SEE SHEET 2 FOR INDEX OF SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

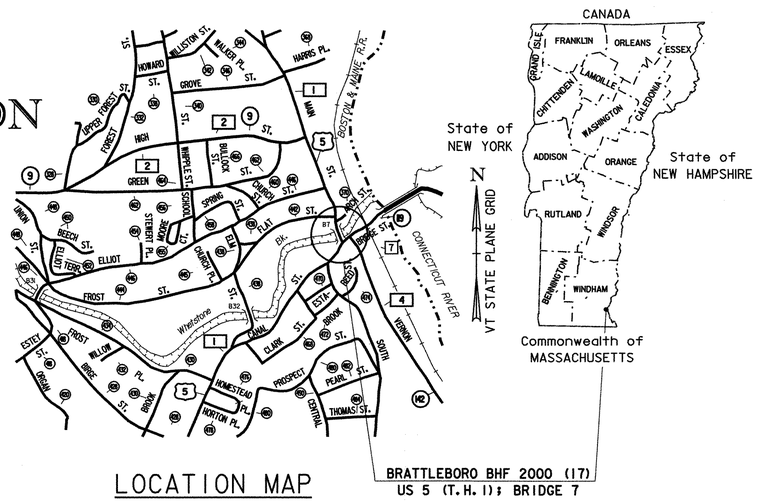
PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF BRATTLEBORO
COUNTY OF WINDHAM

ROUTE NO : US 5 (T.H.1) BRIDGE NO : 7

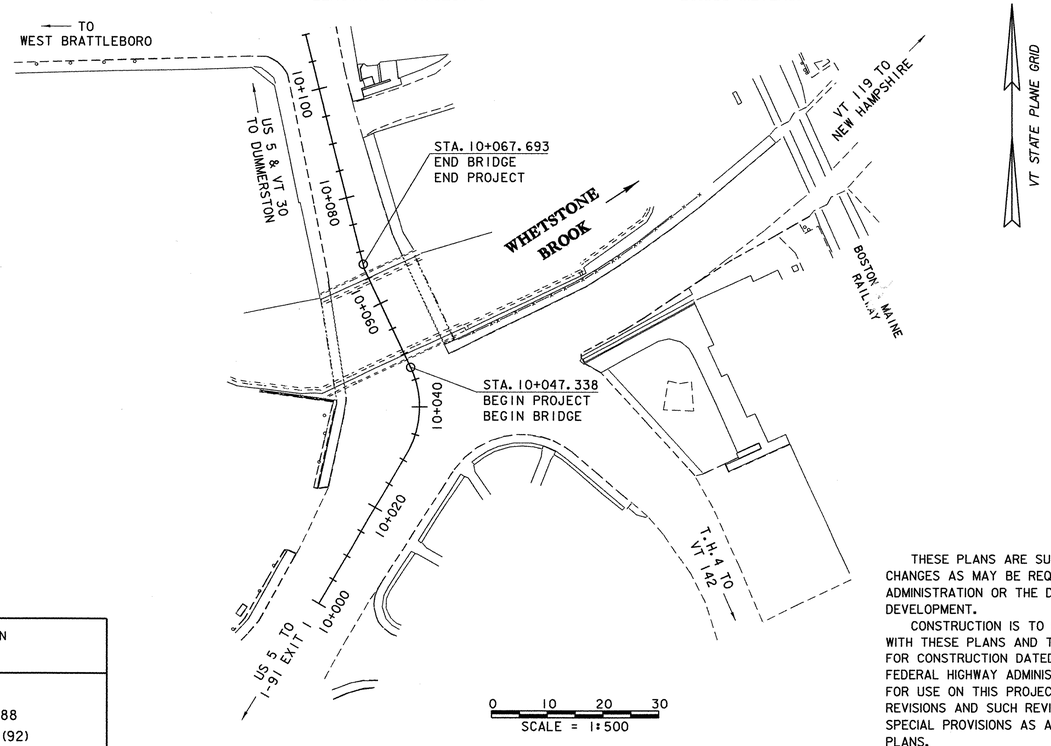
PROJECT LOCATION : BEGINNING APPROXIMATELY 0.010 KM FROM THE INTERSECTION OF US 5, VT 119, AND VT 142 AND PROCEEDING NORTHERLY FOR APPROXIMATELY 0.020 KM.

PROJECT DESCRIPTION : THE PROJECT SHALL CONSIST OF THE REHABILITATION OF BRIDGE NO.7 ALONG WITH RELATED ROADWAY APPROACH WORK.

LENGTH OF STRUCTURE :	20.355 METERS.
LENGTH OF ROADWAY :	0.000 METERS.
LENGTH OF PROJECT :	20.355 METERS.



LOCATION MAP



CONVENTIONAL SYMBOLS

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

SURVEYED BY : R. GILMAN
SURVEYED DATE : 6/96

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

RECORD PLANS

CONTRACTOR: RENAUD BROTHERS, INC. - VERNON, VT
RESIDENT ENGINEER: FRED ROSS
CONSTRUCTION BEGAN: MAY 6, 2003
CONSTRUCTION COMPLETE: NOVEMBER 26, 2003
RECORD PLANS BY: FRED ROSS

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

BY Frederick W. Ross III RESIDENT ENGINEER
DATE 10-4-05

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.

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

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

DIRECTOR OF PROJECT DEVELOPMENT
APPROVED _____ DATE _____

PROJECT MANAGER : R. R. WHITCOMB

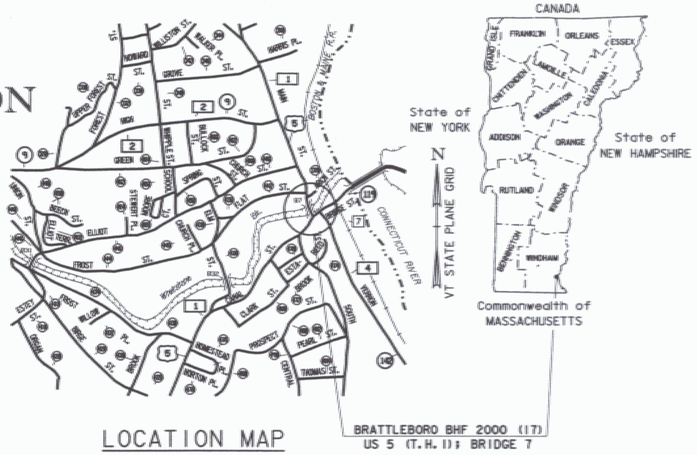
PROJECT NAME : BRATTLEBORO
PROJECT NUMBER : BHF 2000(17)

SHEET 1 OF 71 SHEETS

94J078\Structures\sj078tit.dgn sj078tit.i 08-SEP-2005

SEE SHEET 2 FOR INDEX OF SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION



LOCATION MAP

BRATTLEBORO BHF 2000 (17)
US 5 (T.H. 1); BRIDGE 7

PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF BRATTLEBORO

COUNTY OF WINDHAM

ROUTE NO : US 5 (T.H.1) BRIDGE NO : 7

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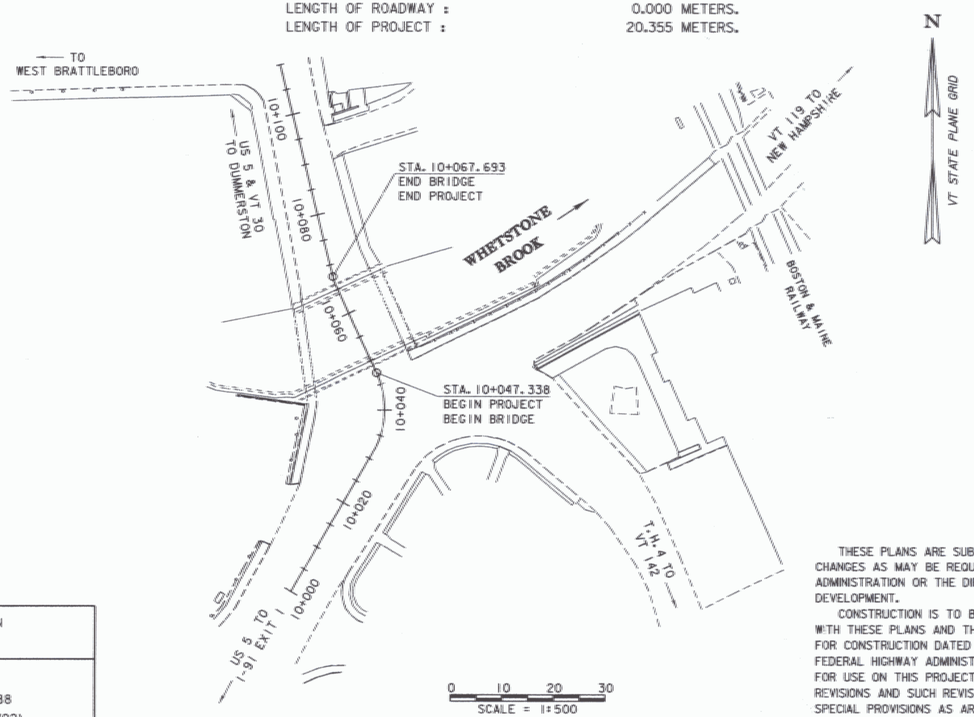

CONVENTIONAL SYMBOLS

COUNTY LINE
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LIMITS OF ACCESS
POINT OF ACCESS
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TRAVELED WAY
GUARD RAIL
RAILROAD
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CULVERT
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TELEPHONE POLE
TREES
CONTROL OF ACCESS
PROPERTY LINE
R.O.W. TAKING LINE
SLOPE RIGHTS (SR)
TOP OF CUT
TOE OF SLOPE

SURVEYED BY : R. GILMAN
SURVEYED DATE : 6/96

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

Renaud Bros., Inc.
Contractor

Signature

Vice President
Title

Director of Finance and Administration
or Duly Authorized Agent

4/1/03
Date

Metric

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

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

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DIRECTOR OF PROJECT DEVELOPMENT
APPROVED DATE 2/5/03

PROJECT MANAGER : R. R. WHITCOMB

PROJECT NAME : BRATTLEBORO
PROJECT NUMBER : BHF 2000(17)

SHEET 1 OF 71 SHEETS

94J078\Structures\sj078tit.dgn sj078tit.i 05-FEB-2003

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

Metric

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6-7. PHASE CONSTRUCTION DETAILS
8. TIE SHEET
9. LAYOUT SHEET
10-11. PROFILE AND BANKING DIAGRAM SHEETS
12-16. PHASE CONSTRUCTION LAYOUT SIGNS AND PAVEMENT MARKINGS
16 A & B 16. CONSTRUCTION APPROACH AND DETOUR SIGNING
THRU 22E 17-22. DETOUR SIGN SUMMARY SHEETS
23. TRAFFIC SIGN SUMMARY SHEET
24-27. CONSTRUCTION SIGN DETAIL SHEETS
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LIST OF STANDARDS

C-1M	CURBS, BITUMINOUS CONCRETE SIDEWALKS GRANITE SLOPE EDGING, VERTICAL GRANITE CURB PRECAST REINFORCED CONCRETE CURB CAST IN PLACE CONCRETE CURB BITUMINOUS CONCRETE CURB, TREATED TIMBER CURB	01/09/2000
C-5M	SIDEWALK RAMPS	01/09/2000
D-6M	REINF. CONCRETE DROP INLET W/GRATE (DITCHES)	08/13/1997
D-11M	GRATES & COVERS (TYPE A)	08/13/1997
D-15M	PRECAST REINF. CONC. MANHOLE GRATES (BICYCLE S CAST IRON GRATE WITH FRAME,TYPE D CAST IRON GRATE WITH FRAME,TYPE E	08/13/1997
E-100M	CONSTRUCTION APPROACH SIGNS	08/13/1997
E-101M	CONSTRUCTION SIGN DETAILS	08/13/1997
E-102M	CONSTRUCTION SIGN DETAILS	08/13/1997
E-102AM	CONSTRUCTION SIGN DETAILS	08/13/1997
E-103M	TRAFFIC CONTROL - MISCELLANEOUS DETAILS	08/13/1997
E-107M	DELINEATION, BARRICADES AND DETOURS FOR U-TURNS ON DIVIDED HIGHWAY	08/13/1997
E-107AM	BREAKAWAY BARRICADE DETAILS	08/13/1997
E-121M	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08/13/1997
E-123M	GUIDE SIGN PLACEMENT - MISCELLANEOUS DETAILS	08/13/1997
E-135M	INTERSTATE ROUTE MARKER SIGN DETAIL	08/13/1997
E-136AM	U.S. ROUTE MARKER SIGN DETAILS	08/13/1997
E-136BM	STATE ROUTE MARKER SIGN DETAILS	08/13/1997
E-136CM	STATE NUMBERED TOWN HIGHWAY SIGN DETAILS	08/13/1997
E-140M	REGULATORY SIGN DETAILS	08/13/1997
E-145M	REGULATORY SIGN DETAILS	08/13/1997
E-152M	WARNING SIGN DETAILS	08/13/1997
E-160M	FLANGED CHANNEL STEEL SIGN POST	08/13/1997
E-163M	TUBULAR STEEL SIGN POST	08/13/1997
E-173M	PULL BOXES AND JUNCTION BOXES	08/13/1997
E-175M	POWER DROP STANCHIONS	08/13/1997
E-180AM	STREET LIGHTING DETAILS	08/13/1997
E-180BM	STREET LIGHTING DETAILS	08/13/1997
E-181M	TYPICAL BRIDGE MOUNTING DETAILS FOR STREET LIG	08/13/1997
E-191M	PAVEMENT MARKING DETAILS	02/01/2000
E-193M	PAVEMENT MARKING DETAILS	08/13/1997
T-1M	TEMPORARY EROSION CONTROL DETAILS	08/13/1997
T-2M	TEMPORARY EROSION CONTROL DETAILS	08/13/1997

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: March 1, 2001

DRAINAGE AREA: 72.6 sq. km
CHARACTER OF TERRAIN: Hilly, forested upland, developed suburban & urban lowlands
STREAM CHARACTERISTICS: Perennial, non-alluvial, sinuous, not braided or anabranched
NATURE OF STREAMBED: Ledge with some gravel and cobble deposits

PEAK FLOW DATA

Q 2.33 =	42 cms	Q 50 =	161 cms
Q 10 =	96 cms	Q 100 =	224 cms
Q 25 =	142 cms	Q 500 =	346 cms

DATE OF FLOOD OF RECORD: Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY: @ Q50 = Unknown
ICE CONDITIONS: Moderate
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 girder bridge
YEAR BUILT: 1938
CLEAR SPAN(NORMAL TO STREAM): 15.1 m
VERTICAL CLEARANCE ABOVE STREAMBED: 4.8 m (Ave. low beam = 76.3 m)
WATERWAY OF FULL OPENING: 65 sq. m
DISPOSITION OF STRUCTURE: Re-using abutments in rehabilitation
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Ledge

WATER SURFACE ELEVATIONS AT:

Q2.33 =	Unknown	VELOCITY =	Unknown
Q10 =	72.8 m *	"	Unknown
Q25 =	Unknown	"	Unknown
Q50 =	73.5 m *	"	Unknown
Q100 =	74.0 m *	"	Unknown

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: > Q100
RELIEF ELEVATION: 77.4 m
DISCHARGE OVER ROAD @Q100: None

UPSTREAM STRUCTURE

TOWN: Brattleboro — DISTANCE: 425 m
HIGHWAY #: TH 438 (FAU Elm St.) — STRUCTURE #: Br#32
CLEAR SPAN: 25.6 m — CLEAR HEIGHT: 4.6 m
YEAR BUILT: 1999 — FULL WATERWAY: Unknown
STRUCTURE TYPE: Single-span prestressed concrete box girder bridge

DOWNSTREAM STRUCTURE

TOWN: Brattleboro — DISTANCE: 90 m
HIGHWAY #: Railroad — STRUCTURE #: Unknown
CLEAR SPAN: Unknown — CLEAR HEIGHT: Unknown
YEAR BUILT: Unknown — FULL WATERWAY: Unknown
STRUCTURE TYPE: Stone and concrete arch bridge

LOAD FACTOR LOAD RATING (TONS)

LOADING LEVELS	TRUCK M	MS	3S2	5 AXLE	3A. STR.	4A. STR.	SA. SEMI
INVENTORY	35	43					
POSTED	49	60	80		54	55	69
OPERATING		71	95	110	64	66	

COMMENTS: SERVICEABILITY GOVERNS

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
1999	15260	1526	54	2	765
2019	19730	1975	54	2	950

20 year ESAL for flexible pavement: 1999 to 2019 : 7,338,000
40 year ESAL for flexible pavement: 1999 to 2039 : 22,496,000
Design Speed: 40 km/h

PROPOSED STRUCTURE

STRUCTURE TYPE: Single-span steel girder bridge
CLEAR SPAN(NORMAL TO STREAM): 15.1 m
VERTICAL CLEARANCE ABOVE STREAMBED: 5.1 m
WATERWAY OF FULL OPENING: 73 sq. m

WATER SURFACE ELEVATIONS AT:

Q2.33 =	Unknown	VELOCITY=	Unknown
Q10 =	72.8 m *	"	Unknown
Q25 =	Unknown	"	Unknown
Q50 =	73.5 m *	"	Unknown
Q100 =	74.0 m *	"	Unknown

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: > Q100
RELIEF ELEVATION: 77.4 m
DISCHARGE OVER ROAD @Q100: None

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 75.8 m
VERTICAL CLEARANCE: @ Q50 = 2.3 m

SCOUR: None, Channel bottom & Abutments on Ledge
REQUIRED CHANNEL PROTECTION: N/A

PERMIT INFORMATION

AVERAGE DAILY FLOW:	2 cms	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	1 cms	0.3 m
ORDINARY HIGH WATER:	18 cms	0.6 m

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: N/A
CLEAR SPAN (NORMAL TO STREAM): N/A
VERTICAL CLEARANCE ABOVE STREAMBED: N/A
WATERWAY AREA OF FULL OPENING: N/A

ADDITIONAL INFORMATION

* Water Surface Elevations taken from FEMA Flood Insurance Study for the Town of Brattleboro, Dated Dec. 4, 1985

Note: A detailed hydraulic analysis was not performed due to limited survey and the fact that this is a rehabilitation of a hydraulically adequate bridge with no new adverse hydraulic conditions.

DESIGN CRITERIA

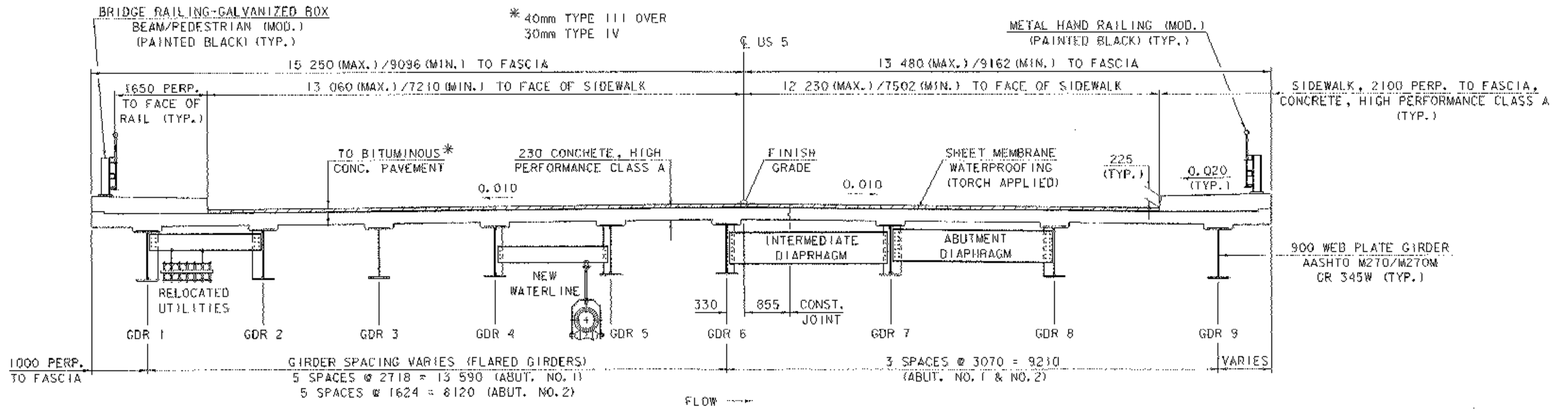
1. DESIGN LIVE LOAD AASHTO: MS 22.5
2. DESIGN SPAN: 19m ALONG CENTERLINE U.S. 5
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL: N/A
   ON LEDGE
4. ALLOWABLE LOAD FOR PILING: N/A
   TYPE: N/A
   ESTIMATED LENGTH: N/A
5. STRUCTURAL STEEL, AASHTO M270/M270M GRADE: 345W
6. REINFORCING STEEL GRADE: 420
7. CONCRETE CLASS A (HPC-A) f'c: 30 MPa
   CONCRETE CLASS B (HPC-B) f'c: 25 MPa
8. SOIL UNIT WEIGHT: 22.00 Kn/m³
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL: N/A

TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED? YES
   IF YES, ON EXISTING STRUCTURE? YES, (COMBINATION ON BRIDGE & DETOUR)
   OR ON TEMPORARY BRIDGE? N/A
   ONE OR TWO-WAY TRAVEL? N/A
2. TRAFFIC CONTROL SIGNALS REQUIRED? NO
3. ARE SIDEWALKS REQUIRED? YES, ON DOWNSTREAM SIDE OF EXISTING
   IF SO, ON WHAT SIDE? BRIDGE DURING PHASE ONE, UPSTREAM SIDE OF NEW BRIDGE DURING PHASE TWO.

PROJECT NAME: **BRATTLEBORO**
PROJECT NUMBER: **BHF 2000 (17)**

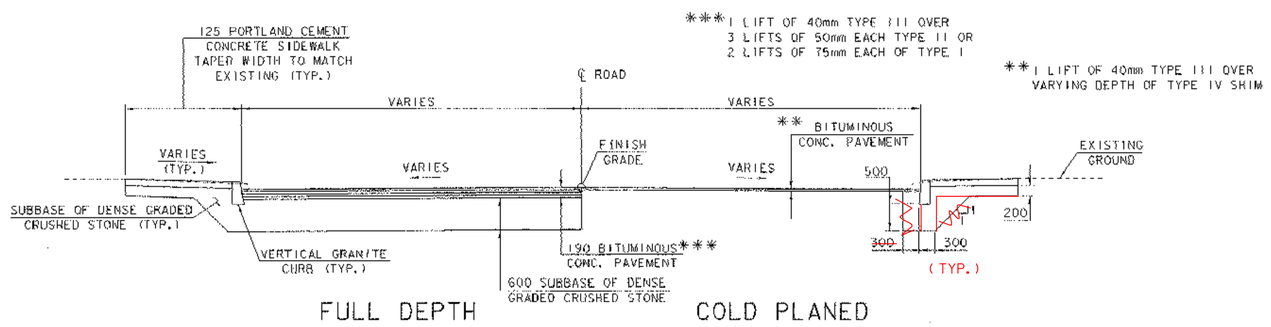
FILE NAME: 194)078\Structures\sj078pi.xls — PLOT DATE: 01/28/2003
PROJECT MANAGER: R. R. WHITCOMB — DRAWN BY: G. ROY
DESIGNED BY: T. SUMNER — CHECKED BY: T. SUMNER
PRELIMINARY INFORMATION SHEET — SHEET 2 OF 71



BRIDGE TYPICAL SECTION @ MIDSPAN

0 1 2 3 4 5

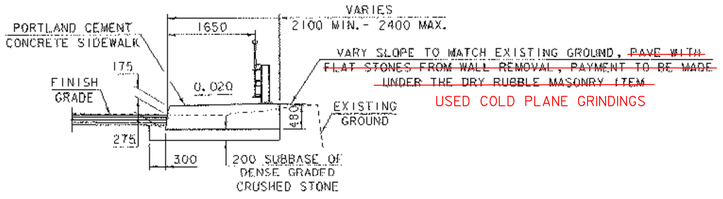
SCALE = 1:50



ROADWAY APPROACH SECTION

0 1 2 3 4 5

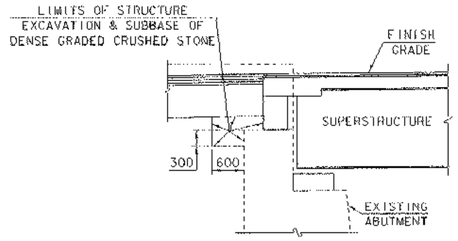
SCALE = 1:50



SIDEWALK TYPICAL SECTION
STA. 20+020.20 RT. - STA. 20+040.26 RT.

0 1 2 3 4 5

SCALE = 1:50



ABUTMENT TYPICAL SECTION

0 1 2 3 4 5

SCALE = 1:50

MATERIAL ITEM	TOLERANCE
PAVEMENT	±5 mm TOTAL THICKNESS
BASE COURSE	±10 mm
SUBBASE	±30 mm
SAND BORROW	±30 mm

PROJECT TYPICAL SHEET

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 941078\Structures\sj078typ.1 PLOT DATE: 06-FEB-2003
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: C. ROY
DESIGNED BY: T. SUMNER CHECKED BY: T. SUMNER
SHEET 3 OF 71

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES															TOTALS				DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
				FULL C.E. ITEMS		ROADWAY		JUNCTION BOX		ABUTMENT NO.2		ABUTMENT NO.1		DECK	BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
						410											410		CM	COMMON EXCAVATION	203.15			BITUMINOUS CONCRETE PAVEMENT (PG 70-28)
						20						10			10		30		CM	SOLID ROCK EXCAVATION	203.16			ROADWAY:
						50											50		CM	TRENCH EXCAVATION OF EARTH	204.20	156	T	TYPE I OR TYPE II
						25											25		CM	TRENCH EXCAVATION OF ROCK	204.21	215	T	TYPE III
										20		40			60		60		CM	STRUCTURE EXCAVATION	204.25	26	T	TYPE IV (6mm LEVELING COURSE)
						15		15		20		20			40		70		CM	GRANULAR BACKFILL FOR STRUCTURES	204.30	397	T	SUBTOTAL
								40									40		CM	COFFERDAM EXCAVATION, EARTH	208.30			
								2									2		CM	COFFERDAM EXCAVATION, ROCK	208.35			BRIDGE:
								1									1		LS	COFFERDAM	208.40	36	T	TYPE III
						1820											1820		SM	COLD PLANING-BIT.PAVEMENT	210.10	27	T	TYPE IV
						450											450		CM	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	63	T	SUBTOTAL
						490								40	40		530		KG	EMULSIFIED ASPHALT	404.65			
						397								63	63		460		T	BITUMINOUS CONCRETE PAVEMENT (PG 70-28)	406.25			
														148	148		148		CM	CONCRETE, HIGH PERFORMANCE CLASS A	501.33			
						13		13		18		33			51		77		CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34			
										1		1			2		2		CM	MORTAR, TYPE IV	501.58			
														53160	53160		53160		KG	STRUCTURAL STEEL(PLATE GIRDER)	506.55			
						680		1070		1590		2560			4150		5900		KG	REINFORCING STEEL	507.15			
										60		95			155		155		M	DRILLING AND GROUTING DOWELS	507.16			
						510								26260	26260		26770		KG	EPOXY COATED REINFORCING STEEL	507.17			
														1	1		1		LS	SHEAR CONNECTORS (2155 - 22 DIA. X 178 STUDS)	508.15			
										5		10		10	25		25		L	WATER REPELLENT	514.10			
														15	15		15		M	BRIDGE EXPANSION JOINT (ASPHALTIC PLUG-TYPE)	516.10			
														381	381		381		SM	SHEET MEMBRANE WATERPROOFING (TORCH APPLIED)	519.20			
														50	50		50		M	METAL HAND RAILING (MOD.)	525.15			
														46	46		46		M	BRIDGE RAILING -GALVANIZED BOX BEAM/PEDESTRIAN (MOD.)	525.32			
						1											1		LS	MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS	527.10			
														346	346		346		SM	REMOVAL OF BRIDGE PAVEMENT	529.10			
														1	1		1		EACH	PARTIAL REMOVAL OF STRUCTURE	529.20			
										9		10			19		19		EACH	BEARING DEVICE ASSEMBLY	531.10			
						5.5											6		M	450 mm RCP CLASS III	601.0815			
						5.5											6		M	1050 mm RCP CLASS III	601.0850			
																				*** BEGIN PIPE OPTIONS ***				
						20.8											21		M	450 mm RCP CLASS III	601.0815			
						20.8											21		M	450 mm CPEP (SL)	601.2615			
																				*** END PIPE OPTIONS ***				
												4			4		4		CM	DRY RUBBLE MASONRY	602.20			
								1									1		EACH	PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER	604.21			
						8											8		EACH	CHANGING ELEV. OF DROP INLETS, CATCH BASINS OR MANHOLES	604.40			
						2											2		EACH	CHANGING ELEVATION OF SEWER MANHOLE	604.42			
						4											4		EACH	CAST IRON GRATE WITH FRAME, TYPE D	604.47			
						10											10		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25			
						62											62		M	VERTICAL GRANITE CURB	616.21			

PROJECT NAME: **BRATTLEBORO**
PROJECT NUMBER: **BHF 2000 (17)**

FILE NAME: **\94j078\Structures\sj078qs.xls**
PROJECT MANAGER: **R. R. WHITCOMB**
DESIGNED BY: **T. SUMNER**
QUANTITY SHEET #1

PLOT DATE: **02/04/2003**
DRAWN BY: **G. ROY**
CHECKED BY: **T. SUMNER**
SHEET **4** OF **71**

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES																TOTALS				DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
				FULL C.E. ITEMS		ROADWAY		JUNCTION BOX		ABUTMENT NO.2		ABUTMENT NO.1		DECK		BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
						115												115		SM	PORTLAND CEMENT CONCRETE SIDEWALK,125 MM	618.10			
						33												33		SM	PORTLAND CEMENT CONCRETE SIDEWALK, 200 MM (MOD.)	618.11			
						25												25		M	REMOVING AND RESETTING FENCE	620.50			
						100												100		M	SNOW FENCE (MOD.)	620.70			
						3												3		EACH	ENERGY ABSORPTION ATTENUATOR	621.56			
						150												150		M	TEMPORARY TRAFFIC BARRIER	621.90			
														1		1		1		LS	DUCTS ON BRIDGE	625.16			
						6												6		EACH	ADJUST ELEVATION OF VALVE BOX	629.20			
						1												1		LS	TRANSFER TO NEW SYSTEM-WATER SYSTEM (MOD.)	629.42			
														1		1		1		LS	WATER MAIN ON BRIDGE	629.60			
						1200												1200		HR	UNIFORMED TRAFFIC OFFICERS	630.10			
						800												800		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	631.17			
				1														1		LU	FIELD OFFICE - TELEPHONE (N.A.B.I.)	631.25			
						1												1		LS	MOBILIZATION	635.10			
						2												2		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15			
						473												473		M	DURABLE 100 mm WHITE LINE	646.40			
						392												392		M	DURABLE 100 mm YELLOW LINE	646.41			
						24												24		M	DURABLE 600 mm STOP BAR	646.46			
						72												72		EACH	DURABLE LETTER OR SYMBOL	646.50			
						65												65		M	DURABLE CROSSWALK MARKINGS W/DIAGONAL LINES	646.51			
						181												181		M	TEMPORARY 100 mm WHITE LINE	646.60			
						227												227		M	TEMPORARY 100 mm YELLOW LINE	646.61			
						9												9		M	TEMPORARY 600 mm STOP BAR	646.66			
						29												29		EACH	TEMPORARY LETTERS OR SYMBOLS	646.70			
						45												45		M	TEMPORARY CROSSWALK MARKINGS W/DIAGONAL LINES	646.71			
						125												125		SM	REMOVAL OF EXISTING PAVEMENT MARKINGS	646.85			
						79	⚠1											79 ⚠1		SM	TRAFFIC SIGNS, TYPE A (MOD.)	675.20			
						320	⚠1											320 ⚠1		M	FLANGED CHANNEL SIGN POST (MOD.)	675.301			
						438	⚠1											438 ⚠1		KG	TUBULAR STEEL SIGN POSTS (MOD.)	675.33			
						29	⚠1											29 ⚠1		EACH	REMOVING SIGNS	675.50			
						20	⚠1											20 ⚠1		EACH	ERECTING SALVAGED SIGNS	675.60			
						4	⚠1											4 ⚠1		EACH	SETTING SALVAGED POSTS	675.61			
														65		65		65		M	WIRED CONDUIT	678.23			
														1		1		1		EACH	JUNCTION BOX	678.26			
														4		4		4		EACH	LIGHT POLE BASE	679.21			
														4		4		4		EACH	LIGHT POLE	679.45			
														8		8		8		EACH	BRACKET ARM	679.47			
														12		12		12		EACH	LUMINAIRE	679.50			

REVISIONS BY VAOT

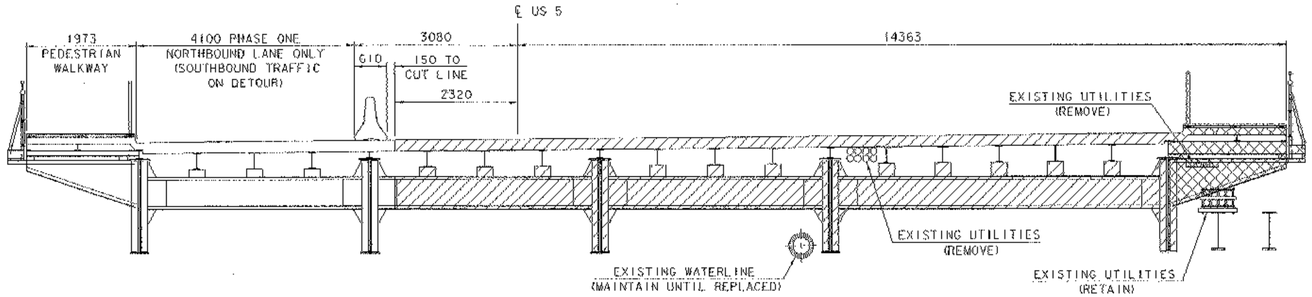
⚠1 SIGN SIZES AND NUMBERS 03-10-03

PROJECT NAME: **BRATTLEBORO**
PROJECT NUMBER: **BHF 2000 (17)**

FILE NAME: **\94j078\Structures\sj078qs.xls**
PROJECT MANAGER: **R. R. WHITCOMB**
DESIGNED BY: **T. SUMNER**
QUANTITY SHEET #2

PLOT DATE: **03/10/2003**
DRAWN BY: **G. ROY**
CHECKED BY: **T. SUMNER**
SHEET **5** OF **71**

Metric

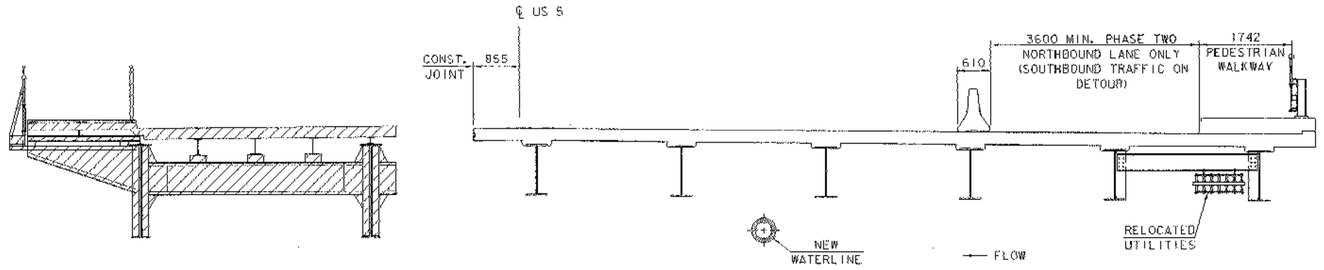


PHASE ONE
ABUTMENT NO. 1
(LOOKING BACK STATION)
(ALONG CENTERLINE OF BEARING)

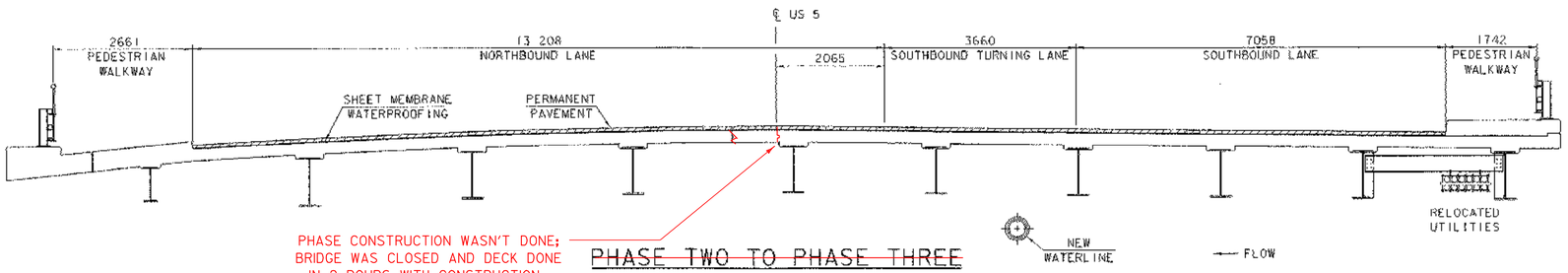
→ FLOW

INDICATES REMOVAL OF EXISTING BRIDGE.

INDICATES EXISTING SIDEWALK AND BRACING REMOVED BY PREVIOUS CONTRACT WITH VERIZON.



PHASE ONE TO PHASE TWO
ABUTMENT NO. 1
(LOOKING BACK STATION)
(ALONG CENTERLINE OF BEARING)



PHASE CONSTRUCTION WASN'T DONE;
BRIDGE WAS CLOSED AND DECK DONE
IN 2 POURS WITH CONSTRUCTION
JOINT @ CL (SEE CO #1, DATED 5-28-03)

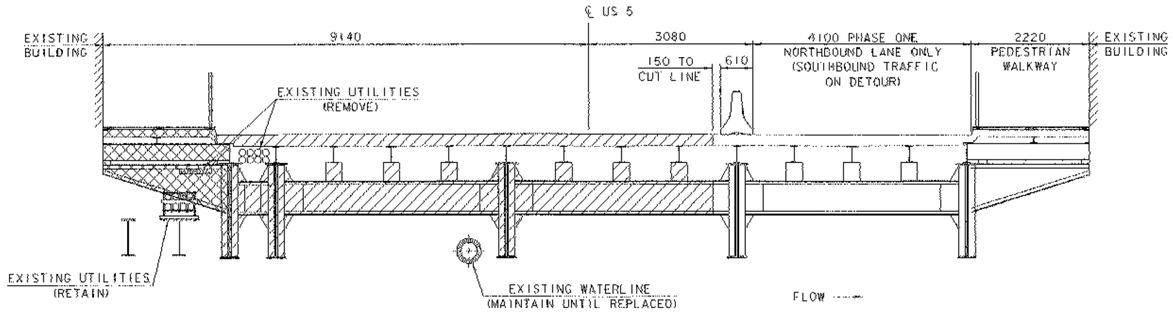
~~PHASE TWO TO PHASE THREE~~
ABUTMENT NO. 1
(LOOKING BACK STATION)
(ALONG CENTERLINE OF BEARING)

0 1 2 3 4 5
SCALE = 1:50

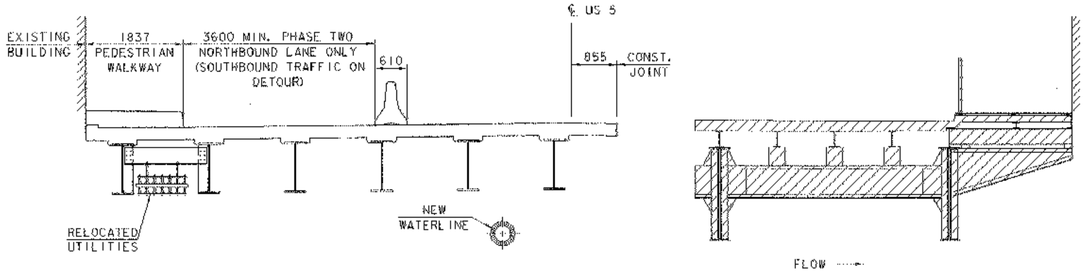
~~PHASE CONSTRUCTION~~ DETAILS
AT ABUTMENT NO. 1

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)

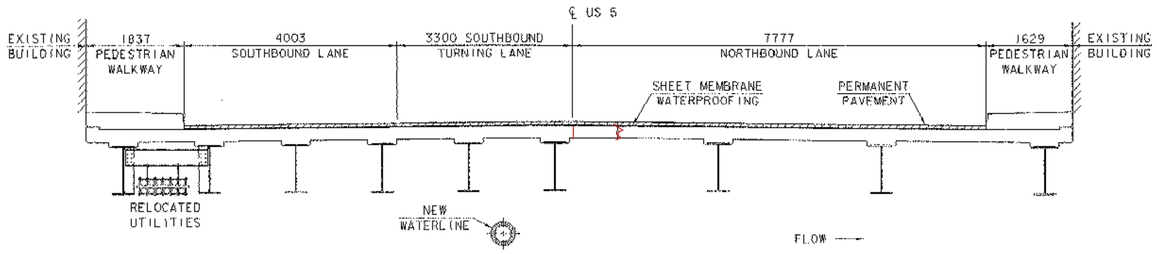
FILE NAME: 94J078\Structures\sj078pad1.i		PLOT DATE:	06-FEB-2003
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	G. ROY
DESIGNED BY:	T. SUMNER	CHECKED BY:	T. SUMNER
		SHEET	6 OF 71



PHASE ONE
ABUTMENT NO. 2
(LOOKING FORWARD STATION)
(ALONG CENTERLINE OF BEARING)



PHASE ONE TO PHASE TWO
ABUTMENT NO. 2
(LOOKING FORWARD STATION)
(ALONG CENTERLINE OF BEARING)



PHASE TWO TO PHASE THREE
ABUTMENT NO. 2
(LOOKING FORWARD STATION)
(ALONG CENTERLINE OF BEARING)

~~PHASE CONSTRUCTION~~ NOTES

ALL DIMENSIONS ARE ALONG CENTERLINE OF BEARING.

PHASE ONE: PLACE TEMPORARY BARRIER AT THE LOCATION SHOWN TO MAINTAIN ONE-WAY TRAFFIC. DIRECT NORTHBOUND TRAFFIC TO DOWNSTREAM SIDE OF BRIDGE. MAINTAIN PEDESTRIAN TRAFFIC ON DOWNSTREAM SIDE OF BRIDGE AND SOUTHBOUND TRAFFIC ON DETOUR. CUT EXISTING DECK AT THE LOCATION SHOWN AND REMOVE PORTION OF EXISTING BRIDGE INDICATED BY THE HATCH LINES. WITH TRAFFIC IN PHASE ONE CONDITION, CONSTRUCT NEW BRIDGE SECTION ONE TO CONSTRUCTION JOINT AS SHOWN AND INSTALL DRAINAGE AT 10+71 LT.

PHASE TWO: RESET TEMPORARY BARRIER AS SHOWN AND MOVE NORTHBOUND TRAFFIC TO THE UPSTREAM SIDE OF BRIDGE. MAINTAIN PEDESTRIAN TRAFFIC ON UPSTREAM SIDE OF BRIDGE. REMOVE REMAINING PORTION OF EXISTING BRIDGE INDICATED BY THE HATCH LINES. WITH TRAFFIC IN PHASE TWO CONDITION, CONSTRUCT NEW BRIDGE SECTION TWO AS SHOWN. RELOCATE UTILITIES TO NEW LOCATION UNDER BRIDGE SECTION TWO AS SHOWN AND COMPLETE DRAINAGE NORTH OF BRIDGE.

PHASE THREE: REMOVE TEMPORARY BARRIER. PLACE SHEET MEMBRANE AND PAVEMENT. REDIRECT TRAFFIC AS SHOWN TO HAVE TWO SOUTHBOUND TRAVEL LANES AND ONE NORTHBOUND TRAVEL LANE. ALLOW PEDESTRIAN TRAFFIC TO USE BOTH SIDEWALKS ON BRIDGE.

INDICATES REMOVAL OF EXISTING BRIDGE DECK.

INDICATES EXISTING SIDEWALK AND BRACING REMOVED BY PREVIOUS CONTRACT WITH VERIZON.

0 1 2 3 4 5
SCALE = 1:50

~~PHASE CONSTRUCTION~~ DETAILS AT ABUTMENT NO. 2

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078pcd2.j PLOT DATE: 06-FEB-2003
PROJECT MANAGER: R.R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: T. SUMNER CHECKED BY: T. SUMNER
SHEET 7 OF 71

GPS CONTROL POINTS

RIVERVIEW
STATION MARK IS A SURVEY DISK SET ONTO A BRIDGE ABUTMENT.
THE MARK IS STAMPED RIVERVIEW 1996.

APPROX. LATITUDE: 425105 N
APPROX. LONGITUDE: 0723325 W
APPROX. ELEVATION: 235 FT

LOCATION:
BRATTLEBORO, VT

TO REACH FROM THE JUNCTION OF VT ROUTE 9 AND VT ROUTE 119 IN BRATTLEBORO, PROCEED EASTERLY ALONG VT ROUTE 119 FOR 0.10 MI (0.16 KM) TO A BRIDGE OVER THE CONNECTICUT RIVER AND THE MARK IS ON THE LEFT. THE MARK IS SET ON THE NORTH SIDE OF THE WESTERLY ABUTMENT BEFORE THE WOODEN WALK. IT IS 14.4 FT (4.4 M) NNW OF THE CENTERLINE OF VT ROUTE 119, 14.4 FT (4.4 M) ENE OF POLE 172 AND 8.4 FT (2.6 M) SSE OF THE SOUTHEAST CORNER OF A BUILDING (RIVERVIEW RESTAURANT).

NORMS MARINA
STATION MARK IS A SURVEY DISK SURROUNDED BY A MASS OF CONCRETE.
THE MARK IS STAMPED NORMS MARINA 1996.

APPROX. LATITUDE: 425052 N
APPROX. LONGITUDE: 0723257 W
APPROX. ELEVATION: 200 FT

LOCATION:
HINESDALE, NH

TO REACH FROM THE JUNCTION OF VT ROUTE 9 AND VT ROUTE 119 IN BRATTLEBORO, PROCEED EASTERLY ALONG VT ROUTE 119 CROSSING OVER THE CONNECTICUT RIVER FOR 0.5 MI (0.8 KM). TURN RIGHT AT NORMS MARINA AND PROCEED SOUTHERLY, TO THE RIGHT OF AN AUTO BODY SHOP AND ALONG THE CONNECTICUT RIVER TO THE MARK ON THE RIGHT. THE MARK IS SET IN THE TOP OF THE NORTHWEST CORNER OF A 4 FT (1.2 M) X 4 FT (1.2 M) X 4 FT (1.2 M) CONCRETE MASS FOR BOAT DOCKS. IT IS THE SECOND CONCRETE PAD SOUTH OF A PAVED BOAT LAUNCH. IT IS LOCATED 42 FT (12.8 M) SOUTH OF A 18 INCH MAPLE AND 33 FT (10.1 M) NORHTWEST OF A 12 INCH WHITE BIRCH.

K51
STATION MARK IS A SURVEY DISK SET ONTO CONCRETE RETAINING WALL.
THE MARK IS STAMPED NORMS K51.

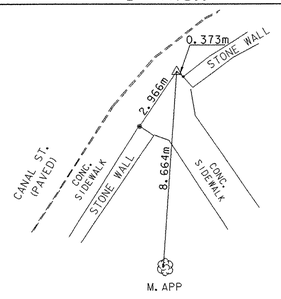
NORTHING: 38975.346
EASTING: 495265.874
ELEVATION: 78.230 m

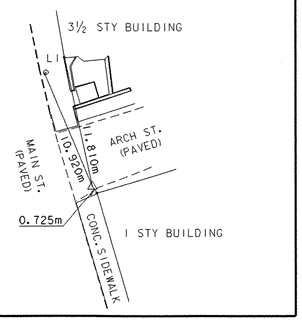
LOCATION:
BRATTLEBORO, VT

THE MARK IS 37 M (121.4 FT) NORTHWEST OF THE INTERSECTION OF U.S. ROUTE 5 AND VT ROUTES 119 AND 142, SET IN THE TOP OF A CONCRETE RETAINING WALL AT THE NORTH EDGE OF A PARKING LOT FOR THE BROOKSIDE PLAZA SHOPPING CENTER. IT IS 8.8 M (28.9 FT) WEST OF POLE NO. 1 B (WITH LUMEN), 27.6 M (90.6 FT) WEST OF THE SOUTHWEST CORNER OF THE U.S. ROUTE 5 BRIDGE OVER WHETSTONE BROOK, 0.5 M (1.6 FT) SOUTH OF THE WEST END OF A WROUGHT IRON FENCE, AND 0.3 M (1.0 FT) HIGHER THAN THE PARKING LOT. NOTE--PART OF THE RETAINING WALL NEAR THE MARK IS SEVERELY CRACKED.

TRAVERSE TIES

TRAV. PT. 3	TRAV. PT. 4
N = 38962.0462	N = 39021.3885
E = 495317.2681	E = 495299.4659
Z = 77.260	Z = 77.895





ALIGNMENT TIES

ML 1 POB	ML 1 PC	ML 1 PT	ML 1 PI	ML 1 POE
STA. 10+000.000	STA. 10+031.350	STA. 10+047.268	STA. 10+066.745	STA. 10+110.000
N = 38936.3120	N = 38963.3628	N = 38978.6475	N = 38996.2600	N = 39038.2019
E = 495290.0660	E = 495305.9121	E = 495306.5910	E = 495298.2750	E = 495287.6988

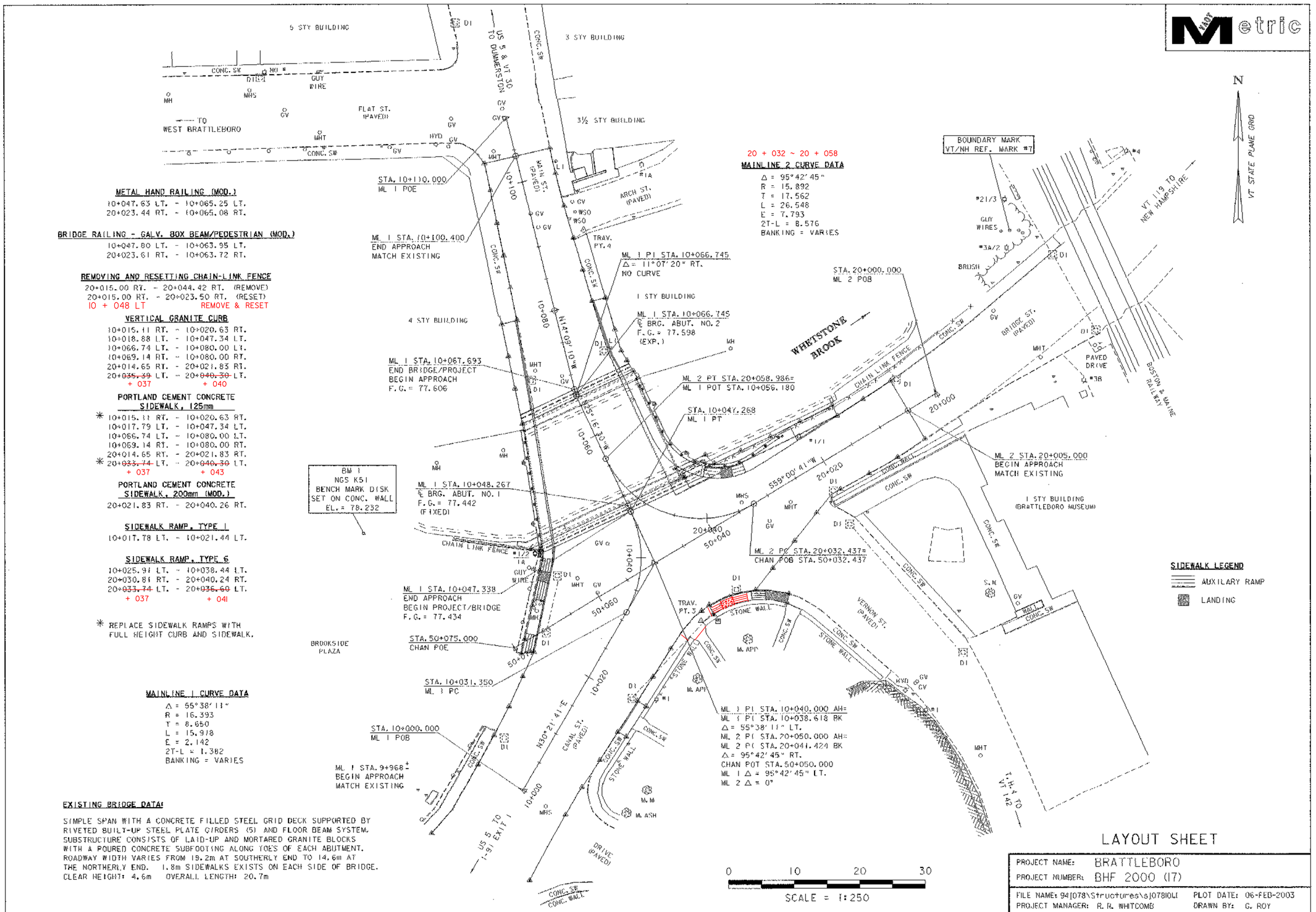
ML 2 POB	ML 2 PC	ML 2 PT
STA. 20+000.000	STA. 20+032.437	STA. 20+058.986
N = 38996.5690	N = 38979.8678	N = 38986.7062
E = 495353.1470	E = 495325.3390	E = 495302.7856

TIE SHEET

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078tie.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 06-FEB-2003
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER

Metric



METAL HAND RAILING (MOD.)
10+047.63 LT. - 10+065.25 LT.
20+023.44 RT. - 10+065.08 RT.

BRIDGE RAILING - GALV. BOX BEAM/PEDESTRIAN (MOD.)
10+047.80 LT. - 10+063.95 LT.
20+023.61 RT. - 10+063.72 RT.

REMOVING AND RESETTING CHAIN-LINK FENCE
20+015.00 RT. - 20+044.42 RT. (REMOVE)
20+015.00 RT. - 20+023.50 RT. (RESET)
10 + 048 LT REMOVE & RESET

VERTICAL GRANITE CURB
10+015.11 RT. - 10+020.63 RT.
10+018.88 LT. - 10+047.34 LT.
10+066.74 LT. - 10+080.00 LT.
10+069.14 RT. - 10+080.00 RT.
20+014.65 RT. - 20+021.83 RT.
20+~~035.39~~ LT. - 20+~~040.30~~ LT.
+ 037 + 040

PORTLAND CEMENT CONCRETE SIDEWALK, 125mm
✳ 10+015.11 RT. - 10+020.63 RT.
10+017.79 LT. - 10+047.34 LT.
10+066.74 LT. - 10+080.00 LT.
10+069.14 RT. - 10+080.00 RT.
20+014.65 RT. - 20+021.83 RT.
✳ 20+~~033.74~~ LT. - 20+~~040.30~~ LT.
+ 037 + 043

PORTLAND CEMENT CONCRETE SIDEWALK, 200mm (MOD.)
20+021.83 RT. - 20+040.26 RT.

SIDEWALK RAMP, TYPE I
10+017.78 LT. - 10+021.44 LT.

SIDEWALK RAMP, TYPE G
10+025.91 LT. - 10+038.44 LT.
20+030.81 RT. - 20+040.24 RT.
20+~~033.74~~ LT. - 20+~~036.60~~ LT.
+ 037 + 041

✳ REPLACE SIDEWALK RAMPS WITH FULL HEIGHT CURB AND SIDEWALK.

MAINLINE 1 CURVE DATA
Δ = 55°38'11"
R = 16.393
T = 8.650
L = 15.918
E = 2.142
2T-L = 1.382
BANKING = VARIES

EXISTING BRIDGE DATA:

SIMPLE SPAN WITH A CONCRETE FILLED STEEL GRID DECK SUPPORTED BY RIVETED BUILT-UP STEEL PLATE GIRDERS (5) AND FLOOR BEAM SYSTEM. SUBSTRUCTURE CONSISTS OF LAID-UP AND MORTARED GRANITE BLOCKS WITH A POURED CONCRETE SUBFOOTING ALONG TOES OF EACH ABUTMENT. ROADWAY WIDTH VARIES FROM 19.2m AT SOUTHERLY END TO 14.6m AT THE NORTHERLY END. 1.8m SIDEWALKS EXISTS ON EACH SIDE OF BRIDGE. CLEAR HEIGHT: 4.6m OVERALL LENGTH: 20.7m

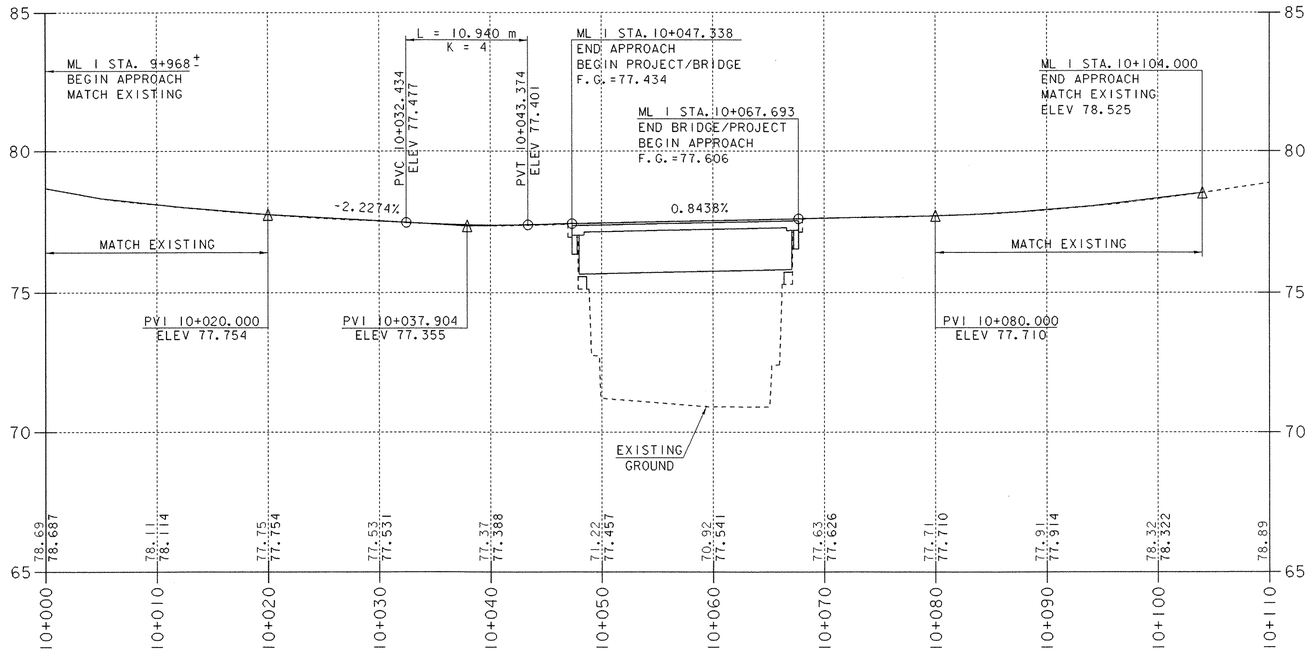
SIDEWALK LEGEND
AUXILARY RAMP
LANDING

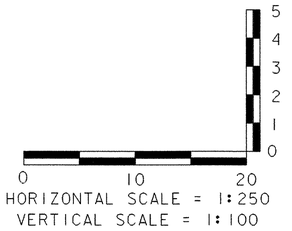
LAYOUT SHEET

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

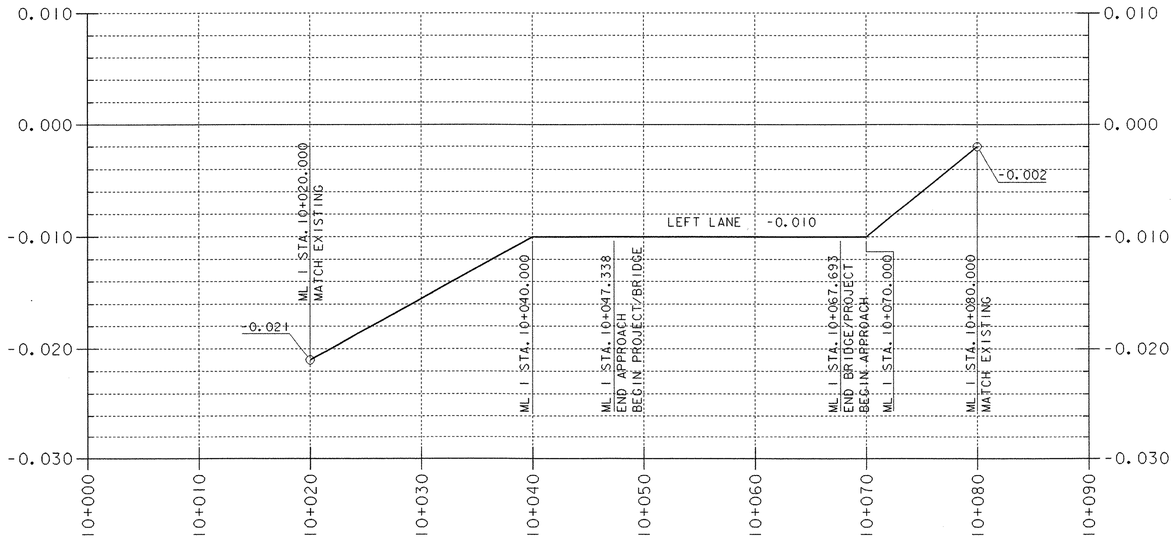
FILE NAME: 94I078\Structures\sI078I01.I
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 06-FEB-2003
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER
SHEET 9 OF 71

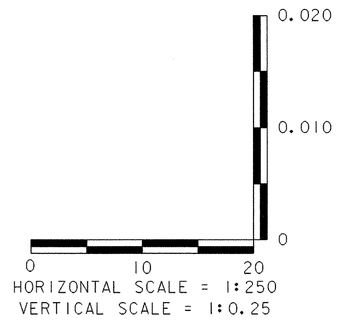
Profile Along Centerline Canal St. to Main St.





NOTE:
ELEVATIONS TO THE NEAREST HUNDREDTH ARE EXISTING GROUND ALONG PROPOSED CENTERLINE.
ELEVATIONS TO THE NEAREST THOUSANDTH ARE FINISH GRADE ALONG PROPOSED CENTERLINE.





Banking Diagram For Left Travel Lane - Canal St. to Main St.

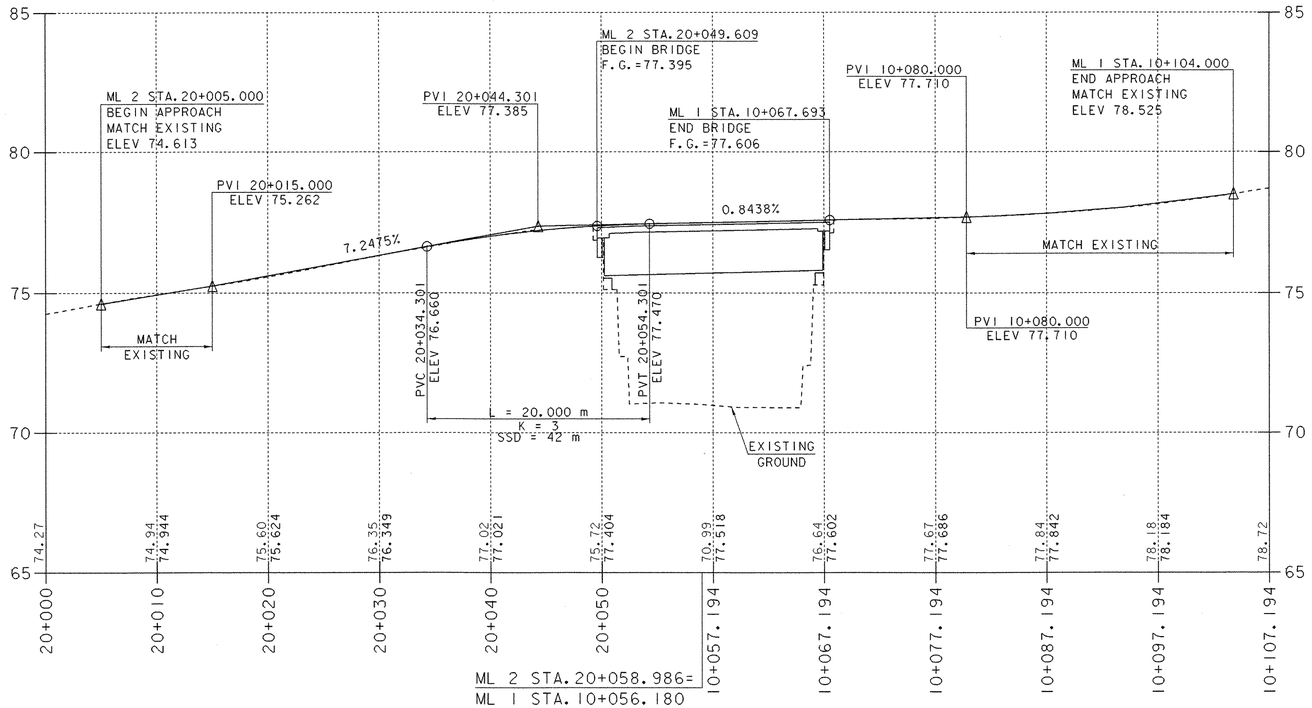
PROFILE & BANKING DIAGRAM (1)

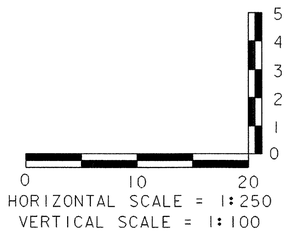
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078pf1.i		PLOT DATE: 06-FEB-2003	
PROJECT MANAGER: R. R. WHITCOMB		DRAWN BY: G. ROY	
DESIGNED BY: G. ROY		CHECKED BY: T. SUMNER	
		SHEET 10 OF 71	

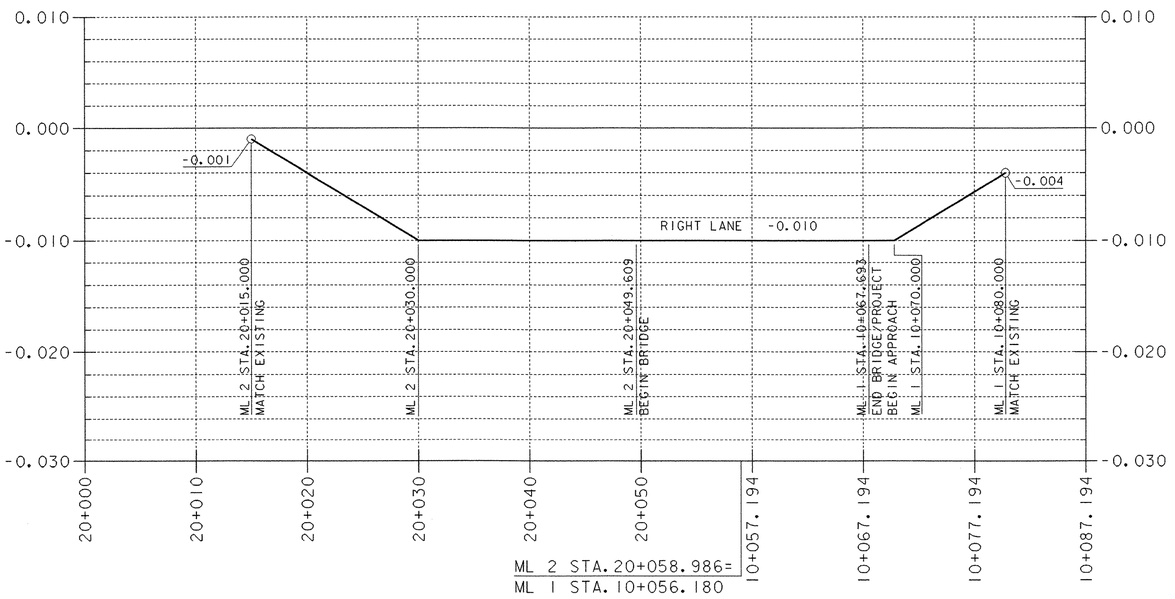
Metric

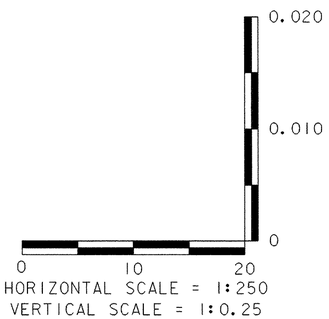
Profile Along Centerline Bridge St. to Main St.





NOTE:
ELEVATIONS TO THE NEAREST HUNDREDTH ARE EXISTING GROUND ALONG PROPOSED CENTERLINE.
ELEVATIONS TO THE NEAREST THOUSANDTH ARE FINISH GRADE ALONG PROPOSED CENTERLINE.





Banking Diagram For Right Travel Lane - Bridge St. to Main St.

PROFILE & BANKING DIAGRAM (2)

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)

FILE NAME: 94j078\Structures\sj078pf2.i		PLOT DATE:	06-FEB-2003
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	G. ROY
DESIGNED BY:	G. ROY	CHECKED BY:	T. SUMNER
		SHEET	11 OF 71

Metric

REMOVAL OF EXISTING PAVEMENT MARKINGS

10+027.6 RT.
20+011.6 RT.
① S. MAIN ST. (2 EA.)
② CANAL ST. (2 EA.)

20+014.2 RT.

① S. MAIN ST.
② CANAL ST. (2 EA)

10+012.8 CL.
10+027.6 RT.
① S. MAIN ST.

② CANAL ST. (2 EA.)

10+030.8 RT.

20+013.4 CL.

20+036.5 RT. (2 EA.)

9+980.0 RT. - 10+030.3 LT. CENTER LINE
20+014.8 LT. - 20+038.9 LT. CENTER LINE
① S. MAIN ST. 6.2m CENTER LINE
② CANAL ST. 10.0m CENTERLINE

10+010.0 RT. - 10+039.3 RT. TRAVEL LANE
20+010.6 RT. - 20+039.3 RT. TRAVEL LANE
① S. MAIN ST. 6.2m TRAVEL LANE
② CANAL ST. 10.0m TRAVEL LANE

19+986.1 RT. - 20+016.2 RT. EDGE LINE

9+980.0 LT. - 10+009.6 LT. DOTTED LINE
9+985.5 RT. - 10+010.0 RT. DOTTED LINE

20+037.8 LT. - 20+045.8 RT. CROSSWALK

① S. MAIN ST. 1.8m STOP BAR

PAVEMENT MARKINGS ALREADY WARN OFF

REMOVING SIGNS

10+048.0 LT. (1 EA.)
10+058.1 RT. (2 EA.)
20+044.4 RT. (4 EA.)
20+044.4 RT. (3 EA.)

LEGEND

/// — PAVEMENT MARKING REMOVAL
R&S — REMOVE AND SALVAGE
R — REMOVE

REMOVE ONLY
10+058.1 RT.

20+044.4 RT.

20+044.4 RT
10+048.0 LT.

5 STY BUILDING
3 STY BUILDING
3½ STY BUILDING
1 STY BUILDING
4 STY BUILDING
1 STY BUILDING (BRATTLEBORO MUSEUM)

TO WEST BRATTLEBORO
FLAT ST. (PAVED)
US 5 & VT 30 TO DUMMERSTON
S. MAIN ST. (PAVED)
ARCH ST. (PAVED)
BRIDGE ST. (PAVED)
CANAL ST. (PAVED)
VERNON ST. (PAVED)
DRIVE (PAVED)
WHETSTONE BROOK
VT 119 TO NEW HAMPSHIRE
BOSTON & MAINE RAILWAY
T.H. 4 TO VT 142
US 5 TO I-91 EXIT 1

10+000 10+020 10+040 10+060 10+080 10+100

N
VT STATE PLANE GRID

0 10 20 30
SCALE = 1:250

SEE ②

US 5 TO I-91 EXIT 1
S. MAIN ST. (PAVED) ②

EXISTING LAYOUT SIGNS AND PAVEMENT MARKINGS

DATE	BY	REVISION
04/22/2003	VAOT	MODIFIED SIGNS FOR DETOUR DUE TO BRIDGE CLOSURE.
03/10/2003	VAOT	NO SALVAGE REQUIRED.

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078pc0.1 PLOT DATE: 24-MAY-2004
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: G. ROY CHECKED BY: T. SUMNER
SHEET 12 OF 71

Metric

TEMPORARY TRAFFIC BARRIER
10+029.7 LT. - 20+014.9 RT.

TEMPORARY 100mm YELLOW LINE
9+980.0 LT. - 10+011.6 LT. (DOUBLE)
20+003.2 LT. - 20+037.8 LT. (DOUBLE)
② CANAL ST. 10.4m (DOUBLE)

TEMPORARY 100mm WHITE LINE
9+984.4 RT. - 10+016.7 RT. TRAVEL LANE
10+019.1 LT. - 10+029.7 LT. EDGE LINE
10+090.0 RT. - 10+102.6 RT. EDGE LINE
19+986.1 RT. - 20+021.2 RT. EDGE LINE
② CANAL ST. 13.7m DOTTED LINE

TEMPORARY 600mm STOP BAR
20+038.2 LT. - 20+038.8 LT.

TEMPORARY CROSSWALK WITH DIAGONAL LINES
10+017.7 LT. - 10+017.7 RT.
20+005.2 RT. - 20+023.5 LT.

TEMPORARY LETTERS OR SYMBOLS
9+985.2 LT.
~~10+003.7 LT.~~

~~9+985.0 RT.~~
9+988.6 LT.
10+007.1 LT.

9+991.5 LT.
10+010.1 RT.

~~9+988.3 RT.~~

20+036.1 CL.

ERECTING SALVAGED SIGNS
20+036.7 RT. (4 EA.)

SETTING SALVAGED POSTS
~~20+036.7 RT. (1 EA.)~~

~~PORTLAND CEMENT CONCRETE SIDEWALK, 125mm~~
~~10+015.11 RT. - 10+020.63 RT.~~

SIDEWALK RAMP, TYPE 6
10+015.11 RT. - 10+020.63 RT.
MADE WITH HOT MIX (TEMP.)

TRAFFIC SIGNS, TYPE A
9+984.8 RT. (1 EA.)
10+015.8 RT. (2 EA.)
10+019.0 LT. (2 EA.)
10+096.5 RT. (1 EA.)
10+101.7 RT. (1 EA.)
20+006.3 LT. (2 EA.)
20+007.6 LT. (2 EA.)
20+035.0 LT. (2 EA.)

NOTE:
CONTRACTOR SHALL INSTALL SIDEWALK DETOUR SIGNS SHOWN ON CONSTRUCTION SIGN DETAIL (2) AS NEEDED TO REDIRECT PEDESTRIAN TRAFFIC AROUND BRIDGE PROJECT.

LEGEND
⊗ — REFLECTORIZED PLASTIC DRUMS (SEE STD. E-106M)
▭ — TYPE III BARRICADES (SEE STD. E-107AM)
▭ — TYPE III BARRICADES (MOD.) (SEE STD. E-107AM)
▭ — TEMPORARY TRAFFIC BARRIER (SEE STD. G-18M)
▭ — ENERGY ABSORPTION ATTENUATOR FOR 55km/h DESIGN SPEED
— — — SNOW FENCE
S — SALVAGE
N — NEW

N
VT STATE PLANE GRID

US 5 TO I-91 EXIT 1

S. MAIN ST. (PAVED) ②

SEE ②

0 10 20 30
SCALE = 1:250

CONSTRUCTION LAYOUT SIGNS AND PAVEMENT MARKINGS

DATE	BY	REVISION
04/22/2003	VAOT	MODIFIED SIGNS FOR DETOUR DUE TO BRIDGE CLOSURE.
03/10/2003	VAOT	INFORMATION ADDED.

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078pc1.1
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 24-MAY-2004
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER
SHEET 13 OF 71

LEGEND

⊗ — REFLECTORIZED PLASTIC DRUMS (SEE STD. E-106M)
▯ — TYPE III BARRICADES (SEE STD. E-107AM)
▯ — TYPE III BARRICADES (MOD.) (SEE STD. E-107AM)
/// — PAVEMENT MARKING REMOVAL
▭ — TEMPORARY TRAFFIC BARRIER (SEE STD. G-18M)
▭ — ENERGY ABSORPTION ATTENUATOR FOR 55km/h DESIGN SPEED
— SNOW FENCE
R&S — REMOVE AND SALVAGE
S — SALVAGE
N — NEW
RET — RETAIN

TEMPORARY TRAFFIC BARRIER
20+014.9 RT. - 10+082.3 RT.

TEMPORARY 100mm WHITE LINE
10+066.5 LT. - 10+102.6 RT.
10+082.3 RT. - 10+090.0 RT.

REMOVAL OF EXISTING PAVEMENT MARKINGS
10+019.1 LT. - 10+028.2 LT. TEMP. EDGE LINE
10+082.3 RT. - 10+102.6 RT. TEMP. EDGE LINE
20+005.5 RT. - 20+008.0 RT. TEMP. EDGE LINE
20+006.0 LT. - 20+008.4 LT. TEMP. CENTER LINE
20+037.8 LT. - 20+042.7 RT. CROSSWALK

TEMPORARY CROSS WALK WITH DIAGONAL LINES
20+005.2 RT. - 20+023.5 LT.

REMOVING SIGNS
20+036.7 RT. (4 EA.)
20+038.1 LT. (2 EA.)
20+044.9 RT. (1 EA.)

ERECTING SALVAGED SIGNS
20+035.0 LT. (2 EA.)
20+036.2 RT. (4 EA.)

SETTING SALVAGED POSTS
20+035.0 LT. (1 EA.)
20+036.2 RT. (1 EA.)

TRAFFIC SIGNS, TYPE A
20+006.3 RT. (2 EA.)
20+007.6 LT. (2 EA.)

5 STY BUILDING
FLAT ST. (PAVED)
TO WEST BRATTLEBORO
ROAD CLOSED
ROAD CLOSED
DETOUR
US 5 & VT 30 TO DUMMERSTON
N. MAIN ST. (PAVED)
S. MAIN ST. (PAVED)
3 STY BUILDING
SIDEWALK CLOSED AT BRIDGE CROSS HERE
10+101.7 RT. RET
10+096.5 RT. RET
3½ STY BUILDING
ARCH ST. (PAVED)
20+044.9 RT.
1 STY BUILDING
SIDEWALK CLOSED CROSS HERE
SIDEWALK CLOSED
4 STY BUILDING
10+080
10+060
10+040
10+020
3.60m MIN.
WHETSTONE BROOK
20+036.7 RT. BRIDGE ST MAIN ST STOP 0050 1302 0213 R&S
20+036.2 RT. BRIDGE ST MAIN ST STOP 0050 1302 0213 S
20+006.3 RT. N
SIDEWALK CLOSED CROSS HERE
TRUCKS
BRIDGE ST. (PAVED)
VT 119 TO NEW HAMPSHIRE
VT STATE PLANE GRID
N
BOSTON & MAINE RAILWAY
LANE CLOSED
20+020
3.05m
1 STY BUILDING (BRATTLEBORO MUSEUM)
20+007.6 LT. N
NO TRUCKS ON BRIDGE
SLOW STOP
VERNON ST. (PAVED)
ONE WAY
10+019.0 LT. RET RET RET
20+035.0 LT. S
10+015.8 RT. RET RET RET
20+038.1 LT. R&S R&S R&S
CANAL ST. (PAVED)
US 5 TO I-91 EXIT 1
PLAZA
10+000
DRIVE (PAVED)
9+984.8 RT. PLAZA ONLY THRU TRAFFIC RET RET
T.H. 4 TO VT 142

0 10 20 30
SCALE = 1:250

PHASE TWO LAYOUT
SIGNS AND PAVEMENT MARKINGS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sJ078pc2.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 24-MAY-2004
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER
SHEET 14 OF 71

Revised by VAOT 3/10/03
Information Added

VAOT Metric

REMOVAL OF EXISTING PAVEMENT MARKINGS

~~19+986.1 RT. - 20+005.0 RT. TEMP. EDGE LINE~~

DURABLE 100mm WHITE LINE

9+980.0 LT. - 10+028.7 LT. EDGE LINE
9+980.0 LT. - 9+990.7 LT. TRAVEL LANE
9+990.7 LT. - 10+009.6 LT. DOTTED LINE
9+985.5 RT. - 10+010.0 RT. DOTTED LINE
10+010.0 RT. - 10+036.7 RT. TRAVEL LANE
9+980.0 RT. - 20+035.4 LT. EDGE LINE
10+035.3 LT. - 10+104.5 LT. EDGE LINE
10+044.6 LT. - 10+068.7 LT. TRAVEL LANE
+046 10+~~057.3~~ LT. - 10+070.4 RT. DOTTED LINE
10+068.7 LT. - 10+~~081.6~~ LT. DOTTED LINE +090
10+070.4 RT. - 10+090.0 RT. TRAVEL LANE
20+003 ~~19+986.1~~ RT. - 20+034.1 RT. EDGE LANE
20+003 ~~20+007.0~~ RT. - 20+031.9 RT. TRAVEL LANE
20+041.0 RT. - 10+090.0 RT. EDGE LANE
① S. MAIN ST. 6.2m TRAVEL LANE
① S. MAIN ST. 6.2m EDGE LANE
② CANAL ST. 10.0m TRAVEL LANE
② CANAL ST. 10.0m EDGE LINE
20+003 - 20+021LT EDGELINE

DURABLE 100mm YELLOW LINE

9+980.0 RT. - 10+030.3 LT. (DOUBLE)
10+045.7 LT. - 10+090.0 LT. (DOUBLE)
+003 20+~~005.0~~ LT. - 20+031.6 LT. (DOUBLE)
① S. MAIN ST. 6.2m (DOUBLE)
② CANAL ST. 10.0m (DOUBLE)

DURABLE 600mm STOP BAR

20+031.3 LT. - 20+031.3 RT.
① S. MAIN ST. 6.2m

DURABLE CROSSWALK WITH DIAGONAL LINES

10+028.4 LT. - 10+047.0 RT.
039 20+~~033.6~~ LT. - 20+036.2 RT.
④ CANAL ST. 17m
10+105 LT - RT

REMOVING SIGNS

9+984.8 RT. (1 EA.)
10+015.8 RT. (2 EA.)
10+019.0 LT. (2 EA.)
10+096.5 RT. (1 EA.)
10+101.7 RT. (1 EA.)
20+006.3 RT. (2 EA.)
20+007.6 LT. (2 EA.)
20+036.2 RT. (4 EA.)

DURABLE LETTERS OR SYMBOLS

10+009.7 RT. ONLY
10+027.6 RT. ONLY
10+051.2 LT. ONLY
10+067.8 LT. ONLY
10+071.4 RT. ONLY
20+008.3 RT. ONLY
~~① S. MAIN ST. (2 EA.) ONLY~~
② CANAL ST. (~~2 EA.~~) ONLY 1EA.

20+011.3 RT.

10+048.0 LT.
10+064.7 LT.
10+074.5 RT.
① S. MAIN ST.
② CANAL ST. (2 EA.)

10+012.8 CL.
10+027.6 RT.
10+048.3 LT.
10+065.4 LT.
10+074.0 RT.
① S. MAIN ST.
② CANAL ST. (2 EA.)

10+013.0 RT.
10+030.8 RT.

20+011.3 CL.

20+028.6 RT.
20+028.6 CL.

ERECTING SALVAGED SIGNS

10+048.8 LT. (2 EA.)
10+057.4 RT. (2 EA.)
20+029.5 RT. (4 EA.)
20+032.6 RT. (2 EA.)

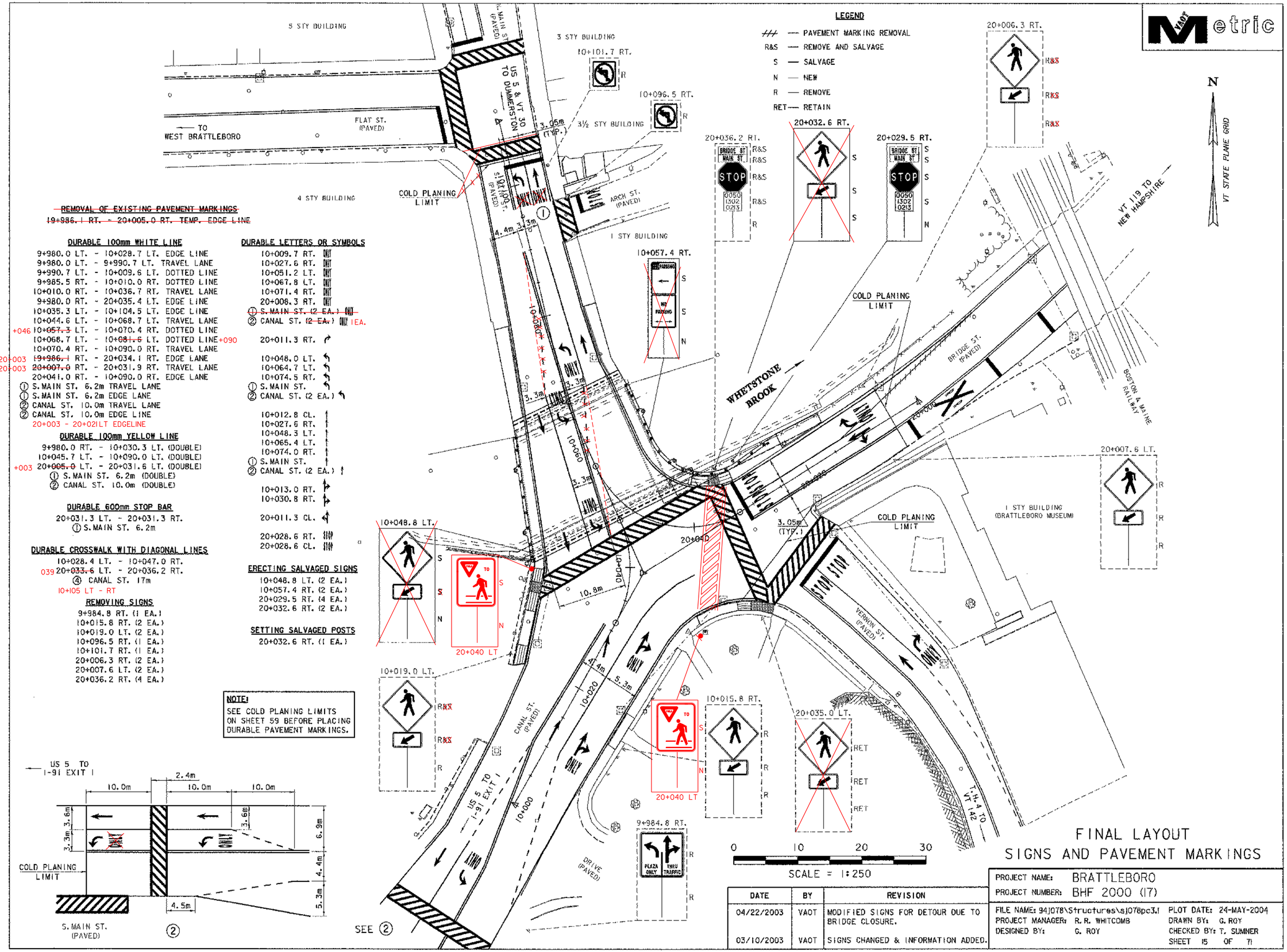
SETTING SALVAGED POSTS

20+032.6 RT. (1 EA.)

NOTE:
SEE COLD PLANING LIMITS ON SHEET 59 BEFORE PLACING DURABLE PAVEMENT MARKINGS.

LEGEND

/// — PAVEMENT MARKING REMOVAL
R&S — REMOVE AND SALVAGE
S — SALVAGE
N — NEW
R — REMOVE
RET — RETAIN



SEE ②

0 10 20 30
SCALE = 1:250

FINAL LAYOUT
SIGNS AND PAVEMENT MARKINGS

DATE	BY	REVISION
04/22/2003	VAOT	MODIFIED SIGNS FOR DETOUR DUE TO BRIDGE CLOSURE.
03/10/2003	VAOT	SIGNS CHANGED & INFORMATION ADDED.

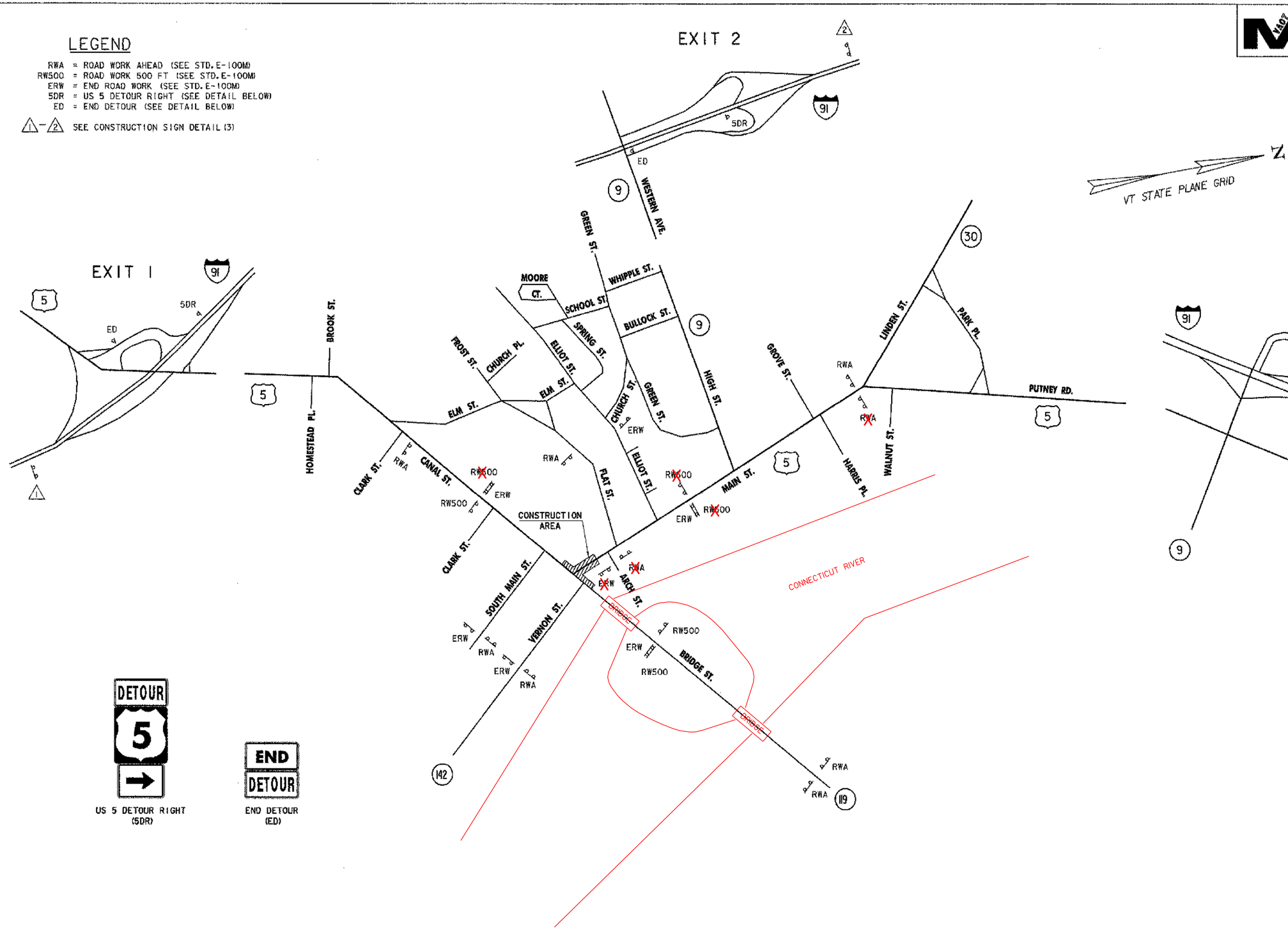
PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078pc3.1
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 24-MAY-2004
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER
SHEET 15 OF 71

LEGEND

RWA = ROAD WORK AHEAD (SEE STD. E-100M)
RW500 = ROAD WORK 500 FT (SEE STD. E-100M)
ERW = END ROAD WORK (SEE STD. E-100M)
5DR = US 5 DETOUR RIGHT (SEE DETAIL BELOW)
ED = END DETOUR (SEE DETAIL BELOW)

1-2 SEE CONSTRUCTION SIGN DETAIL (3)



US 5 DETOUR RIGHT
(5DR)

END DETOUR
(ED)

CONSTRUCTION APPROACH SIGNING

DATE	BY	REVISION
04/22/2003	VAOT	MODIFIED SIGNS FOR DETOUR DUE TO BRIDGE CLOSURE.

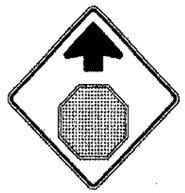
PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

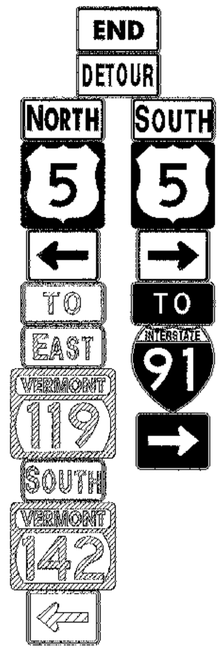
FILE NAME: 94J078\Structures\sj078cas.1 PLOT DATE: 24-MAY-2004
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: G. ROY CHECKED BY: T. SUMNER
SHEET 16A OF 71

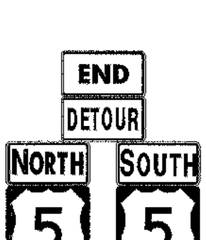
VAOT Metric

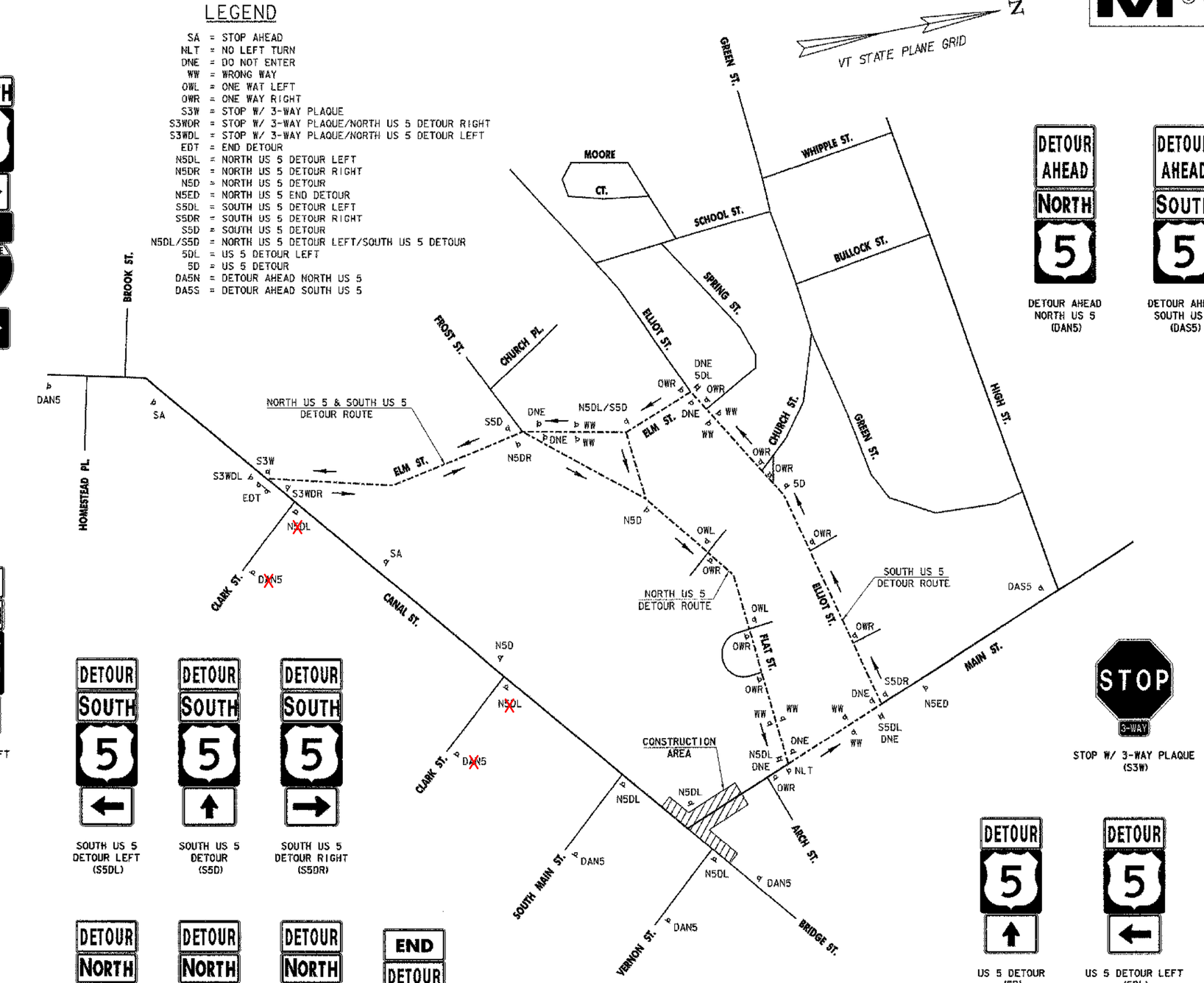
LEGEND

SA	= STOP AHEAD
NLT	= NO LEFT TURN
DNE	= DO NOT ENTER
WW	= WRONG WAY
OWL	= ONE WAT LEFT
OWR	= ONE WAY RIGHT
S3W	= STOP W/ 3-WAY PLAQUE
S3WDR	= STOP W/ 3-WAY PLAQUE/NORTH US 5 DETOUR RIGHT
S3WDL	= STOP W/ 3-WAY PLAQUE/NORTH US 5 DETOUR LEFT
EDT	= END DETOUR
N5DL	= NORTH US 5 DETOUR LEFT
N5DR	= NORTH US 5 DETOUR RIGHT
N5D	= NORTH US 5 DETOUR
N5ED	= NORTH US 5 END DETOUR
S5DL	= SOUTH US 5 DETOUR LEFT
S5DR	= SOUTH US 5 DETOUR RIGHT
S5D	= SOUTH US 5 DETOUR
N5DL/S5D	= NORTH US 5 DETOUR LEFT/SOUTH US 5 DETOUR
5DL	= US 5 DETOUR LEFT
5D	= US 5 DETOUR
DA5N	= DETOUR AHEAD NORTH US 5
DA5S	= DETOUR AHEAD SOUTH US 5









DETOUR SIGNING

DATE	BY	REVISION
04/22/2003	VAOT	MODIFIED SIGNS FOR DETOUR DUE TO BRIDGE CLOSURE.

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sJ078ds.i
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 24-MAY-2004
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER
SHEET 16B OF 71

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DETOUR SIGN SUMMARY SHEET (1)

VAOT Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 44 3.4	50 3.9	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	100 2.5	100 MOD 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
											OPTION ITEMS																									
5DR	DETOUR	2	600	300	0.36						2			8.85																				SEE CONSTRUCTION SIGN DETAIL (1)	24	
	5	2	600	600	0.72																													M1-4		E-136AM
	→	2	525	375	0.39																													M6-1		E-136AM
ED	END	2	600	300	0.36						2			7.50																				M4-6		E-140M
	DETOUR	2	600	300	0.36																													SEE CONSTRUCTION SIGN DETAIL (1)	24	
⚠1	US 5/MAIN ST. BRIDGE CLOSED USE EXIT 2 TO VT 9 EAST FOR DOWNTOWN	1	5200	1800		9.36					2												2			~~183.5~~							SEE CONSTRUCTION SIGN DETAIL (3)	26	
⚠2	US 5/MAIN ST. BRIDGE CLOSED USE EXIT 1 TO US 5 NORTH FOR CANAL ST.	2	5200	1800		18.72					4												2 ~~4~~			183.6• ~~367.1~~							SEE CONSTRUCTION SIGN DETAIL (3)	26	
																										• SEE CHANGE ORDER #2 DATED 7-9-03 FWR									
SA	W3-1A	2	900	900	1.62						2			9.46																				W3-1A		E-150M
NLT	R3-2	1	600	600	0.36						1			3.75																				R3-2		E-143M
DNE	DO NOT ENTER	8	750	750	4.50						5			19.50																				R5-1		E-143M
WW	WRONG WAY	8	900	600	4.32						8			30.00																				R5-1A		E-143M
												m	m	m 79.06	m	m	m		EA	kg	kg	kg		kg	kg	kg 550.6	kg							
TOTALS			m^2 12.99	m^2 28.08	EA.	m^2						m 79.06			m					kg			EA. 6	kg 550.6				EA.	EA.	kg					

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

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078tss2.j PLOT DATE: 24-MAY-2004
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: G. ROY CHECKED BY: T. SUMNER
REVISED BY VAOT 04/22/2003 SHEET 17 OF 71

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DETOUR SIGN SUMMARY SHEET (2)

Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL kg/m 1.7	FLANGED CHANNEL kg/m 3.0	FLANGED CHANNEL kg/m 4.5	SQUARE STEEL (mm) 44 kg/m 3.4	SQUARE STEEL (mm) 50 kg/m 3.9	SQUARE STEEL (mm) 63 kg/m 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) 75 kg/m 1.9	TUBULAR ALUMINUM Ø (mm) 100 kg/m 2.5	TUBULAR ALUMINUM Ø (mm) 100 MOD kg/m 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	TUBULAR STEEL Ø (mm) 75 kg/m 11.3	TUBULAR STEEL Ø (mm) 89 kg/m 13.4	TUBULAR STEEL Ø (mm) 100 kg/m 16.1	TUBULAR STEEL Ø (mm) 125 kg/m 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	W-SHAPE STEEL FTG. SIZE 750 mm	W-SHAPE STEEL WEIGHT	W-SHAPE STEEL POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	SIGN DETAIL STD. SHEET NUMBER

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DETOUR SIGN SUMMARY SHEET (3)

VAOT Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 44 3.4	50 3.9	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	100 2.5	100 MOD 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
											OPTION ITEMS																									
EDT	END	1	600	300	0.18						2												2	186.5								X	M4-6		E-140M
	DETOUR	1	600	300	0.18																													SEE CONSTRUCTION SIGN DETAIL (2)	25	
	NORTH	1	600	300	0.18																													M3-1		E-136AM
	5	1	600	600	0.36																													M1-4		E-136AM
	←	1	525	375	0.20																													M6-1		E-136AM
	TO	1	600	300	0.18																													M4-5		E-136BM
	EAST	1	600	300	0.18																													M3-2		E-136BM
	VERMONT 119	1	750	600	0.45																													M1-5		E-136BM
	SOUTH	1	600	300	0.18																													M3-3		E-136BM
	VERMONT 142	1	750	600	0.45																													M1-5		E-136BM
	←	1	525	375	0.20																													M6-1		E-136BM
	SOUTH	1	600	300	0.18																													M3-3		E-136AM
	5	1	600	600	0.36																													M1-4		E-136AM
	→	1	525	375	0.20																													M6-1		E-136AM
	TO	1	600	300	0.18																													M4-5		E-135M
	INTERSTATE 91	1	600	600	0.36																													M1-1		E-135M
	→	1	525	375	0.20																													M6-1		E-135M
TOTALS					m² 4.22	m²	EA.	m²				m	m	m	m	m	m		EA	kg	kg	kg	EA. 2	kg 186.5	kg	kg	kg	EA.	EA.	kg					

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

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sJ078tss4.I PLOT DATE: 24-MAY-2004
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: G. ROY CHECKED BY: T. SUMNER
REVISED BY VAOT 04/22/2003 SHEET 19 OF 71

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DETOUR SIGN SUMMARY SHEET (4)

VAOT Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 44 3.4	50 3.9	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	100 2.5	100 MOD 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																									
N5DL	DETOUR	6	600	300	1.08						6			28.35																				SEE CONSTRUCTION SIGN DETAIL (1)	24	
	NORTH	6	600	300	1.08																													M3-1		E-136AM
	5	6	600	600	2.16																													M1-4		E-136AM
	←	6	525	375	1.18																													M6-1		E-136AM
N5DR	DETOUR	1	600	300	0.18						1			4.73																				SEE CONSTRUCTION SIGN DETAIL (1)	24	
	NORTH	1	600	300	0.18																													M3-1		E-136AM
	5	1	600	600	0.36																													M1-4		E-136AM
	→	1	525	375	0.20																													M6-1		E-136AM
N5D	DETOUR	2	600	300	0.36						2			9.45																				SEE CONSTRUCTION SIGN DETAIL (1)	24	
	NORTH	2	600	300	0.36																													M3-1		E-136AM
	5	2	600	600	0.72																													M1-4		E-136AM
	↑	2	525	375	0.39																													M6-3		E-136AM
TOTALS					m² 8.25	m²	EA.	m²				m 42.53			m				EA	kg			EA.	kg				EA.	EA.	kg						

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

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078tss5.i PLOT DATE: 24-MAY-2004
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: G. ROY CHECKED BY: T. SUMNER
REVISED BY VAOT 04/22/2003 SHEET 20 OF 71

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DETOUR SIGN SUMMARY SHEET (5)

VAOT Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 44 3.4	50 3.9	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	100 2.5	100 MOD 2.5	FOUNDATION	TUBULAR STEEL Ø (mm) kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
											OPTION ITEMS																									
N5ED	END	1	600	300	0.18						1			4.65																			M4-6		E-140M
	DETOUR	1	600	300	0.18																											SEE CONSTRUCTION SIGN DETAIL (1)	24	
	NORTH	1	600	300	0.18																											M3-1		E-136AM
	5	1	600	600	0.36																											M1-4		E-136AM
S5DL	DETOUR	1	600	300	0.18						1			4.73																			SEE CONSTRUCTION SIGN DETAIL (1)	24	
	SOUTH	1	600	300	0.18																											M3-3		E-136AM
	5	1	600	600	0.36																											M1-4		E-136AM
	←	1	525	375	0.20																											M6-1		E-136AM
S5DR	DETOUR	1	600	300	0.18						1			4.73																			SEE CONSTRUCTION SIGN DETAIL (1)	24	
	SOUTH	1	600	300	0.18																											M3-3		E-136AM
	5	1	600	600	0.36																											M1-4		E-136AM
	→	1	525	375	0.20																											M6-1		E-136AM
											m 14.11	m	m	m	m	m	m	EA	kg	kg	kg		kg	kg	kg	kg								
TOTALS					m² 2.74	m²	EA.	m²			m 14.11				m				kg			EA.		kg			EA.	EA.	kg					

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

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sJ078tss6.I PLOT DATE: 24-MAY-2004
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: G. ROY CHECKED BY: T. SUMNER
REVISED BY VAOT 04/22/2003 SHEET 21 OF 71

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DETOUR SIGN SUMMARY SHEET (6)

METRIC

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 44 3.4	50 3.9	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	100 2.5	100 MOD 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL: DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																								
BRIDGE ST. RT.		2	450	600	0.54						4		9.60																					WI-8 ORANGE BACKGROUND MOUNT ON TYPE III BARRICADE (MOD.)		E-101M
	LANE CLOSED	1	1200	750	0.90						2		5.10																					SEE CONSTRUCTION SIGN DETAIL (1) MOUNT ON TYPE III BARRICADE (MOD.)	24	
	TRUCKS	1	600	300	0.18						1		4.05																					SEE CONSTRUCTION SIGN DETAIL (2)	25	
		1	600	600	0.36																													R3-1		E-143M
	NO TRUCKS ON BRIDGE	1	600	750	0.45						2		5.10																					SEE CONSTRUCTION SIGN DETAIL (1) MOUNT ON TYPE III BARRICADE (MOD.)	24	
		1	750	750	0.56						1		4.20																					WII-2 ORANGE BACKGROUND		E-152M
		1	600	300	0.18																													SEE CONSTRUCTION SIGN DETAIL (2)	25	
	SIDEWALK CLOSED CROSS HERE	1	600	300	0.18						2		4.20																					SEE CONSTRUCTION SIGN DETAIL (2) MOUNT ON TYPE III BARRICADE (MOD.)	25	
FLAT ST.		3	450	600	0.81						6		14.40																					WI-8 ORANGE BACKGROUND MOUNT ON TYPE III BARRICADE (MOD.)		E-101M
	ROAD CLOSED	1	1200	750	0.90						2		5.10																					RII-2 MOUNT ON TYPE III BARRICADE (MOD.)		E-102AM
												m	m 51.75	m	m	m	m	EA	kg	kg	kg		kg	kg	kg	kg							
TOTALS			m2 5.06		m2	EA.	m2						m 51.75			m				kg			EA.		kg			EA.	EA.	kg				

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

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sJ078tss7.i PLOT DATE: 06-FEB-2003
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: G. ROY CHECKED BY: T. SUMNER
SHEET 22 OF 71

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DETOUR SIGN SUMMARY SHEET (6)

VAOT Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 44 3.4	50 3.9	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	100 2.5	100 MOD 2.5	FOUNDATION	TUBULAR STEEL Ø (mm) kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																									
S5D	DETOUR	1	600	300	0.18						1			4.73																				SEE CONSTRUCTION SIGN DETAIL (1)	24	
	SOUTH	1	600	300	0.18																													M3-3		E-136AM
	5	1	600	600	0.36																													M1-4		E-136AM
	↑	1	525	375	0.20																													M6-3		E-136AM
N5DL/S5D	DETOUR	1	600	300	0.18						2			9.46																		X	SEE CONSTRUCTION SIGN DETAIL (1)	24	
	NORTH	1	600	300	0.18																													M3-1		E-136AM
	5	1	600	600	0.36																													M1-4		E-136AM
	←	1	525	375	0.20																													M6-1		E-136AM
	DETOUR	1	600	300	0.18																													SEE CONSTRUCTION SIGN DETAIL (1)	24	
	SOUTH	1	600	300	0.18																													M3-3		E-136AM
	5	1	600	600	0.36																													M1-4		E-136AM
	↑	1	525	375	0.20																													M6-3		E-136AM
5DL	DETOUR	1	600	300	0.18						1			4.43																				SEE CONSTRUCTION SIGN DETAIL (1)	24	
	5	1	600	600	0.36																													M1-4		E-136AM
	←	1	525	375	0.20																													M6-1		E-136AM
					m²	m²	EA.	m²				m	m	m	m	m	m		EA	kg	kg	kg		kg	kg	kg	kg	EA.	EA.	kg					
												18.62																								
	TOTALS				3.50							18.62																								

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 NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sJ078tss7.I PLOT DATE: 24-MAY-2004
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: G. ROY CHECKED BY: T. SUMNER
REVISED BY VAOT 04/22/2003 SHEET 22A OF 71

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DETOUR SIGN SUMMARY SHEET (7)

VAOT Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 44 3.4	50 3.9	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	100 2.5	100 MOD 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
														OPTION ITEMS																							
5D	DETOUR	1	600	300	0.18						1			4.43																				SEE CONSTRUCTION SIGN DETAIL (1)	24	
	5	1	600	600	0.36																												M1-4		E-136AM
	↑	1	525	375	0.20																												M6-3		E-136AM
DA5N	DETOUR AHEAD	~~6~~ 4	600	600	~~2.16~~ 1.44						6			27.9																				SEE CONSTRUCTION SIGN DETAIL (1)	24	
	NORTH	~~6~~ 4	600	300	~~1.08~~ 0.72																												M3-1		E-136AM
	5	~~6~~ 4	600	600	~~2.16~~ 1.44																												M1-4		E-136AM
DA5S	DETOUR AHEAD	1	600	600	0.36						1			4.65																				SEE CONSTRUCTION SIGN DETAIL (1)	24	
	SOUTH	1	600	300	0.18																												M3-3		E-136AM
	5	1	600	600	0.36																												M1-4		E-136AM
CANAL ST. LT.	SIDEWALK CLOSED / USE DETOUR	1	600	300	0.18						2		4.20																				SEE CONSTRUCTION SIGN DETAIL (2) MOUNT ON TYPE III BARRICADE (MOD.)	25	
CANAL ST. LT.	❯	2	450	600	0.54						4		9.60																				WI-8 ORANGE BACKGROUND MOUNT ON TYPE III BARRICADE (MOD.)		E-101M
CANAL ST. LT.	BRIDGE CLOSED	1	1200	750	0.90						2		5.10																				SEE CONSTRUCTION SIGN DETAIL (1) MOUNT ON TYPE III BARRICADE (MOD.)	24	
												m	m	m	m	m	m		EA	kg	kg	kg		kg	kg	kg	kg								
													18.90	36.98																							
TOTALS					m^2 ~~8.66~~ 6.86	m^2	EA.	m^2				m			m						kg			EA.	kg				EA.	EA.	kg						
													55.88																							

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 NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078ss8.dgn PLOT DATE: 24-MAY-2004
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: G. ROY CHECKED BY: T. SUMNER
REVISED BY VAOT 04/22/2003 SHEET 22B OF 71

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DETOUR SIGN SUMMARY SHEET (8)

VAOT Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL Kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) Kg/m 44 3.4	50 3.9	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) Kg/m 75 1.9	100 2.5	100 MOD 2.5	FOUNDATION	TUBULAR STEEL Ø (mm) Kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL: DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
											OPTION ITEMS																										
CANAL ST. LT.	SIDEWALK DETOUR	1	600	300	0.18						2		4.20																					SEE CONSTRUCTION SIGN DETAIL (2) MOUNT ON TYPE III BARRICADE (MOD.)	25	
MAIN ST. LT.	SIDEWALK CLOSED	1	600	300	0.18						2		4.20																					SEE CONSTRUCTION SIGN DETAIL (2) MOUNT ON TYPE III BARRICADE (MOD.)	25	
MAIN ST. LT.	ROAD CLOSED	1	1200	750	0.90						2		5.10																					RII-2 MOUNT ON TYPE III BARRICADE (MOD.)		E-102AM
MAIN ST. LT.	SIDEWALK CLOSED AT BRIDGE USE DETOUR	1	600	300	0.18						2		4.20																					SEE CONSTRUCTION SIGN DETAIL (2) MOUNT ON TYPE III BARRICADE (MOD.)	25	
MAIN ST. RT.	SIDEWALK CLOSED	1	600	300	0.18						2		4.20																					SEE CONSTRUCTION SIGN DETAIL (2) MOUNT ON TYPE III BARRICADE (MOD.)	25	
MAIN ST. RT.	ROAD CLOSED	1	1200	750	0.90						2		5.10																					RII-2 MOUNT ON TYPE III BARRICADE (MOD.)		E-102AM
MAIN ST. RT.	SIDEWALK CLOSED AT BRIDGE USE DETOUR	2	600	300	0.36						4		8.40																					SEE CONSTRUCTION SIGN DETAIL (2) MOUNT ON TYPE III BARRICADE (MOD.)	25	
MAIN ST. RT.	DETOUR	1	1200	450	0.54						2		4.50																					M4-10(R) ORANGE BACKGROUND MOUNT ON TYPE III BARRICADE (MOD.)		E-102AM
MAIN ST. RT.	SIDEWALK DETOUR	1	600	300	0.18						2		4.20																					SEE CONSTRUCTION SIGN DETAIL (2) MOUNT ON TYPE III BARRICADE (MOD.)	25	
												m	m	m	m	m	m		EA	kg	kg	kg		kg	kg	kg	kg								
												44.10																									
TOTALS					m^2 3.60	m^2	EA.	m^2				m 44.10			m					kg			EA.	kg				EA.	EA.	kg						

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

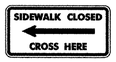
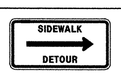
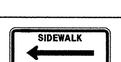
PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sJ078tss9.I PLOT DATE: 24-MAY-2004
PROJECT MANAGER: R.R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: G. ROY CHECKED BY: T. SUMNER
REVISED BY VAOT 04/22/2003 SHEET 22C OF 71

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DETOUR SIGN SUMMARY SHEET (9)

VAOT Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 3.4	3.9	5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 1.9	2.5	2.5	FOUNDATION	TUBULAR STEEL Ø (mm) kg/m 11.3	13.4	16.1	21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL: DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																									
BRIDGE ST. RT.		2	450	600	0.54						4		9.60																					WI-8 ORANGE BACKGROUND MOUNT ON TYPE III BARRICADE (MOD.)		E-101M
BRIDGE ST. RT.		2	1200	750	1.80						4		10.20																					SEE CONSTRUCTION SIGN DETAIL (1) MOUNT ON TYPE III BARRICADE (MOD.)	24	
BRIDGE ST. RT.		1	600	300	0.18						2		4.20																					SEE CONSTRUCTION SIGN DETAIL (2) MOUNT ON TYPE III BARRICADE (MOD.)	25	
BRIDGE ST. RT.		1	600	600	0.36																													R3-1		E-143M
FLAT ST.		1	600	300	0.18						2		4.20																					SEE CONSTRUCTION SIGN DETAIL (2) MOUNT ON TYPE III BARRICADE (MOD.)	25	
SIDEWALK DETOUR (NOT SHOWN)		4	600	300	0.72						8		33.6																					SEE CONSTRUCTION SIGN DETAIL (2) MOUNT ON TYPE III BARRICADE (MOD.)	25	
SIDEWALK DETOUR (NOT SHOWN)		2	600	300	0.36						4		8.40																					SEE CONSTRUCTION SIGN DETAIL (2) MOUNT ON TYPE III BARRICADE (MOD.)	25	
SIDEWALK DETOUR (NOT SHOWN)		2	600	300	0.36						4		8.40																					SEE CONSTRUCTION SIGN DETAIL (2) MOUNT ON TYPE III BARRICADE (MOD.)	25	
												m 78.60	m	m	m	m	m	EA	kg	kg	kg		kg	kg	kg	kg								
TOTALS					m² 4.50	m²	EA.	m²				m 78.60			m				kg			EA.	kg				EA.	EA.	kg							

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

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sJ078tss10.I PLOT DATE: 24-MAY-2004
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: G. ROY CHECKED BY: T. SUMNER
REVISED BY VAOT 04/22/2003 SHEET 22D OF 71

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DETOUR SIGN SUMMARY SHEET (10)

VAOT Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL Kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) Kg/m 44 3.4	50 3.9	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) Kg/m 75 1.9	100 2.5	100 MOD 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	Kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL: DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																									
9+984.8 RT.	PLAZA ONLY / THRU TRAFFIC	1	900	900	0.81						1			4.05																				SEE CONSTRUCTION SIGN DETAIL (1)	24	
10+015.8 RT.		1	750	750	0.56						1			4.20																				WI1-2 ORANGE BACKGROUND		E-152M
		1	600	300	0.18																												SEE CONSTRUCTION SIGN DETAIL (2)	25	
10+019.0 LT.		1	750	750	0.56						1			4.20																				WI1-2 ORANGE BACKGROUND		E-152M
		1	600	300	0.18																												SEE CONSTRUCTION SIGN DETAIL (2)	25	
10+096.5 RT.		1	600	600	0.36																												R3-2 MOUNT TO EXISTING SIGN POST		E-143M
10+101.7 RT.		1	600	600	0.36																												R3-2 MOUNT TO EXISTING LIGHT POLE		E-143M
20+006.3 RT.		1	750	750	0.56						1			4.20																				WI1-2 ORANGE BACKGROUND		E-152M
		1	600	300	0.18																												SEE CONSTRUCTION SIGN DETAIL (2)	25	
20+007.6 LT.		1	750	750	0.56						1			4.20																				WI1-2 ORANGE BACKGROUND		E-152M
		1	600	300	0.18																												SEE CONSTRUCTION SIGN DETAIL (2)	25	
20+035.0 LT.		1	750	750	0.56						1			4.20																				WI1-2 ORANGE BACKGROUND		E-152M
		1	600	300	0.18																												SEE CONSTRUCTION SIGN DETAIL (2)	25	
												m	m	m	m	m	m		EA	kg	kg	kg		kg	kg	kg	kg								
														25.05																							
TOTALS					m^2 5.23	m^2	EA.	m^2				m 25.05			m					kg			EA.	kg				EA.	EA.	kg						

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

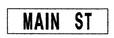
PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sJ078tssII.I PLOT DATE: 24-MAY-2004
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: G. ROY CHECKED BY: T. SUMNER
REVISED BY VAOT 04/22/2003 SHEET 22E OF 71

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

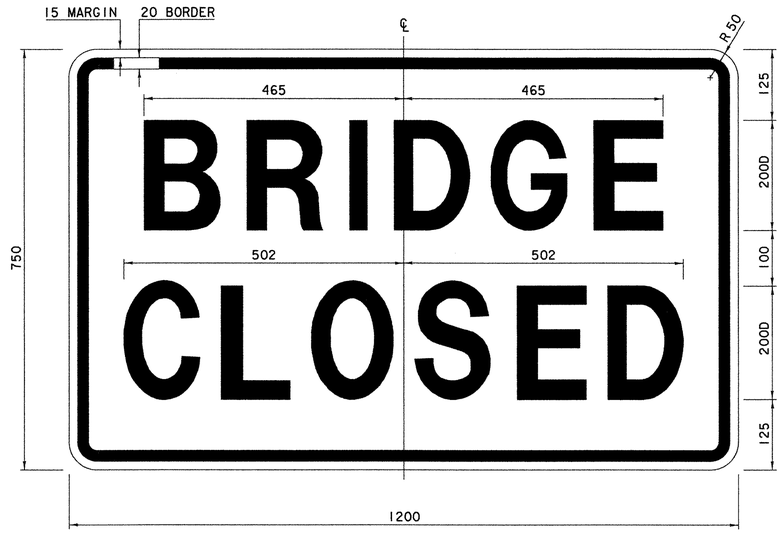
VAOT Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 44 3.4	50 3.9	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	100 2.5	100 MOD 2.5	FOUNDATION	TUBULAR STEEL Ø (mm) kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL: DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
														OPTION ITEMS																							
10+048.8 LT.							1				1			3.90																					SALVAGE FROM STA. 10+019.0 LT. MOUNT POST TO VEHICULAR TRAFFIC RAIL BY METHOD APPROVED BY ENGINEER		
							1																											SALVAGE FROM STA. 10+019.0 LT.		
10+057.4 RT.							1				1			3.60																					SALVAGE FROM STA. 10+058.1 RT. MOUNT POST TO VEHICULAR TRAFFIC RAIL BY METHOD APPROVED BY ENGINEER		
							1																											SALVAGE FROM STA. 10+058.1 RT.		
20+029.5 RT.							1				1			4.20																					SALVAGE FROM 20+036.7 RT. MOUNT POST TO VEHICULAR TRAFFIC RAIL BY METHOD APPROVED BY ENGINEER		
							1																											SALVAGE FROM 20+036.7 RT.		
							1																											SALVAGE FROM 20+036.7 RT.		
							1																											SALVAGE FROM 20+036.7 RT.		
20+032.6 RT.							1				1																								SALVAGE FROM STA. 20+006.3 RT.		
							1																											SALVAGE FROM STA. 20+006.3 RT.		

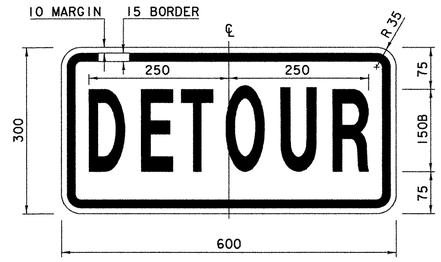
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S 'SIGN POST DESIGN GUIDELINE.'

											m	m	m	m	m	m		EA	kg	kg	kg		kg	kg	kg	kg									
													11.70																						
TOTALS	m^2	m^2	EA.	m^2		m		m		kg	EA.	kg			EA.	EA.	kg																		
			10			11.70																														

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)
FILE NAME: 94J078\Structures\sJ078tssi.I	PLOT DATE: 24-MAY-2004
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: T. SUMNER
REVISED BY VAOT 04/22/2003	SHEET 23 OF 71

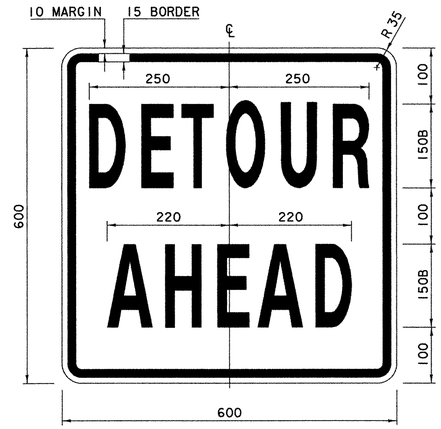


COLORS: BACKGROUND - REFL. WHITE
TEXT & BORDER - BLACK

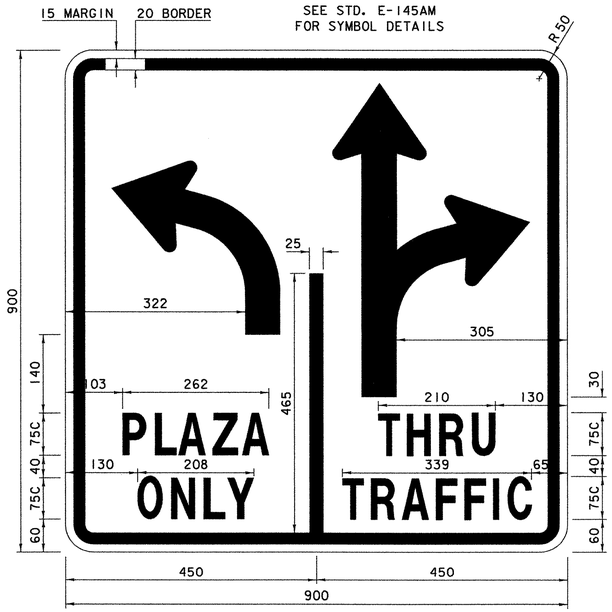


M4-8

COLORS: BACKGROUND - REFL. ORANGE
TEXT & BORDER - BLACK



COLORS: BACKGROUND - REFL. ORANGE
TEXT & BORDER - BLACK



COLORS: BACKGROUND - REFL. WHITE
TEXT & BORDER - BLACK

TEXT LAYOUT DIMENSIONS ARE BASED ON THE "LETTER & NUMERAL WIDTHS AND SPACE" TABLES FOUND IN THE "STANDARD HIGHWAYS SIGNS" BOOKLET. MINOR VARIATIONS IN TEXT DIMENSIONS ARE ACCEPTABLE BASED ON INDIVIDUAL MANUFACTURER'S LETTER FABRICATION. SIGNIFICANT CHANGES WHICH AFFECT SIGN APPEARANCE SHALL BE BROUGHT TO THE ATTENTION OF THE VAOT'S TRAFFIC DESIGN UNIT BEFORE FABRICATION.

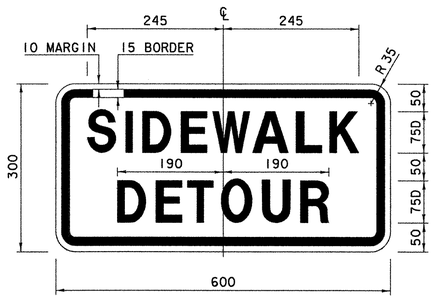
SEE STD. E-100M FOR SIGN MATERIALS.

CONSTRUCTION SIGN DETAIL (1)

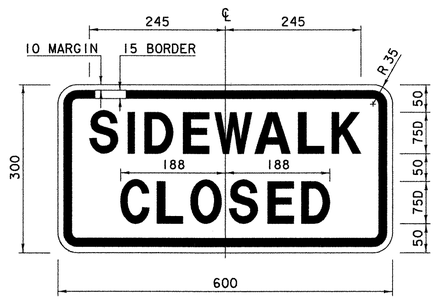
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)

FILE NAME: 94J078\Structures\sJ078csd1.I		PLOT DATE:	24-MAY-2004
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	G. ROY
DESIGNED BY:	G. ROY	CHECKED BY:	T. SUMNER
		SHEET	24 OF 71

DATE	BY	REVISION
04/22/2003	VAOT	MODIFIED SIGNS FOR DETOUR DUE TO BRIDGE CLOSURE.

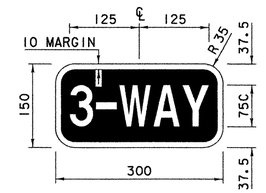


COLORS: BACKGROUND - REFL. ORANGE
TEXT & BORDER - BLACK



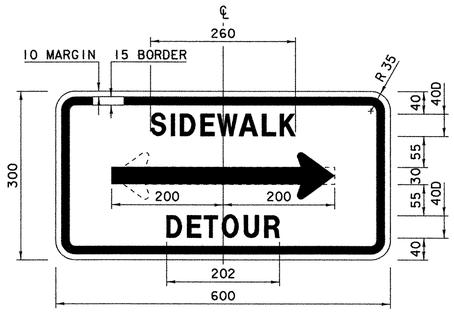
R9-9

COLORS: BACKGROUND - REFL. WHITE
TEXT & BORDER - BLACK

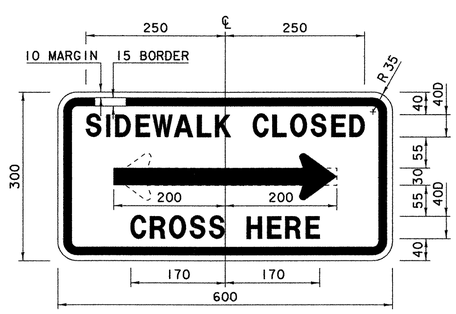


R1-3

COLORS: BACKGROUND - REFL. RED
TEXT & BORDER - REFL. WHITE

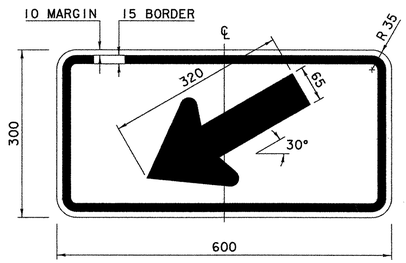


COLORS: BACKGROUND - REFL. ORANGE
TEXT & BORDER - BLACK



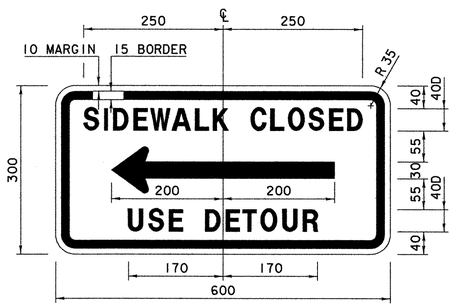
R9-11a

COLORS: BACKGROUND - REFL. WHITE
TEXT & BORDER - BLACK

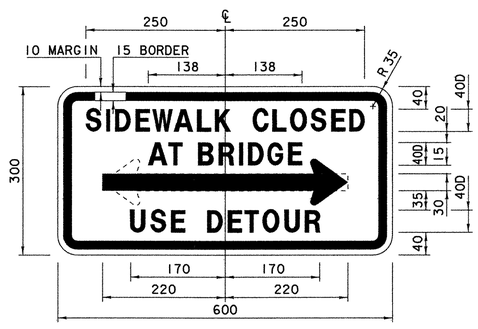


W16-7P

COLORS: BACKGROUND - REFL. ORANGE
TEXT & BORDER - BLACK



COLORS: BACKGROUND - REFL. WHITE
TEXT & BORDER - BLACK



COLORS: BACKGROUND - REFL. WHITE
TEXT & BORDER - BLACK

TEXT LAYOUT DIMENSIONS ARE BASED ON THE "LETTER & NUMERAL WIDTHS AND SPACE" TABLES FOUND IN THE "STANDARD HIGHWAYS SIGNS" BOOKLET. MINOR VARIATIONS IN TEXT DIMENSIONS ARE ACCEPTABLE BASED ON INDIVIDUAL MANUFACTURER'S LETTER FABRICATION. SIGNIFICANT CHANGES WHICH AFFECT SIGN APPEARANCE SHALL BE BROUGHT TO THE ATTENTION OF THE VAOT'S TRAFFIC DESIGN UNIT BEFORE FABRICATION.

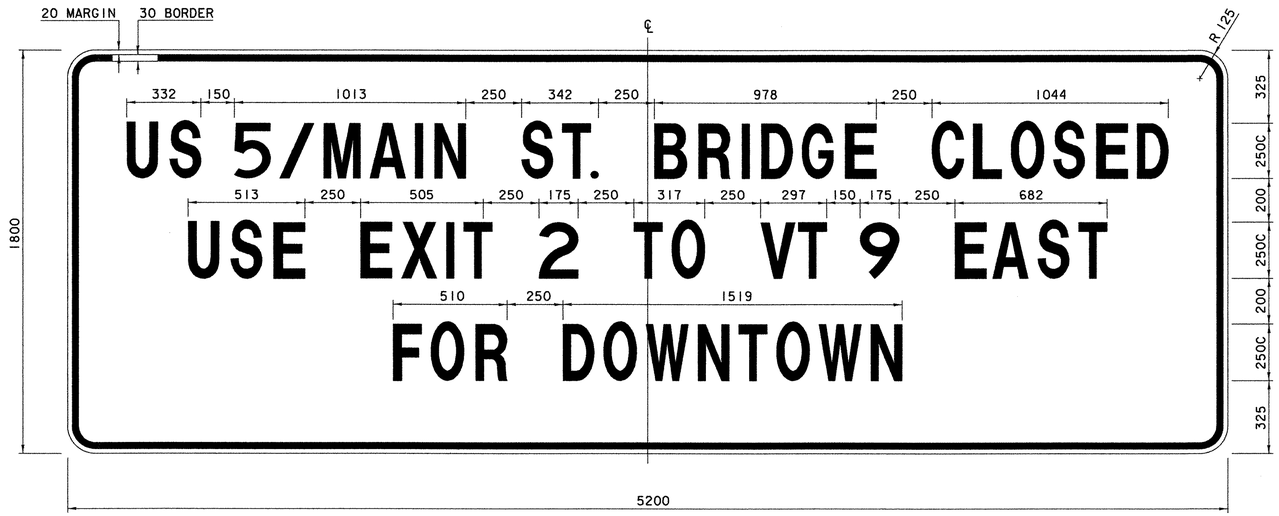
SEE STD. E-100M FOR SIGN MATERIALS.

CONSTRUCTION SIGN DETAIL (2)

DATE	BY	REVISION
04/22/2003	VAOT	MODIFIED SIGNS FOR DETOUR DUE TO BRIDGE CLOSURE.

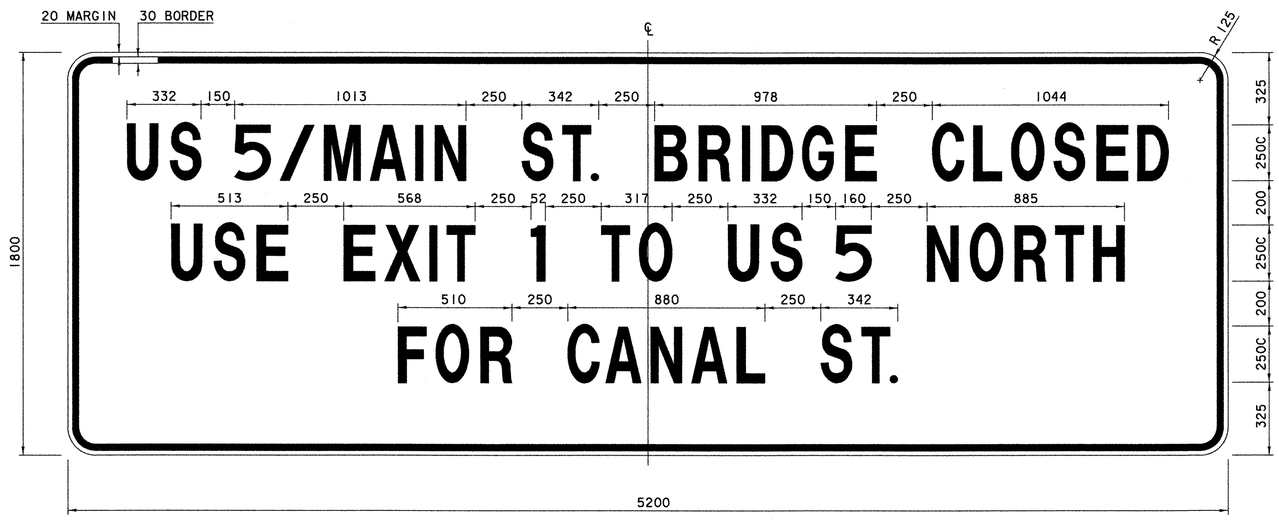
PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sJ078csd2.I PLOT DATE: 24-MAY-2004
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: G. ROY CHECKED BY: T. SUMNER
SHEET 25 OF 71



COLORS: BACKGROUND - REFL. ORANGE
TEXT & BORDER - BLACK

SIGN NO. 1



COLORS: BACKGROUND - REFL. ORANGE
TEXT & BORDER - BLACK

SIGN NO. 2

TEXT LAYOUT DIMENSIONS ARE BASED ON THE "LETTER & NUMERAL WIDTHS AND SPACE" TABLES FOUND IN THE "STANDARD HIGHWAYS SIGNS" BOOKLET. MINOR VARIATIONS IN TEXT DIMENSIONS ARE ACCEPTABLE BASED ON INDIVIDUAL MANUFACTURER'S LETTER FABRICATION. SIGNIFICANT CHANGES WHICH AFFECT SIGN APPEARANCE SHALL BE BROUGHT TO THE ATTENTION OF THE VAOT'S TRAFFIC DESIGN UNIT BEFORE FABRICATION.

SEE STD. E-100M FOR SIGN MATERIALS.

CONSTRUCTION SIGN DETAIL (3)

DATE	BY	REVISION
04/22/2003	VAOT	MODIFIED SIGNS FOR DETOUR DUE TO BRIDGE CLOSURE.

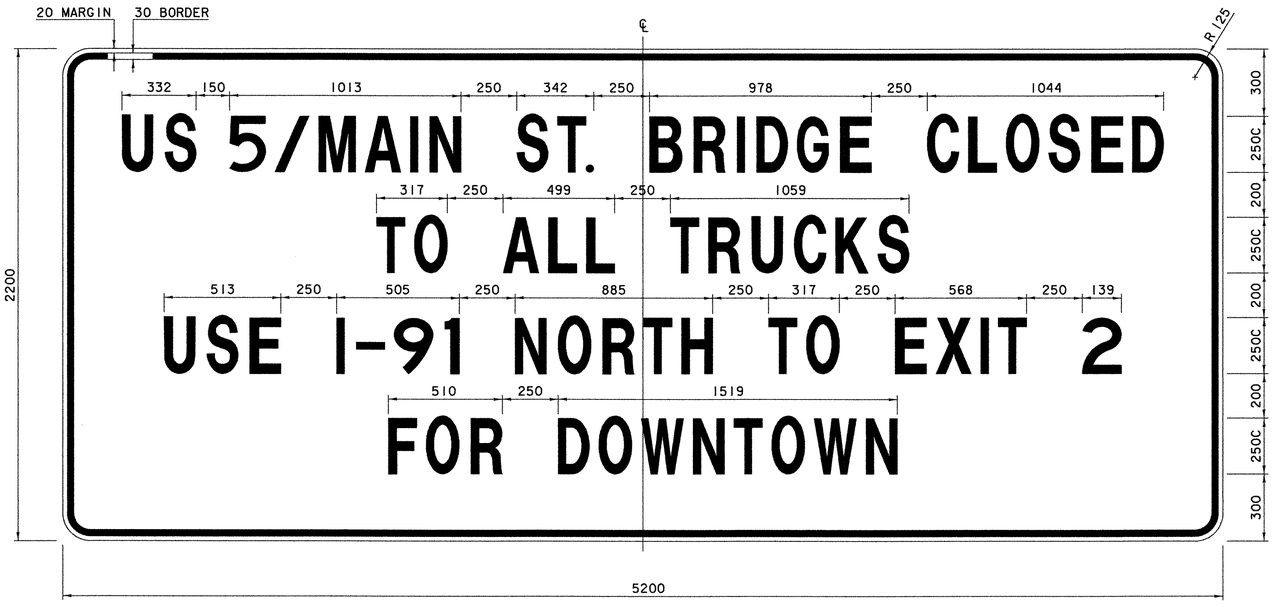
PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sJ078csd3.I PLOT DATE: 24-MAY-2004
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: G. ROY CHECKED BY: T. SUMNER
SHEET 26 OF 71

Metric

COLORS: BACKGROUND - REFL. ORANGE
TEXT & BORDER - BLACK

SIGN NO. 3



COLORS: BACKGROUND - REFL. ORANGE
TEXT & BORDER - BLACK

SIGN NO. 4
△

TEXT LAYOUT DIMENSIONS ARE BASED ON THE "LETTER & NUMERAL WIDTHS AND SPACE" TABLES FOUND IN THE "STANDARD HIGHWAYS SIGNS" BOOKLET. MINOR VARIATIONS IN TEXT DIMENSIONS ARE ACCEPTABLE BASED ON INDIVIDUAL MANUFACTURER'S LETTER FABRICATION. SIGNIFICANT CHANGES WHICH AFFECT SIGN APPEARANCE SHALL BE BROUGHT TO THE ATTENTION OF THE VAOT'S TRAFFIC DESIGN UNIT BEFORE FABRICATION.

SEE STD. E-100M FOR SIGN MATERIALS.

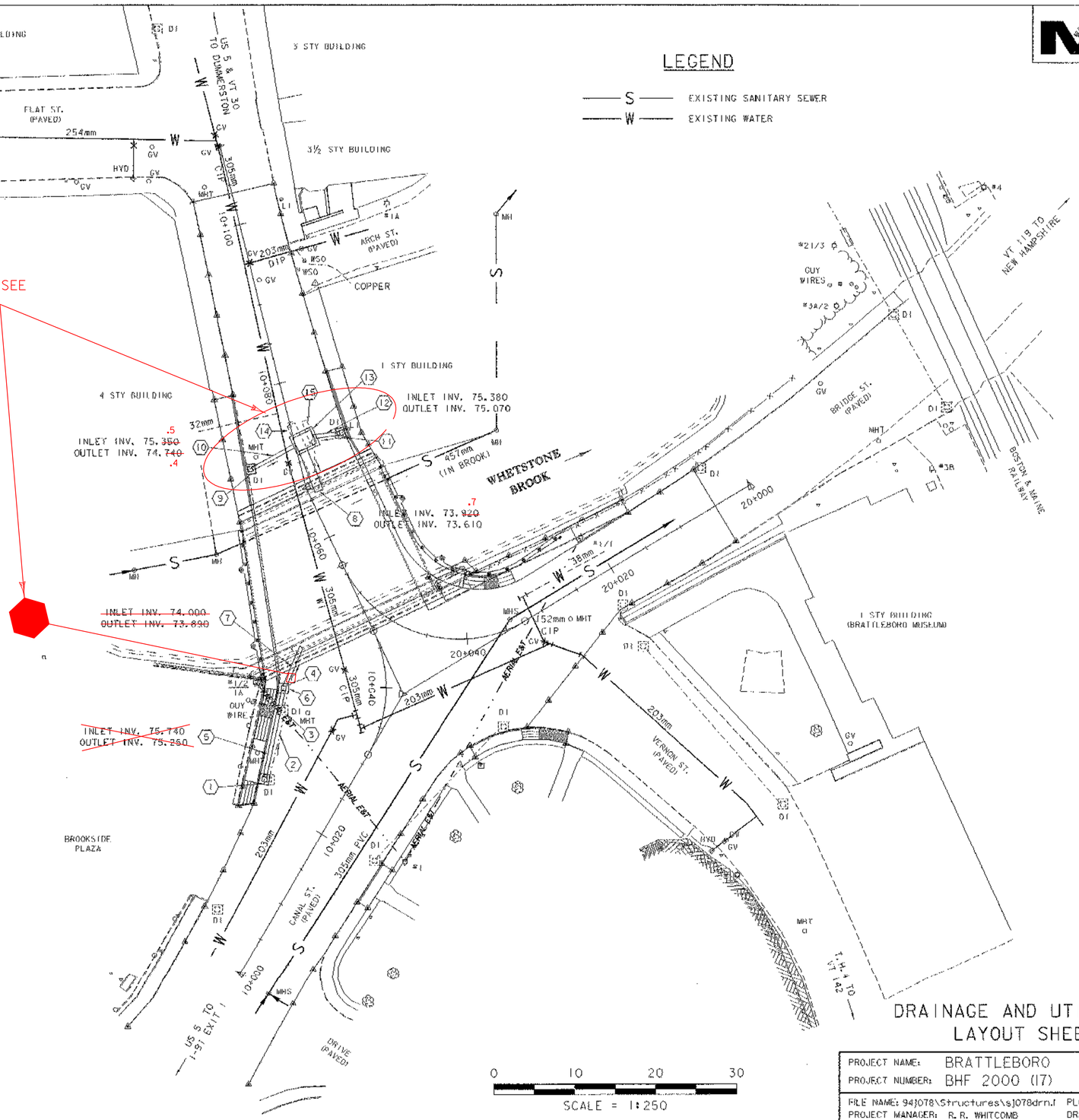
△ Revised by VAOT 3/10/03
Size of Sign Changed

CONSTRUCTION SIGN DETAIL (4)

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sJ078csd4.I PLOT DATE: 24-MAY-2004
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: G. ROY CHECKED BY: T. SUMNER
SHEET 27 OF 71

Metric



0 10 20 30

SCALE = 1:250

ADJUST ELEVATION OF VALVE BOX
10+031.84 LT.
10+043.10 LT.
10+070.15 LT
10+092.88 RT.
10+095.13 RT.
20+031.74 LT.

CHANGE ELEVATION OF SEWER MANHOLE
9+999.60 RT.
20+034.06 RT.

CHANGING ELEVATION OF DROP INLETS CATCH BASINS OR MANHOLES
~~10+005.49 LT. D1~~
10+020.50 RT. D1
~~10+024.60 LT. MHT~~
~~10+032.78 LT. MHT~~
~~10+074.91 LT. MHT~~
~~20+021.07 LT. D1~~
~~20+027.49 LT. MHT~~
~~20+037.79 LT. D1~~

REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE, TYPE D
~~10+022.48 LT.~~
10+039.70 LT.
10+070.62 LT.
10+072.19 RT.
10 + 043 LT*

CONCRETE JUNCTION BOX WITH CAST IRON COVER
10+~~072.38~~ RT.
+ 071

SEE DRAINAGE DETAIL SHEET FOR DRAINAGE PIPE INFORMATION

NOTE:
UNDERGROUND TELEPHONE UTILITIES ARE NOT SHOWN. CONTACT VERIZON FOR LOCATION.

* 4 x 4 JUNCTION BOX WITH CAST IRON ROUND "DRAIN" COVER

DRAINAGE AND UTILITIES LAYOUT SHEET

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)
FILE NAME: 94J078\Structures\sj078drn1	PLOT DATE: 06-FEB-2003
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: T. SUMNER
	SHEET 28 OF 71

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE DETAIL SHEET

Metric

DRAINAGE STRUCTURES

DRAINAGE FLAG NO.	STATION km + m	STATION km + m	POS.	ASKEW	INLET/OUTLET TYPE		DITCH		PIPE ARCH			PIPE		ALLOWABLE OPTIONS						PIPE ELBOW	ES	CB	RCCD	DEPTH DI	CONC CL B	REINF STEEL	DI GRATE	CHAN ELEV	CRM	TRENCH EXCAVATION		COMM EXC	UNC CHAN EXC	STRUCT EXCAV	GRAN BKFILL STRUCT	GRAN BORR	EROS MATT	STONE FILL		MARKER POSTS		REMARKS
					INLET	OUTLET	IN	OUT	SPAN mm	RISE mm	L m	D mm	L m	PCCSP mm	CAAP mm	RCP CL	CSP mm	CPEP SL	PCCSP PI mm											EARTH m^3	ROCK m^3									LT ea	RT ea	
1	10+022.2		LT																					2400	2.84	155	I-D			5	3										REMOVE EXISTING RCDI ~~AND CONSTRUCT NEW 1200 X 1200 RCDI~~
2	10+022.8	10+030.5	LT																																					EXISTING 310mm RCP - REMOVE (PAY FOR REMOVAL UNDER TRENCH EXCAVATION OF NEW PIPE)
3	10+030.8		LT																											3										EXISTING RCDI - REMOVE
4	10+031.1	10+038.6	LT																																					EXISTING 310mm RCP - REMOVE (PAY FOR REMOVAL UNDER TRENCH EXCAVATION OF NEW PIPE)
5	10+022.7	10+038.3	LT		~~RCDI~~ EXISTING 12' CULVERT	RCDI						450	~~14.0~~ 14.2			111		X												13											NEW 450mm OPTION PIPE
6	10+039.7		LT																					3450	4.00	212	I-D			10											NEW 1200 X 1200 RCDI
7	10+040.4	10+049.2	LT		RCDI	RCJB		X				450	~~5.5~~ 2.2			111														2	2										NEW 450mm RCP PIPE - OUTLET INTO ~~WHETSTONE BROOK~~ RCJB
8	10+065.7	10+071.4	RT		RCDI			X				1050	5.5			111														5	10										NEW 1050mm RCP PIPE - OUTLET INTO WHETSTONE BROOK
9	10+070.6		LT																					2400	2.84	155	I-D			5	5										REMOVE EXISTING RCDI AND CONSTRUCT NEW 1200 X 1200 RCDI
10	10+070.6	10+072.2	LT		RCDI	RCJB						450	6.1			111		X												5	2										NEW 450mm OPTION PIPE, REMOVE EXISTING PIPE
11	10+072.2		RT																					2400	2.84	155	I-D			5	5										REMOVE EXISTING RCDI AND CONSTRUCT NEW 1200 X 1200 RCDI
12	10+072.2	10+072.6	RT		RCDI	RCJB						450	3.7			111		X												2	1										NEW 450mm OPTION PIPE, REMOVE EXISTING PIPE
13	~~10+072.4~~ 10+071		~~RT~~ RT	CL																				3600	*	*	*			*	*				*						NEW REINFORCED CONCRETE JUNCTION BOX (RCJB) & PRECAST REINFORCED CONCRETE MANHOLE W/ CAST IRON COVER *(SEE SHEET 4 FOR QUANTITIES AND SHEET 55 FOR DETAILS)
14	10+073.2		RT			RCJB																																		EXISTING 1067mm RCP - OUTLET INTO RCJB
15	10+071.9	10+073.5	RT			RCJB																																		EXISTING 610mm CLAY PIPE - REMOVE 2 SECTIONS AND AND OUTLET INTO RCJB
16	10 + 043		LT																																					NEW 1200 x 1200 RCJB, OUTLETS THROUGH EXIST 24" x 27" HOLE THROUGH ABUT #1 INTO WHETSTONE BROOK
TOTALS												450	20.8			111		X							12.52	677	4-D			52	31									
												450	5.5			111																									
												1050	5.5			111																									

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRO 2000 (17)

FILE NAME: 94J078\structures\sJ078dds.I
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
DRAINAGE DETAIL SHEET

PLOT DATE: 06-FEB-2003
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER
SHEET 29 OF 71

STREET LIGHTING NOTES

A. CONDUIT AND JUNCTION BOXES

1. 50 MM (INSIDE DIAMETER) CONDUIT SHALL BE USED THROUGHOUT THE PROJECT. ALL CONDUIT SHALL BE PVC SCHEDULE 40 ELECTRICAL CONDUIT (UNDERGROUND) AND PVC SCHEDULE 80 CONDUIT (ABOVE GROUND AND IN CONCRETE) AS DETAILED IN THESE PLANS.

2. SEE SECTION 679.04 CONCERNING THE PLACING OF CONDUIT, PULL BOXES AND JUNCTION BOXES.

B. GROUNDING

1. ALUMINUM WIRE SHALL NOT BE USED FOR GROUND WIRE.

2. SEE SECTION 679.08 CONCERNING GROUNDING AND TESTING.

C. LUMINAIRES, POLES, ANCHOR BASES

1. THE LIGHT POLES SHALL BE "MOLDCAST" 127 MM DIAMETER X 4.27 METER LONG ~~STRAIGHT~~ FLUTED SHAFT ALUMINUM POLE (DB10-5R14-250). THE POLE WILL HAVE THE REQUIRED TENON ADAPTER TO FIT THE TOP MOUNTED LUMINAIRE FIXTURE. LIGHTING FOR EACH POLE SHALL CONSIST OF THREE "MOLDCAST, PEDESTRIAN CONTRACLINE" LUMINAIRES (70MH). ONE LUMINAIRE WILL BE POLE MOUNTED (PCCI AND TWO WILL BE SCROLL ARM MOUNTED (TRA-ILI. EACH POLE SHALL HAVE A WEATHERPROOF RECEPTACLE MOUNTED NEAR THE TOP OF THE POLE FOR WIRING ACCESS TO THE LUMINAIRES. THE COST AND INSTALLATION OF THE TENON ADAPTER WILL BE INCIDENTAL TO ITEM 679.45 " LIGHT POLE".

2. EACH POLE SHALL BE MOUNTED TO A CONCRETE BASE WITH FOUR ANCHOR BOLTS, NUTS, AND WASHERS AS PROVIDED WITH THE LIGHT POLE. SEE "LIGHT POST BASE DETAILS" SHEET 35 FOR ANCHORAGE TO BRIDGE. WIRING ACCESS SHALL BE A 102 MM X 152 MM TAMPER RESISTANT HANDHOLE IN THE POLE BASE. THE POLE ANCHOR BASE SHALL HAVE FOUR ANCHOR BOLT HOLES AND A TWO PIECE CLAMSHELL BASE COVER.

3. FINAL FINISH SHALL BE A FLAT BLACK COLOR, ACHIEVED IN TWO APPLICATIONS WITH TOUCH-UP PAINT USED AS REQUIRED AFTER POLE INSTALLATION.

D. WIRE

1. ALL WIRING BETWEEN THE METER AND THE FIRST POLE AND/OR PULLBOX AND BETWEEN POLES AND/OR PULLBOXES SHALL BE COPPER AND CONFORM TO SECTION 679.02 (G). ALL WIRE SHALL HAVE TYPE XHHW INSULATION OR EQUIVALENT.

2. ALL CONDUITS SHALL INCLUDE A GROUNDING CONDUCTOR.

3. SEE SECTION 678.09, 679.06 AND 679.07 CONCERNING ELECTRIC POWER SERVICE AND WIRING.

4. THE WIRED CONDUIT SHALL BE ATTACHED TO THE FRONT FACE OF THE EXISTING UPSTREAM RETAINING WALL AND THE FRONT FACE OF ABUTMENT ONE BACKWALL. THE COST OF HARDWARE, EQUIPMENT, TOOLS AND LABOR REQUIRED TO ATTACH THE CONDUIT, WILL BE INCIDENTAL TO ITEM 678.23 "WIRED CONDUIT".

E. GENERAL

1. ALL ELECTRICAL MATERIAL AND INSTALLATION SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE, STATE AND LOCAL CODES AND THE LOCAL UTILITY COMPANY REQUIREMENTS.

2. THE LOAD ON EACH BRANCH OF A THREE WIRE CIRCUIT SHALL AS BALANCED AS POSSIBLE. LOAD TO NEUTRAL.

3. CONDUIT LOCATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE. ACTUAL LOCATIONS SHALL BE DETERMINED IN THE FIELD.

4. THE CONTRACTOR SHALL CONTACT UTILITY COMPANIES WITH UNDERGROUND FACILITIES WHEN EXCAVATING IN THE AREA OF THESE UTILITIES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR CONTACTING AND SCHEDULING WORK WITH LOCAL UTILITIES WITH FACILITIES IN THE PROJECT AREA FOR LOCATION OF POWER SOURCES.

5. ONE PHOTOCELL FOR THE LIGHTING CIRCUIT SHALL BE LOCATED AT THE POWER SOURCE OR SOME COMMON POINT, AS DIRECTED BY THE ENGINEER. ONE PHOTO CELL ON EACH POST

6. THE CONTRACTOR MAY OPEN THE BRIDGE TO TRAFFIC WITHOUT THE STREET LIGHTING IN OPERATION. HOWEVER, THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN SAFE PASSAGE OF VEHICLES WHILE WORKERS ARE COMPLETING ALL STREET LIGHTING WORK.

7. SIX EXTRA REPLACEMENT BULBS SHALL BE PROVIDED AND DELIVERED TO THE CITY OF BRATTLEBORO FOR THEIR USE. THE COST OF THESE BULBS IS TO BE INCIDENTAL TO ITEM 679.50, "LUMINAIRE".

8. IF THE LOCATION OF THE POWER SOURCE, ~~JUNCTION BOX,~~ AND METER VARIES FROM THE PROPOSED LOCATIONS SHOWN ON THE PLANS, THE NEW LOCATION WILL BE APPROVED BY THE ENGINEER AND THE TOWN OF BRATTLEBORO.

F. WORK TO BE PERFORMED BY THE CONTRACTOR

1. COORDINATE ALL ITEMS REGARDING PROJECT POWER WITH THE TOWN OF BRATTLEBORO BEFORE COMMENCING WORK.

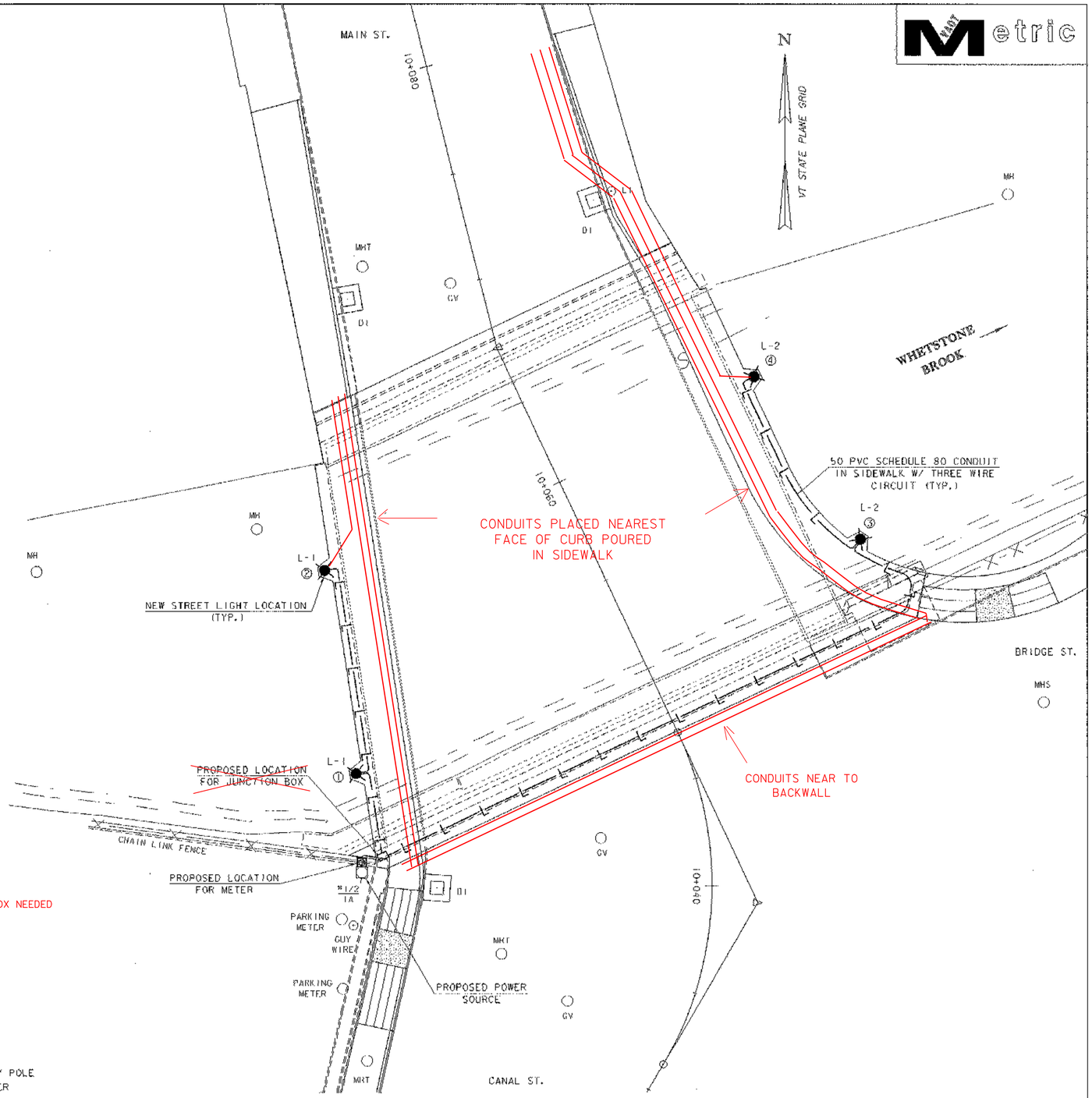
2. INSTALL ALL LIGHT POLES, LUMINAIRES, WIRING AND DISCONNECT PLUG KITS.

3. INSTALL ALL ~~JUNCTION BOXES~~, THE CONDUIT, PHOTOCELL AND WIRING AS DETAILED ON PLAN DRAWINGS. NO JUNCTION BOX NEEDED

4. INSTALL POWER DROP STANCHION, ~~OPTION #3, SEE STD. E-175M.~~ ON EXISTING POLE

5. INSTALL REMOTE TWO RELAYS WITH CIRCUIT BREAKERS FOR AUTOMATIC SWITCHING OF THE TWO LIGHTING CIRCUITS.

6. THE CONTRACTOR IS DIRECTED TO SECTION 679.09 REGARDING POWER COSTS FOR THE STREET LIGHTING.



STREET LIGHTING LOCATIONS TABLE				
POLE NO.	LOCATION	OFFSET*	LUMINAIRE WATTS TYPE	MOUNT HEIGHT
①	10+051.890 LT.	14.210 M	75W Me Ha	4.3 M
②	10+060.950 LT.	11.530 M	75W Me Ha	4.3 M
③	10+051.710 RT.	11.430 M	75W Me Ha	4.3 M
④	10+060.510 RT.	10.180 M	75W Me Ha	4.3 M

NOTE: Me Ha = METAL HALIDE
* = OFFSET TO CENTERLINE POLE & FOUNDATION

LEGEND

- ☼ EXISTING UTILITY POLE
- ② LIGHT POLE NUMBER
- —L— PROPOSED LIGHTING CONDUIT
- L-1 CIRCUIT NUMBER
- ✱ PROPOSED ORNAMENTAL LIGHT
- □ JUNCTION BOX
- ■ METER BOX
- —— ADDITIONAL CONDUITS INSTALLED BY TOWN FOR FUTURE USE 2" - TWO RUNS &¾" FOR LIGHTS

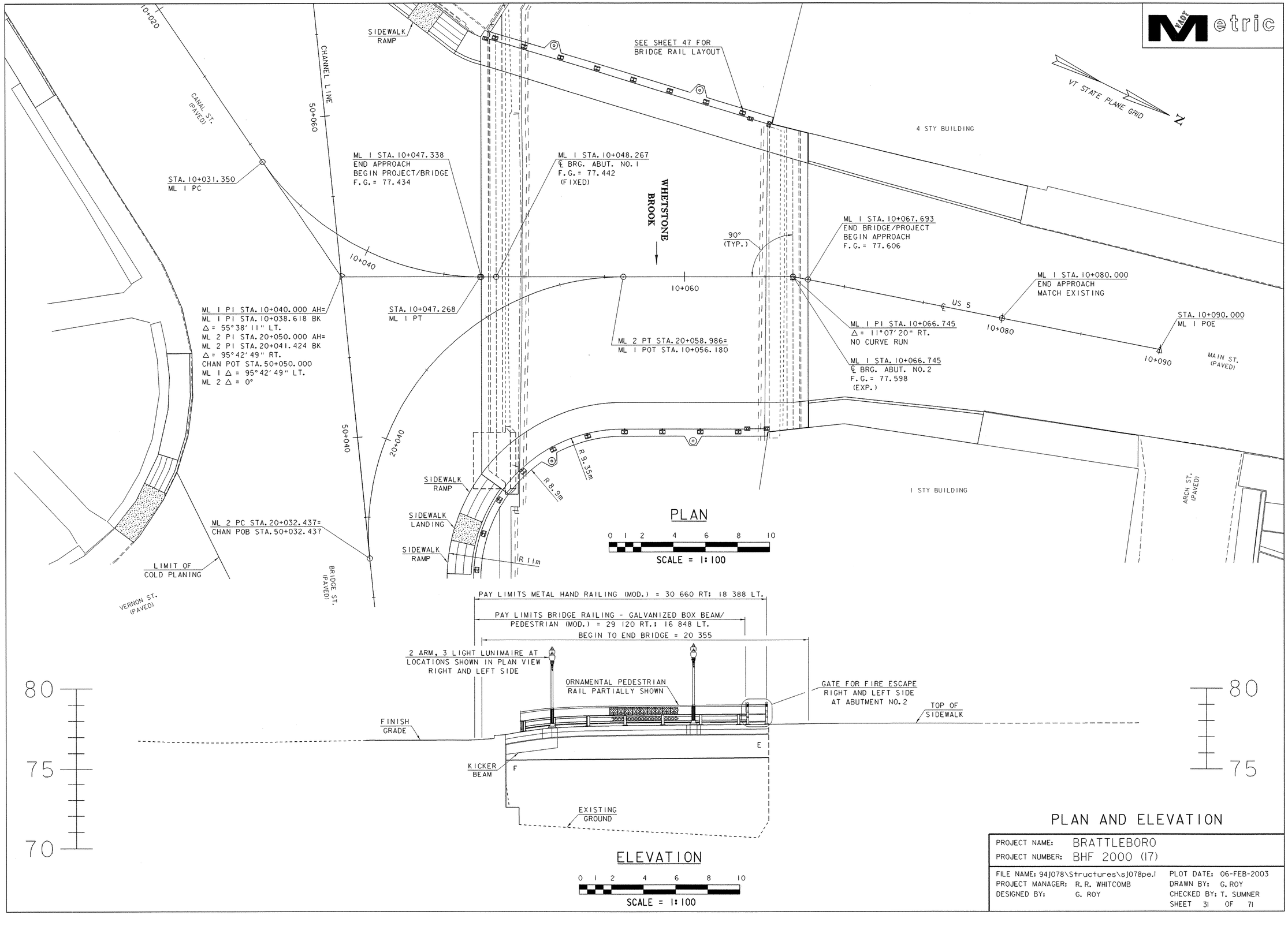
0 1 2 4 6 8 10
SCALE = 1:100

STREET LIGHTING LAYOUT

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sJ078sll.f
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 06-FEB-2003
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER
SHEET 30 OF 71

Metric



PLAN

0 1 2 4 6 8 10

SCALE = 1:100

ELEVATION

0 1 2 4 6 8 10

SCALE = 1:100

PLAN AND ELEVATION

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)

FILE NAME: 94J078\Structures\sJ078pe.I		PLOT DATE: 06-FEB-2003	
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	G. ROY
DESIGNED BY:	G. ROY	CHECKED BY:	T. SUMNER
		SHEET 31	OF 71

GENERAL

1. 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 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 1996, AND ITS LATEST REVISIONS.

2. IN STREAM CONSTRUCTION SHALL BE RESTRICTED TO THE PERIOD FROM JUNE 1 TO OCTOBER 1. ANY DEVIATION FROM THIS TIME PERIOD SHALL BE APPROVED IN WRITING BY THE AGENCY OF NATURAL RESOURCES.

3. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 20 DEGREES CELSIUS.

4. THE EXISTING STRUCTURAL STEEL ON THIS PROJECT WAS PAINTED WITH A MATERIAL WHICH MAY CONTAIN LEAD. THE REMOVED STRUCTURAL STEEL IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE STRUCTURAL STEEL.

5. THE EXISTING CONCRETE JERSEY BARRIER ON THE UPSTREAM SIDE OF BRIDGE BELONGS TO THE TOWN OF BRATTLEBORO. THE CONTRACTOR SHALL REMOVE AND DELIVER THE BARRIER TO A SITE SELECTED BY BRATTLEBORO PUBLIC WORKS DIRECTOR, STEVE BARRETT. THE EQUIPMENT AND LABOR FOR THIS WORK WILL BE INCIDENTAL TO ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE".

6. PEDESTRIAN ACCESS TO ALL OF THE BUILDINGS WITHIN THE PROJECT APPROACH LIMITS SHALL BE MAINTAINED AT ALL TIMES FOR RESIDENCES AND DURING BUSINESS HOURS OR OPERATING HOURS FOR PUBLIC OR PRIVATE ESTABLISHMENTS. ACCESS TO THE EXISTING FIRE ESCAPES AT ABUTMENT NO.2 (LT. & RT.) DOES NOT HAVE TO BE MAINTAINED DURING CONSTRUCTION.

7. THE EXISTING GREEN, ORNATE BRIDGE RAIL ON THE DOWNSTREAM SIDE WILL BECOME THE PROPERTY OF THE TOWN OF BRATTLEBORO. THE CONTRACTOR SHALL REMOVE AND DELIVER THE RAIL IN LENGTHS EQUAL TO THE SPACING OF THE BRIDGE RAIL FASCIA SUPPORTS TO A SITE SELECTED BY BRATTLEBORO PUBLIC WORKS DIRECTOR, STEVE BARRETT. THE EQUIPMENT AND LABOR FOR THIS WORK WILL BE INCIDENTAL TO ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE".

8. BRATTLEBORO POLICE DEPARTMENT HAS EXPRESSED INTEREST IN PROVIDING OFFICERS FOR THE ITEM 630.10,"UNIFORMED TRAFFIC OFFICERS".

EARTHWORK AND RELATED ITEMS

9. THE FOLLOWING WILL BE PAID FOR UNDER ITEM 529.20,"PARTIAL REMOVAL OF STRUCTURE":
   - -REMOVAL AND DISPOSAL OF EXISTING SUPERSTRUCTURE
   - -SALVAGE AND DELIVERY OF EXISTING CONCRETE JERSEY BARRIER AND BRIDGE RAIL TO THE TOWN OF BRATTLEBORO.
   - -REMOVAL AND DISPOSAL OF EXISTING TELEPHONE CONDUIT BEAMS.
   - -PARTIAL REMOVAL AND DISPOSAL OF EXISTING BACKWALLS.
   - -PARTIAL REMOVAL AND DISPOSAL OF EXISTING FIRE ESCAPES.

10. ALL SUBSTRUCTURE WORK SHALL BE KEPT SEPARATED FROM THE STREAM BY MEANS APPROVED BY THE ENGINEER.

11. WHEREVER PAVEMENT IS WITHIN EXCAVATION AREAS, THE OUTSIDE LIMITS OF EXCAVATION WILL BE SAW CUT TO THE FULL DEPTH OF PAVEMENT TO PROVIDE A NEAT CUT LINE. SAW CUT SHALL BE DONE BEFORE NEW PAVEMENT IS PLACED. PAYMENT FOR THE SAW CUTTING WILL BE INCIDENTAL TO ADJACENT EXCAVATION PAY ITEMS.

12. EXCAVATION OF THE PORTION OF THE EXISTING LAID-UP STONE RETAINING WALL REQUIRED FOR CONSTRUCTING THE NEW ABUTMENT EXTENSION BEARING CAP WILL BE PAID FOR AS ITEM 204.25, "STRUCTURE EXCAVATION".

13. STONES FROM THE RETAINING WALL EXCAVATION WILL BE SALVAGED AND STOCKPILED. THE STONES WILL BE USED TO REBUILD AREAS OF THE LAID-UP STONE RETAINING WALL DISTURBED DURING EXCAVATION AND TO PAVE THE SURFACE AREA BETWEEN THE TOP OF WALL AND BACK OF NEW SIDEWALK. THE COST OF SALVAGING, STOCKPILING, PAVING AND REBUILDING THE RETAINING WALL SHALL BE INCLUDED IN THE ITEM 602.20, "DRY RUBBLE MASONRY".

14. CARE SHALL BE TAKEN WHEN EXCAVATING FOR THE ABUTMENT EXTENSION AND THE CAST-IN-PLACE SIDEWALK ALONG BRIDGE STREET SO AS TO NOT DISTURB OR DAMAGE THE REMAINING PORTION OF THE LAID-UP STONE RETAINING WALL. ANY DAMAGE DONE OUTSIDE THE IMMEDIATE VICINITY OF THE REQUIRED EXCAVATION WILL BE REPAIRED BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE.

15. ITEM 208.40, COFFERDAM, HAS BEEN INCLUDED AT THE REINFORCED CONCRETE JUNCTION BOX LOCATION TO PAY FOR MEASURES NECESSARY TO PROTECT WORKERS AND THE TRAVELING PUBLIC DURING THE CONSTRUCTION OF THIS DEEP DRAINAGE STRUCTURE.

16. NOT USED

17. NOT USED

CONCRETE AND REINFORCING STEEL

18. THE DECK AND SIDEWALK CONCRETE ON BRIDGE SHALL BE CONCRETE, HIGH PERFORMANCE CLASS A. ALL OTHER CONCRETE SHALL BE CONCRETE, HIGH PERFORMANCE CLASS B UNLESS NOTED OTHERWISE.

19. SURFACES OF BRIDGE SEATS UNDER THE BEARING DEVICES SHALL BE LEVEL. OTHER AREAS OF THE BRIDGE SEAT SHALL BE SLOPED 2 PERCENT. THE ABUTMENT SEATS SHALL BE SLOPED FULL WIDTH TOWARD MIDSPAN. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE GIVEN A STEEL TROWEL OR MAGNESIUM FLOAT FINISH.

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

21. THE DECK FOR EACH PHASE IS TO BE PLACED IN ONE CONTINUOUS PLACEMENT WITH A MAXIMUM DURATION OF EIGHT HOURS. IF CIRCUMSTANCES PREVENT THIS FROM BEING ACCOMPLISHED, A CONSTRUCTION JOINT SHALL BE USED. A 96-HOUR DELAY BETWEEN THE COMPLETION OF ONE DAY'S PLACEMENT AND THE BEGINNING OF ANOTHER PLACEMENT SHALL BE OBSERVED.

22. WHEN POURING THE DECK, THE CONCRETE SHALL BE DEPOSITED PARALLEL TO THE CENTERLINE OF BEARING SO AS TO LOAD THE GIRDERS EQUALLY.

23. NO TRAFFIC SHALL BE ALLOWED ON THE NEW DECK UNTIL THE CURE PERIOD FOR DECK AND SIDEWALK IS UP AND THE 28-DAY DESIGN STRENGTH IS ATTAINED, AS EVIDENCED BY TEST CYLINDERS CURED UNDER FIELD CONDITIONS.

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

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

26. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25 MILLIMETERS X 25 MILLIMETERS.

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

28. THE MINIMUM COVER FOR REINFORCING STEEL IN THE SUBSTRUCTURES SHALL BE 75 MILLIMETERS UNLESS DETAILED OTHERWISE.

29. ALL REINFORCING STEEL IN THE CONCRETE DECK AND BRIDGE CURBS SHALL BE EPOXY COATED AND PAID FOR UNDER THE ITEM 507.17,"EPOXY COATED REINFORCING STEEL".

30. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE AS FOLLOWS:

SPACING:	+/- 25 MILLIMETERS
CLEARANCE:	+/- 6 MILLIMETERS

STRUCTURAL STEEL

31. ALL STRUCTURAL STEEL PAID UNDER THE ITEM 506.55,"STRUCTURAL STEEL (PLATE GIRDER)" SHALL CONFORM TO AASHTO M270/M270M GRADE 345W UNLESS NOTED OTHERWISE ON PLANS.

32. THE CHARPY V-NOTCH TEST IS REQUIRED ONLY FOR THOSE MEMBERS DESIGNATED AS SUCH ON THE PLANS AS SPECIFIED IN SUBSECTION 714.01 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

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

34. ALL FIELD CONNECTIONS SHALL BE MADE USING M22 X 2.5 TYPE 3 BOLTS CONFORMING TO AASHTO M 164M TYPE 3. HOLES SHALL BE 24 MILLIMETER DIAMETER, UNLESS OTHERWISE NOTED.

35. FLEMING BRACKETS OR SIMILAR FALSE WORK SHALL BE DESIGNED BY THE CONTRACTOR AND SHALL BE LIMITED TO A MAXIMUM SPACING OF 1200 MILLIMETERS.

36. ANY HOLES IN THE FASCIA BEAMS NOT OTHERWISE FILLED SHALL BE FITTED WITH BUTTON HEAD OR HEX HEAD BOLTS CONFORMING TO AASHTO M164M TYPE 3 AND SUBSECTION 506.19 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

TELEPHONE LINES

37. THE EXISTING TELEPHONE CONDUIT SUPPORT BEAMS SHALL BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR. THE COST OF THIS WORK WILL BE PAID FOR UNDER ITEM 529.20,"PARTIAL REMOVAL OF STRUCTURE".

38. THE COST AND INSTALLATION OF THE TELEPHONE CONDUIT DIAPHRAGMS AND CONNECTIONS WILL BE PAID FOR AS ITEM 506.55,"STRUCTURAL STEEL (PLATE GIRDER)".

39. THE CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING FOUR NEW TELEPHONE CONDUITS BETWEEN THE FRONT FACES OF THE BACKWALLS AND HANGING ALL TWELVE TELEPHONE CONDUITS (4 NEW, 8 EXISTING) FROM THE DIAPHRAGMS INCLUDING FIELD DRILLING OF HOLES IN THE DIAPHRAGMS FOR THE HANGERS. THE COST OF DRILLING HOLES, LABOR, TOOLS AND EQUIPMENT REQUIRED FOR THIS WORK WILL BE PAID FOR AS ITEM 625.16, "DUCTS ON BRIDGE". VERIZON WILL PROVIDE CONTRACTOR WITH THE HANGER ASSEMBLIES, NEW CONDUITS AND ALL ASSOCIATED HARDWARE AND MATERIALS NEEDED TO DO THE WORK.

WATERLINE

40. THE COST AND INSTALLATION OF WATERLINE DIAPHRAGMS AND CONNECTION PLATES WILL BE PAID FOR AS ITEM 506.55,"STRUCTURAL STEEL (PLATE GIRDER)".

41. CONTRACTOR WILL VERIFY LOCATION OF WATER MAIN IN THE FIELD TO INSURE THAT IT WILL NOT INTERFERE WITH THE ANCHOR BOLTS OF THE NEW BEARINGS. A MINIMUM OF 100 MILLIMETERS CLEARANCE BETWEEN OUTERMOST EDGE OF WATER MAIN AND ANCHOR BOLT IS REQUIRED.

42. THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER WHO WILL CONTACT STEVE BARRETT OF BRATTLEBORO PUBLIC WORKS AT (802) 254-4255, TWO WEEKS PRIOR TO COMMENCING WORK ON THE WATERLINE.

43. THE 25mm DIAMETER THREADED HANGER RODS USED IN THE WATERLINE INSTALLATION SHALL CONFORM TO ASTM A449.

FIRE ESCAPES

44. A PORTION OF THE TOP STEP OR PLATFORM OF THE EXISTING FIRE ESCAPES WILL NEED TO BE TRIMMED OFF IN ORDER TO ALLOW ENOUGH CLEARANCE FOR THE NEW BRIDGE DECK. THE COST OF THIS REMOVAL AND DISPOSAL WILL BE PAID FOR UNDER ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE".

45. IF ANY ADDITIONAL MODIFICATIONS OR SUPPORTS ARE REQUIRED TO MAINTAIN THE SAFETY AND INTEGRITY OF THE FIRE ESCAPE, THE COST OF THIS WORK WILL BE PAID FOR AS EXTRA WORK ON A FORCE ACCOUNT BASIS AS DESCRIBED IN SECTION 109.06 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

GUARD RAIL

46. THE ORNAMENTAL PEDESTRIAN RAIL, INCLUDING ORNAMENTAL POSTS, ANCHORAGE ASSEMBLES, BASE PLATES AND GATES FOR THE FIRE ESCAPES, WILL BE PAID FOR AS ITEM 525.15, "METAL HAND RAILING (MOD.)". THE PEDESTRIAN RAILING WILL BE PAINTED BLACK.

47. THE THREE-RAIL BOX BEAM BRIDGE RAIL WILL BE PAID FOR AS ITEM 525.32,"BRIDGE RAILING-GALVANIZED BOX BEAM/PEDESTRIAN (MOD.)". THE BRIDGE RAIL WILL BE GALVANIZED AND PAINTED BLACK.

DETOURS AND SIGNING

48. ALL NEW SIGNS AND POSTS DETAILED IN THE DETOUR SIGN SUMMARY SHEETS WILL BE REMOVED BY THE CONTRACTOR AT THE END OF THE PROJECT OR AS DIRECTED BY THE RESIDENT ENGINEER. THE SIGNS WILL BE STOCKPILED AS DIRECTED BY THE RESIDENT ENGINEER AND WILL BECOME THE PROPERTY OF THE TOWN OF BRATTLEBORO. THE COST OF REMOVING THESE SIGNS AND STOCKPILING THEM WILL BE INCIDENTAL TO ITEM 675.20, "TRAFFIC SIGNS (TYPE A) (MOD.)". THE COST OF REMOVING THE POSTS WILL BE INCIDENTAL TO ITEM 675.301,"FLANGED CHANNEL SIGN POST (MOD.)". SALVAGED SIGNS DETAILED IN THE TRAFFIC SIGN SUMMARY SHEET WILL REMAIN IN THEIR FINAL PLACEMENT AS SHOWN IN THE PLANS AFTER PROJECT COMPLETION.

49. ALL OTHER CONSTRUCTION APPROACH SIGNING NOT DETAILED IN THE DETOUR SIGN SUMMARY SHEETS WILL BE INCIDENTAL TO ITEM 527.10,"MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS".

50. ALL COSTS INVOLVED IN MAINTAINING AND ADJUSTING ALL DETOUR SIGNING AS DIRECTED BY THE RESIDENT ENGINEER WILL BE CONSIDERED INCIDENTAL TO ITEM 527.10,"MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS".

51. THE TEMPORARY TRAFFIC BARRIER SHALL BE PAID FOR BY THE UNIT PRICE FOR EACH PHASE INSTALLATION AS SHOWN ON THE PLANS. ANY INCIDENTAL MOVES MADE TO ACCOMMODATE THE CONTRACTORS OPERATIONS WILL NOT BE PAID FOR UNLESS APPROVED BY THE ENGINEER PRIOR TO THE NEW PLACEMENT.

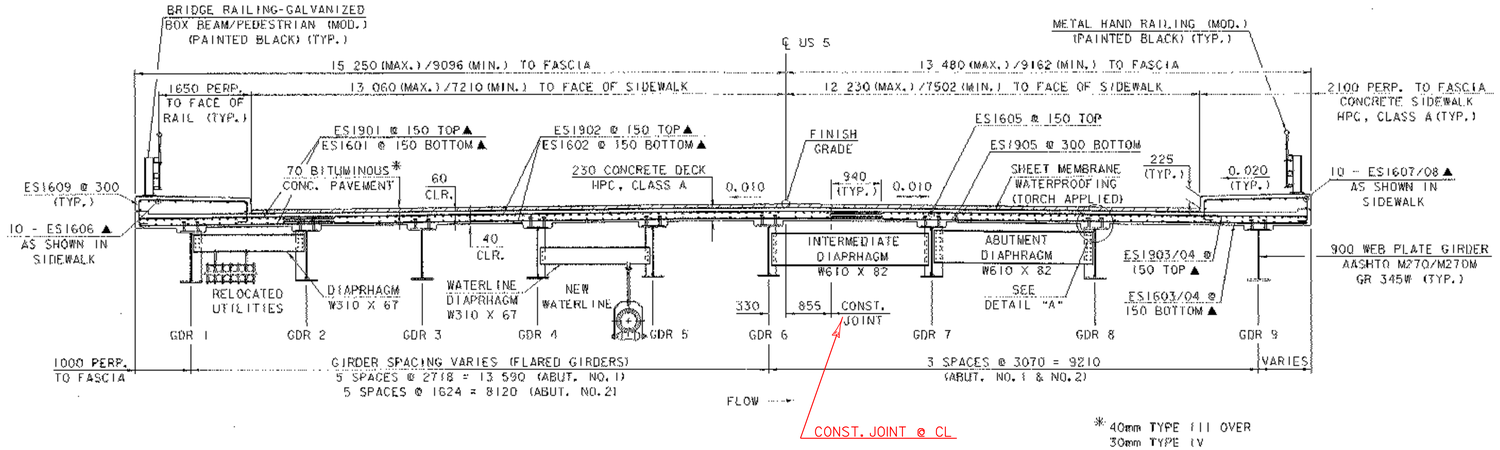
VAOT Metric

PROJECT NOTES

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sJ078pn.i
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: T. SUMNER
PLOT DATE: 06-FEB-2003
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER

Metric



BRIDGE TYPICAL SECTION @ MIDSPAN

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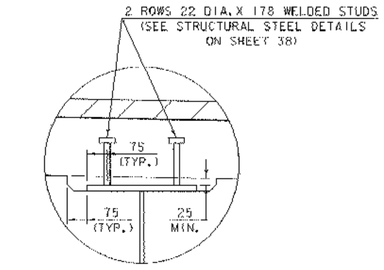


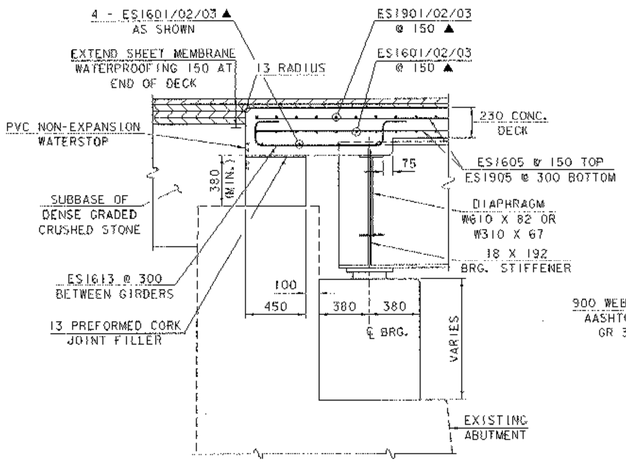
DETAIL "A"

0 0.5 1

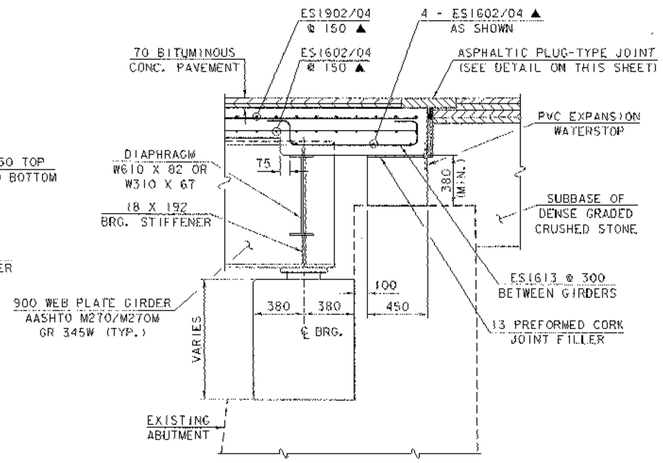
SCALE = 1:10

PLUG JOINT NOTES:

1. THE CLOSED CELL FOAM SHALL BE ADHERED TO THE BRIDGE DECK WITH AN APPROVED STRUCTURAL ADHESIVE.
2. SUBBASE MATERIAL SHALL BE TIGHTLY COMPACTED AGAINST THE FOAM FROM THE BOTTOM OF THE BRIDGE DECK TO THE TOP OF THE FOAM MATERIAL.
3. ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS ASSOCIATED WITH THE INSTALLATION OF THE ASPHALTIC PLUG-TYPE JOINT, INCLUDING THE FOAM AND STRUCTURAL ADHESIVE, SHALL BE PAID FOR UNDER THE UNIT PRICE BID FOR ITEM 516.10, "BRIDGE EXPANSION JOINT".



ABUTMENT NO. 1 (FIXED)

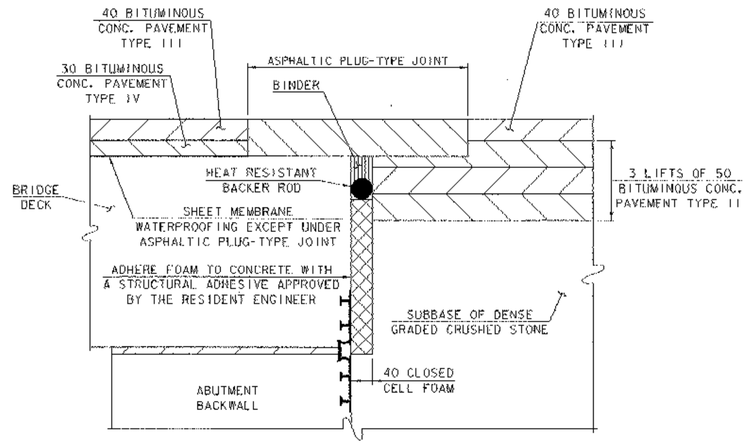


ABUTMENT NO. 2 (EXPANSION)

ABUTMENT END DETAILS

0 1 2

SCALE = 1:20



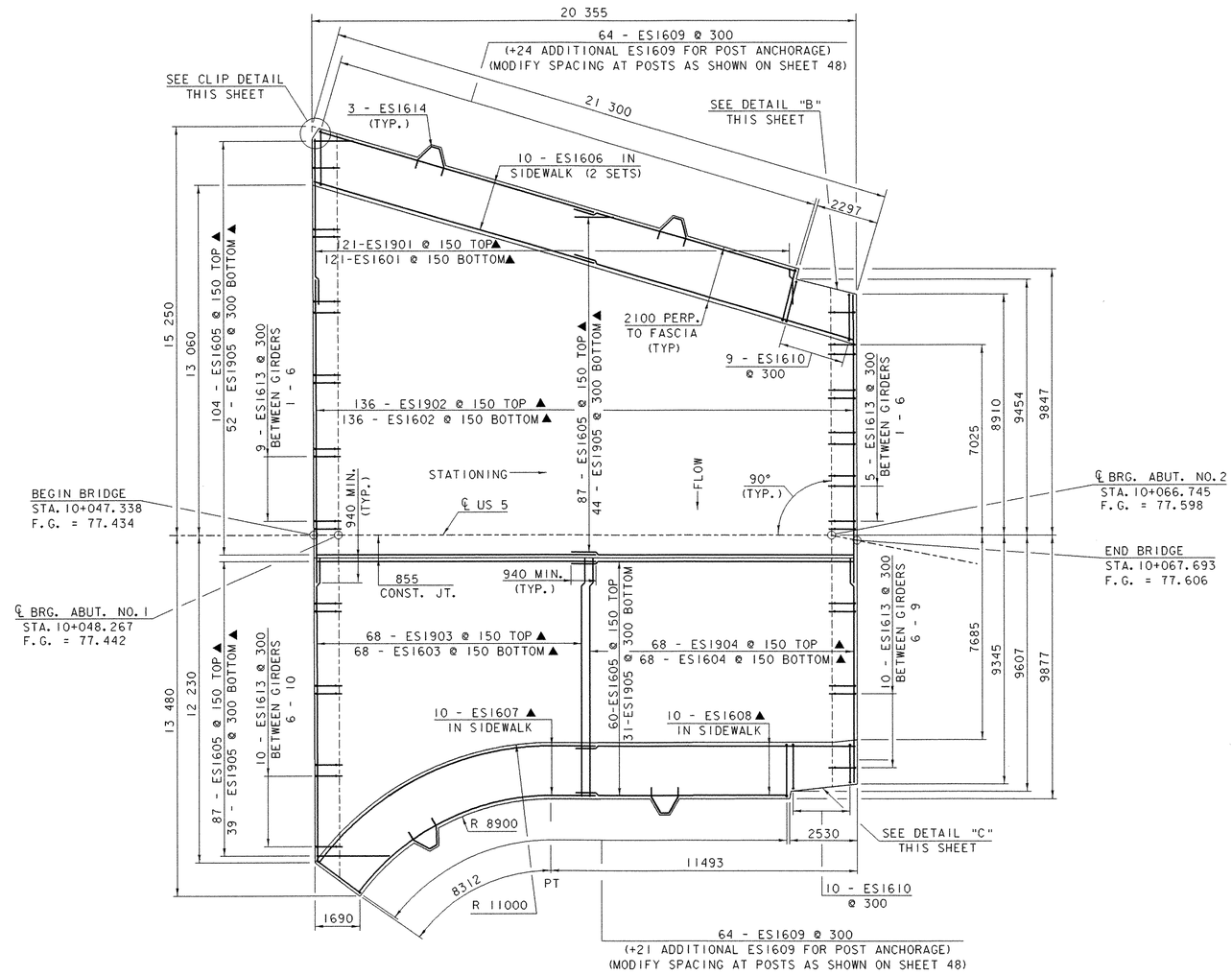
ASPHALTIC PLUG-TYPE JOINT DETAIL

0 0.25 0.5

SCALE = 1:5

BRIDGE TYPICAL SECTION

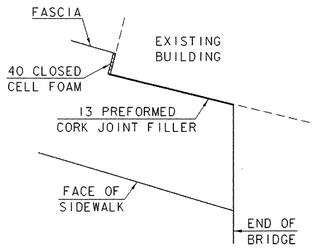
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)
FILE NAME: 94J078\Structures\sJ078bts.I	PLOT DATE: 06-FEB-2003
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: B. MAURICE
DESIGNED BY: T. SUMNER	CHECKED BY: T. SUMNER
	SHEET 33 OF 71



DECK REINFORCING PLAN

0 1 2 4 6 8 10

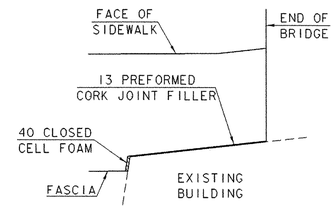
SCALE = 1:100



DETAIL "B"

0 1 2 3 4 5

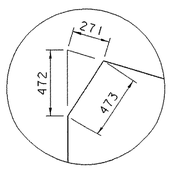
SCALE = 1:50



DETAIL "C"

0 1 2 3 4 5

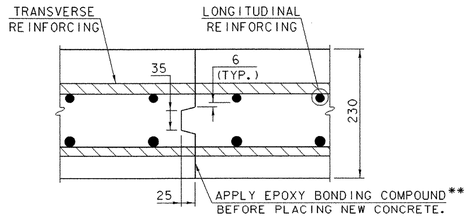
SCALE = 1:50



CLIP DETAIL

0 1 2

SCALE = 1:20



LONGITUDINAL BRIDGE DECK CONSTRUCTION JOINT DETAILS

0 0.25 0.5

SCALE = 1:5

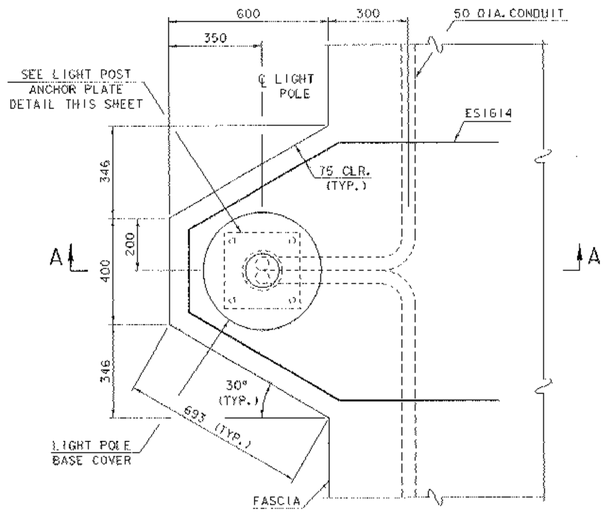
** PAYMENT SHALL BE MADE SUBSIDIARY TO ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A".

DECK REINFORCING PLAN

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94j078\Structures\sj078drp.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: T. SUMNER
PLOT DATE: 06-FEB-2003
DRAWN BY: B. MAURICE
CHECKED BY: T. SUMNER
SHEET 34 OF 71

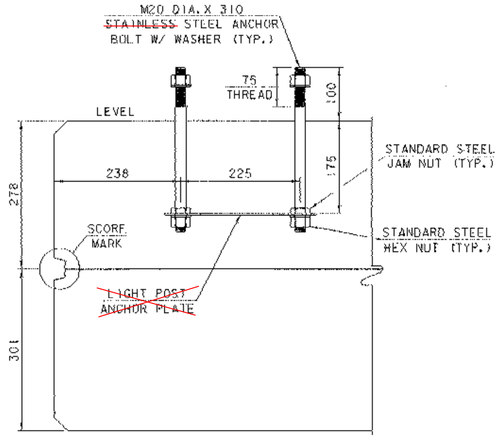
Metric



LIGHT POLE BASE REINFORCING DETAIL

0 0.5 1

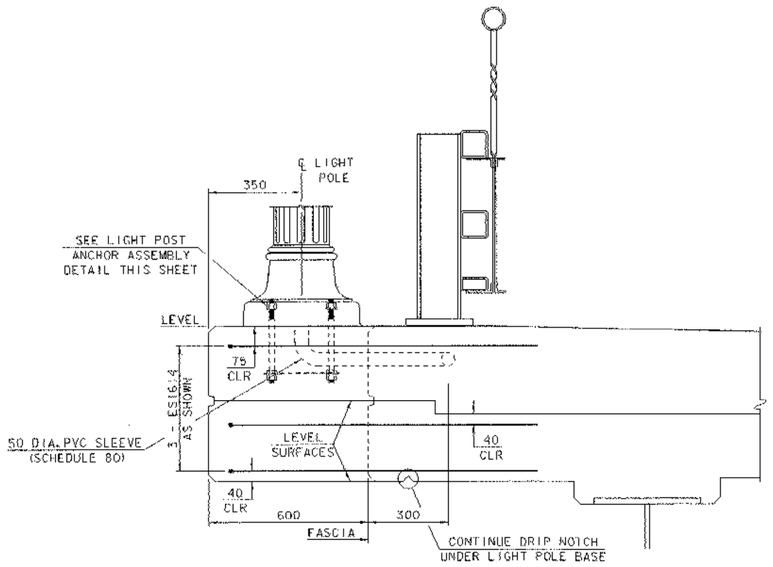
SCALE = 1:10



LIGHT POST ANCHOR ASSEMBLY

0 0.25 0.5

SCALE = 1:5

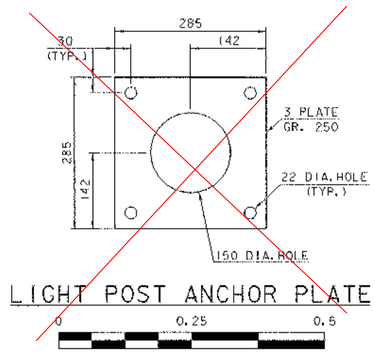


SECTION A-A

0 0.5 1

SCALE = 1:10

ANCHOR BOLTS DRILLED AND EPOXIED INTO PLACE



LIGHT POST ANCHOR PLATE

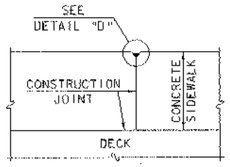
0 0.25 0.5

SCALE = 1:5

LIGHT POST BASE DETAILS

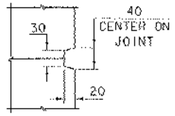
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078lbd.l		PLOT DATE:	06-FEB-2003
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	G. ROY
DESIGNED BY:	T. SUMNER	CHECKED BY:	T. SUMNER
		SHEET	35 OF 71



SECTION B-B

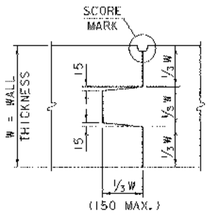
NOT TO SCALE



SCORE MARK DETAIL

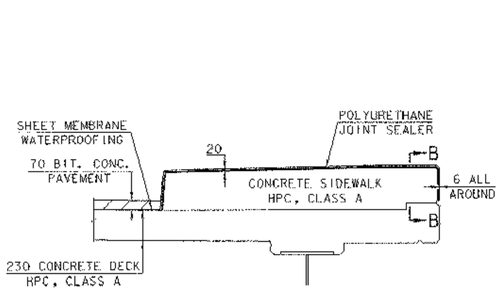
0 0.25 0.5

SCALE = 1:5



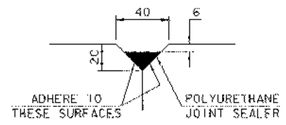
TYPICAL CONCRETE
CONSTRUCTION JOINT

NOT TO SCALE



TYPICAL SECTION THROUGH
SIDEWALK CONSTRUCTION JOINT

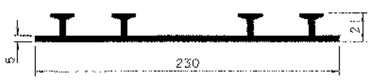
NOT TO SCALE



DETAIL "D"

NOT TO SCALE

POLYURETHANE JOINT SEALER PER SUBSECTION 524.06(d). COLOR TO MATCH CONCRETE. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A".

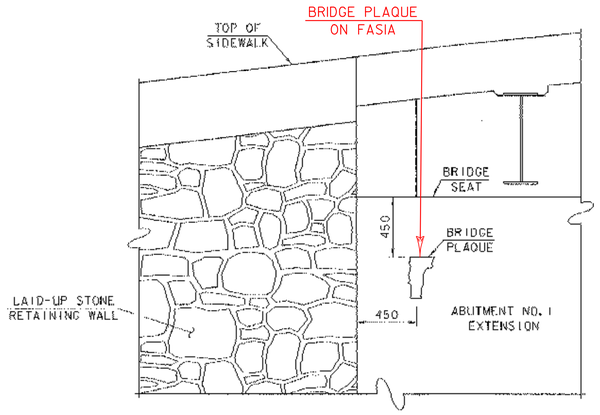


P.V.C. WATERSTOP FOR NON-EXPANSION JOINTS

NOT TO SCALE

P.V.C. WATERSTOP FOR EXPANSION JOINTS

NOT TO SCALE



BRIDGE PLAQUE DETAIL

NOT TO SCALE

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AS SHOWN OR AS DIRECTED BY THE ENGINEER.

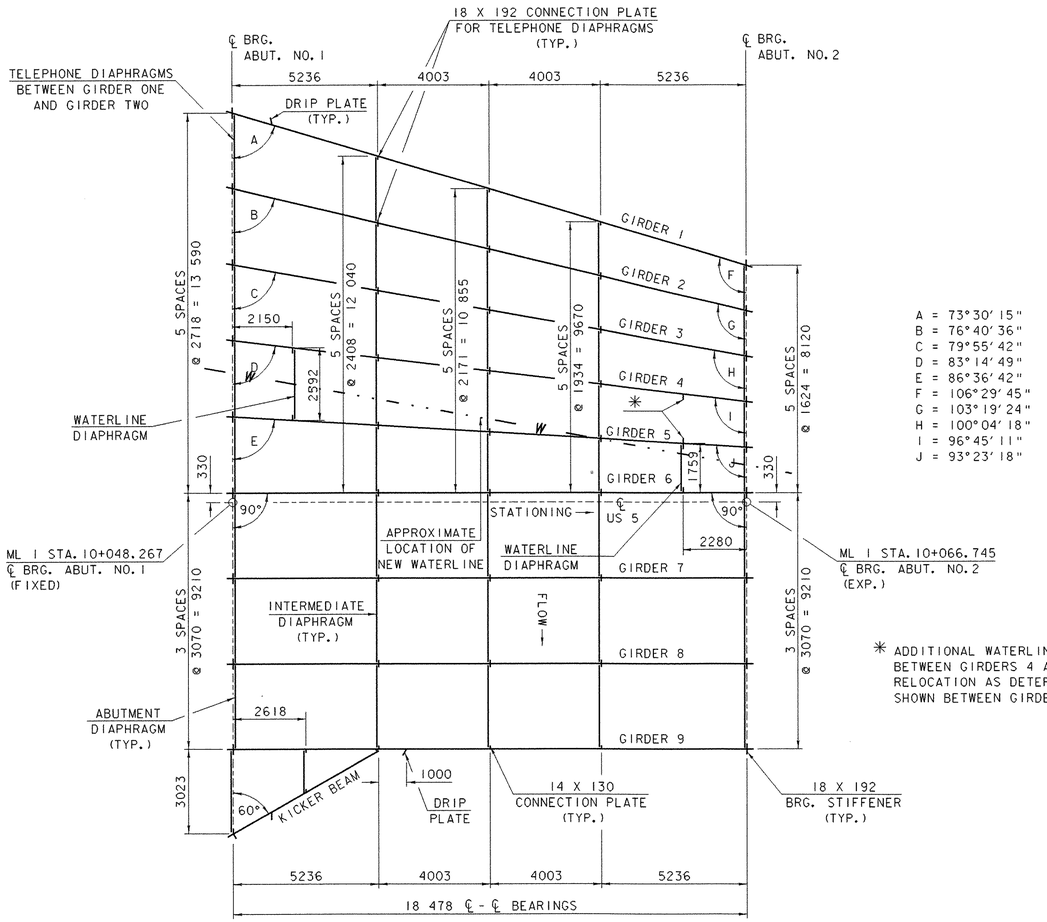
NOTES

1. SHEET MEMBRANE WATERPROOFING SHALL EXTEND TO FACE OF SIDEWALK.
2. CONSTRUCTION JOINTS THROUGH CONCRETE SIDEWALK SHALL BE SPACED A MAXIMUM OF 4500 CENTER TO CENTER AND SHALL BE 550 MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. CONCRETE SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.
3. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CONSTRUCTION JOINTS. SIDEWALK REINFORCING STIRRUP BARS SHALL BE TURNED AS REQUIRED TO FIT.
4. THE COST FOR P.V.C. WATERSTOP SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A". OTHER CONFIGURATIONS MAY BE USED UPON APPROVAL OF THE STRUCTURES ENGINEER.

MISCELLANEOUS PROJECT DETAILS

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078mpd.l		PLOT DATE:	06-FEB-2003
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	G. ROY
DESIGNED BY:	T. SUMNER	CHECKED BY:	T. SUMNER
		SHEET	36 OF 71



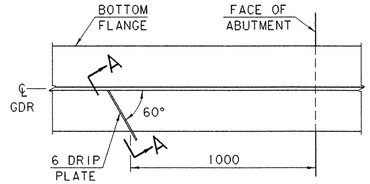
A = 73°30'15"
B = 76°40'36"
C = 79°55'42"
D = 83°14'49"
E = 86°36'42"
F = 106°29'45"
G = 103°19'24"
H = 100°04'18"
I = 96°45'11"
J = 93°23'18"

✳ ADDITIONAL WATERLINE DIAPHRAGM CONNECTION PLATES REQUIRED BETWEEN GIRDERS 4 AND 5 IN ORDER TO ACCOMMODATE WATERLINE RELOCATION AS DETERMINED IN THE FIELD. (SAME LOCATION AS SHOWN BETWEEN GIRDERS 5 AND 6)

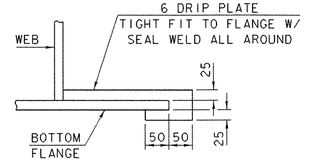
FRAMING PLAN

0 1 2 4 6 8 10

SCALE = 1:100



DRIP PLATE PLAN



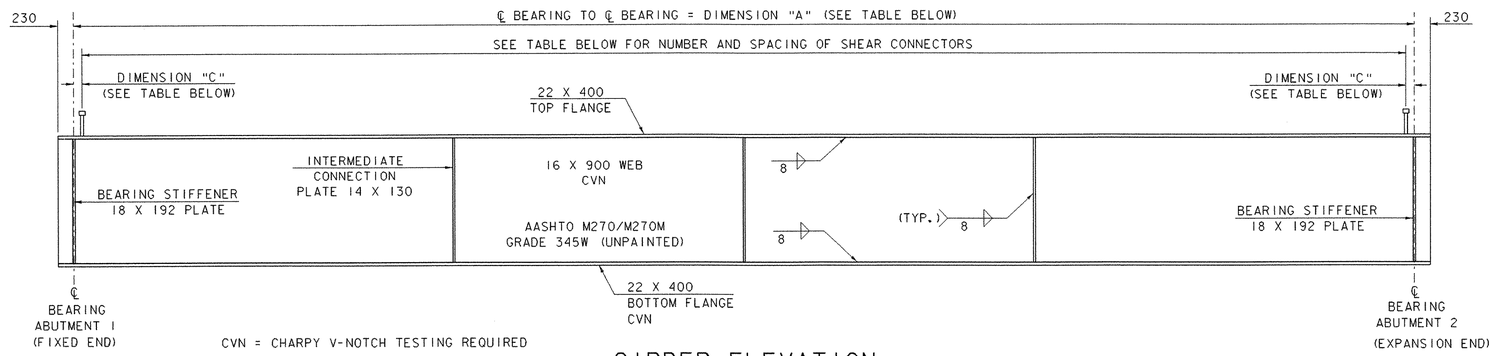
SECTION A-A

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

FRAMING PLAN

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078fp.i		PLOT DATE:	06-FEB-2003
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	B. MAURICE
DESIGNED BY:	T. SUMNER	CHECKED BY:	T. SUMNER
		SHEET	37 OF 71



CVN = CHARPY V-NOTCH TESTING REQUIRED

GIRDER ELEVATION

0 1 2 3 4

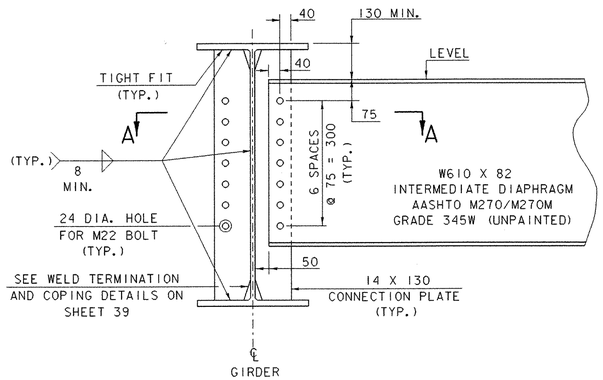
HORIZONTAL SCALE = 1:40

0 1 2

VERTICAL SCALE = 1:20

GIRDER LENGTHS			SHEAR CONNECTORS		
GIRDER NUMBER	DIMENSION "A"	TOTAL LENGTH	SPACING	NUMBER OF STUDS	DIMENSION "C"
1	19 271	19 731	120 AT 160	242	36
2	18 989	19 449	118 AT 160	238	55
3	18 767	19 227	117 AT 160	236	24
4	18 607	19 067	116 AT 160	234	24
5	18 510	18 970	115 AT 160	232	55
6,7,8,9	18 478	18 938	115 AT 160	232	39

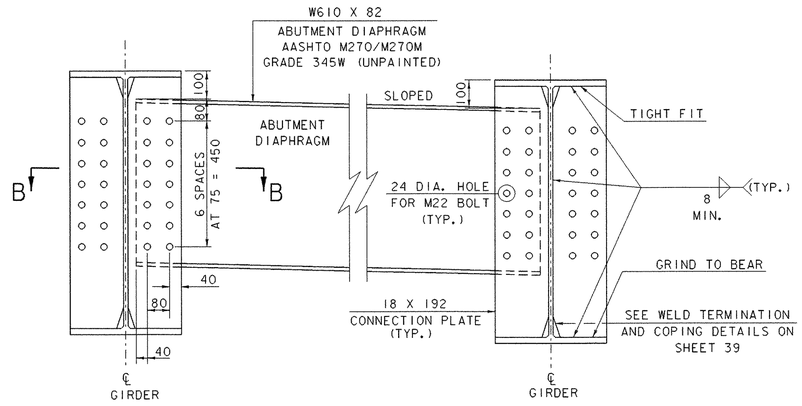
NOTES:
1. CVN - SHALL MEET CHARPY V-NOTCH TEST
2. ALL STRUCTURAL STEEL SHALL BE AASHTO M270/M270M, GRADE 345W, UNPAINTED.



INTERMEDIATE DIAPHRAGM AND INTERMEDIATE CONNECTION PLATE

0 0.5 1

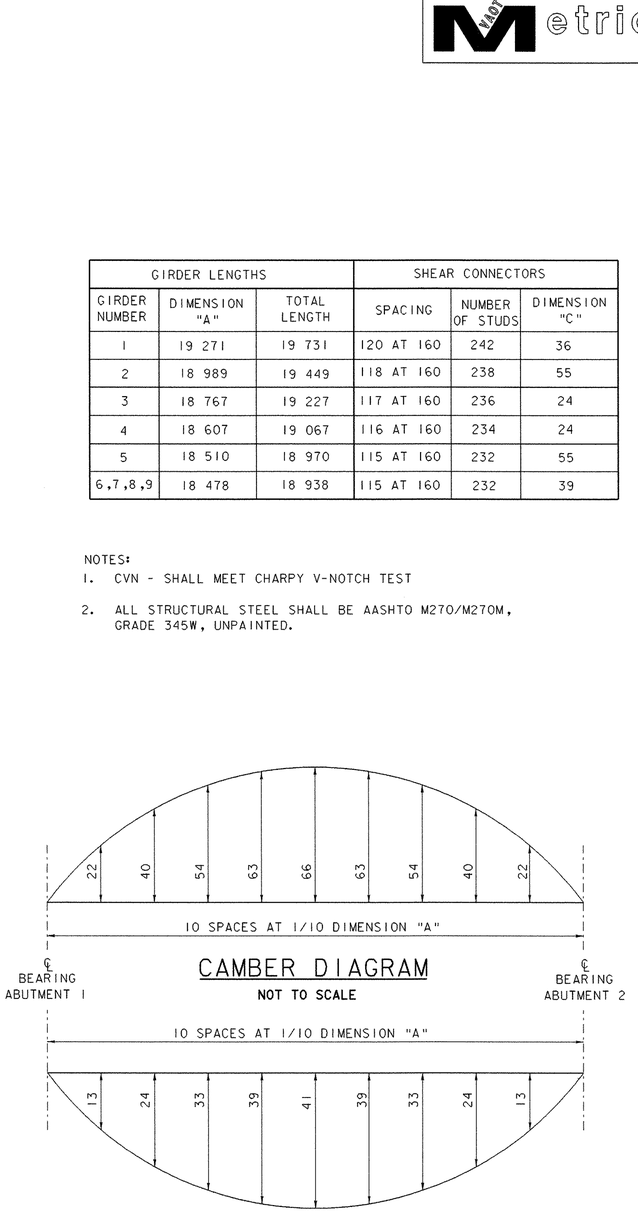
SCALE = 1:10



ABUTMENT DIAPHRAGM AND ABUTMENT CONNECTION PLATE

0 0.5 1

SCALE = 1:10

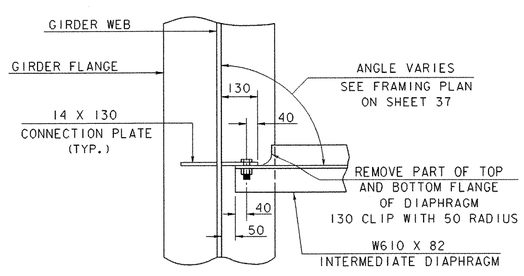


CAMBER DIAGRAM

NOT TO SCALE

DEAD LOAD DEFLECTION

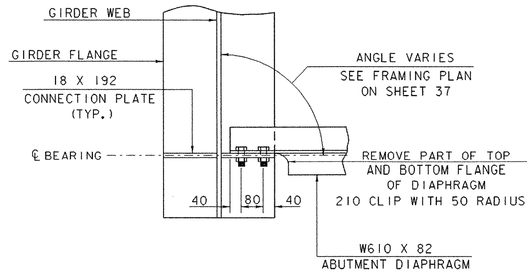
NOT TO SCALE



SECTION A-A

0 0.5 1

SCALE = 1:10



SECTION B-B

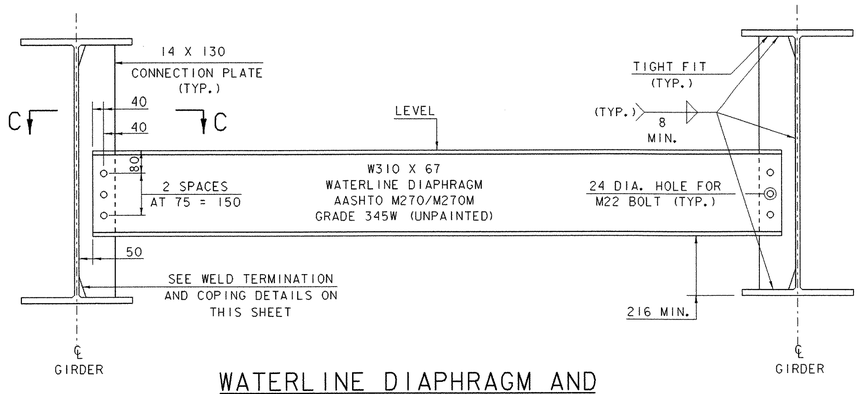
0 0.5 1

SCALE = 1:10

GIRDER DETAILS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

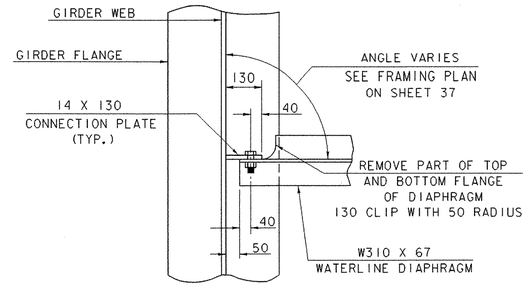
FILE NAME: 94J078\Structures\sj078stl.i
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: T. SUMNER
PLOT DATE: 06-FEB-2003
DRAWN BY: B. MAURICE
CHECKED BY: T. SUMNER
SHEET 38 OF 71



WATERLINE DIAPHRAGM AND WATERLINE CONNECTION PLATE

0 0.5 1

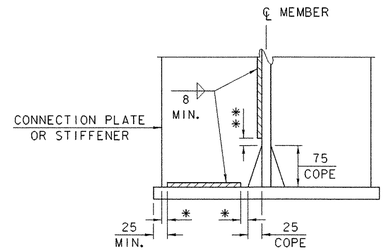
SCALE = 1:10



SECTION C-C

0 0.5 1

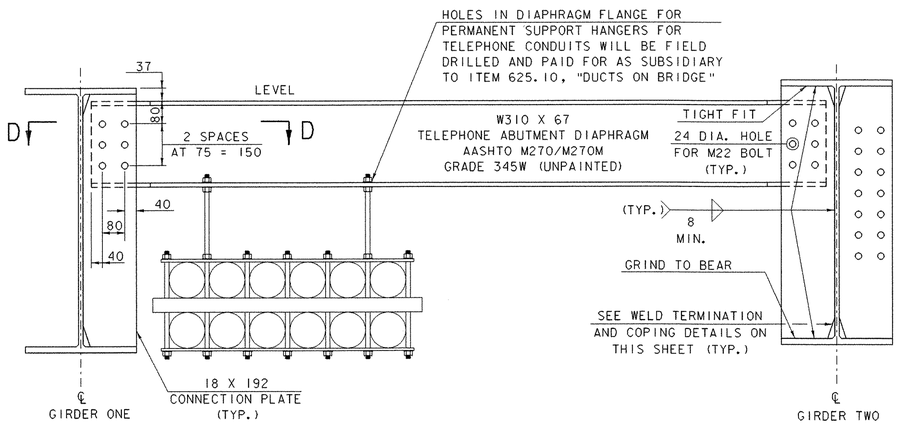
SCALE = 1:10



WELD TERMINATION AND COPING DETAIL FOR STEEL MEMBERS

* NO WELD FOR 6 MIN., 12 MAX. (EXCEPT MUST MAINTAIN 25 MIN. FROM EDGE OF FLANGE)

** 12 ± 6 FOR CONNECTION PLATE OR STIFFENER TO WEB WELD ONLY.

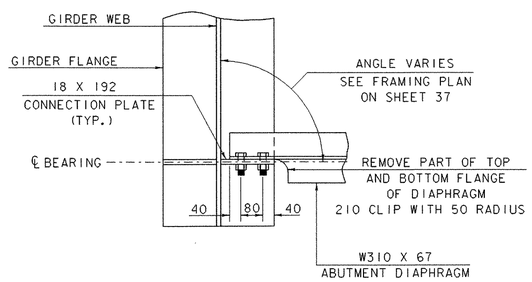


TELEPHONE ABUTMENT DIAPHRAGM AND TELEPHONE ABUTMENT CONNECTION PLATE BETWEEN GIRDER ONE AND GIRDER TWO

0 0.5 1

SCALE = 1:10

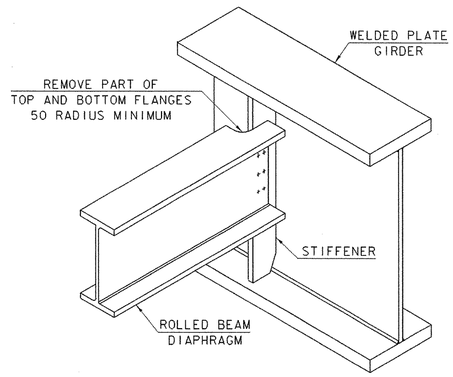
TELEPHONE INTERMEDIATE DIAPHRAGM AND TELEPHONE INTERMEDIATE CONNECTION PLATE DETAILS WILL BE THE SAME AS TELEPHONE ABUTMENT DIAPHRAGM AND TELEPHONE ABUTMENT CONNECTION PLATES BETWEEN GIRDER ONE AND GIRDER TWO EXCEPT FOR GRIND TO BEAR CAN BE REPLACED WITH TIGHT FIT.



SECTION D-D

0 0.5 1

SCALE = 1:10



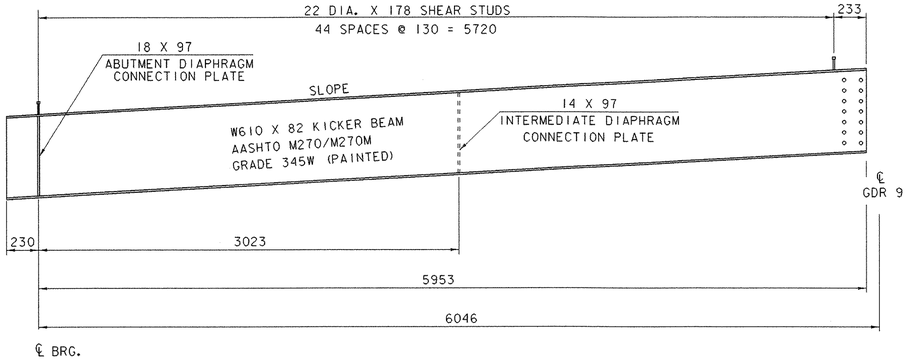
SEE CONTRACT DRAWINGS FOR SIZES OF MEMBERS AND CONNECTION DETAILS

ROLLED BEAM USED AS DIAPHRAGM

UTILITY DIAPRAGM DETAILS

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)

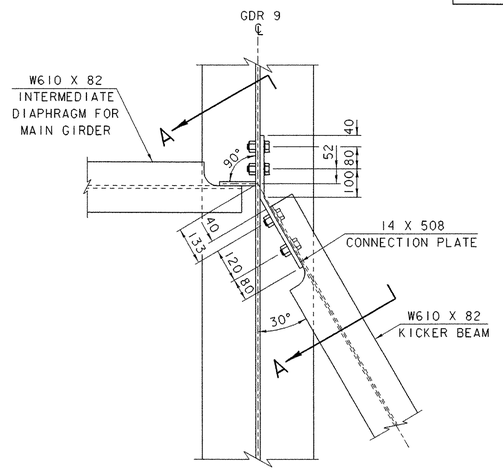
FILE NAME: 94j078\structures\sj078st2.1		PLOT DATE:	06-FEB-2003
PROJECT MANAGER:	R.R. WHITCOMB	DRAWN BY:	B. MAURICE
DESIGNED BY:	T. SUMNER	CHECKED BY:	T. SUMNER
		SHEET	39 OF 71



KICKER BEAM ELEVATION

0 1 2

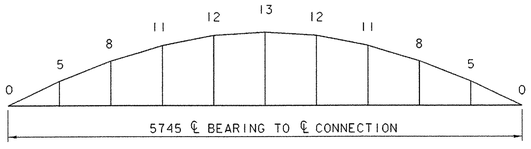
SCALE = 1:20



KICKER BEAM CONNECTION TO GIRDER 9 DETAIL

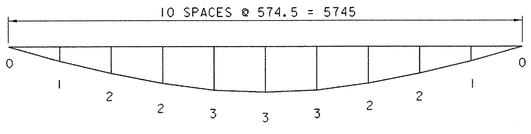
0 0.5 1

SCALE = 1:10



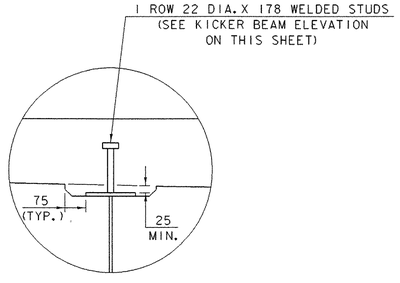
CAMBER DIAGRAM

NOT TO SCALE



DEAD LOAD DEFLECTION

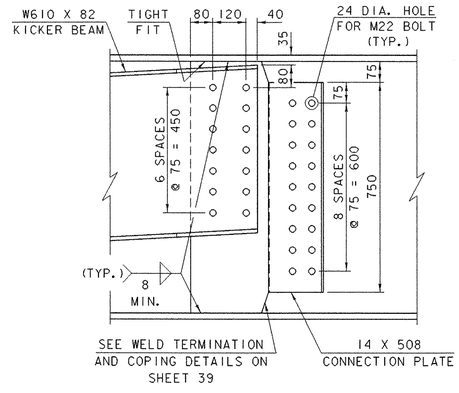
NOT TO SCALE



KICKER BEAM SHEAR STUD DETAIL

0 0.5 1

SCALE = 1:10



SECTION A-A

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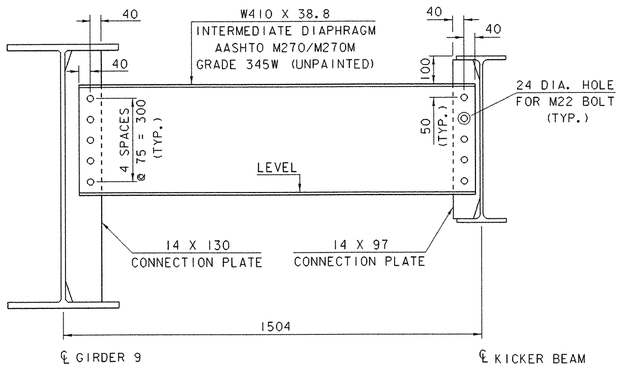
KICKER BEAM DETAILS

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078kbd.i		PLOT DATE:	06-FEB-2003
PROJECT MANAGER:	R.R. WHITCOMB	DRAWN BY:	B. MAURICE
DESIGNED BY:	T. SUMNER	CHECKED BY:	T. SUMNER
		SHEET	40 OF 71



KICKER BEAM INTERMEDIATE DIAPHRAGM

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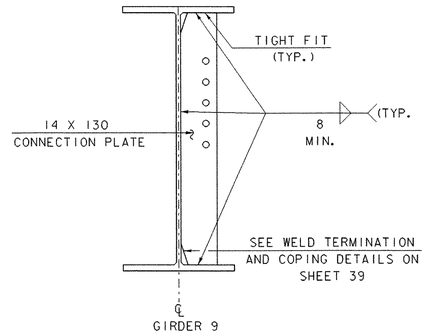

KICKER BEAM INTERMEDIATE DIAPHRAGM CONNECTION PLATE

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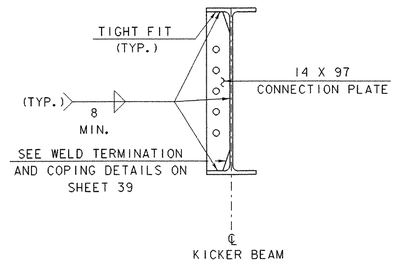
SCALE = 1:10



KICKER BEAM INTERMEDIATE DIAPHRAGM CONNECTION PLATE

0 0.5 1

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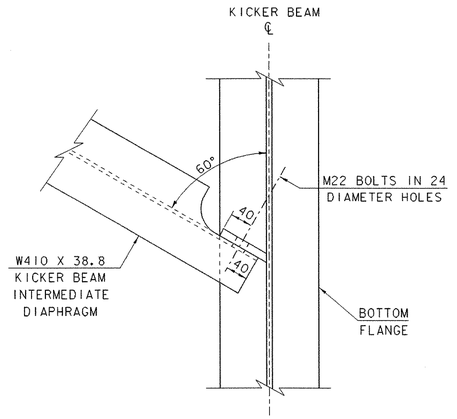

KICKER BEAM INTERMEDIATE DIAPHRAGM CONNECTION DETAIL

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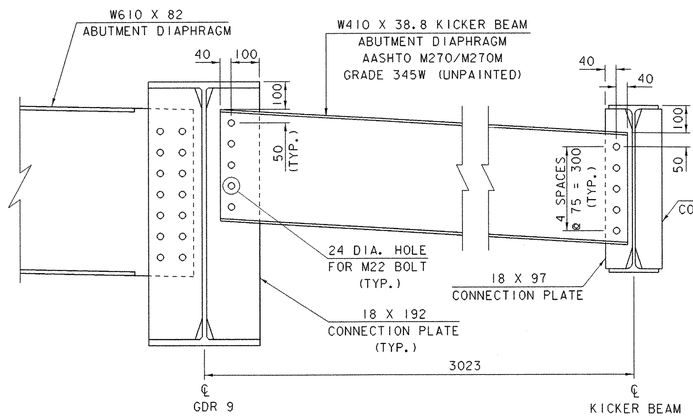
SCALE = 1:5



KICKER BEAM ABUTMENT DIAPHRAGM CONNECTIONS

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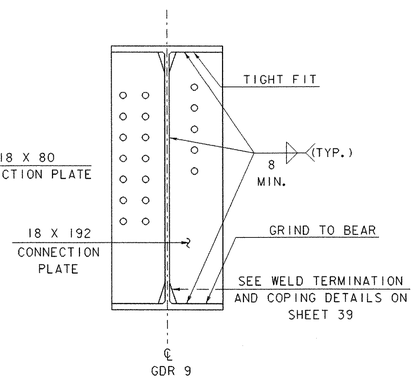

KICKER BEAM ABUTMENT DIAPHRAGM CONNECTION PLATE

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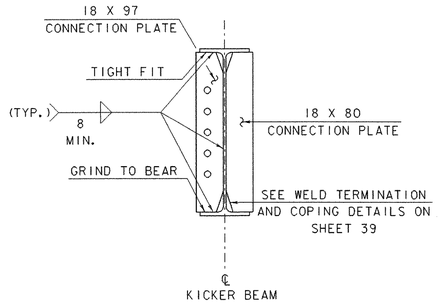
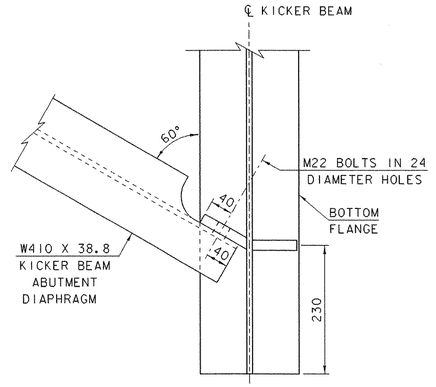
SCALE = 1:10



KICKER BEAM ABUTMENT DIAPHRAGM CONNECTION PLATE

0 0.5 1

SCALE = 1:10



KICKER BEAM ABUTMENT DIAPHRAGM CONNECTION DETAIL

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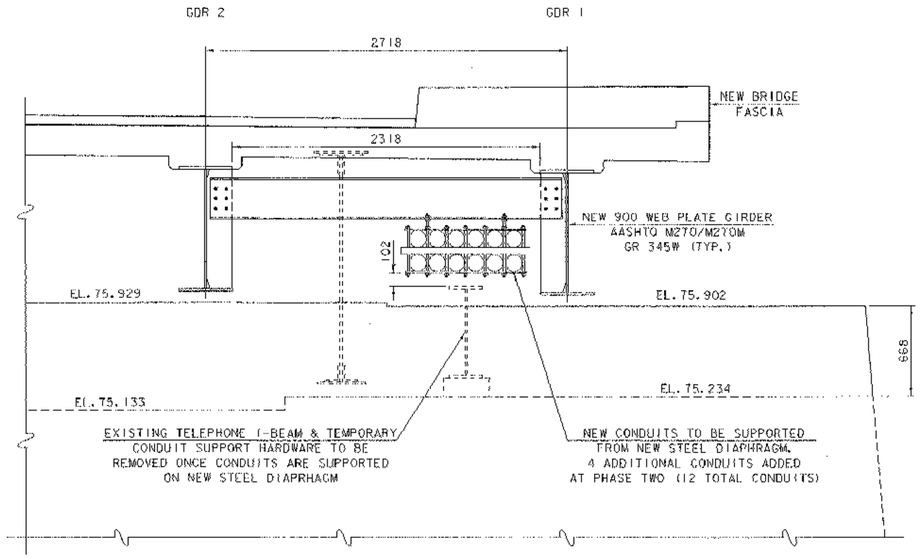
SCALE = 1:5

KICKER BEAM DIAPHRAGM DETAILS

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)

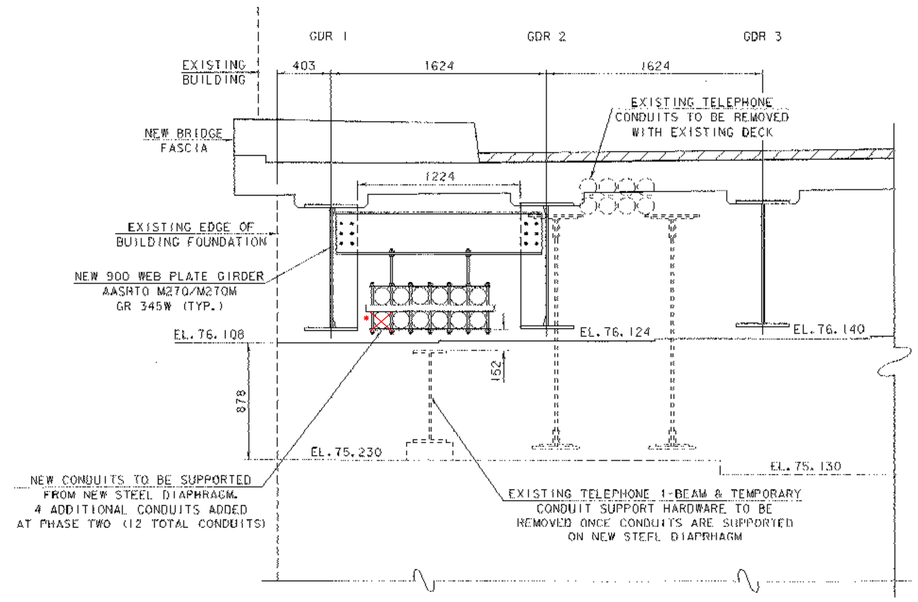
FILE NAME: 94j078\Structures\sj078kdm.i		PLOT DATE:	06-FEB-2003
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	B. MAURICE
DESIGNED BY:	T. SUMNER	CHECKED BY:	T. SUMNER
		SHEET	41 OF 71



EXISTING UTILITIES @ ABUTMENT NO. 1, LEFT SIDE

0 1 2

SCALE = 1:20



EXISTING UTILITIES @ ABUTMENT NO. 2, LEFT SIDE

0 1 2

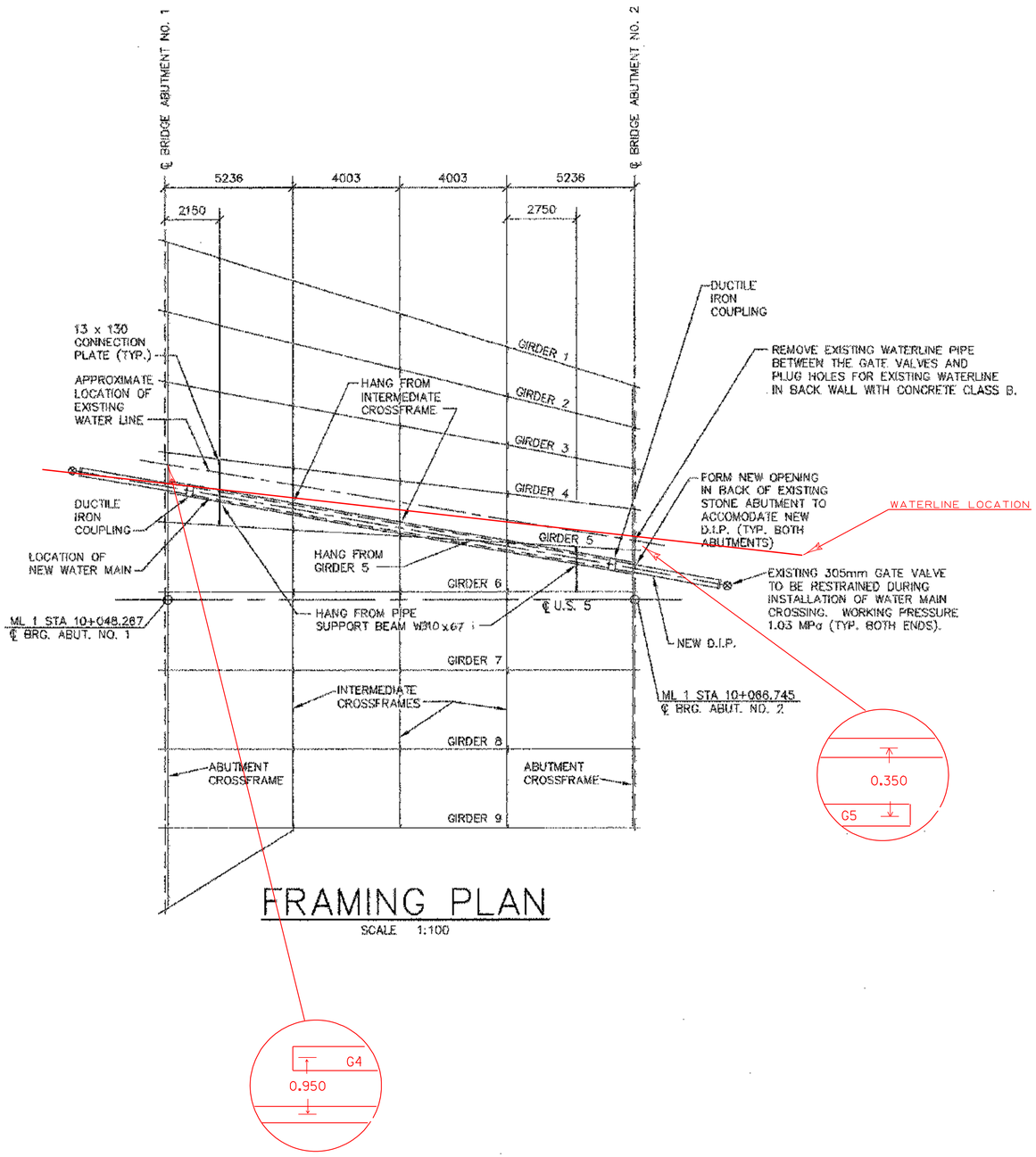
SCALE = 1:20

* SEE DAILY REPORT #46, DATED 6/18/03
UNABLE TO CONNECT THIS CONDUIT -
WOULD HAVE HAD TO CUT BEARING PLATE
OK'D BY NEIL SNYDER OF VERIZON

TELEPHONE UTILITY DETAILS

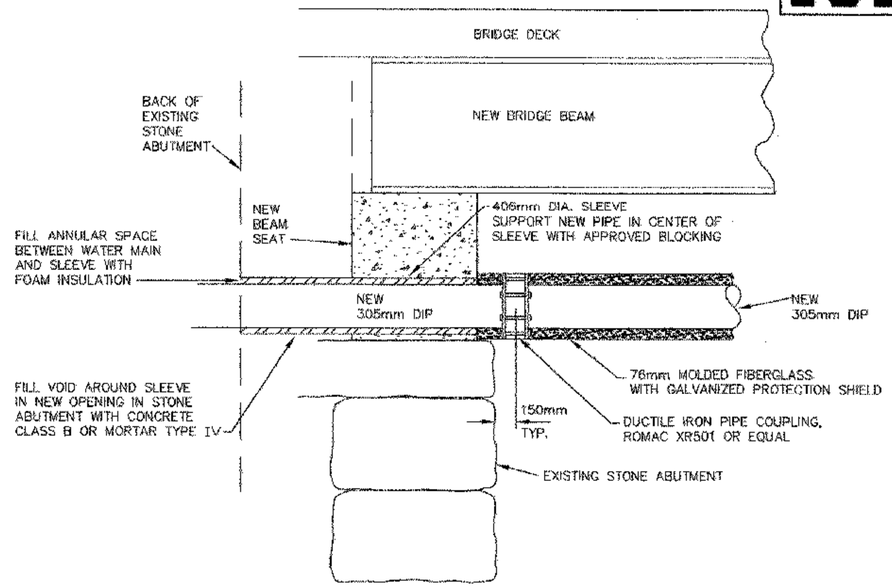
PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94j078\Structures\sj078tud.j
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: T. SUMNER
PLOT DATE: 06-FEB-2003
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER
SHEET 42 OF 71



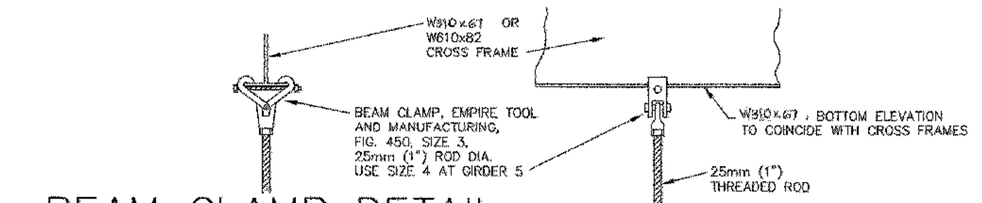
FRAMING PLAN

SCALE 1:100



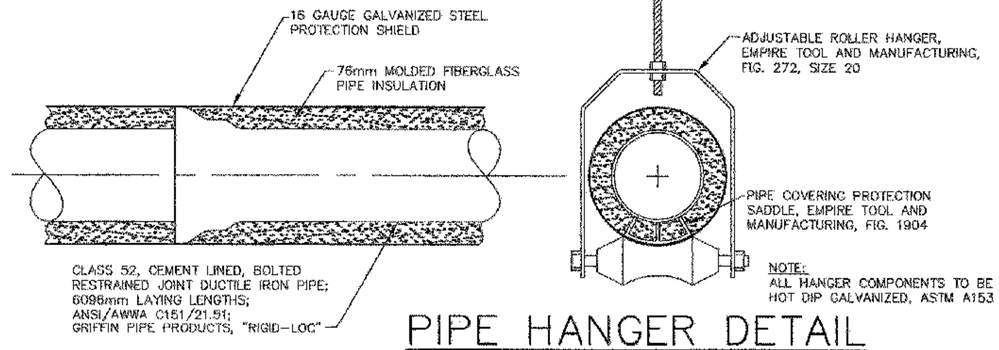
CONNECTION AT ABUTMENT

SCALE 1:20



BEAM CLAMP DETAIL

NO SCALE



PIPE HANGER DETAIL

NO SCALE

SVE PROJ. NO. 0828230, DWG. NO 2823D01

REVISION	DESCRIPTION	BY & DATE	CHK. & DATE
3	ADDED INSULATION NOTE.	TJS 1/24/02	
2	REV. CROSSFRAME SPACING; REV. BEAM SIZES; ADD NOTE.	TJS 8/30/02	
1	PIPE LOCATION, NOTES, DETAILS	TJS 2/15/02	

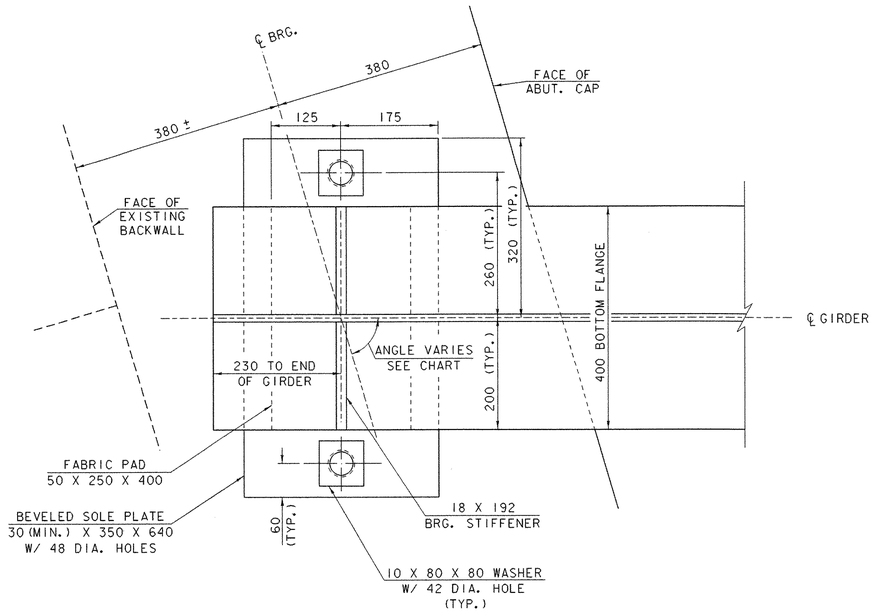
STATE OF VERMONT — DEPARTMENT OF PUBLIC SERVICE — REGISTERED PROFESSIONAL ENGINEER

WATER MAIN CROSSING
PLAN AND DETAILS
PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

SVE Associates © 2002
Engineering Surveying Landscape Architecture Planning
P.O.Box 1818, Brattleboro, VT 05302-1818 Phone (802) 257-0561 Fax (802) 257-0782
website: www.sveassoc.com

DATE PLAN: 1/30/02
DATE SURVEY: N/A
DESIGNED BY: TB
DRAWN BY: TJS
CHECKED BY: TB
SCALE: AS SHOWN

P:\project\0828230\dwg\2823D01.dwg 08/30/2002 04:53:45 AM EDT



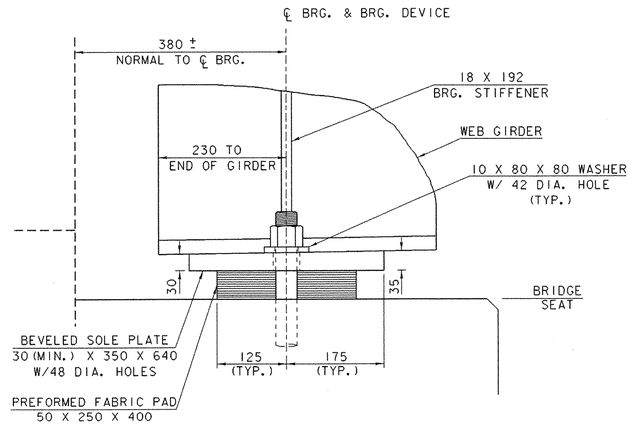
PLAN VIEW

ABUTMENT NO. 1 BEARING ANGLE TABLE

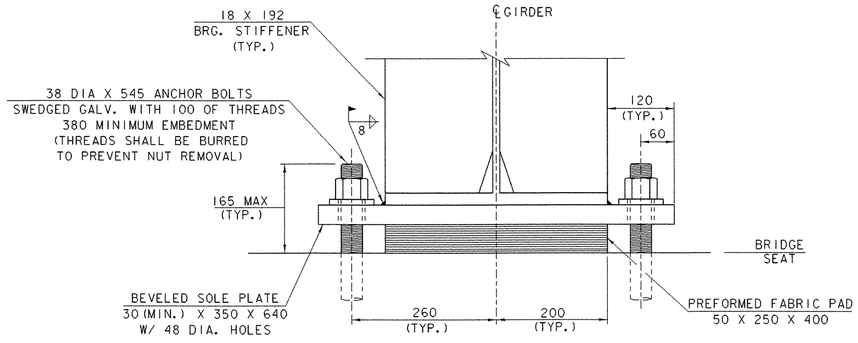
GIRDER NO.	ANGLE
NO. 1	73°30'15"
NO. 2	76°40'36"
NO. 3	79°55'42"
NO. 4	83°14'49"
NO. 5	86°36'42"
NO. 6	90°00'00"
NO. 7	90°00'00"
NO. 8	90°00'00"
NO. 9	90°00'00"

ABUTMENT BEARING NOTES

1. BEARINGS SHALL CONFORM TO THE APPLICABLE PROVISIONS OF SECTIONS 531 AND 731 OF THE STANDARD SPECIFICATIONS.
2. BEARINGS SHALL BE PAID FOR UNDER ITEM 531.10 "BEARING DEVICE ASSEMBLY".
3. SHOP DRAWINGS SHALL BE SUBMITTED AS PER STANDARD SPECIFICATION 531.03. THE SUBMITTAL SHALL INCLUDE ASSOCIATED WELDING AND BONDING PROCEDURES.
4. DESIGN CRITERIA:
   - A. DESIGN FABRIC PAD TO CONCRETE PRESSURE: 6.9 MPa MAXIMUM
   - B. DESIGN ROTATION: 0.015 RADIANS MINIMUM
   - C. DESIGN VERTICAL LOAD: 679 kN
   - D. DESIGN HORIZONTAL LOAD: MINIMUM 10% OF VERTICAL LOAD
5. THE "B" DISTANCE IS THE FINAL SETTING FOR THE BEARING PAD AFTER THE CONCRETE SLAB, CURB, PAVEMENT AND BRIDGE RAIL HAVE BEEN PLACED. THE "A" DISTANCE IS FOR SETTING THE BEARING AFTER THE STRUCTURAL STEEL IS ERECTED AND BEFORE THE CONCRETE DECK IS POURED. THE DIFFERENCE IS THE THEORETICAL ELONGATION OF THE BOTTOM FLANGE DUE TO DEAD LOAD DEFLECTION. THE FINAL "B" DISTANCE SHOWN IN THE TABLE MUST BE ATTAINED WITHIN 3 mm.
6. THE CONCRETE SURFACE UNDER THE BEARING DEVICE SHALL BE LEVEL.
7. ANCHOR BOLTS SHALL HAVE A MINIMUM 380 mm EMBEDMENT INTO THE CONCRETE AND SHALL CONFORM TO STANDARD SPECIFICATION 714.08.
8. ALL STEEL IN BEARING DEVICES (EXCEPT STAINLESS STEEL) SHALL BE AASHTO M270/270M, GRADE 250.
9. ALL BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER STANDARD SPECIFICATIONS 506.15 AND 531.04(b), AS MODIFIED BY THE GENERAL SPECIAL PROVISIONS. IF THE BEARINGS ARE METALIZED, THEY SHALL BE SEALED WITH AN APPROVED SEALER AS SPECIFIED IN GENERAL SPECIAL PROVISION 506.15. AREAS OF GALVANIZING OR METALIZING DAMAGED BY FIELD WELDING OR HANDLING SHALL BE REPAIRED IN CONFORMANCE WITH SUPPLEMENTAL SPECIFICATION 513.
10. ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. ALL WASHERS SHALL BE 10 mm PLATE MINIMUM. PAYMENT FOR ANCHOR BOLTS, NUTS, WASHERS AND THEIR INSTALLATIONS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 531.10, "BEARING DEVICE ASSEMBLY".



SIDE VIEW



FRONT VIEW

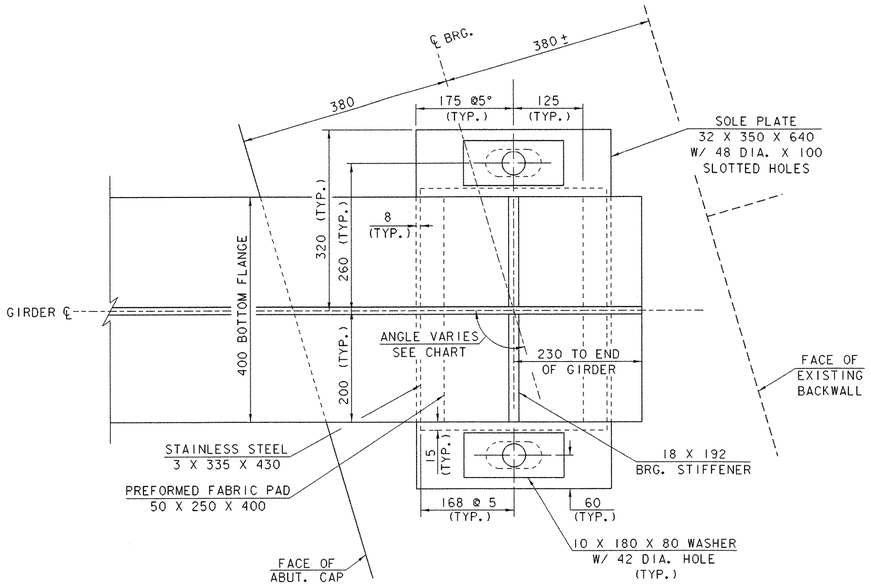
0 0.25 0.5

SCALE = 1:5

FIXED BEARING DETAILS ABUTMENT NO. 1

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078fbd.i		PLOT DATE:	06-FEB-2003
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	B. MAURICE
DESIGNED BY:	T. SUMNER	CHECKED BY:	T. SUMNER
		SHEET	44 OF 71



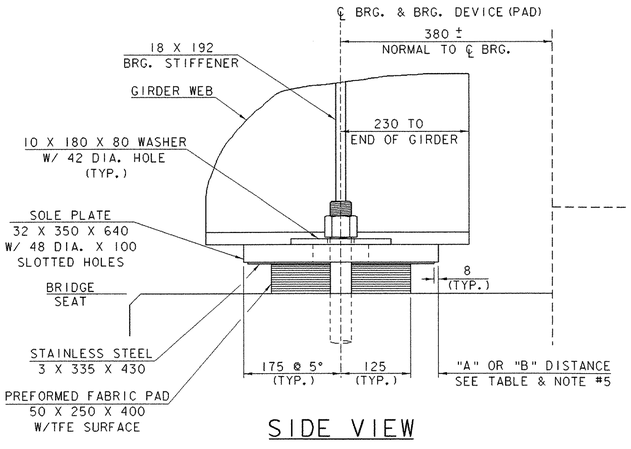
PLAN VIEW

ABUTMENT NO. 2 TEMPERATURE SETTING TABLE

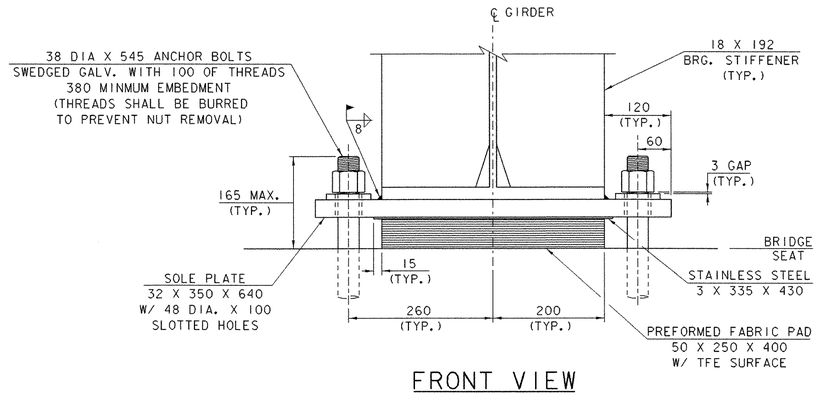
TEMP	"B" DIST.	"A" DIST.
-25°C	41	33
-15°C	44	36
-5°C	47	39
5°C	50	42
15°C	53	45
25°C	56	48
35°C	59	51
45°C	63	55

ABUTMENT NO. 2 BEARING ANGLE TABLE

GIRDER NO.	ANGLE
NO. 1	106° 29' 45"
NO. 2	103° 19' 24"
NO. 3	100° 04' 18"
NO. 4	96° 45' 11"
NO. 5	93° 23' 18"
NO. 6	90° 00' 00"
NO. 7	90° 00' 00"
NO. 8	90° 00' 00"
NO. 9	90° 00' 00"



SIDE VIEW



FRONT VIEW

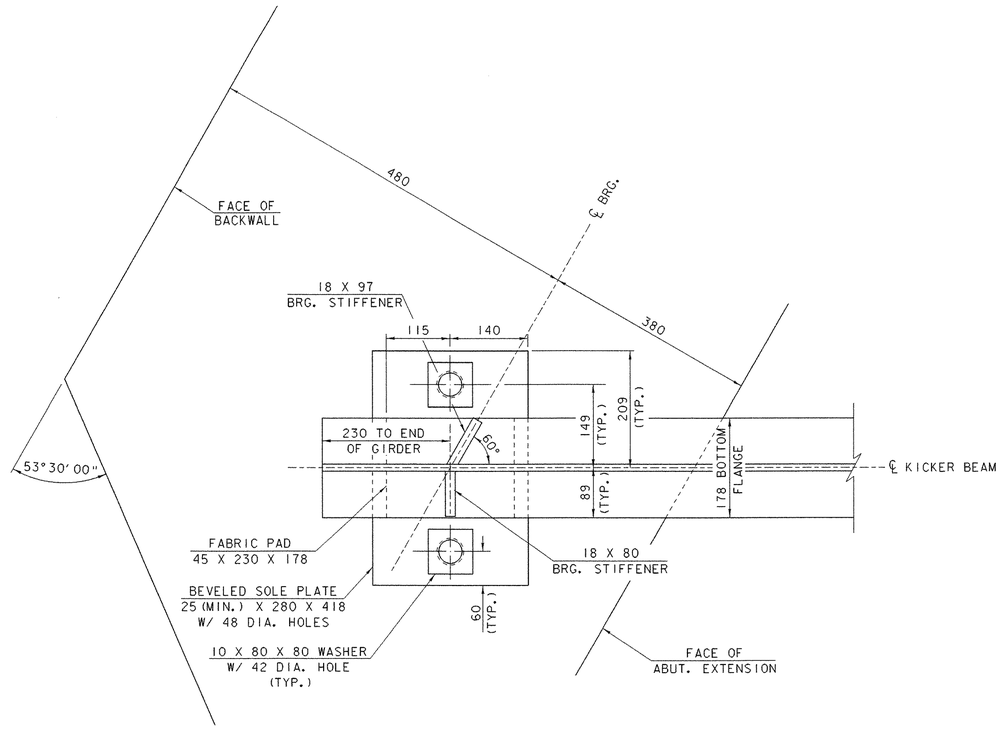
0 0.25 0.5

SCALE = 1:5

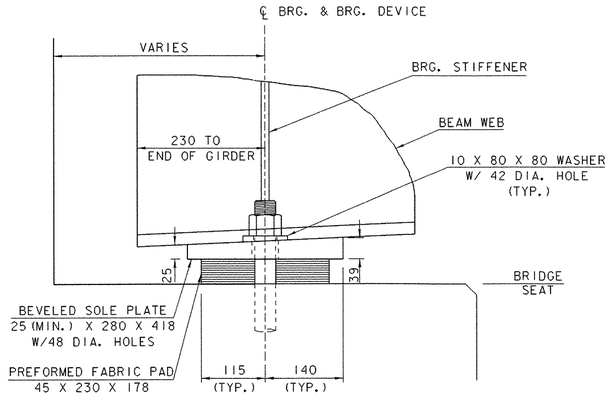
EXPANSION BEARING DETAILS
ABUTMENT NO. 2

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

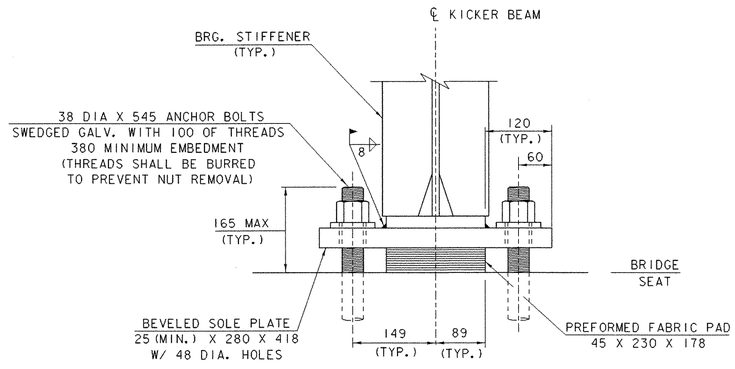
FILE NAME: 94J078\Structures\sj078ebd.I
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: T. SUMNER
PLOT DATE: 06-FEB-2003
DRAWN BY: B. MAURICE
CHECKED BY: T. SUMNER
SHEET 45 OF 71



PLAN VIEW



SIDE VIEW



FRONT VIEW

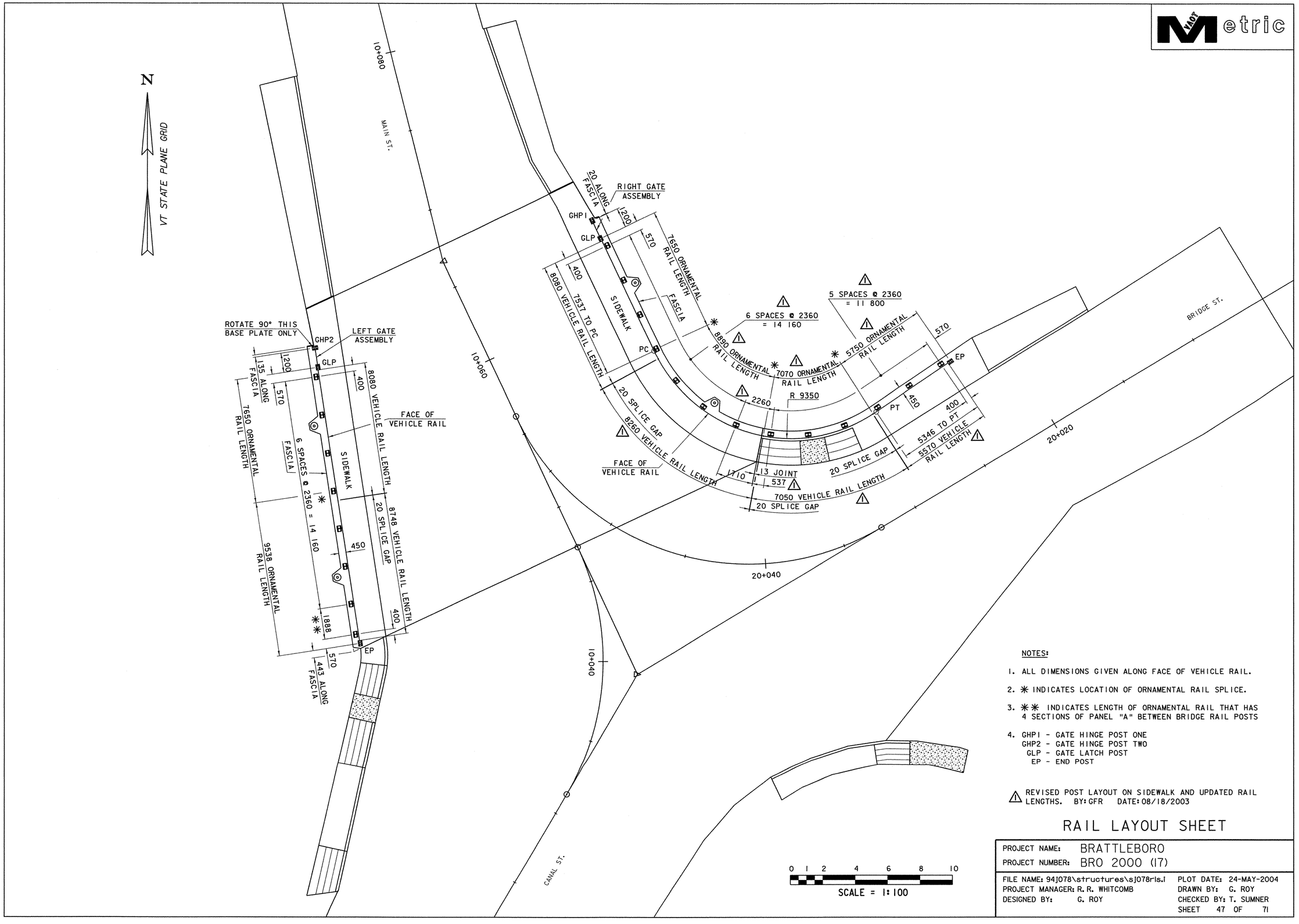
0 0.25 0.5

SCALE = 1:5

KICKER BEAM BEARING DETAILS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\structures\sj078kbg.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: T. SUMNER
PLOT DATE: 06-FEB-2003
DRAWN BY: B. MAURICE
CHECKED BY: T. SUMNER
SHEET 46 OF 71



NOTES:

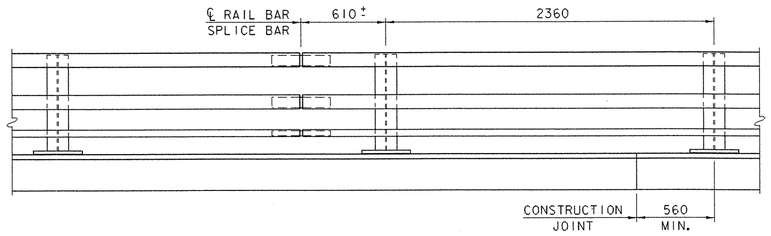
1. ALL DIMENSIONS GIVEN ALONG FACE OF VEHICLE RAIL.
2. ✳ INDICATES LOCATION OF ORNAMENTAL RAIL SPLICE.
3. ✳✳ INDICATES LENGTH OF ORNAMENTAL RAIL THAT HAS 4 SECTIONS OF PANEL "A" BETWEEN BRIDGE RAIL POSTS
4. GHP1 - GATE HINGE POST ONE
   GHP2 - GATE HINGE POST TWO
   GLP - GATE LATCH POST
   EP - END POST

⚠1 REVISED POST LAYOUT ON SIDEWALK AND UPDATED RAIL LENGTHS. BY: GFR DATE: 08/18/2003

RAIL LAYOUT SHEET

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRO 2000 (17)

FILE NAME: 94J078\structures\sJ078rls.i	PLOT DATE: 24-MAY-2004
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: T. SUMNER
	SHEET 47 OF 71

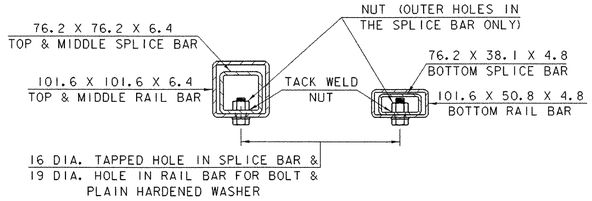


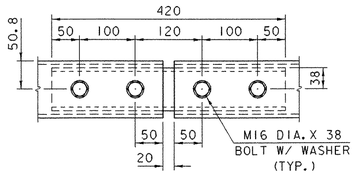
BRIDGE RAIL ELEVATION

0 1 2

SCALE = 1:20

(ORNAMENTAL RAILING NOT SHOWN)

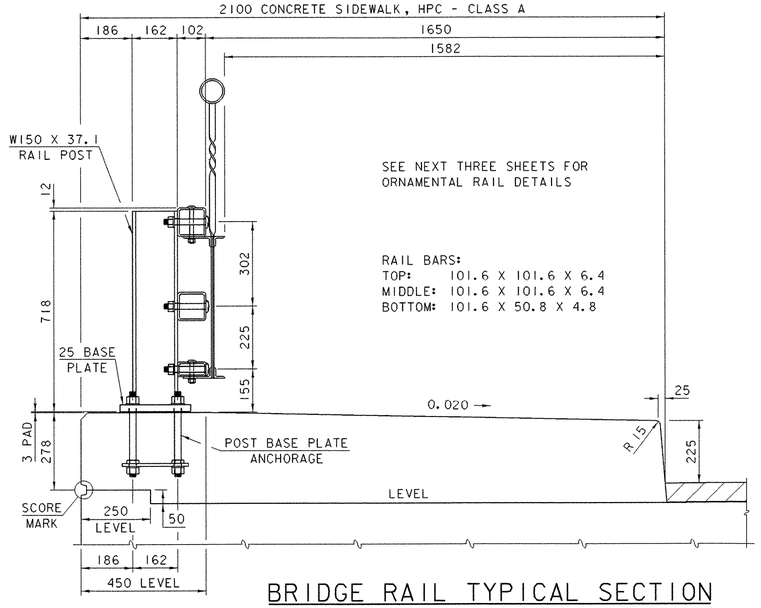




RAIL SPLICE BAR DETAILS

0 0.25 0.5

SCALE = 1:5



BRIDGE RAIL TYPICAL SECTION

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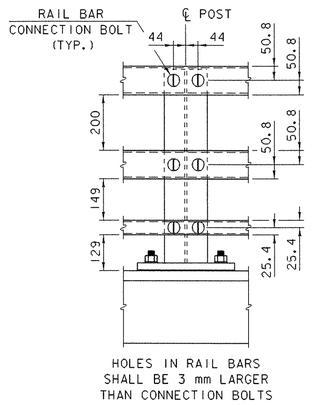
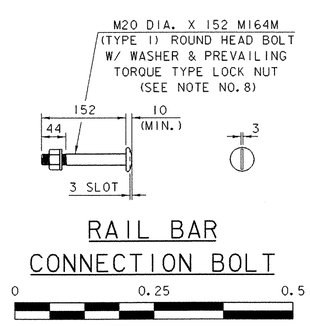


POST ELEVATION

0 0.5 1

SCALE = 1:10



RAIL BAR CONNECTION BOLT

0 0.25 0.5

SCALE = 1:5

NOTE: ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.

NOTES

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE PROVISIONS OF SECTION 525 - RAILINGS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. TUBING AND POSTS SHALL MEET THE REQUIREMENTS OF SECTION 732 - RAILING MATERIALS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.
3. ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1.6 mm RADIUS AND BE FREE OF BURRS.
4. RAIL POSTS SHALL BE SET NORMAL TO GRADE.
5. SECTIONS OF RAIL BAR SHALL BE ATTACHED TO A MINIMUM OF TWO [2] RAIL POSTS AND PREFERABLY TO AT LEAST FOUR [4] POSTS.
6. ALL RAILING PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SUBSECTION 506.15 AND PAINTED BLACK, COLOR CHIP #27038 IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 513.
7. RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.
8. RAIL BARS SHALL BE ATTACHED USING M20 FULL DIAMETER BODY AASHTO M164M (TYPE 1) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE BAR. HOLES IN POSTS SHALL BE 2 mm LARGER THAN THE BOLT SIZE.
9. ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY.
10. THE FABRICATOR SHALL SUBMIT SHOP DRAWINGS INCLUDING WELDING PROCEDURES TO THE STRUCTURES SECTION FOR APPROVAL IN ACCORDANCE WITH THE PROVISION OF 506.04, DRAWINGS AND PROCEDURES. ALL WELDING SHALL CONFORM WITH SECTION 506.10.
11. THE DROP-WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING ON THESE DETAILS.
12. HOLES IN RAILS FOR RAIL BAR ATTACHMENT MAY BE FIELD DRILLED. THE HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH BLACK PAINT.

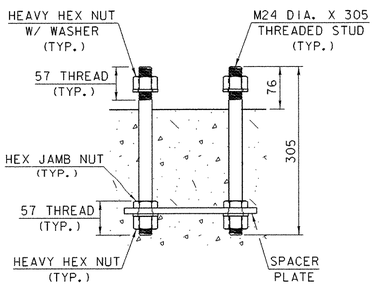
MATERIALS

RAIL BARS..... ASTM A500, GRADE B OR ASTM A501
RAIL POSTS..... ASTM A709/A709M, GRADE 345
ALL OTHER SHAPES & PLATES..... ASTM A709/A709M, GRADE 250
ANCHOR STUDS..... ASTM F568M, CLASS 8.8
ALL OTHER BOLTS [UNLESS NOTED]..... AASHTO M164M, TYPE 1

NUTS FOR AASHTO M164M BOLTS SHALL COMPLY WITH AASHTO M291M. NUTS FOR ANCHOR BOLTS SHALL COMPLY WITH AASHTO M291M.

WASHERS SHALL COMPLY WITH AASHTO M293M (ASTM F436M) SPECIFICATION.

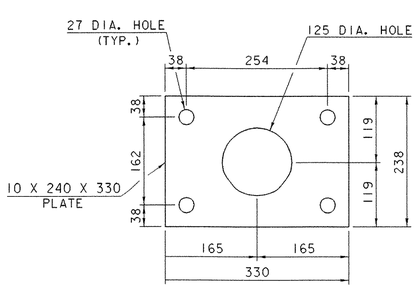
3 mm PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSCETION 731.01 OR 731.02.



POST BASE PLATE ANCHORAGE

0 0.25 0.5

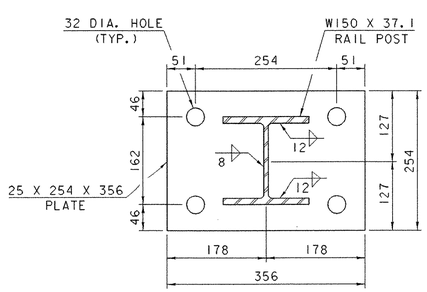
SCALE = 1:5



SPACER PLATE

0 0.25 0.5

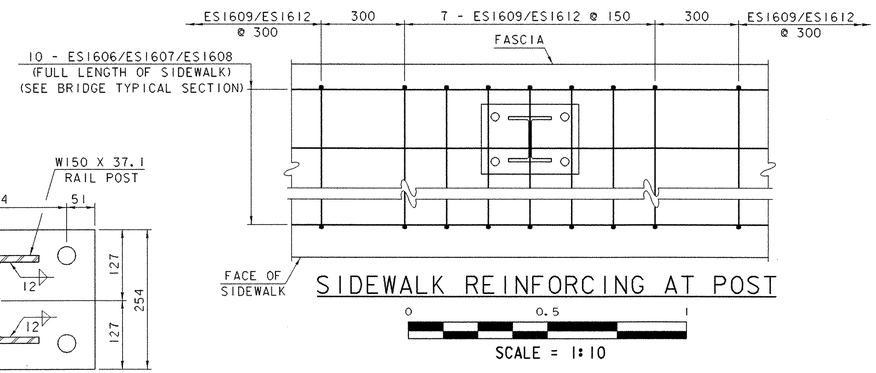
SCALE = 1:5



POST BASE PLATE

0 0.25 0.5

SCALE = 1:5



SIDEWALK REINFORCING AT POST

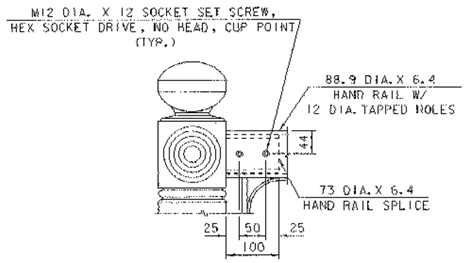
0 0.5 1

SCALE = 1:10

BRIDGE RAIL DETAILS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRO 2000 (17)

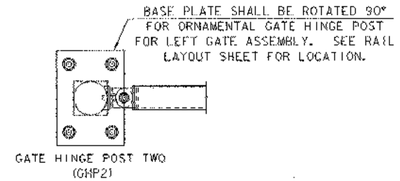
FILE NAME: 94j078\structures\sj078brdl.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 06-FEB-2003
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER
SHEET 48 OF 71

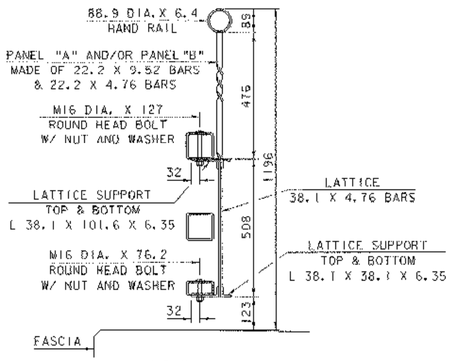


DETAIL "A"

0 0.25 0.5

SCALE = 1:5

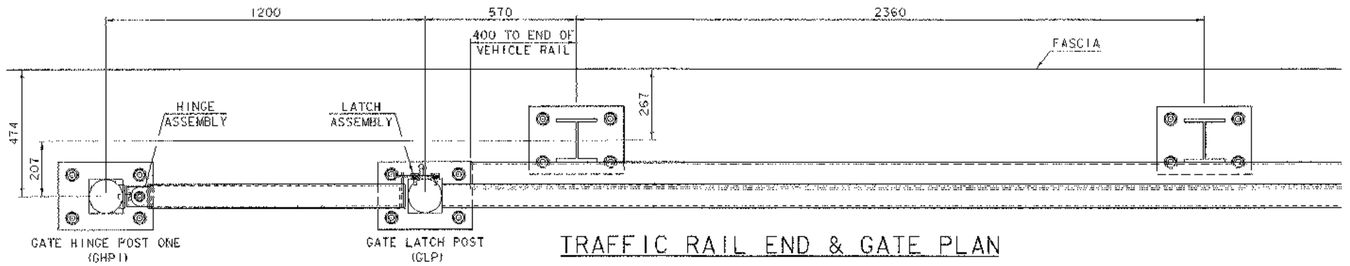




SECTION A-A

0 0.5 1

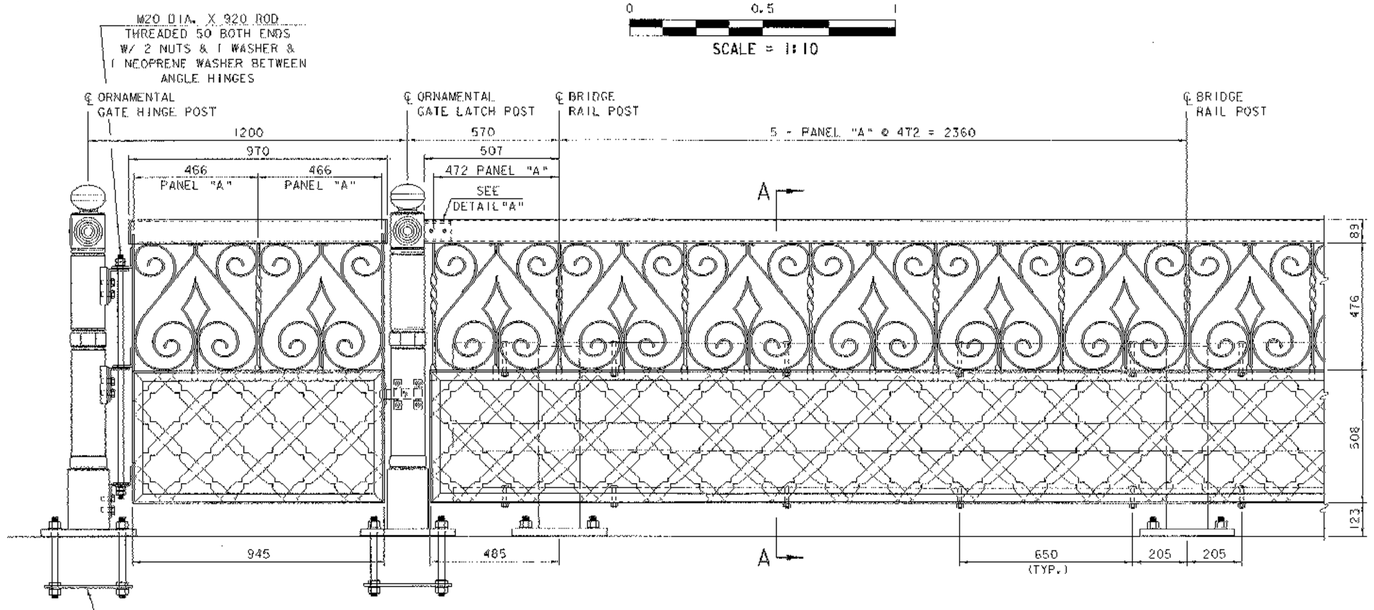
SCALE = 1:10



TRAFFIC RAIL END & GATE PLAN

0 0.5 1

SCALE = 1:10



TRAFFIC RAIL END & GATE ELEVATION

0 0.5 1

SCALE = 1:10

CAST BOLTS HAD DIFFERENT BOLT PATTERN HAD TO CUT BOLTS POURED IN PLACE, DRILL & EPOXY NEW ONES IN PLACE

NOTES

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE PROVISIONS OF SECTION 525 - RAILINGS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. ORNAMENTAL RAILING, CONSISTING OF RAILING, GATE ASSEMBLIES, POSTS, BASE PLATES, ANCHORAGE ASSEMBLIES, AND ANY OTHER COMPONENTS NECESSARY TO COMPLETE THE WORK SHALL BE PAID FOR UNDER ITEM 525.15, "METAL HAND RAILING (MOD.)".
3. ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1.6 mm RADIUS AND BE FREE OF BURRS.
4. ORNAMENTAL POSTS SHALL BE SET NORMAL TO GRADE.
5. ORNAMENTAL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
6. ORNAMENTAL RAIL SHALL BE FABRICATED IN SECTIONS AND SPLICED AT BRIDGE RAIL POST LOCATIONS AS SHOWN ON THE THE RAIL LAYOUT SHEET.
7. THE ORNAMENTAL RAILING SHALL BE SHOP PAINTED WITH A PROTECTIVE PAINT SYSTEM PER SECTION 513 - PROTECTIVE COATINGS. THE TOP COATING SHALL BE BLACK, COLOR PAINT CHIP #27038. PAYMENT FOR PAINTING OF THE ORNAMENTAL RAILING SHALL BE MADE SUBSIDIARY TO ITEM 525.15, "METAL HAND RAILING (MOD.)".
8. ORNAMENTAL RAIL SHALL BE ATTACHED TO THE BRIDGE RAIL STRUCTURAL TUBING USING M16 FULL DIAMETER BODY AASHTO M164M (TYPE 1) ROUND HEAD BOLTS INSERTED THROUGH THE TOP OF THE STRUCTURAL TUBING. HOLES IN TUBING SHALL BE 2 mm LARGER THAN THE BOLT SIZE.
9. ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY.
10. THE FABRICATOR SHALL SUBMIT SHOP DRAWINGS INCLUDING WELDING PROCEDURES TO THE STRUCTURES SECTION FOR APPROVAL IN ACCORDANCE WITH THE PROVISION OF 506.04, DRAWINGS AND PROCEDURES. ALL WELDING SHALL CONFORM WITH SECTION 506.10.
11. THE FABRICATOR MAY SUBMIT ALTERNATE GATE HINGE AND LATCH ASSEMBLY DETAILS TO THE STRUCTURES ENGINEER FOR APPROVAL.
12. ORNAMENTAL RAIL POSTS SHALL BE MADE OF GRAY IRON CASTINGS CONFORMING TO SECTION 715 - MISCELLANEOUS METALS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION. MINIMUM POST WALL THICKNESS SHALL BE 10mm.

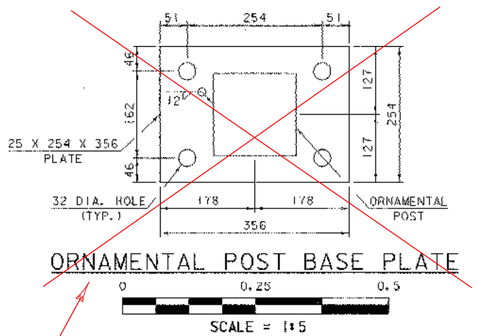
MATERIALS

ALL STEEL ROLLED SHAPES..... ASTM A36/ A36M
ANCHOR STUDS..... ASTM F568M, CLASS 8.8
ALL OTHER BOLTS (UNLESS NOTED)..... AASHTO M164M, TYPE 1
ORNAMENTAL POSTS..... AASHTO M105, CLASS NO.30B
SOCKET SET SCREWS.....ASTM F912M

NUTS FOR AASHTO M164M BOLTS SHALL COMPLY WITH AASHTO M291M. NUTS FOR ANCHOR BOLTS SHALL COMPLY WITH AASHTO M291M.

WASHERS SHALL COMPLY WITH AASHTO M293M (ASTM F436M) SPECIFICATION.

3 mm PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSCETION 731.01 OR 731.02.



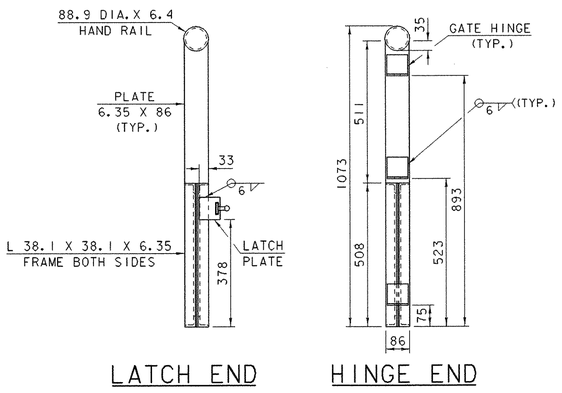
ORNAMENTAL POST BASE PLATE

0 0.25 0.5

SCALE = 1:5

ORNAMENTAL RAIL DETAILS (1)

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRO 2000 (17)
FILE NAME: 94J078\structures\sj078ordt1	PLOT DATE: 06-FEB-2003
PROJECT MANAGER: R.R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: T. SUMNER
	SHEET 49 OF 71

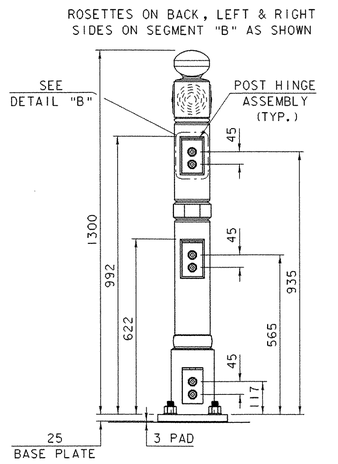


LATCH END HINGE END

GATE END DETAILS

0 0.5 1

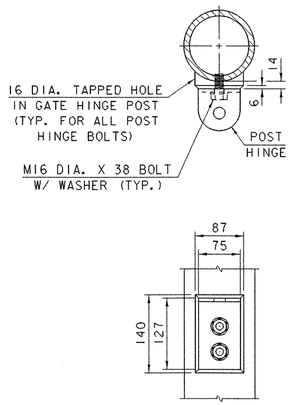
SCALE = 1:10



GATE HINGE POST

0 0.5 1

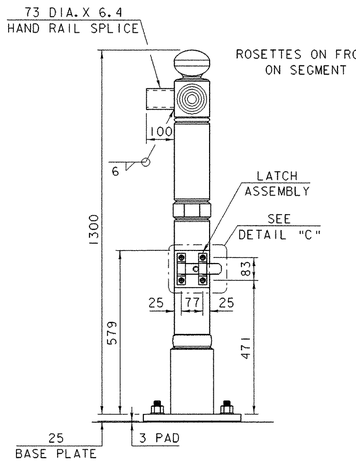
SCALE = 1:10



DETAIL "B"

0 0.25 0.5

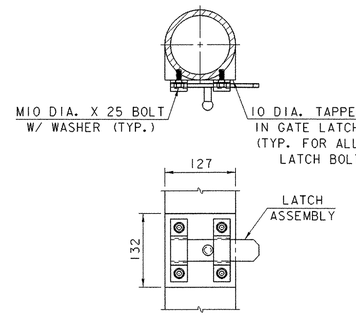
SCALE = 1:5



GATE LATCH POST

0 0.5 1

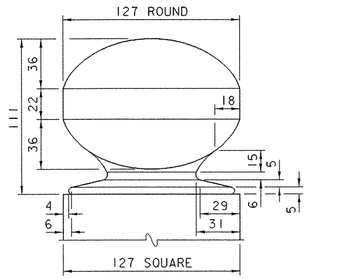
SCALE = 1:10



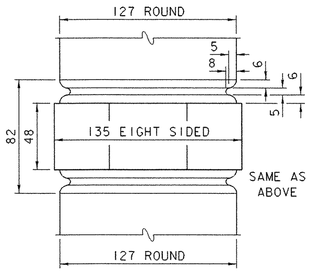
DETAIL "C"

0 0.25 0.5

SCALE = 1:5



SEGMENT "A"



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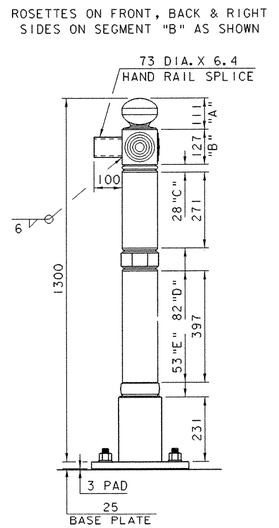
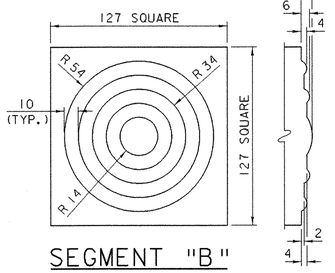


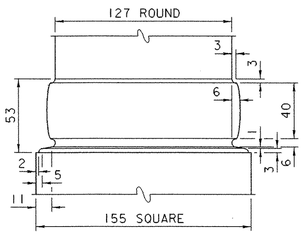
END POST

0 0.5 1

SCALE = 1:10



SEGMENT "B"

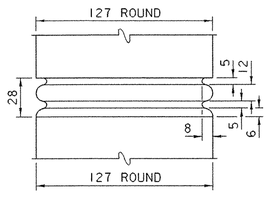


SEGMENT "E"

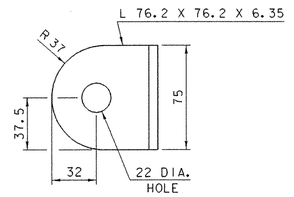
POST SEGMENT DETAILS

0 0.1 0.2

SCALE = 1:2



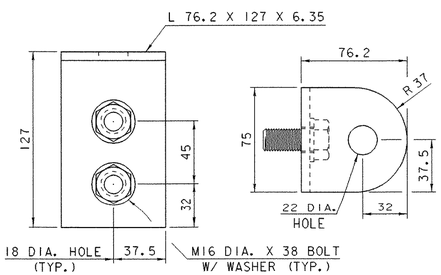
SEGMENT "C"



GATE HINGE DETAIL

0 0.1 0.2

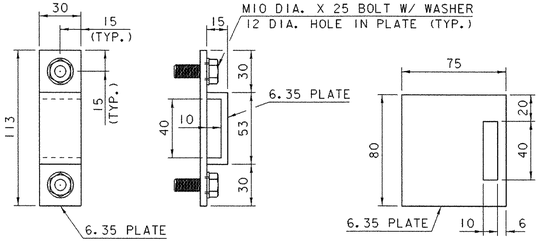
SCALE = 1:2



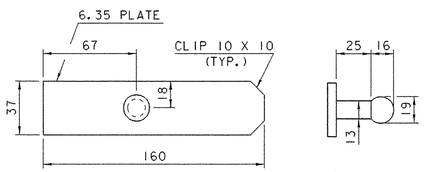
POST HINGE DETAILS

0 0.1 0.2

SCALE = 1:2



LATCH BRACKET LATCH PLATE



LATCH SLIDE

LATCH ASSEMBLY DETAILS

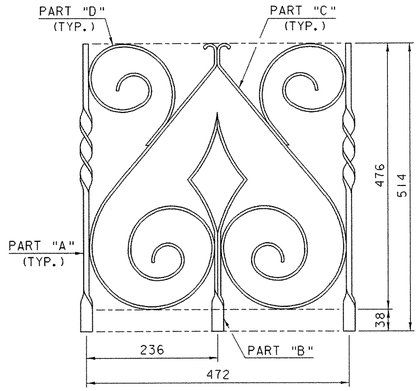
0 0.1 0.2

SCALE = 1:2

ORNAMENTAL RAIL DETAILS (2)

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRO 2000 (17)

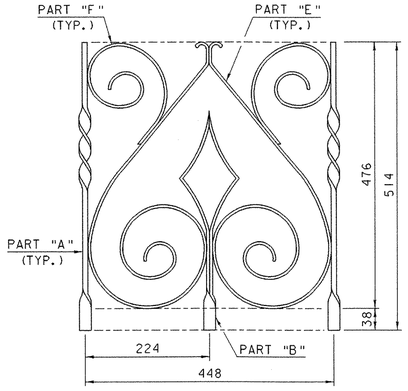
FILE NAME: 94J078\structures\sj078ord2.i PLOT DATE: 06-FEB-2003
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: G. ROY CHECKED BY: T. SUMNER
SHEET 50 OF 71



PANEL "A"

0 0.25 0.5

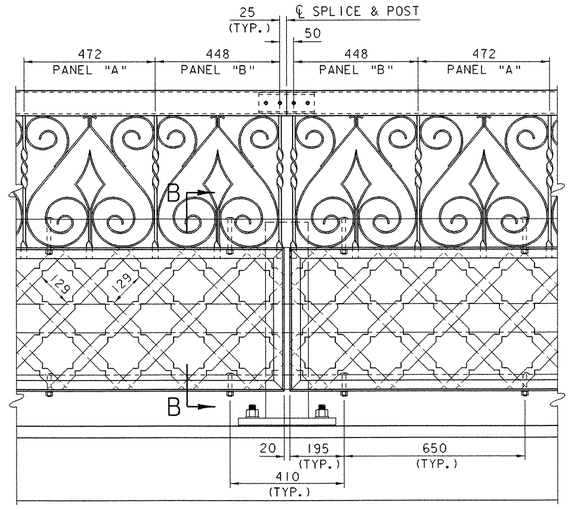
SCALE = 1:5



PANEL "B"

0 0.25 0.5

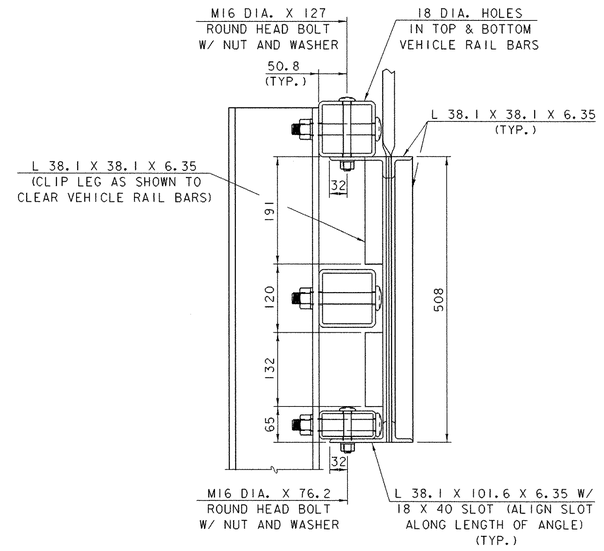
SCALE = 1:5



ORNAMENTAL RAIL SPLICE ELEVATION

0 0.5 1

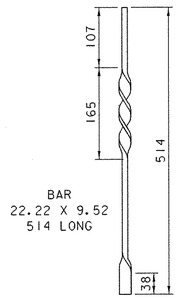
SCALE = 1:10



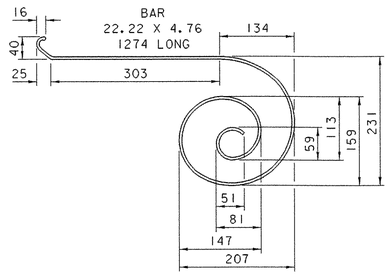
VIEW B-B

0 0.25 0.5

SCALE = 1:5



PART "A"



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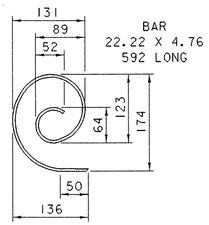
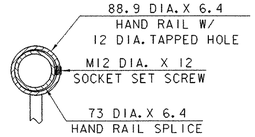
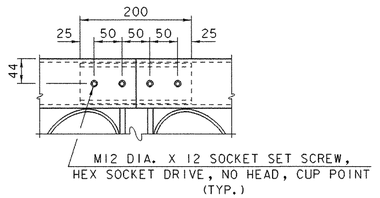


PART "D"

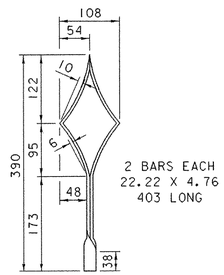




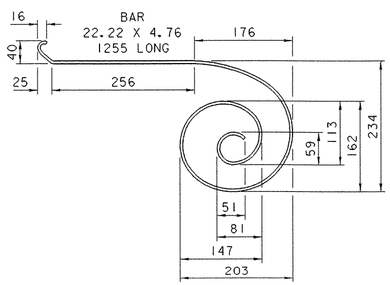
HAND RAIL SPLICE DETAILS

0 0.25 0.5

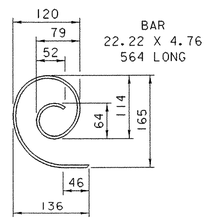
SCALE = 1:5



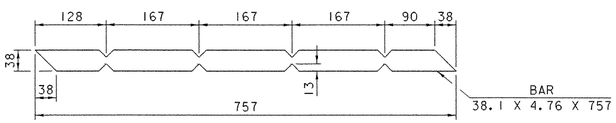
PART "B"



PART "E"



PART "F"



LATTICE DETAIL

0 0.25 0.5

SCALE = 1:5

PANEL PARTS

0 0.25 0.5

SCALE = 1:5

NOTE:
CONNECTIONS REQUIRED TO ASSEMBLE THE ORNAMENTAL RAIL COMPONENTS SHALL BE DETERMINED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL. ALL INTERSECTING PIECES SHALL BE CONNECTED.

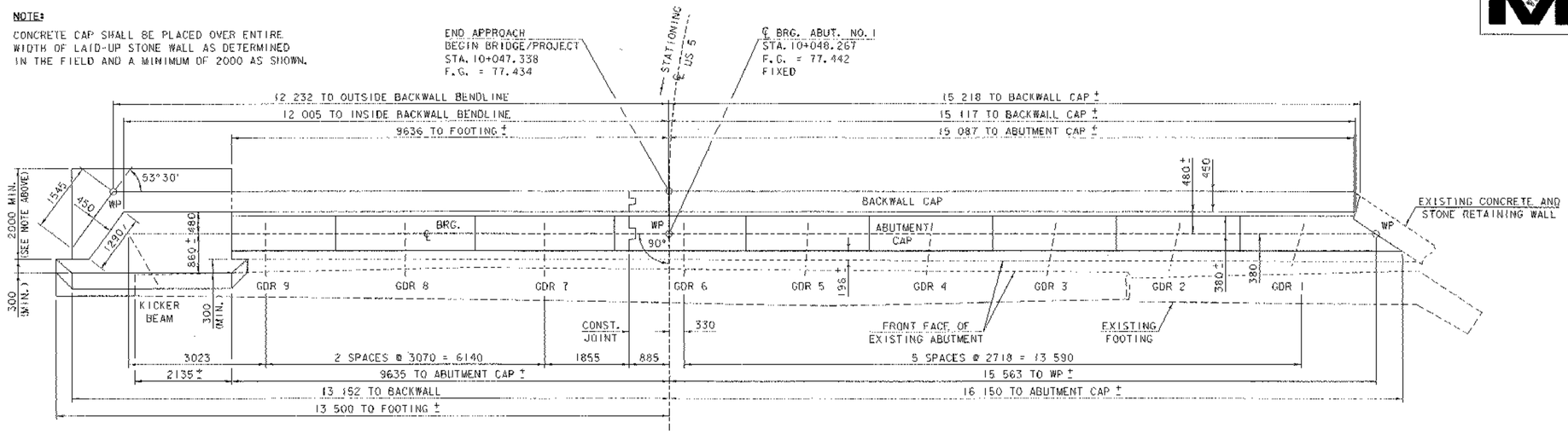
ORNAMENTAL RAIL DETAILS (3)

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRO 2000 (17)

FILE NAME: 94j078\structures\sj078ord3.i PLOT DATE: 06-FEB-2003
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: G. ROY CHECKED BY: T. SUMNER
SHEET 51 OF 71

NOTE:

CONCRETE CAP SHALL BE PLACED OVER ENTIRE WIDTH OF LAID-UP STONE WALL AS DETERMINED IN THE FIELD AND A MINIMUM OF 2000 AS SHOWN.



ABUTMENT NO. 1 PLAN

0 1 2 3 4 5

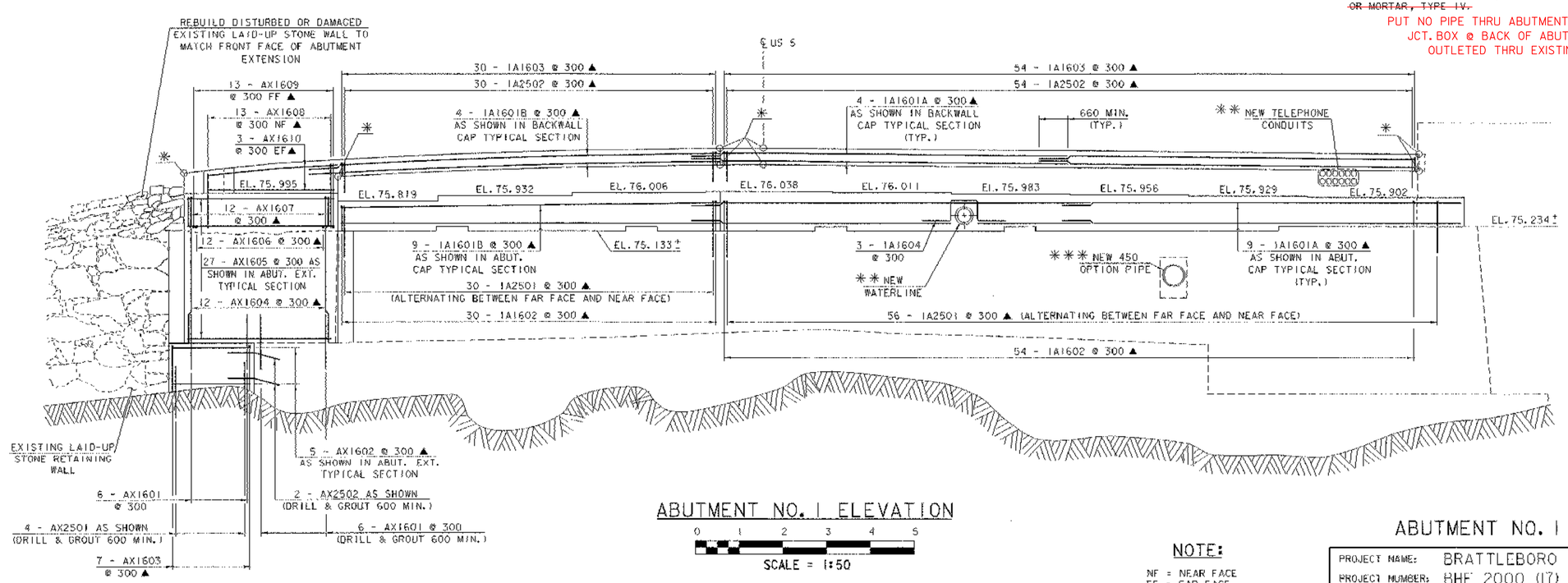
SCALE = 1:50

* THESE ELEVATIONS ARE TO BE DETERMINED IN THE FIELD AFTER THE STRUCTURAL STEEL HAS BEEN ERECTED.

** THESE ARE APPROXIMATE LOCATIONS. ACTUAL LOCATIONS WILL BE DEPENDENT ON FIELD CONDITIONS.

*** ~~FILL VOIDS AROUND PIPE TO A DEPTH OF 900mm INTO ABUTMENT WITH CONCRETE, HIGH PERFORMANCE CLASS B OR MORTAR, TYPE IV.~~

PUT NO PIPE THRU ABUTMENT, BUILT 4' x 4' JCT. BOX @ BACK OF ABUTMENT THAT OUTLETED THRU EXISTING HOLE



ABUTMENT NO. 1 ELEVATION

0 1 2 3 4 5

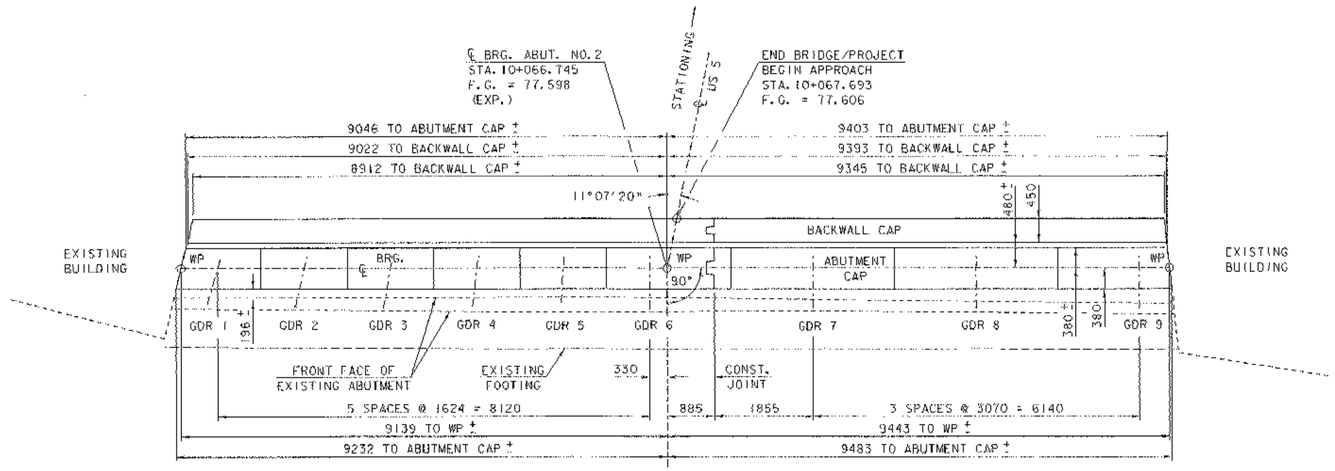
SCALE = 1:50

NOTE:

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

ABUTMENT NO. 1 DETAILS

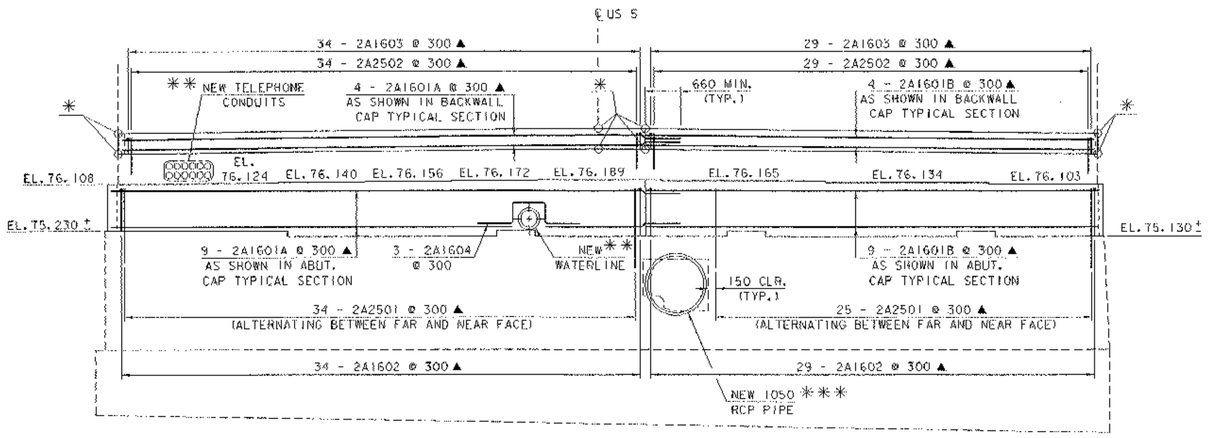
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)
FILE NAME: 94J078\Structures\sJ078ab1.1	PLOT DATE: 06-FEB-2003
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: S. SCRIBNER
DESIGNED BY: T. SUMNER	CHECKED BY: T. SUMNER
	SHEET 52 OF 71



ABUTMENT NO. 2 PLAN

0 1 2 3 4 5

SCALE = 1:50



ABUTMENT NO. 2 ELEVATION

0 1 2 3 4 5

SCALE = 1:50

* THESE ELEVATIONS ARE TO BE DETERMINED IN THE FIELD AFTER THE STRUCTURAL STEEL HAS BEEN ERECTED.

** THESE ARE APPROXIMATE LOCATIONS. ACTUAL LOCATIONS WILL BE DEPENDENT ON FIELD CONDITIONS.

*** FILL VOIDS AROUND PIPE TO A DEPTH OF 300mm INTO ABUTMENT WITH CONCRETE, HIGH PERFORMANCE CLASS B ~~OR MORTAR, TYPE IV.~~ IF IT IS NECESSARY TO ENLARGE THE EXISTING HOLE IN THE ABUTMENT TO ACCOMMODATE THE NEW 1050 RCP PIPE, PORTIONS OF THE SURROUNDING STONE BLOCKS SHALL BE CAREFULLY REMOVED BY DRILLING, CHIPPING OR OTHER METHOD APPROVED BY THE ENGINEER. THE OPENING SHALL BE CUT LARGE ENOUGH TO PROVIDE A MINIMUM OF 80mm OF CONCRETE OR MORTAR BETWEEN THE STONES AND THE NEW PIPE. COSTS FOR REMOVAL SHALL BE INCIDENTAL TO THE ADJACENT PIPE PAY ITEM.

NOTE:

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

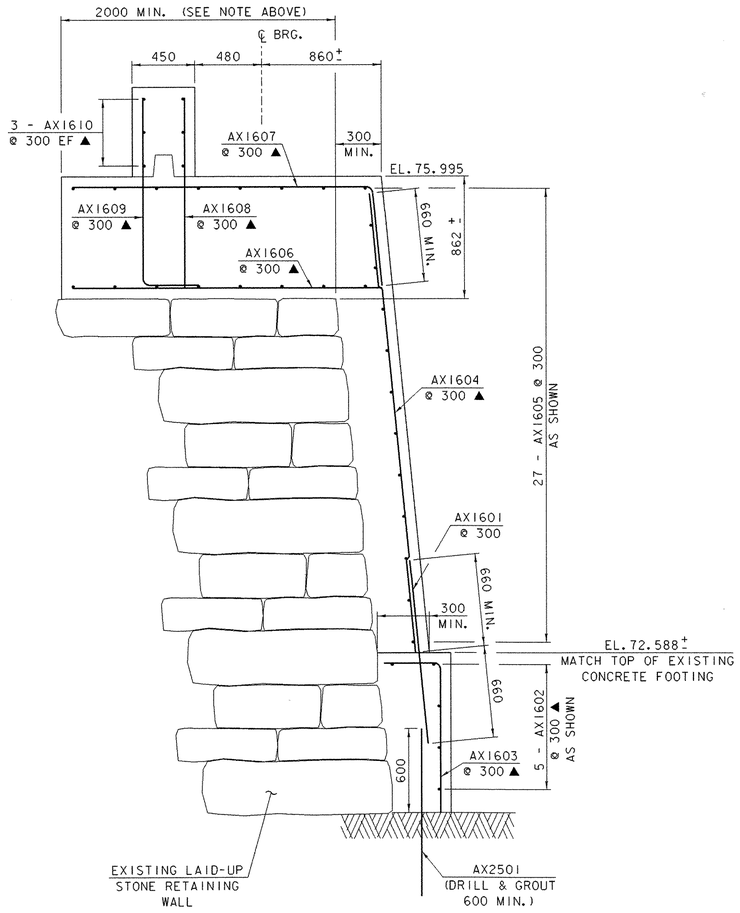
ABUTMENT NO. 2 DETAILS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sJ078ab2.d
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: T. SUMNER
PLOT DATE: 06-FEB-2003
DRAWN BY: S. SCRIBNER
CHECKED BY: T. SUMNER
SHEET 53 OF 71

NOTE:

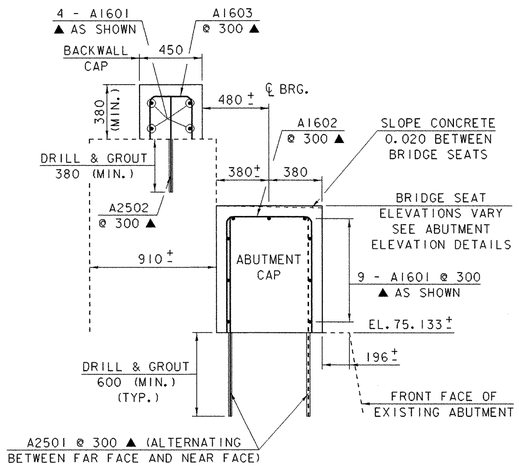
CONCRETE CAP SHALL BE PLACED OVER ENTIRE WIDTH OF LAID-UP STONE WALL AS DETERMINED IN THE FIELD AND A MINIMUM OF 2000 AS SHOWN.



ABUTMENT EXTENSION TYPICAL SECTION

0 1 2

SCALE = 1:20



ABUTMENT CAP AND BACKWALL CAP TYPICAL SECTION

0 1 2

SCALE = 1:20

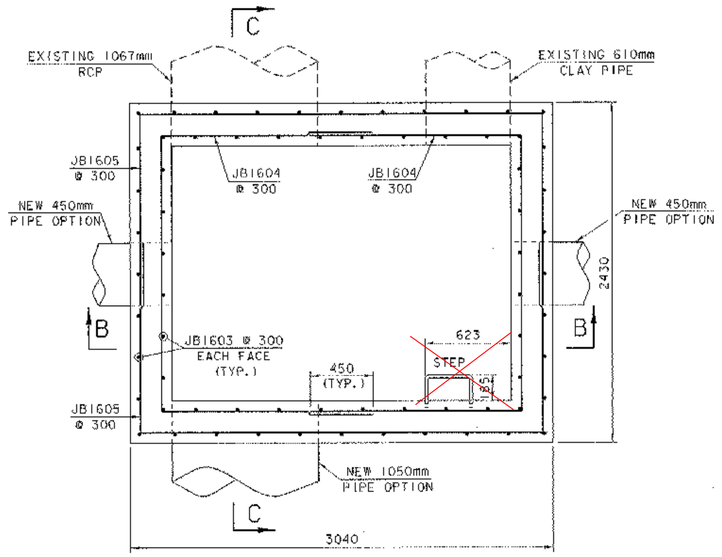
NOTE:

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

ABUTMENT TYPICAL SECTIONS

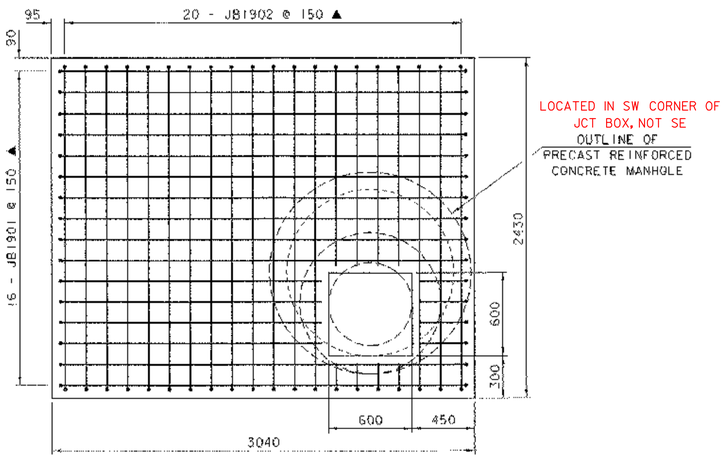
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078abt.i		PLOT DATE:	06-FEB-2003
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	S. SCRIBNER
DESIGNED BY:	T. SUMNER	CHECKED BY:	T. SUMNER
		SHEET	54 OF 71



SECTION A-A

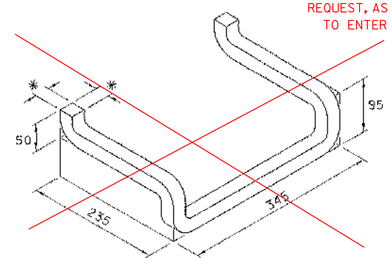
75.30 = BOTTOM H20 LINE @ 10+073 & @ 0.45 LT. CL



PLAN VIEW OF ADAPTER TOP

LOCATED IN SW CORNER OF JCT BOX, NOT SE OUTLINE OF PRECAST REINFORCED CONCRETE MANHOLE

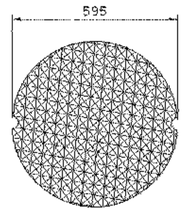
STEPS REMOVED AS PER PUBLIC WORKS SUPT. STEVE BARRETT'S REQUEST, AS MUST USE A LADDER TO ENTER "ENCLOSED SPACE".



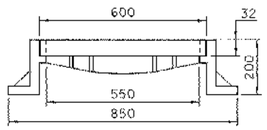
ALUMINUM STEP-DROP FRONT

(NOT TO SCALE)

* - INDIVIDUAL METAL RUNGS SHALL BE A MINIMUM DIMENSION OF 25mm AND SHALL BE PAINTED OR OTHERWISE TREATED TO RESIST CORROSION AND RUSTING.



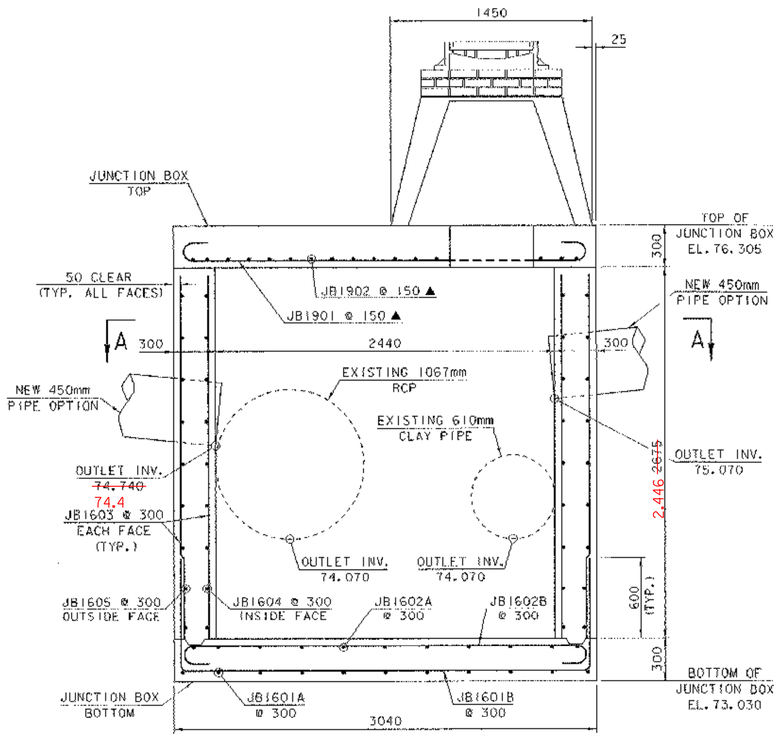
PLAN



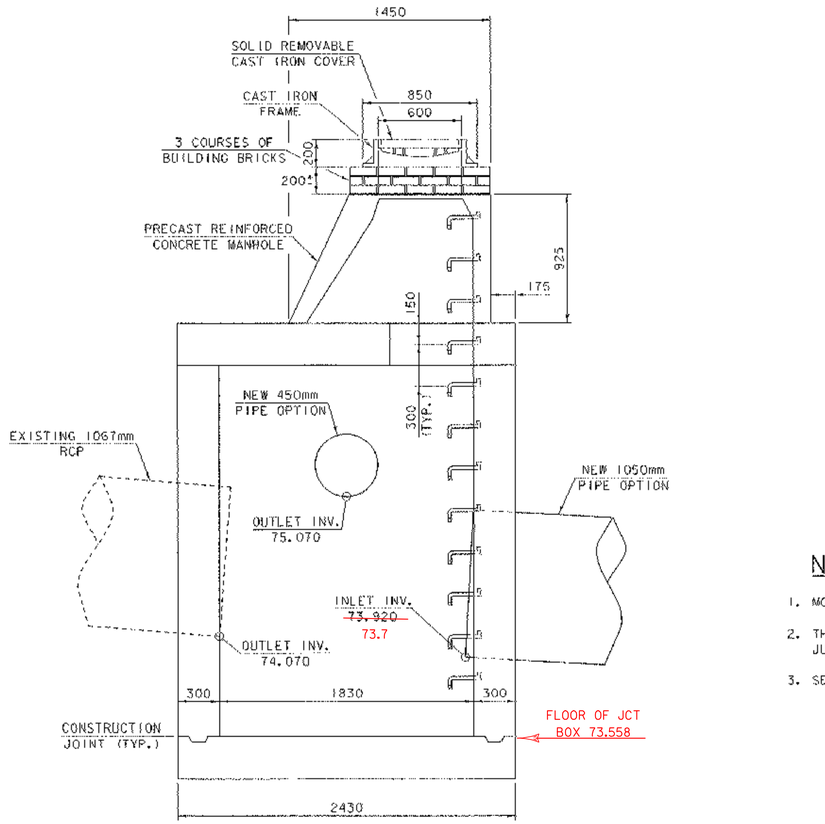
ELEVATION

CAST IRON COVER AND FRAME DETAILS

(NOT TO SCALE)



SECTION B-B



SECTION C-C

0 1 2

SCALE = 1:20

NOTES

1. MORTAR TYPE II TO BE USED FOR JOINT FILLER AND LAYING OF BRICKS.
2. THE PRECAST REINFORCED CONCRETE MANHOLE SHALL BE PLACED ON THE JUNCTION BOX SO AS TO PROVIDE DIRECT ACCESS TO STEPS.
3. SEE REINFORCING STEEL SCHEDULE FOR REINFORCING BAR DETAILS

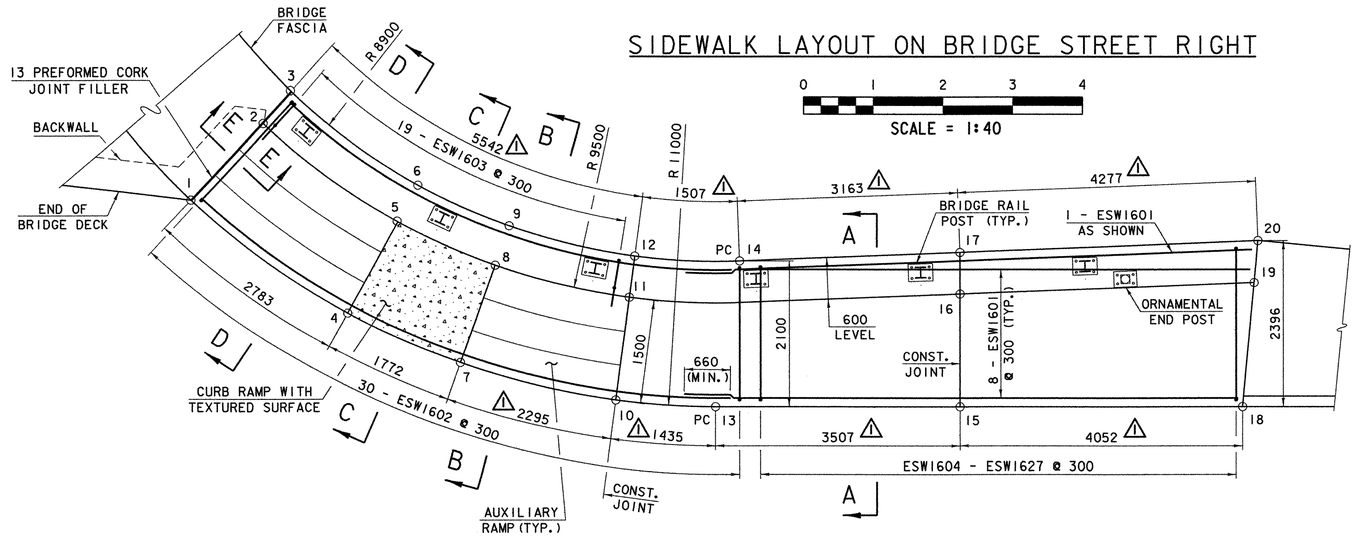
JUNCTION BOX DETAILS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sJ078jb.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: T. SUMNER
PLOT DATE: 06-FEB-2003
DRAWN BY: S. SCRIBNER
CHECKED BY: T. SUMNER
SHEET 55 OF 71

VTrans Metric

SIDEWALK LAYOUT ON BRIDGE STREET RIGHT



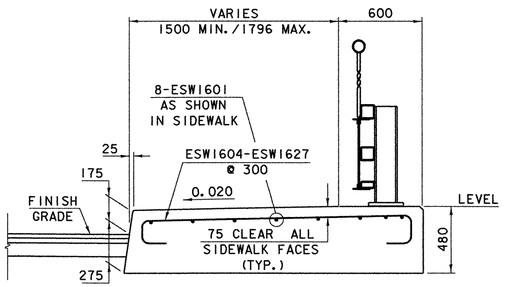
⚠ SIDEWALK OFFSETS & ELEVATIONS

POINT NO.	STATION	OFFSET RIGHT	*TOP OF SIDEWALK ELEV.	BOTTOM OF SIDEWALK ELEV.
1	20+040.238	6319	77.196	76.696
2	20+039.523	7766	77.226	---
3	20+039.160	8338	77.226	76.696
4	20+035.943	5618	76.719	76.444
5	20+035.241	7058	76.749/76.953	---
6	20+034.891	7628	76.953	76.444
7	20+033.356	5155	76.540	76.265
8	20+032.684	6594	76.570/76.761	---
9	20+032.391	7164	76.761	76.265
10	20+030.822	4676	76.536	76.086
11	20+030.651	6167	76.566	---
12	20+030.582	6763	76.566	76.086
13	20+029.389	4606	76.436	75.986
14	20+029.077	6718	76.466	75.986
15	20+025.882	4664	76.190	75.740
16	20+025.909	6293	76.222	---
17	20+025.919	6893	76.222	75.740
18	20+021.831	4730	75.908	75.458
19	20+021.694	6526	75.934	---
20	20+021.648	7129	75.931	75.445

NOTES:

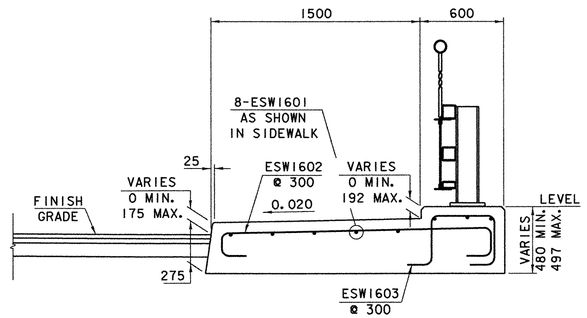
*1. FIRST ELEVATION DENOTES TOP OF LANDING. SECOND ELEVATION DENOTES TOP OF SIDEWALK FOR MOUNTING BRIDGE RAIL POST.

2. SEE STD. C-3M FOR ALL OTHER DETAILS AND NOTES.



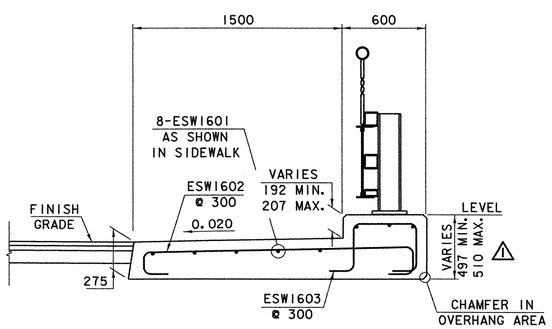
SECTION A-A

0 1 2
SCALE = 1:20



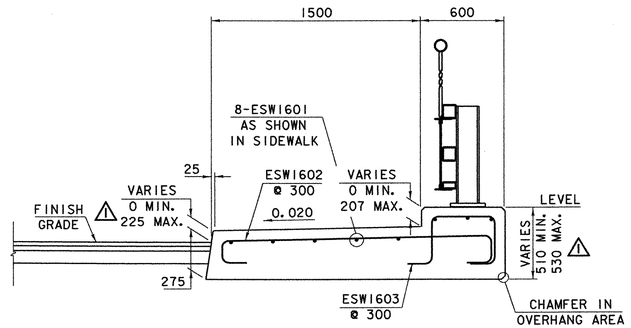
SECTION B-B

0 1 2
SCALE = 1:20



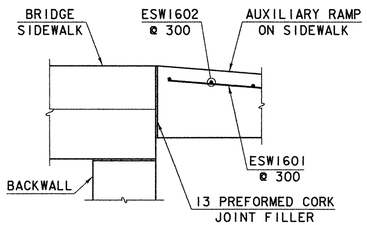
SECTION C-C

0 1 2
SCALE = 1:20



SECTION D-D

0 1 2
SCALE = 1:20



SECTION E-E

0 1 2
SCALE = 1:20

⚠ REVISED SIDEWALK LAYOUT OFFSETS AND ELEVATIONS.
BY: GFR DATE: 08/18/2003

DETAILS FOR PORTLAND CEMENT CONCRETE SIDEWALK, 200mm (MOD.)

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078swd.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: T. SUMNER
PLOT DATE: 24-MAY-2004
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER
SHEET 56 OF 71

STATE OF VERMONT
AGENCY OF TRANSPORTATION

REINFORCING STEEL SCHEDULE

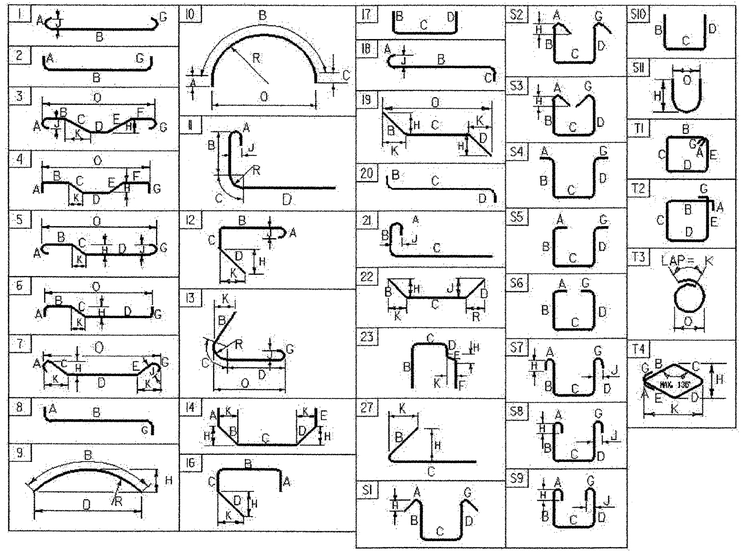
Metric

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
DECK																	
✳ ▲	126	16	6670	ES1601	STR												
▲	144	16	11250	ES1602	STR												
▲	72	16	12550	ES1603	STR												
✳ ▲	73	16	8950	ES1604	STR												
▲	338	16	10580	ES1605	STR												
	20	16	11050	ES1606	STR												
▲	10	16	11300	ES1607	STR												
▲	10	16	11300	ES1608	STR												
	173	16	3080	ES1609	S6	175	370	1930	430			175					
	19	16	2670	ES1610	S6	175	370	1530	420			175					
				ES1611	S6	NOT USED											
				ES1612	S5	NOT USED											
	140	16	1710	ES1613	S5	175	200	960	200			175					
	12	16	2810	ES1614	14	600	650	310	650	600			560		325		
✳ ▲	122	19	6670	ES1901	STR												
▲	136	19	11250	ES1902	STR												
▲	68	19	12550	ES1903	STR												
✳ ▲	69	19	8950	ES1904	STR												
▲	166	19	10580	ES1905	STR												
ABUTMENT NO. 1																	
▲	26	16	9140	1A1601A	STR												
▲	13	16	9410	1A1601B	STR												
▲	84	16	2270	1A1602	S10		830	610	830								
▲	84	16	2120	1A1603	S10		910	300	910								
	3	16	2990	1A1604	S4	660	530	610	530			660					
▲	86	25	1430	1A2501	STR												
▲	84	25	1290	1A2502	STR												
ABUTMENT NO. 1 EXTENSION																	
	12	16	1260	AX1601	STR												
▲	5	16	2000	AX1602	STR												
▲	12	16	3330	AX1604	STR												
✳	28	16	3370	AX1605	STR												
▲	12	16	3000	AX1606	STR												
▲	13	16	1500	AX1608	STR												
▲	7	16	1510	AX1603	17		1100	410	---								
▲	12	16	3660	AX1607	19		660	3000	---				700		70		
▲	13	16	1900	AX1609	17		1500	400	---								
▲	6	16	3980	AZ1610	19		1500	2480	---				1205		890		
ABUTMENT NO. 2																	
▲	13	16	10710	2A1601A	STR												
✳ ▲	14	16	8530	2A1601B	STR												
▲	83	16	2590	2A1602	S10		990	610	990								
▲	83	16	2120	2A1603	S10		910	300	910								
	3	16	2830	2A1604	S4	660	450	610	450			660					
△ ▲	61	25	1600	2A2501	STR												
▲	63	25	1290	2A2502	STR												
SIDEWALK																	
	17	16	8380	ESW1601	STR												
✳	31	16	2640	ESW1602	S6	175	160	1930	200			175					
	19	16	1520	ESW1603	S5	175	360	450	360			175					
	1	16	2650	ESW1604	S6	175	160	1940	200			175					
	1	16	2660	ESW1605	S6	175	160	1950	200			175					
	1	16	2675	ESW1606	S6	175	160	1965	200			175					
	1	16	2685	ESW1607	S6	175	160	1975	200			175					
	1	16	2700	ESW1608	S6	175	160	1990	200			175					
✳	2	16	2710	ESW1609	S6	175	160	2000	200			175					
	1	16	2725	ESW1610	S6	175	160	2015	200			175					
	1	16	2735	ESW1611	S6	175	160	2025	200			175					
	1	16	2750	ESW1612	S6	175	160	2040	200			175					
	1	16	2760	ESW1613	S6	175	160	2050	200			175					
	1	16	2775	ESW1614	S6	175	160	2065	200			175					
	1	16	2785	ESW1615	S6	175	160	2075	200			175					
	1	16	2800	ESW1616	S6	175	160	2090	200			175					
	1	16	2810	ESW1617	S6	175	160	2100	200			175					
	1	16	2825	ESW1618	S6	175	160	2115	200			175					
	1	16	2835	ESW1619	S6	175	160	2125	200			175					
	1	16	2850	ESW1620	S6	175	160	2140	200			175					
	1	16	2860	ESW1621	S6	175	160	2150	200			175					
	1	16	2875	ESW1622	S6	175	160	2165	200			175					
	1	16	2885	ESW1623	S6	175	160	2175	200			175					
	1	16	2900	ESW1624	S6	175	160	2190	200			175					
	1	16	2910	ESW1625	S6	175	160	2200	200			175					
	1	16	2920	ESW1626	S6	175	160	2210	200			175					
	1	16	2935	ESW1627	S6	175	160	2225	200			175					

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
JUNCTION BOX																	
	68	16	2625	JB1603	STR												
✳	12	16	4030	JB1601A	17		850	2330	850								
	9	16	4620	JB1601B	17		840	2940	840								
	11	16	2680	JB1602A	1	175	2330					175					
	9	16	3290	JB1602B	1	175	2940					175					
✳	19	16	5010	JB1604	17		1520	1970	1520								
	18	16	5870	JB1605	17		1380	2910	1380								
✳ ▲	17	19	3340	JB1901	1	200	2940					200					
✳ ▲	21	19	2730	JB1902	1	200	2330					200					

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING 55M SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-SI). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS 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.



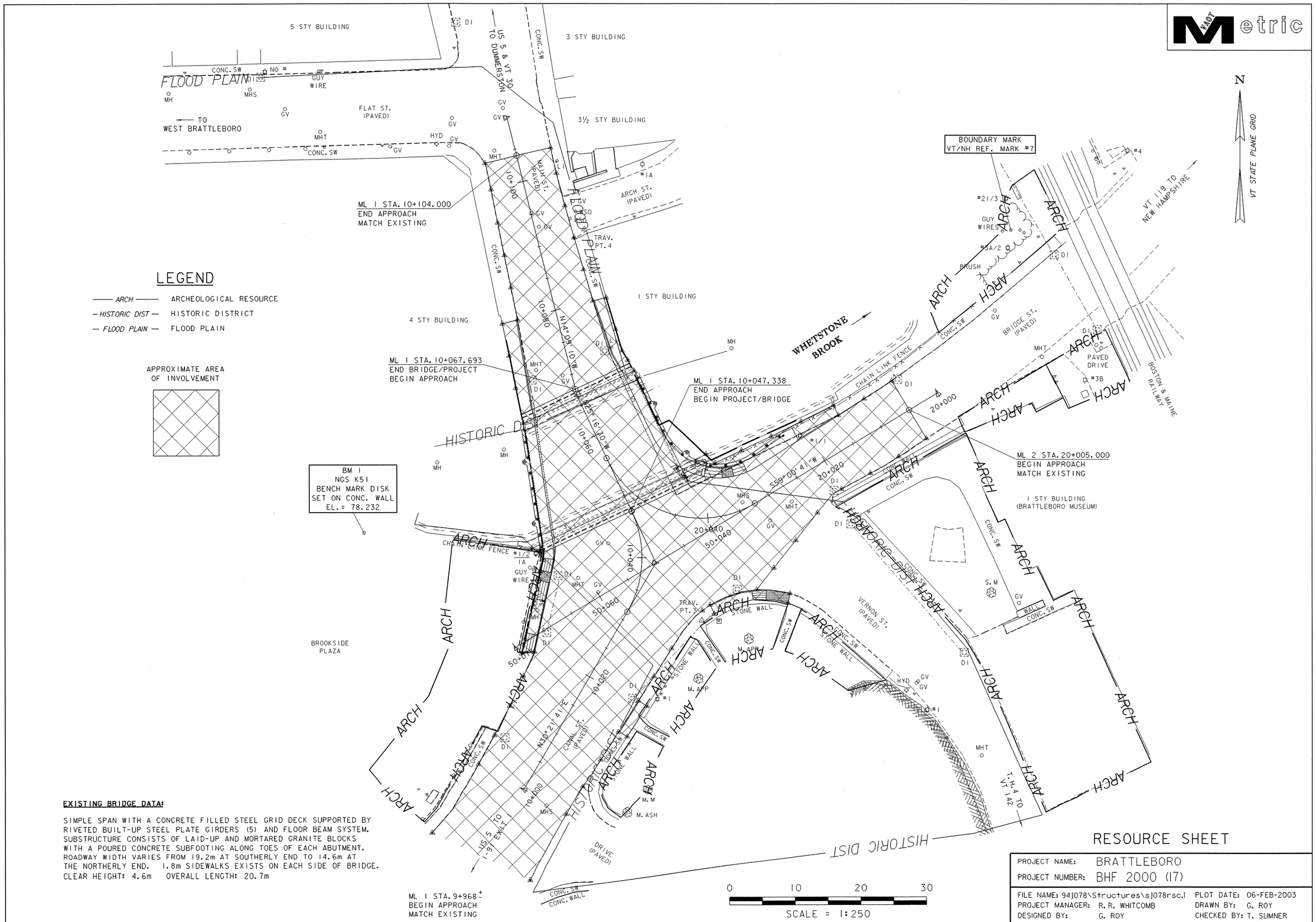
ASTM STANDARD REINFORCING BARS

BAR SIZE	NOMINAL MASS (Kg/m)	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER (mm)	CROSS SECTIONAL AREA (mm^2)	PERIMETER (mm)
#10	0.560	9.5	71	29.84
#13	0.994	12.7	129	39.90
#16	1.552	15.9	199	49.95
#19	2.235	19.1	284	60.00
#22	3.042	22.2	387	69.74
#25	3.973	25.4	510	79.80
#29	5.060	28.7	645	90.16
#32	6.404	32.3	819	101.47
#36	7.907	35.8	1006	112.47
#43	11.380	43.0	1452	135.09
#57	20.240	57.3	2581	180.01

PROJECT NAME: **BRATTLEBORO**
PROJECT NUMBER: **BHF 2000 (17)**

FILE NAME: **94j078\Structures\sj078rss.xls**
PROJECT MANAGER: **R. R. WHITCOMB**
DESIGNED BY: **T. SUMNER**
REINFORCING STEEL SCHEDULE SHEET #1

PLOT DATE: **02/03/2003**
DRAWN BY: **G. ROY**
CHECKED BY: **T. SUMNER**
SHEET **57** OF **71**



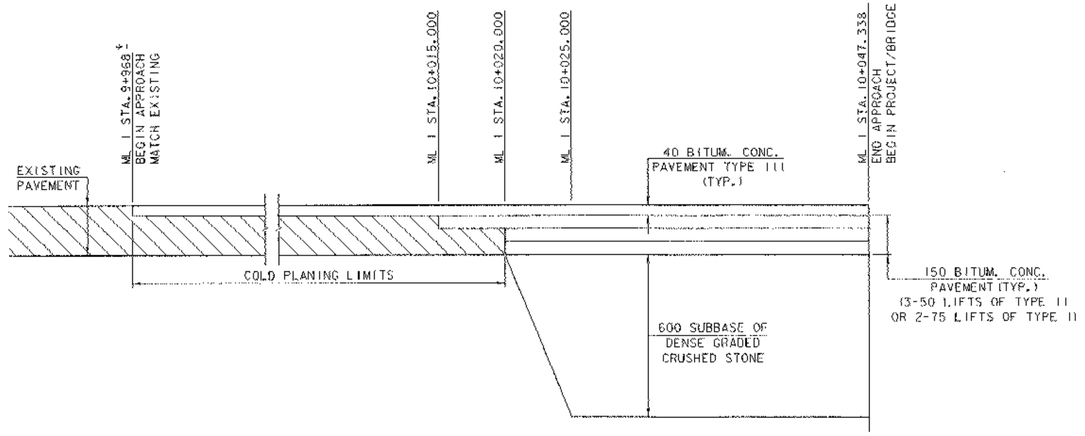
EXISTING BRIDGE DATA:

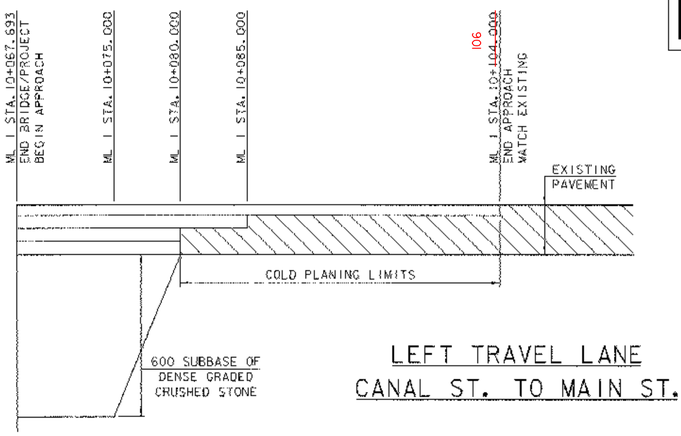
SIMPLE SPAN WITH A CONCRETE FILLED STEEL GRID DECK SUPPORTED BY RIVETED BUILT-UP STEEL PLATE GIRDERS (5) AND FLOOR BEAM SYSTEM. SUBSTRUCTURE CONSISTS OF LAID-UP AND MORTARED GRANITE BLOCKS WITH A POURED CONCRETE SUBFOOTING ALONG TOES OF EACH ABUTMENT. ROADWAY WIDTH VARIES FROM 19.2m AT SOUTHERLY END TO 14.6m AT THE NORTHERLY END. 1.8m SIDEWALKS EXISTS ON EACH SIDE OF BRIDGE.
CLEAR HEIGHT: 4.6m OVERALL LENGTH: 20.7m

RESOURCE SHEET

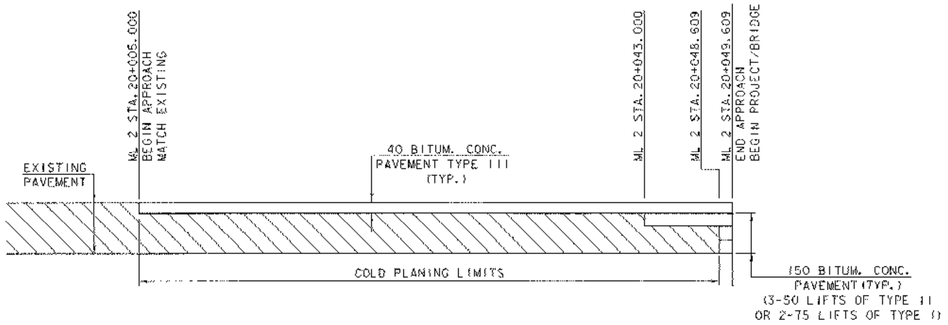
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)

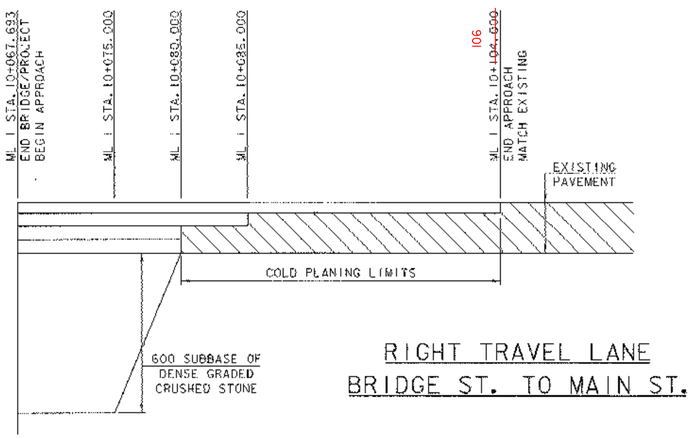
FILE NAME: 94J078\Structures\sJ078rsc.l		PLOT DATE:	06-FEB-2003
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	G. ROY
DESIGNED BY:	G. ROY	CHECKED BY:	T. SUMNER
		SHEET	58 OF 71



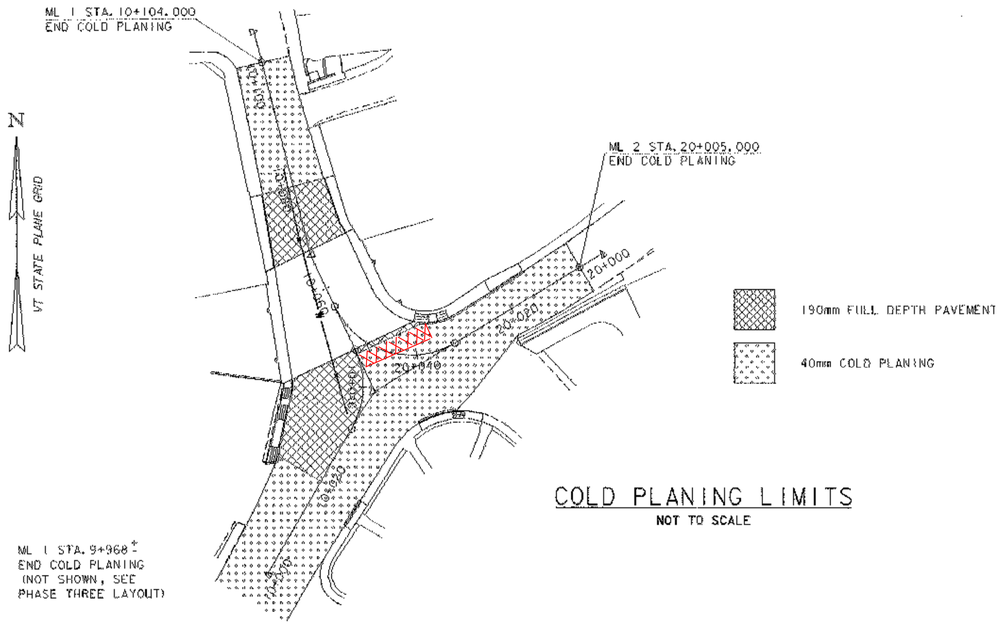


LEFT TRAVEL LANE
CANAL ST. TO MAIN ST.





RIGHT TRAVEL LANE
BRIDGE ST. TO MAIN ST.



COLD PLANING LIMITS
NOT TO SCALE

HORIZ.: 0 10 20
SCALE = 1:200

VERT.: 0 0.5 1
SCALE = 1:10

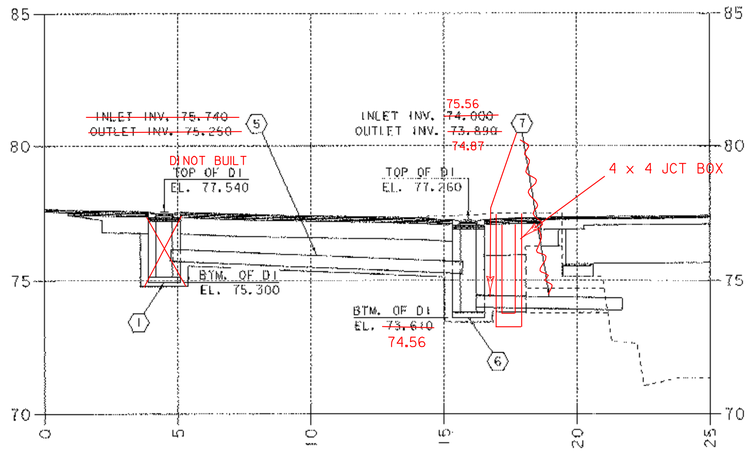
MATERIAL TRANSITION & COLD PLANING DETAILS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

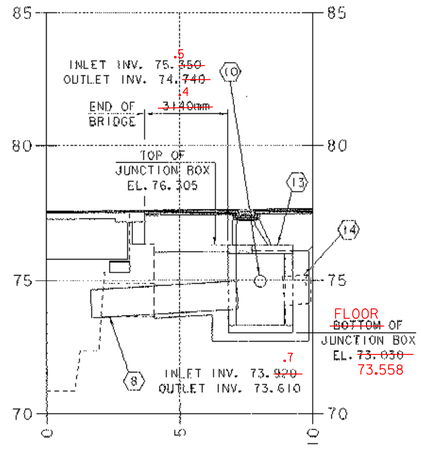
FILE NAME: 94J078\Structures\sJ078mat1.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 06-FEB-2003
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER
SHEET 59 OF 71

Metric

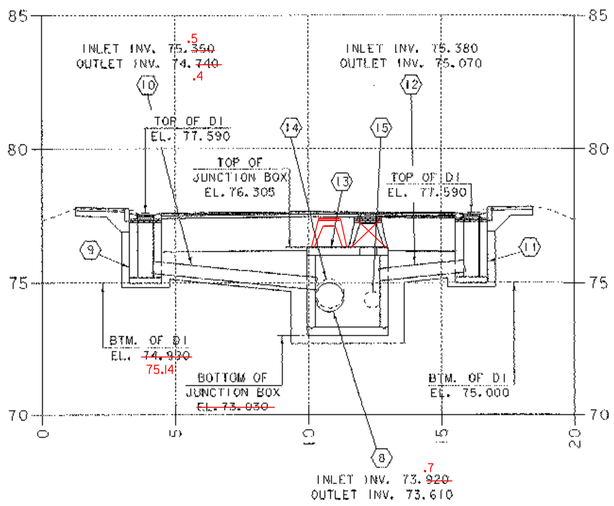
Pipe Profile
Sta. 10+018.26 Lt. - Sta. 10+051.54 Lt.

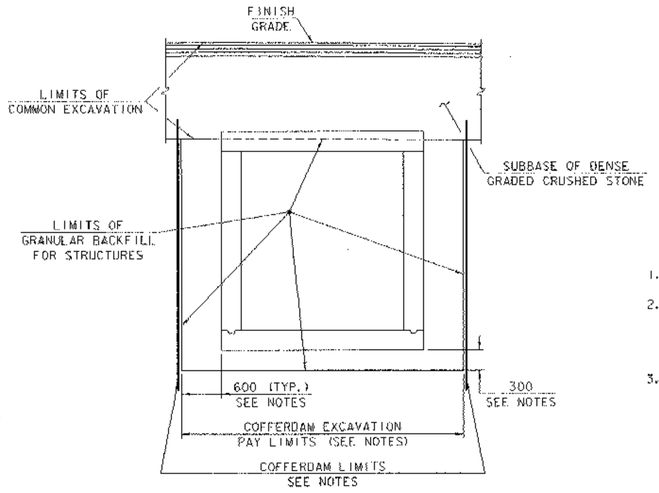


Pipe Profile
Sta. 10+064.01 Rt. - Sta. 10+074.22 Rt.



Pipe Profile
Sta. 10+070.09 Lt. - Sta. 10+072.73 Rt.





JUNCTION BOX EARTHWORK TYPICAL

(NOT TO SCALE)

NOTES

1. COFFERDAM SIZE TO BE DETERMINED BY THE CONTRACTOR.
2. THE PAY LIMITS OF "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 600 OUTSIDE THE PERIMETER OF THE JUNCTION BOX, UP TO EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.
3. 300 UNDERCUT AT JUNCTION BOX AS DETERMINED NECESSARY BY THE RESIDENT ENGINEER.

0 1 2 4 6 8 10

HORIZONTAL SCALE = 1:100

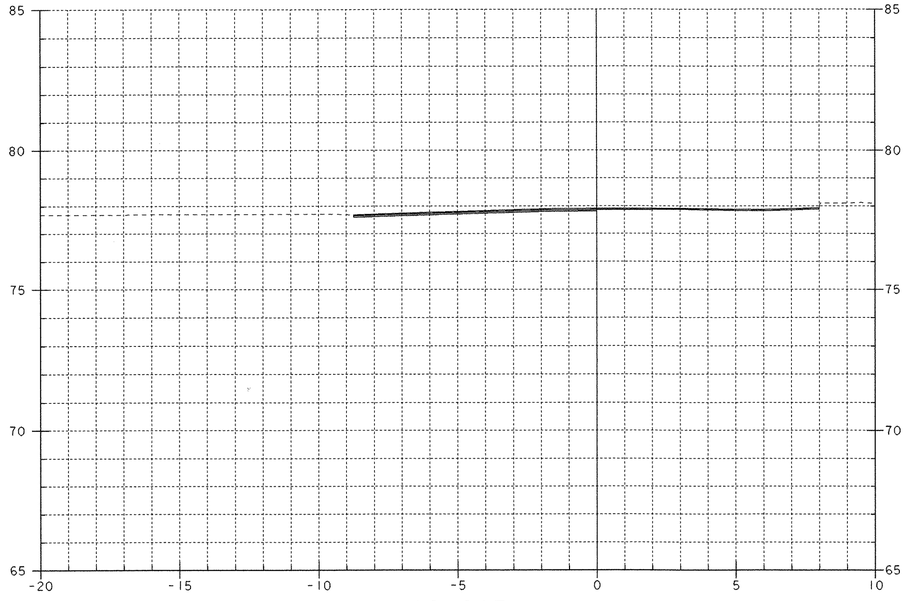
VERTICAL SCALE = 1:100

SEE DRAINAGE DETAIL SHEET
FOR DRAINAGE PIPE INFORMATION

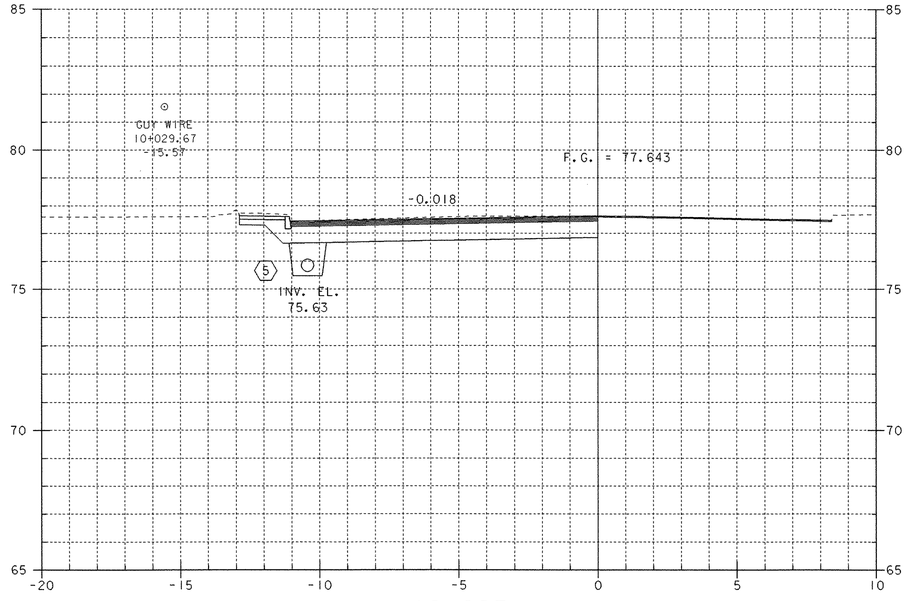
DRAINAGE PIPE PROFILES

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

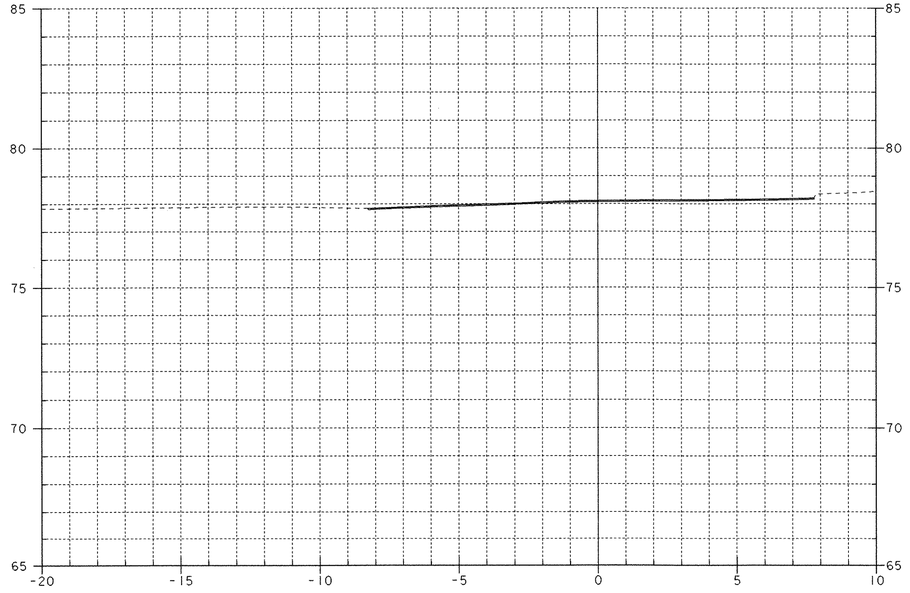
FILE NAME: 94J078\Structures\sJ078dppJ
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 06-FEB-2003
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER
SHEET 60 OF 71



10+015

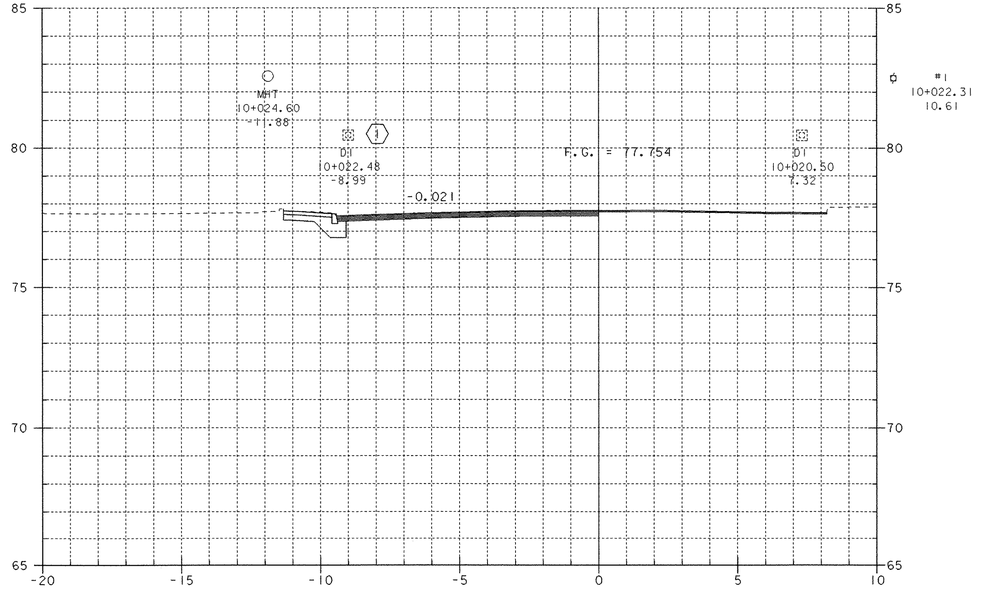


10+025



10+010

ML 1 STA. 9+968±
BEGIN APPROACH
MATCH EXISTING



10+020

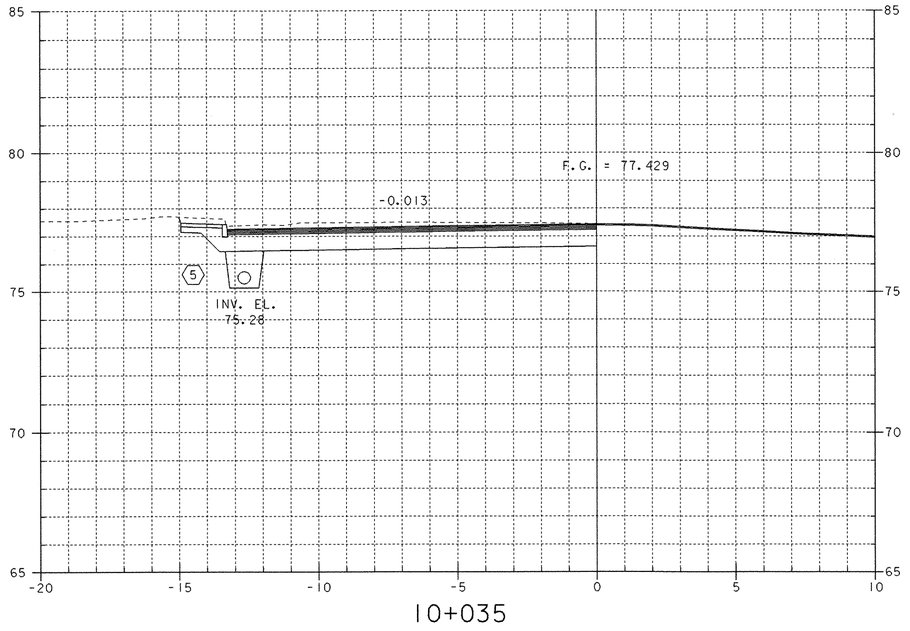
0 1 2 4 6 8 10

SCALE = 1:100

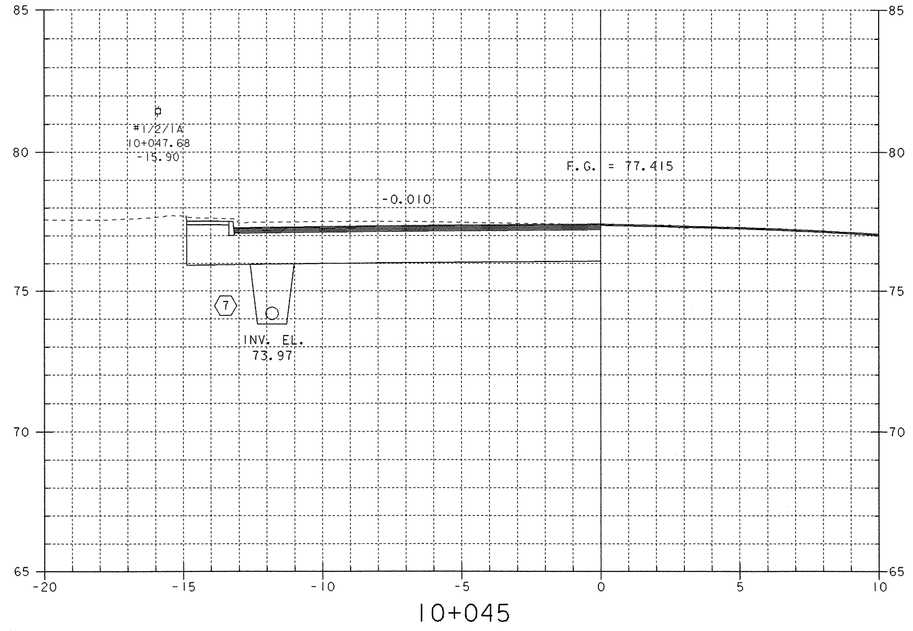
MAIN ST. CROSS SECTIONS (1)

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)

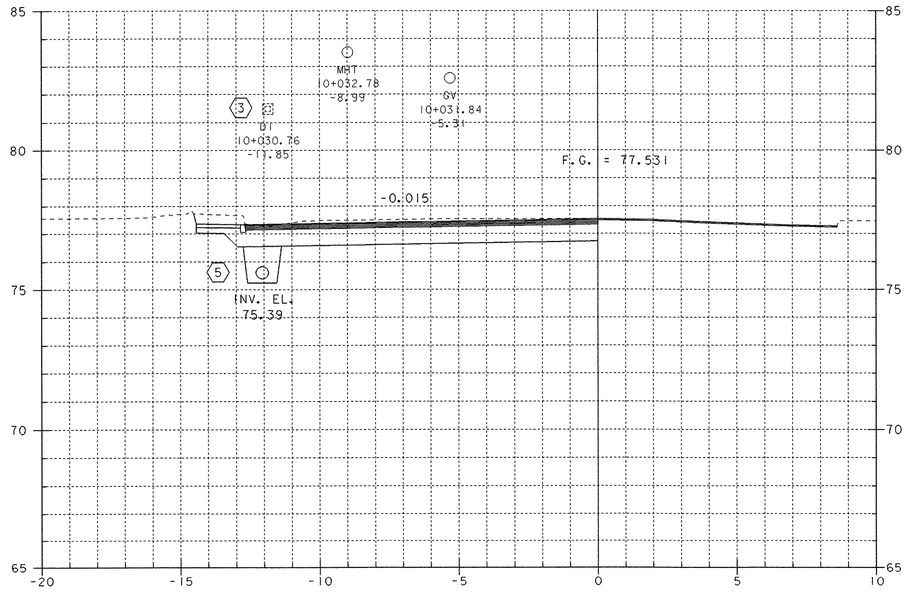
FILE NAME: 94J078\Structures\sj078m01.1		PLOT DATE: 06-FEB-2003	
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	G. ROY
DESIGNED BY:	G. ROY	CHECKED BY:	T. SUMNER
		SHEET 61 OF 71	



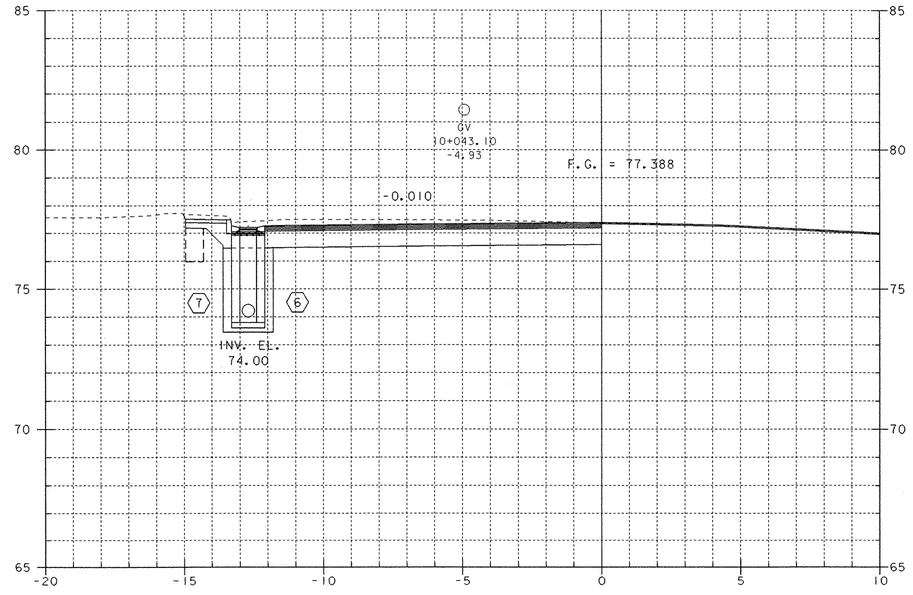
10+035



10+045



10+030



10+040

0 1 2 4 6 8 10

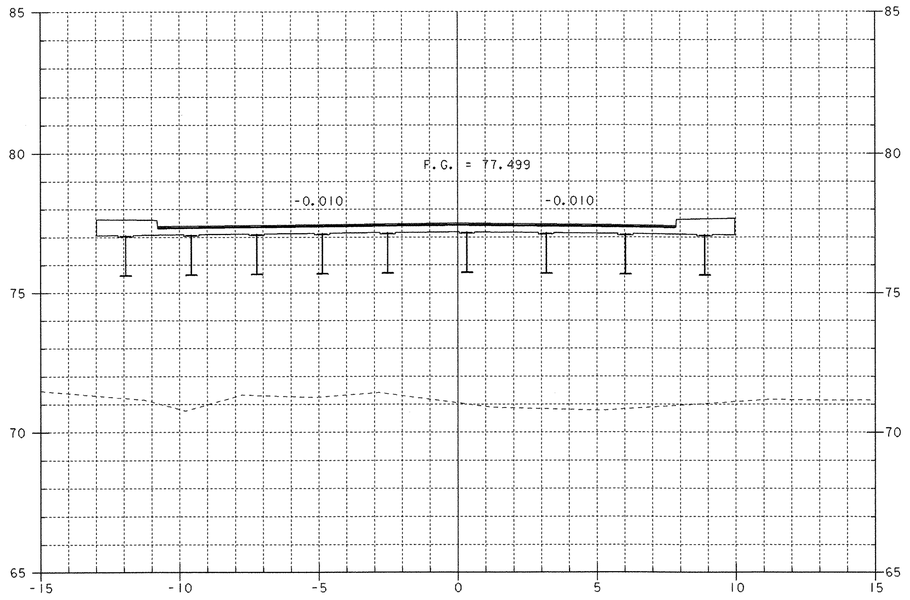
SCALE = 1:100

MAIN ST. CROSS SECTIONS (2)

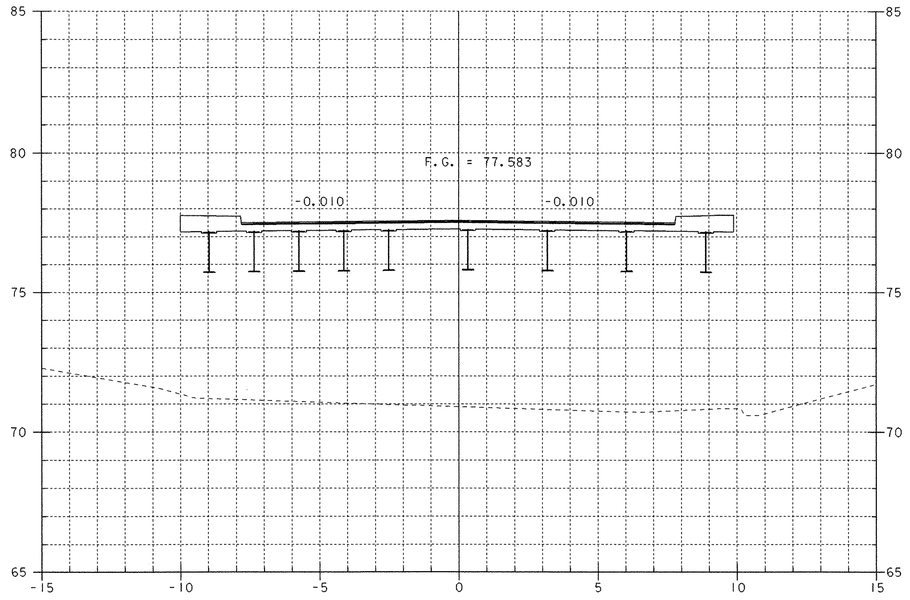
PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94j078\Structures\sj078m02.1
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY

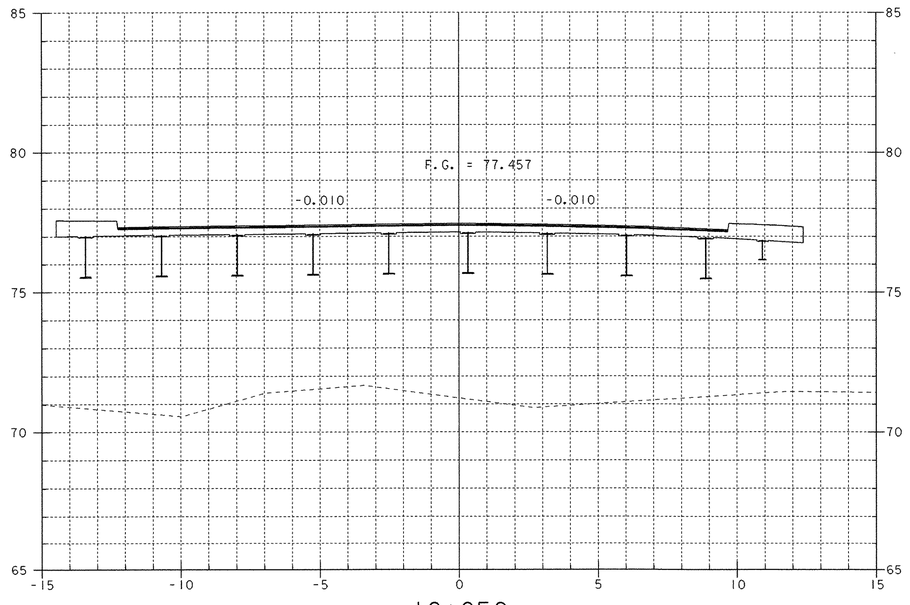
PLOT DATE: 06-FEB-2003
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER



10+055



10+065



10+050

ML 1 STA. 10+047.338
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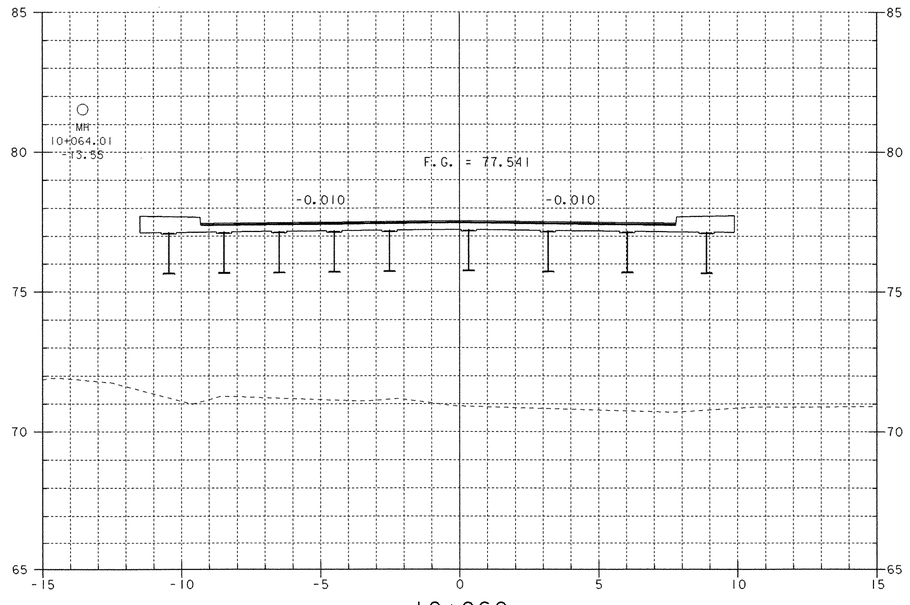
BEGIN PROJECT/BRIDGE



10+060

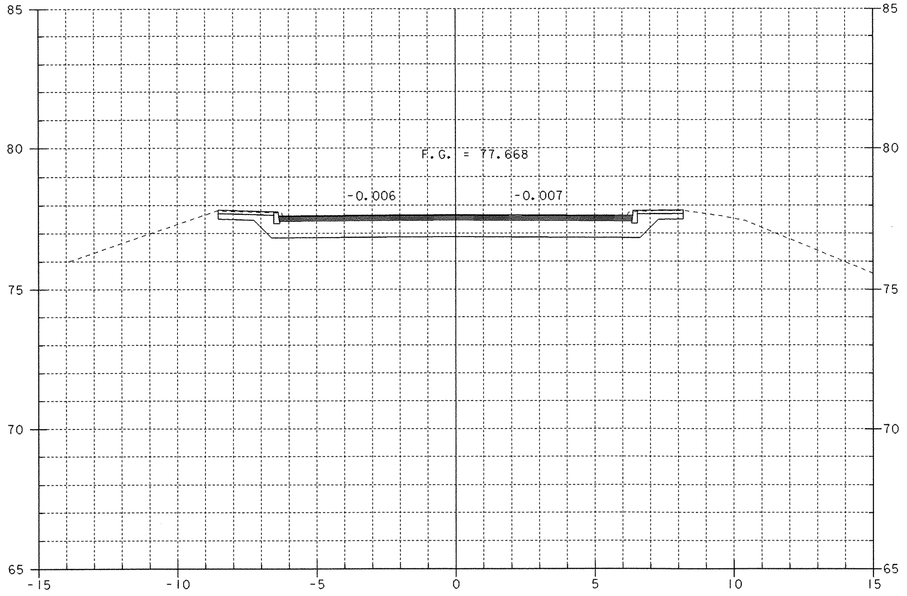
0 1 2 4 6 8 10

SCALE = 1:100

MAIN ST. CROSS SECTIONS (3)

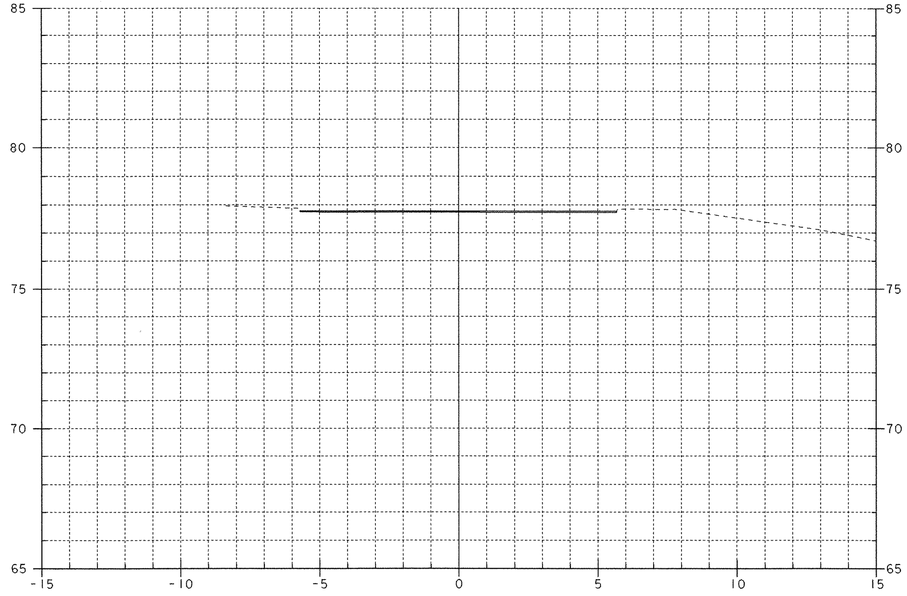
PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078m03.1
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 06-FEB-2003
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER
SHEET 63 OF 71

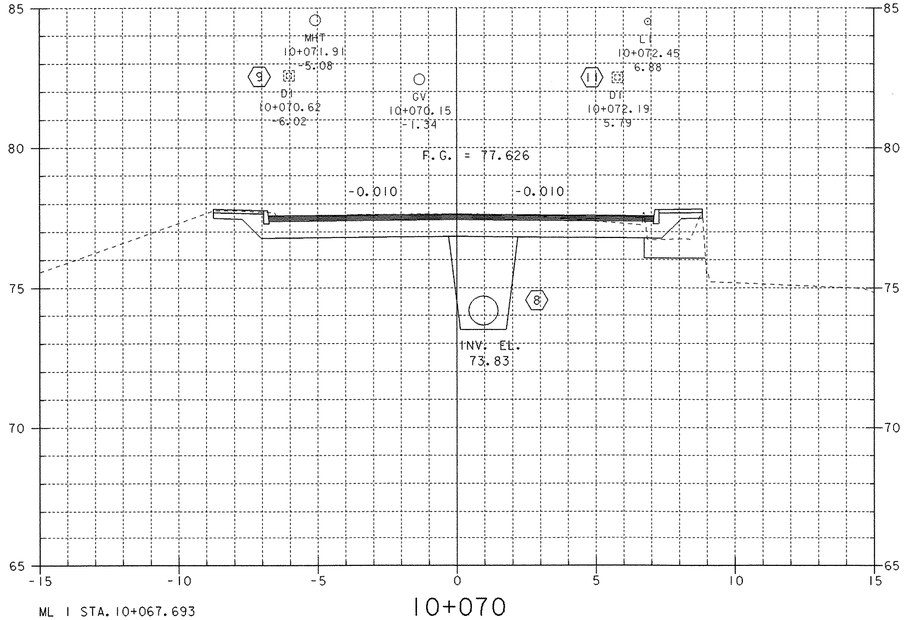


10+075

ML 1 STA. 10+104.000
END APPROACH
MATCH EXISTING

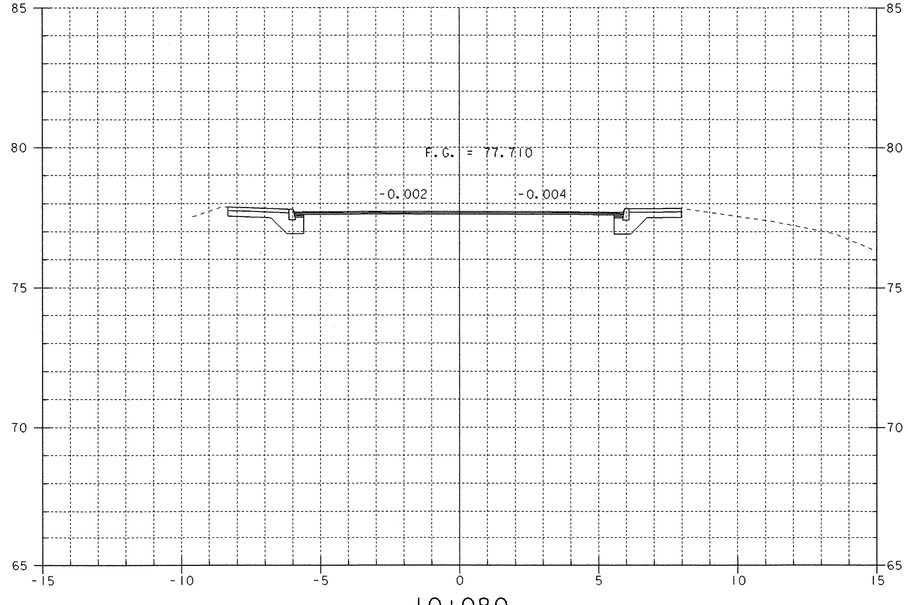


10+085



10+070

ML 1 STA. 10+067.693
END BRIDGE/PROJECT
BEGIN APPROACH



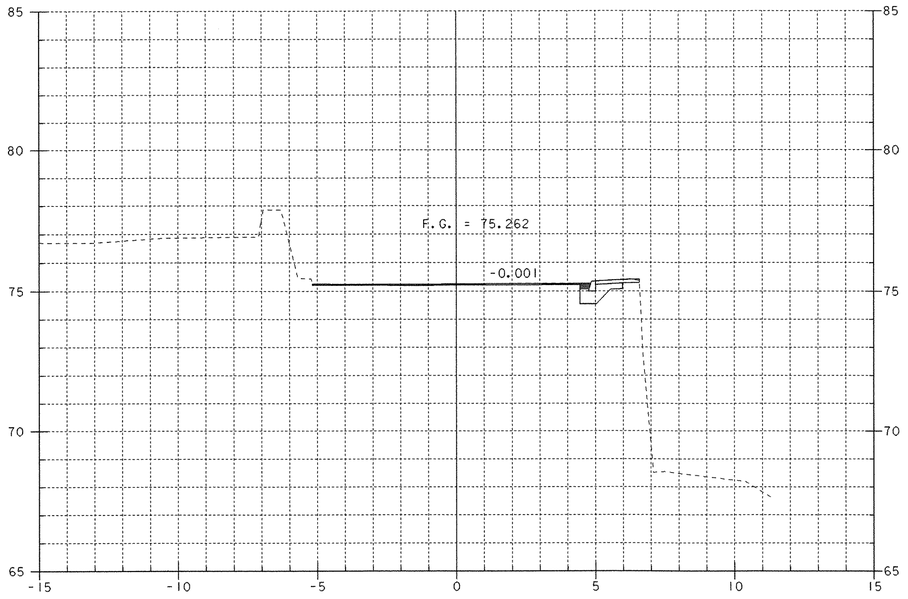
10+080

0 1 2 4 6 8 10
SCALE = 1:100

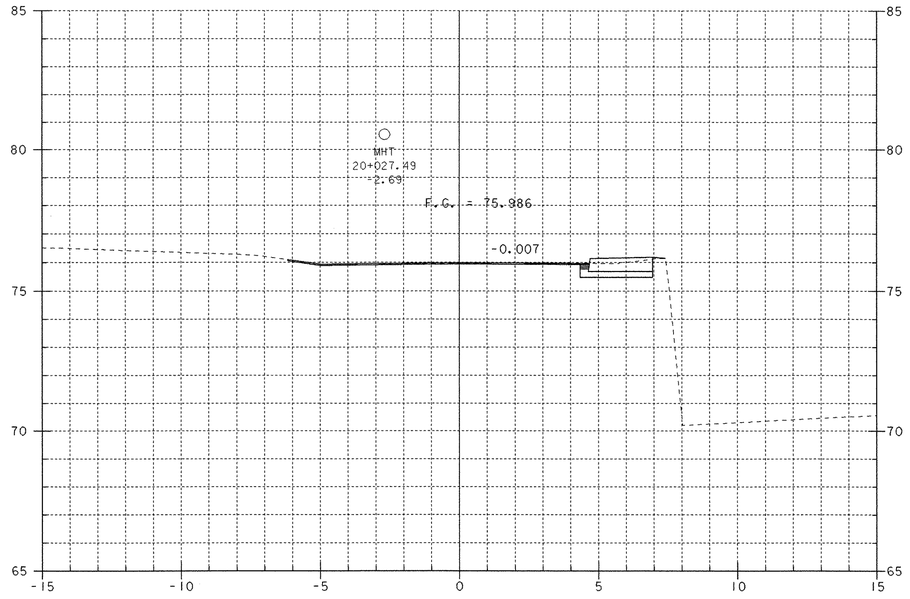
MAIN ST. CROSS SECTIONS (4)

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

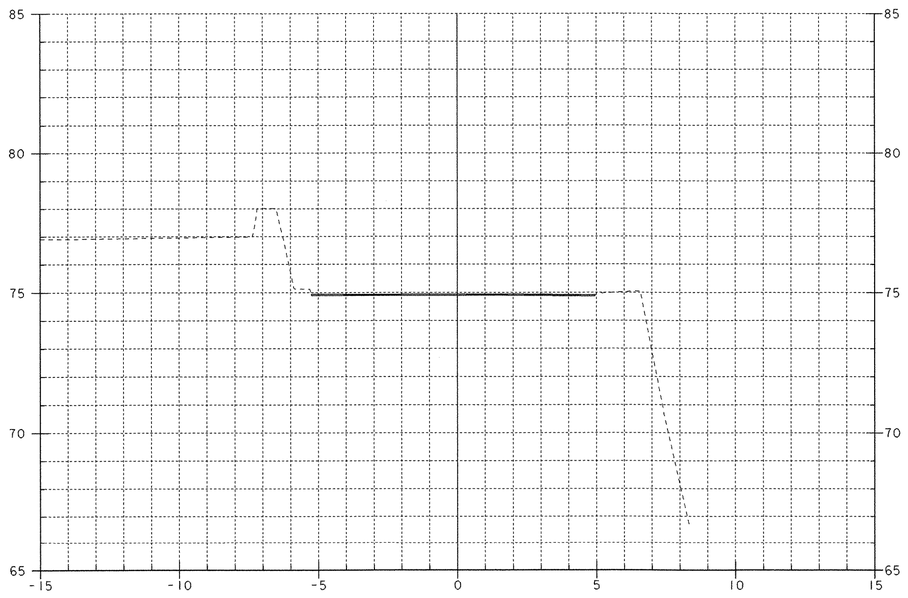
FILE NAME: 94J078\Structures\sj078m04.i
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 06-FEB-2003
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER
SHEET 64 OF 71



20+015

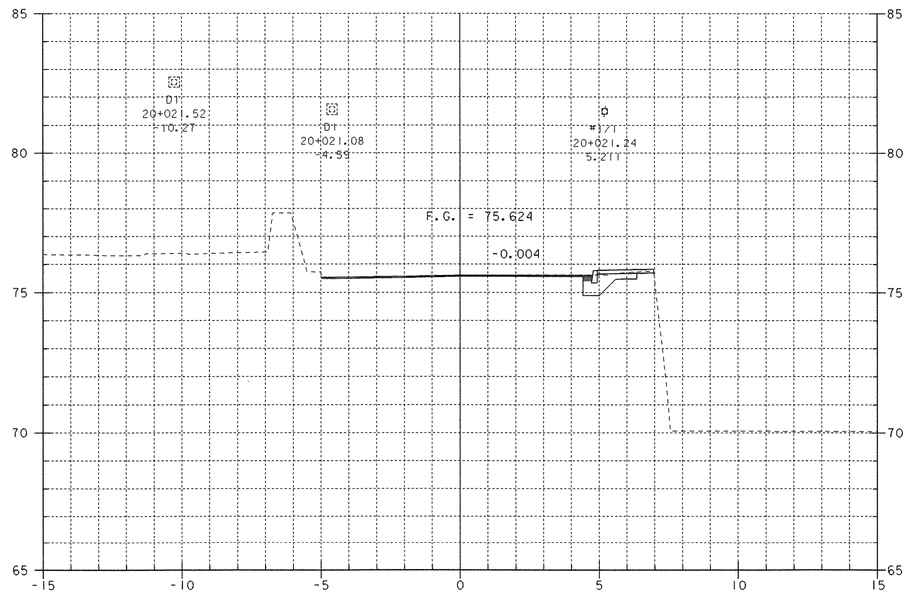


20+025



20+010

ML 2 STA. 20+005.000
BEGIN APPROACH
MATCH EXISTING



20+020

0 1 2 4 6 8 10

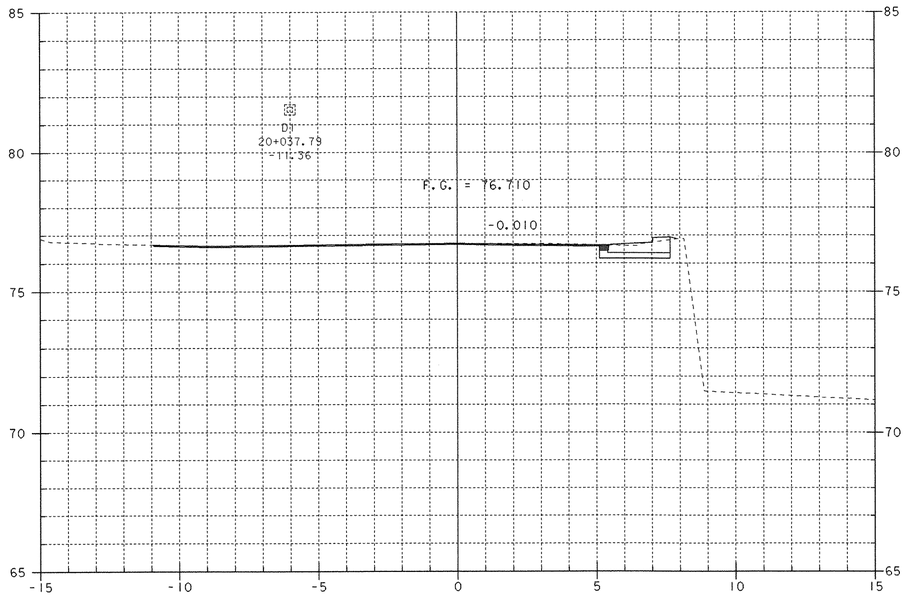
SCALE = 1:100

MAINLINE 2 CROSS SECTIONS (1)

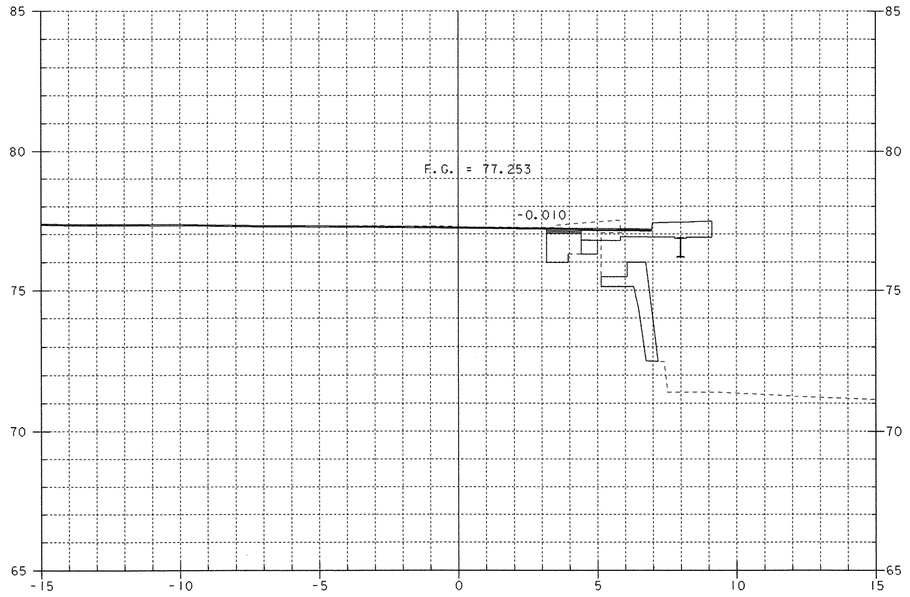
PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078m05.1
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 06-FEB-2003
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER
SHEET 65 OF 71

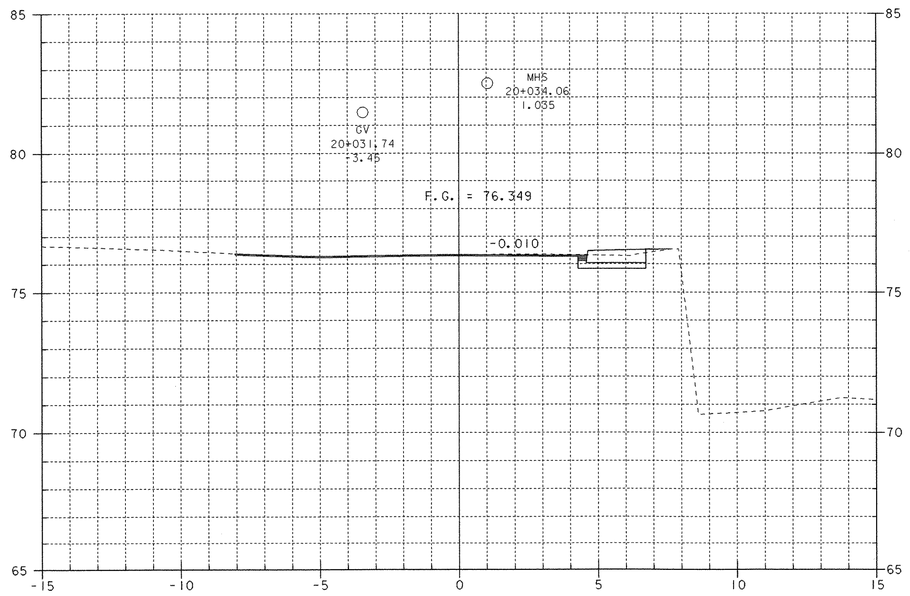
Metric



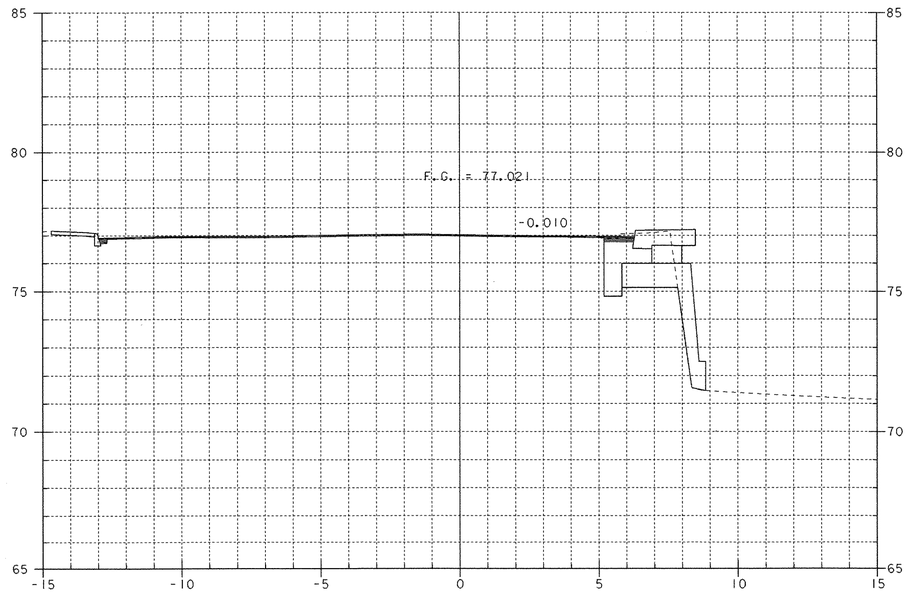
20+035



20+045



20+030



20+040

0 1 2 4 6 8 10

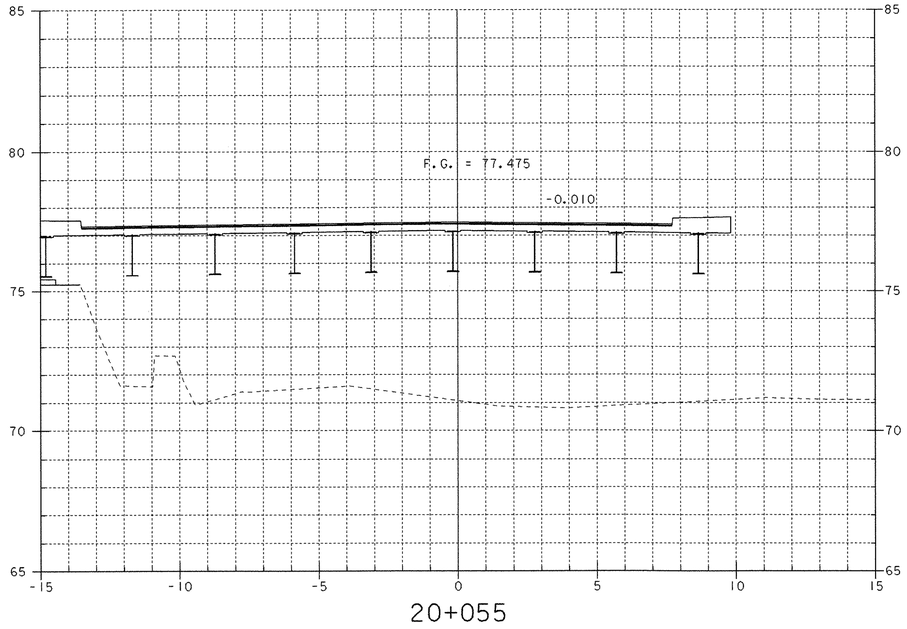
SCALE = 1:100

MAINLINE 2 CROSS SECTIONS (2)

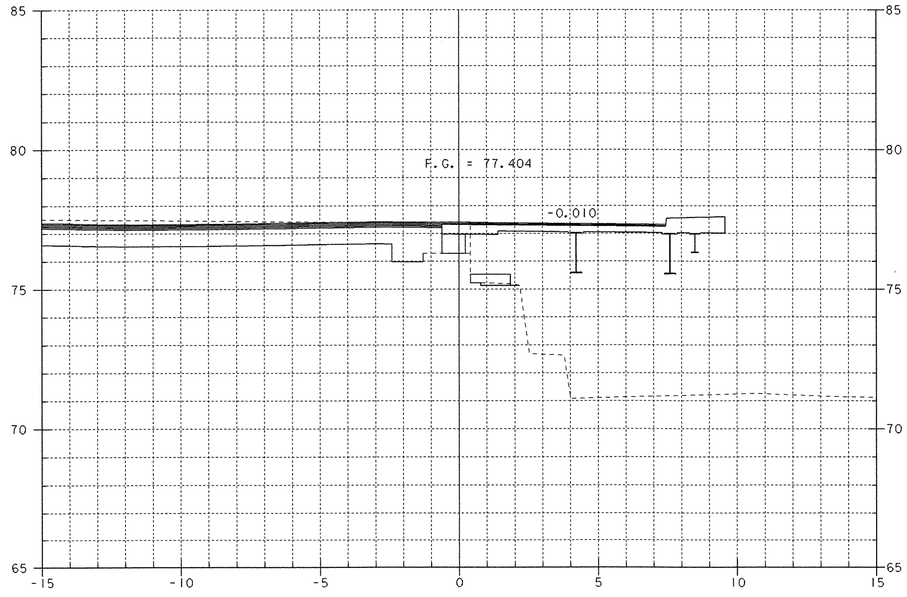
PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078m06.i
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: G. ROY

PLOT DATE: 06-FEB-2003
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER
SHEET 66 OF 71



20+055



ML 2 STA. 20+049.609
BEGIN BRIDGE

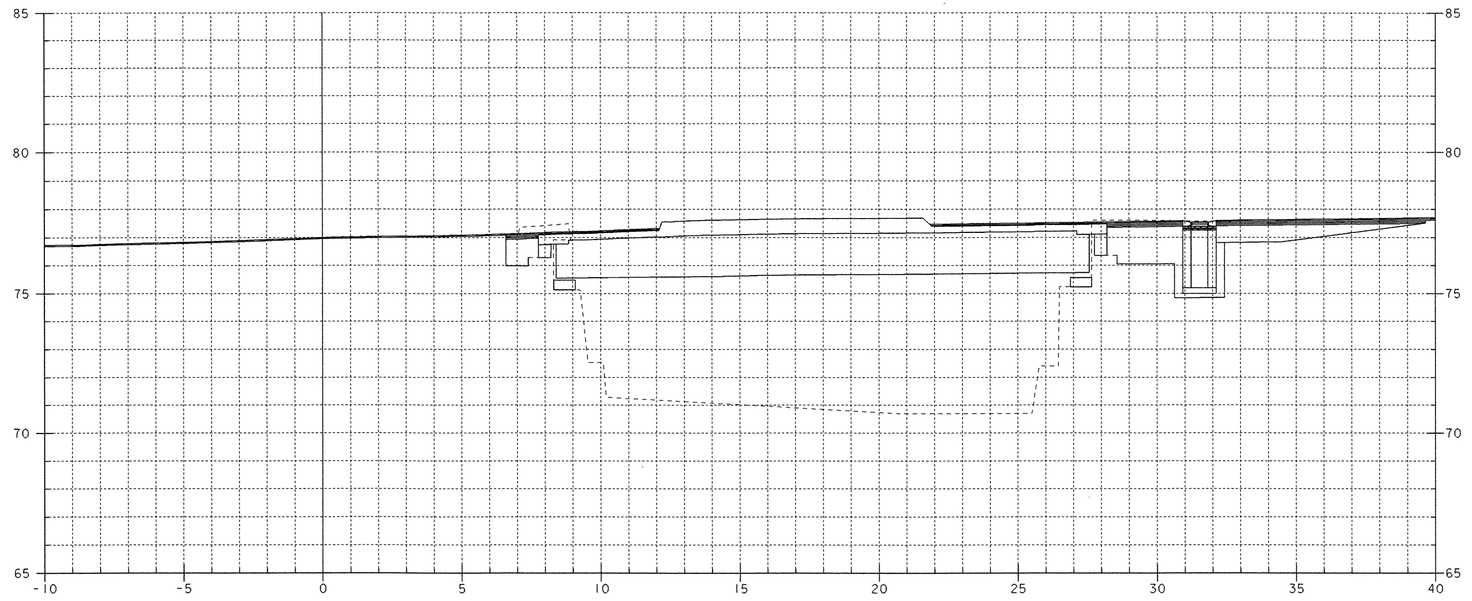
20+050

0 1 2 4 6 8 10

SCALE = 1:100

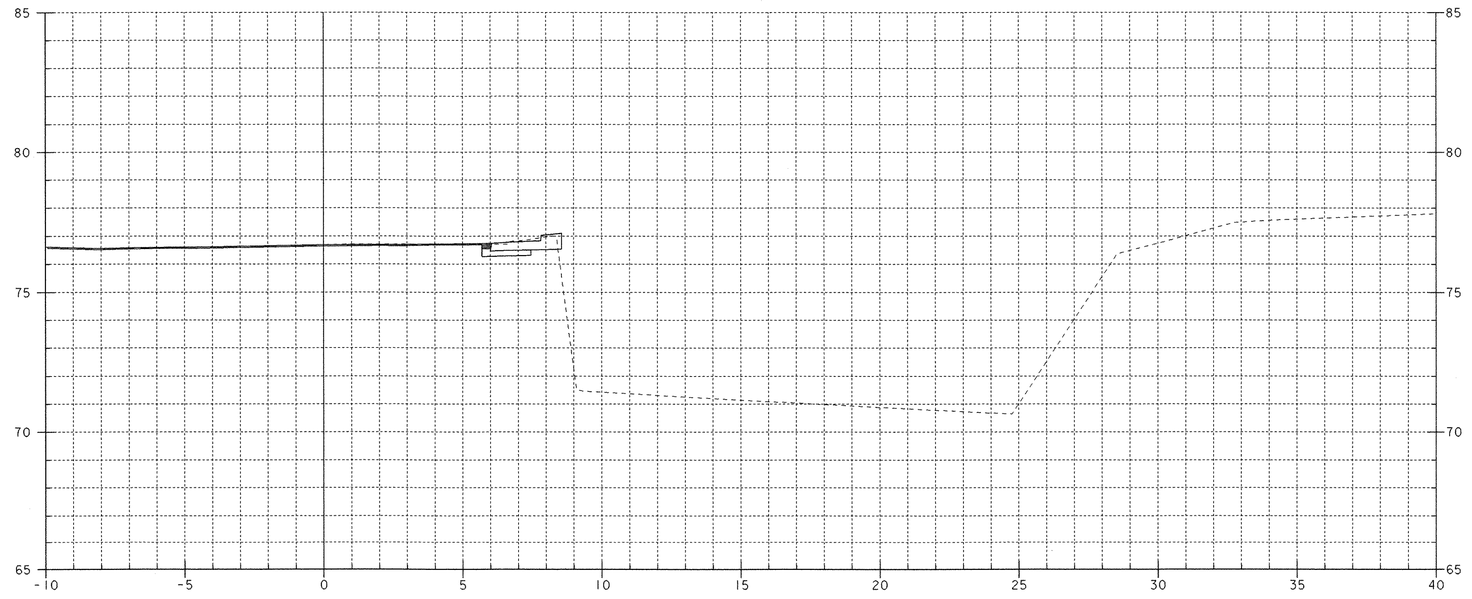
MAINLINE 2 CROSS SECTIONS (3)

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)
FILE NAME: 94J078\Structures\sj078m07.i	PLOT DATE: 06-FEB-2003
PROJECT MANAGER: R.R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: T. SUMNER
	SHEET 67 OF 71



50+040

CHANNEL STA. 50+037.83 FAR RT.
BEGIN STRUCTURE EXCAVATION
GRANULAR BACKFILL FOR STRUCTURES



50+035

CHANNEL STA. 50+035.00 RT.
BEGIN STRUCTURE EXCAVATION
GRANULAR BACKFILL FOR STRUCTURES

0 1 2 4 6 8 10

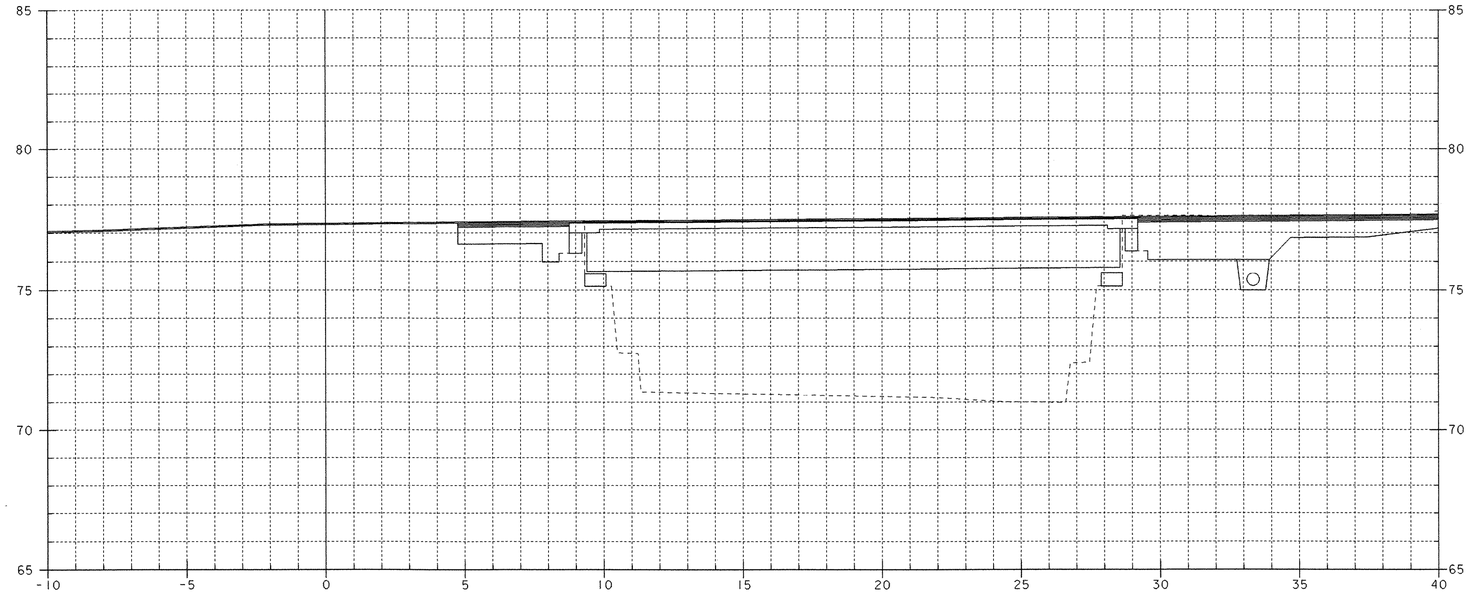
SCALE = 1:100

NOTE:
SEE SHEET 60 FOR DRAINAGE
DETAILS AT END OF ABUT. NO. 2

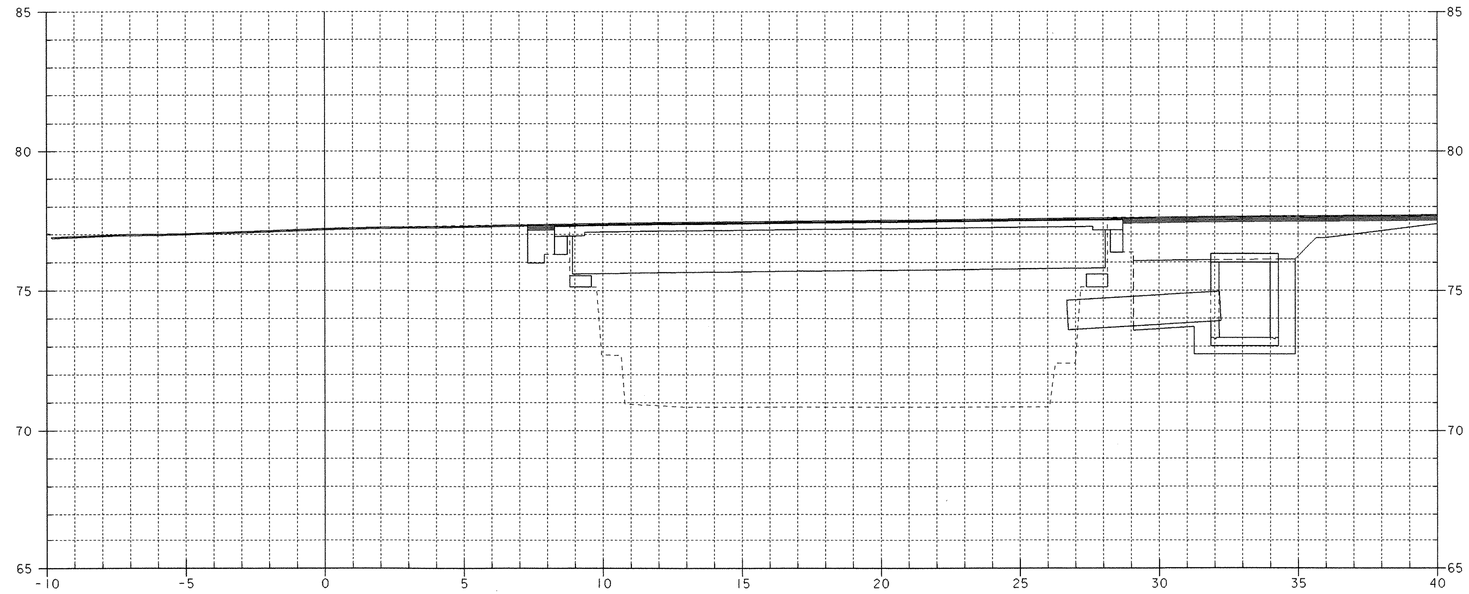
CHANNEL CROSS SECTIONS (1)

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BHF 2000 (17)

FILE NAME: 94j078\Structures\sj078c01.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 06-FEB-2003
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER
SHEET 68 OF 71



50+050



50+045

0 1 2 4 6 8 10

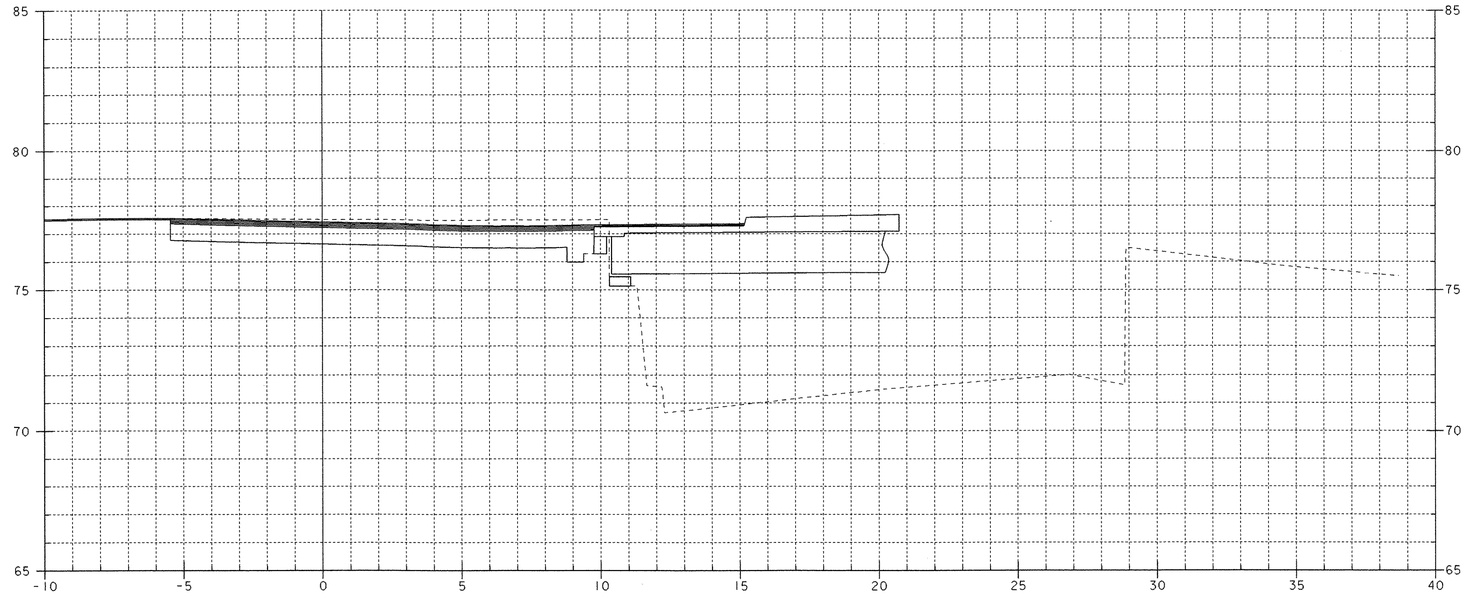
SCALE = 1:100

NOTE:
SEE SHEET 60 FOR DRAINAGE DETAILS AT END OF ABUT. NO.2

CHANNEL CROSS SECTIONS (2)

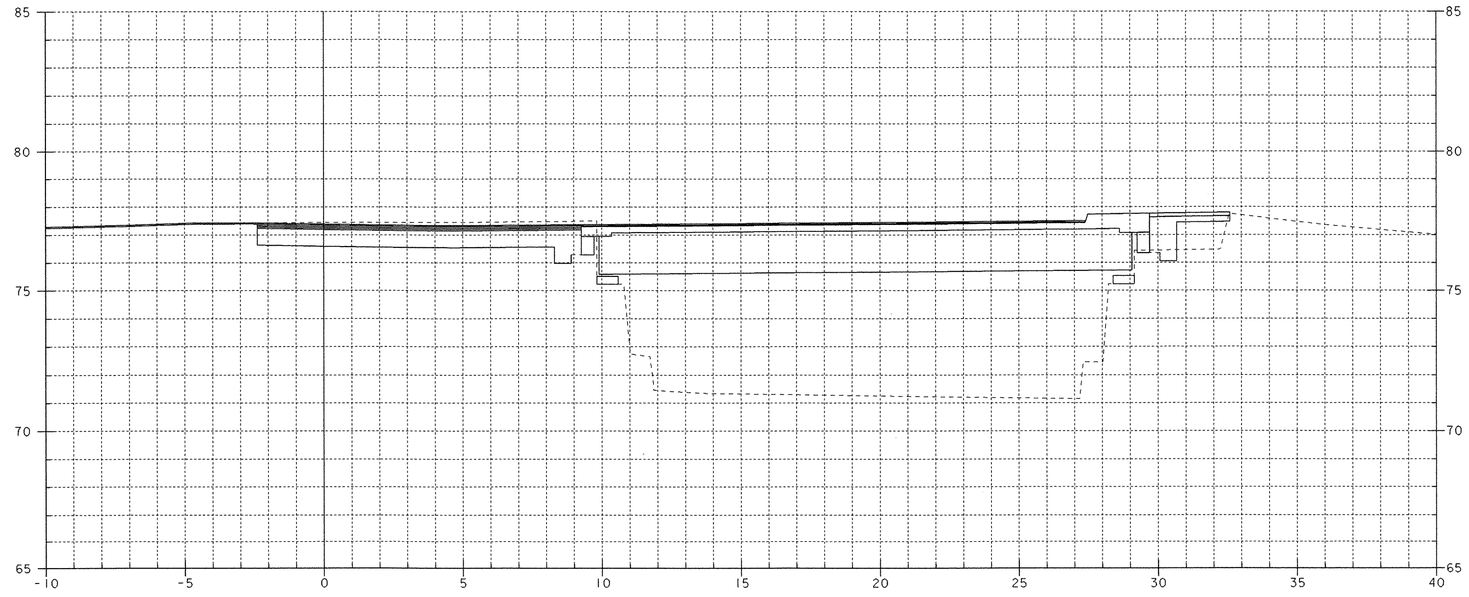
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078c02.i		PLOT DATE:	06-FEB-2003
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	G. ROY
DESIGNED BY:	G. ROY	CHECKED BY:	T. SUMNER
		SHEET	69 OF 71



50+060

CHANNEL STA. 50+055.97 FAR RT.
END STRUCTURE EXCAVATION
GRANULAR BACKFILL FOR STRUCTURES

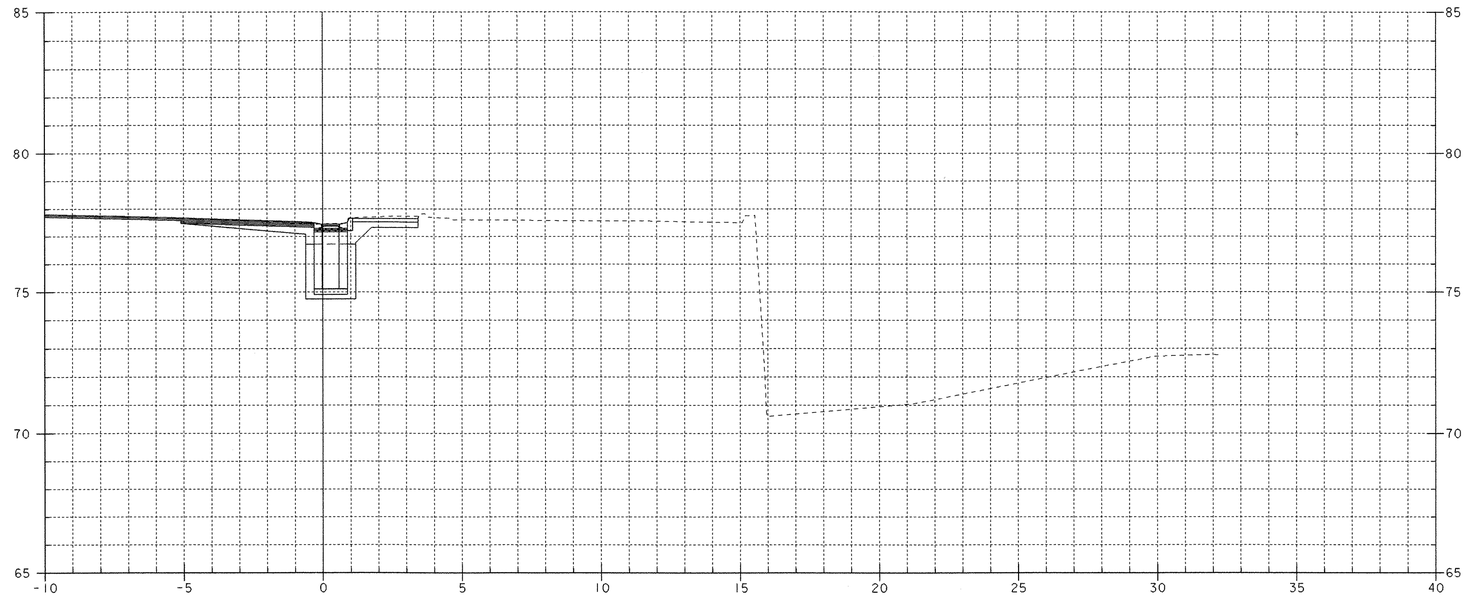


50+055

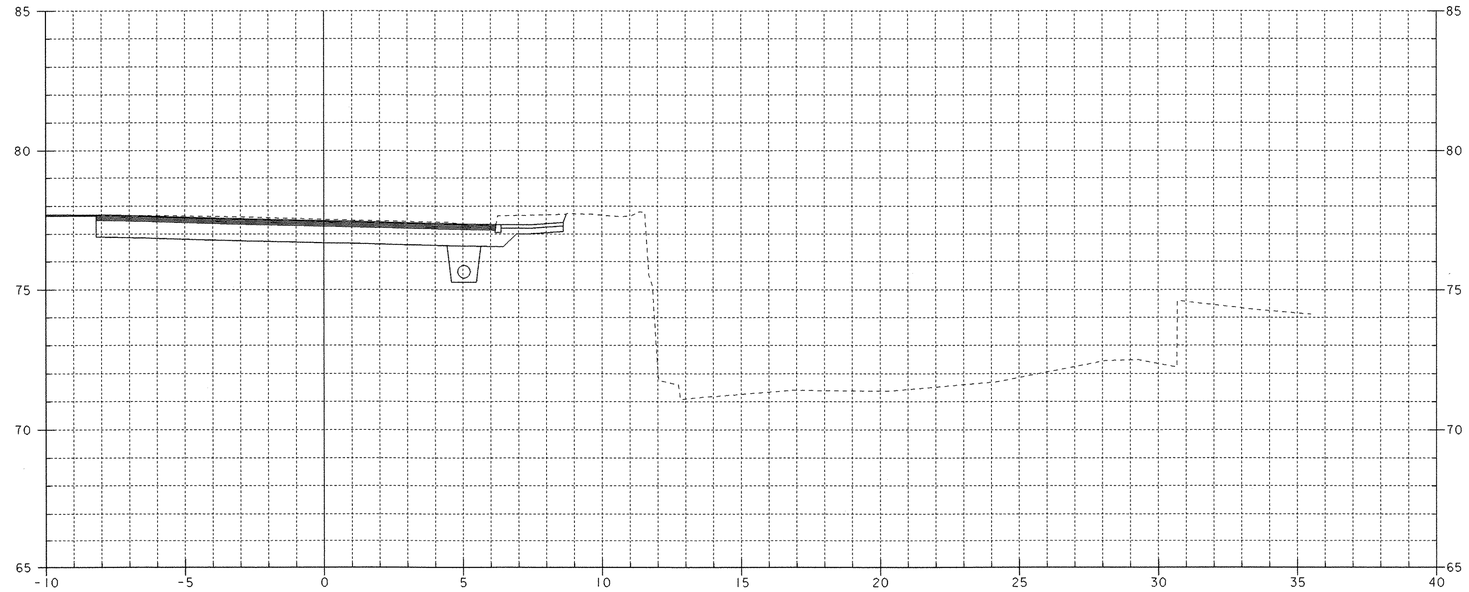
0 1 2 4 6 8 10
SCALE = 1:100

CHANNEL CROSS SECTIONS (3)

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)
FILE NAME: 94J078\Structures\sj078c03.i	PLOT DATE: 06-FEB-2003
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: T. SUMNER
	SHEET 70 OF 71



50+070



50+065

CHANNEL STA. 50+064.69 RT.
END STRUCTURE EXCAVATION
GRANULAR BACKFILL FOR STRUCTURES

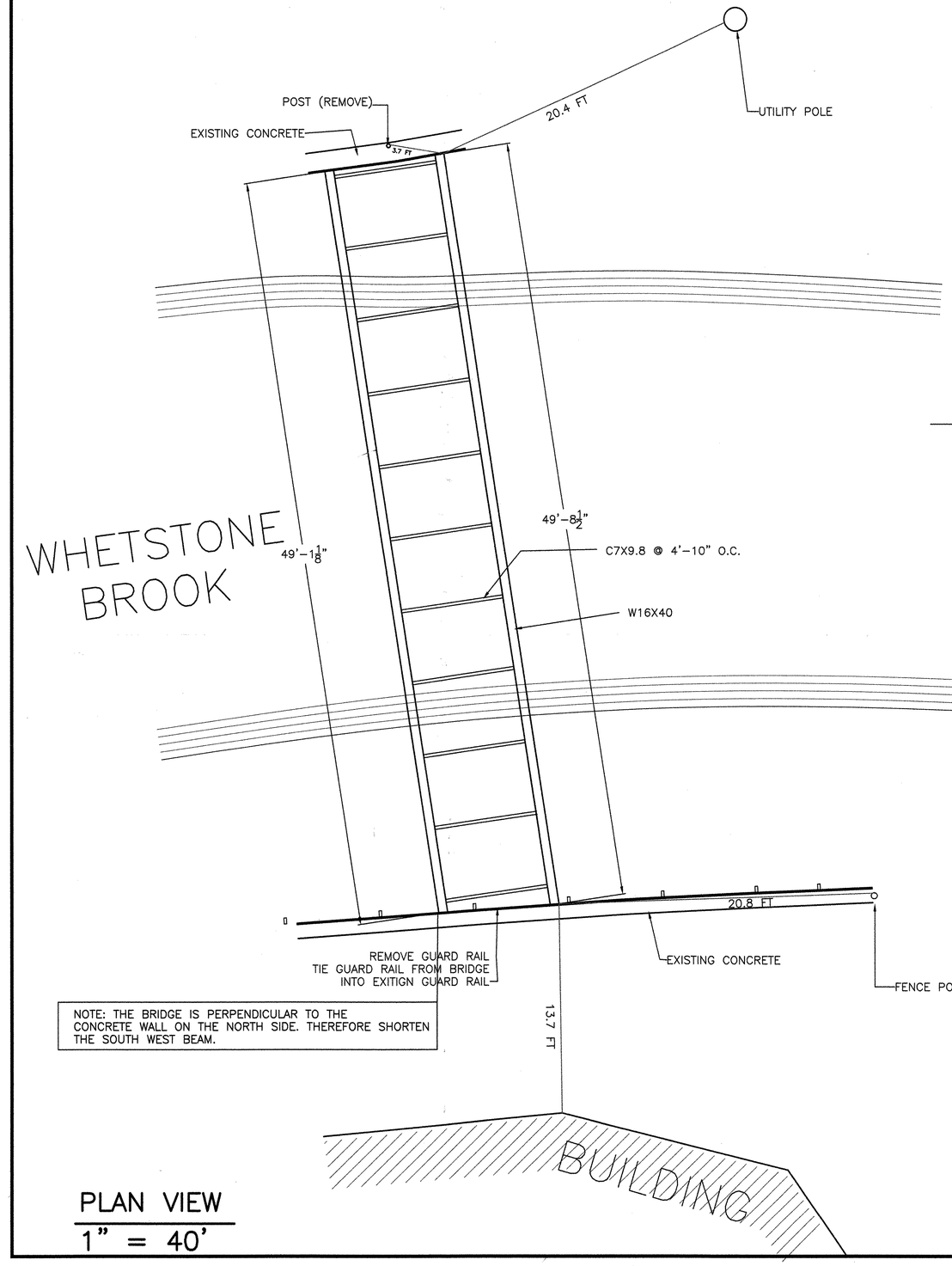
0 1 2 4 6 8 10

SCALE = 1:100

CHANNEL CROSS SECTIONS (4)

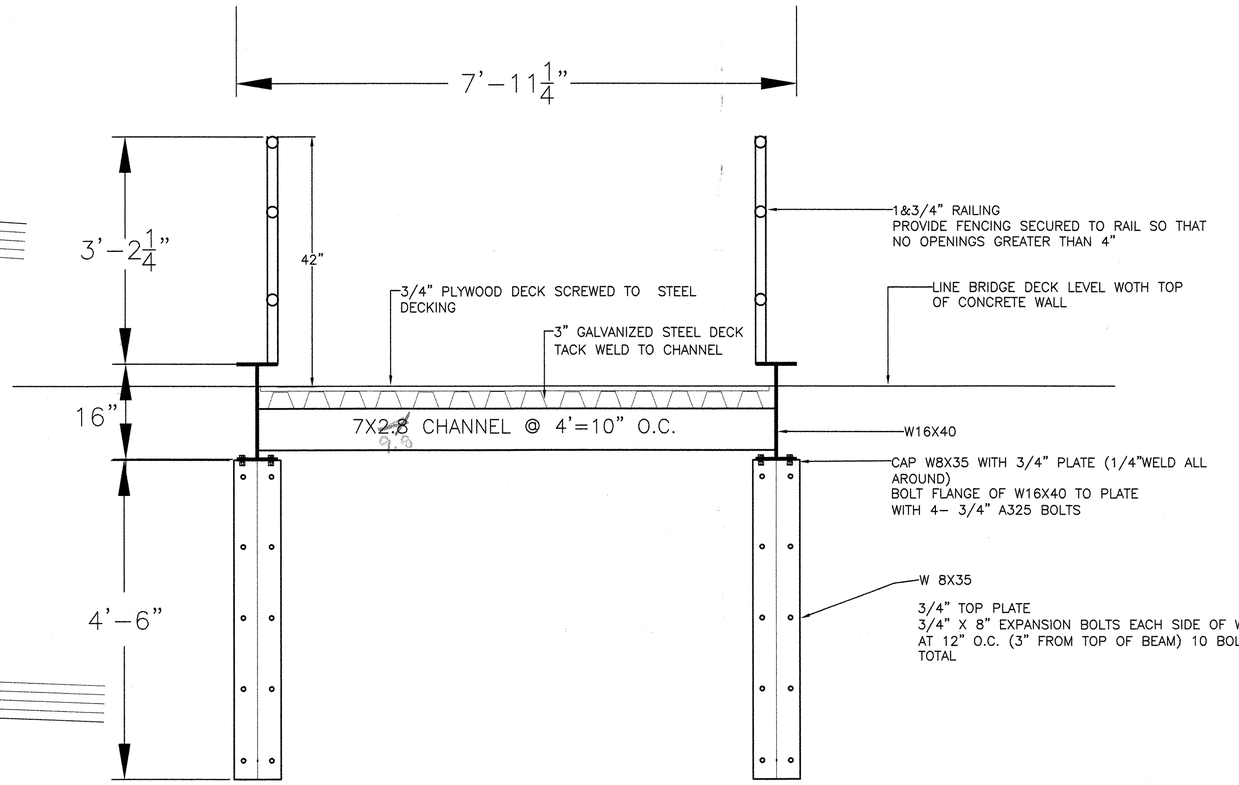
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BHF 2000 (17)

FILE NAME: 94J078\Structures\sj078c04.i		PLOT DATE:	06-FEB-2003
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	G. ROY
DESIGNED BY:	G. ROY	CHECKED BY:	T. SUMNER
		SHEET 71	OF 71



NOTE: THE BRIDGE IS PERPENDICULAR TO THE CONCRETE WALL ON THE NORTH SIDE. THEREFORE SHORTEN THE SOUTH WEST BEAM.

PLAN VIEW
1" = 40'



CROSS SECTION THROUGH BRIDGE DECK
1" = 1'

STATE OF VERMONT
RONALD K. BELL
NO. 6904
PROFESSIONAL ENGINEER

PEDESTRIAN BRIDGE
FOR THE MAIN STREET BRIDGE REPAIR
BRATTLEBORO, VT

BELL ENGINEERING
CIVIL & ENVIRONMENTAL
17 ECHO COVE WAY
SPOFFORD, NH 03462
(603) 363-9966

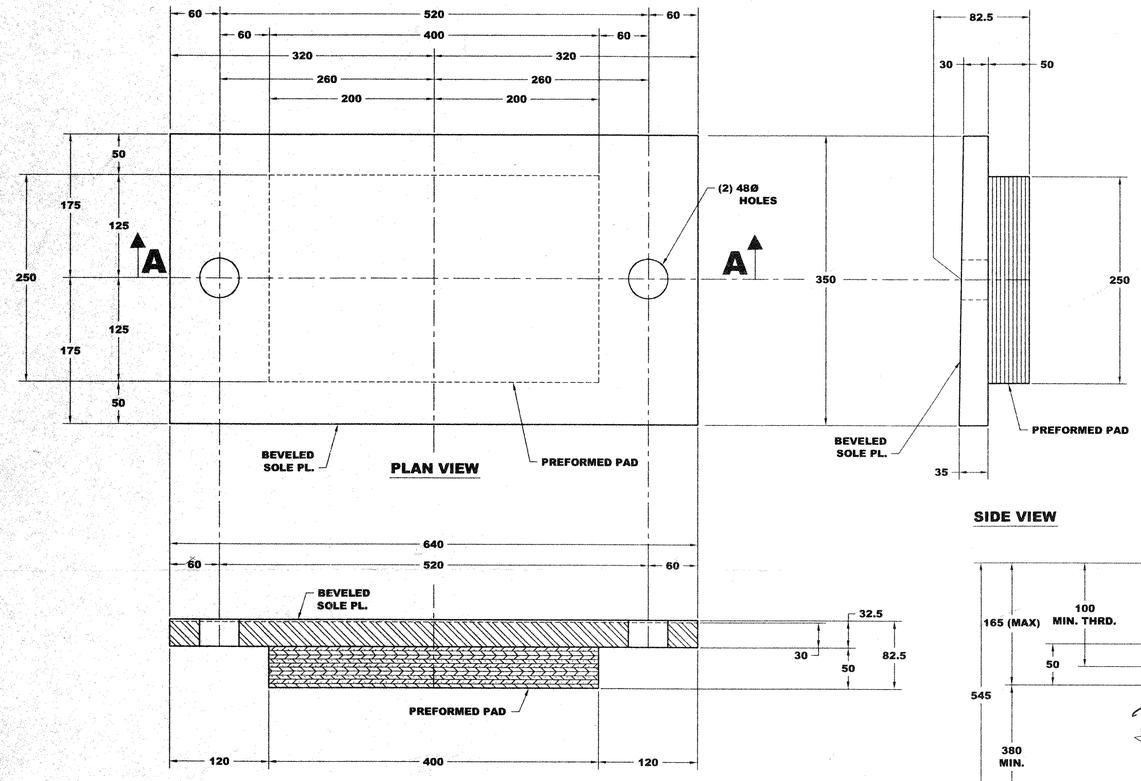
DATE: 5-01-03
DESIGNED BY: RONALD BELL, PE
DRAWN BY: RONALD BELL, PE
SCALE: AS SHOWN

PROJECT NUMBER 03-025

SHEET 1 072

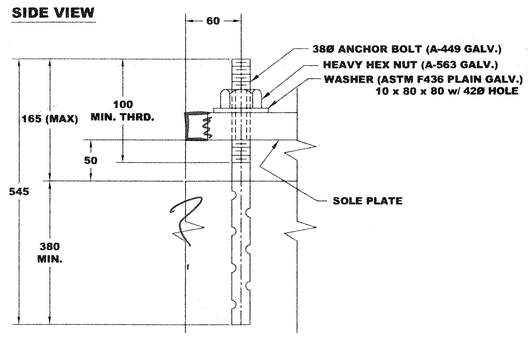
Rec'd. 5/5/03

REVISION	BY	DESCRIPTION	C'K'D'	DATE



SECTION A-A

SIDE VIEW



ANCHOR BOLT DETAILS

FIXED BEARING DETAIL- ABUTMENT NO. 1

(9 REQ'D)

NOTES:

1. BEARINGS TO BE MANUFACTURED ACCORDING TO AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 16th. EDITION, 1996 WITH CURRENT INTERIMS (1997 & 1998, SECTION #14.)
2. THE BEARINGS ARE DESIGNED SO THAT THE SUPERSTRUCTURE MAY BE ERECTED WHEN THE AMBIENT AIR TEMPERATURE IS WITHIN THE RANGE OF 4 DEG. C. TO 32 DEG. C.
3. ALL STEEL IN BEARINGS SHALL BE AASHTO M270/270M GRADE 250. U.N.O.
4. ALL STEEL PRODUCED IN THE U.S.A.
5. CONTACT PETER SOMOGYI , COORDINATOR.
6. TOLERANCES: THICKNESS -0+1/8
   PLAN -0+1/8
7. MANUFACTURING FACILITY LOCATION:
   AMSCOT STRUCTURAL PRODUCTS INC.
   241 EAST BLACKWELL STREET
   DOVER, NJ 07801
8. ALL DIMENSIONS ARE IN METRIC.
9. ALL BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER STANDARD SPECIFICATIONS 506.15 AND 531.04(b), AS MODIFIED BY THE GENERAL SPECIAL PROVISIONS. IF THE BEARINGS ARE METALIZED, THEY SHALL BE SEALED WITH AN APPROVED SEALER AS SPECIFIED IN GENERAL SPECIAL PROVISION 506.15.
10. ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.
11. Prior to galvanizing or metalizing, all corners and edges of steel plates, shapes, etc. shall be ground to a 1/16 inch radius (Typ)
12. A minimum thickness of six mils shall be applied to metalized surfaces.
13. Exterior surfaces shall be sealed with an approved sealant conforming to the recommendations of the thermal spray supplier.

VAOT
RECEIVED
CK'D BY _____ OK'D BY _____
APR 24 2003
RESUBMIT _____ APPROVED As Noted
BY RRW DATE 5-2-03

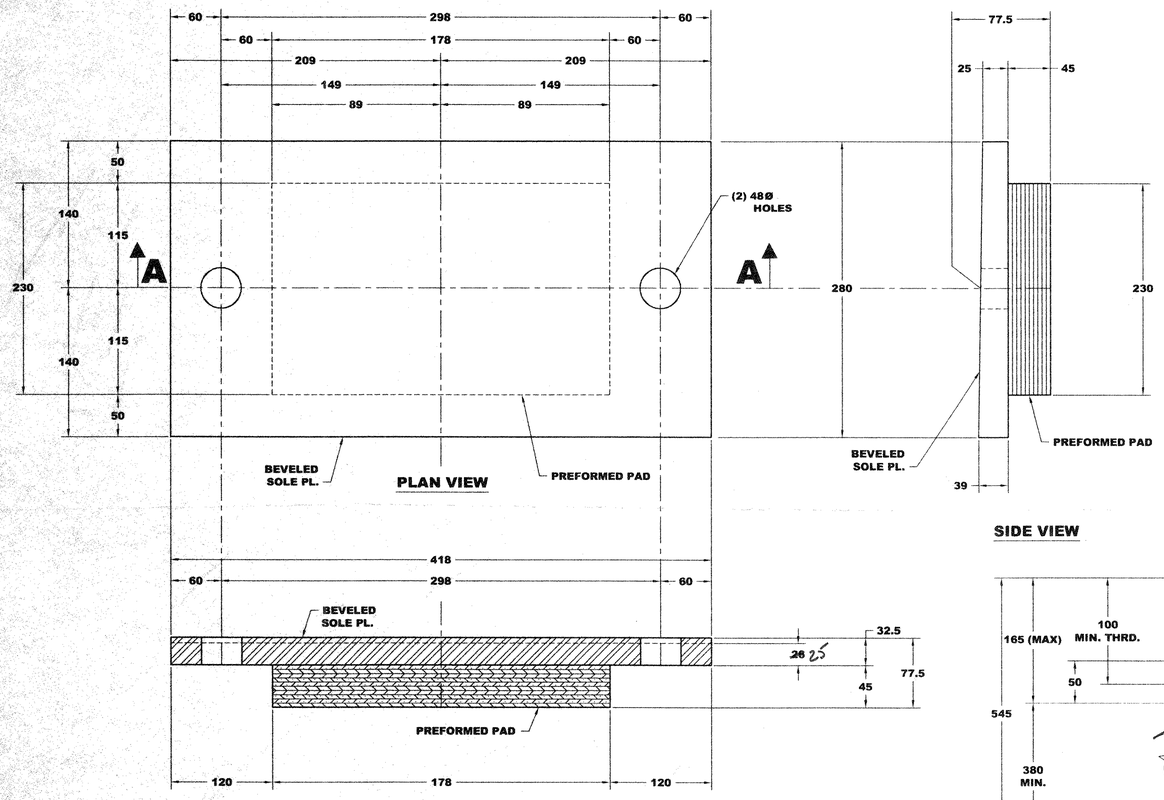
FILE SET

BRIDGE NO. 7	PROJECT NO.: BHF 2000 (17)

FIXED BEARING DETAILS
ABUTMENT NO. 1
US RT 5 (T.H.I), TOWN OF BRATTLEBORO
COUNTY OF WINDHAM

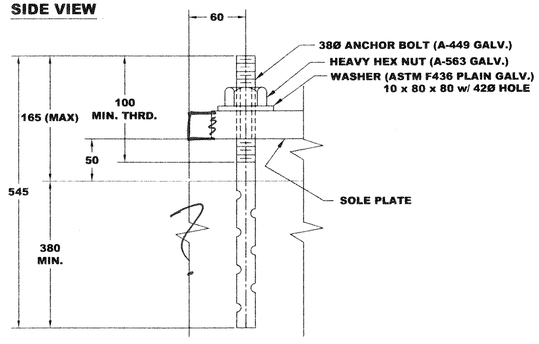
PRIME CONTRACTOR: RENAUD BROS., INC.	SCALE = N.T.S.
FABRICATOR: AMSCOT STRUCTURAL PRODUCTS INC.	AMSCOT #1630
DWG. NO.: RB03A1R0	SHEET NO. 1 OF 3

REVISION	BY	DESCRIPTION	C'K'D'	DATE



SECTION A-A

SIDE VIEW



ANCHOR BOLT DETAILS

FIXED BEARING DETAIL- ABUTMENT NO. 1 KICKER

(1 REQ'D)

NOTES:

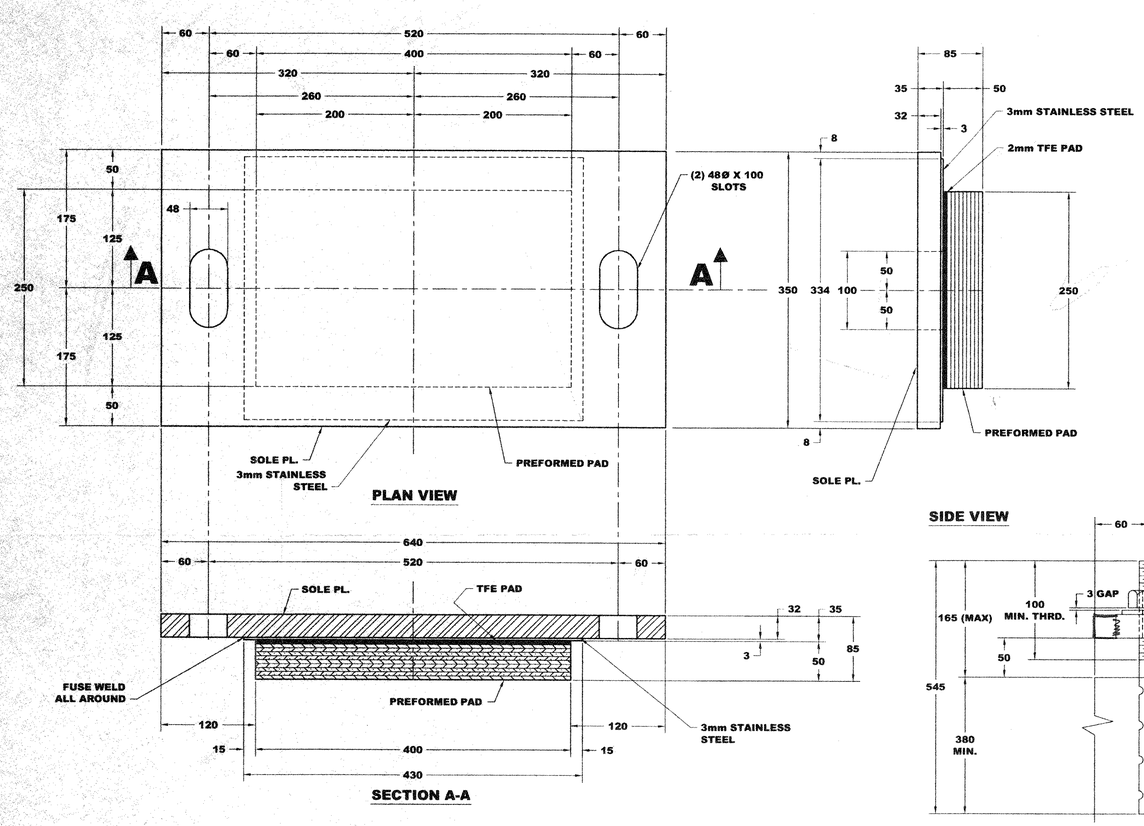
1. BEARINGS TO BE MANUFACTURED ACCORDING TO AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 16th. EDITION, 1996 WITH CURRENT INTERIMS (1997 & 1998, SECTION #14.)
2. THE BEARINGS ARE DESIGNED SO THAT THE SUPERSTRUCTURE MAY BE ERECTED WHEN THE AMBIENT AIR TEMPERATURE IS WITHIN THE RANGE OF 4 DEG. C. TO 32 DEG. C.
3. ALL STEEL IN BEARINGS SHALL BE AASHTO M270/270M GRADE 250. U.N.O.
4. ALL STEEL PRODUCED IN THE U.S.A.
5. CONTACT PETER SOMOGYI , COORDINATOR.
6. TOLERANCES: THICKNESS -0+1/8
   PLAN -0+1/8
7. MANUFACTURING FACILITY LOCATION:
   AMSCOT STRUCTURAL PRODUCTS INC.
   241 EAST BLACKWELL STREET
   DOVER, NJ 07801
8. ALL DIMENSIONS ARE IN METRIC.
9. ALL BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER STANDARD SPECIFICATIONS 506.15 AND 531.04(b), AS MODIFIED BY THE GENERAL SPECIAL PROVISIONS. IF THE BEARINGS ARE METALIZED, THEY SHALL BE SEALED WITH AN APPROVED SEALER AS SPECIFIED IN GENERAL SPECIAL PROVISION 506.15.
10. ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.

Add same notes as sheet 1.

VAOT
RECEIVED
CK'D BY_____ OK'D BY_____
APR 2 4 2003
RESUBMIT_____ APPROVED As Noted
BY RRW DATE 5-2-03

BRIDGE NO. 7	PROJECT NO.: BHF 2000 (17)
FIXED BEARING DETAILS ABUTMENT NO. 1 KICKER US RT 5 (T.H.I), TOWN OF BRATTLEBORO COUNTY OF WINDHAM	
PRIME CONTRACTOR: RENAUD BROS., INC.	SCALE = N.T.S.
FABRICATOR: AMSCOT STRUCTURAL PRODUCTS INC.	AMSCOT #1630
DWG. NO.: RB03A2R0	SHEET NO. 2 OF 3

REVISION	BY	DESCRIPTION	C'K'D'	DATE



EXPANSION BEARING DETAIL- ABUTMENT NO. 2

(9 REQ'D)

ANCHOR BOLT DETAILS

NOTES:

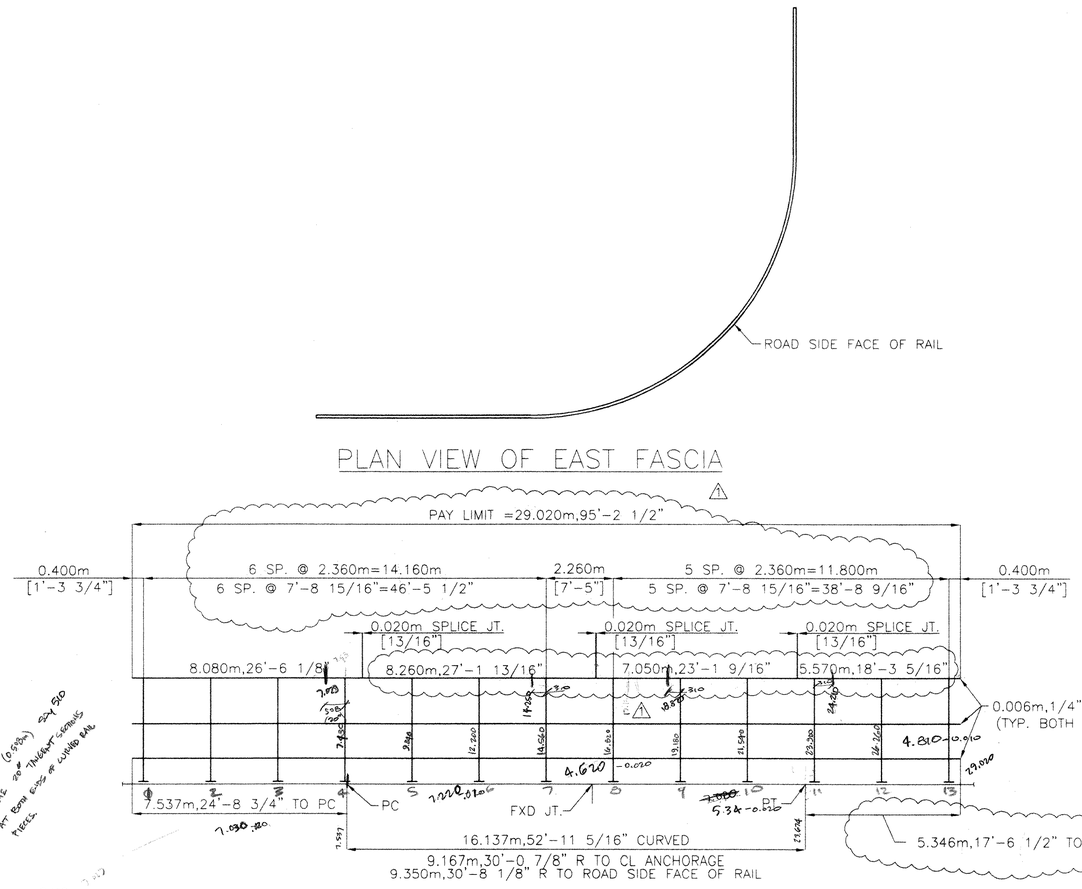
1. BEARINGS TO BE MANUFACTURED ACCORDING TO AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 16th. EDITION, 1996 WITH CURRENT INTERIMS (1997 & 1998, SECTION #14.)
2. THE BEARINGS ARE DESIGNED SO THAT THE SUPERSTRUCTURE MAY BE ERECTED WHEN THE AMBIENT AIR TEMPERATURE IS WITHIN THE RANGE OF 4 DEG. C. TO 32 DEG. C.
3. ALL STEEL IN BEARINGS SHALL BE AASHTO M270/270M GRADE 250. U.N.O.
4. STAINLESS STEEL SHALL BE ~~AASHTO M167~~ ASTM A240 TYPE 304.
5. ALL STEEL PRODUCED IN THE U.S.A.
6. CONTACT PETER SOMOGYI , COORDINATOR.
7. TOLERANCES: THICKNESS -0+1/8
   PLAN -0+1/8
8. MANUFACTURING FACILITY LOCATION:
   AMSCOT STRUCTURAL PRODUCTS INC.
   241 EAST BLACKWELL STREET
   DOVER, NJ 07801
9. ALL DIMENSIONS ARE IN METRIC.
10. ALL BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER STANDARD SPECIFICATIONS 506.15 AND 531.04(b), AS MODIFIED BY THE GENERAL SPECIAL PROVISIONS. IF THE BEARINGS ARE METALIZED, THEY SHALL BE SEALED WITH AN APPROVED SEALER AS SPECIFIED IN GENERAL SPECIAL PROVISION 506.15.
11. ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.

Add same notes as sheet 1 plus: "The surface finish of the contact (sliding) face shall have a mirror finish as per spec. 731.05."

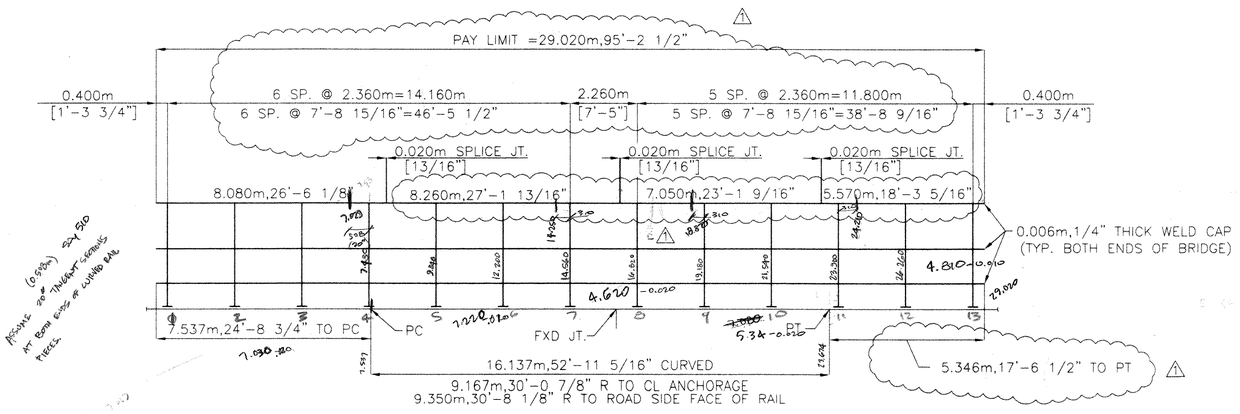
VAOT
RECEIVED
OK'D BY _____ OK'D BY _____
APR 2 4 2003
RESUBMIT _____ APPROVED As Noted
BY RRW DATE 5-2-03

BRIDGE NO. 7	PROJECT NO.: BHF 2000 (17)
EXPANSION BEARING DETAILS ABUTMENT NO. 2 US RT 5 (T.H.I), TOWN OF BRATTLEBORO COUNTY OF WINDHAM	
PRIME CONTRACTOR: RENAUD BROS., INC.	SCALE = N.T.S.
FABRICATOR: AMSCOT STRUCTURAL PRODUCTS INC.	
DWG. NO.: RB03A3R0	SHEET NO. 3 OF 3

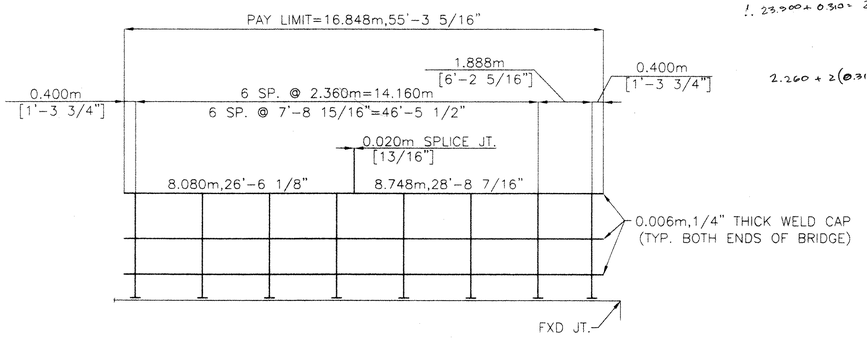
075



PLAN VIEW OF EAST FASCIA



DEVELOPED EAST ELEV. VIEW LOOKING EAST



WEST ELEV. VIEW LOOKING EAST

BILL OF MATERIAL

KG EACH	LBS. EACH	SHAPE (METRIC)	LENGTH METERS U.N.O.	MARK OR USE	QTY.	SHAPE (AMERICAN)	SHAPE FT.	SHAPE IN.	REMARKS
159.3	351.3	T.S. 101.6mmx101.6mmx6.4mmx8.742m	8.748	RAIL	2	T.S. 4"X4"X1/4"X28'-8 3/16"	28	8 7/16	A500 GR B W/PL1/4"X3 15/16"X3 15/16" A36(M)
149.0	328.5	T.S. 101.6mmx101.6mmx6.4mm	8.260	RAIL	2	T.S. 4"X4"X1/4" WALL	27	1 3/16	A500 GR B 30'-8 1/8" R
147.2	324.6	T.S. 101.6mmx101.6mmx6.4mmx8.074m	8.080	RAIL	2	T.S. 4"X4"X1/4"X26'-5 7/8"	26	6 1/8	A500 GR B W/PL1/4"X3 15/16"X3 15/16" A36(M)
147.2	324.6	T.S. 101.6mmx101.6mmx6.4mmx8.074m	8.080	RAIL	2	T.S. 4"X4"X1/4"X26'-5 7/8"	26	6 1/8	A500 GR B W/PL1/4"X3 15/16"X3 15/16" A36(M)
									24'-8 1/2" STR., 1'-9 3/8" CRV. @ 30'-8 1/8" R
128.3	282.8	T.S. 101.6mmx101.6mmx6.4mm	7.050	RAIL	2	T.S. 4"X4"X1/4" WALL	23	1 9/16	A500 GR B 30'-8 1/8" R
104.3	230.0	T.S. 101.6mmx101.6mmx6.4mmx5.564m	5.570	RAIL	2	T.S. 4"X4"X1/4"X18'-3 1/16"	18	3 5/16	A500 GR B W/PL1/4"X3 15/16"X3 15/16" A36(M)
									17'-6 1/4" STR., 8 13/16" CRV. @ 30'-8 1/8" R
5.6	12.3	T.S. 76.2mmx76.2mmx6.4mm	.420	FIXED SPLICE	8	T.S. 3"X3"X1/4" WALL	1	4 9/16	A500 GR B W/2-5/8"ø H.S. NUTS
.05	.1	M16ø HEX BOLT	.038	SPLICE BOLT	32	5/8"ø HEX BOLT		1 1/2	A325-1 W/FW(F568M CL. 8.8.1)
89.6	197.6	T.S. 101.6mmx50.8mmx4.8mmx8.742m	8.748	RAIL	1	T.S. 4"X2"X3/16"X28'-8 3/16"	28	8 7/16	A500 GR B W/PL1/4"X1 15/16"X3 15/16" A36(M)
83.8	184.8	T.S. 101.6mmx50.8mmx4.8mm	8.260	RAIL	1	T.S. 4"X2"X3/16" WALL	27	1 3/16	A500 GR B 30'-8 1/8" R
82.7	182.4	T.S. 101.6mmx50.8mmx4.8mmx8.074m	8.080	RAIL	1	T.S. 4"X2"X3/16"X26'-5 7/8"	26	6 1/8	A500 GR B W/PL1/4"X1 15/16"X3 15/16" A36(M)
82.7	182.4	T.S. 101.6mmx50.8mmx4.8mmx8.074m	8.080	RAIL	1	T.S. 4"X2"X3/16"X26'-5 7/8"	26	6 1/8	A500 GR B W/PL1/4"X1 15/16"X3 15/16" A36(M)
									24'-8 1/2" STR., 1'-9 3/8" CRV. @ 30'-8 1/8" R
72.2	159.1	T.S. 101.6mmx50.8mmx4.8mm	7.050	RAIL	1	T.S. 4"X2"X3/16" WALL	23	1 9/16	A500 GR B 30'-8 1/8" R
58.6	129.3	T.S. 101.6mmx50.8mmx4.8mmx5.564m	5.570	RAIL	1	T.S. 4"X2"X3/16"X18'-3 1/16"	18	3 5/16	A500 GR B W/PL1/4"X1 15/16"X3 15/16" A36(M)
									17'-6 1/4" STR., 8 13/16" CRV. @ 30'-8 1/8" R
3.2	7.0	T.S. 76.2mmx38.1mmx4.8mm	.420	FIXED SPLICE	4	T.S. 3"x1 1/2"x3/16" WALL	1	4 9/16	A500 GR B W/2-5/8"ø H.S. NUTS
.05	.1	M16ø HEX BOLT	.038	SPLICE BOLT	16	5/8"ø HEX BOLT		1 1/2	A325-1 W/FW(F568M CL. 8.8.1)
.5	1.0	M20ø ROUND HEAD SLOTTED BOLT	.152	RAIL POST BOLT	126	3/4"ø ROUND HEAD SLOTTED BOLT		6	A325-1 W/ FW&PREVAILING TORQUE NUT
									(F568M CL. 8.8.1)
43.8	96.6	W150X37.1X.693m	.718	POST	21	W6X25X2'-3 5/16"	2	4 1/4	A572 GR 50 (345)W/PL1"X10"X 14"
5.9	13.0	PL 10mmX.240m	.330	SPACER PLATE	21	PL3/8"X9 7/16"	1	1	A36(M)
1.6	3.5	M24ø FULLY THREADED	.305	ANCHOR STUD	84	1"ø FULLY THREADED	1	0	A449 W/3N,2FW(F568M CL. 8.8)

PAY LIMIT FOR 3 RAIL= 45.868m, 150.4856 FT. (APPROX.)

— FILE SET —

NOTE: VERTICAL BENDING OF RAIL SHALL BE PERFORMED IN FIELD TO MEET REQUIRED CONTOUR.

RECEIVED
CK'D BY G.B.R. 9-19-03 OK'D BY
SEP 15 2003
RESUBMIT APPROVED X
BY RRW DATE 9-17-03

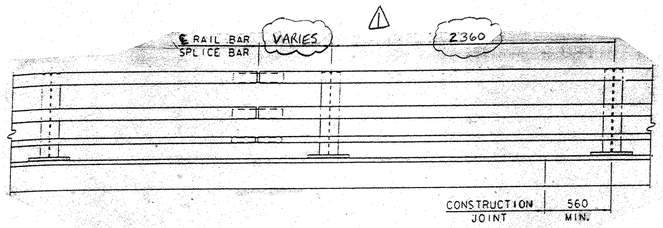
ALL DIMENSIONS MUST BE FIELD VERIFIED PRIOR TO FABRICATION BY CONTRACTOR

1 REVISED PER MARK-UP & PHONE CONV. WITH GASTON ROY ON 9/8/2003.

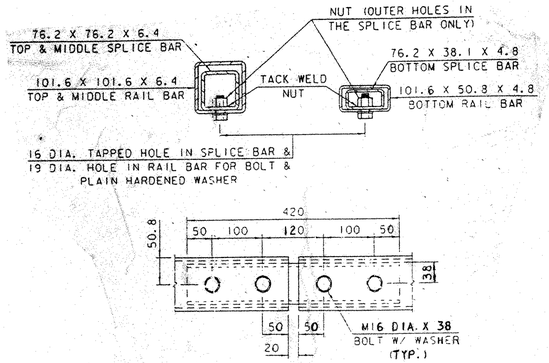
DRAWN BY:	DATE	CHECKED BY:	SHEET NO.
THW	7/23/03	DCK	1 OF 2

BRIDGE RAILING LAYOUT
STATE OF VERMONT AGENCY OF TRANSPORTATION
U.S. ROUTE 5(BRIDGE#7)OVER WHETSTONE BROOK
IN THE TOWN OF BRATTLEBORO IN THE COUNTY OF WINDHAM

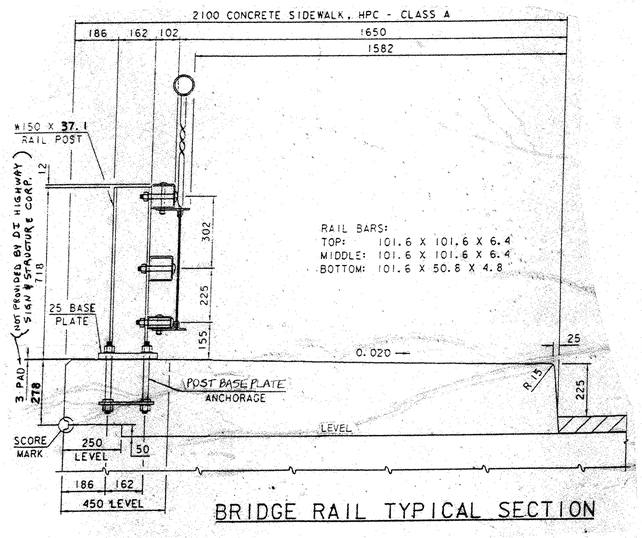
CONT. NO. BRO2000(17) PROJ. NO. BRATTLEBORO
GEN. CONT. RENAUD BRO.
ERECTOR: RIVERSIDE FAB., INC. 076
FABRICATOR: DI HIGHWAY SIGN & STRUCTURE CORP. P.O. BOX 123, NEW YORK MILLS, N.Y. 13417
JOB NO. 6350-220



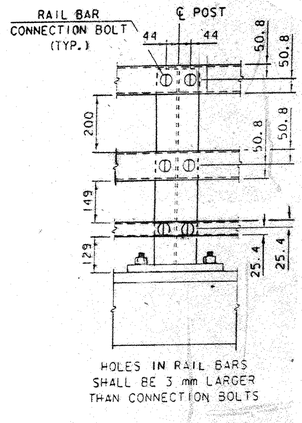
BRIDGE RAIL ELEVATION



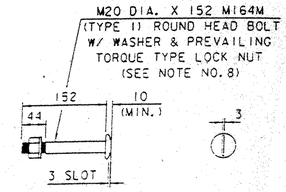
RAIL SPLICE BAR DETAILS



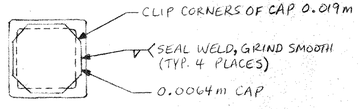
BRIDGE RAIL TYPICAL SECTION



POST ELEVATION



RAIL BAR CONNECTION BOLT



TOP & MIDDLE RAIL SHOWN
BOTTOM RAIL SIMILAR

NOTES

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE PROVISIONS OF SECTION 525 RAILINGS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. TUBING AND POSTS SHALL MEET THE REQUIREMENTS OF SECTION 732 - RAILING MATERIALS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.
3. ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1.6 mm RADIUS AND BE FREE OF BURRS.
4. RAIL POSTS SHALL BE SET NORMAL TO GRADE.
5. SECTIONS OF RAIL BAR SHALL BE ATTACHED TO A MINIMUM OF TWO (2) RAIL POSTS AND PREFERABLY TO AT LEAST FOUR (4) POSTS.
6. ALL RAILING PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SUBSECTION 506.15 AND PAINTED BLACK, COLOR CHIP #27038 IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 513. (PAINTING WILL NOT BE DONE BY DI HIGHWAY SIGN & STRUCTURE CORP.)
7. RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
8. RAIL BARS SHALL BE ATTACHED USING M20 FULL DIAMETER BODY AASHTO M164M (TYPE 1) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE BAR. HOLES IN POSTS SHALL BE 2 mm LARGER THAN THE BOLT SIZE.
9. ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY.
10. THE FABRICATOR SHALL SUBMIT SHOP DRAWINGS INCLUDING WELDING PROCEDURES TO THE STRUCTURES SECTION FOR APPROVAL IN ACCORDANCE WITH THE PROVISION OF 506.04, DRAWINGS AND PROCEDURES. ALL WELDING SHALL CONFORM WITH SECTION 506.10.
11. THE DROP-WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING ON THESE DETAILS.
12. HOLES IN RAILS FOR RAIL BAR ATTACHMENT MAY BE FIELD DRILLED. THE HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH ~~BLACK PAINT.~~ COLD GALV. PAINT FOLLOWED BY A TOP COAT OF BLACK PAINT. BLACK PAINT MUST BE THE SAME AS THE PAINT USED TO PAINT THE RAIL PRIOR TO INSTALLATION

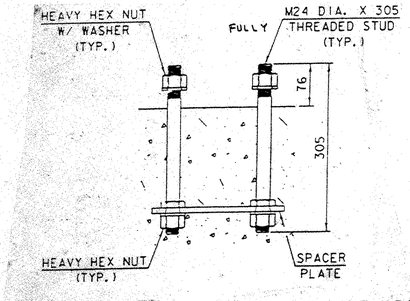
MATERIALS

RAIL BARS..... ASTM A500, GRADE B OR ASTM A501
RAIL POSTS..... ASTM A709/A709M, GRADE 345
ALL OTHER SHAPES & PLATES..... ASTM A709/A709M, GRADE 250
ANCHOR STUDS..... ASTM F568M, CLASS 8.8
ALL OTHER BOLTS (UNLESS NOTED)..... AASHTO M164M, TYPE 1
NOTE: THIS IS A HEX BOLT CLASS

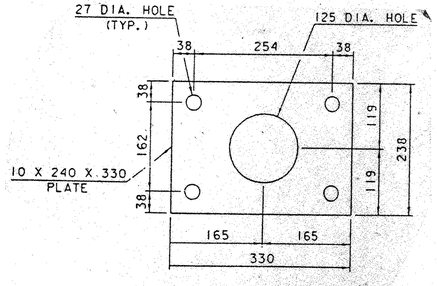
NUTS FOR AASHTO M164M BOLTS SHALL COMPLY WITH AASHTO M291M. NUTS FOR ANCHOR BOLTS SHALL COMPLY WITH AASHTO M291M.

WASHERS SHALL COMPLY WITH AASHTO M293M (ASTM F436M) SPECIFICATION.

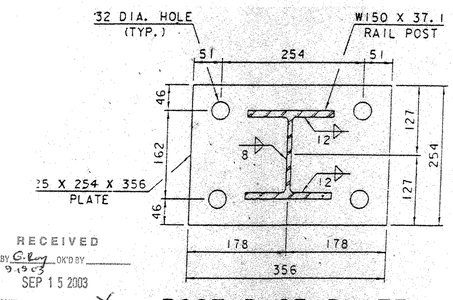
3 mm PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSCETION 731.01 OR 731.02. (NOT PROVEDED BY DI HIGHWAY SIGN & STRUCTURE CORP.)



POST BASE PLATE ANCHORAGE



SPACER PLATE



POST BASE PLATE

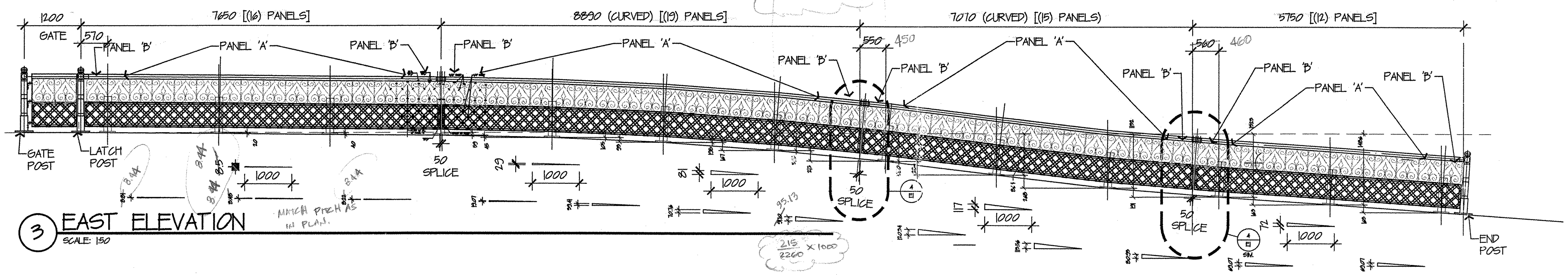
RECEIVED
CK'D BY G.Roy 9.19.03 CK'D BY
SEP 15 2003
RESUBMIT APPROVED X
BY RLW DATE 9-17-03

△ REVISED PER MARKUP FROM CONV. WITH GASTON ROY ON 9/8/2003.

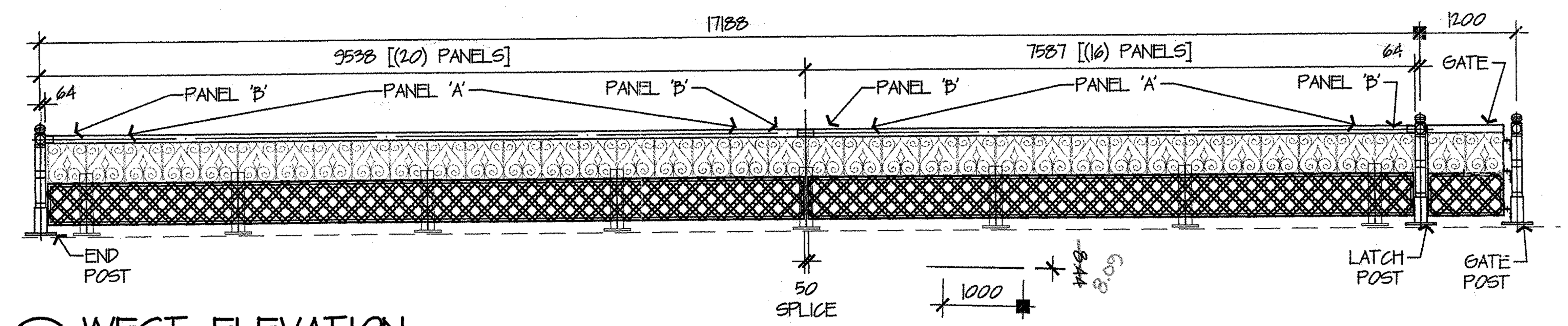
DRAWN BY	DATE	CHECKED BY	SHEET No.
THW	7/23/03	DCK	2 OF 2

BRIDGE RAILING DETAILS
STATE OF VERMONT AGENCY OF TRANSPORTATION
U.S. ROUTE 5 (BRIDGE #7) OVER WHETSTONE BROOK
IN THE TOWN OF BRATTLEBORO IN THE COUNTY OF WINDHAM

CONT. No. BRO2000(17) PROJ. NO. BRATTLEBORO
GENERAL CONTRACTOR: RENAUD BRO. 077
ERECTOR: RIVERSIDE FAB., INC. JOB No. 6350-220
FABRICATOR: DI HIGHWAY SIGN + STRUCTURE P.O. BOX 123, NEW YORK MILLS, NY 13417



3 EAST ELEVATION
SCALE: 1:50



2 WEST ELEVATION
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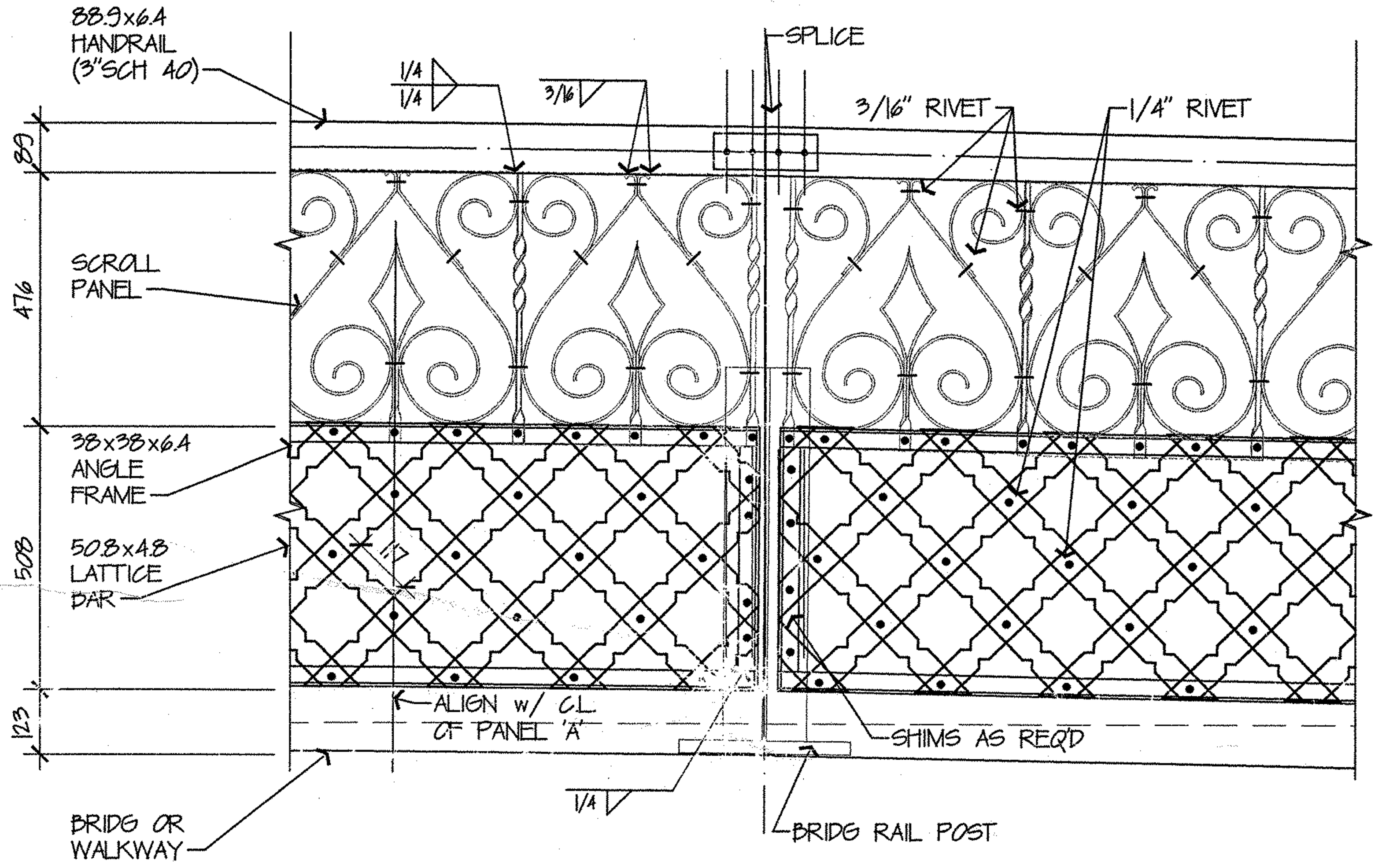
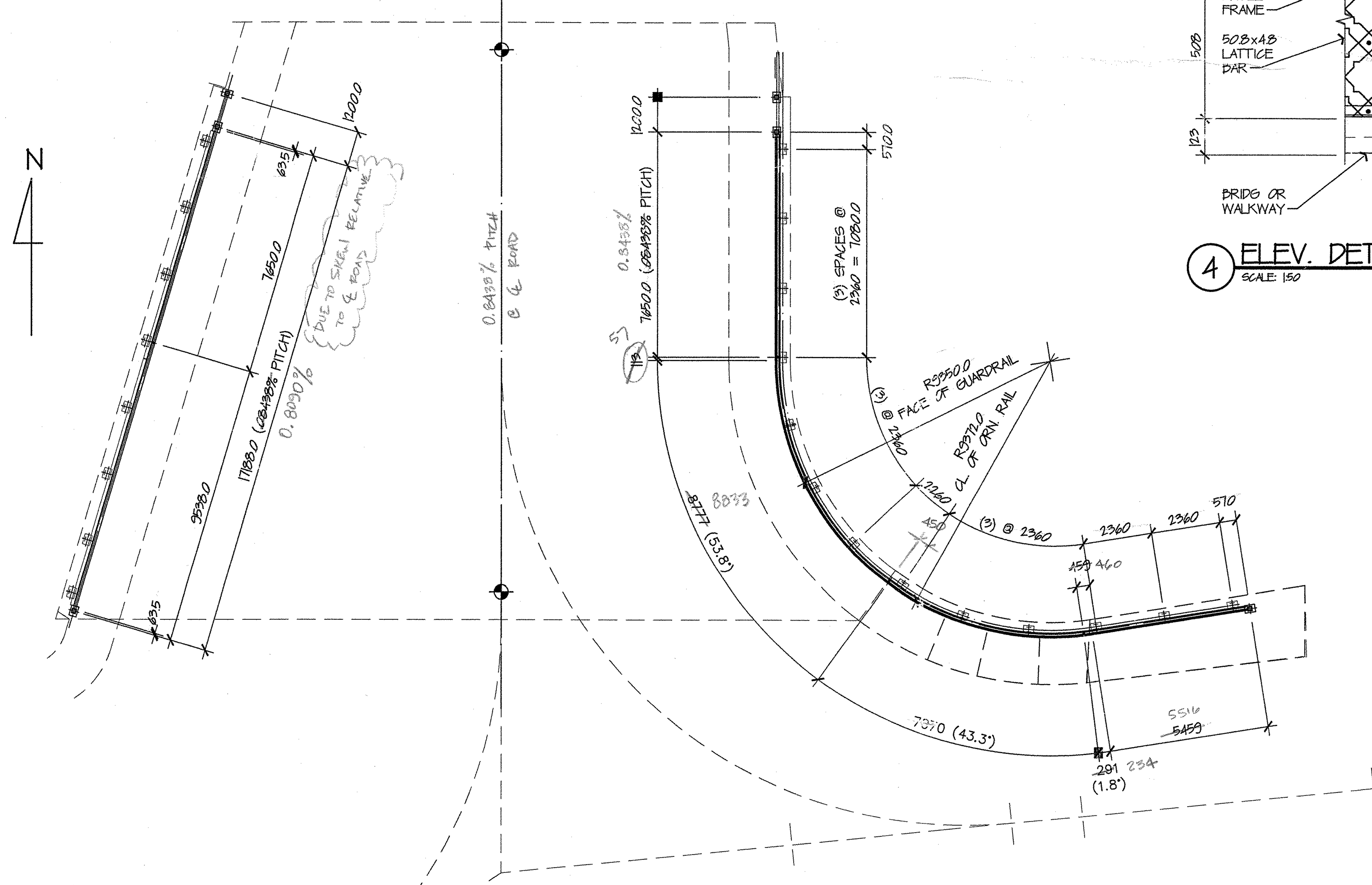


4 ELEV. DETAILS
SCALE: 1:50



1 PLAN
SCALE: 1:50

NOTE:
1. ALL DETAILS AS PER SHTS 49, 50, & 51 OF DRAWINGS PREPARED BY THE STATE OF VERMONT, AGENCY OF TRANSPORTATION

— FILE SET —

RECEIVED
CK'D BY G Roy OK'D BY ______
9-3-03
SEP 08 2003
RESUBMIT ______ APPROVED AS NOTED
BY RRW DATE 9-9-03

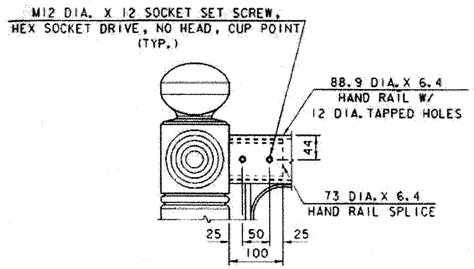
REVISIONS	REMARKS

ONE PRUYN'S ISLAND DR.
GLENS FALLS, N.Y. 12801

RIVERSIDE FAB, INC.

PHONE # 1(518) 798-3533
FAX # 1(518) 798-1711

DATE	8/28/03	PROJECT	PROPOSED IMPROVMENT BRIDGE PROJECT	PRINT RECORD
DRAWN BY	CCE	LOCATION	BRATTLEBORO, VT.	DATE / NO.
CHK'D BY		CUSTOMER	RENAUD BROTHERS, INC.	078
HOLES		ARCHITECT	STATE OF VERMONT, AGENCY OF TRANSPORTATION	
BOLTS		JOB NO.	RFC 589	
PAINT				DRAWING NUMBER
SCALE	AS NOTED	SHEET NAME	PLANS & ELEVATIONS	E1



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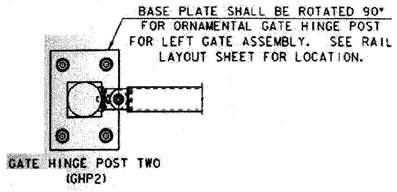

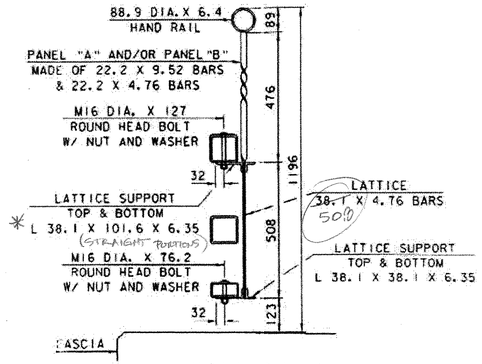

SECTION A-A

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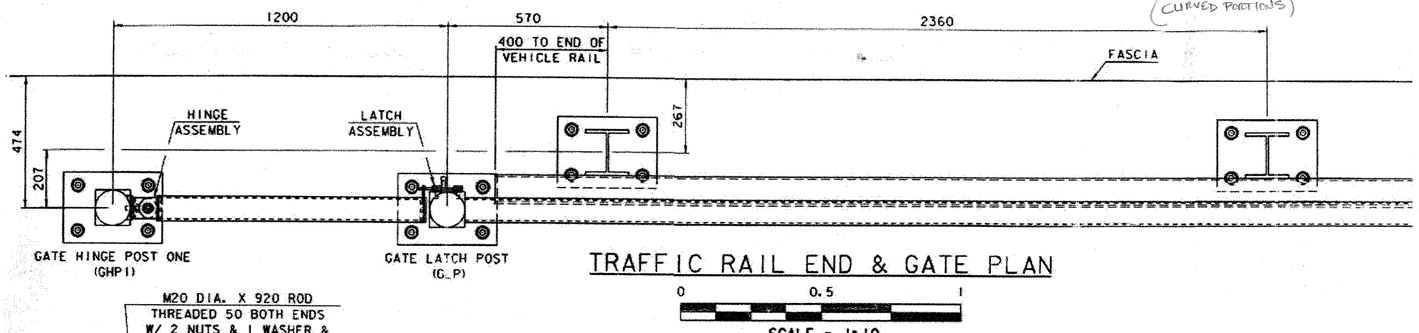
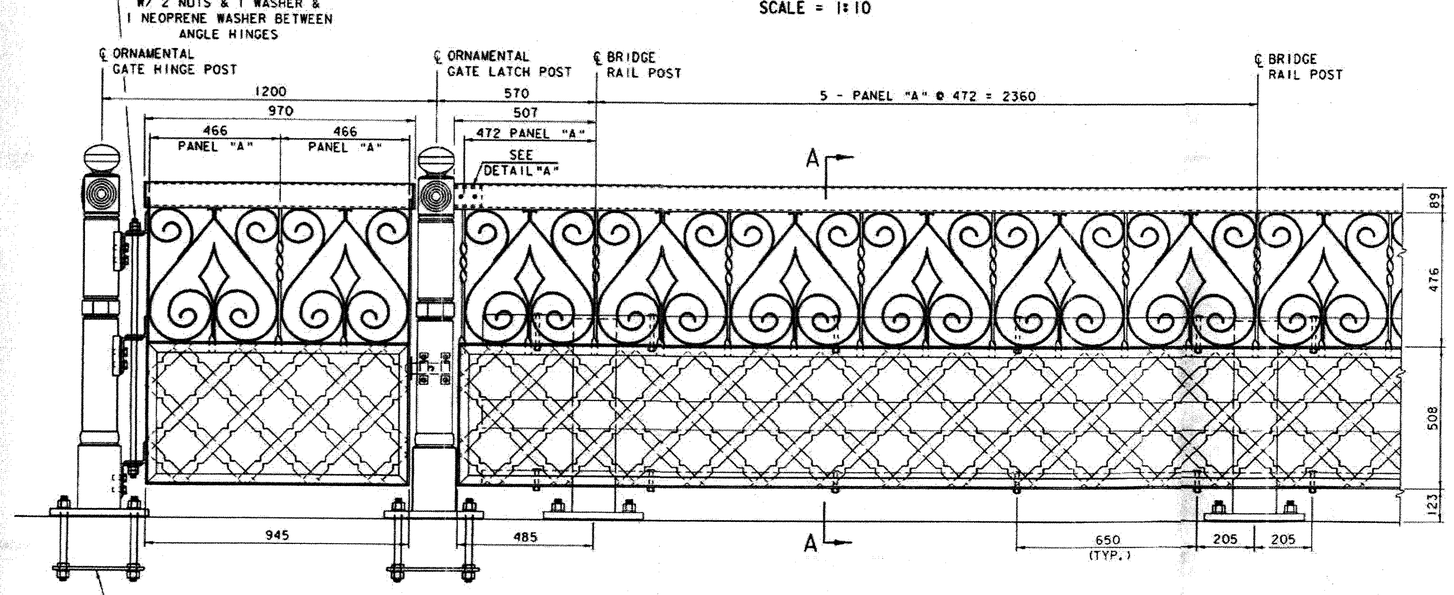


TRAFFIC RAIL END & GATE PLAN

0 0.5 1

SCALE = 1:10



TRAFFIC RAIL END & GATE ELEVATION

0 0.5 1

SCALE = 1:10

NOTES

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE PROVISIONS OF SECTION 525 - RAILINGS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. ORNAMENTAL RAILING, CONSISTING OF RAILING, GATE ASSEMBLIES, POSTS, BASE PLATES, ANCHORAGE ASSEMBLIES, AND ANY OTHER COMPONENTS NECESSARY TO COMPLETE THE WORK SHALL BE PAID FOR UNDER ITEM 525.15, "METAL HAND RAILING (MOD.)".
3. ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1.6 mm RADIUS AND BE FREE OF BURRS.
4. ORNAMENTAL POSTS SHALL BE SET NORMAL TO GRADE.
5. ORNAMENTAL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
6. ORNAMENTAL RAIL SHALL BE FABRICATED IN SECTIONS AND SPLICED AT BRIDGE RAIL POST LOCATIONS AS SHOWN ON THE THE RAIL LAYOUT SHEET.
7. THE ORNAMENTAL RAILING SHALL BE SHOP PAINTED WITH A PROTECTIVE PAINT SYSTEM PER SECTION 513 - PROTECTIVE COATINGS. THE TOP COATING SHALL BE BLACK, COLOR PAINT CHIP #27038. PAYMENT FOR PAINTING OF THE ORNAMENTAL RAILING SHALL BE MADE SUBSIDIARY TO ITEM 525.15, "METAL HAND RAILING (MOD.)".
8. ORNAMENTAL RAIL SHALL BE ATTACHED TO THE BRIDGE RAIL STRUCTURAL TUBING USING M16 FULL DIAMETER BODY AASHTO M164M (TYPE 1) ROUND HEAD BOLTS INSERTED THROUGH THE TOP OF THE STRUCTURAL TUBING. HOLES IN TUBING SHALL BE 2 mm LARGER THAN THE BOLT SIZE.
9. ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY.
10. THE FABRICATOR SHALL SUBMIT SHOP DRAWINGS INCLUDING WELDING PROCEDURES TO THE STRUCTURES SECTION FOR APPROVAL IN ACCORDANCE WITH THE PROVISION OF 506.04, DRAWINGS AND PROCEDURES. ALL WELDING SHALL CONFORM WITH SECTION 506.10.
11. THE FABRICATOR MAY SUBMIT ALTERNATE GATE HINGE AND LATCH ASSEMBLY DETAILS TO THE STRUCTURES ENGINEER FOR APPROVAL.
12. ORNAMENTAL RAIL POSTS SHALL BE MADE OF GRAY IRON CASTINGS CONFORMING TO SECTION 715 - MISCELLANEOUS METALS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION. MINIMUM POST WALL THICKNESS SHALL BE 10mm.

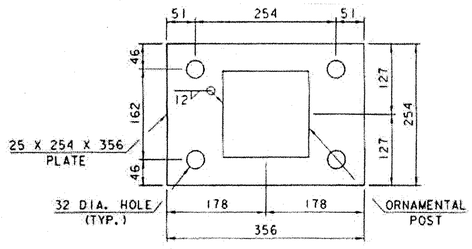
MATERIALS

ALL STEEL ROLLED SHAPES..... ASTM A36/ A36M
ANCHOR STUDS..... ASTM F568M, CLASS 8.8
ALL OTHER BOLTS (UNLESS NOTED)..... AASHTO M164M, TYPE 1
ORNAMENTAL POSTS..... AASHTO M105, CLASS NO.30B
SOCKET SET SCREWS..... ASTM F912M

NUTS FOR AASHTO M164M BOLTS SHALL COMPLY WITH AASHTO M291M. NUTS FOR ANCHOR BOLTS SHALL COMPLY WITH AASHTO M291M.

WASHERS SHALL COMPLY WITH AASHTO M293M (ASTM F436M) SPECIFICATION.

3 mm PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSCETION 731.01 OR 731.02.



ORNAMENTAL POST BASE PLATE

0 0.25 0.5

SCALE = 1:5

RECEIVED
SEP 08 2003
BY

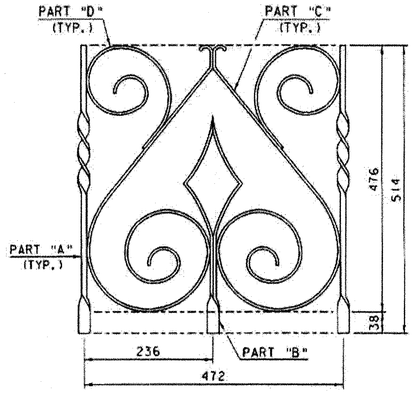
REVISIONS	REMARKS

ONE PRUYN'S ISLAND DR. GLENS FALLS, N.Y. 12801
RIVERSIDE FAB, INC.
PHONE # 1(518) 798-3533 FAX # 1(518) 798-1711

DATE	8/28/03	PROJECT	PROPOSED IMPROVMENT BRIDGE PROJECT
DRAWN BY	CCE	LOCATION	BRATTLEBORO, VT.
CHK'D BY		CUSTOMER	RENAUD BROTHERS, INC.
HOLES		ARCHITECT	STATE OF VERMONT, AGENCY OF TRANSPORTATION
BOLTS		JOB NO.	RFC 589
PAINT		SHEET NAME	RAILING DETAILS & NOTES
SCALE	AS NOTED		

PRINT RECORD		
DATE	NO.	
		079

DRAWING NUMBER **E2**



PANEL "A"

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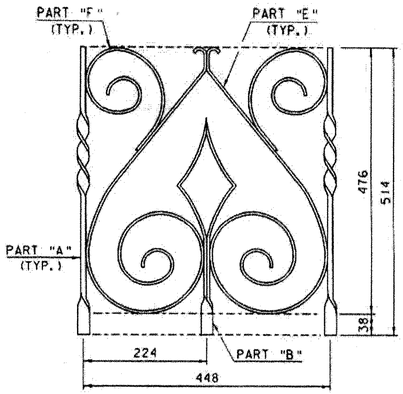
SCALE = 1:5



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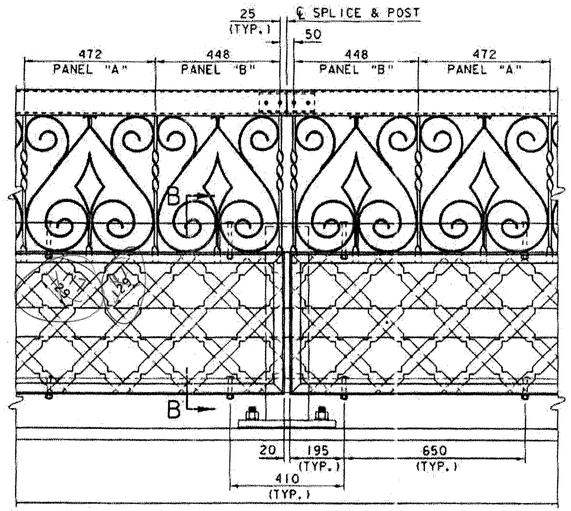

ORNAMENTAL RAIL SPLICE ELEVATION

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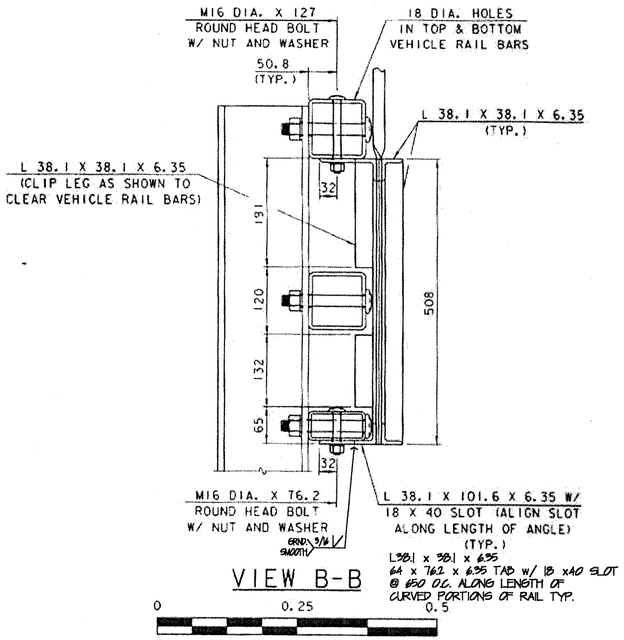
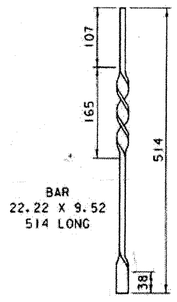


VIEW B-B

0 0.25 0.5

SCALE = 1:5



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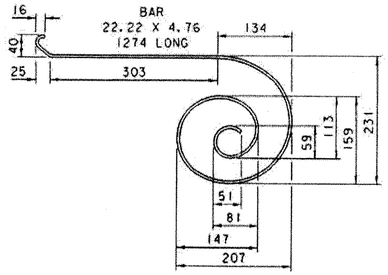

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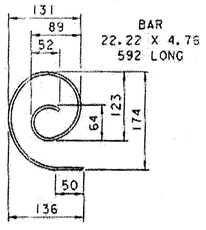

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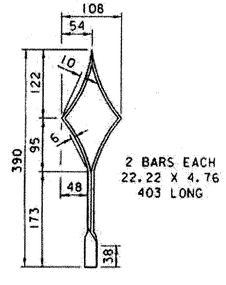

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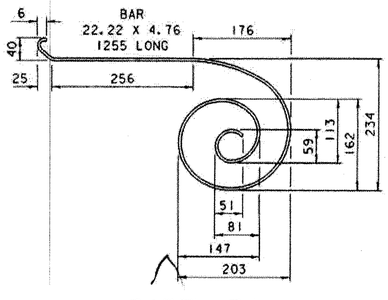

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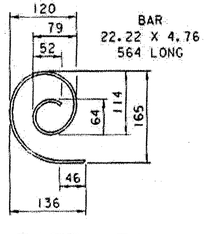

PART "F"

PANEL PARTS

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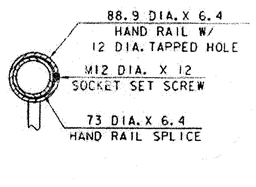

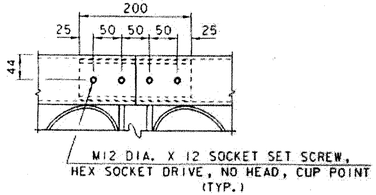

HAND RAIL SPLICE DETAILS

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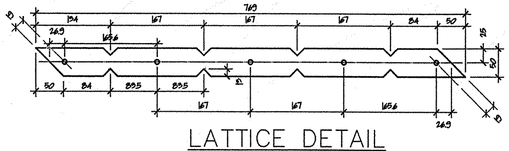
SCALE = 1:5



LATTICE DETAIL

0 0.25 0.5

SCALE = 1:5

RECEIVED
CK'D BY G. Roy OK'D BY 9-8-03
SEP 08 2003
RESUBMIT ____ APPROVED AS NOTED
BY RRW DATE 9.9.03

REVISIONS	REMARKS

ONE PRUYN'S ISLAND DR.
GLENS FALLS, N.Y. 12801

RIVERSIDE FAB, INC.

PHONE # 1(518) 798-3533
FAX # 1(518) 798-1711

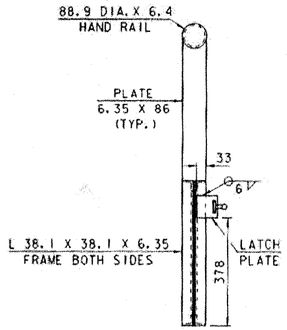
DATE	8/28/03
DRAWN BY	CCE
CK'D BY	
HOLES	
BOLTS	
PAINT	
SCALE	AS NOTED

PROJECT	PROPOSED IMPROVMENT BRIDGE PROJECT
LOCATION	BRATTLEBORO, VT.
CUSTOMER	RENAUD BROTHERS, INC.
ARCHITECT	STATE OF VERMONT, AGENCY OF TRANSPORTATION
JOB NO.	RFC 589
SHEET NAME	PANEL PIECES & DETAILS

PRINT RECORD

DATE	NO.	
		080

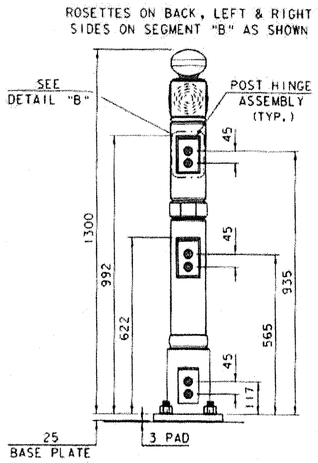
DRAWING NUMBER **F1**



LATCH END HINGE END

GATE END DETAILS

SCALE = 1:10



GATE HINGE POST

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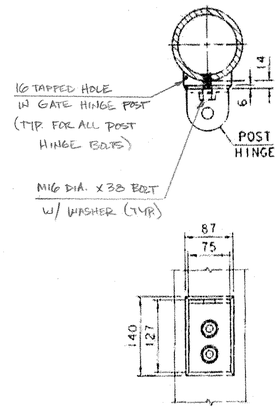

DETAIL "B"

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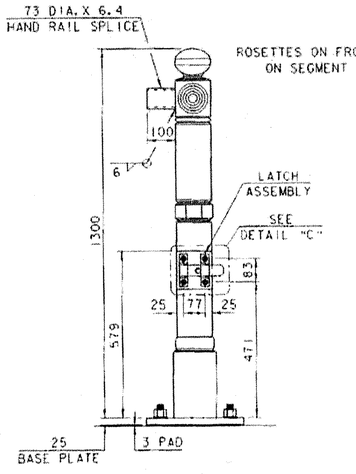

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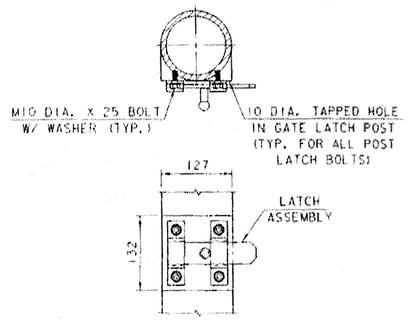

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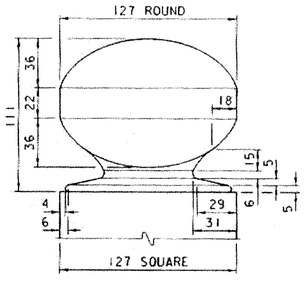

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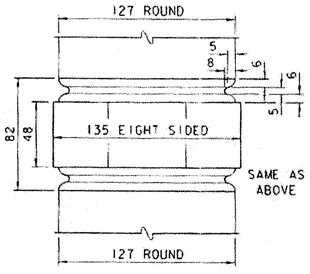

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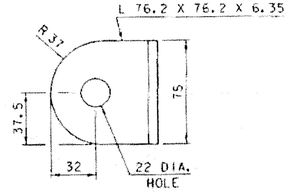
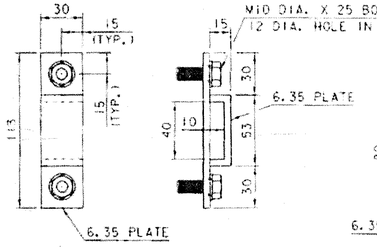


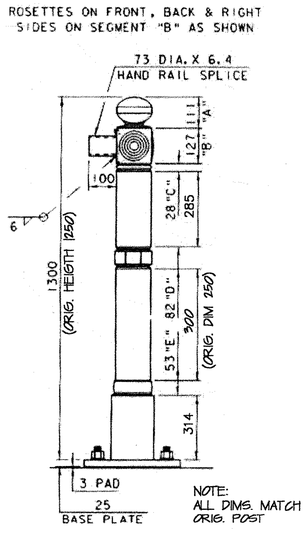
GATE HINGE DETAIL

SCALE = 1:2



LATCH BRACKET

LATCH PLATE



END POST

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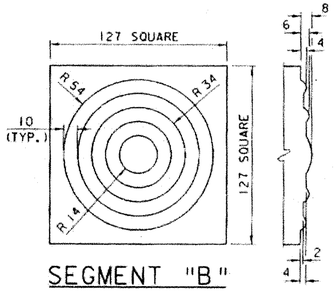
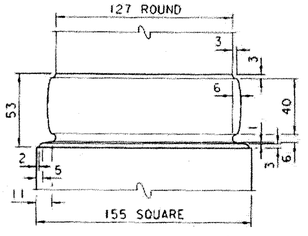


SEGMENT "B"



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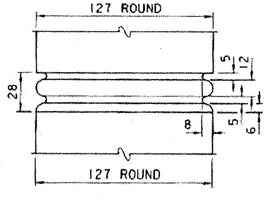
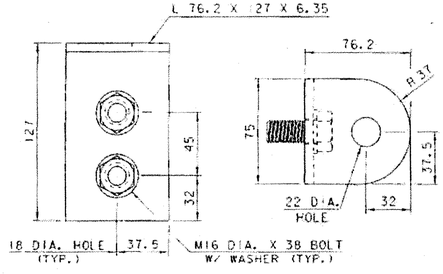


SEGMENT "C"

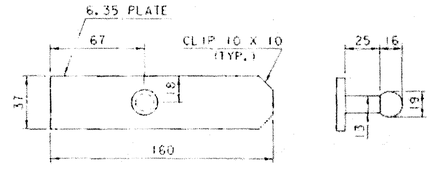
POST SEGMENT DETAILS

SCALE = 1:2



POST HINGE DETAILS

SCALE = 1:2



LATCH SLIDE

LATCH ASSEMBLY DETAILS

SCALE = 1:2

RECEIVED
CK'D BY G.Roy OK'D BY AS NOTED
9.8.03
SEP 08 2003
RESUBMIT ____ APPROVED ____
BY Rlud DATE 9-9-03

REVISIONS	REMARKS

ONE PRUYN'S ISLAND DR.
GLENS FALLS, N.Y. 12801

RIVERSIDE FAB, INC.

PHONE # 1(518) 798-3533
FAX # 1(518) 798-1711

DATE	8/28/03
DRAWN BY	CCE
CHK'D BY	
HOLES	
BOLTS	
PAINT	
SCALE	AS NOTED
PROJECT	PROPOSED IMPROVMENT BRIDGE PROJECT
LOCATION	BRATTLEBORO, VT.
CUSTOMER	RENAUD BROTHERS, INC.
ARCHITECT	STATE OF VERMONT, AGENCY OF TRANSPORTATION
JOB NO.	RFC 589
SHEET NAME	POST & GATE DETAILS

PRINT RECORD

DATE	NO.	
		081

DRAWING NUMBER **F2**

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

1). ALL MATERIAL AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001 WITH LATEST REVISIONS.

DESIGN SPECIFICATIONS

1). AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (A.A.S.H.T.O) STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1996 EDITION WITH LATEST REVISIONS.

MATERIAL SPECIFICATIONS

1). UNLESS NOTED, ALL STEEL TO BE AASHTO M270 GRADE 345W (ASTM A709-345W).

2). HIGH STRENGTH BOLTS: AASHTO M164 (ASTM A325) 22mm (7/8") DIA. TYPE 3 BOLTS SHALL BE USED FOR UNPAINTED CONNECTIONS.

3). GIRDER WEB & BOTTOM FLANGES SHALL BE CHARPY V NOTCH TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF VERMONT STANDARD SPECIFICATIONS. DRAWINGS SHALL CALL OUT "H2-3" FOR EACH APPLICABLE ITEM IN THE BILLS OF MATERIAL.

FABRICATION

1). ALL HOLES SHALL BE PUNCHED OR DRILLED FULL SIZE (UN).
2). STUDS ARE FURNISHED AND FIELD APPLIED BY OTHERS.
3). HOLES NOTED "DA" SHALL BE DRILLED DURING ASSEMBLY WITH PARTS ASSEMBLED.

WELDING

1). THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5-02 BRIDGE WELDING CODE AND IN ADDITION TO SPECIFICATIONS SHOWN ABOVE. ALL WELDING WILL BE DETAILED TO PRE-QUALIFIED JOINTS, UNLESS PROHIBITED BY THE DESIGNER.

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

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

CLEANING:

1). ALL STEEL SHALL BE BLAST CLEANED AS PER SSPC SP-10 PER SPEC. 506.14(a)

PAINTING

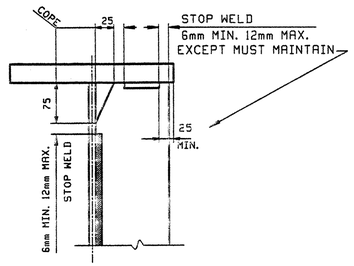
1). NONE

FIELD CONNECTIONS

1). ALL FIELD CONNECTIONS SHALL BE MADE WITH 22mm (7/8") DIAMETER HIGH STRENGTH A-325 TYPE 3 BOLTS, INSTALLED PER SECTION 506.19(c).

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

3). PIECE MARKS WILL BE LOCATED AS SHOWN ON ERECTION DRAWINGS.



DETAIL "WS1"

NOTE TO ENGINEER:
THESE NOTES ARE NOT INTENDED TO BE ALL INCLUSIVE AND COMPLIANCE WITH RELEVANT SPECIFICATIONS REMAIN UNCHANGED.

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	4/4/03									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm ($\frac{15}{16}$")ø	

SURFACE PREP. & PAINT:

-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

FILE SET

V.A.O.T.
RECEIVED
APR 15 2003

OK'D BY 5.S.S 4/16/03 OK'D BY JKH 4/21/03
RESUBMIT ____ APPROVED X
BY DATE

DESCRIPTION: GENERAL NOTES	DRAWN BY	DATE
JOB: US 5 OVER WHETSTONE BROOK BRIDGE NO. 7 BRATTLEBORO, VERMONT (WINDHAM COUNTY) CONTRACTOR: RENAUD BROTHERS	JAK	03/17
	CHKD BY	
	JTB	03/19
	APPROV BY	
	SUPERVISOR	W. J. GATTI
PROJ NO. BHF 2000(17)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		082

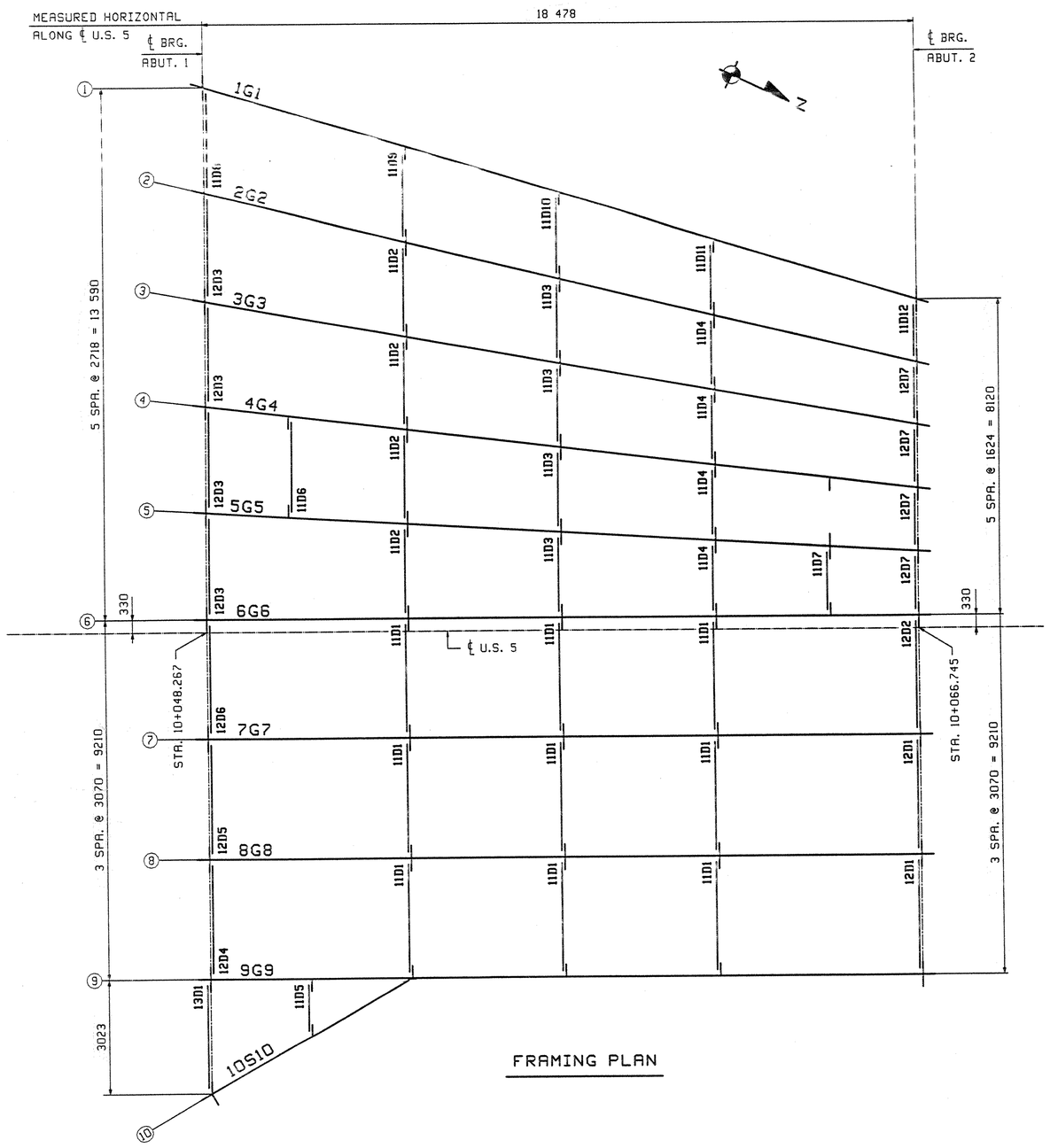
TENSOR 2348

CASCO BAY STEEL STRUCTURES, INC.

75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
194	GN1
	REV. △

JTB Wed Mar 19 08:28:26 EST 2003 /users/jak/2348/GN1.Rev0



FRAMING PLAN

FIELD BOLT LIST							A325 Type 3 BOLTS							
LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS / CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED						WASH CODE	PIECES CONNECTED AND REMARKS
1														**KICKER BEAM TO GIRDER 9G9**
2	14	7/8	2 1/4	14	1	24	10	14					1	BEAM WEB TO BENT CONNECTION PLATE
3														
4														**ABUTMENT DIAPHRAGMS**
5	392	7/8	2 1/2	14	28	29	10	18					1	DIAPHRAGM WEB TO BEARING STIFFENER
6														
7														**ABUTMENT DIAPHRAGM 13D1**
9	10	7/8	2 1/2	5	2	24	6	18					1	DIAPHRAGM WEB TO BEARING STIFFENER
9														
10														**TELEPHONE DIAPHRAGMS**
11	60	7/8	2 1/2	6	10	27	9	18					1	DIAPHRAGM WEB TO CONNECTION PLATE
12														
13														**INTERMEDIATE DIAPHRAGMS**
14	294	7/8	2 1/4	7	42	24	10	14					1	DIAPHRAGM WEB TO CONNECTION PLATE
15														
16														**WATERLINE DIAPHRAGMS**
17	12	7/8	2 1/4	3	4	23	9	14					1	DIAPHRAGM WEB TO CONNECTION PLATE
18														
19														**DIAPHRAGM 11D5**
20	10	7/8	2 1/4	5	2	20	6	14					1	DIAPHRAGM WEB TO CONNECTION PLATE

1: 1 Hard Flat Washer

FIELD BOLT SUMMARY			5% ADDED, MIN. 2 EXTRA			
LINE	NO. OF BOLTS	BOLT DIAM.	TYPE	BOLT LEN	ACTUAL COUNT	REMARKS
1	357	7/8	A325 Type 3	2 1/4	340	
2	475	7/8	A325 Type 3	2 1/2	452	
3						
4	832	Hard Flat Washers	for 7/8 ø	BOLT		
5						
6						
7						

1. All bolt diameters and lengths are shown in inches (english unit of measurement).
2. All grip values are shown in metric units.

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.
	OUT FOR APPROVAL	4/14/03				
	OUT FOR APPROVAL					
	ISSUED TO SHOP					
	FIELD & OFFICE					

NO.	DIA.	LGT	TYPE	WASHER

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm ($\frac{15}{16}$")ø	

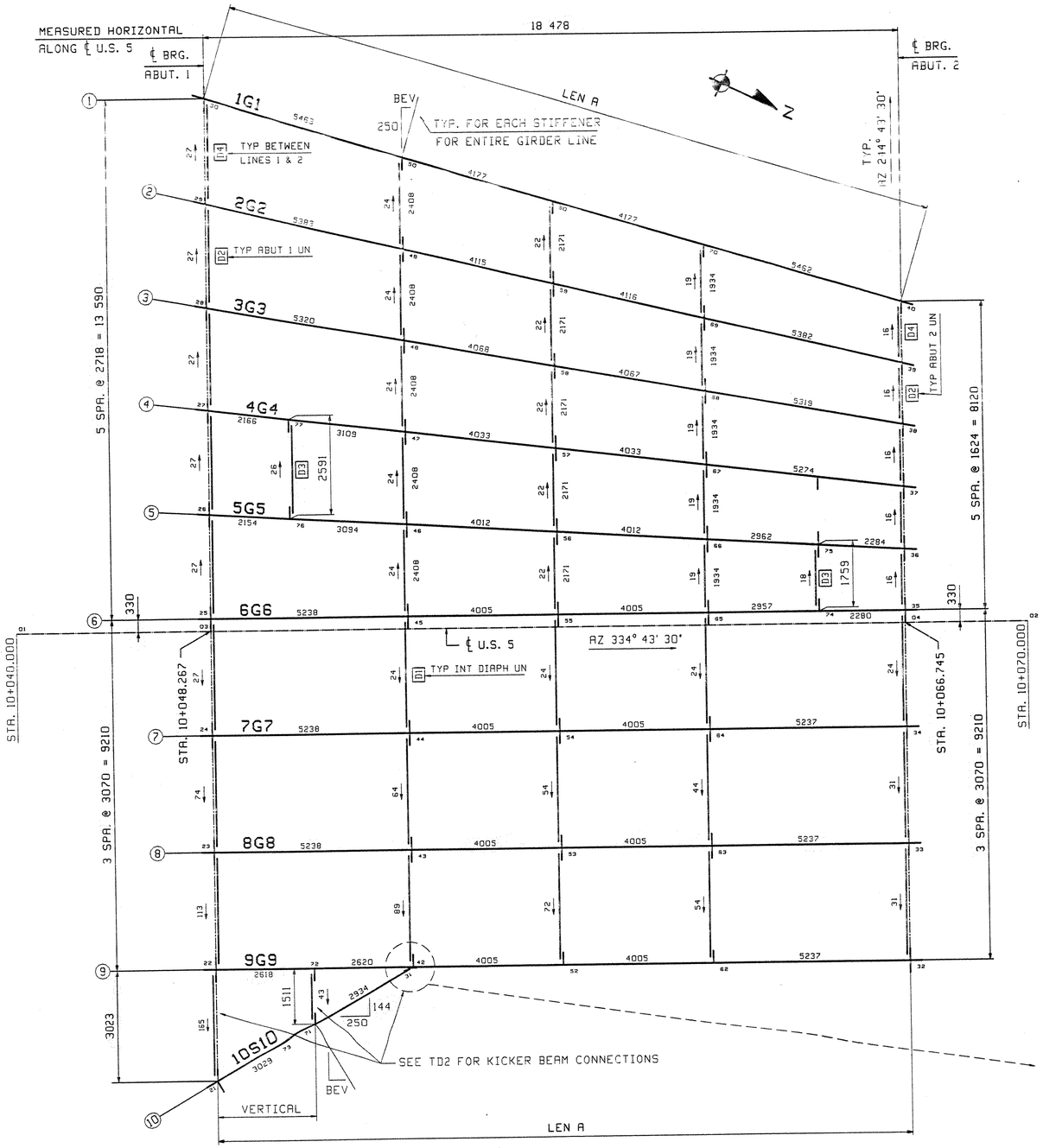
SURFACE PREP. & PAINT:

-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

DESCRIPTION: FRAMING PLAN	DRAWN BY	DATE
JOB: US 5 OVER WHETSTONE BROOK	JTB	03/21
BRIDGE NO. 7	CHKD BY	
BRATTLEBORO, VERMONT (WINDHAM COUNTY)	EPE	04/07
CONTRACTOR: RENAUD BROTHERS	APPROV BY	
	SUPERVISOR	W. J. GATTI
PROJ NO. BHF 2000(17)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		083
CASCO BAY STEEL STRUCTURES, INC.	JOB NO.	DRG. NO.
75 SPRING HILL ROAD SACO, MAINE 04072	194	E1
PHONE (207) 282-7360 FAX. (207) 282-1179		REV. △

TENSOR 2348

V.A.O.T.
RECEIVED
CK'D BY 2.5.3 OK'D BY JDR 4/15/03
4/16/03
APR 15 2003
RESUBMIT ____ APPROVED X
BY DATE



FRAMING PLAN

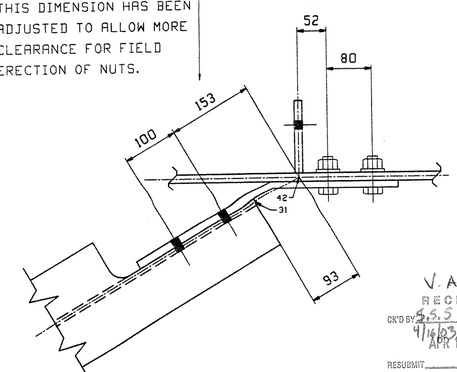
Line	LEN A	GRADES ABUT. 1	GRADES ABUT. 2	BEV
1	18 279	.0158	.0061	74
2	18 996	.0154	.0056	59
3	18 774	.0150	.0051	44
4	18 615	.0146	.0045	30
5	18 518	.0141	.0040	15
6	18 485	.0135	.0034	0
7	18 485	.0142	.0034	0
8	18 485	.0160	.0059	0
9	18 486	.0204	.0103	0
10	5963	.0593	.0487	144

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

NOTES
1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG TOP OF WEB WITH CORRECTIONS MADE FOR VERTICAL CURVE, GRADE & DL CAMBER (UN).
2. TRANSVERSE DIMENSIONS ARE IN A NORMAL PLANE (UN).
3. ARROW POINTS TOWARDS LOW END OF MEMBER.
4. ENDS OF STRINGERS AND PBG. STIFF'S ARE VERTICAL AFTER DL ROTATION.
5. DIAPH. STIFF ARE NORMAL TO GRADE U.N.
6. BOTT PT NUMBERS = TOP PT NUMBERS + 100
7. FOR LAYOUTS SEE DWG TD1 & TD2.
8. COMBINE DIAPHRAGMS FOR DIFF IN DROPS OF +/- 3mm.
9. DIAPHRAGM DROPS ARE CALCULATED IN THEIR FINAL POSITION.

DETAILER NOTE !!
THIS DIMENSION IS TRUE ONLY AT TOP OF WEB AS KICKER BEAM CONNECTION IS VERTICAL WHILE WEB STIFFENER CONNECTION IS NORMAL TO GRADE.

DETAILER NOTE !!
THIS DIMENSION HAS BEEN ADJUSTED TO ALLOW MORE CLEARANCE FOR FIELD ERECTION OF NUTS.



V.A.O.T. RECEIVED
OK'D BY S.S.S. 4/16/03 OK'D BY JMB 4/21/03
APR 15 2003
RESUBMIT____ APPROVED X
BY DATE

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	4-14-03									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL: M270M-345W
ELECTRODES:
HOLES: 24mm (15/16")ø
SHOP BOLTS:

SURFACE PREP. & PAINT:
-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

DESCRIPTION: CALCULATION PLAN
JOB: US 5 OVER WHETSTONE BROOK
BRIDGE NO. 7
BRATTLEBORO, VERMONT (WINDHAM COUNTY)
CONTRACTOR: RENAUD BROTHERS
TENSOR 2348
PROJ NO. BHF 2000(17)
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION

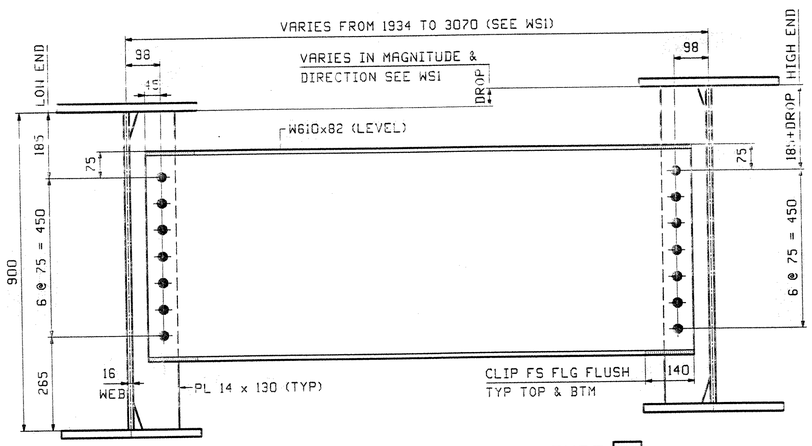
DRAWN BY	DATE
JAK	03/17
CHKD BY	
WMJ	3/18
APPROV BY	
SUPERVISOR	W. J. GATTI
Q.A.	

084

JOB NO.	DRG. NO.
194	WS1
	REV. △

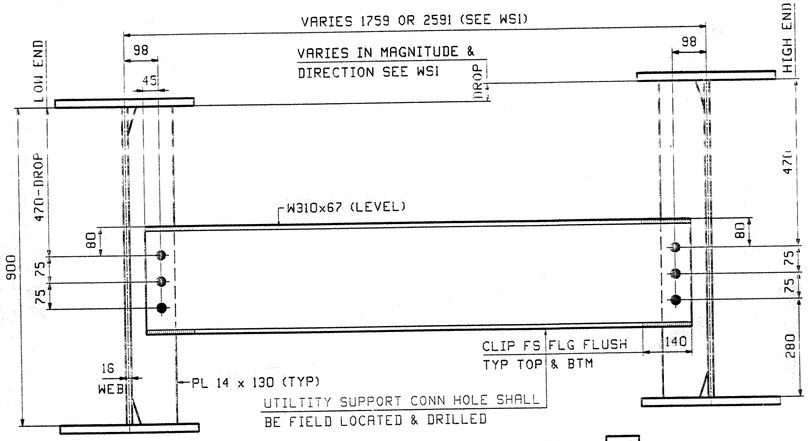
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

WMJ Mon Mar 24 11:07:08 EST 2003 /users/jbk/2348/WS1.Rev2



INTERMEDIATE DIAPHRAGM - TYPE D1

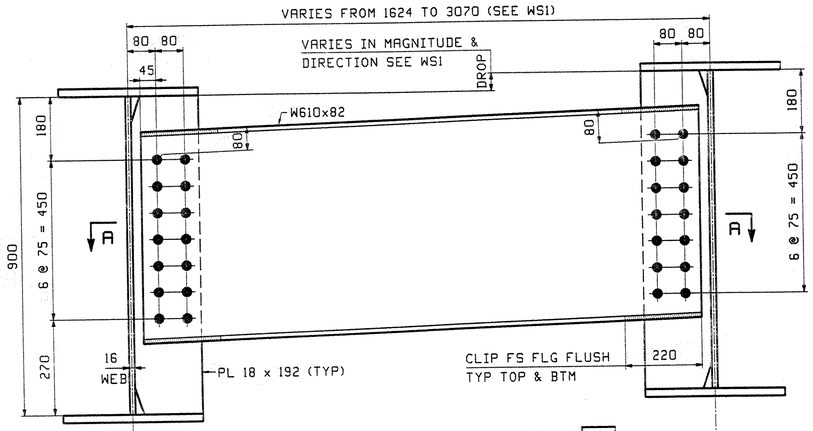
LOOKING UPSTATION



WATERLINE DIAPHRAGM - TYPE D3

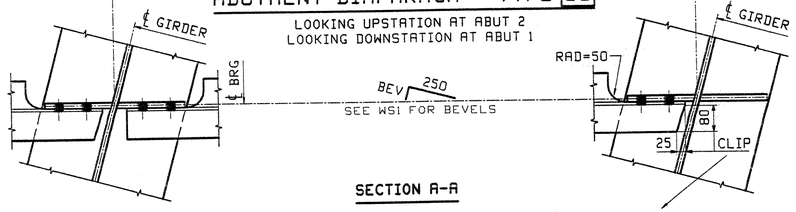
DETAILER NOTE:
LINES 1, 9 & THE KICKER BEAM HAVE 1 DRIP PLATE EACH

DETAILER NOTE:
ADDITIONAL WATERLINE CONNECTION PLATES ARE
REQUIRED BETWEEN LINES 4-5 2280mm FROM ABUT 2 (REF 37 OF 71)



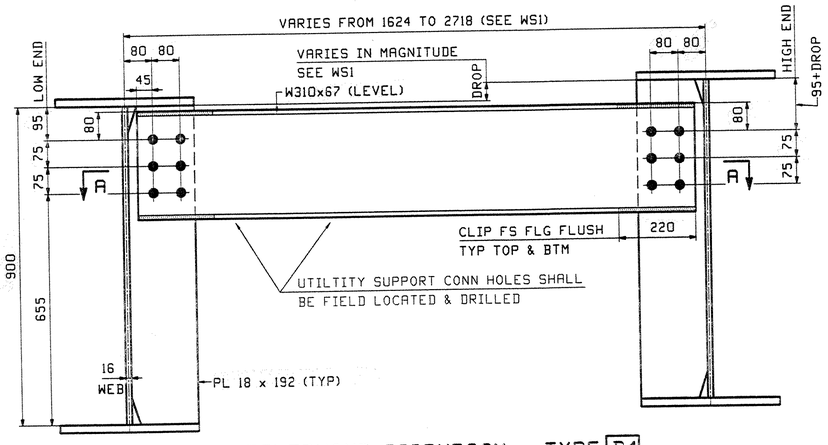
ABUTMENT DIAPHRAGM - TYPE D2

LOOKING UPSTATION AT ABUT 2
LOOKING DOWNSTATION AT ABUT 1



SECTION A-A

CLIP NOTE:
CLIP TOP & BTM FLG AT LINES 1 THRU 5 - ABUT 1
CLIP TOP & BTM FLG AT LINES 2 THRU 6 - ABUT 2
(ACUTE ANGLE SIDE ONLY)



TELEPHONE DIAPHRAGM - TYPE D4

LOOKING UPSTATION BETWEEN LINES 1 & 2
LOOKING DOWNSTATION AT ABUT 1

**** NOTE ****
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION AND CONNECTION SPACING. THIS DWG IS SUBMITTED FOR INFORMATION ONLY & IS NOT INTENDED FOR SHOP FABRICATION. DETAIL DWGS WILL SHOW ALL WELDING AND DIMENSIONS REQ'D FOR FABRICATION.

V.A.O.T.
RECEIVED
CK'D BY S.S.S. 4/16/03 OK'D BY JMS 4/21/03
APR 15 2003
RESUBMIT ____ APPROVED X
BY DATE

NOTES:
1. ALL MATERIAL TO BE M270 GR345W.
2. SHOP BOLTS TO BE 7/8"ϕ A325 TYPE 3.

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	4-14-03									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm (15/16"Ø)	

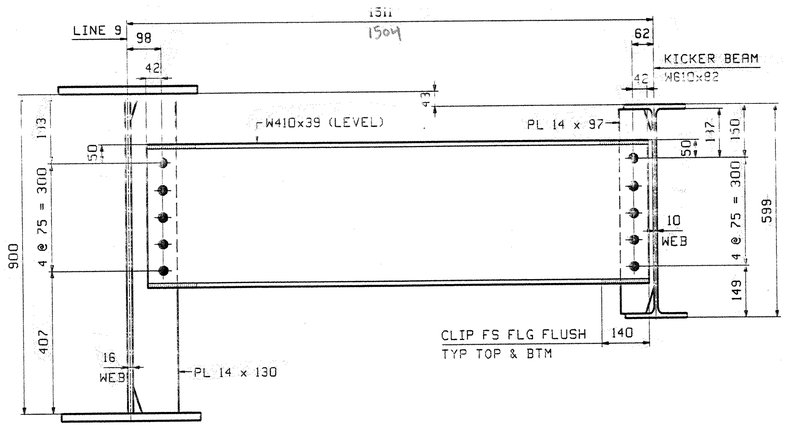
SURFACE PREP. & PAINT:

-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

DESCRIPTION: LAYOUTS	DRAWN BY	DATE
JOB: US 5 OVER WHETSTONE BROOK	JTB	03/18
BRIDGE NO. 7	CHKD BY	
BRATTLEBORO, VERMONT (WINDHAM COUNTY)	WMJ	03/19
CONTRACTOR: RENAUD BROTHERS	APPROV BY	
TENSOR 0348	SUPERVISOR	W. J. GATTI
PROJ NO. BHF 2000(17)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		085

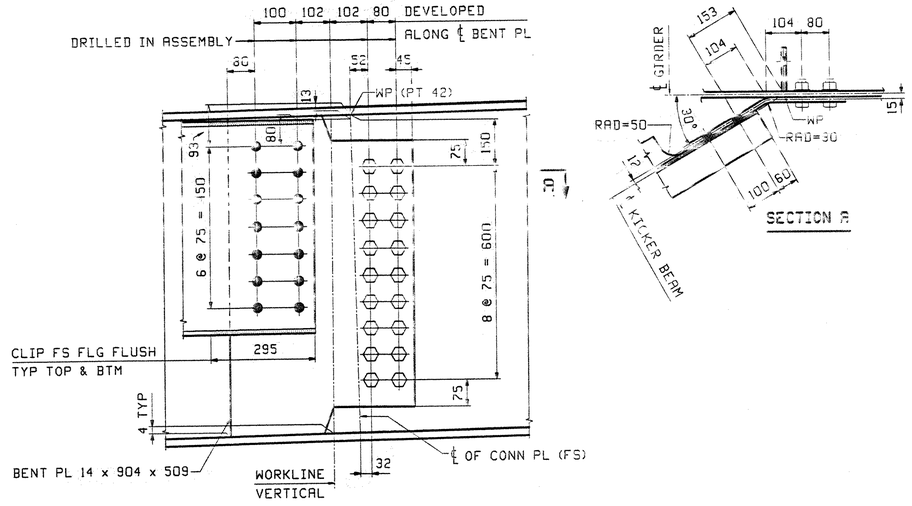
CASCO BAY STEEL STRUCTURES, INC.	JOB NO.	DRG. NO.
75 SPRING HILL ROAD SACO, MAINE 04072	194	TD1
PHONE (207) 282-7360 FAX. (207) 282-1179		REV. △

MMT Mon Mar 24 11:27:18 EST 2003 /users/jobs/2348/TD1.dwg



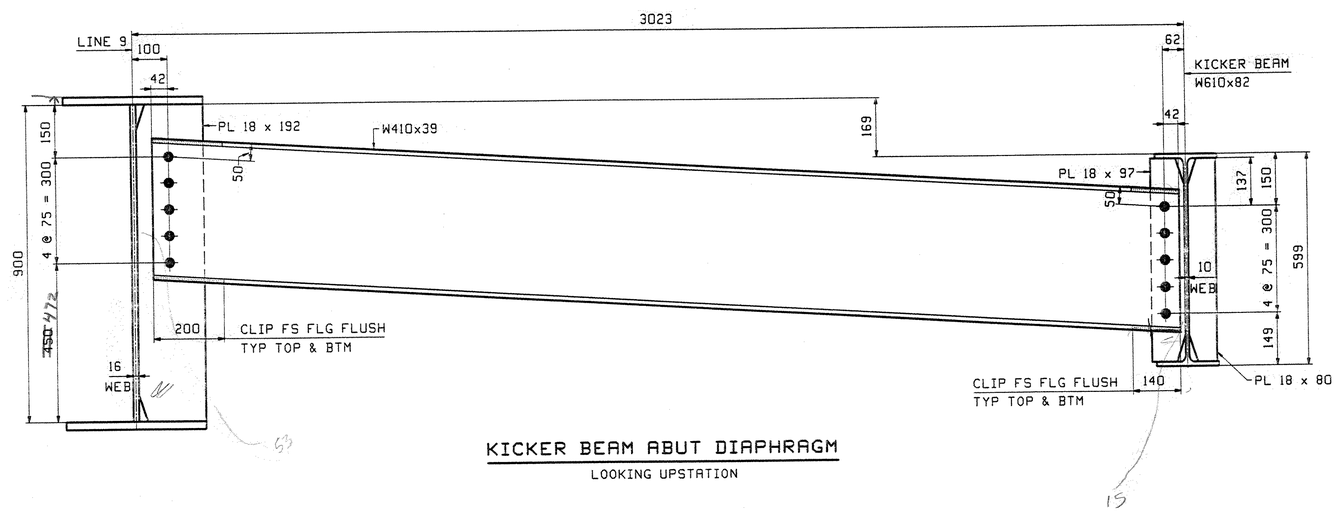
KICKER BEAM INT DIAPHRAGM

LOOKING UPSTATION



KICKER BEAM TO LINE 9 GIRDER CONNECTION

LOOKING WEST



KICKER BEAM ABUT DIAPHRAGM

LOOKING UPSTATION

**** NOTE ****
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V.A.O.T.
RECEIVED
CK'D BY SSS 4/16/03 CK'D BY JNF 4/21/03
APR 15 2003
RESUBMIT ____ APPROVED AS NOTED
BY / DATE

NOTES:

1. ALL MATERIAL TO BE M270 GR345W.
2. SHOP BOLTS TO BE 7/8"ø A325 TYPE 3.

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	4/4/03									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL: M270M-345W	ELECTRODES:	HOLES: 24mm ($\frac{15}{16}$")ø	SHOP BOLTS:

SURFACE PREP. & PAINT:

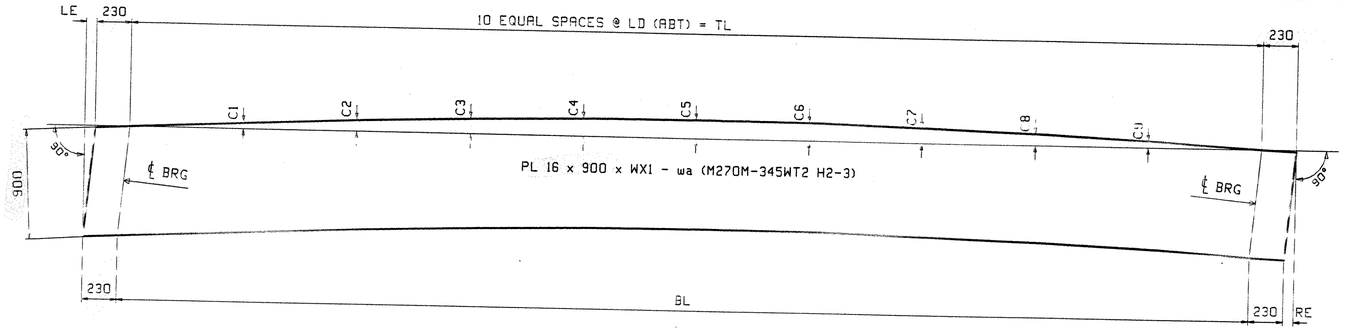
-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

DESCRIPTION: LAYOUTS		DRAWN BY	DATE
JOB: US 5 OVER WHETSTONE BROOK		JTB	03/18
BRIDGE NO. 7		CHKD BY	
BRATTLEBORO, VERMONT (WINDHAM COUNTY)		WMJ	03/19
CONTRACTOR: RENAUD BROTHERS		APPROV BY	
TENSOR 2348		SUPERVISOR	W. J. GATTI
PROJ NO. BHF 2000(17)		Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION			086

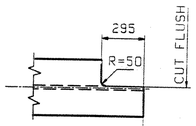
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
194	TD2
	REV. △

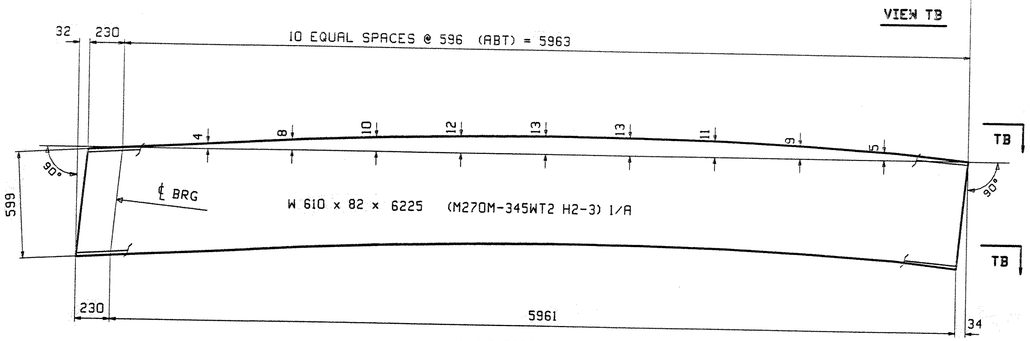
WMJ Mon Mar 24 11:27:28 EST 2003 /users/jobs/2348/TD2.dgn



MARK	TL	BL	LE	RE	WX1	LD	C1	C2	C3	C4	C5	C6	C7	C8	C9	PG/LINE
1G1	19 279	19 267	4	16	19 743	1930	22	40	54	63	66	63	54	40	22	1/ Q
2G2	18 996	18 983	3	16	19 459	1900	22	40	54	63	66	63	54	40	22	1/ S
3G3	18 774	18 762	3	15	19 237	1875	22	40	54	63	66	63	54	40	22	1/ U
4G4	18 615	18 602	2	15	19 077	1860	22	40	54	63	66	63	54	40	22	1/ W
5G5	18 518	18 506	2	14	18 980	1850	22	40	54	63	66	63	54	40	22	1/ Y
6G6	18 485	18 472	1	14	18 946	1850	22	40	54	63	66	63	54	40	22	1/ Y
7G7	18 485	18 472	1	14	18 946	1850	23	42	56	65	68	64	55	41	22	1/ N
8G8	18 485	18 472	3	16	18 948	1850	22	40	54	63	66	63	54	40	22	1/ Y
9G9	18 486	18 473	7	20	18 953	1850	22	40	54	63	66	63	54	40	22	1/ Y

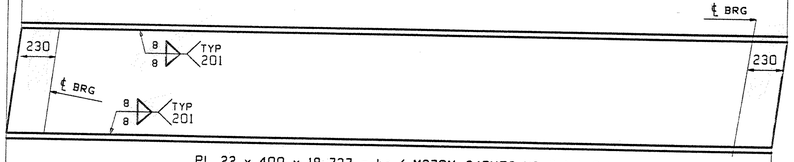


VIEW TB



CAMBER DIAGRAM FOR 1OS1O

1G1	4	PL 22 x 400 x 19 739 - ta (M270M-345W) 2/A
2G2	3	PL 22 x 400 x 19 456 - ta (M270M-345W) 2/C
3G3	3	PL 22 x 400 x 19 234 - ta (M270M-345W) 2/E
4G4	2	PL 22 x 400 x 19 075 - ta (M270M-345W) 2/G
5G5	2	PL 22 x 400 x 18 978 - ta (M270M-345W) 2/J
6G6	1	PL 22 x 400 x 18 945 - ta (M270M-345W) 2/J
7G7	1	PL 22 x 400 x 18 945 - ta (M270M-345W) 2/J
8G8	3	PL 22 x 400 x 18 945 - ta (M270M-345W) 2/J
9G9	7	PL 22 x 400 x 18 946 - ta (M270M-345W) 2/J



1G1	PL 22 x 400 x 19 727 - ba (M270M-345WT2 H2-3) 1/C
2G2	PL 22 x 400 x 19 443 - ba (M270M-345WT2 H2-3) 1/E
3G3	PL 22 x 400 x 19 222 - ba (M270M-345WT2 H2-3) 1/G
4G4	PL 22 x 400 x 19 062 - ba (M270M-345WT2 H2-3) 1/J
5G5	PL 22 x 400 x 18 966 - ba (M270M-345WT2 H2-3) 1/L
6G6	PL 22 x 400 x 18 932 - ba (M270M-345WT2 H2-3) 1/L
7G7	PL 22 x 400 x 18 932 - ba (M270M-345WT2 H2-3) 1/L
8G8	PL 22 x 400 x 18 932 - ba (M270M-345WT2 H2-3) 1/L
9G9	PL 22 x 400 x 18 933 - ba (M270M-345WT2 H2-3) 1/L

FLANGE DIAGRAM FOR 1G1 THRU 9G9

V.A.O.T.
RECEIVED
CK'D BY BSS 4/7/03 OK'D BY SMP 4/21/03
APR 15 2003
RESUBMIT ____ APPROVED X
BY DATE

NOTES:

1. FOR GENERAL NOTES AND WELD DETAILS SEE SHT. GN1.
2. H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2 OF 20 J @ 4° C

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	4-14-03									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm ($\frac{15}{16}$")Ø	

SURFACE PREP. & PAINT:

-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

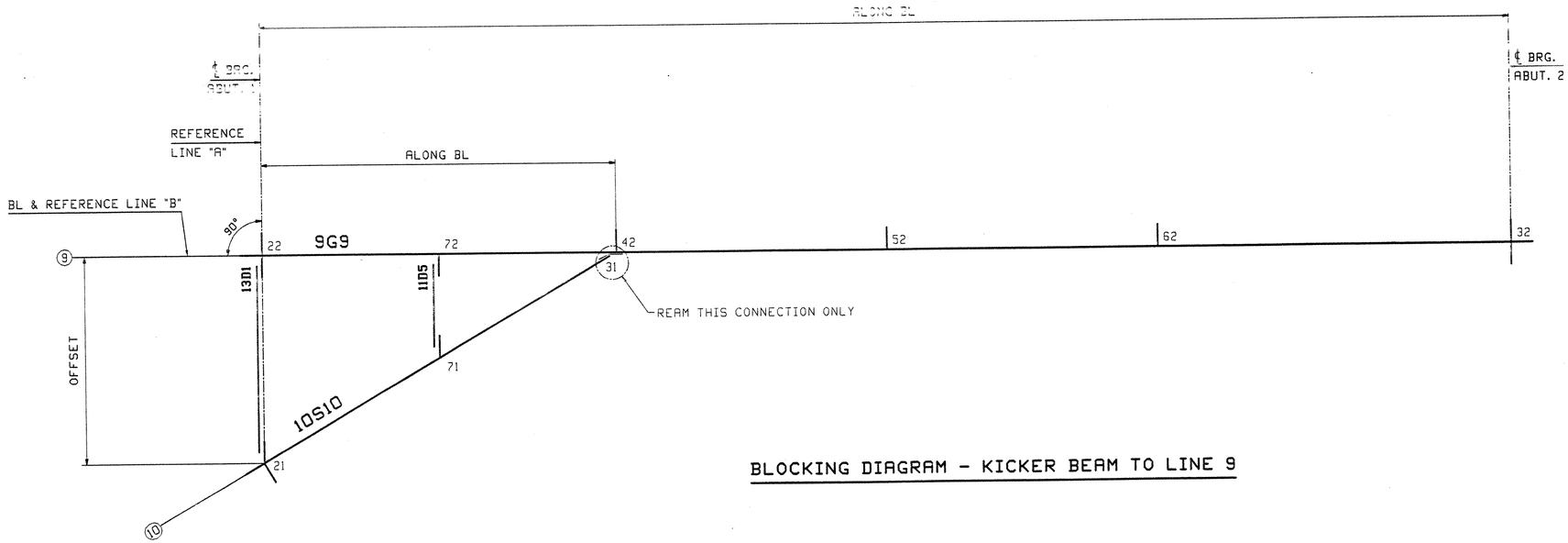
DESCRIPTION: CAMBER AND FLANGE DIAGRAMS	DRAWN BY	DATE
JOB: US 5 OVER WHETSTONE BROOK	JAK	03/17
BRIDGE NO. 7	CHKD BY	
BRATTLEBORO, VERMONT (WINDHAM COUNTY)	WMJ	3/18
CONTRACTOR: RENAUD BROTHERS	APPROV BY	
TENSOR 2348	SUPERVISOR	W. J. GATTI
PROJ NO. BHF 2000(17)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		087

CASCO BAY STEEL STRUCTURES, INC.

75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
194	C1
	REV. △

JRK Wed Mar 19 13:45:25 EST 2003 /users/jobs/2348/C1 | Rev:0



BLOCKING DIAGRAM - KICKER BEAM TO LINE 9

POINT	OFFSET	ALONG BL	ELEV	
22	0	0	187	℄ OF LINE 9
72	0	2618	258	
42	0	5237	320	
52	0	9242	395	
62	0	13 247	443	
32	0	18 484	471	
21	3023	3	0	℄ OF LINE 10
71	1511	2621	178	
31	46	5159	325	END OF KICKER BEAM

V.A.O.T.
RECEIVED
CK'D BY SSS 4/17/03 CK'D BY JMP 4/21/03
APR 15 2003
RESUBMIT ____ APPROVED X
BY DATE

NOTES
1. FOR GENERAL NOTES SEE DRAWING GN1.
2. ALL DIMENSIONS ARE GIVEN RELATIVE TO A HORIZONTAL DATUM PLANE.
3. ALL TRANSVERSE EXTENSION DIMENSIONS (ALONG BL) ARE FROM REFERENCE LINE "A".
4. ALL LONGITUDINAL EXTENSION DIMENSIONS (OFFSET) ARE FROM REFERENCE LINE "B".
5. DIAPHRAGMS 13D1 & 11D5 ARE OPTIONAL MEMBERS OF THE SHOP ASSEMBLY. REAMING IS NOT REQUIRED FOR THESE TWO DIAPHRAGMS
6. ELEVATIONS ARE GIVEN TO THE TOP OF THE TOP FLANGE OF LINES 9 & 10.

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	4-14-03									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL: M270M-345W	ELECTRODES:	HOLES: 24mm (15/16")ø	SHOP BOLTS:

SURFACE PREP. & PAINT:
-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

DESCRIPTION: SHOP ASSEMBLY

JOB:
US 5 OVER WHETSTONE BROOK
BRIDGE NO. 7
BRATTLEBORO, VERMONT (WINDHAM COUNTY)
CONTRACTOR: RENAUD BROTHERS

TENSOR 2348

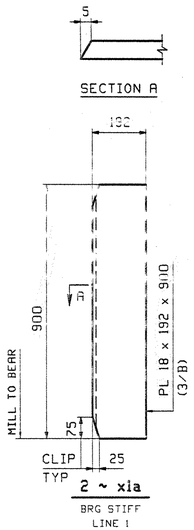
PROJ NO. BHF 2000(17)

CUSTOMER: VERMONT AGENCY OF TRANSPORTATION

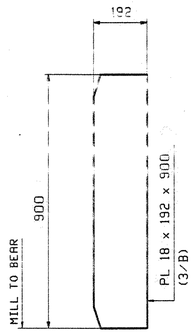
DRAWN BY	DATE
JTB	03/21
CHKD BY	
EPE	04/07
APPROV BY	
SUPERVISOR	W. J. GATTI
Q.A.	
	088
JOB NO.	DRG. NO.
194	SA1
	REV. △

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

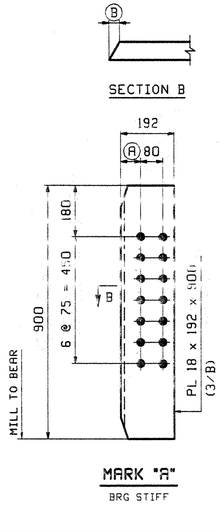
JTB Fri Mar 21 14:34:44 EST 2003 /users/jobs/2348/sh1.dwg



2 ~ x1a
BRG STIFF
LINE 1

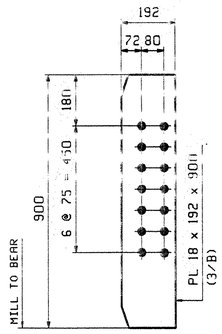


1 ~ x1b
BRG STIFF
LINE 9 - ABUT 2

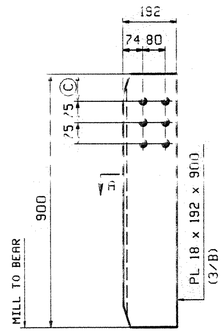


MARK "A"
BRG STIFF

MARK "A"	QTY	Ⓐ	Ⓑ	
x1c	2	74	4	LINE 2
x1d	8	73	2	LINES 3 & 4

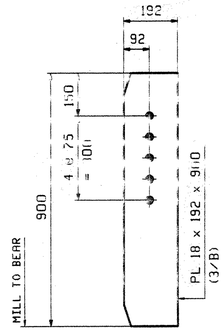


18 ~ x1f
BRG STIFF
LINES 5, 6, 7, 8 & 9

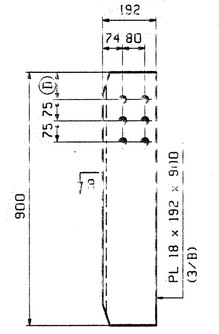


MARK "B"
BRG STIFF
LINES 1 & 2

MARK "B"	QTY	Ⓒ	
x1g	2	95	LINE 1
x1h	1	122	LINE 2 (DROP 27)
x1k	1	111	LINE 2 (DROP 16)

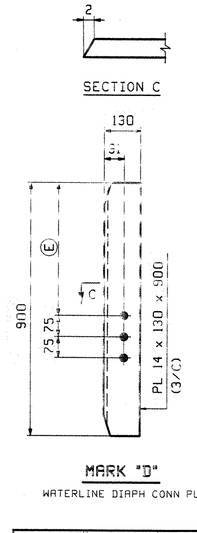


1 ~ x1m
BRG STIFF
LINE 9 - ABUT 1



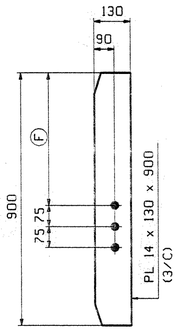
MARK "C"
INT TELE DIAPH CONN PL
LINES 1 & 2

MARK "C"	QTY	Ⓓ	
x1n	3	95	LINE 1
x1p	3	117	LINE 2 (DROPS 24, 22 & 19)



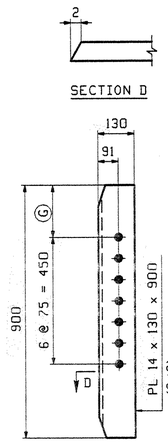
MARK "D"
WATERLINE DIAPH CONN PL

MARK "D"	QTY	Ⓔ	
x1t	1	444	DROP 26
x1v	1	452	DROP 18



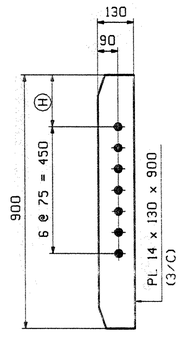
MARK "E"
WATERLINE DIAPH CONN PL

MARK "E"	QTY	Ⓕ	
x1w	3	470	HIGH END (LINES 5 & 6)
x1y	1	452	DROP 18 (LINE 5)



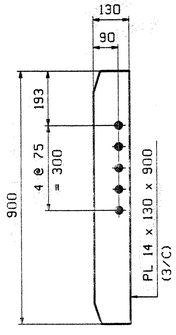
MARK "F"
INT DIAPH CONN PL

MARK "F"	QTY	Ⓖ	
x1aa	6	207	HIGH END (LINES 2, 3 & 4)
x1ab	9	185	LOW END (LINES 2, 3 & 4)

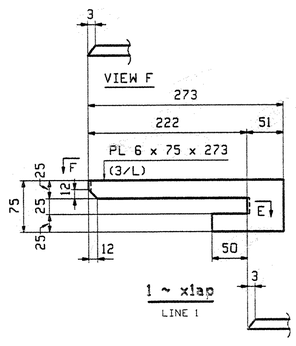


MARK "G"
INT DIAPH CONN PL

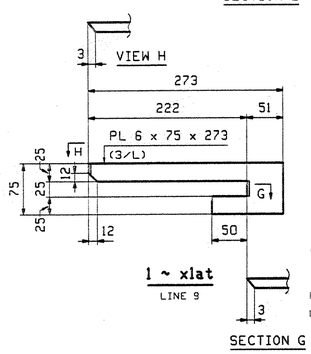
MARK "G"	QTY	Ⓗ	
x1ac	1	274	DROP 89
x1ad	1	257	DROP 72
x1af	1	249	DROP 54
x1ag	2	239	DROP 54
x1ah	1	229	DROP 44
x1ak	9	207	DROP 19, 22 & 24
x1am	12	185	LOW END



1 ~ x1an
KICK BEAM INT DIAPH CONN PL
LINE 9



1 ~ x1ap
LINE 1



1 ~ x1at
LINE 9

V.A.O.T.
RECEIVED
OK'D BY S.S.S. 4/17/03 OK'D BY SAB 4/21/03
APR 15 2003
RESUBMIT ____ APPROVED X
BY DATE

NOTES:
1. ALL MATERIAL TO BE M270-345W.
2. FOR GENERAL NOTES SEE DRAWING GN1.
3. ALL BOLT HOLES SHALL BE $\frac{15}{16}$"Ø FOR $\frac{7}{8}$"Ø HSB.

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	4-14-03									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm ($\frac{15}{16}$"Ø)	

SURFACE PREP. & PAINT:

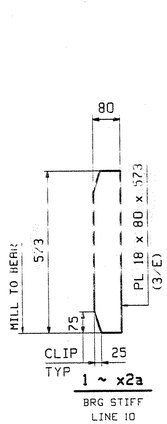
-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

DESCRIPTION: GIRDER STANDARDS	DRAWN BY	DATE
JOB: US 5 OVER WHETSTONE BROOK	JTB	03/20
BRIDGE NO. 7	CHKD BY	
BRATTLEBORO, VERMONT (WINDHAM COUNTY)	EPE	04/07
CONTRACTOR: RENAUD BROTHERS	APPROV BY	
TENSOR 2348	SUPERVISOR	W. J. GATTI
PROJ NO. BHF 2000(17)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		089

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

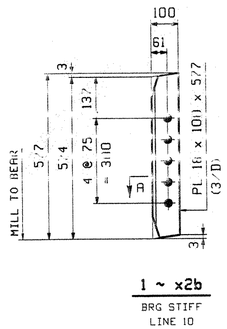
JOB NO.	DRG. NO.
194	X1
	REV. △

JTB Tue Apr 8 11:31:08 EDT 2003 c:\work\jobs\2348\01\ RevD



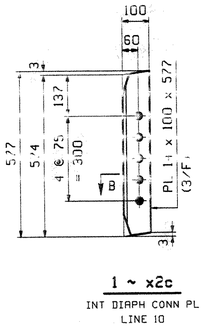
1 ~ x2a

BRG STIFF
LINE 10



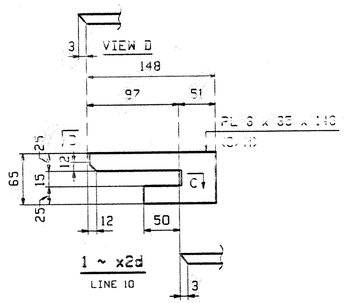
1 ~ x2b

BRG STIFF
LINE 10



1 ~ x2c

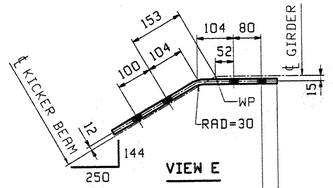
INT DIAPH CONN PL
LINE 10



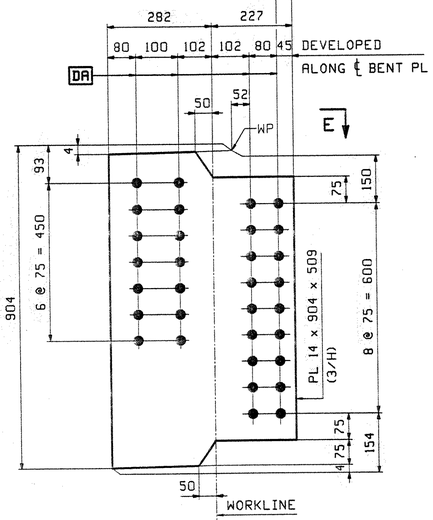
1 ~ x2d

LINE 10

SECTION C



VIEW E



1 ~ x2f

KICKER CONN PL
LINE 10 TO LINE 9

NOTES:

1. ALL MATERIAL TO BE M270-345W.
2. FOR GENERAL NOTES SEE DRAWING GN1.
3. ALL BOLT HOLES SHALL BE $\frac{15}{16}$"ø FOR $\frac{7}{8}$"ø HSB.
4. DA DENOTES HOLES TO BE DRILL ASSEMBLED.

OUT FOR APPROVAL	4/14/03									
OUT FOR APPROVAL										
ISSUED TO SHOP										
FIELD & OFFICE										

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

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm ($\frac{15}{16}$")ø	

SURFACE PREP. & PAINT:

-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

V.A.O.T.
RECEIVED
CK'D BY S.S.S. 4/11/03 OK'D BY JMP 4/21/03
APR 15 2003
RESUBMIT____ APPROVED X
BY DATE

DESCRIPTION: KICKER BEAM STANDARDS		DRAWN BY	DATE
JOB: US 5 OVER WHETSTONE BROOK BRIDGE NO. 7 BRATTLEBORO, VERMONT (WINDHAM COUNTY) CONTRACTOR: RENAUD BROTHERS		JTB	03/20
		CHK'D BY	
		EPE	04/07
		APPROV BY	
		SUPERVISOR	W. J. GATTI
PROJ NO. BHF 2000(17)		Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION			090

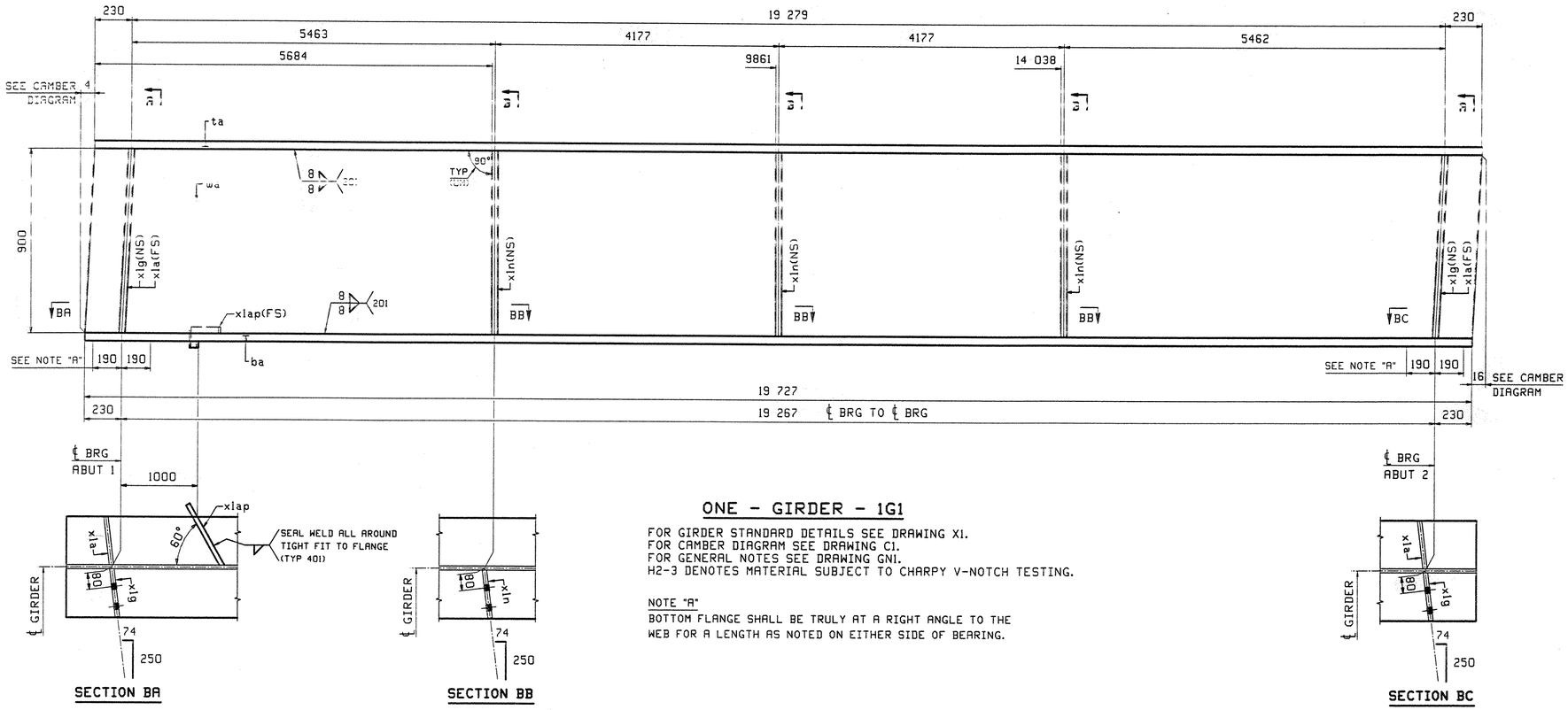
TENSOR 2348

CASCO BAY STEEL STRUCTURES, INC.

75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
194	X2
	REV. △

JTB Tue Mar 8 11:54:54 EST 2005 /users/jobs/2348/f2/dwg/X2.dgn



ONE - GIRDER - 1G1

FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

NOTE "A"
BOTTOM FLANGE SHALL BE TRULY AT A RIGHT ANGLE TO THE WEB FOR A LENGTH AS NOTED ON EITHER SIDE OF BEARING.

CAMBER DIAGRAM
SEE DWG C1

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
									1	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		1G1	1		GIRDER				5294 kg (11671 lbs)	
1	Q		1	qa	PL 16x966	19	743	(M270M-345WT2)	(H2-3)	
2	A		1	ta	PL 22x400	19	739			
1	C		1	ba	PL 22x400	19	727	(M270M-345WT2)	(H2-3)	
3	B		2	xlg	PL 18x192	0	900	MIE		
3	B		2	xla	PL 18x192	0	900	MIE		
3	B		3	xln	PL 18x192	0	900			
3	L		1	xlap	PL 6x75	0	273			

OUT FOR APPROVAL	4-14-03									
OUT FOR APPROVAL										
ISSUED TO SHOP										
FIELD & OFFICE										

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

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm ($\frac{15}{16}$")ø	

SURFACE PREP. & PAINT:

-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

DESCRIPTION: GIRDER - 1G1	DRAWN BY	DATE
JOB: US 5 OVER WHETSTONE BROOK BRIDGE NO. 7 BRATTLEBORO, VERMONT (WINDHAM COUNTY) CONTRACTOR: RENAUD BROTHERS	JTB	03/20
	CHKD BY	
	EPE	04/07
	APPROV BY	
	SUPERVISOR	W. J. GATTI
PROJ NO. BHF 2000(17)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		091

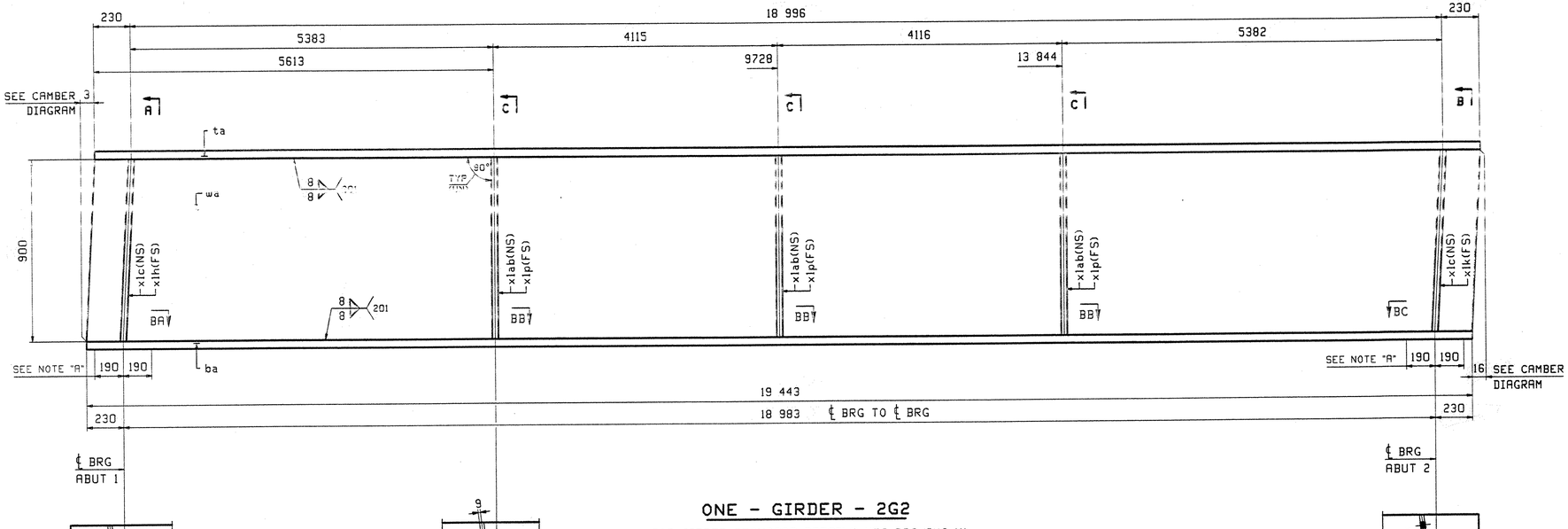
TENSOR 2348

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

JOB NO.	DRG. NO.
194	1
	REV. △

V.A.O.T.
RECEIVED
CK'D BY 4/17/03 OK'D BY 4/21/03
APR 15 2003
RESUBMIT ____ APPROVED X
BY DATE

JTB Fri Mar 21 09:36:26 EST 2003 /users/jobs/2340/1.0x=0



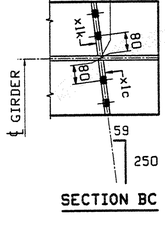
SECTION BA

SECTION BB

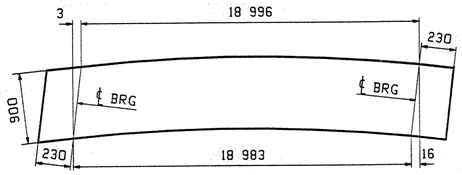
ONE - GIRDER - 2G2

FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

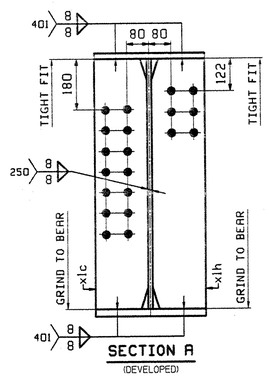
NOTE "A"
BOTTOM FLANGE SHALL BE TRULY AT A RIGHT ANGLE TO THE WEB FOR A LENGTH AS NOTED ON EITHER SIDE OF BEARING.

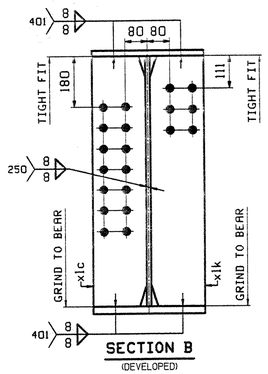


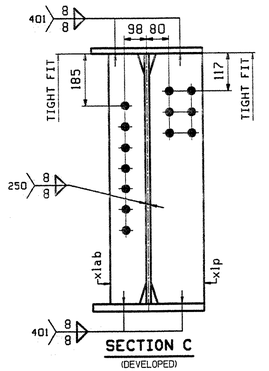
SECTION BC



CAMBER DIAGRAM
SEE DWG C1







ABM INFO		SHIP	BILL OF MATERIAL			JOB NO.	DRAWING NO.		REV.
							2		
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		2G2	1		GIRDER				5258 kg (11591 lbs	
1	5		1	wa	PL 16x868	19	459	(M270M-248WT2)	(H2-3)	
2	C		1	ta	PL 22x400	19	456			
1	E		1	ba	PL 22x400	19	443	(M270M-345WT2)	(H2-3)	
3	B		2	x1c	PL 18x192	0	900	MIE		
3	B		1	x1h	PL 18x192	0	900	MIE		
3	C		3	x1ab	PL 14x130	0	900			
3	B		3	x1p	PL 18x192	0	900			
3	B		1	x1k	PL 18x192	0	900	MIE		

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	4-14-03									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm ($\frac{15}{16}$")ø	

SURFACE PREP. & PAINT:

-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

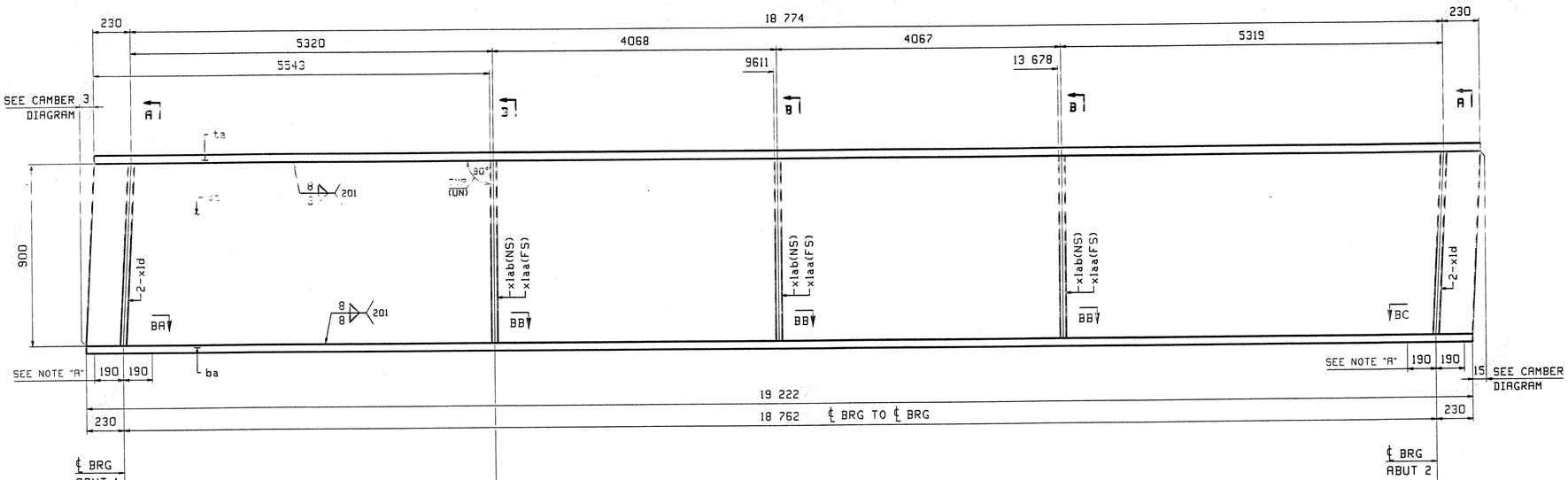
V.A.O.T.
RECEIVED
CK'D BY S.S.S. 4/16/03 CK'D BY JMP 4/21/03
APR 15 2003
RESUBMIT ____ APPROVED X
BY DATE

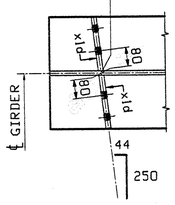
DESCRIPTION: GIRDER - 2G2	DRAWN BY	DATE
JOB: US 5 OVER WHETSTONE BROOK	JTB	03/20
BRIDGE NO. 7	CHKD BY	
BRATTLEBORO, VERMONT (WINDHAM COUNTY)	EPE	04/07
CONTRACTOR: RENAUD BROTHERS	APPROV BY	
TENSOR 2348	SUPERVISOR	W. J. GATTI
PROJ NO. BHF 2000(17)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		092

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

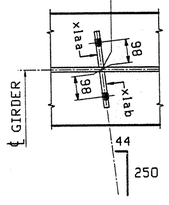
JOB NO.	DRG. NO.
194	2
	REV. △

JTB Tue Apr 15 10:57:46 EDT 2003 c:\users\john\2348\2 | Rev0





SECTION BA

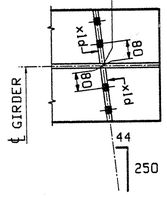


SECTION BB

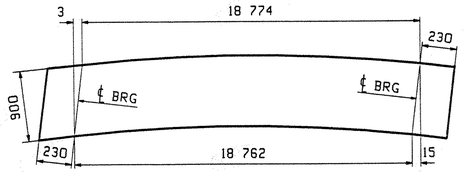
ONE - GIRDER - 3G3

FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

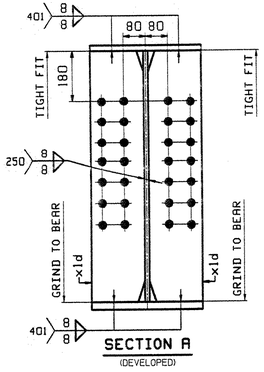
NOTE "A"
BOTTOM FLANGE SHALL BE TRULY AT A RIGHT ANGLE TO THE WEB FOR A LENGTH AS NOTED ON EITHER SIDE OF BEARING.



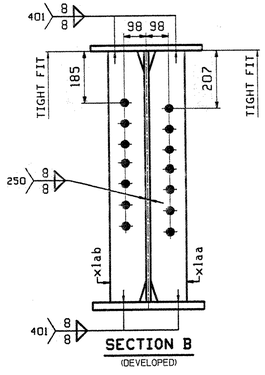
SECTION BC



CAMBER DIAGRAM
SEE DWG C1



SECTION A
(DEVELOPED)



SECTION B
(DEVELOPED)

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
									3	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		3G3	1		GIRDER				5165 kg 11386 lbs	
1	U		1	wa	PL 16x366	19	237	(M270M-345WT2) (H2-3)		
2	E		1	ta	PL 22x400	19	234			
1	G		1	ba	PL 22x400	19	222	(M270M-345WT2) (H2-3)		
3	B		4	xld	PL 18x192	0	900			
3	C		3	xlab	PL 14x130	0	900			
3	C		3	xlaa	PL 14x130	0	900			

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	4/14/03									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm ($\frac{15}{16}$")ø	

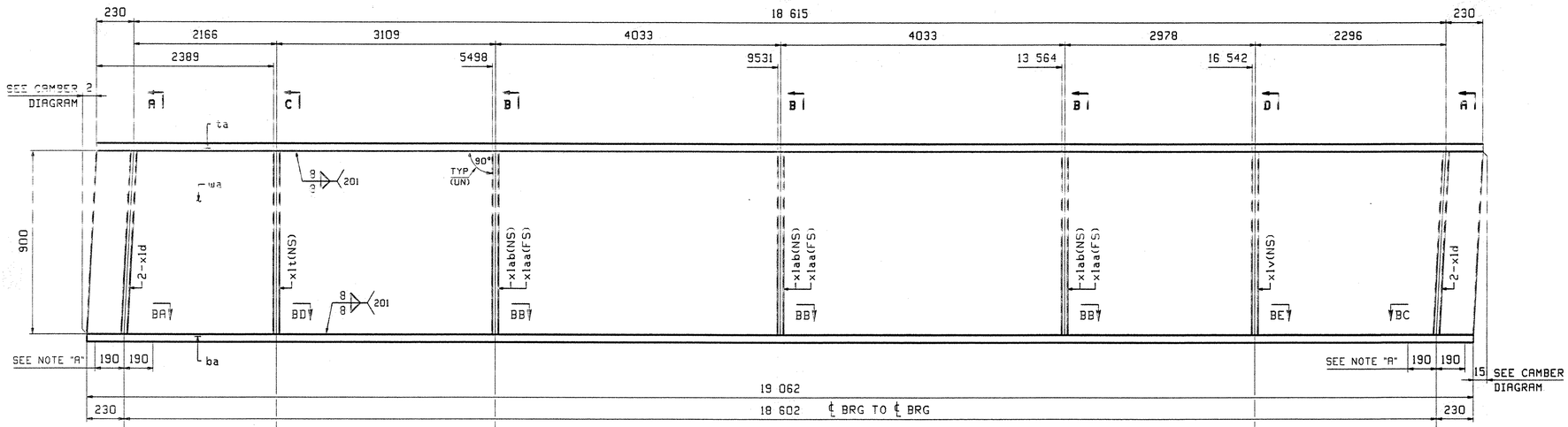
SURFACE PREP. & PAINT:

-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

DESCRIPTION:	GIRDER - 3G3	DRAWN BY	DATE
JOB:	US 5 OVER WHETSTONE BROOK	JTB	03/20
	BRIDGE NO. 7	CHKD BY	
TENSOR 2348	BRATTLEBORO, VERMONT (WINDHAM COUNTY)	EPE	04/07
	CONTRACTOR: RENAUD BROTHERS	APPROV BY	
		SUPERVISOR	W. J. GATTI
PROJ NO.	BHF 2000(17)	Q.A.	
CUSTOMER:	VERMONT AGENCY OF TRANSPORTATION		093
CASCO BAY STEEL STRUCTURES, INC.		JOB NO.	DRG. NO.
75 SPRING HILL ROAD	SACO, MAINE 04072	194	3
PHONE (207) 282-7360	FAX. (207) 282-1179		REV. △

V.A.O.T.
RECEIVED
CK'D BY S.S.S. 4/14/03 CK'D BY JMP 4/21/03
APR 15 2003
RESUBMIT ____ APPROVED X
BY DATE

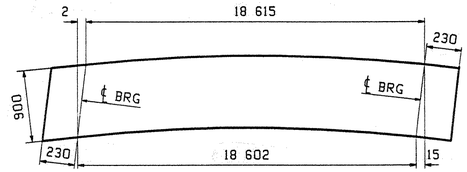
J:\9 Apr 9 11:58:26 EDT 2003 /users/jobs/2348/3.dwg



ONE - GIRDER - 4G4

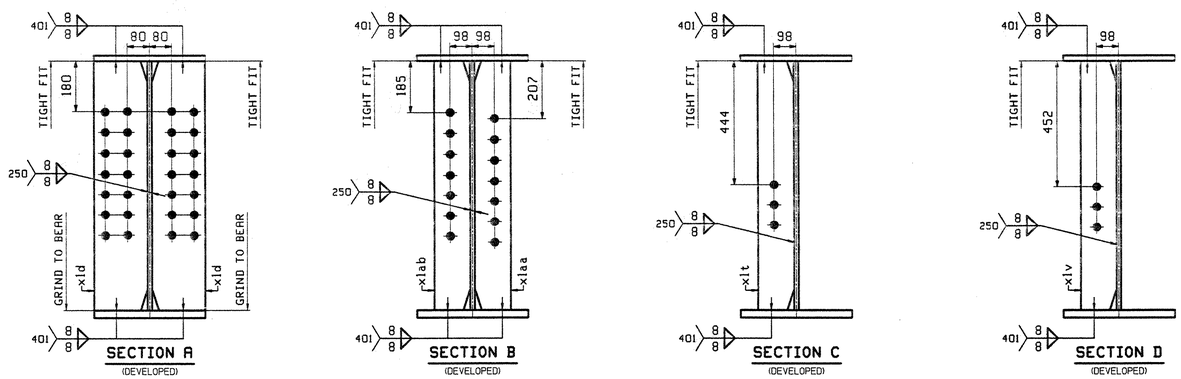
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

NOTE "A"
BOTTOM FLANGE SHALL BE TRULY AT A RIGHT ANGLE TO THE WEB FOR A LENGTH AS NOTED ON EITHER SIDE OF BEARING.



CAMBER DIAGRAM
SEE DWG C1

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
									4	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		4G4	1		GIRDER				5150 kg 11353 lbs	
1	W		1	wa	PL 18x966	18	077	(M270M-345W12)	(H2-3)	
2	G		1	ta	PL 22x400	18	075			
1	J		1	ba	PL 22x400	19	062	(M270M-345W12)	(H2-3)	
3	B		4	x1d	PL 18x192	01	900	MIE		
3	C		1	x1t	PL 14x130	01	900			
3	C		3	x1ab	PL 14x130	01	900			
3	C		3	x1aa	PL 14x130	01	900			
3	C		1	x1v	PL 14x130	01	900			



OUT FOR APPROVAL	4/14/03									
OUT FOR APPROVAL										
ISSUED TO SHOP										
FIELD & OFFICE										

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

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm ($\frac{15}{16}$")ø	

SURFACE PREP. & PAINT:

-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

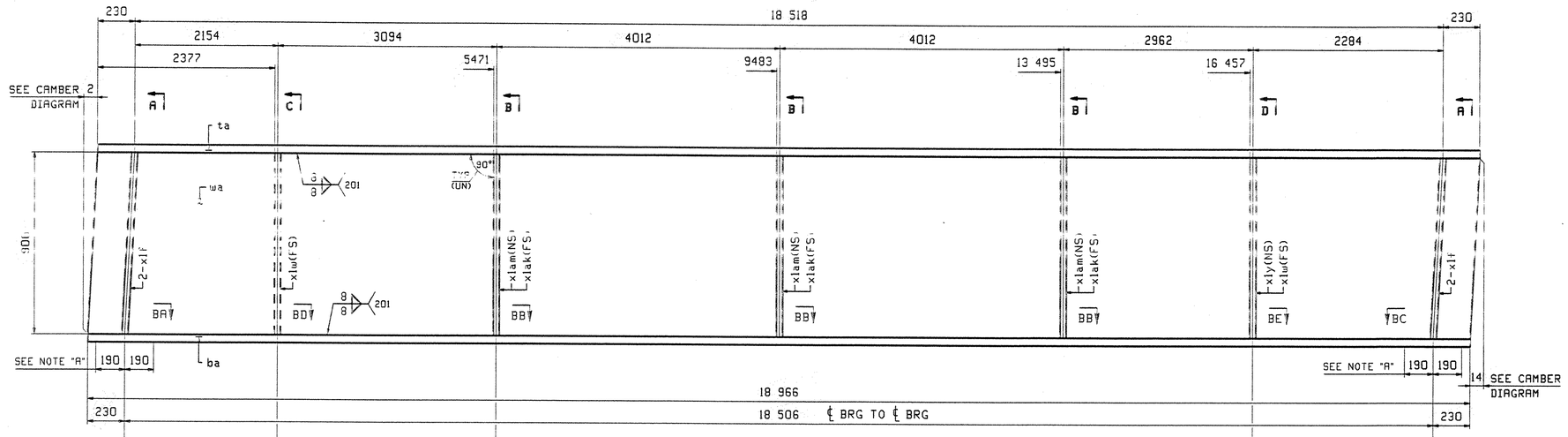
V.A.O.T.
RECEIVED
CK'D BY S.S.S. 4/18/03 CK'D BY JMP 4/21/03
APR 15 2003
RESUBMIT ____ APPROVED X
BY DATE

DESCRIPTION: GIRDER - 4G4	DRAWN BY	DATE
JOB: US 5 OVER WHETSTONE BROOK	JTB	03/20
BRIDGE NO. 7	CHKD BY	
BRATTLEBORO, VERMONT (WINDHAM COUNTY)	EPE	04/07
CONTRACTOR: RENAUD BROTHERS	APPROV BY	
TENSOR 2348	SUPERVISOR	W. J. GATTI
PROJ NO. BHF 2000(17)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		094

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

JOB NO.	DRG. NO.
194	4
	REV. △

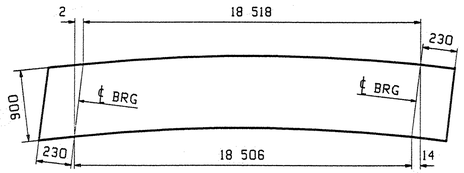
JTB Fri Mar 21 08:58:11 EST 2003 /users/jobs/2348/4.1 RevD



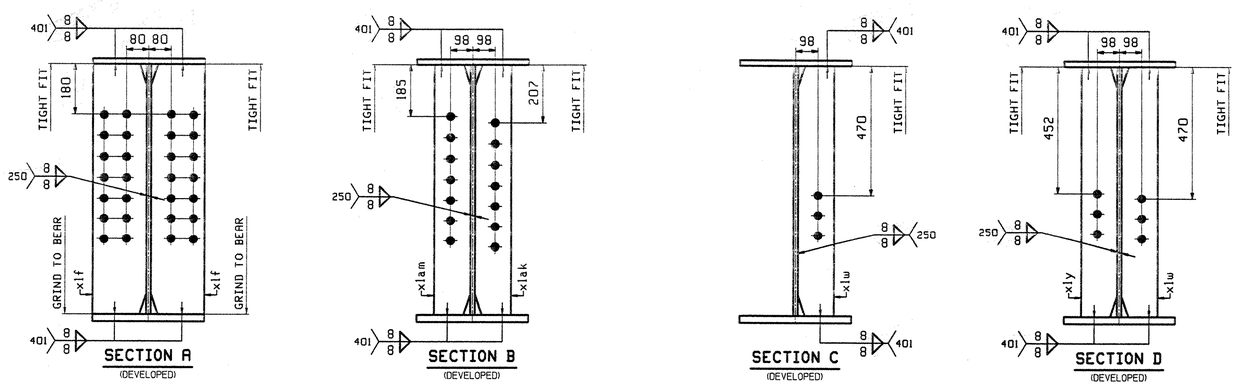
ONE - GIRDER - 5G5

FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

NOTE "A"
BOTTOM FLANGE SHALL BE TRULY AT A RIGHT ANGLE TO THE WEB FOR A LENGTH AS NOTED ON EITHER SIDE OF BEARING.



CAMBER DIAGRAM
SEE DWG C1



ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
									5	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		5G5	1		GIRDER				5137 kg 11325 lbs	
1	Y		1	wa	PL 16x366	18	980	(M270M-345WT2)	(H2-3)	
2	J		1	ta	PL 22x400	18	978			
1	L		1	ba	PL 22x400	18	966	(M270M-345WT2)	(H2-3)	
3	B		4	x1f	PL 18x192	0	900	MIE		
3	C		2	x1w	PL 14x130	0	900			
3	C		2	x1ak	PL 14x130	0	900			
3	C		2	x1am	PL 14x130	0	900			
3	C		1	x1y	PL 14x130	0	900			

OUT FOR APPROVAL	4/14/03								
OUT FOR APPROVAL									
ISSUED TO SHOP									
FIELD & OFFICE									
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm ($\frac{15}{16}$")ø	

SURFACE PREP. & PAINT:

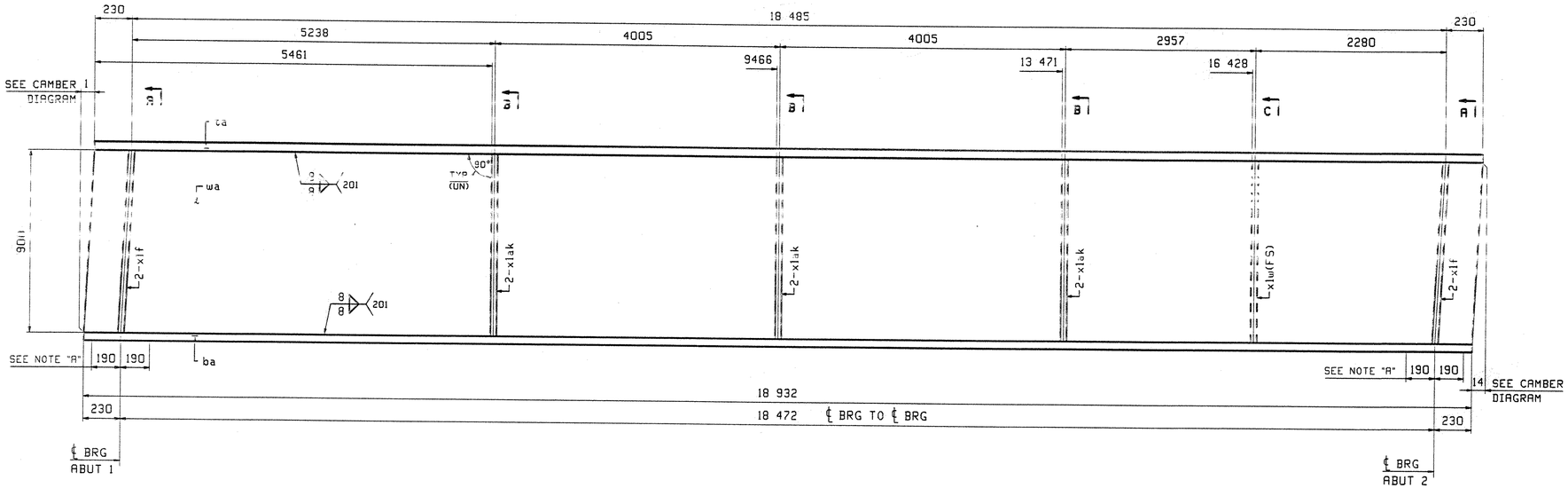
-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

DESCRIPTION: GIRDER - 5G5	DRAWN BY	DATE
JOB: US 5 OVER WHETSTONE BROOK	JTB	03/20
BRIDGE NO. 7	CHKD BY	
BRATTLEBORO, VERMONT (WINDHAM COUNTY)	EPE	04/07
CONTRACTOR: RENAUD BROTHERS	APPROV BY	
	SUPERVISOR	W. J. GATTI
PROJ NO. BHF 2000(17)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		095

V.A.O.T. RECEIVED
CK'D BY S.S.S. 4/18/03 OK'D BY 4/21/03
APR 15 2003
RESUBMIT ____ APPROVED X
BY DATE

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

JOB NO.	DRG. NO.
194	5
	REV. △

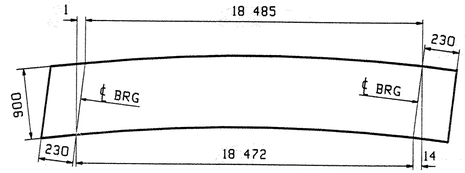


ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
									6	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		6G6	1		GIRDER				5103 kg 11250 lbs	
1	Y		1	wa	PL 16x966	18	946	(M270M-345WT2)	(H2-3)	
2	J		1	ta	PL 22x400	18	945			
1	L		1	ba	PL 22x400	18	932	(M270M-345WT2)	(H2-3)	
3	B		4	x1f	PL 18x192	01	900	MIE		
3	C		6	x1ak	PL 14x130	01	900			
3	C		1	x1w	PL 14x130	01	900			

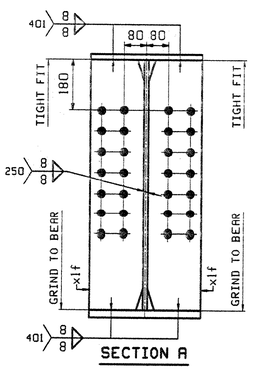
ONE - GIRDER - 6G6

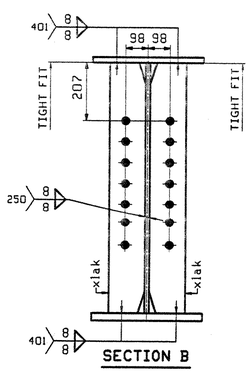
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

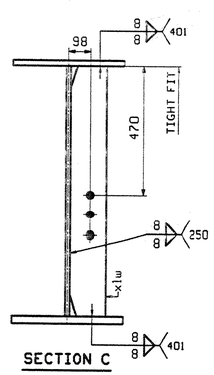
NOTE "A"
BOTTOM FLANGE SHALL BE TRULY AT A RIGHT ANGLE TO THE WEB FOR A LENGTH AS NOTED ON EITHER SIDE OF BEARING.



CAMBER DIAGRAM
SEE DWG C1







V.A.O.T.
RECEIVED
CK'D BY S.S.S. 4/10/03 OK'D BY 4/2/03
APR 15 2003
RESUBMIT ____ APPROVED X
BY DATE

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	4/4/03									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm ($\frac{15}{16}$")Ø	

SURFACE PREP. & PAINT:

-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

DESCRIPTION: GIRDER - 6G6	DRAWN BY	DATE
JOB: US 5 OVER WHETSTONE BROOK	JTB	03/20
BRIDGE NO. 7	CHKD BY	
BRATTLEBORO, VERMONT (WINDHAM COUNTY)	EPE	04/07
CONTRACTOR: RENAUD BROTHERS	APPROV BY	
	SUPERVISOR	W. J. GATTI
PROJ NO. BHF 2000(17)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		096

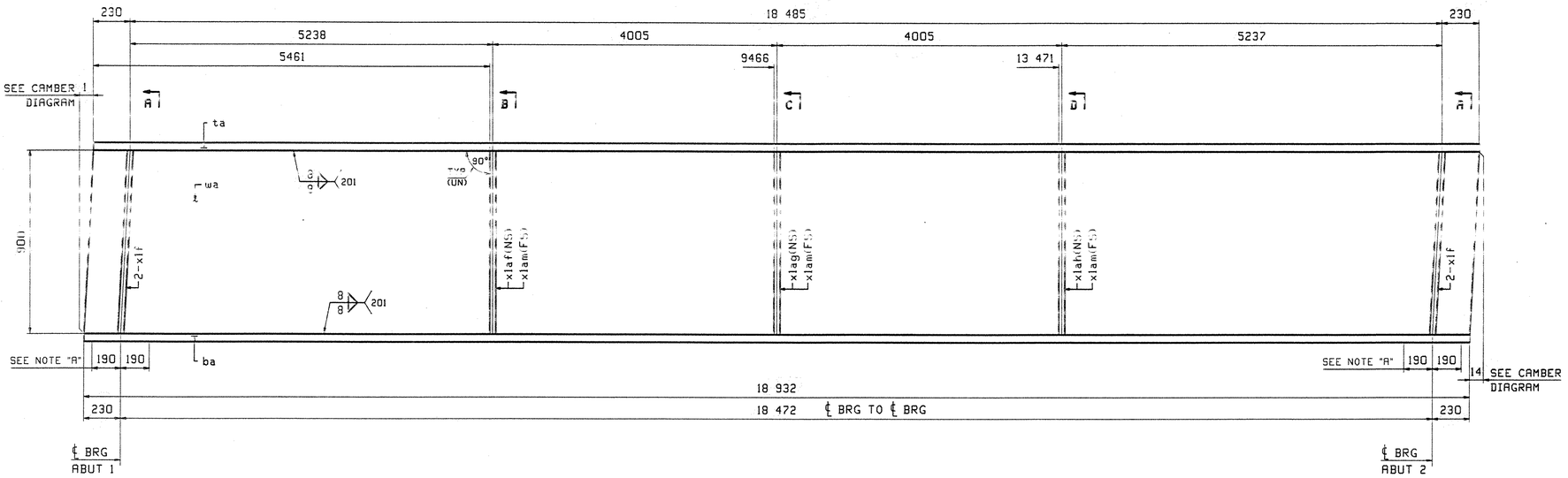
TENSOR 2348

CASCO BAY STEEL STRUCTURES, INC.

75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
194	6
	REV. △

JTB Fri Mar 21 10:00:08 EST 2003 c:\steel_jobs\2348\6 | Rev:0



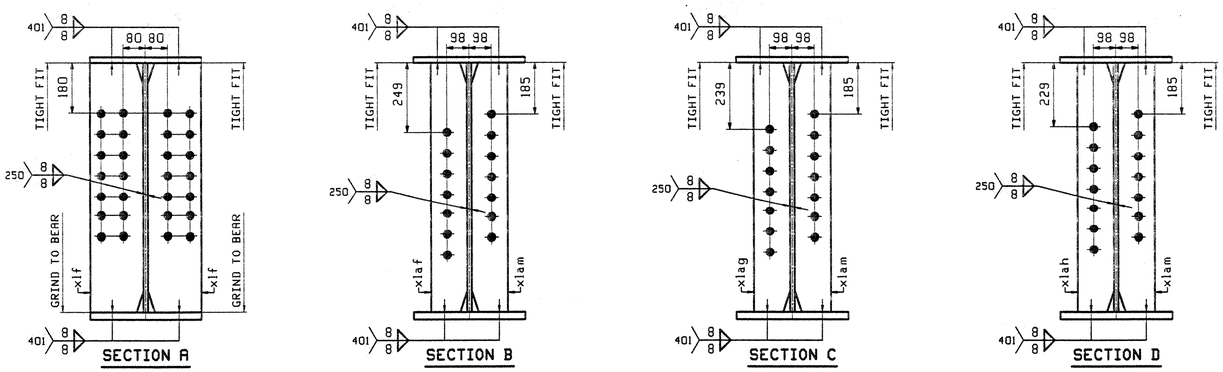
ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.		REV.
									7		
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES	
		7G7	1		GIRDER				5099 kg 11232 lbs		
1	N		1	wa	PL 16x968	18	946	(M270M-345WT2)	(H2-3)		
2	J		1	ta	PL 22x400	18	345				
1	L		1	ba	PL 22x400	18	332	(M270M-345WT2)	(H2-3)		
3	B		1	x1f	PL 18x198	01	900				
3	C		1	x1af	PL 14x130	01	900				
3	C		3	x1am	PL 14x130	01	300				
3	C		1	x1ag	PL 14x130	01	900				
3	C		1	x1ah	PL 14x130	01	900				

ONE - GIRDER - 7G7

FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

NOTE "A"
BOTTOM FLANGE SHALL BE TRULY AT A RIGHT ANGLE TO THE WEB FOR A LENGTH AS NOTED ON EITHER SIDE OF BEARING.

CAMBER DIAGRAM
SEE DWG C1



OUT FOR APPROVAL	4/14/03									
OUT FOR APPROVAL										
ISSUED TO SHOP										
FIELD & OFFICE										

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

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm ($\frac{15}{16}$")ø	

SURFACE PREP. & PAINT:

-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

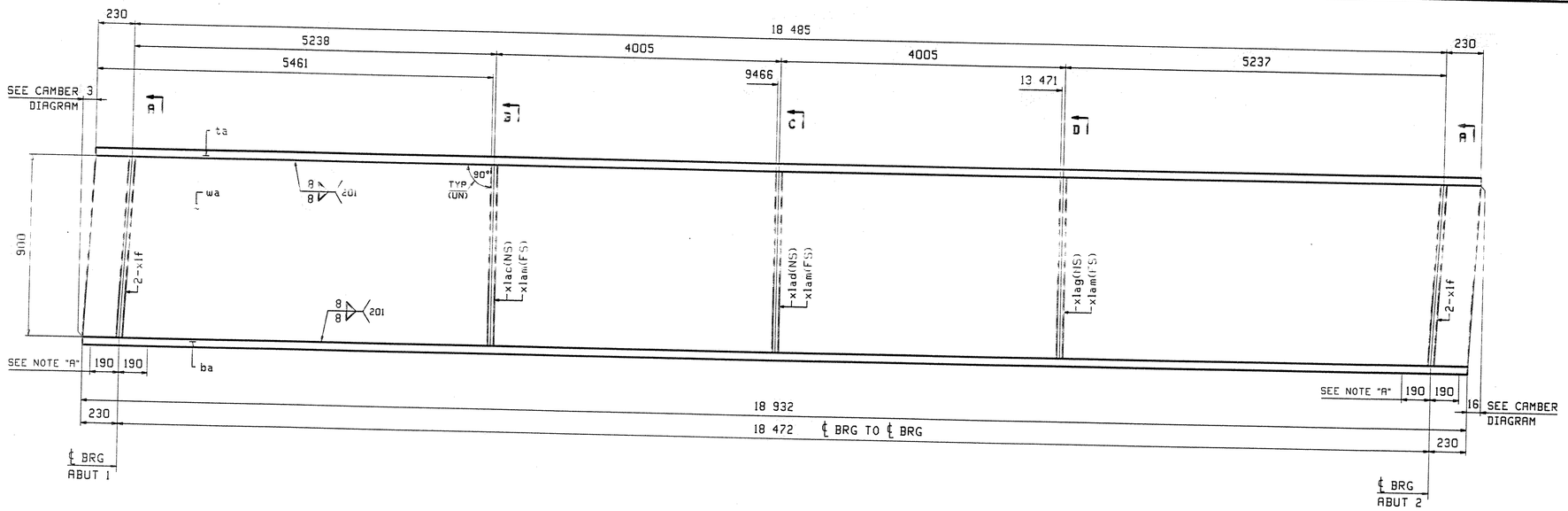
V.A.O.T.
RECEIVED
CK'D BY SSS 4/16/03 OK'D BY JMP 4/16/03
APR 15 2003
RESUBMIT ____ APPROVED X
BY DATE

DESCRIPTION: GIRDER - 7G7	DRAWN BY	DATE
JOB: US 5 OVER WHETSTONE BROOK	JTB	03/20
BRIDGE NO. 7	CHKD BY	
BRATTLEBORO, VERMONT (WINDHAM COUNTY)	EPE	04/07
CONTRACTOR: RENAUD BROTHERS	APPROV BY	
TENSOR 2348	SUPERVISOR	W. J. GATTI
PROJ NO. BHF 2000(17)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		097

CASCO BAY STEEL STRUCTURES, INC.

	JOB NO.	DRG. NO.
75 SPRING HILL ROAD SACO, MAINE 04072	194	7
PHONE (207) 282-7360 FAX. (207) 282-1179		REV. △

JTB Fri Mar 21 10:01:02 EST 2003 /users/jtb/2187/ - Rev0



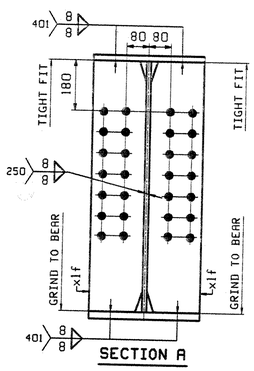
ONE - GIRDER - 8G8

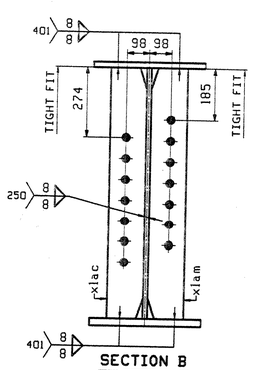
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

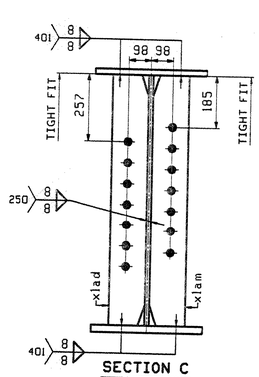
NOTE "A"
BOTTOM FLANGE SHALL BE TRULY AT A RIGHT ANGLE TO THE WEB FOR A LENGTH AS NOTED ON EITHER SIDE OF BEARING.

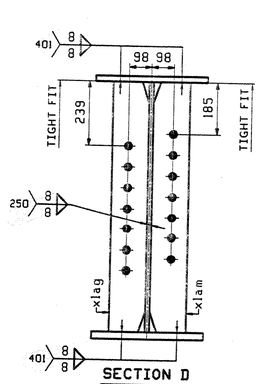
CAMBER DIAGRAM
SEE DWG C1

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
									8	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		8G8	1		GIRDER				5090 kg (11221 lbs	
1	Y		1	wa	PL 16x966	18	948	(M270M-345WT2)	(H2-3)	
2	J		1	ta	PL 22x400	18	945			
1	L		1	ba	PL 22x400	18	932	(M270M-345WT2)	(H2-3)	
3	B		4	xlf	PL 18x192	0	900			
3	C		1	xlac	PL 14x130	0	900			
3	C		3	xlam	PL 14x130	0	900			
3	C		1	xlad	PL 14x130	0	900			
3	C		1	xlag	PL 14x130	0	900			









V.A.O.T.
RECEIVED
CK'D BY S.S.S. 4/18/03 OK'D BY 4/21/03
APR 15 2003
RESUBMIT ____ APPROVED X
BY DATE

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.
	OUT FOR APPROVAL	4-14-03				
	OUT FOR APPROVAL					
	ISSUED TO SHOP					
	FIELD & OFFICE					

NO.	DIA.	LGT	TYPE	WASHER

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm (15/16")ø	

SURFACE PREP. & PAINT:

-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

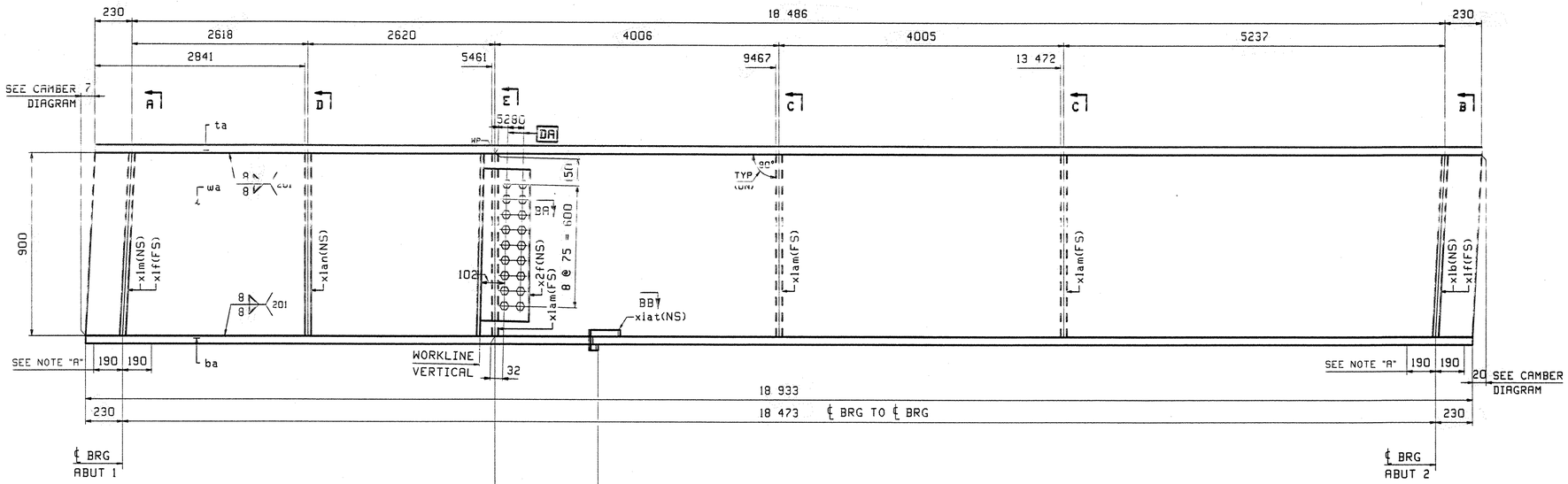
DESCRIPTION: GIRDER - 8G8	DRAWN BY	DATE
JOB: US 5 OVER WHETSTONE BROOK BRIDGE NO. 7 BRATTLEBORO, VERMONT (WINDHAM COUNTY) CONTRACTOR: RENAUD BROTHERS	JTB	03/20
	CHKD BY	
	EPE	04/07
	APPROV BY	
	SUPERVISOR	W. J. GATTI
PROJ NO. BHF 2000(17)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		078

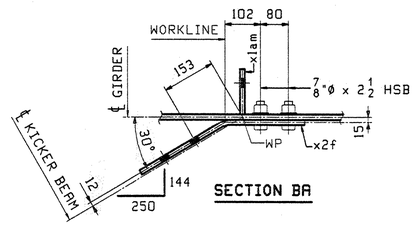
TENSOR 2348

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

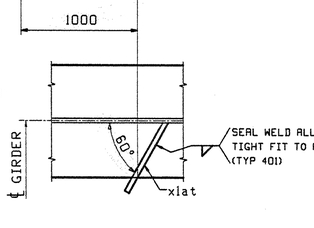
JOB NO.	DRG. NO.
194	8
	REV. △

JTB Fri Mar 21 10:03:36 EST 2003 /users/jtb/2348/8 : Rev0





SECTION BA

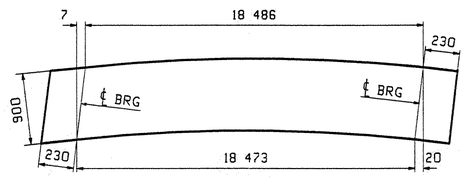


SECTION BB

ONE - GIRDER - 9G9

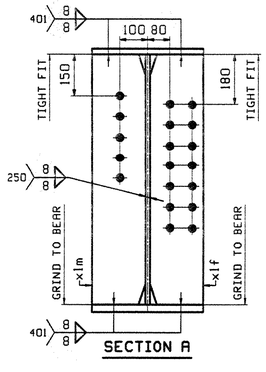
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

NOTE "A"
BOTTOM FLANGE SHALL BE TRULY AT A RIGHT ANGLE TO THE WEB FOR A LENGTH AS NOTED ON EITHER SIDE OF BEARING.

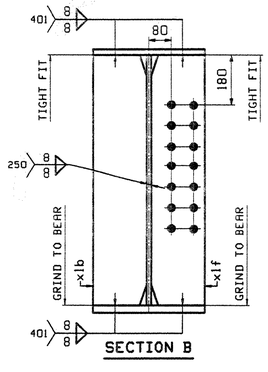


CAMBER DIAGRAM
SEE DWG C1

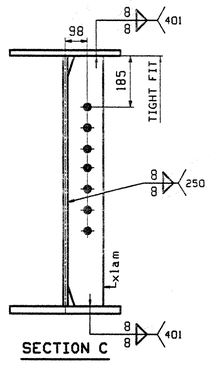
ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
									9	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		9G9	1		GIRDER				5124 kg 11296 lbs	
1	Y		1	wa	PL 16x986	18	959	(M270M-345W12)	(H2-3)	
2	J		1	ta	PL 22x400	18	946			
1	L		1	ba	PL 22x400	18	933	(M270M-345W12)	(H2-3)	
3	B		1	xlm	PL 18x192	0	900	MIE		
3	B		2	xlf	PL 18x192	0	900	MIE		
3	C		1	xlan	PL 14x130	0	900			
3	H		1	x2f	PL 14x804	0	509	BENT		
3	C		3	xlam	PL 14x130	0	900			
3	B		1	xlb	PL 18x192	0	900	MIE		
3	L		1	xlat	PL 6x75	0	273			
5	B		18		7/8 ø HSB	0	2 1/2	(A325-3)		
5	F		18		7/8 ø HSW			(F436W)		



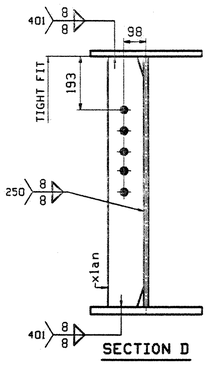
SECTION A



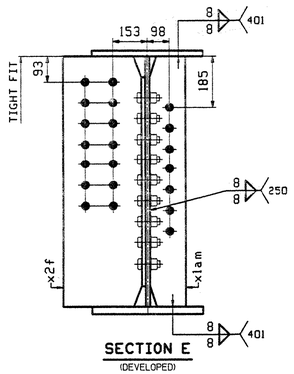
SECTION B



SECTION C



SECTION D



SECTION E
(DEVELOPED)

V.A.O.T.
RECEIVED
CK'D BY S.S.S. 4/21/03 OK'D BY JMP 4/21/03
APR 15 2003
RESUBMIT____ APPROVED X
BY DATE

OUT FOR APPROVAL	4-14-03									
OUT FOR APPROVAL										
ISSUED TO SHOP										
FIELD & OFFICE										
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm (15/16")ø	

SURFACE PREP. & PAINT:

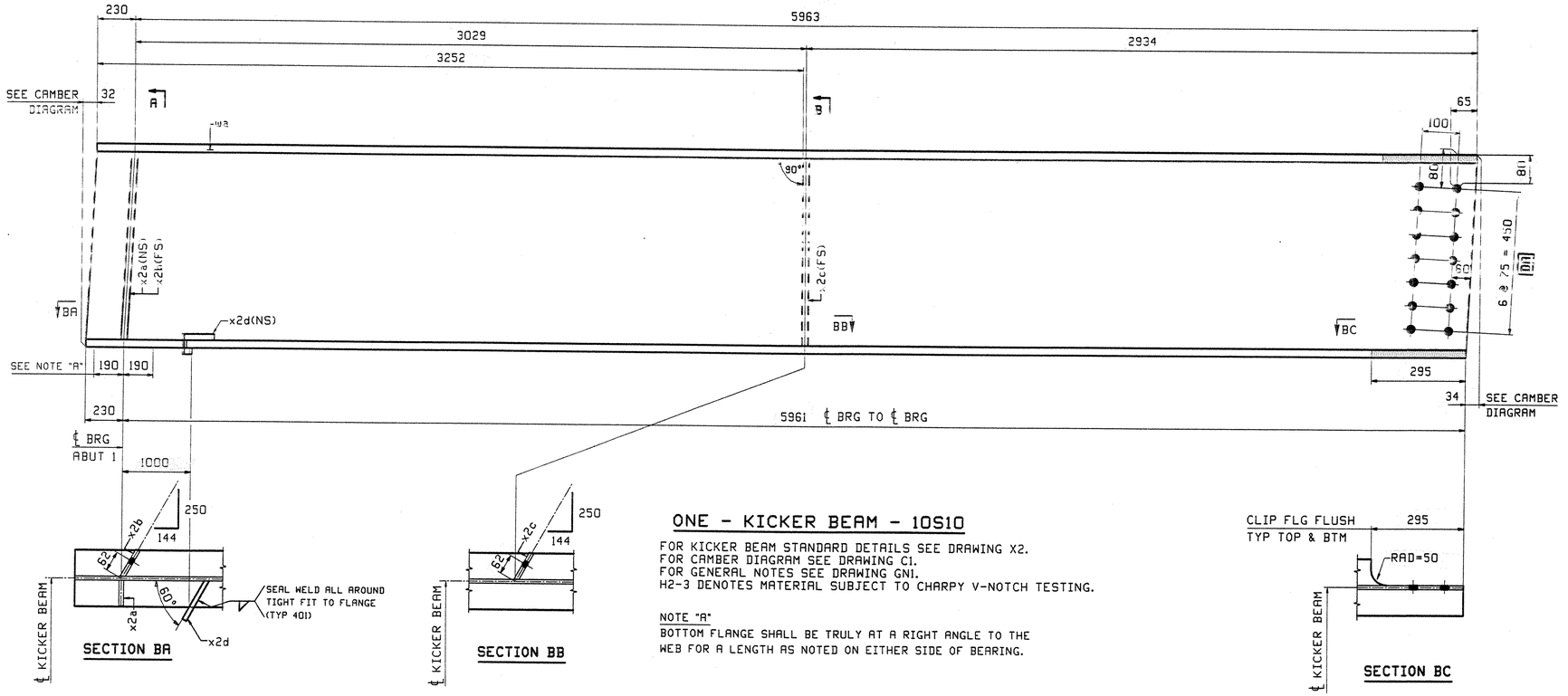
-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

DESCRIPTION: GIRDER - 8G8	DRAWN BY	DATE
JOB: US 5 OVER WHETSTONE BROOK	JTB	03/20
BRIDGE NO. 7	CHKD BY	
BRATTLEBORO, VERMONT (WINDHAM COUNTY)	EPE	04/07
CONTRACTOR: RENAUD BROTHERS	APPROV BY	
TENSOR 2348	SUPERVISOR	W. J. GATTI
PROJ NO. BHF 2000(17)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		099

CASCO BAY STEEL STRUCTURES, INC. JOB NO. 194 DRG. NO. 9 REV. △

75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

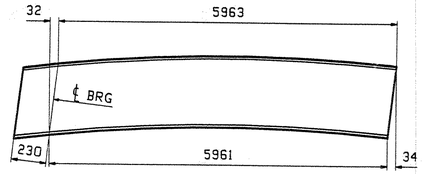
JTB Tue Apr 8 13:15:50 EDT 2003 /users/jobs/2348/9 - Rev0



ONE - KICKER BEAM - 10S10

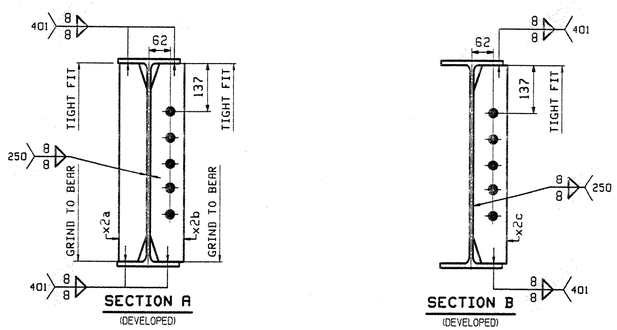
FOR KICKER BEAM STANDARD DETAILS SEE DRAWING X2.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

NOTE "A"
BOTTOM FLANGE SHALL BE TRULY AT A RIGHT ANGLE TO THE WEB FOR A LENGTH AS NOTED ON EITHER SIDE OF BEARING.



CAMBER DIAGRAM
SEE DWG C1

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
									10	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		10S10	1		STRINGER				532 kg 1172 lbs	
1	A		1	wa	W 610x82	6	225	(M270M-345WT2)	(H2-3)	
3	E		1	x2a	PL 18x80	0	573	MIE		
3	D		1	x2b	PL 18x100	0	577	MIE		
3	F		1	x2c	PL 14x100	0	577			
3	M		1	x2d	PL 6x65	0	148			



V.A.D.T.
RECEIVED
CK'D BY S.S.S. 4/22/03 OK'D BY JMP 4/21/03
APR 15 2003
RESUBMIT ____ APPROVED X
BY DATE

OUT FOR APPROVAL	4-14-03											
OUT FOR APPROVAL												
ISSUED TO SHOP												
FIELD & OFFICE												

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

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm ($\frac{15}{16}$")Ø	

SURFACE PREP. & PAINT:

-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

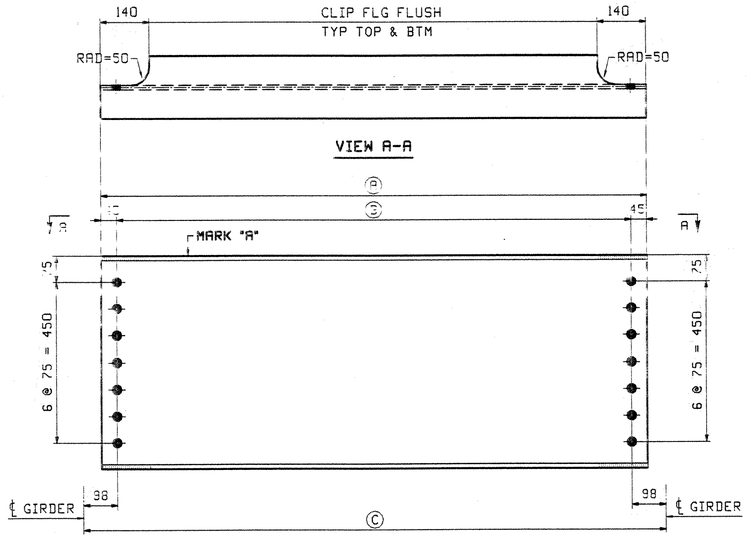
DESCRIPTION: KICKER BEAM - 10S10	DRAWN BY	DATE
JOB: US 5 OVER WHETSTONE BROOK BRIDGE NO. 7 BRATTLEBORO, VERMONT (WINDHAM COUNTY) CONTRACTOR: RENAUD BROTHERS	JTB	03/20
	CHKD BY	
	EPE	04/07
	APPROV BY	
	SUPERVISOR	W. J. GATTI
PROJ NO. BHF 2000(17)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		100

TENSOR 2348

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

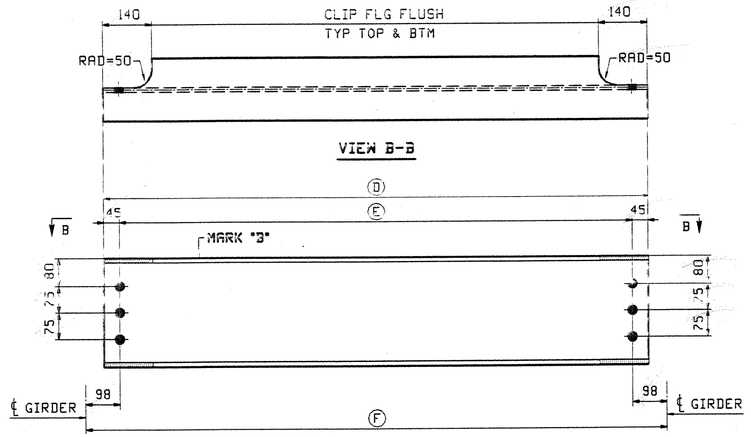
JOB NO.	DRG. NO.
194	10
	REV. △

J:\B Tue Apr 8 13:26:17 EDT 2003 /users/jdw/2348/10 | 8x10



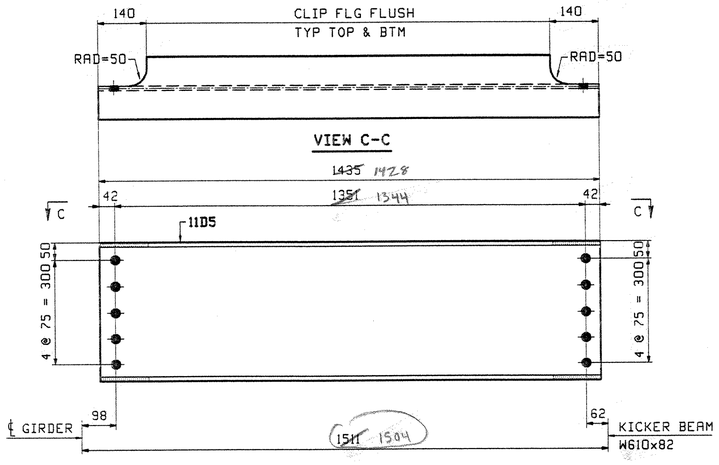
INTERMEDIATE DIAPHRAGM - MARK "A"

MARK "A"	QTY	Ⓐ	Ⓑ	Ⓒ
11D1	9	2964	2874	3070
11D2	4	2302	2212	2408
11D3	4	2065	1975	2171
11D4	4	1828	1738	1934



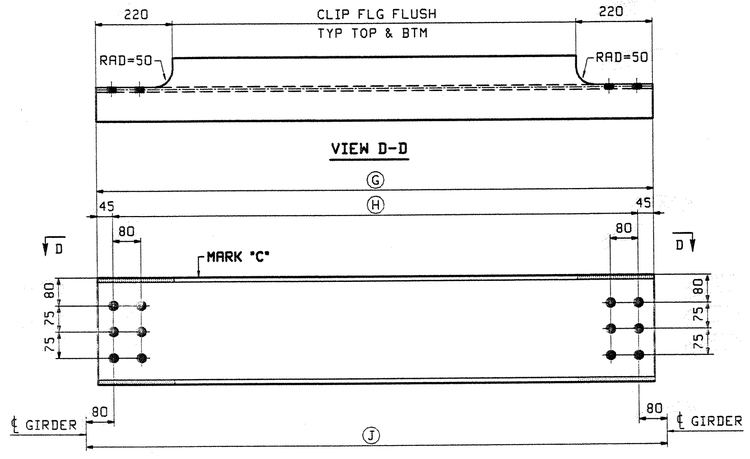
WATERLINE DIAPHRAGM - MARK "B"

MARK "B"	QTY	Ⓓ	Ⓔ	Ⓕ
11D6	1	2485	2395	2591
11D7	1	1653	1563	1759



1 - INT DIAPHRAGM - 11D5

AT KICKER BEAM



TELEPHONE DIAPHRAGM - MARK "C"

MARK "C"	QTY	Ⓖ	Ⓗ	Ⓙ
11D8	1	2648	2558	2718
11D9	1	2338	2248	2408
11D10	1	2101	2011	2171
11D11	1	1864	1774	1934
11D12	1	1554	1464	1624

V.A.O.T.
RECEIVED
CK'D BY SS 4/21/03 CK'D BY JMP 4/21/03
APR 15 2003
RESUBMIT ____ APPROVED AS NOTED
BY DATE

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
									11	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
					INTERMEDIATE DIAPHRAGMS					
4	C	11D1	9		W 610x82	2	964		243 kg 535 lbs	
4	D	11D2	4		W 610x82	2	302		189 kg 416 lbs	
4	E	11D3	4		W 310x82	2	065		169 kg 372 lbs	
4	F	11D4	4		W 310x82	1	828		150 kg 330 lbs	
					INT DIAPHRAGM					
4	L	11D5	1		W 410x39	1	435 1428		56 kg 123 lbs	
					WATERLINE DIAPHRAGMS					
4	S	11D6	1		W 310x67	2	485		166 kg 366 lbs	
4	S	11D7	1		W 310x67	1	653		111 kg 244 lbs	
					TELEPHONE DIAPHRAGMS					
4	T	11D8	1		W 310x67	2	648		177 kg 390 lbs	
4	T	11D9	1		W 310x67	2	338		157 kg 346 lbs	
4	T	11D10	1		W 310x67	2	101		141 kg 310 lbs	
4	T	11D11	1		W 310x67	1	864		125 kg 275 lbs	
4	T	11D12	1		W 310x67	1	554		104 kg 229 lbs	

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.
	OUT FOR APPROVAL	2.12.03				
	OUT FOR APPROVAL	4.1.03				
	ISSUED TO SHOP					
	FIELD & OFFICE					

NO.	DIA.	LGT	TYPE	WASHER

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm ($\frac{15}{16}$")Ø	

SURFACE PREP. & PAINT:

-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

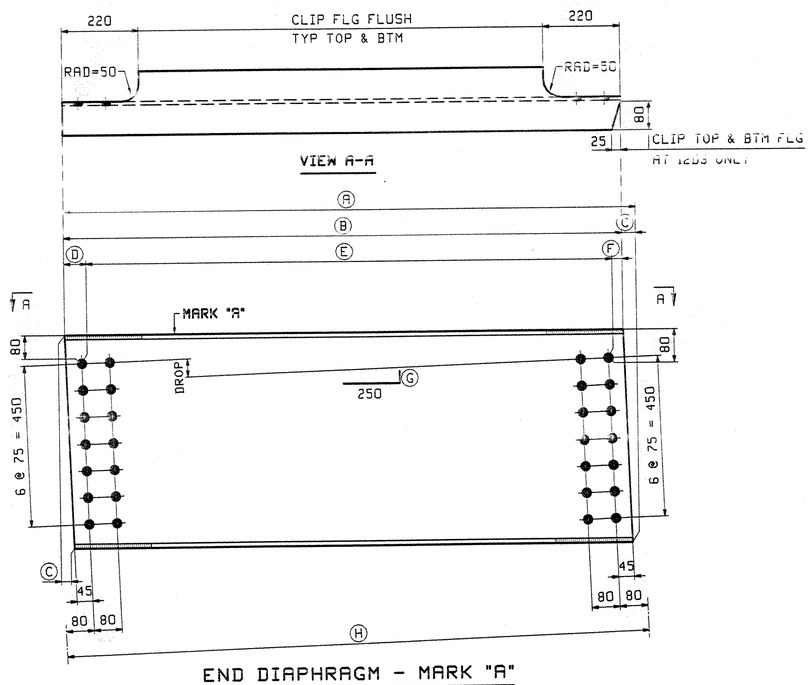
DESCRIPTION: INTERMEDIATE DIAPHRAGM	DRAWN BY	DATE
JOB: US 5 OVER WHETSTONE BROOK	JTB	03/21
BRIDGE NO. 7	CHKD BY	
BRATTLEBORO, VERMONT (WINDHAM COUNTY)	EPE	04/07
CONTRACTOR: RENAUD BROTHERS	APPROV BY	
TENSOR 2348	SUPERVISOR	W. J. GATTI
PROJ NO. BHF 2000(17)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		10/

CASCO BAY STEEL STRUCTURES, INC.

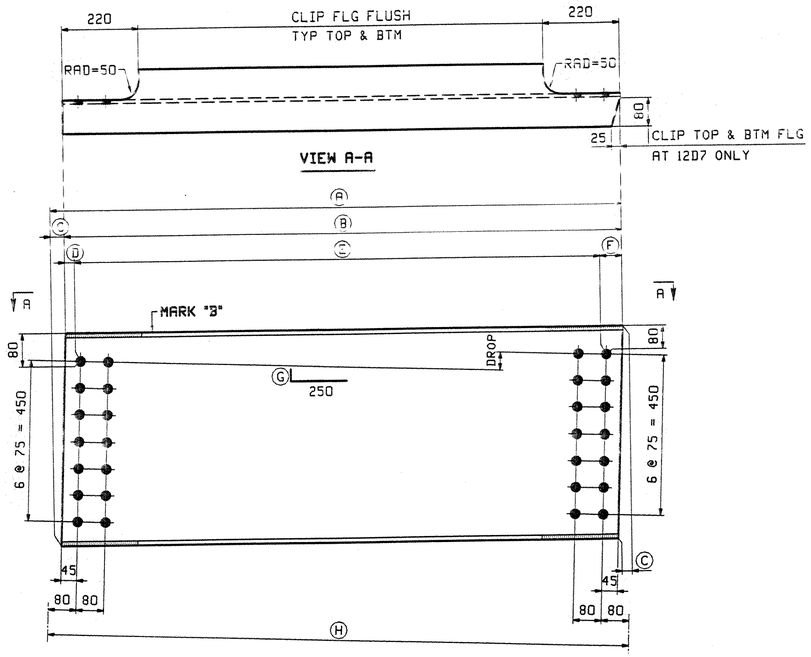
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
194	11
	REV. △

JTB Fri Mar 21 12:45:12 EST 2003 /users/jobs/2348/11.dw=0



END DIAPHRAGM - MARK "A"



END DIAPHRAGM - MARK "B"

MARK "A"	QTY	Drop	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ	Ⓗ
12D1	2	31	3006	3000	6	46	2910	44	3	3070
12D2	1	24	3005	3000	5	46	2910	44	2	3070
12D3	4	27	2654	2648	6	46	2558	44	3	2718

MARK "B"	QTY	Drop	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ	Ⓗ
12D4	1	113	3025	3002	23	42	2912	48	10	3070
12D5	1	74	3016	3001	15	43	2911	47	6	3070
12D6	1	27	3006	3000	6	44	2910	46	2	3070
12D7	4	16	1561	1554	7	44	1464	46	3	1624

BILL OF MATERIAL

JOB NO. | DRAWING NO. 12 | REV.

ABM INFO PAGE	LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
					END DIAPHRAGMS					
4	C	12D1	2		W 610x82	3	006		246 kg 542 lbs	
4	C	12D2	1		W 610x82	3	005		246 kg 542 lbs	
4	B	12D3	4		W 610x82	2	654		319 kg 703 lbs	
4	C	12D4	1		W 610x82	3	025		248 kg 546 lbs	
4	C	12D5	1		W 610x82	3	016		247 kg 544 lbs	
4	C	12D6	1		W 610x82	3	006		246 kg 542 lbs	
4	G	12D7	4		W 610x82	1	551		128 kg 282 lbs	

OUT FOR APPROVAL	4-14-03									
OUT FOR APPROVAL										
ISSUED TO SHOP										
FIELD & OFFICE										

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

MATERIAL: M270M-345W | ELECTRODES: | HOLES: 24mm ($\frac{15}{16}$")Ø | SHOP BOLTS:

SURFACE PREP. & PAINT:

-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

V.A.O.T.
RECEIVED
CK'D BY S.S.S. 4/21/03 CK'D BY JMP 4/21/03
APR 15 2003
RESUBMIT ____ APPROVED X
BY DATE

DESCRIPTION: END DIAPHRAGM

JOB: US 5 OVER WHETSTONE BROOK
BRIDGE NO. 7
BRATTLEBORO, VERMONT (WINDHAM COUNTY)
CONTRACTOR: RENAUD BROTHERS

TENSOR 2348

PROJ NO. BHF 2000(17)

CUSTOMER: VERMONT AGENCY OF TRANSPORTATION

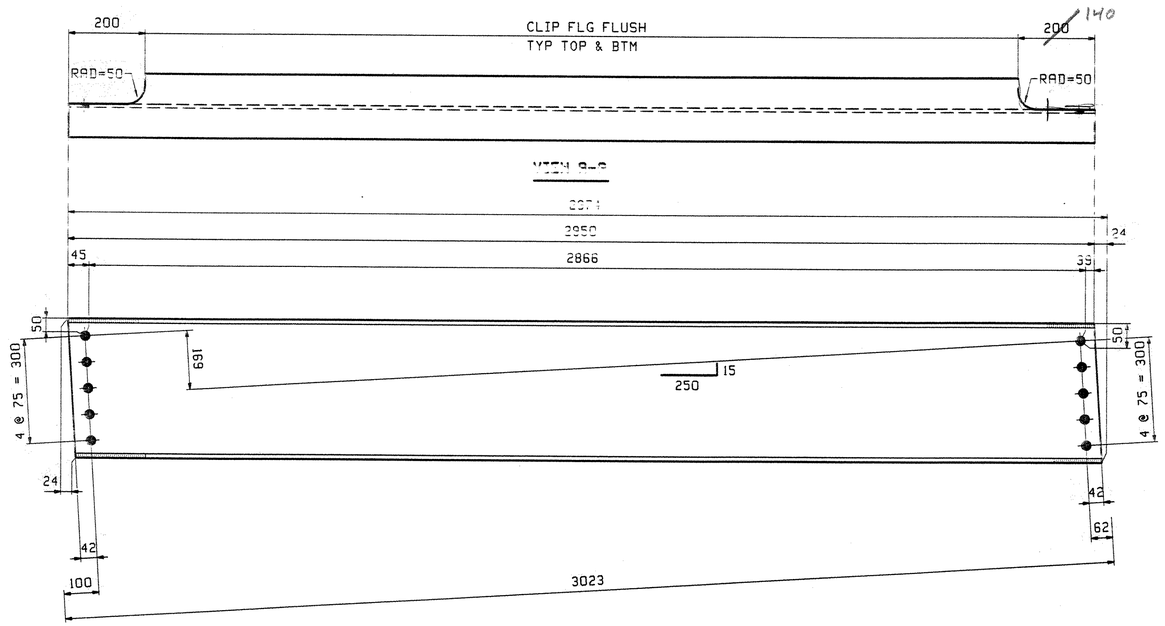
DRAWN BY	DATE
JTB	03/21
CHKD BY	
EPE	04/07
APPROV BY	
SUPERVISOR	W. J. GATTI
Q.A.	

102

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

JOB NO. 194 | DRG. NO. 12 | REV. △

JTB Fri Mar 21 10:55:55 EST 2003 /users/jobs/2348/12 - Rev0



1 - END DIAPHRAGM - 13D1

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.		REV.
									13		
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES	
					END DIAPHRAGMS						
4	K	13D1	1		W 410x39	2	974		118 kg 255 lbs		

OUT FOR APPROVAL	4/4/03									
OUT FOR APPROVAL										
ISSUED TO SHOP										
FIELD & OFFICE										

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

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm ($\frac{15}{16}$")Ø	

SURFACE PREP. & PAINT:

-ALL STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

V.A.O.T.
RECEIVED
CK'D BY S.S.S 4/21/03 CK'D BY SMP 4/21/03
APR 15 2003
RESUBMIT ____ APPROVED AS NOTED
BY DATE

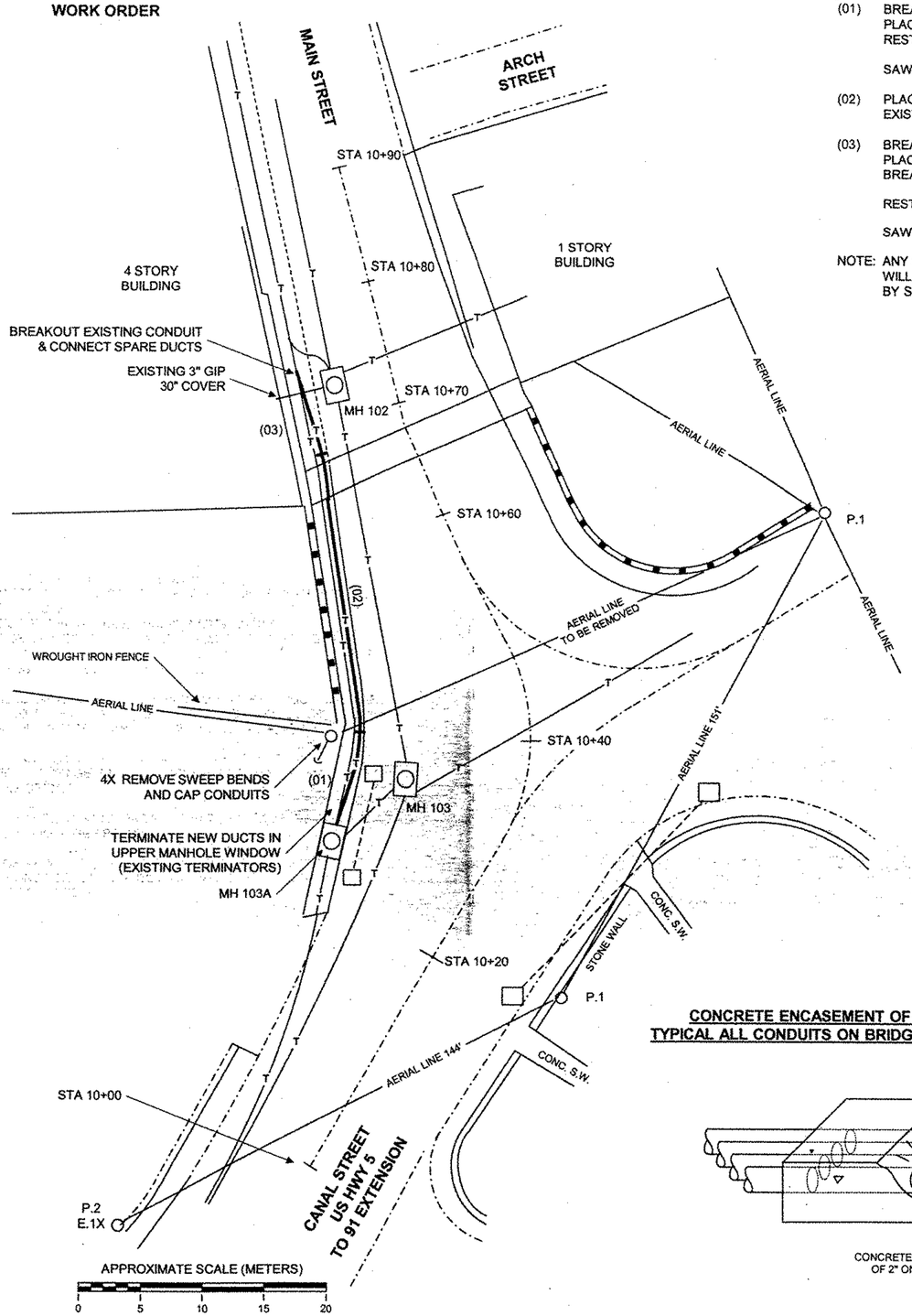
DESCRIPTION: END DIAPHRAGM	DRAWN BY	DATE
JOB: US 5 OVER WHETSTONE BROOK	JTB	03/21
BRIDGE NO. 7	CHKD BY	
BRATTLEBORO, VERMONT (WINDHAM COUNTY)	EPE	04/07
CONTRACTOR: RENAUD BROTHERS	APPROV BY	
TENSOR 2348	SUPERVISOR	W. J. GATTI
PROJ NO. BHF 2000(17)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		103

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

JOB NO.	DRG. NO.
194	13
	REV. △

JTB Fri Mar 21 12:45:46 EST 2003 /users/jtb/2348/13 : Rev0

WORK ORDER



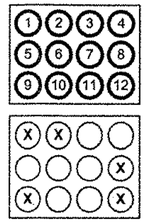
(01) BREAKOUT 4" CONCRETE SIDEWALK FOR 35' (19.5 SQ YDS) ITEM # 158A
PLACE 12 4" C-PLASTIC CONDUIT, CONCRETE ENCASED. ITEM # 61C
RESTORE SIDEWALK AREA WITH 2" ASPHALT (20 SQ YDS) ITEM # 153B
COMPACTED GRAVEL (7 CU YDS) ITEM # 141
SAW CUT 4" CONCRETE (5') ITEM # 173

(02) PLACE 8 FIBERGLASS CONDUITS TEMPORARILY SUPPORTED ON TOP OF EXISTING I-BEAM. (SEE DETAIL DRAWINGS) SCHED C

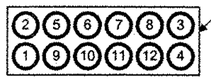
(03) BREAKOUT 4" CONCRETE SIDEWALK FOR 30' (17 SQ YDS) ITEM # 158A
PLACE 12 "C" PLASTIC CONDUIT, CONCRETE ENCASED. ITEM # 61C
BREAKOUT EXISTING CONDUIT AND CONNECT SPARE DUCTS.
SAND ENCASE FOR FUTURE REARRANGEMENTS SCHED C
RESTORE SIDEWALK AREA WITH 2" ASPHALT (20 SQ YDS) ITEM # 153B
COMPACTED GRAVEL (5.5 CU YDS) ITEM # 141
SAW CUT 4" CONCRETE (5') ITEM # 173

NOTE: ANY SIDEWALK, CURB, OR PAVED ROADWAY THAT IS REMOVED WILL BE RESTORED WITH 2" ASPHALT PENDING REPLACEMENT BY STATE BRIDGE CONTRACT

MH 103A FACING BRIDGE



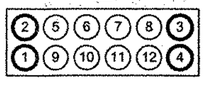
NEW FORMATION AT BRIDGE ABUTMENT 5" STEEL SLEEVES THROUGH BRIDGE HEADWALL



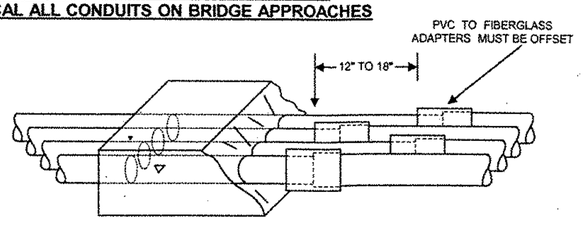
NOTE:
DUCTS 1 THROUGH 4 ARE TO BE TERMINATED IN THREADED COUPLINGS FLUSH MOUNTED IN BRIDGE HEADWALL FOR EXTENSION ON PHASE "B"

NEW FORMATION ON BRIDGE PHASE "A"

NEW FORMATION ON BRIDGE PHASE "B"



CONCRETE ENCASEMENT OF CONDUITS
TYPICAL ALL CONDUITS ON BRIDGE APPROACHES



CONCRETE ENCASE CONDUITS WITH A MINIMUM OF 2" ON TOP, BOTTOM AND SIDES AND 1" BETWEEN CONDUITS

7AA01S

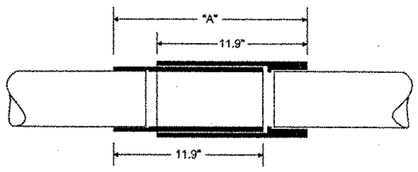
Notice: Not for Use/disclosure outside of VERIZON without written agreement **VERIZON**

SAFETY NOTES: NO SURVEY MADE		MOD/REV NO.	DATE	EWO NO. 7AA01S
				PRINT 13 OF
				PREPARED BY: NEIL E. SNYDER
		LT. NOTICE	-	C.O. /EXCHANGE NAME:
SIGNATURE DATE 1/30/2002		TYPE	RECORD REF:	BRATTLEBORO
		AERIAL	7B	C.O. /EXCHANGE CODE:
PRE CT YES ☐ NO ☒		UNDERGROUND	——	4731
PRIMARY VOLTAGE TO GROUND		BLOCK (NYT)	——	MUNICIPALITY:
7.2 KV MGN SYSTEM		CONDUIT	——	BRATTLEBORO
CABLE PRESS.	UNDER PRESS. YES ☐ NO ☒	BUFFER YES ☐ NO ☒		MANHOLE LOCATION MH# NA
TRANSMISSION	26GA LIMIT YES ☐ NO ☒	AMT. BRIDGE TAP	- KF	

GENERAL NOTES:

1. THE CONTRACTOR IS REQUIRED TO COMPLY WITH ALL NATIONALLY ACCEPTED SAFETY PRACTICES.
2. THE CONTRACTOR IS REQUIRED TO COMPLY WITH ALL LOCAL, STATE, FEDERAL AND VERIZON REGULATIONS.
3. BELL ATLANTIC WILL OBTAIN THE NECESSARY STATE AND LOCAL PERMITS REQUIRED TO COMPLETE THE TELEPHONE WORK ON THE BRIDGE AND BRIDGE APPROACHES.
4. THE DESIGN CABLE LOAD IS 7.0 POUNDS PER FOOT FOR EACH OF TWELVE DUCTS. THE TOTAL CONDUIT AND HANGER LOAD AT EACH SUPPORTS 1644 LB.. BASED ON A NOMINAL SPACING OF 17.2 FEET.
5. THE TEMPORARY UTILITY SUPPORTS ARE TO BE FABRICATED FROM 3" x 1/4" CHANNEL STEEL AND WELDED TO THE TOP OF THE EXISTING VERIZON I-BEAM.
6. THE CONTRACTOR MUST LOCATE AND PROTECT ALL EXISTING UNDERGROUND CONDUITS DURING EXCAVATION ON BRIDGE APPROACHES.
7. SPECIFIED FIBERGLASS CONDUIT AMERICAN U-TEL [PN 12370]
   A. 4" DIAMETER FIBERGLASS DUCTS WITH THREADED JOINTS WITH 3000 LB.. PULLOUT STRENGTH.
   B. ULTIMATE TENSILE STRENGTH 10,000 PSI PER ASTM D-2105.
   C. 4" IPS 4.5" OUTSIDE DIAMETER x 4.36" INSIDE DIAMETER x 30 FT LENGTHS.
   D. CAPABLE OF HANGER SUPPORT SPANS OF 17.2" FOR 7 LBS.PER FT. CABLE BASED. ON LESS THAN 5/8" MIDSPAN DEFLECTION.
8. ALL DRAWINGS ARE BASED ON AVAILABLE CONTRACT DRAWINGS WHICH MAY VARY FROM ACTUAL AS-BUILT CONDITIONS. THE CONTRACTOR SHALL VERIFY ALL PERTINENT DIMENSIONS BEFORE FABRICATION OR INSTALLATION.
9. CONDUIT DRAINAGE. THE CONTRACTOR SHALL INSURE THAT ALL CONDUITS ARE SLOPED TO PROVIDE DRAINAGE FROM THE BRIDGE TO THE FIRST MANHOLE ON EITHER SIDE OF THE BRIDGE.
10. GASKETED EXPANSION JOINTS MUST BE PRESET FOR THE AMBIENT TEMPERATURE AT THE TIME OF INSTALLATION. (SEE BELOW)
11. ALL CONDUIT ON BRIDGE APPROACHES IS TO BE CONCRETE ENCASED WITH A MINIMUM OF 2" OF CONCRETE ON TOP, BOTTOM, AND SIDES. DUCTS WILL BE SEPARATED BY 1" OF CONCRETE

TYPICAL EXPANSION JOINT
12 EACH NORTH END OF BRIDGE



PRESET LENGTH "A" BASED ON AMBIENT TEMPERATURE	
-20° F	17.0"
0° F	17.2"
20° F	17.4"
40° F	17.5"
60° F	17.6"
80° F	17.8"
100° F	18.0"

10/7/2002

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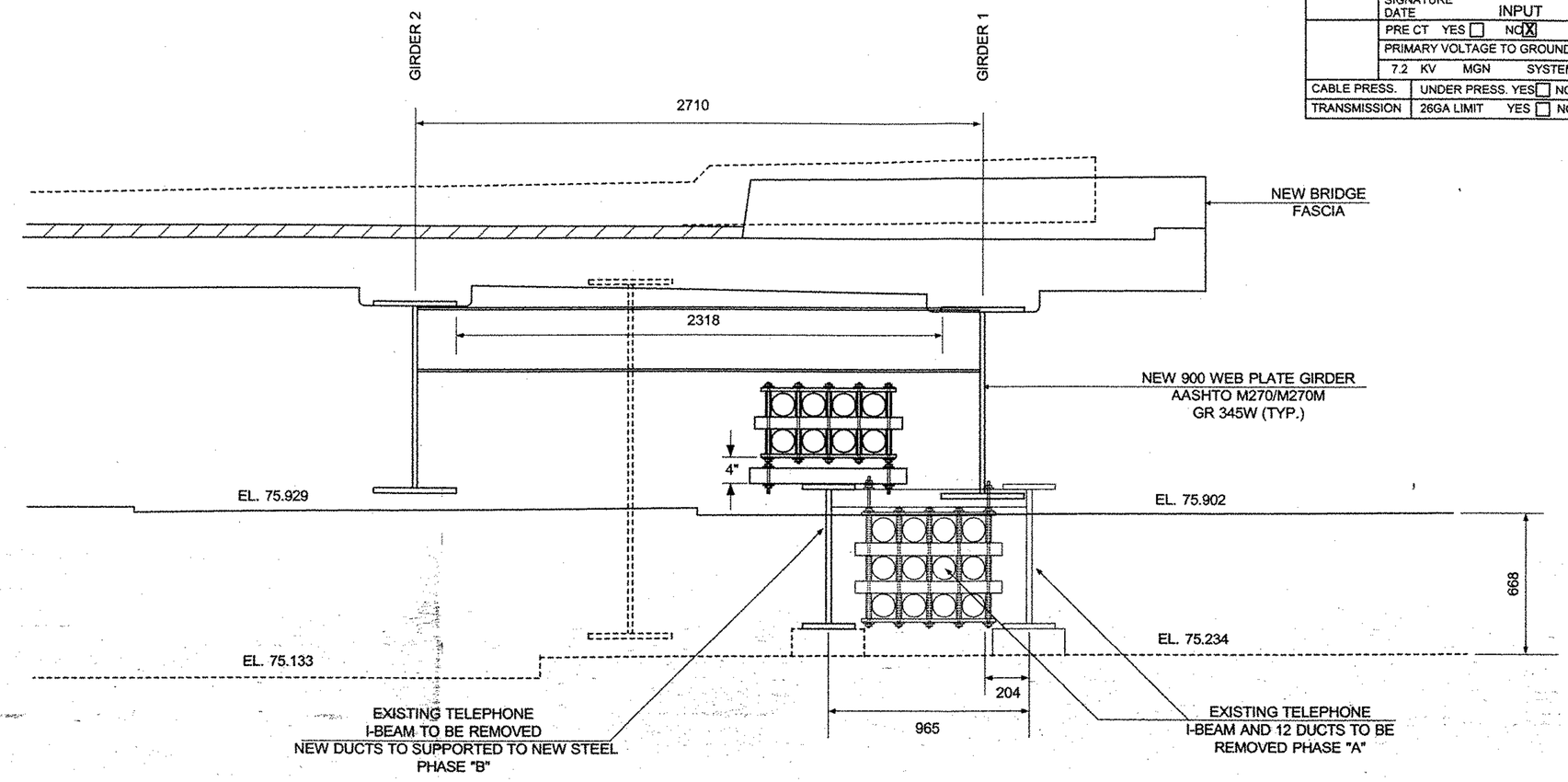
WORK ORDER

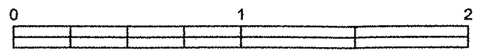
7AA01S

Notice: Not for Use/disclosure outside of VERIZON without written agreement **VERIZON**

N	SAFETY NOTES: INPUT	MOD/REV NO.	DATE	EWO NO. 7AA01S
				PRINT 16 OF
				PREPARED BY:
				NEIL E. SNYDER
		LT. NOTICE	INPUT	C.O. /EXCHANGE NAME:
		TYPE	RECORD REF:	INPUT
	SIGNATURE DATE INPUT	AERIAL	INPUT	C.O. /EXCHANGE CODE:
	PRE CT YES ☐ NO ☒	UNDERGROUND	——	INPUT
	PRIMARY VOLTAGE TO GROUND	BLOCK (NYT)	——	MUNICIPALITY:
	7.2 KV MGN SYSTEM	CONDUIT	——	INPUT
CABLE PRESS.	UNDER PRESS. YES ☐ NO ☒	BUFFER YES ☐ NO ☒		MANHOLE LOCATION MH# NA
TRANSMISSION	26GA LIMIT YES ☐ NO ☒	AMT. BRIDGE TAP	-	KF



EXISTING AND PROPOSED TELEPHONE FACILITIES @ ABUTMENT NO. 1, LEFT SIDE
PHASE "A"



SCALE = 1 : 20

10/7/2002

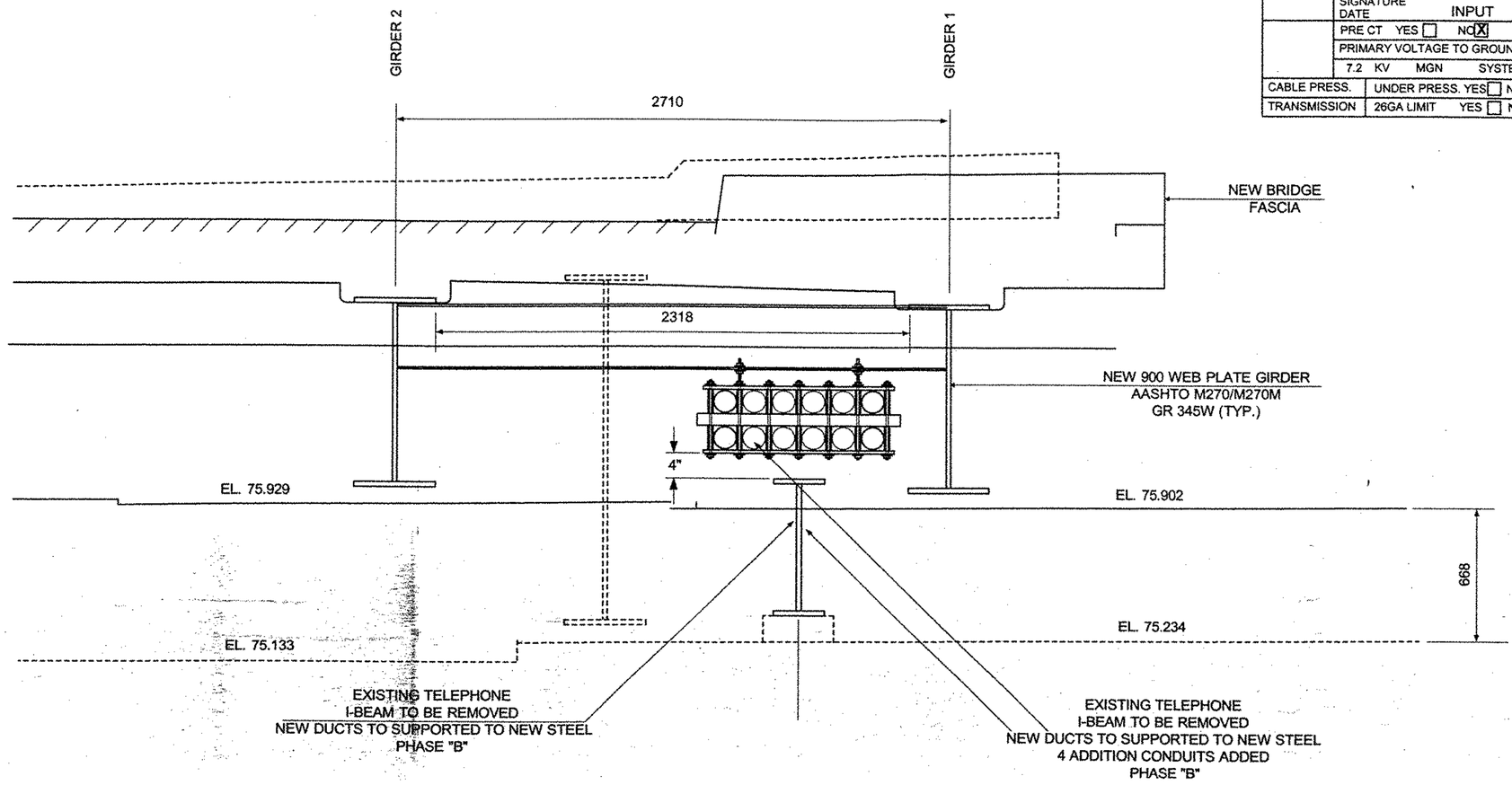
105

WORK ORDER

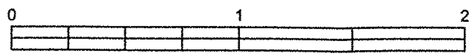
7AA01S

Notice: Not for Use/disclosure outside of VERIZON without written agreement **VERIZON**

SAFETY NOTES: INPUT		MOD/REV NO.	DATE	EWO NO. 7AA01S
				PRINT 17 OF
				PREPARED BY:
				NEIL E. SNYDER
		LT. NOTICE	INPUT	C.O. /EXCHANGE NAME:
		TYPE	RECORD REF:	INPUT
SIGNATURE DATE INPUT		AERIAL	INPUT	C.O. /EXCHANGE CODE:
PRE CT YES ☐ NO ☒		UNDERGROUND	——	INPUT
PRIMARY VOLTAGE TO GROUND		BLOCK (NYT)	——	MUNICIPALITY:
7.2 KV MGN SYSTEM		CONDUIT	——	INPUT
CABLE PRESS.	UNDER PRESS. YES ☐ NO ☒	BUFFER YES ☐ NO ☒		MANHOLE LOCATION MH# NA
TRANSMISSION	26GA LIMIT YES ☐ NO ☒	AMT. BRIDGE TAP -		KF



EXISTING AND PROPOSED TELEPHONE FACILITIES @ ABUTMENT NO. 1, LEFT SIDE
PHASE "B"



SCALE = 1 : 20

10/7/2002

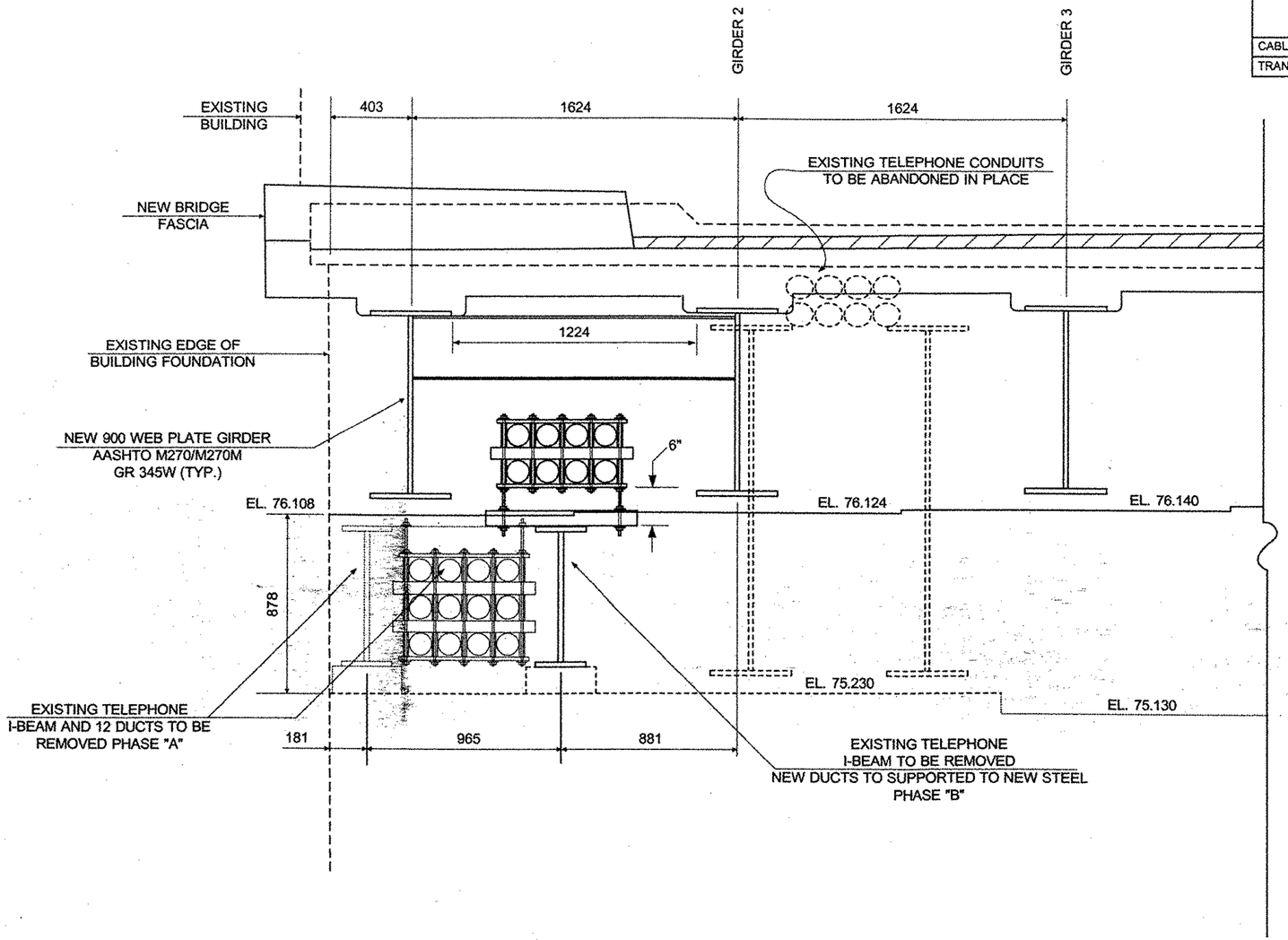
106

WORK ORDER

7AA01S

Notice: Not for Use/disclosure outside of VERIZON without written agreement **VERIZON**

N	SAFETY NOTES: INPUT	MOD/REV NO.	DATE	EWO NO. 7AA01S
				PRINT 14 OF
				PREPARED BY:
				NEIL E. SNYDER
		LT. NOTICE		C.O. /EXCHANGE NAME:
	SIGNATURE	TYPE	RECORD REF:	BRATTLEBORO
	DATE INPUT	AERIAL	INPUT	C.O. /EXCHANGE CODE:
	PRE CT YES ☐ NO ☒	UNDERGROUND	——	4731
	PRIMARY VOLTAGE TO GROUND	BLOCK (NYT)	——	MUNICIPALITY:
	7.2 KV MGN SYSTEM	CONDUIT	——	BRATTLEBORO
CABLE PRESS.	UNDER PRESS. YES ☐ NO ☒	BUFFER YES ☐ NO ☒		MANHOLE LOCATION MH# NA
TRANSMISSION	26GA LIMIT YES ☐ NO ☒	AMT. BRIDGE TAP	-	KF



EXISTING AND PROPOSED TELEPHONE FACILITIES @ ABUTMENT NO. 2, LEFT SIDE
PHASE "A"

0 1 2

SCALE = 1 : 20

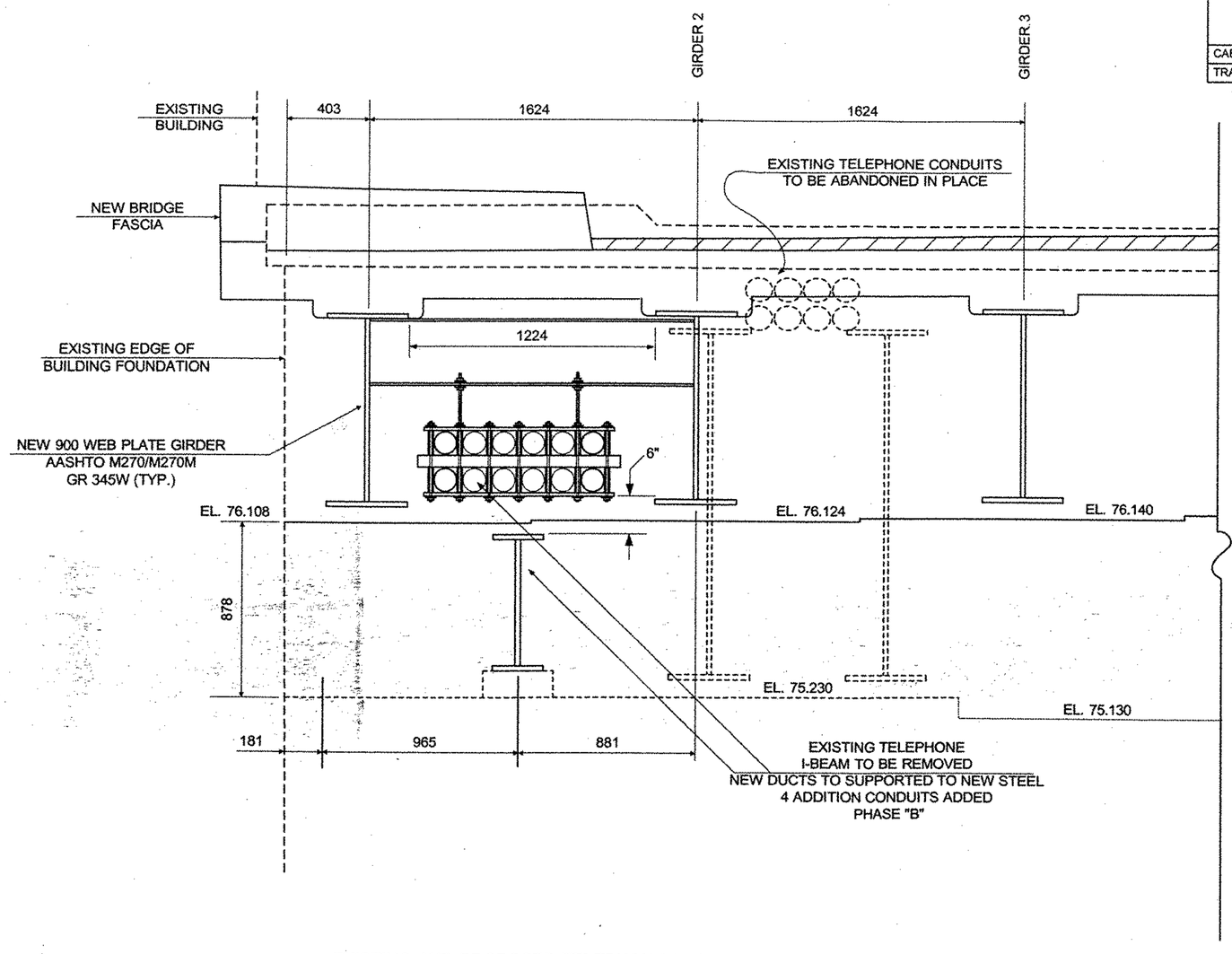
10/7/2002

WORK ORDER

7AA01S

Notice: Not for Use/disclosure outside of VERIZON without written agreement **VERIZON**

SAFETY NOTES: **INPUT**		MOD/REV NO.	DATE	EWO NO. **7AA01S**
				PRINT **15** OF
				PREPARED BY:
				NEIL E. SNYDER
		LT. NOTICE		C.O. /EXCHANGE NAME:
SIGNATURE		TYPE	RECORD REF:	BRATTLEBORO
DATE	INPUT	AERIAL	INPUT	C.O. /EXCHANGE CODE:
PRE CT YES ☐ NO ☒		UNDERGROUND	——	4731
PRIMARY VOLTAGE TO GROUND		BLOCK (NYT)	——	MUNICIPALITY:
7.2 KV MGN SYSTEM		CONDUIT	——	BRATTLEBORO
CABLE PRESS.	UNDER PRESS. YES ☐ NO ☒	BUFFER YES ☐ NO ☒		MANHOLE LOCATION MH# NA
TRANSMISSION	26GA LIMIT YES ☐ NO ☒	AMT. BRIDGE TAP	-	KF



EXISTING AND PROPOSED TELEPHONE FACILITIES @ ABUTMENT NO. 2, LEFT SIDE
PHASE "B"

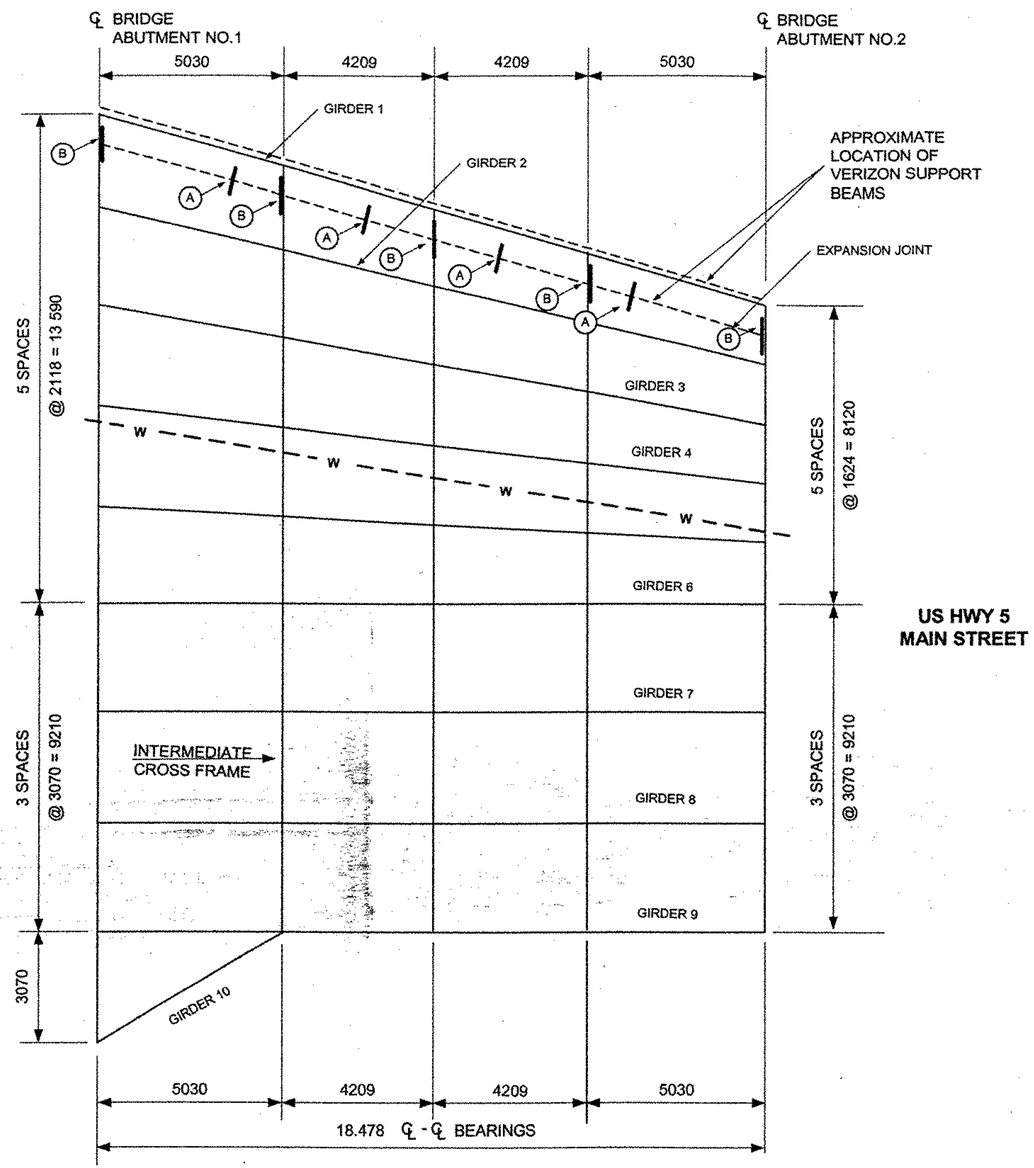
0 1 2

SCALE = 1 : 20

10/7/2002

108

WORK ORDER



US HWY 5
MAIN STREET

NEW BRIDGE BEAM STRUCTURE

0 1 2 4 6 8 10

WHETSTONE BROOK

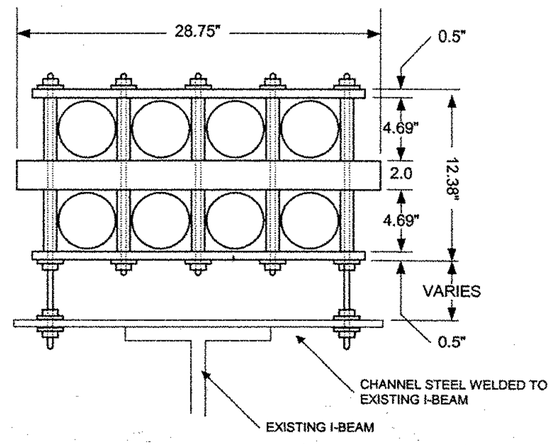
10/7/2002

Notice: Not for Use/disclosure outside of VERIZON without written agreement **VERIZON**

SAFETY NOTES: NO SURVEY MADE		MOD/REV NO.	DATE	EWO NO. 7AA01S
				PRINT 18 OF
				PREPARED BY:
				NEIL E. SNYDER
		LT. NOTICE		C.O. /EXCHANGE NAME:
SIGNATURE DATE 8/22/2002		TYPE	RECORD REF:	BRATTLEBORO
		AERIAL	-	C.O. /EXCHANGE CODE:
PRE CT YES ☐ NO ☒		UNDERGROUND	——	4731
PRIMARY VOLTAGE TO GROUND		BLOCK (NYT)	——	MUNICIPALITY:
7.2 KV MGN SYSTEM		CONDUIT	——	BRATTLEBORO
CABLE PRESS.	UNDER PRESS. YES ☐ NO ☒	BUFFER YES ☐ NO ☒		MANHOLE LOCATION MH# NA
TRANSMISSION	26GA LIMIT YES ☐ NO ☒	AMT. BRIDGE TAP	-	KF

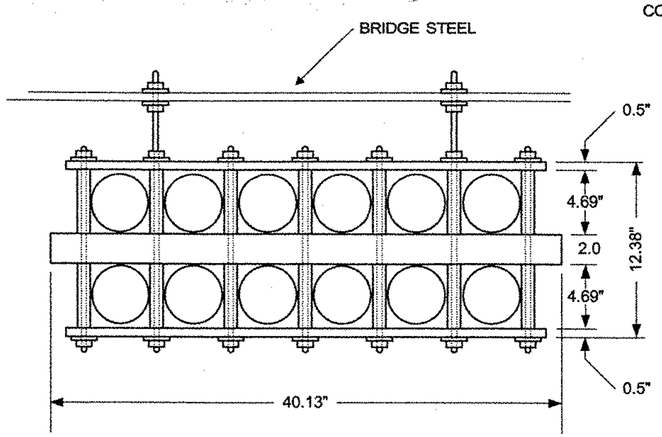
Ⓐ DETAIL TEMPORARY SUPPORT HANGERS
(4 HANGERS ON 12.6' CENTERS)

DESIGN WEIGHS:
FIBERGLASS CONDUIT 6.8 lb./ft
(8 @ .85lbs>/ft)
COPPER CABLE MAX 56.0 lb./ft.
(8 @ 7.0lbs>/ft)



Ⓑ DETAIL PERMANENT SUPPORT HANGERS
(5 HANGERS ON INTERMEDIATE CROSS FRAME MEMBERS)

DESIGN WEIGHTS:
FIBERGLASS CONDUIT 10.2 lb./ft
(12 @ .85lbs>/ft)
COPPER CABLE MAX 84.0 lb./ft.
(12 @ 7.0lbs>/ft)



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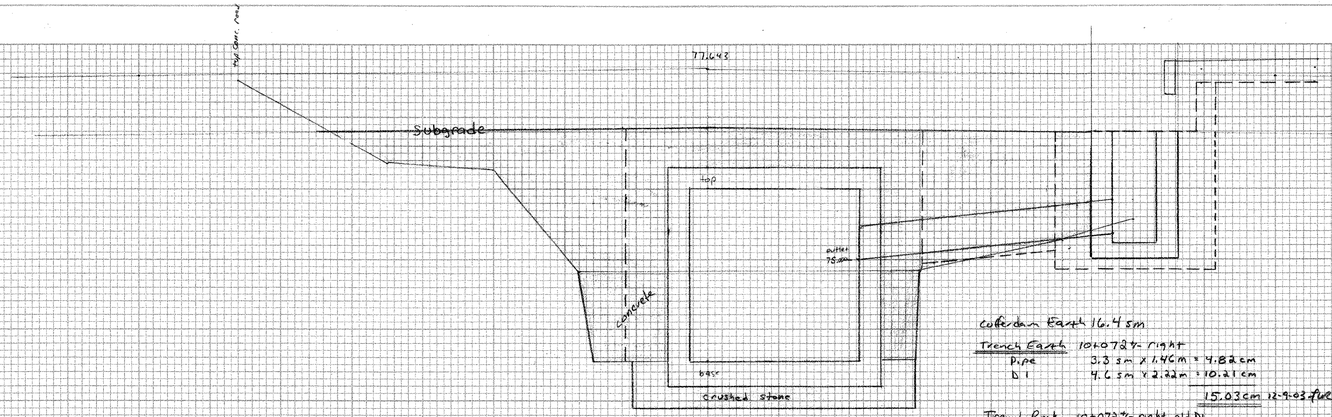
Brattleboro BHF 2000(17)
Sheet # 1



10+072 use for 10+072.6 (bwh)

Cofferdam Earth 16.4 sm

Trench Earth 10+072± right
Pipe 3.3 sm x 1.46 m = 4.82 cm
D I 4.6 sm x 2.22 m = 10.21 cm
15.03 cm 12-9-03 fwk

Trench Rock 10+072± right side DI
1.22 x 1.22 x 2.60 high (MIF fwk) = 3.87 cm 12-19-03 fwk

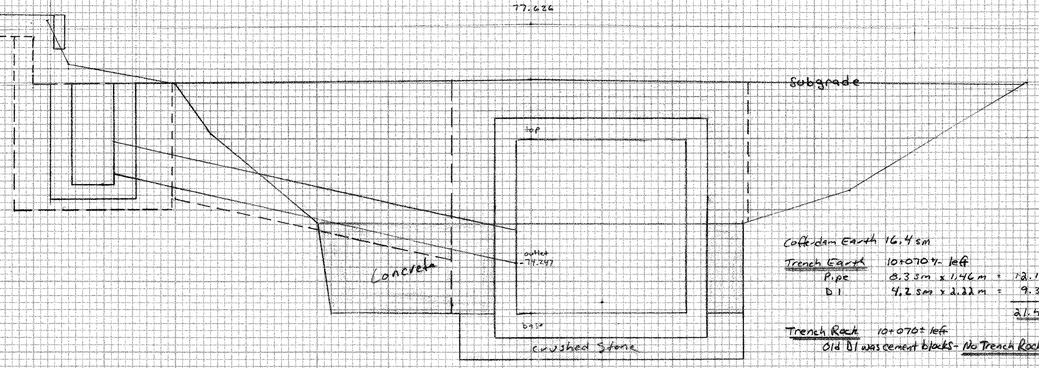
Cofferdam Earth

station	endarea	ave. endarea	distance	volume
10+068.97 (bwh)	16.4			
		16.4	3.63	59.53
10+072.60 (bwh)	16.4			

tot = 59.53 cm 12-9-03 fwk

	finish grade		subgrade
10+080	77.710	-0.790	76.920
+ 072	77.643		76.853
10+070	77.626	-0.790	76.836
+0685	77.613	-0.790	76.823
10+067.693	77.606	-0.990	76.816

77.949 = Top of Tee
75.501 = invert
75.349 = invert
145 = bwh diff
75.



10+070 use for 10+068.97 (bwh)

76.805 = Top of Tee
75.191 = top conc walls
73.588 = top of pipe
73.202 = bottom "
72.902 = bottom storm

Cofferdam Earth 16.4 sm

Trench Earth 10+070± left
Pipe 3.3 sm x 1.46 m = 12.12 cm
D I 4.2 sm x 2.22 m = 9.32 cm
21.44 cm 12-9-03 fwk

Trench Rock 10+070± left
Old DI was cement blocks - No Trench Rock

Trench Earth for 1050 mm RCP outlet pipe 10+068± right
Length outside CoR-Ltr Exc to Abut = 0.46 m (MIF fwk)
Depth below Subgrade = 3.5 m
Avg width of Trench = 2.05 m
0.46 x 3.5 x 2.05 = 3.30 cm 12-9-03 fwk

No T.E. for existing 40" + 24" (coming into jct box) - all within Cofferdam limits 12-9-03 fwk

Granular Backfill for Structures

Jct Box 3.04 m wide, 2.43 m long, 3.103 m H
3.04 x 2.43 x 3.103 = 22.92 cm
Cofferdam Earth - volume Jct Box = Gran. bkfill for Structures
59.53 - 22.92 = 36.61 cm 12-9-03 fwk

Culvert right: trench earth minus volume culvert
πr^2 x length $\pi .225^2 \times 1.9 = 0.30$ cm
4.82 - 0.30 = 4.52 cm 12-9-03 fwk

DI right: trench earth minus volume DI
1.22 x 1.22 x 1.8 (MH) = 2.68 cm
10.21 - 2.68 = 7.53 cm 12-9-03 fwk

Culvert left: trench earth minus volume culvert
πr^2 x length $\pi .225^2 \times 3.9 = 0.62$ cm
12.12 - 0.62 = 11.50 cm 12-9-03 fwk

DI left: trench earth minus volume DI
1.22 x 1.22 x 1.6 (MH) = 2.38 cm
9.32 - 2.38 = 6.94 cm 12-19-03 fwk

10+068.5

10+065.7 = Zero

wgrnk = 77.567
inlet = 75.379
Sump
6" = 0.152 = 75.227
bottom
14" = 0.356 = 75.023

PLATE 3-FULL CROSS SECTION-FULL LINE
FEDERAL AID SHEET
FEDERAL HIGHWAY ADMINISTRATION
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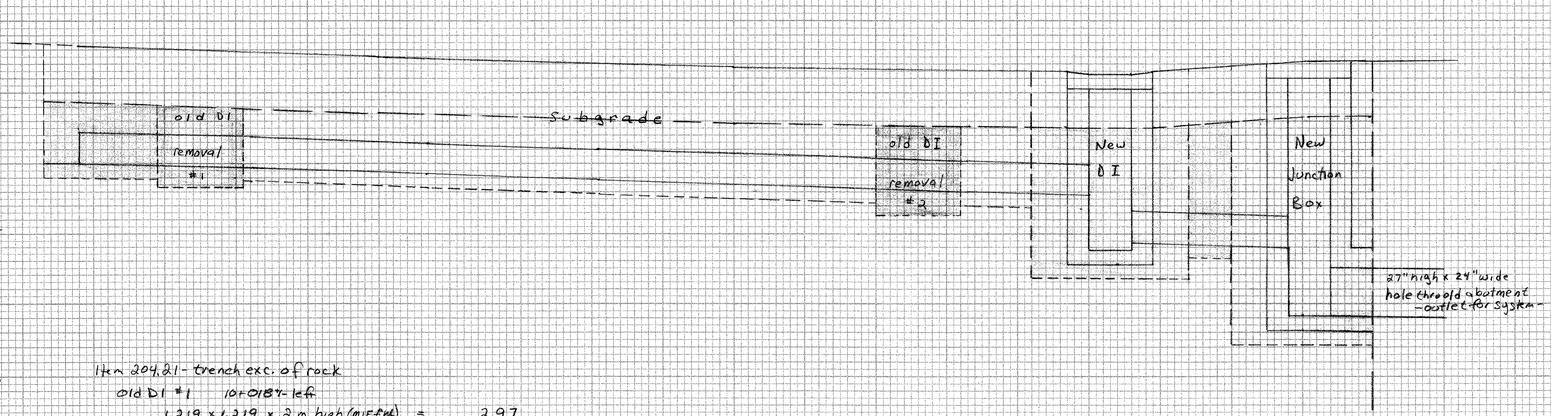
Brattleboro BHF 2000(17)
Sheet #2



Item 204.21 - trench exc. of rock

old DI #1 10+018 ℄ left
1.219 x 1.219 x 2m high (MIFFM) = 2.97

old DI #2 10+036 ℄ left
1.219 x 1.219 x 2.2m high (MIFFM) = 3.27

Item 204.20 - trench exc. of earth

New 18" RCP approx 10+020 ~ 10+038 left
12.7sm x 1.6 = 20.32

New DI, approx 10+039 left
4.8sm x 2.2 = 10.56

New Junction Box approx 10+043 left
6.5sm x 2.2 = 14.30

New 18" RCP approx 10+040 + 10+049 left
1.2sm x 1.6 = 1.92

Item 204.30 - Granular Backfill for Structures

New 18" RCP approx 10+020 ~ 10+038 left
trench earth minus volume culvert plus old DI volume
πr^2 x length = $\pi .225^2$ x 13.4 = 2.13cm
20.32 - 2.13 + 1.71(#1) + 1.93(#2) = 21.83

New DI, approx 10+039 left
trench earth minus volume DI
10.56 - 3.20 = 7.36

New Junction Box, approx 10+043 left
trench earth minus volume jct Box
14.30 - 4.76 = 9.54

New 18" RCP, approx 10+040 ~ 10+049 left
trench earth minus volume pipe
πr^2 x length - $\pi .225^2$ x 0.6 + 0.10cm
1.92 - 0.10 = 1.82

Abutment #1 Extension (See page 30135-10 for sketch/dimensions and also page 30134-4)
(3.40 x 0.50 x 0.84) + (0.82 x 0.50 x 0.91) = 1.80

PLATE 3-PUBL. CROSS SECTION-FULL LINE
HIGHWAY FEDERAL AID SHEET
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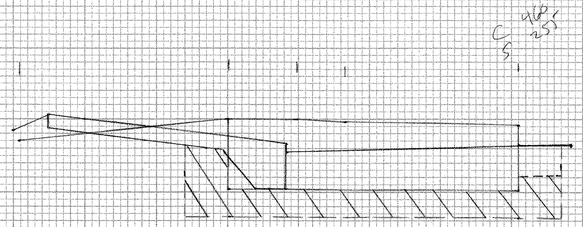
Brattleboro BHF2000(17)
Sheet #3



19.5 rt ℄

Item 203.15 - Common Excavation

location	distance	end area	ave. end area	volume
13.856 (BWM)		1.06		
	2.644		1.075	2.84
16.5		1.09		
	3.0		1.12	3.36
19.5		1.15		
	3.0		1.19	3.57
22.5		1.23		
	3.0		1.255	3.77
25.5		1.28		
	2.0		1.28	2.56
27.5 (BWM)		1.28		

16.10 cm 4-9-04 fwl

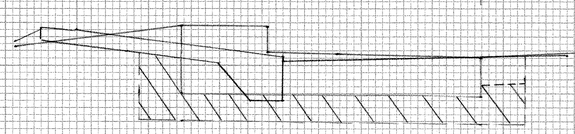
Item 301.35 - Subbase of Dense Graded Crushed Stone

location	distance	end area	ave. end area	volume
13+856 (BWM)		0.46		
	2.644		0.545	1.44
16.5		0.63		
	3.0		0.635	1.91
19.5		0.64		
	3.0		0.64	1.92
22.5		0.64		
	3.0		0.665	2.00
25.5		0.69		
	2.0		0.69	1.38
27.5 (BWM)		0.69		

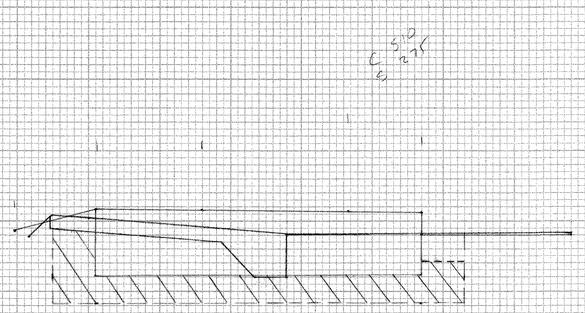
8.65 cm 4-13-04 fwl

= Common Excavation

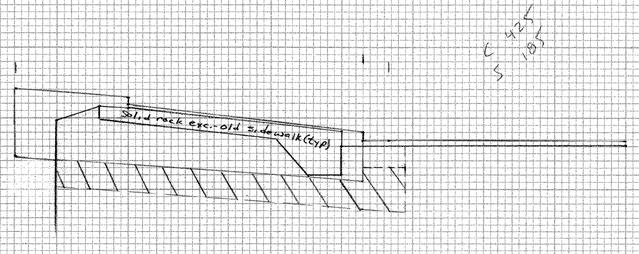
= Subbase of Dense Graded Crushed Stone



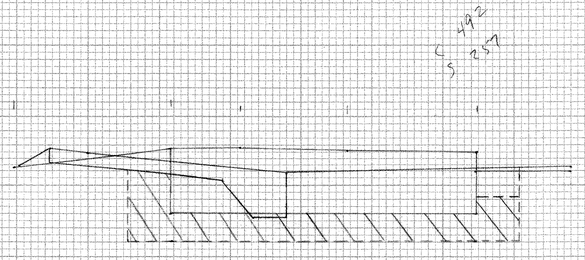
16.5 rt ℄



25.5 rt ℄ use for 27.5 rt (butt)



13.5 rt ℄ use for 13.856 rt (butt)



22.5 rt ℄

PLATE 3-FULL CROSS SECTION-FULL LINE
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