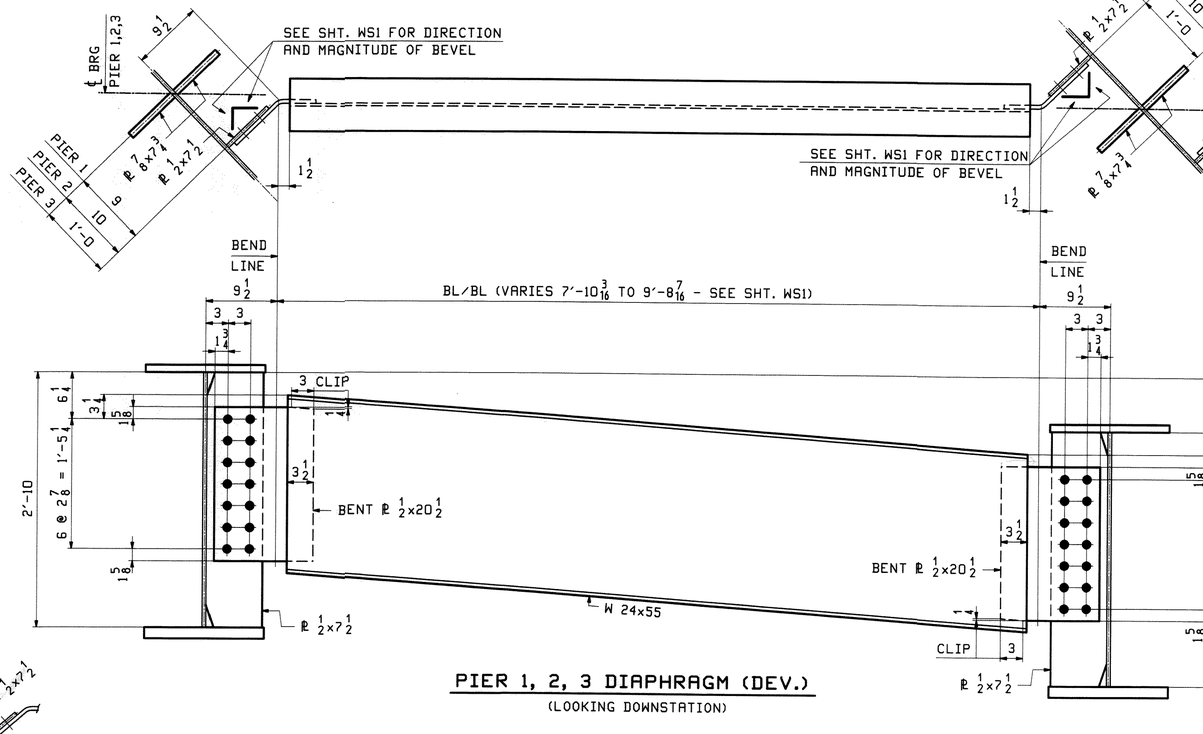
LOCATION: Putney
PROJ NO. IM 091-1(31)
CUSTOMER: VT AOT

Thu, Jan 7, 2010 09:06:54 PM C:\Users\Jon\Desktop\Putney\Putney-CALCULATION PLAN.dwg



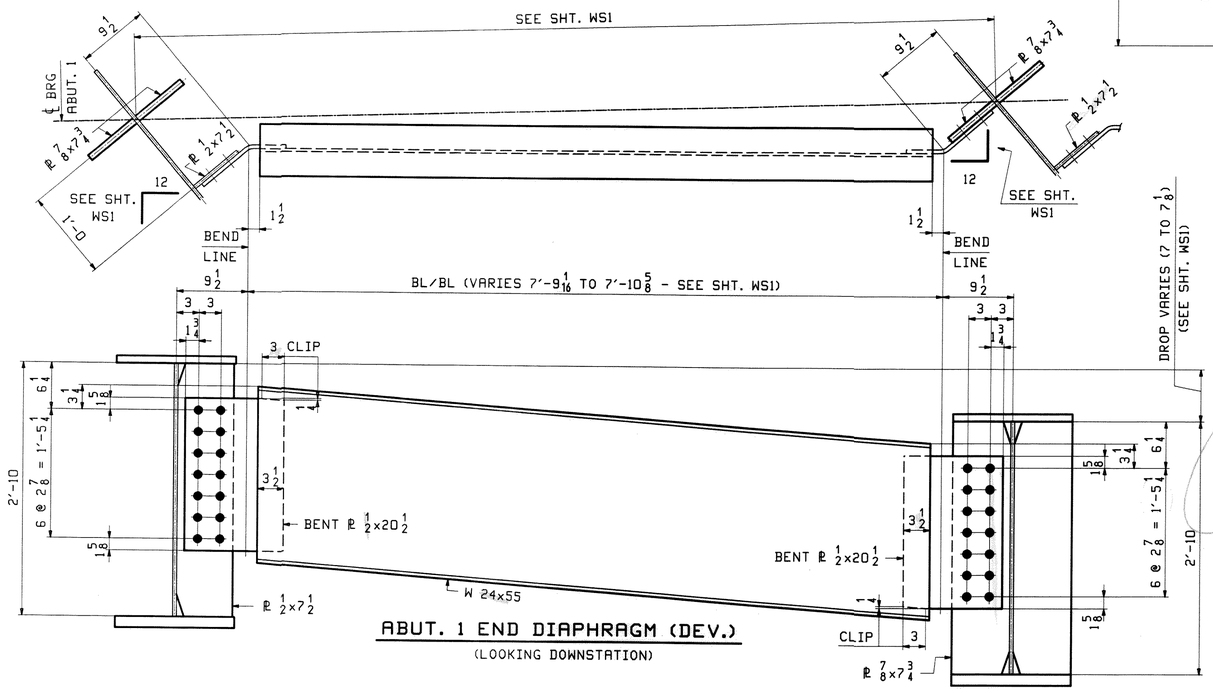
TYPICAL INTERMEDIATE DIAPHRAGM

(LOOKING DOWNSTATION)



PIER 1, 2, 3 DIAPHRAGM (DEV.)

(LOOKING DOWNSTATION)



ABUT. 1 END DIAPHRAGM (DEV.)

(LOOKING DOWNSTATION)

NOTES:

- MAT'L SHALL BE M270 GR50W
- HOLES SHALL BE 15/16"ø
- BOLTS SHALL BE 7/8"ø
- ABUT DIAPHRAGM SHALL BE PAINTED AND HAVE A325 TYPE 1 (GALV) BOLTS
- INT. & PIER DIAPHRAGM SHALL BE UNPAINED AND HAVE A325 TYPE 3 BOLTS

**** 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
0				

MATERIAL:	SURFACE PREP. & PAINT:	HOLES: AS NOTED

DESCRIPTION: TYPICAL LAYOUTS

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

LOCATION: Putney

PROJ NO. IM 091-1(31)

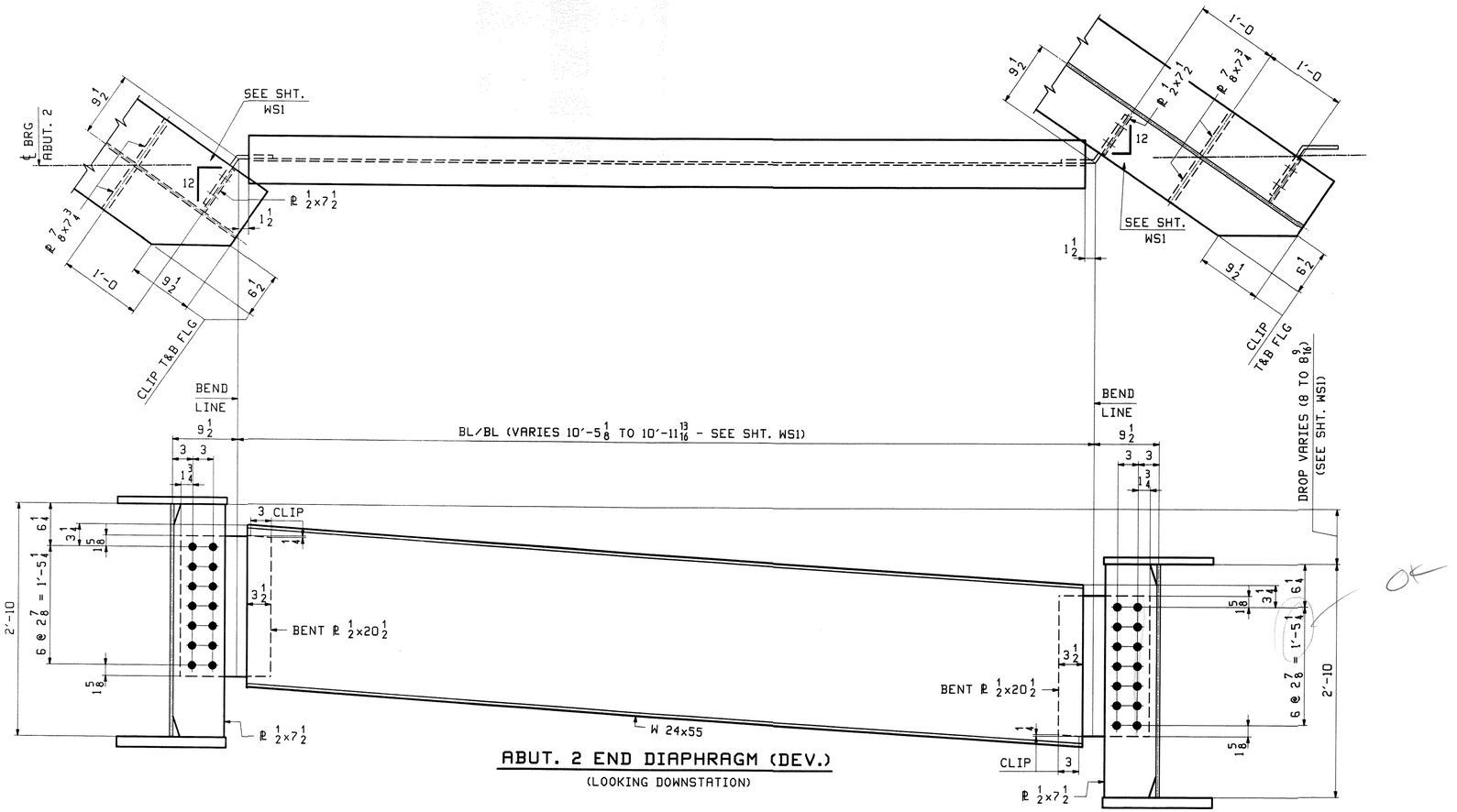
CUSTOMER: VT AOT

DR

CH

DATE 2/9/10

Fri, Jan 22, 2010 03:03 PM



ABUT. 2 END DIAPHRAGM (DEV.)

(LOOKING DOWNSTATION)

**** 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.

NOTES:
- MAT'L SHALL BE M270 GR50W
- HOLES SHALL BE 15/16"Ø
- BOLTS SHALL BE 7/8"Ø
- ABUT DIAPHRAGM SHALL BE PAINTED AND HAVE A325 TYPE 1 (GALV) BOLTS

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE
EXCEPTION MADE X
REVISIONS NOTED
RESUBMISSION NOT REQUIRED
REVISE AS NOTED
RESUBMISSION REQUIRED
REJECTED
DATE 2/9/10
SIGNATURE
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Stantec

REV.	DATE	REMARKS	DWN	CHK	AP
0					JAN 2

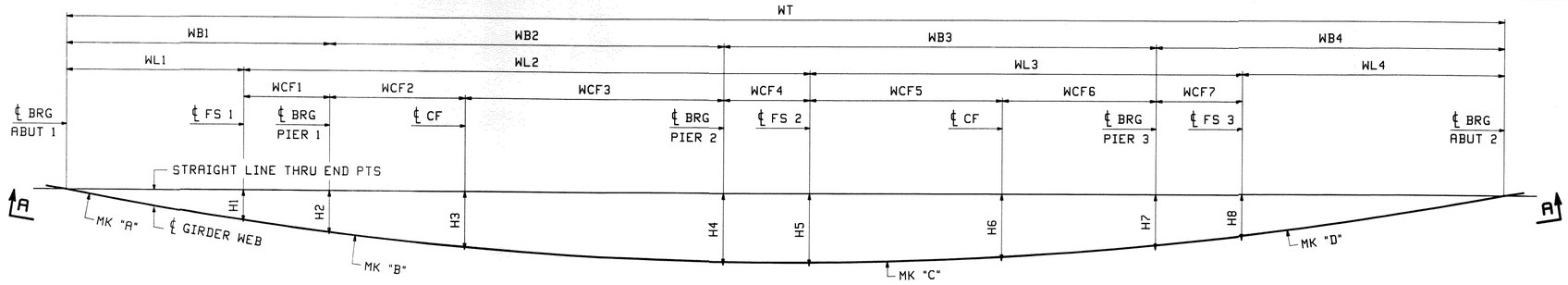
MATERIAL:	SURFACE PREP. & PAINT:	HOLES: AS NOTED	SH

DESCRIPTION: TYPICAL LAYOUTS

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

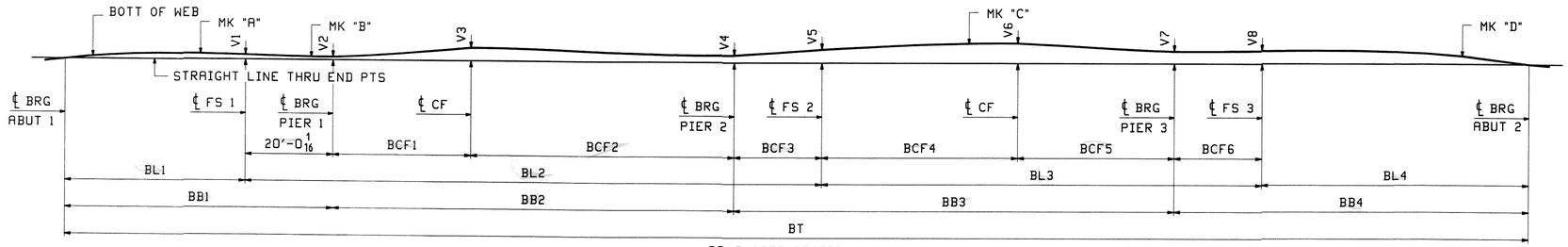
STRUCTURE:	U.S. 5 over I-91 Bridge No. 19A Putney County of Windham	DRAWN: SO CHKD: PC
LOCATION:	Putney	JOB
PROJ NO.	IM 091-1(31)	43
CUSTOMER:	VT AOT	

PLOT Thu, Jan 7, 2010 02:00:57 PM //users/jobs/2545782 - Rev.0



PLAN VIEW GIRDER @ BOTT OF WEB

LINE	WT	WL1	WL2	WL3	WL4	H1	H2	H3	H4	H5	H6	H7	H8	WB1	WB2	WB3	WB4	WCF1	WCF2	WCF3	WCF4	WCF5	WCF6	WCF7
1	332′-9 5/16	40′-10 3/4	131′-2 3/8	100′-3 3/16	60′-5	-5′-3 7/8	-7′-4 3/8	-9′-10 3/8	-12′-2 9/16	-12′-3 1/2	-11′-2 3/16	-9′-0 5/16	-7′-3 15/16	60′-9 9/16	91′-3 1/2	100′-4 1/16	80′-4 3/16	19′-10 13/16	31′-4 7/16	59′-11 1/16	20′-0 1/16	44′-8	35′-8	19′-11 3/16
2	329′-11 7/16	40′-7 1/4	130′-7 1/4	99′-4 1/8	59′-4 13/16	-5′-2 7/16	-7′-2 9/16	-9′-7 3/4	-11′-11 3/16	-12′-0	-10′-10 7/16	-8′-9 1/2	-7′-1 5/16	60′-6 1/16	90′-8 3/8	99′-4 15/16	79′-4 1/16	19′-10 13/16	31′-1 1/8	59′-7 1/4	20′-0 1/16	44′-9 3/16	34′-7 11/16	19′-11 1/4
3	327′-3 1/8	40′-3 13/16	130′-0 7/16	98′-5 9/16	58′-5 5/16	-5′-1 1/16	-7′-0 13/16	-9′-5 9/16	-11′-7 15/16	-11′-8 5/8	-10′-7 3/4	-8′-6 13/16	-6′-10 13/16	60′-2 11/16	90′-1 1/2	98′-6 3/8	78′-4 9/16	19′-10 7/8	31′-2 1/8	58′-11 3/8	20′-0 1/16	43′-4 15/16	35′-1 3/8	19′-11 1/4
4	324′-8 5/16	40′-0 1/2	129′-5 7/8	97′-7 7/16	57′-6 1/2	-4′-11 3/4	-6′-11 1/8	-9′-3 3/16	-11′-4 15/16	-11′-5 1/2	-10′-4 3/4	-8′-4 1/4	-6′-8 1/2	59′-11 7/16	89′-6 7/8	97′-8 1/4	77′-5 3/4	19′-10 15/16	30′-11 5/16	58′-7 9/16	20′-0 1/16	42′-10 1/8	34′-10 1/16	19′-11 1/4
5	322′-2 13/16	39′-9 5/16	128′-11 9/16	96′-9 13/16	56′-8 1/8	-4′-10 1/2	-6′-9 1/2	-9′-5 7/8	-11′-2	-11′-2 1/2	-9′-9	-8′-1 7/8	-6′-6 5/16	59′-8 1/4	89′-0 9/16	96′-10 9/16	76′-7 7/16	19′-10 15/16	37′-9 13/16	51′-2 3/4	20′-0 1/16	51′-0 1/2	25′-10	19′-11 5/16



DEVELOPED SECTION A-A
DIMENSIONS GIVEN ALONG ℄ WEB

LINE	BT	BL1	BL2	BL3	BL4	V1	V2	V3	V4	V5	V6	V7	V8	BB1	BB2	BB3	BB4	BCF1	BCF2	BCF3	BCF4	BCF5	BCF6
1	333′-11 7/8	41′-2 15/16	131′-5 7/16	100′-5 1/16	60′-10 7/16	1 1/16	11/16	2 7/8	1 5/8	3	4 9/16	2 13/16	2 15/16	61′-3	91′-5 3/8	100′-5	80′-10 1/2	31′-5 5/8	59′-11 3/4	20′-0	44′-8 1/4	35′-8 3/4	20′-0 1/16
2	331′-1 7/16	40′-11 1/4	130′-10 1/4	99′-5 15/16	59′-10	7/8	3/8	2 1/2	1 1/8	2 7/16	3 13/16	1 15/16	2 5/16	60′-11 5/16	90′-10 1/8	99′-5 7/8	79′-10 1/8	31′-2 1/4	59′-7 7/8	20′-0 1/16	44′-9 3/8	34′-8 7/16	20′-0 1/8
3	328′-4 5/8	40′-7 11/16	130′-3 5/16	98′-7 5/16	58′-10 5/16	13/16	3/8	2 3/8	3/4	2 1/16	3 5/16	1 5/16	1 7/8	60′-7 3/4	90′-3 3/16	98′-7 5/16	78′-10 3/8	31′-3 3/16	59′-0	20′-0 1/16	43′-5 1/8	35′-2 1/8	20′-0 1/16
4	325′-9 1/4	40′-4 1/4	129′-8 5/8	97′-9 3/16	57′-11 3/16	11/16	1/8	2 1/8	7/16	1 11/16	2 7/8	7/8	1 1/2	60′-4 5/16	89′-8 1/2	97′-9 3/16	77′-11 1/4	31′-0 3/8	58′-8 1/8	20′-0 1/16	42′-10 5/16	34′-10 13/16	20′-0 1/16
5	323′-3 3/8	40′-0 7/8	129′-2 1/4	96′-11 1/2	57′-0 3/4	5/8	1/16	2 3/16	1/8	1 3/8	1 7/8	3/8	1 3/16	60′-0 15/16	89′-2 1/8	96′-11 1/2	77′-0 13/16	37′-11	51′-3 1/8	20′-0 1/16	51′-0 13/16	25′-10 5/8	20′-0 1/16

LINE	"A"	"B"	"C"	"D"
1	1G1A	6G1B	11G1C	16G1D
2	2G2A	7G2B	12G2C	17G2D
3	3G3A	8G3B	13G3C	18G3D
4	4G4A	9G4B	14G4C	19G4D
5	5G5A	10G5B	15G5C	20G5D

NOTES
FOR GENERAL NOTES SEE DWG GN1
ALL DIMENSIONS GIVEN AT BOTT OF WEB

REV.	DATE	REMARKS	DWN	CHK
0		JAN 2 5		

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:

DESCRIPTION: SHOP ASSEMBLY DIAGRAM

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

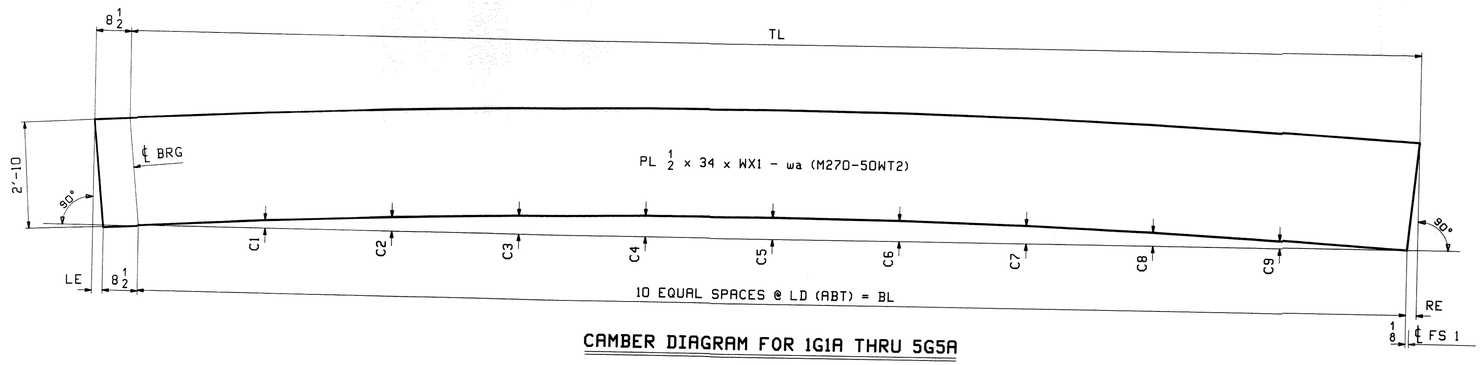
DRAWN
CHKD

LOCATION: Putney
PROJ NO. IM 091-1(31)
CUSTOMER: VT AOT

JO
4

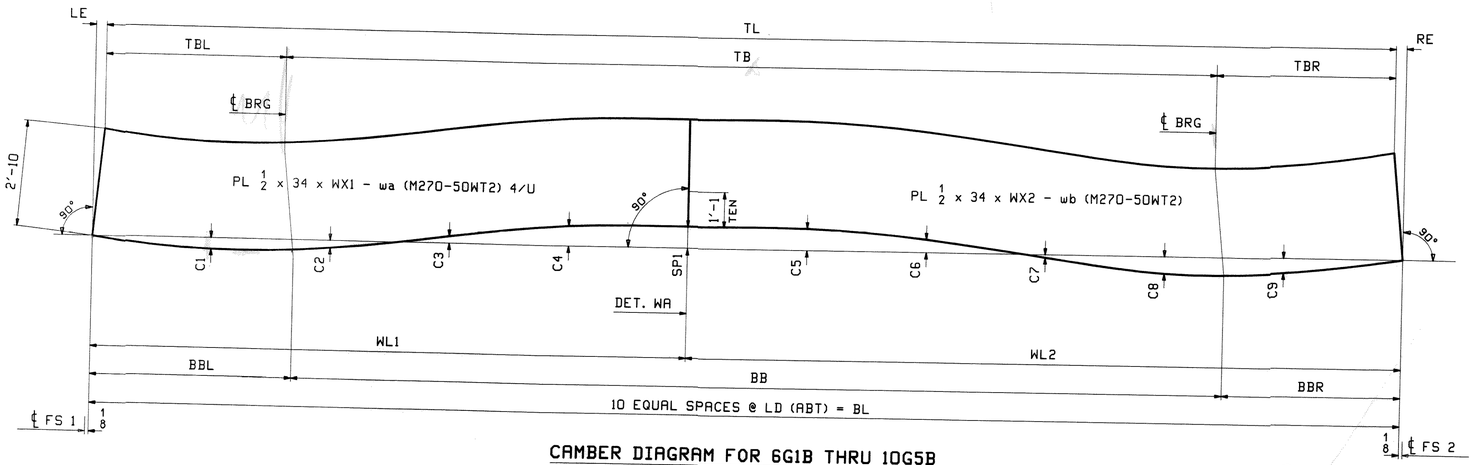
SHOP DRAWINGS ARE REVIEWED ONLY FOR NOTED OTHERWISE
X
AS DESCRIPTION WRITTEN
REVISE AS NOTED
RESUBMISSION WITHOUT REVIEW
SEE MARK ON NOTES
RESUBMISSION REQUIRED
REJECTED
Stantec
DATE 2/9/10
SIGNATURE
REVIEW BY STANTEC DOES NOT RELIEVE FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL COMPLIANCE WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION PROCESS, CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, THE FULL DESIGN OF CONNECTIONS, AND ERRORS OR OMISSIONS ON SHOP DRAWINGS

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CAMBER DIAGRAM FOR 1G1A THRU 5G5A

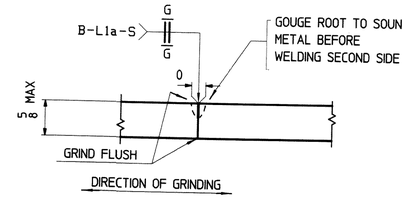
MARK	TL	BL	LE	RE	WX1	LD	C1	C2	C3	C4	C5	C6	C7	C8	C9	PG/LINE
1G1A	41'-3 1/2	41'-2 13/16	1/2	3/16	42'-0	4'-1 1/2	5/16	5/8	3/4	7/8	15/16	7/8	3/4	9/16	5/16	5/ L
2G2A	40'-11 13/16	40'-11 1/8	1/2	3/16	41'-8 5/16	4'-1 1/8	5/16	9/16	3/4	7/8	15/16	7/8	3/4	9/16	5/16	5/ N
3G3A	40'-8 1/4	40'-7 5/8	7/16	3/16	41'-4 3/4	4'-0 3/4	5/16	9/16	3/4	7/8	15/16	7/8	3/4	9/16	5/16	5/ Q
4G4A	40'-4 13/16	40'-4 1/8	7/16	1/4	41'-1 5/16	4'-0 3/8	5/16	9/16	3/4	7/8	15/16	7/8	3/4	9/16	5/16	5/ S
5G5A	40'-1 7/16	40'-0 13/16	7/16	3/16	40'-9 15/16	4'-0 1/8	3/8	5/8	13/16	7/8	15/16	7/8	3/4	9/16	5/16	5/ U



CAMBER DIAGRAM FOR 6G1B THRU 10G5B

MARK	TL	BL	LE	RE	WL1	WL2	WX1	WX2	SP1	TBL	TB	TBR	BBL	BB	BBR	LD	C1	C2	C3	C4	C5	C6	C7	C8	C9	PG/LINE
6G1B	131'-4 7/8	131'-5 1/4	3/16	3/16	62'-5 7/8	68'-11 3/8	62'-5 15/16	68'-11 7/16	1 1/4	19'-11 5/16	91'-5 3/8	20'-0 3/16	20'-0	91'-5 5/16	19'-11 15/16	13'-1 3/4	5/8	7/16	3/8	1 1/8	1 1/4	3/4	3/16	15/16	13/16	3/ Y
7G2B	130'-9 5/8	130'-9 15/16	3/16	1/8	62'-5 7/8	68'-4 1/16	62'-5 15/16	68'-4 1/8	1 1/4	19'-11 1/4	90'-10 3/16	20'-0 3/16	19'-11 7/8	90'-10 3/16	19'-11 7/8	13'-1	5/8	7/16	3/8	1 1/8	1 1/4	3/4	3/16	15/16	13/16	4/ A
8G3B	130'-2 11/16	130'-3 1/16	3/16	3/16	62'-5 7/8	67'-9 3/16	62'-5 15/16	67'-9 1/4	1 1/4	19'-11 5/16	90'-3 3/16	20'-0 3/16	19'-11 15/16	90'-3 3/16	19'-11 15/16	13'-0 1/4	5/8	7/16	3/8	1 1/8	1 1/4	3/4	3/16	1	13/16	4/ C
9G4B	129'-8	129'-8 3/8	3/16	3/16	62'-5 7/8	67'-2 1/2	62'-5 15/16	67'-2 9/16	1 3/16	19'-11 5/16	89'-8 1/2	20'-0 3/16	19'-11 15/16	89'-8 1/2	19'-11 15/16	12'-11 5/8	5/8	1/2	3/8	1 1/16	1 1/4	3/4	3/16	1	13/16	4/ E
10G5B	129'-1 9/16	129'-1 15/16	3/16	3/16	62'-5 7/8	66'-8 1/16	62'-5 15/16	66'-8 1/8	1 3/16	19'-11 5/16	89'-2 1/16	20'-0 3/16	19'-11 15/16	89'-2 1/16	19'-11 15/16	12'-11	5/8	1/2	5/16	1	1 3/16	11/16	1/4	1	7/8	4/ G

C1 + C5 = 1 7/8"



WEB PLATE SPLICE DETAIL "WA"

NOTES:

1. FOR GENERAL SHOP NOTES SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL
0					JAN 29 201

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BO
M270-50W		AS NOTED	AS

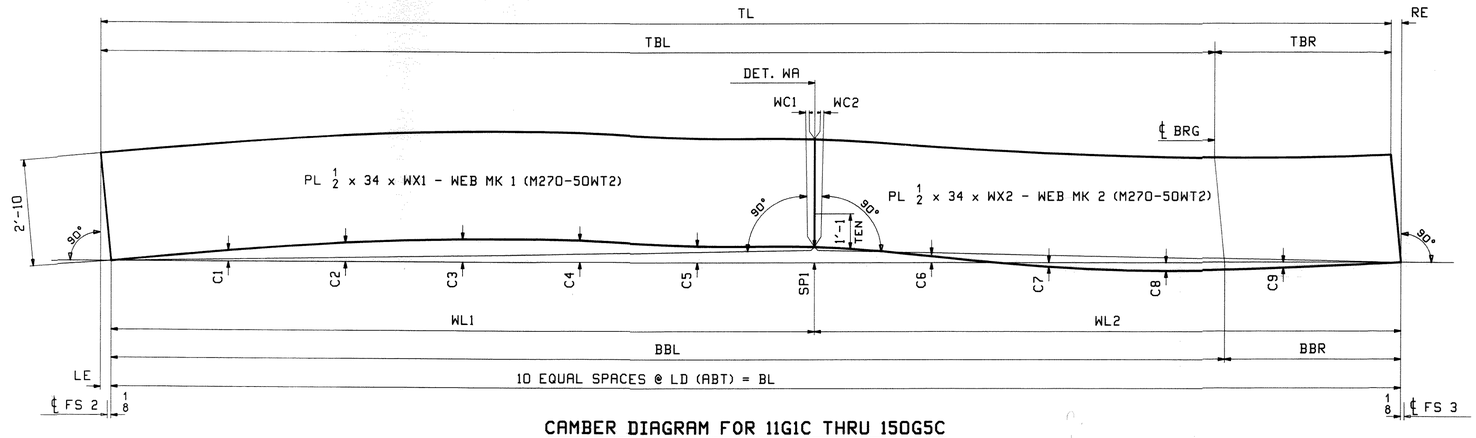
DESCRIPTION: CAMBER DIAGRAMS

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

STRUCTURE:	U.S. 5 over I-91 Bridge No. 19A Putney County of Windham	DRAWN: JB CHKD: SOB
LOCATION:	Putney	JOB NO.
PROJ NO.	IM 091-1(3)	438
CUSTOMER:	VT AOT	

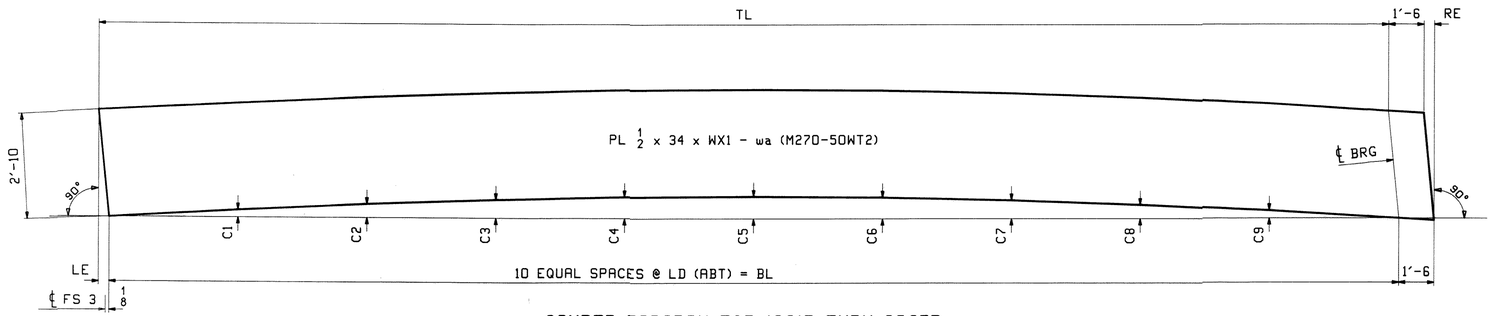
APPROVED AS NOTED OR MARKED
NO EXCEPTION WHEN X
MAKE AS NOTED
RESUBMISSION NOT REQUIRED
REVISE AS NOTED
RESUBMISSION NOT REQUIRED
REJECTED
DATE 2/9/12
SIGNATURE
REVIEW BY STATE OF VT DOES NOT RELIEVE OF RESPONSIBILITY OF ASCERTAINING DIMENSIONS, CONFORMITY WITH DESIGN, CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SHOP WORK WITH DETAIL DESIGN OF COMPONENTS AND ERRORS OR OMISSIONS ON SHOP DRAWINGS

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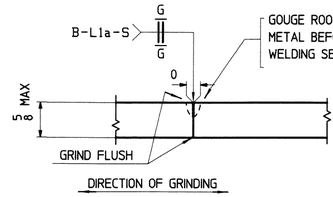
CAMBER DIAGRAM FOR 11G1C THRU 15DG5C

MARK	TL	BL	LE	RE	WL1	WL2	WX1	WX2	SP1	WC1	WC2	TBL	TBR	BBL	BBR	LD	C1	C2	C3	C4	C5	C6	C7	C8	C9	WEB MK 1	PG/LINE	WEB MK 2	PG/LINE
11G1C	100'-4 15/16	100'-4 3/4	1/4	1/16	50'-4 7/8	49'-11 7/8	50'-5 1/8	49'-11 15/16	1 1/4	1/16	1/16	80'-4 5/8	20'-0 5/16	80'-4 7/8	19'-11 7/8	10'-0 1/2	7/8	1 1/2	1 3/4	1 11/16	1 1/4	11/16	0	3/16	1/4	wa	4/ W	wb	5/ W
12G2C	99'-5 3/4	99'-5 11/16	3/16	1/8	49'-5 13/16	49'-11 7/8	49'-6	49'-11 15/16	1 1/8	1/16	1/16	79'-5 7/16	20'-0 5/16	79'-5 11/16	20'-0	9'-11 3/8	13/16	1 7/16	1 11/16	1 5/8	1 1/8	1/2	1/8	3/8	3/8	wa	5/ A	wb	5/ C
13G3C	98'-7 1/8	98'-7 1/8	3/16	3/16	48'-7 3/16	49'-11 15/16	48'-7 3/8	50'-0	1 1/16	1/16	0	78'-6 7/8	20'-0 1/4	78'-7 1/8	20'-0	9'-10 3/8	13/16	1 3/8	1 5/8	1 1/2	1	5/16	5/16	9/16	7/16	wa	5/ E	wb	5/ C
14G4C	97'-8 15/16	97'-8 15/16	3/16	3/16	47'-9 1/16	49'-11 7/8	47'-9 1/4	49'-11 15/16	15/16	0	0	77'-8 3/4	20'-0 3/16	77'-9	19'-11 15/16	9'-9 1/4	13/16	1 3/8	1 9/16	1 7/16	7/8	3/16	7/16	11/16	1/2	wa	5/ G	wb	4/ Y
15G5C	96'-11 1/4	96'-11 3/16	1/4	3/16	46'-11 3/8	49'-11 13/16	46'-11 5/8	49'-11 7/8	13/16	0	0	76'-11 1/16	20'-0 3/16	76'-11 1/4	19'-11 15/16	9'-8 3/8	13/16	1 5/16	1 1/2	1 5/16	3/4	1/16	9/16	7/8	5/8	wa	5/ J	wb	4/ Y



CAMBER DIAGRAM FOR 16G1D THRU 20G5D

MARK	TL	BL	LE	RE	WX1	LD	C1	C2	C3	C4	C5	C6	C7	C8	C9	PG/LINE
16G1D	60'-10 1/16	60'-10 5/16	1/4	1/2	62'-4 9/16	6'-1	1/2	15/16	1 1/4	1 7/16	1 1/2	1 7/16	1 1/4	15/16	1/2	4/ J
17G2D	59'-9 11/16	59'-9 7/8	1/4	7/16	61'-4 1/8	5'-11 3/4	1/2	7/8	1 1/4	1 7/16	1 1/2	1 7/16	1 1/4	15/16	1/2	4/ L
18G3D	58'-10	58'-10 3/16	1/4	7/16	60'-4 7/16	5'-10 5/8	1/2	7/8	1 3/16	1 7/16	1 1/2	1 7/16	1 1/4	7/8	1/2	4/ N
19G4D	57'-10 15/16	57'-11 1/16	1/4	3/8	59'-5 5/16	5'-9 1/2	1/2	7/8	1 3/16	1 7/16	1 7/16	1 3/8	1 3/16	7/8	1/2	4/ Q
20G5D	57'-0 1/2	57'-0 5/8	1/4	3/8	58'-6 7/8	5'-8 1/2	1/2	7/8	1 3/16	1 3/8	1 7/16	1 3/8	1 3/16	7/8	1/2	4/ S



WEB PLATE SPLICE DETAIL "WA

NOTES:
1. FOR GENERAL SHOP NOTES SEE DRA

REV.	DATE	REMARKS	DWN	CHK
0				

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:
M270-50W		AS NOTE

DESCRIPTION: CAMBER DIAGRAMS

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

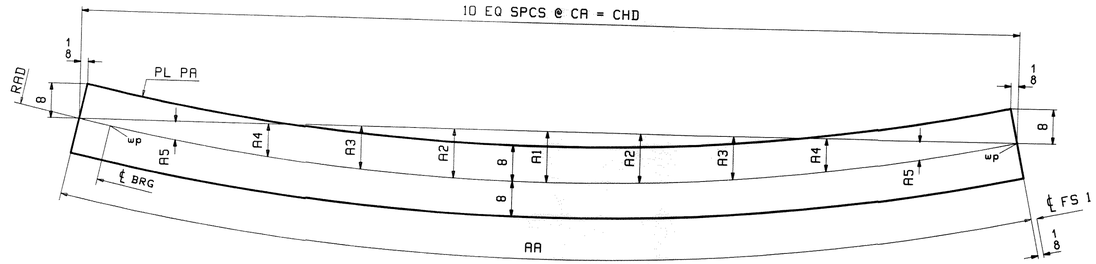
LOCATION: Putney

PROJ NO. IM 091-1(3)

CUSTOMER: VT AOT

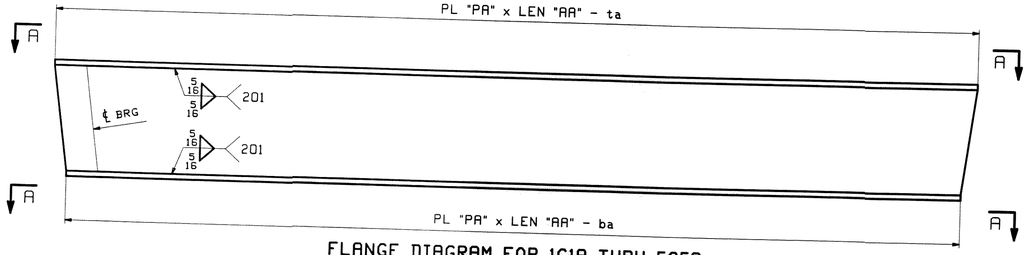
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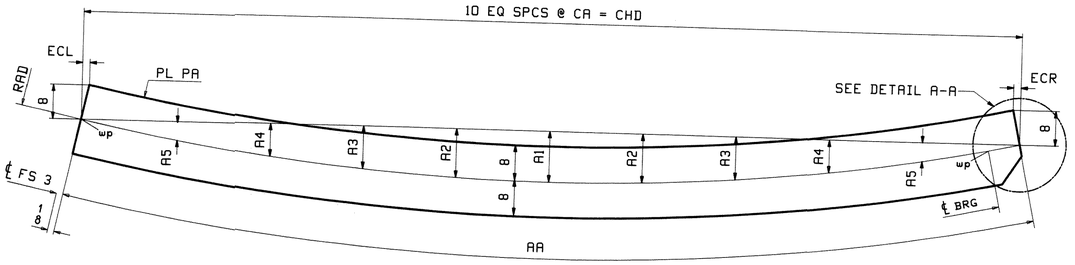


SECTION A-A FOR 1G1A THRU 5G5A

LOCATION	RAD	CHD	AA	CA	A1	A2	A3	A4	A5	PL PA (M270-50WT2)
1G1A TOP FLG	1130.92	42'-0	42'-0	4'-2 3/8	2 5/16	2 1/4	1 15/16	1 1/2	13/16	PL 1 x 16-ta (3/N)
1G1A BTM FLG	1130.92	41'-11 5/16	41'-11 5/16	4'-2 3/8	2 5/16	2 1/4	1 15/16	1 1/2	13/16	PL 1 1/2 x 16-ba (2/A)
2G2A TOP FLG	1138.42	41'-8 5/16	41'-8 5/16	4'-2	2 5/16	2 3/16	1 15/16	1 7/16	13/16	PL 1 x 16-ta (3/Q)
2G2A BTM FLG	1138.42	41'-7 5/8	41'-7 5/8	4'-2	2 5/16	2 3/16	1 15/16	1 7/16	13/16	PL 1 1/2 x 16-ba (2/C)
3G3A TOP FLG	1145.92	41'-4 3/4	41'-4 3/4	4'-1 5/8	2 1/4	2 1/8	1 7/8	1 7/16	13/16	PL 1 x 16-ta (3/S)
3G3A BTM FLG	1145.92	41'-4 1/8	41'-4 1/8	4'-1 5/8	2 1/4	2 1/8	1 7/8	1 7/16	13/16	PL 1 1/2 x 16-ba (2/E)
4G4A TOP FLG	1153.42	41'-1 5/16	41'-1 5/16	4'-1 1/4	2 3/16	2 1/8	1 7/8	1 3/8	13/16	PL 1 x 16-ta (3/U)
4G4A BTM FLG	1153.42	41'-0 5/8	41'-0 5/8	4'-1 1/4	2 3/16	2 1/8	1 13/16	1 3/8	13/16	PL 1 1/2 x 16-ba (2/G)
5G5A TOP FLG	1160.92	40'-9 15/16	40'-9 15/16	4'-1	2 1/8	2 1/16	1 13/16	1 3/8	3/4	PL 1 x 16-ta (3/W)
5G5A BTM FLG	1160.92	40'-9 5/16	40'-9 5/16	4'-1	2 1/8	2 1/16	1 13/16	1 3/8	3/4	PL 1 1/2 x 16-ba (2/J)

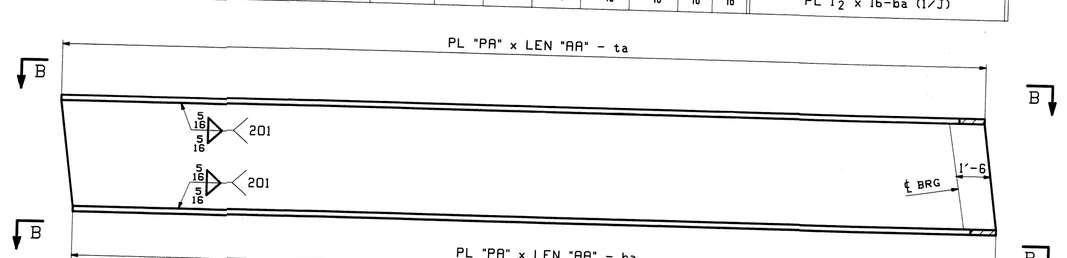


FLANGE DIAGRAM FOR 1G1A THRU 5G5A

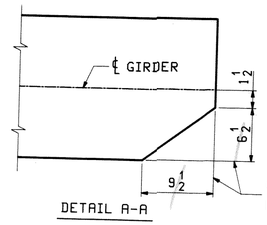


SECTION B-B FOR 16G1D THRU 20G5D

LOCATION	RAD	CHD	AA	CA	A1	A2	A3	A4	A5	ECL	ECR	PL PA (M270-50WT2)
16G1D TOP FL	1130.92	62'-3 15/16	62'-4 1/16	6'-2 3/4	5 1/8	4 15/16	4 5/16	3 5/16	1 7/8	1/4	1/4	PL 1 x 16-ta (2/N)
16G1D BTM FL	1130.92	62'-4 3/16	62'-4 5/16	6'-2 13/16	5 1/8	4 15/16	4 5/16	3 5/16	1 7/8	1/4	1/4	PL 1 1/2 x 16-ba (1/A)
17G2D TOP FL	1138.42	61'-3 5/8	61'-3 11/16	6'-1 9/16	4 15/16	4 3/4	4 3/16	3 3/16	1 13/16	3/16	3/16	PL 1 x 16-ta (2/Q)
17G2D BTM FL	1138.42	61'-3 13/16	61'-3 7/8	6'-1 9/16	4 15/16	4 3/4	4 3/16	3 3/16	1 13/16	3/16	3/16	PL 1 1/2 x 16-ba (1/C)
18G3D TOP FL	1145.92	60'-3 15/16	60'-4	6'-0 3/8	4 3/4	4 9/16	4	3 1/16	1 11/16	3/16	3/16	PL 1 x 16-ta (2/S)
18G3D BTM FL	1145.92	60'-4 1/8	60'-4 3/16	6'-0 3/8	4 3/4	4 9/16	4	3 1/16	1 11/16	3/16	3/16	PL 1 1/2 x 16-ba (1/E)
19G4D TOP FL	1153.42	59'-4 7/8	59'-4 15/16	5'-11 1/4	4 9/16	4 3/8	3 7/8	2 15/16	1 5/8	3/16	3/16	PL 1 x 16-ta (2/U)
19G4D BTM FL	1153.42	59'-5	59'-5 1/16	5'-11 1/4	4 9/16	4 7/16	3 7/8	2 15/16	1 5/8	3/16	3/16	PL 1 1/2 x 16-ba (1/G)
20G5D TOP FL	1160.92	58'-6 7/16	58'-6 1/2	5'-10 3/16	4 7/16	4 1/4	3 11/16	2 13/16	1 9/16	3/16	3/16	PL 1 x 16-ta (2/W)
20G5D BTM FL	1160.92	58'-6 9/16	58'-6 5/8	5'-10 1/4	4 7/16	4 1/4	3 3/4	2 13/16	1 9/16	3/16	3/16	PL 1 1/2 x 16-ba (1/J)



FLANGE DIAGRAM FOR 16G1D THRU 20G5D



DETAIL A-A

NOTES:

1. FOR GENERAL SHOP NOTES SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHO
0					JAN 29 20	0

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-50W		AS NOTED	AS NOTE

DESCRIPTION: FLANGE DIAGRAM

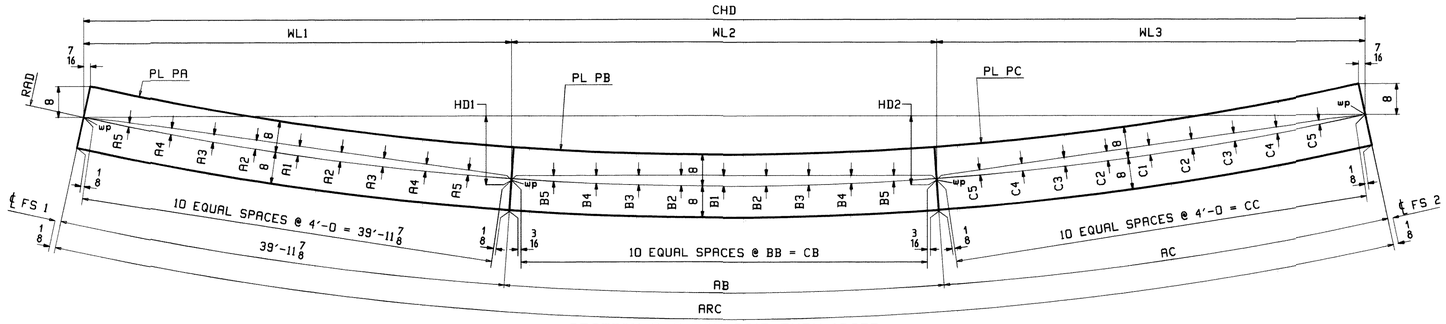
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

TENS 294

STRUCTURE: U.S. 5 over I-91 Bridge No. 19A Putney County of Windham	DRAWN: JB	DATE: 01/0
	CHK'D: SOB	DATE: 01/0
LOCATION: Putney	JOB NO.	DWG NO
PROJ NO. IM 091-1(3)	438	F1
CUSTOMER: VT AOT		REV. A

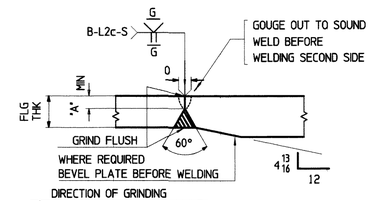
SHOP DRAWINGS ARE REVIEWED ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING THE WORK OF ALL SUBCONTRACTORS; THE SATISFACTORY AND SAFE PERFORMANCE OF ALL CONSTRUCTION ACTIVITIES. REVIEW SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR OF RESPONSIBILITY FOR ACCURACY AND COMPLETENESS OF DETAILS, INCLUDING DIMENSIONS WHICH SHALL BE CONFIRMED AND CORRESPONDENCE WITH FIELD CONDITIONS AND SELECTED FABRICATION PROCESSES AND CONSTRUCTION TECHNIQUES. CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF ANY DEVIATIONS IN THE SHOP DRAWINGS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR DEVIATIONS NOT BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING. REVIEW OF A SPECIFIC ITEM SHALL NOT INDICATE THAT THE REVIEW EXTENDS TO ASSEMBLIES IN WHICH THE ITEM FUNCTIONS.
X
Structec
DATE 2/9/10
SIGNATURE
REVIEW BY STRUCTEC OF THIS SHOP DRAWING IS FOR THE LIMITED PURPOSE OF ASCERTAINING GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. STRUCTEC IS NOT RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATION OF THE WORK WITH ALL TRADES; THE SATISFACTORY AND SAFE PERFORMANCE OF ALL CONSTRUCTION ACTIVITIES. STRUCTEC IS NOT RESPONSIBLE FOR DEVIATIONS IN THE SHOP DRAWINGS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS UNLESS SUCH DEVIATIONS HAVE BEEN BROUGHT TO THE ATTENTION OF STRUCTEC IN WRITING. STRUCTEC SHALL NOT BE RESPONSIBLE FOR ANY DEVIATIONS THAT MAY NOT BE SPECIFICALLY NOTED BY STRUCTEC IN WRITING ON THE SHOP DRAWINGS.

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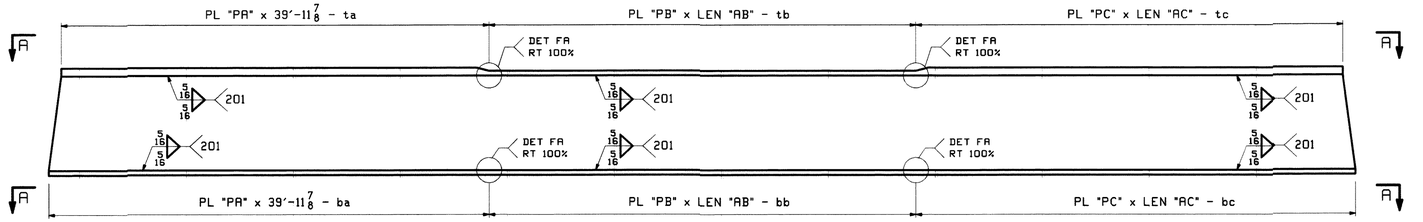
SECTION A-A FOR 6G1B THRU 10G5B

FLG THK	'A'
25	6
42	12



⚠ FLANGE PLATE SPLICE DETAIL 'FA'

LOCATION	RAD	ARC	CHD	AB	AC	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	BB	CB	C1	C2	C3	C4	C5	CC	WL1	WL2	WL3	HD1	HD2	PL PA (M270-50WT2)	PL PB (M270-50WT2)	PL PC (M270-50WT2)
6G1B TOP FLG	1130.92	131'-4 7/8	131'-4	51'-5 1/8	39'-11 7/8	2 1/8	2 1/16	1 3/4	1 3/8	3/4	3 1/2	3 3/8	2 15/16	2 1/4	1 1/4	5'-1 11/16	51'-5 1/16	2 1/8	2 1/16	1 3/4	1 3/8	3/4	39'-11 7/8	39'-11 7/16	51'-5 1/16	39'-11 1/2	1'-7 3/8	1'-7 3/8	PL 1 1/2 x 16-ta (2/L)	PL 1 x 16-tb (3/C)	PL 1 1/2 x 16-tc (2/L)
6G1B BTM FLG	1130.92	131'-5 1/4	131'-4 3/8	51'-5 1/2	39'-11 7/8	2 1/8	2 1/16	1 3/4	1 3/8	3/4	3 1/2	3 3/8	2 15/16	2 1/4	1 1/4	5'-1 3/4	51'-5 7/16	2 1/8	2 1/16	1 3/4	1 3/8	3/4	39'-11 7/8	39'-11 7/16	51'-5 7/16	39'-11 1/2	1'-7 3/8	1'-7 3/8	PL 1 1/2 x 16-ba (2/L)	PL 1 1/2 x 16-bb (1/Q)	PL 1 1/2 x 16-bc (2/L)
7G2B TOP FLG	1138.42	130'-9 5/8	130'-8 3/4	50'-9 7/8	39'-11 7/8	2 1/8	2	1 3/4	1 3/8	3/4	3 3/8	3 1/4	2 7/8	2 3/16	1 1/4	5'-1	50'-9 7/8	2 1/8	2	1 3/4	1 3/8	3/4	39'-11 13/16	39'-11 7/16	50'-9 7/8	39'-11 7/16	1'-7 1/8	1'-7 1/8	PL 1 1/2 x 16-ta (2/L)	PL 1 x 16-tb (3/E)	PL 1 1/2 x 16-tc (2/L)
7G2B BTM FLG	1138.42	130'-9 15/16	130'-9 1/16	50'-10 1/4	39'-11 13/16	2 1/8	2	1 3/4	1 3/8	3/4	3 7/16	3 1/4	2 7/8	2 3/16	1 1/4	5'-1	50'-10 3/16	2 1/8	2	1 3/4	1 3/8	3/4	39'-11 13/16	39'-11 7/16	50'-10 3/16	39'-11 7/16	1'-7 1/8	1'-7 1/8	PL 1 1/2 x 16-ta (2/L)	PL 1 1/2 x 16-bb (1/S)	PL 1 1/2 x 16-bc (2/L)
8G3B TOP FLG	1145.92	130'-2 11/16	130'-1 7/8	50'-2 15/16	39'-11 7/8	2 1/16	2	1 3/4	1 5/16	3/4	3 5/16	3 3/16	2 3/4	2 1/8	1 3/16	5'-0 5/16	50'-2 15/16	2 1/16	2	1 3/4	1 5/16	3/4	39'-11 13/16	39'-11 1/2	50'-2 15/16	39'-11 7/16	1'-6 7/8	1'-6 7/8	PL 1 1/2 x 16-ta (2/L)	PL 1 x 16-tb (3/G)	PL 1 1/2 x 16-tc (2/L)
8G3B BTM FLG	1145.92	130'-3 1/16	130'-2 1/4	50'-3 5/16	39'-11 7/8	2 1/16	2	1 3/4	1 5/16	3/4	3 5/16	3 3/16	2 3/4	2 1/8	1 3/16	5'-0 5/16	50'-3 1/4	2 1/16	2	1 3/4	1 5/16	3/4	39'-11 7/8	39'-11 1/2	50'-3 1/4	39'-11 1/2	1'-6 7/8	1'-6 7/8	PL 1 1/2 x 16-ba (2/L)	PL 1 1/2 x 16-bb (1/U)	PL 1 1/2 x 16-bc (2/L)
9G4B TOP FLG	1153.42	129'-8	129'-7 3/16	49'-8 1/4	39'-11 7/8	2 1/16	2	1 3/4	1 5/16	3/4	3 3/16	3 1/16	2 11/16	2 1/16	1 1/8	4'-11 5/8	49'-8 1/4	2 1/16	2	1 3/4	1 5/16	3/4	39'-11 13/16	39'-11 1/2	49'-8 1/4	39'-11 7/16	1'-6 5/8	1'-6 5/8	PL 1 1/2 x 16-ta (2/L)	PL 1 x 16-tb (3/J)	PL 1 1/2 x 16-tc (2/L)
9G4B BTM FLG	1153.42	129'-8 3/8	129'-7 9/16	49'-8 5/8	39'-11 7/8	2 1/16	2	1 3/4	1 5/16	3/4	3 3/16	3 1/16	2 11/16	2 1/16	1 3/16	4'-11 11/16	49'-8 5/8	2 1/16	2	1 3/4	1 5/16	3/4	39'-11 13/16	39'-11 1/2	49'-8 9/16	39'-11 1/2	1'-6 5/8	1'-6 5/8	PL 1 1/2 x 16-ta (2/L)	PL 1 1/2 x 16-bb (1/W)	PL 1 1/2 x 16-bc (2/L)
10G5B TOP FL	1160.92	129'-1 9/16	129'-0 3/4	49'-1 13/16	39'-11 7/8	2 1/16	2	1 3/4	1 5/16	3/4	3 1/8	3	2 5/8	2	1 1/8	4'-11	49'-1 3/4	2 1/16	2	1 3/4	1 5/16	3/4	39'-11 13/16	39'-11 1/2	49'-1 3/4	39'-11 1/2	1'-6 7/16	1'-6 7/16	PL 1 1/2 x 16-ta (2/L)	PL 1 x 16-tb (3/L)	PL 1 1/2 x 16-tc (2/L)
10G5B BTM FL	1160.92	129'-1 15/16	129'-1 1/8	49'-2 1/4	39'-11 13/16	2 1/16	2	1 3/4	1 5/16	3/4	3 1/8	3	2 5/8	2	1 1/8	4'-11	49'-2 3/16	2 1/16	2	1 3/4	1 5/16	3/4	39'-11 13/16	39'-11 1/2	49'-2 3/16	39'-11 7/16	1'-6 7/16	1'-6 7/16	PL 1 1/2 x 16-ta (2/L)	PL 1 1/2 x 16-bb (1/Y)	PL 1 1/2 x 16-bc (2/L)



FLANGE DIAGRAM FOR 6G1B THRU 10G5B

NOTES:
1. FOR GENERAL SHOP NOTES SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	2/22 2010	APPROVAL COMMENT ADD THK TRANSITION	SOB	SOB		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-50W		AS NOTED	AS NOTED

DESCRIPTION: FLANGE DIAGRAM

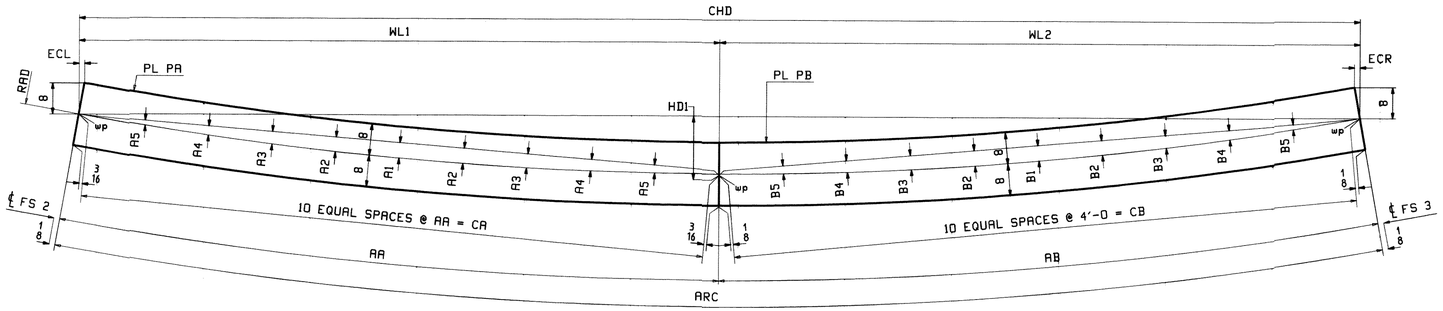
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

TENSOR 2945

STRUCTURE: U.S. 5 over I-91 Bridge No. 19A Putney County of Windham	DRAWN: JB	DATE: 01/05	
	CHKD: SOB	DATE: 01/08	
LOCATION: Putney	JOB NO. 438	DWG NO. F2	
PROJ NO. IM 091-1(3)		REV. 1	
CUSTOMER: VT AOT			

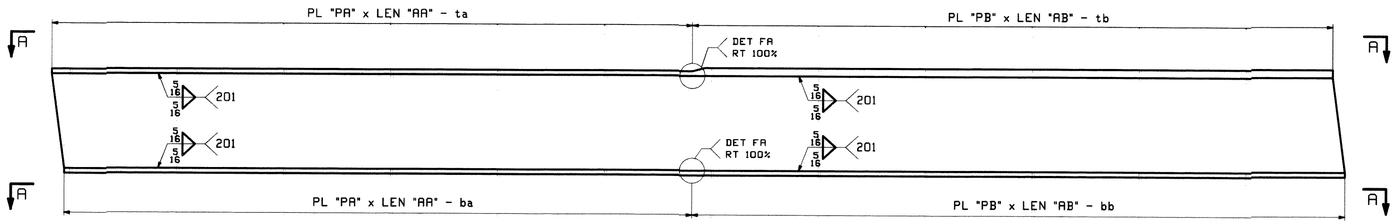
SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE
NO EXCEPTIONS TAKEN
REVISE AS NOTED
RESUBMISSION NOT REQUIRED
REVISE AND RESUBMIT
RESUBMISSION NOT REQUIRED
REJECTED
DATE 4/23/10
SIGNATURE
REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASSESSING CONFORMANCE WITH DESIGN CONCEPT AND COMPLIANCE WITH CONTRACT DOCUMENTS. DIMENSIONS, FABRICATION, SITE CONSTRUCTION METHODS, COORDINATION WITH TRADES, DETAIL DESIGN OF COMPONENTS AND ERRORS OR OMISSIONS ON SHOP DRAWINGS

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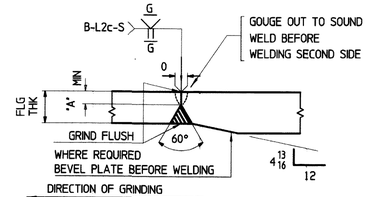
SECTION A-A FOR 11G1C THRU 15G5C

LOCATION	RAD	ARC	CHD	AA	AB	A1	A2	A3	A4	A5	AA	CA	B1	B2	B3	B4	B5	CB	ECL	ECR	WL1	WL2	HDI	PL PA (M270-50WT2)	PL PB (M270-50WT2)
11G1C TOP FL	1130.92	100'-4 15/16	100'-4 9/16	60'-5 1/16	39'-11 7/8	4 13/16	4 5/8	4 1/16	3 1/8	1 3/4	6'-0 1/2	60'-5	2 1/8	2 1/16	1 3/4	1 3/8	3/4	39'-11 7/8	3/8	3/8	60'-4 7/8	39'-11 11/16	1'-0 13/16	PL 1 x 16-ta (2/S)	PL 1 1/2 x 16-tb (2/L)
11G1C BTM FL	1130.92	100'-4 3/4	100'-4 3/8	60'-4 15/16	39'-11 13/16	4 13/16	4 5/8	4 1/16	3 1/8	1 3/4	6'-0 1/2	60'-4 13/16	2 1/8	2 1/16	1 3/4	1 3/8	3/4	39'-11 13/16	3/8	3/8	60'-4 3/4	39'-11 5/8	1'-0 13/16	PL 1 1/2 x 16-ba (1/E)	PL 1 1/2 x 16-bb (2/L)
12G2C TOP FL	1138.42	99'-5 3/4	99'-5 3/8	59'-5 7/8	39'-11 7/8	4 11/16	4 1/2	3 15/16	3	1 11/16	5'-11 3/8	59'-5 13/16	2 1/8	2	1 3/4	1 3/8	3/4	39'-11 7/8	3/8	3/8	59'-5 11/16	39'-11 11/16	1'-0 9/16	PL 1 x 16-ta (2/U)	PL 1 1/2 x 16-tb (2/L)
12G2C BTM FL	1138.42	99'-5 11/16	99'-5 5/16	59'-5 13/16	39'-11 7/8	4 11/16	4 1/2	3 15/16	3	1 11/16	5'-11 3/8	59'-5 3/4	2 1/8	2	1 3/4	1 3/8	3/4	39'-11 13/16	3/8	3/8	59'-5 5/8	39'-11 11/16	1'-0 9/16	PL 1 1/2 x 16-ba (1/G)	PL 1 1/2 x 16-bb (2/L)
13G3C TOP FL	1145.92	98'-7 1/8	98'-6 3/4	58'-7 1/4	39'-11 7/8	4 1/2	4 5/16	3 3/4	2 7/8	1 5/8	5'-10 5/16	58'-7 1/8	2 1/16	2	1 3/4	1 5/16	3/4	39'-11 7/8	3/8	5/16	58'-7	39'-11 3/4	1'-0 1/4	PL 1 x 16-ta (2/W)	PL 1 1/2 x 16-tb (2/L)
13G3C BTM FL	1145.92	98'-7 1/8	98'-6 3/4	58'-7 1/4	39'-11 7/8	4 1/2	4 5/16	3 3/4	2 7/8	1 5/8	5'-10 5/16	58'-7 1/8	2 1/16	2	1 3/4	1 5/16	3/4	39'-11 7/8	3/8	5/16	58'-7	39'-11 3/4	1'-0 1/4	PL 1 1/2 x 16-ba (1/J)	PL 1 1/2 x 16-bb (2/L)
14G4C TOP FL	1153.42	97'-8 15/16	97'-8 9/16	57'-9 1/16	39'-11 7/8	4 5/16	4 3/16	3 5/8	2 3/4	1 9/16	5'-9 5/16	57'-9	2 1/16	2	1 3/4	1 5/16	3/4	39'-11 7/8	5/16	5/16	57'-8 7/8	39'-11 11/16	1'-0	PL 1 x 16-ta (2/Y)	PL 1 1/2 x 16-tb (2/L)
14G4C BTM FL	1153.42	97'-8 15/16	97'-8 9/16	57'-9 1/16	39'-11 7/8	4 5/16	4 3/16	3 5/8	2 3/4	1 9/16	5'-9 5/16	57'-9	2 1/16	2	1 3/4	1 5/16	3/4	39'-11 13/16	5/16	5/16	57'-8 7/8	39'-11 11/16	1'-0	PL 1 1/2 x 16-ba (1/L)	PL 1 1/2 x 16-bb (2/L)
15G5C TOP FL	1160.92	96'-11 1/4	96'-10 15/16	56'-11 3/8	39'-11 7/8	4 3/16	4	3 1/2	2 11/16	1 1/2	5'-8 5/16	56'-11 5/16	2 1/16	2	1 3/4	1 5/16	3/4	39'-11 13/16	5/16	5/16	56'-11 1/4	39'-11 11/16	11 3/4	PL 1 x 16-ta (3/A)	PL 1 1/2 x 16-tb (2/L)
15G5C BTM FL	1160.92	96'-11 3/16	96'-10 7/8	56'-11 3/8	39'-11 13/16	4 3/16	4	3 1/2	2 11/16	1 1/2	5'-8 5/16	56'-11 5/16	2 1/16	2	1 3/4	1 5/16	3/4	39'-11 3/4	5/16	5/16	56'-11 1/4	39'-11 5/8	11 3/4	PL 1 1/2 x 16-ba (1/N)	PL 1 1/2 x 16-bb (2/L)



FLANGE DIAGRAM FOR 11G1C THRU 15G5C

FLG THK	'A'
25	6
42	12



⚠ **FLANGE PLATE SPLICE DETAIL 'FA'**

NOTES:
1. FOR GENERAL SHOP NOTES SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠	2/23/2010	APPROVAL COMMENT ADD THK TRANSITION	SOB	SOB		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-50W		AS NOTED	AS NOTED

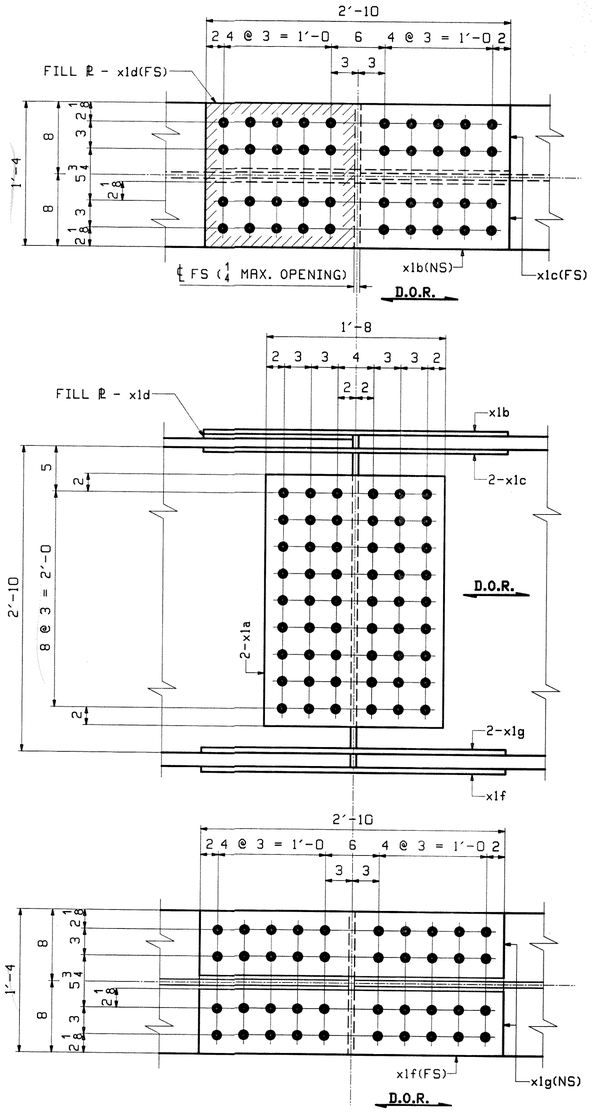
DESCRIPTION: FLANGE DIAGRAM

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2545

STRUCTURE:	DRAWN:	DATE:
U.S. 5 over I-91 Bridge No. 19A Putney County of Windham	JB	01/05
	CHKD: SOB	DATE: 01/08
LOCATION: Putney	JOB NO. 438	DWG NO. F3
PROJ NO. IM 091-1(3)		REV. ⚠
CUSTOMER: VT AOT		

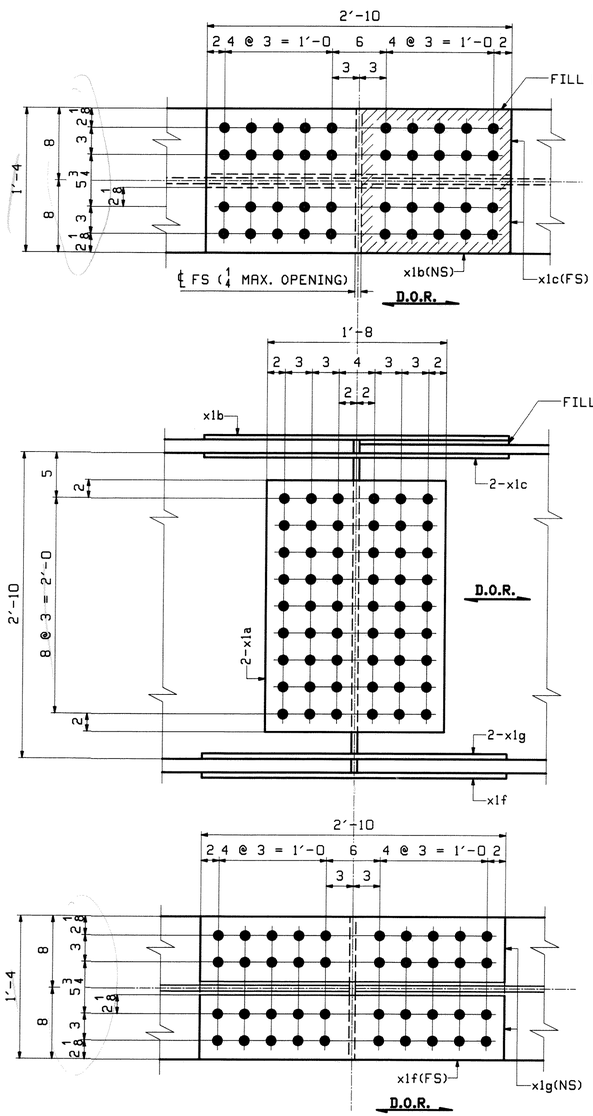
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SOB



5 - FIELD SPLICE DETAIL - X1M1

FIELD SPLICE 1



10 - FIELD SPLICE DETAIL - X1M2

FIELD SPLICE 2 & 3

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO. 438
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS
		X1M1	5		FIELD SPLICE			
6	B		10	x1a	PL 1/2×28	1	8	M270-50WT2
6	C		5	x1b	PL 1/2×16	2	10	M270-50WT2
6	E		10	x1c	PL 1/2×7 1/4	2	10	M270-50WT2
6	G		5	x1d	PL 1/2×16	1	4 7/8	FILL
6	D		5	x1f	PL 5/8×16	2	10	M270-50WT2
6	F		10	x1g	PL 5/8×7 1/4	2	10	M270-50WT2
		X1M2	10		FIELD SPLICE			
6	B		20	x1a	PL 1/2×28	1	8	M270-50WT2
6	C		10	x1b	PL 1/2×16	2	10	M270-50WT2
6	E		20	x1c	PL 1/2×7 1/4	2	10	M270-50WT2
6	G		10	x1d	PL 1/2×16	1	4 7/8	FILL
6	D		10	x1f	PL 5/8×16	2	10	M270-50WT2
6	F		20	x1g	PL 5/8×7 1/4	2	10	M270-50WT2

CHECK THICKNESS, # 2x1's

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1.
2. HOLES IN SPLICE PLATES ARE PRE-DRILLED. ENDS OF GIRDERS ARE DRILLED FROM SOLID USING SPLICE PLATES AS A TEMPLATE.
3. **D.O.R.** DENOTES DIRECTION OF MILL ROLLING

REV.	DATE	REMARKS	DWN	CHK
0				

MATERIAL: M270-50WT2	SURFACE PREP. & PAINT: NONE	HOLES: 15/16"ø

DESCRIPTION: FIELD SPLICE DETAILS

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

LOCATION: Putney

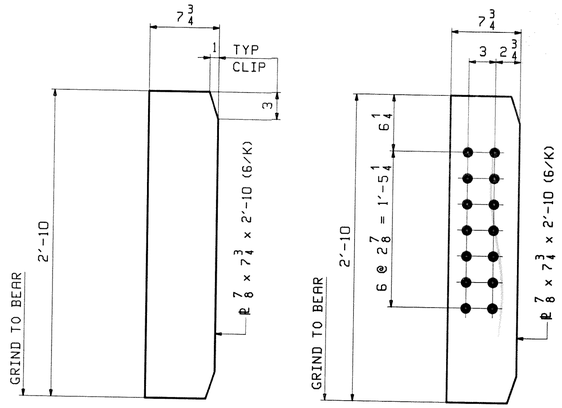
PROJ NO. IM 091-1(31)

CUSTOMER: VT AOT

DRAWN: W
CHKD: D
JOB: 43

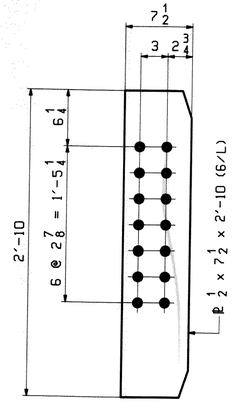
THIS DRAWING ARE REVIEWED / RELEASED WITH THE FOLLOWING EXCEPTIONS:
NO EXCEPTIONS TAKEN
MAKE CORRECTIONS NOTED
REVISE AND RESUBMIT
SUBMIT SPECIFIED ITEMS
REJECTED
Scantec
DATE 2/9/10
SIGNATURE
REVIEW BY SIGNATORY IS FOR THE SOLE PURPOSES OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR TRADEMARKS, FABRICATION, CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS AND ERRORS OR OMISSIONS ON SHOP DRAWINGS.

Fri, Jan 22, 2010 10:58:48 am J:\steel\jobs\2940\51 SA1.0

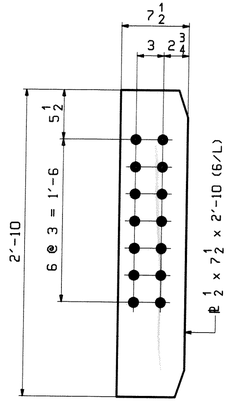


46 - x2a
BRG. STIFF

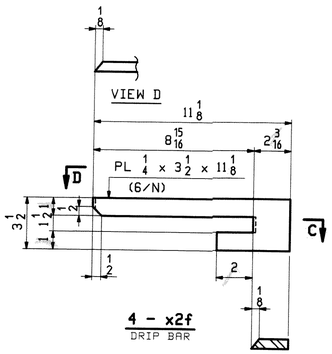
4 - x2b
BRG. STIFF



36 - x2c

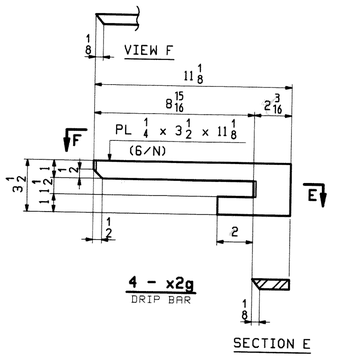


128 - x2d



4 - x2f
DRIP BAR

SECTION C



4 - x2g
DRIP BAR

SECTION E

NOTES:
FOR GENERAL NOTES SEE DRAWING GN

REV.	DATE	REMARKS	DWN	CHK	AP
0					JAN 2

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SH
M270-50W	SEE GN1	15/16"ø	

DESCRIPTION: GIRDER STANDARDS

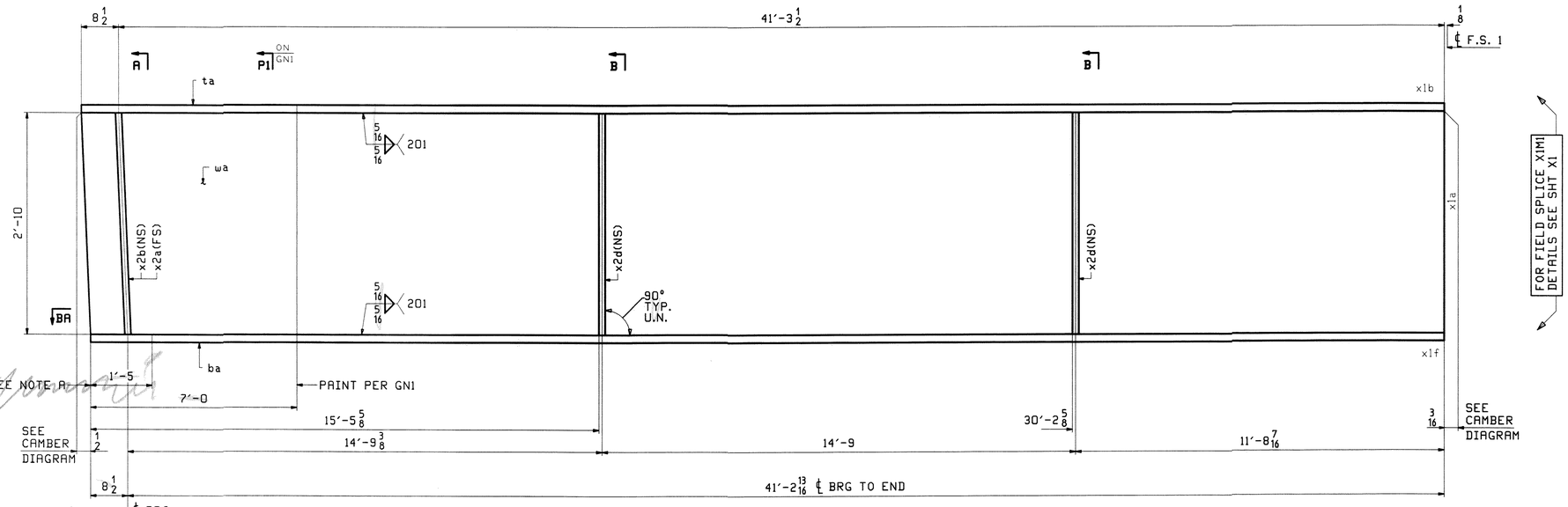
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

STRUCTURE: U.S. 5 over I-91 Bridge No. 19A Putney County of Windham	DRAWN: WJ CHKD: DO
LOCATION: Putney	JOB N
PROJ NO. IM 091-1(31)	43
CUSTOMER: VT AOT	

2/9/10

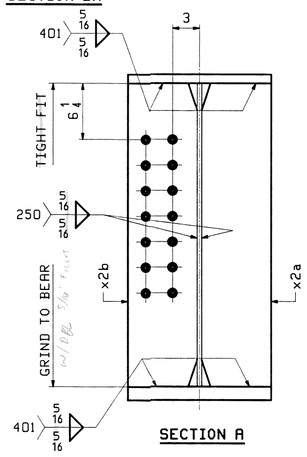
Fri, Jan 29, 2010 11:56:58 AM J:\AMY\JOBS\2845\X2 Rev0

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO. 438
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS
		1G1A	1		GIRDER			
5	L		1	wa	PL $\frac{1}{2}$x34	42	0	M270-50WT2
3	N		1	ta	PL 1x16	42	0	M270-50WT2
2	A		1	ba	PL 1$\frac{1}{2}$x16	41	11$\frac{5}{16}$	M270-50WT2
6	K		1	x2a	PL $\frac{7}{8}$x7$\frac{3}{4}$	2	10	MIE
6	K		1	x2b	PL $\frac{7}{8}$x7$\frac{3}{4}$	2	10	MIE
6	L		2	x2d	PL $\frac{1}{2}$x7$\frac{1}{2}$	2	10	

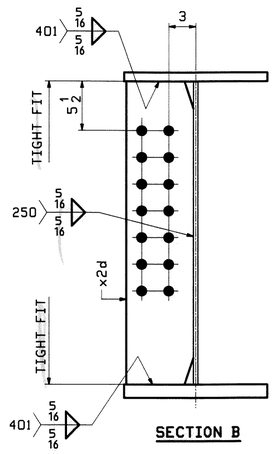


FOR FIELD SPLICE X1M1 DETAILS SEE SHT X1

SECTION BA



SECTION A

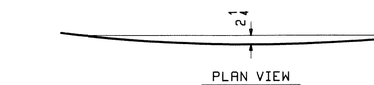


SECTION B

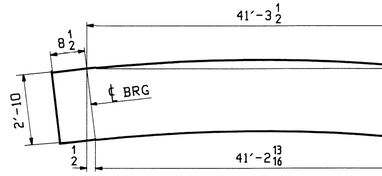
ONE - GIRDER - 1G1A (DEV)

FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C1
FOR FLANGE DIAGRAM SEE SHEET F1
FOR GENERAL NOTES SEE SHEET GN1

NOTE A:
NO PAINT BOTTOM AND EDGES OF BOTTOM FLANGE.



PLAN VIEW



DEV. ORIENTATION DIAGRAM

REV.	DATE	REMARKS	DWN	CHK
0				

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:
M270-50W (UN)	SEE GN1	15/16"Ø U.N.

DESCRIPTION: GIRDER - 1G1A

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putnam
County of Windham

LOCATION: Putney

PROJ NO. IM 091-1(31)

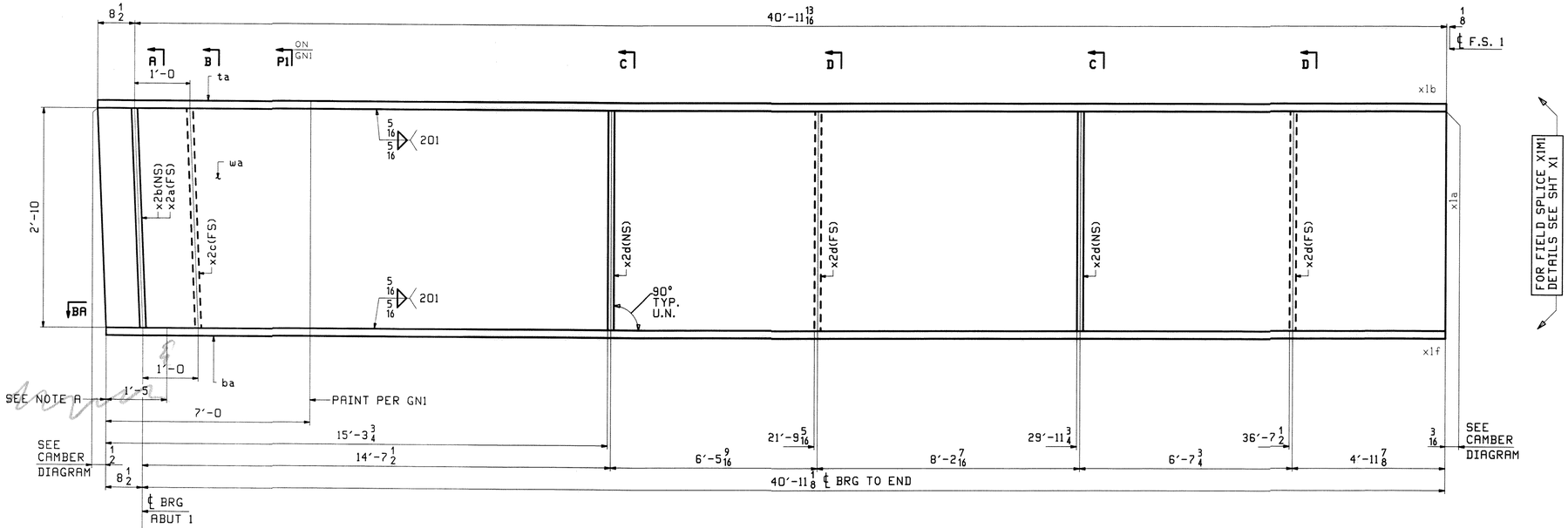
CUSTOMER: VT AOT

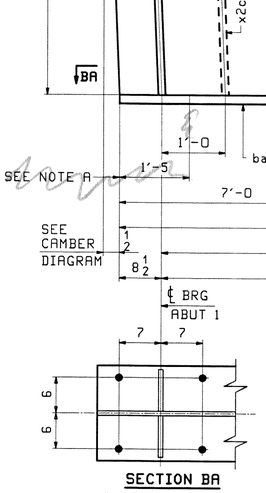
DR
CH
J

SHOP DRAWING REVIEW
NO EXCEPTIONS MADE
REVISE AS NOTED
NOT APPROVED
RESUBMISSION REQUIRED
REJECTED
DATE 2/9/10
SIGNATURE
REVIEW BY SEAMEC IS FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS. COORDINATION OF SUB-TRADES, DETAILS, DESIGN OF COMPONENTS AND ERRORS OR OMISSIONS ON SHOP DRAWINGS.

DO Fri, Jan 22, 2010 11:57:07 AM J:\casco\jobs\2945\1 Rev0

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAW
								438	2
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT
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5	N		1	wa	PL $\frac{1}{2}$x34	41	8 $\frac{5}{16}$	M270-50WT2	
3	Q		1	ta	PL 1x16	41	8 $\frac{5}{16}$	M270-50WT2	
2	C		1	ba	PL $1\frac{1}{2}$x16	41	7 $\frac{7}{8}$	M270-50WT2	
6	K		1	x2a	PL $\frac{7}{8}$x7 $\frac{3}{4}$	2	10	MIE	
6	K		1	x2b	PL $\frac{7}{8}$x7 $\frac{3}{4}$	2	10	MIE	
6	L		1	x2c	PL $\frac{1}{2}$x7 $\frac{1}{2}$	2	10		
6	L		4	x2d	PL $\frac{1}{2}$x7 $\frac{1}{2}$	2	10		

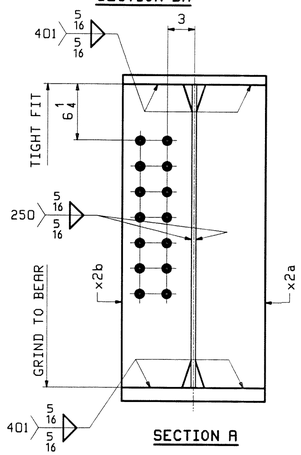




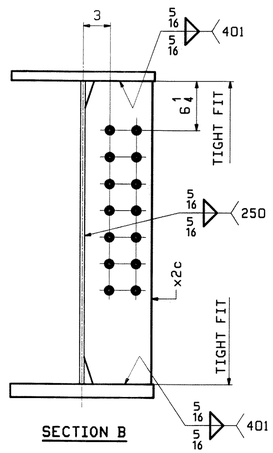
SECTION BA

ONE - GIRDER - 2G2A (DEV)

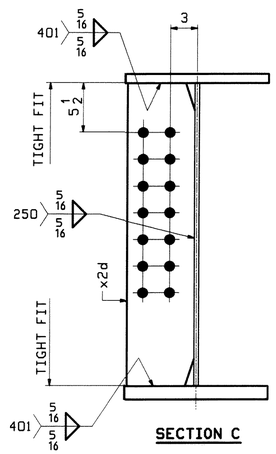
FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C1
FOR FLANGE DIAGRAM SEE SHEET F1
FOR GENERAL NOTES SEE SHEET GN1



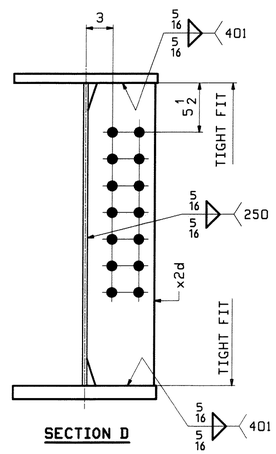
SECTION A



SECTION B

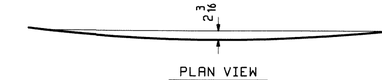


SECTION C

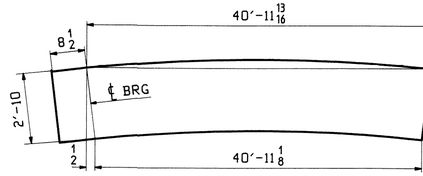


SECTION D

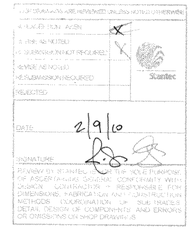
NOTE A;
NO PAINT BOTTOM AND EDGES OF BOTTOM FLANGE.



PLAN VIEW



DEV. ORIENTATION DIAGRAM



REV.	DATE	REMARKS	DWN	CHK	APVL
0					JAN 2

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP
M270-50W (UN)	SEE GN1	15/16"Ø U.N.	

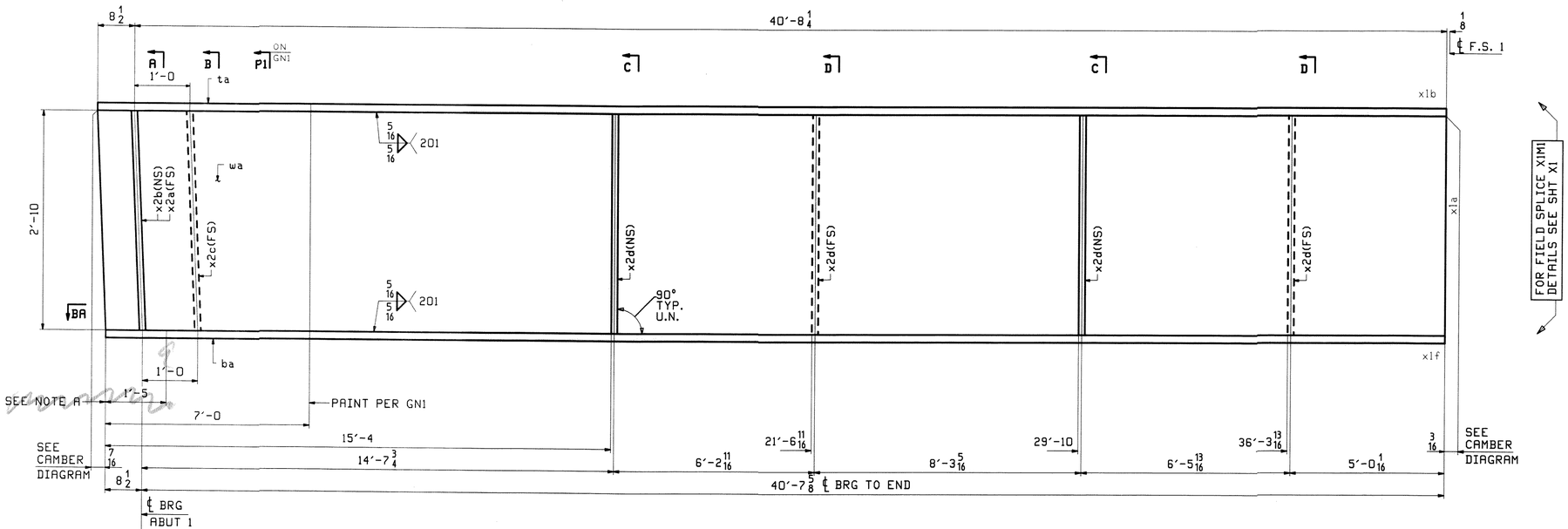
DESCRIPTION: GIRDER - 2G2A

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

STRUCTURE:	U.S. 5 over I-91 Bridge No. 19A Putney County of Windham	DRAWN: WJF CHKD: DO
LOCATION:	Putney	JOB NO.
PROJ NO.	IM 091-1(31)	438
CUSTOMER:	VT AOT	

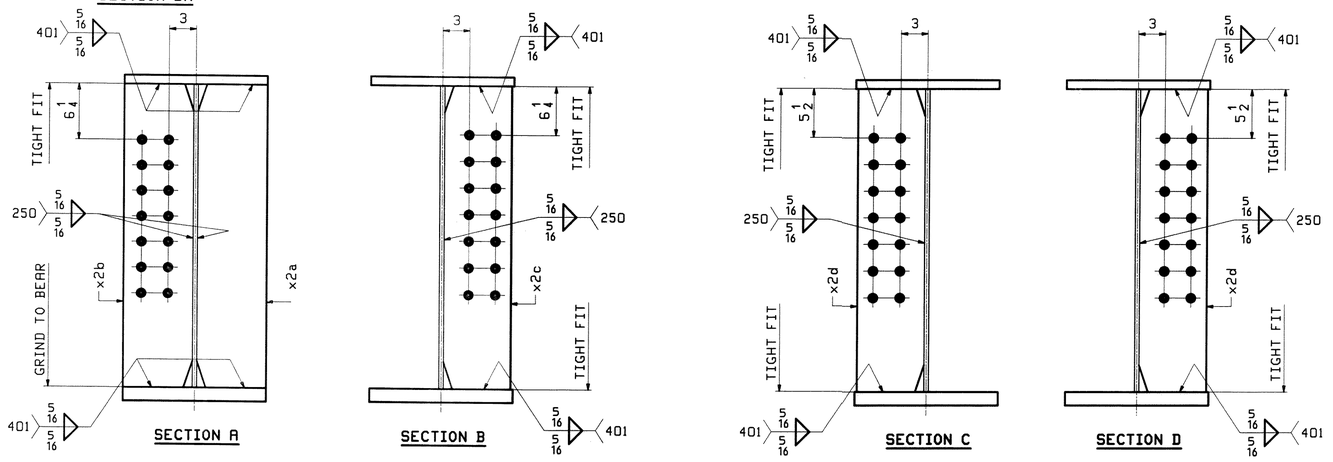
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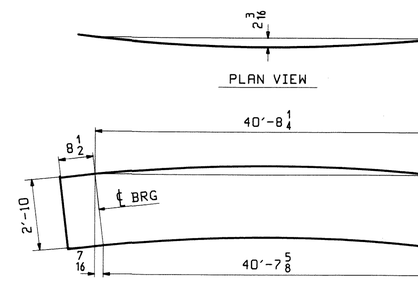
ABM INFO		SHIP	BILL OF MATERIAL						JOB NO. 438	DI
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS		WT
		3G3A	1		GIRDER					83
5	Q		1	wa	PL $\frac{1}{2}$x34	41	4 $\frac{3}{4}$	M270-50WT2		
3	S		1	ta	PL 1x16	41	4 $\frac{3}{4}$	M270-50WT2		
2	E		1	ba	PL 1 $\frac{1}{2}$x16	41	4 $\frac{1}{8}$	M270-50WT2		
6	K		1	x2a	PL $\frac{7}{8}$x7 $\frac{3}{4}$	2	10	MIE		
6	K		1	x2b	PL $\frac{7}{8}$x7 $\frac{3}{4}$	2	10	MIE		
6	L		1	x2c	PL $\frac{1}{2}$x7 $\frac{1}{2}$	2	10			
6	L		4	x2d	PL $\frac{1}{2}$x7 $\frac{1}{2}$	2	10			



ONE - GIRDER - 3G3A (DEV)

FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C1
FOR FLANGE DIAGRAM SEE SHEET F1
FOR GENERAL NOTES SEE SHEET GN1





NOTE A:
NO PAINT BOTTOM AND EDGES OF BOTTOM FLANGE.

REV.	DATE	REMARKS	DWN	CHK	APV
0					JAN 2

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SH
M270-50W (UN)	SEE GN1	15/16"ø U.N.	

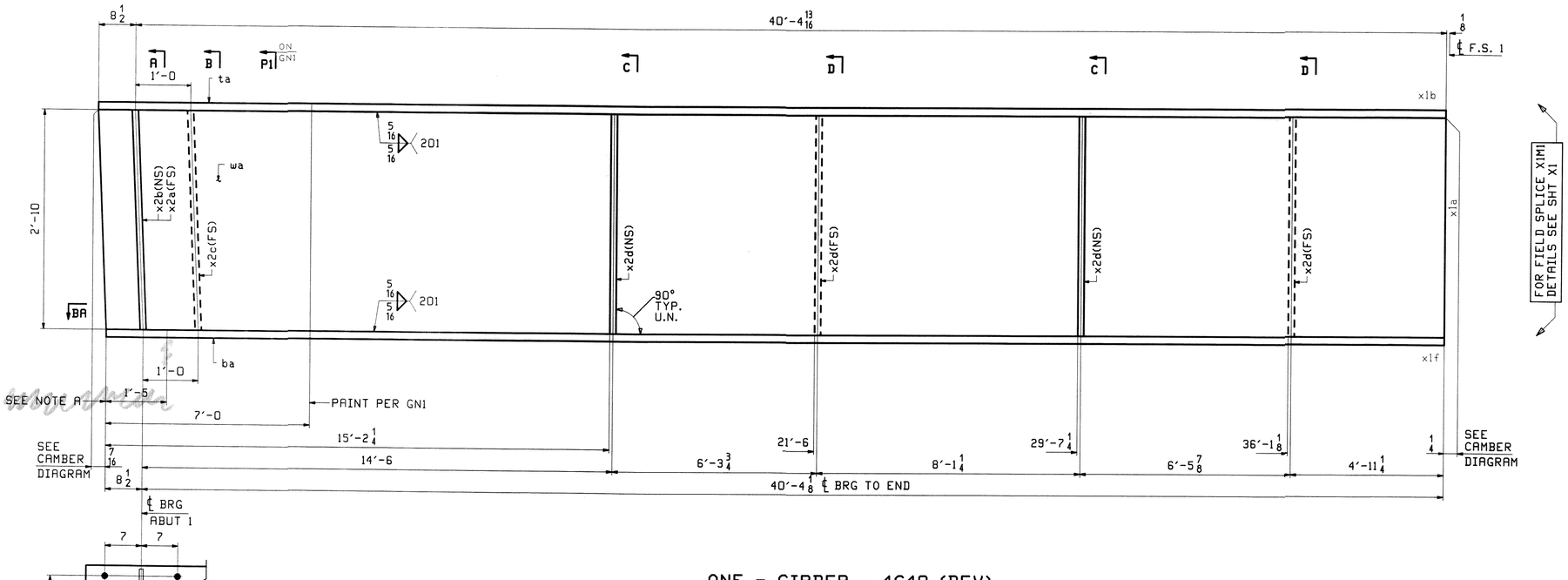
DESCRIPTION: GIRDER - 3G3A

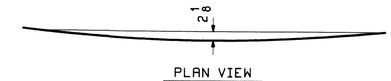
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

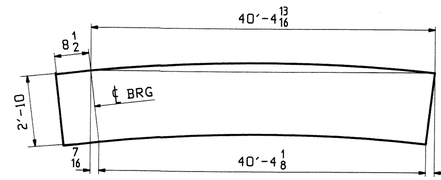
STRUCTURE:	U.S. 5 over I-91 Bridge No. 19A Putney County of Windham	DRAWN:	WJF
		CHK'D:	DO
LOCATION:	Putney	JOB N	
PROJ NO.	IM 091-1(31)	438	
CUSTOMER:	VT AOT		

BD Fri, Jan 22, 2010 10:57:08 AM J:\steel\jobs\2362\3 - Rev0

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING
								438	4
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	P
		4G4A	1		GIRDER				82BO	
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3	U		1	ta	PL 1x16	41	$1\frac{5}{16}$	M270-50WT2		
2	G		1	ba	PL $1\frac{1}{2}$x16	41	$0\frac{5}{8}$	M270-50WT2		
6	K		1	x2a	PL $\frac{7}{8}$x$7\frac{3}{4}$	2	10	MIE		
6	K		1	x2b	PL $\frac{7}{8}$x$7\frac{3}{4}$	2	10	MIE		
6	L		1	x2c	PL $\frac{1}{2}$x$7\frac{1}{2}$	2	10			
6	L		4	x2d	PL $\frac{1}{2}$x$7\frac{1}{2}$	2	10			



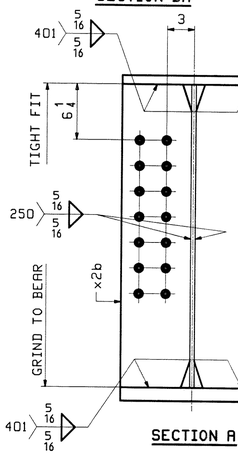




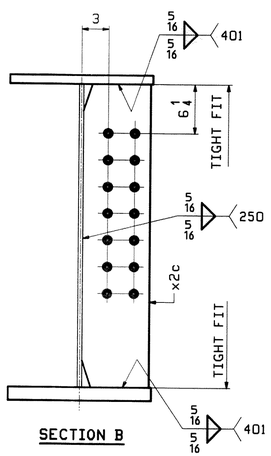
DEV. ORIENTATION DIAGRAM

ONE - GIRDER - 4G4A (DEV)

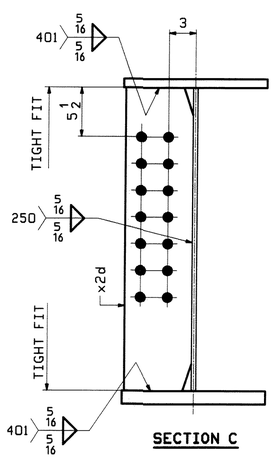
FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C1
FOR FLANGE DIAGRAM SEE SHEET F1
FOR GENERAL NOTES SEE SHEET GN1



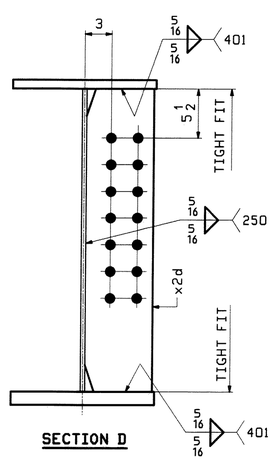
SECTION A



SECTION B



SECTION C



SECTION D

NOTE A:
NO PAINT BOTTOM AND EDGES OF BOTTOM FLANGE.

SHOP DRAWINGS ARE REVIEWED ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING THE WORK OF ALL SUBTRADES; AND THE SATISFACTORY PERFORMANCE OF ALL CONSTRUCTION.
REVIEWED AS NOTED
RESUBMISSION NOT REQUIRED
REVISE AS NOTED
RESUBMISSION REQUIRED
NOT RELEASED
DATE 2/9/16
SIGNATURE
REVIEW BY STANTEC FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR: DIMENSIONS; FABRICATION AND CONSTRUCTION METHODS; COORDINATION OF SUB-TRADES; DETAIL DESIGN OF COMPONENTS; AND ERRORS OR OMISSIONS ON SHOP DRAWINGS

REV.	DATE	REMARKS	DWN	CHK	APVL
0					JAN 2 9 2016

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOL
M270-50W (UN)	SEE GN1	$\frac{15}{16}$"ø U.N.	

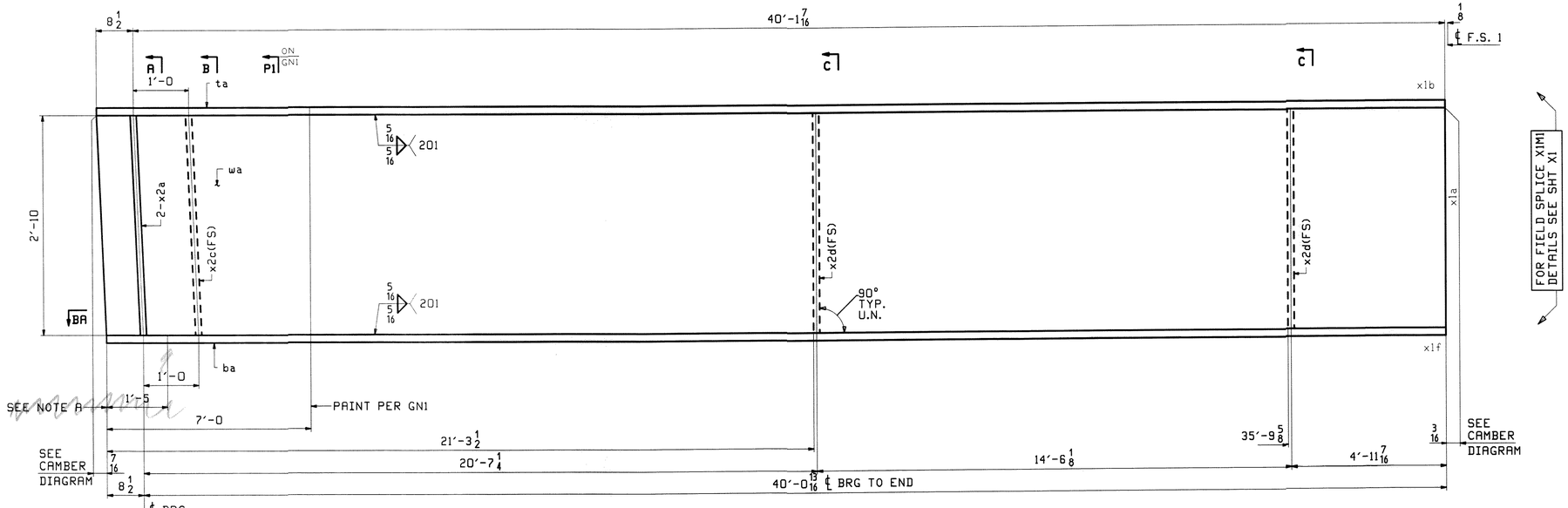
DESCRIPTION: GIRDER - 4G4A

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

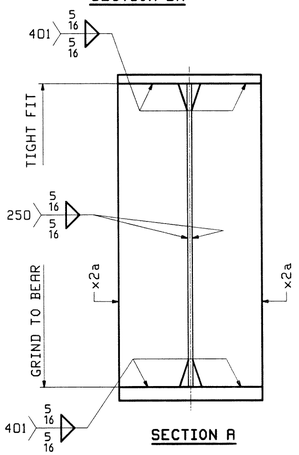
STRUCTURE:	U.S. 5 over I-91 Bridge No. 19A Putney County of Windham	DRAWN:	WJF
		CHKD:	DO
LOCATION:	Putney	JOB NO.	438
PROJ NO.	IM 091-1(31)		
CUSTOMER:	VT AOT		

Fri, Jan 29, 2016 11:57:28 AM //corp/proj/294574 : Rev:0
DO

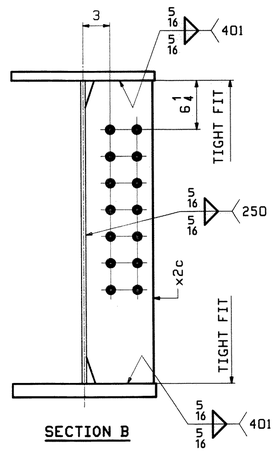
ABM INFO		SHIP	BILL OF MATERIAL						JOB NO.	DRAWING
									438	5
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PR
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5	U		1	wa	PL $\frac{1}{2}$x34	40	$9\frac{15}{16}$	M270-50WT2		
3	W		1	ta	PL 1x16	40	$9\frac{15}{16}$	M270-50WT2		
2	J		1	ba	PL $1\frac{1}{2}$x16	40	$9\frac{15}{16}$	M270-50WT2		
6	K		2	x2a	PL $\frac{7}{8}$x$7\frac{3}{4}$	2	10	M1E		
6	L		1	x2c	PL $\frac{1}{2}$x$7\frac{1}{2}$	2	10			
6	L		2	x2d	PL $\frac{1}{2}$x$7\frac{1}{2}$	2	10			



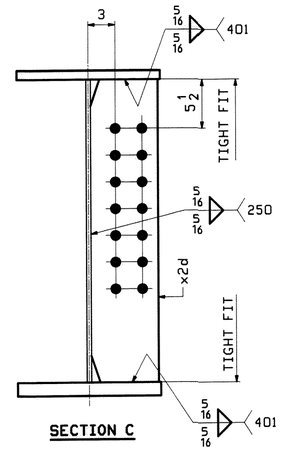
SECTION BA



SECTION A



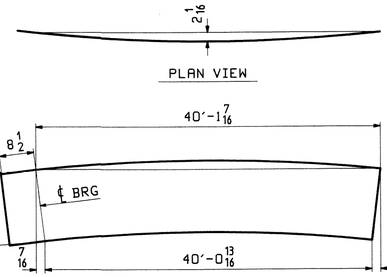
SECTION B



SECTION C

ONE - GIRDER - 5G5A (DEV)

FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C1
FOR FLANGE DIAGRAM SEE SHEET F1
FOR GENERAL NOTES SEE SHEET GN1



DEV. ORIENTATION DIAGRAM

NOTE A:
NO PAINT BOTTOM AND EDGES OF BOTTOM FLANGE.

REV.	DATE	REMARKS	DWN	CHK	APVL
0					

JAN 29 2010

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BO
M270-50W (UN)	SEE GN1	$\frac{15}{16}$"Ø U.N.	

DESCRIPTION: GIRDER - 5G5A

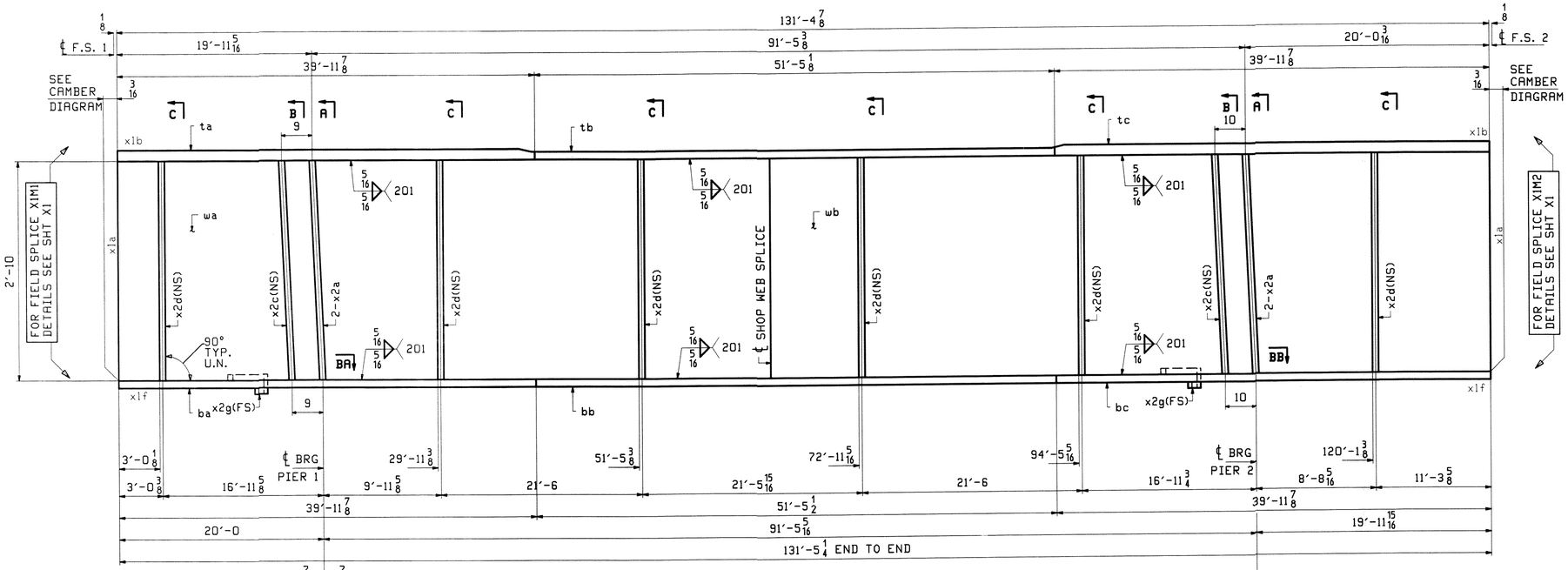
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

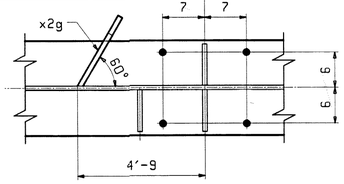
STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

DRAWN: WJF
CHKD: DO
JOB NO. 438

LOCATION: Putney
PROJ NO. IM 091-1(31)
CUSTOMER: VT AOT

Fri, Jan 29, 2010 11:57:37 AM J:\steel\2010\2045\5 | Rev:0

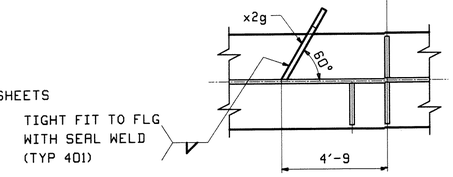




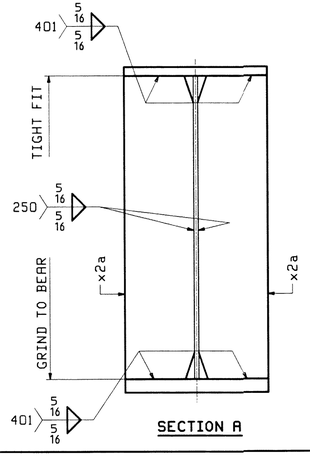
SECTION BA

ONE - GIRDER - 6G1B (DEV)

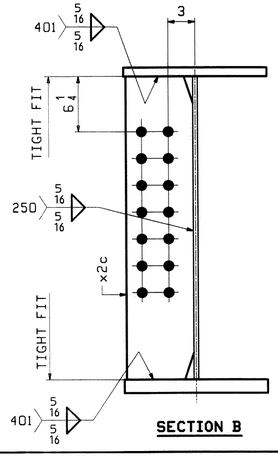
FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C1
FOR FLANGE DIAGRAM SEE SHEET F2
FOR GENERAL NOTES SEE SHEET GN1



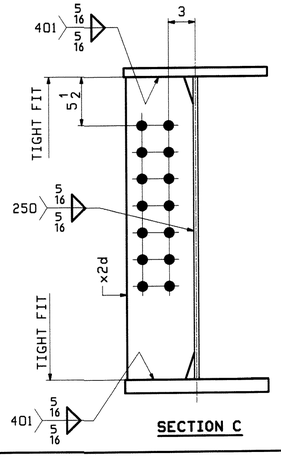
SECTION BB



SECTION A

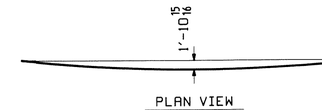


SECTION B

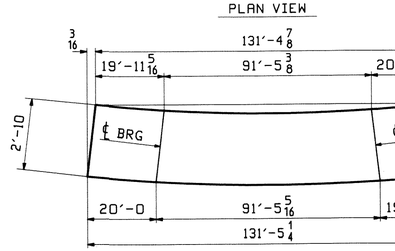


SECTION C

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO. 438
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS
		6G1B	1		GIRDER			
4	U		1	wa	PL 7/16×34	62	5 15/16	M270-50WT2
3	Y		1	wb	PL 7/16×34	68	11 7/16	M270-50WT2
2	L		1	ta	PL 1 1/2×16	39	11 7/8	M270-50WT2
3	C		1	tb	PL 1×16	51	5 1/8	M270-50WT2
2	L		1	tc	PL 1 1/2×16	39	11 7/8	M270-50WT2
2	L		1	ba	PL 1 1/2×16	39	11 7/8	M270-50WT2
1	Q		1	bb	PL 1 1/2×16	51	5 1/8	M270-50WT2
2	L		1	bc	PL 1 1/2×16	39	11 7/8	M270-50WT2
6	K		4	x2a	PL 7/8×7 3/4	2	10	MIE
6	L		2	x2c	PL 1/2×7 1/2	2	10	
6	L		6	x2d	PL 1/2×7 1/2	2	10	
6	N		2	x2g	PL 1/4×3 1/2	0	11 1/8	



PLAN VIEW



DEV. ORIENTATION DIAGRAM

REV.	DATE	REMARKS	DWN	CHK
0				

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:
M270-50W (UN)	SEE GN1	15/16"Ø U.N.

DESCRIPTION: GIRDER - 6G1B

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

LOCATION: Putney

PROJ NO. IM 091-1(31)

CUSTOMER: VT AOT

DRN

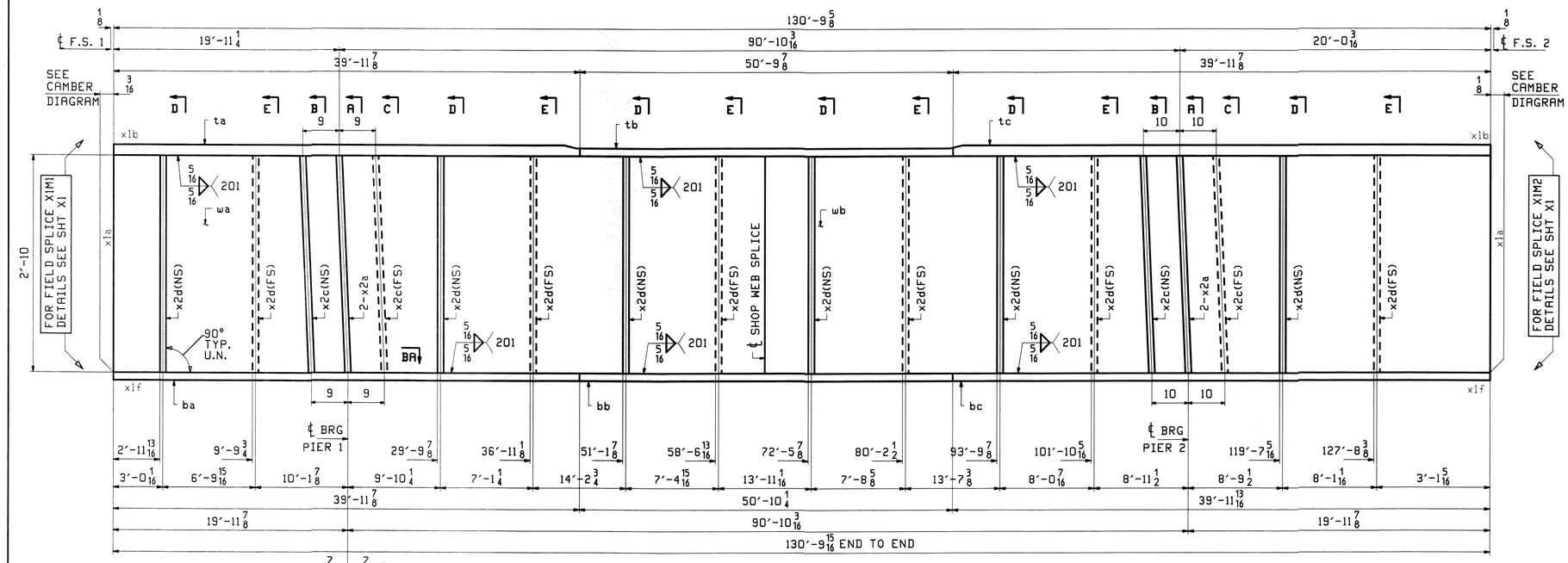
CHK

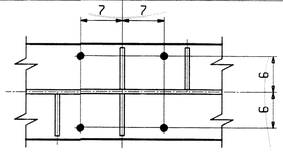
J

X

2/9/18

Fri Jan 22, 2010 10:10:45 am J:\work\jobs\2345\6_6x1.0

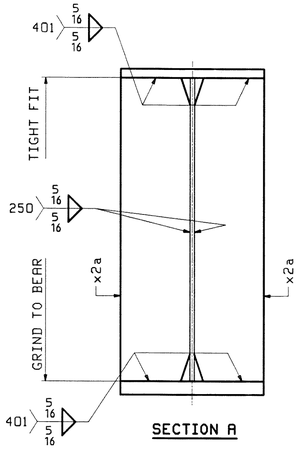




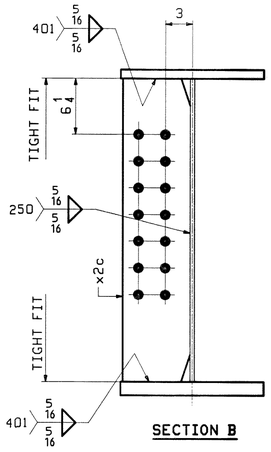
SECTION BA

ONE - GIRDER - 7G2B (DEV)

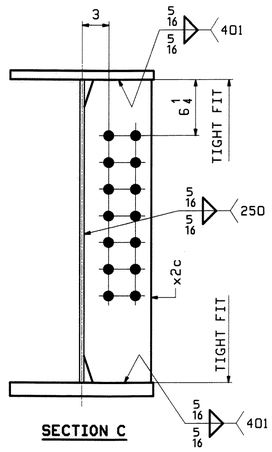
FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C1
FOR FLANGE DIAGRAM SEE SHEET F2
FOR GENERAL NOTES SEE SHEET GN1



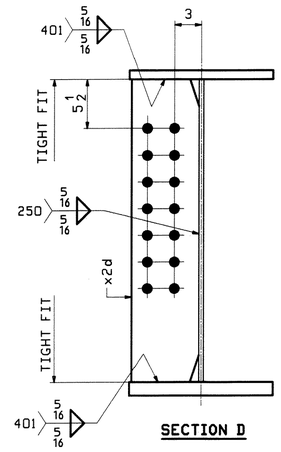
SECTION A



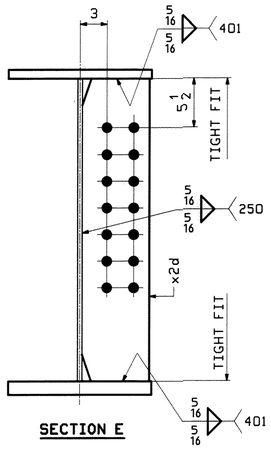
SECTION B



SECTION C

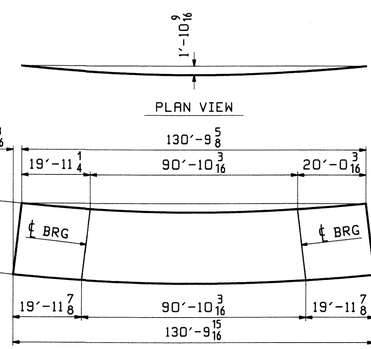


SECTION D



SECTION E

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING
								438	7
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT
		7G2B	1		GIRDER				28393
4	U		1	wa	PL 1/2×34	62	5 15/16	M270-50WT2	
4	A		1	wb	PL 1/2×34	68	4 1/8	M270-50WT2	
2	L		1	ta	PL 1 1/2×16	39	11 7/8	M270-50WT2	
3	E		1	tb	PL 1×16	50	9 5/8	M270-50WT2	
2	L		1	tc	PL 1 1/2×16	39	11 7/8	M270-50WT2	
2	L		1	ba	PL 1 1/2×16	39	11 7/8	M270-50WT2	
1	S		1	bb	PL 1 1/2×16	50	10 1/4	M270-50WT2	
2	L		1	bc	PL 1 1/2×16	39	11 13/16	M270-50WT2	
6	K		4	x2a	PL 7/8×7 3/4	2	10	MIE	
6	L		4	x2c	PL 1/2×7 1/2	2	10		
6	L		12	x2d	PL 1/2×7 1/2	2	10		



DEV. ORIENTATION DIAGRAM

REV.	DATE	REMARKS	DWN	CHK	APVL
0					JAN 2 6 2011

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BO
M270-50W (UN)	SEE GN1	15/16" ø U.N.	

DESCRIPTION: GIRDER - 7G2B

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

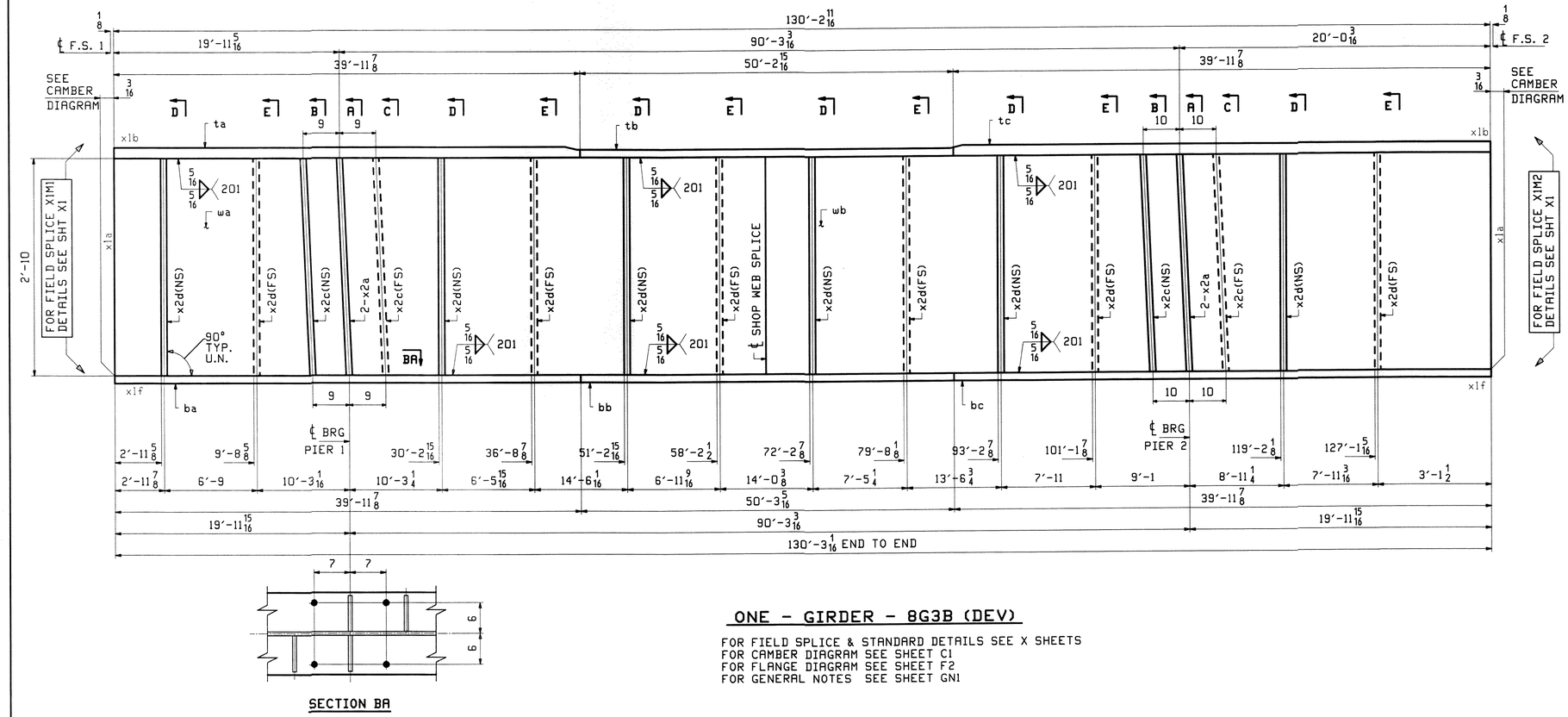
DRAWN: WJF
CHKD: DO

LOCATION: Putney
JOB NO. 438
PROJ NO. IM 091-1(31)
CUSTOMER: VT AOT

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE
NO EXCEPTIONS TAKEN X
REVISE AS NOTED
RESUBMISSION NOT REQUIRED
REVISE AS NOTED
RESUBMISSION NOT REQUIRED
REJECTED
DATE 2/9/10
SIGNATURE
REVIEW BY CONTRACTOR OF THE DETAILS, MEANS OF ASSEMBLY AND SEQUENCES, SUBSTANTIALLY WITH DRAWN CONFORMITY TO ALONG WITH THE DIMENSIONS, FABRICATION AND ERECTION METHODS CONSTRUCTION OF SUCH TEMPORARY DETAIL DESIGN IS THEIR SOLE AND EXPRESS RESPONSIBILITY

Fri, Jan 28, 2011 11:57:55 PM J:\proj\2010\2045\7 - Rev0

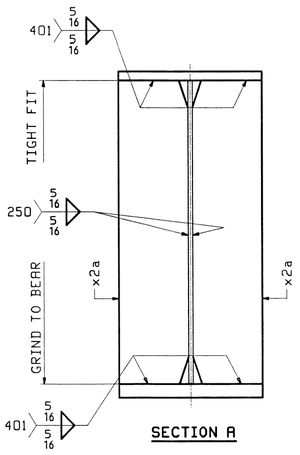
ID:



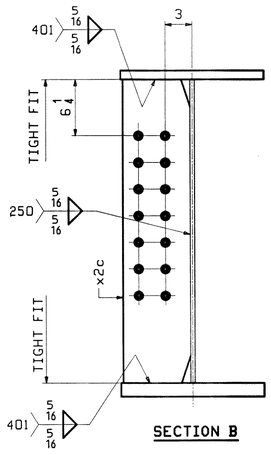
SECTION BA

ONE - GIRDER - 8G3B (DEV)

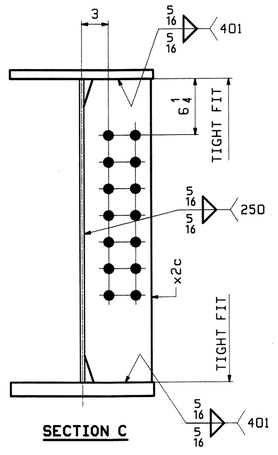
FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C1
FOR FLANGE DIAGRAM SEE SHEET F2
FOR GENERAL NOTES SEE SHEET GN1



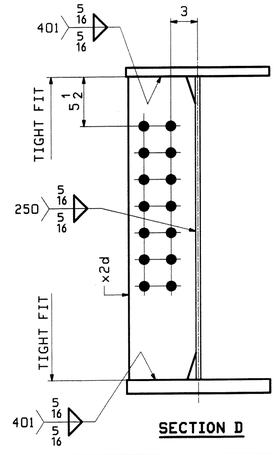
SECTION A



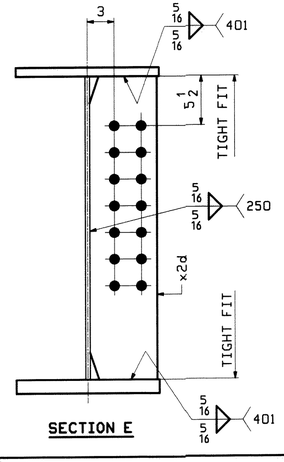
SECTION B



SECTION C

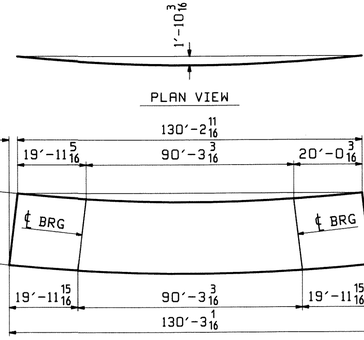


SECTION D



SECTION E

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING
								438	8
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PI
		BG3B	1		GIRDER				28280	
4	U		1	wa	PL 1/2×34	62	5 15/16	M270-50WT2		
4	C		1	wb	PL 1/2×34	67	9 1/4	M270-50WT2		
2	L		1	ta	PL 1 1/2×16	39	11 7/8	M270-50WT2		
3	G		1	tb	PL 1×16	50	6 15/16	M270-50WT2		
2	L		1	tc	PL 1 1/2×16	39	11 7/8	M270-50WT2		
2	L		1	ba	PL 1 1/2×16	39	11 7/8	M270-50WT2		
1	U		1	bb	PL 1 1/2×16	50	3 5/16	M270-50WT2		
2	L		1	bc	PL 1 1/2×16	39	11 7/8	M270-50WT2		
6	K		4	x2a	PL 7/8×7 3/4	2	10	MIE		
6	L		4	x2c	PL 1/2×7 1/2	2	10			
6	L		12	x2d	PL 1/2×7 1/2	2	10			



DEV. ORIENTATION DIAGRAM

REV.	DATE	REMARKS	DWN	CHK	APVL
0					JAN 2

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP B
M270-50W (UN)	SEE GN1	15/16 ø U.N.	

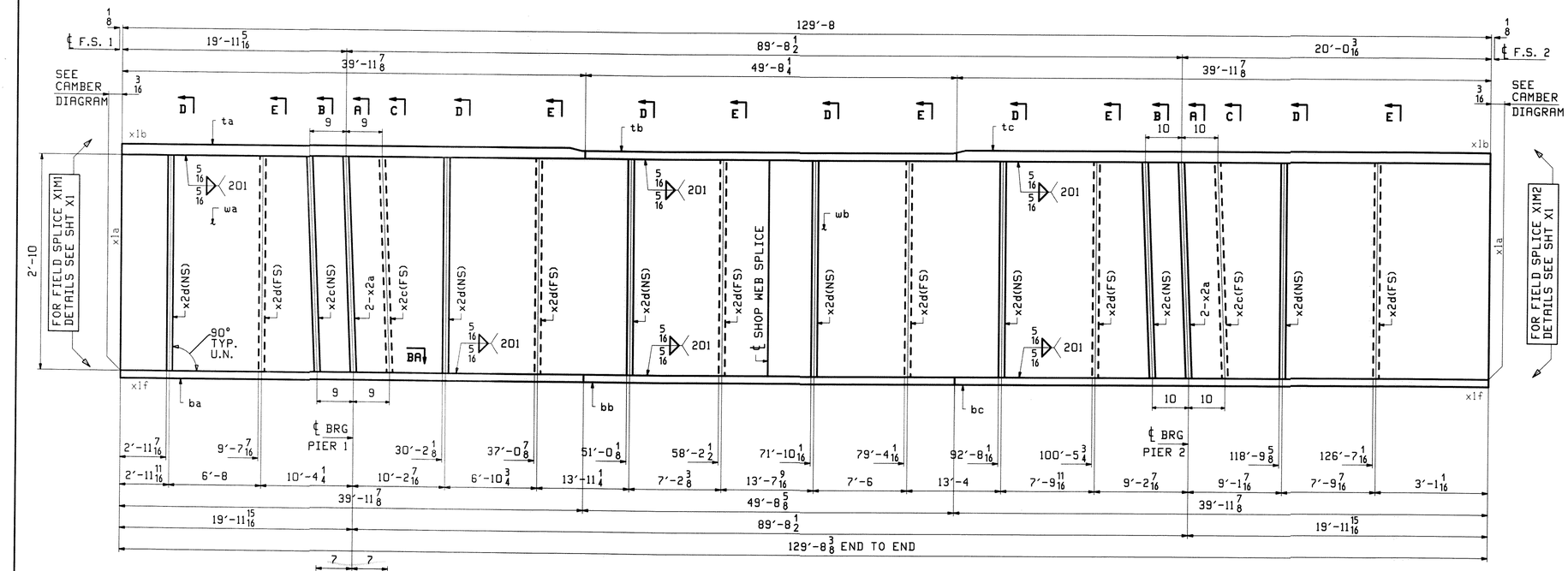
DESCRIPTION: GIRDER - 8G3B

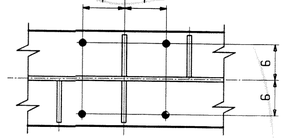
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

DRAWN: WJF
CHK'D: DO
LOCATION: Putney
JOB NO. 438
PROJ NO. IM 091-1(31)
CUSTOMER: VT AOT

DO Fri Jan 22, 2010 11:58:07 AM c:\steel\jobs\2545\8 - Rev0

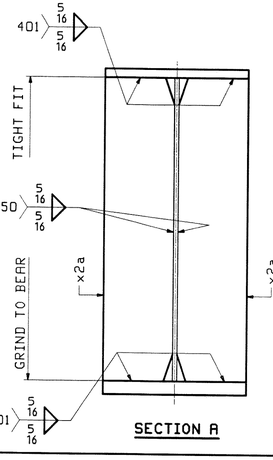




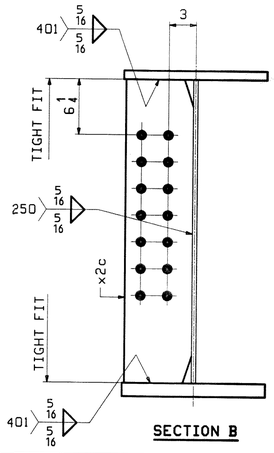
SECTION BA

ONE - GIRDER - 9G4B (DEV)

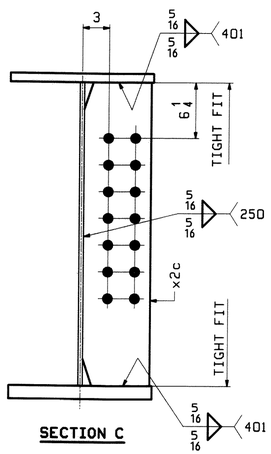
FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C1
FOR FLANGE DIAGRAM SEE SHEET F2
FOR GENERAL NOTES SEE SHEET GN1



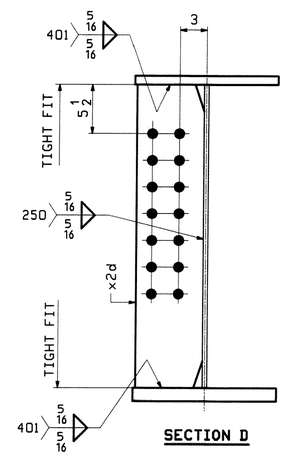
SECTION A



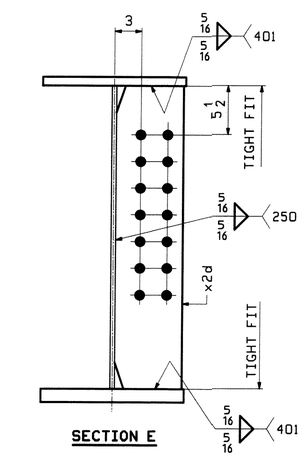
SECTION B



SECTION C

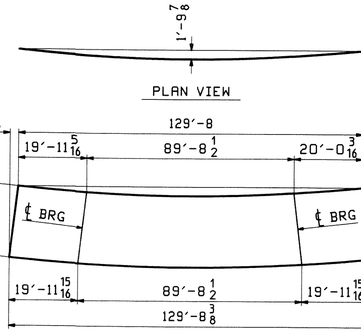


SECTION D



SECTION E

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAW
								438	9
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT
		9G4B	1		GIRDER				28172
4	U		1	wa	PL 1/2x34	62	5 15/16	M270-50WT2	
4	E		1	wb	PL 1/2x34	67	2 9/16	M270-50WT2	
2	L		1	ta	PL 1/2x16	39	11 7/8	M270-50WT2	
3	J		1	tb	PL 1x16	49	8 1/4	M270-50WT2	
2	L		1	tc	PL 1/2x16	39	11 7/8	M270-50WT2	
2	L		1	ba	PL 1/2x16	39	11 7/8	M270-50WT2	
1	W		1	bb	PL 1/2x16	49	8 5/8	M270-50WT2	
2	L		1	bc	PL 1/2x16	39	11 7/8	M270-50WT2	
6	K		4	x2a	PL 7/8x7 3/4	2	10	MIE	
6	L		4	x2c	PL 1/2x7 1/2	2	10		
6	L		12	x2d	PL 1/2x7 1/2	2	10		



DEV. ORIENTATION DIAGRAM

REV.	DATE	REMARKS	DWN	CHK	APVL
0					JAN 2 9 20

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP E
M270-50W (UN)	SEE GN1	15/16"ø U.N.	

DESCRIPTION: GIRDER - 9G4B

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

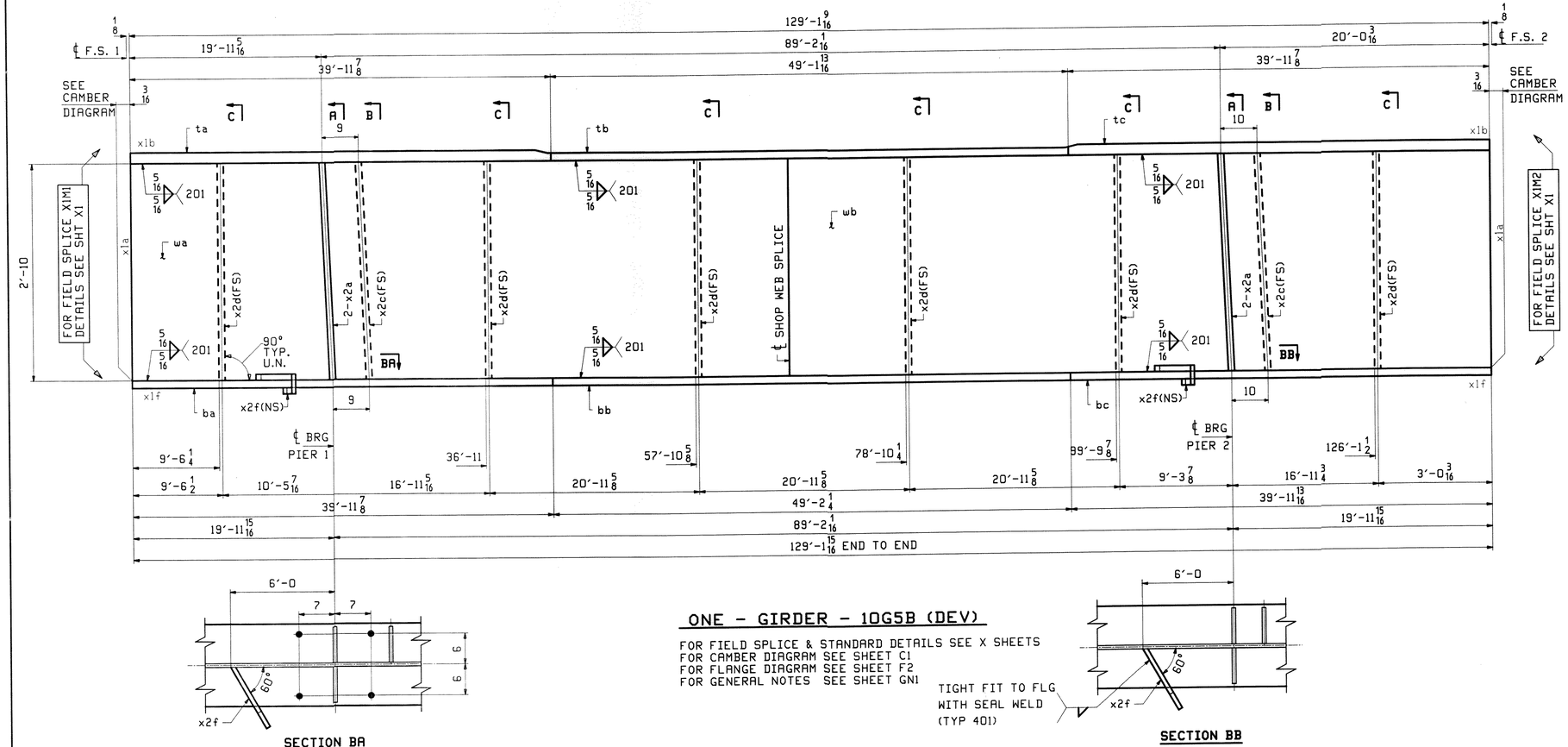
STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

DRAWN: WJF
CHKD: DO
JOB NO. 438

LOCATION: Putney
PROJ NO. IM 091-1(31)
CUSTOMER: VT AOT

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE
NO EXCEPTION TAKEN X
REVISE AS NOTED
RESUBMISSION NOT REQUIRED
REVISE AS NOTED
RESUBMISSION NOT REQ'D
REJECTED
DATE 2/9/10
SIGNATURE
REVIEW BY STANTEC IS ONLY FOR THE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN CONCEPT AND INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. FABRICATION, MEANS AND METHODS, COORDINATION OF THE WORK WITH OTHER TRADES AND SAFETY PRECAUTIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. STANTEC'S REVIEW WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR DEVIATIONS FROM REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE SHOP DRAWINGS OR ANY ERRORS OR OMISSIONS IN THE SHOP DRAWINGS.

D0 Fri, Jan 22, 2010 10:58:18 AM //server/dot/2945/9 Rev0

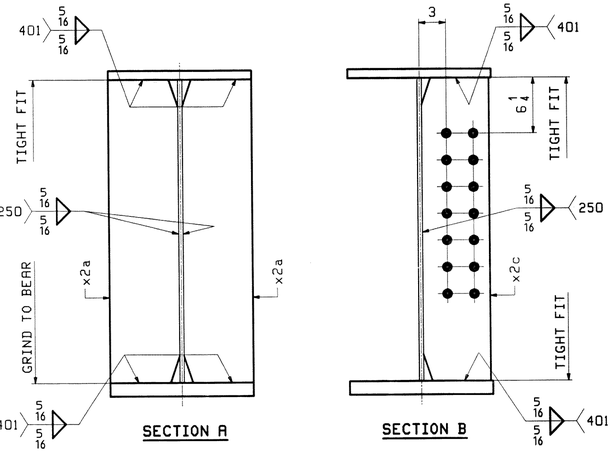


SECTION BA

ONE - GIRDER - 10G5B (DEV)

FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C1
FOR FLANGE DIAGRAM SEE SHEET F2
FOR GENERAL NOTES SEE SHEET GN1

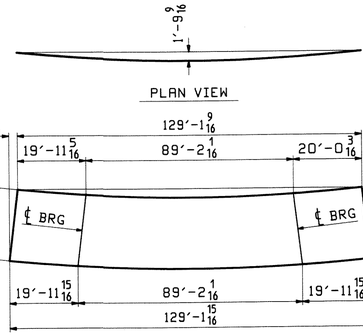
SECTION BB



SECTION A

SECTION B

SECTION C



DEV. ORIENTATION DIAGRAM

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUR NOT
		10G5B	1		GIRDER				27784	
4	U		1	wa	PL 1/2×34	62	5 15/16	M270-50WT2		
4	G		1	wb	PL 1/2×34	66	8 1/8	M270-50WT2		
2	L		1	ta	PL 1 1/2×16	39	11 7/8	M270-50WT2		
3	L		1	tb	PL 1×16	49	11 13/16	M270-50WT2		
2	L		1	tc	PL 1 1/2×16	39	11 7/8	M270-50WT2		
2	L		1	ba	PL 1 1/2×16	39	11 7/8	M270-50WT2		
1	Y		1	bb	PL 1 1/2×16	49	2 1/2	M270-50WT2		
2	L		1	bc	PL 1 1/2×16	39	11 13/16	M270-50WT2		
6	K		4	x2a	PL 7/8×7 3/4	2	10	MIE		
6	L		2	x2c	PL 1/2×7 1/2	2	10			
6	L		6	x2d	PL 1/2×7 1/2	2	10			
6	N		2	x2f	PL 1/4×3 1/2	0	11 5/8			

BILL OF MATERIAL

JOB NO. 438

DRAWING NO. 10

REV.	DATE	REMARKS	DWN	CHK	APVL
0					JAN 25 2010

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS
M270-50W (UN)	SEE GN1	15/16"Ø U.N.	NO

DESCRIPTION: GIRDER - 10G5B

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

DRAWN: WJF DAT
CHKD: DO DAT

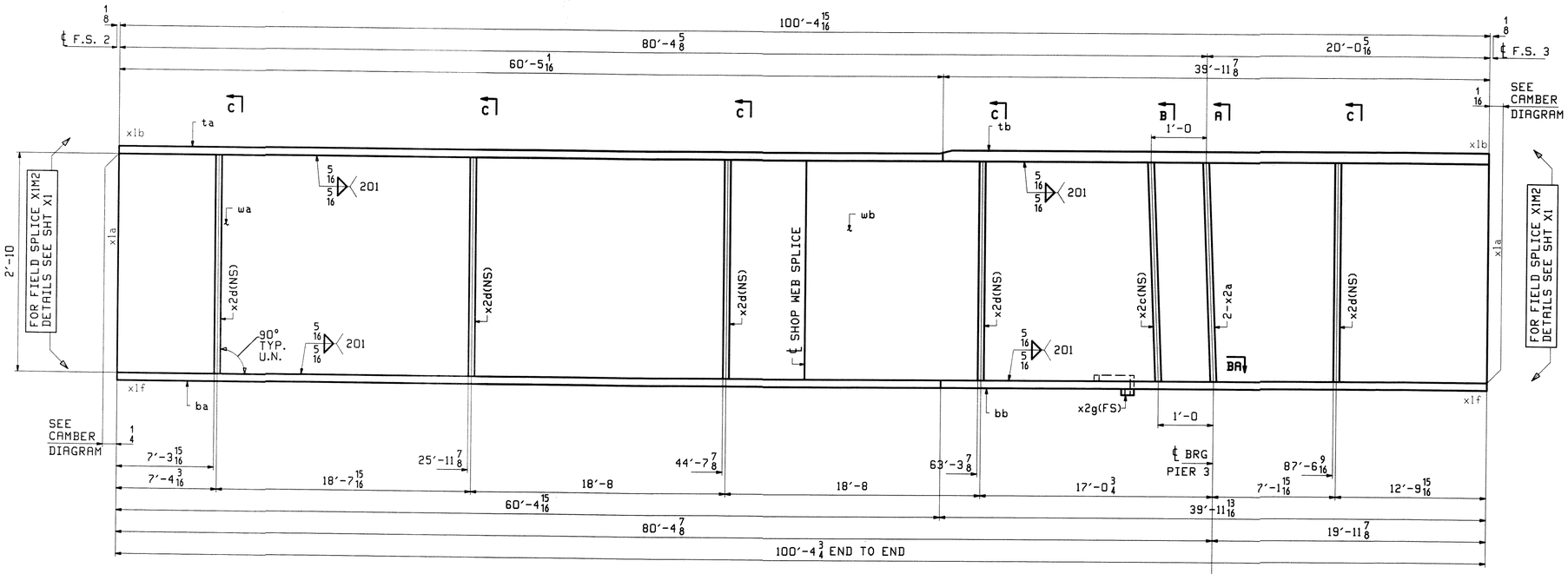
LOCATION: Putney
PROJ NO. IM 091-1(31)
CUSTOMER: VT AOT

JOB NO. 438

REVIEWED BY ENGINEER FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT AND GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FABRICATION PROCESSES AND CONSTRUCTION METHODS. COORDINATING ALL TRADES AND FOR PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER.

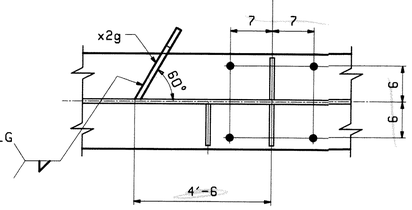
X
2/9/10

Fri Jan 29, 2010 10:58:16 am

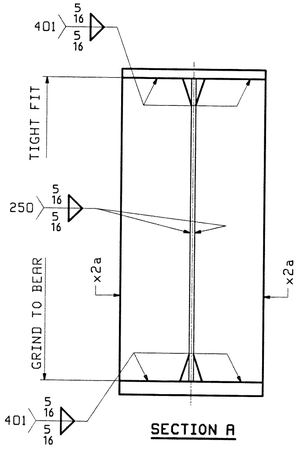


ONE - GIRDER - 11G1C (DEV)

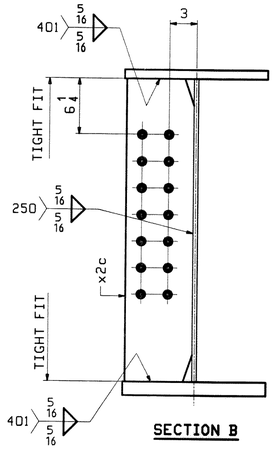
FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C2
FOR FLANGE DIAGRAM SEE SHEET F3
FOR GENERAL NOTES SEE SHEET GN1



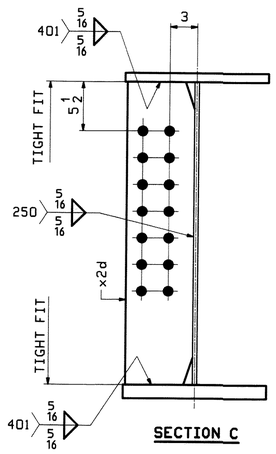
SECTION BA



SECTION A

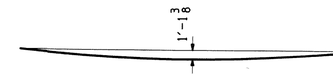


SECTION B

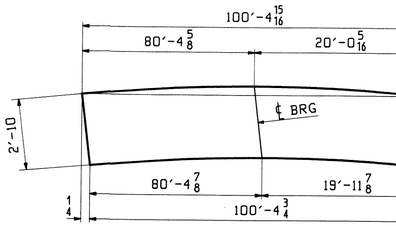


SECTION C

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO. 438
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS
		11G1C	1		GIRDER			
4	W		1	wa	PL 1/2x34	50	5 1/8	M270-50WT2
5	W		1	wb	PL 1/2x34	49	11 15/16	M270-50WT2
2	S		1	ta	PL 1x16	60	4 1/16	M270-50WT2
2	L		1	tb	PL 1/2x16	39	11 7/8	M270-50WT2
1	E		1	ba	PL 1 1/2x16	60	4 15/16	M270-50WT2
2	L		1	bb	PL 1/2x16	39	11 13/16	M270-50WT2
6	K		2	x2a	PL 7/8x7 3/4	2	10	MIE
6	L		1	x2c	PL 1/2x7 1/2	2	10	
6	L		5	x2d	PL 1/2x7 1/2	2	10	
6	N		1	x2g	PL 1/4x3 1/2	0	11 7/8	



PLAN VIEW



DEV. ORIENTATION DIAGRAM

REV.	DATE	REMARKS	DWN	CHK	AP
0					JAN 2 9

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	S
M270-50W (UN)	SEE GN1	15/16 ø U.N.	

DESCRIPTION: GIRDER - 11G1C

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

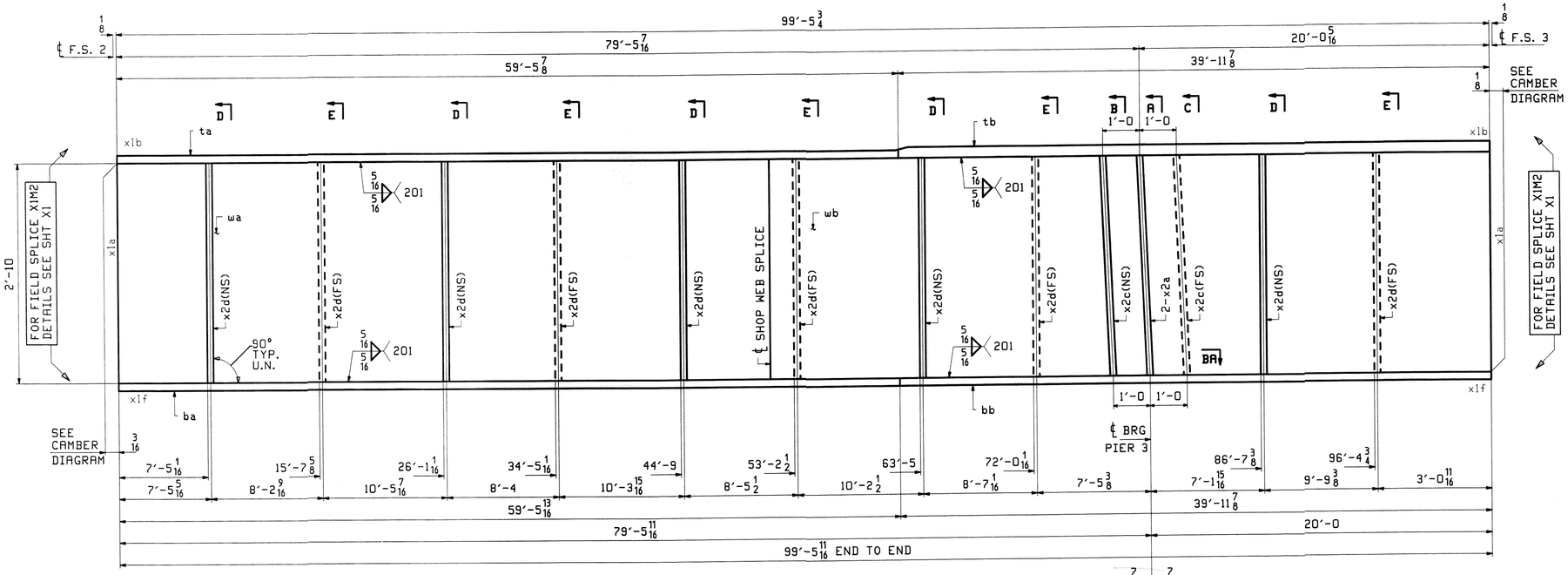
DRAWN: WJ
CHKD: DC

LOCATION: Putney
JOB
PROJ NO. IM 091-1(31)
43
CUSTOMER: VT AOT

DATE 2/9/10

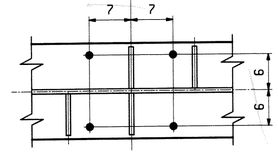
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ABM INFO		SHIP	BILL OF MATERIAL					JOB NO. 438	DRAWING N 12	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PRO
		12G2C	1		GIRDER				20945	
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5	C		1	wb	PL $\frac{1}{2}$x34	49	$11\frac{15}{16}$	M270-50WT2		
2	U		1	ta	PL 1x16	59	$5\frac{7}{8}$	M270-50WT2		
2	L		1	tb	PL $1\frac{1}{2}$x16	39	$11\frac{7}{8}$	M270-50WT2		
1	G		1	ba	PL $1\frac{1}{2}$x16	59	$5\frac{15}{16}$	M270-50WT2		
2	L		1	bb	PL $1\frac{1}{2}$x16	39	$11\frac{7}{8}$	M270-50WT2		
6	K		2	x2a	PL $\frac{7}{8}$x$7\frac{3}{4}$	2	10	MIE		
6	L		2	x2c	PL $\frac{1}{2}$x$7\frac{1}{2}$	2	10			
6	L		10	x2d	PL $\frac{1}{2}$x$7\frac{1}{2}$	2	10			

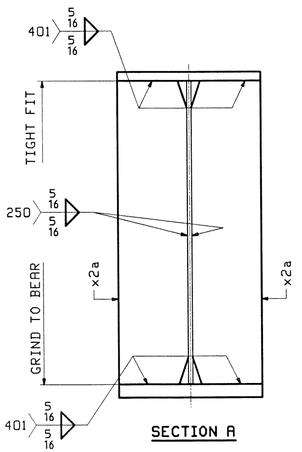


ONE - GIRDER - 12G2C (DEV)

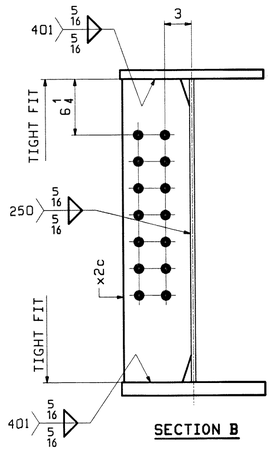
FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C2
FOR FLANGE DIAGRAM SEE SHEET F3
FOR GENERAL NOTES SEE SHEET GN1



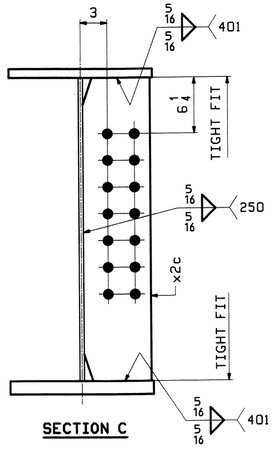
SECTION BA



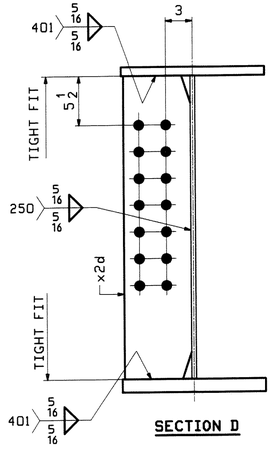
SECTION A



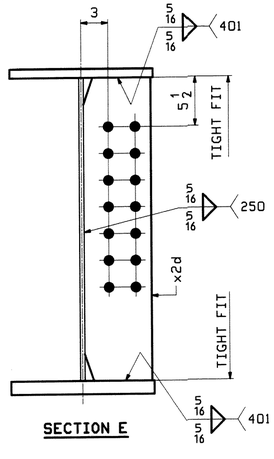
SECTION B



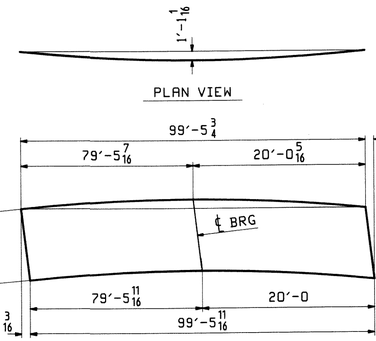
SECTION C



SECTION D



SECTION E



REV.	DATE	REMARKS	DWN	CHK	APVL
0					JUN 2 4 2010

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BO
M270-50W (UN)	SEE GN1	$\frac{15}{16}$"Ø U.N.	

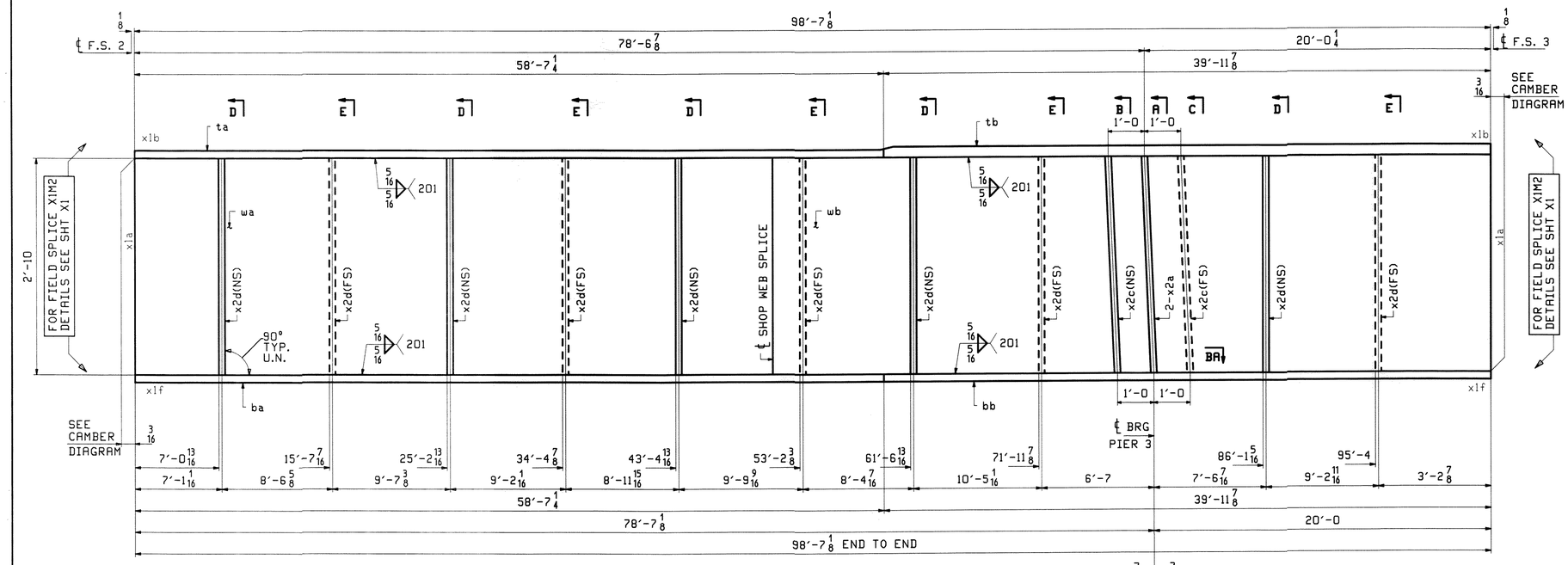
DESCRIPTION: GIRDER - 12G2C

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

STRUCTURE: U.S. 5 over I-91 Bridge No. 19A Putney County of Windham	DRAWN: WJF CHKD: DO
LOCATION: Putney	JOB NO.
PROJ NO. IM 091-1(31)	438
CUSTOMER: VT AOT	

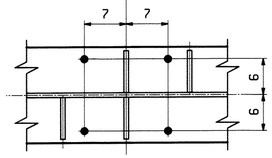
SHOP DRAWINGS ARE REVIEWED WITH RESPECT TO THE DESIGN CONCEPT AND GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS. REVIEW AND APPROVAL OF ASSEMBLY DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR CORRECTNESS OF DESIGN, DETAILS AND DIMENSIONS. FABRICATION PROCESSES AND METHODS OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. REVIEW OF A SPECIFIC ITEM SHALL NOT INDICATE REVIEW OF ASSEMBLY IN WHICH THE ITEM FUNCTIONS. CONTRACTOR SHALL CONFIRM AND CORRELATE ALL QUANTITIES AND DIMENSIONS. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DEVIATIONS FROM THE SHOP DRAWINGS AND ASSUMES ALL RESPONSIBILITY FOR DEVIATIONS FROM CONTRACT DOCUMENTS UNLESS SUCH DEVIATIONS HAVE BEEN BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING AND HE HAS REVIEWED AND APPROVED THEM IN WRITING.
REVIEWED AS NOTED
REVIEWED AS NOTED
RESUBMISSION REQUIRED
REJECTED
DATE 2/9/10
SIGNATURE
REVIEW BY STRUCTURAL ENGINEER IS FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. IT DOES NOT INDICATE APPROVAL OF ERECTION METHODS OR SEQUENCES, FABRICATION PROCESSES OR METHODS, COORDINATION WITH OTHER TRADES, OR CONSTRUCTION SAFETY PRECAUTIONS. REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FOR SELECTING FABRICATION PROCESSES AND FOR THE TECHNIQUES OF ASSEMBLY. THE CONTRACTOR SHALL PERFORM ALL WORK IN A SAFE MANNER. REVIEW OF A SPECIFIC ITEM SHALL NOT INDICATE REVIEW OF THE ASSEMBLY IN WHICH THE ITEM FUNCTIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF ANY DEVIATIONS FROM THE SHOP DRAWINGS AND ASSUMES RESPONSIBILITY FOR DEVIATIONS FROM CONTRACT DOCUMENTS UNLESS SUCH DEVIATIONS HAVE BEEN BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING AND HE HAS REVIEWED AND APPROVED THEM IN WRITING.

Fri, Jan 22, 2010 11:08:43 AM - \\server\jobs\2009\12 - Rev0

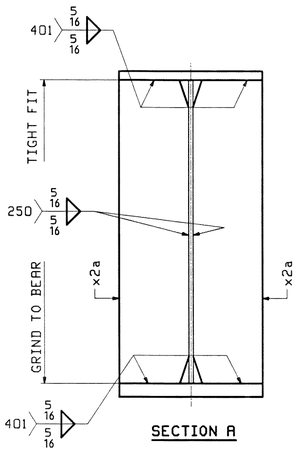


ONE - GIRDER - 13G3C (DEV)

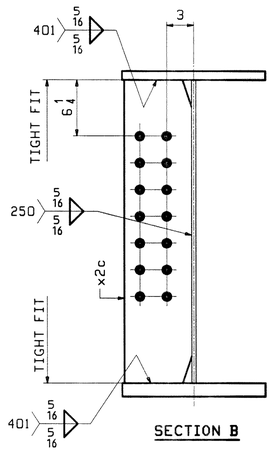
FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C2
FOR FLANGE DIAGRAM SEE SHEET F3
FOR GENERAL NOTES SEE SHEET GN1



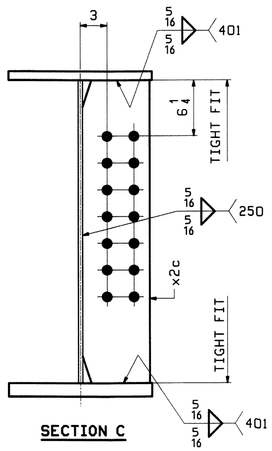
SECTION BA



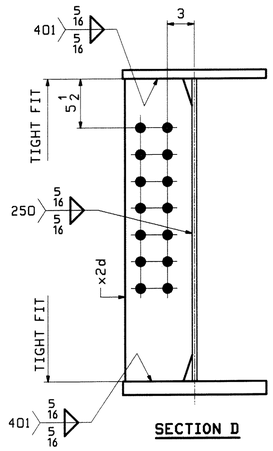
SECTION A



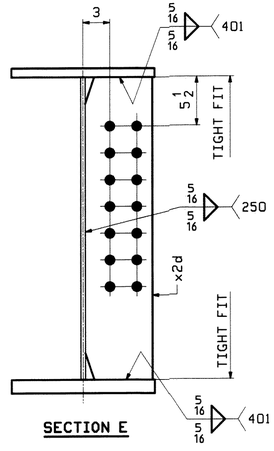
SECTION B



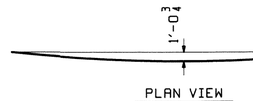
SECTION C



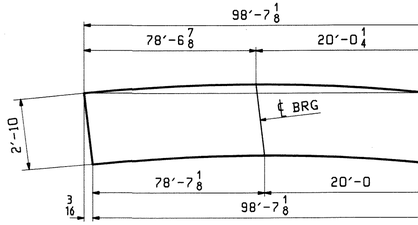
SECTION D



SECTION E



PLAN VIEW



DEV. ORIENTATION DIAGRAM

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO. 438	DRAWI 13
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT
		13G3C	1		GIRDER				20776
5	E		1	wa	PL 1/2x34	48	7 3/8	M270-50WT2	
5	C		1	wb	PL 1/2x34	50	0	M270-50WT2	
2	W		1	ta	PL 1x16	58	7 1/4	M270-50WT2	
2	L		1	tb	PL 1 1/2x16	39	11 7/8	M270-50WT2	
1	J		1	ba	PL 1 1/2x16	58	7 1/4	M270-50WT2	
2	L		1	bb	PL 1 1/2x16	39	11 7/8	M270-50WT2	
6	K		2	x2a	PL 7/8x7 3/4	2	10	MIE	
6	L		2	x2c	PL 1/2x7 1/2	2	10		
6	L		10	x2d	PL 1/2x7 1/2	2	10		

REV.	DATE	REMARKS	DWN	CHK	APVL
0					JAN 2 9 20

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP
M270-50W (UN)	SEE GN1	15/16"Ø U.N.	

DESCRIPTION: GIRDER - 13G3C

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

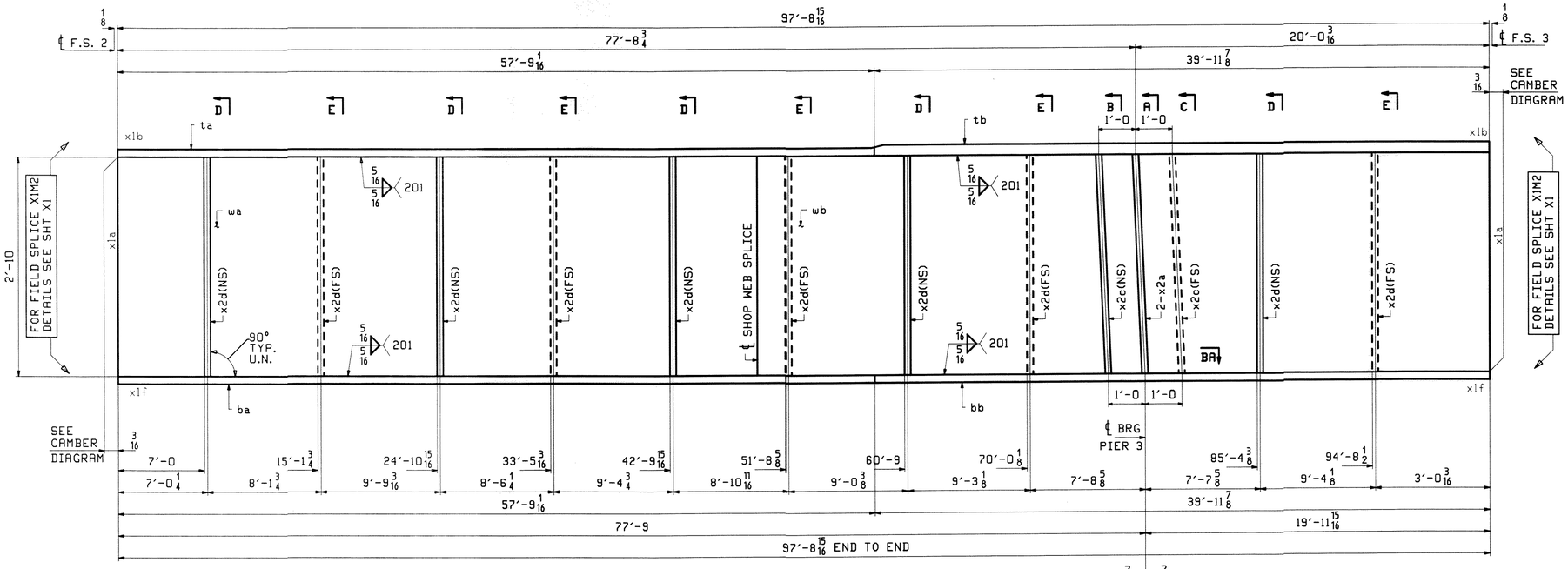
DRAWN: WJF
CHKD: DO

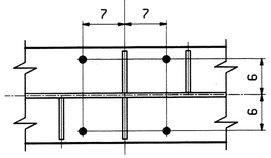
LOCATION: Putney
PROJ NO. IM 091-1(31)
CUSTOMER: VT AOT
JOB NO 438

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE
NO EXCEPTION TAKEN
REVISE AS NOTED
RESUBMISSION NOT REQUIRED
REVISE AND RESUBMIT
REJECTED
DATE 2/9/10
SIGNATURE
REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE DESIGN CONCEPT AND INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF THE WORK WITH THAT OF ALL OTHER TRADES, AND THE SAFE DESIGN, CONSTRUCTION AND ERECTION OF ALL TEMPORARY SUPPORTS, SHORING, BRACING, GUYS, TIE-DOWNS, ETC. REQUIRED FOR THE STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR IS RESPONSIBLE FOR DETAIL DESIGN OF COMPONENTS AND ERRORS OR OMISSIONS ON SHOP DRAWINGS.

DO Fri Jan 22, 2010 11:56:57 AM J:\steel\jobs\2545\13 Rev0

ABM INFO		SHIP	BILL OF MATERIAL						JOB NO.	DRAWI
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4	Y		1	wb	PL $\frac{1}{2}$x34	49	$11\frac{15}{16}$	M270-50WT2		
2	Y		1	ta	PL 1x16	57	$9\frac{1}{16}$	M270-50WT2		
2	L		1	tb	PL 1$\frac{1}{2}$x16	39	$11\frac{7}{8}$	M270-50WT2		
1	L		1	ba	PL 1$\frac{1}{2}$x16	57	$9\frac{1}{16}$	M270-50WT2		
2	L		1	bb	PL 1$\frac{1}{2}$x16	39	$11\frac{7}{8}$	M270-50WT2		
6	K		2	x2a	PL $\frac{7}{8}$x7$\frac{3}{4}$	2	10	MIE		
6	L		2	x2c	PL $\frac{1}{2}$x7$\frac{1}{2}$	2	10			
6	L		10	x2d	PL $\frac{1}{2}$x7$\frac{1}{2}$	2	10			

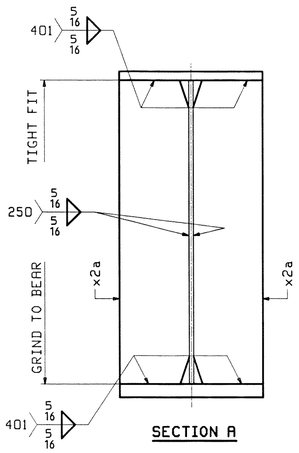




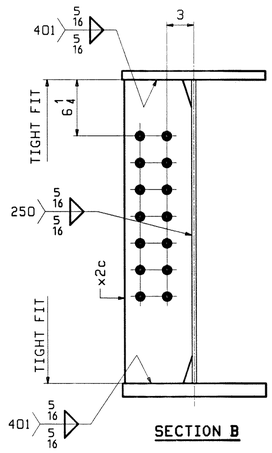
SECTION BA

ONE - GIRDER - 14G4C (DEV)

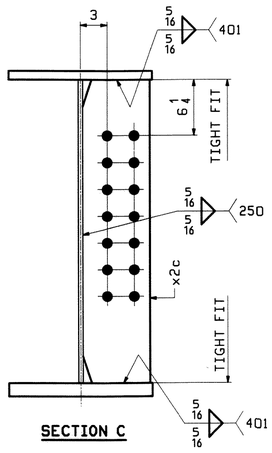
FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C2
FOR FLANGE DIAGRAM SEE SHEET F3
FOR GENERAL NOTES SEE SHEET GN1



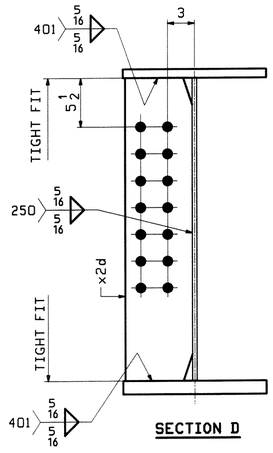
SECTION A



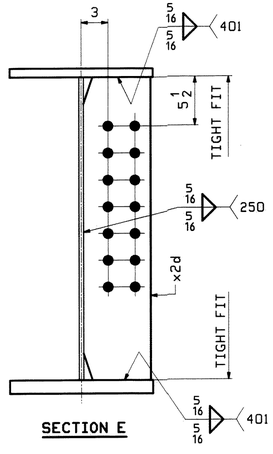
SECTION B



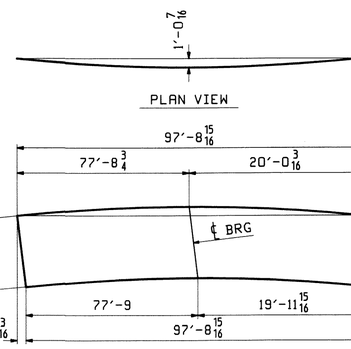
SECTION C



SECTION D



SECTION E



PLAN VIEW

DEV. ORIENTATION DIAGRAM

REV.	DATE	REMARKS	DWN	CHK	APVL
0					JAN 2 5 20

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP
M270-50W (UN)	SEE GN1	$\frac{15}{16}$"Ø U.N.	

DESCRIPTION: GIRDER - 14G4C

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

DRAWN: WJF
CHKD: DO

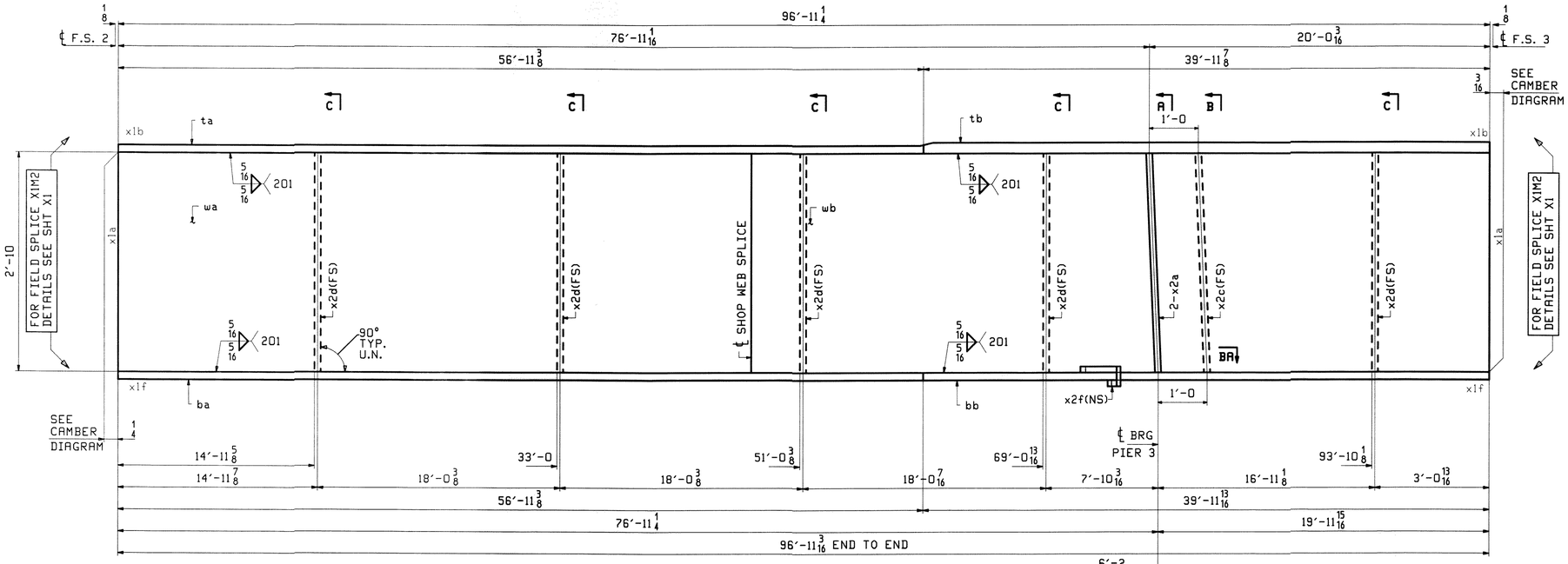
LOCATION: Putney
PROJ NO. IM 091-1(31)
CUSTOMER: VT AOT

JOB NO 438

SHOP DRAWINGS ARE REVIEWED FOR CONFORMITH WITH THE CONTRACT DOCUMENTS. ANY VARIATIONS THAT MAY BE NOTED ON THE SHOP DRAWINGS DO NOT RELIEVE THE CONTRACTOR OF COMPLIANCE WITH THE CONTRACT DOCUMENTS. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR DIMENSIONS, FABRICATION AND CONSTRUCTION. NEITHER CONSTRUCTION CHANGES AUTHORIZED BY THE ENGINEER NOR DETAIL DESIGN OF COMPONENTS ARE ENGINEERED ON SHOP DRAWINGS.

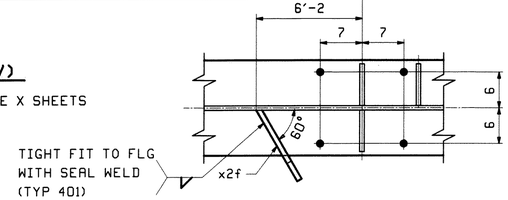
DATE 2/9/12

Fri Jan 27, 2012 11:59:05 AM C:\Users\jdavis\Desktop\14G4C Rev0.dgn DO

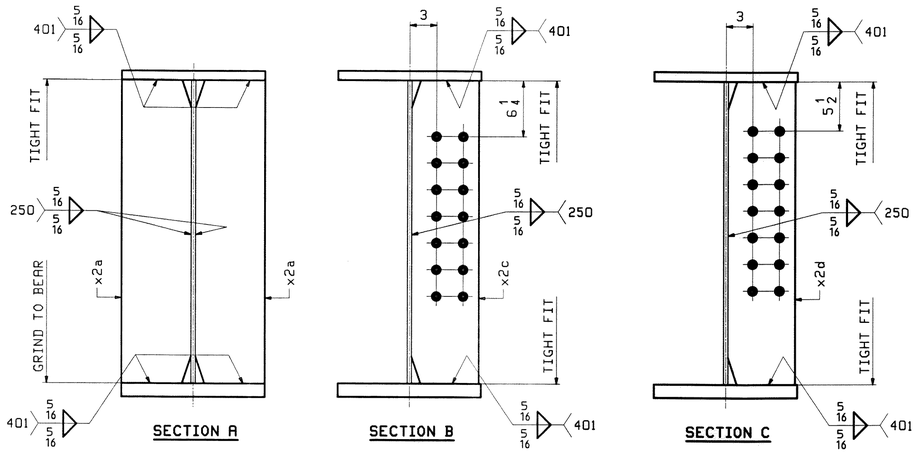


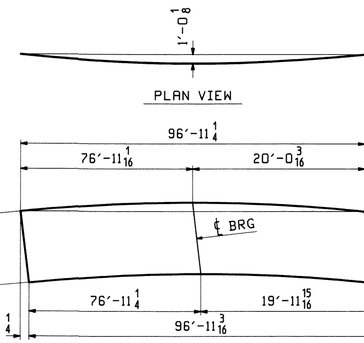
ONE - GIRDER - 15G5C (DEV)

FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C2
FOR FLANGE DIAGRAM SEE SHEET F3
FOR GENERAL NOTES SEE SHEET GN1



SECTION BA





ABM INFO		SHIP	BILL OF MATERIAL					JOB NO. 438	DRAWIN 15
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT
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4	Y		1	wb	PL 1/2×34	49	11 7/8	M270-50WT2	
3	A		1	ta	PL 1×16	56	11 3/8	M270-50WT2	
2	L		1	tb	PL 1 1/2×16	39	11 7/8	M270-50WT2	
1	N		1	ba	PL 1 1/2×16	56	11 3/8	M270-50WT2	
2	L		1	bb	PL 1 1/2×16	39	11 13/16	M270-50WT2	
6	K		2	x2a	PL 7/8×7 3/4	2	10	MIE	
6	L		1	x2c	PL 1/2×7 1/2	2	10		
6	L		5	x2d	PL 1/2×7 1/2	2	10		
6	N		1	x2f	PL 1/4×3 1/2	0	11 1/8		

REV.	DATE	REMARKS	DWN	CHK	APVL
0					JAN 2 0 2010

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP E
M270-50W (UN)	SEE GN1	15/16 ø U.N.	

DESCRIPTION: GIRDER - 15G5C

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

DRAWN: WJF
CHKD: DO

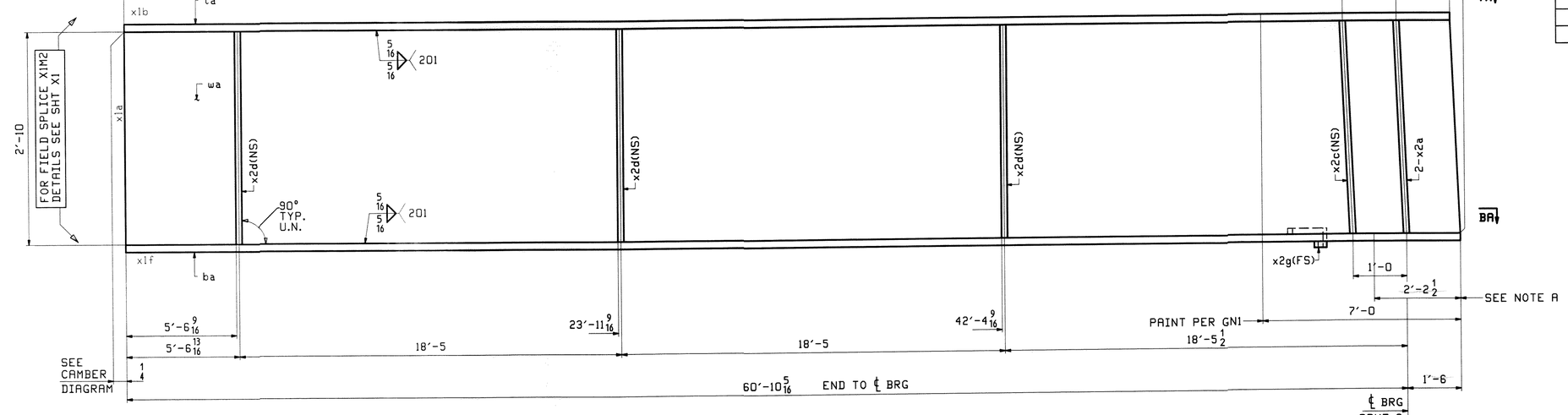
LOCATION: Putney
PROJ NO. IM 091-1(31)
CUSTOMER: VT AOT

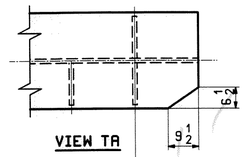
JOB NO. 438

2/9/10

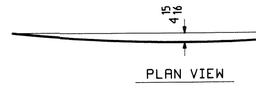
DO Fri, Jan 22, 2010 11:59:58 AM //vssrv/jobs/2345/15 - Rev0

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO. 438	DRAWI 16
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT
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2	N		1	ta	PL 1x16	62	4 $\frac{1}{16}$	M270-50WT2	
1	A		1	ba	PL 1 $\frac{1}{2}$x16	62	4 $\frac{5}{16}$	M270-50WT2	
6	K		2	x2a	PL $\frac{7}{8}$x7 $\frac{3}{4}$	2	10	MIE	
6	L		1	x2c	PL $\frac{1}{2}$x7 $\frac{1}{2}$	2	10		
6	L		3	x2d	PL $\frac{1}{2}$x7 $\frac{1}{2}$	2	10		
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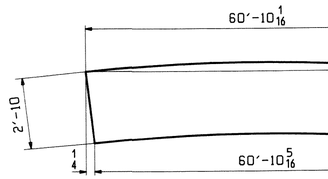




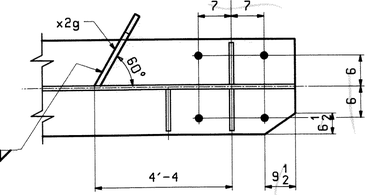
VIEW TA



PLAN VIEW



DEV. ORIENTATION DIAGRAM

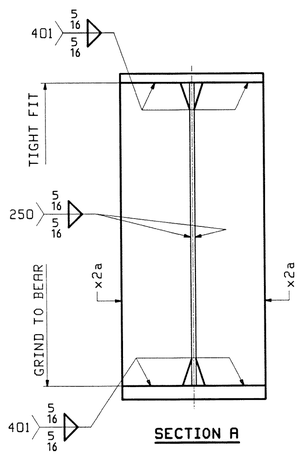


TIGHT FIT TO FLG WITH SEAL WELD (TYP 401)

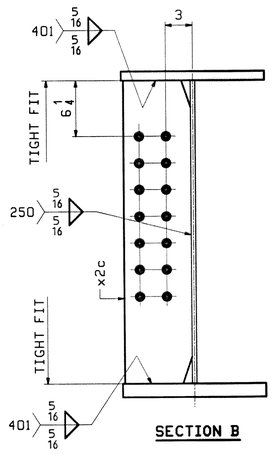
SECTION BA

ONE - GIRDER - 16G1D (DEV)

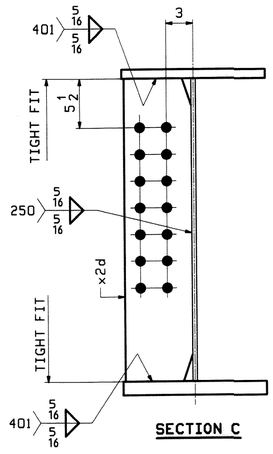
FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C2
FOR FLANGE DIAGRAM SEE SHEET F1
FOR GENERAL NOTES SEE SHEET GN1



SECTION A



SECTION B



SECTION C

NOTE A:
NO PAINT BOTTOM AND EDGES OF BOTTOM FLANGE.

REV.	DATE	REMARKS	DWN	CHK	APVL
0					

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP
M270-50W (UN)	SEE GN1	15/16 ø U.N.	

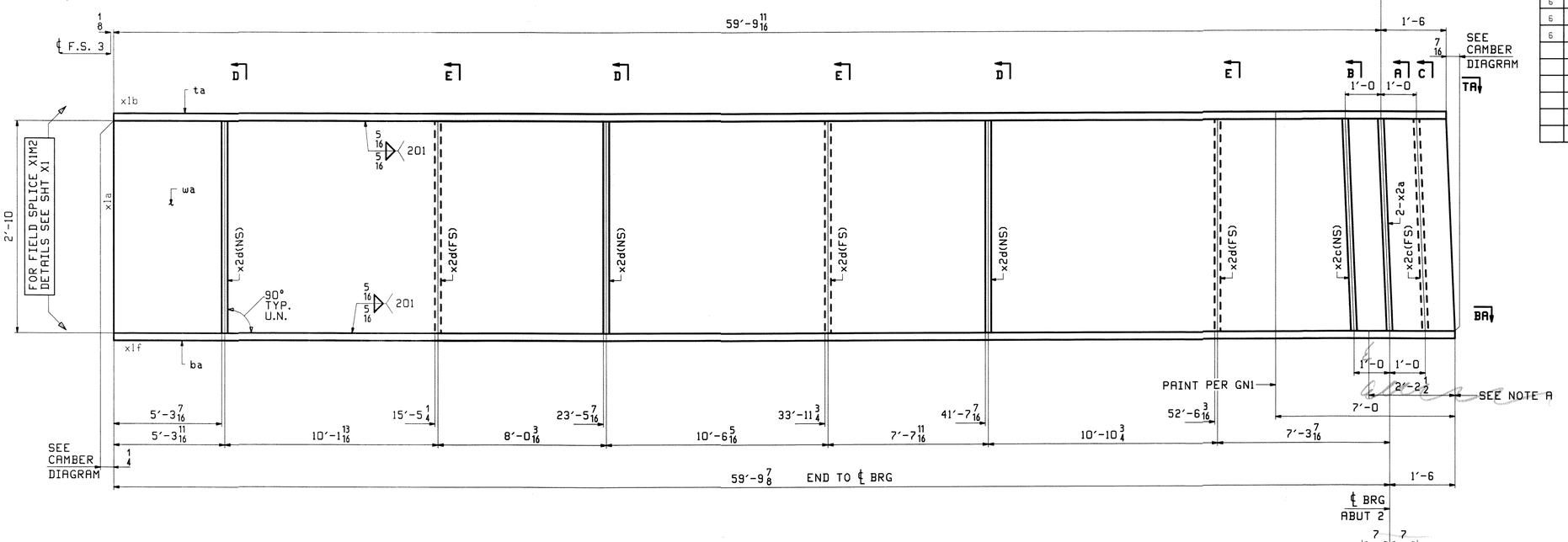
DESCRIPTION: GIRDER - 16G1D

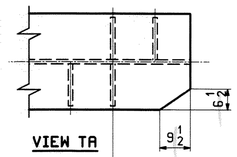
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

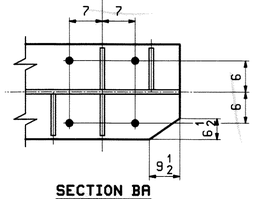
STRUCTURE:	U.S. 5 over I-91 Bridge No. 19A Putney County of Windham	DRAWN:	WJF
		CHK'D:	DO
LOCATION:	Putney	JOB NO	
PROJ NO.	IM 091-1(31)		438
CUSTOMER:	VT AOT		

Fri, Jan 22, 2010 11:59:47 AM C:\steel\jobs\2545\16-1 Rev0

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO. 438	DRF
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2	Q		1	ta	PL 1x16	61	3 $\frac{11}{16}$	M270-50WT2	
1	C		1	ba	PL 1 $\frac{1}{2}$x16	61	3 $\frac{7}{8}$	M270-50WT2	
6	K		2	x2a	PL $\frac{7}{8}$x7 $\frac{3}{4}$	2	10	MIE	
6	L		2	x2c	PL $\frac{1}{2}$x7 $\frac{1}{2}$	2	10		
6	L		6	x2d	PL $\frac{1}{2}$x7 $\frac{1}{2}$	2	10		

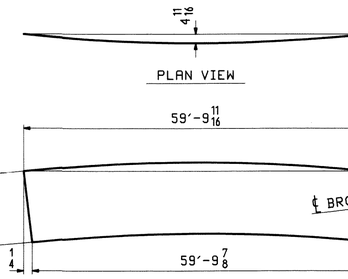






SECTION BA

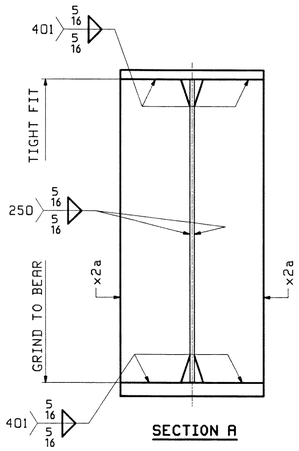
NOTE A:
NO PAINT BOTTOM AND EDGES OF BOTTOM FLA



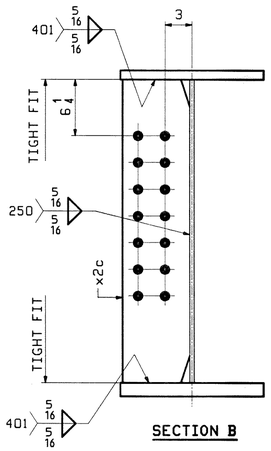
DEV. ORIENTATION DIAGRAM

ONE - GIRDER - 17G2D (DEV)

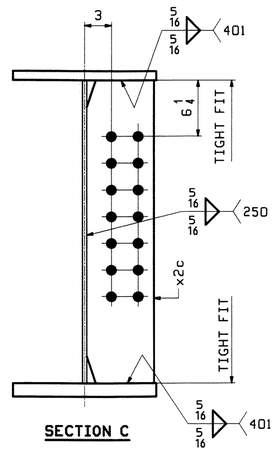
FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C2
FOR FLANGE DIAGRAM SEE SHEET F1
FOR GENERAL NOTES SEE SHEET GN1



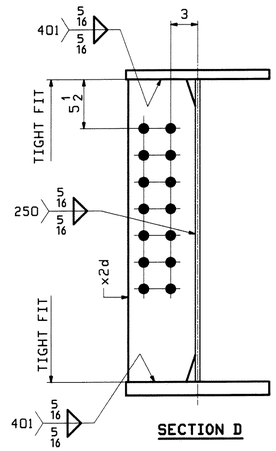
SECTION A



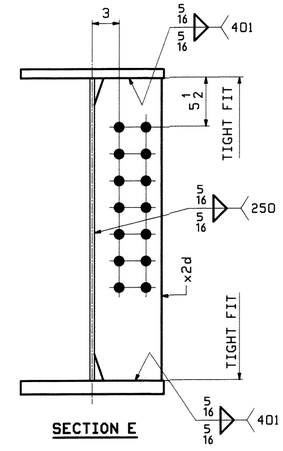
SECTION B



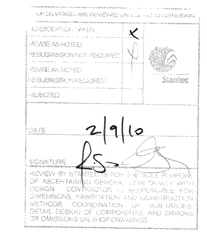
SECTION C



SECTION D



SECTION E



REV.	DATE	REMARKS	DWN	CHK	APV
0					

JAN 2 5 2010

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SH
M270-50W (UN)	SEE GN1	15/16"ø U.N.	

DESCRIPTION: GIRDER - 17G2D

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

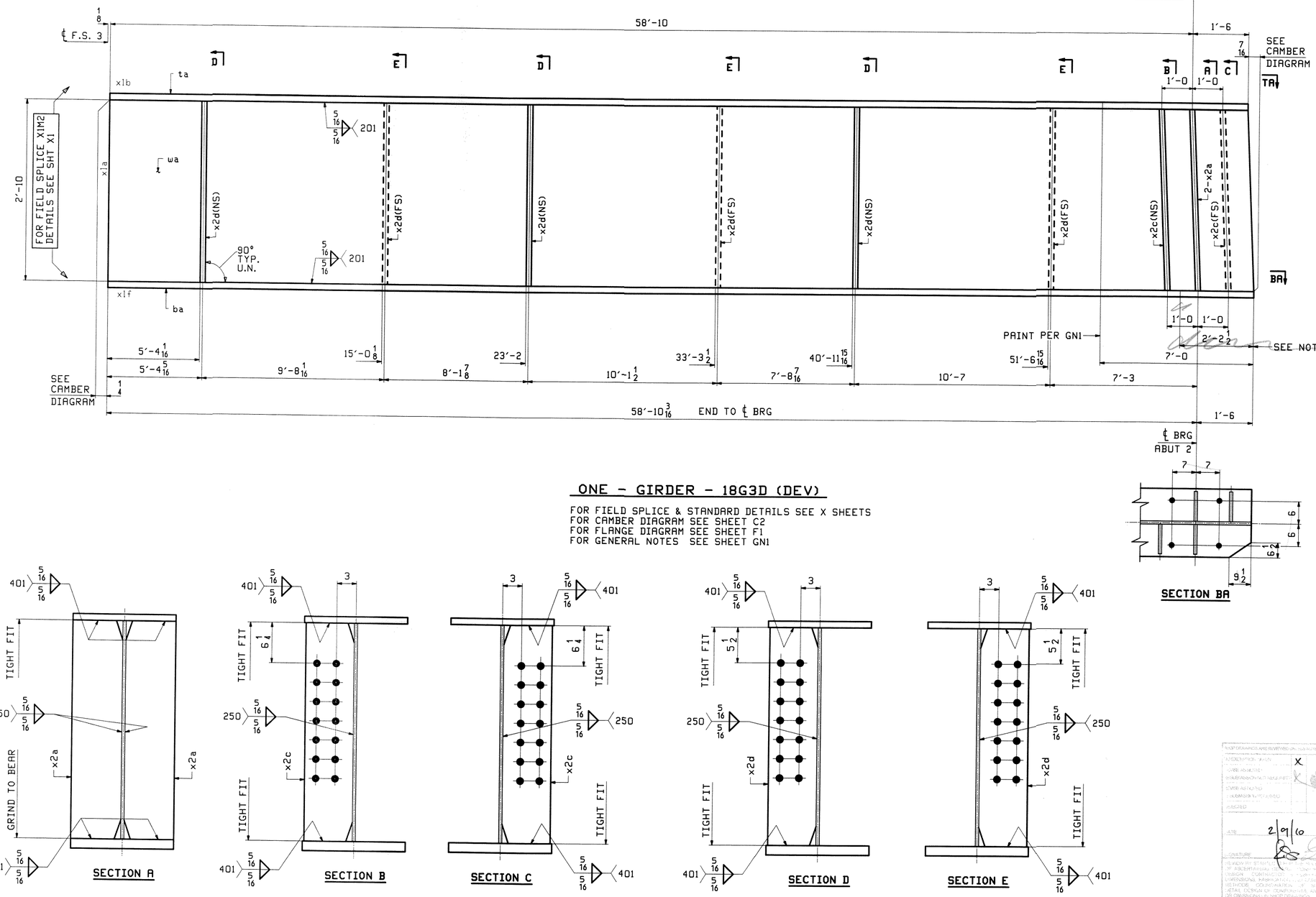
DRAWN: WJF
CHKD: DO

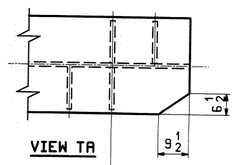
LOCATION: Putney
PROJ NO. IM 091-1(31)
CUSTOMER: VT AOT

JOB N 438

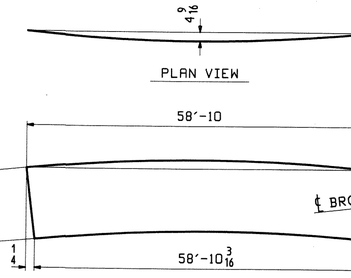
Fri, Jan 22, 2010 10:59:39 PM

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	D
								438	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT
		18G3D	1		GIRDER				121
4	N		1	wa	PL $\frac{1}{2}$x34	60	$4\frac{7}{16}$	M270-50WT2	
2	S		1	ta	PL 1x16	60	4	M270-50WT2	
1	E		1	ba	PL $1\frac{1}{2}$x16	60	$4\frac{3}{16}$	M270-50WT2	
6	K		2	x2a	PL $\frac{7}{8}$x$7\frac{3}{4}$	2	10	MIE	
6	L		2	x2c	PL $\frac{1}{2}$x$7\frac{1}{2}$	2	10		
6	L		6	x2d	PL $\frac{1}{2}$x$7\frac{1}{2}$	2	10		



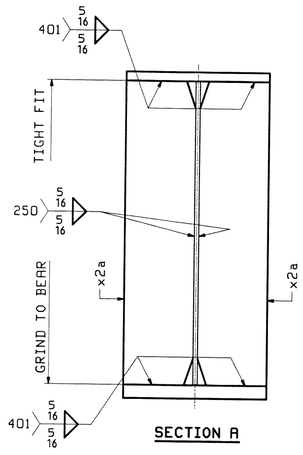


NOTE A:
NO PAINT BOTTOM AND EDGES OF BOTTOM FLA



ONE - GIRDER - 18G3D (DEV)

FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C2
FOR FLANGE DIAGRAM SEE SHEET F1
FOR GENERAL NOTES SEE SHEET GN1



SECTION A

SECTION B

SECTION C

SECTION D

SECTION E

0					
REV.	DATE	REMARKS	DWN	CHK	APVL

MATERIAL: M270-50W (UN)	SURFACE PREP. & PAINT: SEE GN1	HOLES: 15/16″Ø U.N.	SHO
DESCRIPTION:	GIRDER - 18G3D		

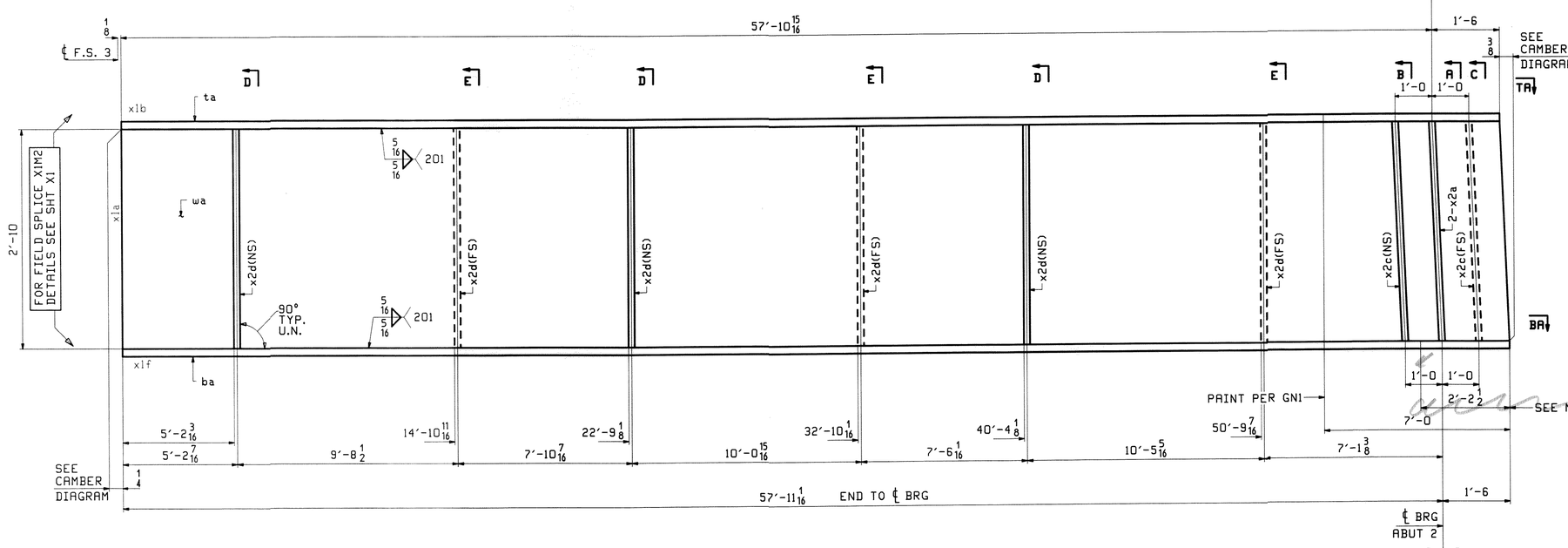
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

STRUCTURE:	U.S. 5 over I-91 Bridge No. 19A Putney County of Windham	DRAWN:	WJF
		CHK'D:	DO
LOCATION:	Putney	JOB NO	
PROJ NO.	IM 091-1(31)		438
CUSTOMER:	VT AOT		

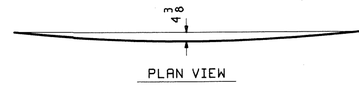
NOT DRAWINGS ARE REVIEWED ON THIS NOTED OTHERWISE
CONSTRUCTION PLANS
CODE ASSUMED
FABRICATION PLANS (SHOP DRAWINGS)
CODE ASTM A709
SUBMISSION REQUIRED
REQUIRED
DATE 2/9/10
SIGNATURE
REVIEW BY STRUCTURAL ENGINEER OF RECORD IS ONLY FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT AND THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. SHOP DRAWINGS REVIEWED BY THE ENGINEER ARE NOT TO BE USED FOR CONSTRUCTION UNLESS THEY HAVE BEEN REVIEWED AS "NO EXCEPTIONS TAKEN" OR "MAKE CORRECTIONS NOTED". THE CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION PROCESSES, TECHNIQUES OF ASSEMBLY AND ERECTION, QUANTITIES, AND FOR THE SATISFACTORY AND SAFE PERFORMANCE OF ALL CONSTRUCTION METHODS. COORDINATION OF THE WORK WITH THAT OF ALL OTHER TRADES AND THE SATISFACTORY CONSTRUCTION OF ALL DETAILS. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ERRORS OR OMISSIONS ON SHOP DRAWINGS.

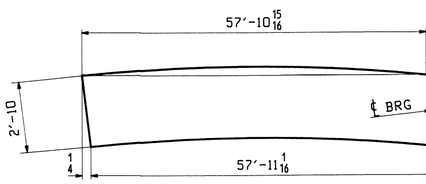
Fri Jan 29, 2010 11:59:19 AM //users/dbs/2545-18 R=0

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO. 438	DRAWING 19
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	P
		19G4D	1		GIRDER				11946	
4	Q		1	wa	PL $\frac{1}{2}$x34	59	$5\frac{5}{16}$	M270-50WT2		
2	U		1	ta	PL 1x16	59	$4\frac{15}{16}$	M270-50WT2		
1	G		1	ba	PL $1\frac{1}{2}$x16	59	$5\frac{5}{16}$	M270-50WT2		
6	K		2	x2a	PL $\frac{7}{8}$x$7\frac{3}{4}$	2	10	MIE		
6	L		2	x2c	PL $\frac{1}{2}$x$7\frac{1}{2}$	2	10			
6	L		6	x2d	PL $\frac{1}{2}$x$7\frac{1}{2}$	2	10			



NOTE A:
NO PAINT BOTTOM AND EDGES OF BOTTOM FLANGE

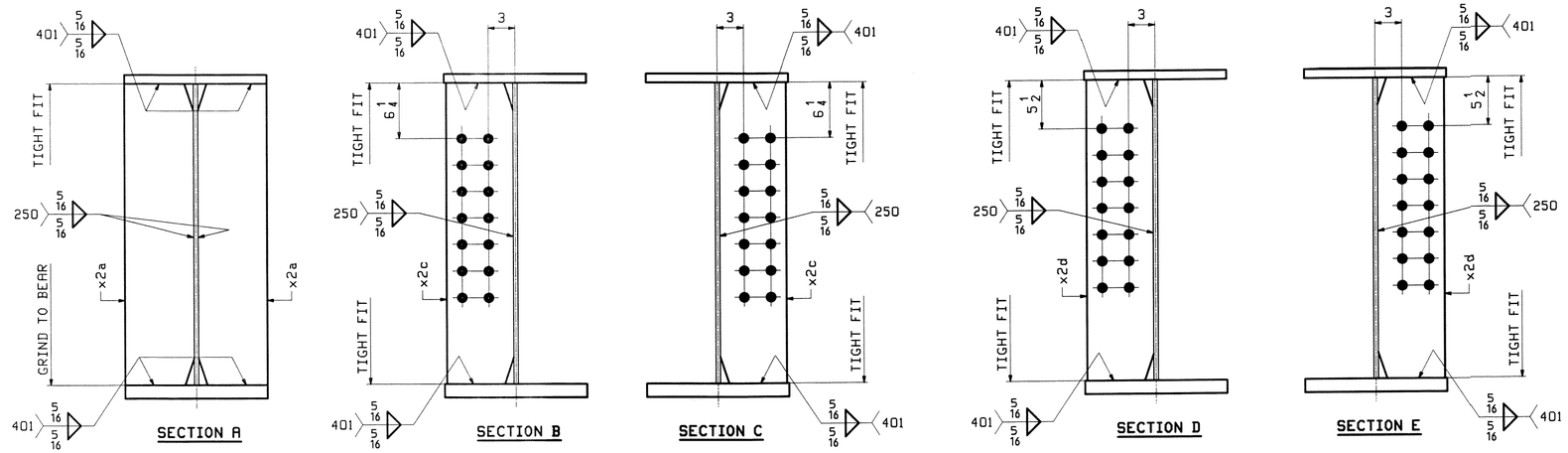




DEV. ORIENTATION DIAGRAM

ONE - GIRDER - 19G4D (DEV)

FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C2
FOR FLANGE DIAGRAM SEE SHEET F1
FOR GENERAL NOTES SEE SHEET GN1



REV.	DATE	REMARKS	DWN	CHK	APVL
0					JAN 2 9 20

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP
M270-50W (UN)	SEE GN1	15/16 ø U.N.	

DESCRIPTION: GIRDER - 19G4D

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

DRAWN: WJF
CHK'D: DO

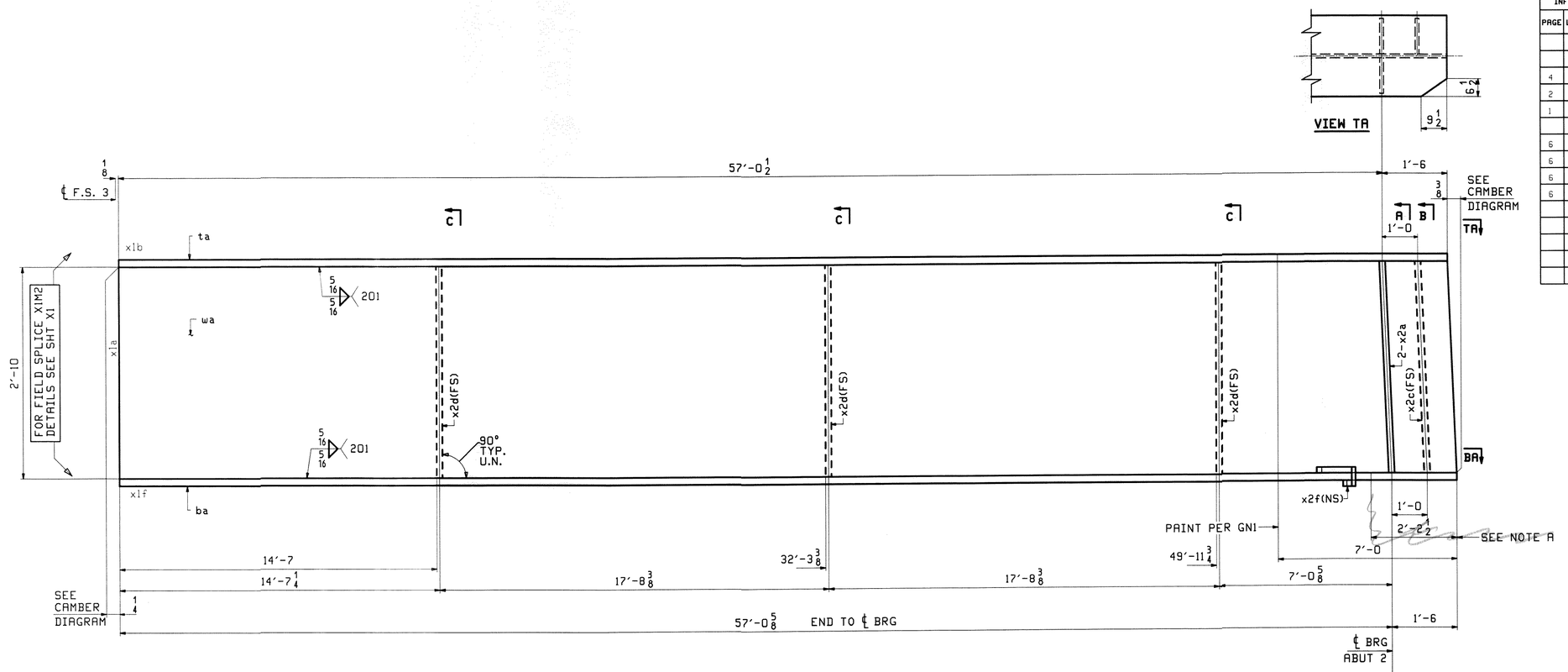
LOCATION: Putney
PROJ NO. IM 091-1(31)
CUSTOMER: VT AOT

JOB NO. 438

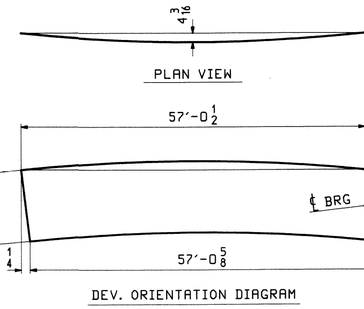
FOR DRAWINGS AND REVISIONS ISSUED - NOT APPROVED
X
DATE 2/7/20
SIGNATURE
REVIEW BY STRUCTURAL ENGINEER IS ONLY FOR PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION, ERECTION, CONSTRUCTION METHODS, COORDINATION OF SUB TRADES, DETAIL DESIGN OF COMPONENTS, AND ERRORS OR OMISSIONS ON SHOP DRAWINGS

DO Fri Jan 22, 2010 12:00:01 PM c:\work\jobs\2345\19.1 Rev:0

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO. 438	DRAWING 20
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT
		20G5D	1		GIRDER				11635
4	S		1	wa	PL $\frac{5}{16}$x34	58	6$\frac{7}{8}$	M270-50WT2	
2	W		1	ta	PL 1x16	58	6$\frac{1}{2}$	M270-50WT2	
1	J		1	ba	PL 1$\frac{1}{2}$x16	58	6$\frac{5}{8}$	M270-50WT2	
6	K		2	x2a	PL $\frac{7}{8}$x7$\frac{3}{4}$	2	10	MIE	
6	L		1	x2c	PL $\frac{1}{2}$x7$\frac{1}{2}$	2	10		
6	L		3	x2d	PL $\frac{1}{2}$x7$\frac{1}{2}$	2	10		
6	N		1	x2f	PL $\frac{1}{2}$x3$\frac{1}{2}$	0	11$\frac{1}{8}$		

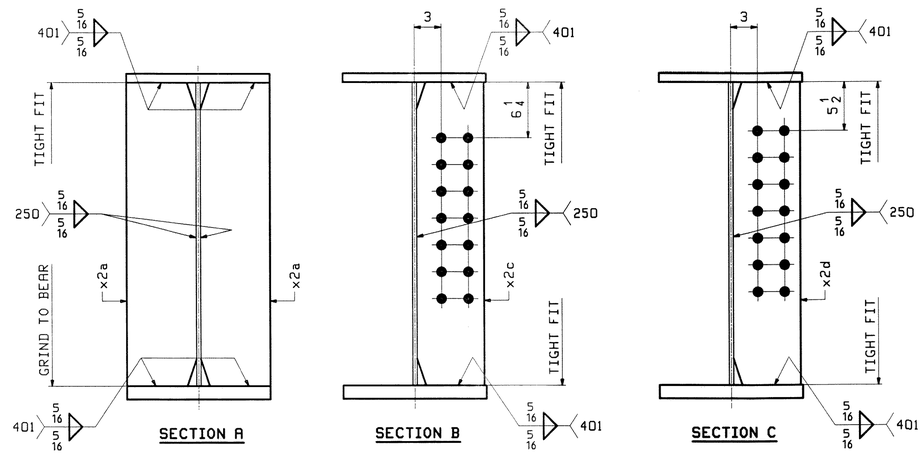


NOTE A:
NO PAINT BOTTOM AND EDGES OF BOTTOM FLANG



ONE - GIRDER - 20G5D (DEV)

FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS
FOR CAMBER DIAGRAM SEE SHEET C2
FOR FLANGE DIAGRAM SEE SHEET F1
FOR GENERAL NOTES SEE SHEET GN1



REV.	DATE	REMARKS	DWN	CHK	APVL
0					

JAN 2 1 2010

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP
M270-50W (UN)	SEE GN1	15/16"Ø U.N.	

DESCRIPTION: GIRDER - 20G5D

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

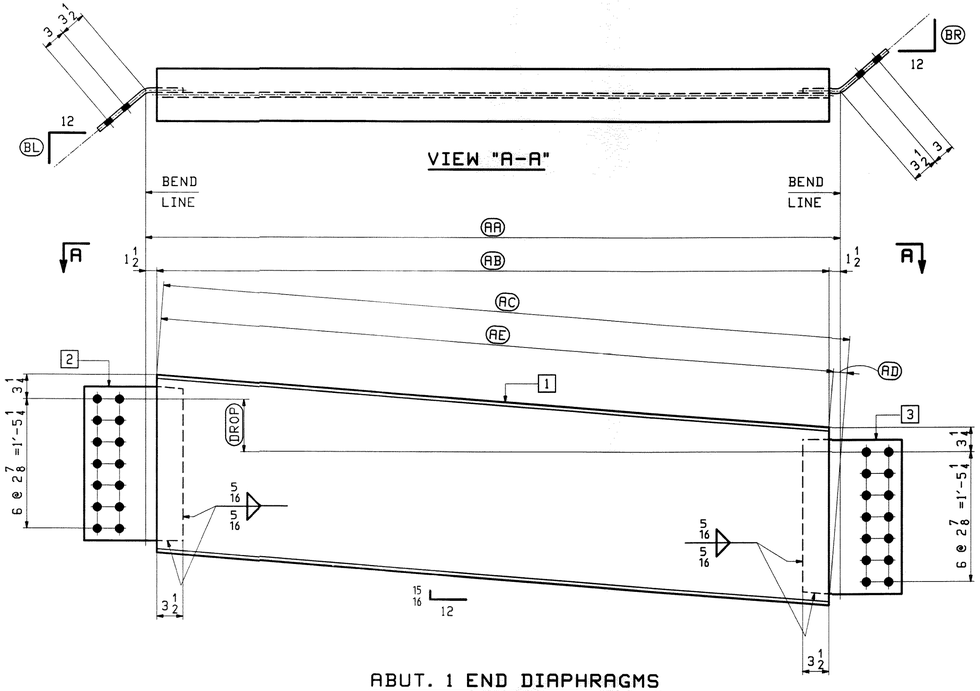
DRAWN: WJF
CHK'D: DO

LOCATION: Putney
PROJ NO. IM 091-1(31)
CUSTOMER: VT AOT

JOB NO. 438

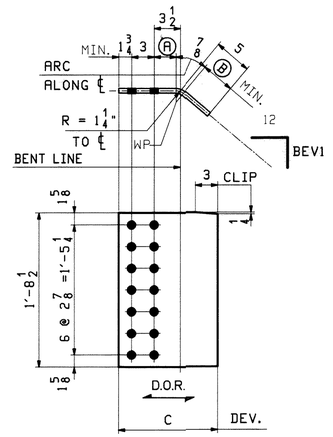
NOT TO BE USED FOR CONSTRUCTION UNLESS SIGNED BELOW
AS BUILT
REVISE AS NOTED
RESUBMIT REVISED PRINTS
MAKE CORRECTIONS NOTED
NO EXCEPTIONS NOTED
SUBMIT SPECIFIED ITEMS
REJECTED
DATE 2/9/10
SIGNATURE
REVIEW BY THIS OFFICE IS ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION, ERECTION, CONSTRUCTION METHODS, COORDINATION OF HIS TRADES, AND THE SATISFACTORY PERFORMANCE OF HIS WORK. REVIEW SHALL NOT RELIEVE CONTRACTOR OF RESPONSIBILITY FOR ERRORS IN DETAILS, DIMENSIONS OR QUANTITIES, OR FOR OMISSIONS FROM DRAWINGS.

D0 Fri Jan 22, 2010 12:00:31 PM c:\users\wjs\2545\20-1.dwg



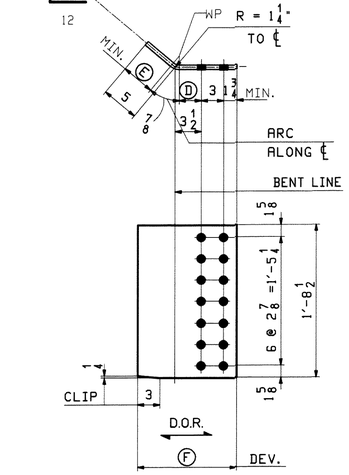
ABUT. 1 END DIAPHRAGMS

	MARK	QTY.	BL	BR	DROP	AA	AB	AC	AD	AE	1	2	3
LINE 5-4	**21D1**	1	10 1/8	10 3/16	7	7'-9 1/16	7'-6 1/16	7'-8 1/8	1 13/16	7'-6 5/16	a21	f21	m21
LINE 4-3	**21D2**	1	10 1/4	10 3/8	7 1/8	7'-9 9/16	7'-6 9/16	7'-8 11/16	1 7/8	7'-6 13/16	b21	g21	n21
LINE 3-2	**21D3**	1	10 3/8	10 1/2	7	7'-10 1/16	7'-7 1/16	7'-9 1/8	1 13/16	7'-7 5/16	c21	h21	p21
LINE 2-1	**21D4**	1	10 1/2	10 5/8	7 1/8	7'-10 5/8	7'-7 5/8	7'-9 3/4	1 13/16	7'-7 7/8	d21	k21	s21



BENT PL'S

MARK	QTY.	BEV1	Ⓐ	Ⓑ	Ⓒ
f21	1	10 1/8	3 1/16	4 9/16	1'-1 1/4
g21	1	10 1/4	3 1/16	4 9/16	1'-1 1/4
h21	1	10 3/8	3 1/16	4 9/16	1'-1 1/4
k21	1	10 1/2	3	4 1/2	1'-1 1/8



BENT PL'S

MARK	QTY.	BEV2	Ⓓ	Ⓔ	Ⓕ
m21	1	10 3/16	3 1/16	4 9/16	1'-1 1/4
n21	1	10 3/8	3 1/16	4 9/16	1'-1 1/4
p21	1	10 1/2	3	4 1/2	1'-1 1/8
s21	1	10 5/8	3	4 1/2	1'-1 1/8

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROC N
		21D1	1		END DIAPHRAGM				499	
7	C		1	a21	W 24x55	7	8 1/8	M270-50WT2		
7	J		1	f21	PL 1/2x20 1/2	1	1 1/4	(BENT) M270-50WT2		
7	J		1	m21	PL 1/2x20 1/2	1	1 1/4	(BENT) M270-50WT2		
		21D2	1		END DIAPHRAGM				502	
7	C		1	b21	W 24x55	7	8 11/16	M270-50WT2		
7	J		1	g21	PL 1/2x20 1/2	1	1 1/4	(BENT) M270-50WT2		
7	J		1	n21	PL 1/2x20 1/2	1	1 1/4	(BENT) M270-50WT2		
		21D3	1		END DIAPHRAGM				503	
7	C		1	c21	W 24x55	7	9 1/8	M270-50WT2		
7	J		1	h21	PL 1/2x20 1/2	1	1 1/4	(BENT) M270-50WT2		
7	J		1	p21	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2		
		21D4	1		END DIAPHRAGM				506	
7	C		1	d21	W 24x55	7	9 3/4	M270-50WT2		
7	J		1	k21	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2		
7	J		1	s21	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2		

BILL OF MATERIAL

JOB NO. 438 — DRAWING NO. 21

REV.	DATE	REMARKS	DWN	CHK	APVL
0					JAN 25 2010

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLT
M270-50W (UN)	SEE GN1	15/16 ø	NONE

DESCRIPTION: ABUT1 DIAPHRAGMS

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

DRAWN: TS
CHK'D: DO

LOCATION: Putney
PROJ NO. IM 091-1(31)
CUSTOMER: VT AOT

JOB NO. 438

SIGN DRAWINGS ARE MEANT TO SHOW ONLY THE DESCRIPTION AND SIZE OF THE SIGNS AND THEIR RELATIVE LOCATION. THE CONTRACTOR IS RESPONSIBLE FOR ASCERTAINING THE EXACT LOCATION OF ALL SIGNS AND FOR THE CORRECT FABRICATION AND ERECTION OF ALL SIGNS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, CONDITIONS AND METHODS OF CONSTRUCTION IN THE FIELD BEFORE STARTING DETAIL DESIGN OF COMPONENTS AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR OMISSIONS ON SHOP DRAWINGS.

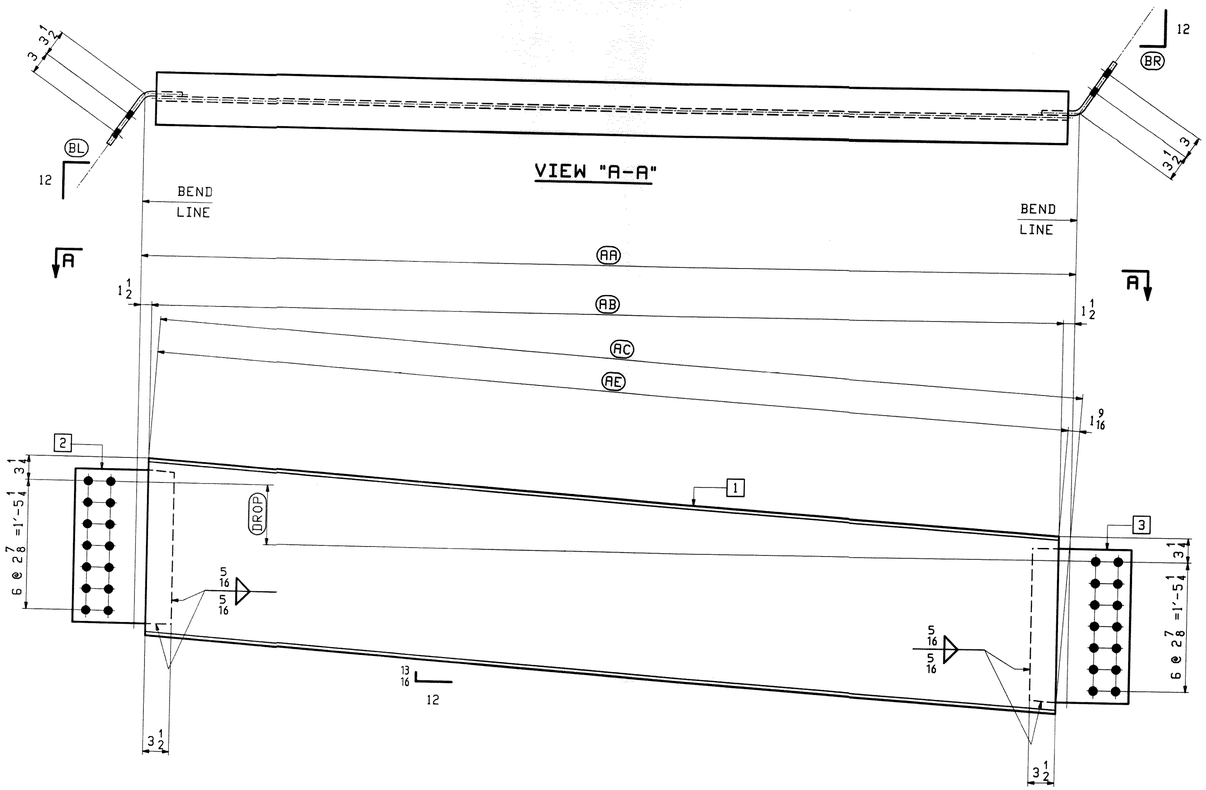
REVIEWED BY STANTEC CONSULTING SERVICES INC. FOR CONFORMANCE WITH THE DESIGN CONCEPT AND COMPLIANCE WITH THE CONTRACT DOCUMENTS. THE REVIEW DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE SHOP DRAWINGS OR FOR MEETING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS.

Stantec

DATE 2/9/10

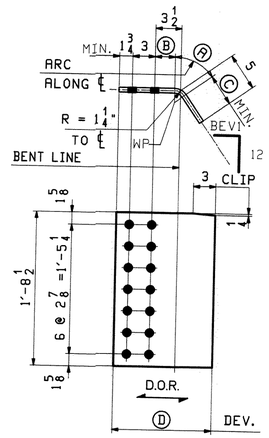
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DD Fri, Jan 29, 2010 11:27:07 PM J:\projects\2009\21 Revit



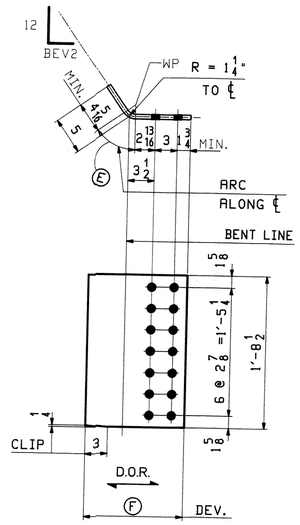
ABUT. 2 END DIAPHRAGMS

	MARK	QTY.	BL	BR	DROP	AA	AB	AC	AE	1	2	3
LINE 5-4	22D1	1	8 3/8	8 3/16	8	10'-5 1/8	10'-2 1/8	10'-3 15/16	10'-2 3/8	a22	f22	m22
LINE 4-3	22D2	1	8 1/8	8	8 1/8	10'-7 1/4	10'-4 1/4	10'-6 1/16	10'-4 1/2	b22	g22	n22
LINE 3-2	22D3	1	7 15/16	7 13/16	8 5/16	10'-9 7/16	10'-6 7/16	10'-8 1/4	10'-6 11/16	c22	h22	p22
LINE 2-1	22D4	1	7 3/4	7 9/16	8 9/16	10'-11 13/16	10'-8 13/16	10'-10 11/16	10'-9 1/8	d22	k22	s22



BENT PL'S

MARK	QTY.	BEV1	Ⓐ	Ⓑ	Ⓒ	Ⓓ
f22	1	8 3/8	1 3/16	2 7/8	4 3/8	1'-1 3/16
g22	1	8 1/8	1 1/4	2 13/16	4 5/16	1'-1 1/8
h22	1	7 15/16	1 1/4	2 13/16	4 5/16	1'-1 1/8
k22	1	7 3/4	1 1/4	2 13/16	4 5/16	1'-1 1/8



BENT PL'S

MARK	QTY.	BEV2	Ⓔ	Ⓕ
m22	1	8 3/16	1 3/16	1'-1 1/16
n22	1	8	1 1/4	1'-1 1/8
p22	1	7 13/16	1 1/4	1'-1 1/8
s22	1	7 9/16	1 1/4	1'-1 1/8

BILL OF MATERIAL

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT
		22D1	1		END DIAPHRAGM				644
7	D		1	a22	W 24x55	10	3 15/16	M270-50WT2	
7	J		1	f22	PL 1/2x20 1/2	1	3 1/16	(BENT) M270-50WT2	
7	J		1	m22	PL 1/2x20 1/2	1	1 1/16	(BENT) M270-50WT2	
		22D2	1		END DIAPHRAGM				654
7	D		1	b22	W 24x55	10	6 1/16	M270-50WT2	
7	J		1	g22	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2	
7	J		1	n22	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2	
		22D3	1		END DIAPHRAGM				664
7	E		1	c22	W 24x55	10	8 1/4	M270-50WT2	
7	J		1	h22	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2	
7	J		1	p22	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2	
		22D4	1		END DIAPHRAGM				675
7	E		1	d22	W 24x55	10	10 11/16	M270-50WT2	
7	J		1	k22	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2	
7	J		1	s22	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2	

JOB NO. 438 | DRAWIN 22

REV.	DATE	REMARKS	DWN	CHK	APVL
0					

MATERIAL: M270-50W (UN) | SURFACE PREP. & PAINT: SEE GN1 | HOLES: 15/16 ø | SHOP BOLTS: NONE

DESCRIPTION: ABUT2 DIAPHRAGMS

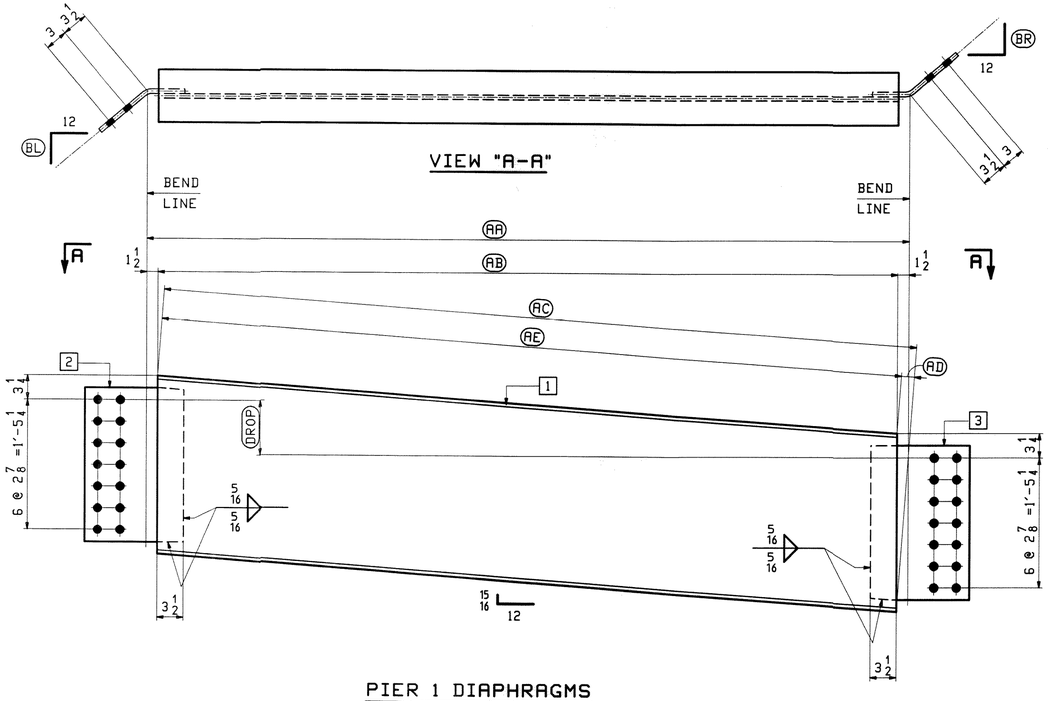
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

DRAWN: TS | DATE: 0
CHKD: DO | DATE: 0

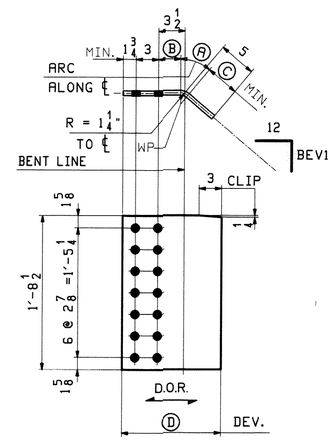
LOCATION: Putney | JOB NO. | DW
PROJ NO. IM 091-1(3) | 438 | REV
CUSTOMER: VT AOT

Fri, Jan 22, 2010 11:27:34 AM //casco_bay/jobs/438/22/abut2.dwg



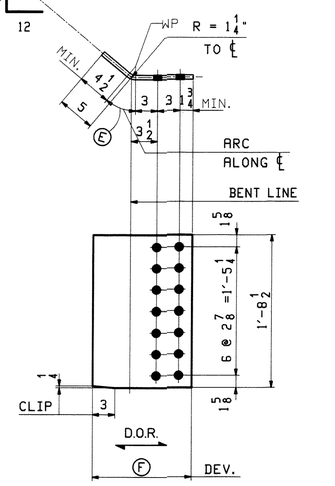
PIER 1 DIAPHRAGMS

	MARK	QTY.	BL	BR	DROP	AA	AB	AC	AD	AE	1	2	3
LINE 5-4	**23D1**	1	10 3/8	10 1/2	7 1/8	7'-10 3/16	7'-7 3/16	7'-9 5/16	1 7/8	7'-7 7/16	a23	f23	m23
LINE 4-3	**23D2**	1	10 9/16	10 11/16	7 1/8	7'-10 13/16	7'-7 13/16	7'-9 7/8	1 13/16	7'-8 1/16	b23	g23	n23
LINE 3-2	**23D3**	1	10 3/4	10 7/8	7 1/4	7'-11 7/16	7'-8 7/16	7'-10 5/8	1 7/8	7'-8 3/4	c23	h23	p23
LINE 2-1	**23D4**	1	10 7/8	11	7 1/8	8'-0 1/8	7'-9 1/8	7'-11 3/16	1 13/16	7'-9 3/8	d23	k23	s23



BENT PL'S

MARK	QTY.	BEV1	Ⓐ	Ⓑ	Ⓒ	Ⓓ
f23	1	10 3/8	7/8	3 1/16	4 9/16	1'-1 1/4
g23	1	10 9/16	7/8	3	4 1/2	1'-1 1/8
h23	1	10 3/4	15/16	3	4 1/2	1'-1 3/16
k23	1	10 7/8	15/16	3	4 1/2	1'-1 3/16



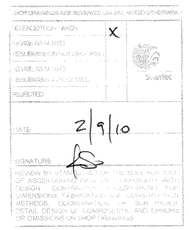
BENT PL'S

MARK	QTY.	BEV2	Ⓔ	Ⓕ
m23	1	10 1/2	7/8	1'-1 1/8
n23	1	10 11/16	15/16	1'-1 3/16
p23	1	10 7/8	15/16	1'-1 3/16
s23	1	11	15/16	1'-1 3/16

BILL OF MATERIAL

JOB NO. 438 — DRAWI 23

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT
		23D1	1		PIER DIAPHRAGM				504
7	F		1	a23	W 24x55	7	9 5/16	M270-50WT2	
7	J		1	f23	PL 1/2x20 1/2	1	1 1/4	(BENT) M270-50WT2	
7	J		1	m23	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2	
		23D2	1		PIER DIAPHRAGM				507
7	F		1	b23	W 24x55	7	9 7/8	M270-50WT2	
7	J		1	g23	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2	
7	J		1	n23	PL 1/2x20 1/2	1	1 3/16	(BENT) M270-50WT2	
		23D3	1		PIER DIAPHRAGM				510
7	F		1	c23	W 24x55	7	10 5/8	M270-50WT2	
7	J		1	h23	PL 1/2x20 1/2	1	1 3/16	(BENT) M270-50WT2	
7	J		1	p23	PL 1/2x20 1/2	1	1 3/16	(BENT) M270-50WT2	
		23D4	1		PIER DIAPHRAGM				513
7	F		1	d23	W 24x55	7	11 3/16	M270-50WT2	
7	J		1	k23	PL 1/2x20 1/2	1	1 3/16	(BENT) M270-50WT2	
7	J		1	s23	PL 1/2x20 1/2	1	1 3/16	(BENT) M270-50WT2	



REV.	DATE	REMARKS	DWN	CHK	APVL
0	JAN 29 2010				

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP
M270-50W (UN)	SEE GN1	15/16 ø	NO

DESCRIPTION: PIER 1 DIAPHRAGMS

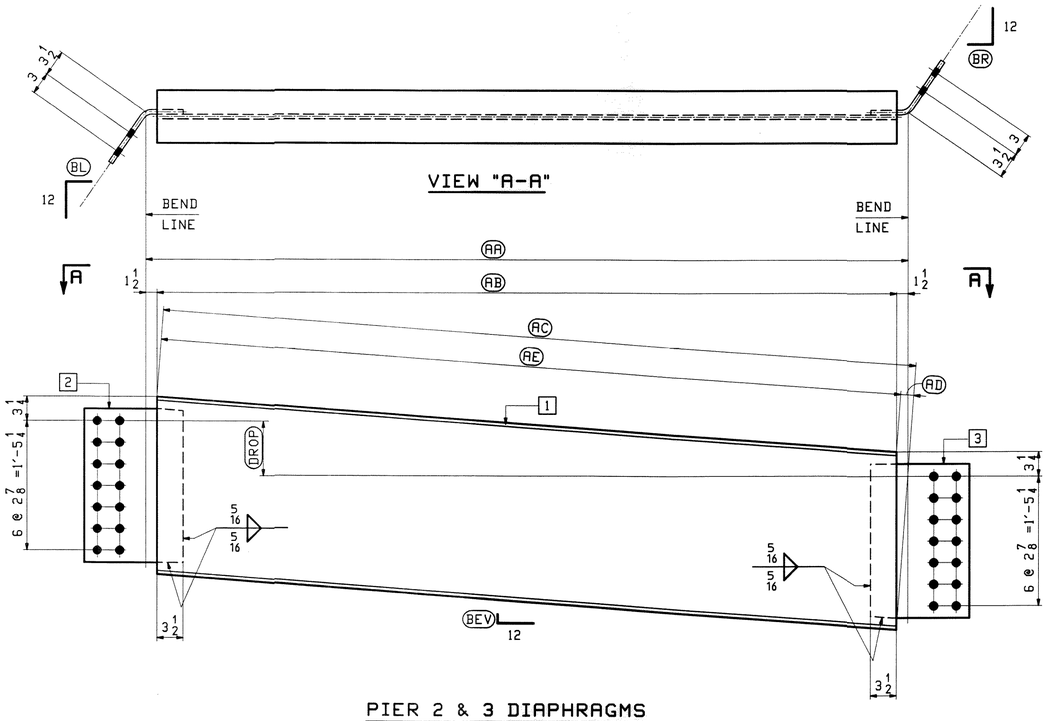
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

DRAWN: TS
CHKD: DO
JOB NO. 438

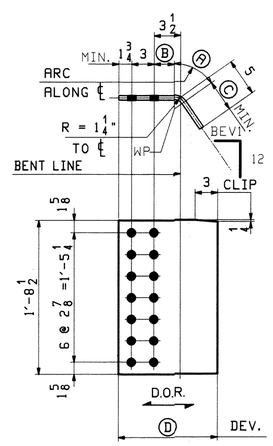
LOCATION: Putney
PROJ NO. IM 091-1(31)
CUSTOMER: VT AOT

/users/jobs/2845/23 | Rev0
Fri, Jan 29, 2010 11:29:47 AM
DO



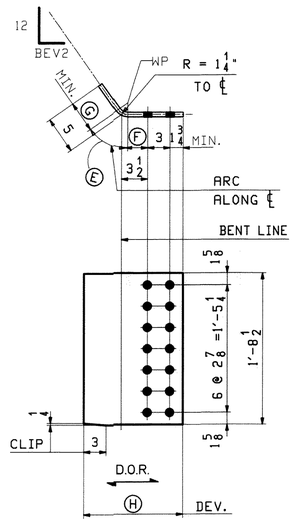
PIER 2 & 3 DIAPHRAGMS

	MARK	QTY.	BEV	BL	BR	DROP	AA	AB	AC	AD	AE	1	2	3
LINE 5-4	**24D1**	1	7/8	11 11/16	11 9/16	7 1/4	8'-6 1/16	8'-3 1/16	8'-5 1/16	1 3/4	8'-3 5/16	a24	m24	aa24
LINE 4-3	**24D2**	1	7/8	11 1/2	11 3/8	7 5/16	8'-6 15/16	8'-3 15/16	8'-5 15/16	1 3/4	8'-4 3/16	b24	n24	ab24
LINE 3-2	**24D3**	1	7/8	11 5/16	11 1/8	7 5/16	8'-7 15/16	8'-4 15/16	8'-6 7/8	1 11/16	8'-5 3/16	c24	p24	ac24
LINE 2-1	**24D4**	1	7/8	11 1/8	10 15/16	7 5/16	8'-8 15/16	8'-5 15/16	8'-7 7/8	1 11/16	8'-6 3/16	d24	s24	ad24
LINE 5-4	**24D5**	1	13/16	9 15/16	9 3/4	7 7/16	9'-3 15/16	9'-0 15/16	9'-2 13/16	1 5/8	9'-1 3/16	f24	t24	af24
LINE 4-3	**24D6**	1	13/16	9 3/4	9 9/16	7 1/2	9'-5 3/8	9'-2 3/8	9'-4 1/4	1 5/8	9'-2 5/8	g24	v24	ag24
LINE 3-2	**24D7**	1	13/16	9 1/2	9 3/8	7 1/2	9'-6 7/8	9'-3 7/8	9'-5 11/16	1 9/16	9'-4 1/8	h24	w24	ah24
LINE 2-1	**24D8**	1	13/16	9 5/16	9 1/8	7 1/2	9'-8 7/16	9'-5 7/16	9'-7 1/4	1 9/16	9'-5 11/16	k24	y24	ak24



BENT PL'S

MARK	QTY.	BEV1	Ⓐ	Ⓑ	Ⓒ	Ⓓ
m24	1	11 11/16	1	3	4 1/2	1'-1 1/4
n24	1	11 1/2	1	2 15/16	4 7/16	1'-1 1/8
p24	1	11 5/16	1	2 15/16	4 7/16	1'-1 1/8
s24	1	11 1/8	1	2 15/16	4 7/16	1'-1 1/8
t24	1	9 15/16	1 1/8	2 15/16	4 7/16	1'-1 1/4
v24	1	9 3/4	1 1/8	2 7/8	4 3/8	1'-1 1/8
w24	1	9 1/2	1 1/8	2 7/8	4 3/8	1'-1 1/8
y24	1	9 5/16	1 1/8	2 7/8	4 3/8	1'-1 1/8



BENT PL'S

MARK	QTY.	BEV2	Ⓔ	Ⓕ	Ⓖ	Ⓗ	MARK	QTY.	BEV2	Ⓔ	Ⓕ	Ⓖ	Ⓗ
aa24	1	11 9/16	1	2 15/16	4 7/16	1'-1 1/8	**af24**	1	9 3/4	1 1/8	2 7/8	4 3/8	1'-1 1/8
ab24	1	11 3/8	1	2 15/16	4 7/16	1'-1 1/8	**ag24**	1	9 9/16	1 1/8	2 7/8	4 3/8	1'-1 1/8
ac24	1	11 1/8	1	2 15/16	4 7/16	1'-1 1/8	**ah24**	1	9 3/8	1 1/8	2 7/8	4 3/8	1'-1 1/8
ad24	1	10 15/16	1 1/16	2 15/16	4 7/16	1'-1 3/16	**ak24**	1	9 1/8	1 1/8	2 7/8	4 3/8	1'-1 1/8

BILL OF MATERIAL

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PR
		24D1	1		PIER DIAPHRAGM				540	
7	G		1	a24	W 24x55	8	5 1/16	M270-50WT2		
7	J		1	m24	PL 1/2x20 1/2	1	1 1/4	(BENT) M270-50WT2		
7	J		1	aa24	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2		
		24D2	1		PIER DIAPHRAGM				544	
7	G		1	b24	W 24x55	8	5 15/16	M270-50WT2		
7	J		1	n24	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2		
7	J		1	ab24	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2		
		24D3	1		PIER DIAPHRAGM				548	
7	G		1	c24	W 24x55	8	6 7/8	M270-50WT2		
7	J		1	p24	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2		
7	J		1	ac24	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2		
		24D4	1		PIER DIAPHRAGM				553	
7	G		1	d24	W 24x55	8	7 7/8	M270-50WT2		
7	J		1	s24	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2		
7	J		1	ad24	PL 1/2x20 1/2	1	1 3/16	(BENT) M270-50WT2		
		24D5	1		PIER DIAPHRAGM				585	
7	H		1	f24	W 24x55	9	2 13/16	M270-50WT2		
7	J		1	t24	PL 1/2x20 1/2	1	1 1/4	(BENT) M270-50WT2		
7	J		1	af24	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2		
		24D6	1		PIER DIAPHRAGM				591	
7	H		1	g24	W 24x55	9	4 1/4	M270-50WT2		
7	J		1	v24	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2		
7	J		1	ag24	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2		
		24D7	1		PIER DIAPHRAGM				597	
7	H		1	h24	W 24x55	9	5 11/16	M270-50WT2		
7	J		1	w24	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2		
7	J		1	ah24	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2		
		24D8	1		PIER DIAPHRAGM				605	
7	H		1	k24	W 24x55	9	7 1/4	M270-50WT2		
7	J		1	y24	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2		
7	J		1	ak24	PL 1/2x20 1/2	1	1 1/8	(BENT) M270-50WT2		

REV.	DATE	REMARKS	DWN	CHK	APVL
D					JAN 29 2010

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BO
M270-50W (UN)	SEE GN1	15/16 ø	NON

DESCRIPTION: PIER 2 & 3 DIAPHRAGMS

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

STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

DRAWN: TS
CHKD: DO

LOCATION: Putney
PROJ NO. IM 091-1(31)
CUSTOMER: VT AOT

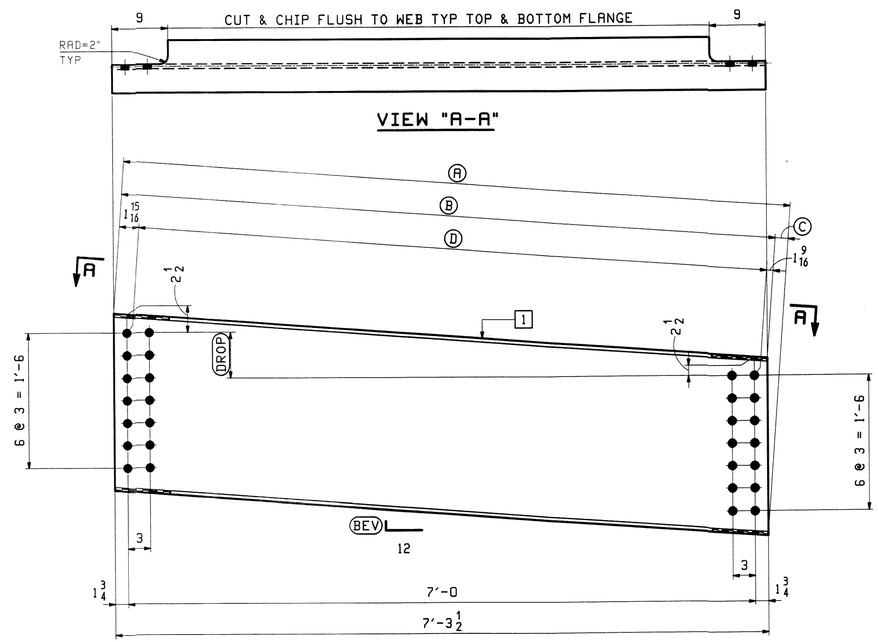
JOB NO. 438

JOB NO. 438 DRAWING 24

THIS DRAWING ARE RESERVATIONS FOR REPRODUCTION, PUBLICATION, COPYRIGHT WITH CONTRACTOR IS RESPONSIBLE FOR CHANGE MANUFACTURE WITH DIMENSIONS ON SITE, COORDINATION OF SUB-TRADES, CHECKING OF EQUIPMENTS AND WORKING DRAWINGS BEFORE ON SHOP DRAWINGS

2/9/10

Fri Jan 22, 2010 11:27:57 AM //users/jobs/2845/24 : Rev:0
DO



INTERMEDIATE DIAPHRAGMS

LOOKING DOWNSTATION

MARK	QTY.	DROP	BEVEL	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ
25D1	8	5 1/2	13/16	7'-5 1/4	7'-3 11/16	1 9/16	7'-0 3/16	1 15/16	1 5/8
25D2	4	5 5/8	13/16	7'-5 1/4	7'-3 11/16	1 9/16	7'-0 3/16	1 15/16	1 9/16
25D3	16	5 3/4	13/16	7'-5 5/16	7'-3 11/16	1 5/8	7'-0 3/16	1 15/16	1 9/16
25D4	4	6	7/8	7'-5 3/8	7'-3 11/16	1 11/16	7'-0 3/16	1 15/16	1 9/16
25D5	4	6 1/8	7/8	7'-5 7/16	7'-3 3/4	1 11/16	7'-0 1/4	1 15/16	1 9/16
25D6	9	6 1/4	7/8	7'-5 1/2	7'-3 3/4	1 3/4	7'-0 1/4	1 15/16	1 9/16
25D7	3	6 3/8	15/16	7'-5 9/16	7'-3 3/4	1 13/16	7'-0 1/4	1 15/16	1 9/16
25D8	16	6 1/2	15/16	7'-5 9/16	7'-3 3/4	1 13/16	7'-0 1/4	1 15/16	1 9/16

BILL OF MATERIAL

JOB NO. 438 — DRAWIN 25

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT
		25D1	8		INTR DIAPHRAGM				409
7	B		8	a25	W 24x55	7	5 1/4	M270-50WT2	
		25D2	4		INTR DIAPHRAGM				409
7	B		4	b25	W 24x55	7	5 1/4	M270-50WT2	
		25D3	16		INTR DIAPHRAGM				409
7	B		16	c25	W 24x55	7	5 5/16	M270-50WT2	
		25D4	4		INTR DIAPHRAGM				410
7	B		4	d25	W 24x55	7	5 3/8	M270-50WT2	
		25D5	4		INTR DIAPHRAGM				410
7	B		4	f25	W 24x55	7	5 7/16	M270-50WT2	
		25D6	9		INTR DIAPHRAGM				410
7	B		9	g25	W 24x55	7	5 1/2	M270-50WT2	
		25D7	3		INTR DIAPHRAGM				410
7	B		3	h25	W 24x55	7	5 9/16	M270-50WT2	
		25D8	16		INTR DIAPHRAGM				410
7	B		16	k25	W 24x55	7	5 9/16	M270-50WT2	

ALL DRAWINGS ARE RELEASED UNLESS NOTED OTHERWISE
DESCRIPTION: AS/IS
AS/IS AS NOTED
RESUBMISSION NOT REQUIRED
AS/IS AS NOTED
DISAPPROVED, NOT RELEASED
REJECTED
Stantec
DATE 2/9/10
SIGNATURE
REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL CONCEPT. STANTEC IS RESPONSIBLE FOR: DIMENSIONS; FABRICATION; ERECTION; CONSTRUCTION; COORDINATION OF SUB-TRADES; METHODS; TECHNIQUES; SAFETY PRECAUTIONS; AND PERFORMING ALL WORK IN A SAFE MANNER. STANTEC IS NOT RESPONSIBLE FOR DETAIL DESIGN OF COMPONENTS AND ERRORS OR OMISSIONS ON SHOP DRAWINGS

REV.	DATE	REMARKS	DWN	CHK	APVL
0					JAN 2 0

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP
M270-50W (UN)	SEE GN1	15/16 ø	

DESCRIPTION: INT DIAPHRAGMS

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

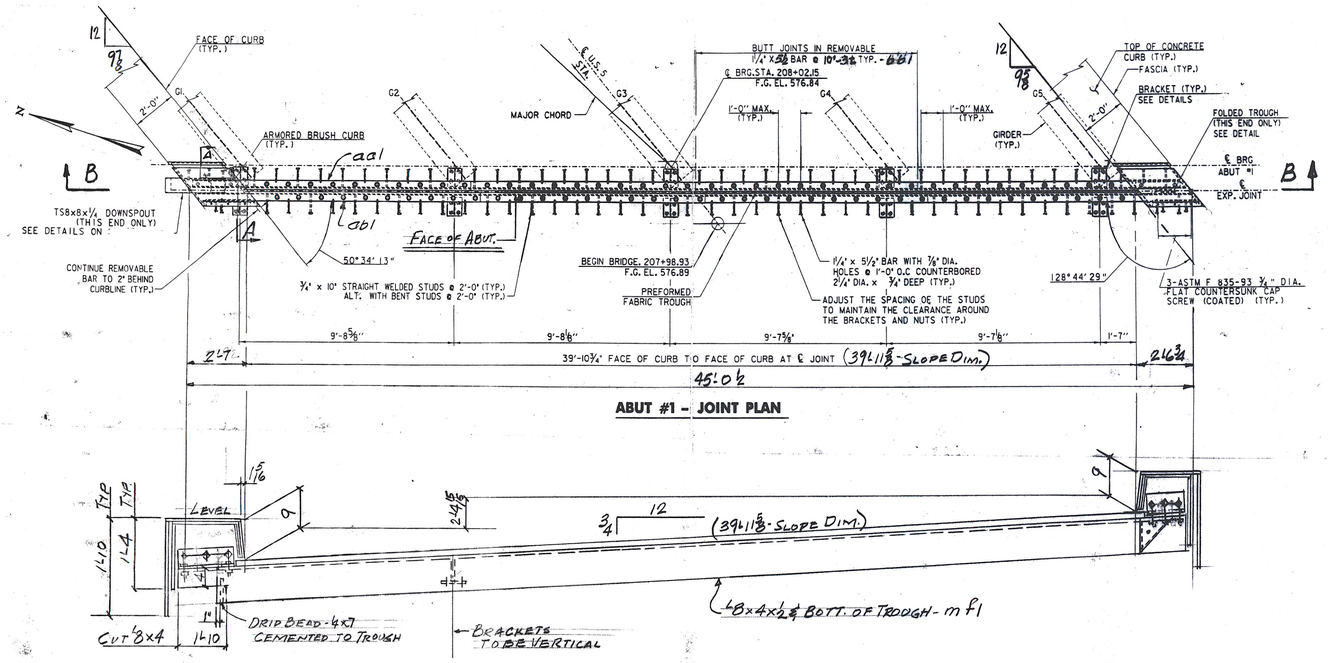
STRUCTURE: U.S. 5 over I-91
Bridge No. 19A
Putney
County of Windham

DRAWN: TS
CHKD: DO

LOCATION: Putney
JOB NO
PROJ NO. IM 091-1(31)
438
CUSTOMER: VT AOT

Fri, Jan 22, 2010 11:28:37 AM K:\2007\JOBS\7245\25\ Rev0
DO

JOB NO. 438 | DRG. NO. J1

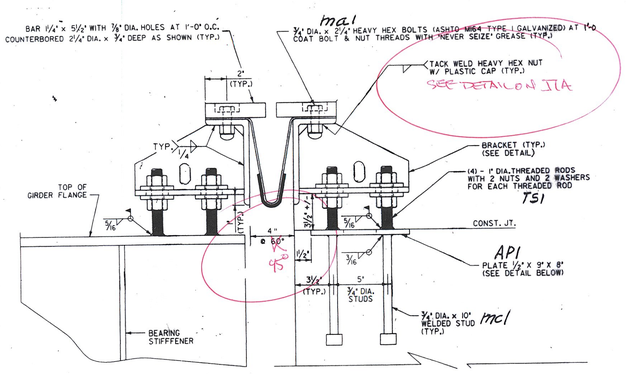


ABUT #1 - JOINT PLAN

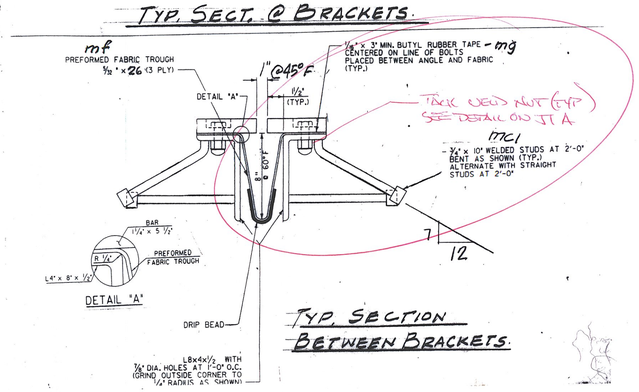
B-B

EJ1 - ONE REQ'D (@ ABUT. #1)

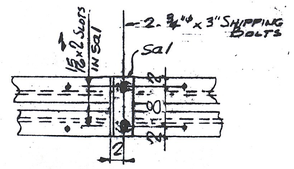
FOR CURB DETAILS & SHOP BILL, SEE DWG. J1A



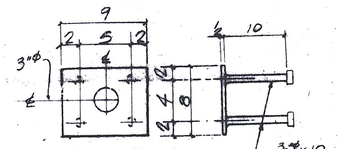
TYP. SECT. @ BRACKETS



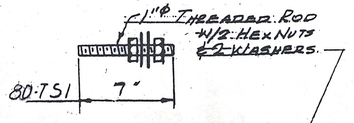
TYP. SECTION BETWEEN BRACKETS

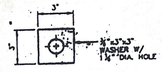


SHIPPING DEVICE SPACED 5'-0" OC. MAX.

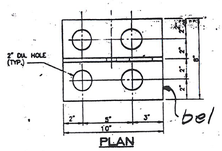


API-10-REQ'D

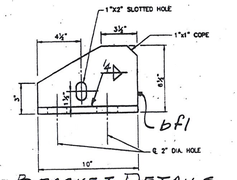




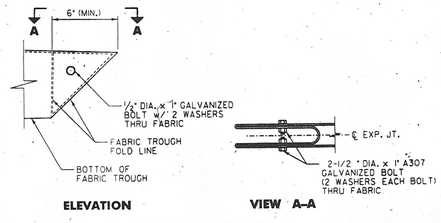
WASHER FOR BRACKET W1



PLAN



BRACKET DETAILS



ELEVATION VIEW A-A

FOLDED TROUGH END DETAILS

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE
NO EXCEPTION TAKEN
REVISE AS NOTED — RESUBMISSION NOT REQUIRED
REVISE AS NOTED — RESUBMISSION REQUIRED
REJECTED
DATE 4/22/10
SIGNATURE
Stantec
REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS AND ERRORS OR OMISSIONS ON SHOP DRAWINGS

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	4/14/10									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

PROJECT NO. IM 091-1(31) STATE PROJECT NO. BRIDGE No. 19A

MATERIAL: AASHTO M270 Gr. 36 | ELECTRODES: SEE PROC | HOLES: AS NOTED | SHOP BOLTS: ¾" ø A325 GALV.

SURFACE PREP. & PAINT:

GALVANIZE PER SUBSECT. 506.15

DESCRIPTION: EXP. JOINT - ABUT. #1

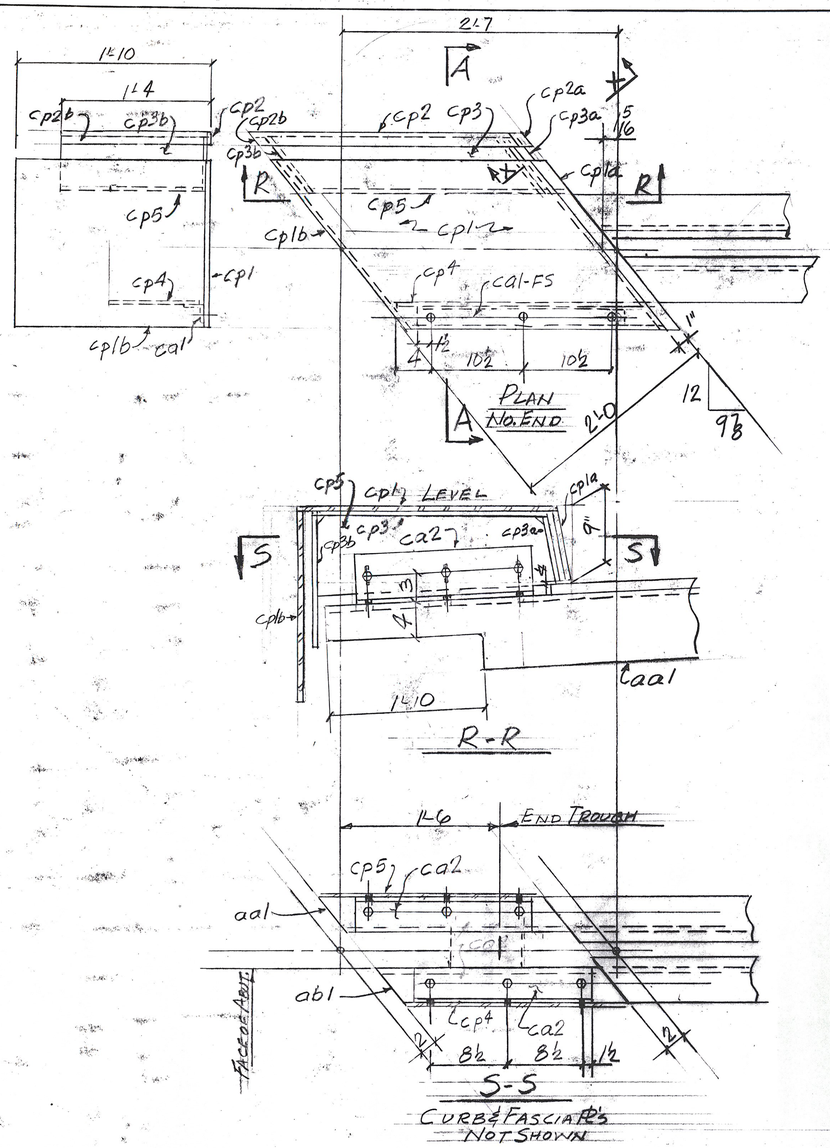
JOB: US ROUTE 5 OVER I 91, PUTNEY, VERMONT

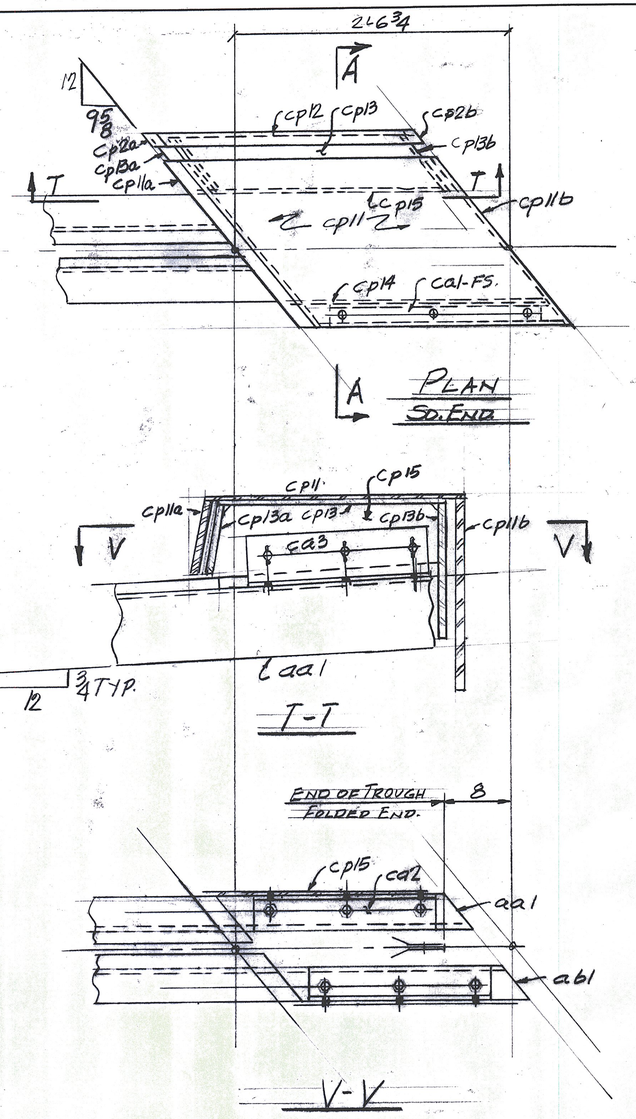
CUSTOMER: J.A. MC DONALD

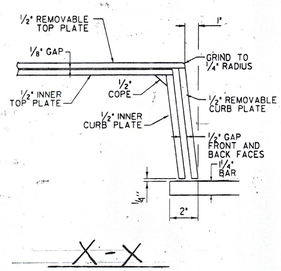
	DRAWN BY	DATE
	JPF	3-10
CHKD BY	CR	
APPROV BY		
Q.A.		

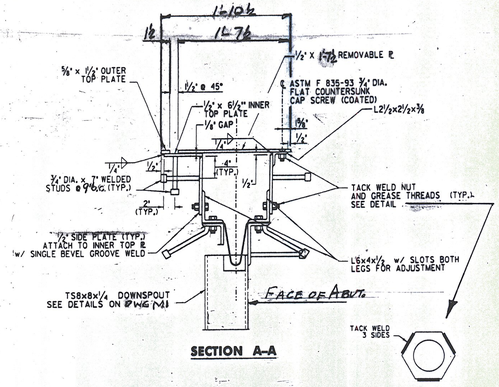
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO. 438 | DRG. NO. J1 | REV. △









DIM'S. NOT SHOWN - SAME AS NORTH END.

ABM INFO PAGE	LINE	NO.	DESCRIPTION	FT	IN	ASSEM. MARK	SHIPPING MARK	REMARKS	WEIGHT
		1	EXP JOINT	46	0±		EJ1		←
		1	L8x4x1/2	46	0±	aa1			
		1	DO	46	0±	ab1			
		8	BAR 5/8 x 14	10	3±	bb1			
		10	PL 1/2 x 8		10	be1			
		10	PL 1/2 x 6		10	bf1			
		78	3/4"ø HEX BOLTS		2 1/2	ma1		W/HEAVY HEX NUTS	W/HEAVY HEX NUTS
		90	3/4"ø AHC STUDS		10	mc1			
		1	1/2"ø G.A.N. BOLT		1"	SHOP		W/NUT & 2 WASH	W/NUT & 2 WASH
		1	PREFORMED FILLER 3/32 x 2.0	47	0±	mf1		SEE SPEC'S SUBSECT 507.03	SEE SPEC'S SUBSECT 507.03
		2	BUTYL RUBBER TAPE 1/16 x 3	47	0±	mg1		PER SUBSECT 507.03	PER SUBSECT 507.03
		40	1"ø THREADED RODS		7		7S1		
		160	1"ø HEX NUTS				FIELD		
		160	PL 3/8 x 3		3		W1	PL WASH.	
		5	PL 1/2 x 3		9		AP1		
		20	3/4"ø ANC STUDS		10	mc1			
		8	L4x4x1/2	1	0	sa1			
		16	3/4"ø BOLTS		3	SHOP			
BRUSH CURBS									
		1	PL 1/2 x 19 1/2	3	9 1/2	cp1			
		4	PL 1/2 x 8 1/4	2	1 3/4	cp1a			
		1	PL 1/2 x 21 1/2	2	1 3/4	cp1b			
		2	BAR 1/2 x 3/8	2	7±	cp2			
		2	BAR 1/2 x 1"		7 3/8	cp2a			
		2	BAR 1/2 x 1"	1	3 1/2	cp2b			
		1	PL 1/2 x 6 1/2	2	8 3/8	cp3			
		1	PL 1/2 x 7 3/8		8 3/8	cp3a			
		1	PL 1/2 x 8 3/8	1	2 3/8	cp3b			
		1	PL 1/2 x 9 3/4	2	4±	cp4			
		1	PL 1/2 x 9 3/4	2	2±	cp5			
		1	PL 1/2 x 19 1/2	3	9 1/8	cp11			
		1	PL 1/2 x 8 1/4	2	1	cp11a			
		1	PL 1/2 x 21 1/2	2	1	cp11b			
		1	PL 1/2 x 6 1/2	2	8 1/2	cp13			
		1	PL 1/2 x 7 3/8		8 1/2	cp13a			
		1	PL 1/2 x 8 1/4	1	2 1/2	cp13b			
		1	PL 1/2 x 6 1/2	2	4±	cp14			
		1	PL 1/2 x 6 1/2	2	1 1/2	cp15			
		2	L2 1/2 x 2 1/2 x 3/8	2	0	ca1			
		2	L 6x4x1/2	1	8	ca2			
		6	3/4"ø CTSK FH CAP SCREWS		2	SHOP		ASTM F 835-93	
		18	3/4"ø ANC STUDS		7	DO			
		24	3/4"ø HEX BOLTS		2 1/2	DO			

PAY ITEM: 516.11

OUT FOR APPROVAL	4/16/10									
OUT FOR APPROVAL										
ISSUED TO SHOP										
FIELD & OFFICE										

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

PROJECT NO. IM 091-1(31) STATE PROJECT NO. BRIDGE NO. 19A

MATERIAL: AASHTO M270-Gr 36 ELECTRODES: SEE PROC HOLES: AS NOTED SHOP BOLTS: 3/4" A325 GALV.

SURFACE PREP. & PAINT:

GALVANIZE PER SUBSECT. 506.15

DESCRIPTION: BRUSH CURBS - ABUT #1

JOB: US ROUTE 5 OVER I 91 PUTNEY, VERMONT

CUSTOMER: V.A. McDONALD

DRAWN BY	DATE
JPF	3-10
CHKD BY	
C.R.	
APPROV BY	
Q.A.	

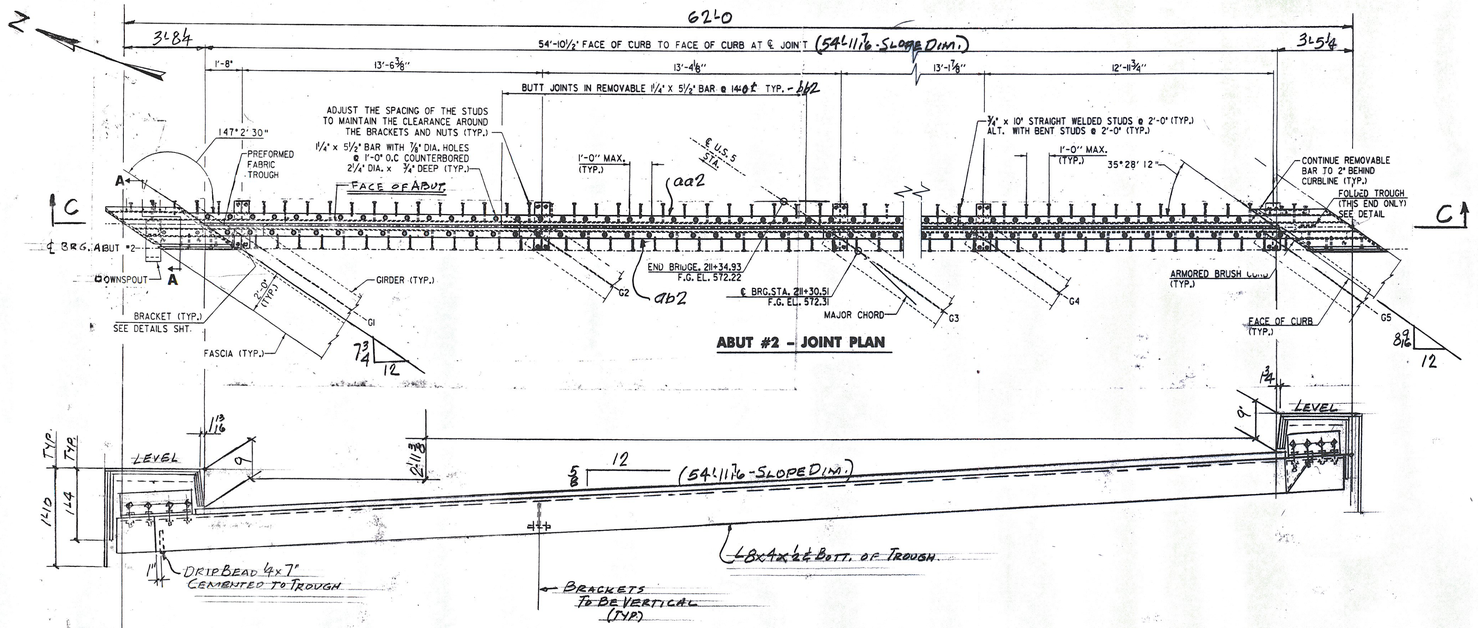
JOB NO. 438 DRG. NO. J1A REV.

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

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE
X EXCEPTION TAKEN
CORRECT AS NOTED
RESUBMISSION NOT REQUIRED
REVISE AS NOTED
RESUBMISSION REQUIRED
REJECTED
DATE 4/22/10
SIGNATURE
Stantec
REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS AND ERRORS OR OMISSIONS ON SHOP DRAWINGS.

1" = 1'-0

JOB NO. 438 | DRG. NO. J2



C-C

EJ2 - ONE REQ'D (@ ABUT. #2)

FOR CURB DETAILS & SHOP BILL - SEE DWG. J2A

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE
NO EXCEPTION TAKEN
REVISE AS NOTED
RESUBMISSION NOT REQUIRED
REVISE AS NOTED
RESUBMISSION REQUIRED
REJECTED
Stantec
DATE 4/22/10
SIGNATURE
REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS, AND ERRORS OR OMISSIONS ON SHOP DRAWINGS.

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	4/19/10									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

PROJECT NO. IM 091-1(31) STATE PROJECT NO. BRIDGE N(2)94

MATERIAL: AASHTO M270-GR 36 | ELECTRODES: SEE PROC. | HOLES: AS NOTED | SHOP BOLTS: ¾" ø A325 GALV

SURFACE PREP. & PAINT: GALVANIZE PER SUBSECT. 506.15

DESCRIPTION: EXP. JOINT - ABUT #2

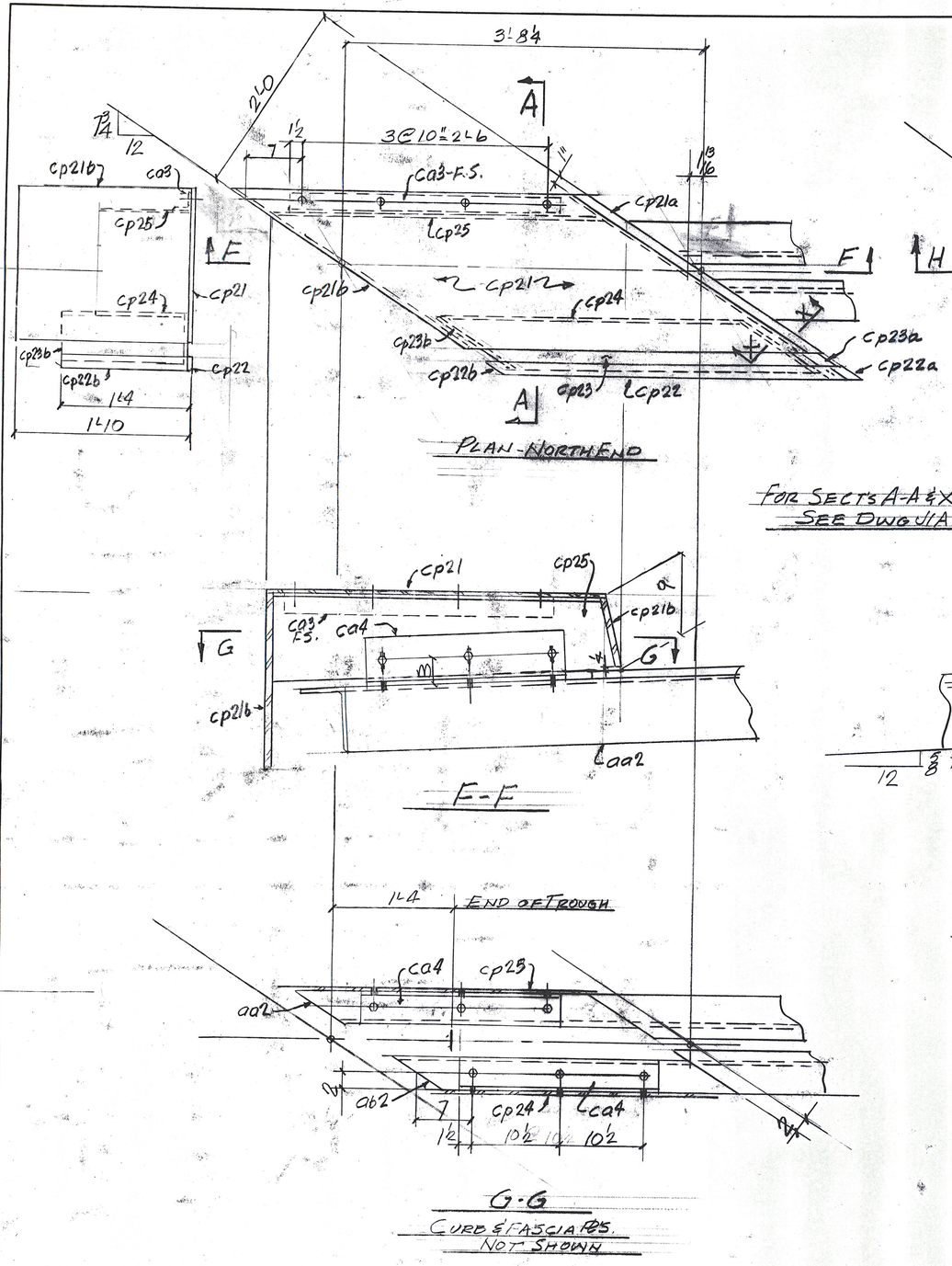
JOB: U.S. ROUTE 5 OVER I 91, PUTNEY, VERMONT

CUSTOMER: J.A. McDONALD

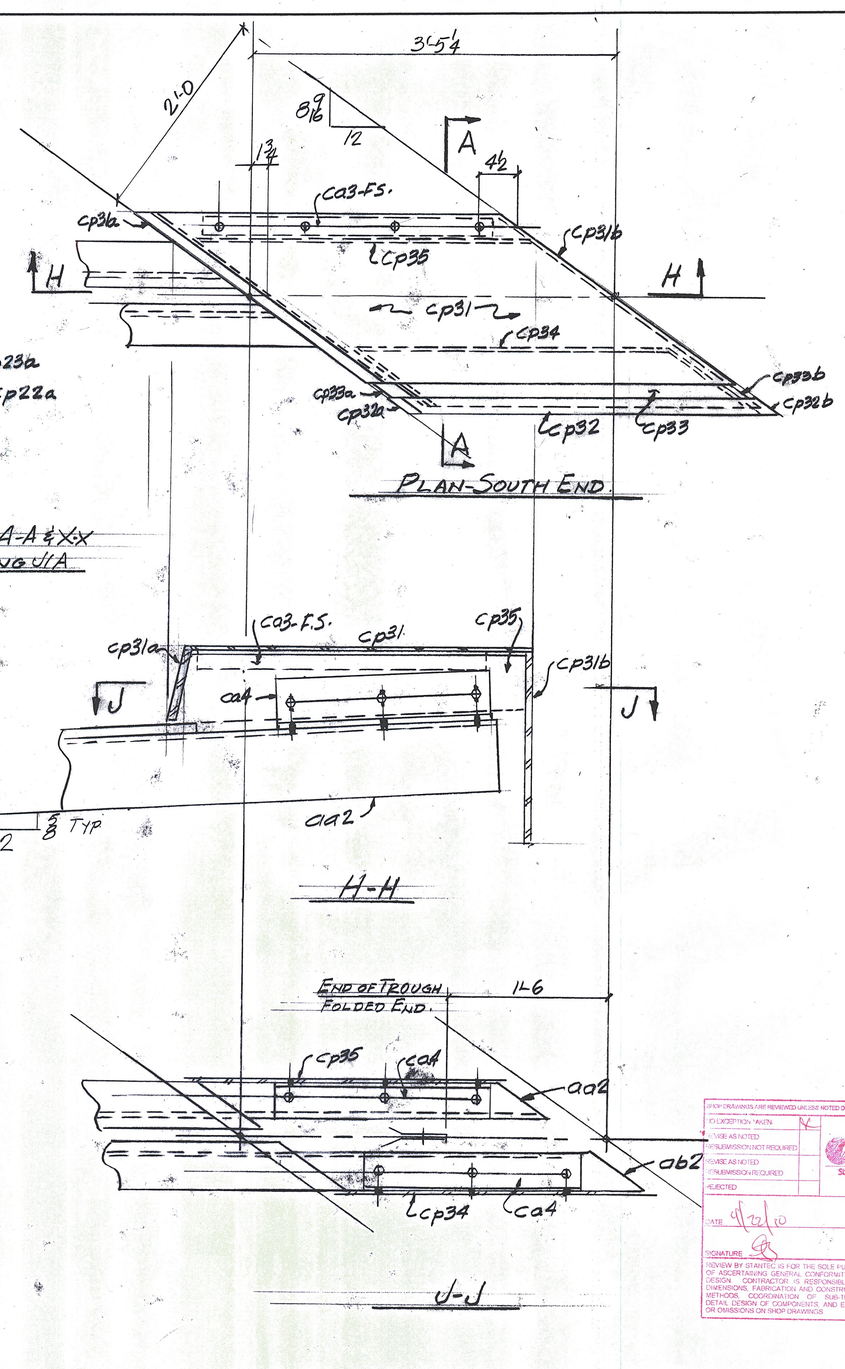
	DRAWN BY	DATE
	JPF	3-10
CHKD BY	CR	
APPROV BY		
Q.A.		

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

JOB NO. 438 | DRG. NO. J2 | REV. △



PLAN-NORTH END

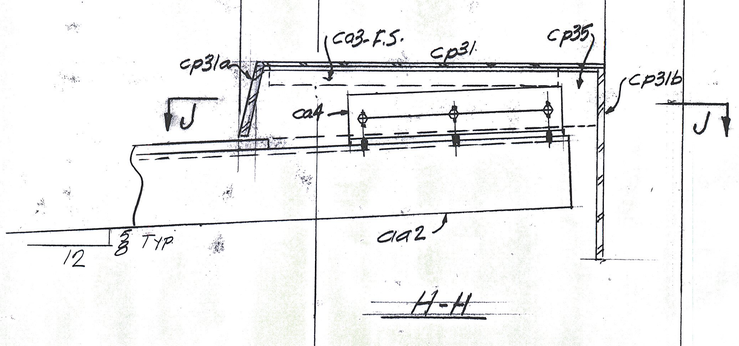


PLAN-SOUTH END

FOR SECT'S A-A & X-X
SEE DWG J1A

F-F

G-G
CURB & FASCIA RDS. NOT SHOWN



H-H

J-J

DIM'S NOT SHOWN - SAME AS NORTH END.

ABM INFO PAGE	LINE	NO.	DESCRIPTION	FT.	IN.	ASSEM. MARK	SHIPPING MARK	REMARKS	WEIGHT
		1	EXP JOINT	64	0±				—
		1	L8x4x½	66	6±	aa2			
		1	DO	62	6±	ab2			
		8	BAR 5½x1/4	14	0±	bb2			
		10	PL½x8		10	be1			
		10	PL½x6		10	bf1			
		110	¾ϕ HEX BOLTS		2½	ma1		W/HEAVY HEX NUTS	
		124	¾ϕ ANC STUDS		10	mc1			
		1	⅝ϕ GALV BOLT PREFORMED FABRIC SEAL		1	SHOP		W/NUT & WASH 3 PER ASSEMBLY LOT PER SPEC SECT 707.12	
		1	BUTYL RUBBER TAPE ¼x3	64	0±	mg1			
		40	1¼ϕ THREADED RODS		7		TS1		
		160	1¼ϕ HEX NUTS				FIELD		
		160	PL¾x3		3		W1	R. WASH	
		5	PL½x8		9		API		
		20	¾ϕ ANC STUDS		10	mc1			
		11	L4x4x½	1	0	sa1			
		22	¾ϕ BOLTS		3	SHOP			
BRUSH CURBS									
		1	PL½x19½	6	0½	cp21			
		1	PL½x8¼	3	0	cp21a			
		1	PL½x21½	3	0	cp21b			
		1	BAR 1⅛x5/8	3	3¾	cp22			
		1	BAR 2¾x1"		8⅝	cp22a			
		1	BAR 2¾x1"	1	3⅜	cp22b			
		1	PL½x6½	4	0¼	cp23			
		1	PL½x7⅜	1	0	cp23a			
		1	PL½x12	1	2⅜	cp23b			
		1	PL½x10¼	3	1±	cp24			
		1	PL½x10¼	3	4±	cp25			
		1	PL½x19½	5	6⅜	cp25l			
		1	PL½x8¼	2	9⅜	cp31a			
		1	PL½x21½	2	9½	cp31b			
		1	BAR 1½x⅜	3	6½	cp32			
		1	BAR 2⅜x1"		8⅝	cp32a			
		1	DO	1	3⅜	cp32b			
		1	PL½x6½	3	7⅜	cp33			
		1	PL½x7⅜		11	cp33a			
		1	PL½x11	1	2⅜	cp33b			
		1	PL½x8	2	10	cp34			
		1	DO	3	1½	cp35			
		2	L6x2½x⅜	2	9	ca3			
		2	L6x4x½	2	0	ca4			
		8	¾ϕ CTSK-FLH SCREWS		2	SHOP		AASHTO M169-93	
		30	¾ϕ ANC STUDS		7	DO			
		24	¾ϕ HEX BOLTS		2½	DO			
			PAY ITEM 516.11						

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.
	OUT FOR APPROVAL	4/14/10				
	OUT FOR APPROVAL					
	ISSUED TO SHOP					
	FIELD & OFFICE					

NO.	DIA.	LGT	TYPE	WASHER

PROJECT NO. IM 091-1(31) STATE PROJECT NO. BRIDGE NO. 19A

MATERIAL: AASHTO M270-GR36 ELECTRODES: SEE PROC. HOLES: AS NOTED SHOP BOLTS: ¾ϕ A325 GALV

SURFACE PREP. & PAINT:

GALVANIZE PER SUBSECT. 506.15

DESCRIPTION: BRUSH CURBS - ABUT #2

JOB: US ROUTE 5 OVER I91 PUTNEY, VERMONT

CUSTOMER: J.A. McDONALD

DRAWN BY	DATE
JPF	3-10
CHKD BY	
CR	
APPROV BY	
Q.A.	

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

JOB NO.	DRG. NO.
438	J2A
	REV. △

F = 1-0

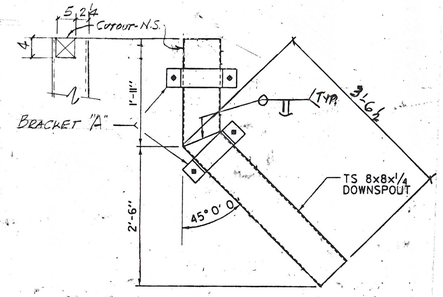
SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE
☐ EXCEPTION TAKEN
☐ MADE AS NOTED
☐ RESUBMISSION NOT REQUIRED
☐ REVISE AS NOTED
☐ RESUBMISSION REQUIRED
☐ REJECTED
DATE 4/22/10
SIGNATURE
REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS AND ERRORS OR OMISSIONS ON SHOP DRAWINGS
Stantec

SHOP BILL

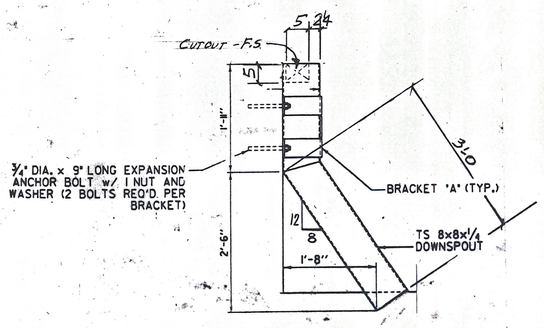
JOB NO. 438 | DRG. NO. M1

ABM INFO PAGE	ABM INFO LINE	NO.	DESCRIPTION	FT	IN	ASSEM. MARK	SHIPPING MARK	REMARKS	WEIGHT
		1	DOWNSPOUT	5	6¼		DS1		—
		1	DO	5	6¼		DS2		—
		1	TS8X8X¼	11	0½	SHOP		ASTM A500-A501	
		4	BAR 4X⅜	2	7		SA1	BEND.	
		8	¾" ϕ EXP BOLTS		9		FIELD	W/NEW.	NONE

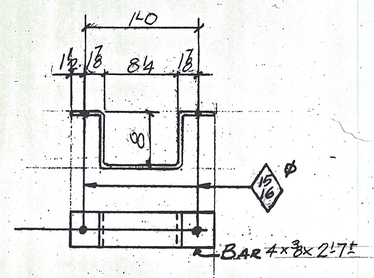
PAY ITEM: 506.60 "STRUCT. STEEL"



DS1 - ONE REQ'D. @ ABUT. #1



DS2 - ONE REQ'D. @ ABUT. #2



SA1 - 4 REQ'D

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE
NO EXCEPTION TAKEN
REVISE AS NOTED / RESUBMISSION NOT REQUIRED
REVISE AS NOTED / RESUBMISSION REQUIRED
REJECTED
DATE 9/22/10
SIGNATURE
Stantec
REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS, AND ERRORS OR OMISSIONS ON SHOP DRAWINGS.

OUT FOR APPROVAL	4/14/10										
OUT FOR APPROVAL											
ISSUED TO SHOP											
FIELD & OFFICE											
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER

PROJECT NO. IM 091-1(31) STATE PROJECT NO. BRIDGE NO. 19A

MATERIAL: AASHTO M270-50(W) | ELECTRODES: SEE PROC. | HOLES: AS NOTED. | SHOP BOLTS: —

SURFACE PREP. & PAINT: GALVANIZE PER SUBSECT. 506.15

DESCRIPTION: DOWNSPOUTS - ABUT'S. #1 & #2

JOB: U.S. ROUTE 5 OVER I 91, PUTNEY, VERMONT

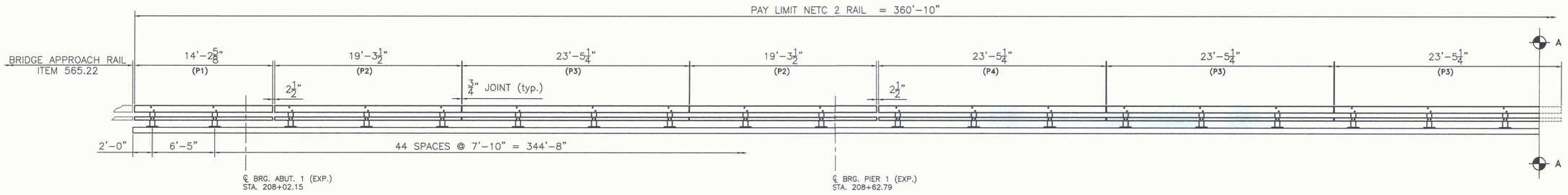
CUSTOMER: J.A. McDONALD.

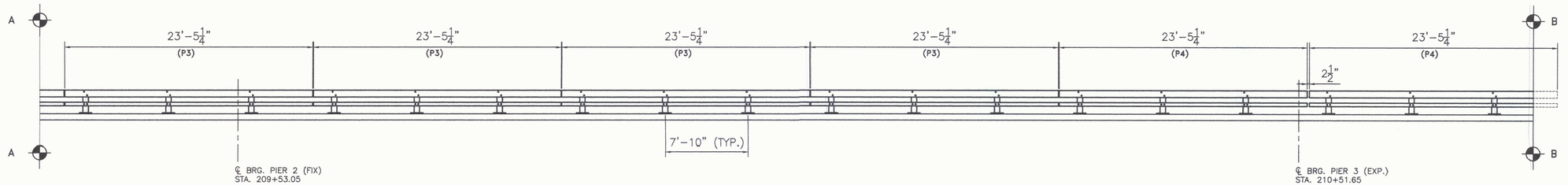
DRAWN BY	JPF
DATE	3-10
CHKD BY	CR
APPROV BY	
Q.A.	

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

JOB NO. 438 | DRG. NO. M1 | REV. △

1" = 1'-0

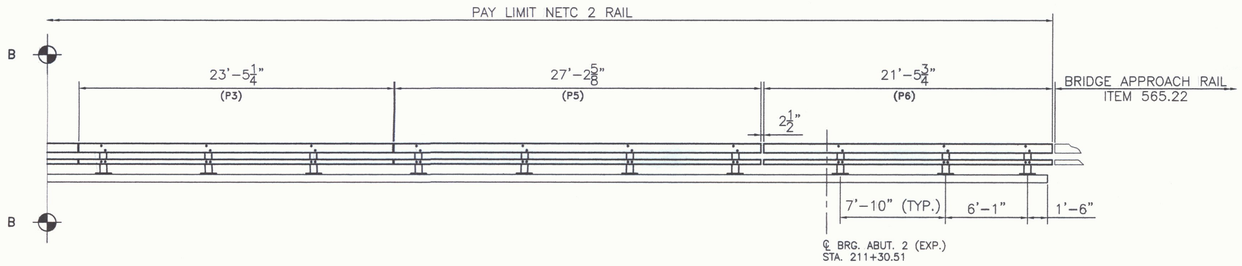




BILL OF MATERIAL (WEST SIDE)

Mk.	Qty.	Description	Size/Shape	length/qty. per unit	Material
	47	BRIDGE RAIL PED POST 2'-0 3/8" OAH W/ BASE PLATE			
	47	*POST UPRIGHT*	*W6 x 25*	*1'-11 3/8"*	*A709 Gr. 50*
	47	*POST BASE PLATE*	*1" x 10"*	*1'-2"*	*A709 Gr. 50*
	15	UPPER SPLICE TUBE FOR 8 x 4 RAIL			
	15	*TUBE*	*TS 7x3x3/8*	*1'-8"*	*A500 Gr. B*
	30	*WELDED LOCK NUT (OUTER HOLES ONLY)*	*5/8"*	*---*	*A563*
	15	LOWER SPLICE TUBE FOR 4 x4 RAIL			
	15	*TUBE*	*TS 3x3x5/16*	*1'-8"*	*A500 Gr. B*
	30	*WELDED LOCK NUT (OUTER HOLES ONLY)*	*5/8"*	*---*	*A563*
P1	1	UPPER RAIL	*TS 8x4x5/16*	*14'-2.625"*	*A500 Gr. B*
	1	LOWER RAIL	*TS 4x4x1/4*	*14'-2.625"*	*A500 Gr. B*
P2	2	UPPER RAIL	*TS 8x4x5/16*	*19'-3.500"*	*A500 Gr. B*
	2	LOWER RAIL	*TS 4x4x1/4*	*19'-3.500"*	*A500 Gr. B*
P3	8	UPPER RAIL	*TS 8x4x5/16*	*23'-5.250"*	*A500 Gr. B*
	8	LOWER RAIL	*TS 4x4x1/4*	*23'-5.250"*	*A500 Gr. B*
P4	3	UPPER RAIL	*TS 8x4x5/16*	*23'-5.250"*	*A500 Gr. B*
	3	LOWER RAIL	*TS 4x4x1/4*	*23'-5.250"*	*A500 Gr. B*
P5	1	UPPER RAIL	*TS 8x4x5/16*	*27'-2.625"*	*A500 Gr. B*
	1	LOWER RAIL	*TS 4x4x1/4*	*27'-2.625"*	*A500 Gr. B*
P6	1	SHOP CURVED UPPER RAIL	*TS 8x4x5/16*	*21'-5.750"*	*A500 Gr. B*
	1	SHOP CURVED LOWER RAIL	*TS 4x4x1/4*	*21'-5.750"*	*A500 Gr. B*
	47	ANCHOR PLATE	*3/8 x 9 3/8*	*1'-1"*	*A36*
	188	ANCHOR BOLTS	*1" DIA.*	*12"*	*A449*
	188	HEX NUT	*1" DIA.*	*- - -*	*A563*
	188	HEAVY HEX NUT	*1" DIA.*	*- - -*	*A563DH*
	188	HEX JAM NUT	*1" DIA.*	*- - -*	*A563*
	188	WASHER	*1" DIA.*	*- - -*	*F436*
	188	ROUND HEAD BOLT	*3/4" DIA.*	*6"*	*M164 type 1*
	188	LOCK NUT	*3/4" DIA.*	*- - -*	*A563DH*
	188	WASHER	*3/4" DIA.*	*- - -*	*F436*
	120	CAP SCREW	*5/8" DIA.*	*1.75"*	*A325*
	120	WASHER	*5/8" DIA.*	*- - -*	*F436*
	47	BEARING PAD	*1/8"x10"*	*1'-2"*	*M251*

TOTAL PAY LIMIT ITEM 525.33 = 361'



ELEVATON – NORTHWEST BRIDGE RAIL
FACING NORTHWEST FROM ℄ US RT 5

NOTE:
1. CONTRACTOR TO VERIFY EXPANSION JOINT LOCATIONS PRIOR TO FABRICATION.

2. BRIDGE RAIL TUBES TO BE SET ON 1130.9' ± CONVEX RADIUS.

3. RAIL TUBES ARE PROVIDED STRAIGHT AND WILL FLEX UNDER OWN WEIGHT IN EXCESS OF REQUIRED RAIL CURVATURE DUE TO LARGE RADIUS.

REVISIONS

No.	Remarks	Date
0	Initial submittal	6/8/10

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 525.33 BRIDGE RAILING – NETC 2 RAIL
US RT 5 OVER I-91, BRIDGE 19A
TOWN OF PUTNEY COUNTY OF WINDHAM, VT
PROJECT NUMBER: IM 091-1(31)

AISC CERTIFIED FABRICATOR

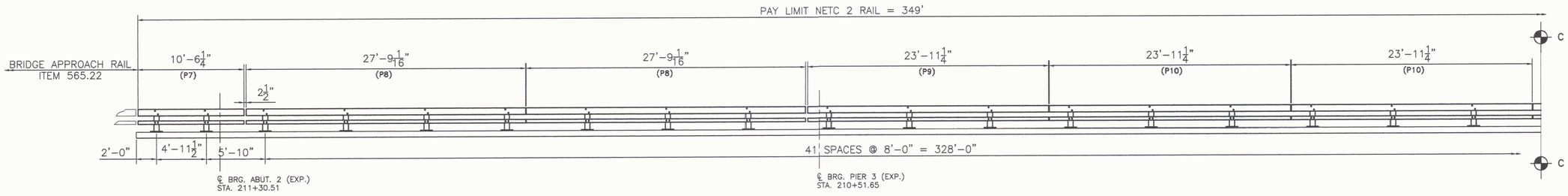
HSC JOB NO. 1752

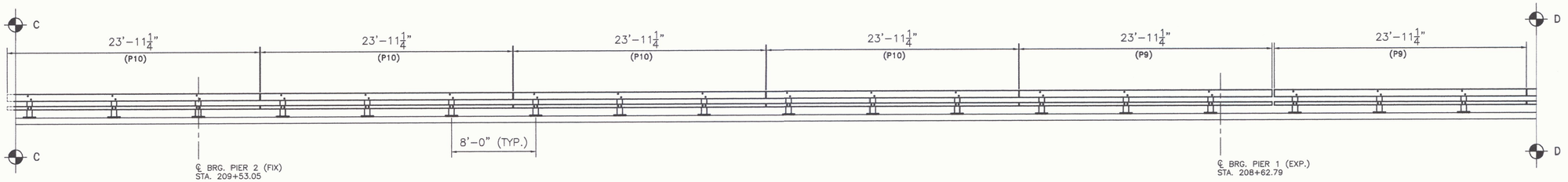
GENERAL CONTRACTOR

SUB CONTRACTOR F.R. LAFAYETTE, INC.

SHEET NO. 1 of 4

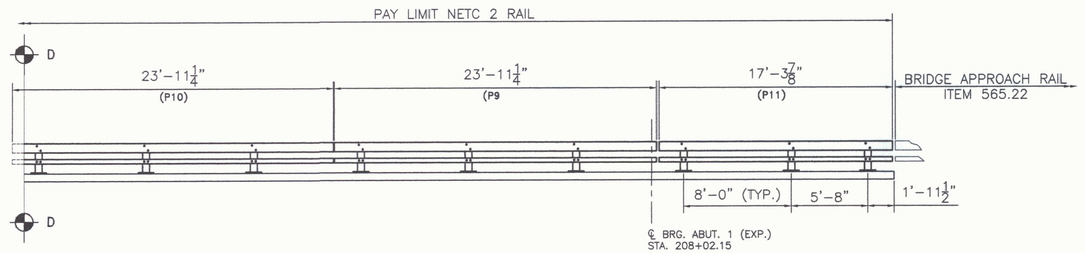
DRAWN	CHECKED	DATE	SCALE	SIZE
MHM	PAR	6/7/2010	NONE	D





BILL OF MATERIAL (EAST SIDE)					
Mk.	Qty.	Description	Size/Shape	length/qty. per unit	Material
	45	BRIDGE RAIL PED POST 2'-0 3/8" OAH W/ BASE PLATE			
	45	*POST UPRIGHT*	*W6 x 25*	*1'-11 3/8"*	*A709 Gr. 50*
	45	*POST BASE PLATE*	*1" x 10"*	*1'-2"*	*A709 Gr. 50*
	14	UPPER SPLICE TUBE FOR 8 x 4 RAIL			
	14	*TUBE*	*TS 7x3x3/8*	*1'-8"*	*A500 Gr. B*
	28	*WELDED LOCK NUT (OUTER HOLES ONLY)*	*5/8"*	*---*	*A563*
	14	LOWER SPLICE TUBE FOR 4 x4 RAIL			
	14	*TUBE*	*TS 3x3x5/16*	*1'-8"*	*A500 Gr. B*
	28	*WELDED LOCK NUT (OUTER HOLES ONLY)*	*5/8"*	*---*	*A563*
P7	1	UPPER RAIL	*TS 8x4x5/16*	*10'-6.250"*	*A500 Gr. B*
	1	LOWER RAIL	*TS 4x4x1/4*	*10'-6.250"*	*A500 Gr. B*
P8	2	UPPER RAIL	*TS 8x4x5/16*	*27'-9.063"*	*A500 Gr. B*
	2	LOWER RAIL	*TS 4x4x1/4*	*27'-9.063"*	*A500 Gr. B*
P9	4	UPPER RAIL	*TS 8x4x5/16*	*23'-11.250"*	*A500 Gr. B*
	4	LOWER RAIL	*TS 4x4x1/4*	*23'-11.250"*	*A500 Gr. B*
P10	7	UPPER RAIL	*TS 8x4x5/16*	*23'-11.250"*	*A500 Gr. B*
	7	LOWER RAIL	*TS 4x4x1/4*	*23'-11.250"*	*A500 Gr. B*
P11	1	UPPER RAIL	*TS 8x4x5/16*	*17'-3.875"*	*A500 Gr. B*
	1	LOWER RAIL	*TS 4x4x1/4*	*17'-3.875"*	*A500 Gr. B*
	45	ANCHOR PLATE	*3/8 x 9 3/8*	*1'-1"*	*A36*
	180	ANCHOR BOLTS	*1" DIA.*	*12"*	*A449*
	180	HEX NUT	*1" DIA.*	*- - -*	*A563*
	180	HEAVY HEX NUT	*1" DIA.*	*- - -*	*A563DH*
	180	HEX JAM NUT	*1" DIA.*	*- - -*	*A563*
	180	WASHER	*1" DIA.*	*- - -*	*F436*
	180	ROUND HEAD BOLT	*3/4" DIA.*	*6"*	*M164 type 1*
	180	LOCK NUT	*3/4" DIA.*	*- - -*	*A563DH*
	180	WASHER	*3/4" DIA.*	*- - -*	*F436*
	112	CAP SCREW	*5/8" DIA.*	*1.75"*	*A325*
	112	WASHER	*5/8" DIA.*	*- - -*	*F436*
	45	BEARING PAD	*1/8"x10"*	*1'-2"*	*M251*

TOTAL PAY LIMIT ITEM 525.33 = 349'



ELEVATON – EAST BRIDGE RAIL
FACING EAST FROM ℄ US RT 5

NOTE:
1. CONTRACTOR TO VERIFY EXPANSION JOINT LOCATIONS PRIOR TO FABRICATION.

2. BRIDGE RAIL TUBES TO BE SET ON 1160.9' ± CONCAVE RADIUS.

3. RAIL TUBES ARE PROVIDED STRAIGHT AND WILL FLEX UNDER OWN WEIGHT IN EXCESS OF REQUIRED RAIL CURVATURE DUE TO LARGE RADIUS.

REVISIONS		
No.	Remarks	Date

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

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AISC CERTIFIED FABRICATOR

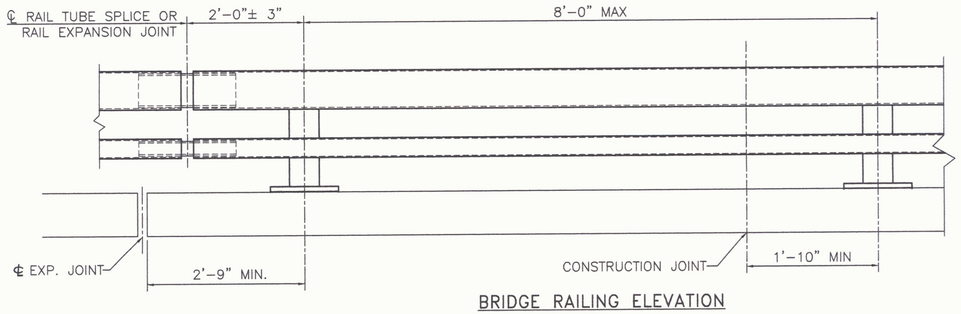
HSC JOB NO. 1752

GENERAL CONTRACTOR

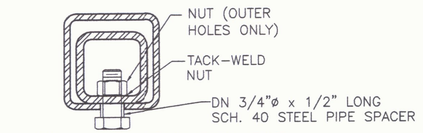
SUB CONTRACTOR F.R. LAFAYETTE, INC.

SHEET NO. 2 of 4

DRAWN	CHECKED	DATE	SCALE	SIZE
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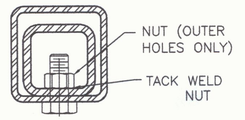
BRIDGE RAILING ELEVATION



5/8"ø TAPPED HOLE IN SPLICE TUBE AND 1 1/8" x 'C' SLOT IN RAIL TUBE FOR BOLT AND PLAIN HARDENED WASHER

EXPANSION JOINT SECTION

FOR DETAILS NOT SHOWN, SEE "RAIL TUBE SPLICE SECTION."



5/8"ø TAPPED HOLE IN SPLICE TUBE & 3/4"ø HOLE IN RAIL TUBE FOR BOLT & PLAIN HARDENED WASHER

NOTES:

1. ALL RAILINGS AND MATERIALS SHALL CONFORM TO THE PROVISION OF SECTION 525, "MATERIAL RAILINGS" OF THE STANDARD SPECIFICATION FOR CONSTRUCTION.

2. PRIOR TO GALVANIZING, ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1/16" RADIUS AND BE FREE OF BURRS.

3. RAIL POSTS SHALL BE SET NORMAL TO GRADE.

4. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO (2) RAIL POSTS AND PREFERABLY TO AT LEAST FOUR (4) POSTS.

5. RAIL TUBE EXPANSION JOINT SHALL BE PROVIDED IN ANY RAIL BAY SPANNING A SUPERSTRUCTURE EXPANSION JOINT. EXPANSION JOINT WIDTH SHALL BE "X" AT 45°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.

6. ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111M/M 111, EXCEPT HARDWARE, WHICH SHALL MEET THE REQUIREMENTS OF AASHTO M232M/M 232.

7. RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE–EIGHTH TURN.

8. RAIL TUBES SHALL BE ATTACHED USING 3/4" FULL DIAMETER BODY AASHTO M164 (TYPE 1) ROUND HEAD BOLT INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 1/16" LARGER THAN THE BOLT SIZE.

9. HOLES IN RAILS FOR RAIL TUBE ATTACHMENT SHALL BE FIELD–DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC–RICH PAINT PRIOR TO ERECTION.

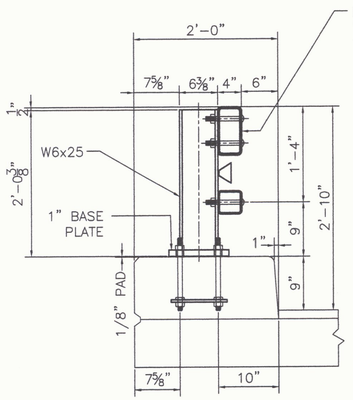
10. IF THERE IS A CONFLICT BETWEEN THE DETAILS SHOWN ON THIS SHEET AND THE DESIGN, THE REQUIREMENTS OF THE DESIGN DRAWINGS SHALL BE FOLLOWED.

11. ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY.

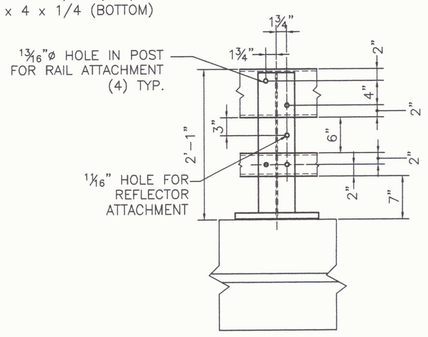
12. THE FABICATOR SHALL SUBMIT SHOP DRAWINGS, INCLUDING WELDING PROCEDURES TO THE STRUCTURES ENGINEER FOR APPROVAL IN ACCORDANCE WITH SUBSECTION 525.03. ALL WELDING SHALL CONFORM WITH SUBSECTION 506.10.

13. RAIL POSTS AND BASE PLATES SHALL BE TESTED FOR IMPACT PROPERTIES IN ACCORDANCE WITH ASTM A–370 CHARPY IMPACT TESTING USING TYPE A SPECIMEN.

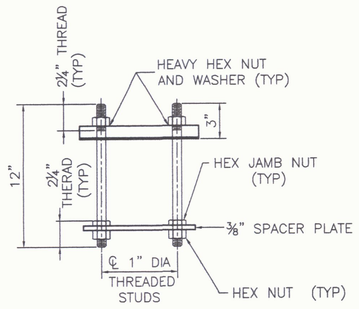
14. REFLECTORS AND REFLECTOR HARDWARE PROVIDED BY OTHERS.



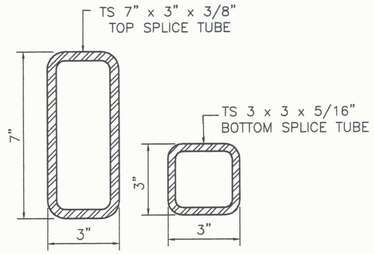
TYPICAL SECTION



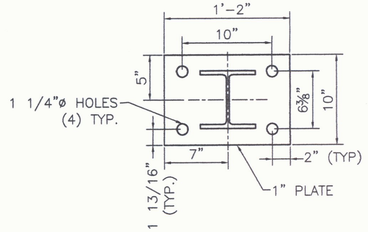
ELEVATION



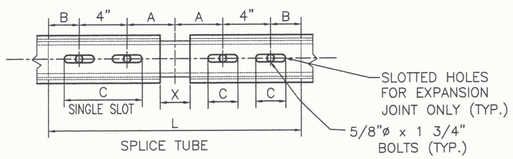
RAIL POST ANCHORAGE



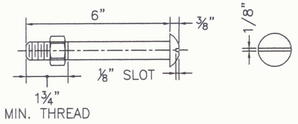
RAIL TUBE SPLICE SECTION



POST AND BASE PLATE

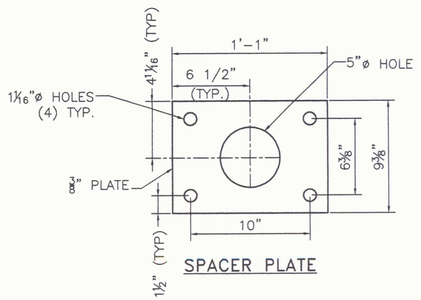


RAIL TUBE SPLICE AND RAIL EXPANSION JOINT DETAIL

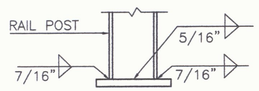


3/4" DIA. M164 (TYPE 1) ROUND HEAD BOLT

(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT) (SEE NOTE #8)
ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.



SPACER PLATE



BASE WELD DETAIL

SPLICE TABLE					
T	A	B	C	L	X
N/A	4"	2"	––	20"	3/4"
EXPANSION JOINT TABLE					
<4"	4"	2"	2 1/2"	20"	2 1/2"

T = TOTAL MOVEMENT BETWEEN BRIDGE EXPANSION JOINTS. SEE NOTE 5

MATERIALS

RAIL TUBES.....ASTM A500, GRADE B OR ASTM A501
RAIL POSTS AND BASE PLATES.....ASTM A709/A709M, GRADE 50
ALL OTHER SHAPES AND PLATES.....ASTM A709/A709M, GARDE 36
ANCHOR STUDS.....ASTM A449
ALL OTHER BOLTS (UNLESS NOTED).....AASHTO M164, TYPE1

NUTS FOR AASHTO M164 BOLTS AND FOR ANCHOR STUDS SHALL COMPLY WITH AASTHO M291 (ASTM A563).

WASHERS SHALL COMPLY WITH AASHTO M293 (ASTM F436) SPECIFCATIONS.

1/8" PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.

REVISIONS		
No.	Remarks	Date

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860–633–9445

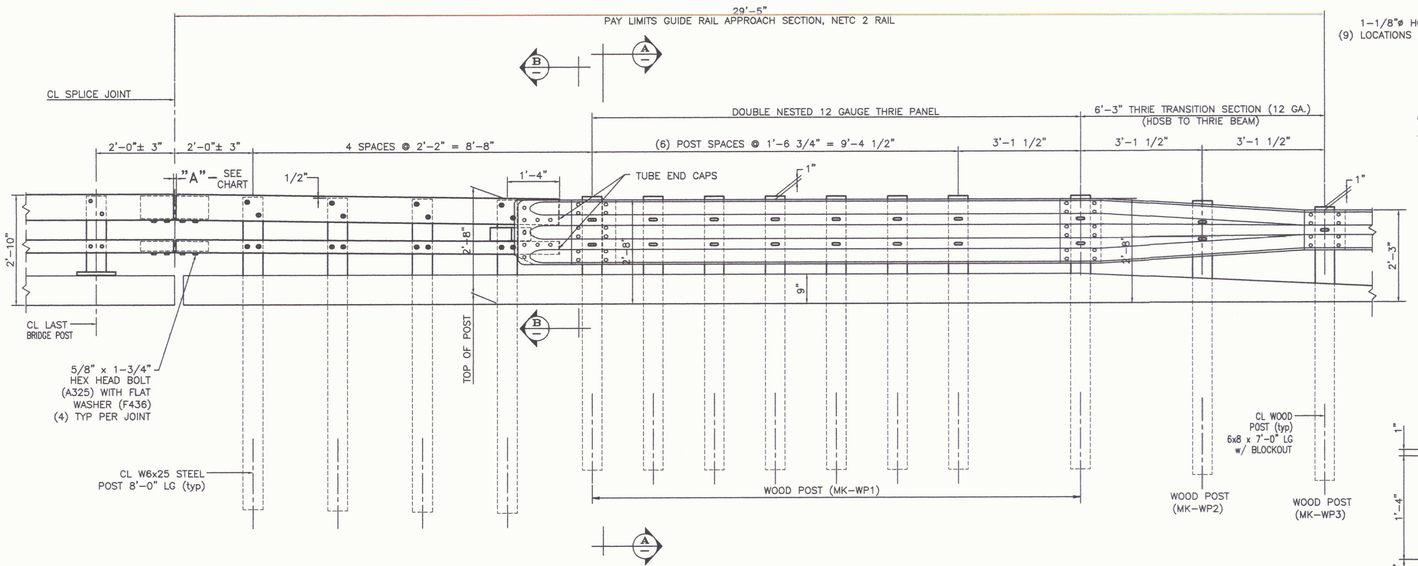
ITEM 525.33 BRIDGE RAILING – NETC 2 RAIL
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GENERAL CONTRACTOR
SUB CONTRACTOR F.R. LAFAYETTE, INC.

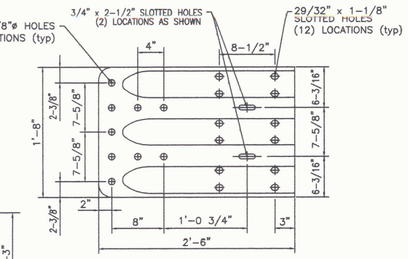
HSC JOB NO. 1752
SHEET NO. 3 of 4

DRAWN	CHECKED	DATE	SCALE	SIZE
MHM	PAR	6/7/2010	NONE	D



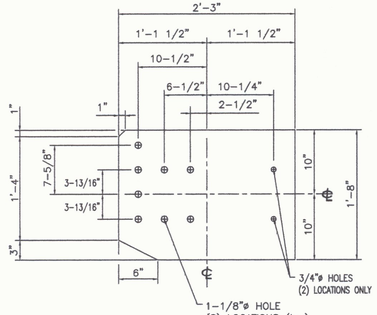
ELEVATION — APPROACH RAIL

TYPICAL (4) LOCATIONS



TERMINAL CONNECTOR

10 GAUGE (AASHTO M180 B2)



CONNECTION PLATE

3/8" x 1'-8" x 2'-3" (A709 gr 36)

BILL OF MATERIAL — 4 BRIDGE APPROACHES					
MK.	Qty.	Description	Size/Shape	Length\Qty. Per unit	Material
	4	APPROACH RAIL TUBE	TS 8x4x5/16"	9'-9 1/2"	A500 Gr. B
	4	APPROACH RAIL TUBE	TS 4x4x1/4"	9'-9 1/2"	A500 Gr. B
	16	STEEL POST	W6 x 25	8'-0"	A709 Gr. 50
WP1	32	WOOD POST	6x8	7'-0"	
WP2	4	WOOD POST	6x8	7'-0"	
WP3	4	WOOD POST	6x8	7'-0"	
WB1	32	WOOD OFFSET BLOCK	6x8	1'-6"	
WB2	4	WOOD OFFSET BLOCK	6x8	1'-6"	
WB3	4	WOOD OFFSET BLOCK	6x8	1'-2"	
	4	BENT SPLICE TUBE FOR 8 x 4 RAIL TUBE			
	4	TUBE	TS 7x3x5/16"	1'-8"	A500 Gr. B
	8	LOCK NUTS	5/8"	---	A563
	4	SPLICE TUBE FOR 4 x 4 RAIL TUBE			
	4	TUBE	TS 7x3x1/4"	1'-8"	A500 Gr. B
	8	LOCK NUTS	5/8"	---	A563
	4	TERMINAL CONNECTOR	10 Ga.	2'-6"	M180 B2
	4	CONNECTION PLATE	3/8 x 1'-8"	2'-3"	A709 Gr. 36
	2	LEFT DEFLECTOR PLATE	3/8 x 4"	1'-9 1/2"	A709 Gr. 36
	2	RIGHT DEFLECTOR PLATE	3/8 x 4"	1'-9 1/2"	A709 Gr. 36
	4	END CAP FOR 8 x 4 RAIL TUBE			
	16	PLATE	1/8 x 1"	1"	A709 Gr. 36
	4	PLATE	3/8 x 4"	8"	A709 Gr. 36
	4	END CAP FOR 4 x 4 RAIL TUBE			
	16	PLATE	1/8 x 1"	1"	A709 Gr. 36
	4	PLATE	3/8 x 4"	4"	A709 Gr. 36
	4	THRIE TRANSITION PANEL	12 Ga.	7'-3 1/2"	M180 A2
	92	3/4"ø x 6" LG. ROUND HEAD BOLT W/LOCK NUT & ROUND WASHER			M164
	4	3/4" x 2" LG. ROUND HEAD BOLT W/NUT			A307
	8	5/8" x 1'-8" LG. POST BOLT W/DBL RECESSED NUT, PLATE & ROUND WASHER			A307
	68	5/8" x 1'-6" LG. POST BOLT W/DBL RECESSED NUT, PLATE & ROUND WASHER			A307
	32	5/8" x 1 3/4" LG. HEX BOLT W/WASHER			A325
	128	5/8" x 1 1/4" LG. PANEL SPLICE BOLT W/DBL RECESSED NUT			A307
	32	3/4"x 1/2" LG. (SCH 40) SPACER PIPE			A53 Gr. B

TOTAL PAY LIMIT ITEM 621.72 = 118'

GENERAL ERECTION NOTES

1. ALL BRIDGE RAIL APPROACH, RAIL MATERIALS, DIMENSION SIZES, AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL UNLESS OTHERWISE NOTED.

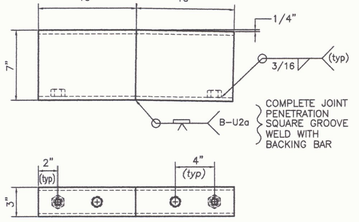
2. CARRIAGE BOLTS SHALL BE AASHTO M164 AND NUTS SHALL BE ASTM A563 GRADE A OR BETTER (GALVANIZED)

3. CUT & WELD TOP SPLICE BAR TO FIT BEND. USE COMPLETE PENETRATION WELD (B-U2).

4. REFLECTORIZED ALUMINUM DELINEATION IS TO BE ERECTED EVERY 30 ft. (OR CLOSEST POST) WITH A 3/8" DIAMETER BOLT. DELINEATORS SHALL MEET SPECIFICATION REQUIREMENTS FOR ASTM B209 ALLOY 5052-H32.

5. REFLECTIVE MATERIAL SHALL MEET THE REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE ENCAPSULATED LENS SILVER OR AMBER. AMBER IS TO BE INSTALLED ON THE DRIVERS LEFT AND SILVER ON THE RIGHT.

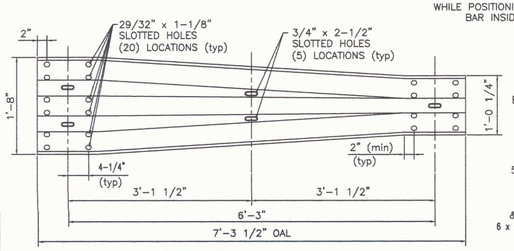
6. PAYMENT FOR THE GUARD RAIL APPROACH SECTION — GALVANIZED NETC 2 RAIL SHALL INCLUDE THE TERMINAL CONNECTOR, THE CONNECTION PLATE, THE DEFLECTOR PLATE, RAIL, POSTS, BLOCKS AND ATTACHMENT HARDWARE.



ANGLED SPLICE TUBE DETAIL

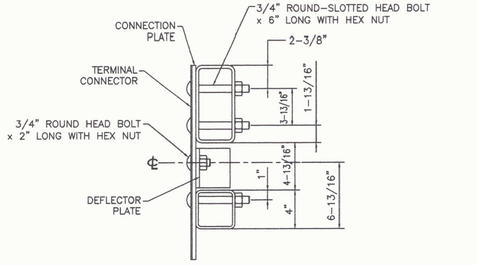
UPPER RAIL SPLICE SHOWN

LOWER RAIL DOES NOT REQUIRE BENT SPLICE

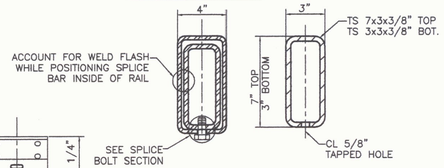


THRIE TRANSITION PANEL

12 GAUGE (AASHTO M180 A2)

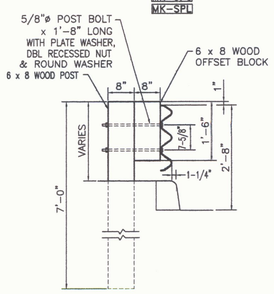


SECTION B–B

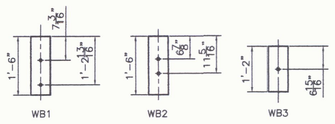


SPLICE TUBE SECTION

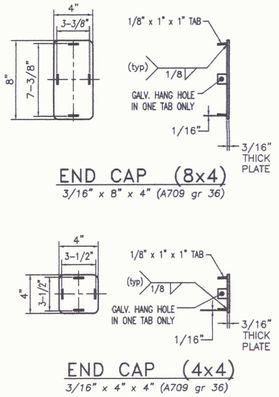
MK-SPU
MK-SPL



SECTION A–A



WOOD BLOCK DETAILS

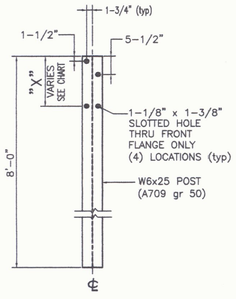


END CAP (8x4)

3/16" x 8" x 4" (A709 gr 36)

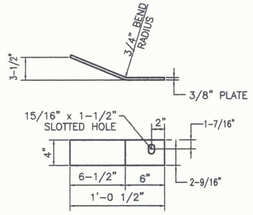
END CAP (4x4)

3/16" x 4" x 4" (A709 gr 36)



STEEL POST

STEEL POST CHART	
No.	" X "
#1	1'-3 1/4"
#2	1'-3"
#3	1'-2 11/16"
#4	1'-2 3/8"



DEFLECTOR PLATE

3/8" x 4" PLATE (A709 gr 36)

MATERIALS

Rail bars.....ASTM A500 GR B or ASTM A501
Rail posts.....ASTM A709 GR 50
All other shapes & plates.....ASTM A709 GR 36
Round-slotted head bolts for Rail-Post connections ..... M164 (type I)
Hex head bolts for tube splice joints ..... M164 (type 1)
All other bolts [unless noted].....ASTM A307

Nuts for ASTM A307 bolts & AASHTO M164 bolts shall comply with AASHTO M291. Nuts for anchor studs shall comply with ASTM A563.

washers shall comply with ASTM F436

1/8" pad shall comply with standard specification subsection 731.01 or 731.02 of Vermont Standard Specifications.

REVISIONS		
No.	Remarks	Date
0	Initial submittal	

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 621.72 BRIDGE RAILING APPROACH
US RT 5 OVER I-91, BRIDGE 19A
TOWN OF PUTNEY COUNTY OF WINDHAM, VT
PROJECT NUMBER: IM 091-1(31)

AISC CERTIFIED FABRICATOR

HSC JOB NO. 1752
SHEET NO. 4 of 4

GENERAL CONTRACTOR
SUB CONTRACTOR F.R. LAFAYETTE, INC.

DRAWN	CHECKED	DATE	SCALE	SIZE
MHM	PAR	6/7/2010	NONE	D