

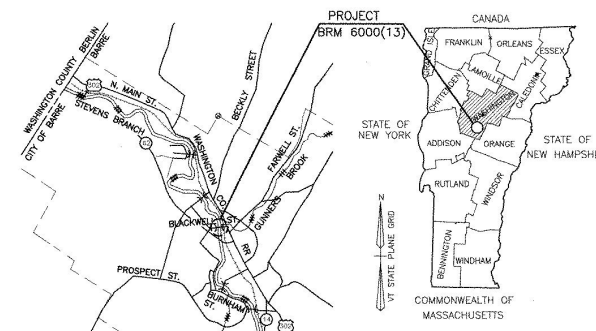
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- E-102 CONSTRUCTION SIGN DETAILS
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- G-10 STEEL BEAM GUARDRAIL, ANCHOR FOR STEEL BEAM RAIL GUARD
- G-4 ROAD MARKERS
- T-2 TEMPORARY EROSION CONTROL DETAILS
- T-4 TEMPORARY EROSION CONTROL DETAILS

BEGINNING AT A POINT ON BLACKWELL STREET APPROXIMATELY 0.047 MILES
WESTERLY OF THE INTERSECTION OF US ROUTE 302 AND EXTENDING
EASTERLY 0.034 MILES.

PROJECT DESCRIPTION --
THE REPLACEMENT OF STRUCTURALLY DEFICIENT BRIDGE #10 WITH A NEW
SINGLE SPAN PLATE GIRDER STRUCTURE INCLUDING ALL THE NECESSARY
ROADWAY APPROACH WORK.

LENGTH OF STRUCTURE	=	81.00 FEET	=	0.015 MILES
LENGTH OF ROADWAY	=	99.00 FEET	=	0.019 MILES
LENGTH OF PROJECT	=	180.00 FEET	=	0.034 MILES



2000 0 2000

SCALE: IN FEET

CONTRACTOR: EDNEY INC. - BARNET, VT
RESIDENT ENGINEER: FRED REED
CONSTRUCTION BEGAN: JUNE 5, 2000
CONSTRUCTION COMPLETE: DECEMBER 1, 2000
RECORD PLANS BY: N. GARBAICK

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

BY: *[Signature]* FOR FRED REED
DATE: April 12, 2005
RESIDENT ENGINEER

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

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 *4/17/94*
DIRECTOR OF PROJECT DEVELOPMENT

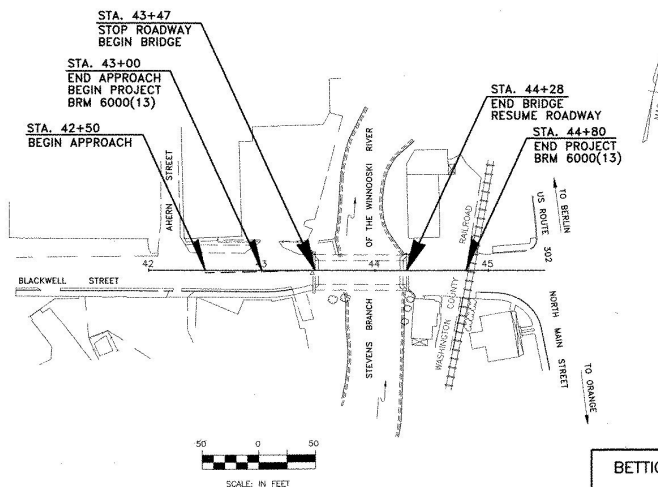
PROJECT BARRE CITY BRM 6000(13)

SHEET 1 OF 46 SHEETS

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

FUNCTIONAL CLASSIFICATION
CITY STREET (LOCAL CLASS 2)
1996 ADT = 1700
2016 ADT = 2290
2016 DHV = 320
D = 55%
T = 3%
V = 25 M.P.H.
(1996-2016) 18 KIP ESAL =
989,450 / DESIGN LANE

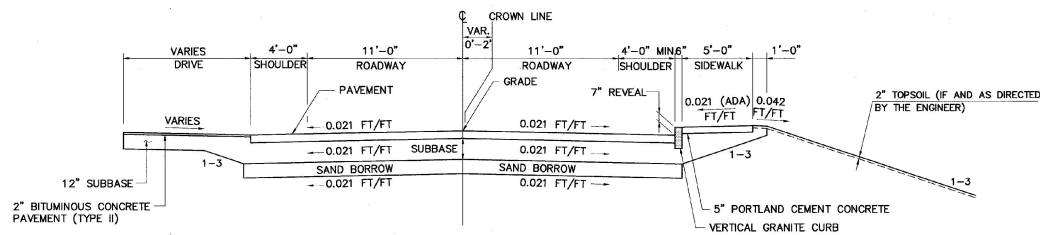
DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A



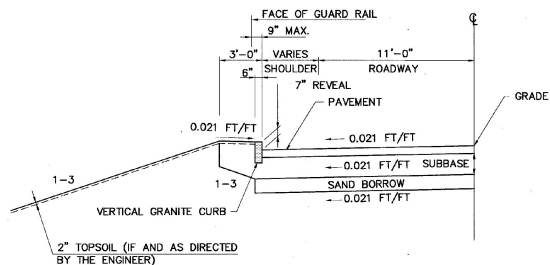
TYPICAL SECTIONS

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

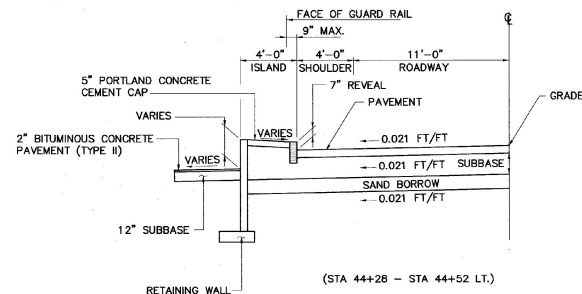
- 1 1/2" BITUMINOUS CONCRETE PAVEMENT (TYPE III)
- 2" BITUMINOUS CONCRETE PAVEMENT (TYPE II)
- 3" BITUMINOUS CONCRETE PAVEMENT (TYPE I)
- 18" SUBBASE OF DENSE GRADED CRUSHED STONE
- 12" SAND BORROW



NORMAL SECTION



(STA 43+15 - STA 43+47 LT.)



(STA 44+28 - STA 44+52 LT.)

SECTIONS WITH GUARD RAIL

GENERAL NOTES

- SEED - TO BE APPLIED PER SEEDING FORMULA AS DIRECTED BY THE ENGINEER.
- FERTILIZER - FORMULA 10-20-10 (19-19-19 FOR HYDROSEEDING) TO BE USED WITH SEED, AT THE RATE OF 500 LBS./ACRE.
- 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 (WOOD OR STEEL, AS SPECIFIED) - 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.

SEEDING FORMULA URBAN AREAS CONSERVATION MIX

% WT.	LBS./A.	NAME	PUR %	GERM %
42.5	34.0	CREeping RED FESCUE	98	85
10.0	8.0	PERENNIAL RYE GRASS	95	90
42.5	34.0	KENTUCKY BLUE GRASS	85	85
5.0	4.0	ANNUAL RYE GRASS	95	85
100.0	80.0			

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

STATE OF VERMONT AGENCY OF TRANSPORTATION

CITY OF	BARRE	BRIDGE NO.	8-10
STREET NAME	BLACKWELL STREET	LOG STA.	
		SURV. STA.	
BLACKWELL STREET OVER STEVENS BRANCH			
TYPICAL SECTION			
DESIGNED BY	S. Bekier	DRAWN BY	S. Belanger
CHECKED BY	DATE	BRIDGE DESIGN SUPERVISOR	
	D. Kidder	12/95	J. Patusky
PROJECT	BARRE CITY	DATE	12/98
B&C DRAWING NO.	920388B1/1-4	PROJECT NO.	BRM 6000(13)
BRIDGE SHEET NO.		DATE	12/98
		SHEET	2 OF 46

BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers

QUANTITY SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

APPROXIMATE SUMMARY OF QUANTITIES											(PART 1 of 2)
UTILITY BID ITEMS NON-PARTICIPATING WATER	E & C	EROSION CONTROL	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.	ROUNDING		
				4	4	EA	REMOVING SMALL TREES	201.15			
				650	650	CY	COMMON EXCAVATION	203.15	15		
				10	10	CY	SOLID ROCK EXCAVATION	203.16	EST		
			20	175	175	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
				246	246	CY	SAND BORROW	203.31	24		
124		5		375	375	CY	TRENCH EXCAVATION OF EARTH	204.20	23		
				5	5	CY	TRENCH EXCAVATION OF ROCK	204.21			
				65	65	CY	STRUCTURE EXCAVATION	204.25	3		
			580	580	580	CY	GRANULAR BACKFILL FOR STRUCTURE	204.30			
			1	1	1	LS	COFFERDAM (STA. 43+48)	204.40			
				1	1	LS	COFFERDAM (STA. 44+28)	204.40			
			35	410	460	CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35			
			38	217	255	TON	BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	406.25	2		
			100	100	100	CY	CONCRETE, CLASS A	501.22	3		
5			391	14	410	CY	CONCRETE, CLASS B	501.25	8		
			28	28	28	CY	SILICA - FUME CONCRETE	501.60			
			1	1	1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10			
			1465	1465	1465	LF	STEEL PILING (HP 14x89)	505.18			
			102480	102480	102480	LB	STRUCTURAL STEEL (PLATE GIRDER)	506.55			
			31500	1272	32772	LB	REINFORCING STEEL	507.15			
			43011		43011	LB	EPOXY COATED REINFORCING STEEL	507.17			
			1	1	1	LS	SHEAR CONNECTORS (1.032 x 7" LONG) (7/8")	508.15			
			1	1	1	LS	STRUCTURAL PAINTING, SHOP APPLIED (50 TON)	513.25			
			1	1	1	LS	SURFACE PREPARATION (50 TON)	513.40			
			22	22	22	GAL	WATER REPELLENT	514.10			
			30	30	30	LF	BRIDGE EXPANSION JOINT (ASPHALTIC PLUG-TYPE)	516.10			
			404	404	404	SY	SHEET MEMBRANE WATERPROOFING	519.20			
			2	2	2	GAL	JOINT SEALER, POLYURETHENE	524.20			
			88.5	88.5	88.5	LF	BRIDGE RAILING - 3 RAIL ALUMINUM	525.22			
			89.5	89.5	89.5	LF	BRIDGE RAILING - ALUM. PEDESTRIAN (WITH SPINDLES)	525.23			
			1	1	1	EA	REMOVAL OF STRUCTURE	529.15			
			12	32	32	LF	REMOVAL OF 12"-24" PIPE	529.50			
				12	12	EA	BEARING ASSEMBLY DEVICE	531.10			
							* BEGIN OPTION PIPES *				
				98	98	LF	18" RCP CLASS III	601.0815			
				32	32	LF	24" RCP CLASS III	601.0825			
				98	98	LF	18" CPEP	601.0915			
				32	32	LF	24" CPEP	601.0920			
				98	98	LF	18" CPEP (SL)	601.2615			
				32	32	LF	24" CPEP (SL)	601.2620			
							* END OPTION PIPES *				
				60	60	LF	CLEAN CULVERTS IN PLACE	601.995			
				6	6	EA	PRECAST REINF. CONC. D.I. WITH CAST IRON GRATE	604.25			
				1	1	EA	CHANGE ELEVATIONS OF DI, CB, OR MH	604.40			
3				3	3	EA	CHANGE ELEVATIONS OF SEWER MANHOLES	604.23			
				100	100	LF	6" UNDERDRAIN	605.10	EST		
				15	15	HR	ROADWAY PATROL MAINTENANCE	607.10	EST		
				1	1	HR	BULLDOZER RENTAL, TYPE I (N.A.B.I.)	608.10	EST		
				1	1	HR	ALL PURPOSE EXCAVATOR RENTAL TYPE I (N.A.B.I.)	608.25	EST		
				1	1	HR	TRUCK RENTAL (N.A.B.I.)	608.37	EST		
				1	1	HR	LOADER RENTAL, TYPE I (N.A.B.I.)	608.40	EST		
				1	1	TON	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15	EST		
			40	40	40	CY	STONE FILL, TYPE I	613.10	EST		
			238	238	238	CY	STONE FILL, TYPE II	613.11			
				220	220	LF	VERTICAL GRANITE CURB	616.21	9		
				80	80	LF	REMOVAL OF EXISTING CURB	616.41	3		
				96	96	SY	PORTLAND CEMENT CONCRETE SIDEWALK 5"	618.10	3		
				1	1	EA	WOOD MARKER POSTS	619.15			
				25	25	LF	STEEL BEAM GUARD RAIL	621.20			
				73	73	LF	ALUMINUM APPROACH RAILING	621.74			
				60	60	LF	TEMPORARY TRAFFIC BARRIER	621.90			
				132	132	MFBM	INSULATION BOARD	622.10			
				2	2	LF	SLEEVES FOR UTILITIES (12" I.D.)	625.10			
				2	2	LF	SLEEVES FOR UTILITIES (24" I.D.)	625.10			
				3	3	EA	ADJUST ELEVATION OF VALVE BOX	629.20			
				210	210	LF	DUCTILE IRON PIPE CEMENT LINED (6" I.D.)	629.24			
180				180	180	LF	DUCTILE IRON PIPE CEMENT LINED (16" I.D.)	629.24			
				1	1	LS	TRANSFER TO NEW SYSTEM - WATER (6" I.D.)	629.42			
				1	1	LS	TRANSFER TO NEW SYSTEM - WATER (16" I.D.)	629.42			
				121	121	LF	PIPE INSULATION (6" I.D.)	629.44			
				121	121	LF	PIPE INSULATION (16" I.D.)	629.44			
				1	1	LS	WATER MAIN ON BRIDGE (6" I.D.)	629.60			
				1	1	LS	WATER MAIN ON BRIDGE (16" I.D.)	629.60			
				30	30	HR	UNIFORMED TRAFFIC OFFICERS	630.10	EST		
				100	100	HR	FLAGGERS	630.15	EST		
				1	1	LS	FIELD OFFICE - ENGINEERS	631.10			
				1	1	LS	TESTING EQUIPMENT - CONCRETE	631.16			
				1	1	LS	TESTING EQUIPMENT - BITUMINOUS	631.17			
				1	1	LS	TESTING EQUIPMENT - PROTECTIVE COATING	631.18			
				1	1	LU	FIELD OFFICE - TELEPHONE (N.A.B.I.)	631.25			
				1	1	LS	MOBILIZATION	635.10			
				470	470	LF	DURABLE 4" WHITE LINE	646.40	10		

APPROXIMATE SUMMARY OF QUANTITIES (CON'T)											(PART 2 of 2)
UTILITY BID ITEMS NON-PARTICIPATING WATER	E & C	EROSION CONTROL	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.	ROUNDING		
				470	470	LF	DURABLE 4" YELLOW LINE	646.41	10		
				154	154	SY	GEOTEXTILE UNDER STONE FILL	649.31			
				35	45	SY	GEOTEXTILE FOR SILT FENCE	649.51	EST		
				1	1	LB	SEED	651.15			
				1	1	LB	SEED - WINTER RYE	651.17			
				8	8	LB	FERTILIZER	651.18			
		0.25			0.25	TON	AGRICULTURAL LIMESTONE	651.20			
		0.25			0.25	TON	HAY MULCH	651.25			
		8		17	25	EA	HAY BALES FOR EROSION CONTROL	651.26			
		10			10	CY	TOPSOIL	651.35			
			23		23	SY	GRUBBING MATERIAL	651.40			
					10	SY	EROSION MATTING	654.10			
				48	48	SF	TRAFFIC SIGNS (TYPE A)	675.20	3		
			112		112	LF	FLANGED CHANNEL SIGN POST (24" x 24")	675.301			
			112		112	LF	SQUARE TUBE SIGN POSTS # ANCHORS (24" x 24")	675.341			
			1		1	EA	REMOVING SIGNS	675.50			

DETAILED SUMMARY OF QUANTITIES		
QUANTITIES	UNIT	ITEMS
COMMON EXCAVATION		
582	CY	BLACKWELL STREET
43	CY	DRIVES
15	CY	ROUND
650	CY	TOTAL
TRENCH EXCAVATION OF EARTH		
119	CY	DRAINAGE
5	CY	TEMPORARY EROSION CONTROL
118	CY	WATER LINE (6" I.D.) PARTICIPATING
124	CY	WATER LINE (16" I.D.) NON-PARTICIPATING
6	CY	ROUND
375	CY	TOTAL
SUBBASE OF DENSE GRADED CRUSHED STONE		
356	CY	BLACKWELL STREET
47	CY	DRIVES
15	CY	TEMPORARY EROSION CONTROL
35	CY	BRIDGE
7	CY	ROUND
460	CY	TOTAL

DETAILED SUMMARY OF QUANTITIES		
QUANTITIES	UNIT	ITEMS
BITUMINOUS CONCRETE PAVEMENT		
192	TON	BLACKWELL STREET
24	TON	DRIVES
37	TON	BRIDGE
2	TON	ROUND
255	TON	TOTAL
TEMPORARY EROSION CONTROL (INCLUDED IN EROSION CONTROL)		
5	CY	TRENCH EXCAVATION OF EARTH
15	CY	SUBBASE OF DENSE GRADED CRUSHED STONE
10	SY	GEOTEXTILE FOR SILT FENCE
1	LB	SEED, WINTER RYE
8	EA	HAY BALES FOR EROSION CONTROL
10	SY	EROSION MATTING
EROSION CONTROL		
1	LB	SEED
2	LB	FERTILIZER
0.25	TON	AGRICULTURAL LIMESTONE
0.25	TON	HAY MULCH
10	CY	TOPSOIL

STATIONS		PAVEMENT WIDTHS		EQUATIONS		FEET	MILES	REMARKS
FROM	TO	30'-0"	VARIES	+	-			
43+00	43+47	47					0.009	ROADWAY
43+47	44+28	81					0.015	BRIDGE
44+28	44+80	52					0.010	ROADWAY
TOTALS		180					0.034	
PROJECT NAME		BARRE CITY		BETTIGOLE ANDREWS & CLARK INC.		BA&C NO. 2038BQUA/1		DATE: 12/98
PROJECT NUMBER		BRM 6000(13)		Consulting Engineers		SHEET 3 OF 46 SHEETS		

ITEM DETAIL AND DRAINAGE SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE STRUCTURES																														GUARD RAIL										
STA.	STA.	POSITION	ASKEW	TYPE	DITCH	PIPE ARCH				PIPE				ALLOWABLE OPTIONS				PIPE	ELBOW	DEPTH	CONC	REIN	DI	CHAN	TR	EXCAV	CONC	UNG	STRUC	GRAN	EROS	STONE	MARK	REMARKS	STA.	STA.	LT.	RT.	END TREATMENT	
				IN/OUT	IN	OUT	S	R	L	D	L	RCP	CPEP	CPEP	NO-DIA	EA	LF	CL	B	STEEL	GRADE	ELEV	CRM	CY	CY	CY	CY	CY	CY	SY	TYPE	LI	RT							
43+00	43+17	RT-LT		DI/					18	36		III	X	X			1				D			15																
43+17	43+50	LT		DI/					24	32		III	X	X			1				D			25																
44+52	44+54	RT-LT		DI/					18	28		III	X	X			1				D			13																
44+54	44+54	LT		DI/					18	8		III	X	X			1				D			8																
44+54	44+41	LT		DI/					18	12		III	X	X			1				D			35																
44+41	44+25	LT		DI/					18	14		III	X	X			1				D			35																
43+17	43+50	LT																					22																	
TOTAL									18	98		III	X	X			6						153																	
									24	32		III	X	X																										

UNDERDRAIN														
STA.	STA.	POS.	D	L	TRENCH	GRAN	FB	MKR	PST					
					E	R	BKF							
44+28	44+52	U	LT.	6	26	0								
TOTALS														

PROJECT NAME BARRE CITY
PROJECT NUMBER BRM 6000(13)
BETTIGOLE ANDREWS & CLARK INC.
Consulting Engineers
BA&C NO. 2038BORA
DATE: 12/98
SHEET 4 OF 46 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

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TABLE OF PROJECT PROPERTY ACQUISITION

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

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS	REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
1	RIENDEAU, DONALD	5	42+85 RT. 43+12 RT. 43+28 RT. 43+40 RT. 43+42 RT.	43+09 RT. 43+68 RT. 43+74 RT.			SLOPE (T) 0.01A± WALK (T) DRIVE (T) SLOPE (P) 0.01A± CONST (T) 0.01A±	WDOE	09-16-97	BARRE CITY	167	472-473	18 S.F.± 11' GRAVEL 144 S.F.± 270 S.F.±	1	5	PARCEL NO. 1 RIENDEAU, EXTEND CONSTRUCTION LIMITS OF DRIVE. PER C.O. 8722.	01-15-96	P. J. H.	L. W. B.
2	GRANITE CITY TOOL CO. OF VERMONT INC.	5	43+10 LT. 43+16 LT. 43+16 LT. 43+20 LT. 43+44 LT.	43+54 LT. 43+66 LT. 43+45 LT. 43+46 LT.			DRIVE (T) SLOPE (P) 0.01A± CONST. (T) 0.01A± REMOVE & RESET (T) REMOVE & RESET (T)	WDOE	10-06-95	BARRE CITY	160	922-923	17' PAVED 74 S.F.± 500 S.F.± CHAIN LINK FENCE PIPE RAIL	2	3A, 3B, 4, 5	PARCEL NO. 4 DENTE, ADD ACQUISITION 44+13 RT. ~ 44+62 RT.± 27 S.F.±. ADD EASE (T) AT STA. 44+35 RT.±. * TO RELOCATE POWER SERVICE. * CHANGE ENDING STA. OF EASE (T) FROM 44+43 RT. TO 44+52 RT. CHANGE REMARKS FOR THIS EASE. (T) TO READ - * TO REPLACE CONCRETE STEP & ALTER SIDING * CHANGE SHEET 3 TO 3A. ADD A NEW SHEET 3B. ADD NEW NOTES AND MODIFY EXISTING NOTES ON PLAN SHEET. PER C.O. 8894.	05-05-97	M. J. R.	L. W. B.
3A	GREEN MOUNTAIN POWER CORP.	5	44+08 LT. 44+17 LT. 44+25 LT. 44+67 LT. 44+28 LT.	44+28 LT. 44+28 LT. 44+28 LT. 44+57 LT.			CONST. (T) 0.01A± SLOPE (P) 0.01A± CONST. & MAINT. (P) DRIVE (T) SLOPE (T) 0.01A±	WDOE	10-15-96	BARRE CITY	164	384-386	276 S.F.± 84 S.F.± WING WALL 22' PAVED 112 S.F.±	3	4	PARCEL NO. 4 DENTE, ADD EXCEPT & RESERVE FOR BUILDING OVERHANG AT STA. 44+35 RT.± ~ 44+56 RT.±. PER C.O. 8909.	07-29-97	M. J. R.	L. W. B.
3B													UTILITY	4	4, 5	PARCEL NO. 4 DENTE, CHANGE EASE. (T) AT 44+35 RT. ~ 44+52 RT. TO INSTAL. (T); * SIDING. * PER C.O. 8914.	08-18-97	M. J. R.	L. W. B.
4	DENTE, RICHARD H. & LUCILLE A.	3B, 5	44+31 RT. 44+35 RT.± 44+20 RT. 44+20 RT. 44+29 RT. 44+33 RT. 44+35 RT. 44+35 RT.± 44+57 RT.	44+62 RT. 44+33 RT. 44+33 RT. 44+33 RT. 44+52 RT. 44+55 RT.±	27 S.F.±		EASE. (T) SLOPE (P) 0.01A± CONST. (T) 0.01A± CONST. & MAINT. (P) INSTALL (T) EXCEPT & RESERVE DRIVE (T)			BARRE CITY			RELOCATE POWER SERVICE 78 S.F.± 80 S.F.± WING WALL SIDING BUILDING OVERHANG 12' GRAVEL			MYLARS TO STRUCTURES - 12-30-97		W. L. G.	L. W. B.
5	WASHINGTON COUNTY RAILROAD - LESSEE STATE OF VERMONT - LESSOR	5	44+60 RT.	44+72 RT.			DRIVE (T)						12' GRAVEL						
6	GREEN MOUNTAIN POWER - SUB LESSEE WASHINGTON COUNTY RAILROAD - LESSEE STATE OF VERMONT - LESSOR	5	44+72 LT	44+84 LT.			DRIVE & PARKING (T)						AREA FOR DRIVE & PARKING						
7	NYNEX												UTILITY						
8	HELICON CABLE TV												UTILITY						
9	BARRE CITY SEWER & WATER												UTILITY						

600001.3 200 1805 JDP

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

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

LEGEND
CONST. (T)
SR
P
L
A
O

CLEAR ZONE
CONSTRUCTION EASEMENT
SLOPE RIGHTS
PROPERTY LINE
TOP OF CUT
TOE OF SLOPE

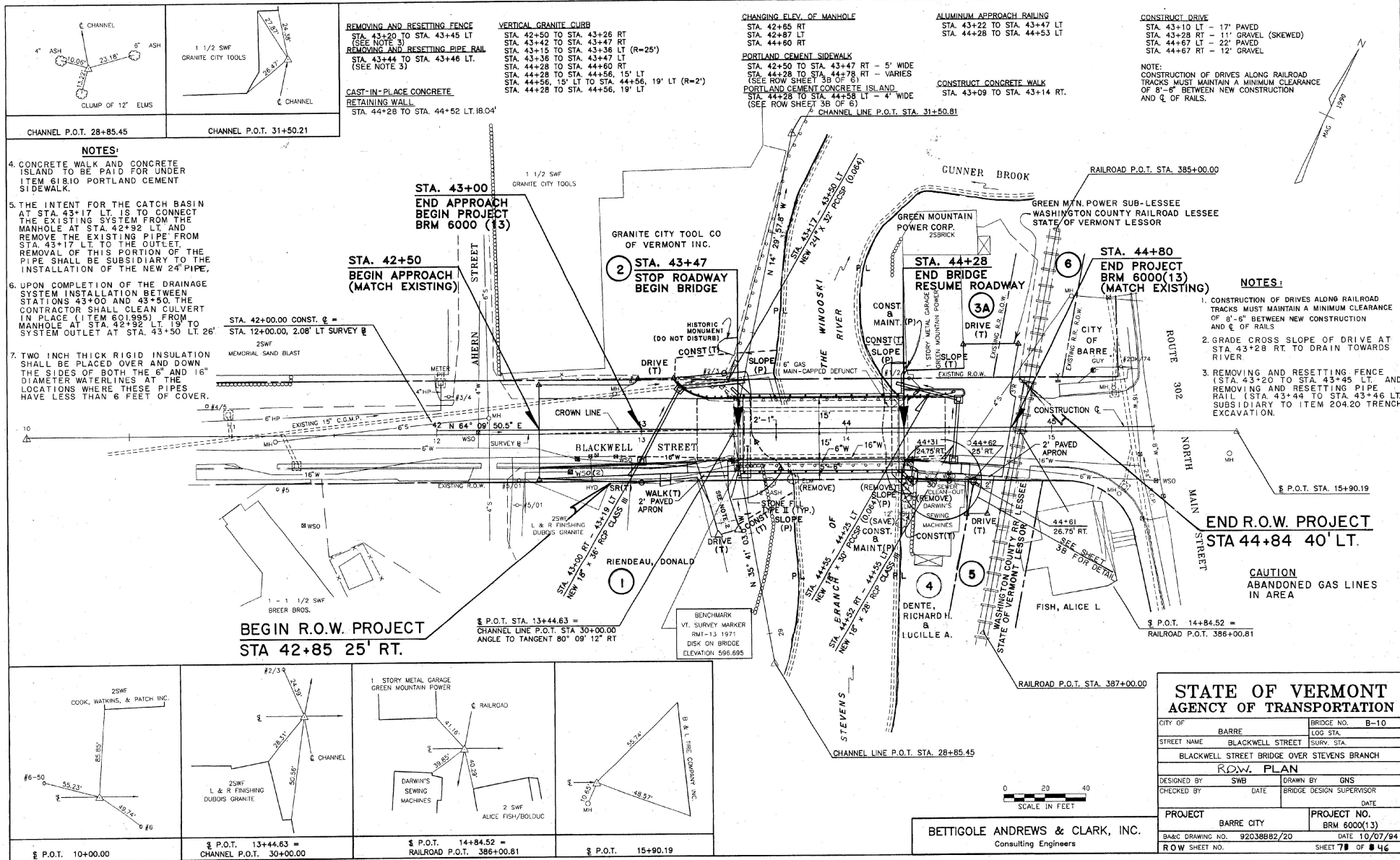
REVISED 08-18-97

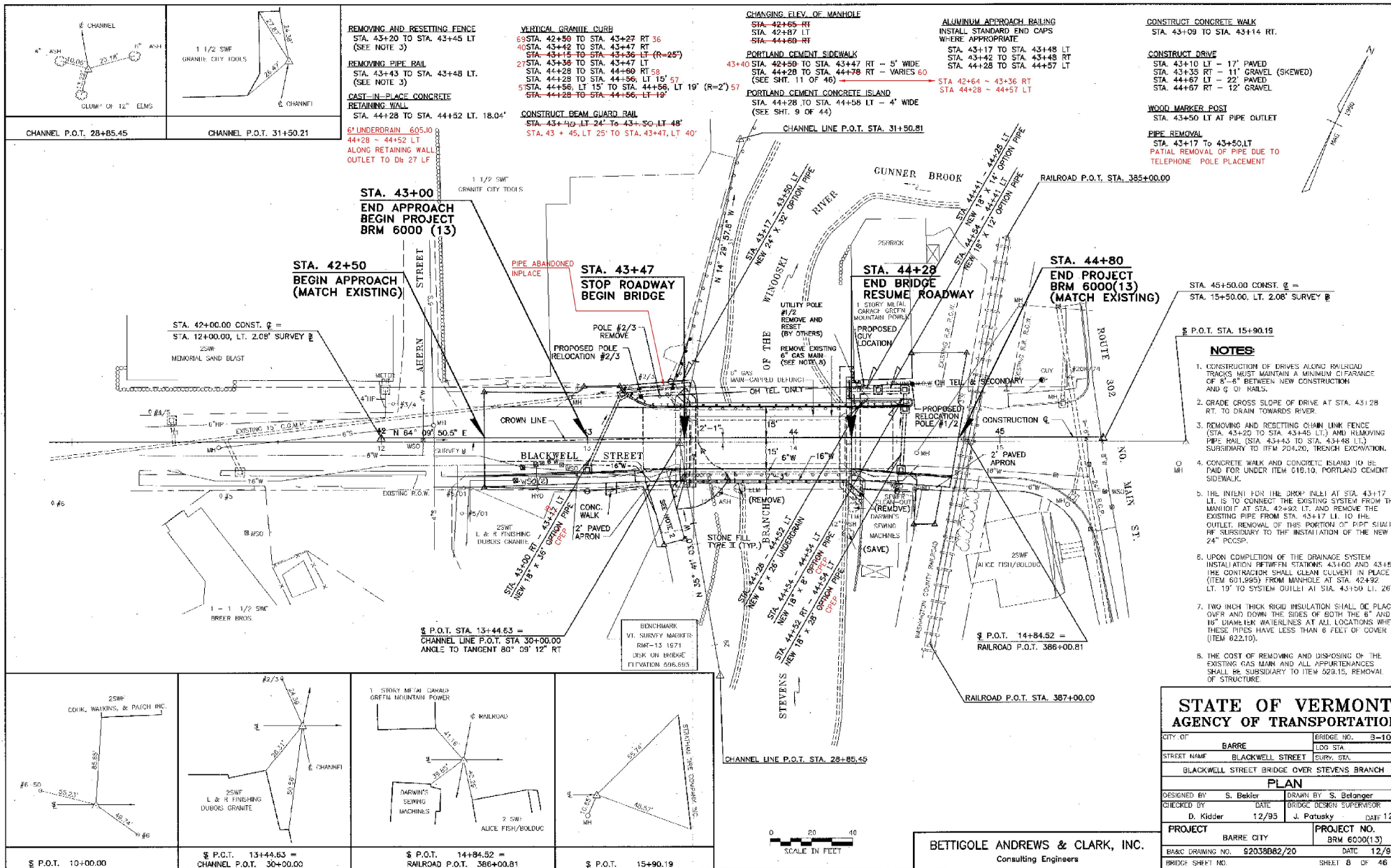
APPROVED: LAWRENCE W. BLISS DATE: 01-23-95
AGENT D. PLANS & TITLES

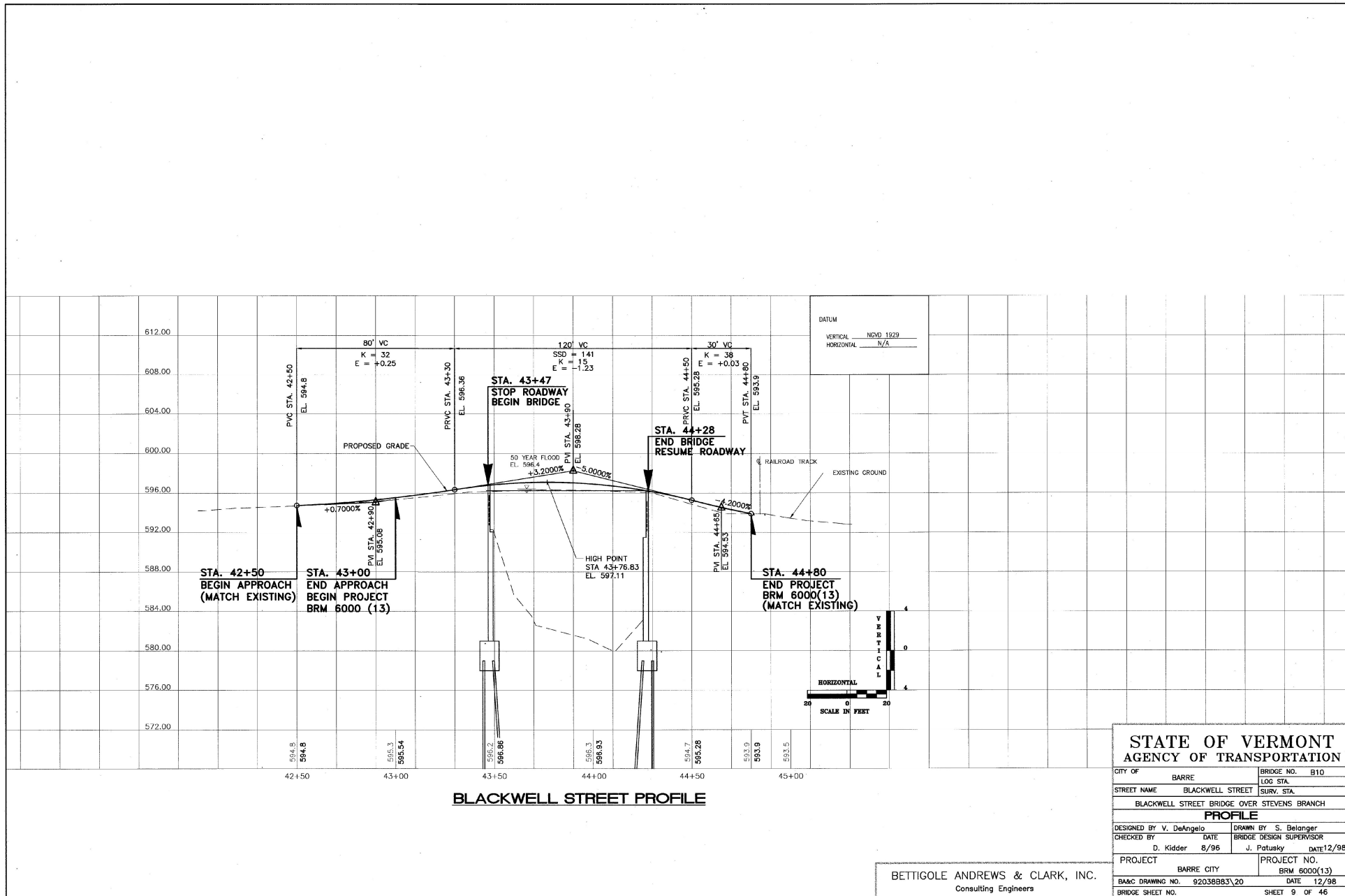
R.O.W. PLANS

BARRE CITY
BRM 6000(13)
SHEET 46 OF 46

ACCT. prep
/proj/89/03/rd03d.dgn
DATE PLOTTED 22-AUG-1997
rd03d.plt







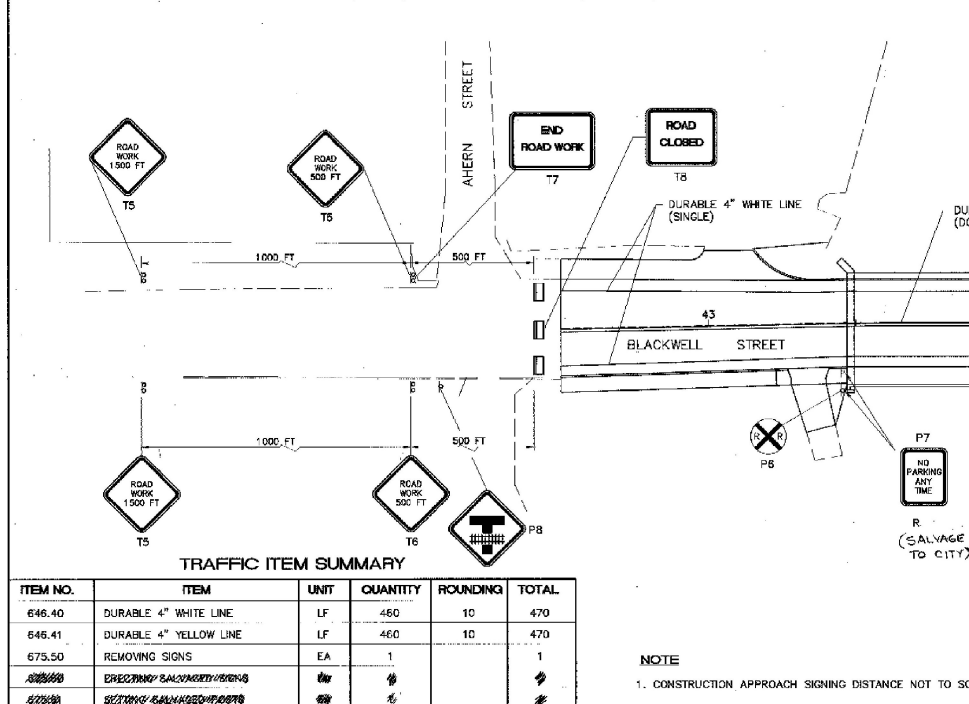
STATE OF VERMONT AGENCY OF TRANSPORTATION			
CITY OF	BARRE	BRIDGE NO.	B10
STREET NAME	BLACKWELL STREET	LOG STA.	
BLACKWELL STREET BRIDGE OVER STEVENS BRANCH			
PROFILE			
DESIGNED BY	V. DeAngelo	DRAWN BY	S. Belanger
CHECKED BY	D. Kidder	BRIDGE DESIGN SUPERVISOR	J. Patusky
DATE	8/96	DATE	12/98
PROJECT	BARRE CITY	PROJECT NO.	BRM 6000(13)
DATE	12/98	DATE	12/98
BRIDGE SHEET NO.	9	OF	46

BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers

TEMPORARY TRAFFIC SIGN SUMMARY SHEET

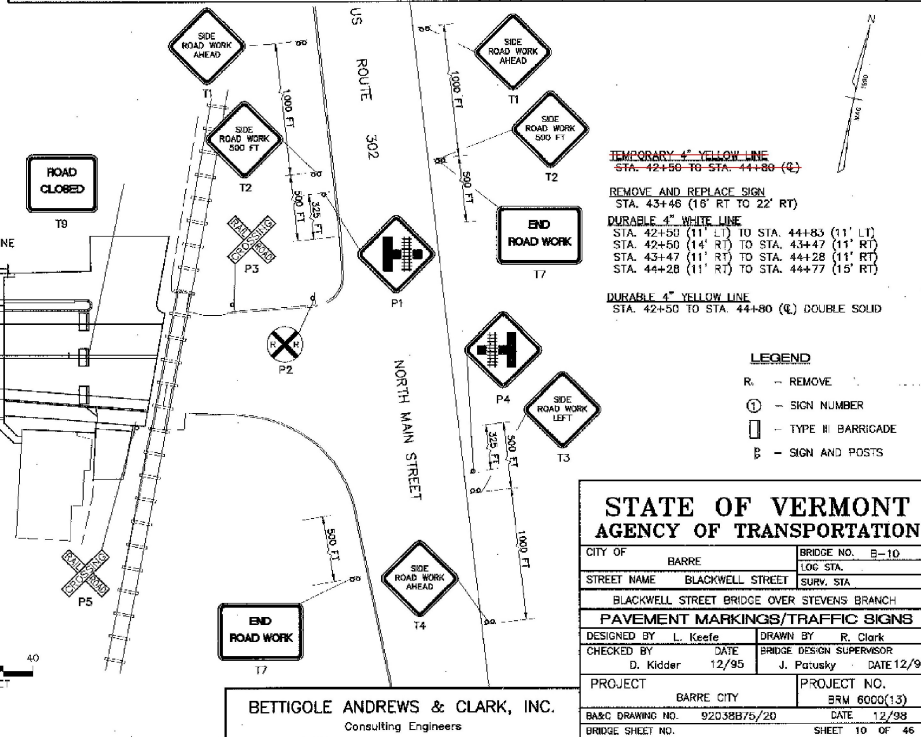
SIGN NUMBER	SIGN LEGEND	NEW SIGNS		NEW SIGN POSTS			REMARKS	STD. SHEET NUMBER
		SIGN DIMENSIONS	"A"	NUMBER OF POSTS	FLANGED CHANNEL LB/FT	TUBULAR ALUMINUM 30°/°		
T1	SIDE ROAD WORK AHEAD	48"x48"	16	2	X			E-100A
T2	SIDE ROAD WORK 500 FT	48"x48"	16	2	X			E-121
T3	SIDE ROAD WORK AHEAD	48"x48"	16	2	X			E-160
T4	SIDE ROAD WORK 500 FT	48"x48"	16	2	X			
T5	END ROAD WORK	48"x24"	8	1	X			
T6	SIDE ROAD WORK LEFT	48"x48"	16	2	X			
T7	SIDE ROAD WORK AHEAD	48"x48"	16	2	X			
T8	END ROAD WORK	48"x24"	8	1	X			
T9	ROAD CLOSED	48"x30"	10	1	X			
T10	ROAD CLOSED	48"x30"	10	1	X			
T11	ROAD WORK 500 FT	36"x36"	9	1	X			
T12	ROAD WORK AHEAD	36"x36"	9	1	X			
T13	ROAD WORK AHEAD	36"x36"	9	1	X			
T14	ROAD WORK 500 FT	36"x36"	9	1	X			
T15	END ROAD WORK	48"x24"	8	1	X			
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".		SF.						
TOTALS		176			788			

NOTE: TEMPORARY SIGNS & POSTS ARE SUBSIDIARY TO ITEM 635.10



TRAFFIC SIGN SUMMARY SHEET

SIGN NUMBER	SIGN LEGEND	NEW SIGNS		NEW SIGN POSTS			REMARKS	STD. SHEET NUMBER
		SIGN DIMENSIONS	"A"	NUMBER OF POSTS	FLANGED CHANNEL LB/FT	TUBULAR ALUMINUM 30°/°		
P1	W10-3	30"x30"	6.25		4X	X	US 302 WEST	E 163
P2	RAILROAD CROSSING	36" DIAMETER	7		4X	X	45+30 LT	E 190
P3	RAILROAD CROSSING	48"x9"	6		4X	X	45+10 LT	
P4	W10-3	30"x30"	6.25		4X	X	US 302 EAST	
P5	RAILROAD CROSSING	48"x9"	6		4X	X	44+29 RT	
P6	RAILROAD CROSSING	36" DIAMETER	7		4X	X	43+46 RT	
P7	R7-100 (NO PARKING ANY TIME)	12"x18"	1.5		4X	X	43+46 RT	
P8	W10-3	30"x30"	6.25		4X	X	42+40 RT	
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S "SIGN POST DESIGN MANUAL".		SF.						
TOTALS		46.25			112 LF	112 LF		





TYPICAL CONCRETE BACKING

NO SCALE

PIPE SIZE IN.	1/4 BEND	1/8 BEND	PLUG & TEES
4, 6, 8	8	4	6
10	13	7	9
12	18	9	13
16	32	16	23

NOTES

1. THRUST BLOCKS REQUIRED:
9 @ 16" Ø PIPE (NON-PARTICIPATING)
8 @ 6" PIPE (PARTICIPATING)
2. CONCRETE FOR THRUST BLOCKS SHALL BE PAID FOR UNDER ITEM NO. 501.25.
3. TEST PRESSURE SHALL BE AS STATED IN 629.11.



RETAINING WALL DETAILS

SCALE: $\frac{1}{2}'' = 1'-0''$

LEGEND

N.F.	NEAR FACE
F.F.	FAR FACE
E.E.	EACH FACE
▲	CUT TO FIT IN FIELD
C.J.	CONSTRUCTION JOINT

NOTES

1. PLACE $\frac{1}{2}$ " EXPANSION MATERIAL AGAINST THE BACKFACE OF WINGWALL No. 3 PRIOR TO PLACEMENT OF CONCRETE.
2. FOR CONSTRUCTION JOINT DETAILS, SEE SHEET 32 OF 46.
3. CONCRETE CLASS B ($f_c = 3500$ psi).
4. GRADE 60 REINFORCEMENT.
5. SLOPE UNDERDRAIN AT 1" PER FOOT TO CATCH BASIN AT STA. 44+54 LT. 14'

STATE OF VERMONT			
AGENCY OF TRANSPORTATION			
CITY OF		BRIDGE NO. 810	
BARRE		LOG STA.	
STREET NAME		SURV. STA.	
BLACKWELL STREET			
BLACKWELL STREET BRIDGE OVER STEVENS BRANCH			
MISCELLANEOUS DETAILS			
DESIGNED BY V. DeAngelis		DRAWN BY S. Belanger	
CHECKED BY		BRIDGE DESIGN SUPERVISOR	
DATE		DATE	
D. Kidder 12/95		J. Pelletier DATE 11/98	
PROJECT		PROJECT NO.	
BARRE CITY		BIRM 6000(13)	
BACR DRAWING NO. BLACK18/24		DATE 12 OF 46	
BRIDGE SHEET NO.		SHEET 12 OF 46	

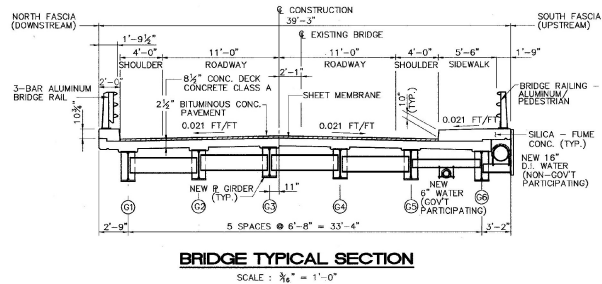
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Consulting Engineers

(SEE HIGHWAY TYPICAL SECTIONS)

NEW HIGHWAY SECTION - BRIDGE APPROACHES

GENERAL NOTES:

- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION, STANDARD SPECIFICATIONS, 1990 AND ITS LATEST REVISIONS. DESIGN IS FOR HS-20-44 LOADING MODIFIED FOR THE NATIONAL SYSTEM OF INTERSTATE HIGHWAYS, APPLIED IN ACCORDANCE WITH THE PROVISIONS OF AASHTO STANDARD SPECIFICATIONS.
- ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO DESIGNATION M270, GRADE 50 PAINTED EXCEPT AS NOTED IN THE PLANS. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER ASTM A-325, TYPE 1 (GALVANIZED) BOLTS IN 1 1/2" DIAMETER HOLES EXCEPT AS NOTED IN THE PLANS. WHERE CONNECTIONS ARE NOT DETAILED ON THE PLANS, THEY SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL.
- ALL WELDING AND DIMENSIONAL TOLERANCES OF WELDED MEMBERS SHALL CONFORM TO AWS D1.5-88 "BRIDGE WELDING CODE" AND ITS LATEST REVISIONS.
- AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF ERECTED BEAMS SHALL BE TAKEN UNDER THE DIRECTION OF THE ENGINEER FOR USE IN DETERMINING THE FINAL GRADE.
- WHERE THE GALVANIZING HAS BEEN REMOVED FROM BRIDGE COMPONENTS (INCLUDING DOWNSPOUTS) EITHER BY CUTTING, BURNING, WELDING, PLACING OR ANY MEANS, IT SHALL BE REPAIRED BY THOROUGHLY CLEANING THE DAMAGED AREAS WITH A WIRE BRUSH AND PAINTING THE DAMAGED AREAS WITH TWO COATS OF AN APPROVED SEALANT.
- ABUTMENT CONCRETE ABOVE THE ADJACENT BRIDGE SEAT ELEVATIONS SHALL NOT BE PLACED UNTIL GIRDERS HAVE BEEN ERECTED, BEAM PROFILES HAVE BEEN TAKEN, AND FINAL FINISHED GRADE OF DECK IS ESTABLISHED BY THE ENGINEER.
- MINIMUM COVER FOR REINFORCING STEEL (EXCEPT IN THE DECK) SHALL BE 2" IN BACK FACES OF SUBSTRUCTURE AGAINST EARTH AND 3" ELSEWHERE, UNLESS OTHERWISE SHOWN.
- ALL EXPOSED EDGES OF CONCRETE IN THE SUBSTRUCTURE AND THE SUPERSTRUCTURE SHALL BE CHAMFERED 1" X 1", UNLESS OTHERWISE SHOWN.
- DECK CONCRETE (INCLUDING BACKWALL HEADER) SHALL BE CONCRETE, CLASS A. BRUSH CURB CONCRETE AND SIDEWALK CONCRETE ON BRIDGE SHALL BE SILICA-FUME CONCRETE. ALL OTHER CONCRETE SHALL BE CONCRETE, CLASS B.
- BRIDGE SEATS OF BOTH ABUTMENTS SHALL BE SLOPED 1/2" PER FOOT EXCEPT UNDER BEARING PLATES WHERE THE SURFACES SHALL BE LEVEL. ABUTMENTS SHALL BE SLOPED FULL WIDTH. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTH STEEL TROWEL FINISHED.
- ANY FORM BRACKET HOLES IN FASCIA BEAMS OR GIRDER WEBS SHALL BE FILLED WITH BUTTONEHEAD OR HEX-HEAD BOLTS (TYPE III).
- BORINGS INDICATED ON THE DRAWINGS HAVE BEEN MADE FOR DESIGN PURPOSES ONLY AND DO NOT WARRANT ACTUAL SUB-SURFACE CONDITIONS.
- ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68 DEGREES F, EXCEPT AS NOTED ON THE PLANS.
- REINFORCING PLACEMENT TOLERANCES SHALL BE AS FOLLOWS:
SPACING TOLERANCE = +/- 1"
CLEARANCE TOLERANCE = +/- 1/4"
- "WATER REPELLENT" SHALL BE APPLIED TO ALL EXPOSED CONCRETE ON BOTH SUBSTRUCTURE AND SUPERSTRUCTURE, EXCEPT THE BOTTOM OF DECK BETWEEN FASCIA GIRDERS.
- IN ALL HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS, SHEAR KEYS SHALL BE FORMED AS SHOWN ON BR119 AND THEY SHALL BE CONTINUOUS UP TO 3" FROM EACH END OF THE JOINT. THE UPWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.



BRIDGE TYPICAL SECTION

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

INDEX OF SHEETS:

BR100	PRELIMINARY INFORMATION SHEET
BR101	BRIDGE QUANTITY SHEET
BR102	PLAN & ELEVATION
BR103	BORING INFORMATION SHEET (1 OF 2)
BR104	BORING INFORMATION SHEET (2 OF 2)
BR105	TRANSVERSE SECTION
BR106	DECK PLAN
BR107	DECK END DETAILS
BR108	FRAMING PLAN
BR109	UTILITY DIAPHRAGM DETAILS
BR110	GIRDER ELEVATION
BR111	PLATE GIRDER BEARING DETAILS
BR112	ABUTMENT 1 MASONRY
BR113	ABUTMENT 1 REINFORCING
BR114	ABUTMENT 2 MASONRY
BR115	ABUTMENT 2 REINFORCING
BR116	WINGWALL REINFORCING AND DETAILS
BR117	ABUTMENT DETAILS
BR118	BRIDGE RAILING LAYOUT
BR119	STANDARD BRIDGE DETAILS
BR120	REINFORCING STEEL SCHEDULE
BR121	ALUMINUM BRIDGE RAILING DETAILS
BR122	ALUMINUM BRIDGE RAILING DETAILS
BR123	ALUMINUM APPROACH RAILING DETAILS

BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers

EXISTING STRUCTURE

- STRUCTURE TYPE: OPEN STEEL GRID DECK ON BEAMS. OVERALL LENGTH: 83'. INVENTORY RATING: N/A
- SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS: 80'
- CLEAR SPAN LENGTH(S) NORMAL TO STREAM: 674
- WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM): 674. VERTICAL CLEARANCE ABOVE STREAMBED: 123
- WATER SURFACE ELEVATION @ Q 2.33: 591.04. WATER SURFACE ELEVATION @ Q 100: 596.97
- WATER SURFACE ELEVATION AT FLOOD OF RECORD: 602. YEAR: 1977. ESTIMATED DISCHARGE: 225,593.50
- DOES ALL WATER PASS THROUGH EXISTING STRUCTURE? NO. IF NOT, AT WHAT FREQUENCY AND ELEVATION DOES RELIEF OCCUR? 225,593.50
- TYPE OF SUBSTRUCTURE FOUNDATION MATERIAL: GRANITE BLOCK ABUTMENTS
- DISPOSITION OF STRUCTURE: DEMOLISH

NEW STRUCTURE

- STRUCTURE GEOMETRY:
- STRUCTURE TYPE: CONC. DECK OVER STEEL PLATE GIRDERS. OVERALL LENGTH: 81'
 - SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS: 75'
 - VERTICAL CLEARANCE ABOVE STREAMBED OR ROAD UNDER: 123
 - CLEAR SPAN LENGTH(S) NORMAL TO STREAM: 684
 - WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM): 684
 - ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES: YES

HYDRAULIC DATA:			
1. Q 2.33: 2,500 cfs	WATER ELEVATION: 590.99	VELOCITY: 4.72	
Q 10: 5,340 cfs	WATER ELEVATION: 592.40	VELOCITY: 9.63	
Q 25: 6,800 cfs	WATER ELEVATION: 594.49	VELOCITY: 10.96	
Q 50: 7,850 cfs	WATER ELEVATION: 596.40	VELOCITY: 10.98	
Q 100: 8,880 cfs	WATER ELEVATION: 597.48	VELOCITY: 10.69	
2. DRAINAGE AREA: 20.5 SQ. MI.	CHARACTER OF TERRAIN: ROLLING TO MOUNTAINOUS		
3. ARE THERE OBJECTIONS TO A PIKE IN THE STREAM? YES			
4. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? YES			
5. NATURE OF NATURAL STREAMBED: SANDY SILT			
6. ESTIMATED SCOUR DEPTH: 0.5' (DE. CONTACTED) COMMENT ON: DRIFT: SLIGHT			
7. WILL ALL WATER PASS THROUGH NEW STRUCTURE? NO			
8. VERTICAL CLEARANCE ABOVE Q 100: 123			
9. ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF: N/A			
10. ALLOWABLE WATER SURFACE ELEVATION: 597.48			
11. IS DESIGN STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? NO			
12. DISTANCE TO EXISTING UPSTREAM STRUCTURE: 700'	SPAN: N/A	WATERWAY AREA OF FULL OPENING: N/A	Q: N/A
13. DISTANCE TO EXISTING DOWNSTREAM STRUCTURE: 400'	SPAN: N/A	WATERWAY AREA OF FULL OPENING: N/A	Q: N/A
ORDINARY HIGH WATER = 1073 cfs WATER ELEV. = 585.15			
ORDINARY LOW WATER = 80 cfs WATER ELEV. = 582.36			

ALLOWABLE STRESSES:			
1. DESIGN LIVE LOAD AASHTO: HS-20-44			
2. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL: N/A			
3. ALLOWABLE LOAD FOR PILING: 100 KIPS			
4. ALLOWABLE STRESS FOR STRUCTURAL STEEL: AASHTO M270, GRADE 50			
5. ALLOWABLE STRESS FOR REINFORCING STEEL: GRADE 60 TENSION			
6. ALLOWABLE STRESS FOR CONCRETE: SILICA FUME			
H = HORIZONTAL	CLASS A f'c: 4000 psi	f'c: 4000 psi	
V = VERTICAL	CLASS B f'c: 3000 psi	f'c: 1400 psi	

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

ESTIMATED SCOUR DEPTHS (FEET)

SCOUR TYPE @ Q100	LOCATION	
	WEST ABUTMENT	EAST ABUTMENT
DEGRADATION	0	0
CONTRACTION	1	1
LOCAL		
TOTAL SCOUR	1	1
FOUNDATION TYPES	PILE SUPPORTED	PILE SUPPORTED

LOAD RATING (TONS)							
STRESS LEVELS (F/IN ²)	H	HS	322	36 AXLE	3A STR.	14A STR.	5A SEM
INVENTORY	25	46					
DEAD Fy = 22.5							
POSTED	30	56	53		43	47	53
0.67 Fy = 23.5							
OPERATING		63	59	92	48	53	
0.75 Fy = 37.5							

ADDITIONAL DESIGN CONSIDERATIONS

STATE OF VERMONT AGENCY OF TRANSPORTATION

CITY OF: BARRE	BRIDGE NO.: B-10
STREET NAME: BLACKWELL STREET	LOG STA: SURV. STA.
BLACKWELL STREET OVER STEVENS BRANCH	
PRELIMINARY INFORMATION SHEET	
DESIGNED BY: V. Deangelo	DRAWN BY: G. Saucier
CHECKED BY: J. Potusky	DATE: 12/98
BRIDGE DESIGN SUPERVISOR: J. Potusky	DATE: 12/98
PROJECT: BARRE CITY	PROJECT NO.: BRM 6000(13)
B&C DRAWING NO.: 9203887/1-1	DATE: 12/98
BRIDGE SHEET NO.: BR100	SHEET 13 OF 46

STATE OF VERMONT
AGENCY OF TRANSPORTATION
STRUCTURES DIVISION

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SOIL CLASSIFICATION

AASHTO	
A1	GRAVEL AND SAND
A2	FINE SAND
A3	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/CP	CLEAN GRAVELS (FEW FINES)
GM/CC	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 SILTS

MOISTURE

DESCRIPTIVE	OBSERVED	% +/- BY
TERM	IN FIELD	ANALYSIS
DRY	NO VISIBLE WATER	< 0
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

UNDERDRAINED SHEAR STRENGTH	CONSISTENCY
IN P.S.F.	
< 250	VERY SOFT
250-500	SOFT
500-1000	MED. STIFF
1000-2000	STIFF
2000-4000	VERY STIFF
> 4000	HARD

CORRELATION GUIDE OF 'N' TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS)	CONSISTENCY (COHESIVE SOILS)
N	DESCRIPTIVE TERM
< 5	VERY LOOSE
5-10	LOOSE
11-24	MED. DENSE
25-50	DENSE
> 50	VERY DENSE
	DESCRIPTIVE TERM
	< 2 VERY SOFT
	2-4 SOFT
	5-8 MED. STIFF
	9-15 STIFF
	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
PRC.	PERCENT RECOVERY
RQD	ROCK QUALITY DESIGNATION
CBR	CALIFORNIA BEARING RATIO
<	LESS THAN
>	GREATER THAN
R	REFUSAL (N>100)

COLOR

BLK	BLACK	PNK	PINK
BL	BLUE	PU	PURPLE
BRN	BROWN	RD	RED
DK	DARK	TN	TAN
GR	GRAY	WH	WHITE
GN	GREEN	YEL	YELLOW
LT	LIGHT	MITC	MULTICOLORED
OR	ORANGE		

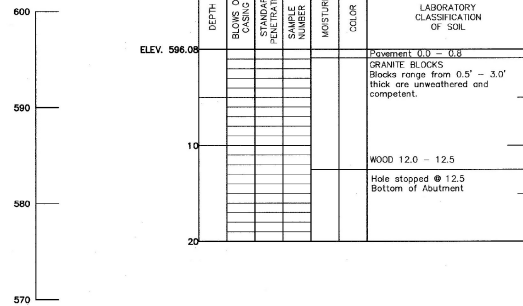
DEFINITIONS (AASHTO)

BEDROCK (LEDGE) - ROCK IN ITS NATIVE LOCATION OF INDEFINITE THICKNESS.
BOULDER - A ROCK FRAGMENT WITH AN AVERAGE DIMENSION OF >12 INCHES.
COBBLE - ROCK FRAGMENTS WITH AN AVERAGE DIMENSION BETWEEN 3 AND 12 INCHES.
GRAVEL - ROUNDED PARTICLES OF ROCK < 3" AND > 0.075" (#10 SIEVE).
SAND - PARTICLES OF ROCK < 0.075" (#10 SIEVE) AND > 0.0025" (#60 SIEVE).
SILT - SOIL < 0.0025" (#60 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 MATERIAL CONTAINING > 10% ORGANIC MATERIAL.
MOISTURE CONTENT - WEIGHT OF WATER DIVIDED BY DRY WEIGHT OF SOIL.
FLOWING SAND - GRANULAR SOIL SO SATURATED (LOOSE) THAT IT FLOWS INTO DRILL CASING DURING EXTRACTION OF WASH ROD.
STRIKE - ANGLE FROM MAGNETIC NORTH TO LINE OF INTERSECTION OF BED WITH A HORIZONTAL PLANE.
DIP - INCLINATION OF BED WITH A HORIZONTAL PLANE.

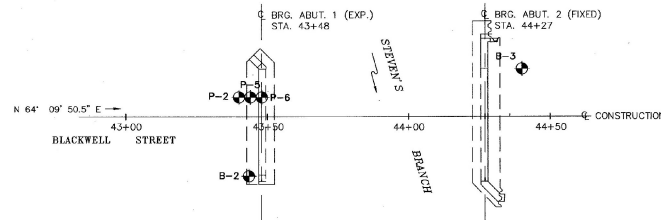
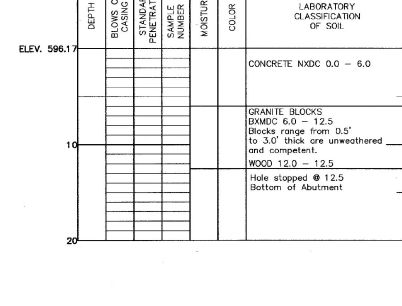
BORING NO.

Barre City BRM 6000(13)
P-5



BORING NO.

Barre City BRM 6000(13)
P-6



BORING PLAN

SCALE: 1" = 20'

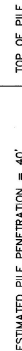
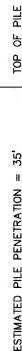
GENERAL NOTES

- THE SUBSURFACE EXPLORATIONS SHOWN HEREIN WERE MADE BETWEEN 8/12/93 AND 9/28/93 BY THE AGENCY.
- 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.
- 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.
- 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.
- 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.
- TERMINOLOGY USED ON BORING LOGS TO DESCRIBE THE HARDNESS, DEGREE OF WEATHERING AND SPACING OF FRACTURES, JOINTS AND OTHER DISCONTINUITIES IN THE BEDROCK IS DEFINED IN THE AASHTO MANUAL ON SUBSURFACE INVESTIGATION 1988.

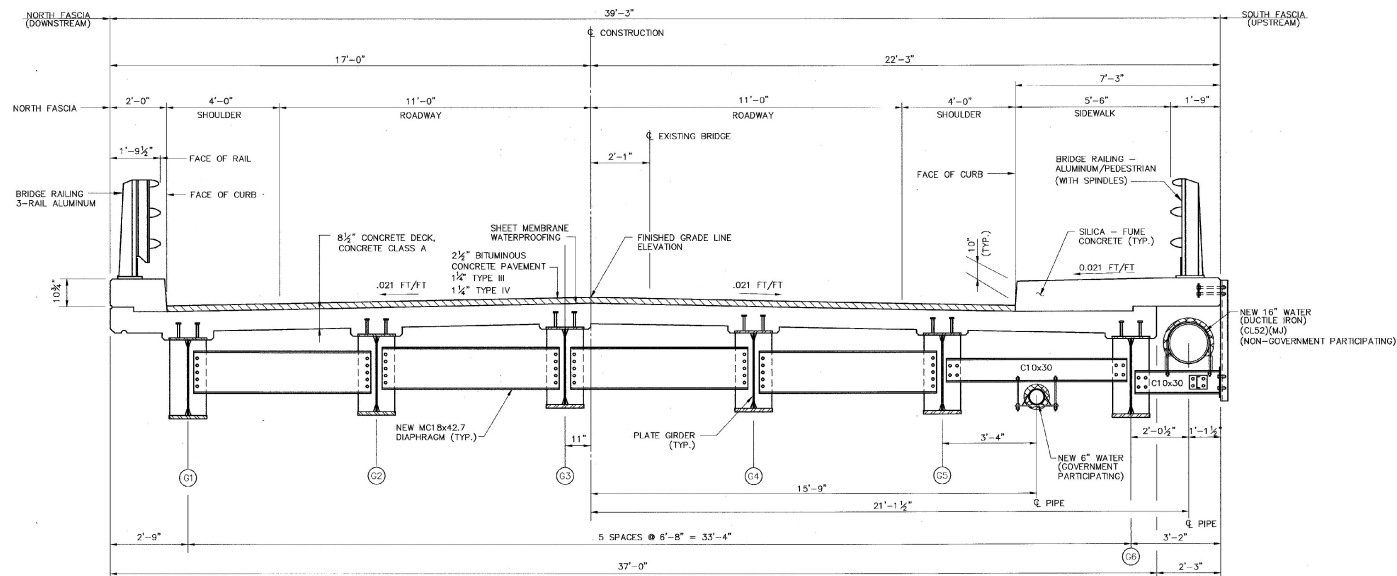
BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers

STATE OF VERMONT AGENCY OF TRANSPORTATION

CITY OF	BARRE	BRIDGE NO.	B-10
STREET NAME	BLACKWELL STREET	LOC STA.	
BLACKWELL STREET OVER STEVENS BRANCH			
BORING INFORMATION SHEET (1 OF 2)			
DESIGNED BY	L. Keefe	DRAWN BY	A. Clark
CHECKED BY	J. Patusky	DATE	11/98
BRIDGE DESIGN SUPERVISOR	J. Patusky	DATE	11/98
PROJECT	BARRE CITY	PROJECT NO.	BRM 6000 (13)
BAC DRAWING NO.	9203BB03/1-20	DATE	12/98
BRIDGE SHEET NO.	BR103	SHEET	16 OF 46

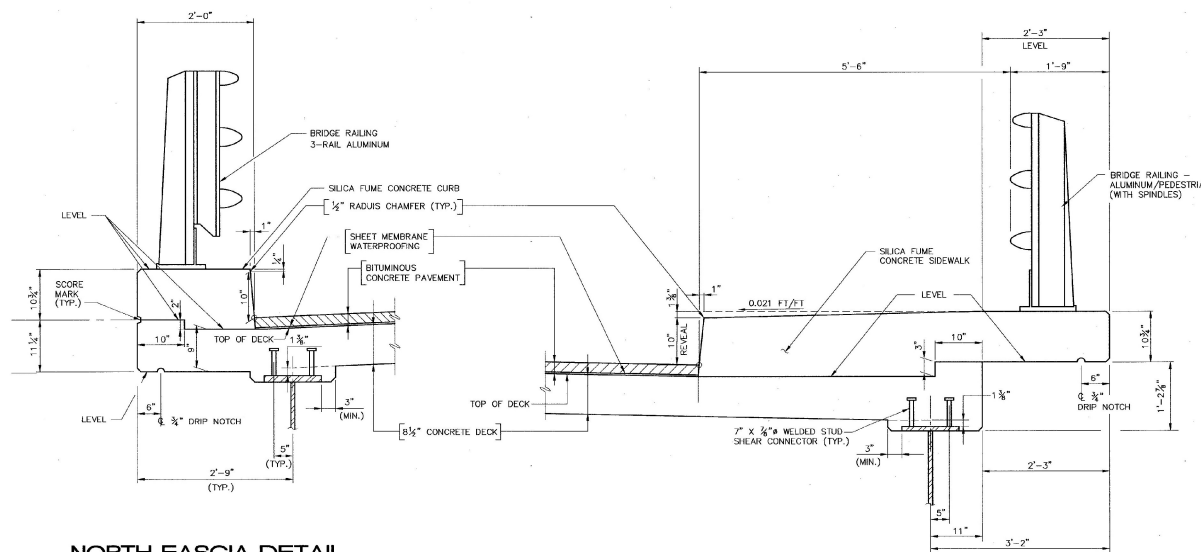


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Consulting Engineers



TRANSVERSE SECTION

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



NORTH FASCIA DETAIL

SCALE: 1" = 1'-0"

SOUTH FASCIA DETAIL

SCALE: 1" = 1'-0"

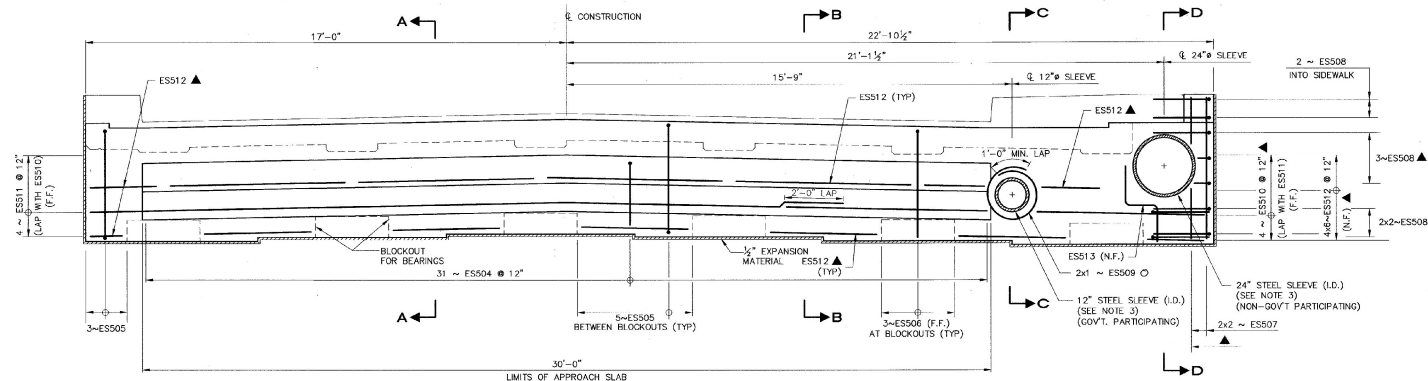
NOTES

1. USE DUCTILE IRON WATER PIPES BENEATH THE BRIDGE.
2. SURROUND THE WATER PIPES WITH A 2" THICK PREFORMED PIPE INSULATION WITH AN ALUMINUM JACKET AND STAINLESS STEEL STRAPS.
3. FOR SCORE MARK DETAILS, SEE BRIDGE SHEET BR115.

**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

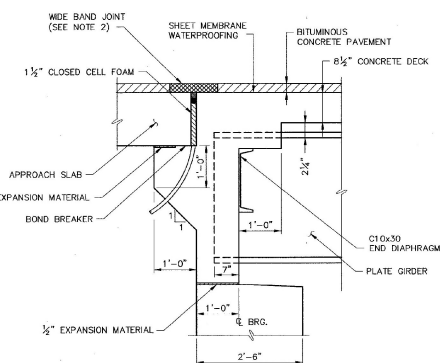
CITY OF	BARRE	BRIDGE NO.	B-10
STREET NAME	BLACKWELL STREET	LOG STA.	
	BLACKWELL STREET OVER STEVENS BRANCH	SURV. STA.	
TRANSVERSE SECTION			
DESIGNED BY	V. DeAngelo	DRAWN BY	S. Belanger
CHECKED BY	J. Patusky	DATE	12/98
		BRIDGE DESIGN SUPERVISOR	J. Patusky
PROJECT	BARRE CITY	PROJECT NO.	BRM 6000(13)
B&C DRAWING NO.	9203BB02/24	DATE	12/98
BRIDGE SHEET NO.	BR105	SHEET	18 OF 46

BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers

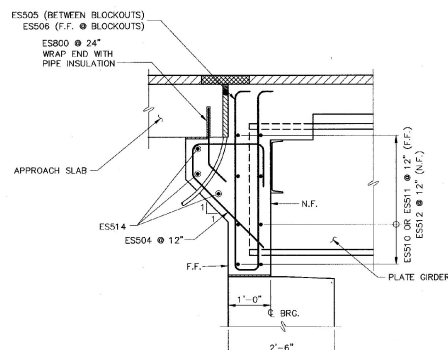


FAR FACE ELEVATION OF DECK END

(ABUTMENT 2 SHOWN, ABUTMENT 1 SIMILAR)
SCALE: 1/2" = 1'-0"

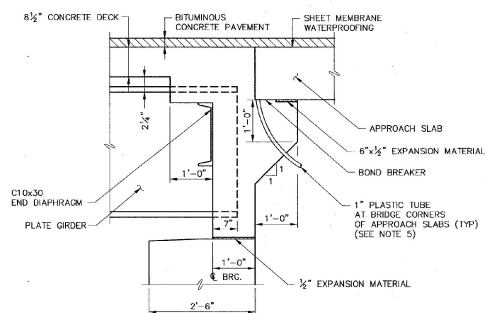


SECTION A-A MASONRY DETAIL

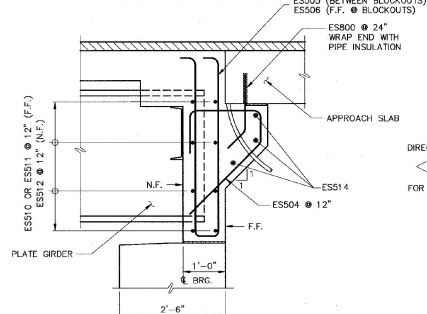


ABUTMENT 1 BACKWALL DETAILS AT APPROACH SLABS

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

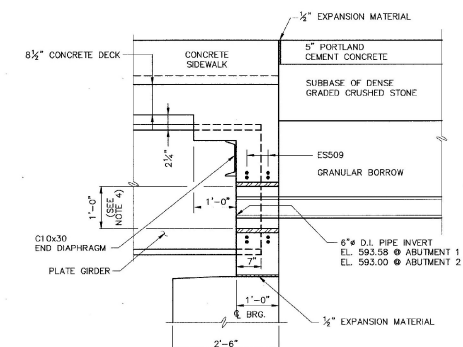


SECTION B-B MASONRY DETAIL

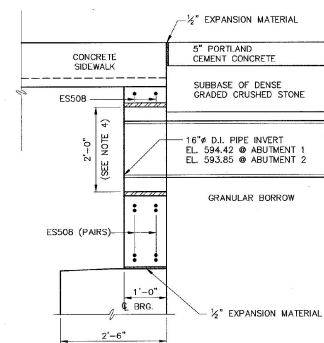


ABUTMENT 2 BACKWALL DETAILS AT APPROACH SLABS

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



SECTION C-C



SECTION D-D

BACKWALL DETAILS AT SIDEWALK

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

LEGEND

N.F. NEAR FACE
F.F. FAR FACE
E.F. EACH FACE
▲ CUT TO FIT IN FIELD

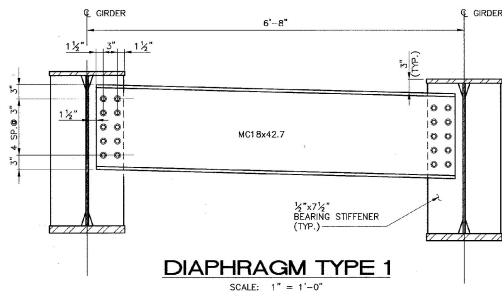
NOTE

1. ADJUST BAR SPACING OR CUT BAR AS REQUIRED TO FIT AT PIPE OPENING IN BACKWALL.
2. WIDE BAND JOINT TO BE PAID FOR UNDER ITEM 516.10, BRIDGE EXPANSION JOINT (ASPHALTIC PLUG-TYPE).
3. STEEL SLEEVES (CASINGS) SHALL HAVE A MINIMUM WALL THICKNESS OF 3/4".
4. SPACER(S) BETWEEN PIPE AND CASING TO BE APPROVED BY THE ENGINEER. COST TO BE INCLUDED UNDER ITEM 625.10.
5. FOR LOCATION OF PLASTIC TUBES, SEE PLAN, BRIDGE SHEET BR106.

STATE OF VERMONT AGENCY OF TRANSPORTATION

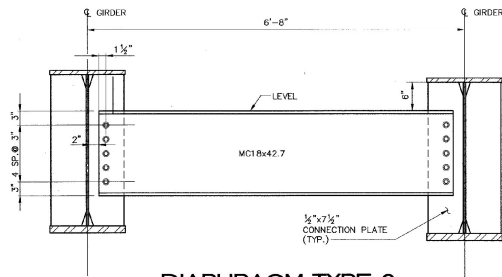
CITY OF	BARRE	BRIDGE NO.	B-10
STREET NAME	BLACKWELL STREET	SURV. STA.	
BLACKWELL STREET BRIDGE OVER STEVENS BRANCH			
DECK END DETAILS			
DESIGNED BY	V. DeAngelo	DRAWN BY	S. Belanger
CHECKED BY	J. Potusky	DATE	12/98
PROJECT NO.	BARRE CITY	PROJECT NO.	BRM 6000(13)
BAC DRAWING NO.	BLACK13	DATE	12/98
BRIDGE SHEET NO.	BR107	SHEET	20 OF 46

BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers



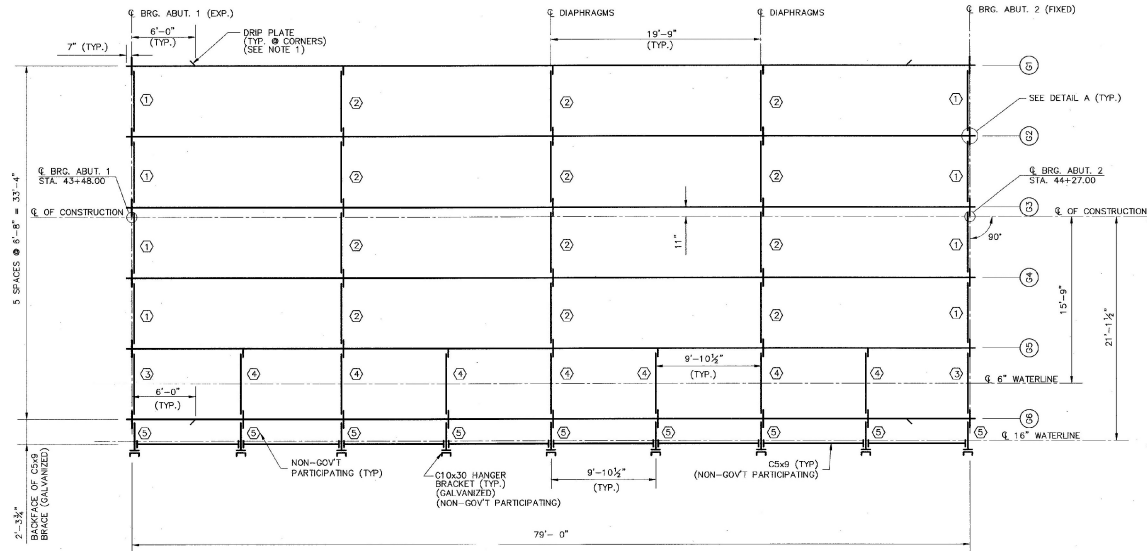
DIAPHRAGM TYPE 1

SCALE: 1" = 1'-0"



DIAPHRAGM TYPE 2

SCALE: 1" = 1'-0"



FRAMING PLAN

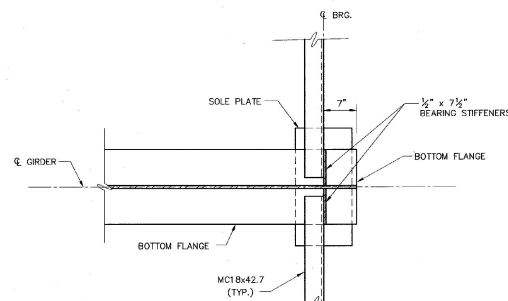
SCALE: 3/8" = 1'-0"

LEGEND

- ① DIAPHRAGM TYPE 1 (PAINTED)
- ② DIAPHRAGM TYPE 2 (PAINTED)
- ③ DIAPHRAGM TYPE 3 (PAINTED)
- ④ DIAPHRAGM TYPE 4 (PAINTED)
- ⑤ DIAPHRAGM TYPE 5 (GALVANIZED)

NOTES:

1. FOR DRIP PLATE DETAIL, SEE BRIDGE SHEET BR119.
2. FOR DIAPHRAGM TYPES 3, 4, AND 5, SEE BRIDGE SHEET BR109.
3. MEMBER LINES OF ACTION SHALL PASS AS CLOSE AS PRACTICAL TO THE TOP AND BOTTOM OF THE ORDER WEB, EXCEPT AS SHOWN.
4. ALL BOLTS SHALL BE FULLY TIGHTENED BEFORE THE CONCRETE DECK IS POURED.
5. ALL STEEL IS PAINTED UNLESS OTHERWISE NOTED.



DETAIL A

SCALE: 1" = 1'-0"

**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

CITY OF	BARRE	BRIDGE NO.	B10
STREET NAME	BLACKWELL STREET	SURV. STA.	
BLACKWELL STREET BRIDGE OVER STEVENS BRANCH			
FRAMING PLAN			
DESIGNED BY	V. DeAngelo	DRAWN BY	S. Belonger
CHECKED BY	J. Patusky	DATE	12/98
PROJECT	BARRE CITY	PROJECT NO.	BRM 6000(13)
BA&C DRAWING NO.	92038B89.64	DATE	12/98
BRIDGE SHEET NO.	BR108	SHEET	21 OF 46

BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers



DIMENSION "B" LOCATION TABLE
(SEE DIAPHRAGM TYPE 3 AND 4 DETAILS)

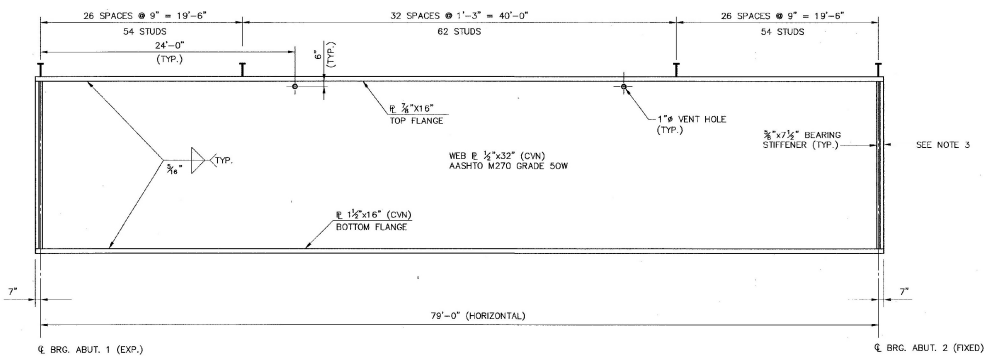


SECTION B-B
SCALE: 3" = 1'-0"

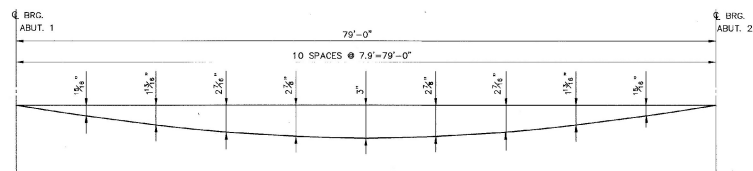


STATE OF VERMONT AGENCY OF TRANSPORTATION	
CITY OF BARRE	BRIDGE NO. B10
LOCAL STA. SURV. STA.	
STREET NAME BLACKWELL STREET	
BLACKWELL STREET BRIDGE OVER STEVENS BRANCH	
UTILITY DIAPHRAGM DETAILS	
DESIGNED BY V. DeAngelo	DRAWN BY S. Belonger
CHECKED BY DATE	BRIDGE DESIGN SUPERVISOR
J. Potusky 12/98	J. Potusky DATE 12/98
PROJECT	PROJECT NO.
BARRE CITY	BRM 6000(13)
BACD DRAWING NO. BLACK09/12	DATE 12/98
BRIDGE SHEET NO. B6109	SHEET 22 OF 46

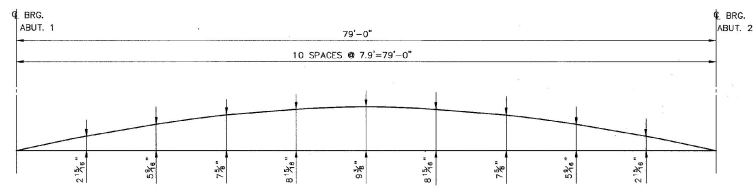
BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers



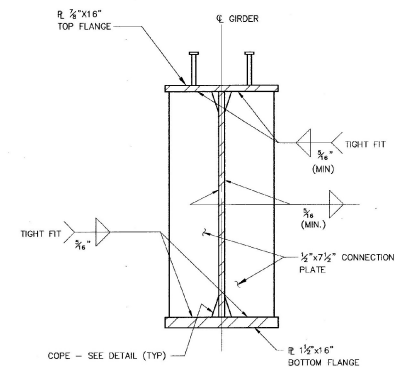
GIRDER ELEVATION
N.T.S.



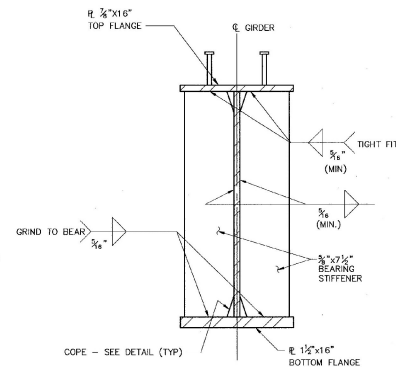
DEAD LOAD DEFLECTION DIAGRAM
N.T.S.



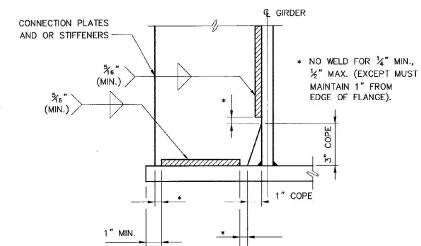
CAMBER DIAGRAM
N.T.S.



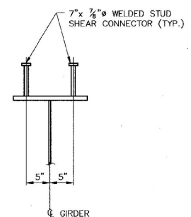
CONNECTION PLATES
SCALE: 1 1/2" = 1'-0"



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



**WELD TERMINATION
AND COPING DETAIL**
SCALE: 3" = 1'-0"



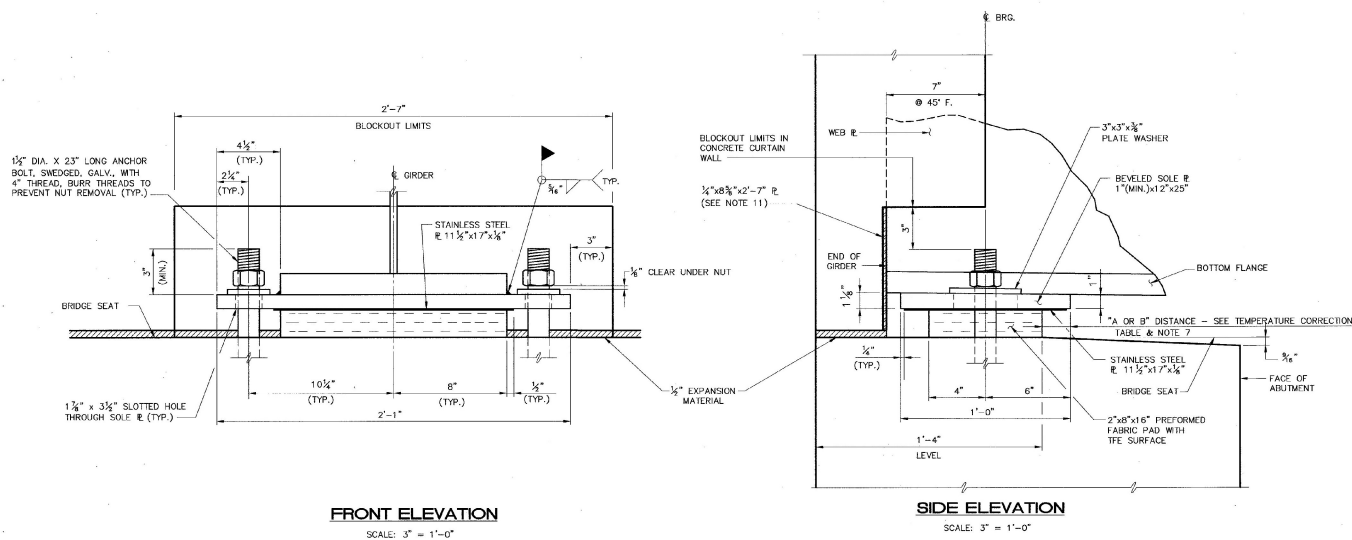
STUD DETAIL
N.T.S.

NOTES:

1. THE WEB AND BOTTOM FLANGE ARE TO BE CHAMPY V-NOTCH (CWN) TESTED.
2. EXACT FLANGE AND WEB CUTS TO BE RESPONSIBILITY OF THE FABRICATOR.
3. GIRDER ENDS SHALL BE VERTICAL AFTER ALL DEAD LOADS ARE APPLIED.

BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers

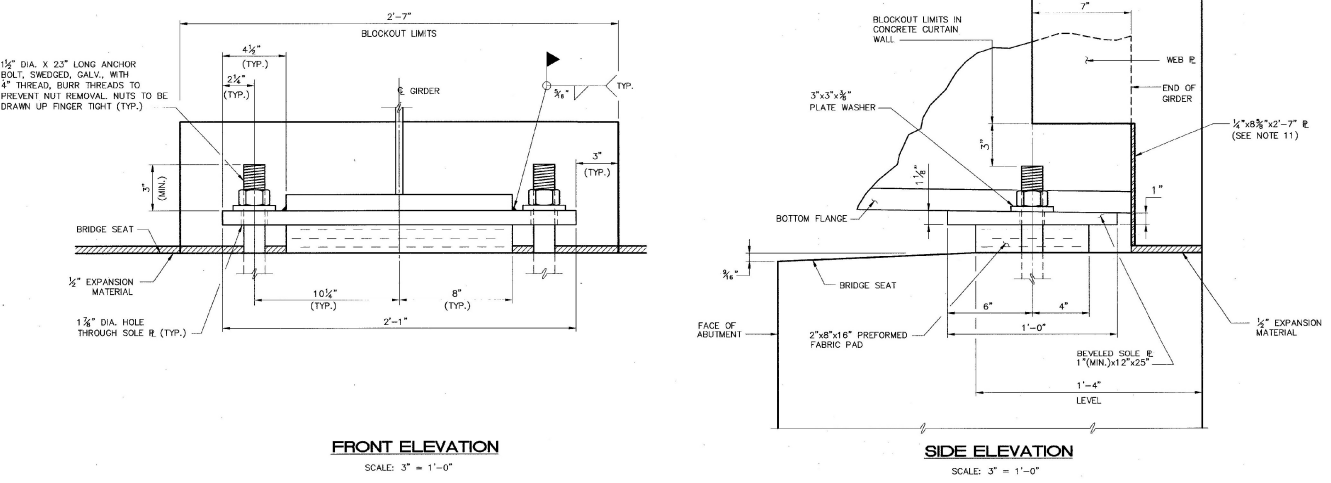
STATE OF VERMONT AGENCY OF TRANSPORTATION			
CITY OF	BRIDGE NO.	B10	
LOG STA.			
STREET NAME	BLACKWELL STREET	SURV. STA.	
BLACKWELL STREET BRIDGE OVER STEVENS BRANCH			
GIRDER ELEVATION			
DESIGNED BY	J. DeAngelo	DRAWN BY	S. Belanger
CHECKED BY	DATE	BRIDGE DESIGN SUPERVISOR	
J. Patusky	12/98	J. Patusky	DATE 12/98
PROJECT	BARRE CITY	PROJECT NO.	
		BRM 6000(13)	
BARC DRAWING NO.	920388B/64	DATE 12/98	
BRIDGE SHEET NO.	BR110	SHEET 23 OF 46	



FRONT ELEVATION
SCALE: 3" = 1'-0"

SIDE ELEVATION
SCALE: 3" = 1'-0"

EXPANSION BEARING (ABUT. 1)
NUMBER REQUIRED = 6



FRONT ELEVATION
SCALE: 3" = 1'-0"

SIDE ELEVATION
SCALE: 3" = 1'-0"

FIXED BEARING (ABUT. 2)
NUMBER REQUIRED = 6

- NOTES:**
1. BEARINGS SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 531.
 2. BEARINGS SHALL BE PAID FOR UNDER ITEM 531.10, BEARING DEVICE ASSEMBLY.
 3. SHOP DRAWINGS CONFORMING TO SUBSECTION 531.03 SHALL BE SUBMITTED TO INCLUDE WELDING AND BONDING PROCEDURES.
 4. THE CONCRETE SURFACE UNDER THE BEARINGS SHALL BE LEVEL.
 5. THE FIELD WELD CONNECTING THE BOTTOM FLANGE WITH THE BEARING DEVICE SHALL BE MADE WITH E 7018 RODS.
 6. BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATE CONFIGURATION. THE CONTRACTOR SHALL SUBMIT SKETCHES OF THE BRIDGE SEAT REVISIONS FOR APPROVAL OF THE ENGINEER. REVISIONS TO CONCRETE AND REINFORCING STEEL DIMENSIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS WORK.
 7. THE "A" DISTANCE IS THE SOLE PLATE ADJUSTMENT TO BE USED BEFORE DEAD LOAD IS ADDED TO THE BEAMS. THE "B" DISTANCE IS THE SOLE PLATE ADJUSTMENT TO BE USED AFTER THE DECK AND CURBS HAVE BEEN POURED. THE 3/8" DIFFERENCE IS THE ELONGATION DUE TO DEAD LOAD DEFLECTION OF SLAB, CURB AND PAVEMENT.
 8. DESIGN CRITERIA:
 - A. PREFORMED FABRIC PAD PLATE TO CONCRETE DESIGN PRESSURE = 1000 PSI MAXIMUM.
 - B. MINIMUM ALLOWABLE DESIGN ROTATION = 0.015 RADIAN.
 - C. HORIZONTAL CAPACITY SHALL BE A MINIMUM 10% OF VERTICAL LOAD.
 - D. DEAD LOAD = 37.7 KIPS.
SUPERIMPOSED DEAD LOAD = 15.7 KIPS.
LIVE LOAD PLUS IMPACT = 60 KIPS.
TOTAL DESIGN LOAD PER BEARING = 113 KIPS.
 9. ALL STEEL IN SOLE PLATES, ANCHOR BOLTS AND WASHERS SHALL BE M270, GRADE 36 GALVANIZED. NUTS SHALL BE HEAVY HEX AND CONFORM TO THE REQUIREMENTS OF ASTM A-307.
 10. ANCHOR BOLTS SHALL HAVE A MINIMUM OF 15" EMBEDMENT INTO CONCRETE.
 11. FOR USE AS A BLOCK OUT DURING CURTAIN WALL POUR, TACK WELD 1/4" PLATE TO END OF GIRDER.

TEMPERATURE CORRECTION (° F & INCHES)				
TEMP.	Δ TO MEAN TEMP.	TEMP. CORR.	A	B
+105	-60	-3/8	1 3/8	1 3/8
90	-45	-3/8	1 3/8	1 3/8
75	-30	-3/8	1 3/8	1 3/8
60	-15	-3/8	1 3/8	1 3/8
(MEAN) 45	0	0	2	1 3/8
30	15	3/8	2 3/8	1 3/8
15	30	3/8	2 3/8	2
0	45	3/8	2 3/8	2 3/8

**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

CITY OF **BARRE** BRIDGE NO. **B-10**

STREET NAME **BLACKWELL STREET** LOC. STA. **10+00**

BLACKWELL STREET BRIDGE OVER STEVENS BRANCH

PLATE GIRDER BEARING DETAILS

DESIGNED BY **V. DeANGELO** DRAWN BY **S. BELANGER**

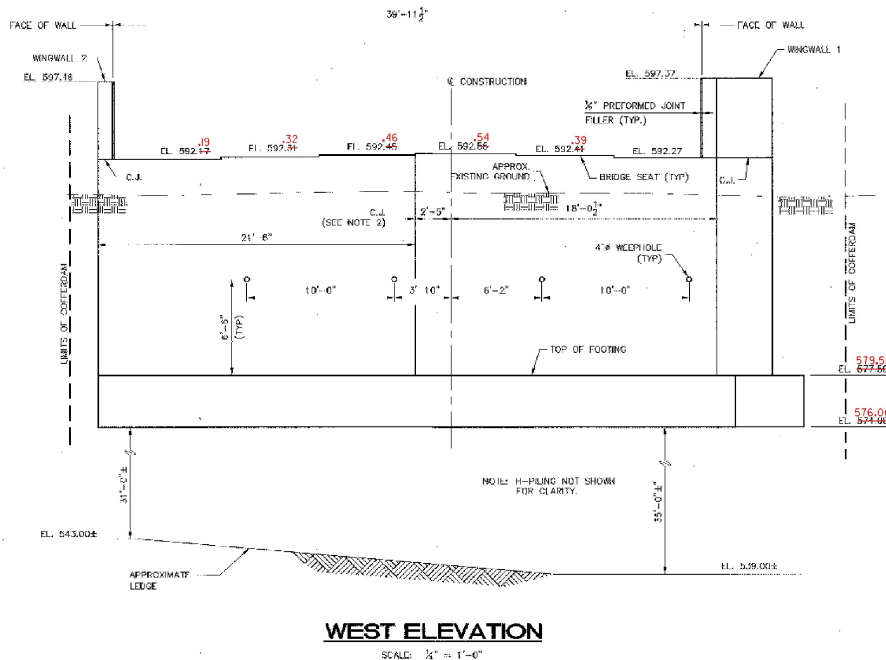
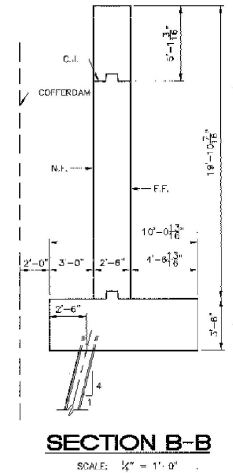
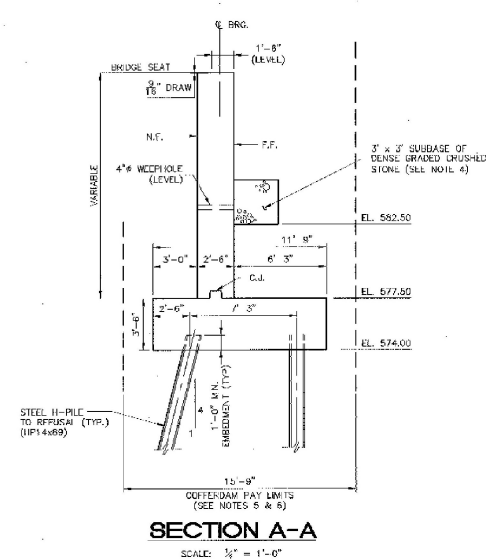
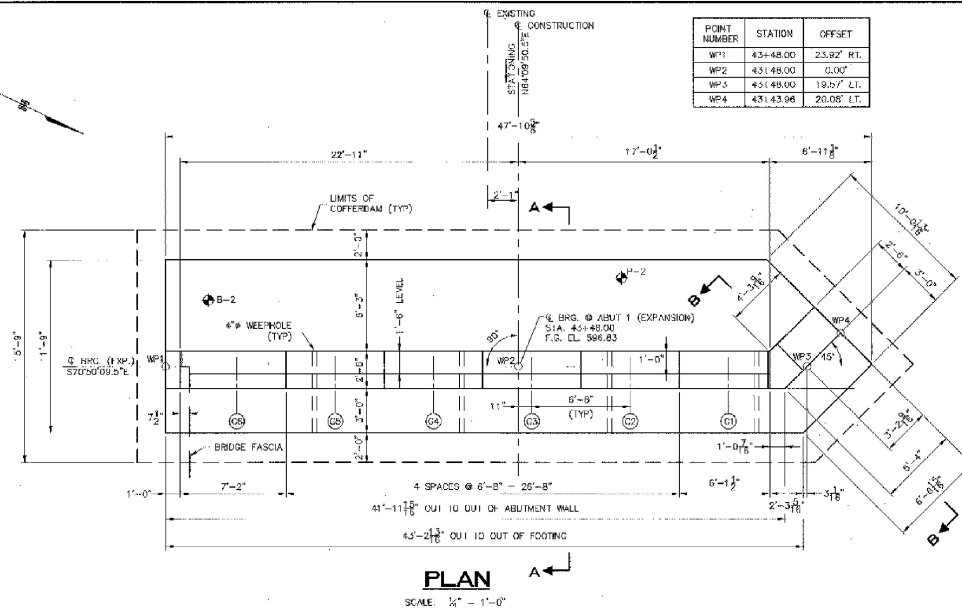
CHECKED BY **J. PATUSKY** DATE **12/98** BRIDGE DESIGN SUPERVISOR **J. PATUSKY** DATE **12/98**

PROJECT **BARRE CITY** PROJECT NO. **BRM 6000(13)**

DATE **12/98**

BRIDGE SHEET NO. **BR111** SHEET **24** OF **46**

BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers



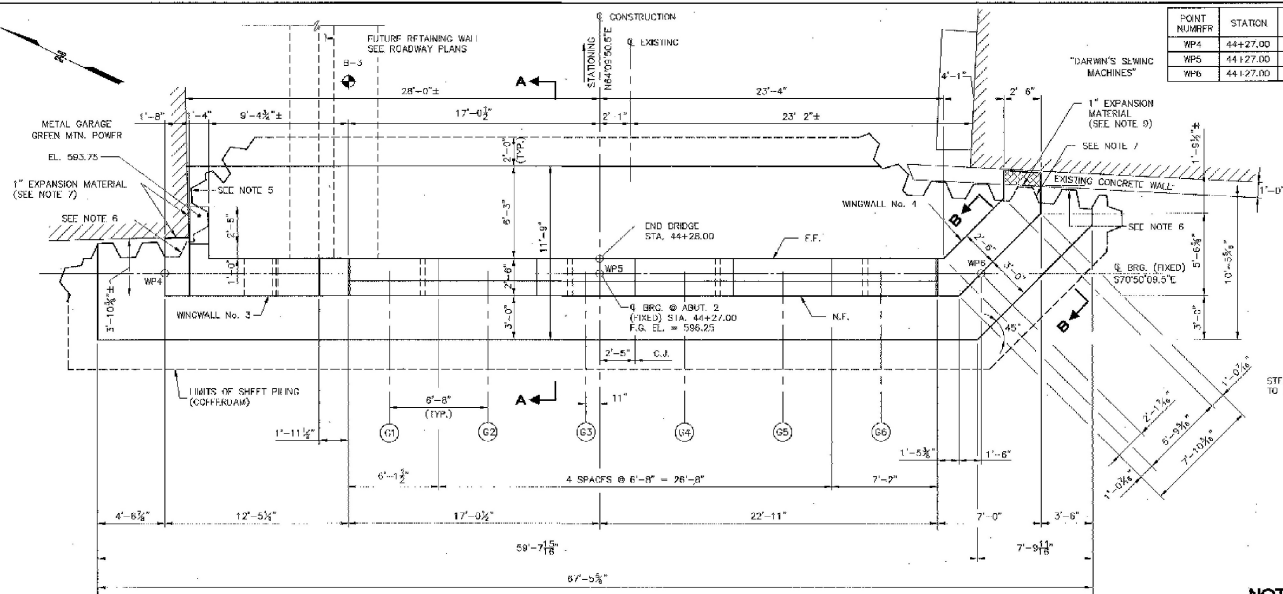
NOTES:

1. FOR ABUTMENT REINFORCING, SEE BRIDGE SHEET BR13.
2. FOR CONSTRUCTION JOINT DETAIL, SEE BRIDGE SHEET BR110.
3. ABUTMENTS AND WINGWALLS SHALL BE CONSTRUCTED OF CLASS "B" CONCRETE (ITEM 501.25).
4. SUBBASE OF DENSE GRADED CRUSHED STONE SHALL BE PLACED FOR THE ENTIRE LENGTH OF BOTH WINGWALLS AND THE ABUTMENTS AND SHALL BE PAID FOR UNDER ITEM 501.35.
5. THE DESIGN OF THE COFFERDAM SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION 1980 AND ITS LATEST REVISIONS.
6. COFFERDAMS ADJACENT TO EXISTING STRUCTURES SHALL BE SUFFICIENTLY SIZED AND BRACED TO SUPPORT THE STRUCTURE(S) THROUGHOUT CONSTRUCTION. DAMAGE TO EXISTING STRUCTURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

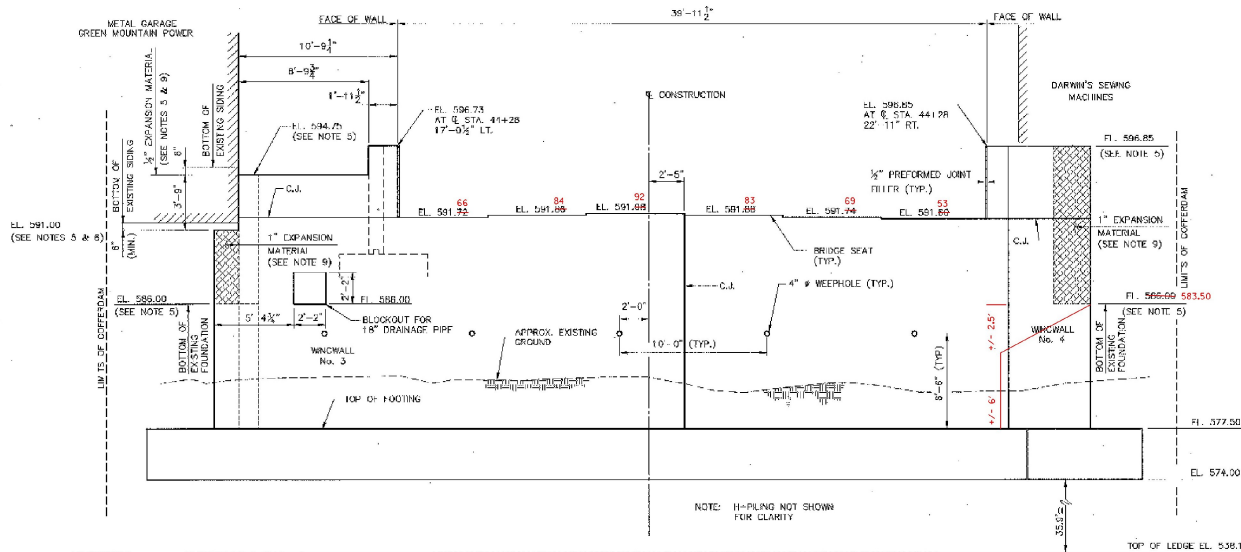
LEGEND

- N.F. NEAR FACE
- F.F. FAR FACE
- C.J. CONSTRUCTION JOINT
- (C) Q ORDER W/ NUMBER DESIGNATION

STATE OF VERMONT		AGENCY OF TRANSPORTATION	
CITY OF	BARRE	BRIDGE NO.	B-10
STREET NAME	BLACKWELL STREET	LOG STA.	
BLACKWELL STREET BRIDGE OVER STEVENS BRANCH		SURV. STA.	
ABUTMENT 1 MASONRY			
DESIGNED BY	V. DeAngelo	DRAWN BY	S. Belanger
CHECKED BY	J. Petusky	DATE	12/98
PROJECT	BARRE CITY	PROJECT NO.	BRM 8000(13)
BRIDGE SHEET NO.	BR112	DATE	12/98
BETTINGER ANDREWS & CLARK, INC.		Consulting Engineers	

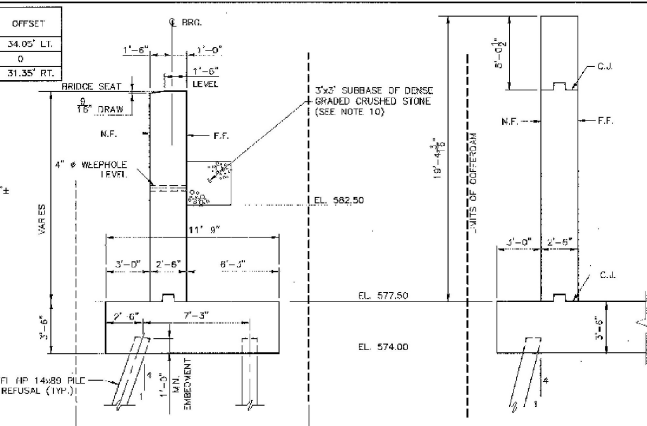


PLAN
SCALE: 1/4" = 1'-0"



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

POINT NUMBER	STATION	OFFSET
WP4	44+27.00	34.00' LT.
WP5	44+27.00	0
WP6	44+27.00	31.35' RT.



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

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

NOTES:

- FOR ABUTMENT REINFORCING, SEE BRIDGE SHEET BR115.
- FOR WINDOW REINFORCING, SEE BRIDGE SHEET BR116.
- FOR CONSTRUCTION JOINT DETAIL, SEE BRIDGE SHEET BR119.
- BRIDGE SEAT ELEVATIONS SHOWN AT R.F. REPAIRING.
- THE CONTRACTOR SHALL VERIFY ALL ELEVATIONS AND DIMENSIONS ADJACENT TO EXISTING STRUCTURES PRIOR TO THE INITIATION OF WORK.
- THE CONTRACTOR SHALL LOCATE SHEET PILING ADJACENT TO EXISTING BUILDINGS, FOUNDATIONS AND/OR RETAINING WALLS AS CLOSE AS POSSIBLE AND OF SUFFICIENT DEPTH AS TO INSURE BUILDING AND COFFERDAM STABILITY THROUGHOUT THE CONSTRUCTION PERIOD. FIELD ADJUSTMENTS TO CONTRACT PLAN DIMENSIONS FOR COFFERDAMS MAY BE MADE ONLY WITH THE APPROVAL OF THE ENGINEER.
- THE CONTRACTOR SHALL REMOVE SHEET PILING TO THE BOTTOM OF EXISTING BUILDING FOUNDATION AS REQUIRED TO CONSTRUCT CANTILEVERED WALLS ADJACENT TO EXISTING BUILDINGS. PRECAUTIONS SHALL BE TAKEN TO TEMPORARILY SHORR EXISTING STRUCTURES AS DIRECTED BY THE ENGINEER. TEMPORARY SHORING SHALL BE SUBSIDIARY TO ITEM 204.40. COFFERDAM, SEE SOUTHEAST CORNER DETAIL ON BRIDGE SHEET BR117.
- ANY PORTION OF COFFERDAM REQUIRED TO BE LEFT IN PLACE DURING CONSTRUCTION OF ABUTMENT SHALL BE INCLUDED IN THE UNIT BID PRICE FOR COFFERDAM (ITEM 204.40).
- PLACE EXPANSION MATERIAL AGAINST EXISTING CONCRETE PRIOR TO PLACEMENT OF CONCRETE FOR NEW WALLS.
- SUBBASE OF DENSE GRADED CRUSHED STONE SHALL BE PLACED FOR THE ENTIRE LENGTH OF BOTH WINDOW WALLS AND THE ABUTMENTS AND SHALL BE PAID FOR UNDER ITEM 301.35.
- THE DESIGN OF THE COFFERDAM SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION 1990, AND ITS LATEST REVISIONS.
- COFFERDAMS ADJACENT TO EXISTING STRUCTURES SHALL BE SUFFICIENTLY STIFF AND BRACED TO SUPPORT THE STRUCTURE THROUGHOUT CONSTRUCTION. DAMAGE TO EXISTING STRUCTURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

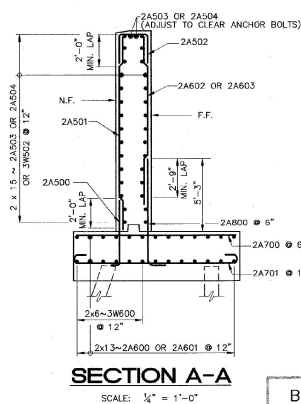
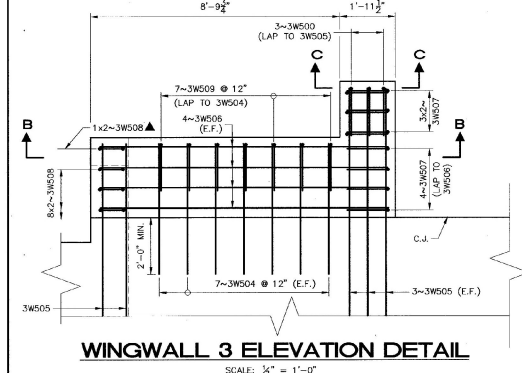
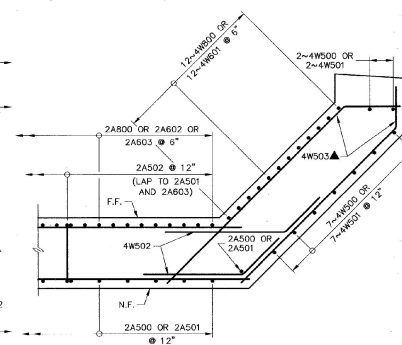
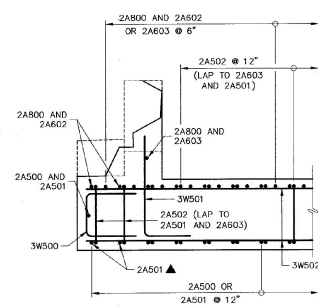
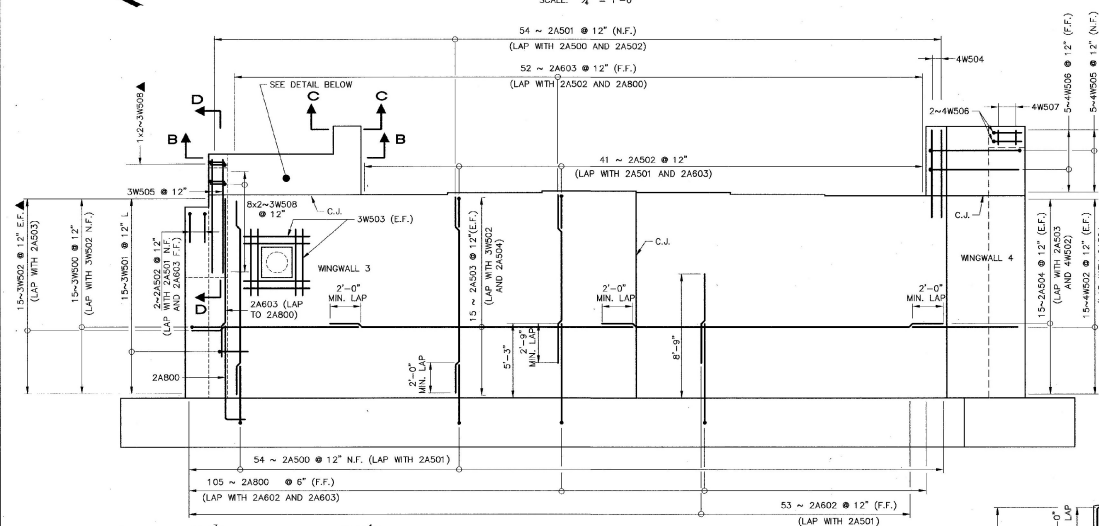
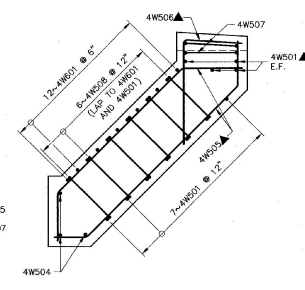
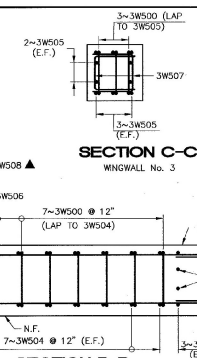
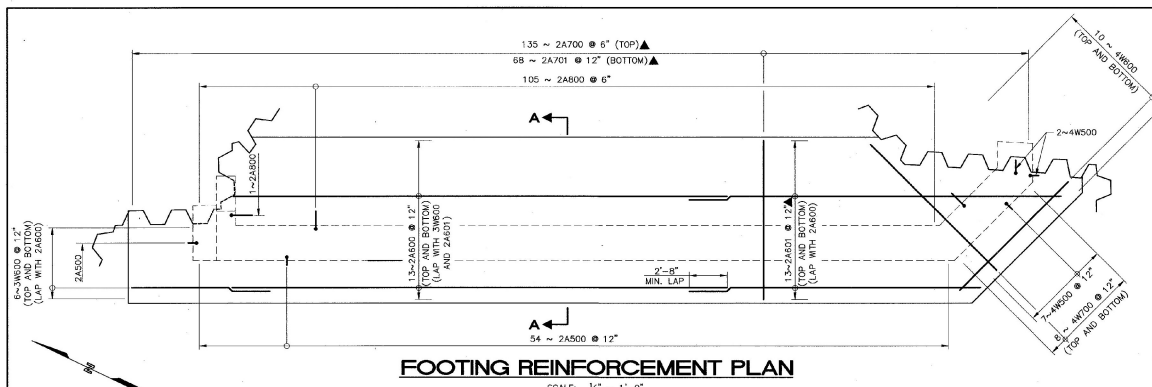
LEGEND

- N.F. NEAR FACE
F.F. FAR FACE
C.J. CONSTRUCTION JOINT

BETTCOLE ANDREWS & CLARK, INC.
Consulting Engineers

**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

CITY OF	BARRE	BRIDGE NO.	B-10
STREET NAME	BLACKWELL STREET	LDG. STA.	
BLACKWELL STREET BRIDGE OVER STEVENS BRANCH			
ABUTMENT 2 MASONRY			
DESIGNED BY	V. DeANGELO	DRAWN BY	S. BELANGER
CHECKED BY	J. PATUSKY	DATE	12/98
PROJECT	BARRE CITY	PROJECT NO.	BRM 8000(13)
BASIC DRAWING NO.	BLACK01/48	DATE	12/98
BRIDGE SHEET NO.	BR114	SHEET	27 OF 46



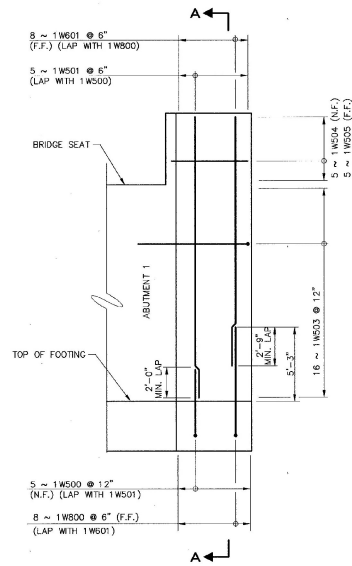
LEGEND

N.F.	NEAR FACE
F.F.	FAR FACE
E.F.	EACH FACE
C.J.	CONSTRUCTION JOINT
▲	CUT TO FIT IN FIELD

NOTE

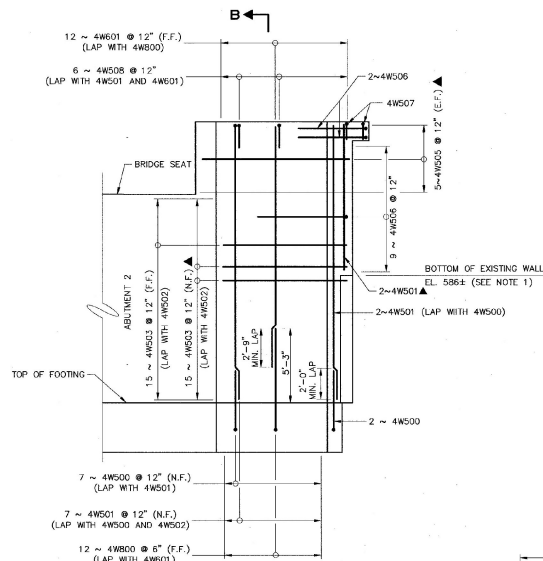
1. FOR SECTION D-D, WINGWALL 3 AND WINGWALL 4 REINFORCEMENT,
SEE BRIDGE SHEET BR116.

STATE OF VERMONT AGENCY OF TRANSPORTATION			
CITY OF BARRE		BRIDGE NO. B-10	
STREET NAME BLACKWELL STREET		SURV. STA.	
BLACKWELL STREET BRIDGE OVER STEVENS BRANCH ABUTMENT 2 REINFORCING			
DESIGNED BY V. DeAngelis		DRAWN BY S. Belanger	
CHECKED BY J. Patusky		BRIDGE DESIGN SUPERVISOR	
DATE 1/28		DATE 12/9	
PROJECT BARRE CITY		PROJECT NO. BRM 6000(13)	
B.A.C. DRAWING NO. BLACK05		DATE 12/98	
BRIDGE SHEET NO. BR115		SHEET 28 OF 46	



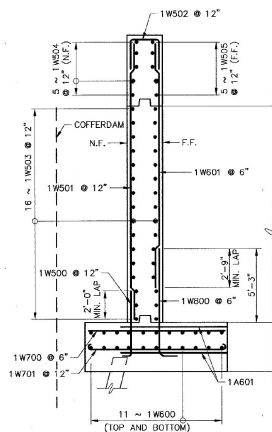
**WEST ELEVATION
WINGWALL No. 1**

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



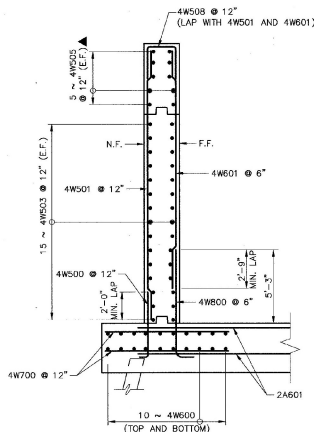
**EAST ELEVATION
WINGWALL No. 4**

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



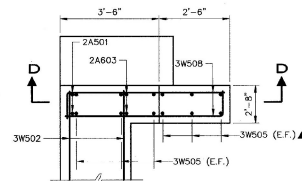
SECTION A-A

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



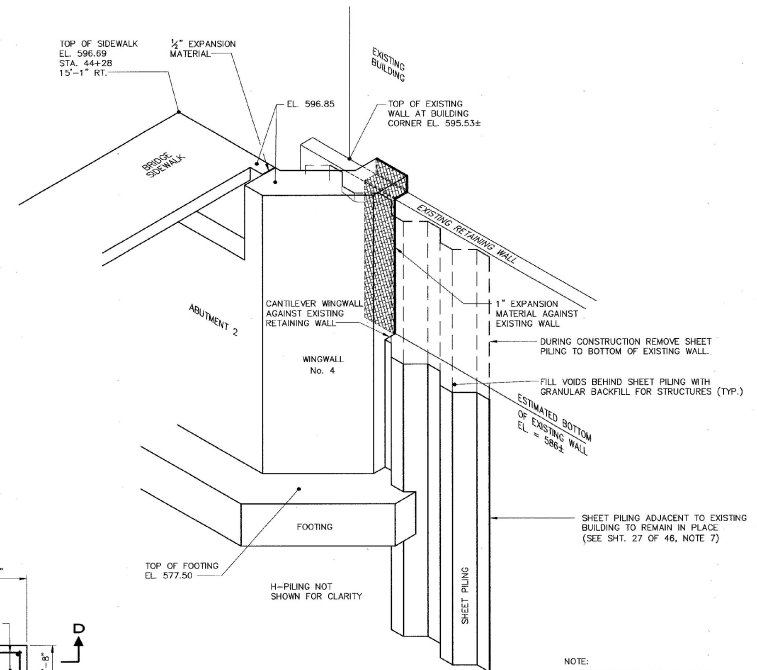
SECTION B-B

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



**SECTION D-D
WINGWALL No. 3**

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



SOUTHEAST CORNER DETAIL

NOTE:
CONSTRUCTION AT NORTHEAST CORNER SIMILAR.

NOTE

1. THE CONTRACTOR SHALL VERIFY ALL ELEVATIONS AND DIMENSIONS ADJACENT TO EXISTING STRUCTURES PRIOR TO THE INITIATION OF WORK.

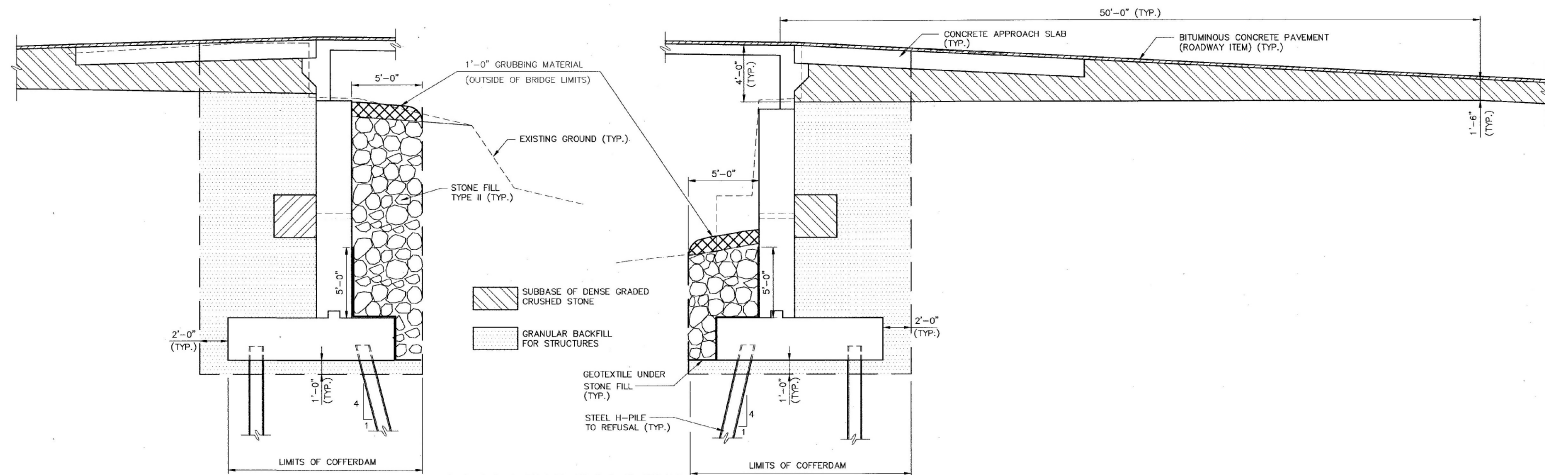
LEGEND

- N.F. NEAR FACE
F.F. FAR FACE
E.F. EACH FACE
▲ CUT TO FIT IN FIELD

**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

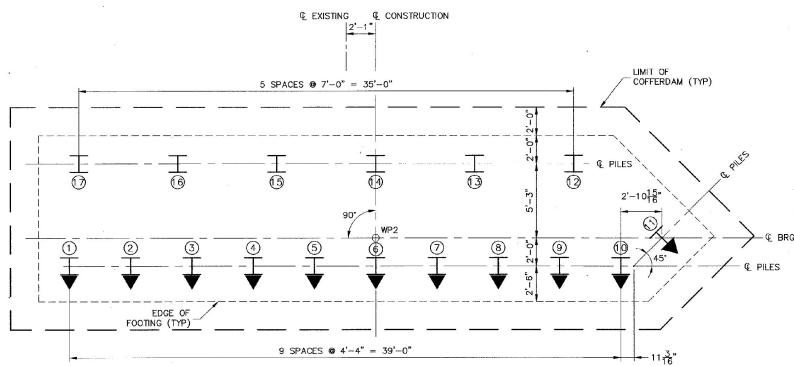
CITY OF	BARRE	BRIDGE NO.	B-10
STREET NAME	BLACKWELL STREET	LOC. STA.	
BLACKWELL STREET BRIDGE OVER STEVENS BRANCH			
WINGWALL REINFORCING and DETAILS			
DESIGNED BY	V. DeAngelo	DRAWN BY	S. Belonger
CHECKED BY	J. Potusky	DATE	12/98
BRIDGE DESIGN SUPERVISOR	J. Potusky	DATE	12/98
PROJECT	BARRE CITY	PROJECT NO.	BRM 6000(13)
BA&C DRAWING NO.	BLACK08/48	DATE	12/98
BRIDGE SHEET NO.	BR116	SHEET	29 OF 46

BETTGOLE ANDREWS & CLARK, INC.
Consulting Engineers



EARTHWORK LIMITS

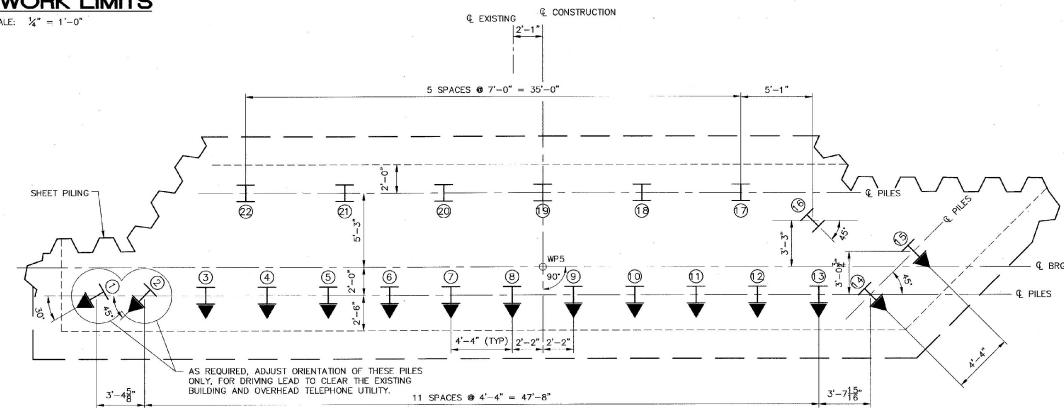
SCALE: $\frac{1}{4}" = 1'-0"$



PILE LAYOUT FOR ABUTMENT 1

SCALE: $\frac{1}{4}" = 1'-0"$

POINT NUMBER	STATION	OFFSET
WP2	43+48.00	0
WP5	44+27.00	0



PILE LAYOUT FOR ABUTMENT 2

SCALE: $\frac{1}{4}" = 1'-0"$

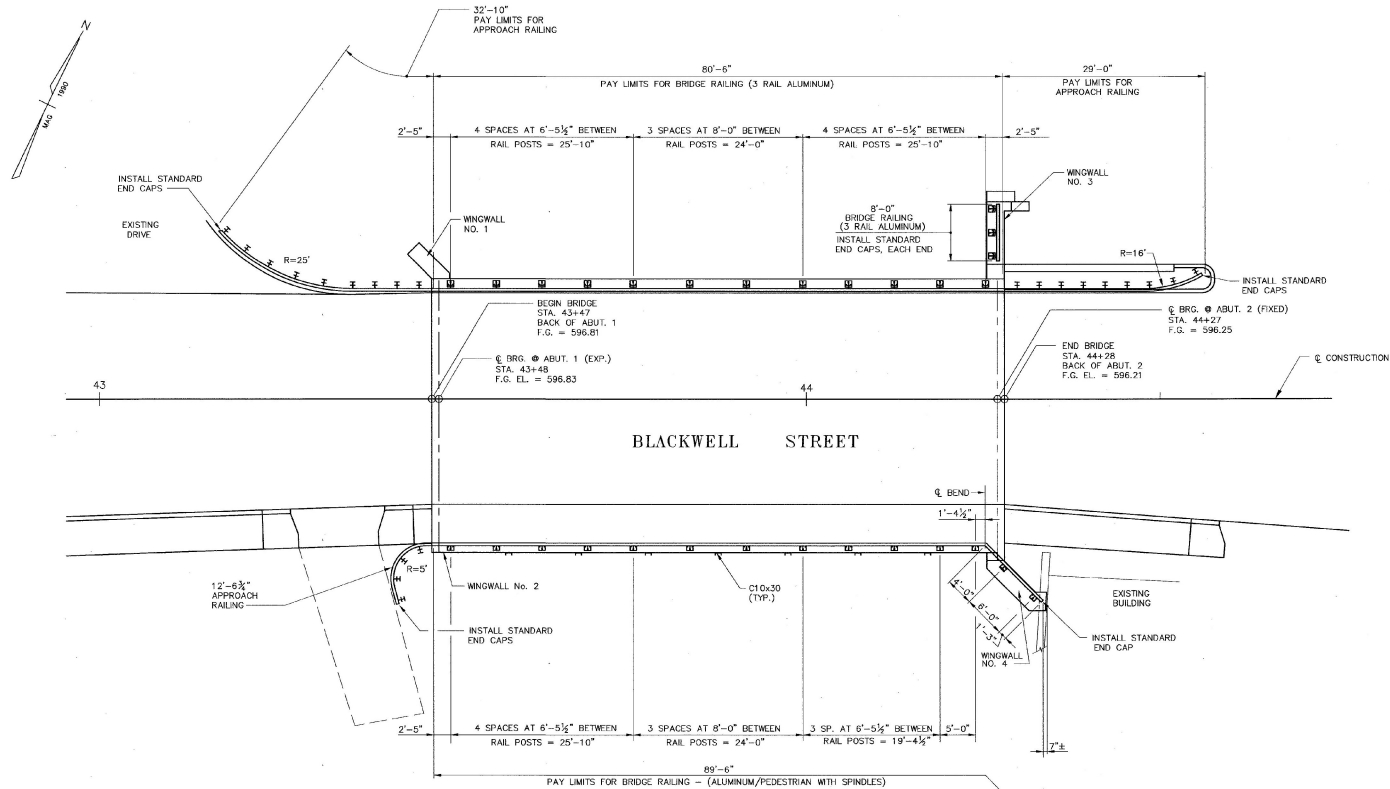
NOTES:

- SEE BRIDGE SHEET BR119 FOR PILE SPICE DETAILS.
- THE DRIVING POINT OF ALL PILING SHALL BE REINFORCED IN ACCORDANCE WITH SECTION 505.6(d).
- COFFERDAM LIMITS MAY BE ADJUSTED BY THE CONTRACTOR.
- FOR PURPOSES OF ESTIMATING EARTHWORK QUANTITIES, THE LIMITS OF COFFERDAM HAVE BEEN ASSUMED TO BE 2'-0" OUTSIDE THE PERIMETER OF THE FOOTING.
- 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.

BETTGOLE ANDREWS & CLARK, INC.
Consulting Engineers

STATE OF VERMONT AGENCY OF TRANSPORTATION

CITY OF	BARRE	BRIDGE NO.	B-10
STREET NAME	BLACKWELL STREET	LOG. STA.	
BLACKWELL STREET BRIDGE OVER STEVENS BRANCH		SURV. STA.	
ABUTMENT DETAILS			
DESIGNED BY	V. DeAngelo	DRAWN BY	S. Belonger
CHECKED BY	J. Patusky	DATE	12/98
PROJECT	BARRE CITY	BRIDGE DESIGN SUPERVISOR	J. Patusky
		DATE	12/98
		PROJECT NO.	BRM 6000(13)
BA&C DRAWING NO.	BLACK02/48	DATE	12/98
BRIDGE SHEET NO.	BR117	SHEET	30 OF 46



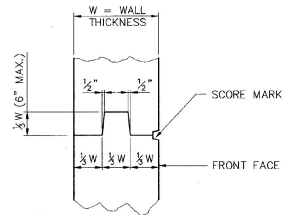
CURB AND RAIL LAYOUT

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

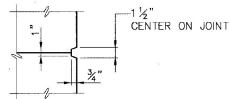
STATE OF VERMONT AGENCY OF TRANSPORTATION

CITY OF	BRIDGE NO.
BARRE	B-10
STREET NAME	LOG STA.
BLACKWELL STREET	SURV. STA.
BLACKWELL STREET OVER STEVENS BRANCH	
BRIDGE RAILING LAYOUT	
DESIGNED BY	DRAWN BY
V. DeAngelo	S. Belonger
CHECKED BY	DATE
J. Patusky	12/98
BRIDGE DESIGN SUPERVISOR	DATE
J. Patusky	12/98
PROJECT	PROJECT NO.
BARRE CITY	BRM 6000 (13)
BA&C DRAWING NO.	DATE
BLACK11/96	12/98
BRIDGE SHEET NO.	SHEET
BR118	31 OF 46

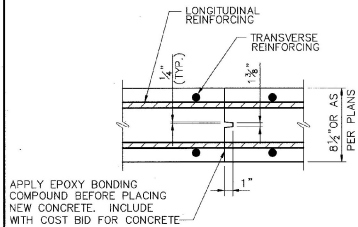
BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers



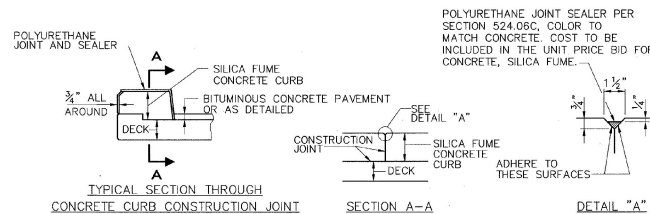
**TYPICAL CONCRETE
CONSTRUCTION JOINT**



SCORE MARK DETAIL



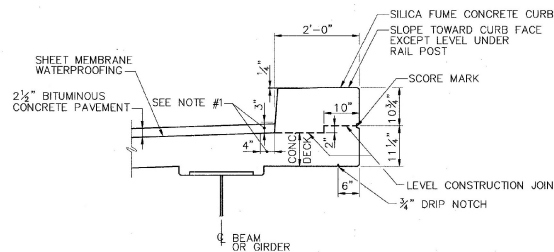
**TRANSVERSE BRIDGE SLAB
CONSTRUCTION JOINT DETAIL**



**TYPICAL SECTION THROUGH
CONCRETE CURB CONSTRUCTION JOINT**
SECTION A-A
CURB JOINT DETAILS

NOTES

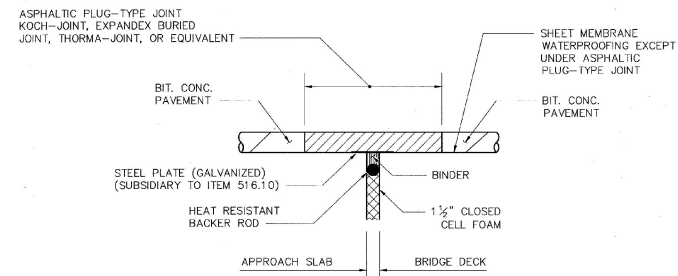
1. CONSTRUCTION JOINTS FOR 2'-0" CURB SHALL BE SPACED MAXIMUM 20'-0" CENTER TO CENTER AND CONSTRUCTION JOINTS FOR THE SIDEWALK SHALL BE SPACED MAXIMUM 10'-0" CENTER TO CENTER AND SHALL BE 1'-6" MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. CONCRETE SHALL BE PLACED IN ALTERNATING SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.
2. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CURB CONSTRUCTION JOINTS.



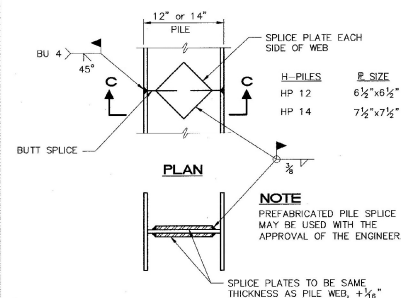
TYPICAL 2'-0" CURB SECTION (SHOWN)
(SIDEWALK SECTION SIMILAR)

NOTES

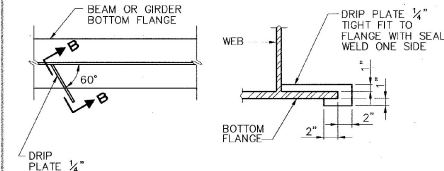
1. INDICATES AREA ALONG DECK AND UP FACE OF CURB OR SIDEWALK FOR PLACEMENT OF 2 COATS OF POLYURETHANE MEMBRANE. SEE SPEC. 519.05 (B).
2. POLYURETHANE MEMBRANE AND BLAST CLEANING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SHEET MEMBRANE WATERPROOFING.
3. SHEET MEMBRANE WATERPROOFING SHALL EXTEND TO FACE OF CURB AS SHOWN ABOVE, OR SIDEWALK.
4. BLAST CLEAN 3'-0" FROM FACE OF CURB OR SIDEWALK AND 3" UP CURB OR SIDEWALK FACE PRIOR TO PLACING MEMBRANE.



ASPHALT PLUG TYPE JOINT DETAIL



DETAILS OF PILE SPLICE



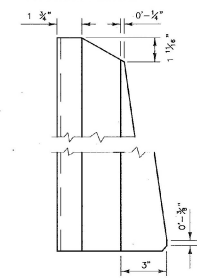
DRIP PLATE DETAILS

**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

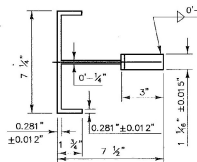
CITY OF	BRIDGE NO.
BARRE	B-10
STREET NAME	LOG STA.
BLACKWELL STREET	SURV. STA.
BLACKWELL STREET OVER STEVENS BRANCH	
STANDARD BRIDGE DETAILS	
DESIGNED BY	DRAWN BY
J. Potusky	S. Belonger
CHECKED BY	DATE
L. Keefe	9/95
J. Potusky	DATE 12/98
PROJECT	PROJECT NO.
BARRE CITY	BRM 6000(13)
DATE	DATE
12/98	12/98
BRIDGE SHEET NO.	SHEET
BR119	32 OF 46

BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers

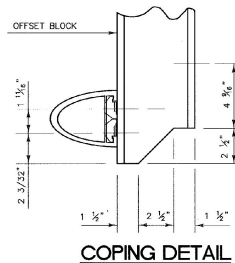
ITEM	NO.	PRECED.	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O	ITEM	NO.	PRECED.	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O		
APPROACH SLABS (epoxy coated)																																					
1	2	43	1-10-6	10000	STR													82	35	5-7	2000	2	0-10	1-9													
3	75	9	22-0	10000	STR	1	1-3	16-6				0-0						83	35	5-7	2000	2	0-10	1-9													
SUPERSTRUCTURE (epoxy coated)																																					
6	39	1	2-8	10000	STR	25	0-10	1-3	1-7	1-8		0-10						86	45	4-1	2000	2	2-0	2-1													
8	24	3	7-5	10000	STR	2	0-8	6-11										89	26	6	31-0	2100	STR														
9	104	1	3	10000	STR	8	0-10	1-1				0-10						90	26	6	31-0	2100	STR														
10	42	5	5-4	10000	STR	10	0-10	1-7	0-8	2-3								91	26	6	31-0	2100	STR														
11	50	1	5-1	10000	STR	55	0-6	3-9	0-7	3-9		0-8						92	32	6	11-8	2000	STR														
12	38	1	4-3	10000	STR	2	0-6	3-9										93	32	6	11-8	2000	STR														
13	6	3	4-10	10000	STR													94	32	6	11-8	2000	STR														
14	10	2	4-9	10000	STR	2	1-0	0-8										95	32	6	11-8	2000	STR														
15	4	2	3-9	10000	STR													96	32	6	11-8	2000	STR														
16	8	3	14-9	10000	STR													97	108	6	8-9	2100	2	1-3	7-6												
17	8	3	27-0	10000	STR													98	108	6	8-9	2100	2	1-3	7-6												
18	48	5	6-3	10000	STR													99	108	6	8-9	2100	2	1-3	7-6												
19	2	3	3-9	10000	STR	8	1-3	1-3				1-3						100																			
20	6	3	28-6	10000	STR													101	25	5	9-1	3000	2	2-6	2-1												
21																		102	15	5	5-1	3000	2	3-1	2-6												
22	102	1	36-6	10000	STR													103	30	2	10-0	3000	STR														
23	103	1	1-3	10000	STR													104	16	1	4-9	3000	STR														
24	104	1	38-0	10000	STR													105	15	5	5-9	3000	STR														
25	105	1	10	10000	STR													106	22	2	8-4	3000	STR														
26																		107	8	5	10-4	3000	STR														
27	33	2	4	10000	STR	14	1-6	6-10	0-9	0-0	0-0		0-7				0-0	108	10	5	8-0	3000	2	2-0	2-6												
28																		109	18	5	8-7	3000	2	1-0	5-7												
29																		110																			
30																		111	12	6	10-6	3000	STR														
31																		112																			
32																		113																			
ABUTMENT 1																																					
33	42	5	5-7	10000	STR	2	3-10	4-3				0-8						114																			
34	46	5	14-6	10000	STR													115	6	5	7	4000	2	6	10	4	8										
35	61	5	6-1	10000	STR	2	2-0	2-1				2-0						116	10	5	10-0	4000	STR														
36	10	2	5-11	10000	STR	2	2-0	1-11				2-5						117	10	5	7-9	4000	STR														
37	34	5	28-6	10000	STR													118	10	5	12-6	4000	STR														
38	34	5	14-10	10000	STR													119	1	5	7-4	4000	STR														
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40																		121	11	5	5-10	4000	STR														
41	27	5	30-0	10000	STR													122	3	3	1-1	4000	2	1-0	2-1	1-0											
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44	42	5	12-6	10000	STR													125	25	2	17-0	4000	STR														
45																		126	12	1	17-0	4000	STR														
46	48	7	21-6	10000	STR													127																			
47	44	7	32-0	10000	STR	1	3-10	11-4				0-10		0-7				128	16	7	12-0	4000	STR														
48																		129																			
49	44	4	5-8	10000	STR	2	1-3	7-8				0-0						130	12	6	8-9	4000	2	1-3	7-6												
50																		131																			
WINCHWALL 1																																					
51																		132																			
52	9	3	3	10000	STR	2	0-10	4-9				0-0						133	46	5	13-0	4000	STR														
53	7	3	10-4	10000	STR													134	38	5	3-6	4000	STR														
54	3	5	6-1	10000	STR	2	2-0	2-1				2-0						135	31	5	4-10	2000	2	0-10	4-0												
55	14	1	10-10	10000	STR	10	4-11	2-1	4-11	2-0								136	37	5	6-3	2000	STR														
56	5	5	7-9	10000	STR	10	0-0	2-1	4-11	0-9								137	39	5	2-1	2000	STR														
57	3	3	6-1	10000	STR													138	2	5	23-10	2000	STR														
58																		139																			
59	25	6	9-6	10000	STR													140																			
60	8	6	17-3	10000	STR													141																			
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62																		143															</				



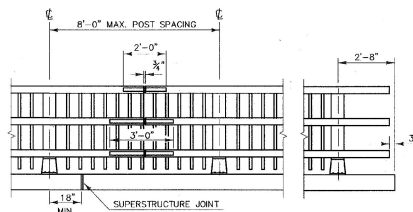
POST SIDE VIEW



POST PLAN VIEW



COPING DETAIL

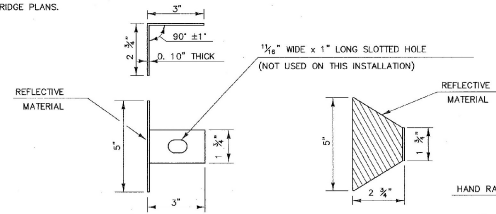


FRONT ELEVATION OF THREE RAIL WITH SPINDLES

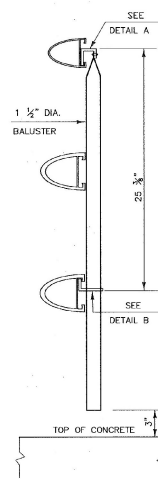
NOTE: RAIL POSTS ARE TO BE SET NORMAL TO GRADE UNLESS OTHERWISE DESIGNATED ON BRIDGE PLANS. ALL DIMENSIONS ARE TYPICAL UNLESS OTHERWISE DESIGNATED ON BRIDGE PLANS.

* THIS REFLECTORIZED ALUMINUM DELINEATOR IS TO BE ERRECTED EVERY 30 FEET (OR CLOSEST POST) WITH 2 NO. 8 X 3/4" SELF-TAPPING SCREWS. DELINEATORS SHALL MEET SPECIFICATION REQUIREMENTS FOR ASTM B209 ALLOY 5052-H32.

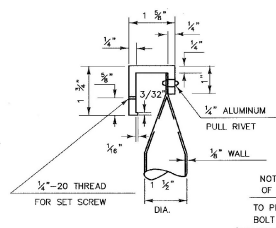
REFLECTIVE MATERIAL SHALL MEET THE REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE OF ENCAPSULATED LENS SILVER OR AMBER. AMBER IS TO BE INSTALLED ON THE DRIVER'S LEFT AND SILVER ON THEIR RIGHT. PAYMENT SHALL BE SUBSIDIARY TO ALL OTHER ITEMS.



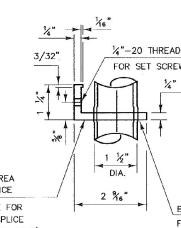
REFLECTOR DETAILS



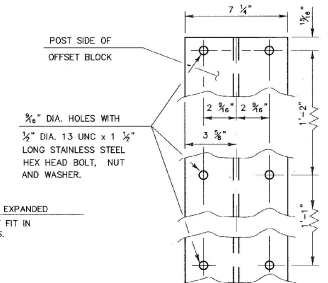
SECTION AA



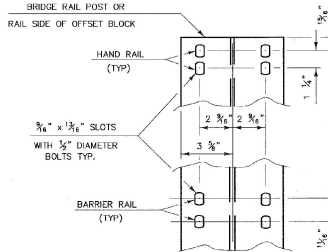
DETAIL A



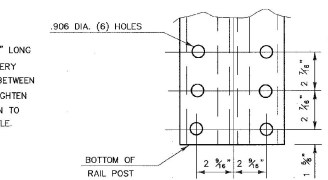
DETAIL B



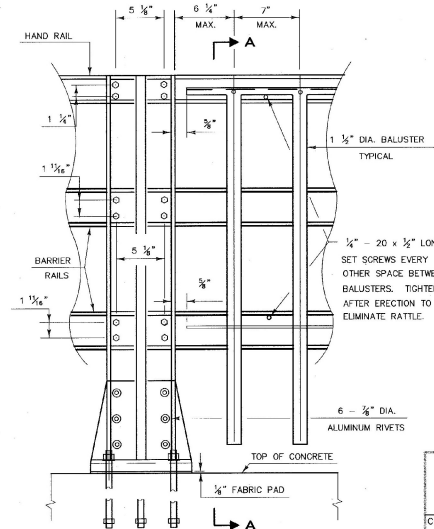
OFFSET BLOCK CONNECTION



RAIL CONNECTION



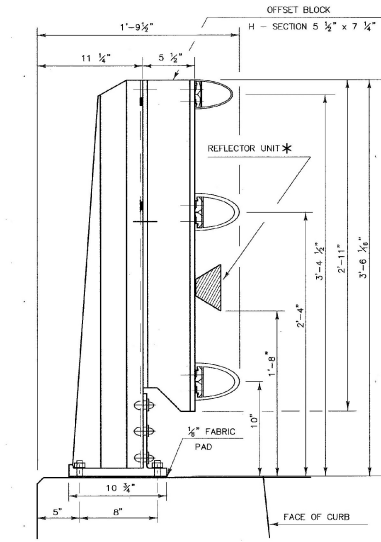
POST BASE BOLT HOLE DETAILS



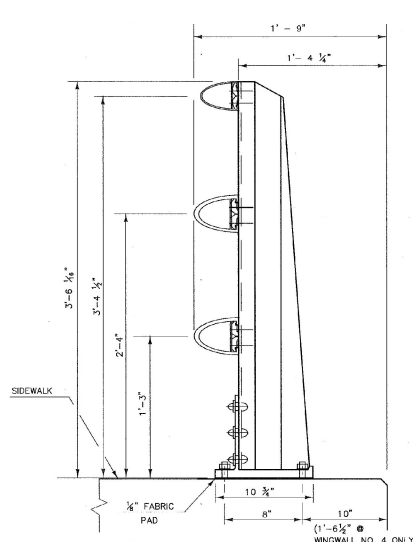
OUTSIDE ELEVATION OF THREE RAIL POST & SPINDLES

STATE OF VERMONT AGENCY OF TRANSPORTATION			
CITY OF	BARRE	BRIDGE NO.	B-10
STREET NAME	BLACKWELL STREET	LOG STA.	
DESIGNED BY	J. Patusky	DRAWN BY	S. Belanger
CHECKED BY	V. DeAngelo	BRIDGE DESIGN SUPERVISOR	
DATE	11/98	DATE	1/99
PROJECT	BARRE CITY	PROJECT NO.	BRW 6000(13)
BASIC DRAWING NO.	BLACK14/1	DATE	12/98
BRIDGE SHEET NO.	BR121	SHEET	34 OF 46

BETTGOLE ANDREWS & CLARK, INC.
Consulting Engineers



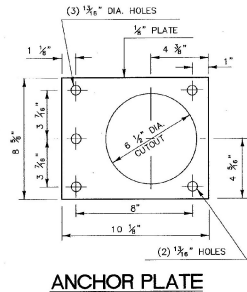
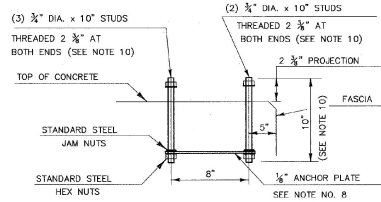
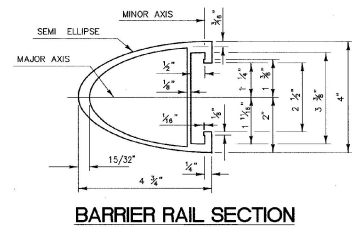
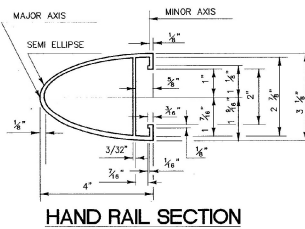
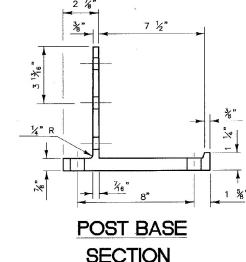
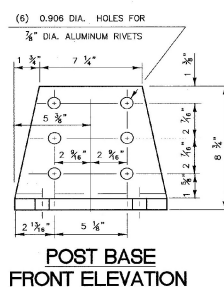
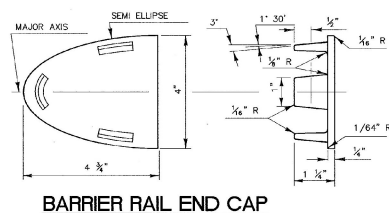
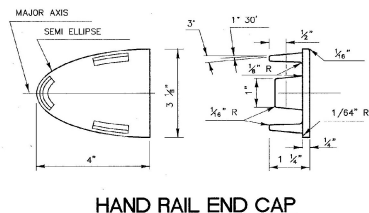
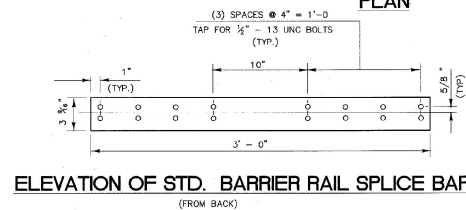
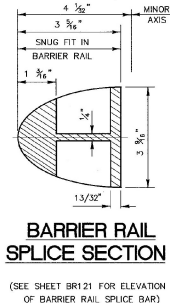
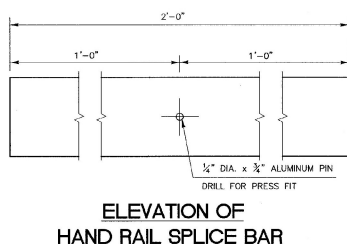
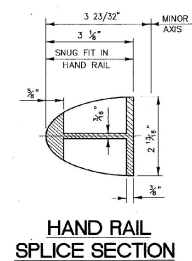
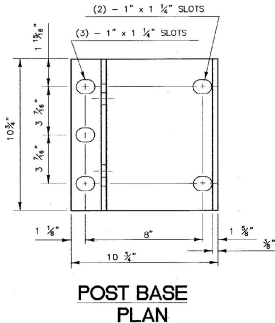
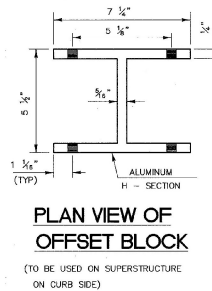
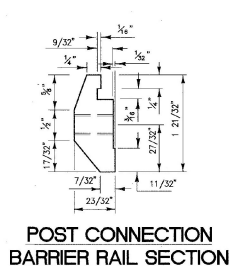
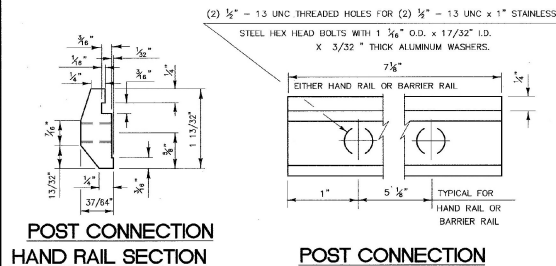
SIDE ELEVATION OF THREE RAIL TO BE USED ON CURB SIDE



SIDE ELEVATION OF THREE RAIL TO BE USED ON SIDEWALK SIDE

RAIL POST DETAILS ON SUPERSTRUCTURE

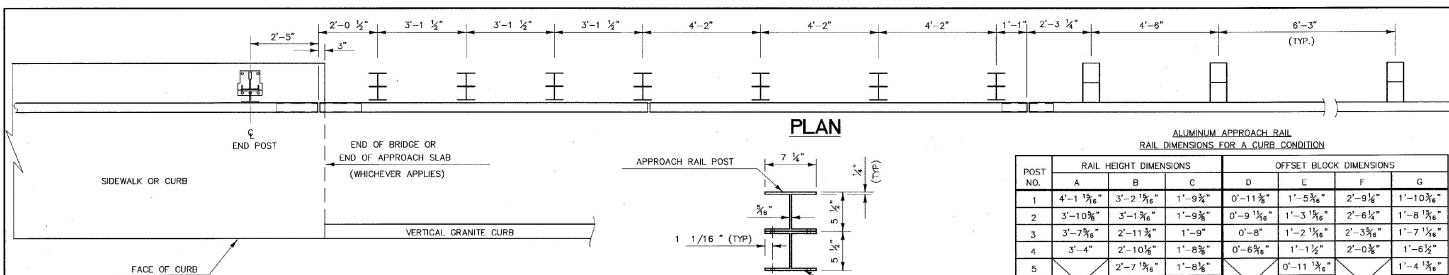
DETAILS OF SPINDLES FOR ALUMINUM RAILING



- NOTES:**
- ANCHOR BOLTS, WASHERS, AND HEAVY HEX NUTS MAY BE ANY OF THE FOLLOWING:
 - ASTM A449 GALVANIZED, OR
 - AASHTO M164 (ASTM A325) GALVANIZED
 - BOLTS AND WASHERS OF STAINLESS STEEL ASTM A276, TYPE 304 (MINIMUM ULTIMATE STRENGTH OF 100,000 PSI) WITH STAINLESS STEEL NUTS OF ASTM A194, GRADE 8A.
 - ALUMINUM POSTS, POST BASES, SPLICE BARS, CONNECTION BARS, RAILS AND BALUSTER FRAMES SHALL CONFORM TO ASTM B221 ALLOY 6061-T6 OR ALLOY 6351-T5. MINIMUM ALLOWABLE STRESS $F_y = 35,000$ PSI.
 - ALUMINUM BALUSTER TUBES SHALL CONFORM TO ASTM B210 ALLOY 6061-T5 OR 6063-T5.
 - ALUMINUM RAIL END CAPS SHALL CONFORM TO ASTM B26 ALLOY 356-T6.
 - THE POST, RAIL, AND OFFSET BLOCK CONNECTION BOLTS SHALL BE EITHER ASTM A193 OR ASTM A320. EITHER ONE SHALL BE CLASS 1, B8 GRADE AISI 304 WITH AN ULTIMATE TENSILE STRENGTH OF 75,000 PSI. NUTS FOR EITHER OF THE ABOVE BOLTS SHALL BE ASTM A194, GRADE 8, STAINLESS STEEL WITH AN ULTIMATE TENSILE STRENGTH OF 75,000 PSI.
 - SET SCREWS FOR ATTACHING BALUSTERS TO RAILING SHALL BE ASTM F880, TYPE 303 MATERIAL.
 - RVETS SHALL BE COLD DRIVEN HIGH BUTTON HEAD "CONE POINT", CONFORMING TO ASTM B316 ALLOY 6061-T6.
 - THE ANCHOR PLATE FOR THE POST ANCHOR ASSEMBLY SHALL BE ASTM A36 STRUCTURAL STEEL.
 - WELDING SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 506.10 USING THE GMAW-INERT GAS PROCESS AND AWS ER 5356 ELECTRODE WIRE.
 - UNLESS OTHERWISE SPECIFIED, ANCHOR BOLTS SHALL BE CAST INTO THE CONCRETE AS DETAILED.
 - WHENEVER FEASIBLE BARRIER RAIL AND HAND RAIL SECTIONS, SHALL BE FULL LENGTH SECTIONS (40' +) AND WHEN POSSIBLE SHALL BE ATTACHED TO THREE POSTS. RAILS SHALL BE SPACED AT EACH JOINT AND INTERMITTENTLY AS REQUIRED. SPLICES SHALL OCCUR WITHIN THE SAME PANEL.
 - ENDS OF RAILS SHALL BE CUT SQUARE AND GROUND FREE OF BURRS OR RAGGED EDGES. EXPOSED ENDS SHALL BE CAPPED.
 - THE CONCRETE CONTACT SURFACE AT THE POST BASE SHALL BE BUSH HAMMERED AND/OR SHIMMED AS REQUIRED FOR PROPER POST ALIGNMENT. POST HEIGHT ADJUSTMENTS LESS THAN 1/4" SHALL BE WITH 1/16" AND 1/8" SHIMS. CORRECTIONS EXCEEDING 1/4" SHALL BE WITH EPOXY MORTAR CONFORMING WITH SECTION 530. FABRIC BEARING PADS AND ANY REQUIRED SHIMS OR EPOXY MORTAR ARE SUBSIDIARY TO THE UNIT PRICE BID FOR THE RAILING.
 - SHIMS AND 1/8" FABRIC BEARING PADS SHALL BE 10 3/4" SQUARE WITH SLOTTED HOLES SIZED AND LOCATED THE SAME AS THE POST BASE DETAIL. FABRIC BEARING PADS SHALL CONFORM TO SUBSECTION 731.01 OR 731.02. SHIM MATERIAL SHALL BE ASTM B 209 ALLOY 1100-O.
 - EXTRUDED SECTIONS ARE DETAILED TO COMPLY WITH CURRENT AASHTO-ACC-ARBA STANDARDS. MINOR VARIATIONS OF THE DETAILS SHOWN MAY BE CONSIDERED PROVIDING THEY DO NOT REDUCE THE STRENGTH CAPACITY OF THE RAIL SYSTEM.
 - ALUMINUM WASHERS SHALL BE ASTM B209 ALLOY A5052-T4.

STATE OF VERMONT AGENCY OF TRANSPORTATION			
CITY OF	BARRE	BRIDGE NO.	B-10
STREET NAME	BLACKWELL STREET	LOG STA.	
		SURV. STA.	
BLACKWELL STREET OVER STEVENS BRANCH			
ALUMINUM BRIDGE RAILING DETAILS			
DESIGNED BY	J. Potusky	DRAWN BY	S. Belanger
CHECKED BY	V. DeAngelo	DATE	11/98
		BRIDGE DESIGN SUPERVISOR	J. Potusky
PROJECT	BARRE CITY	DATE	11/98
PROJECT NO.	BRM 6000(13)		
DATE	12/98		
BRIDGE SHEET NO.	BR122	SHEET	35 OF 46

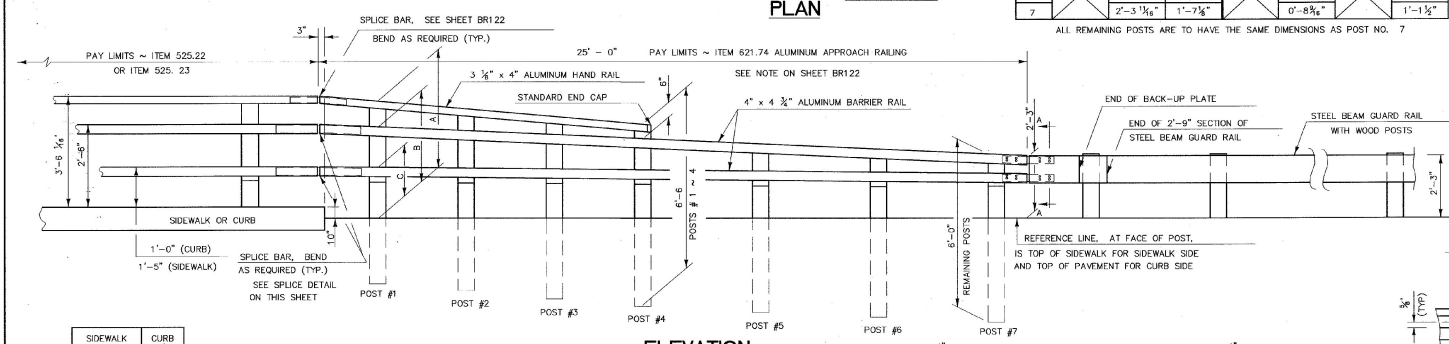
BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers



ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A CURB CONDITION

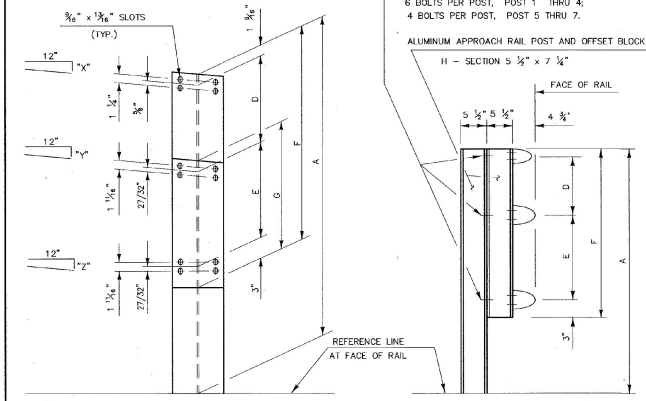
POST NO.	A	B	C	D	E	F	G
1	4'-1 1/8"	3'-2 1/8"	1'-9 1/8"	0'-11 3/4"	1'-5 3/8"	2'-9 1/4"	1'-10 3/8"
2	3'-10 3/8"	3'-1 3/8"	1'-9 3/8"	0'-9 1/8"	1'-3 1/8"	2'-6 1/4"	1'-8 1/8"
3	3'-7 3/8"	2'-11 3/8"	1'-9"	0'-8"	1'-2 1/8"	2'-3 1/8"	1'-7 1/8"
4	3'-4"	2'-10 3/8"	1'-8 3/8"	0'-6 3/8"	1'-1 1/8"	2'-0 3/8"	1'-6 3/8"
5		2'-7 3/8"	1'-8 3/8"		0'-11 3/8"		1'-4 1/8"
6		2'-5 3/8"	1'-7 3/8"		0'-10 3/8"		1'-3 3/8"
7		2'-3 1/8"	1'-7 3/8"		0'-8 3/8"		1'-1 1/8"

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



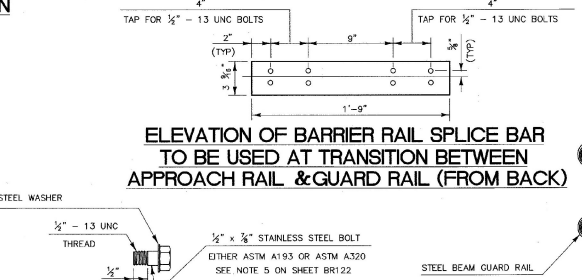
	SIDEWALK SIDE	CURB SIDE
"X"	.054	.088
"Y"	.010	.043
"Z"	-.003	.010

* TOP OF RAIL SLOPES AWAY FROM TOP OF PAVEMENT

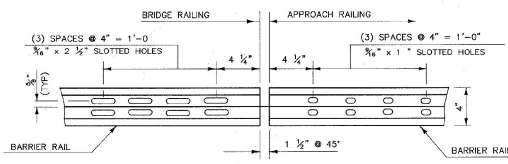


APPROACH RAIL DETAILS

ELEVATION



STAINLESS STEEL BOLT DETAILS

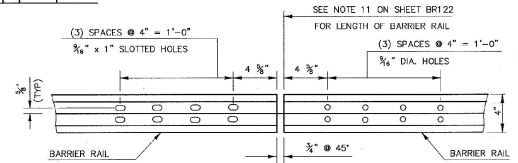


ELEVATION OF BARRIER RAIL (FROM BACK)

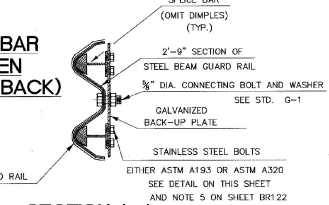
ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A SIDEWALK CONDITION

POST NO.	A	B	C	D	E	F	G
1	3'-4 3/8"	2'-9 3/8"	1'-5 3/8"	0'-11 3/8"	1'-0 3/8"	2'-4 1/8"	1'-5 1/8"
2	3'-2 1/8"	2'-5 3/8"	1'-5 3/8"	0'-9 3/8"	1'-0 3/8"	2'-2 3/8"	1'-5 3/8"
3	3'-0 1/8"	2'-3 3/8"	1'-5 3/8"	0'-8"	0'-11 3/8"	2'-0 3/8"	1'-4 1/8"
4	2'-10 1/8"	2'-4 3/8"	1'-5 3/8"	0'-6 3/8"	0'-11 3/8"	1'-10 3/8"	1'-4 3/8"
5		2'-4 3/8"	1'-5 3/8"		0'-10 3/8"		1'-3 3/8"
6		2'-3 3/8"	1'-5 3/8"		0'-9 3/8"		1'-2 3/8"
7		2'-3 3/8"	1'-5 3/8"		0'-9 3/8"		1'-2 3/8"

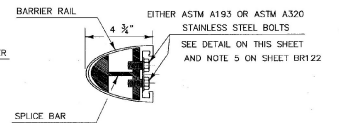
ALL REMAINING POSTS TO HAVE THE SAME DIMENSIONS AS POST NO. 7



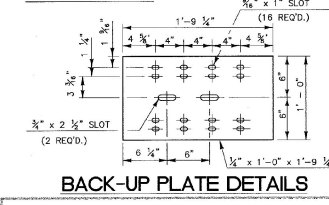
ELEVATION OF BARRIER RAIL (FROM BACK)
AT ALL INTERMEDIATE RAIL SPLICES



SECTION A-A



TYPICAL SECTION THROUGH
BARRIER RAIL SPLICE



BACK-UP PLATE DETAILS

**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

CITY OF **BARRE** BRIDGE NO. **B-10**

STREET NAME **BLACKWELL STREET** LOG STA.

BLACKWELL STREET OVER STEVENS BRANCH SURV. STA.

ALUMINUM APPROACH RAILING DETAILS

DESIGNED BY **J. Patusky** DRAWN BY **S. Belonger**

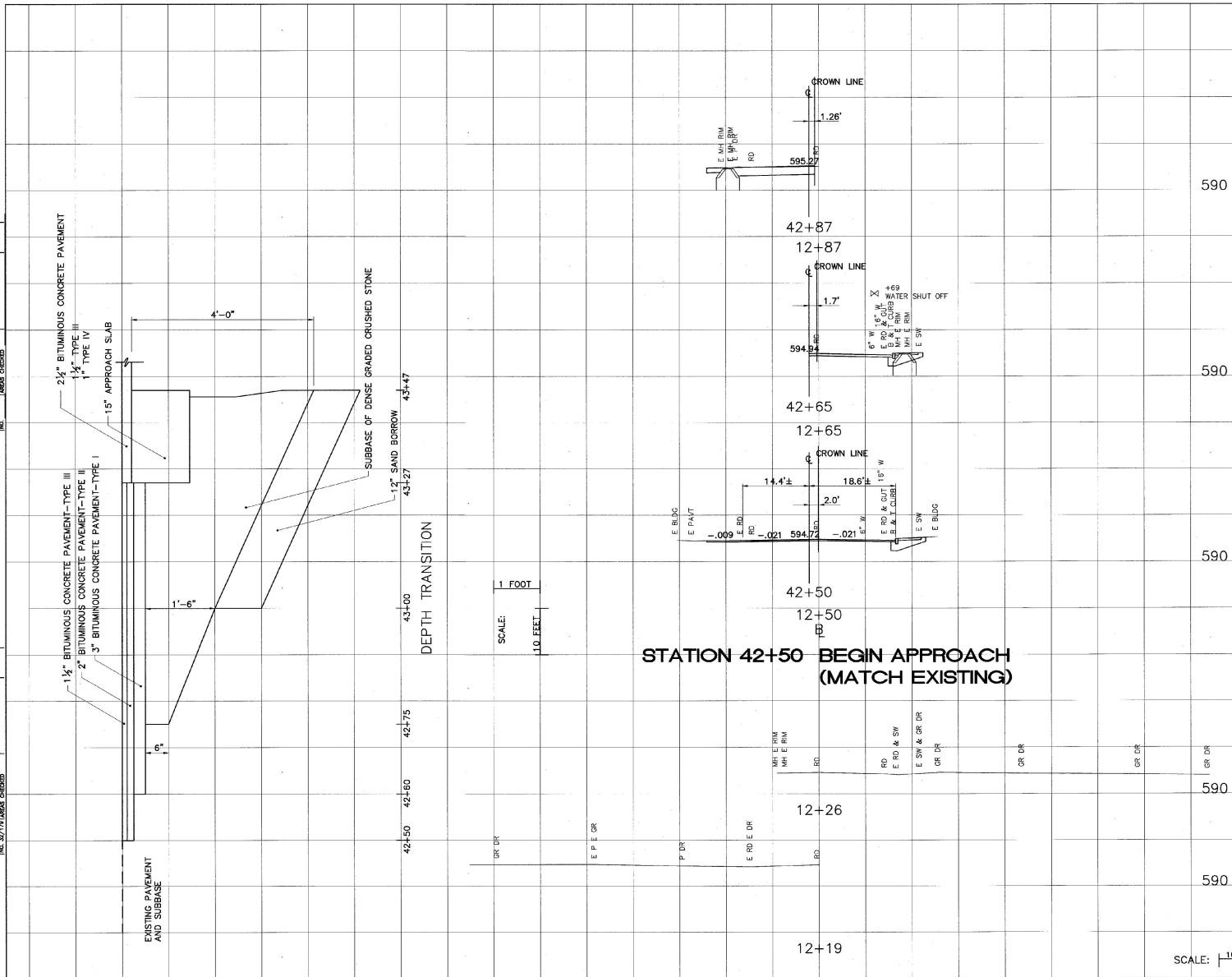
CHECKED BY **V. DeAngelo** DATE **11/98** BRIDGE DESIGN SUPERVISOR **J. Patusky** DATE **11/98**

PROJECT **BARRE CITY** PROJECT NO. **BRM 6000(13)**

BA&C DRAWING NO. **BLACK16/1** DATE **12/98**

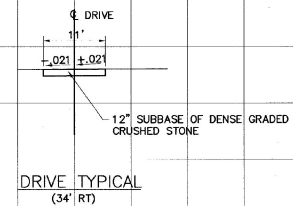
BRIDGE SHEET NO. **BR123** SHEET **36** OF **46**

BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers



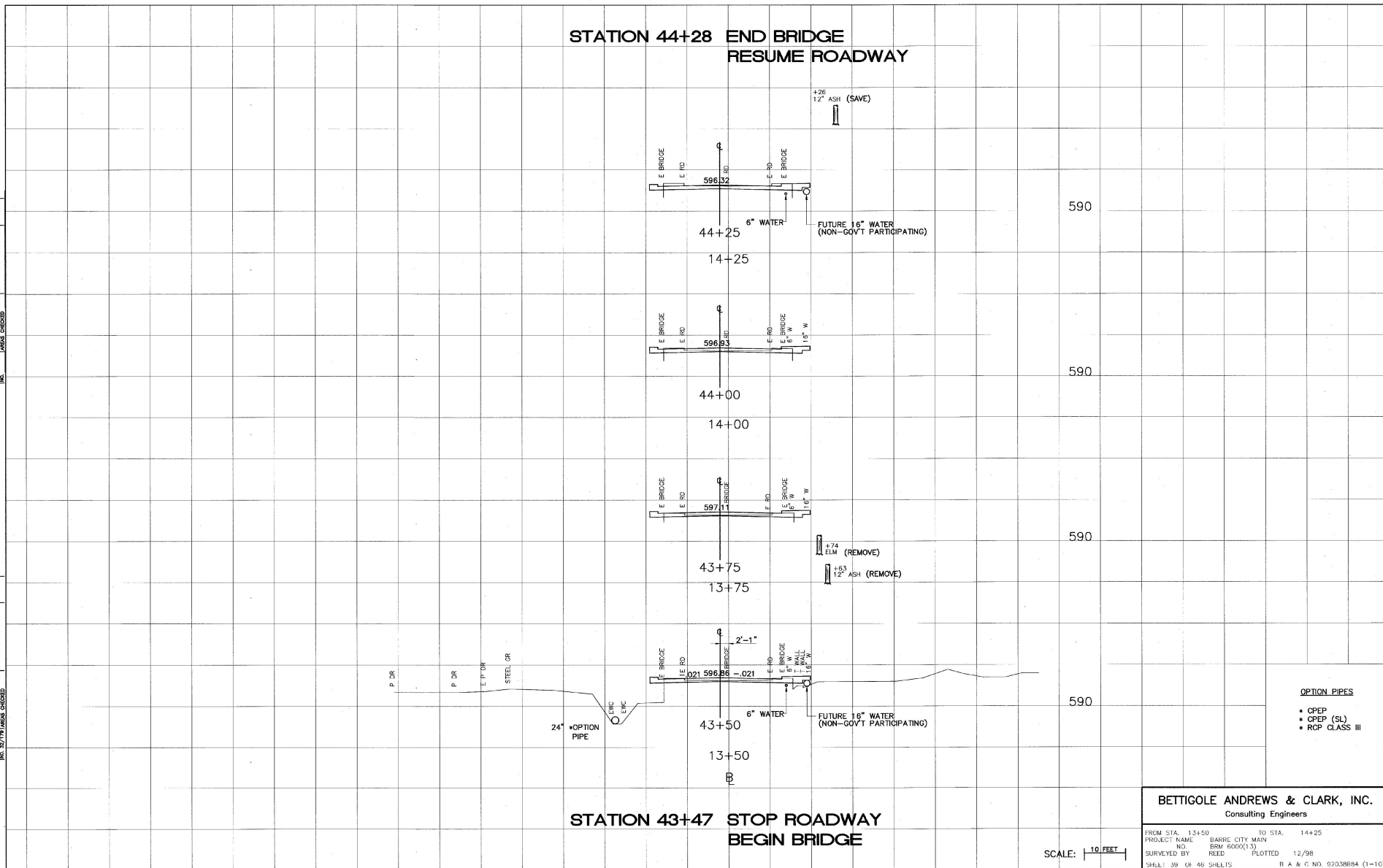
BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers

FROM STA.	12+19	TO STA.	12+87
PROJECT NAME	BARRIL CITY MAIN		
NO.	BRM 6000(13)		
SURVEYED BY	REED	PLOTTED	12/98
SHEET 37 OF 46 SHEETS	B A & C NO. 92038B84 (1=10)		



FINAL	DESIGNED	BY	DATE
NOTED	BY	DATE	
NO.	NO.	NO.	NO.

ORIGINAL	DESIGNED	BY	DATE
NOTED	BY	DATE	
NO.	NO.	NO.	NO.



OPTION PIPES

- CPEP
- CPEP (SL)
- RCP GLASS III

BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers

FROM STA.	13+50	TO STA.	14+25
PROJECT NAME	BARRE CITY MAIN		
NO.	BSM 600(13)		
SURVEYED BY	REED	PLOTTED	12/98
SHEET 39	OF 46 SHEETS		

SCALE: 1"=10 FEET

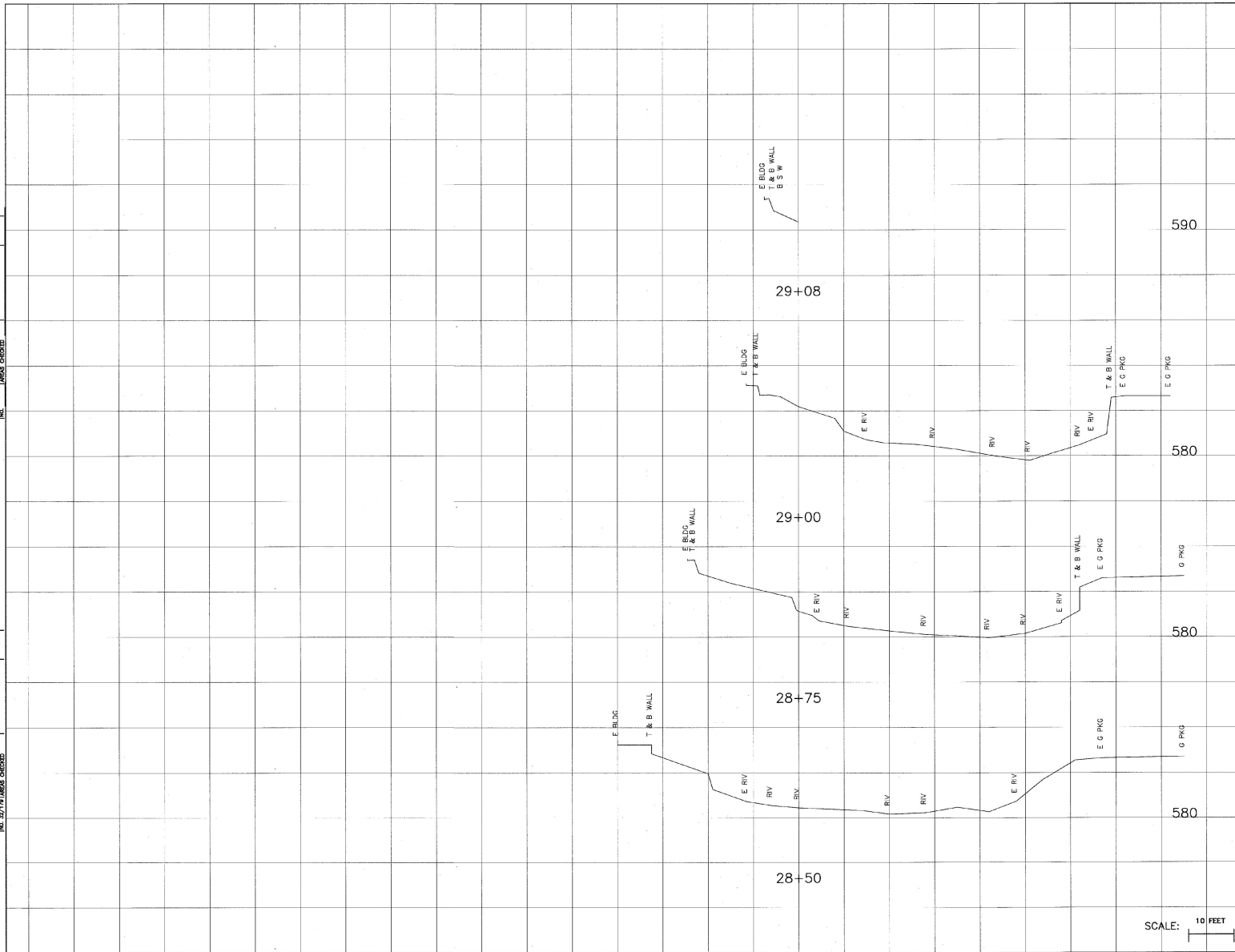


BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers

FROM STA.	14+29.8	TO STA.	14+82
PROJECT NAME	BARRE CITY MAIN		
NO.	BRM 6000(13)		
SURVEYED BY	REED	PLOTTED	12/98
SHEET 40 OF 46 SHEETS	B A & C NO. 92038884 (1=10')		

ORIGINAL	REVISION	BY	DATE
NO. 32,779	NO. 32,779	NO. 32,779	NO. 32,779
NO. 32,779	NO. 32,779	NO. 32,779	NO. 32,779

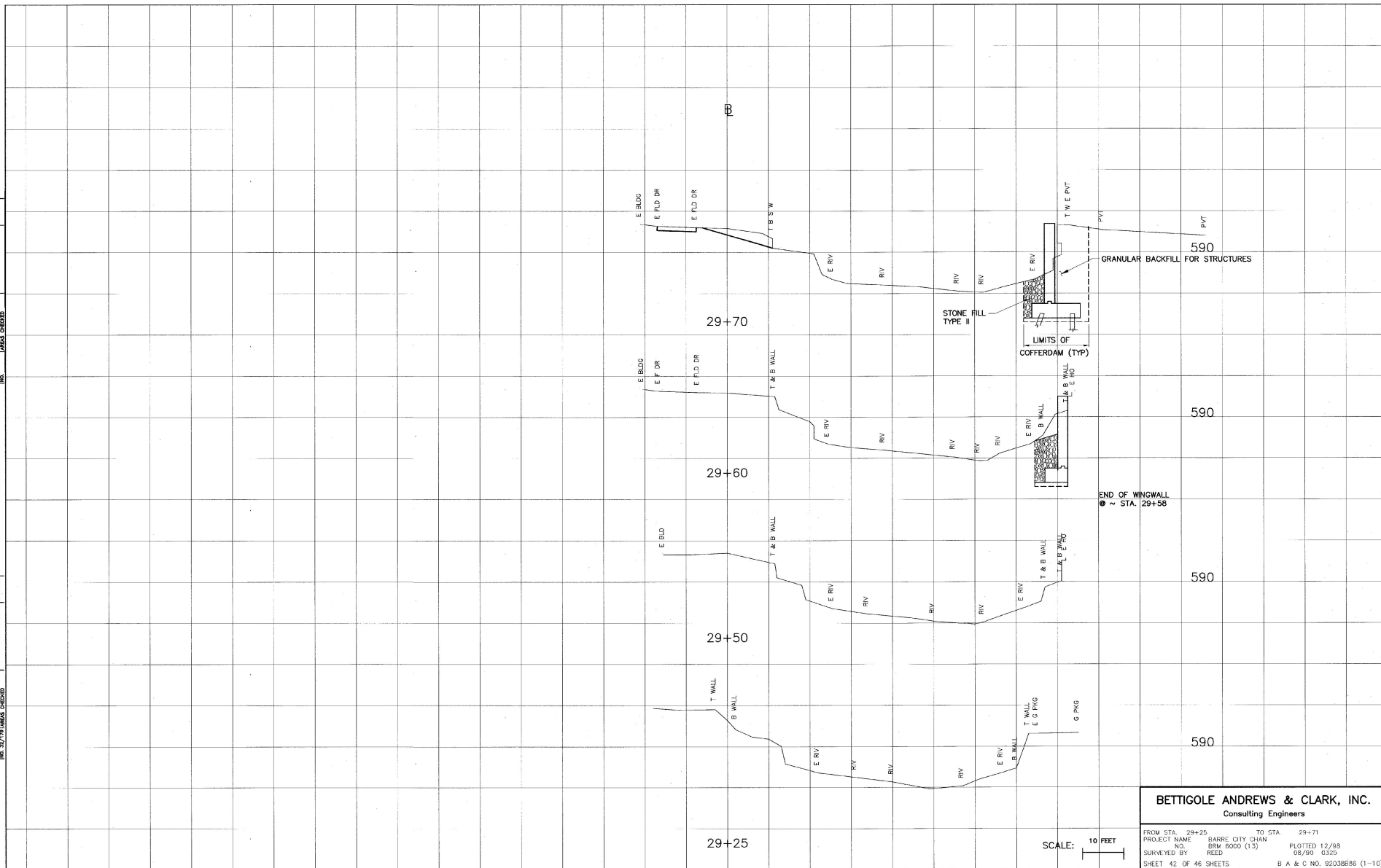
FINAL	REVISION	BY	DATE
NO. 32,779	NO. 32,779	NO. 32,779	NO. 32,779
NO. 32,779	NO. 32,779	NO. 32,779	NO. 32,779



BETTIGOLE ANDREWS & CLARK, INC. Consulting Engineers			
FROM STA.	28+50	TO STA.	29+08
PROJECT NAME	BARRE CITY CHAN		
NO.	BRW 6000 (13)		
SURVEYED BY	REED		
SHEET 41		OF 46 SHEETS	B A & C NO. 02038086 (1-10)
		PLOTTED 12/99	08/99 0325

FINAL	REVISION	DATE	BY	CHK
NO.	NO.	NO.	NO.	NO.

ORIGINAL	REVISION	DATE	BY	CHK
NO.	NO.	NO.	NO.	NO.

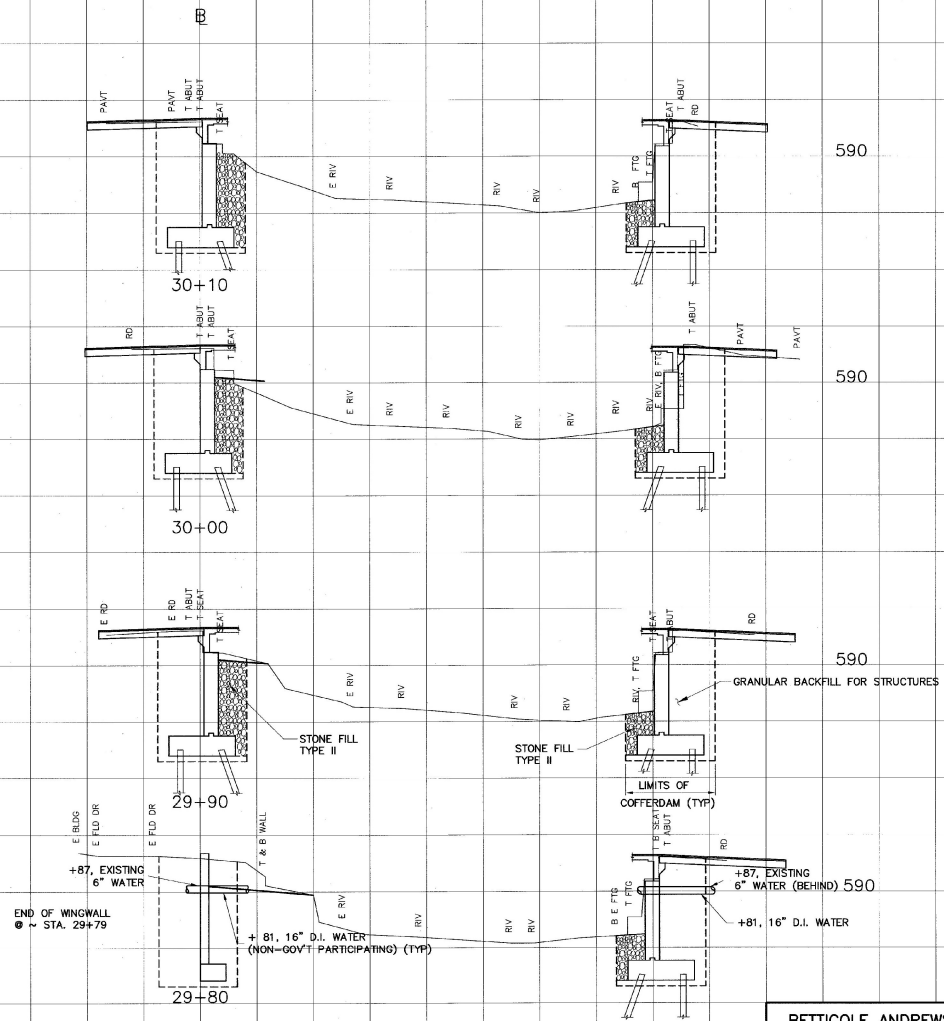


BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers

FROM STA.	29+25	TO STA.	29+71
PROJECT NAME	BARRE CITY CHAN		
NO.	0000 (13)	PLOTTED	12/98
SURVEYED BY	REED	08/90	0325
SHEET	42 OF 46 SHEETS	B A & C NO.	92038686 (1-10)

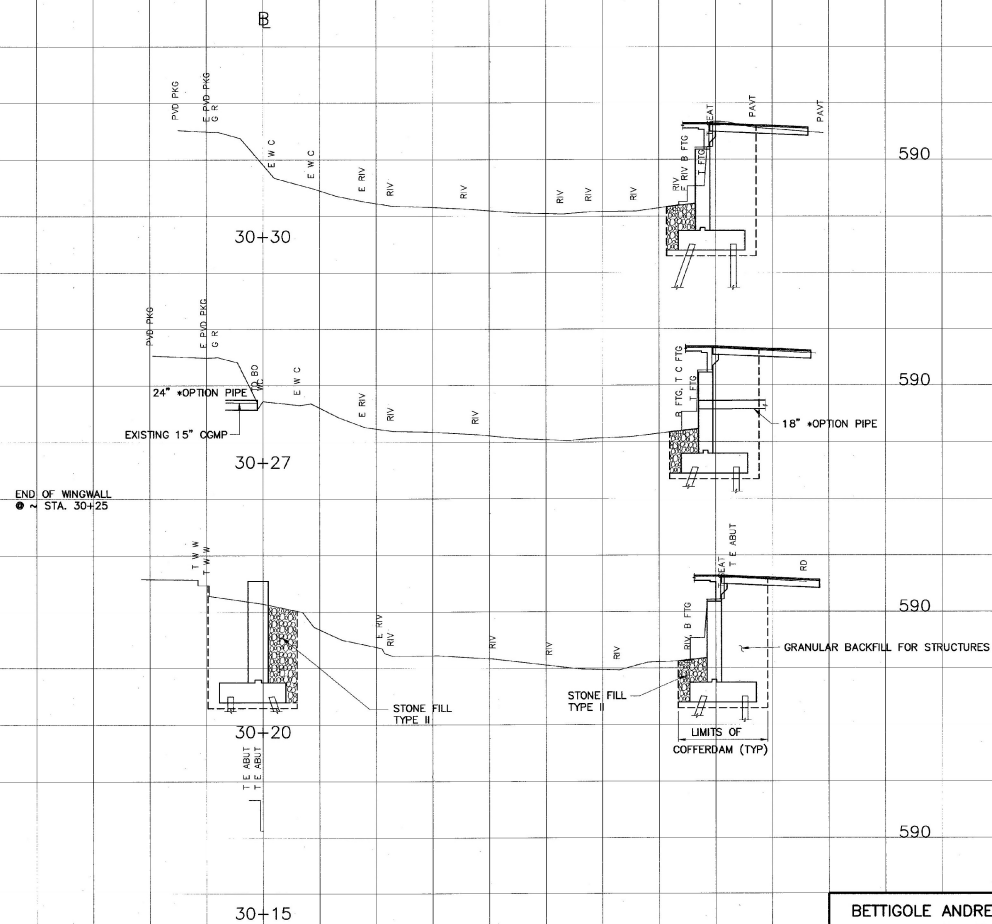
FINAL	SHARED	BY	DATE
10/1/99	10/1/99	10/1/99	10/1/99
10/1/99	10/1/99	10/1/99	10/1/99
10/1/99	10/1/99	10/1/99	10/1/99

ORIGINAL	SHARED	BY	DATE
10/1/99	10/1/99	10/1/99	10/1/99
10/1/99	10/1/99	10/1/99	10/1/99
10/1/99	10/1/99	10/1/99	10/1/99



BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers

FROM STA. 29+80 TO STA. 30+10
PROJECT NAME BARRE CITY CHAN
NO. BSW 6000 (13) PLOTTED 12/98
SURVEYED BY RETD. DS/90 0525
SHEET 43 OF 46 SHEETS B & C NO. 92038686 (1-10)



OPTION PIPES

- * CPEP
- * CPEP (SL)
- * RCP CLASS III

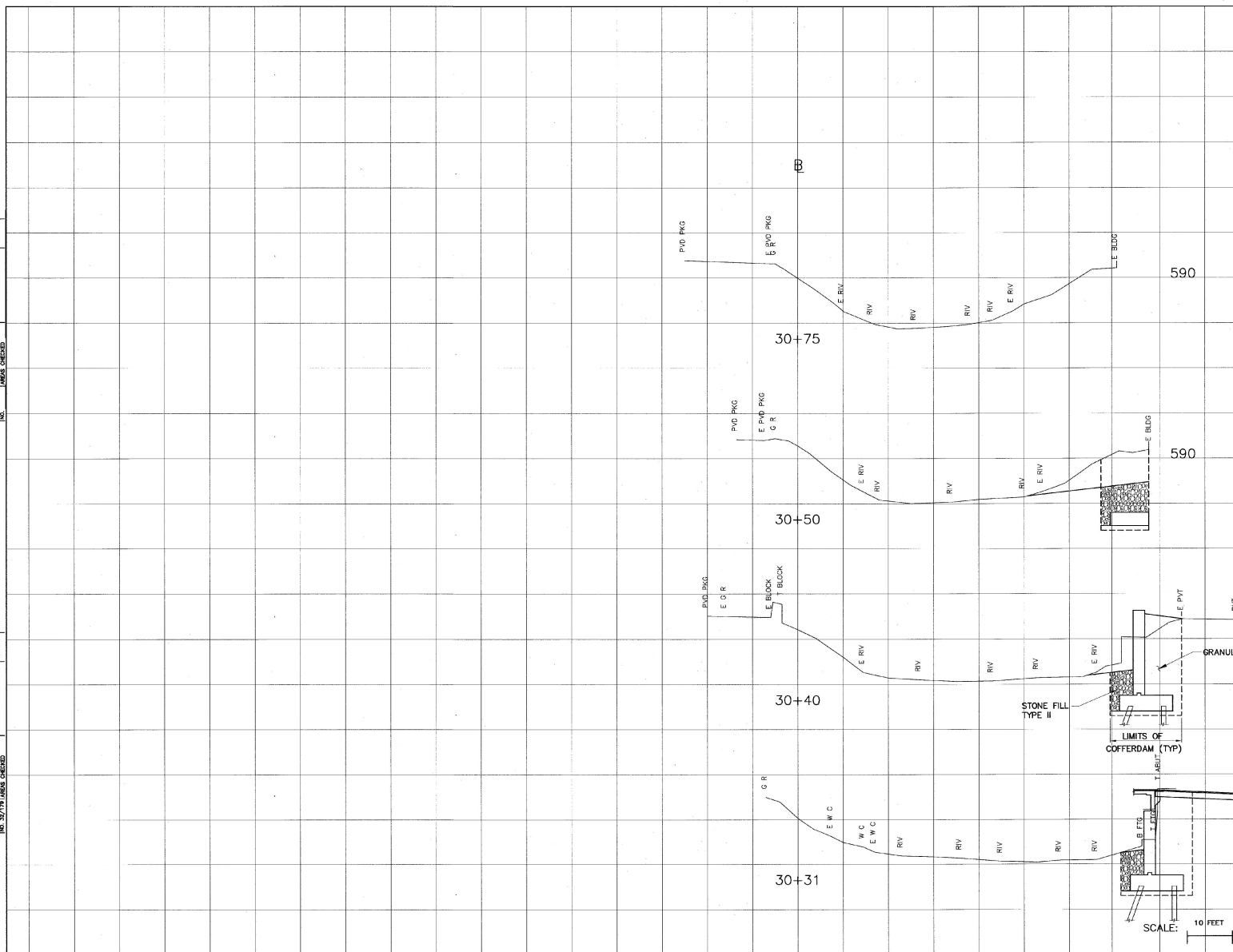
BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers

FROM STA.	30+15	TO STA.	30+30
PROJECT NAME	BARRE CITY CIAN		
NO.	BRM 6000 (13)		
SURVEYED BY	REED	PLOTTED	12/98
		08/90	0325
SHEET 44 OF 46 SHEETS	B A & C NO. 92038B86 (1=10)		

SCALE: 10 FEET

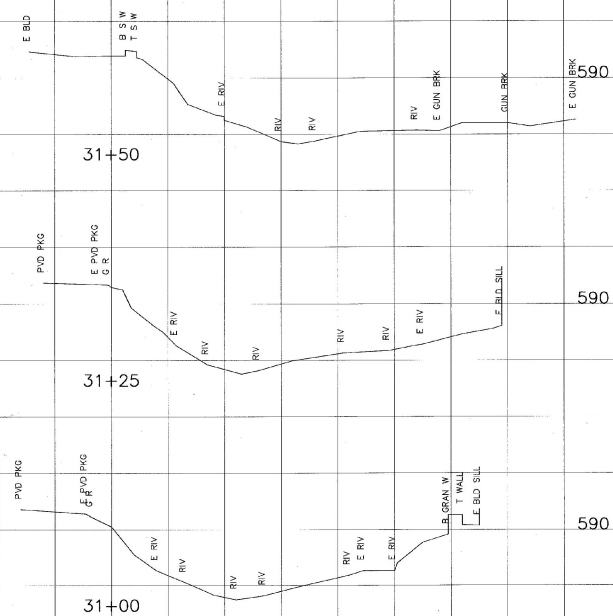
FINAL	DESIGNED	BY	DATE
NO. 32179	NO. 32179	DATE	DATE
NO. 32179	NO. 32179	DATE	DATE

ORIGINAL	DESIGNED	BY	DATE
NO. 32179	NO. 32179	DATE	DATE
NO. 32179	NO. 32179	DATE	DATE



BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers

FROM STA.	30+31	TO STA.	30+75
PROJECT NAME	BARRE CITY CIAN		
NO.	6000 (1-3)	PLOTTED	12/98
SURVEYED BY	RETD	08/90	0325
SHEET	45 OF 46 SHEETS	D & C NO. 92038685 (1-10)	



SCALE: 10 FEET

BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers

FROM STA.	31+00	TO STA.	31+50
PROJECT NAME	BARRE CITY CHAN		
NO.	BRM 6000 (15)		PLOTTED 12/98
SURVEYED BY	REED		08/90 0325
SHEET 46 OF 46 SHEETS	D A & C NO. 92038886 (1=10)		