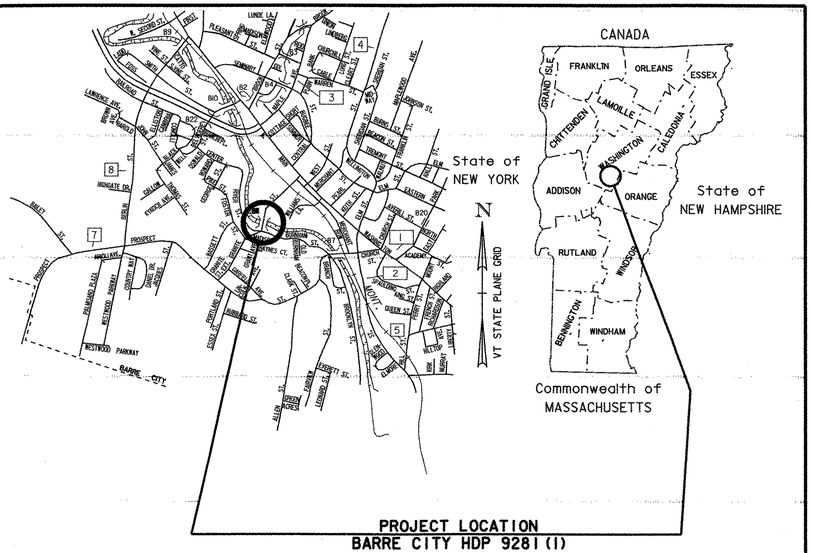
SEE SHEET 2 FOR INDEX OF SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

CITY OF BARRE
COUNTY OF WASHINGTON
ROUTE NO : GRANITE STREET, CL 2 BRIDGE NO : 11

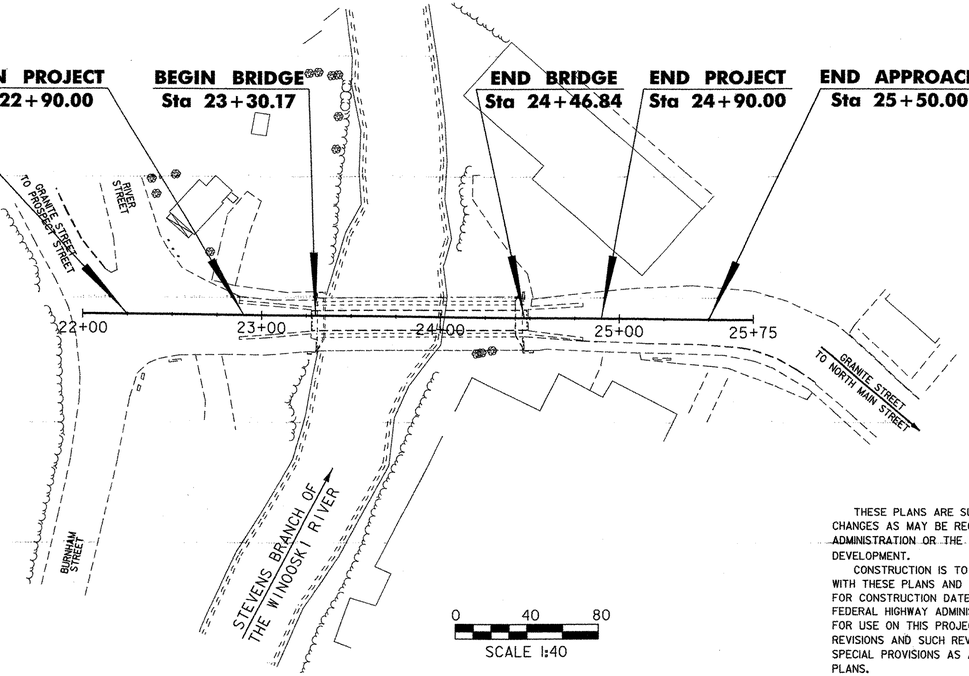
PROJECT LOCATION : BEGINNING AT A POINT ON GRANITE STREET APPROXIMATELY 0.222 MILES SOUTHWESTERLY OF THE INTERSECTION OF US 302 (NORTH MAIN STREET) AND EXTENDING NORTHERLY 0.038 MILES FROM THE INTERSECTION OF BURNHAM STREET.

PROJECT DESCRIPTION : THE REPLACEMENT OF STRUCTURALLY DEFICIENT BRIDGE #11 WITH A NEW PREFABRICATED STEEL TRUSS STRUCTURE INCLUDING ALL THE NECESSARY ROADWAY APPROACH WORK.

LENGTH OF STRUCTURE :	116.67 FEET
LENGTH OF ROADWAY :	83.33 FEET
LENGTH OF PROJECT :	200.00 FEET

MAGNETIC

BEGIN APPROACH Sta 22+25.00
BEGIN PROJECT Sta 22+90.00
BEGIN BRIDGE Sta 23+30.17
END BRIDGE Sta 24+46.84
END PROJECT Sta 24+90.00
END APPROACH Sta 25+50.00



CONVENTIONAL SYMBOLS

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

SURVEYED BY :
SURVEYED DATE :

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83 (92)

RECORD PLANS

CONTRACTOR: WINTERSET, INC. – LYNDONVILLE, VT
RESIDENT ENGINEER: JIM FOREST
CONSTRUCTION BEGAN: SEPTEMBER 24, 2004
CONSTRUCTION COMPLETE: NOVEMBER 15, 2006
RECORD PLANS BY: JIM FOREST & CRAIG PIERCE

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

BY James A. Forest RESIDENT ENGINEER
DATE 04-18-07

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

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

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

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATOR
APPROVED _____ DATE _____

DIRECTOR OF PROJECT DEVELOPMENT
APPROVED _____ DATE 5/19/04

PROJECT MANAGER : CRAIG KELLER

PROJECT NAME : BARRE CITY
PROJECT NUMBER : HDP 9281(1)

SHEET 1 OF 58 SHEETS

/str5/92j099/sj099tit.dgn PLOTTED 18-MAY-2004

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

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1.	TITLE SHEET
2.	PRELIMINARY INFORMATION SHEET
3.	TYPICAL SHEET
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8. - 11.	BLANK SHEET
12.	TIE SHEET
13. - 14.	LAYOUT SHEETS
15.	PROFILE SHEET
16. - 18.	BORING SHEETS
19.	PLAN AND ELEVATION SHEET
20.	GENERAL NOTES
21.	APPROACH SLABS
22.	BRIDGE DECK
23.	END OF BRIDGE AND SIDEWALK DETAILS
24.	BRIDGE CURB DETAILS
25.-26.	BRIDGE EXPANSION JOINT
27.	DOWNSPOUT
28.	SIDEWALK EXPANSION JOINT
29.-30.	PEDESTRIAN RAIL DETAILS
31.-35.	WATERLINE DETAILS
36.-40.	EROSION CONTROL SHEETS
41.-42.	ABUTMENT 1 DETAILS
43.-44.	ABUTMENT 2 DETAILS
45.-47.	BLANK SHEETS
48.	REINFORCING STEEL SCHEDULE
49.-51.	MAINLINE CROSS SECTIONS
52.-58.	CHANNEL CROSS SECTIONS

STANDARDS

B-71	RESIDENTIAL AND COMMERCIAL DRIVES	2/1/2004
C-1	CURBS, BITUMINOUS CONCRETE SIDEWALKS GRANITE SLOPE EDGING, VERTICAL GRANITE CURB PRECAST REINFORCED CONCRETE CURB CAST IN PLACE CONCRETE CURB BITUMINOUS CONCRETE CURB, TREATED TIMBER CURB	1/3/2000
C-2A	CEMENT CONCRETE SIDEWALK, CONCRETE CURB	1/3/2000
C-3A	SIDWALK RAMPS TYPES 1-5 DETECTABLE WARNING DETAILS	2/2/2004
D-1	PRECAST RCP DROP INLET REINFORCED CONCRETE PIPE D.I. W/ CAST IRON GRATE REINFORCED CONCRETE PIPE D.I. W/ CONCRETE COVER	6/1/1994
D-13	CONCRETE CATCH BASIN WITH CAST IRON GRATE & CONCRETE MANHOLE WITH CAST IRON GRATE	1/3/2000
D-15	PRECAST REINF. CONC. MANHOLE GRATES (BICYCLE SAFE) CAST IRON GRATE WITH FRAME,TYPE D CAST IRON GRATE WITH FRAME,TYPE E	6/1/1994
D-20	HIGHWAY CROSSING FOR UNDERGROUND UTILITIES	3/3/2003
E-191	PAVEMENT MARKING DETAILS	2/1/1999
E-192	PAVEMENT MARKING DETAILS	10/12/2000
E-193	PAVEMENT MARKING DETAILS	8/18/1995
G-1D	STEEL BEAM GUARDRAIL (40MPH & LESS) HEAVY DUTY STEEL BEAM GUARDRAIL STEEL BEAM MEDIAN BARRIER ANCHOR FOR STEEL BEAM RAIL	1/3/2000
G-19	GENERIC GRADING PLANS FOR GUARDRAIL END TERMINALS	11/15/2002
T-1	TEMPORARY EROSION CONTROL DETAILS	6/1/1994
T-2	TEMPORARY EROSION CONTROL DETAILS	6/1/1994
SB-R6-82	BRIDGE RAILING - HEAVY DUTY STEEL BEAM	1/6/1995
SB-R7-90	BRIDGE RAILING - HEAVY DUTY STEEL BEAM	1/11/1995

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: 11/21/03

DRAINAGE AREA : 86.0 sq. mi.
CHARACTER OF TERRAIN : Rolling to mountainous
STREAM CHARACTERISTICS : Meandering, partially bounded by retaining walls and buildings.
NATURE OF STREAMBED : Sand, gravel and cobbles.

PEAK FLOW DATA

Q 2.33 =	2,500 cfs	Q 50 =	7,850 cfs
Q 10 =	5,340 cfs	Q 100 =	8,980 cfs
Q 25 =	6,800 cfs	Q 500 =	11,800 cfs

DATE OF FLOOD OF RECORD : November 1927
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: 610.0'
NATURAL STREAM VELOCITY : @ Q25 = 3.8 fps
ICE CONDITIONS : Moderate
DEBRIS: Slight to moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes
IS ORDINARY RISE RAPID? Yes
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? Maybe
IF YES, DESCRIBE: There are no instream structures that affect the water surface elevations. At high flows buildings in the floodplain may affect water surface elevations.

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

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single span steel pony truss.
YEAR BUILT: 1928
CLEAR SPAN(NORMAL TO STREAM): 106' **
VERTICAL CLEARANCE ABOVE STREAMBED: 13.5' (Bot. of beams at el. 600.0')
WATERWAY OF FULL OPENING: 1120 sq. ft. **
DISPOSITION OF STRUCTURE: Remove
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See boring logs if available.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	595.5'	VELOCITY =	4.0 fps
Q10 =	600.1'	"	3.7 fps
Q25 =	601.6'	"	4.0 fps
Q50 =	602.4'	"	4.2 fps
Q100 =	603.3'	"	4.3 fps

LONG TERM STREAMBED CHANGES: None noted.

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Below Q10.
RELIEF ELEVATION: 598.0'
DISCHARGE OVER ROAD @Q100: 4400 cfs

UPSTREAM STRUCTURE

TOWN: Barre City — DISTANCE: 1375'
HIGHWAY # : T.H. 7 (Prospect Street) — STRUCTURE #: 7
CLEAR SPAN: 50' — CLEAR HEIGHT: 12'
YEAR BUILT: 1947 — FULL WATERWAY: 745 sq. ft.
STRUCTURE TYPE: Steel beam bridge.

DOWNSTREAM STRUCTURE

TOWN: Barre City — DISTANCE: 1850'
HIGHWAY # : VT Route 62 — STRUCTURE #: 12
CLEAR SPAN: 2 spans at 26' = 52' total — CLEAR HEIGHT: 15'
YEAR BUILT: 1974 — FULL WATERWAY: 780 sq. ft.
STRUCTURE TYPE: Twin reinforced concrete box

LFD LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY							
POSTED							
OPERATING							

COMMENTS:

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
1993	2150	0	50	3	65
2013	2690	375	50	3	81

20 year ESAL for flexible pavement from 1993 to 2013 : 2,000,000
40 year ESAL for flexible pavement from 1993 to 2033 : 5,000,000
Design Speed : 30 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: Single span steel truss bridge

CLEAR SPAN(NORMAL TO STREAM): 108'
VERTICAL CLEARANCE ABOVE STREAMBED: 13.5'
WATERWAY OF FULL OPENING: 1033 sf

WATER SURFACE ELEVATIONS AT:

Q2.33 =	595.5'	VELOCITY=	4.5 fps
Q10 =	599.9'	"	4.1 fps
Q25 =	601.2'	"	4.4 fps
Q50 =	602.1'	"	4.6 fps
Q100 =	602.9'	"	4.7 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Below Q10
RELIEF ELEVATION: 598.0'
DISCHARGE OVER ROAD @Q100: Similar to existing conditions. (4400 cfs)

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 600.0'
VERTICAL CLEARANCE: @ Q10 = 0.1' (1.2' high average onto bottom chord at Q25)

SCOUR: 2.0' of contraction scour and degradation up to a Q500.

REQUIRED CHANNEL PROTECTION: Stone Fill, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW:	180 cfs	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	80 cfs	Depth = 0.5'
ORDINARY HIGH WATER:	1070 cfs	Depth = 2.0' (Elev. 589.0')

TEMPORARY BRIDGE REQUIREMENTS

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

ADDITIONAL INFORMATION

* The East Barre flood control dam reduces the peak flood flows to this site.

DESIGN CRITERIA

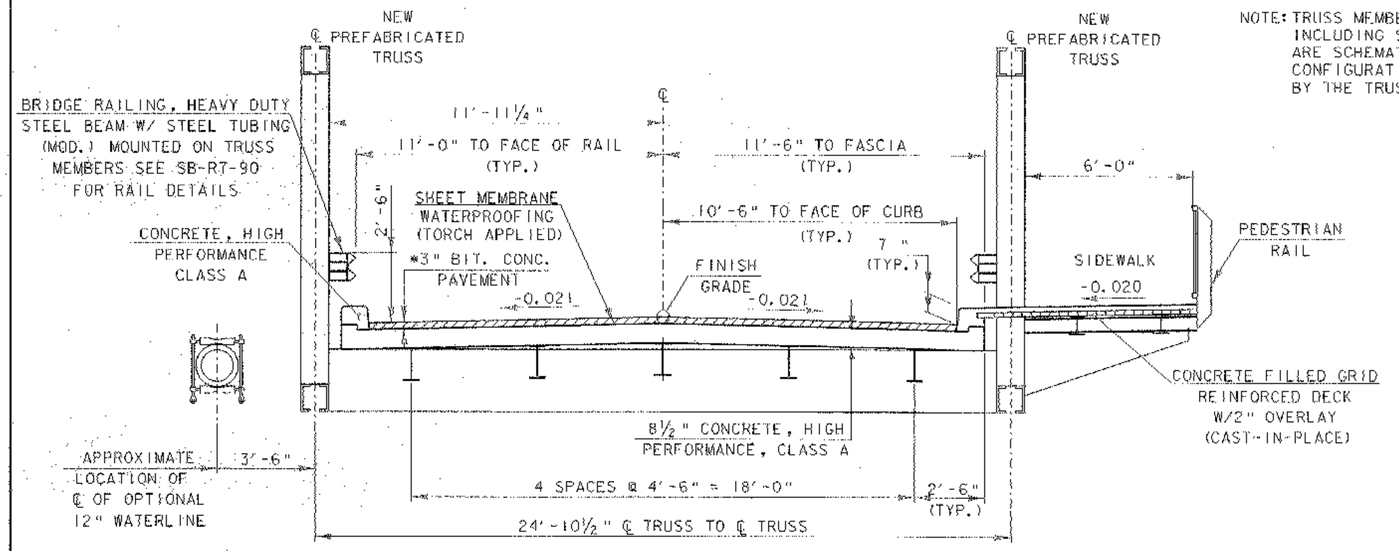
1. DESIGN LIVE LOAD AASHTO HS-25
2. DESIGN SPAN 112.52 ft
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 5.02 ksf
   ON LEDGE
4. ALLOWABLE LOAD FOR PILING
   TYPE
   ESTIMATED LENGTH
5. STRUCTURAL STEEL AASHTO GRADE
6. REINFORCING STEEL GRADE 60
7. CONCRETE HIGH PERFORMANCE CLASS A f'c : 4000 psi
   CONCRETE HIGH PERFORMANCE CLASS B f'c : 3500 psi
8. SOIL UNIT WEIGHT 140 pcf
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL 5.02 ksf

TRAFFIC MAINTENANCE

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

PROJECT NAME: **BARRE CITY**
PROJECT NUMBER: **HDP 9281(1)**

FILE NAME: **SJ099PI.XLS** — PLOT DATE: **5/26/2004**
PROJECT MANAGER: **C. KELLER** — DRAWN BY: **K. RUTTER**
DESIGNED BY: **K. RUTTER** — CHECKED BY: **T.A.SUMNER**
PRELIMINARY INFORMATION SHEET #1 — SHEET **2** OF **58**

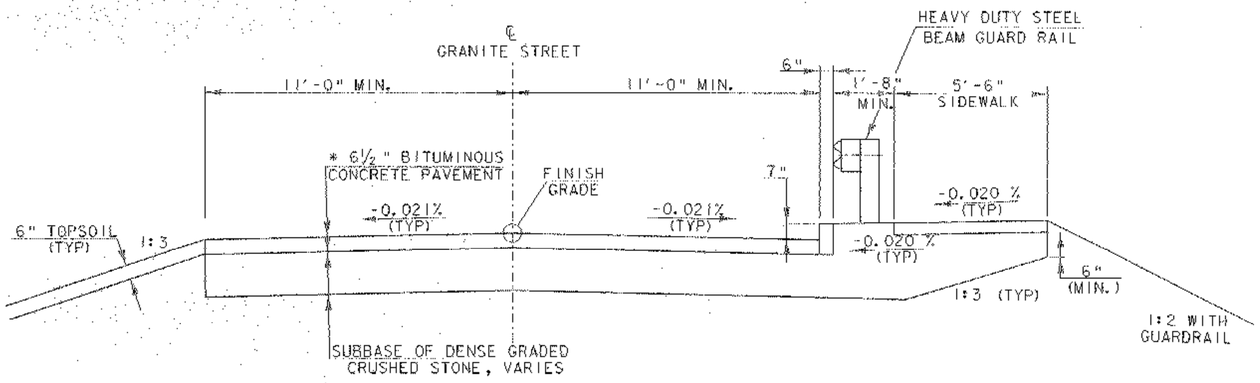


NOTE: TRUSS MEMBER CONFIGURATIONS, INCLUDING SIDEWALK BRACKET DETAILS ARE SCHEMATIC ONLY. ACTUAL MEMBER CONFIGURATION WILL BE DETERMINED BY THE TRUSS FABRICATOR.

* 1½" TYPE III OVER 1½" TYPE IV

BRIDGE TYPICAL SECTION

SCALE ⅜"= 1'-0

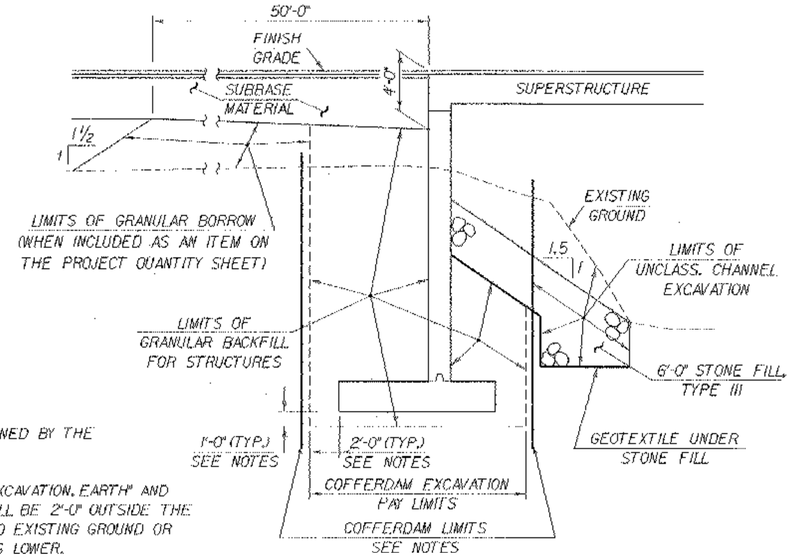


* 1½" TYPE III OVER 1½" TYPE IV OVER 3½" TYPE I

6½"

ROADWAY TYPICAL SECTION

SCALE ⅜"= 1'-0

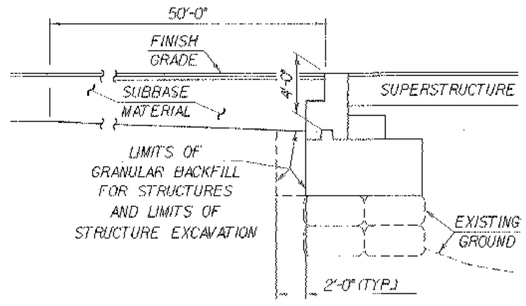


NOTES

1. COFFERDAM LIMITS TO BE DETERMINED BY THE CONTRACTOR.
2. THE PAY LIMITS OF "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 2'-0" OUTSIDE THE PERIMETER OF THE FOOTING, UP TO EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.
3. ONE FOOT UNDERCUT AS DETERMINED NECESSARY BY THE RESIDENT ENGINEER.
4. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE INDICATED COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM EXCAVATION PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION.
5. SEE SHEET 41 FOR COFFERDAM LIMITS FOR WINGWALL #1.

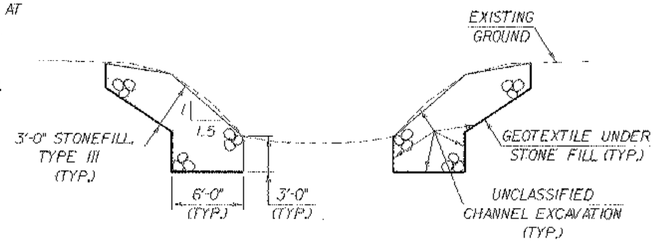
ABUTMENT NO.1 SECTION

(NOT TO SCALE)



ABUTMENT NO.2 SECTION

(NOT TO SCALE)



TYPICAL CHANNEL SECTION

(NOT TO SCALE)

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

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

TYPICAL SHEET

PROJECT NAME: BARRE CITY
PROJECT NUMBER: HDP 9281(1)

FILE NAME: /sfr5/92j099/sj099typ.dgn
PROJECT LEADER: C. KELLER
DESIGNED BY: K. RUTTER
sj099typ.1

PLOT DATE: 16-JUN-2004
DRAWN BY: K. RUTTER
CHECKED BY: T.A. SUMNER
SHEET 3 OF 58

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES

						APPR. SLAB #1	APPR. SLAB #2	ABUT. #2	ABUT. #1	SUPER STRUCT.	CHANNEL	UTILITIES NON-PART.	FULL E & C	EROSION CONTROL	ROADWAY	BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL
															1			1	
															350			350	
															100			100	
									20							20		20	
								10								10		10	
								20	350							370		370	
									370							370		370	
									170							170		170	
									1							1		1	
															352			352	
															250			250	
										0.5					2.5	0.5		3	
										65					120	65		185	
										88						88		88	
						10	10	34	128							182		182	
										1						1		1	
										1						1		1	
								3230	15520							18750		18750	
						2110	2110			18850						23070		23070	
								4	6	13						23		23	
										23.5						23.5		23.5	
						48	48			282						378		378	
										250						250		250	
										1						1		1	
															44			44	
															58			58	
															44			44	
															30			30	
															1			1	
															2			2	
														5				5	
														20				20	
									65							65		65	
															122			122	
															85			85	
									10							10		10	
															120			120	
															30			30	
															4			4	
															140			140	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER
LS	CLEARING AND GRUBBING	201.10
CY	COMMON EXCAVATION	203.15
CY	TRENCH EXCAVATION OF EARTH	204.20
CY	TRENCH EXCAVATION OF ROCK	204.21
CY	STRUCTURE EXCAVATION	204.25
CY	GRANULAR BACKFILL FOR STRUCTURES	204.30
CY	COFFERDAM EXCAVATION, EARTH	208.30
CY	COFFERDAM EXCAVATION, ROCK	208.35
LS	COFFERDAM	208.40
SY	COLD PLANING-BIT.PAVEMENT	210.10
CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35
CWT	EMULSIFIED ASPHALT	404.65
TON	BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	406.25
CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33
CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34
LS	STRUCTURAL STEEL (MOD. - PRE-FAB. BRIDGE)	506.75
LS	STRUCTURAL STEEL (DOWNSPOUT)	506.75
LB	REINFORCING STEEL	507.15
LB	EPOXY COATED REINFORCING STEEL	507.17
GAL	WATER REPELLENT	514.10
LF	BRIDGE EXPANSION JOINT	516.10
SY	SHEET MEMBRANE WATERPROOFING (TORCH APPLIED)	519.20
LF	BRIDGE RAILING-HDSB / FASCIA MOUNTED / STEEL TUBING (MOD.)	525.44
EACH	PARTIAL REMOVAL OF STRUCTURE	529.20
LF	REMOVE EXISTING PIPE 12" THROUGH 24" DIAMETER	529.50
LF	18" CPEP(SL)	601.2615
LF	24" CPEP(SL)	601.2620
CY	DRY RUBBLE MASONRY	602.20
EACH	PRECAST REINFORCED CONC. CATCH BASIN WITH IRON GRATE	604.20
EACH	PRECAST PIPE DROP INLET WITH CAST IRON GRATE	604.25
HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25
CY	STONE FILL, TYPE I	613.10
CY	STONE FILL, TYPE III	613.12
LF	CAST-IN-PLACE CEMENT CONCRETE CURB, TYPE B	616.28
SY	PORTLAND CEMENT CONC. SIDEWALK, 5 INCH	618.10
LF	REMOVING AND RESETTING FENCE	620.50
LF	HVY DUTY STEEL BEAM GUARD RAIL	621.21
LF	STEEL BEAM MEDIAN BARRIER	621.35
EACH	ANCHOR FOR STEEL BEAM RAIL	621.60
LF	REMOVL AND DISP OF GUARD RAIL (MOD.)	621.80

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT NAME: **Barre City**
PROJECT NUMBER: **HDP 9281 (1)**

FILE NAME: **str5/92j099/sj099qua.xls**
PROJECT MANAGER: **C. Keller**
DESIGNED BY: **K. Rutter**
QUANTITY SHEET #1

PLOT DATE: **6/1/2004**
DRAWN BY: **K. Rutter**
CHECKED BY: **T. Sumner**
SHEET **4** OF **58**

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES

						APPR. SLAB #1	APPR. SLAB #2	ABUT. #2	ABUT. #1	SUPER STRUCT.	CHANNEL	UTILITIES NON-PART.	FULL E & C	EROSION CONTROL	ROADWAY	BRIDGE QUANTITY
												1				
												1				
															100	
													1			
													1			
													1			
													1			
															1	
															650	
															650	
									100							100
														222		
														60		
														10		
														500		
														2		
														2		
														25		
															20	
															16	
														1		
														250		
														1		
														100		
															4	

TOTALS

ROUND	GRAND TOTAL	FINAL
	1	
	1	
	100	
	1	
	1	
	1	
	1	
	1	
	650	
	650	
	100	
	222	
	60	
	10	
	500	
	2	
	2	
	25	
	20	
	16	
	1	
	250	
	1	
	100	
	4	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER
LS	TRANSFER TO NEW SYSTEM - WATER SYSTEM (MOD.)	629.42
LS	WATER MAIN ON BRIDGE	629.60
HR	FLAGGERS	630.15
LS	FIELD OFFICE-ENGINEERS	631.10
LS	TESTING EQUIPMENT - CONCRETE	631.16
LS	TESTING EQUIPMENT - BITUMINOUS (MOD.)	631.17
LU	FIELD OFFICE - TELEPHONE (N.A.B.I.)	631.25
LS	MOBILIZATION	635.10
LF	4" WHITE LINE	646.20
LF	4" YELLOW LINE	646.21
SY	GEOTEXTILE UNDER STONE FILL	649.31
SY	GEOTEXTILE FOR SILT FENCE	649.51
LB	SEED	651.15
LB	SEED-WINTER RYE	651.17
LB	FERTILIZER	651.18
TON	AGRICULTURAL LIMESTONE	651.20
TON	HAYMULCH	651.25
EACH	HAY BALES FOR EROSION CONTROL	651.26
SY	SODDING	651.30
CY	TOPSOIL	651.35
LS	EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.10
HR	MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.20
LU	MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN (N.A.B.I.)	652.30
SY	EROSION MATTING	654.10
EA	REMOVING SIGNS	675.50

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT NAME: **Barre City**
PROJECT NUMBER: **HDP 9281 (1)**

FILE NAME: **str5/92j099/sj099qua.xls**
PROJECT MANAGER: **C. Keller**
DESIGNED BY: **K. Rutter**
QUANTITY SHEET #2

PLOT DATE: **12/9/98**
DRAWN BY: **K. Rutter**
CHECKED BY: **T. Sumner**
SHEET **5** OF **58**

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
1	GREEN MOUNTAIN POWER CORPORATION	7	2+35 RT. 2+33 RT. 2+70 RT. 2+85 RT. 3+10 RT. 3+23 RT. 3+25 RT. 3+25 RT.±	2+40 RT. 2+55 RT. 3+05 RT. 3+27 RT. 3+26 RT.			SLOPE (T) 0.01A± REMOVE & RESET (T) DRIVE (T) SLOPE (T) 0.01A± CONST. (T) 0.01A± SLOPE (P) 0.01A± INSTALL & MAINTAIN (P) REMOVE & RESET (T)	WDOE		BARRE CITY			36 S.F.± GRANITE BLOCKS 16' GRAVEL 35 S.F.± 160 S.F.± 8 S.F.± WINGWALL FOOTING PIPE RAILING
2	CENTRAL VERMONT COMMUNITY LAND TRUST - LESSOR CLARK, DEBORA - LESSEE	7	2+45 LT. 2+50 LT. 2+50 LT.± 2+50 LT. 2+50 LT. 2+70 LT.	2+65 LT. 2+69 LT. 2+65 LT.± 2+75 LT. 2+67 LT.	0.01A±		SLOPE (T) 0.01A± REMOVE & RESET (T) CULVERT (P) INSTALL & MAINTAIN (P) DRIVE (T)	WD					150 S.F.± ROCKS CURB 14' GRAVEL IN COMMON W/CITY
3	MERRIAM-GRAVES CORP.	7	4+16 LT. 4+16 LT. 4+19 LT. 4+22 LT.	4+43 LT. 4+85 LT. 4+22 LT. 4+85 LT.			REMOVE & RESET (T) CONST. (T) 0.01A± DITCH (P) SLOPE (T) 0.01A±	WDOE		BARRE CITY			FENCE 130 S.F.± 100 S.F.±
4	PEPIN GRANITE COMPANY, INC. & PEPIN, RAYMOND & SHARON	7	4+25 RT. 4+42 RT. 5+00 RT.	4+45 RT. 4+75 RT.			REMOVE & RESET (T) SLOPE (P) 0.01A± DRIVE (T)	WDOE		BARRE CITY			FENCE 80 S.F.± 23' PAVED
	GREEN MOUNTAIN POWER CORPORATION												UTILITY
	NYNEX												UTILITY
	HELICON CABLEVISION OF VERMONT												UTILITY

REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
1	6, 7	PARCEL NO. 3 WAKEMAN INDUSTRIES, INC. D/B/A MERRIAM AND GRAVES CORP. REMOVE WAKEMAN INDUSTRIES, INC. AND LEAVE MERRIAM-GRAVES CORP. PER C.O. 8648.	03-08-95	C.C.P.	L.W.B.
2	6, 7	PARCEL NO. 4 PEPIN. ADD PEPIN GRANITE COMPANY, INC. TO TITLE. PER C.O. 8649.	03-08-95	C.C.P.	L.W.B.
3	7	PARCEL NO. 3 MERRIAM & GRAVES. CORRECT SPELLING OF PROPERTY OWNER NAME AND REMOVE WAKEMAN INDUSTRIES. PER C.O. 8830.	12-23-96	C.C.P.	L.W.B.

DEC 31 1996

9281001 200 92J099 FJM/CMU
GRANITE ST.

ACCT.prop
/prop/92j099/rj099d.dgn
DATE PLOTTED 23-DEC-1996
rj099dl.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 L PROPERTY LINE
TOP OF CUT
TOE OF SLOPE

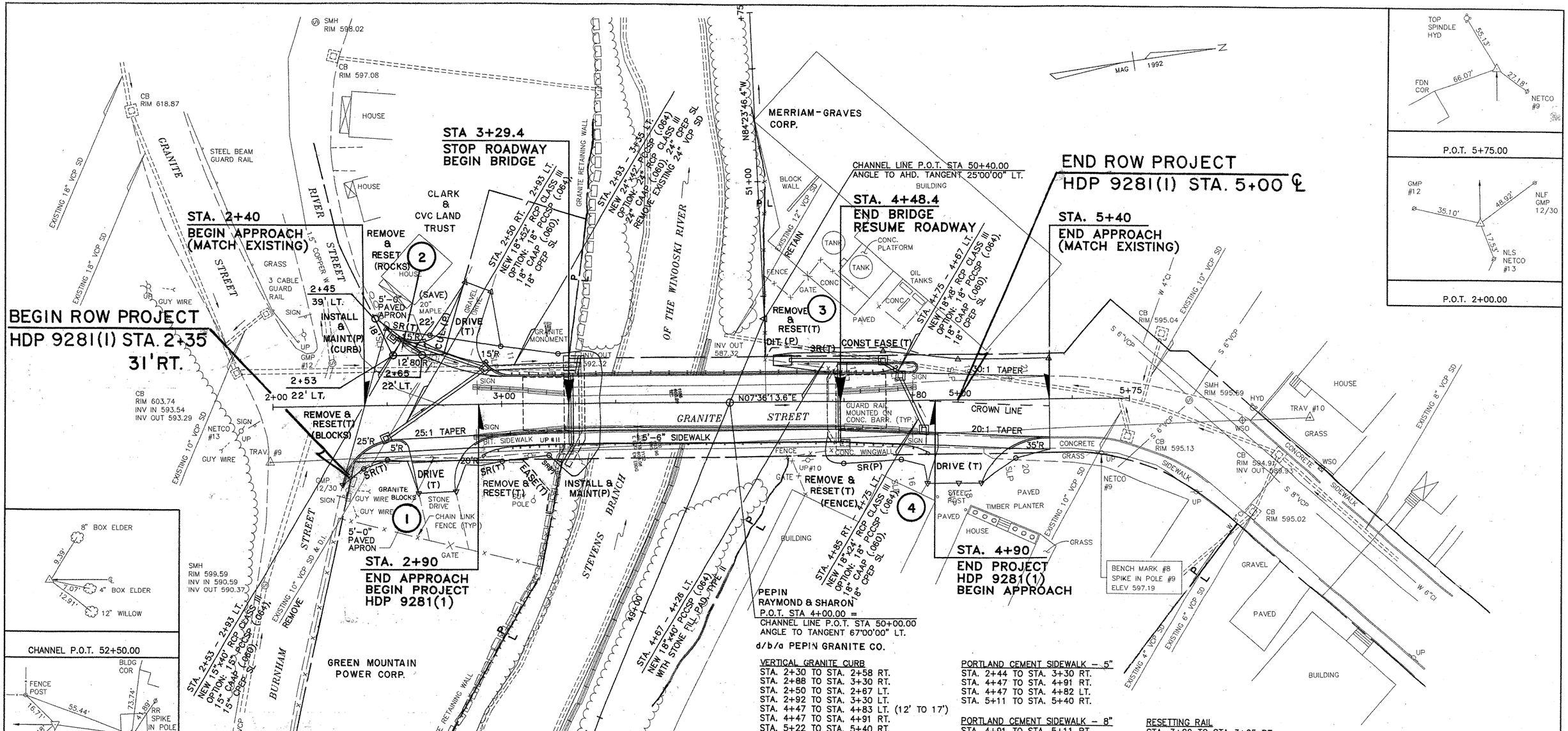
REVISED 12-23-96

APPROVED: LAWRENCE W. BLISS DATE: 11-16-94
AGENT D. PLANS & TITLES

R.O.W. PLANS

BARRE CITY
HDP 9281(1)

SHEET 6 OF 7



PORTLAND CEMENT SIDEWALK – 5"
STA. 2+44 TO STA. 3+30 RT.
STA. 4+47 TO STA. 4+91 RT.
STA. 4+47 TO STA. 4+82 LT.
STA. 5+11 TO STA. 5+40 RT.

PORTLAND CEMENT SIDEWALK – 8"
STA. 4+91 TO STA. 5+11 RT.

ALUMINUM APPROACH RAILING
STA. 2+93 TO STA. 3+32 LT.
STA. 2+92 TO STA. 3+32 RT.
STA. 4+47 TO STA. 4+72 LT.
STA. 4+47 TO STA. 4+87 RT.

REMOVAL OF EXISTING CURB
STA. 5+13 TO STA. 5+40 RT.

REMOVING AND RESETTING FENCE
STA. 4+16 TO 4+43 LT.
STA. 4+25 TO 4+45 RT.

REMOVING AND RESETTING ROCKS
STA. 2+50 TO STA. 2+65 LT., "ROCKS" TO BE REMOVED OR RESET AS DIRECTED

RESETTING RAIL
STA. 3+20 TO STA 3+25 RT.

VERTICAL GRANITE CURB
STA. 2+30 TO STA. 2+58 RT.
STA. 2+88 TO STA. 3+30 RT.
STA. 2+50 TO STA. 2+67 LT.
STA. 2+92 TO STA. 3+30 LT.
STA. 4+47 TO STA. 4+83 LT. (12' TO 17')
STA. 4+47 TO STA. 4+91 RT.
STA. 5+22 TO STA. 5+40 RT.

CONSTRUCT DRIVE
STA. 2+70 LT. – 14' GRAVEL (SKEWED)
STA. 2+70 RT. – 16' GRAVEL
STA. 5+00 RT. – 23' PAVED

GENERAL NOTE
THE CROSSOVER CROWN AND CROWN LINE SHALL EXTEND FROM STA. 2+45± LT. TO STA. 3+00 (12' LT.) AND STA. 4+80 (℄) TO STA. 5+40 RT. RESPECTIVELY AT APPROXIMATE 20:1 TAPERS.

0 20 40
SCALE IN FEET

BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers

STATE OF VERMONT
AGENCY OF TRANSPORTATION

CITY OF BARRE	BRIDGE NO. B–11
STREET NAME GRANITE STREET	LOG STA. / SURV. STA.
GRANITE STREET OVER STEVENS BRANCH	
PLAN	
DESIGNED BY SWB	DRAWN BY GNS
CHECKED BY / DATE	BRIDGE DESIGN SUPERVISOR / DATE
PROJECT BARRE CITY	PROJECT NO. HDP 9281(1)
BA&C DRAWING NO. 92038G82/20	DATE 10/07/94

R.O.W. SHEET 7 OF 7 SHEETS

X:\038682 Mon Oct 10 16:29:32 1994

GPS CONTROL POINTS

HVCTRL

STANDARD DISK STAMPED

Skyline

N = 622276.13

E = 1635312.54

ELEV. = 0.00

DESCRIBED BY VERMONT AGENCY OF TRANSPORTATION 1993
GENERAL LOCATION - BARRE CITY OWNERSHIP - CITY OF BARRE R.O.W.
TO REACH FROM THE INTERSECTION OF OF U.S ROUTE 302 AND THE INTERSTATE ACCESS ROAD (VERMONT ROUTE 62) IN BARRE, GO NORTHWEST ALONG VERMONT ROUTE 62 FOR 0.3 MI (0.5 KM) TO A TRAFFIC SIGNAL LIGHT AT A FOUR WAY INTERSECTION. TURN LEFT AND GO SOUTHWEST ALONG BERLIN STREET FOR ABOUT 40 M (131.2 FT) TO ITS INTERSECTION WITH RAILROAD STREET. TURN RIGHT AND GO NORTHWEST ALONG RAILROAD STREET FOR 0.35 MI (0.56 KM) TO THE MARK ON THE RIGHT SET IN THE TOP OF A MASSIVE LEDGE OUTCROP.
THE STATION IS LOCATED 34.8 FT (10.6 M) NORTHEAST OF AND ABOUT 2.5 FT (0.8 M) HIGHER THAN THE CENTERLINE OF RAILROAD STREET, 44 FT (13.4 M) SOUTHEAST OF POLE NUMBER 18A, 62.2 FT (19.0 M) EAST NORTHEAST OF POLE NUMBER 18, 14.2 FT (4.3 M) SOUTH SOUTHWEST OF THE HIGH POINT OF A STATE OF VERMONT RIGHT OF WAY FENCE, 6.5 FT (2.0 M) NORTHEAST OF A FIBERGLASS WITNESS POST.

The control for this project came from a previous Barre City job (TH2-9523 95j302). Points 1 & 2 of this job are equal to points 4 & 3 on the prior job.

HVCTRL

STANDARD DISK STAMPED

Provencher

N = 625935.89

E = 1634048.31

ELEV. = 0.00

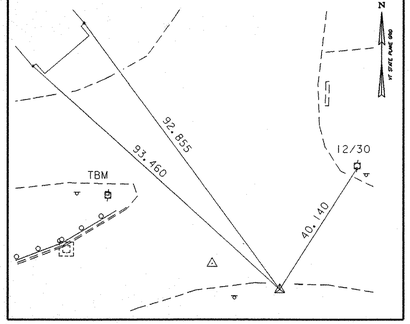
DESCRIBED BY VERMONT AGENCY OF TRANSPORTATION 1996 (DJM)
GENERAL LOCATION - RICHARDSON RD, BARRE OWNERSHIP - PHILLIP PROVENCHER TO REACH FROM THE INTERSECTION OF U.S. RTE 302 AND RICHARDSON RD GO 0.5 MI (0.8 KM) NORTHEAST AND NORTHWEST ALONG RICHARDSON RD TO A PRIVATE PAVED DRIVE LEFT. TURN LEFT AND GO NORTHWEST ALONG PRIVATE DRIVE FOR 0.1 MI (0.2 KM) TO A TAN AND WHITE 1½ STORY HOUSE AND END OF CAR TRAVEL. PACK 300 FT (91.4 M) SOUTHWEST THROUGH AN OLD HAY FIELD TO A POINT APPROX 30 FT (9.1 M) SOUTHWEST OF ITS HIGH POINT TO THE STATION. THE STATION IS 195.5 FT (59.6 M) WEST SOUTHWEST OF THE SOUTHWEST CORNER OF A 1 STORY SHED, 110.5 FT (33.7 M) SOUTHEAST OF THE EAST END OF AN EAST-WEST STONE WALL AT A 24 INCH MAPLE, 149 FT (45.4 M) SOUTHWEST OF THE WEST END OF AN OLD STONE FOUNDATION, AND 2 FT (0.6 M) SOUTH OF A FIBERGLASS WITNESS POST.

- TO ALLOW THE STATE PLANE COORDINATES TO FIT THE AGENCY DESIGN PLANE, SUBTRACT 600,000 FROM THE NORTHING AND SUBTRACT 1,600,000 FROM THE EASTING
- DESCRIPTION PROVIDED BY VERMONT AGENCY OF TRANSPORTATION GEODETIC SURVEY UNIT

TRAVERSE TIES

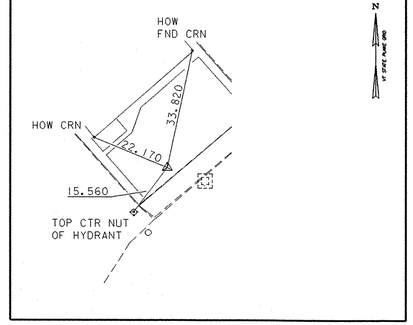
HVCTRL #5

NORTH = 18772.538
EAST = 38446.702
ELEV. = 601.720



HVCTRL #6

NORTH = 19217.176
EAST = 38498.865
ELEV. = 596.532

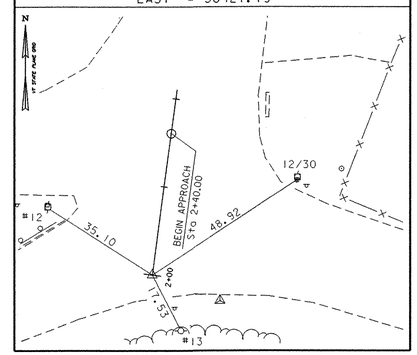


OLD ALIGNMENT TIES ARE FOR RIGHT OF WAY USE ONLY

OLD ALIGNMENT TIES

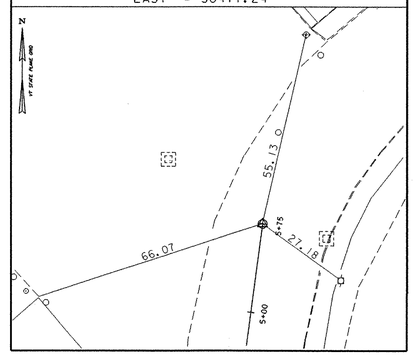
POT 2+00.00

NORTH = 18779.76
EAST = 38427.79



POT 5+75

NORTH = 19151.42
EAST = 38477.24

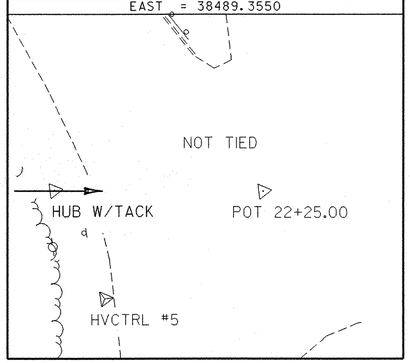


- MAIN TRAVERSE COMPLETED: OCTOBER 12, 1998 BY R.D. GILMAN & T.J. COMPANION
- ALIGNMENT STAKED: 10/12/98 by Bettigole Andrews & Clark, Inc.

ALIGNMENT TIES

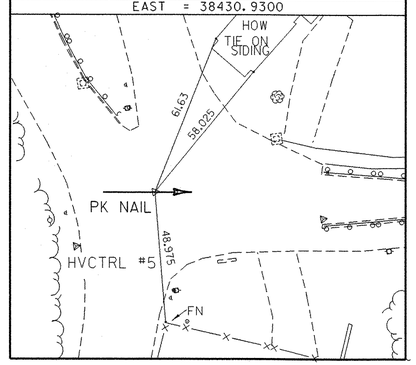
POT 21+86.00 = #52

NORTH = 19215.4478
EAST = 38489.3550



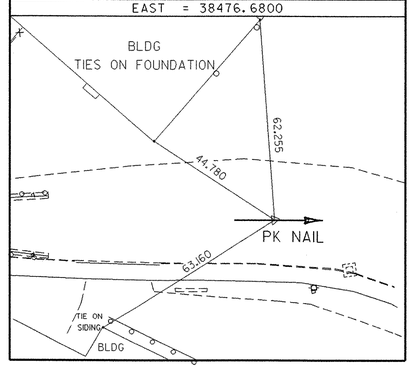
POT 22+25.00 = #30

NORTH = 18804.5700
EAST = 38430.9300



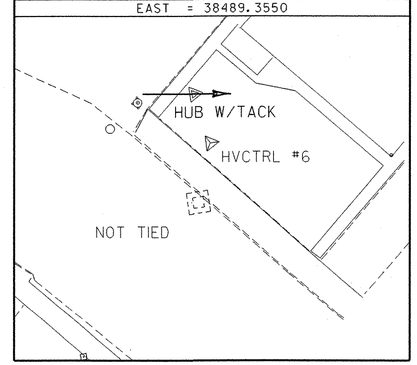
POT 25+50.00 = #31

NORTH = 19126.3300
EAST = 38476.6800



POT 26+40.00 = #51

NORTH = 19215.4478
EAST = 38489.3550



NORTH =
EAST =

- ALIGMENT COMPLETED 12/16/03 BY R.GILMAN & P.WINTERS

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83/92

ADJUSTMENT compass

NOTE ALL TIE DISTANCES ARE IN FEET

PROJECT NAME: Barre City
PROJECT NUMBER: HDP 9281(1)

FILE NAME: 92J099/survey/xJ099ti.dgn
PROJECT LEADER: C. Keller
DESIGNED BY: K. Rutter

PLOT DATE: 16-JUN-2004
DRAWN BY: R. Bullock
CHECKED BY: T. A. Sumner
SHEET 12 OF 58

SEE SHEET 14 FOR
CONSTRUCTION NOTES

DRAINAGE NOTES FOR SHEETS 13 & 14

1. STA 22+63
   NEW 18" X 29' CPEP (SL)
   W/ NEW PRECAST RCDI @ INLET

2. STA 22+71
   EXISTING 4' X 4'
   RCDI - REMOVE

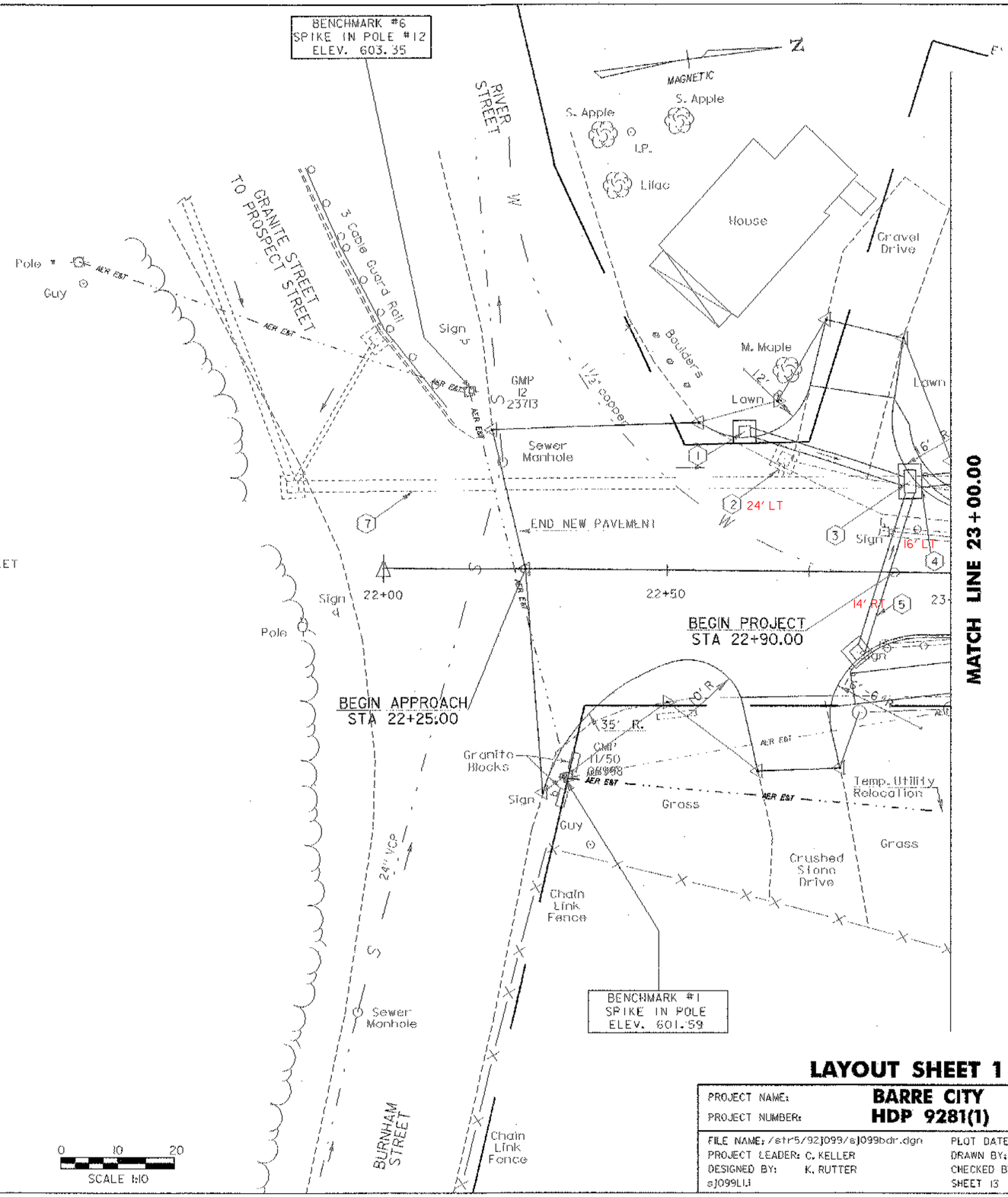
3. STA 22+93
   CUT EXISTING 24" PIPE
   REMOVE OUTLET END

4. STA 22+93 - 23+37 LT
   NEW 24" X 44' CPEP (SL)
   W/ NEW 4' X 6' PRECAST RCCB @ INLET

5. STA 22+84
   NEW 18" X 29' CPEP (SL)
   W/ NEW PRECAST RCDI @ INLET

6. STA 24+74 - END APPROACH
   RETAIN EXISTING
   12" PIPE

7. BEGIN APPROACH - STA. 22+93
   RETAIN EXISTING
   24" PIPE



0 10 20
SCALE 1:10

LAYOUT SHEET 1

PROJECT NAME:	**BARRE CITY**
PROJECT NUMBER:	**HDP 9281(1)**
FILE NAME: /str5/92J099/sJ099bdr.dgn	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. KELLER	DRAWN BY: K. RUTTER
DESIGNED BY: K. RUTTER	CHECKED BY: T.A. SUMNER
sJ099L1.i	SHEET 13 OF 58

MATCH LINE 23+00.00

EXISTING R.O.W.

CAST-IN-PLACE CONCRETE CURB, TYPE B
STA 22+82.3 TO 23+30.2 RT
STA 24+46.9 TO 24+89.1 RT
STA 25+18.1 TO 25+50.0 RT

CONSTRUCT DRIVE
STA 22+73 RT
STA 22+81 LT
STA 25+03 RT

CHAN PI 50+40.00
Δ= 25°-0'-0" LT.

Lawn

BEGIN BRIDGE
STA 23+30.17
F.G. = 603.33

Granite Monument

SteelBeam Rail mounted on top of Conc. Barrier (typ @ 4 corners)

ML POT 23+99.41 =
CHAN POT 49+98.48
Δ= 67°-30'-39" Lt.

12" WATERLINE APPROX. LOCATION

Paved Sidewalk

Pony Truss

23+50

24+00

24+50.00

Pony Truss

Paved Sidewalk

Conc. Sidewalk

EXISTING R.O.W.

Tipb (GMP 23718

Brace Pole

4" Iron Drain Pipe

Chain Link Fence

STEVENS BRANCH OF THE WINOOSKI RIVER

Conc. Barrier

49+00

51+00

Chain Link Fence

Storage Tank

Conc Pad

Storage Tank

Building

BRIDGE GUARD RAIL
STA 23+26 TO 24+51 LT & RT

HEAVY DUTY STEEL BEAM GUARD RAIL
STA 22+84.3 TO 23+26.0 RT
STA 22+95.0 TO 23+26.0 LT
STA 24+51.0 TO 24+71.3 RT
24+37.5 ~ 24+50 LT

4" YELLOW LINE
STA 22+25 TO 25+50

4" WHITE LINE
STA 22+20 TO 25+50 LT & RT

MAGNETIC

GUARD RAIL
STEEL BEAM MEDIAN BARRIER
24+51 TO 24+65.5 LT

COLD PLANING
STA. 22+25 TO 22+75
STA. 25+00 TO 25+50

Pole #

Guy

Post

Post

END APPROACH
STA 25+50.00

Post

END BRIDGE
STA 24+46.84
F.G. = 603.35

Steps

END PROJECT
STA 24+90.00

Paved Drive

Paved Drive

6" VCP

Chain Link Fence (flat on ground)

Sign

Guy wire to 24+50 truss member

Sign

25+00

25+75

Sewe Manh

Conc. Sidewalk

CONCRETE SIDEWALK

EXISTING R.O.W.

Grass

Grass

GMP 10 23720

6" PVC roof drain (buried)

Paved Parking

Paved Parking

SteelBeam Guard Rail

Steep Slope Paved

2 Propane tanks on concrete pad

Approx. Temp. Aerial Utility Relocation. By Others

2 Oil filler pipes 5' above ground

CHAIN LINK FENCE 6 FEET
23+00 ~ 23+30 RT
23+33 LT
24+32 ~ 24+50 RT

~~BENCHMARK #2~~
~~SPIKE IN POLE~~
~~ELEV. 601.18~~

Building

Building

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
STA 22+~~81.53~~ 82 TO 23+30.67 RT
STA 24+47.34 TO 25+~~50.00~~ 61

BENCHMARK #8
SPIKE IN POLE
ELEV. 597.20

REMOVAL OF EXISTING RAILING
STA 22+88 TO 23+27 LT & RT
STA 24+50 TO 24+79 LT & RT

~~REMOVE AND RESET FENCE~~
~~STA. 23+25.0 RT~~

ANCHOR FOR STEEL BEAM GUARD RAIL
STA 22+~~84.3~~ 88 RT
~~STA 22+95.0 LT~~
~~STA 24+71.3 RT~~
~~STA 24+58.0 LT~~

0 10 20
SCALE 1:10

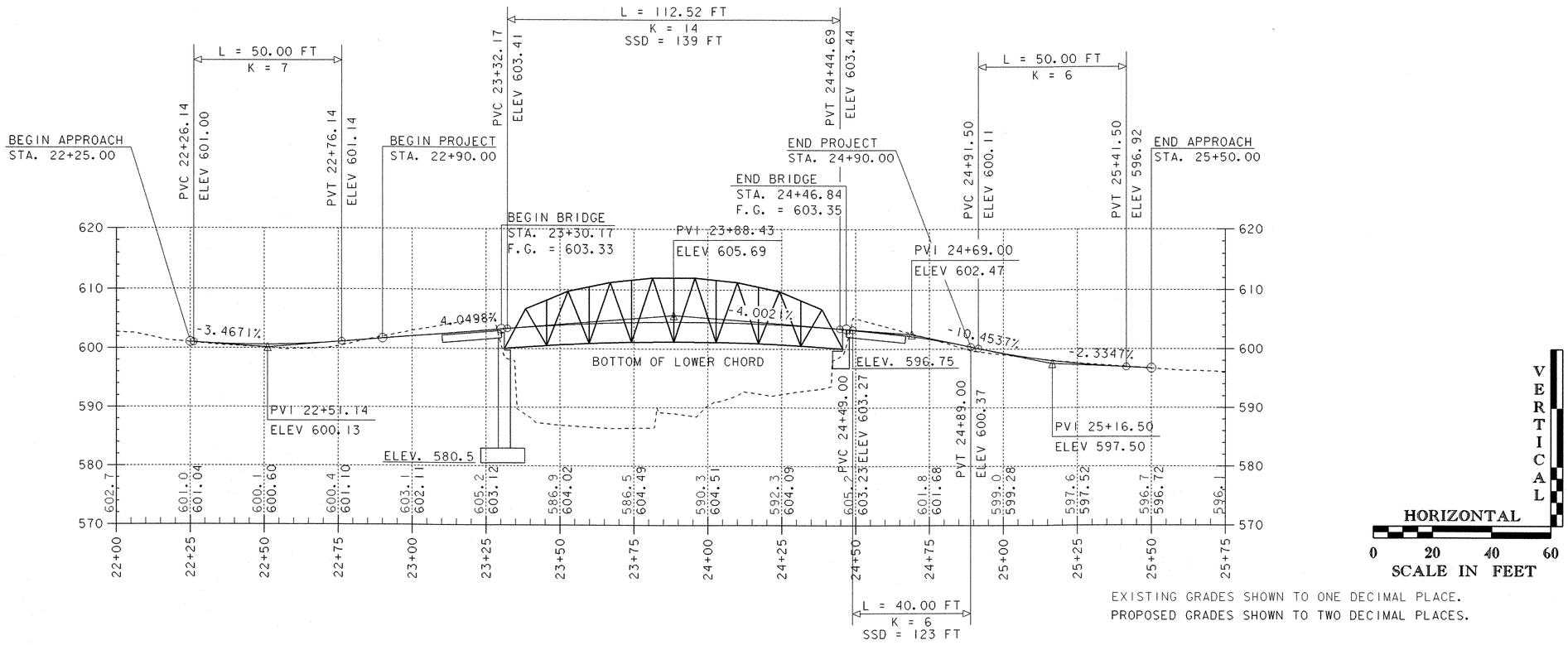
LAYOUT SHEET 2

PROJECT NAME: BARRE CITY
PROJECT NUMBER: HDP 9281(1)

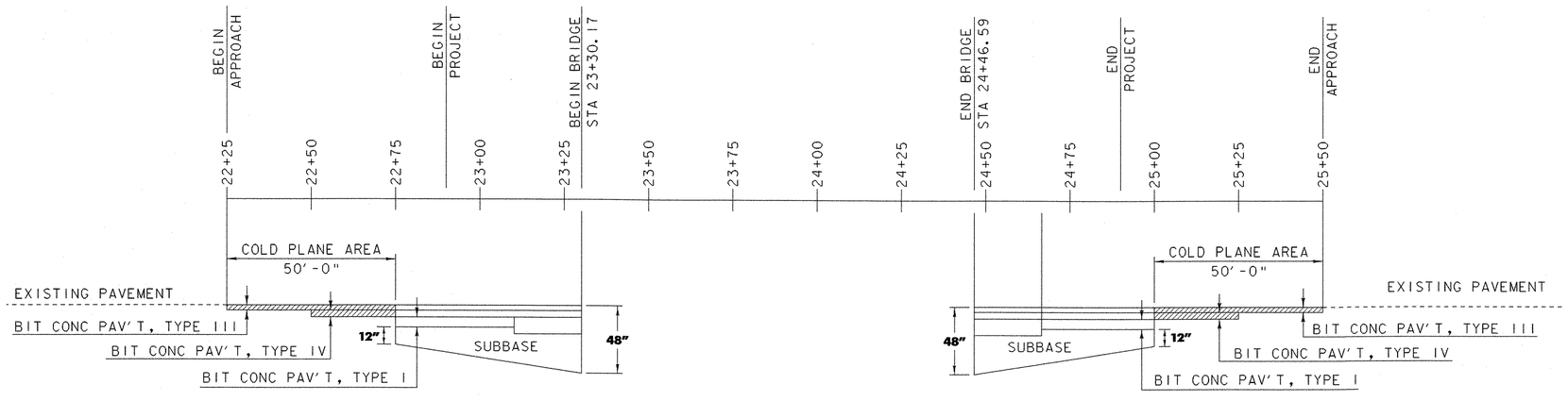
FILE NAME: /str5/92j099/sj099bdr.dgn
PROJECT LEADER: C. KELLER
DESIGNED BY: K. RUTTER
sj099L2.i

PLOT DATE: 16-JUN-2004
DRAWN BY: K. RUTTER
CHECKED BY: T.A. SUMNER
SHEET 14 OF 58

Profile



EXISTING GRADES SHOWN TO ONE DECIMAL PLACE.
PROPOSED GRADES SHOWN TO TWO DECIMAL PLACES.



MATERIAL TRANSITION DIAGRAM

NOT TO SCALE

PROFILE SHEET

PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)

FILE NAME: /str5/92j099/sj099wrk2.dgn	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. KELLER	DRAWN BY: P. BEYOR
DESIGNED BY: P. BEYOR	CHECKED BY: T. SUMNER
sj099pro.1	SHEET 15 OF 58

SOIL CLASSIFICATION

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

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

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

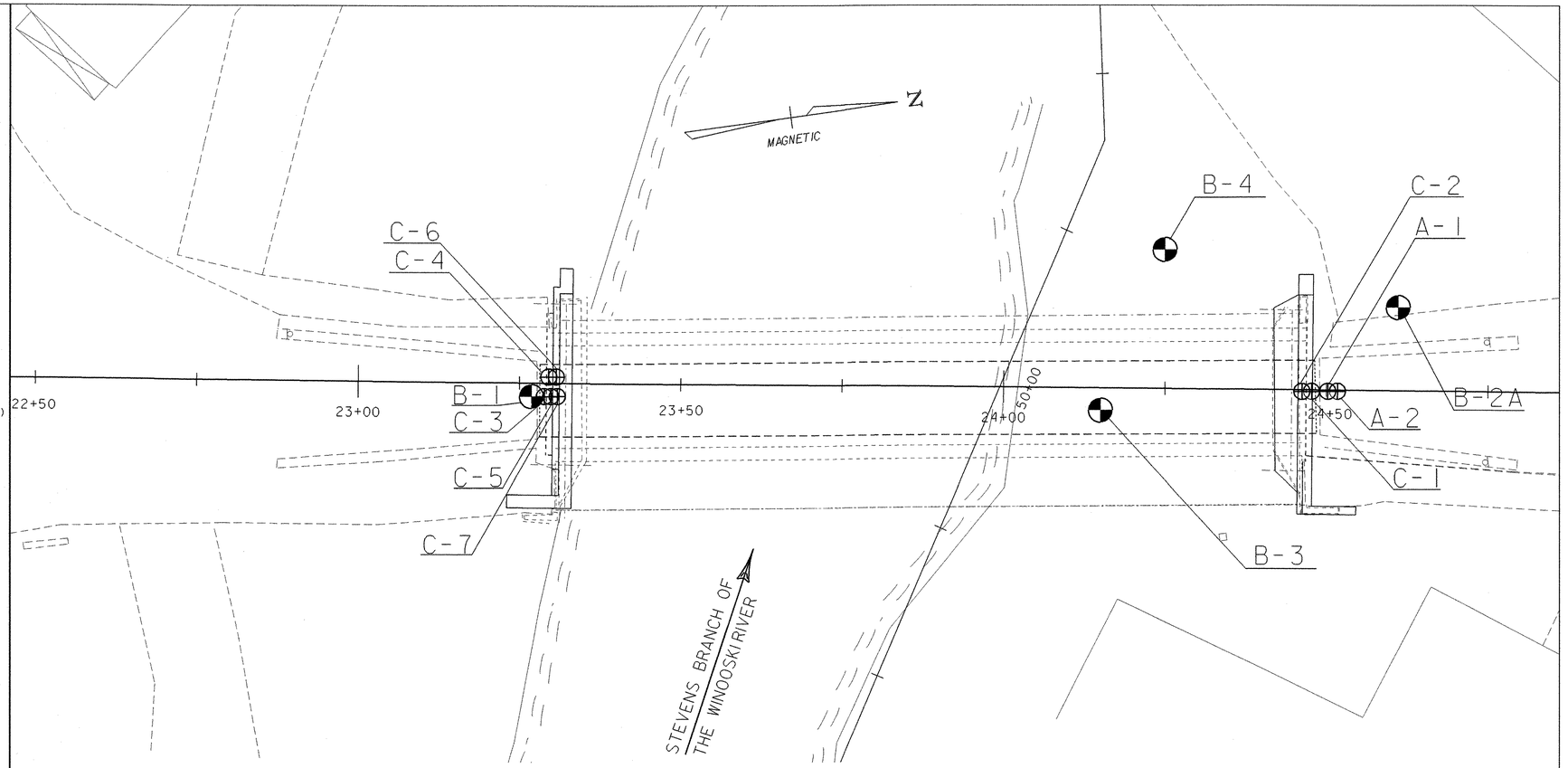
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

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

COLOR

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



BRIDGE CORE CHART *

HOLE NO.	STATION	OFFSET	GROUND ELEV.	ELEV. TLOB
C-1	24+47.7	0.2' RT	605.72	NLTD
C-2	24+46.2	0.2' RT	605.72	NLTD
C-3	23+28.9	2.1' RT	605.02	NLTD
C-4	23+29.5	1.0' LT	N/A	NLTD
C-5	23+29.9	2.0' RT	605.02	NLTD
C-6	23+30.7	1.0' LT	605.02	NLTD
C-7	23+30.9	2.0' RT	N/A	NLTD

AUGER BORING CHART *

HOLE NO.	STATION	OFFSET	GROUND ELEV.	ELEV. TLOB
A-1	24+50.2	0.2' RT	N/A	CNPF
A-2	24+51.7	0.2' RT	N/A	NLTD

* FOR THE RESULTS OF THE CORE AND AUGER BORINGS SEE THE LOGS IN THE SPECIAL PROVISIONS

STANDARD PENETRATION BORING CHART

HOLE NO.	STATION	NEW OFFSET	GROUND ELEV.	ELEV. TLOB
B-1	23+26.9	2.1' R	605.22	531.7
B-2A	24+61.0	13' LT	600.72	NLTD
B-3	24+13.4	3.5' RT	NA	NA
B-4	24+25.2	21.6' LT	NA	NA

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.

GENERAL NOTES

1. The subsurface explorations shown herein were made between 9/30/93 and 4/10/03.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BARRE CITY	Bridge No. 11
Highway No. GRANITE ST.	Log Sta. Surv. Sta.
OVER STEVENS BRANCH OF WINOOSKI	
BORING INFORMATION SHEET	
Designed By K. RUTTER	Drawn By W.B. SYMONDS
Checked By Date	Bridge Design Supervisor C. KELLER Date
PROJECT BARRE CITY	PROJECT NO. HDP 9281(1)
I.G.C. Info. /72J099/Structures/sj099bor.dgn	sj099bor.i
Bridge Sheet No.	Sheet 16 of 58

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

HOLE NO.: B-1
SHEET 1 OF 1
DATE STARTED: 09/30/93
DATE COMPLETED: 10/04/93

PROJECT NAME: BARRE CITY
SITE NAME: GRANITE STREET BRIDGE
STATION: 24's of WPI
GROUND EL.: 605.22

PROJECT NUMBER: HDP 9281(1)
SITE NO.:
OFFSET: CL
G.W. DEPTH: 588.00

BORING CREW: POWERS
CREW CHIEF: RAYMOND
DRILLER: RAYMOND
LOGGER: A. MCBEAN

BORING RIG:
BORING TYPE:
SAMPLE TYPE:

DEPTH	COLOR	CLASSIFICATION OF MATERIALS (Description)		BLOWS ON SAMPLER 0/6	6/12	12/18	BLOWS PER FOOT	M.C. %	LL	PI
5	BROWN	A-1-a SaGr SANDY GRAVEL	REC 0.7	8	6	11	17	10.7		
				25						
10		GRAVEL & GRANITE BOULDERS								
15										
▽										
20	BROWN	A-1-a Gr GRAVEL	REC 0.2	13	15	14	29	11.8		
				18						
ABUTMENT #1 BOTTOM OF FOOTING ELEV. 580.50										
25		WOOD		13	15	14	29			
				18						
		WOOD		15	30	14	44	11.8		
				7						
	GRAY	A-4 SI SANDY SILT W/ STONES	REC 1.0	5	3	5	8	31.0		
30				7						
	GRAY	A-4 SI SANDY SILT	REC 1.2	7	4	4	8	31.0		
				2						
	GRAY	A-4 SI SILTY SAND	REC 1.2	3	2	3	5	32.6		
				2						
35	GRAY	A-4 SaSI SILTY SAND	REC 1.3	5	2	2	4	32.3		
				4						
			NO REC.	8	4	6	10			
				5						
	GRAY	A-4 SaSI SILTY SAND	REC 1.3	4	4	4	8	26.8		
40				5						
			NO REC.	8	5	5	10			
				7						
45	GRAY	A-4 SI SILTY SAND	REC 1.0	7	3	5	8	25.9		
				9						

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

HOLE NO.: B-1
SHEET 1 OF 1
DATE STARTED: 09/30/93
DATE COMPLETED: 10/04/93

PROJECT NAME: BARRE CITY
SITE NAME: GRANITE STREET BRIDGE
STATION: 24's of WPI
GROUND EL.: 605.22

PROJECT NUMBER: HDP 9281(1)
SITE NO.:
OFFSET: CL
G.W. DEPTH: 588.00

BORING CREW: POWERS
CREW CHIEF: RAYMOND
DRILLER: RAYMOND
LOGGER: A. MCBEAN

BORING RIG:
BORING TYPE:
SAMPLE TYPE:

DEPTH	COLOR	CLASSIFICATION OF MATERIALS (Description)		BLOWS ON SAMPLER 0/6	6/12	12/18	BLOWS PER FOOT	M.C. %	LL	PI
	GRAY	A-4 SaSI SILTY SAND	REC 1.5	3	4	3	7	29.3		
				4						
55	GRAY	A-4 SI SILTY SAND	REC 0.6	9	10	15	25	26.3		
				19						
60		BOULDER								
65	GRAY	A-1-a SaGr SANDY GRAVEL	REC 0.5	56	21	19	40	7.8		
				19						
70	GRAY	A-2-4 SISaGr GRAVELLY SAND		63	37		R	10.4		
				18						
		TOP OF BEDROCK @ 73.5 FEET								
75		RUN 1: BXDC 73.5 - 75.5	REC 1.8							
		RUN 2: BXMDC 75.5 - 80.5	REC 4.9							
80		RUN 3: BXMDC 80.5 - 83.5	REC 3.0							
85		HOLE STOPPED @ 83.5 IN BEDROCK								

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

HOLE NO.: B2A
SHEET 1 OF 1
DATE STARTED: 10/13/03
DATE COMPLETED: 10/13/03

PROJECT NAME: BARRE CITY
SITE NAME: GRANITE STREET BRIDGE
STATION: 35' N of WP-2
GROUND EL.: 600.72

PROJECT NUMBER: HDP 9281(1)
SITE NO.:
OFFSET: 13' W OF CL
G.W. DEPTH: 588.00

BORING CREW: POWERS
CREW CHIEF: RAYMOND
DRILLER: RAYMOND
LOGGER: A. MCBEAN

BORING RIG:
BORING TYPE:
SAMPLE TYPE:

DEPTH	COLOR	CLASSIFICATION OF MATERIALS (Description)		BLOWS ON SAMPLER 0/6	6/12	12/18	BLOWS PER FOOT	M.C. %	LL	PI
		GRAVEL								
5	BROWN	GRAVEL	NO REC	R						
10	BROWN	A-2-4 SISa SAND	REC 1.4	R						
		SAND (OILY) NOT TESTED								
	BROWN	PID = 30 PPM	REC 1.5	3	4	3	7	7.8		
		HOLE STOPPED @ 13.0 NLTD		4						
15										
20										
25										
30										
35										

BORING LOGS

PROJECT NAME: BARRE CITY
PROJECT NUMBER: HDP 9281(1)

FILE NAME: /str5/92j099/sj099bor.dgn
PROJECT LEADER: C. KELLER
DESIGNED BY: K. RUTTER
sj099borlog.i

PLOT DATE: 16-JUN-2004
DRAWN BY: K. RUTTER
CHECKED BY: T.A. SUMNER
SHEET 17 OF 58

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

HOLE NO.: B-3
SHEET OF
DATE STARTED: 3-31-03
DATE COMPLETED: 4-03-03

PROJECT NAME: BARRE CITY
SITE NAME: GRANITE STREET BRIDGE
STATION:
GROUND EL.:

PROJECT NUMBER: HDP 9281(1)
SITE NO.:
OFFSET:
G.W. DEPTH:

BORING CREW: NEW HAMPSHIRE BORING
CREW CHIEF: KEN SMITH
DRILLER:
LOGGER: J. GAUDREAU

BORING RIG: DIEDRICH D-50 REMOTE RIG
NX CORE BARREL
BORING TYPE:
SAMPLE TYPE: SPLIT BARREL

DEPTH	STRATUM DESC.	CLASSIFICATION OF MATERIALS (Description)	NO.	PEN./ REC. (in)	DEPTH (ft)	BLOWS (/6")	N VALUE	REMARKS
		Loose, dark gray, fine to medium SAND, little silt. (A-1-b)	S-1	24/ 22	0.0- 2.0	2-1 3-2	4	1 2
		Loose dark gray, fine to medium SAND, little silt. (A-1-b)	S-2	24/ 22	2.0- 4.0	2-3 3-2	6	
5	FILL	Medium dense, gray-black, fine to coarse SAND, trace Silt w/ coal tar in bottom 6" of sample. Strong odor. (A-1-a)	S-3	24/ 22	4.0- 6.0	11-14 9-9	23	3
		Medium dense, brown black, GRAVEL and fine to coarse Sand with brick fragments, coaltar and oily sheen. Strong odor. (A-1-a)	S-4	24/ 23	6.0- 8.0	23-8 11-8	19	
		Loose, black, fine to coarse SAND, little Gravel, trace Silt with brick fragments and coaltar and oily sheen. Odor. (A-1-a)	S-5	24/ 12	8.0- 10.0	8-3 4-10	7	
10		Medium dense, dark gray, fine to coarse SAND, little Gravel, trace Silt with coaltar and oily sheen. Slight Odor. (A-1-a)	S-6	24/ 2	10.0- 12.0	9-12 14-11	26	
	SAND	Medium dense, dark gray, fine to coarse SAND, little Gravel, trace Silt with coaltar and oily sheen. Slight Odor. (A-1-a)	S-7	24/ 6	12.0- 14.0	9-5 7-4	12	
15		Loose, dark gray, fine to coarse SAND and Gravel, little Silt with coaltar. (A-1-b)	S-8	24/ 4	14.0- 16.0	9-5 4-5	9	
		Loose, dark gray, fine to coarse SAND and Silt. (A-4)	S-9	24/ 4	16.0- 18.0	3-4 6-4	10	
20		Loose, gray, SILT and fine Sand. (A-4)	S-10	24/ 8	21.0- 23.0	6-5 4-5	9	4 5
25	SAND AND SILT	Loose, gray, SILT and fine Sand. (A-4)	S-11	24/ 18	26.0- 28.0	4-4 2-4	6	
30		Very loose, gray, SILT and fine Sand. (A-4)	S-12	24/ 19	31.0- 33.0	4-2 2-3	4	
35		Loose, gray, fine SAND, some Silt. (A-4)	S-13	24/ 24	36.0- 38.0	4-2 2-3	6	
40		Loose, gray, fine SAND, some Silt. (A-4)	S-14	2/ 2	41.0- 43.0	4-2 2-3	7	

REMARKS

1. Drove 5-inch casing to 22.5 feet below ground surface.
2. AASHTO Classifications estimated from visual observations.
3. Evidence of coaltar contamination observed from 4 to 16 feet below ground surface.
4. Placed a cement bentonite slurry from 20 feet to 22.5 feet below ground surface inside the casing to form a seal.
5. Telescoped 4-inch casing to 61.5 feet below ground surface.

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

HOLE NO.: B-3
SHEET OF
DATE STARTED: 3-31-03
DATE COMPLETED: 4-03-03

PROJECT NAME: BARRE CITY
SITE NAME: GRANITE STREET BRIDGE
STATION:
GROUND EL.:

PROJECT NUMBER: HDP 9281(1)
SITE NO.:
OFFSET:
G.W. DEPTH:

BORING CREW: NEW HAMPSHIRE BORING
CREW CHIEF: KEN SMITH
DRILLER:
LOGGER: J. GAUDREAU

BORING RIG: DIEDRICH D-50 REMOTE RIG
NX CORE BARREL
BORING TYPE:
SAMPLE TYPE: SPLIT BARREL

DEPTH	STRATUM DESC.	CLASSIFICATION OF MATERIALS (Description)	NO.	PEN./ REC. (in)	DEPTH (ft)	BLOWS (/6")	N VALUE	REMARKS
45	SAND AND SILT	Medium, dense, gray fine SAND, little Silt. (A-2-4)	S-15	24/ 12	46.0- 48.0	8-6 8-11	14	
50		Dense, gray, fine to medium SAND, some Gravel, little Silt. (A-2-4)	S-16	24/ 11	51.0- 53.0	8-23 20-14	43	
55	GLACIAL TILL	Medium dense, gray, fine to medium SAND, little Gravel and Clayey Silt. (A-4)	S-17	24/ 12	56.0- 58.0	14-5 10-8	15	
60	WEATH-ERED ROCK	Very dense, gray, Rock fragments, some fine to coarse Sand, trace silt (A-4) Top of rock at 61.5 feet. Refer to Core Boring Report.	S-18	2/ 2	61.0- 61.2	100/ 2"	>100	

LEDGE CORE BORING REPORT (B3)

DEPTH	STRATUM DESC.	CLASSIFICATION OF MATERIALS (Description)	RUN NO.	DEPTH (ft)	DRILLING RATE (min/ft)	REC./ ROD (in)	REC./ ROD (%)
60					6		
		C-1: Hard, slightly weathered gray, fine-grained Siliceous LIMESTONE. Slightly fractured. Joints are rust stained.	C-1	61.5- 66.5	2	54/ 49	90/ 82
65	BEDROCK				4		
					4		
		C-2: Hard, slightly weathered gray, fine-grained Siliceous LIMESTONE. Massive.	C-2	61.5- 66.5	4		
					3	60/ 59	100/ 98
70					4		
					3		
					3		
75		Bottom of boring at 71.5 feet below ground surface.					

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

HOLE NO.: B-4
SHEET OF
DATE STARTED: 4-7-03
DATE COMPLETED: 4-10-03

PROJECT NAME: BARRE CITY
SITE NAME: GRANITE STREET BRIDGE
STATION:
GROUND EL.:

PROJECT NUMBER: HDP 9281(1)
SITE NO.:
OFFSET:
G.W. DEPTH:

BORING CREW: NEW HAMPSHIRE BORING
CREW CHIEF: MARK D'AMBROSIA
DRILLER:
LOGGER: J. GAUDREAU

BORING RIG: MOBILE DRILL B-57
NX CORE BARREL
BORING TYPE:
SAMPLE TYPE: SPLIT BARREL

DEPTH	STRATUM DESC.	CLASSIFICATION OF MATERIALS (Description)	NO.	PEN./ REC. (in)	DEPTH (ft)	BLOWS (/6")	N VALUE	REMARKS
		Medium dense, brown, fine to coarse SAND little Silt with roots. (A-1-b)	S-1	24/ 2	0.0- 2.0	11-6 8-10	14	1 2
		Medium dense, brown, fine to coarse SAND little Gravel, trace Silt. (A-1-a)	S-2	24/ 6	2.0- 4.0	16-10 9-9	19	
5	FILL	Loose, brown, fine to coarse SAND, little Silt, trace Gravel. (A-1-b)	S-3	24/ 3	4.0- 6.0	6-6 4-3	10	
		Medium dense, brown, fine to coarse SAND little Gravel, trace Silt. (A-1-a)	S-4	24/ 6	6.0- 8.0	8-8 14-16	22	
		Very dense, brown, fine to coarse SAND, some Gravel, little Silt with metal pieces and roots. (A-1-b)	S-5	12/ 2	8.0- 10.0	18-100/ 6 in.	>100	
10	BOULDER							
		Loose brown, GRAVEL and fine to coarse Sand, little Silt. (A-1-b)	S-6	24/ 1	10.0- 12.0	5-4 3-3	7	
		Medium, dense, brown, fine to coarse SAND, some Gravel, little Silt. Odor. (A-1-b)	S-7	24/ 7	12.0- 14.0	3-3 9-10	12	
15		Medium dense, gray-brown, fine to coarse SAND, some Gravel, little Silt. Odor. (A-1-b)	S-8	24/ 5	14.0- 16.0	21-8 11-12	22	3
	SAND							
20		Medium dense, gray-brown, fine to coarse SAND, some Gravel, little Clayey Silt with coaltar and oily sheen. Odor. (A-4)	S-9	24/ 7	19.0- 21.0	7-8 18-12	26	
		No Recovery.	S-10	24/ 0	24.0- 26.0	8-6 5-6	11	
25								4 5
30		Loose, gray, fine SAND and Silt. (A-2-4)	S-11	24/ 6	29.0- 31.0	3-4 5-3	9	
35	SAND AND SILT	Medium dense, gray, SILT and fine Sand, trace Gravel. (A-4)	S-12	24/ 12	35.0- 37.0	6-5 6-7	11	
40		Loose, gray, SILT and fine Sand. (A-4)	S-13	24/ 17	40.0- 42.0	4-3 3-5	6	

REMARKS

1. Drove 5-inch casing to 22.5 feet below ground surface.
2. AASHTO Classifications estimated from visual observations.
3. Evidence of coaltar contamination observed from 4 to 16 feet below ground surface.
4. Placed a cement bentonite slurry from 20 feet to 22.5 feet below ground surface inside the casing to form a seal.
5. Telescoped 4-inch casing to 61.5 feet below ground surface.

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

HOLE NO.: B-4
SHEET OF
DATE STARTED: 4-7-03
DATE COMPLETED: 4-10-03

PROJECT NAME: BARRE CITY
SITE NAME: GRANITE STREET BRIDGE
STATION:
GROUND EL.:

PROJECT NUMBER: HDP 9281(1)
SITE NO.:
OFFSET:
G.W. DEPTH:

BORING CREW: NEW HAMPSHIRE BORING
CREW CHIEF: MARK D'AMBROSIA
DRILLER:
LOGGER: J. GAUDREAU

BORING RIG: MOBILE DRILL B-57
NX CORE BARREL
BORING TYPE:
SAMPLE TYPE: SPLIT BARREL

DEPTH	STRATUM DESC.	CLASSIFICATION OF MATERIALS (Description)	NO.	PEN./ REC. (in)	DEPTH (ft)	BLOWS (/6")	N VALUE	REMARKS
45	SAND AND SILT	Loose, gray, fine SAND, some Silt. (A-4)	S-14	24/ 18	45.0- 47.0	4-5 5-5	10	
50		Very dense, gray, fine SAND, little Silt. (A-2-4)	S-15	24/ 16	50.0- 52.0	9-11 50-89	61	
	BOULDER							
55	SAND	Medium dense, gray, fine SAND, little Silt. (A-2-4)	S-16	24/ 18	55.0- 57.0	13-10 9-21	19	
	BOULDER							
60	GLACIAL TILL	Dense, gray, fine to medium SAND, little Gravel, little Silt. (A-2-4)	S-17	24/ 7	60.0- 62.0	33-22 22-29	44	
70	WEATH-ERED ROCK	Very dense, gray, ROCK fragments, little fine to coarse Sand, trace Silt. (A-1-a)	S-18	9/ 2	65.0- 68.8	33-100/ 3"	>100	

LEDGE CORE BORING REPORT (B4)

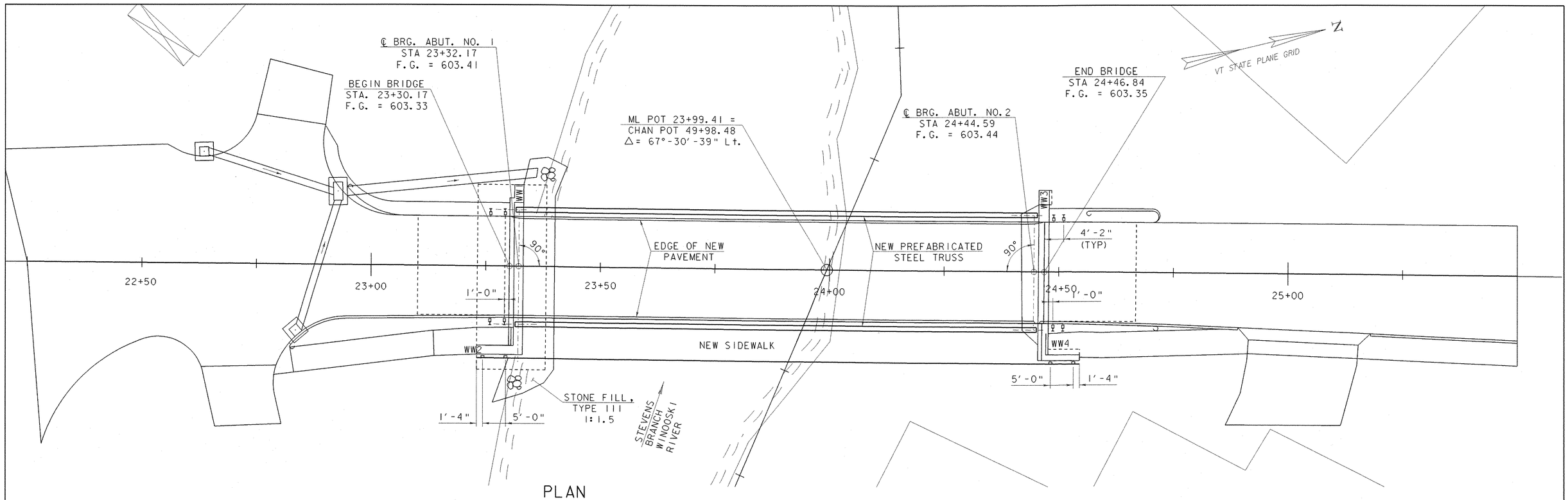
DEPTH	STRATUM DESC.	CLASSIFICATION OF MATERIALS (Description)	RUN NO.	DEPTH (ft)	DRILLING RATE (min/ft)	REC./ ROD (in)	REC./ ROD (%)
					3		
		C-1: Hard, slightly weathered gray, fine-grained Siliceous LIMESTONE. Five-inch vertical fracture.	C-1	68.5- 69.8	1	5/ 0	33/ 0
70					3		
		C-2: Hard, slightly weathered gray, fine-grained Siliceous LIMESTONE. Slightly fractured. Joints are rust stained.	C-2	70.3- 75.3		52/ 41	87/ 68
					3		
					3		
75	BEDROCK				4		
					3		
					3		
		C-3: Hard, slightly weathered gray, fine-grained Siliceous LIMESTONE. Slightly fractured. Joints are rust stained.	C-3	75.3- 80.3	3	60/ 59	100/ 98
					3		
					3		
80					2		
	80.3 ft	Bottom of boring at 80.3 feet below ground surface.					
85							

BORING LOGS

PROJECT NAME: BARRE CITY
PROJECT NUMBER: HDP 9281(1)

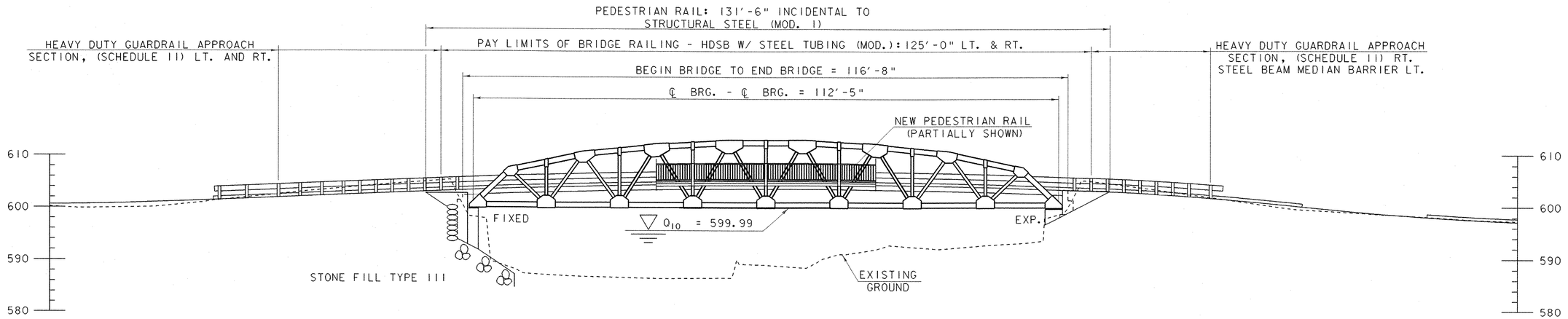
FILE NAME: /str5/92J099/sj099bor.dgn
PROJECT LEADER: C. KELLER
DESIGNED BY: K. RUTTER
sj099borlog.i

PLOT DATE: 16-JUN-2004
DRAWN BY: K. RUTTER
CHECKED BY: T.A. SUMNER



PLAN

SCALE 1" = 10'-0
10 0 10



ELEVATION VIEW

SCALE 1" = 10'-0
10 0 10

PLAN & ELEVATION SHEET

PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)

FILE NAME: /str5/92j099/sj099pe.dgn	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. KELLER	DRAWN BY: K. RUTTER
DESIGNED BY: K. RUTTER	CHECKED BY: T.A.SUMNER
sj099pe.i	SHEET 19 OF 58

STATE OF VERMONT
AGENCY OF TRANSPORTATION

GENERAL NOTES

GENERAL

1. ALL MATERIALS, CONSTRUCTION AND DESIGN SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATION FOR CONSTRUCTION, DATED 2001, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SEVENTEENTH EDITION DATED 2002, AND ITS LATEST REVISIONS.

2. GRANITE STREET WILL BE CLOSED TO THROUGH TRAFFIC DURING THE RECONSTRUCTION OF BRIDGE 11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ACCESS TO ALL SIDE ROADS AND DRIVES WITHIN PROJECT LIMITS.

3. ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE" SHALL BE USED TO PAY FOR THE REMOVAL OF THE EXISTING TRUSS BRIDGE, UTILITY SUPPORT SPAN, THE BAILEY BRIDGE AND THE CONCRETE PORTION OF ABUTMENT #2. ALL MATERIALS REMOVED WILL BECOME PROPERTY OF THE CONTRACTOR.

4. PAYMENT FOR THE REMOVAL OF THE JERSEY BARRIER AND THE GUARDRAIL MOUNTED ON JERSEY BARRIER WILL BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR 621.80 "REMOVAL AND DISPOSAL OF GUARDRAIL (MOD.)" THE JERSEY BARRIER AND THE GUARDRAIL WILL BECOME PROPERTY OF THE CONTRACTOR.

5. THE EXISTING SUPERSTRUCTURE IS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, CITY,ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE DISPOSITION OF THIS MATERIAL.

6. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT UNLESS OTHERWISE NOTED.

7. EMULSIFIED ASPHALT IS TO BE APPLIED AT A RATE OF 0.015 GALLONS PER SQUARE YARD BETWEEN SUCCESSIVE COURSES OF PAVEMENT OR AS DIRECTED BY THE ENGINEER.

8. STONES FROM ABUTMENT ONE WILL BE SALVAGED AND USED TO REPAIR THE EXISTING RETAINING WALL. COST OF THIS WORK WILL BE INCIDENTAL TO ITEM 602.20 "DRY RUBBLE MASONRY".

9. CARE SHALL BE TAKEN WHEN EXCAVATING FOR ABUTMENT ONE AS TO NOT DAMAGE THE EXISTING LAID-UP STONE RETAINING WALL. PORTIONS OF THE WALL THAT ARE OUTSIDE OF THE EXCAVATION LIMITS THAT ARE DAMAGED WILL BE REPAIRED AT THE CONTRACTORS EXPENSE.

10. REPAIRING AND REBUILDING THE LAID-UP STONE RETAINING WALL WITHIN THE LIMITS SHOWN ON SHEET 41 WILL BE PAID FOR AT CONTRACT UNIT PRICE FOR 602.20 "DRY RUBBLE MASONRY".

11. BACKFILL SHALL BE LIMITED TO TWO FEET BELOW ABUTMENT #1 BRIDGE SEAT ELEVATION UNTIL THE SUPERSTRUCTURE IS ERECTED.

12. IF CONTAMINATED SOIL IS ENCOUNTERED IN THE AREA OF ABUT. #2, STOP WORK IMMEDIATELY AND CONTACT MIKE MORISSETTE, THE AGENCIES HAZARDOUS WASTE COORDINATOR AT (802)828-2797 FOR FURTHER INSTRUCTION.

CONCRETE

13. REINFORCEMENT PLACEMENT TOLERANCES SHALL BE:

    SPACING +/- 1 INCH
    CLEARANCE +/- 1/4 INCH

14. MINIMUM COVER FOR REINFORCING STEEL IN THE SUBSTRUCTURES SHALL BE 2 INCHES ALONG BACK FACES OF WALLS AGAINST EARTH AND 3 INCHES ELSEWHERE, UNLESS OTHERWISE NOTED.

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

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

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

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

19. SURFACES OF BRIDGE SEATS UNDER THE BEARING DEVICES SHALL BE LEVEL. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE GIVEN A STEEL TROWEL FINISH.

20. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1 INCH BY 1 INCH.

21. THE DECK IS TO BE POURED IN ONE CONTINUOUS POUR WITH A MAXIMUM DURATION OF EIGHT HOURS. IF THE DECK CAN NOT BE PLACED IN EIGHT HOURS, A CONSTRUCTION JOINT SHALL BE USED. A 96 HOUR DELAY SHALL BE OBSERVED BETWEEN SUCCESSIVE POURS.

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

TRUSS

23. THE PREFABRICATED STEEL TRUSS AND ATTACHED SIDEWALK, TO BE PROVIDED UNDER ITEM 506.75 "STRUCTURAL STEEL (MOD.)" SHALL BE DESIGNED, DETAILED, FABRICATED AND TRANSPORTED TO THE SITE BY THE MANUFACTURER/ CONTRACTOR. THE TRUSS PROVIDED MUST BE SIMILAR TO THE CONFIGURATION SHOWN IN THE ELEVATION VIEW ON SHEET 18.

24. ITEM 506.75 " STRUCTURAL STEEL (MOD. - PRE-FAB BRIDGE)" WILL CONFORM TO STANDARD SPECIFICATION, SECTION 506 AND INCLUDE THE COST OF: THE STEEL TRUSS BRIDGE WITH FLOOR BEAMS, NESTED STRINGERS, LATERAL RODS, KNEE BRACKETS, ERECTION BOLTS, BEARING DEVICES WITH ANCHOR BOLTS, THE WALKWAY BRACKETS, STRINGERS, DIAPHRAMS, SHEAR STUDS IF NEEDED, PEDESTRIAN RAILING, STEEL GRID DECK, SIDEWALK EXPANSION JOINT, ALL HARDWARE NEEDED, GALVANIZING OF COMPONENTS AND THE INSTALLATION OF THE ABOVE ITEMS.

25. THE TRUSS SHALL BE DESIGNED TO CONFORM TO THE LINE, GRADE AND STRUCTURE WIDTH SHOWN ON THE PLANS. THE MANUFACTURER/CONTRACTOR WILL DETERMINE THE STRINGER BRIDGE SEAT ELEVATIONS.

26. THE SUPPLIER SHALL ADVISE THE CONTRACTOR IN UNLOADING AND ERECTING THE TRUSS SUPERSTRUCTURE. ALL INSTRUCTIONS ON ERECTION AND FIELD CONNECTIONS PROVIDED SHALL BE ADHERED TO BY THE CONTRACTOR, TO THE SATISFACTION OF THE ENGINEER.

27. ALL STEEL IN THE TRUSS SHALL BE M270M/M270 GRADE 50.

28. ALL STEEL IN THE TRUSS AND ITS COMPONENTS AND THE ATTACHED WALKWAY AND IT'S COMPONENTS WILL BE GALVANIZED AS PER SECTION 506.15(a). ANY GALVANIZED AREAS DAMAGED DURING TRANSIT OR ERECTION SHALL BE REPAIRED IN CONFORMANCE WITH ASTM A760.

29. THE TRUSS SHALL BE DESIGNED SUCH THAT THE FINISHED GRADE ALONG CENTERLINE OF THE BRIDGE AND THE CROSS SLOPES WILL BE AS SHOWN ON THE PLANS UNDER FULL DEAD LOAD.

30. THE TRUSS WILL BE DESIGNED TO CARRY AASHTO HS-25 LIVE LOAD. THE WALKWAY WILL BE DESIGNED FOR AASHTO PEDESTRIAN LIVE LOAD OR 3 TON TRACTOR AND A 1,400 LB TRAILER WITH A FOUR FOOT WHEEL LINE AND A FOUR FOOT AXLE SPACING, WHICHEVER GOVERNS.

31. THE DESIGN AND FABRICATION DRAWINGS SHALL BE SIGNED, STAMPED AND DATED BY A PROFESSIONAL ENGINEER (STRUCTURAL OR CIVIL) REGISTERED IN THE STATE OF VERMONT. TRUSS FABRICATOR WILL BE RESPONSIBLE FOR SUPPLYING THE LOAD RATING FOR THE NEW BRIDGE AND COMPLETING THE "LOAD FACTOR RATING" TABLE ON SHEET 2. CONTACT STRUCTURES PROJECT MANAGER CRAIG KELLER, AT (802) 828-3877, FOR INFORMATION ON TRUCK CONFIGURATIONS.

32. AFTER THE TRUSSES AND THE FLOOR SYSTEM HAS BEEN ERECTED, ELEVATIONS SHALL BE TAKEN ALONG THE TOP OF EACH STRINGER UNDER THE DIRECTION OF THE RESIDENT ENGINEER. THESE ELEVATIONS SHALL BE USED IN DETERMINING THE FINAL GRADE.

33. BEARING DEVICES SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 531 AND 731. THE SOLE PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED OR METALIZED AS PER SECTION 531.04(b). AREAS OF GALVANIZING OR METALIZING DAMAGED BY WELDING AND/OR HANDLING SHALL BE REPAIRED PER ASTM A760/A 760M. ANY PLATES USED IN THE BEARINGS SHALL BE A MINIMUM OF 1 INCH IN THICKNESS.

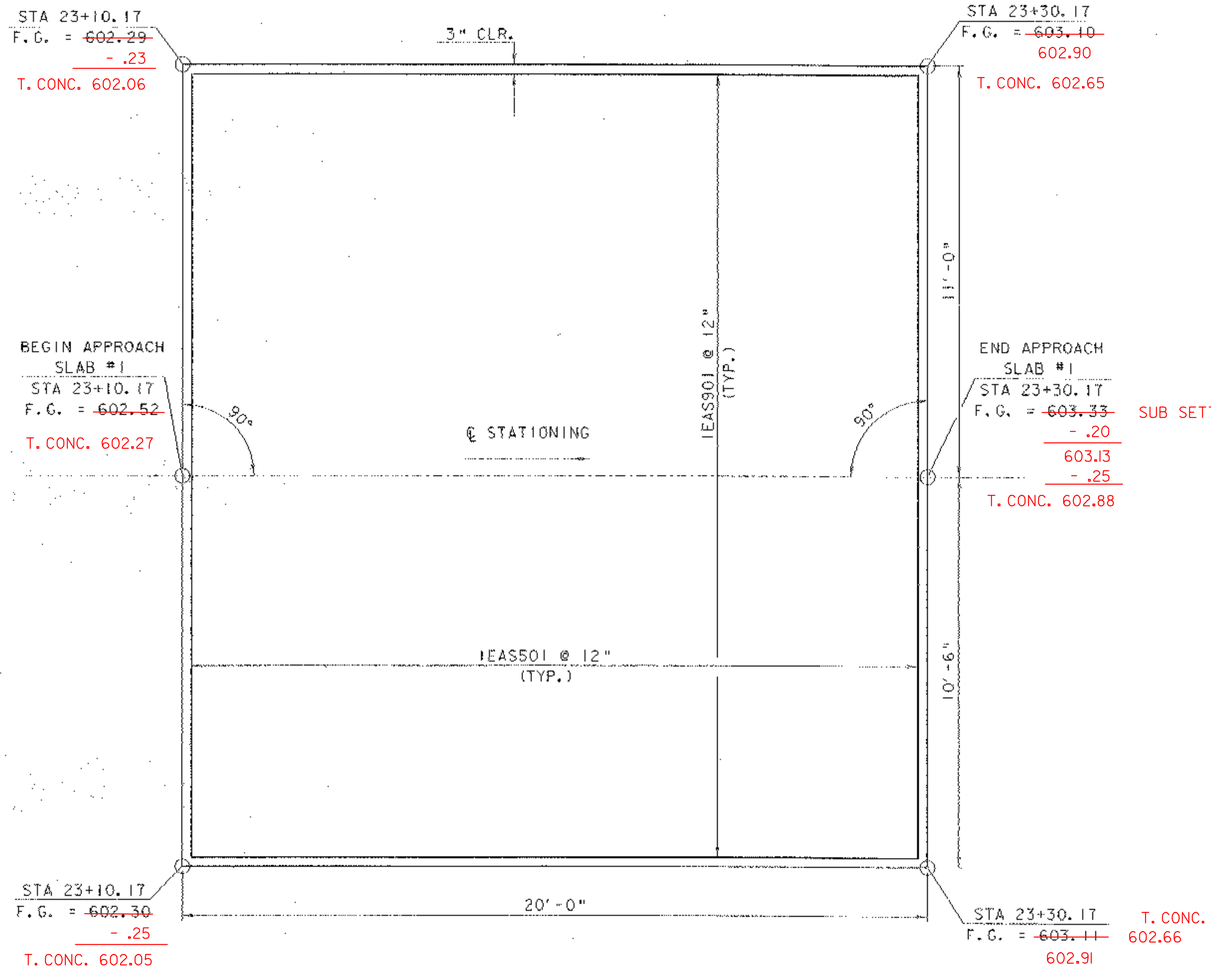
34. HOLES FOR ATTACHING THE BRIDGE RAIL AND WATERLINE BRACKETS TO THE TRUSSES WILL BE DRILLED BEFORE THE MANUFACTURER GALVANIZES THE PREFABRICATED SUPERSTRUCTURE. THE HEIGHT WILL BE THAT AS DETAILED ON SHEET 24, AND WATER LINE SHEETS. GUARDRAIL TUBING WILL BE FIELD DRILLED.

35. MODIFICATION TO ITEM 525.44 "BRIDGE RAILING-HDSB/FASCIA MOUNTED/STEEL TUBING (MOD.)" IS THE ELIMINATION OF THE POSTS AND ANCHOR BOLTS ON THE BRIDGE. THE "W" SECTION, STRUCTURAL TUBING AND OFFSET BLOCKS WILL BE MOUNTED ON THE TRUSS.

36. THE ITEM 516.10 "BRIDGE EXPANSION JOINT" DOES NOT INCLUDE THE JOINT FOR THE WALKWAY, THIS IS PAID FOR UNDER THE 506.75 "STRUCTURAL STEEL (MOD. PRE-FAB. BRIDGE)" ITEM.

37. THE DOWNSPOUT AS DETAILED ON SHEET 27 WILL BE PAID FOR UNDER THE ITEM 506.75 "STRUCTURAL STEEL (DOWNSPOUT)".

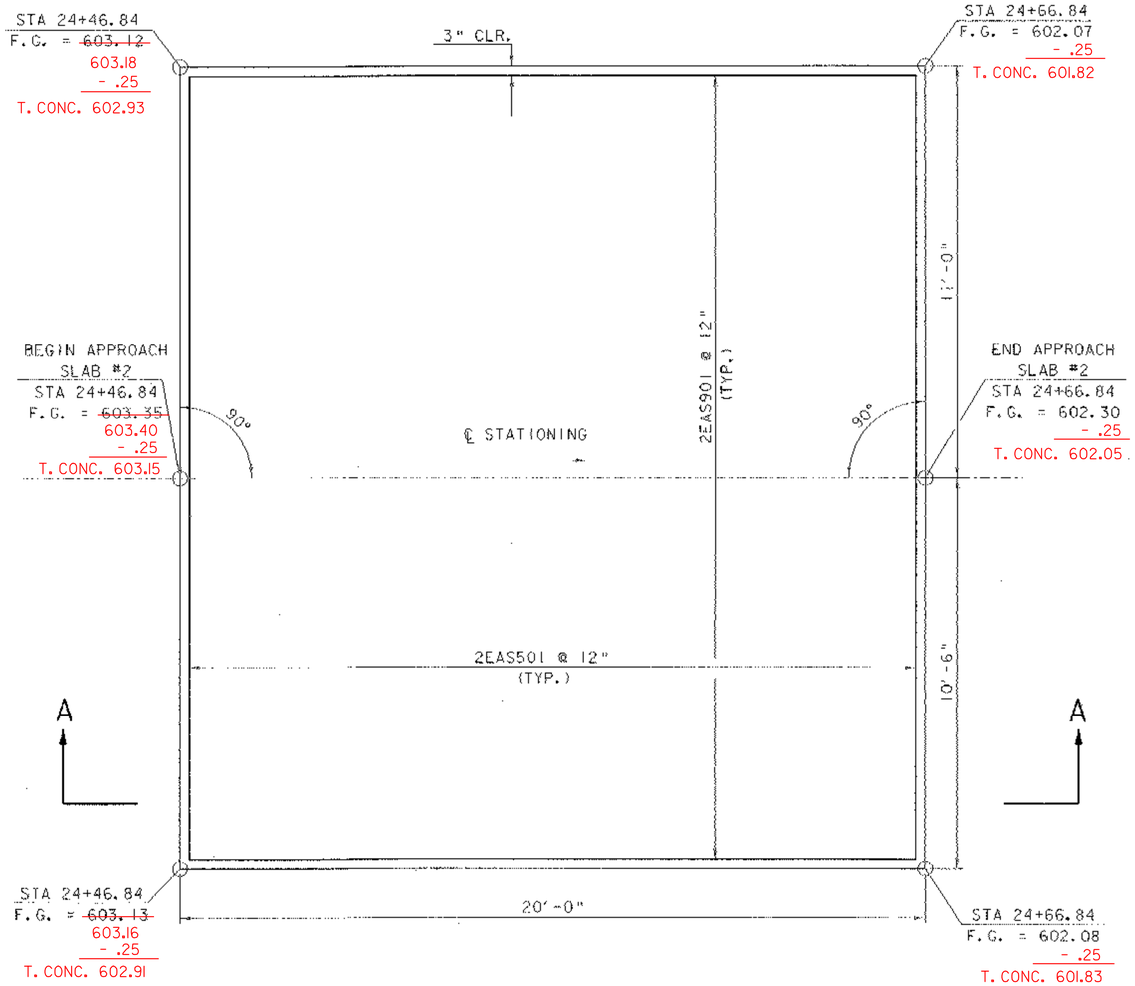
PROJECT NAME:	Barre City		
PROJECT NUMBER:	HDP 9281(1)		
FILE NAME:	str5/92j099/sj099gen.xls	PLOT DATE:	6/8/2004
PROJECT LEADER:	C. Keller	DRAWN BY:	J. Reed
DESIGNED BY:	J. Reed	CHECKED BY:	K. Rutter
GENERAL NOTES SHEET #1		SHEET	20 OF 58



APPROACH SLAB #1 PLAN

SCALE ½" = 1'-0

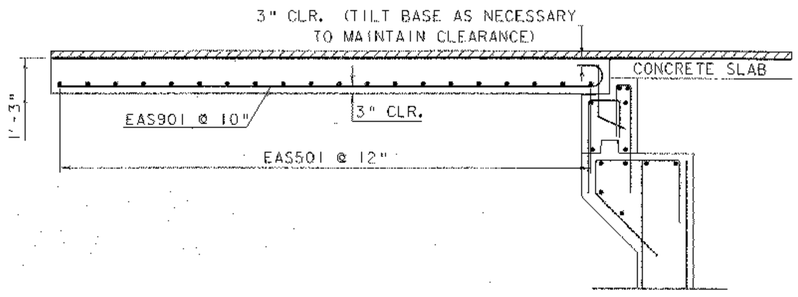
SUB SETTLEMENT



APPROACH SLAB #2 PLAN

SCALE ½" = 1'-0

NOTE: APPROACH SLAB GRADES SHALL BE PARALLEL TO FINISH GRADE.



SECTION A-A

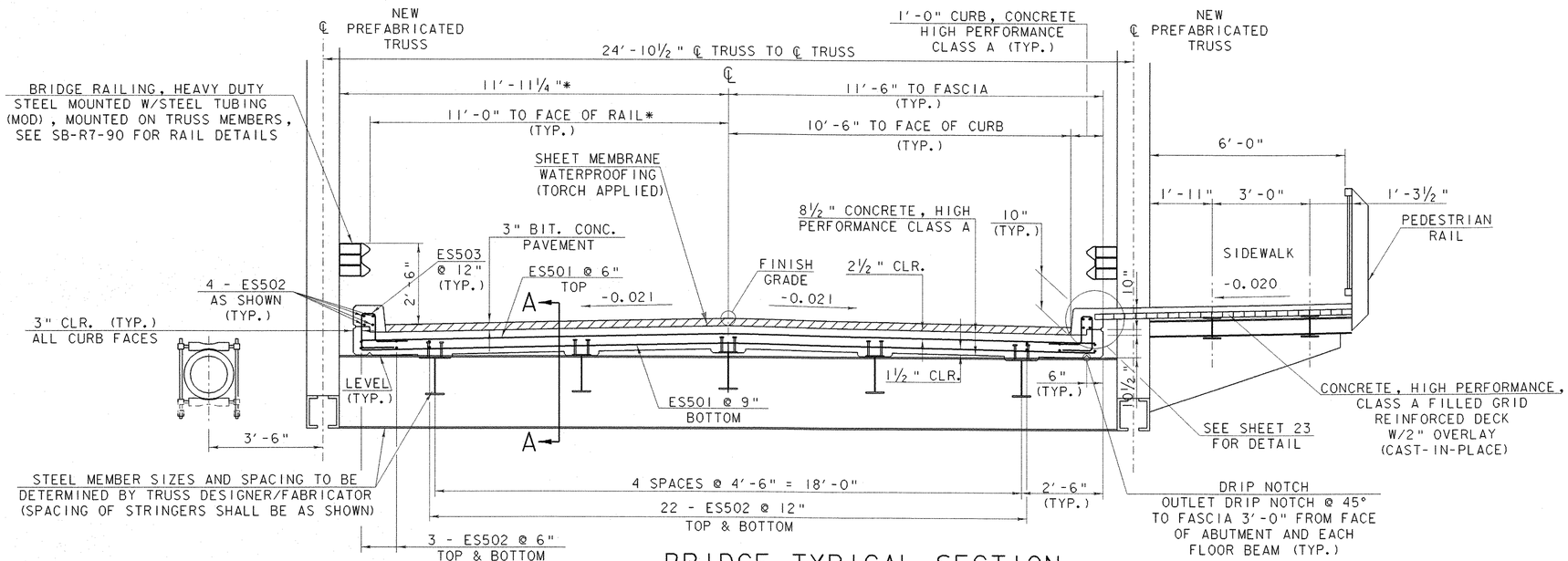
ALSO TYPICAL FOR APPROACH SLAB #1
(EXCEPT SEE SHEET 23 FOR END DETAIL)

SCALE ⅜" = 1'-0

APPROACH SLAB DETAILS

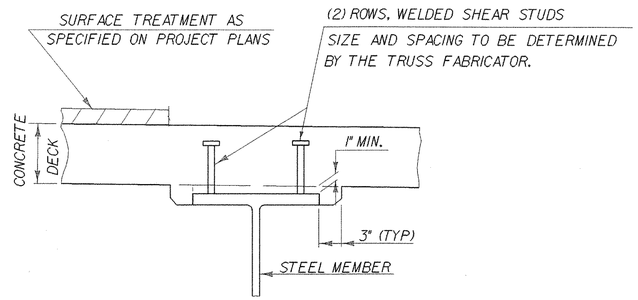
PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)

FILE NAME: /str5/92j099/sj099sup.dgn	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. KELLER	DRAWN BY: K. RUTTER
DESIGNED BY: K. RUTTER	CHECKED BY: T.A. SUMNER
sj099apslab.i	SHEET 23 OF 58



BRIDGE TYPICAL SECTION

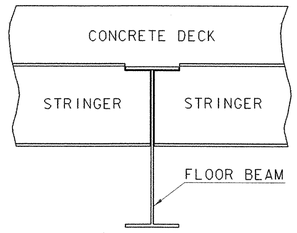
SCALE ½" = 1'-0



HAUNCH AND SHEAR CONNECTOR DETAILS

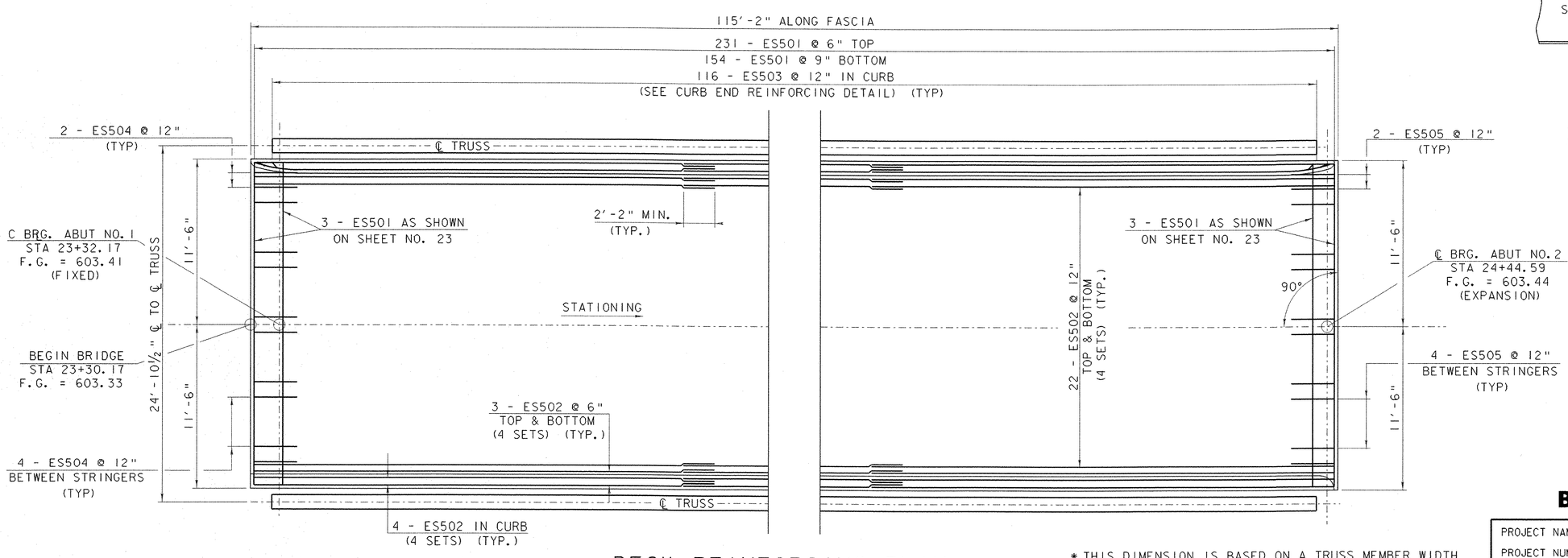
NTS

NOTE: DECK SHOULD BE HAUNCHED DOWN ONTO FLOOR BEAM



SECTION A-A

NTS



DECK REINFORCING PLAN

SCALE 1/4" = 1'-0

* THIS DIMENSION IS BASED ON A TRUSS MEMBER WIDTH OF 12", ACTUAL DIMENSION MAY VARY DUE TO TRUSS FABRICATOR USING A DIFFERENT MEMBER WIDTH.

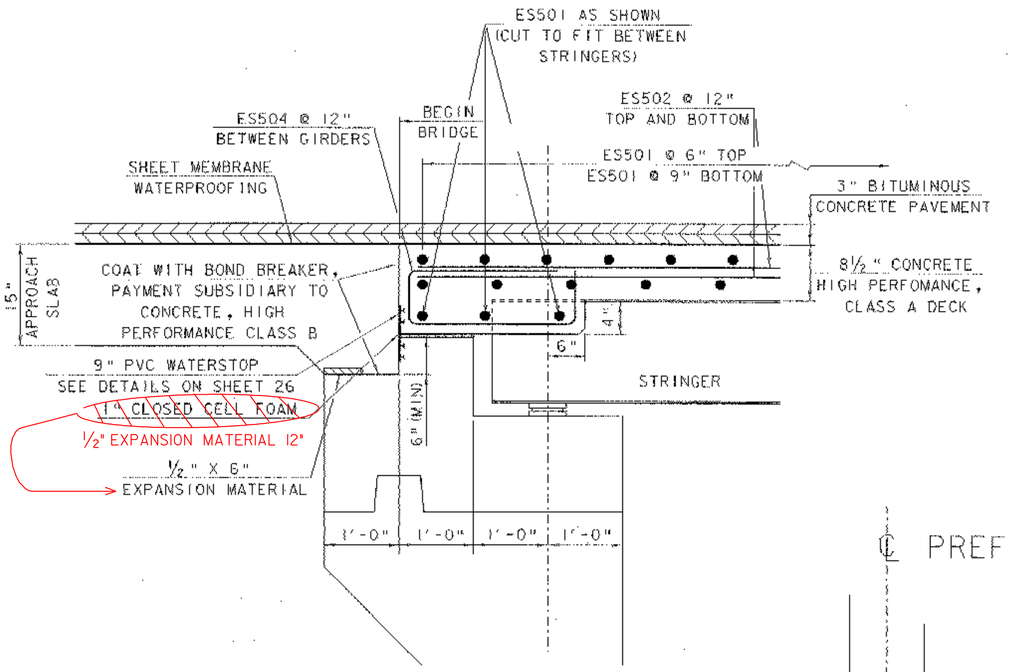
NOTE:

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

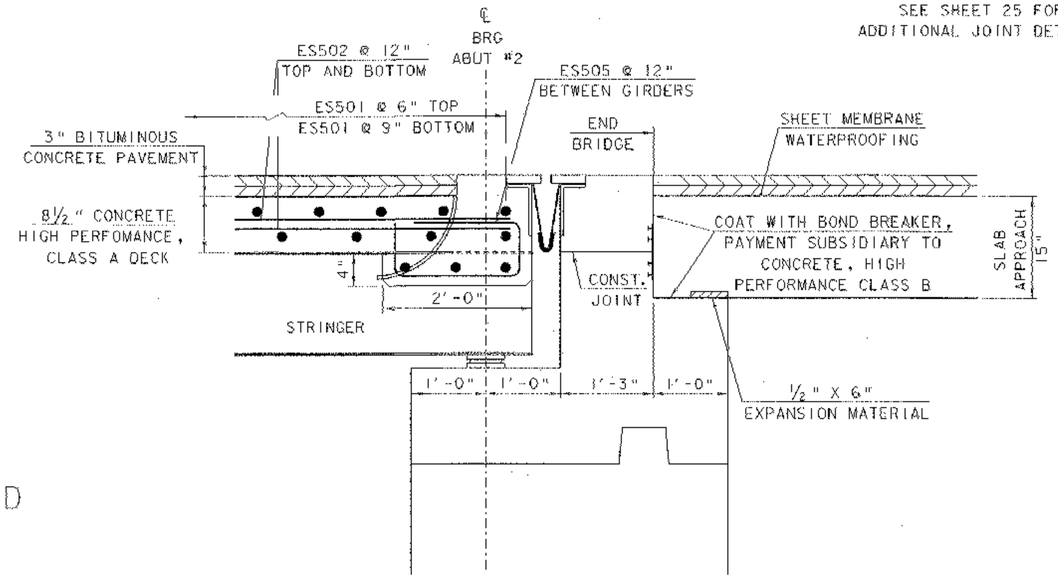
BRIDGE DECK DETAILS

PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)

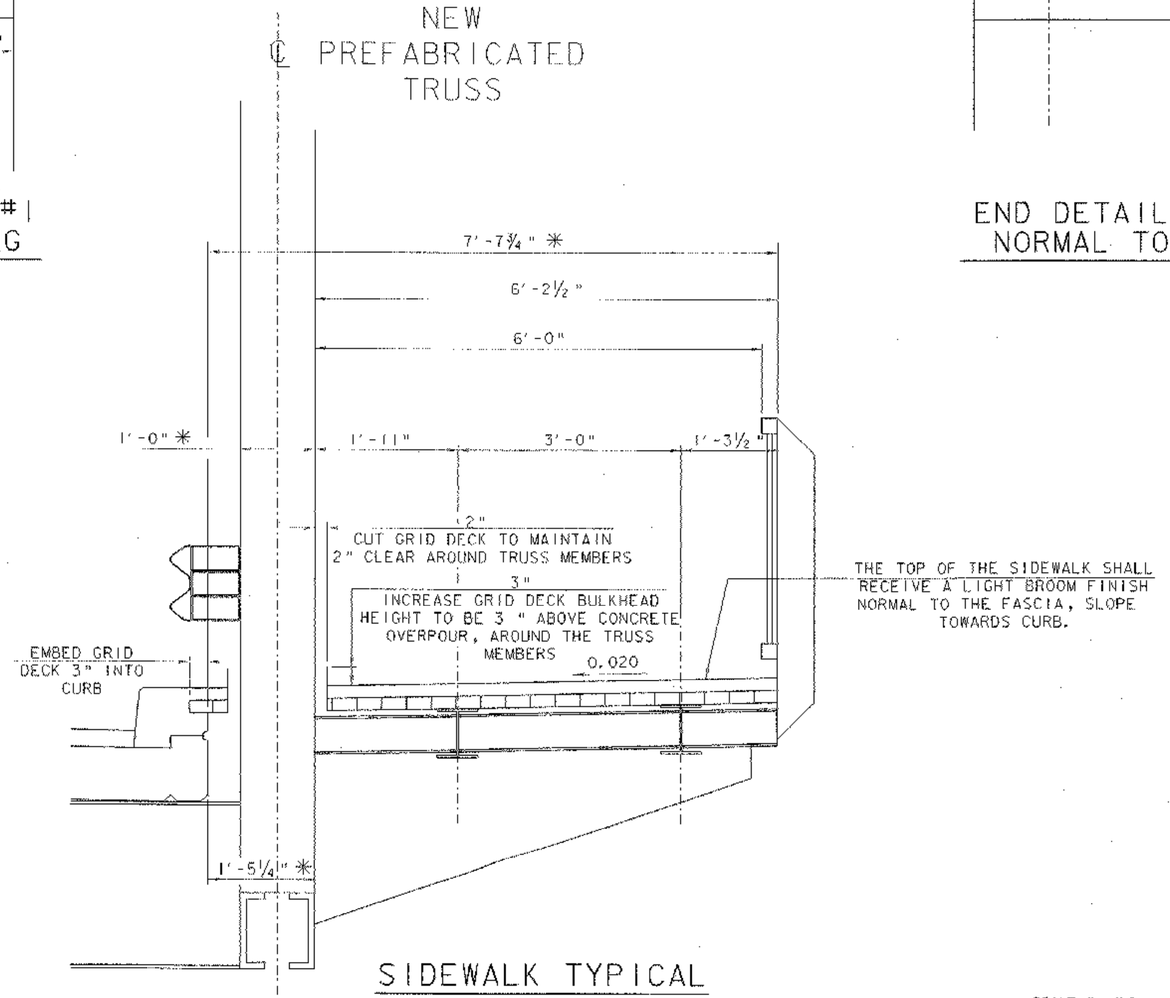
FILE NAME: /str5/92j099/sj099sup.dgn	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. KELLER	DRAWN BY: K. RUTTER
DESIGNED BY: K. RUTTER	CHECKED BY: T.A. SUMNER
sj099deck.i	SHEET 22 OF 58



END DETAIL AT ABUT #1 NORMAL TO ℄ BEARING

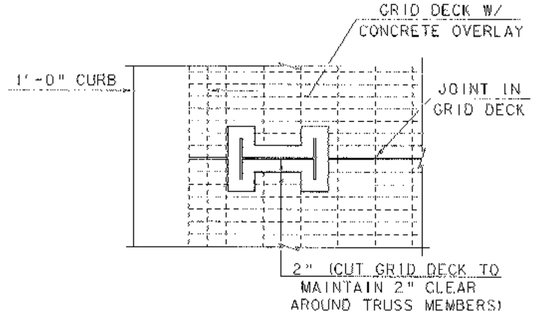


END DETAIL AT ABUT #2 NORMAL TO ℄ BEARING



SIDEWALK TYPICAL

✳ THIS DIMENSION IS BASED ON A TRUSS MEMBER WIDTH OF 12", ACTUAL DIMENSION MAY VARY DUE TO TRUSS FABRICATOR USING A DIFFERENT MEMBER WIDTH.



GRID DECK AT TRUSS

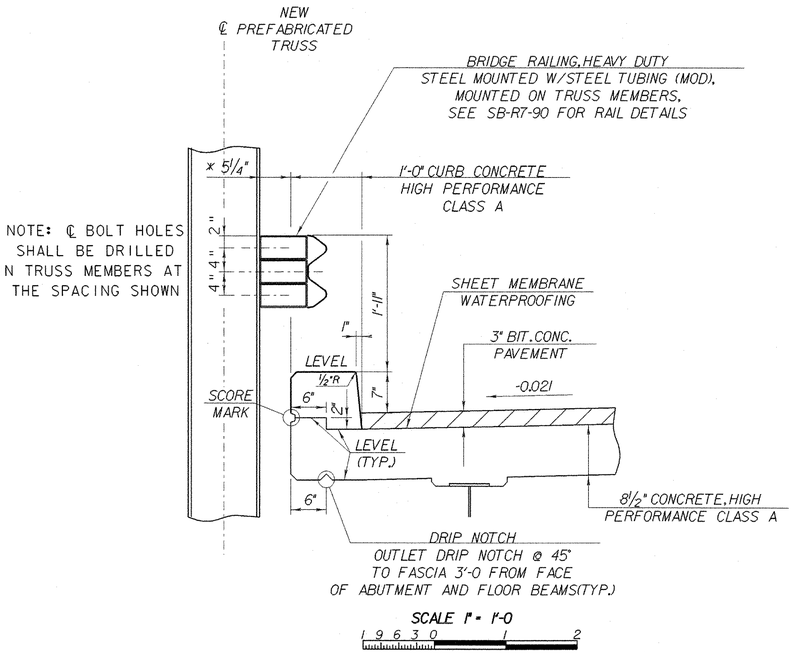
JOINTS IN THE GRID DECK SHOULD OCCUR AT TRUSS VERTICALS.

SCALE 1"=1'-0"

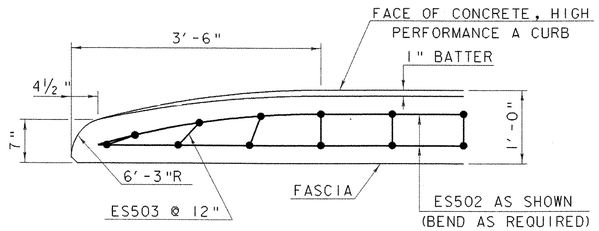
END OF BRIDGE AND SIDEWALK DETAILS

PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)

FILE NAME: /str-5/92j099/sj099sup.dgn
PROJECT LEADER: C. KELLER
DESIGNED BY: K. RUTTER
sj099supend.1
PLOT DATE: 16-JUN-2004
DRAWN BY: K. RUTTER
CHECKED BY: T.A. SUMNER
SHEET 23 OF 58



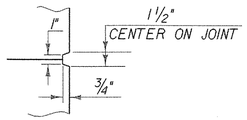
*THIS DIMENSION IS BASED ON A TRUSS MEMBER WIDTH OF 12", ACTUAL DIMENSION MAY VARY DUE TO TRUSS FABRICATOR USING A DIFFERENT MEMBER WIDTH.



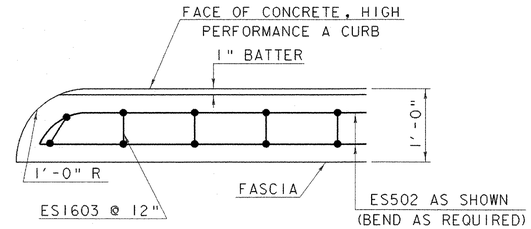
FLARED END DETAIL FOR 1'-0" CURB NEAR WW#1 AND WW#3

CURB REINFORCING STIRRUP BARS SHALL BE TURNED AS REQUIRED TO FIT FLARED ENDS.

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



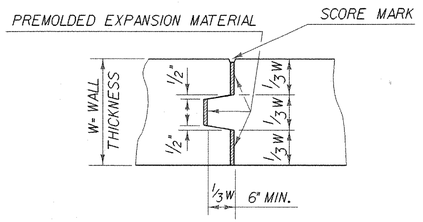
SCORE MARK DETAIL



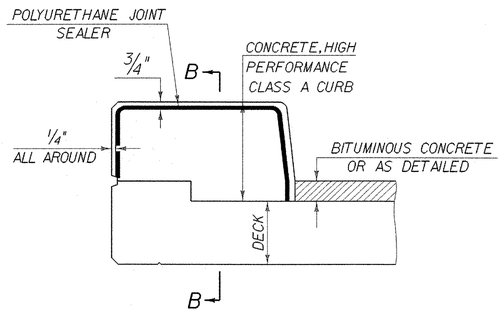
FLARED END DETAIL FOR 1'-0" CURB NEAR WW#4

CURB REINFORCING STIRRUP BARS SHALL BE TURNED AS REQUIRED TO FIT FLARED ENDS.

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

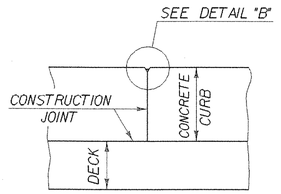


TYPICAL CONCRETE EXPANSION JOINT

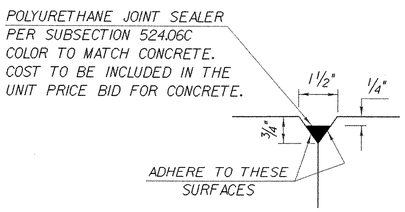


TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT

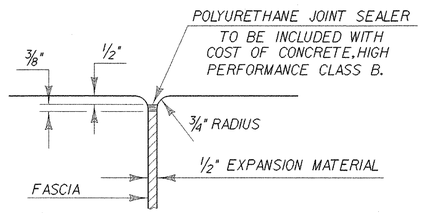
(FOR DOWNSTREAM CURB ONLY)



SECTION B - B



DETAIL "B"

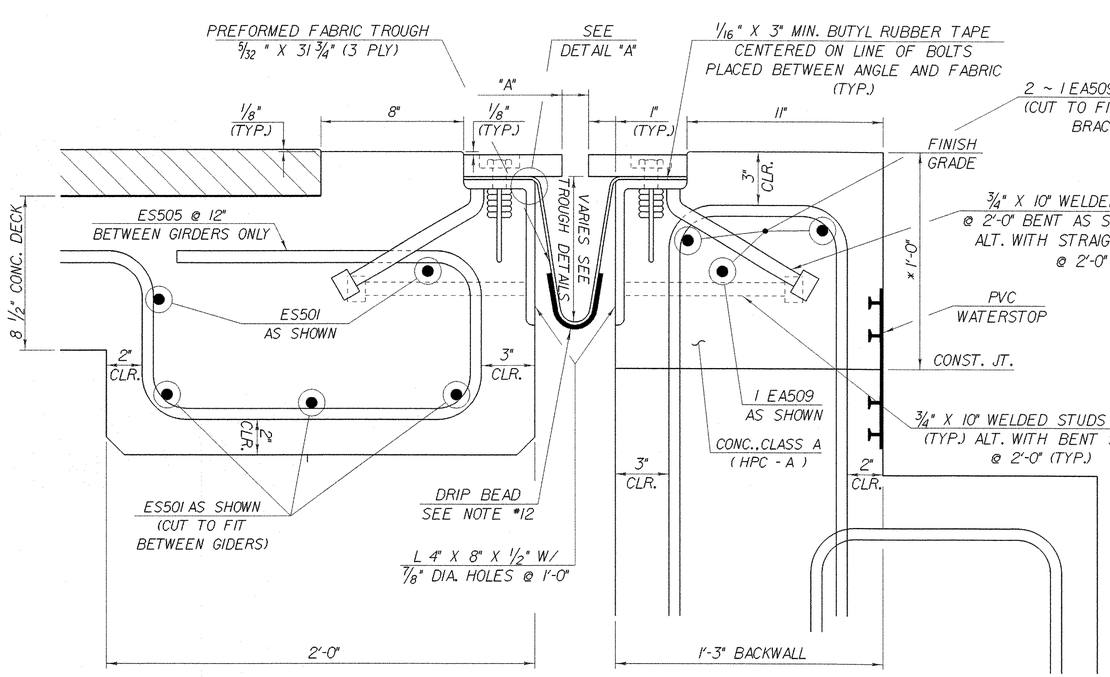


JOINT BETWEEN FASCIA AND WINGWALL

NOTES:
1. CONSTRUCTION JOINTS THROUGH CONCRETE CURBS SHALL BE SPACED MAXIMUM 5'-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.

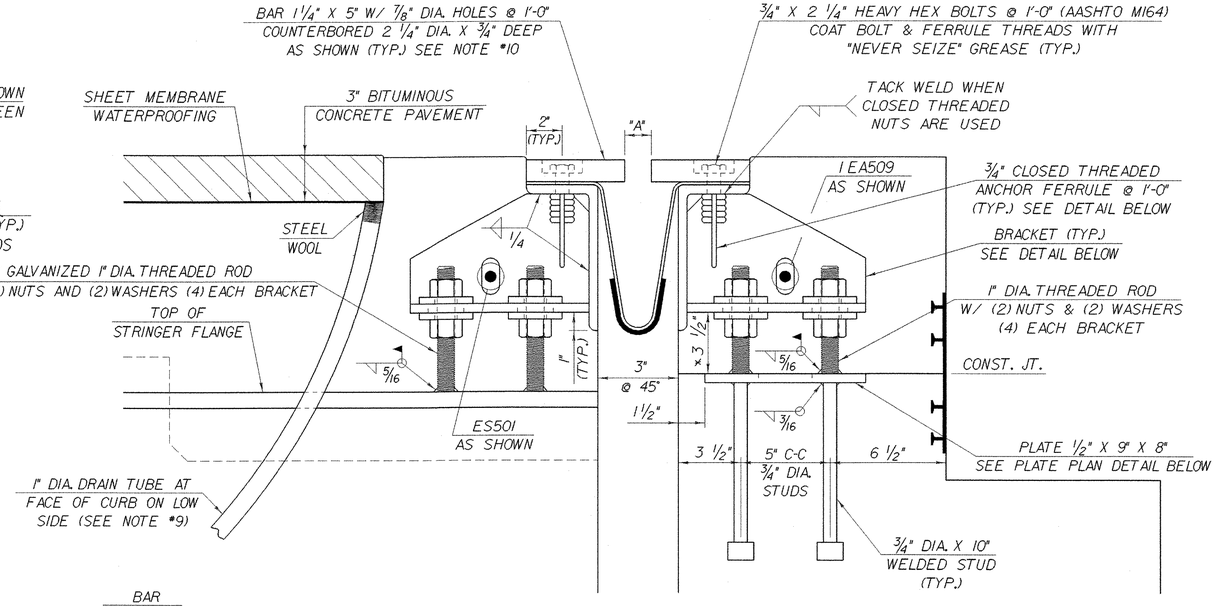
BRIDGE CURB DETAILS

PROJECT NAME: BARRE CITY	
PROJECT NUMBER: HDP 9281(1)	
FILE NAME: /str5/92j099/sj099sup.dgn	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. KELLER	DRAWN BY: K. RUTTER
DESIGNED BY: K. RUTTER	CHECKED BY: T.A. SUMNER
sj099supdet.i	SHEET 24 OF 58



TYPICAL SECTION BETWEEN STRINGERS

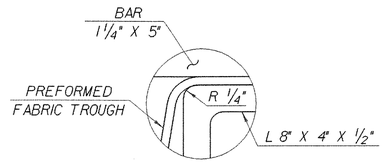
NTS



TYPICAL SECTION AT STRINGERS

NTS

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

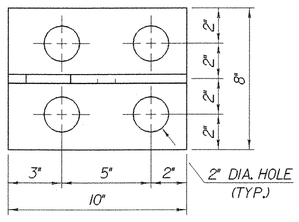


DETAIL "A"

NOT TO SCALE

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

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



BRACKET PLAN

SCALE: 3" = 1'-0"

ALL PLATES 1/2" EXCEPT WHERE NOTED

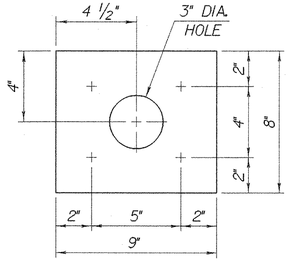
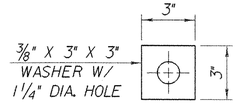


PLATE PLAN

SCALE: 3" = 1'-0"

(NO GALVANIZING REQUIRED)



WASHER FOR BRACKET

SCALE: 3" = 1'-0"

1. DETAILS ON THIS SHEET AND THE EXPANSION JOINT PLAN SHEET ARE FOR ITEM 516.10 "BRIDGE EXPANSION JOINT".
2. PREFORMED FABRIC MATERIAL SHALL BE CONTINUOUS AND SHALL CONFORM TO SUBSECTION 707.07.
3. BUTYL RUBBER TAPE SHALL CONFORM TO AASHTO SPECIFICATION M-198, TYPE II.
4. THE FINAL FINISH OF THE EXPANSION DEVICE SHALL BE COVERED DURING THE PLACING OF BRIDGE DECK CONCRETE.
5. ALL STEEL COMPONENTS SHALL BE AASHTO M270 GRADE 36 GALVANIZED OR METALIZED AS PER SUBSECTION 506.15.
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 8" X 4" X 1/2" ANGLES SHALL BE FURNISHED AS ONE CONTINUOUS PIECE. THE 1 1/4" X 5" BARS EACH SIDE OF THE JOINT SHALL BE PROVIDED IN TWO EQUAL LENGTHS.
8. COAT CONCRETE CONTACT SURFACES WITH EPOXY BONDING COMPOUND MEETING THE REQUIREMENTS OF SUBSECTION 719.02. PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 516.10 "BRIDGE EXPANSION JOINT".
9. A 1" DIAMETER PLASTIC DRAIN TUBE SHALL BE INSTALLED AS SHOWN AT THE FACE OF CURB. THE UPPER END IS TO BE PLUGGED WITH STEEL WOOL AND THE LOWER END IS TO EXTEND BELOW THE BOTTOM OF THE ADJACENT GIRDER. THE DRAIN TUBES SHALL BE FASTENED TO THE GIRDERS USING A METHOD APPROVED BY THE ENGINEER. MATERIAL FOR TUBE SHALL MEET THE REQUIREMENTS OF SUBSECTION 740.01. FILL COUNTERBORED HOLES WITH HOT POURED JOINT SEALER AFTER BOLT INSTALLATION. PAYMENT FOR THE WORK SHALL BE INCIDENTAL TO ITEM 516.10.
10. FILL COUNTERBORED HOLES WITH HOT POURED JOINT SEALER AFTER BOLT INSTALLATION. PAYMENT FOR THE WORK SHALL BE INCIDENTAL TO ITEM 516.10.
11. PAYMENT FOR WATERSTOP SHALL BE SUBSIDIARY TO CONCRETE PAY ITEM.
12. A DRIP BEAD OF 1/4" X 7" STRIP OF PREFORMED MATERIAL SHALL BE CEMENTED TO THE BOTTOM OF THE FABRIC TROUGH USING AN ADHESIVE APPROVED BY THE MANUFACTURER. THE DRIP BEAD SHALL BE APPLIED 1" FROM THE DOWNSPOUT END OF THE TROUGH.
13. FABRIC TROUGH SHALL BE THOROUGHLY CLEANED AND FLUSHED AFTER PAVING OPERATION.
14. THE EXPANSION JOINT SHALL BE SHOP ASSEMBLED AND SHIPPED AS ONE UNIT.

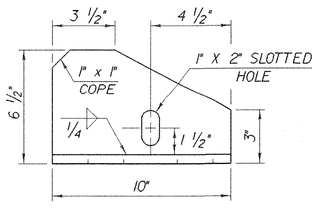


ANCHOR FERRULE DETAIL

SCALE: 3" = 1'-0"

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

ANCHOR FERRULE SHALL BE DAYTON/RICHMOND TYPE LF OR EQUIVALENT.



BRACKET ELEVATION

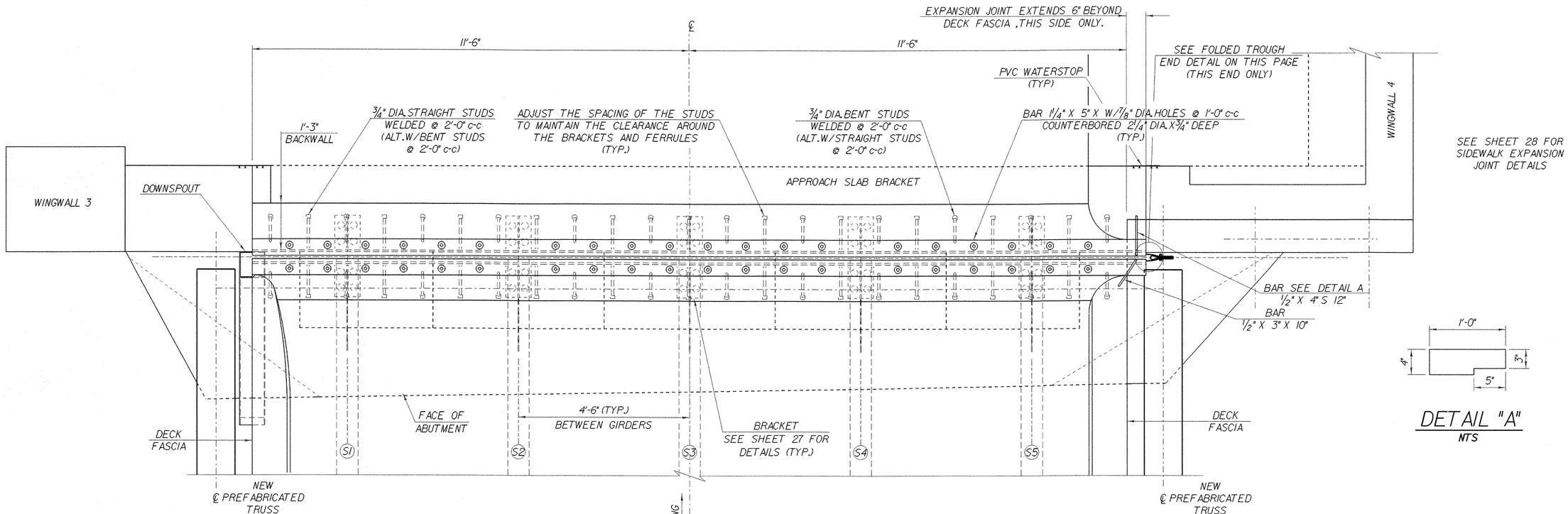
SCALE: 3" = 1'-0"

BRIDGE EXPANSION JOINT DETAILS

PROJECT NAME: BARRE CITY
PROJECT NUMBER: HDP 9281(1)

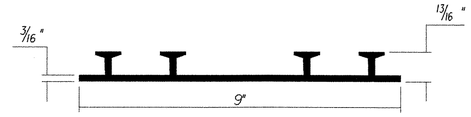
FILE NAME: str5/92j099/sj099exp.dgn
PROJECT LEADER: C. KELLER
DESIGNED BY: K. RUTTER
sj099expdet.i

PLOT DATE: 16-JUN-2004
DRAWN BY: K. RUTTER
CHECKED BY: T.A. SUMNER
SHEET 25 OF 58



DETAIL "A"
NTS

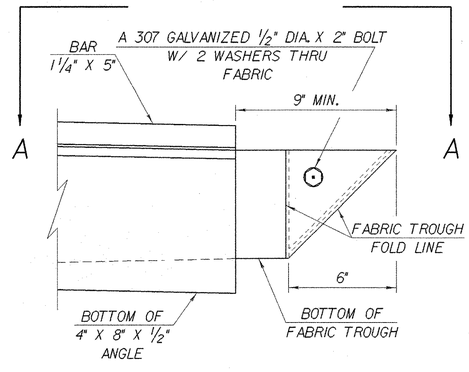
EXPANSION JOINT ABUTMENT NO. 2
SCALE 3/4" = 1'-0



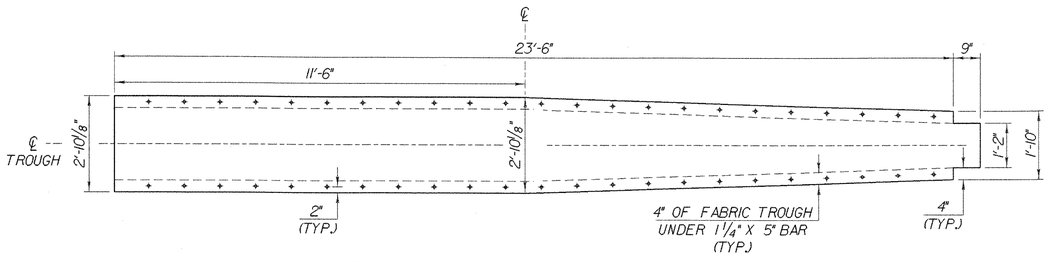
P.V.C. WATERSTOP FOR CONSTRUCTION JOINTS

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.

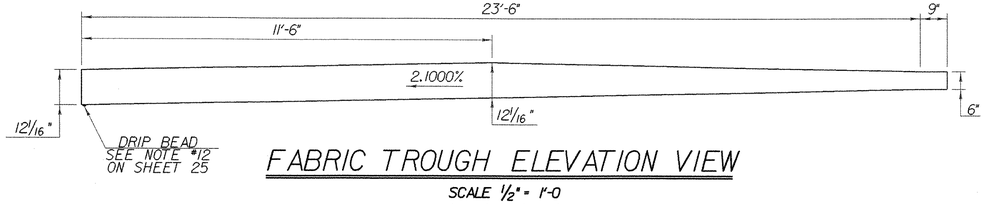
NTS



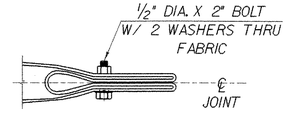
ELEVATION FOLDED TROUGH END DETAILS
NTS



FABRIC TROUGH PLAN VIEW
SCALE 1/2" = 1'-0



FABRIC TROUGH ELEVATION VIEW
SCALE 1/2" = 1'-0

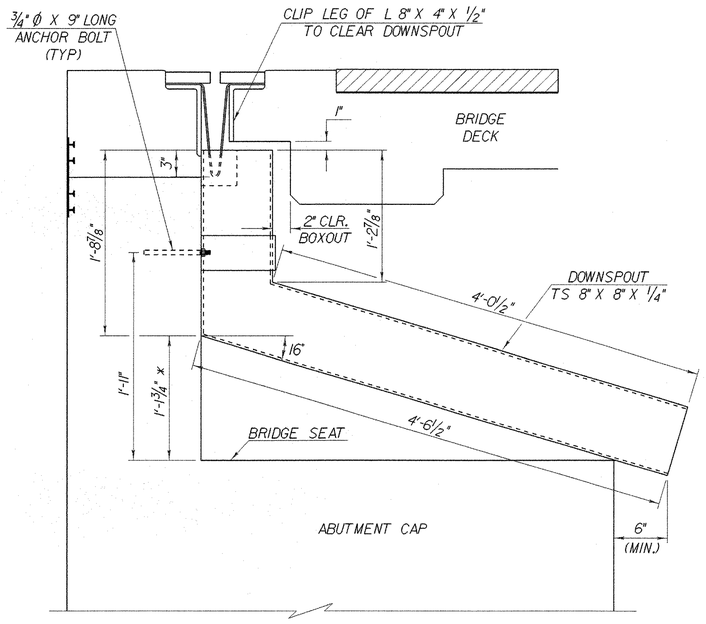


VIEW A - A
NTS

SEE SHEET 25 FOR BRIDGE EXPANSION JOINT NOTES

BRIDGE EXPANSION JOINT DETAILS

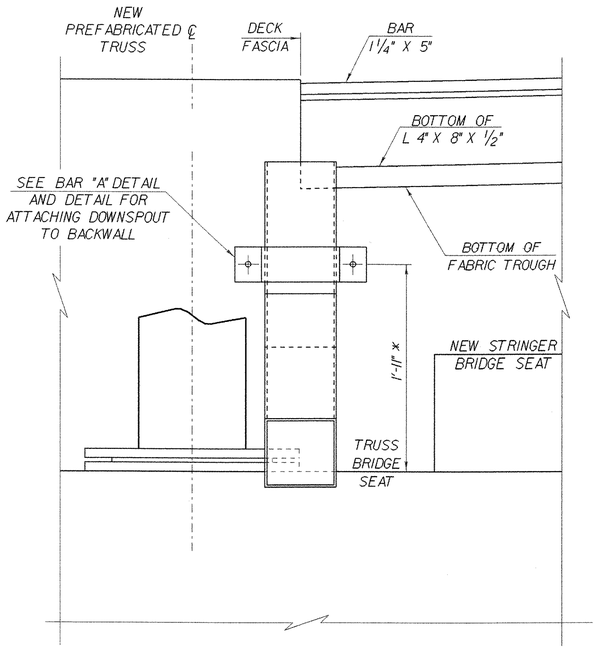
PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)
FILE NAME: str5/92j099/sj099exp.dgn	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. KELLER	DRAWN BY: K. RUTTER
DESIGNED BY: K. RUTTER	CHECKED BY: T.A. SUMNER
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DOWNSPOUT SIDE ELEVATION

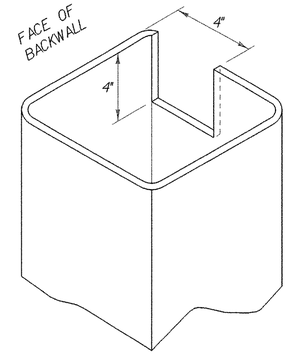
SCALE 1 1/2" = 1'-0

* THIS DIMENSION MAY BE ADJUSTED IN ORDER TO INSURE THAT THE DOWNSPOUT RESTS ON TOP OF THE ABUTMENT CAP.



DOWNSPOUT FRONT ELEVATION

SCALE 1 1/2" = 1'-0

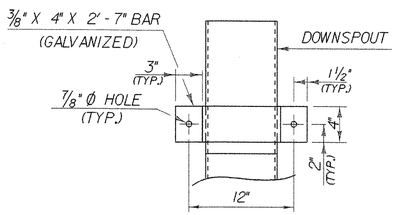


DOWNSPOUT CUTOUT FOR TROUGH

NTS

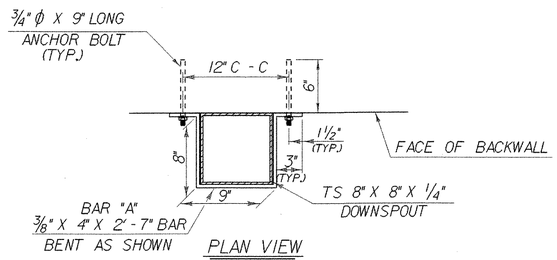
DOWNSPOUT NOTES

1. HOLLOW STRUCTURAL STEEL TUBING SHALL CONFORM TO A-500 OR A-501.
2. ALL PLATES, BARS, AND ANGLES SHALL CONFORM TO AASHTO M270 GR. 36.
3. DOWNSPOUT SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123 AFTER FABRICATION.
4. ALL BOLTS AND RELATED HARDWARE SHALL BE ASTM A-307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-153 (AASHTO M232).
5. ANY PLACE WHERE THE GALVANIZING HAS BEEN REMOVED FROM THE DOWNSPOUT EITHER BY CUTTING, BURNING, WELDING, PLACING, OR ANY OTHER MEANS, IT SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A760.
6. DOWNSPOUT AND ALL ANCHOR BOLTS WITH RELATED HARDWARE SHALL BE PAID FOR UNDER THE ITEM 506.75 "STRUCTURAL STEEL (DOWNSPOUT)".
7. PLACE A 4' X 4' STONEPAD IN THE GROUND BELOW THE OUTLET OF THE DOWNSPOUT. STONEPAD SHALL BE PAID FOR UNDER ITEM 613.12 "STONE FILL,TYPE III".



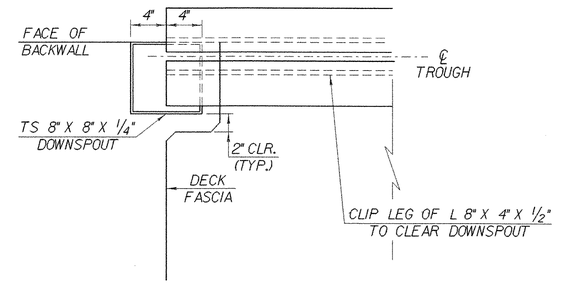
ELEVATION VIEW OF BAR "A"

SCALE 1 1/2" = 1'-0



DETAILS FOR ATTACHING DOWNSPOUT TO BACKWALL

SCALE 1 1/2" = 1'-0



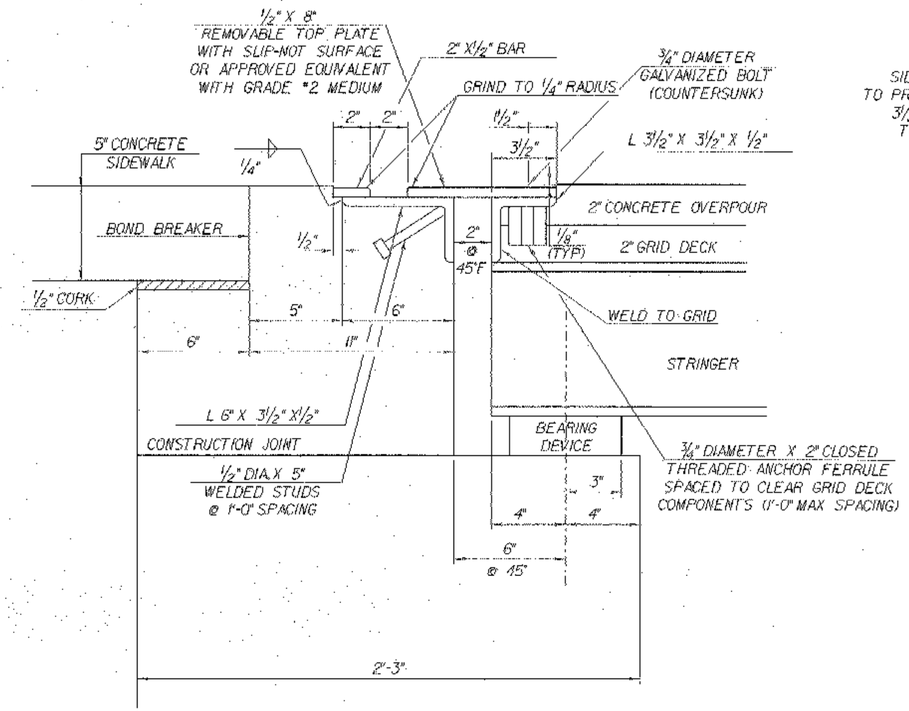
PLAN VIEW OF DECK BOXOUT FOR DOWNSPOUT

SCALE 1 1/2" = 1'-0

DOWNSPOUT DETAILS

PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)

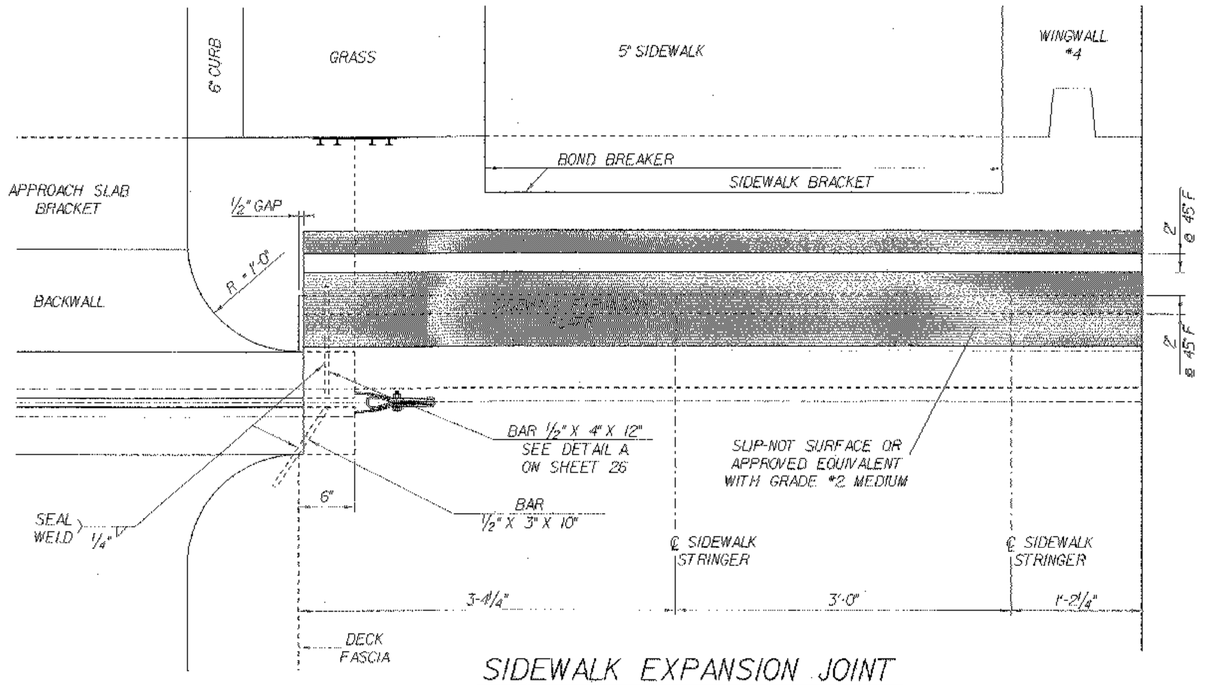
FILE NAME: str5/92j099/sj099exp.dgn	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. KELLER	DRAWN BY: K. RUTTER
DESIGNED BY: K. RUTTER	CHECKED BY: T.A. SUMNER
sj099ds.i	SHEET 27 OF 58



SIDEWALK EXPANSION JOINT

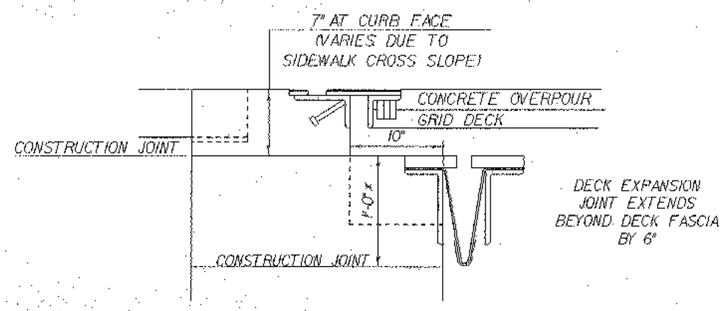
SCALE 3" = 1'-0

SIDEWALK GRID FABRICATOR WILL ALSO BE RESPONSIBLE FOR THE SIDEWALK EXPANSION JOINT. FABRICATOR TO PROVIDE WELDING DETAILS FOR ATTACHING 3 1/2" X 3 1/2" X 1/2" ANGLE TO GRID, WELDING TO OCCUR BEFORE GALVANIZING GRID



SIDEWALK EXPANSION JOINT

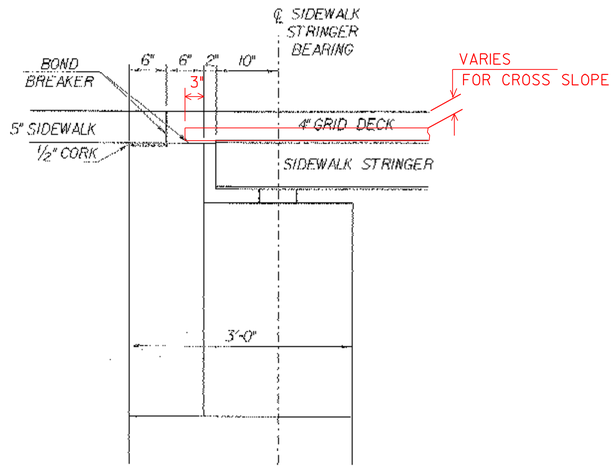
SCALE 1 1/2" = 1'-0



ABUTMENT #2 SIDEWALK AND DECK EXPANSION JOINT OVERLAP

SCALE 1 1/2" = 1'-0

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



SIDEWALK FIXED END

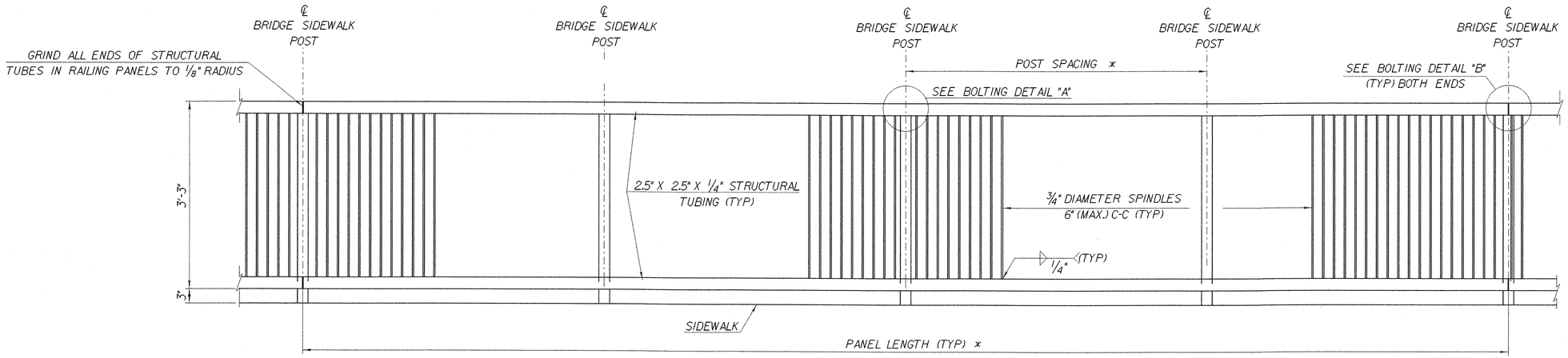
SCALE 1" = 1'-0

NOTES

1. THE COST OF MATERIALS AND FABRICATION FOR THE SIDEWALK EXPANSION JOINT ARE INCIDENTAL TO ITEM 506.75 "STRUCTURAL STEEL (MOD.- PRE-FAB. BRIDGE)".
2. THE TRUSS FABRICATOR WILL BE RESPONSIBLE FOR THE SIDEWALK EXPANSION JOINT. THE FABRICATOR IS TO PROVIDE WELDING DETAILS FOR ATTACHING 3 1/2" X 3 1/2" X 1/2" ANGLE TO GRID. WELDING TO OCCUR BEFORE GALVANIZING GRID.
3. ALL STEEL COMPONENTS SHALL BE AASHTO M270 GRADE 36 GALVANIZED OR METALIZED AS PER SUBSECTION 506.15.
4. THE SIDEWALK EXPANSION PLATES, BARS AND ANGLES SHALL BE SHOP ASSEMBLED.
5. THE FINAL FINISH OF THE EXPANSION JOINT SHALL BE COVERED DURING THE PLACING OF SIDEWALK AND CURB CONCRETE.
6. COAT CONCRETE CONTACT SURFACES WITH EPOXY BONDING COMPOUND MEETING THE REQUIREMENTS OF SUBSECTION 719.02. PAYMENT SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 506.75 "STRUCTURAL STEEL (MOD. PRE-FAB. BRIDGE)".

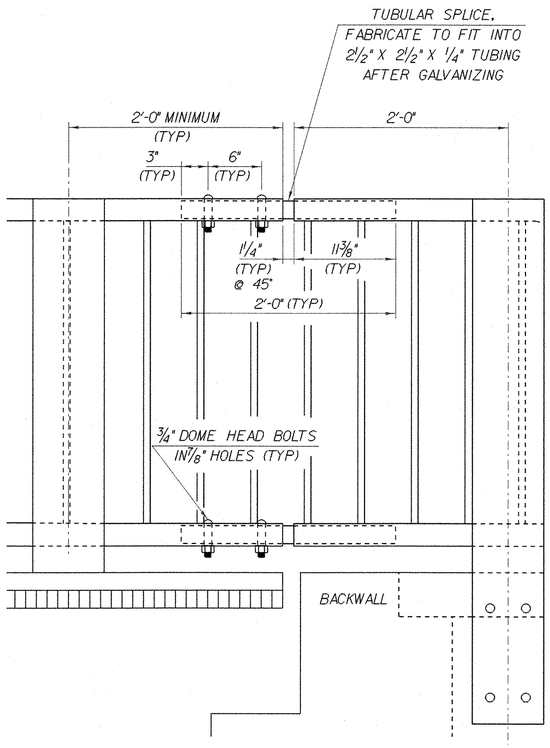
SIDEWALK EXPANSION JOINT DETAILS

PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)
FILE NAME: str5/92j099/sj099exp.dgn	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. KELLER	DRAWN BY: K. RUTTER
DESIGNED BY: K. RUTTER	CHECKED BY: T.A. SUMNER
sj099expside.i	SHEET 28 OF 58



ELEVATION PEDESTRIAN RAILING

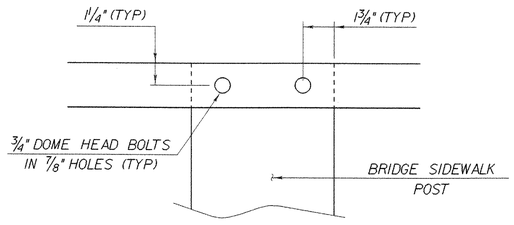
HORIZONTAL SCALE: 3/8" = 1'-0"
VERTICAL SCALE: 1" = 1'-0"



PEDESTRIAN RAILING EXPANSION JOINT AT ABUTMENT #2

SCALE 1 1/2" = 1'-0

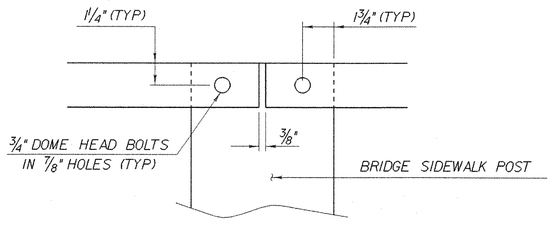
1 9 6 3 0 1



BOLTING DETAIL "A"

SCALE 3" = 1'-0

1 9 6 3 0 1



BOLTING DETAIL "B"

SCALE 3" = 1'-0

1 9 6 3 0 1

* BRIDGE PEDESTRIAN RAIL POST SPACING, PANEL LENGTH AND NUMBER OF POSTS PER PANEL IS TO BE DETERMINED BY THE TRUSS FABRICATOR.

PEDESTRIAN RAIL DETAILS

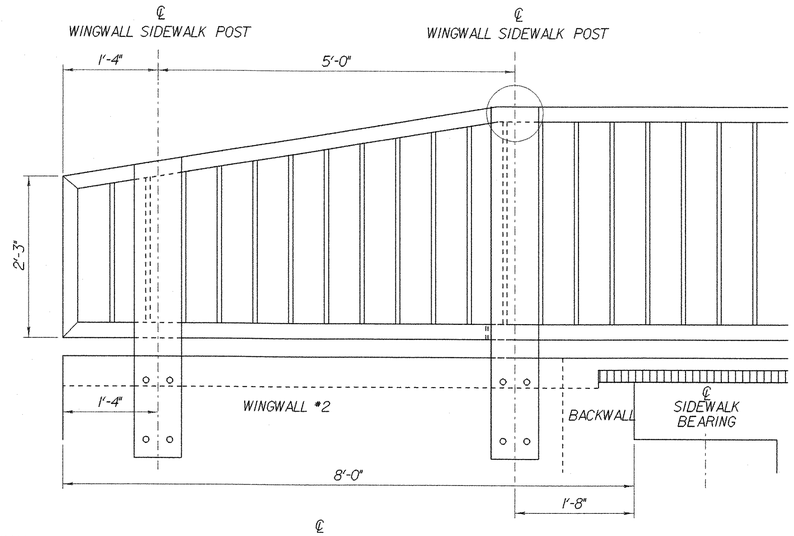
PROJECT NAME: BARRE CITY
PROJECT NUMBER: HDP 9281(1)

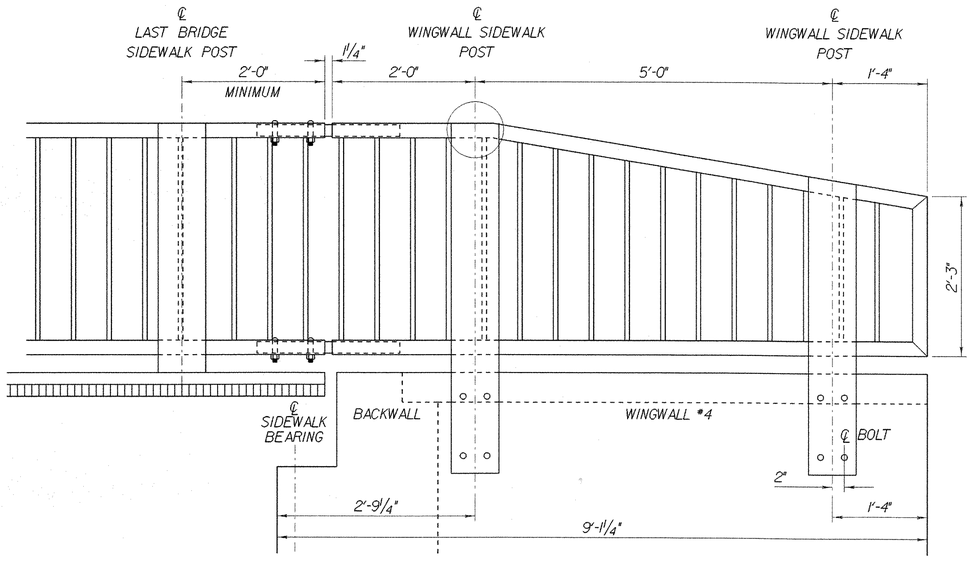
FILE NAME: str5/92j099/sj099pedrail.d
PROJECT LEADER: C. KELLER
DESIGNED BY: K. RUTTER
sj099pedrail.i

PLOT DATE: 16-JUN-2004
DRAWN BY: K. RUTTER
CHECKED BY: T.A. SUMNER
SHEET 29 OF 58

PEDESTRIAN RAIL TERMINATORS

SCALE 1" = 1'-0





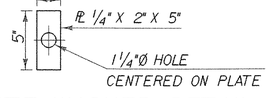


PLATE WASHER DETAIL

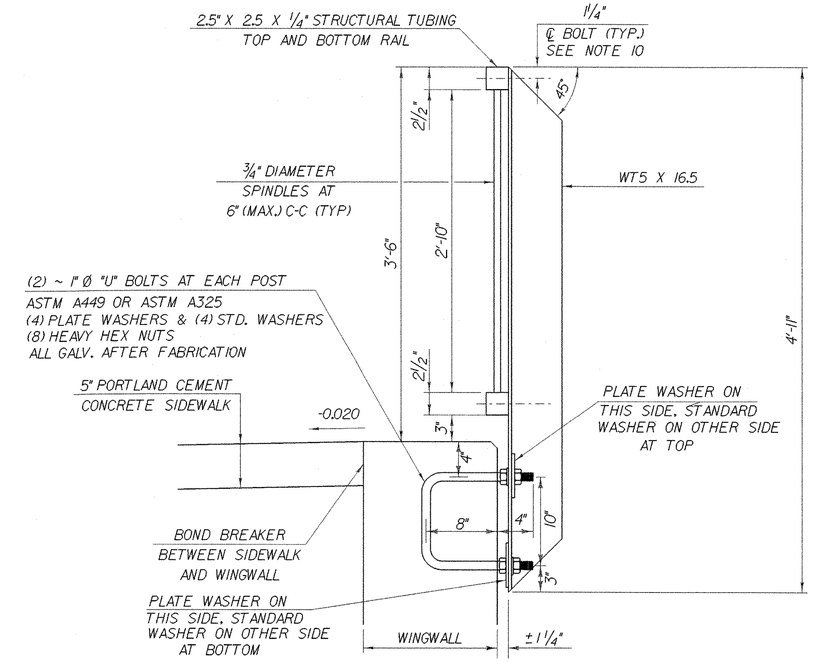
MATERIALS

RAIL TUBING.....ASTM A500, GRADE B OR ASTM 501
RAIL POSTS.....ASTM A709/A709M GRADE 50
ALL OTHER SHAPES AND PLATES.....ASTM 709/709M, GRADE 36
ALL OTHER BOLTS (UNLESS OTHERWISE NOTED).....AASHTO M164, TYPE 1

NUTS FOR ASTM A307 BOLTS AND AASHTO M164 TYPE 1 BOLTS SHALL COMPLY WITH AASHTO M291.

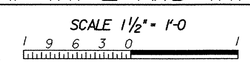
WASHERS SHALL COMPLY WITH ASTM F436 SPECIFICATION.

NO CHARPY V-NOTCH TESTING REQUIRED FOR PEDESTRIAN RAIL.



PEDETRIAN RAIL DETAIL AT WW#2 AND WW#4

SCALE 1 1/2" = 1'-0



NOTES

1) ALL WORK AND MATERIALS SHALL CONFORM TO THE PROVISIONS OF SECTION 525 - RAILINGS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

2) THE PEDESTRIAN RAILING TERMINATOR SHALL BE INSTALLED ON BOTH APPROACHES. THE RAILING EXPANSION JOINT SHALL ONLY BE INSTALLED ON THE EXPANSION END OF THE BRIDGE. SEE SHEET 29 PEDESTRIAN RAILING EXPANSION JOINT DETAILS.

3) PEDESTRIAN RAILING SHALL BE PAID FOR UNDER ITEM 506.75 "STRUCTURAL STEEL (MOD.) PRE-FAB BRIDGE)."

4) TRUSS FABRICATOR TO PROVIDE PEDESTRIAN RAIL TO BRIDGE SIDEWALK CONNECTION DETAILS.

5) ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1/16" RADIUS AND BE FREE OF BURRS. STRUCTURAL TUBES IN RAILING PANELS TO BE ROUNDED TO 1/8" RADIUS.

7) RAIL POSTS SHALL BE SET NORMAL TO GRADE.

8) PANELS OF RAIL TUBING SHALL BE ATTACHED TO A MINIMUM OF TWO RAIL POSTS AND PREFERABLY TO AT LEAST FOUR POSTS.

9) ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 232M/M 232. PARTS SHALL BE BLAST-CLEANED PRIOR TO GALVANIZING IN ACCORDANCE WITH SSPC-SP6.

10) RAIL TUBING MAY BE ATTACHED USING 5/8" DIA. AASHTO M164 (TYPE 1) OR 3/4" DIA. ASTM A 307. ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBING. HOLES IN POSTS SHALL BE 1/8" LARGER THAN BOLT SIZE.

11) DRAIN HOLES SHALL BE PROVIDED IN RAIL TUBING AT 6.5' INTERVAL.

PEDESTRIAN RAIL DETAILS

PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)

FILE NAME: str5/92J099/sj099pedrail.d	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. KELLER	DRAWN BY: K. RUTTER
DESIGNED BY: K. RUTTER	CHECKED BY: T.A. SUMNER
sj099pedrail2.1	SHEET 30 OF 58

GENERAL NOTES:

1. SURVEY PROVIDED BY DUFRESNE & ASSOCIATES, P.C. JANUARY 2004 USING A NICOM TOTAL STATION PROCEDURE. LOCATION OF EXISTING UTILITIES ARE APPROXIMATE BASED ON INFORMATION PROVIDED BY THE CITY OF BARRE. THIS IS NOT A BOUNDARY SURVEY. ELEVATIONS ARE BASED ON USGS MEAN SEA LEVEL DATUM.

2. CONTRACTOR IS GIVEN THE OPTION TO CONSTRUCT THE WATER MAIN WHILE MAINTAINING WATER SERVICE THROUGH THE EXISTING WATER MAINS OR PROVIDING TEMPORARY WATER SERVICE. IF TEMPORARY WATER SERVICE IS USED, THE CONTRACTOR SHALL FURNISH AND INSTALL ISOLATION/CORPORATION STOPS AS NECESSARY TO ISOLATE THE TEMPORARY SERVICE FROM THE EXISTING MAIN FOR EACH BUILDING. WATER SERVICE SHALL NOT BE INTERRUPTED FOR MORE THAN FOUR (4) HOURS. ALL CUSTOMERS THAT MAY BE TEMPORARILY OUT OF WATER SHALL BE NOTIFIED TWENTY-FOUR (24) HOURS PRIOR TO ACTIVITY BY THE CONTRACTOR. CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATION TO LOCATE EXISTING WATER MAINS.

3. EXPLORATORY EXCAVATION IS REQUIRED TO LOCATE UNDERGROUND UTILITIES. CONTRACTOR SHALL USE EXTREME CAUTION TO PREVENT DAMAGE TO EXISTING UTILITIES. CONTRACTOR SHALL COORDINATE WITH DIG SAFE (1-888-DIG SAFE) A MINIMUM OF 72 HOURS PRIOR TO EXCAVATION.

4. LOCATION OF PROPOSED WATER MAIN IS INTENDED NOT TO DISTURB ROOT SYSTEMS OF EXISTING TREES OR SHRUBS. CONTRACTOR SHALL EXERCISE DUE CARE TO PREVENT DAMAGE THERETO. ALL DISTURBED AREAS SHALL BE RESTORED TO PRECONSTRUCTION CONDITIONS.

5. ALL WORK IS TO BE DONE SHALL BE IN PUBLIC RIGHT-OF-WAY OR EASEMENT AREAS. INFORMATION PROVIDED BY CITY OF BARRE.

6. LISTING OF ADAPTERS, FITTINGS, NIPPLES, ETC. IS FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. ADDITIONAL MATERIAL MAY BE REQUIRED. SOLID SLEEVE COUPLINGS WILL BE REQUIRED FOR CONNECTION TO EXISTING MAINS.

7. MINIMUM VERTICAL CLEARANCE BETWEEN NEW WATER MAINS AND ALL EXISTING UTILITIES, EXCEPT SEWERS AND STORM DRAINS TO BE SIX (6) INCHES AT CROSSING LOCATIONS. FOR SEWERS SEE NOTE ON DRAWING 4.

8. ALL BURIED FITTINGS MUST BE BLOCKED. REFER TO THRUST BLOCK DETAILS, AND TRENCH DETAIL SHOWN ON DRAWING 5.

9. MECHANICAL JOINT RESTRAINTS SHALL BE USED WHERE VALVES WILL BE SUBJECTED TO SERVICE PRESSURES ON ONE SIDE BEFORE BEING FULLY INCORPORATED INTO THE DISTRIBUTION SYSTEM.

10. WATER MAINS TO HAVE 5.5 FEET MINIMUM COVER UNLESS OTHERWISE STATED OR SHOWN ON THE PROFILES. WHEN 5.5 FEET OF COVER CANNOT BE MAINTAINED 4" RIGID BOARD INSULATION SHALL BE USED. DEPTH OF COVER SHALL NOT BE LESS THAN 4 FEET EVEN WITH INSULATION. SEE MATERIAL SPECIFICATION SECTION 735.01.

11. ALL MECHANICAL JOINT FITTINGS AND VALVES SHALL INCORPORATE A MEGA-LUG RETAINER GLAND INSTEAD OF THE COMMON FOLLOWER GLAND, AT THE CONTRACTOR'S EXPENSE.

12. ALL EXISTING UNDERGROUND UTILITIES WERE LOCATED USING THE BEST AVAILABLE INFORMATION. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL UTILITIES WHETHER OR NOT THEY ARE SHOWN ON THE PLANS. ALL REPAIRS TO DAMAGED UTILITIES SHALL BE MADE BY THE CONTRACTOR USING MATERIALS APPROVED BY THE ENGINEER PRIOR TO INSTALLATION, AT THE CONTRACTORS EXPENSE.

13. CONTRACTOR IS RESPONSIBLE FOR FLUSHING, PRESSURE TESTING AND DISINFECTING ALL NEW WATER MAIN. CHLORINE INJECTION POINTS SHALL BE INSTALLED WHERE REQUIRED AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION AND REMOVED UPON COMPLETION OF TESTING.

14. CONTRACTOR SHALL VERIFY LOCATION OF ALL OVERHEAD AND UNDERGROUND ELECTRIC, CABLE AND TELEPHONE LINES AND TAKE NECESSARY PRECAUTIONS IN STRICT ACCORDANCE WITH OSHA STANDARDS DURING CONSTRUCTION. CONTRACTOR SHALL CONTACT THE LOCAL POWER UTILITY AND TELEPHONE UTILITY REGARDING ANY NECESSARY SUPPORT OF ANY UTILITY POLES DURING CONSTRUCTION. LOCAL ELECTRIC UTILITY IS GREEN MOUNTAIN POWER COMPANY (888) 835-4672. LOCAL PHONE UTILITY IS VERIZON (802) 555-1515.

15. GENERALLY HEAVY OR DARK LINE WORK OR NOTES REFER TO PROPOSED IMPROVEMENTS. LIGHT LINE WORK OR SCREENED GENERALLY DENOTES EXISTING FEATURES.

16. TECHNICAL SPECIFICATIONS PROVIDE NECESSARY INFORMATION AND ARE PART OF THE CONTRACT DOCUMENTS FOR THIS PROJECT.

17. CONTRACTOR SHALL CONNECT WATER SERVICES TO IDENTIFIED WATER USERS UPON COMPLETION OF INSTALLATION OF WATER MAIN AND RECEIPT OF SUCCESSFUL BACTERIOLOGAL TEST.

LOCAL VALVE OPERATION

1. EXISTING AND PROPOSED MAIN LINE GATE VALVES SHALL OPEN RIGHT OR CLOCKWISE. OPERATION OF GATE VALVES WILL BE PERFORMED BY THE OWNER'S STAFF ONLY.

2. ALL INTERCONNECTIONS TO THE EXISTING SYSTEM CAN ONLY BE MADE WITH THE WRITTEN PERMISSION OF THE CITY ENGINEER.

ABBREVIATIONS

CI	CAST IRON PIPE
CMP	CORREGATED METAL PIPE
CPP	CORREGATED PLASTIC PIPE
CU	COPPER PIPE
DI	DUCTILE IRON PIPE
EL	ELEVATION
ER	EROSION
HYD	FIRE HYDRANT
INV	INVERT
IP	IRON PIPE
MJ	MECHANICAL JOINT
P	ELECTRICAL POWER
ROW	RIGHT OF WAY
STA	STATION
TBM	TEMPORARY BENCH MARK
TYP	TYPICAL
W	WATER MAIN
WSO	WATER SHUT OFF
WV	WATER VALVE

WORK ITEM AND MATERIAL SCHEDULE

ITEM	DESCRIPTION	UNITS	QUANTITY
629.60	GALVANIZED STEEL BRIDGE SUPPORTS	LBS	3000
629.60	BRIDGE ROLLERS FOR PIPE	EA	9
629.60	INSULATED PIPE	LF	135
629.60	PIPE TERMINATIONS AT ABUTMENTS	EA	2
629.60	PIPE EXPANSION JOINT	EA	1
629.60	AIR RELEASES -- INSULATED	EA	1
629.42	12" D.I. WATERMAIN	LF	300
629.42	8" D.I. WATERMAIN	LF	40
629.42	6" D.I. WATERMAIN	LF	50
629.42	FITTINGS	LBS	3000
629.42	12" BUTTERFLY VALVE WITH BOX	EA	2
629.42	8" R.S. VALVE WITH BOX	EA	1
629.42	6" R.S. VALVE WITH BOX	EA	1
629.42	3/4" MANUAL AIR RELEASE WITH BOXES	EA	4
629.42	LEDGE ROCK EXCAVATION	CY	10
629.42	BOULDER EXCAVATION	CY	40
629.42	EXPLORATORY EXCAVATION	CY	150
629.42	CRUSHED GRAVEL	CY	50
629.42	EXCAVATION BELOW GRADE WITH GRAVEL REFILL	CY	25
629.42	INTERCONNECTIONS TO EXISTING SYSTEMS	LS	1
629.42	TRENCH EXCAVATION	CY	300
629.42	TEMPORARY PAVING	SY	400
629.42	FULL WIDTH OVERLAY	TON	130
629.42	ELECTRICAL WORK FOR PIPE TRACING	LS	1
629.42	MISCELLANEOUS WORK AND CLEANUP	LS	1

LEGEND

EXISTING:	
	MAJOR CONTOURS
	MINOR CONTOURS
	EDGE OF ASPHALT
	EDGE OF GRAVEL
	TREE LINE
W	WATERLINE
	STONEWALL
P	POWERLINE
x	FENCE
	GUARDRAIL
	SHRUB
	EVERGREEN TREE
	DICIDUOUS TREE
	STUMP
	UTILITY POLE
	GUY WIRE
	LIGHT
	MAILBOX
	WELL
	FIRE HYDRANT
	WATER SHUT OFF
WV	WATER VALVE
	STORM MANHOLE
	PROPERTY CORNER
	ROAD SIGN
	RIGHT-OF-WAY
PROPOSED:	
	WATERLINE
	FIRE HYDRANT
	WATER VALVE
	WATER SHUT OFF
B-1	BORING LOCATION
	M.J. PIPE FITTINGS
	END CAP
	MANUAL AIR RELEASE
	SOLID SLEEVE

FOR WATER LINE CONSTRUCTION ONLY

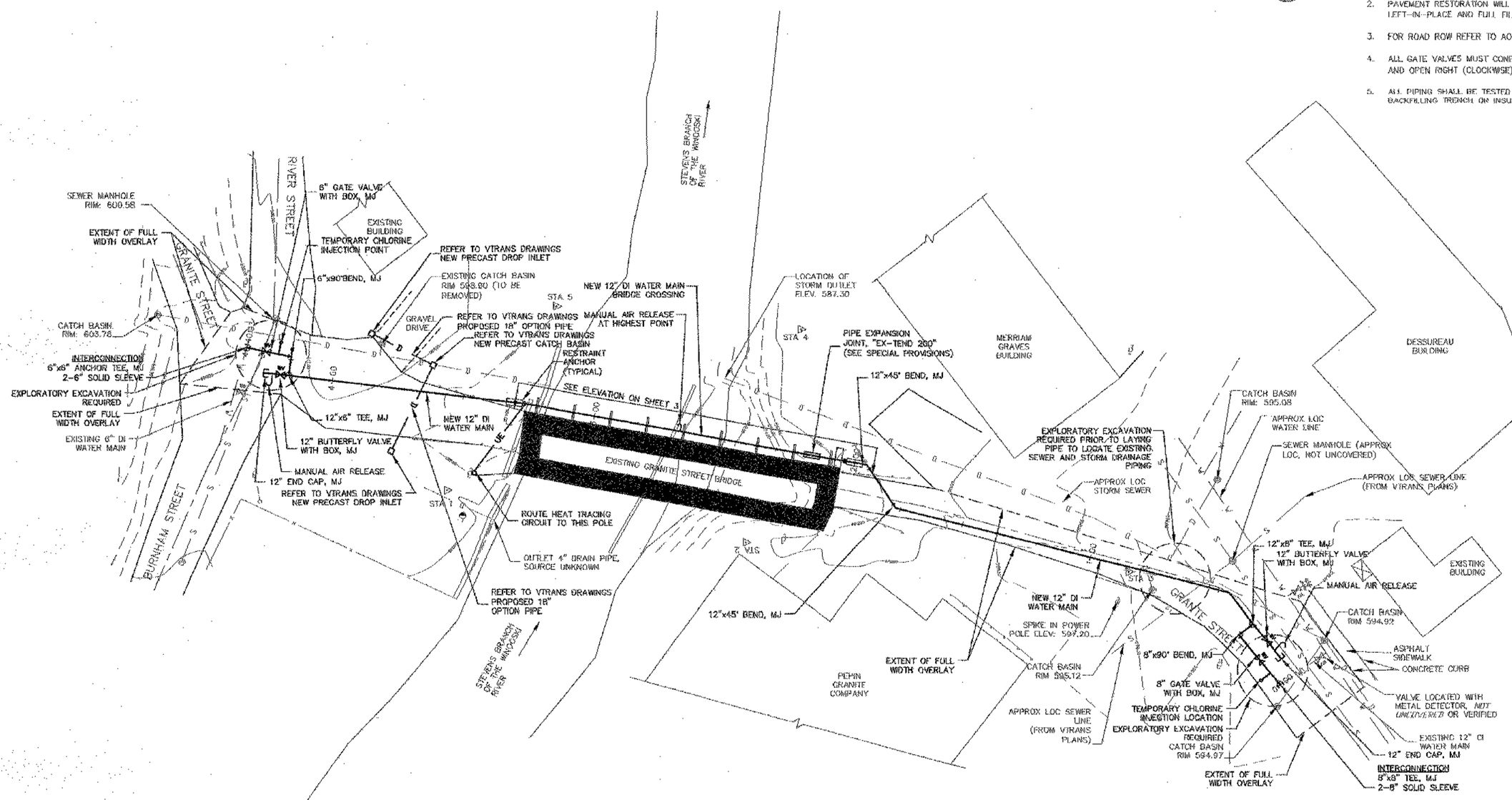
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STATE OF VERMONT — JOHN A. PERRY — NO. 5954 — PROFESSIONAL ENGINEER

PROJECT NAME:	**GRANITE ST. BRIDGE, BARRE CITY, VT**		
PROJECT NUMBER:	**413025**		
DRAWING NAME:	NOTES AND LEGENDS	PLOT DATE:	16-MAR-2004
PROJECT LEADER:	J. PERRY	DRAWN BY:	E. EMMONS
DESIGNED BY:	J. PERRY	CHECKED BY:	R. DUFRESNE
FILE NAME:	413025C1-DT	SHEET	1 OF 5

NOTES:

1. REFER TO SHEET 1 FOR GENERAL CONSTRUCTION NOTES, ABBREVIATION LIST AND LEGEND.
2. PAVEMENT RESTORATION WILL BE TEMPORARY TRENCH PATCH LEFT-IN-PLACE AND FULL FILL OVERLAY. SEE SPECIFICATIONS.
3. FOR ROAD ROW REFER TO AOT DRAWINGS
4. ALL GATE VALVES MUST CONFORM TO THE CITY OF BARRE STANDARD AND OPEN RIGHT (CLOCKWISE).
5. ALL PIPING SHALL BE TESTED FOR ELECTRICAL CONTINUITY BEFORE BACKFILLING TRENCH OR INSULATION IS APPLIED.



SITE PLAN

SCALE: 1" = 20'

VOID

SEE AS BUILTS

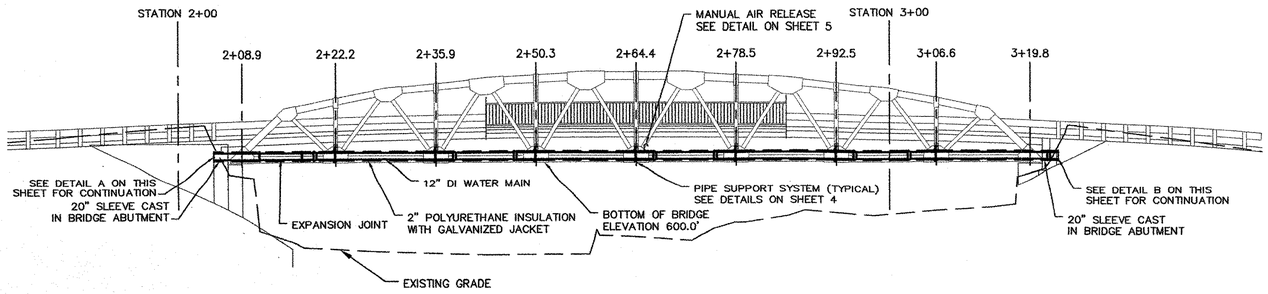
FOR WATER LINE CONSTRUCTION ONLY

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PROJECT NAME: **GRANITE ST. BRIDGE, BARRE CITY, VT**

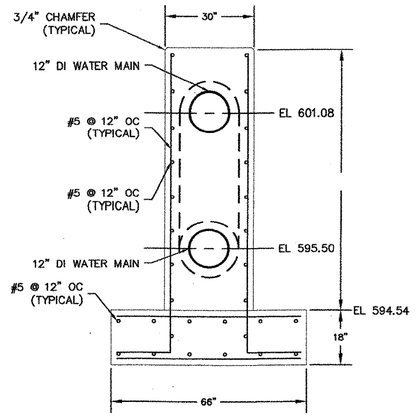
PROJECT NUMBER: **413025**

DRAWING NAME:	SITE PLAN	PLOT DATE:	16-MAR-2004
PROJECT LEADER:	J. PERRY	DRAWN BY:	E. EMMONS
DESIGNED BY:	J. PERRY	CHECKED BY:	R. DUFRESNE
FILE NAME:	413025C2-PL	SHEET	2 OF 5



BRIDGE ELEVATION

SCALE: 1" = 10'

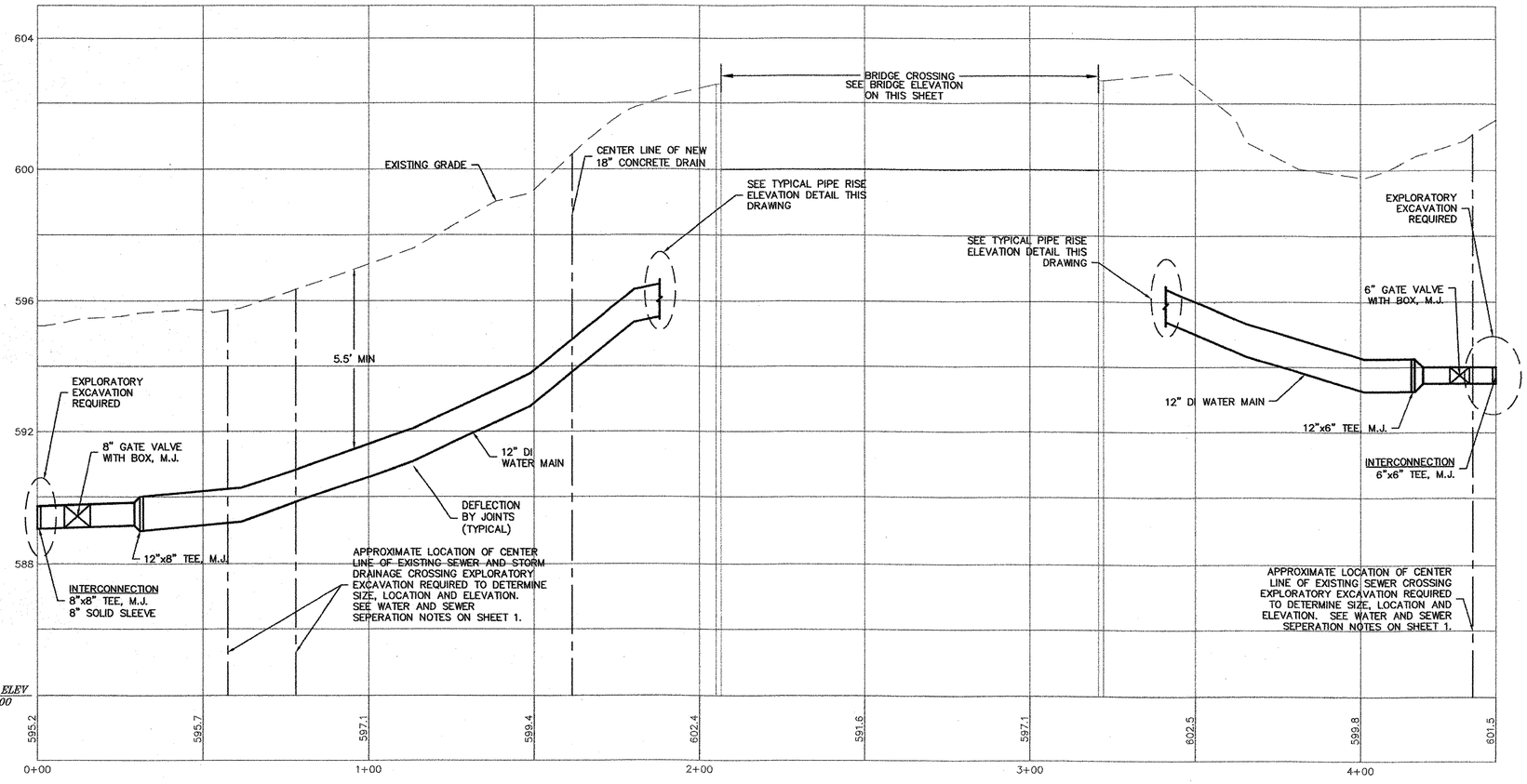


PIPE ANCHOR SECTION

NOT TO SCALE

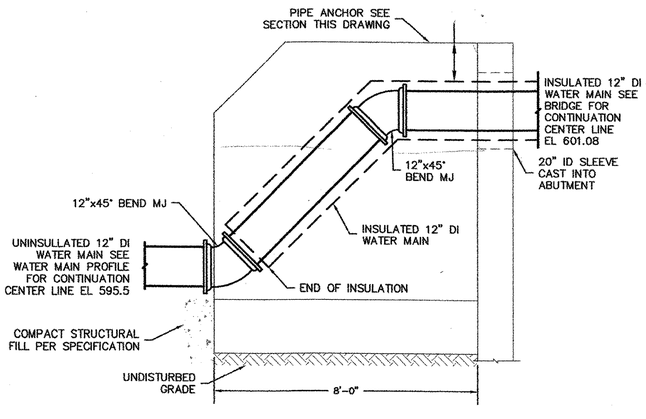
NOTES:

1. THE DIMENSIONS AND STATIONING SHOWN ON THIS DRAWING FOR BRIDGE SUPPORTS ARE APPROXIMATE AND MAY BE ALTERED ON THE BASIS OF APPROVED BRIDGE SHOP DRAWINGS. THE CONTRACTOR SHALL NOT FABRICATE THE CROSS BRIDGE PIPING UNTIL APPROVED BRIDGE FABRICATION DRAWINGS ARE AVAILABLE.
2. THE W8x24 FABRICATED PIPE SUPPORTS ATTACHED TO THE BRIDGE SHALL BE HOT DIPPED GALVANIZED AFTER COMPLETE FABRICATION. ALL HIGH STRENGTH BOLTS, NUTS AND WASHERS AS WELL AS THE PIPE SUPPORT ROLLERS AND SUPPORTING ELEMENTS SHALL BE ELECTROGALVANIZED.
3. THE PIPE LOCATED BETWEEN STATION 1+95 AND 3+30 SHALL BE PREINSULATED AND HAVE HEAT TRACING ALREADY INSTALLED PRIOR TO PLACEMENT. WHERE INSULATED PIPING IS PLACED IN THE SOIL THE INSULATION JACKETING SHALL BE SEALED TO PREVENT WICKING BY GROUND WATER INTO THE INSULATION.
4. THE PIPE SYSTEM SHALL BE SUPPORTED AND RESTRAINED BY ROLLER PIPE SUPPORTS. THE PIPE SUPPORTS SHALL BE B-LINE SERIES 3122 OR APPROVED EQUAL, SIZED TO PROVIDE FULL SUPPORT FOR THE INSULATED PIPING. THE CONTRACTOR SHALL FURNISH GALVANIZED INSULATION SHIELDS WHERE THE INSULATED PIPE COMES IN CONTACT WITH THE ROLLERS.
5. A FLANGED EXPANSION FITTING SHALL BE FURNISHED AND INSTALLED ON THE NORTH SIDE OF THE BRIDGE ABUTMENT AS SHOWN ON THE DRAWING. THE EXPANSION JOINT SHALL HAVE A MINIMUM OF 4 INCHES OF EXPANSION AND BE PROVIDED WITH INTEGRAL EXPANSION STOPS.
6. THE CENTERLINES OF THE 20" ID PIPE SLEEVES SHALL BE CAST INTO EACH SIDE OF THE BRIDGE ABUTMENT AT AN ELEVATION OF 601.08.
7. PIPE FOR BRIDGE CROSSING SHALL BE CLASS 52, DUCTILE IRON WITH MEGA-A-LUG RETAINER GLANDS. EACH SECTION OF PIPE SHALL BE SUPPORTED BY AT LEAST ONE PIPE SUPPORT.
8. ALL GATE VALVES MUST CONFORM TO THE CITY OF BARRE STANDARD AND OPEN RIGHT (CLOCKWISE).
9. ALL PIPING SHALL BE TESTED FOR ELECTRICAL CONTINUITY BEFORE BACKFILLING TRENCH OR INSULATION IS APPLIED.
10. "WATER MAIN ON BRIDGE 629.60" SHALL COVER ALL WORK FROM BACKWALL TO BACKWALL. ALL WORK OUTSIDE OF THESE LIMITS WILL BE PAID FOR UNDER ITEM "TRANSFER TO NEW SYSTEM , WATER SYSTEM (MOD.) 629.42."



WATER MAIN PROFILE

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'



TYPICAL PIPE RISE ELEVATION DETAIL

NOT TO SCALE

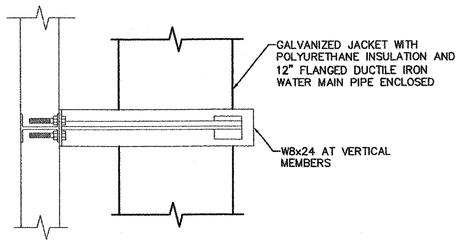
FOR WATER LINE CONSTRUCTION ONLY

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STATE OF VERMONT — JOHN C. DUFRESNE No. 6206 — 4-02 — PROFESSIONAL ENGINEER

PROJECT NAME: **GRANITE ST. BRIDGE, BARRE CITY, VT**
PROJECT NUMBER: **413025**

DRAWING NAME: PROFILE AND ELEVATION		PLOT DATE:	16-MAR-2004
PROJECT LEADER:	J. PERRY	DRAWN BY:	E. EMMONS
DESIGNED BY:	J. PERRY	CHECKED BY:	R. DUFRESNE
FILE NAME:	413025C3-PR	SHEET	3 OF 5

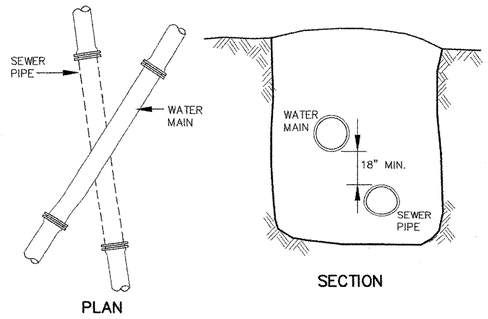


PIPE SUPPORT DETAIL - PLAN VIEW

NOT TO SCALE

NOTES:

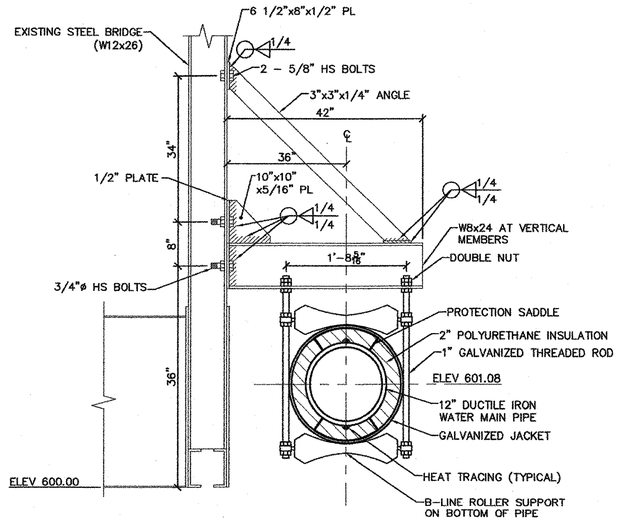
1. ALL BOLTS, NUTS AND WASHERS TO BE GALVANIZED.
2. ALL STEEL FABRICATIONS AND CASTINGS SHALL BE HOT DIPPED GALVANIZED.
3. ALL ALUMINUM SHALL BE ANNODIZED BLACK.



1. PARALLEL INSTALLATION: WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED MANHOLE OR SANITARY SEWER. THIS DISTANCE CAN BE REDUCED TO 5 FEET FOR STORM SEWERS. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE.
2. CROSSINGS: WATER MAINS CROSSING SEWERS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER. THIS SHALL BE THE CASE WHERE THE WATER MAIN IS EITHER ABOVE OR BELOW THE SEWER. AT CROSSINGS, ONE FULL LENGTH OF WATER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR THE FIRST SEWER AS POSSIBLE. IF THE SEWER MAIN IS OVER THE WATER MAIN, THE FIRST SEWER PIPE JOINTS ON EACH SIDE OF THE WATER MAIN MUST BE CONCRETE ENCASED. SPECIAL STRUCTURAL SUPPORT FOR THE WATER AND SEWER PIPES MAY BE REQUIRED. WATER MAINS SHALL NOT PASS THROUGH SEWER MANHOLES OR BE SUBMERGED IN BASINS CONTAINING SEWAGE OR OTHER GROSSLY CONTAMINATED OR HAZARDOUS MATERIAL.
3. EXCEPTION: THE SECRETARY MUST SPECIFICALLY APPROVE ANY VARIANCE FROM THESE REQUIREMENTS WHEN IT IS IMPOSSIBLE TO OBTAIN THE SPECIFIED SEPARATION DISTANCES.

STORM SEWER OR SANITARY SEWER AND WATER MAIN CROSSING

NOT TO SCALE

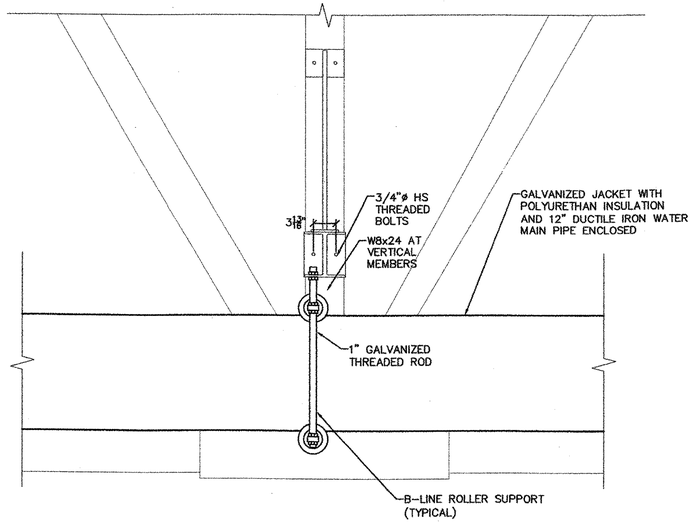


PIPE SUPPORT DETAIL - SECTION VIEW

NOT TO SCALE

NOTES:

1. ALL BOLTS, NUTS AND WASHERS TO BE GALVANIZED.
2. ALL STEEL FABRICATIONS AND CASTINGS SHALL BE HOT DIPPED GALVANIZED.
3. ALL ALUMINUM SHALL BE ANNODIZED BLACK.



PIPE SUPPORT DETAIL - ELEVATION VIEW

NOT TO SCALE

NOTES:

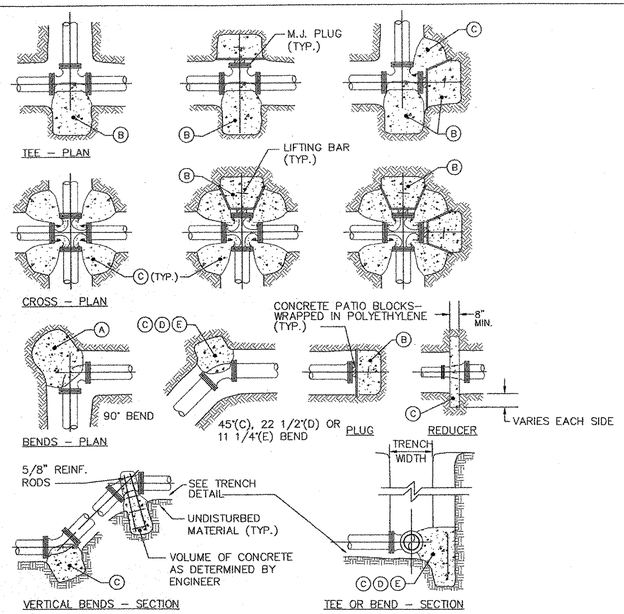
1. ALL BOLTS, NUTS AND WASHERS TO BE GALVANIZED.
2. ALL STEEL FABRICATIONS AND CASTINGS SHALL BE HOT DIPPED GALVANIZED.
3. ALL ALUMINUM SHALL BE ANNODIZED BLACK.

FOR WATER LINE CONSTRUCTION ONLY

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STATE OF VERMONT JOHN R. PERRY No. 6858 PROFESSIONAL ENGINEER

PROJECT NAME:	**GRANITE ST. BRIDGE, BARRE CITY, VT**		
PROJECT NUMBER:	**413025**		
DRAWING NAME:	GENERAL DETAILS	PLOT DATE:	16–MAR–2004
PROJECT LEADER:	J. PERRY	DRAWN BY:	E. EMMONS
DESIGNED BY:	J. PERRY	CHECKED BY:	R. DUFRESNE
FILE NAME:	413025C4–DT	SHEET	4 OF 5



THRUST BLOCK DETAILS

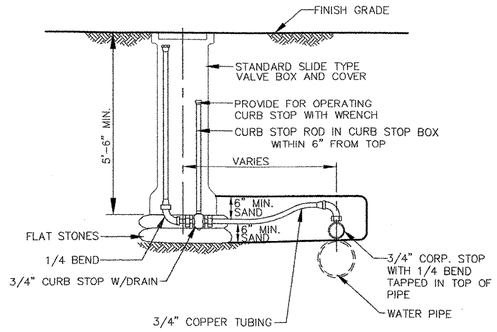
NOT TO SCALE

THRUST BLOCK SCHEDULE
SQUARE FEET OF CONCRETE THRUST
BLOCKING BEARING ON UNDISTURBED MATERIAL

REACTION TYPE		PIPE SIZE											
		4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"	48"
TEST PRESSURE 100 PSIG	Ⓐ	1.71	2.49	4.29	6.45	9.12	12.26	15.85	19.91	24.43	34.85	53.62	76.81	135.12
II	Ⓑ	1.21	3.53	6.06	9.12	12.70	17.33	22.42	28.16	34.55	49.29	75.83	108.62	191.09
	Ⓒ	0.92	0.95	3.28	4.94	6.98	9.38	12.13	15.24	18.70	26.68	41.04	58.78	103.42
	Ⓓ	0.47	0.97	1.67	2.52	3.56	4.78	6.19	7.77	9.53	13.60	20.92	29.97	52.72
	Ⓔ	0.24	0.49	0.84	1.26	1.79	2.40	3.41	3.90	4.79	6.83	10.51	15.06	26.49
OTHER TEST PRESSURES FOR THE ABOVE REACTIONS		TEST PRESSURE TO BE 200 PSI MIN. AT LOW END OF THE TEST SECTION. SQUARE FEET OF CONCRETE THRUST BLOCKING FOR OTHER TEST PRESSURES IS DIRECTLY PROPORTIONAL TO THE ABOVE TABLE. FOR INSTANCE, AT 200 PSI TEST PRESSURE FOR ABOVE NUMBERS DOUBLE.											

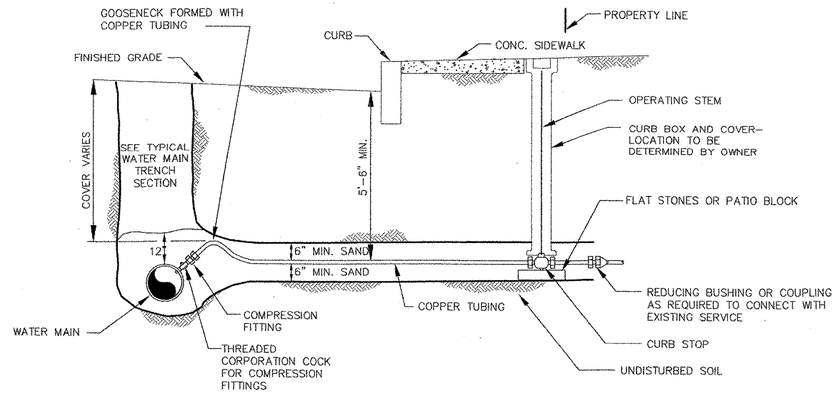
NOTES:

1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE CONCRETE PATIO BLOCKS IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCK.
4. REQUIREMENTS OF THE ABOVE TABLE PRESUME MINIMUM SOIL BEARING OF 1 TON PER SQUARE FOOT, AND MAY BE VARIED BY THE ENGINEER TO MEET OTHER CONDITIONS ENCOUNTERED.
5. MEGA–LUG RETAINER GLANDS ARE REQUIRED FOR ALL MECHANICAL JOINTS. THESE GLANDS DO NOT REDUCE THE REQUIREMENTS FOR THRUST RESTRAINT.
6. ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE OR BUILDING PAPER PRIOR TO INSTALLATION OF CONCRETE RESTRAINT.
7. THREADED ROD SHALL BE ANSI A242 FY50 PIPE RESTRAINT NUTS TO MATCH AWWA C111. THREADED RODS AND NUTS TO BE FIELD COATED WITH BITUMINOUS PAINT.
8. THRUST RESTRAINT IS REQUIRED FOR ALL TEES, BENDS, REDUCERS, CAPS, PLUGS, OR CROSSES.
9. INSTALL LIFT HOOKS INTO THRUST BLOCKS AT END CAPS AND PLUGS.
10. THRUST BLOCK AREA IS BASED ON SILT SOILS WITH A BEARING STRENGTH OF 1500 LBS/SF AND A SAFETY FACTOR OF 1.5.



TYPICAL INSTALLATION–TRAVEL WAY FOR MANUAL AIR RELEASE OR CHLORINATION INJECTION

NOT TO SCALE



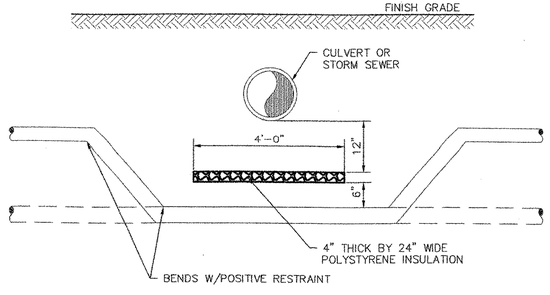
TYPICAL SERVICE CONNECTION DETAIL

NOT TO SCALE

TYPICAL TRENCH SECTION

NOT TO SCALE

NOTE:
WHERE PIPE IS INSTALLED IN GRAVEL SHOULDER OR IN GRAVELED ROAD, GRAVEL SUB BASE SHALL BE 18" THICK FOR THE WIDTH OF THE TRENCH.



WATERLINE/CULVERT CROSSING

NOT TO SCALE

FOR WATER LINE CONSTRUCTION ONLY

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STATE OF VERMONT — JOHN T. PERRY — No. 6867 — 7-82 — PROFESSIONAL ENGINEER

PROJECT NAME: **GRANITE ST. BRIDGE, BARRE CITY, VT**
PROJECT NUMBER: **413025**

DRAWING NAME:	GENERAL DETAILS	PLOT DATE:	16–MAR–2004
PROJECT LEADER:	J. PERRY	DRAWN BY:	E. EMMONS
DESIGNED BY:	J. PERRY	CHECKED BY:	R. DUFRESNE
FILE NAME:	413025C5–DT	SHEET	5 OF 5

ple
House
Gravel Drive
Lawn
599
600
601
M. Maple
Granite Monument
P/L
Lawn
Steel Beam Grail mounted on top of Conc. Barrier (typ @ 4 corners)
Paved Sidewalk
Sign
Pony Truss
23+00
23+50
24+00
Pony Truss
Sign
Paved Sidewalk
Conc. Sidewalk
AER E&T
GMP 23716
Temp. Utility Relocation
Brace Pole
Grass
Crushed Stone Drive
4" Iron Drain Pipe
Chain Link Fence
STEVENS BRANCH OF THE WINOOSKI RIVER
Conc. Barrier
Building
586
587
588
592
593
594
6" PVC roof drain (buried)
Approx. Temp. Aeridl Utility Relocation By Others
2 Oil filler pipes 3' above ground
Chain Link Fence
Storage Tank
Conc Pad
Storage Tank
Building
Pole #
Guy
Post
Post
Post
Steps
Paved Drive
Chain Link Fence (not on ground)
Guy wire to truss member
Sign
Conc. Sidewalk
25+00
Paved Drive
6" VCP
4" CI
Sewer Manho
596
6" VCP
CONCRETE SIDEWALK
Grass
GMP 10 23720
Paved Parking
Steel Beam Guard Rail
Paved Parking
Steep Slope Paved
2 Propane tanks on concrete pad
Building
BENCHMARK #2
SPIKE IN POLE
ELEV. 601.18
BENCHMARK #8
SPIKE IN POLE
ELEV. 597.20
VT STATE PLANE GRID
N
0 10 20
SCALE IN FEET

EXISTING CONDITIONS

PROJECT NAME: BARRE CITY
PROJECT NUMBER: HDP 9281(1)

FILE NAME: sj099reo.dgn
PROJECT LEADER: C. KELLER
DESIGNED BY: K. RUTTER
PLOT DATE: 16-JUN-2004
DRAWN BY: J. REED
CHECKED BY: T.A. SUMNER
SHEET 36 OF 58

N

VT STATE PLANE GRID

SUGGESTED LOCATION
FOR SEDIMENT BASIN

23+00

23+50

24+00

24+50

25+00

AER E&T

RIPARIAN BUFFER

STEVENS BRANCH OF
THE WINOOSKI RIVER

BENCHMARK #2
SPIKE IN POLE
ELEV. 601.18

BENCHMARK #8
SPIKE IN POLE
ELEV. 597.20

EROSION CONTROL NOTES

1. AN ALTERNATE TEMPORARY EROSION CONTROL PLAN WILL BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY VAOT.
2. THE CONTRACTOR WILL USE OTHER TEMPORARY OR PERMANENT EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION AND AS DIRECTED BY THE RESIDENT ENGINEER. SEE SECTION 105.23 OF THE VERMONT AOT STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001.
3. INLETS TO ALL DI'S WILL BE PROTECTED WITH AN APPROVED INLET PROTECTION MEASURE.
4. STABILIZED CONSTRUCTION ENTRANCES SHALL BE BUILT AND MAINTAINED AT ALL TIMES.

LEGEND

- EROSION CONTROL DEVICE FOR DROP INLET PROTECTION
- SILT FENCE
- SODDING

0 10 20
SCALE IN FEET

EROSION CONTROL PLAN

PROJECT NAME: BARRE CITY
PROJECT NUMBER: HDP 9281(1)

FILE NAME: sj099ero.dgn
PROJECT LEADER: C. KELLER
DESIGNED BY: K. RUTTER

PLOT DATE: 16-JUN-2004
DRAWN BY: J. REED
CHECKED BY: T.A. SUMNER
SHEET 37 OF 58

VT STATE PLANE GRID

BENCHMARK #2
SPIKE IN POLE
ELEV. 601.18

BENCHMARK #8
SPIKE IN POLE
ELEV. 597.20

STEVENS BRANCH OF THE WINOOSKI RIVER

RIPARIAN BUFFER

AER E&T

P/L

6" VCP

4" CI

23+00 23+50 24+00 24+50 25+00

EROSION CONTROL NOTES

1. EXISTING CONTOURS ARE SHOWN. FOR PROPOSED CONTOURS SEE THE CROSS SECTIONS.
2. THE CONTRACTOR WILL USE OTHER TEMPORARY OR PERMANENT EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION AND AS DIRECTED BY THE RESIDENT ENGINEER. SEE SECTION 105.23 OF THE VERMONT AOT STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001.

0 10 20
SCALE IN FEET

FINAL CONDITIONS

PROJECT NAME: BARRE CITY
PROJECT NUMBER: HDP 9281(1)

FILE NAME: sj099reo.dgn
PROJECT LEADER: C. KELLER
DESIGNED BY: K. RUTTER

PLOT DATE: 16-JUN-2004
DRAWN BY: J. REED
CHECKED BY: T.A. SUMNER

GENERAL EROSION & SEDIMENT CONTROL GUIDELINES

The Erosion Control plans are intended as a guide for preventing soil erosion and controlling sediment. The work outlined in this narrative consists of applying measures throughout the duration of the project to control erosion and minimizes the sedimentation of the receiving waters.

A Temporary erosion control plan will be submitted by the contractor for approval by the Agency of Transportation.

The contractor will use other temporary or permanent erosion control devices as necessitated by the sequence of construction and as directed by the Resident Engineer. See Section 105.23 of the 2001 Vermont Standard Specifications for Construction.

The contractor shall coordinate the installation, use, and removal of erosion and sediment control measures with construction activities to assure economical, effective, and continuous erosion and sediment control. The contractor shall employ temporary stabilization practices in incremental stages as construction activities proceed.

The Resident Engineer may direct the installation of certain erosion control measures in order to forestall or mitigate potential or existing erosion problems, or to respond to storm events or damage by construction operations.

The contractor shall install erosion and sediment control measures as sequenced on the Erosion Control Plan, or as directed by the Resident Engineer. The type, size, and location of any erosion control device shall not be changed unless prior approval is obtained from the Resident Engineer. Any approved changes shall be noted on the Erosion Control plans and discussed in the weekly report. The contractor shall inspect all erosion control measures daily and after each rainfall event. The contractor shall repair all damaged erosion control measures immediately. All erosion control measures that trap sediment, such as sediment basins and silt fences, shall be cleaned out when their capacity reaches 50%.

The Resident Engineer's approval should be obtained prior to installing any erosion controls not specified in the Erosion Control Plans. However, in emergency situations where the Resident Engineer is not immediately available, the contractor should repair or install the erosion controls as he/she deems necessary and report the incident to the Resident Engineer as soon as it is practical.

The contractor shall control all sediment-laden runoff within the project site. Clean runoff from outside the project site shall be routed through the project site using diversion berms, diversion channels, and temporary or permanent culverts.

Construction equipment will not be allowed to operate on the outside of the perimeter control measures.

Construction equipment will not be allowed to cross a flowing stream, or disturb the existing stream banks, unless authorized by the Resident Engineer.

All in-stream construction must take place in a dry channel between June 1st and October 1st.

In general, preserve existing vegetation, shrubs, and trees whenever possible.

Silt fence shall be placed at the toes of all fill slopes and shall be constructed so that flows cannot bypass the ends. Areas directly below (downhill) of the silt fences must be un-disturbed and vegetated.

As construction progresses, implementation of additional erosion control measures may be required as deemed necessary by the On-Site Coordinator and as approved by the Resident Engineer.

The project completion date has been set for November 30th to ensure all final erosion control measures for the establishment of permanent vegetation will take place during the growing season. Therefore, winter stabilization methods will need to be shown on the plans or described in the narrative.

INFORMATION REQUIRED BY THE CONTRACTOR

Much of the erosion control information shown on the erosion control plans and described in this narrative is general in nature. More site specific information is not yet available as a contractor has not yet been selected. The following list outlines some of the specific information that is not included in the erosion control plans and described in this narrative;

1. The location of stabilized construction entrances.
2. The location of stockpiles, staging areas, and disposal areas.
3. A specific timetable of construction and earthwork activities.
4. The name, title, qualifications, and contact information for the on-site project coordinator.
5. The sequencing of construction activities and specific measures that will be implemented in conjunction with these activities.

DESCRIPTION OF PROJECT

This project involves reconstruction of bridge # 11 over the Stevens Branch of the Winooski River on Granite Street in the City of Barre. The Stevens Branch is characterized as a meandering river partially bounded by retaining walls and buildings with a streambed consisting of Sand, Gravel, and Cobbles. The total drainage area is 86.0 square miles.

Features of concern with respect to erosion control include embankments immediately adjacent to the project, and several existing drainage structures that are being replaced. A new single span bridge will be constructed on the existing alignment. Traffic will be maintained with an off project detour. A significant portion of the project footprint will be impervious. The construction limits do not approach any buildings or any other structures outside the project limits. Overhead utility lines will be relocated as indicated on the project plans.

DESCRIPTION OF EXISTING SOILS

A detailed description of the soil types expected to be encountered in the project area is unavailable at this time. For the purpose of this narrative we are using the boring logs to classify the soils expected to be encountered.

The soils in the first five feet of the boring logs are mostly sand with small amounts of silt. This soil exhibits a high percolation rate that results in low erodability.

In the area of Abutment Two, contaminated soils have been located. The exact location of the contamination is unknown, but is believed to be outside of the excavation limits. The results of the subsurface exploration are contained in the project plans and special provisions.

DESCRIPTION OF EXISTING VEGETATIVE COVER

In the immediate vicinity of Granite Street, the existing ground cover is mostly open and grassy with intermittent deciduous shrubs and few trees, as depicted on the plans by the area survey.

DESCRIPTION OF SLOPES

The existing shape of the project area can be seen by looking at the erosion control existing conditions sheet where the existing contours are shown. The contours are shown in two line styles. The Major Contours lines are solid lines (with elevations) at two foot intervals while the Minor Contour Lines are dashed and depict the half foot interval between the Major Contour lines.

EXISTING SLOPES

Generally speaking, the project impacts steep but short slopes.

PROPOSED SLOPES

Fill slopes that are 1-2 (50%) or flatter will be seeded and mulched, 1-1.5 slopes will be sodded or lined with stone fill. These slopes will be protected until they are fully vegetated. The slopes along the channel banks will be lined with heavy stone and are at 1-1.5 (67%) slope.

EROSION CONTROL NOTES PAGE 1

PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)

FILE NAME: /str5/92J099/sj099erobdr.d	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. S. KELLER	DRAWN BY: J. REED
DESIGNED BY: K. RUTTER	CHECKED BY: T. SUMNER
	SHEET 39 OF 10

SPECIFIC GUIDELINES

Phase I- Establish Perimeter Erosion Controls

Prior to any construction or staging, the contractor will install Stabilized Construction Entrances leading to staging areas and the project site to prevent the tracking of silts and sediments offsite. Coarse stone fill over filter fabric should be utilized where an already established stable entrance does not exist. The crushed stone product used for the construction of the Stabilized Construction Entrances shall be monitored for sediment accumulation and replaced as necessary as directed by the Resident Engineer. Stabilized Construction Entrances shall also be established and maintained at all offsite waste and borrow areas.

After the clearing of trees and shrubs, but prior to any grubbing and excavation, construct perimeter controls to ensure that any sediment does not leave the site. Water treated with Sediment traps/basins, may be directed to nearby streams or swales.

Install perimeter silt barrier in areas of proposed work as shown on the plans prior to grubbing and filling activities. In areas of high exposure, it may be necessary to double up protection with additional silt fencing or placement of hay bales behind the silt fencing. In areas of exposed ledge, stone check dams will be utilized.

During grubbing operations, stone check dam barriers shall be installed at any obvious concentrated flow discharge points, or as directed by the Resident Engineer.

After the grubbing activity all areas of exposed soils shall be temporarily stabilized with mulching & seeding, erosion matting, as soon as practicable and before any predicted rainfall event. These temporary erosion control measures can be placed in any combination in areas of potential erosion as deemed necessary by the Resident Engineer.

After perimeter controls are in place, and prior to grading operations, construct temporary onsite sediment traps and provide inlet protection where necessary . Grade disturbed areas to drain towards sediment trap where possible.

All material stockpiles, including but not limited to, grubbing material, sand borrow, earth borrow, granular borrow, topsoil, subbase, and any excavated waste piles shall also have silt fence installed around the base of the stockpile.

Phase 2 - Establish Bridge Erosion Controls

New slopes steeper than 50% (1-2 slope) will be constructed with stone fill for slope stabilization as the embankment construction progresses.

Abutment # 1 will require the use of a cofferdam. The cofferdam will be used as a barrier to prevent sediments from the substructure excavation from entering the stream. Construction of the abutment may require dewatering of the cofferdam. All water pumped from substructure and other excavation areas will be pumped to either a "dirt bag" silt containment device, a hay bale fabric lined sediment settlement structure, or an excavated sediment basin. The first pumping of the excavations will contain the greatest volume of water with the highest sediment load. It may be necessary to construct additional settling structures, or to control the rate of drawdown.

After completion of the substructures, all collected sediments should be removed from the settling structures and the ground shaped to its final grade and slope. Dispose of the collected sediments in an upland portion of the project, or in a manner approved by the Resident Engineer that will not result in sediments or pollutants entering the stream. The final design of the Cofferdam and Sediment Basin will be provided by the Contractor.

Phase 3 - Establish Roadway Erosion Controls

New drainage culverts that are being constructed in the same location as existing culverts shall be isolated from the new work by means of damming and pumping into a settling basin, or by installing a temporary pipe of sufficient size to handle expected flows.

Stone fill for channel and slope stabilization at the outlet ends of culverts is to be placed prior to installation of the culverts. All work on new culverts should proceed from the outlet towards the inlet. Silt fence and/or crushed stone check dams are to be installed on undisturbed ground and downstream of the stone fill pads at outlets. Stone fill for ditch stabilization shall be placed during the same working day that the ditch excavation was performed, unless directed otherwise by the Resident Engineer.

On any partially completed permanent cut and fill slopes, all exposed soils will be stabilized with erosion matting or seeded and mulched.

The subbase material should be placed as soon as the subgrade has reached its final grade and slope. The traveling surface will be graded to promote sheet flow off the surface onto slopes, or flows will be directed to collection areas and shall be transported down the fill slopes to sediment traps or settling basins.

All graded areas shall be permanently stabilized following final grading activities. All areas that are graded outside of the growing season shall be treated with slope stabilization until seeding & mulching can be performed.

Phase 4 - Final Erosion Controls

Removal of silt fence shall commence only after all upslope areas are stabilized and well established, and the Resident Engineers has approved the removal.

Remove perimeter silt fences, sediment traps, and inlet protection of DI's only after any toe-of-fill ditches have stabilized and vegetation is well established.

Remove all remaining temporary erosion control measures, regrade any areas if necessary, treat all regraded areas with erosion matting and/or mulch & seed, and establishment of any final erosion control devices as deemed necessary by the Resident Engineer.

MAINTENANCE PLAN FOR EROSION AND SEDIMENT CONTROLS

The following maintenance schedule will be followed throughout the duration of the project.

1. An assigned individual who can be associated with the day-to-day operations of the project shall do monitoring of the construction site. The inspector will be familiar with this plan and with erosion & sediment control procedures and with road and bridge construction techniques. Site reviews will be performed at least once every seven calendar days, and after each rain event of more than 0.5 " in a twenty four hour period.

2. A copy of the Erosion Prevention and Sediment Control Weekly Plan Review prepared by the site reviewer shall be given to the Resident Engineer each week. The report will be filled out in accordance with the item 652.20 MONITORING EROSION AND SEDIMENT CONTROL.

3. The plan preparer will be available for on-site consultations with the Resident Engineer within twenty four hours of the request.

4. All silt fences and stone check dams will be inspected each site visit by the designated inspector, as described below;
   a. These controls will be maintained in good condition. Any silt fence or stone check dam that is ineffective will be repaired or replaced immediately.
   b. Sediment deposits will be removed when they reach one-half the height of the sediment control device.
   c. All sediments removed will be deposited in an upland portion of the project site, or disposed off-site in the designated project waste site.

5. All slopes will be checked each site visit and any eroded areas will be immediately repaired. Temporary stabilization methods will be used as necessary until final stabilization measures are in place.

6. Both temporary & permanent seeding & mulching will be checked each site visit for vegetative growth. Any areas requiring re-vegetation will be repaired immediately.

7. Drainage structures will be cleaned as necessary to remove any sediment buildup in the sump of the structures or at the inlet of the structure.
   a. Any inlet control found to be ineffective will be replaced as necessary and will be done immediately.
   b. All sediments removed will be deposited in an upland portion of the project site, or disposed off-site in the designated project waste site.

8. Temporary construction accesses will be monitored each site visit.
   a. Any control found to be ineffective will be promptly replaced.

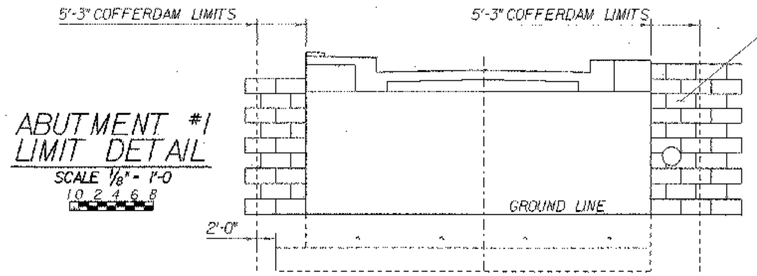
9. All temporary erosion control devices will stay in place until final grass growth has been established and complete stabilization of the areas has occurred.

10. Once stabilization has occurred, all temporary erosion control measures will be removed and all disturbed areas will be stabilized with erosion matting and/or seed & mulch.

EROSION CONTROL NOTES PAGE 2

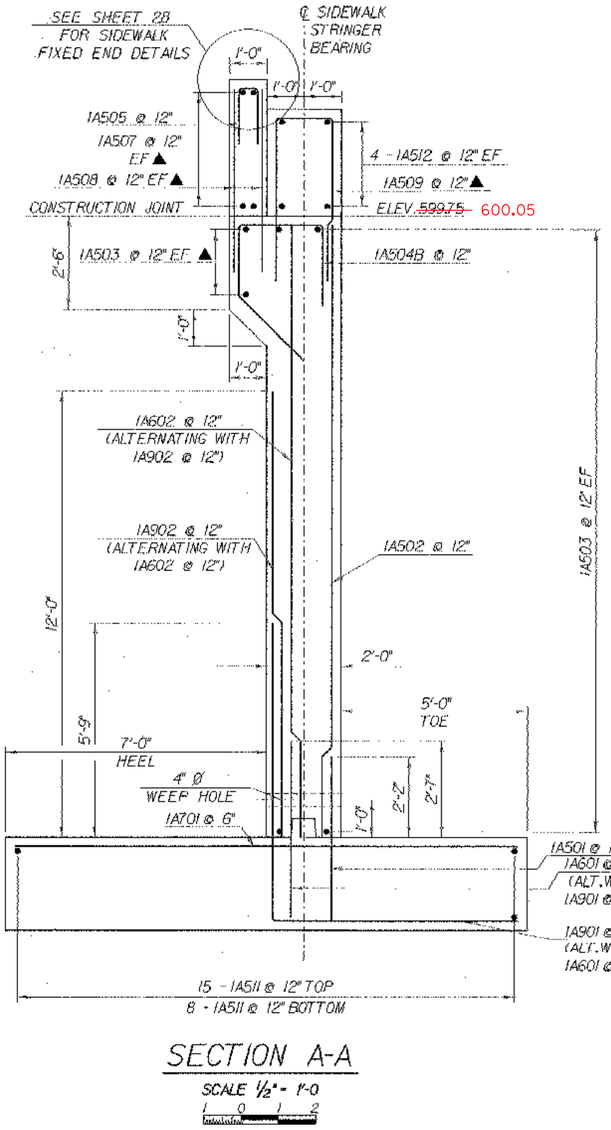
PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)

FILE NAME: /str5/92j099/sj099erobdr.d	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. S. KELLER	DRAWN BY: J. REED
DESIGNED BY: K. RUTTER	CHECKED BY: T. SUMNER
	SHEET 40 OF 58



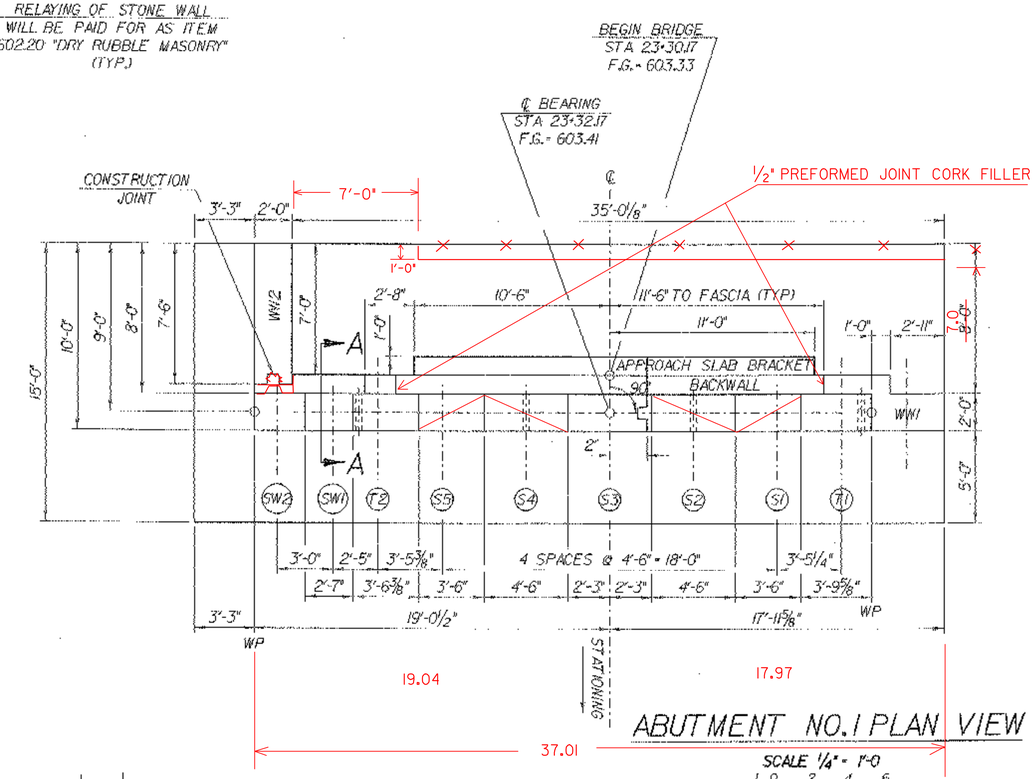
ABUTMENT #1 LIMIT DETAIL

SCALE 1/8" = 1'-0



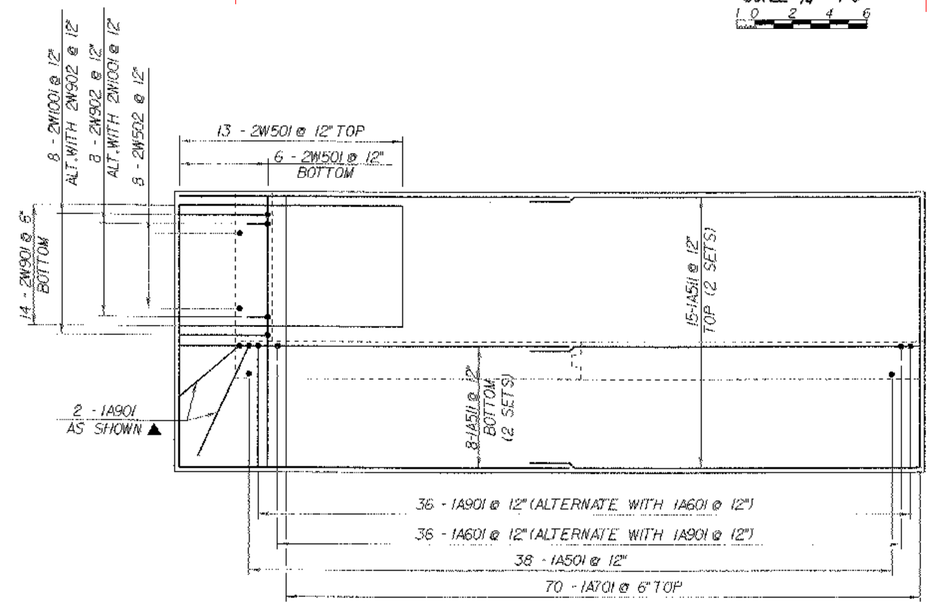
SECTION A-A

SCALE 1/2" = 1'-0



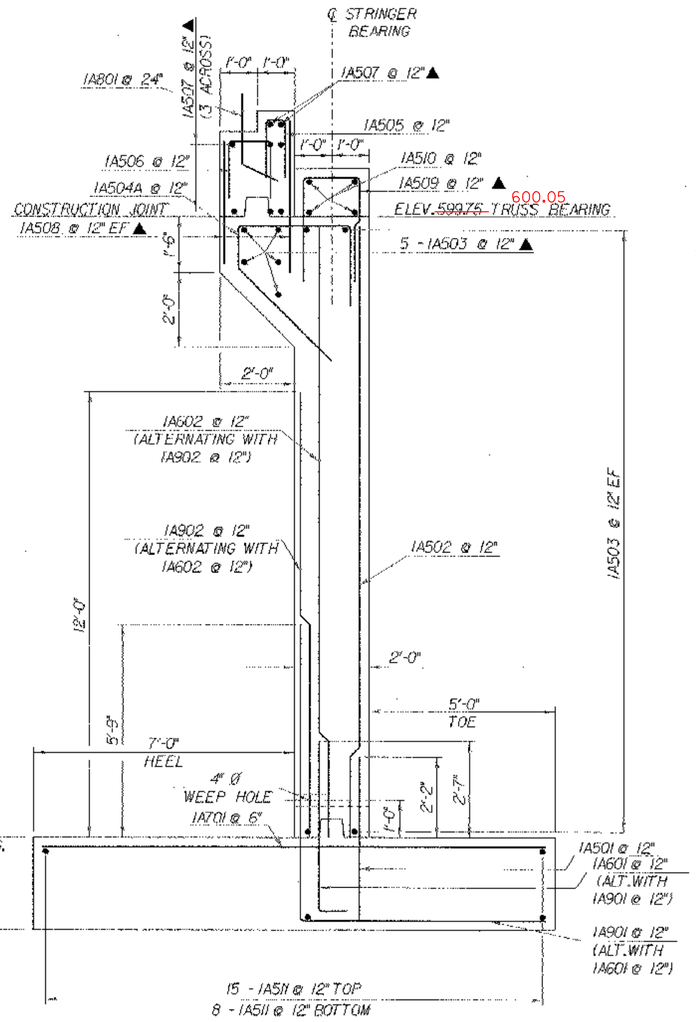
ABUTMENT NO.1 PLAN VIEW

SCALE 1/4" = 1'-0



ABUTMENT NO.1 FOOTING REINFORCING PLAN

SCALE 1/4" = 1'-0



ABUTMENT NO.1 TYPICAL

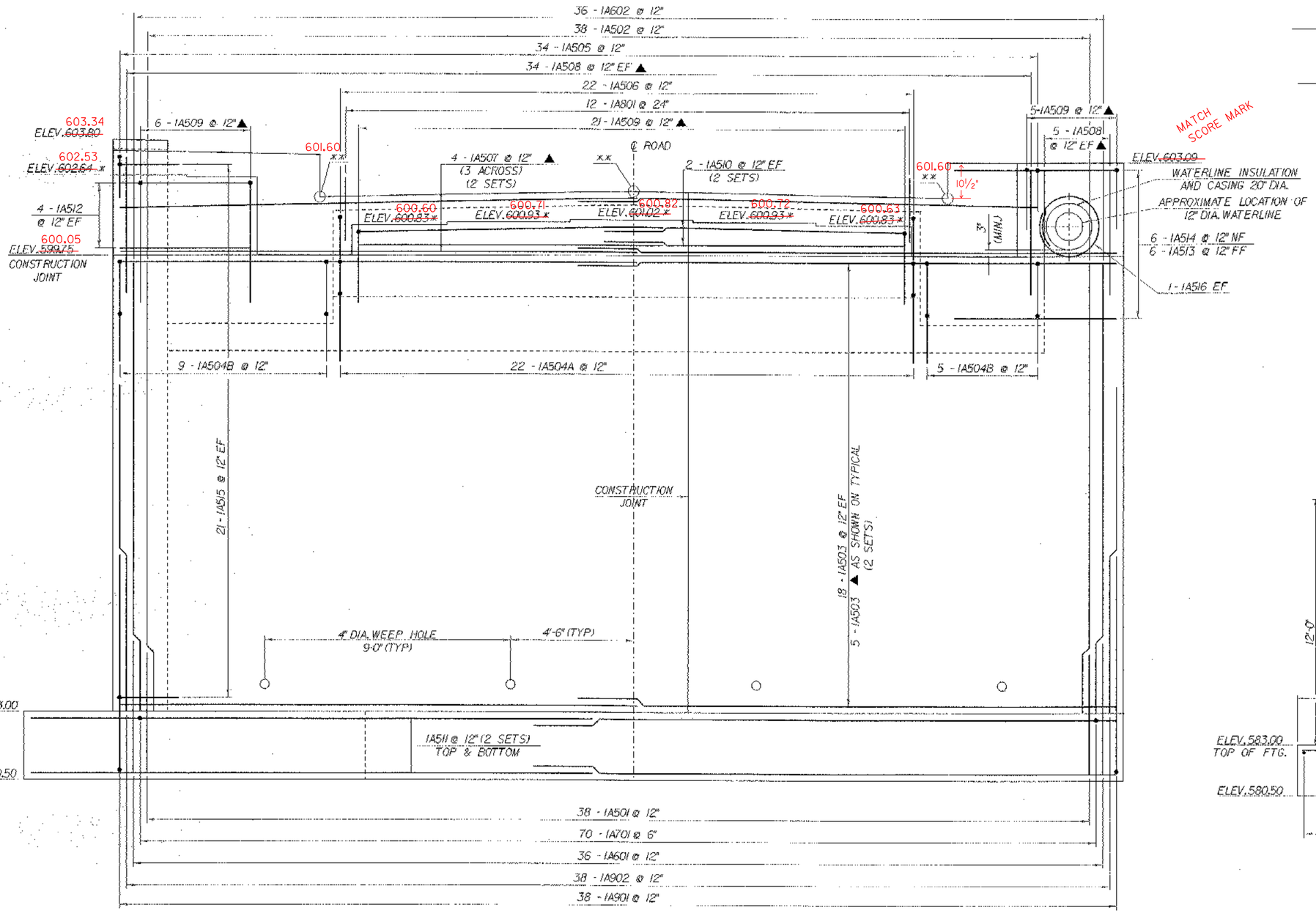
SCALE 1/2" = 1'-0

NOTE:

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

ABUTMENT 1 DETAILS

PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)
FILE NAME: str5/92I099/sI099sub.dgn	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. KELLER	DRAWN BY: K. RUTTER
DESIGNED BY: K. RUTTER	CHECKED BY: T.A. SUMNER
sI099abut1.i	SHEET 41 OF 58



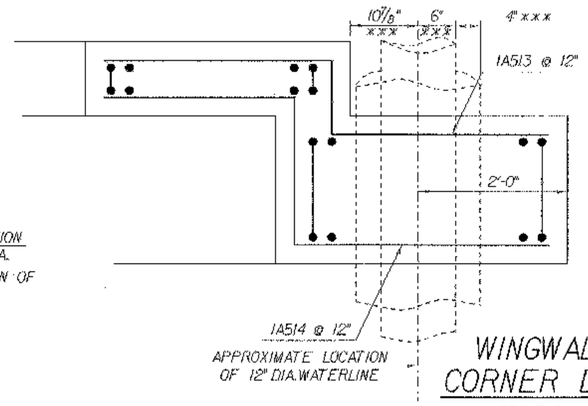
ABUTMENT #1 ELEVATION

SCALE ½" = 1'-0

NOTE: SEE SHEET 44 FOR WINGWALL #2 DETAILS AND CORNER DETAILS

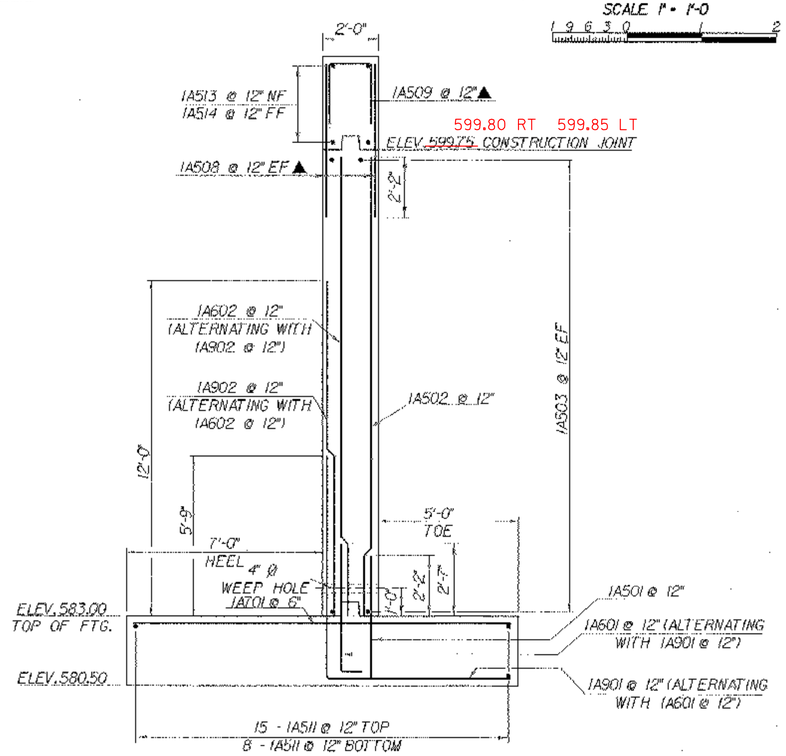
*THIS ELEVATION IS APPROXIMATE. ACTUAL ELEVATION TO BE DETERMINED BY TRUSS FABRICATOR.

**THIS DIMENSION IS TO BE DETERMINED IN THE FIELD AFTER THE TRUSS IS SET.



WINGWALL #1 CORNER DETAIL

SCALE 1" = 1'-0



WINGWALL #1 TYPICAL

SCALE ⅜" = 1'-0

NOTE:

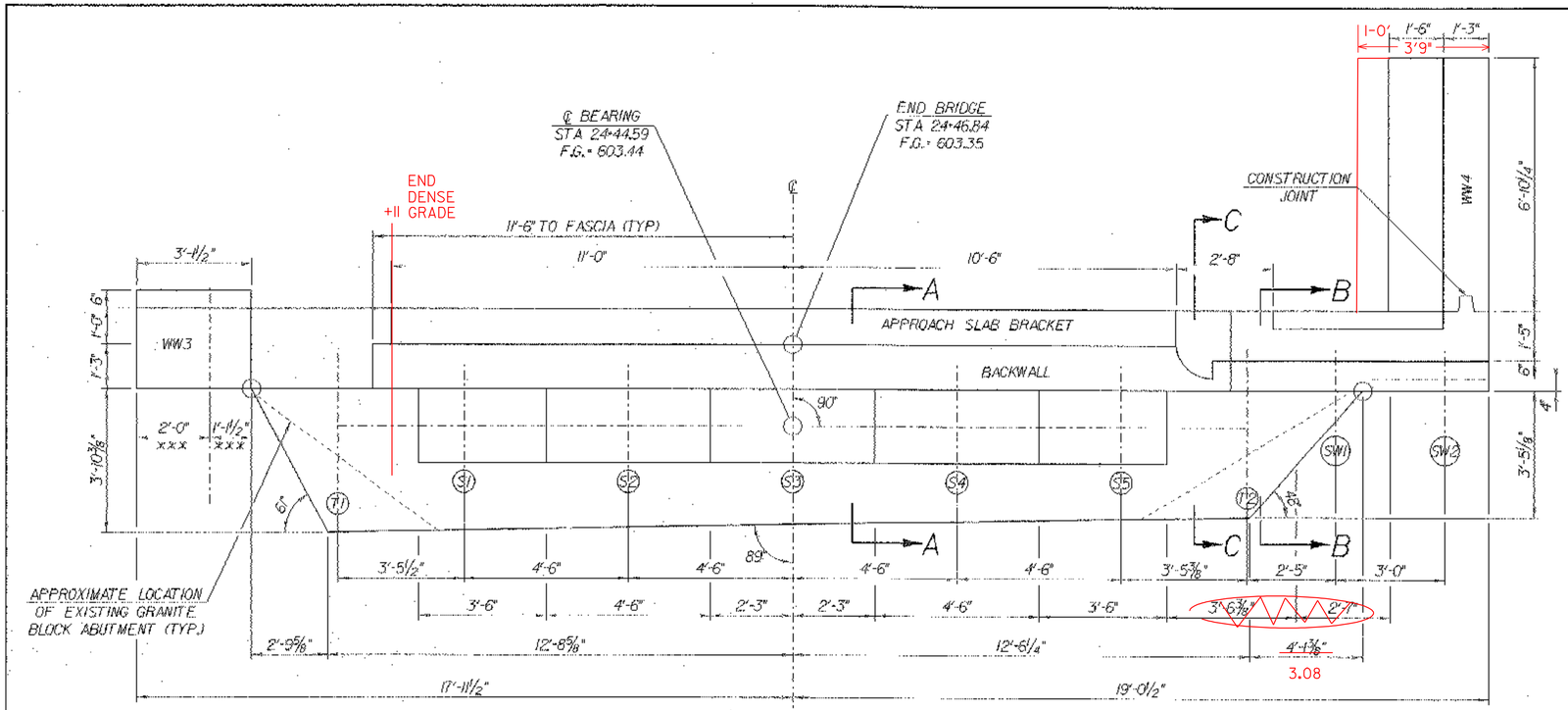
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

ABUTMENT 1 DETAILS

PROJECT NAME: BARRE CITY
PROJECT NUMBER: HDP 9281(1)

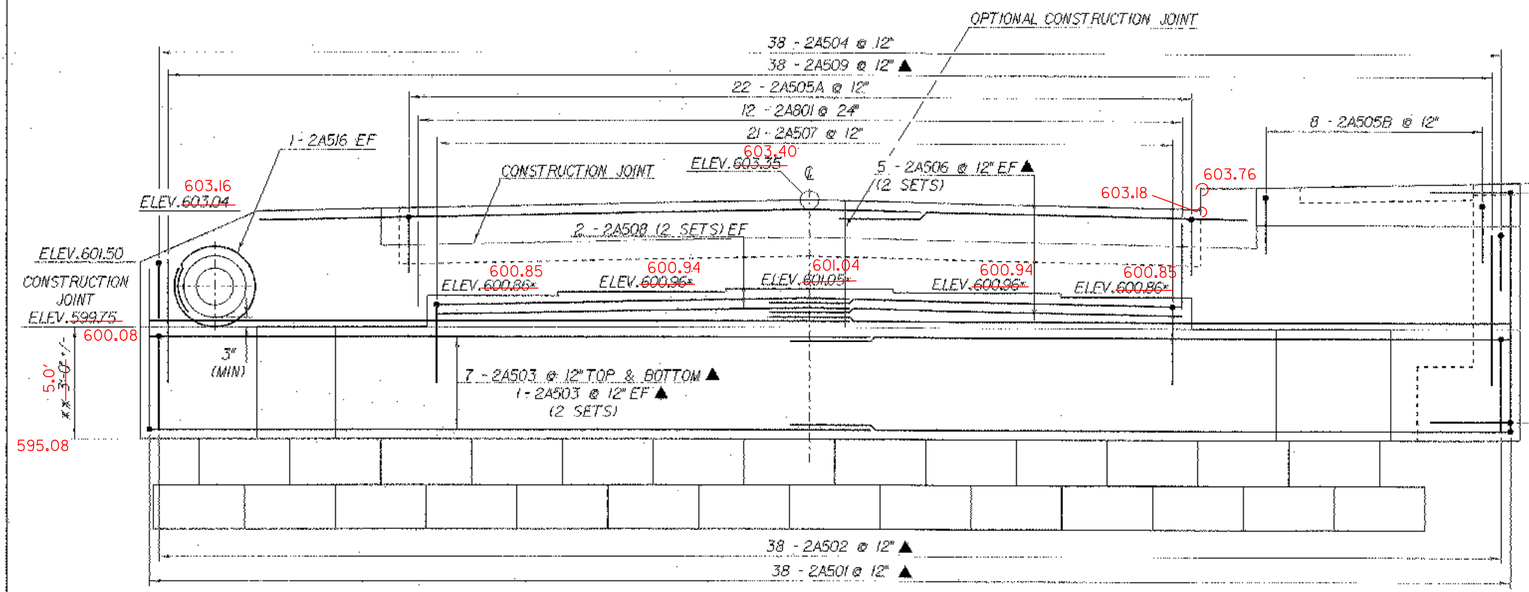
FILE NAME: str5/92j099/sj099sub.dgn
PROJECT LEADER: C. KELLER
DESIGNED BY: K. RUTTER
sj099abu1elev.i

PLOT DATE: 16-JUN-2004
DRAWN BY: K. RUTTER
CHECKED BY: T.A. SUMNER
SHEET 42 OF 58

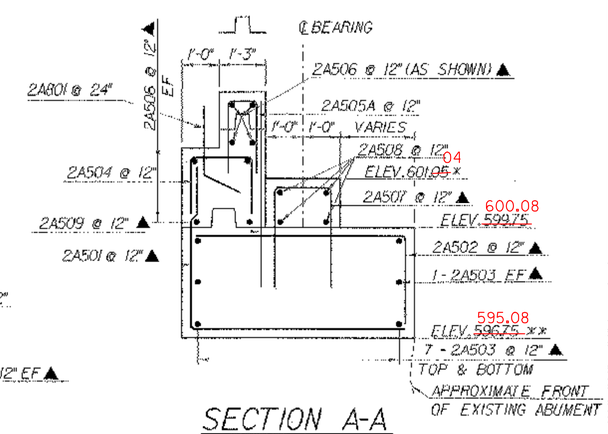


ABUTMENT NO.2 PLAN VIEW

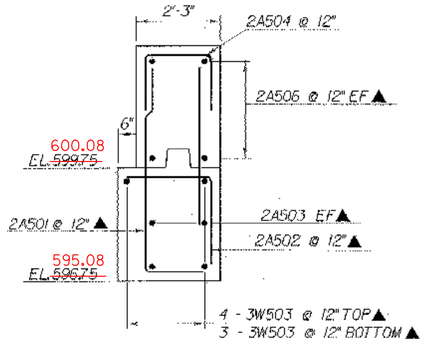
STATIONING



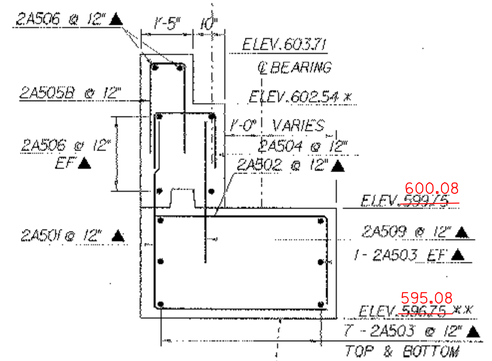
ABUTMENT NO.2 ELEVATION



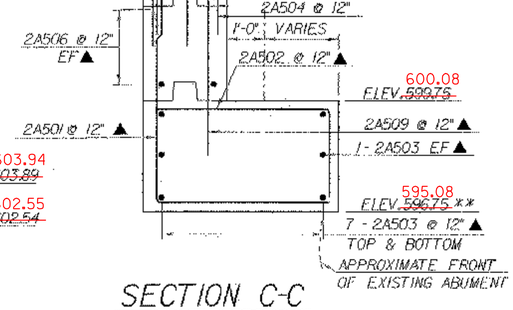
SECTION A-A



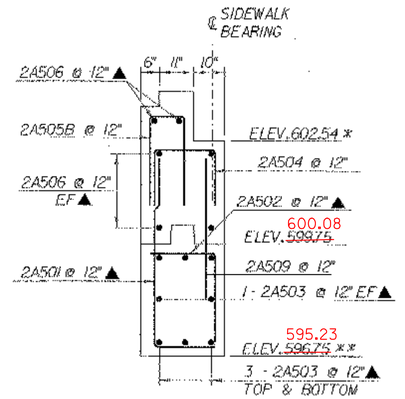
WINGWALL NO.3 TYPICAL



SECTION B-B



SECTION C-C



SECTION AT SIDEWALK

NOTE: SEE SHEET 44 FOR WINGWALL #4 DETAILS

SCALE ½" = 1'-0

0 1 2

NOTE:

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

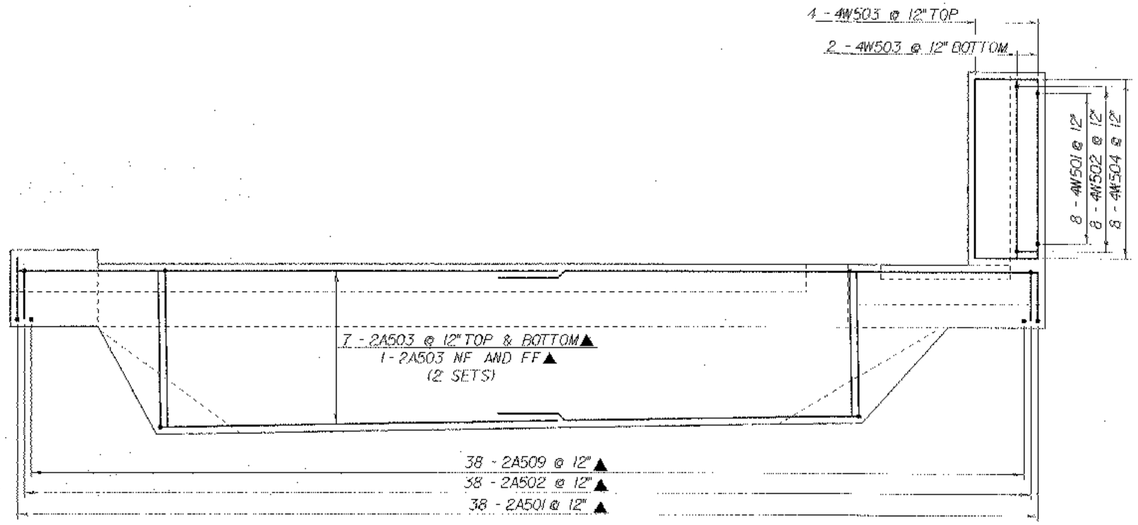
*THIS ELEVATION IS APPROXIMATE. ACTUAL ELEVATION TO BE DETERMINED BY TRUSS FABRICATOR.
**THIS DIMENSION IS TO BE DETERMINED IN THE FIELD AND WILL VARY TO MATCH TOP OF STONES.
***THIS DIMENSION IS APPROXIMATE AND WILL BE DESIGNED BY THE WATERLINE DESIGN CONSULTANT.

ABUTMENT 2 DETAILS

PROJECT NAME: BARRE CITY
PROJECT NUMBER: HDP 9281(1)

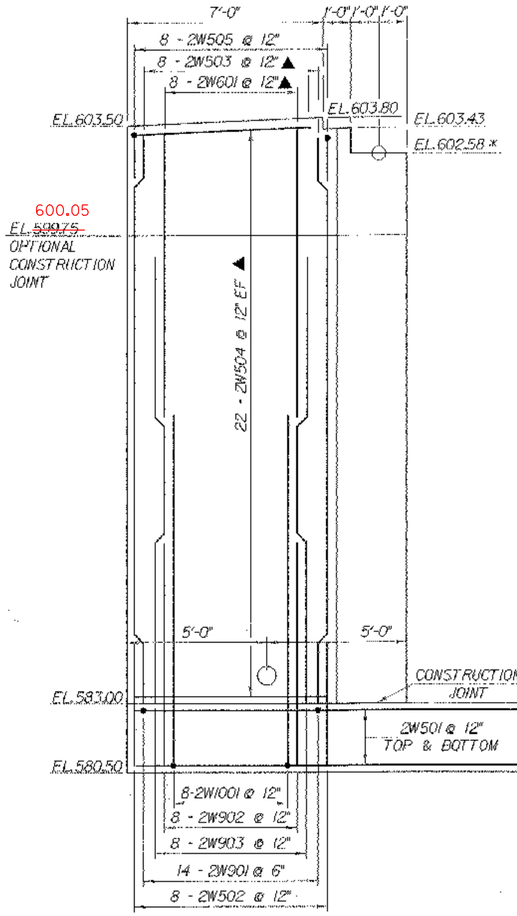
FILE NAME: str5/92J099/sJ099sub.dgn
PROJECT LEADER: C. KELLER
DESIGNED BY: K. RUTTER
sJ099abut2.1

PLOT DATE: 16-JUN-2004
DRAWN BY: K. RUTTER
CHECKED BY: T.A. SUMNER
SHEET 43 OF 58



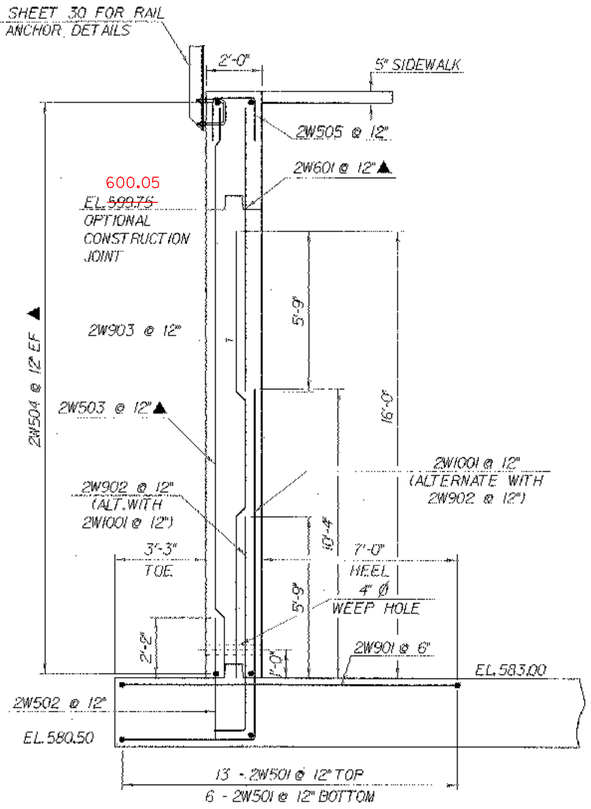
ABUTMENT NO.2 FOOTING REINFORCING PLAN

SCALE 3/8" = 1'-0



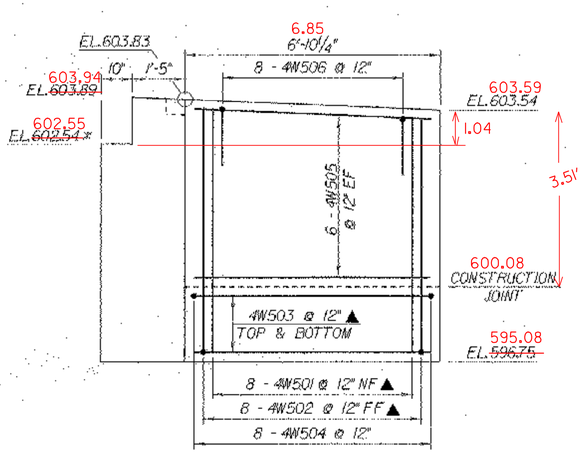
WINGWALL NO.2 ELEVATION

SCALE 3/8" = 1'-0



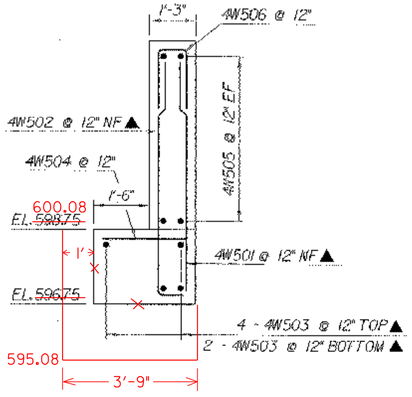
WINGWALL NO.2 TYPICAL

SCALE 3/8" = 1'-0



WINGWALL NO.4 ELEVATION

SCALE 1/2" = 1'-0



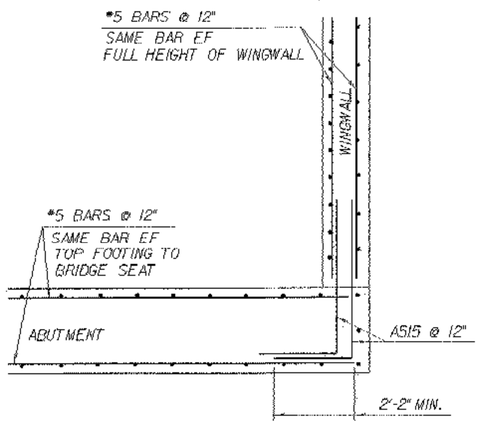
WINGWALL NO.4 TYPICAL

SCALE 1/2" = 1'-0

*THIS ELEVATION IS APPROXIMATE. ACTUAL ELEVATION TO BE DETERMINED BY TRUSS FABRICATOR.

WW* 4 AND WW* 2 OPPOSITE HAND CORNER DETAIL

NTS



NOTE:

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

ABUTMENT 2 DETAILS

PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)

FILE NAME: str-5/92j099/sj099sub.dgn	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. KELLER	DRAWN BY: K. RUTTER
DESIGNED BY: K. RUTTER	CHECKED BY: T.A. SUMNER
sj099ww.i	SHEET 44 OF 58

STATE OF VERMONT
AGENCY OF TRANSPORTATION

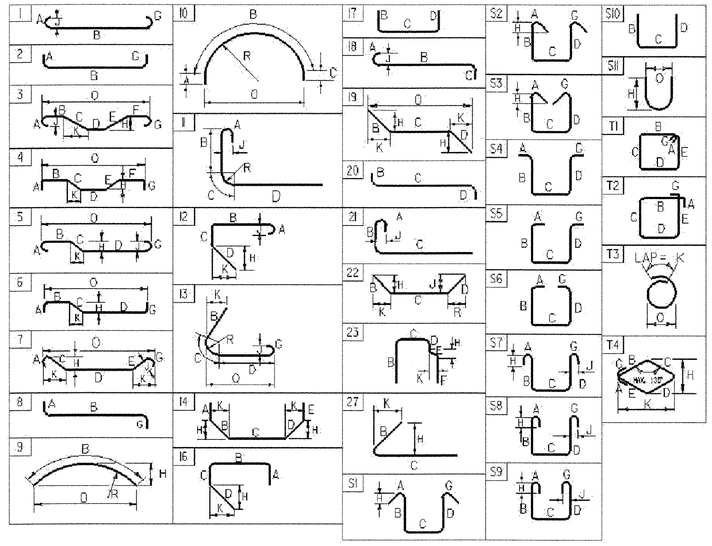
REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	DECK																
✳	392	5	22'- 6"	ES501	STR	22'- 6"											
✳	257	5	30'- 4"	ES502	STR	30'- 4"											
	232	5	5'- 5"	ES503	S5	1'- 6"	1'- 1"	0'- 6"	0'- 10"			1'- 6"					
	20	5	5'- 4"	ES504	S5	2'- 0"	0'- 8"	2'- 0"	0'- 8"			---					
	20	5	4'- 4"	ES505	S5	1'- 6"	0'- 8"	1'- 6"	0'- 8"			---					
	APPROACH SLAB #1																
✳	22	5	21'- 0"	1EAS501	STR	21'- 0"											
✳	23	9	20'- 9"	1EAS901	1	1'- 3"	19'- 6"					---		1'- 0"			
	APPROACH SLAB #2																
✳	22	5	21'- 0"	2EAS501	STR	21'- 0"											
✳	23	9	20'- 9"	2EAS901	1	1'- 3"	19'- 6"					---		1'- 0"			
	ABUTMENT #1																
	38	5	4'- 5"	1A501	STR	4'- 5"											
✳	39	5	16'- 6"	1A502	STR	16'- 6"											
▲	82	5	19'- 4"	1A503	STR	19'- 4"											
	22	5	10'- 7"	1A504A	16	2'- 2"	3'- 6"	1'- 1"	3'- 10"								
	14	5	9'- 2"	1A504B	16	2'- 2"	2'- 6"	2'- 1"	2'- 5"								
	34	5	3'- 6"	1A505	S10		1'- 6"	0'- 6"	1'- 6"								
	22	5	4'- 0"	1A506	S10		1'- 6"	1'- 0"	1'- 6"								
▲	26	5	19'- 4"	1A507	STR	19'- 4"											
▲	39	5	5'- 6"	1A508	STR	5'- 6"											
▲	32	5	6'- 8"	1A509	S10		2'- 7"	1'- 6"	2'- 7"								
✳	9	5	11'- 1"	1A510	STR	11'- 1"											
	46	5	21'- 0"	1A511	STR	21'- 0"											
	8	5	4'- 9"	1A512	STR	4'- 9"											
	6	5	6'- 11"	1A513	20		3'- 0"	1'- 0"	2'- 11"								
	6	5	7'- 5"	1A514	20		2'- 0"	2'- 0"	3'- 5"								
	42	5	6'- 7"	1A515	17		---	4'- 5"	2'- 2"								
	2	5	8'- 1"	1A516	T3										1'- 3"		2'- 2"
	36	6	5'- 6"	1A601	17		4'- 10"	0'- 8"									
△	38	6	16'- 6"	1A602	STR	16'- 6"											
✳	71	7	13'- 6"	1A701	STR	13'- 6"											
△	14	8	2'- 10"	1A801	19		1'- 0"	1'- 10"	---				0'- 10"		0'- 6"		2'- 4"
✳	39	9	14'- 6"	1A901	17		---	6'- 6"	8'- 0"								
✳	37	9	12'- 0"	1A902	STR	12'- 0"											
	ABUTMENT #2																
▲	38	5	12'- 2"	2A501	17		6'- 7"	5'- 7"	---								
▲	38	5	8'- 1"	2A502	17		2'- 6"	5'- 7"	---								
▲	32	5	19'- 4"	2A503	STR	19'- 4"											
	38	5	4'- 9"	2A504	S10		1'- 6"	1'- 9"	1'- 6"								
	22	5	3'- 9"	2A505A	S10		1'- 6"	0'- 9"	1'- 6"								
	8	5	3'- 11"	2A505B	S10		1'- 6"	0'- 11"	1'- 6"								
✳ ▲	27	5	19'- 4"	2A506	STR	19'- 4"											
▲	21	5	3'- 8"	2A507	S10		1'- 1"	1'- 6"	1'- 1"								
	8	5	11'- 1"	2A508	STR	11'- 1"											
✳ ▲	39	5	5'- 5"	2A509	STR	5'- 5"											
	16	5	6'- 7"	2A515	17		0'- 0"	4'- 5"	2'- 2"								
	2	5	8'- 1"	2A516	T3										1'- 3"		2'- 2"
△	14	8	2'- 10"	2A801	19		1'- 0"	1'- 10"	---				0'- 10"		0'- 6"		2'- 4"
	WINGWALL #2																
✳	20	5	14'- 6"	2W501	STR	14'- 6"											
	8	5	4'- 5"	2W502	STR	4'- 5"											
✳ ▲	9	5	20'- 4"	2W503	STR	20'- 4"											
▲	44	5	7'- 6"	2W504	STR	7'- 6"											
	8	5	4'- 6"	2W505	S10		1'- 6"	1'- 6"	1'- 6"								
△ ▲	10	6	10'- 7"	2W601	STR	10'- 7"											
✳	15	9	12'- 0"	2W901	STR	12'- 0"											
	8	9	9'- 3"	2W902	17		8'- 0"	1'- 3"	---								
✳	9	9	16'- 0"	2W903	STR	16'- 0"											
△	10	10	17'- 4"	2W1001	17		12'- 7"	4'- 9"	---								

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	WINGWALL #4																
✳ ▲	9	5	6'- 7"	4W501	STR	6'- 7"											
▲	8	5	7'- 4"	4W502	17		6'- 7"	0'- 9"	---								
▲	6	5	6'- 5"	4W503	STR	6'- 5"											
	8	5	2'- 3"	4W504	STR	2'- 3"											
✳	13	5	6'- 5"	4W505	STR	6'- 5"											
	8	5	3'- 9"	4W506	S10		1'- 6"	0'- 9"	1'- 6"								

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M31 (ASTM A 615-S). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



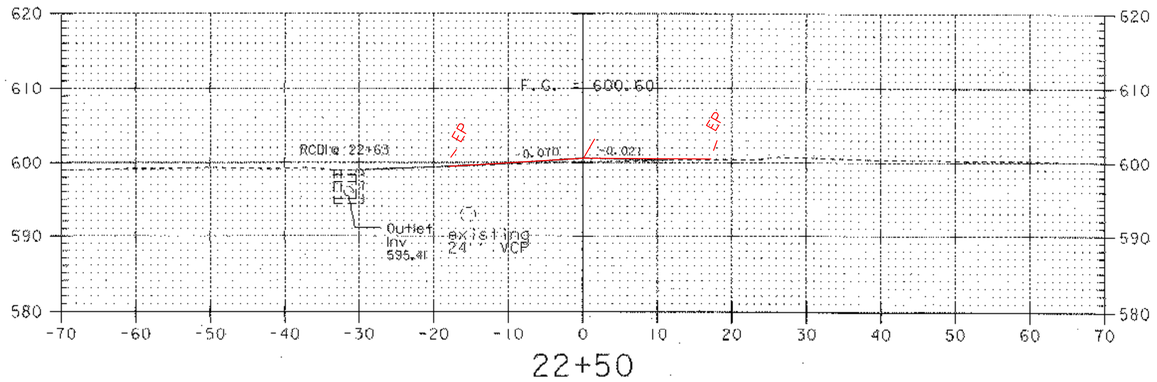
ASTM STANDARD REINFORCING BARS

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

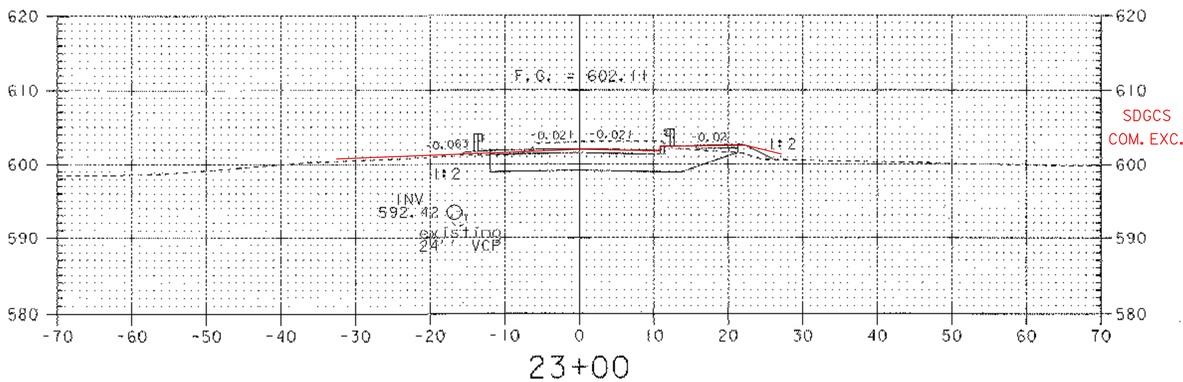
PROJECT NAME: **BARRE CITY**
PROJECT NUMBER: **HDP 9281 (1)**

FILE NAME: **str/92j099/sj099rss.xls**
PROJECT MANAGER: **C. KELLER**
DESIGNED BY: **K. RUTTER**
REINFORCING STEEL SCHEDULE SHEET #1

PLOT DATE: **1/28/2004**
DRAWN BY: **K. RUTTER**
CHECKED BY: **T. A. SUMNER**
SHEET **48** OF **58**

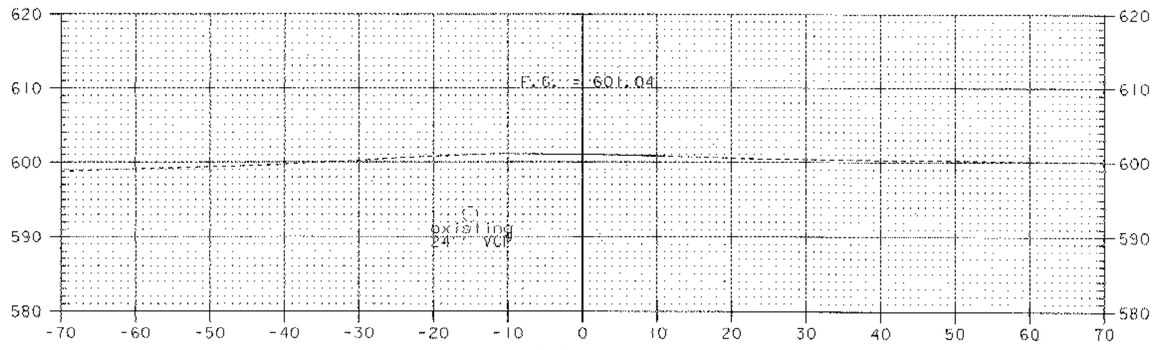


22+50

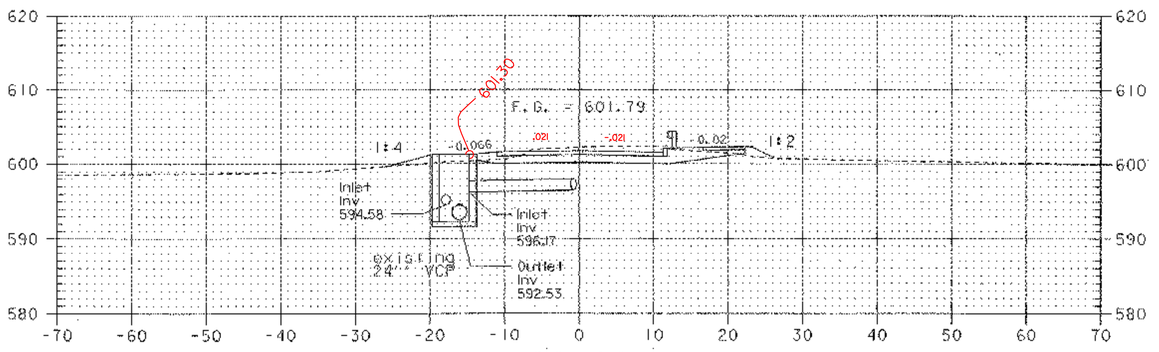


23+00

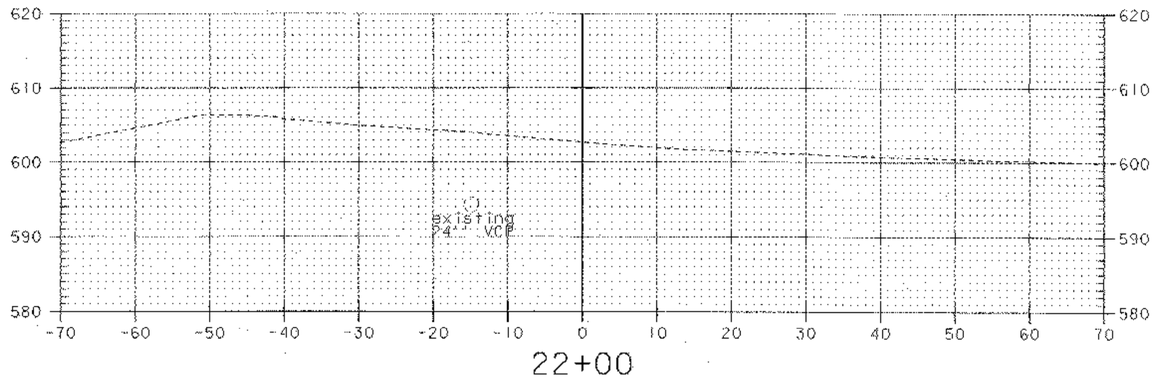
SDGCS 84
COM. EXC. 106



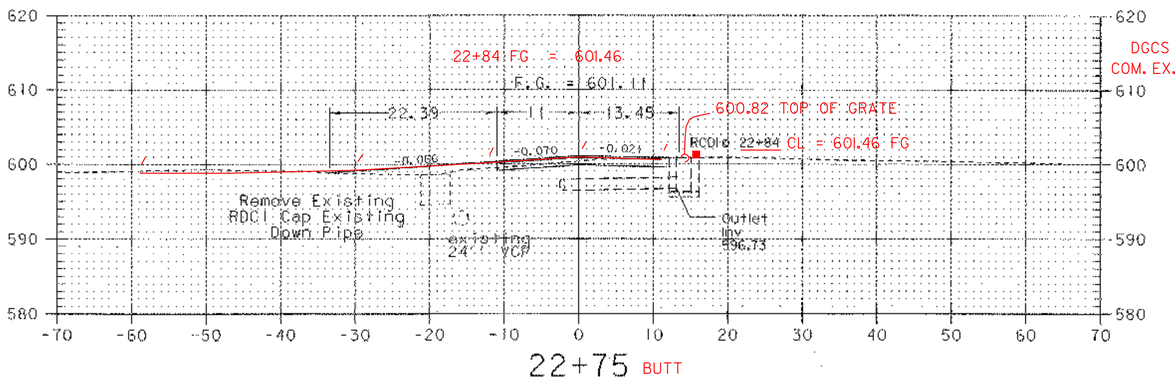
22+25



22+92



22+00



22+75 BUTT

DGCS = 23
COM. EX. = 16

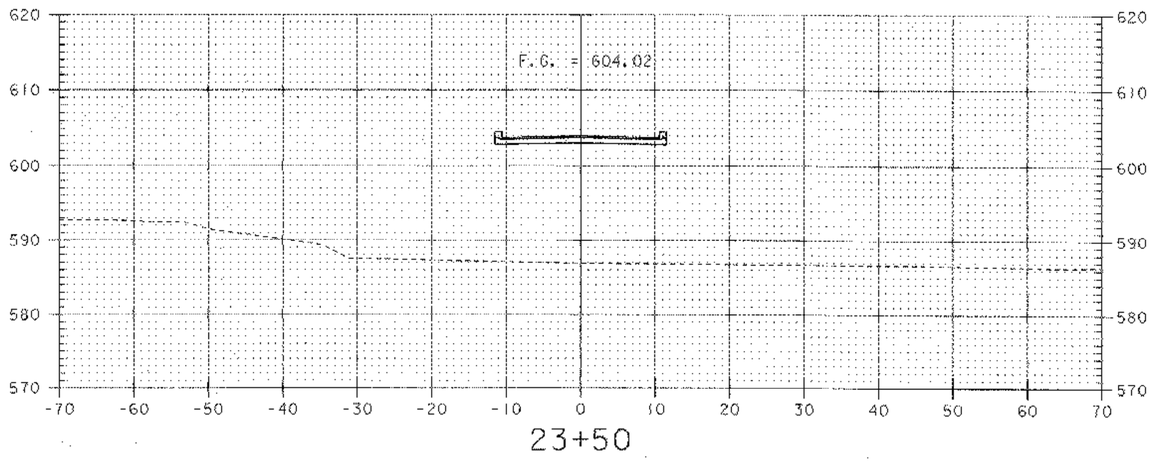
PLOTTED 12-12-05 D. LUND

MAINLINE SECTIONS
22+00 – 23+00

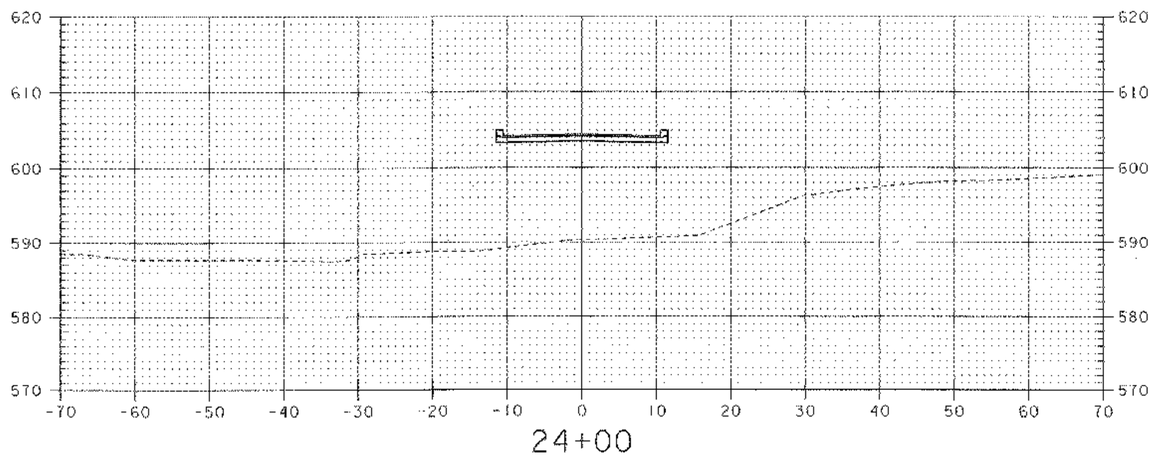
PROJECT NAME: BARRE CITY
PROJECT NUMBER: HDP 9281(1)

FILE NAME: /str5/92J099/sJ099wrk2.dgn
PROJECT LEADER: C. KELLER
DESIGNED BY: K. RUTTER
sJ099xsl.i

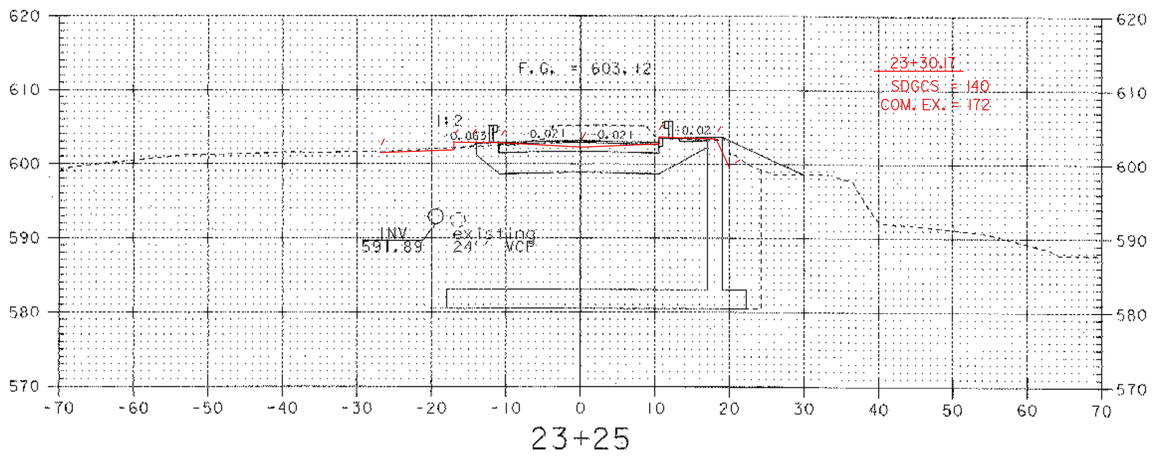
PLOT DATE: 16-JUN-2004
DRAWN BY: K. RUTTER
CHECKED BY: T.A. SUMNER
SHEET 49 OF 58



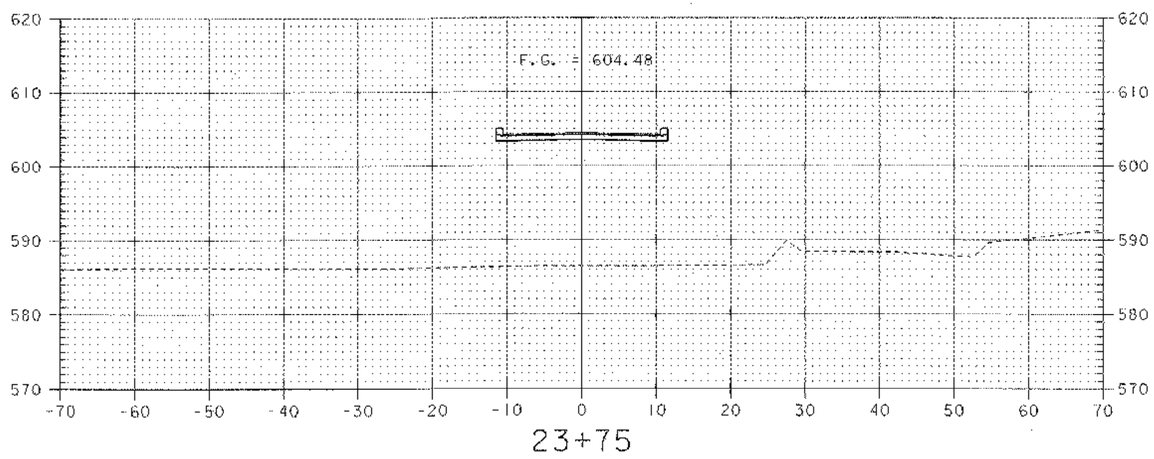
23+50



24+00



23+25



23+75

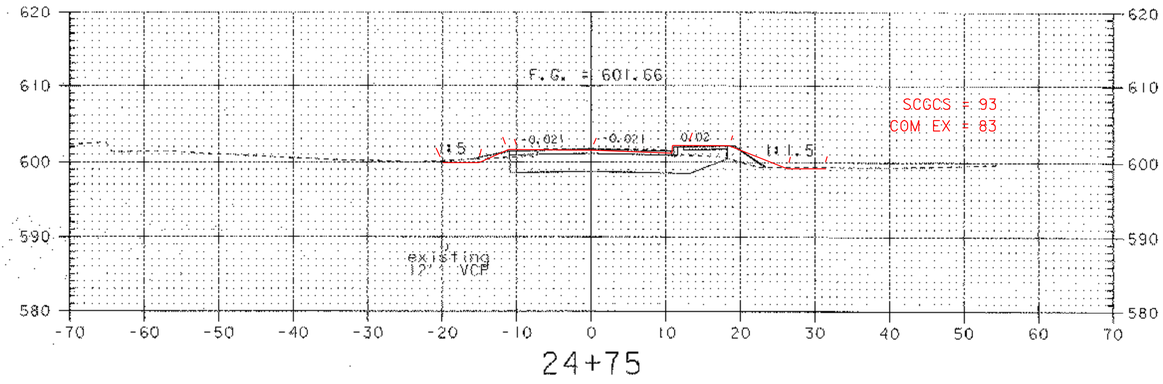
PLOTTED 12/12/05 D. LUND

MAINLINE SECTIONS
23+25 - 24+00

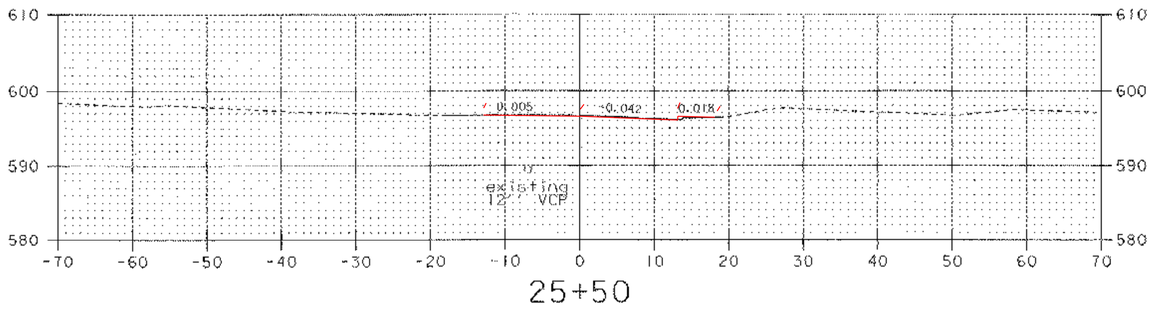
PROJECT NAME: BARRE CITY
PROJECT NUMBER: HDP 928I(1)

FILE NAME: /str5/92J099/sJ099wrk2.dgn
PROJECT LEADER: C. KELLER
DESIGNED BY: K. RUTTER
sJ099xs2.1

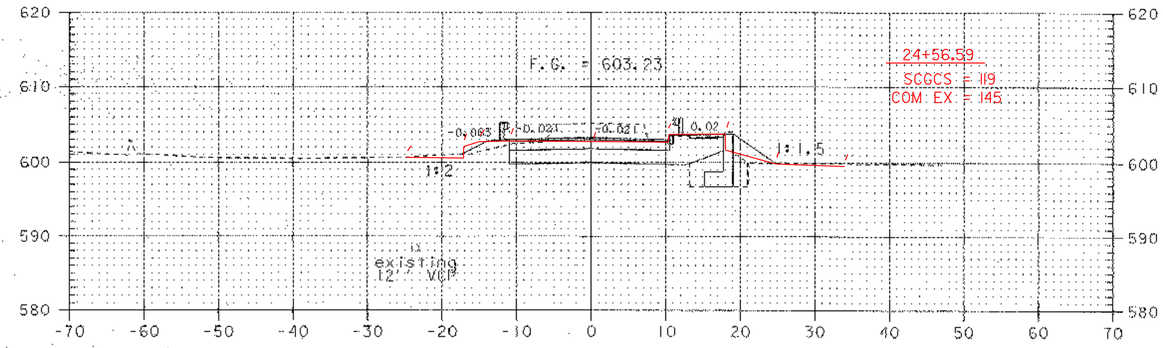
PLOT DATE: 16-JUN-2004
DRAWN BY: K. RUTTER
CHECKED BY: T.A. SUMNER
SHEET 50 OF 58



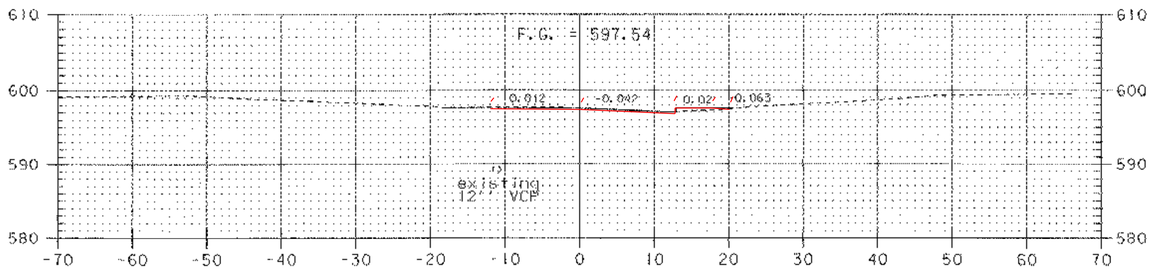
24+75



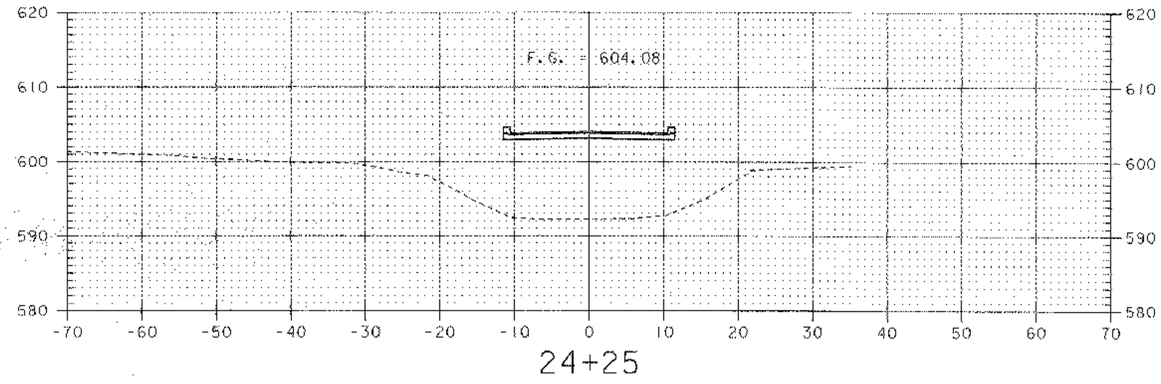
25+50



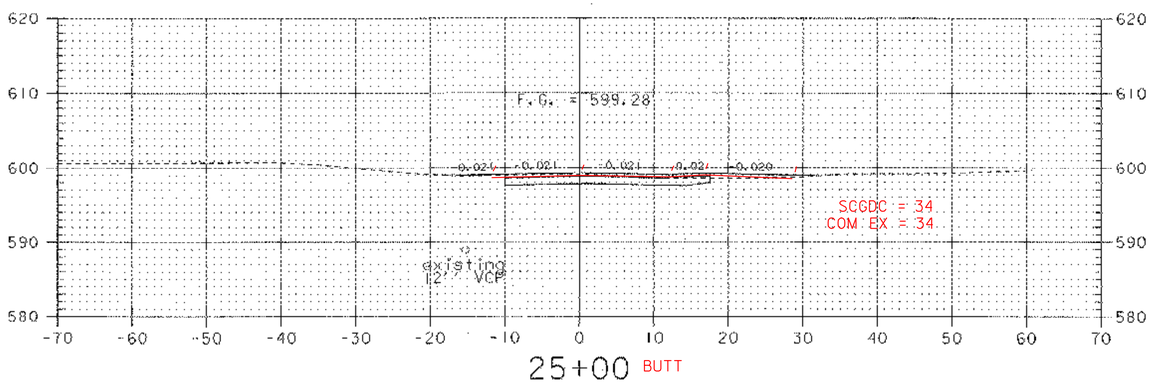
24+50



25+25



24+25



25+00 BUTT

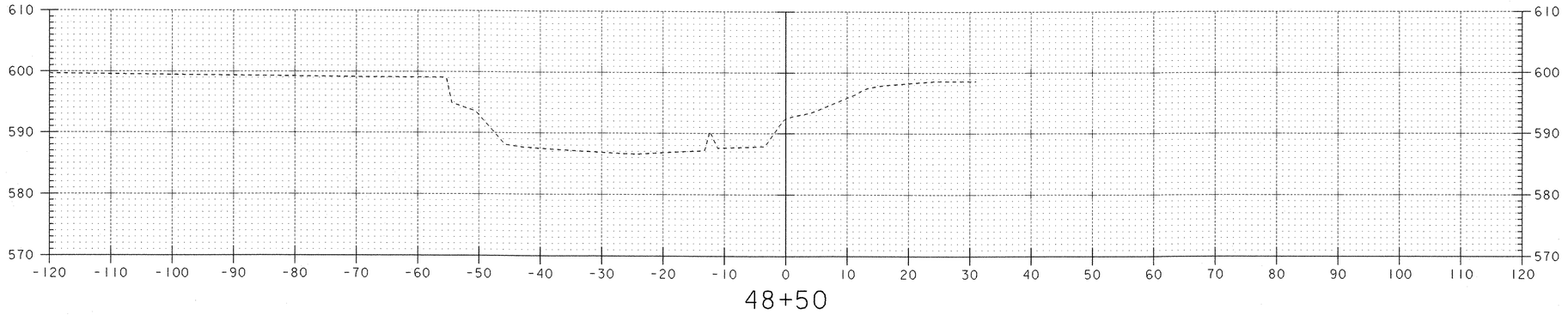
PLOTTED 12/12/05 D. LUND

MAINLINE SECTIONS
24+25 – 25+50

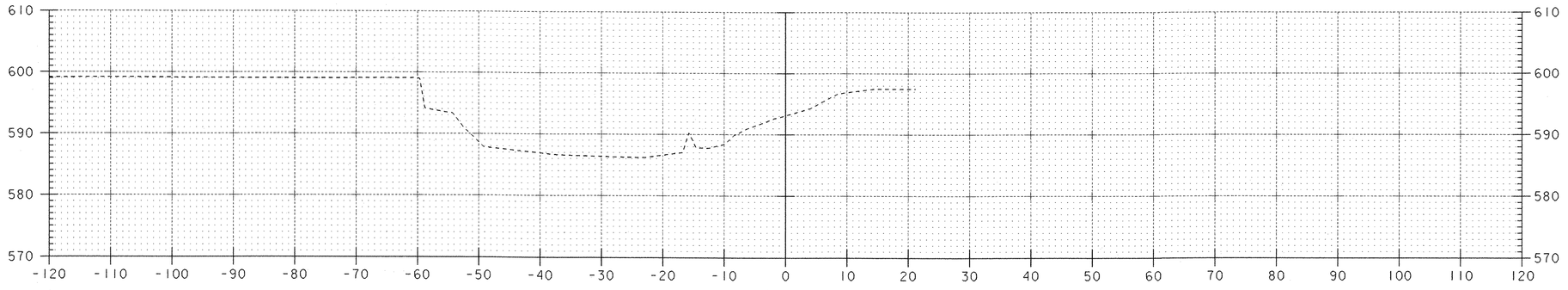
PROJECT NAME: BARRE CITY
PROJECT NUMBER: HDP 9281(1)

FILE NAME: /str5/92j099/sj099wrk2.dgn
PROJECT LEADER: C. KELLER
DESIGNED BY: K. RUTTER
sj099xs3.1

PLOT DATE: 16-JUN-2004
DRAWN BY: K. RUTTER
CHECKED BY: T.A. SUMNER
SHEET 51 OF 58



48+50

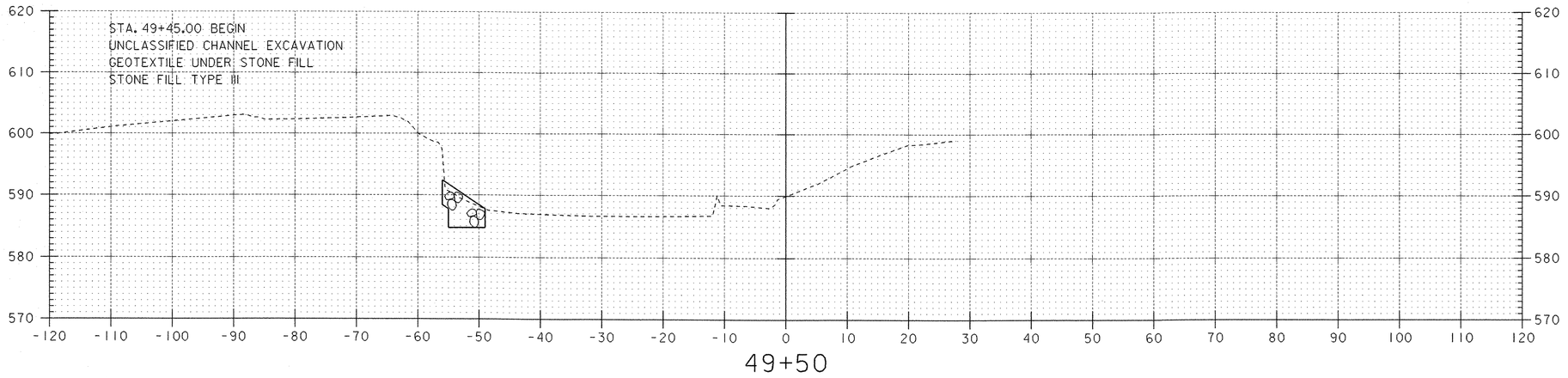


48+00

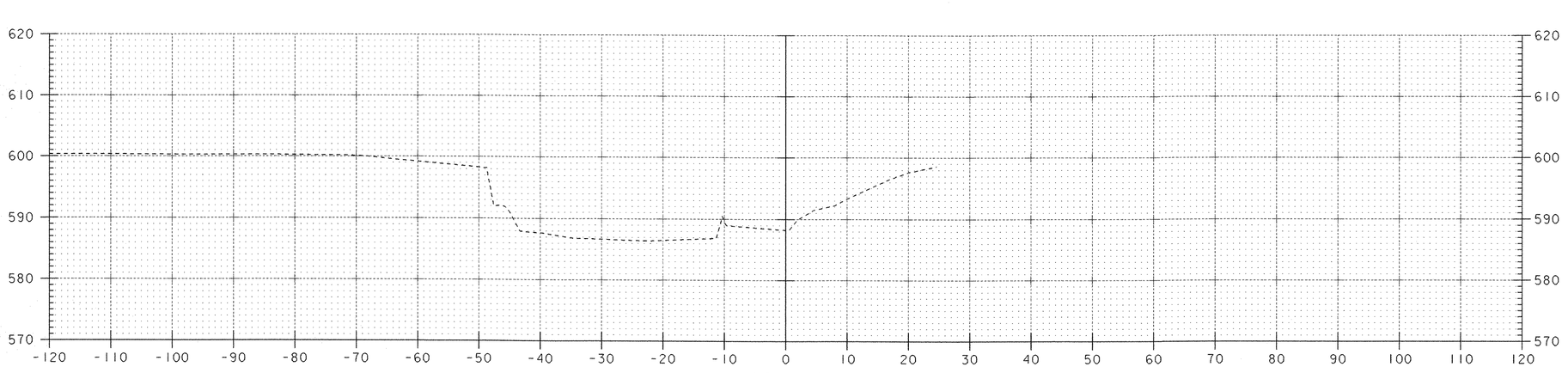
CHANNEL SECTIONS
48+00 – 48+50

PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)

FILE NAME: /str5/92j099/sj099wrk2.dgn	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. KELLER	DRAWN BY: K. RUTTER
DESIGNED BY: P. BEYOR	CHECKED BY: T.A. SUMNER
sj099ch01.i	SHEET 52 OF 58



49+50



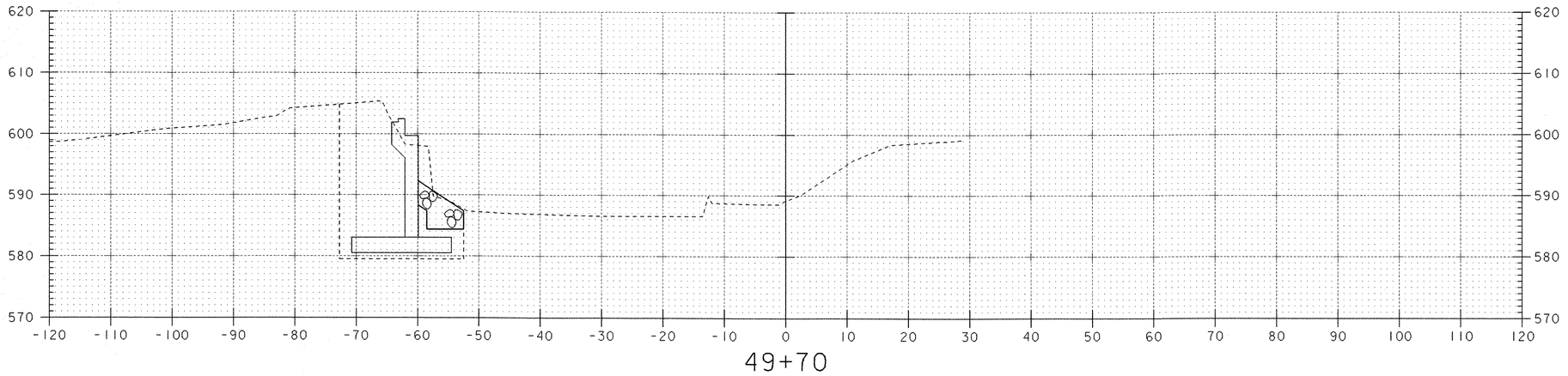
49+00

CHANNEL SECTIONS
49+00 - 49+50

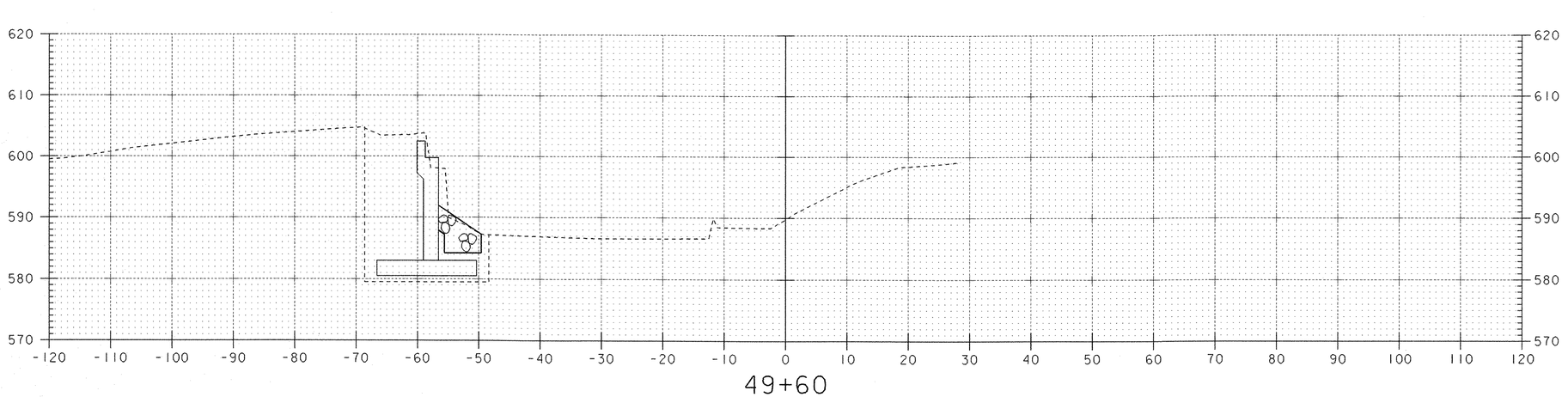
PROJECT NAME: BARRE CITY
PROJECT NUMBER: HDP 9281(1)

FILE NAME: /str5/92j099/sj099wrk2.dgn
PROJECT LEADER: C. KELLER
DESIGNED BY: P. BEYOR
sj099ch02.i

PLOT DATE: 16-JUN-2004
DRAWN BY: K. RUTTER
CHECKED BY: T.A SUMNER
SHEET 53 OF 58



49+70

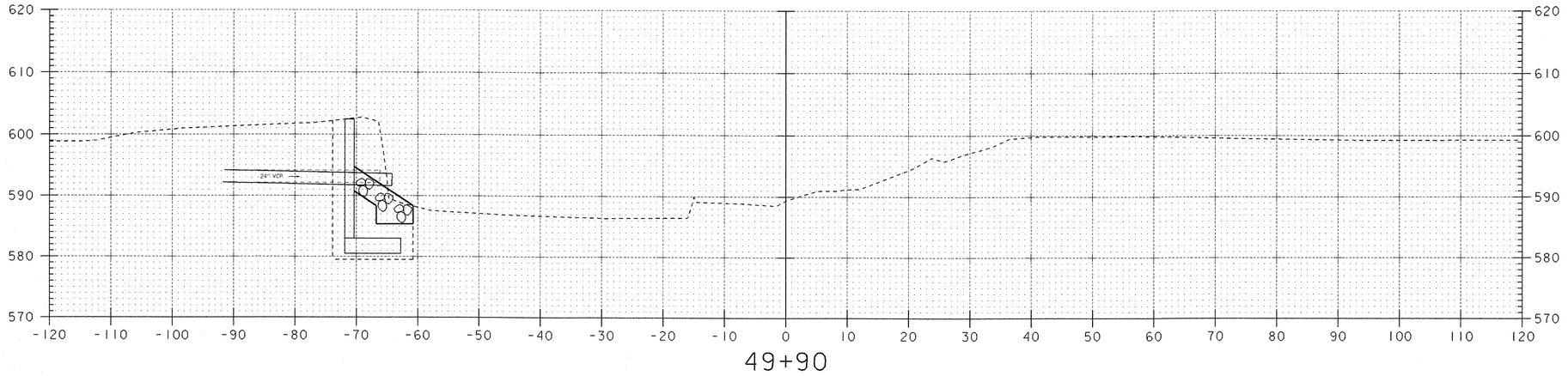


49+60

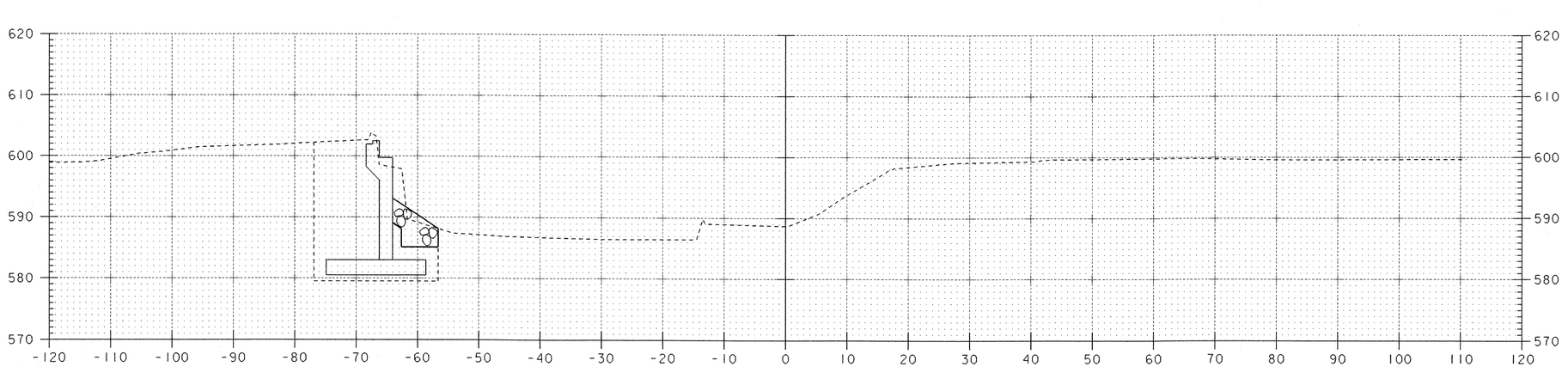
CHANNEL SECTIONS
49+60 – 49+70

PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)

FILE NAME: /str5/92J099/sj099wrk2.dgn	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. KELLER	DRAWN BY: K. RUTTER
DESIGNED BY: P. BEYOR	CHECKED BY: T.A. SUMNER
sj099ch03.1	SHEET 54 OF 58



49+90

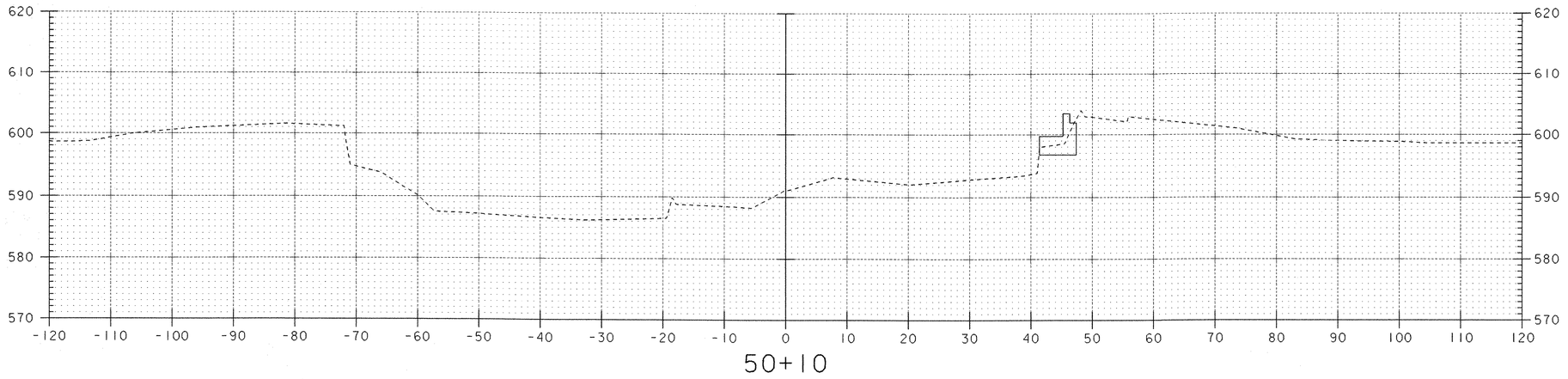


49+80

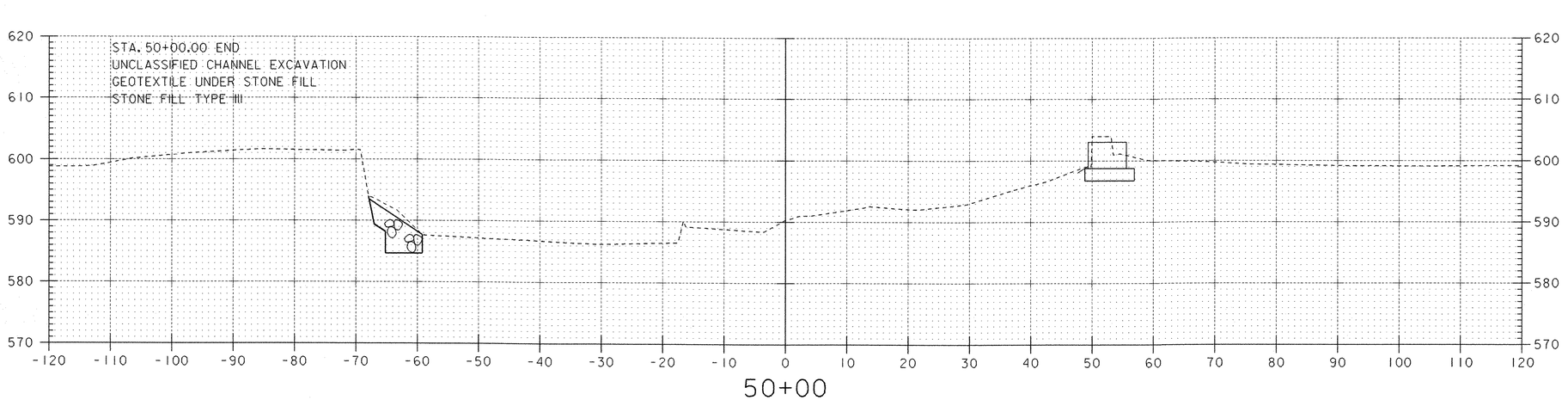
CHANNEL SECTIONS
49+80 - 49+90

PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)

FILE NAME: /str5/92j099/sj099wrk2.dgn	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. KELLER	DRAWN BY: K. RUTTER
DESIGNED BY: P. BEYOR	CHECKED BY: T.A. SUMNER
sj099ch04.i	SHEET 55 OF 58



50+10

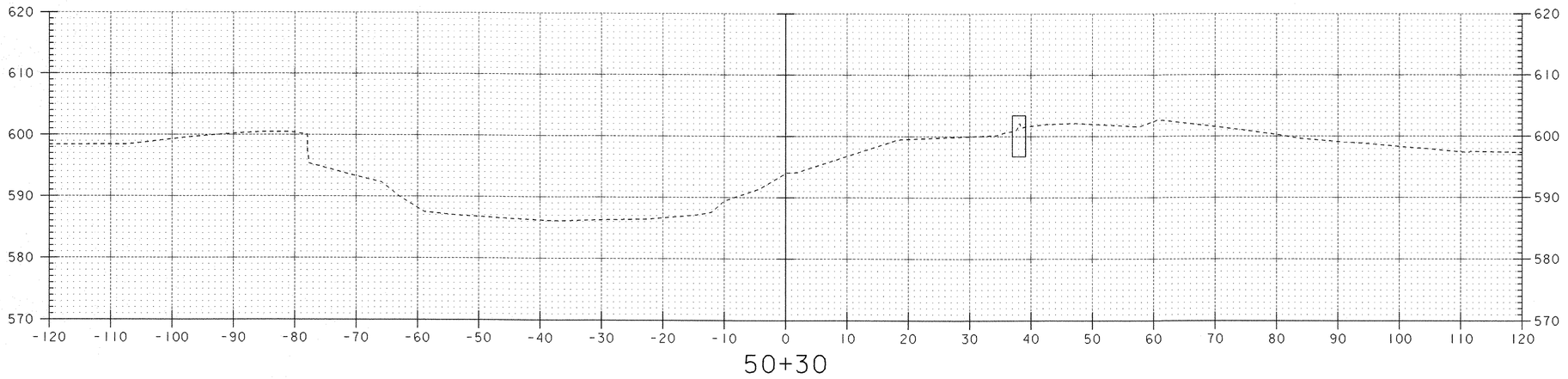


50+00

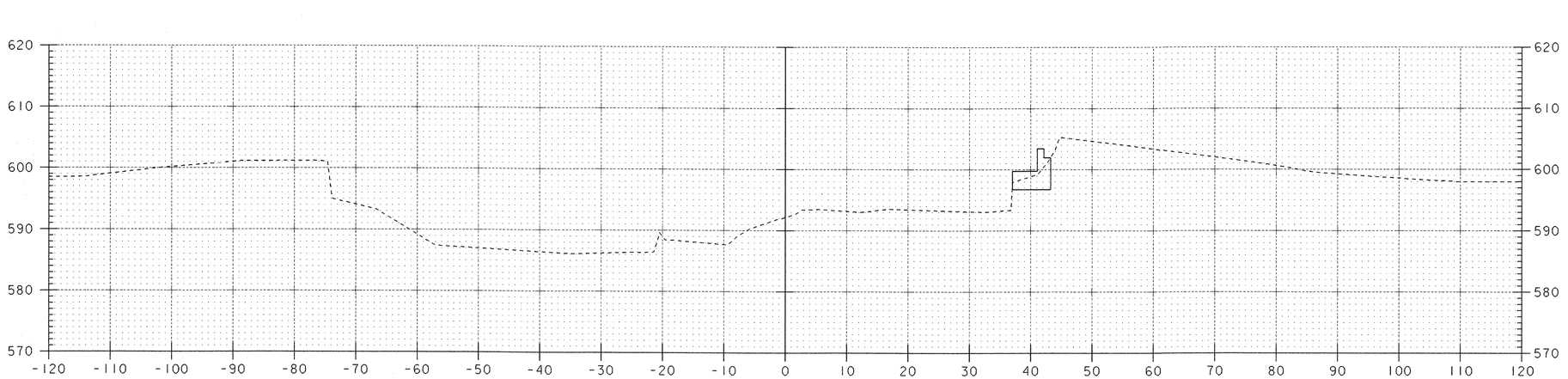
CHANNEL SECTIONS
50+00 – 50+10

PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)

FILE NAME: /str5/92j099/sj099wrk2.dgn	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. KELLER	DRAWN BY: K. RUTTER
DESIGNED BY: P. BEYOR	CHECKED BY: T.A. SUMNER
sj099ch05.i	SHEET 56 OF 58



50+30

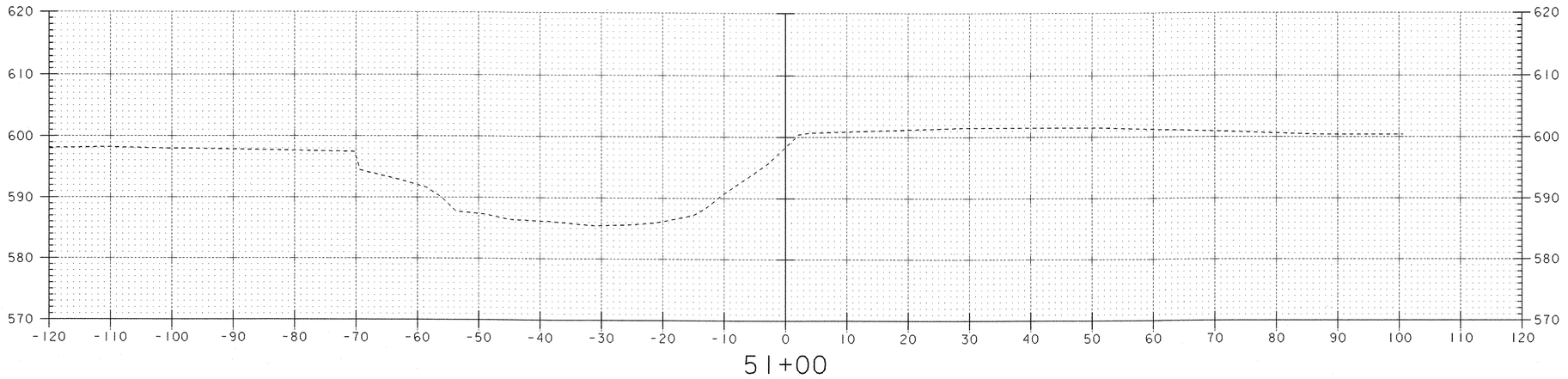


50+20

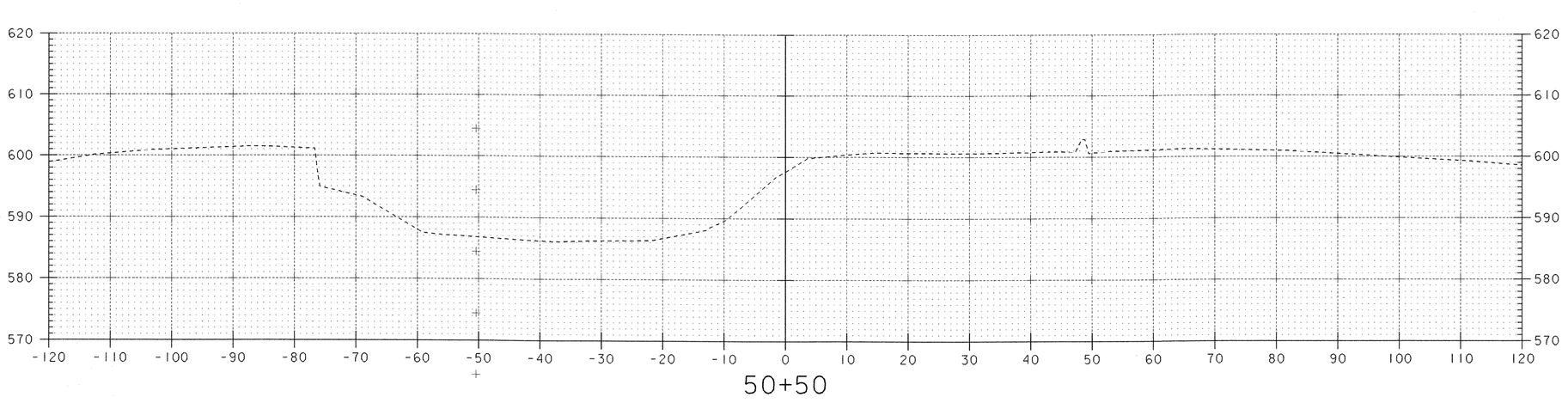
CHANNEL SECTIONS
50+20 – 50+30

PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)

FILE NAME: /str5/92j099/sj099wrk2.dgn	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. KELLER	DRAWN BY: K. RUTTER
DESIGNED BY: P. BEYOR	CHECKED BY: T.A. SUMNER
sj099ch06.1	SHEET 57 OF 58



51+00

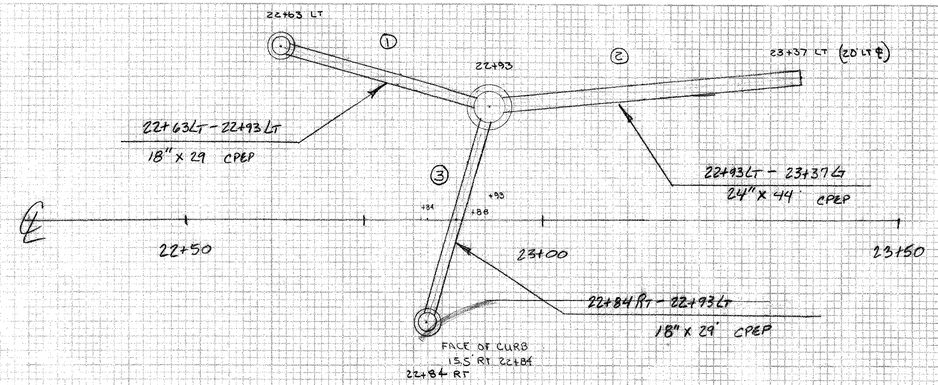


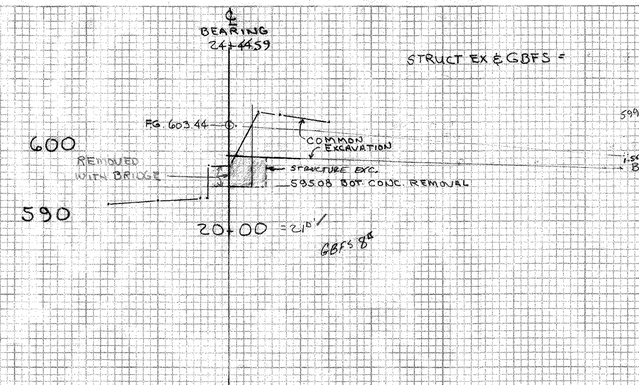
50+50

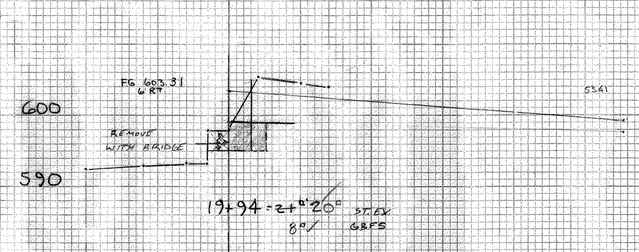
CHANNEL SECTIONS
50+50 – 51+00

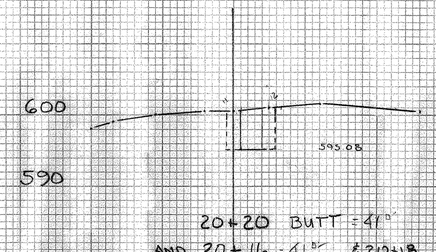
PROJECT NAME:	BARRE CITY
PROJECT NUMBER:	HDP 9281(1)

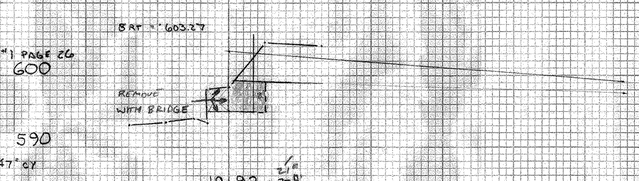
FILE NAME: /str5/92j099/sj099wrk2.dgn	PLOT DATE: 16-JUN-2004
PROJECT LEADER: C. KELLER	DRAWN BY: K. RUTTER
DESIGNED BY: P. BEYOR	CHECKED BY: T.A. SUMNER
sj099ch07.1	SHEET 58 OF 58

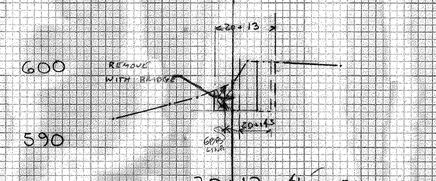


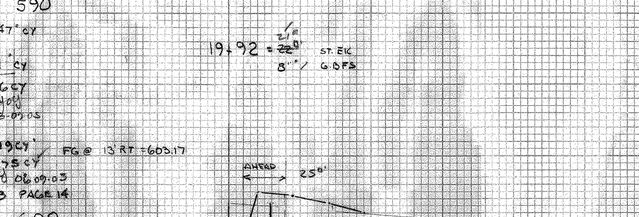


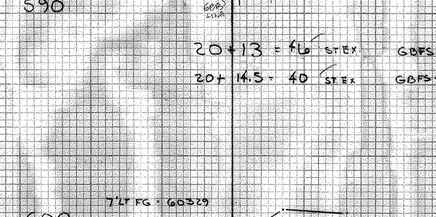


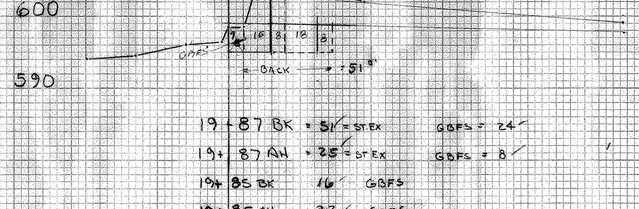


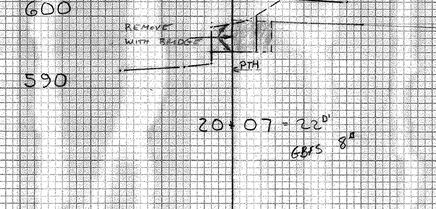


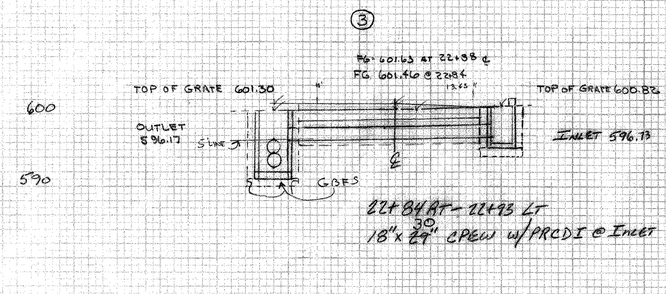










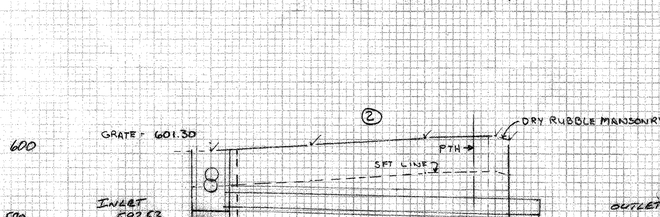


PIPE T.E. = 25.4' L × 3.90' W × 4.6' D = 16.87'
D.I. T.E. = 5.67 × 5.67 × 5 = 5.91'
D.I. T.E. 6'-3.67 × 5.5 × 5.5' = 0.89'
TOTAL: 23.73 CY
TO BOOK "1 PAGE 26
40%
06-09-05

LAID 20 LF OF PIPE 06-02-05
LAID 10 LF " 06-03-05
INSTALLED PRCDI 06-03-05
0.5' UNDER PIPE
1.0' OVER PIPE } 3 GBFS
1.0' UNDER D.I

3.4 × 3.9 × 25.4' = 12.47' CY
LESS P.PE
$\frac{1.92 \times .77}{2} \times 25.4 = 2.71$ CY
GBFS = 9.76 CY
40%
06-09-05

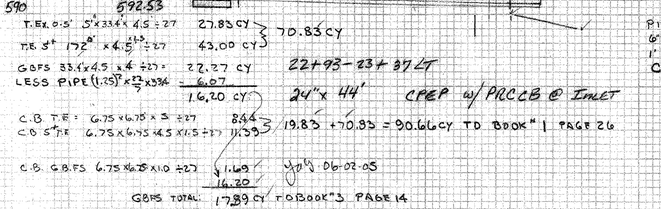
GBFS D.I
5.67 × 5.67 × 1.25 = 1.19 CY
TOTAL: 10.75 CY
40%
06-09-05
TO BOOK "3 PAGE 14



T.Ex. 0.5' 5' × 33.4' × 4.5 ÷ 27 = 27.83 CY
T.E. 3' 172' × 4.5 ÷ 27 = 43.00 CY } 70.83 CY
GBFS 33.4 × 4.5 × 4 ÷ 27 = 22.27 CY
LESS PIPE $(1.25)^2 \times \frac{22}{7} \times 33.4 = 6.07$
16.20 CY.
C.B T.E = 6.75 × 6.75 × 3 ÷ 27 = 8.44
C.B S.T.E 6.75 × 6.75 × 4.5 × 1.5 ÷ 27 = 11.39 } 19.83 + 70.83 = 90.66 CY TO BOOK "1 PAGE 26
C.B. G.B.F.S 6.75 × 6.75 × 1.0 ÷ 27 = 1.69
16.20
GBFS TOTAL: 17.89 CY TO BOOK "3 PAGE 14
40%
06-02-05

22+93 - 23+37 LT
24" × 44' CPEP w/PRCCB @ INLET

PIPE LAID 01-06-05 44 LF
6" UNDERCUT (GBFS)
1' GBFS OVER PIPE
C.B. INSTALLED 06-01-05



PIPE LAID 06-01-05 3 DLF
T.R. = 4.6 × 6.3 × 1.4 = 1.50 CY
T.E PIPE 0-5 $\frac{24.2}{2} \times 4.0$ (AVE) × 3.9 = 13.98 CY
T.E DI 0-5 5.67 × 5.67 × 5.0 = 5.93 CY

NO G.BFS USED
40%
06-01-05

T.R = 19.93
LESS T.R 1.50
18.43
40%
06-02-05
TO BOOK "1 PAGE 26

22+63LT - 22+93 LT
18" x 29' CPEP w/PRCDI @ INLET

ABUTMENT "2 ℄ OF BEARING

1" = 10'

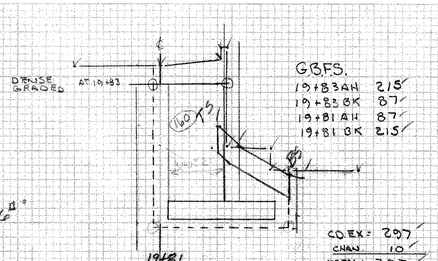
S.EX. & GBFS
1/23/06

BARRE CITY HDP 9281(1)
DRAINAGE SHEET 1
ABUTMENT "2

059

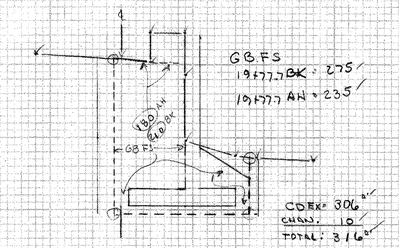
HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL LINE
MARSHALL ADVERTISING
PRINTED IN U.S.A.

552 = 72175



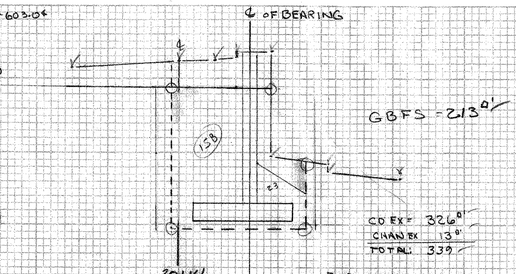
19+83 END DENSE GRADED

WW# 2 - 19+81.10 '83

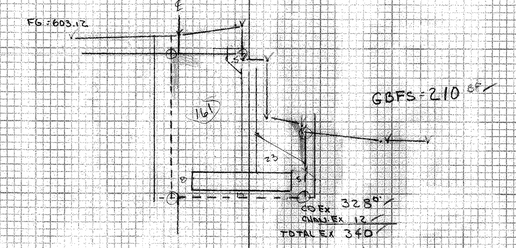


19+78.5 ℄

19+77.7 BEGIN FOOTING



END DENSE GRADED



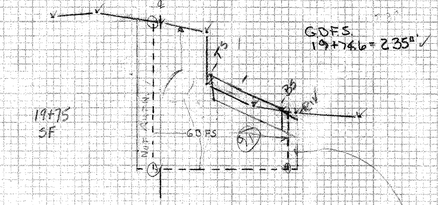
Stone Fill, Type III

STA	AREA	DIST	VOL (cy)
19+65	33		
		10	12.22
19+75	33		
		6	7.67
19+81	36		
		19	23.22
20+00	30		
		19	19.00
20+19	24		
		2	1.78
20+21	24		
		10	10.00
20+31	30		

TOTAL 73.89 cy 12/6/05 DAT

CHK 12-20-05

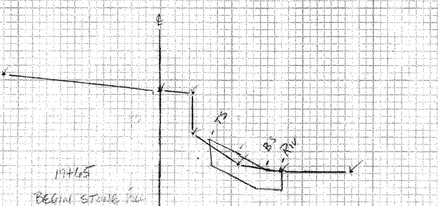
TO BOOK #3 PAGE 92



NOTE: NO CHAN. EX. ITEM IN CONTRACT.

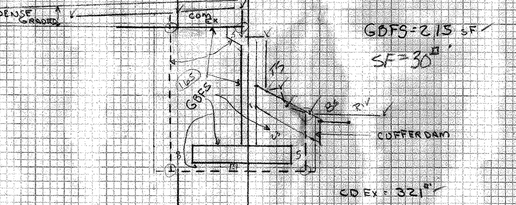
PAY AS C.D. EXCAV.

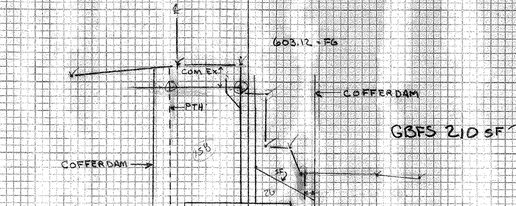
12-20-05

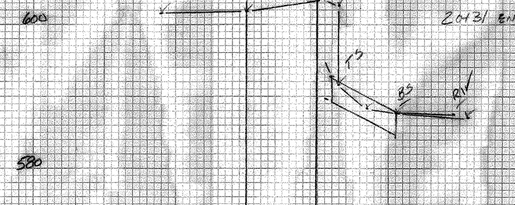


S.F. 12-20-05

Correction 1/23/06 DAT







Excavation for SF outside Cofferdam

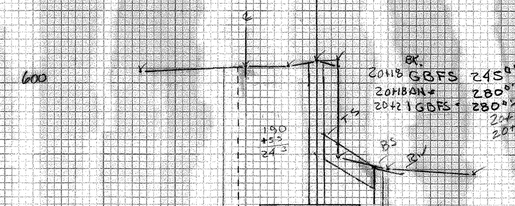
STA	AREA	DIST	VOL (cy)
19+65	26		
		9.6	9.24
19+74.6	26		
		10	8.15
20+21	24		
20+31	20		

TOTAL 17.39 cy 12/6/05 DAT

CHK 12-20-05

TO BOOK #1 PAGE 27

PAY AS TRENCH EXCAV.



GBFS 12/6/05 DAT

BARRE CITY HDP 9281(1)

ABUTMENT "1"

COFFER DAM EXCAVATION

SHEET #1

060

HIGHWAY FEDERAL AID SHEET
PLATE 2-FULL CROSS SECTION-FULL LINE
VERMONT PRINTING
PRINTED IN U.S.A.

1" = 10'

DSBROWN

Production Joint Welding Procedure Specification (D1.5-02)

Procedure No: **A-FF-01** Date Issued: 8-12-03 Revision No: 0 Rev. Date: _____

Contractor (Fabricator) D. S. Brown Company Prepared by: James R. Connor, Quality Assurance Manager

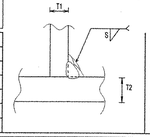
1. Non-Fracture Critical [X] Fracture Critical [ ] WPS Expiration Date: _____
2. Qualified in accordance with: AWS D1.5- 2002 (5.12.1)
   Referenced PQR No(s). PQR-FCAW-01-03 __ , __ , ____
   Referenced FWST No(s). PQR-FCAW-FWST-01(03) , PQR-FCAW-FWST-01A(03) , __ , ____
3. Material specification(s) ASTM A709 Gr. 36, 50, 50W
4. Material Thickness (es) Unlimited
5. Welding process FCAW
6. Manual [ ] , machine [ ] , or semiautomatic [X]
7. Position(s) of welding 1F, 2F
8. Filler metal specification AWS A5.20
9. Filler metal class and brand name E71T-1, E71T-9 Lincoln Outershield Elite)
10. Flux class & brand N/A , Type N/A
11. Shielding gas 100% CO2 Flow rate 45 CFH
12. Single pass [X] Or multiple pass [X]
13. Single arc [X] Or multiple arc [ ]
14. Welding Current DCEP
15. Polarity Reverse
16. Welding progression stringers
17. Root treatment Clean to bright sound metal or per AWS D1.5 (3.2.1 & 3.11)
18. Postheat treatment N/A
19. Calculated Heat Input (KJ/In) Min 31.20 Kj/in Max 50.72 Kj/in
20. Electrode extension (electrical stickout) 3/4"

For DOT Approval

V.A.O.T. RECEIVED NOV 16 2004 CK'D BY _____ RESUBMIT _____ APPROVED ✓ BY _____ DATE 11-30-04

Weld size (in)	Pass No(s).	Electrode Size (in)	Welding Process Variables AMPS/WFS*	VOLTS	Travel Speed (IPM)
**1/4"	1	1/16"	260-310	26-30	11-13
5/16"	1	1/16"	260-310	26-30	11-13
3/8"	2-3	1/16"	260-310	26-30	11-13
7/16"	3-5	1/16"	260-310	26-30	11-13
1/2"	4-6	1/16"	260-310	26-30	11-13
5/8"	5-7	1/16"	260-310	26-30	11-13
3/4"	6-8	1/16"	260-310	26-30	11-13

Joint Detail (Fillet)
Show all dimensions, weld sizes, passes, and AWS symbols



T1 = Varies
T2 = Varies
S = Weld Size

**** T1 & T2 equal to or less than 3/4" for 1/4" welds.**

* Wire feed speed may be used along with amperage (include chart)

Prepared By: James R. Connor DSB QA Manager

Project: Granite Street over Stevens Branch of the Winooski River

DSB Job: 12550-1042

Preheat and Interpass Temperature Chart

Base Metal Thickness range	Minimum Preheat (°F)	Max Preheat & Interpass (°F)
≤ 3/4"	50°F	450 °F
>3/4" to ≤1.5"	70°F	450 °F
>1.5" to ≤2.5"	150°F	450 °F
>2.5"	225°F	450 °F

Note: When this procedure is used for A709Gr50W materials, it shall be limited to 5/16" single pass or material be coated.

061 WP

Production Joint Welding Procedure Specification (D1.5-02)

Procedure No: A-(MC)GF-01 Date Issued: 9-28-04 Revision No: 0 Rev. Date: _____

Contractor (Fabricator) D. S. Brown Company Prepared by: James R. Connor, Quality Assurance Manager

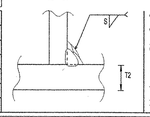
1. Non-Fracture Critical [X] Fracture Critical [ ] WPS Expiration Date: _____
2. Qualified in accordance with: AWS D1.5- 2002 (5.12.1)
   Referenced PQR No(s). PQR-(MC)GMAW-01(04) __ , __ , ____
   Referenced FWST No(s). PQR-(MC)GMAW-FWST-01A(04) , PQR-(MC)GMAW-FWST-01B(04) , __ , __
3. Material specification(s) ASTM A709 Gr. 36, 50, 50W
4. Material Thickness (es) Unlimited
5. Welding process GMAW
6. Manual [ ] , machine [ ] , or semiautomatic [X]
7. Position(s) of welding 1F, 2F
8. Filler metal specification AWS A5.18
9. Filler metal class and brand name E70C-6M Corex Metal-Core Maxim
10. Flux class & brand N/A , Type N/A
11. Shielding gas 75% Ar / 25% CO2 Flow rate 45 CFH
12. Single pass [X] Or multiple pass [X]
13. Single arc [X] Or multiple arc [ ]
14. Welding Current DCEP
15. Polarity Reverse
16. Welding progression stringers
17. Root treatment Clean to bright sound metal or per AWS D1.5 (3.2.1 & 3.11)
18. Postheat treatment N/A
19. Calculated Heat Input (KJ/In) Min 30.6 Kj/in Max 51.1 Kj/in
20. Electrode extension (electrical stickout) 3/4"

For DOT Approval

V.A.O.T. RECEIVED NOV 16 2004 RECD BY JJC
ITEM/SUBMIT ____ APPROVED ✓ DATE 11-30-04 BY

Weld size (in)	Pass No(s).	Electrode Size (in)	Welding Process Variables AMPS/WFS*	VOLTS	Travel Speed (IPM)
**1/4"	1	.052"	265-320	31-34.5	13-16
5/16"	1	.052"	265-320	31-34.5	13-16
3/8"	1-3	.052"	265-320	31-34.5	13-16
7/16"	2-4	.052"	265-320	31-34.5	13-16
1/2"	4-6	.052"	265-320	31-34.5	13-16
5/8"	5-7	.052"	265-320	31-34.5	13-16
3/4"	6-8	.052"	265-320	31-34.5	13-16

Joint Detail (Fillet)
Show all dimensions, weld sizes, passes, and AWS symbols



T1 = Varies
T2 = Varies
S = Weld Size

**** T1 & T2 equal to or less than 3/4" for 1/4" welds.**

* Wire feed speed may be used along with amperage (include chart)

Prepared By: James R. Connor DSB QA Manager

Project: Granite Street over Stevens Branch of the Winooski River

DSB Job: 12550-1042

Preheat and Interpass Temperature Chart

Base Metal Thickness range	Minimum Preheat (°F)	Max Preheat & Interpass (°F)
≤ 3/4"	50°F	450°F
>3/4" to ≤1.5"	70°F	450°F
>1.5" to ≤2.5"	150°F	450°F
>2.5"	225°F	450°F

Note: When this procedure is used for A709Gr50W materials, it shall be limited to 5/16" single pass or material be coated.

062 WP

DSBROWN

Production Joint Welding Procedure Specification (D1.5-02)

Procedure No: **A-FSV-01** Date Issued: 8-12-03 Revision No: 0 Rev. Date: _____

Contractor (Fabricator) D. S. Brown Company Prepared by: James R. Connor, Quality Assurance Manager

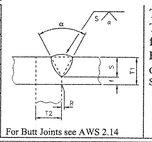
1. Non-Fracture Critical [X] Fracture Critical [ ] WPS Expiration Date: _____
2. Qualified in accordance with: AWS D1.5- 2002 (5.12.1)
   Referenced PQR No(s). PQR-FCAW-01-03 __ , __ , __ , ____
   Referenced FWST No(s). N/A , __ , __ , __ , ____
3. Material specification(s) ASTM A709 Gr. 36, 50, 50W
4. Material Thickness (es) Unlimited
5. Welding process FCAW
6. Manual [ ] , machine [ ] , or semiautomatic [X]
7. Position(s) of welding 1G
8. Filler metal specification AWS A5.20
9. Filler metal class and brand name E71T-1, E71T-9 (Lincoln Outershield Elite)
10. Flux class & brand N/A , Type N/A
11. Shielding gas 100% CO2 Flow rate 45 CFH
12. Single pass [X] Or multiple pass [X]
13. Single arc [X] Or multiple arc [ ]
14. Welding Current DCEP
15. Polarity Reverse
16. Welding progression Stringers
17. Root treatment Clean to bright sound metal and per AWS D1.5 (3.2.1 & 3.11)
18. Postheat treatment N/A
19. Calculated Heat Input (KJ/In) Min 31.20 Kj/in Max 50.72 Kj/in
20. Electrode extension (electrical stickout) 3/4"

For DOT Approval

VALID
REVIEWED
CK'D BY _____ CK'D BY JJC
NOV 16 2004
RESUBMIT _____ APPROVED √
BY _____ DATE 11-30-04

Weld size (In)	Pass No(s).	Electrode Size (In)	Welding Process Variables AMPS	VOLTS	Travel Speed (IPM)
1/4"	1	1/16"	260-310	26-30	11-13
5/16"	1-2	1/16"	260-310	26-30	11-13
3/8"	2-3	1/16"	260-310	26-30	11-13
1/2"	4-5	1/16"	260-310	26-30	11-13
5/8"	5-6	1/16"	260-310	26-30	11-13
3/4"	5-8	1/16"	260-310	26-30	11-13

Joint Detail (C-P2-GF)
Show all dimensions, weld sizes, passes, and AWS symbols



T1 = 1/4" min.
T2 = Unlimited
f = 1/8" min.
R = 0
α = 60°
S = Groove Prep Depth

For Butt Joints see AWS 2.14

Prepared By: James R. Connor DSB QA Manager

Project: Granite Street over Stevens Branch of the Winooski River

DSB Job: 12550-1042

Preheat and Interpass Temperature Chart

Base Metal Thickness range	Minimum Preheat (°F)	Max Preheat & Interpass (°F)
≤ 3/4"	50°F	450°F
>3/4" to ≤1.5"	70°F	450°F
>1.5" to ≤2.5"	150°F	450°F
>2.5"	225°F	450°F

Note: When this procedure is used for A709Gr50W materials, it shall be limited to 5/16" single pass or material be coated.

063 WP

DSBROWN

Production Joint Welding Procedure Specification (D1.5-02)

Procedure No: A-(MC)GSV-01 Date Issued: 9-29-04 Revision No: 0 Rev. Date: _____

Contractor (Fabricator) D. S. Brown Company Prepared by: James R. Connor, Quality Assurance Manager

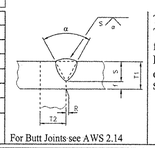
1. Non-Fracture Critical [X] Fracture Critical [ ] WPS Expiration Date: _____
2. Qualified in accordance with: AWS D1.5- 2002 (5.12.1)
   Referenced PQR No(s). PQR-(MC)GMAW-01(04) __ , __ , ____
   Referenced FWST No(s). _____ , _____ , __ , __
3. Material specification(s) ASTM A709 Gr. 36, 50, 50W
4. Material Thickness (es) Unlimited
5. Welding process GMAW
6. Manual [ ] , machine [ ] , or semiautomatic [X]
7. Position(s) of welding 1G, 2G
8. Filler metal specification AWS A5.18
9. Filler metal class and brand name E70C-6M Corex Metal-Core Maxim
10. Flux class & brand N/A , Type N/A
11. Shielding gas 75% Ar / 25% CO2 Flow rate 45 CFH
12. Single pass [X] Or multiple pass [X]
13. Single arc [X] Or multiple arc [ ]
14. Welding Current DCEP
15. Polarity Reverse
16. Welding progression stringers
17. Root treatment Clean to bright sound metal or per AWS D1.5 (3.2.1 & 3.11)
18. Postheat treatment N/A
19. Calculated Heat Input (KJ/In) Min 30.6 Kj/in Max 51.1 Kj/in
20. Electrode extension (electrical stickout) 3/4"

For DOT Approval

V.A.O.T. RECEIVED NOV 16 2004 BY JJC APPROVED V DATE 11-30-04 BY

Weld size (in)	Pass No(s).	Electrode Size (in)	Welding Process Variables AMPS	VOLTS	Travel Speed (IPM)
1/4"	1	.052"	265-320	31-34.5	13-16
5/16"	1-2	.052"	265-320	31-34.5	13-16
3/8"	1-3	.052"	265-320	31-34.5	13-16
1/2"	3-4	.052"	265-320	31-34.5	13-16
5/8"	4-6	.052"	265-320	31-34.5	13-16
3/4"	5-8	.052"	265-320	31-34.5	13-16

Joint Detail (C-P2-GF)
Show all dimensions, weld sizes, passes, and AWS symbols



T1 = 1/4" min.
T2 = Unlimited
f = 1/8" min.
R = 0
α = 60°
S = Groove Prep Depth

For Butt Joints see AWS 2.14

Prepared By: James R. Connor DSB QA Manager

Project: Granite Street over Stevens Branch of the Winooski River

DSB Job: 12550-1042

Preheat and Interpass Temperature Chart

Base Metal Thickness range	Minimum Preheat (°F)	Max Preheat & Interpass (°F)
≤ 3/4"	50°F	450°F
>3/4" to ≤1.5"	70°F	450°F
>1.5" to ≤2.5"	150°F	450°F
>2.5"	225°F	450°F

Note: When this procedure is used for A709Gr50W materials, it shall be limited to 5/16" single pass or material be coated.

B64 WP

DSBROWN

Production Joint Welding Procedure Specification (D1.5-02)

Procedure No: **A-F-SEALWELD-01** Date Issued: 9-11-03 Revision No: 0 Rev. Date: _____

Contractor (Fabricator) D. S. Brown Company Prepared by: James R. Connor, Quality Assurance Manager

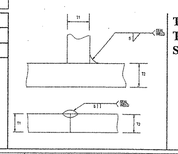
1. Non-Fracture Critical [X] Fracture Critical [ ] WPS Expiration Date: _____
2. Qualified in accordance with: AWS D1.5- 2002 (5.12.1)
   Referenced PQR No(s). PQR-FCAW-01-03 __ , __ , ____
   Referenced FWST No(s). PQR-FCAW-FWST-01(03) , PQR-FCAW-FWST-01A(03) , __ , ____
3. Material specification(s) ASTM A709 Gr. 36, 50, 50W
4. Material Thickness (es) Unlimited
5. Welding process FCAW
6. Manual [ ] , machine [ ] , or semiautomatic [X]
7. Position(s) of welding 1G,1F, 2F
8. Filler metal specification AWS A5.20
9. Filler metal class and brand name E71T-1, E71T-9 (Lincoln Outershield Elite)
10. Flux class & brand N/A , Type N/A
11. Shielding gas 100% CO2 Flow rate 45 CFH
12. Single pass [X] Or multiple pass [ ]
13. Single arc [X] Or multiple arc [ ]
14. Welding Current DCEP
15. Polarity Reverse
16. Welding progression stringers
17. Root treatment Clean to bright sound metal and per AWS D1.5 (3.2.1 & 3.11)
18. Postheat treatment N/A
19. Calculated Heat Input (KJ/In) Min 31.20 Kj/in Max 50.72 Kj/in
20. Electrode extension (electrical stickout) 3/4"

For DOT Approval

V.A.O.T. RECEIVED NOV 18 2004 DISBURSMT APPROVED DATE 11-30-04 BY

Weld size (In)	Pass No(s).	Electrode Size (In)	Welding Process Variables AMPS	VOLTS	Travel Speed (IPM)
**1/8"	1	1/16"	260-310	26-30	11-13
**3/16"	1	1/16"	260-310	26-30	11-13

Joint Detail (Fillet)
Show all dimensions, weld sizes, passes, and AWS symbols



T1 = Varies
T2 = Varies
S = Weld Size

NOTE:
THIS JOINT DETAIL TO BE USED FOR SEALING NON-STRUCTURAL GALVANIZED OR PAINTED APPLICATIONS WHERE FULL SIZED WELDMENTS ARE NOT DESIGNED, DETAILED OR ARE NOT PRACTICAL.

Prepared By: James R Connor DSB QA Manager

Project: Granite Street over Stevens Branch of the Winooski River

DSB Job: 12550-1042

Preheat and Interpass Temperature Chart

Base Metal Thickness range	Minimum Preheat (°F)	Max Preheat & Interpass (°F)
≤ 3/4"	50°F	450 °F
>3/4" to ≤1.5"	70°F	450 °F
>1.5" to ≤2.5"	150°F	450 °F
>2.5"	225°F	450 °F

Note: When this procedure is used for A709Gr50W materials, it shall be limited to 5/16" single pass or material be coated.

065WP

DSBROWN

Production Joint Welding Procedure Specification (D1.5-02)

Procedure No: **A-(MC)G-SEALWELD-01** Date Issued: 9-29-04 Revision No: 0 Rev. Date: _____

Contractor (Fabricator) D. S. Brown Company Prepared by: James R. Connor, Quality Assurance Manager

1. Non-Fracture Critical [X] Fracture Critical [ ] WPS Expiration Date: _____
2. Qualified in accordance with: AWS D1.5- 2002 (5.12.1)
   Referenced PQR No(s). PQR-(MC)GMAW-01(04) __ , __ , ____
   Referenced FWST No(s). PQR-(MC)GMAW-FWST-01A(04) , PQR-(MC)GMAW-FWST-01B(04) , __ , __
3. Material specification(s) ASTM A709 Gr. 36, 50, 50W
4. Material Thickness (es) Unlimited
5. Welding process GMAW
6. Manual [ ] , machine [ ] , or semiautomatic [X]
7. Position(s) of welding 1G, 2G, 1F, 2F
8. Filler metal specification AWS A5.18
9. Filler metal class and brand name E70C-6M Corex Metal-Core Maxim
10. Flux class & brand N/A , Type N/A
11. Shielding gas 75% Ar / 25% CO2 Flow rate 45 CFH
12. Single pass [X] Or multiple pass [X]
13. Single arc [X] Or multiple arc [ ]
14. Welding Current DCEP
15. Polarity Reverse
16. Welding progression stringers
17. Root treatment Clean to bright sound metal or per AWS D1.5 (3.2.1 & 3.11)
18. Postheat treatment N/A
19. Calculated Heat Input (KJ/In) Min 30.6 Kj/in Max 51.1 Kj/in
20. Electrode extension (electrical stickout) 3/4"

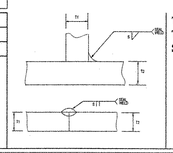
For DOT Approval

VAOT RECEIVED NOV 16 2004 REVIEWED BY JJC DATE 11-30-04 APPROVED RESUBMIT BY

Weld size (In)	Pass No(s).	Electrode Size (In)	Welding Process Variables AMPS	Welding Process Variables VOLTS	Travel Speed (IPM)
**1/8"	1	.052"	265-320	31-34.5	13-16
**3/16"	1	.052"	265-320	31-34.5	13-16

NOTE:
THIS JOINT DETAIL TO BE ONLY USED FOR SEALING NON-STRUCTURAL APPLICATIONS WHERE FULL SIZED WELDMENTS ARE NOT DESIGNED, DETAILED OR ARE NOT PRACTICAL.

Joint Detail (Fillet)
Show all dimensions, weld sizes, passes, and AWS symbols



T1 = Varies
T2 = Varies
S = Weld Size

Prepared By: James R. Connor DSB QA Manager

Project: Granite Street over Stevens Branch of the Winooski River

DSB Job: 12550-1042

Preheat and Interpass Temperature Chart

Base Metal Thickness range	Minimum Preheat (°F)	Max Preheat & Interpass (°F)
≤ 3/4"	50°F	450°F
>3/4" to ≤1.5"	70°F	450°F
>1.5" to ≤2.5"	150°F	450°F
>2.5"	225°F	450°F

Note: When this procedure is used for A709Gr50W materials, it shall be limited to 5/16" single pass or material be coated.

066W8

DSBROWN

Production Joint Welding Procedure Specification (D1.5-02)

Procedure No: A-FF-STUD-REP-01 Date Issued: 9-12-03 Revision No: 0 Rev. Date: _____

Contractor (Fabricator) D. S. Brown Company Prepared by: James R. Connor, Quality Assurance Manager

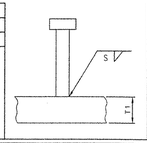
1. Non-Fracture Critical [X] Fracture Critical [ ] WPS Expiration Date: _____
2. Qualified in accordance with: AWS D1.5- 2002 (5.12.1)
   Referenced PQR No(s). PQR-FCAW-01-03 __ , __ , ____
   Referenced FWST No(s). PQR-FCAW-FWST-01(03) , PQR-FCAW-FWST-01A(03) , __ , ____
3. Material specification(s) ASTM A709 Gr. 36, 50, 50W, A500B to A108 Stud
4. Material Thickness (es) Unlimited
5. Welding process FCAW
6. Manual [ ] , machine [ ] , or semiautomatic [X]
7. Position(s) of welding 2F
8. Filler metal specification AWS A5.20
9. Filler metal class and brand name E71T-1, E71T-9 Lincoln Outershield Elite)
10. Flux class & brand N/A , Type N/A
11. Shielding gas 100% CO2 Flow rate 45 CFH
12. Single pass [X] Or multiple pass [X]
13. Single arc [X] Or multiple arc [ ]
14. Welding Current DCEP
15. Polarity Reverse
16. Welding progression stringers
17. Root treatment Clean to bright sound metal and per AWS D1.5 (3.2.1 & 3.11)
18. Postheat treatment N/A
19. Calculated Heat Input (KJ/In) Min 31.20 Kj/in Max 50.72 Kj/in
20. Electrode extension (electrical stickout) 3/4"

For DOT Approval

V.A.O.T. RECEIVED NOV 16 2004 OK'D BY JJC RESUBMIT APPROVED BY DATE 11-20-04

Weld size (in)	Pass No(s).	Electrode Size (in)	Welding Process Variables AMPS	VOLTS	Travel Speed (IPM)
**1/4"	1	1/16"	260-310	26-30	11-13
5/16"	1	1/16"	260-310	26-30	11-13
3/8"	2-3	1/16"	260-310	26-30	11-13

Joint Detail (Fillet)
Show all dimensions, weld sizes, passes, and AWS symbols



T_1 =VARIES
S =VARIES PER TABLE 7.2 (AS SHOWN LEFT OF PAGE).

Table 7.2

STUD DIAMETER	MIN. SIZE FILLET
3/8"(13MM)	1/4(6MM)
½", 5/8,3/4,7/8(13,16,19,22MM)	5/16(8MM)
1"(25MM)	3/8(10MM)

PROCEDURE:
1) REPAIR WELDMENT SHALL BE OF THE SIZE LISTED BELOW AND EXTEND AT LEAST 3/8" (9MM) BEYOND THE END OF EACH DISCONTINUITY BEING REPAIRED.

APPLICATION:
REPAIR OF STUD WELDMENTS, WHICH DO NOT EXHIBIT A FULL 360° FLASH

Prepared By: James R. Connor DSB QA Manager

Project: Granite Street over Stevens Branch of the Winooski River

DSB Job: 12550-1042

Preheat and Interpass Temperature Chart

Base Metal Thickness range	Minimum Preheat (°F)	Max Preheat & Interpass (°F)
≤ 3/4"	50°F	450°F
>3/4" to ≤1.5"	70°F	450°F
>1.5" to ≤2.5"	150°F	450°F
>2.5"	225°F	450°F

Note: When this procedure is used for A709Gr50W materials, it shall be limited to 5/16" single pass or material be coated.

06 of 8

DSBROWN

Production Joint Welding Procedure Specification (D1.5-02)

Procedure No: A-(MC)GF-STUD-REP-01 Date Issued: 9-29-04 Revision No: 0 Rev. Date: _____

Contractor (Fabricator) D. S. Brown Company Prepared by: James R. Connor, Quality Assurance Manager

1. Non-Fracture Critical [X] Fracture Critical [ ] WPS Expiration Date: _____
2. Qualified in accordance with: AWS D1.5- 2002 (5.12.1)
   Referenced PQR No(s). PQR-(MC)GMAW-01(04) __ , __ , ____
   Referenced FWST No(s). PQR-(MC)GMAW-FWST-01A(04) , PQR-(MC)GMAW-FWST-01B(04) , __ , __
3. Material specification(s) ASTM A709 Gr. 36, 50, 50W
4. Material Thickness (es) Unlimited
5. Welding process GMAW
6. Manual [ ] , machine [ ] , or semiautomatic [X]
7. Position(s) of welding 1F, 2F
8. Filler metal specification AWS A5.18
9. Filler metal class and brand name E70C-6M Corex Metal-Core Maxim
10. Flux class & brand N/A , Type N/A
11. Shielding gas 75% Ar / 25% CO2 Flow rate 45 CFH
12. Single pass [X] Or multiple pass [X]
13. Single arc [X] Or multiple arc [ ]
14. Welding Current DCEP
15. Polarity Reverse
16. Welding progression stringers
17. Root treatment Clean to bright sound metal or per AWS D1.5 (3.2.1 & 3.11)
18. Postheat treatment N/A
19. Calculated Heat Input (KJ/In) Min 30.6 Kj/in Max 51.1 Kj/in
20. Electrode extension (electrical stickout) 3/4"

For DOT Approval

V.A.O.T. RECEIVED NOV 16 2004 DATE 11-20-04

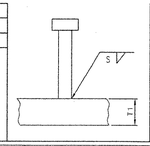
Weld size (in)	Pass No(s).	Electrode Size (in)	Welding Process Variables AMPS	VOLTS	Travel Speed (IPM)
1/4"	1	.052"	265-320	31-34.5	13-16
5/16"	1	.052"	265-320	31-34.5	13-16
3/8"	1-2	.052"	265-320	31-34.5	13-16

Table 7.2

STUD DIAMETER	MIN. SIZE FILLET
3/8"(13MM)	1/4(6MM)
½", 5/8,3/4,7/8(13,16,19,22MM)	5/16(8MM)
1"(25MM)	3/8(10MM)

PROCEDURE:
1) REPAIR WELDMENT SHALL BE OF THE SIZE LISTED ABOVE AND EXTEND AT LEAST 3/8" (9MM) BEYOND THE END OF EACH DISCONTINUITY BEING REPAIRED.

Joint Detail (Fillet)
Show all dimensions, weld sizes, passes, and AWS symbols



T_1 =VARIES
S =VARIES PER TABLE 7.2 (AS SHOWN LEFT OF PAGE).

APPLICATION:
REPAIR OF STUD WELDMENTS, WHICH DO NOT EXHIBIT A FULL 360° FLASH

Prepared By: James R. Connor DSB QA Manager

Project: Granite Street over Stevens Branch of the Wimooski River

DSB Job: 12550-1042

Preheat and Interpass Temperature Chart

Base Metal Thickness range	Minimum Preheat (°F)	Max Preheat & Interpass (°F)
≤ 3/4"	50°F	450°F
>3/4" to ≤1.5"	70°F	450°F
>1.5" to ≤2.5"	150°F	450°F
>2.5"	225°F	450°F

Note: When this procedure is used for A709Gr50W materials, it shall be limited to 5/16" single pass or material be coated.

068w8

DSBROWN

Production Joint Welding Procedure Specification (D1.5-02)

Procedure No: **A-SM-STUD-REP-01** Date Issued: 8/6/04 Revision No: 0 Rev. Date: _____

Contractor (Fabricator) D. S. Brown Company Prepared by: James R. Connor, Quality Assurance Manager

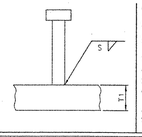
1. Non-Fracture Critical [X] Fracture Critical [ ] WPS Expiration Date: N/A
2. Qualified in accordance with: AWS D1.5- 2002
   Referenced PQR No(s). N/A __ , __ , ____
   Referenced FWST No(s). N/A , N/A , __ , ____
3. Material specification(s) ASTM A709 Gr. 36, 50, 50W, A108 Stud
4. Material Thickness (es) Unlimited
5. Welding process SMAW
6. Manual [X] , machine [ ] , or semiautomatic [ ]
7. Position(s) of welding 1F, 2F
8. Filler metal specification AWS A5.1
9. Filler metal class and brand name LINCOLN JET LH-78-MR E7018
10. Flux class & brand N/A , Type N/A
11. Shielding gas N/A Flow rate N/A
12. Single pass [X] Or multiple pass [X]
13. Single arc [X] Or multiple arc [ ]
14. Welding Current DCEP
15. Polarity Reverse
16. Welding progression stringers
17. Root treatment Clean to bright sound metal or per AWS D1.5 (3.2.1 & 3.11)
18. Postheat treatment N/A
19. Calculated Heat Input (KJ/In) Min 20.28 Kj/In Max 30.6 Kj/In
20. Electrode extension (electrical stickout) Varies

For DOT Approval

V.A.O.T. RECEIVED NOV 16 2004 RESUBMIT, _____ APPROVED [✓] DATE 11-20-04 BY

Weld size (in)	Pass No(s).	Electrode Size (in)	Welding Process Variables AMPS/WFS*	VOLTS	Travel Speed (IPM)
1/4"	1	5/32"	130-170	26-30	10
5/16"	1	5/32"	130-170	26-30	10
3/8"	2-3	5/32"	130-170	26-30	10

Joint Detail (Fillet)
Show all dimensions, weld sizes, passes, and AWS symbols



T1 = Varies
Stud = Varies
S = Weld Size

Weld must cover and extend beyond missing flash at least 3/8" in each direction

(see AWS D1.5 Table 7.2 for required weld size)

As per AWS D1.5 Sec. 7 (Table 7.2)

Stud Diameter	Minimum Fillet
≤ 3/8"	1/4"
3/8" ≤ 1"	5/16"
> 1"	3/8"

Prepared By: James R. Connor DSB QA Manager

Project: Granite Street over Stevens Branch of the Winooski River

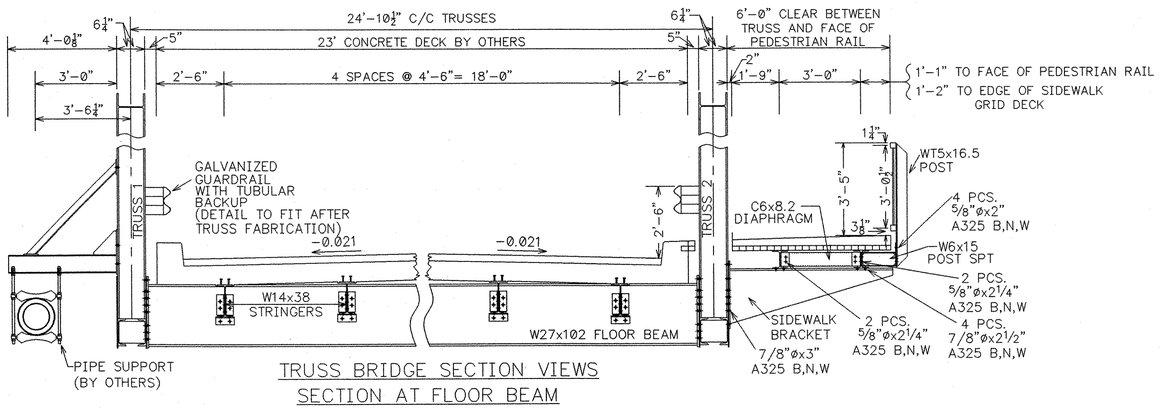
DSB Job: 12550-1042

Preheat and Interpass Temperature Chart

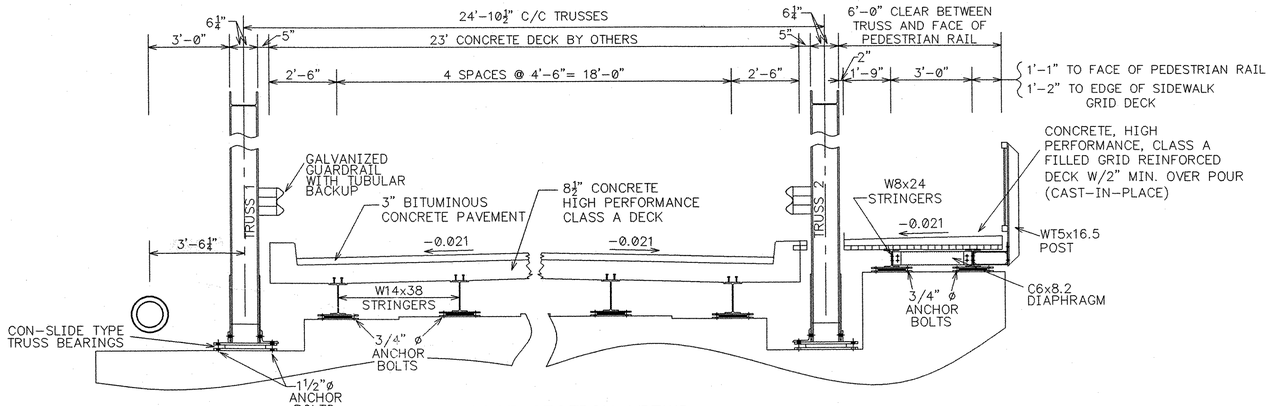
Base Metal Thickness range	Minimum Preheat (°F)	Max Preheat & Interpass (°F)
≤ 3/4"	50°F	450 °F
>3/4" to ≤1.5"	70°F	450 °F
>1.5" to ≤2.5"	150°F	450 °F
>2.5"	225°F	450 °F

Note: When this procedure is used for A709Gr50W materials, it shall be limited to 5/16" single pass or material be coated.

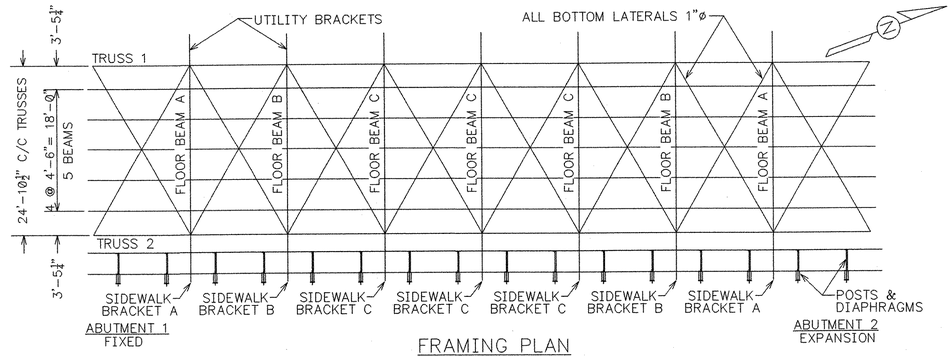
069WP



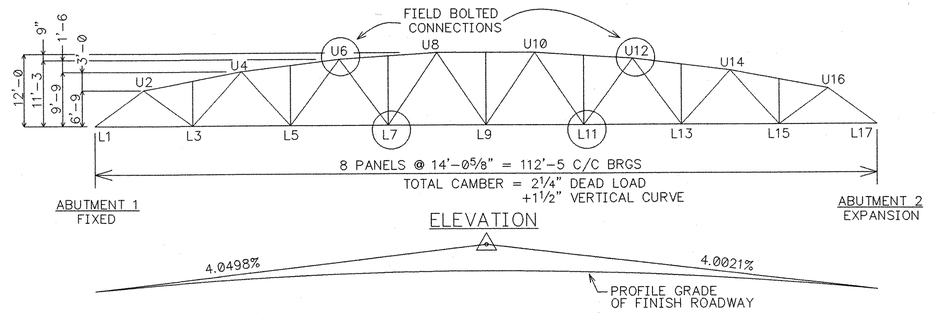
TRUSS BRIDGE SECTION VIEWS
SECTION AT FLOOR BEAM
(LOOKING NORTH)



TRUSS BRIDGE SECTION VIEWS
SECTION AT ABUTMENT
(LOOKING NORTH)



FRAMING PLAN



ELEVATION

DESIGN SPECIFICATIONS
AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17th EDITION (2002), DIVISION I, WITH ALL ITS LATEST REVISIONS IN EFFECT.

LIVE LOAD
AASHTO HS25

MATERIAL

ALL STEEL STRUCTURES SHALL BE ASTM A709, GRADE 50 (ASTM A572 GR50) GALVANIZED AFTER FABRICATION

ALL FASTENERS UNLESS NOTED OTHERWISE, SHALL BE 7/8" ø HIGH STRENGTH BOLTS, ASTM A325 WITH ASTM A563 GRADE C NUT AND ONE ASTM F436 WASHER PER BOLT. FASTENERS SHALL BE FURNISHED WITH ROTATIONAL CAPACITY TESTS.

CONSTRUCTION/FABRICATION
AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 16th EDITION (1996), DIVISION II, WITH ALL INTERIM SPECIFICATIONS IN EFFECT

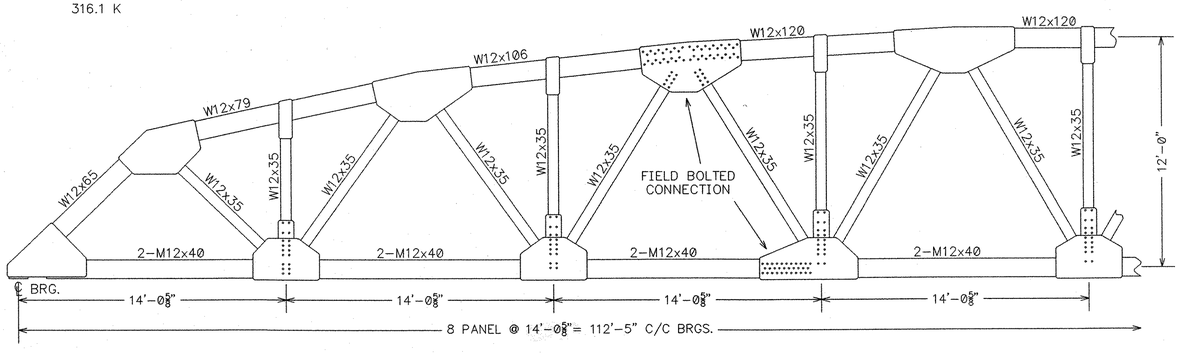
WELDING
ALL WELDING SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5 BRIDGE WELDING CODE AND THE AASHTO FRACTURE CONTROL, WHERE APPLICABLE.

NON-DESTRUCTIVE TESTING OF WELDS SHALL BE PERFORMED AS FOLLOWS:

FILLET WELDS - VISUAL - 100%
- MT. - 10% MIN

TRUSS SHOE REACTION

DEAD LOAD	144.6 K
LIVE LOAD (HS 25)	85.9 K
IMPACT	18.1 K
SW DL+LL	67.5 K
TOTAL	316.1 K



TRUSS ELEVATION
TRUSS LIFTING WEIGHT= 35.2K

WELD MEMBERS TO GUSSET PLATES WITH MINIMUM 5/16 INCH FILLET WELDS AT EACH END OF EACH MEMBER.

ALL GUSSET PLATES 1/2 INCH THICK EXCEPT AS NOTED WITH SUFFICIENT FLAT AREAS TO RESIST STRESSES AND SO SHAPED TO PRODUCE AN AESTHETIC ARCHITECTURAL APPEARANCE.

DESIGN DEAD LOADS

8½" CONCRETE	107 PSF
3" ASPHALT	38 PSF
HAUNCH	15 PSF
DECK FORMS	15 PSF
CONCRETE CURB	235 PLF
SIDEWALK DECK	70 PSF

NOTE: DRAWINGS RELATIVE DO NOT SCALE

RECEIVED
GK'D BY TAS OK'D BY
NOV 13 2004
RESUBMIT
BY DATE 12-14-04

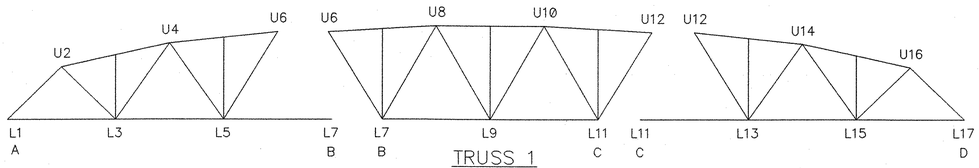
FABRICATOR: U.S. BRIDGE
CONTACT: 201 WHEELING AVE.
P.O. BOX 757
CAMBRIDGE, OHIO 43725
1-888-872-7434

NO.	DATE	REVISIONS	BY
1	11/29/04	DIMENSIONS UPDATED	JEC
2	11/29/04	TITLE BLOCK UPDATED	JEC
3	11/29/04	GENERAL NOTES UPDATED	JEC

112'-5" TRUSS BRIDGE
GRANITE STREET
CITY OF BARRE
WASHINGTON COUNTY, VERMONT

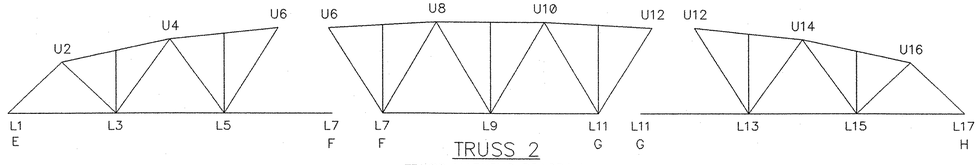
21'-0" RDWY + 6' SW
PROJ. NO. HDP 9281(1)
BRIDGE # 11

DESIGN	DRAWN	DATE	DRAWING NO.	SHEET
SAF	JEC	OCTOBER 20, 2004	GENERAL DETAILS	1 OF 11
CHECK/DATE AG 10/8/04	FABRICATOR U.S. BRIDGE			070 33



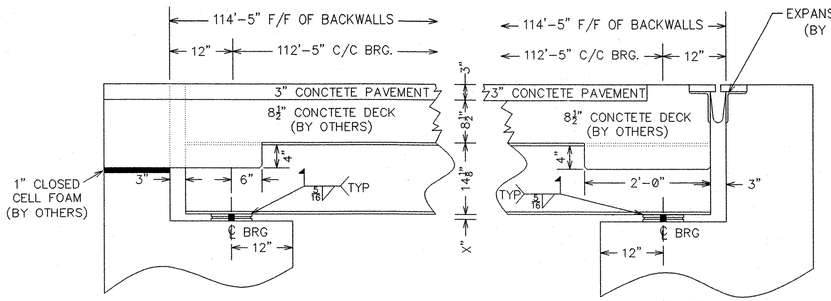
TRUSS 1

TRUSS MARKING DIAGRAM



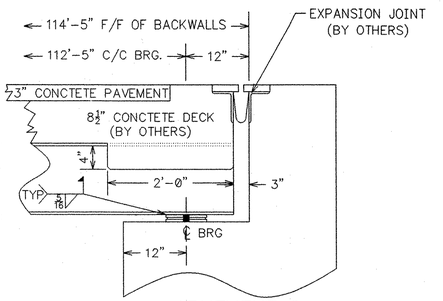
TRUSS 2

TRUSS MARKING DIAGRAM



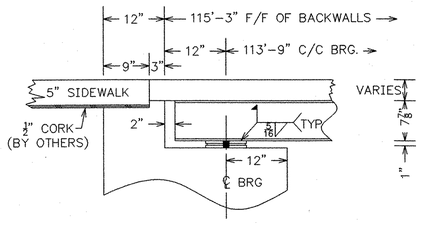
ABUTMENT 1

ROADWAY DETAIL



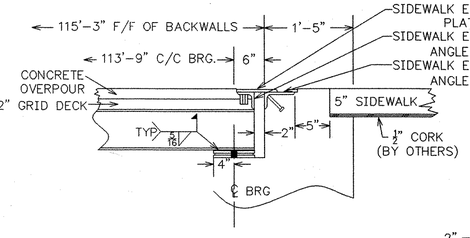
ABUTMENT 2

ROADWAY DETAIL



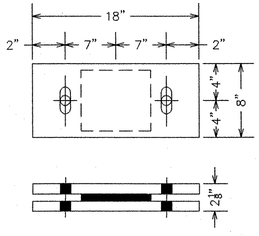
ABUTMENT 1

SIDEWALK DETAIL



ABUTMENT 2

SIDEWALK DETAIL



ROADWAY & SIDEWALK

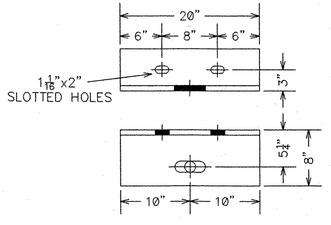
STRINGER BEARING PLATE DETAIL

FIXED END

7- TOP PLATES ℝ¾"x8"x18" WITH 1⅛"ø HOLES
7- CONSLIDE TYPE PAD ⅝"x7½"x8"
7- BOTTOM PLATE ℝ¾"x8"x18" WITH 1⅛"ø HOLES

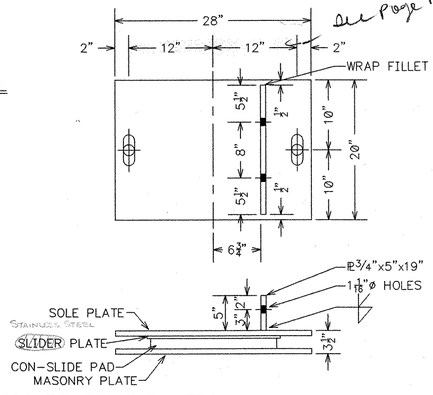
EXPANSION END

7- TOP PLATE ℝ¾"x8"x18" WITH 1⅛"ø x3" SLOTTED HOLES
AND 14 GAUGE STAINLESS STEEL PLATE WITH A MIRROR
FINISH OF LESS THAN 10 MICRO INCHES RMS
7- CONSLIDE TYPE PAD ⅝"x7½"x8" WITH PTFE SURFACING ON ONE SIDE
7- BOTTOM PLATE ℝ¾"x8"x18" WITH 1⅛"ø HOLES
GALVANIZED



TRUSS BEARING ANGLES

L8"x6"x¾"
2 W/ 1⅝"x4½" SLOTTED HOLES
2 W/ 1⅝"ø HOLES



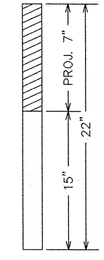
TRUSS BEARING PLATES

FIXED BEARINGS

SOLE PLATE- 2 PCS- ℝ1"x20"x28" W/ 1⅝"ø HOLES
CON-SLIDE PADS- 2 PCS- 1½"x18"x19"
MASONRY PLATE- 2 PCS- ℝ1"x20"x28" W/ 1⅝"ø HOLES

EXPANSION BEARINGS

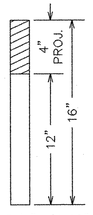
SOLE PLATE- 2 PCS- ℝ1"x20"x28" W/ 1⅝"ø x4½" SLOTTED HOLES
AND 14 GAUGE STAINLESS STEEL PLATE WITH A MIRROR
FINISH OF LESS THAN 10 MICRO INCHES RMS
CON-SLIDE PADS- 2 PCS- 1½"x18"x19" WITH PTFE SURFACING ON ONE SIDE
MASONRY PLATE- 2 PCS- ℝ1"x20"x28" W/ 1⅝"ø HOLES
GALVANIZED



1 1/2"ø X 22"
A449 GALV. ROD
WITH 2 NUTS &
ONE WASHER
ℝ 1/4" X 4" X 6"

TRUSS ANCHOR BOLTS

8 - REQ'D



3/4"ø X 16"

STRINGER ANCHOR BOLTS

28 - REQ'D

NOTE: DRAWINGS RELATIVE DO NOT SCALE

BOLT CHART	7/8"ø A325 TYPE 1 GALV.						3/4"ø A325 TYPE 1 GALV.		5/8"ø A325 TYPE 1 GALV.		
LOCATION	SIZE						SIZE		SIZE		
	2 1/4"	2 1/2"	2 3/4"	3"	3 1/4"		4" DOME HEAD	4 1/4"	1¾"	2"	2¼"
U6 & U12 TRUSS CONNECTION		128		384							
L7 & L11 TRUSS CONNECTION		256									
FLOOR BEAM TO TRUSS					224						
STRINGER SEAT TO FLOOR BEAM			70								
STRINGER CONN. ANGLE TO FLOOR BEAM			140								
STRINGER SEAT TO ROADWAY STRINGER	140										
STRINGER CONN. ANGLE TO ROADWAY STRINGER		210									
SIDEWALK BRACKET TO TRUSS				104							
SIDEWALK STRINGER TO SIDEWALK BRACKET		56									
SIDEWALK STRINGER CONN. ANGLE TO DIAPHRAGM											64
SIDEWALK POST SUPPORT TO POST										64	
POST SUPPORT TO STRINGER											64
CONNECTION ANGLE TO STRINGER									64		
SIDEWALK POST TO RAILING								80			
SIDEWALK RAILING SPLICE							4				
TRUSS TO BRG. ASSEMBLY					16						
UTILITY BRACKET TO TRUSS		42									
LATERAL ROD ANCHOR PLATE TO LATERAL ROD ANCHOR ANGLE				8							
SIDEWALK EXPANSION PLATE TO SIDEWALK EXPANSION ANGLE "A"								8			
TOTAL REQ'D	140	692	210	496	240		4	88	64	64	128
TOTAL ORDERED	150	727	221	521	252		14	98	74	74	138

MATERIAL SCHEDULE		
FINISH	QUANTITY	DESCRIPTION
GALV.	74 PCS.	⅝"øx1¾" TYPE 1 A325 B,N,W
GALV.	74 PCS.	⅝"øx2" TYPE 1 A325 B,N,W
GALV.	138 PCS.	⅝"øx2¼" TYPE 1 A325 B,N,W
GALV.	14 PCS.	¾"øx4" TYPE 1 A325 B,N,W DOME HEAD
GALV.	98 PCS.	¾"øx4¼" TYPE 1 A325 B,N,W
GALV.	28 PCS.	¾"øx16" TYPE 1 A325 B,N,W- STRINGER ANCHOR BOLT
GALV.	150 PCS.	⅞"øx2¼" TYPE 1 A325 B,N,W
GALV.	727 PCS.	⅞"øx2½" TYPE 1 A325 B,N,W
GALV.	221 PCS.	⅞"øx2¾" TYPE 1 A325 B,N,W
GALV.	521 PCS.	⅞"øx3" TYPE 1 A325 B,N,W
GALV.	252 PCS.	⅞"øx3¼" TYPE 1 A325 B,N,W
GALV.	8 PCS.	1½"øx22" TYPE 1 A449, 2 NUTS, 1 WASHER- TRUSS ANCHOR BOLT

MATERIAL SCHEDULE		
FINISH	QUANTITY	DESCRIPTION
GALV.	1 PC.	TRUSS 1- SECTION AB
GALV.	1 PC.	TRUSS 1- SECTION BC
GALV.	1 PC.	TRUSS 1- SECTION CD
GALV.	1 PC.	TRUSS 2- SECTION EF
GALV.	1 PC.	TRUSS 2- SECTION FG
GALV.	1 PC.	TRUSS 3- SECTION GH
GALV.	2 PCS.	FLOOR BEAM A W27x102 @ 23'-7½" W/2 PCS- END PLATE A ℝ¾"x10"x31¼" 4 PCS- LATERAL ROD ANCHOR PLATE "D"- ℝ¾"x6"x8 11/16"
GALV.	2 PCS.	FLOOR BEAM B W27x102 @ 23'-7½" W/2 PCS- END PLATE B ℝ¾"x10"x31¼" 4 PCS- LATERAL ROD ANCHOR PLATE "D"- ℝ¾"x6"x8 11/16"
GALV.	3 PCS.	FLOOR BEAM C W27x102 @ 23'-7½" W/2 PCS- END PLATE C ℝ¾"x10"x31¼" 4 PCS- LATERAL ROD ANCHOR PLATE "D"- ℝ¾"x6"x8 11/16"
GALV.	10 PCS.	ROADWAY END PANEL STRINGER W14x38 @ 14'-8⅜" W/⅞"øx4" STUDS
GALV.	30 PCS.	ROADWAY INTERIOR PANEL STRINGER W14x38 @ 13'-10⅛" W/⅞"øx4" STUDS
GALV.	2 PCS.	SIDEWALK STRINGER 1 W8x24 @ 14'-10⅜"
GALV.	12 PCS.	SIDEWALK STRINGER 2 W8x24 @ 14'-0⅛"
GALV.	2 PCS.	SIDEWALK STRINGER 3 W8x24 @ 15'-8⅜"
GALV.	140 PCS.	ROADWAY STRINGER CONN. ANGLE L5"x3½"x⅜" @ 8½"
GALV.	70 PCS.	ROADWAY STRINGER SEAT ANGLE L5"x3½"x⅜" @ 8⅜"
GALV.	16 PCS.	POST SUPPORT W6x15 @1'-2⅜" W/1PC.- ℝ1½"x7"x10⅝" POST PLATE, 1 PC.- ℝ½"x7"x7" CONNECTION PLATE
GALV.	64 PCS.	SIDEWALK DIAPHRAGM CONNECTION ANGLE L6"x4"x⅜" @ 4¼"
GALV.	16 PCS.	SIDEWALK DIAPHRAGM C6x8.2 @ 2'-6¾"
GALV.	2 PCS.	SIDEWALK BRACKET A W27x94 @ 6'-0" 1 PC- SIDEWALK BRACKET END PLATE- ℝ1½"x10"x29¾"
GALV.	2 PCS.	SIDEWALK BRACKET B W27x94 @ 6'-0" 1 PC- SIDEWALK BRACKET END PLATE- ℝ1½"x10"x29¾"
GALV.	3 PCS.	SIDEWALK BRACKET C W27x94 @ 6'-0" 1 PC- SIDEWALK BRACKET END PLATE- ℝ1½"x10"x29¾"
GALV.	12 PCS.	LATERAL RODS 1"øx25'-9" W/6" THREAD ON EACH END
GALV.	4 PCS.	LATERAL RODS 1"øx25'-11" W/6" THREAD ON EACH END
GALV.	4 PCS.	LATERAL ROD ANCHOR ANGLE L8"x4"x½" @ 12"
GALV.	4 PCS.	LATERAL ROD ANCHOR PLATE "E" ℝ1½"x8"x10"
GALV.	1 PC.	DOWN SPOUT ASSEMBLY
GALV.	1 PC.	DOWN SPOUT BRACKET (BENT) ℝ⅜"x4"x2'-7"
GALV.	7 PCS.	UTILITY BRACKET ASSEMBLY
GALV.	1 PC.	SIDEWALK EXPANSION ANGLE "A" L3½"x3½"x½" @ 7'-6" W/ ¾"øx2" CLOSED THREADED ANCHOR FERRULE
GALV.	1 PC.	SIDEWALK EXPANSION ANGLE "B" L6"x3½"x½" @ 7'-6" W/ ½"øx4" STUDS 1 PC. - ½"x2"x7'-6" BAR
GALV.	1 PCS.	SIDEWALK EXPANSION PLATE- ℝ1½"x8"x7'-6"
GALV.	2 ASSY.	TRUSS FIXED BEARING ASSEMBLY SOLE PLATE- 2 PCS- ℝ1"x20"x28" W/ 1⅝"ø HOLES W/1- ℝ¾"x5"x19" CON-SLIDE PADS- 2 PCS- 1½"x18"x19" MASONRY PLATE- 2 PCS- ℝ1"x20"x28" W/ 1⅝"ø HOLES
GALV.	2 ASSY.	TRUSS EXPANSION BEARING ASSEMBLY SOLE PLATE- 2 PCS- ℝ1"x20"x28" W/ 1⅝øx4½" SLOTTED HOLES, W/1- ℝ¾"x5"x19" AND 14 GAUGE STAINLESS STEEL PLATE CON-SLIDE PADS- 2 PCS- 1½"x18"x19" WITH PTFE SURFACING ON ONE SIDE BOTTOM PLATE ℝ¾"x8"x18" WITH 1⅛"ø HOLES
GALV.	7 ASSY.	ROADWAY AND SIDEWALK FIXED BEARING ASSEMBLY TOP PLATES ℝ¾"x8"x18" WITH 1⅛"ø HOLES CONSLIDE TYPE PAD ⅝"x7½"x8" BOTTOM PLATE ℝ¾"x8"x18" WITH 1⅛"ø HOLES
GALV.	7 ASSY.	ROADWAY AND SIDEWALK EXPANSION BEARING ASSEMBLY TOP PLATE ℝ¾"x8"x18" WITH 1⅛"øx3" SLOTTED HOLES AND 14 GAUGE STAINLESS STEEL PLATE CONSLIDE TYPE PAD ⅝"x7½"x8" WITH PTFE SURFACING ON ONE SIDE MASONRY PLATE- 2 PCS- ℝ1"x20"x28" W/ 1⅝"ø HOLES
GALV.	4 PCS.	TRUSS BEARING ANGLE L8"x6"x3/4" @ 20"
GALV.	1 ASSY.	RAIL SECTION A- 19'-6¼" W/ 39 PCS.- ¾"ø PICKETS
GALV.	4 ASSY.	RAIL SECTION B- 21'-0 9/16" W/ 42 PCS.- ¾"ø PICKETS
GALV.	1 ASSY.	RAIL SECTION C- 19'-2⅞" W/ 38 PCS.- ¾"ø PICKETS
GALV.	1 ASSY.	RAIL SECTION D- 8'-5 15/16" W/ 17 PCS.- ¾"ø PICKETS
GALV.	1 PC.	POST A WT5x16.5 @ 4'-3 7/16"
GALV.	2 PCS.	POST B WT5x16.5 @ 5'-0⅛"
GALV.	16 PCS.	POST C WT5x16.5 @ 4'-7 11/16"
GALV.	1 PC.	POST D WT5x16.5 @ 4'-3⅝"
GALV.	16 PCS.	PLATE WASHER- ℝ1¼"x2"x5"
GALV.	2 PCS.	RAIL SPLICE TUBE @ 23"

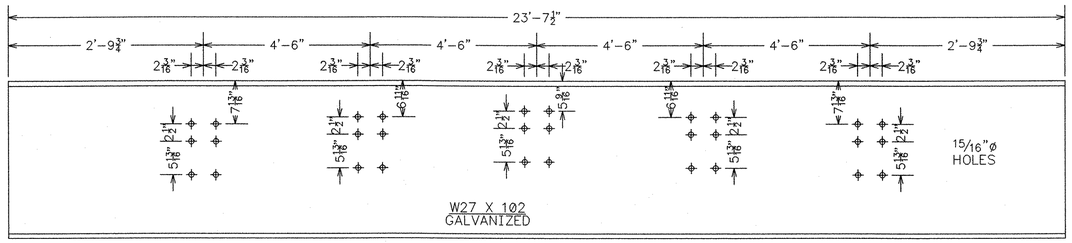
RECEIVED
OK'D
OK'D BY
3 2004
RESUBM
APPROVED AS NOTED
BY
DATE 12-14-04

FABRICATOR: U.S. BRIDGE
CONTACT: 201 WHEELING AVE.
P.O. BOX 757
CAMBRIDGE, OHIO 43725
1-888-872-7434

NO.	DATE	REVISIONS	BY
1	11/29/04	BEARING PLATES REVISED	JEC
2	11/29/04	ANCHOR BOLTS REVISED	JEC
3	11/29/04	MATERIAL SCHEDULE REVISED	JEC

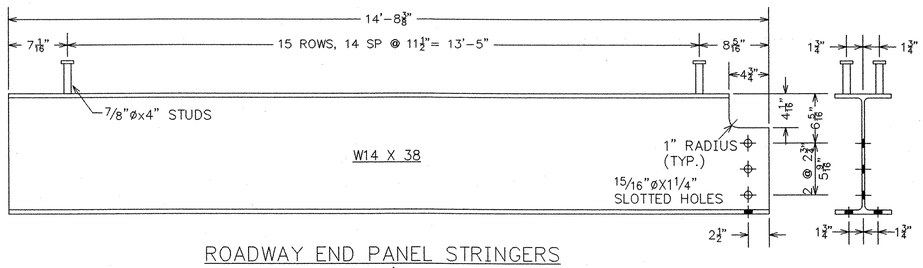
112'-5" TRUSS BRIDGE — 21'-0" RDWY + 6' SW
GRANITE STREET — PROJ. NO. HDP 9281(1)
CITY OF BARRE — BRIDGE # 11
WASHINGTON COUNTY, VERMONT

DESIGN	DRAWN	DATE	DRAWING NO.	SHEET
SAF	JEC	OCTOBER 20, 2004	MATERIAL SCHEDULE	2 OF 11 07/33
CHECK/DATE: AG 10/8/04	FABRICATOR: U.S. BRIDGE			



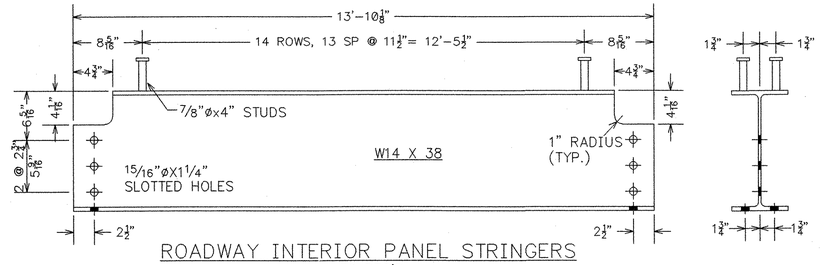
FLOOR BEAM A,B & C DETAIL

W27 X 102
7 REQ'D
GALVANIZED



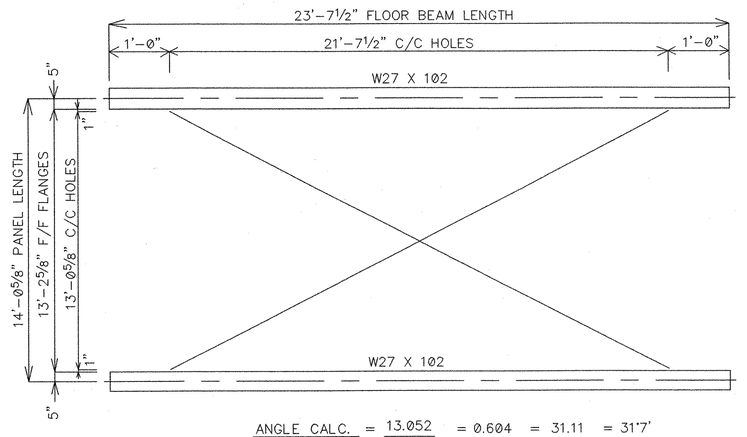
ROADWAY END PANEL STRINGERS

10 REQ'D
GALVANIZED



ROADWAY INTERIOR PANEL STRINGERS

30 REQ'D
GALVANIZED

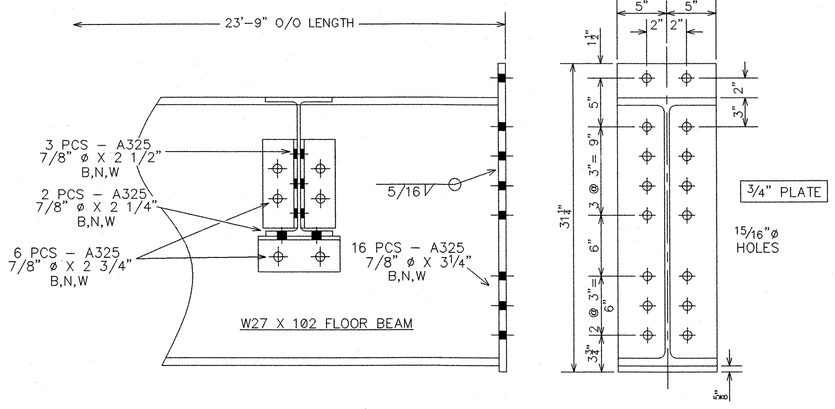


ANGLE CALC. = $\frac{13.052}{21.625}$ = 0.604 = 31.11 = 31°7'

LENGTH CALC. = $\frac{21.625}{\text{COS } 31.11}$ = 25.26' = 25'-3⅛"

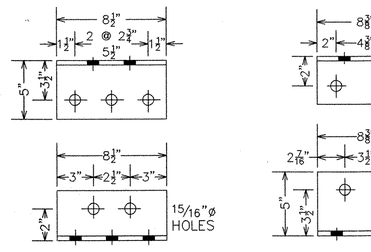
LATERAL ROD LENGTHS

GALVANIZED RODS
12 PCS – 1" ø X 25'-9" WITH 6" THREAD ON EACH END
4 PCS – 1" ø X 25'-11" WITH 6" THREAD ON EACH END



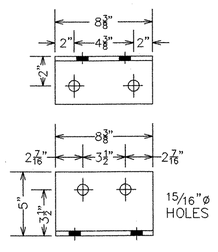
FLOOR BEAM END PLATE "A" DETAIL

4 REQ'D
GALVANIZED



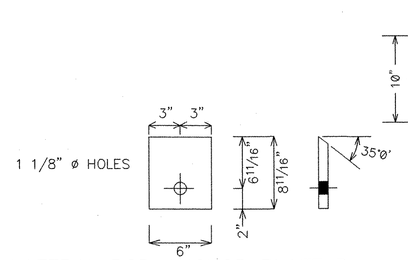
ROADWAY STRINGER CONNECTION ANGLE

L5" X 3 1/2" X 3/8"
140 REQ'D
GALVANIZED



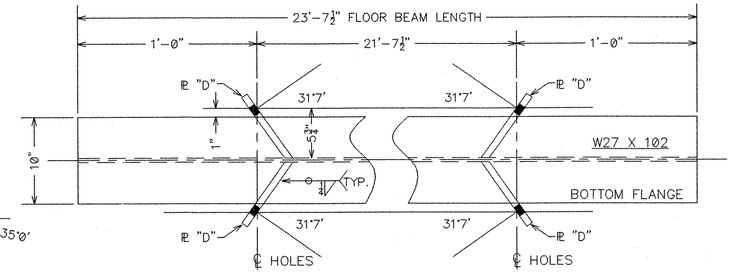
ROADWAY STRINGER SEAT ANGLE

L5" X 3 1/2" X 3/8"
70 REQ'D
GALVANIZED

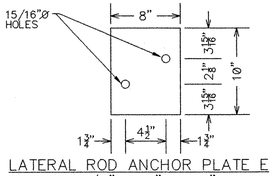


LATERAL ROD ANCHOR PLATE D

℄3/4"x6"x8 11/16"
28 REQ'D
GALVANIZED

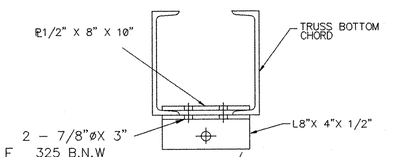


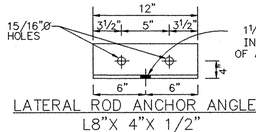
INTERIOR FLOORBEAM – LATERAL ROD ANCHOR LAYOUT



LATERAL ROD ANCHOR PLATE E

℄1/2" X 8" X 10"
4 REQ'D

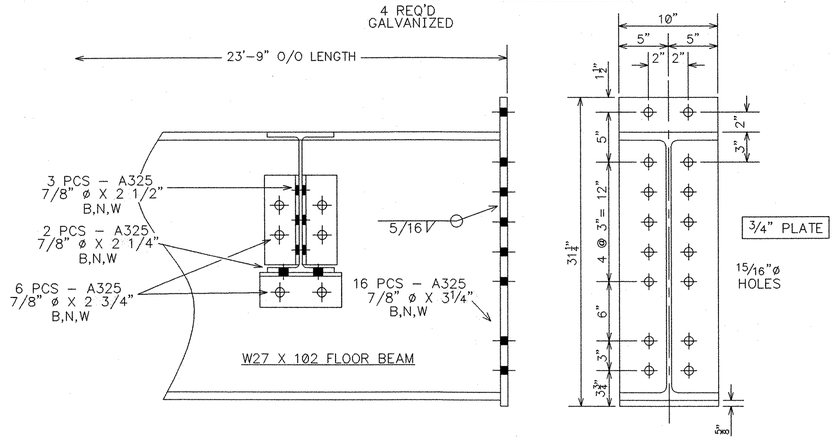




LATERAL ROD ANCHOR ANGLE

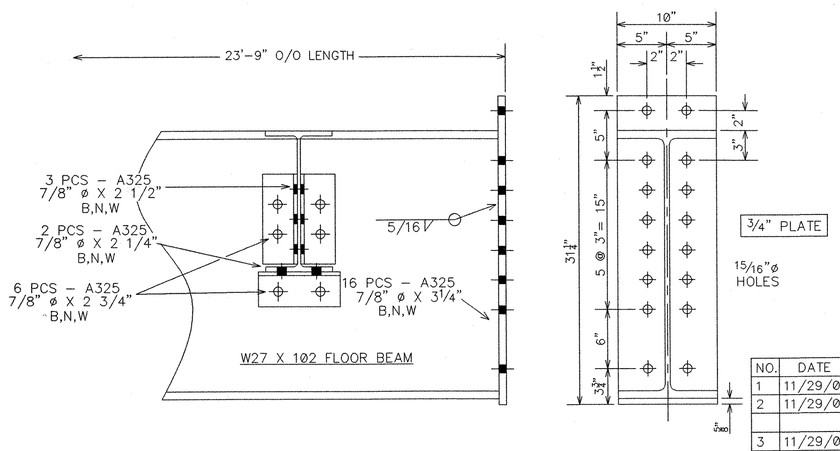
L8"X 4"X 1/2"
4 REQ'D

END PANEL LATERAL ROD ANCHOR DETAIL



FLOOR BEAM END PLATE "B" DETAIL

4 REQ'D
GALVANIZED



FLOOR BEAM END PLATE "C" DETAIL

6 REQ'D
GALVANIZED

NOTE: DRAWINGS RELATIVE DO NOT SCALE

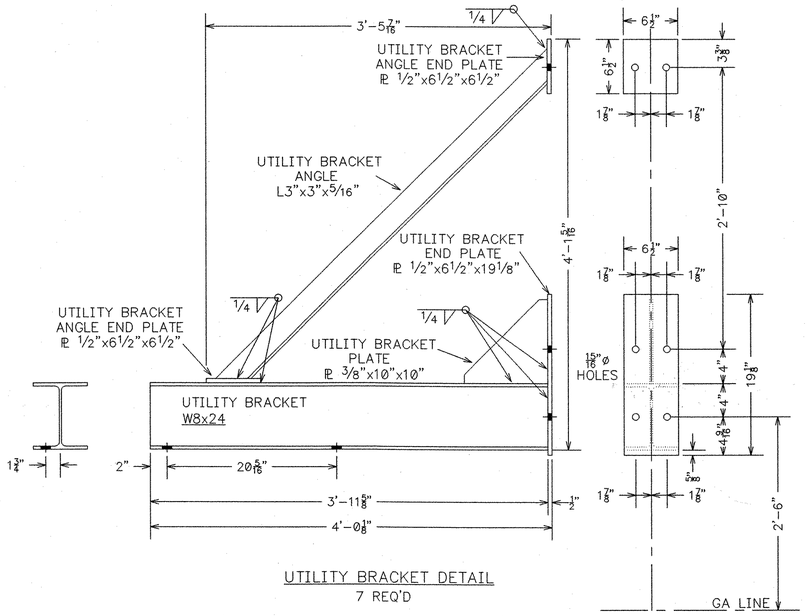
RECEIVED
CK'D BY Thrs CK'D BY
NOV 1 3 2004
RESUBMIT APPROVED
BY DATE 12-14-04

FABRICATOR: U.S. BRIDGE
CONTACT: 201 WHEELING AVE.
P.O. BOX 757
CAMBRIDGE, OHIO 43725
1-888-872-7434

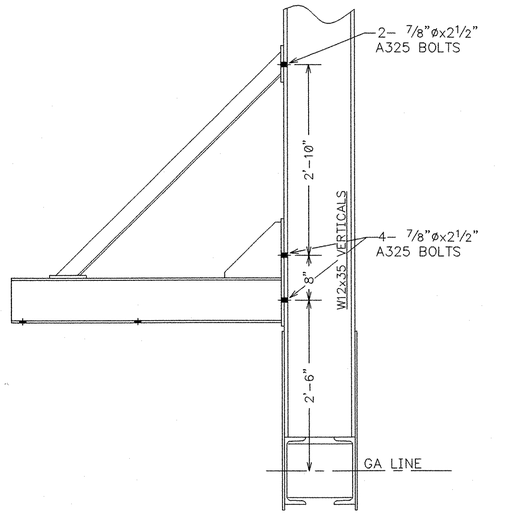
NO.	DATE	REVISIONS	BY
1	11/29/04	DIMENSIONS UPDATED	JEC
2	11/29/04	LATERAL ROD ANCHOR	JEC
		℄ DETAIL UPDATED	
3	11/29/04	WELD SYMBOLS REVISED	JEC

112'-5" TRUSS BRIDGE — 21'-0" RDWY + 6' SW
GRANITE STREET — PROJ. NO. HDP 9281(1)
CITY OF BARRE — BRIDGE # 11
WASHINGTON COUNTY, VERMONT

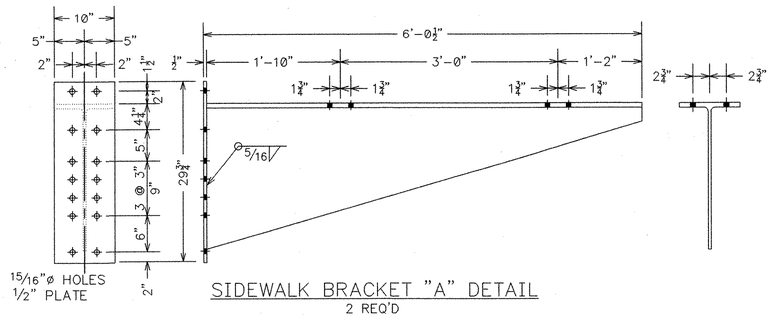
DESIGN	DRAWN	DATE	DRAWING NO.	SHEET
SAF	JEC	OCTOBER 20, 2004	FLOOR BEAM DETAILS	3 OF 11
CHECK/DATE AG 10/8/04	FABRICATOR U.S. BRIDGE			072-33



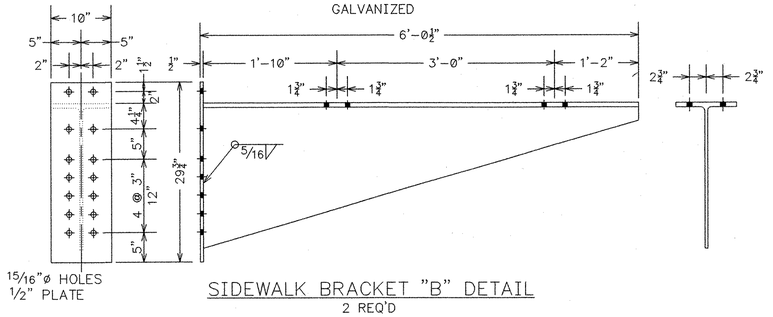
UTILITY BRACKET DETAIL
7 REQ'D



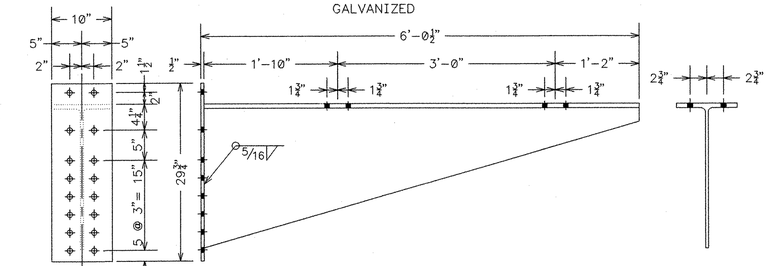
UTILITY BRACKET LOCATION DETAIL @ TRUSS 1



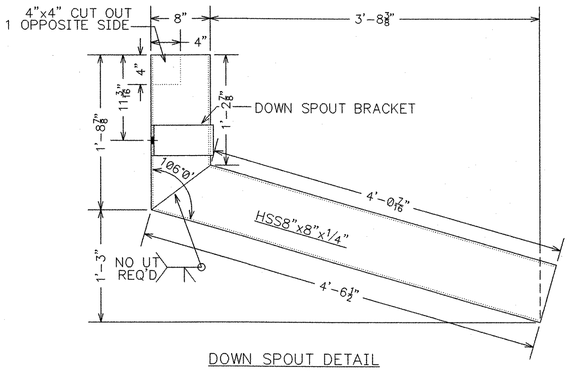
SIDEWALK BRACKET "A" DETAIL
2 REQ'D
GALVANIZED



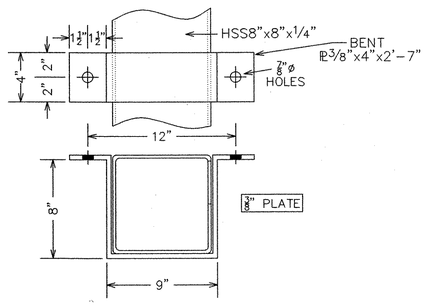
SIDEWALK BRACKET "B" DETAIL
2 REQ'D
GALVANIZED



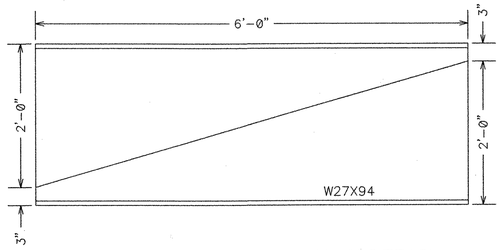
SIDEWALK BRACKET "C" DETAIL
3 REQ'D
GALVANIZED



DOWN SPOUT DETAIL
1 REQ'D



DOWN SPOUT BRACKET DETAIL
1 REQ'D



SIDEWALK BRACKET CUTTING DETAIL
4 REQ'D
GALVANIZED

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CK'D BY TAS CK'D BY
NOV 13 2004
RESUBMIT APPROVED
BY DATE 12-14-04

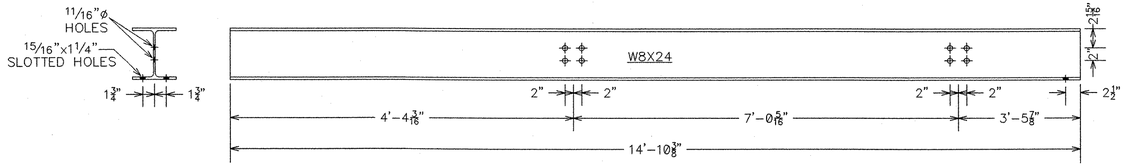
FABRICATOR: U.S. BRIDGE
CONTACT: 201 WHEELING AVE.
P.O. BOX 757
CAMBRIDGE, OHIO 43725
1-888-872-7434

NO.	DATE	REVISIONS	BY
1	11/29/04	WELD SYMBOLS REVISED	JEC

112'-5" TRUSS BRIDGE — 21'-0" RDWY + 6' SW
GRANITE STREET — PROJ. NO. HDP 9281(1)
CITY OF BARRE — BRIDGE # 11
WASHINGTON COUNTY, VERMONT

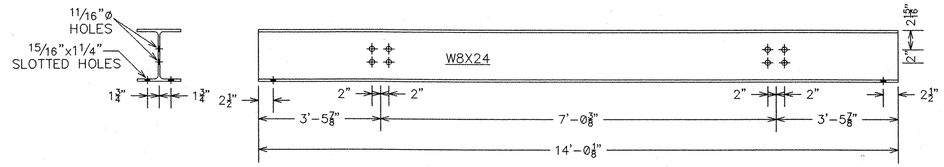
DESIGN	DRAWN	DATE	DRAWING NO.	SHEET
SAF	JEC	OCTOBER 20, 2004	BRACKETS	4 OF 11
CHECK/DATE AG 10/8/04	FABRICATOR U.S. BRIDGE			073 33

NOTE: DRAWINGS RELATIVE DO NOT SCALE



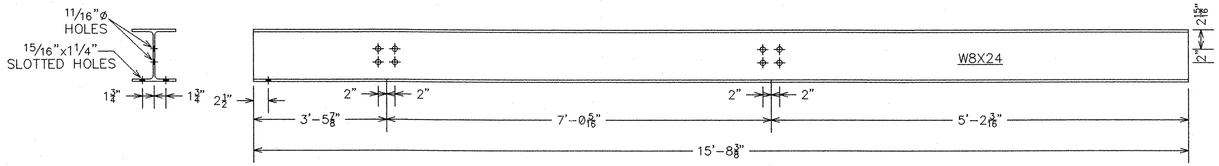
SIDEWALK STRINGER 1

2 REQ'D
GALVANIZED



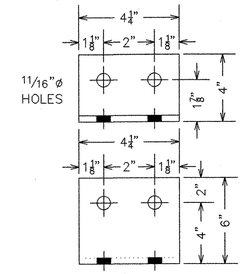
SIDEWALK STRINGER 2

12 REQ'D
GALVANIZED



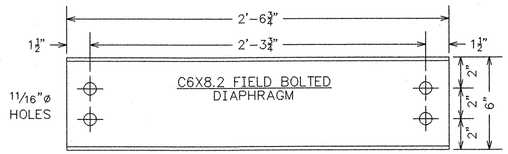
SIDEWALK STRINGER 3

2 REQ'D
GALVANIZED



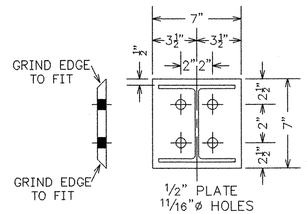
SIDEWALK DIAPHRAGM CONNECTION ANGLE

64 REQ'D
L6" X 4" X 3/8"
GALVANIZED



SIDEWALK DIAPHRAGM DETAIL

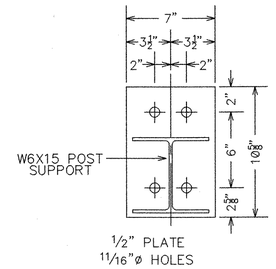
16 REQ'D
GALVANIZED



1/2" PLATE
11/16"ø HOLES

POST SUPPORT CONNECTION PLATE

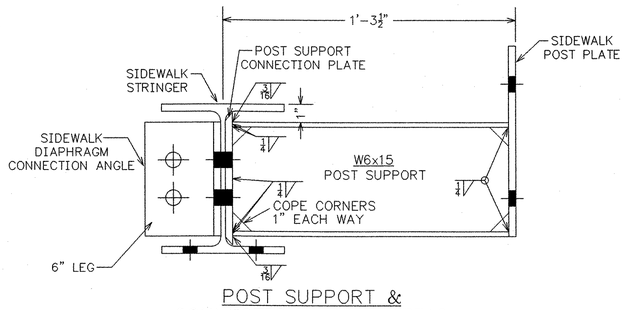
16 REQ'D
℄ 1/2" X 7" X 7"
GALVANIZED



1/2" PLATE
11/16"ø HOLES

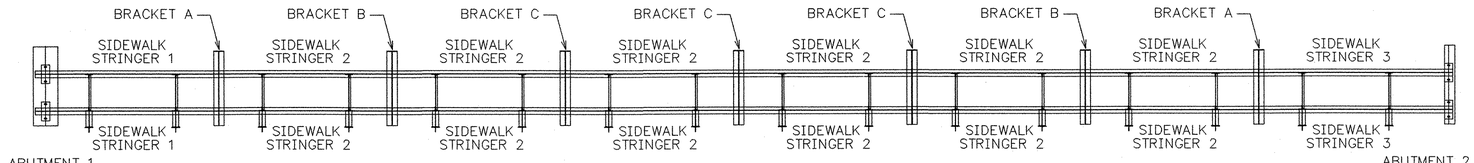
SIDEWALK POST PLATES

16 REQ'D
℄ 1/2" X 7" X 10 5/8"
GALVANIZED



POST SUPPORT & CONNECTION ANGLE DETAIL

16 REQ'D



SIDEWALK STRINGER LAYOUT

NOTE: DRAWINGS RELATIVE DO NOT SCALE

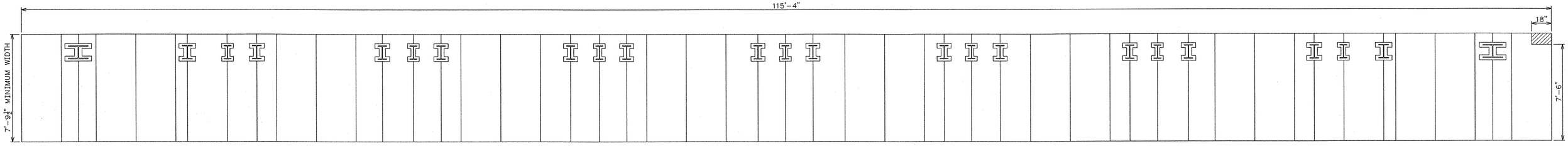
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CK'D BY TAS CK'D BY
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RESUBMIT APPROVED
BY DATE 12-14-04

FABRICATOR: U.S. BRIDGE
CONTACT: 201 WHEELING AVE.
P.O. BOX 757
CAMBRIDGE, OHIO 43725
1-888-872-7434

NO.	DATE	REVISIONS	BY
1	11/29/04	DRAWING REVISED	JEC

112'-5" TRUSS BRIDGE — 21'-0" RDWY + 6' SW
GRANITE STREET — PROJ. NO. HDP 9281(1)
CITY OF BARRE — BRIDGE # 11
WASHINGTON COUNTY, VERMONT

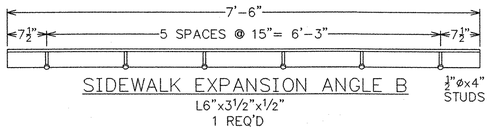
DESIGN	DRAWN	DATE	DRAWING NO.	SHEET
SAF	JEC	OCTOBER 20, 2004	SIDEWALK DETAILS	5 OF 11
CHECK/DATE AG 10/8/04	FABRICATOR U.S. BRIDGE			07455



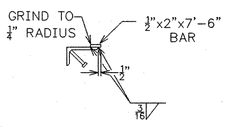
SIDEWALK DECKING PLAN

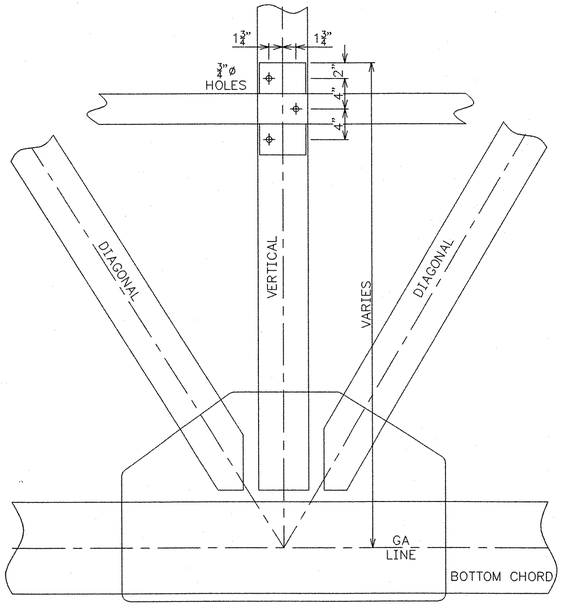
NOTE:
GRATING CUTOUTS TO BE SHOP DETERMINED DURING BRIDGE FABRICATION.

NOTE:
AFTER TRUSSES ARE FABRICATED, SIDEWALK FRAMING WILL BE TEMPORARILY BOLTED TO TRUSS 2. THE GRID DECKING WILL BE FABRICATED TO FIT AROUND TRUSS MEMBERS. BEFORE DISASSEMBLY AND SHIPMENT TO JOB SITE DECKING WILL BE MATCH MARKED AND A PLAN WILL BE SUBMITTED.

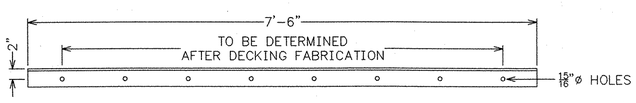


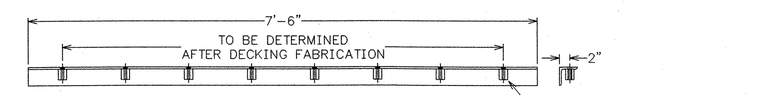
SIDEWALK EXPANSION ANGLE B
L6"x3½"x½"
1 REQ'D



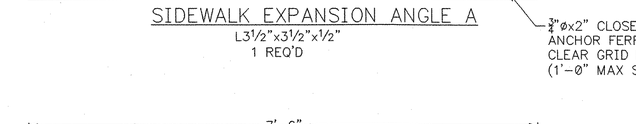


TYPICAL GUARDRAIL HOLE SPACING

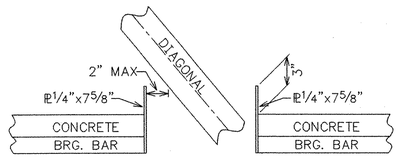




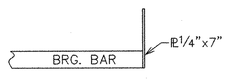
SIDEWALK EXPANSION ANGLE A
L3½"x3½"x½"
1 REQ'D



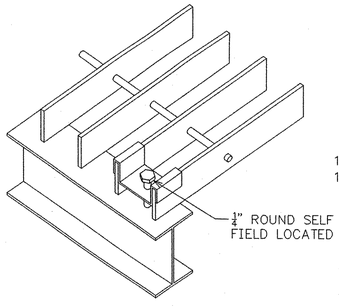
SIDEWALK EXPANSION PLATE
PL½"x8"x7'-6"
1 REQ'D



TYPICAL END DAMS REQUIRED @ DECK CUT OUTS



END DAM @ EDGE OF DECK



1-CLIP AT EACH EDGE AT EACH STRINGER.
1-CLIP IN CENTER AT 18" MAX SPACING.
DECK ATTACHMENT TO SIDEWALK STRINGERS

¼" ROUND SELF DRAWING SCREW FIELD LOCATED HOLES

NOTE: DRAWINGS RELATIVE DO NOT SCALE

NOTE: GRATING TO BE 2" GALVANIZED IDSI TYPE SDS2T-06

RECEIVED
O.K'D BY TAS O.K'D BY
NOV 13 2004
RESUBMIT APPROVED
BY DATE 12-14-04

FABRICATOR: U.S. BRIDGE
CONTACT: 201 WHEELING AVE.
P.O. BOX 757
CAMBRIDGE, OHIO 43725
1-888-872-7434

NO.	DATE	REVISIONS	BY
1	11/29/04	DIMENSIONS REVISED	JEC
2	11/29/04	SADDLE SCREW NOTE ADDED	JEC

112'-5" TRUSS BRIDGE
GRANITE STREET
CITY OF BARRE
WASHINGTON COUNTY, VERMONT

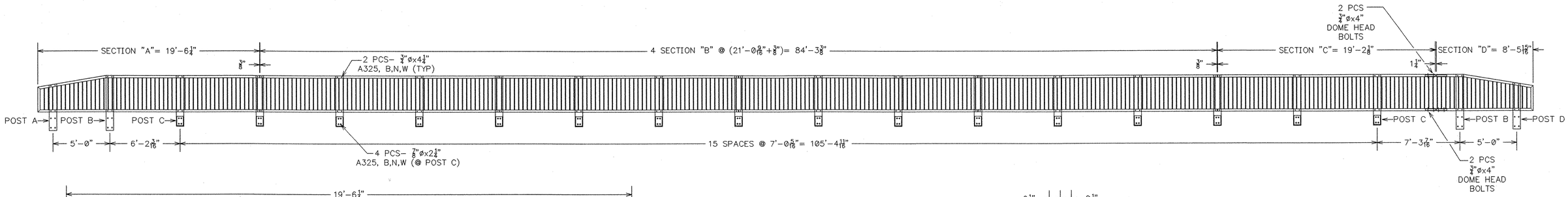
21'-0" RDWY + 6' SW
PROJ. NO. HDP 9281(1)
BRIDGE # 11

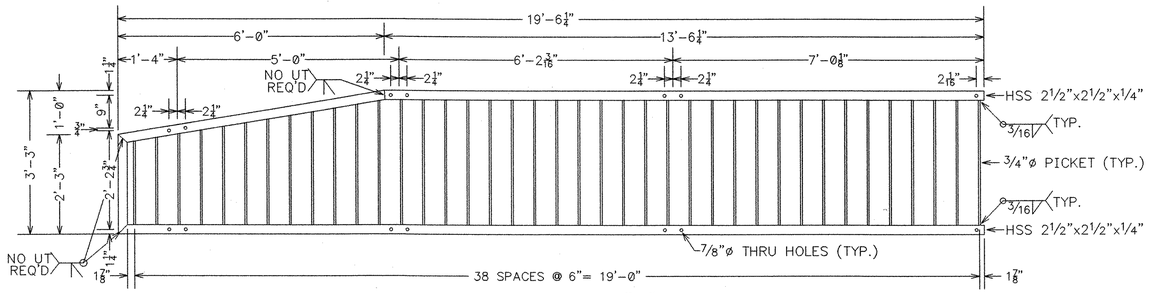
DESIGN	DRAWN	DATE
SAF	JEC	OCTOBER 20, 2004
CHECK/DATE	FABRICATOR	
AG 10/8/04	U.S. BRIDGE	

DRAWING NO. DECKING DETAILS

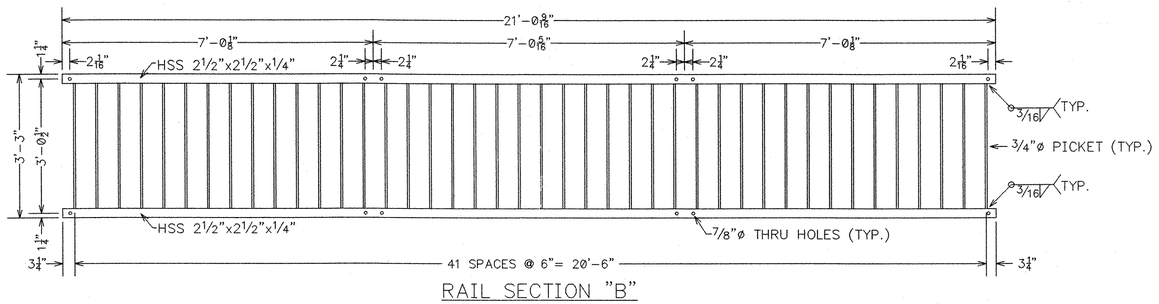
SHEET 6 OF 11

02555

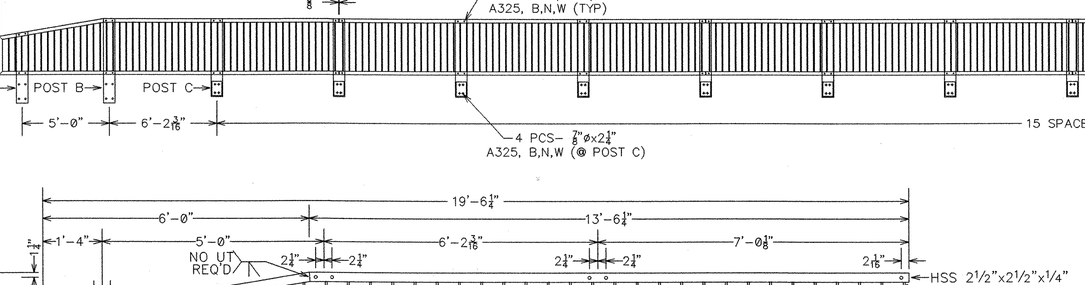




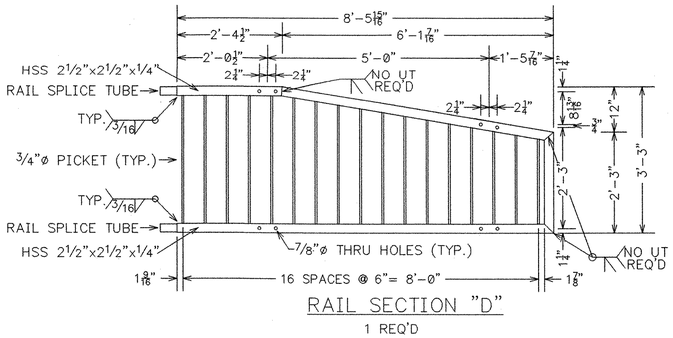
RAIL SECTION "A"
1 REQ'D



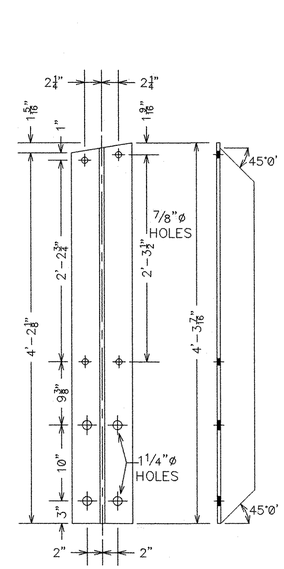
RAIL SECTION "B"
4 REQ'D



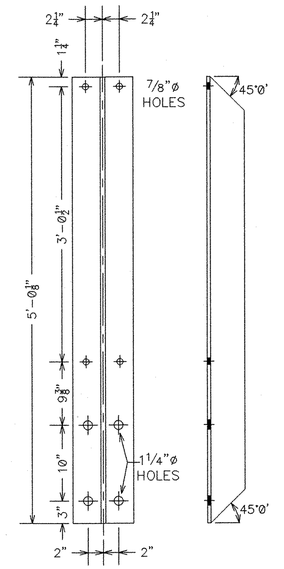
RAIL SECTION "C"
1 REQ'D



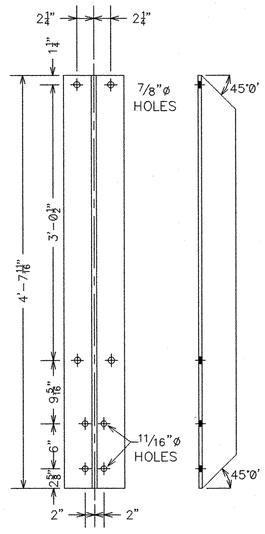
RAIL SECTION "D"
1 REQ'D



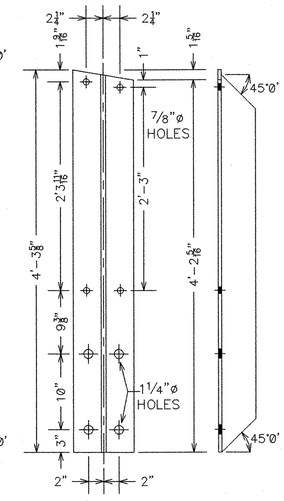
POST "A"
1 REQ'D
WT5x16.5



POST "B"
2 REQ'D
WT5x16.5



POST "C"
16 REQ'D
WT5x16.5



POST "D"
1 REQ'D
WT5x16.5

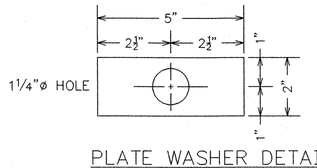
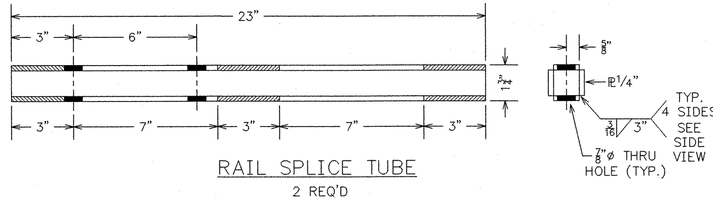


PLATE WASHER DETAIL
PL¼"x2"x5"
16 REQ'D



RAIL SPLICE TUBE
2 REQ'D

NOTE: DRAWINGS RELATIVE DO NOT SCALE

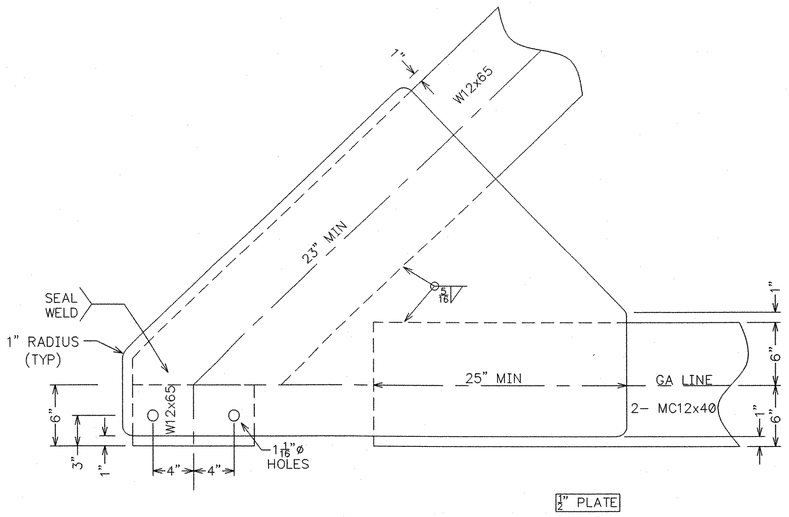
RECEIVED
OK'D BY JAS OK'D BY
NOV 1 3 2004
RESUBMIT APPROVED
BY DATE 12-14-04

FABRICATOR: U.S. BRIDGE
CONTACT: 201 WHEELING AVE.
P.O. BOX 757
CAMBRIDGE, OHIO 43725
1-888-872-7434

NO.	DATE	REVISIONS	BY
1	11/29/04	WELD SYMBOLS ADDED	JEC
2	11/29/04	POST "C" REVISED	JEC

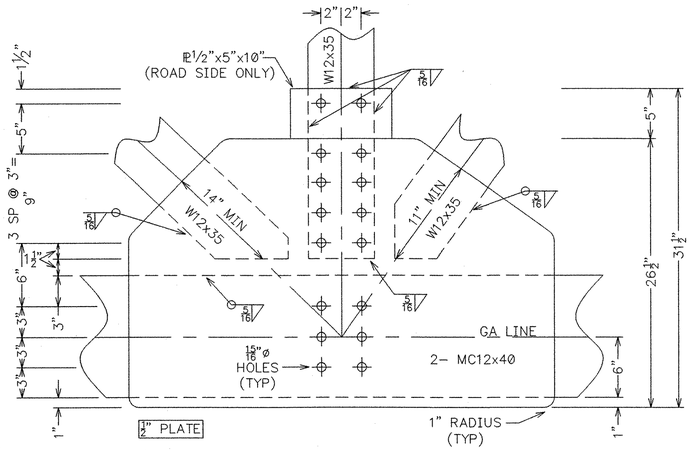
112'-5" TRUSS BRIDGE — 21'-Ø" RDWY + 6' SW
GRANITE STREET — PROJ. NO. HDP 9281(1)
CITY OF BARRE — BRIDGE # 11
WASHINGTON COUNTY, VERMONT

DESIGN	DRAWN	DATE	DRAWING NO.	SHEET
SAF	JEC	OCTOBER 20, 2004	RAILING DETAILS	7 OF 11
CHECK/DATE AG 10/8/04	FABRICATOR U.S. BRIDGE			07655



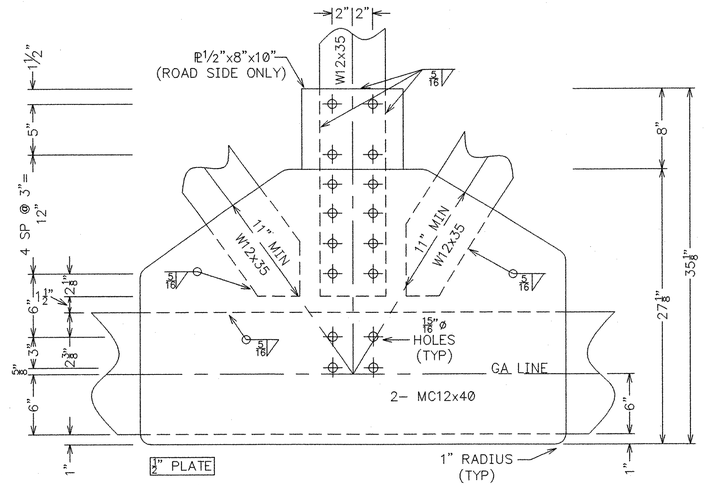
GUSSET PLATE L1 & L17

8 REQ'D
(BOTH SIDES TRUSS 1)
(BOTH SIDES TRUSS 2)



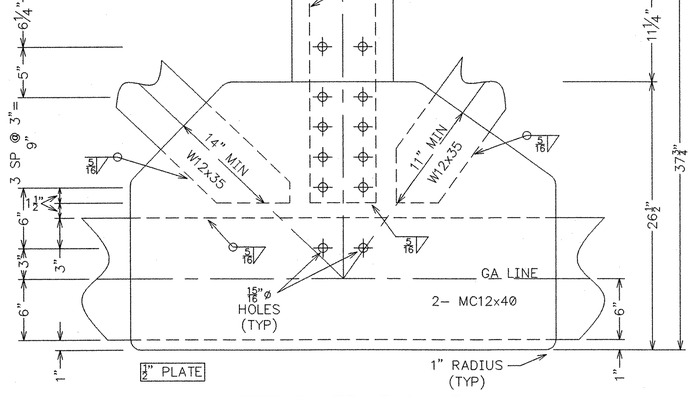
GUSSET PLATE L3 & L15

6 REQ'D
(ROAD SIDE TRUSS 2)
(ROAD SIDE TRUSS 1)
(OUTSIDE TRUSS 1 NO PL1/2"x5"x10")



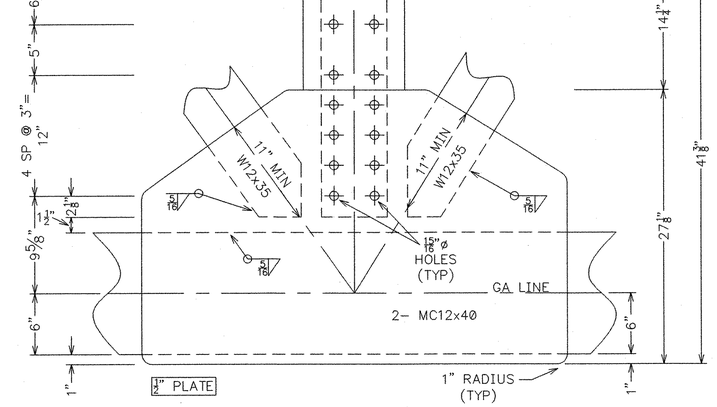
GUSSET PLATES L5 & L13

6 REQ'D
(ROAD SIDE TRUSS 2)
(ROAD SIDE TRUSS 1)
(OUTSIDE TRUSS 1 NO PL1/2"x8"x10")



GUSSET PLATE L3 & L15

2 REQ'D
(SIDEWALK SIDE TRUSS 2)



GUSSET PLATES L5 & L13

2 REQ'D
(SIDEWALK SIDE TRUSS 2)

NOTE: 1/4"±1/8" HOLD BACK ON EACH WELD ON EACH SIDE FOR CHANGE OF PLANE WELDS.

NOTE: DRAWINGS RELATIVE DO NOT SCALE

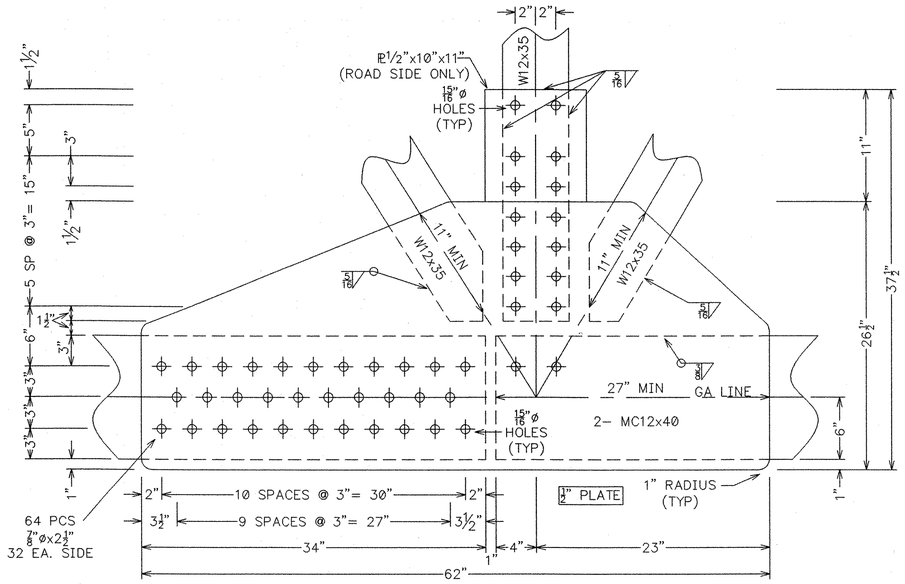
RECEIVED
OK'D BY TAS OK'D BY
NOV 13 2004
RESUBMIT APPROVED
BY DATE 12-14-04

FABRICATOR: U.S. BRIDGE
CONTACT: 201 WHEELING AVE.
P.O. BOX 757
CAMBRIDGE, OHIO 43725
1-888-872-7434

NO.	DATE	REVISIONS	BY

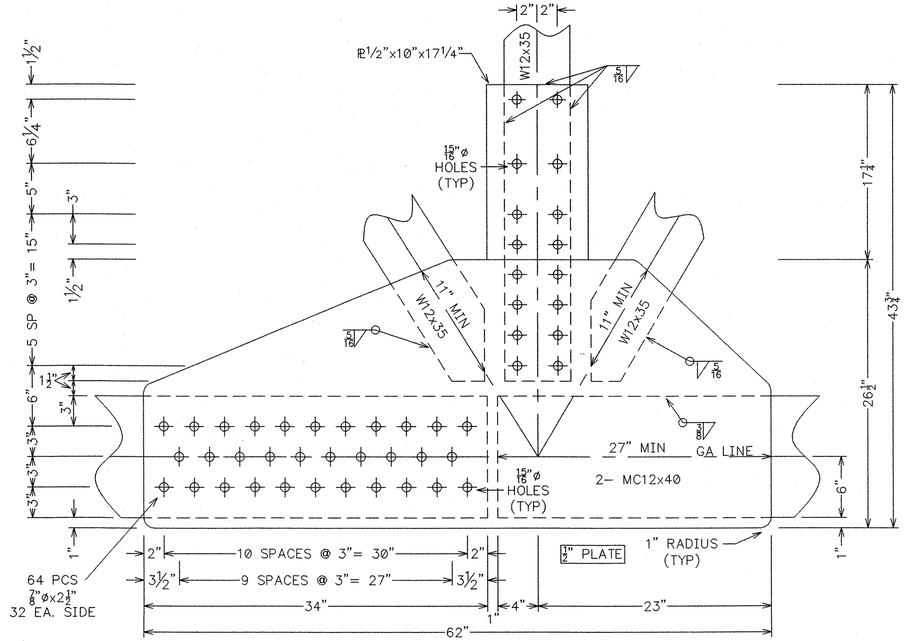
112'-5" TRUSS BRIDGE — 21'-0" RDWY + 6' SW
GRANITE STREET — PROJ. NO. HDP 9281(1)
CITY OF BARRE — BRIDGE # 11
WASHINGTON COUNTY, VERMONT

DESIGN	DRAWN	DATE	DRAWING NO.	SHEET
SAF	JEC	OCTOBER 20, 2004	BOTTOM CHORD GUSSET PLATES	8 OF 11
CHECK/DATE AG 10/8/04	FABRICATOR U.S. BRIDGE			09735



GUSSET PLATES L7 & L11

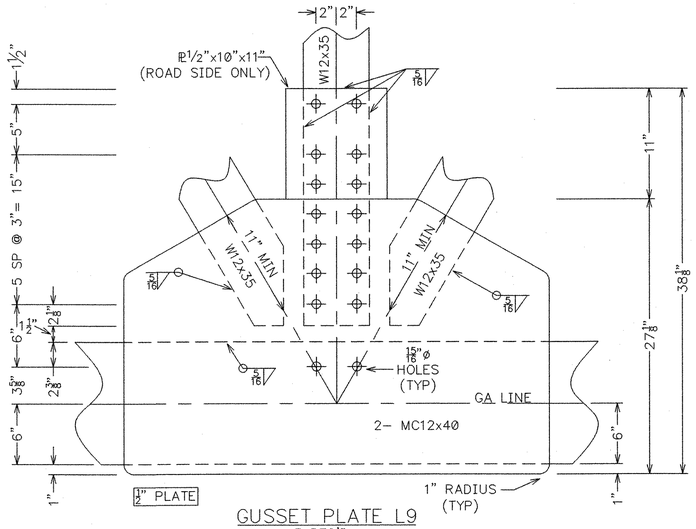
6 REQ'D
(ROAD SIDE TRUSS 2)
(ROAD SIDE TRUSS 1)
(OUTSIDE TRUSS 1 NO PL½"x10"x11")



GUSSET PLATES L7 & L11

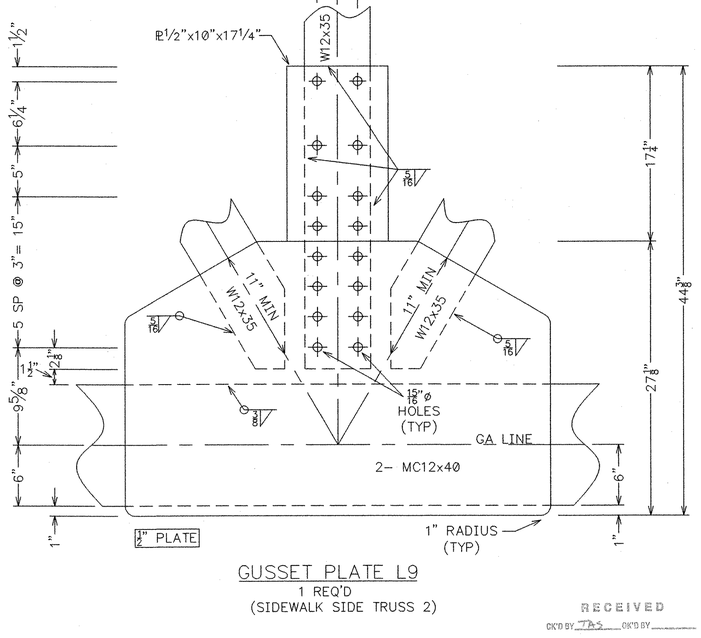
2 REQ'D
(SIDEWALK SIDE TRUSS 2)

NOTE: 1/4"±1/8" HOLD BACK ON EACH WELD ON EACH SIDE FOR CHANGE OF PLANE WELDS.



GUSSET PLATE L9

3 REQ'D
(ROAD SIDE TRUSS 2)
(ROAD SIDE TRUSS 1)
(OUTSIDE TRUSS 1 NO PL½"x10"x11")



GUSSET PLATE L9

1 REQ'D
(SIDEWALK SIDE TRUSS 2)

RECEIVED
OK'D BY TAS OK'D BY
NOV 13 2004
RESUBMIT APPROVED
BY DATE 12-14-04

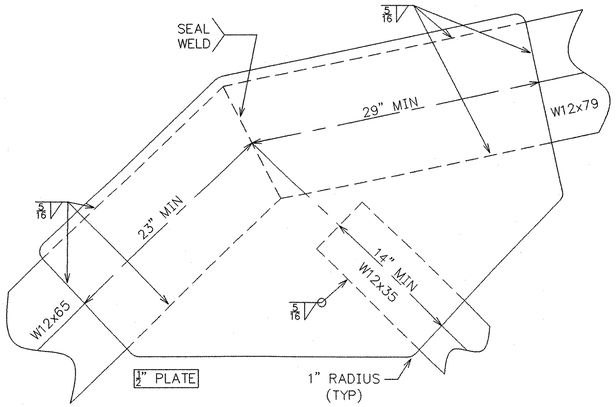
FABRICATOR: U.S. BRIDGE
CONTACT: 201 WHEELING AVE.
P.O. BOX 757
CAMBRIDGE, OHIO 43725
1-888-872-7434

NO.	DATE	REVISIONS	BY

112'-5" TRUSS BRIDGE — 21'-0" RDWY + 6' SW
GRANITE STREET — PROJ. NO. HDP 9281(1)
CITY OF BARRE — BRIDGE # 11
WASHINGTON COUNTY, VERMONT

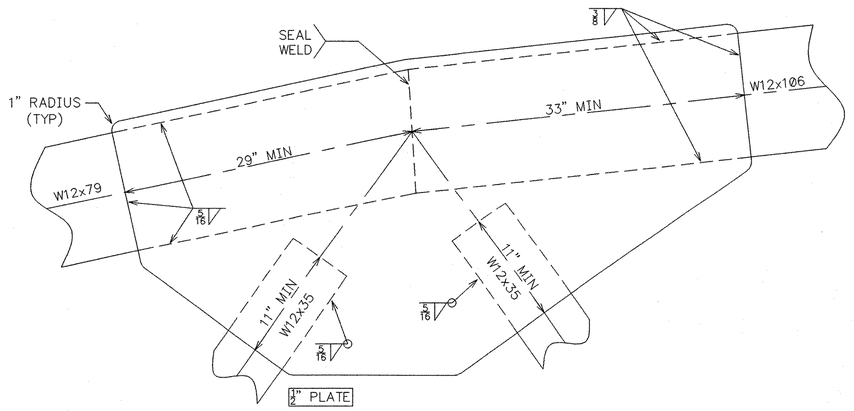
DESIGN	DRAWN	DATE	DRAWING NO.	SHEET
SAF	JEC	OCTOBER 20, 2004	BOTTOM CHORD GUSSET PLATES	9 OF 11
CHECK/DATE AG 10/8/04	FABRICATOR U.S. BRIDGE			078 55

NOTE: DRAWINGS RELATIVE DO NOT SCALE



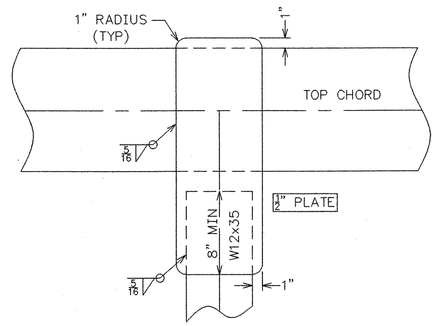
GUSSET PLATES U2 & U16

8 REQ'D
(BOTH SIDES TRUSS 1)
(BOTH SIDES TRUSS 2)



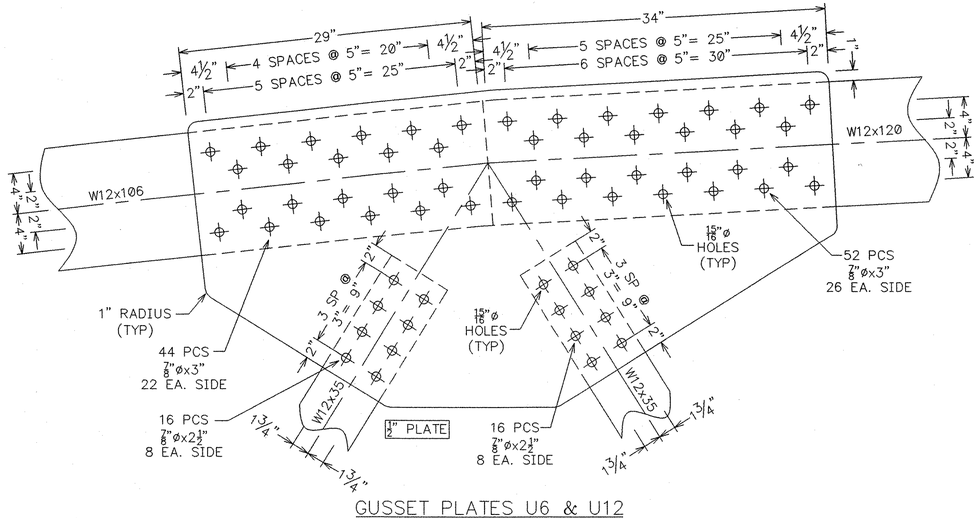
GUSSET PLATES U4 & 14

8 REQ'D
(BOTH SIDES TRUSS 1)
(BOTH SIDES TRUSS 2)



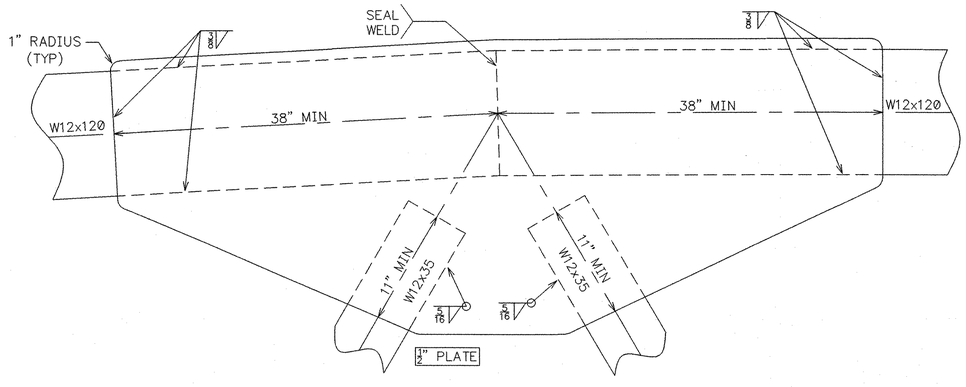
GUSSET PLATES U3, U5, U7, U9, U11, U13, & U15

28 REQ'D



GUSSET PLATES U6 & U12

8 REQ'D
(BOTH SIDES TRUSS 1)
(BOTH SIDES TRUSS 2)



GUSSET PLATES U8 & U10

8 REQ'D
(BOTH SIDES TRUSS 1)
(BOTH SIDES TRUSS 2)

NOTE: 1/4"±1/8" HOLD BACK ON EACH WELD ON EACH SIDE FOR CHANGE OF PLANE WELDS.

NOTE: DRAWINGS RELATIVE DO NOT SCALE

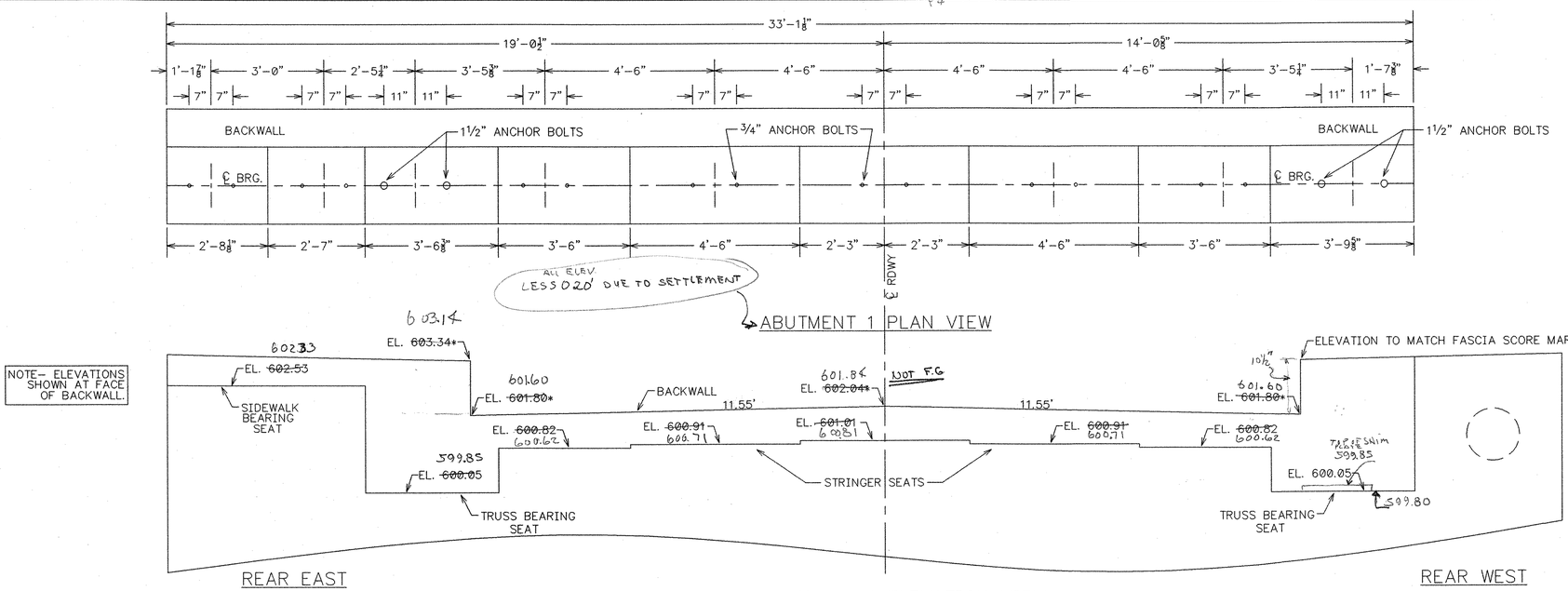
RECEIVED
OK'D BY TAS OK'D BY
NOV 1 3 2004
RESUBMIT APPROVED
BY DATE 12-14-04

FABRICATOR: U.S. BRIDGE
CONTACT: 201 WHEELING AVE.
P.O. BOX 757
CAMBRIDGE, OHIO 43725
1-888-872-7434

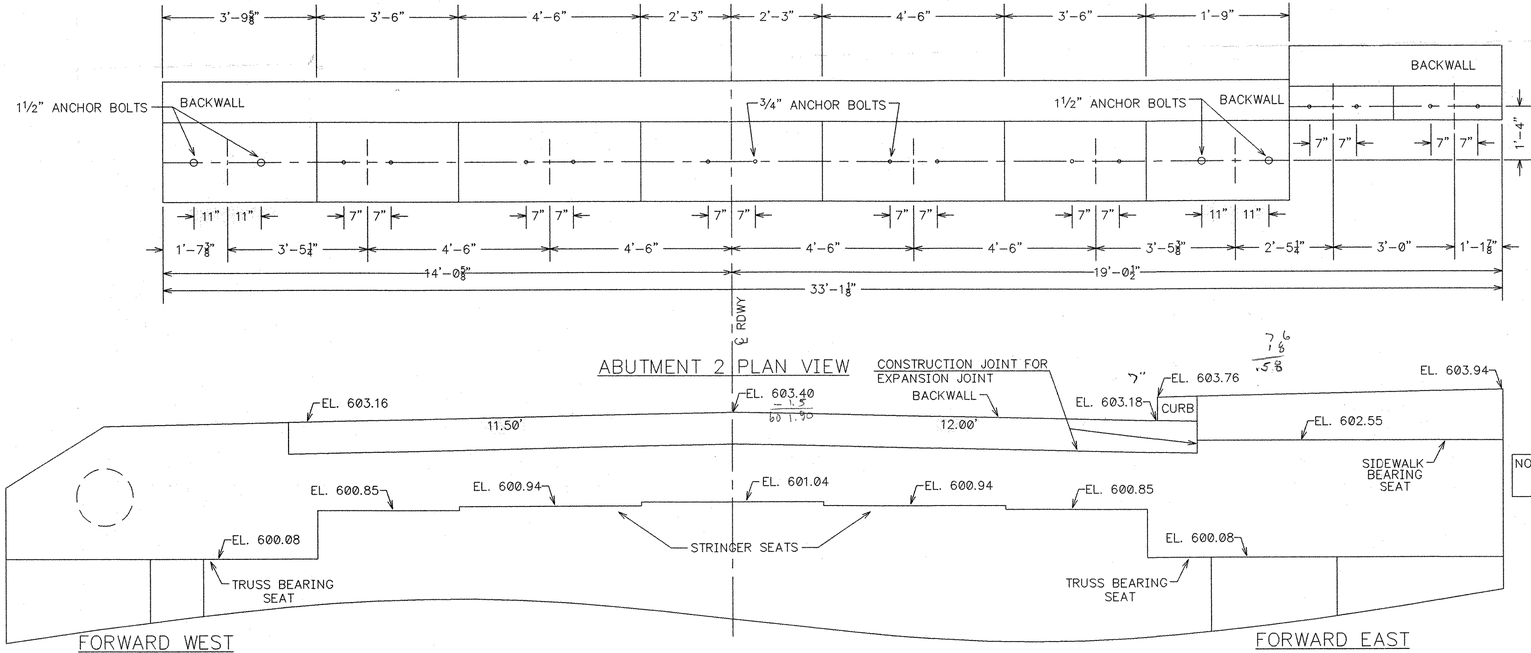
NO.	DATE	REVISIONS	BY

112'-5" TRUSS BRIDGE — 21'-0" RDWY + 6' SW
GRANITE STREET — PROJ. NO. HDP 9281(1)
CITY OF BARRE — BRIDGE # 11
WASHINGTON COUNTY, VERMONT

DESIGN	DRAWN	DATE	DRAWING NO.	SHEET
SAF	JEC	OCTOBER 20, 2004	TOP CHORD GUSSET PLATES	10 OF 11
CHECK/DATE AG 10/8/04	FABRICATOR U.S. BRIDGE			02955



NOTE: THESE ELEVATIONS ARE NOT SAME AS INDICATED IN THE CONTRACTORS PLANS



RECEIVED
OK'D BY TAS OK'D BY
NOV 13 2004
RESUBMIT APPROVED
BY DATE 12-14-04

FABRICATOR: U.S. BRIDGE
CONTACT: 201 WHEELING AVE.
P.O. BOX 757
CAMBRIDGE, OHIO 43725
1-888-872-7434

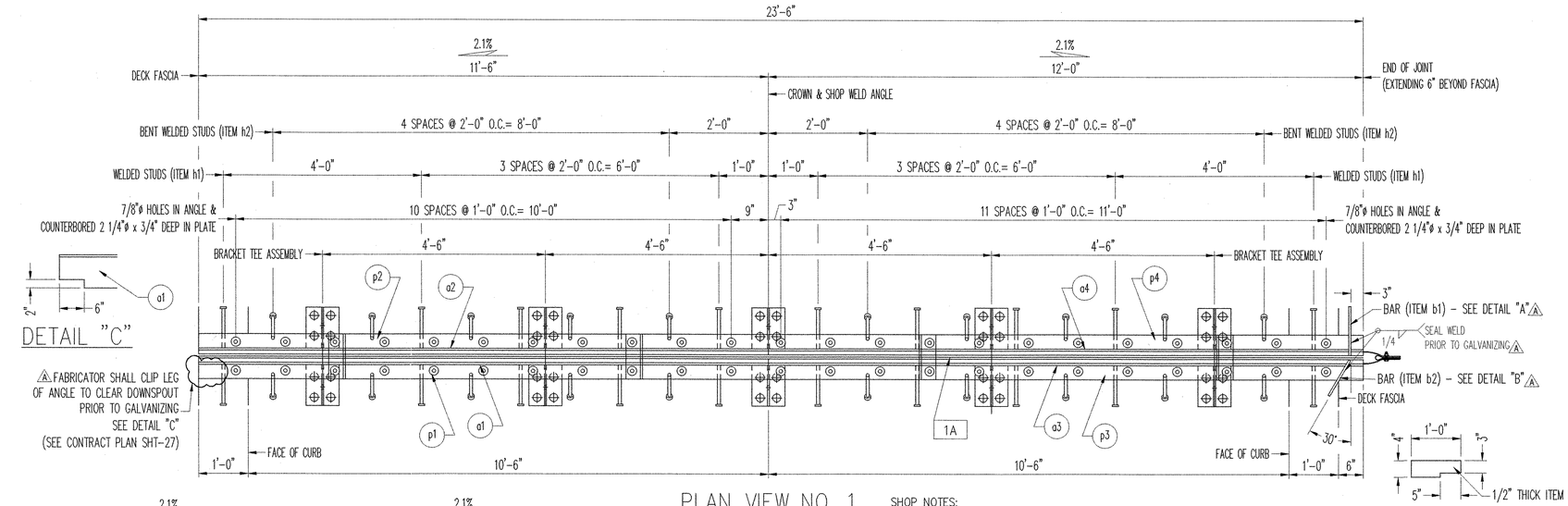
NO.	DATE	REVISIONS	BY
1	11/29/04	ELEVATIONS REVISED	JEC

112'-5" TRUSS BRIDGE
GRANITE STREET
CITY OF BARRE
WASHINGTON COUNTY, VERMONT

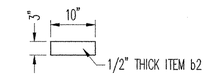
21'-0" RDWY + 6' SW
PROJ. NO. HDP 9281(1)
BRIDGE # 11

DESIGN	DRAWN	DATE	DRAWING NO.	SHEET
SAF	JEC	OCTOBER 20, 2004	ABUTMENT ELEVATIONS	11 OF 11
CHECK/DATE AG 10/8/04	FABRICATOR U.S. BRIDGE			080 55

NOTE: DRAWINGS RELATIVE DO NOT SCALE



DETAIL "A" ⚠



DETAIL "B" ⚠

DETAIL "C"

⚠ FABRICATOR SHALL CLIP LEG OF ANGLE TO CLEAR DOWNSPOUT PRIOR TO GALVANIZING SEE DETAIL "C" (SEE CONTRACT PLAN SHT-27)

MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
1A	1	EXP. JOINT ASSEMBLY		23'-6	HDG	
a1	1	L 8 x 4 x 1/2	A36	11'-6	SEE DETAIL "C" FOR CUT	15-100
a2	1	L 8 x 4 x 1/2	A36	11'-6		15-100
a3	1	L 8 x 4 x 1/2	A36	12'-0		15-100
a4	1	L 8 x 4 x 1/2	A36	12'-0		15-100
p1	1	PL 1 1/4 x 5	A36	11'-6		16-168
p2	1	PL 1 1/4 x 5	A36	11'-6		16-168
p3	1	PL 1 1/4 x 5	A36	12'-0		16-168
p4	1	PL 1 1/4 x 5	A36	12'-0		16-168
⚠ b1	1	FB 1/2 x 4	A36	1'-0	SEE DETAIL "A"	16-96
⚠ b2	1	FB 1/2 x 3	A36	0'-10	SEE DETAIL "B"	16-93
t1	10	PL 1/2 x 6	A36	0'-10		19-16
t2	10	PL 1/2 x 8	A36	0'-10		19-16
h1	20	WS 3/4ø x 10	A108			29-19
h2	20	WS 3/4ø x 10	A108		BEND 45° @ 3"	29-19
h3	4	L 4 x 4 x 1/2	A36 B	0'-11		15-62
h4	38	HB 3/4ø x 2 1/4	A325 MG			23-121
h5	8	HB 3/4ø x 3 3/4	A325 MG			23-136
h6	46	FW 3/4ø	F436 MG			27-8
h7	46	MI 3/4ø FERRULE LOOP INSERT	ZP		DAYTON/RICHMOND F-42	35-9
f1	1	EP 3/16 x 34 1/8		24'-3	3 PLY. FABRIC TOUGH	
db1	1	EP 3/16 x 1/4		0'-7	3 PLY. DRIP BEAD	
h30	1	HB 1/2 x 2	A307 MG		TROUGH CLOSURE	23-534
h31	1	HN 1/2	A563DH MG		TROUGH CLOSURE	25-2
h32	2	FW 1/2	F436 MG		TROUGH CLOSURE	27-2
m1	2	MI 1/8 x 1 1/2 BUTYL RUBBER TAPE	MCMASTER CARR #7615A15	50' ROLL		31-134
m2	1	MI ANTI SEIZE GREASE				

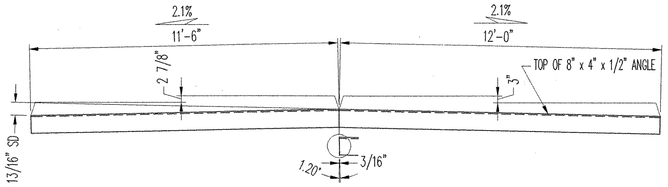
NOTE: ALL MATERIALS SPECIFICATION DESCRIPTIONS ARE ASTM, UNLESS OTHERWISE NOTED.

PLAN VIEW NO. 1

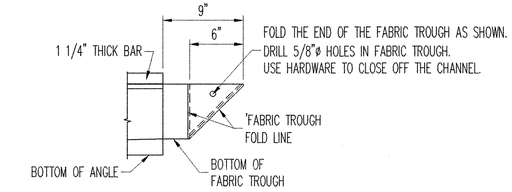
CITY OF BARRE
BRIDGE NO. 11
ABUTMENT 2
VERMONT EXP. JOINT
(1) JOINT TOTAL

SHOP NOTES:
1) WORK WITH SHEET 2.
2) COAT BOLTS AND INSERTS WITH NEVER SEIZE GREASE PRIOR TO ASSEMBLY.
3) WRENCH TIGHTEN BOLTS AFTER ASSEMBLY UNIT.
4) SEAL ALL ACCESSIBLE JOINTS FOR GALVANIZING.

CONTRACTOR NOTES:
REMOVE SHIPPING ANGLES AND REPLACE BOLTS WITH 3/4"ø x 2 1/4" BOLTS.
REUSE EXISTING FLAT WASHERS.
COAT BOLT THREADS WITH ANTI SEIZE GREASE PRIOR TO ASSEMBLY.

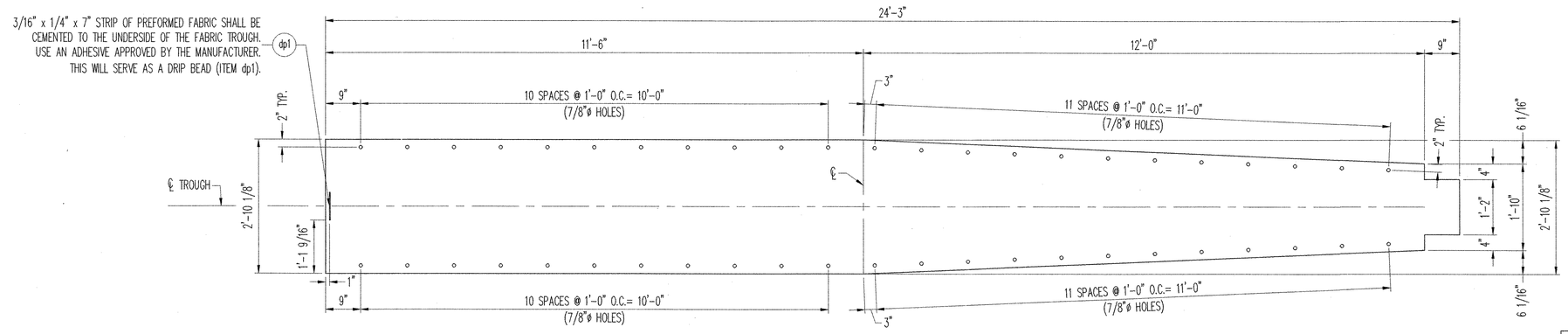


SCHEMATIC DETAIL FOR ASSEMBLY "1A"
SD = SHOP DIMENSION



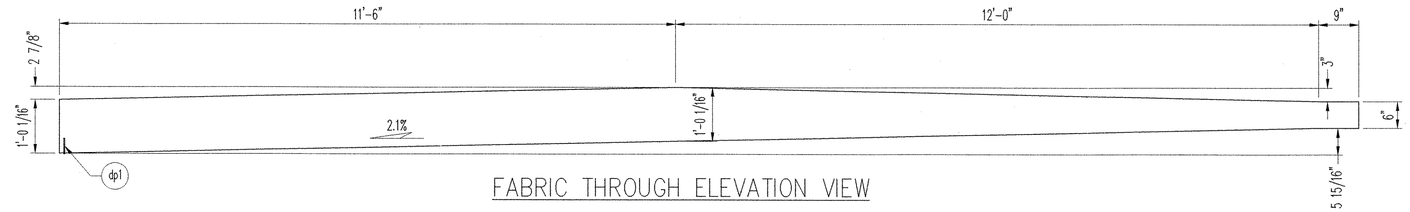
ELEVATION DETAIL
FOLDED TROUGH END DETAILS

3/16" x 1/4" x 7" STRIP OF PREFORMED FABRIC SHALL BE CEMENTED TO THE UNDERSIDE OF THE FABRIC TROUGH. USE AN ADHESIVE APPROVED BY THE MANUFACTURER. THIS WILL SERVE AS A DRIP BEAD (ITEM dp1).



FABRIC THROUGH (ITEM f1) PLAN VIEW

PLAN DETAIL OF FOLD



FABRIC THROUGH ELEVATION VIEW

RECEIVED
CK'D BY JWC DED BY TAS
JAN 12 2005
RESUBMIT ____ APPROVED SSh
BY ____ DATE 1/24/2005

REV.	DESCRIPTION	DATE	DET.	CKD.
⚠	ADDED ITEM b1 & b2 & CLIP LEG OF ITEM a1	1-10-05	TMB	TKE

D.S. BROWN
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332
4201 NOREX DRIVE
CHASKA, MINNESOTA 55318
952.368.3000
FAX: 952.448.7000
DSBROWN.COM

LOCATION — GRANITE STREET OVER STEVENS BRANCH OF THE WINOOSKI RIVER
BRIDGE — 11
PROJECT — HDP 9281 (1)
CITY — BARRE
P.O. NO. — C-1455
DESIGNER — VERMONT D.O.T.
CUSTOMER — WINTERSET INC.

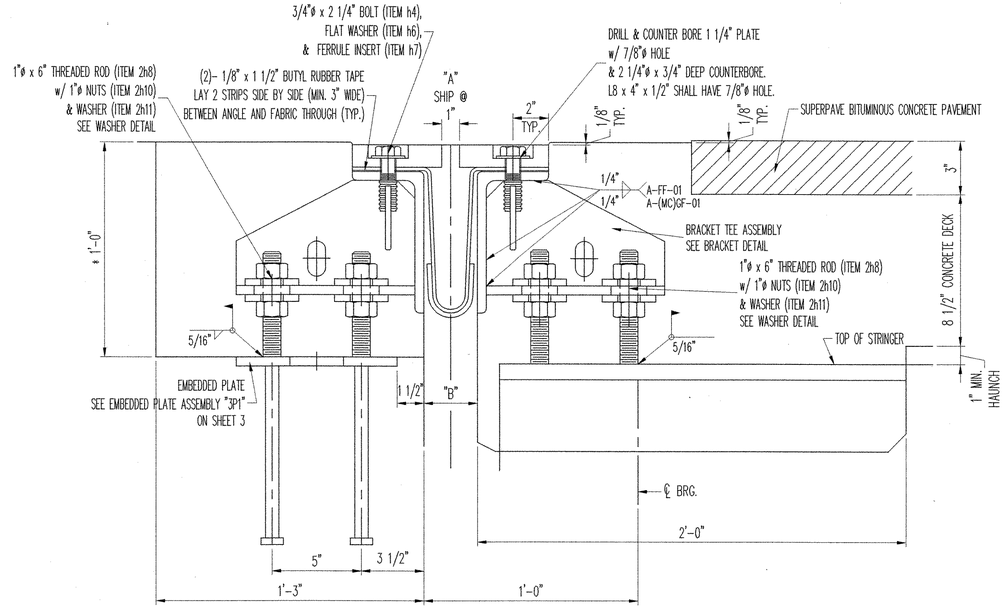
ITEM	QUANTITY

DESCRIPTION: VERMONT EXPANSION JOINT PLAN VIEW
COUNTY OF WASHINGTON, VERMONT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	SHEET
N.T.S.	T.BOWERS	T.ELLER	10-25-04	1 OF 3

PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET
12550	1042		1

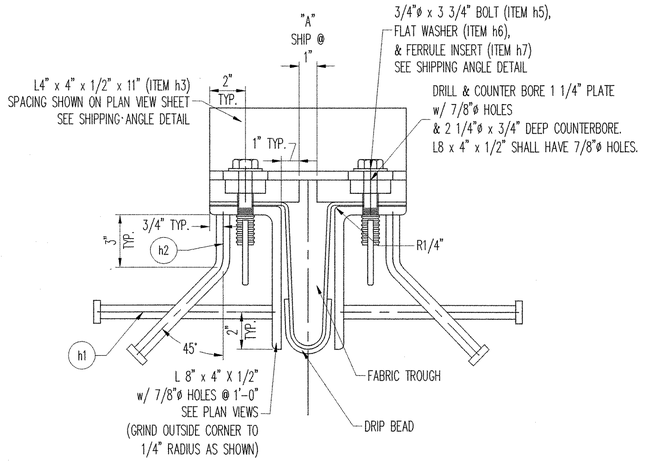
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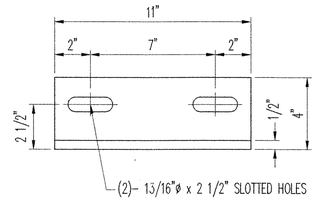
SECTION THRU JOINT AT GIRDER

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

* DIMENSION IS THEORETICAL AND MAY CHANGE DEPENDING UPON THE OUTCOME OF THE BEAM PROFILES.

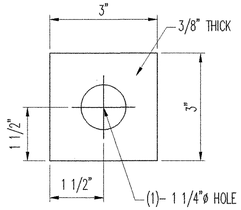


SECTION THRU JOINT



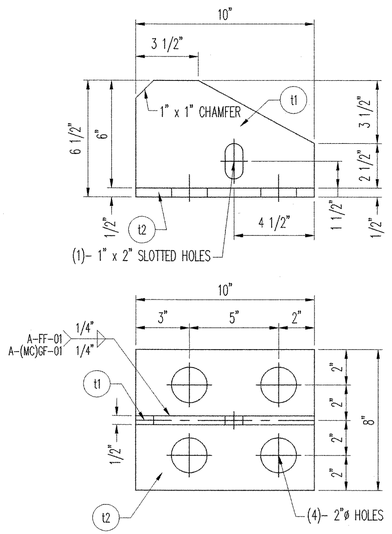
SHIPPING ANGLE DETAIL (ITEM h3)

(4) REQ'D



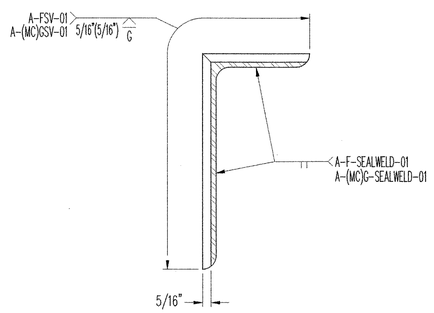
WASHER DETAIL (ITEM 2h11)

(40) REQ'D



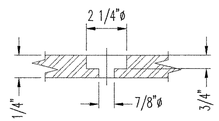
BRACKET TEE ASSEMBLY

(10) REQ'D



ANGLE SHOP SPLICE DETAIL

⚠ AT ℄ CROWN ONLY



COUNTER BORE DETAIL

MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
		LOOSE ITEMS:				
2h4	10	HB 3/4 x 2 1/4	A325 MG		(8)	23-121
2h8	44	RB 1ø CONT. THREAD	A36	0'-6	(40) HDG	18-27
2h10	88	HN 1ø HVY	A563DH		(80) HDG	25-15
2h11	88	FB 3/8 x 3	A36	0'-3	(80) HDG	16-73

NOTE: ALL MATERIALS SPECIFICATION DESCRIPTIONS ARE ASTM, UNLESS OTHERWISE NOTED.

GENERAL NOTES

ALL MATERIALS, CONSTRUCTION AND DESIGN SHALL CONFORM TO THE STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATION FOR CONSTRUCTION, DATED 2001, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SEVENTEENTH EDITION DATED 2002, AND ITS LATEST REVISION.

WELDING SHALL MEET THE REQUIREMENTS OF THE ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE AS MODIFIED BY STANDARD SPECIFICATIONS.

STUD ANCHORS SHALL BE AASHTO M169 (ASTM A-108) AND AUTOMATIC END WELDED WITH COMPLETE FUSION.
A-FF-STUD-REP-01 / A-(MC)GF-STUD-REP-01 OR A-SM-STUD-REP-01 WILL BE USED, AS REQUIRED, TO REPAIR STUDS.

ANY TIGHTLY ADHERENT WELD SPATTER NEED NOT BE REMOVED IN COATING AREAS TO BE CAST IN CONCRETE.

ALL STEEL COMPONENTS SHALL BE AASHTO M270 GRADE 36 GALVANIZED OR METALIZED AS PER SUBSECTION 516.15 (U.N.O.).

⚠ PRIOR TO GALVANIZING OR METALIZING, ALL CORNERS AND EDGES OF STEEL PLATES, SHAPES, ETC., SHALL BE GROUND TO A 1/16" INCH RADIUS.

PREFORMED FABRIC MATERIAL SHALL BE CONTINUOUS AND SHALL CONFORM TO SUBSECTION 707.07.

BUTYL RUBBER TAPE SHALL CONFORM TO AASHTO SPECIFICATION M-198, TYPE II.

FABRIC TROUGH SHALL BE THOROUGHLY CLEANED AND FLUSHED AFTER PAVING OPERATION.

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

REV.	DESCRIPTION	DATE	DET.	CKD.
⚠	REVISED GENERAL NOTES & ANGLE SHOP SPLICE DETAIL	1-10-05	TMB	TKE

D.S. BROWN
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332
4201 NOREX DRIVE
CHASKA, MINNESOTA 55318
952.368.3000
FAX: 952.448.7000
DSBROWN.COM

RECEIVED
CKD BY JWC DRD BY TAS
JAN 12 2005
RESIDENT ... APPROVED CSH
BY ... DATE 1/24/2005

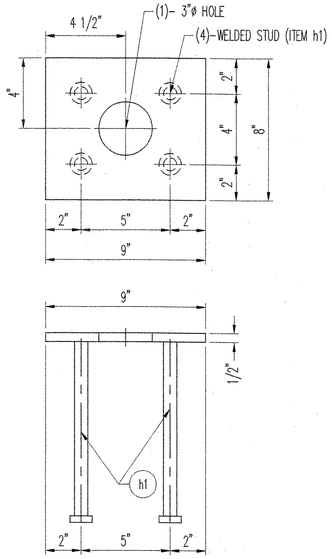
LOCATION — GRANITE STREET OVER STEVENS BRANCH OF THE WINOOSKI RIVER
BRIDGE — 11
PROJECT — HDP 9281 (1)
CITY — BARRE
P.O. NO. — C-1455
DESIGNER — VERMONT D.O.T.
CUSTOMER — WINTERSET INC.

ITEM	QUANTITY

DESCRIPTION:
VERMONT EXPANSION JOINT STANDARD DETAILS
COUNTY OF WASHINGTON, VERMONT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	SHEET
N.T.S.	T.BOWERS	T.ELLER	10-25-04	2 OF 3
PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET	
12550	1042		2	

082 BI



EMBEDDED PLATE ASSEMBLY '3P1'

(5) REQ'D

(NO GALVANIZING REQ'D)

MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
		LOOSE ITEMS:				
3P1	5	EMBEDDED PLATE ASSEMBLY			B	
p1	5	PL 1/2 x 8	A36	0'-9		19-16
h1	20	WS 3/4"ø x 10	A108			29-19

NOTE: ALL MATERIALS SPECIFICATION DESCRIPTIONS ARE ASTM, UNLESS OTHERWISE NOTED.

RECEIVED
OK'D BY JWC OK'D BY TAS
NOV 16 2004
RESUBMIT _____ APPROVED
BY DATE 12/13/2004

REV.	DESCRIPTION	DATE	DET.	CKD.

D.S. BROWN
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332
4201 NOREX DRIVE
CHASKA, MINNESOTA 55318
952.368.3000
FAX: 952.448.7000
DSBROWN.COM

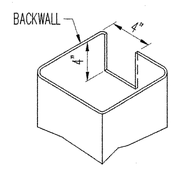
LOCATION — GRANITE STREET OVER STEVENS BRANCH OF THE WINOOSKI RIVER
BRIDGE — 11
PROJECT — HDP 9281 (1)
CITY — BARRE
P.O. NO. — C-1455
DESIGNER — VERMONT D.O.T.
CUSTOMER — WINTERSET INC.

ITEM	QUANTITY

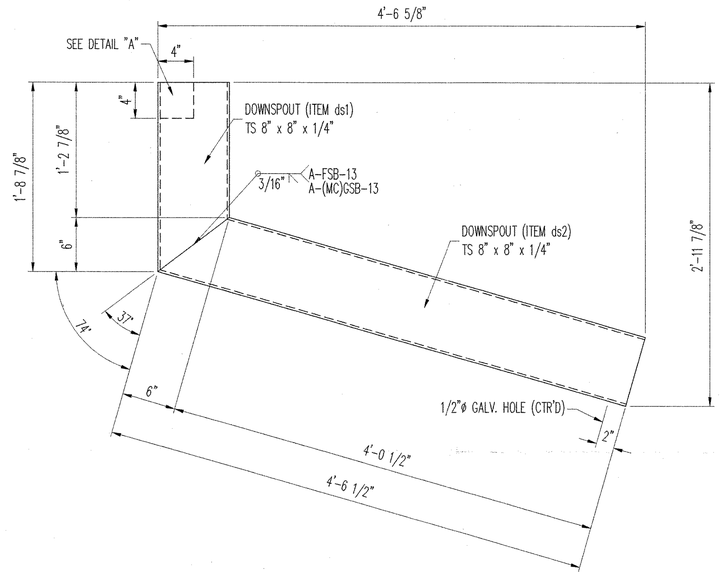
DESCRIPTION: EMBEDDED PLATE ASSEMBLY
COUNTY OF WASHINGTON, VERMONT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	SHEET
N.T.S.	T.BOWERS	T.ELLER	10-25-04	3 OF 3
PROJECT NUMBER		PRODUCT CODE	RELEASE	SHEET
12550		1042		3

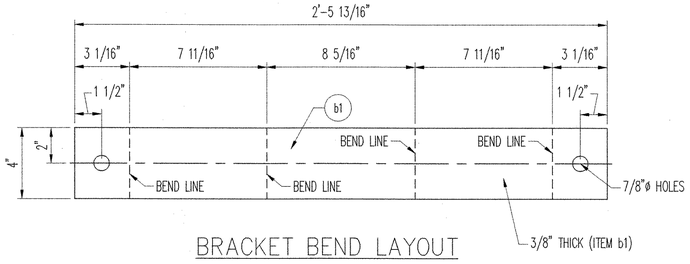
083 BJ



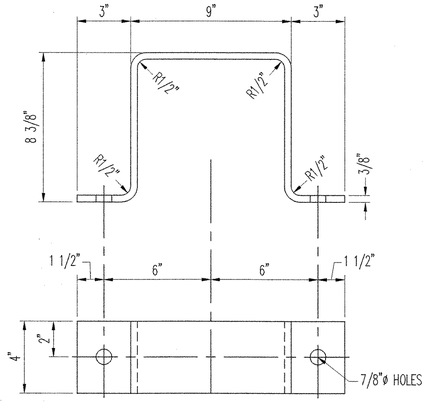
DETAIL "A"



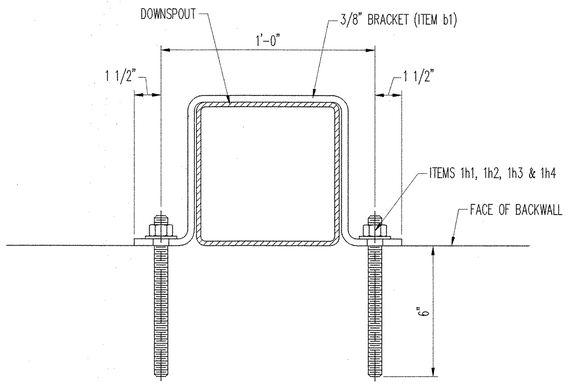
DOWNSPOUT 1A DETAIL



BRACKET BEND LAYOUT



BRACKET DETAIL 1B DETAIL



DETAIL FOR ATTACHING DOWNSPOUT TO BACKWALL

MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
1A	1	DOWNSPOUT		4'-6 5/8	HDG	
ds1	1	TS 8 x 8 x 1/4	A500 GR.B	1'-8 7/8	SKEW CUT	22-35
ds2	1	TS 8 x 8 x 1/4	A500 GR.B	4'-6 1/2	SKEW CUT	22-35
1B	1	BRACKET		1'-3	HDG	
b1	1	FB 3/8 x 4	A36	2'-5 13/16	BEND	16-76
		FIELD BOLTS:				
1h1	4	RB 3/4 CONTINUOUS THREAD	A36	0'-9	(2) HDG/CHISEL PT.	18-25
1h2	4	HN 3/4 HVY	A563DH		(2) HDG	25-7
1h3	4	FW 3/4	F436		(2) HDG	27-7
1h4	4	MI 3/4 CEM CAP	F436		(2) RAWL #6505	

NOTE: ALL MATERIALS SPECIFICATION DESCRIPTIONS ARE ASTM, UNLESS OTHERWISE NOTED.

GENERAL NOTES

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WELDING SHALL MEET THE REQUIREMENTS OF THE ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE AS MODIFIED BY STANDARD SPECIFICATIONS.

STEEL SHALL CONFORM TO AASHTO M270 GR.36 (ASTM A36) (U.N.O.).
STEEL TUBING SHALL BE ASTM-A500, GR.B.

DOWNSPOUTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123 AFTER FABRICATION.
ANY PLACE WHERE THE GALVANIZING HAS BEEN REMOVED FROM THE DOWNSPOUT EITHER BY CUTTING, BURNING, WELDING, PLACING, OR ANY OTHER MEANS, IT SHALL BE REPAIRED IN ACCORDANCE WITH ASTM-A760.

HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-153 (AASHTO M232).

REV.	DESCRIPTION	DATE	DET.	CKD.

D.S. BROWN
300 E. CHERRY STREET
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FAX: 419.257.0332

4201 NOREX DRIVE
CHASKA, MINNESOTA 55318
952.368.3000
FAX: 952.448.7000

DSBROWN.COM

LOCATION — GRANITE STREET OVER STEVENS BRANCH OF THE WINOOSKI RIVER
BRIDGE — 11
PROJECT — HDP 9281 (1)
CITY — BARRE
P.O. NO. — C-1455
DESIGNER — VERMONT D.O.T.
CUSTOMER — WINTERSET INC.

ITEM	QUANTITY

DESCRIPTION:
DOWNSPOUT
COUNTY OF WASHINGTON, VERMONT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	SHEET
N.T.S.	T.BOWERS	T.ELLER	11-8-04	1 OF 1
PROJECT NUMBER:	PRODUCT CODE		RELEASE	SHEET
12550	1234			1

084 DS

GENERAL NOTES:

1. SURVEY PROVIDED BY DUFRESNE & ASSOCIATES, P.C. JANUARY 2004 USING A NICOM TOTAL STATION PROCEDURE. LOCATION OF EXISTING UTILITIES ARE APPROXIMATE BASED ON INFORMATION PROVIDED BY THE CITY OF BARRE. THIS IS NOT A BOUNDARY SURVEY. ELEVATIONS ARE BASED ON USGS MEAN SEA LEVEL DATUM.
2. ALL WORK WAS DONE IN PUBLIC RIGHT-OF-WAY OR EASEMENT AREAS. INFORMATION PROVIDED BY CITY OF BARRE.
3. MINIMUM VERTICAL CLEARANCE BETWEEN NEW WATER MAINS AND ALL EXISTING UTILITIES, EXCEPT SEWERS AND STORM DRAINS IS SIX (6) INCHES AT CROSSING LOCATIONS.
4. ALL BURIED FITTINGS ARE BLOCKED. REFER TO THRUST BLOCK DETAILS, AND TRENCH DETAIL SHOWN ON DRAWING 5.
5. MECHANICAL JOINT RESTRAINTS WERE USED WHERE VALVES WERE SUBJECTED TO SERVICE PRESSURES ON ONE SIDE BEFORE BEING FULLY INCORPORATED INTO THE DISTRIBUTION SYSTEM.
6. WATER MAINS HAVE A MINIMUM 5.5 FEET OF COVER UNLESS OTHERWISE STATED OR SHOWN ON THE PROFILES. WHEN 5.5 FEET OF COVER WAS NOT MAINTAINED, 4" RIGID BOARD INSULATION WAS USED. SEE MATERIAL SPECIFICATION SECTION 735.01.
7. ALL MECHANICAL JOINT FITTINGS AND VALVES INCORPORATED A MEGA-LUG RETAINER GLAND INSTEAD OF THE COMMON FOLLOWER GLAND.
8. ALL EXISTING UNDERGROUND UTILITIES WERE LOCATED USING THE BEST AVAILABLE INFORMATION. CONTRACTOR WAS RESPONSIBLE FOR PROTECTION OF ALL UTILITIES WHETHER OR NOT THEY ARE SHOWN ON THE PLANS. ALL REPAIRS TO DAMAGED UTILITIES WERE MADE BY THE CONTRACTOR USING MATERIALS APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
9. CONTRACTOR FLUSHED, PRESSURE TESTED AND DISINFECTED ALL NEW WATER MAIN. CHLORINE INJECTION POINTS INSTALLED WHERE REQUIRED AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION WERE REMOVED UPON COMPLETION OF TESTING.
10. GENERALLY HEAVY OR DARK LINE WORK OR NOTES REFER TO COMPLETED IMPROVEMENTS. LIGHT LINE WORK OR SCREENED GENERALLY DENOTES EXISTING FEATURES.
11. TECHNICAL SPECIFICATIONS PROVIDE NECESSARY INFORMATION AND ARE PART OF THE CONTRACT DOCUMENTS FOR THIS PROJECT.

LOCAL VALVE OPERATION

1. EXISTING AND NEW MAIN LINE GATE VALVES SHALL OPEN RIGHT OR CLOCKWISE. OPERATION OF GATE VALVES WILL BE PERFORMED BY THE OWNER'S STAFF ONLY.

ABBREVIATIONS

CI	CAST IRON PIPE
CMP	CORREGATED METAL PIPE
CPP	CORREGATED PLASTIC PIPE
CU	COPPER PIPE
DI	DUCTILE IRON PIPE
EL	ELEVATION
ER	EROSION
HYD	FIRE HYDRANT
INV	INVERT
IP	IRON PIPE
MJ	MECHANICAL JOINT
P	ELECTRICAL POWER
ROW	RIGHT OF WAY
STA	STATION
TBM	TEMPORARY BENCH MARK
TYP	TYPICAL
W	WATER MAIN
WSO	WATER SHUT OFF
WV	WATER VALVE

MATERIAL SCHEDULE

ITEM	DESCRIPTION	UNITS	QUANTITY
629.60	GALVANIZED STEEL BRIDGE SUPPORTS	LBS	3000
629.60	BRIDGE ROLLERS FOR PIPE	EA	9
629.60	INSULATED PIPE	LF	135
629.60	PIPE TERMINATIONS AT ABUTMENTS	EA	2
629.60	PIPE EXPANSION JOINT	EA	1
629.60	AIR RELEASES - INSULATED	EA	1
629.42	12" D.I. WATERMAIN	LF	300
629.42	8" D.I. WATERMAIN	LF	40
629.42	6" D.I. WATERMAIN	LF	50
629.42	FITTINGS	LBS	3000
629.42	12" BUTTERFLY VALVE WITH BOX	EA	2
629.42	8" R.S. VALVE WITH BOX	EA	1
629.42	6" R.S. VALVE WITH BOX	EA	1
629.42	3/4" MANUAL AIR RELEASE WITH BOXES	EA	4
629.42	LEDGE ROCK EXCAVATION	CY	10
629.42	BOULDER EXCAVATION	CY	40
629.42	EXPLORATORY EXCAVATION	CY	150
629.42	CRUSHED GRAVEL	CY	50
629.42	EXCAVATION BELOW GRADE WITH GRAVEL REFILL	CY	25
629.42	INTERCONNECTIONS TO EXISTING SYSTEMS	LS	1
629.42	TRENCH EXCAVATION	CY	300
629.42	TEMPORARY PAVING	SY	400
629.42	FULL WIDTH OVERLAY	TON	130
629.42	ELECTRICAL WORK FOR PIPE TRACING	LS	1
629.42	MISCELLANEOUS WORK AND CLEANUP	LS	1

LEGEND

EXISTING:

- MAJOR CONTOURS
- MINOR CONTOURS
- EDGE OF ASPHALT
- EDGE OF GRAVEL
- TREE LINE
- W — WATERLINE
- STONEWALL
- P — POWERLINE
- x — FENCE
- GUARDRAIL
- SHRUB
- EVERGREEN TREE
- DICIDUOUS TREE
- STUMP
- UTILITY POLE
- GUY WIRE
- LIGHT
- MAILBOX
- WELL
- FIRE HYDRANT
- WATER SHUT OFF
- WATER VALVE
- STORM MANHOLE
- PROPERTY CORNER
- ROAD SIGN
- RIGHT-OF-WAY

PROPOSED:

- WATERLINE
- FIRE HYDRANT
- WATER VALVE
- WATER SHUT OFF
- B-1 BORING LOCATION
- M.J. PIPE FITTINGS
- END CAP
- MANUAL AIR RELEASE
- SOLID SLEEVE

THE RESIDENT PROJECT REPRESENTATIVE FOR THE WATER MAIN INSTALLATION PORTION OF THIS PROJECT WAS RANDY GOODWIN. THE WATER MAIN RECORD DRAWING INFORMATION, AS DRAFTED, WAS RECORDED BY RANDY GOODWIN AND IS DEEMED REPRESENTATIVE OF ACTUAL WATER MAIN CONDITIONS BASED 0N THE FIELD INFORMATION AVAILABLE

SIGNED : R.N. Goodwin

R.N. GOODWIN, RPR, DUFRESNE & ASSOCIATES, PC

RECORD DRAWINGS

Dufresne & Associates, P.C.
54 Main Street, P.O. Box B
Windsor, Vermont 05089
Tel: (802) 674-2904 Fax: (802) 674-2913
E-mail: dufresnepc@vermontel.net
Home page: http://www.dufresneassociates.com

Project #	413025
Project Mgr.	JRP
Design	JRP
Drawn	GJW
Checked by	RNG
Date	OCTOBER 5, 2004
Scale	AS SHOWN
Approved by	JRP

Revisions:

THE DRAWINGS FOR THIS PROJECT SHALL NOT BE REUSED OR ALTERED IN ANY WAY WITHOUT THE WRITTEN APPROVAL AND AUTHORITY OF DUFRESNE & ASSOCIATES, P.C. ANY REVISIONS SHALL BE MADE BY THE ENGINEER.
Dufresne & Associates, PC ©

STATE OF VERMONT
JOHN R. PERRY
No. 6806
REGISTERED PROFESSIONAL ENGINEER

GRANITE STREET BRIDGE
IMPROVEMENTS

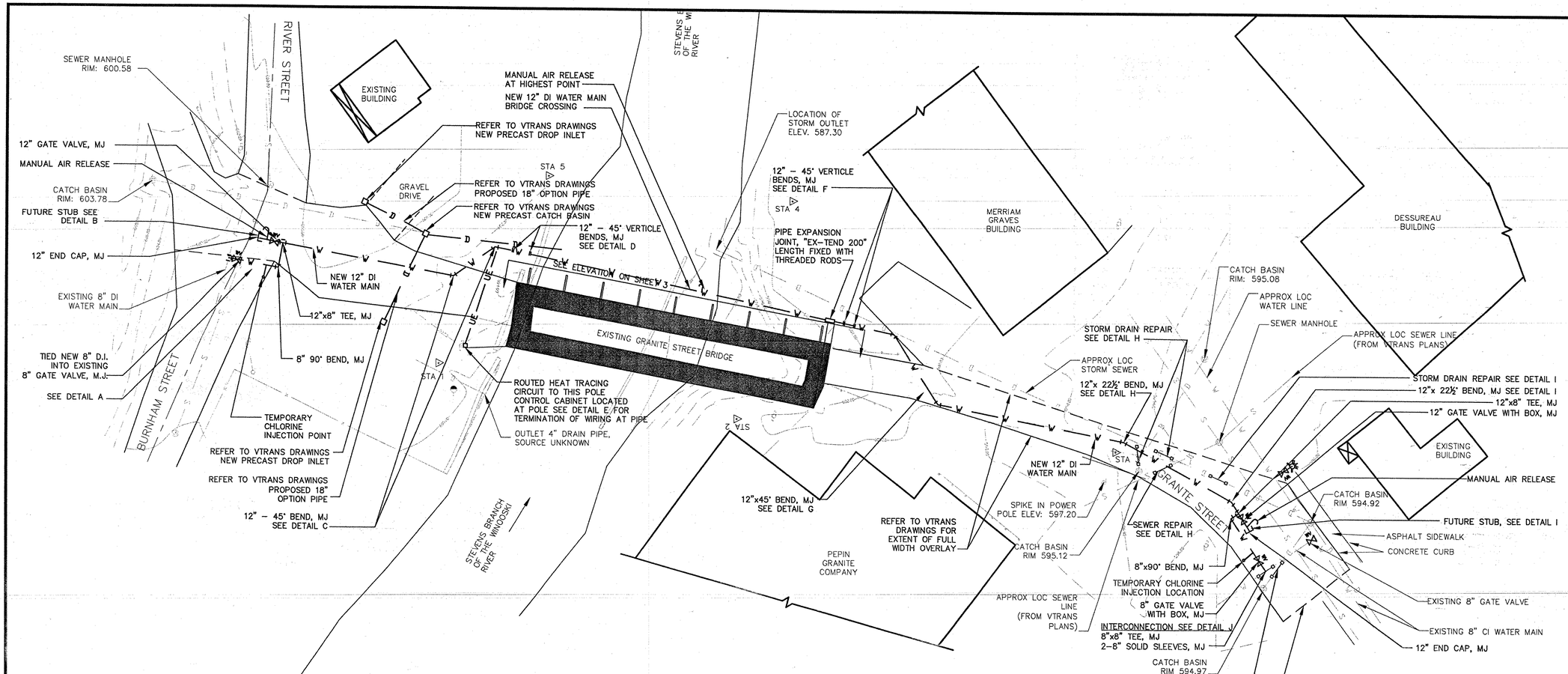
RECORD DRAWINGS
NOTES AND LEGENDS

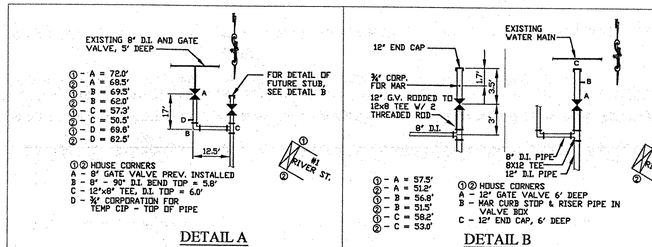
BARRE, VERMONT

R1

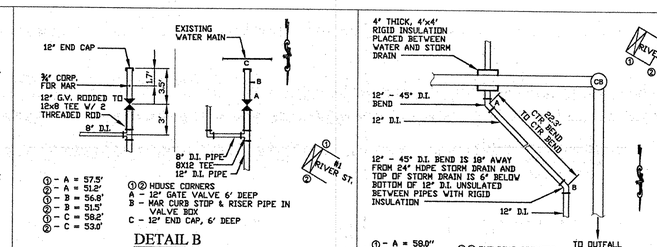
DWG. NO. --- ~~C85 WL~~ ~~C59 WL~~

SHEET 1 OF 5

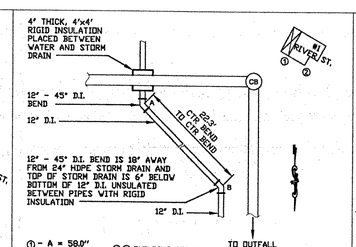




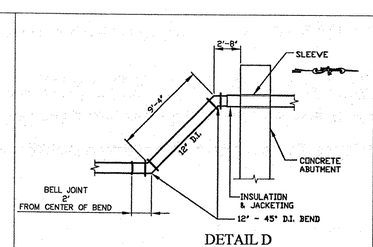
DETAIL A
NTS



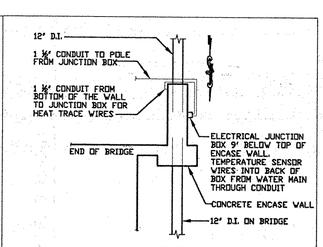
DETAIL B
NTS



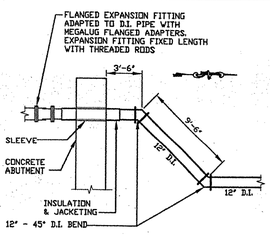
DETAIL C
NTS



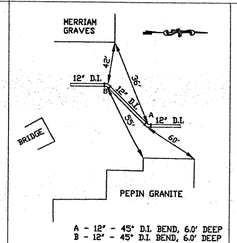
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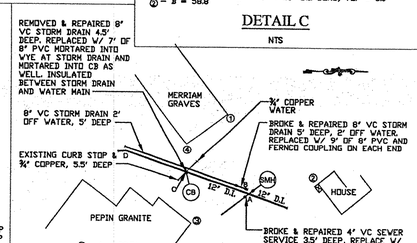
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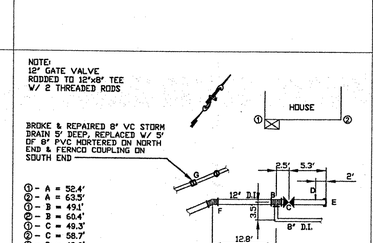
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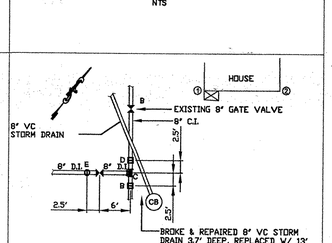
DETAIL G
NTS



DETAIL H
NTS



DETAIL I
NTS



DETAIL J
NTS

RECORD DRAWINGS

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Project #	413025
Project Mgr.	JRP
Design	JRP
Drawn	GJW
Checked by	RNG
Date	OCTOBER 5, 2004
Scale	AS SHOWN
Approved by	JRP

Revisions:

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STATE OF VERMONT
JOHN R. PERRY
No. 6806
11-04-05
PROFESSIONAL ENGINEER

GRANITE STREET BRIDGE IMPROVEMENTS

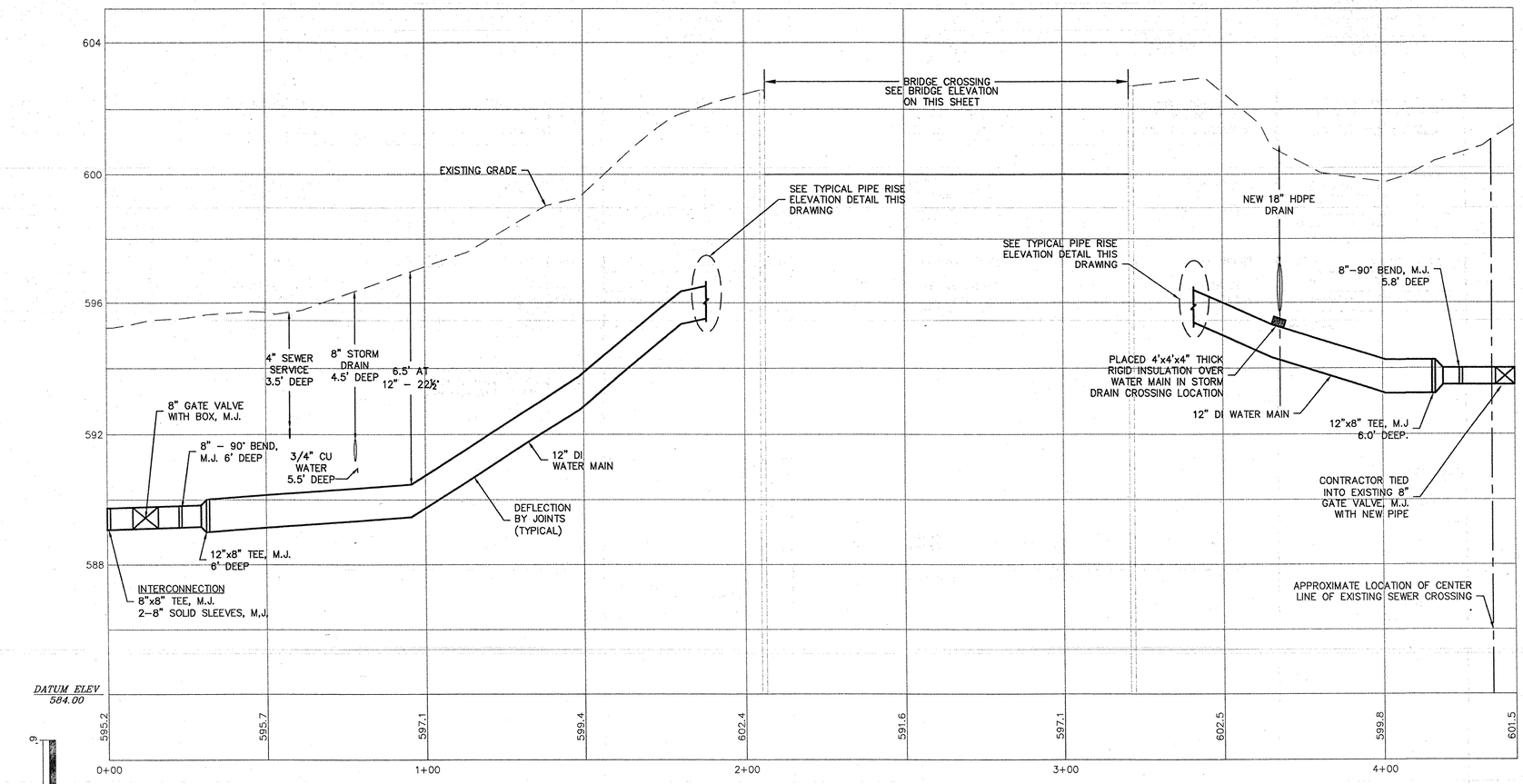
RECORD DRAWINGS
SITE PLAN

BARRE, VERMONT

R2

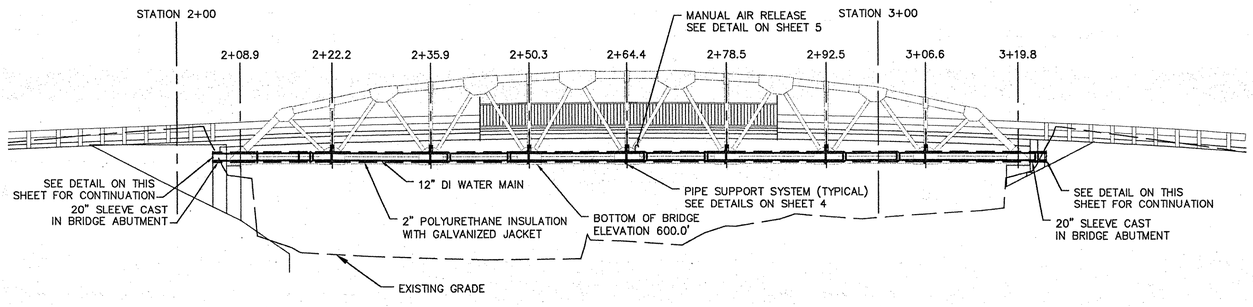
DWG. NO. --- 086 02

SHEET 2 OF 5



WATER MAIN PROFILE

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

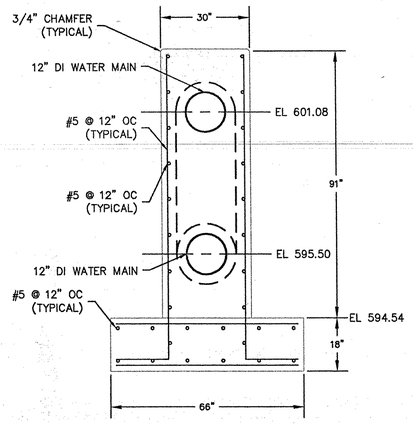


BRIDGE ELEVATION

SCALE: 1" = 10'

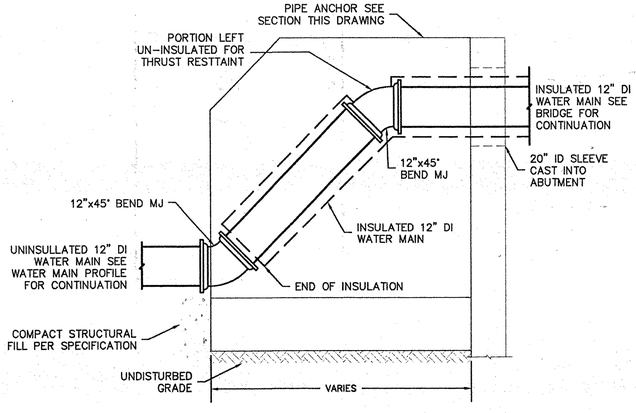
NOTES:

1. THE W8x24 FABRICATED PIPE SUPPORTS ATTACHED TO THE BRIDGE ARE HOT DIPPED GALVANIZED. ALL HIGH STRENGTH BOLTS, NUTS AND WASHERS AS WELL AS THE PIPE SUPPORT ROLLERS AND SUPPORTING ELEMENTS ARE ELECTROGALVANIZED.
2. THE PIPE LOCATED BETWEEN STATION 1+95 AND 3+30 WAS PREINSULATED PRIOR TO PLACEMENT. WHERE INSULATED PIPING WAS PLACED IN THE CONCRETE. THE INSULATION JACKETING WAS SEALED W/ PE JACKET TO PREVENT WICKING BY GROUND WATER INTO THE INSULATION.
3. THE PIPE SYSTEM IS SUPPORTED AND RESTRAINED BY ROLLER PIPE SUPPORTS. THE PIPE SUPPORTS ARE ROLL ROD ROLLERS, SIZED TO PROVIDE FULL SUPPORT FOR THE INSULATED PIPING. THE CONTRACTOR FURNISHED GALVANIZED INSULATION SHIELDS WHERE THE INSULATED PIPE COMES IN CONTACT WITH THE ROLLERS.
4. THE CENTERLINES OF THE 20" ID PIPE SLEEVES WERE CAST INTO EACH SIDE OF THE BRIDGE ABUTMENT AT AN ELEVATION OF 601.08.
5. PIPE FOR BRIDGE CROSSING IS CLASS 52, DUCTILE IRON WITH TR–FLEX JOINTS. EACH SECTION OF PIPE IS SUPPORTED BY AT LEAST ONE PIPE SUPPORT.



PIPE ANCHOR SECTION

NOT TO SCALE



TYPICAL PIPE RISE ELEVATION DETAIL

NOT TO SCALE

RECORD DRAWINGS

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Project #	413025
Project Mgr.	JRP
Design	JRP
Drawn	GJW
Checked by	RND
Date	OCTOBER 5, 2004
Scale	AS SHOWN
Approved by	JRP

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STATE OF VERMONT JOHN R. FERRY 10506 PROFESSIONAL ENGINEER

GRANITE STREET BRIDGE IMPROVEMENTS

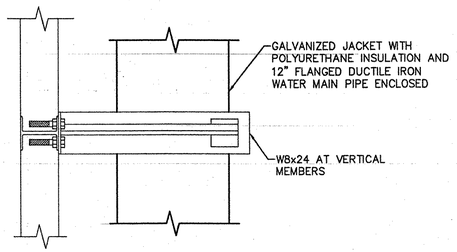
RECORD DRAWINGS PROFILE AND ELEVATION

BARRE, VERMONT

R3

DWG. NO. --- 0897 WL

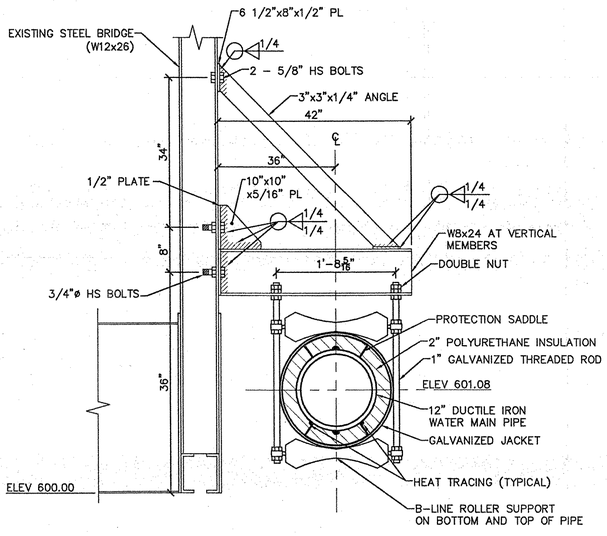
SHEET 3 OF 5



PIPE SUPPORT DETAIL - PLAN VIEW

NOT TO SCALE

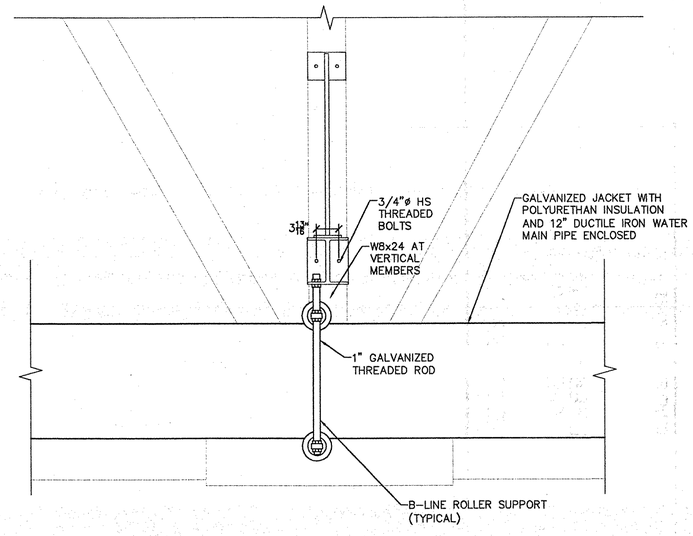
NOTES:
1. ALL BOLTS, NUTS AND WASHERS ARE GALVANIZED.
2. ALL STEEL FABRICATIONS AND CASTINGS ARE HOT DIPPED GALVANIZED.



PIPE SUPPORT DETAIL - SECTION VIEW

NOT TO SCALE

NOTES:
1. ALL BOLTS, NUTS AND WASHERS ARE GALVANIZED.
2. ALL STEEL FABRICATIONS AND CASTINGS ARE HOT DIPPED GALVANIZED.



PIPE SUPPORT DETAIL - ELEVATION VIEW

NOT TO SCALE

NOTES:
1. ALL BOLTS, NUTS AND WASHERS ARE GALVANIZED.
2. ALL STEEL FABRICATIONS AND CASTINGS ARE HOT DIPPED GALVANIZED.

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STATE OF VERMONT JOHN R. PERRY No. 6806 PROFESSIONAL ENGINEER

GRANITE STREET BRIDGE IMPROVEMENTS

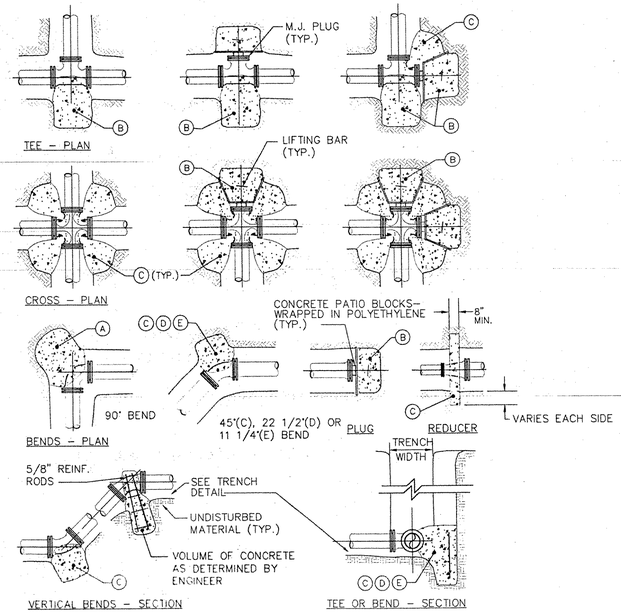
RECORD DRAWINGS
GENERAL DETAILS

BARRE, VERMONT

R4

DWG. NO. --- 078 WL

SHEET 4 OF 5



THRUST BLOCK DETAILS

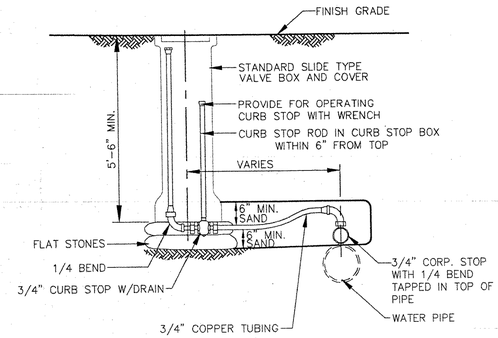
NOT TO SCALE

THRUST BLOCK SCHEDULE
SQUARE FEET OF CONCRETE THRUST
BLOCKING BEARING ON UNDISTURBED MATERIAL

REACTION TYPE		PIPE SIZE												
		4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"	48"
TEST PRESSURE = 100 PSIG	Ⓐ	1.71	2.49	4.29	6.45	9.12	12.26	15.85	19.91	24.43	34.85	53.62	76.81	135.12
	Ⓑ	1.21	3.53	6.06	9.12	12.70	17.33	22.42	28.16	34.55	49.29	75.83	108.62	191.09
	Ⓒ	0.92	0.95	3.28	4.94	6.98	9.38	12.13	15.24	18.70	26.68	41.04	58.78	103.42
	Ⓓ	0.47	0.97	1.67	2.52	3.56	4.78	6.19	7.77	9.53	13.60	20.92	29.97	52.72
	Ⓔ	0.24	0.49	0.84	1.26	1.79	2.40	3.41	3.90	4.79	6.83	10.51	15.06	26.49
OTHER TEST PRESSURES FOR THE ABOVE REACTIONS		TEST PRESSURE TO BE 200 PSI MIN. AT LOW END OF THE TEST SECTION. SQUARE FEET OF CONCRETE THRUST BLOCKING FOR OTHER TEST PRESSURES IS DIRECTLY PROPORTIONAL TO THE ABOVE TABLE. FOR INSTANCE, AT 200 PSI TEST PRESSURE FOR ABOVE NUMBERS DOUBLE.												

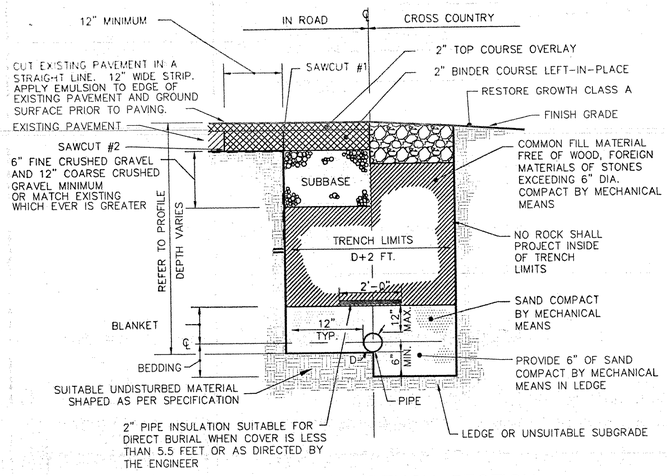
NOTES:

1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE CONCRETE PATIO BLOCKS IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCK.
4. REQUIREMENTS OF THE ABOVE TABLE PRESUME MINIMUM SOIL BEARING OF 1 TON PER SQUARE FOOT, AND MAY BE VARIED BY THE ENGINEER TO MEET OTHER CONDITIONS ENCOUNTERED.
5. MEGA-LUG RETAINER GLANDS ARE REQUIRED FOR ALL MECHANICAL JOINTS. THESE GLANDS DO NOT REDUCE THE REQUIREMENTS FOR THRUST RESTRAINT.
6. ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE OR BUILDING PAPER PRIOR TO INSTALLATION OF CONCRETE RESTRAINT.
7. THREADED ROD SHALL BE ANSI A242 FY50 PIPE RESTRAINT NUTS TO MATCH AWWA C111. THREADED RODS AND NUTS TO BE FIELD COATED WITH BITUMINOUS PAINT.
8. THRUST RESTRAINT IS REQUIRED FOR ALL TEES, BENDS, REDUCERS, CAPS, PLUGS, OR CROSSES.
9. INSTALL LIFT HOOKS INTO THRUST BLOCKS AT END CAPS AND PLUGS.
10. THRUST BLOCK AREA IS BASED ON SILT SOILS WITH A BEARING STRENGTH OF 1500 LBS/SF AND A SAFETY FACTOR OF 1.5.



TYPICAL INSTALLATION–TRAVEL WAY FOR MANUAL AIR RELEASE OR CHLORINATION INJECTION

NOT TO SCALE



TYPICAL TRENCH SECTION

NOT TO SCALE

NOTE:
WHERE PIPE IS INSTALLED IN GRAVEL SHOULDER OR IN GRAVELED ROAD, GRAVEL SUB BASE SHALL BE 18" THICK FOR THE WIDTH OF THE TRENCH.

RECORD DRAWINGS

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GRANITE STREET BRIDGE IMPROVEMENTS

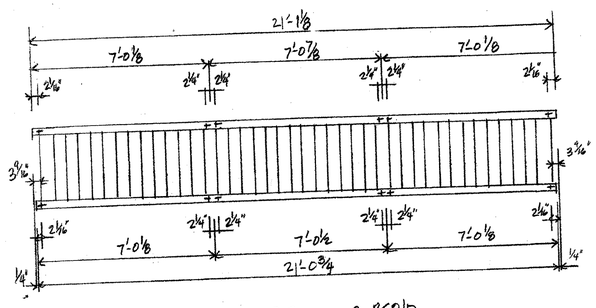
RECORD DRAWINGS
GENERAL DETAILS

BARRE, VERMONT

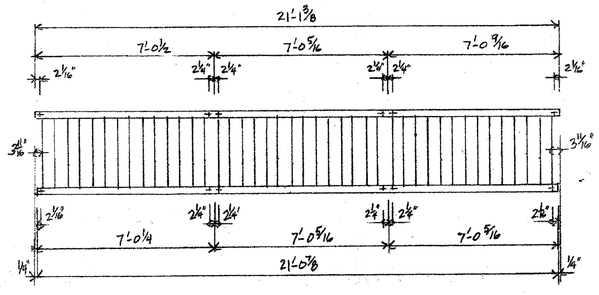
R5

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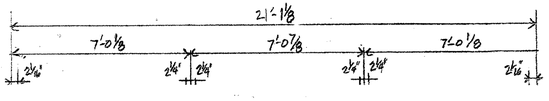
SHEET 5 OF 5



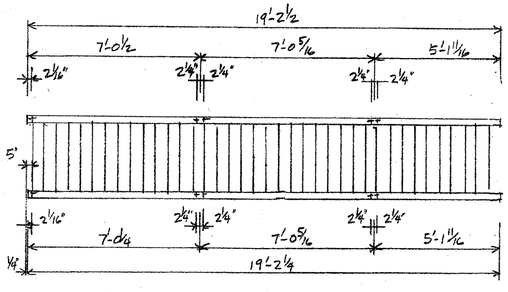
RAIL B2 - 2 REQ'D



RAIL B1 - 2 REQ'D



091 BR



RAIL C - ONE REQ'D

RAILS A & D ARE AS PER PLAN

092 BR