STATE OF VERMONT
AGENCY OF TRANSPORTATION

PROPOSED IMPROVEMENT
BRIDGE PROJECT

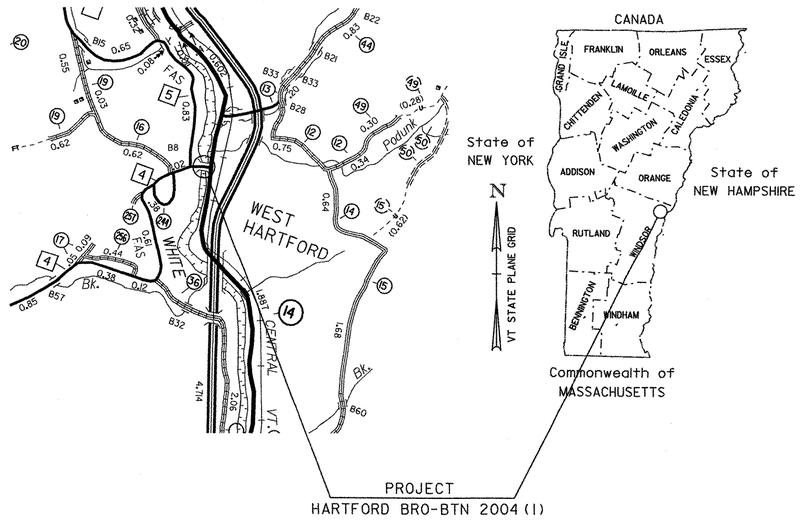
TOWN OF HARTFORD
COUNTY OF WINDSOR

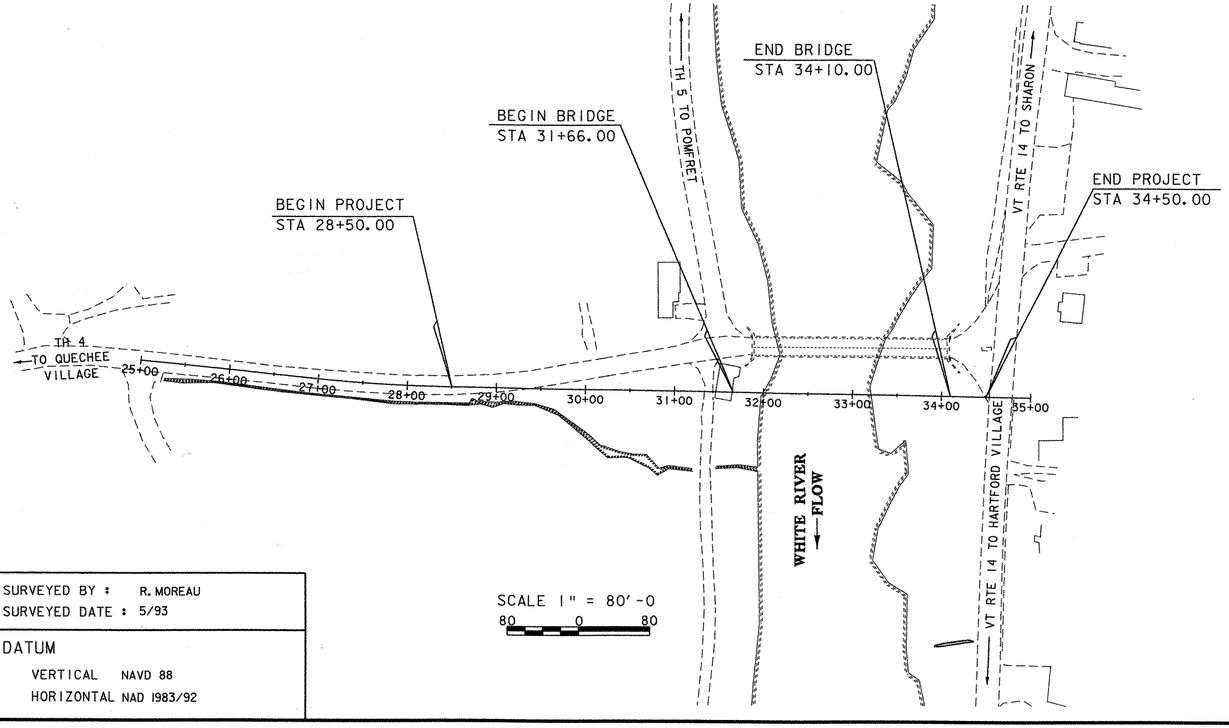
ROUTE NO : TH 4 FAS 166 BRIDGE NO : 8

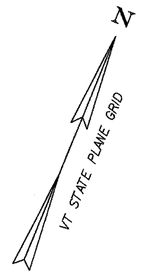
PROJECT LOCATION : LOCATED IN THE COUNTY OF WINDSOR, TOWN OF HARTFORD, ON TH 4: BRIDGE 8 OVER THE WHITE RIVER, APPROXIMATELY 0.1 MILE WEST OF THE JUNCTION WITH VT ROUTE 14.

PROJECT DESCRIPTION : THE REPLACEMENT OF THE EXISTING STRUCTURE ALONG WITH RELATED CHANNEL AND ROADWAY WORK.

LENGTH OF STRUCTURE :	244.00 FEET.
LENGTH OF ROADWAY :	356.00 FEET.
LENGTH OF PROJECT :	600.00 FEET.







CONVENTIONAL SYMBOLS

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

SURVEYED BY : R. MOREAU
SURVEYED DATE : 5/93

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 1983/92

RECORD PLANS

CONTRACTOR: FW WHITCOMB CONSTRUCTION CORP. – WALPOLE, NH
RESIDENT ENGINEER: CHRIS BARKER
CONSTRUCTION BEGAN: MAY 13, 2005
CONSTRUCTION COMPLETE: , 2007
RECORD PLANS BY: CHRIS BARKER & JUDY. GILMORE

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

BY _____ RESIDENT ENGINEER
DATE 04/16/07

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

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

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

89J045/structures/sj045bdr.dgn sj045tit.i

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 11/3/05

PROJECT MANAGER : C. P. WILLIAMS

PROJECT NAME : HARTFORD
PROJECT NUMBER : BRO-BTN 2004(1)

SHEET 1 OF 97 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

FINAL HYDRAULIC REPORT

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E-107	6/30/2003
E-107A	8/8/1995
E-123	3/16/2004
E-124	8/8/1995
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E-142	9/20/1995
E-143	6/15/2004
E-191	2/1/1999
E-193	8/18/1995
G-1	1/3/2000
G-1D	1/3/2000
G-6A	6/1/1994

HYDROLOGIC DATA

Date: 9-25-01

DRAINAGE AREA : 692.0 sq. mi.
CHARACTER OF TERRAIN : Hilly to mountainous
STREAM CHARACTERISTICS : Straight to sinuous, semi-alluvial, probably incised and stable
NATURE OF STREAMBED : Mostly ledge with some gravel, cobbles and boulders

PEAK FLOW DATA

Q 2.33 =	17,300 cfs	Q 50 =	53,800 cfs
Q 10 =	33,100 cfs	Q 100 =	65,100 cfs
Q 25 =	44,100 cfs	Q 500 =	98,700 cfs

DATE OF FLOOD OF RECORD : November 4, 1927
ESTIMATED DISCHARGE: 120,000 cfs at USGS gage 700' upstream of bridge #8.
WATER SURFACE ELEV.: 403.8' at USGS gage 700' upstream of bridge #8.
NATURAL STREAM VELOCITY : @ Q25 = 11.3 fps
ICE CONDITIONS : Moderate to heavy
DEBRIS: Moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
IS ORDINARY RISE RAPID? NO
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE:

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

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single span steel truss bridge
YEAR BUILT: 1929
CLEAR SPAN(NORMAL TO STREAM): 216'
VERTICAL CLEARANCE ABOVE STREAMBED: 32' maximum
WATERWAY OF FULL OPENING: 4,670 sq. ft.
DISPOSITION OF STRUCTURE: Remove after new bridge is completed.
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Abutments founded on ledge.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	385.7'	VELOCITY =	7.5 fps
Q10 =	390.0'	"	10.8 fps
Q25 =	392.3'	"	12.9 fps
Q50 =	394.1'	"	14.6 fps
Q100 =	396.3'	"	16.8 fps

LONG TERM STREAMBED CHANGES: Little or no changes anticipated due to ledge.

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Q60
RELIEF ELEVATION: 393.8'
DISCHARGE OVER ROAD @Q100: 140 cfs

UPSTREAM STRUCTURE

TOWN: Sharon — DISTANCE: 22,000'
HIGHWAY# : Central VT Railway — STRUCTURE #: NA
CLEAR SPAN: Not Available — CLEAR HEIGHT: NA
YEAR BUILT: NA — FULL WATERWAY: NA
STRUCTURE TYPE: NA

DOWNSTREAM STRUCTURE

TOWN: Hartford — DISTANCE: 4,000'
HIGHWAY# : I89 — STRUCTURE #: 11
CLEAR SPAN: 1014' — CLEAR HEIGHT: 60'+-
YEAR BUILT: 1967 — FULL WATERWAY: NA
STRUCTURE TYPE: six span steel beam bridge

LFD - LOAD RATING (TONS)

LOADING LEVELS	TRUCK H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	SA. SEMI
INVENTORY (A=2.17)	37	50					
POSTED (A=1.55)	52	70	99		58	60	85
OPERATING (A=1.3)		83	119	114	69	72	

COMMENTS:

STRENGTH RF = $\frac{\phi M_n - 1.3\ M_{DL}}{A \times M_{(LL+I)}}$

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
1996	1670	230	69	<1	3.5
2016	2280	320	69	<1	1.5

20 year ESAL for flexible pavement from 1996 to 2016 : 258000
40 year ESAL for flexible pavement from 1996 to 2036 : 685000
Design Speed : 35 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: 3 span bridge. Plate girder main span w/ conc. slab approach spans.

CLEAR SPAN(NORMAL TO STREAM): 232' total
VERTICAL CLEARANCE ABOVE STREAMBED: 32' maximum
WATERWAY OF FULL OPENING: 5,200 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	385.7'	VELOCITY=	7.4 fps
Q10 =	389.9'	"	10.4 fps
Q25 =	392.2'	"	12.3 fps
Q50 =	394.0'	"	13.8 fps
Q100 =	395.9'	"	15.7 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Q 80
RELIEF ELEVATION: 393.8'
DISCHARGE OVER ROAD @Q100: 45 cfs

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 396.7' (395.6 minimum)
VERTICAL CLEARANCE: @ Q25 = 4.5' average (3.2' minimum)

SCOUR: Ledge is exposed in the channel with shallow overburden on the banks.
Calculated scour depths are to ledge. All substructures should be founded on ledge.
REQUIRED CHANNEL PROTECTION: Stone Fill, Type IV where required.

PERMIT INFORMATION

AVERAGE DAILY FLOW:	1,300 cfs	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	500 cfs	Elevation 375.0' at bridge
ORDINARY HIGH WATER:	7,000 cfs	Elevation 378.0' at bridge

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Traffic will be maintained on existing bridge.
CLEAR SPAN (NORMAL TO STREAM): 216'
VERTICAL CLEARANCE ABOVE STREAMBED: 32'
WATERWAY AREA OF FULL OPENING: 4,670 sq. ft.

ADDITIONAL INFORMATION

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO HS-25
2. DESIGN SPAN 46'-150'-46'
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL ---
   ON LEDGE 10 ksi
4. ALLOWABLE LOAD FOR PILING ---
   TYPE ---
   ESTIMATED LENGTH ---
5. STRUCTURAL STEEL AASHTO GRADE 50W + 70W
6. REINFORCING STEEL GRADE 60
7. CONCRETE CLASS A (HPC-A) f'c : 5000 psi
   CONCRETE CLASS B (HPC-B) f'c : 3500 psi
8. SOIL UNIT WEIGHT 140 pcf
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL ---

TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED? YES
   IF YES, ON EXISTING STRUCTURE? YES
   OR ON TEMPORARY BRIDGE? NO
   ONE OR TWO-WAY TRAVEL? ---
2. TRAFFIC CONTROL SIGNALS REQUIRED? ---
3. ARE SIDEWALKS REQUIRED? ---
   IF SO, ON WHAT SIDE? ---

PROJECT NAME: **Hartford**
PROJECT NUMBER: **BRO-BTN 2004(1)**

FILE NAME: **sj045pi.xls** — PLOT DATE: **2/16/2005**
PROJECT MANAGER: **C.P. Williams** — DRAWN BY: **R.S. Young**
DESIGNED BY: **K.M. Higgins** — CHECKED BY: **K.M. Higgins**
PRELIMINARY INFORMATION SHEET — SHEET **2** OF **97**

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	APPR. SLAB #1	APPR. SLAB #2		SPAN #1	SPAN #2	SPAN #3		ABUT. #1	ABUT. #2		PIER #1	PIER #2		EROSION CONTROL	E & C ITMES	BRIDGE QUANTITY
1																
2500																
								750	470							
90																
680																
530																
70														10		
								820	1380							
								480	150		80	700				
								525	15		280	5				
								1								
									1							
											1					
												1				
925																
1340														10		
40																
7	.25	.25		.5	.5	1.5										
890	9	6		13	41	13										
								46	107		48	18				
				149	175	135										
	50	31						278	199		134	100				
					166738											
					78900											
								28410	20710		16663	11809				
								80	70		230	70				
	5660	3360		22411	56693	19057		623	483		343	217				
					1											
					1											
					1											
				4	10	3		6	4		11	7				
					34											
					34											
				160	508	152										
					491											
					1											
570																
1																
1																
					4											
					4											

TOTALS

ROUND	GRAND TOTAL	FINAL
	1	
	2500	
	1220	
	90	
	680	
	530	
	80	
	2200	
	1410	
	825	
	1	
	1	
	1	
	1	
	925	
	1350	
	40	
	10	
	972	
	219	
	459	
	792	
	166738	
	78900	
	77592	
	450	
	108847	
	1	
	1	
	1	
	45	
	34	
	34	
	820	
	491	
	1	
	570	
	1	
	1	
	4	
	4	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER
LS	CLEARING AND GRUBBING (INCL. INDV. TREES & STUMPS)	201.10
CY	COMMON EXCAVATION	203.15
CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27
CY	EXCAVATION OF SURFACES AND PAVEMENTS	203.28
CY	EARTH BORROW	203.30
CY	SAND BORROW	203.31
CY	TRENCH EXCAVATION OF EARTH	204.20
CY	GRANULAR BACKFILL FOR STRUCTURES	204.30
CY	COFFERDAM EXCAVATION, EARTH	208.30
CY	COFFERDAM EXCAVATION, ROCK	208.35
LS	COFFERDAM (Abutment No. 1)	208.40
LS	COFFERDAM (Pier No. 1)	208.40
LS	COFFERDAM (Pier No. 2)	208.40
LS	COFFERDAM (Abutment No. 2)	208.40
SY	COLD PLANING-BIT.PAVEMENT	210.10
CY	SUBBASE OF GRAVEL	301.15
CY	AGGREGATE SURFACE COURSE	401.10
CWT	EMULSIFIED ASPHALT	404.65
TON	BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	406.25
CY	CONCRETE, CLASS C	501.30
CY	CONCRETE, HIGH PERFORMANCE CLASS A (MOD.-5000 Psi)	501.33
CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34
LB	STRUCTURAL STEEL(PLATE GIRDER)	506.55
LB	STRUCTURAL STEEL(PLATE GIRDER)(MOD.-HPS70W)	506.55
LB	REINFORCING STEEL	507.15
LF	DRILLING AND GROUTING DOWELS	507.16
LB	EPOXY COATED REINFORCING STEEL	507.17
EA	SHEAR CONNECTORS (1208 - 7/8" DIA.x 7" SHEAR STUDS)	508.15
LS	STRUCTURAL PAINTING,SHOP APPLIED (3.2 TONS)	513.25
LS	SURFACE PREPARATION,SHOP (3.2 TONS)	513.40
GAL	WATER REPELLENT (MOD.-SILANE)	514.10
LF	BRIDGE EXPANSION JOINT (VERMONT)	516.10
LF	BRIDGE EXPANSION JOINT (ASPHALTIC PLUG TYPE)	516.10
SY	SHEET MEMBRANE WATERPROOFING (MOD.-TORCH APPLIED)	519.20
LF	BRIDGE RAILING-ALUMINUM / PEDESTRIAN (ANODIZED BLACK)	525.23
LS	MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS	527.10
SY	REMOVAL OF BRIDGE PAVEMENT	529.10
EACH	REMOVAL OF STRUCTURE	529.15
EACH	REMOVAL OF STRUCTURE (MOD. RELOCATE BARN)	529.15
EACH	BEARING DEVICE ASSEMBLY STA. 32+12.00 (PEDSTL.)	531.10
EACH	BEARING DEVICE ASSEMBLY STA. 33+33.00 (ELAST.)	531.10

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT NAME: **HARTFORD**
PROJECT NUMBER: **BRO-BTN 2004 (1)**

FILE NAME: **s89j045quant.xls**
PROJECT MANAGER: **C.P. WILLIAMS**
DESIGNED BY: **K.M. HIGGINS**
QUANTITY SHEET #1

PLOT DATE: **1/13/2005**
DRAWN BY: **M.LONGSTREET**
CHECKED BY: **K.M. HIGGINS**
SHEET **3** OF **97**

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES																TOTALS			DESCRIPTIONS			
ROADWAY	APPR. SLAB #1	APPR. SLAB #2		SPAN #1	SPAN #2	SPAN #3		ABUT. #1	ABUT. #2		PIER #1	PIER #2		EROSION CONTROL	E & C ITMES	BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER
																					BEGIN PIPE OPTIONS	
144																		144		LF	18" CAAP .075 (2-2/3X1/2)	601.0216
144																		144		LF	18" PCCSP .079 (2-2/3 X 1/2)	601.0416
144																		144		LF	18" CPEP	601.0915
56																		56		LF	36" CAAP .075 (2-2/3 X 1/2)	601.0246
56																		56		LF	36" PCCSP .109 (2-2/3 X 1/2)	601.0447
56																		56		LF	36" CPEP	601.0930
																					END PIPE OPTIONS	
20																		20		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25
20																		20		MGAL	DUST CONTROL WITH WATER	609.10
20																		20		TON	DUST & ICE CONTROL WITH CALCIUM CHLORIDE	609.15
347								1	2									350		CY	STONE FILL, TYPE I	613.10
														10				10		CY	STONE FILL, TYPE I (MOD.-CHECK DAMS)	613.10
														10				10		CY	STONE FILL, TYPE I (MOD.-STABILIZED CONST. ENTRANCE)	613.10
								680	260		50	20						1010		CY	STONE FILL, TYPE IV	613.13
														1800				1800		LF	SNOW FENCE (MOD.-PDF)	620.70
333																		333		LF	HVY DUTY STEEL BEAM GUARD RAIL	621.21
4																		4		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60
1																		1		EACH	ANCHOR FOR CABLE RAIL AT OPNGS	621.66
100																		100		LF	ALUMINUM APPROACH RAILING (ANODIZED BLACK)	621.74
200																		200		HR	FLAGGERS	630.15
															1			1		LS	FIELD OFFICE-ENGINEERS	631.10
															1			1		LS	TESTING EQUIPMENT - CONCRETE	631.16
															1			1		LS	TESTING EQUIPMENT - BITUMINOUS (MOD.)	631.17
															1			1		LU	FIELD OFFICE - TELEPHONE (NABI)	631.25
1																		1		LS	MOBILIZATION/DEMOBILIZATION	635.11
1295																		1295		LF	DURABLE 4" WHITE LINE	646.40
1210																		1210		LF	DURABLE 4" YELLOW LINE	646.41
32																		32		LF	DURABLE 24" STOP BAR	646.46
8																		8		EACH	DURABLE LETTER OR SYMBOL	646.50
1295																		1295		LF	TEMPORARY 4" WHITE LINE	646.60
1210																		1210		LF	TEMPORARY 4" YELLOW LINE	646.61
32																		32		LF	TEMPORARY 24" STOP BAR	646.66
8																		8		EACH	TEMPORARY LETTERS OR SYMBOLS	646.70
														1860				1860		SY	GEOTEXTILE UNDER STONE FILL	649.31
														350				350		SY	GEOTEXTILE FOR SILT FENCE	649.51
														70				70		SY	GEOTEXTILE FOR FILTER CURTAIN	649.61
														30				30		LB	SEED	651.15
														20				20		LB	SEED-WINTER RYE	651.17
														200				200		LB	FERTILIZER	651.18
														1				1		TON	AGRICULTURAL LIMESTONE	651.20
														1				1		TON	HAYMULCH	651.25
														10				10		EACH	HAYBALES FOR EROSION CONTROL	651.26

DETAILED SUMMARY OF QUANTITIES		
QUANTITIES	UNIT	ITEMS

PROJECT NAME: **HARTFORD**
PROJECT NUMBER: **BRO-BTN 2004 (1)**

FILE NAME: **s89j045quant.xls**
PROJECT MANAGER: **C.P. WILLIAMS**
DESIGNED BY: **K.M. HIGGINS**
QUANTITY SHEET #2

PLOT DATE: **12/9/98**
DRAWN BY: **M.LONGSTREET**
CHECKED BY: **K.M. HIGGINS**
SHEET **4** OF **97**

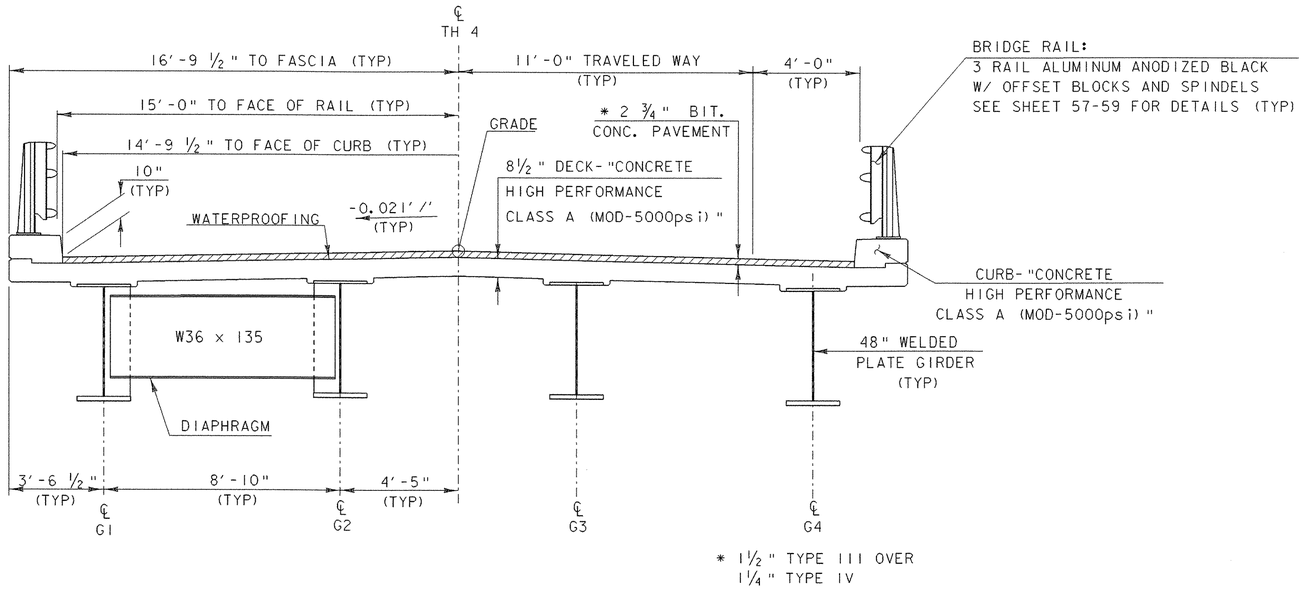
STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES																TOTALS			DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
ROADWAY	APPR. SLAB #1	APPR. SLAB #2		SPAN #1	SPAN #2	SPAN #3		ABUT. #1	ABUT. #2		PIER #1	PIER #2		EROSION CONTROL	E & C ITMES	BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
														30				30		CY	TOP SOIL	651.35			
														200				200		SY	GRUBBING MATERIAL	651.40			
														1				1		LS	EROSION & SEDIMENT CONTROL PLAN	652.10			
														100				100		HR	MONITORING EROSION & SEDIMENT CONTROL	652.20			
														1				1		LU	FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN (NABI)	652.30			
														850				850		SY	EROSION MATTING	654.10			
6																		6		EACH	DECIDUOUS SHRUBS (Syringa vulgaris)	656.35			
18																		18		SF	TRAFFIC SIGNS, TYPE A	675.20			
56																		56		LF	FLANGED CHANNEL SIGN POSTS	675.301			
9																		9		EACH	REMOVING SIGNS	675.50			
8																		8		EACH	DELINEATORS W/STEEL POSTS	676.10			

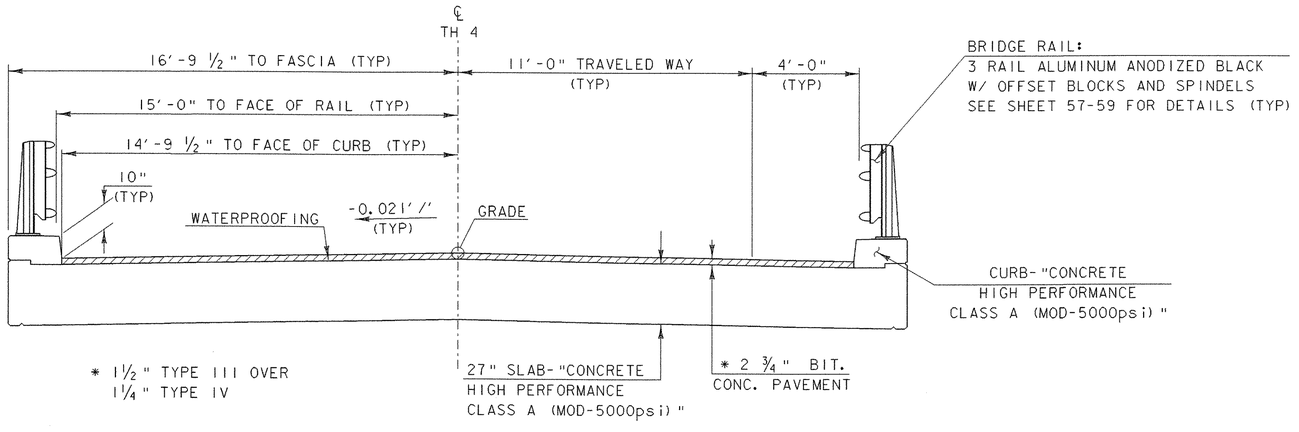
PROJECT NAME:	HARTFORD
PROJECT NUMBER:	BRO-BTN 2004 (1)

FILE NAME: **s89j045quant.xls**	PLOT DATE: **12/9/98**
PROJECT MANAGER: **C.P. WILLIAMS**	DRAWN BY: **M.LONGSTREET**
DESIGNED BY: **K.M. HIGGINS**	CHECKED BY: **K.M. HIGGINS**
QUANTITY SHEET #3	SHEET **5** OF **97**



TYPICAL BRIDGE SECTION MAIN SPAN (SPAN #2)

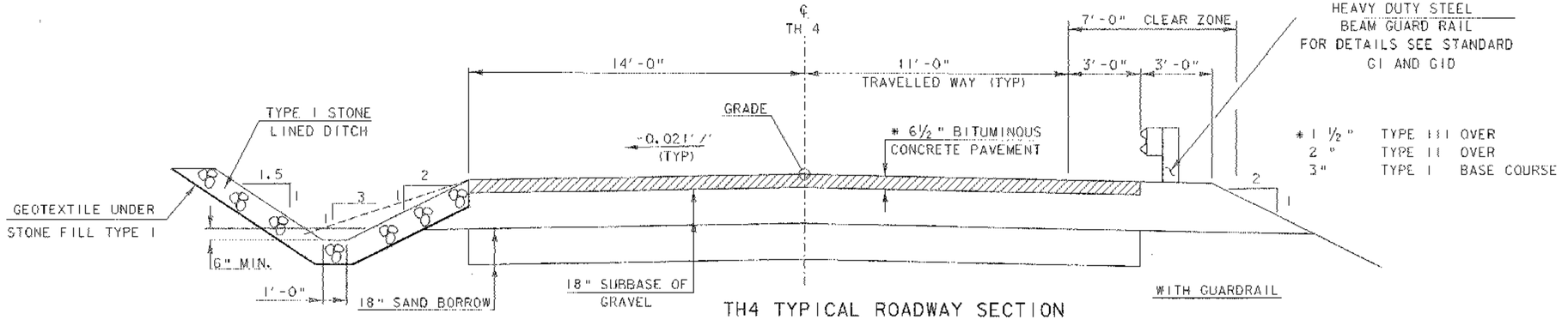
SCALE 3/8" = 1'-0



TYPICAL BRIDGE SECTION (SPANS 1 & 3)

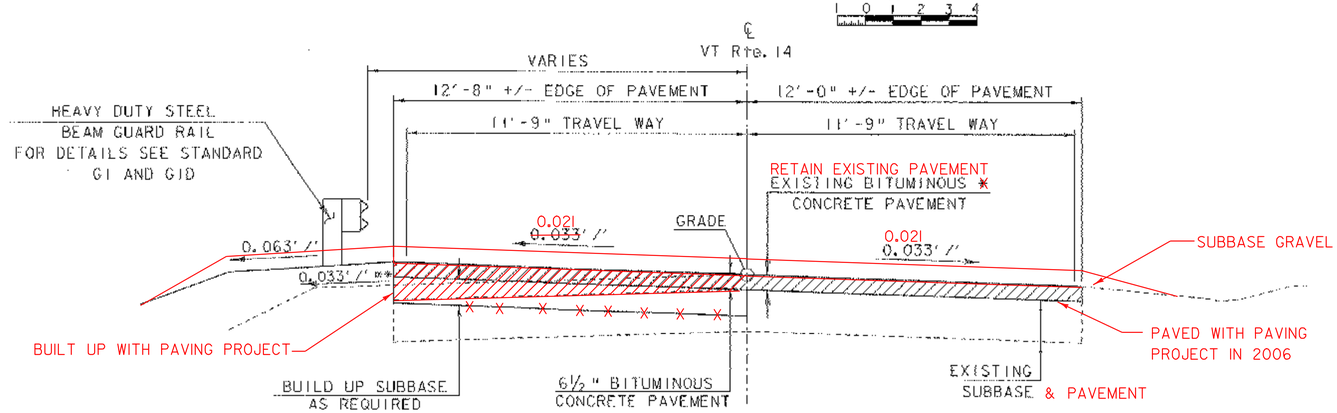
SCALE 3/8" = 1'-0

PROJECT: HARTFORD			PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME:	89J045/structures/sJ045typ.dgn		
IPARM FILE NAME:	sJ045typI.i	PLOT DATE:	11-FEB-2005
SURVEYED BY:	R. MOREAU	SURVEY DATE:	5/93
SQUAD LEADER:	C. P. WILLIAMS	DRAWN BY:	K.M. HIGGINS
BRIDGE TYPICAL SECTIONS		SHEET:	6 OF 97



TH4 TYPICAL ROADWAY SECTION

SCALE ⅜" = 1'-0

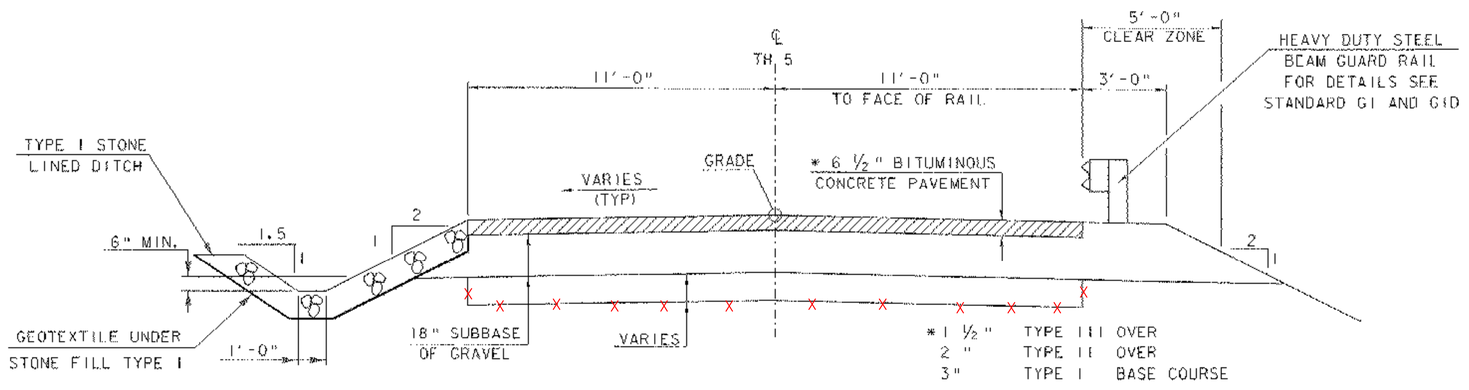


* COLD PLANE

** EXISTING BANKING

VT Rte. 14 TYPICAL ROADWAY SECTION

SCALE ⅜" = 1'-0



TH5 TYPICAL ROADWAY SECTION

SCALE ⅜" = 1'-0

NOTE:

ALUMINIMUM APPROACH RAIL SHALL BE ANODIZED BLACK

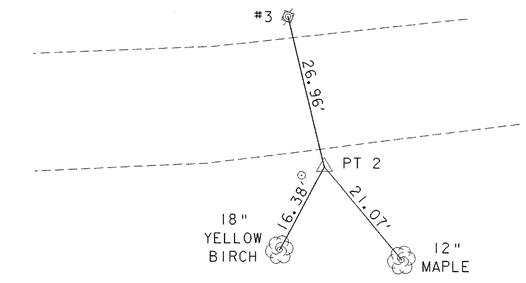
MATERIAL ITEM	TOLERANCE
PAVEMENT	±¼" TOTAL THICKNESS
AGGREGATE SURFACE COURSE	± ½"
BASE COURSE	± ½"
SUBBASE	± 1"
SAND BORROW	± 1"
GRANULAR BORROW	± 1"

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89J045/structures/sj045typ.dgn	
IPARM FILE NAME: sj045typ2.i	PLOT DATE: 11-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: K.M. HIGGINS
ROADWAY TYPICAL SECTIONS	SHEET: 7 OF 97

GEODETIC CONTROL INFORMATION

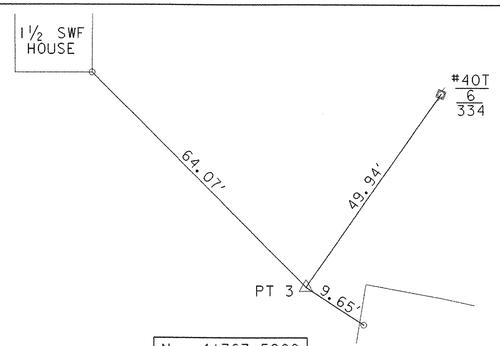
TRAVERSE TIE INFORMATION

POINT #2



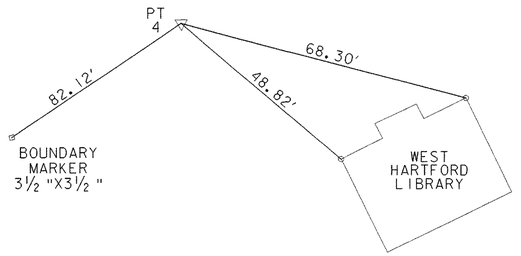
N = 41652.0275
E = 61745.9361
Z = 432.1989

POINT #3



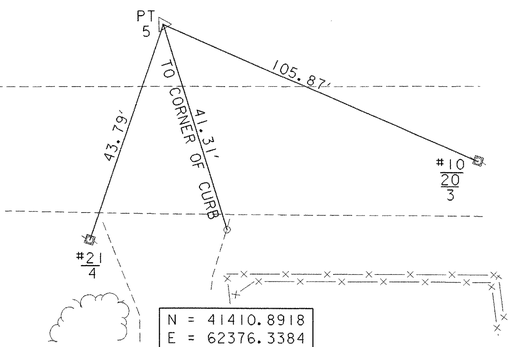
N = 41767.5900
E = 61947.5463
Z = 403.6831

POINT #4



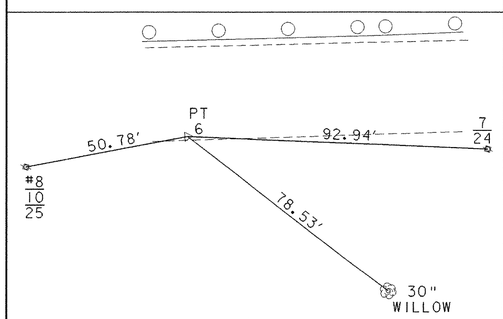
N = 41911.8935
E = 62260.4316
Z = 393.3030

POINT #5



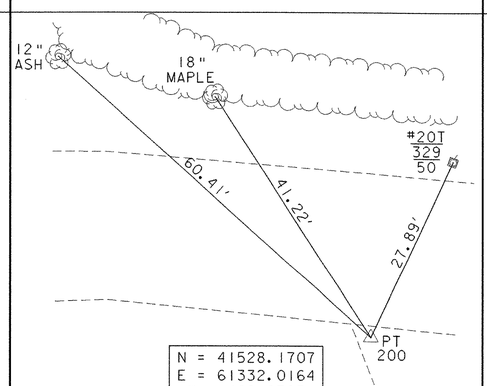
N = 41410.8918
E = 62376.3384
Z = 390.9146

POINT #6



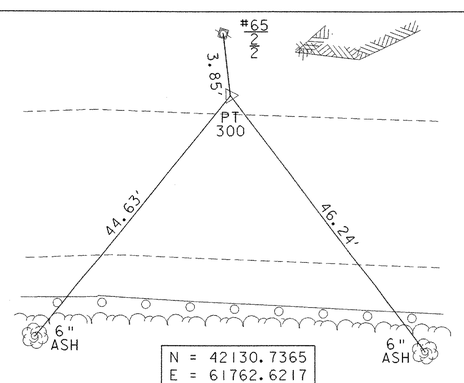
N = 41004.7857
E = 62548.9814
Z = 396.5009

POINT #200



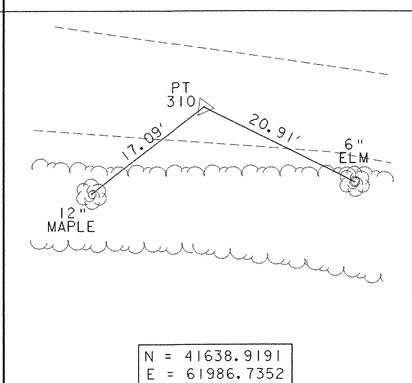
N = 41528.1707
E = 61332.0164
Z = 468.2723

POINT #300



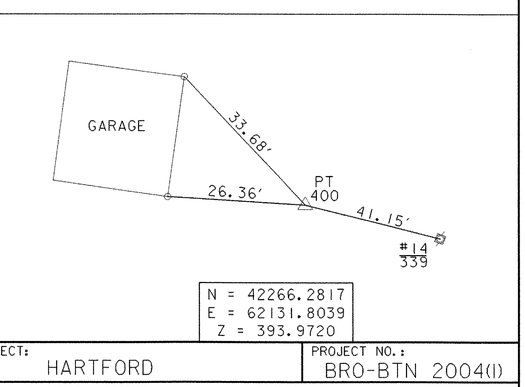
N = 42130.7365
E = 61762.6217
Z = 395.6073

POINT #310



N = 41638.9191
E = 61986.7352
Z = 394.1320

POINT #400



N = 42266.2817
E = 62131.8039
Z = 393.9720

DATUM
VERTICAL NAVD 1988
HORIZONTAL NAD 1983/92

ALL TIES SHOWN NOT TO SCALE

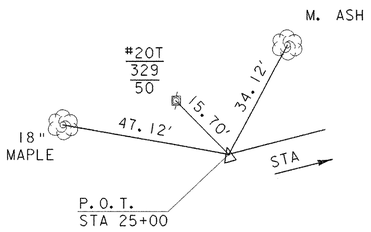
PROJECT: HARTFORD
PROJECT NO.: BRO-BTN 2004(1)

DESIGN FILE NAME: 89j045/structures/sj045tie.dgn
IPARM FILE NAME: sj045tie1.i
SURVEYED BY: R. MOREAU
SQUAD LEADER: C.P. WILLIAMS
TRAVERSE & GEODETIC CONTROL INFORMATION
PLOT DATE: 11-FEB-2005
SURVEY DATE: 05/93
DRAWN BY: P.G. JARVIS
SHEET: 8 OF 97

PLOTTED 11-FEB-2005

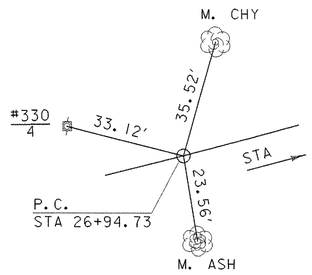
NEW ALIGNMENT TIE INFORMATION

MAINLINE POB STA 25+00.00



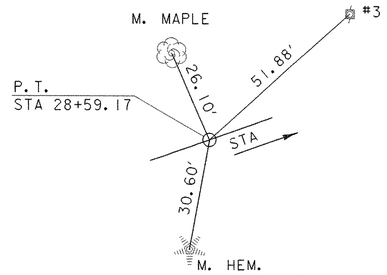
N = 41544.9060
E = 61345.5230

MAINLINE PC STA 26+94.73



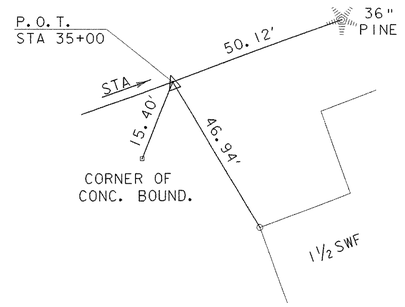
N = 41592.7289
E = 61534.2862

MAINLINE PT STA 28+59.17



N = 41639.9233
E = 61691.7599

MAINLINE POE STA 35+00.00

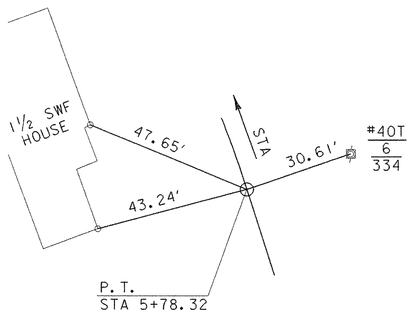


N = 41850.1417
E = 62297.1254

TH5 POB STA 5+00.00

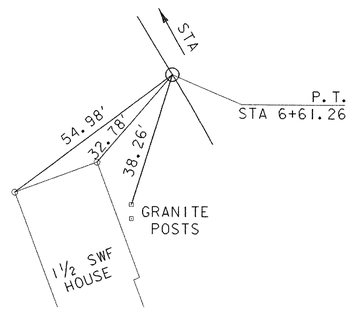
N = 41731.3904
E = 61955.1574

TH5 PC STA 5+78.32



N = 41805.9878
E = 61931.3025

TH5 PT STA 6+61.26



N = 41881.1002
E = 61896.6222

TH5 POE STA 6+80.00

N = 41897.0247
E = 61886.7357

DRIVE POB STA 10+00.00

N = 41725.4856
E = 61938.1535

DRIVE PC #1 STA 10+31.99

N = 41695.1379
E = 61948.2782

DRIVE PT #1 STA 10+66.52

N = 41664.8800
E = 61964.5647

DRIVE PC #2 STA 10+74.20

N = 41658.8417
E = 61969.3050

DRIVE PT #2 STA 11+14.90

N = 41623.8424
E = 61989.8390

DRIVE POE STA 11+84.43

N = 41559.6877
E = 62016.6317

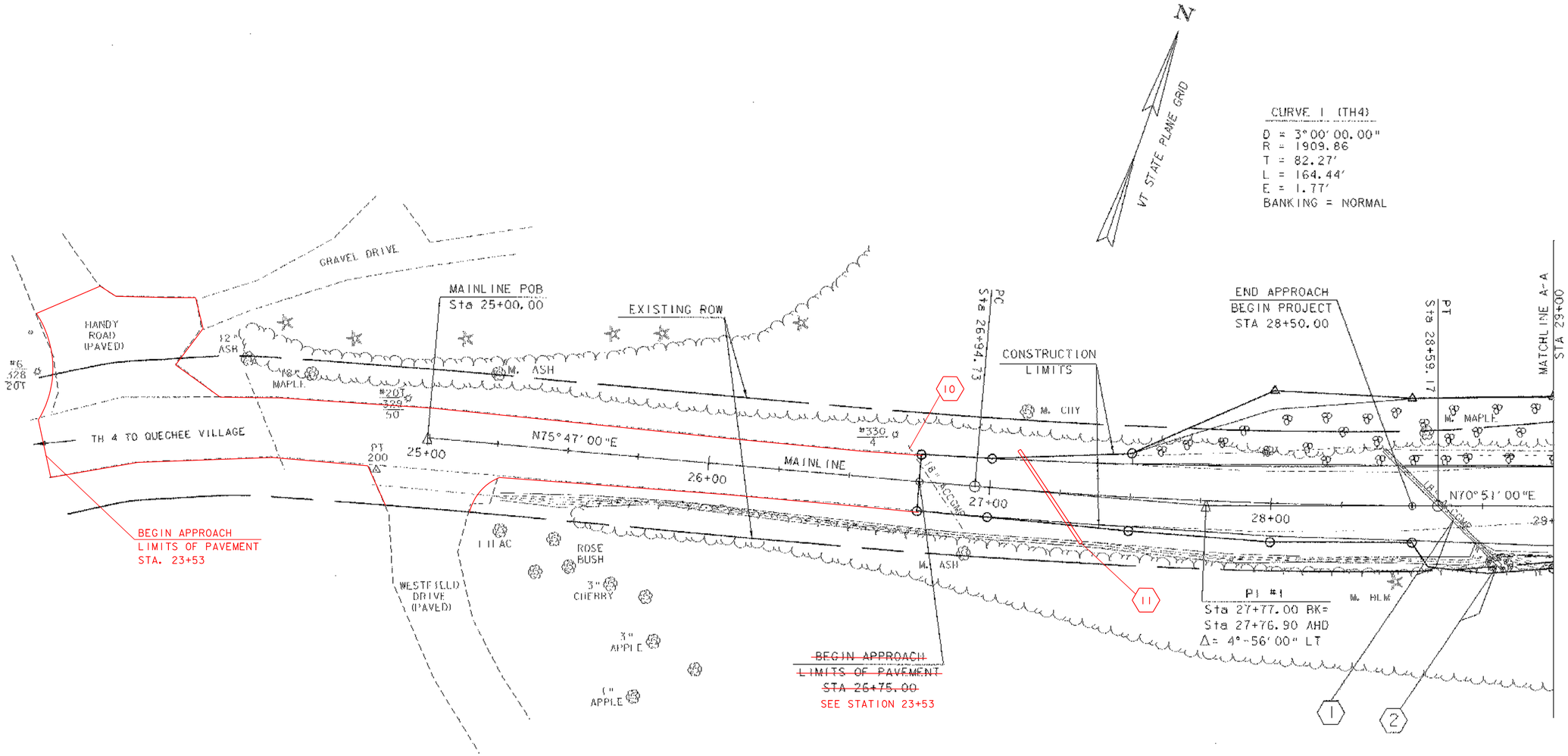
DATUM
VERTICAL NAVD 1988
HORIZONTAL NAD 1983/92

PROJECT: HARTFORD
PROJECT NO.: BRO-BTN 2004(1)

DESIGN FILE NAME: 89j045/structures/sj045tie.dgn
IPARM FILE NAME: sj045tie2.i
SURVEYED BY: R. MOREAU
SQUAD LEADER: C.P. WILLIAMS
ALIGNMENT TIE SHEET

PLOT DATE: 11-FEB-2005
SURVEY DATE: 05/93
DRAWN BY: K. M. HIGGINS
SHEET: 9 OF 97

PLOTTED 11-FEB-2005



SEE SHEET 22-23 FOR
DRAINAGE INFORMATION

LAYOUT SHEET 1

SCALE 1" = 20'-0

20 0 20

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89J045/structures/sj045bdr.dgn	
PARM FILE NAME: sj045lal.i	PLOT DATE: 8-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: K.M. HIGGINS
LAYOUT SHEET 1	SHEET: 10 OF 97

REMOVAL & DISPOSAL OF GUARD RAIL
ML STA 31+70.00 - 31+83.00 LT
TH5 STA 5+64.00 - 6+43.00 RT
ML STA 34+11.00 - 34+34.00 LT

ALUMINUM BRIDGE RAILING-ANODIZED BLACK
ML Sta 31+65.25 LT - Sta 34+09.75 LT
ML Sta 31+66.25 RT - Sta 34+09.75 RT

ALUMINUM APPROACH RAILING-ANODIZED BLACK
TH5 Sta 5+46.20 RT - ML Sta 31+65.23 LT
ML Sta 31+41.30 RT - ML Sta 31+66.25 RT
ML Sta 34+09.75 LT - ML Sta 34+34.20 LT
ML Sta 34+09.75 RT - ML Sta 34+33.30 RT

HEAVY DUTY STEEL BEAM GUARDRAIL
TH5 Sta 5+46.20 RT - TH5 Sta 6+~~34~~.00 RT 30
ML Sta 31+41.30 RT - DRIVE Sta 11+~~09~~.00 LT 11
ML Sta 34+34.50 LT - VT14 Sta 209+~~27.50~~ LT 25
ML Sta 34+33.30 RT - VT14 Sta 207+~~62~~.00 LT 64

ANCHOR FOR STEAL BEAM GUARDRAIL
TH5 Sta ~~6+22~~.00 RT 3+60
DRIVE Sta 10+~~98~~.00 LT 31
VT14 Sta 207+~~75~~.00 LT 72
VT14 Sta 209+~~18~~.00 LT 12

~~ANCHOR FOR CABLE RAIL~~
~~Sta 6+30.00 RT (APPROXIMATE)~~

CONSTRUCTION LIMITS

CURVE 2 (TH5)
D = 17°00'00.00"
R = 337.03
T = 41.68'
L = 82.94'
E = 2.57'
BANKING = TRANSITION TO EXISTING

TH5 POE
Sta 6+80.00

PT
Sta 6+61.26

PC
Sta 5+78.32

EXISTING 12" CGMP

REPLACE

TH 5 TO POMFRET (PAVED)

TH 4 TO QUECHEE

WOODS ROAD

1½ SWF HOUSE

GRAVEL DRIVE

(2) 6" ELM

6" WILLOW

12" OAK

12" ASH

6" ASH

6" ELM

#334

(2) 3" ELM

END APPROACH
LIMITS OF PAVEMENT
STA 6+50.00

CHANNEL POE
Sta 54+00.00

PI #2
Sta 6+20.00 BK =
Sta 6+19.58 AHD
Δ = 14°06'00" LT

END PROJECT
BEGIN APPROACH
STA 5+75.00

EXISTING ROW

BENCHMARK #1
CHISLED SQUARE
ELEV = 400.668

CHANNEL LINE

END PROJECT
BEGIN APPROACH
STA 34+50.00

CAREX GARBERI (SEE NOTES)

℄ BRG. PIER #2
Sta 33+63.00
FG = 400.59

℄ PIER #2
Sta 33+64.17

TEMPORARY CONSTRUCTION LIMITS

℄ BRG. PIER #1
Sta 32+13.00
FG = 403.88

℄ PIER #1
Sta 32+11.83

END BRIDGE
Sta 34+10.00
FG = 398.36

BEGIN BRIDGE
Sta 31+66.00
FG = 404.91

CONSTRUCTION LIMITS

PI #5
Sta 208+00.00 BK =
Sta 207+99.57 AHD
Δ = 5° 00' 00" RT

POT
ML Sta 33+00.00 =
Channel Sta 52+00.00
Δ = 90° 00' 00"

6" ASH BEGIN APPROACH
STA ~~207+25.00~~ 205+45
LIMITS OF PAVEMENT

MATCHLINE B-B
STA 207+00

MATCHLINE C-C
STA 210+00

END APPROACH
STA ~~209+75.00~~ 212+02
MITS OF PAVEMENT GUIDE POST

18" CGMP

GUY

GUIDE POST

VT 14 TO SHARON

N13°39'00"W

GRAVEL DRIVE

6" SPRUCE

WEST HARTFORD LIBRARY

SHRUBS FLAG POLE

GRANITE PAD & MONUMENT

#336 50 TO 17

GUY

BENCHMARK #2
CHISELED SQUARE
ELEV = 399.51

209+00 PT

R=16'
R=13'
R=122'
R=125'
R=38' (TYP)

ML Sta 34+61.00 =
VT 14 POST Sta 208+32.00
Δ = 84°30' 00" LT

POE
Sta 35+00.00

BOUNDARY MARKER 3½"x3½"

36" PINE

3" MAPLE

36" MAPLE

FLOWER GARDEN

LILAC

LILAC

LILAC

1½ SWF

208+00

#18 20T 606

VT 14 HARTFORD VILLAGE

GRAVEL DRIVE

GRAVEL DRIVE

12" MAPLE

24" APPLE

CURVE 5 (VT 14)
D = 0°-45'-00"
R = 7639.44'
T = 328.30'
L = 656.21'
E = 7.05'
BANKING = EXISTING

MATCH LINE A-A
STA 29+00

ML Sta 31+38.00 =
TH5 Sta 5+00.00
Δ = 88°35'00" LT

POT

PI 3

R=42'
R=39'

CONCRETE ROAD BLOCK

MAINLINE

30+00
31+00
32+00
33+00
34+00
35+00

N17°44'W

S18°27'00"E

N70°51'00"E

S22°40'00"E

N19°00'00"W

51+00

50+00

WHITE RIVER
FLOW

CHANNEL POB
Sta 50+00.00

18" YELLOW BIRCH

12" MAPLE

IP.

POT
ML Sta 31+20.00 =
DRIVE Sta 10+00.00
Δ = 90°42'00" RT

FOUNDATION

R=20' (TYP)

CURVE 3 (DRIVE)
D = 57°00'
R = 100.52'
T = 17.44'
L = 34.53'
E = 1.50'
BANKING = NORMAL

PI #3
Sta 10+49.43 BK=
Sta 10+49.08 AHD
Δ = 19°-41'00" LT

PC
Sta 10+74.20

PT
Sta 10+66.52

EXISTING 36" CGMP

6" ELM

WOOD WALL

PI #4
Sta 10+94.68 BK=
Sta 10+94.42 AHD
Δ = 15°28'00" RT

PT
Sta 11+14.90

CURVE 4 (DRIVE)
D = 38°00'
R = 150.78'
T = 20.48'
L = 40.70'
E = 1.38'
BANKING = NORMAL

DRIVE POE
Sta 11+84.43

GRAVEL RD

CONSTRUCT DRIVE
TH4 STA 30+09.00 LT 12' FIELD DRIVE W/5' PAVED APRON
TH4 STA 31+20 RT SEE SHEET 17 FOR DETAILS
TH5 STA 5+89.00 LT - 24' WIDE W/5' PAVED APRON

SEE SHEET 22-23 FOR DRAINAGE INFORMATION
SEE SHEET 24 TRAFFIC SIGNS AND PAVEMENT MARKINGS

REMOVAL OF STRUCTURE (MOD)
~~(RELOCATE BARN)~~ (REMOVE)
STA 31+50.00

EXISTING BRIDGE DATA:
216 ' STEEL TRUSS
20' CURB TO CURB
14'-11" VERTICAL CLEARANCE
BUILT IN 1928

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

LAYOUT SHEET 2

SCALE 1" = 20'-0
20 0 20

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89J045/structures/sJ045bdr.dgn	
IPARM FILE NAME: sJ045lo2.I	PLOT DATE: 11-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: K.M. HIGGINS
LAYOUT SHEET 2	SHEET: 11 OF 97

MATCHLINE B-B
STA 207+00

6" CEDAR
12" APPLE
1½ SWF
18" MAPLE
#2 T3
12" SPRUCE
12" SPRUCE
60" WILLOW
15" RCP
3" PINE
PAVED DRIVE
REX ASSOCIATES GARAGE
#10 20
(3) 6" PINE
HOUSE
GRAVEL DRIVE
#21 4
3" ASH
2" SPRUCE
12" WILLOW
12" ASH
6" ASH
6" BASS
6" ELM
6" ELM
PT 5
12" RCP

206+00
205+00
204+00
203+00

VT 14
TO HARTFORD VILLAGE

SPEED LIMIT 35

WHITE RIVER — FLOW

GRAVEL RD

PT 311
18" HEMLOCK
18" OAK

N
VT STATE PLANE GRID

NOTE:
NOT ALL TRAFFIC SIGNS SHOWN.
SOME SIGNS THAT ARE NOT WITH IN THE PROJECT LIMTS WERE NOT LABELED ON THESE SHEETS.

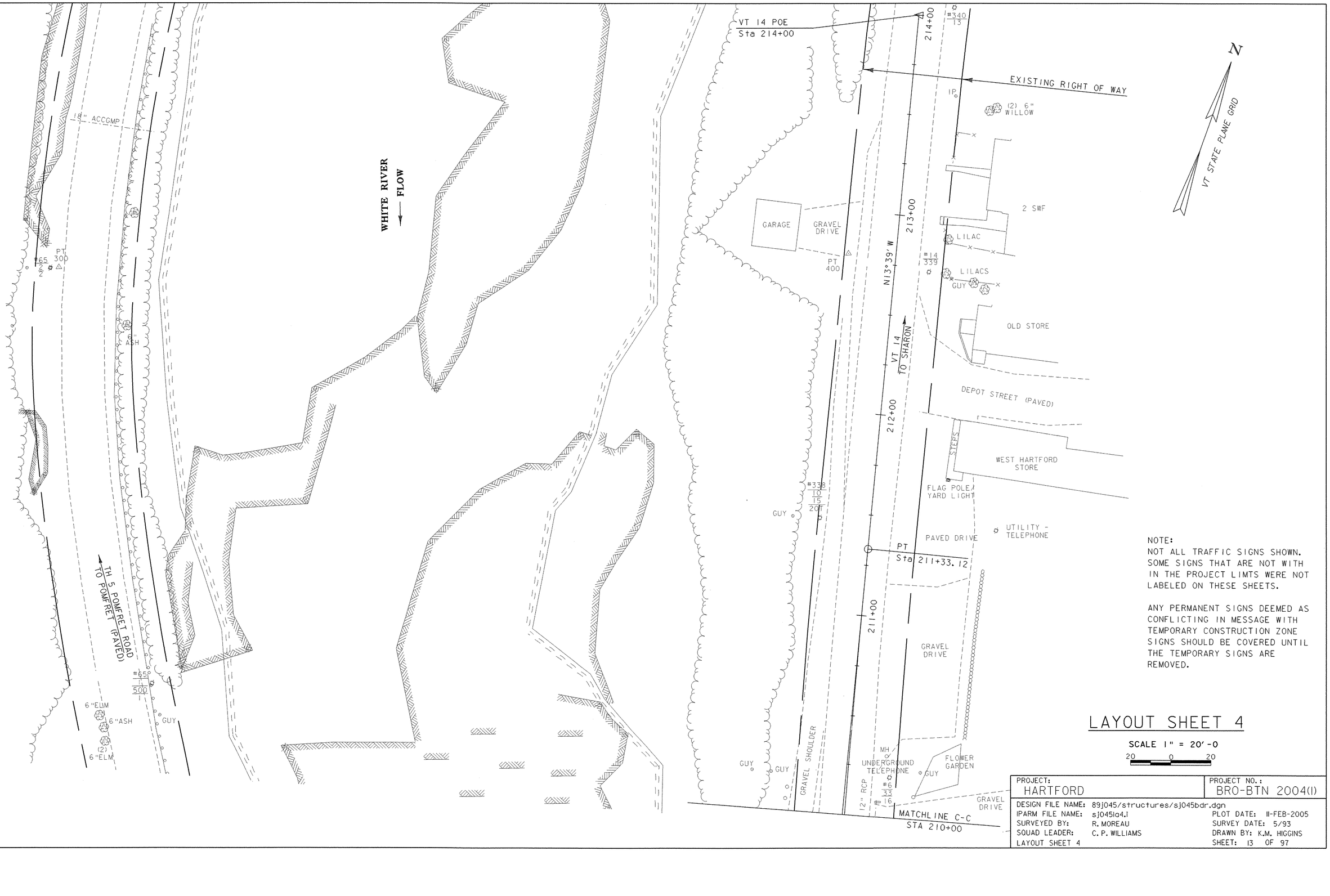
ANY PERMANENT SIGNS DEEMED AS CONFLICTING IN MESSAGE WITH TEMPORARY CONSTRUCTION ZONE SIGNS SHOULD BE COVERED UNTIL THE TEMPORARY SIGNS ARE REMOVED.

LAYOUT SHEET 3

SCALE 1" = 20'-0
20 0 20

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89J045/structures/sj045bdr.dgn	
IPARM FILE NAME: sj045la3.i	PLOT DATE: 11-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: K.M. HIGGINS
LAYOUT SHEET 3	SHEET: 12 OF 97



NOTE:
NOT ALL TRAFFIC SIGNS SHOWN. SOME SIGNS THAT ARE NOT WITH IN THE PROJECT LIMTS WERE NOT LABELED ON THESE SHEETS.

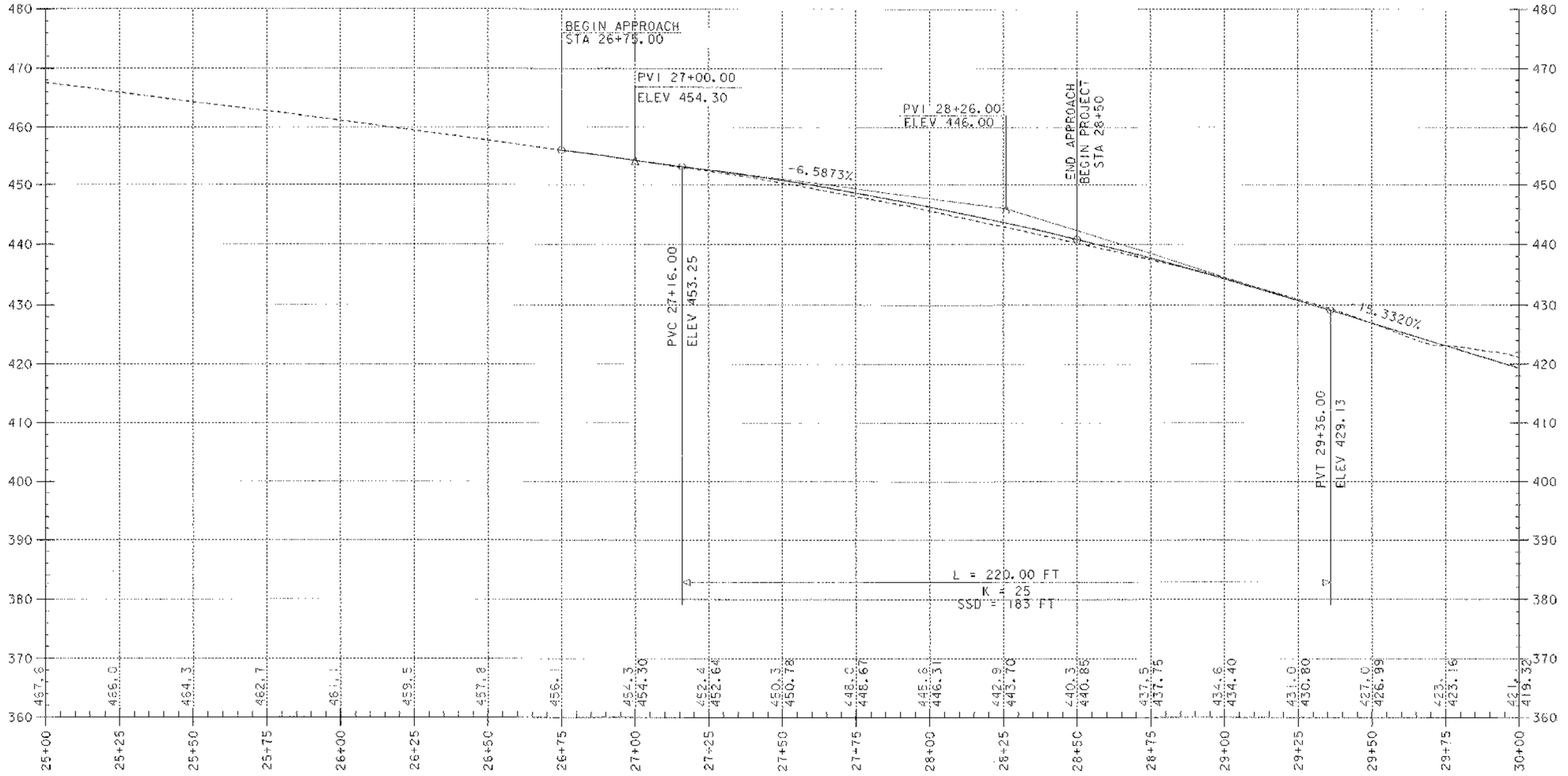
ANY PERMANENT SIGNS DEEMED AS CONFLICTING IN MESSAGE WITH TEMPORARY CONSTRUCTION ZONE SIGNS SHOULD BE COVERED UNTIL THE TEMPORARY SIGNS ARE REMOVED.

LAYOUT SHEET 4

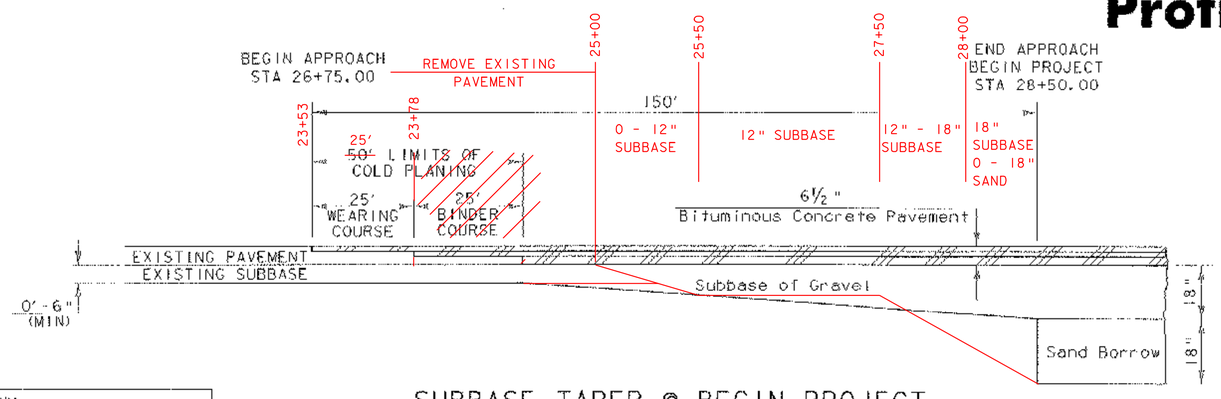
SCALE 1" = 20'-0

20 0 20

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045bdr.dgn	
IPARM FILE NAME: sj045la4.i	PLOT DATE: 11-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: K.M. HIGGINS
LAYOUT SHEET 4	SHEET: 13 OF 97



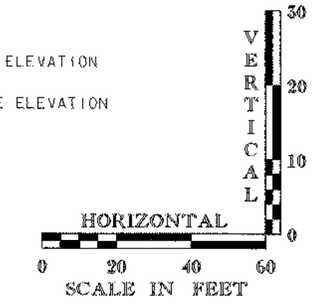
Profile TH4



SUBBASE TAPER @ BEGIN PROJECT

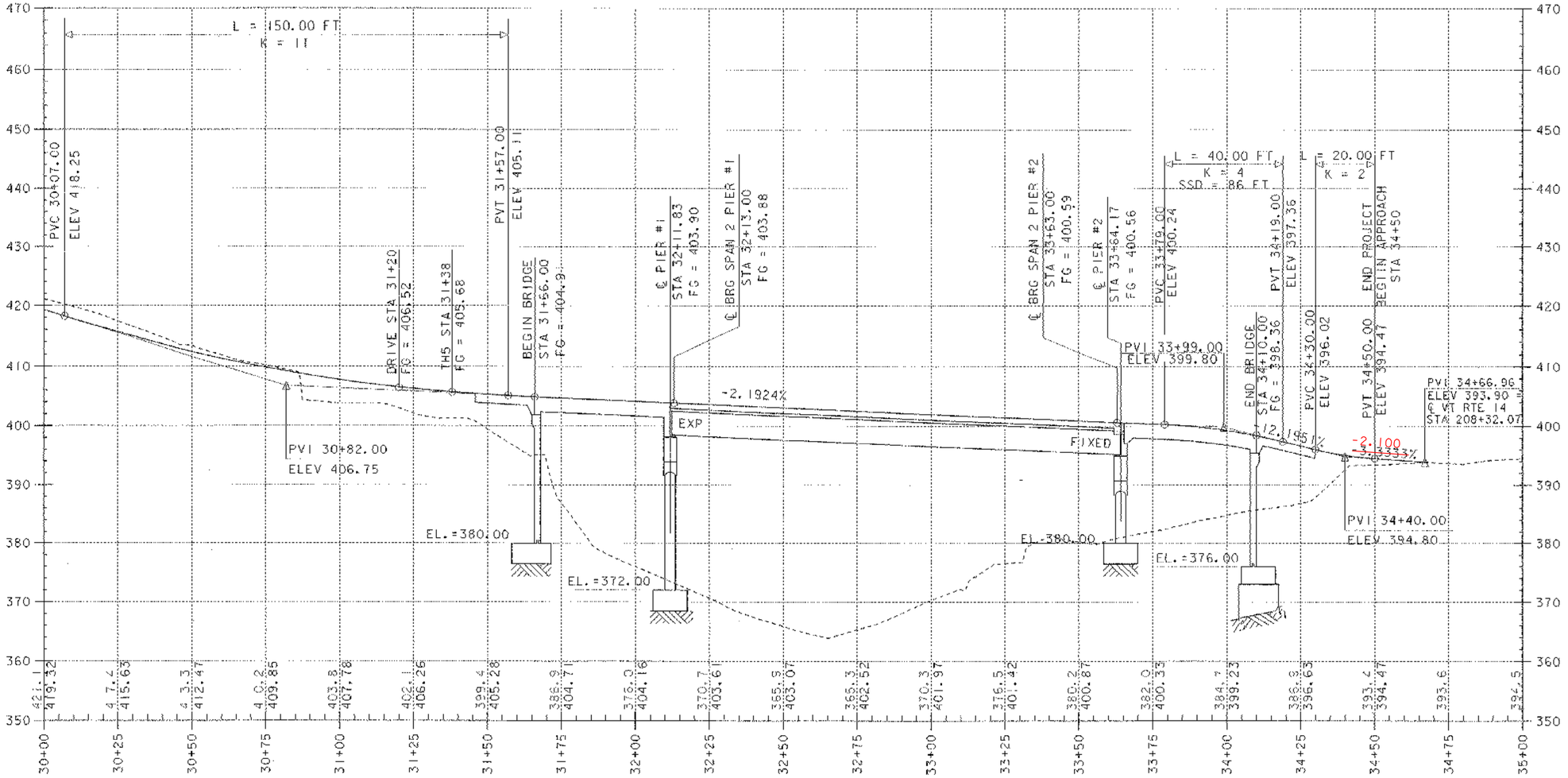
nts

NOTE: GRADES SHOWN TO THE NEAREST TENTH REPRESENT EXISTING GROUND ELEVATION ALONG THE REVISED CENTERLINE.
GRADES SHOWN TO THE NEAREST HUNDREDTH REPRESENT FINISH GRADE ELEVATION ALONG THE REVISED CENTERLINE.



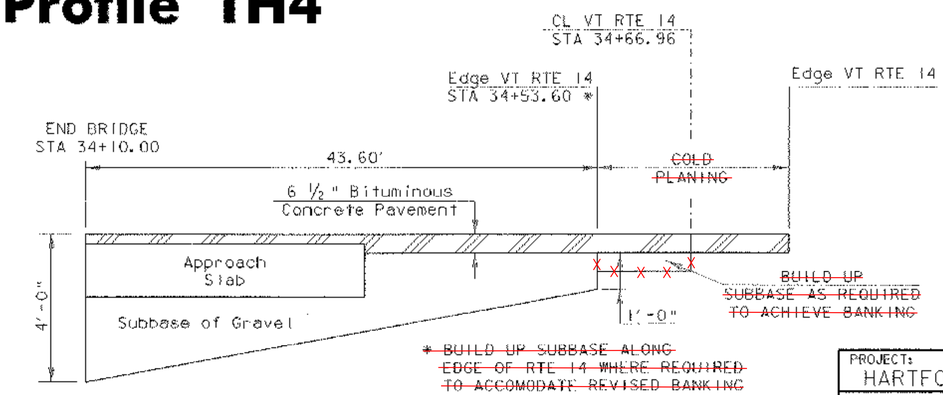
DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: /89J045/structures/sj045pro.dgn	
IPARM FILE NAME: sj045pri.i	PLOT DATE: 11-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. F. WILLIAMS	DRAWN BY: K. M. HIGGINS
TH 4 PROFILE	SHEET: 14 OF 97



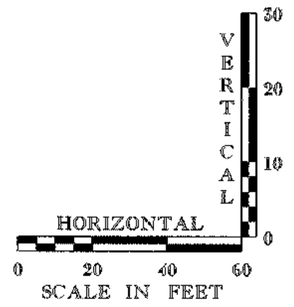
NOTE: GRADES SHOWN TO THE NEAREST TENTH REPRESENT EXISTING GROUND ELEVATION ALONG THE REVISED CENTERLINE.
GRADES SHOWN TO THE NEAREST HUNDREDTH REPRESENT FINISH GRADE ELEVATION ALONG THE REVISED CENTERLINE.

Profile TH4



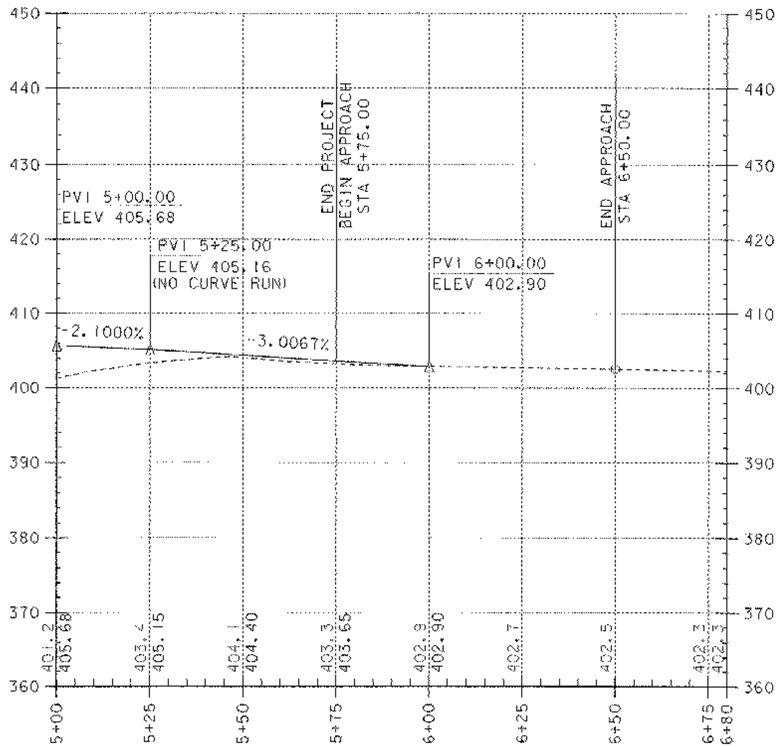
SUBBASE TAPER @ INTERSECTION OF TH 4 & VT RTE 14

nts



DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: /89j045/structures/sj045pro.dgn	
IPARM FILE NAME: sj045pr2.I	PLOT DATE: 11-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: K. M. HIGGINS
TH 4 PROFILE	SHEET: 15 OF 97

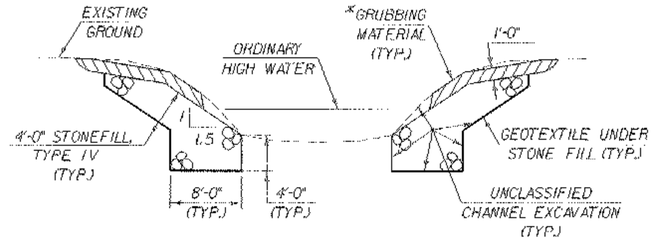


Profile TH5

NOTE: GRADES SHOWN TO THE NEAREST TENTH REPRESENT EXISTING GROUND ELEVATION ALONG THE REVISED CENTERLINE.
GRADES SHOWN TO THE NEAREST HUNDREDTH REPRESENT FINISH GRADE ELEVATION ALONG THE REVISED CENTERLINE.

NOTES

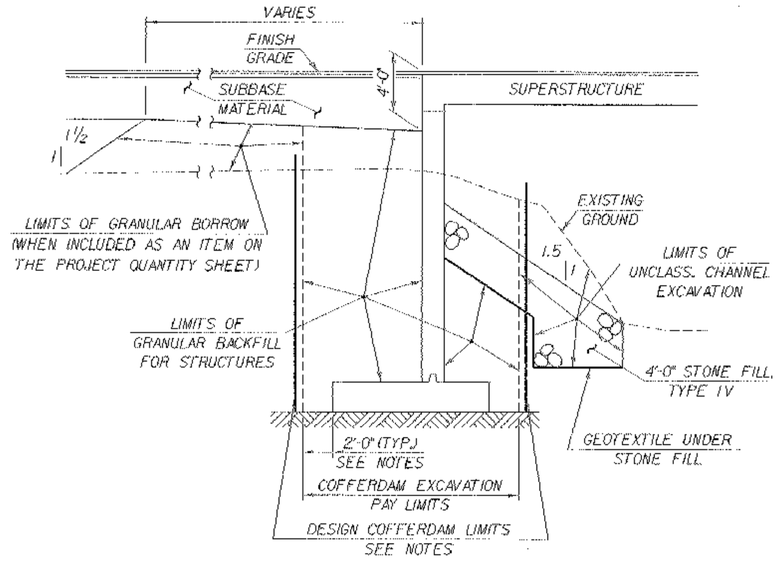
1. ACTUAL COFFERDAM LIMITS TO BE DETERMINED BY THE CONTRACTOR.
2. THE DESIGN LIMITS OF "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 2'-0" OUTSIDE THE PERIMETER OF THE FOOTING OR SUBFOOTING, UP TO EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.
3. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE INDICATED COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM EXCAVATION PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION. IF A COFFERDAM IS CONSTRUCTED WHICH IS SMALLER THAN THE INDICATED COFFERDAM PAY LIMITS, PAYMENT WILL BE MADE FOR WHAT IS EXCAVATED WITHIN THE CONSTRUCTED COFFERDAM UNDER THE APPROPRIATE COFFERDAM EXCAVATION ITEMS LISTED ABOVE.



TYPICAL CHANNEL SECTION

(NOT TO SCALE)

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

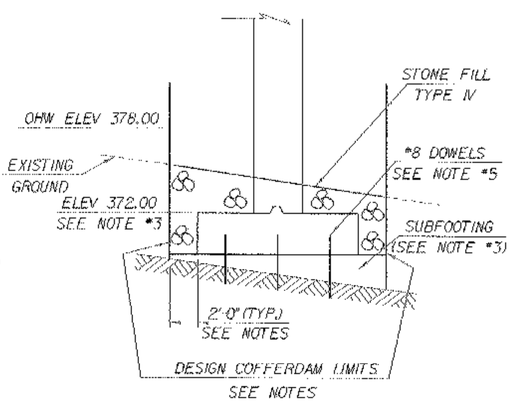


TYPICAL ABUTMENT SECTION PIER NO. 2 SIMILAR

(NOT TO SCALE)

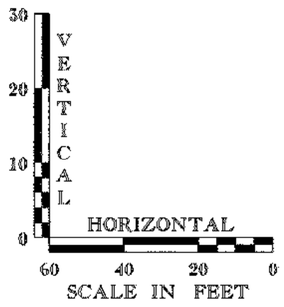
NOTES

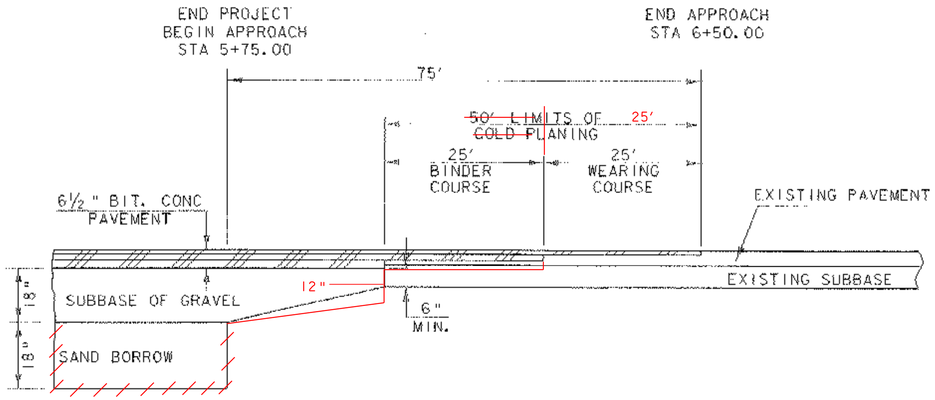
1. ACTUAL COFFERDAM LIMITS TO BE DETERMINED BY THE CONTRACTOR.
2. THE DESIGN LIMITS OF "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 2'-0" OUTSIDE THE PERIMETER OF THE FOOTING, UP TO EXISTING GROUND.
3. A MAXIMUM OF 6" OF LEDGE REMOVAL HAS BEEN ASSUMED TO REACH COMPETENT ROCK. IF A SEAL IS PROPOSED BY THE CONTRACTOR TO DEWATER THE COFFERDAM, THE FOOTING MAY BE RAISED AND MAY BE CAST ON THE CONCRETE SEAL. ANY EXCAVTION REQUIRED BEYOND 6" SHALL BE INCIDENTAL TO ITEM 208.40 "COFFERDAM"
4. CONCRETE FOR SUBFOOTING SHALL MEET THE REQUIREMENTS OF ITEM 501.30 "CONCRETE CLASS C"
5. #8 DOWELS HAVE BEEN EXTENDED TO 8' IN LENGTH TO ALLOW FOR DRILLING AND GROUTING THROUGH THE CONCRETE SUBFOOTING AND 2' INTO THE LEDGE.



TYPICAL PIER #1 SECTION

(NOT TO SCALE)



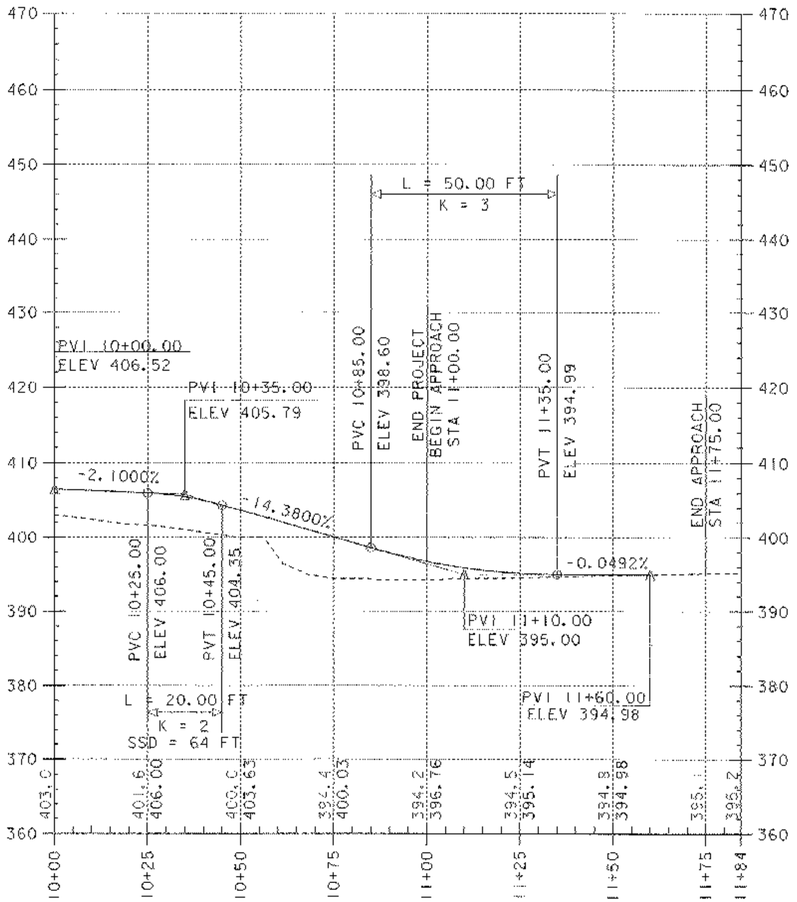


SUBBASE TAPER @ END PROJECT (TH5)

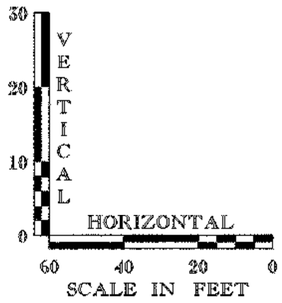
nts

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: /89J045/structures/sJ045pro.dgn	
IPARM FILE NAME: sJ045pr3.i	PLOT DATE: 11-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: K. M. HIGGINS
TH 5 PROFILE & EARTHWORK TYPICALS	SHEET: 16 OF 97

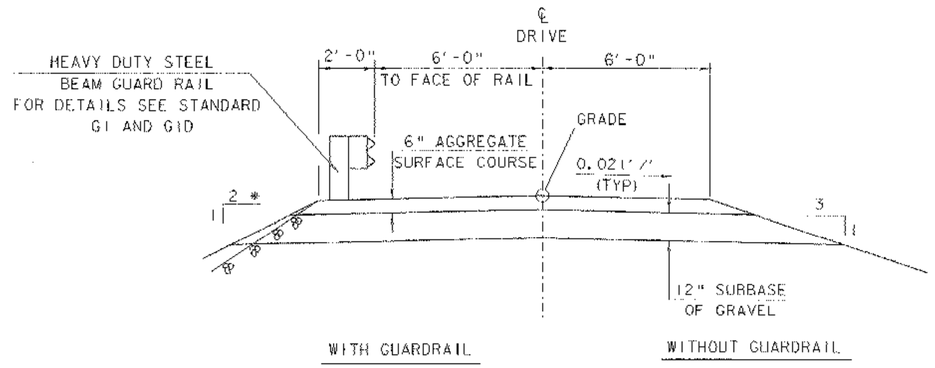


Profile Drive



NOTE: GRADES SHOWN TO THE NEAREST TENTH REPRESENT EXISTING GROUND ELEVATION ALONG THE REVISED CENTERLINE.
GRADES SHOWN TO THE NEAREST HUNDREDTH REPRESENT FINISH GRADE ELEVATION ALONG THE REVISED CENTERLINE.

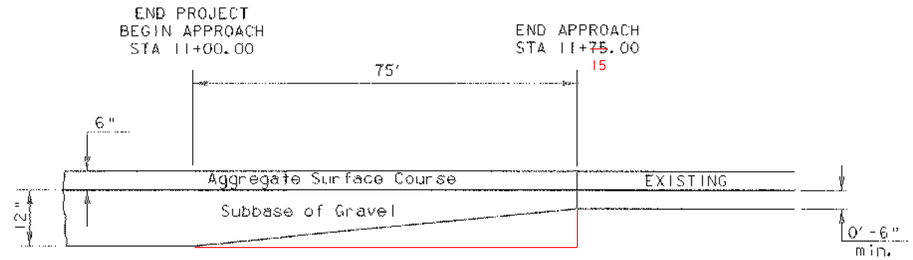
DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92



* SLOPE VARIES FROM 1 ON 1 1/2. GUARDRAIL POSTS SHALL BE LONGER AND DRIVEN 2' DEEPER TO ACCOUNT FOR REDUCED WIDTH BEHIND FACE OF RAIL

DRIVE TYPICAL SECTION

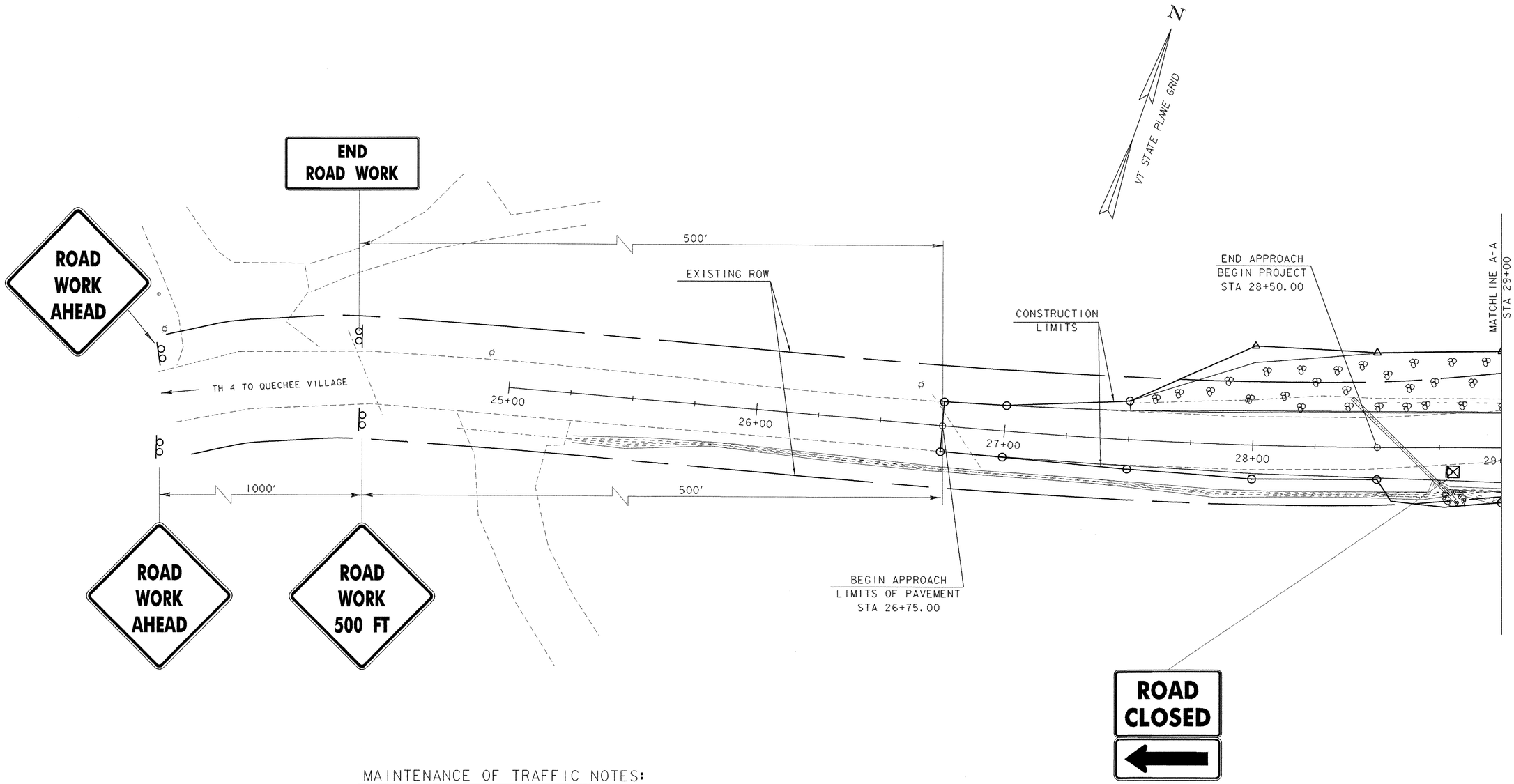
SCALE 3/8" = 1'-0
0 1 2 3 4



SUBBASE TAPER @ END PROJECT (DRIVE)

nts

PROJECT: HARTFORD		PROJECT NO.: BRO-BTN 2004(I)	
DESIGN FILE NAME:	/89J045/structures/sj045pro.dgn		
IPARM FILE NAME:	sj045pr4.i	PLOT DATE:	8-FEB-2005
SURVEYED BY:	R. MOREAU	SURVEY DATE:	5/93
SQUAD LEADER:	C. P. WILLIAMS	DRAWN BY:	K. M. HIGGINS
DRIVE PROFILE		SHEET: 17	OF 97



MAINTENANCE OF TRAFFIC NOTES:

1. TEMPORARY APPROACH TRAFFIC SIGNS SHALL BE ACCORDING TO VERMONT STANDARD E-107 AND E-100A UNLESS DETAILED OTHERWISE ON THIS SHEET.
2. FOR ADDITIONAL SIGNING INSTRUCTION SEE STDS E-100, E100A, E101, E102, E102A, AND E106.

LEGEND

- SIGN POSTS
- TEMP. TRAFFIC BARRIER
- TYPE III BARRICADES MOD. (WITH CHEVRONS)

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

TRAFFIC CONTROL PLAN SHEET 1

NTS

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045bdr.dgn	
IPARM FILE NAME: sj045tcpl.i	PLOT DATE: 11-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: K.M. HIGGINS
TRAFFIC CONTROL PLAN SHEET 1	SHEET: 18 OF 97

MAINTENANCE OF TRAFFIC NOTES:

1. TEMPORARY APPROACH TRAFFIC SIGNS SHALL BE ACCORDING TO VERMONT STANDARD E-107 AND E-100A UNLESS DETAILED OTHERWISE ON THIS SHEET.
2. FOR ADDITIONAL SIGNING INSTRUCTION SEE STDS E-100, E100A, E101, E102, E102A, AND E106.
3. SWITCH BARRICADES AND SIGNING TO OLD BRIDGE ONCE TRAFFIC IS ON NEW BRIDGE (PHASE 2).

N

VT STATE PLANE GRID

STOP

ROAD CLOSED

SPEED LIMIT 35

ROAD CLOSED

ROAD CLOSED

ROAD CLOSED

END APPROACH
LIMITS OF PAVEMENT
STA 6+50.00

END PROJECT
BEGIN APPROACH
STA 5+75.00

MATCH LINE A-A
STA 29+00

CONSTRUCTION LIMITS

PHASE 2

TEMPORARY CONSTRUCTION LIMITS

℄ BRG. PIER #1
Sta 32+13.00
FG = 403.88

℄ PIER #1
Sta 32+11.83

BEGIN BRIDGE
Sta 31+66.00
FG = 404.91

EXISTING ROW

CAREX GARBERI (SEE NOTES)

℄ BRG. PIER #2
Sta 33+63.00
FG = 400.59

℄ PIER #2
Sta 33+64.17

END BRIDGE
Sta 34+10.00
FG = 398.36

END APPROACH
STA 209+75.00
LIMITS OF PAVEMENT

END PROJECT
BEGIN APPROACH
STA 34+50.00

MATCHLINE C-C
STA 210+00

CONSTRUCTION LIMITS

BEGIN APPROACH
STA 207+25.00
LIMITS OF PAVEMENT

MATCHLINE B-B
STA 207+00

N13°39'00"W

N18°39'00"W

S22°40'00"E

WHITE RIVER — FLOW

GRAVEL RO

29+00 30+00 31+00 32+00 33+00 34+00 35+00

208+00 209+00

11+00 11+84

LEGEND

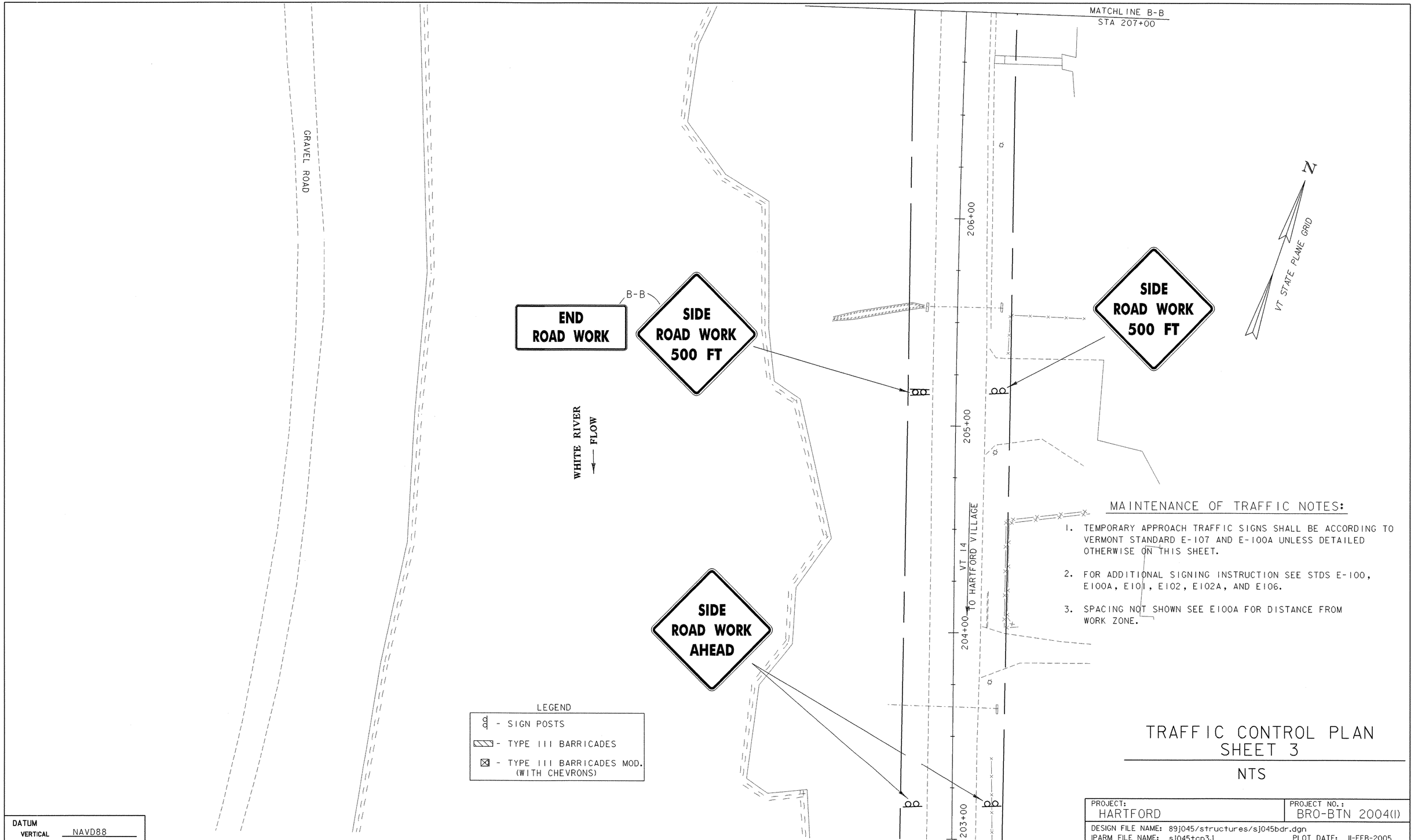
- SIGN POSTS
- TEMP. TRAFFIC BARRIER
- TYPE III BARRICADES MOD. (WITH CHEVRONS)

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

TRAFFIC CONTROL PLAN SHEET 2

NTS

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045bdr.dgn	
IPARM FILE NAME: sj045tcp2.i	PLOT DATE: 11-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: K.M. HIGGINS
TRAFFIC CONTROL PLAN SHEET 2	SHEET: 19 OF 97



LEGEND

- SIGN POSTS
- TYPE III BARRICADES
- TYPE III BARRICADES MOD. (WITH CHEVRONS)

MAINTENANCE OF TRAFFIC NOTES:

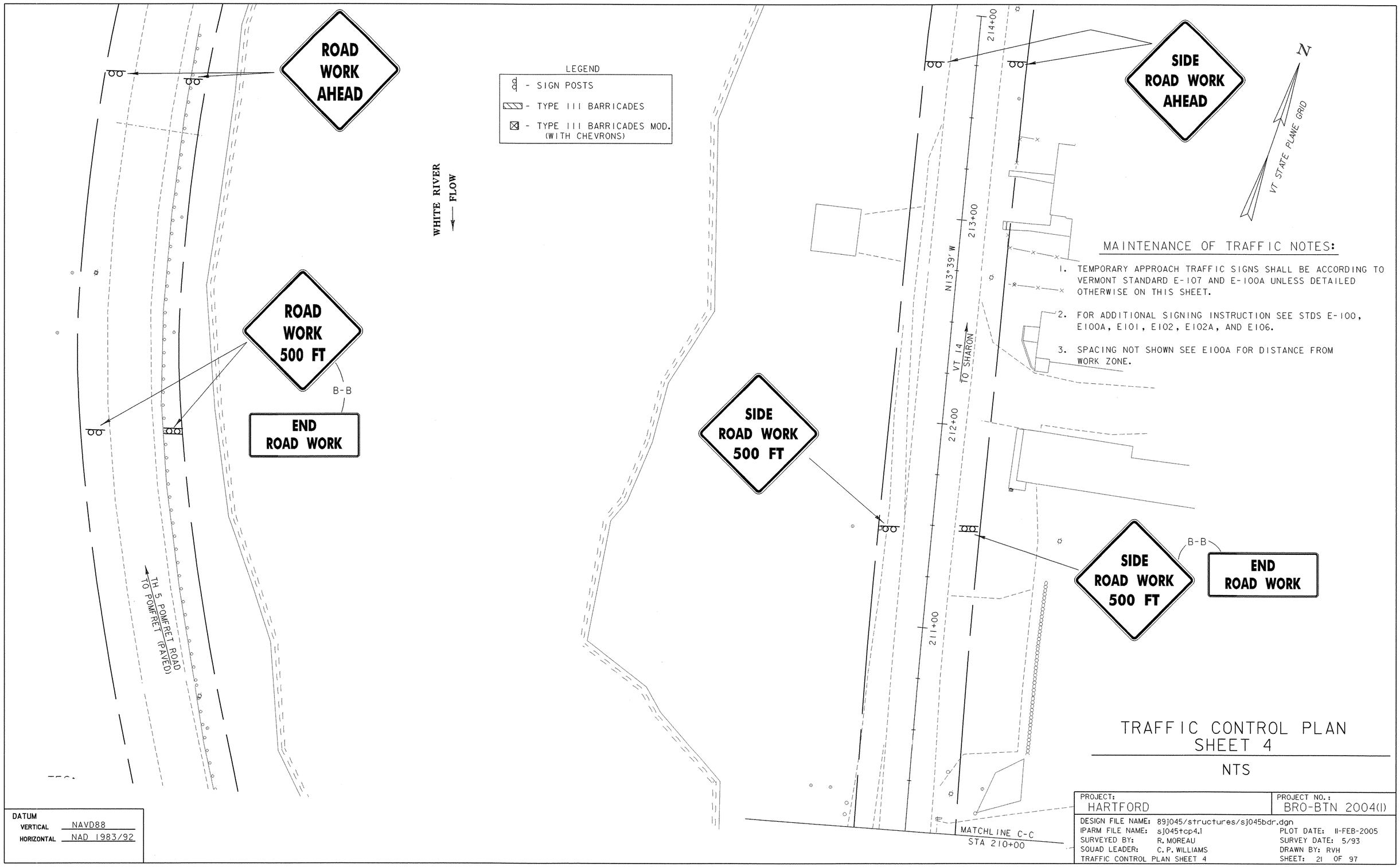
1. TEMPORARY APPROACH TRAFFIC SIGNS SHALL BE ACCORDING TO VERMONT STANDARD E-107 AND E-100A UNLESS DETAILED OTHERWISE ON THIS SHEET.
2. FOR ADDITIONAL SIGNING INSTRUCTION SEE STDS E-100, E100A, E101, E102, E102A, AND E106.
3. SPACING NOT SHOWN SEE E100A FOR DISTANCE FROM WORK ZONE.

TRAFFIC CONTROL PLAN SHEET 3

NTS

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045bdr.dgn	
IPARM FILE NAME: sj045tcp3.i	PLOT DATE: 11-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: RVH
TRAFFIC CONTROL PLAN SHEET 3	SHEET: 20 OF 97



MAINTENANCE OF TRAFFIC NOTES:

1. TEMPORARY APPROACH TRAFFIC SIGNS SHALL BE ACCORDING TO VERMONT STANDARD E-107 AND E-100A UNLESS DETAILED OTHERWISE ON THIS SHEET.
2. FOR ADDITIONAL SIGNING INSTRUCTION SEE STDS E-100, E100A, E101, E102, E102A, AND E106.
3. SPACING NOT SHOWN SEE E100A FOR DISTANCE FROM WORK ZONE.

TRAFFIC CONTROL PLAN SHEET 4

NTS

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045bdr.dgn	
IPARM FILE NAME: sj045tcp4.i	PLOT DATE: 11-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: RVH
TRAFFIC CONTROL PLAN SHEET 4	SHEET: 21 OF 97

ITEM DETAIL AND DRAINAGE SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE STRUCTURES

STA.	STA.	POSITION	ASKEW	TYPE IN/OUT	DITCH IN	DITCH OUT	PIPE ARCH S IN	PIPE ARCH R IN	PIPE ARCH L FT	PIPE D IN	PIPE L FT	ALLOWABLE OPTIONS PCCSP TH	CAAP TH	RCP CL	CSP TH	CPEP SL	PCCSP FL TH	PIPE ELBOW NO-DEG	ES EA	CB	PROTECT	DEPTH DI	CONC CL B CY	REIN STEEL LBS	DI GRATE TYPE	CHAN ELEV	CRM CY	TR EXCAV EARTH CY	TR EXCAV ROCK CY	COMM EXC CY	UNC CHAN EXC CY	STRUC EXCAV CY	GRAN BKF STRUC CY	GRAN BORR CY	EROS MATT SY	STONE FILL CY	STONE FILL TYPE	MKR POSTS LT	MKR POSTS RT	DRAINAGE FLAG	REMARKS
28+46	28+73	LT-RT																																						①	REMOVE EXISTING 18" ACCMP
28+40	28+81	LT-RT	45°		X	X				18	58	.064	.060			X																			3	1	1	1	②	NEW 18" PIPE - SEE CROSS SECTION ON SHEET 23. INLET INVERT ELEV = 438.75/OUTLET INVERT ELEV = 433.75 ADJUST EXISTING ROADWAY DITCH AS REQUIRED STA 28+50 - 29+50
29+91	30+23	LT-LT			X	X				18	32	.064	.060			X																					2	0	③	NEW 18" PIPE UNDER FIELD DRIVE. INLET INVERT ELEV = 417.60/OUTLET INVERT ELEV = 412.50 ADJUST ROADWAY DITCH GRADE AS REQUIRED STA 29+75 - 29+91
5+53	5+76	LT-RT																																				④	REMOVE EXISTING 12" CMP
5+53	5+71 53	LT-RT	70°		X	X				18	54 64	.064	.060			X																					1	1	⑤	NEW 18" PIPE - SEE CROSS SECTION ON SHEET 23. INLET INVERT ELEV = 401.50/OUTLET INVERT ELEV = 399.25
5+25	5+53	LT-LT			X	X																													50	I			⑥	NEW STONE FILL TYPE I SPECIAL DITCH GRADE DITCH TO MATCH THE INLET INVERT ELEVATION AT ⑤
10+83	10+89	RT-LT																																				⑦	REMOVE EXISTING 36" CMP AND HEADWALLS
10+75	10+98	RT-LT	70°		X	X				36	56	.079	.075			X			X																	5	IV	1	1	⑧	NEW 36" PIPE W/END SECTION - SEE CROSS SECTION ON SHEET 23. INLET INVERT ELEV = 387.90/OUTLET INVERT ELEV = 385.00
30+85	10+75	RT-RT			X	X																													20	I			⑨	CONSTRUCT SWALE FROM ROADWAY DITCH TO INLET OF NEW PIPE ⑧
21+79		℄																																				10	REMOVE EXISTING 18" ACCGMP
27+10	27+30	LT -RT			X	X				18	43	.079	.075																										11	NEW 18" PIPE
TOTALS										18 36	144 61	.064 .079	.060 .075			X X			1																	5	3				

SEE 20 SCALE LAYOUT SHEETS 10 & 11.

NOTE: FINAL LOCATION AND ELEVATION OF DRAINAGE ITEMS MAY BE ADJUSTED IN THE FIELD AS DEEMED NECESSARY BY THE RESIDENT ENGINEER.

GUARD RAIL

STA.	STA.	LT.	RT.	END TREATMENT
TOTALS				

UNDERDRAIN

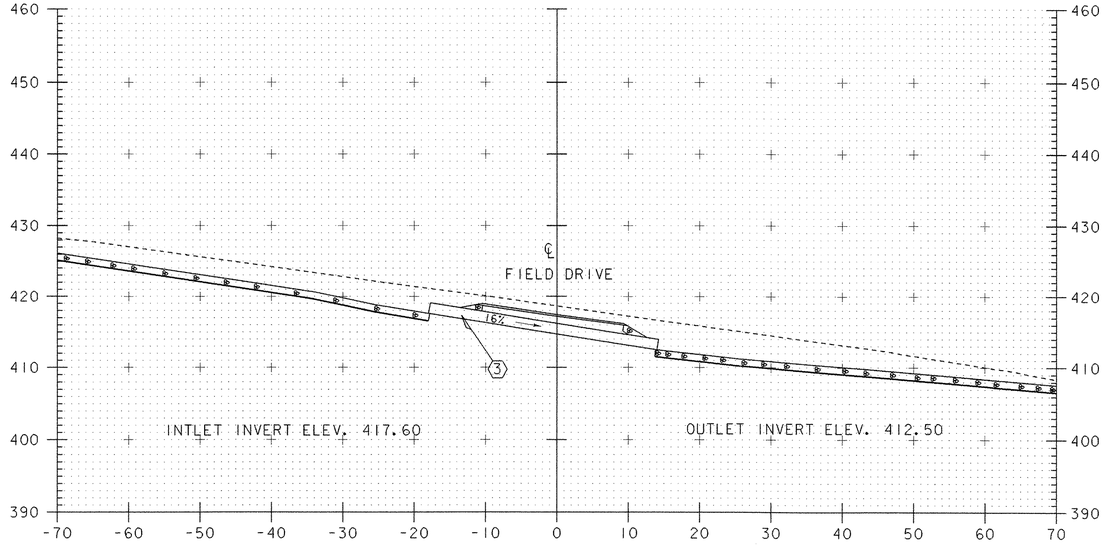
STA.	STA.	POS.	D	L	TRENCH E	TRENCH R	GRAN BKF	FB	MKR PST
TOTALS									

PROJECT: HARTFORD

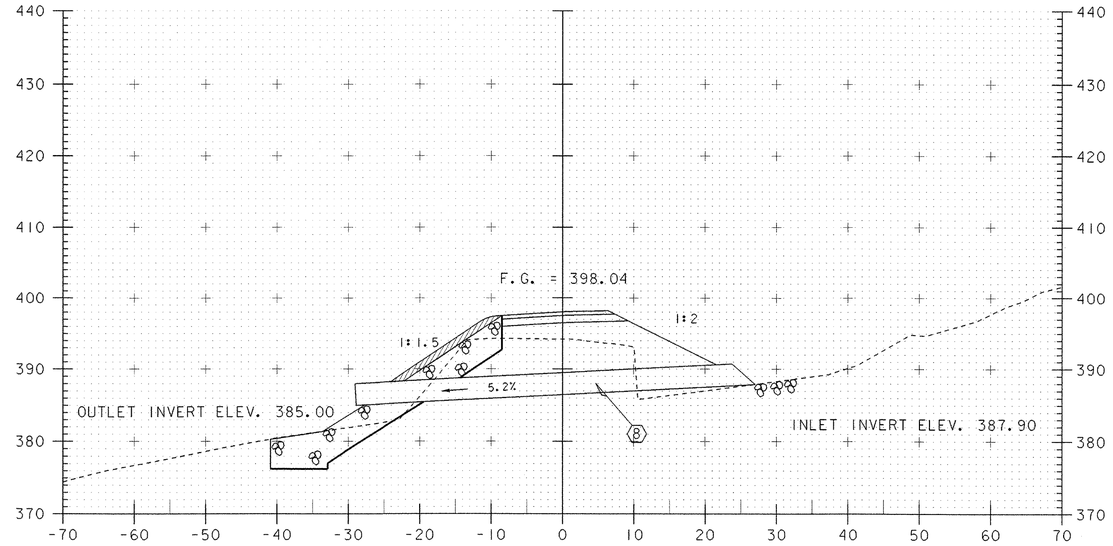
PROJECT NO.: BRO-BTN 2004(I)

DESIGN FILE NAME: 89J045/structures/sj045drn.dgn
IPARM FILE NAME: sj045drn.i
SURVEYED BY: R. MOREAU
SQUAD LEADER: C.P. WILLIAMS
DRAINAGE SHEET

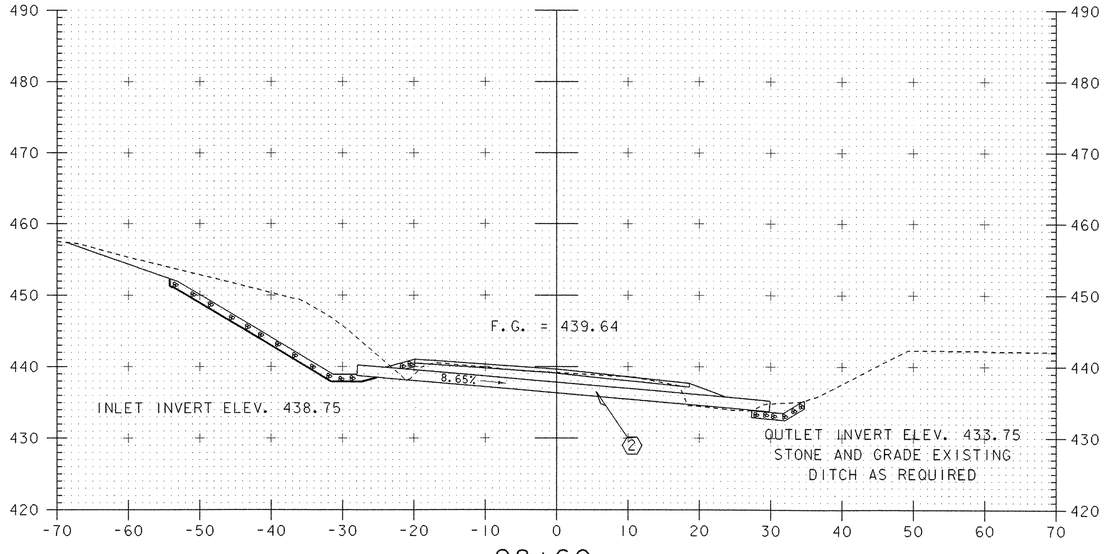
PLOT DATE: 11-FEB-2005
SURVEY DATE: 5/93
DRAWN BY: K. M. HIGGINS
SHEET: 22 OF 97



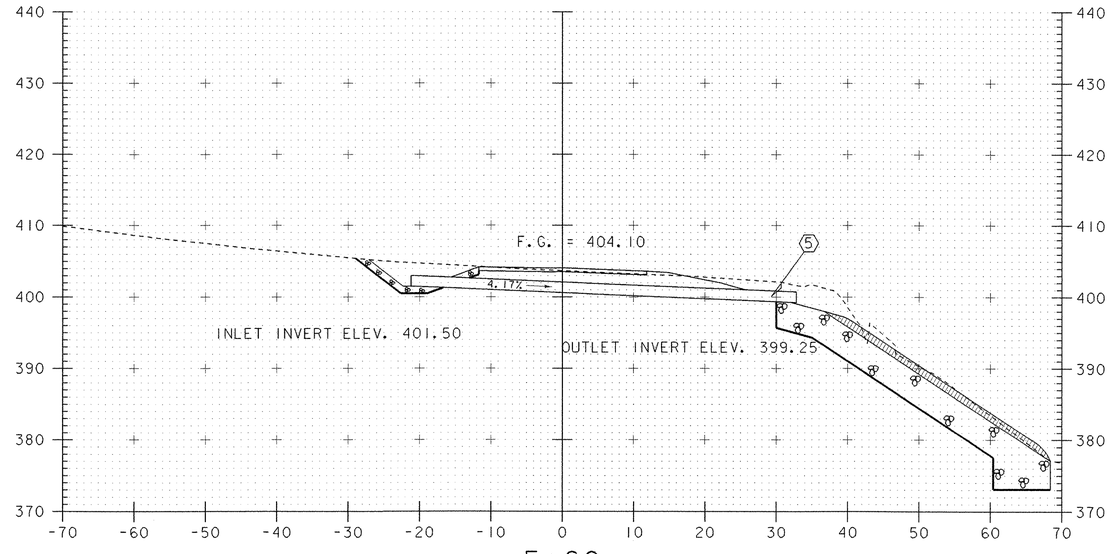
STA 30+09 20.85' LT
SECTION THROUGH PIPE @ ℄ FIELD DRIVE)



10+89
(SKEWED PIPE SECTION - DRIVE STA 10+75 RT - 10+98 LT)



28+60
(SKEWED PIPE SECTION - ML STA 28+40 LT - 28+81 RT)



5+60
(SKEWED PIPE SECTION - TH5 STA 5+53 LT - 5+71 RT)

SCALE 1" = 10'-0
10 0 10

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn	
IPARM FILE NAME: sj045pipsec.i	PLOT DATE: 11-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: KMH
DRAINAGE PIPE SECTIONS	SHEET: 23 OF 97

N

VT STATE PLANE GRID

LEGEND
ALL SIGNS AND POSTS WILL BE NEW UNLESS OTHERWISE NOTED:

R - REMOVE
R&S - REMOVE & SALVAGE
S - SALVAGE
RET - RETAIN

SPEED LIMIT 35 N

STOP R

0179
1408
0600
R

SPEED LIMIT 35 R

POMFRET RD R&S

LEGAL LOAD LIMIT 12 TONS R

LEGAL LOAD LIMIT 12 TONS

R

END APPROACH
LIMITS OF PAVEMENT
STA 6+50.00

6+80

6+00

STOP

EXISTING ROW

END PROJECT
BEGIN APPROACH
STA 5+75.00

END APPROACH
STA 209+75.00
MITS OF PAVEMENT

MATCHLINE C-C
STA 210+00

END PROJECT
BEGIN APPROACH
STA 34+50.00

N13° 39' 00"W

209+00

MATCH LINE A-A
STA 29+00

CONSTRUCTION
LIMITS

(SEE NOTES)

℄ BRG. PIER #2
Sta 33+63.00
FG = 400.59

℄ PIER #2
Sta 33+64.17

TEMPORARY
CONSTRUCTION
LIMITS

QUECHEE /POMFRET R & S

B-B

R

STOP

29+00

30+00

31+00

32+00

33+00

34+00

35+00

STOP AHEAD

℄ BRG. PIER #1
Sta 32+13.00
FG = 403.88

℄ PIER #1
Sta 32+11.83

BEGIN BRIDGE
Sta 31+66.00
FG = 404.91

END BRIDGE
Sta 34+10.00
FG = 398.36

CONSTRUCTION
LIMITS

208+00

N18° 39' 00"W

BEGIN APPROACH
STA 207+25.00
LIMITS OF PAVEMENT

MATCHLINE B-B
STA 207+00

STOP N

0179
1408
0600
N

11+00

11+84

S22° 40' 00"E

WHITE RIVER — FLOW

TRAFFIC SIGNS, TYPE A

TH 5 STA. 5+30 LT (2)
TH 5 STA. 6+22 RT
STA. 34+23 RT (2)
29+75 RT

RESET SALVAGED SIGN

TH 5 STA. 5+30 RT
34+39 LT

REMOVE SIGNS

TH 5 STA. 5+35 RT (2)
TH 5 STA. 5+74 RT
TH 5 STA. 6+22 RT
ML STA. 31+88 LT
VT 14 STA. 208+70 LT
VT 14 STA. 208+84 LT (2)
VT 14 STA. 208+93 LT

DURABLE 4" WHITE LINE

TH5 STA. 6+50 RT - VT 14 STA. 209+75 LT
TH5 STA. 5+35 - STA. 6+50 LT
STA. 31+45 RT - VT 14 STA. 207+25 LT
VT 14 STA 207+25 - STA 209+75 RT

DURABLE 4" YELLOW LINE (CENTERLINE)

STA. 31+45 - STA. 34+39
TH5 STA 5+35 - STA 6+50
VT 14 STA. 207+25 - STA. 208+00
VT 14 STA. 208+55 - STA. 209+75

DURABLE LETTER OR SYMBOL
STA. 34+33 (STOP)

TEMPORARY 4" WHITE LINE

TH5 STA. 6+50 RT - VT 14 STA. 209+75 LT
TH5 STA. 5+35 - STA. 6+50 LT
STA. 31+45 RT - VT 14 STA. 207+25 LT
VT 14 STA 207+25 - STA 209+75 RT

TEMPORARY 4" YELLOW LINE (CENTERLINE)

STA. 31+45 - STA. 34+39
TH5 STA 5+35 - STA 6+50
VT 14 STA. 207+25 - STA. 208+00
VT 14 STA. 208+55 - STA. 209+75

TEMPORARY 24" STOP BAR
STA. 34+39 (20')

TEMPORARY LETTER OR SYMBOL
STA. 34+33 (STOP)

DURABLE 24" STOP BAR
STA. 34+39 (20')
STA. 5+35 (14')

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

TRAFFIC SIGNS AND LINES

SCALE 1" = 20'-0
20 0 20

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89J045/structures/sJ045bdr.dgn	
IPARM FILE NAME: sJ045tsl.I	PLOT DATE: 8-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: RVH
TRAFFIC SIGNS AND LINES	SHEET: 24 OF 97

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NO. OF POSTS	FLANGED CHANNEL lb/ft 1.42	2.0	3.0	SQUARE STEEL (in) lb/ft 1.75 1.88	2.0 2.16	2.5 3.35	ANCHOR	SLEEVE	NEW SIGN POSTS TUBULAR ALUMINUM Ø (in) lb/ft 3.0 1.3	4.0 1.7	4.0 MOD 1.7	FOUNDATION	TUBULAR STEEL Ø (in) lb/ft 3.0 7.6	3.5 9.0	4.0 10.8	5.0 14.6	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																									
TH 5 5+~~30~~ LT 19	STOP	1	30	30	6.25						1			X 16'																				RI-1		E-143
	1000 1415 0402	1	6	8	0.33																															E-138
TH 5 5+~~42~~ RT 19	POMFRET RD	1					X				1			X 14'																						E-123
TH 5 6+~~22~~ RT 00	SPEED LIMIT 35	1	24	30	5.0						1			X 14'																				R2-4		E-142
34+23 RT	STOP	1	30	30	6.25						1			X 14'																				RI-1		E-143
29+75		1	36	36	9.0						2			14'																						
34+39	QUEECHEE / POMFRET										1			14'																						
TOTALS		SF ~~17.83~~ 26.83	SF	EA.	SF							FT ~~56~~	FT 100	FT ~~100~~ 56	FT	FT	FT		EA	LB	LB	LB		LB	LB	LB	LB	EA.	EA.	LB					

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

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045trf.dgn	
IPARM FILE NAME: sj045iss.1	PLOT DATE: 11-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: RVH
TRAFFIC SIGN SUMMARY SHEET	SHEET: 25 OF 97

SOIL CLASSIFICATION

AASHTO

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

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

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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

COMMONLY USED SYMBOLS

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

COLOR

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

DEFINITIONS (AASHTO)

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

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

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

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

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

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

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

VARVED - Alternate layers of silt and clay.

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

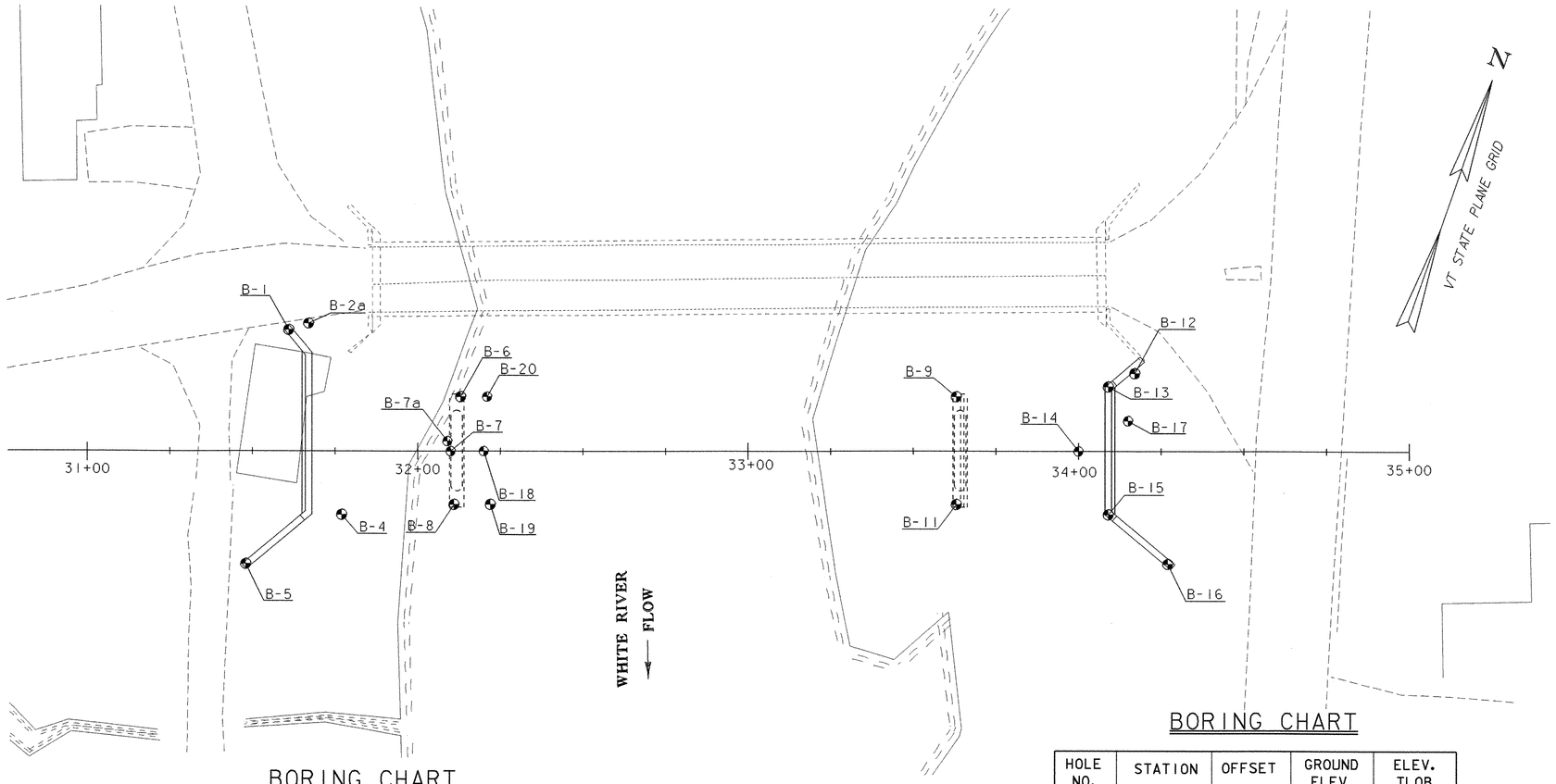
MUCK - Soft organic soil (containing > 10% organic material.

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

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

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

DIP - Inclination of bed with a horizontal plane.



BORING CHART

HOLE NO.	STATION	OFFSET	GROUND ELEV.	ELEV. TLOB
B-1	31+61	36' LT	403.04	391.8
B-2a	31+67	38' LT	402.83	386.3
B-4	31+77	19' RT	381.56	375.8
B-5	31+48	34' RT	397.18	385.4
B-6	32+13	16' LT	375.54	367.0
B-7	32+10	0	374.69	368.9
B-7a	32+09	3' LT	374.91	368.9
B-8	32+11	16' RT	374.18	365.8

BORING LAYOUT

SCALE 1" = 20'-0

20 0 20

BORING CHART

HOLE NO.	STATION	OFFSET	GROUND ELEV.	ELEV. TLOB
B-9	33+63	16' LT	381.76	377.8
B-11	33+63	16' RT	380.56	376.6
B-12	34+17	23' LT	388.19	365.2
B-13	34+09	19' LT	386.47	365.0
B-14	34+00	0	384.55	369.6
B-15	34+09	19' RT	385.93	372.4
B-16	34+27	34' RT	386.63	379.6
B-17	34+15	9' LT	385.63	367.6
B-18	32+20.50	0	372.40	368.4
B-19	32+22	16' RT	373.40	360.9
B-20	32+21	9' LT	372.19	364.2

GENERAL NOTES

1. The subsurface explorations shown herein were made between 7/30/01 and 8/28/01 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HARTFORD	Bridge No. 8
Highway No. TH 4	Log Sta. / Surv. Sta.
TH 4 OVER WHITE RIVER	
BORING INFORMATION SHEET	
Designed By K. M. HIGGINS	Drawn By K. M. HIGGINS
Checked By / Date 6/2000	Bridge Design Supervisor C. P. WILLIAMS Date 6/2000
PROJECT HARTFORD	PROJECT NO. BRO-BTN 2004(1)
I.G.C. Info. 89j045/structures/sj045bor.dgn	sj045bor.i
Bridge Sheet No.	Sheet 26 of 97

PLOTTED 11-FEB-2005

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

HOLE NO.: B-01
SHEET 1 OF 1
DATE STARTED: 7/30/01
DATE COMPLETED: 7/30/01

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 31+61.00
GROUND EL.: 403.04

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: -36.00
G.W. DEPTH: No water found 7/31/01

BORING CREW
CREW CHIEF: YOUNG
DRILLER: CHABOT
LOGGER: RUSSELL

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

TOP OF FTG ABUT#1 * ELEV. = 380.0

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
5		A-2-4, SiSa, brn, Moist, Rec. = 1.25'	6	19.4	19.3	50.3	30.4		
10		A-1-a, SaGr, Lt/gry, Dry, Rec. = 0.60'	R	7.3	52.7	37.8	9.5		
			Top of bedrock @ 11.2'						
		Run#1: BXDC, 11.2'-16.2', Rec. = 4.5', See Geologist's Report.	RUN 1	REC% 90	RQD% 80	Dip° 30-40			
15		Run#2: BXDC, 16.2'-21.2', Rec. = 4.0', See Geologist's Report.	2	80	40	50			
20			Hole stopped @ 21.80'						
25									
30									
35									
40									
45									

DRILLER'S NOTES:

Small seam @ 15.50'.
No water found on 07/31/01.

GEOLOGIST'S REPORT:

Run#1: Gray quartz muscovite schist with quartz veins, Hard, Unweathered, Competent.

Run#2: Same as Run#1 with closely spaced jointing along foliation.

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

HOLE NO.: B-02A
SHEET 1 OF 1
DATE STARTED: 7/30/01
DATE COMPLETED: 7/31/01

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 31+67.00
GROUND EL.: 402.83

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: -38.00
G.W. DEPTH: No water found 8/1/01

BORING CREW
CREW CHIEF: YOUNG
DRILLER: CHABOT
LOGGER: RUSSELL

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

TOP OF FTG ABUT#1 * ELEV. = 380.0

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
5		A-4, SiSa, brn, MTW, Rec. = 0.01', Stone in end of sampler.	5	23	2.1	55.8	42.1		
10		A-2-4, SiSa, brn, Moist, Rec. = 0.45'	9	19.5	9.6	63.8	26.6		
		Run#1: BXGDC, 11.5'-16.5', Rec. = 1.5', Possible Boulders See Geologist's Report.	RUN 1	REC% 30	RQD% 0	Dip° —			
15			Possible Top of bedrock @ 16.5'						
		Run#2: BXGDC, 16.5'-21.5', Rec. = 0.9', See Geologist's Report.	2	18	0	35			
20		Run#3: BXGDC, 21.5'-22.5', Rec. = 0.9' See Geologist's Report.	3	90	0	35			
		Run#4: BXGDC, 22.5'-27.5', Rec. = 2.8', See Geologist's Report.	4	56	0	40			
25			Hole stopped @ 27.5'						
30									
35									
40									
45									

DRILLER'S NOTES:

No water found 08/01/01.

GEOLOGIST'S REPORT:

Run#1: Run consists of short pieces of quartz, schist and quartz schist with garnet. Core is very broken up. Run does not appear to represent bedrock. Possible boulders. Drillers report numerous breaks from 12.4'-15.5'

Run#2: Gray quartz muscovite schist, Hard, Unweathered, May contain nurmerous foliation joints, Not competent.

Run#3: Same as Run#2, Not competent.

Run#4: Same as Run#2, Not competent.

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

HOLE NO.: B-04
SHEET 1 OF 1
DATE STARTED: 8/7/01
DATE COMPLETED: 8/7/01

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 31+77.00
GROUND EL.: 381.56

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: 19.00
G.W. DEPTH: 4.5 (08/07/01)

BORING CREW
CREW CHIEF: YOUNG
DRILLER: CHABOT
LOGGER: RUSSELL

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

TOP OF FTG ABUT#1 * ELEV. = 380.0

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
5		BXGDC, 3.75'-4.75', Boulder	Top of bedrock @ 5.75'						
		Run#1: BXGDC, 5.75'-8.75' Rec. = 1.33' See Geologist's Report.	RUN 1	REC% 44	RQD% 0	Dip° 40			
10		Run#2: BXGDC, 8.75'-13.75' Rec. = 2.66' See Geologist's Report.	2	53	32	40			
15		Run#3: BXGDC, 13.75'-17.75' Rec. = 2.0' See Geologist's Report.	3	50	25	40			
20			Hole stopped @ 17.75'						
25									
30									
35									
40									
45									

DRILLER'S NOTES:

Water elev. @ 4.5' (8/07/01)

GEOLOGIST'S REPORT:

Run#1: Gray quartz schist, Hard, Unweathered.
Run#2: Same as Run#1.
Run#3: Same as Run#1.

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

HOLE NO.: B-05
SHEET 1 OF 1
DATE STARTED: 8/1/01
DATE COMPLETED: 8/1/01

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 31+48.00
GROUND EL.: 397.18

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: 34.00
G.W. DEPTH: No water found 8/1/01

BORING CREW
CREW CHIEF: YOUNG
DRILLER: CHABOT
LOGGER: TALLMAN

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

TOP OF FTG ABUT#1 * ELEV. = 380.0

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
5		A-4, SaSi, brn, Moist, Rec. = 0.9'	4	16	16	41	43		
10		No Sample, Boulder	Top of bedrock @ 11.8'						
		Run#1: BXGDC, 11.8'-16.8' Rec. = 1.85' See Geologist's Report.	RUN 1	REC% 37	RQD% 0	Dip° 45			
15		Run#2: BXGDC, 16.8'-21.8' Rec. = 4.5', See Geologist's Report.	2	90	65	45			
20		Run#3: BXGDC, 21.8'-24.8' Rec. = 2.5', See Geologist's Report.	3	83	75	45			
25			Hole stopped @ 24.80'						
30									
35									
40									
45									

DRILLER'S NOTES:

No water found 08/01/01.

GEOLOGIST'S REPORT:

Run#1: Light gray quartz schist, Hard, Unweathered, Poor RQD
Run#2: Same as Run#1.
Run#3: Same as Run#1.

* THE TOP OF THE FOOTING ELEVATION FOR ABUTMENT #1 WAS SET BASED ON THE LEDGE ELEVATION DETERMINED FROM B-04. ADJUSTMENTS IN FOOTING ELEVATION AND GEOMETRY ARE EXPECTED AS ACTUAL LEDGE ELEVATION AND CONDITION IS DETERMINED THROUGH EXCAVATION.

SURVEYED BY _____ DATE _____
DRAWN BY J.TOUCHETTE DATE 10/01
SQUAD LEADER C.C. BENDA
DESIGN FILE NO. /M&R/89J045/mJ045bor.dgn
IPARM FILE 89J045/sJ045bol.i DATE PLOTTED 11-FEB-2005
PROJ. NAME HARTFORD
PROJ. NO. BTN 2004 (I)
SHEET 27 OF 97 SHEETS

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

HOLE NO.: B-06
SHEET 1 OF 1
DATE STARTED: 8/2/01
DATE COMPLETED: 8/2/01

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 32+13.00
GROUND EL.: 375.54

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: -16.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: YOUNG
DRILLER: TALLMAN
LOGGER: CHABOT

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

TOP OF FTG PIER #1
ELEV. = 372.00

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		Sand							
5		Run#1: BXGDC, 3.5'-8.5', Rec. = 0.65', Boulders See Geologist's Report.	RUN 1	REC% Boulders	RQD%	Dip°			
			Top of bedrock @ 8.5'						
10		Run#2: BXGDC, 8.5'-11.5', Rec. = 1.95', See Geologist's Report.	2	65	53	40			
		Run#3: BXGDC, 11.5'-16.5' Rec. = 3.25' See Geologist's Report.	3	65	50	45			
15			Hole stopped @ 16.50'						
20		GEOLOGIST'S REPORT:							
		Run#1: Boulders							
		Run#2: Light gray quartz schist, Hard, Unweathered.							
		Run#3: Same as Run#2.							
25									
30									
35									
40									
45									

STATE OF VERMONT
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SUBSURFACE INFORMATION

HOLE NO.: B-07
SHEET 1 OF 1
DATE STARTED: 8/8/01
DATE COMPLETED: 8/8/01

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 32+10.00
GROUND EL.: 374.69

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: 0.00
G.W. DEPTH: Drilled in water.

BORING CREW
CREW CHIEF: YOUNG
DRILLER: CHABOT
LOGGER: SOMERS

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

TOP OF FTG PIER #1
ELEV. = 372.00

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		Sand							
5		A-2-4,Sa with Rock Chips, brn, Moist, Rec. = 1.1'	R	13.9	Visual Class.				
			Top of bedrock @ 5.8'						
		Run#1: BXGDC, 5.8'-8.8', Rec. = 1.1' See Geologist's Report.	RUN 1	REC% 37	RQD% 12	Dip° 45			
10		Run#2: BXGDC, 8.8'-13.8', Rec. = 2.8', See Geologist's Report.	2	56	28	45			
15		Run#3: BXGDC, 13.8'-18.3' Rec. = 2.9', See Geologist's Report.	3	73	68	45			
			Hole stopped @ 18.30'						
20		GEOLOGIST'S REPORT:							
		Run#1: Gray quartz schist, Hard, Unweathered, Poor RQD.							
		Run#2: Same as Run#1, but weathered open joint at 10.3', Poor RQD.							
		Run#3: Same as Run#1, but color becomes darker at 14.8'							
25									
30									
35									
40									
45									

STATE OF VERMONT
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MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-07A
SHEET 1 OF 1
DATE STARTED: 10/1/01
DATE COMPLETED: 10/3/01

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 32+09.00
GROUND EL.: 374.91

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: -3.00
G.W. DEPTH: River level

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS

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

TOP OF FTG PIER #1
ELEV. = 372.00

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	RUN	REC%	RQD%	Dip°	SD	Co	Eo
		Sand							
5		4.5'-5.5', Boulder	Top of bedrock @ 6.0'						
10		Run#1: BXMDC, 6.0'-9.0', Rec. = 1.55', See Geologist's Report.	1	52	0	40			
		Run#2: NXMDC, 9.0'-10.5' Rec. = 1.10' See Geologist's Report.	2	73	0	40			
		Run#3: NXMDC, 10.5'-14.5' Rec. = 3.90' See Geologist's Report.	3	98	65	40	11.2	3,212	2450
15		Run#4: NXMDC, 14.5'-19.0', Rec. = 4.25', See Geologist's Report.	4	94	92	40	15.2	2,640	1243
							16.3	13,553	9131
							17.5	5,087	2927
							18.0	2,071	1214
			Hole stopped @ 19.0'						
20		GEOLOGIST'S REPORT:							
		Run#1: BXMDC, Gray quartz-biotite-sericite schist, Hard, Slightly weathered, Close to very closely spaced jointing, Poor RQD.							
		Run#2: NXMDC, Same as Run#1, Poor RQD.							
		Run#3: NXMDC, Gray quartz-sericite schist, Hard, Unweathered.							
		Run#4: NXMDC, Gray quartz-sericite schist, Hard, Unweathered.							
25									
30		SD = Sample Center Depth, ft.							
		Co = Uniaxial Compressive Strength of Intact Rock, psi							
35		Eo = Elastic Modulus of Intact Rock, ksi							
40									
45									

STATE OF VERMONT
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MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-08
SHEET 1 OF 1
DATE STARTED: 8/6/01
DATE COMPLETED: 8/6/01

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 32+11.00
GROUND EL.: 374.83

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: 16.00
G.W. DEPTH: Drilled in River

BORING CREW
CREW CHIEF: YOUNG
DRILLER: CHABOT
LOGGER: TALLMAN

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

TOP OF FTG PIER #1
ELEV. = 372.00

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		1.5'-2.5, Boulder							
5		4.5'-5.5, No Sample, Boulders							
			Top of bedrock @ 9.0'						
10		Run#1: BXGDC, 9.0'-14.0', Rec. = 1.83', See Geologist's Report.	RUN 1	REC% 37	RQD% 0	Dip° 40			
15		Run#2: BXGDC, 14.0'-16.0' Rec. = 1.63', See Geologist's Report.	2	82	82	40			
		Run#3: BXGDC, 16.0'-19.0' Rec. = 2.58', See Geologist's Report.	3	86	86	40			
			Hole stopped @ 19.0'						
20		GEOLOGIST'S REPORT:							
		Run#1: Gray quartz sericite schist, Hard, Unweathered, Poor Recovery and RQD.							
		Run#2: Same as Run#1.							
		Run#3: Same as Run#1.							
25									
30									
35									
40									
45									

SURVEYED BY _____ DATE _____
DRAWN BY J.TOUCHETTE DATE 10/01
SQUAD LEADER C.C. BENDA
DESIGN FILE NO. /M&R/89J045/mj045bor.dgn
IPARM FILE 89J045/sj045bo2.i DATE PLOTTED 11-FEB-2005
PROJ. NAME HARTFORD
PROJ. NO. BTN 2004 (I)
SHEET 28 OF 97 SHEETS

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

HOLE NO.: B-09
SHEET 1 OF 1
DATE STARTED: 8/28/01
DATE COMPLETED: 8/28/01

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 33+63.00
GROUND EL.: 381.76

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: -16.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS

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

TOP OF FTG PIER #2
ELEV. = 380.00

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		Top of bedrock @ 4.0'							
		RUN	REC%	ROD%	Dip°				
5		Run#1: BXGDC, 4.0'-8.5', Rec. = 2.1', See Geologist's Report.	1	47	22	35			
10		Run#2: BXGDC, 8.5'-13.5', Rec. = 2.75', See Geologist's Report.	2	55	33	35			
15		Run#3: BXGDC, 13.5'-18.5' Rec. = 2.1', See Geologist's Report.	3	42	17	35			
		Hole stopped @ 18.5'							

GEOLOGIST'S REPORT:

Run#1: Gray garnet schist with garnet porphyroblasts, Moderately hard, Unweathered.

Run#2: Same as Run#1.

Run#3: Same as Run#1.

STATE OF VERMONT
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SUBSURFACE INFORMATION

HOLE NO.: B-11
SHEET 1 OF 1
DATE STARTED: 8/23/01
DATE COMPLETED: 8/23/01

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 33+63.00
GROUND EL.: 380.56

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: 16.00
G.W. DEPTH: 3.2 (08/23/01)

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS

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

TOP OF FTG PIER #2
ELEV. = 380.00

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		Top of bedrock @ 4.0'							
		RUN	REC%	ROD%	Dip°				
5		Run#1: BXGDC, 4.0'-6.5', Rec. = 1.7', See Geologist's Report.	1	68	60	45			
10		Run#2: BXGDC, 6.5'-11.5', Rec. = 2.8', See Geologist's Report.	2	56	50	45			
15		Run#3: BXGDC, 11.5'-16.5' Rec. = 3.4', See Geologist's Report.	3	68	60	45			
		Hole stopped @ 16.5'							

DRILLER'S NOTES:

Water elev. @ 3.2' (08/23/01).

GEOLOGIST'S REPORT:

Run#1: Gray quartz-sericite schist with garnet porphyroblasts, Hard, Unweathered.

Run#2: Same as Run#1.

Run#3: Same as Run#1.

STATE OF VERMONT
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SUBSURFACE INFORMATION

HOLE NO.: B-12
SHEET 1 OF 1
DATE STARTED: 8/14/01
DATE COMPLETED: 8/15/01

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 34+17.00
GROUND EL.: 388.19

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: -23.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: YOUNG
DRILLER: SOMERS
LOGGER: RUSSELL

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

TOP OF FTG ABUT #2 (WW3)
ELEV. = 376.00

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
5		A-2-4, SiSa, brn, MTW, Rec. = 0.33'	5	22.2	17	60.7	22.3		
10		A-2-4, GrSa with Wood particles, gry, MTW, Rec. = 1.0'	5	22.8	29.9	50.8	19.3		
15		A-1-b, SiSaGr with Wood particles, gry, Moist, Rec. = 0.4'	13	18.9	51.4	27.8	20.8		
20		Visual Class: Wood with little Gravel, brn, Moist, Rec. = 0.5'	R						
		Top of bedrock @ 23.0'							
		RUN	REC%	ROD%	Dip°				
25		Run#1: BXGDC, 23.0'-27.5' Rec. = 0.66', See Geologist's Report.	1	15	0	40			
		Run#2: BXGDC, 27.5'-29.5' Rec. = 0.15', See Geologist's Report.	2	7	0	40			
30		Run#3: BXGDC, 29.5'-34.5' Rec. = 2.6', See Geologist's Report.	3	52	48	40			
35		Run#4: BXGDC, 34.5'-39.5' Rec. = 3.33', See Geologist's Report.	4	67	67	40			
40		Hole stopped @ 39.5'							
45									

GEOLOGIST'S REPORT:

Run#1: Gray quartz sericite schist with some garnet porphyroblasts, Hard, Unweathered.

Run#2: Same as Run#1.

Run#3: Same as Run#1.

Run#4: Same as Run#1.

STATE OF VERMONT
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MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-13
SHEET 1 OF 1
DATE STARTED: 8/13/01
DATE COMPLETED: 8/14/01

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 34+09.00
GROUND EL.: 386.47

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: -19.00
G.W. DEPTH: 5.5 08/14/01

BORING CREW
CREW CHIEF: YOUNG
DRILLER: CHABOT
LOGGER: SOMERS

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

TOP OF FTG ABUT #2
ELEV. = 376.00

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
5		A-2-4, SiGrSa, brn, MTW, Rec. = 1.0'	2	25.6	27.5	49.1	23.4		
10		BXGDC, 10.0'-11.5', No Rec., Boulder							
15		No Sample, Stone in end of sampler.	7						
20		BXGDC, 19.5'-21.5', No Rec., Boulders & Seams							
		Top of bedrock @ 21.5'							
		RUN	REC%	ROD%	Dip°				
25		Run#1: BXGDC, 21.5'-25.5' Rec. = 2.0', See Geologist's Report.	1	50	0	40			
		Run#2: BXGDC, 25.5'-30.5' Rec. = 2.0', See Geologist's Report.	2	40	0	40			
30		Run#3: BXGDC, 30.5'-35.5' Rec. = 2.9', See Geologist's Report.	3	58	45	40			
35		Hole stopped @ 35.5'							
40									
45									

DRILLER'S NOTES:

Water elev. @ 5.5' (8/14/01)

GEOLOGIST'S REPORT:

Run#1: Gray quartz sericite schist, Hard, Unweathered, Poor Recovery and RQD may be due to mechanical breakage.

Run#2: Same as Run#1.

Run#3: Same as Run#1.

SURVEYED BY _____ DATE _____
DRAWN BY J.TOUCHETTE DATE 10/01
SQUAD LEADER C.C. BENDA
DESIGN FILE NO. /M&R/89J045/mj045bor.dgn
IPARM FILE 89J045/sj045bo3.i DATE PLOTTED 11-FEB-2005
PROJ. NAME HARTFORD
PROJ. NO. BTN 2004 (I)
SHEET 29 OF 97 SHEETS

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MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-14
SHEET 1 OF 1
DATE STARTED: 8/20/01
DATE COMPLETED: 8/21/01

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 34+00.00
GROUND EL.: 384.55

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: 0.00
G.W. DEPTH: 6.2 (08/21/01)

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS

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

TOP OF FTG ABUT #2
ELEV. = 376.00

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
5		No Rec., Boulder	3						
10		A-1-a, Gr, gry, Dry, Rec. = 0.5'	17	9.2	80.2	15.2	4.6		
15		BXGDC, 13.9'-15.0', No Rec., Boulder	Top of bedrock @ 15.0'						
		Run#1: BXGDC, 15.0'-20.0' Rec. = 2.75' See Geologist's Report.	RUN 1	REC% 55	RQD% 42	Dip° 40			
20		Run#2: BXGDC, 20.0'-25.0' Rec. = 2.6', See Geologist's Report.	2	52	52	40			
25		Run#3: BXGDC, 25.0'-30.0' Rec. = 1.5', See Geologist's Report.	3	30	30	40			
30		Hole stopped @ 30.0'							
35									
40									
45									

DRILLER'S NOTES:

Water elev. @ 6.2' (08/21/01)

GEOLOGIST'S REPORT:

Run#1: Dark gray quartz biotite sericite schist, Moderately hard, Unweathered.

Run#2: Same as Run#1, but with some garnet porphyroblasts

Run#3: Same as Run#2.

STATE OF VERMONT
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SUBSURFACE INFORMATION

HOLE NO.: B-15
SHEET 1 OF 1
DATE STARTED: 8/21/01
DATE COMPLETED: 8/22/01

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 34+09.00
GROUND EL.: 385.93

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: 19.00
G.W. DEPTH: 7.7 (08/22/01)

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS

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

TOP OF FTG ABUT #2
ELEV. = 376.00

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
5		A-1-a, SaGr with Wood particles, brn, Moist, Rec. = 0.75'	7	11.1	51.8	42.3	5.9		
10		A-1-b, Sa, gry, Moist, Rec. = 0.5'	10	15.1	1.2	94.8	4		
15		Run#1: BXGDC, 13.5'-18.0' Rec. = 1.0', See Geologist's Report.	Top of bedrock @ 13.5' RUN 1	REC% 22	RQD% 0	Dip° 40			
20		Run#2: BXGDC, 18.0'-23.0' Rec. = 2.5', See Geologist's Report.	2	50	50	40			
25		Run#3: BXGDC, 23.0'-28.0' Rec. = 1.6', See Geologist's Report.	3	32	32	40			
30		Hole stopped @ 28.0'							
35									
40									
45									

DRILLER'S NOTES:

Water elev. @ 7.7' (08/22/01)

GEOLOGIST'S REPORT:

Run#1: Gray quartz sericite schist, Hard, Unweathered.

Run#2: Same as Run#1, but with some biotite and garnet porphyroblasts.

Run#3: Same as Run#2, but with quartz vein at 24.5'.

STATE OF VERMONT
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SUBSURFACE INFORMATION

HOLE NO.: B-16
SHEET 1 OF 1
DATE STARTED: 8/22/01
DATE COMPLETED: 8/22/01

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 34+27.00
GROUND EL.: 386.63

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: 34.00
G.W. DEPTH: 5.5 (08/23/01)

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS

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

TOP OF FTG WW #4
ELEV. = 380.00

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
5		A-2-4, SiSa with Trace of Organics, gry, MTW, Rec. = 1.2', Tested 1.2% Organic	4	29.3	3.3	74.7	22		
10		Run#1: BXGDC, 7.0'-11.0', Rec. = 3.0', See Geologist's Report.	Top of bedrock @ 7.0' RUN 1	REC% 75	RQD% 0	Dip° 40			
15		Run#2: BXGDC, 11.0'-16.0' Rec. = 2.75' See Geologist's Report.	2	55	20	40			
20		Run#3: BXGDC, 16.0'-18.0' Rec. = 1.9' See Geologist's Report.	3	95	80	45			
25		Hole stopped @ 18.0'							
30									
35									
40									
45									

DRILLER'S NOTES:

Water elev. @ 5.5' (08/22/01)

GEOLOGIST'S REPORT:

Run#1: Gray quartz-sericite schist, Very close to closely spaced jointing, Hard, Unweathered, Poor RQD.

Run#2: Same as Run#1, but less jointing, Poor RQD.

Run#2: Same as Run#1, but with minor jointing, Competent.

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SUBSURFACE INFORMATION

HOLE NO.: B-17
SHEET 1 OF 1
DATE STARTED: 10/3/01
DATE COMPLETED: 10/4/01

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 34+15.00
GROUND EL.: 385.63

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: -9.00
G.W. DEPTH: 7.5 (10/4/01)

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS

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

TOP OF FTG ABUT #2
ELEV. = 376.00

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	Top of bedrock @ 18.0' RUN	REC%	RQD%	Dip°	SD	Co	Eo
5		4.5'-5.5', Boulder, No sample							
10		10.0'-12.0', No sample							
15		14.0'-15.5', Boulder, No sample							
20		Run#1: NXMDC, 18.0'-23.0' Rec. = 4.45' See Geologist's Report.	1	89	85	40-45	18.9 20.1 20.7	3,112 6,167 2,957	1616 3249 878
25		Run#2: NXMDC, 23.0'-28.0' Rec. = 5.00' See Geologist's Report.	2	100	90	40-45	24.2 25.4	10,094 3,147	5640 2130
30		Hole stopped @ 28.0'							
35									
40									
45									

DRILLER'S NOTES:

Water elev. @ 7.5' (10/4/01)

GEOLOGIST'S REPORT:

Run#1: Gray quartz-sericite schist with some quartz veins and scattered garnet, Hard, Unweathered,

Run#2: Same as Run#1.

SD = Sample Center Depth, ft.
Co = Uniaxial Compressive Strength of Intact Rock, psi
Eo = Elastic Modulus of Intact Rock, ksi

SURVEYED BY _____ DATE _____
DRAWN BY J.TOUCHETTE DATE 10/01
SQUAD LEADER C.C. BENDA
DESIGN FILE NO. /M&R/89J045/mJ045bor.dgn
IPARM FILE 89J045/sJ045bo4.i DATE PLOTTED 11-FEB-2005
PROJ. NAME HARTFORD
PROJ. NO. BTN 2004 (I)
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SUBSURFACE INFORMATION

HOLE NO.: B-18
SHEET 1 OF 1
DATE STARTED: 9/4/02
DATE COMPLETED: 9/5/02

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 32+20.50
GROUND EL.: 372.40

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: 0.00
G.W. DEPTH: Drilled in River

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: TALLMAN

BORING RIG: SMALL SKID RIG & RAFT
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

TOP OF FTG PIER #1
ELEV. = 372.00

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		0.5'-3.0', Boulders							
			Top of bedrock @ 4.0'						
5		Run#1: NXMDC, 4.0'-6.0', Rec. = 1.4' See Geologist's Report.	RUN 1	REC% 70	RQD% 0	Dip° 45			
		Run#2: NXMDC, 6.0'-11.0', Rec. = 4.4', See Geologist's Report.	2	88	26	45			
10		Run#3: NXMDC, 11.0'-14.0', Rec. = 2.9', See Geologist's Report.	3	97	50	45			
15			Hole stopped @ 14.0'						

GEOLOGIST'S REPORT:

Run#1: Gray quartz sericite schist, Hard, Unweathered, Poor Competency.

Run#2: Same as Run #1, but fair to poor competency.

Run#3: Same as Run #1, but with felsic veins at 11.7', Fair competency.

20 25 30 35 40 45

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

HOLE NO.: B-19
SHEET 1 OF 1
DATE STARTED: 9/5/02
DATE COMPLETED: 9/11/02

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 32+22.00
GROUND EL.: 373.40

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: 16.00
G.W. DEPTH: Drilled in River

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: TALLMAN

BORING RIG: SMALL SKID RIG & RAFT
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

TOP OF FTG PIER #1
ELEV. = 372.00

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
5		A-1-b, GrSa, brn, Moist, Rec. = 1.0'	22	16.3	25.3	64.3	10.4		
10		NXDC, 9.5'-12.5', No sample, Boulders	Top of bedrock @ 12.5'						
		Run#1: NXGDC, 12.5'-16.0', Rec. = 1.3', See Geologist's Report.	RUN 1	REC% 37	RQD% 26	Dip° 40			
15		Run#2: NXGDC, 16.0'-20.0', Rec. = 3.5', See Geologist's Report.	2	88	0	45			
20		Run#3: NXGDC, 20.0'-21.0' Rec. = 0.8'	3	80	0	45			
		Run#4: NXGDC, 21.0'-23.0' Rec. = 1.3'	4	65	0	45			
		Run#5: NXGDC, 23.0'-26.0' Rec. = 1.75', See Geologist's Report.	5	58	0	45			
25		Run#6: NXGDC, 26.0'-27.5' Rec. = 0.75',	6	50	0	45			
		Run#7: NXGDC, 27.5'-28.25' Rec. = 0.65'	7	87	0	45			
30		Run#8: NXGDC, 28.25'-31.45' Rec. = 1.8' See Geologist's Report.	8	56	25	45			
		Run#9: NXGDC, 31.45'-32.45' Rec. = 0.5',	9	50	0	45			
35		Run#10: NXGDC, 32.45'-33.45', Rec. = 1.0' See Geologist's Report.	10	100	0	45			
			Hole stopped @ 33.45'						

GEOLOGIST'S REPORT:
Core barrel plugged on every attempt of coring each Run.

Run#1: Greenish gray amphibolite meta-volcanic, Very hard, Unweathered, May be loose rock (boulder).

Run#2: 16.0'-17.20' Gray quartz sericite schist, Hard, Unweathered, May be loose rock (boulder).
17.20'-20.0' Greenish gray quartz sericite schist with numerous felsic veins. hard to very hard, Unweathered, Poor RQD may be due to mechanical breakage during drilling.

Run#3, to Run#10: Greenish gray quartz sericite schist with numerous felsic veins. hard to very hard, Unweathered, Poor RQD may be due to mechanical breakage during drilling.

40 45

DRILLER'S NOTES: Could not advance casing below 16.0'. Fragments of rock would fall in hole and create problems.

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

HOLE NO.: B-20
SHEET 1 OF 1
DATE STARTED: 9/3/02
DATE COMPLETED: 9/4/02

PROJECT NAME: HARTFORD
SITE NAME: BR #8
STATION: 32+21.00
GROUND EL.: 372.19

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: -16.00
G.W. DEPTH: Drilled in River

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: TALLMAN

BORING RIG: SMALL SKID RIG & RAFT
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

TOP OF FTG PIER #1
ELEV. = 372.00

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-1-a, SaGr, brn, Wet, Rec. = 0.9'	9	11.1	52.7	43	4.3		
5		A-1-a, SaGr, brn-gry, Wet, Rec. = 0.5'	35	7.5	69.7	24.7	5.6		
		Two pieces of broken rock	R						
			Top of bedrock @ 8.0'						
		Run#1: NXMDC, 8.0'-13.0', Rec. = 4.6', See Geologist's Report.	RUN 1	REC% 92	RQD% 66	Dip° 45			
10		Run#2: NXMDC, 13.0'-18.05' Rec. = 5.05', See Geologist's Report.	2	100	100	45			
15			Hole stopped @ 18.05'						

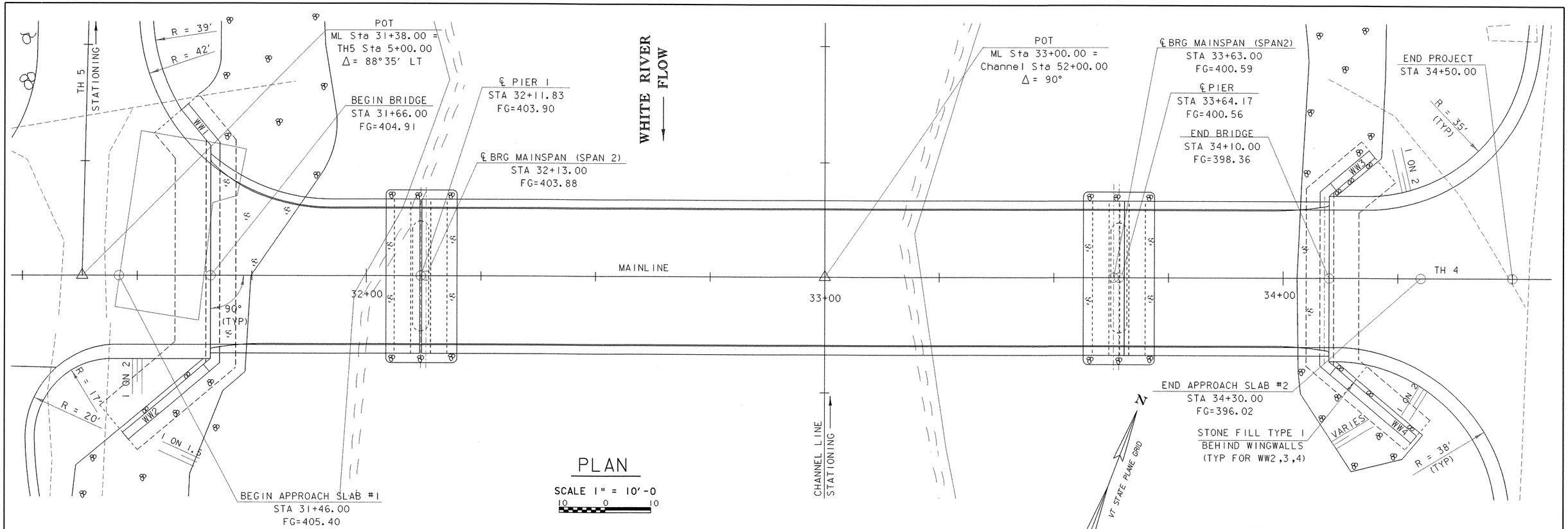
GEOLOGIST'S REPORT:

Run#1: Gray quartz sericite schist, Hard, Unweathered, Competent.

Run#2: Same as Run#1.

20 25 30 35 40 45

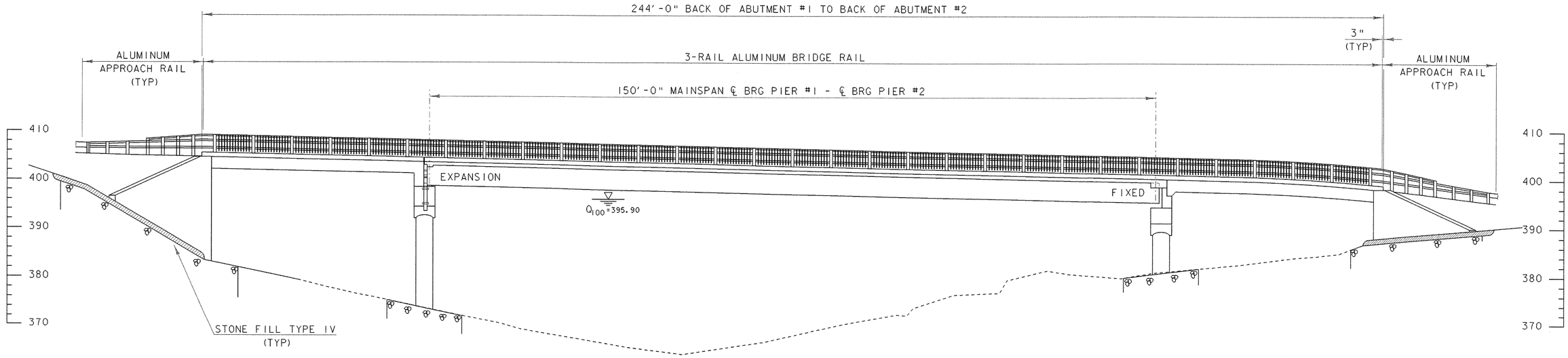
SURVEYED BY _____ DATE _____
DRAWN BY J.TOUCHETTE DATE 09/02
SQUAD LEADER C.C. BENDA
DESIGN FILE NO. /M&R/89J045/mJ045bor.dgn
IPARM FILE 89J045/sJ045bo5.i DATE PLOTTED 11-FEB-2005
PROJ. NAME HARTFORD
PROJ. NO. BTN 2004 (I)
SHEET 31 OF 97 SHEETS



PLAN

SCALE 1" = 10'-0

NOTE: SEE SHEETS 56 - 59 FOR RAILING DETAILS



ELEVATION @ DOWNSTREAM FASCIA

SCALE 1" = 10'-0

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	BRO-BTN 2004(I)
FILE NAME: 89j045/structures/sj045pe.	PLOT DATE: 11-FEB-2005
PROJECT LEADER: sj045pe.i	DRAWN BY: K. M. HIGGINS
DESIGNED BY: K. M. HIGGINS	CHECKED BY: M.LONGSTREET
PLAN AND ELEVATION	SHEET 32 OF 97

GENERAL NOTES:

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

2. DESIGN IS FOR HS-25-44 LIVE LOADING.

3. TWO-WAY TRAFFIC SHALL BE MAINTAINED ON THE EXISTING BRIDGE UPSTREAM OF THE NEW STRUCTURE.

4. THE TOWN WILL MAINTAIN RESPONSIBILITY FOR SNOW REMOVAL ON THE EXISTING BRIDGE THROUGHOUT THE DURATION OF THE PROJECT.

5. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES F OR AS NOTED OTHERWISE.

6. ALL ON-PROJECT SIGNS AND BARRICADES AS REQUIRED BY THE RESIDENT ENGINEER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE INCIDENTAL TO THE ITEM "MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS". ALL OFF-PROJECT SIGNING SHALL BE THE RESPONSIBILITY OF THE TOWN.

7. EXISTING SIGNS NOT REUSED SHALL REMAIN THE PROPERTY OF THE TOWN OF HARTFORD. THESE SIGNS SHALL BE STOCKPILED ON THE PROJECT AND THEN LOADED ON A TRUCK SUPPLIED BY THE TOWN. CONTACT DIRECTOR OF PUBLIC WORKS RICH MENGE AT (802)295-3622 TO ARRANGE REMOVAL.

8. ITEM 529.15 "REMOVAL OF STRUCTURE" SHALL BE USED FOR REMOVAL OF THE EXISTING TRUSS SUPERSTRUCTURE AND ANY PORTIONS OF THE SUBSTRUCTURE NOT REMOVED UNDER THE ITEMS "COFFERDAM EXCAVATION, ROCK" OR "UNCLASSIFIED CHANNEL EXCAVATION".

9. THE EXISTING STEEL IN THE TRUSS TO BE REMOVED UNDER THE ITEM 529.15 "REMOVAL OF STRUCTURE" IS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD. ALL STEEL REMOVED UNDER THIS ITEM IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR MAY DISPOSE OF IT OR RETAIN IT FOR FUTURE USE. THE CONTRACTOR SHALL INFORM THE ENGINEER OF HIS/HER PLANS FOR THE STEEL PRIOR TO ITS REMOVAL.

10. ITEM 529.15 "REMOVAL OF STRUCTURE (MOD) SHALL BE USED FOR THE REMOVAL AND RELOCATION OF THE EXISTING BARN AT STATION 31+ 50 SEE SPECIAL PROVISIONS.

11. THE STONEFILL TYPE IV UNDER THE BRIDGE SHALL BE PLACED BEFORE THE SUPERSTRUCTURES ARE SET.

12. TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT A RATE OF 0.015 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT OR AS DIRECTED BY THE ENGINEER.

13. THE MINIMUM COVER FOR REINFORCING STEEL IN THE SUBSTRUCTURES SHALL BE TWO INCHES ALONG WALL FACES AGAINST EARTH, AND THREE INCHES ELSEWHERE UNLESS DETAILED OTHERWISE.

14. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE AS FOLLOWS:

    SPACING +/- 1"
    CLEARANCE +/-¼"

15. ALL REINFORCING STEEL IN THE CONCRETE DECK AND BRIDGE CURBS SHALL BE EPOXY COATED AND PAID FOR UNDER THE ITEM 507.17. WHEN EPOXY COATED REINFORCING STEEL IS CUT THE UNCOATED ENDS SHALL BE REPAIRED WITH MATERIALS AND PROCEDURES APPROVED BY THE COATING MANUFACTURER. FLAME CUTTING OF EPOXY COATED REINFORCING STEEL WILL NOT BE PERMITTED.

16. THE BANKING ON VT RTE 14 SOUTHBOUND SHALL BE MODIFIED AS SHOWN ON THE BANKING DIAGRAM ON SHEET 81. ALL SIGNS REQUIRED FOR THIS WORK SHALL BE PAID FOR UNDER THE ITEM 527.10 "MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS". ALL OTHER NECESSARY ITEMS HAVE BEEN INCLUDED UNDER THEIR APPROPRIATE ITEM NUMBERS.

CONCRETE NOTES:

17. ALL PORTIONS OF THE SUPERSTRUCTURE , SHALL BE "CONCRETE, HIGH PERFORMANCE- CLASS A" (MOD-5000PSI).

18. ALL PORTIONS OF THE SUBSTRUCTURES INCLUDING PIERS SHALL BE "CONCRETE, HIGH PERFORMANCE - CLASS B".

19. ALL PORTIONS OF THE SUBFOOTING SHALL BE "CONCRETE, CLASS C".

20. SURFACES OF BRIDGE SEATS UNDER THE BEARING DEVICES SHALL BE LEVEL. OTHER AREAS OF THE BRIDGE SEAT SHALL BE SLOPED ¼" PER FOOT TOWARD MIDSPAN. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE GIVEN A STEEL TROWEL OR MAGNESIUM FLOAT FINISH.

21. SPAN #2 DECK IS TO BE PLACED IN ONE CONTINUOUS PLACEMENT WITH A MAXIMUM DURATION OF EIGHT HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTORS CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A CONSTRUCTION JOINT SHALL BE USED. A 96 HOUR DELAY BETWEEN THE COMPLETION OF ONE DAYS PLACEMENT AND THE BEGINNING OF ANOTHER PLACEMENT SHALL BE OBSERVED.

22. CONCRETE PORTIONS OF THE ABUTMENT AND WINGWALLS ABOVE THE ADJACENT BRIDGE SEAT ELEVATIONS SHALL NOT BE PLACED UNTIL THE FINISH GRADE HAS BEEN DETERMINED BY THE RESIDENT ENGINEER.

23. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT. UPWARD KEYS SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.

24. JOINTS AND SCORE MARKS IN THE CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

25. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1"X1".

STRUCTURAL STEEL NOTES:

26. ALL STRUCTURAL STEEL PAID UNDER THE ITEM 506.55 "STRUCTURAL STEEL (PLATE GIRDER (MOD-ERECTION PLAN))" SHALL CONFORM TO AASHTO M-270 GRADE 50W. ALL STRUCTURAL STEEL PAID FOR UNDER THE ITEM 506.55 "STRUCTURAL STEEL (PLATE GIRDER) (MOD HPS70W) SHALL CONFORM TO ASTM A709-00 GRADE HPS70W. SEE SPECIAL PROVISIONS FOR SPECIFICATIONS FOR GRADE HPS70W STEEL

27. AFTER THE SUPERSTRUCTURE STEEL HAS BEEN SET ON THE BEARINGS, ELEVATIONS SHALL BE TAKEN ALONG THE TOP OF EACH BEAM UNDER THE DIRECTION OF THE RESIDENT ENGINEER. THESE ELEVATIONS SHALL BE USED IN DETERMINING THE FINAL GRADE.

28. FLEMMING BRACKETS SHALL BE DESIGNED BY THE CONTRACTOR, BUT SHALL BE LIMITED TO A MAXIMUM SPACING OF 4'-0".

29. ANY HOLES IN THE FASCIA BEAMS NOT OTHERWISE FILLED SHALL BE FILLED WITH BOLTS CONFORMING TO AASHTO M 164 TYPE III.

30. THE END OF THE GIRDERS AT PIER #1 SHALL BE GIVEN A SHOP APPLIED PAINT SYSTEM FOR A DISTANCE EQUAL TO 8' AND GREASED AFTER INSTALLATION PER SUPPLEMENTAL SPECIFICATION 513. THE DIAPHRAGMS AT PIER #1 SHALL ALSO BE PAINTED AND GREASED. THE PAINT SHALL BE BROWN COLOR CHIP #20059

31. THE FAYING SURFACES ON THE CONNECTION PLATES SHALL BE PREPARED AS CLASS "C". THESE SURFACES SHALL BE PROTECTED FROM DAMAGE AND CORROSION PRIOR TO THE CONNECTION.

SUBSTRUCTURE ON LEDGE:

32. FOOTINGS AND SUB-FOOTINGS SHALL BE FOUNDED ON LEDGE WHICH HAS BEEN CLEANED OF ALL LOOSE ROCK AND DEBRIS TO ENSURE THAT SUBSTRUCTURES ARE PLACED ON COMPETENT ROCK.

33. LEDGE THAT IS EXCAVATED FOR PLACEMENT OF FOOTINGS SHALL BE EXCAVATED TO PROVIDE A LEVEL SURFACE OR AS DIRECTED BY THE RESIDENT ENGINEER.

34. A MAXIMUM OF 6" OVERBREAKAGE WILL BE REPLACED WITH " HIGH PERFORMANCE CLASS B CONCRETE". OVERBREAKAGE BEYOND 6" SHALL BE REPLACED WITH HIGH PERFORMANCE CLASS B CONCRETE" AT THE EXPENSE OF THE CONTRACTOR.

35. THE LIMITS OF THE SUBFOOTING SHALL BE 1'-0" OUTSIDE THE LIMITS OF THE FOOTING.

36. THE SUBSTRUCTURE UNITS HAVE BEEN DESIGNED FOR THE TOP OF FOOTING ELEVATIONS SHOWN ON THE PLANS. IF THE LEDGE ELEVATION IS GREATER THAN 1'-0" BELOW THE DESIGN BOTTOM OF FOOTING, A SUBFOOTING SHALL BE POURED SO THAT THE DESIGN TOP OF FOOTING IS AT THE REQUIRED ELEVATION.

37. FOR ALL SUBSTRUCTURE, WHERE LEDGE IS WITHIN ONE FOOT FROM THE BOTTOM OF THE FOOTING AS DESIGNED, THE FOOTING MAY BE POURED TO THE TOP OF THE LEDGE USING "HIGH PERFORMANCE CLASS B CONCRETE".

38. FOR ALL SUBSTRUCTURE UNITS WHERE LEDGE IS BELOW TOP OF FOOTING BY LESS THAN THE DEPTH OF FOOTING, THE LEDGE SHALL BE EXCAVATED DOWN TO THE INDICATED BOTTOM OF FOOTING FOR THE FULL WIDTH (TOE TO HEEL) OF THE CONFIGURATION.

39. IF LEDGE IS ABOVE THE DESIGN TOP OF FOOTING, THE FOOTING MAY BE RAISED. BEFORE ANY UPWARD ADJUSTMENT IS MADE IN FOOTING ELEVATION, THE PROJECT MANAGER SHALL BE CONTACTED AND PROVIDED WITH A LEDGE PROFILE. NO FURTHER WORK SHALL BE DONE UNTIL APPROVAL OF THE CONFIGURATION IS RECEIVED.

40. #8 DOWELS SHALL BE DRILLED AND GROUTED INTO THE LEDGE AS SHOWN ON THE PLANS. THE DOWELS SHALL HAVE A 2'-0" EMBEDMENT INTO THE LEDGE AND SHALL EXTEND INTO THE FOOTING A MINIMUM OF 1'-6". IN AREAS WHERE A SUBFOOTING IS REQUIRED # 8 DOWELS WILL ALSO BE USED AT THE INTERFACE BETWEEN SUBFOOTING AND FOOTING. THE DRILLING AND GROUTING SHALL BE PAID FOR UNDER THE ITEM 507.16 DRILLING AND GROUTING DOWELS", HOWEVER, THE DOWELS SHALL BE PAID FOR UNDER THE ITEM 507.15 "REINFORCING STEEL".

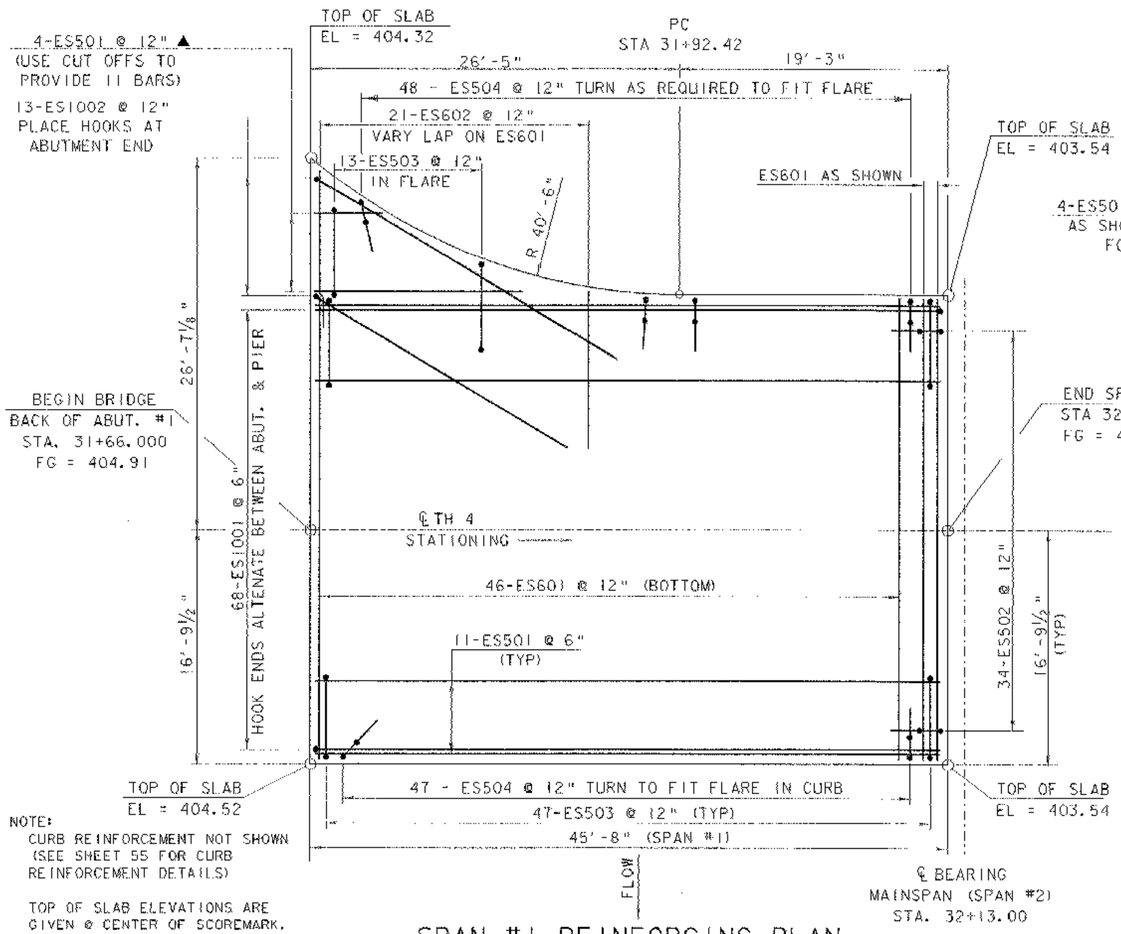
41. IF BLASTING IS REQUIRED AND/OR PERMISSIBLE IN THIS LOCATION, THE CONTRACTOR SHALL ACT IN ACCORDANCE WITH VERMONT STANDARD SPCIFICATION 501.10 (f).

ENVIRONMENTAL CONCERNS:

42. DUE TO THE PRESENCE OF AN ENDANGERED PLANT (CAREX GARBERI) AT PIER #2 AND ABUTMENT #2, SNOW FENCING SHALL BE ERECTED TO PROTECT THESE PLANTS DURING CONSTRUCTION. APPROXIMATE PLANT LOCATION IS SHOWN ON THE PLANS. VTRANS BIOLOGIST JOHN LEPORE SHALL BE NOTIFIED PRIOR TO THE START OF CONSTRUCTION AND SHALL DETERMINE THE EXACT LOCATION OF THE FENCING. PAYMENT FOR THE FENCING SHALL BE MADE UNDER THE ITEM 620.70 SNOW FENCE (MOD-PDF). HAY BALES MAY BE USED TO SECURE THE FENCING WHERE LEDGE PREVENTS THE DRIVING OF POSTS.

PROJECT:	PROJECT NO.:
HARTFORD	BRO-BTN 2004 (1)

DESIGN FILE NAME: 89j045/structures/sj045notes.dgn
IPARM FILE NAME: sj045notes.i
PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS
DRAWN BY: K. M. HIGGINS
SQUAD LEADER: C. P. WILLIAMS
CHECKED BY: M. LONGSTREET
GENERAL NOTES
SHEET: 33 OF 97

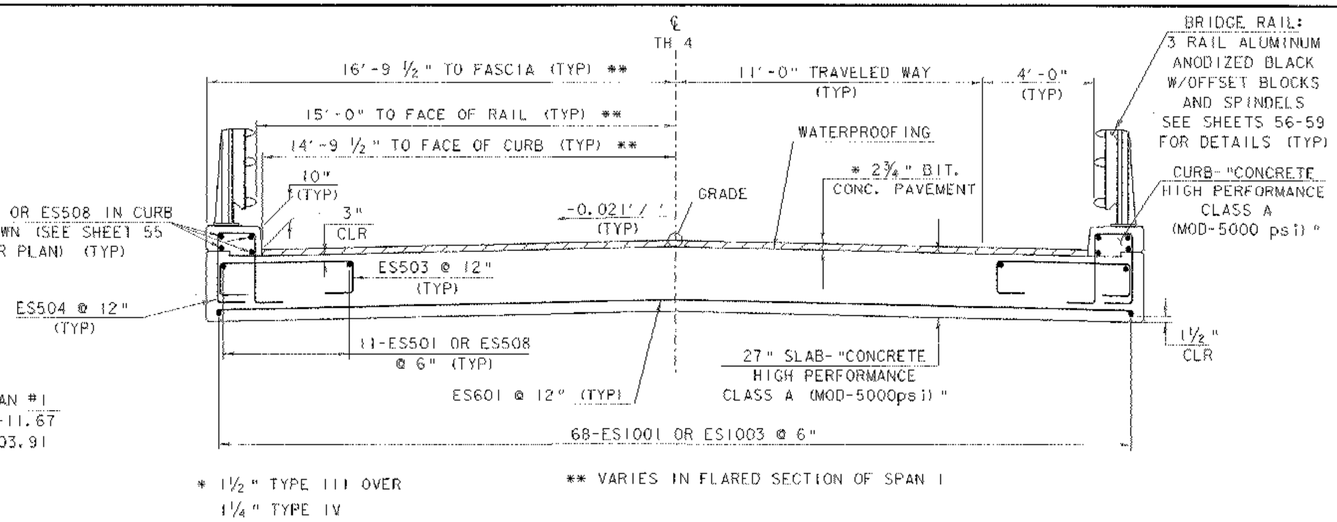


NOTE:
CURB REINFORCEMENT NOT SHOWN (SEE SHEET 55 FOR CURB REINFORCEMENT DETAILS)

TOP OF SLAB ELEVATIONS ARE GIVEN @ CENTER OF SCOREMARK.

SPAN #1 REINFORCING PLAN

SCALE 3/16" = 1'-0

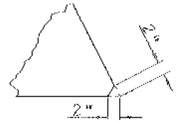


* 1 1/2" TYPE III OVER 1 1/4" TYPE IV

** VARIES IN FLARED SECTION OF SPAN 1

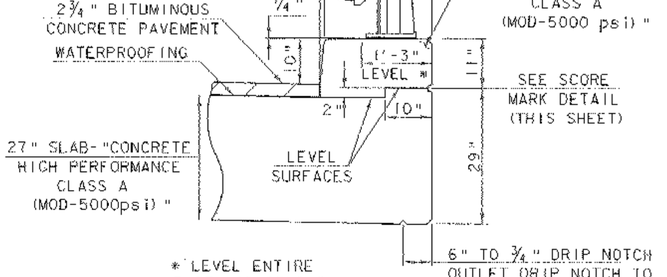
TYPICAL BRIDGE SECTION (SPANS 1 & 3)

SCALE 3/8" = 1'-0



ACUTE CORNER DETAIL

NTS

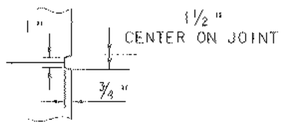


* LEVEL ENTIRE LENGTH OF BRIDGE

TYP CURB DETAIL

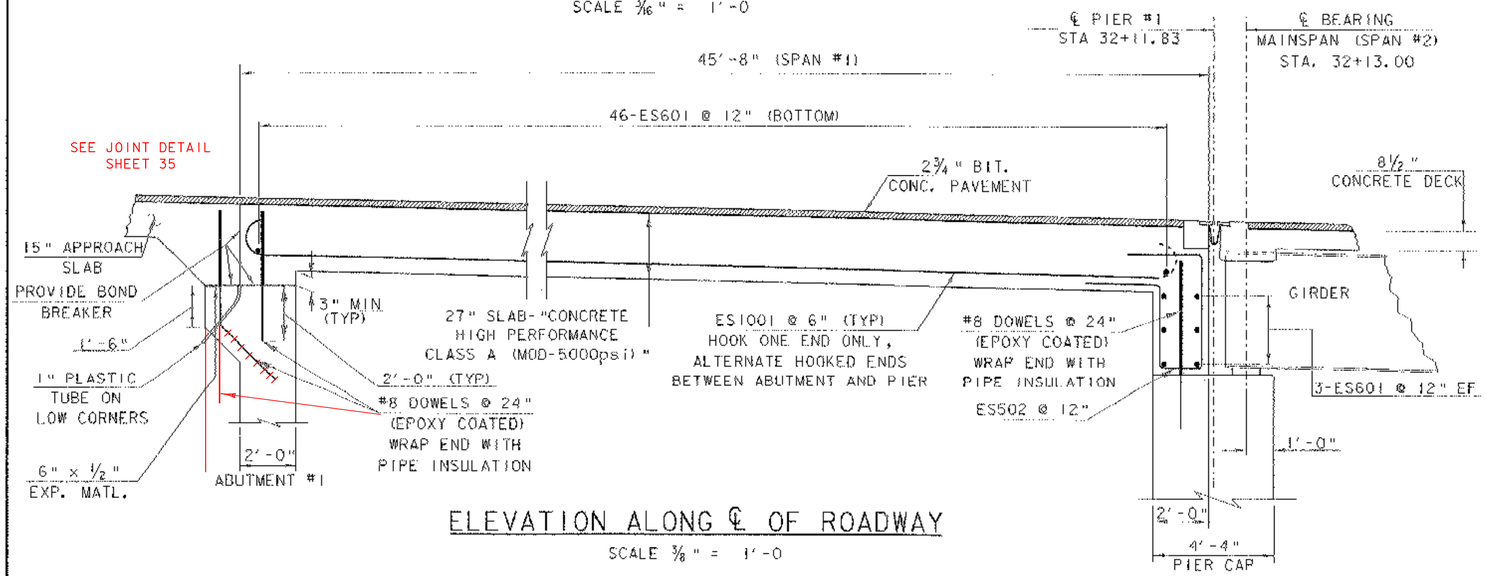
SCALE 3/4" = 1'-0

CURB DETAIL TYPICAL SPAN #1 & SPAN #3



SCORE MARK DETAIL

NTS



ELEVATION ALONG ℄ OF ROADWAY

SCALE 3/8" = 1'-0

NOTE:

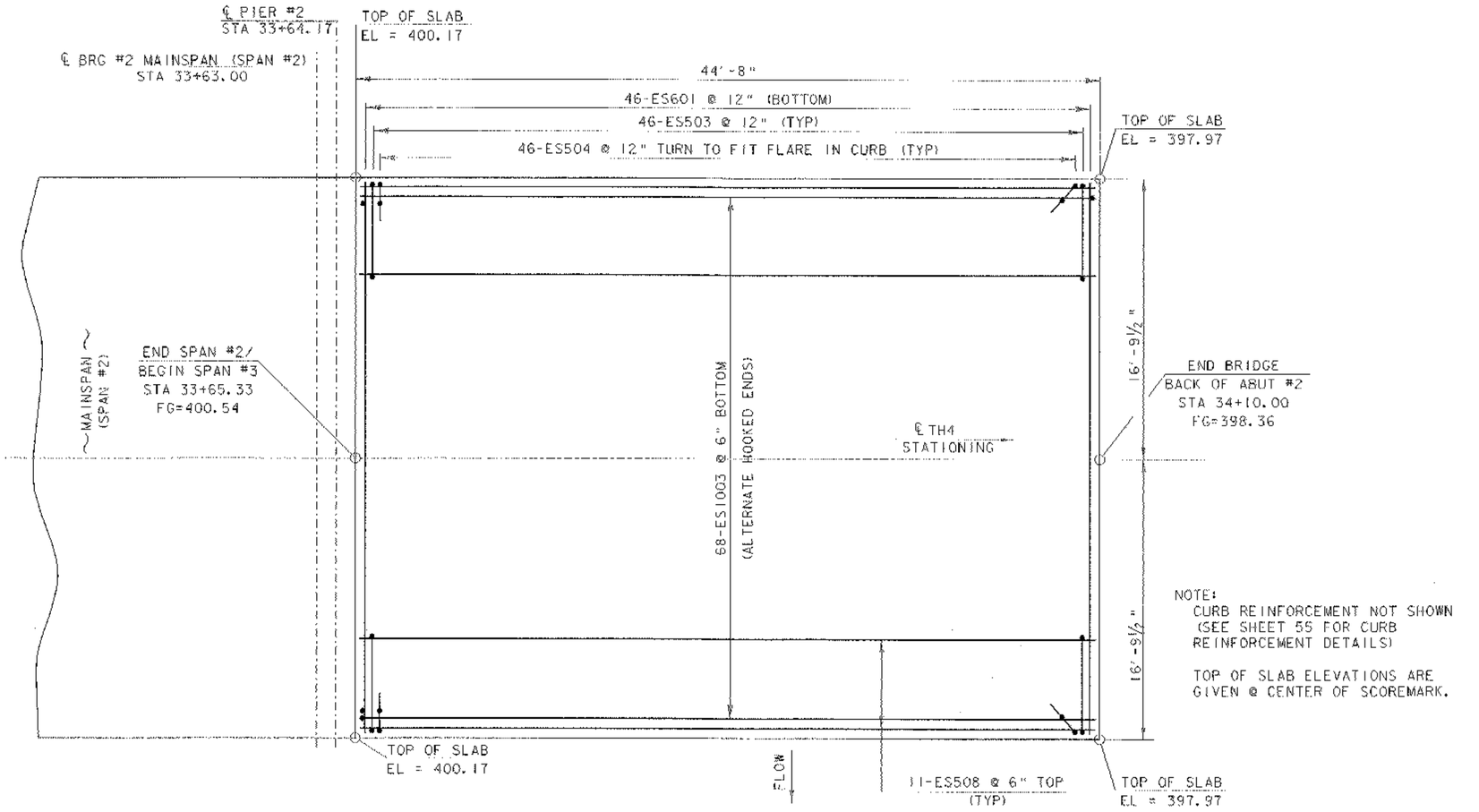
1. ▲ = CUT TO FIT IN FIELD
2. 3" CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS

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

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

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

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004 (1)
DESIGN FILE NAME: 89j045/structures/sj045asup.dgn	
IPARM FILE NAME: sj045span1.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: T. HUSK
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: K. M. HIGGINS
SPAN #1 DETAILS	SHEET: 34 OF 97

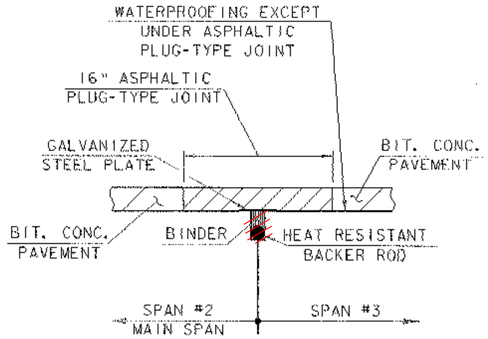


SPAN #3 REINFORCING PLAN

SCALE ¼" = 1'-0

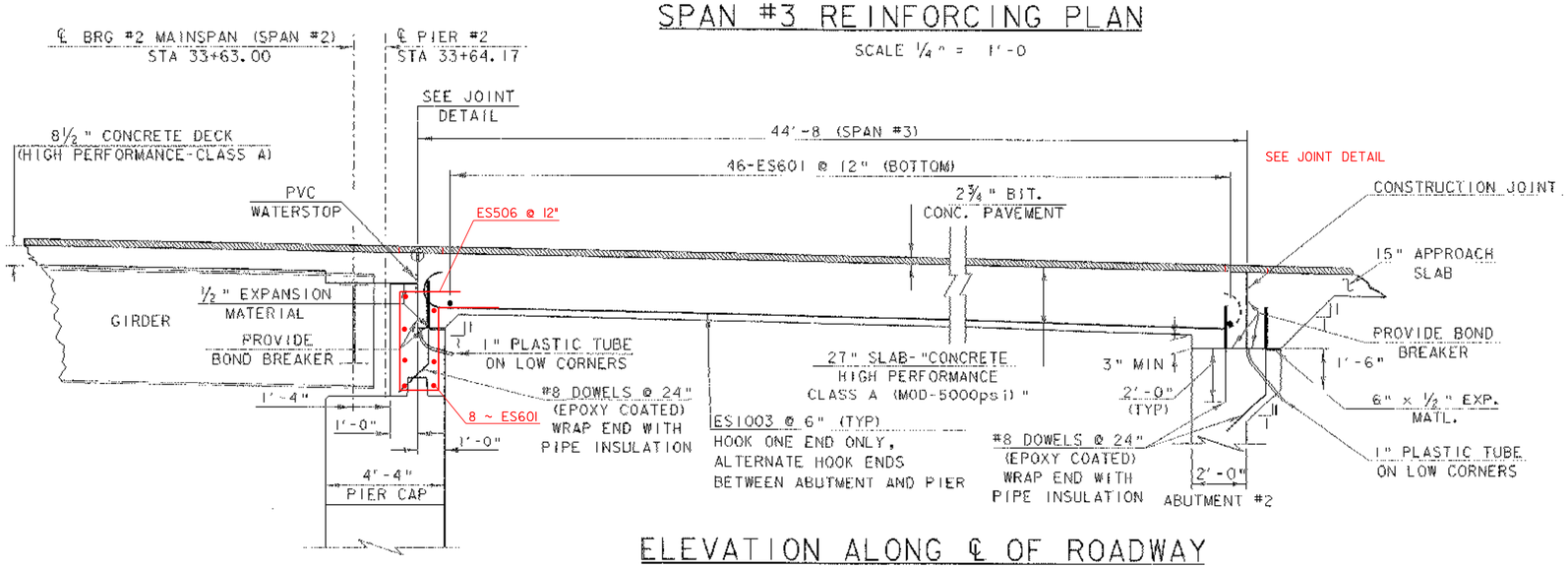
NOTE:
CURB REINFORCEMENT NOT SHOWN
(SEE SHEET 55 FOR CURB
REINFORCEMENT DETAILS)

TOP OF SLAB ELEVATIONS ARE
GIVEN @ CENTER OF SCOREMARK.



ASPHALTIC PLUG-TYPE JOINT DETAIL

NTS



ELEVATION ALONG ℄ OF ROADWAY

SCALE ⅜" = 1'-0

NOTE:

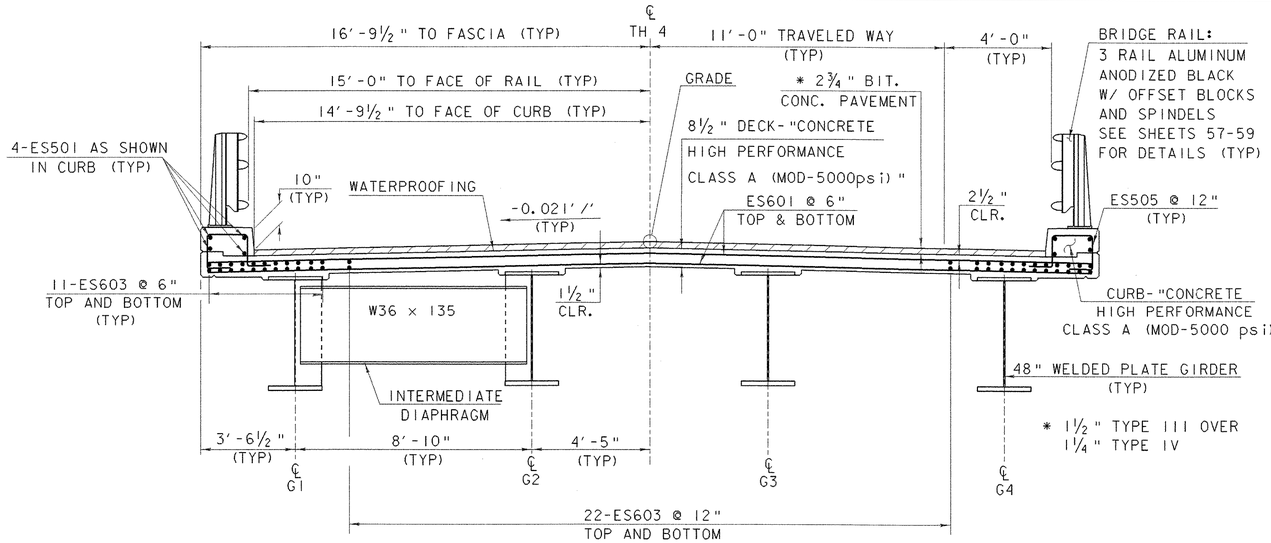
1. SEE SHEET 38 FOR BRIDGE CAMBER
2. ▲ = CUT TO FIT IN FIELD
3. 3" CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS

SCALE ¼" = 1'-0
0 2 4 6

SCALE ⅜" = 1'-0
0 1 2 3 4

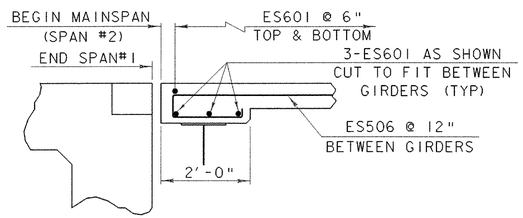
SCALE ¾" = 1'-0
0 1 2

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: B9J045/structures/sj045asup.dgn	
IPARM FILE NAME: sj045span3.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: T. HUSK
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: K. M. HIGGINS
SPAN #3 DETAILS	SHEET: 35 OF 97



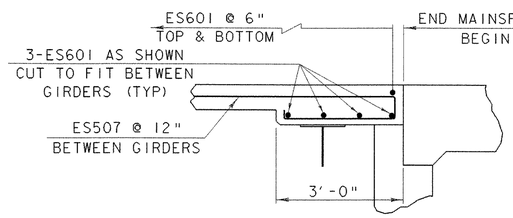
TYPICAL BRIDGE SECTION MAINSPAN (SPAN #2)

SCALE ⅜" = 1'-0



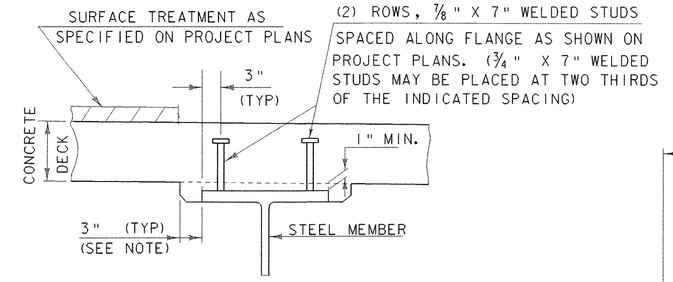
SECTION A-A

NTS



SECTION B-B

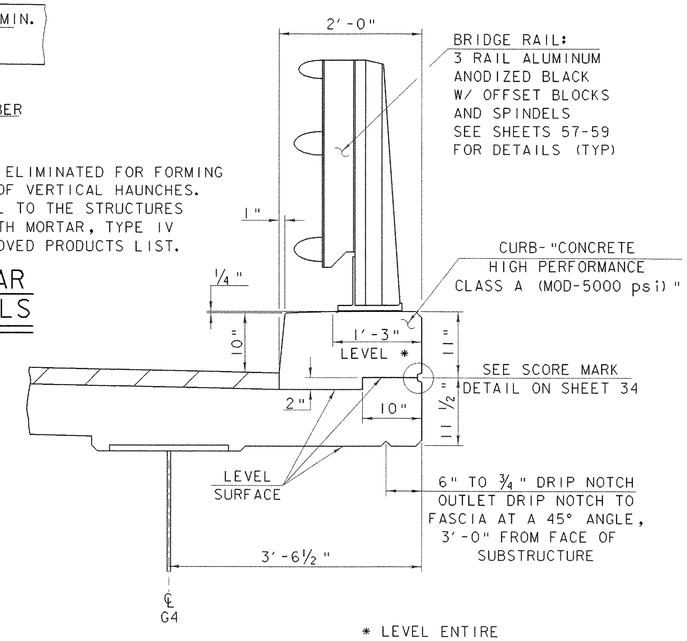
NTS



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. ALL VOIDS SHALL BE FILLED WITH MORTAR, TYPE IV OR AN EQUIVALENT PRODUCT FROM THE APPROVED PRODUCTS LIST.

HAUNCH AND SHEAR CONNECTOR DETAILS

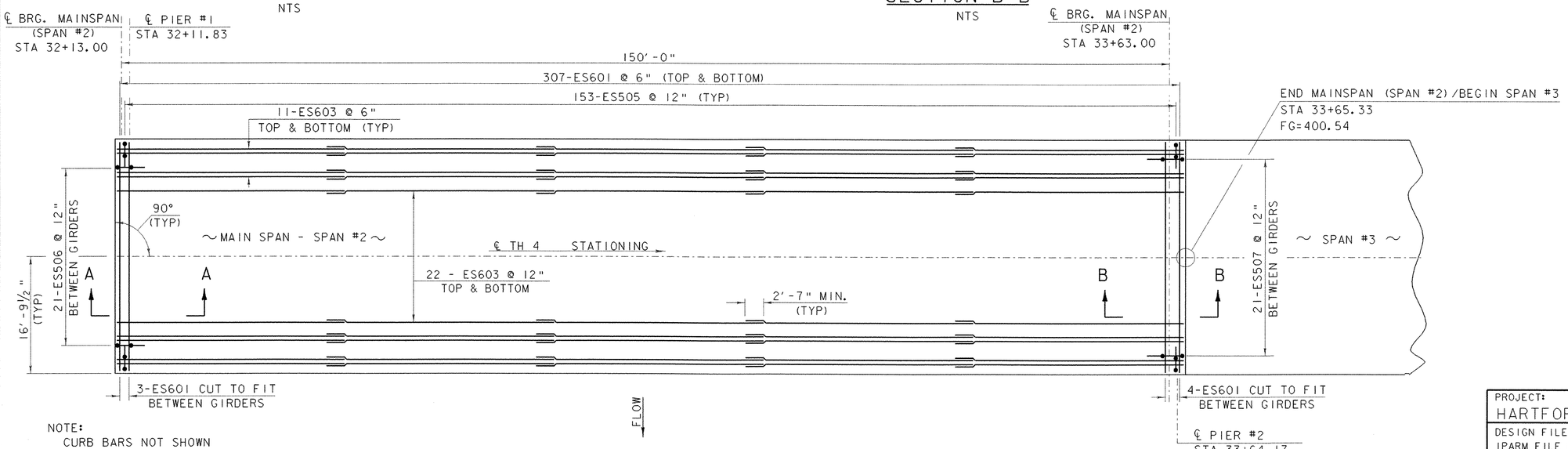
NTS



* LEVEL ENTIRE LENGTH OF BRIDGE

CURB DETAIL

SCALE 1" = 1'-0



NOTE:
CURB BARS NOT SHOWN
(SEE SHEET 55 FOR CURB BAR DETAILS)

MAINSPAN (SPAN #2) REINFORCING PLAN

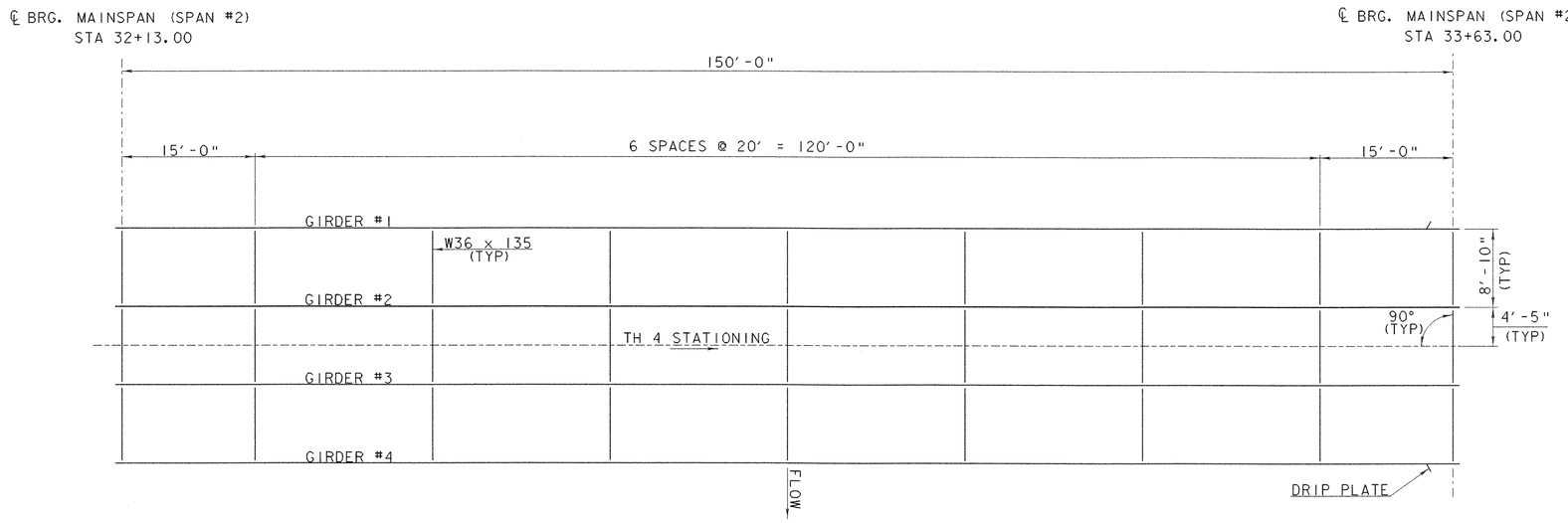
SCALE ⅛" = 1'-0

SCALE ⅛" = 1'-0
1 0 2 4 6 8

SCALE ⅜" = 1'-0
1 0 1 2 3 4

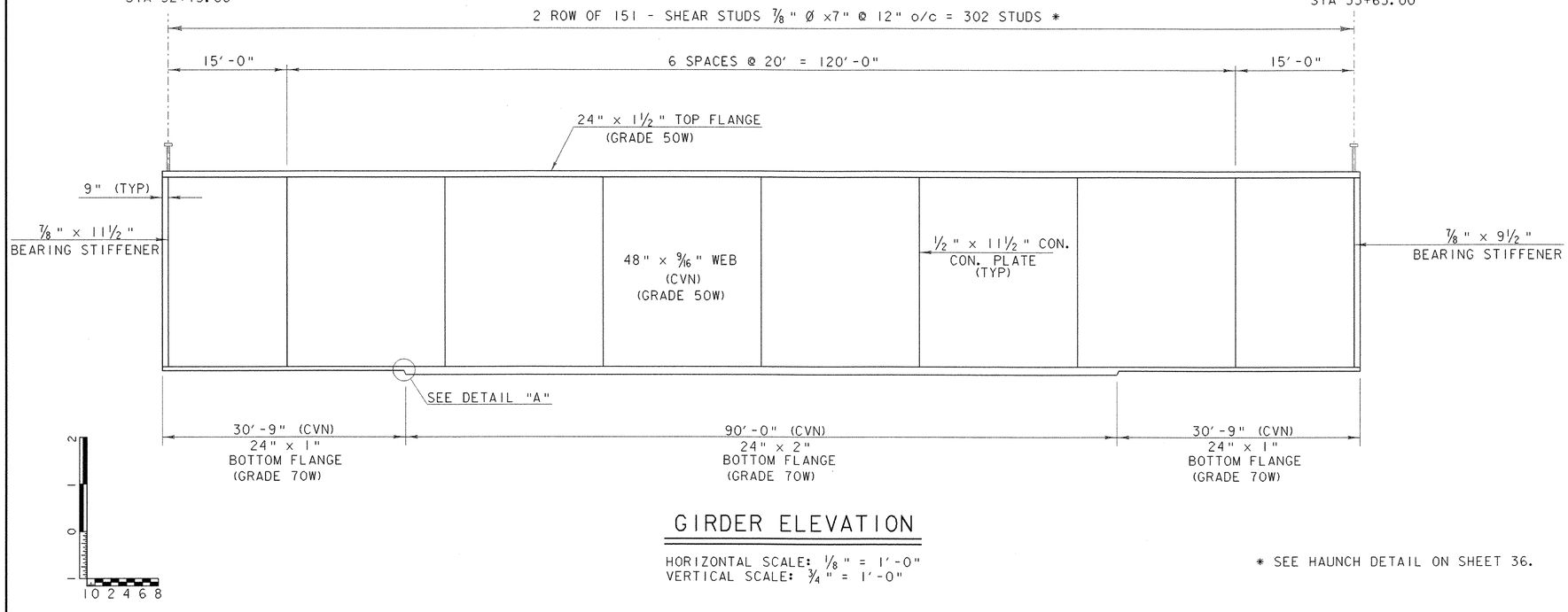
SCALE 1" = 1'-0
1 9 6 3 0 1 2

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: 89J045/structures/sj045msup.dgn	
IPARM FILE NAME: sj045deckplan.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: T. HUSK
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: K. M. HIGGINS
SPAN #2 MAINSPAN REINFORCING DETAILS	SHEET: 36 OF 97



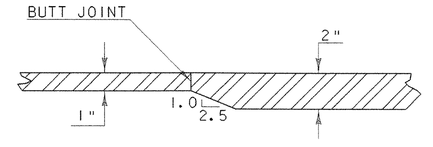
FRAMING PLAN

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



GIRDER ELEVATION

HORIZONTAL SCALE: 1/8" = 1'-0"
VERTICAL SCALE: 3/4" = 1'-0"

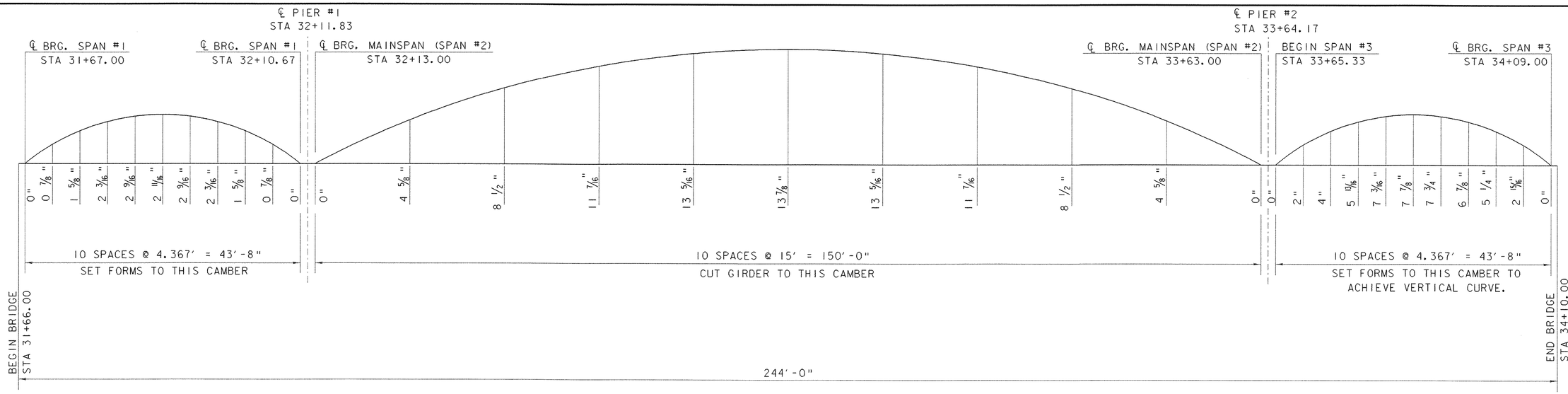


DETAIL "A"

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

* SEE HAUNCH DETAIL ON SHEET 36.

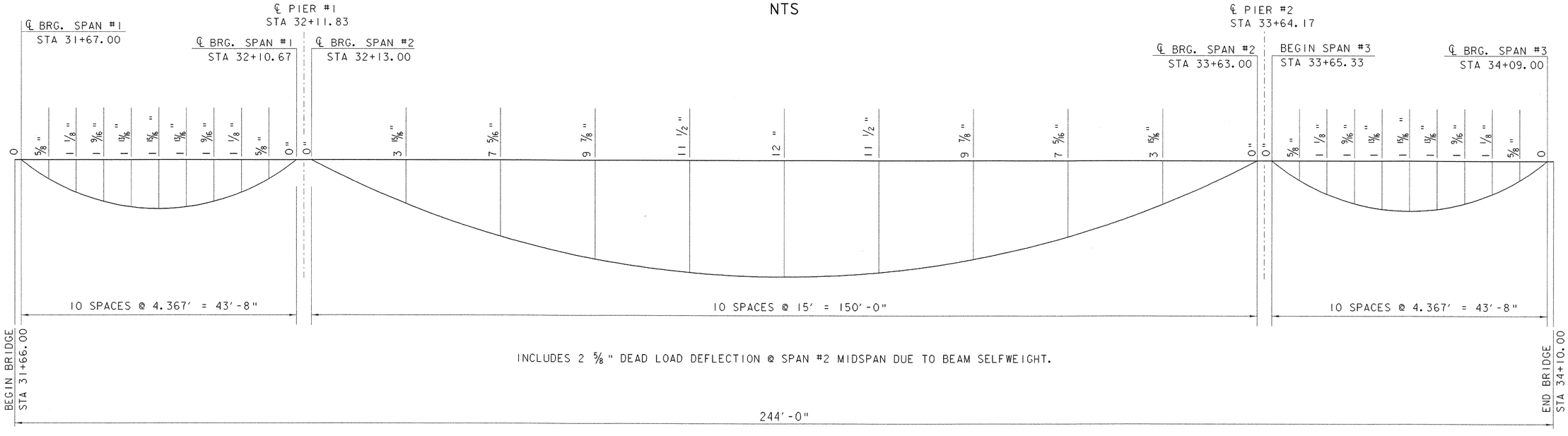
PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004 (1)
DESIGN FILE NAME: 89j045/structures/sj045msup.dgn	
IPARM FILE NAME: sj045framing.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: T. HUSK
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: K. M. HIGGINS
MAINSPAN FRAMING PLAN	SHEET: 37 OF 97



NOTE: CAMBER DIAGRAM INCLUDES 2 5/8" DEAD LOAD DEFLECTION @ SPAN #2 MIDSPAN DUE TO BEAM SELFWEIGHT. CALCULATED CAMBER @ SPAN #2 MIDSPAN MEASURED WHEN BEAM IS SUPPORTED ONLY AT ℄ BEARING POINTS SHALL BE 11 1/4"

CAMBER DIAGRAM

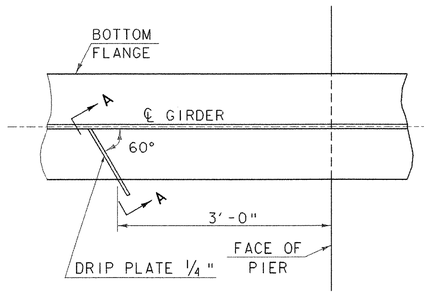
NTS



DEADLOAD DEFLECTION DIAGRAM

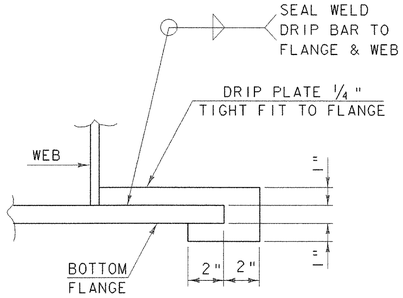
NTS

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004 (1)
DESIGN FILE NAME: 89j045/structures/sj045msup.dgn	
IPARM FILE NAME: sj045camber.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: K. M. HIGGINS
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: M. LONGSTREET
CAMBER DIAGRAM	SHEET: 38 OF 97



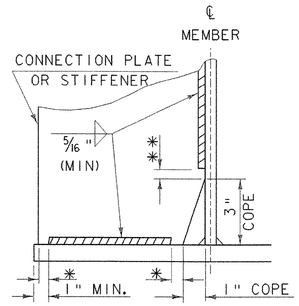
PLAN DRIP PLATE

NTS



SECTION A - A

NOTE: DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FASCIA GIRDERS ON THE HIGH SIDE OF PIER AS INDICATED ON PROJECT PLANS.

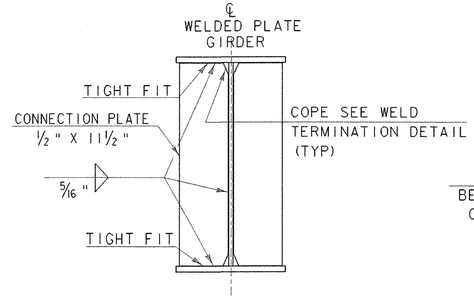


* NO WELD FOR 1/4" MIN. 1/2" MAX. (EXCEPT MUST MAINTAIN 1" MINIMUM FROM EDGE OF FLANGE)

** 1/2" ± 1/4" FOR CONNECTION PLATE OR STIFFENER TO WEB WELDS ONLY.

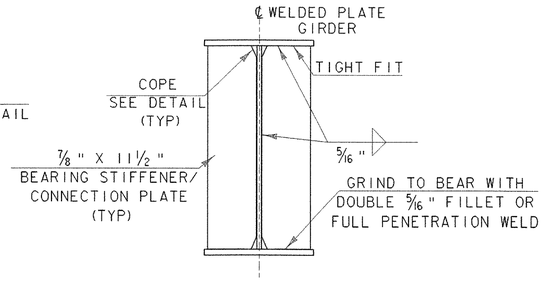
WELD TERMINATION AND COPING DETAILS FOR STEEL MEMBERS

NTS



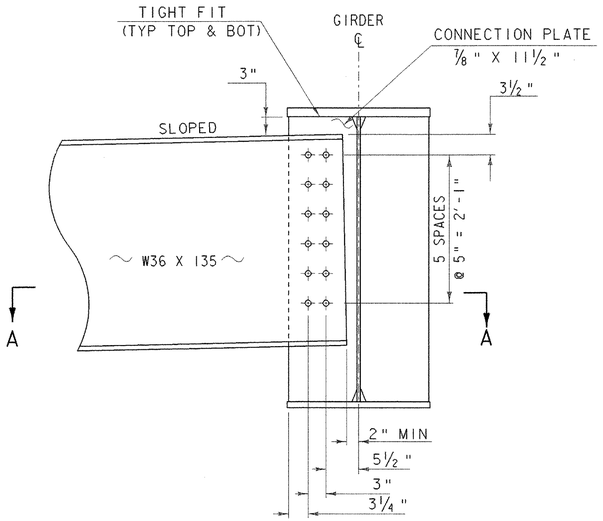
INTERMEDIATE CONNECTION PLATES

NTS



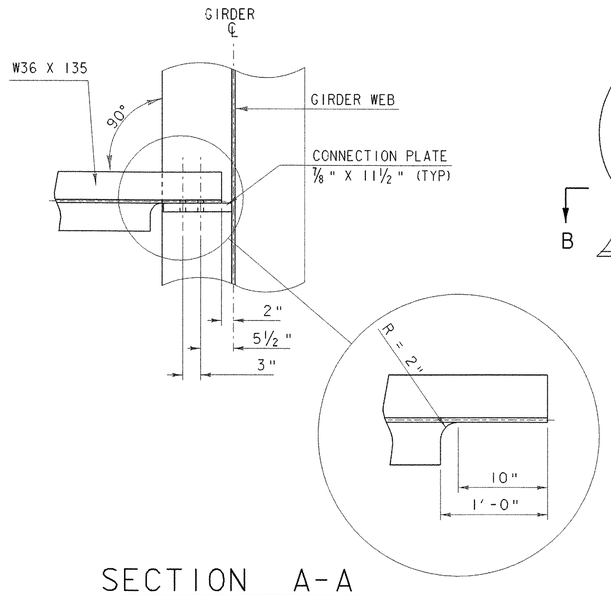
PIER BEARING STIFFENERS/ CONNECTION PLATE

NTS



PIER DIAPHRAGM

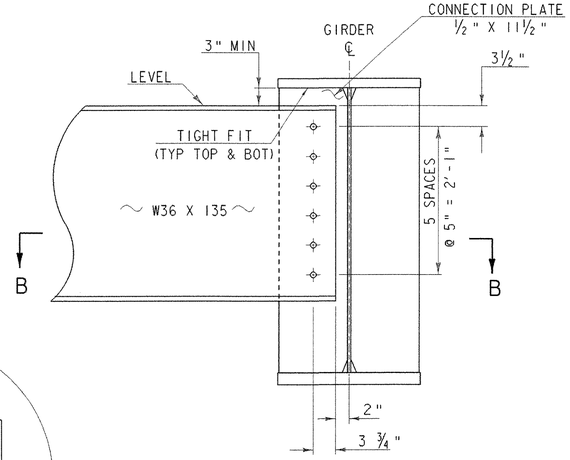
SCALE 1" = 1'-0



SECTION A-A

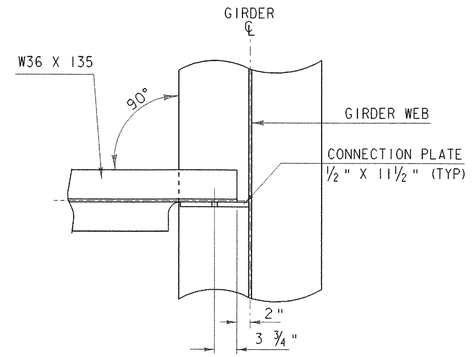
SCALE: 1"= 1'-0"

ALL CONNECTIONS SHALL BE MADE USING 7/8" DIAMETER, AASHTO M164 BOLTS. ALL HOLES IN THE DIAPHRAGMS SHALL BE 15/16" DIAMETER. ALL HOLES IN THE CONNECTION PLATES SHALL BE 1" DIAMETER.



INTERMEDIATE DIAPHRAGM

SCALE 1" = 1'-0



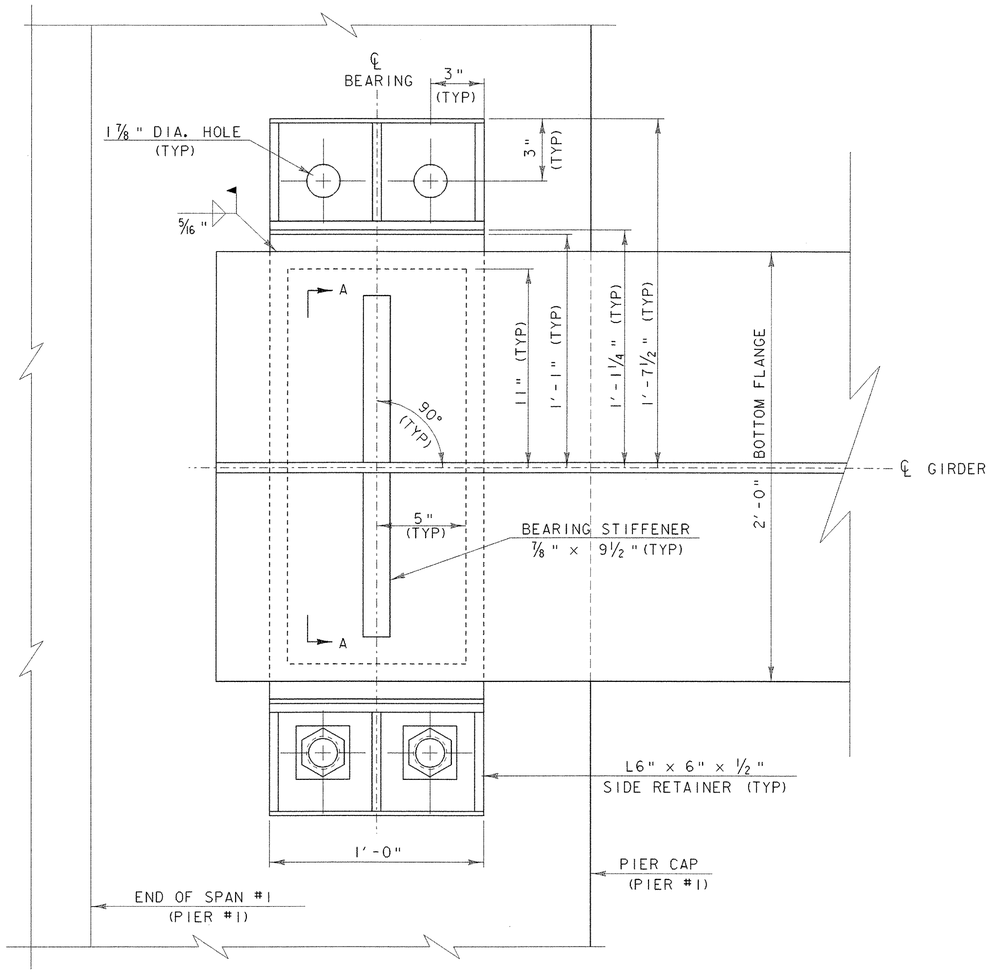
SECTION B-B

SCALE: 1"= 1'-0"

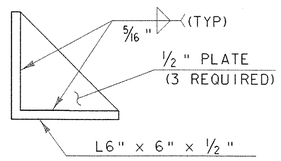
ALL CONNECTIONS SHALL BE MADE USING 7/8" DIAMETER, AASHTO M164 BOLTS. ALL HOLES IN THE DIAPHRAGMS SHALL BE 15/16" DIAMETER. ALL HOLES IN THE CONNECTION PLATES SHALL BE 1" DIAMETER.

PROJECT:	PROJECT NO.:
HARTFORD	BRO-BTN 2004(1)

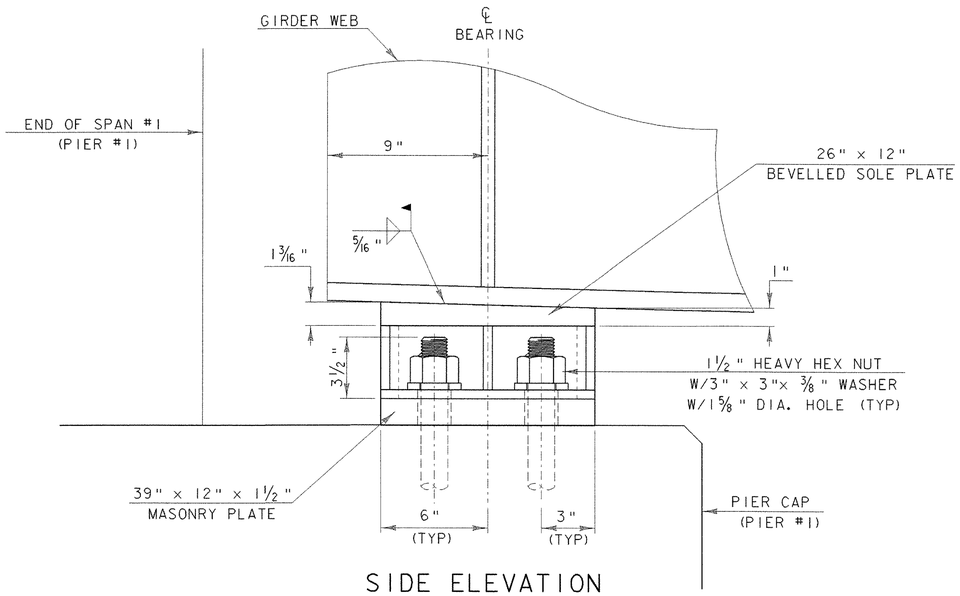
DESIGN FILE NAME: 89j045/structures/sj045msup.dgn
IPARM FILE NAME: sj045steeldet.i — PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS — DRAWN BY: T. HUSK
SQUAD LEADER: C. P. WILLIAMS — CHECKED BY: K. M. HIGGINS
MISCELLANEOUS STEEL DETAILS — SHEET: 39 OF 97



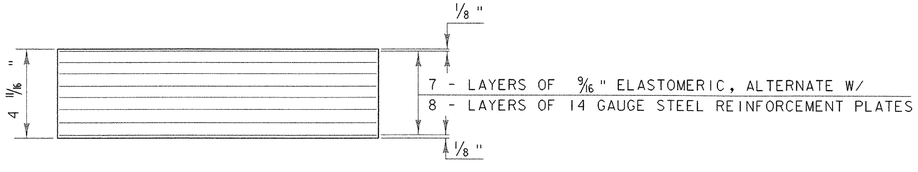
PLAN VIEW



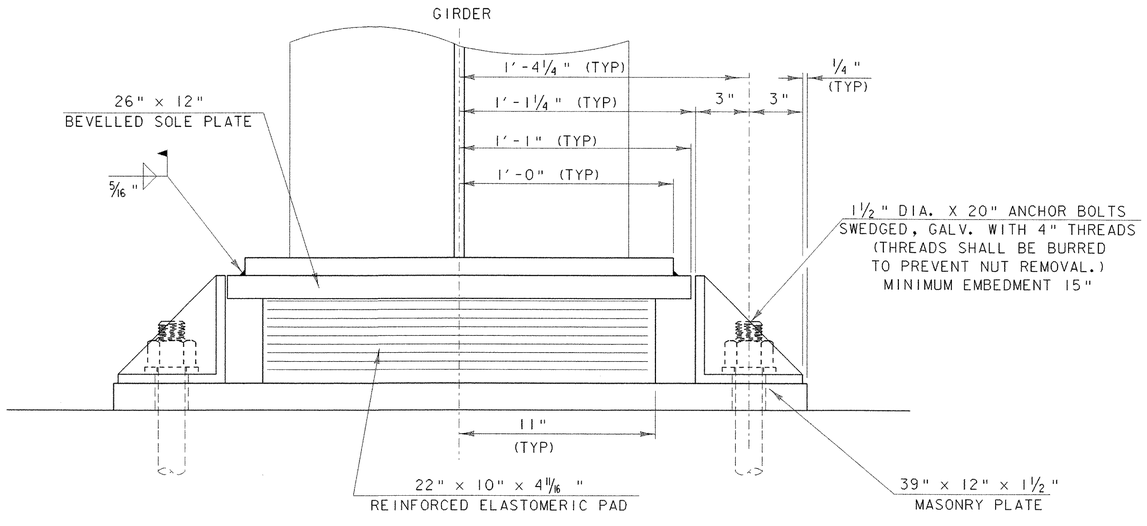
SIDE RETAINER
(2 REQUIRED)



SIDE ELEVATION



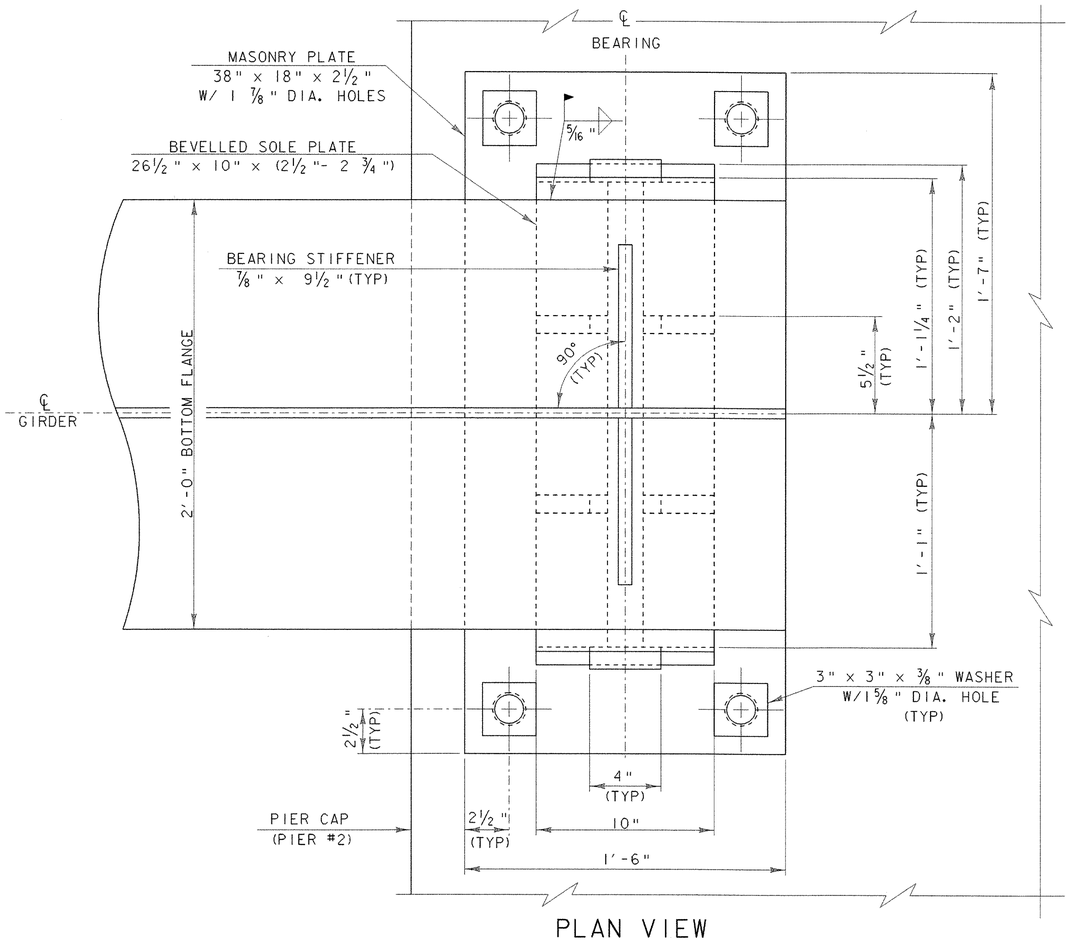
SECTION A-A



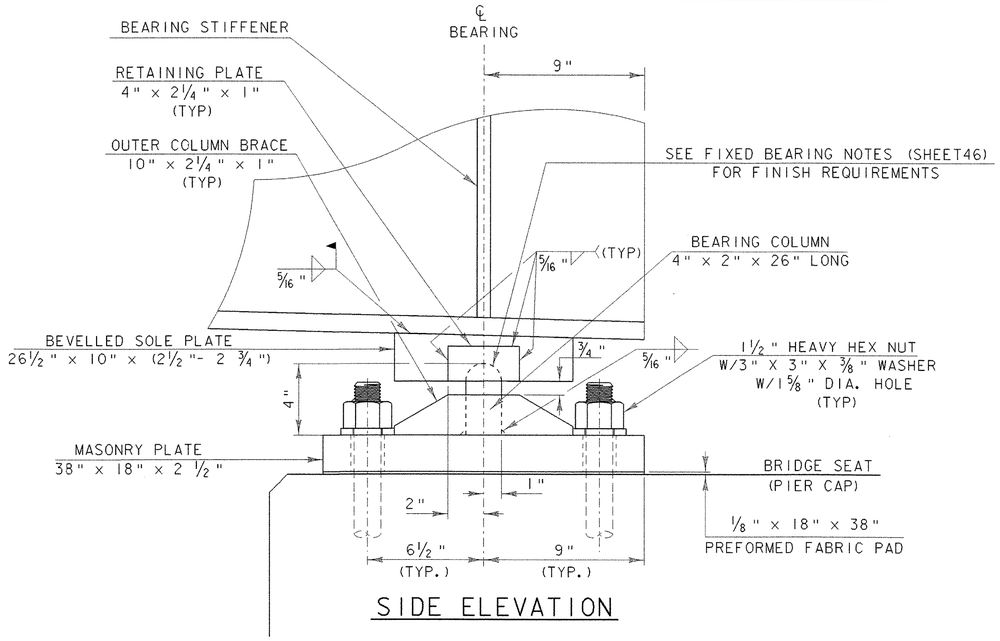
FRONT ELEVATION

SCALE 3" = 1'-0

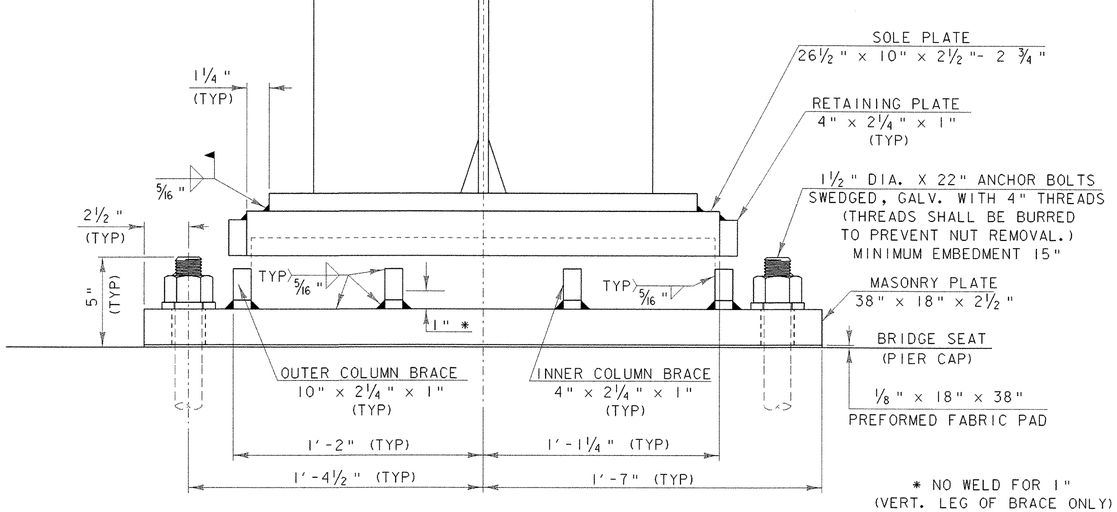
PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: /89j045/structures/sj045brg.dgn	
IPARM FILE NAME: sj045expbrg.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: K. M. HIGGINS
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: M. LONGSTREET
EXPANSION BEARING DETAILS (PIER #1)	SHEET: 40 OF 97



PLAN VIEW

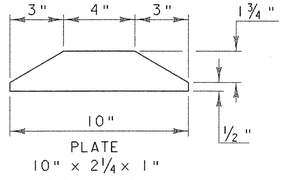


SIDE ELEVATION



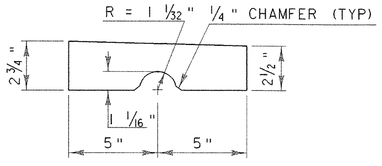
FRONT ELEVATION

* NO WELD FOR 1"
(VERT. LEG OF BRACE ONLY)
(TYP ALL BRACES)

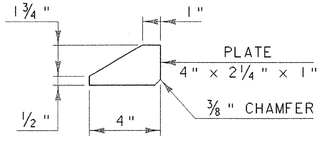


OUTER COLUMN BRACE DETAIL

(2 REQUIRED)

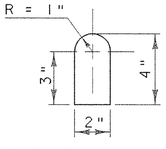


SOLE PLATE DETAIL



INNER COLUMN BRACE DETAIL

(4 REQUIRED)



BEARING COLUMN DETAIL

SCALE 3" = 1'-0

1 9 6 3 0 1

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: /89j045/structures/sj045brg.dgn	
IPARM FILE NAME: sj045fixbrg.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: K. M. HIGGINS
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: M. LONGSTREET
FIXED BEARING DETAILS (PIER #2)	SHEET: 41 OF 97

EXPANSION BEARING NOTES

1. EXPANSION BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.10 "BEARING DEVICE ASSEMBLY (EXPANSION)" AND SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 531 AND 731.

2. THE FIELD WELD CONNECTING THE BOTTOM FLANGE WITH THE BEARING DEVICE SHALL BE MADE WITH E7018 RODS. AREAS OF METALIZING DAMAGED BY WELDING AND/OR HANDLING SHALL BE REPAIRED BY METALIZING IN ACCORDANCE WITH ASTM A 760/760M.

3. SHOP DRAWINGS CONFORMING TO SUBSECTION 531.03 SHALL BE SUBMITTED AND INCLUDE ANY NECESSARY WELDING OR BONDING PROCEDURES. THE SHOP DRAWINGS SUBMITTAL SHALL ALSO INCLUDE ALL APPLICABLE CERTIFICATIONS FOR ELASTOMERIC MATERIAL.

4. ALL STEEL COMPONENTS SHALL BE METALIZED AS PER SECTION 531.04(b) AND 506.15. AFTER THE BEARINGS ARE METALIZED, THEY SHALL BE SEALED WITH AN APPROVED PRIMER AS SPECIFIED IN SUBSECTION 506.15(c). ALL WASHERS SHALL BE ⅜" PLATE MINIMUM. PAYMENT FOR ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR "BEARING DEVICE ASSEMBLY (EXPANSION)". ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED PER AASHTO M 232/M 232M.

5. ALL STEEL IN BEARING DEVICES SHALL BE AASHTO M 270/M 270M GRADE 50.

6. ALL REINFORCEMENT BETWEEN LAYERS OF ELASTOMERIC SHALL BE STEEL ASTM A36. ALL INTERNAL STEEL PLATES SHALL BE SAND BLASTED AND FREE OF COATINGS, RUST, AND MILL SCALE. THE PLATES SHALL BE FREE OF SHARP EDGES AND BURRS.

7. STEEL REINFORCED ELASTOMERIC BEARINGS SHALL HAVE A MINIMUM OF ⅛" EDGE SEAL OF ELASTOMER INTEGRAL WITH THE BEARING OVER ALL INTERNAL PLATES.

8. FOR ELASTOMERIC BEARINGS, ALL MATERIALS AND FABRICATION SHALL BE PER AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, EDITION 1996 AND ITS LATEST REVISIONS AND AASHTO M 251/M 251M.

9. ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN ON THIS SHEET. THE ALTERNATE SHALL MAINTAIN THE ANCHORAGE SYSTEM SHOWN AND SHALL BE DESIGNED PER AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 1996 EDITION AND ITS LATEST REVISIONS.

10. BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATIVE CONFIGURATION.

11. DESIGN CRITERIA:
    - A. MASONRY PLATE TO CONCRETE DESIGN PRESSURE = 462 psi
    - B. DESIGN ROTATION = 0.02 RAD
    - C. HORIZONTAL CAPACITY SHALL BE MINIMUM OF 20% VERTICAL LOAD IN ANY RESTRAINED DIRECTION.
    - D. DESIGN LOAD PER BEARING
      RDL = 138.30 Kips
      RLL = 74.28 Kips
    - E. TEMPERATURE RANGE = -30° TO 120°F
    - F. ELASTOMER SHALL HAVE NOMINAL HARDNESS OF 60 ON SHORE 'A' SCALE. ELASTOMER SHALL HAVE A SHEAR MODULUS BETWEEN 140 AND 175 psi. THE RAW ELASTOMER SHALL BE VIRGIN NEOPRENE CLASSIFIED AS LOW TEMPERATURE GRADE 4 AS DEFINED IN TABLE 18.4.5.1 - 1A OF AASHTO, DIVISION II, SECTION 18.
    - G. NO FABRIC REINFORCEMENT WILL BE ALLOWED IN ELASTOMERIC PADS

12. THE STEEL SOLE PLATES AND MASONRY PLATES SHALL BE HOT BONDED TO THE REINFORCED ELASTOMERIC PAD DURING THE VULCANIZATION PROCESS. THE STEEL SURFACES TO BE BONDED TO THE PAD SHALL NOT BE METALIZED.

13. THE BEARING TOLERANCES SHALL MEET THOSE GIVEN IN AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED 1996 AND ITS LATESTS REVISIONS, DIVISION II SECTION 18.

FIXED BEARING NOTES

1. FIXED BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.10 "BEARING DEVICE ASSEMBLY (FIXED)", AND SHALL CONFORM TO APPLICABLE SUBSECTIONS OF 531 AND 731.

2. THE FIELD WELD CONNECTING THE BOTTOM FLANGE WITH THE BEARING DEVICE SHALL BE MADE WITH E7018 RODS. AREAS OF METALIZING DAMAGED BY WELDING AND/OR HANDLING SHALL BE REPAIRED BY METALIZING IN ACCORDANCE WITH ASTM A 760/760M.

3. SHOP DRAWINGS CONFORMING TO SUBSECTION 531.03 SHALL BE SUBMITTED AND INCLUDE ANY NECESSARY WELDING PROCEDURES.

4. ALL STEEL COMPONENTS SHALL BE METALIZED AS PER SECTION 531.04(b) AND 506.15(c). AFTER THE BEARINGS ARE METALIZED, THEY SHALL BE SEALED WITH AN APPROVED PRIMER AS SPECIFIED IN SUBSECTION 506.15(c). ALL WASHERS SHALL BE ⅜" PLATE MINIMUM. PAYMENT FOR ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR "BEARING DEVICE ASSEMBLY (FIXED)". ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED PER AASHTO M 232/M 232M.

5. ALL STEEL IN FIXED BEARING DEVICES SHALL BE AASHTO M 270/M 270M GRADE 50.

6. DESIGN CRITERIA:
    - A. MASONRY PLATE ON CONCRETE DESIGN PRESSURE IS 300 psi.
    - B. HORIZONTAL CAPACITY SHALL BE A MINIMUM OF 20% DEAD LOAD IN ANY RESTRAINED DIRECTION.
    - C. DESIGN LOAD PER BEARING
      RDL = 138.30 Kips
      RLL = 74.28 Kips

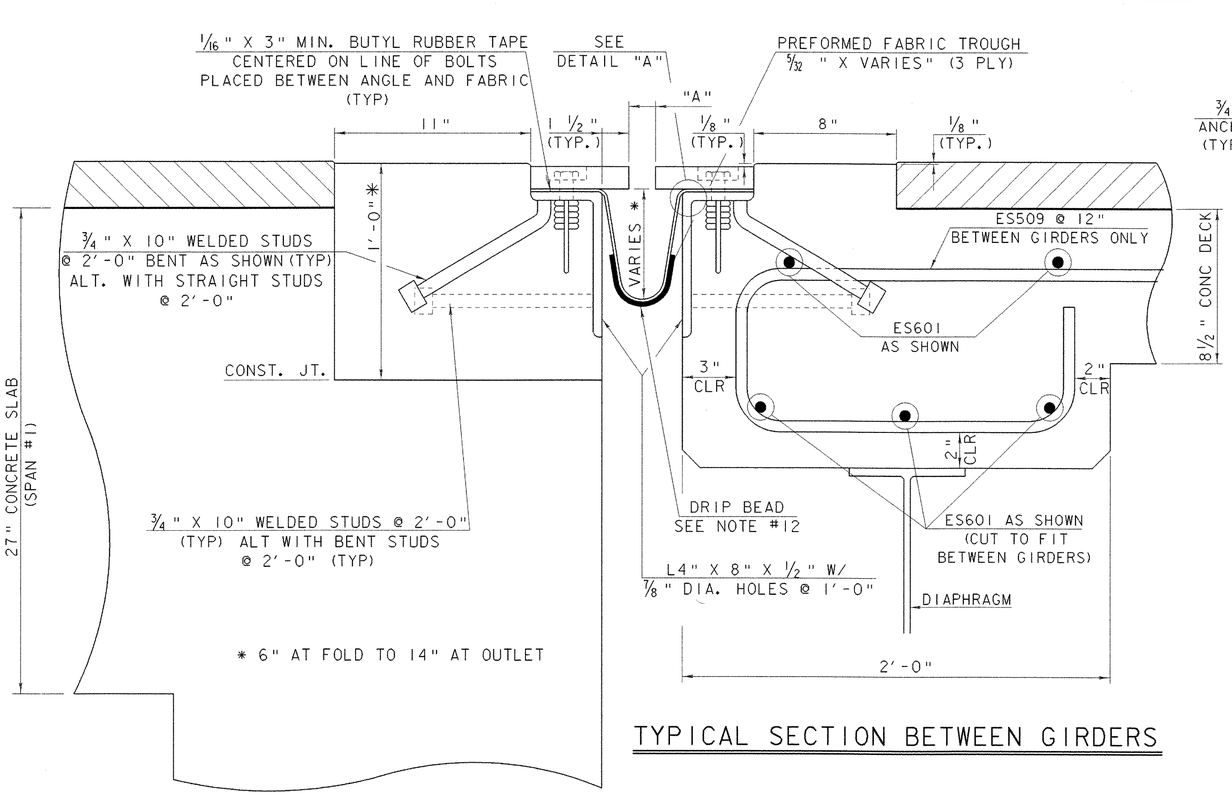
7. ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN ON THIS SHEET. THE ALTERNATE SHALL MAINTAIN THE ANCHORAGE SYSTEM SHOWN AND SHALL BE DESIGNED PER AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 1996 EDITION AND ITS LATEST REVISIONS.

8. BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATE CONFIGURATION.

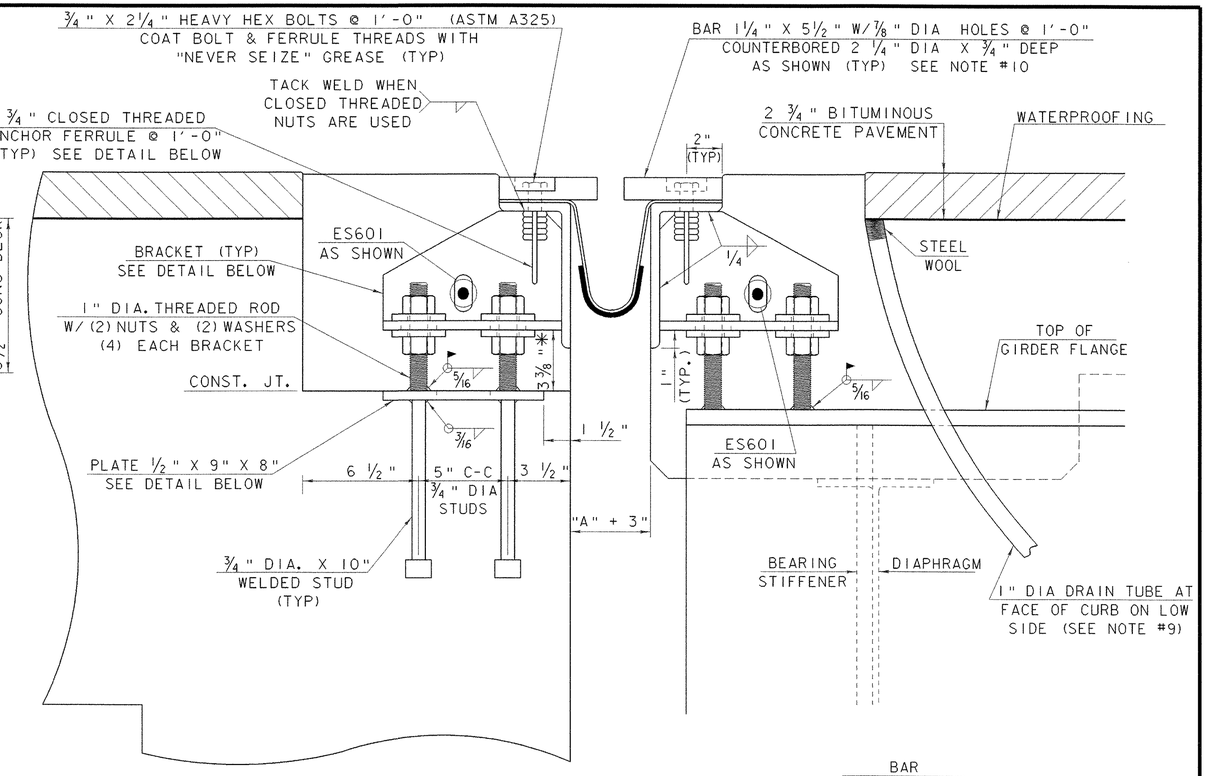
9. THE BEARING TOLERANCES SHALL MEET THOSE GIVEN IN AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED 1996 AND ITS LATEST REVISIONS, DIVISION II SECTION 18. THE CONTACT SUFACES OF THE CURVED BEARING SURFACES OF THE BEARING COLUMN AND SOLE PLATES SHALL MEET THE TOLERANCES AND FINISH REQUIREMENTS OF BEARING PINS AND BUSHINGS.

10. THE CURVED CONTACT SURFACES SHALL NOT BE METALIZED.

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: /89j045/structures/sj045brg.dgn	
IPARM FILE NAME: sj045brgnotes.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: K. M. HIGGINS
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: M. LONGSTREET
BEARING NOTES	SHEET: 42 OF 97

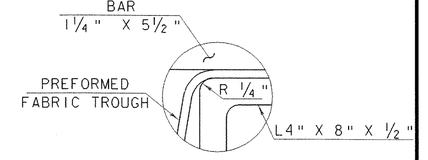


TYPICAL SECTION BETWEEN GIRDERS



TYPICAL SECTION AT GIRDERS

*THESE DIMENSIONS ARE THEORETICAL AND MAY CHANGE DEPENDING UPON THE OUTCOME OF THE BEAM PROFILES.



DETAIL "A"

NOT TO SCALE

TEMP	"A" DIST
0° F	3 1/16
15° F	2 7/8"
30° F	2 5/16"
45° F	2 1/2"
60° F	2 11/16"
75° F	2 1/8"
90° F	1 15/16"
105° F	1 3/4"

"A" IS THE SETTING BEFORE DEAD LOADS ARE IN PLACE.

SCALE 3" = 1'-0

1 9 6 3 0 1

1. DETAILS ON THIS SHEET ARE FOR ITEM 516.10 "BRIDGE EXPANSION JOINT".
2. PREFORMED FABRIC MATERIAL SHALL BE CONTINUOUS AND SHALL CONFORM TO SUBSECTION 707.07.
3. BUTYL RUBBER TAPE SHALL CONFORM TO AASHTO SPECIFICATION M-198, TYPE II.
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 M270 GRADE 36 GALVANIZED OR METALIZED AS PER SUBSECTION 506.15(a) OR (b) UNLESS OTHERWISE SPECIFIED.
6. THE ITEM "BRIDGE EXPANSION JOINT" 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 AND PLASTIC DRAIN TUBES, BUTYL RUBBER TAPE AND ANY OTHER MISCELLANEOUS MATERIAL NECESSARY TO INSTALL JOINT.
7. THE 4" X 8" X 1/2" 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 TWO EQUAL LENGTHS.
8. COAT CONCRETE CONTACT SURFACES WITH EPOXY BONDING COMPOUND MEETING THE REQUIREMENTS OF SUBSECTION 719.02. PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 516.10 "BRIDGE EXPANSION JOINT".
9. A 1" DIAMETER PLASTIC DRAIN TUBE SHALL BE INSTALLED AS SHOWN AT THE FACE OF 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.
10. FILL COUNTERBORED HOLES WITH HOT POURED JOINT SEALER AFTER BOLT INSTALLATION. PAYMENT FOR THE WORK SHALL BE SUBSIDIARY TO ITEM 516.10.
12. 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.
13. FABRIC TROUGH SHALL BE THOROUGHLY CLEANED AND FLUSHED AFTER PAVING OPERATION.
14. THE EXPANSION JOINT SHALL BE SHOP ASSEMBLED AND SHIPPED AS ONE UNIT.
15. ALL CONCRETE SHALL BE HIGH PERFORMANCE-CLASS A (MOD-5000PSI)

ALL PLATES 1/2"

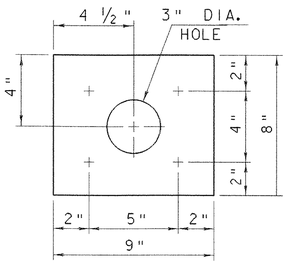
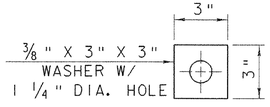


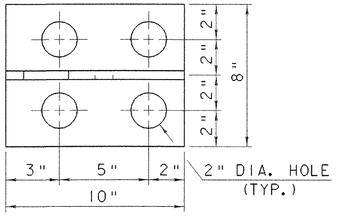
PLATE PLAN



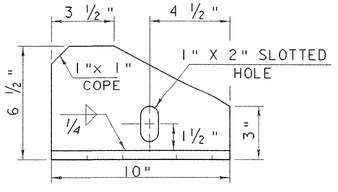
WASHER FOR BRACKET

ANCHOR FERRULE DETAIL

NOTE:
CLOSED THREADED FERRULE NUTS
WITHOUT ANCHOR LOOPS MAY BE USED.



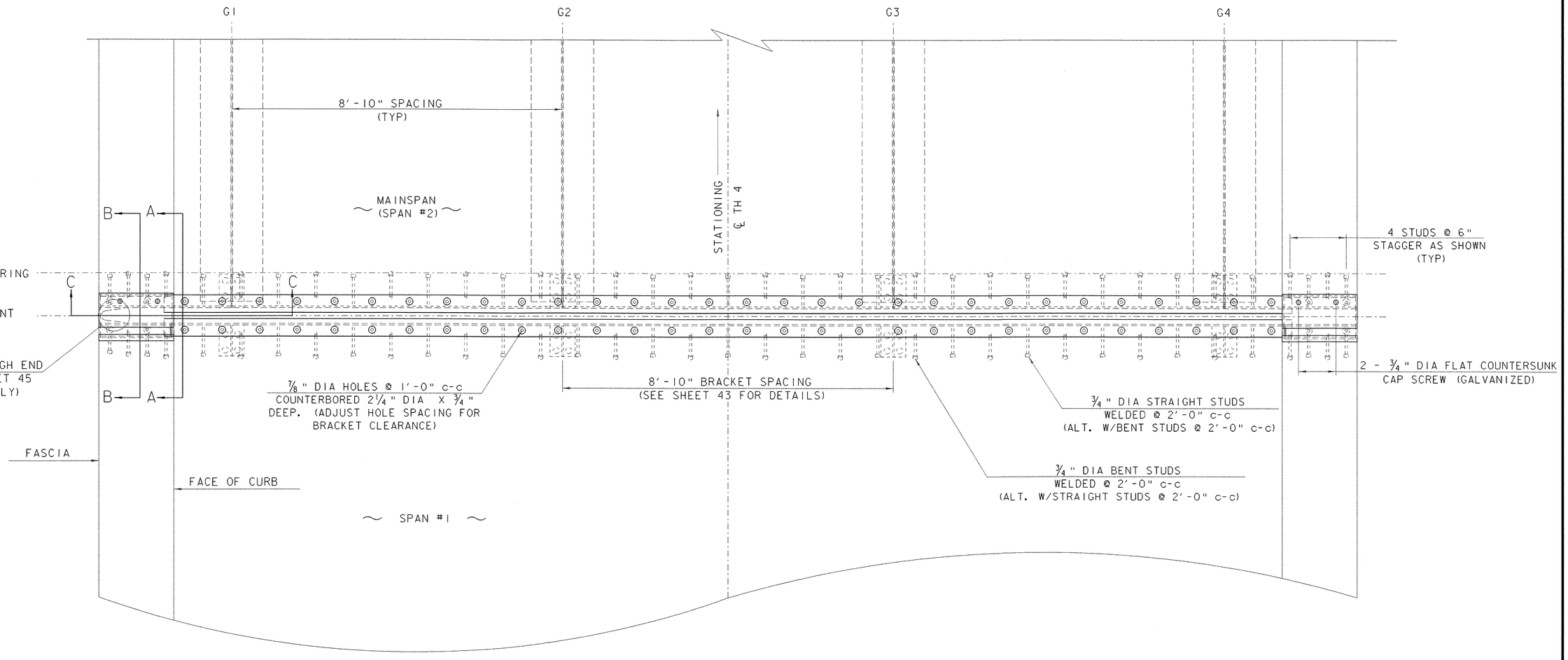
BRACKET PLAN



BRACKET ELEVATION

PROJECT:	PROJECT NO.:
HARTFORD	BRO-BTN 2004(1)

DESIGN FILE NAME: 89j045/structures/sj045exp.dgn
IPARM FILE NAME: sj045expl.i — PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS — DRAWN BY: K. M. HIGGINS
SQUAD LEADER: C. P. WILLIAMS — CHECKED BY: M. LONGSTREET
EXPANSION JOINT DETAILS (PIER #1) — SHEET: 43 OF 97



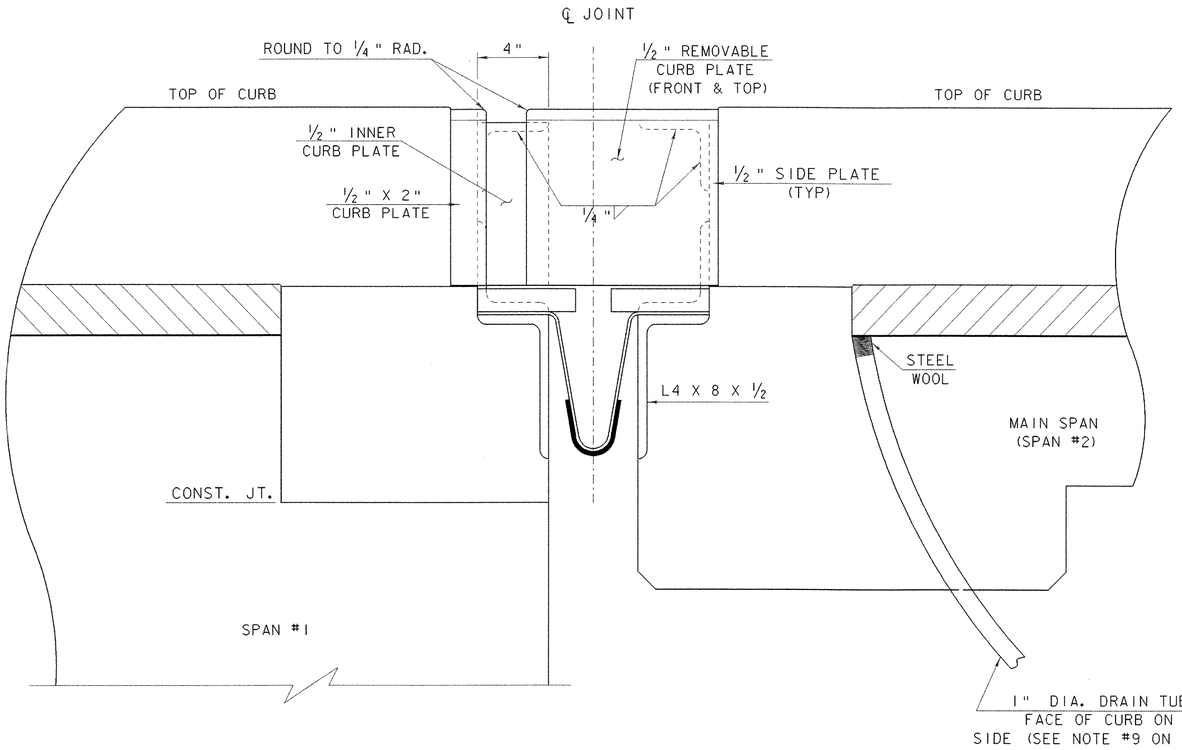
EXPANSION JOINT AT PIER NO. 1

SCALE 3/4" = 1'-0

SECTIONS A-A , B-B & C-C
ARE SHOWN ON PAGE 45

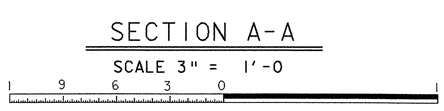
PROJECT:	PROJECT NO.:
HARTFORD	BRO-BTN 2004(1)

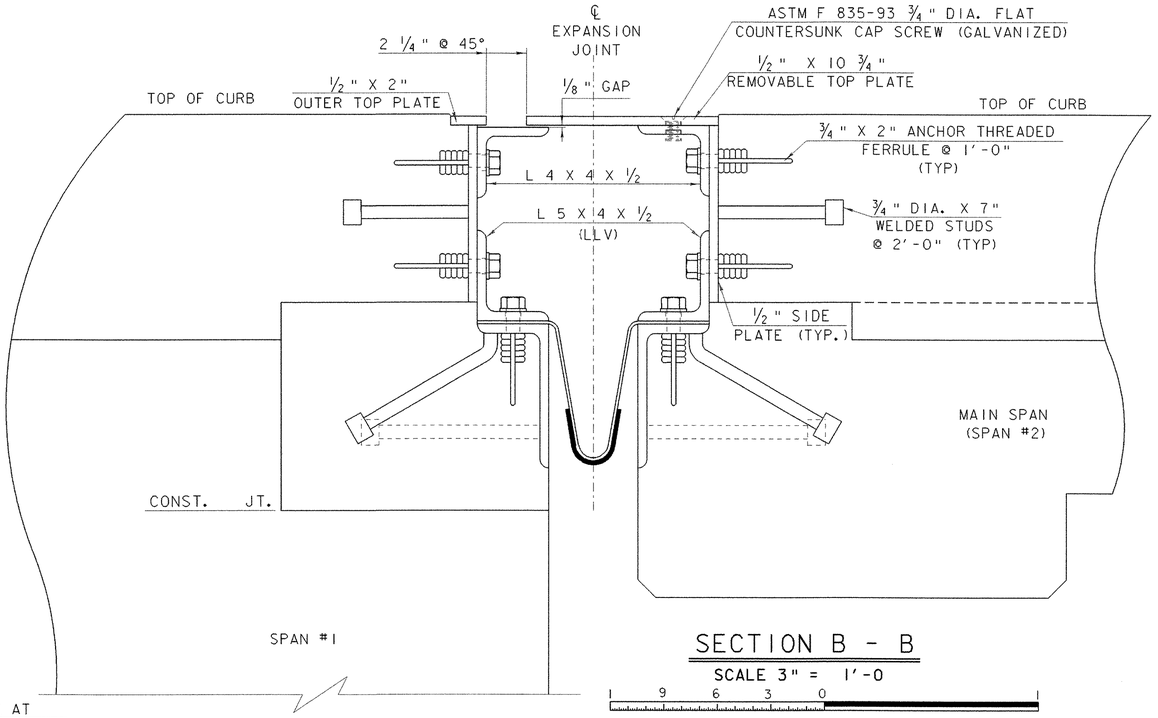
DESIGN FILE NAME: 89j045/structures/sj045exp.dgn
IPARM FILE NAME: sj-45exp2.i — PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS — DRAWN BY: K. M. HIGGINS
SQUAD LEADER: C. P. WILLIAMS — CHECKED BY: M. LONGSTREET
EXPANSION JOINT PLAN (PIER #1) — SHEET: 44 OF 97



SECTION A-A

SCALE 3" = 1'-0

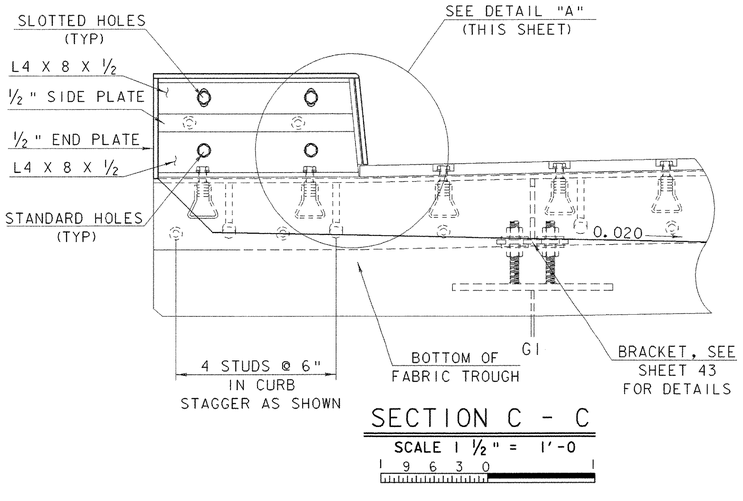




SECTION B - B

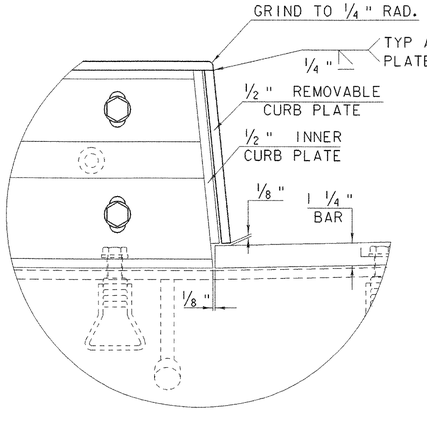
SCALE 3" = 1'-0

LLV-LONG LEG VERTICAL



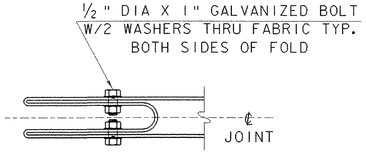
SECTION C - C

SCALE 1 1/2" = 1'-0

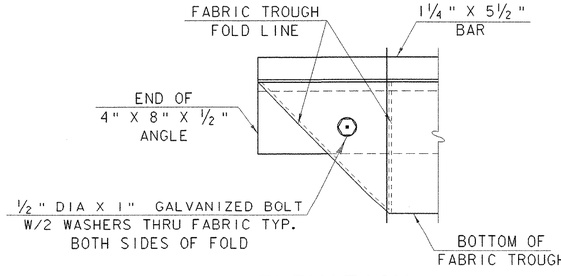


DETAIL "A"

SCALE 3" = 1'-0



PLAN



ELEVATION

FOLDED TROUGH END DETAILS

NOT TO SCALE

PLAN VIEW OF EXPANSION JOINT SHOWN ON PAGE 44

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: 89j045/structures/sj045exp.dgn	
IPARM FILE NAME: sj045exp3.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: K. M. HIGGINS
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: M. LONGSTREET
CURB PLATE DETAILS	SHEET: 45 OF 97

HOPPER DETAILS

SCALE: 1½" = 1'-0"

DETAILS FOR ATTACHING DOWNSPOUT TO SPAN 1 & PIER 1

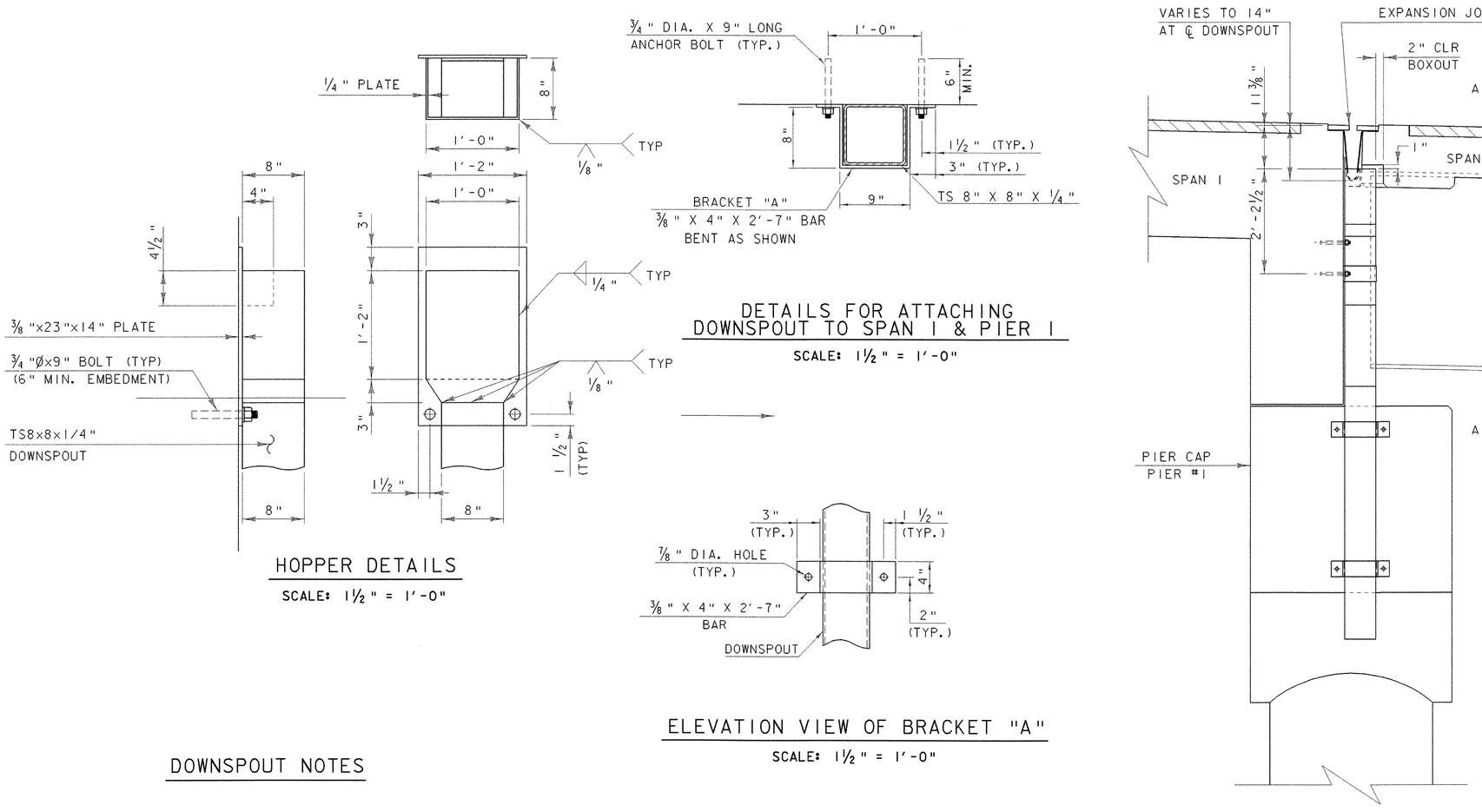
SCALE: 1½" = 1'-0"

ELEVATION VIEW OF BRACKET "A"

SCALE: 1½" = 1'-0"

DOWNSPOUT NOTES

1. HOLLOW STRUCTURAL STEEL TUBING SHALL CONFORM TO A-500 OR A-501.
2. ALL PLATES, BARS, AND ANGLES SHALL CONFORM TO AASHTO M270 GR. 36.
3. DOWNSPOUT SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123 AFTER FABRICATION.
4. ALL BOLTS AND RELATED HARDWARE SHALL BE ASTM A-307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-153 (AASHTO M232).
5. ANY PLACE 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 AN APPROVED SEALANT.
6. ALL STEEL PLATES AND TUBES FOR THE DOWNSPOUT SHALL BE PAID FOR UNDER THE ITEM 506. 55 "STRUCTURAL STEEL (PLATE GIRDER)". ALL ANCHOR BOLTS AND RELATED HARDWARE SHALL BE SUBSIDIARY TO ITEM 506.55 "STRUCTURAL STEEL (PLATE GIRDER)".



DOWNSPOUT ELEVATION

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

DOWNSPOUT SECTION A-A

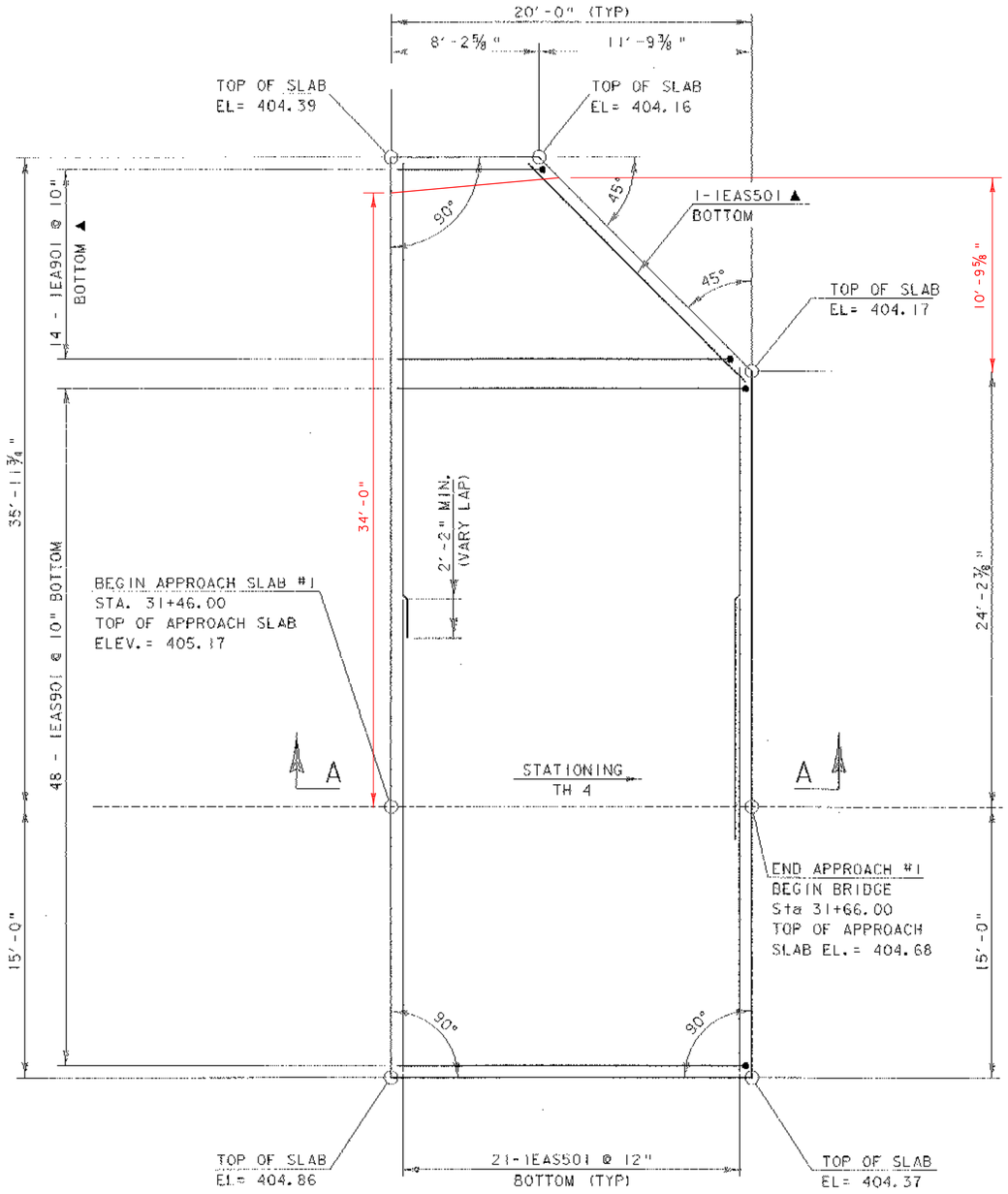
SCALE: 3/4" = 1'-0"

SCALE 1½" = 1'-0
0 1 2

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

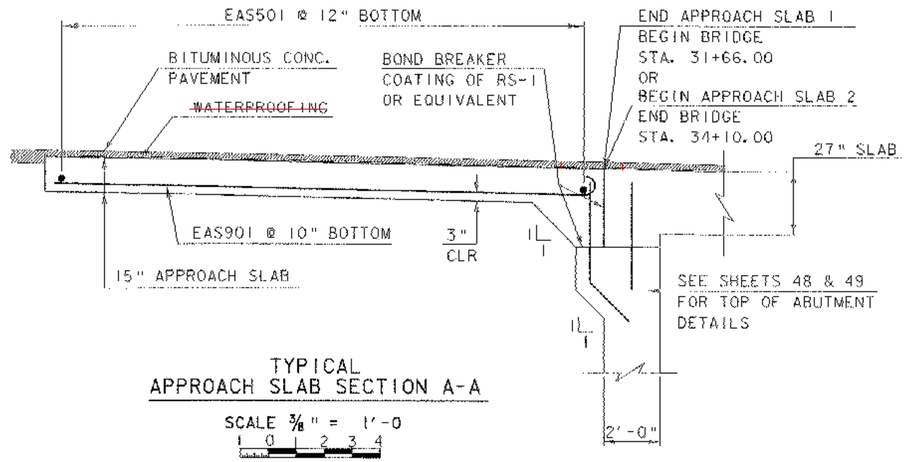
PROJECT:	PROJECT NO.:
HARTFORD	BRO-BTN 2004 (1)

DESIGN FILE NAME: 89j045/structures/sj045exp.dgn
IPARM FILE NAME: sj045downspout.i
PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS
DRAWN BY: M. LONGSTREET
SQUAD LEADER: C. P. WILLIAMS
CHECKED BY: K. M. HIGGINS
DOWNSPOUT DETAILS
SHEET: 46 OF 97



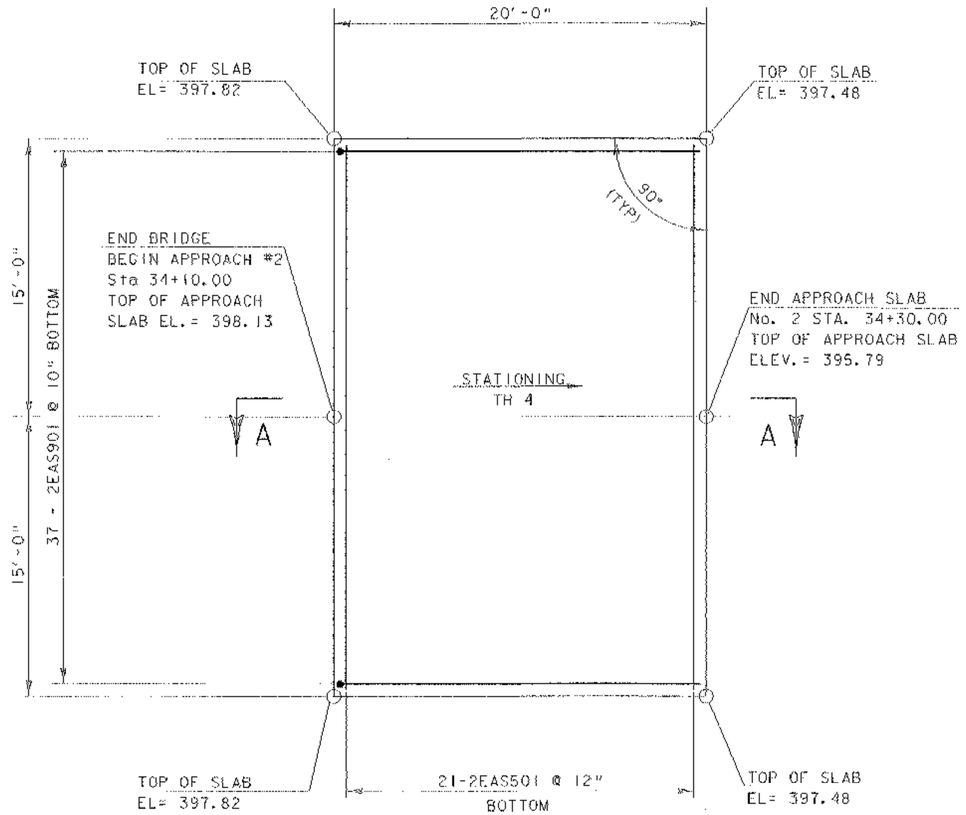
APPROACH SLAB No. 1 PLAN

SCALE ¼" = 1'-0



TYPICAL APPROACH SLAB SECTION A-A

SCALE ⅜" = 1'-0



APPROACH SLAB No. 2 PLAN

SCALE ¼" = 1'-0

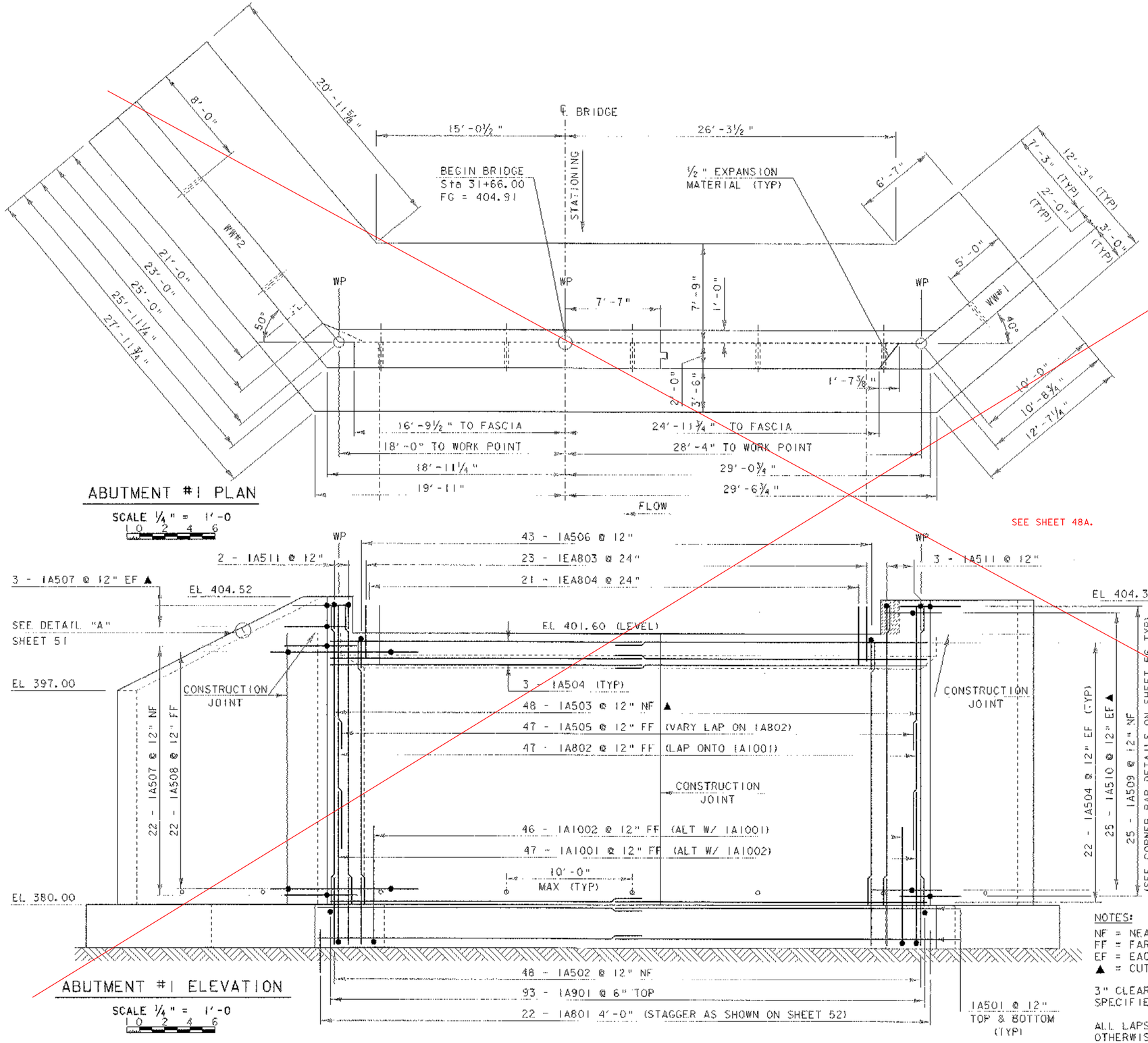
NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: 89j045/structures/sj045sub.dgn	
IPARM FILE NAME: sj045applx2.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: M LONGSTREET
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: K. M. HIGGINS
APPROACH SLAB 1 & 2 DETAILS	SHEET: 47 OF 97



NOTE:

THE TOP OF THE FOOTING ELEVATION FOR ABUTMENT #1 WAS SET BASED ON THE LEDGE ELEVATION DETERMINED FROM B-04. ADJUSTMENTS IN FOOTING ELEVATION AND GEOMETRY ARE EXPECTED AS ACTUAL LEDGE ELEVATION AND CONDITION IS DETERMINED THROUGH EXCAVATION. THE ELEVATION AND GEOMETRY SHOWN REPRESENT THE LOWEST LEDGE ELEVATION EXPECTED.

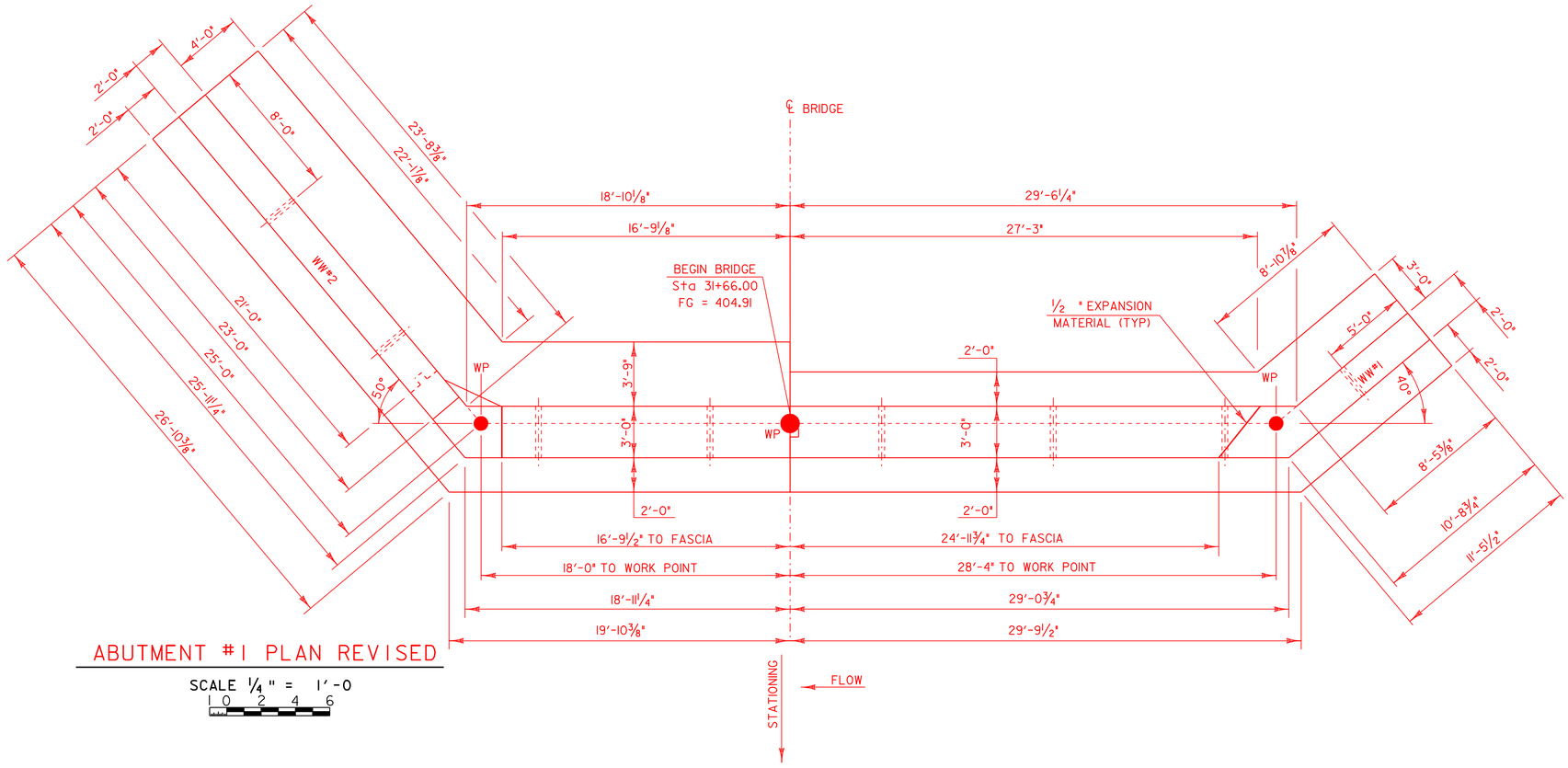
NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

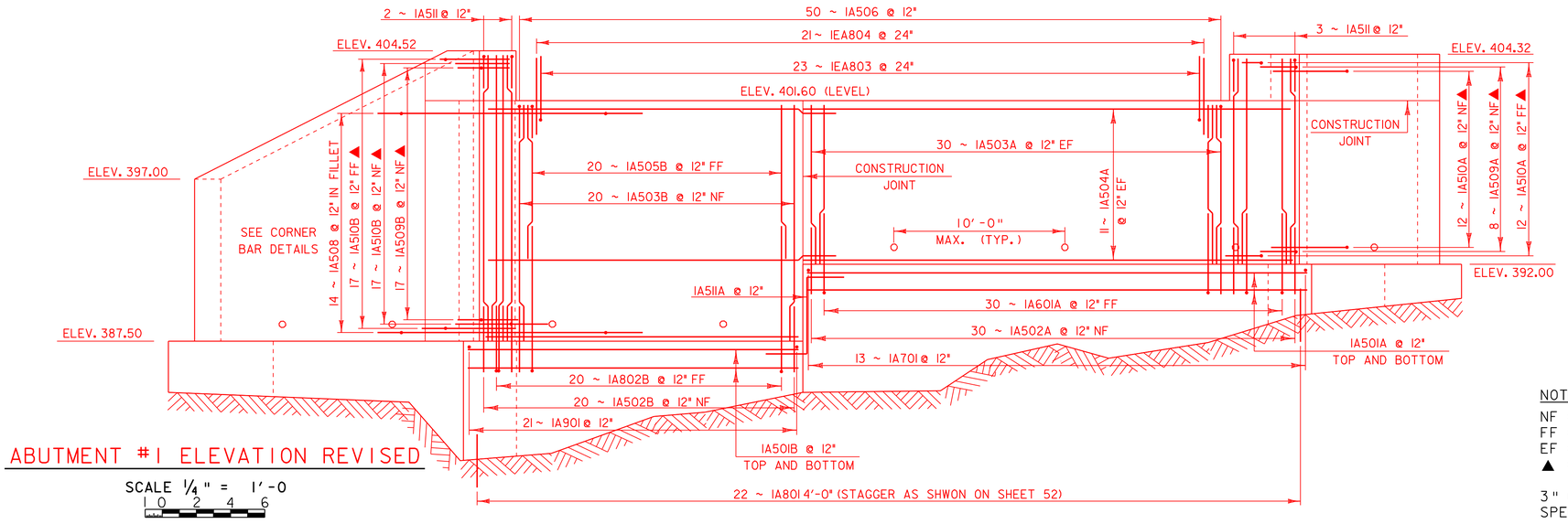
ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004 (1)
DESIGN FILE NAME: 89j045/structures/sj045sub.dgn	
IPARM FILE NAME: sj045abt1.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: M LONGSTREET
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: K. M. HIGGINS
ABUTMENT #1 DETAILS	SHEET: 48 OF 97



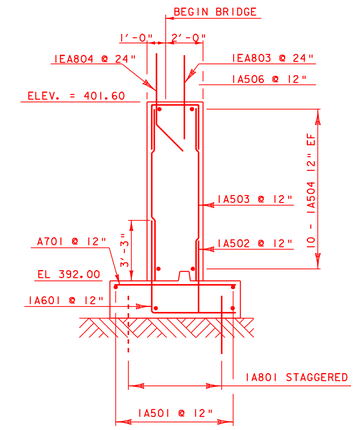
ABUTMENT #1 PLAN REVISED

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



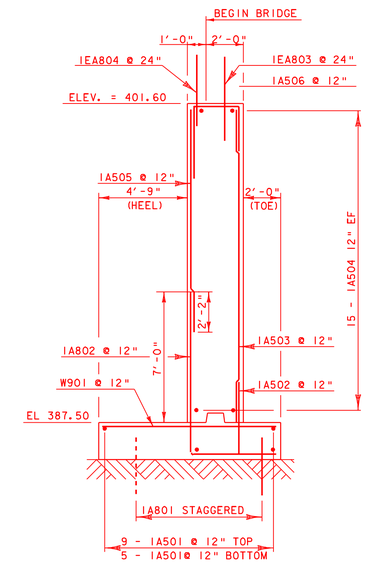
ABUTMENT #1 ELEVATION REVISED

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



ABUTMENT #1 TYPICAL SECTION

WITH NEW STEEL
LEFT SIDE



ABUTMENT #1 TYPICAL SECTION

WITH NEW STEEL
RIGHT SIDE

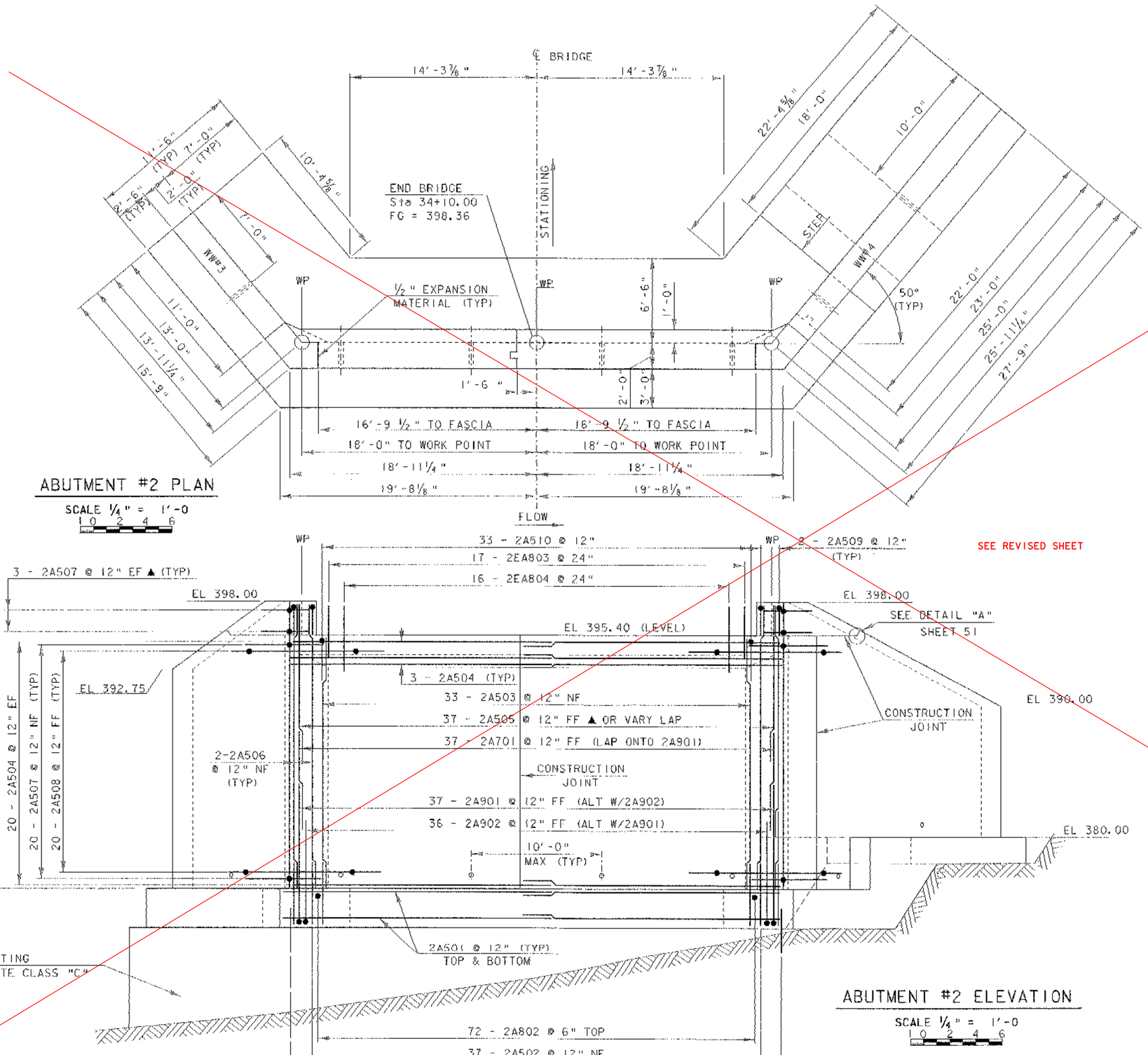
NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

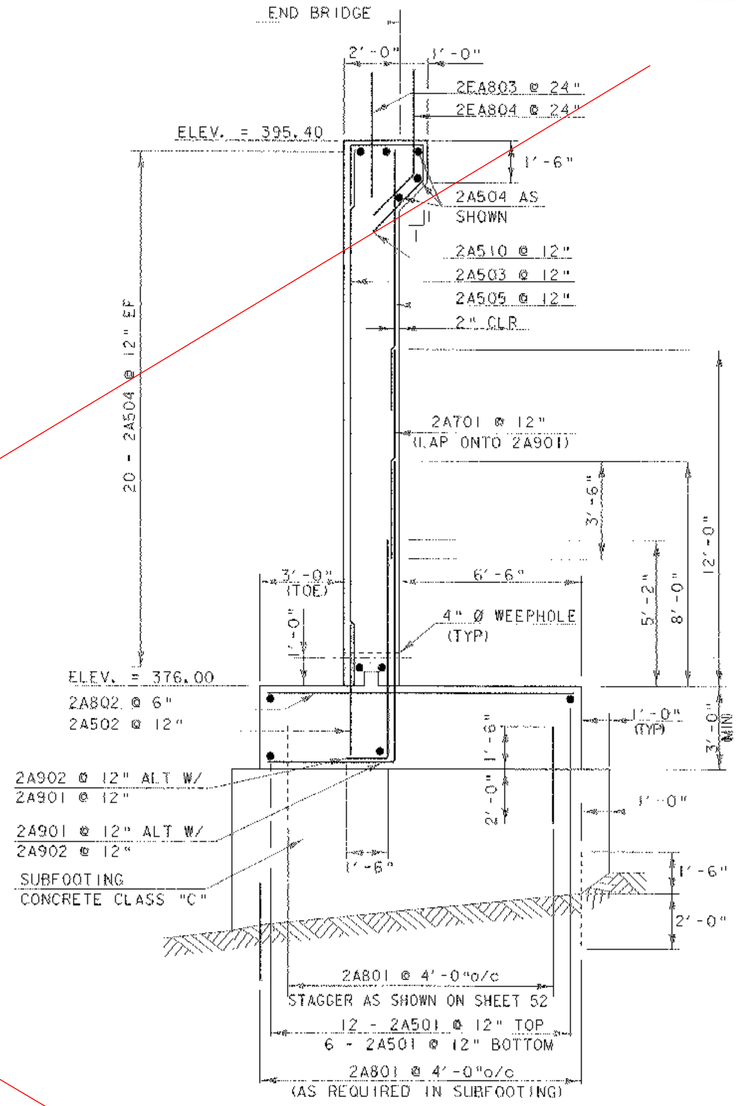
3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: 89j045/structures/sj045sub.dgn	
IPARM FILE NAME: sj045ab1.i	PLOT DATE: 09-MAY-2007 13:08
DESIGNED BY: K. M. HIGGINS	DRAWN BY: M LONGSTREET
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: K. M. HIGGINS
ABUTMENT #1 DETAILS	SHEET: 48A OF 97



SEE REVISED SHEET



ABUTMENT #2 TYPICAL SECTION

SCALE ⅜" = 1'-0

NOTES:

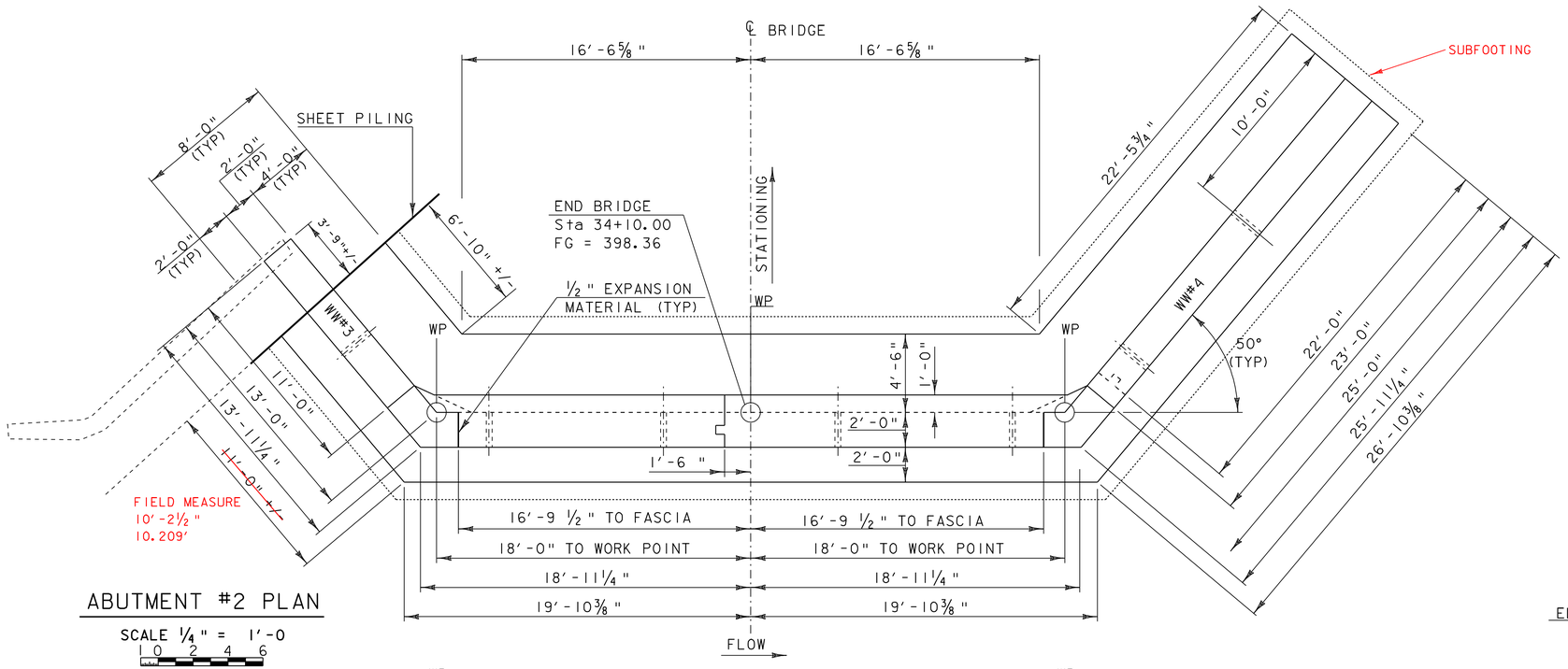
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

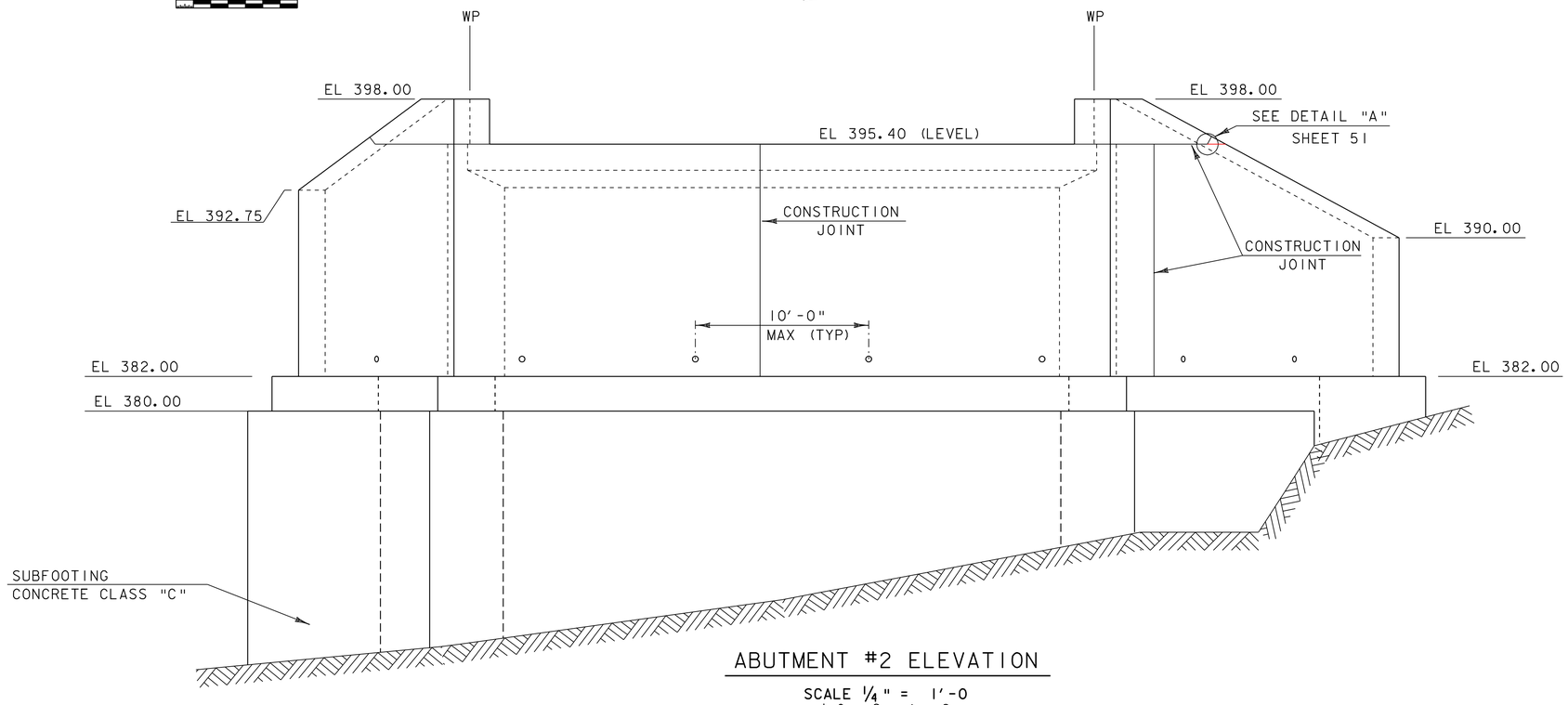
PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: 89j045/structures/sj045sub.dgn	
IPARM FILE NAME: sj045ab2.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: E. L. RUSTAY
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: K. M. HIGGINS
ABUTMENT #2 DETAILS	SHEET: 49 OF 97

PLOT 1:48



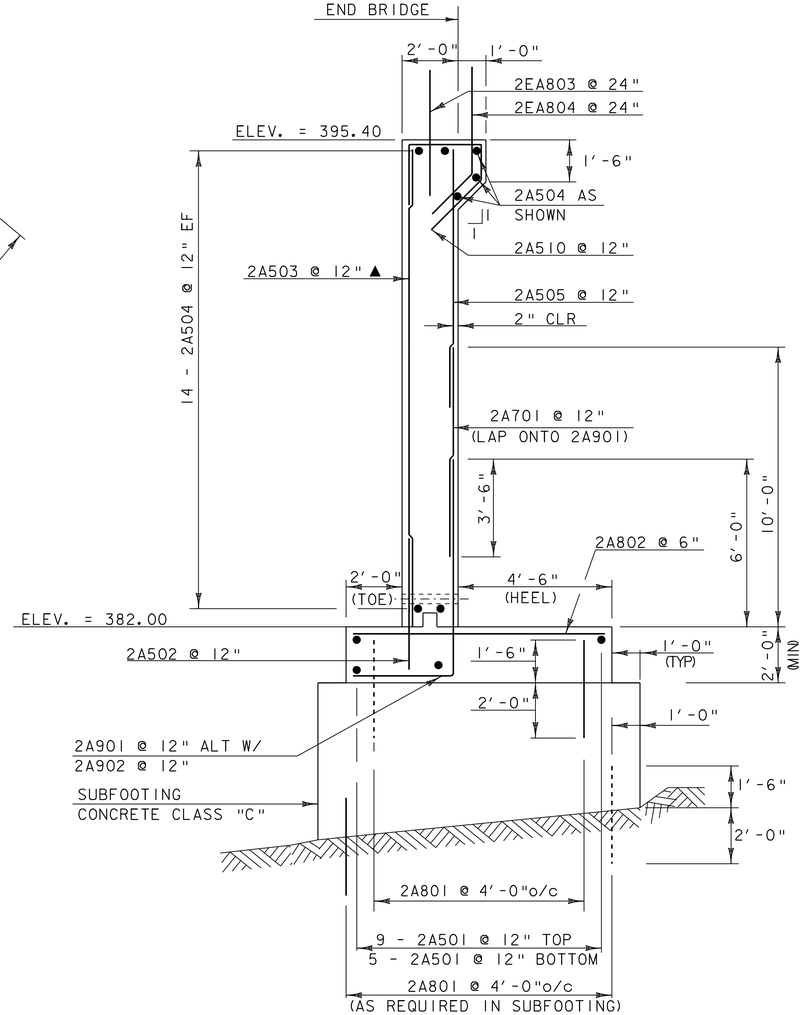
ABUTMENT #2 PLAN

SCALE ¼" = 1′-0



ABUTMENT #2 ELEVATION

SCALE ¼" = 1′-0



ABUTMENT #2 TYPICAL SECTION

SCALE ⅜" = 1′-0

NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

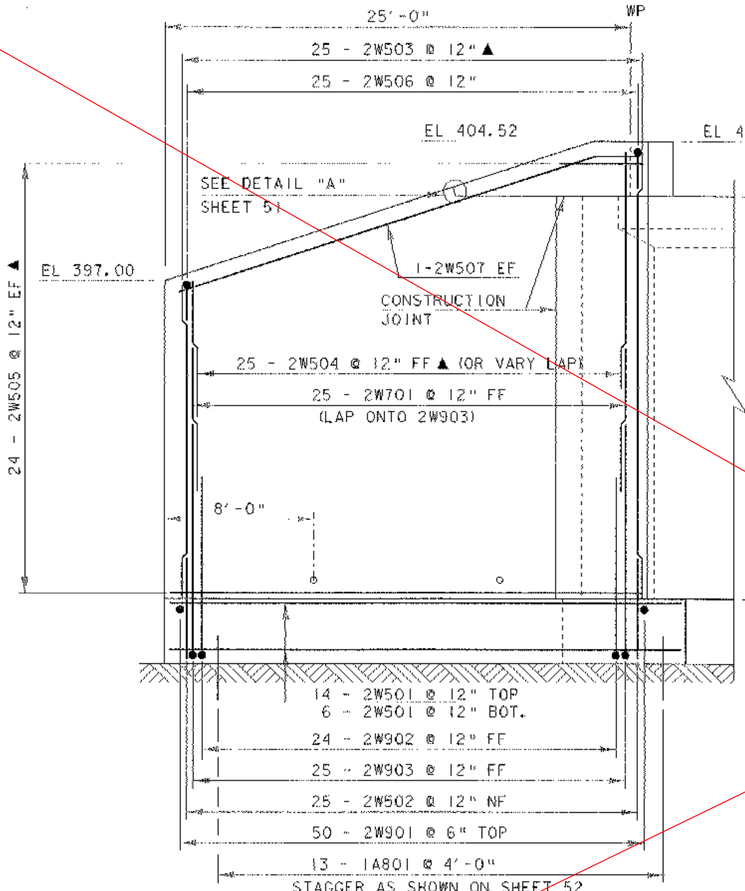
3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

ALL LAPS ARE 2′-2" UNLESS OTHERWISE SPECIFIED ON PLANS

Revised Per Onsite Meeting 6/23/2005

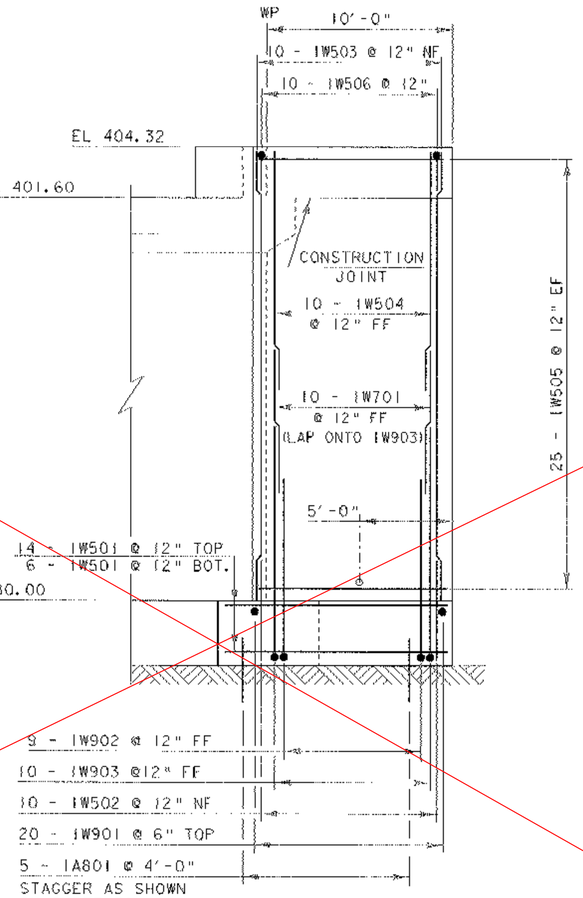
PROJECT:	PROJECT NO.:
HARTFORD	BRO-BTN 2004(1)

DESIGN FILE NAME: 89j045/structures/sj045sub.dgn
IPARM FILE NAME: sj045ab2.i
PLOT DATE: 09-MAY-2007 13:08
DESIGNED BY: K. M. HIGGINS
DRAWN BY: E. L. RUSTAY
SQUAD LEADER: C. P. WILLIAMS
CHECKED BY: K. M. HIGGINS
ABUTMENT #2 DETAILS
SHEET: 49A OF 97



WINGWALL #2 ELEVATION

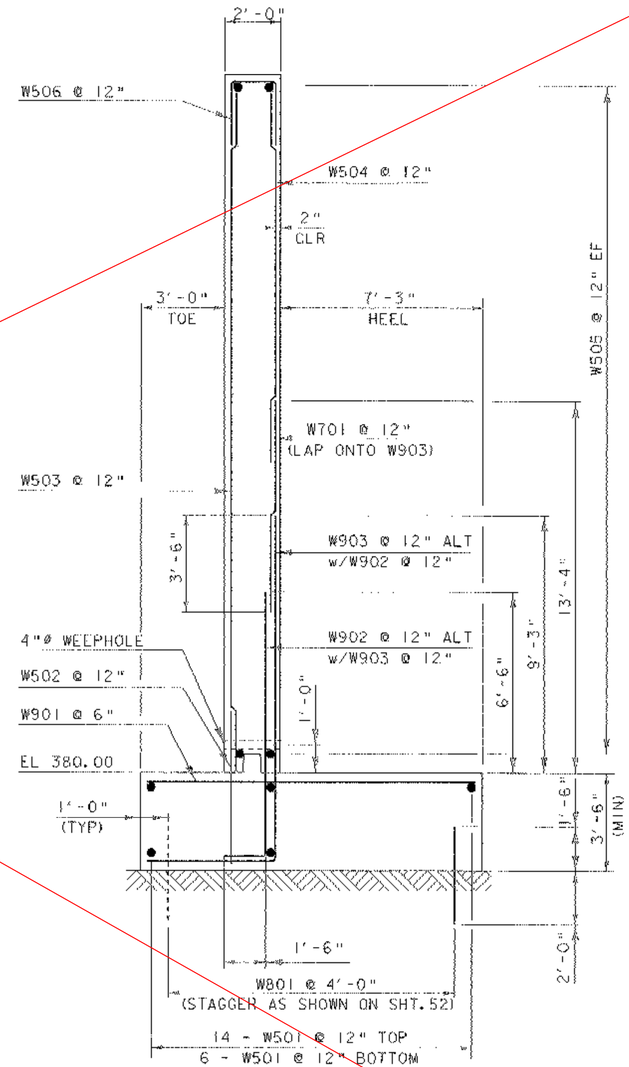
SCALE 1/4" = 1'-0



WINGWALL #1 ELEVATION

SCALE 1/4" = 1'-0

SEE REVISED SHEET 50A



WINGWALL #1 & #2 TYPICAL SECTION

SCALE 3/8" = 1'-0

NOTE:

THE TOP OF THE FOOTING ELEVATION FOR ABUTMENT #1 WAS SET BASED ON THE LEDGE ELEVATION DETERMINED FROM B-04. ADJUSTMENTS IN FOOTING ELEVATION AND GEOMETRY ARE EXPECTED AS ACTUAL LEDGE ELEVATION AND CONDITION IS DETERMINED THROUGH EXCAVATION. THE ELEVATION AND GEOMETRY SHOWN REPRESENT THE LOWEST LEDGE ELEVATION EXPECTED.

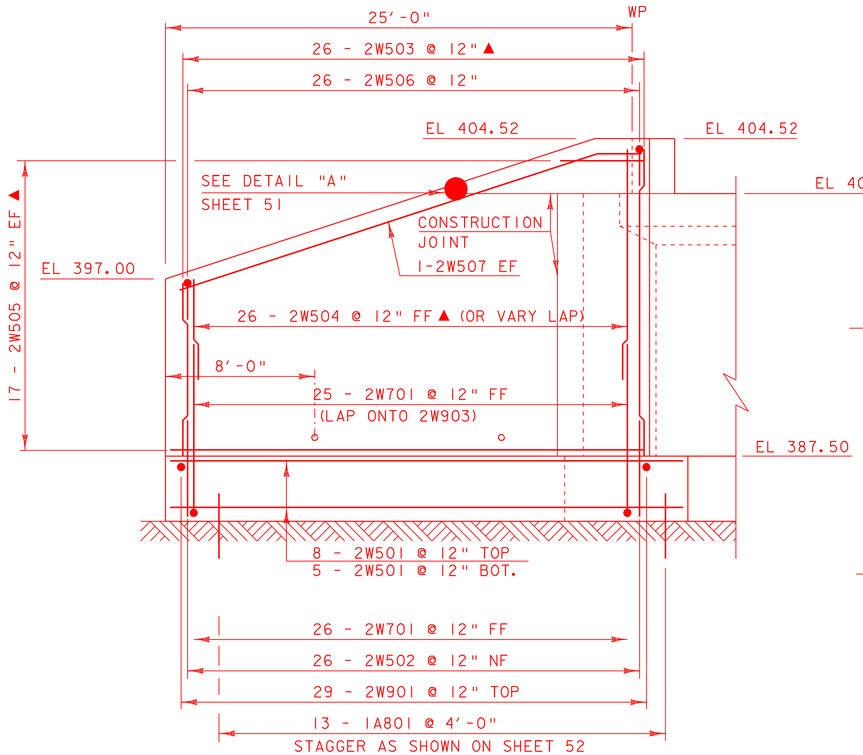
NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

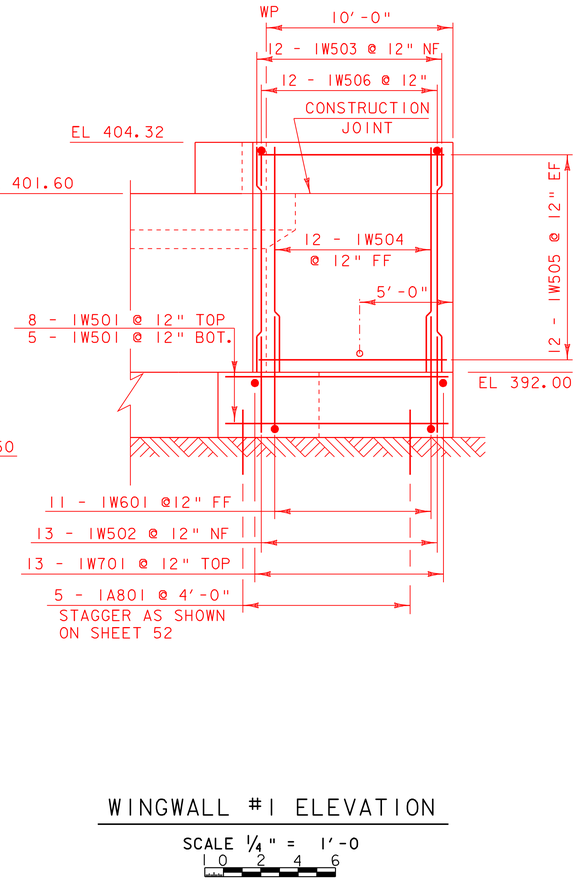
ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: 89j045/structures/sj045sub.dgn	
IPARM FILE NAME: sj045ww1x2.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: M LONGSTREET
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: K. M. HIGGINS
WINGWALL 1 & 2 DETAILS	SHEET: 50 OF 97



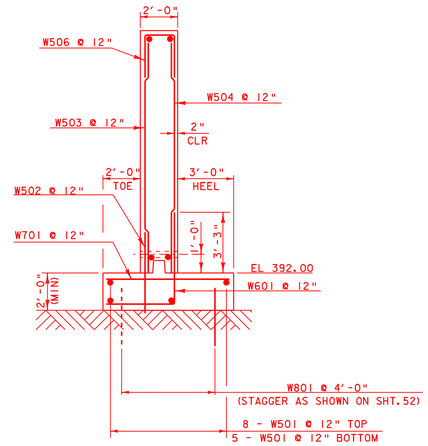
WINGWALL #2 ELEVATION

SCALE 1/4" = 1'-0



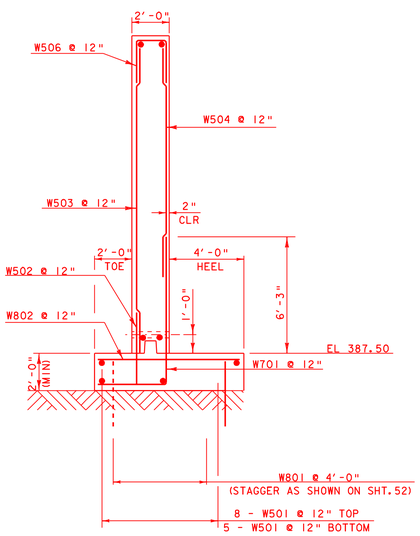
WINGWALL #1 ELEVATION

SCALE 1/4" = 1'-0



WINGWALL #1 TYPICAL SECTION

WITH NEW STEEL



WINGWALL #2 TYPICAL SECTION

WITH NEW STEEL

NOTE:

THE TOP OF THE FOOTING ELEVATION FOR ABUTMENT #1 WAS SET BASED ON THE LEDGE ELEVATION DETERMINED FROM B-04. ADJUSTMENTS IN FOOTING ELEVATION AND GEOMETRY ARE EXPECTED AS ACTUAL LEDGE ELEVATION AND CONDITION IS DETERMINED THROUGH EXCAVATION. THE ELEVATION AND GEOMETRY SHOWN REPRESENT THE LOWEST LEDGE ELEVATION EXPECTED.

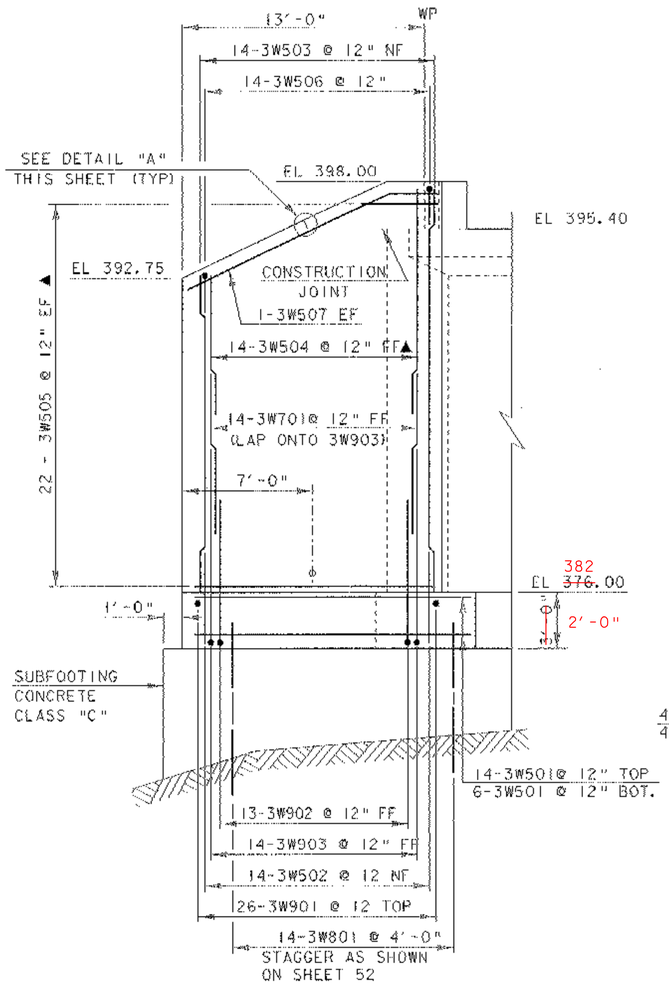
NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

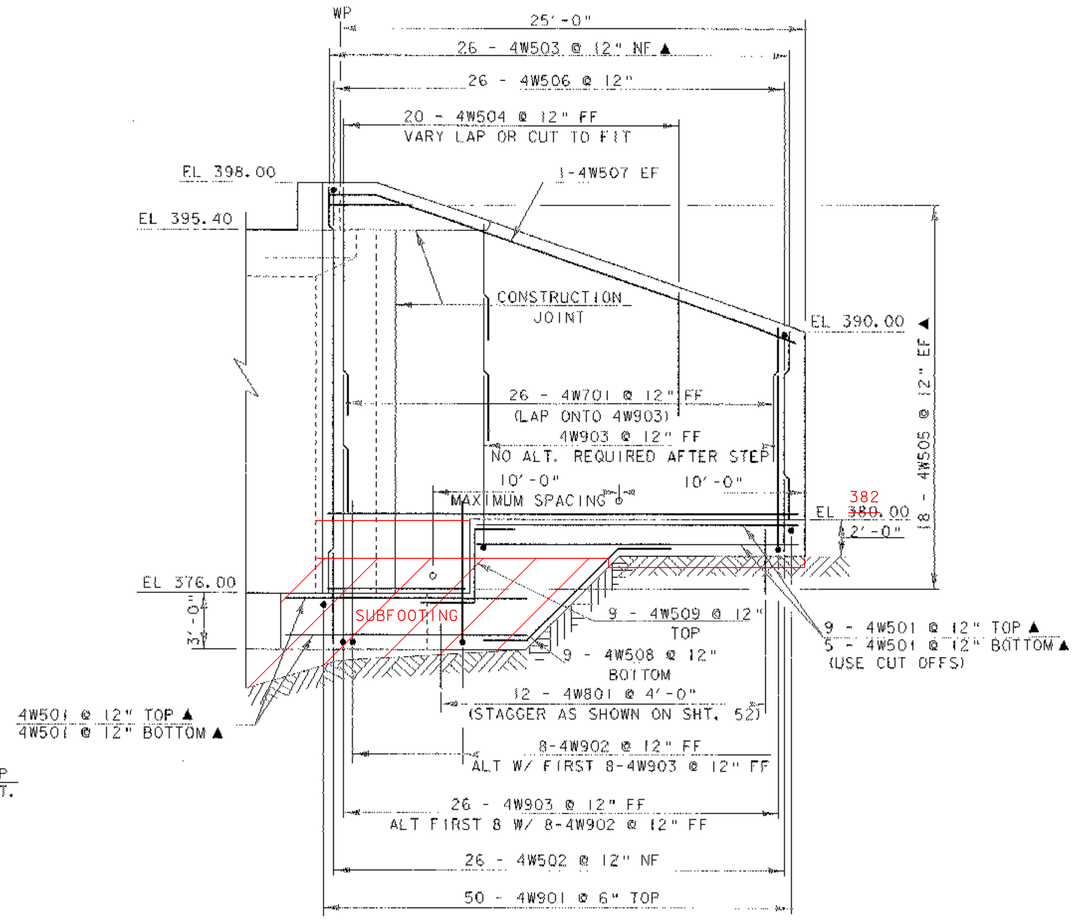
ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004 (1)
DESIGN FILE NAME: 89j045/structures/sj045sub.dgn	
IPARM FILE NAME: sj045wwlx2.i	PLOT DATE: 09-MAY-2007 13:08
DESIGNED BY: K. M. HIGGINS	DRAWN BY: M LONGSTREET
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: K. M. HIGGINS
WINGWALL 1 & 2 DETAILS	SHEET: 50A OF 97



WINGWALL #3 ELEVATION

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

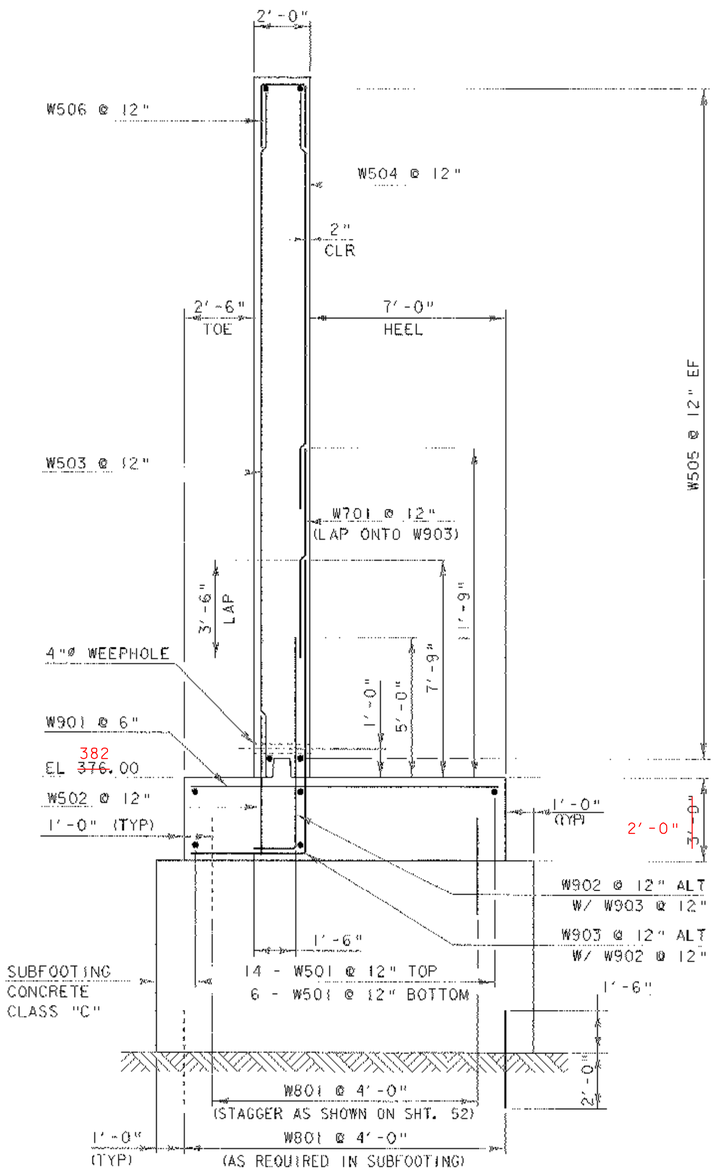


WINGWALL #4 ELEVATION

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

DETAIL "A"

NTS



WINGWALL #3 & #4 TYPICAL SECTION

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

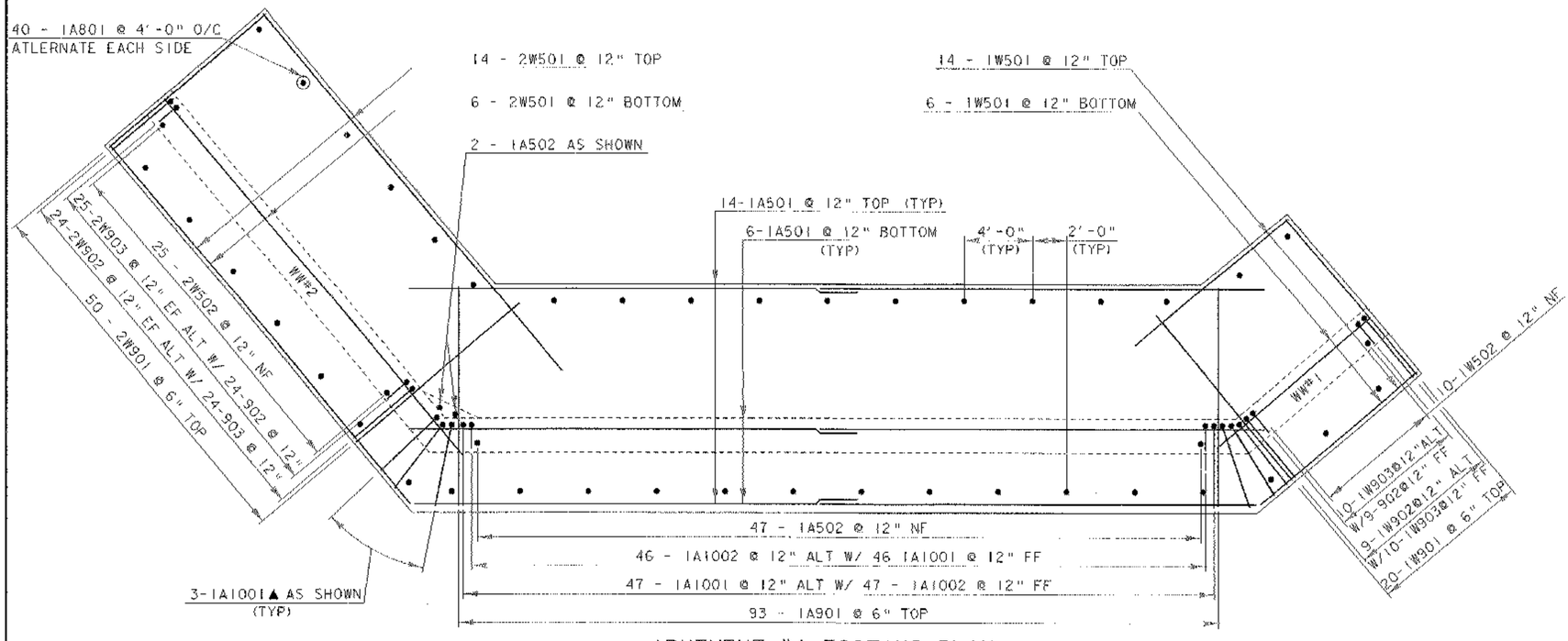
NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

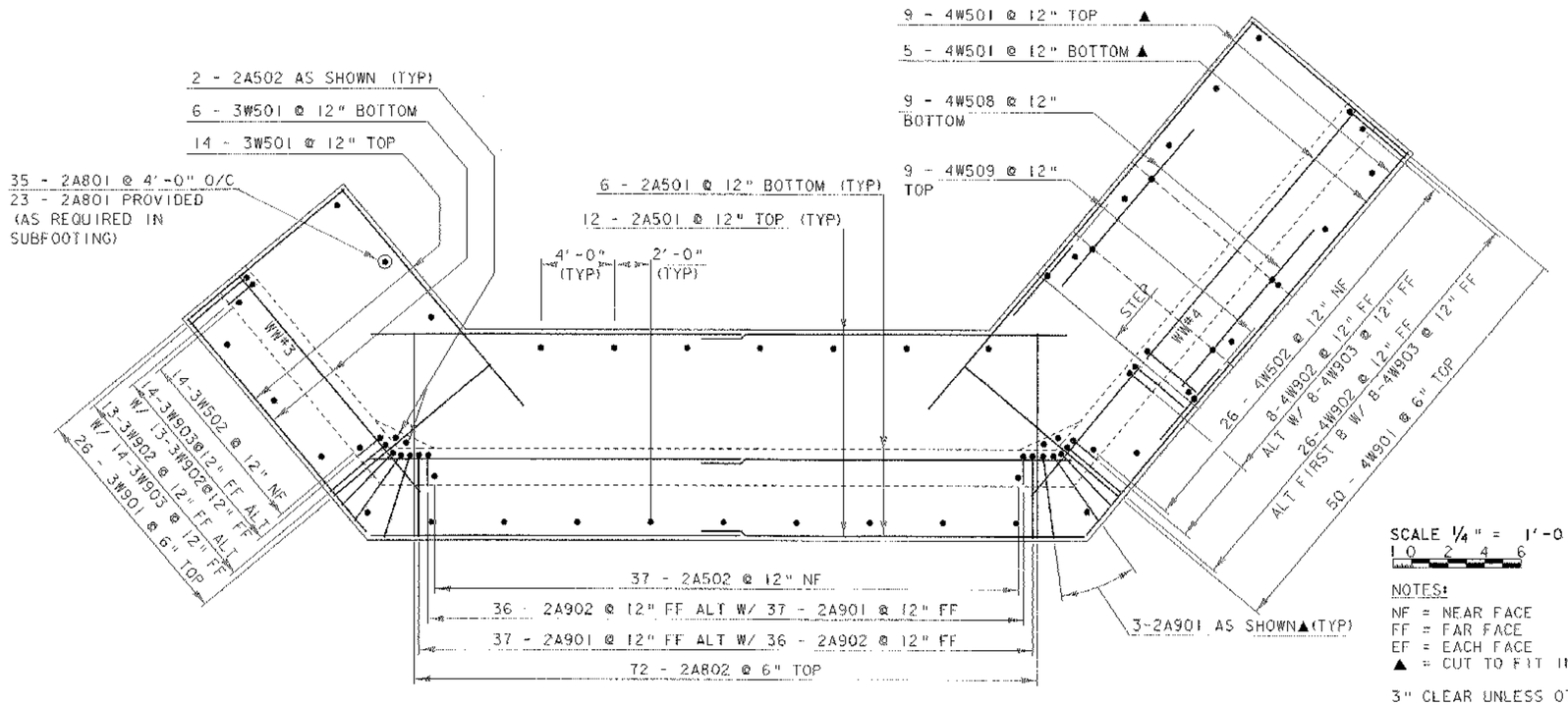
ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004 (1)
DESIGN FILE NAME: 89j045/structures/sj045sub.dgn	
IPARM FILE NAME: sj045ww3x4.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: M LONGSTREET
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: K. M. HIGGINS
WINGWALL 3 & 4 DETAILS	SHEET: 51 OF 97



ABUTMENT #1 FOOTING PLAN

SCALE 1/4" = 1'-0



ABUTMENT #2 FOOTING PLAN

SCALE 1/4" = 1'-0

SCALE 1/4" = 1'-0

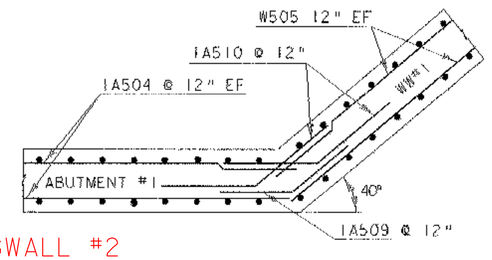
1 0 2 4 6

NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

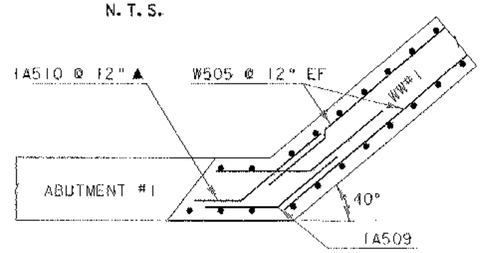
ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS



WINGWALL #2

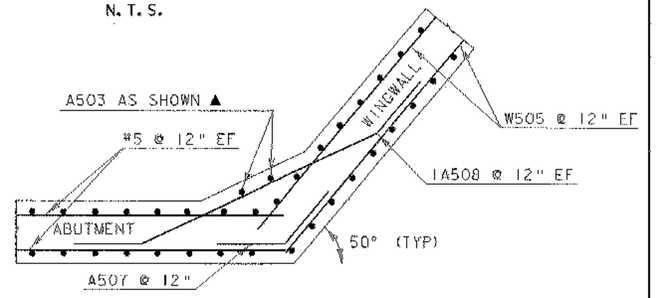
WINGWALL #1 CORNER DETAIL BELOW BRIDGE SEAT

N.T.S.



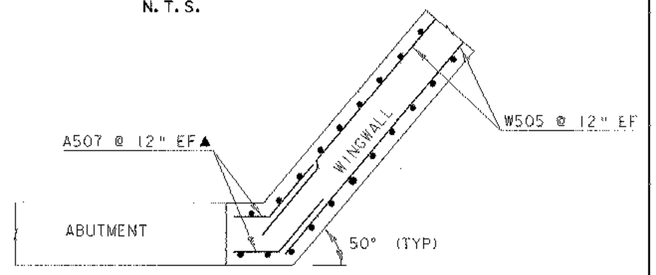
WINGWALL #1 CORNER DETAIL ABOVE BRIDGE SEAT

N.T.S.



TYPICAL WINGWALL CORNER DETAIL BELOW BRIDGE SEAT

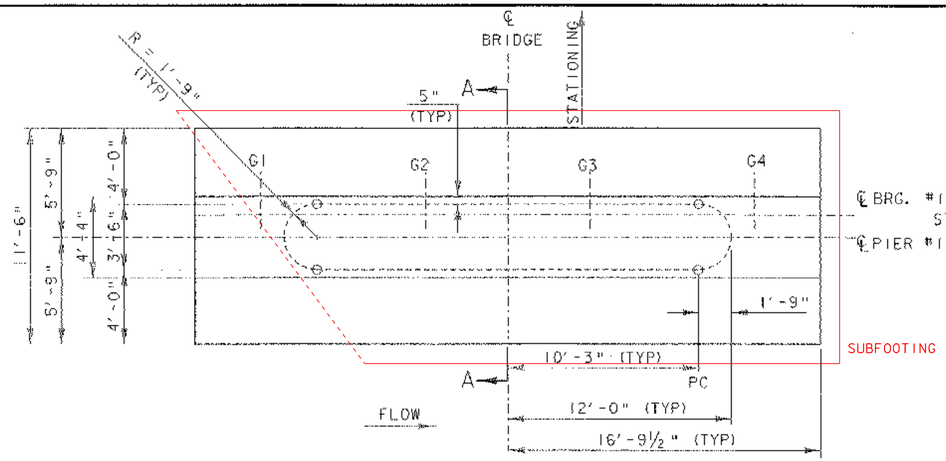
N.T.S.



TYPICAL WINGWALL CORNER DETAIL ABOVE BRIDGE SEAT

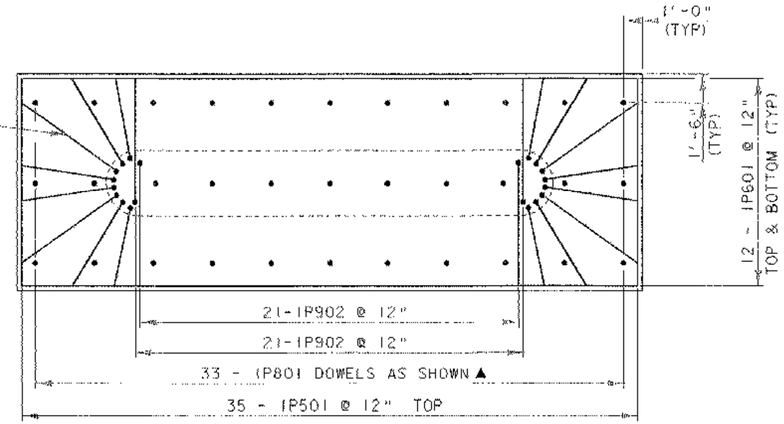
N.T.S.

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: 89J045/structures/sj045sub.dgn	
IPARM FILE NAME: sj045ftg.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: E. L. RUSTAY
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: K. M. HIGGINS
FOOTING REINFORCEMENT DETAILS	SHEET: 52 OF 97



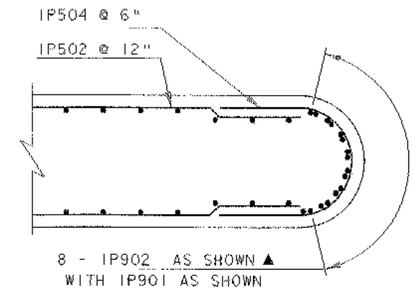
PIER #1 PLAN

SCALE: ¼" = 1'-0"



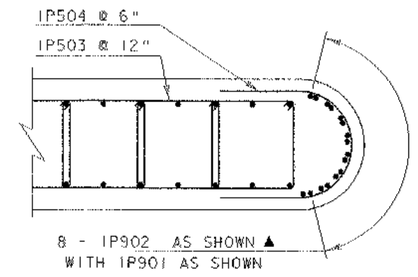
PIER #1 FOOTING REINFORCING PLAN

SCALE: ¼" = 1'-0"



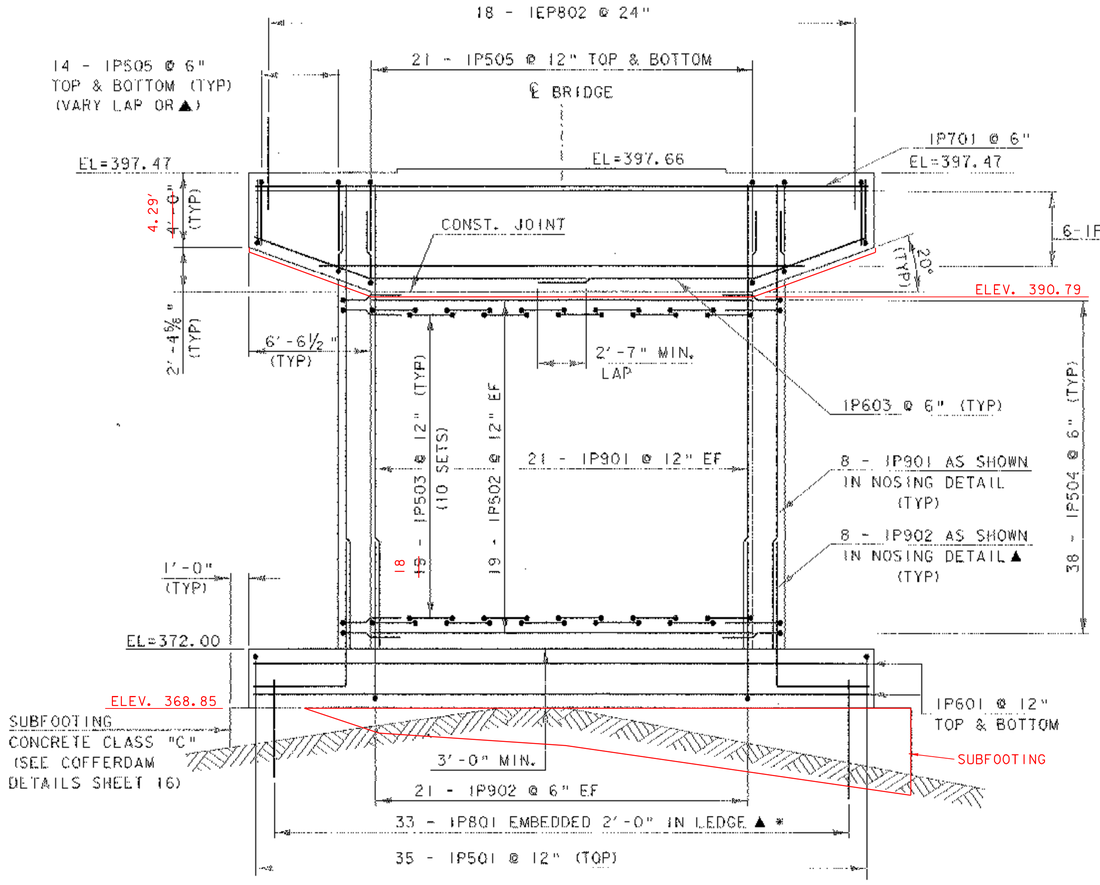
PIER #1 NOSING DETAIL STRAIGHT BAR

SCALE: ½" = 1'-0"



PIER #1 NOSING DETAIL STIRRUP BARS

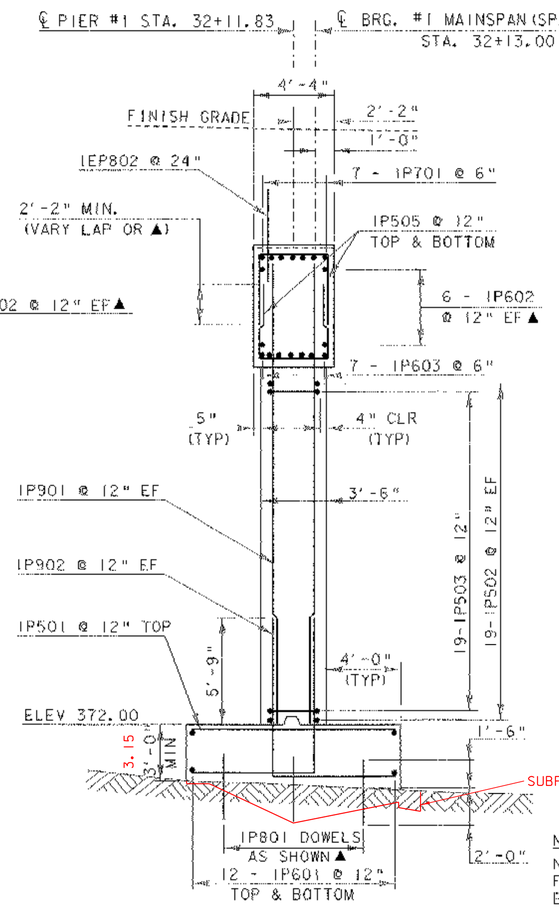
SCALE: ½" = 1'-0"
0 2 4 6
SCALE ¼" = 1'-0
0 1 2
SCALE ½" = 1'-0



PIER #1 ELEVATION

SCALE: ¼" = 1'-0"

* BAR LENGTH OVERSIZED TO ALLOW EXTENSION THROUGH SUBFOOTING



PIER #1 SECTION A-A

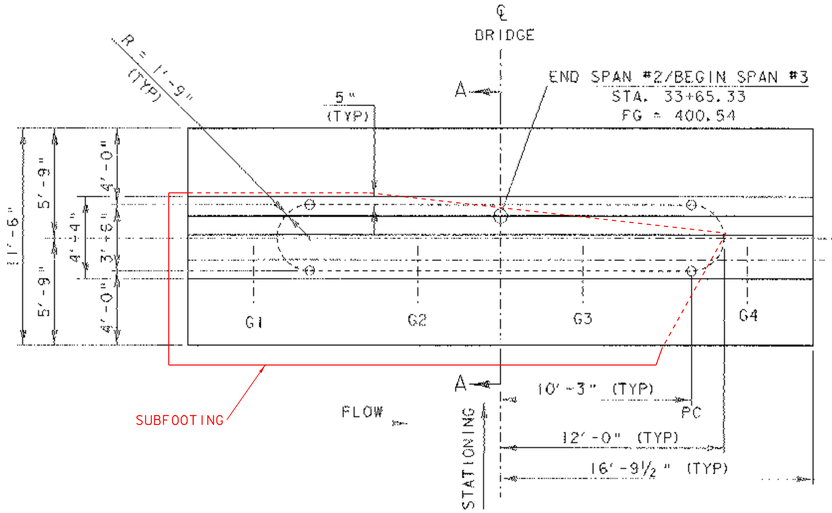
SCALE: ¼" = 1'-0"

NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

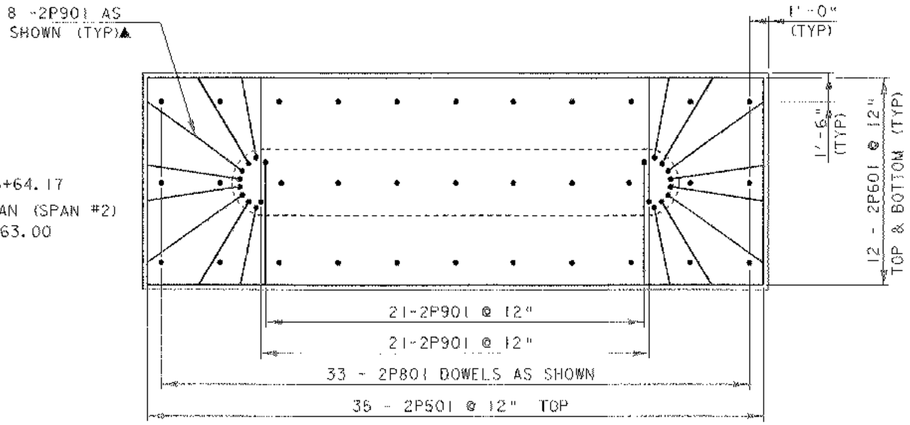
ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: 89j045/structures/sj045pier.dgn	
IPARM FILE NAME: sj045pier1.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: E. L. RUSTAY
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: K. M. HIGGINS
PIER #1 DETAILS	SHEET: 53 OF 97



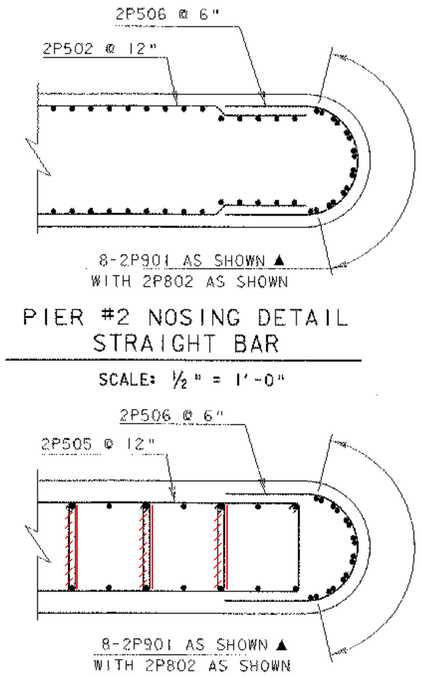
PIER #2 PLAN

SCALE: ¼" = 1'-0"



PIER #2 FOOTING REINFORCING PLAN

SCALE: ¼" = 1'-0"

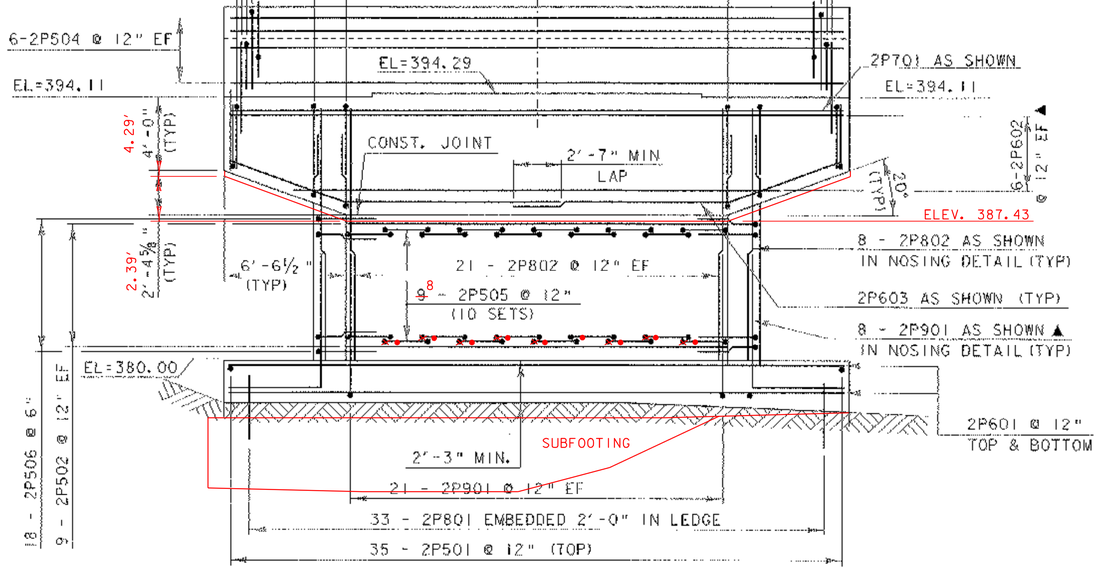


PIER #2 NOSING DETAIL STRAIGHT BAR

SCALE: ½" = 1'-0"

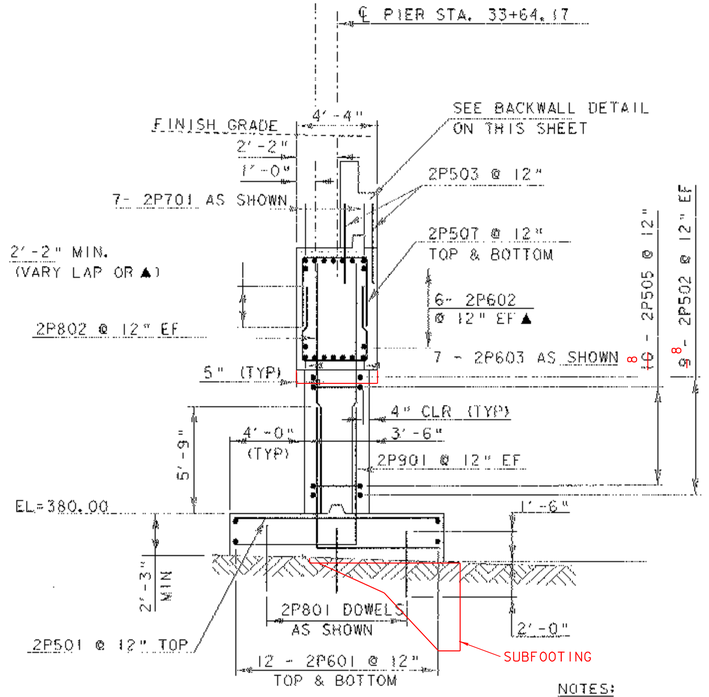
PIER #2 NOSING DETAIL STIRRUP BARS

SCALE: ½" = 1'-0"



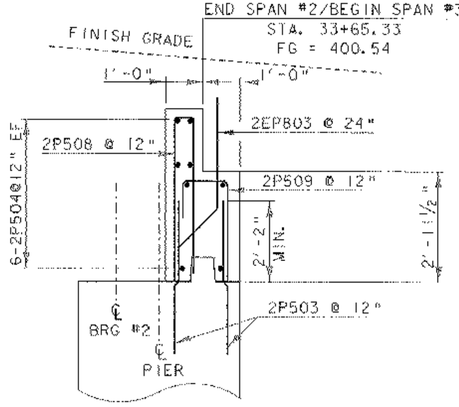
PIER #2 ELEVATION

SCALE: ¼" = 1'-0"



PIER #2 SECTION @ ℄

SCALE: ¼" = 1'-0"



BACKWALL DETAIL

SCALE: ½" = 1'-0"

NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

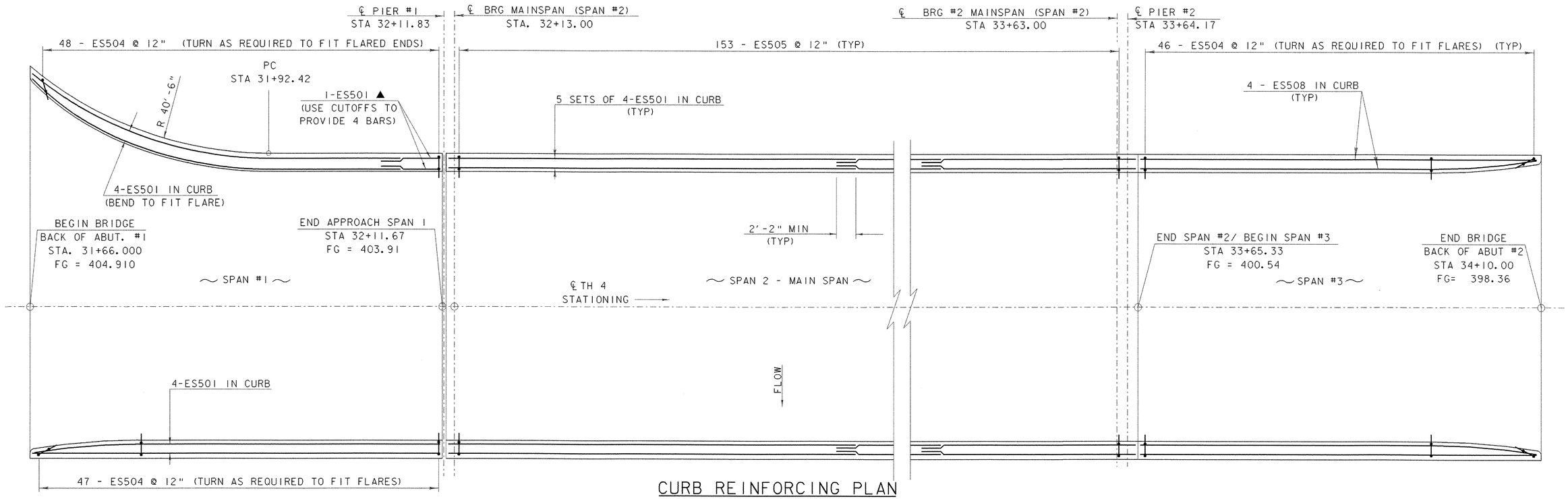
3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

SCALE ½" = 1'-0

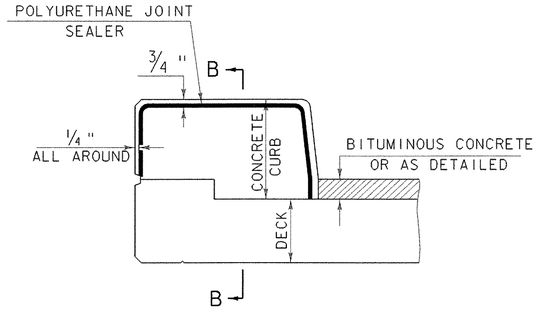
SCALE ¼" = 1'-0

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: 89J045/structures/sj045pier.dgn	
IPARM FILE NAME: sj045pier2.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: E. L. RUSTAY
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: K. M. HIGGINS
PIER #2 DETAILS	SHEET: 54 OF 97



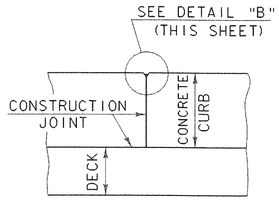
CURB REINFORCING PLAN

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

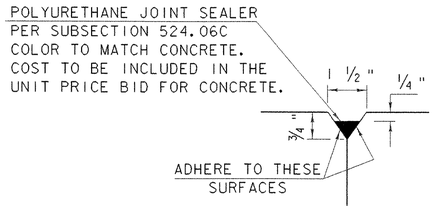


TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT

NTS

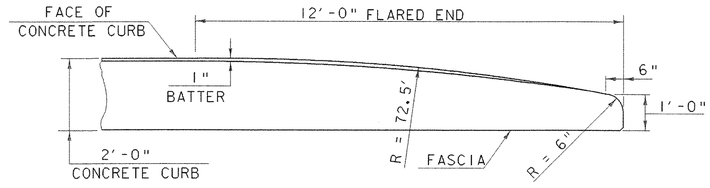


SECTION B - B



DETAIL "B"

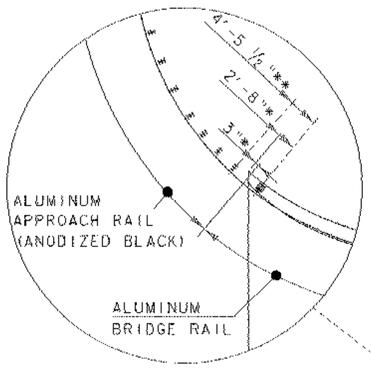
NOTES:
1. CONSTRUCTION JOINTS THROUGH CONCRETE CURBS SHALL BE SPACED MAXIMUM 15'-0" CENTER TO CENTER AND SHALL BE 1'-6" MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. CONCRETE SHALL BE PLACED IN ALTERNATING SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.
2. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CURB CONSTRUCTION JOINTS.
3. CONSTRUCTION JOINTS THROUGH SIDEWALKS SHALL BE SIMILAR TO CONCRETE CURB CONSTRUCTION JOINTS.



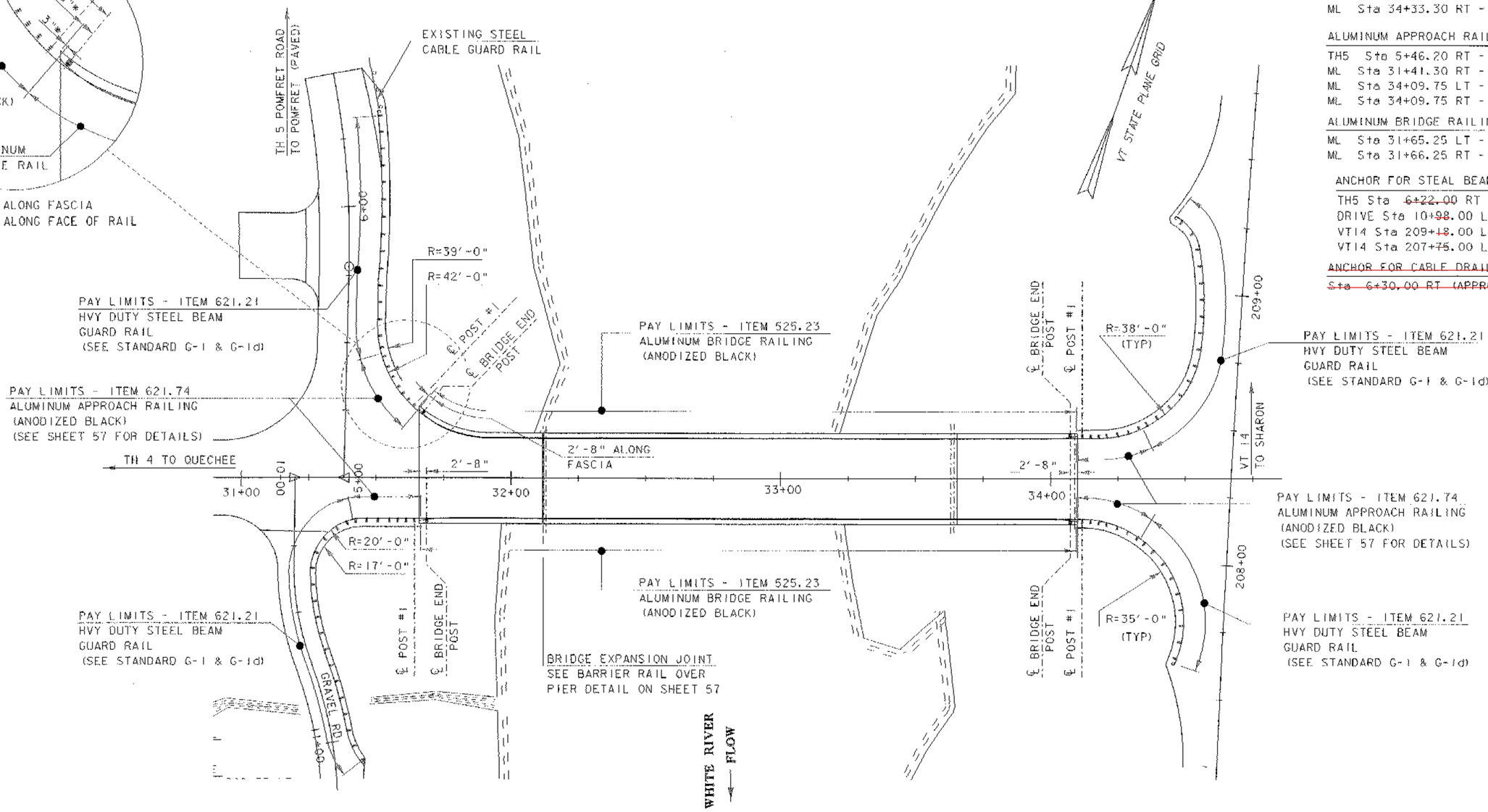
FLARED END DETAIL FOR 2'-0" CURB

NTS

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004 (1)
DESIGN FILE NAME: 89j045/structures/sj045asup.dgn	
IPARM FILE NAME: sj045curb.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: K. M. HIGGINS
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: M. LONSTREET
CURB DETAILS	SHEET: 55 OF 97



* MEASURED ALONG FASCIA
** MEASURED ALONG FACE OF RAIL



RAILING LAYOUT PLAN

SCALE 1" = 20'-0

20 0 20

HEAVY DUTY STEEL BEAM GUARDRAIL

TH5 Sta 5+46.20 RT - TH5 Sta 6+~~34~~.00 RT 30
ML Sta 31+41.30 RT - DRIVE Sta 11+~~09~~.00 LT 11
ML Sta 34+34.50 LT - VT14 Sta 209+~~27.50~~ LT 25
ML Sta 34+33.30 RT - VT14 Sta 207+~~62~~.00 LT 64

ALUMINUM APPROACH RAILING

TH5 Sta 5+46.20 RT - ML Sta 31+65.23 LT
ML Sta 31+41.30 RT - ML Sta 31+66.25 RT
ML Sta 34+09.75 LT - ML Sta 34+34.50 LT
ML Sta 34+09.75 RT - ML Sta 34+33.30 RT

ALUMINUM BRIDGE RAILING

ML Sta 31+65.25 LT - Sta 34+09.75 LT
ML Sta 31+66.25 RT - Sta 34+09.75 RT

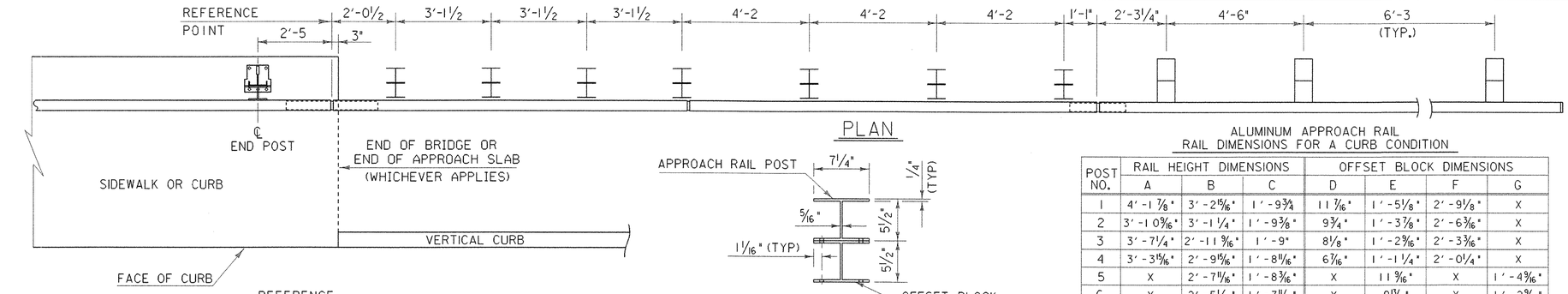
ANCHOR FOR STEAL BEAM GUARDRAIL

TH5 Sta ~~6+22.00~~ RT 5+60
DRIVE Sta 10+~~98~~.00 LT 31
VT14 Sta 209+~~18~~.00 LT 12
VT14 Sta 207+~~75~~.00 LT 72

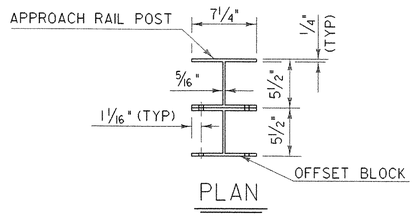
~~ANCHOR FOR CABLE RAIL~~

~~Sta 6+30.00 RT (APPROXIMATE)~~

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004 (I)
DESIGN FILE NAME: 89j045/structures/sj045rail.dgn	
IPARM FILE NAME: sj045railplan.i	PLOT DATE: 11-FEB-2005
DESIGN BY: K.M. HIGGINS	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: M.LONGSTREET
RAILING LAYOUT PLAN	SHEET: 56 OF 97



PLAN



PLAN

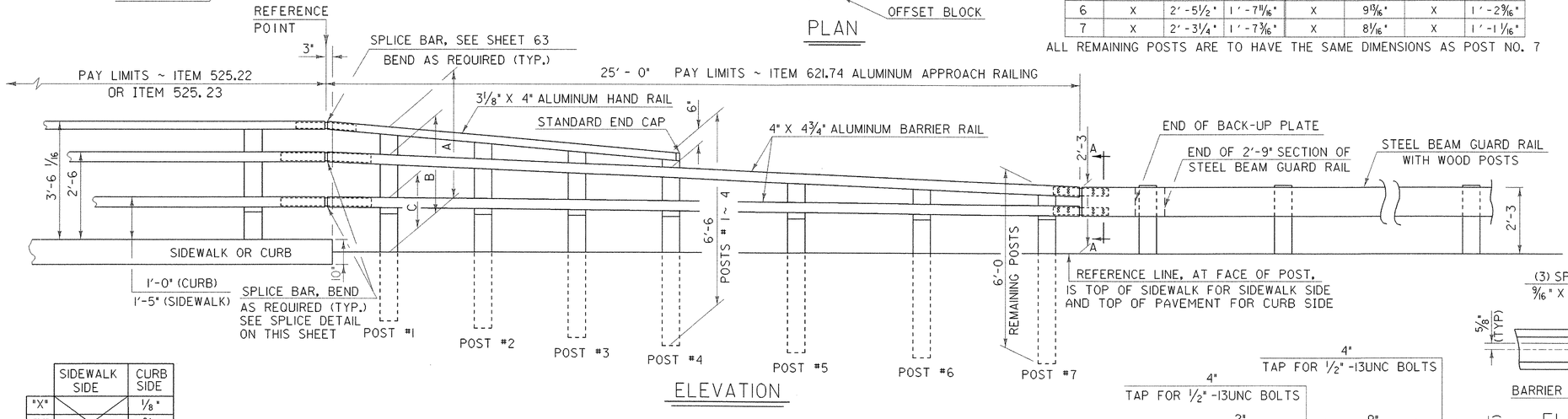
ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A CURB CONDITION

POST NO.	RAIL HEIGHT DIMENSIONS			OFFSET BLOCK DIMENSIONS			
	A	B	C	D	E	F	G
1	4'-1 1/8"	3'-2 5/16"	1'-9 3/4	11 7/16"	1'-5 1/8"	2'-9 1/8"	X
2	3'-10 9/16"	3'-1 1/4"	1'-9 3/8"	9 3/4"	1'-3 7/8"	2'-6 3/16"	X
3	3'-7 1/4"	2'-11 5/16"	1'-9"	8 1/8"	1'-2 5/16"	2'-3 5/16"	X
4	3'-3 5/16"	2'-9 1/16"	1'-8 11/16"	6 7/16"	1'-1 1/4"	2'-0 1/4"	X
5	X	2'-7 11/16"	1'-8 3/16"	X	11 3/16"	X	1'-4 3/16"
6	X	2'-5 1/2"	1'-7 11/16"	X	9 13/16"	X	1'-2 5/16"
7	X	2'-3 1/4"	1'-7 3/16"	X	8 1/16"	X	1'-1 1/16"

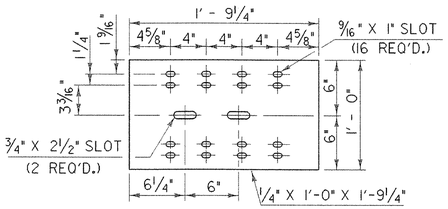
ALL REMAINING POSTS ARE TO HAVE THE SAME DIMENSIONS AS POST NO. 7

NOTES

1. POST 1 THROUGH 7 SHALL BE EXTRUDED ALUMINUM.
2. ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 36 GALVANIZED AFTER FABRICATION.
3. ALL ITEMS NOT OTHERWISE INDICATED SHALL MEET THE SPECIFICATION REQUIREMENTS OF THE STANDARD SHEETS ON WHICH THEY ARE DETAILED.
4. SEE STANDARD G-1 FOR STEEL BEAM GUARD RAIL DETAILS. SEE SHEETS 62 AND 63 FOR ALUMINUM BRIDGE RAILING DETAILS.
5. THE COST OF ALL MATERIALS AND LABOR FOR THE SPLICE BETWEEN THE ALUMINUM APPROACH RAILING AND THE STEEL BEAM GUARD RAIL SHALL BE SUBSIDIARY TO ITEM 621.74, ALUMINUM APPROACH RAILING (ANODIZED BLACK).
6. DETAILS ARE SHOWN FOR TRANSITION TO A 3 RAIL ALUMINUM BRIDGE RAILING.
7. DIMENSIONS SHOWN ARE FROM A REFERENCE LINE AT THE FACE OF POST FOR A NORMAL CROWNED SECTION. APPROPRIATE CORRECTIONS SHALL BE MADE FOR CROSS SLOPES OTHER THAN A NORMAL SECTION.

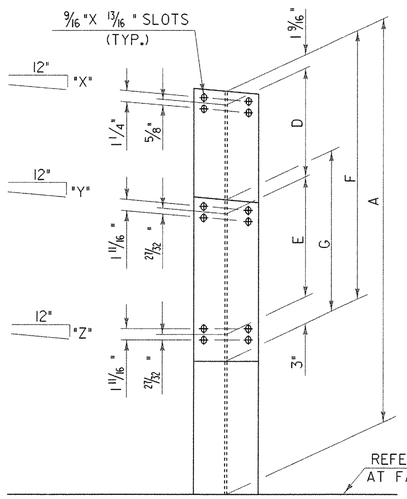


ELEVATION



BACK-UP PLATE DETAILS

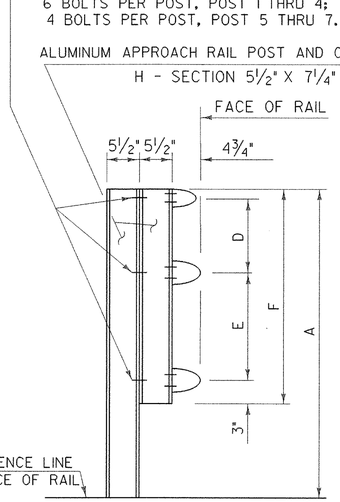
SIDEWALK SIDE	CURB SIDE
"X"	1/8"
"Y"	9/16"
"Z"	1 1/16"



FRONT ELEVATION

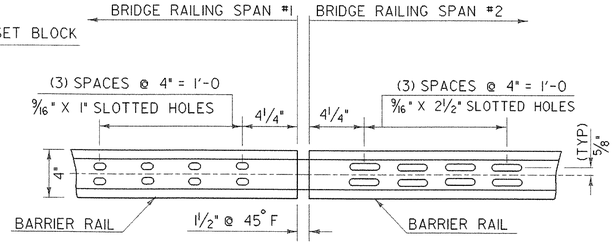
ATTACH OFFSET BLOCK TO POST WITH 1/2" -13 UNC X 1 1/2" LONG STAINLESS STEEL HEX HEAD BOLTS, NUTS AND WASHERS. 6 BOLTS PER POST, POST 1 THRU 4; 4 BOLTS PER POST, POST 5 THRU 7.

ALUMINUM APPROACH RAIL POST AND OFFSET BLOCK
H - SECTION 5 1/2" X 7 1/4"

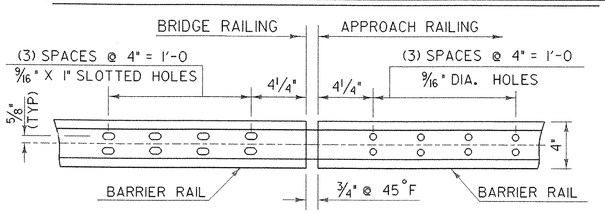


SIDE ELEVATION

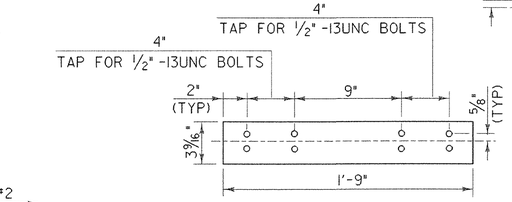
APPROACH RAIL DETAILS



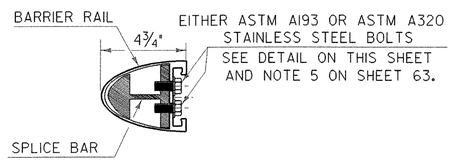
ELEVATION OF BARRIER RAIL (FROM BACK) @ PIER #1 (BRIDGE EXPANSION JOINT)



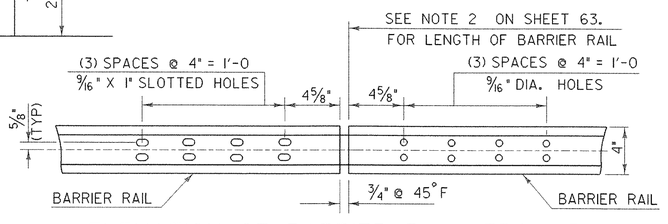
ELEVATION OF BARRIER RAIL (FROM BACK)



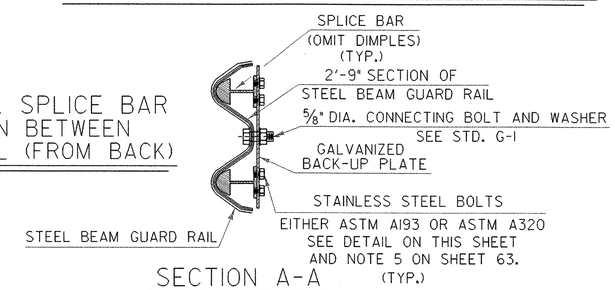
ELEVATION OF BARRIER RAIL SPLICE BAR TO BE USED AT TRANSITION BETWEEN APPROACH RAIL & GUARD RAIL (FROM BACK)



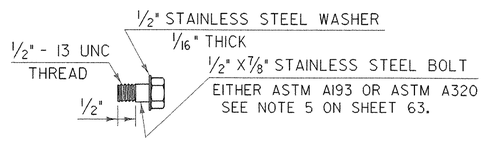
TYPICAL SECTION THROUGH BARRIER RAIL SPLICE



ELEVATION OF BARRIER RAIL (FROM BACK) AT INTERMEDIATE RAIL SPLICES



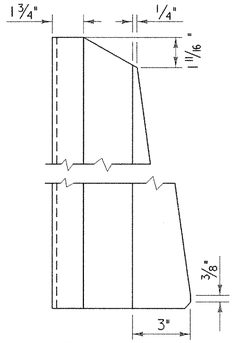
SECTION A-A



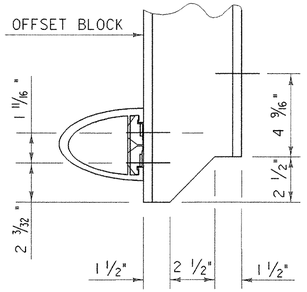
STAINLESS STEEL BOLT DETAILS

PROJECT:	PROJECT NO.:
HARTFORD	BRO-BTN 2004 (1)

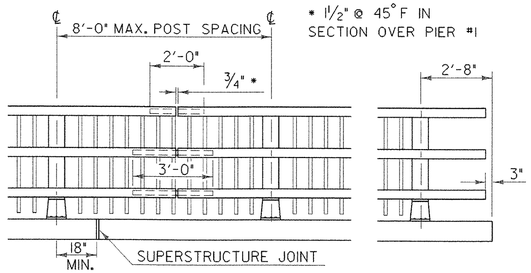
DESIGN FILE NAME: 9j045/structures/sj045rail.dgn
IPARM FILE NAME: sj045rail1.i
DESIGNED BY: K. M. HIGGINS
SQUAD LEADER: C. P. WILLIAMS
ALUMINUM RAILING DETAILS 1
PLOT DATE: 11-FEB-2005
DRAWN BY: M. LONGSTREET
CHECKED BY: K. M. HIGGINS
SHEET: 57 OF 97



POST SIDE VIEW



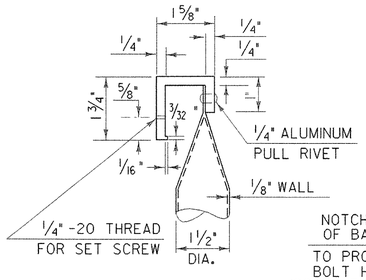
COPING DETAIL



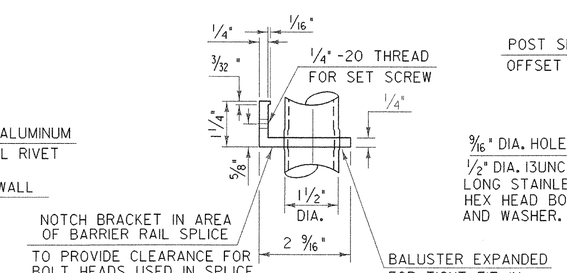
* 1 1/2" @ 45° F IN SECTION OVER PIER #1

FRONT ELEVATION OF THREE RAIL WITH SPINDLES

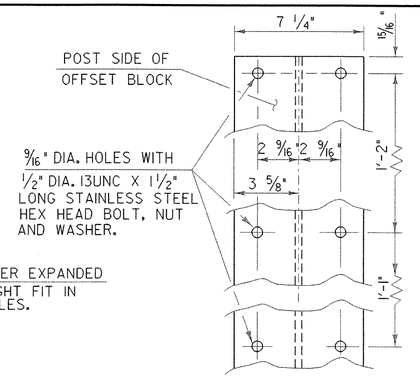
NOTE : RAIL POSTS ARE TO BE SET NORMAL TO GRADE UNLESS OTHERWISE DESIGNATED ON BRIDGE PLANS. ALL DIMENSIONS ARE TYPICAL UNLESS OTHERWISE DESIGNATED ON BRIDGE PLANS.



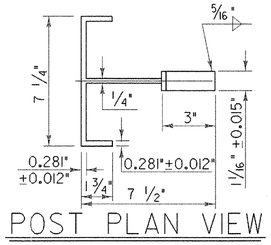
DETAIL A



DETAIL B



OFFSET BLOCK CONNECTION



POST PLAN VIEW

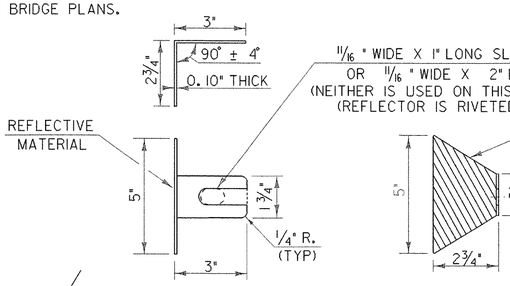
THIS REFLECTORIZED ALUMINUM DELINEATOR IS TO BE ERECTED EVERY 30 FEET (OR CLOSEST POST) WITH 2 NO. 8 X 3/4" SELF-TAPPING SCREWS.

DELINEATORS SHALL MEET SPECIFICATION REQUIREMENTS FOR ASTM B209 ALLOY 5052-H32.

REFLECTIVE MATERIAL SHALL MEET THE REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE OF ASTM TYPE III SHEETING SILVER OR AMBER. AMBER IS TO BE INSTALLED ON THE DRIVER'S LEFT AND SILVER ON THEIR RIGHT.

ON BRIDGES WITH A SIDEWALK, 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 RAIL ON THE CURB SIDE)

PAYMENT SHALL BE SUBSIDIARY TO ALL OTHER ITEMS.

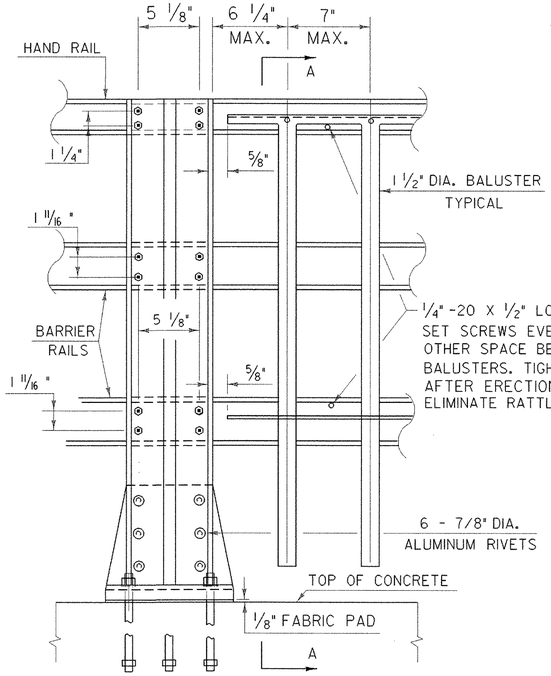


REFLECTOR DETAILS

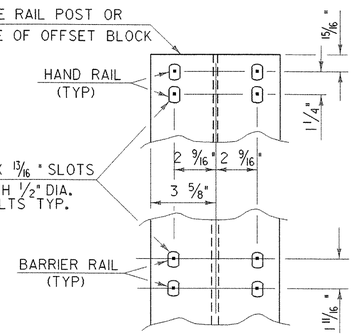
ALLOWABLE STRESSES:

RAILING : 21,000 PSI TENSION
22,000 PSI COMPRESSION

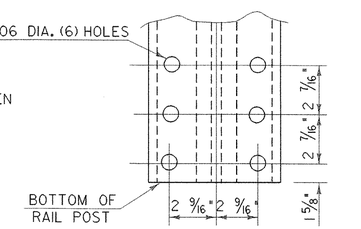
POSTS : 17,000 PSI TENSION
19,000 PSI COMPRESSION



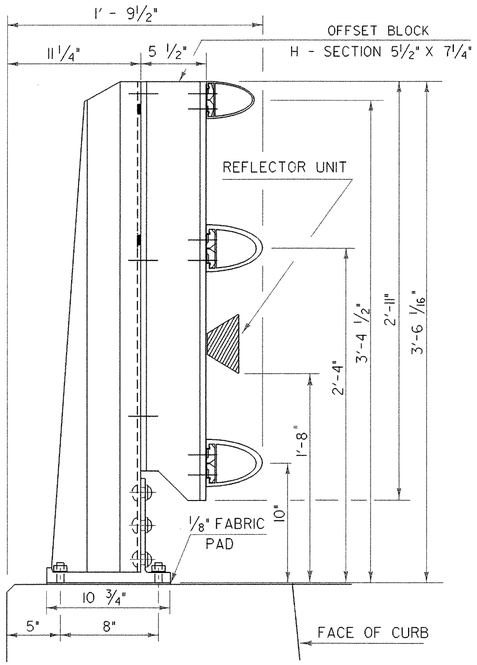
OUTSIDE ELEVATION OF THREE RAIL POST & SPINDLES



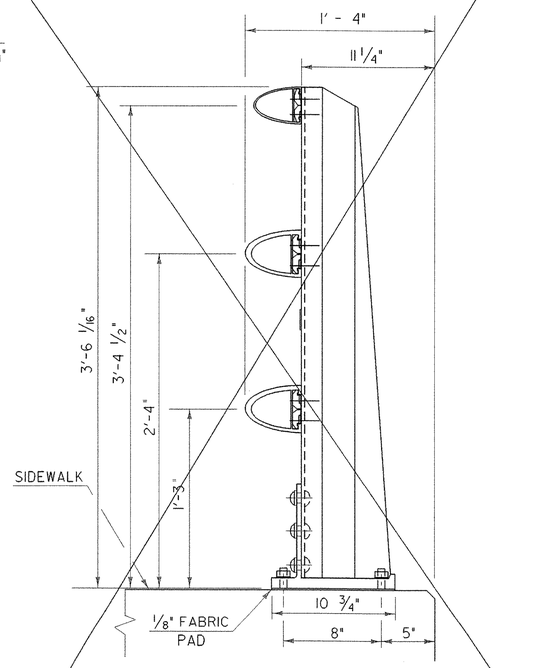
RAIL CONNECTION



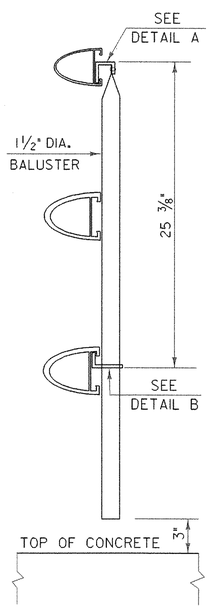
POST BASE BOLT HOLE DETAILS



SIDE ELEVATION OF THREE RAIL TO BE USED ON CURB SIDE



SIDE ELEVATION OF THREE RAIL TO BE USED ON SIDEWALK SIDE

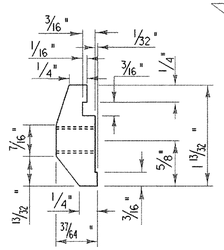


SECTION AA

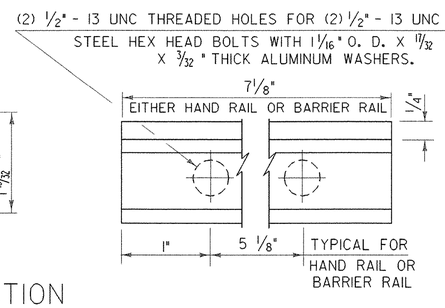
RAIL POST DETAILS ON SUPERSTRUCTURE

DETAILS OF SPINDLES FOR ALUMINUM RAILING

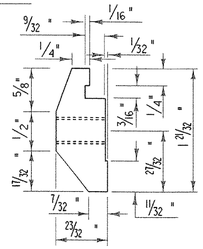
PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004 (1)
DESIGN FILE NAME: 9j045/structures/sj045rail.dgn	
IPARM FILE NAME: sj045rail2.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: M. LONGSTREET
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: K. M. HIGGINS
ALUMINUM RAILING DETAILS 2	SHEET: 58 OF 97



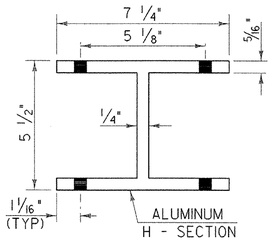
POST CONNECTION HAND RAIL SECTION



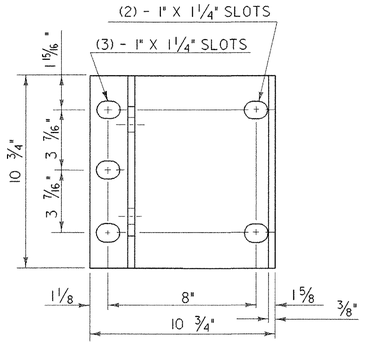
POST CONNECTION ELEVATION



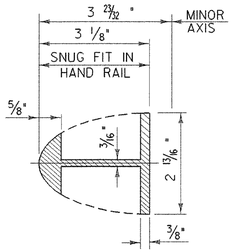
POST CONNECTION BARRIER RAIL SECTION



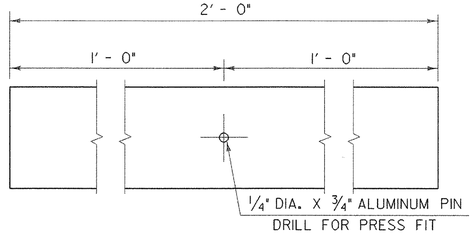
PLAN VIEW OF OFFSET BLOCK (TO BE USED ON SUPERSTRUCTURE ON CURB SIDE)



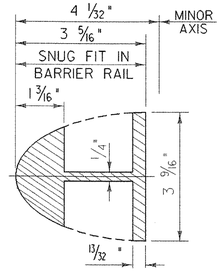
POST BASE PLAN



HAND RAIL SPLICE SECTION

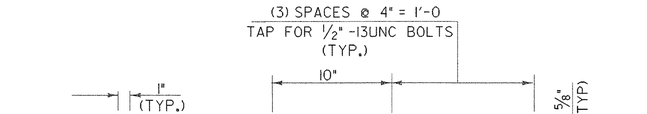


ELEVATION OF HAND RAIL SPLICE BAR

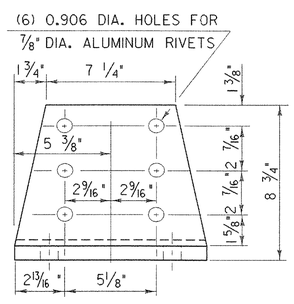


BARRIER RAIL SPLICE SECTION

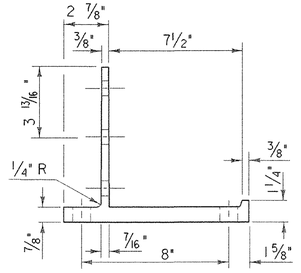
(SEE SHEET 61 FOR ELEVATION OF BARRIER RAIL SPLICE BAR)



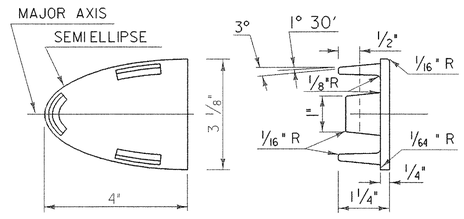
ELEVATION OF STD. BARRIER RAIL SPLICE BAR (FROM BACK)



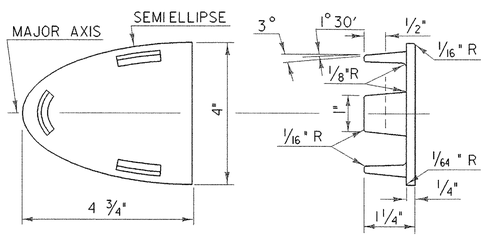
POST BASE FRONT ELEVATION



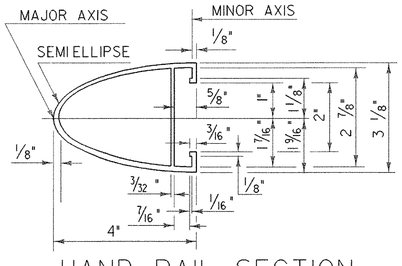
POST BASE SECTION



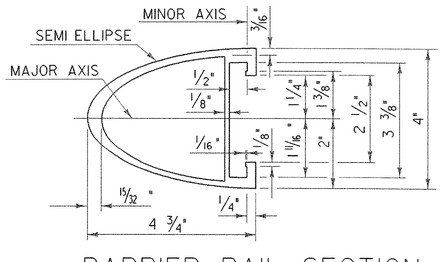
HAND RAIL END CAP



BARRIER RAIL END CAP

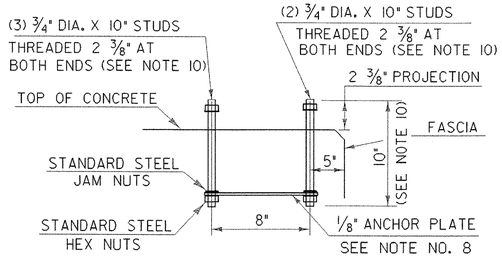


HAND RAIL SECTION

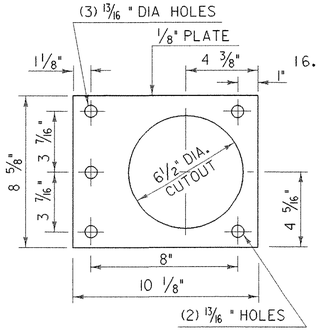


BARRIER RAIL SECTION

(SEE SHEET 61 FOR ELEVATION OF BARRIER RAIL)



POST ANCHOR ASSEMBLY



ANCHOR PLATE

NOTES

1. ANCHOR BOLTS, WASHERS AND HEAVY HEX NUTS MAY BE ANY OF THE FOLLOWING:
   - A. ASTM A449 GALVANIZED, OR
   - B. AASHTO M164 (ASTM A325) GALVANIZED
   - C. BOLTS AND WASHERS OF STAINLESS STEEL ASTM A276, TYPE 304 (MINIMUM ULTIMATE STRENGTH OF 100,000 PSI) WITH STAINLESS STEEL NUTS OF ASTM A194, GRADE 8NA.
2. ALUMINUM POSTS, POST BASES, SPLICE BARS, CONNECTION BARS, RAILS AND BALUSTER FRAMES SHALL CONFORM TO ASTM B221 ALLOY 6061-T6 OR ALLOY 6351-T5. MINIMUM ALLOWABLE STRESS F_y = 35,000 PSI.
3. ALUMINUM BALUSTER TUBES SHALL CONFORM TO ASTM B210 ALLOY 6061-T5 OR 6063-T5.
4. ALUMINUM RAIL END CAPS SHALL CONFORM TO ASTM B26 ALLOY 356-T6.
5. THE POST, RAIL, AND OFFSET BLOCK CONNECTION BOLTS SHALL BE EITHER ASTM A193 OR ASTM A320. EITHER ONE SHALL BE CLASS 1, B8 GRADE AISI 304 WITH AN ULTIMATE TENSILE STRENGTH OF 75,000 PSI. NUTS FOR EITHER OF THE ABOVE BOLTS SHALL BE ASTM A194, GRADE 8, STAINLESS STEEL WITH AN ULTIMATE TENSILE STRENGTH OF 75,000 PSI.
6. SET SCREWS FOR ATTACHING BALUSTERS TO RAILING SHALL BE ASTM F880, TYPE 303 MATERIAL.
7. RIVETS SHALL BE COLD DRIVEN HIGH BUTTON HEAD "CONE POINT", CONFORMING TO ASTM B316 ALLOY 6061-T6.
8. THE ANCHOR PLATE FOR THE POST ANCHOR ASSEMBLY SHALL BE ASTM A36 STRUCTURAL STEEL.
9. WELDING SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 506.10 USING THE GMAW-INERT GAS PROCESS AND AWS ER 5356 ELECTRODE WIRE.
10. UNLESS OTHERWISE SPECIFIED, ANCHOR BOLTS SHALL BE CAST INTO THE CONCRETE AS DETAILED.
11. WHENEVER FEASIBLE BARRIER RAIL AND HAND RAIL SECTIONS, SHALL BE FULL LENGTH SECTIONS (40' ±) AND WHEN POSSIBLE SHALL BE ATTACHED TO THREE POSTS. RAILS SHALL BE SPLICED AT EACH DECK JOINT AND INTERMITTENTLY AS REQUIRED. SPLICES SHALL OCCUR WITHIN THE SAME PANEL.
12. ENDS OF RAILS SHALL BE CUT SQUARE AND GROUND FREE OF BURRS OR RAGGED EDGES. EXPOSED ENDS SHALL BE CAPPED.
13. THE CONCRETE CONTACT SURFACE AT THE POST BASE SHALL BE BUSH HAMMERED AND/OR SHIMMED AS REQUIRED FOR PROPER POST ALIGNMENT. POST HEIGHT ADJUSTMENTS LESS THAN 1/4" SHALL BE WITH 1/16" AND 1/8" SHIMS. CORRECTIONS EXCEEDING 1/4" SHALL BE WITH EPOXY MORTAR CONFORMING WITH SECTION 530. FABRIC BEARING PADS AND ANY REQUIRED SHIMS OR EPOXY MORTAR ARE SUBSIDIARY TO THE UNIT PRICE BID FOR THE RAILING.
14. SHIMS AND 1/8" FABRIC BEARING PADS SHALL BE 10 3/4" SQUARE WITH SLOTTED HOLES SIZED AND LOCATED THE SAME AS THE POST BASE DETAIL. FABRIC BEARING PADS SHALL CONFORM TO SUBSECTION 731.01 OR 731.02, SHIM MATERIAL SHALL BE ASTM B 209 ALLOY 1100-0.
15. EXTRUDED SECTIONS ARE DETAILED TO COMPLY WITH CURRENT AASHTO-AGC-ARTBA STANDARDS. MINOR VARIATIONS OF THE DETAILS SHOWN MAY BE CONSIDERED PROVIDING THEY DO NOT REDUCE THE STRENGTH CAPACITY OF THE RAIL SYSTEM.
16. ALUMINUM WASHERS SHALL BE ASTM B209 ALLOY ACLAD 2024-T4.

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004 (1)
DESIGN FILE NAME: 9j045/structures/sj045rail.dgn	
IPARM FILE NAME: sj045rail3.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: M. LONGSTREET
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: K. M. HIGGINS
ALUMINUM RAILING DETAILS 3	SHEET: 59 OF 97

STATE OF VERMONT
AGENCY OF TRANSPORTATION

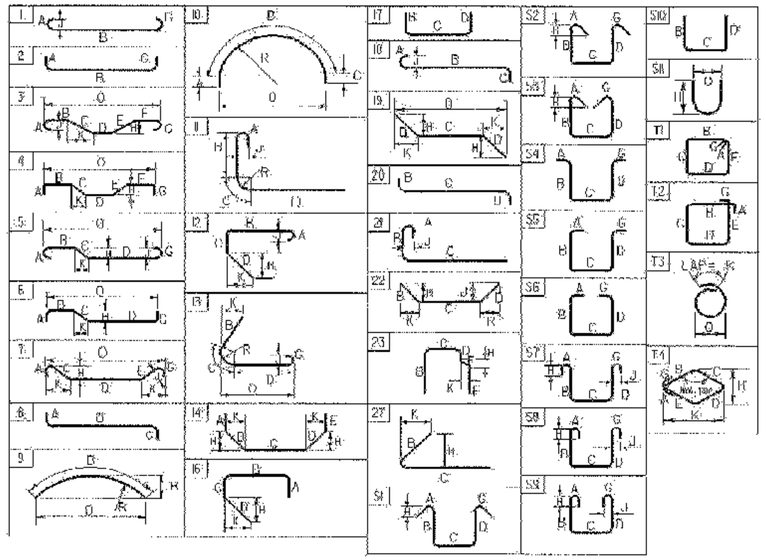
REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
SUPERSTRUCTURE																	
SPAN #1																	
▲	36	5	46'- 2"	ES501	STR												
	62	6	33'- 1"	ES601	STR												
*	22	6	12'- 5"	ES602	STR												
	34	5	14'- 1"	ES502	S5	2'- 2"	4'- 6"	1'- 6"	3'- 9"			2'- 2"					
	107	5	10'- 5"	ES503	S6	1'- 0"	1'- 8"	5'- 1"	1'- 8"			1'- 0"					
*	96	5	8'- 11"	ES504	S5	1'- 0"	2'- 8"	1'- 5"	2'- 9"			1'- 0"					
	68	10	46'- 7"	ES1001	1	1'- 5"	45'- 2"					---					
*	14	10	26'- 5"	ES1002	1	1'- 5"	25'- 0"					---					
MAINSPAN (SPAN #2)																	
	40	5	45'- 2"	ES501	STR												
*	922	6	33'- 1"	ES901	STR												
	440	6	32'- 7"	ES603	STR												
	306	5	6'- 4"	ES505	S5	1'- 0"	1'- 7"	1'- 5"	1'- 4"			1'- 0"					
	21	5	6'- 9"	ES506	S8	4'- 0"	0'- 9"	1'- 8"	0'- 6"			---					
	21	5	9'- 0"	ES507	S6	5'- 3"	0'- 8"	2'- 6"	0'- 6"			---					
SPAN #3																	
	30	5	44'- 2"	ES508	STR												
	54																
	46	6	33'- 1"	ES601	STR												
	92	5	10'- 5"	ES503	S6	1'- 0"	1'- 8"	5'- 1"	1'- 8"			1'- 0"					
	92	5	8'- 11"	ES504	S5	1'- 0"	2'- 9"	1'- 5"	2'- 9"			1'- 0"					
	34	5	156	ES505		3'- 0"	4'- 6"	1'- 6"	3'- 6"			1'- 0"					
*	89	10	45'- 7"	ES1003	1	1'- 5"	44'- 2"					---					
APPROACH SLAB #1																	
* ▲	44	5	26'- 4"	1EAS501	STR												
* ▲	83	9	20'- 9"	1EAS901	1	1'- 3"	19'- 6"					---					
APPROACH SLAB #2																	
*	22	5	29'- 8"	2EAS501	STR												
*	38	9	20'- 9"	2EAS901	1	1'- 3"	19'- 6"					---					
WINGWALL #1																	
	11	5	12'-6"	1W501	STR												
	13	5	4'-6"	1W502	STR												
	12	5	12'-0"	1W503	STR												
	12	5	12'-0"	1W504	STR												
	24	5	10'-2"	1W505	STR												
	12	5	5'-10"	1W506	17		2'-2"	1'-6"	2'-2"								
	11	5	8'-6"	1W601	17		3'-6"	5'-0"									
	13	5	6'-6"	1W701	STR												
	24	5	4'-3"	1EA803	STR												
ABUTMENT #1A																	
	21	5	29'-0"	1A501A	STR												
	30	5	4'-6"	1A502A	STR												
	60	5	9'-4"	1A503A	STR												
	22	5	29'-0"	1A504A	STR												
	30	5	6'-6"	1A505A	STR												
	30	5	6'-10"	1A506A	17		2'-2"	2'-6"	2'-2"								
	8	5	16'-4"	1A508A	19		5'-0"	6'-4"	5'-0"								
	8	5	4'-8"	1A509A	22		2'-4"	2'-4"			1'-6"		1'-9"				
	24	5	9'-10"	1A510A	19		3'-11"	5'-11"			2'-6"		3'-0"				
	30	6	9'-9"	1A601A	17		4'-9"	5'-0"									
	30	7	6'-6"	1A701A	STR												
	8	5	10'-6"	1A511A	20		3'-0"	4'-6"	3'-0"								
ABUTMENT #1B																	
	14	5	19'-8"	1A501B	STR												
	20	5	4'-6"	1A502B	STR												
	20	5	13'-10"	1A503B	STR												
	30	5	18'-8"	1A504B	STR												
	20	5	9'-1"	1A505B	STR												
	20	5	6'-10"	1A506B	17		2'-2"	2'-6"	2'-2"								
	17	5	4'-8"	1A509B	22		2'-4"	2'-4"			1'-9"		1'-6"				
	34	5	9'-10"	1A510B	19		3'-11"	5'-11"			3'-0"		2'-6"				
	12	8	3'-6"	1A801B	STR												
	20	8	13'-3"	1A802B	17		4'-6"	8'-9"									
	21	9	8'-3"	1A901B	STR												
	21	8	6'-3"	1EA804	STR												

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
ABUTMENT #1																	
	40	5	25'- 7"	1A501	STR												
*	50	5	5'- 5"	1A502	STR												
▲	60	5	24'- 3"	1A503	STR												
	47	5	28'- 0"	1A504	STR												
▲	47	5	12'- 0"	1A505	STR												
*	23	8	3'- 6"	1A801	STR												
	47	8	10'- 1"	1A802	STR												
*	24	8	4'- 3"	1EA803	STR												
*	94	9	12'- 8"	1A901	STR												
*	44	6	8'- 9"	1A506	18	2'- 2"	2'- 7"	1'- 2"	2'- 10"								
▲	28	5	4'- 8"	1A507	22		2'- 4"	2'- 4"							1'- 9"		1'- 6"
	22	5	15'- 0"	1A508	22		2'- 2"	10'- 8"	2'- 2"						1'- 2"	1'- 3"	1'- 8"	1'- 8"
	25	5	4'- 8"	1A509	22		2'- 4"	2'- 4"							1'- 8"		1'- 9"	
▲	50	5	7'- 10"	1A510	22		3'- 11"	3'- 11"							2'- 6"		3'- 0"	
	5	5	5'- 11"	1A511	S10		2'- 2"	1'- 7"	2'- 2"									
	21	8	6'- 3"	1EA804	22		2'- 6"	3'- 9"										
*	48	10	16'- 10"	1A1001	17		4'- 7"	12'- 3"	---									
*	47	10	11'- 0"	1A1002	17		1'- 6"	9'- 6"	---									
WINGWALL #1																	
	20	5	12'- 1"	1W501	STR												
	10	5	5'- 5"	1W502	STR												
	10	5	24'- 0"	1W503	STR												
	10	5	12'- 11"	1W504	STR												
	50	5	10'- 2"	1W505	STR												
	10	7	7'- 7"	1W701	STR												
*	6	8	3'- 6"	1W801	STR												
	20	9	11'- 9"	1W901	STR												
	10	5	5'- 11"	1W506	S10		2'- 2"	1'- 7"	2'- 2"								
*	10	9	11'- 3"	1W902	17		1'- 6"	9'- 9"	---								
	10	9	17'- 1"	1W903	17		4'- 7"	12'- 6"	---								
WINGWALL #2																	
	20	5	27'- 5"	2W501	STR												
	25	5	5'- 5"	2W502	STR												
▲	25	5	24'- 3"	2W503	STR												
▲	25	5	13'- 2"	2W504	STR												
▲	48	5	25'- 5"	2W505	STR												
	25	7	7'- 7"	2W701	STR												
	13	8	3'- 6"	2W801	STR												
	50	9	11'- 9"	2W901	STR												
	25	5	5'- 10"	2W506	S10		2'- 2"	1'- 6"	2'- 2"								
	2	6	25'- 11"	2W507	22		2'- 0"	23'- 11"	---						0'- 7"		1'- 11"	
	24	9	11'- 9"	2W902	17		1'- 6"	9'- 6"	---								
	25	9	17'- 1"	2W903	17		4'- 7"	12'- 6"	---								
WINGWALL #2																	
	13	5	27'-6"	2W501	STR												
	26	5	4'-6"	2W502	STR												
	26	5	16'-9"	2W503	STR												
	26	5	13'-0"	2W504	STR												
	34	5	25'-5"	2W505	STR												
	26	5	5'-10"	2W506	17		2'-2"	1'-6"	2'-2"								
	26	7	11'-6"	2W701	17		3'-6"	8'-0"									
	12	8	3'-6"	2W801	STR												
	29	8	7'-6"	2W802	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 "SPECIFICATIONS 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.
9. ▲ 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 DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION: DIAMETER INCHES	AREA INCHES²	PERIMETER INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.044	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

PROJECT NAME: HARTFORD
PROJECT NUMBER: BRO-BTN 2004 (1)

FILE NAME: s89j045reinf.xls
PROJECT MANAGER: C.P. WILLIAMS
DESIGNED BY: K.M. HIGGINS
REINFORCING STEEL SCHEDULE SHEET #1

PLOT DATE: 11/10/2004
DRAWN BY: M. LONGSTREET
CHECKED BY: K.M. HIGGINS
SHEET 60 OF 97

STATE OF VERMONT
AGENCY OF TRANSPORTATION

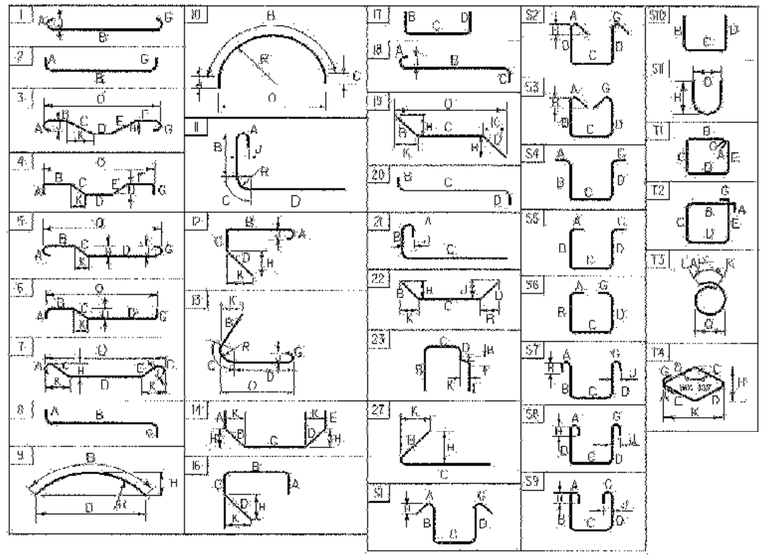
REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	R	J	K	R	O
	ABUTMENT #2																
	38	5	20'- 4"	2A501	STR												
	41	5	4'- 11"	2A502	STR												
▲	33	5	19'- 1"	2A503	STR												
62	~~46~~	5	20'- 0"	2A504	STR												
	38	5	11'- 11"	2A505	STR												
	4	5	21'- 9"	2A506	STR												
*	17	8	3'- 6"	2A801	STR												
	72	8	11'- 0"	2A802	STR												
*	19	8	4'- 3"	2EA803	STR												
*	38	7	7'- 6"	2A701	STR												
▲	49	5	4'- 8"	2A507	22		2'- 4"	2'- 4"					1'- 9"		1'- 8"		
	40	5	15'- 0"	2A508	22		2'- 2"	10'- 8"	2'- 2"				0'- 11"		2'- 0"		
	4	5	5'- 10"	2A508	22	2'- 2"	1'- 6"	2'- 2"									
	34	5	8'- 9"	2A510	16	2'- 2"	2'- 7"	1'- 2"	2'- 10"								
	18	8	6'- 3"	2EA804	22		2'- 6"	3'- 9"									
	43	8	9'- 5"	2A901	17		1'- 6"	7'- 11"	---								
	38	9	15'- 4"	2A902	17		4'- 7"	10'- 8"	---								
	WINGWALL #3																
*	21	5	16'- 3"	3W501	STR												
	14	5	4'- 11"	3W502	STR												
▲	14	5	21'- 9"	3W503	STR												
▲	14	5	12'- 2"	3W504	STR												
▲	44	5	13'- 6"	3W505	STR												
*	15	7	7'- 6"	3W701	STR												
	7	8	3'- 6"	3W801	STR												
	28	9	11'- 3"	3W901	STR												
	14	5	5'- 11"	3W506	S10		2'- 2"	1'- 7"	2'- 2"								
	2	5	26'- 8"	3W507	19		2'- 8"	24'- 0"	---				0'- 11"		2'- 6"		
*	14	9	9'- 3"	3W902	17		1'- 6"	7'- 9"	---								
	14	9	14'- 7"	3W903	17		4'- 1"	10'- 6"	---								
	WINGWALL #4																
▲	14	5	30'- 0"	4W501	STR												
*	27	5	3'- 11"	4W502	STR												
▲	26	5	21'- 9"	4W503	STR												
▲	20	5	12'- 2"	4W504	STR												
▲	36	5	25'- 5"	4W505	STR												
*	13	8	3'- 5"	4W801	STR												
	50	9	11'- 0"	4W901	STR												
	28	5	5'- 11"	4W506	S10		2'- 2"	1'- 7"	2'- 2"								
	2	5	26'- 1"	4W507	22		2'- 0"	24'- 1"	---				0'- 10"		1'- 10"		
	9	5	10'- 0"	4W508	18		2'- 2"	5'- 8"	2'- 2"								
	9	5	8'- 4"	4W509	20		2'- 2"	4'- 0"	2'- 2"								
	8	9	9'- 3"	4W902	17		1'- 6"	7'- 9"	---								
*	27	9	14'- 7"	4W903	17		4'- 1"	10'- 6"	---								
	24	7	7'-6"	4W701													

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	R	J	K	R	O
	PIER #1																
△	37	5	11'- 0"	1P501	STR												
	38	5	20'- 6"	1P502	STR												
*	25	6	33'- 1"	1P601	STR												
▲	12	6	33'- 1"	1P602	STR												
△	10	7	33'- 1"	1P701	STR												
* ▲	34	8	6'- 6"	1P801	STR												
*	19	8	8'- 9"	1EP802	STR												
	58	9	25'- 0"	1P901	STR												
	190	5	10'-10"	1P503	T1	0'- 6"	2'- 1"	2'- 10"	2'- 1"	2'- 10"		0'- 6"					
	76	5	6'- 6"	1P504	S11												
	98	5	12'- 0"	1P505	S10		4'- 2"	3'- 8"	4'- 2"								
*	15	8	18'- 2"	1P603	~~22~~ 3		6'- 8"	11'- 6"	---						2'- 3"		6'- 3"
* ▲	59	9	15'- 4"	1P902	17		6'- 11"	8'- 6"	---								
	PIER #2																
△	37	5	11'- 0"	2P501	STR												
	18	5	20'- 6"	2P502	STR												
	70	5	4'- 6"	2P503	STR												
	12	5	32'- 11"	2P504	STR												
	24	6	33'- 1"	2P601	STR												
* ▲	13	6	32'- 11"	2P602	STR												
△	9	7	32'- 11"	2P701	STR												
△	36	8	3'- 6"	2P801	STR												
	58	8	19'- 10"	2P802	STR												
	18	8	4'- 6"	2EP803	19		1'- 6"	3'- 0"	---								
	90	5	10'-11"	2P505	T1	0'- 6"	2'- 1"	3'- 10"	2'- 1"	2'- 10"		0'- 6"					
	36	5	6'- 6"	2P506	S11												
	98	5	12'- 0"	2P507	17		4'- 2"	3'- 8"	4'- 2"								
*	16	6	18'- 2"	2P603	22		6'- 8"	11'- 6"	---						2'- 3"		6'- 3"
△ ▲	60	9	15'- 5"	2P901	17		6'- 11"	8'- 6"	---								
	35	5	8'-6"	2P508	17		4'-0"	0'-6"	4'-0"								
	35	5	5'-8½"	2P509	17		2'-8½"	1'-6"	1'-6"								

~ NOTES ~

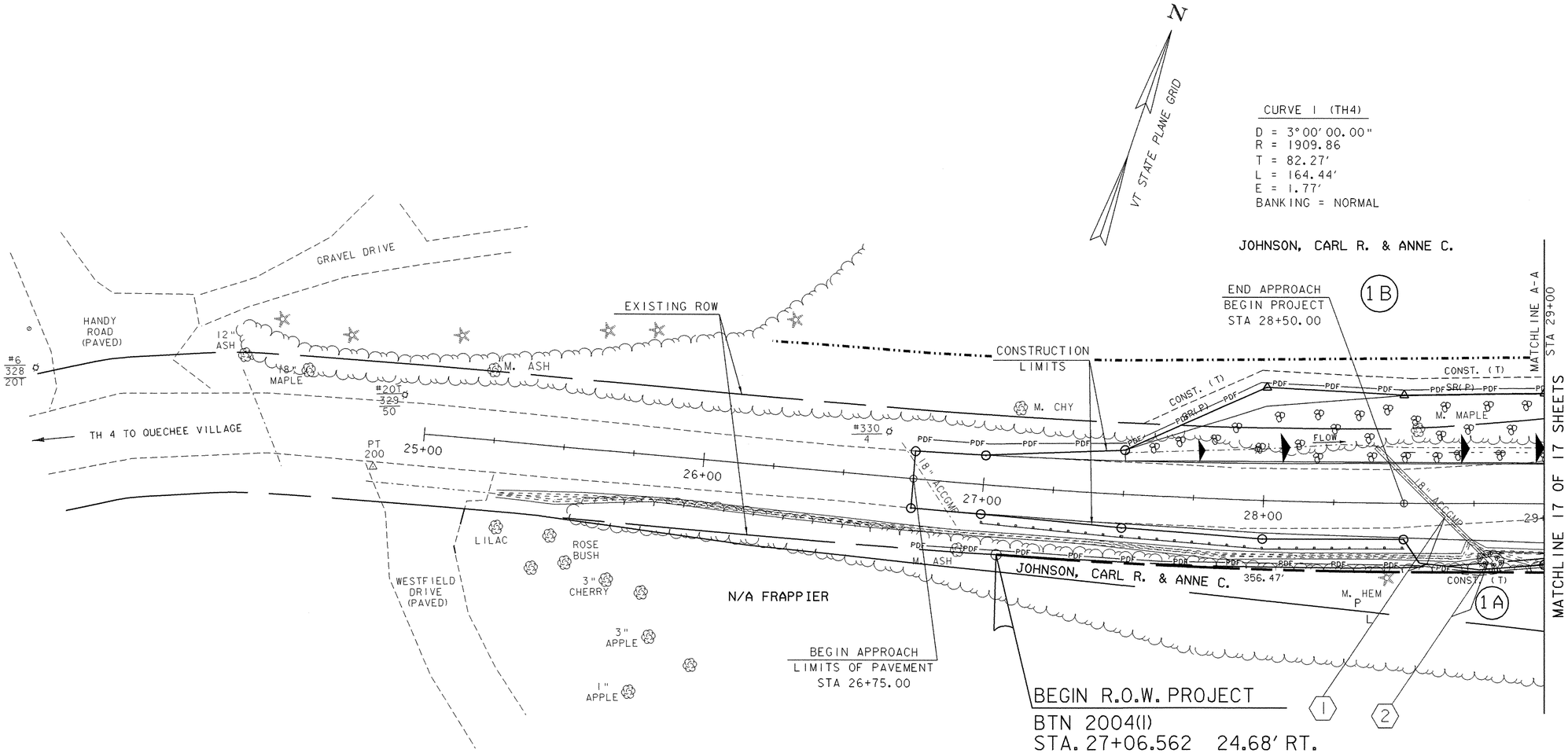
1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-91). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
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 DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

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

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	BRO-BTN 2004 (1)
FILE NAME: s89j045reinf.xls	PLOT DATE: 10/02/2003
PROJECT MANAGER: C.P. WILLIAMS	DRAWN BY: M. LONGSTREET
DESIGNED BY: K.M. HIGGINS	CHECKED BY: K.M. HIGGINS
REINFORCING STEEL SCHEDULE SHEET #2	SHEET 61 OF 97



SEE SHEET 22-23 FOR DRAINAGE INFORMATION

LEGEND	
	FILTER CURTAIN
	SILT FENCE
	SAND BAGS
	STONE CHECK DAMS
	SOIL BOUNDARY
P / L	PROPERTY LINE
PDF	PROJECT DEMARCATION FENCE

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

R. O. W. LAYOUT SHEET 1

SCALE 1" = 20'-0

20 0 20

MATCHLINE 17 OF 17 SHEETS

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045bdr.dgn	
IPARM FILE NAME: sj045lal.i	PLOT DATE: 11-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: K.M. HIGGINS
LAYOUT SHEET 1 R.O.W. SHEET 16 OF 17	SHEET 62 OF 97

REMOVAL & DISPOSAL OF GUARD RAIL
ML STA 31+70.00 - 31+83.00 LT
TH5 STA 5+64.00 - 6+43.00 RT
ML STA 34+11.00 - 34+34.00 LT

ALUMINUM BRIDGE RAILING-ANODIZED BLACK
ML Sta 31+65.25 LT - Sta 34+09.75 LT
ML Sta 31+66.25 RT - Sta 34+09.75 RT

ALUMINUM APPROACH RAILING-ANODIZED BLACK
TH5 Sta 5+46.20 RT - ML Sta 31+65.23 LT
ML Sta 31+41.30 RT - ML Sta 31+66.25 RT
ML Sta 34+09.75 LT - ML Sta 34+34.20 LT
ML Sta 34+09.75 RT - ML Sta 34+33.30 RT

HEAVY DUTY STEEL BEAM GUARDRAIL
TH5 Sta 5+46.20 RT - TH5 Sta 6+34.00 RT
ML Sta 31+41.30 RT - DRIVE Sta 11+09.00 LT
ML Sta 34+34.50 LT - VT14 Sta 209+27.50 LT
ML Sta 34+33.30 RT - VT14 Sta 207+62.00 LT

ANCHOR FOR STEAL BEAM GUARDRAIL
TH5 Sta 6+22.00 RT
DRIVE Sta 10+98.00 LT
VT14 Sta 207+75.00 LT
VT14 Sta 209+18.00 LT

ANCHOR FOR CABLE DRAIL
Sta 6+30.00 RT (APPROXIMATE)

CURVE 2 (TH5)
D = 17°00'00.00"
R = 337.03
T = 41.68
L = 82.92'
E = 2.57'
BANKING = TRANSITION TO EXISTING

PROPOSED SEDIMENT DEWATERING LOCATION (CONTRACTOR TO PROVIDE DETAILS AND METHODOLOGY WITH COFFERDAM DESIGN, SEE EROSION AND SEDIMENT CONTROL NOTES 9 & 10)

CONSTRUCTION LIMITS

TEMPORARY CONSTRUCTION LIMITS

EXISTING DRAINAGE

TH 4 TO QUECHEE

TH 5 POMFRET ROAD TO POMFRET (PAVED)

EXISTING 12" CGMPP

REPLACE

CONCRETE ROAD BLOCK

1½ STORY BARN

1½ SWF HOUSE

GRAVEL DRIVE

GOFBERG, LAWRENCE H. & GERDA

END APPROACH
LIMITS OF PAVEMENT
STA 6+50.00

END PROJECT
BEGIN APPROACH
STA 5+75.00

BENCHMARK #1
CHISLED SQUARE
ELEV = 400.668

CHANNEL POE
Sta 54+00.00

CHANNEL LINE

EXISTING ROW

END APPROACH
STA 209+75.00
LIMITS OF PAVEMENT

GUIDE POST

TOWN OF HARTFORD

END PROJECT
BEGIN APPROACH
STA 34+50.00

MATCHLINE C-C
STA 210+00

VT 14 TO SHARON

GRAVEL DRIVE

WEST HARTFORD LIBRARY

SHRUBS
FLAG POLE
GRANITE PAD & MONUMENT

BENCHMARK #2
CHISELED SQUARE
ELEV = 399.51

CAREX GARBERI (SEE NOTES)

℄ BRG. PIER #2
Sta 33+63.00
FG = 400.59

℄ PIER #2
Sta 33+64.17

℄ BRG. PIER #1
Sta 32+13.00
FG = 403.88

℄ PIER #1
Sta 32+11.83

BEGIN BRIDGE
Sta 31+66.00
FG = 404.91

END BRIDGE
Sta 34+10.00
FG = 398.36

END R.O.W. PROJECT
BTN 2004(I)
STA. 32+12.382 27.11' LT.

CONSTRUCTION LIMITS

BEGIN APPROACH
STA 207+25.00
LIMITS OF PAVEMENT

MATCHLINE B-B
STA 207+00

CURVE 5 (VT 14)
D = 0°-45'-00"
R = 7639.44'
T = 328.30'
L = 656.21'
E = 7.05'
BANKING = EXISTING

CURVE 3 (DRIVE)
D = 57°00'
R = 100.52'
T = 17.44'
L = 34.53'
E = 1.50'
BANKING = NORMAL

JOHNSON, CARL R. & ANNE C.
CONSTRUCT DRIVE
TH4 STA 30+09.00 LT - 12' FIELD DRIVE W/5' PAVED APRON
TH4 STA 31+20 RT SEE SHEET 17 FOR DETAILS
TH5 STA 5+89.00 LT - 24' WIDE W/5' PAVED APRON

CURVE 4 (DRIVE)
D = 38°00'
R = 150.78'
T = 20.48'
L = 40.70'
E = 1.38'
BANKING = NORMAL

SEE SHEET 22-23 FOR DRAINAGE INFORMATION
SEE SHEET 24 TRAFFIC SIGNS AND PAVEMENT MARKINGS

REMOVAL OF STRUCTURE (MOD)
(RELOCATE BARN)
STA 31+50.00

EXISTING BRIDGE DATA:
216 ' STEEL TRUSS
20' CURB TO CURB
14'-11" VERTICAL CLEARANCE
BUILT IN 1928

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

LEGEND
FILTER CURTAIN
SILT FENCE
SAND BAGS
STONE CHECK DAMS
SOIL BOUNDARY
P/L PROPERTY LINE
PDF PROJECT DEMARCATION FENCE

CHANNEL POB
Sta 50+00.00

WHITE RIVER FLOW

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

R. O. W. LAYOUT SHEET 2

SCALE 1" = 20'-0
20 0 20

MATCHLINE 16 OF 17 SHEETS MATCH LINE A-A STA 29+00

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89J045/structures/sj045bdr.dgn	
IPARM FILE NAME: sj045la2.i	PLOT DATE: 11-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: K.M. HIGGINS
LAYOUT SHEET 2 R.O.W. SHEET 17 OF 17	SHEET 63 OF 97

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

TABLE OF PROJECT PROPERTY ACQUISITION

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS
1A	JOHNSON, CARL R. & ANNE C.	16,17	27+06.562 RT.	30+60.776 RT.	0.07A±			WDOE	01-29-04	HARTFORD	368	628-631	3038 S.F.±
			28+67.673 RT.	28+86.838 RT.			CONST. (T) 12 S.F.±						INCLUDES EROSION CONTROL
			29+11.548 RT.	30+62.915 RT.			CONST. (T) 866 S.F.±						INCLUDES EROSION CONTROL
			29+35.746 RT.	30+62.137 RT.			DITCH (P) 481 S.F.±						
			29+63.436 RT.				DRAINAGE (P)						
			30+77.821 RT.	30+97.267 RT.			DIT.& DR. (P) 116 S.F.±						
			30+97.788 RT.	31+61.521 RT.			CULVERT & DRAINAGE (P)						
			31+25.000 RT.				DRIVE (T)						14' GRAVEL DRIVE
			30+71.803 RT.	31+26.485 RT.			INSTALL (T) 525 S.F.±						EROSION CONTROL
			31+31.501 RT.	31+45.973 RT.			INSTALL & MAINTAIN (P)						GUARDRAIL
			31+34.734 RT.	31+63.711 RT.			CHANNEL (P) 1,004 S.F.±						
			31+49.390 RT.	31+69.099 RT.			INSTALL (T) 438 S.F.±						EROSION CONTROL DEVICE
			31+22.281 RT.	31+47.663 RT.			REMOVE (T)						CULVERT & WOOD WALLS
1B			27+55.772 LT.	29+30.423 LT.			CONST. (T) 944 S.F.±						INCLUDES EROSION CONTROL
			27+69.831 LT.	29+27.996 LT.			SLOPE (P) 1,522 S.F.±						
			29+79.674 LT.	29+98.878 LT.			CONST. (T) 31 S.F.±						INCLUDES EROSION CONTROL
			29+84.380 LT.	30+58.194 LT.			SLOPE (T) 310 S.F.±						
			30+09.000 LT.										12' GRAVEL DRIVE
			30+10.134 LT.	30+58.172 LT.			CONST. (T) 99 S.F.±						INCL. EROSION CONTROL
2A	GOFBERG, LAWRENCE H. & GERDA	17	30+58.428 LT.	32+12.382 LT.	0.27A±					HARTFORD			11,637 S.F.±
			31+45.158 RT.	31+73.772 LT.			ALL R.T.& I.						BARN
2B			30+58.163 LT.	30+82.314 LT.			CONST. (T) 32 S.F.±						INCLUDES EROSION CONTROL
			30+58.154 LT.	30+77.884 LT.			SLOPE (T) 40 S.F.±						
			TH5 5+89.000 LT.				DRIVE (T)						24' GRAVEL
2C			31+68.712 LT.	31+87.695 LT.			CHANNEL (P) 274 S.F.±						
			31+68.644 LT.	31+92.363 LT.			INSTALL (T) 137 S.F.±						EROSION CONTROL
3	VERIZON NEW ENGLAND, INC.												UTILITY
4	CENTRAL VERMONT PUBLIC SERVICE CORPORATION												UTILITY
5	ADELPHIA CABLE COMMUNICATIONS												UTILITY

REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
1	15,17	PARCEL NO. 2 CHANGE SLOPE (P) STA. 30+58.154LT.-30+77.884LT. FROM (P) TO (T). ALSO, TITLE CHANGE FROM CONROY, FRANK L. & BARBARA D. TO GOFBERG, LAWRENCE H. & GERDA PER C.O. 9284	03-10-03	P.J.H.	R.P.D.
2	15,17	PARCEL NO. 1 CHANGE SLOPE (P) STA. 29+84.38LT.-30+58.194LT. FROM (P) TO (T) PER C.O. 9285	03-10-03	P.J.H.	R.P.D.
		ELECTRONIC FILES TO STRUCTURES	06-01-04		

ACCT. mcassidy
IP_PWP:dms02019\rj045d.dgn
DATE PLOTTED 11-FEB-2005

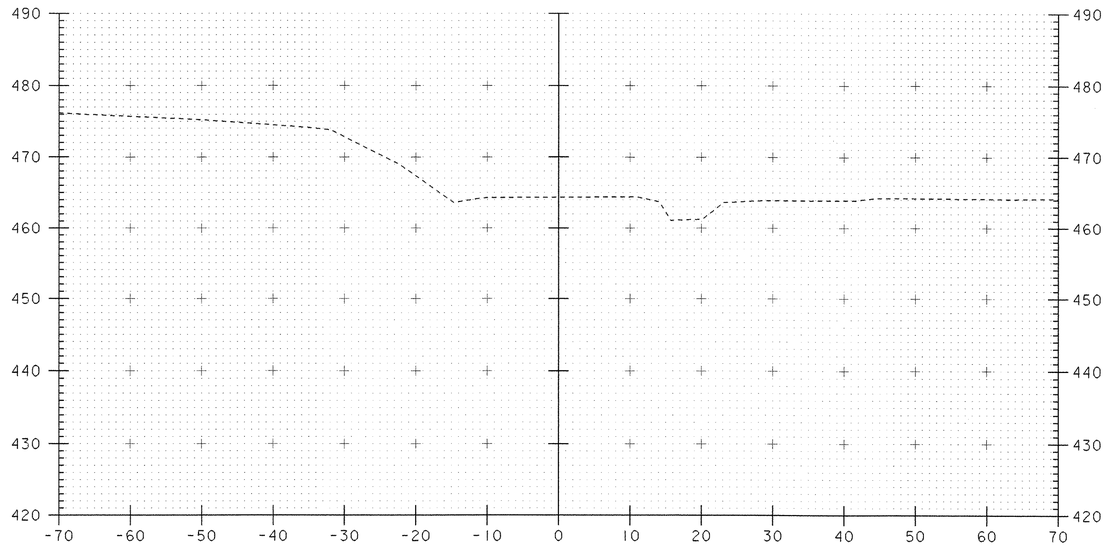
DR.(P)- DRAINAGE RIGHT
DIT.(P)- DITCHING RIGHT
CH.(P)- CHANNEL RT.
DRIVE (T)- DRIVE RIGHT
CUL.(P)- CULVERT RIGHT
[W]- WATER SOURCES

PRESENT R.O.W.
TAKING WITHOUT ACCESS
TAKING WITHOUT ACCESS ALONG PROPERTY LINE
TAKING WITH ACCESS
PERMANENT EASEMENT
TEMPORARY EASEMENT

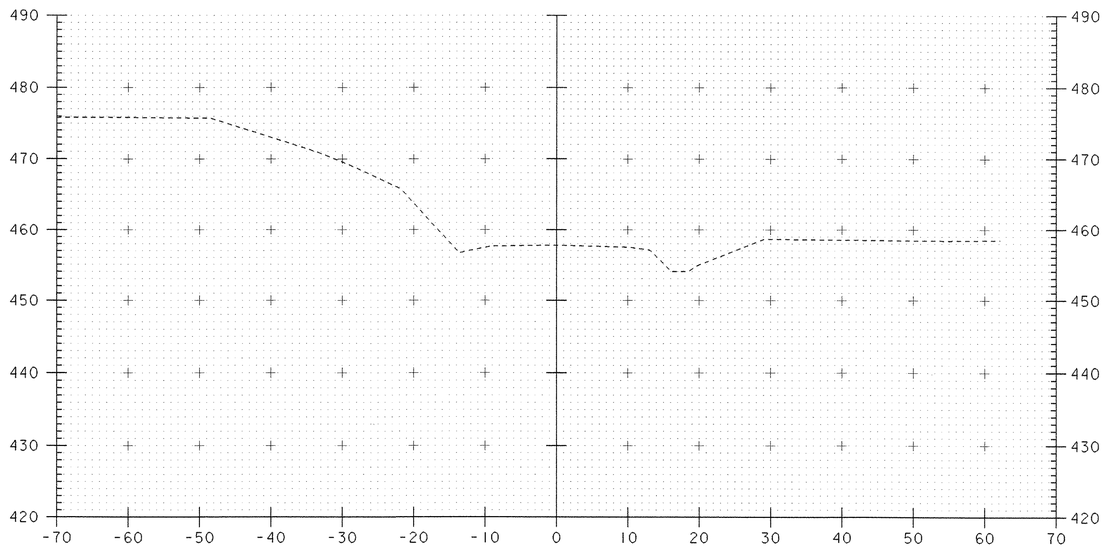
LEGEND
C&T (P) — CLEARING & TRIMMING
CZ (P) — CLEAR ZONE
CONST.(T) — CONSTRUCTION EASEMENT
SR SR — SLOPE RIGHTS
P L — PROPERTY LINE
TOP OF CUT
TOE OF SLOPE

APPROVED: ROGER P. DUMAS DATE: 07-18-02
AGENT D. PLANS & TITLES

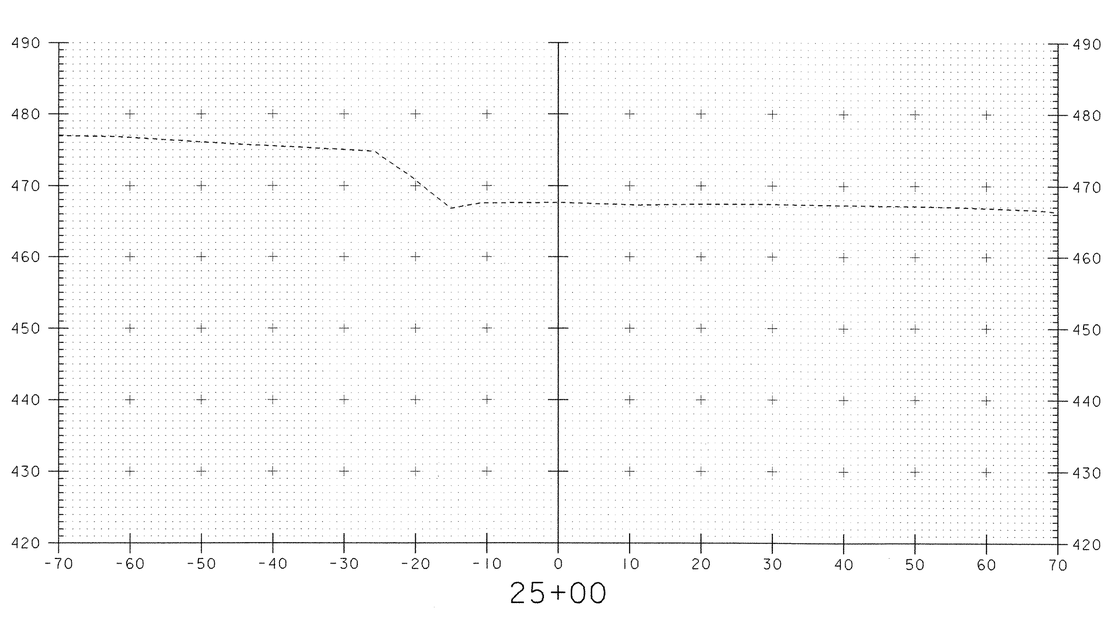
R.O.W. PLANS
HARTFORD
BTN 2004(1)
15 17
SHEET 64 OF 97



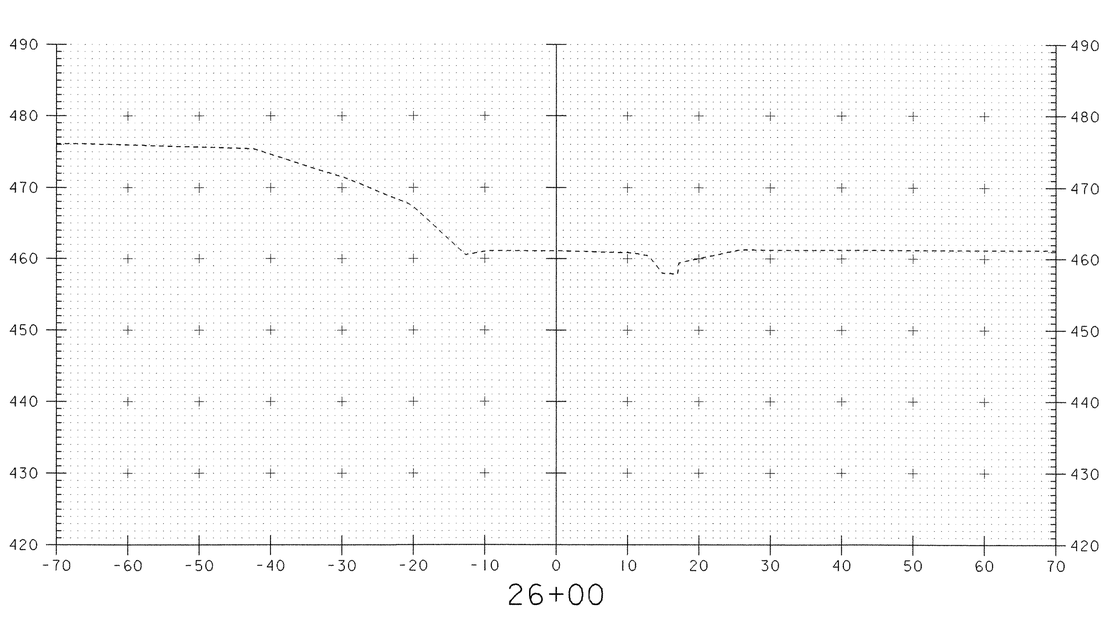
25+50



26+50



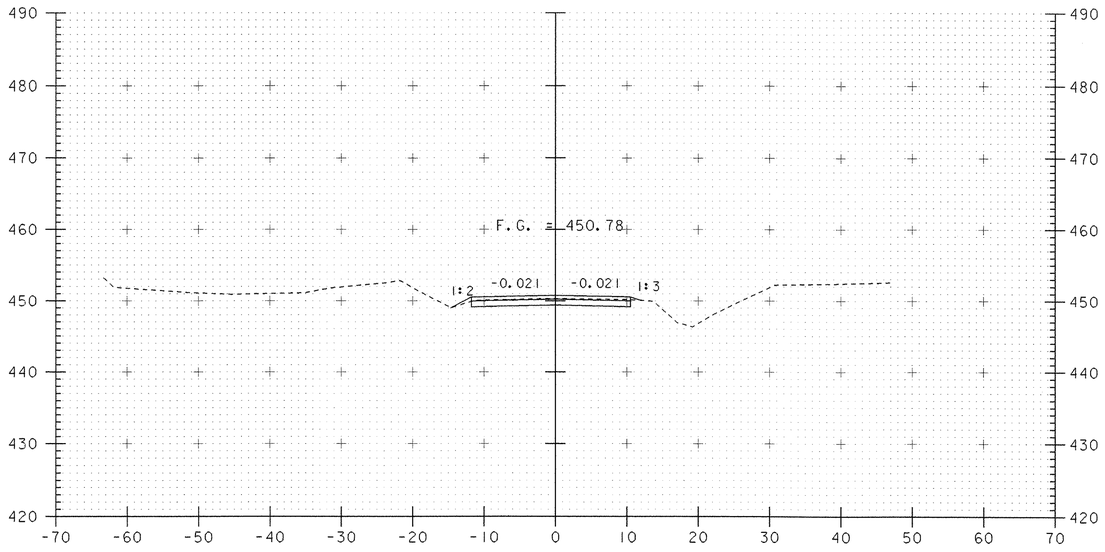
25+00



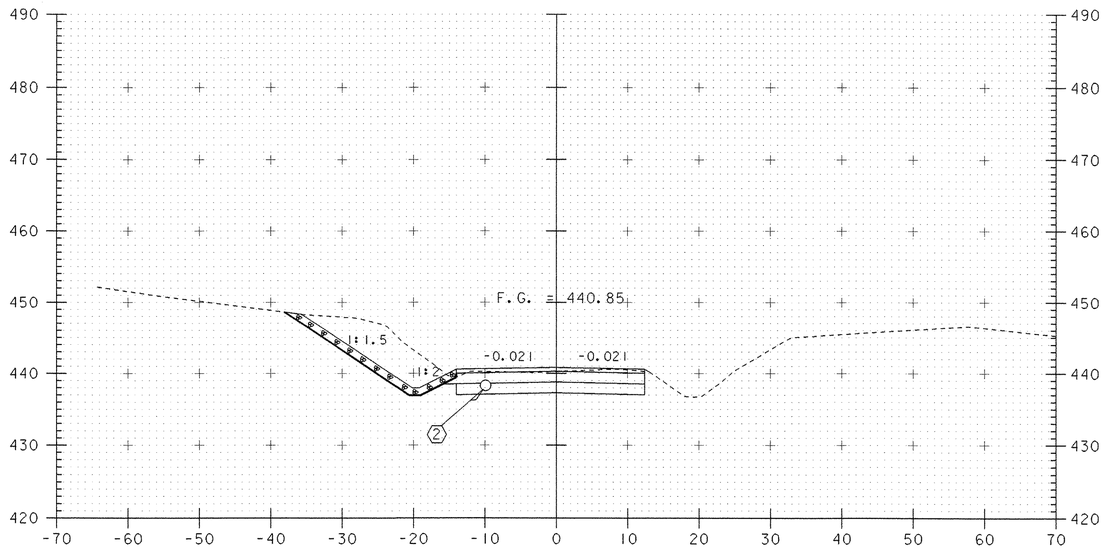
26+00

SCALE 1" = 10'-0
10 0 10

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn IPARM FILE NAME: sj045mll.i	PLOT DATE: 11-FEB-2005
TH 4 CROSS SECTIONS	
SECTION 25+00 THROUGH 26+50	SHEET: 65 OF 97

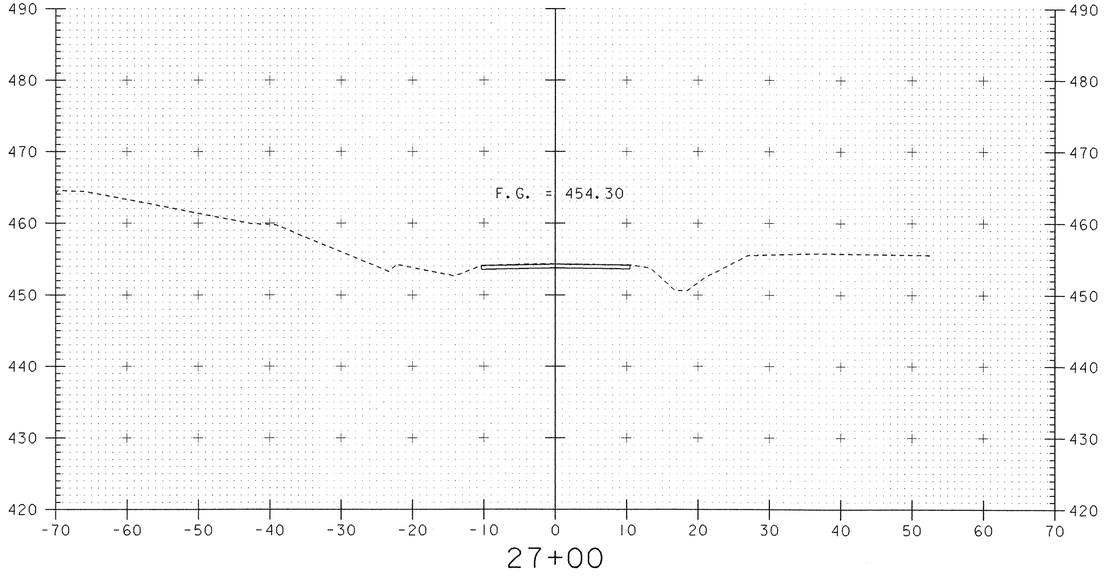


27+50



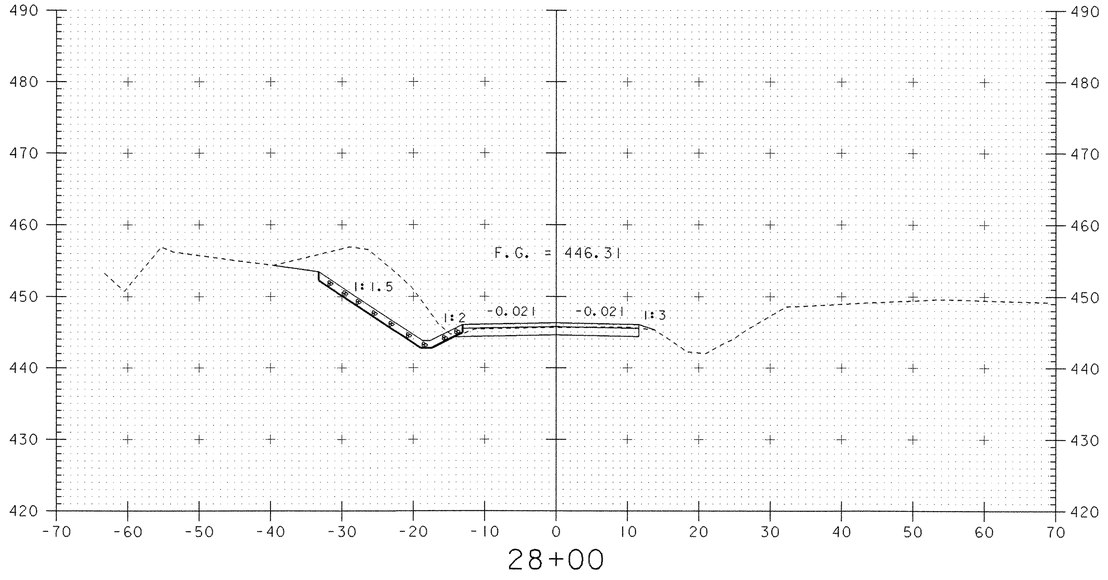
28+50

END APPROACH/BEGIN PROJECT
STA 28+50



27+00

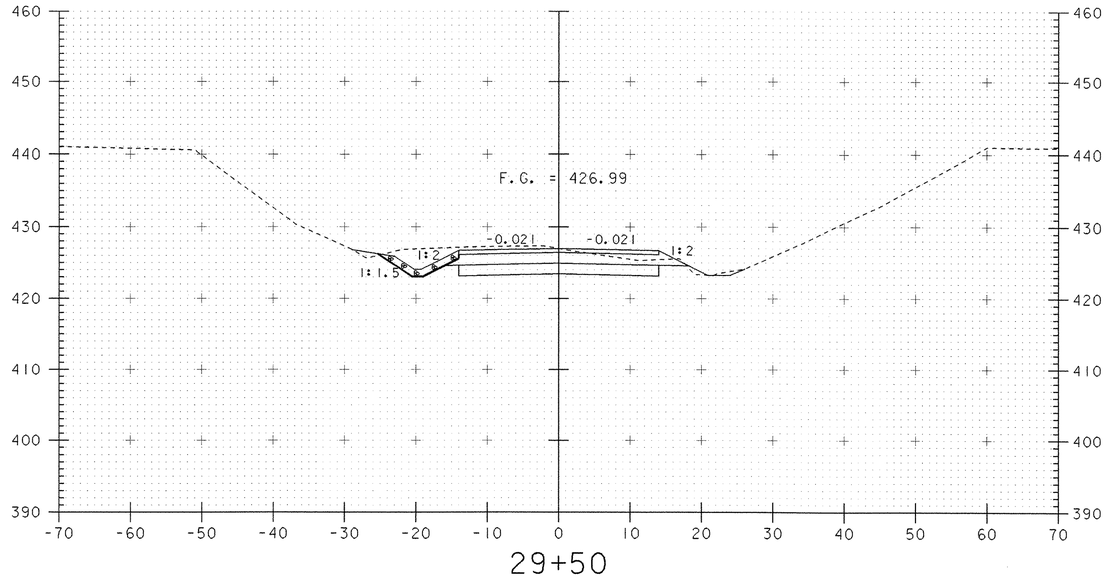
BEGIN APPROACH
STA 26+75.00



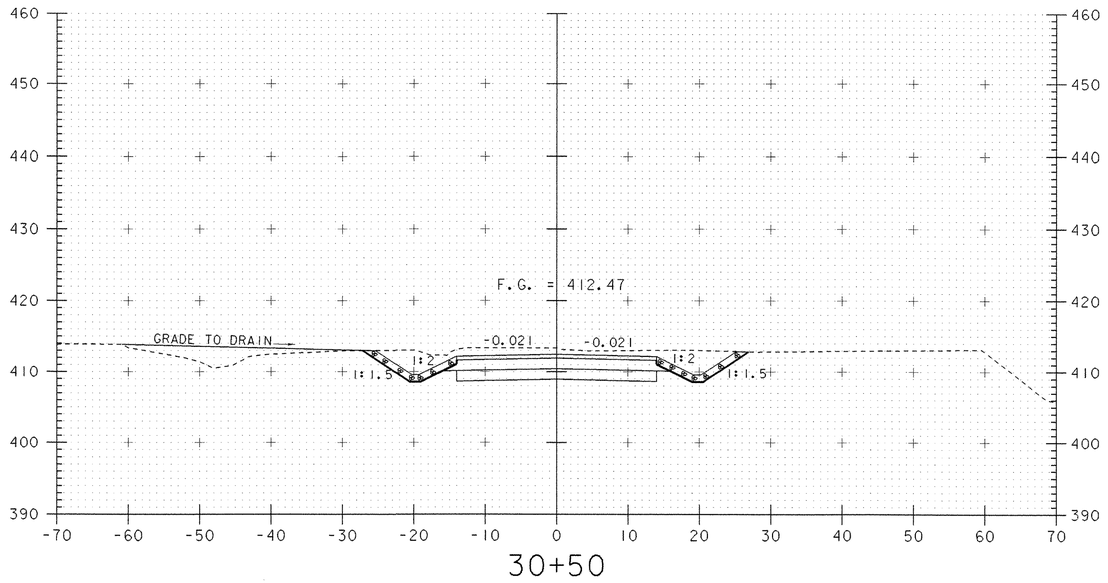
28+00

SCALE 1" = 10'-0
10 0 10

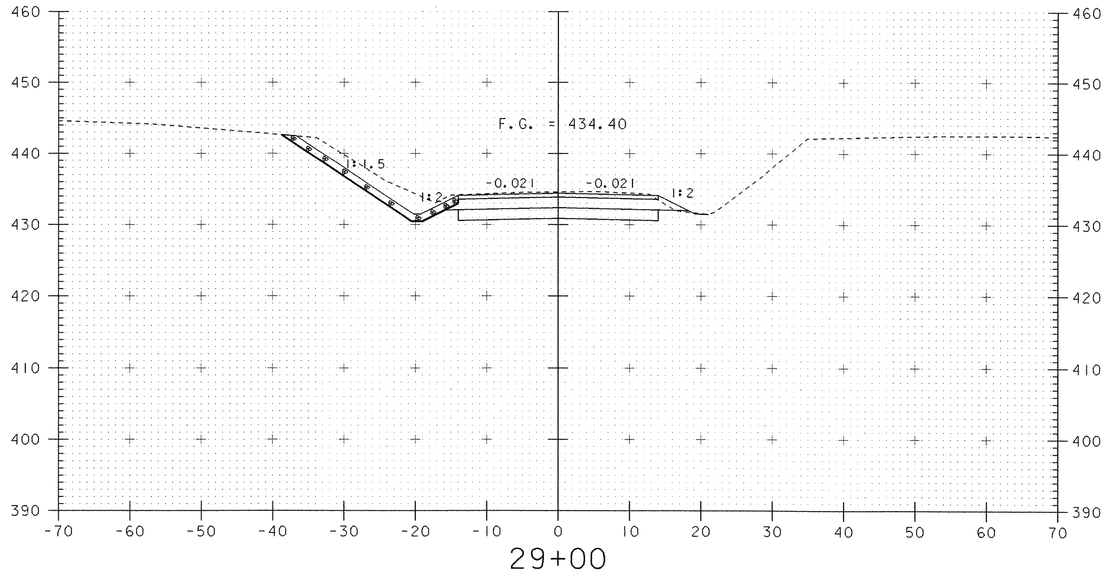
PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn IPARM FILE NAME: sj045ml2.i	PLOT DATE: 11-FEB-2005
TH 4 CROSS SECTIONS	
SECTION 27+00 THROUGH 28+50	SHEET: 66 OF 97



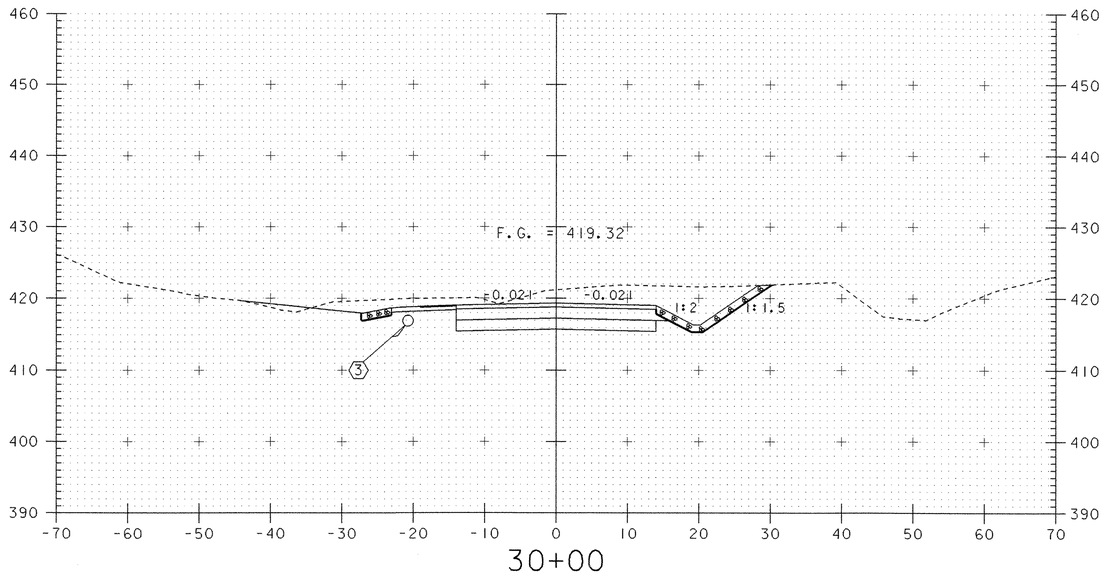
29+50



30+50



29+00

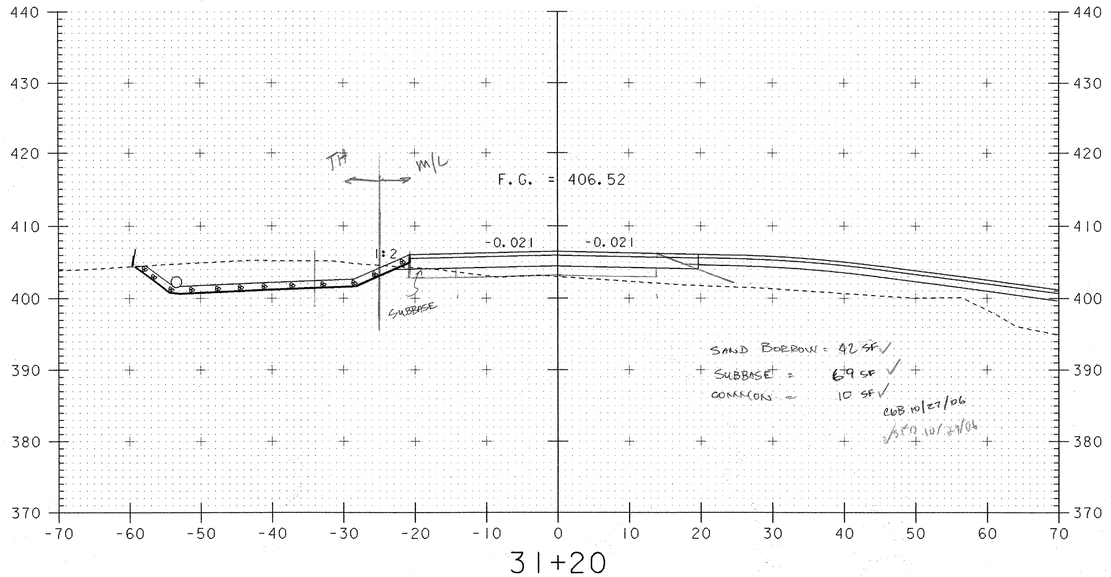


30+00

SCALE 1" = 10'-0

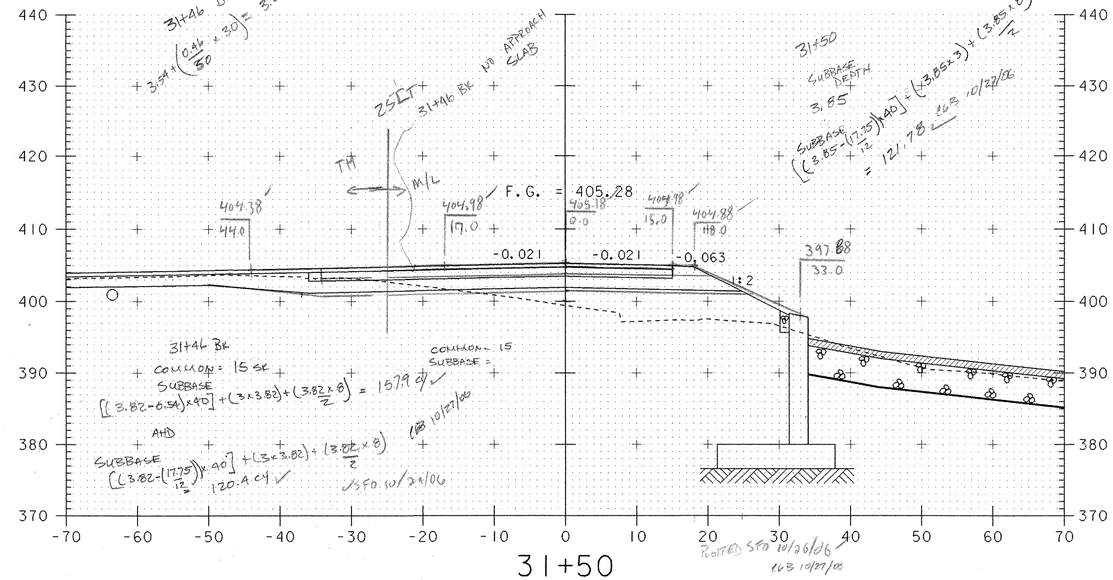
10 0 10

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn IPARM FILE NAME: sj045ml3.i	PLOT DATE: 11-FEB-2005
TH 4 CROSS SECTIONS	
SECTION 29+00 THROUGH 30+50	SHEET: 67 OF 97



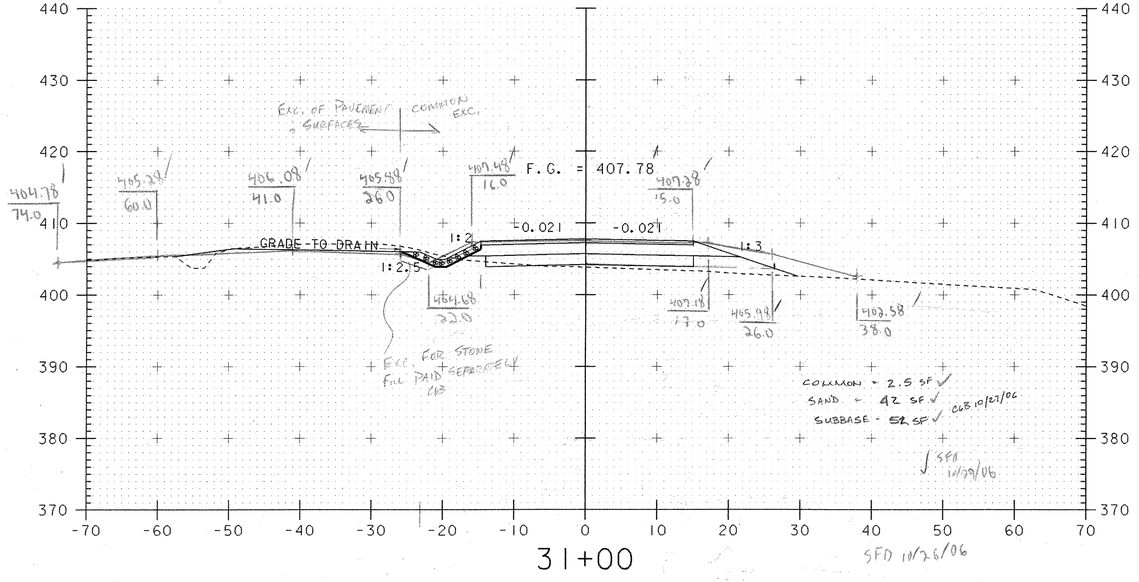
31+20

31+16 BEGIN SUBBASE & SAND TAPER

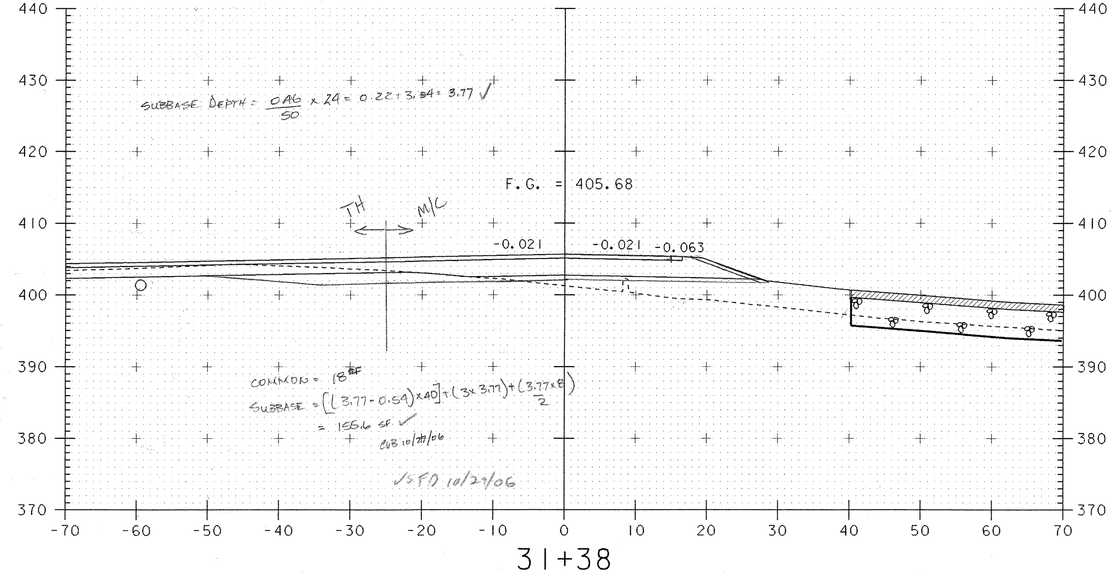


31+50

31+40 END SAND BORROW - SUBBASE = 3.23' DEPTH



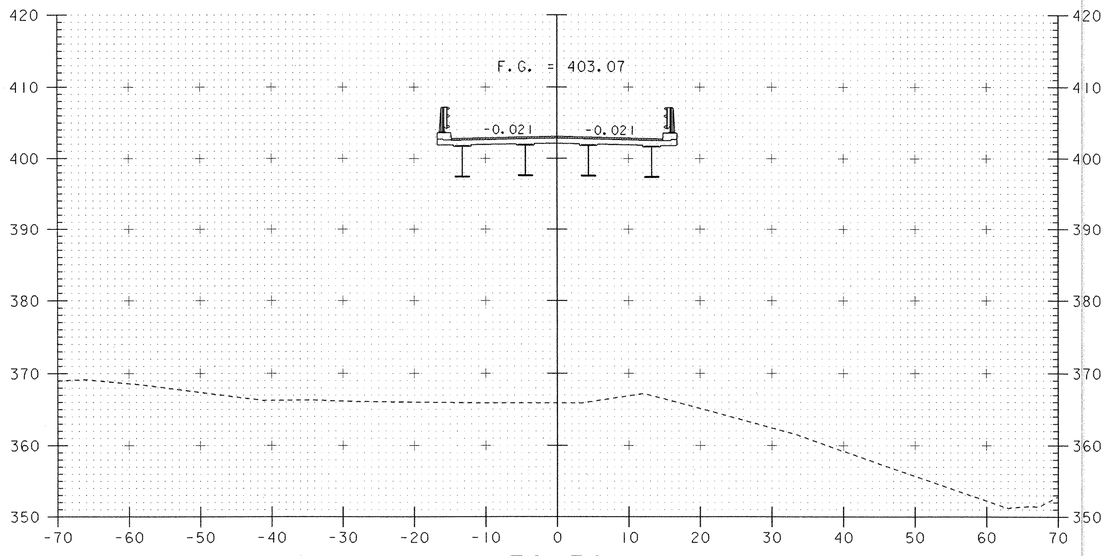
31+00



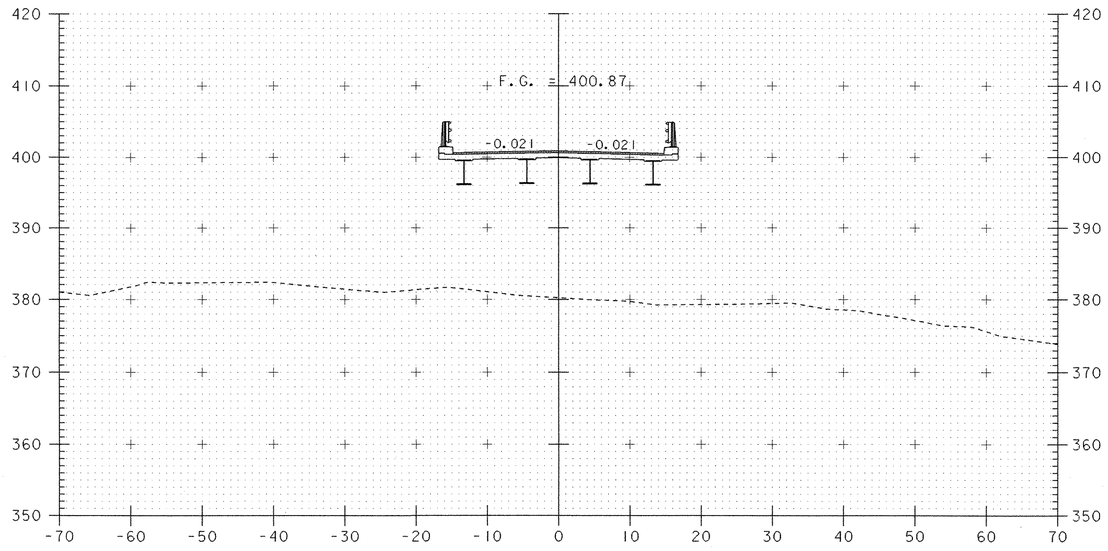
31+38

SCALE 1" = 10'-0

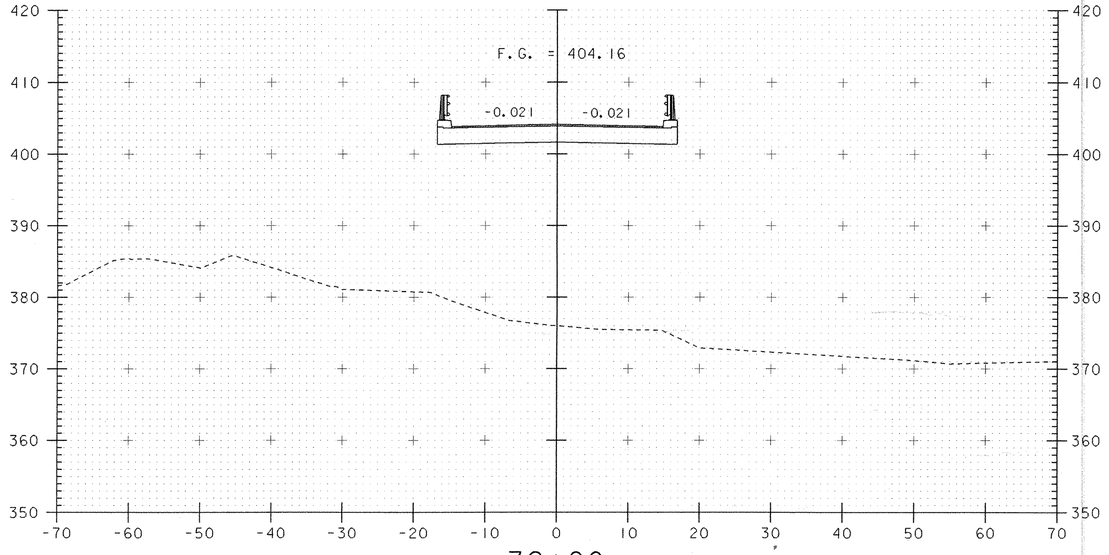
PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn IPARM FILE NAME: sj045ml4.i	PLOT DATE: 11-FEB-2005
TH 4 CROSS SECTIONS	
SECTION 31+00 THROUGH 31+50	SHEET: 68 OF 97



32+50

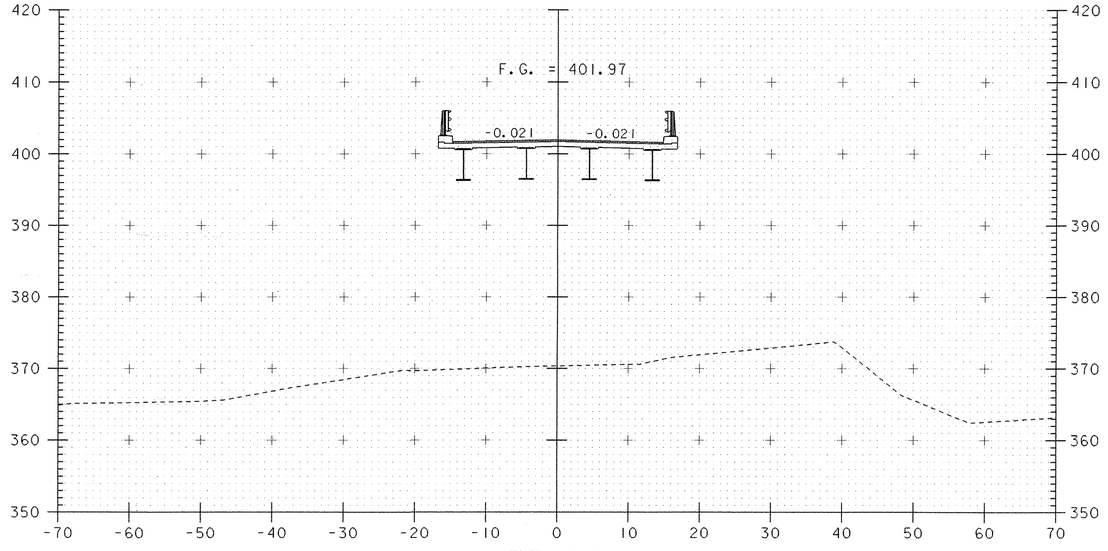


33+50



32+00

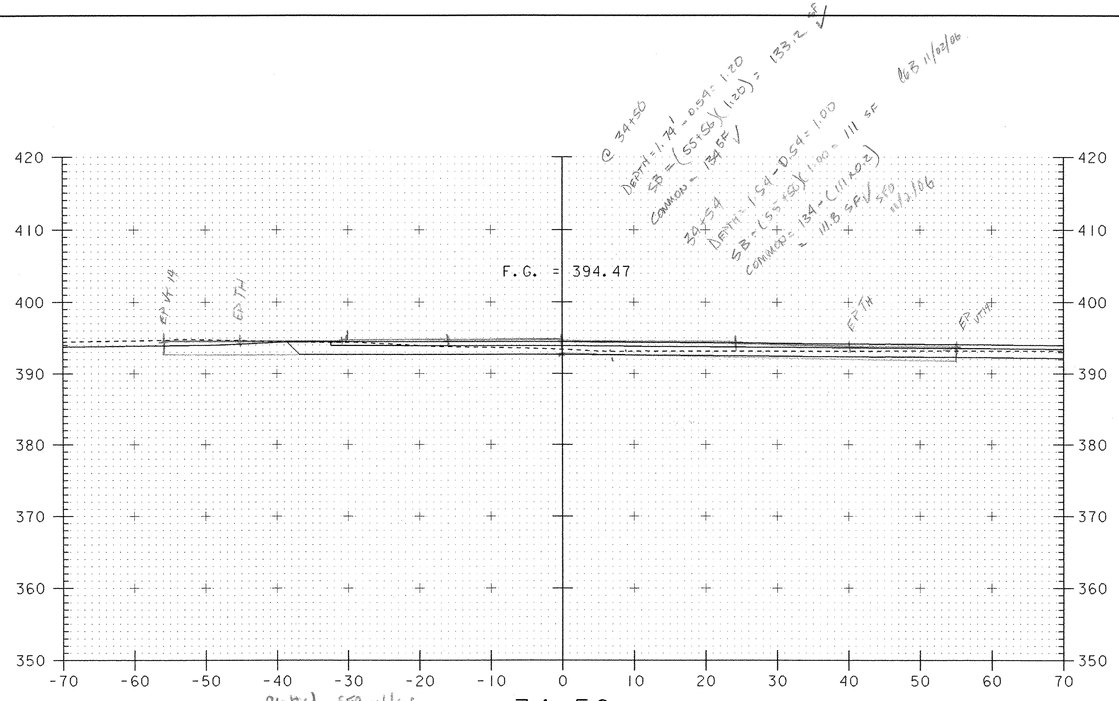
BEGIN BRIDGE
STA 31+66.00



33+00

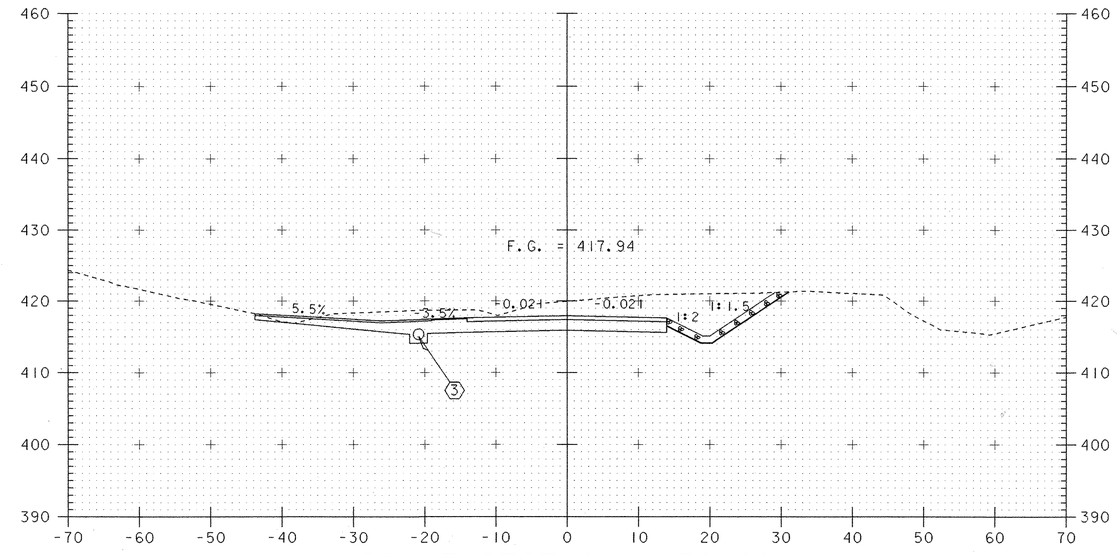
SCALE 1" = 10'-0
10 0 10

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn IPARM FILE NAME: sj045ml5.i	PLOT DATE: 11-FEB-2005
TH 4 CROSS SECTIONS	
SECTION 32+00 THROUGH 33+50	SHEET: 69 OF 97

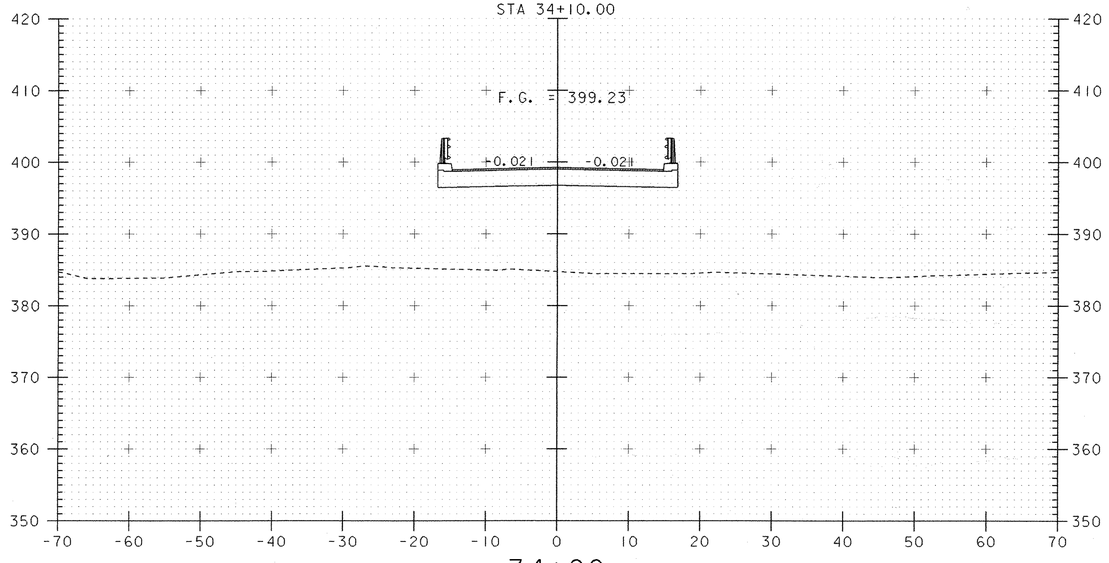


34+50

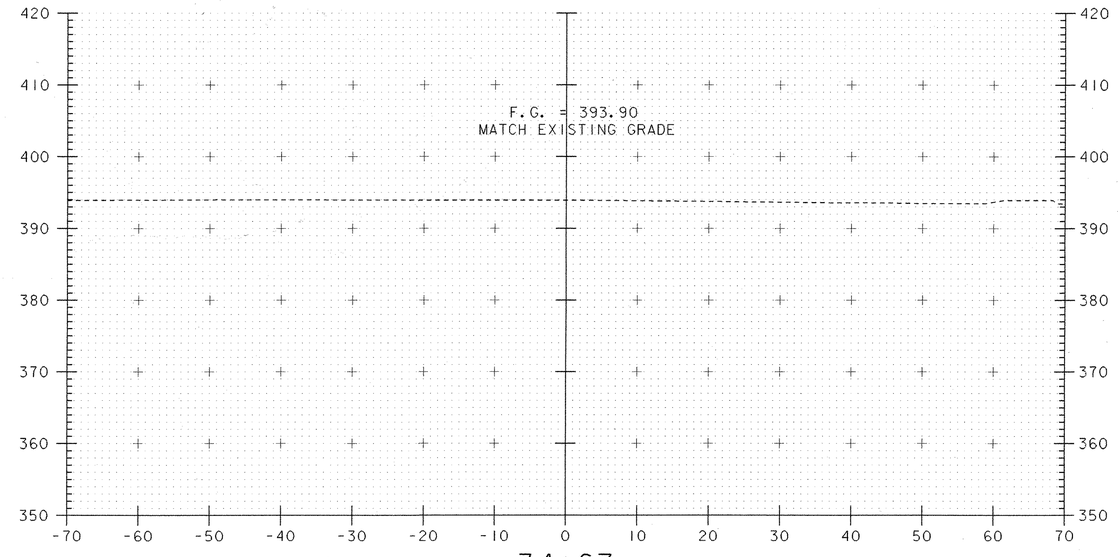
END PROJECT
STA 34+50.00
END BRIDGE
STA 34+10.00



DRIVE SECTION @ 30+09



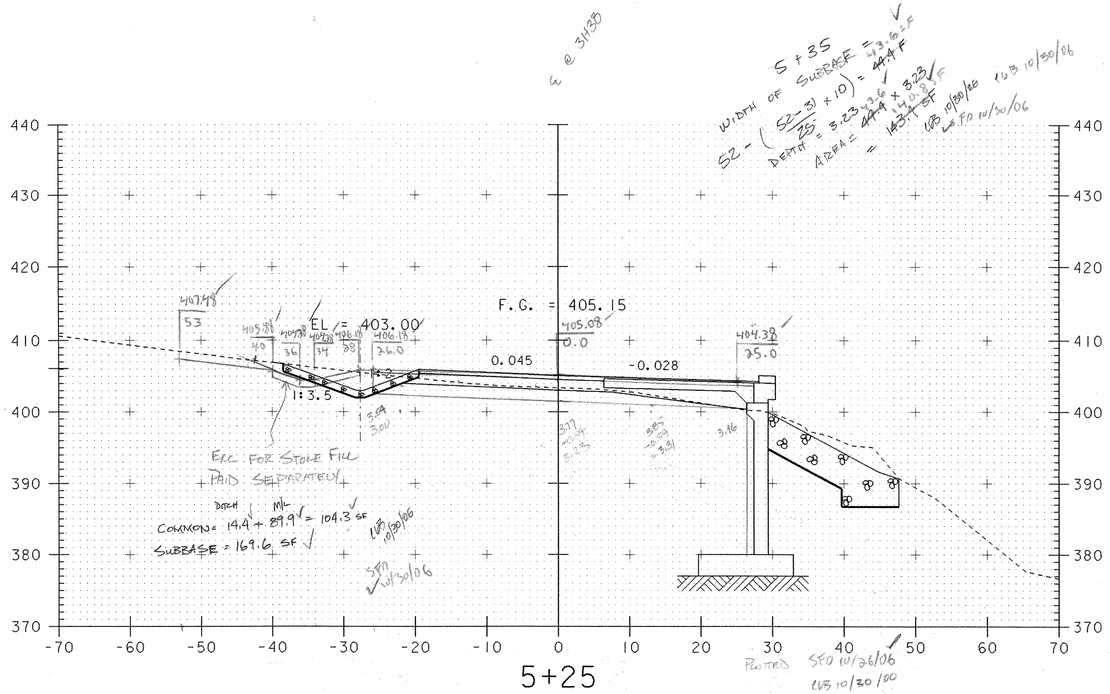
34+00



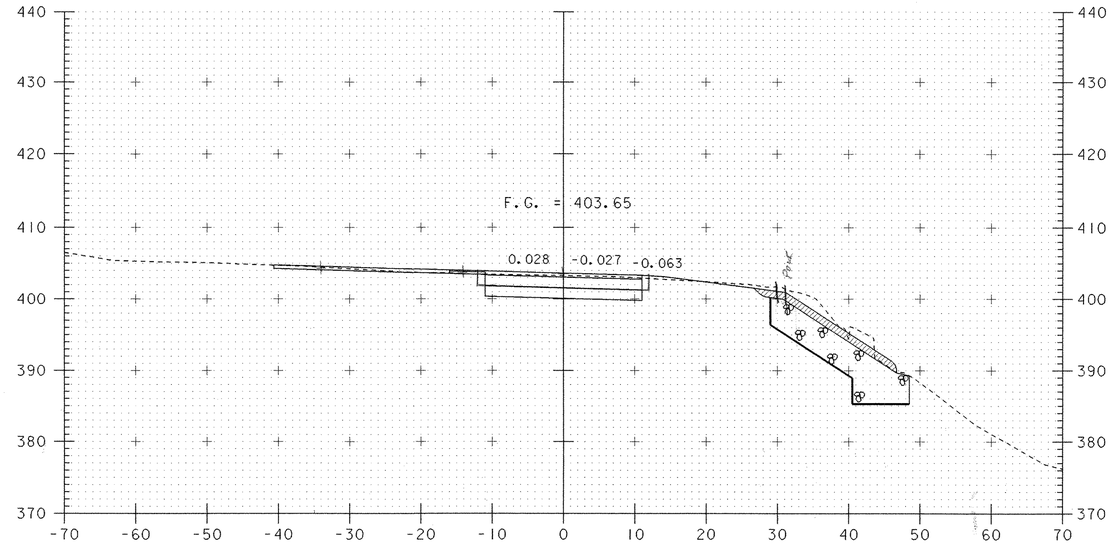
34+67

SCALE 1" = 10'-0
10 0 10

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn IPARM FILE NAME: sj045ml6.i	PLOT DATE: 11-FEB-2005
TH 4 CROSS SECTIONS	
SECTION 34+00 THROUGH 34+67	SHEET: 70 OF 97

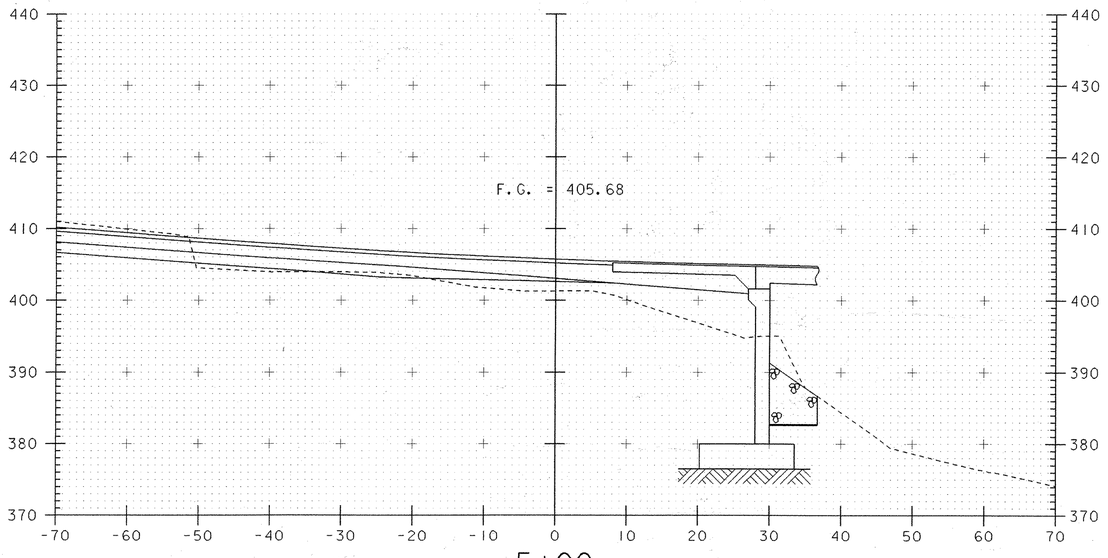


5+25

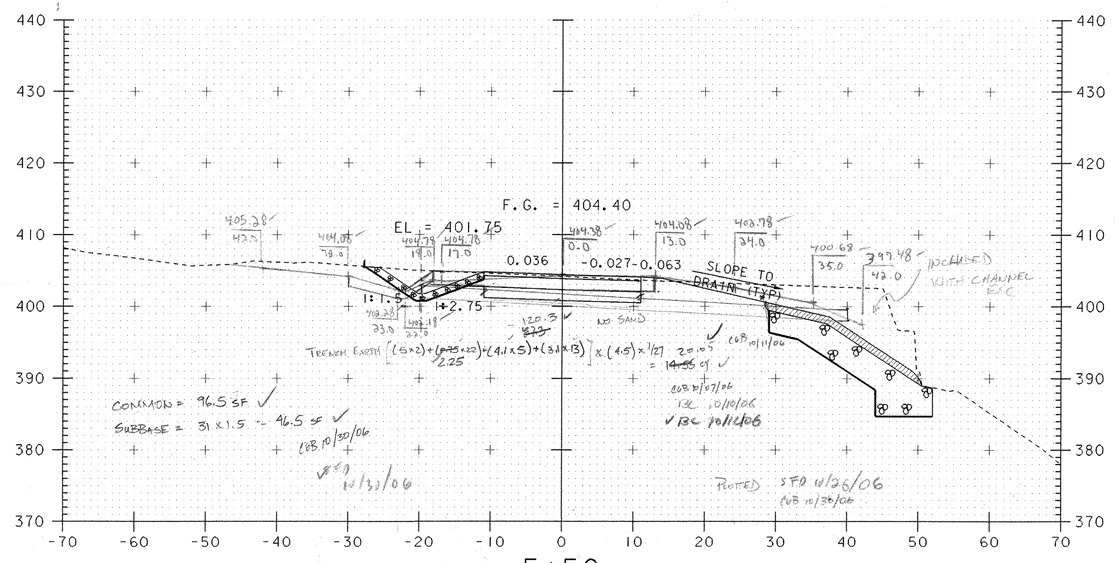


5+75

END PROJECT/BEGIN APPROACH
STA 5+75.00



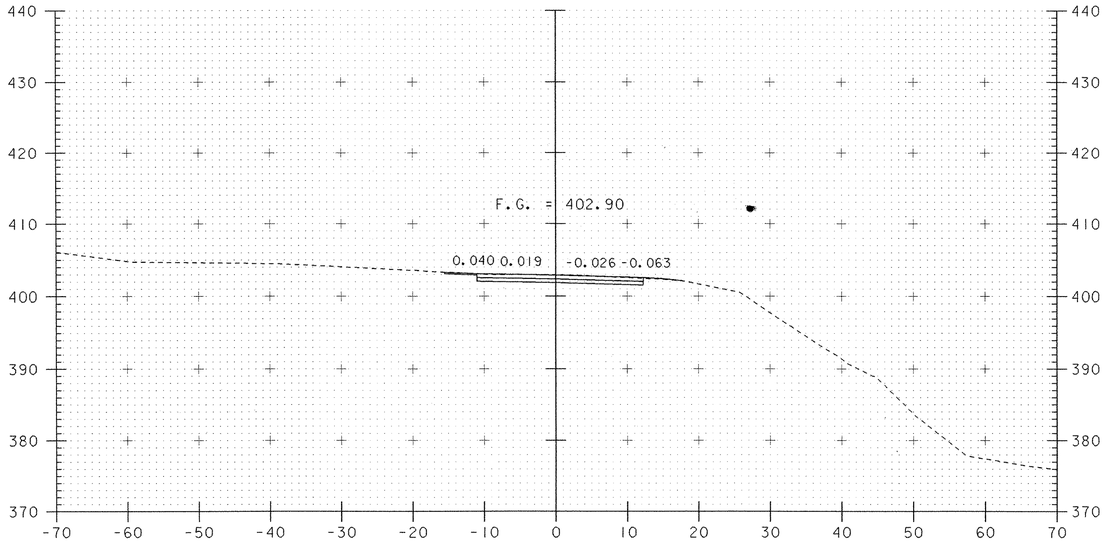
5+00



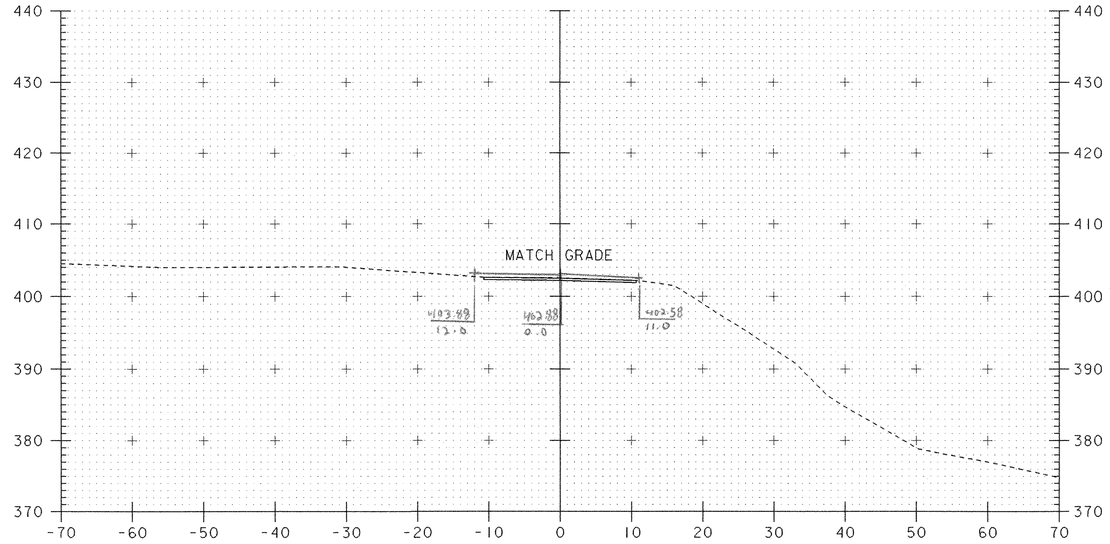
5+50

SCALE 1" = 10'-0
10 0 10

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89J045/structures/sj045xsl.dgn IPARM FILE NAME: sj045th5l.i	PLOT DATE: 11-FEB-2005
TH 5 CROSS SECTIONS	
SECTION 5+00 THROUGH 5+75	SHEET: 71 OF 97

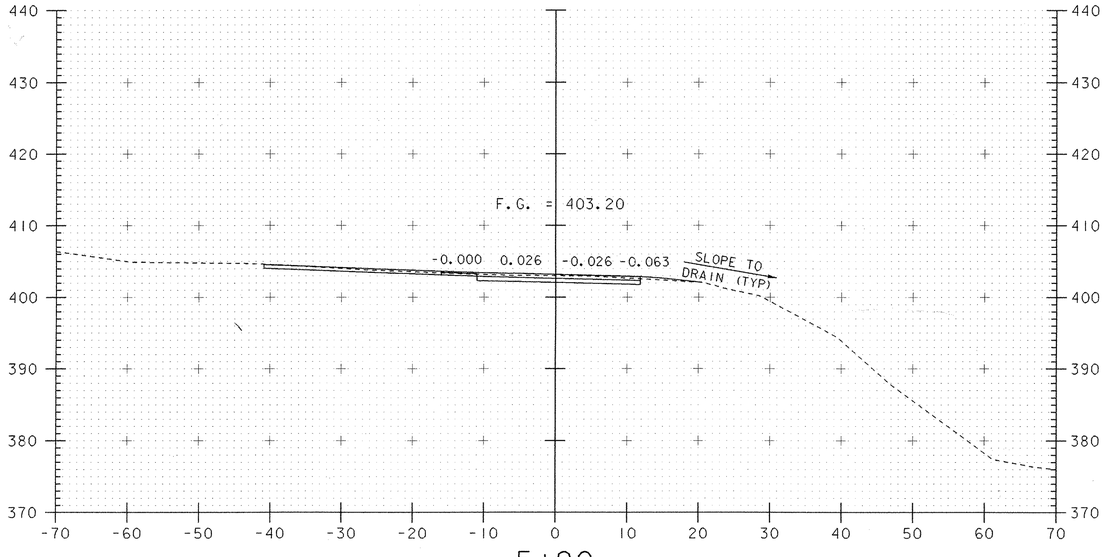


6+00

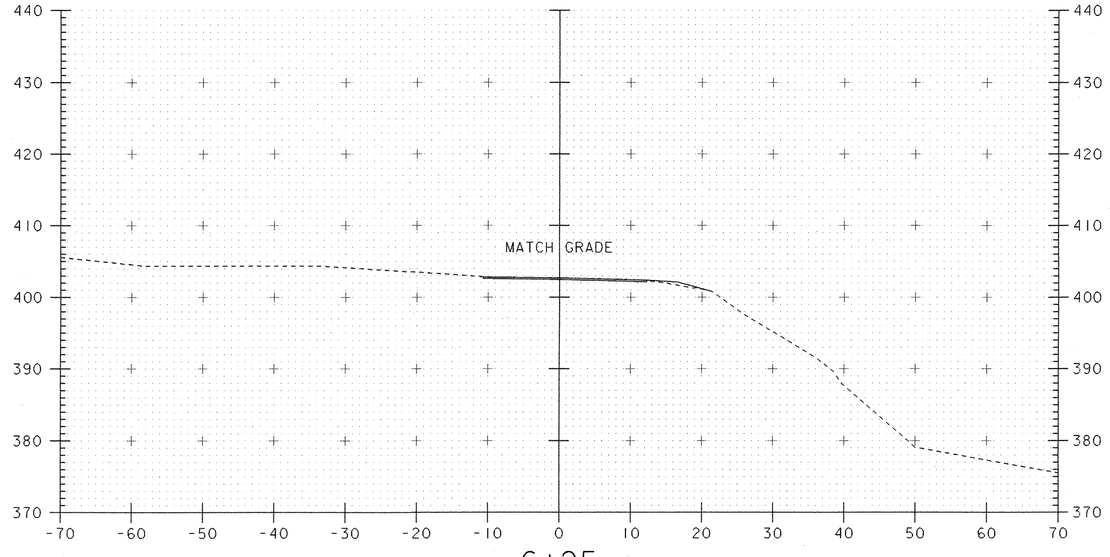


6+50

END APPROACH
STA 6+50.00



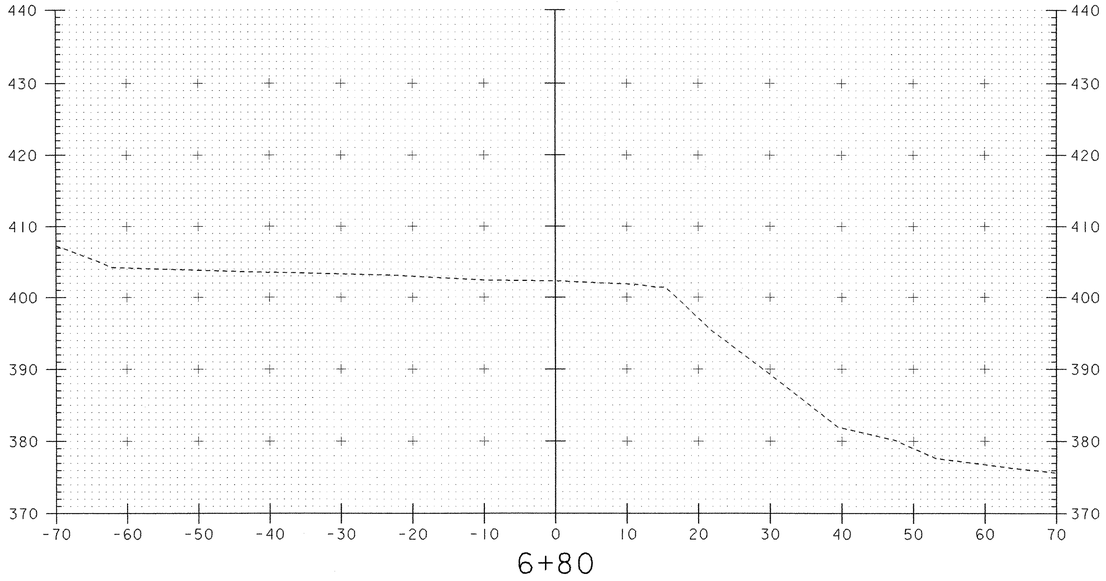
5+90



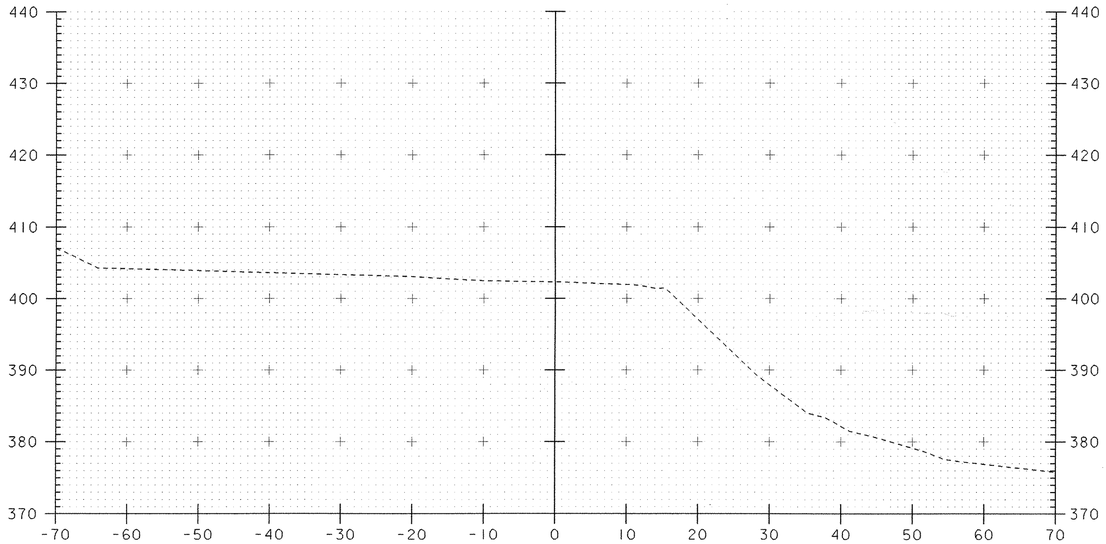
6+25

SCALE 1" = 10'-0
10 0 10

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn IPARM FILE NAME: sj045th52.i	PLOT DATE: 11-FEB-2005
TH 5 CROSS SECTIONS	
SECTION 5+90 THROUGH 6+50	SHEET: 72 OF 97



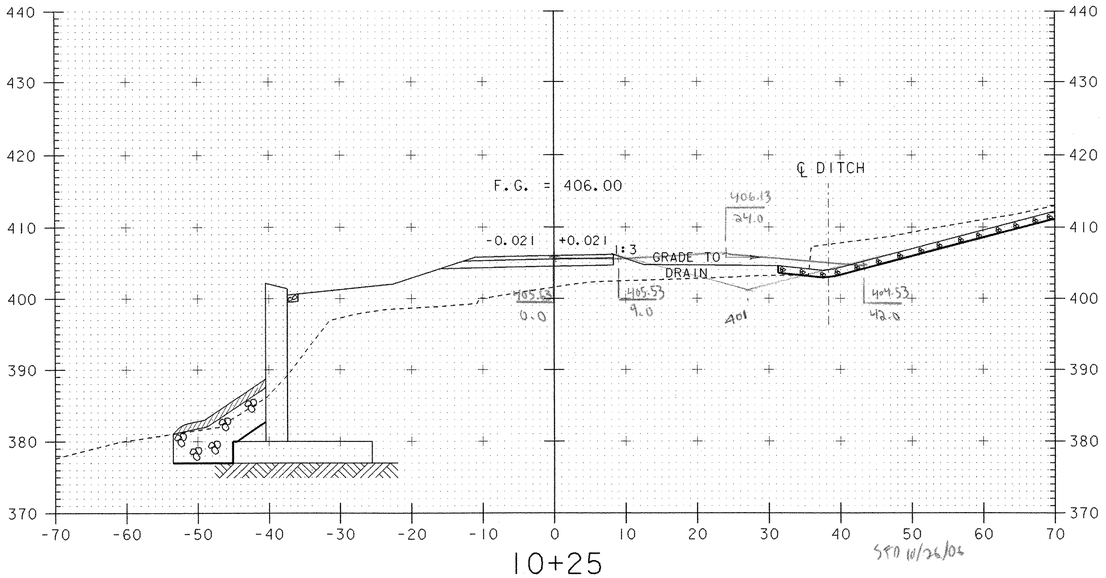
6+80



6+75

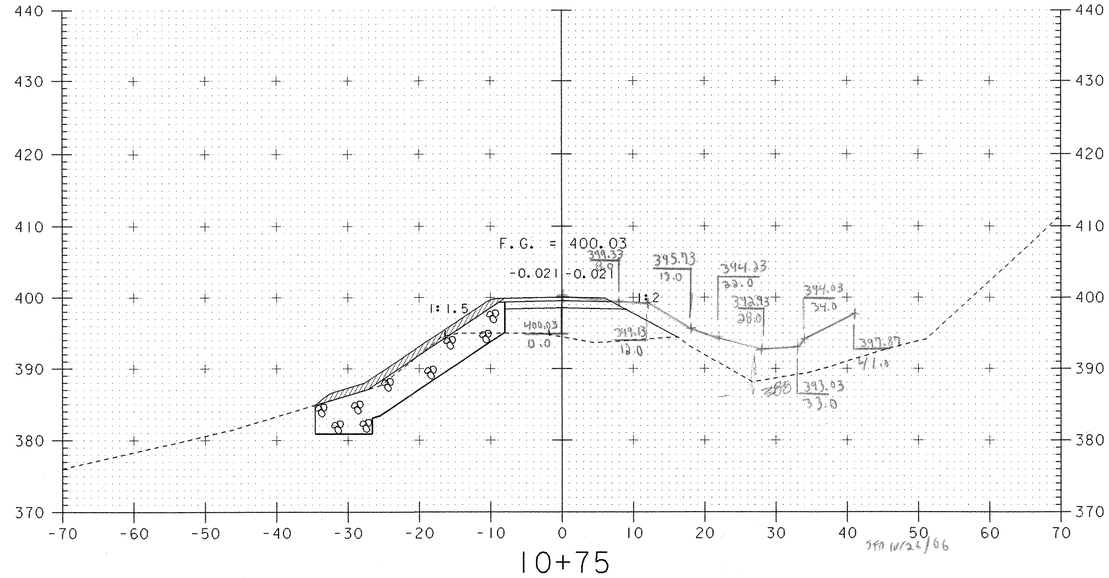
SCALE 1" = 10'-0
10 0 10

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn IPARM FILE NAME: sj045th53.i	PLOT DATE: 11-FEB-2005
TH 5 CROSS SECTIONS	
SECTION 6+75 THROUGH 6+80	SHEET: 73 OF 97



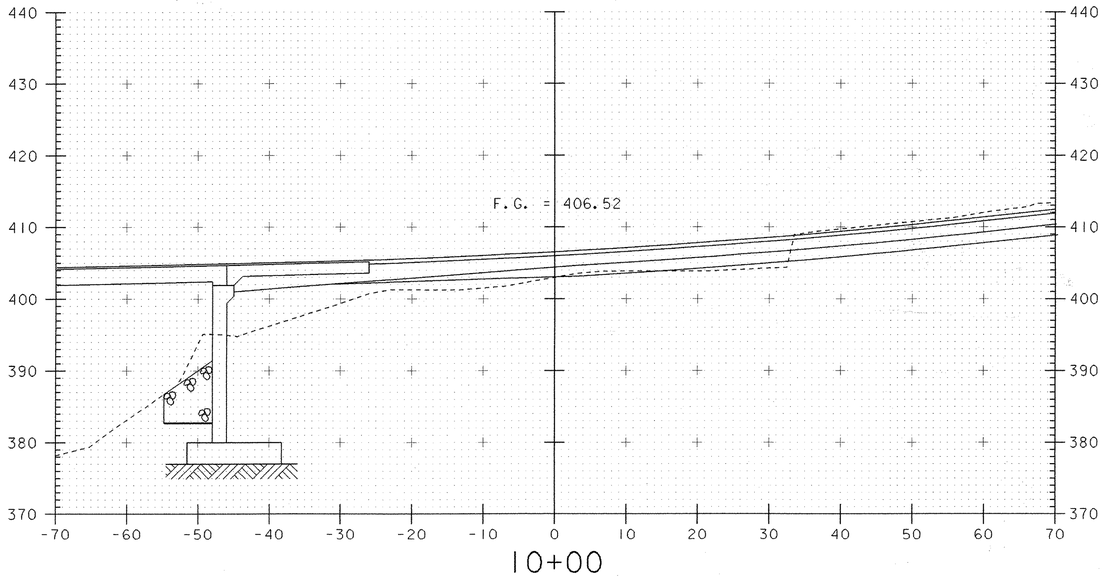
10+25

SFD 10/26/04

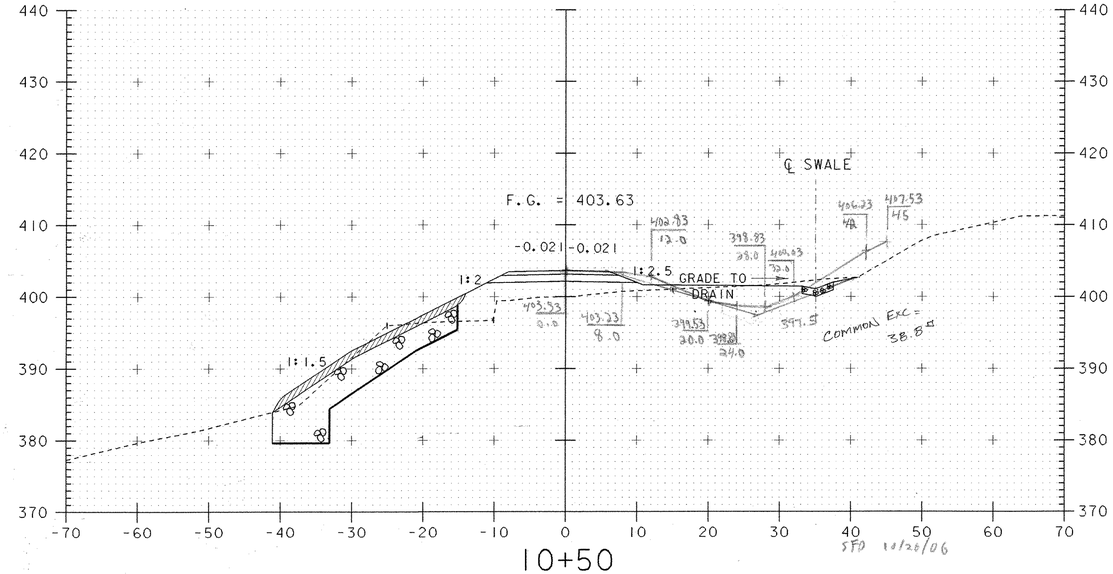


10+75

SFD 10/26/06



10+00



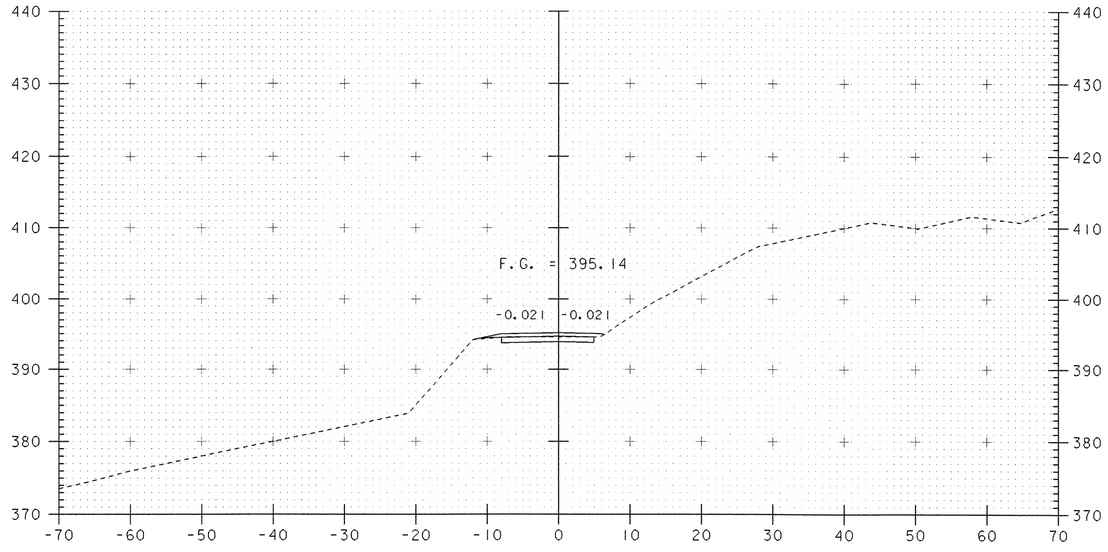
10+50

SFD 10/26/06

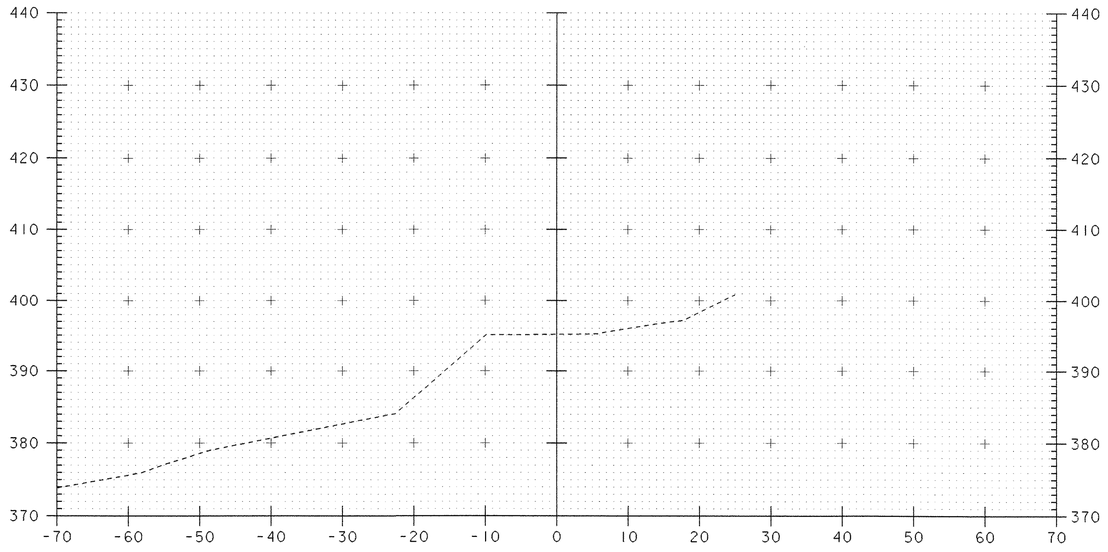
SCALE 1" = 10'-0

10 0 10

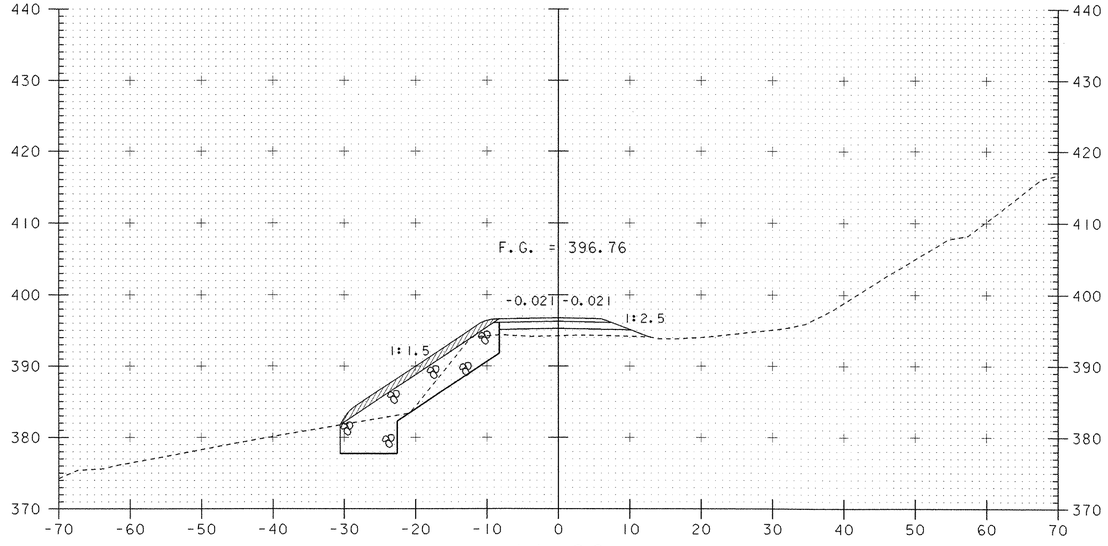
PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn IPARM FILE NAME: sj045drl.i	PLOT DATE: 11-FEB-2005
DRIVE CROSS SECTIONS	
SECTION 10+00 THROUGH 10+75	SHEET: 74 OF 97



11+25

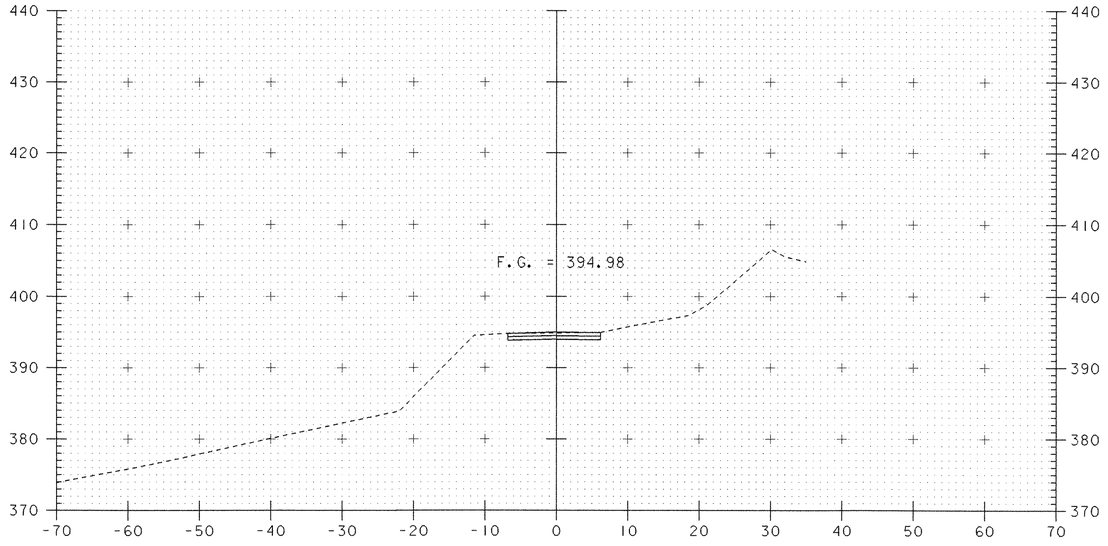


11+75



11+00

END PROJECT/BEGIN APPROACH
STA 11+00.00



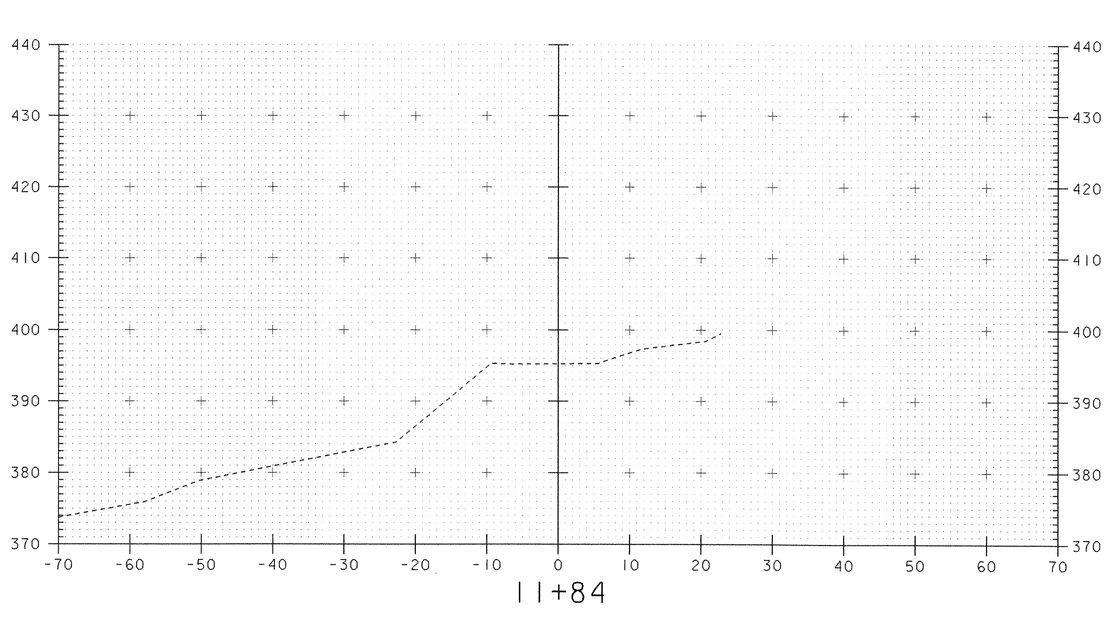
11+50

END APPROACH
STA 11+50.00

SCALE 1" = 10'-0

10 0 10

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn IPARM FILE NAME: sj045dr2.i	PLOT DATE: 11-FEB-2005
DRIVE CROSS SECTIONS	
SECTION 11+00 THROUGH 11+75	SHEET: 75 OF 97

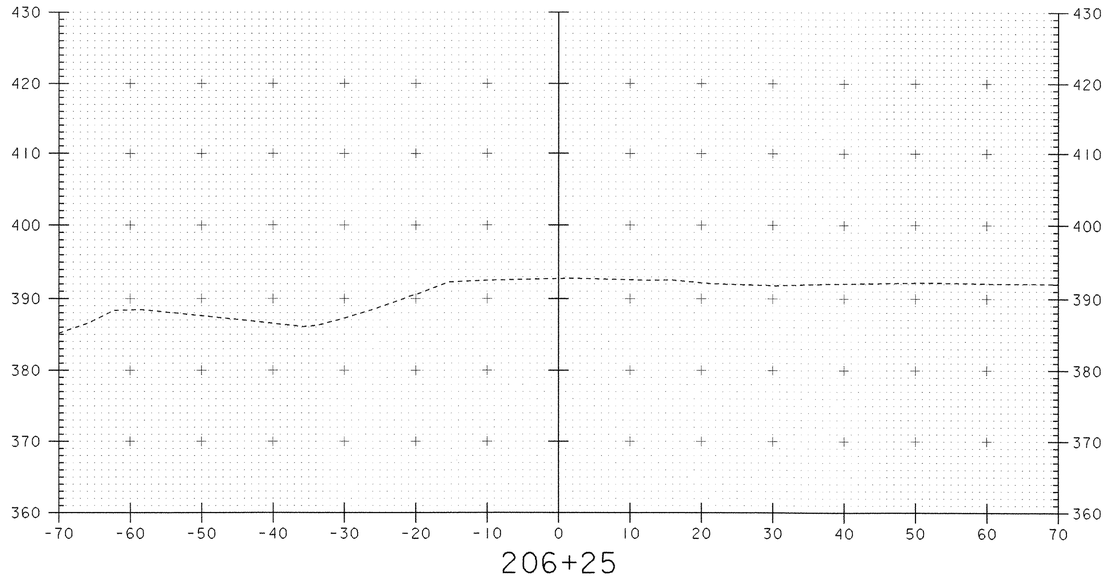


11+84

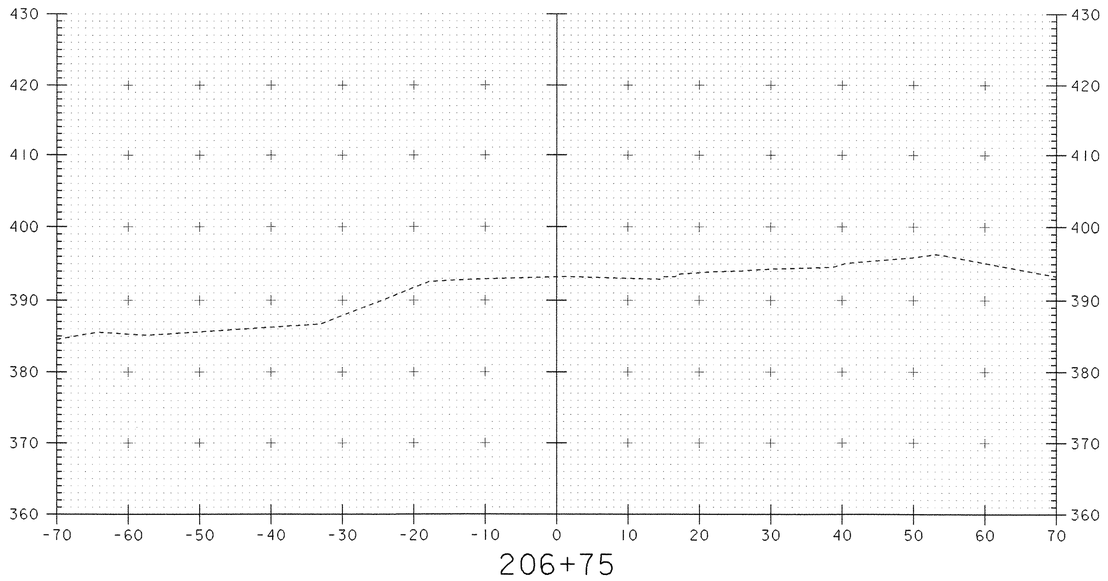
SCALE 1" = 10'-0

10 0 10

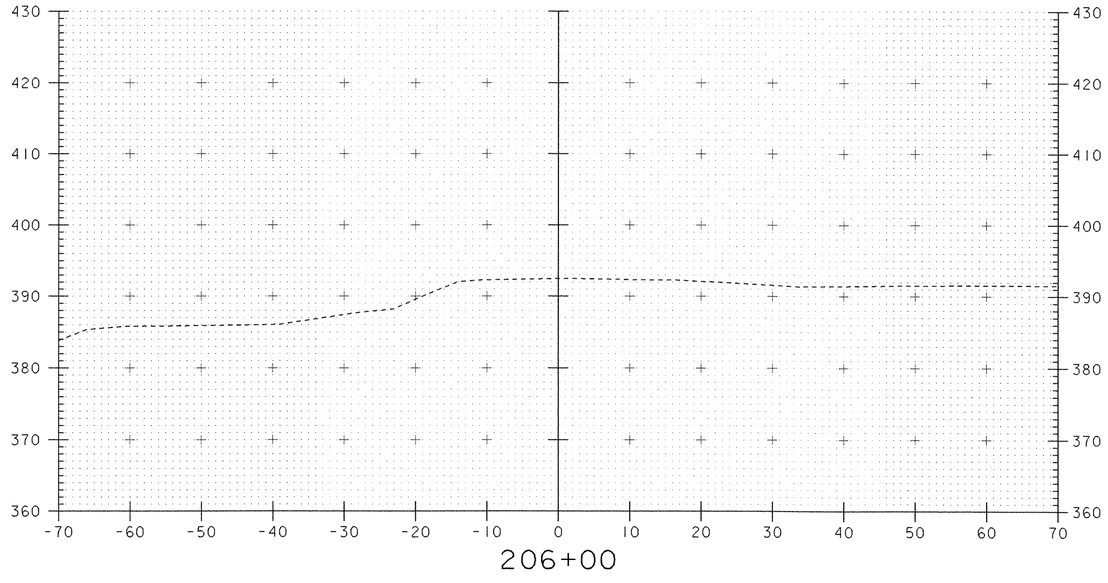
PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn IPARM FILE NAME: sj045dr3.i	PLOT DATE: 11-FEB-2005
DRIVE CROSS SECTIONS	
SECTION 12+00	SHEET: 76 OF 97



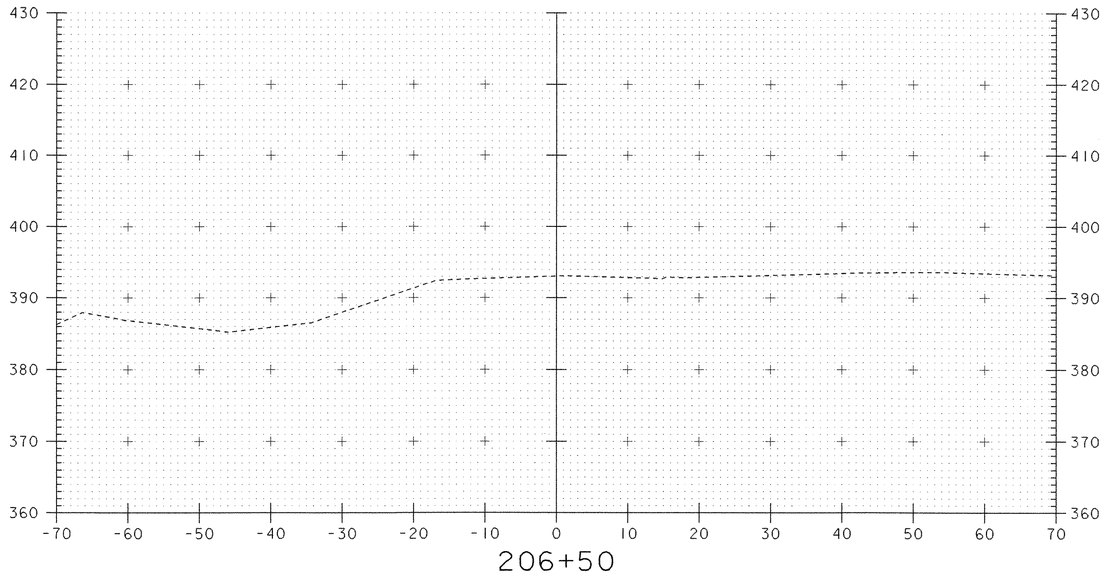
206+25



206+75



206+00

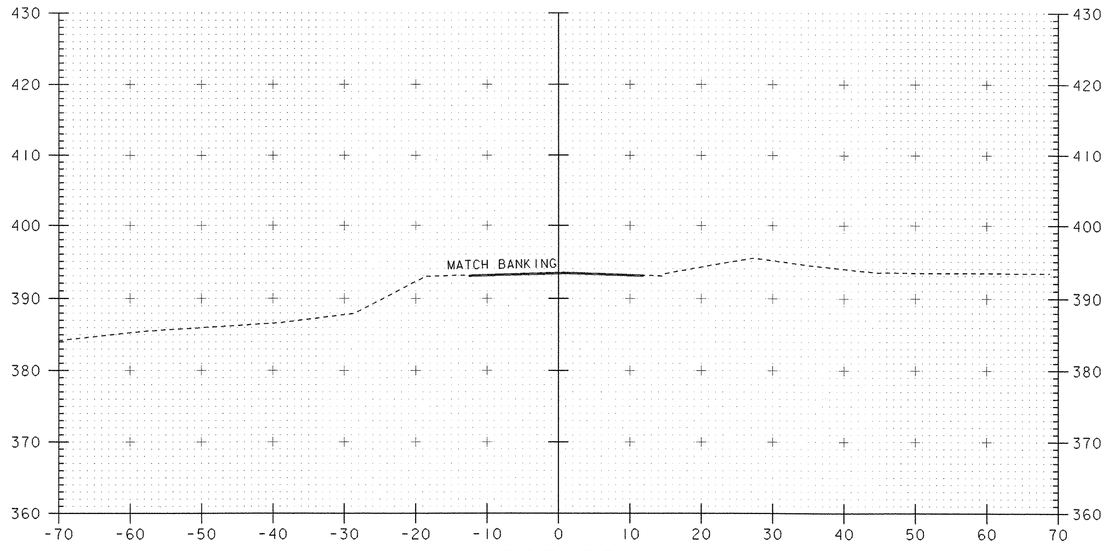


206+50

SCALE 1" = 10'-0

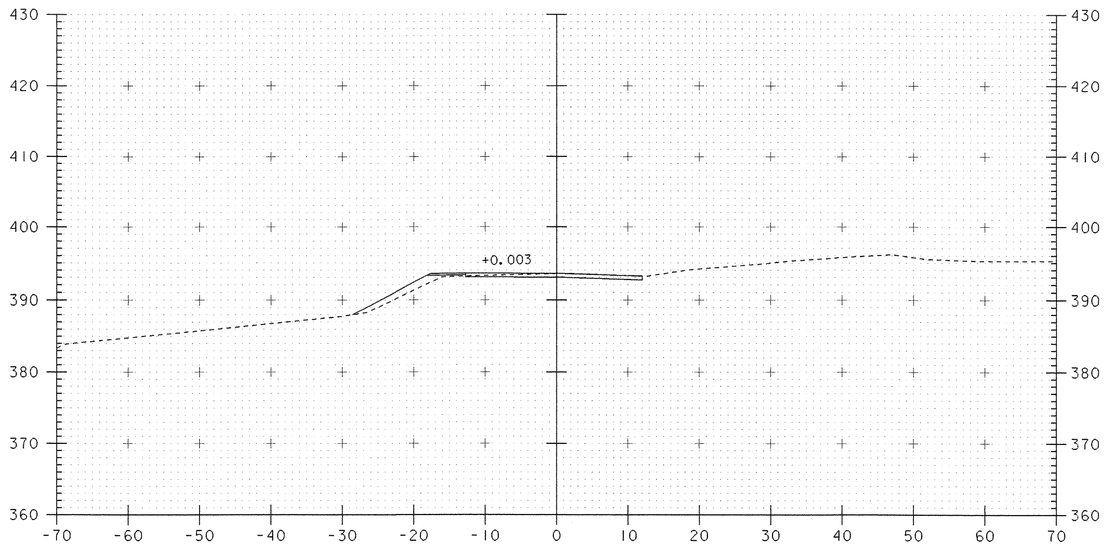
10 0 10

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89J045/structures/sj045xsl.dgn IPARM FILE NAME: sj045vtl.i	PLOT DATE: 11-FEB-2005
VT RT 14 CROSS SECTIONS	
SECTION 206+00 THROUGH 206+75	SHEET: 77 OF 97

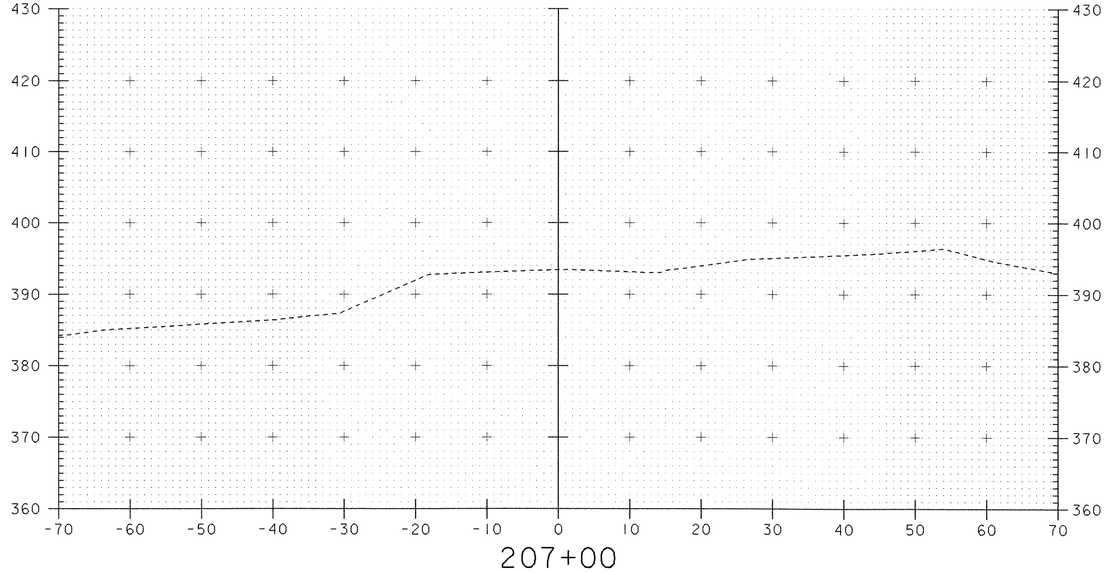


207+25

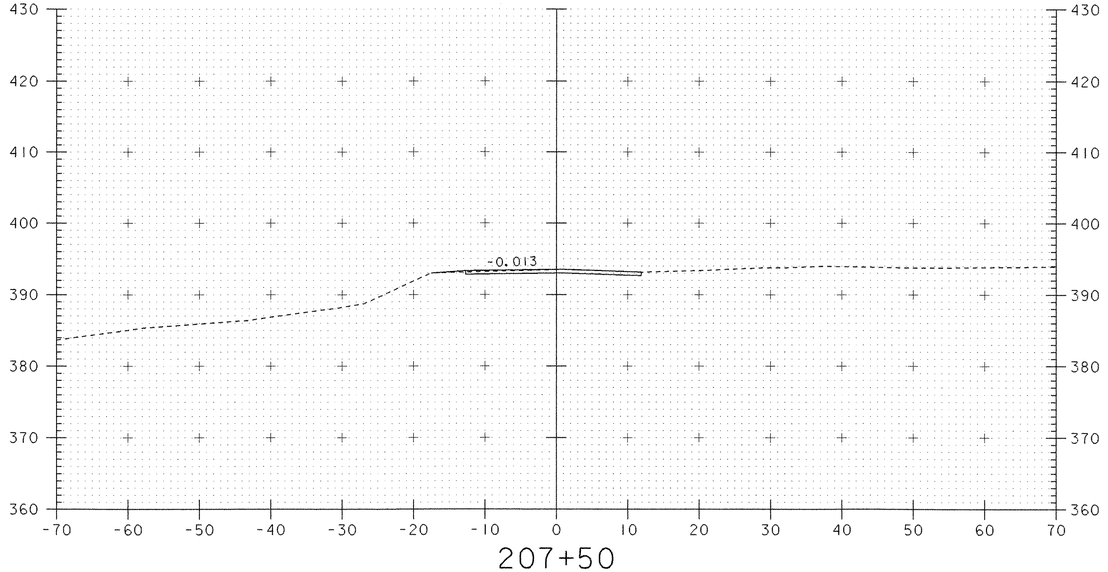
BEGIN APPROACH
BEGIN COLDPLANING
STA 207+25.00



207+75



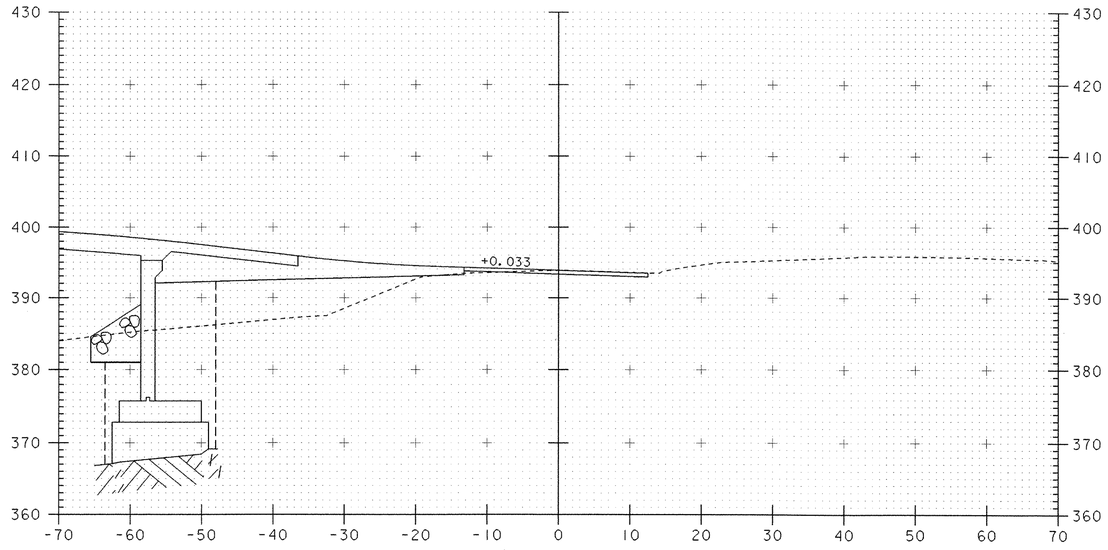
207+00



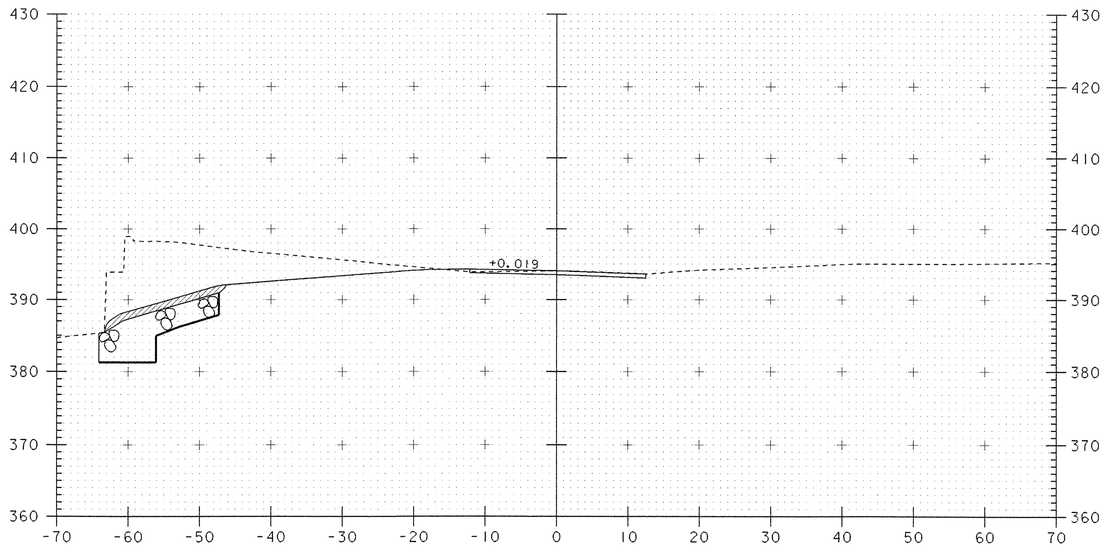
207+50

SCALE 1" = 10'-0
10 0 10

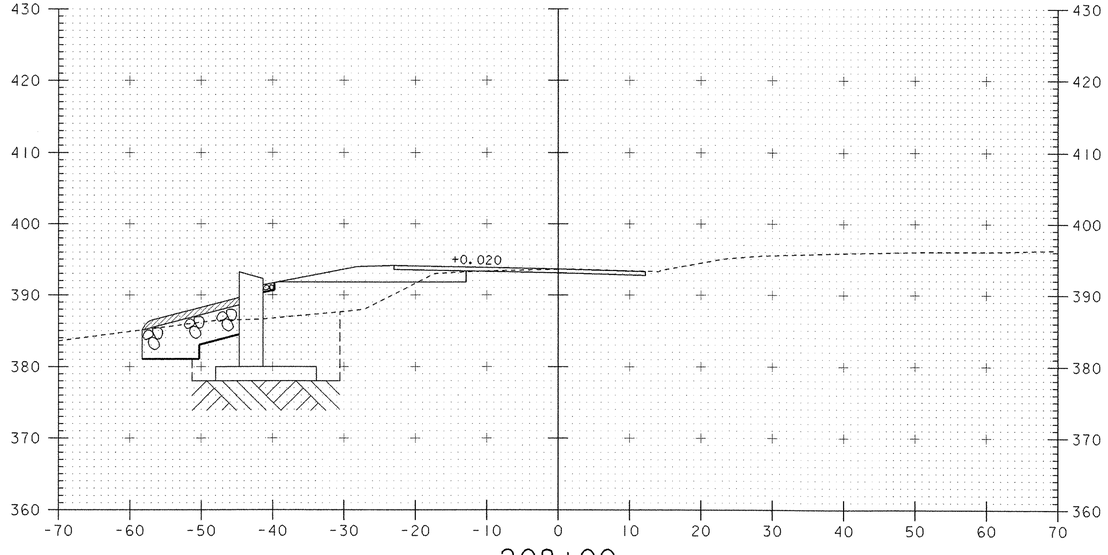
PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89J045/structures/sj045xsl.dgn IPARM FILE NAME: sj045vt2.I	PLOT DATE: 11-FEB-2005
VT RT 14 CROSS SECTIONS	
SECTION 207+00 THROUGH 207+75	SHEET: 78 OF 97



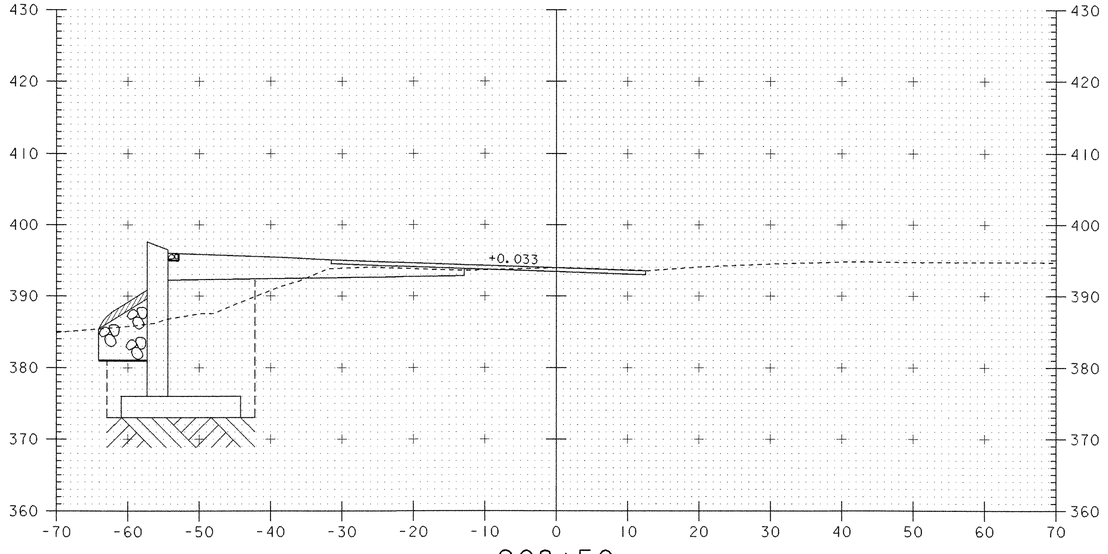
208+25



208+75



208+00

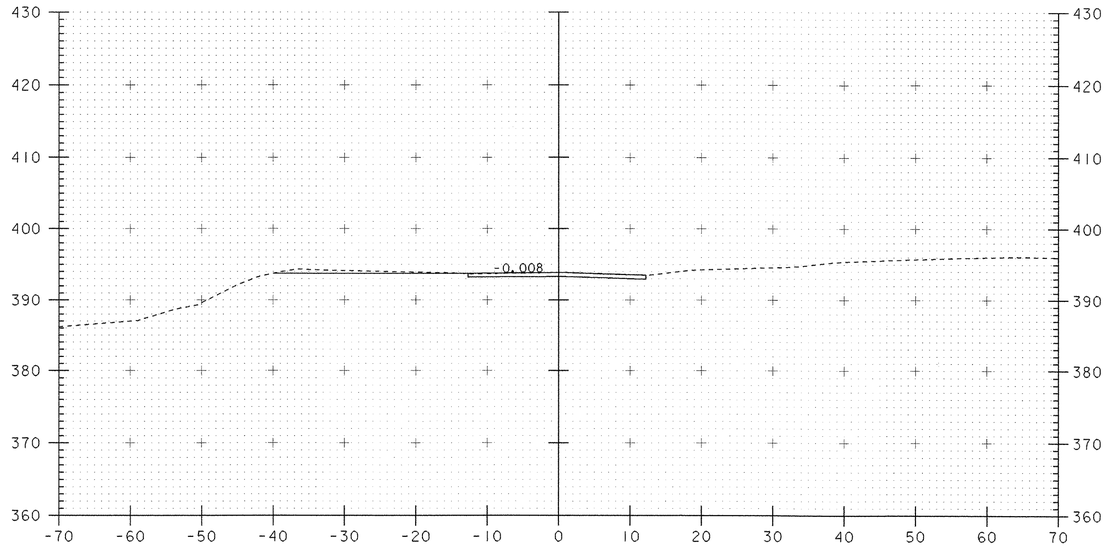


208+50

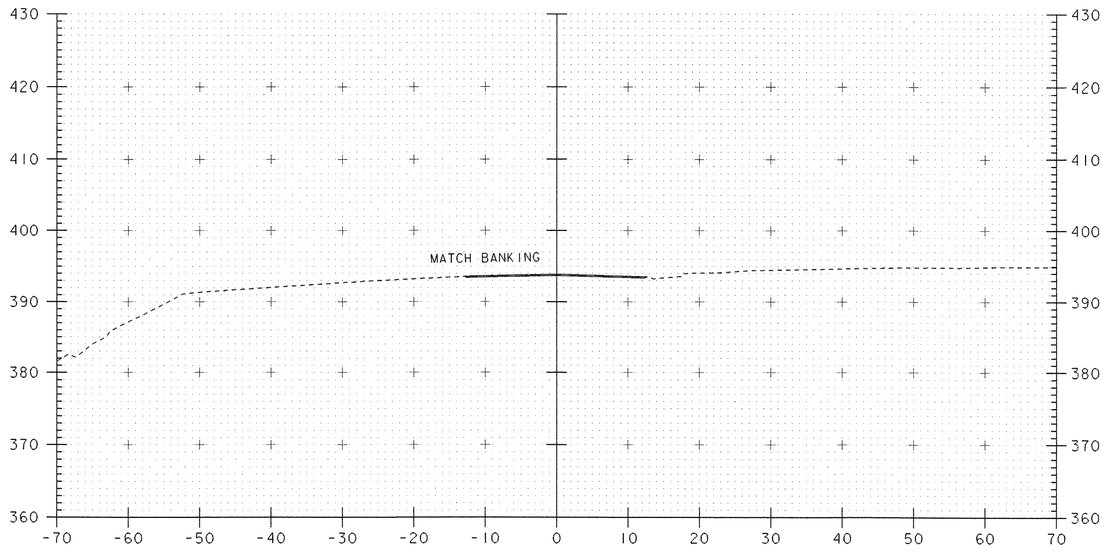
SCALE 1" = 10'-0

10 0 10

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn IPARM FILE NAME: sj045vt3.i	PLOT DATE: 11-FEB-2005
VT RT 14 CROSS SECTIONS	
SECTION 208+00 THROUGH 208+75	SHEET: 79 OF 97

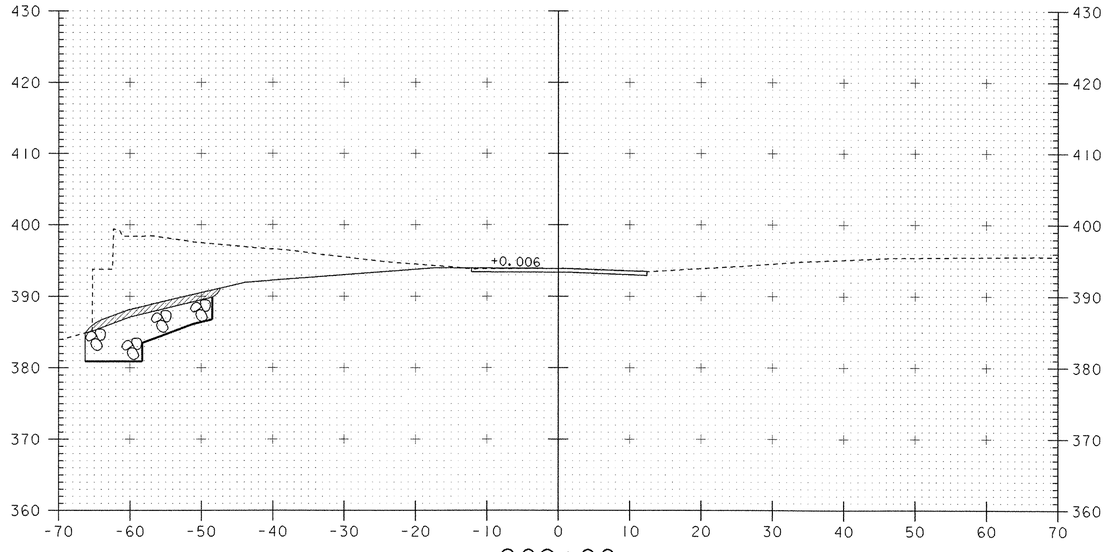


209+25

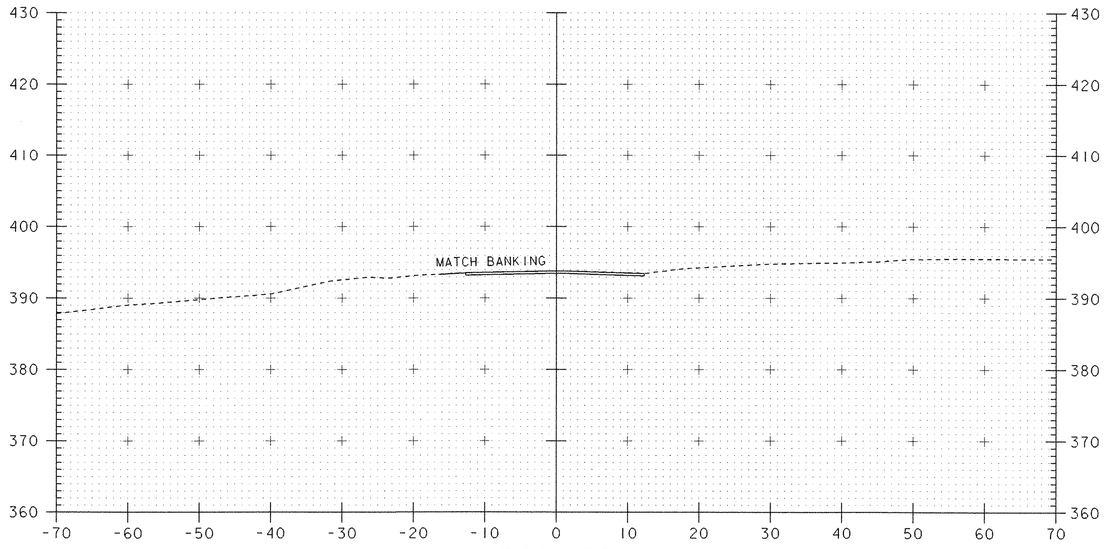


209+75

END APPROACH
STA 209+75.00



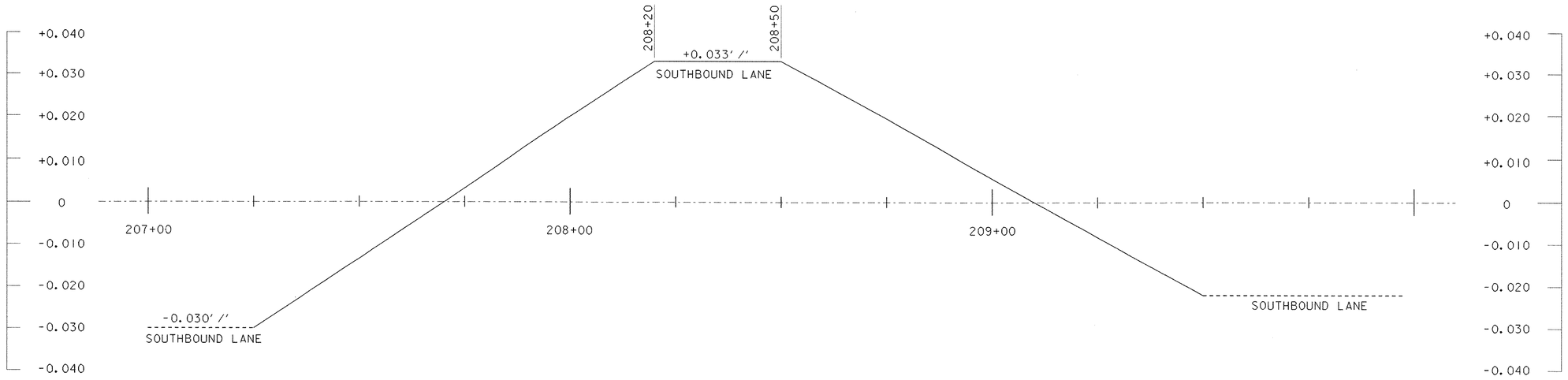
209+00



209+50

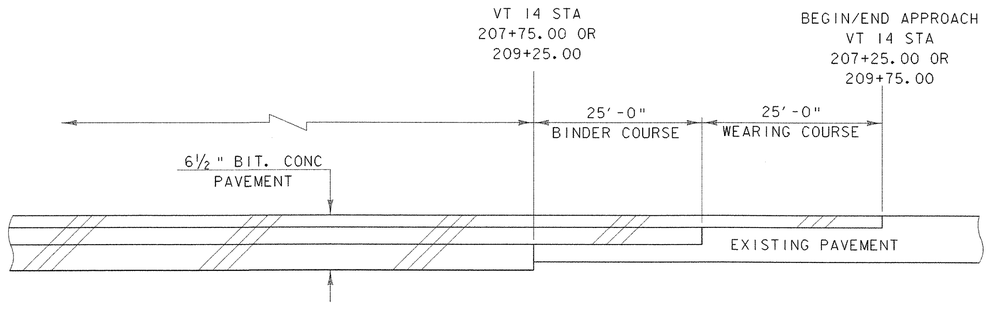
SCALE 1" = 10'-0
10 0 10

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89J045/structures/sj045xsl.dgn IPARM FILE NAME: sj045vt4.i	PLOT DATE: 11-FEB-2005
VT RT 14 CROSS SECTIONS	
SECTION 209+00 THROUGH 209+75	SHEET: 80 OF 97



BANKING DIAGRAM FOR VT RTE 14 (STA. 207+25 THROUGH 209+50 LEFT LANE ONLY)

NTS



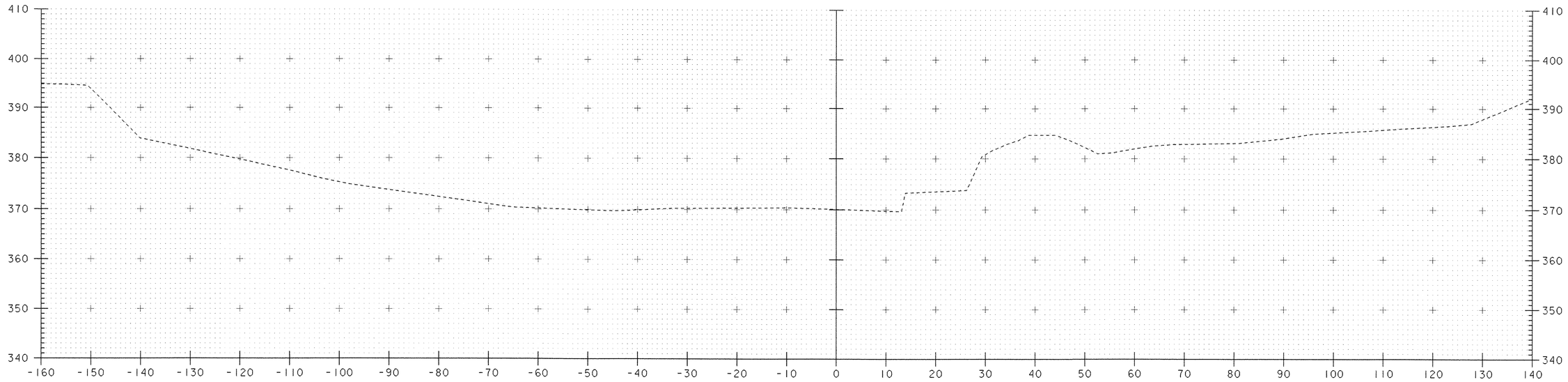
BEGIN/END APPROACH FOR VT RTE 14

NTS

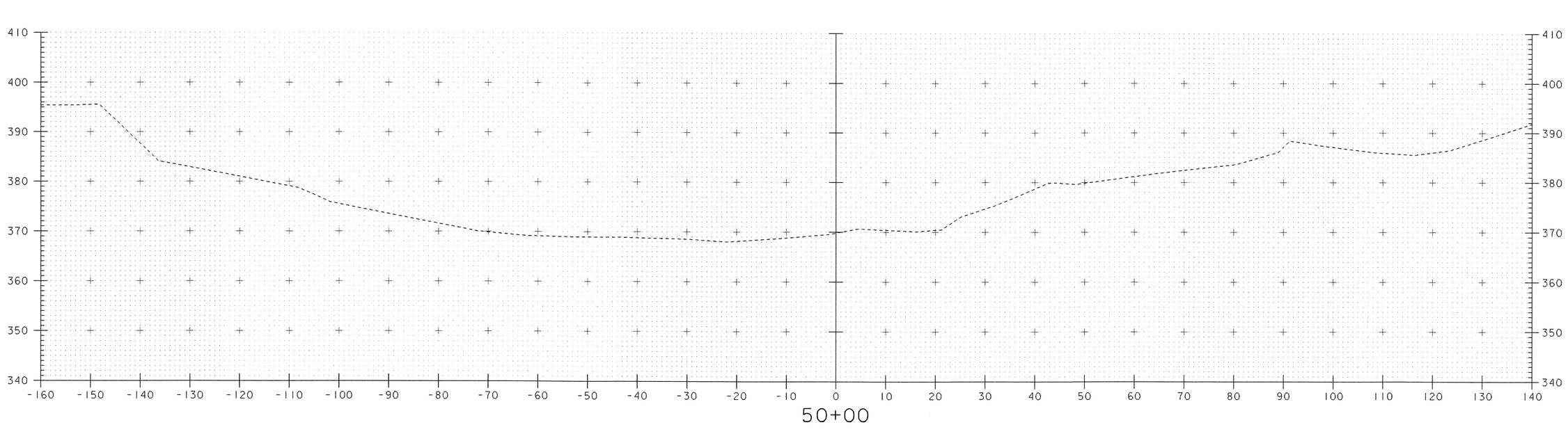
SCALE 1" = 10'-0

10 0 10

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89J045/structures/sj045xsl.dgn IPARM FILE NAME: sj045vt5.i	PLOT DATE: 11-FEB-2005
VT RT 14 CROSS SECTIONS	
SECTION 210+00	SHEET: 81 OF 97



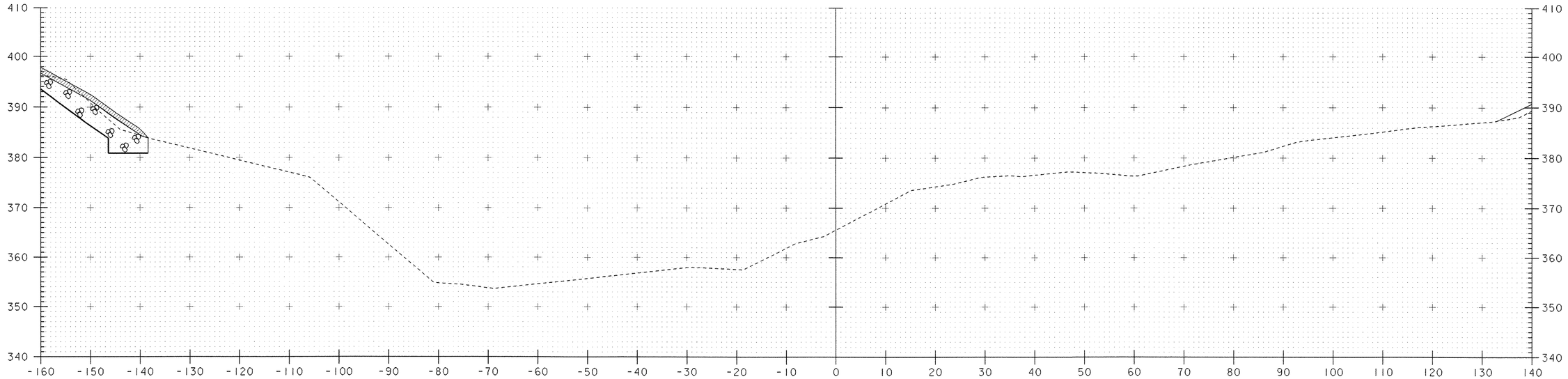
50+50



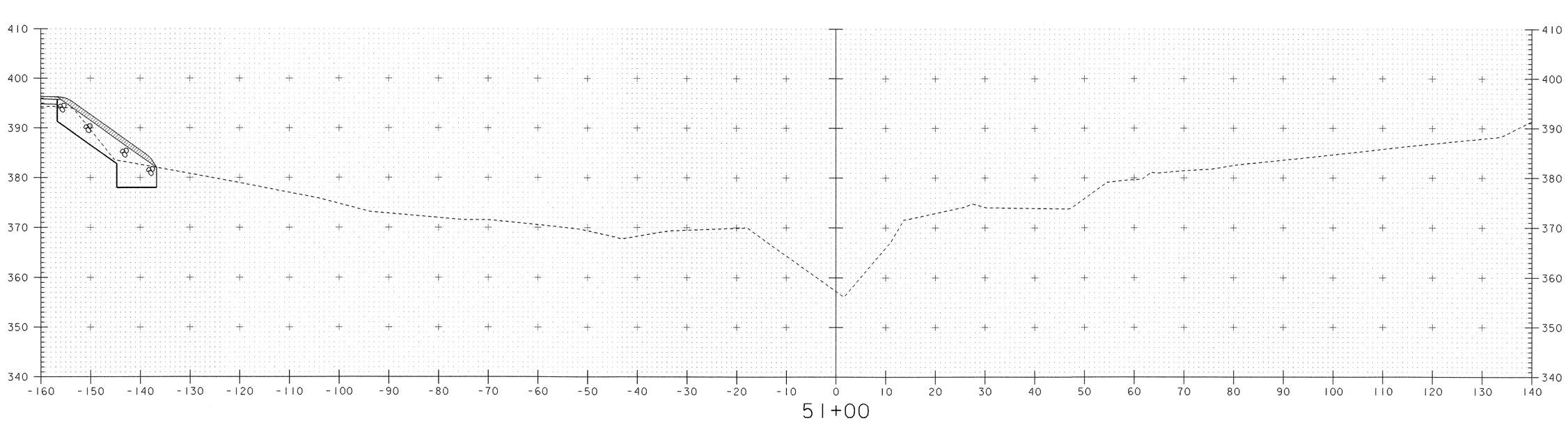
50+00

SCALE 1" = 10'-0
10 0 10

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn IPARM FILE NAME: sj045chl.i	PLOT DATE: 11-FEB-2005
CHANNEL CROSS SECTIONS	
SECTION 50+00 THROUGH 50+50	SHEET: 82 OF 97



51+50

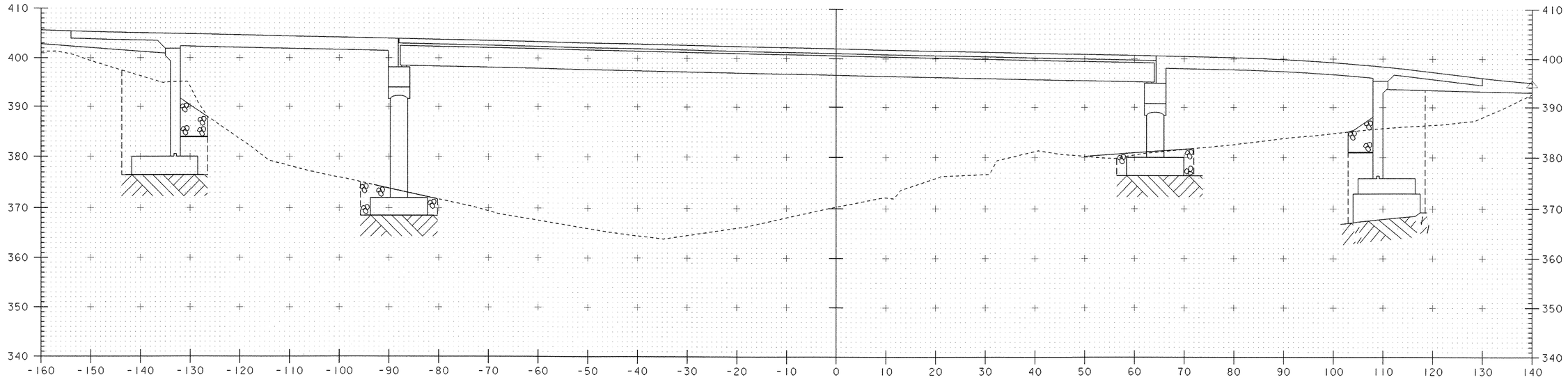


51+00

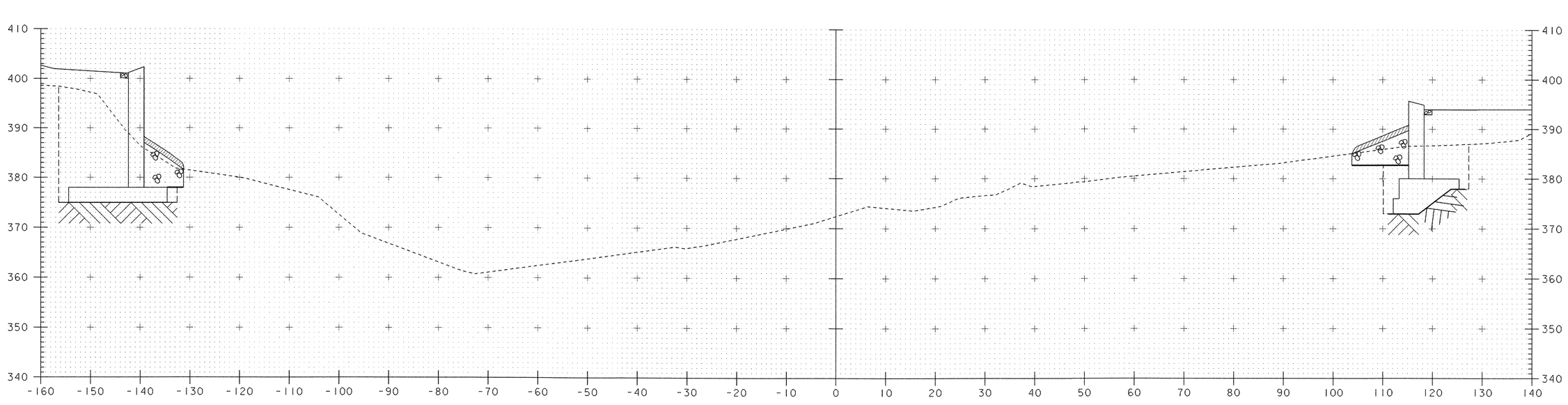
STA 50+85.00 LT
BEGIN STONE FILL TYPE IV
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN GRUBBING MATERIAL

SCALE 1" = 10'-0
10 0 10

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn IPARM FILE NAME: sj045ch2.i	PLOT DATE: 11-FEB-2005
CHANNEL CROSS SECTIONS	
SECTION 51+00 THROUGH 51+50	SHEET: 83 OF 97



52+00

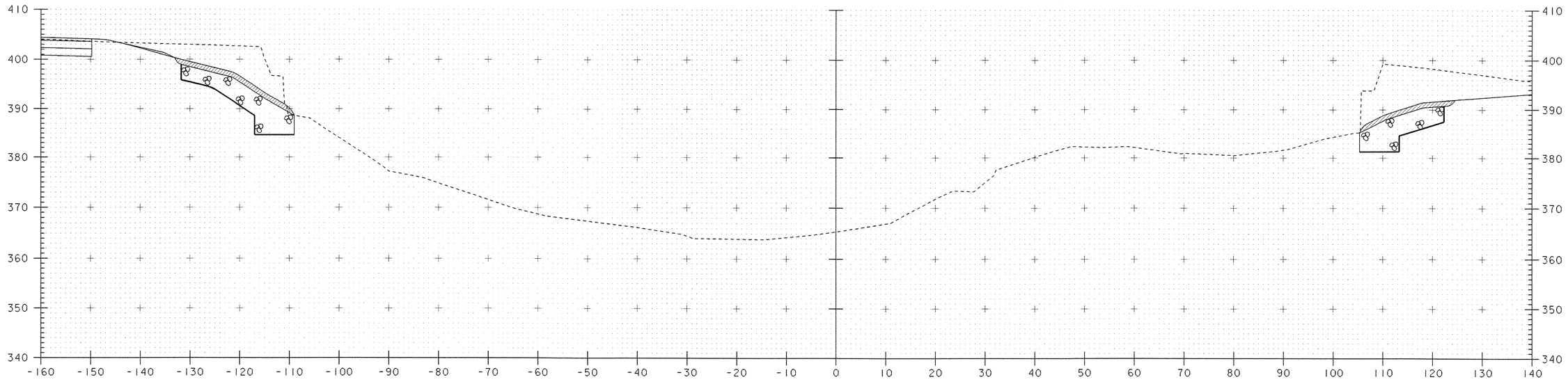


51+75

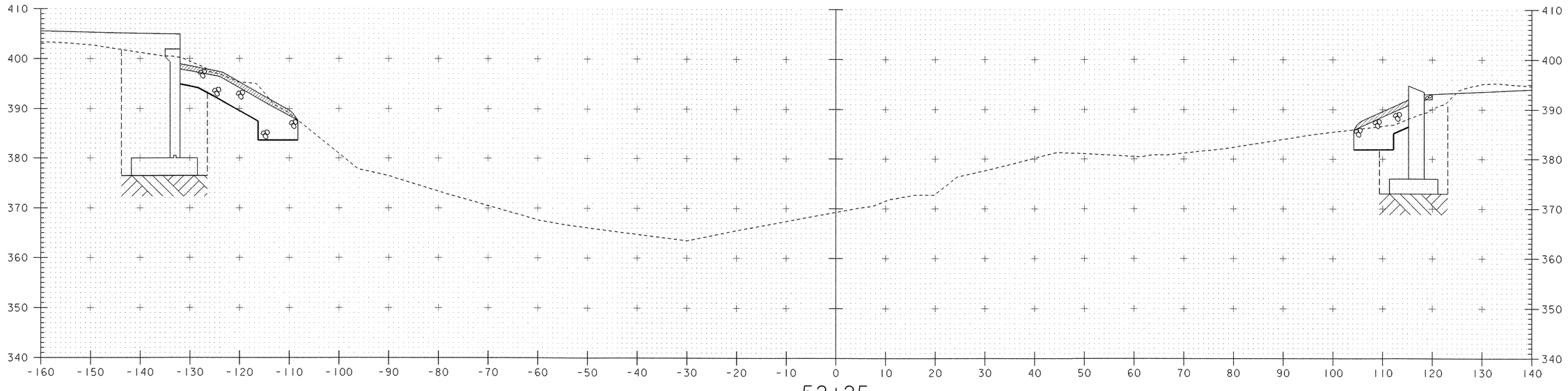
STA 51+58.00 RT
BEGIN STONE FILL TYPE IV
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN GRUBBING MATERIAL

SCALE 1" = 10'-0
10 0 10

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(1)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn IPARM FILE NAME: sj045ch3.i	PLOT DATE: 11-FEB-2005
CHANNEL CROSS SECTIONS	
SECTION 51+75 THROUGH 52+00	SHEET: 84 OF 97



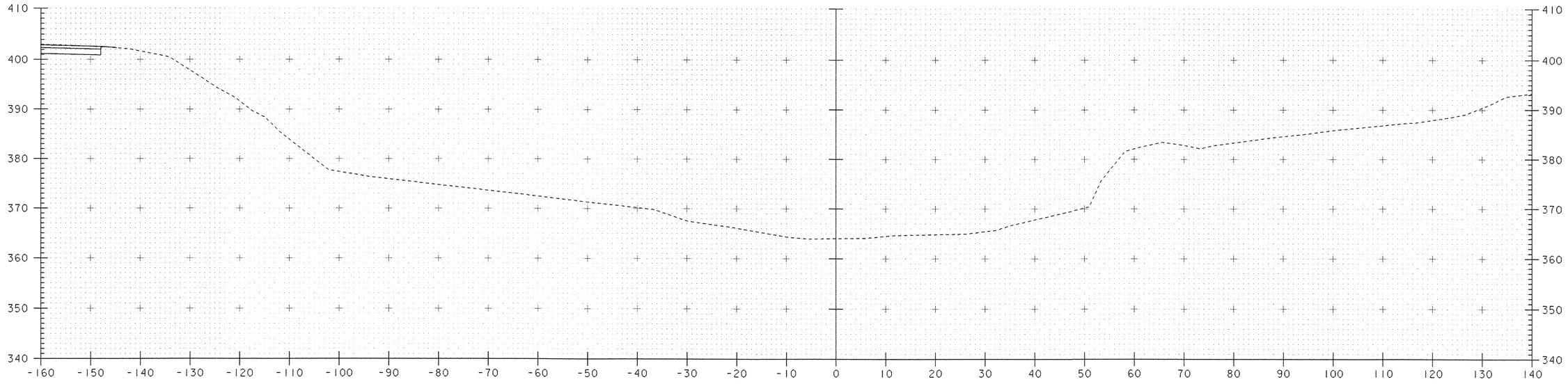
52+50



52+25

SCALE 1" = 10'-0
10 0 10

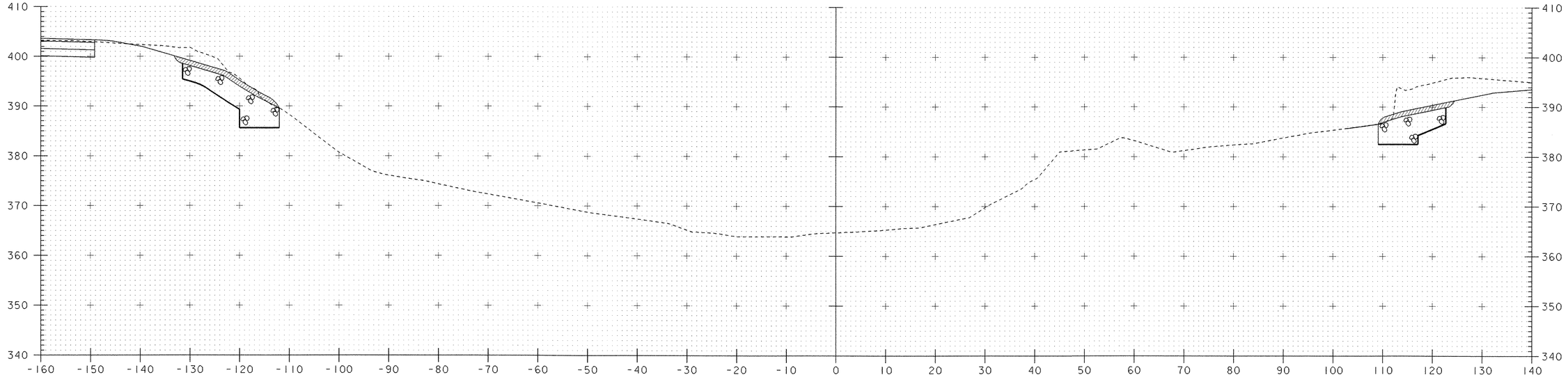
PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89J045/structures/sj045xsl.dgn IPARM FILE NAME: sj045ch4.i	PLOT DATE: 11-FEB-2005
CHANNEL CROSS SECTIONS	
SECTION 52+25 THROUGH 52+50	SHEET: 85 OF 97



STA 52+95.00 LT
END STONE FILL TYPE IV
END UNCLASSIFIED CHANNEL EXCAVATION
END GEOTEXTILE UNDER STONE FILL
END GRUBBING MATERIAL

53+00

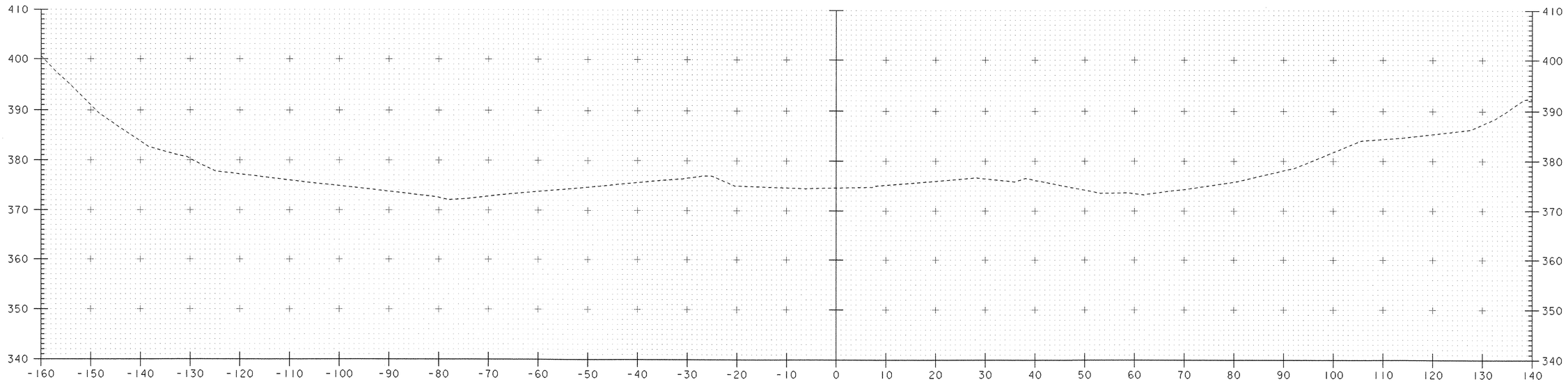
STA 52+80.00 RT
END STONE FILL TYPE IV
END UNCLASSIFIED CHANNEL EXCAVATION
END GEOTEXTILE UNDER STONE FILL
END GRUBBING MATERIAL



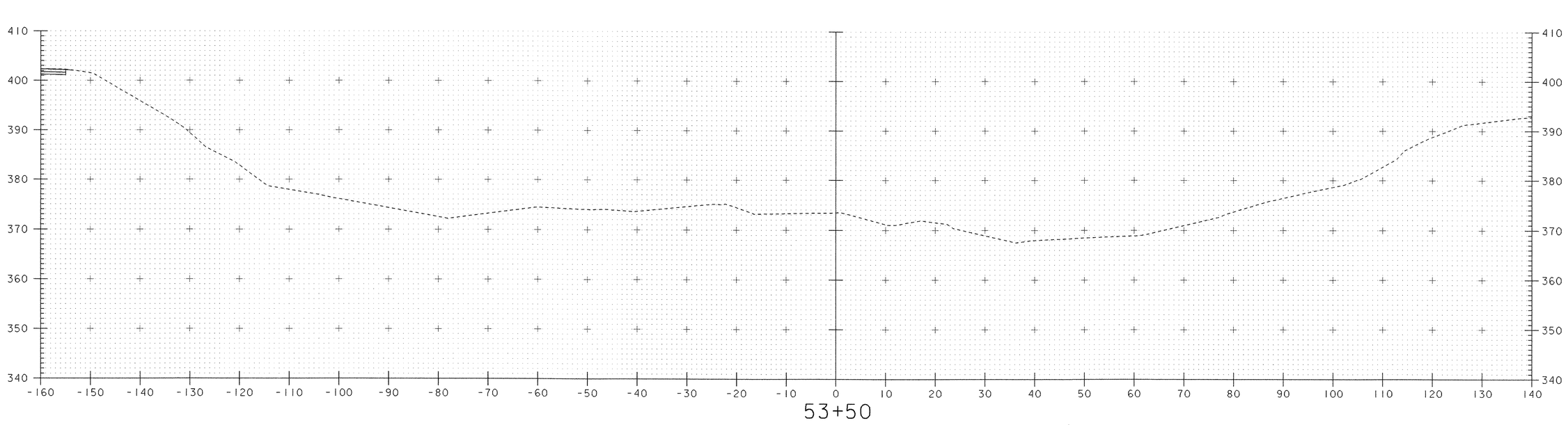
52+75

SCALE 1" = 10'-0
10 0 10

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89J045/structures/sj045xsl.dgn IPARM FILE NAME: sj045ch5.i	PLOT DATE: 11-FEB-2005
CHANNEL CROSS SECTIONS	
SECTION 52+75 THROUGH 53+00	SHEET: 86 OF 97



54+00



53+50

SCALE 1" = 10'-0

10 0 10

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89J045/structures/sj045xsl.dgn IPARM FILE NAME: sj045ch6.i	PLOT DATE: 11-FEB-2005
CHANNEL CROSS SECTIONS	
SECTION 53+50 THROUGH 54+00	SHEET: 87 OF 97

STATE OF VERMONT
AGENCY OF TRANSPORTATION

EROSION CONTROL NARRATIVE

DESCRIPTION OF PROJECT

This project involves the reconstruction of a bridge #8 over the White River. The project is on TH4 (FAS 166) which is paved and in the village of West Hartford. A new two lane, three span bridge, plate girder main span with concrete Slab approach spans will be constructed downstream of the existing bridge. Traffic is to be maintained on the existing truss bridge during construction. Following completion of the new bridge, the existing truss bridge and abutments will be removed. The length of the project including approach work on VT route 14, TH5 and a field drive is approximately 1,160 feet. The project is in close proximity to a house and involves the relocation of a historic barn to the recreational park. approximately 1 mile from the project site.

The site is located, based upon NAD 83/92 at 41767.5900 N, 61947.5463 E (point 3 - see Tie sheets)

It is anticipated that this project will last two construction seasons.

Total disturbed area (including waste, borrow and staging areas): 1.30 acre

SITE INVENTORY & ANALYSIS

OFF SITE DRAINAGE CHARACTERISTICS:
The property surrounding the project site consists of well established vegetation, moderate to steeply sloping, mixed softwood and hardwood trees with well defined drainageways.
Runoff water entering the project site will be primarily limited to that which is conveyed along roadway ditches, and that follows TH4 (15.3%) The current roadway ditches are fairly well defined and consist of gravel and grass but are not not lined with stone.

DRAINAGE, WATERWAYS, BODIES OF WATER:
The White River is located in the project area. There are no other waterbodies or wetlands within the project area. The White River is classified as hilly to mountainous, containing a straight streambed of mostly ledge with some gravel, cobbles and boulders. The contributing drainage area at the bridge crossing is 692 square miles.

TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES:
The topography of the project site is hilly with wooded areas along with residential lawns. Vermont Route 14 runs parallel along the east side of the river while TH 5 and a field drive runs parallel along the west side. The west bank the river, along TH 5 and the field drive is steep. There is an existing house and a historic barn within close proximity to the bridge There are utility lines and poles which are to remain in place. Except those being temporarily located during the barn relocation.

VEGETATION:
The land on and adjacent to the site is rural and consists of woods, farmland and residential property. The vegatative cover on the project varies greatly as it ranges from grass lawns to wooded areas. The majority of the wooded areas on the project site can be found on the western side of the White River. There is a great deal of ledge along the river banks.

SOILS:
According to a soil survey copmleted by the United States Department of Aggriculture Soil Conservation, there are three soil types present on this project site. Eichcock Silt Loam (k=0.49) is located between stations 27+00 and 29+25. Due to the relative steepness of the land, this region has potential for being highly erodible. Windsor Loamy Fine Sand (k=0.32) is found from approximate station 29+25 to the west river bank. This area is moderate to highly erodible as slopes reach as much as 60%. Ninegret Fine Sandy Loam (k=0.17)is found on the east side of the river and is considered potentially low for erodibility. Slopes in this region range from 0-8%.

SENSITIVE RESOURCE AREAS:
Carex Garberi, an endangered plant species, is located on the east bank of the river. Approximate locations have been outlined on the plans. see the project general notes for required treatment of affected areas. The moving of a historic barn located on the west side of the river will be necessary prior to constructing the new bridge.

PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES:
Disturbance of soils near natural or made-made waterways consists of that which is necessary to construct two new concrete bridge abutments, two piers, applicable roadway approaches as well as the removal of the existing bridge. Stabilization of disturbances to stream banks will be accomplished with Stone Fill, Type IV.

TEMPORARY EROSION PREVENTION & SEDIMENT CONTROL

Temporary erosion prevention measures to be utilized include:

"Project Demarcation Fencing," denoted -PDF- on the plans, to delineate the limits the contractor can access with construction equipment. This measure limits the area that can be disturbed and exposed to erosion. Payment for this fensing is under the item 620.70 "Snow Fence (Mod-PDF)

Seeding, mulching and biodegradable erosion control matting, or an equivalent product, will be ulitized on all slopes steeper than 3:1 that are not lined with stone fill. See the road way and channel sections for sideslope grades. These slopes shall be stabilized with in 48 hours of reaching final grade or during intermitant phases of the construction activity.

Tracking of all exposed slopes, combined with temporary mulching, will also be utilized on a regular basis. Any slopes to be exposed for several days prior to final grading shall be tracked and mulched. The forecast of rainfall events shall also trigger protection of exposed slopes.

Temporary stone check dams will be placed in ditches to reduce flow velocities and thus reduce the potential for erosion. Check dams will be placed along the ditches such that the elevation of the top of each check dam corresponds with the elevation of the toe of the preceding upslope check dam. See 'Erosion Controls Details' sheet. The check dams may be removed once the stone lining of the ditches is complete and the surrounding area stabilized.

Temporary measures to control sediment transport include:

Silt fence will be installed a distance of 5'-10' (1500 - 3000) from the toe of slopes to prevent sediment transport to down gradient areas. Each line of silt fence will be placed along the contour with ends turned slightly uphill to create a ponding effect should water try to run along the fencing and around the ends. The maximum slope length between separate runs of silt fence is 100' (30 000). Silt fence shall be installed prior to any upslope earthwork.

Sand bags filled with clean, small diameter stone, or an equivalent barrier, will be utilized around the drop inlet to create a temporary ponding area for particles to settle out as water drains through the barrier. Inlet protection shall be installed as soon as there is the possibility of water flowing to the structure. The height of the barrier shall be limited such that the ponding area does not present a hazard to the traveling public. Alternative inlet control measures shall be approved by the Engineer prior to implementation.

Measures such as temporary stone check dams, silt fence, and sand bags shall be checked regulary for accumulation of sediment. Sediment build-up shall be removed when the level of sediment reaches one-half the height of the control measure. Sediments shall be disposed of in an approved area such that they will not be subject to erosion.

Stabilized construction entrances to the project site, staging areas, as well as to waste and borrow areas shall be established. The minimum size of a stabilized construction entrance is 12' x 50' (3700 x 15 000). All surface water flowing to or diverted towards a construction entrance shall be piped under the stone. Pipes shall be appropriately sized for the contributing area, however, no pipes smaller than 150mm diameter shall be used. See typical detail on 'Erosion & Sediment Control Plan' sheet for materials and construction method to be utilized when constructing a stabilized entrance.

Temporary sediment settling basins may or may not be utilized on this project. If a sediment settling basin is to be used for dewatering a cofferdam, it should be sized based upon the following criteria:
(See Sediment Settling Basin Sizing Criteria.)

PERMANENT EROSION CONTROL MEASURES

Several permanent erosion control measures will be utilized:

Stone lining of roadway ditches with clean, angular Stone Fill, Type I will be used to prevent erosion during storm events. See 'Erosion Control Details' sheet for typical ditch section.

Stone lining of the stream banks with Stone Fill, Type IV as specified by VTrans Eydraulics personnel is specified. This stone will protect from stream bank erosion during design storm events.

Stone Fill, Type I will be utilized at culvert outlets to dissipate water velocities and reduce erosion potential.

Grass, or other suitable ground cover will be established outside of the roadway limits where stone lining has not been specified. Top soil shall be used to established residential lawn at approximate station 30+25 to 31+25 LT. Seeding, mulching and biodegradable erosion control matting or an equivalent product, will be ulitized on all slopes steeper than 3:1 that are not lined with stone fill. See the road way and channel sections for sideslope grades. These slopes shall be stabilized with in 48 hours of reaching final grade.

GENERAL EROSION & SEDIMENT CONTROL GUIDELINES

The Erosion Control Plans are meant as a guideline for preventing erosion and controlling sediment transport. The work outlined in this narrative consists of applying measures throughout the life of the project to control erosion and minimize the sedimentation of receiving waters. The measures include stabilization and structural practices, stormwater controls and other pollution prevention controls.

Coordinate the installation, use, and removal of erosion and sediment control measures with contruction activities to ensure economical, effective and continuous erosion and sediment control. Employ temporary stabilization practices in incremental stages as construction proceeds. The contractor will use additional erosion control measures as necessitated by the sequence of construction and as directed by the Engineer. See section 105.23 of the Vermont AOT Standard Specifications for Construction, dated 2001.

Install all erosion and sediment control measures as shown in the Erosion Control Plan or as directed by the Engineer. Do not modify the type, size or location of any control or practice without approval of the Engineer. Any changes shall be noted on the plans, in the weekly inspection report, and reported to the appropriate authority in a timely manner. Inspect all control measures weekly and after each rainfall event. Repair measures

Preventing initial soil erosion is much more effective than treating eroded sediment. Therefore, stabilize all disturbed areas promptly after construction activity has temporarily or permanently ceased. Temporary vegetation shall be established if the area is to be without construction activity for a period of 14 days. Perimeter control measures shall be installed following clearing, but prior to the start of any grubbing or grading activity, install other temporary controls in incremental stages as construction proceeds.

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.

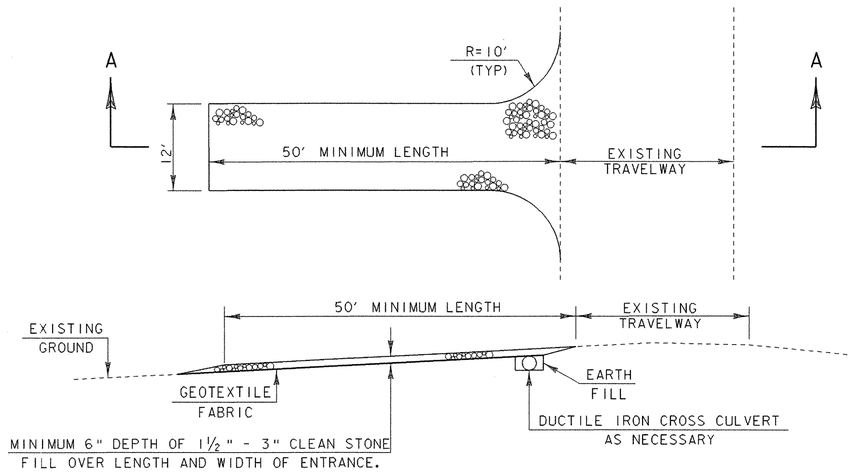
Control only sediment-laden runoff generated by the project site. Collect and route clean offsite runoff around or through the project site using diversion berms, diversion channels, culverts and/or temporary pipes.

Do not allow construction equipment to operate on the downslope side of perimeter control measures.

SEDIMENT SETTLING BASIN SIZING CRITERIA

PUMP FLOW RATE		REQUIRED SURFACE AREA		LENGTH / WIDTH = 2:1			
Q(gpm)	Q(m^3/s)	(ft^2)	(m^2)	L (ft)	W (ft)	L (m)	W (m)
50	0.0032	595	55	35.0	17.0	10.6	5.3
100	0.0063	1200	111	49.0	24.5	15.0	7.5
150	0.0095	1776	165	59.6	29.8	18.2	9.1
200	0.0126	2368	220	68.8	34.4	21.0	10.5
250	0.0158	2970	276	77.0	38.5	23.4	11.7
300	0.0189	3560	330	84.4	42.2	25.8	12.9
350	0.0221	4155	386	91.2	45.6	27.8	13.9

PROJECT NAME:	HARTFORD		
PROJECT NUMBER:	BRO-BTN 2004(1)		
FILE NAME:	erosionnotes.xls	PLOT DATE:	4/1/2004
PROJECT LEADER:	C.P. Williams	DRAWN BY:	K.M. Higgins
DESIGNED BY:	J.L. Schultz	CHECKED BY:	K.M. Higgins
EROSION CONTROL NARRATIVE		SHEET	88 OF 97



SECTION A-A

STABILIZED CONSTRUCTION ENTRANCE

NTS

NOTES:

SILT FENCE INSTALLATION MAY REQUIRE PHASING TO MAXIMIZE EFFECTIVENESS. INSTALL AND/OR MOVE SILT FENCE AS CONSTRUCTION PROGRESSES TO OBTAIN THE GREATEST PREVENTION OF SEDIMENT TRANSPORT. ALL SILT FENCE INSTALLATION SHALL BE PROPERLY KEYED INTO THE GROUND AND SUPPORTED AS DETAILED ON THE 'EROSION CONTROL DETAILS' SHEET. SILT FENCE SHOULD BE INSTALLED ALONG THE CONTOURS TO PREVENT CONCENTRATION OF RUNOFF. THE ENDS OF EACH RUN OF SILT FENCE SHOULD BE TURNED UPHILL TO PROVIDE A SMALL POOL FOR SILT SHOULD WATER TRY TO RUN AROUND THE END OF THE SILT FENCE.

TEMPORARY STONE CHECK DAMS SHALL BE KEYED INTO THE GROUND AND CONSTRUCTED AS PER THE 'EROSION CONTROL DETAILS' SHEET. THE PURPOSE OF TEMPORARY CHECK DAMS IS TO REDUCE RUNOFF VELOCITIES THUS PREVENTING EROSION.

SURFACE ROUGHENING HELPS REDUCE RUNOFF VELOCITIES AND INCREASES INFILTRATION RATES. ROUGHENING MAY BE ACCOMPLISHED BY A NUMBER OF METHODS SUCH AS TRACKING UP AND DOWN THE SLOPE WITH A BULLDOZER, TRACKING ACROSS THE SLOPE WITH A WHEELED VEHICLE OR ANY METHOD OF SCARIFYING THE SLOPE SUCH THAT THE GROOVES CREATED RUN PERPENDICULAR TO THE DIRECTION OF WATER RUNOFF.

SEEDING FORMULA
RURAL AREAS

% WT.	LBS./A.	NAME	PUR %	GERM %
37.5	22.5	CREEPING RED FESCUE	98	85
37.5	22.5	TALL FESCUE	95	90
5.0	3.0	RED TOP	95	90
15.0	9.0	BIRDSFOOT TREFOIL	98	85
5.0	3.0	ANNUAL RYEGRASS	95	85
100.0	60.0			

GENERAL NOTES

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

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

FERTILIZER: FORMULA 10-20-10. TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

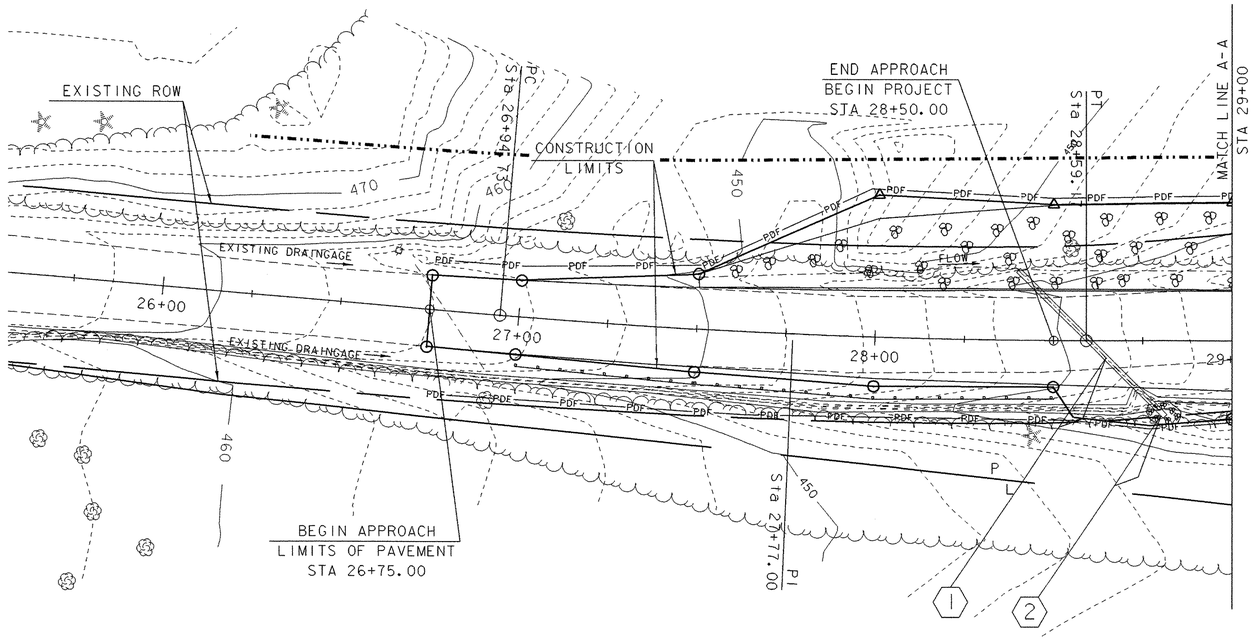
HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

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

SOIL INFORMATION
HITCHCOCK SILT LOAM
3 - 8% SLOPES
HYDROLOGIC SOIL GROUP: B
DEPTH TO BED ROCK: UNKNOWN
DEPTH TO WATER TABLE: UNKNOWN
POTENTIALLY HIGHLY ERODIBLE LAND

N

VT STATE PLANE GRID



SEE SHEET 22-23 FOR DRAINAGE INFORMATION

LEGEND
FILTER CURTAIN
SILT FENCE
SAND BAGS
STONE CHECK DAMS
SOIL BOUNDARY
P/L PROPERTY LINE
PDF PROJECT DEMARCATION FENCE

TEMPORARY EROSION CONTROL LAYOUT SHEET 1

SCALE 1" = 20'-0

20 0 20

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045bdr.dgn	
IPARM FILE NAME: sj045erol.i	PLOT DATE: 11-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: J. L. SCHULTZ
TEMPORARY EROSION CONTROL LAYOUT SHEET 1	SHEET: 89 OF 97

NOTES:

1. CHECK DAMS TO BE USED PRIOR TO STONE LINING DITCHES.
2. THE CHECK DAM SPACING SHOWN IS APPROXIMATE. ACTUAL SPACING WILL DEPEND ON THE SLOPE OF THE DITCH. SEE CHECK DAM DETAIL ON SHEET 35A
3. WHERE LEDGE IS EXPOSED, SAND BAGS MAY BE USED INSTEAD OF SILT FENCE TO PREVENT SEDIMENT MOVEMENT

SOIL INFORMATION
WINDSOR LOAMY FINE SAND
25 - 60% SLOPES
HYDROLOGIC SOIL GROUP: A
DEPTH TO BED ROCK: 8' - 17'
DEPTH TO WATER TABLE: 4'
MODERATE ERODIBILITY

N

VT STATE PLANE GRID

END APPROACH
LIMITS OF PAVEMENT
℄ STA 6+50.00

CHANNEL POE
Sta 54+00.00

MATCHLINE C-C
STA 210+00

END APPROACH
STA 209+75.00
LIMITS OF PAVEMENT

EXISTING ROW

END PROJECT
BEGIN APPROACH
STA 5+75.00

PROPOSED SEDIMENT DEWATERING LOCATION (CONTRACTOR TO PROVIDE DETAILS AND METHODOLOGY WITH COFFERDAM DESIGN, SEE EROSION AND SEDIMENT CONTROL NOTES 9 & 10)

MATCH LINE A-A
STA 29+00

CONSTRUCTION LIMITS

EXISTING DRAINAGE

FLOW

CHANNEL ℄ LINE

CAREX CARBERTI (SEE NOTES)

END PROJECT
BEGIN APPROACH
STA 34+50.00

℄ BRG. PIER #2
Sta 33+63.00
FG = 400.59

℄ PIER #2
Sta 33+64.17

TEMPORARY CONSTRUCTION LIMITS

N13°39'00"W

POE
Sta 35+00.00

℄ BRG. PIER #1
Sta 32+13.00
FG = 403.88

℄ PIER #1
Sta 32+11.83

BEGIN BRIDGE
Sta 31+66.00
FG = 404.91

CAREX GARBERI

END BRIDGE
Sta 34+10.00
FG = 398.36

CONSTRUCTION LIMITS

N18°39'00"W

N0°00'01"W

S22°40'00"E

WHITE RIVER FLOW

BEGIN APPROACH
STA 207+25.00
LIMITS OF PAVEMENT

MATCHLINE B-B
STA 207+00

SOIL INFORMATION
NINIGRET FINE SANDY LOAM
0 - 8% SLOPES
HYDROLOGIC SOIL GROUP: B
DEPTH TO BED ROCK: 4' - 23'
DEPTH TO WATER TABLE: 3' - 8'
LOW TO MODERATE ERODIBILITY

DRAINAGE STRUCTURE EROSION AND SEDIMENT CONTROL INDEX		
NO.	LOCATION	DESCRIPTION
1	28+46LT - 28+73RT	EXISTING PIPE INLET & OUTLET CONTROL
2	28+40LT - 28+81RT	PROPOSED PIPE INLET & OUTLET CONTROL
3	29+78LT - 30+25RT	PROPOSED PIPE INLET & OUTLET CONTROL
4	5+53LT - 5+76RT	EXISTING PIPE INLET & OUTLET CONTROL
5	5+53LT - 5+71RT	PROPOSED PIPE INLET & OUTLET CONTROL
6	5+25LT - 5+53LT	CONSTRUCT STONE CHECK DAMS
7	10+83RT - 10+89LT	EXISTING PIPE INLET & OUTLET CONTROL
8	10+75RT - 10+98LT	PROPOSED PIPE INLET & OUTLET CONTROL
9	30+60RT - 10+75RT	CONSTRUCT STONE CHECK DAMS

NOTE: SEE EROSION AND SEDIMENT CONTROL DETAIL SHEET 35A

LEGEND

- FILTER CURTAIN
- SILT FENCE
- SAND BAGS
- STONE CHECK DAMS
- SOIL BOUNDARY
- P/L PROPERTY LINE
- PDF PROJECT DEMARCATION FENCE

CHANNEL POB
Sta 50+00.00

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

TEMPORARY EROSION CONTROL LAYOUT SHEET 2

SCALE 1" = 20'-0
20 0 20

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045bdr.dgn	
IPARM FILE NAME: sj045ero2.i	PLOT DATE: 11-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: J. L. SCHULTZ
TEMPORARY EROSION CONTROL LAYOUT SHEET 2	SHEET: 90 OF 97

N

VT STATE PLANE GRID

END APPROACH
BEGIN PROJECT
STA 28+50.00

CONSTRUCTION LIMITS

CONSTRUCTION LIMITS

END APPROACH
LIMITS OF PAVEMENT
℄ STA 6+50.00

CHANNEL POE
Sta 54+00.00

END PROJECT
BEGIN APPROACH
STA 5+79.00

END APPROACH
STA 209+75.00
LIMITS OF PAVEMENT

END PROJECT
BEGIN APPROACH
STA 34+50.00

℄ BRG. PIER #2
Sta 33+63.00
EG = 400.59

℄ PIER #2
Sta 33+64.17

℄ BRG. PIER #1
Sta 32+13.00
EG = 403.88

℄ PIER #1
Sta 32+11.83

BEGIN BRIDGE
Sta 31+66.00
EG = 404.91

END BRIDGE
Sta 34+10.00
EG = 398.36

CONSTRUCTION LIMITS

BEGIN APPROACH
STA 207+25.00
LIMITS OF PAVEMENT

BEGIN APPROACH
LIMITS OF PAVEMENT
STA 26+75.00

CHANNEL POB
Sta 50+00.00

WHITE RIVER
FLOW

VT RTE 14

TH 4

TH 5

CHANNEL LINE

CONTOURS REFLECT EXISTING
CONDITIONS SEE CROSS SECTIONS
SHEETS 69-91 FOR FINAL GRADES

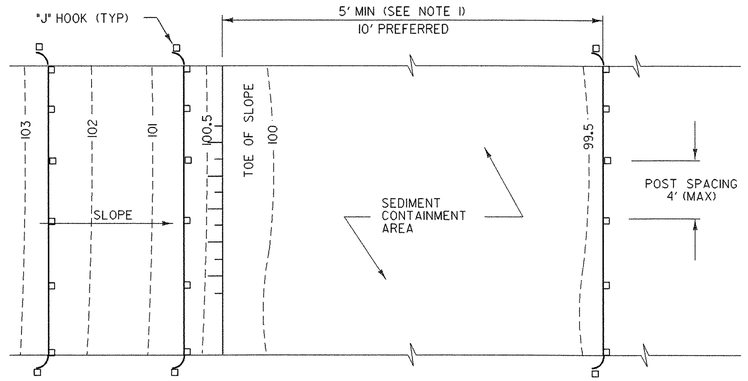
SEE SHEET 22-23 FOR
DRAINAGE INFORMATION

FINAL CONDITIONS PLAN

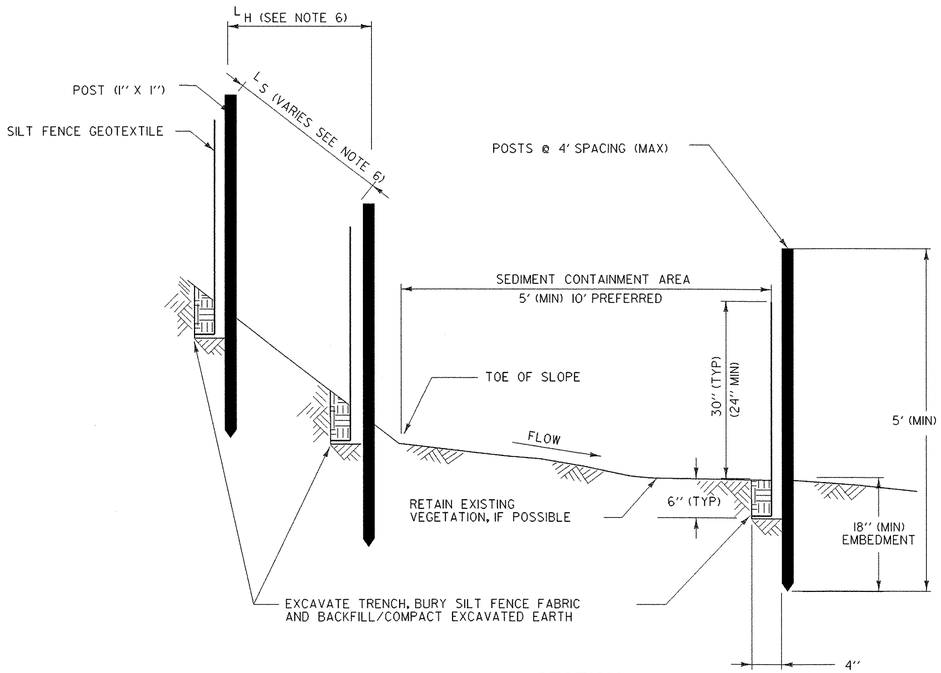
SCALE 1" = 30'-0
30 0 30

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045ero.dgn	
IPARM FILE NAME: sj045final	PLOT DATE: 11-FEB-2005
SURVEYED BY: R. MOREAU	SURVEY DATE: 5/93
SQUAD LEADER: C. P. WILLIAMS	DRAWN BY: K. M. HIGGINS
FINAL CONDITIONS PLAN	SHEET: 91 OF 97



PLAN



SECTION
SILT FENCE - TEMPORARY

SILT FENCE

APPLICATION NOTES:

A. THE PRIMARY PURPOSE OF SILT FENCE IS TO REDUCE RUNOFF VELOCITY AND TRAP SEDIMENT. VELOCITY IS REDUCED, WATER IS IMPOUNDED BEHIND THE MEASURE, AND SEDIMENT FALLS OUT OF SUSPENSION.

B. SILT FENCE SHALL BE INSTALLED ON A LINE OF EQUAL ELEVATION (CONTOUR). IT MAY BE INSTALLED AT INTERMEDIATE POINTS UP SLOPES AS WELL AS AT THE BOTTOM, AS SHOWN IN THE DETAIL.

C. SILT FENCE SHALL NOT BE USED ACROSS CONCENTRATED FLOW.

GENERAL NOTES:

1. SILT FENCE SHALL GENERALLY BE PLACED A MINIMUM OF 5 FEET BEYOND TOE OF SLOPE, 10 FEET PREFERRED, TO PROVIDE ADEQUATE AREA FOR SEDIMENT STORAGE AND FACILITATE MAINTENANCE OF SEDIMENT CONTAINMENT AREA.

2. ALL ENDS SHALL BE "J" HOOKED TO TRAP SEDIMENT.

3. IN AREAS WITH TWO SLOPES, SILT FENCE SHALL BE USED TO ERECT A DAM AND TRAP SEDIMENT AT THE BASE OF THE STEEPER SLOPE.

4. THE BOTTOM EDGE OF SILT FENCE SHALL BE BURIED A MINIMUM OF 6 INCHES BELOW GROUND, AND KEYED IN 4 INCHES. THE FENCE SHALL BE INSTALLED WITH THE POSTS ON THE DOWNSTREAM SIDE OF THE FABRIC.

5. MAXIMUM DRAINAGE AREA TRIBUTARY TO 100 FEET OF SILT FENCE SHALL BE 0.25 ACRES.

6. THE FOLLOWING ARE MAXIMUM SLOPE LENGTHS FOR THESE MEASURES:

CONSTRUCTED SLOPE	SLOPE LENGTH (LS) FT	HORIZONTAL LENGTH (LH) FT
3 : 1	80	75
4 : 1	130	125
5 : 1	200	200
> 5 : 1	250	250

7. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.

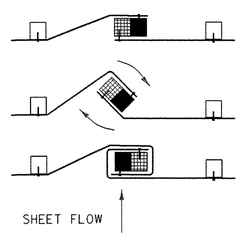
8. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.

9. SILT FENCE SHALL BE REMOVED WHEN THE AREA HAS BEEN STABILIZED. AT TIME OF REMOVAL OF THE SILT FENCE, THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.

10. PAYMENT FOR INSTALLATION AND REMOVAL OF SILT FENCE SHALL BE MADE UNDER THE GEOTEXTILE FOR SILT FENCE ITEM.

11. PAYMENT FOR MONITORING SILT FENCE SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.

12. PAYMENT FOR MAINTAINING SILT FENCE SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.



1. PLACE THE END POST OF ONE FENCE INSIDE THE END POST OF THE OTHER FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL
3. DRIVE BOTH POSTS 18 INCHES INTO THE GROUND AND BURY THE FLAP IN THE TRENCH.

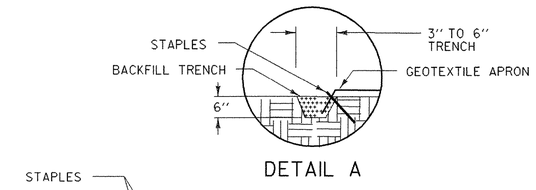
SPLICING DETAIL

EROSION PREVENTION & SEDIMENT CONTROL DETAILS SILT FENCE

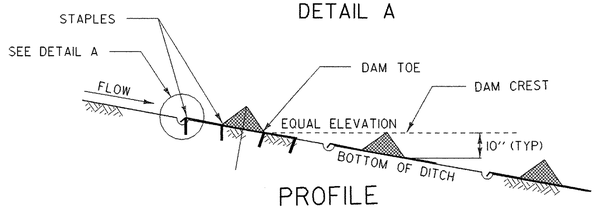
EPSC1

PROJECT:	PROJECT NO.:
BRADFORD	TH3-9641

DESIGN FILE NAME: 96j286/Structures/s96j286ecnotes.dgn
IPARM FILE NAME: s96j286epsc1.i
PLOT DATE: 11-FEB-2005
DESIGNED BY: M. FESSEL
DRAWN BY: M. FESSEL
SQUAD LEADER: C. P. WILLIAMS
CHECKED BY:
SILT FENCE
SHEET: 92 OF 97



DETAIL A



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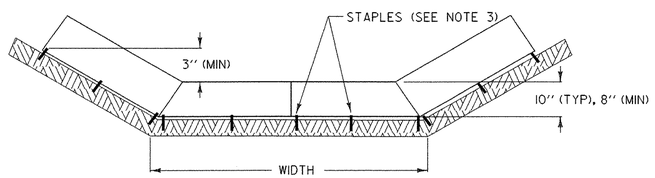
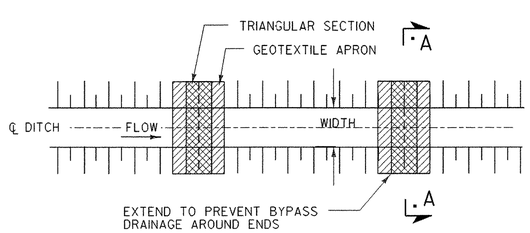


SECTION A-A

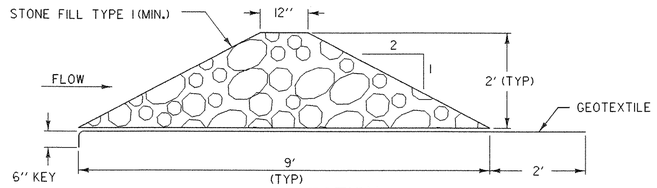


PLAN

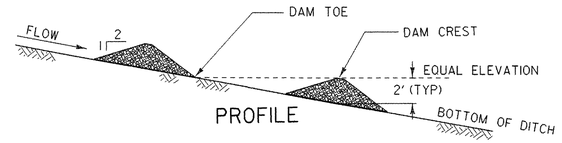
CHECK DAM - TEMPORARY (PREFABRICATED)

PREFABRICATED CHECK DAM PLACEMENT INTERVAL	
DITCH SLOPE	PLACEMENT INTERVAL **
1%	50 FT
2 %	40 FT
3 %	25 FT
4 %	20 FT
5 %	15 FT

** BASED ON 10'' TYPICAL HEIGHT



CROSS SECTION



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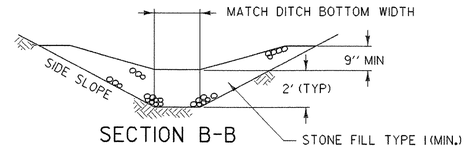
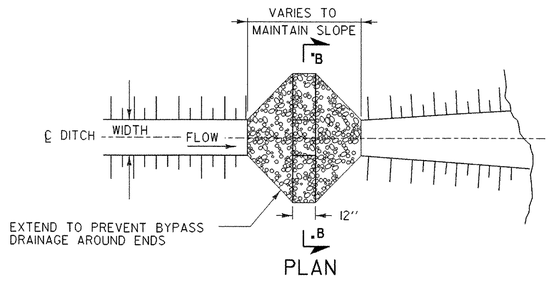


SECTION B-B



PLAN

CHECK DAM - TEMPORARY (STONE)

STONE CHECK DAM PLACEMENT INTERVAL	
DITCH SLOPE	PLACEMENT INTERVAL **
1%	200 FT
2 %	100 FT
3 %	65 FT
4 %	50 FT
5 %	40 FT
6 %	30 FT
8 %	25 FT
10 %	20 FT

** BASED ON 2' TYPICAL HEIGHT

CHECK DAMS

APPLICATION NOTES:

A. THE PRIMARY PURPOSE OF A CHECK DAM IS TO REDUCE EROSION IN A CHANNEL BY REDUCING FLOW VELOCITY.

B. CHECK DAMS WILL CAPTURE SEDIMENT THAT FALLS OUT OF SUSPENSION BEHIND THE CHECK DAM DUE TO DECREASED VELOCITY.

C. CHECK DAMS ARE NOT INTENDED TO FILTER SEDIMENT FROM TURBID WATER.

D. DETAILS SHOWN SHALL BE USED FOR TEMPORARY INSTALLATION ONLY.

E. PREFABRICATED DAMS ARE NOT TO BE USED ON SLOPES GREATER THAN 5% OR PER MANUFACTURER'S SPECIFICATIONS.

F. PREFABRICATED DAM SPECIFICATIONS SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL PRIOR TO USE.

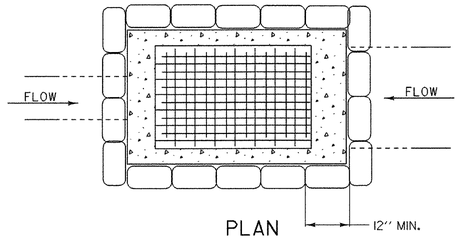
GENERAL NOTES:

1. GEOTEXTILE SHALL BE INSTALLED UNDER STONE FILL. IT SHALL BE KEYED IN ON THE UP HILL END AND SHALL EXTEND 2 FEET BEYOND THE STONE ON THE DOWN HILL END.
2. CORE MATERIAL FOR THE STONE CHECK DAM SHALL MEET THE GRADATION REQUIREMENTS OF STONE FILL TYPE I (MIN.). STONE SIZE SHOULD BE INCREASED WITH INCREASED SLOPE AND VELOCITY.
3. THE UPHILL END OF THE APRON FOR THE PREFABRICATED CHECK DAM SHALL BE STAPLED AND BURIED AS SHOWN IN DETAIL "A" OR AS RECOMMENDED BY THE MANUFACTURERS LITERATURE.
4. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
5. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
6. AT TIME OF REMOVAL OF THE CHECK DAMS, THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
7. PAYMENT FOR INSTALLATION AND REMOVAL OF CHECK DAMS SHALL BE MADE UNDER APPLICABLE ITEMS INCLUDED IN THE CONTRACT PLANS OR UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM.
8. PAYMENT FOR MONITORING CHECK DAMS SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
9. PAYMENT FOR MAINTAINING CHECK DAMS SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.

EROSION PREVENTION & SEDIMENT CONTROL DETAILS CHECK DAMS

EPSC2

PROJECT: BRADFORD	PROJECT NO.: TH3-9641
DESIGN FILE NAME: 96j286/Structures/s96j286ecnotes.dgn	
IPARM FILE NAME: s96j286epsc2.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: M. FESSEL	DRAWN BY: M. FESSEL
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY:
CHECK DAMS	SHEET: 93 OF 97



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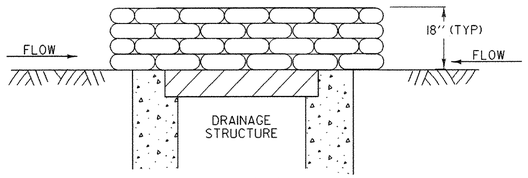
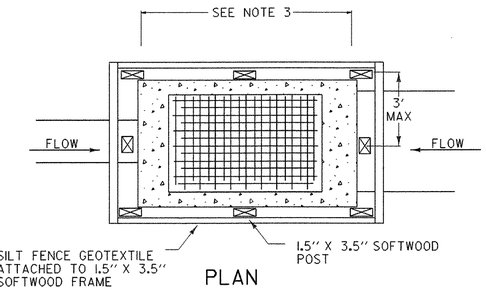
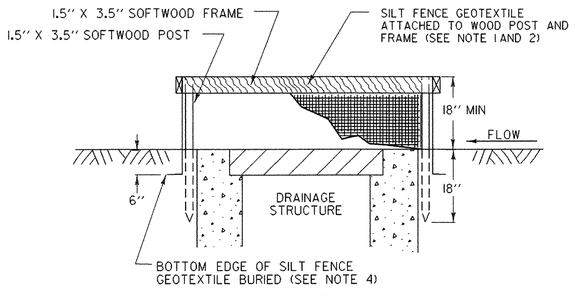


SECTION

GRAVEL BAG DROP INLET PROTECTION

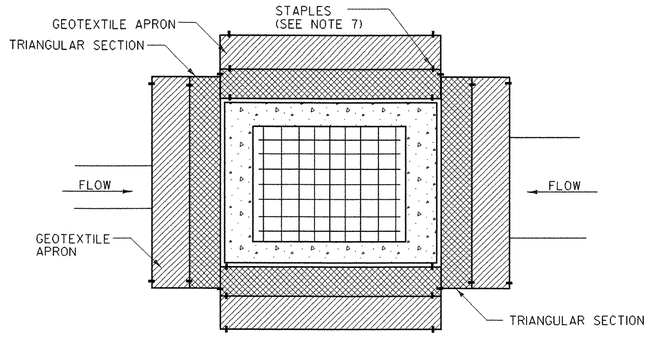


PLAN



SECTION

SILT FENCE DROP INLET PROTECTION



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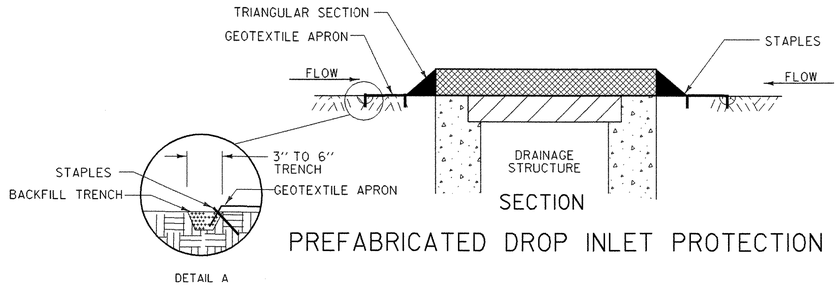
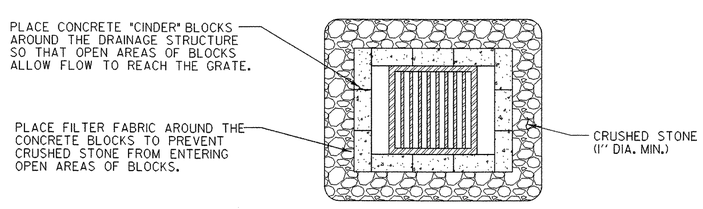


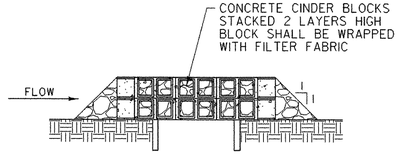
SECTION

DETAIL A

PREFABRICATED DROP INLET PROTECTION



PLAN



SECTION

ROCK BARRIER DROP INLET PROTECTION TEMPORARY PAVED AREAS

DROP INLET PROTECTION

APPLICATION NOTES:

A. THE PRIMARY PURPOSE OF DRAINAGE STRUCTURE INLET PROTECTION IS TO PREVENT SEDIMENT FROM ENTERING A DRAINAGE SYSTEM BY PONDING WATER WHICH ALLOWS SEDIMENT TO FALL OUT OF SUSPENSION.

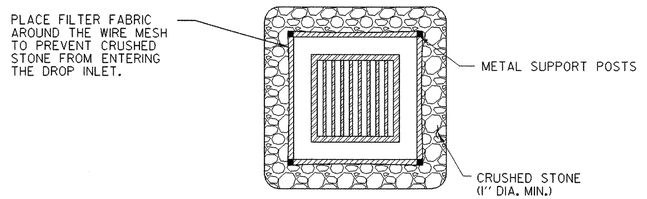
B. THESE EXAMPLES OF DROP INLET PROTECTION ARE NOT INTENDED FOR USE ON GRADES. ON GRADE THEY MAY CAUSE WATER TO BYPASS THE STRUCTURE, CREATING ADDITIONAL EROSION OR FLOODING.

C. POSSIBLE MODIFICATIONS FOR USE ON GRADE INCLUDE ADDING A BERM DOWNSTREAM OF THE INLET TO CREATE PONDING. CHECK DAMS MAY ALSO BE USED UPSTREAM OF THE INLET TO SLOW VELOCITIES.

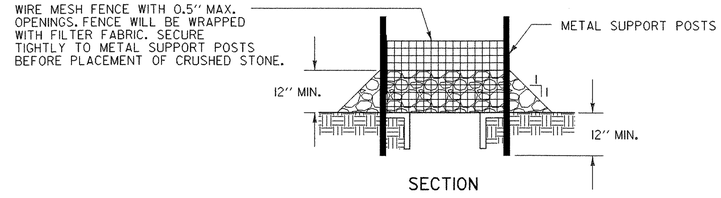
D. PREFABRICATED DROP INLET PROTECTION SPECIFICATIONS SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL PRIOR TO USE.

GENERAL NOTES:

1. THE TOP OF THE INLET PROTECTION SHALL BE SET AT THE MAXIMUM DESIRED WATER LEVEL, BASED ON FIELD LOCATION AND CONDITIONS.
2. SILT FENCE GEOTEXTILE SHALL BE A SINGLE CONTINUOUS PIECE TO ELIMINATE JOINTS.
3. SPACE SILT FENCE POSTS EVENLY AROUND INLET WITH A MAXIMUM SPACING OF 3 FEET. DRIVE POSTS A MINIMUM OF 18 INCHES INTO GROUND. WIRE MESH MAY BE REQUIRED BEHIND GEOTEXTILE TO PROVIDE SUPPORT.
4. SILT FENCE GEOTEXTILE SHALL BE EMBEDDED A MINIMUM OF 6 INCHES AND BACKFILLED. GEOTEXTILE SHALL BE SECURELY FASTENED TO POSTS AND FRAME.
5. GRAVEL BAGS SHALL BE FILLED WITH CLEAN STONE, RATHER THAN SAND, TO PREVENT SEDIMENT FROM ENTERING A DRAINAGE SYSTEM IF BAGS ARE DAMAGED DURING USE.
6. GRAVEL BAGS SHALL BE INDIVIDUALLY TIED, DOUBLE BAGGED AND INVERSELY INSERTED. GRAVEL BAGS SHALL LAP THE JOINTS BETWEEN THE BAGS IN THE LAYER BELOW.
7. SECURE THE ENDS OF THE APRON FOR THE PREFABRICATED DRAINAGE STRUCTURE INLET PROTECTION WITH STAPLES AS DETAILED IN THE PLAN VIEW OR AS RECOMMENDED BY THE MANUFACTURERS LITERATURE.
8. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
9. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED, SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
10. PAYMENT OF INLET PROTECTION SHALL BE MADE UNDER APPLICABLE ITEMS INCLUDED IN THE CONTRACT PLANS OR UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM.
11. PAYMENT FOR MONITORING INLET PROTECTION SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
12. PAYMENT FOR MAINTAINING INLET PROTECTION SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.



PLAN



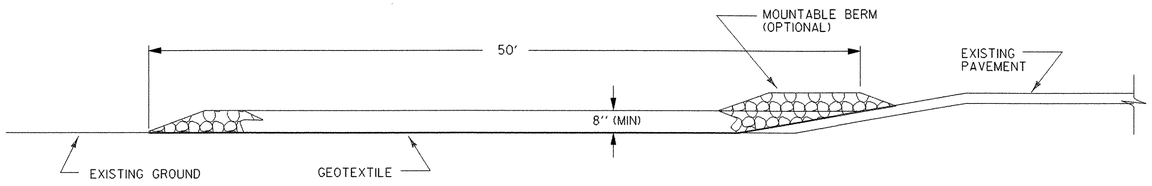
SECTION

ROCK BARRIER INLET PROTECTION TEMPORARY UNPAVED AREAS

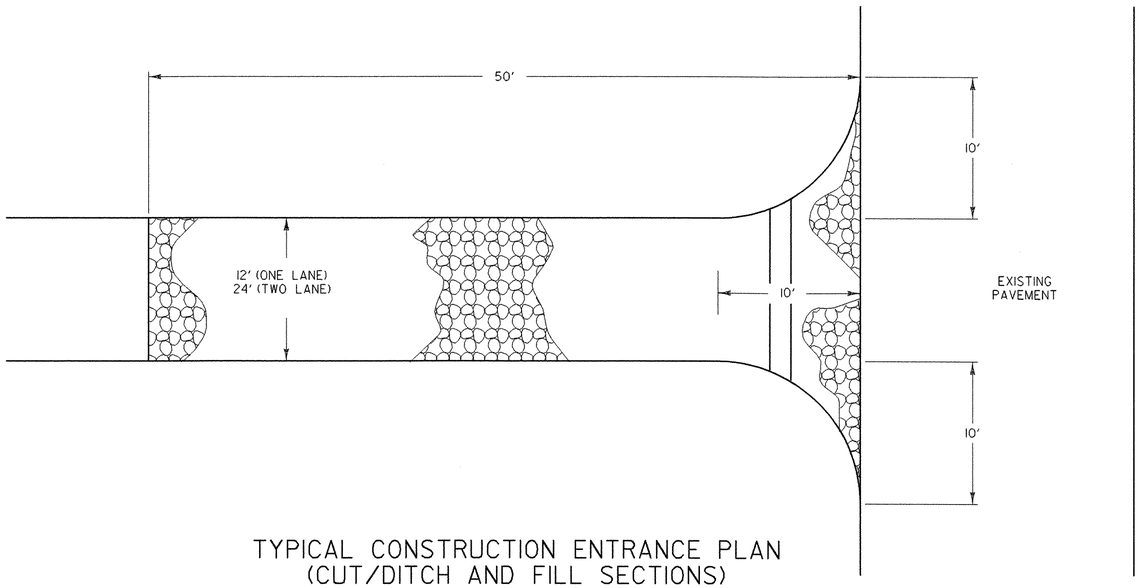
EROSION PREVENTION & SEDIMENT CONTROL DETAILS DROP INLET PROTECTION

EPSC3

PROJECT: BRADFORD	PROJECT NO.: TH3-9641
DESIGN FILE NAME: 96j286/Structures/s96j286ecnotes.dgn	
IPARM FILE NAME: s96j286epsc3.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: M.FESSEL	DRAWN BY: M.FESSEL
SQUAD LEADER: C.P.WILLIAMS	CHECKED BY:
DROP INLET PROTECTION	SHEET: 94 OF 97



TYPICAL CONSTRUCTION ENTRANCE PROFILE
(CUT AND DITCH SECTIONS)



TYPICAL CONSTRUCTION ENTRANCE PLAN
(CUT/DITCH AND FILL SECTIONS)

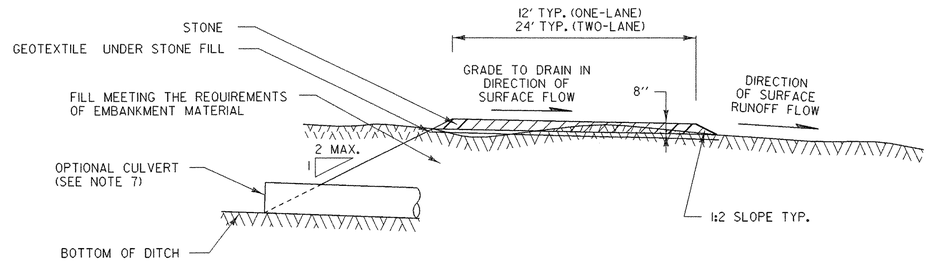
STABILIZED CONSTRUCTION ENTRANCE

APPLICATION NOTES:

A. THE PURPOSE OF A STABILIZED CONSTRUCTION ENTRANCE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY OR STREETS.

GENERAL NOTES:

1. STONE SIZE - USE CLEAN STONE WITH GRADATION BETWEEN 2 INCHES AND 4 INCHES .
2. LENGTH - 50 FEET (MIN)
3. THICKNESS - 18 INCHES (MIN)
4. WIDTH - 12 FEET (MIN)
5. GEOTEXTILE UNDER STONE WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE AS DIRECTED BY THE ENGINEER. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. PROPOSED DRAINAGE PIPES SHALL BE SIZED WITH SUFFICIENT CAPACITY TO CARRY DITCH FLOWS. ALTERNATIVE WAYS OF TRANSPORTING DITCH DRAINAGE ACROSS CONSTRUCTION ENTRANCES MAY BE PROPOSED BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER.
8. WHEN WASHING OF VEHICLE IS NECESSARY, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
10. 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.
11. AT THE TIME OF REMOVAL OF THE STABILIZED CONSTRUCTION ENTRANCE THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
12. PAYMENT OF THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE MADE UNDER APPLICABLE ITEMS INCLUDED IN THE CONTRACT PLANS OR UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM.
13. PAYMENT FOR MONITORING STABILIZED CONSTRUCTION ENTRANCES SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
14. PAYMENT FOR MAINTAINING THE CONSTRUCTION ENTRANCE SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.

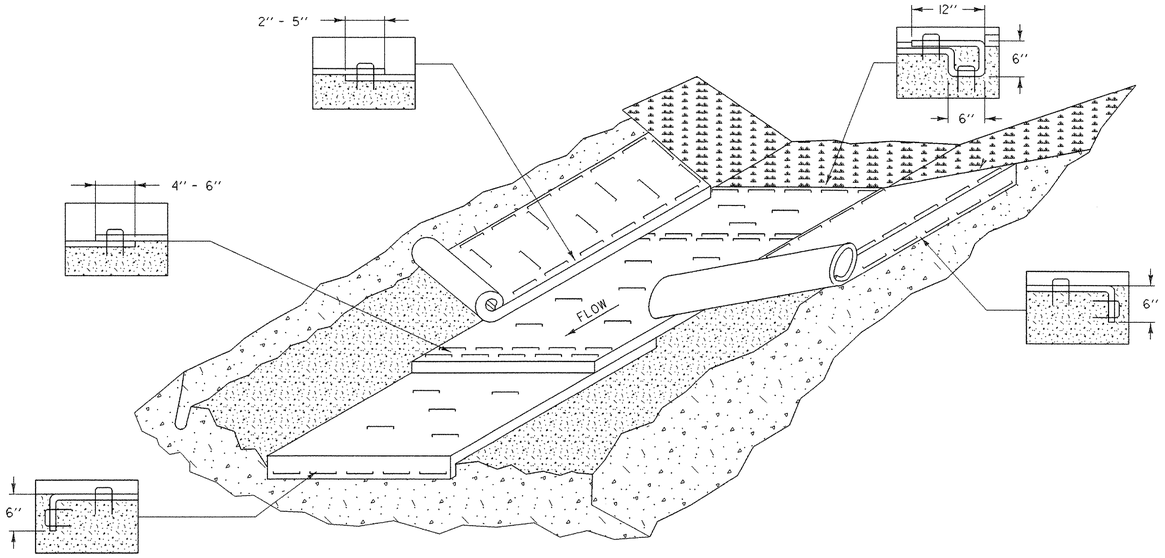


TYPICAL CONSTRUCTION ENTRANCE SECTION

EROSION PREVENTION & SEDIMENT CONTROL DETAILS CONSTRUCTION ENTRANCE

EPSC4

PROJECT: BRADFORD	PROJECT NO.: TH3-9641
DESIGN FILE NAME: 96j286/Structures/s96j286ecnotes.dgn	
IPARM FILE NAME: s96j286epsc4.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: M.FESSEL	DRAWN BY: M.FESSEL
SQUAD LEADER: C.P.WILLIAMS	CHECKED BY:
CONSTRUCTION ENTRANCE	SHEET: 95 OF 97



EROSION PROTECTION FOR DITCHES

APPLICATION NOTES:

A. THE PURPOSE OF LINING THE DITCH WITH EROSION MATTING IS TO REDUCE EROSION AND AID THE ESTABLISHMENT OF VEGETATION AT LOW VELOCITIES.

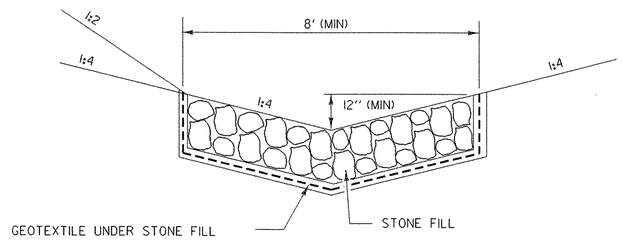
B. THE FOLLOWING CHARTS SHALL BE USED TO DETERMINE THE APPROPRIATE EROSION CONTROL MEASURE:

DITCH AND CHANNEL PROTECTION	
SLOPE	LINING
< 1%	GRASS
1% TO 4 %	EROSION MATTING
4 % TO 10 %	STONE FILL, TYPE I
> 10 %	STONE FILL, TYPE II

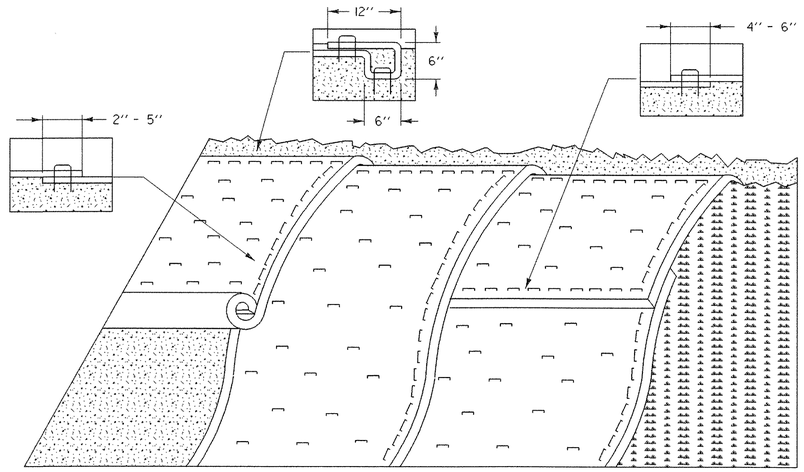
STONE FILL THICKNESS	
STONE FILL TYPE	THICKNESS
TYPE I	1 FT
TYPE II	2 FT

GENERAL NOTES:

1. WATER MAY NEED TO BE DIVERTED TO ALLOW PROPER MATTING INSTALLATION.
2. GRADE AND SMOOTH CHANNEL TO PROVIDE GOOD MATTING TO SOIL SURFACE CONTACT.
3. APPLY FERTILIZER, LIME, AND SEED PRIOR TO PLACING MATTING.
4. INSTALL MATTING IN THE CENTER OF THE CHANNEL, IN THE DIRECTION OF THE WATER FLOW.
5. INSTALL MATTING ON THE SIDE SLOPES OF THE CHANNEL, OVERLAPPING THE CENTER MAT.
6. ANCHOR MATTING AS SHOWN, UTILIZING ANCHOR STAPLES. STAPLE PLACEMENT SHALL BE DETERMINED BY THE MANUFACTURER'S INTALLATION INSTRUCTIONS.
7. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
8. MEASURES SHALL BE REPAIRED AND RESTAPLED AS NECESSARY TO ENSURE PROPER FUNCTION.
9. PAYMENT FOR INSTALLATION OF MATTING SHALL BE MADE UNDER THE EROSION CONTROL WITH MATTING ITEM.
10. PAYMENT FOR MONITORING EROSION CONTROL MATTING SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
11. PAYMENT FOR MAINTAINING DITCH PROTECTION SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.



TEMPORARY
STONE LINED
DITCH



EROSION PREVENTION FOR SIDE SLOPES

APPLICATION NOTES:

A. THE PURPOSE OF MATTING ON SIDE SLOPES IS TO REDUCE EROSION AND AID THE STABLISHMENT OF VEGETATION

B. EROSION CONTROL MATTING SHALL BE USED FOR THE FOLLOWING REASONS:

- SIDE SLOPES > 3:1 (H:V)
- AREAS WHERE SEED AND MULCH WILL NOT STAY IN PLACE ALONE
- WHERE SEEDING IS OUTSIDE THE GROWING SEASON.

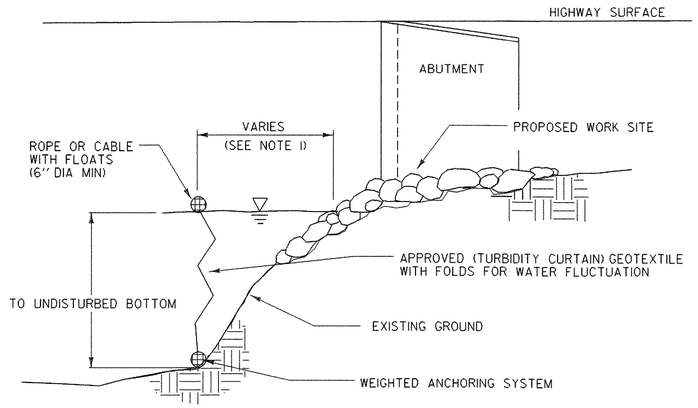
GENERAL NOTES:

1. GRADE AND SMOOTH THE SLOPE TO PROVIDE GOOD MATTING TO SOIL SURFACE CONTACT.
2. APPLY FERTILIZER, LIME, AND SEED PRIOR TO PLACING MATTING.
3. ANCHOR MATTING AS SHOWN, UTILIZING ANCHOR STAPLES. STAPLE PLACEMENT SHALL BE DETERMINED BY THE MANUFACTURER'S INTALLATION INSTRUCTIONS.
4. UNROLL MATTING VERTICALLY DOWN SLOPE IN THE DIRECTION OF WATER FLOW.
5. OVERLAP UPPER MATTING OVER LOWER MATTING AS SHOWN.
6. OVERLAP ADJACENT MATTING AS SHOWN.
7. CUT EXCESS MATTING AT END OF SLOPE AND ANCHOR THE END.
8. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
9. MATTING SHALL BE REPAIRED AND RESTAPLED AS NECESSARY TO ENSURE PROPER FUNCTION.
10. PAYMENT FOR INSTALLATION OF MATTING SHALL BE MADE UNDER THE EROSION CONTROL WITH MATTING ITEM.
11. PAYMENT FOR MONITORING EROSION CONTROL MATTING SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
12. PAYMENT FOR MAINTAINING SLOPE PROTECTION SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.

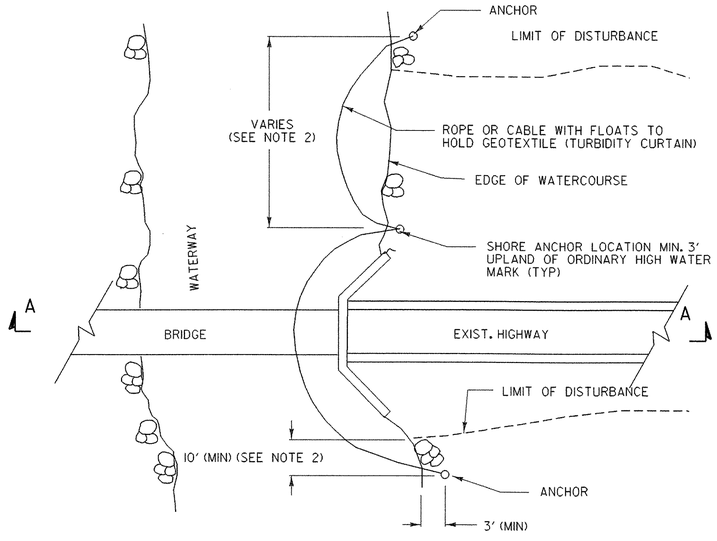
EROSION PREVENTION & SEDIMENT CONTROL DETAILS DITCH & SLOPE PROTECTION

EPSC5

PROJECT:	PROJECT NO.:
BRADFORD	TH3-9641
DESIGN FILE NAME: 96j286/Structures/s96j286ecnotes.dgn	
IPARM FILE NAME: s96j286epsc5.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: M. FESSEL	DRAWN BY: M. FESSEL
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY:
DITCH AND SLOPE PROTECTION	SHEET: 96 OF 97



SECTION A-A



PLAN

TURBIDITY CURTAIN - TEMPORARY

TURBIDITY CURTAIN

APPLICATION NOTES:

A. THE PURPOSE OF A TURBIDITY CURTAIN IS TO SEPARATE WORK AREAS IN OR ADJACENT TO WATERS, TO PREVENT SEDIMENT FROM ENTERING THE WATERS.

B. TURBIDITY CURTAIN SHALL NOT BE PLACED ACROSS A FLOWING WATERWAY, OR IN A WATERWAY WITH STREAM VELOCITIES GREATER THAN 1.5 FT/SEC.

C. TURBIDITY CURTAIN SHALL NOT BE PLACED AT THE OUTLET OF A CULVERT OR DITCH UNLESS THE VELOCITY DOES NOT EXCEED 1.5 FT/SEC.

D. THE DETAIL DEPICTS WORK AT A BRIDGE LOCATION, BUT TURBIDITY CURTAIN MAY BE APPLIED AT OTHER LOCATIONS.

GENERAL NOTES:

1. THE TURBIDITY CURTAIN SHALL BE PLACED AS CLOSE TO THE WORK AS POSSIBLE WITHOUT INTERFERING WITH CONSTRUCTION OPERATIONS.

2. THE TURBIDITY CURTAIN SHALL BE A MAXIMUM OF 100 FEET LONG BETWEEN ANCHORS. LAST SECTION SHALL TERMINATE A MINIMUM OF 10 FEET BEYOND THE LIMIT OF DISTURBANCE.

3. THE CONTRACTOR SHALL MONITOR THE TURBIDITY CURTAIN, TAKING INTO ACCOUNT WEATHER PATTERNS AND PREVAILING WIND DIRECTIONS THAT MAY AFFECT WATER LEVELS, VELOCITY AND MOVEMENT OF THE TURBIDITY CURTAIN.

4. THE TURBIDITY CURTAIN SHALL BE REMOVED BY SLOWLY PULLING TOWARD THE SHORE TO MINIMIZE ESCAPE OF SEDIMENTS INTO THE WATERWAY.

5. THE WEIGHTED ANCHOR SYSTEM SHALL BE A TYPE THAT ALLOWS THE CURTAIN TO CONFORM TO THE CONTOUR ON THE BOTTOM OF THE WATERWAY.

6. PAYMENT FOR INSTALLATION AND REMOVAL OF THE TURBIDITY CURTAIN SHALL BE MADE UNDER THE GEOTEXTILE FOR FILTER CURTAIN ITEM.

7. PAYMENT FOR MONITORING TURBIDITY CURTAIN SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.

8. PAYMENT FOR MAINTAINING TURBIDITY CURTAIN SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.

EROSION PREVENTION & SEDIMENT CONTROL DETAILS TURBIDITY CURTAIN

EPSC6

PROJECT: BRADFORD	PROJECT NO.: TH3-9641
DESIGN FILE NAME: 96j286/Structures/s96j286ecnotes.dgn	
IPARM FILE NAME: s96j286epsc6.i	PLOT DATE: 11-FEB-2005
DESIGNED BY: M.FESSEL	DRAWN BY: M.FESSEL
SQUAD LEADER: C.P.WILLIAMS	CHECKED BY:
TURBIDITY CURTAIN	SHEET: 97 OF 97

GENERAL NOTES

1 CONSTRUCTION SPECIFICATIONS:

ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2001, AND ITS LATEST REVISIONS, AND THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (A.A.S.H.T.O.) STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 1996, AND ITS LATEST REVISIONS.

2 MATERIAL SPECIFICATIONS:

UNLESS NOTED, ALL STEEL TO BE AASHTO M270 GRADE 50W (ASTM A709-50W)
STEEL FOR GIRDER BOTTOM FLANGES TO BE ASTM A709-HPS70W

MATERIAL NOTED "CVN" ON DETAIL DRAWINGS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF VERMONT STANDARD SPECIFICATIONS.

HIGH STRENGTH BOLTS: AASHTO M164 (ASTM A325) 7/8" DIA.
IN 15/16" DIAMETER HOLES (U.N).
TYPE 3 SHALL BE USED FOR UNPAINTED CONNECTIONS.
TYPE 1 (GALV.) SHALL BE USED FOR PAINTED CONNECTIONS.

3. FABRICATION:

ALL HOLES SHALL BE PUNCHED OR DRILLED FULL SIZE.

STUDS ARE FURNISHED AND FIELD APPLIED BY OTHERS.

4 WELDING:

THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS D.1.5-02 BRIDGE WELDING CODE AND WITH THE SPECIFICATIONS SHOWN BESIDE. ALL WELDING WILL BE DETAILED TO PRE-QUALIFIED JOINTS, UNLESS PROHIBITED BY THE DESIGNER.

WELDING OF MAIN LOAD CARRYING MEMBERS AND ATTACHMENTS SHALL BE PERFORMED USING THE AUTOMATIC SUBMERGED ARC & SHIELDED METAL ARC PROCESS. ALL WELDS ARE CONTINUOUS U.N.

NON DESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATION.

5 CLEANING:

ALL STEEL THAT WILL REMAIN UNPAINTED SHALL BE BLAST CLEANED AS PER SSPC SP-10 PER SPEC. 506.14(a)

ALL STEEL THAT WILL BE PAINTED SHALL BE BLAST CLEANED AS PER SSPC SP-6 PER SPEC. 513.04(a)

⚠ 6 PAINT:

ALL STEEL COMPONENTS WITHIN A DISTANCE OF 8'-0" (END DIAPHRAGMS INCLUDED) FROM THE EXPANSION END OF GIRDERS (PIER #1) SHALL BE COATED WITH THE PROTECTIVE SYSTEM ACCORDING TO SECTION 513 OF THE SPECIFICATION. PAINT SYSTEM MUST BE LISTED ON THE QUALIFIED PRODUCT LIST. THE PAINT SHALL BE BROWN COLOR CHIP NO.20059 PER SECTION 513.02. PROTECTIVE GREASE SHALL BE APPLIED IN THE FIELD BY OTHERS PER SUPPLEMENTAL SPECIFICATION 513.

PAINT MANUFACTURER:
CARBOLINE COMPANY.

PRODUCT SYSTEM:
PRIMER COAT: CARBOLINE 859 ORGANIC ZINC RICH EPOXY PRIMER, ~~3-5~~ 3-6 MILS DFT
INTERMEDIATE COAT: CARBOLINE 888 EPOXY, ~~3-5~~ MILS DFT 3-10
TOP COAT: CARBOLINE 133HB ALIPHATIC POLYURETHANE, 3-5 MILS DFT

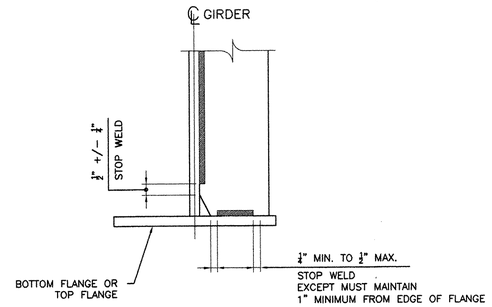
THE FAYING SURFACES ON THE CONNECTION PLATES SHALL BE PREPARED AS CLASS "C" THESE SURFACES SHALL BE PROTECTED FROM DAMAGE AND CORROSION PRIOR TO THE CONNECTION.

7 FIELD CONNECTIONS:

ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH STRENGTH A-325 BOLTS TYPE 3 OR 1 AS NOTED, IN 15/16" DIAMETER HOLES UNLESS OTHERWISE NOTED. INSTALLED PER 506.19(c) AND SPECIAL PROVISIONS.

BOLTS SHALL HAVE HEAVY HEX. NUT, HEX. HEAD & ONE FLAT WASHER EACH (WASHER TO BE PLACED UNDER TURNED ELEMENT).

PIECE MARKS WILL BE LOCATED AS SHOWN ON ERECTION DRAWING.



TYPICAL WELD DETAIL

Structures Copy

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CK'D BY Knott CK'D BY _____
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RESUBMIT _____ APPROVED As Noted
BY CPW DATE 10/31/05

RESERVED FOR STAMPS

REV	DATE	DESCRIPTION
⚠	09/02/05	AS PER APPROVAL COMMENTS

QTY	DATE	ISSUED TO	FOR
8	9/16/05	FW Whitcomb	Approval
8	07/14/05	FW WHITCOMB	APPROVAL

NOTICE
This drawing shall not be used or reproduced in any manner, nor shall any similar drawings or structures be made therefrom, nor shall the information thereon be used for any purpose other than that for which it is released without the written consent of an officer of EASTERN BRIDGE LLC

EASTERN BRIDGE LLC
RURAL RTE 2, BOX 302
CLAREMONT, NH 03743
603-542-5202

PROJECT: BRIDGE 8 OVER THE WHITE RIVER, PROJECT NO BRO-BTN 2004(1)			
LOCATION: TOWN OF HARTFORD, COUNTY OF WINDSOR, VERMONT			
ENGINEER: STATE OF VERMONT, AGENCY OF TRANSPORTATION			
CUSTOMER: FW WHITCOMB CONSTRUCTION CO.			
DRAWING TITLE: GENERAL NOTES			
DRAWN BY: YT	06/02/05	JOB NUMBER: 6005	SHEET NUMBER: GN1
CHECKED BY: GG	06/06/05		

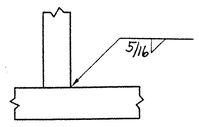
098 SS

EASTERN BRIDGE, LLC
WELDING PROCEDURE SPECIFICATION

WPS NUMBER:SMAW PL#00-02	ISSUE DATE:7/11/05
PROJECT:VT AOT BRO-BTN 2004 (1)	EB JOB NO.:6005
BASE METAL:A709 GR 345W	
WELDING PROCESS:SMAW	
FILLER METAL SPEC.:A5.5 , LINCOLN E8018 C3	
FLUX / SHIELDING GAS:N/A	
CURRENT AND POLARITY:DCEP	ELEC STICKOUT:N/A
WELDING POSITION:2F	
PREHEAT AND INTERPASS TEMP.:AWS D1.5 TABLE 4.4	WPS QUALIFICATION:PREQUALIFIED
HEAT INPUT:29.04 - 137.7 KILOJOULES	SUPPORTING PQR#:N/A

ELECTRODE SIZE	WELDING AMPS	CURRENT VOLTS	TRAVEL SPEED
1/8"	110-130	22-26	3-5 IPM
5/32"	130-170	22-26	3-5 IPM
3/16"	170-255	24-27	3-5 IPM

JOINT DETAIL AND AWS NUMBER:FILLET 2F



NOTES:
FOR WELDING
GR 345W TO GR 345W
GR 345W TO GR 485W

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BY DATE 8-1-05

MIMUM PREHEAT AND INTERPASS TEMPERATURES SHALL BE AS FOLLOWS:
MAXIMUM INTERPASS TEMPERATURE SHALL BE 450F

THICKNESS OF THICKEST PART AT POINT OF WELDING	TEMPERATURE, F ASTM A709 GR 345W STEEL
UP TO 3/4"	50F
3/4" TO 1 1/2"	125F
1 1/2" TO 2 1/2"	175F
OVER 2 1/2"	225F

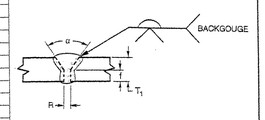
THIS PROCEDURE MAY VARY DUE TO FABRICATION SEQUENCE, FIT UP, PASS SIZE, ETC. WITHIN THE LIMITS PROVIDED IN THE CONTRACT DOCUMENTS AND THE AWS D1.5 BRIDGE WELDING CODE.

EASTERN BRIDGE, LLC
WELDING PROCEDURE SPECIFICATION

WPS NUMBER: 2005-3-1	ISSUE DATE:7/11/05
PROJECT: VT AOT BRO-BTN 2004 (1)	EB JOB NO.:6005
BASE METAL: ASTM A709 GR 345W	
WELDING PROCESS: SUBMERGED ARC WELDING	
FILLER METAL SPEC.:AWS A5.23 LINCOLN LA75	
FLUX / SHIELDING GAS:LINCOLN 960	
CURRENT AND POLARITY:DCEP	ELEC STICKOUT:1" +/- 1/4"
WELDING POSITION:1G	
PREHEAT AND INTERPASS TEMP.:AWS D1.5 TABLE 4.4	WPS QUALIFICATION:AWS D1.5 / 5.13
HEAT INPUT:50.68 - 73.92 KILOJOULES	SUPPORTING PQR#: 2005-3

ELECTRODE SIZE	WELDING AMPS	CURRENT VOLTS	TRAVEL SPEED
3/32"	396 - 440	28.8 - 31.5	11.25 - 13.5

JOINT DETAIL AND AWS NUMBER: BL2c-S



NOTES:

OVER 1/2" TO 1"	OVER 1" TO 1 1/2"
R = 0	R = 0
F = 1/4"	F = 1/2"
A = 60 DEGREES	A = 60 DEGREES

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MIMUM PREHEAT AND INTERPASS TEMPERATURES SHALL BE AS FOLLOWS:
MAXIMUM INTERPASS TEMPERATURE SHALL BE 450F

THICKNESS OF THICKEST PART AT POINT OF WELDING	TEMPERATURE, F ASTM A709 GR 345W STEEL
UP TO 3/4"	50F
3/4" TO 1 1/2"	70F
1 1/2" TO 2 1/2"	150F
OVER 2 1/2"	225F

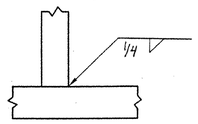
THIS PROCEDURE MAY VARY DUE TO FABRICATION SEQUENCE, FIT UP, PASS SIZE, ETC. WITHIN THE LIMITS PROVIDED IN THE CONTRACT DOCUMENTS AND THE AWS D1.5 BRIDGE WELDING CODE.

EASTERN BRIDGE, LLC
WELDING PROCEDURE SPECIFICATION

WPS NUMBER:SMAW PL#00-02-6	ISSUE DATE:7/11/05
PROJECT: VT AOT BRO-BTN 2004 (1)	EB JOB NO.:6005
BASE METAL:A709 GR 345W	
WELDING PROCESS:SMAW	
FILLER METAL SPEC.:A5.5 LINCOLN E8018 C3	
FLUX / SHIELDING GAS:N/A	
CURRENT AND POLARITY:DCEP	ELEC STICKOUT:N/A
WELDING POSITION:2F	
PREHEAT AND INTERPASS TEMP.:AWS D1.5 TABLE 4.4	WPS QUALIFICATION:PREQUALIFIED
HEAT INPUT:29.04 - 137.7 KILOJOULES	SUPPORTING PQR#:N/A

ELECTRODE SIZE	WELDING AMPS	CURRENT VOLTS	TRAVEL SPEED
1/8"	110-130	22-26	3-5 IPM
5/32"	130-170	22-26	3-5 IPM
3/16"	170-255	24-27	3-5 IPM

JOINT DETAIL AND AWS NUMBER:FILLET 2F



NOTES: 6MM FILLET

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MIMUM PREHEAT AND INTERPASS TEMPERATURES SHALL BE AS FOLLOWS:
MAXIMUM INTERPASS TEMPERATURE SHALL BE 450F

THICKNESS OF THICKEST PART AT POINT OF WELDING	TEMPERATURE, F ASTM A709 GR 345W STEEL
UP TO 3/4"	50F
3/4" TO 1 1/2"	125F
1 1/2" TO 2 1/2"	175F
OVER 2 1/2"	225F

THIS PROCEDURE MAY VARY DUE TO FABRICATION SEQUENCE, FIT UP, PASS SIZE, ETC. WITHIN THE LIMITS PROVIDED IN THE CONTRACT DOCUMENTS AND THE AWS D1.5 BRIDGE WELDING CODE.

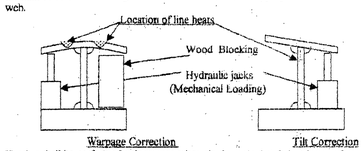
EASTERN BRIDGE, LLC
RR 2, BOX 302
CLAREMONT, NH 03743

PHONE (603) 542-5202 FAX (603) 542-5317

Warpage and Tilt of Flange Correction Procedure, Rev. 1 NYS

SCOPE: This procedure is to be used to correct unacceptable amounts of warpage, (deviation from flatness) or flange tilt, (deviation of flanges from a line normal to the centerline of the web) in fabricated girders or rolled beams. Correction shall be achieved through the use of line heating on the girder web, or flanges, or both, in combination with the use of moderate mechanical loading if needed.

1. The area to be heated shall be determined by the correction required, see sketch below. Warpage shall be corrected through the use of line heats on the flanges. Flange tilt shall be corrected through the use of line heats on the appropriate surface of the web.



Warpage Correction Tilt Correction

2. Heating shall be performed using appropriate sized rosebud style heating torches. Heating shall be confined to areas described in step 3 and shall be performed so as to bring the steel in those areas to a temperature between 1,000 F and 1,100 F as rapidly as possible without overheating the steel.
3. Heating patterns shall be marked on the steel prior to heating. Line heats shall be marked so as to avoid the areas of high restraint directly opposite fillet welds. The line heat length shall be determined by the amount of flange tilt or flange warpage requiring correction.
4. Heating shall begin at one end of the line and not proceed to the other end until the initial area is brought up to a temperature between 1,000 F and 1,100 F. The torch operator shall have 1,000 F, 1,100 F, & 1,150 F temperature indicating crayons. The steel surface temperature shall be monitored frequently during the heating process. and the temperature shall be controlled so as to achieve 1,100 F and not to exceed 1,150 F.
5. Apply mechanical loading until the bottom flange moves, but no more than ¼". The force applied shall be a minimum to maintain and support position during the heating process. Mechanical loading shall be achieved using hydraulic jacks in the locations shown for the two types of correction being performed.
6. The QA representative for the state shall be notified prior to implementation of this procedure.

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EASTERN BRIDGE, LLC
RR 2, BOX 302
CLAREMONT, NH 03743

PHONE (603) 542-5202 FAX (603) 542-5317

HEAT CAMBERING AND CORRECTIVE HEAT CAMBERING PROCEDURE

1. Support girder, with web in vertical position, at girder ends and at intermediate points as necessary to produce a uniform curvature in the member.
2. Intermediate safety catch blocks shall be maintained at mid distance between supports of the member and not more than 2" below the flanges at all times.
3. The beam being cambered shall be supported or braced to prevent deflection laterally and overturning during the heating process.
4. Heating shall be performed using a properly sized rosebud style heating tip. Heating shall be confined to areas described in Step 5 and shall be performed so as to bring the steel in these areas to a temperature not exceeding 1,150F as rapidly as possible without overheating the steel.
5. Heating patterns shall be marked on the girders prior to heating. Heat patterns will be located at even distances in a quantity sufficient to produce the desired camber. Whenever possible heating patterns shall be centered on stiffener locations. Additional blank stiffeners may be required at panel midpoints to provide sufficient heating sites in an effort to prevent or reduce web distortion. Patterns shall be truncated triangles with the base of the triangle being that flange which shall be concave in the finished girder. The apex of the triangle shall be located in the web at a point not less than 75% of the depth of the beam from the base of the triangle. The total included angle of the triangle shall not exceed 20 degrees and the base of the triangle shall not exceed 10".
6. Heating shall begin at the apex of the triangle and not proceed toward the base until the truncated area is brought up to a temperature not exceeding 1,150F. Once heating begins to progress towards the base of the triangle it shall not return to the apex. The torch operator shall have 1,000 F, 1,100 F, and 1,150 F temperature indicating crayons. The steel surface temperature shall be monitored frequently during the heating process.
7. No weight shall be applied without prior approval of the state.
8. After application of heating patterns the member being cambered shall stay in the vertical position until the heated areas cool to below 200F, to check and record results.
9. The heated areas shall be allowed to cool to below 600F in ambient conditions. After which time, the areas may be cooled in an accelerated manner using dry, compressed air.
10. The QA representative for the state shall be notified prior to implementation of this procedure.

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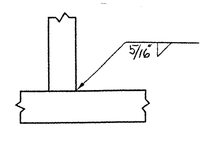
** TOTAL PAGE.04

EASTERN BRIDGE, LLC
WELDING PROCEDURE SPECIFICATION

WPS NUMBER: 2005-3-2	ISSUE DATE:7/11/05
PROJECT: VT AOT BRO-BTN 2004 (1)	EB JOB NO.:6005
BASE METAL: ASTM A709 GR 345W	
WELDING PROCESS: SUBMERGED ARC WELDING	
FILLER METAL SPEC.:AWS A5.23 LINCOLN LA75	
FLUX / SHIELDING GAS:LINCOLN 960	
CURRENT AND POLARITY:DCEP	ELEC STICKOUT:1" +/- 1/4"
WELDING POSITION:2F	
PREHEAT AND INTERPASS TEMP.:AWS D1.5 TABLE 4.4	WPS QUALIFICATION:AWS D1.5 / 5.13
HEAT INPUT:50.68 - 73.92 KILOJOULES	SUPPORTING PQR#: 2005-3

ELECTRODE SIZE	WELDING AMPS	CURRENT VOLTS	TRAVEL SPEED
3/32"	396 - 440	28.8 - 31.5	11.25 - 13.5

JOINT DETAIL AND NY SCM NUMBER: FILLET



NOTES:
FOR WELDING
GR 345W TO 345W
GR 345W TO 485W

VTRANS
RECEIVED
OK'D BY_____OK'D BY_____
JUL 2 1 2005
RESUBMIT_____APPROVED ✓
BY DATE 8-1-05

MIMUM PREHEAT AND INTERPASS TEMPERATURES SHALL BE AS FOLLOWS:
MAXIMUM INTERPASS TEMPERATURE SHALL BE 450F

THICKNESS OF THICKEST PART AT POINT OF WELDING	TEMPERATURE, F ASTM A709 GR 345W STEEL
UP TO 3/4"	50F
3/4" TO 1 1/2"	125F
1 1/2" TO 2 1/2"	175F
OVER 2 1/2"	225F

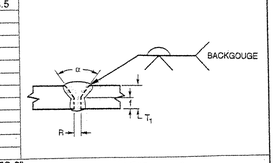
THIS PROCEDURE MAY VARY DUE TO FABRICATION SEQUENCE, FIT UP, PASS SIZE, ETC. WITHIN THE LIMITS PROVIDED IN THE CONTRACT DOCUMENTS AND THE AWS D1.5 BRIDGE WELDING CODE.

EASTERN BRIDGE, LLC
WELDING PROCEDURE SPECIFICATION

WPS NUMBER:SAW PL#14-3	ISSUE DATE:7/11/05
PROJECT:VT AOT BRO-BTN 2004 (1)	EB JOB NO.:6005
BASE METAL:ASTM A709 GR 485W	
WELDING PROCESS:SUBMERGED ARC WELDING	
FILLER METAL SPEC.:AWS A5.23-97 LINCOLN LA85 H4 MAX	
FLUX / SHIELDING GAS:LINCOLN MIL800 HPNI	
CURRENT AND POLARITY:DCEP	ELEC STICKOUT:1" +/- 1/4"
WELDING POSITION:1G	
PREHEAT AND INTERPASS TEMP.:HPS70 GUIDE TABLE 3	WPS QUALIFICATION:AWS D1.5 5.13
HEAT INPUT:50.68 - 73.92 KILOJOULES	SUPPORTING PQR#:SAW A332-3 PL#14

ELECTRODE SIZE	WELDING AMPS	CURRENT VOLTS	TRAVEL SPEED
3/32"	396-440	28.8-30	11.25-13.5

JOINT DETAIL: GROOVE B-L2c-S



NOTES:

OVER 1/2" TO 1"	OVER 1 1/2" TO 2"
R = 0	R = 0
f = 1/4" min	f = 3/8" min
a = 60 degrees	a = 60 degrees

VTRANS
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BY DATE 8-1-05

MIMUM PREHEAT AND INTERPASS TEMPERATURES SHALL BE AS FOLLOWS:
MAXIMUM INTERPASS TEMPERATURE SHALL BE 400F

THICKNESS OF THICKEST PART AT POINT OF WELDING	TEMPERATURE, F ASTM A709 GR 485W STEEL
UP TO 3/4"	50F
3/4" TO 1 1/2"	125F
1 1/2" TO 2 1/2"	125F
OVER 2 1/2"	225F

THIS PROCEDURE MAY VARY DUE TO FABRICATION SEQUENCE, FIT UP, PASS SIZE, ETC. WITHIN THE LIMITS PROVIDED IN THE CONTRACT DOCUMENTS AND THE AWS D1.5 BRIDGE WELDING CODE.

EASTERN BRIDGE, LLC
RR 2, BOX 302
CLAREMONT, NH 03743

PHONE (603) 542-5202 FAX (603) 542-5317

HEAT CURVING AND SWEEP CORRECTION PROCEDURE STRIP HEAT METHOD

1. Support girder, with web in horizontal position, at girder ends and at intermediate points as necessary to produce a uniform curvature in the member.
2. Intermediate safety catch blocks shall be maintained at mid distance between supports of the member and not more than 2" below the flanges at all times.
3. Heating shall be performed using large (1") rosebud style MAPP gas heating torches. Heating shall be confined to areas described in Step 4 and shall be performed so as to bring the steel in these areas to a temperature between 1,000 F and 1,150 F as rapidly as possible without overheating the steel.
4. Heat shall be applied to those edges of the girder flanges, which shall be on the concave side after completion.
5. Heating shall be done beginning at the center of the girder and working out to either end. Care shall be taken to heat both top and bottom flange edges at the same time.
6. If heating torches are mounted on an automatic Bug-O type carriage, the torch head proximity and travel speed shall be set to achieve 1,000 F as measured on the flange edge at a distance of 6" behind the torch head. The steel temperature shall be checked frequently to see that the temperature achieves 1,000 F and does not exceed 1,150 F.
7. If heating is done manually, care shall be taken to ensure that the heating is done in a consistent manner to achieve predictable results. The torch operators shall monitor the steel temperature frequently to see that the temperature reaches 1000 F and does not exceed 1,150 F. The rate of progression along the flange edge shall likewise be carefully controlled.
8. Edge heats may be done continuously or intermittently, depending on the amount of final horizontal curvature required. If heats are done intermittently, the individual heats shall be allowed to cool below 200F before beginning the next heating cycle.
9. The heated areas shall be allowed to cool to below 600 F in ambient conditions. After which time, the areas may be cooled in an accelerated manner using dry, compressed air
10. The intermediate safety catch blocks under the girder shall be monitored to maintain a space of no more than 2" during the heating process. It will be necessary to substitute different thickness catch blocks to maintain this space as the girder begins to contract and move.
11. The member being heated shall not be moved until the steel has reached ambient temperature.
12. The QA representative for the state shall be notified prior to implementation of this procedure.

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JUL 2 1 2005
RESUBMIT_____APPROVED ✓
BY GW DATE 8-1-05
GW 8/15/05
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REV	DATE	DESCRIPTION
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QTY	DATE	ISSUED TO	FOR
8 -	7/14/05	FW Whitcomb	Approval

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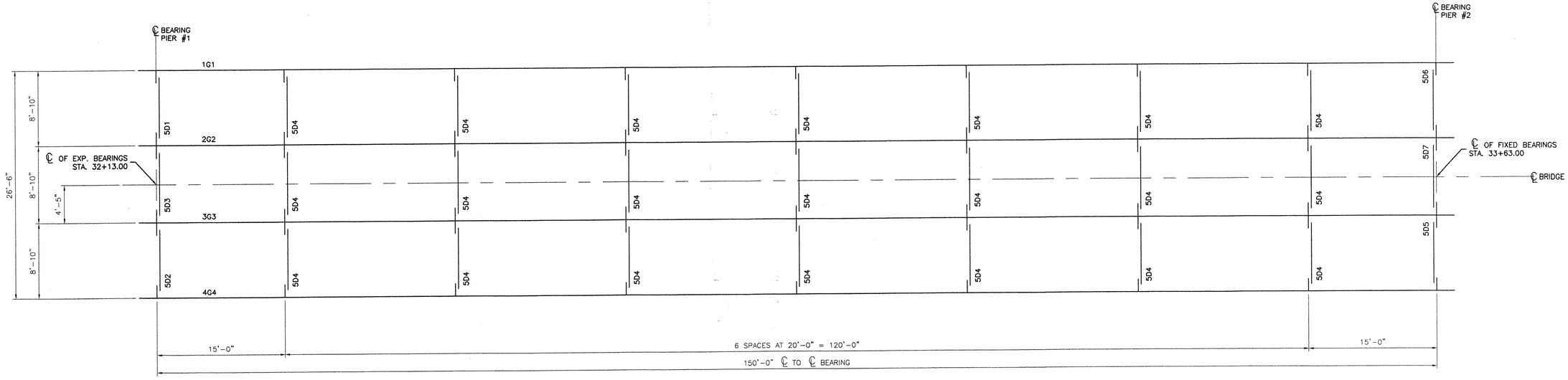
EASTERN BRIDGE LLC
RURAL RTE 2, BOX 302
CLAREMONT, NH 03743
603-542-5202

PROJECT:	BRIDGE 8 OVER THE WHITE RIVER, PROJECT NO BRO-BTN 2004(1)
LOCATION:	TOWN OF HARTFORD, COUNTY OF WINDSOR, VERMONT
ENGINEER:	STATE OF VERMONT, AGENCY OF TRANSPORTATION
CUSTOMER:	FW WHITCOMB CONSTRUCTION CO.
DRAWING TITLE:	WELD PROCEDURES
DRAWN BY: YT	06/02/05
CHECKED BY: GG	06/06/05
JOB NUMBER:	6005
SHEET NUMBER:	WP1

09955

BILL OF MATERIAL

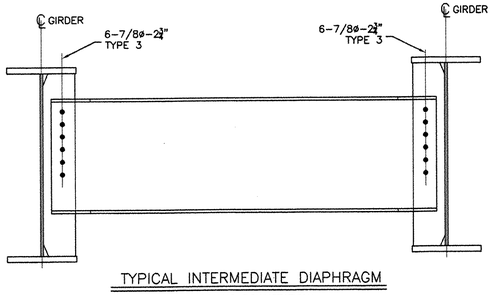
Drawing Number	Revision Number	Ship Mark	Piece Mark	Qty	Type of Material	Size of Material	Grade	Length	Finish	Notes
E1				252	H.S. BOLT	7/8ø	A325–TYPE 3	2 3/4		
E1				72	H.S. BOLT	7/8ø	A325–TYPE 3	3		
E1				72	H.S. BOLT	7/8ø	A325–TYPE 1	3	GALVANIZED	
E1				324	H. HEX. NUT	7/8ø	A563 GRADE DH3			
E1				648	WASHER	7/8ø	F436–TYPE 3			
E1				72	H. HEX. NUT	7/8ø	A563 GRADE DH		GALVANIZED	
E1				144	WASHER	7/8ø	F436		GALVANIZED	



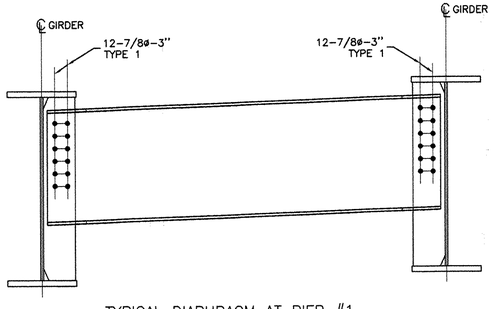
BRIDGE FRAMING PLAN

NOTES:

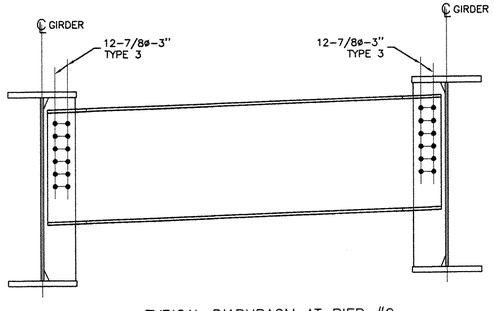
1– GENERAL NOTES: SEE GN1
2– PAINT: SEE GN1
3– HOLES: 15/16ø IN DIAPHRAGM MEMBERS & 1"ø IN STIFFENERS
4– ALL BOLTS ARE COMPLETED WITH ONE (1) HEAVY HEX NUT & TWO (2) HARDENED FLAT WASHERS



TYPICAL INTERMEDIATE DIAPHRAGM
(LOOKING DOWNSTATION)



TYPICAL DIAPHRAGM AT PIER #1
(LOOKING DOWNSTATION)



TYPICAL DIAPHRAGM AT PIER #2
(LOOKING UPSTATION)

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QTY	DATE	ISSUED TO	FOR
8 -	9/16/05	FW Whitcomb	Approval

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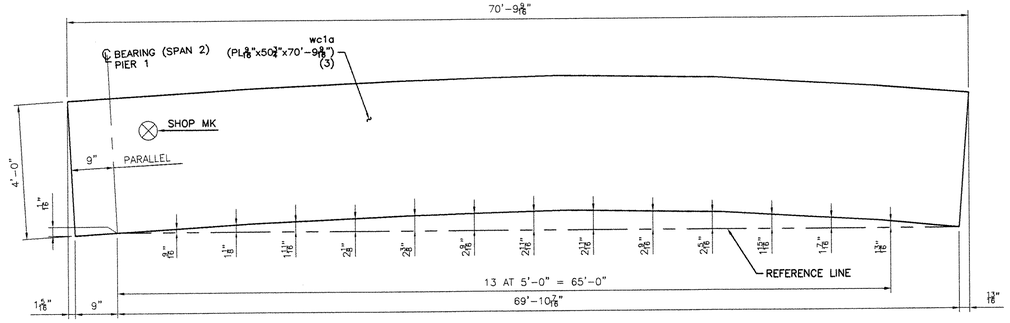
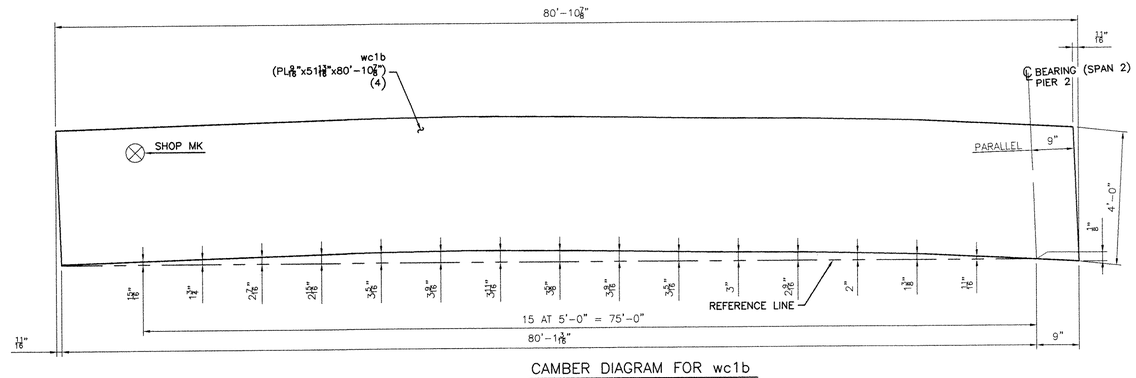
EASTERN BRIDGE LLC
RURAL RTE 2, BOX 302
CLAREMONT, NH 03743
603–542–5202

PROJECT: BRIDGE 8 OVER THE WHITE RIVER, PROJECT NO BRO–BTN 2004(1)			
LOCATION: TOWN OF HARTFORD, COUNTY OF WINDSOR, VERMONT			
ENGINEER: STATE OF VERMONT, AGENCY OF TRANSPORTATION			
CUSTOMER: FW WHITCOMB CONSTRUCTION CO.			
DRAWING TITLE: BRIDGE FRAMING PLAN			
DRAWN BY: YT	06/03/05	JOB NUMBER: 6005	SHEET NUMBER: E1
CHECKED BY: GG	06/06/05		

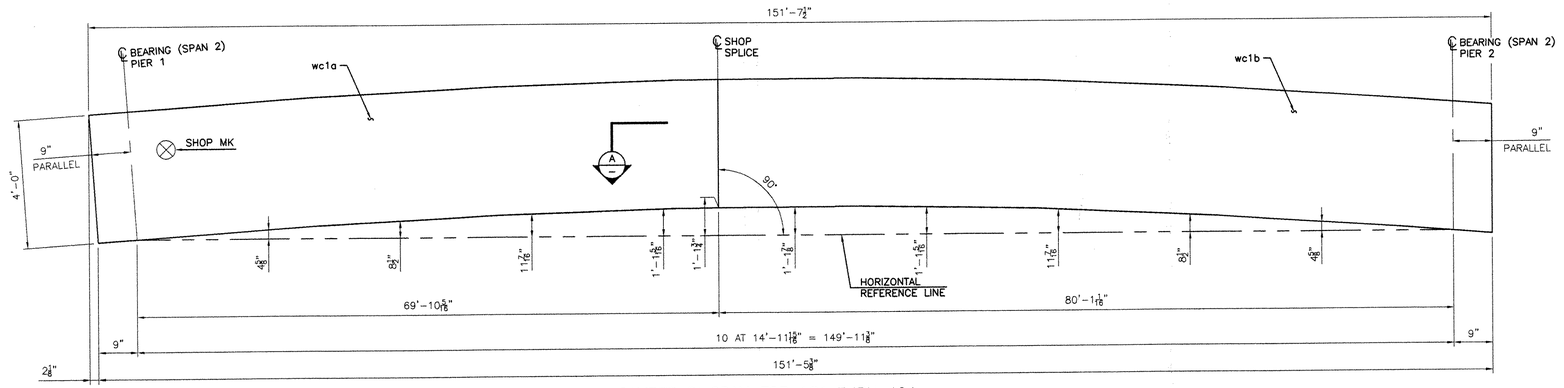
10033



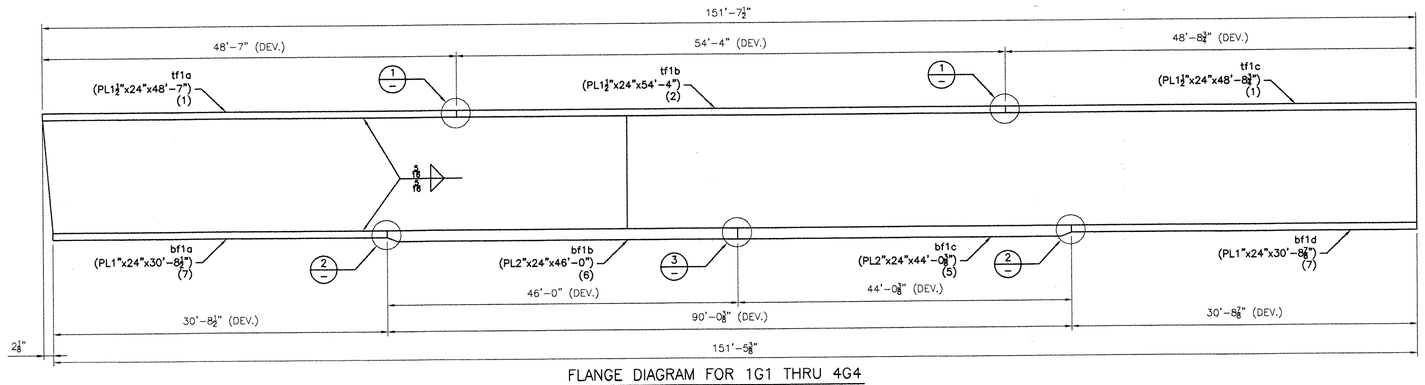
CAMBER DIAGRAM FOR wc1a



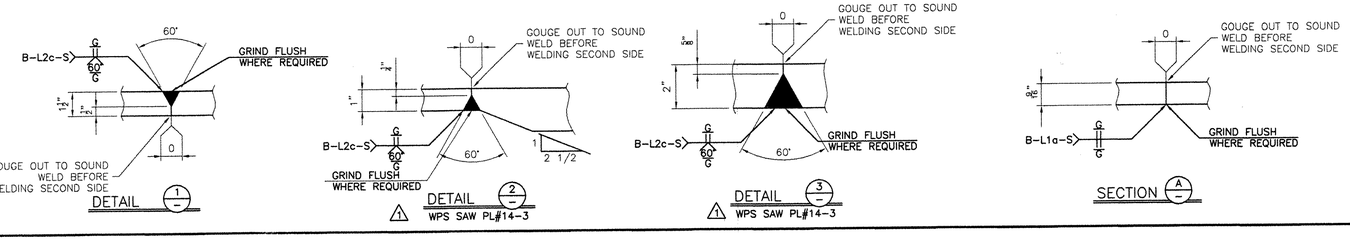
CAMBER DIAGRAM FOR wc1b



CAMBER DIAGRAM FOR 1G1 THRU 4G4



FLANGE DIAGRAM FOR 1G1 THRU 4G4



NOTES:

1- GENERAL NOTES: SEE GN1

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BY GPW DATE 10/31/05

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REV	DATE	DESCRIPTION
1	09/02/05	AS PER APPROVAL COMMENTS

QTY	DATE	ISSUED TO	FOR
8	9/16/05	FW Whitcomb	Approval
B	07/14/05	FW WHITCOMB	APPROVAL

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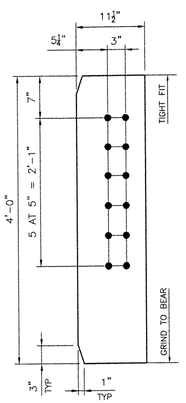
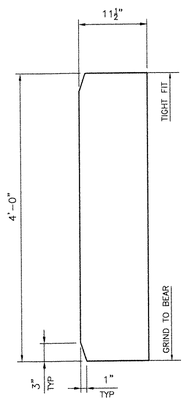
EASTERN BRIDGE LLC
RURAL RTE 2, BOX 302
CLAREMONT, NH 03743
603-542-5202

PROJECT:	BRIDGE 8 OVER THE WHITE RIVER, PROJECT NO BRO-BTN 2004(1)
LOCATION:	TOWN OF HARTFORD, COUNTY OF WINDSOR, VERMONT
ENGINEER:	STATE OF VERMONT, AGENCY OF TRANSPORTATION
CUSTOMER:	FW WHITCOMB CONSTRUCTION CO.
DRAWING TITLE:	WEB CAMBER AND FLANGE DIAGRAMS
DRAWN BY: GG 06/03/05	JOB NUMBER: 6005
CHECKED BY: YT 06/06/05	SHEET NUMBER: WC1

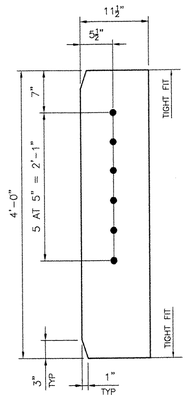
101 55



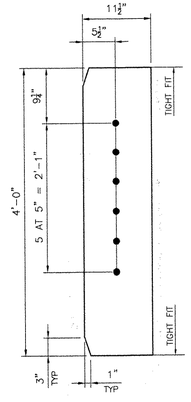
ITEM x1pa (12 REQ'D)
(PL 7/8 x 11 1/2 x 4'-0)
(ABM #8)



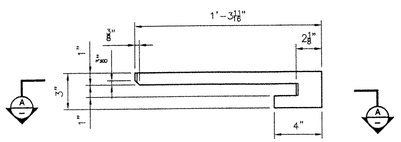
ITEM x1pb (4 REQ'D)
(PL 7/8 x 11 1/2 x 4'-0)
(ABM #8)



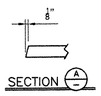
ITEM x1pc (28 REQ'D)
(PL 1/2 x 11 1/2 x 4'-0)
(ABM #9)



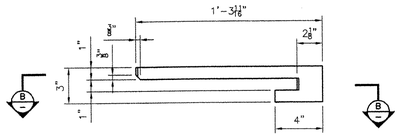
ITEM x1pd (14 REQ'D)
(PL 1/2 x 11 1/2 x 4'-0)
(ABM #9)



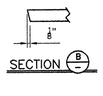
ITEM x1pf (1 REQ'D)
(PL 1/4 x 3 x 1'-3 11/16)
(ABM #10)



SECTION A



ITEM x1pg (1 REQ'D)
(PL 1/4 x 3 x 1'-3 11/16)
(ABM #10)



SECTION B

NOTES:

1- GENERAL NOTES: SEE GN1
2- HOLES: 1"ø

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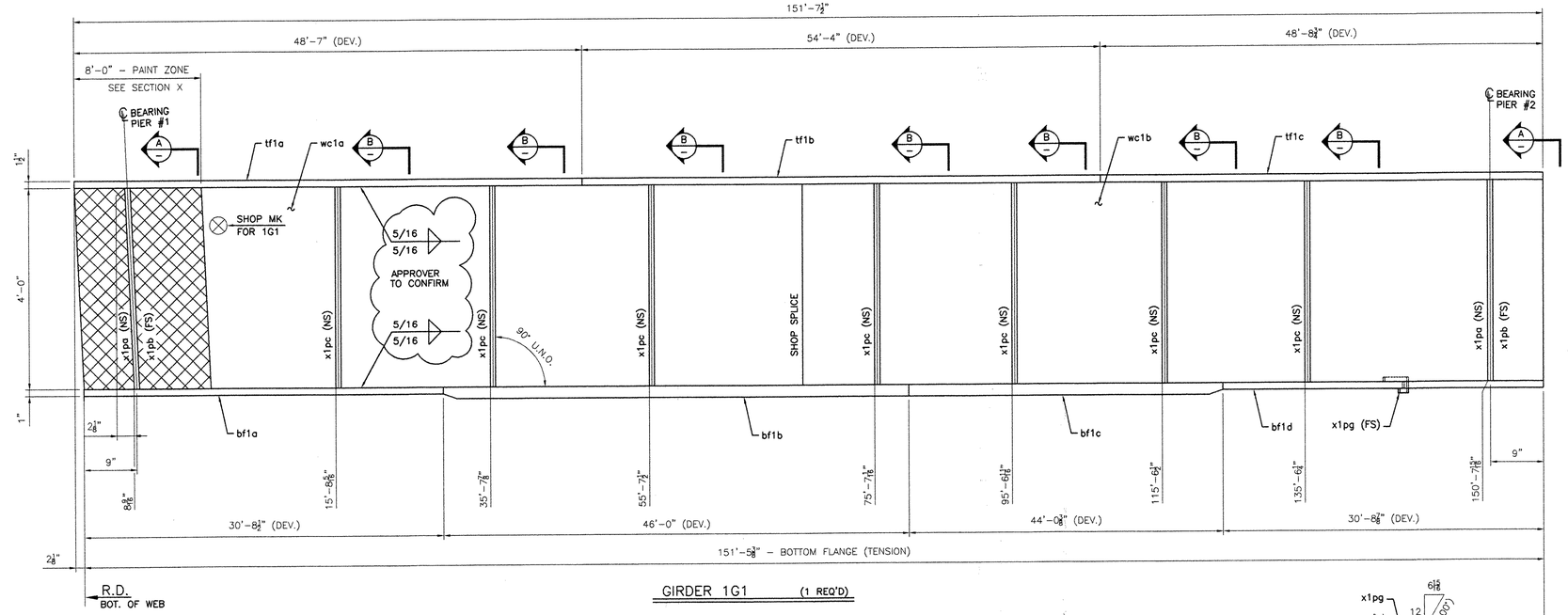
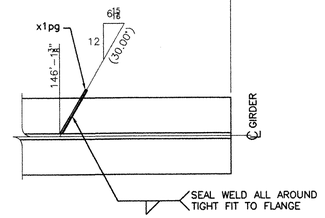
RURAL RTE 2, BOX 302
CLAREMONT, NH 03743
603-542-5202

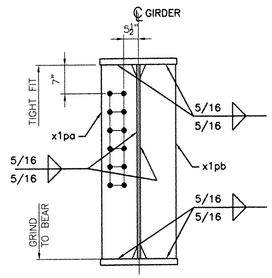
PROJECT: BRIDGE 8 OVER THE WHITE RIVER, PROJECT NO BRO-BTN 2004(1)
LOCATION: TOWN OF HARTFORD, COUNTY OF WINDSOR, VERMONT
ENGINEER: STATE OF VERMONT, AGENCY OF TRANSPORTATION
CUSTOMER: FW WHITCOMB CONSTRUCTION CO.
DRAWING TITLE: DETAILS
DRAWN BY: YT 06/03/05 | JOB NUMBER: 6005 | SHEET NUMBER: X1
CHECKED BY: GG 06/06/05



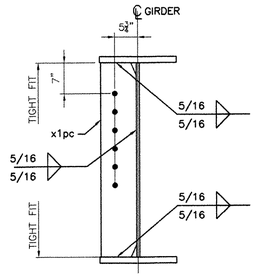
GIRDER 1G1 (1 REQ'D)



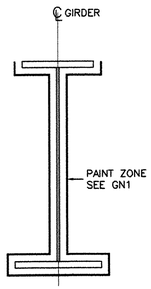
SECTION BA



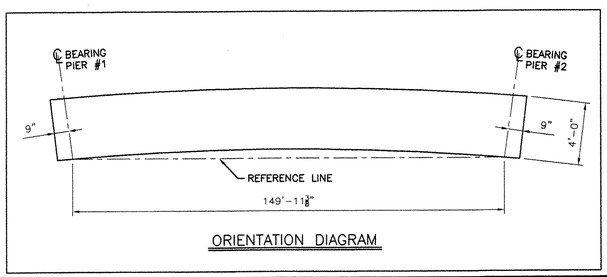
SECTION A



SECTION B



SECTION X



ORIENTATION DIAGRAM

BILL OF MATERIAL

Drawing Number	Revision Number	Ship Mark	Piece Mark	Qty	Type of Material	Size of Material	Grade	Length	Finish	Notes
1		1G1		1			Total weight:		53343 lbs	
1		1G1	wc1a	1	PL Plate	9/16x48	A709-GR50W	70'-9 9/16	CVN	3
1		1G1	wc1b	1	PL Plate	9/16x48	A709-GR50W	80'-10 7/8	CVN	4
1		1G1	tf1a	1	PL Plate	1 1/2x24	A709-GR50W	48'-7		1
1		1G1	tf1b	1	PL Plate	1 1/2x24	A709-GR50W	54'-4		2
1		1G1	tf1c	1	PL Plate	1 1/2x24	A709-GR50W	48'-8 3/4		1
1		1G1	bf1a	1	PL Plate	1x24	A709-HPS70W	30'-8 1/2	CVN	7
1		1G1	bf1b	1	PL Plate	2x24	A709-HPS70W	46'-0	CVN	6
1		1G1	bf1c	1	PL Plate	2x24	A709-HPS70W	44'-0 3/8	CVN	5
1		1G1	bf1d	1	PL Plate	1x24	A709-HPS70W	30'-8 7/8	CVN	7
1		1G1	x1pa	2	PL Plate	7/8x11 1/2	A709-GR50W	4'-0		8
1		1G1	x1pb	2	PL Plate	7/8x11 1/2	A709-GR50W	4'-0		8
1		1G1	x1pc	7	PL Plate	1/2x11 1/2	A709-GR50W	4'-0		9
1		1G1	x1pg	1	PL Plate	1/4x3	A709-GR50W	1'-3 11/16		10

NOTES:

1- GENERAL NOTES: SEE GN1
2- PAINT: SEE GN1
3- HOLES: 1"ø
4- FOR WEB & FLANGE DETAILS, SEE WC1

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CK'D BY KWW OK'D BY
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RESUBMIT APPROVED ✓
BY GPW DATE 10/31/05

RESERVED FOR STAMPS

REV	DATE	DESCRIPTION
2	-	-

QTY	DATE	ISSUED TO	FOR
8 -	9/16/05	FW Whitcomb	Approval

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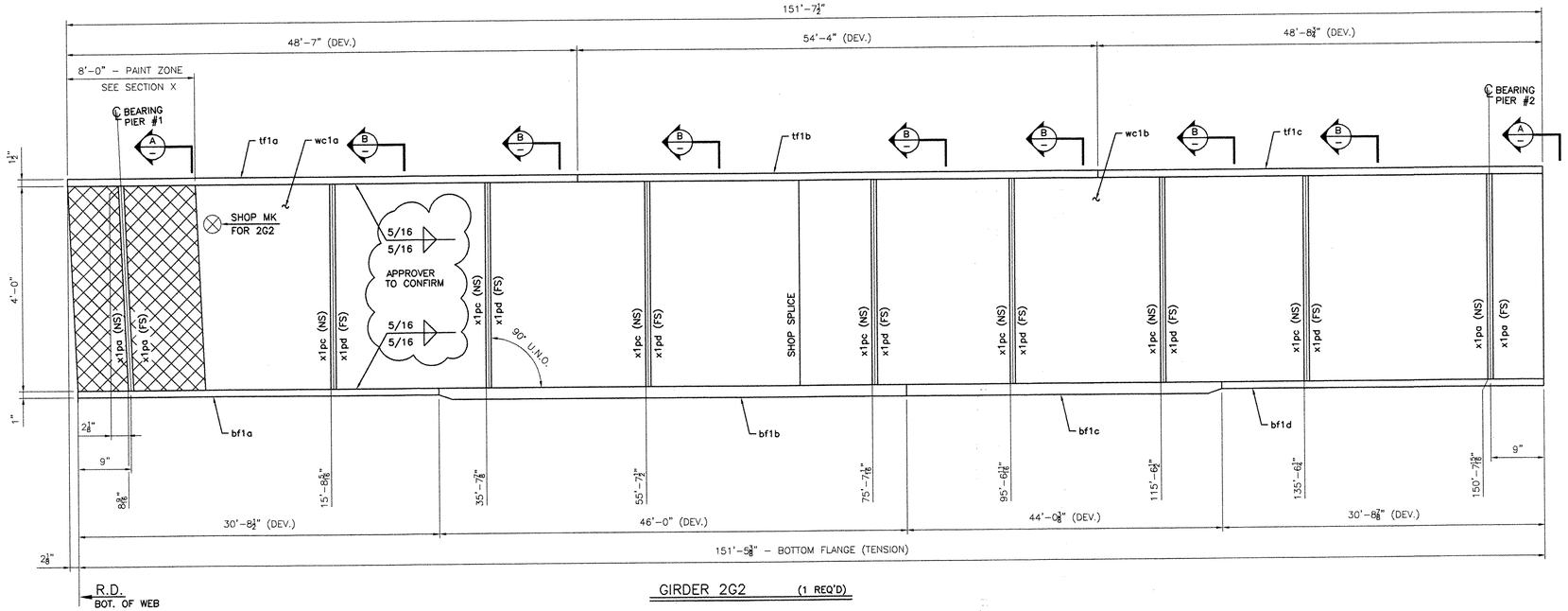
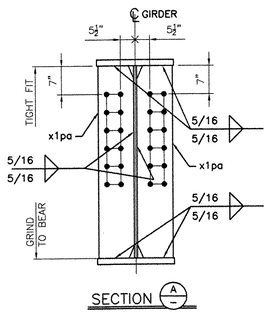
EASTERN BRIDGE LLC
RURAL RTE 2, BOX 302
CLAREMONT, NH 03743
603-542-5202

PROJECT: BRIDGE 8 OVER THE WHITE RIVER, PROJECT NO BRO-BTN 2004(1)			
LOCATION: TOWN OF HARTFORD, COUNTY OF WINDSOR, VERMONT			
ENGINEER: STATE OF VERMONT, AGENCY OF TRANSPORTATION			
CUSTOMER: FW WHITCOMB CONSTRUCTION CO.			
DRAWING TITLE: GIRDER 1G1			
DRAWN BY: YT	06/03/05	JOB NUMBER: 6005	SHEET NUMBER: 1
CHECKED BY: GG	06/06/05		

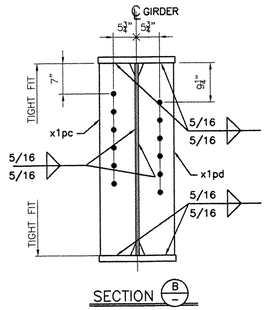
1035S



GIRDER 2G2 (1 REQ'D)



SECTION (A)



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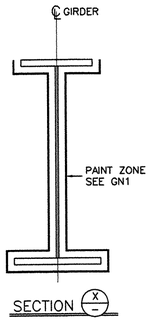
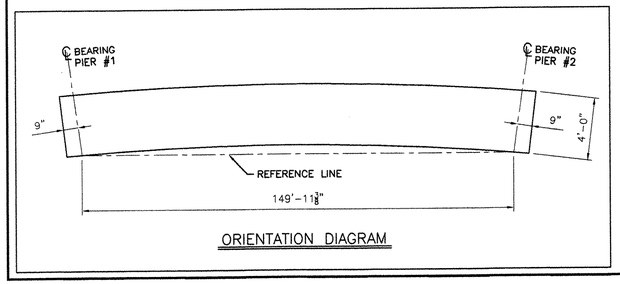


SECTION (X)



ORIENTATION DIAGRAM

BILL OF MATERIAL

Drawing Number	Revision Number	Ship Mark	Piece Mark	Qty	Type of Material	Size of Material	Grade	Length	Finish	Notes
2		2G2		1			Total weight:		53888 lbs	
2		2G2	wc1a	1	PL Plate	9/16x48	A709-GR50W	70'-9 9/16	CVN	3
2		2G2	wc1b	1	PL Plate	9/16x48	A709-GR50W	80'-10 7/8	CVN	4
2		2G2	tf1a	1	PL Plate	1 1/2x24	A709-GR50W	48'-7		1
2		2G2	tf1b	1	PL Plate	1 1/2x24	A709-GR50W	54'-4		2
2		2G2	tf1c	1	PL Plate	1 1/2x24	A709-GR50W	48'-8 3/4		1
2		2G2	bf1a	1	PL Plate	1x24	A709-HPS70W	30'-8 1/2	CVN	7
2		2G2	bf1b	1	PL Plate	2x24	A709-HPS70W	46'-0	CVN	6
2		2G2	bf1c	1	PL Plate	2x24	A709-HPS70W	44'-0 3/8	CVN	5
2		2G2	bf1d	1	PL Plate	1x24	A709-HPS70W	30'-8 7/8	CVN	7
2		2G2	x1pa	4	PL Plate	7/8x11 1/2	A709-GR50W	4'-0		8
2		2G2	x1pc	7	PL Plate	1/2x11 1/2	A709-GR50W	4'-0		9
2		2G2	x1pd	7	PL Plate	1/2x11 1/2	A709-GR50W	4'-0		9

NOTES:

1- GENERAL NOTES: SEE GN1
2- PAINT: SEE GN1
3- HOLES: 1"ø
4- FOR WEB & FLANGE DETAILS, SEE WC1

RECEIVED
CK'D BY JCM/JJ OK'D BY
SEP 2 0 2005
RESUBMIT APPROVED
BY CPW DATE 10/31/05

RESERVED FOR STAMPS

REV	DATE	DESCRIPTION
△	-	-

QTY	DATE	ISSUED TO	FOR
8 -	9/16/05	F W Whitcomb	Approval

NOTICE
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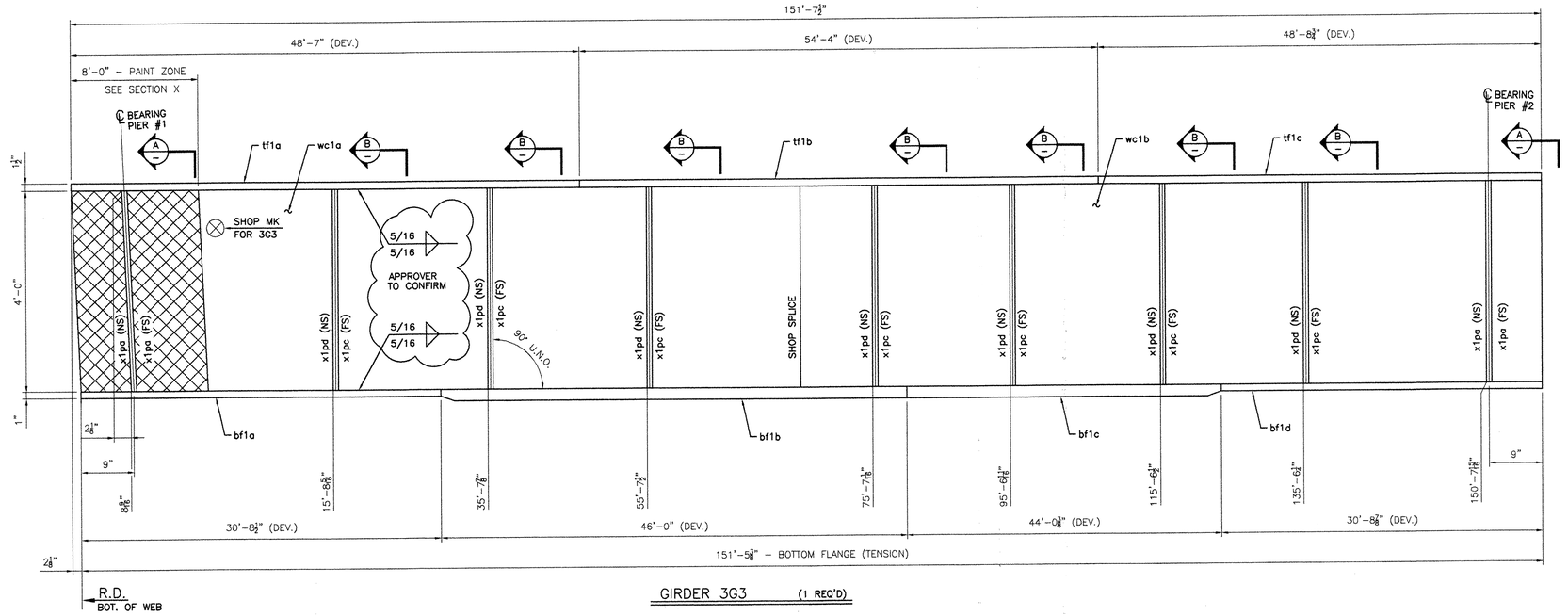
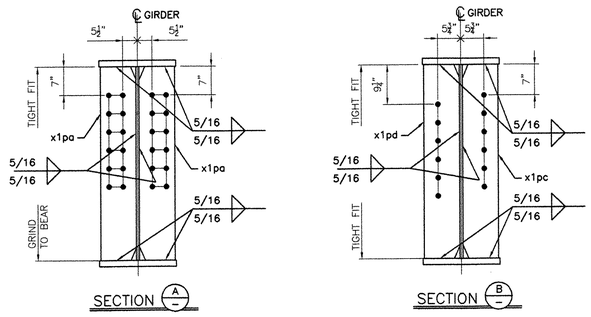
tenca 1028
EASTERN BRIDGE LLC
RURAL RTE 2, BOX 302
CLAREMONT, NH 03743
603-542-5202

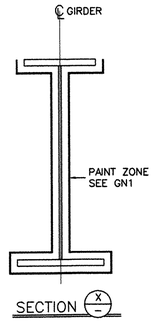
PROJECT:	BRIDGE 8 OVER THE WHITE RIVER, PROJECT NO BRO-BTN 2004(1)
LOCATION:	TOWN OF HARTFORD, COUNTY OF WINDSOR, VERMONT
ENGINEER:	STATE OF VERMONT, AGENCY OF TRANSPORTATION
CUSTOMER:	FW WHITCOMB CONSTRUCTION CO.
DRAWING TITLE:	GIRDER 2G2
DRAWN BY: YT	06/06/05
CHECKED BY: GG	06/06/05
JOB NUMBER:	6005
SHEET NUMBER:	2

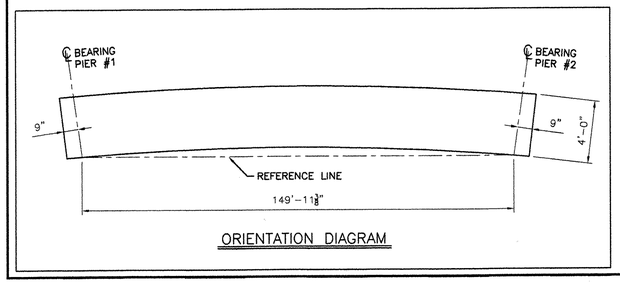
104 SS



GIRDER 3G3 (1 REQ'D)







ORIENTATION DIAGRAM

BILL OF MATERIAL

Drawing Number	Revision Number	Ship Mark	Piece Mark	Qty	Type of Material	Size of Material	Grade	Length	Finish	Notes
3		3G3		1			Total weight:		53888 lbs	
3		3G3	wc1a	1	PL Plate	9/16x48	A709-GR50W	70'-9 9/16	CVN	3
3		3G3	wc1b	1	PL Plate	9/16x48	A709-GR50W	80'-10 7/8	CVN	4
3		3G3	tf1a	1	PL Plate	1 1/2x24	A709-GR50W	48'-7		1
3		3G3	tf1b	1	PL Plate	1 1/2x24	A709-GR50W	54'-4		2
3		3G3	tf1c	1	PL Plate	1 1/2x24	A709-GR50W	48'-8 3/4		1
3		3G3	bf1a	1	PL Plate	1x24	A709-HPS70W	30'-8 1/2	CVN	7
3		3G3	bf1b	1	PL Plate	2x24	A709-HPS70W	46'-0	CVN	6
3		3G3	bf1c	1	PL Plate	2x24	A709-HPS70W	44'-0 3/8	CVN	5
3		3G3	bf1d	1	PL Plate	1x24	A709-HPS70W	30'-8 7/8	CVN	7
3		3G3	x1pa	4	PL Plate	7/8x11 1/2	A709-GR50W	4'-0		8
3		3G3	x1pc	7	PL Plate	1/2x11 1/2	A709-GR50W	4'-0		9
3		3G3	x1pd	7	PL Plate	1/2x11 1/2	A709-GR50W	4'-0		9

NOTES:

1- GENERAL NOTES: SEE GN1
2- PAINT: SEE GN1
3- HOLES: 1"ø
4- FOR WEB & FLANGE DETAILS, SEE WC1

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RESUBMIT APPROVED
BY OPW DATE 10/31/05

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REV	DATE	DESCRIPTION
8	9/16/05	FW Whitcomb

QTY	DATE	ISSUED TO	FOR
8 -	9/16/05	FW Whitcomb	Approval

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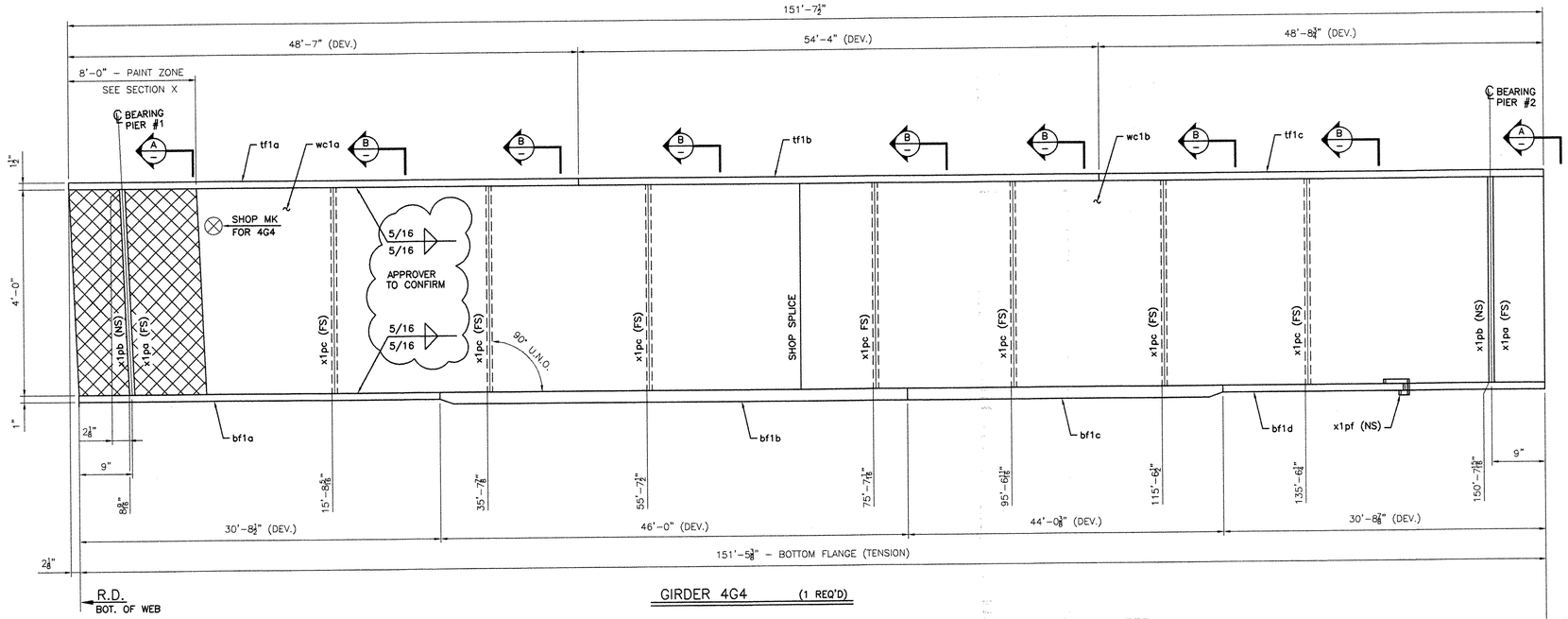
tenca 1028

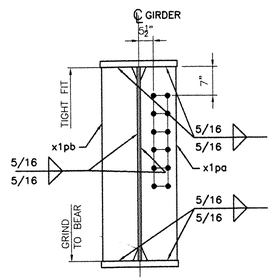
EASTERN BRIDGE LLC
RURAL RTE 2, BOX 302
CLAREMONT, NH 03743
603-542-5202

PROJECT: BRIDGE 8 OVER THE WHITE RIVER, PROJECT NO BRO-BTN 2004(1)			
LOCATION: TOWN OF HARTFORD, COUNTY OF WINDSOR, VERMONT			
ENGINEER: STATE OF VERMONT, AGENCY OF TRANSPORTATION			
CUSTOMER: FW WHITCOMB CONSTRUCTION CO.			
DRAWING TITLE: GIRDER 3G3			
DRAWN BY: YT	06/06/05	JOB NUMBER: 6005	SHEET NUMBER: 3
CHECKED BY: GG	06/06/05		

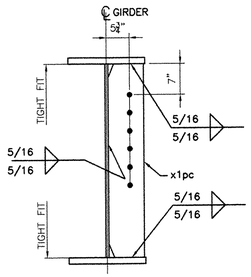
105 SS



GIRDER 4G4 (1 REQ'D)



SECTION (A)



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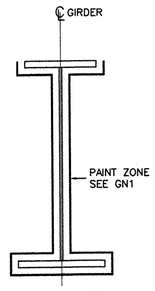

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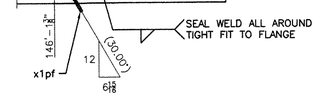
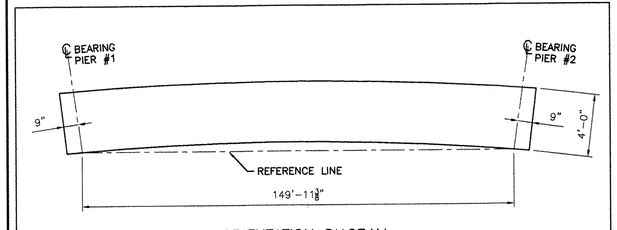


SECTION (BA)



ORIENTATION DIAGRAM

BILL OF MATERIAL

Drawing Number	Revision Number	Ship Mark	Piece Mark	Qty	Type of Material	Size of Material	Grade	Length	Finish	Notes
4		4G4		1			Total weight:		53343 lbs	
4		4G4	wc1a	1	PL Plate	9/16x48	A709-GR50W	70'-9 9/16	CVN	3
4		4G4	wc1b	1	PL Plate	9/16x48	A709-GR50W	80'-10 7/8	CVN	4
4		4G4	tf1a	1	PL Plate	1 1/2x24	A709-GR50W	48'-7		1
4		4G4	tf1b	1	PL Plate	1 1/2x24	A709-GR50W	54'-4		2
4		4G4	tf1c	1	PL Plate	1 1/2x24	A709-GR50W	48'-8 3/4		1
4		4G4	bf1a	1	PL Plate	1x24	A709-HPS70W	30'-8 1/2	CVN	7
4		4G4	bf1b	1	PL Plate	2x24	A709-HPS70W	46'-0	CVN	6
4		4G4	bf1c	1	PL Plate	2x24	A709-HPS70W	44'-0 3/8	CVN	5
4		4G4	bf1d	1	PL Plate	1x24	A709-HPS70W	30'-8 7/8	CVN	7
4		4G4	x1pa	2	PL Plate	7/8x11 1/2	A709-GR50W	4'-0		8
4		4G4	x1pb	2	PL Plate	7/8x11 1/2	A709-GR50W	4'-0		8
4		4G4	x1pc	7	PL Plate	1/2x11 1/2	A709-GR50W	4'-0		9
4		4G4	x1pf	1	PL Plate	1/4x3	A709-GR50W	1'-3 11/16		10

NOTES:

1- GENERAL NOTES: SEE GN1
2- PAINT: SEE GN1
3- HOLES: 1"ø
4- FOR WEB & FLANGE DETAILS, SEE WC1

RECEIVED
CK'D BY KMM OK'D BY
SEP 20 2005
RESUBMIT APPROVED
BY OPW DATE 10/3/05

RESERVED FOR STAMPS

REV	DATE	DESCRIPTION
△	-	-

QTY	DATE	ISSUED TO	FOR
8 -	9/16/05	F W Whitcomb	Approval

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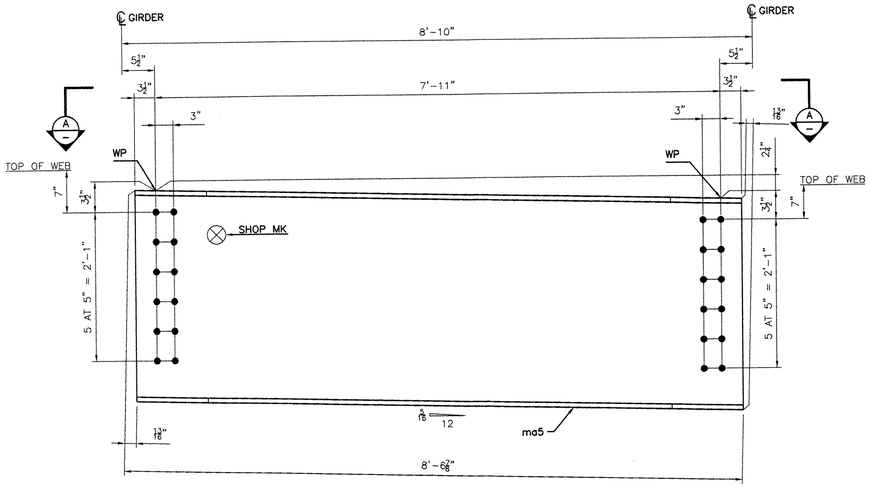
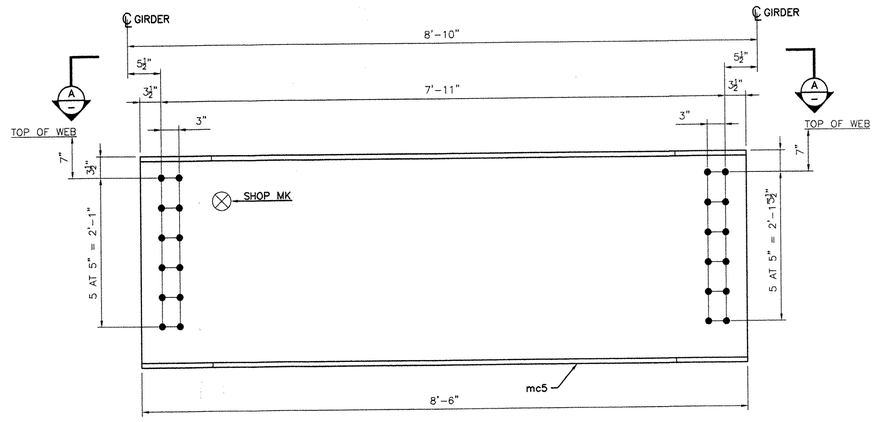
EASTERN BRIDGE LLC
RURAL RTE 2, BOX 302
CLAREMONT, NH 03743
603-542-5202

PROJECT: BRIDGE 8 OVER THE WHITE RIVER, PROJECT NO BRO-BTN 2004(1)			
LOCATION: TOWN OF HARTFORD, COUNTY OF WINDSOR, VERMONT			
ENGINEER: STATE OF VERMONT, AGENCY OF TRANSPORTATION			
CUSTOMER: FW WHITCOMB CONSTRUCTION CO.			
DRAWING TITLE: GIRDER 4G4			
DRAWN BY: YT	06/06/05	JOB NUMBER: 6005	SHEET NUMBER: 4
CHECKED BY: GG	06/06/05		

10655



TO BE PAINTED → 5D1 (1 REQ'D)
5D5 (1 REQ'D)



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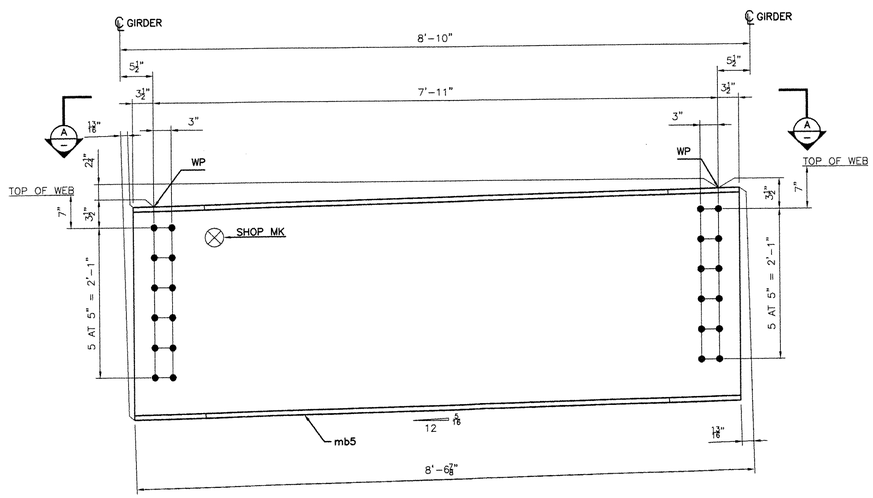
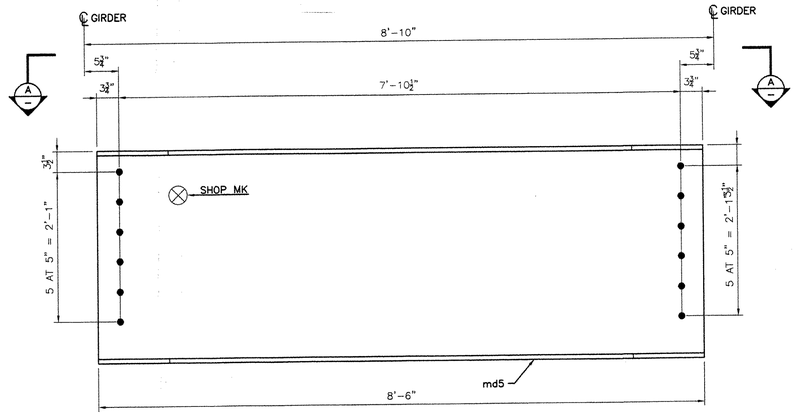
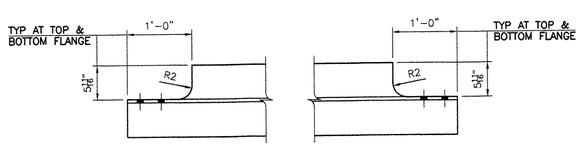
5D7 (1 REQ'D)



TO BE PAINTED → 5D2 (1 REQ'D)
5D6 (1 REQ'D)



5D4 (21 REQ'D)



SECTION A

NOTES:

1- GENERAL NOTES: SEE GN1
2- PAINT: SEE GN1
3- HOLES: 15/16ø (U.N.O.)

BILL OF MATERIAL

Drawing Number	Revision Number	Ship Mark	Piece Mark	Qty	Type of Material	Size of Material	Grade	Length	Finish	Notes
5		5D1	ma5	1	W Wide Flng	36x135	A709-GR50W	8'-6 7/8		11
								weight:	1157 lbs	
5		5D2	mb5	1	W Wide Flng	36x135	A709-GR50W	8'-6 7/8		11
								weight:	1157 lbs	
5		5D3	mc5	1	W Wide Flng	36x135	A709-GR50W	8'-6		11
								weight:	1148 lbs	
5		5D4	md5	21	W Wide Flng	36x135	A709-GR50W	8'-6		11
								weight:	24098 lbs	
5		5D5	ma5	1	W Wide Flng	36x135	A709-GR50W	8'-6 7/8		11
								weight:	1157 lbs	
5		5D6	mb5	1	W Wide Flng	36x135	A709-GR50W	8'-6 7/8		11
								weight:	1157 lbs	
5		5D7	mc5	1	W Wide Flng	36x135	A709-GR50W	8'-6		11
								weight:	1148 lbs	

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CK'D BY KMH CK'D BY
SEP 2 0 2005
RESUBMIT APPROVED
BY CBW DATE 10/31/05

RESERVED FOR STAMPS

REV	DATE	DESCRIPTION
△	-	-

QTY	DATE	ISSUED TO	FOR
8 -	9/15/05	F W Whitcomb	Approval

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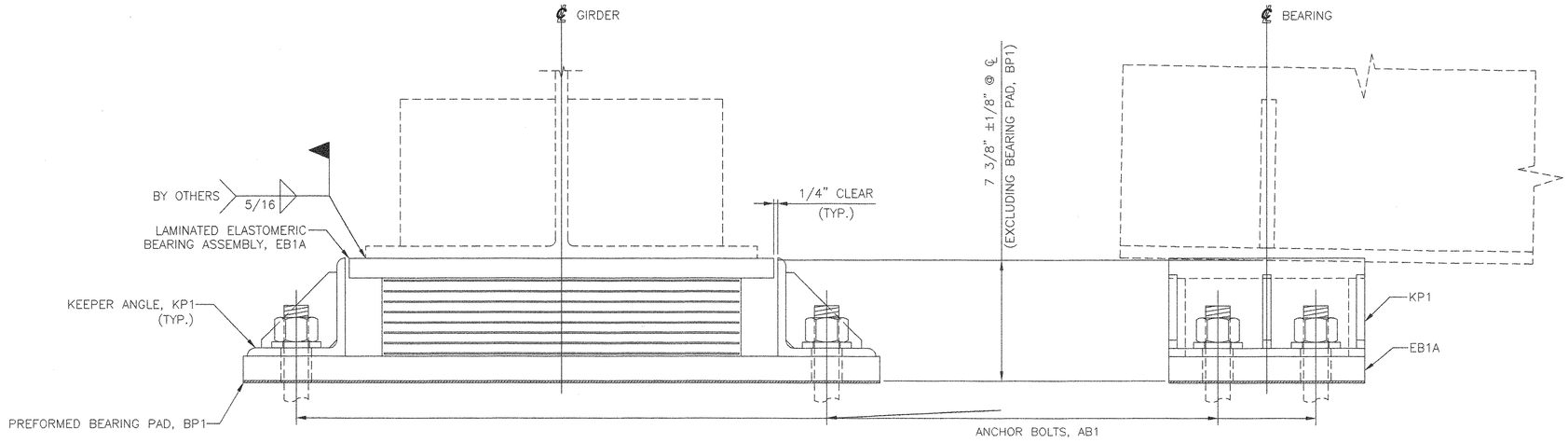
tenca 1028
EASTERN BRIDGE LLC
RURAL RTE 2, BOX 302
CLAREMONT, NH 03743
603-542-5202

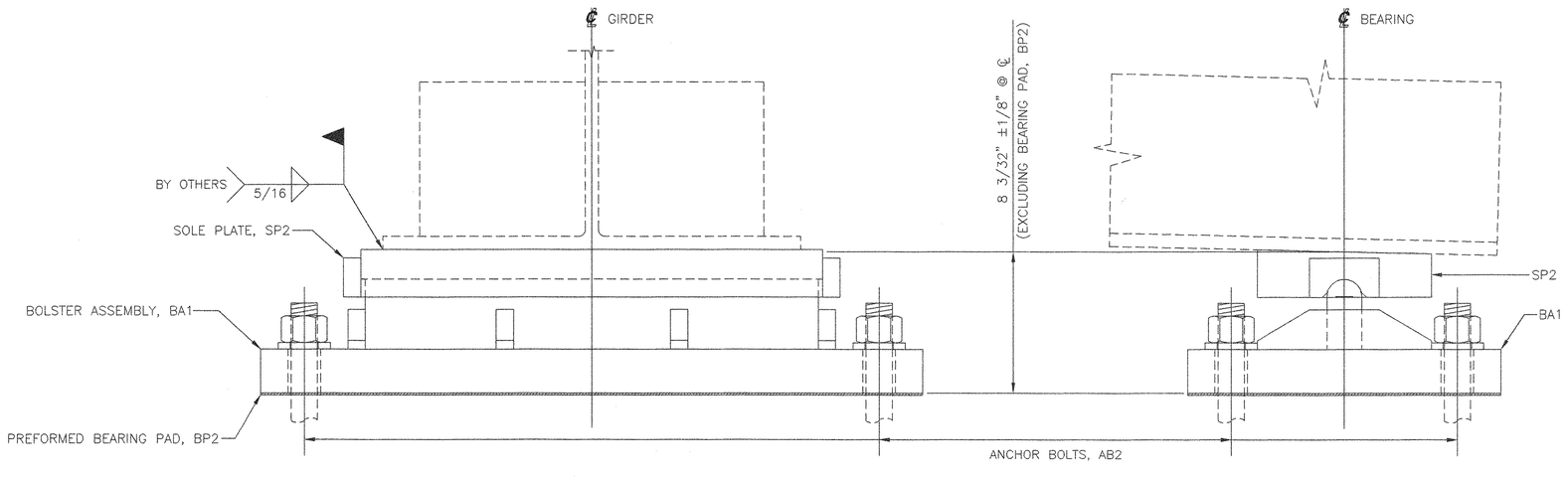
PROJECT: BRIDGE 8 OVER THE WHITE RIVER, PROJECT NO BRO-BTN 2004(1)
LOCATION: TOWN OF HARTFORD, COUNTY OF WINDSOR, VERMONT
ENGINEER: STATE OF VERMONT, AGENCY OF TRANSPORTATION
CUSTOMER: FW WHITCOMB CONSTRUCTION CO.
DRAWING TITLE: DIAPHRAGMS
DRAWN BY: YT 06/03/05 | JOB NUMBER: 6005 | SHEET NUMBER: 5
CHECKED BY: GG 06/06/05

107 55



4 EXPANSION BEARING ASSEMBLIES, EB1-A

LOCATE AT
PIER 1



4 FIXED BEARING ASSEMBLIES, FBA-1

LOCATE AT
PIER 2

10/28/05

ASSEMBLY AND INSTALLATION NOTES:

1. ALL COMPONENTS SHALL BE ASSEMBLED AND SHIPPED AS AN ASSEMBLY AS MUCH AS PRACTICAL.
2. THE CONTRACTOR IS SOLEY RESPONSIBLE FOR THE CORRECT ORIENTATION, ALLIGNMENT AND MATCHING OF COMPONENTS SHOULD HE ELECT TO DISASSEMBLE THE BEARING ASSEMBLIES FOR ANY REASON.
3. THE CONTRACTOR IS SOLEY RESPONSIBLE FOR THE PROPER PLACEMENT AND SETTING OF THE ANCHOR BOLTS AS REQUIRED BY THE CONTRACT PLANS.
4. AREAS OF METALLIZING DAMAGED BY WELDING AND/OR HANDLING SHALL BE REPAIRED BY METALLIZING IN ACCORDANCE WITH ASTM A760, AT THE CONTRACTOR'S EXPENSE.

SEE SHEET 1 FOR SHOP NOTES.

OFFICE COPY

RECEIVED
VIA BY Jlue HIS
EMAIL
OCT 27 2005
REVIEW APPROVED
CPW 11/3/05

VERMONT
AGENCY OF TRANSPORTATION

HARTFORD
PROJ. NO. BRO-BTN 2004(1)

COSMEC, INC. — 70 SOUTH STREET WALPOLE, MA. 02081

SCALE: 1/4"=1"	DRAWN BY: JEP	CHECKED BY: PJM
SHEET: AS1 OF 1	DATE: 10/05	DATE 10/05

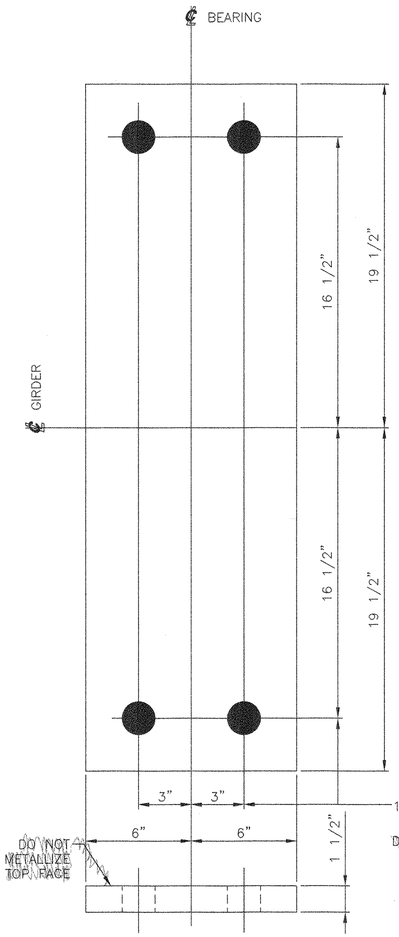
COSMEC BEARINGS

REV.		BY:	DATE	CK'D BY:	DATE
–		---	---	---	---

CUSTOMER	S.O. NUMBER	DRAWING NUMBER	REV.
F. W. WHITCOMB	60423	4516	0

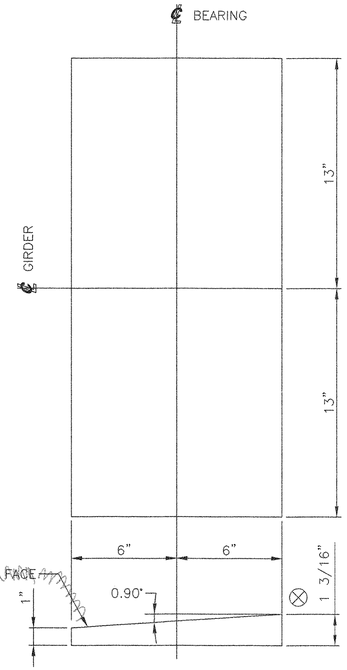
108 BB

MARK	QTY	DESCRIPTION	IN	16ths	FAB MARK	MILL MARK	WEIGHT
MP1	4	PL 1 1/2" x 12"	39	0	·	METALLIZED	796
SP1	4	PL 1 3/16" x 12"	26	0	·	METALLIZED	420
KP1	8	L 6" x 6" x 1/2"	12	0	·	METALLIZED	157
·	24	PL 1/2" x 4 5/8"	4	10	kpa1	METALLIZED	73
						TOTAL =	1446



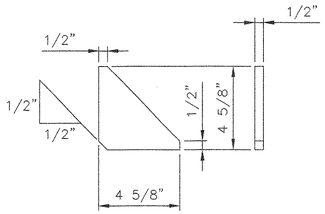
4 EXPANSION MASONRY PLATES, MP1

PL 1 1/2" x 12" x 39"
(TO BE METALLIZED AFTER MASONRY PLATE IS VULCANIZED TO ELASTOMERIC BEARING PAD.)
USE WITH
EXPANSION BEARING ASSEMBLY, EBA-1



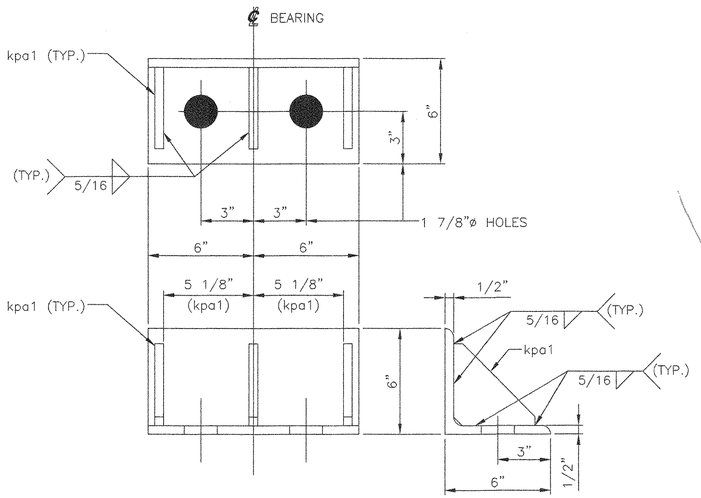
4 EXPANSION SOLE PLATES, SP1

PL 1 3/16" x 12" x 26"
(TO BE METALLIZED AFTER SOLE PLATE IS VULCANIZED TO ELASTOMERIC BEARING PAD.)
USE WITH
EXPANSION BEARING ASSEMBLY EBA-1
SOLE PLATE TO BE FIELD WELDED TO GIRDER.
DO NOT METALLIZE TOP FACE.



24 KEEPER PLATES, kpa1

PL 1/2" x 4 5/8" x 4 5/8"
(METALLIZED)
USE WITH
KEEPER ANGLE, KP1



8 KEEPER ANGLES, KP1

L 6" x 6" x 1/2" x 12"
(METALLIZED)
USE WITH
EXPANSION BEARING ASSEMBLY EBA-1

SHOP NOTES:

1. MATERIAL NOTED AS AASHTO M270 GR.50 MAY BE EITHER AASHTO M270 GR.50, ASTM A709 GR.50 OR A572 GR.50.
2. MATERIAL NOTED AS GALVANIZED SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 (ASTM A123) OR AASHTO M111 (ASTM A153) AS APPLICABLE.
3. ALL BEARING DEVICES SHALL BE METALLIZED IN ACCORDANCE WITH SUBSECTIONS 531.04(b) AND 506.04(c) AND SEALED WITH AN APPROVED SEALANT IN ACCORDANCE WITH SUBSECTION 531.04(b) OF THE STANDARD SPECIFICATION. 506.15(b) 506.15(b)
4. PREFORMED FABRIC BEARING PADS SHALL BE FABRICATED IN ACCORDANCE WITH AASHTO DIV. II SPEC. 18.4.10.1.
5. LAMINATED ELASTOMERIC BEARING PADS SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES, 1996 EDITION AND IT'S LATEST REVISIONS AND AASHTO M251M.
6. ALL SURFACES OF PLATES SHALL BE SMOOTH AND STRAIGHT. ALL CORNERS AND EDGES SHALL BE GROUND TO A 1/16 INCH RADIUS
7. ⊗ SHOP SHALL MARK HIGH SIDE OF PLATES.
8. COSMEC, INC. REPRESENTATIVE: MR. MATT McANDREWS (508) 668-6600

SEE SHEET AS1 FOR ASSEMBLY NOTES.

RECEIVED
CK'D BY kmd OK'D BY H.I.S
OCT 27 2005
RESUBMIT ____ APPROVED √ As Noted
BY CPW DATE 11/8/05

VERMONT
AGENCY OF TRANSPORTATION

HARTFORD
PROJ. NO. BRO-BTN 2004(1)

COSMEC, INC. 70 SOUTH STREET WALPOLE, MA. 02081

SCALE: 1/4"=1"	DRAWN BY: JEP	CHECKED BY: PJM
SHEET: 1 OF 4	DATE: 10/05	DATE 10/05

COSMEC BEARINGS

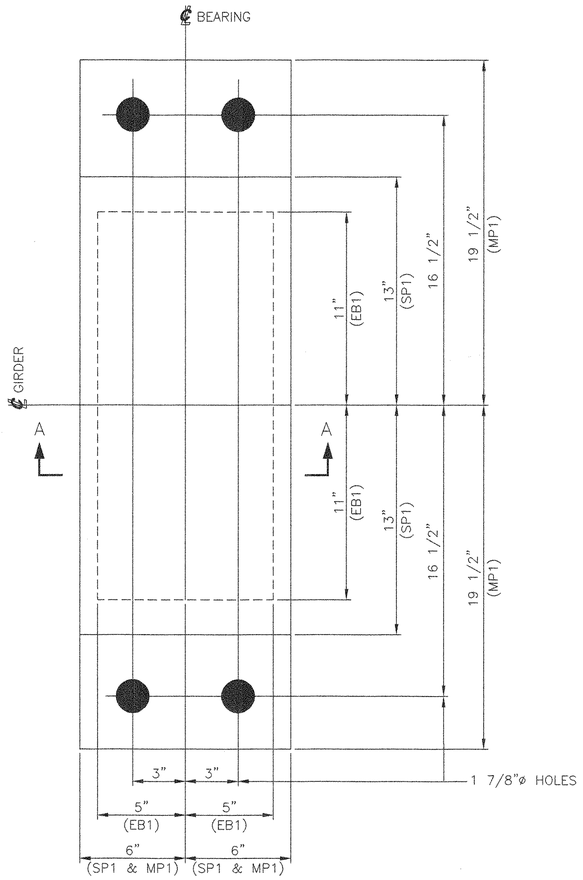
CUSTOMER	S.O. NUMBER	DRAWING NUMBER	REV.
F. W. WHITCOMB	60423	4517	0

REV.		BY:	DATE	CK'D BY:	DATE
-		---	---	---	---

10 9 B3

MARK	QTY	DESCRIPTION	IN	16ths	FAB MARK	MILL MARK	WEIGHT
EB1	4	LAM. ELAST. PAD 4 25/32" x 10"	22	0	·	60 DURO.	328
·	4	.	·	·	·	SP1	420
·	4	.	·	·	·	MP1	796

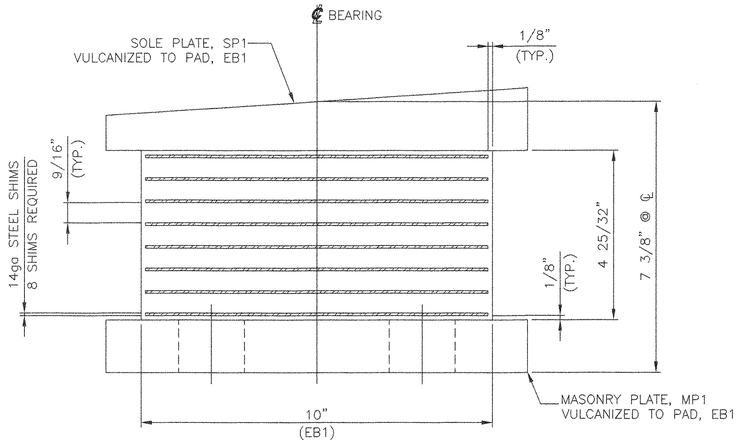
TOTAL = 1544



4 ELASTOMERIC BEARING ASSEMBLIES, EB1A

LAMINATED ELASTOMERIC BEARING PAD, 4 25/32" x 10" x 22"
SHIMS – ASTM A36 OR EQUIVALENT
ELASTOMER – 60 DUROMETER, GRADE 3 NEOPRENE - LOW TEMPERATURE RANGE: -30° - 120° F
IN ACCORDANCE WITH AASHTO DIV. II, 18.4.5.1 SECTION 18
VULCANIZED TO
SOLE PLATE SP1
AND
MASONRY PLATE, MP1

SHEAR MODULUS BETWEEN 140 AND 175 PSI



SECTION A–A

(N.T.S.)
SPACE SHIMS EQUALLY

SEE SHEET AS1 FOR ASSEMBLY NOTES.
SEE SHEET 1 FOR SHOP NOTES.

RECEIVED
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BY OPW DATE 11/8/05

VERMONT
AGENCY OF TRANSPORTATION

HARTFORD
PROJ. NO. BRO–BTN 2004(1)

COSMEC, INC. 70 SOUTH STREET WALPOLE, MA. 02081

SCALE: 1/4"=1"	DRAWN BY: JEP	CHECKED BY: PJM
SHEET: 2 OF 4	DATE: 10/05	DATE 10/05

COSMEC BEARINGS

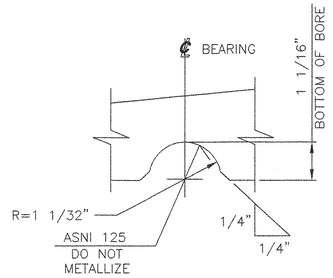
REV.		BY:	DATE	CK'D BY:	DATE
–		---	---	---	---

CUSTOMER	S.O. NUMBER	DRAWING NUMBER	REV.
F. W. WHITCOMB	60423	4518	0

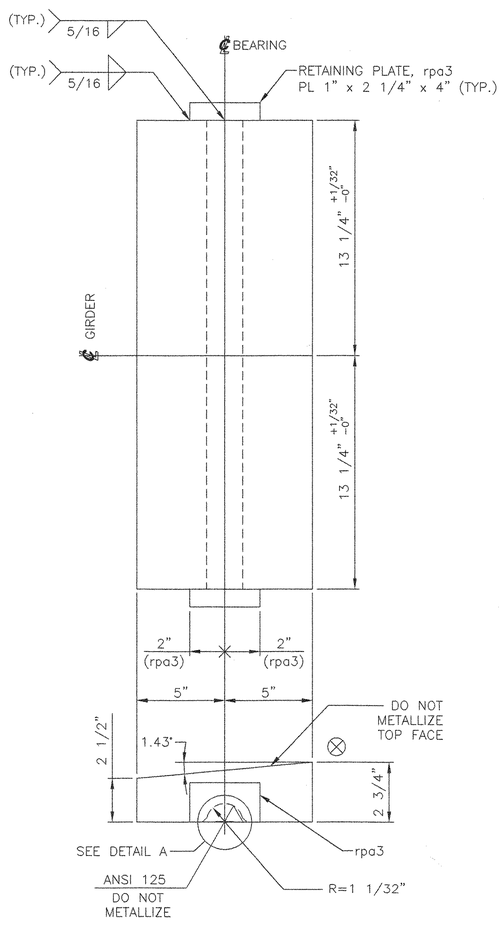
110 BB

MARK	QTY	DESCRIPTION	IN	16ths	FAB MARK	MILL MARK	WEIGHT
SP2	4	PL 2 3/4" x 10"	26	8	·	METALLIZED	827
·	8	PL 1" x 2 1/4"	4	0	rpa3	METALLIZED	20
BA1	4	PL 2 1/2" x 18"	38	0	·	METALLIZED	1940
·	4	PL 2" x 4"	26	0	wba3	METALLIZED (AS NOTED)	236
·	8	PL 1" x 2 1/4"	10	0	epa3	METALLIZED	51
·	16	PL 1" x 2 1/4"	4	0	spa3	METALLIZED	20

TOTAL = 3094

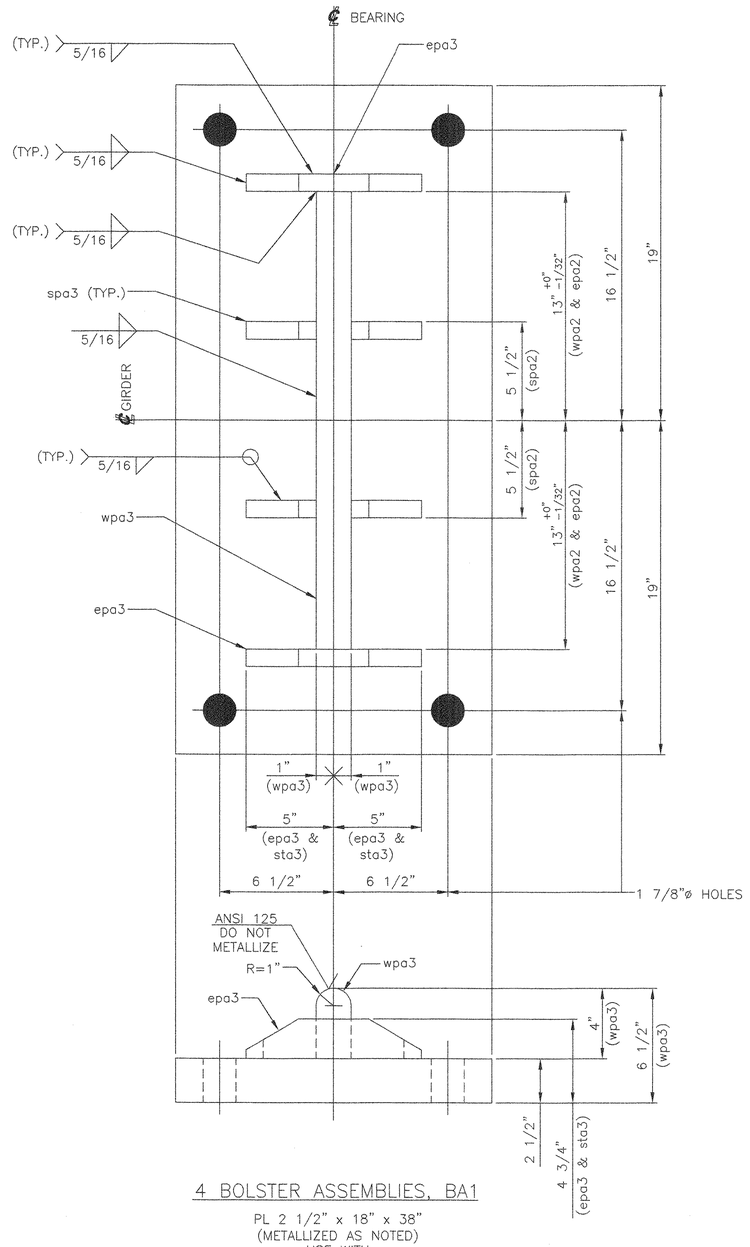


DETAIL A



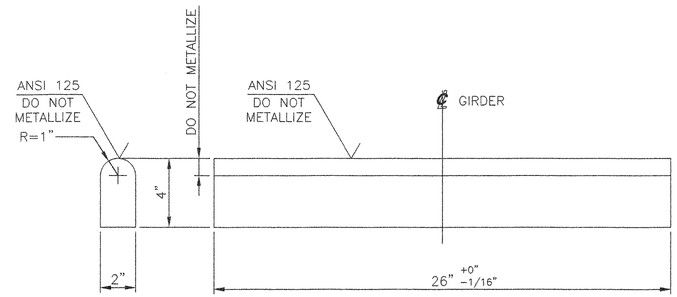
4 FIXED SOLE PLATES, SP2

PL 2 3/4" x 10" x 26 1/2"
(METALLIZED AS NOTED)
USE WITH
FIXED BEARING ASSEMBLY FBA-1
SOLE PLATE TO BE FIELD WELDED TO GIRDER.
DO NOT METALLIZE TOP FACE.



4 BOLSTER ASSEMBLIES, BA1

PL 2 1/2" x 18" x 38"
(METALLIZED AS NOTED)
USE WITH
FIXED BEARING ASSEMBLY, FBA-1



4 WEB PLATES, wpa3

PL 2" x 4" x 26"
(METALLIZED AS NOTED)
USE WITH
BOLSTER ASSEMBLY, BA1

16 STIFFENER PLATES, sta3

PL 1" x 2 1/4" x 4"
(METALLIZED)
USE WITH
BOLSTER ASSEMBLY, BA1

8 END PLATES, epa3

PL 1" x 2 1/4" x 10"
(METALLIZED)
USE WITH
BOLSTER ASSEMBLY, BA1

SEE SHEET AS1 FOR ASSEMBLY NOTES.
SEE SHEET 1 FOR SHOP NOTES.

RECEIVED
CK'D BY KMH OK'D BY HJS
OCT 27 2005
RESUBMIT ____ APPROVED ✓ As Noted
BY CPW DATE 11/8/05

VERMONT
AGENCY OF TRANSPORTATION

HARTFORD
PROJ. NO. BRO-BTN 2004(1)

COSMEC, INC. 70 SOUTH STREET WALPOLE, MA. 02081

SCALE: 1/4"=1"	DRAWN BY: JEP	CHECKED BY: PJM
SHEET: 3 OF 4	DATE: 10/05	DATE 10/05

COSMEC BEARINGS

REV.		BY:	DATE	CK'D BY:	DATE
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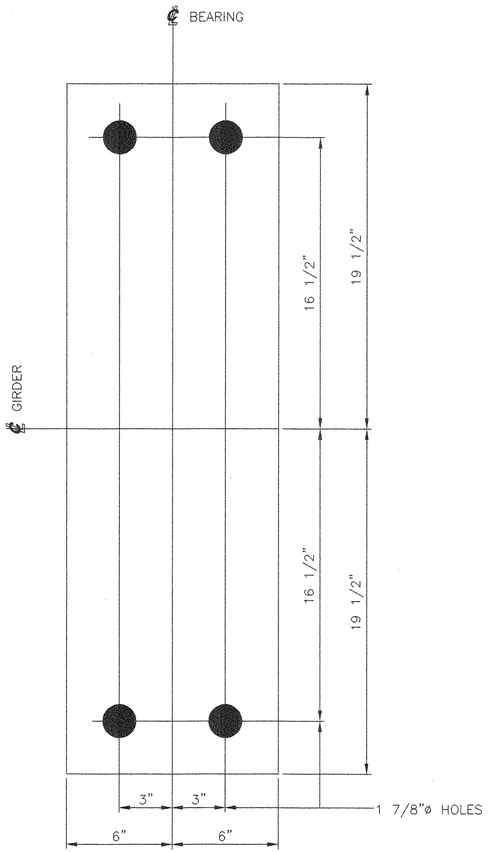
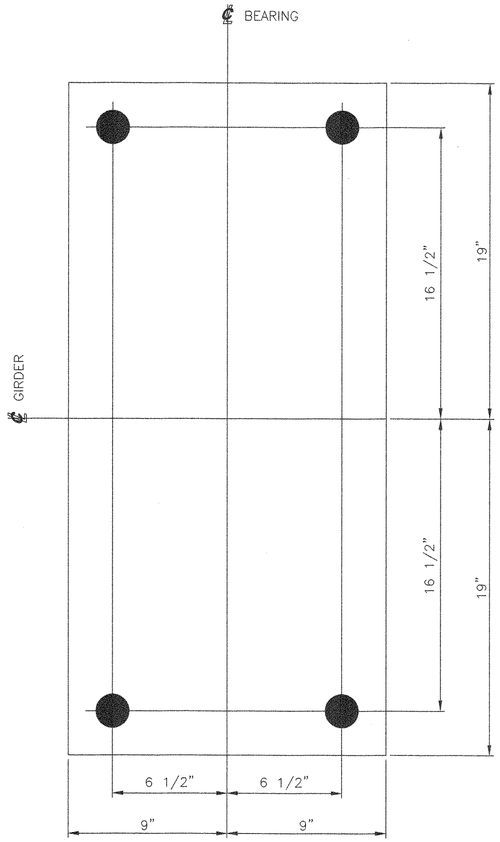
CUSTOMER	S.O. NUMBER	DRAWING NUMBER	REV.
F. W. WHITCOMB	60423	4519	0

111 BB

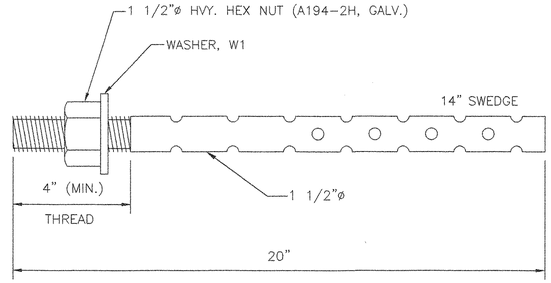
MARK	QTY	DESCRIPTION	IN	16ths	FAB MARK	MILL MARK	WEIGHT
BP1	4	PREF. PAD 1/8" x 12"	39	0	·	MIL-C-882	18
BP2	4	PREF. PAD 1/8" x 12" 18"	38	0	·	MIL-C-882	19
AB1	16	RD 1 1/2"ø	20	0	GALV.	F1554 GR. 55	160
AB2	16	RD 1 1/2"ø	22	0	GALV.	F1554 GR. 55	176
W1	32	PL 3/8" x 3"	3	0	·	GALV.	31
·	32	1 1/2"ø HVY HEX NUTS	·	·	GALV.	A192-2H	30
						TOTAL =	433



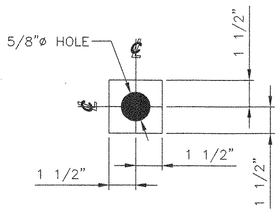
4 BEARING PADS, BP1
PREFORMED FABRIC PAD 1/8" x 12" x 39"
(MIL-C-882)
USE WITH
EXPANSION BEARING ASSEMBLY, EBA-1



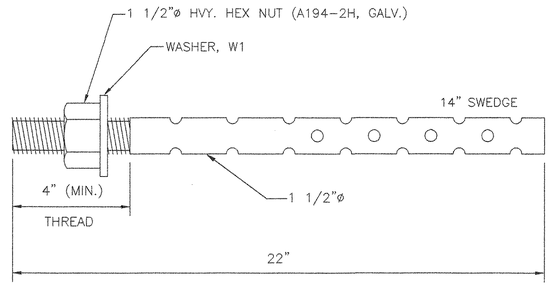
4 BEARING PADS, BP2
PREFORMED FABRIC PAD 1/8" x 18" x 38"
(MIL-C-882)
USE WITH
FIXED BEARING ASSEMBLY, FBA-1



16 ANCHOR BOLTS, AB1
PL 1 1/2"ø x 20"
F1554 GR.55 (GALV.)
MIN. EMBEDMENT=15"
LOCATE AT
PIER 1



32 PLATE WASHERS, W1
PL 3/8" x 3" x 3"
(GALV.)
USE WITH
ANCHOR BOLTS, AB1 & AB2



16 ANCHOR BOLTS, AB2
PL 1 1/2"ø x 22"
F1554 GR.55 (GALV.)
MIN. EMBEDMENT=15"
LOCATE AT
PIER 2

SEE SHEET AS1 FOR ASSEMBLY NOTES.
SEE SHEET 1 FOR SHOP NOTES.

RECEIVED
CK'D BY KMW OK'D BY HIS
OCT 27 2005
RESUBMIT APPROVED As noted
BY OPW DATE 11/8/05

VERMONT
AGENCY OF TRANSPORTATION

HARTFORD
PROJ. NO. BRO-BTN 2004(1)

COSMEC, INC. 70 SOUTH STREET WALPOLE, MA. 02081

SCALE: 1/4"=1"	DRAWN BY: JEP	CHECKED BY: PJM
SHEET: 4 OF 4	DATE: 10/05	DATE 10/05

COSMEC BEARINGS

CUSTOMER	S.O. NUMBER	DRAWING NUMBER	REV.
F. W. WHITCOMB	60423	4520	0

REV.		BY:	DATE	CK'D BY:	DATE
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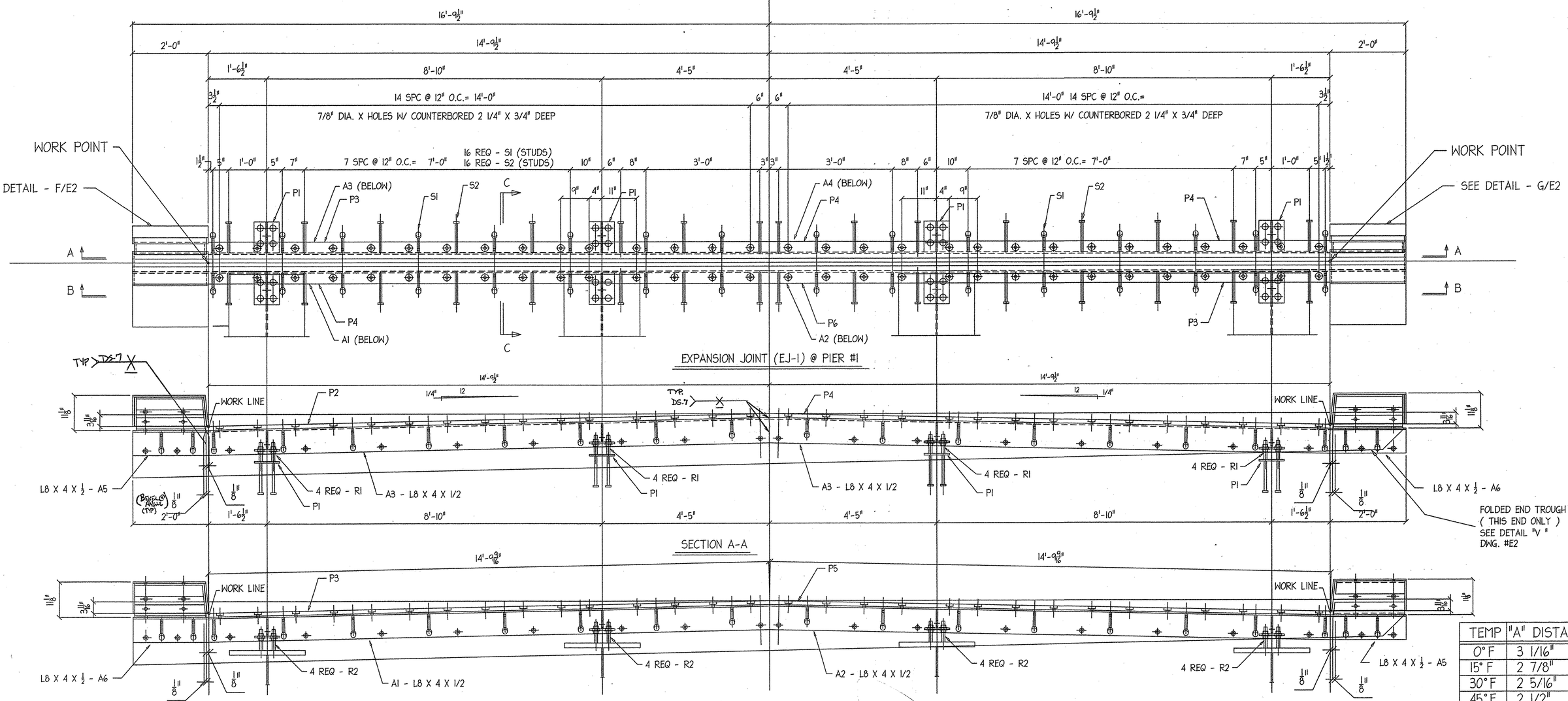
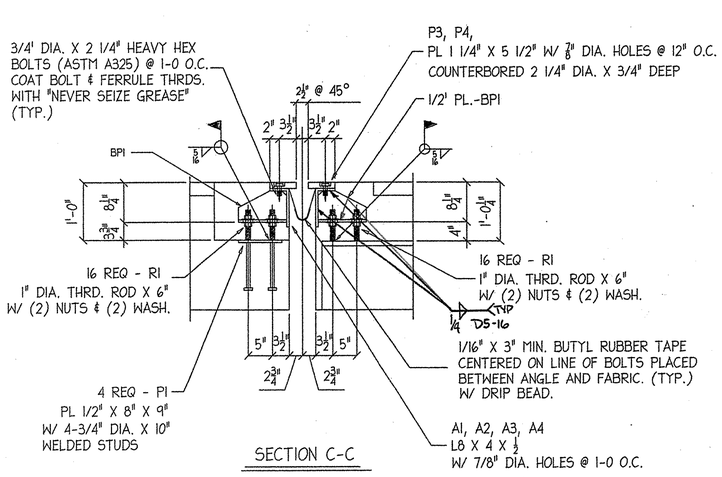
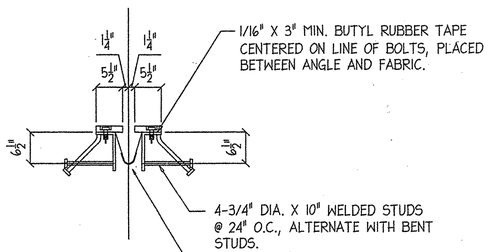
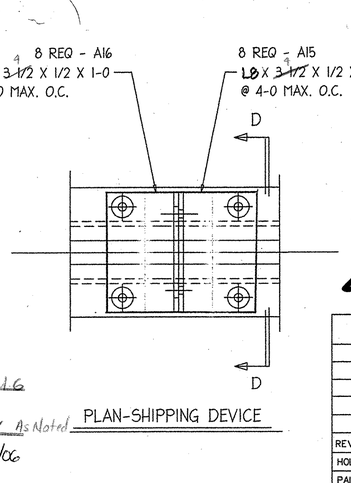
112 BB

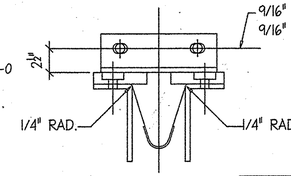


TEMP	"A" DISTANCE
0° F	3 1/16"
15° F	2 7/8"
30° F	2 5/16"
45° F	2 1/2"
60° F	2 11/16"
75° F	2 1/8"
90° F	1 15/16"
105° F	1 3/4"









RECEIVED
CK'D BY KMH OK'D BY MG
FEB 22 2006
RESUBMIT APPROVED ✓ As Noted
BY CPW DATE 3/9/06

STRUCTURES COPY

REV. NO.	DATE	DESCRIPTION
1	2/13	Rec'd

HOLES: 13/16"ø (U.N.O.) DATE: 1-17-06
PAINT: GALVANIZED

HARTFORD, VT.
PROJECT NO. = BRO-BTN 2004 (1)

EXPANSION JOINT (EJ-1)@ ABUTMENT "A"

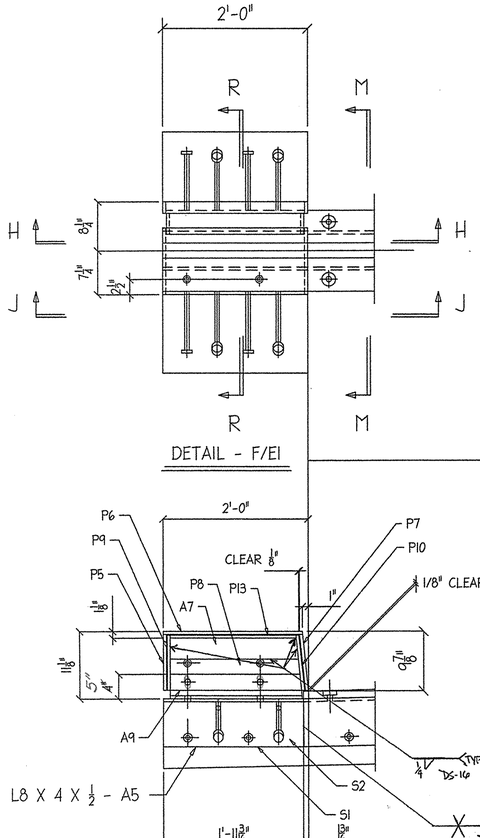
DATE SUB.	PROJECT	HARTFORD, VT. BRIDGE
	LOCATION	HARTFORD, VT.
	ARCHITECT	
DATE APP.	ENGINEER	
DATE DIST.	CUSTOMER	F.W. WHITCOMB

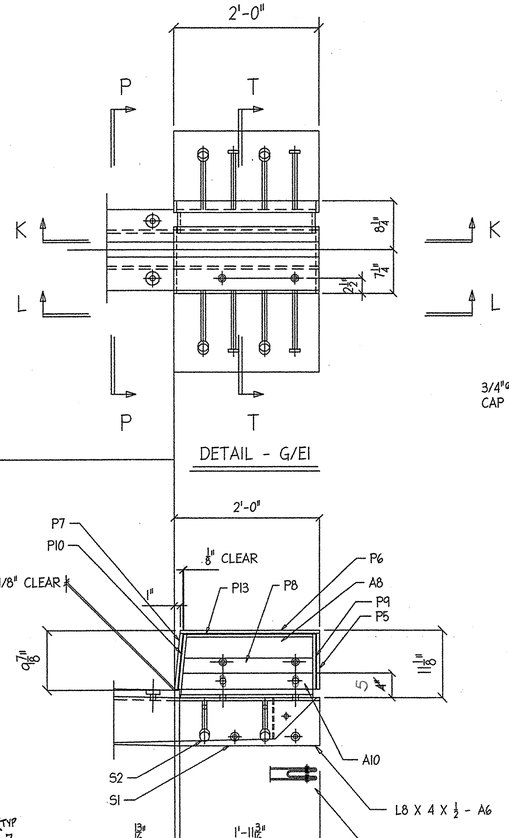
MERRIMACK
MISCELLANEOUS IRON STRUCTURAL STEEL FABRICATORS

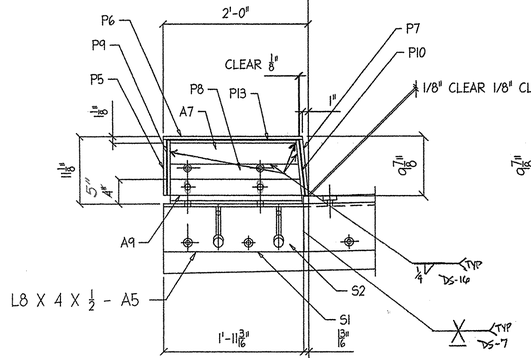
MERRIMACK SHEET METAL
119 HALL ST.
CONCORD, N.H., 03301
TEL. (603) 224-7766
FAX. (603) 224-7925

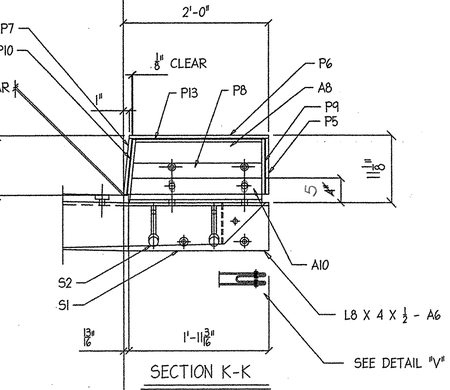
DR BY KJM
REV BY JD
JOB NO. 0642
DWG NO. E1

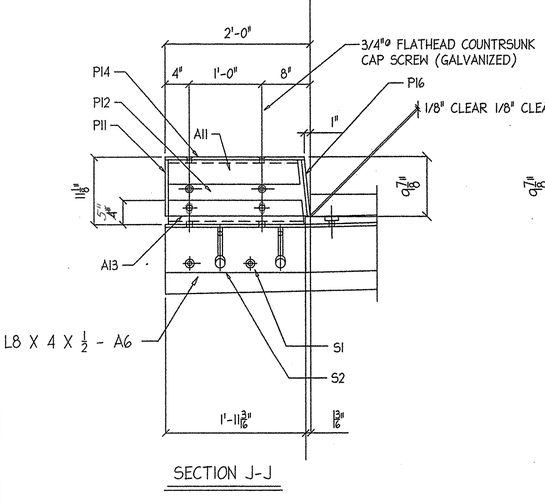
113 BJ

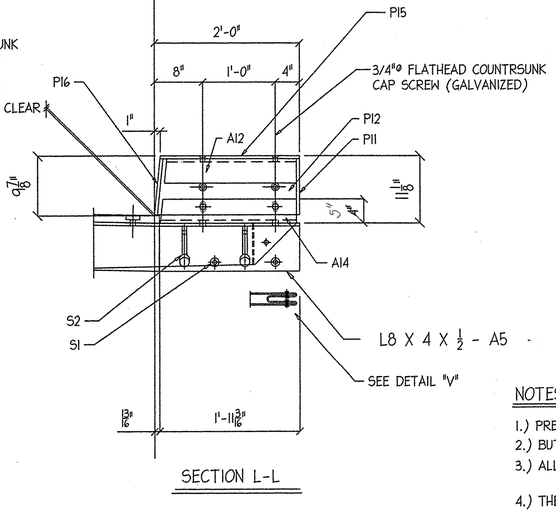


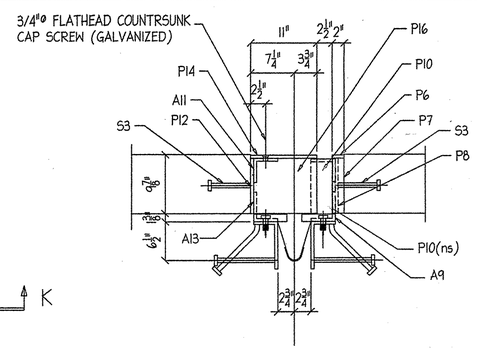


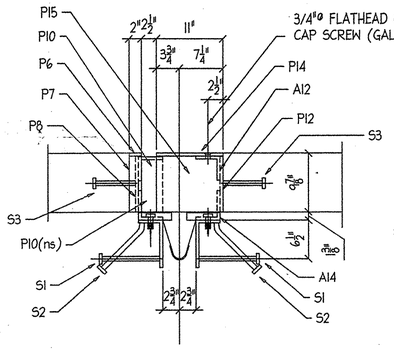


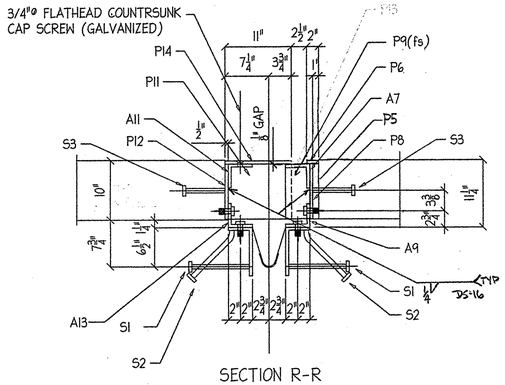


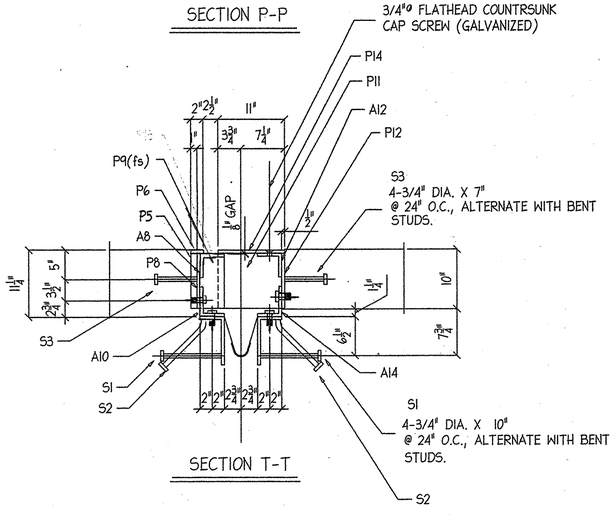


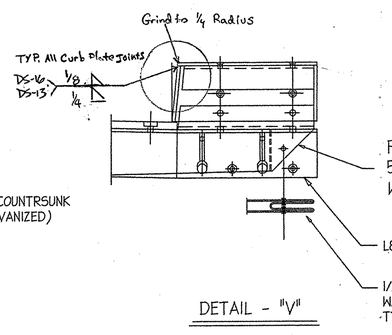


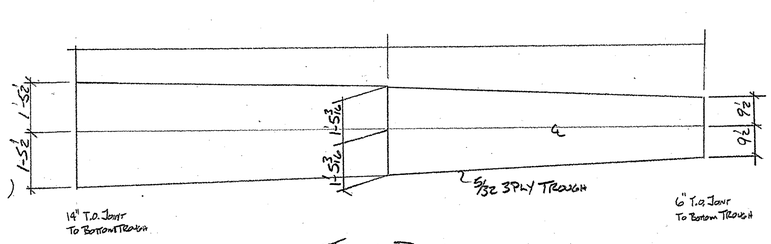












NOTES:

1.) PREFORMED FABRIC MATERIAL SHALL BE CONTINUOUS AND SHALL CONFORM TO SUBSECTION 707.07.
2.) BUTYL RUBBER TAPE SHALL CONFORM TO AASHTO SPEC. M-198, TYPE II.
3.) ALL STEEL COMPONENTS SHALL BE AASHTO M270, GRADE 36, GALVANIZED OR METALIZED AS PER SUBSECTION 506.15 (a) OR (b) UNLESS OTHERWISE NOTED.
4.) THE L8 X 4 X 1/2 ANGLES SHALL BE FURNISHED AS ONE CONTINUOUS PIECE. THE 1 1/4" X 5 1/2" BARS EACH SIDE OF THE JOINT SHALLBE PROVIDED IN TWO EQUAL LENGTHS.
5.) 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.
6.) THE EXPANSION JOINT SHALL BE SHOP ASSEMBLED AND SHIPPED AS ONE UNIT.
7.) BEVEL ALL EDGES TO 1/16 RADIUS / SEAL WELD EXPOSED JOINTS FOR GALV

RECEIVED
CK'D BY KMH OK'D BY MG
FEB 22 2006
RESUBMIT_____ APPROVED As Noted
BY GPW DATE 3/1/06

REV. NO.	DATE	DESCRIPTION
1	2/13	PER ENG.

HOLES: 13/16"ø (U.N.O.) DATE: 1-17-06
PAINT: GALVANIZED

HARTFORD, VT.
PROJECT NO. = BRO-BTN 2004 (1)

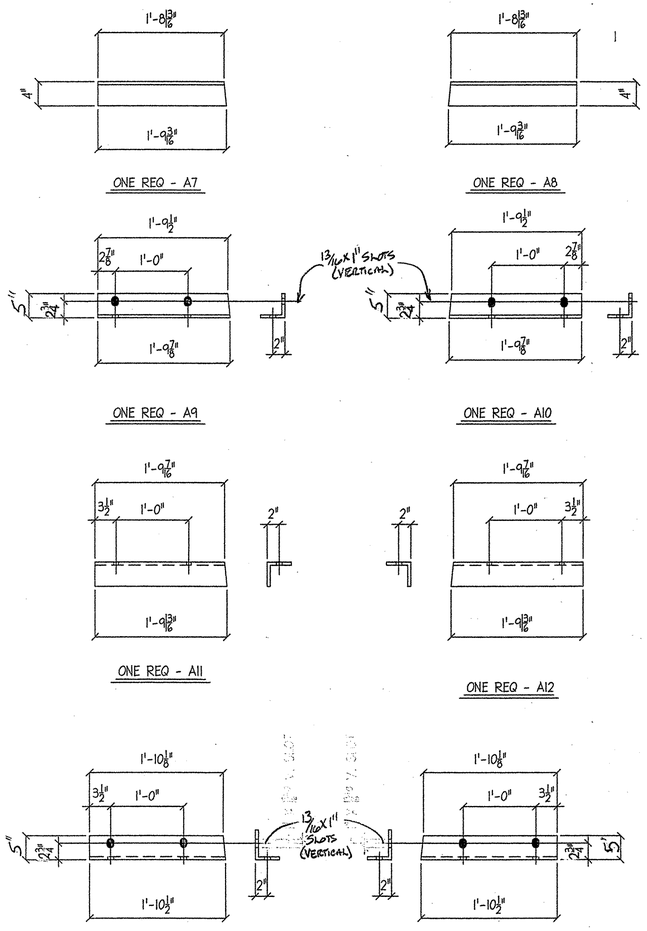
EXPANSION JOINT (EJ-1)@ ABUTMENT "A"

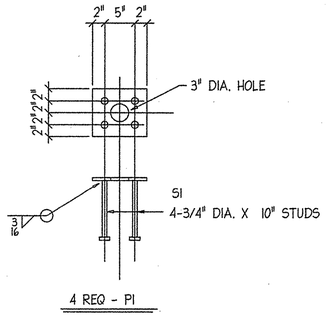
DATE SUB.	PROJECT	HARTFORD, VT. BRIDGE
	LOCATION	HARTFORD, VT.
	ARCHITECT	
DATE APP.	ENGINEER	
DATE DIST.	CUSTOMER	F.W. WHITCOMB

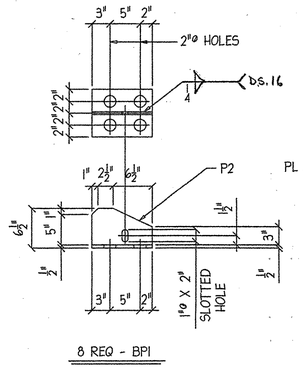
MERRIMACK
MISCELLANEOUS IRON STRUCTURAL STEEL FABRICATORS
MERRIMACK SHEET METAL
119 HALL ST.
CONCORD, N.H., 03301
TEL. (603) 224-7766
FAX. (603) 224-7925

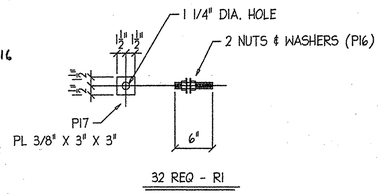
DR BY KJM
REV BY JL
JOB NO. 0642
DWG NO. E2

114 BJ

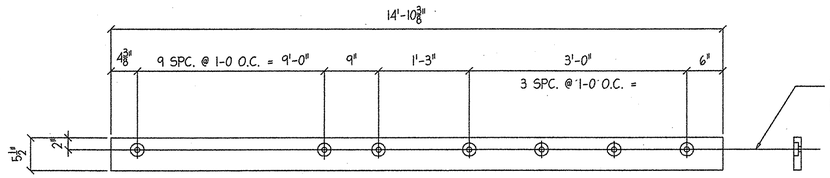


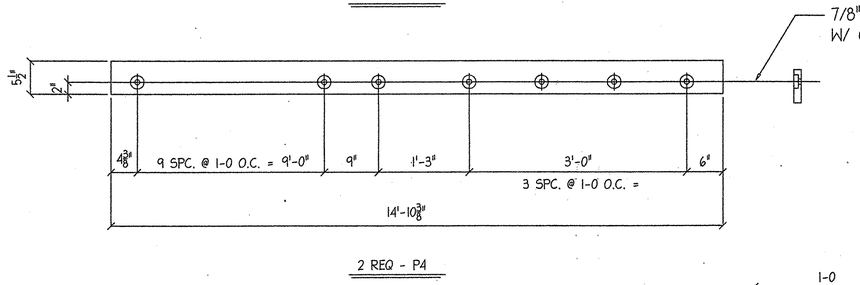


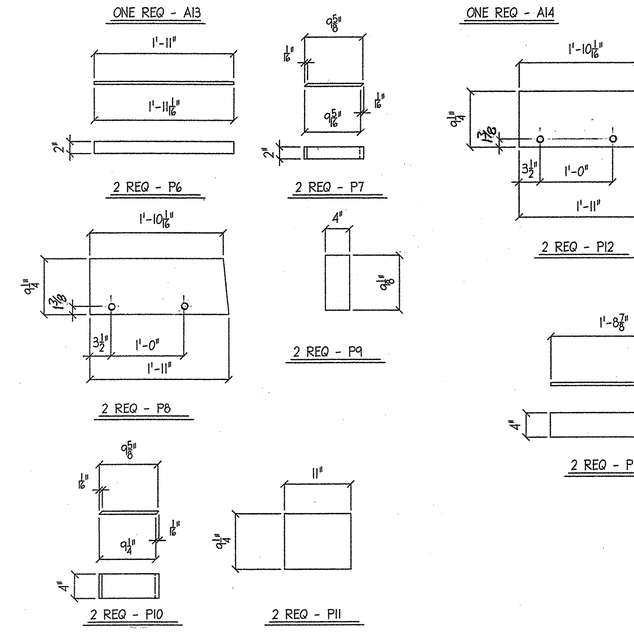


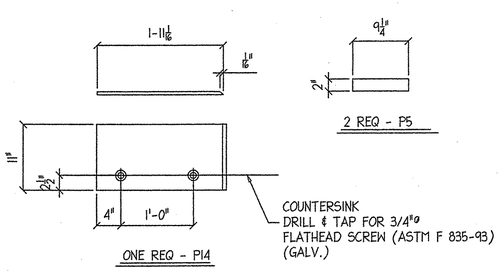


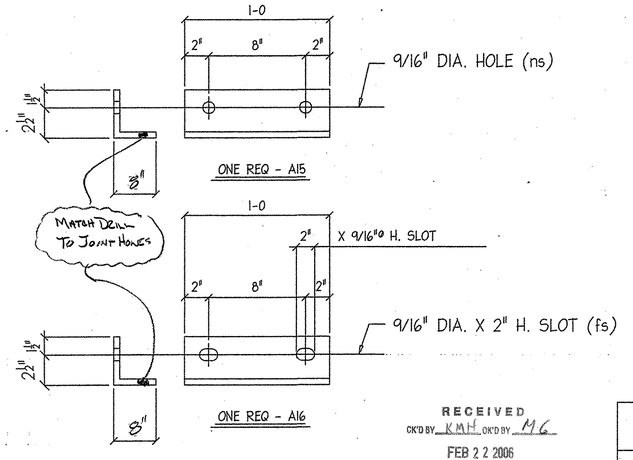
LONG POINT TO LONG POINT @ WORK LINE TO WORK LINE











BILL OF MATERIAL

QTY	MARK	SHAPE	LENGTH		REMARKS
1	EJ-1	EXPANSION JOINT			GALV.
1	A1	L 8 X 4 X 1/2	14	10 1/2	
1	A2	L 8 X 4 X 1/2	14	10 1/2	
1	A3	L 8 X 4 X 1/2	14	10 1/2	
1	A4	L 8 X 4 X 1/2	14	10 1/2	
2	A5	L 8 X 4 X 1/2	1	11 5/16	
2	A6	L 8 X 4 X 1/2	1	11 5/16	
1	A7	L 4 X 4 X 1/2	1	9 3/16	
1	A8	L 4 X 4 X 1/2	1	9 3/16	
1	A9	L 5 X 4 X 1/2	1	9 7/8	
1	A10	L 5 X 4 X 1/2	1	9 7/8	
1	A11	L 4 X 4 X 1/2	1	9 3/16	
1	A12	L 4 X 4 X 1/2	1	9 3/16	
1	A13	L 5 X 4 X 1/2	1	9 7/8	
1	A14	L 5 X 4 X 1/2	1	9 7/8	
8	A15	L 4 X 8 X 1/2	1	0	
8	A16	L 4 X 8 X 1/2	1	0	
4	P1	PL 1/2" X 8"	0	9	
16	S1	3/4"ø STUDS	0	10	
8	BP1	PL 1/2" X 8"	0	10	
8	P2	PL 1/2" X 6"	0	10	
32	R1	1"ø THRD. ROD	0	6	
64	P17	PL 3/8" X 3"	0	3	
2	P3	PL 1 1/4" X 5 1/2"	14	10 3/8	
2	P4	PL 1 1/4" X 5 1/2"	14	10 3/8	
16	S1	3/4"ø STUD	0	10	STR.
16	S2	3/4"ø STUD	0	10	BENT
8	S3	3/4"ø STUD	0	7	STR.
2	P5	PL 1/2' X 2"	0	10 1/2	NOT DRAWING
2	P6	PL 1/2' X 2"	1	11 1/16	
2	P7	PL 1/2' X 2"	0	9 5/8	
2	P8	PL 1/2' X 9 1/4"	1	11	
2	P9	PL 1/2' X 4"	1	9 1/8	
2	P10	PL 1/2' X 4"	0	9 5/8	
2	P11	PL 1/2' X 9 1/4"	0	11	
2	P12	PL 1/2' X 9 1/4"	1	11	
2	P13	PL 1/2' X 4"	1	9 7/8	
2	P14	PL 1/2' X 11"	1	11 1/16	
2	P15	PL 1/2' X 11"	1	11 1/16	
2	P16	PL 1/2' X 9 3/8"	0	11	
		FIELD BOLTS			
2 - 3/4" DIA. X 1 1/4" FLATHEAD COUNTERSUNK CAP SCREW (GALV) ASTM F 835-93					
8 - 3/4" DIA. X 2" ANCHOR THREADED FERRULE (@ CURB)					
65 - 3/4" DIA. X 2" ANCHOR THREADED FERRULE (@ CURB)					
20 - 3/4" DIA. X 2 1/4" A325 BOLTS (@ SHIPPING DEVICE)					

RECEIVED
CK'D BY KMH OK'D BY MG
FEB 22 2006
RESUBMIT ____ APPROVED ✓
BY CPW DATE 3/9/06

HARTFORD, VT.
PROJECT NO. = BRO-BTN 2004 (1)

EXPANSION JOINT (EJ-1)@ ABUTMENT "A"

DATE SUB.	PROJECT	HARTFORD, VT. BRIDGE
	LOCATION	HARTFORD, VT.
	ARCHITECT	
DATE APP.	ENGINEER	
DATE DIST.	CUSTOMER	F.W. WHITCOMB

REV. NO.	DATE	DESCRIPTION
1	2/13	PER ENG

HOLES: 13/16"ø (U.N.O.) DATE: 1-17-06
PAINT: GALVANIZED

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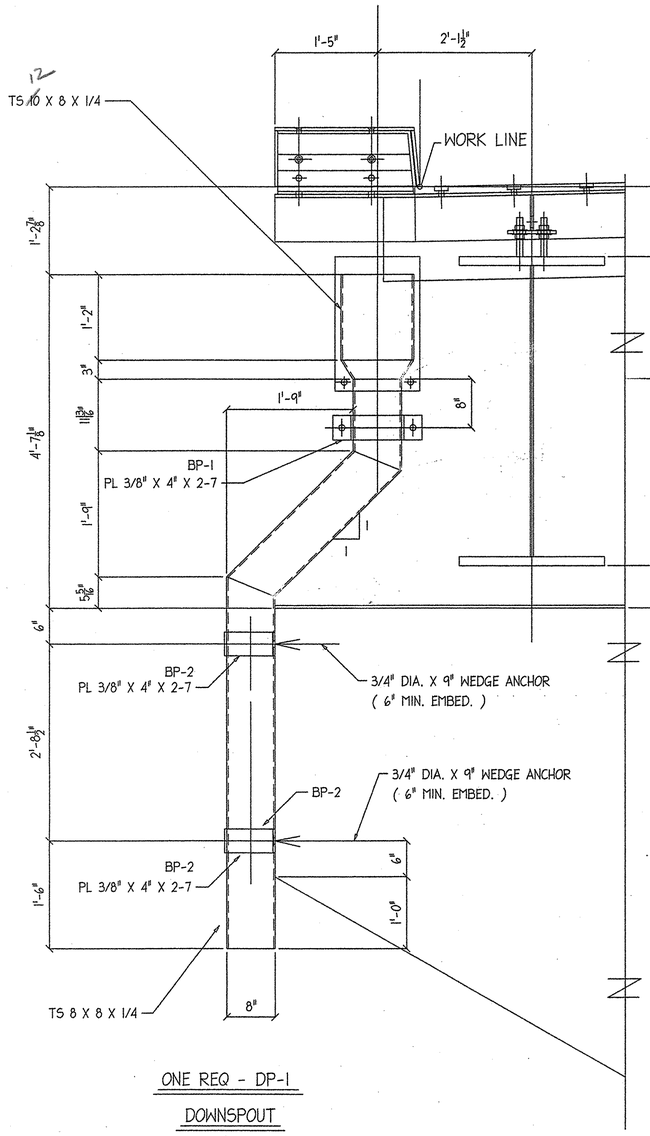
CONCORD, N.H., 03301
TEL. (603) 224-7766
FAX. (603) 224-7925

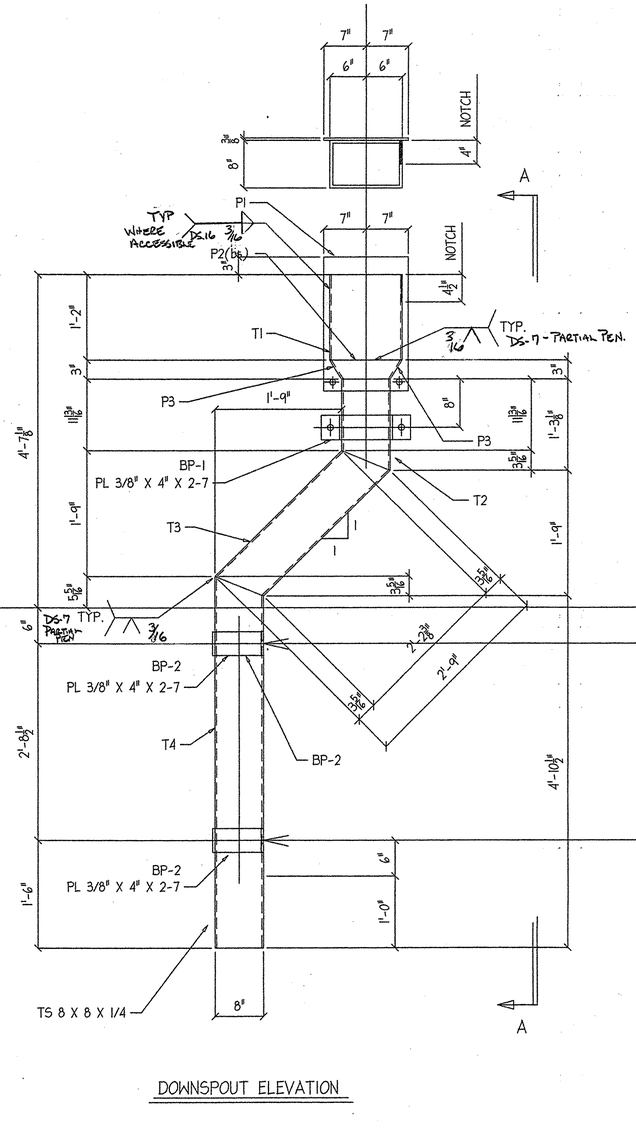
DR BY KJM
REV BY
JOB NO. 0642
DWG NO. F1

115 BJ

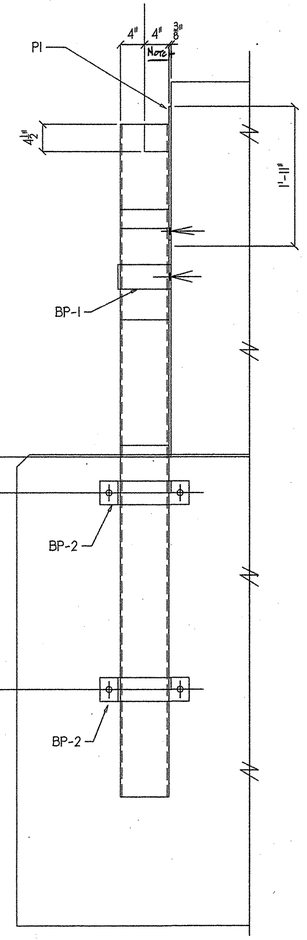


ONE REQ - DP-1

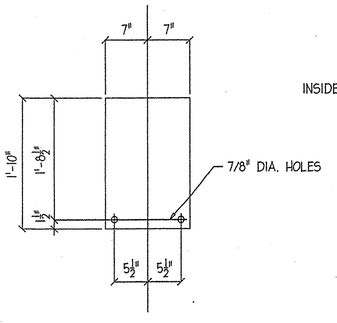
DOWNSPOUT



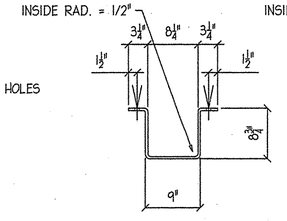
DOWNSPOUT ELEVATION



SECTION A-A

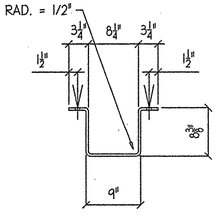


ONE REQ - P1



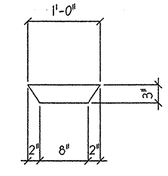
ONE REQ - BP-1

PL 3/8" X 4" X 2-6



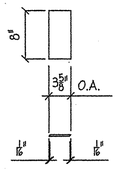
2 REQ - BP-2

PL 3/8" X 4" X 2-5 1/4



2 REQ - P2

PL 3/8" X 3" X 1-0



2 REQ - P3

PL 3/8" X 3 5/8" X 8"

NOTES:

1.) HOLLOW STRUCTURAL STEEL TUBING SHALL CONFORM TO A-500 OR A-501.
2.) ALL PLATES, BAR, AND ANGLES SHALL CONFORM TO AASHTO M270 GR. 36.
3.) DOWNSPOUT SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123 AFTER FABRICATION.
4.) ALL BOLTS AND RELATED HARDWARE SHALL BE ASTM A-307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-153 (AASHTO M232).

BILL OF MATERIAL

QTY	MARK	SHAPE	LENGTH		REMARKS
		DOWNSPOUT			GALV.
1	T1	TS 12 X 8 X 1/4	1	2	
1	T2	TS 8 X 8 X 1/4	1	3 1/8	
1	T3	TS 8 X 8 X 1/4	2	9	
1	T4	TS 8 X 8 X 1/4	5	1 13/16	
1	P1	PL 3/8" X 14"	1	10	
2	P2	PL 3/8" X 3"	1	0	
2	P3	PL 3/8" X 3 5/8"	0	8	
1	BP-1	BENT PL. 3/8" X 4"	2	6	
2	BP-2	BENT PL. 3/8" X 4"	2	5 1/4	
		FIELD BOLTS			
8 - 3/4" DIA. X 9" WEDGE ANCHOR (SLS) (6" MIN. EMBED.)					

RECEIVED
OK'D BY KMH OK'D BY BLR
FEB 22 2006
RESUBMIT ____ APPROVED X As Noted
BY [illegible] DATE 3/9/06

REV. NO.	DATE	DESCRIPTION
1	2/13	Per ENG.

HOLES: 13/16"ø (U.N.O.) DATE: 1-17-06
PAINT: GALVANIZED

HARTFORD, VT.
PROJECT NO. = BRO-BTN 2004 (1)

DOWNSPOUT

DATE SUB.	PROJECT	HARTFORD, VT. BRIDGE
	LOCATION	HARTFORD, VT.
	ARCHITECT	
DATE APP.	ENGINEER	
DATE DIST.	CUSTOMER	F.W. WHITCOMB

MERRIMACK
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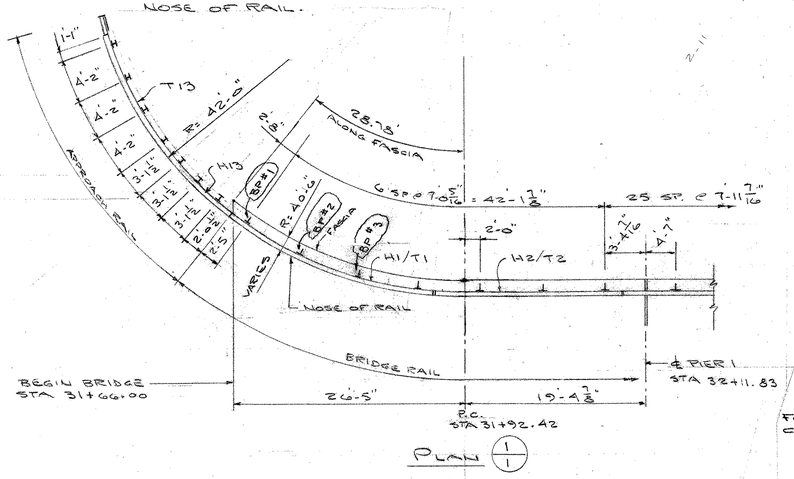
MERRIMACK SHEET METAL
119 HALL ST.
CONCORD, N.H., 03301
TEL. (603) 224-7766
FAX. (603) 224-7925

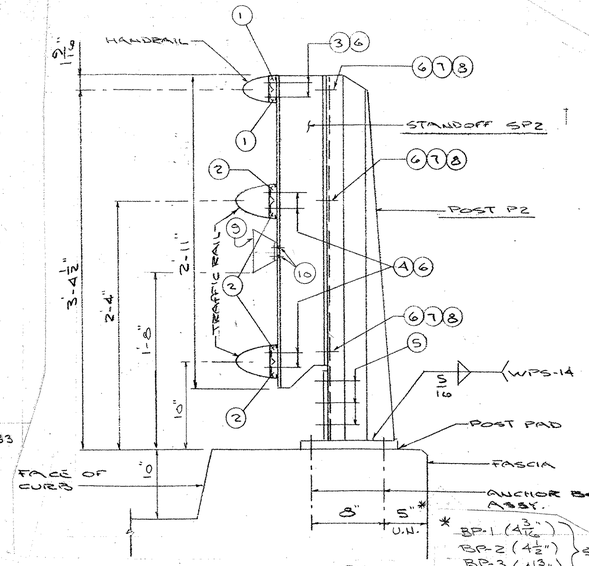
DR BY	KJM
REV BY	
JOB NO.	0642
DWG NO.	F2

1/6 BJ

NOTE-
DIM'S. AT BRIDGE RAIL ARE ALONG FASCIA. DIM'S AT APPROACH RAIL ARE ALONG NOSE OF RAIL.

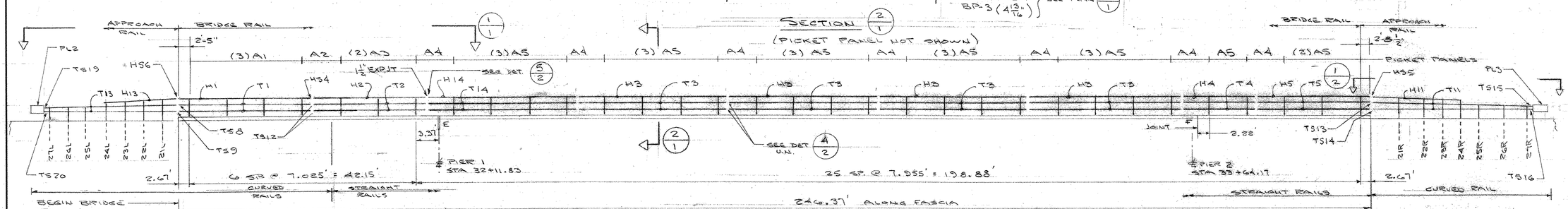


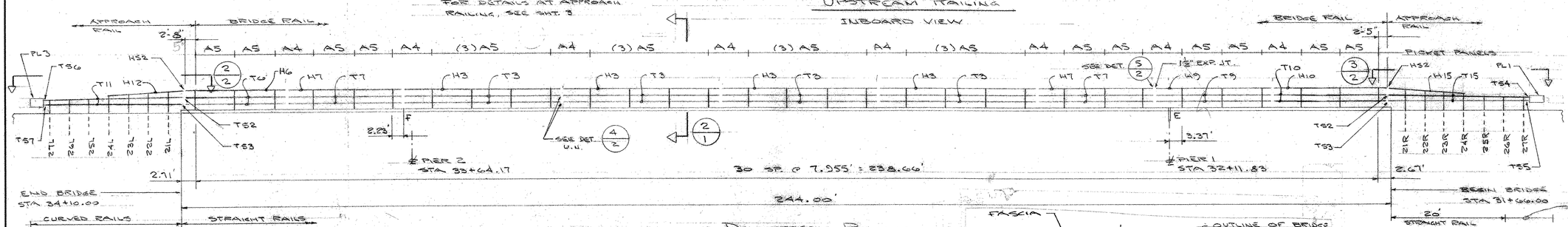
PLAN (1/1)



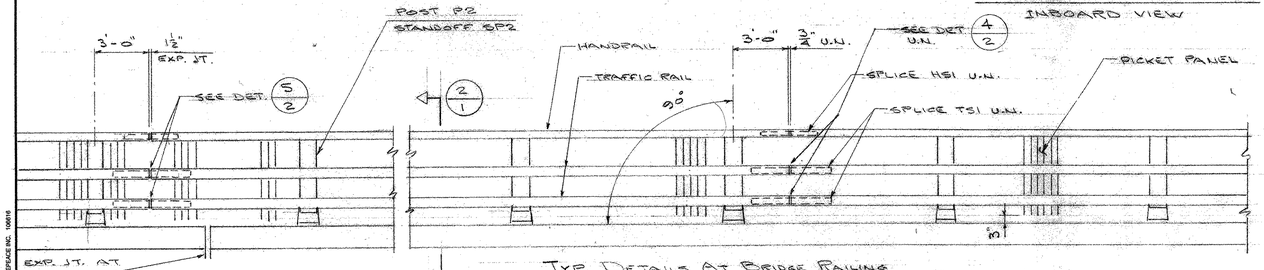
1. *4 CLAMP BAR
2. *1 CLAMP BAR
3. 1/2"-13 x 3/4" HEX HD CAP SCREW (A193, GR. B8)
4. 1/2"-13 x 1" HEX HD CAP SCREW (A193, GR. B8)
5. 7/8" ϕ AL. RIVET (6061-T6)
6. AL. WASHER 1/16" OD x 17/32" ID x 3/32" THK.
7. 1/2"-13 x 1 1/2" HEX HD CAP SCREW (304 ST. STL) 75,000 TENSILE
8. 1/2"-13 HEX NUT (304 ST. STL) 75,000 TENSILE
9. REFLECTORIZED DELINIATOR (WHITE) PER SPECS. LOCATE EVERY 30' (OR CLOSEST POST). TYP. AT BRIDGE RAIL & APPROACH RAIL
10. *8 x 3/4 ST. STL. SELF-TAPPING SCREW. DRILL POSTS IN FIELD.

SECTION (2/1)
(PICKET PANEL NOT SHOWN)

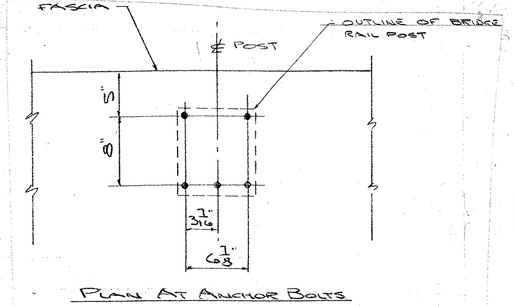




DOWNSTREAM RAILING
INBOARD VIEW



TYP. DETAILS AT BRIDGE RAILING
INBOARD VIEW



PLAN AT ANCHOR BOLTS
BOLT PROJECTION = 2 1/2"

RECEIVED
CK'D BY KMH OK'D BY
MAY 1 2 2006
RESUBMIT APPROVED
BY DATE
As Noted
5/15/06

ISSUE	DATE	DESCRIPTION	BY
2	5-8-06	FOR APPROVAL	
1	3-24-06	FOR APPROVAL	

OFFICE COPY

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VT AGENCY OF TRANSPORTATION
HARTFORD PROJ# BRO-BTN 2004(1)
BRIDGE #8
T.H. 4 OVER WHITE RIVER

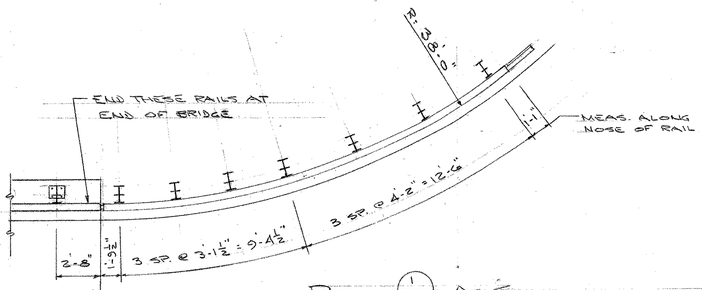
AL. BRIDGE & APPROACH RAILING

SURFACE PREP:	FINISH:
NONE	BLACK ANODIZE

FOR: FRANK W. WHITCOMB CORP.
DR: NWM 3-23-06
CHK: 3-24-06
JOB NO. AB06-0012-1001
DWG. NO. BR-2878
SHEET 1 OF 8

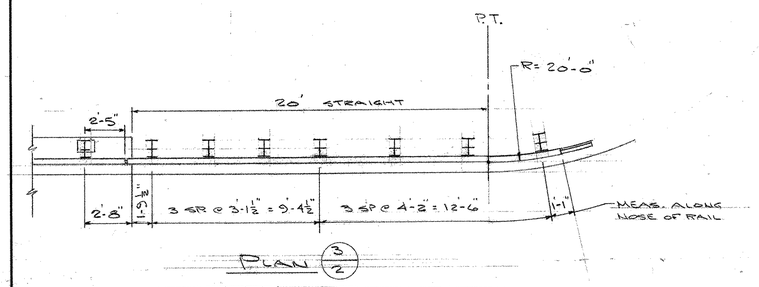
B.L. MAKEPEACE INC. 100518

117 BR

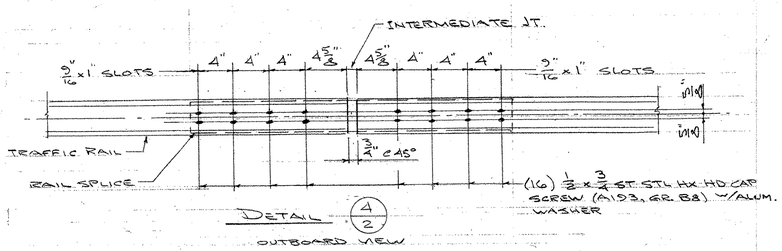


PLAN 1/2 — AS SHOWN

PLAN 2/2 — OPP. HAND

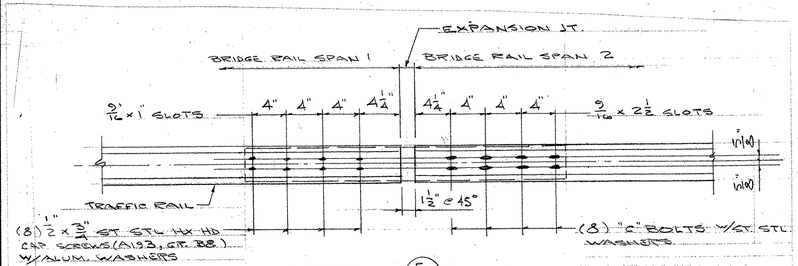


PLAN 3/2



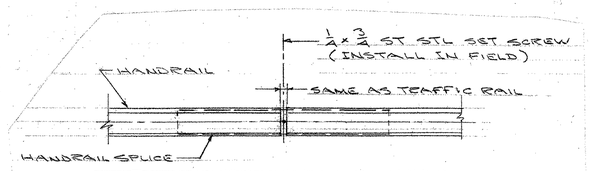
DETAIL 4/2

OUTBOARD VIEW



DETAIL 5/2

OUTBOARD VIEW



DET. AT HANDRAIL SPLICE

OUTBOARD VIEW

QUAN	DESCRIPTION
79	#4 CLAMP BAR
364	#1 CLAMP BAR
798	1/2 x 3/4 ST. STL. HEX HD CAP SCREW
728	1/2 x 1 do
522	1/2 x 1 1/2 do
128	1/2 x 3/8 "C" BOLT
2048	1/2" ALUM. WASHER
128	1/2" ST. STL. WASHER
30	DELINIATOR (WHITE)
60	#8 x 3/4 ST. STL. SELF-TAPPING SCREW
63	POST PAD
63	ANCHOR PLATE
315	3/4 x 10 GALV. HEX HD BOLT
315	3/4" GALV. HEX NUT
315	3/4" GALV. WASHER

QUAN	MK	DESCRIPTION
63	P2	RAIL POST
2	21L	APPROACH POST
2	22L	
2	23L	
2	24L	
2	25L	
2	26L	
2	27L	
2	21R	
2	22R	
2	23R	
2	24R	
2	25R	
2	26R	
2	27R	
63	SP2	STANDOFF
2	21L	
2	22L	
2	23L	
2	24L	
2	25L	
2	26L	
2	27L	
2	21R	
2	22R	
2	23R	
2	24R	
2	25R	
2	26R	
2	27R	
15	HS1	HANDRAIL SPLICE
2	HS2	
1	HS4	
1	HS5	
1	HS6	
30	TS1	TRAF. RAIL SPLICE
2	TS2	
2	TS3	
1	TS4	
1	TS5	
1	TS6	
1	TS7	
1	TS8	
1	TS9	
2	TS12	
1	TS13	
1	TS14	
1	TS15	
1	TS16	
1	TS19	
1	TS20	
3	A1	PICKET PANEL
1	A2	
2	A3	
15	A4	
40	A5	
780	—	1/4 x 3/4 ST. STL. SET SCREW
1	PL1	GALV. PLATE
1	PL2	do
2	PL3	do

4" x 3 1/8" HANDRAIL

QUAN	MK	LGTH
1	H1	SEE DET.
1	H2	SEE DET.
8	H3	31'-9 1/16"
1	H4	15'-10 1/8"
1	H5	23'-7"
1	H6	21'-8 1/4"
2	H7	23-9 3/8
—	H8	NOT USED
1	H9	23'-8 7/8"
1	H10	23'-2 5/8"
1	H11	SEE DET.
1	H12	do
1	H13	do
1	H14	31'-8 3/8
1	H15	SEE DET.

4 3/4" x 4" TRAFFIC RAIL

QUAN	MK	LGTH
2	T1	SEE DET.
2	T2	SEE DET.
16	T3	31'-9 1/16
2	T4	15'-10 1/8"
2	T5	23'-7"
2	T6	21'-8 1/4"
4	T7	23'-9 3/8
—	T8	NOT USED
2	T9	23'-8 7/8"
2	T10	23'-2 5/8"
4	T11	SEE DET.
—	T12	NOT USED
2	T13	SEE DET.
2	T14	31'-8 3/8"
2	T15	SEE DET.

RECEIVED
CK'D BY KMH CK'D BY
MAY 1 2 2006
RESUBMIT APPROVED ✓
BY CPW DATE 5/15/06

ISSUE	DATE	DESCRIPTION	BY
2	5-8-06	FOR APPROVAL	
1	3-24-06	FOR APPROVAL	

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

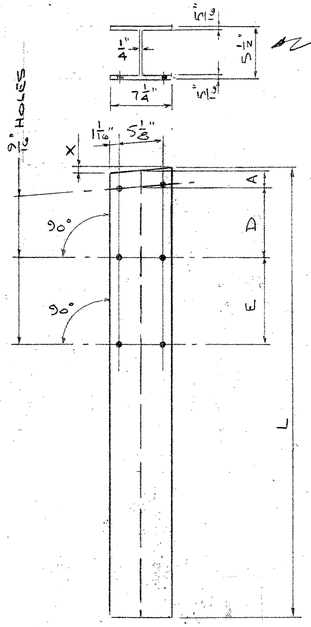
VT. AGENCY OF TRANSPORTATION
HARTFORD PROJ# BRO-BRN 2004(1)
BRIDGE #8
T.H.4 OVER WHITE RIVER

AL. BRIDGE & APPROACH RAILING

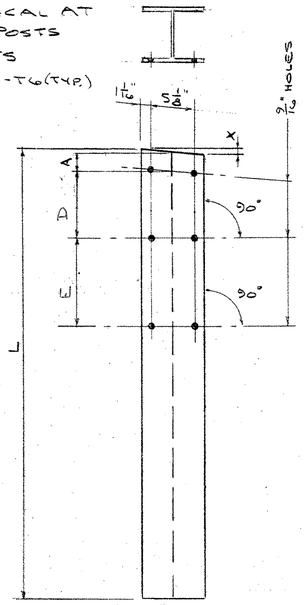
SURFACE PREP: NONE
FINISH: BLACK ANODIZE
FOR: FRANK W. WHITCOMB CORP.
DR: WM 3-23-06
CHK: 3-24-06
JOB NO. N06-0012-1001
DWG. NO. BR-2878
SHEET 2 OF 3

118 BR

B.L. MAKEPEACE INC. 10/01/6

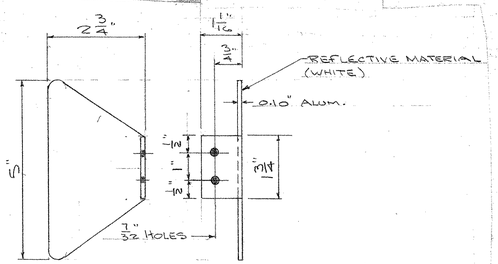


DIM'S TYPICAL AT APPROACH POSTS & STANDOFFS
ALLOY 6061-T6 (TYP.)

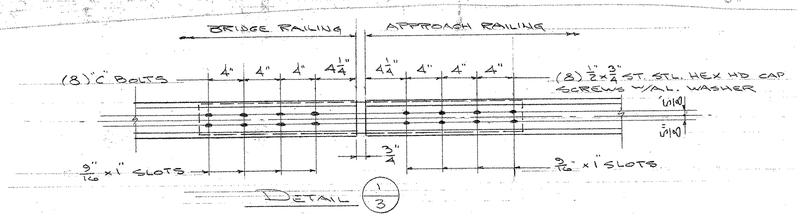


MK	QUAN	L	X	A	D	E
21L	2	6'-6"	5/8"	1 9/16"	11 7/16"	1'-5 1/8"
22L	2	6'-6"	5/8"	1 9/16"	9 3/4"	1'-3 7/8"
23L	2	6'-6"	5/8"	1 9/16"	8 1/8"	1'-2 9/16"
24L	2	6'-6"	5/8"	1 9/16"	6 7/16"	1'-1 1/4"
25L	2	6'-0"	3/8"	2"	0	11 9/16"
26L	2	6'-0"	3/8"	2"	0	9 13/16"
27L	2	6'-0"	3/8"	2"	0	8 1/16"

MK	QUAN	L	X	A	D	E
21R	2	6'-6"	5/8"	1 9/16"	11 7/16"	1'-5 1/8"
22R	2	6'-6"	5/8"	1 9/16"	9 3/4"	1'-3 7/8"
23R	2	6'-6"	5/8"	1 9/16"	8 1/8"	1'-2 9/16"
24R	2	6'-6"	5/8"	1 9/16"	6 7/16"	1'-1 1/4"
25R	2	6'-0"	3/8"	2"	0	11 9/16"
26R	2	6'-0"	3/8"	2"	0	9 13/16"
27R	2	6'-0"	3/8"	2"	0	8 1/16"

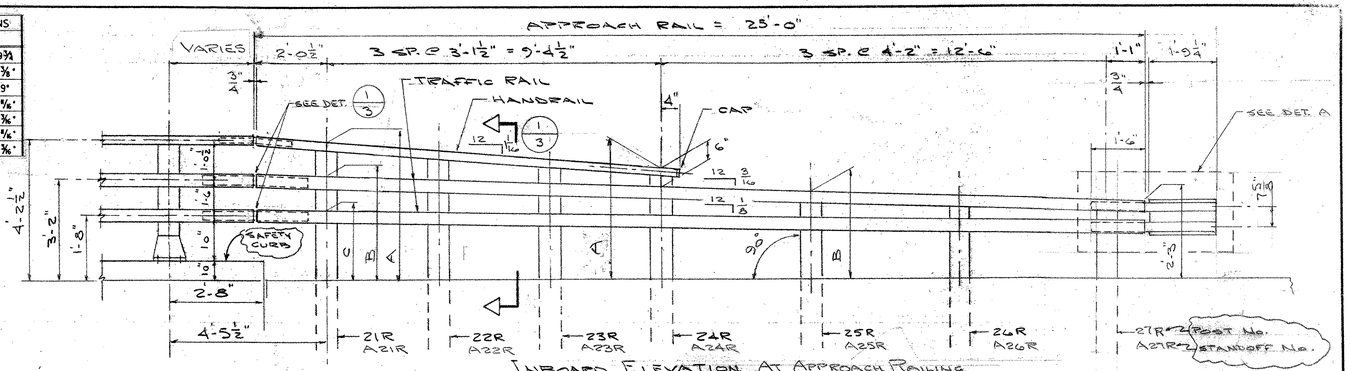


POST REFLECTOR (30 REQD)
MATERIALS PER V.A.T. SPEC.

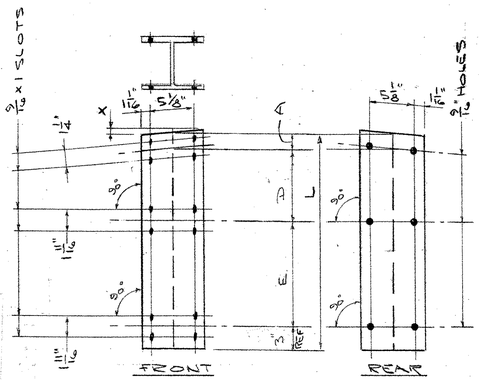


DETAIL (1/3)

POST NO.	RAIL HEIGHT DIMENSIONS A	B	C
21	4'-1 3/16"	3'-2 5/8"	1'-9 3/4"
22	3'-10 5/8"	3'-1 1/4"	1'-9 3/8"
23	3'-7 1/4"	2'-11 3/8"	1'-9"
24	3'-3 5/8"	2'-9 5/8"	1'-8 5/8"
25	X	2'-7 1/8"	1'-8 3/8"
26	X	2'-5 1/2"	1'-7 7/8"
27	X	2'-3 1/4"	1'-7 3/8"

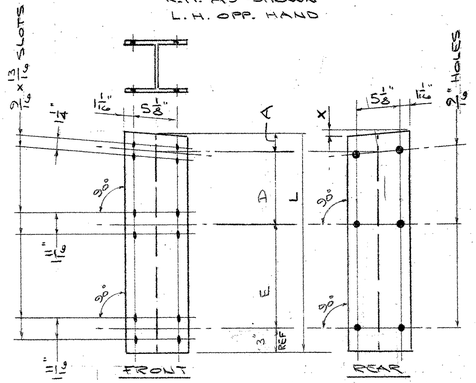


INBOARD ELEVATION AT APPROACH RAILING
R.H. AS SHOWN
L.H. OPP. HAND



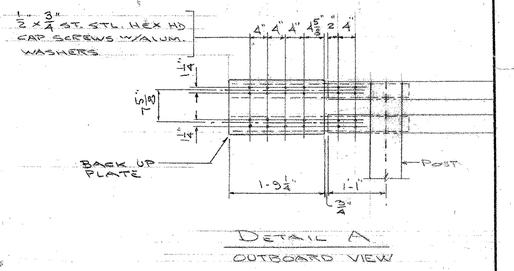
STANDOFF

MK	QUAN	L	X	A	D	E
A21L	2	2'-9 1/8"	5/8"	1 9/16"	11 7/16"	1'-5 1/8"
A22L	2	2'-6 1/16"	5/8"	1 9/16"	9 3/4"	1'-3 7/8"
A23L	2	2'-3 1/4"	5/8"	1 9/16"	8 1/8"	1'-2 9/16"
A24L	2	2'-0 1/4"	5/8"	1 9/16"	6 7/16"	1'-1 1/4"
A25L	2	1'-4 9/16"	3/8"	2"	0	11 9/16"
A26L	2	1'-2 13/16"	3/8"	2"	0	9 13/16"
A27L	2	1'-1 1/16"	3/8"	2"	0	8 1/16"

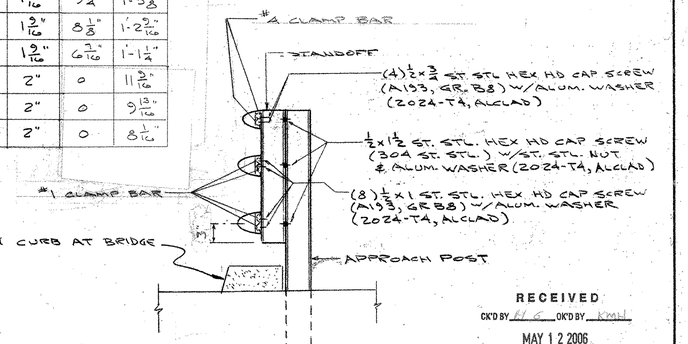


STANDOFF

MK	QUAN	L	X	A	D	E
A21R	2	2'-9 1/8"	5/8"	1 9/16"	11 7/16"	1'-5 1/8"
A22R	2	2'-6 1/16"	5/8"	1 9/16"	9 3/4"	1'-3 7/8"
A23R	2	2'-3 1/4"	5/8"	1 9/16"	8 1/8"	1'-2 9/16"
A24R	2	2'-0 1/4"	5/8"	1 9/16"	6 7/16"	1'-1 1/4"
A25R	2	1'-4 9/16"	3/8"	2"	0	11 9/16"
A26R	2	1'-2 13/16"	3/8"	2"	0	9 13/16"
A27R	2	1'-1 1/16"	3/8"	2"	0	8 1/16"



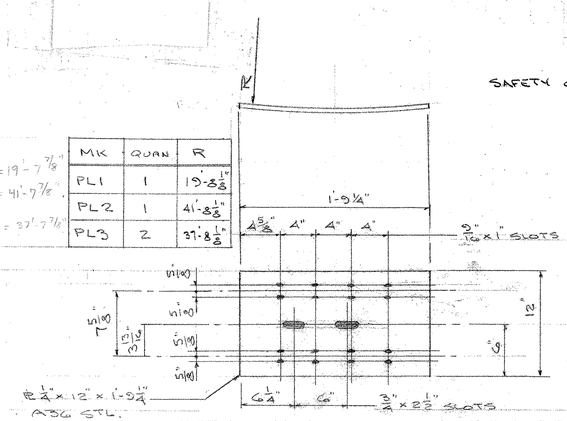
DETAIL A
OUTBOARD VIEW



SECTION (1/3)

19'-11 1/2" - 3.364" - 0.25" = 19'-7 7/8"
41'-11 1/2" - 3.364" - 0.25" = 41'-7 7/8"
37'-11 1/2" - 3.364" - 0.25" = 37'-7 7/8"

MK	QUAN	R
PL1	1	19'-8 1/8"
PL2	1	41'-8 1/8"
PL3	2	37'-8 1/8"



BACK UP PLATES
GALV. AFTER FAB.

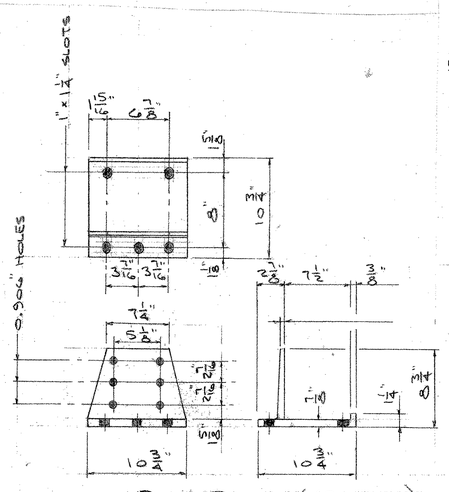
RECEIVED
CK'D BY EJG OK'D BY KMW
MAY 1 2 2006
RESUBMIT ____ APPROVED As Noted
BY CPW DATE 5/15/06

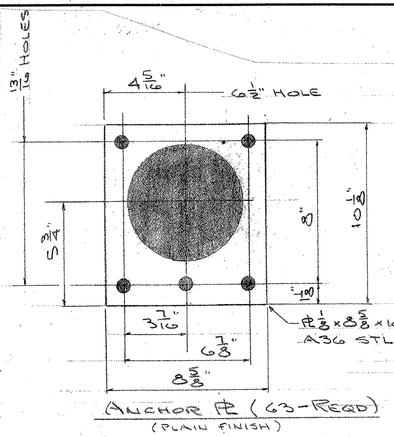
ISSUE	DATE	DESCRIPTION	BY
2	5-8-06	FOR APPROVAL	
1	3-24-06	FOR APPROVAL	

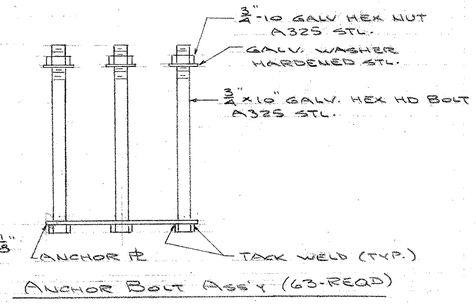
AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA. (508) 568-8382
V.T. AGENCY OF TRANSPORTATION
HARTFORD : PROJ # BRS-BTN 2004 (1)
BRIDGE # 3
T.H. 4 OVER WHITE RIVER
APPROACH RAIL AT SAFETY CURB
FOR: FRANK W. WHITCOMB CORP
DR: WM 3-23-06
CHK: EJG 3-24-06
JOB NO. A06P12-1001
DWG. NO. BR-2878
SHEET 3 OF 3

119 BR

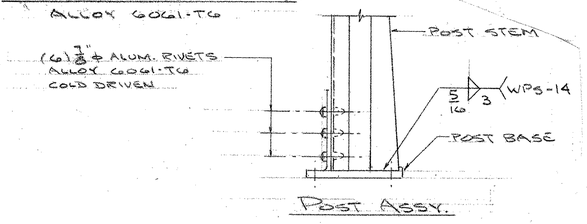
168764 8-93
MAKEPEACE

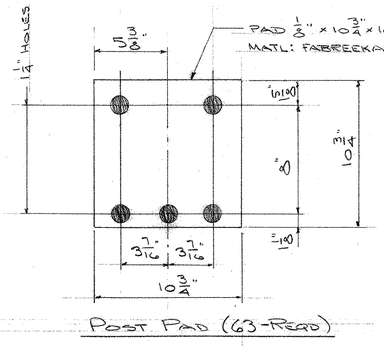


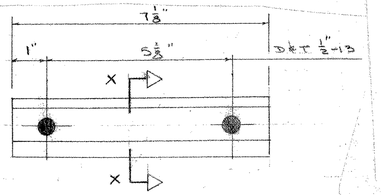


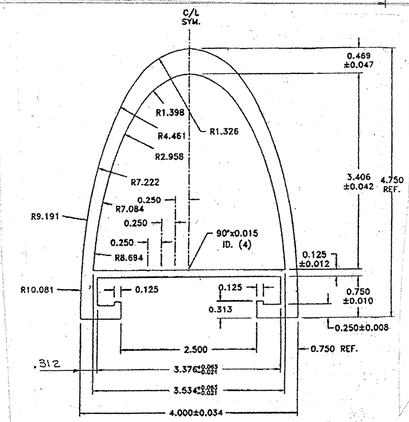


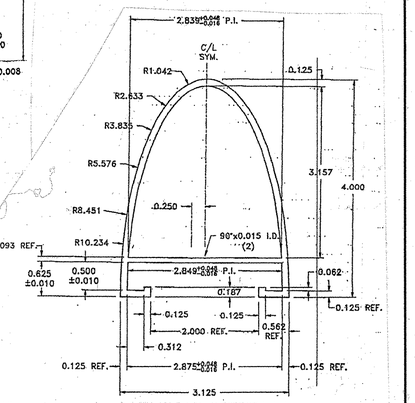
3½"x4" HANDRAIL		
31'-9 1/16"	H3	(8-REQD)
15'-10¼"	H4	(1-REQD)
23'-7"	H5	(1-REQD)
21'-8¼"	H6	(1-REQD)
23'-9 5/8"	H7	(2-REQD)
NOT USED	H8	—
23'-8 7/8"	H9	(1-REQD)
23'-2 5/8"	H10	(1-REQD)
31'-8 3/8"	H14	(1-REQD)

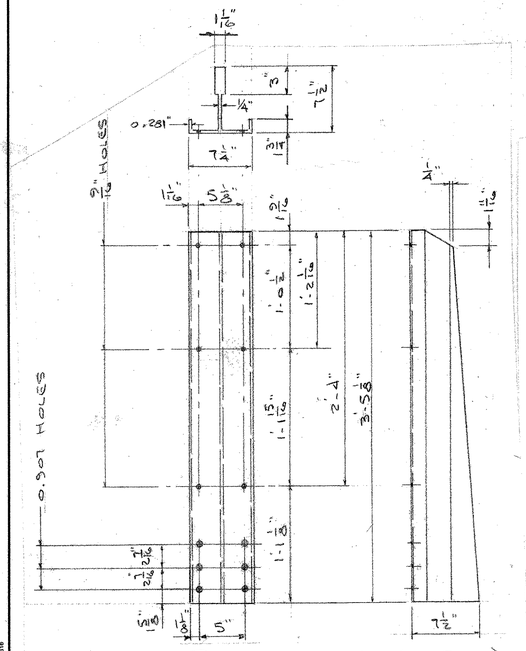


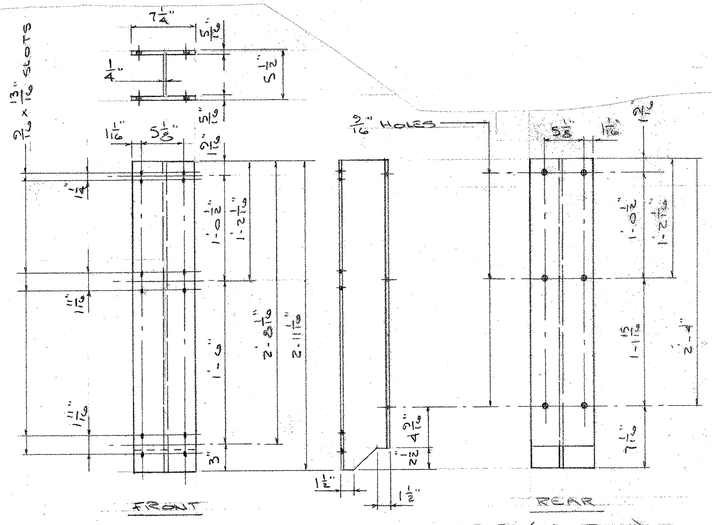


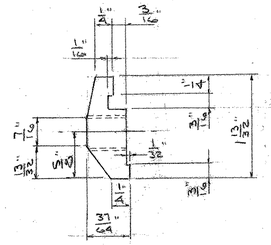


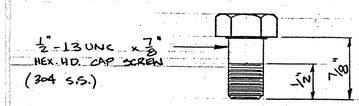












RECEIVED
CK'D BY KMH OK'D BY
MAY 1 2 2006
RESUBMIT APPROVED ✓
BY CPW DATE 5/15/06

ISSUE	DATE	DESCRIPTION	BY
2	5-8-06	FOR APPROVAL	
1	3-24-06	FOR APPROVAL	

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VT. AGENCY OF TRANSPORTATION
HARTFORD PROJ# BRO-BTW2004(1)
BRIDGE #8
T.H. 4 OVER WHITE RIVER

AL. BRIDGE & APPROACH RAILING

SURFACE PREP: NONE
FINISH: BLACK ANODIZE

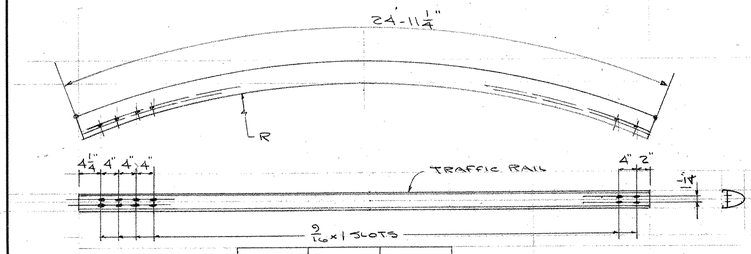
FOR: FRANK W. WHITCOMB CORP.

DR: WM 3-23-06
CHK: [illegible] 3-24-06
JOB NO. ABG0012-1001

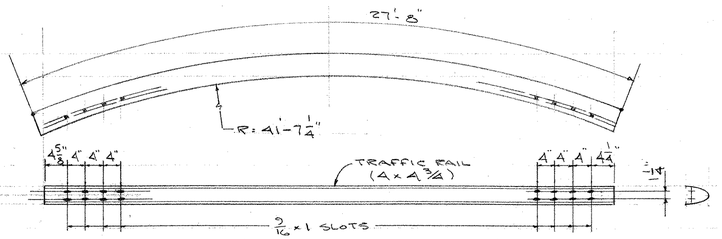
DWG. NO. BR-2878
SHEET 4 OF 8

120 BR

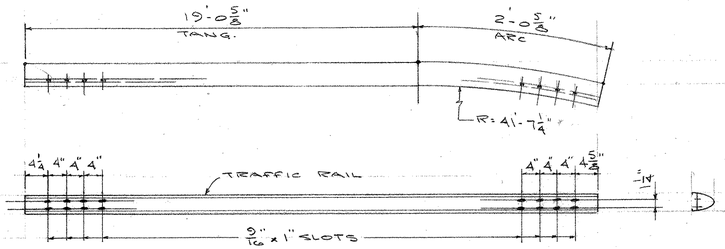
B.L. MAKEPEACE INC. 10619



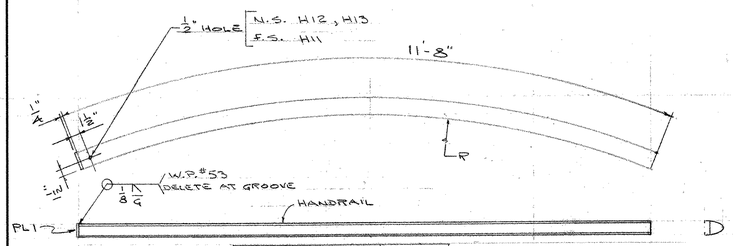
MK	QUAN	R
T11	4	37'-7 1/4"
T13	2	41'-7 1/4"



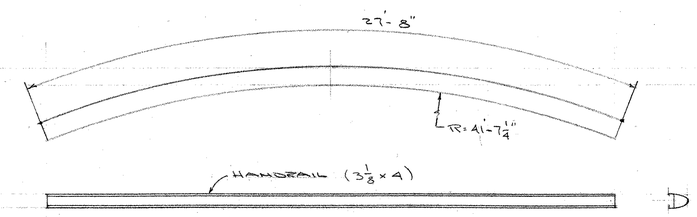
T1 (2-REQD)



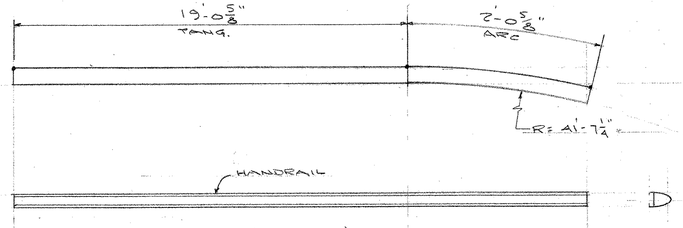
T2 (2-REQD)



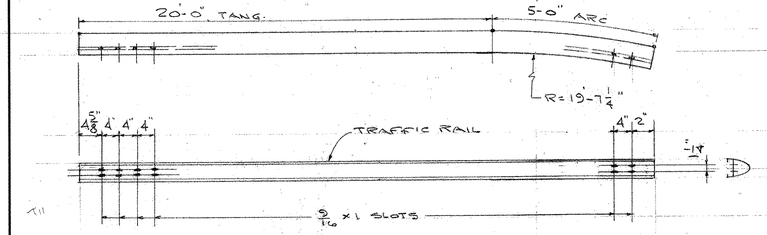
MK	QUAN	R
H11	1	37'-7 1/4"
H12	1	37'-7 1/4"
H13	1	41'-7 1/4"



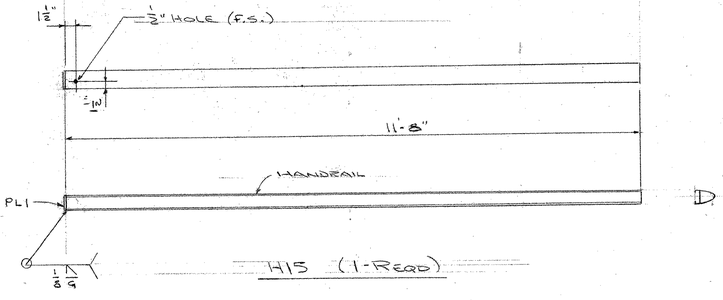
H1 (1-REQD)



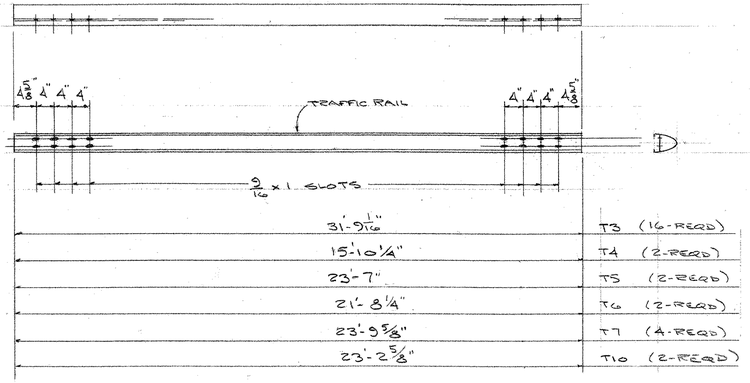
H2 (1-REQD)



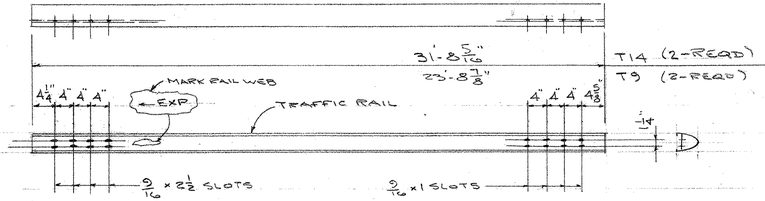
T15 (2-REQD)

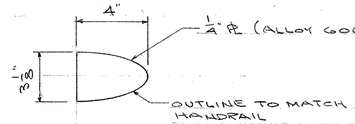


H15 (1-REQD)



31'-9 1/16"	T3 (16-REQD)
15'-10 1/4"	T4 (2-REQD)
23'-7"	T5 (2-REQD)
21'-8 1/4"	T6 (2-REQD)
23'-9 5/8"	T7 (4-REQD)
23'-2 5/8"	T10 (2-REQD)





PL1 (4-REQD)

RECEIVED
CK'D BY KMH OK'D BY
MAY 12 2006
RESUBMIT APPROVED ✓
BY GPW DATE 5/15/06

ISSUE	DATE	DESCRIPTION	BY
2	5-8-06	FOR APPROVAL	
1	3-24-06	FOR APPROVAL	

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VT. AGENCY OF TRANSPORTATION
HARTFORD PROJ #BRO-BTN 2004(1)
BRIDGE #8
T.H.4 OVER WHITE RIVER

AL. BRIDGE & APPROACH RAILING

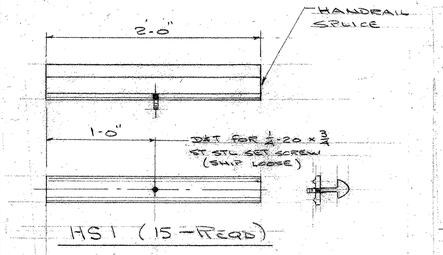
SURFACE PREP: NONE
FINISH: BLACK ANODIZE

FOR: FRANK W. WHITCOMB CORP.

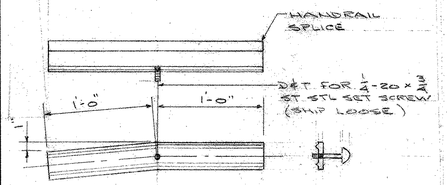
DR: VM 3-23-06
CHK: 3-24-06
JOB NO. AB60012-1001
DWG. NO. BR-2878
SHEET 5 OF 8

121 BR

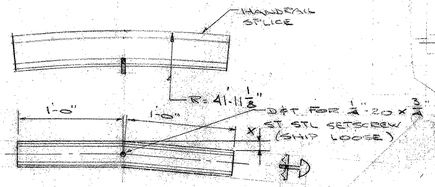
B.L. MAGERFAGE INC. 10916



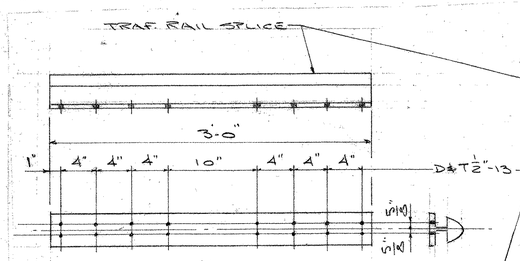
HS1 (15-REQD)



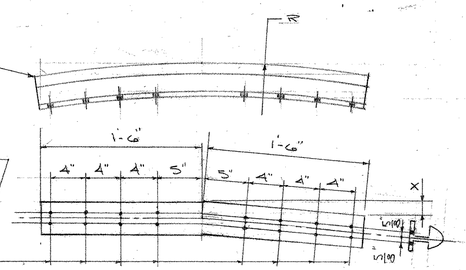
HS2 (2-REQD)



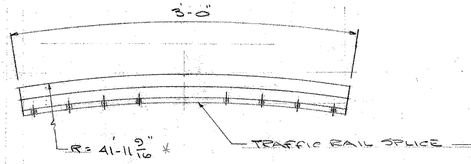
MK	QUAN	X
HS6	1	1"
HS4	1	0



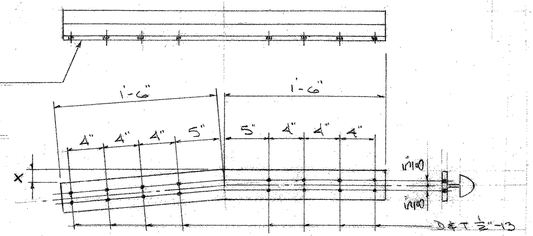
TS1 (30-REQD)



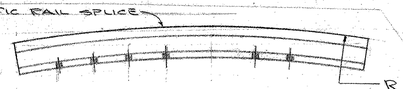
MK	QUAN	X	R
TS8	1	13/16"	41'-11 9/16" *
TS9	1	3/16"	41'-11 9/16" *

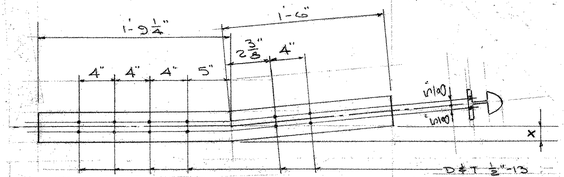


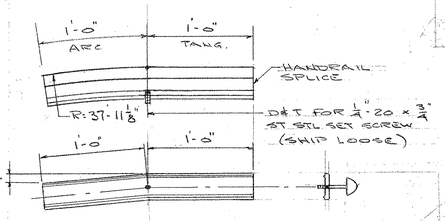
TS12 (2-REQD)



MK	QUAN	X
TS2	2	13/16"
TS3	2	3/16"





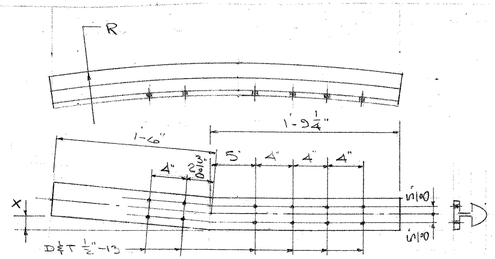


HS5 (1-REQD)

MK	QUAN	X	R
TS4	1	13/16"	19'-11 9/16" *
TS5	1	3/16"	19'-11 9/16" *

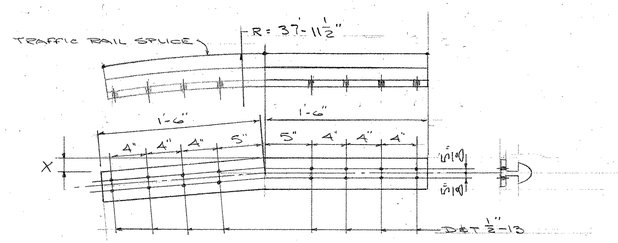
MK	QUAN	X	R
TS15	1	13/16"	37'-11 9/16" *
TS16	1	3/16"	37'-11 9/16" *

Why isn't TS15 = TS6
TS16 = TS7

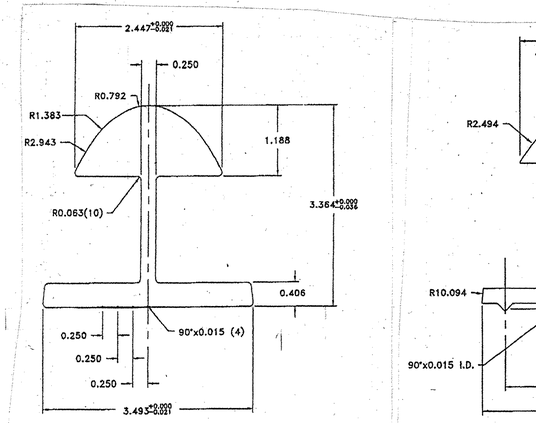


MK	QUAN	X	R
TS6	1	13/16"	37'-11 1/2"
TS7	1	3/16"	37'-11 1/2"

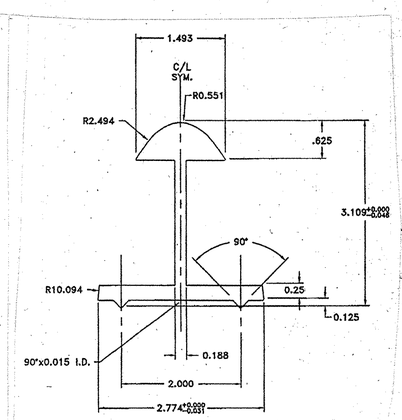
MK	QUAN	X	R
TS19	1	13/16"	41'-11 1/2"
TS20	1	3/16"	41'-11 1/2"



MK	QUAN	X
TS13	1	13/16"
TS14	1	3/16"



TRAFFIC RAIL SPLICE EXTRUSION
ALLOY 6061-T6



HANDRAIL SPLICE EXTRUSION
ALLOY 6061-T6

19'-7 15/16"

* Radius is increased by 1/16" ?

RECEIVED
CK'D BY KMH OK'D BY
MAY 12 2006
RESUBMIT APPROVED As Noted
BY CAW DATE 5/15/06

ISSUE	DATE	DESCRIPTION	BY
2	5-8-06	FOR APPROVAL	
1	3-24-06	FOR APPROVAL	

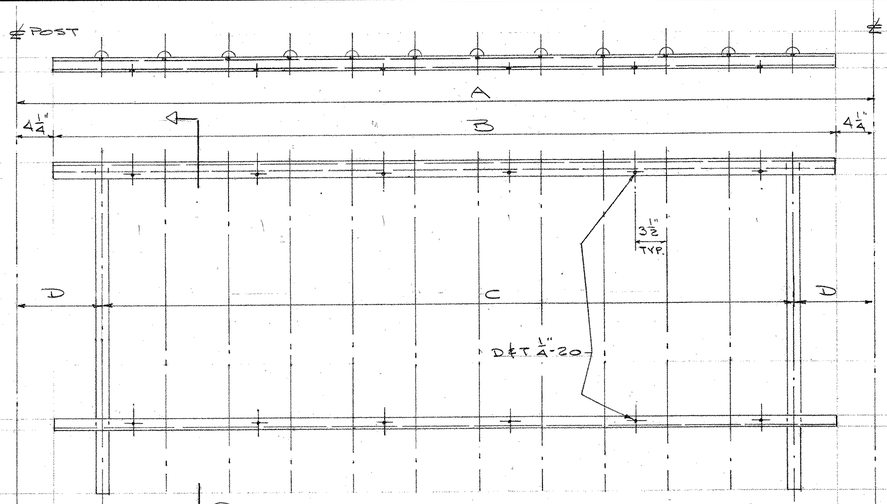
AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VT. AGENCY OF TRANSPORTATION
HARTFORD PROJ#BRO-BTN 2004(1)
BRIDGE #8
T.H. 4 OVER WHITE RIVER
AL. BRIDGE & APPROACH RAILING

SURFACE PREP: NONE
FINISH: BLACK ANODIZE
FOR: FRANK W. WHITCOMB CORP.
DR: WM 3-23-06
CHK: TB 3-24-06
JOB NO. AB06012-1001
DWG. NO. BR-2878
SHEET 6 OF 8

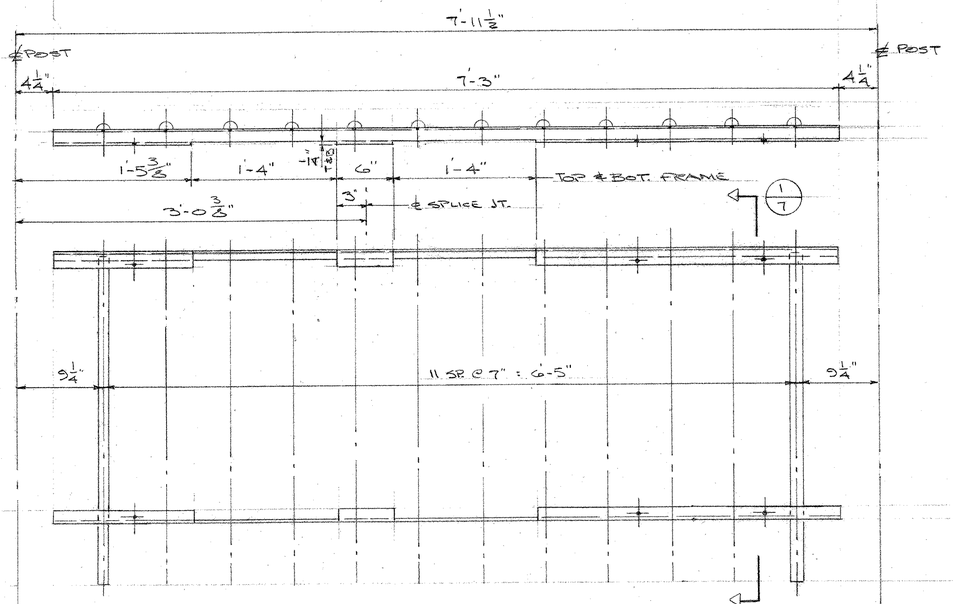
122 BR

BL MARKSPACE INC. 10/6/16

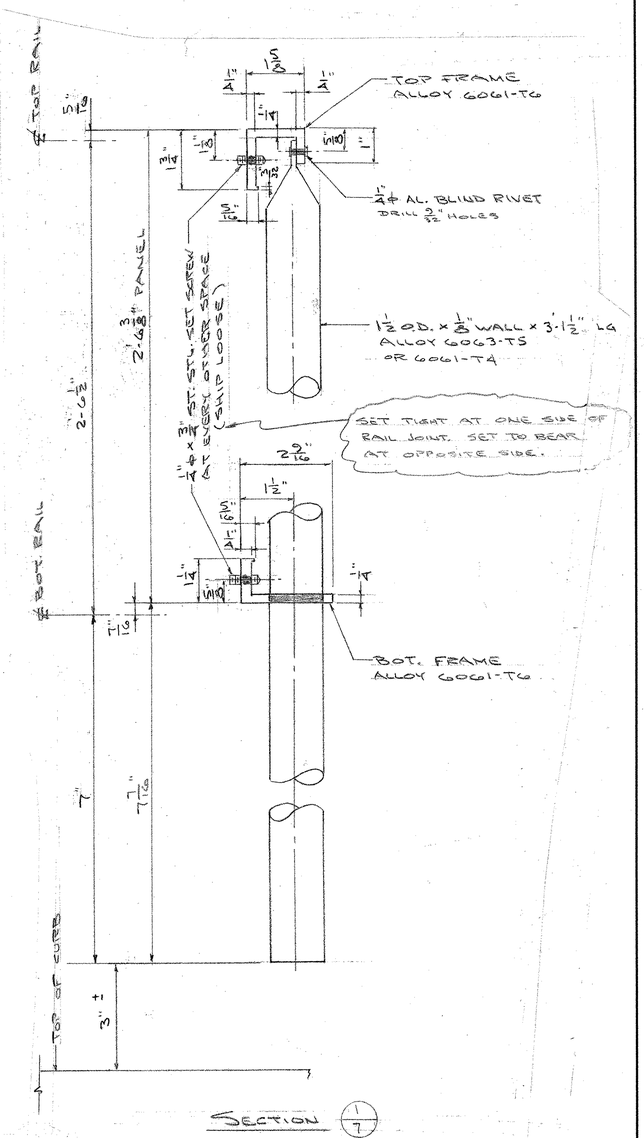


(1/7)

PANEL No.	QUAN	A	B	C	D
A3	2	7'-0 1/4"	6'-3 3/4"	10 SP @ 7" = 5'-10"	7 1/8"
A5	40	7'-11 1/2"	7'-3"	11 SP. @ 7" = 6'-5"	9 1/4"



PANEL A4 (15-REQD)



SECTION (1/7)

RECEIVED
CK'D BY KMH OK'D BY
MAY 1 2 2006
RESUBMIT APPROVED
BY OPW DATE 5/15/06

ISSUE	DATE	DESCRIPTION	BY
2	5-8-06	FOR APPROVAL	
1	3-24-06	FOR APPROVAL	

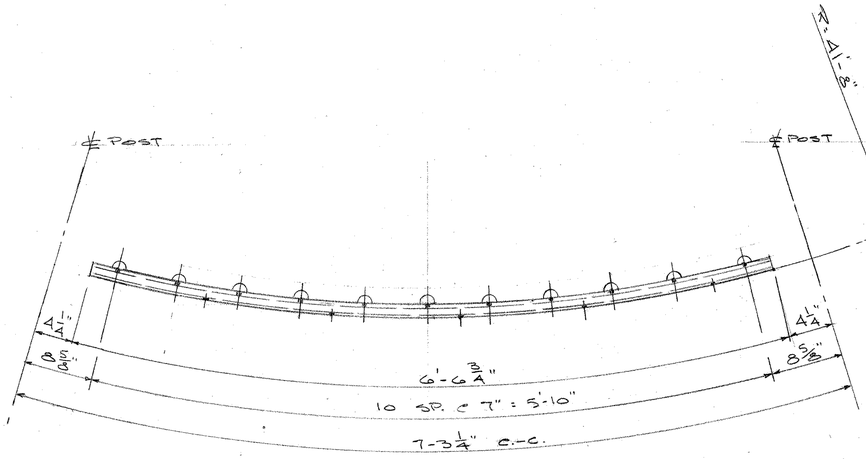
AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

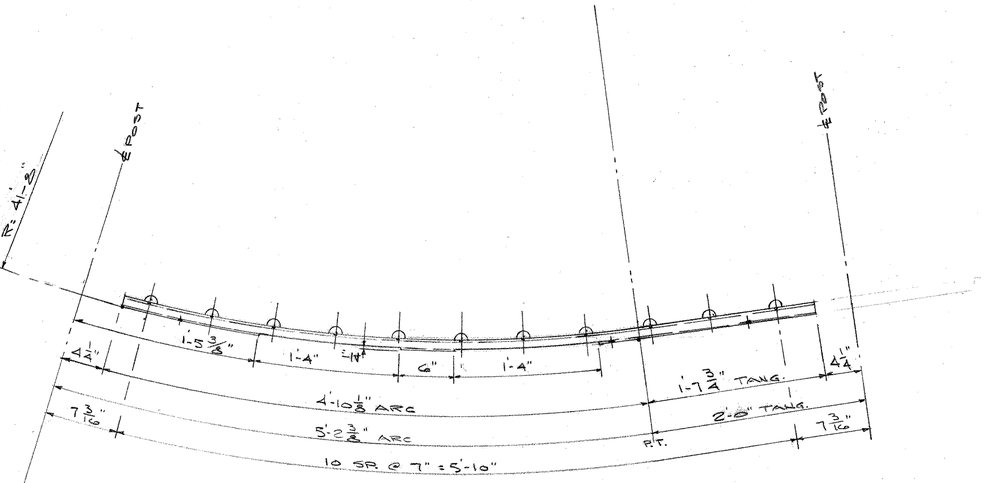
VT. AGENCY OF TRANSPORTATION
HARTFORD PROJ #BRO-BTN2004(1)
BRIDGE #8
T.H.4 OVER WHITE RIVER
ALUM. PICKET PANELS

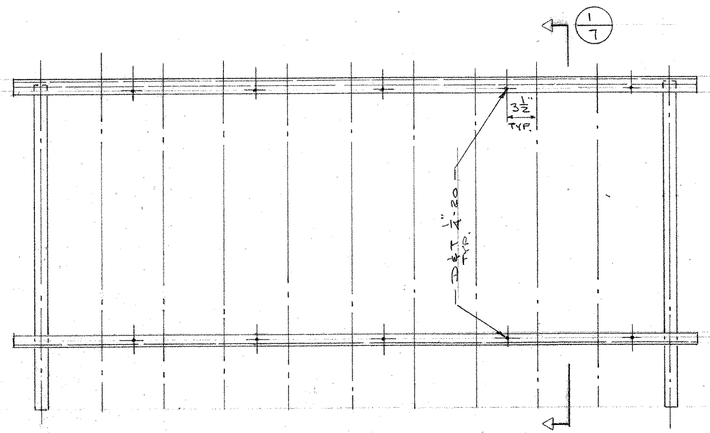
SURFACE PREP: NONE	FINISH: BLACK ANODIZE
FOR: FRANK W. WHITCOMB CORP.	
DR: WM 3-23-06	DWG. NO. BR-2878
CHK: TS 3-24-06	
JOB NO. AB60012-1001	SHEET 7 OF 8

123 BR

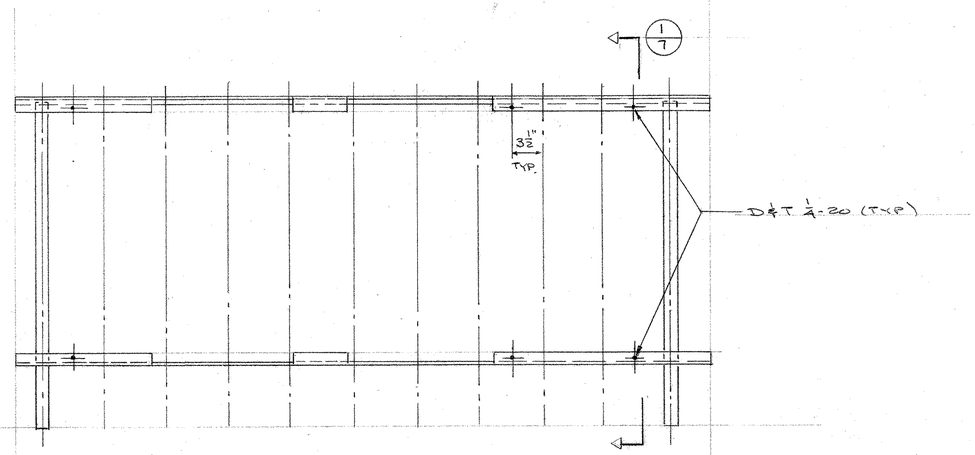
BJ MAKEPEACE INC. 1999/4







PANEL A1 (3-REQD)



PANEL A2 (1-REQD)

RECEIVED
CK'D BY KMH OK'D BY
MAY 1 2 2006
RESUBMIT APPROVED
BY CPW DATE 5/15/06

ISSUE	DATE	DESCRIPTION	BY
2	5-8-06	FOR APPROVAL	
1	3-24-06	FOR APPROVAL	

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

V.T. AGENCY OF TRANSPORTATION
HARTFORD PROJ# BRO-BTN 2004(1)
BRIDGE #8
I.H.4 OVER WHITE RIVER
ALUM. PICKET PANELS

SURFACE PREP: NONE	FINISH: BLACK ANODIZE
FOR: FRANK W. WHITCOMB CORP.	
DR: WM 3-23-06 CHK: 3-24-06	DWG. NO. BR-2878
JOB NO. A06012-1001	SHEET 8 OF 8

124 BR

EL MAKEPEACE INC 10916