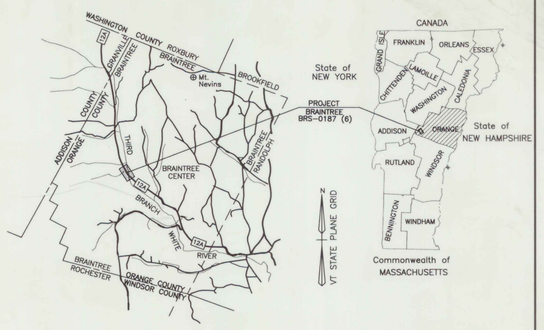
BRAINTREE BRS 0187(6)
VT. 12A
BRIDGE 6
1997

INDEX OF SHEETS
SEE SHEET 2

STATE OF VERMONT
AGENCY OF TRANSPORTATION

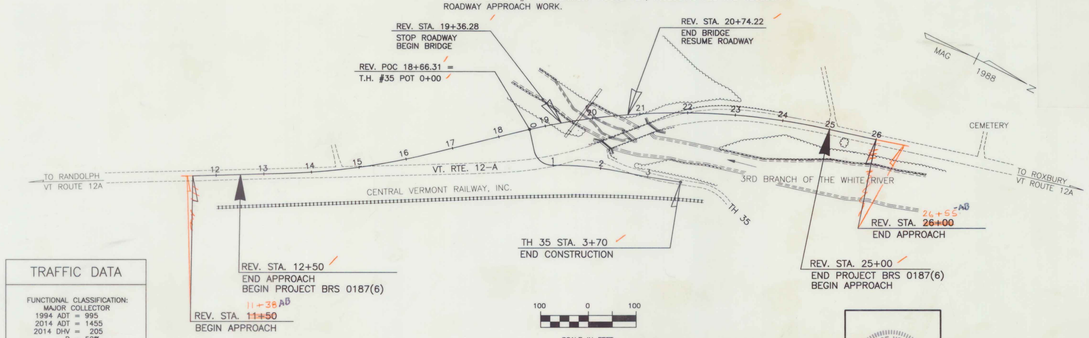


PROPOSED IMPROVEMENT
TOWN OF BRAINTREE
COUNTY OF ORANGE
VT ROUTE 12A

PROJECT LOCATION, LENGTH AND DESCRIPTION – "BEGINNING AT A POINT IN THE TOWN OF BRAINTREE, ON VERMONT ROUTE 12A APPROXIMATELY 3.751 MILES NORTHERLY OF THE RANDOLPH–BRAINTREE TOWN LINE, AND EXTENDING NORTHERLY 0.237 MILES."

LENGTH OF ROADWAY = 1112.06 FEET = 0.211 MILES
LENGTH OF BRIDGE = 137.94 FEET = 0.026 MILES
LENGTH OF PROJECT = 1250.00 FEET = 0.237 MILES

WORK TO BE PERFORMED UNDER THIS PROJECT CONSISTS OF REPLACEMENT OF EXISTING BRIDGE #6 ON VERMONT ROUTE 12A, INCLUDING ALL THE NECESSARY ROADWAY APPROACH WORK.



CONVENTIONAL SIGNS

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

TRAFFIC DATA

FUNCTIONAL CLASSIFICATION:
MAJOR COLLECTOR
1994 ADT = 995
2014 ADT = 1455
2014 DHV = 205
D = 52%
T = 15%
V = 50 M.P.H.
1994–2014 18 KIP ESAL = 674,744

DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A

RECORD PLANS

CONTRACTOR: MILLER CONST. INC WINDSOR, VT
RESIDENT ENGINEER: CHRIS BARKER
CONSTRUCTION BEGAN: Oct. 1, 1996
CONSTRUCTION COMPLETED: Oct. 24, 1997
RECORD PLANS BY: F. Donald

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

BY _____ RESIDENT ENGINEER
DATE 03/04/98

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

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

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1990, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON MARCH 15, 1990 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

SUBMITTED BY ORDER OF THE STATE TRANSPORTATION BOARD

APPROVED _____ DATE 2/4/98
DIRECTOR OF ENGINEERING

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____ DATE _____
DIVISION ADMINISTRATOR

PROJECT BRAINTREE BRS 0187(6)

SHEET 1 OF 79 SHEETS

Plans Prepared By:
CLD
Costello, Lomasney & de Napoli, Inc.
Consulting Engineers
540 Commercial Street
Manchester, NH 03101
(603)668-8223 FAX(603)668-8802

STATE OF VERMONT
AGENCY OF TRANSPORTATION
133 State Street, Administration Building
Montpelier, Vermont 05633-5001

June 12, 1997

Mr. Charles L. Wallace, Jr., P.E.
Costello, Lomasney & deNapoli, Inc.
540 Commercial Street
Manchester, NH 03101

bcc: Central Files
Chrono
P. File via MP

Re: Braintree BRS 0157(6)

Dear Mr. Wallace:

I have attached one set of the approved structural steel shop drawings with the extended weights calculated.

Please, at your earliest convenience, verify these extended weights and sent confirmation to Mr. Chris Baker, Resident Engineer, with a copy to Sherward Farnsworth, Structures Section.

If you have any questions, please do not hesitate to contact Sherward Farnsworth at (802) 828-2621.

Sincerely,

RECEIVED BY
JUN 1 1 1997
CONSTRUCTION DIVISION

Arthur J. Bombardier
Project Supervisor

AJB:mb
Attachment

cc: Chris Baker, Consultant (w/att.)
Sherward Farnsworth, Structures

Telecommunications Relay Service 1-800-253-0191
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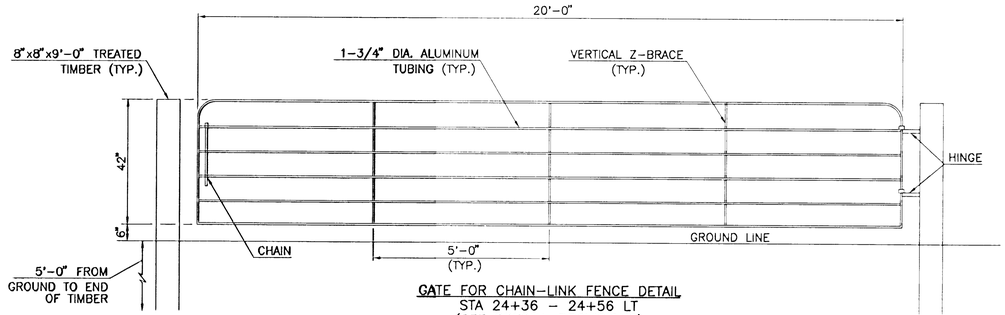
INDEX OF SHEETS

1)	TITLE SHEET
2)	INDEX OF SHEETS/MISCELLANEOUS DETAILS
3)	TYPICAL SECTIONS – ROUTE 12A
4)	TYPICAL SECTIONS – T.H. 35
5–7)	SUMMARY OF QUANTITIES
8)	BLANK
9)	ITEM DETAIL AND DRAINAGE SHEET
10)	EARTHWORK SHEET
11–15)	ROW DETAIL SHEETS
16–17)	PLAN & PROFILE SHEETS
18)	PROFILE & TIE SHEET
19)	PAVEMENT & GUARDRAIL TRANSITION SHEET
20)	EROSION CONTROL PLAN
21)	TRAFFIC SIGN AND PAVEMENT MARKING SHEET
22)	TRAFFIC SIGN SUMMARY AND DETAIL SHEET
23)	CONST. APPROACH SIGNING/TRAFFIC CONTROL PLAN
24–47)	BR. 100 SERIES--BR. NO. 6 OVER THE 3RD BRANCH OF THE WHITE RIVER
48–60)	BLANK
61–72)	CROSS SECTIONS – ROUTE 12A
73–79)	CROSS SECTIONS – T.H. 35/CHANNEL

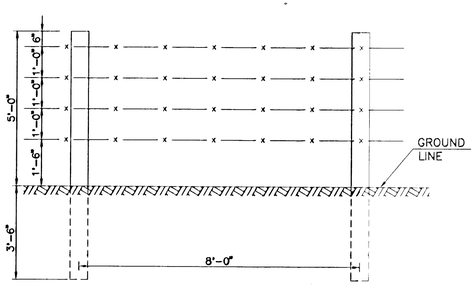


GATE FOR CHAIN–LINK FENCE DETAIL
STA 24+36 – 24+56 LT
(SEE SPECIAL PROVISIONS)
NTS

1. A DRIVE GATE SHALL BE PLACED AT REVISED STA. 24+36 TO REVISED STA. 24+56 LT. THIS WORK WILL BE PAID FOR UNDER THE ITEM "GATE FOR CHAIN–LINK FENCE, 4 FEET (MOD.)". THE NEW GATE WILL BE ATTACHED TO ONE OF THE TWO 8"x8" TREATED TIMBER POSTS LOCATED TO THE LEFT AND RIGHT OF THE GATE.
2. LOCATION OF THE HINGES WILL BE ON THE RIGHT SIDE OF THE GATE SO THAT THE GATE WILL OPEN IN AND TO THE RIGHT SIDE.
3. THE POSTS AND ALL HARDWARE AND INSTALLATION INVOLVED IN ATTACHING THE GATE WILL BE SUBSIDIARY TO THE ITEM "GATE FOR CHAIN–LINK FENCE, 4 FEET (MOD.)". SEE SPECIAL PROVISIONS.

STANDARDS

A–60	SLOPES IN SOLID ROCK EXCAVATION (50 MPH & OVER)	06–01–94
B–5	SLOPE GRADING, EMBANKMENTS, MUCK	06–01–94
B–11	UNDERDRAIN – ROCK SUBGRADE, SLOPE STABILIZATION	06–01–94
D–2	UNDERDRAIN & CARRIER PIPE CONSTRUCTION DETAILS	06–01–94
D–3	TREATED GUTTERS	06–01–94
D–4	FLUSHING BASINS, CSP END SECTION	06–01–94
D–16	RCP END SECTIONS	06–01–94
E–100	CONSTRUCTION APPROACH SIGNS	08–08–95
E–101	CONSTRUCTION SIGN DETAILS	08–08–95
E–102	CONSTRUCTION SIGN DETAILS	08–08–95
E–102A	CONSTRUCTION SIGN DETAILS	08–08–95
E–106	TRAFFIC CONTROL – MISCELLANEOUS DETAILS	08–08–95
E–107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	08–08–95
E–107A	BREAKAWAY BARRICADE DETAILS	08–08–95
E–108	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS	08–18–95
E–110	MAJOR MAINTENANCE OPERATION – LANE CLOSURE	08–08–95
E–121	STANDARD SIGN PLACEMENT – CONVENTIONAL ROADS	08–08–95
E–123	GUIDE SIGN PLACEMENT – MISCELLANEOUS DETAILS	08–08–95
E–128A	VILLAGE SIGNS, A–M	08–08–95
E–134	BRIDGE NUMBER PLAQUE	08–08–95
E–141	REGULATORY SIGN DETAILS	09–20–95
E–142	REGULATORY SIGN DETAILS	09–20–95
E–143	REGULATORY SIGN DETAILS	09–20–95
E–146	REGULATORY SIGN DETAILS	09–20–95
E–150	WARNING SIGN DETAILS	08–08–95
E–160	FLANGED CHANNEL STEEL SIGN POST	08–18–95
E–190	RAILROAD CROSSING SIGNS AND PAVEMENT MARKINGS	08–18–95
E–193	PAVEMENT MARKING DETAILS	08–18–95
E–198	DELINEATORS AND MILEPOSTS	08–18–95
E–199	DELINEATOR AND MILEPOST MOUNTING ON BRIDGE RAIL	08–18–95
G–1	STEEL BEAM GUARDRAIL	06–01–94
G–1b	BOX BEAM GUARDRAIL	06–01–94
G–1d	STEEL BEAM GUARDRAIL	06–01–94
G–4	MARKER POSTS	06–01–94
G–17a	MODIFIED ECCENTRIC LOADER TERMINAL WITH WOOD POSTS	01–18–96
G–17b	MODIFIED ECCENTRIC LOADER TERMINAL WITH WOOD POSTS	06–30–95
G–18	PRECAST CONCRETE TEMPORARY TRAFFIC BARRIER	06–01–94
J–1	PROJECT AND BOUNDARY MARKERS	06–01–94
SB–R4A–82	BRIDGE RAILING, GALVANIZED BOX BEAM	09–19–89
SB–R4B–82	GUARDRAIL APPROACH SECTION, TYPE I	03–30–88
T–1	TEMPORARY EROSION CONTROL DETAILS	06–01–94
T–2	TEMPORARY EROSION CONTROL DETAILS	06–01–94



BARBED WIRE FENCE DETAIL
NTS

1. ALL POSTS SHALL BE SEASONED CEDAR, STRAIGHT, SOUND AND NOT LESS THAN 4–1/2" DIAMETER AT THE SMALL END NOR GREATER THAN 5 1/2" DIAMETER AT THE GROUND LINE.
2. BARBED WIRE SHALL CONFORM TO REQUIREMENTS FOR ZINC COATED (GALVANIZED) STEEL BARBED WIRE, ASTM A 121, 2 STRAND STANDARD SIZE NO. 12 1/2, COATED CLASS NO. 3.
3. STAPLES SHALL BE AT LEAST 1–1/4" LONG OF NO. 9 GALVANIZED WIRE.

DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A

9028+COV.DWG

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	BRAINTREE	Bridge No.	6
Highway No.	VT. Route 12A	Log Sta.	
		Surv. Sta.	

VT. Route 12A over the 3rd Branch of the White River

INDEX OF SHEETS/ MISCELLANEOUS DETAILS

Designed By	J. Warner	Drawn By.	N. Elwood
Checked By	Date	Bridge Design Supervisor	
J. Warner	9/94	Date	
PROJECT	BRAINTREE	PROJECT NO.	BR8 018?(6)
I.G.C. Info.			
Bridge Sheet No.		Sheet 2 Of 79	

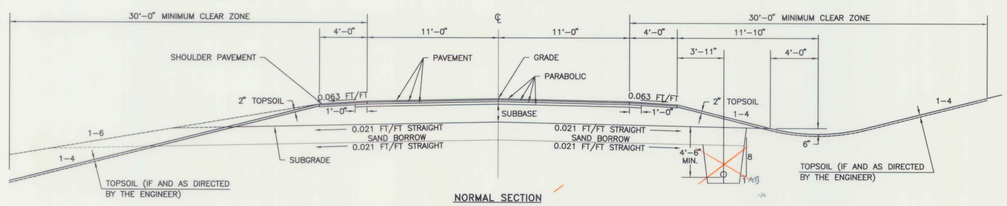
TYPICAL SECTIONS

MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (TOTAL DEPTH)	±1/4"
SUBBASE	±1/2"
SAND BORROW	±1"

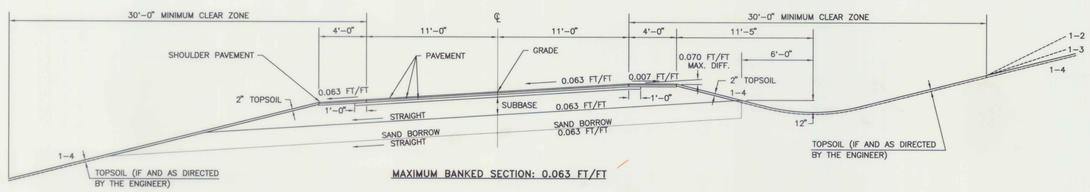
1–1/4" BITUMINOUS CONCRETE PAVEMENT (TYPE III)
1–3/4" BITUMINOUS CONCRETE PAVEMENT (TYPE II)
2–1/2" BITUMINOUS CONCRETE PAVEMENT (TYPE I)
SHOULDERS: 1–1/4" BITUMINOUS CONCRETE PAVEMENT (TYPE III)
1–3/4" BITUMINOUS CONCRETE PAVEMENT (TYPE II)

ALTERNATE A
18" SUBBASE OF DENSE GRADED CRUSHED STONE
18" SAND BORROW

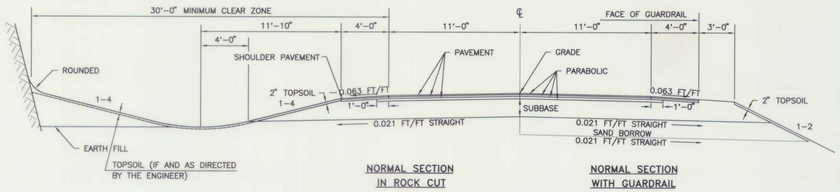
~~**ALTERNATE B**~~
~~18" SUBBASE OF CRUSHED GRAVEL (COARSE GRADED)~~
~~18" SAND BORROW~~



NORMAL SECTION

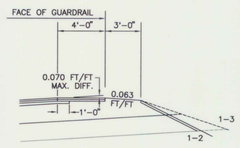


MAXIMUM BANKED SECTION: 0.063 FT/FT

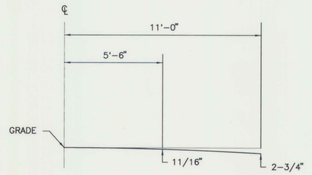


NORMAL SECTION IN ROCK CUT

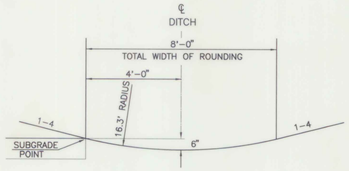
NORMAL SECTION WITH GUARDRAIL



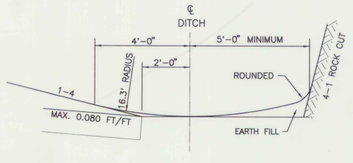
DETAIL OF GUARDRAIL ON HIGH SIDE OF BANKED SECTION



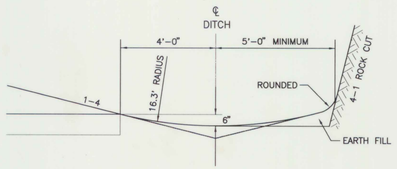
PARABOLIC DETAIL



TYPICAL DITCH DETAIL



DETAILS OF DITCH AND BACKSLOPE FOR LOW SIDE OF BANK ≥ 0.042 FT/FT



DETAILS OF DITCH AND BACKSLOPE FOR LOW SIDE OF BANK < 0.042 FT/FT

SEEDING FORMULA – RURAL AREAS

% WT.	LBS./A.	NAME	PUR %	GERM %
37.50	22.5	CREEPING RED FESCUE	98	85
37.50	22.5	TALL FESCUE	95	90
5.00	3	RED TOP	95	90
15.00	9	BIRDSFOOT TREFOIL	98	85
5.00	3	ANNUAL RYEGRASS	95	85
100.00	60.0			

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

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

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

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

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

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

MARKER POSTS: TO BE PLACED AS INDICATED OR AS DIRECTED BY THE ENGINEER.

SLOPE ROUNDING: ALL CUT SLOPES TO BE ROUNDED IN ACCORDANCE WITH STANDARD SHEET B–5.

PAY LIMITS OF SAND BORROW: WHEN USED IN CONJUNCTION WITH UNDERDRAIN – SEE STANDARD SHEET D–2.

EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.015 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT AS DIRECTED BY THE ENGINEER.

FOR SLOPES IN SOLID ROCK EXCAVATION AND DRILLING AND BLASTING OF SOLID ROCK SUBGRADE, SEE STANDARD SHEET A–60.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRAINTREE	Bridge No. 6
Highway No. VT. Route 12A	Log Sta.
	Surv. Sta.

VT RTE 12A OVER THE THIRD BRANCH OF THE WHITE RIVER

TYPICAL SECTION – ROUTE 12A

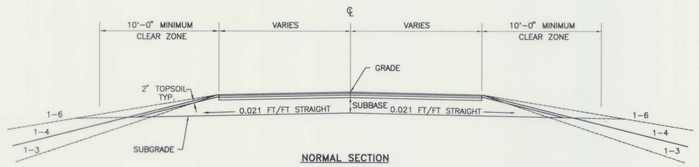
Designed By J. Warner	Drawn By D. Eckman
Checked By Date	Bridge Design Supervisor Date
J. Warner 9/94	
PROJECT BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info.	
Bridge Sheet No.	Sheet 3 Of 79

TYPICAL SECTION (TH 35)

1-1/4" BITUMINOUS CONCRETE PAVEMENT, TYPE III
~~1-3/4" BITUMINOUS CONCRETE PAVEMENT, TYPE II~~
2-1/2" BITUMINOUS CONCRETE PAVEMENT, TYPE I
18" SUBBASE
} (STA 0+15 TO 0+46)

3" AGGREGATE SURFACE COURSE
18" SUBBASE
} (STA 0+46 TO 3+70)

MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (TOTAL DEPTH)	±1/4"
SUBBASE	±1/2"



NORMAL SECTION

STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of BRAINTREE	Bridge No. 6
Highway No. VT. ROUTE 12A	Log Sta. Surv. Sta.
VT RTE 12A OVER THE THIRD BRANCH OF THE WHITE RIVER	
TYPICAL SECTION - TH 35	
Designed By J. Warner	Drawn By. N.Spaulding
Checked By J. Warner Date 9/94	Bridge Design Supervisor Date
PROJECT BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info.	
Bridge Sheet No.	Sheet 4 Of 79

QUANTITY SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

APPROXIMATE SUMMARY OF QUANTITIES

UTILITY	NON-GOVT. PARTIC.	TRAINING	EROSION CONTROL	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.	ROUNDING
					1	1	LS	CLEARING AND GRUBBING (PLUS INDIVIDUAL TREES AND STUMPS)	201.10	–
					3250	3250	CY	COMMON EXCAVATION	203.15	37
					5300	5300	CY	EARTH BORROW	203.30	20
					3000	*3000*	*CY*	*SAND BORROW*	*203.31*	*17*
*ITEM OUT OF ORDER				1060		1060	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27 *	9
					1180	1180	CY	GRANULAR BORROW	203.32	1
					8600	8600	SY	FINE GRADING–SUBGRADE	203.40	44
10			35		385	430	CY	TRENCH EXCAVATION OF EARTH	204.20	8
					40	40	CY	TRENCH EXCAVATION OF ROCK	204.21	EST.
				750	50	800	CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	16
				1		1	LS	COFFERDAMS (REV. STA. 19+40)	204.40	–
				1		1	LS	COFFERDAMS (REV. STA. 20+70)	204.40	–
					125	125	SY	COLD PLANING – BITUMINOUS PAVEMENT	210.10	3
					200	200	SY	SCARIFYING PAVEMENT	212.20	19
					50	50	CY	AGGREGATE SURFACE COURSE	401.10	3
					10	10	CWT	EMULSIFIED ASPHALT	404.65	–
					1350	1350	TON	BITUMINOUS CONCRETE PAVEMENT	406.25	45
				146		146	CY	CONCRETE, CLASS A	501.22	–
				590		590	CY	CONCRETE, CLASS B	501.25	–
				22		22	CY	SILICA-FUME CONCRETE	501.60	–
				1		1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10	–
				1540		1540	LF	STEEL PILING (HP 14 x 73)	505.17	–
				229,290		229,290	LB	STRUCTURAL STEEL (PLATE GIRDER)	506.55	–
				40,650		40,650	LB	REINFORCING STEEL	507.15	–
				46,490		46,490	LB	EPOXY COATED REINFORCING STEEL	507.17	–
				1		1	LS	SHEAR CONNECTORS (600 ~ 7/8" DIA. x 7" STUDS) (606 ~ 7/8" DIA. x 8" STUDS)	508.15	–
				1		1	LS	STRUCTURE PAINTING, SHOP APPLIED (7.8 TONS)	513.25	–
				20		20	GAL	WATER REPELLENT	514.10	–
				53		53	LF	BRIDGE EXPANSION JOINT	516.10	–
				532		532	SY	SHEET MEMBRANE WATERPROOFING	519.20	–
				295		295	LF	BRIDGE RAILING–2 RAIL GALV. BOX BEAM	525.31	–
				1		1	LS	MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS	527.10	–
				1		1	EA	PARTIAL REMOVAL OF STRUCTURE	529.20	–

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		COMMON EXCAVATION
2895	CY	MAINLINE
303	CY	TH 35
15	CY	FIELD ENTRANCES
37	CY	ROUNDING
3250	CY	TOTAL

BITUMINOUS CONCRETE PAVEMENT

QUANTITIES	UNIT	ITEMS	TYPE IV	TYPE III	TYPE II	TYPE I
1029	TON	MAINLINE	–	257	360	412
39	TON	TH 35	–	9	12	18
151	TON	APPROACHES	–	46	49	56
86	TON	BRIDGE	43	43	–	–
45	TON	ROUNDING				
1350	TON	TOTAL	43	355	421	486

FINE GRADING – SUBGRADE

QUANTITIES	UNIT	ITEMS
7528	SY	MAINLINE
1028	SY	TH 35
44	SY	ROUNDING
8600	SY	TOTAL

TOPSOIL

QUANTITIES	UNIT	ITEMS
114	CY	MAINLINE
20	CY	TH 35
16	CY	ROUNDING
150	CY	TOTAL

SUBBASE (ALT. A)

QUANTITIES	UNIT	ITEMS
2572	CY	MAINLINE
605	CY	TH 35
214	CY	FIELD ENTRANCES
175	CY	TEMP. EROSION CONTROL
34	CY	ROUNDING
3600	CY	TOTAL

PROJECT NAME BRAINTREE
PROJECT NUMBER BRS 0187(6)

QUANTITY SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

APPROXIMATE SUMMARY OF QUANTITIES

						UTILITY	NON-GOVT. PARTIC.	TRAINING	EROSION CONTROL	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.	ROUNDING
										10		10	EA	BEARING DEVICE ASSEMBLY	531.10	–
											152	152	LF	18" CPEP (SL)	601.2615	0
											1	1	EA	18" CPEPES	601.7015	0
														********** BEGIN OPTION PIPES **********		
											84	84	LF	18" RCP CLASS III	601.0815	0
											84	84	LF	18" CPEP (SL)	601.2615	0
											68	68	LF	18" CAAP .060 (2-2/3 X 1/2)	601.0215	0
											68	68	LF	18" PCCSP .064 (2-2/3 X 1/2)	601.0415	0
											68	68	LF	18" CPEP (SL)	601.2615	0
											1	1	EA	18" RCPES CLASS III	601.6815	0
											1	1	EA	18" CPEPES	601.7015	0
											1	1	EA	18" CSPES .064 (2-2/3 X 1/2)	601.6015	0
											1	1	EA	18" CAAPES .060 (2-2/3 X 1/2)	601.6215	0
											1	1	EA	18" CPEPES	601.7015	0
														********** END OPTION PIPES **********		
							55					55	LF	RELAYING PIPE CULVERTS (MOD.)	601.99	EST.
											100	100	LF	6" UNDERDRAIN	605.10	EST.
											100	100	LF	6" UNDERDRAIN CARRIER PIPE	605.20	EST.
											1	1	EA	UNDERDRAIN FLUSHING BASINS	605.95	EST.
											1	1	HR	BULLDOZER RENTAL, TYPE I (NOT A BID ITEM)	608.10	EST.
											1	1	HR	POWER GRADER RENTAL (NOT A BID ITEM)	608.15	EST.
											1	1	HR	ALL PURP. EXCAV. RENT. TYPE I (NOT A BID ITEM)	608.25	EST.
											1	1	HR	TRUCK RENTAL (NOT A BID ITEM)	608.37	EST.
											200	200	MGAL	DUST CONTROL WITH WATER	609.10	EST.
											2.0	2.0	TON	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15	EST.
										20		20	CY	STONE FILL, TYPE I	613.10	EST.
										10		10	CY	STONE FILL, TYPE II	613.11	4
											2460	2460	CY	STONE FILL, TYPE IV	613.13	–
											15	15	EA	BOUNDARY MARKERS	619.10	EST.
											7	7	EA	YIELDING MARKER POSTS	619.17	0
											20	20	LF	GATE FOR CHAIN-LINK FENCE, 4 FEET (MOD.)	620.15	0
											270	270	LF	REMOVAL OF EXISTING FENCE (1-STRAND)	620.55	EST.
											200	200	LF	BARBED WIRE FENCE (4-STRAND)	620.60	EST.
											775	775	LF	STEEL BEAM GUARDRAIL	621.20	12.5
											5	5	EA	MODIFIED ECCENTRIC LOADER TERMINAL	621.52	0
											1	1	EA	ANCHOR FOR STEEL BEAM GUARDRAIL	621.60	0
											4	4	EA	GUARDRAIL APPROACH SECTION, TYPE I	621.70	0
											370	370	LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	3
											4	4	EA	REMOVAL AND DISPOSAL OF GUIDE POSTS	621.81	0

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT NAME BRAINTREE
PROJECT NUMBER BRS 0187(6)

902820TV.DWG Sht #6 (1=1)

QUANTITY SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

APPROXIMATE SUMMARY OF QUANTITIES

						UTILITY	NON-GOVT. PARTIC.	TRAINING	EROSION CONTROL	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.	ROUNDING
											100	100	LF	TEMPORARY TRAFFIC BARRIER	621.90	EST.
											230	230	HR	UNIFORMED TRAFFIC OFFICERS	630.10	EST.
											600	600	HR	FLAGGERS	630.15	EST.
											1	1	LS	FIELD OFFICE–ENGINEERS	631.10	–
										1		1	LS	TESTING EQUIPMENT – CONCRETE	631.16	–
										0.1	0.9	1	LS	TESTING EQUIPMENT – BITUMINOUS	631.17	–
											1	1	LS	FIELD OFFICE TELEPHONE (NOT A BID ITEM)	631.25	–
								540				540	HR	EMPLOYEE TRAINEESHIP	634.10	–
											1	1	LS	MOBILIZATION	635.10	–
											3000	3000	LF	DURABLE 4" WHITE LINE	646.40	81
											2850	2850	LF	DURABLE 4" YELLOW LINE	646.41	30
											20	20	LF	DURABLE 24" STOP BAR	646.46	0
											750	750	LF	TEMPORARY 4" WHITE LINE	646.60	EST
											2850	2850	LF	TEMPORARY 4" YELLOW LINE	646.61	30
											115	115	EA	LINE STRIPING TARGETS	646.73	4
									40	800		840	SY	GEOTEXTILE UNDER STONE FILL	649.31	10
									700			700	SY	GEOTEXTILE FOR SILT FENCE	649.51	EST.
									180			180	SY	GEOTEXTILE FOR FILTER CURTAIN	649.61	EST.
									170			170	LB	SEED	651.15	EST.
									7			7	LB	SEED – WINTER RYE	651.17	EST.
									1375			1375	LB	FERTILIZER	651.18	EST.
									6			6	TON	AGRICULTURAL LIMESTONE	651.20	EST.
									6			6	TON	HAY MULCH	651.25	EST.
									350			350	EA	HAY BALES FOR EROSION CONTROL	651.26	EST.
											150	150	CY	TOPSOIL	651.35	EST.
										620		620	SY	GRUBBING MATERIAL	651.40	–
									950			950	SY	EROSION MATTING	654.10	EST.
											68	68	SF	TRAFFIC SIGNS, TYPE A	675.20	0.4
											600	600	LB	FLANGED CHANNEL SIGN POSTS	675.30	8
											17	17	EA	REMOVING SIGNS	675.50	0
														ALTERNATE 'A'		
											3600	3600	CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	34
														ALTERNATE 'B'		
											3600	3600	CY	SUBBASE OF CRUSHED GRAVEL (COARSE GRADED)	301.25	34

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		TEMPORARY EROSION CONTROL
35	CY	TRENCH EXCAVATION OF EARTH
175	CY	SUBBASE
20	CY	STONE FILL, TYPE I
155	SY	GEOTEXTILE FOR SILT FENCE
7	LB	SEED – WINTER RYE
1	TON	HAY MULCH
100	EA	HAY BALES FOR EROSION CONTROL
100	SY	EROSION MATTING

PROJECT NAME BRAINTREE
PROJECT NUMBER BRS 0187(6)

ITEM DETAIL AND DRAINAGE SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE STRUCTURES

STA.	STA.	POSITION	ASKEW	TYPE	DITCH		PIPE ARCH			PIPE		ALLOWABLE OPTIONS						PIPE ELBOW	ES	CB	PRCSD	DEPTH DI	CONC CL B	REIN STEEL	DI GRATE	CHAN ELEV	CRM	TR EXCAV		COMM EXC	UNC CHAN EXC	STRUC EXCAV	GRAN BKF STRUC	GRAN BORR	EROS MATT	STONE FILL		MRKR POSTS		REMARKS
				IN/OUT	IN	OUT	S	R	L	D	L	PCCSP	CAAP	RCP	CSP	CPEP	PCCSP PT	NO-DIA	EA			DI	CY	LBS	TYPE		CY	EARTH CY	ROCK CY	CY	CY	CY	CY	CY	SY	CY	TYPE	LT	RT	
12+83		CL		ES/SF						18	84			III		SL			1									30					11			2	II	1	1	NEW ES ❶ INLET, STONE FILL, TYPE II ❷ INLET AND OUTLET
12+83	18+40	RT																															498					CONSTRUCT SPECIAL DITCH TO INLET ❶ 12+83
18+40	51+00 CH	RT		ES/–						18	152					SL			1									111					20					1		NEW ES ❷ INLET
18+40	52+50 CH	RT																															231						
21+14		RT																																	2	II			CONSTRUCT 4'X6' PAD, STONE FILL TYPE II
25+12	26+46	LT																										132						119					CONSTRUCT SPECIAL DITCH TO INLET ❶ 25+80
25+80		CL		ES/SF						18	68	.064	.060			SL			1									49					11			2	II	1	1	NEW ES ❷ INLET, STONE FILL TYPE II ❷ OUTLET

GUARDRAIL ITEMS

16+15.5	16+53	LT																																				
16+53	18+65.5	LT																																				
17+00	17+37.5	RT																																				
17+37.5	18+00	RT																																				
18+00	18+37.5	RT																																				
18+65.5	19+15.5	LT																																				
0+40.5,TH35	19+05	RT																																				
19+05	19+55	RT																																				
19+88	20+08	RT																																				
20+51.5	21+01.5	LT																																				
21+01.5	23+89	LT																																				
21+13.5	21+83.5	RT																																				
21+20	24+00	RT																																				
21+40	21+71	RT																																				
21+63.5	23+26	RT																																				
23+26	23+63.5	RT																																				
23+89	24+26.5	LT																																				
CHANNEL	LINE:																																					
51+58	51+78	RT																																				
TOTALS										18 18 18	84 152 68	.064	.060	III		SL SL SL			1 1 1									322					42		848	6	II	2	3

GUARDRAIL ITEMS								REMARKS
–	621.20	621.52	621.60	621.70	621.74	621.80	621.81	
		1						
	212.5							
		1						
	62.5							
		1						
				1				
	37.5		1					ANCHOR ❷ 0+32 LT, TH 35
				1				
						20		
				1				
	287.5							
				1				
						290		
						31		
	162.5							
		1						
		1						
						26		
	762.5	5	1	4		367	4	

UNDERDRAIN

STA.	STA.	POSITION	TYPE	D	L	TR EXCAV EARTH	TR EXCAV ROCK	GRAN BKF	FB		MKR PST
ESTIMATED		---	U	6	100	37	10	---	1		2
			C	6	100	19	---	---			
TOTALS			U	6	100	56	10	---	1		2
			C	6	100						

PROJECT NAME BRAINTREE
PROJECT NUMBER BRS 0187(6)

EARTHWORKS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

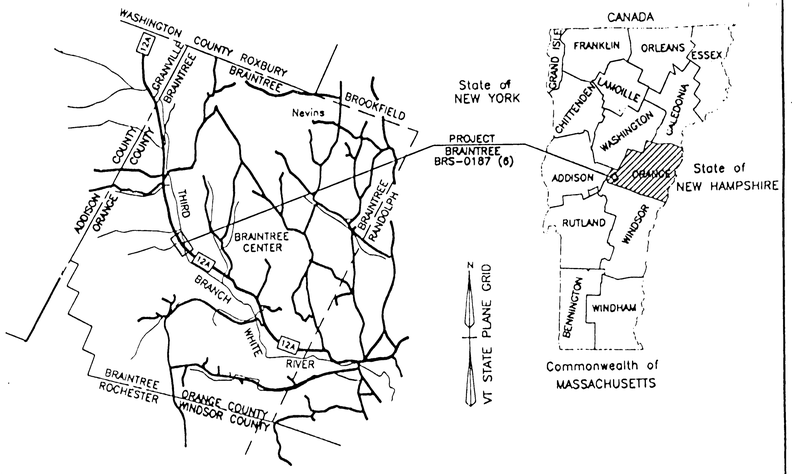
GRADES V. C.	% GRADE	STATION	ELEVATION ON TANGENT	ELEVATION ON CURVES	CORR V. C.	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK CU. YDS.	ROCK EXCAVATION AREA	ROCK EXCAVATION CU. YDS.	EMBANKMENT AREA	EMBANKMENT CU. YDS.		
		12+00					48				0			
						50		127				31		
		+50					91				34			
						50		160				85		
		13+00					82				58			
						50		139				93		
		+50					68				42			
						50		90				135	C	572
		14+00					29				104		F	770
						50		38				188	FFAC	1.15
		+50					12				99			
						50		18				238	EXF	314
		15+00					7				158			
						50		9				345		
		+50					3				215			
						50		5				422		
		16+00					2				241			
						49		24				493		
		+49					24				302		C	792
						50		59				664	F	5013
		+99					40				415		FFAC	1.15
						50		97				792		
		17+49					65				440		EXF	4973
						50		218				882		
		+99					170				513			
						51		289				924		
		18+50					138				465			
						21		–				362		
		18+71				38	–	91			465			
						15		–				129		
		18+86					0				0			
			BRIDGE			–		–				–		
		21+24					0				0			
						10		0				37		
		+34					0				202			
						13		43				116		
		+47					179				280			
						50		286				379		
		+97					130				129			
						49		187				207	C	1531
		22+46					76				99		F	1308
						50		131				188	FFAC	1.15
		+96					65				104			
						50		125				169	EXC	27
		23+46					70				79			
						50		147				121		
		+96					89				52			
						50		183				68		
		24+46					109				21			
						50		217				19		
		+96					125				0			
						50		162				2		
		25+46					50				2			
						54		50				2		
		26+00					0				0			
		CARRIED FORWARD						2895				7091		
		COLUMN FOOTINGS												

GRADES V. C.	% GRADE	STATION	ELEVATION ON TANGENT	ELEVATION ON CURVES	CORR V. C.	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK CU. YDS.	ROCK EXCAVATION AREA	ROCK EXCAVATION CU. YDS.	EMBANKMENT AREA	EMBANKMENT CU. YDS.		
		TOWN HIGHWAY #35												
		AREA FROM PLAN:												
		TH 35 STA 0+25 TO 0+85												
		[(2228 SF)(AVG. DEPTH 3.2')]/27=										264		
		ADDDITIONAL FILL FROM CHANNEL SECTIONS 50+30 TO 51+00 RT =										120		
		0+85					0				127			
						55		39				205		
		+39					38				74		C	303
						54		63				170	F	886
		+93					25				98		FFAC	1.15
						53		57				111		
		2+46					33				17		EXF	716
						52		74				16		
		2+98					44				0			
						52		58				0		
		3+50					16				0			
						20		12				0		
		3+70					16				0			
		DRIVES/FIELD ENTRANCES						15				440	C	15
													F	440
													FFAF	1.15
													EXF	491

STATE OF VERMONT
AGENCY OF TRANSPORTATION

R.O.W. PLANS

PROPOSED IMPROVEMENT
TOWN OF BRAINTREE
COUNTY OF ORANGE
VT ROUTE 12A (F.A.S.)



PROJECT LOCATION, LENGTH AND DESCRIPTION – "BEGINNING AT A POINT IN THE TOWN OF BRAINTREE, ON VERMONT ROUTE 12A APPROXIMATELY 3.751 MILES NORTHERLY OF THE RANDOLPH–BRAINTREE TOWN LINE, AND EXTENDING NORTHERLY 0.237 MILES."

LENGTH OF ROADWAY = 1111.95 FEET = 0.211 MILES
LENGTH OF BRIDGE = 138.05 FEET = 0.026 MILES
LENGTH OF PROJECT = 1250.00 FEET = 0.237 MILES
LENGTH OF R.O.W. PROJECT = 1747.00 FEET = 0.331 MILES

WORK TO BE PERFORMED UNDER THIS PROJECT CONSISTS OF REPLACEMENT OF EXISTING BRIDGE #6 ON VERMONT ROUTE 12A, INCLUDING ALL THE NECESSARY ROADWAY APPROACH WORK.

BEGIN R.O.W. PROJECT
BRS 0187(6) REV. STA. 11+50 ℄

BEGIN MAINT. AGREE. AREA NO. 1
REV. STA. 18+66 15' RT.

ALL DRIVES AS INDI ATED ON PLANS ARE SUBJECT TO PERMITS PURSUANT TO TITLE 19 SECTION 1111, V.S.A.

REV. STA. 19+36.02
STOP ROADWAY
BEGIN BRIDGE

REV. POC 18+66.31 =
T.H. #35 POT 0+00

REV. STA. 20+74.07
END BRIDGE
RESUME ROADWAY

MAG 1986

TO RANDOLPH — VT. RTE. 12-A — TO ROXBURY

CENTRAL VERMONT RAILROAD

3RD BRANCH OF THE WHITE RIVER

TH 35

REV. STA. 11+50
BEGIN APPROACH

REV. STA. 12+50
END APPROACH
BEGIN PROJECT BRS-0187 (6)

TH 35 STA. 3+70
END CONSTRUCTION

REV. STA. 25+00
END PROJECT BRS-0187 (6)
BEGIN APPROACH

REV. STA. 26+00
END APPROACH

END MAINT. AGREE. AREA. NO. 1
BEGIN RELINQUISHMENT NO. I
REV. STA. 18+66 41' RT. (LENGTH 26')

END RELINQUISHMENT NO. I
TH#35 2+10 25' LT.

END R.O.W. PROJECT
BRS 0187(6) REV. 28+97 62' RT.

100 0 100

CONVENTIONAL SIGNS

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

DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A

EXEMPT

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE CHIEF ENGINEER.
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1990, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON MARCH 15, 1990 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

APPROVED: Gordon R. McArthur DATE: 11/13/92
Director of Engineering

APPROVED: William A. Black DATE: 12/13/92
Chief, Right of Way

THIS SHEET FOR ROW USE ONLY

BRAINTREE
BRS 0187(6)
ROW SHEET 1 OF 10 SHEETS
11 79

9028SCOV.DWG

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

TABLE OF PROJECT PROPERTY ACQUISITION

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS
1A	VINTON, STILLMAN C. & LURA A.	9	REV. 11+50 LT. REV. 12+80 LT. REV. 14+00 LT.	REV. 14+67 LT.	0.08A±		 CUL., DIT. & DR. (P) DRIVE (T)	WD	11-30-94	BRAINTREE	38	519-520	3460 S.F.± 16' GRAVEL M.P. 0378
1B		10	REV. 19+57 LT. REV. 20+08 LT. REV. 23+05 LT. REV. 23+30 LT. REV. 24+50 LT.	REV. 24+89 LT. REV. 24+80 LT. REV. 23+70 LT.	0.34A±		 EASEMENT (T) SLOPE (T) 0.01A± DRIVE (T)						 REMOVE SNOWMOBILE BRIDGE FENCE 40 S.F.± 16' GRAVEL M.P. 0398
1C		9	REV. 11+50 CL.	REV. 14+68 CL.	0.18A±		ALL R. T. & I.						VT RTE. 12A
1D		10	REV. 20+43 RT.	REV. 24+89 CL.	0.27A±		ALL R. T. & I.						VT RTE. 12A
2A	CENTRAL VERMONT RAILWAY, INC.	9,10	REV. 11+50 RT. REV. 12+85 RT. REV. 12+83 RT.	REV. 15+90 RT. TH 35 3+50 RT.	0.14A±		 CULVERT & DITCH (P) SLOPE (T) 0.24A±	RR AGREE.		BRAINTREE			
2B		10	T.H. 35 3+70 CL.				EASEMENT (T) 0.02A±	RR AGREE.					1000 S.F.± TO CONSTRUCT APPROACH
2C		9,10	REV. 11+50 RT.	REV. 25+25 RT.	1.60A±		ALL R. T. & I.	OCD					VT RTE 12A CV PROPERTY MAP SHEET #V8/52 PARCEL #5,6,7
2D		10	REV. 18+92 RT.	REV. 20+46 RT.	0.08A±		ALL R. T. & I.	OCD					T.H. 35 3550 S.F.±
2E		9	CV STA 2697+80 LT. (MP 0358)	CV STA. 2706+70 LT. (MP0373=R STA 11+50 CL)				OCD					VT RTE 12A: CV PROPERTY MAP V8/52, 6-30-17, PARCELS #4&5 (RTE. 12A MILEPOST+PROJ STA)
2F		10	CV STA. 2719+20 LT. (MP0399=R STA 25+25 CL)	CV STA. 2730+95 LT. (MP 0422)				OCD					VT RTE 12A CV PROPERTY MAP V8/52, 6-30-17, PARCEL #7 (RTE 12A MILE POST+PROJ STA)
3A	FARNSWORTH, ROBERT L. & VERLIE C.	9,10	REV. 14+67 LT. REV. 15+50 LT. REV. 15+90 LT. REV. 15+95 LT.	REV. 20+43 RT. REV. 18+95 LT. REV. 18+60 LT.	0.75A±		 DRIVE (T) CONST. (T) 0.05A± SLOPE (T) 0.07A±	WD		BRAINTREE			 16' GRAVEL M.P. 0381 2000 S.F.± 3250 S.F.±
3B		9,10	REV. 14+67 LT.	REV. 21+00 RT.	0.37A±		ALL R. T. & I.						VT RTE. 12A
3C		10	REV. 18+92 RT.	REV. 20+46 RT.	0.08A±		ALL R. T. & I.						T.H. 35 3550 S.F.±

REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
1	7, 9 10	PARCEL NO 2 CENTRAL VT. RAILWAY, INC. TO PARCEL 2C, ADD 'ALL R. T. & I.' TO REST OF VT. RTE. 12 IN PROJECT AREA. CHANGE ENDING STA. TO REV. 25+25 RT. AND CHANGE AREA TO 1.60A±. PER C.O. 8500.	02-10-94	C. C. P.	L. W. B.
2	8	PARCEL NO. 5B & 6 MERUSI & TOWN OF BRAINTREE. DELETE SECOND 'ALL R. T. & I.' FROM 5B, AND ADD 'ALL R. T. & I.' TO TOP LINE OF PARCEL 6. PER C.O. 8501.	02-10-94	C. C. P.	L. W. B.
3	7, 9 10	PARCEL NO. 4 CENTRAL VT. RAILWAY, INC. ADD ADITIONAL SLOPE (T) AT REV. 12+83 RT. ~ REV. 18+60 RT., 0.14A±. REMOVE OLD SLOPE LIMITS & RIGHTS. CHANGE TITLE TO OC & RR AGREEMENTS. ADD CULVERT AND DRY HYDRANT TOPO. ADD PARCELS 2E & 2F FOR ALL R. T. & I. IN HIGHWAY OFF PROJECT. PER C.O. 8620.	12-05-94	M. J. R.	L. W. B.

THIS SHEET FOR ROW USE ONLY

0187006 200 1805 84E042

ACCT.prop
/prop/84e042/re042d.dgn
DATE PLOTTED 25-FEB-1995
re042dl.l

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

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

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

REVISED 12-05-94

APPROVED: LAWRENCE W. BLISS DATE: 12-14-93
AGENT D, PLANS & TITLES

R. O. W. PLANS

BRAINTREE
BRS 0187(6)
SHEET 7 OF 10

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

TABLE OF PROJECT PROPERTY ACQUISITION

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS
4	WHITE RIVER VALLEY SNOWGOERS, INC.	10	REV. 19+35 RT.	REV. 20+25 LT.									SNOWMOBILE BRIDGE
5A	MERUSI, DINO A. & MARY ABEL	10	REV. 21+00 RT.	REV. 28+97 RT.	0.95A±			WD		BRAINTREE			
5B		10	REV. 20+70 RT.	REV. 25+25 RT.	0.25A±		ALL R. T. & I.						VT RTE. 12A
6	TOWN OF BRAINTREE -	10	REV. 24+89 CL.	REV. 25+25 CL.	0.02A±		ALL R. T. & I.	OCD	11-23-94	BRAINTREE	38	511-512	VT. RTE. 12A 900 S.F.±
	(MOUTAIN VIEW CEMETERY)		REV. 25+00 LT. REV. 25+20 LT. REV. 25+80 LT.	REV. 26+40 LT.			DRIVE (T) SLOPE (T) 0.05A± CULVERT (P)						16' GRAVEL M.P. 0399 2000 S.F.±
7A	TOWN OF BRAINTREE	10	REV. 18+97 RT.	REV. 22+70 RT.			APPROACH (T)	OCD	10-07-94	BRAINTREE	38	442-443	T.H. 35
7B		10	REV. 18+92 RT.	REV. 20+46 RT.	0.08A±		ALL R. T. & I.						VT RTE. 12A 3550 S.F.±
8	CENTRAL VERMONT PUBLIC SERVICE CORP.												UTILITY
9	NEW ENGLAND TELEPHONE COMPANY												UTILITY
	MAINTENANCE AGREEMENT AREA NO. 1	10	REV. 18+66 RT.	REV. 18+66 RT.									T.H. 35 LENGTH 26'
	RELINQUISHMENT NO. 1	10	REV. 18+66 RT.	T.H. 35 2+10 LT.									T.H. 35

REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY

THIS SHEET FOR ROW USE ONLY

0187006 200 1805 84E042

ACCT.prop
/prop/84e042/re042d.dgn
DATE PLOTTED 25-FEB-1995
re042d2.I

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

PRESENT R.O.W.
TAKING WITHOUT ACCESS
TAKING WITHOUT ACCESS ALONG PROPERTY LINE
TAKING WITH ACCESS
(P) PERMANENT EASEMENT
(T) TEMPORARY EASEMENT

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

REVISED 12-05-94

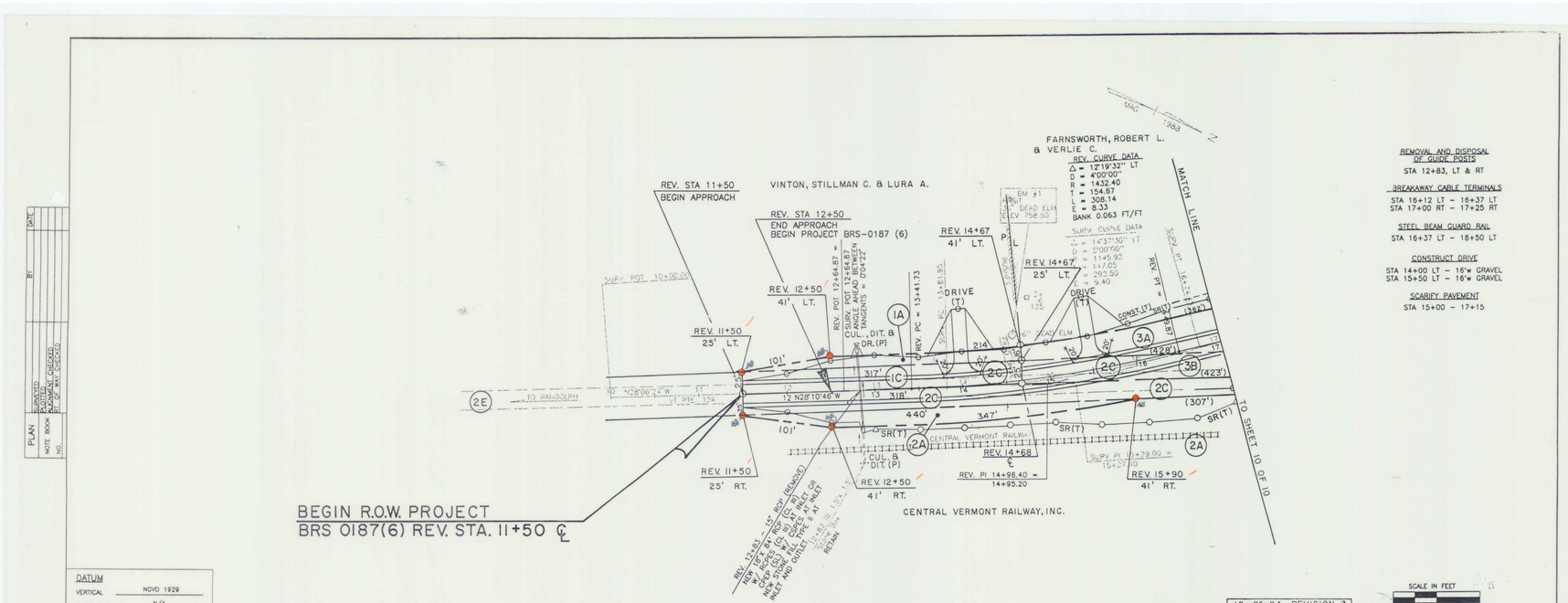
APPROVED: LAWRENCE W. BLISS DATE: 12-14-93
AGENT D. PLANS & TITLES

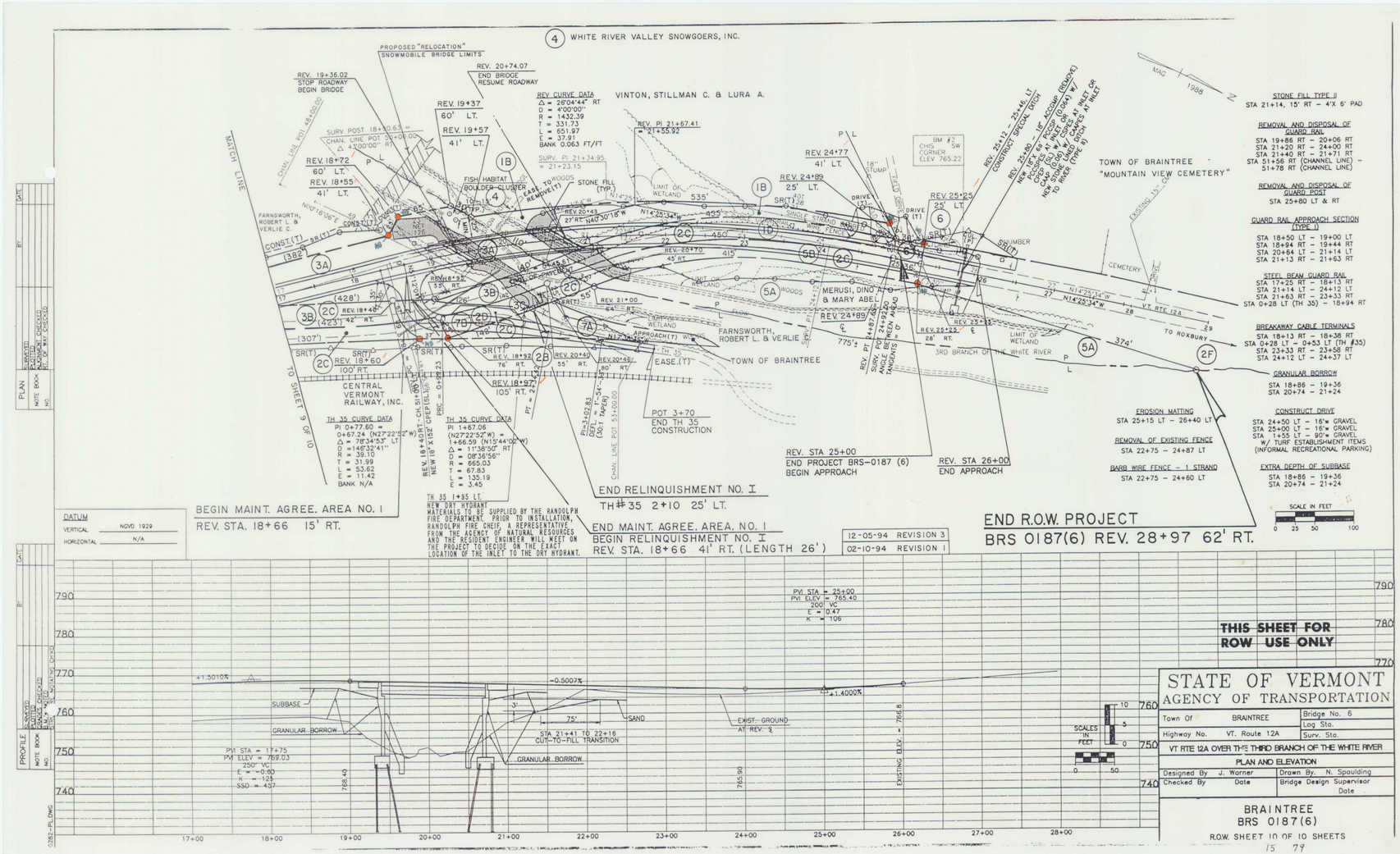
R. O. W. PLANS

BRAINTREE
BRS 0187(6)

SHEET 8 OF 10

13 79


FARNSWORTH, ROBERT L.
& VERLIE C.
REV. CURVE DATA
Δ = 12°19'32" LT
D = 4°00'00"
R = 1432.40
T = 154.87
L = 308.14
E = 8.33
BANK 0.063 FT/FT
SUPA CURVE DATA
Δ = 14°37'30" LT
D = 5°00'00"
R = 1145.92
T = 147.05
L = 292.50
E = 9.40
REV. STA 11+50
BEGIN APPROACH
VINTON, STILLMAN C. & LURA A.
REV. STA 12+50
END APPROACH
BEGIN PROJECT BRS-0187 (6)
REV. 14+67
41' LT.
REV. 14+67
25' LT.
REV. 12+50
41' LT.
REV. 11+50
25' LT.
MATCH LINE
DRIVE (T)
DRIVE (T)
SURV. POT 10+06.00
REV. POT 12+64.87 = 13+41.73
CSURV. POT 12+84.87 = 13+61.95
ANGLE BETWEEN TANGENTS = 0°01'22"
REV. PC = 13+41.73
REV. PT = 16+34.13
SURV. PT = 16+34.13
BM #1
DEAD ELM
ELEV 758.50
CONST. LT. SHLD. (382')
EASY FLOW DITCH
(428')
(423')
(307')
10' N28°06'32"W 11'
12 N28°10'46"W
101'
101'
317'
318'
440'
347'
214'
116'
1A
1C
2C
2E
3A
3B
2A
SR(T)
CUL. & DIT.(P)
CUL. & DIT. & HDR.(P)
10 RANDOLPH
CENTRAL VERMONT RAILWAY
REV. 14+68
REV. PI 14+96.40 = 14+95.20
SURV. PI 12+79.00 = 15+27.10
REV. 12+50
41' RT.
REV. 11+50
25' RT.
REV. 15+90
41' RT.
TO SHEET 10 OF 10
BEGIN R.O.W. PROJECT
BRS 0187(6) REV. STA. 11+50 ℄
CENTRAL VERMONT RAILWAY, INC.
REMOVAL AND DISPOSAL OF GUIDE POSTS
STA 12+83, LT & RT
BREAKAWAY CABLE TERMINALS
STA 16+12 LT – 16+37 LT
STA 17+00 RT – 17+25 RT
STEEL BEAM GUARD RAIL
STA 16+37 LT – 18+50 LT
CONSTRUCT DRIVE
STA 14+00 LT – 16'w GRAVEL
STA 15+50 LT – 16'w GRAVEL
SCARIFY PAVEMENT
STA 15+00 – 17+15
DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A
12-05-94 REVISION 3
02-10-94 REVISION 1
SCALE IN FEET
0 25 50 100
PLAN
SURVEYED
PLOTTED
CHECKED
NOTE BOOK
NO.
BY:
DATE
PROFILE
SURVEYED
PLOTTED
CHECKED
NOTE BOOK
NO.
BY:
DATE
780
770
760
750
740
PVI STA = 12+50
PVI ELEV = 761.15
200' VC
E = 0.24
K = 210
+1.5010%
+0.5500%
EXIST. GROUND AT REV. 3
EXISTING ELEV. = 766.6
762.65
767.15
10+00
11+00
12+00
13+00
14+00
15+00
16+00
17+00
SCALES IN FEET
10
5
0
50
0
THIS SHEET FOR ROW USE ONLY
STATE OF VERMONT
AGENCY OF TRANSPORTATION
Town Of BRAINTREE
Bridge No. 6
Highway No. VT. Route 12A
Log Sta.
Surv. Sta.
VT RTE 12A OVER THE THIRD BRANCH OF THE WHITE RIVER
PLAN AND ELEVATION
Designed By J. Warner
Drawn By. N. Spaulding
Checked By Date
Bridge Design Supervisor Date
BRAINTREE
BRS 0187(6)
R.O.W. SHEET 9 OF 10 SHEETS
14 79
90282-PLDWG


4 WHITE RIVER VALLEY SNOWGOERS, INC.
PROPOSED "RELOCATION" SNOWMOBILE BRIDGE LIMITS
REV. 19+36.02 STOP ROADWAY BEGIN BRIDGE
REV. 20+74.07 END BRIDGE RESUME ROADWAY
REV. 19+37 60' LT.
REV. 19+57 41' LT.
REV. 18+72 60' LT.
REV. 18+55 41' LT.
REV. CURVE DATA
Δ = 26°04'44" RT
D = 4°00'00"
R = 1432.39
T = 331.73
L = 651.97
E = 37.91
BANK 0.063 FT/FT
VINTON, STILLMAN C. & LURA A.
REV. PI 21+67.41 = 21+55.92
SURV. PI 21+34.95 = 21+23.15
SURV POST 18+10.63
CHAN. LINE POT 20+01.00
Δ = 4°00'00" RT
CHAN. LINE POT 48+00.00
MATCH LINE
FISH HABITAT BOULDER CLUSTER
STONE FILL (TYP.)
LIMIT OF WETLAND
SINGLE STRAND WIRE FENCE
REV. 20+43 27' RT. N40°30'16" W
REV. 20+70 45' RT.
REV. 21+00 64' RT.
REV. 18+93 18' RT.
REV. 18+45 (425') 42' RT.
REV. 18+60 100' RT.
REV. 18+97 105' RT.
REV. 20+40 80' RT.
REV. 20+40 55' RT.
REV. 18+92 76' RT.
REV. 18+40 RT - CH. 51+00 REV 18" X152' CPEP (SLOPE)
PRC = 0+23
FARNSWORTH, ROBERT L. & VERLIE C.
CONST.(T) SR(T)
(382')
(307')
(428')
SR(T)
EASE.(T)
APPROACH(T) W.
CENTRAL VERMONT RAILWAY, INC.
TOWN OF BRAINTREE
TO SHEET 9 OF 9
TH 35 CURVE DATA
PI 0+77.60 = 0+67.24 (N27°22'52"W) = 1+66.59 (N15°44'02"W)
Δ = 78°34'53" LT
D = 16°32'41"
R = 39.10
T = 31.99
L = 53.62
E = 11.42
BANK N/A
TH 35 CURVE DATA
PI 1+67.06
Δ = 113°8'50" RT
D = 08°36'56"
R = 665.03
T = 67.83
L = 135.19
E = 3.45
POT 3+70 END TH 35 CONSTRUCTION
CHAN. LINE POT 51+00.00
TH 35 1+95 LT
NEW DRY HYDRANT
MATERIALS TO BE SUPPLIED BY THE RANDOLPH FIRE DEPARTMENT. PRIOR TO INSTALLATION, RANDOLPH FIRE CHEIF, A REPRESENTATIVE FROM THE AGENCY OF NATURAL RESOURCES AND THE RESIDENT ENGINEER WILL MEET ON THE PROJECT TO DECIDE ON THE EXACT LOCATION OF THE INLET TO THE DRY HYDRANT.
END RELINQUISHMENT NO. I
TH #35 2+10 25' LT.
BEGIN MAINT. AGREE. AREA NO. I
REV. STA. 18+66 15' RT.
END MAINT. AGREE. AREA. NO. I
BEGIN RELINQUISHMENT NO. I
REV. STA. 18+66 41' RT. (LENGTH 26')
REV. 24+77 41' LT.
REV. 24+89 25' LT.
REV. 25+25 25' LT.
BM #2 CHIS SW CORNER ELEV 765.22
DRIVE (T)
SR(T)
CULVERT
REV. 24+89 REV. PT 24+87.60 SURV. POT 24+87.60 ANGLE BETWEEN TANGENTS = 0°
REV. 25+12 - 25+45 LT CONSTRUCT SPECIAL DITCH
REV. 25+80 - 18" ACCUMS (REMOVE) 148' RCSP (0.064") W. CASES AT INLET OR OUTLET 148' RCSP (0.064") W. CASES AT INLET OR OUTLET 148' RCSP (0.064") W. CASES AT INLET OR OUTLET

DURABLE 4" YELLOW LINE
11+38 ~ 17+00 SOLID RT. DASH LT. AB

DURABLE 4" WHITE LINE
11+38 ~ 17+00 LT & RT AB

REMOVAL AND DISPOSAL OF GUIDE POSTS
STA 12+83, LT & RT

MODIFIED ECCENTRIC LOADER TERMINAL
STA 16+15.5 LT – 16+53 LT

STEEL BEAM GUARDRAIL
STA 16+53 LT – 17+00 LT

CONSTRUCT DRIVE
STA 14+00 LT – 16' SUBBASE MATERIAL
STA ~~15+50~~ 15+30 LT – 16' SUBBASE MATERIAL AB

SCARIFY PAVEMENT
STA 15+00 – 17+00

EROSION MATTING
STA ~~12+83~~ 15+30 – 17+00 RT

COLD PLANING
11+37 ~ 11+75 ± AB

MAG 1988

REV. CURVE DATA
Δ = 12°19'32" LT
D = 4°00'00"
R = 1432.40
T = 154.67
L = 308.14
E = 8.33
BANK 0.063 FT/FT

SURV. CURVE DATA
Δ = 14°37'30" LT
D = 5°00'00"
R = 1145.92
T = 147.05
L = 292.50
E = 9.40

11+38 AB
REV. STA ~~11+50~~
BEGIN APPROACH

REV. STA 12+50
END APPROACH
BEGIN PROJECT BRS 0187(6)

BM #1 AB
RR SPIKE
36" DEAD ELM
ELEV 758.50

SURV. POT 10+00.00

SURV. POT 11+50, 0.15' RT =
REV. POT 11+50

REV. POT 12+64.87 =
REV. POT 12+64.67
ANGLE BETWEEN AHEAD & TANGENTS = 0°04'22"

REV. PC = 13+41.73

REV. PI 13+81.95

APPROX. AERIAL UTILITY RELOC. RTE BY CVPSC AND NYNEX

36" DEAD ELM

TO RANDOLPH

10 N28°06'24"W(SURV.) 11
VT RTE 12A
12 N28°10'46"W(REV.) 11

CENTRAL VERMONT RAILWAY, INC.

REV. PI 14+96.40 =
14+95.20

SURV PI 15+29.00 =
15+27.40

REM. 12+83 – 15" RCP (REMOVE)
NEW 12+84 ~~15"~~ RCP (CONSTRUCT) OR
NEW 12+84 18" RCP (CONSTRUCT) OR
CONSTRUCT CURB INLET OR
NEW 12+84 CONSTRUCT TYPE II CURB INLET
NEW 12+84 ~~NO SCALE~~ TYPE II AT INLET

12+83 RT 1.5'x 1.5' CONCRETE BOX CULVERT

14+83 – 15+30 RT
RIP-RAP
CONSTRUCT SPECIAL DITCH

SCALE IN FEET
0 25 50 100

DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A

PVI STA = 12+50
PVI ELEV = 761.15
200' VC
E = 0.24
K = 210

+0.5500%
+1.5010%

EXIST. GROUND AT REV. ℄

EXISTING ELEV = 760.6
762.65
767.15

780 770 760 750 740

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00

SCALES IN FEET
10 5 0
0 50

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRAINTREE	Bridge No. 6
Highway No. VT. Route 12A	Log Sta. / Surv. Sta.
VT RTE 12A OVER THE THIRD BRANCH OF THE WHITE RIVER	
PLAN AND PROFILE	
Designed By J. Warner	Drawn By. N. Spaulding
Checked By J. Warner 9/94	Bridge Design Supervisor Date
PROJECT BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info.	
Bridge Sheet No.	Sheet 16 Of 79

PLAN: NOTE BOOK NO. | CHECKED | PLANS NOT CHECKED | BY | DATE

PROFILE: NOTE BOOK NO. | CHECKED | PLANS NOT CHECKED | BY | DATE

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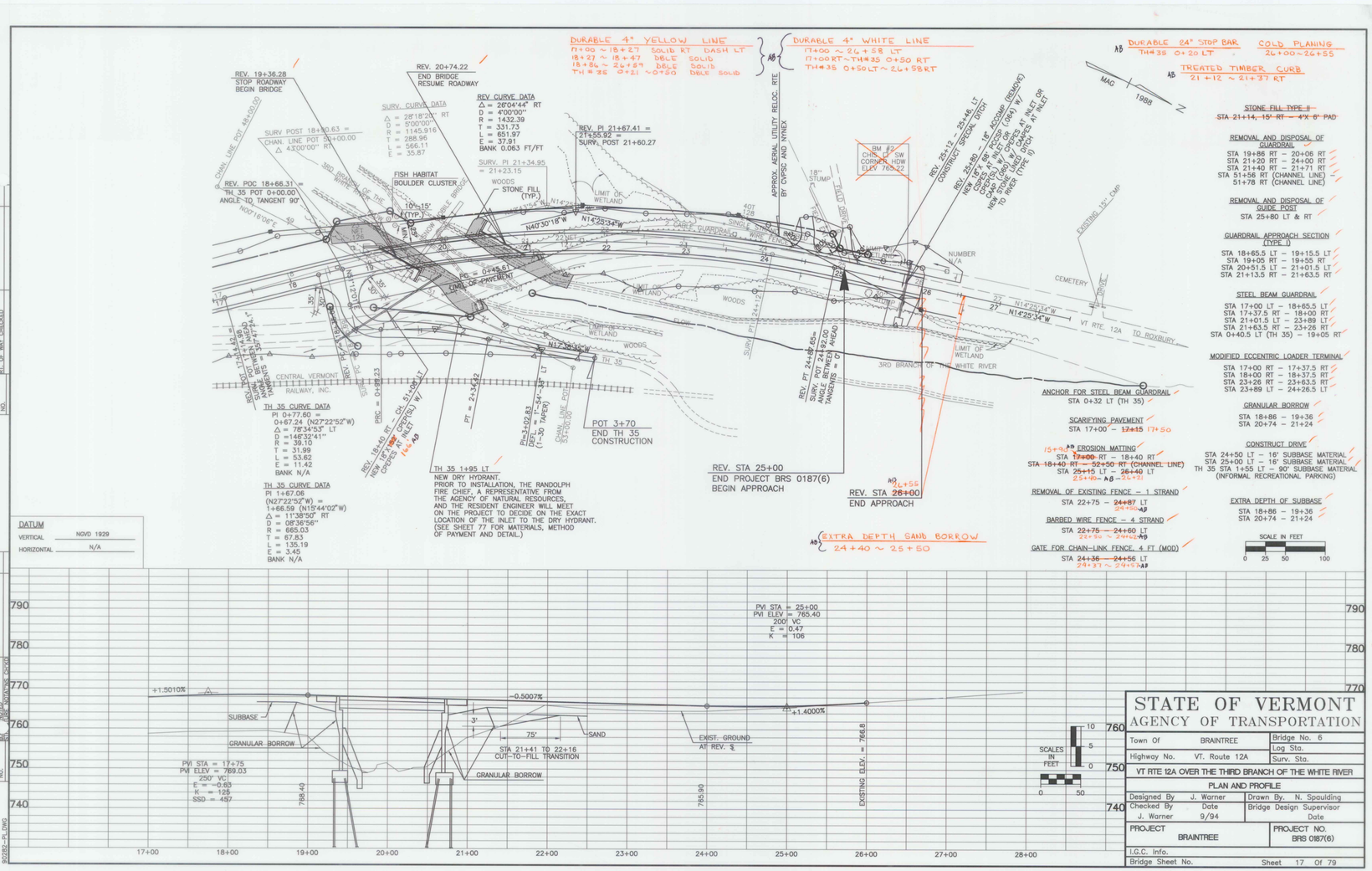


STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRAINTREE	Bridge No. 6
Highway No. VT. Route 12A	Log Sta.
	Surv. Sta.

VT RTE 12A OVER THE THIRD BRANCH OF THE WHITE RIVER

PLAN AND PROFILE

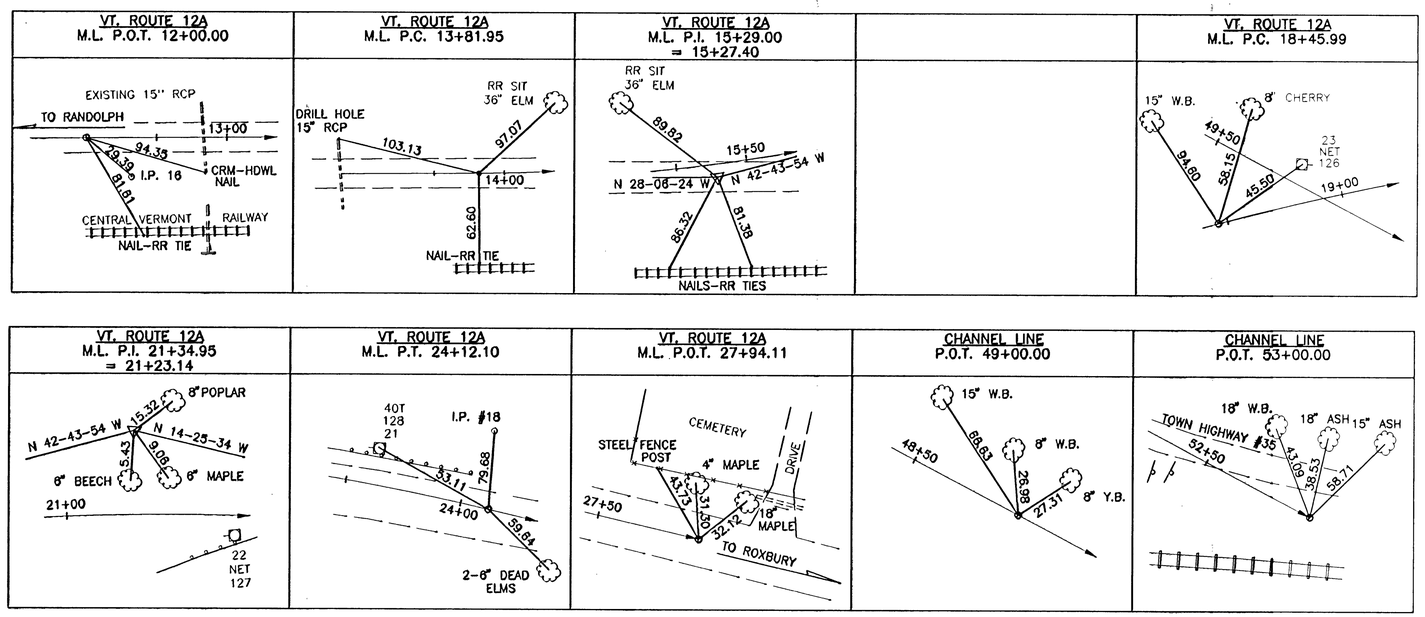
Designed By J. Warner	Drawn By N. Spaulding
Checked By J. Warner Date 9/94	Bridge Design Supervisor Date
PROJECT BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info.	
Bridge Sheet No.	Sheet 17 Of 79

DATE | BY | PLAN DRAWN PLOTTED CHECKED AS-OF W/C CHECKED | NOTE BOOK NO.

DATE | BY | PROFILE DRAWN PLOTTED CHECKED AS-OF W/C CHECKED | NOTE BOOK NO.

90282-PL.DWG

SURVEY LINE TIES

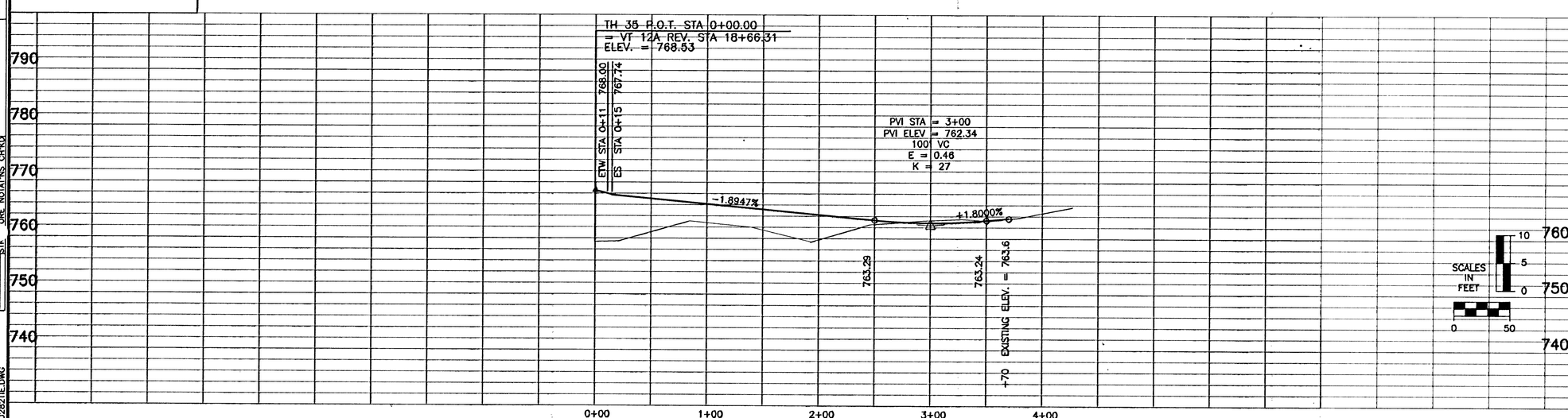


NOT TO SCALE

DATUM

VERTICAL NGVD 1929

HORIZONTAL N/A



PLAN		BY	DATE
NOTE BOOK NO.	SURVEYED		
	PLOTTED		
	ALIGNMENT CHECKED		
	RT. OF WAY CHECKED		

PROFILE		BY	DATE
NOTE BOOK NO.	SURVEYED		
	PLOTTED		
	GRADES CHECKED		
	B.M. NOTED		
	STR. URE NOTATNS CH'KD		

90282TIE.DWG

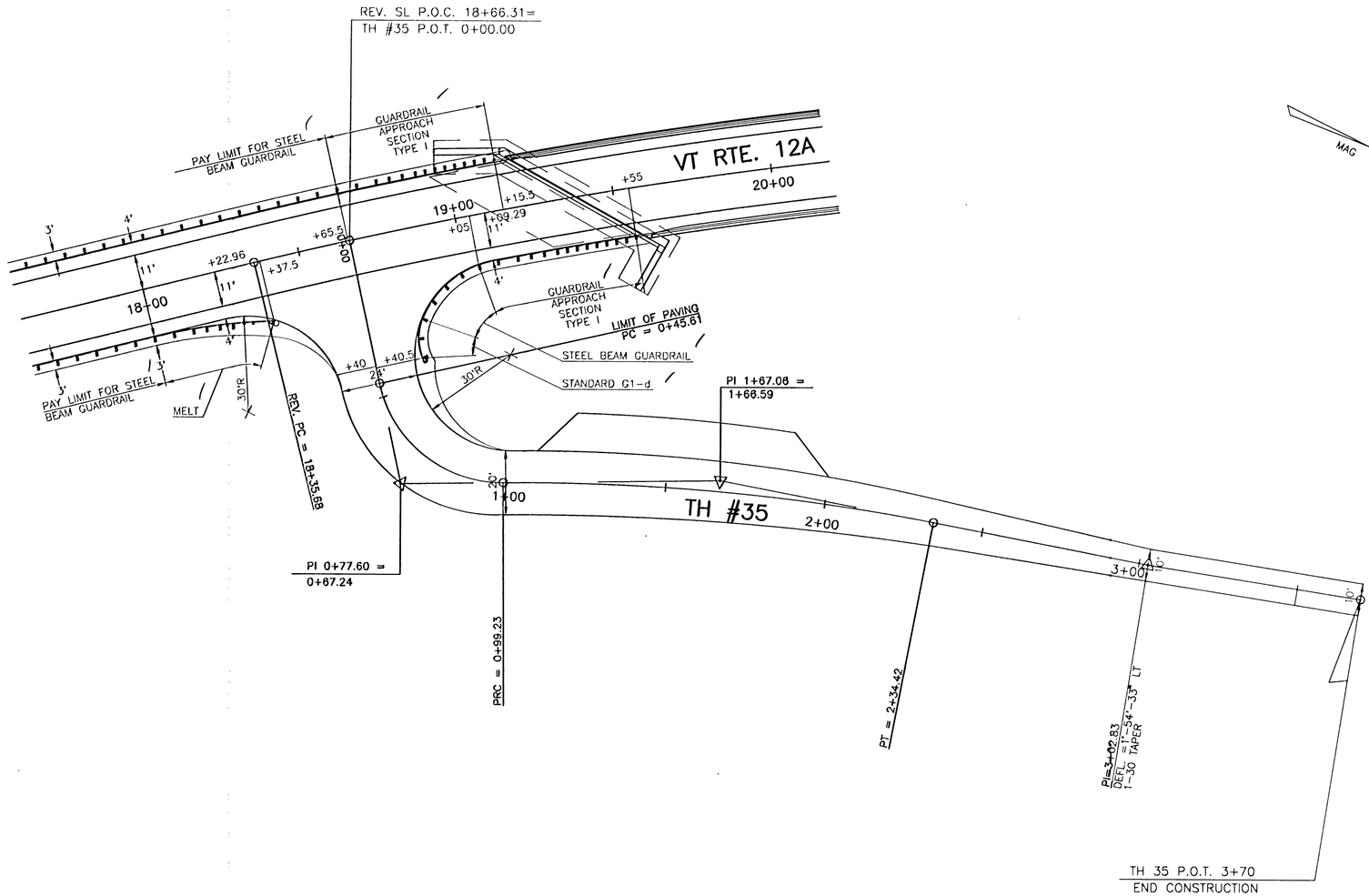
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	BRAINTREE	Bridge No. 6	
		Log Sta.	
Highway No.	VT. Route 12A	Surv. Sta.	

VT RTE 12A OVER THE THIRD BRANCH OF THE WHITE RIVER

PROFILE AND TIE SHEET

Designed By	J. Warner	Drawn By.	D. Eckman
Checked By	Date	Bridge Design Supervisor	
J Warner	9/94	Date	
PROJECT	BRAINTREE	PROJECT NO.	BRS 0187(6)
I.G.C. Info.			
Bridge Sheet No.		Sheet 18 Of 79	



PAVEMENT & GUARDRAIL TRANSITIONS

SCALE IN FEET
0 10 20 40

PLAN	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK ALIGNMENT CHECKED		
NO. RT. OF WAY CHECKED		

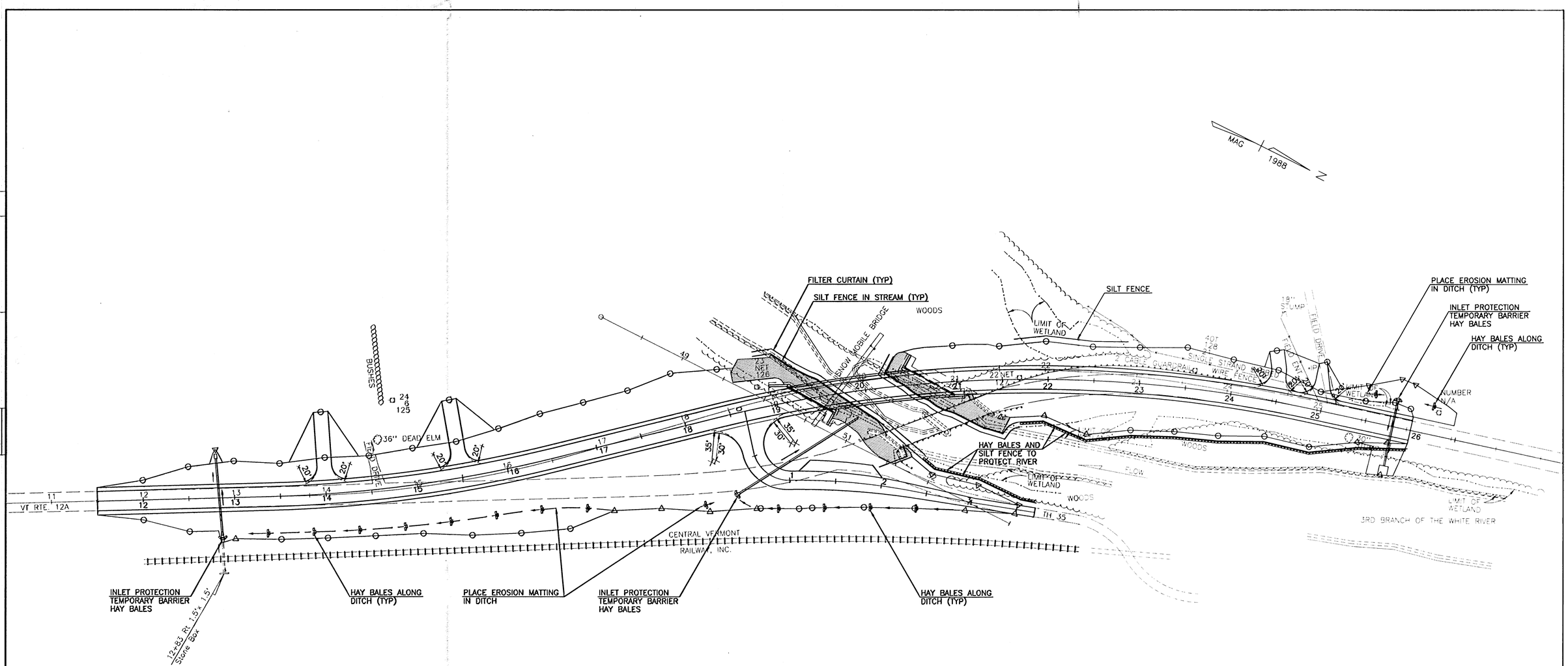
PROFILE	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK GRADES CHECKED		
NO. R.O.W. MONUMENTS CHKD		

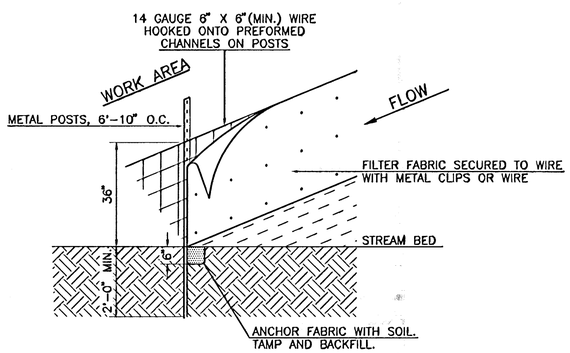
DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRAINTREE	Bridge No. 6
Highway No. VT. Route 12A	Log Sta.
	Surv. Sta.
VT RTE 12A OVER THE THIRD BRANCH OF THE WHITE RIVER	
PAVEMENT AND GUARDRAIL TRANSITION SHEET	
Designed By J. Warner	Drawn By. N. Spaulding
Checked By J. Warner Date 9/94	Bridge Design Supervisor Date
PROJECT BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info.	
Bridge Sheet No.	Sheet 19 Of 79

PLAN	BY	DATE
SURVEYED		
DRAWN		
NOTE BOOK	ALIGNMENT CHECKED	
NO.	RT. OF WAY CHECKED	





SILT FENCE IN STREAM

NOT TO SCALE

NOTES:

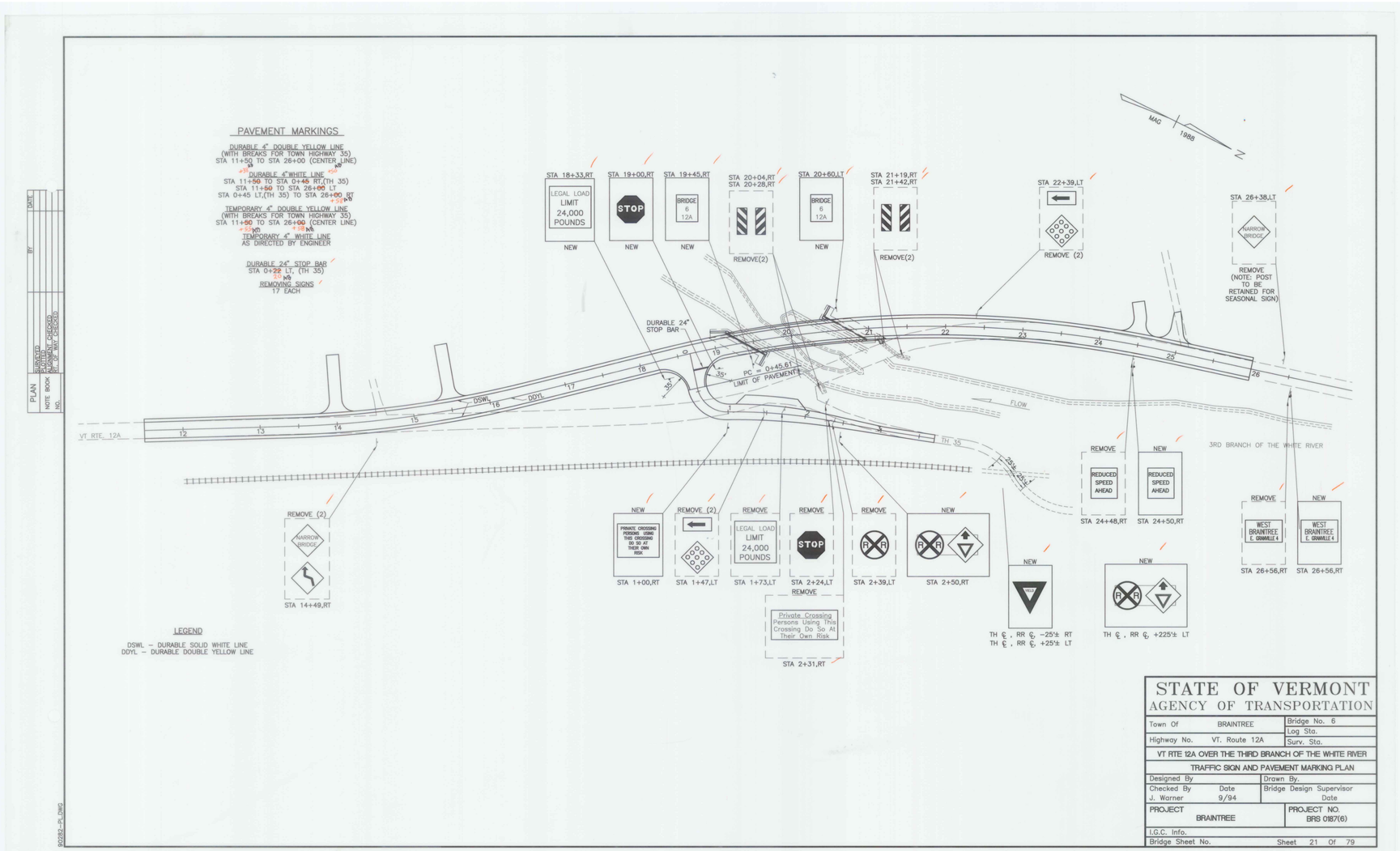
1. UPON COMPLETION OF THE GRADING OPERATIONS FOR EARTH SIDESLOPE AREAS, THE CONTRACTOR SHALL IMMEDIATELY ESTABLISH VEGETATION IN ACCORDANCE WITH THE SEEDING REQUIREMENTS ON SHEET 3.
2. SEE VAOT STANDARD DRAWINGS T-1 AND T-2 FOR TEMPORARY EROSION CONTROL DETAILS.

SCALE IN FEET
0 25 50 100

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRAINTREE	Bridge No. 6
	Log Sta.
Highway No. VT. Route 12A	Surv. Sta.
VT RTE 12A OVER THE THIRD BRANCH OF THE WHITE RIVER	
EROSION CONTROL PLAN	
Designed By T. Starr	Drawn By. T. Starr
Checked By J. Warner Date 1/96	Bridge Design Supervisor Date
PROJECT BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info.	
Bridge Sheet No.	Sheet 20 Of 79

93252-B.DWG



STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of BRAINTREE	Bridge No. 6 Log Sta.
Highway No. VT. Route 12A	Surv. Sta.
VT RTE 12A OVER THE THIRD BRANCH OF THE WHITE RIVER	
TRAFFIC SIGN AND PAVEMENT MARKING PLAN	
Designed By	Drawn By.
Checked By J. Warner Date 9/94	Bridge Design Supervisor Date
PROJECT BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info.	
Bridge Sheet No.	Sheet 21 Of 79

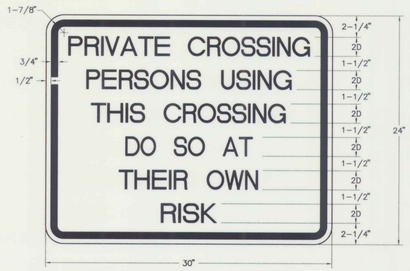
PLAN
NOTE BOOK NO.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE

90282-PL.DWG

TRAFFIC SIGN SUMMARY SHEET

TRAFFIC SIGN SUMMARY AND DETAIL SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS																REMARKS	SIGN	DETAIL
			"A"	"B"	SALV. SIGN	SALV. T.I.S.	RET.	DRILL	REM.	SALV.	NO. OF POSTS	FLANGED CHANNEL LB./FT. 1.12	2.0	2.5	3.0	TUBULAR ALUMINUM 3.0"ø	4.0"ø	TUBULAR STEEL FOUNDATION	3"ø	3.5"ø	4.0"ø	5.0"ø	W SHAPED STEEL POST SIZE	WEIGHT	FTG. SIZE 24"	30"	SIGN FRAME		PLAN SHEET NUMBER	STD. SHEET NUMBER
STA 18+33 RT	LEGAL LOAD LIMIT 24,000 POUNDS	24"x 30"	5.00								1				14 X													–	E-141
STA 19+00 RT	STOP	30"x 30"	6.25								1				14 X													–	E-143
STA 19+45 RT	BRIDGE 6 12A	6"x 8"	0.33								1				8 X													–	E-134
STA 20+60 LT	BRIDGE 6 12A	6"x 8"	0.33								1				8 X													–	E-134
STA 24+50 RT	REDUCED SPEED AHEAD	24"x 30"	5.00								1				14 X													–	E-142
STA 26+56 RT	WEST BRAINTREE E GRANVILLE 4	30"x 18"	3.75								1				14 X													–	E-128A E-128B
STA 1+00 RT	PRIVATE CROSSING PERSONS USING THIS CROSSING DO SO AT THEIR OWN RISK	30"x 24"	5.00								1				14 X													–	–
STA 2+50 RT	RR	18" R 36"X 36"	7.07 9.00								2				14 X 14												WITH ASSEMBLY FRAME	–	E-190 E-150 E-123
TH 35 & RR ℄ INT, −25'± RT	YIELD	36"X 36"X 36"	3.90								1				14 X													–	E-146
TH 35 & RR ℄ INT +25'± LT	YIELD	36"X 36"X 36"	3.90								1				14 X													–	E-146
TH 35 & RR ℄ INT +225'± LT	RR	18" R 36"X 36"	7.07 9.00								2				14 X 14												WITH ASSEMBLY FRAME	–	E-190 E-150 E-123
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S " SIGN POST DESIGN MANUAL ". TOTALS			SF. 65.60	SF.	EA.	SF.						510 ~~597~~ 510 RD				EA.							LBS.	EA.	EA.					



SEE STD. E-150 FOR COLORS AND MATERIALS

TEXT LAYOUT DIMENSIONS ARE BASED ON THE "LETTER AND NUMERAL WIDTHS AND SPACE" TABLES FOUND IN THE "STANDARD HIGHWAY 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 AND SAFETY DIVISION BEFORE FABRICATION.

PREPARED BY NLS DATE 3/92
CHECKED BY JAW DATE 1/95
DESIGN SUPERVISOR _____ DATE _____
PROJ. BRAINTREE BRS 0187(6)
TRAFFIC SHEET NO. ___ OF ___
SHEET 22 OF 79 SHEETS

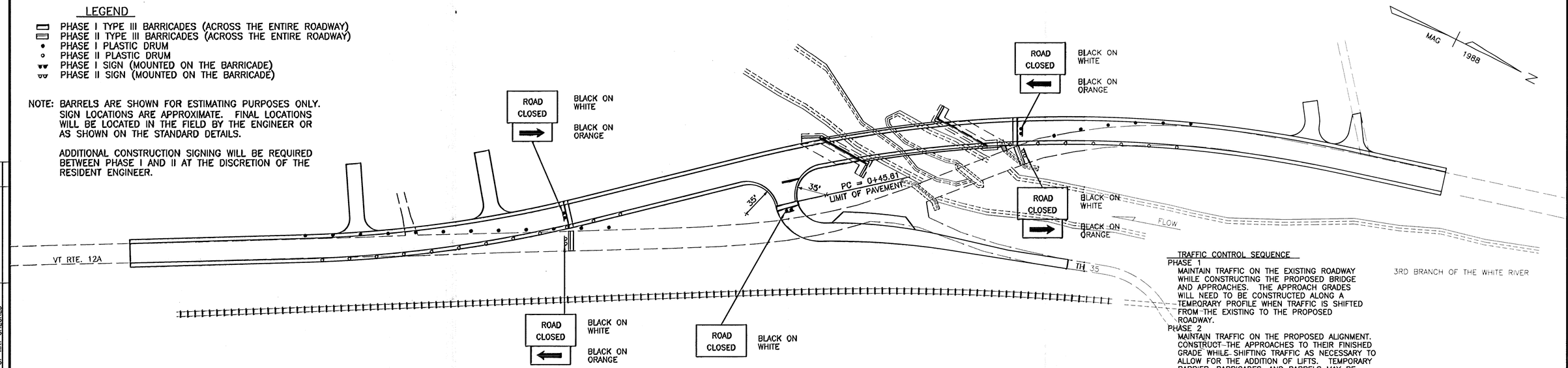
SIGNS

LEGEND

- PHASE I TYPE III BARRICADES (ACROSS THE ENTIRE ROADWAY)
- PHASE II TYPE III BARRICADES (ACROSS THE ENTIRE ROADWAY)
- PHASE I PLASTIC DRUM
- PHASE II PLASTIC DRUM
- PHASE I SIGN (MOUNTED ON THE BARRICADE)
- PHASE II SIGN (MOUNTED ON THE BARRICADE)

NOTE: BARRELS ARE SHOWN FOR ESTIMATING PURPOSES ONLY. SIGN LOCATIONS ARE APPROXIMATE. FINAL LOCATIONS WILL BE LOCATED IN THE FIELD BY THE ENGINEER OR AS SHOWN ON THE STANDARD DETAILS.

ADDITIONAL CONSTRUCTION SIGNING WILL BE REQUIRED BETWEEN PHASE I AND II AT THE DISCRETION OF THE RESIDENT ENGINEER.



TRAFFIC CONTROL PLAN AND SIGNING

SCALE IN FEET

0 25 50 100

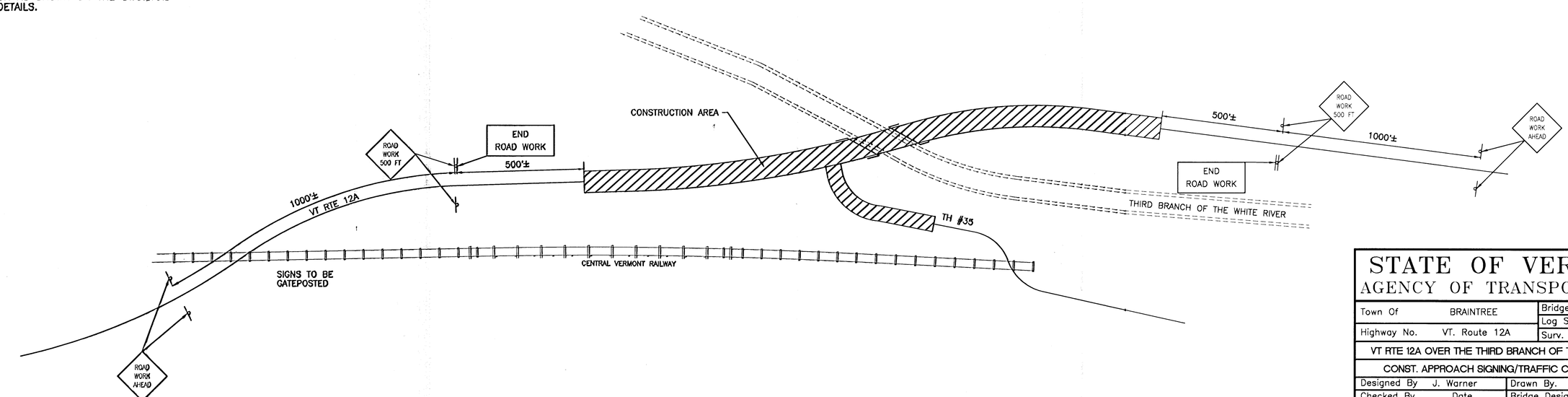
TRAFFIC CONTROL SEQUENCE

PHASE 1
MAINTAIN TRAFFIC ON THE EXISTING ROADWAY WHILE CONSTRUCTING THE PROPOSED BRIDGE AND APPROACHES. THE APPROACH GRADES WILL NEED TO BE CONSTRUCTED ALONG A TEMPORARY PROFILE WHEN TRAFFIC IS SHIFTED FROM THE EXISTING TO THE PROPOSED ROADWAY.

PHASE 2
MAINTAIN TRAFFIC ON THE PROPOSED ALIGNMENT. CONSTRUCT THE APPROACHES TO THEIR FINISHED GRADE WHILE SHIFTING TRAFFIC AS NECESSARY TO ALLOW FOR THE ADDITION OF LIFTS. TEMPORARY BARRIER, BARRICADES, AND BARRELS MAY BE NECESSARY TO KEEP TRAFFIC FROM STEEP SLOPES AND OTHER HAZARDS DURING THIS PHASE.

REMOVE THE EXISTING STRUCTURE, ABUTMENTS, AND PIER, AND GRADE THE AREA AS INDICATED ON THE PLANS.

NOTE: SIGN LOCATIONS ARE APPROXIMATE. FINAL LOCATIONS WILL BE LOCATED IN THE FIELD BY THE ENGINEER OR AS SHOWN ON THE STANDARD DETAILS.



APPROACH SIGNING

NOT TO SCALE

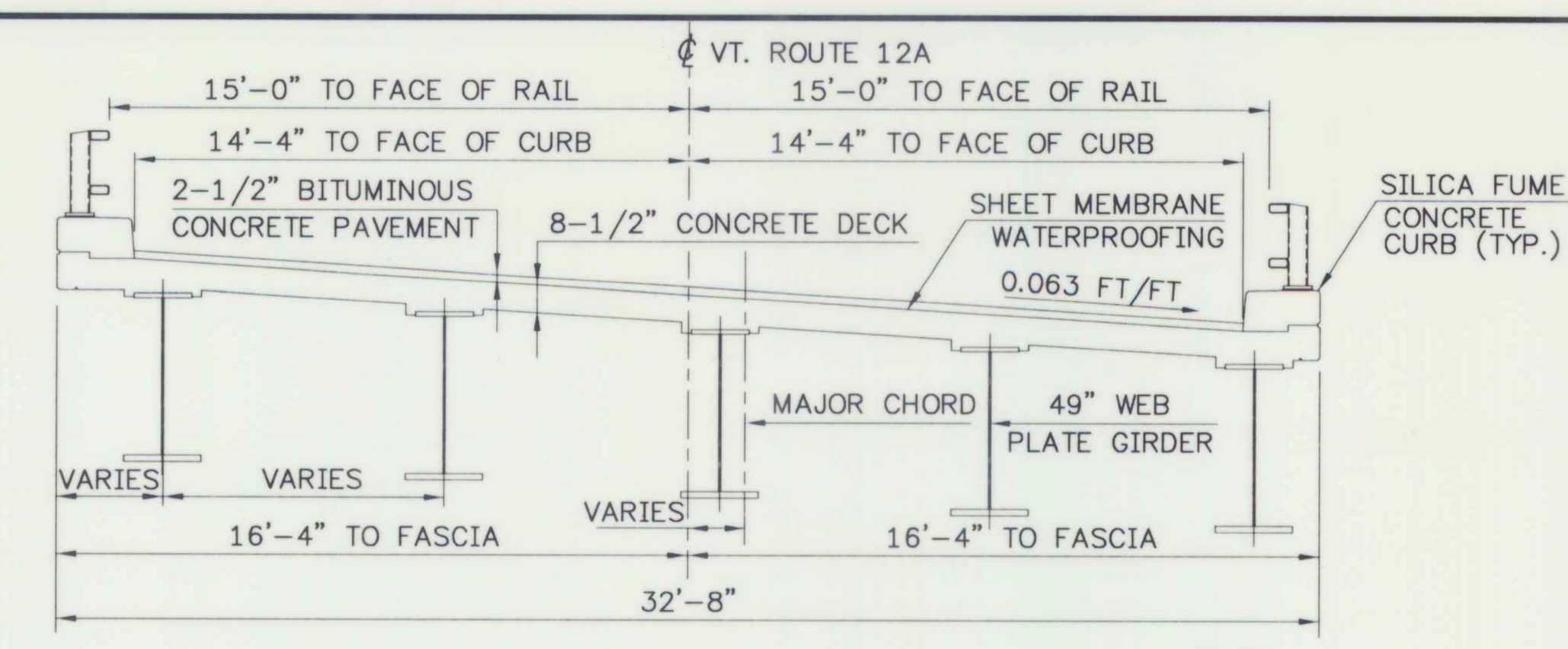
NOT TO SCALE

PLAN	DATE
SURVEYED	BY
PLOTTED	
NOTE BOOK	
ALIGNMENT CHECKED	
RT. OF WAY CHECKED	
NO.	

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRAINTREE	Bridge No. 6
	Log Sta.
Highway No. VT. Route 12A	Surv. Sta.
VT RTE 12A OVER THE THIRD BRANCH OF THE WHITE RIVER	
CONST. APPROACH SIGNING/TRAFFIC CONTROL PLAN	
Designed By J. Warner	Drawn By. J. Warner
Checked By R. Larochelle Date	Bridge Design Supervisor Date
PROJECT BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info.	
Bridge Sheet No.	Sheet 23 Of 79

90282-PL.DWG



BRIDGE TYPICAL SECTION

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

NOTE:
HORIZONTAL DIMENSIONS ARE RADIAL.

GENERAL NOTES:

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION, 1990 STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 1992, WITH INTERIMS THROUGH 1994.
2. DESIGN IS BY THE ALLOWABLE STRESS DESIGN METHOD FOR HS25-44 LOADING. DESIGN DEAD LOAD INCLUDES AN ALLOWANCE FOR A ONE INCH FUTURE OVERLAY.
3. ASSUMED UNIT WEIGHT OF SOIL IS 140 PCF, FOR DESIGN OF SUBSTRUCTURE.
4. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68 DEGREES F UNLESS OTHERWISE NOTED.
5. ALL STRUCTURAL STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).
6. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER, ASTM A-325 (AASHTO M164) BOLTS. HOLES SHALL BE 15/16" DIAMETER. CONNECTIONS NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STATE FOR APPROVAL.
7. MECHANICALLY GALVANIZED AND PAINTED TYPE I BOLTS ARE TO BE USED FOR PAINTED M270 GRADE 50 AND PAINTED M270 GRADE 36 STRUCTURAL STEEL CONNECTIONS. FIELD PAINTING OF BOLTS TO INCLUDE INTERMEDIATE AND FINAL COATING SYSTEMS AFTER CONNECTION APPROVAL.
8. TYPE III BOLTS ARE TO BE USED FOR UNPAINTED M270 GRADE 50W STRUCTURAL STEEL CONNECTIONS.
9. ALL STRUCTURAL STEEL WITHIN A DISTANCE OF 8.5 FEET FROM THE EXPANSION END OF GIRDERS WILL BE COATED WITH A PROTECTIVE PAINT SYSTEM WITH THE FINAL COAT TO BE DARK BROWN TO BLEND WITH THE AASHTO M270 GRADE 50W STEEL. THIS WORK WILL BE PAID FOR UNDER THE ITEM 513.25, "STRUCTURAL PAINTING, SHOP APPLIED" AND ITEM 513.40, "SURFACE PREPARATION". SEE SUPPLEMENTAL SPECIFICATION 513 PERTAINING TO THE PAINTING OF STRUCTURAL STEEL.
10. ALL WELDING SHALL CONFORM WITH THE PROVISIONS OF SUBSECTION 506.10.
11. ANY HOLES IN FASCIA BEAMS OR FASCIA GIRDER WEBS NOT OTHERWISE FILLED SHALL BE FILLED WITH BUTTON HEAD OR HEX HEAD BOLTS. SEE STANDARD SPECIFICATION SUBSECTION 506.19 FOR BOLT TENSIONING REQUIREMENTS.
12. INTERMEDIATE DIAPHRAGM BOLTS SHALL BE ONLY SNUG TIGHT UNTIL THE ENTIRE DECK HAS BEEN PLACED AND CURED AT LEAST SEVEN DAYS. AT THAT TIME, THE BOLTS SHALL BE TIGHTENED TO SPECIFIED TORQUE.
13. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF BEAMS SHALL BE TAKEN AS DIRECTED BY THE ENGINEER FOR USE IN DETERMINING FINAL GRADE.
14. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE".
15. MINIMUM COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:
    SUBSTRUCTURE: TWO (2) INCHES ALONG BACK FACES OF WALLS AGAINST EARTH, AND THREE (3) INCHES ELSEWHERE.
    BRIDGE DECK: 2 1/2" FOR TOP REINFORCING, AND 1 1/2" FOR BOTTOM REINFORCING.
16. REINFORCING PLACEMENT TOLERANCES SHALL BE:
    SPACING +- 1"
    CLEARANCE +- 1/4"
17. DECK CONCRETE SHALL BE "CONCRETE, CLASS A". CURB CONCRETE SHALL BE "SILICA FUME CONCRETE." ALL OTHER CONCRETE SHALL BE "CONCRETE, CLASS B" UNLESS OTHERWISE DESIGNATED ON THE PLANS.
18. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" BY 1".
19. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL. OTHER BRIDGE SEAT AREAS SHALL BE SLOPED 1/2" PER FOOT. ABUTMENT SEATS SHALL BE SLOPED FULL WIDTH TOWARD CENTER SPAN. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTH WITH EITHER A WOOD OR MAGNESIUM FLOAT FINISH.
20. THE DECK SHALL BE PLACED IN ONE CONTINUOUS OPERATION WITH A MAXIMUM DURATION OF EIGHT HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTOR'S CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A NEAT (DAMMED) CONSTRUCTION JOINT SHALL BE USED. A NINETY-SIX HOUR DELAY BETWEEN PLACEMENTS SHALL BE OBSERVED.
21. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF DECK BETWEEN DRIP BEADS.
22. TRAFFIC SHALL BE ALLOWED ON THE NEW BRIDGE ONLY AFTER THE SPECIFIED CURE PERIOD HAS EXPIRED AND THE 28 DAY DESIGN STRENGTH HAS BEEN ATTAINED AS EVIDENCED BY TEST CYLINDERS CURED UNDER FIELD CONDITIONS.
23. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
24. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT. ANY UPWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.
25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND SPACING OF FASCIA OVERHANG BRACKETS; HOWEVER, SPACING SHALL NOT EXCEED FOUR (4) FEET.
26. NO CONCRETE ABOVE THE ADJACENT BRIDGE SEATS SHALL BE PLACED UNTIL THE FINAL FINISHED GRADE OF THE DECK HAS BEEN ESTABLISHED, OR AS OTHERWISE PERMITTED BY THE ENGINEER.
27. ABUTMENTS ARE DESIGNED FOR HP 14X73 BEARING PILES DRIVEN TO REFUSAL ON ROCK. THE PILES SHALL BE DRIVEN TO AN ULTIMATE CAPACITY OF 425 KIPS.
28. ALL PILES SHALL BE FURNISHED WITH A REINFORCED PILE TIP OF PREFABRICATED CAST STEEL MEETING THE REQUIREMENTS OF ASTM A-27. SEE SUBSECTION 505.04 (d).
29. FILL, IN AREAS THROUGH WHICH PILES ARE TO BE DRIVEN SHALL HAVE A MAXIMUM STONE SIZE OF NINE (9) INCHES.
30. THE ITEM 204.40 "COFFERDAM" SHALL BE USED FOR THE CONSTRUCTION OF BOTH ABUTMENTS. THE DESIGN AND SUBMITTAL PROCEDURES SHALL BE AS PER SUBSECTION 204.07. STEEL SHEETING SHALL BE USED TO CONSTRUCT COFFERDAMS AS PER STREAM ALTERATION PERMIT REQUIREMENT.
31. THE STONE FILL, TYPE IV SHALL BE PLACED IN FRONT OF THE ABUTMENTS PRIOR TO ERECTING THE STRUCTURAL STEEL.
32. IN-STREAM CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED DURING THE PERIOD OF JUNE 15 TO OCTOBER 01, UNLESS THE CONTRACTOR OBTAINS SPECIFIC PERMISSION FROM THE AGENCY OF NATURAL RESOURCES TO PERFORM SUCH WORK OUTSIDE OF THAT TIME FRAME.
33. TEN CUBIC YARDS OF STONE FILL, TYPE IV HAS BEEN INCLUDED IN THE PROJECT FOR CONSTRUCTION OF A FISH HABITAT BOULDER CLUSTER. THIS CLUSTER SHALL BE LOCATED IN A HIGH VELOCITY PORTION OF THE STREAM A MINIMUM OF 25' DOWNSTREAM OF THE NEW BRIDGE, AS SHOWN ON THE PLANS.
34. TRAFFIC SHALL BE MAINTAINED ON THE EXISTING BRIDGE DURING CONSTRUCTION OF THE PROJECT.
35. THE SUPERSTRUCTURE AND PORTIONS OF THE SUBSTRUCTURES OF THE EXISTING BRIDGE SHALL BE REMOVED AS INDICATED ON THE PLANS. PAYMENT FOR THIS WORK SHALL BE UNDER ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE."
36. PLANS FOR THE EXISTING BRIDGE INDICATE SUBSTRUCTURES FOUNDED ON WOODEN PILES.

EXISTING STRUCTURE

1. STRUCTURE TYPE 2 SPAN CONCRETE T-BEAM OVERALL LENGTH 110 FT. +/- INVENTORY RATING
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS 52'-0", 52'-0"
3. CLEAR SPAN LENGTH(S) NORMAL TO STREAM 43'-4", 43'-4"
4. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM) 570 SQ. FT. VERTICAL CLEARANCE ABOVE STREAMBED 10.9 FT.
5. WATER SURFACE ELEVATION @ Q 2.33 757.3 WATER SURFACE ELEVATION @ Q100 761.5
6. WATER SURFACE ELEVATION AT FLOOD OF RECORD UNKNOWN YEAR ESTIMATED DISCHARGE
7. DOES ALL WATER PASS THROUGH EXISTING STRUCTURE? YES IF NOT, AT WHAT FREQUENCY AND ELEVATION DOES RELIEF OCCUR?
   ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF
8. TYPE OF SUBSTRUCTURE FOUNDATION MATERIAL GRAVEL AND SAND ON SHALLOW LEDGE (30' TO 40')
9. DISPOSITION OF STRUCTURE SUPERSTRUCTURE TO BE REMOVED. PORTIONS OF SUBSTRUCTURE TO BE REMOVED AS SHOWN ON PLANS

NEW STRUCTURE

STRUCTURE GEOMETRY:
1. STRUCTURE TYPE SINGLE SPAN PLATE GIRDER WITH COMPOSITE CONCRETE DECK OVERALL LENGTH 137'-11 1/4"
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS 130'-0" ALONG ROADWAY CENTERLINE
3. VERTICAL CLEARANCE ABOVE STREAMBED OR ROAD UNDER 12.3 FT.
4. CLEAR SPAN LENGTH(S) NORMAL TO STREAM 70'-6"
5. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM) 805 SQ. FT.
6. ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES? NO

HYDRAULIC DATA:
1. Q 2.33 1690 CFS WATER ELEVATION 756.0 @ STA. 51+50 VELOCITY 7.1 FPS @ STA. 50+20
   Q 10 3000 CFS WATER ELEVATION 758.4 @ STA. 51+50 VELOCITY 8.0 FPS @ STA. 50+20
   Q 25 4100 CFS WATER ELEVATION 759.6 @ STA. 51+50 VELOCITY 6.8 FPS @ STA. 50+20
   Q 50 5100 CFS WATER ELEVATION 760.2 @ STA. 51+50 VELOCITY 6.8 FPS @ STA. 51+50
   Q 100 6100 CFS WATER ELEVATION 760.8 @ STA. 51+50 VELOCITY 7.6 FPS @ STA. 51+50
2. DRAINAGE AREA 41.3 SQ. MILES CHARACTER OF TERRAIN ROLLING TO HILLY, FORESTED AND AGRICULTURAL
3. ARE THERE OBJECTIONS TO A PIER IN THE STREAM? N/A
4. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? YES IS ORDINARY RISE RAPID? YES
5. NATURE OF NATURAL STREAMBED RELATIVELY STRAIGHT STREAMBED THROUGH NARROW VALLEY
6. ESTIMATED SCOUR DEPTH 5.5' TOTAL: 5' HISTORICAL & 0.5' CONTRACTION COMMENT ON: DRIFT MODERATE ICE MODERATE
7. WILL ALL WATER PASS THROUGH NEW STRUCTURE? YES IF NOT, WHAT FREQUENCY AND ELEVATION WILL RELIEF OCCUR? N/A
   ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF N/A
8. VERTICAL CLEARANCE ABOVE Q 100 0.5 FT. (MIN) 1.1 FT. (MAX)
9. ALLOWABLE WATER SURFACE ELEVATION 761.3 LIMITED BY MINIMUM GIRDER ELEVATION
10. IS DESIGN STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? NO IF YES, DESCRIBE
11. ORDINARY LOW WATER 40 CFS DEPTH 2 FT. ORDINARY HIGH WATER 725 CFS DEPTH 5 FT.
12. STREAMBANK OR CHANNEL PROTECTION REQUIRED YES, STONE FILL TYPE IV
13. DISTANCE TO EXISTING UPSTREAM STRUCTURE 0.22 MI SPAN 74 FT. WATERWAY AREA OF FULL OPENING 592 SQ. FT. Q
14. DISTANCE TO EXISTING DOWNSTREAM STRUCTURE 2.3 MI SPAN 108 FT. WATERWAY AREA OF FULL OPENING 2322 SQ. FT. Q

ALLOWABLE STRESSES:
1. DESIGN LIVE LOAD AASHTO HS25-44
2. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A ON LEDGE N/A
3. ALLOWABLE LOAD FOR PILING 192.6 KIPS TYPE HP 14X73 ESTIMATED LENGTH ABUT 1: 19' TO 32'; ABUT 2: 14' TO 20'
4. ALLOWABLE STRESS FOR STRUCTURAL STEEL AASHTO M 270 GRADE 50W TENSION 27,000 PSI
5. ALLOWABLE STRESS FOR REINFORCING STEEL GRADE 60 TENSION 24,000 PSI COMPRESSION 20,000 PSI
6. ALLOWABLE STRESS FOR CONCRETE CLASS A f'_c 4000 PSI f_c 1400 PSI
   CLASS B f'_c 3500 PSI f_c 1400 PSI
   SILICA FUME f'_c 5000 PSI f_c 2000 PSI

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

INDEX OF BRIDGE SHEETS

BR #	TITLE
100	PRELIMINARY INFORMATION
101	BRIDGE QUANTITY SHEET
102	PLAN AND ELEVATION
103	BORING INFORMATION SHEET
104	BORING LOGS
105	DECK DETAILS
106	CURB DETAILS
107	FRAMING PLAN
108	GIRDER ELEVATION AND DETAILS
109	BEARING DETAILS
110	EXPANSION JOINT PLAN AND ELEVATION
111	EXPANSION JOINT DETAILS
112	EXPANSION JOINT DOWNSPOUT DETAILS
113	BRIDGE RAILING DETAILS ABUTMENT NO. 1
114	BRIDGE RAILING DETAILS ABUTMENT NO. 2
115	BRIDGE RAILING CONNECTION TO GUARD RAIL
116	ABUTMENT NUMBER ONE DETAILS
117	ABUTMENT NUMBER TWO DETAILS
118	WINGWALL ELEVATIONS
119	SUBSTRUCTURE DETAILS
120	PILE LAYOUT
121	FOOTING REINFORCING PLAN
122	APPROACH SLAB DETAILS
123	REINFORCING STEEL SCHEDULE

LOAD RATING (TONS) (WORKING STRESS)

RATING LEVEL	H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	5A.SEMI
INVENTORY .55fy= 27 ksi	36	61					
POSTED .67fy= 33.5 ksi	56	95	105		91	92	100
OPERATING .75fy= 37.5 ksi		118	130	146	113	113	

REVISIONS		
NO.	DESCRIPTION	BY & DATE

CLD
Costello, Lomasney & de Napoli, Inc.
Consulting Engineers
540 Commercial Street
Manchester, NH 03101
(603)668-8223 FAX(603)668-8802

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	BRAINTREE	Bridge No.	6
		Log Sta.	
Highway No.	VT. Route 12A	Surv. Sta.	

VT. ROUTE 12A OVER THE THIRD BRANCH OF THE WHITE RIVER

PRELIMINARY INFORMATION

Designed By	E.M.Stumph	Drawn By.	J.L.Fryer
Checked By E.M.Stumph	Date 1/95	CLD Project Manager C.R.Bean	Date 1/95
PROJECT	BRAINTREE	PROJECT NO.	BRS 0187 (6)
I.G.C. Info.			
Bridge Sheet No.	BR 100	Sheet 24 Of 79	

90282PI (1=48) "Plot"

BRIDGE QUANTITY SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION
STRUCTURES DIVISION

ITEM NO.	ITEM	UNIT	QUANTITY BREAKDOWN												TOTAL	FINAL
				SUPER-STRUCT.		ABUT. NO. 1		ABUT. NO. 2		APPR. SLAB #1		APPR. SLAB #2		CHANNEL		
203.27	UNCLASSIFIED CHANNEL EXCAVATION	CY												1060		1060	
204.30	GRANULAR BACKFILL FOR STRUCTURES	CY				450		300								750	
204.40	COFFERDAMS (REV. STA. 19+40)	LS				1										1	
204.40	COFFERDAMS (REV. STA. 20+70)	LS						1								1	
406.25	BITUMINOUS CONCRETE PAVEMENT *	TON		86												86	
501.22	CONCRETE, CLASS A	CY		146												146	
501.25	CONCRETE, CLASS B	CY				262		246		41		41				590	
501.60	SILICA FUME CONCRETE	CY		20				2								22	
504.10	FURNISHING EQUIPMENT FOR DRIVING PILES	LS				0.5		0.5								1	
505.17	STEEL PILING (HP 14 x 73)	LF				920		620								1540	
506.55	STRUCTURAL STEEL (PLATE GIRDER)	LB		229,290												229,290	
507.15	REINFORCING STEEL	LB				20,800		19,850								40,650	
507.17	EPOXY-COATED REINFORCING STEEL	LB		36,170				160		5,010		5,150				46,490	
508.15	SHEAR CONNECTORS (600 ~ 7/8" DIA. x 7" STUDS) (608 ~ 7/8" DIA. x 8" STUDS)	LS		1												1	
513.25	STRUCTURE PAINTING-SHOP APPLIED (7.8 TONS)	LS		1												1	
513.40	SURFACE PREPARATION (7.8 TONS)	LS		1												1	
514.10	WATER REPELLENT	GAL		9		6		5								20	
516.10	BRIDGE EXPANSION JOINT	LF		53												53	
519.20	SHEET MEMBRANE WATERPROOFING	SY		440						46		46				532	
525.31	BRIDGE RAILING-2 RAIL GALV. BOX BEAM	LF		280				15								295	
527.10	MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS	LS		1												1	
529.20	PARTIAL REMOVAL OF STRUCTURE	EA		1												1	
531.10	BEARING DEVICE ASSEMBLY	EA		10												10	
613.13	STONE FILL, TYPE IV	CY												2460		2460	
631.16	TESTING EQUIPMENT - CONCRETE	LS		1												1	
631.17	TESTING EQUIPMENT - BITUMINOUS	LS		0.1												0.1	
649.31	GEOTEXTILE UNDER STONE FILL	SY				15		15						770		800	
651.40	GRUBBING MATERIAL	SY												620		620	

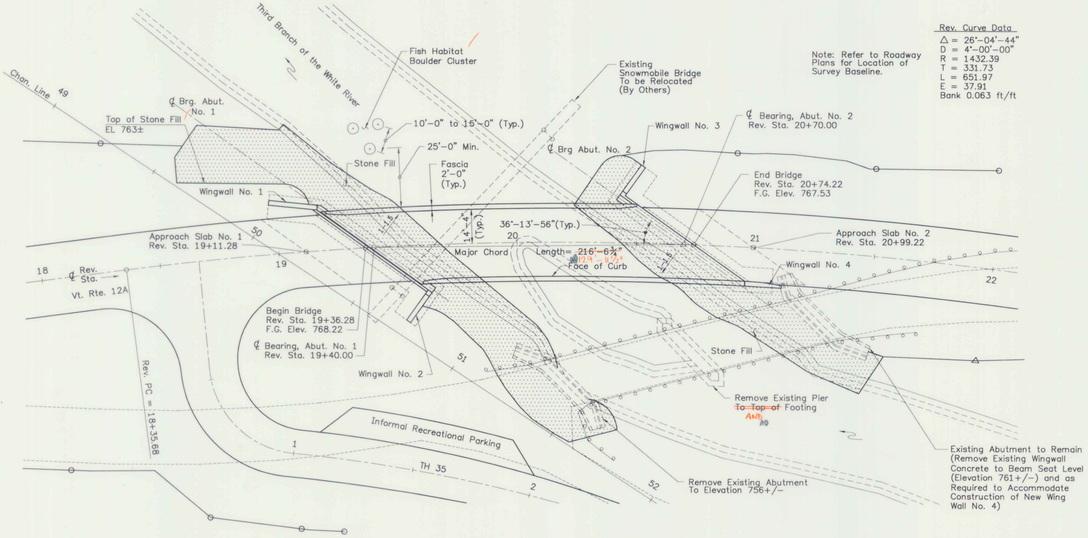
* ROADWAY QUANTITY

BRIDGE AT STATION REV STA 19+36.28 TO REV STA 20+74.22
LOCATION VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER

PREPARED BY: A. SETAS
CHECKED BY: M. A. SEVERSON
CLD PROJECT MANAGER: C. R. BEAN

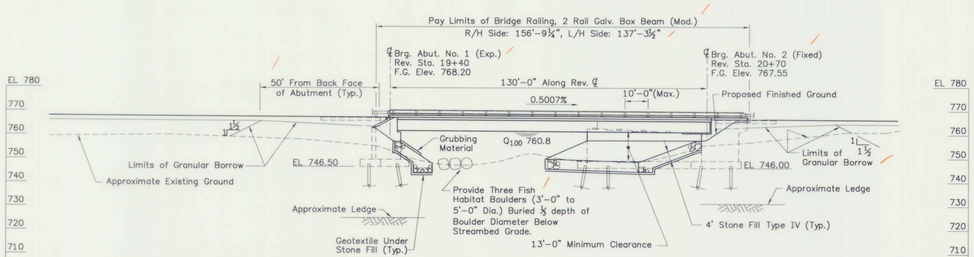
PROJECT: BRAINTREE
PROJECT NO: BRS 0187(6)
BR 101
SHEET NO: 25 OF 79

BQ282QNT (1=1) "Plot"



GENERAL PLAN

SCALE: 1" = 20'



ELEVATION

SCALE: 1" = 20'

CLD Costello, Lomasney & de Napoli, Inc.
Consulting Engineers
540 Commercial Street
Manchester, NH 03101
(603)668-8223 FAX(603)668-8802

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	BRAINTREE	Bridge No.	6
		Log Sta.	
Highway No.	VT RTE 12A	Surv. Sta.	

VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER

PLAN AND ELEVATION

Designed By	E.M.Stumph	Drawn By.	J.L.Fryer
Checked By	Date	CLD Project Manager	
E.M.Stumph	1/95	C.R.Bean	Date 1/95
PROJECT	BRAINTREE	PROJECT NO.	BRS 0187 (6)
I.G.C. Info.			
Bridge Sheet No.	BR 102	Sheet 26 Of 79	

9028DGEN (1-20)

SOIL CLASSIFICATION

AASHTO

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

UNIFIED SOIL SYSTEM

GW/GP	Clean Gravels (Few Fines)
GM/GC	Gravels (Appreciable Fines)
SW/SP	Clean Sands (Few Fines)
SM/SC	Sand (Appreciable Fines)
ML/CL	Low Plastic Silts & Clays
OL	Low Plastic Organic Silt
MH/CH	High Plastic Silts & Clays
OH	High Plastic Organic Silt
Pt	Highly Organic Soils

MOISTURE

DESCRIPTIVE TERM	OBSERVED IN FIELD	% ± BY ANALYSIS
Dry	No Visible Water	<10
Moist	Damp	10-20
Moist to Wet	Moist to Wet	21-50
Wet	Visible Water	51-70
Saturated		>70

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

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

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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

COMMONLY USED SYMBOLS

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

COLOR

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

DEFINITIONS (AASHTO)

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

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

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

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

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

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

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

VARVED - Alternate layers of silt and clay.

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

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

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

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

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

DIP - Inclination of bed with a horizontal plane.

BR-8

BRAINTREE BRS 0187(6)

BORING NO. B-1

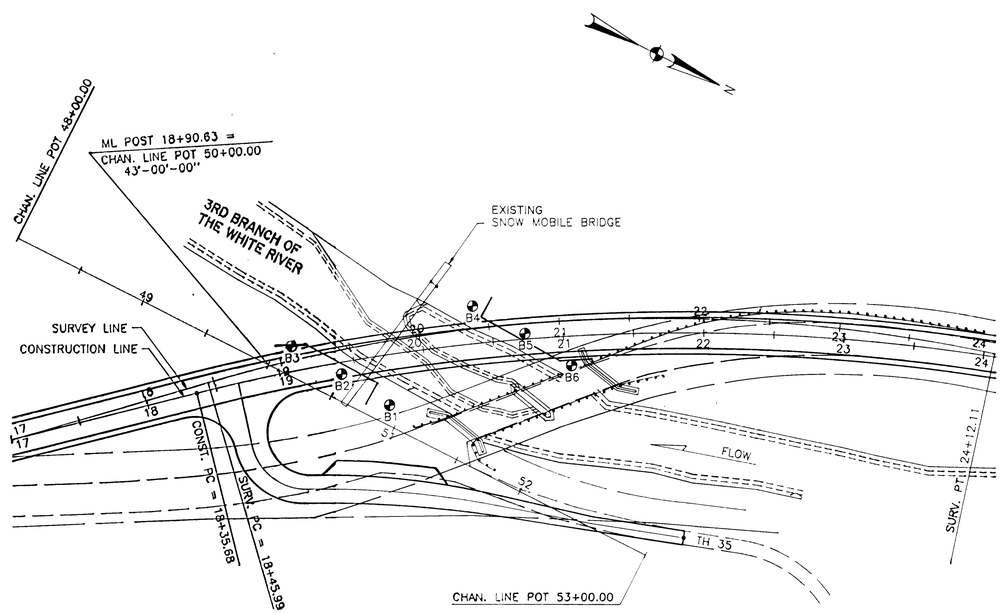
ELEV. 758.52'

SURVEY LINE STA 19+68, 45' RT

ABUTMENT #1
BOTTOM FOOTING
ELEV. 746.50

19' ESTIMATED PILE PENETRATION

DEPTH	BLOWS ON CASING	STANDARD PENETRATION	SAMPLE NUMBER	MOISTURE	COLOR	LABORATORY CLASSIFICATION OF SOIL
5		34		M	Br	A-1-a Sandy Gravel w=11.5%
10		29		M	Br	A-1-a Sandy Gravel w=9.6%
				W	Br	A-4 Sandy Silt w=25.5%
15		10		W	Br	A-2-4 Silty Sand w=25.4%
20		4		W	Br	A-4 Sandy Silt w=27.0%
25		6		W	Br	A-2-4 Silty Sand w=22.9%
30				W	Br	A-4 Sandy Silt w=30.1%
35						Bedrock @ 30.8' BXMDC 30.8'-35.8' REC 5.0' BXMDC 35.8'-40.8' REC 5.0' See Geologist Report
40						Hole stopped @ 40.8' in bedrock
45						Geologist Report
50						RUN% RECOV% RQD% 1 100 52 2 100 100 Core consists of quartz-sericite-chlorite schist. The rock is moderately hard, weathered and competent.
55						
60						
65						
70						



BORING LOCATION PLAN

SCALE: 1"= 50'

50'

GENERAL NOTES

1. The subsurface explorations shown herein were made between 7/11/91 and 7/19/91 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology Used on the Boring Logs to Describe the Hardness, Degree of Hardness, Degree of Weathering, and Spacing of Fractures, Joints and Other Discontinuities in the Bedrock is Defined in the AASHTO Manual of Subsurface Investigations, 1988.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRAINTREE	Bridge No. 6
Highway No. VT. Route 12A	Log Sta. / Surv. Sta.
VT. ROUTE 12A OVER THE 3rd BRANCH OF THE WHITE RIVER	
BORING INFORMATION SHEET	
Designed By ———	Drawn By M.J. LAMPER
Checked By E.M. STUMPH Date 1/95	CLD Project Manager C.R. BEAN Date 1/95
PROJECT BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info. ZHI:[30,151]BORINGSTD.DGN	PRF: BORINGSTD
Bridge Sheet No. BRI03	Sheet 27 of 79

BRAINTREE BRS0187(6)
BORING NO. B-2

ELEV. 754.53'

SURVEY LINE
STA 19+40, 17' RT

ABUTMENT #1
BOTTOM FOOTING
ELEV. 746.50

25' ESTIMATED PILE PENETRATION

DEPTH	BLOWS ON CASING	STANDARD PENETRATION	SAMPLE NUMBER	MOISTURE	COLOR	LABORATORY CLASSIFICATION OF SOIL
5	7			MTW	Br	A-2-4 Gravelly Sand w=28.0%
10	6			MTW	Br	A-2-4 Silty Sand w=23.6%
15	7			MTW	Br	A-2-4 Silty Sand w=24.3%
20	5			MTW	Br	A-4 Sandy Silt w=31.9%
25	7			MTW	Br	A-2-4 Silty Sand w=25.5%
30	5			MTW	Br Gr	A-2-4 Silty Sand w=25.5%
						Bedrock @ 33.0'
35						BXMDC 33.0-38.0' REC 4.5'
						BXMDC 38.0-43.0' REC 4.8'
						See Geologist Report
45						Hole stopped @ 43.0' in bedrock
						Geologist Report
						RUN% RECOV% RQD% 1 90 78 2 96 70
50						Core consists of quartz-sericite-chlorite schist. The rock is moderately hard, weathered and competent.
55						
60						
65						
70						

BRAINTREE BRS0187(6)
BORING NO. B-3

ELEV. 753.64'

SURVEY LINE
STA 19+10, 10' LT

ABUTMENT #1
BOTTOM FOOTING
ELEV. 746.50

32' ESTIMATED PILE PENETRATION

DEPTH	BLOWS ON CASING	STANDARD PENETRATION	SAMPLE NUMBER	MOISTURE	COLOR	LABORATORY CLASSIFICATION OF SOIL
5	15			M	Br	A-1-a Sandy Gravel w=16.6%
10	8			M	Br	Visual Class - Silty Sand w=27.8%
15	3			W	Br	A-2-4 Silty Sand w=29.0%
20	4			W	Br	A-4 Silt w=34.3%
25	10			MTW	Br	A-2-4 Sand w=23.3%
30	9			MTW	Br	A-2-4 Silty Sand w=28.2%
35	8			MTW	Br	A-2-4 Silty Sand w=33.0%
						Top of Bedrock 39.5'
40						BXMDC 39.5-44.5' REC 5.0
						BXMDC 44.5-49.5' REC 5.0
						See Geologist Report
50						Hole stopped @ 49.5' in bedrock
						Geologist Report
						RUN% RECOV% RQD% 1 100 82 2 100 100
55						Core consists of quartz-sericite-chlorite schist. The rock is moderately hard, weathered and competent.
60						
65						
70						

BRAINTREE BRS0187(6)
BORING NO. B-4

ELEV. 757.38'

SURVEY LINE
STA 20+40, 16' LT

ABUTMENT #2
BOTTOM FOOTING
ELEV. 746.00

20' ESTIMATED PILE PENETRATION

DEPTH	BLOWS ON CASING	STANDARD PENETRATION	SAMPLE NUMBER	MOISTURE	COLOR	LABORATORY CLASSIFICATION OF SOIL
5	48			M	Br	A-1-a Sandy Gravel w=7.8%
10	11			MTW	Br	Visual Class-Silty Gravel w=9.8%
15	3			W	Br	A-4 Silty Sand w=29.7%
20	5			W	Br	Visual- Sandy Silt w=22.2%
25	5			W	Br	A-2-4 Silty Sand w=25.7%
30						A-2-4 Silty Sand w=25.4%
						Bedrock @ 31.8'
35						BXDC 31.8'-36.8' REC 4.4'
						BXDC 36.8'-41.8' REC 3.4'
						See Geologist Report
40						Hole stopped @ 41.8' in bedrock
						Geologist Report
						RUN% RECOV% RQD% 1 88 34 2 78 20
45						Core consists of quartz-sericite-chlorite phyllite. The rock is moderately hard, slightly weathered and competent.
50						
55						
60						
65						
70						

BRAINTREE BRS0187(6)
BORING NO. B-5

ELEV. 757.06'

SURVEY LINE
STA 20+75, 9' RT

ABUTMENT #2
BOTTOM FOOTING
ELEV. 746.00

19' ESTIMATED PILE PENETRATION

DEPTH	BLOWS ON CASING	STANDARD PENETRATION	SAMPLE NUMBER	MOISTURE	COLOR	LABORATORY CLASSIFICATION OF SOIL
5	35			M	Br	A-1-a Sandy Gravel w=12.5%
10	4			W	Br	A-2-4 Silty Sand w=28.9%
15	5			W	Br	A-4 Silty Sand 29.7%
20	7			W	Br	A-2-4 Sand w=26.8%
25	9			W	Br	A-2-4 Silty Sand w=23.6%
						Bedrock @ 30.7'
35						BXMDC 30.7-35.7 REC 4.6
						BXMDC 35.7-40.7 REC 4.6
						See Geologist Report
40						Hole stopped @ 40.7 in bedrock
						Geologist Report
						RUN% RECOV% RQD% 1 92 14 2 92 74
45						Core consists of quartz-sericite-chlorite schist. The rock is moderately hard, unweathered and competent.
50						
55						
60						
65						
70						

BRAINTREE BRS 0187(6)
BORING NO. B-6

ELEV. 756.42'

SURVEY LINE
STA 21+07, 32' RT

ABUTMENT #2
BOTTOM FOOTING
ELEV. 746.00

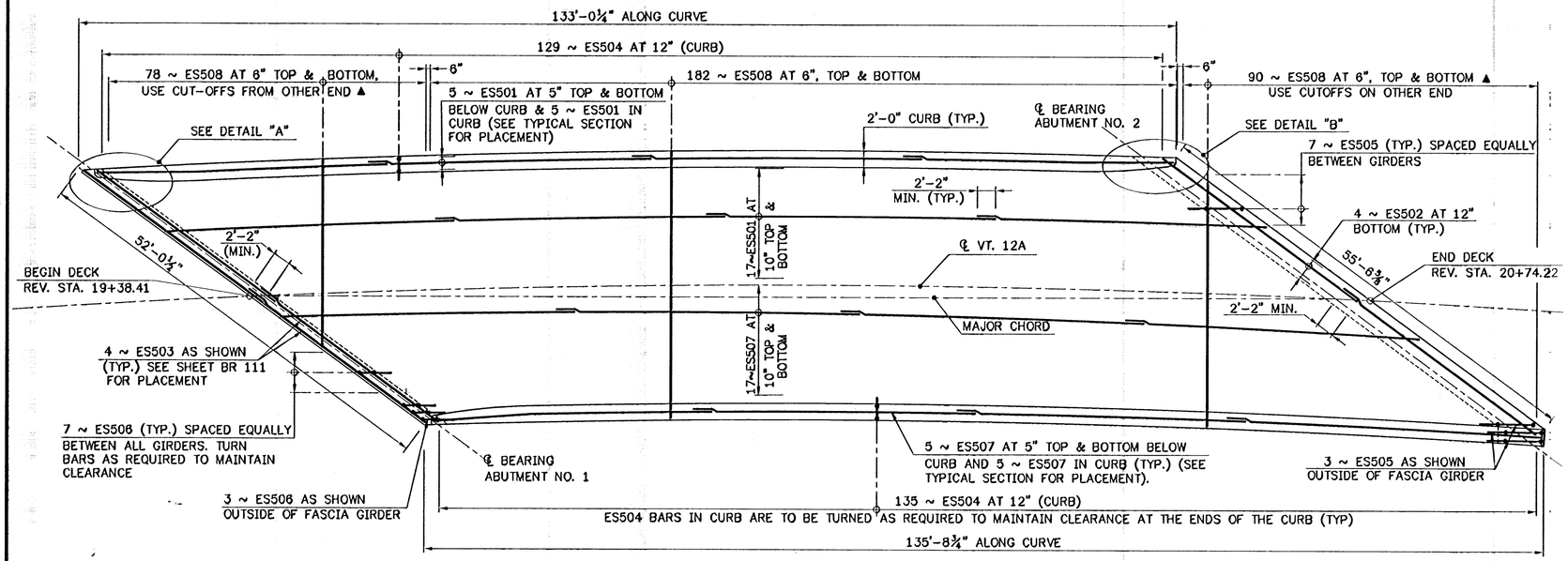
14' ESTIMATED PILE PENETRATION

DEPTH	BLOWS ON CASING	STANDARD PENETRATION	SAMPLE NUMBER	MOISTURE	COLOR	LABORATORY CLASSIFICATION OF SOIL
5	3					Visual-Sandy Gravel
10	20					No Recovery
15	8			W	Br	A-4 Sandy Silt w=18.0%
20	21			W	Br	A-2-4 Sand w=52.7%
25						Bedrock @ 24.9'
						BXMDC 24.9'-29.9' REC 4.7'
30						BXMDC 29.9'-34.9' REC 3.7'
						See Geologist Report
35						Hole stopped @ 34.9' in bedrock
						Geologist Report
						RUN% RECOV% RQD% 1 94 86 2 74 24
40						Core consists of quartz-sericite-chlorite schist. The rock is moderately hard, weathered and competent.
45						
50						
55						

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRAINTREE	Bridge No. 6
	Log Sta.
Highway No. VT. Route 12A	Surv. Sta.
VT. ROUTE 12A OVER THE 3rd BRANCH OF THE WHITE RIVER	
BORING LOGS (SHEET 1 OF 1)	
Designed By ---	Drawn By. M.J. LAMPER
Checked By Date E.M. STUMPH 1/95	PLD Project Manager C.R. BEAN Date 1/95
PROJECT BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info.	
Bridge Sheet No. BRI04	Sheet 28 Of 79

08250RNG (1=1)

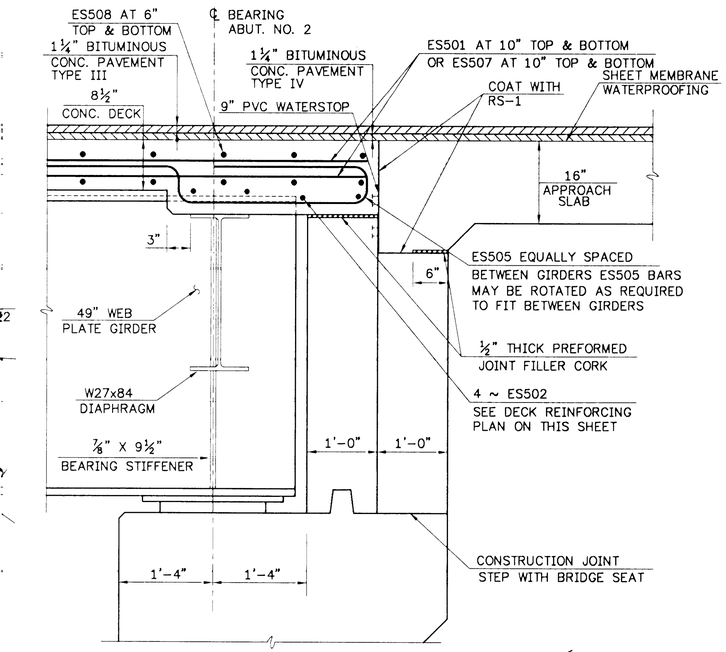


DECK REINFORCING PLAN

SCALE: ⅛"=1'-0"

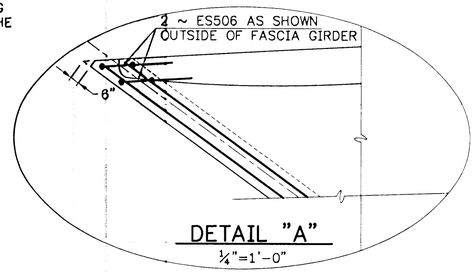
NOTES:

1. ALL REINFORCING STEEL IN DECK, CURBS AND APPROACH SLABS SHALL BE EPOXY COATED.
2. ALL EPOXY COATED STEEL TO BE CUT IN THE FIELD SHALL BE SAW CUT AND THE EXPOSED END SHALL BE TREATED AS PER SUBSECTION 507.04.
3. THE 6" SPACING FOR ES508 BARS IS MEASURED ALONG ℄ ROADWAY. EXTRA ES508 BARS ARE INCLUDED IN THE REINFORCING STEEL SCHEDULES TO ASSURE ADEQUATE AVAILABLE LENGTH DUE TO DIFFERENT SKEW ANGLES OF EACH END.



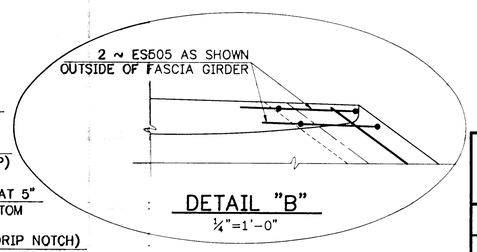
END DETAIL AT ABUTMENT NO. 2

(NORMAL TO ℄ BEARING)
SCALE: 1"=1'-0"



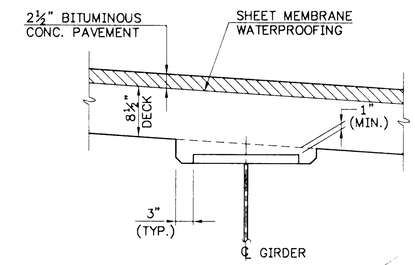
DETAIL "A"

¼"=1'-0"



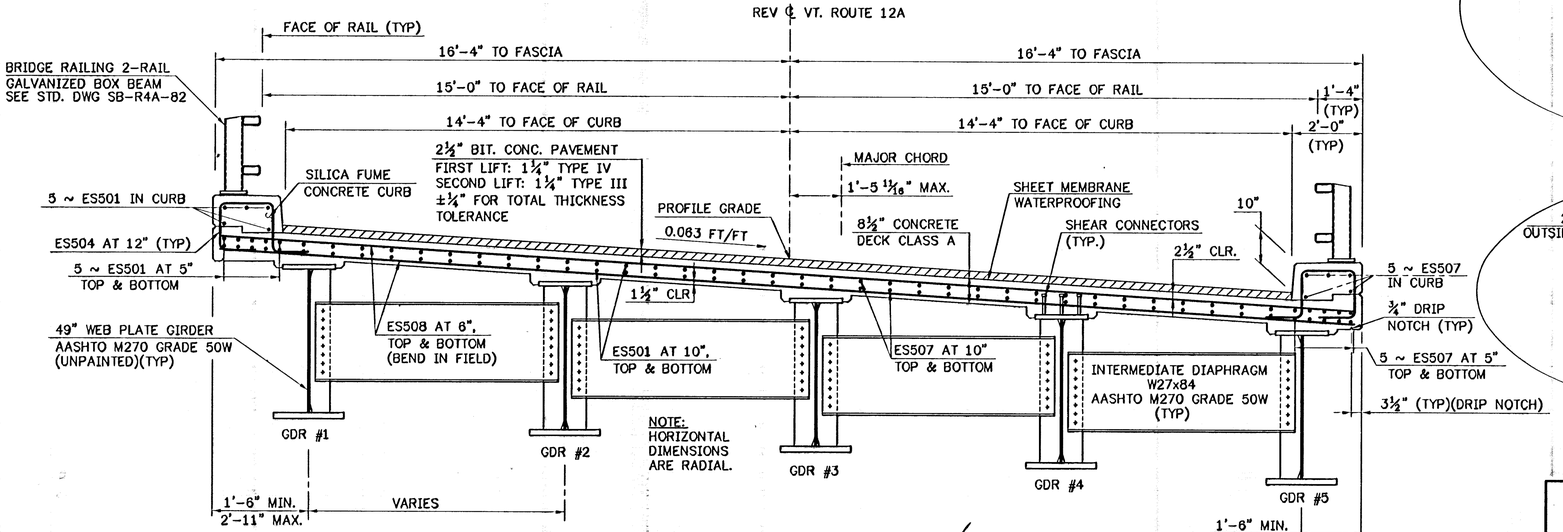
DETAIL "B"

¼"=1'-0"



GIRDER HAUNCH DETAIL

SCALE: 1"=1'-0"



BRIDGE TYPICAL SECTION

SCALE: ½"=1'-0"

CLD Costello Lamarsey & de Napoli, Inc.
Consulting Engineers
540 Commercial Street
Manchester, NH 03101
(603)668-8223 FAX(603)668-8802

STATE OF VERMONT
AGENCY OF TRANSPORTATION

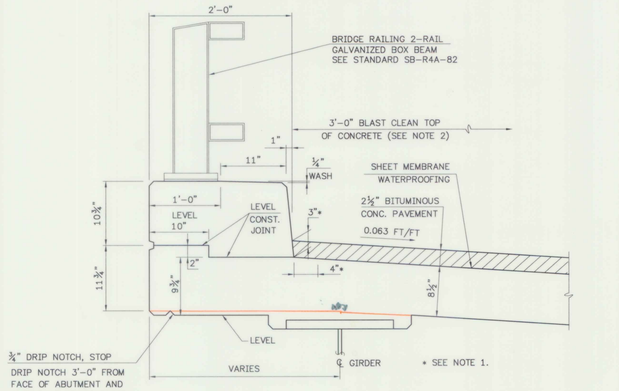
Town Of	BRAINTREE	Bridge No.	6
Highway No.	VT RTE 12A	Log Sta.	
		Surv. Sta.	

VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER

DECK DETAILS

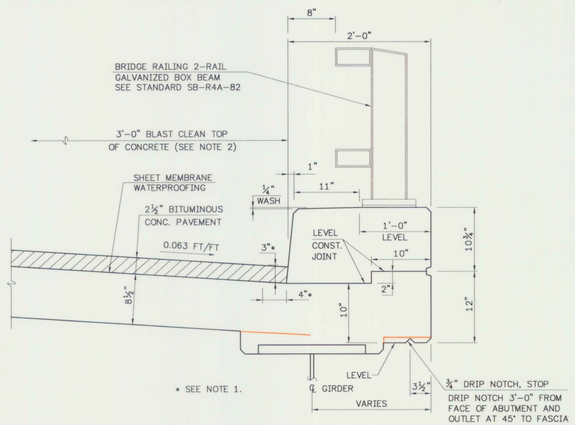
Designed By	E.M.Stumph	Drawn By	A.Setas
Checked By	Date	CLD Project Manager	
E.M.Stumph	1/95	C.R.BEAN	Date 1/95
PROJECT	BRAINTREE	PROJECT NO.	BRS 0187(6)
I.G.C. Info.			
Bridge Sheet No.	BR 105	Sheet	29 Of 79

902820EK.dwg (1=1)(PLOT1)



2'-0 CURB SECTION – LEFT FASCIA

SCALE: 1½"=1'-0"

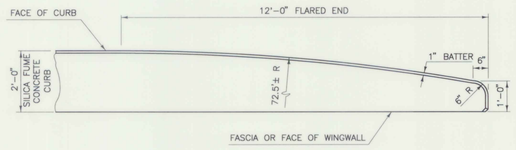


2'-0 CURB SECTION – RIGHT FASCIA

SCALE: 1½"=1'-0"

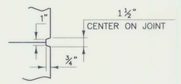
NOTES:

1. TWO COATS OF POLYURETHENE MEMBRANE SHALL BE PLACED 4' WIDE ALONG DECK, 3" UP FACE OF CURB AND ALONG CONCRETE SHOULDER AT EXPANSION JOINTS. SEE SPEC. 519.05(B).
2. BLAST CLEAN 3'-0" FROM FACE OF CURB AND 3" UP CURB FACE PRIOR TO PLACING MEMBRANE.
3. SHEET MEMBRANE WATERPROOFING SHALL EXTEND FROM FACE OF CURB TO FACE OF CURB.
4. POLYURETHANE MEMBRANE AND BLAST CLEANING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SHEET MEMBRANE WATERPROOFING.
5. CONSTRUCTION JOINTS THROUGH CONCRETE CURBS SHALL BE SPACED MAXIMUM 15'-0" CENTER TO CENTER AND SHALL BE 1"-6" MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. CONCRETE SHALL BE PLACED IN ALTERNATING SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT PLACEMENTS.
6. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CURB CONSTRUCTION JOINTS.
7. CURB REINFORCING STIRRUP BARS SHALL BE TURNED AS REQUIRED TO FIT TAPERED ENDS.



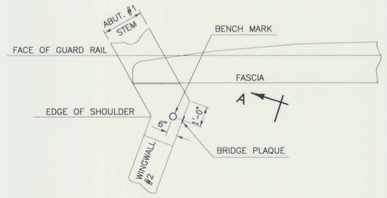
FLARED END DETAIL FOR 2'-0 CURB

NOT TO SCALE



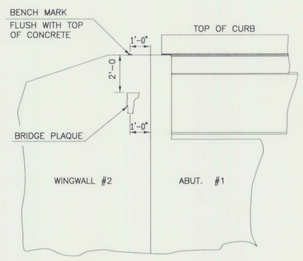
SCORE MARK DETAIL

NOT TO SCALE



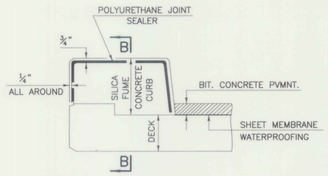
PLAN

NOT TO SCALE



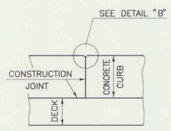
VIEW "A-A"

NOT TO SCALE



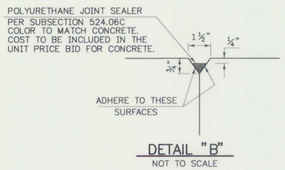
TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT

NOT TO SCALE



SECTION B-B

NOT TO SCALE



DETAIL "B"

NOT TO SCALE

LOCATE BENCH MARK AND BRIDGE PLAQUE

THE BRIDGE PLAQUE AND BENCH MARK WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER. (DETAILS ABOVE ARE NOT MEANT TO BE SITE SPECIFIC)

CLD Civil Lamoreux & de Napoli, Inc.
Consulting Engineers
545 Commercial Street
Manchester, NH 3101
(603)668-8223 FAX(603)668-8802

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	BRAINTREE	Bridge No.	6
		Log Sta.	
Highway No.	VT RTE 12A	Surv. Sta.	

VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER

CURB DETAILS

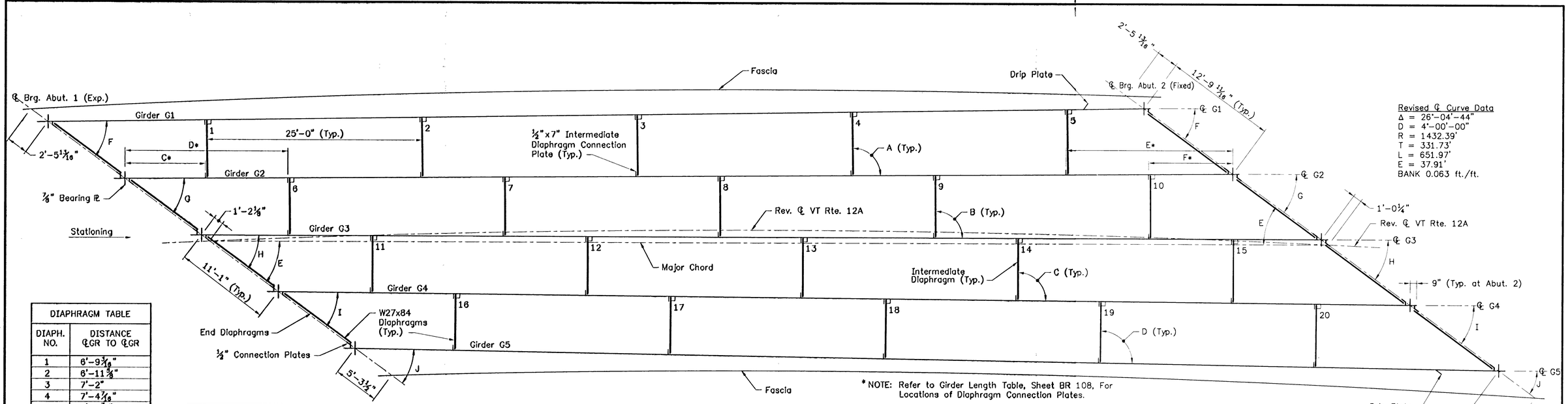
Designed By	E.M.Stumph	Drawn By	M.J.Lamper
Checked By	Date	CLD Project Manager	
E.M.Stumph	1/95	C.R.Bean	Date 1/95

PROJECT: BRAINTREE	PROJECT NO.: BRS 0187(6)

I.G.C. Info.

Bridge Sheet No. BR 106 Sheet 30 Of 79

902BSCRB1(=80post)



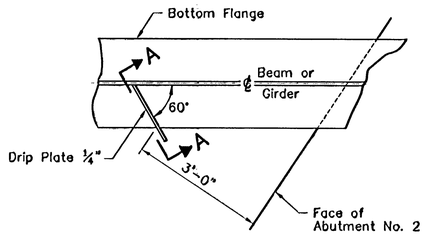
Revised ℄ Curve Data
Δ = 26°-04'-44"
D = 4°-00'-00"
R = 1432.39'
T = 331.73'
L = 651.97'
E = 37.91'
BANK 0.063 ft./ft.

*NOTE: Refer to Girder Length Table, Sheet BR 108, For Locations of Diaphragm Connection Plates.

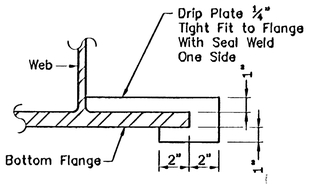
FRAMING PLAN
Scale: 3/16"=1'-0"

DIAPHRAGM TABLE	
DIAPH. NO.	DISTANCE ℄GR TO ℄GR
1	6'-9 3/16"
2	6'-11 3/8"
3	7'-2"
4	7'-4 7/16"
5	7'-6 7/8"
6	6'-8 3/8"
7	6'-10 3/4"
8	7'-1 1/8"
9	7'-3 1/4"
10	7'-5 5/8"
11	6'-7 3/16"
12	6'-9 5/8"
13	7'-0 1/16"
14	7'-2 1/2"
15	7'-4 5/8"
16	6'-8 1/4"
17	6'-9 1/16"
18	6'-11 5/16"
19	7'-1 9/16"
20	7'-3 7/8"

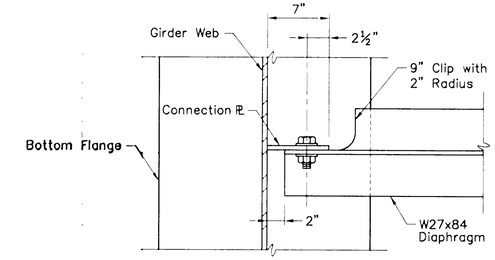
ANGLE TABLE	
A	90°-27'-48"
B	90°-27'-12"
C	90°-26'-38"
D	90°-26'-4"
E	36°-13'-56"
F	37°-08'-34"
G	36°-38'-47"
H	36°-11'-34"
I	35°-44'-57"
J	35°-18'-52"



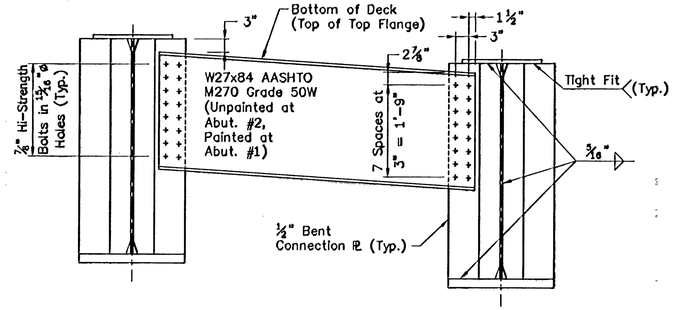
PLAN DRIP PLATE
N.T.S.



SECTION A–A
N.T.S.

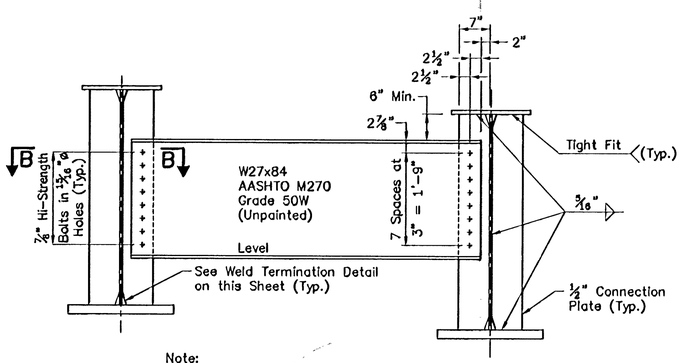


SECTION B–B
Scale: 1½"=1'-0"



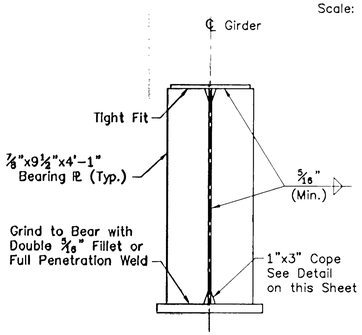
The Ends of the W27x84 Diaphragms at Each Abutment are to be Cut to be Vertical in the Erected Position.

TYPICAL DIAPHRAGM DETAILS AT ABUTMENTS
(See Bridge Sheet BR 108 for Plan View)
Scale: ¾"=1'-0"

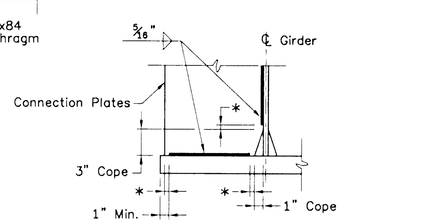


Note:
HI–Strength Bolts, Nuts and Washers Shall Conform to AASHTO Designation M164.

TYPICAL INTERMEDIATE DIAPHRAGM
Scale: ¾"=1'-0"



TYPICAL BEARING STIFFENERS AT ABUTMENTS
Scale: 3/4"=1'-0"



* No Weld for ¼" Min. ½" Max. (Except Must Maintain 1" Min. From Edge of Flange)

WELD TERMINATION AND COPING DETAILS
Scale: 1½"=1'-0"

STATE OF VERMONT
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Highway No.	VT RTE 12A	Log Sta.	
		Surv. Sta.	

VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER

FRAMING PLAN

Designed By	E.M.Stumph	Drawn By	M.J.Lamper
Checked By	Date	CLD Project Manager	
E.M.Stumph	1/95	C.R.Bean Date	1/95
PROJECT	BRAINTREE	PROJECT NO.	BRS 0187(6)
I.G.C. Info.			
Bridge Sheet No.	BR 107	Sheet 31 Of	79

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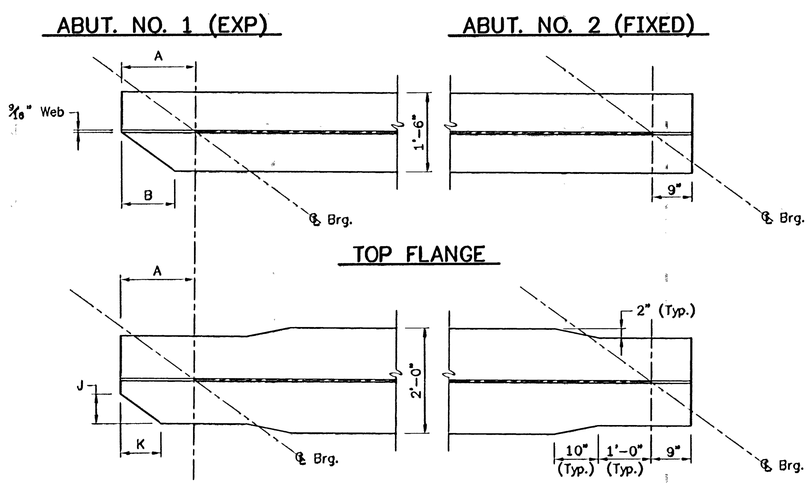
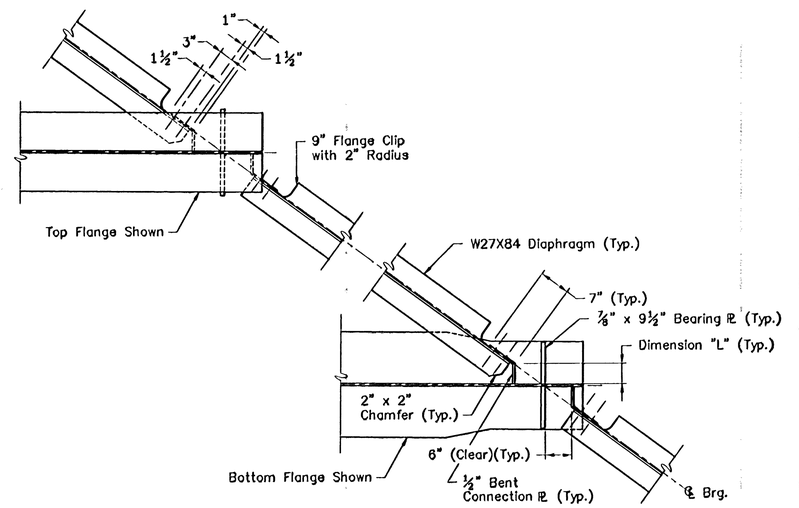


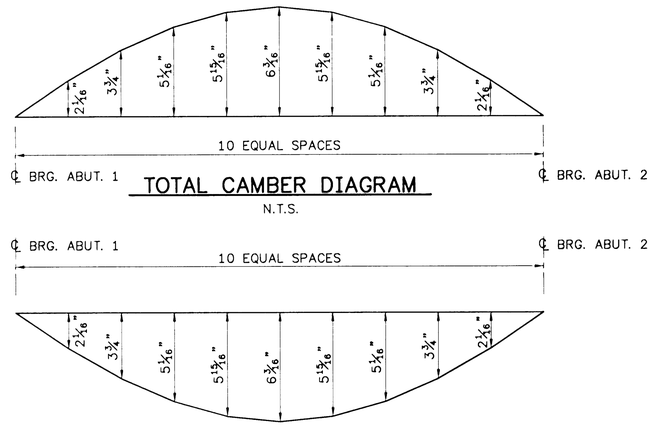
FLANGE TRIM DETAIL

Scale: ¾"=1'-0"



TYPICAL ABUTMENT DIAPHRAGM CONNECTION DETAILS

Scale: ¾"=1'-0"



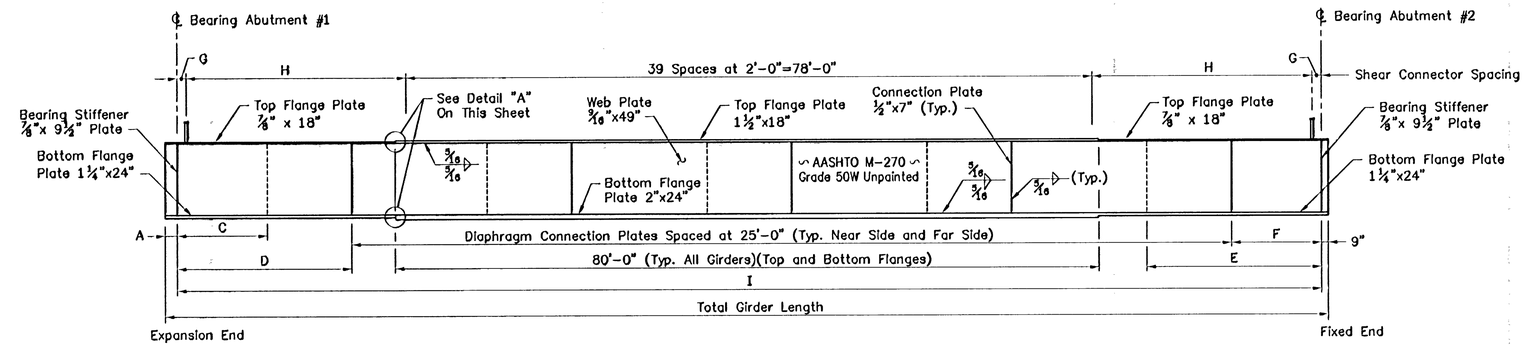
TOTAL CAMBER DIAGRAM

N.T.S.

DEAD LOAD DEFLECTION

N.T.S.

NOTE:
EACH GIRDER SHALL BE CAMBERED A TOTAL OF 6 3/16".
TOTAL DEAD LOAD DEFLECTION HAS BEEN CALCULATED TO BE 6 3/16".
THE DESIGN RESIDUAL POSITIVE CAMBER FOR THIS PROJECT IS 0".



TYPICAL GIRDER ELEVATION

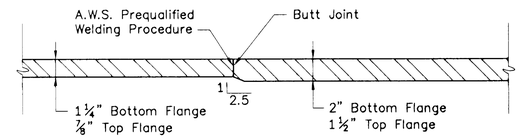
(Girder G3 Shown; Others Similar)(Looking Left)
Horizontal Scale: ⅛"=1'-0"
Vertical Scale: ¼"=1'-0"

Note:
Dimensions C, D, E and F Represent the Distance From ℄ Bearing to the First Diaphragm Connection Plate.

FABRICATION NOTE:
AT THE CONTRACTOR'S OPTION, THE TOP AND/OR BOTTOM FLANGE TRANSITIONS MAY BE OMITTED, WITH THE THICKER PLATE EXTENDED TO GIRDER ENDS. IF THE CONTRACTOR SO OPTS, HE SHALL MAKE ALL NECESSARY MODIFICATIONS IN THE WORK, INCLUDING BUT NOT LIMITED TO BEARING SEAT ELEVATIONS, GIRDER CAMBER, BRIDGE SHOES, ETC. PAYMENT SHALL BE BASED ON GIRDER WEIGHT AS IF THE FLANGE TRANSITIONS WERE PROVIDED (I.E., NO INCREASE IN PAY WEIGHT).

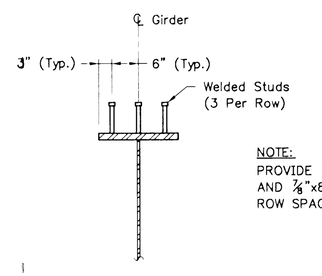
GIRDER LENGTH TABLE

Girder Number	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Dimension G	Shear Connector Spacing H	Dimension I	Dimension J	Dimension K	Dimension L	Total Girder Length
G1	1'-4 3/16"	11½"	——	18'-5"	——	8'-10 11/16"	10⅞"	19 sp at 1'-3"=23'-9"	127'-3¾"	6 9/16"	8 1/16"	4⅞"	129'-4 15/16"
G2	1'-4⅜"	11¾"	9'-6 15/16"	19'-1⅜"	19'-1 ¼"	9'-6⅝"	4⅛"	20 sp at 1'-3"=25'-0"	128'-8¼"	6⅝"	8⅞"	4 1/16"	130'-9⅜"
G3	1'-4 3/16"	11 15/16"	10'-2 15/16"	19'-10 3/16"	19'-9 15/16"	10'-2⅝"	1'-0½"	20 sp at 1'-3"=25'-0"	130'-0 13/16"	6⅝"	9 1/16"	4¾"	132'-2½"
G4	1'-4¾"	1'-0⅛"	10'-11"	20'-7"	20'-6 11/16"	10'-10 11/16"	5 1/16"	21 sp at 1'-3"=26'-3"	131'-5 11/16"	6⅝"	9¼"	4 1/16"	133'-7⅜"
G5	1'-4⅞"	1'-0 3/16"	11'-7 1/16"	——	21'-3 7/16"	——	1'-2¼"	21 sp at 1'-3"=26'-3"	132'-10½"	6⅝"	9⅜"	4 5/16"	135'-0 7/16"



DETAIL "A"-FLANGE SPLICE

Scale: 3"=1'-0"



NOTE:
PROVIDE ⅞"x7" STUDS ON 1½" TOP FLANGE
AND ⅞"x8" STUDS ON ⅞" TOP FLANGE.
ROW SPACING AS INDICATED ON GIRDER ELEVATION.

SHEAR CONNECTOR DETAIL

Scale: ¾"=1'-0"

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STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRAINTREE	Bridge No. 6
	Log Sta.
Highway No. VT RTE 12A	Surv. Sta.

VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER

GIRDER ELEVATION & DETAILS

Designed By E.M. Stumph	Drawn By. M.J. Lamper
Checked By Date E.M. Stumph 1/95	CLD Project Manager C.R. Bean Date 1/95
PROJECT BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info.	
Bridge Sheet No. BR 108	Sheet 32 Of 79

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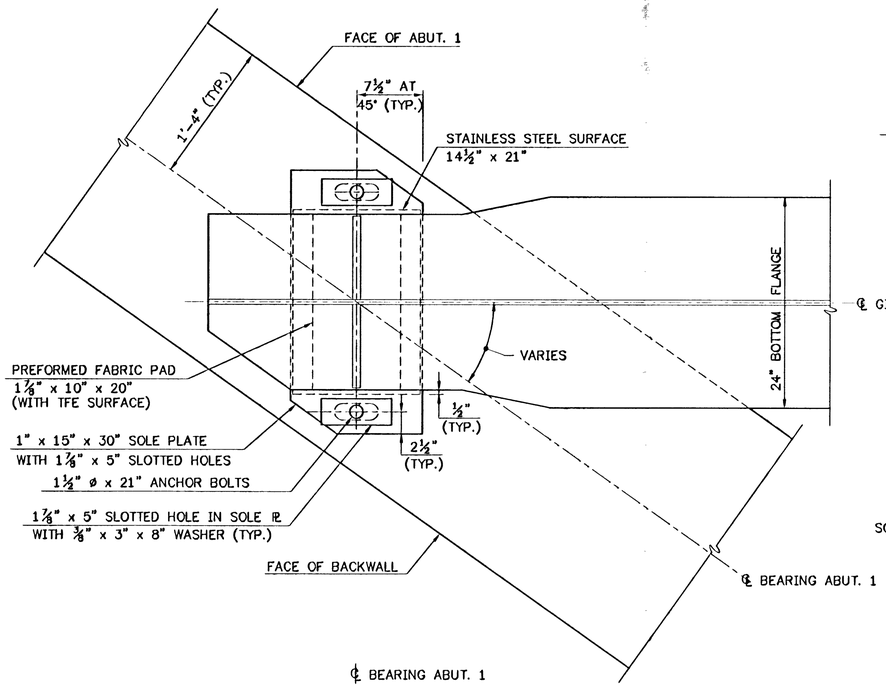
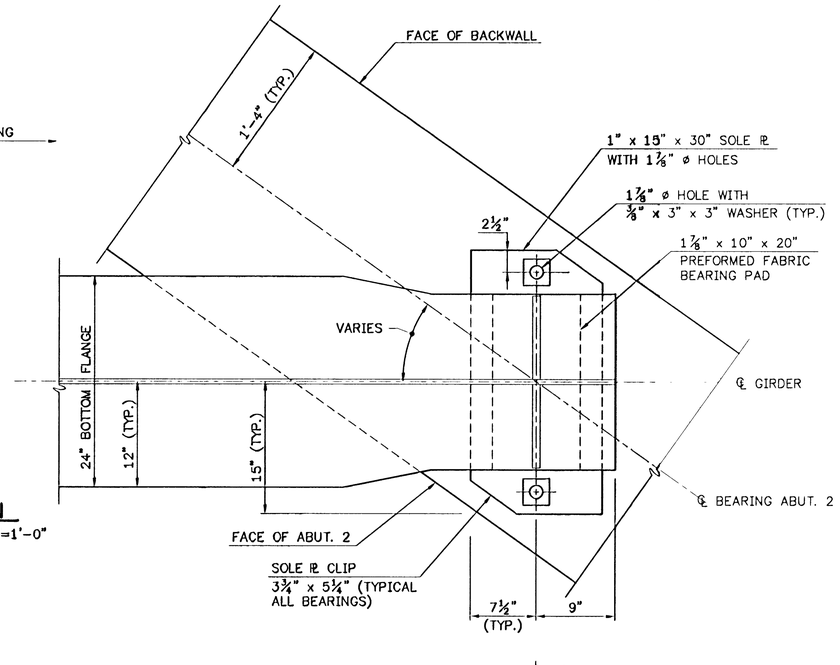
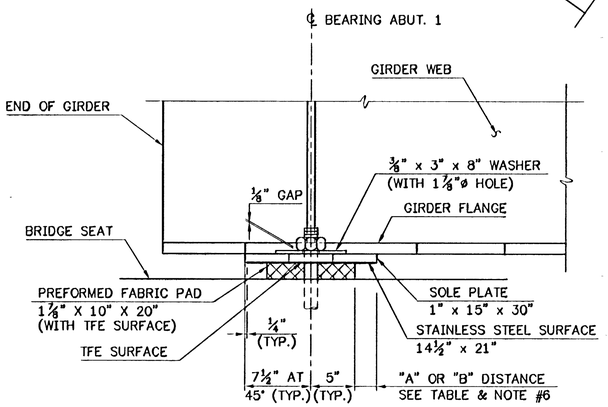


PLAN

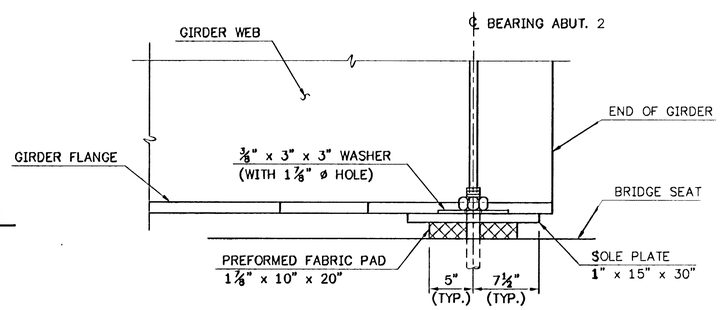
SCALE: 1½"=1'-0"

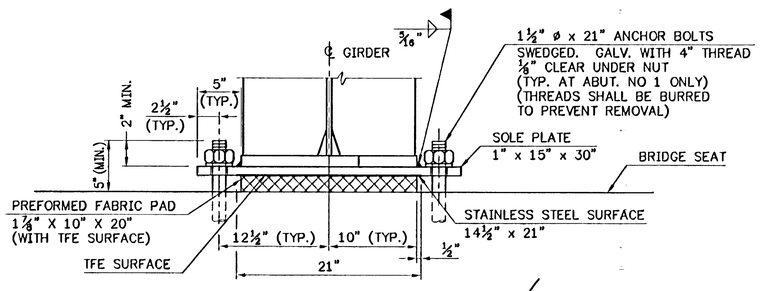




SIDE ELEVATION

SCALE: 1½"=1'-0"

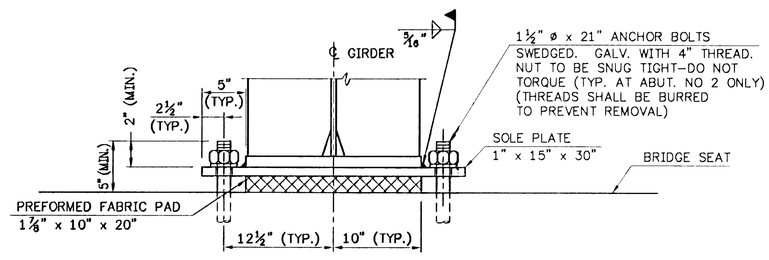




EXPANSION BEARING DETAILS

FRONT VIEW

SCALE: 1½"=1'-0"



FIXED BEARING DETAILS

BEARING NOTES:

1. BEARINGS SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 531 AND 731. BEARINGS SHALL BE FABRIC REINFORCED ELASTOMERIC BEARING PADS WITH STEEL SOLE PLATES.
2. BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.10 "BEARING DEVICE ASSEMBLY".
3. SHOP DRAWINGS CONFORMING TO SUBSECTION 531.03 SHALL BE SUBMITTED TO INCLUDE WELDING AND BONDING PROCEDURES.
4. FABRICATION DRAWINGS SHALL IDENTIFY THE NUMBER OF LAYERS OF VULCANIZED SHEETS AND CORRESPONDING SHEET THICKNESS TO BE USED FOR FABRICATING THE BEARING PAD AND SHALL INCLUDE DETAILED PROCEDURES FOR BONDING THESE SHEETS TOGETHER.
5. THE CONCRETE SURFACE UNDER THE BEARING DEVICE SHALL BE LEVEL.
6. "A" DISTANCE IS THE FINAL SETTING FOR THE BEARING AFTER THE CONCRETE SLAB, CURB, PAVEMENT AND BRIDGE RAIL ARE PLACED. "B" DISTANCE IS LISTED 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 THE DEAD LOAD DEFLECTION. THE FINAL "A" DISTANCE, AS SHOWN IN THE TABLE, MUST BE ATTAINED WITHIN ⅛".
7. DESIGN CRITERIA:
   A. AVERAGE BEARING PRESSURE = 800 PSI
   B. MINIMUM ALLOWABLE DESIGN ROTATION = 0.015 RADIANS
   C. HORIZONTAL CAPACITY SHALL BE A MINIMUM OF 10% OF THE VERTICAL
   D. DESIGN LOAD PER BEARING = 156 KIPS (DEAD LOAD PLUS LIVE LOAD WITHOUT IMPACT).
8. ALL STEEL IN BEARING DEVICES (EXCEPT STAINLESS) SHALL BE AASHTO M270 GRADE 36.
9. ANCHOR BOLTS SHALL HAVE A MINIMUM OF 15" EMBEDMENT INTO THE CONCRETE AND SHALL CONFORM TO SUBSECTION 714.08.
10. ALL BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER SUBSECTIONS 531.04(b) AND 506.15(a) & (b). AREAS OF GALVANIZING OR METALIZING DAMAGED BY FIELD WELDING OR HANDLING SHALL BE PAINTED WITH AN APPROVED SEALANT IN ACCORDANCE WITH SUBSECTION 531.04.
11. ALL THE ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. ALL WASHERS SHALL BE ⅜" PLATE (MINIMUM). PAYMENT FOR ANCHOR BOLTS, NUTS AND WASHERS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR "BEARING DEVICE ASSEMBLY".

TEMP	"A" DIST.	"B" DIST.
0°F	2 15/16"	3 9/16"
15°F	2 13/16"	3 7/16"
30°F	2 5/8"	3 1/4"
45°F	2 1/2"	3 1/8"
60°F	2 3/8"	2 15/16"
75°F	2 3/16"	2 13/16"
90°F	2 1/16"	2 11/16"
105°F	1 7/8"	2 1/2"

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	BRAINTREE	Bridge No.	6
Highway No.	VT RTE 12A	Log Sta.	
		Surv. Sta.	

VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER

BEARING DETAILS

Designed By	E.M.Stumph	Drawn By	S.R.Langevin
Checked By	Date	CLD Project Manager	
E.M. Stumph	1/95	C.R. Bean	Date 1/95

PROJECT	PROJECT NO.
BRAINTREE	BRS 0187(6)

I.G.C. Info.

Bridge Sheet No. BR 109 Sheet 33 Of 79

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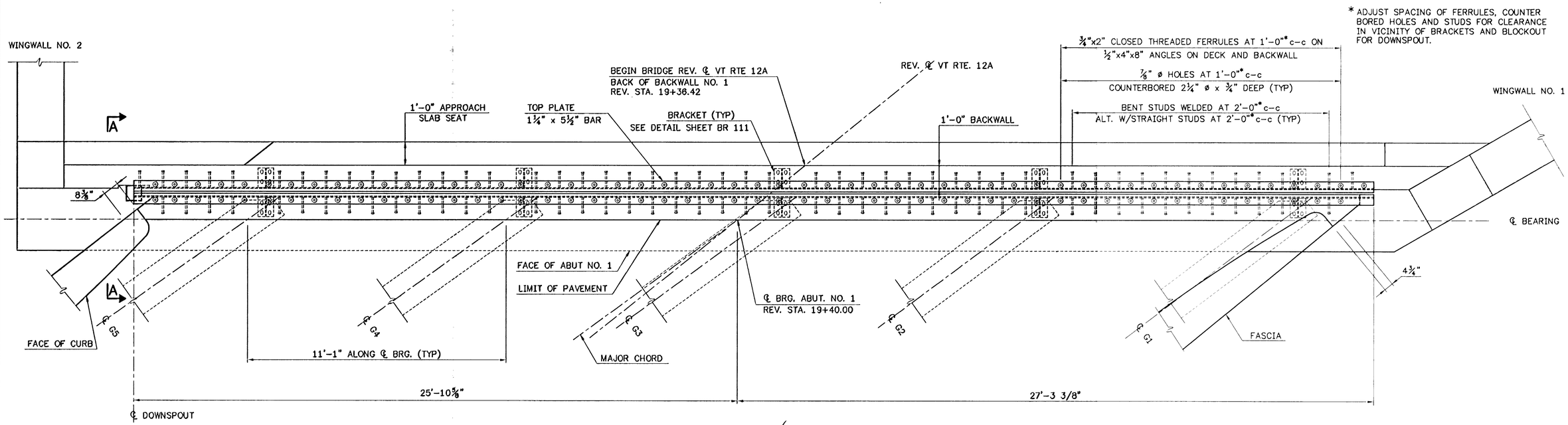
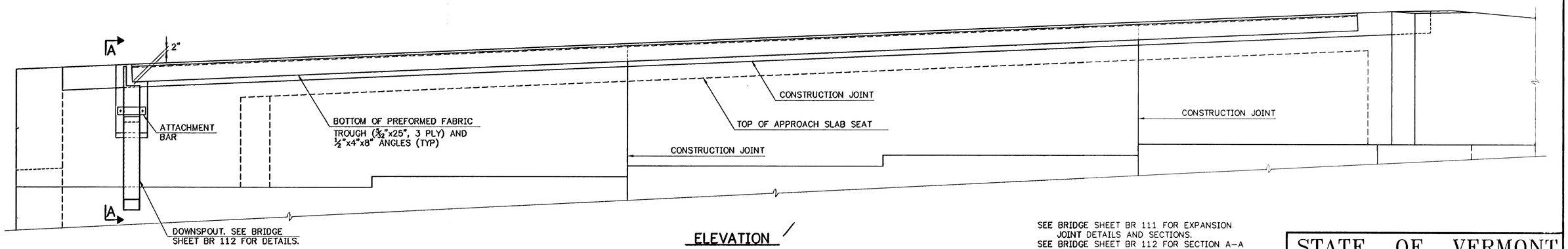


PLAN
Scale: ½"=1'-0"



ELEVATION
(THROUGH ℄ JOINT, LOOKING AT BACKWALL)
Scale: ½"=1'-0"

SEE BRIDGE SHEET BR 111 FOR EXPANSION JOINT DETAILS AND SECTIONS.
SEE BRIDGE SHEET BR 112 FOR SECTION A-A AND DOWNSPOUT DETAILS.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	BRAINTREE	Bridge No.	6
		Log Sta.	
Highway No.	VT RTE 12A	Surv. Sta.	

VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER

EXPANSION JOINT PLAN & ELEVATION

Designed By	E.M.Stumph	Drawn By.	M.J.Lamper
Checked By E.M.Stumph	Date 1/95	CLD Project Manager C.R.Bean	Date 1/95
PROJECT BRAINTREE		PROJECT NO. BRS 0187(6)	
I.G.C. Info.			
Bridge Sheet No. BR 110		Sheet 34 Of 79	

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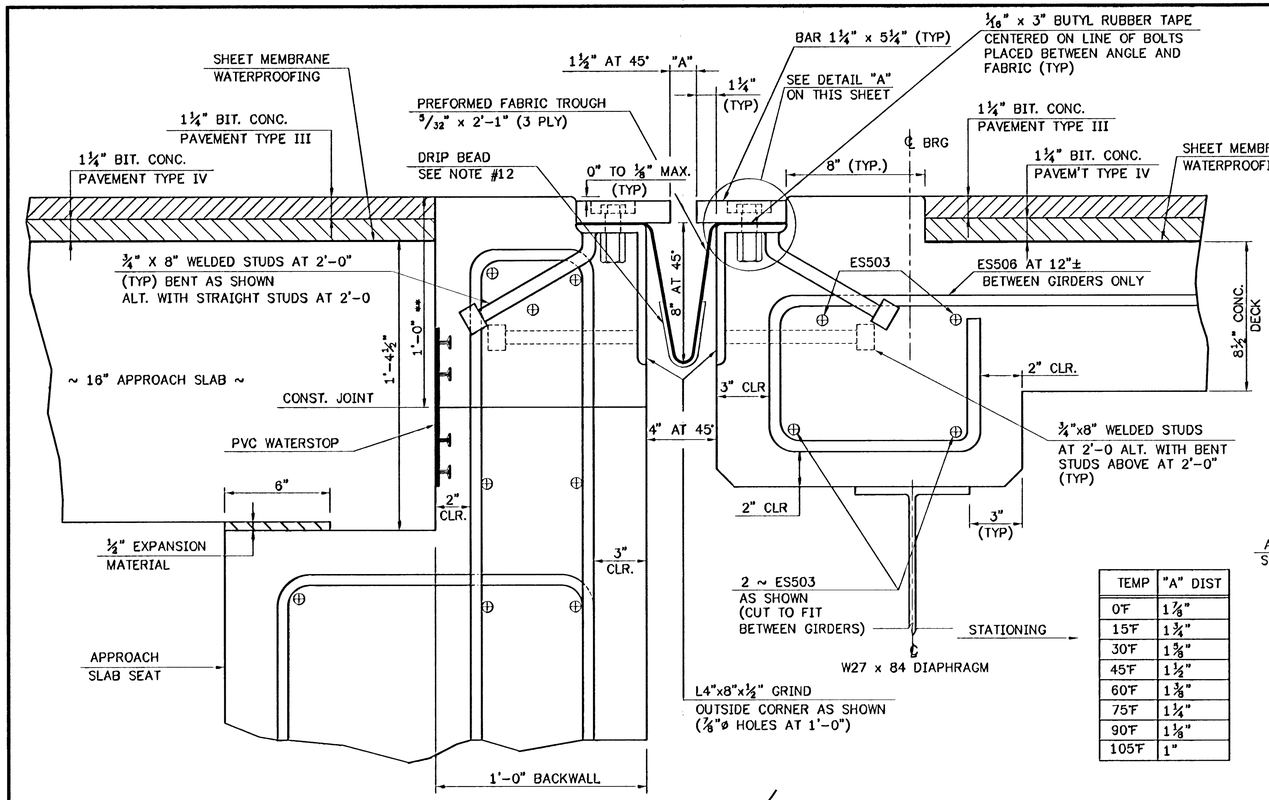
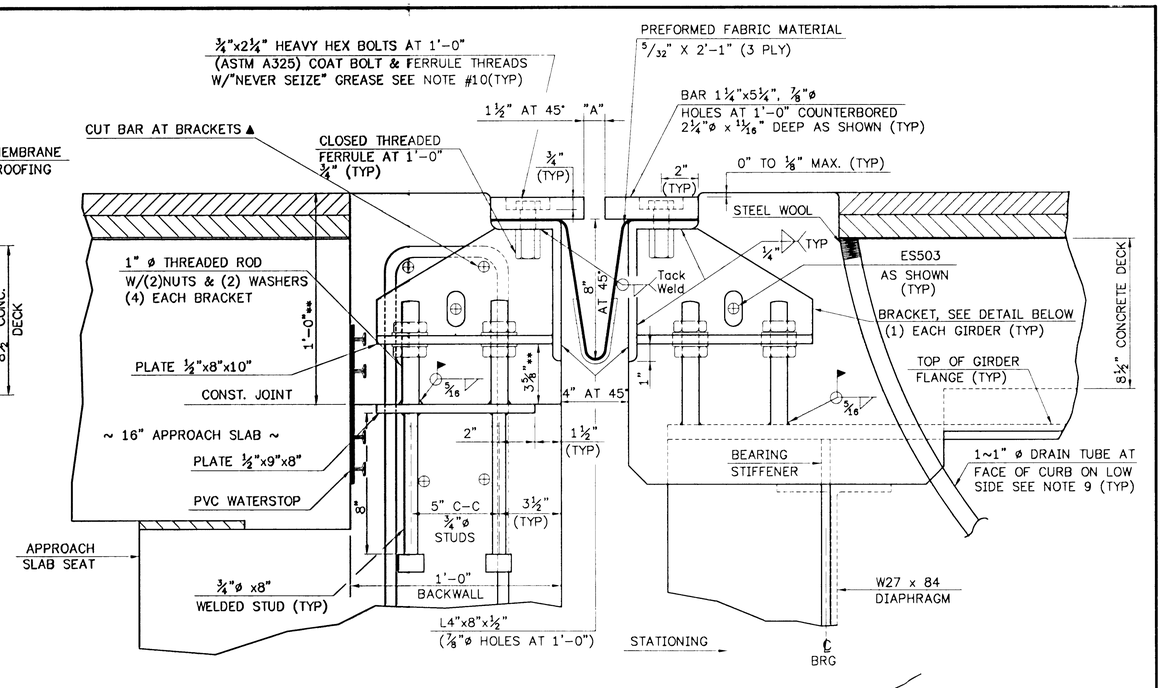


TEMP	"A" DIST
0°F	1⅞"
15°F	1¾"
30°F	1⅝"
45°F	1½"
60°F	1⅜"
75°F	1¼"
90°F	1⅛"
105°F	1"

TYPICAL SECTION BETWEEN GIRDERS AT ABUT #1

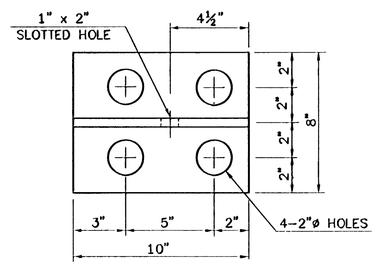
SCALE: 3" = 1'-0 (NORMAL TO ℄ BRG.)



TYPICAL SECTION AT GIRDERS AT ABUT # 1

SCALE: 3" = 1'-0 (NORMAL TO ℄ BRG.)

1. DETAILS ON THIS SHEET ARE FOR ITEM 516.10 "BRIDGE EXPANSION JOINTS"
2. PREFORMED FABRIC MATERIAL SHALL BE CONTINUOUS AND SHALL CONFORM TO SUBSECTION 707.07.
3. BUTYL RUBBER TAPE SHALL CONFORM TO AASHTO SPECIFICATION M-198, TYPE II.
4. THE FINAL FINISH OF THE EXPANSION DEVICE SHALL BE COVERED DURING THE PLACING OF BRIDGE DECK CONCRETE.
5. ALL STEEL COMPONENTS SHALL BE AASHTO M270 GRADE 36 GALVANIZED OR METALIZED AS PER SUBSECTION 506.15 (a) OR (b) UNLESS OTHERWISE NOTED.
6. THE ITEM "BRIDGE EXPANSION JOINT" SHALL INCLUDE THE FABRICATION AND ERECTION OF THE COMPLETE JOINT ASSEMBLY INCLUDING ALL STEEL PLATES, BRACKETS, ANGLES, WELDED STUDS OR RODS, PREFORMED FABRIC DRAIN TROUGH MATERIAL AND PLASTIC DRAIN TUBES, BUTYL RUBBER TAPE AND ANY OTHER MISCELLANEOUS MATERIAL NECESSARY TO INSTALL JOINT.
7. THE 4" x 8" x ½" ANGLES SHALL BE FURNISHED AS ONE CONTINUOUS PIECE. THE 1¼" x 5¼" BARS EACH SIDE OF THE JOINT SHALL BE PROVIDED IN TWO EQUAL LENGTHS.
8. COAT CONCRETE CONTACT SURFACES WITH AN EPOXY BONDING COMPOUND MEETING THE REQUIREMENTS OF SUBSECTION 719.02. PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 516.10 "BRIDGE EXPANSION JOINT".
9. A 1" DIAMETER PLASTIC DRAIN TUBE SHALL BE INSTALLED AS SHOWN AT THE FACE OF CURB ON LOW SIDE. THE UPPER END IS TO BE PLUGGED WITH STEEL WOOL AND THE LOWER END IS TO EXTEND BELOW THE BOTTOM OF THE ADJACENT GIRDER. THE DRAIN TUBES SHALL BE FASTENED TO THE GIRDERS USING A METHOD APPROVED BY THE ENGINEER.
10. FILL COUNTERBORED HOLES WITH HOT POURED JOINT SEALER. PAYMENT FOR THE WORK SHALL BE SUBSIDIARY TO ITEM 516.10.
11. PAYMENT FOR WATERSTOP SHALL BE SUBSIDIARY TO CONCRETE PAY ITEM.
12. A DRIP BEAD OF ¼" x 7" STRIP OF PREFORMED MATERIAL SHALL BE CEMENTED TO THE BOTTOM OF THE FABRIC TROUGH USING AN ADHESIVE APPROVED BY THE MANUFACTURER. THE DRIP BEAD SHALL BE APPLIED 1" FROM THE DOWNSPOUT END OF THE TROUGH.
13. FABRIC TROUGH SHALL BE THOROUGHLY CLEANED AND FLUSHED AFTER PAVING OPERATION.
14. THE EXPANSION JOINT SHALL BE SHOP ASSEMBLED AND SHIPPED AS ONE UNIT.



BRACKET PLAN

SCALE: 3" = 1'-0

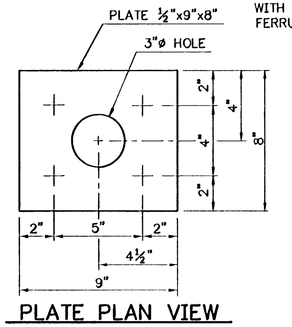
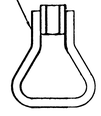


PLATE PLAN VIEW

SCALE: 3" = 1'-0

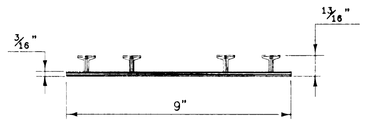


ANCHOR FERRULE DETAIL

SCALE: 3" = 1'-0

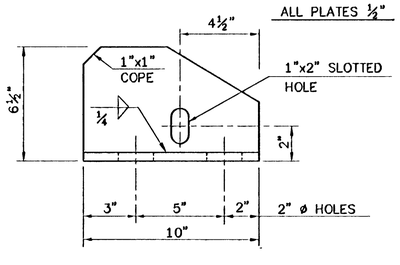
NOTE:
THREADED CONCRETE ANCHORS MAY BE SUBSTITUTED FOR CLOSED THREADED FERRULE

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



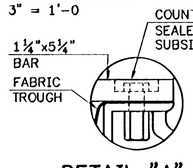
P. V. C. WATERSTOP FOR CONSTRUCTION JOINTS

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



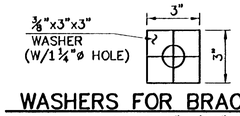
BRACKET ELEVATION

SCALE: 3" = 1'-0



DETAIL "A"

SCALE: 3"=1'-0"



WASHERS FOR BRACKETS

SCALE: 3"=1'-0"

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(603)668-8223 FAX(603)668-8802

STATE OF VERMONT
AGENCY OF TRANSPORTATION

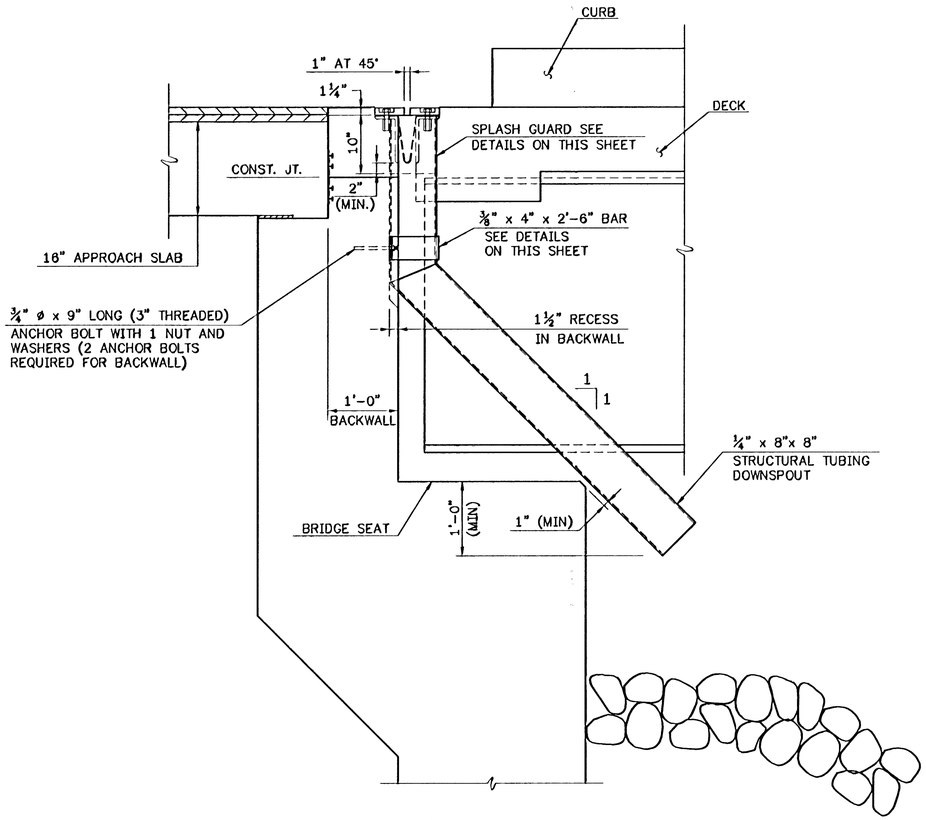
Town Of BRAINTREE	Bridge No. 6
	Log Sta.
Highway No. VT RTE 12A	Surv. Sta.

VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER

EXPANSION JOINT DETAILS

Designed By VAOT	Drawn By. VAOT
Modified & Checked By Date E.M.Stumph 1/95	CLD Project Manager C.R.Bean Date 1/95
PROJECT BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info. Translated To AutoCAD	
Bridge Sheet No. BR 111	Sheet 35 Of 79

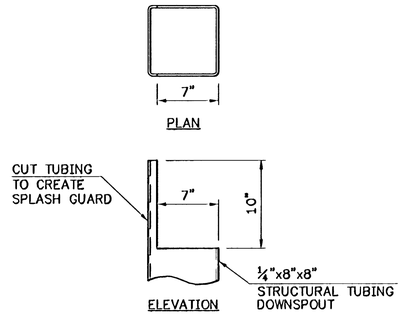
90282EXJ.dwg (1=4")(plot)



SECTION A–A

SCALE: 1" = 1'– 0"

(REFER TO SHEET BR 110 FOR LOCATION)

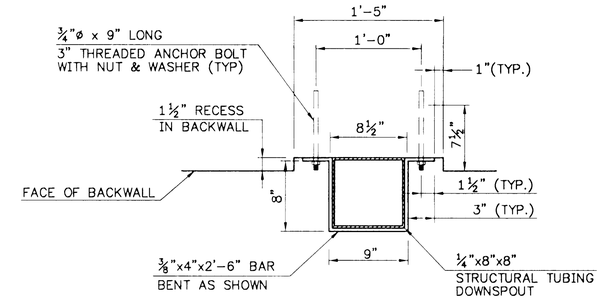


DOWNSPOUT SPLASH GUARD DETAIL

SCALE: 1½" = 1'– 0"

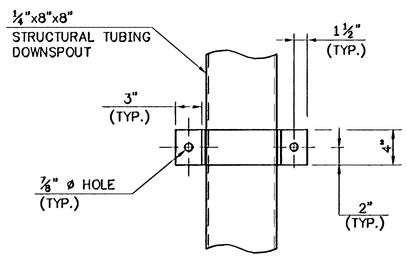
DOWNSPOUT NOTES:

1. HOLLOW STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A–500 OR ASTM A–501.
2. ALL BARS SHALL CONFORM TO AASHTO M270 GRADE 36 AND SHALL BE GALVANIZED.
3. DOWNSPOUT SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A–123 AFTER FABRICATION.
4. ALL DOWNSPOUT BOLTS AND RELATED HARDWARE SHALL BE ASTM A–307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A–153 (AASHTO M232).
5. ANY PLACE WHERE THE GALVANIZING HAS BEEN REMOVED FROM THE DOWNSPOUT OR 4" BAR EITHER BY CUTTING, BURNING, WELDING, PLACING, OR ANY OTHER MEANS, SHALL BE REPAIRED BY THOROUGHLY CLEANING THE DAMAGED AREAS WITH A WIRE BRUSH AND PAINTING THE DAMAGED AREAS WITH TWO COATS OF AN APPROVED SEALANT.
6. DOWNSPOUT SHALL BE PAID FOR UNDER THE ITEM 506.55 "STRUCTURAL STEEL (PLATE GIRDER)".



DETAILS FOR ATTACHING DOWNSPOUT TO BACKWALL

SCALE: 1½" = 1'– 0"



ELEVATION VIEW OF BAR

SCALE: 1½" = 1'– 0"

STATE OF VERMONT	
AGENCY OF TRANSPORTATION	
Town Of BRAINTREE	Bridge No. 6
	Log Sta.
Highway No. VT RTE 12A	Surv. Sta.
VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER	
EXPANSION JOINT DOWNSPOUT DETAILS	
Designed By VAOT	Drawn By VAOT
Modified and Checked By Date E.M.Stumph 1/95	CLD Project Manager C.R.Bean Date 1/95
PROJECT BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info. Translated to Autocad	
Bridge Sheet No. BR 112	Sheet 36 Of 79

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Manchester, NH 0310
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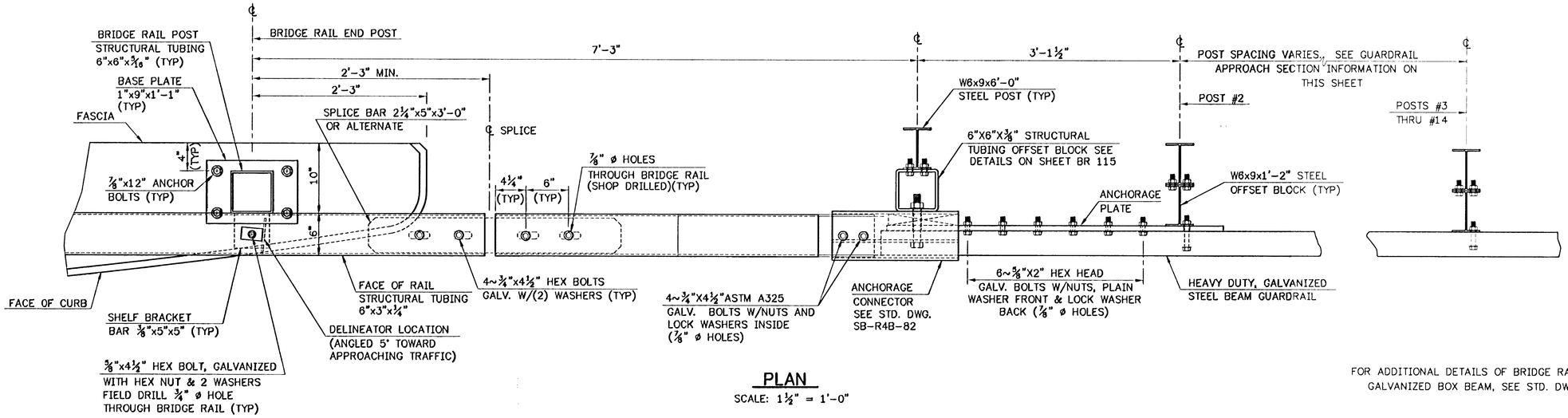
902820SP.dwg (1=1\Plot)



PLAN

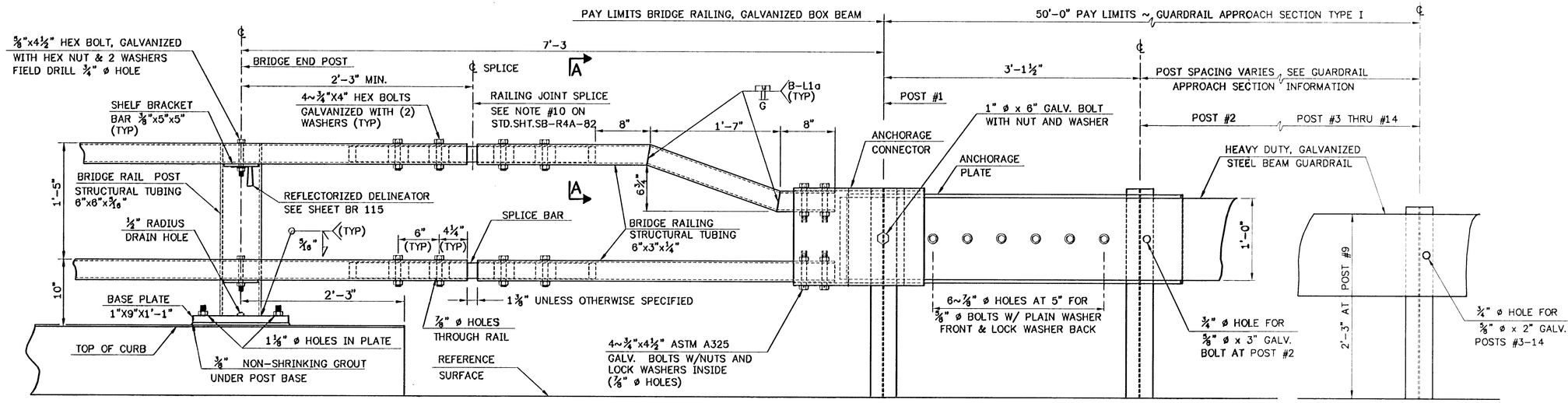
SCALE: 1 1/2" = 1'-0"

FOR ADDITIONAL DETAILS OF BRIDGE RAILING, GALVANIZED BOX BEAM, SEE STD. DWGS.

GUARDRAIL APPROACH SECTION TYPE I

POST NO.	SPACING
1	
2	3'-1 1/2"
3	3'-1 1/2"
4	3'-1 1/2"
5	3'-1 1/2"
6	3'-1 1/2"
7	3'-1 1/2"
8	3'-1 1/2"
9	3'-1 1/2"
10	4'-2"
11	4'-2"
12	4'-2"
13	6'-3"
14	6'-3"

50'-0" PAY LENGTH GUARDRAIL APPROACH SECTION, TYPE I



FOR ADDITIONAL INFORMATION ON THE CONNECTION/TRANSITION DETAILS AT POST NO. 1, SEE SHEET BR 115

ELEVATION

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

90292RL1.dwg (1=1)(Plot)

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRAINTREE	Bridge No. 6
Highway No. VT RTE 12A	Log Sta.
	Surv. Sta.

VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER

BRIDGE RAILING DETAILS AT ABUTMENT NO. 1

Designed By VAOT	Drawn By. VAOT
Modified & Checked By Date E.M.Stumph 1/95	CLD Project Manager C.R.Bean Date 1/95
PROJECT BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info. Translated To AutoCAD	
Bridge Sheet No. BR 113	Sheet 37 Of 79

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Manchester, NH 03101
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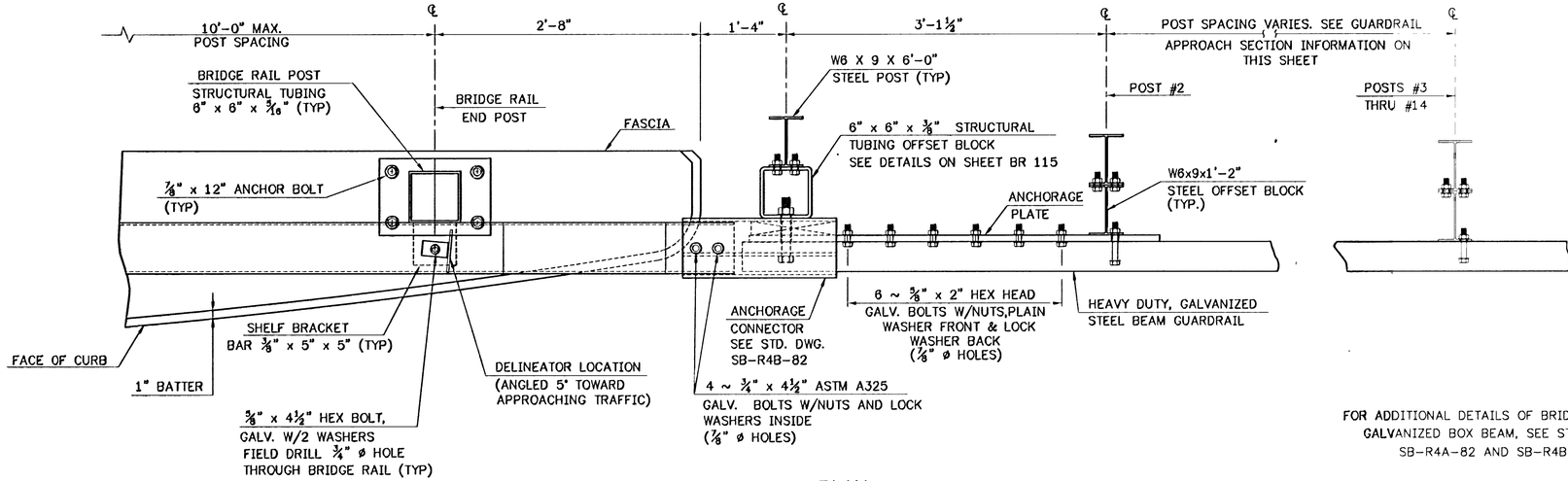


PLAN

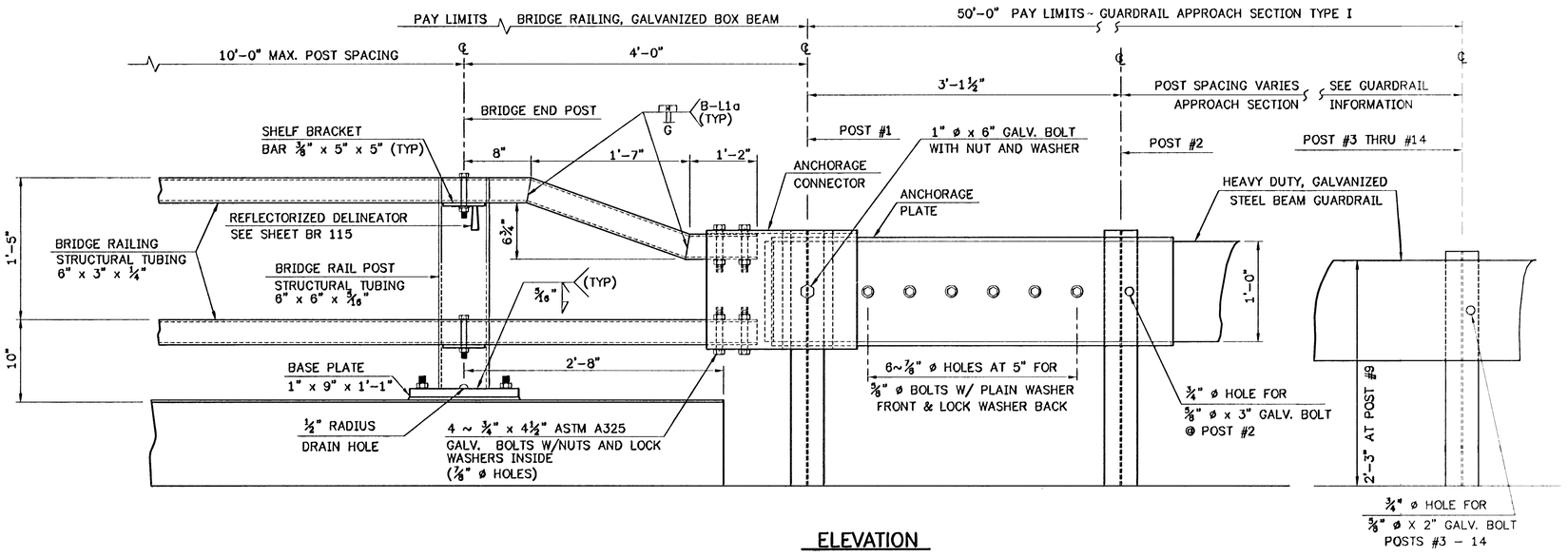
SCALE: 1½" = 1'-0"

FOR ADDITIONAL DETAILS OF BRIDGE RAILING, GALVANIZED BOX BEAM, SEE STD. DWGS. SB-R4A-82 AND SB-R4B-82

GUARDRAIL APPROACH SECTION TYPE I

POST NO.	SPACING
1	
2	3'-1 1/2"
3	3'-1 1/2"
4	3'-1 1/2"
5	3'-1 1/2"
6	3'-1 1/2"
7	3'-1 1/2"
8	3'-1 1/2"
9	3'-1 1/2"
10	4'-2"
11	4'-2"
12	4'-2"
13	6'-3"
14	6'-3"

50'-0" PAY LENGTH GUARDRAIL APPROACH SECTION, TYPE I



ELEVATION

SCALE: 1½" = 1'-0"

FOR ADDITIONAL INFORMATION ON THE CONNECTION/TRANSITION DETAILS AT POST NO. 1, SEE SHEET BR 115

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRAINTREE	Bridge No. 6
	Log Sta.
Highway No. VT RTE 12A	Surv. Sta.

VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER

BRIDGE RAILING DETAILS AT ABUTMENT NO. 2

Designed By VAOT	Drawn By. VAOT
Modifed & Checked By Date E.M.Stumph 1/95	CLD Project Manager C.R.Bean Date 1/95
PROJECT BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info. Translated To AutoCad	
Bridge Sheet No. BR 114	Sheet 38 Of 79

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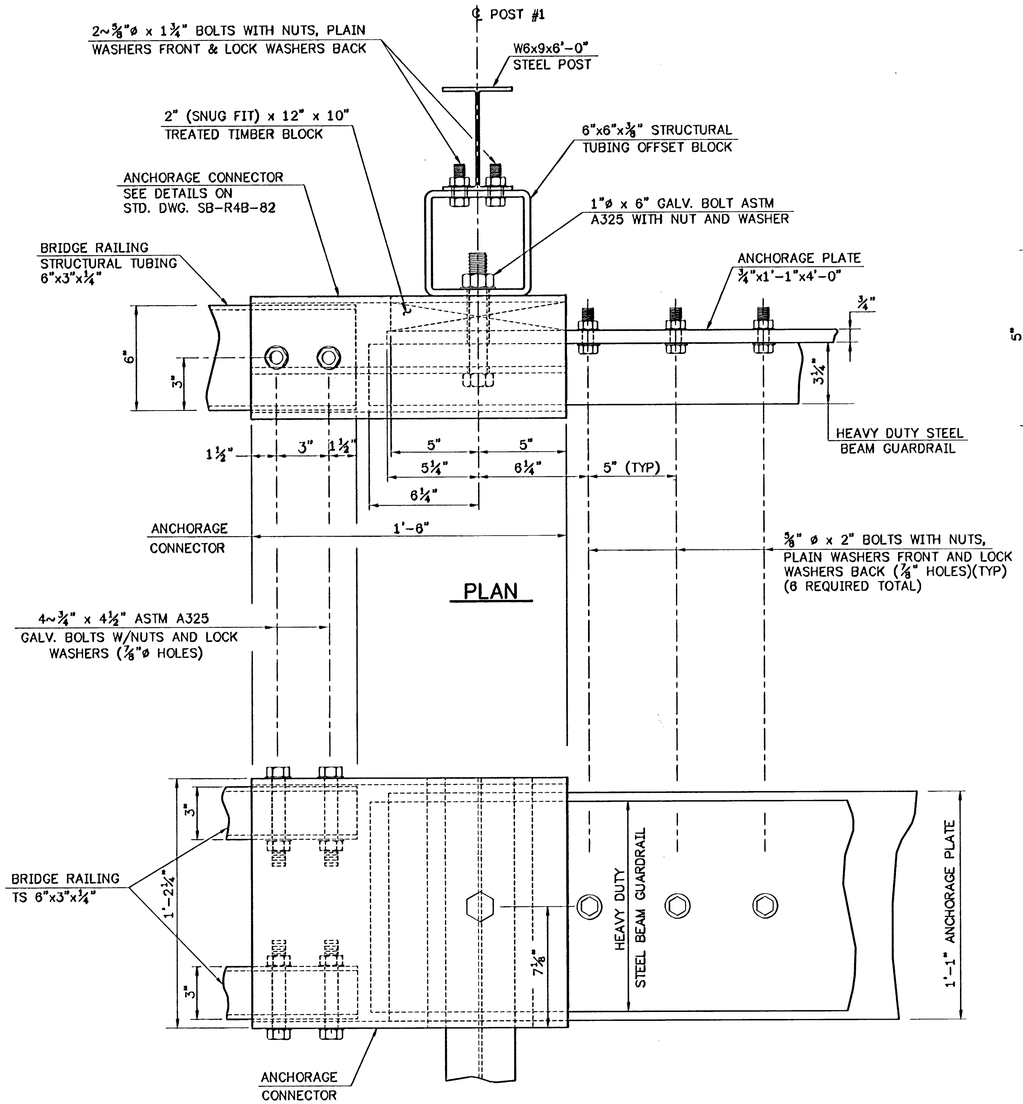
Consulting Engineers
340 Commercial Street
Manchester, NH 03101
(603)668-8223 FAX(603)668-8802

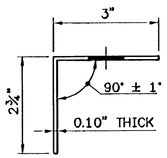
90282RL2.dwg (1=8)(plot)



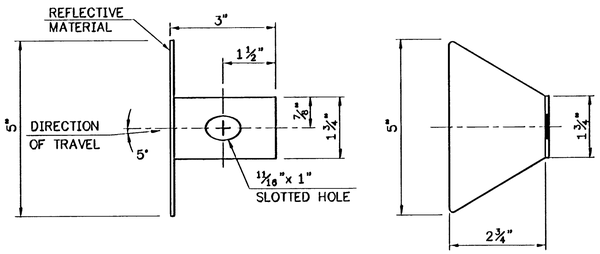
ELEVATION

CONNECTION/TRANSITION DETAILS AT POST NO. 1

SCALE: 3" = 1'-0"

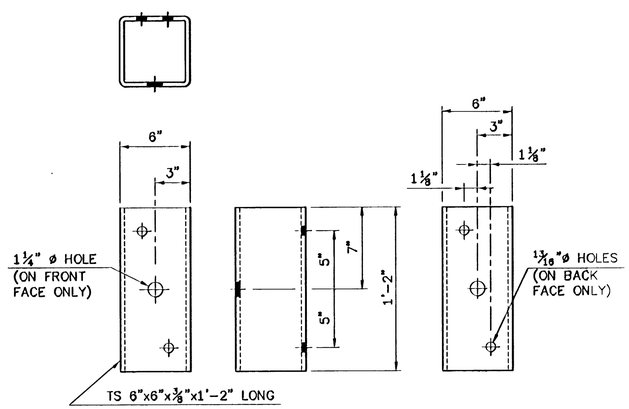


REFLECTIVE MATERIAL SHALL MEET THE REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE ENCAPSULATED LENS SILVER OR AMBER. AMBER IS TO BE INSTALLED ON THE LEFT OR MEDIAN SIDE OF INTERSTATE ROADWAYS.



DELINEATOR DETAILS

THIS REFLECTORIZED ALUMINUM DELINEATOR IS TO BE ERECTED EVERY 30 FEET OR CLOSEST POST. DELINEATOR SHALL MEET SPECIFICATION REQUIREMENTS FOR ASTM B209 ALLOY 5052 – H32.



STRUCTURAL TUBING OFFSET BLOCK DETAILS

(OCCURS AT POST NO. 1 WHEN USING APPROACH RAIL UTILIZING STEEL POSTS)

BOX BEAM BRIDGE RAIL NOTES

1. BRIDGE RAILING AND GUARDRAIL APPROACH SECTIONS ARE DESIGNED IN ACCORDANCE WITH THE LATEST AASHTO SPECIFICATIONS.
2. ALL PLATES, BARS, AND ANGLES SHALL BE ASTM A36 STEEL. UNLESS OTHERWISE SPECIFIED, ALL BOLTS SHALL BE ASTM A307. STRUCTURAL STEEL TUBING SHALL BE ASTM A500 COLD-FORMED GRADE B AS MODIFIED IN SECTION 732.03(a).
3. ALL BOX BEAM BRIDGE RAILING, COMPONENTS, ANCHOR BOLTS, AND ATTACHMENT HARDWARE SHALL BE GALVANIZED TO ASTM A123 AFTER FABRICATION.
4. THE FABRICATOR SHALL SUBMIT SHOP DRAWINGS, INCLUDING WELDING PROCEDURES TO THE STRUCTURES DIVISION, FOR APPROVAL IN ACCORDANCE WITH THE PROVISIONS OF SECTION 506.04 – SHOP DRAWINGS. ALL WELDING SHALL CONFORM WITH SECTION 506.10.
5. THE RAIL SYSTEM SHALL BE CONTINUOUS WITH EACH TUBE SECTION ATTACHED TO A MINIMUM OF TWO POSTS. JOINTS SHALL BE SPLICED AS SHOWN, WITH CONNECTIONS LOCATED ONE DIRECTLY ABOVE THE OTHER.
6. A BRIDGE RAILING JOINT SPLICE SHALL BE PROVIDED AT EACH SUPERSTRUCTURE EXPANSION JOINT. THE RAIL JOINT OPENING SHALL BE ONE INCH UNLESS OTHERWISE NOTED.
7. THE BOX BEAM RAIL SHALL BE SHOP BENT TO MATCH RADII LESS THAN 950 FEET.
8. DELINEATORS SHALL BE MOUNTED AS SHOWN ON SHTS. BR 113 – BR 114. PAYMENT FOR DELINEATORS SHALL BE SUBSIDIARY TO OTHER ITEMS.
9. PROCEDURE QUALIFICATION FOR ALL WELDS SHALL BE PERFORMED AND APPROVED PRIOR TO FABRICATION. WELDER QUALIFICATION WILL BE REQUIRED FOR EACH PROCEDURE. PROCEDURE AND WELDER QUALIFICATION ACCEPTANCE SHALL BE APPROVED BY RADIOGRAPHIC TESTING.

APPROACH RAIL NOTES

1. REFER TO STANDARD G-1 OR G-1d FOR ADDITIONAL APPROACH RAIL DETAILS.
2. ALL POSTS FOR HEAVY DUTY STEEL BEAM GUARD RAIL SHALL BE STEEL, IN ACCORDANCE WITH SECTION 728 "GUARD RAIL, GUIDE POST AND BARRIERS" UNLESS OTHERWISE SPECIFIED IN THE CONTRACT.
3. APPROACH RAIL SPLICES SHALL LAP IN DIRECTION OF TRAFFIC FLOW.
4. ANCHORAGE CONNECTOR AND ANCHORAGE PLATE SHALL BE ASTM A36 STEEL GALVANIZED TO ASTM A123 AFTER FABRICATION.
5. APPROACH RAILING SHALL BE HEAVY DUTY STEEL BEAM FOR EITHER TYPE OF GUARD RAIL APPROACH SECTION.
6. ALLOWABLE DIMENSIONAL TOLERANCE FOR BENT SECTIONS IS +/- 1/16 OF AN INCH.
7. THE UNIT PRICES BID FOR EITHER TYPE OF GUARD RAIL APPROACH SECTION, SHALL INCLUDE ANCHORAGE CONNECTOR, ANCHORAGE PLATE, HEAVY DUTY STEEL BEAM GUARD RAIL, POSTS, OFFSET BLOCKS, BLOCKING, BOLTS, AND ALL NECESSARY HARDWARE.

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STATE OF VERMONT
AGENCY OF TRANSPORTATION

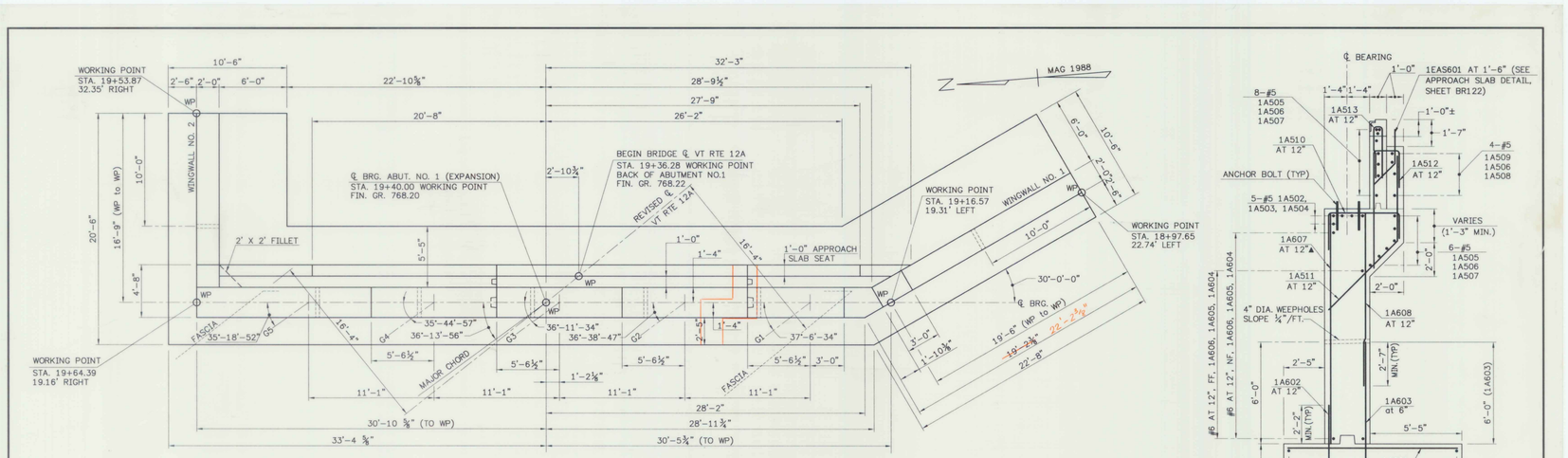
Town Of BRAINTREE	Bridge No. 6
	Log Sta.
Highway No. VT RTE 12A	Surv. Sta.

VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER

BRIDGE RAILING CONNECTION TO GUARDRAIL

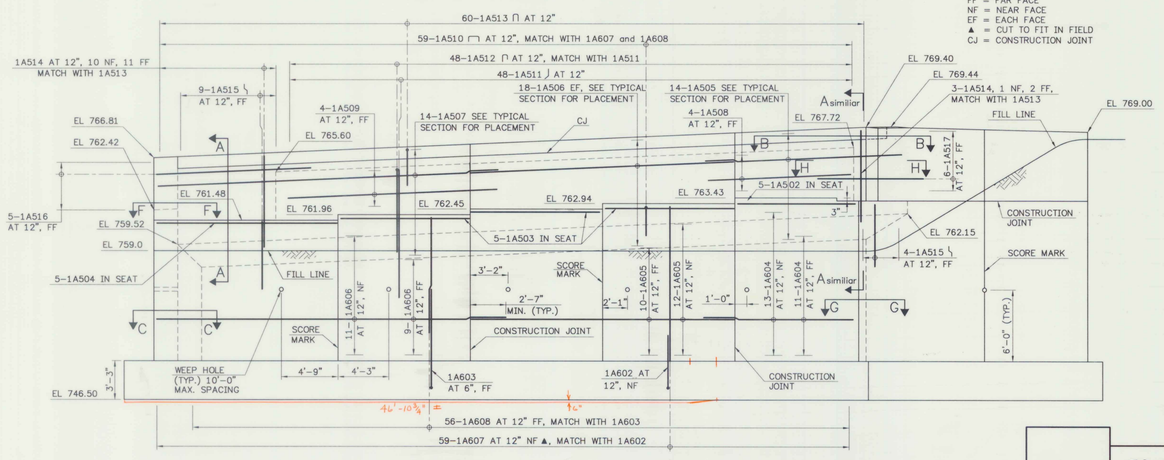
Designed By VAOT	Drawn By. VAOT
Checked By Date E. M. STUMPH 1/95	CLD Project Manager C. R. BEAN Date 1/95
PROJECT BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info. TRANSLATED TO AUTOCAD	
Bridge Sheet No. BR 115	Sheet 39 Of 79

282n_3.dwg (1=1)(plot)



ABUTMENT NO. 1 PLAN

Scale: ¼"=1'-0"



ABUTMENT NO. 1 ELEVATION

Scale: ¼"=1'-0"

KEY
FF = FAR FACE
NF = NEAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
CJ = CONSTRUCTION JOINT

TYPICAL ABUTMENT SECTION

Scale: ⅜"=1'-0"

SEE BRIDGE SHEETS BR 118 & BR 119 FOR ADDITIONAL SECTIONS AND DETAILS

SEE BRIDGE SHEET BR 121 FOR FOOTING REINFORCING.

SEE BRIDGE SHEET BR 118 FOR WINGWALL REINFORCING AND ADDITIONAL SECTIONS.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRAINTREE	Bridge No. 6
Highway No. VT RTE 12A	Log Sta.
	Surv. Sta.

VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER

ABUTMENT NO. 1 DETAILS

Designed By E.M.Stumph	Drawn By. M.J.Lamper
Checked By Date E.M.Stumph 1/95	CLD Project Manager C.R.Bean Date 1/95
PROJECT BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info.	
Bridge Sheet No. BR 116	Sheet 40 Of 79

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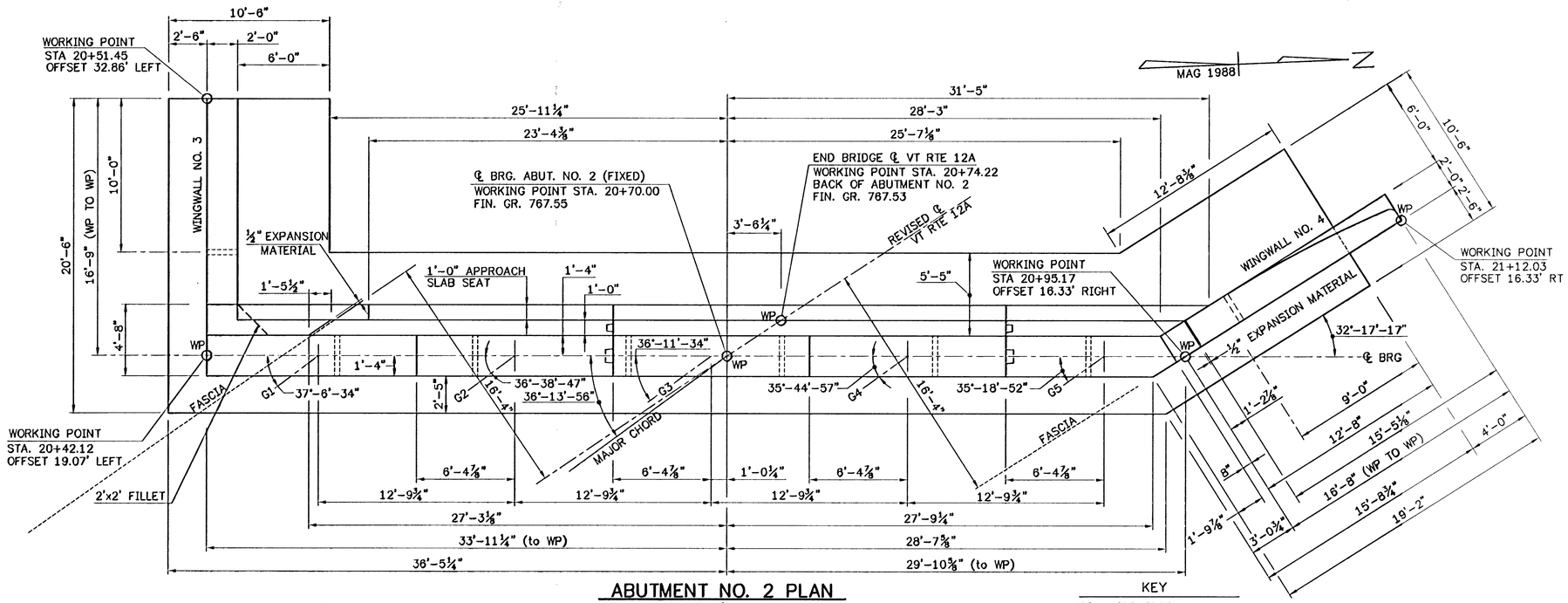
8202825R.dwg 11x17(VIEW_PORT)



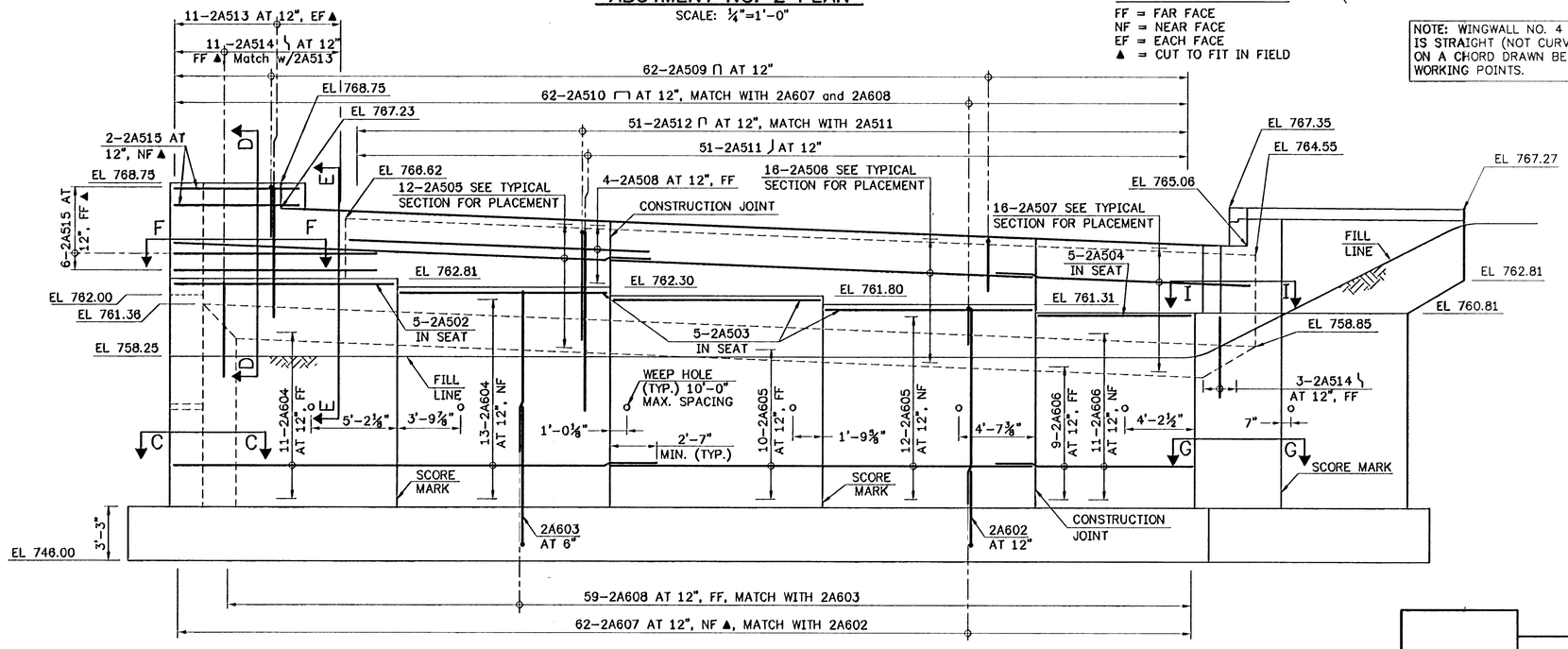
ABUTMENT NO. 2 PLAN

SCALE: ¼"=1'-0"

KEY

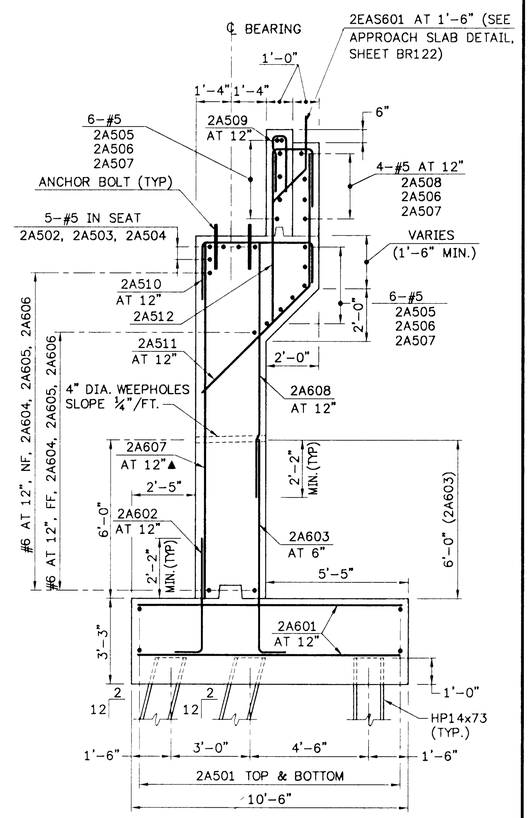
FF = FAR FACE
NF = NEAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

NOTE: WINGWALL NO. 4 GEOMETRY IS STRAIGHT (NOT CURVED), BASED ON A CHORD DRAWN BETWEEN THE WORKING POINTS.



ABUTMENT NO. 2 ELEVATION

SCALE: ¼"=1'-0"



TYPICAL ABUTMENT SECTION

Scale: ⅜"=1'-0"

SEE BRIDGE SHEETS BR 118 AND BR 119 FOR ADDITIONAL SECTIONS AND DETAILS.

SEE BRIDGE SHEET BR 121 FOR FOOTING REINFORCING.

SEE BRIDGE SHEET BR 118 FOR WINGWALL REINFORCING AND ADDITIONAL SECTIONS.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	BRAINTREE	Bridge No.	6
Highway No.	VT RTE 12A	Log Sta.	
		Surv. Sta.	

VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER

ABUTMENT NO. 2 DETAILS

Designed By	E.M.Stumph	Drawn By.	M.J.Lamper
Checked By	Date	CLD Project Manager	
E.M.Stumph	1/95	C.R.Bean	Date 1/95
PROJECT	BRAINTREE	PROJECT NO.	BRS 0187(6)
I.G.C. Info.			
Bridge Sheet No.	BR 117	Sheet	41 Of 79

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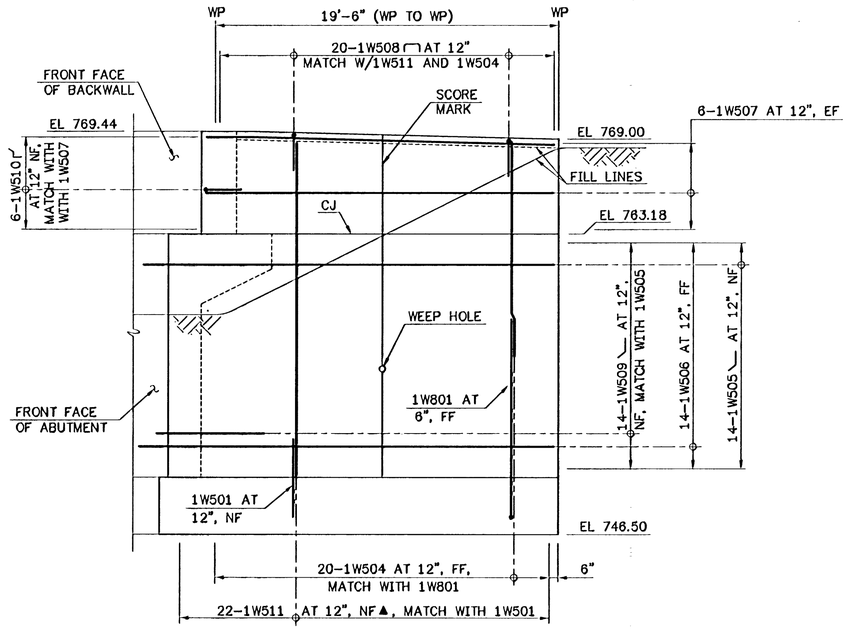
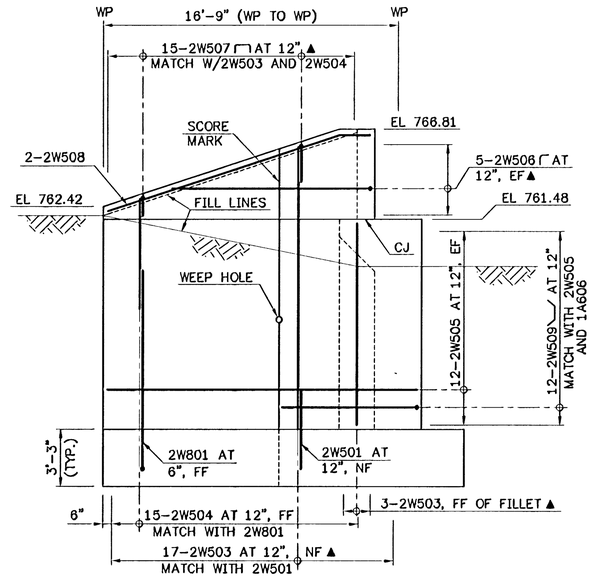
90282ABT (1=1)(View: PLOT2)



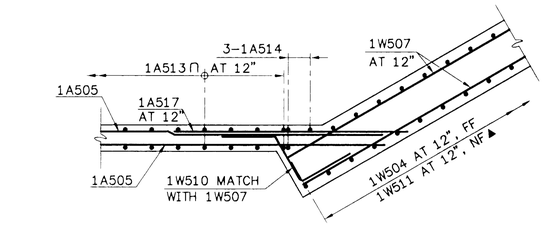
WINGWALL NO. 1 ELEVATION

SCALE: ¼"=1'-0"



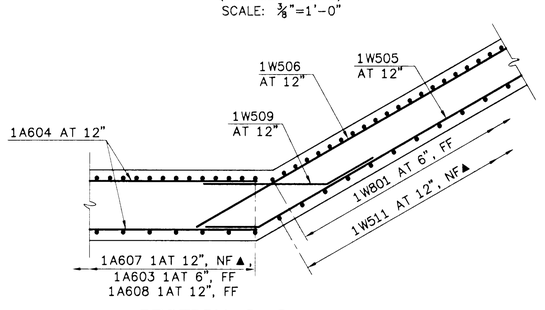
WINGWALL NO. 2 ELEVATION

SCALE: ¼"=1'-0"



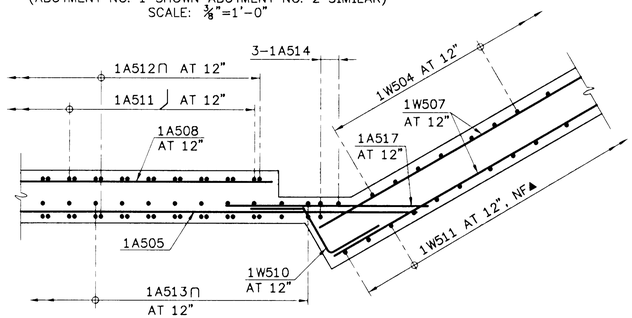
SECTION B-B

(ABOVE APPROACH SLAB SEAT)
(ABUTMENT NO. 1)
SCALE: ⅜"=1'-0"



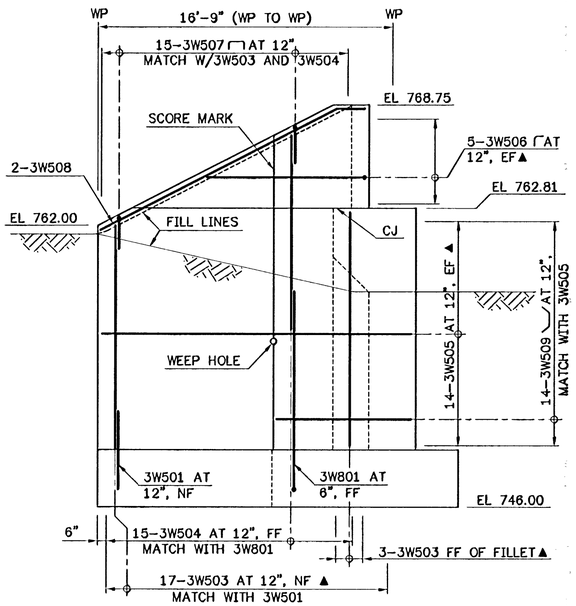
SECTION G-G

(BELOW BEAM SEAT)
(ABUTMENT NO. 1 SHOWN ABUTMENT NO. 2 SIMILAR)
SCALE: ⅜"=1'-0"



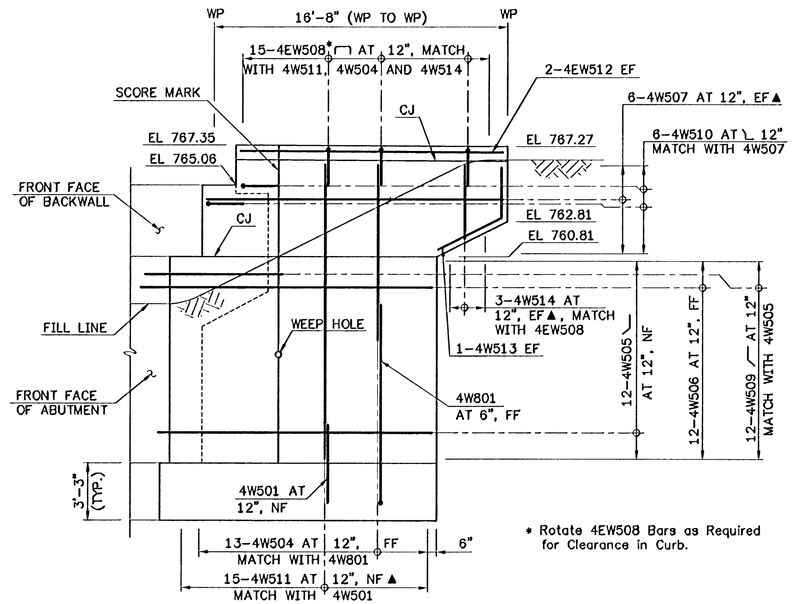
SECTION H-H

(THROUGH APPROACH SLAB SEAT)
(ABUTMENT NO. 1)
SCALE: ⅜"=1'-0"



WINGWALL NO. 3 ELEVATION

SCALE: ¼"=1'-0"



* Rotate 4EW508 Bars as Required for Clearance in Curb.

WINGWALL NO. 4 ELEVATION

SCALE: ¼"=1'-0"

KEY

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

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	BRAINTREE	Bridge No.	6
Highway No.	VT RTE 12A	Log Sta. / Surv. Sta.	

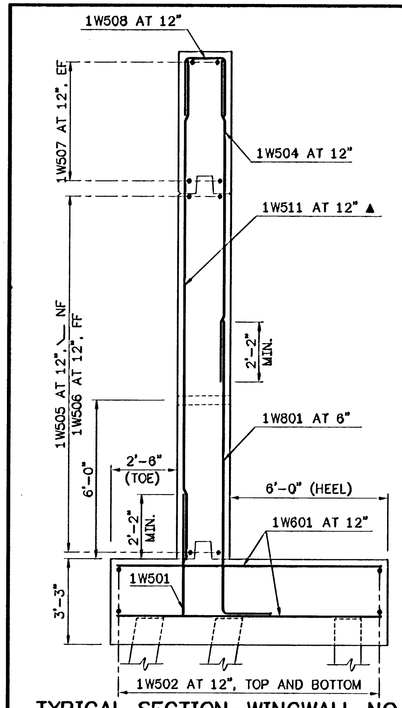
VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER

WINGWALL ELEVATIONS

Designed By	E.M.Stumph	Drawn By.	M.J.Lamper
Checked By	Date	CLD Project Manager	
E.M.Stumph	1/95	C.R.Bean	Date 1/95
PROJECT	BRAINTREE	PROJECT NO.	BRS 0187(6)
I.G.C. Info.			
Bridge Sheet No.	BR 118	Sheet	42 Of 79

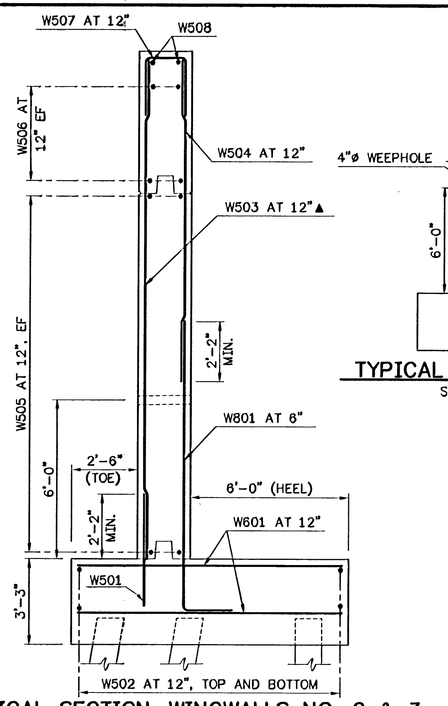
Costello, Lamoureux & de Napoli, Inc.
Consulting Engineers
540 Commercial Street
Manchester, NH 03101
(603)668-8223 FAX(603)668-8802

90282Ww.dwg (1=1)(plot)



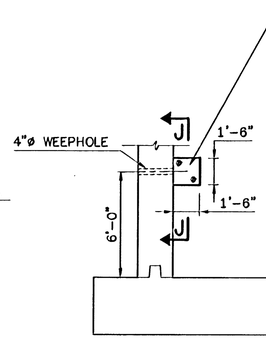
TYPICAL SECTION–WINGWALL NO. 1

SCALE: ⅜" = 1'-0"



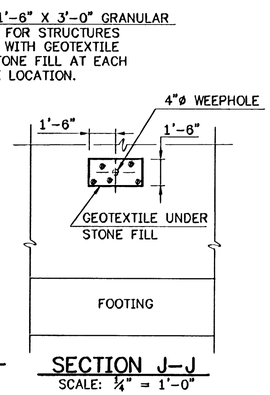
TYPICAL SECTION–WINGWALLS NO. 2 & 3

SCALE: ⅜" = 1'-0"



TYPICAL WEEPHOLE DETAIL

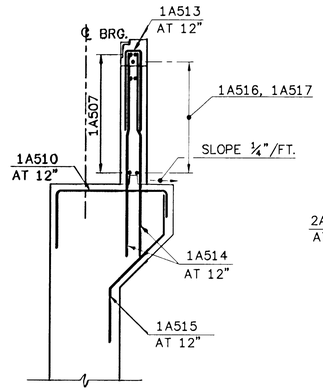
SCALE: ¼" = 1'-0"



SECTION J–J

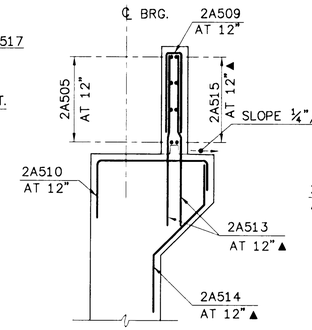
SCALE: ¼" = 1'-0"

*NOTE: THIS WILL BE PAID FOR UNDER THE ITEMS "GRANULAR BACKFILL FOR STRUCTURES" AND "GEOTEXTILE UNDER STONE FILL".



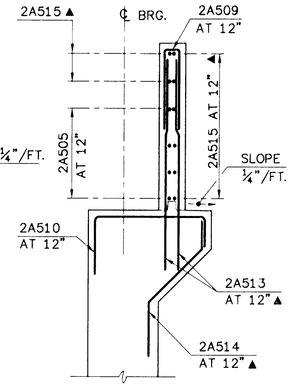
SECTION A–A

(ABUTMENT NO. 1)
SCALE: ⅜" = 1'-0"



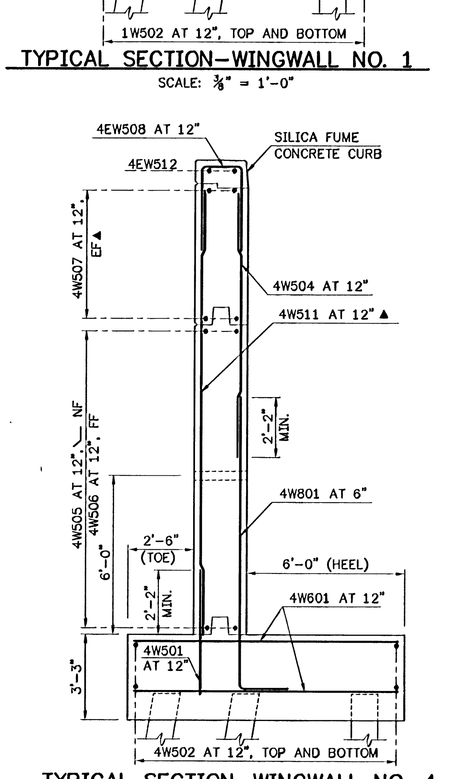
SECTION E–E

(ABUTMENT NO. 2)
SCALE: ⅜" = 1'-0"



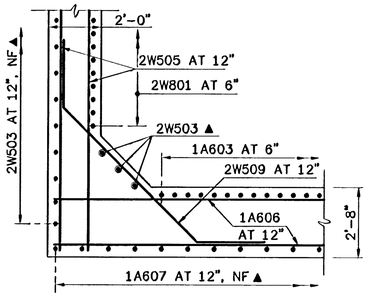
SECTION D–D

(ABUTMENT NO. 2)
SCALE: ⅜" = 1'-0"



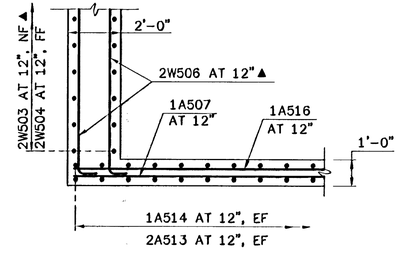
TYPICAL SECTION–WINGWALL NO. 4

SCALE: ⅜" = 1'-0"



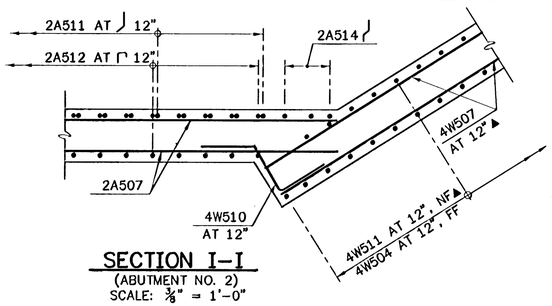
SECTION C–C

(ABUTMENT NO. 1 SHOWN, ABUTMENT NO. 2 SIMILIAR)
SCALE: ⅜"=1'-0"



SECTION F–F

(ABUTMENT NO. 1 SHOWN, ABUTMENT NO. 2 SIMILIAR)
SCALE: ⅜"=1'-0"

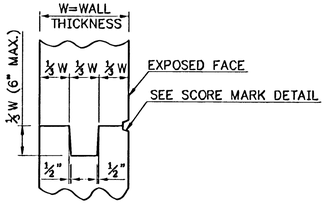


SECTION I–I

(ABUTMENT NO. 2)
SCALE: ⅜" = 1'-0"

KEY

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

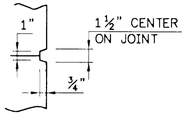


TYPICAL CONCRETE CONSTRUCTION JOINT

N.T.S.

NOTE:

WHERE "CONSTRUCTION JOINT" IS DESIGNATED ON THE DRAWINGS, PROVIDE A CONSTRUCTION JOINT AND SCORE MARK. WHERE "SCORE MARK" IS DESIGNATED ON THE DRAWINGS, PROVIDE A SCORE MARK WITHOUT CONSTRUCTION JOINT, FOR RUSTICATION ONLY.



SCORE MARK DETAIL

N.T.S.

TYPICAL EARTHWORK AT ABUTMENTS

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

COFFERDAM NOTES:

1. COFFERDAM LIMITS TO BE DETERMINED BY THE CONTRACTOR.
2. FOR PURPOSES OF ESTIMATING EARTHWORK QUANTITIES, THE LIMITS OF THE COFFERDAM HAVE BEEN ASSUMED TO BE 2'-0" OUTSIDE THE PERIMETER OF THE FOOTING.
3. TWO FOOT OF UNDERCUT AS DETERMINED BY THE RESIDENT ENGINEER.
4. IF A COFFERDAM IS CONSTRUCTED WHICH IS MORE THAN THE INDICATED MINIMUM DISTANCE OUTSIDE THE FOOTING LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE MINIMUM COFFERDAM LIMITS SHOWN, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION.

CLD
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Manchester, NH 03101
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STATE OF VERMONT
AGENCY OF TRANSPORTATION

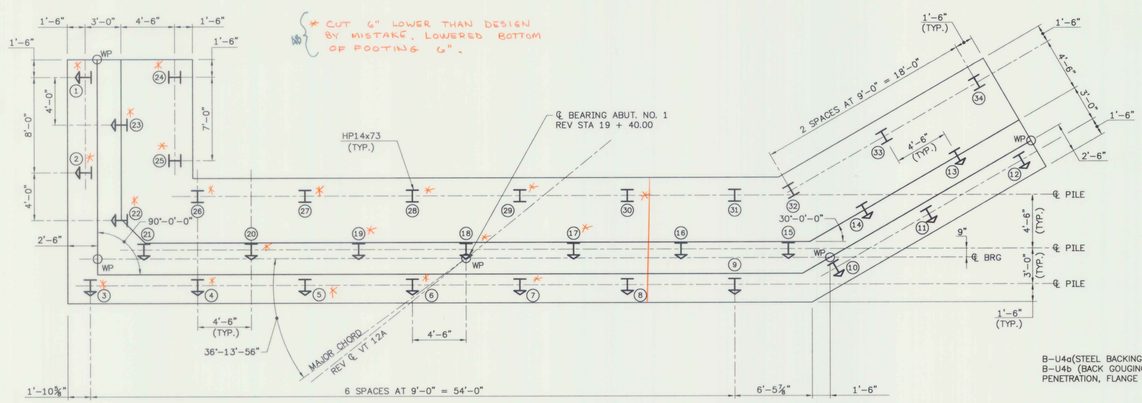
Town Of	BRAINTREE	Bridge No.	6
Highway No.	VT RTE 12A	Log Sta.	
		Surv. Sta.	

VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER

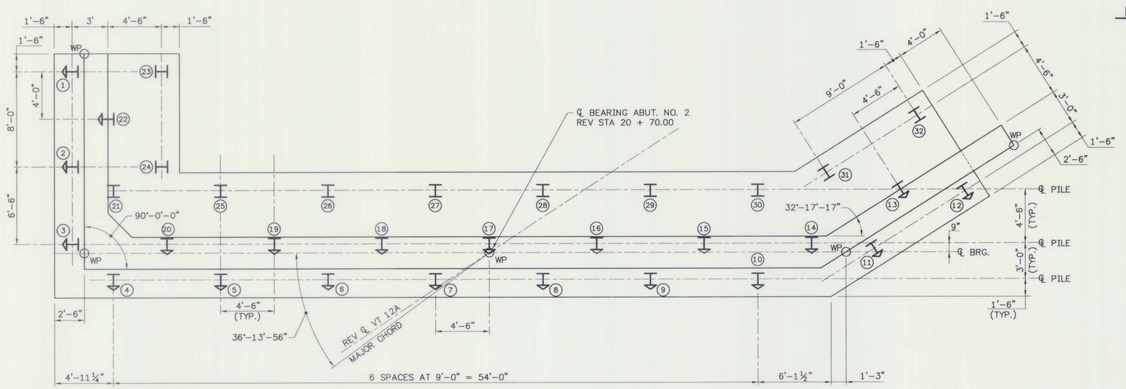
SUBSTRUCTURE DETAILS

Designed By	E.M.Stumph	Drawn By	A.Setas
Checked By	Date	CLD Project Manager	
E.M.Stumph	1/95	C.R.Bean Date	1/95
PROJECT	BRAINTREE	PROJECT NO.	BRS 0187(6)
I.G.C. Info.			
Bridge Sheet No.	BR 119	Sheet	43 Of 79

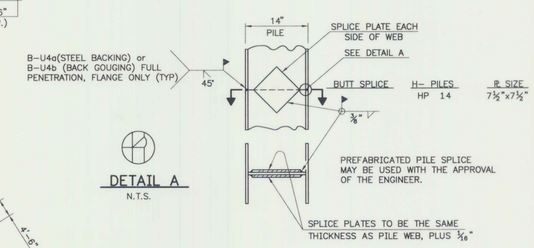
90282SSD.dwg (1=1)



H-PILE LAYOUT
ABUTMENT NO. 1
SCALE: ¼"=1'-0"



H-PILE LAYOUT
ABUTMENT NO. 2
SCALE: ¼"=1'-0"



DETAIL A
N.T.S.

DETAIL OF PILE SPLICE
N.T.S.

I – INDICATES VERTICAL HP14x73 PILE DRIVEN TO LEDGE. ALLOWABLE LOAD PER PILE = 192.8 KIPS.

I – INDICATES PILE BATTERED AT 2 ON 12

STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of	BRAINTREE	Bridge No.	6
		Log Sta.	
Highway No.	VT RTE 12A	Surv. Sta.	
VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER			
PILE LAYOUT			
Designed By	K.G.Marshall	Drawn By.	A.Setas
Checked By	Date	CLD Project Manager	
E.M.Stumph	1/95	C.R.BEAN	Date 1/95
PROJECT	BRAINTREE	PROJECT NO.	BRS 0187(6)
I.G.C. Info.			
Bridge Sheet No. BR 120		Sheet 44 Of 79	

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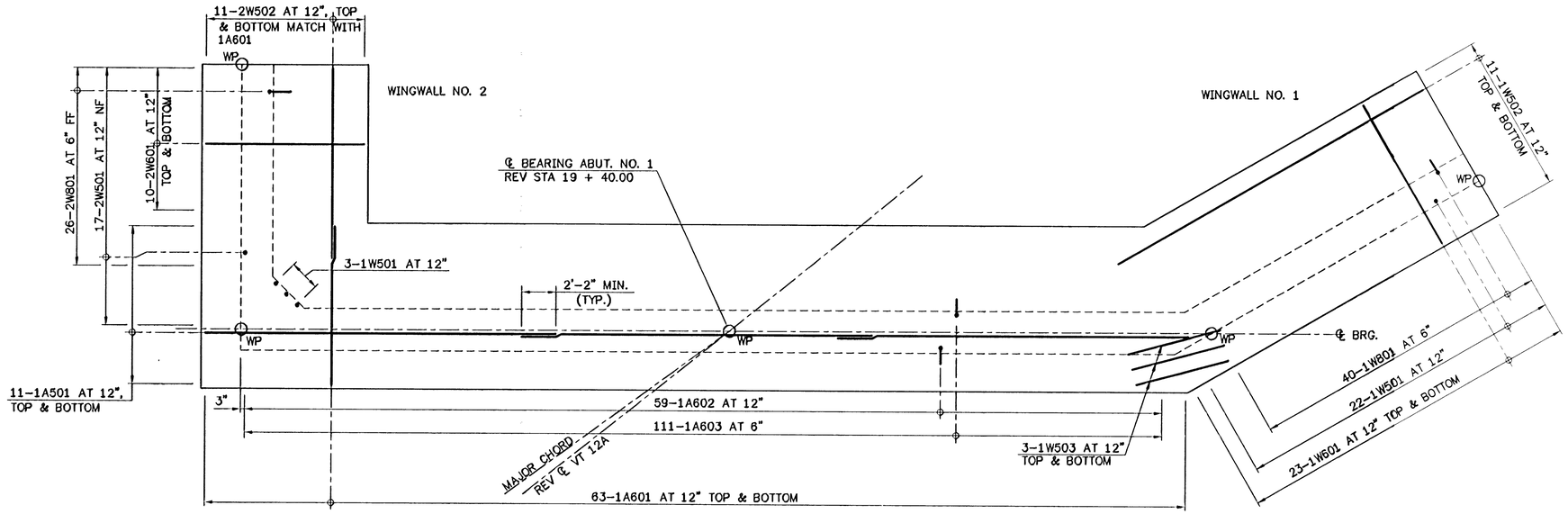
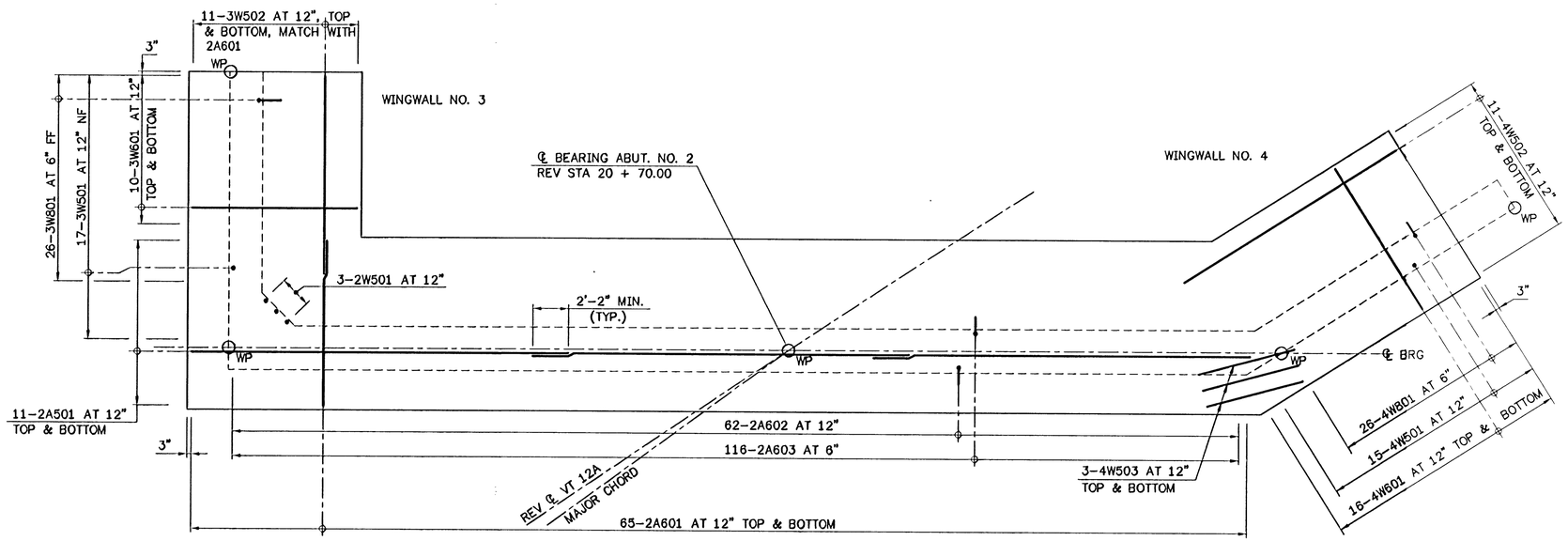
9028ZPIL.DWG (1=1)



ABUTMENT NO. 1
FOOTING REINFORCING PLAN
SCALE: ¼"=1'-0"



ABUTMENT NO. 2
FOOTING REINFORCING PLAN
SCALE: ¼"=1'-0"

90282FTG.dwg (1=48)

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	BRAINTREE	Bridge No.	6
Highway No.	VT RTE 12A	Log Sta.	
		Surv. Sta.	

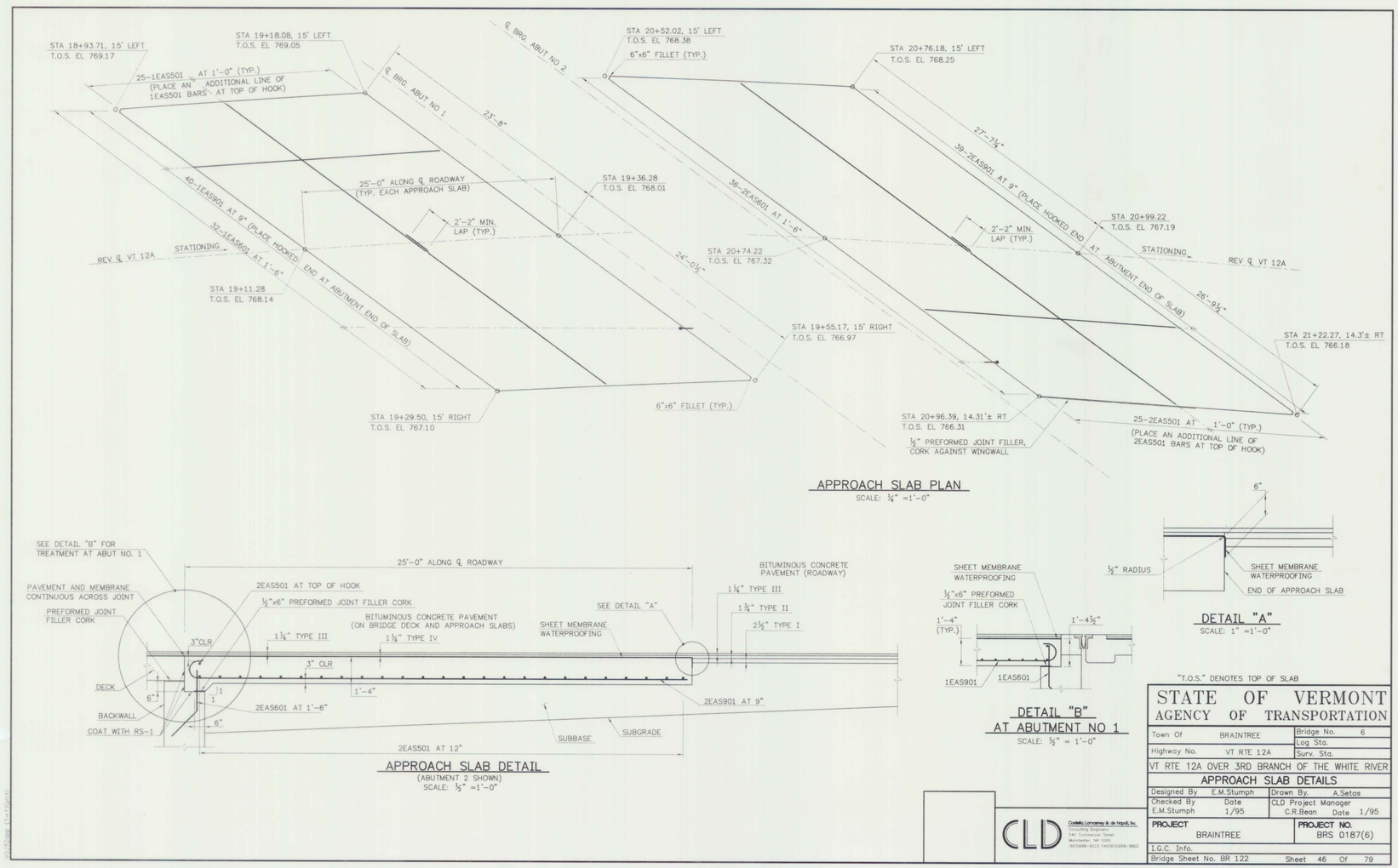
VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER

FOOTING REINFORCING PLAN

Designed By	K.G.Marshall	Drawn By.	A.Setas
Checked By	Date	CLD Project Manager	
E.M.Stumph	1/95	C.R.Bean	Date 1/95

PROJECT: BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info.	
Bridge Sheet No. BR 121	Sheet 45 Of 79

CLD
Costello Lomasney & de Napoli Inc.
Consulting Engineers
540 Commercial Street
Manchester, NH 03101
(603)668-8223 FAX(603)668-8802



APPROACH SLAB PLAN
SCALE: ¼" =1'-0"

APPROACH SLAB DETAIL
(ABUTMENT 2 SHOWN)
SCALE: ½" =1'-0"

DETAIL "B" AT ABUTMENT NO 1
SCALE: ½" = 1'-0"

DETAIL "A"
SCALE: 1" =1'-0"

"T.O.S." DENOTES TOP OF SLAB

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRAINTREE	Bridge No. 6
	Log Sta.
Highway No. VT RTE 12A	Surv. Sta.

VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER

APPROACH SLAB DETAILS

Designed By E.M.Stumph	Drawn By. A.Setas
Checked By E.M.Stumph Date 1/95	CLD Project Manager C.R.Bean Date 1/95
PROJECT BRAINTREE	PROJECT NO. BRS 0187(6)
I.G.C. Info.	
Bridge Sheet No. BR 122	Sheet 46 Of 79

CLD Costello, Lamoureux & de Napoli, Inc.
Consulting Engineers
540 Commercial Street
Manchester, NH 03101
(603)668-8223 FAX(603)668-8802

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	U
1																	
2			DECK														
3																	
4	196	5	35-6	ES501	STR												
5	8	5	30-5	ES502	STR												
6	8	5	27-0	ES503	STR												
7	196	5	38-2	ES507	STR												
8 **	558	5	32-3	ES508	STR												
9																	
10	264	5	6-2	ES504	S5	1-0	1-4	1-6	1-4			1-0					
11	33	5	10-3	ES505	S5	2-2	8	4-7	8			2-2					
12	33	5	5-4	ES506	S5	2-2	8	1-11	7								
13																	
14																	
15			APPROACH SLAB NO. 1														
16																	
17	52	5	24-7	1EAS501	STR												
18																	
19 *	33	6	3-7	1EAS601	19		1-9	1-10					1-3		1-3		
20																	
21 *	41	9	25-7	1EAS901	1	1-3	24-4							0-10			
22																	
23																	
24			APPROACH SLAB NO. 2														
25																	
26	52	5	27-11	2EAS501	STR												
27																	
28 *	37	6	4-0	2EAS601	19		1-9	2-3						0-10			
29													1-3		1-3		
30 *	40	9	25-7	2EAS901	1	1-3	24-4										
31																	
32																	
33			ABUTMENT NO. 1														
34																	
35	66	5	19-2	1A501	STR												
36	5	5	9-10	1A502	STR												
37	15	5	10-9	1A503	STR												
38	5	5	15-1	1A504	STR												
39	14	5	18-5	1A505	STR												
40	18	5	22-1	1A506	STR												
41	14	5	28-6	1A507	STR												
42	4	5	11-11	1A508	STR												
43	4	5	17-6	1A509	STR												
44 *	25	5	7-11	1A514	STR												
45	5	5	12-11	1A516	STR												
46	6	5	8-10	1A517	STR												
47																	
48	126	6	10-0	1A601	STR												
49	24	6	12-9	1A604	STR												
50	22	6	22-1	1A605	STR												
51	20	6	28-10	1A606	STR												
52	59	6	13-5	1A607	STR												
53 *	57	6	10-1	1A608	STR												
54																	
55	59	5	7-4	1A510	17			2-2	4-2	1-0							
56	48	5	11-1	1A511	19			5-10	5-3					4-2		4-2	
57	48	5	10-4	1A512	17			6-7	1-7	2-2							
58	60	5	8-1	1A513	17			3-9	7	3-9							
59	13	5	4-10	1A515	19			1-0	2-10	1-0				9		9	
60																	
61	59	6	5-5	1A602	17			1-0	4-5								
62	111	6	9-3	1A603	17			1-0	8-3								
63																	
64			WINGWALL NO. 1														
65																	
66	22	5	4-4	1W501	STR												
67	22	5	22-2	1W502	STR												
68 *	7	5	6-0	1W503	STR												
69	20	5	12-7	1W504	STR												
70	14	5	23-0	1W508	STR												
71	12	5	19-9	1W507	STR												
72	22	5	18-11	1W511	STR	▲											
73																	
74	46	6	10-0	1W601	STR												
75																	
76	14	5	23-10	1W505	19		2-2	21-8					1-0		1-9		
77	20	5	5-11	1W508	17		2-2	1-7	2-2								
78	14	5	7-2	1W509	19		2-2	5-0					1-0		1-9		
79	6	5	6-4	1W510	23		2-2	2-0	2-2				1-1		1-10		
80																	
81																	
82 *	41	8	12-7	1W801	17		1-4	11-3									
83																	
84																	
85																	
86																	
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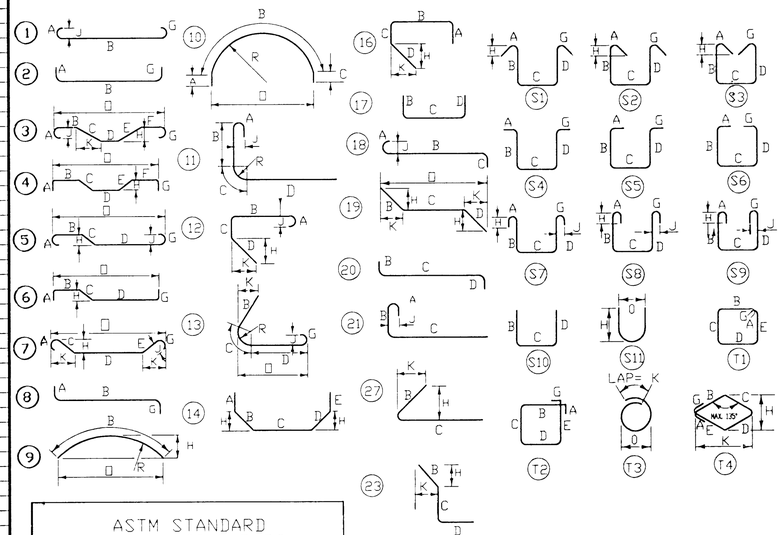
91																	
92																	
93																	
94																	
95																	
96																	
97																	
98																	

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	U
99																	
100			WINGWALL NO. 2														
101																	
102	20	5	4-4	2W501	STR												
103	22	5	12-2	2W502	STR												
104	20	5	16-9	2W503	STR	▲											
105	15	5	4-10	2W504	STR												
106	24	5	17-7	2W505	STR												
107																	
108 *	21	6	10-0	2W601	STR												
109																	
110	10	5	15-11	2W506	17	▲	1-0	14-11									
111	15	5	5-11	2W507	17	▲	2-2	1-7	2-2								
112	2	5	15-7	2W508	19			13-10	1-9				6		1-8		
113	12	5	12-2	2W509	14		2-2	7-10	2-2				1-6				
114																	
115 *	27	8	12-7	2W801	17		1-4	11-3									
116																	
117			ABUTMENT NO. 2														
118																	
119																	
120	66	5	23-0	2A501	STR												
121	5	5	13-2	2A502	STR												
122	15	5	12-5	2A503	STR												
123	5	5	9-2	2A504	STR												
124	12	5	28-8	2A505	STR												
125	16	5	25-5	2A506	STR												
126	16	5	15-3	2A507	STR												
127	4	5	18-0	2A508	STR												
128 *	23	5	7-10	2A513	STR	▲											
129	8	5	12-2	2A515	STR	▲											
130																	
131	130	6	10-0	2A601	STR												
132	24	6	28-11	2A604	STR												
133	22	6	25-5	2A605	STR												
134	20	6	11-11	2A606	STR												
135	62	6	13-3	2A607	STR	▲											
136	59	6	9-6	2A608	STR												
137																	
138	62	5	4-11	2A509	17		2-2	7	2-2								
139	62	5	7-4	2A510	17		2-2	4-2	1-0								
140	51	5	10-10	2A511	19		5-10	5-0					4-2		4-2		
141	51	5	10-0	2A512	17		6-3	1-7	2-2								
142	11	5	4-10	2A514	19	▲	1-0	2-10	1-0				9		9		
143																	
144	62	6	5-5	2A602	17		1-0	4-5									
145	116	6	9-3	2A603	17		1-0	8-3									
146																	
147																	
148																	
149																	
150																	
151			WINGWALL NO. 3														
152																	
153	20	5	4-4	3W501	STR												
154	22	5	12-2	3W502	STR												
155	20	5	18-11	3W503	STR	▲											
156	15	5	12-3	3W504	STR												
157	28	5	17-7	3W505	STR	▲											
158																	
159 *	21	6	10-0	3W601	STR												
160																	
161	10	5	13-6	3W506	17	▲	1-0	12-6									
162	15	5	5-11	3W507	17		2-2	1-7	2-2								
163	2	5	16-6	3W508	19			14-9	1-9				9		1-7		
164	14	5	12-2	3W509	14		2-2	7-10	2-2				1-6				
165																	
166 *	27	8	12-7	3W801	17		1-4	11-3									
167																	
168																	
169																	
170																	
171			WINGWALL NO. 4														
172																	
173																	
174	15	5	4-4	4W501	STR												
175	22	5	15-2	4W502	STR												
176 *	7	5	6-0	4W503	STR												
177	13	5	10-3	4W504	STR												
178	12	5	17-0	4W506	STR												
179	12	5	15-10	4W507	STR	▲											
180	15	5	16-11	4W511	STR	▲											
181	2	5	14-10	4EW512	STR												
182	6	5	4-6	4W514	STR	▲											
183																	
184 *	33	6	10-0	4W601	STR												
185																	
186	12	5	15-10	4W505	19		2-2	13-8					1-2		1-10		
187	15	5	7-11	4EW508	17		3-2	1-7	3-2								
188	12	5	7-2	4W509	19		2-2	5-0					1-2		1-10		
189	6	5	6-4	4W510	23		2-2	2-0	2-2				1-2		1-10		
190	2	5	7-2	4W513	19			4-0	3-2				2-10		1-5		
191																	
192 *	27	8	12-7	4W801	17		1-4	11-3	1-4								
193																	
194																	
195																	
196																	

NOTES:

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-S1). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. * ASTERISKS DENOTE EXTRA BARS ADDED FOR TESTING PURPOSES. (NUMBER OF ASTERISKS = NUMBER OF EXTRA BARS.)
10. "E" IN PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION: DIAMETER INCHES	CROSS SECTIONAL AREA SQ. INCHES	PERIMETER INCHES
#3	.376	.375	.11	1.178
#4	.668	.500	.20	1.571
#5	1.043	.625	.31	1.963
#6	1.502	.750	.44	2.356
#7	2.044	.875	.60	2.749
#8	2.670	1.000	.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

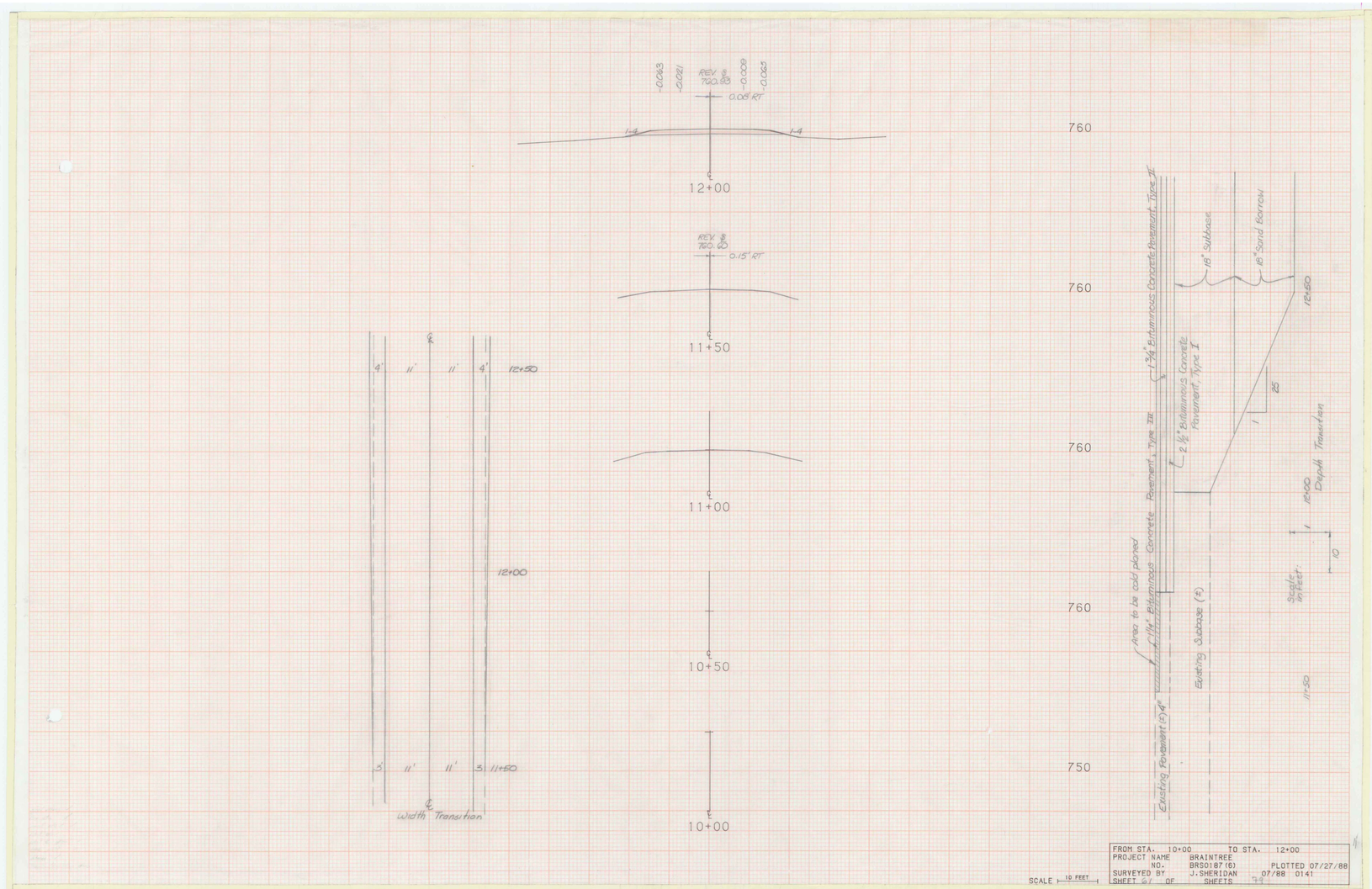
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRAINTREE	Bridge No. 6
Highway No. VT RTE 12A	Log Sta. / Surv. Sta.
VT RTE 12A OVER THE 3RD BRANCH OF THE WHITE RIVER	

REINFORCING STEEL SCHEDULE

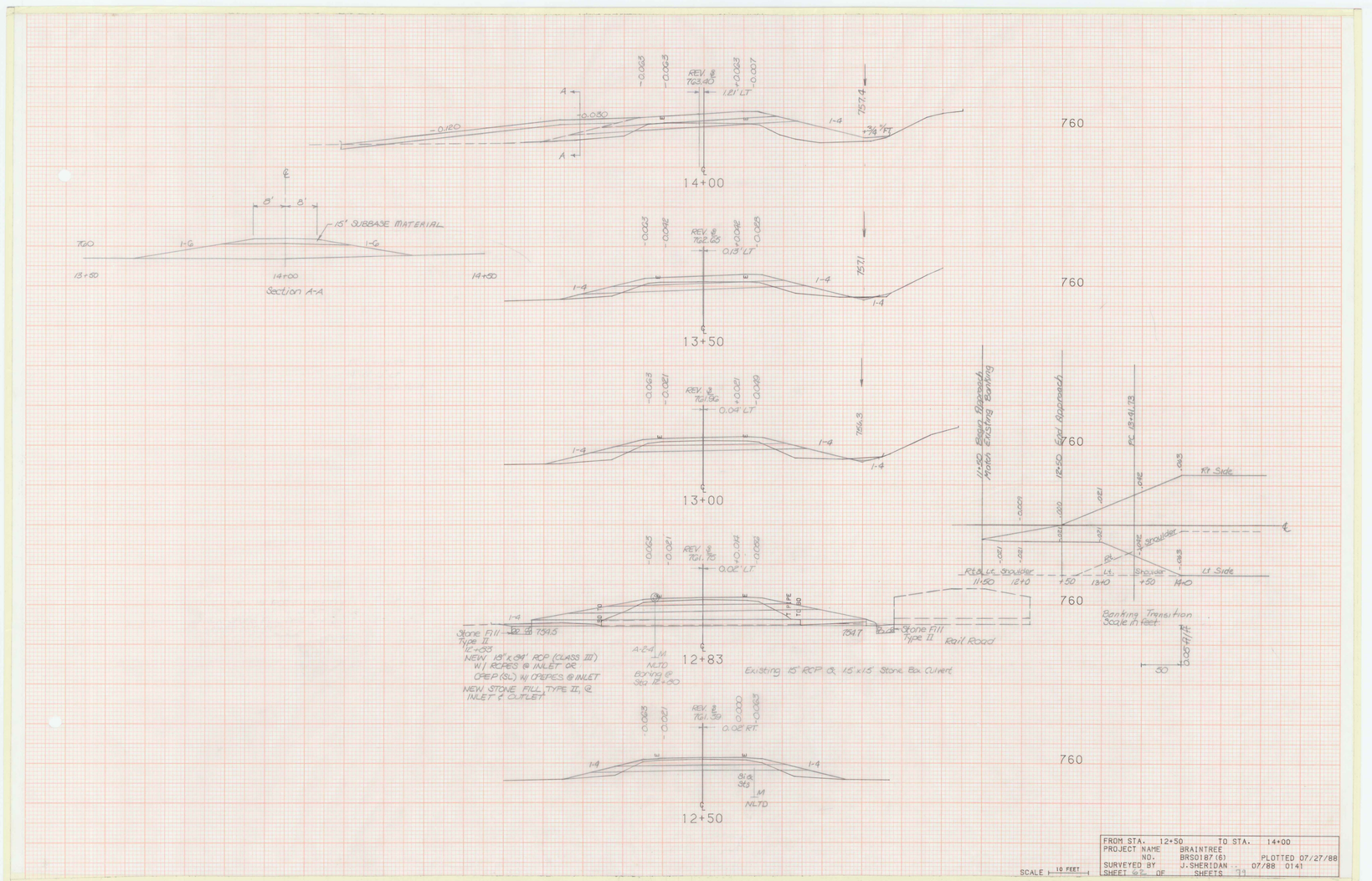
Designed By E.M.Stumph	Drawn By A.Setas
Checked By E.M.Stumph Date 1/95	CLD Project Manager C.R.Bean Date 1/95
PROJECT BRAINTREE	PROJECT NO. BRS 0187 (6)
I.G.C. Info.	
Bridge Sheet No. BR 123	Sheet 47 of 79

90262sch.dwg (1=12)



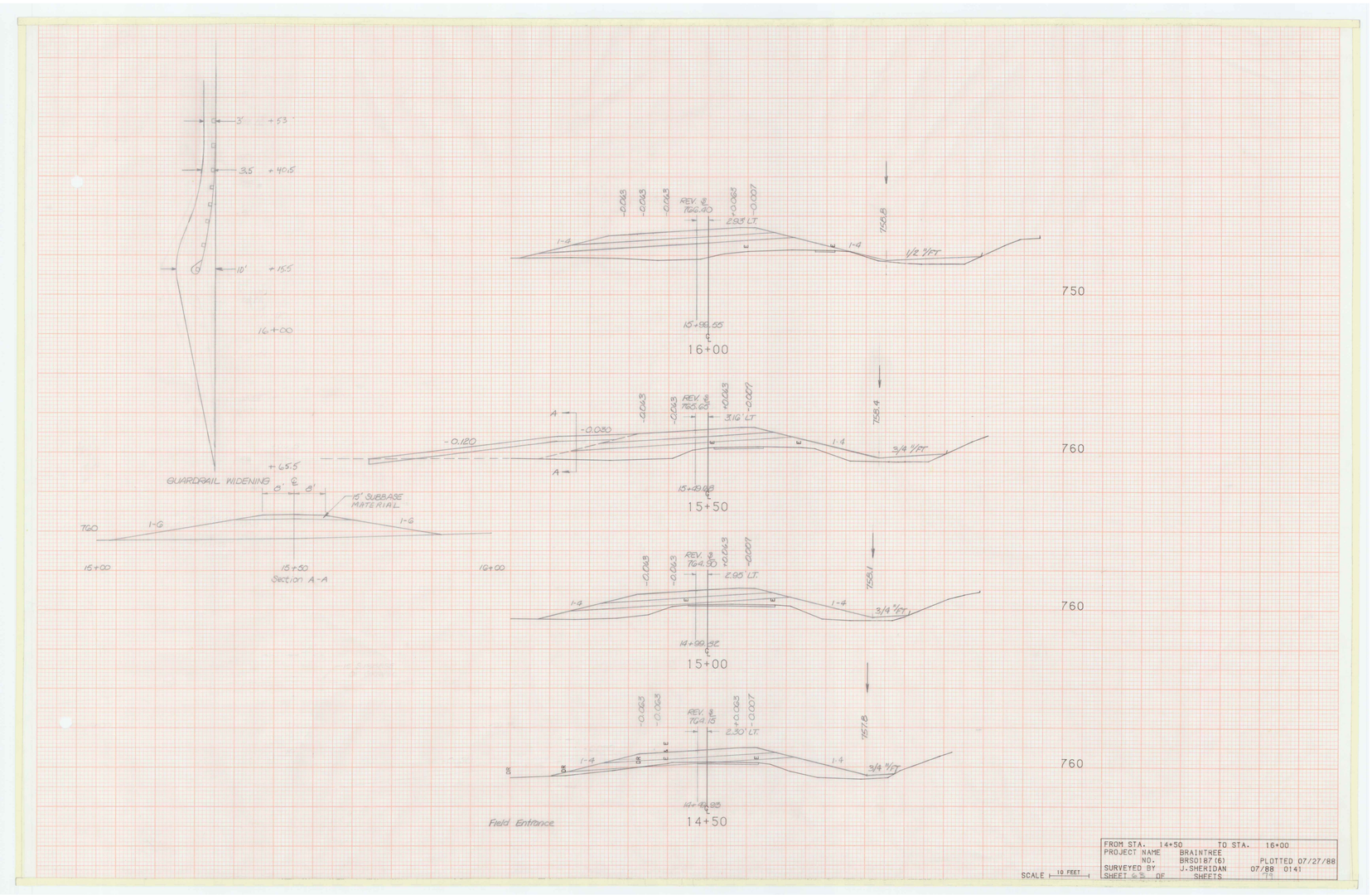
FROM STA. 10+00		TO STA. 12+00	
PROJECT NAME	BRAINTREE		
NO.	BRS0187(6)		PLOTTED 07/27/88
SURVEYED BY	J.SHERIDAN	07/88	0141
SHEET 61 OF	SHEETS 79		

SCALE 10 FEET



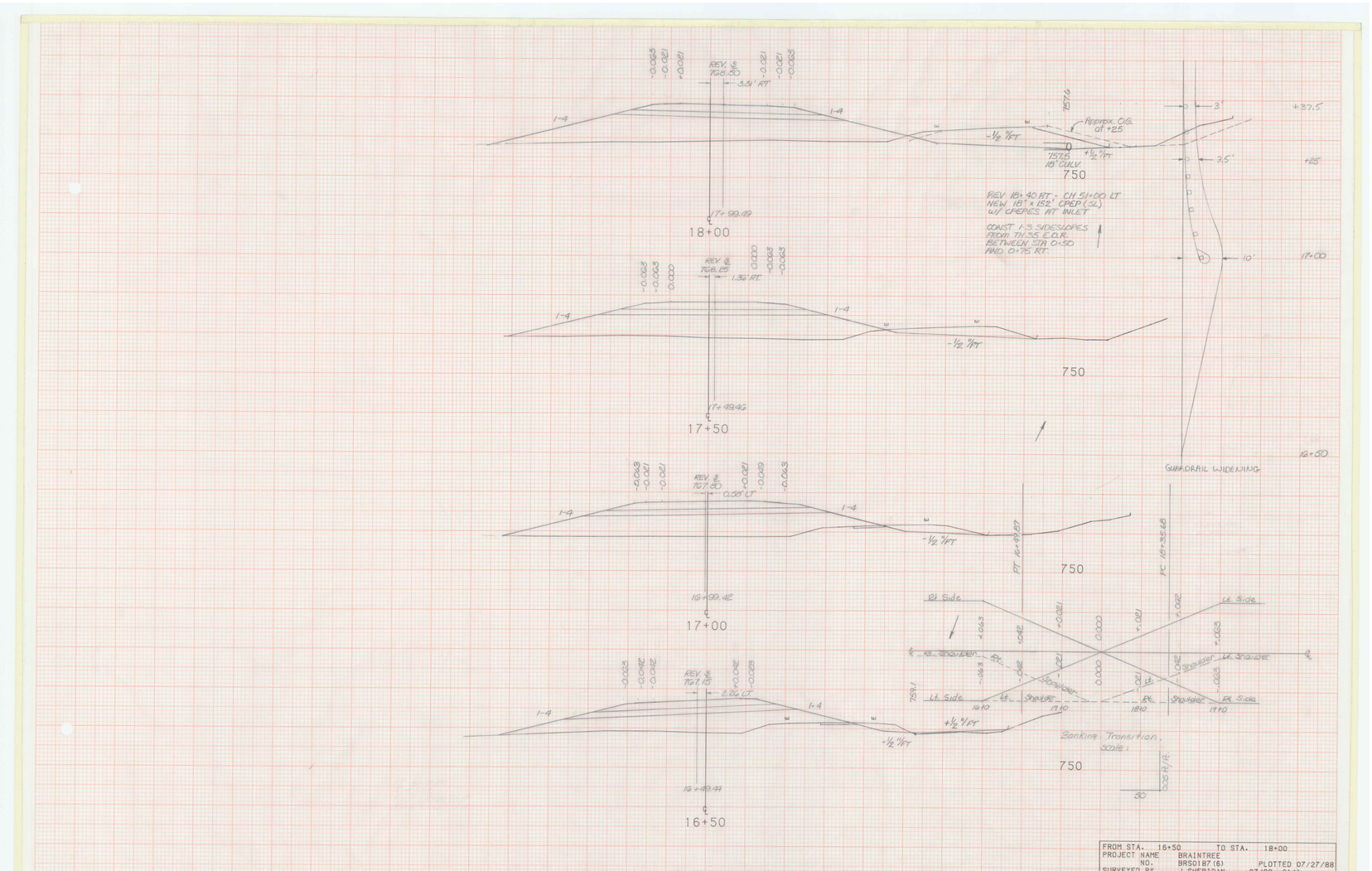
FROM STA.	12+50	TO STA.	14+00
PROJECT NAME	BRAINTREE		
NO.	BRS0187(6)		PLOTTED 07/27/88
SURVEYED BY	J.SHERIDAN	07/88	0141
SHEET 67 OF	SHEETS 79		

SCALE 10 FEET



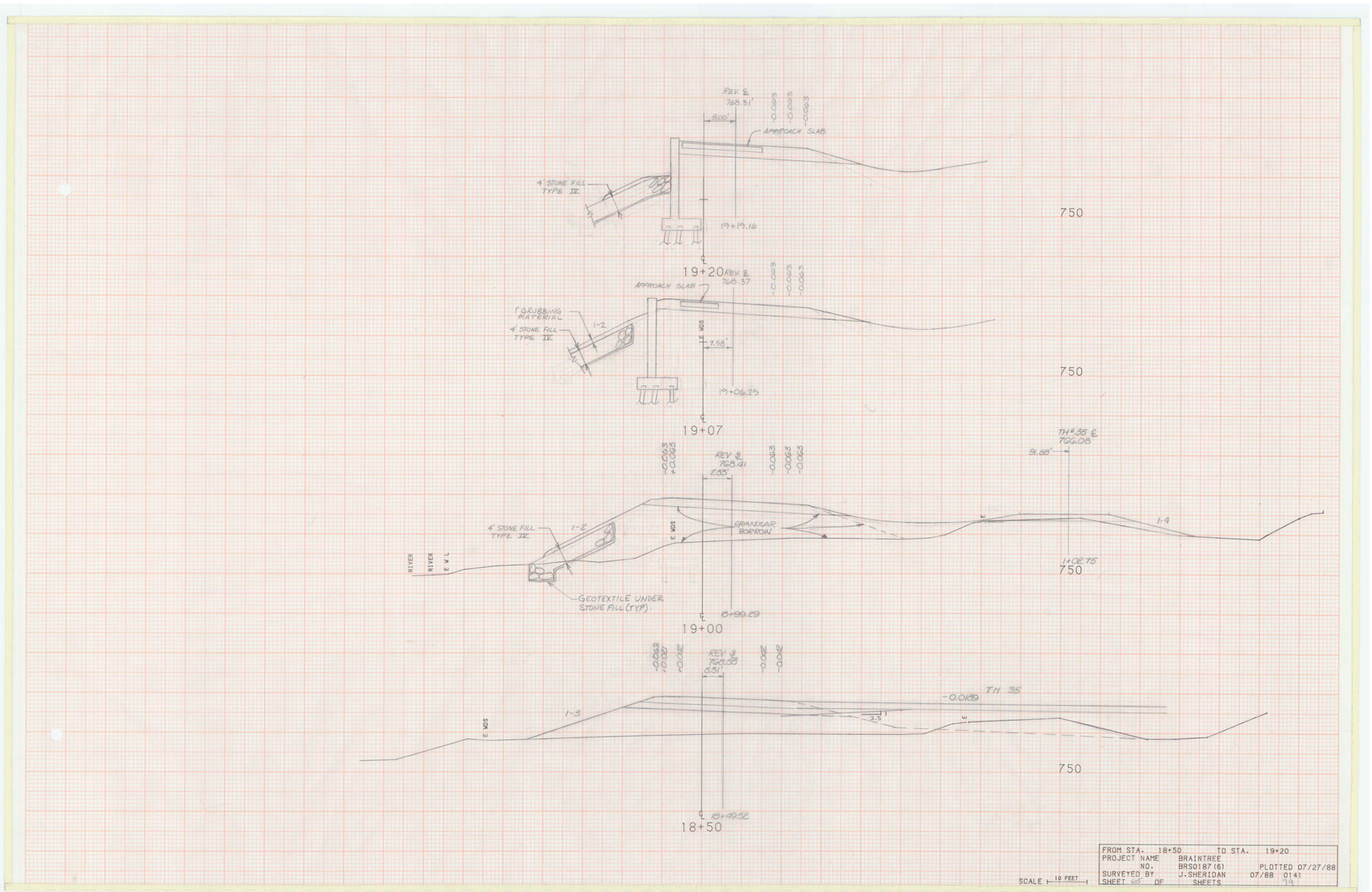
FROM STA.	14+50	TO STA.	16+00
PROJECT NAME	BRAINTREE		
NO.	BRS0187(6)	PLOTTED	07/27/88
SURVEYED BY	J.SHERIDAN	07/88	0141
SHEET 6 OF	SHEETS	74	

SCALE 10 FEET



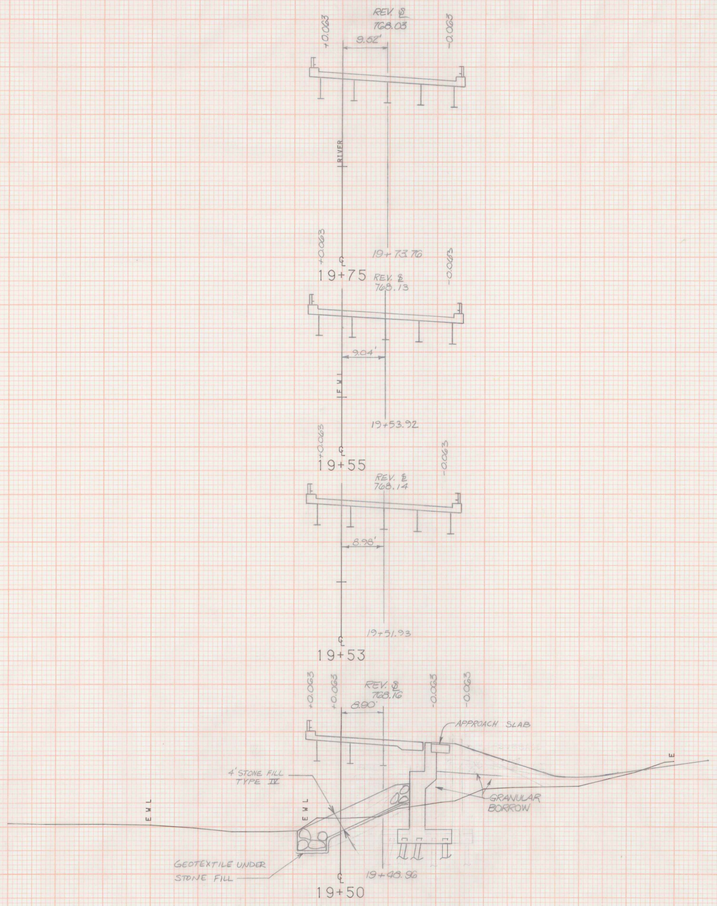
FROM STA.	16+50	TO STA.	18+00
PROJECT NAME	BRAINTREE		
NO.	BRS0187(6)	PLOTTED	07/27/88
SURVEYED BY	J.SHERIDAN	07/88	0141
SHEET 44 OF	SHEETS		19

SCALE 10 FEET



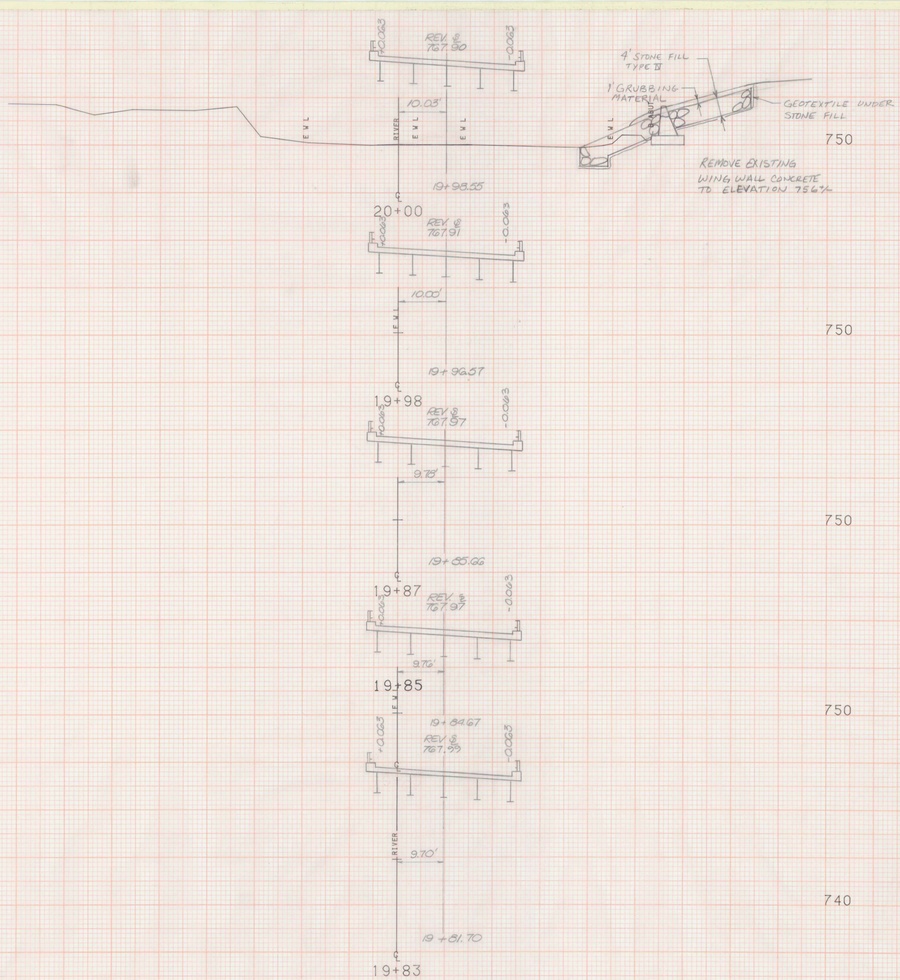
FROM STA. 18+50		TO STA. 19+20	
PROJECT NAME	BRAINTREE		
NO.	BRS0187(6)		PLOTTED 07/27/88
SURVEYED BY	J.SHERIDAN	07/88	0141
SHEET 56 OF	SHEETS		74

SCALE 10 FEET



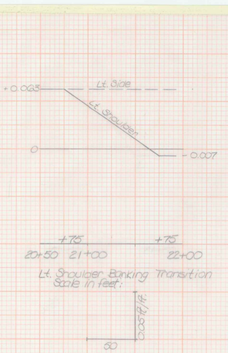
FROM STA.	19+50	TO STA.	19+75
PROJECT NAME	BRAINTREE		
NO.	BRS0187(6)	PLOTTED	07/27/88
SURVEYED BY	J.SHERIDAN	07/88	0141
SHEET 66 OF	SHEETS		11

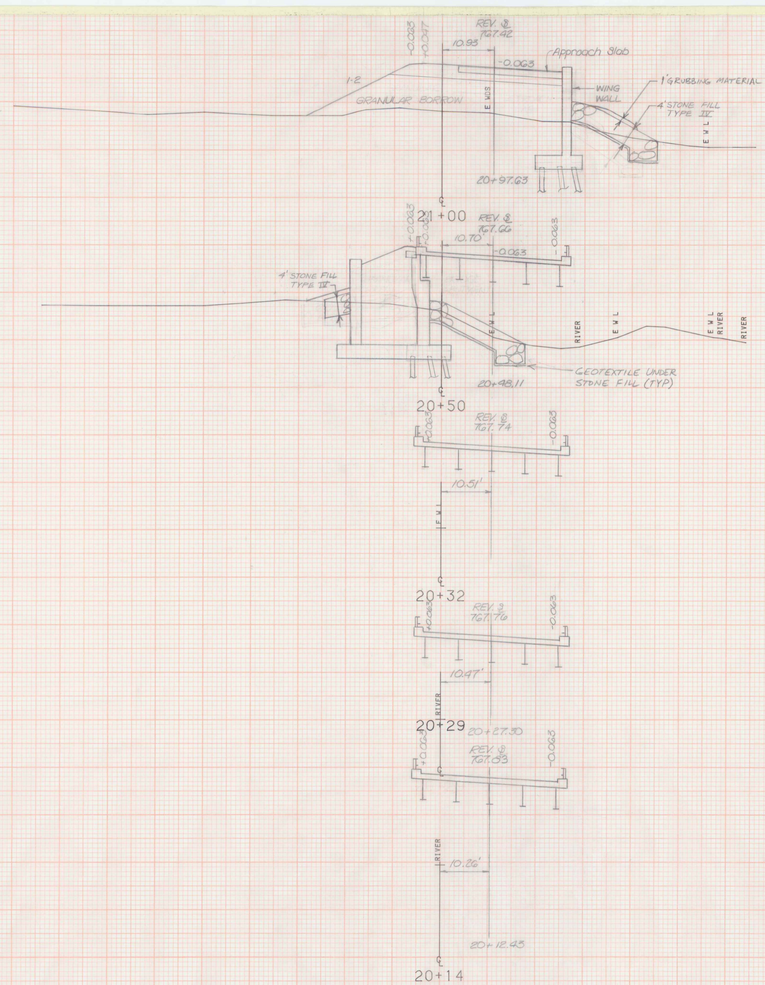
SCALE 10 FEET

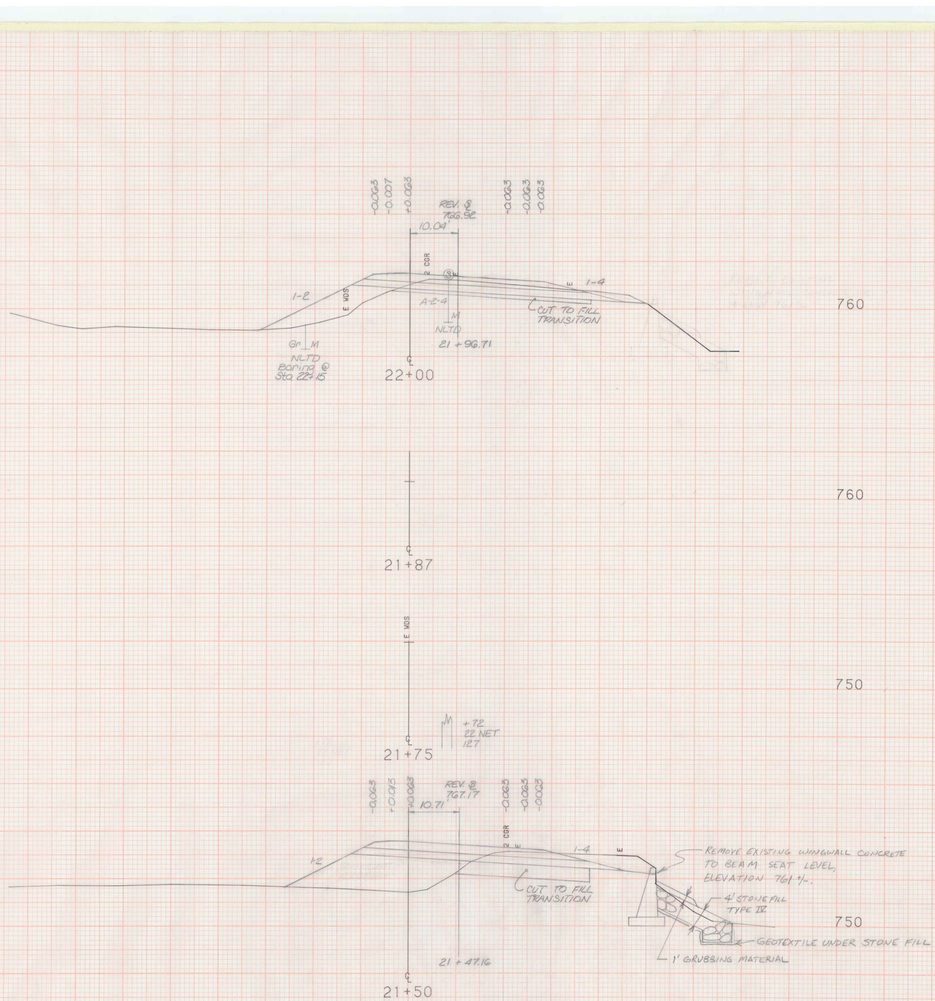


FROM STA.	19+83	TO STA.	20+00
PROJECT NAME	BRAINTREE		
NO.	BRS0187(6)	PLOTTED	07/27/88
SURVEYED BY	J.SHERIDAN	07/88	0141
SHEET 6/12 OF	SHEETS		

SCALE 10 FEET

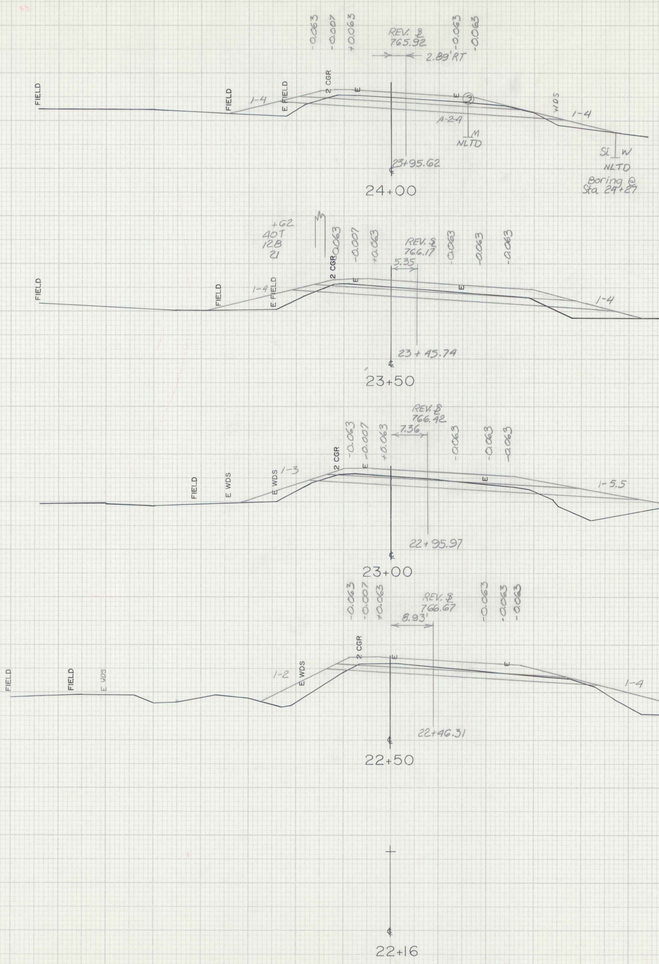



21+00
REV. @ 7G7.66
10.70'
-0.063
-0.063
-0.063
1'G RUBBING MATERIAL
WING WALL
4' STONE FILL TYPE II
GRANULAR BORROW
1:2
E W L
RIVER
GEOTEXTILE UNDER STONE FILL (TYP)
20+48.11
20+50
REV. @ 7G7.74
-0.063
10.51'
20+32
REV. @ 7G7.76
-0.063
10.47'
20+29
20+27.30
REV. @ 7G7.83
-0.063
10.26'
20+12.43
20+14
20+97.63
10.82'
-0.063
-0.063
-0.063

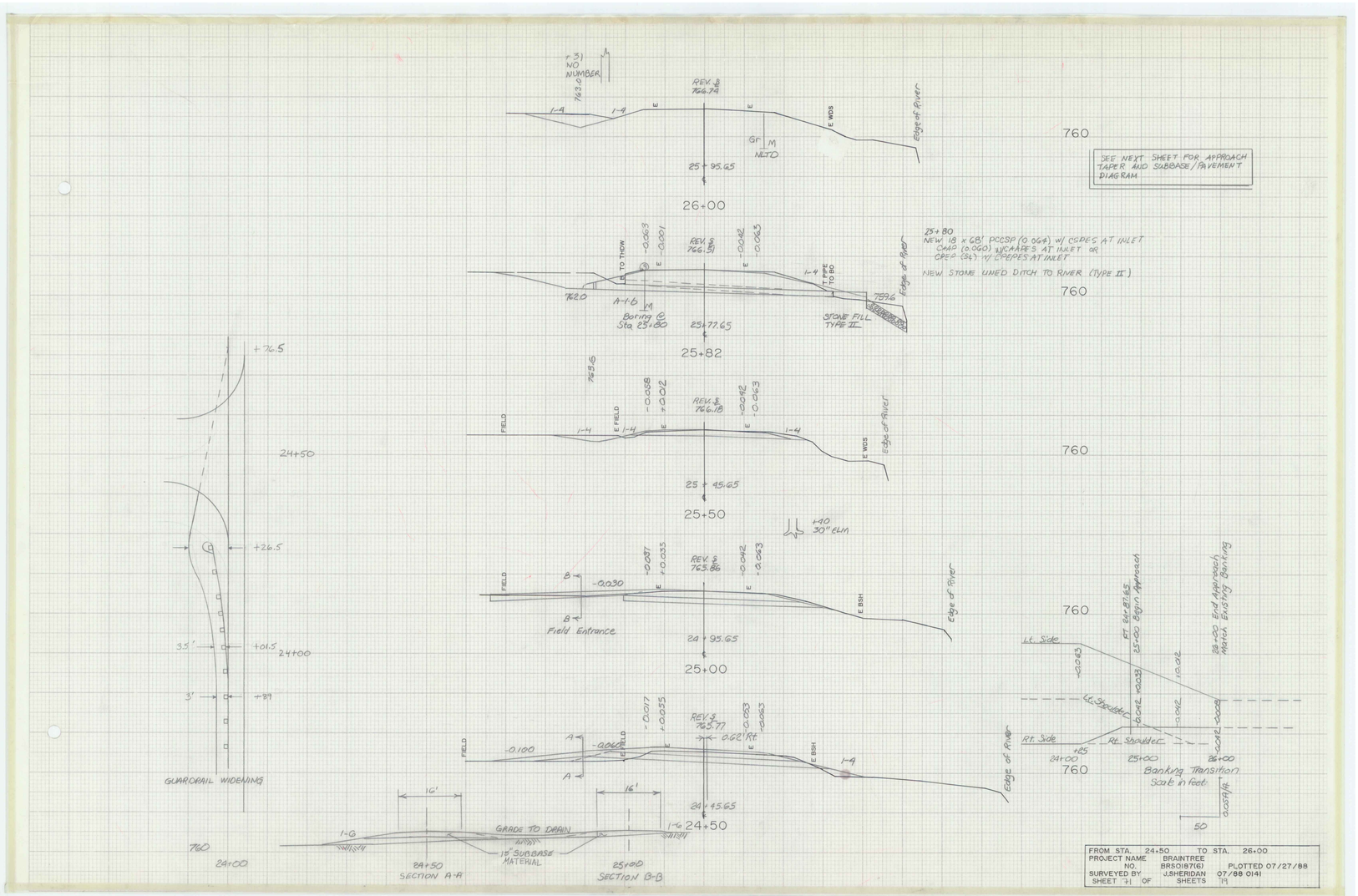


FROM STA. 21+50		TO STA. 22+00	
PROJECT NAME	BRAINTREE		
NO.	BRS0187(6)	PLOTTED	07/27/88
SURVEYED BY	J.SHERIDAN	07/88	0141
SHEET 6/7 OF	SHEETS		

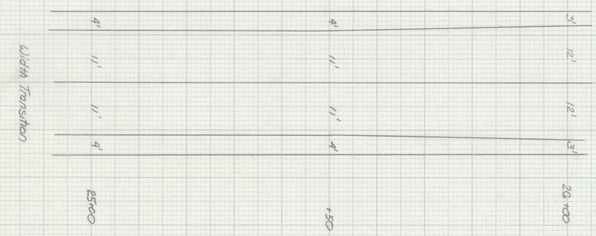
SCALE 10 FEET

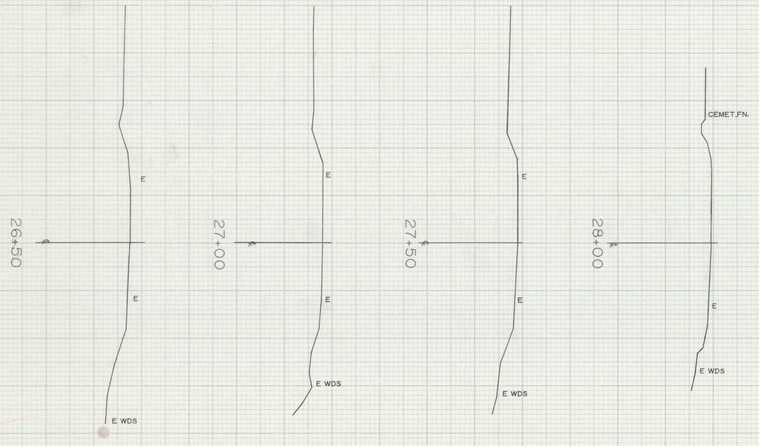


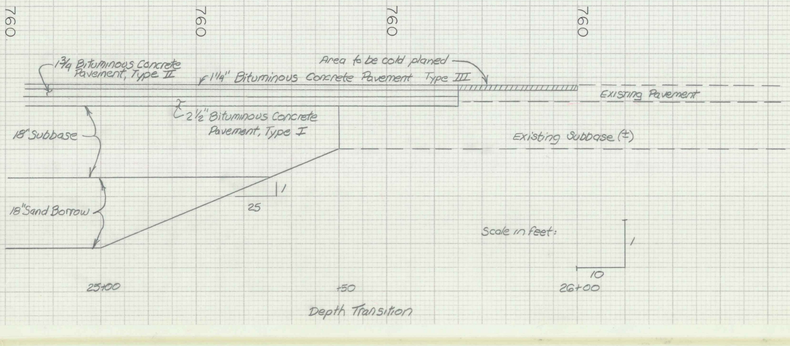
FROM STA.	22+16	TO STA.	24+00
PROJECT NAME		BRAINTREE	
NO.		BRS0187(6)	PLOTTED 07/27/88
SURVEYED BY		J.SHERIDAN	07/88 0141
SHEET 70 OF		SHEETS	71



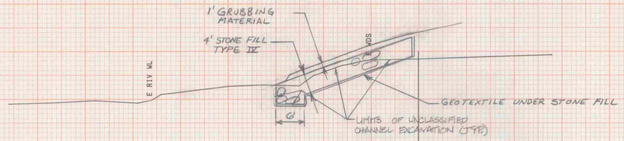
FROM STA. 24+50		TO STA. 26+00	
PROJECT NAME	BRAINTREE		
NO.	BRS0187(6)		PLOTTED 07/27/88
SURVEYED BY	J.SHERIDAN		07/88 0141
SHEET 7	OF	SHEETS 19	







FROM STA. 26+50
PROJECT NAME BRAINTREE
TOWN BRAINTREE
SURVEYED BY: JSHERIDAN
SHEETS 1/2 Sr
TO STA. 28+00
PLOTTED 07/27/88
07/88 0141



CH STA 49+54, R/H BANK
BEGIN UNCLASSIFIED CHAN. EXCAV.
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN STONE FILL TYPE IV

49+60

E RIV WL
E RIV WL
E WDS

750

49+50

E RIV WL
E RIV WL
E WDS

750

49+25

E RIV WL
E RIV WL
E WDS

750

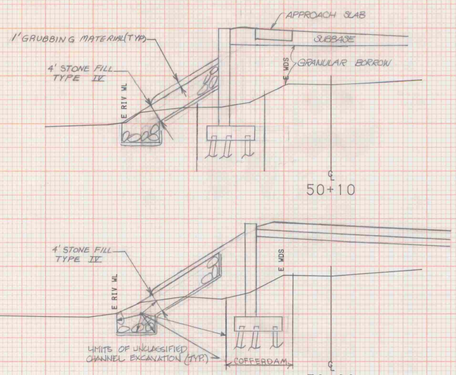
49+00

750

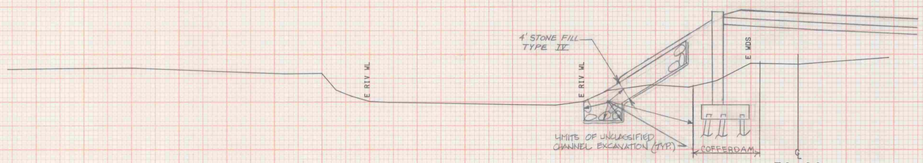
48+50

SCALE 10 FEET

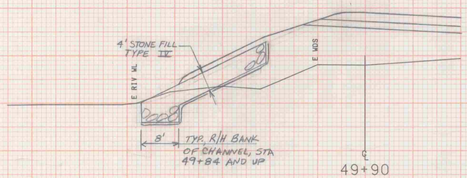
FROM STA. 48+50		TO STA. 49+60	
PROJECT NAME	BRAINTREE CHAN		
NO.	BRS0187(6)	PLOTTED	07/27/88
SURVEYED BY	J.SHERIDAN	07/88	0141
SHEET 22 OF	SHEETS 71		



750



750



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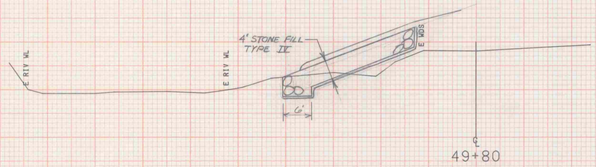
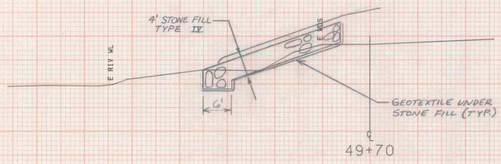


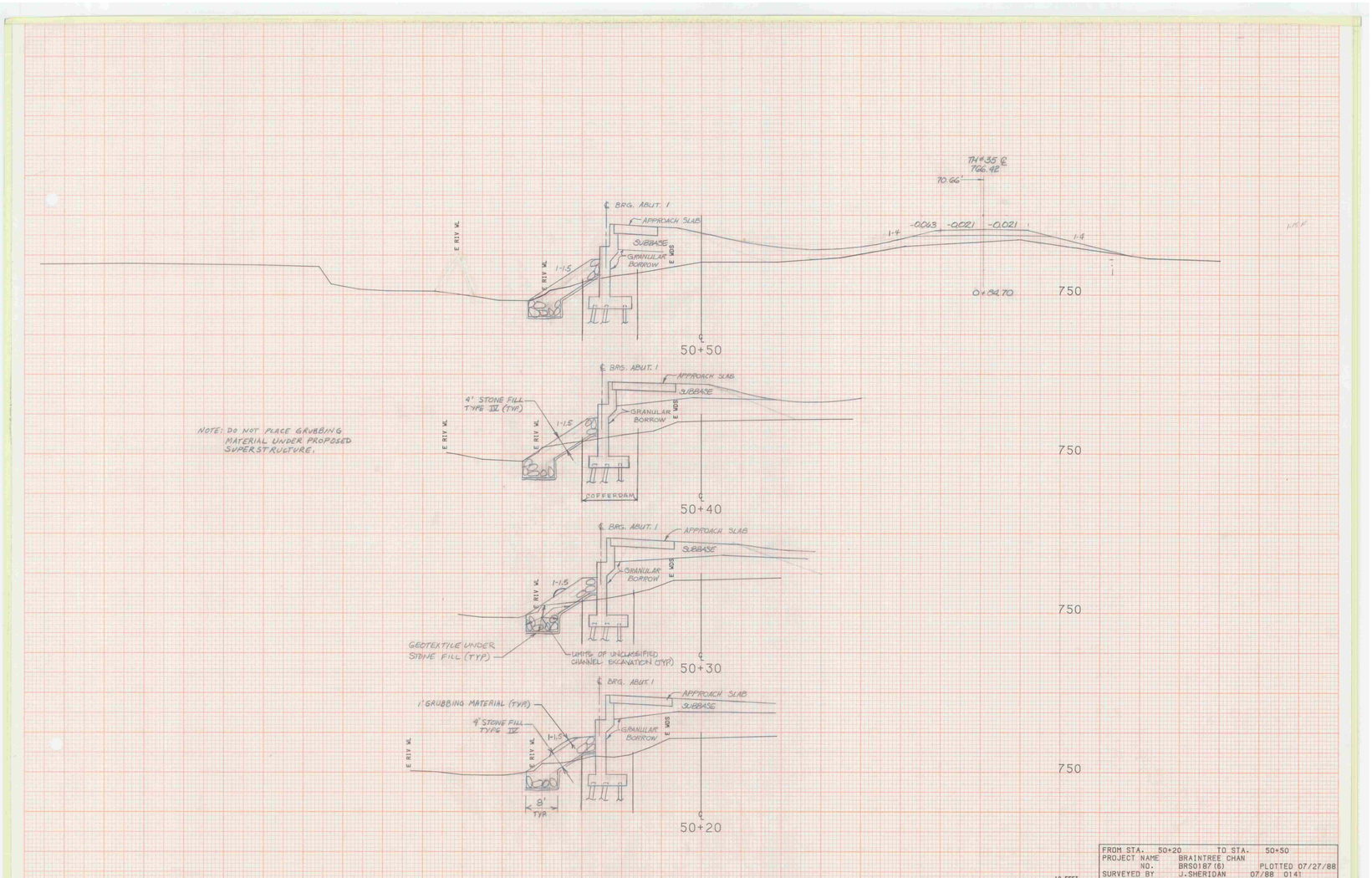
750



750

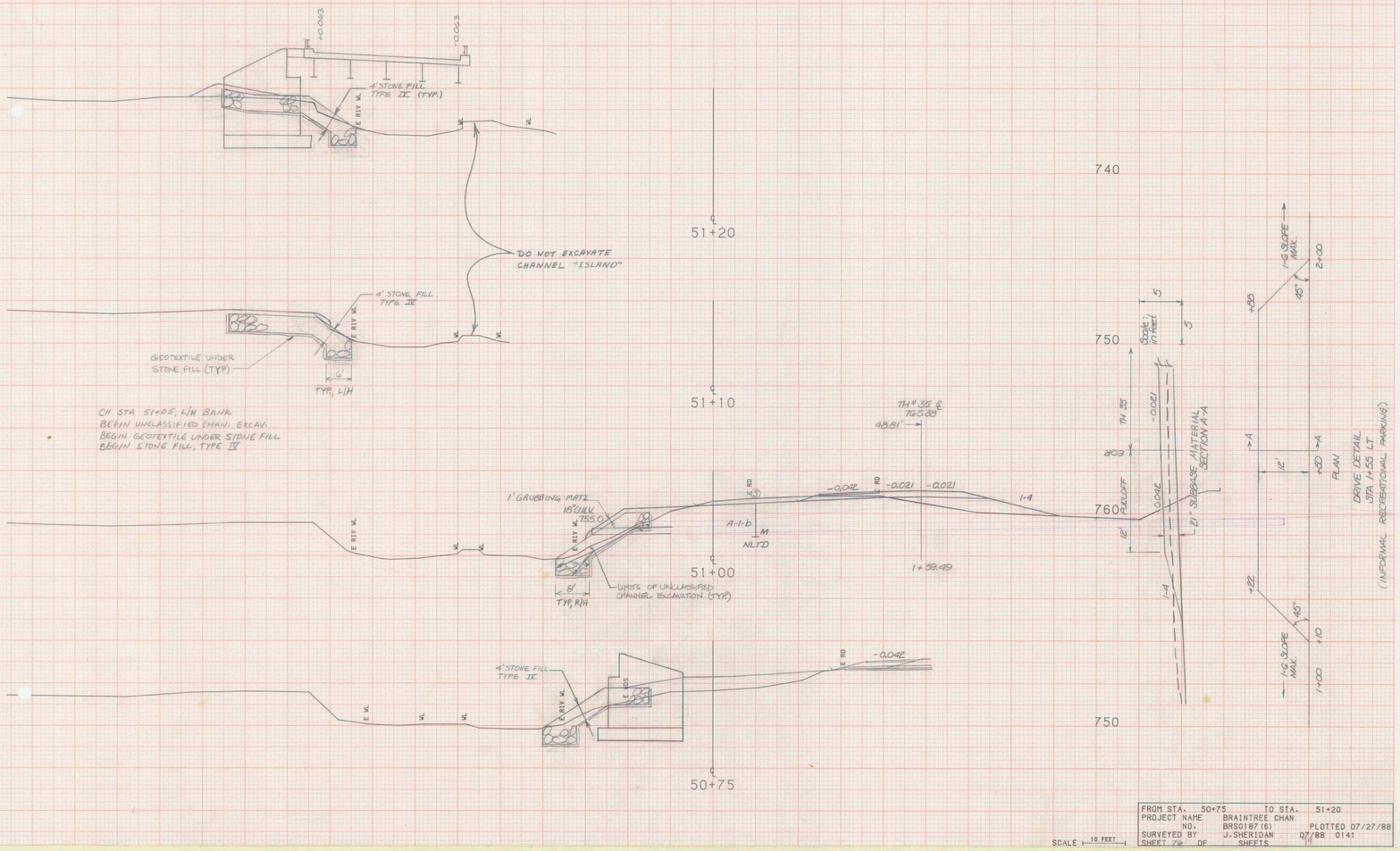
FROM STA. 49+70		TO STA. 50+10	
PROJECT NAME	BRAINTREE CHAN		
NO.	BRS0187(6)	PLOTTED	07/27/88
SURVEYED BY	J.SHERIDAN	07/88	0141
SHEET ?/? OF	SHEETS		

SCALE 10 FEET



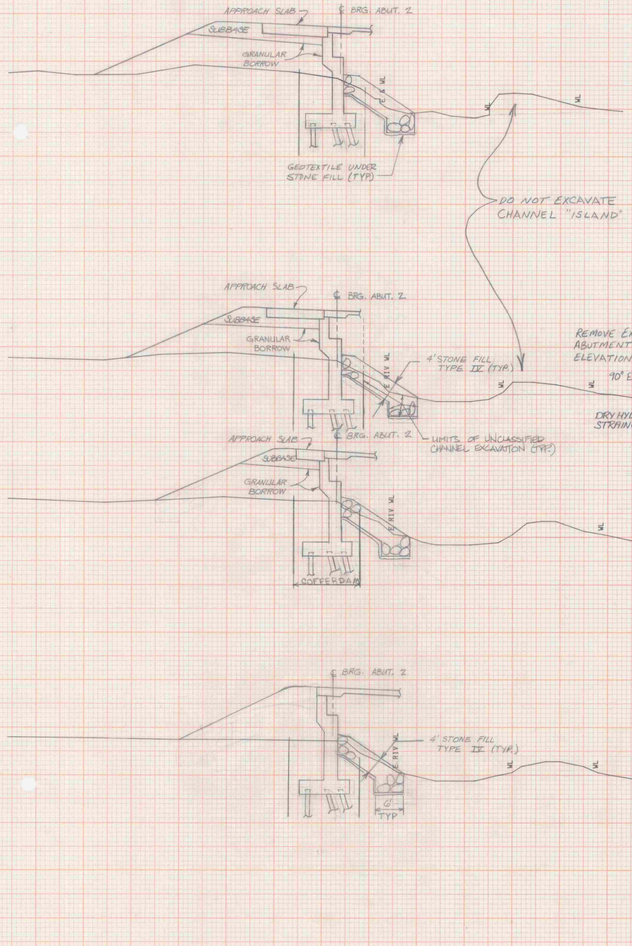
FROM STA.	50+20	TO STA.	50+50
PROJECT NAME	BRAINTREE CHAN		
NO.	BRS0187(6)	PLOTTED	07/27/88
SURVEYED BY	J.SHERIDAN	07/88	0141
SHEET 25 OF	SHEETS		

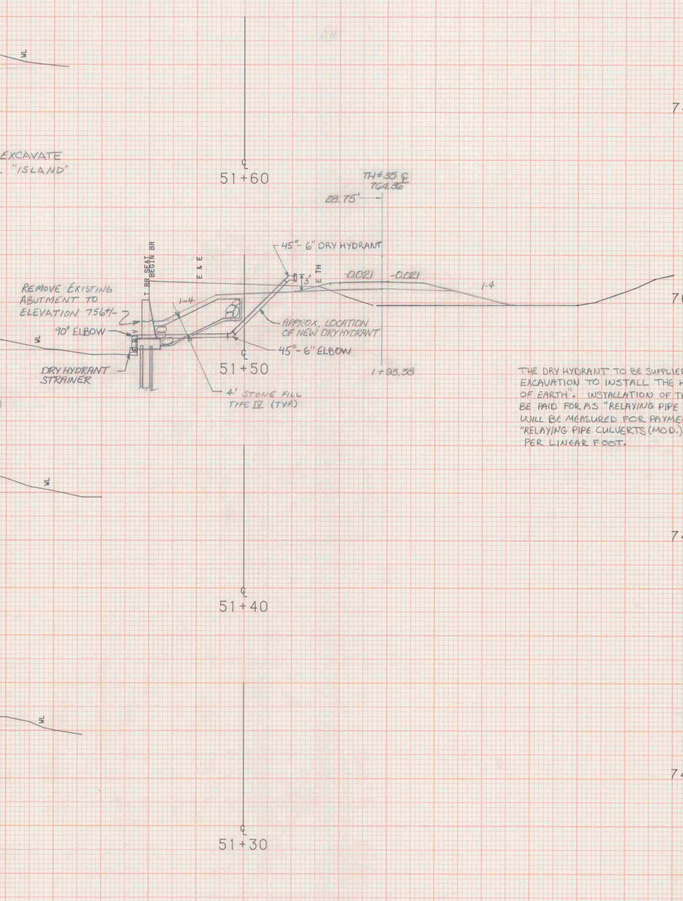
SCALE 10 FEET



FROM STA. 50+75		TO STA. 51+20	
PROJECT NAME	BRAINTREE CHAN		
NO.	BRS0187(6)	PLOTTED	07/27/88
SURVEYED BY	J.SHERIDAN	07/88	0141
SHEET 26 OF	SHEETS		

SCALE 10 FEET

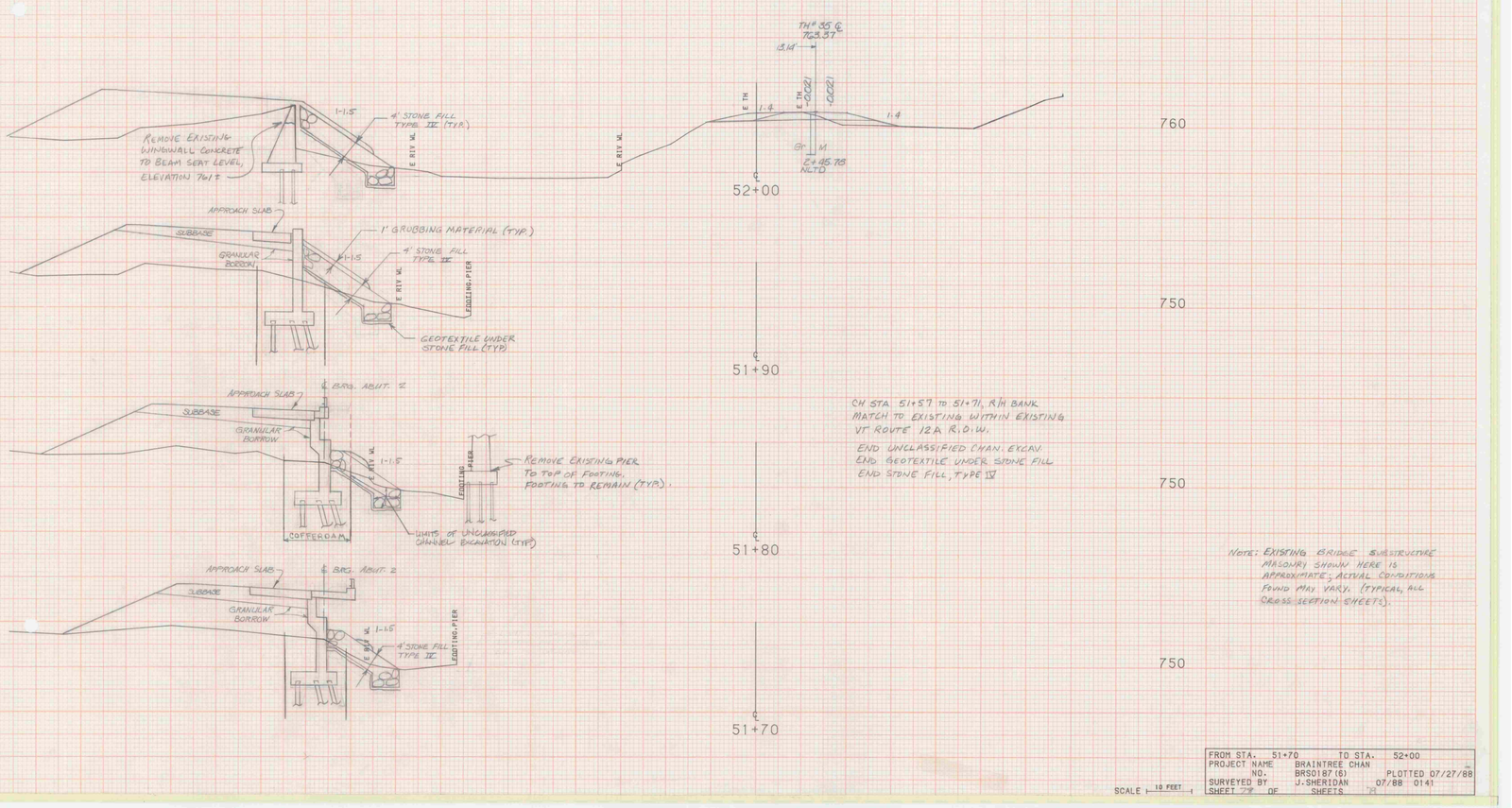




THE DRY HYDRANT TO BE SUPPLIED BY THE RANDOLPH FIRE DEPARTMENT. THE NECESSARY EXCAVATION TO INSTALL THE HYDRANT WILL BE PAID FOR AS "TRENCH EXCAVATION OF EARTH". INSTALLATION OF THE HYDRANT AND ALL ASSOCIATED COMPONENTS WILL BE PAID FOR AS "RELAYING PIPE CULVERTS (MOD.)". "RELAYING PIPE CULVERTS (MOD.)" WILL BE MEASURED FOR PAYMENT AS THE NUMBER OF LINEAR FEET IN PLACE. "RELAYING PIPE CULVERTS (MOD.)" WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAR FOOT.

FROM STA.	51+30	TO STA.	51+60
PROJECT NAME	BRAINTREE CHAN		
NO.	BRS0187(6)	PLOTTED	07/27/88
SURVEYED BY	J.SHERIDAN	07/88	0141
SHEET 22	OF SHEETS	79	

SCALE 10 FEET



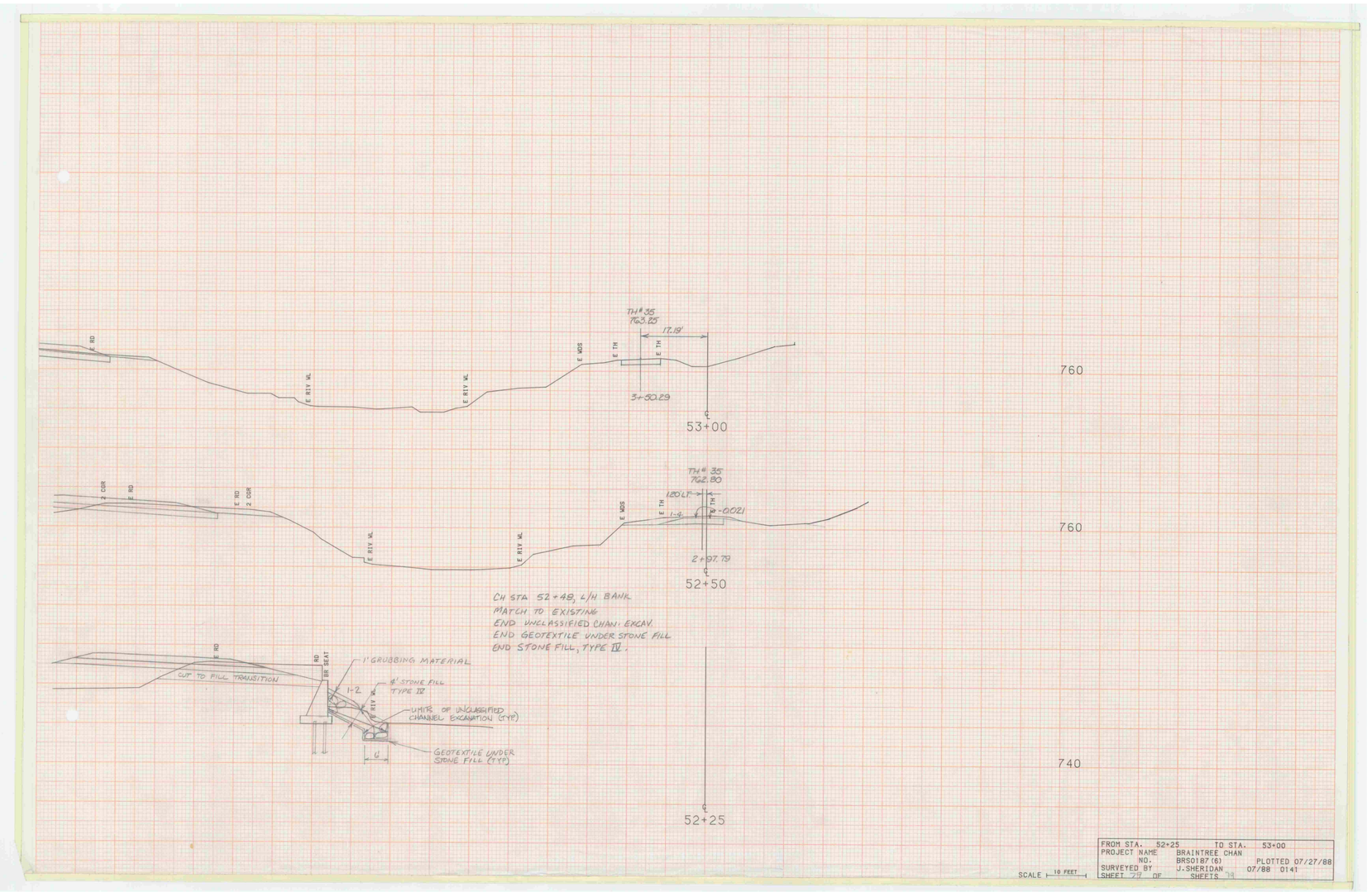
CH STA 51+57 TO 51+71, R/H BANK
MATCH TO EXISTING WITHIN EXISTING
VT ROUTE 12A R.O.W.

END UNCLASSIFIED CHAN. EXCAV.
END GEOTEXTILE UNDER STONE FILL
END STONE FILL, TYPE IV

NOTE: EXISTING BRIDGE SUBSTRUCTURE MASONRY SHOWN HERE IS APPROXIMATE; ACTUAL CONDITIONS FOUND MAY VARY. (TYPICAL, ALL CROSS SECTION SHEETS).

FROM STA. 51+70	TO STA. 52+00		
PROJECT NAME	BRAINTREE CHAN		
NO.	BRS0187(6)	PLOTTED	07/27/88
SURVEYED BY	J.SHERIDAN	07/88	0141
SHEET 7A OF	SHEETS	7A	

SCALE 10 FEET

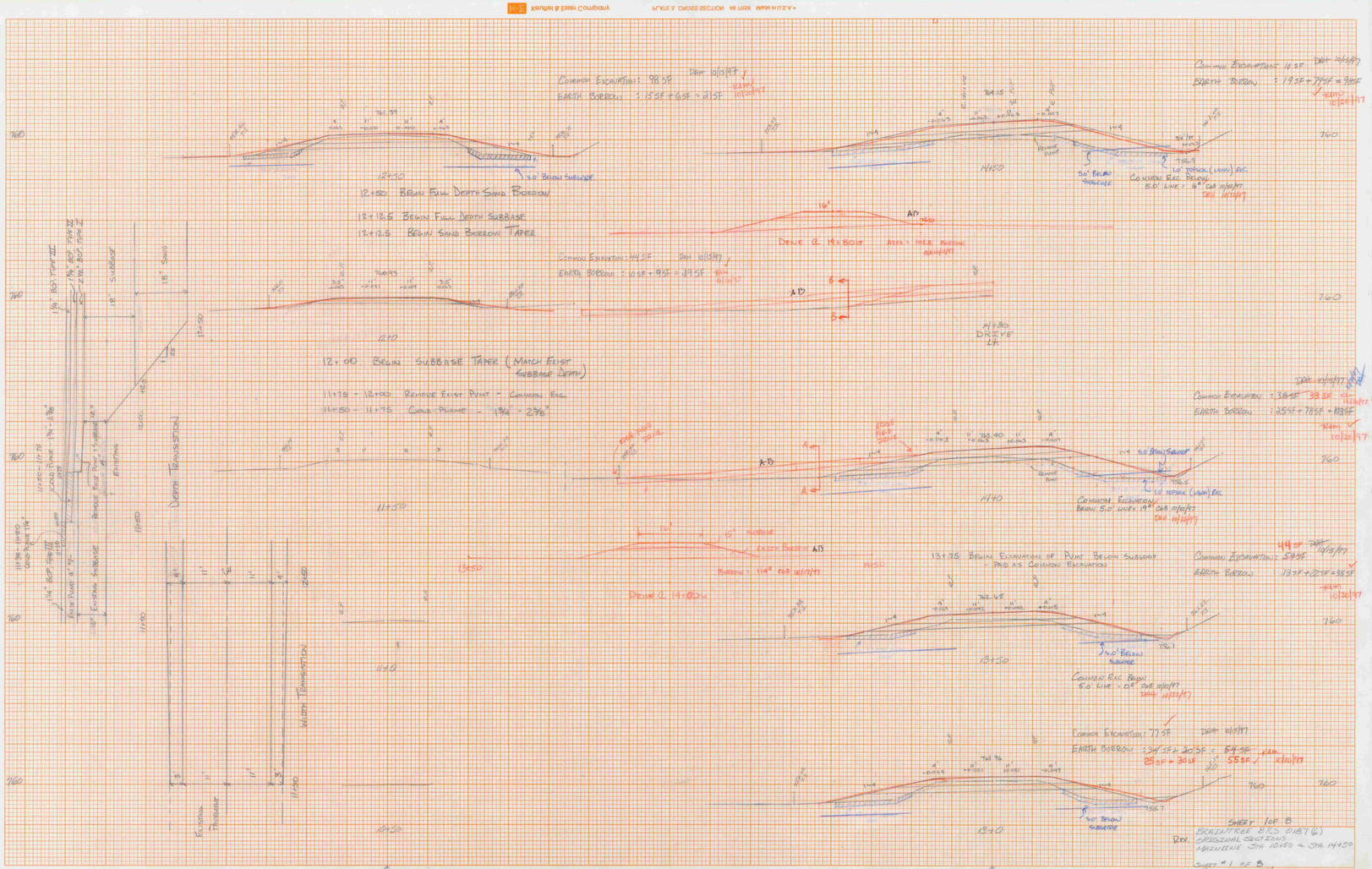


FROM STA. 52+25		TO STA. 53+00	
PROJECT NAME	BRAINTREE CHAN		
NO.	BRS0187(6)	PLOTTED	07/27/88
SURVEYED BY	J.SHERIDAN	07/88	0141
SHEET 27 OF	SHEETS		

SCALE 10 FEET

K&E Kendall & Eaton Company

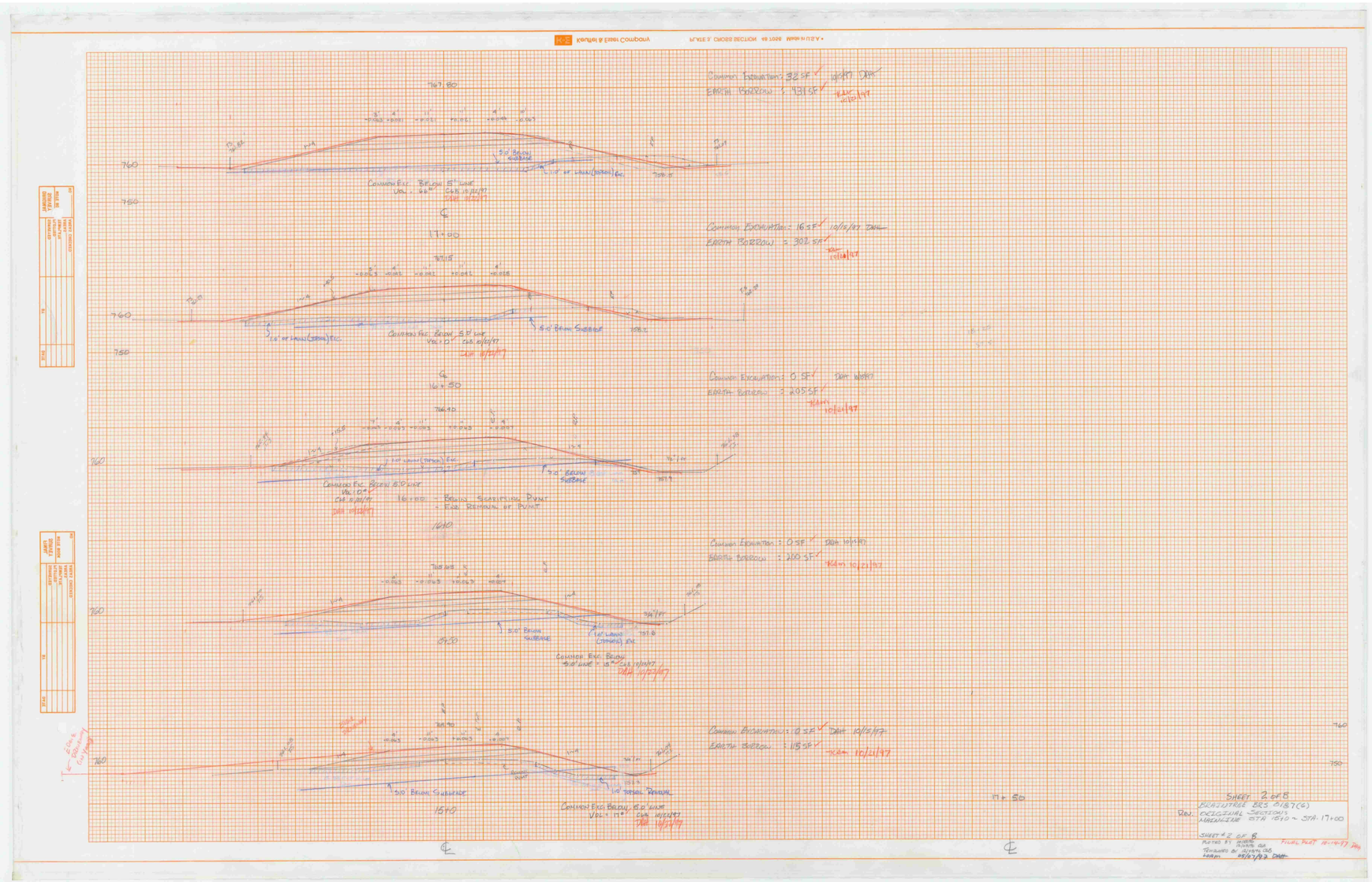
TYPICAL CROSS SECTION STATION 11+25 AND 14+25



SHEET 1 OF 8
BRAINTREE BRS 0187(6)
ORIGINAL SECTIONS
AMENDING STA 10+50 & STA 14+50

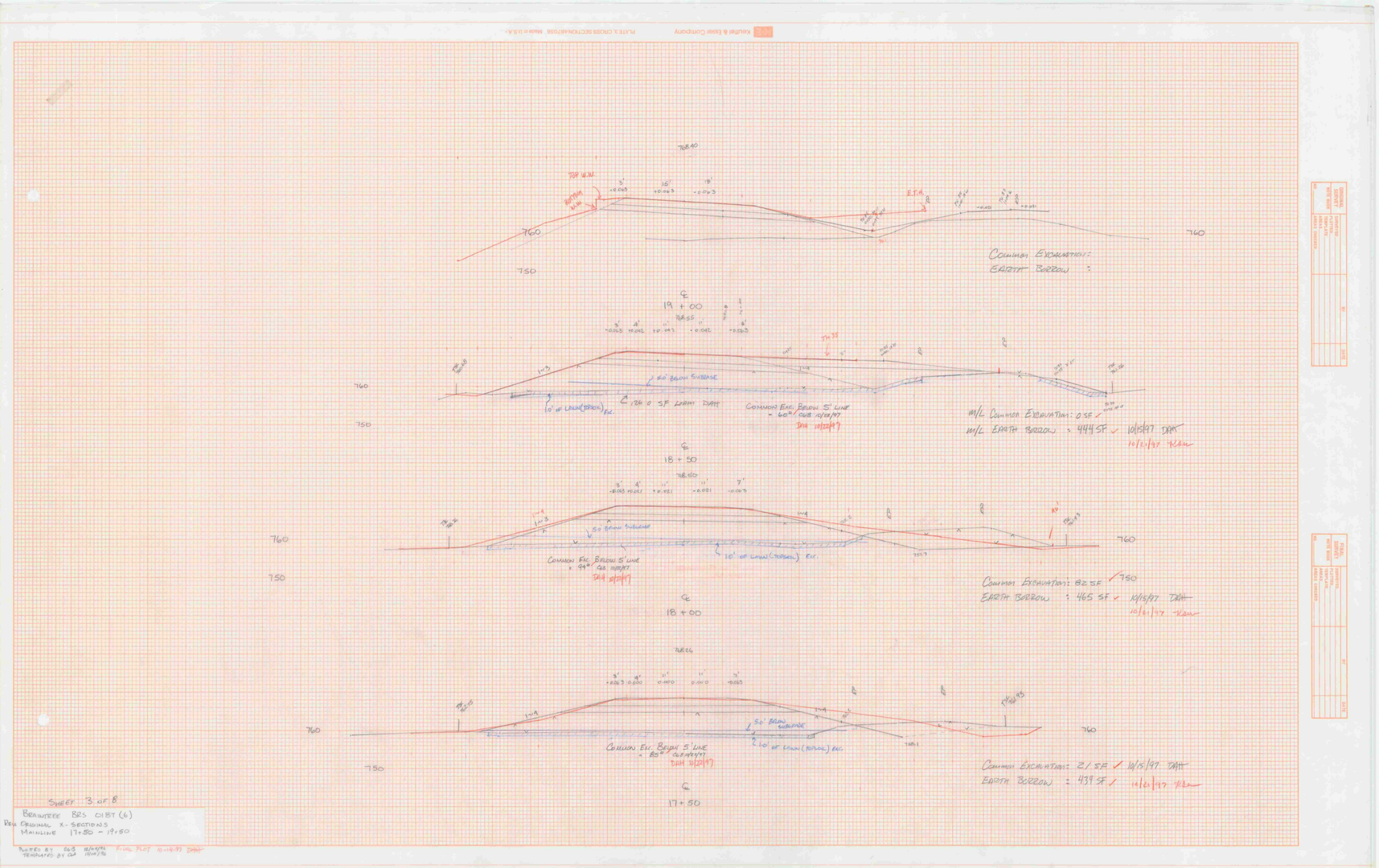
REV. SHEET 1 OF 8
RET 10-22-97 JGS
TENTATIVE ELEMENTS OLD
SUMMARY 10/15/97 DATE

FINAL PLOT 11-14-97 JGS



SHEET 2 OF 8
BRAINTREE BRS 0187(6)
REV. ORIGINAL SECTIONS
MAINLINE STA 15+0 ~ STA. 17+00

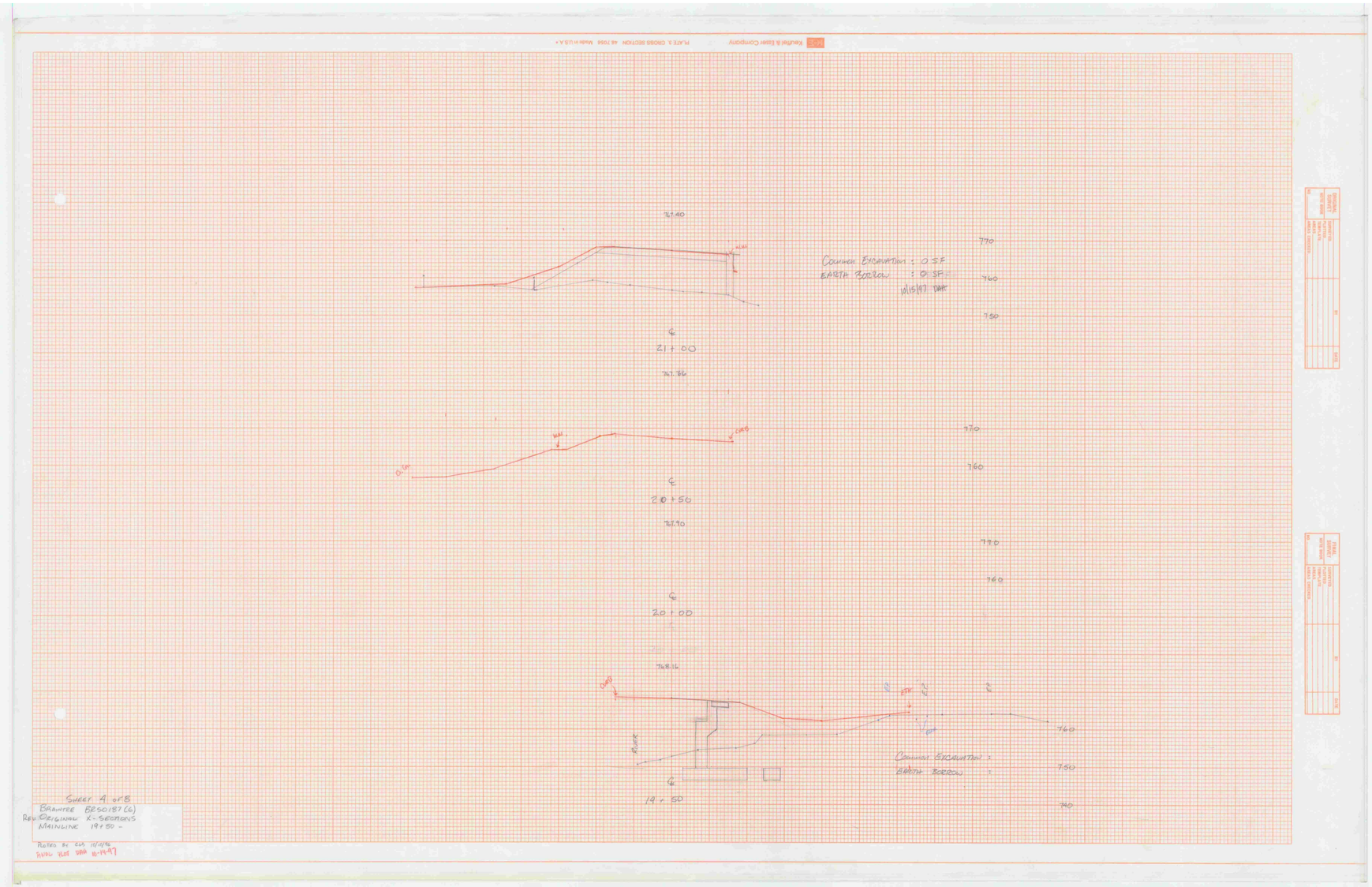
SHEET # 2 OF 8
PLOTTED BY [illegible] 10/14/97 DAH
TRACED BY [illegible] CAB
LOAD 08/07/97 DAH
FINAL PLOT 10-14-97 DAH



Sheet 3 of 8

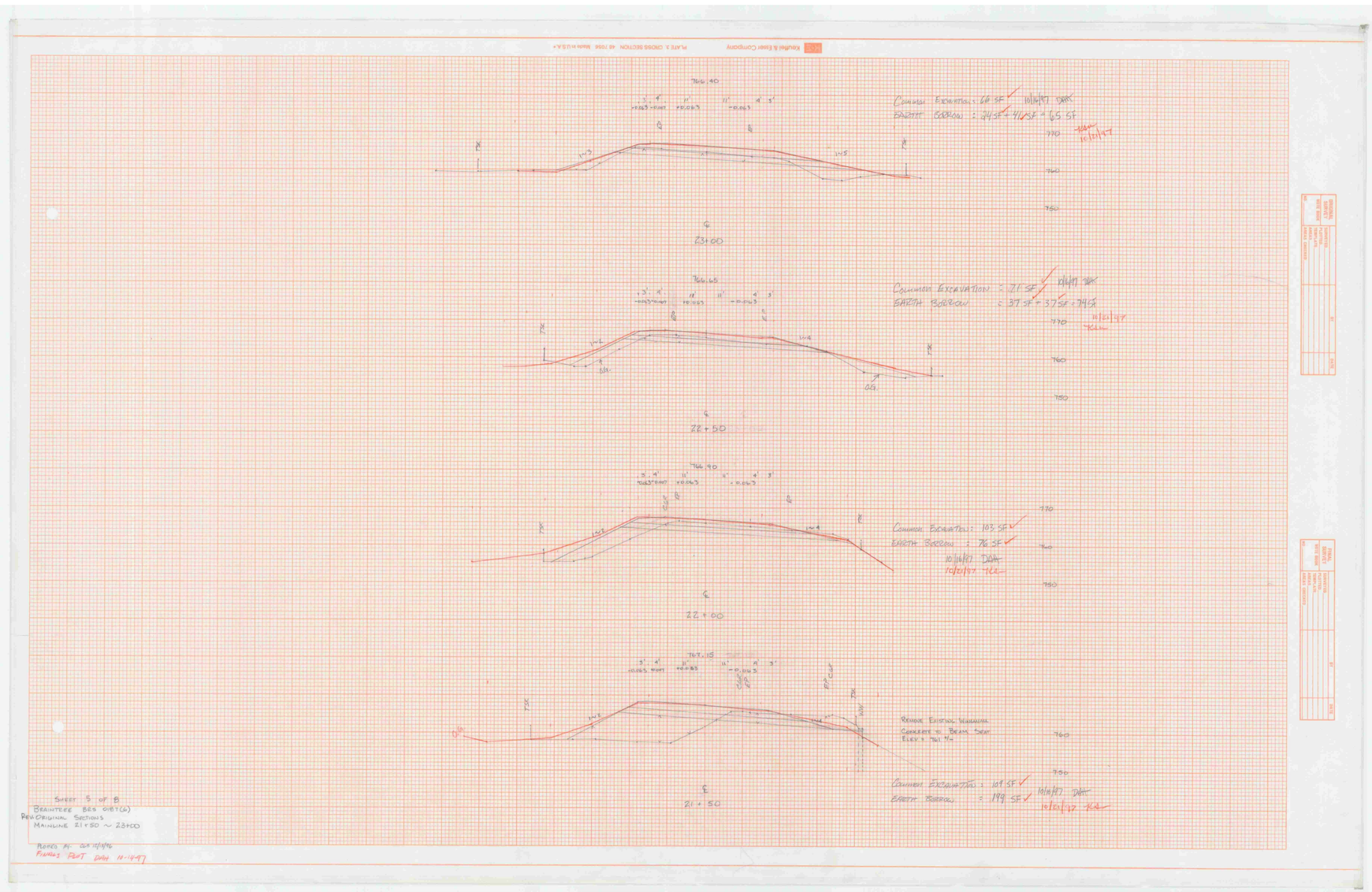
Braintree BRS 0187 (6)
Rev Original X-Sections
Mainline 17+50 - 19+50

Plotted by CGB 12/05/96
Templated by CGB 11/04/96
Final Plot 10-14-97 DAH



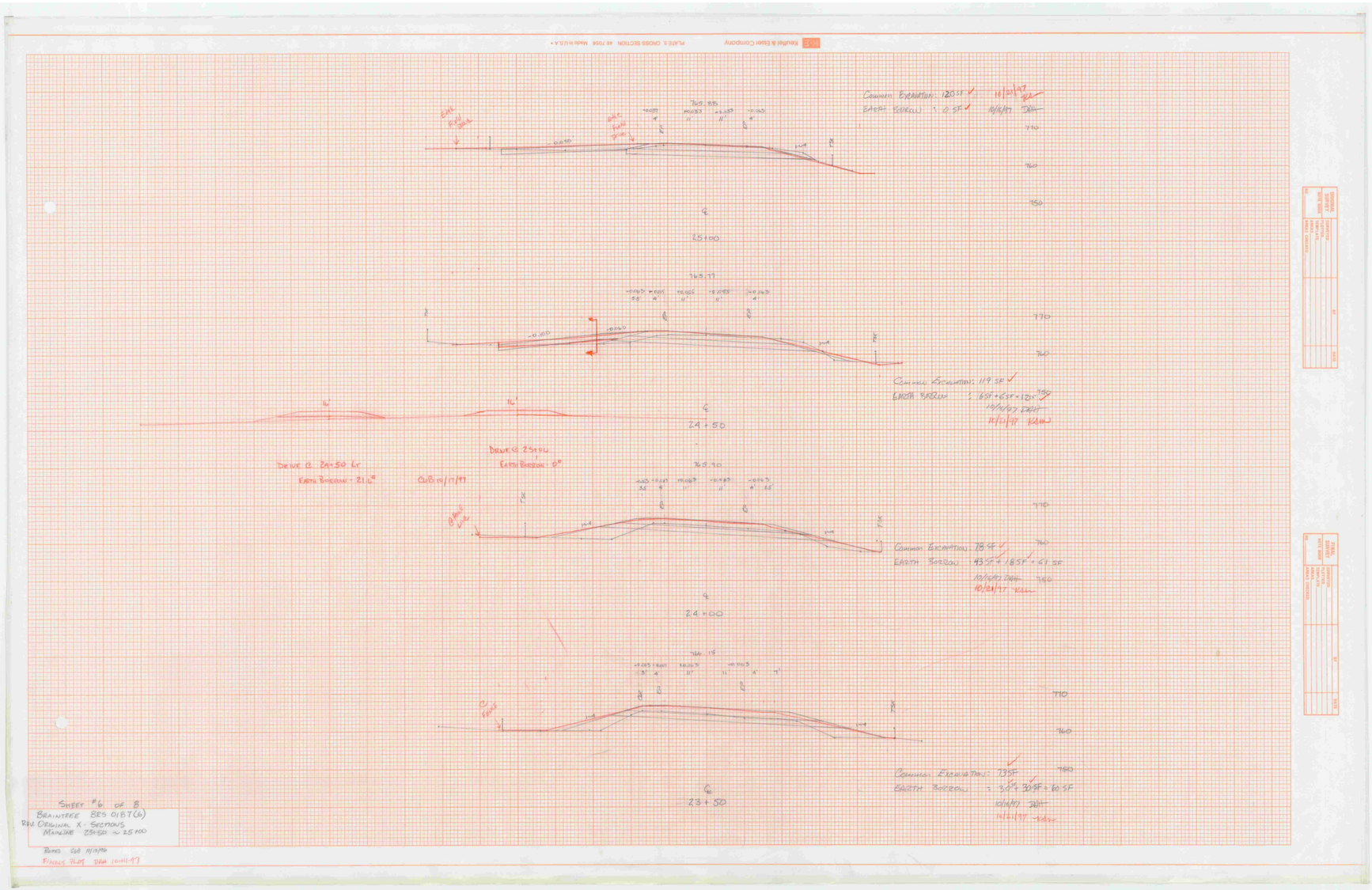
SHEET 4 OF 8
BRAINTREE BRS0187 (6)
REV ORIGINAL X-SECTIONS
MAINLINE 19+50 -

PLOTTED BY CLS 10/14/96
FINAL PLOT DATA 10-14-97



Sheet 5 of 8
Braintree BRS 0187(6)
Rev. Original Sections
Mainline 21+50 ~ 23+00

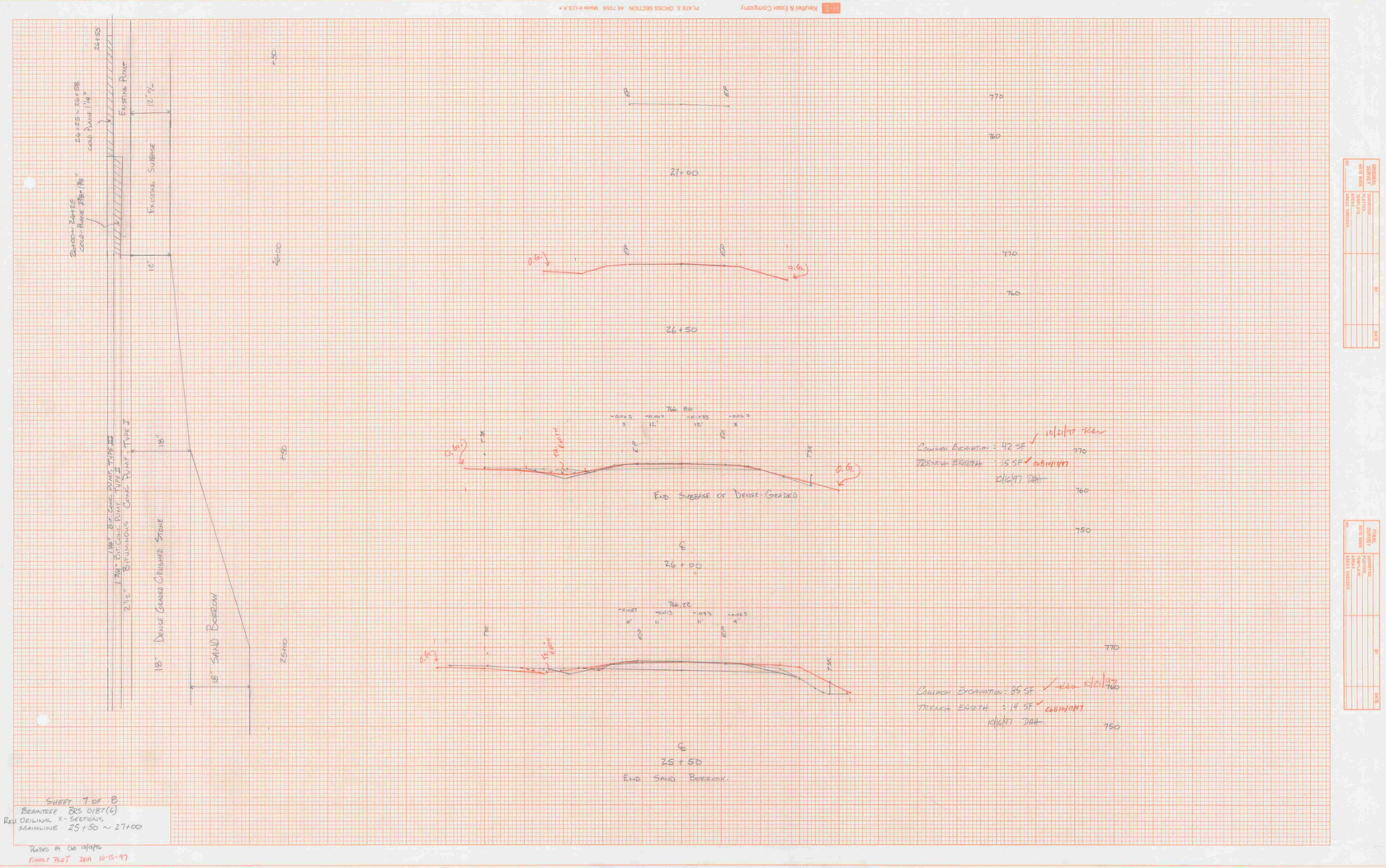
Plotted by: CGR 12/13/96
Finals Plot DAH 10-14-97



SHEET #6 OF 8
BRAINTREE BRS 0187(6)
REV. ORIGINAL X-SECTIONS
MAINLINE 23+50 ~ 25+00

ROTED CWB 11/18/96
FINALS PLOT DAH 10-14-97

Keuffel & Esser Company PLATE 3. CROSS SECTION 46 7056 Made in U.S.A.



SHEET 7 OF 8
BRAINTREE BDS 0187(6)
REG DECIMAL X-SECTIONS
MAINLINE 25+50 ~ 27+00

PLOTTED BY CVB 10/9/97
FINAL PLOT DHA 10-15-97

K&E Keuffel & Esser Company PLATE 3. CROSS SECTION 46 7056 Made in U.S.A.

SHEET 8 OF 8

BRAINTREE BRS 0187(6)

ORIGINAL SECTIONS

TOWN HIGHWAY # 55 0+50 - 3+00

SHEET # 8 OF 8

DRAWN BY CMB 12/03/96

FINALS PLOT DATE 10-15-97

E = Y/6(D)+L/100 = Y/6(1.501+0.55)+200/100 = 0.2315

EG 12155.54 × (E^1.5)/(L/L1/2) × D.24+(1.5×50+12.83)D/(200/6)^2 × 0.11

ELEV @ G = 765.68 − (1.5×50+12.83)(0.01×50)+0.11 = 761.75

PANNING: M/L: ST = 0.0018 LT = 0.021
SH: ST = 0.0048 LT = 0.063

OUTLET - 40' LF
ELEV = 785.10

INLET - 40' RT End of Pipe
ELEV: 759.40

6'-9" x 2' Stone Fill Type II

10' UNDERCUT

750

6'-6"±2' Stone Fill Type II

12+83.84

NEW 18" x 84' CPEP (SL) W/ES @ INLET

GRADE = 0.30/80' = 0.375%

QUANTITIES

1) TRENCH EARTH
- NEW PIPE = (111.1' × 5.6 ft²/ft) = 14.8 cy
- OLD PIPE = L02.2 × 51 × 3.3 × 1/27) = 1.3 cy
- STONE FILL = [(6.9×2)+(6×6.5×2)](1/27) 3.69 cy — FIELD MEAS. CAB 11/20/96

S = 83.10 H — CAB 11/20/96 — DRW 10/01/97

2) STONE FILL, TYPE II
@ OUTLET = 6.9+2 × 1/27 = 4.0 cy — NOT INSTALLED
@ INLET = 6'×6.5'×2' × 1/27 = 2.9 cy — FIELD MEASURED — CAB 11/20/96 — DRW 10/01/97
6.9 cy

3) UNDERCUT QUANTITIES
TRENCH EARTH = [(98.5 × 3.6 × 1) − L02.2 × 51 × 3.3] × 1/27 = 9.8 cy — CAB 11/14/96 — DRW 10/01/97 — NOT NEEDED CAB 10/10/97
GRAN. BKFL = 82.5 × 3.6 × 1 × 1/27 = 11 cy

E = Y/6(D)×L/100 = 1/6(1.40−0.5007)×200/110 = 0.975

EG 25177.4 = (E^1.5)/(L/L1/2) × D.975(36+110+25+17.4)/100^4 = 10.02

ELEV @ 25+77.4 = 766.80 − (2.0×0.14)(2.0+0.25+17.4) +0.02 = 764.50

BEARINGS: RT n/L = N 0.033 E — N/L = N 89.97 E
SH = N 89.83 E — SH = N 0.03 E

INLET - 25' LT 60 x PIPE
ELEV = 762.00

OUTLET - 44' RT
ELEV = 759.00

B-B

C-C

TE = 32"
SF = 8'

TE = 46"
STONE 18"

DITCH
TO EARTH = [(17.2/2)(4.2)+(32.4/2)(4.4)+(44.8/2)(4.4)]×1/27
= 363/27 = 13.4 cy

STONE = 12.5×8.2×1/27 = 7.4 cy — CAB 11/20/96 — DRW 10/01/97

FIN. OUTLET DITCH
CAB 10/07/97

25+77.4

NEW 18" x 68' CPEP W/ES @ INLET

GRADE = 3/72 = 4.2%

QUANTITIES

1) TRENCH EARTH
PIPE [68.5 × 3.0 × (1.5+1.5)/2] × 1/27 = 7.6 cy
DITCH 36+110 = 146 F.M. — 13.4 cy — CAB 11/20/96 — DRW 10/01/97
E.M. 7.1 cy — CAB 11/20/96 — DRW 10/01/97

2) TRENCH ROCK - MEAS. (HEADWALL) — CAB 11/20/96 — DRW 10/01/97

3) STONE FILL TYPE II = 7.4 cy — CAB 11/14/96 — F.M. CAB 10/10/97

4) UNDERCUT QUANTITY
TRENCH EARTH = [(59.4 × 3.6 × 1)+(89+1.5+3.6)/2 × 1/27] = 12.5 cy — CAB 11/20/96 — DRW 10/01/97 — NOT NEEDED CAB 10/10/97
GRAN. BKFL = 73.4 × 3.6 × 1/27 = 9.9 cy

INLET @ 18+15 - 85' RT End of Pipe
ELEV: 767.80

18+30 - 52' RT

18+31 - 87' RT

750

5' UNDERCUT

50' CUTLINE

NEW 18" x 156' CPEP W/ES @ INLET
GRADE = 1.3'/144 = 0.903%

OUTLET @ 19+01.30 = NEW C.L. 20+55.5' LT
ELEV: 754.0

STA 4.0' Grad Fill

QUANTITIES

1) TRENCH EARTH
[(492.8×1)+(455.3×1.8)] × 3.6 × 1/27 = 76.8 cy — CAB 11/14/96

2) UNDERCUT QUANTITY
TRENCH EARTH = [(207.7)+(174.5)] × 3.6 × 1/27 = 26.3 cy
GRAN. BKFL = 168 × 3.6 × 1/27 = 21.9 cy — CAB 11/14/96
DRW 10/01/97
NOT NEEDED CAB 11/20/97

BRAINTREE BES 01187(6)
DRAINAGE SHEET #1 OF 1
PLOTTED CAB 11/20/96

GIB

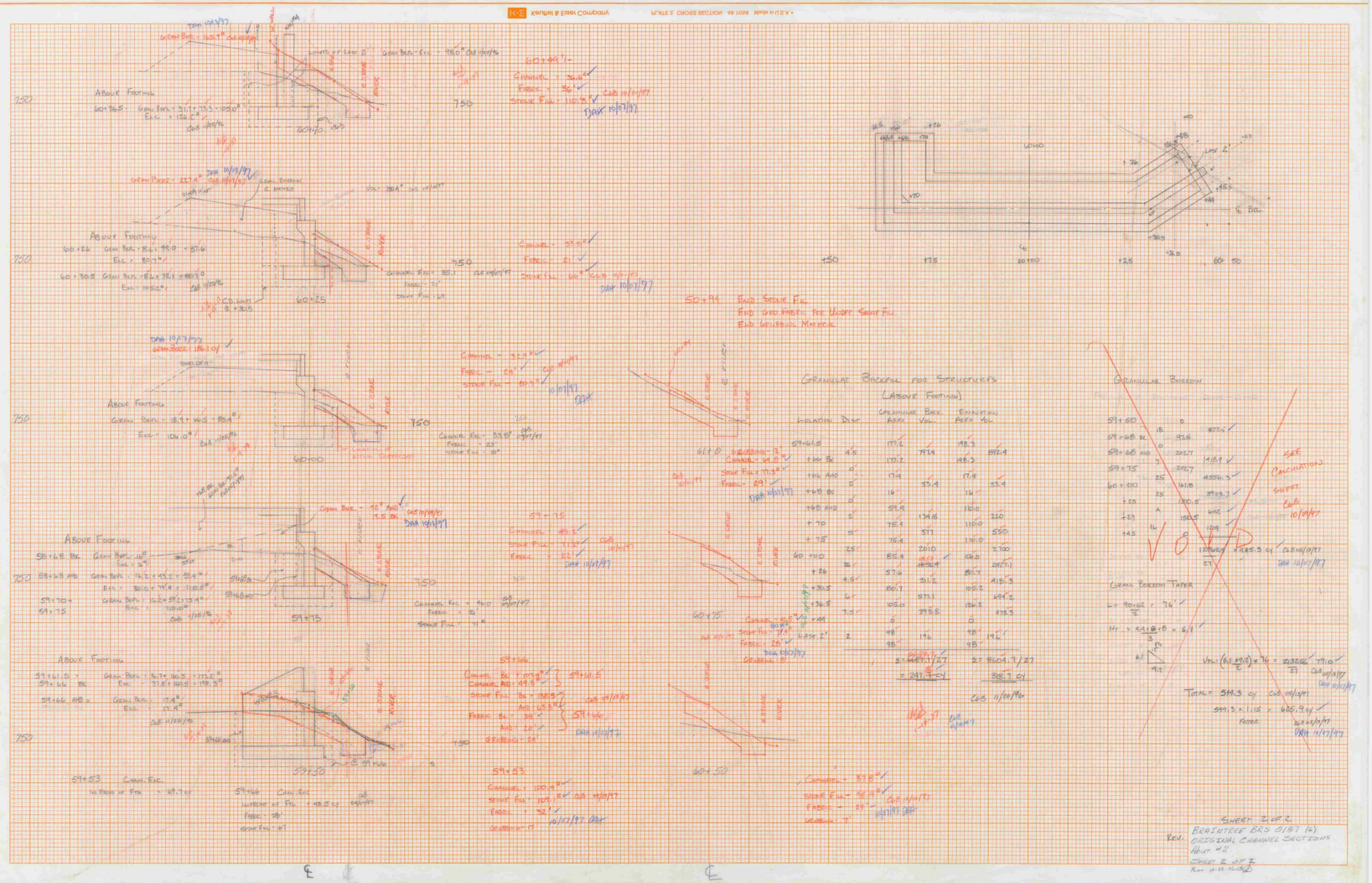
KERR KERR LAKE DIVERSION

KERR LAKE DIVERSION

KERR LAKE DIVERSION

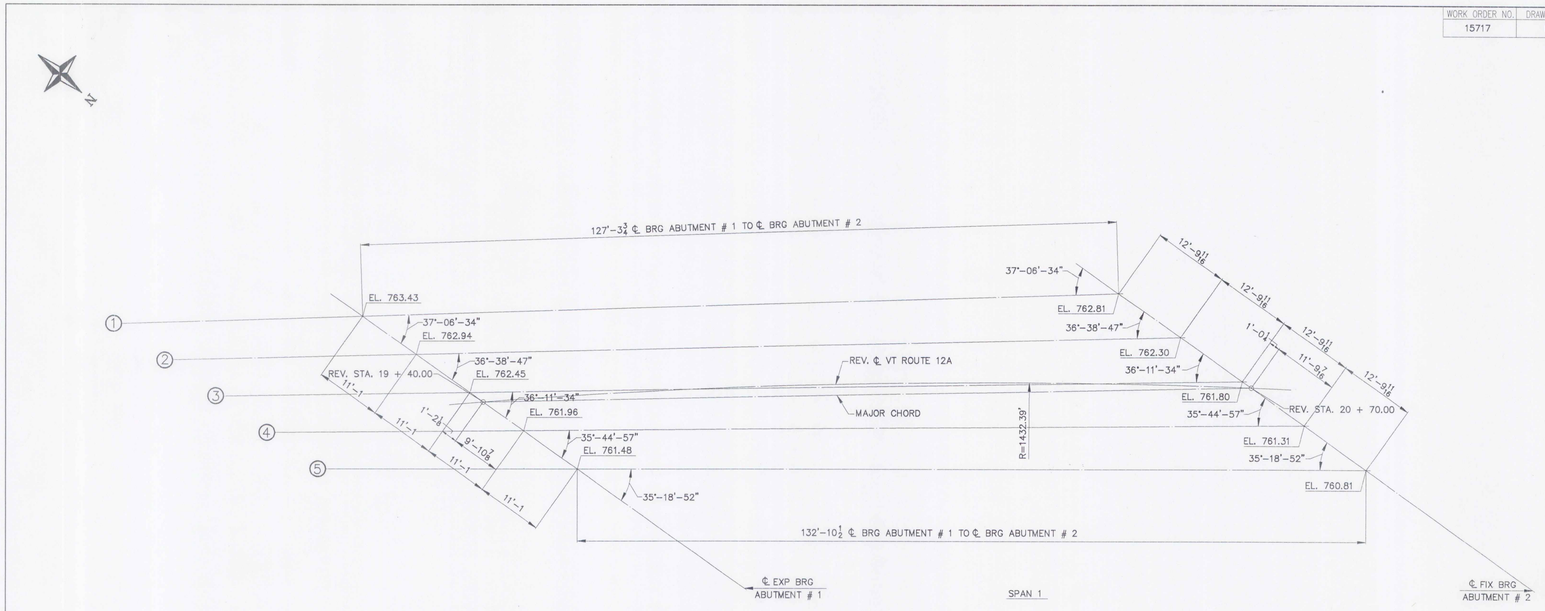
K·E KAUFFEL & ESSER COMPANY

TYPICAL CROSS SECTION OF ROAD MADE IN CUT


ABOVE FOOTING
GRADE BEAM - ELEC. - 980 CUB 10/6/97
GRADE BEAM - 18.9 + 66.5 = 85.4
ELEC. - 104.0
GRADE BEAM - 18.6 x 99.0 = 57.6
ELEC. - 80.7
GRADE BEAM - 18.6 x 78.1 = 68.1
ELEC. - 106.8
GRADE BEAM - 31.7 + 75.5 = 105.0
ELEC. - 126.2
GRADE BEAM - 18.6 x 99.0 = 57.6
ELEC. - 80.7

Keuffel & Esser Company
PLATE 3, CROSS SECTION 46 7058 Made in U.S.A.

WORK ORDER NO.	DRAWING NO.	REV.
15717	E1	



BRIDGE GEOMETRY

(FOR REFERENCE ONLY)

1- SHOP OFFICE
1- FIELD OFFICE
1- TOOL CRIB
1- SHED
1- WELDER - SHOP
1- PAINT BOOTH
2- PAD -

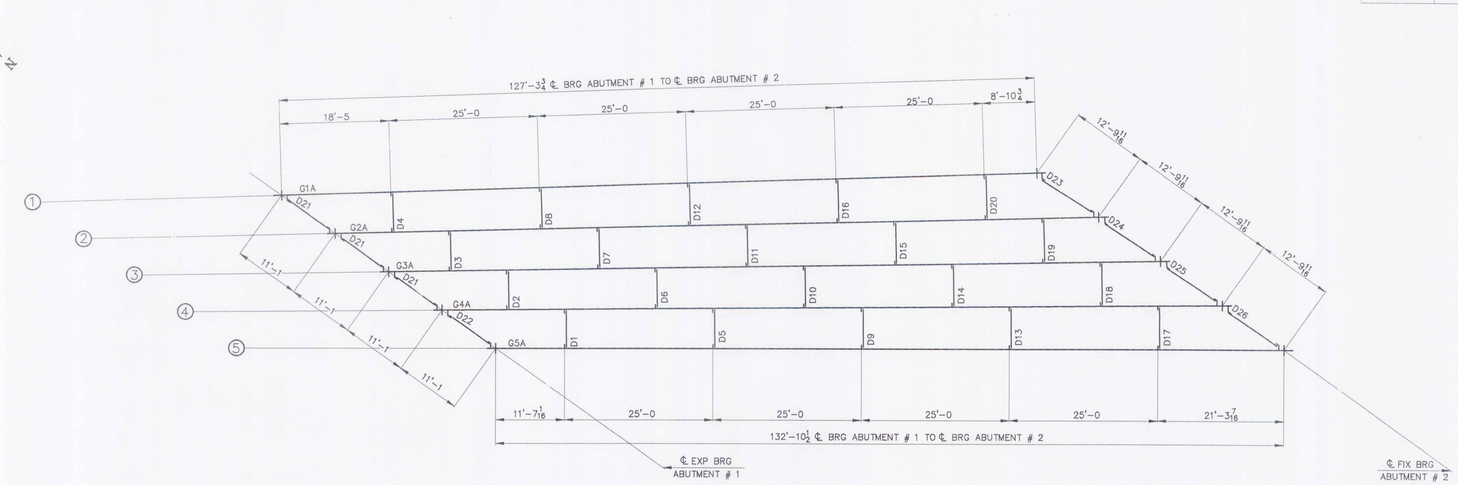
DWG. NO. 506.55 SHEET NO. 1 OF 1

NOTES

1. DIMENSIONS SHOWN ARE HORIZONTAL AND DO NOT REFLECT ANY CHANGE DUE TO GRADE.
2. ELEVATIONS ARE TO TOP OF CONCRETE PADS.

ITEM NO. 506.55	BRIDGE NO. 6		PROJ. NO. BRS 0187(6)
TITLE: BRIDGE GEOMETRY			
APPROVED: 11-25-96			
PRINT DIST.			National Eastern Corporation, Plainville, Connecticut
7	10/30/96	APPR.	
ORIG	12-2-96	FAB.	
ORIG	6-3-97	VAT	JOB: VT ROUTE 12A OVER 3RD BRANCH OF THE WHITE RIVER, BRAINTREE, VERMONT
			CUSTOMER: MILLER CONSTRUCTION, INC.
			DESIGNER: VERMONT AGENCY OF TRANSPORTATION
CHECKED	10/96	CSD	WORK ORDER NO. 15717 / DRAWING NO. E1 / REV.
DRAWN	10/96	CSD	

WORK ORDER NO.	DRAWING NO.	REV.
15717	E2	



SPAN 1

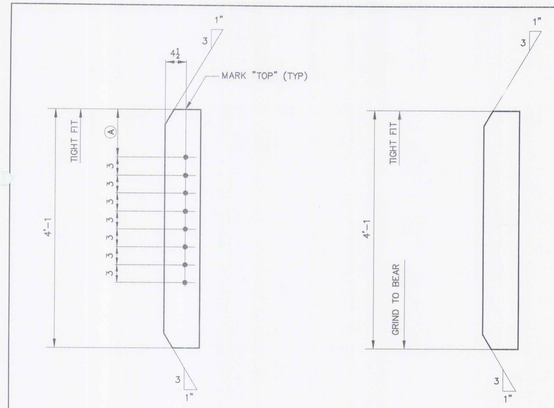
STEEL FRAMING PLAN

NOTES

1. DIMENSIONS SHOWN ARE HORIZONTAL AND DO NOT REFLECT ANY CHANGE DUE TO GRADE.
2. GIRDERS ARE 49" WELDED PLATE GIRDERS.
3. SEE SHEET E1 FOR BRIDGE LAYOUT.

ITEM NO. 506.55			BRIDGE NO. 6		PROJ. NO. BRS 0187(6)
TITLE: STEEL FRAMING PLAN					
APPROVED: 11-25-96			National Eastern Corporation, Plainville, Connecticut		
PRINT DIST.					
7	10/30/96	APPR.			
ORIG	12-1-96	FAB.			
01/0	6-2-97	VAT	JOB: VT ROUTE 12A OVER 3RD BRANCH OF THE WHITE RIVER BRAINTREE, VERMONT		
			CUSTOMER: MILLER CONSTRUCTION, INC.		
			DESIGNER: VERMONT AGENCY OF TRANSPORTATION		
			WORK ORDER NO.	DRAWING NO.	REV.
CHECKED	10/96	CSD	15717	E2	
DRAWN	10/96	CSD			

WORK ORDER NO.	DRAWING NO.	REV.
15717	10-1	



ℝ ½ x 7 x 4'-1 (3/3)

CONNECTION PLATES

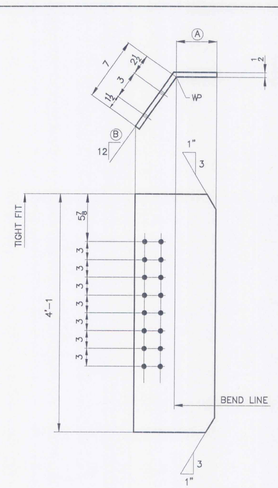
STPINT

NO. REQ'D.	MARK	Ⓐ
20	sf1	9
4	sf2	1'-3 11/16
4	sf3	1'-3
4	sf4	1'-2 3/8
4	sf5	1'-1 5/8
4	sf6	1'-0 7/8

ℝ 7/8 x 9½ x 4'-1 (3/2)

20 ~ BRG STIFF ~ bs1

STFBRG

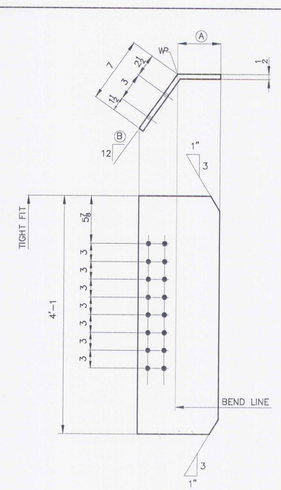


ℝ ½ x 49 x Ⓒ (3/4)

BENT PLATES

NO. REQ'D.	MARK	Ⓐ	Ⓑ	Ⓒ
1	bp1	4 3/8	9 1/16	0'-11 7/8
2	bp2	4 13/16	8 13/16	0'-11 13/16
2	bp3	4 3/4	8 3/4	0'-11 3/4
2	bp4	4 11/16	8 5/8	0'-11 11/16
1	bp5	4 5/8	8 1/2	0'-11 5/8

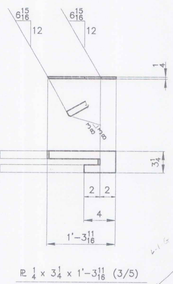
STFBNT



ℝ ½ x 49 x Ⓒ (3/4)

BENT PLATES

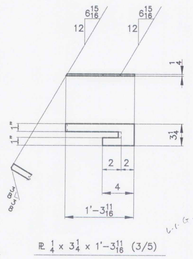
NO. REQ'D.	MARK	Ⓐ	Ⓑ	Ⓒ
1	bp6	4 3/8	9 1/16	0'-11 7/8
2	bp7	4 13/16	8 13/16	0'-11 13/16
2	bp8	4 3/4	8 3/4	0'-11 3/4
2	bp9	4 11/16	8 5/8	0'-11 11/16
1	bp10	4 5/8	8 1/2	0'-11 5/8



ℝ ¼ x 3½ x 1'-3 11/16 (3/5)

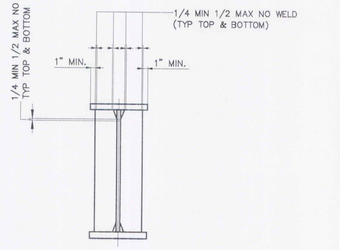
DRPBAR

ONE ~ DRIP PLATE ~ dp1



ℝ ¼ x 3½ x 1'-3 11/16 (3/5)

ONE ~ DRIP PLATE ~ dp2



TYP WELD TERMINATION DETAIL

PAINT SYSTEM SHALL BE AMERON
PRIMER: 9HS GREEN 3-4 MILS
INTERMEDIATE: 385 BR-4 SAND 4-6 MILS
TOP: 450HS DARK BROWN 2-3 MILS (595-20059)

NP3 DENOTES SURFACES WITH NO PAINT WITHIN 3" OF OPEN HOLES.

NP DENOTES NO PAINT

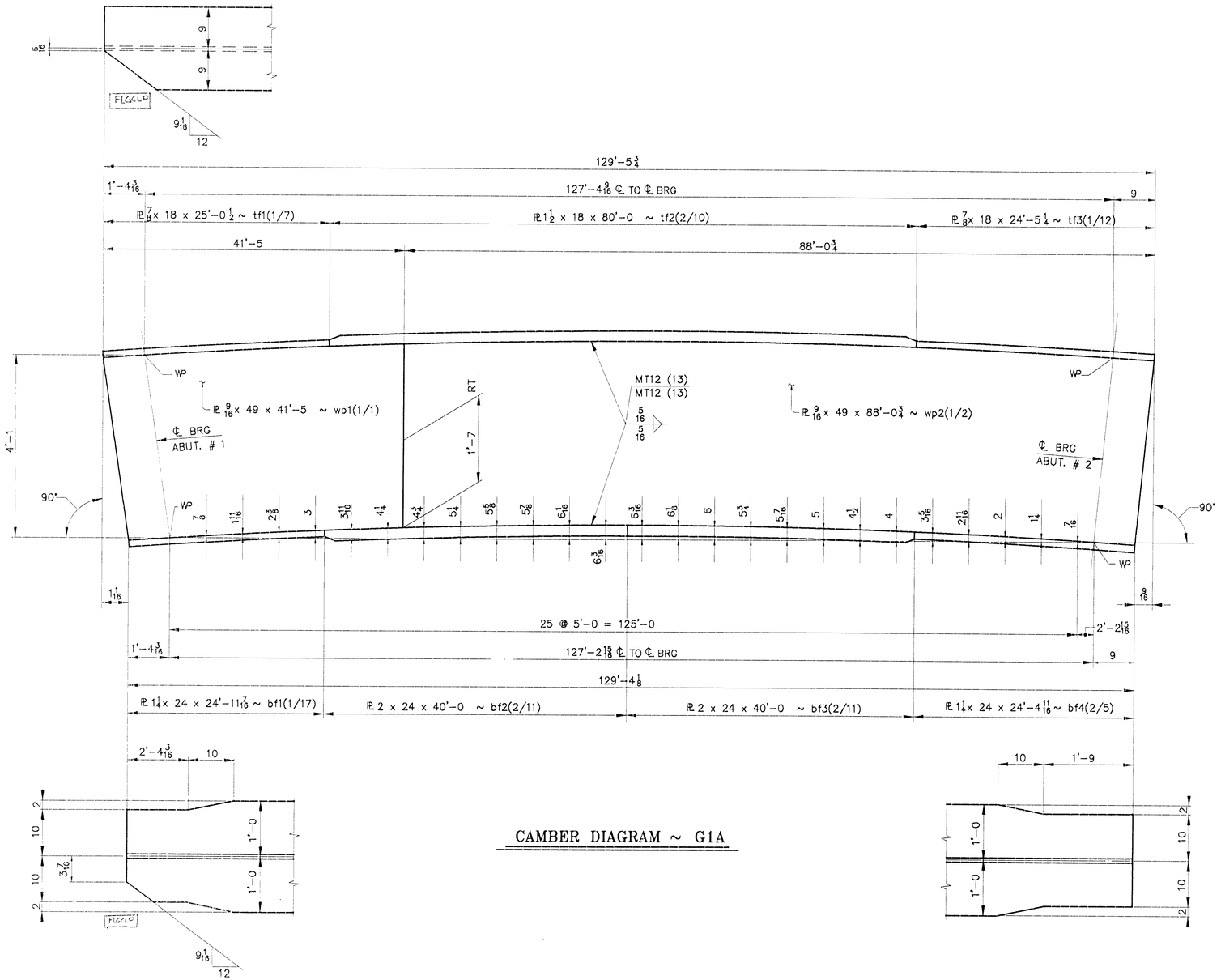
LP DENOTES LIGHT RUST PREVENTIVE COAT OF PRIMER ONLY (.5 – 1.5 MILS)

NOTES:

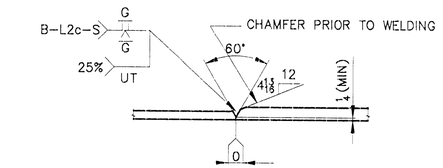
1. ALL HOLES SHALL BE 15/16 Φ .
2. ALL MATERIAL SHALL BE A709 GR 50W.

ITEM NO. 506.55	BR. NO. 6	PROJ. NO. BRS 0187(6)	
TITLE: GIRDER STANDARDS			
APPROVED: 11-25-96		National Eastern Corporation, Plainville, Connecticut	
PRINT DIST.			
7 10/30/96 APPR.			
ORIG 12-2-96 FAB.			
7 12-2-96 APPR		JOB: VT ROUTE 12A OVER 3RD BRANCH OF THE WHITE RIVER BRAINTREE, VERMONT	
OK/G 6-1-9 VAT			
		CUSTOMER: MILLER CONSTRUCTION, INC.	
		DESIGNER: VERMONT AGENCY OF TRANSPORTATION	
		WORK ORDER NO. 15717	DRAWING NO. 10-1
CHECKED 10/96 CSD			
DRAWN 10/96 CSD			

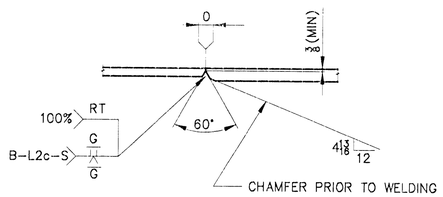
WORK ORDER NO.	DRAWING NO.	REV.
15717	10-2	



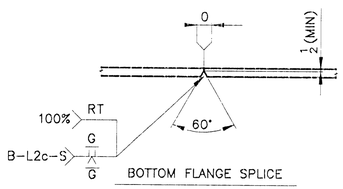
CAMBER DIAGRAM ~ G1A



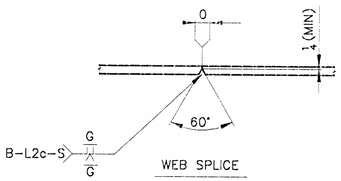
TOP FLANGE SPLICE



BOTTOM FLANGE SPLICE



BOTTOM FLANGE SPLICE



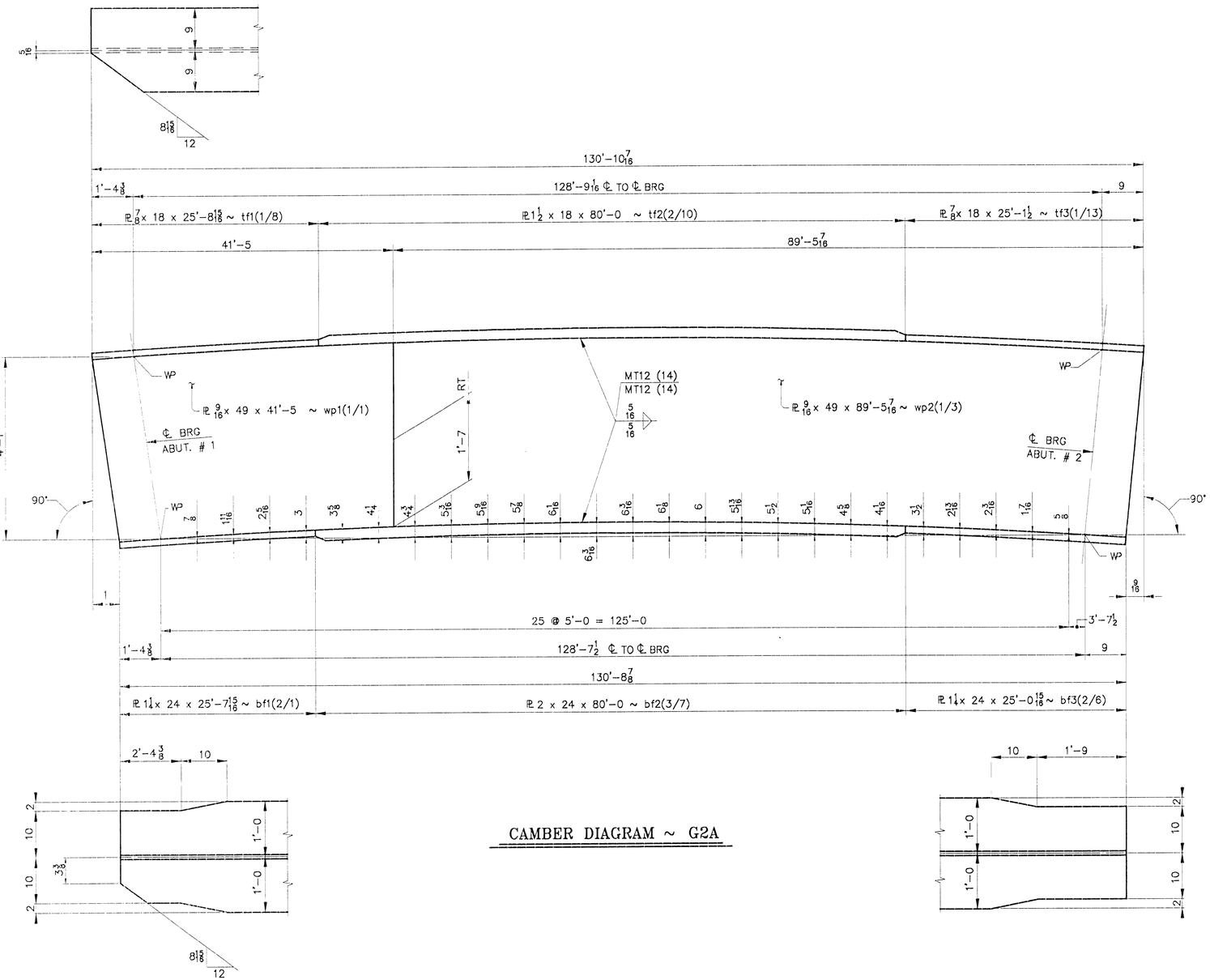
WEB SPLICE

NOTES

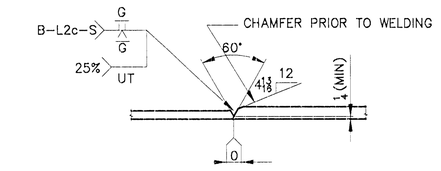
1. ALL MATERIAL SHALL CONFORM TO A709 GR 50W T2.

ITEM NO. 506.55			BR. NO. 6	PROJ. NO. BRS 0187(6)
TITLE: CAMBER DIAGRAM ~ G1A				
APPROVED: 11-25-96			National Eastern Corporation, Plainville, Connecticut	
PRINT DIST.				
7	10/30/96	APPR.		
ORIG	12-2-96	FAB.		
ORIG.	6-2-97	VMT	JOB: VT ROUTE 12A OVER 3RD BRANCH OF THE WHITE RIVER, BRAINTREE, VERMONT	
			CUSTOMER: MILLER CONSTRUCTION, INC.	
			DESIGNER: VERMONT AGENCY OF TRANSPORTATION	
CHECKED	10/96	CSD	WORK ORDER NO. 15717	DRAWING NO. 10-2
DRAWN	10/96	CSD		

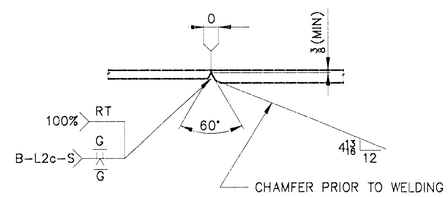
WORK ORDER NO.	DRAWING NO.	REV.
15717	10-3	



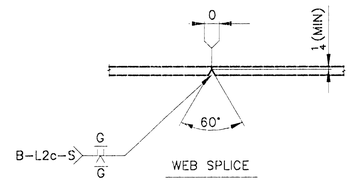
CAMBER DIAGRAM ~ G2A



TOP FLANGE SPLICE



BOTTOM FLANGE SPLICE



WEB SPLICE

NOTES

1. ALL MATERIAL SHALL CONFORM TO A709 GR 50W T2.

ITEM NO. 506.55		BR. NO. 6	PROJ. NO. BRS 0187(6)
TITLE:		CAMBER DIAGRAM ~ G2A	
APPROVED: 11-25-96			
PRINT DIST.			
7	10/10/96	APPR.	
ORIG	12-2-96	FAB.	
0216	6-2-97	VAT	

National Eastern Corporation
Plainville, Connecticut

JOB: VT ROUTE 12A OVER 3RD BRANCH OF THE WHITE RIVER
BRAINTREE, VERMONT

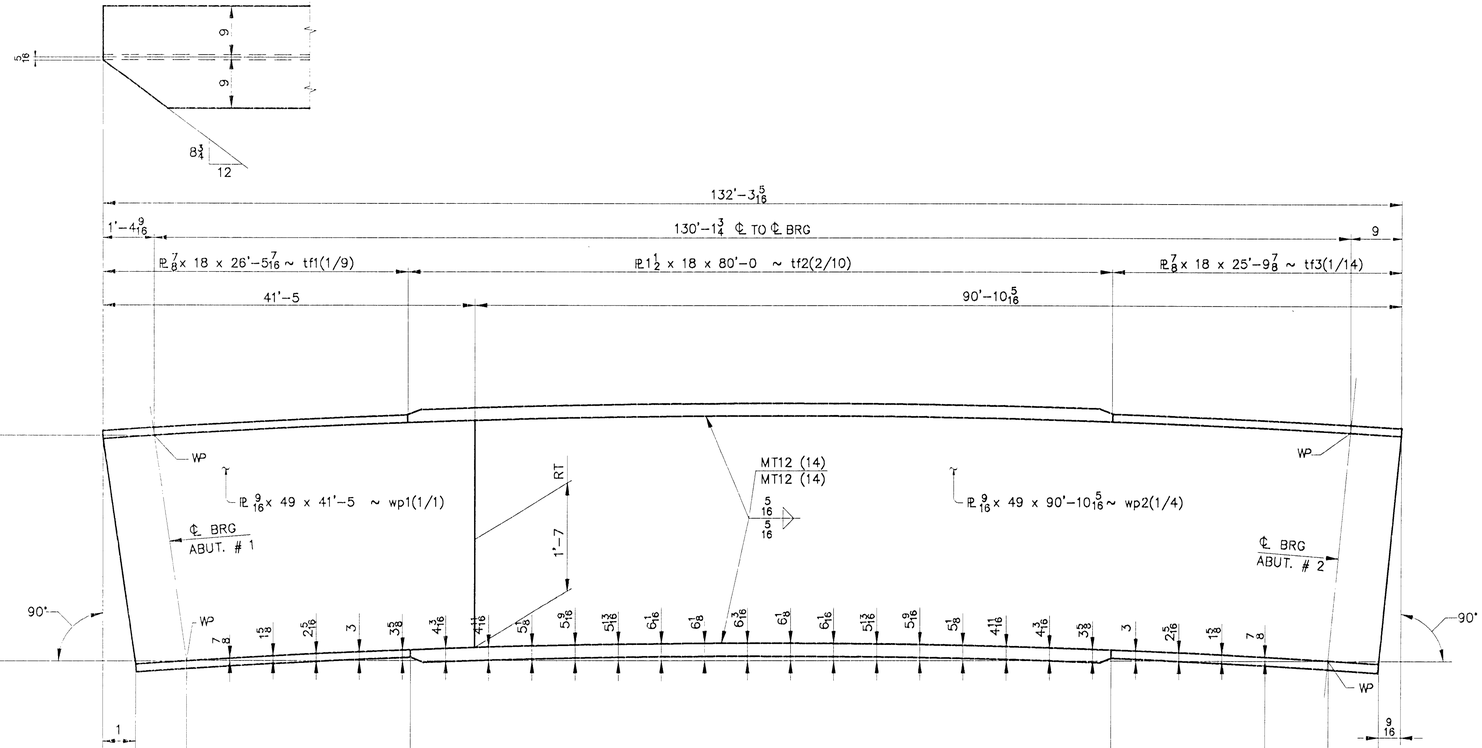
CUSTOMER: MILLER CONSTRUCTION, INC.

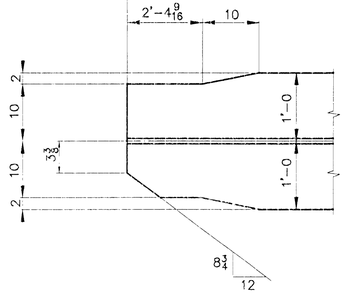
DESIGNER: VERMONT AGENCY OF TRANSPORTATION

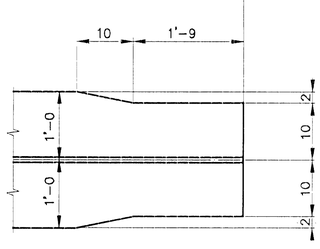
CHECKED	10/96	CSD
DRAWN	10/96	CSD

WORK ORDER NO.	DRAWING NO.	REV.
15717	10-3	

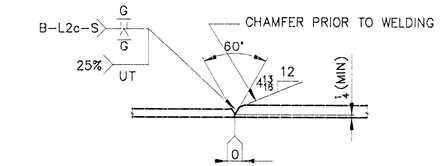
WORK ORDER NO.	DRAWING NO.	REV.
15717	10-4	



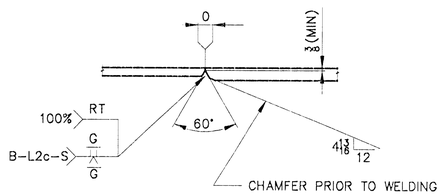




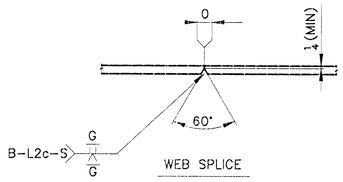
CAMBER DIAGRAM ~ G3A



TOP FLANGE SPLICE



BOTTOM FLANGE SPLICE



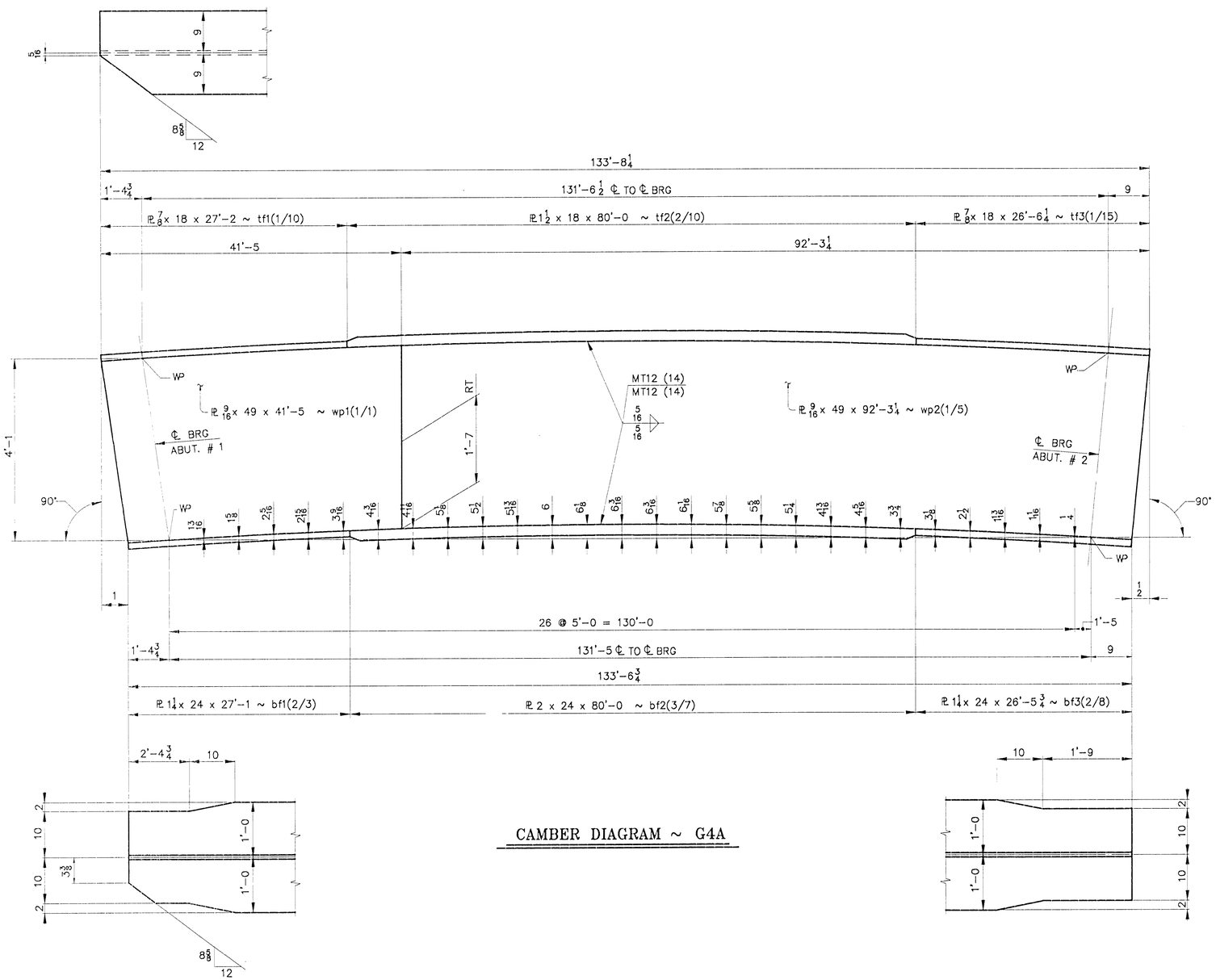
WEB SPLICE

NOTES

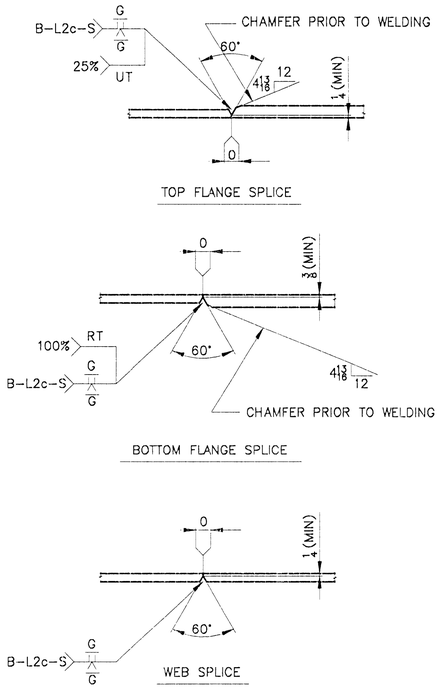
1. ALL MATERIAL SHALL CONFORM TO A709 GR 50W T2.

ITEM NO. 506.55			BR. NO. 6	PROJ. NO. BRS 0187(6)
TITLE: CAMBER DIAGRAM ~ G3A				
APPROVED: 11-25-96			National Eastern Corporation, Plainville, Connecticut	
PRINT DIST.				
7	10/30/96	APPR.		
ORIG	11-2-96	FAB.		
ORIG	6-2-92	VAT	JOB: VT ROUTE 12A OVER 3RD BRANCH OF THE WHITE RIVER BRAINTREE, VERMONT	
			CUSTOMER: MILLER CONSTRUCTION, INC.	
			DESIGNER: VERMONT AGENCY OF TRANSPORTATION	
CHECKED	10/96	CSD	WORK ORDER NO. 15717	DRAWING NO. 10-4 / REV.
DRAWN	10/96	CSD		

WORK ORDER NO.	DRAWING NO.	REV.
15717	10-5	



CAMBER DIAGRAM ~ G4A



NOTES

1. ALL MATERIAL SHALL CONFORM TO A709 GR 50W T2.

ITEM NO. 506.55	BR. NO. 6	PROJ. NO. BRS 0187(6)	
TITLE: CAMBER DIAGRAM ~ G4A			
APPROVED: 11-25-96			
PRINT DIST.			
7	10/30/96	APPR.	
ORIG	12-2-96	FAB.	
ORIG	6-2-97	VAT	
CHECKED	10/96	CSD	
DRAWN	10/96	CSD	

National Eastern Corporation
Plainville, Connecticut

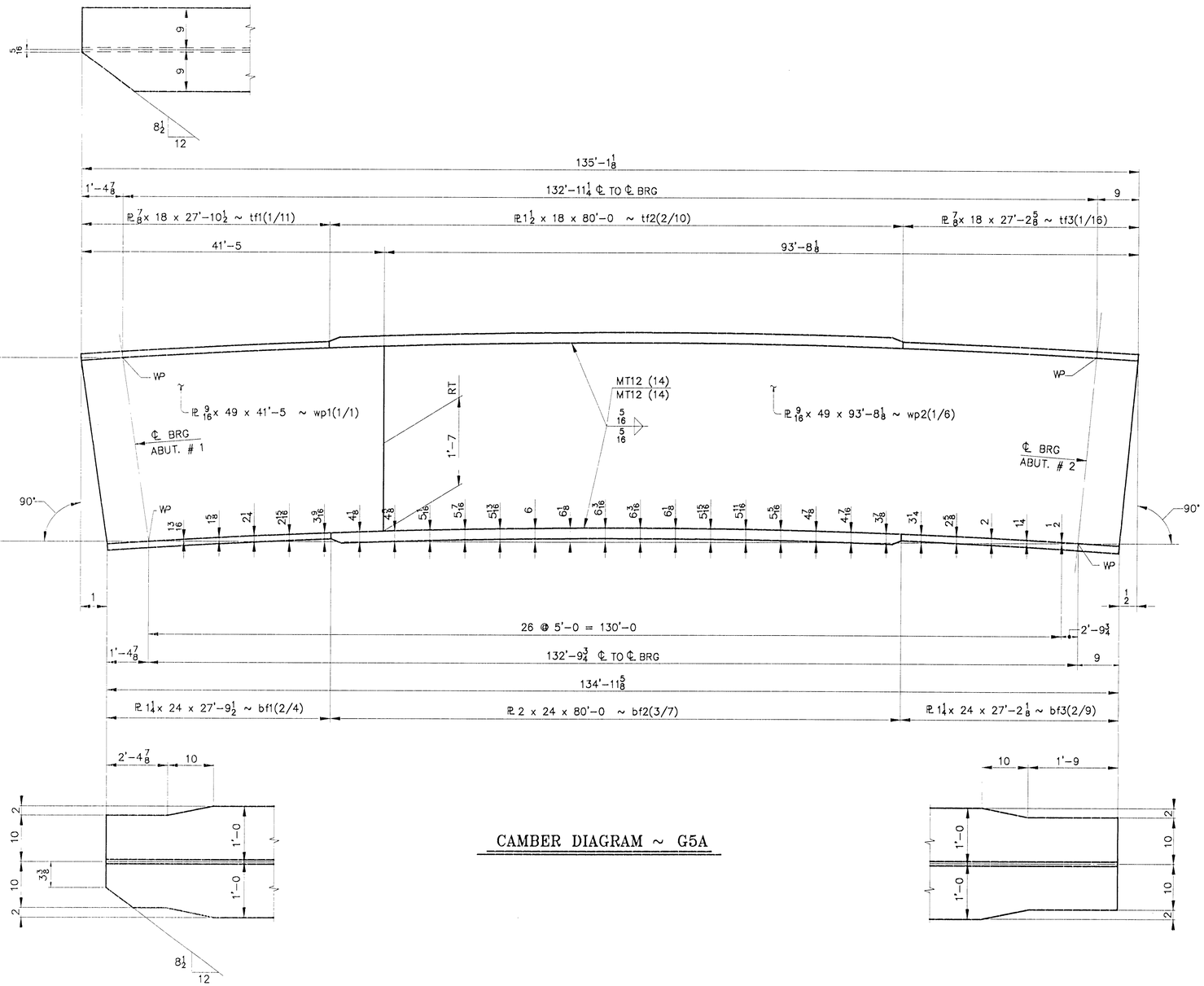
JOB: VT ROUTE 12A OVER 3RD BRANCH OF THE WHITE RIVER BRAINTREE, VERMONT

CUSTOMER: MILLER CONSTRUCTION, INC.

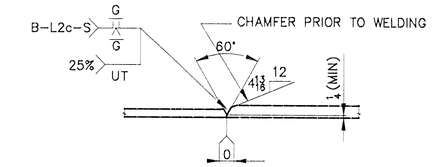
DESIGNER: VERMONT AGENCY OF TRANSPORTATION

WORK ORDER NO.	DRAWING NO.	REV.
15717	10-5	

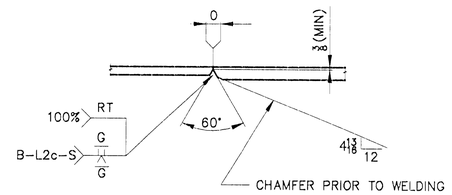
WORK ORDER NO.	DRAWING NO.	REV.
15717	10-6	



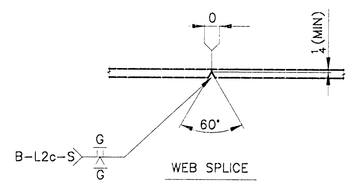
CAMBER DIAGRAM ~ G5A



TOP FLANGE SPLICE



BOTTOM FLANGE SPLICE



WEB SPLICE

NOTES

1. ALL MATERIAL SHALL CONFORM TO A709 GR 50W T2.

ITEM NO. 506.55		BR. NO. 6	PROJ. NO. BRS 0187(6)
TITLE: CAMBER DIAGRAM ~ G5A			
APPROVED: 11-25-96			
PRINT DIST.			
7	10/29/96	APPR.	
ORIG	12-2-96	FAB.	
CHG 1	6-2-97	VAT	
CHECKED	10/96	(CSD)	
DRAWN	10/96	CSD	

National Eastern Corporation
Plainville, Connecticut

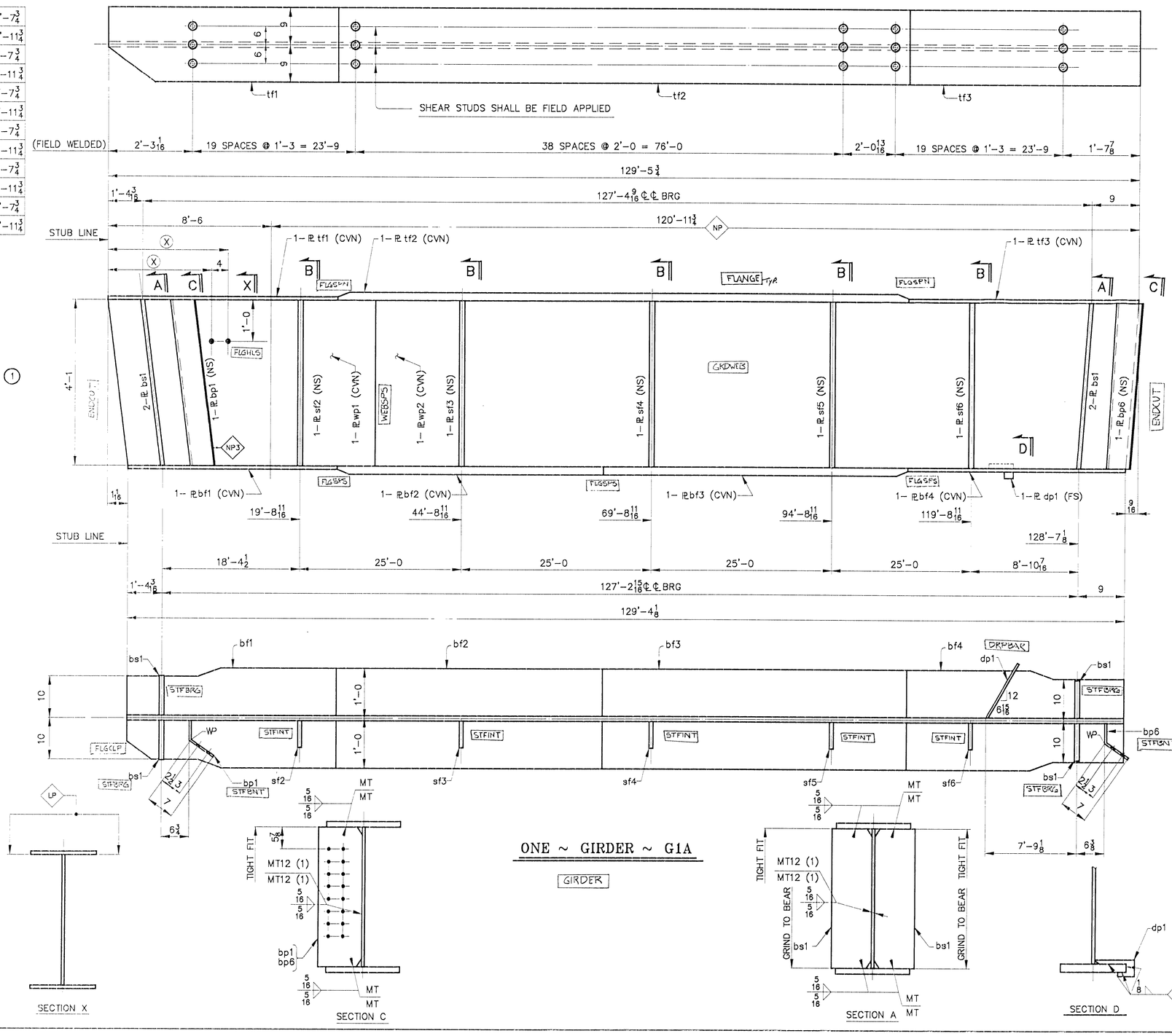
JOB: VT ROUTE 12A OVER 3RD BRANCH OF THE WHITE RIVER
BRAINTREE, VERMONT

CUSTOMER: MILLER CONSTRUCTION, INC.

DESIGNER: VERMONT AGENCY OF TRANSPORTATION

WORK ORDER NO.	DRAWING NO.	REV.
15717	10-6	

X	
2'–4¼	107'–7¾
2'–8¼	107'–11¾
6'–4¼	111'–7¾
6'–8¼	111'–11¾
10'–4¼	115'–7¾
10'–8¼	115'–11¾
14'–4¼	117'–7¾
14'–8¼	117'–11¾
17'–7¾	121'–7¾
17'–11¾	121'–11¾
21'–7¾	125'–7¾
21'–11¾	125'–11¾
25'–7¾	
25'–11¾	
29'–7¾	
29'–11¾	
33'–7¾	
33'–11¾	
37'–7¾	
37'–11¾	
41'–7¾	
41'–11¾	
45'–7¾	
45'–11¾	
49'–7¾	
49'–11¾	
53'–7¾	
53'–11¾	
57'–7¾	
57'–11¾	
61'–7¾	
61'–11¾	
65'–7¾	
65'–11¾	
67'–7¾	
67'–11¾	
71'–7¾	
71'–11¾	
75'–7¾	
75'–11¾	
79'–7¾	
79'–11¾	
83'–7¾	
83'–11¾	
87'–7¾	
87'–11¾	
91'–7¾	
91'–11¾	
95'–7¾	
95'–11¾	
99'–7¾	
99'–11¾	
103'–7¾	
103'–11¾	

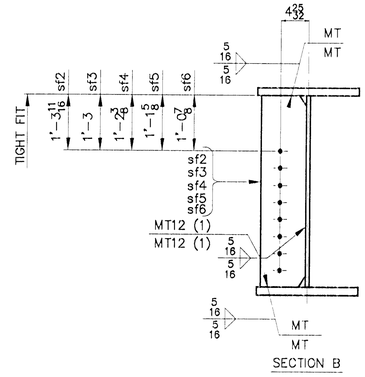


ONE ~ GIRDER ~ G1A

GIRDER

SHIP MARK	NO.	MARK	SHAPE	LENGTH		ITEM NO.	WT.	REMARKS
G1A	ONE		GIRDER					
G1-1	1	wp1	PL 9/16 x 49	41	5	1/1		(CVN)
	1	wp2	PL 9/16 x 49	88	0 3/4	1/2	12137	(CVN)
G1-1A	1	tf1	PL 7/8 x 18	25	0 1/2	2/7	1342	(CVN)
	1	tf2	PL 1 1/2 x 18	80	0	2/10	7350	(CVN)
	1	tf3	PL 7/8 x 18	24	5 1/4	1/12	1310	(CVN)
G1-B	1	bf1	PL 1 1/4 x 24	24	11 7/8	1/17	2547	(CVN)
	1	bf2	PL 2 x 24	40	0	2/11	6533	(CVN)
	1	bf3	PL 2 x 24	40	0	2/11	6533	(CVN)
	1	bf4	PL 1 1/4 x 24	24	4 11/16	2/5	2490	(CVN)
G1-C	4	bs1	PL 7/8 x 9 1/2	4	1	3/2	462	F2E
G1-D	1	sf2	PL 1/2 x 7	4	1	3/3	49	F1E
	1	sf3	PL 1/2 x 7	4	1	3/3	49	F1E
	1	sf4	PL 1/2 x 7	4	1	3/3	49	F1E
	1	sf5	PL 1/2 x 7	4	1	3/3	49	F1E
	1	sf6	PL 1/2 x 7	4	1	3/3	49	F1E
G1-G	1	db1	PL 1/4 x 3 1/4	1	3 1/16	3/5	4	
G1-F	1	bp1	PL 1/2 x 49	0	11 7/8	3/4	82	F1E (BENT)
	1	bp6	PL 1/2 x 49	0	11 7/8	3/4	82	F1E (BENT)

4117#



SECTION B

NOTES

1. FOR CAMBER DIAGRAM SEE DRAWING 10–2.
2. FOR GIRDER STANDARD DETAILS SEE DRAWING 10–1.
3. (CVN) DENOTES CHARPY TEST REQUIRED.

STEEL: ASTM	☐ A36	☐ A572 GR.	☒ A709 GR. 50W	☐ Unless Noted		
WELDING ELECTRODE:	☐ E70	☒ See Welding Proc.	☐ None			
HOLES:	☐ 13/16	☒ 15/16	☐ 1–1/16	☒ Unless Noted	☐ As Noted	☐ None
PAINT:	☐ None	☒ Shop Coat	☐ Galv. After Fab.	☒ Unless Noted		
SPECIAL PAINT:	SEE SHEET 10–1					
SPECIAL CLEANING:	☒ Blast Clean SSPC SP10		☐ None			

ITEM NO. 506.55	BRIDGE NO. 6	PROJ. NO.	BRS 0187(6)

TITLE: GIRDER ~ G1A

	PRINT DIST.		
APPROVED: 11-25-96			
7	10/30/96	APPR.	
ORIG	12-2-96	FAB.	
0216	6-1-97	KNT	

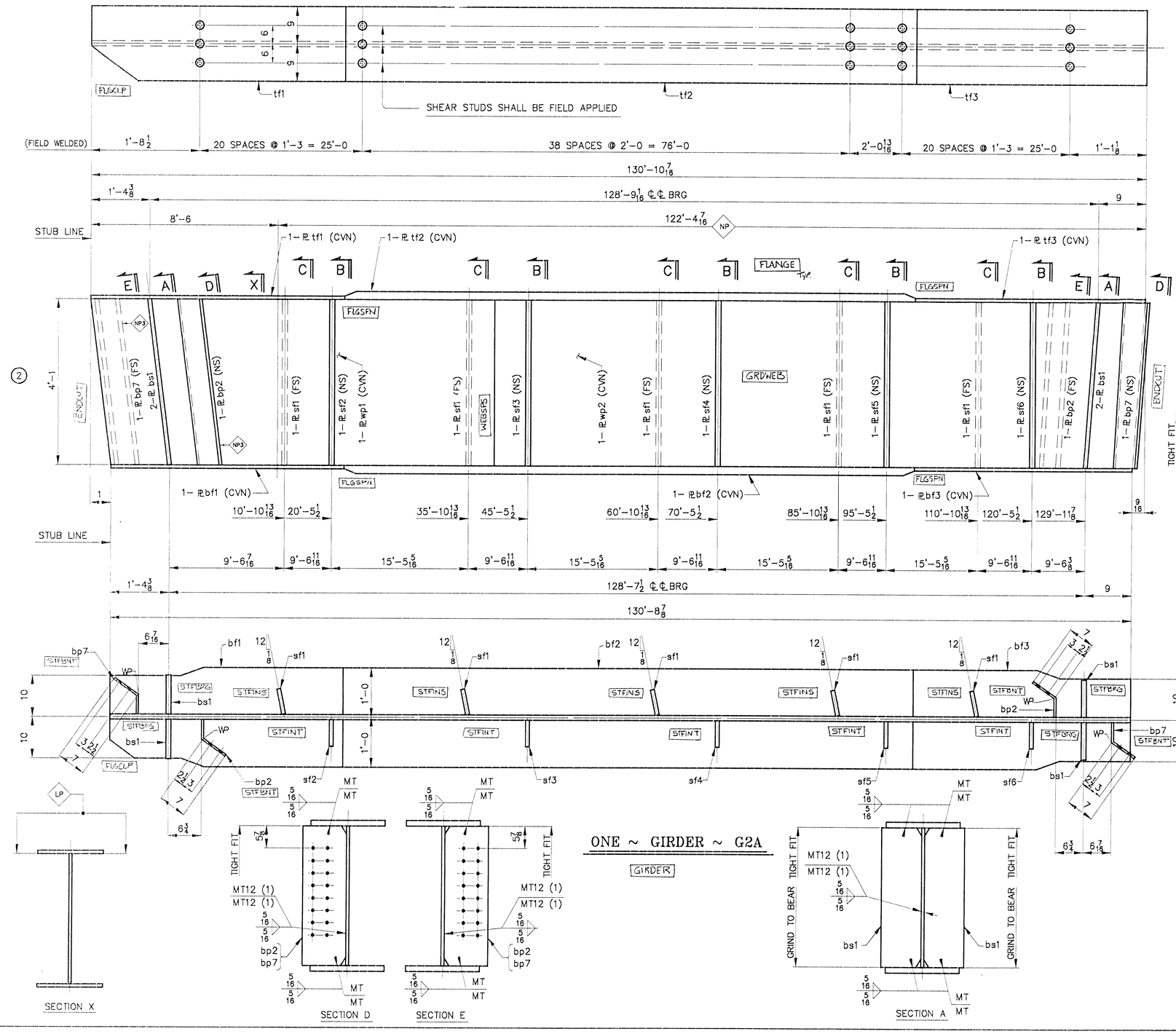
National Eastern Corporation
Plainville, Connecticut

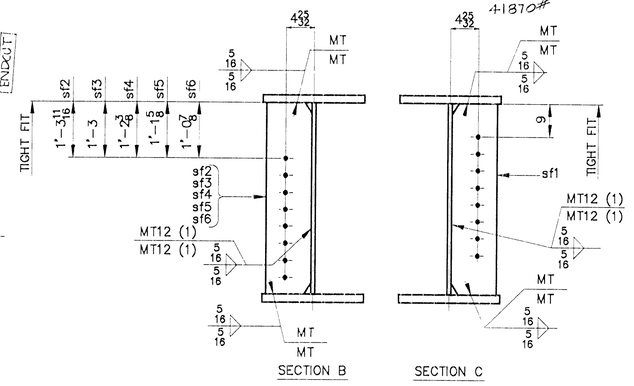
JOB: VT ROUTE 12A OVER 3RD BRANCH OF THE WHITE RIVER
BRAINTREE, VERMONT

CUSTOMER: MILLER CONSTRUCTION, INC.

DESIGNER: VERMONT AGENCY OF TRANSPORTATION

			WORK ORDER NO.	DRAWING NO.	REV.
CHECKED	10/96	CSD	15717	10–7	
DRAWN	10/96	CSD			





+1870#

SHIP MARK	NO.	MARK	SHAPE	LENGTH	ITEM NO.	WT.	REMARKS
G2A	ONE		GIRDER				
LOT-1	1	wp1	PL 9/16 x 49	41 5	1/1		(CVN)
	1	wp2	PL 9/16 x 49	89 5 7/16	1/3	12268	(CVN)
L-1-A	1	tf1	PL 7/8 x 18	25 8 15/16	5/16 1/8	1380	(CVN)
	1	tf2	PL 1 1/2 x 18	80 0	5/8 2/10	7350	(CVN)
	1	tf3	PL 7/8 x 18	25 1 1/2	5/16 1/13	1347	(CVN)
L-1-C	1	bf1	PL 1 1/4 x 24	25 7 15/16	5/8 2/1	2620	(CVN)
	1	bf2	PL 2 x 24	80 0	5/16 3/7	13067	(CVN)
	1	bf3	PL 1 1/4 x 24	25 0 15/16	5/16 2/6	2560	(CVN)
L-1-E	4	bs1	PL 7/8 x 9 1/2	4 1	3/2	162	F2E
L-1-D	5	sf1	PL 1/2 x 7	4 1	3/3	243	F1E
	1	sf2	PL 1/2 x 7	4 1	3/3	49	F1E
	1	sf3	PL 1/2 x 7	4 1	3/3	49	F1E
	1	sf4	PL 1/2 x 7	4 1	3/3	49	F1E
	1	sf5	PL 1/2 x 7	4 1	3/3	49	F1E
	1	sf6	PL 1/2 x 7	4 1	3/3	49	F1E
L-1-F	2	bp2	PL 1/2 x 49	0 11 13/16	3/4	164	F1E (BENT)
	2	bp7	PL 1/2 x 49	0 11 13/16	3/4	164	F1E (BENT)

NOTES

1. FOR CAMBER DIAGRAM SEE DRAWING 10-3.
2. FOR GIRDER STANDARD DETAILS SEE DRAWNG 10-1.
3. (CVN) DENOTES CHARPY TEST REQUIRED.

STEEL: ASTM	A36	A572 GR.	X A709 GR. 50W	Unless Noted	
WELDING ELECTRODE:	E70	X See Welding Proc.		None	
HOLES:	13/16	X 15/16	1-1/16	X Unless Noted	As Noted None
PAINT:	None	X Shop Coat		Galv. After Fab.	X Unless Noted
SPECIAL PAINT: SEE SHEET 10-1					
SPECIAL CLEANING:	X Blast Clean SSPC SP10		None		

ITEM NO. 506.55 | BRIDGE NO. 6 | PROJ. NO. BRS 0187(6)

TITLE: GIRDER ~ G2A

APPROVED: 11-25-96		
PRINT DIST.		
7	10/30/96	APPR.
ORIG	12-2-96	FAB.
ORIG	6-2-97	VAT

National Eastern Corporation
Plainville, Connecticut

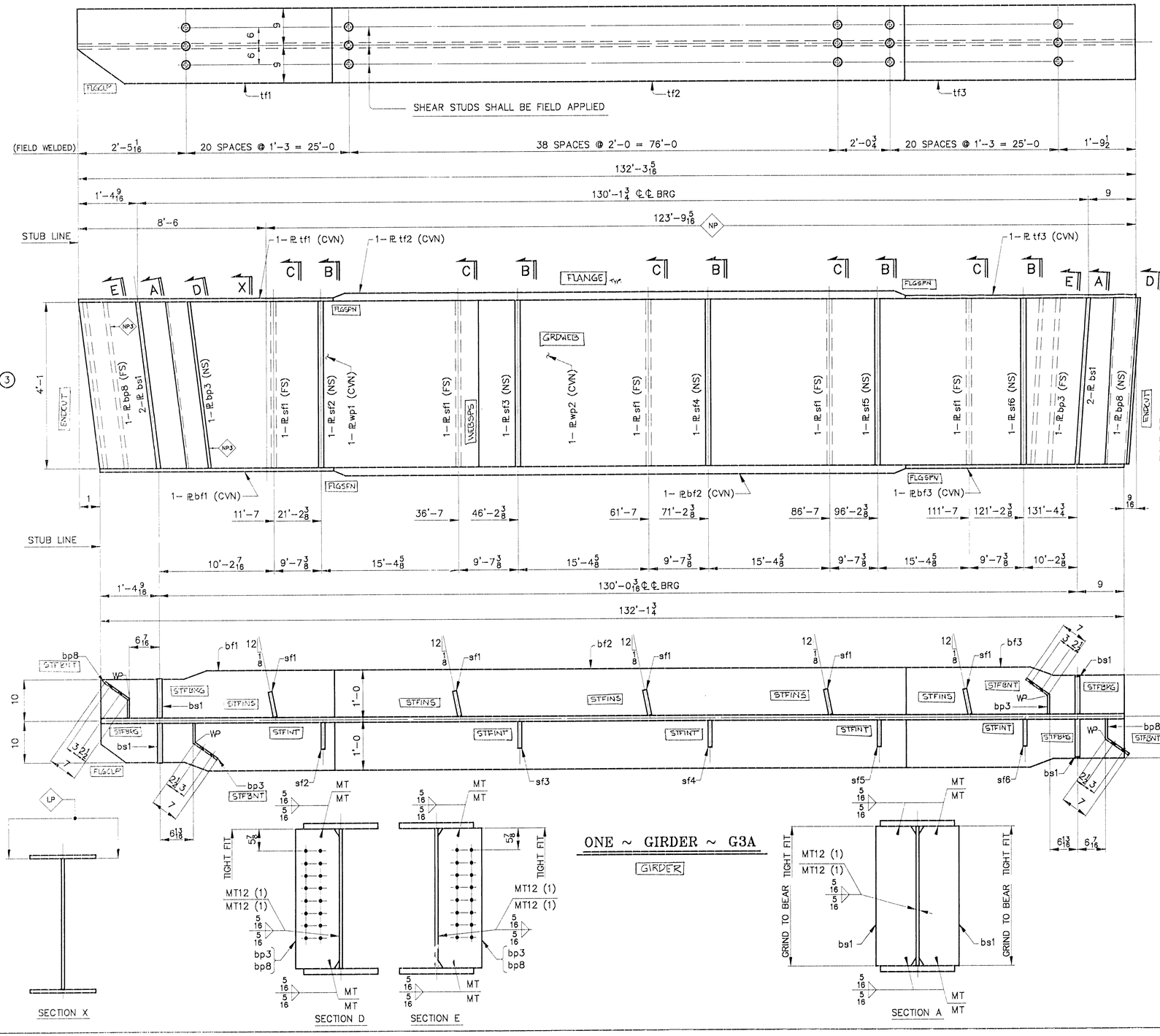
JOB: VT ROUTE 12A OVER 3RD BRANCH OF THE WHITE RIVER
BRAINTREE, VERMONT

CUSTOMER: MILLER CONSTRUCTION, INC.

DESIGNER: VERMONT AGENCY OF TRANSPORTATION

CHECKED	10/96	CSD
DRAWN	10/96	CSD

WORK ORDER NO.	DRAWING NO.	REV.
15717	10-8	



SHIP MARK	NO.	MARK	SHAPE	LENGTH	ITEM NO.	WT.	REMARKS
G3A	ONE		GIRDER				
LOT-1	1	wp1	PL 3/16 x 49	41 5	1/1		(CVN)
SHT.	1	wp2	PL 9/16 x 49	90 10 5/16	1/4	12400	(CVN)
L-1-M	1	tf1	PL 7/8 x 18	26 5 1/16	5-1/2 / 1/9	1418	(CVN)
	1	tf2	PL 1 1/2 x 18	80 0	5-1/2 / 2/10	7350	(CVN)
	1	tf3	PL 7/8 x 18	25 9 7/8	5-1/2 / 1/14	1384	(CVN)
L-1-C	1	bf1	PL 1 1/4 x 24	26 4 7/16	5-1/2 / 2/2	2692	(CVN)
	1	bf2	PL 2 x 24	80 0	5-1/2 / 3/7	13067	(CVN)
CHD	1	bf3	PL 1 1/4 x 24	25 9 5/16	5-1/2 / 2/7	2631	(CVN)
L-1-E	4	bs1	PL 7/8 x 9 1/2	4 1	3/2	162	F2E
L-1-D	5	sf1	PL 1/2 x 7	4 1	3/3	243	F1E
	1	sf2	PL 1/2 x 7	4 1	3/3	49	F1E
	1	sf3	PL 1/2 x 7	4 1	3/3	49	F1E
	1	sf4	PL 1/2 x 7	4 1	3/3	49	F1E
	1	sf5	PL 1/2 x 7	4 1	3/3	49	F1E
SHD	1	sf6	PL 1/2 x 7	4 1	3/3	49	F1E
L-1-F	2	bp8	PL 1/2 x 49	0 11 3/4	3/4	163	F1E (BENT)
SHT.	2	bp3	PL 1/2 x 49	0 11 3/4	3/4	163	F1E (BENT)

422 18#

NOTES

1. FOR CAMBER DIAGRAM SEE DRAWING 10-4.
2. FOR GIRDER STANDARD DETAILS SEE DRAWING 10-1.
3. (CVN) DENOTES CHARPY TEST REQUIRED.

ONE ~ GIRDER ~ G3A

GIRDER

STEEL: ASTM	AASHTO M270	A572 GR.	X A709 GR. 50W	Unless Noted	
WELDING ELECTRODE:	E70	X See Welding Proc.		None	
HOLES:	13/16	X 15/16	1-1/16	X Unless Noted	As Noted None
PAINT:	None	X Shop Coat		Galv. After Fab.	X Unless Noted
SPECIAL PAINT: SEE SHEET 10-1					
SPECIAL CLEANING:	X Blast Clean SSPC SP10		None		

ITEM NO. 506.55 | BRIDGE NO. 6 | PROJ. NO. BRS 0187(6)

TITLE: GIRDER ~ G3A

APPROVED: 11-25-96		
PRINT DIST.		
7	10/30/96	APPR.
ORIG	12-2-96	FAB.
01216	6-2-97	VHT

National Eastern Corporation
Plainville, Connecticut

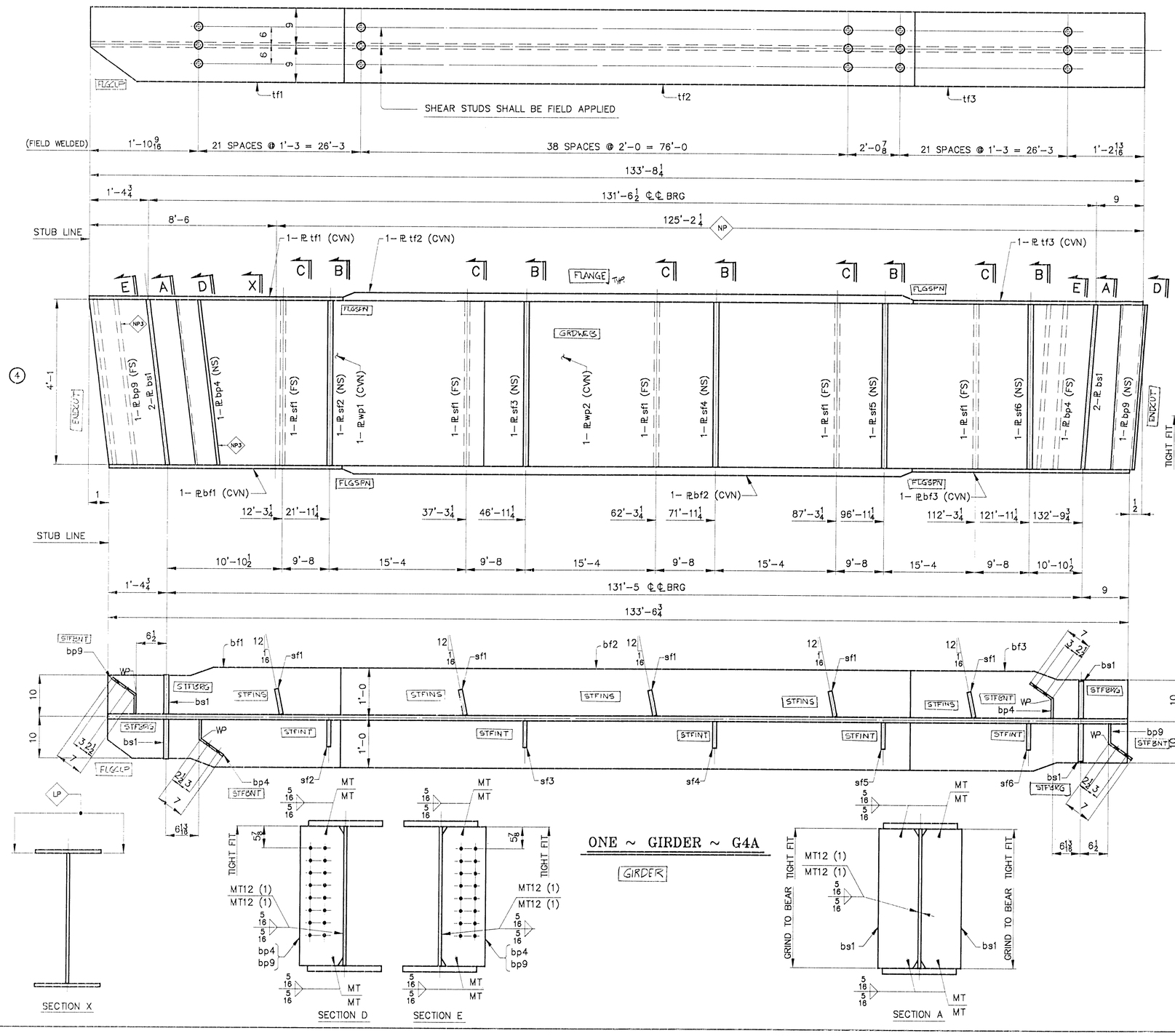
JOB: VT ROUTE 12A OVER 3RD BRANCH OF THE WHITE RIVER BRAINTREE, VERMONT

CUSTOMER: MILLER CONSTRUCTION, INC.

DESIGNER: VERMONT AGENCY OF TRANSPORTATION

CHECKED	10/96	CSD
DRAWN	10/96	CSD

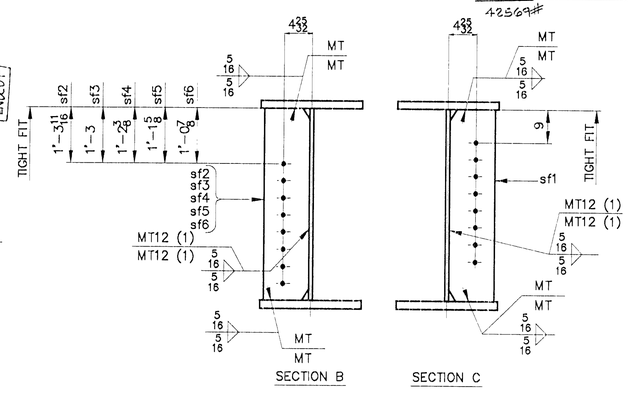
WORK ORDER NO.	DRAWING NO.	REV.
15717	10-9	



SHIP MARK	NO.	MARK	SHAPE	LENGTH	ITEM NO.	WT.	REMARKS
G4A	ONE		GIRDER				
G4T-1	1	wp1	PL 9/16 x 49	41 5	1/1		(CVN)
	1	wp2	PL 9/16 x 49	92 3 1/4	1/5	12533	(CVN)
G-1-H	1	tf1	PL 7/8 x 18	27 2	5-1/2 1/10	1456	(CVN)
	1	tf2	PL 1 1/2 x 18	80 0	5-1/8 2/10	7350	(CVN)
	1	tf3	PL 7/8 x 18	26 6 1/4	5-1/2 1/15	1421	(CVN)
G-1-G	1	bf1	PL 1 1/4 x 24	27 1	5-1/2 2/3	2765	(CVN)
	1	bf2	PL 2 x 24	80 0	5-1/2 3/7	13067	(CVN)
	1	bf3	PL 1 1/4 x 24	26 5 3/4	5-1/2 2/8	2703	(CVN)
G-1-E	4	bs1	PL 7/8 x 9 1/2	4 1	3/2	462	F2E
G-1-D	5	sf1	PL 1/2 x 7	4 1	3/3	243	F1E
	1	sf2	PL 1/2 x 7	4 1	3/3	49	F1E
	1	sf3	PL 1/2 x 7	4 1	3/3	49	F1E
	1	sf4	PL 1/2 x 7	4 1	3/3	49	F1E
	1	sf5	PL 1/2 x 7	4 1	3/3	49	F1E
	1	sf6	PL 1/2 x 7	4 1	3/3	49	F1E
G-1-F	2	bp9	PL 1/2 x 49	0 11 11/16	3/4	162	F1E (BENT)
	2	bp4	PL 1/2 x 49	0 11 11/16	3/4	162	F1E (BENT)

WORK ORDER NO. 15717 | DRAWING NO. 10-10 | REV.

4256 7#



NOTES

1. FOR CAMBER DIAGRAM SEE DRAWING 10-5.
2. FOR GIRDER STANDARD DETAILS SEE DRAWING 10-1.
3. (CVN) DENOTES CHARPY TEST REQUIRED.

STEEL: ASTM — A36 | A572 GR. | X A709 GR. 50W | Unless Noted
WELDING ELECTRODE: E70 | X See Welding Proc. | None
HOLES: 13/16 | X 15/16 | 1-1/16 | X Unless Noted | As Noted | None
PAINT: None | X Shop Coat | Galv. After Fab. | X Unless Noted
SPECIAL PAINT: SEE SHEET 10-1
SPECIAL CLEANING: X Blast Clean SSPC SP10 | None

ITEM NO. 506.55 | BRIDGE NO. 6 | PROJ. NO. BRS 0187(6)

TITLE: GIRDER ~ G4A

APPROVED: 11-25-96		
PRINT DIST.		
7	10/29/96	APPR.
ORIG	12-2-96	FAB.
ORIG	6-2-97	VAT
CHECKED	10/96	CSD
DRAWN	10/96	CSD

National Eastern Corporation
Plainville, Connecticut

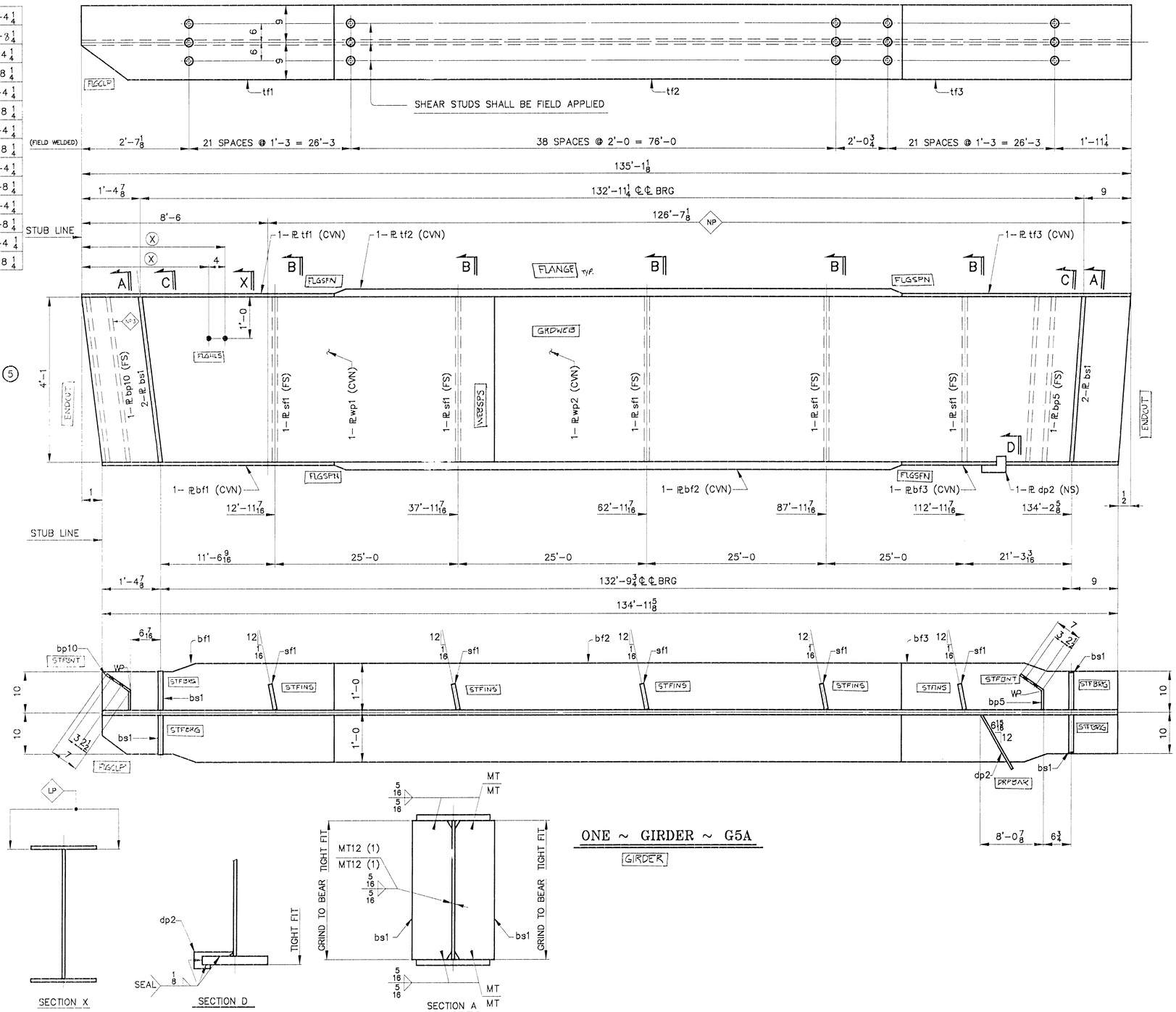
JOB: VT ROUTE 12A OVER 3RD BRANCH OF THE WHITE RIVER
BRAINTREE, VERMONT

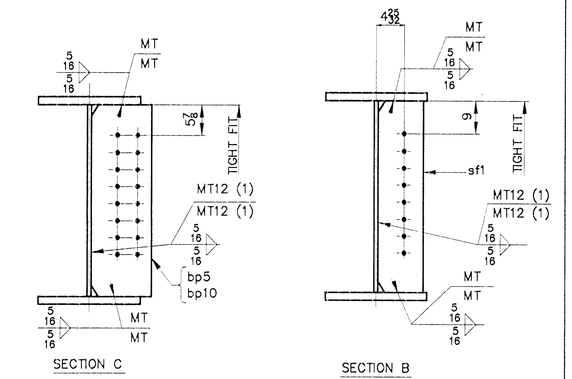
CUSTOMER: MILLER CONSTRUCTION, INC.

DESIGNER: VERMONT AGENCY OF TRANSPORTATION

WORK ORDER NO.	DRAWING NO.	REV.
15717	10-10	

2'-4 1/4	108'-4 1/4
2'-8 1/4	108'-8 1/4
6'-4 1/4	111'-4 1/4
6'-8 1/4	111'-8 1/4
10'-4 1/4	115'-4 1/4
10'-8 1/4	115'-8 1/4
14'-4 1/4	119'-4 1/4
14'-8 1/4	119'-8 1/4
18'-4 1/4	123'-4 1/4
18'-8 1/4	123'-8 1/4
22'-4 1/4	127'-4 1/4
22'-8 1/4	127'-8 1/4
26'-4 1/4	131'-4 1/4
26'-8 1/4	131'-8 1/4
30'-4 1/4	
30'-8 1/4	
34'-4 1/4	
34'-8 1/4	
38'-4 1/4	
38'-8 1/4	
42'-4 1/4	
42'-8 1/4	
46'-4 1/4	
46'-8 1/4	
50'-4 1/4	
50'-8 1/4	
54'-4 1/4	
54'-8 1/4	
58'-4 1/4	
58'-8 1/4	
61'-4 1/4	
61'-8 1/4	
65'-4 1/4	
65'-8 1/4	
69'-4 1/4	
69'-8 1/4	
73'-4 1/4	
73'-8 1/4	
77'-4 1/4	
77'-8 1/4	
81'-4 1/4	
81'-8 1/4	
85'-4 1/4	
85'-8 1/4	
89'-4 1/4	
89'-8 1/4	
93'-4 1/4	
93'-8 1/4	
97'-4 1/4	
97'-8 1/4	
101'-4 1/4	
101'-8 1/4	
105'-4 1/4	
105'-8 1/4	





SHIP MARK	NO.	MARK	SHAPE	LENGTH	ITEM NO.	WT.	REMARKS
G5A	ONE		GIRDER				
GT-1	1	wp1	PL 9/16 x 49	41 5	1/1		(CVN)
"	1	wp2	PL 9/16 x 49	93 8 1/8	1/6	12664	(CVN)
L-1-H	1	tf1	PL 3/4 x 18	27 10 1/2	1/11	1494	(CVN)
	1	tf2	PL 1 1/2 x 18	80 0	2/10	7350	(CVN)
"	1	tf3	PL 7/8 x 18	27 2 5/8	1/16	1459	(CVN)
L-1-G	1	bf1	PL 1 1/4 x 24	27 9 1/2	2/4	2837	(CVN)
	1	bf2	PL 2 x 24	80 0	3/7	13067	(CVN)
"	1	bf3	PL 1 1/4 x 24	27 2 1/8	2/9	2774	(CVN)
L-1-E	4	bs1	PL 7/8 x 9 1/2	4 1	3/2	462	F2E
L-1-D	5	sf1	PL 1/2 x 7	4 1	3/3	243	F1E
L-1-F	1	bp5	PL 1/2 x 49	0 11 9/16	3/4	80	F1E (BENT)
"	1	bp10	PL 1/2 x 49	0 11 9/16	3/4	80	F1E (BENT)
L-1-Gr	1	dp2	PL 1/4 x 3 1/4	1 3 11/16	3/5	4	
						12514#	

NOTES

1. FOR CAMBER DIAGRAM SEE DRAWING 10-6.
2. FOR GIRDER STANDARD DETAILS SEE DRAWING 10-1.
3. (CVN) DENOTES CHARPY TEST REQUIRED.

STEEL: ASTM [ ] A36 [ ] A572 GR. [X] A709 GR. 50W [ ] Unless Noted
WELDING ELECTRODE: [ ] E70 [X] See Welding Proc. [ ] None
HOLES: [ ] 13/16 [X] 15/16 [ ] 1-1/16 [X] Unless Noted [ ] As Noted [ ] None
PAINT: [ ] None [X] Shop Coat [ ] Galv. After Fab. [X] Unless Noted
SPECIAL PAINT: SEE SHEET 10-1
SPECIAL CLEANING: [X] Blast Clean SSPC SP10 [ ] None

ITEM NO. 506.55 | BRIDGE NO. 6 | PROJ. NO. BRS 0187(6)

TITLE: GIRDER ~ G5A

APPROVED: 11-25-96		
PRINT DIST.		
7	10/30/96	APPR.
ORIG	11-6-96	FAB.
CHKD	6-2-97	VHT
CHECKED	10/96	CSD
DRAWN	10/96	CSD

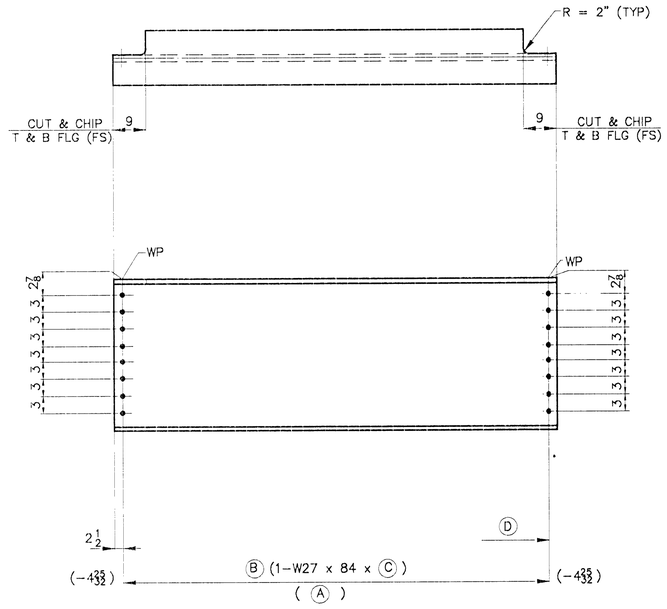
National Eastern Corporation
Plainville, Connecticut

JOB: VT ROUTE 12A OVER 3RD BRANCH OF THE WHITE RIVER
BRAINTREE, VERMONT

CUSTOMER: MILLER CONSTRUCTION, INC.

DESIGNER: VERMONT AGENCY OF TRANSPORTATION

WORK ORDER NO.	DRAWING NO.	REV.
15717	10-11	



DIAPHRAGM

IDCSTR

MARK	A	B	C	D
D1	6'-6 3/4	5'-9 3/16	6'-2 3/16	5'-11 11/16
D2	6'-7 9/16	5'-10	6'-3	6'-0 1/2
D3	6'-8 3/8	5'-10 13/16	6'-3 13/16	6'-1 5/16
D4	6'-9 3/16	5'-11 5/8	6'-4 5/8	6'-2 1/8
D5	6'-9	5'-11 7/16	6'-4 7/16	6'-1 15/16
D6	6'-9 7/8	6'-0 5/16	6'-5 5/16	6'-2 13/16
D7	6'-10 3/4	6'-1 3/16	6'-6 3/16	6'-3 11/16
D8	6'-11 5/8	6'-2 1/16	6'-7 1/16	6'-4 9/16
D9	6'-11 5/16	6'-1 3/4	6'-6 3/4	6'-4 1/4
D10	7'-0 3/16	6'-2 5/8	6'-7 5/8	6'-5 1/8
D11	7'-1 1/8	6'-3 9/16	6'-8 9/16	6'-6 1/16
D12	7'-2	6'-4 7/16	6'-9 7/16	6'-6 15/16
D13	7'-1 9/16	6'-4	6'-9	6'-6 1/2
D14	7'-2 1/2	6'-4 15/16	6'-9 15/16	6'-7 7/16
D15	7'-3 1/2	6'-5 15/16	6'-10 15/16	6'-8 7/16
D16	7'-4 7/16	6'-6 7/8	6'-11 7/8	6'-9 3/8
D17	7'-3 7/8	6'-6 5/16	6'-11 5/16	6'-8 13/16
D18	7'-4 13/16	6'-7 1/4	7'-0 1/4	6'-9 3/4
D19	7'-5 7/8	6'-8 5/16	7'-1 5/16	6'-10 13/16
D20	7'-6 7/8	6'-9 5/16	7'-2 5/16	6'-11 13/16

BILL OF MATERIAL

WORK ORDER NO. 15717 | DRAWING NO. 40-1 | REV.

SHIP MARK	NO.	MARK	SHAPE	LENGTH		ITEM NO.	WT.	REMARKS
Lot 2	ONE	D1	W27 x 84	6	2 3/16	2/13	519	
	ONE	D2	W27 x 84	6	3	2/13	525	
	ONE	D3	W27 x 84	6	3 13/16	2/13	531	
	ONE	D4	W27 x 84	6	4 5/8	2/14	536	
	ONE	D5	W27 x 84	6	4 7/16	2/13	535	
	ONE	D6	W27 x 84	6	5 5/16	2/14	541	
	ONE	D7	W27 x 84	6	6 3/16	2/14	547	
	ONE	D8	W27 x 84	6	7 1/16	2/15	553	
	ONE	D9	W27 x 84	6	6 3/4	2/14	551	
	ONE	D10	W27 x 84	6	7 5/8	2/15	557	
	ONE	D11	W27 x 84	6	8 9/16	2/15	564	
	ONE	D12	W27 x 84	6	9 7/16	2/16	570	
	ONE	D13	W27 x 84	6	9	2/16	567	
	ONE	D14	W27 x 84	6	9 15/16	2/16	574	
	ONE	D15	W27 x 84	6	10 15/16	2/17	581	
	ONE	D16	W27 x 84	6	11 7/8	2/17	587	
	ONE	D17	W27 x 84	6	11 5/16	2/17	583	
	ONE	D18	W27 x 84	7	0 1/4	2/17	590	
	ONE	D19	W27 x 84	7	1 5/16	3/1	597	
CLO	ONE	D20	W27 x 84	7	2 5/16	3/1	604	

11212 lbs

STEEL: ASTM [ ] A36 [ ] A572 GR. [X] A709 GR. 50W [ ] Unless Noted
WELDING ELECTRODE: [ ] E70 [ ] See Welding Proc. [X] None
HOLES: [ ] 13/16 [X] 15/16 [ ] 1-1/16 [ ] Unless Noted [ ] As Noted [ ] None
PAINT: [X] None [ ] Shop Coat [ ] Galv. After Fab. [ ] Unless Noted
SPECIAL PAINT: NONE
SPECIAL CLEANING: [X] Blast Clean SSPC SP10 [ ] None

ITEM NO. 506.55 | BRIDGE NO. 6 | PROJ. NO. BRS 0187 (6)

TITLE: INTERMEDIATE DIAPHRAGMS

APPROVED: 11-25-96		
PRINT DIST.		
7	10/29/96	APPR.
ORIG	12-2-96	FAB.
ORIG	6-2-97	VAT
CHECKED	10/96	CSD
DRAWN	10/96	CSD

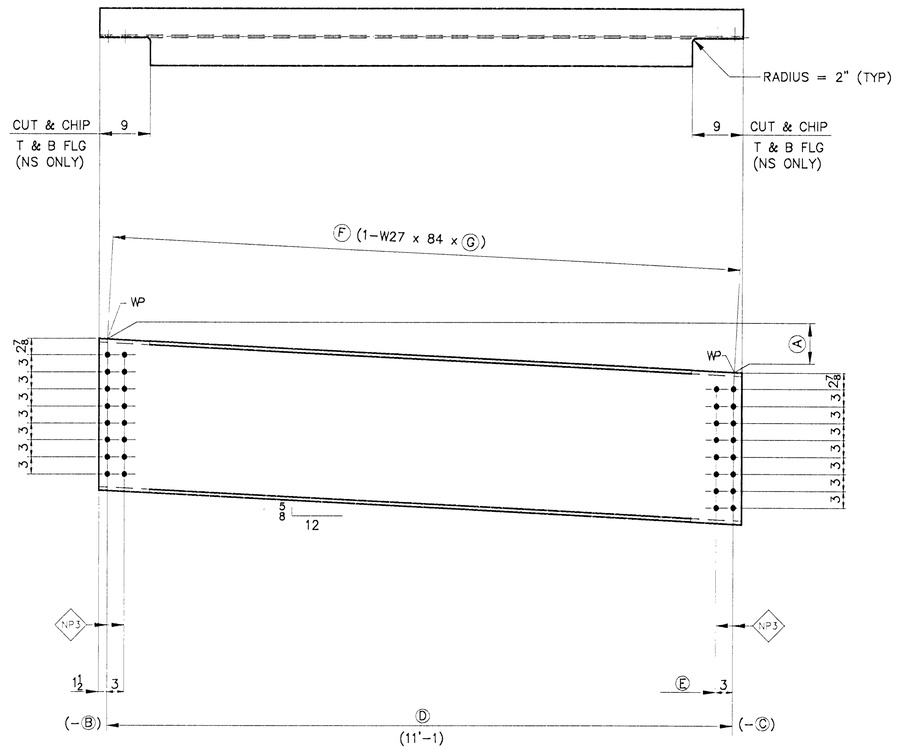
National Eastern Corporation
Plainville, Connecticut

JOB: VT ROUTE 12A OVER 3RD BRANCH OF THE WHITE RIVER BRAINTREE, VERMONT

CUSTOMER: MILLER CONSTRUCTION, INC.

DESIGNER: VERMONT AGENCY OF TRANSPORTATION

WORK ORDER NO.	DRAWING NO.	REV.
15717	40-1	



EDWICKI

DIAPHRAGM

NO. REQ'D.	MARK	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ
3	D21	$5\frac{7}{8}$	$11\frac{3}{8}$	$10\frac{11}{16}$	9'-$2\frac{15}{16}$	9'-$1\frac{7}{16}$	9'-$3\frac{1}{16}$	9'-$7\frac{1}{2}$
ONE	D22	$5\frac{3}{4}$	$11\frac{3}{8}$	$10\frac{1}{2}$	9'-$3\frac{1}{8}$	9'-$1\frac{5}{8}$	9'-$3\frac{1}{4}$	9'-$7\frac{5}{8}$

BILL OF MATERIAL

SHIP MARK	NO.	MARK	SHAPE	LENGTH	ITEM NO.	WT.	REMARKS
WT-3	3	D21	W27 x 84	9 $7\frac{1}{2}$	5-3/4 2 12	2425	
	ONE	D22	W27 x 84	9 $7\frac{5}{8}$	5-3/4 2 12	809	
						3234	

WORK ORDER NO. 15717 | DRAWING NO. 40-2 | REV.

STEEL: ASTM A36 | A572 GR. | X A709 GR. 50W | Unless Noted
WELDING ELECTRODE: E70 | See Welding Proc. | X None
HOLES: 13/16 | X 15/16 | 1-1/16 | Unless Noted | As Noted | None
PAINT: None | X Shop Coat | Galv. After Fab. | X Unless Noted
SPECIAL PAINT: SEE SHEET 10-1
SPECIAL CLEANING: X Blast Clean SSPC SP10 | None

ITEM NO. 506.55 | BRIDGE NO. 6 | PROJ. NO. BRS 0187 (6)

TITLE: END DIAPHRAGMS

	PRINT DIST.	
APPROVED:	11-25-96	
7	12/10/96	APPR.
ORIG	12-2-96	FAB.
ORIG	6-2-97	FIT
CHECKED	10/96	CSD
DRAWN	10/96	CSD

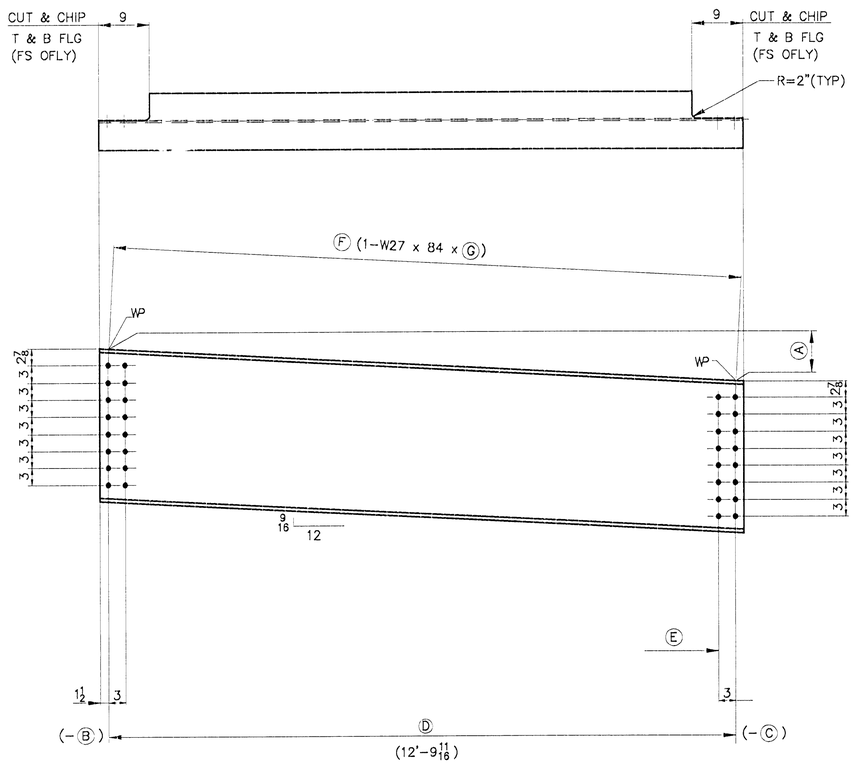
National Eastern Corporation
Plainville, Connecticut

JOB: VT ROUTE 12A OVER 3RD BRANCH OF THE WHITE RIVER BRAINTREE, VERMONT

CUSTOMER: MILLER CONSTRUCTION, INC.

DESIGNER: VERMONT AGENCY OF TRANSPORTATION

WORK ORDER NO.	DRAWING NO.	REV.
15717	40-2	



EDWSKW

DIAPHRAGM

NO. REQ'D.	MARK	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ
ONE	D23	$6\frac{1}{8}$	$10\frac{1}{16}$	$11\frac{3}{8}$	$10'-11\frac{5}{8}$	$10'-10\frac{1}{8}$	$10'-11\frac{3}{4}$	11'-4
ONE	D24	6	$10\frac{1}{16}$	$11\frac{3}{8}$	$10'-11\frac{5}{8}$	$10'-10\frac{1}{8}$	$10'-11\frac{3}{4}$	11'-4
ONE	D25	$5\frac{7}{8}$	$10\frac{1}{16}$	$11\frac{3}{8}$	$10'-11\frac{5}{8}$	$10'-10\frac{1}{8}$	$10'-11\frac{3}{4}$	$11'-3\frac{15}{16}$
ONE	D26	6	$10\frac{1}{16}$	$11\frac{1}{4}$	$10'-11\frac{3}{4}$	$10'-10\frac{1}{4}$	$10'-11\frac{7}{8}$	$11'-4\frac{1}{16}$

SHIP MARK	NO.	MARK	SHAPE	LENGTH	ITEM NO.	WT.	REMARKS
GT-3	ONE	D23	W27 x 84	11 4	$5-\frac{1}{2}$ / 3 / 6	952	
	ONE	D24	W27 x 84	11 4	3 / 6	952	
	ONE	D25	W27 x 84	11 $3\frac{15}{16}$	3 / 6	952	
	ONE	D26	W27 x 84	11 $4\frac{1}{16}$	3 / 6	952	
						3808#	

STEEL: ASTM	A36	A572 GR.	☒ A709 GR. 50W — Unless Noted
WELDING ELECTRODE:	E70	See Welding Proc.	☒ None
HOLES:	13/16	☒ 15/16	1-1/16 — Unless Noted — As Noted — None
PAINT:	☒ None	Shop Coat	Galv. After Fab. — Unless Noted
SPECIAL PAINT: NONE			
SPECIAL CLEANING:	☒ Blast Clean SSPC SP10	None	

ITEM NO. 506.55 | BRIDGE NO. 6 | PROJ. NO. BRS 0187 (6)

TITLE: END DIAPHRAGMS

PRINT DIST.		
7	10/30/96	APPR.
ORIG	12-2-96	FAB.
ORIG	4-1-97	VAT

National Eastern Corporation
Plainville, Connecticut

JOB: VT ROUTE 12A OVER 3RD BRANCH OF THE WHITE RIVER BRAINTREE, VERMONT

CUSTOMER: MILLER CONSTRUCTION, INC.

DESIGNER: VERMONT AGENCY OF TRANSPORTATION

			WORK ORDER NO.	DRAWING NO.	REV.
CHECKED	10/96	CSD	15717	40-3	
DRAWN	10/96	CSD			

FIELD BOLTS

SPECIFICATIONS:

CONNECTION	LENGTH
LENGTH	
SUBTOTAL ADD 2%	
TOTAL	
ITEM NO.	
WEIGHT	
NUTS & WASHERS	NUTS / PLAIN WASHERS / BEVELED WASHERS
QTY. & ITEM NO.	
WEIGHT	

FIELD BOLTS

CONNECTION	LENGTH
LENGTH	
SUBTOTAL ADD 2%	
TOTAL	
ITEM NO.	
WEIGHT	
NUTS & WASHERS	NUTS / PLAIN WASHERS / BEVELED WASHERS
QTY. & ITEM NO.	
WEIGHT	

FIELD BOLTS

SPECIFICATIONS: $\frac{7}{8}\phi$ ASTM A325–TYPE 1 HS BOLTS, WASHERS F436–1, & A563 GRADE DH HVY HEX NUTS (GALVANIZED)

CONNECTION	LENGTH $2\frac{1}{4}$
END DIAPHRAGMS @ ABUTMENT 1	128
LENGTH	$2\frac{1}{4}$
SUBTOTAL ADD 2% MIN 10	128 10
TOTAL	138
ITEM NO.	3/12
WEIGHT	83
NUTS & WASHERS	NUTS 3/13 / PLAIN WASHERS 3/14 / BEVELED WASHERS
QTY. & ITEM NO.	138 / 138 /
WEIGHT	41 / 10 /

FIELD BOLTS

WORK ORDER NO. 15717

DWG. NO. 99–1

SPECIFICATIONS: $\frac{7}{8}\phi$ ASTM A325–TYPE 3 HS BOLTS, WASHERS F436–3, & A563 GRADE C3 HVY HEX NUTS

CONNECTION	LENGTH $2\frac{1}{4}$
END DIAPHRAGMS @ ABUTMENT 2	128
INTERMEDIATE DIAPHRAGMS	320
LENGTH	$2\frac{1}{4}$
SUBTOTAL ADD 2% MIN 10	448 10
TOTAL	458
ITEM NO.	3/9
WEIGHT	275
NUTS & WASHERS	NUTS / PLAIN WASHERS / BEVELED WASHERS
QTY. & ITEM NO.	458 3/10 / 458 3/11 /
WEIGHT	126 / 52 /

TOTAL SHEET WEIGHT 578#

LOT 4

PROOF LOAD & ROTATIONAL CAPACITY TESTS REQUIRED.

ITEM NO. 506.55	BR. NO. 6	PROJ. NO. BRS 0187(6)

TITLE: FIELD BOLTS

APPROVED: 11-25-96

PRINT DIST.		
7	10/30/96	APPR.
ORIG	12-2-96	FAB.
ORIG	6-3-97	LOT

National Eastern Corporation
Plainville, Connecticut

JOB: VT ROUTE 12A OVER 3RD BRANCH OF THE WHITE RIVER
BRAINTREE, VERMONT

CUSTOMER: MILLER CONSTRUCTION, INC.

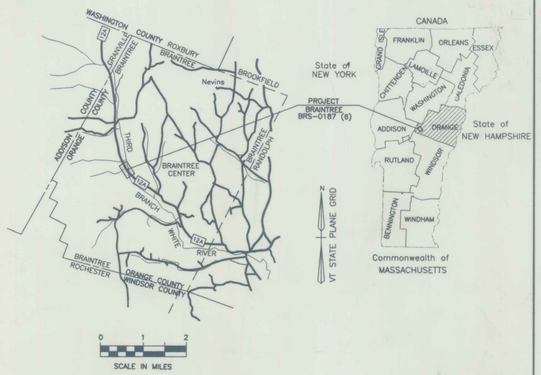
DESIGNER: VERMONT AGENCY OF TRANSPORTATION

			WORK ORDER NO.	DRAWING NO.	REV.
CHECKED	10/96	CSD	15717	99–1	
DRAWN	10/96	CSD			

1993 Bridge 6 BRAINTREE BRS 0187 (6) VT 12

STATE OF VERMONT
AGENCY OF TRANSPORTATION

R.O.W. PLANS

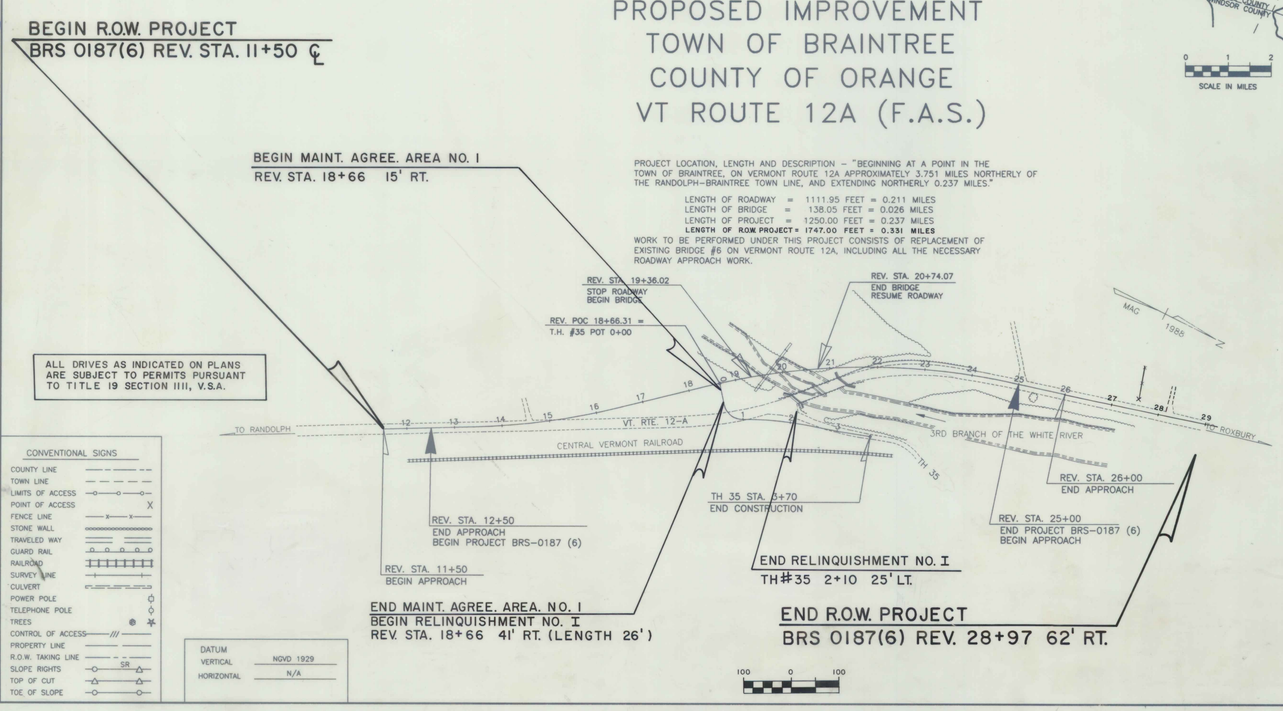


PROPOSED IMPROVEMENT
TOWN OF BRAINTREE
COUNTY OF ORANGE
VT ROUTE 12A (F.A.S.)

PROJECT LOCATION, LENGTH AND DESCRIPTION – "BEGINNING AT A POINT IN THE TOWN OF BRAINTREE, ON VERMONT ROUTE 12A APPROXIMATELY 3.751 MILES NORTHERLY OF THE RANDOLPH–BRAINTREE TOWN LINE, AND EXTENDING NORTHERLY 0.237 MILES."

LENGTH OF ROADWAY = 1111.95 FEET = 0.211 MILES
LENGTH OF BRIDGE = 138.05 FEET = 0.026 MILES
LENGTH OF PROJECT = 1250.00 FEET = 0.237 MILES
LENGTH OF R.O.W. PROJECT = 1747.00 FEET = 0.331 MILES

WORK TO BE PERFORMED UNDER THIS PROJECT CONSISTS OF REPLACEMENT OF EXISTING BRIDGE #6 ON VERMONT ROUTE 12A, INCLUDING ALL THE NECESSARY ROADWAY APPROACH WORK.



ALL DRIVES AS INDICATED ON PLANS ARE SUBJECT TO PERMITS PURSUANT TO TITLE 19 SECTION 1111, V.S.A.

CONVENTIONAL SIGNS

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

DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A

EXEMPT

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

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1990, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON MARCH 15, 1990 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

APPROVED: [signature] DATE: 12/13/93
Director of Engineering

APPROVED: [signature] DATE: 12/13/93
Chief, Right of Way

BRAINTREE
BRS 0187(6)
ROW SHEET 1 OF 10 SHEETS

9028COV.DWG

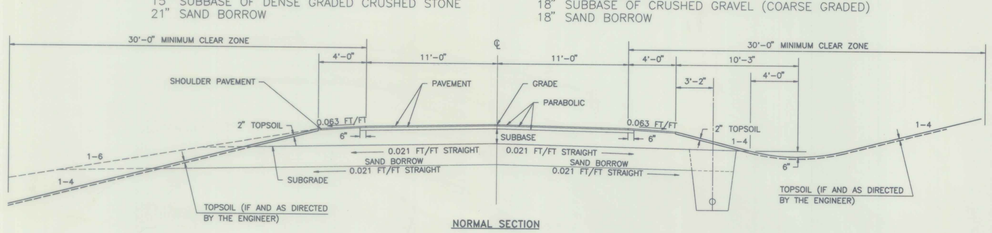
TYPICAL SECTIONS

MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (TOTAL DEPTH)	±1/4"
SUBBASE	±1/2"
SAND BORROW	±1"

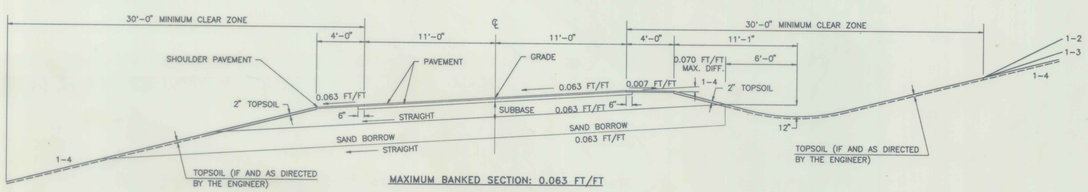
1–1/4" BITUMINOUS CONCRETE PAVEMENT (TYPE III)
3" BITUMINOUS CONCRETE PAVEMENT (TYPE I)
SHOULDERS: 1–1/4" BITUMINOUS CONCRETE PAVEMENT (TYPE III)

ALTERNATE A
15" SUBBASE OF DENSE GRADED CRUSHED STONE
21" SAND BORROW

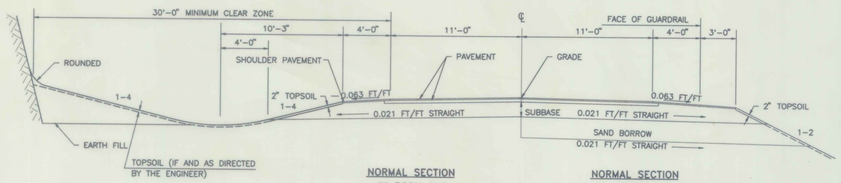
ALTERNATE B
18" SUBBASE OF CRUSHED GRAVEL (COARSE GRADED)
18" SAND BORROW



NORMAL SECTION

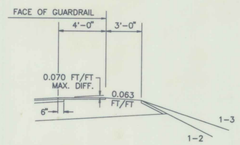


MAXIMUM BANKED SECTION: 0.063 FT/FT

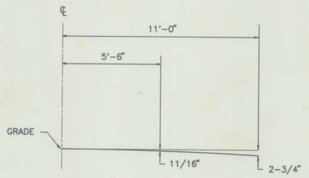


NORMAL SECTION IN ROCK CUT

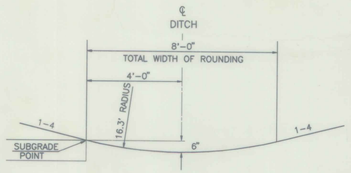
NORMAL SECTION WITH GUARD RAIL



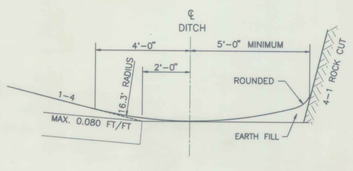
DETAIL OF GUARD RAIL ON HIGH SIDE OF BANKED SECTION



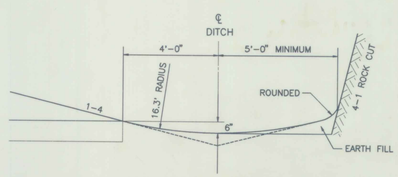
PARABOLIC DETAIL



TYPICAL DITCH DETAIL



DETAILS OF DITCH AND BACKSLOPE FOR LOW SIDE OF BANK ≥ 0.042 FT/FT



DETAILS OF DITCH AND BACKSLOPE FOR LOW SIDE OF BANK < 0.042 FT/FT

SEEDING FORMULA – RURAL AREAS

% WT.	LBS./A.	NAME	PUR %	GERM %
37.50	22.5	CREEPING RED FESCUE	98	85
37.50	22.5	TALL FESCUE	95	90
5.00	3	RED TOP	95	90
15.00	9	BIRDSFOOT TREFOIL	98	85
5.00	3	ANNUAL RYEGRASS	95	85
100.00	60.0			

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

SEED – TO BE APPLIED PER SEEDING FORMULA AS DIRECTED BY THE ENGINEER.

FERTILIZER – FORMULA 19–19–19 TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE

AGRICULTURAL LIMESTONE – TO BE APPLIED AT THE RATE OF TWO TONS/ACRE OR AS DIRECTED BY THE ENGINEER.

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

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

MARKER POSTS – TO BE PLACED AS DIRECTED BY THE ENGINEER.

SLOPE ROUNDING – ALL CUT SLOPES TO BE ROUNDED IN ACCORDANCE WITH STANDARD SHEET B–5.

PAY LIMITS OF SAND BORROW WHEN USED IN CONJUNCTION WITH UNDERDRAIN – SEE STANDARD SHEET D–2.

FOR SLOPES IN SOLID ROCK EXCAVATION, AND DRILLING AND BLASTING OF SOLID ROCK SUBGRADE, SEE STANDARD SHEET A–60.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRAINTREE	Bridge No. 6
Highway No. VT. Route 12A	Log Sto.
	Surv. Sto.

VT RTE 12A OVER THE THIRD BRANCH OF THE WHITE RIVER

TYPICAL SECTION

Designed By J. Warner	Drawn By D. Eckman
Checked By Date	Bridge Design Supervisor Date

BRAINTREE
BRS 0187(6)

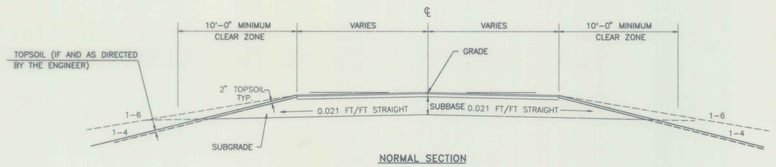
R.O.W. SHEET 2 OF 10 SHEETS

SCDSECTP

TYPICAL SECTION (TH 35)

1-1/4" BITUMINOUS CONCRETE PAVEMENT, TYPE III
3" BITUMINOUS CONCRETE PAVEMENT, TYPE I
18" SUBBASE
} (STA 0+15 TO 0+46)

3" AGGREGATE SURFACE COURSE
18" SUBBASE
} (STA 0+46 TO 3+70)



NORMAL SECTION

MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (TOTAL DEPTH)	±1/4"
SUBBASE	±1/2"
SAND BORROW	±1"

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRAINTREE	Bridge No. 6
Highway No. VT. ROUTE 12A	Log Sta.
	Surv. Sta.

VT RTE 12A OVER THE THIRD BRANCH OF THE WHITE RIVER

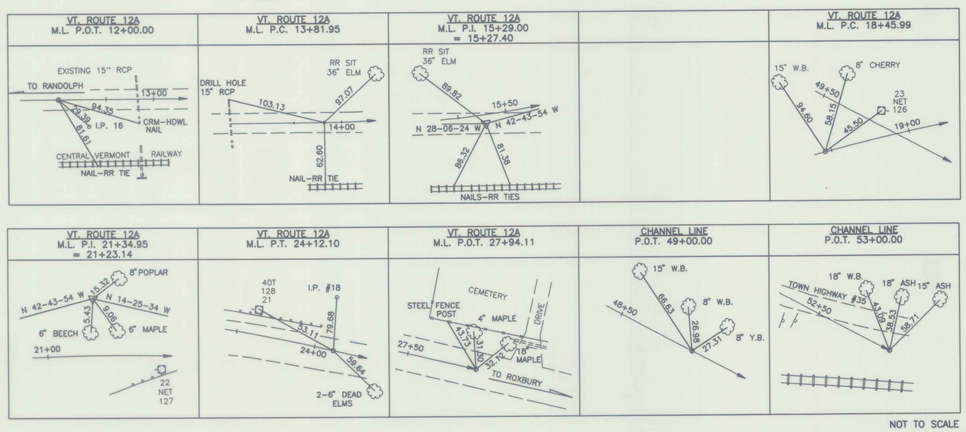
TYPICAL SECTION

Designed By J. Warner	Drawn By N.Spoulding
Checked By Date	Bridge Design Supervisor Date

BRAINTREE
BRS 0187(6)
R.O.W. SHEET 3 OF 10 SHEETS

0028ZTYP.DWG

SURVEY LINE TIES

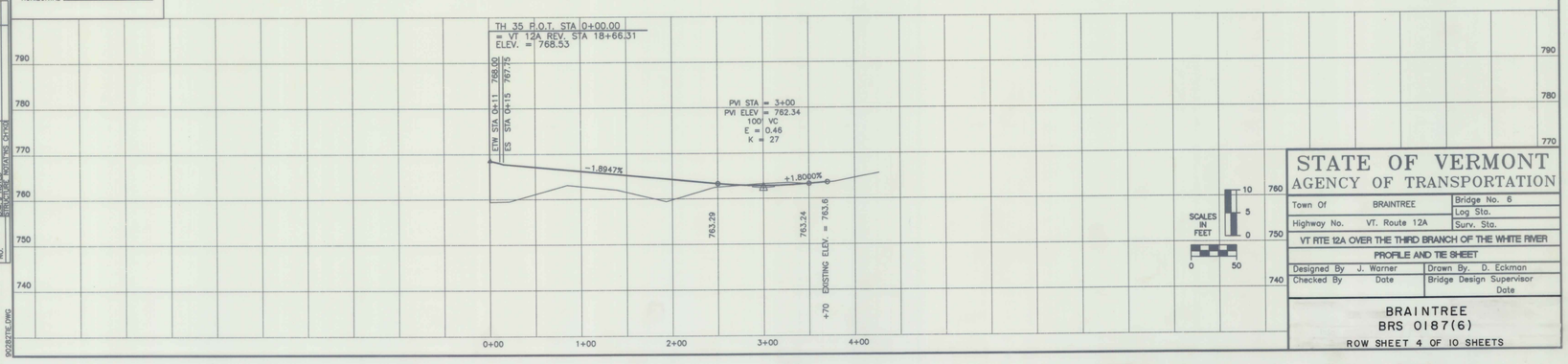


NOT TO SCALE

DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A

PLAN
SURVEYED
PLOTTED
CHECKED
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
CHECKED
NOTE BOOK
NO.
BY
DATE



STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRAINTREE	Bridge No. 6
	Log Sta.
Highway No. VT. Route 12A	Surv. Sta.

VT RTE 12A OVER THE THIRD BRANCH OF THE WHITE RIVER

PROFILE AND TIE SHEET

Designed By J. Warner	Drawn By D. Eckman
Checked By Date	Bridge Design Supervisor Date

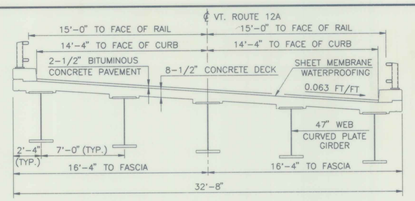
BRAINTREE
BRS 0187(6)

ROW SHEET 4 OF 10 SHEETS

X0282TIE.DWG

SEE HIGHWAY TYPICAL PLANS

NEW HIGHWAY SECTION – BRIDGE APPROACHES



BRIDGE TYPICAL SECTION

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

NOTE : HORIZONTAL DIMENSIONS ARE RADIAL.

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION, 1990 STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, AND ITS LATEST REVISIONS, AND THE 1989 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, AND ITS LATEST REVISIONS.
2. DESIGN IS FOR HS25-44 LOADING WITH ALLOWANCE FOR FUTURE PAVING UNLESS OTHERWISE NOTED ON THE PLANS.
3. ALL STRUCTURAL STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).
4. WHEN NOT DETAILED ON THE PLANS, BEAMS SHALL BE CAMBERED FOR THE DEAD LOAD DEFLECTION PLUS ONE EIGHTH (1/8) INCH FOR EACH TEN FEET OF SPAN, OR FRACTION THEREOF. THE CAMBER SHALL APPROXIMATE A SIMPLE CIRCULAR CURVE FROM SUPPORT TO SUPPORT.
5. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER, TYPE III BOLTS MEETING ASTM DESIGNATION A-325. HOLES SHALL BE 15/16" DIAMETER. CONNECTIONS NOT DESIGNATED SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STATE FOR APPROVAL.
6. ALL WELDING SHALL CONFORM WITH THE PROVISIONS OF SUBSECTION 506.10.
7. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF BEAMS SHALL BE TAKEN AS DIRECTED BY THE ENGINEER FOR USE IN DETERMINING FINAL GRADE.
8. ANY HOLES IN FASCIA BEAMS OR FASCIA GIRDER WEBS NOT OTHERWISE FILLED SHALL BE FILLED WITH BUTTON HEAD OR HEX HEAD BOLTS. SEE STANDARD SPECIFICATION SECTION 506.19 FOR BOLT TENSIONING REQUIREMENTS.
9. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE".
10. MINIMUM COVER FOR REINFORCING STEEL SHALL BE TWO (2) INCHES ALONG BACK FACES OF WALLS AGAINST EARTH, AND THREE (3) INCHES ELSEWHERE. FOR BRIDGE DECK: 2 1/2" MIN. COVER FOR TOP REINFORCING, AND 1 1/2" MIN. COVER FOR BOTTOM REINFORCING.
11. REINFORCING PLACEMENT TOLERANCES SHALL BE:
    SPACING +– 1"
    CLEARANCE +– 1/4"
12. DRILLING AND GROUTING OF REINFORCING STEEL INTO EXISTING CONCRETE SHALL BE PAID FOR UNDER ITEM 507.16.
13. DECK CONCRETE SHALL BE "CONCRETE, CLASS A". ALL OTHER CONCRETE SHALL BE "CONCRETE, CLASS B" UNLESS OTHERWISE DESIGNATED ON THE PLANS.
14. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" BY 1".
15. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL. OTHER BRIDGE SEAT AREAS SHALL BE SLOPED 1/2" PER FOOT. ABUTMENT SEATS SHALL BE SLOPED FULL WIDTH TOWARD CENTER SPAN. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTH STEEL TROWEL FINISHED.
16. FOR BRIDGE DECK POURS, THE MAXIMUM TIME LIMIT FOR ANY COMBINATION OF POURS DONE IN ONE DAY SHALL BE EIGHT HOURS. THERE SHALL BE A MINIMUM DELAY OF NINETY SIX HOURS BETWEEN THE COMPLETION OF ONE DAY'S POUR AND THE BEGINNING OF ANY OTHER POUR.
17. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF DECK BETWEEN DRIP BEADS.
18. THE FOLLOWING TABLE OF ALLOWABLE STRESSES AND WEIGHTS APPLY TO THESE PLANS FOR DESIGN PURPOSES:

CONCRETE:	f'c	=	3500 PSI
	fc	=	1400 PSI
STRUCTURAL STEEL:			
M270 – Grade 50W	Fa=Fb	=	27,000 PSI
	Fv	=	17,000 PSI
M270 – Grade 36	Fa=Fb	=	20,000 PSI
	Fv	=	12,000 PSI
REINFORCING STEEL:			
Grade 60	fs	=	24,000 PSI
	f's	=	20,000 PSI
SOIL: UNIT WEIGHT		=	140 PCF

19. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68 DEGREES F.
20. FILL IN AREAS THROUGH WHICH PILES ARE TO BE DRIVEN SHALL HAVE A MAXIMUM STONE SIZE OF NINE (9) INCHES.
21. TRAFFIC SHALL BE ALLOWED ON THE NEW BRIDGE ONLY AFTER THE SPECIFIED CURE PERIOD HAS EXPIRED AND DESIGN STRENGTH HAS BEEN ATTAINED.
22. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
23. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT.
24. IN-STREAM CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED DURING THE PERIOD OF JUNE 15 TO OCTOBER 01, UNLESS THE CONTRACTOR OBTAINS SPECIFIC PERMISSION FROM THE AGENCY OF NATURAL RESOURCES TO PERFORM SUCH WORK OUTSIDE OF THAT TIME FRAME.
25. TEN CUBIC YARDS OF STONE FILL, TYPE IV HAS BEEN INCLUDED IN THE PROJECT FOR CONSTRUCTION OF A FISH HABITAT BOULDER CLUSTER. THIS CLUSTER SHALL BE LOCATED IN A HIGH VELOCITY PORTION OF THE STREAM A MINIMUM OF 25' DOWNSTREAM OF THE NEW BRIDGE, AS SHOWN ON THE PLANS.
25. PLANS FOR THE EXISTING BRIDGE INDICATE SUBSTRUCTURES FOUNDED ON WOODEN PILES.

EXISTING STRUCTURE

1. STRUCTURE TYPE 2 SPAN CONCRETE T-BEAM OVERALL LENGTH 110 FT. +/- INVENTORY RATING
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS 52'-0", 52'-0"
3. CLEAR SPAN LENGTH(S) NORMAL TO STREAM 43'-4", 43'-4"
4. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM) 570 SQ. FT. VERTICAL CLEARANCE ABOVE STREAMBED 10.9 FT.
5. WATER SURFACE ELEVATION @ Q 2.33 757.2 WATER SURFACE ELEVATION @ Q100 761.5
6. WATER SURFACE ELEVATION AT FLOOD OF RECORD UNKNOWN YEAR ESTIMATED DISCHARGE
7. DOES ALL WATER PASS THROUGH EXISTING STRUCTURE? YES IF NOT, AT WHAT FREQUENCY AND ELEVATION DOES RELIEF OCCUR? ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF
8. TYPE OF SUBSTRUCTURE FOUNDATION MATERIAL GRAVEL AND SAND ON SHALLOW LEDGE (30' TO 40')
9. DISPOSITION OF STRUCTURE SUPERSTRUCTURE TO BE REMOVED. PORTIONS OF SUBSTRUCTURE TO BE REMOVED AS SHOWN ON PLANS

NEW STRUCTURE

STRUCTURE GEOMETRY:
1. STRUCTURE TYPE SINGLE SPAN CURVED PLATE GIRDER WITH COMPOSITE CONCRETE DECK OVERALL LENGTH 135'-4"
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS 130'-0"
3. VERTICAL CLEARANCE ABOVE STREAMBED OR ROAD UNDER 12.3 FT.
4. CLEAR SPAN LENGTH(S) NORMAL TO STREAM 78'-6"
5. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM) 805 SQ. FT.
6. ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES? NO

HYDRAULIC DATA:
1. Q 2.33 1690 CFS WATER ELEVATION 756.0 @ STA. 51+50 VELOCITY 7.1 FPS @ STA. 50+20
   Q 10 3000 CFS WATER ELEVATION 758.4 @ STA. 51+50 VELOCITY 8.0 FPS @ STA. 50+20
   Q 25 4100 CFS WATER ELEVATION 759.6 @ STA. 51+50 VELOCITY 6.8 FPS @ STA. 50+20
   Q 50 5100 CFS WATER ELEVATION 760.2 @ STA. 51+50 VELOCITY 6.8 FPS @ STA. 51+50
   Q 100 6100 CFS WATER ELEVATION 760.8 @ STA. 51+50 VELOCITY 7.6 FPS @ STA. 51+50
2. DRAINAGE AREA 41.3 SQ. MILES CHARACTER OF TERRAIN ROLLING TO HILLY, FORESTED AND AGRICULTURAL
3. ARE THERE OBJECTIONS TO A PIER IN THE STREAM? N/A
4. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? YES IS ORDINARY RISE RAPID? YES
5. NATURE OF NATURAL STREAMBED RELATIVELY STRAIGHT STREAMBED THROUGH NARROW VALLEY
6. ESTIMATED SCOUR DEPTH 5.5' TOTAL: 5' HISTORICAL & 0.5' CONTRACTION COMMENT ON: DRIFT MODERATE ICE MODERATE
7. WILL ALL WATER PASS THROUGH NEW STRUCTURE? YES IF NOT, WHAT FREQUENCY AND ELEVATION WILL RELIEF OCCUR? N/A
   ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF N/A
8. VERTICAL CLEARANCE ABOVE Q 100 0.5 FT. (MIN) 11 FT. (MAX)
9. ALLOWABLE WATER SURFACE ELEVATION 761.3 LIMITED BY MINIMUM GIRDER ELEVATION
10. IS DESIGN STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? NO IF YES, DESCRIBE
11. ORDINARY LOW WATER 40 CFS DEPTH 2 FT. ORDINARY HIGH WATER 725 CFS DEPTH 5 FT.
12. STREAMBANK OR CHANNEL PROTECTION REQUIRED YES, STONE FILL TYPE IV
13. DISTANCE TO EXISTING UPSTREAM STRUCTURE 0.22 MI SPAN 74 FT. WATERWAY AREA OF FULL OPENING 592 SQ FT. Q
14. DISTANCE TO EXISTING DOWNSTREAM STRUCTURE 2.3 MI SPAN 108 FT. WATERWAY AREA OF FULL OPENING 2322 SQ FT. Q

ALLOWABLE STRESSES:
1. DESIGN LIVE LOAD AASHTO HS25-44
2. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A ON LEDGE N/A
3. ALLOWABLE LOAD FOR PILING 9000 PSI TYPE HP 14X73 ESTIMATED LENGTH 14' TO 32'
4. ALLOWABLE STRESS FOR STRUCTURAL STEEL AASHTO M 270 GRADE 50W TENSION 27,000 PSI
5. ALLOWABLE STRESS FOR REINFORCING STEEL GRADE 60 TENSION 24,000 PSI COMPRESSION 20,000 PSI
6. ALLOWABLE STRESS FOR CONCRETE CLASS A f'c 4000 PSI fc 1400 PSI
   CLASS B f'c 3500 PSI fc 1400 PSI

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

ADDITIONAL DESIGN CONSIDERATIONS

LOAD RATING (TONS)

STRESS LEVELS	TRUCK H	HS	3S2	6 AXLE	3A STR	4A STR	5A SEMI
INVENTORY 0.55 Fy=							
POSTED 0.67 Fy=							
OPERATING 0.75 Fy=							

REVISIONS

NO.	DESCRIPTION	BY & DATE

CLD Costello, Lamoreley & de Napoli, Inc.
Consulting Engineers
540 Commercial Street
Manchester, NH 0310
(603)668-8223 FAX(603)668-8802

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRAINTREE	Bridge No. 6
Highway No. VT. Route 12A	Log Sta.
	Surv. Sta.

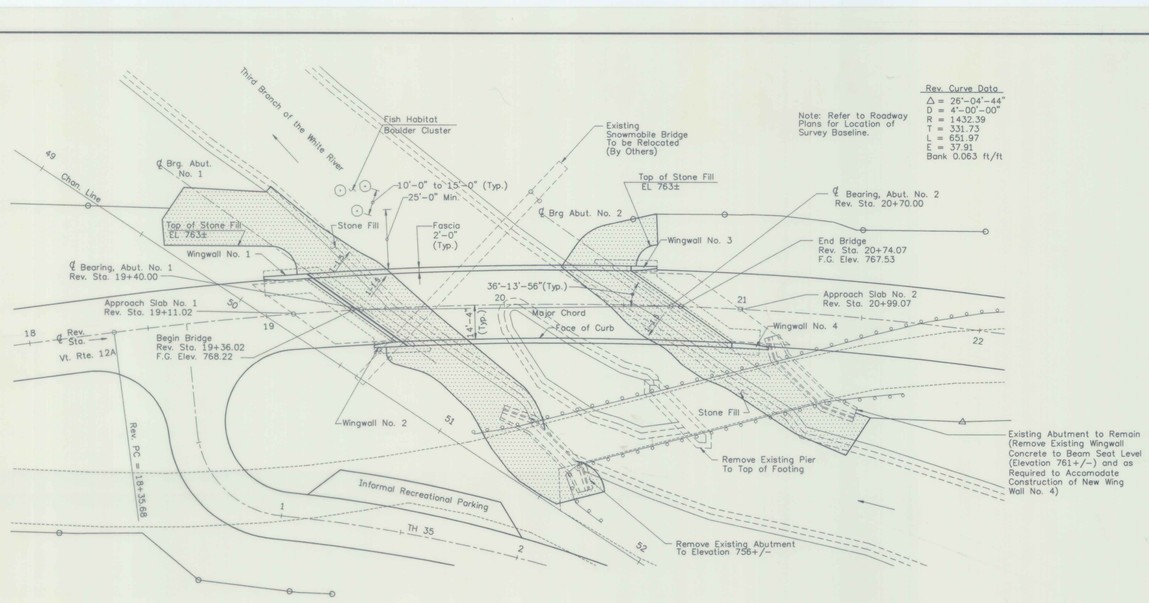
VT. ROUTE 12A OVER THE THIRD BRANCH OF THE WHITE RIVER

PRELIMINARY INFORMATION

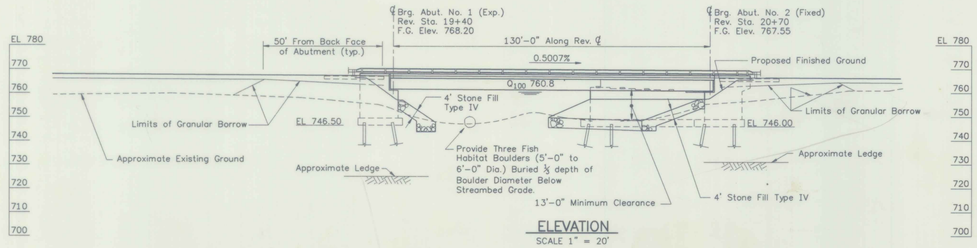
Designed By LNI	Drawn By. ABT/JLF
Checked By Date	Bridge Design Supervisor Date

BRAINTREE
BRS 0187(6)
ROW SHEET 5 OF 10 SHEETS

PLOTSCALE (1=48)



GENERAL PLAN
SCALE 1" = 20'



ELEVATION
SCALE 1" = 20'

STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of BRAINTREE	Bridge No. 6
Highway No. VT RTE 12A	Log Sta. Surv. Sta.
VT RTE 12A OVER 3RD BRANCH OF THE WHITE RIVER	
PLAN AND ELEVATION	
Designed By LNI	Drawn By. JLF
Checked By Date	Bridge Design Supervisor Date

Costello, Lamoureux & de Napoli, Inc.
Consulting Engineers
540 Commercial Street
Manchester, NH 03101
(603)668-8223 FAX(603)668-8802

BRAINTREE
BRS 0187(6)
R.O.W. SHEET 6 OF 10 SHEETS

28GEN (1=20) PLOT VIEW: ZP

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

TABLE OF PROJECT PROPERTY ACQUISITION

* PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS
1A	VINTON, STILLMAN C. & LURA A.	9	REV. 11+50 LT. REV. 12+80 LT. REV. 14+00 LT.	REV. 14+67 LT.	0.08A±		CUL., DIT. & DR. (P) DRIVE (T)	WD	11-30-94	BRAINTREE	38	519-520	3460 S.F.± 16' GRAVEL M.P. 0378
1B		10	REV. 19+57 LT. REV. 20+08 LT. REV. 23+05 LT. REV. 23+30 LT. REV. 24+50 LT.	REV. 24+89 LT. REV. 24+80 LT. REV. 23+70 LT.	0.34A±		EASEMENT (T) SLOPE (T) 0.01A± DRIVE (T)						REMOVE SNOWMOBILE BRIDGE FENCE 40 S.F.± 16' GRAVEL M.P. 0398
1C		9	REV. 11+50 CL.	REV. 14+68 CL.	0.18A±		ALL R. T. & I.						VT RTE. 12A
1D		10	REV. 20+43 RT.	REV. 24+89 CL.	0.27A±		ALL R. T. & I.						VT RTE. 12A
2A	CENTRAL VERMONT RAILWAY, INC.	9,10	REV. 11+50 RT. REV. 12+85 RT. REV. 12+83 RT.	REV. 15+90 RT. TH 35 3+50 RT.	0.14A±		CULVERT & DITCH (P) SLOPE (T) 0.24A±	RR AGREE.		BRAINTREE			
2B		10	T.H. 35 3+70 CL.				EASEMENT (T) 0.02A±	RR AGREE.					1000 S.F.± TO CONSTRUCT APPROACH
2C		9,10	REV. 11+50 RT.	REV. 25+25 RT.	1.60A±		ALL R. T. & I.	OCD					VT RTE 12A CV PROPERTY MAP SHEET #V8/52 PARCEL #5,6,7
2D		10	REV. 18+92 RT.	REV. 20+46 RT.	0.08A±		ALL R. T. & I.	OCD					T.H. 35 3550 S.F.±
2E		9	CV STA 2697+80 LT. (MP 0358)	CV STA. 2706+70 LT. (MP0373=R STA 11+50 CL)				OCD					VT RTE 12A: CV PROPERTY MAP V8/52, 6-30-17, PARCELS #4&5 (RTE. 12A MILEPOST+PROJ STA)
2F		10	CV STA. 2719+20 LT. (MP0399=R STA 25+25 CL)	CV STA. 2730+95 LT. (MP 0422)				OCD					VT RTE 12A CV PROPERTY MAP V8/52, 6-30-17, PARCEL #7 (RTE 12A MILE POST+PROJ STA)
3A	FARNSWORTH, ROBERT L. & VERLIE C.	9,10	REV. 14+67 LT. REV. 15+50 LT. REV. 15+90 LT. REV. 15+95 LT.	REV. 20+43 RT. REV. 18+95 LT. REV. 18+60 LT.	0.75A±		DRIVE (T) CONST. (T) 0.05A± SLOPE (T) 0.07A±	WD		BRAINTREE			16' GRAVEL M.P. 0381 2000 S.F.± 3250 S.F.±
3B		9,10	REV. 14+67 LT.	REV. 21+00 RT.	0.37A±		ALL R. T. & I.						VT RTE. 12A
3C		10	REV. 18+92 RT.	REV. 20+46 RT.	0.08A±		ALL R. T. & I.						T.H. 35 3550 S.F.±
*													

REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
1	7, 9 10	PARCEL NO 2 CENTRAL VT. RAILWAY, INC. TO PARCEL 2C, ADD 'ALL R. T. & I.' TO REST OF VT. RTE. 12 IN PROJECT AREA. CHANGE ENDING STA. TO REV. 25+25 RT. AND CHANGE AREA TO 1.60A±. PER C.O. 8500.	02-10-94	C.C.P.	L.W.B.
2	8	PARCEL NO. 5B & 6 MERUSI & TOWN OF BRAINTREE. DELETE SECOND 'ALL R. T. & I.' FROM 5B, AND ADD 'ALL R. T. & I.' TO TOP LINE OF PARCEL 6. PER C.O. 8501.	02-10-94	C.C.P.	L.W.B.
3	7, 9 10	PARCEL NO. 4 CENTRAL VT. RAILWAY, INC. ADD ADITIONAL SLOPE (T) AT REV. 12+83 RT. ~ REV. 18+60 RT., 0.14A±. REMOVE OLD SLOPE LIMITS & RIGHTS. CHANGE TITLE TO OC & RR AGREEMENTS. ADD CULVERT AND DRY HYDRANT TOPO. ADD PARCELS 2E & 2F FOR ALL R. T. & I. IN HIGHWAY OFF PROJECT. PER C.O. 8620.	12-05-94	M.J.R.	L.W.B.

0187006 200 1805 84E042

ACCT.prop
/prop/84e042/re042d.dgn
DATE PLOTTED 25-FEB-1995
re042dl.i

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

PRESENT R.O.W.
TAKING WITHOUT ACCESS
TAKING WITHOUT ACCESS ALONG PROPERTY LINE
TAKING WITH ACCESS
(P) PERMANENT EASEMENT
(T) TEMPORARY EASEMENT

LEGEND
CZ (P) CLEAR ZONE
CONST.(T) CONSTRUCTION EASEMENT
SR SR SLOPE RIGHTS
PROPERTY LINE
TOP OF CUT
TOE OF SLOPE

REVISED 12-05-94

APPROVED: LAWRENCE W. BLISS DATE: 12-14-93
AGENT D, PLANS & TITLES

R. O. W. PLANS
BRAINTREE
BRS 0187(6)
SHEET 7 OF 10

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

TABLE OF PROJECT PROPERTY ACQUISITION

* PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS
4	WHITE RIVER VALLEY SNOWGOERS, INC.	10	REV. 19+35 RT.	REV. 20+25 LT.									SNOWMOBILE BRIDGE
5A	MERUSI, DINO A. & MARY ABEL	10	REV. 21+00 RT.	REV. 28+97 RT.	0.95A±			WD	06-05-95	BRAINTREE	39	69-70	
5B		10	REV. 20+70 RT.	REV. 25+25 RT.	0.25A±		ALL R. T. & I.						VT RTE. 12A
6	TOWN OF BRAINTREE - (MOUTAIN VIEW CEMETERY)	10	REV. 24+89 CL. REV. 25+00 LT. REV. 25+20 LT. REV. 25+80 LT.	REV. 25+25 CL. REV. 26+40 LT.	0.02A±		ALL R. T. & I. DRIVE (T) SLOPE (T) 0.05A± CULVERT (P)	QCD	11-23-94	BRAINTREE	38	511-512	VT. RTE. 12A 900 S.F.± 16' GRAVEL M.P. 0399 2000 S.F.±
7A	TOWN OF BRAINTREE	10	REV. 18+97 RT.	REV. 22+70 RT.			APPROACH (T)	QCD	10-07-94	BRAINTREE	38	442-443	T.H. 35
7B		10	REV. 18+92 RT.	REV. 20+46 RT.	0.08A±		ALL R. T. & I.						VT RTE. 12A 3550 S.F.±
8	CENTRAL VERMONT PUBLIC SERVICE CORP.												UTILITY
9	NEW ENGLAND TELEPHONE COMPANY												UTILITY
	MAINTENANCE AGREEMENT AREA NO. 1	10	REV. 18+66 RT.	REV. 18+66 RT.									T.H. 35 LENGTH 26'
	RELINQUISHMENT NO. 1	10	REV. 18+66 RT.	T.H. 35 2+10 LT.									T.H. 35

REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY

0187006 200 1805 84E042

ACCT.prop
/prop/84e042/re042d.dgn
DATE PLOTTED 25-FEB-1995
re042d2.1

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

PRESENT R.O.W.
TAKING WITHOUT ACCESS
TAKING WITHOUT ACCESS ALONG PROPERTY LINE
TAKING WITH ACCESS
(P) PERMANENT EASEMENT
(T) TEMPORARY EASEMENT

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

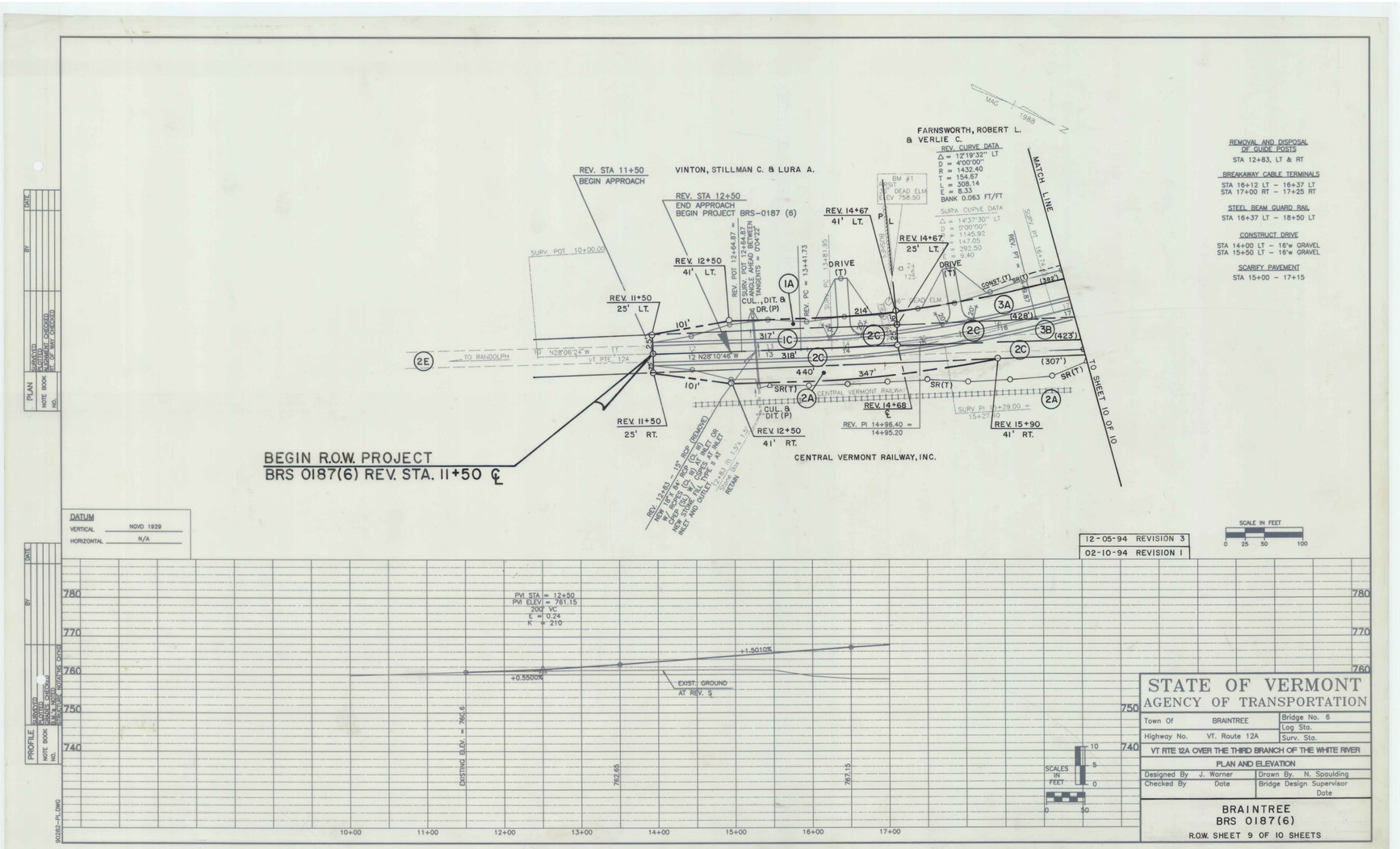
REVISED 12-05-94

APPROVED: LAWRENCE W. BLISS DATE: 12-14-93
AGENT D, PLANS & TITLES

R. O. W. PLANS

BRAINTREE
BRS 0187(6)

SHEET 8 OF 10



STATE OF VERMONT
AGENCY OF TRANSPORTATION

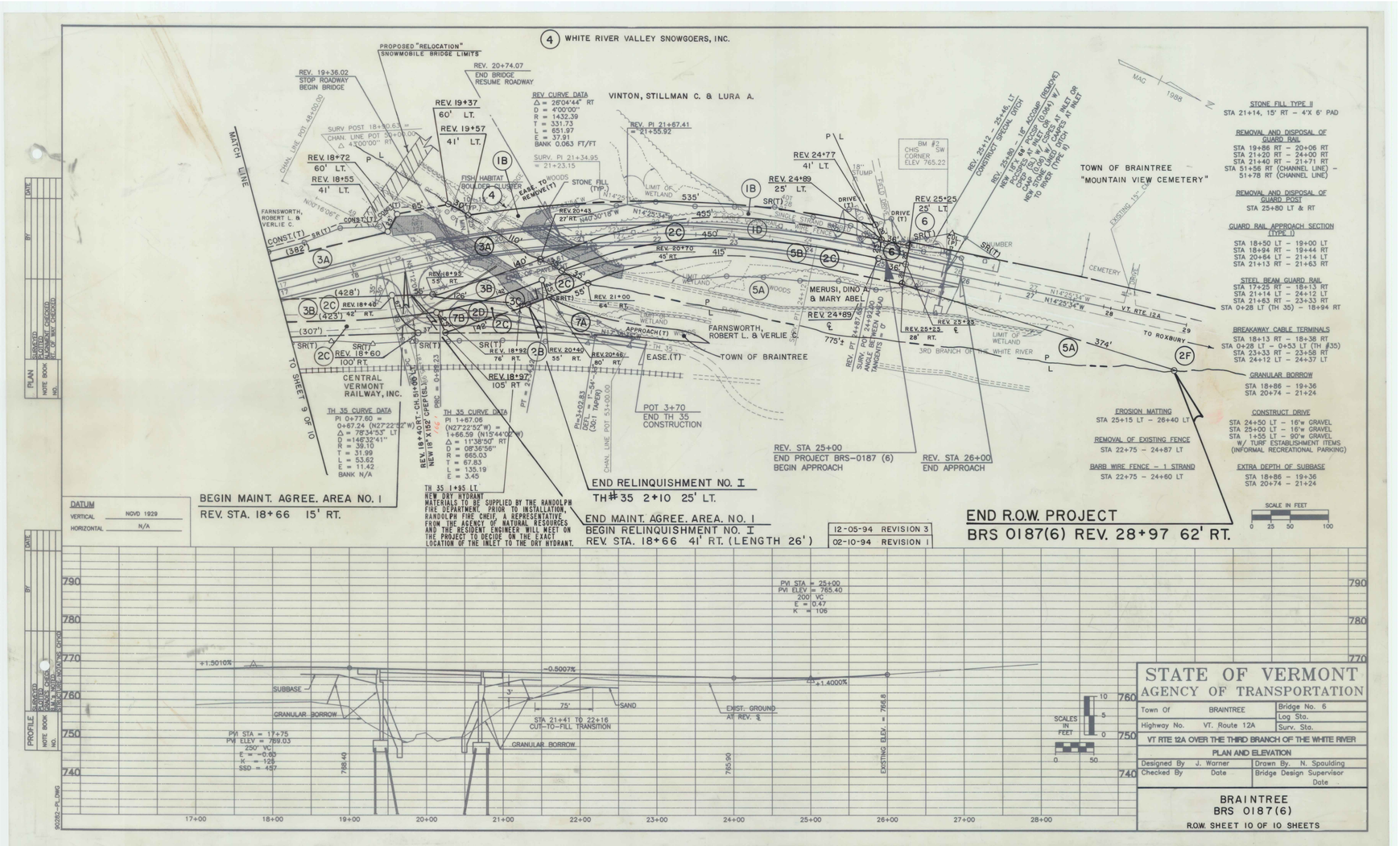
Town Of	BRAINTREE	Bridge No. 6
		Log Sta.
Highway No.	VT. Route 12A	Surv. Sta.

VT RTE 12A OVER THE THIRD BRANCH OF THE WHITE RIVER

PLAN AND ELEVATION

Designed By J. Warner	Drawn By. N. Spaulding
Checked By Date	Bridge Design Supervisor Date

BRAINTREE
BRS 0187(6)
R.O.W. SHEET 9 OF 10 SHEETS


4 WHITE RIVER VALLEY SNOWGOERS, INC.
PROPOSED "RELOCATION" SNOWMOBILE BRIDGE LIMITS
REV. 19+36.02 STOP ROADWAY BEGIN BRIDGE
REV. 20+74.07 END BRIDGE RESUME ROADWAY
REV. CURVE DATA
Δ = 26°04'44" RT
D = 4°00'00"
R = 1432.39
T = 331.73
L = 651.97
E = 37.91
BANK 0.063 FT/FT
VINTON, STILLMAN C. & LURA A.
REV. PI 21+67.41 = 21+55.92
SURV. PI 21+34.95 = 21+23.15
REV. 19+37 60' LT.
REV. 19+57 41' LT.
REV. 18+72 60' LT.
REV. 18+55 41' LT.
REV. 18+95 55' RT.
REV. 18+46 42' RT.
REV. 18+60 100' RT.
REV. 18+92 76' RT.
REV. 18+97 105' RT.
REV. 20+43 27' RT.
REV. 20+70 45' RT.
REV. 20+46 80' RT.
REV. 21+00 64' RT.
FISH HABITAT BOULDER CLUSTER
STONE FILL (TYP.)
EASE. TO REMOVE(T)
LIMIT OF WETLAND
535'
455'
450'
415'
140'
126'
55'
37'
(382')
(428')
(423')
(307')
(402')
FARNSWORTH, ROBERT L. & VERLIE C.
CONST.(T)
SR(T)
MATCH LINE
TO SHEET 9 OF 10
CENTRAL VERMONT RAILWAY, INC.
TH 35 CURVE DATA
PI 0+77.60 = 0+67.24 (N37°22'22" W)
Δ = 78°34'53" LT
D = 146°32'41"
R = 39.10
T = 31.99
L = 53.62
E = 11.42
BANK N/A
TH 35 CURVE DATA
PI 1+67.06 (N27°22'52"W) = 1+66.59 (N15°44'02"W)
Δ = 11°38'50" RT
D = 08°36'56"
R = 665.03
T = 67.83
L = 135.19
E = 3.45
REV. 18+40 RT - CUL 51+00 NEW 18" X 162' CPEP (SL 16)
TH 35 1+95 LT.
NEW DRY HYDRANT MATERIALS TO BE SUPPLIED BY THE RANDOLPH FIRE DEPARTMENT. PRIOR TO INSTALLATION, RANDOLPH FIRE CHIEF, A REPRESENTATIVE FROM THE AGENCY OF NATURAL RESOURCES AND THE RESIDENT ENGINEER WILL MEET ON THE PROJECT TO DECIDE ON THE EXACT LOCATION OF THE INLET TO THE DRY HYDRANT.
POT 3+70 END TH 35 CONSTRUCTION
REV. STA 25+00 END PROJECT BRS-0187 (6) BEGIN APPROACH
REV. STA 26+00 END APPROACH
END RELINQUISHMENT NO. I TH#35 2+10 25' LT.
END MAINT. AGREE. AREA. NO. I BEGIN RELINQUISHMENT NO. I REV. STA. 18+66 41' RT. (LENGTH 26')
BEGIN MAINT. AGREE. AREA NO. I REV. STA. 18+66 15' RT.
END R.O.W. PROJECT BRS 0187(6) REV. 28+97 62' RT.
TOWN OF BRAINTREE "MOUNTAIN VIEW CEMETERY"
REV. 24+77 41' LT.
REV. 24+89 25' LT.
REV. 25+25 25' LT.
REV. 25+12 - 25+46, LT CONSTRUCT SPECIAL DITCH
REV. 25+86 - 16' ACCUMP (REMOVE) NEW 18"X 48' FCSP (GALV.) W/ CAMP, STONE (GAL.) W/ 6" STONE LINED OUTLET DITCH (TYPE 6)
BM #2 CHIS CORNER ELEV 765.22 SW
18" STUMP
DRIVE (T)
REV. 24+87 24' RT. TANGENTS
REV. 25+25 28' RT.
MERUSI, DINO A. & MARY ABEL
TOWN OF BRAINTREE
SUBMERGED WETLAND
3RD BRANCH OF THE WHITE RIVER
775'±
374'
EXISTING 12" CMP
CEMETERY
VT. RTE 12A
TO ROXBURY
EROSION MATTING STA 25+15 LT - 26+40 LT
REMOVAL OF EXISTING FENCE STA 22+75 - 24+87 LT
BARB WIRE FENCE - 1 STRAND STA 22+75 - 24+60 LT
STONE FILL TYPE II STA 21+14, 15' RT - 4'X 6' PAD
REMOVAL AND DISPOSAL OF GUARD RAIL
STA 19+86 RT - 20+06 RT
STA 21+20 RT - 24+00 RT
STA 21+40 RT - 21+71 RT
STA 51+56 RT (CHANNEL LINE) - 51+78 RT (CHANNEL LINE)
REMOVAL AND DISPOSAL OF GUARD POST STA 25+80 LT & RT
GUARD RAIL APPROACH SECTION (TYPE I)
STA 18+50 LT - 19+00 LT
STA 18+94 RT - 19+44 RT
STA 20+64 LT - 21+14 LT
STA 21+13 RT - 21+63 RT
STEEL BEAM GUARD RAIL
STA 17+25 RT - 18+13 RT
STA 21+14 LT - 24+12 LT
STA 21+63 RT - 23+33 RT
STA 0+28 LT (TH 35) - 18+94 RT
BREAKAWAY CABLE TERMINALS
STA 18+13 RT - 18+38 RT
STA 0+28 LT - 0+53 LT (TH #35)
STA 23+33 RT - 23+58 RT
STA 24+12 LT - 24+37 LT
GRANULAR BORROW STA 18+86 - 19+36 STA 20+74 - 21+24
CONSTRUCT DRIVE
STA 24+50 LT - 16'w GRAVEL
STA 25+00 LT - 16'w GRAVEL
STA 1+55 LT - 90'w GRAVEL W/ TURF ESTABLISHMENT ITEMS (INFORMAL RECREATIONAL PARKING)
EXTRA DEPTH OF SUBBASE STA 18+86 - 19+36 STA 20+74 - 21+24
SCALE IN FEET 0 25 50 100
MAG 1988
DATUM VERTICAL NGVD 1929 HORIZONTAL N/A
12-05-94 REVISION 3
02-10-94 REVISION 1
PROFILE
PVI STA = 17+75 PVI ELEV = 789.03 250' VC E = -0.63 K = 125 SSD = 457
+1.3010%
-0.5007%
+1.4000%
SUBBASE
GRANULAR BORROW
3'
75'
SAND
STA 21+41 TO 22+16 CUT-TO-FILL TRANSITION
EXIST. GROUND AT REV. ℄
PVI STA = 25+00 PVI ELEV = 765.40 200' VC E = 0.47 K = 106
EXISTING ELEV. = 766.8
788.40
785.90
SCALES IN FEET 10 5 0 0 50
790 780 770 760 750 740
17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00
STATE OF VERMONT AGENCY OF TRANSPORTATION
Town Of BRAINTREE
Bridge No. 6
Highway No. VT. Route 12A
Log Sta.
Surv. Sta.
VT RTE 12A OVER THE THIRD BRANCH OF THE WHITE RIVER
PLAN AND ELEVATION
Designed By J. Warner
Drawn By N. Spaulding
Checked By
Date
Bridge Design Supervisor
Date
BRAINTREE BRS 0187(6)
R.O.W. SHEET 10 OF 10 SHEETS
90282-PL.DWG

53-2 (SKEW)

52 SPC. @ 1-0 O.C. = 52-0 (7/8" ø HOLES W/ 11/16" DEEP x 2 1/4" ø COUNTER BORE)

51 SPC. @ 1-0 O.C. = 51-0 (126 STR. & 26 BENT STUDS) (126-S1 & 26-S2)

STUDS ON BOTH SIDES OF JOINT NEEDED QUANTITY SHOULD NEEDED 52 AT EACH O.K.

7 5/8 (SKEW DIM.)

6 (SKEW DIM)

SD1 (11 x 2 REQ) @ 5-0 O.C. (TYP)

ZP3 PI ZP4 ℄ VT. RTE. 12A 1-0 (CROWN) ZP5 PI

℄ BRG. WP

1-3 1-4"

STUD CONFLICTS W/ FASCIA. ELIMINATE THIS STUD.

7/16 6 15/16 6 3/4 6 5/8

9-10 7/8 1-2 1/8

4-10 3/4 11-1 11-1 11-1 11-1 3-11 1/4

26-3 5/8 25-9 15/16

PLAN - EXPANSION JOINT @ ABUT. #1 - (EJ-1)

FIELD ADJUST CHART	
TEMP.	DIM. "A"
0°F	1 7/8"
15°F	1 3/4"
30°F	1 5/8"
45°F	1 1/2"
60°F	1 3/8"
75°F	1 1/4"
90°F	1 1/8"
105°F	1"

SD1

8" @ 4 SPC.

SD1 E

1-2 7/16

E

SHIPPING DEVIGE DETAIL

SD1 - L4 X 3 1/2 X 1/2 X 1-6 7/16 (L.L.H.) @ 5-0 o.c. MAX.

7/8" ø HOLE

SECTION E-E

NOTE: MAKE SURE SPACING OF STUDS ARE ADJUSTED FOR CLEARANCE IN VICINITY OF BRACKETS AND BLOCKOUT FOR DOWNSPOUT.

2-10-0 (AV.)
1-12-0

℄ VT. RTE 12A

5-5 13/16 11-0 7/8 11-0 13/16 11-1 11-0 7/8 3-4 5/8

3-4 3/16

PI (FF) PI (FF) PI (FF) PI (FF)

SECTION A-A

5-5 13/16 11-0 7/8 11-0 13/16 11-1 11-0 7/8 3-4 5/8

3-4 3/16

5-3 3/4

5-5 15/16

PI (NS) P2 (NS) PI (NS) P2 (NS) PI (NS) P2 (NS) PI (NS) P2 (NS)

SECTION B-B

1A 1 1/2" @ 45° F.

3/4 "DIA. X 8" STUD @ 2-0 o.c. Alternate w/str. studs @ 2-0 o.c.

1/16" x 3" Butyl rubber tape centered on line of bolts. Tape to be placed between the fabric and the angle. (typical)

S2 2 2 S2

3" @ 45

12 6 15/16"

S1 S1

TROUGH SHALL BE CONTINUOUS

L8 X 4 X 1/2 GRIND OUTSIDE CORNER AS SHOWN (1/4" radius)

4" @ 45° F

Preformed fabric material 5/32 x 2-1 (3 ply) Material shall conform to standard specification 707.07. preformed fabric material W/DRIP BEAD

SECTION C-C

SEE FIELD ADJUSTMENT CHART ON SHT. E-1

SHOP DRAWING REVIEW

REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT

☐ PROVIDE AS SUBMITTED
☐ PROVIDE AS CORRECTED
☐ REVISE AND RESUBMIT
☐ REJECTED - SEE REMARKS

THIS REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. ANY ACTION, CORRECTIONS OR COMMENTS SHOWN OR NOTED ARE SUBJECT TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR: DETERMINING THE ACCURACY AND CONSTRUCTION QUANTITIES; SUBSTANTIATING INSTRUCTIONS FOR INSTALLATION OR PERFORMANCE OF EQUIPMENT OR SYSTEMS; THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION, INCLUDING SAFETY PRECAUTIONS AND PROCEDURES; AND THE SELECTION OF FABRICATION PROCESSES. ENGINEER'S APPROVAL OF A SPECIFIC ITEM SHALL NOT INDICATE APPROVAL OF AN ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. FURTHER, ENGINEER'S REVIEW OF CONTRACTOR'S SUBMITTALS SHALL NOT RELIEVE THE CONTRACTOR OF ITS OBLIGATIONS UNDER THE CONTRACT DOCUMENTS WITH RESPECT TO THE PREPARATION AND/OR APPROVAL OF SUCH SUBMITTALS.

COSTELLO CONSULTING MANCHESTER

BY: RMR DATE: 12/12/96

3/4" x 2 1/2" heavy hex bolts @ 1-8 o.c. (ASTM A325 coat bolt & ferrule threads with "NEVER SEIZE" grease dupl)

N1 - 3/4" x 2" closed threaded ferrule @ 1-8 dupl

DS-1/16 P1 1/4

e @ 45° 1 1/2 "A" @ 45° F.

FB 1 1/4" X 5 1/4" width 2 1/4" dia x 13/16" deep counterbore @ 7/8" dia. holes (@ 1-8 o.c.) Holes shall be filled with hot poured joint sealer.

2 (TYP)

seal weld

(4 REQ) 1" ø THREADED ROD W/ 2 NUTS & 2 WSH. (4 EA BRACKET)

P1 M90 90

R1 3 5/8" (DIM. IS THEORETICAL, MAY CHANGE W/BEAM PROFILES)

R2

5/16

L8 X 4 X 1/2 grind outside corner to 1/4 radius as shown 7/8" dia holes @ 1-8 o.c.

4" 3 1/2 5 2 @ 45°

P2

SECTION D-D

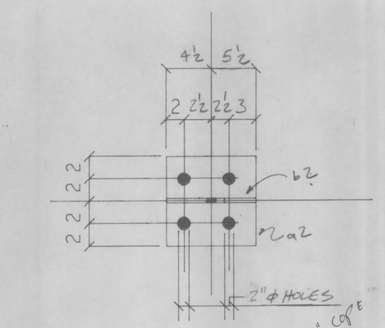
REV. NO.	DATE	DESCRIPTION
HOLES: 13/16 ONLY		DATE:
PAINT: GALVANIZED		

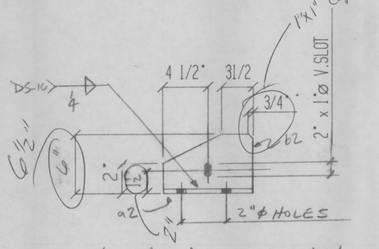
PLAN - EXPANSION JOINT @ ABUT. #1 - (EJ-1)

DATE SUB.	PROJECT	VT. RTE. 12A OVER 3RD BRANCH OF THE WHITE RIVER
	LOCATION	BRAINTREE, VT.
	ARCHITECT	
DATE APP.	ENGINEER	
DATE DIST.	CUSTOMER	MILLER CONST. CO.

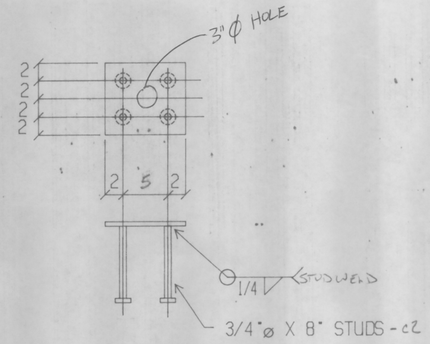
MERRIMACK SHEET METAL
119 HALL STREET
CONCORD, N.H. 03301
TEL. (603) 224-7766

DR BY RMR
REV BY
JOB NO. #2202
DWG NO. E1

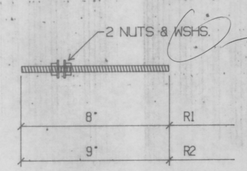




(10 REQ) - ZP1 Ass'y



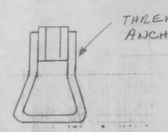
(5 REQ). - ZP2 Ass'y



WASHERS SHALL BE 3/8"x3"x3" w/ 1¼" ø HOLE

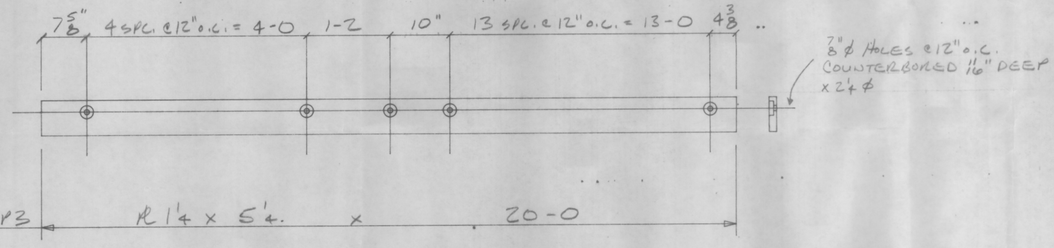
(20 REQ) - R1

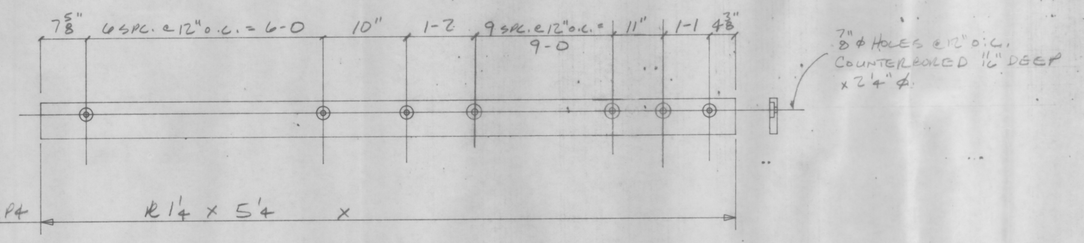
(20 REQ) - R2

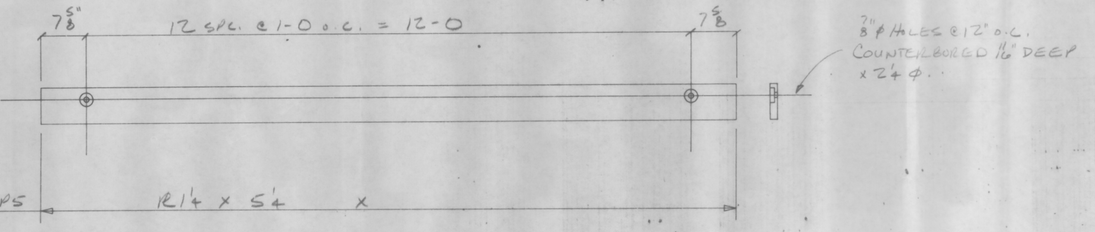


ANCHOR FERRULE DETAIL

(106 REQ) - N1







NOTES:

1.) BUTYL RUBBER TAPE SHALL CONFORM TO AASHTO SPEC. M-198, TYPE II.

2.) ALL STEEL COMPONENTS SHALL BE AASHTO M270, GR. 36, (GALV.) OR METALIZED AS PER SUBSECTION 506.15 (a) OR (b) UNLESS OTHERWISE NOTED.

3.) COAT CONCRETE CONTACT SURFACES WITH AN EPOXY BONDING COMPOUND MEETING THE REQUIREMENTS OF SUBSECTION 719.02.

4.) A DRIP BEAD OF ¼" x 1" STRIP OF PREFORMED MATERIAL SHALL BE CEMENTED TO THE BOTTOM OF THE FASCIA TROUGH USING AN ADHESIVE APPROVED BY THE MANUFACTURER. THE DRIP BEAD SHALL BE APPLIED 1" FROM THE DOWNSPOUT END OF THE TROUGH.

5.) THE EXPANSION JOINT SHALL BE SHOP ASSEMBLED AND SHIPPED AS ONE UNIT.

BILL OF MATERIAL

QTY	MARK	SHAPE	LENGTH		REMARKS
10	ZP1	BRG. R. Ass'y			
10	a2	R½ x 8	0	10	
10	b2	R½ x (6 + 6½")	0	10	
5	ZP2	R½ x 8	0	9	
20	c2	¾"ø STUDS	0	8	STR.
20	R1	1"ø THRD. ROD	0	8	W/2 NUTS & WSH.
20	R2	1"ø THRD. ROD	0	9	W/2 NUTS & WSH.
2	ZP3	R1¼ x 5¼	20	0	
2	ZP4	R1¼ x 5¼	20	0	
2	ZP5	R1¼ x 5¼	13	3¼	
52	S1	¾"ø STUDS	0	8	STR.
52	S2	¾"ø STUDS	0	8	BENT
106	N1	¾"ø x 2" CLOSED THREADED FERRULE NUTS W/ THREADED CONCRETE ANCHORS.			
		FIELD BOLTS			
106	-¾"ø x 2¼" A325 BOLTS W/N&W				

SHOP DRAWING REVIEW

REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT

- ☑ PROVIDE AS SUBMITTED
- ☐ PROVIDE AS CORRECTED
- ☐ REVISE AND RESUBMIT
- ☐ REJECTED * SEE REMARKS

THIS REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. ANY ACTION, CORRECTIONS OR COMMENTS SHOWN HEREON DO NOT RELIEVE YOU ARE SUBJECT TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACCURACY AND COMPLETENESS OF DETAILS, SUCH AS DIMENSIONS AND QUANTITIES, SUBSTANTIATING INSTRUCTIONS FOR INSTALLATION OR PERFORMANCE OF EQUIPMENT OR SYSTEMS, THE TRADES, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION, INCLUDING SAFETY PRECAUTIONS AND PROCEDURES, AND THE SELECTION OF FABRICATION PROCESSES. ENGINEER'S APPROVAL OF A SPECIFIC ITEM SHALL NOT INDICATE APPROVAL OF AN ASSEMBLY IN WHICH THE ITEM IS A COMPONENT. FURTHER, ENGINEER'S REVIEW OF CONTRACTOR'S SUBMITTALS SHALL NOT RELIEVE THE CONTRACTOR OF ITS OBLIGATIONS UNDER THE CONTRACT DOCUMENTS WITH RESPECT TO THE PREPARATION AND/OR APPROVAL OF SUCH SUBMITTALS.

COSTELLO, LOMASNEY & deNAPOLI, LLC.
CONSULTING ENGINEERS
MANCHESTER, NEW HAMPSHIRE

BY: RMR DATE: 12/12/96

REV. NO.	DATE	DESCRIPTION

HOLES: 13/16 ONLY DATE:

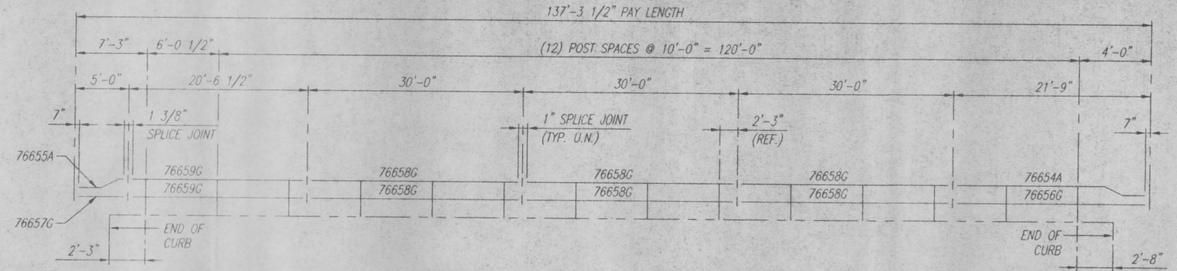
PAINT: GALVANIZED

FABRICATION DETAILS

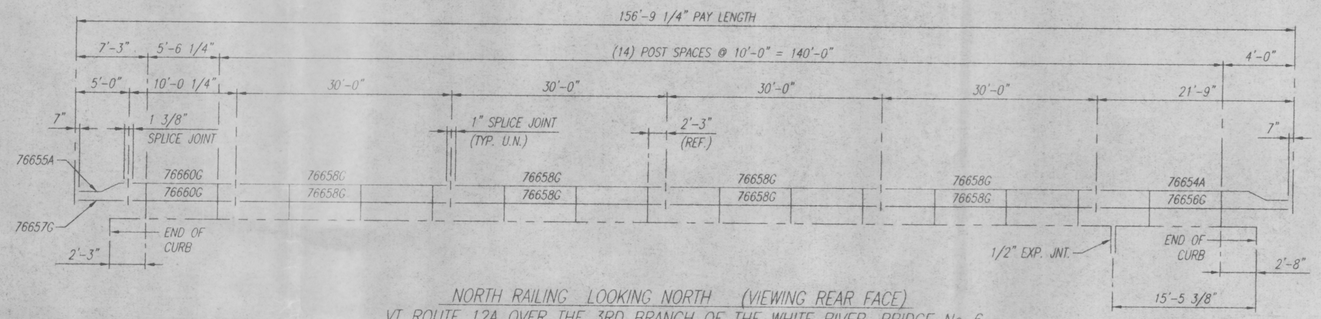
DATE SUB.	PROJECT	VT. RTE. 12A OVER 3RD BRANCH OF THE WHITE RIVER
	LOCATION	BRAINTREE, VT.
	ARCHITECT	
DATE APP.	ENGINEER	
DATE DIST.	CUSTOMER	MILLER CONST. CO.

MERRIMACK SHEET METAL
119 HALL STREET
CONCORD, N.H. 03301
TEL. (603) 224-7766

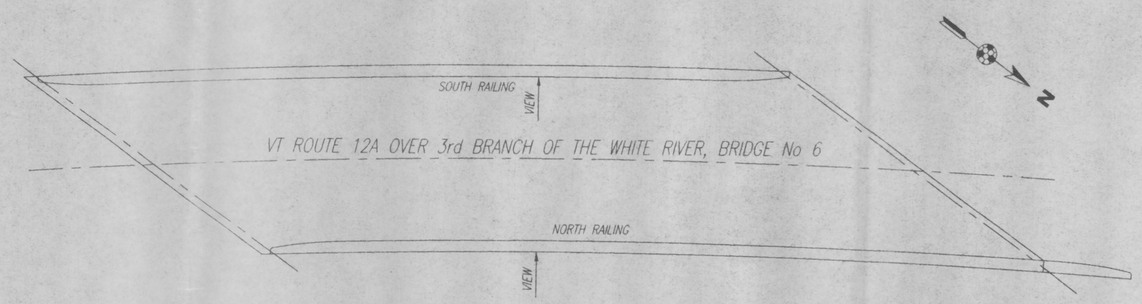
DR BY	KJM
REV BY	
JOB NO.	#2202
DWG. NO.	E2



SOUTH RAILING LOOKING SOUTH (VIEWING TRAFFIC FACE)
VT ROUTE 12A OVER THE 3RD BRANCH OF THE WHITE RIVER, BRIDGE No 6



NORTH RAILING LOOKING NORTH (VIEWING REAR FACE)
VT ROUTE 12A OVER THE 3RD BRANCH OF THE WHITE RIVER, BRIDGE No 6



RAILING PLAN

NOTES:
1. ALL POSTS ARE (14392A)
2. ALL SPLICES ARE (32124A)
3. INSPECTED BY CONWELL
4. FINISH: GALV A123
5. TOTAL PAY LENGTH 295'-0"

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APPROVAL DRAWING

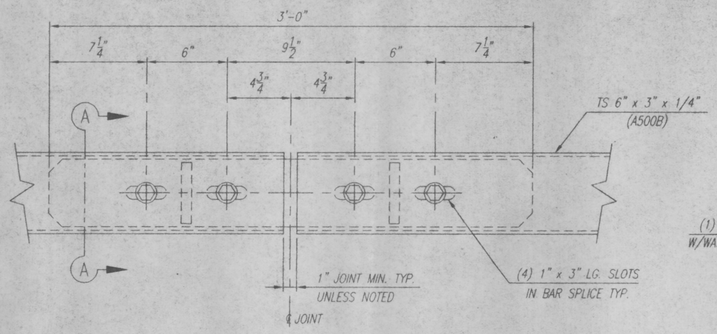
SHOP DETAILS ARE ON SHEETS D1 & D2 OF 2 (22) 101635

REV.	CHK'D	BY	DATE	REMARKS
			02/07/97	SENT FOR APPROVAL

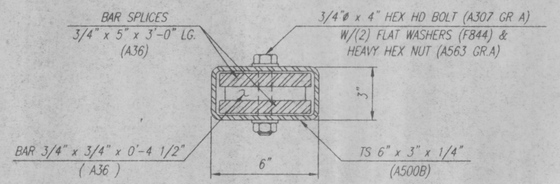
STATE OF VERMONT
AGENCY OF TRANSPORTATION
BOX BEAM BRIDGE RAILING
TOWN OF BRAINTREE, COUNTY OF ORANGE
VT ROUTE 12A, BRIDGE No 6
PROJECT: BRS 0187 (6)

CUSTOMER F.R. LAFAYETTE, INC. P.O. No. 12529

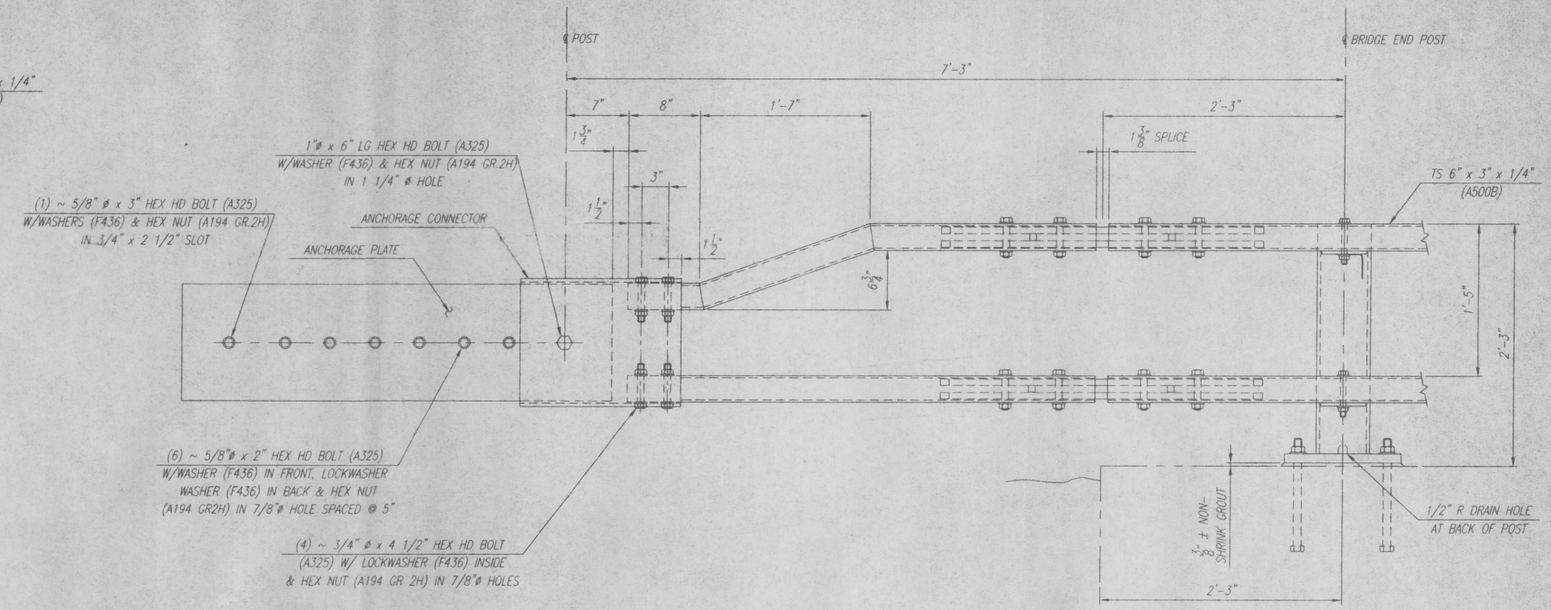
TRINITY INDUSTRIES, INC. SYRO
DALLAS, TX. GIRARD, OH. FORT WORTH, TX.
CENTERVILLE, UT. LIMA, OH. ELIZABETHTOWN, KY.



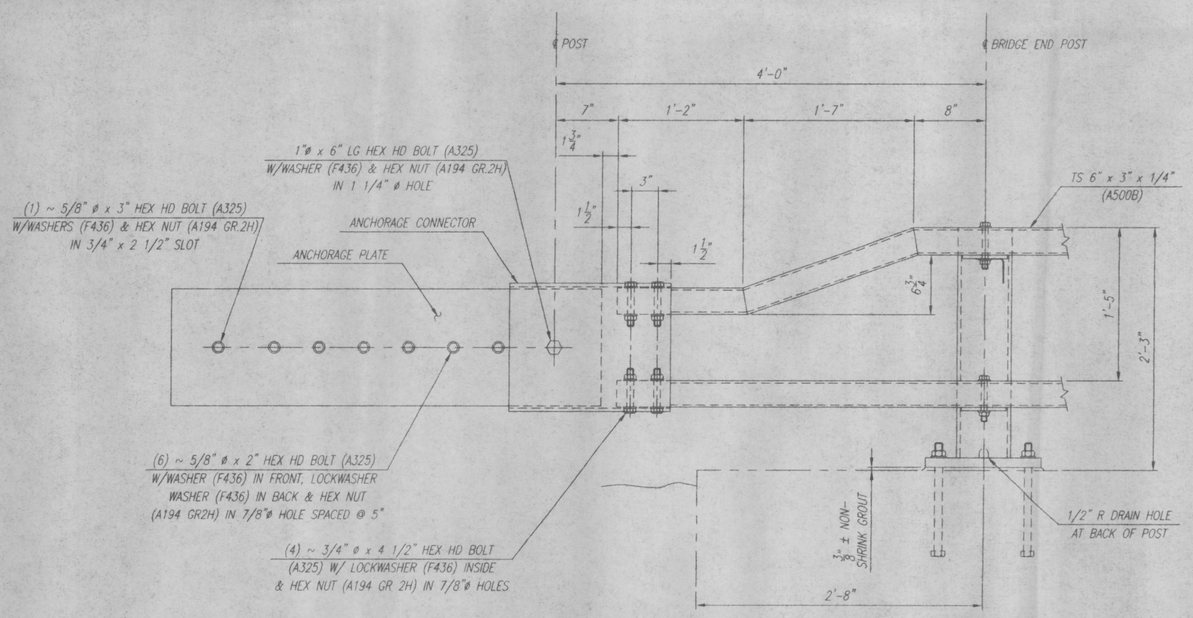
SPLICE DETAIL



SECTION ~ A - A
(ROTATED 90° CCW)



END RAIL ERECTION DETAIL
ABUTMENT No 1 BRIDGE No 6



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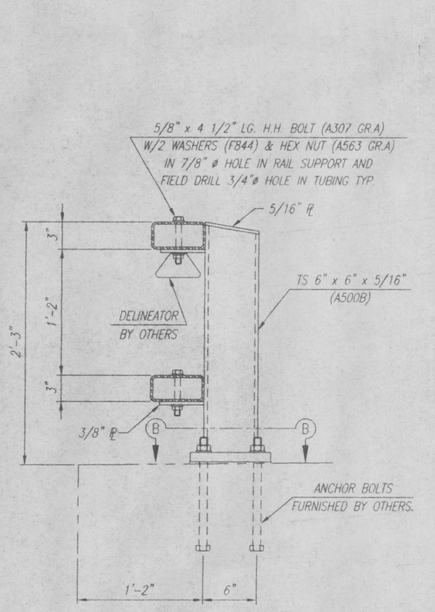
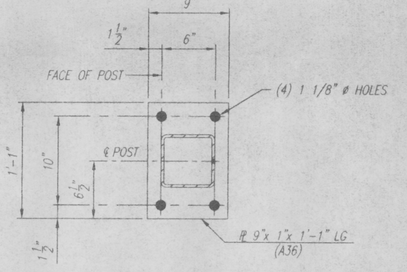
ABUTMENT No 2 BRIDGE No 6





SECTION ~ B - B

ISSUED
FEB 10 1997
ISSUED

APPROVAL DRAWING

DETAILS ARE ON SHEETS 1 & 2 OF 2 (22) 101635

REV.	CHK'D	BY	DATE	REMARKS
			02/07/97	SENT FOR APPROVAL

STATE OF VERMONT
AGENCY OF TRANSPORTATION
BOX BEAM BRIDGE RAILING
TOWN OF BRAINTREE, COUNTY OF ORANGE
VT ROUTE 12A, BRIDGE No 6
PROJECT: BRS 0187 (6)

DRAWN	Elzard A. Sikkema
CHECKED	James L. Schow
APPROVED	
DATE	Fri, Jan 24 1997
ENG. FILE No.	101635E2
SHEET No.	E2 of 2
DRAWING NUMBER	(22) 101635
REV.	

CUSTOMER F.R. LAFAYETTE, INC. P.O. No. 12529

TRINITY INDUSTRIES, INC.
DALLAS, TX. CENTERVILLE, UT. GIRARD, OH. LIMA, OH. FORT WORTH, TX. ELIZABETHTOWN, KY.
SYRO

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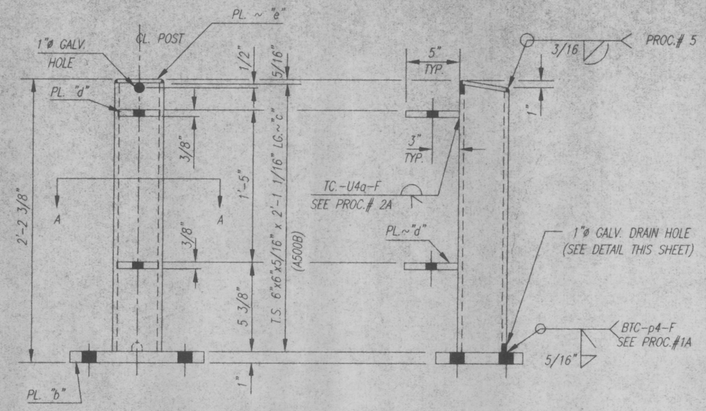
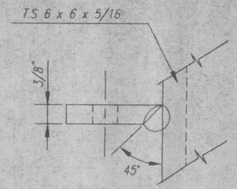
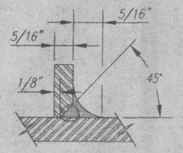
I:\CWD\STATES\VT\101635\101635E2 Fri Feb 07 12:52:23 1997 PLOTTED By Dusak Chanl



30 ~ 14392A POST



WELD PROC. # 2A
(Tc-U4a-F)



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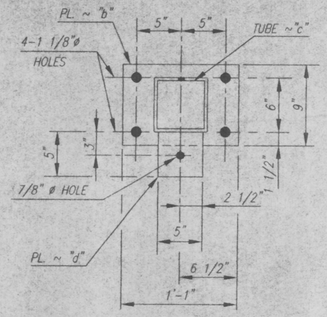
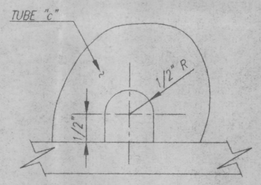


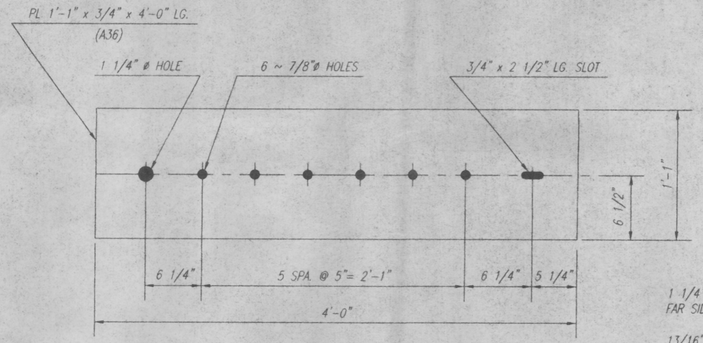
SECTION A-A

EACH POST 14392A CONSISTING OF:

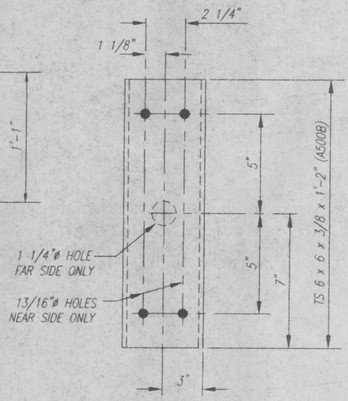
SUB MK	QUAN.	DESCRIPTION
b	1	PL. 9" x 1" x 1'-1" LG. (A36)
c	1	T.S. 6" x 6" x 5/16" x 2'-1 1/16" LG. (A500B)
d	2	PL. 5" x 3/8" x 5" LG. (A36)
e	1	PL. 5 5/8" x 5/16" x 5 5/8" LG. (A36)



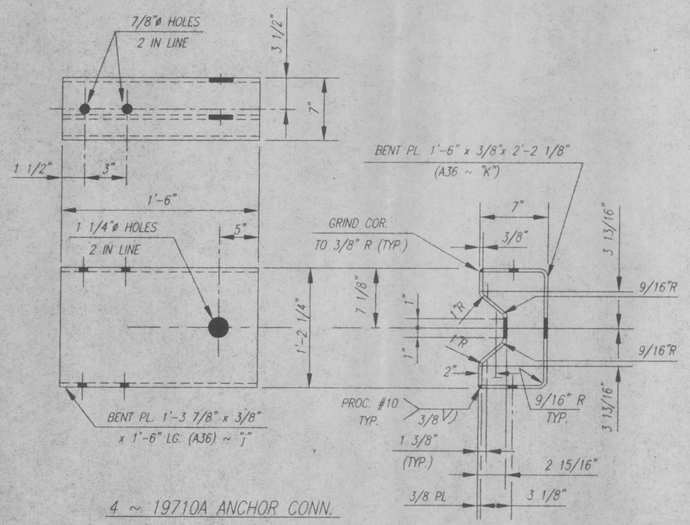
GALV. DRAIN DETAIL



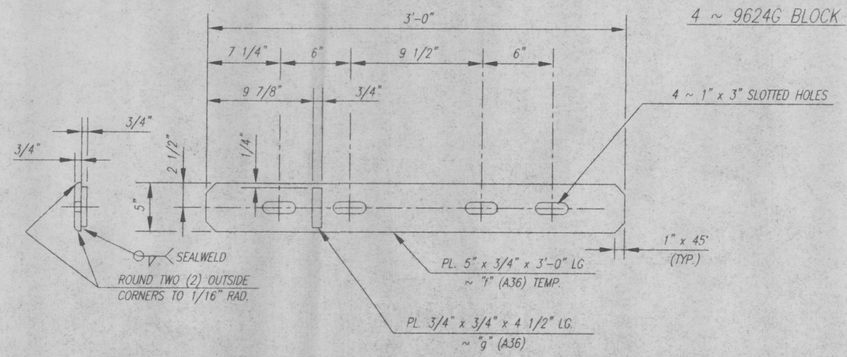
4 ~ 811G ANCHOR PLATE



4 ~ 9624G BLOCK



4 ~ 19710A ANCHOR CONN.



44 ~ 32124A SPLICE

BILL OF MATERIAL

	PRODUCT CODE	QTY	DESCRIPTION	WT	REMARKS
*	14392A	30	2 RAIL POST	90#	
*	32124A	44	SPLICE	37#	
*	19710A	4	ANCHOR CONN.	83#	
*	811G	4	ANCHOR PLATE	133#	
*	9624G	4	BLOCK	34#	
			HARDWARE		
	3706G	88	3/4 ø x 4" HEX HD. BOLT		A307 GR.A A153
	3700G	176	3/4 ø FLAT WASHER		F844 A123
	3704G	88	3/4 ø HEX NUT (HVY)		A307 GR.A A153
	4433G	60	5/8 ø x 4 1/2" HEX HD. BOLT		A307 GR.A A153
	4373G	120	5/8 ø FLAT WASHER		F844 A123
	3350G	30	5/8 ø HEX NUT		A563 GR.A A153
	3917G	4	1" ø x 6" HEX HD. BOLT		A325 A153
	4902G	4	1" ø FLAT WASHER		F436 A123
	4903G	4	1" ø HEX NUT		A194 Gr.2H A153
	4421G	4	5/8 ø x 3" HEX HD. BOLT		A325 A153
*	3404G	24	5/8 ø x 2" HEX HD. BOLT		A325 A153
*	4372G	32	5/8 ø FLAT WASHER		F436 A123
	3310G	24	5/8 ø LOCK WASHER		F436 A123
	3351G	28	5/8 ø HEX NUT		A194 Gr.2H A153
	4779G	16	3/4 ø x 4 1/2" HEX HD. BOLT		A325 A123
	4699G	16	3/4 ø LOCK WASHER		F436 A123
	3711G	16	3/4 ø HEX NUT		A194 Gr.2H A153
			PAY QUANTITIES		
	295'-0" LIN FT.		ITEM NO. 525.31		2-RAIL GALV. BOX BEAM BRIDGE RAILING
*	4 EACH		ITEM NO. 621.70 (Partial)		SPEC. BEAM TO BOX BEAM CONN.

HARDWARE NOTE:

VERMONT DEPT. OF HIGHWAYS HIGH STRENGTH HARDWARE A325 OR A449 REQUIRES MANUFACTURER'S CERTIFICATE SHOWING HEAT NO, PHYSICAL PROPERTIES AND CHEMICAL ANALYSIS.

CARBON A307 HARDWARE REQUIRES THE MANUFACTURER'S CERTIFICATE OF COMPLIANCE.

NOTES:

1. ALL POSTS TO BE CHARPY V NOTCH TESTED
2. INSPECTED BY CONWELL
3. FINISH: GALV A123
4. ALL POST MATERIAL, INCLUDING BASE PLATE, SHALL MEET MINIMUM CHARPY V-NOTCH TOUGHNESS REQUIREMENTS.
5. ALL WELDING SHALL CONFORM WITH VERMONT STANDARD SPECIFICATIONS SECTION 506.10.

ISSUED
FEB 10 1997.

APPROVAL DRAWING

ISSUED

ERECTION DETAILS ARE ON SHEETS E1 &:E2 OF 2 (22) 101635

REV.	CHK'D.	BY	DATE	REMARKS
			02/07/97	SENT FOR APPROVAL

STATE OF VERMONT
AGENCY OF TRANSPORTATION
BOX BEAM BRIDGE RAILING
TOWN OF BRAINTREE, COUNTY OF ORANGE
VT ROUTE 12A, BRIDGE No 6
PROJECT: BRS 0187 (6)

DRAWN: Elzard A. Sikkema
CHECKED: James L. Schow
APPROVED:
DATE: Fri, Jan 24 1997
ENG. FILE No.: 10163501
SHEET No.: 01 of 2
DRAWING NUMBER: (22) 101635
REV.

CUSTOMER: F.R. LAFAYETTE, INC. P.O. No. 12529

TRINITY INDUSTRIES, INC.
DALLAS, TX. CENTERVILLE, UT. GIRARD, OH. LIMA, OH. FORT WORTH, TX. ELIZABETHTOWN, KY.
SYRO

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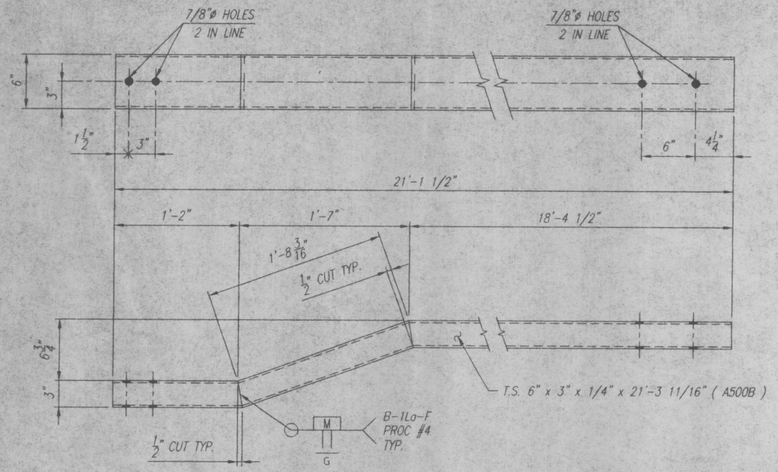
I:\DWG\STATES\VT\10\GEN\10163501 Fri Feb 07 12:39:05 1997 PLOTTED BY: Dipak Dhani



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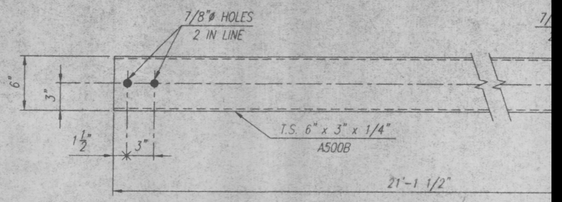

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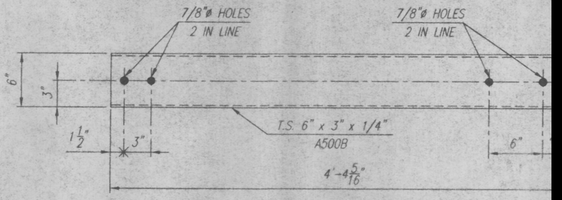

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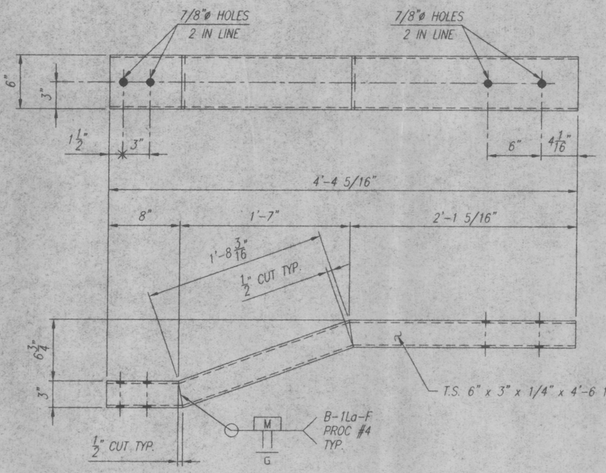

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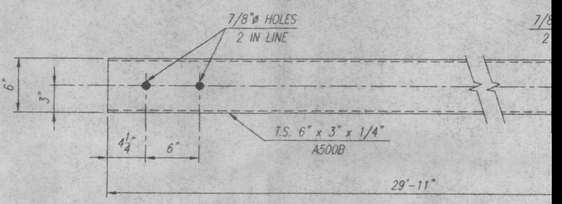
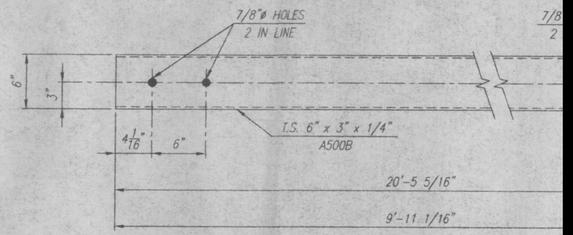


14 ~ RAILS ~ 76658G



2 ~ RAILS (AS NOTED) ~ 766

2 ~ RAILS (AS NOTED) ~ 766