PROJECT LOCATION:
BEGINNING AT A POINT IN THE TOWN OF WARREN, ON VT ROUTE 100 APPROXIMATELY 5.82 MILES NORTHERLY OF THE GRANVILLE-WARREN TOWN LINE AND EXTENDING NORTHERLY 0.162 MILES.

PROJECT DATA

LENGTH OF ROADWAY = 708.25 FEET
LENGTH OF BRIDGE = 146.75 FEET
LENGTH OF PROJECT = 855.00 FEET

PROJECT DESCRIPTION:
WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES REPLACEMENT OF EXISTING BRIDGE #173 ON VT ROUTE 100, A TEMPORARY DETOUR AND ALL NECESSARY ROADWAY, CHANNEL, AND APPROACH WORK.

RECORD PLANS

CONTRACTOR: S. D. IRELAND CONC. CONST. CORP - BURLINGTON, VT

RESIDENT ENGINEER: VICK DWIRE

CONSTRUCTION BEGAN: NOVEMBER 2, 2012

CONSTRUCTION COMPLETE: JUNE 14, 2014

RECORD PLANS BY: VICK DWIRE & JENNA HYDE

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

BY _____ RESIDENT ENGINEER

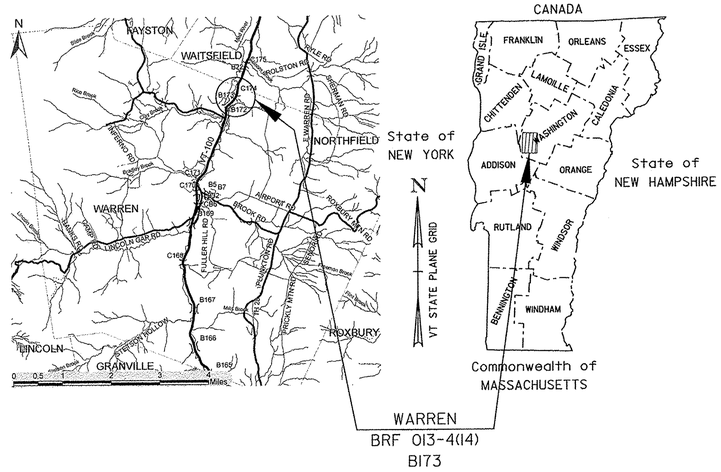
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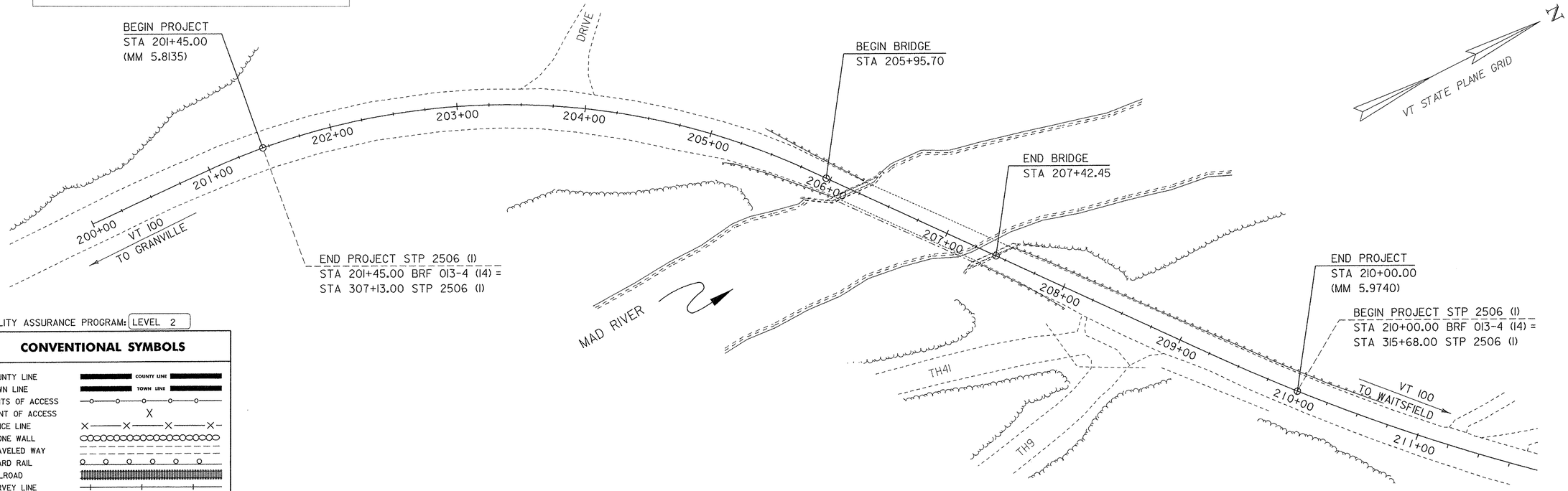
NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF WARREN
COUNTY OF WASHINGTON
VT ROUTE 100 (MINOR ARTERIAL) - BR NO. 173





QUALITY ASSURANCE PROGRAM: LEVEL 2

CONVENTIONAL SYMBOLS

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

SURVEYED BY : R. D. GILMAN
SURVEYED DATE : NOV. 1995

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (07)

SCALE 1" = 40'-0"
40 0 40

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 7-30-12

PROJECT MANAGER : J. LACROIX

PROJECT NAME : WARREN
PROJECT NUMBER : BRF 013-4 (14)

SHEET 1 OF 83 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version 11.06.15

LRFD

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SD-502.00	CONCRETE DETAILS AND NOTES
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FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: April 2012

DRAINAGE AREA : 45.6 sq. mi.
CHARACTER OF TERRAIN : Mountainous, mostly wooded, rural
STREAM CHARACTERISTICS : Sinuous, semi-alluvial
NATURE OF STREAMBED : Mostly gravel and cobbles w/scattered boulders

PEAK FLOW DATA

Q 2.33 =	2,300 cfs	Q 50 =	6,700cfs
Q 10 =	4,400 cfs	Q 100 =	7,800 cfs
Q 25 =	5,600 cfs	Q 500 =	10,920 cfs

DATE OF FLOOD OF RECORD : unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ Q50 = 7.9 fps
ICE CONDITIONS : Moderate
DEBRIS: Moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes
IS ORDINARY RISE RAPID? Yes
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE:

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

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single span Pratt through truss
YEAR BUILT: 1929
CLEAR SPAN(NORMAL TO STREAM): 89 ft
VERTICAL CLEARANCE ABOVE STREAMBED: 11 ft
WATERWAY OF FULL OPENING: 873 sq. ft
DISPOSITION OF STRUCTURE: To be removed
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See borings

WATER SURFACE ELEVATIONS AT:

Q2.33 =	784.7 ft	VELOCITY =	7.2 fps
Q10 =	787.4 ft	"	9.9 fps
Q25 =	788.4 ft	"	10.4 fps
Q50 =	789.2 ft	"	11.2 fps
Q100 =	790.1 ft	"	11.9 fps

LONG TERM STREAMBED CHANGES: None

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: N/A
RELIEF ELEVATION: 790.6 ft
DISCHARGE OVER ROAD @Q100: N/A

UPSTREAM STRUCTURE

TOWN: Warren DISTANCE: 1.78 mi
HIGHWAY # : TH 4 STRUCTURE #: 30
CLEAR SPAN: 55 ft CLEAR HEIGHT: 28.9 ft
YEAR BUILT: 1929 FULL WATERWAY: Unknown
STRUCTURE TYPE: Single span T-beam

DOWNSTREAM STRUCTURE

TOWN: Waitsfield DISTANCE: 1.22 mi
HIGHWAY # : TH 29 STRUCTURE #: 22
CLEAR SPAN: 57 ft CLEAR HEIGHT: 22 ft
YEAR BUILT: 1999 FULL WATERWAY: Unknown
STRUCTURE TYPE: Single span pony truss

PROPOSED STRUCTURE

STRUCTURE TYPE: Single span prefabricated galvanized truss

CLEAR SPAN(NORMAL TO STREAM): 94 ft
VERTICAL CLEARANCE ABOVE STREAMBED: 12 ft
WATERWAY OF FULL OPENING: 1,230 sq. ft

WATER SURFACE ELEVATIONS AT:

Q2.33 =	784.9 ft	VELOCITY=	8.3 fps
Q10 =	787.6 ft	"	9.9 fps
Q25 =	788.6 ft	"	10.4 fps
Q50 =	789.4 ft	"	11.2 fps
Q100 =	790.1 ft	"	11.9 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: N/A
RELIEF ELEVATION: 790.8 ft
DISCHARGE OVER ROAD @Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 789.8'
VERTICAL CLEARANCE: @ Q50 = 0.4'

SCOUR: Contraction scour of 4 ft at Q500

REQUIRED CHANNEL PROTECTION: Stone Fill Type IV

PERMIT INFORMATION

AVERAGE DAILY FLOW:	93 cfs	
ORDINARY LOW WATER:	42 cfs	DEPTH OR ELEVATION: depth = 1 ft
ORDINARY HIGH WATER:	990 cfs	depth = 5 ft

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Two Way Single Span Bridge
CLEAR SPAN (NORMAL TO STREAM): 79 ft (99 ft bridge span)
VERTICAL CLEARANCE ABOVE STREAMBED: 9.8 ft at minimum elev. 787.4 ft
WATERWAY AREA OF FULL OPENING: 673 sq. ft

ADDITIONAL INFORMATION

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TWO-WAY TRAFFIC ON A TEMPORARY BRIDGE.
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. SIDEWALKS ARE NOT NECESSARY
4. THE APPROACHES FOR THE TEMPORARY BRIDGE SHALL BE PAVED.

DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	d_p:	3.0 INCH
3. DESIGN SPAN	L:	138.50 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	- - -
5. PRESTRESSING STRAND	f_y:	- - -
6. PRESTRESSED CONCRETE STRENGTH	f'_c:	- - -
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	- - -
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'_c:	4.0 KSI
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'_c:	4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'_c:	3.5 KSI
11. CONCRETE, CLASS C	f'_c:	3.0 KSI
12. REINFORCING STEEL	f_y:	60 KSI
13. STRUCTURAL STEEL AASHTO M270 (GALVANIZED)	f_y:	50 KSI
14. SOIL UNIT WEIGHT	γ:	0.140 KCF
15. NOMINAL BEARING RESISTANCE OF SOIL	q_n:	4.0 KSF
16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	- - -
17. NOMINAL BEARING RESISTANCE OF ROCK	q_n:	10.0 KSF
18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	- - -
19. NOMINAL AXIAL PILE RESISTANCE	q_p:	461.0 KIPS
20. PILE YIELD STRENGTH ASTM A572	f_y:	50 KSI
21. PILE SIZE		HP 14X117
22. EST. PILE LENGTH	L_p:	118 FT
23. PILE RESISTANCE FACTOR	ϕ:	0.65
24. LATERAL PILE DEFLECTION	Δ:	- - -
25. BASIC WIND SPEED	V_{3s}:	- - -
26. MINIMUM GROUND SNOW LOAD	p_g:	- - -
27. SEISMIC DATA PGA: - - -	S_s:	- - -
	S_1:	- - -

LRFR LOAD RATING FACTORS

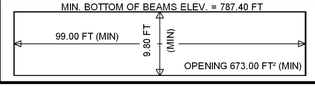
LOADING LEVELS	TRUCK H-20	HL-93	3S2	6 AXLE	3A STR.	4A STR.	5A SEMI
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY							
POSTING							
OPERATING							

COMMENTS: TRUSS FABRICATOR SHALL PROVIDE LOAD RATING

AS BUILT "REBAR" DETAIL

LEVEL I	LEVEL II	LEVEL III
TYPE:	TYPE:	TYPE:
GRADE:	GRADE:	GRADE:

TEMPORARY BRIDGE PROFILE ALONG TEMP CL



PILE DRIVING AND TESTING REQUIREMENTS

1. NOMINAL PILE DRIVING CAPACITY — Resr: SEN. NOTES
2. PILE TEST RESISTANCE FACTOR — ϕ: 0.65
3. MAXIMUM PILE TIP ELEVATION — 693.00 FT
4. 0

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2010	4300	530	52	5.5	240
2030	5200	650	52	9.3	480

20 year ESAL for flexible pavement from 2010 to 2030 : 1365000
40 year ESAL for flexible pavement from 2010 to 2050 : 3362000
Design Speed : 50 mph

PROJECT NAME: **WARREN**
PROJECT NUMBER: **BRF 013-14(4)**

FILE NAME: s78f242forms.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
PRELIMINARY INFORMATION SHEET

PLOT DATE: 3/18/2012
DRAWN BY: U. STANLEY
CHECKED BY: J. LACROIX

1 GENERAL

1.1. ALL MATERIALS, CONSTRUCTION AND DESIGN SHALL CONFORM TO THE STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, AND ITS LATEST REVISIONS AND AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION DATED 2010 AND ITS LATEST REVISIONS

1.2. THE EXISTING STEEL TRUSS IS COATED WITH A MATERIAL THAT MAY CONTAIN LEAD. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE REGULATIONS WHEN HANDLING AND WORKING WITH THIS MATERIAL. THE REMOVED STRUCTURAL STEEL SHALL BECOME THE PROPERTY OF THE CONTRACTOR WHO SHALL BE RESPONSIBLE FOR ITS REMOVAL FROM THE SITE AND DISPOSAL. THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE STATE, THE TOWN OF WARREN, AS WELL AS ITS OFFICERS, AND THEIR EMPLOYEES, CONCERNING THE DISPOSITION OF THIS MATERIAL.

1.3. UNLESS OTHERWISE NOTED IN THE PLANS, ALL DIMIENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT.

1.4. ITEM 529.15, REMOVAL OF STRUCTURE, IS FOR THE COMPLETE REMOVAL OF THE SUPERSTRUCTURE AND ANY PORTIONS OF THE ABUTMENTS WHICH ARE OUTSIDE OF THE LIMITS OF EITHER COFFERDAM EXCAVATION OR UNCLASSIFIED CHANNEL EXCAVATION. ALL OF THE EXISTING ABUTMENT CONCRETE SHALL BE REMOVED. EXISTING TIMBER PILES AT THE ABUTMENTS SHALL BE REMOVED TO ELEVATION 772. RECORD PLANS OF THE EXISTING TRUSS AND TIMBER PILES HAVE BEEN PROVIDED AT THE END OF THIS PLAN SET FOR REFERENCE ONLY.

1.5. THE EXISTING MAILBOXES LOCATED IN THE GENERAL PROXIMITY OF TOWN HIGHWAYS 9 AND 41 WITH THE INTERSECTION OF VT100 WILL BE RELOCATED AS PER STD J-3 AND SECTION 617 OF THE SPECIFICATIONS. THE LOCATION OF THE NEW MAIL BOXES WILL BE AS APPROVED BY THE OWNERS AND THE LOCAL U.S. POSTAL SERVICE DELIVERY PERSON, 802-496-2908.

1.6. THE CONTRACTOR MAY SUBSTITUTE SUBBASE MATERIAL FOR THE SAND BORROW SHOWN ON THE PLANS. THE SUBBASE MATERIAL SHALL BE THE TYPE SPECIFIED IN THE CONTRACT AND SHALL BE PLACED TO MEET THE SUBBASE SPECIFICATIONS. IF SUBBASE IS PLACED IN LIEU OF SAND BORROW, A GEOTEXTILE MEETING THE REQUIREMENTS OF SECTION 649 FOR GEOTEXTILE FOR ROAD BED SEPARATOR SHALL BE PLACED BETWEEN THE SUBGRADE AND THE SUBBASE MATERIAL. ALL COSTS ASSOCIATED WITH THE SUBSTITUTION INCLUDING THE GEOTEXTILE SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 203.31 SAND BORROW.

1.7. "STRUCTURES DETAIL SHEETS" LISTED ON THE INDEX ARE PROVIDED AFTER THE PLAN SHEETS. DETAILS AND DIMENSIONS SHOWN IN THE PROJECT PLAN SHEETS SHALL TAKE PRECEDENCE OVER THOSE SHOWN IN THE "STRUCTURES DETAIL SHEETS".

2 PREFABRICATED TRUSS BRIDGE

2.1. THE PREFABRICATED GALVANIZED STEEL TRUSS BRIDGE FOR THIS PROJECT SHALL MEET THE SPECIFICATION REQUIREMENTS FOR ITEM 900.645, SPECIAL PROVISION (PREFABRICATED TRUSS BRIDGE). THE TRUSS SHALL BE DESIGNED, DETAILED, FABRICATED, TRANSPORTED TO THE SITE AND ERECTED BY THE FABRICATOR/CONTRACTOR. THE TRUSS PROVIDED SHALL BE SIMILAR IN GENERAL APPEARANCE AND CONFIGURATION TO THE ONE SHOWN IN THESE PLANS.

2.2. THE NEW BRIDGE SHALL BE A SINGLE SPAN TRUSS MEETING THE FOLLOWING CRITERIA:

- **A.** MUST BE A PONY TRUSS, I.E. NO CONNECTION BETWEEN THE TOP CHORDS OF THE TWO TRUSSES AND ALL CONNECTIONS SHALL BE BOLTED.
- **B.** DESIGN SPECIFICATION SHALL BE THE AASHTO LRFD BRIDGE SPECIFICATIONS, FIFTH EDITION DATED 2010 AND ITS LATEST REVISIONS.
- **C.** THE DESIGN VEHICULAR LIVE LOAD SHALL BE THE HL-93 AASHTO DESIGNATED LOAD.
- **D.** THE CAST IN PLACE CONCRETE DECK SHALL BE COMPOSITE WITH THE MEMBERS OF THE PREFABRICATED TRUSS.
- **E.** MUST CONFORM TO THE LINE, WIDTH, AND MINIMUM SPAN AS SHOWN ON THE PLANS. MINOR MODIFICATIONS TO THE PROPOSED GRADE SHALL BE ALLOWED ONLY WITH THE APPROVAL OF THE RESIDENT ENGINEER.
- **F.** LOWEST STEEL ELEVATION OF STRUCTURE (EXCLUDING BEARINGS) SHALL BE AT OR ABOVE EL. 789.28 FT
- **G.** FLOOR SYSTEM MUST NOT EXTEND BELOW THE BOTTOM CHORD.
- **H.** TRUSSES MUST BE CAMBERED FOR FULL DEAD LOAD WITH A RESIDUAL CAMBER OF APPROXIMATELY 1.75 INCHES.
- **I.** TRUSS SHALL HAVE JACKING STIFFENERS OR MEMBERS SHALL BE DESIGNED TO ALLOW FUTURE JACKING FOR BEARING REPLACEMENT UNDER ONE LANE OF VEHICULAR LIVE LOAD.

2.3. THE FABRICATOR/ CONTRACTOR SHALL DESIGN AND DETAIL THE DECK SLAB TO MEET THE FOLLOWING DESIGN CRITERIA:

- **A.** CONCRETE SHALL BE HIGH PERFORMANCE CLASS A CONCRETE AND SHALL MEET THE REQUIREMENTS OF SECTION 501 OF THE STANDARD SPECIFICATIONS.
- **B.** REINFORCING STEEL SHALL BE LEVEL II AND SHALL MEET THE REQUIREMENTS OF SECTION 507 OF THE STANDARD SPECIFICATIONS.
- **C.** MINIMUM SLAB THICKNESS SHALL BE 8.5 INCHES
- **D.** THE MINIMUM REINFORCING STEEL SHALL BE #5 BARS SPACED 12 INCHES CENTER TO CENTER IN EACH DIRECTION AND ON EACH FACE.
- **E.** MINIMUM COVER FOR REINFORCING STEEL SHALL BE: 2.5 INCHES FOR THE TOP OF CONCRETE DECK, 3 INCHES FOR CURB, AND 1.5 INCHES FOR BOTTOM OF THE CONCRETE DECK.

2.4. THE COST FOR DECK SLAB CONCRETE AND DECK SLAB REINFORCING STEEL SHALL BE PAID FOR UNDER ITEM 900.645, SPECIAL PROVISION (PREFABRICATED TRUSS BRIDGE.)

2.5. THE FABRICATOR/ CONTRACTOR SHALL DESIGN THE TRUSS MEMBERS AND CONCRETE DECK USING A 300 LB/LF LOAD FOR RAIL AND CURB, ON EACH SIDE.

2.6. THE CONCRETE BRIDGE CURB SHALL BE CAST-IN PLACE HIGH PERFORMANCE CLASS A CONCRETE AS SHOWN ON THE PLANS AND PAID FOR UNDER ITEM 501.33, CONCRETE, HIGH PERFORMANCE CLASS A. THE REINFORCING STEEL FOR CONCRETE BRIDGE CURB SHALL BE LEVEL II REINFORCING STEEL, PLACED AS SHOWN ON THE PLANS AND PAID FOR UNDER ITEM 507.12 REINFORCING STEEL, LEVEL II.

2.7. THE FABRICATOR/ CONTRACTOR SHALL PROVIDE FINAL CONCRETE BRIDGE SEAT ELEVATIONS ON THE FABRICATION DRAWINGS FOR EACH ABUTMENT BASED ON THE ACTUAL DEPTH OF THE BRIDGE AND THE HEIGHT OF THE BEARINGS.

2.8. CONTRACTOR SHALL USE DIRECT TENSION INDICATOR METHOD AS SPECIFIED IN SUBSECTION 506.19 FOR PRETENSIONING OF ALL BOLTED TRUSS CONNECTIONS. NO OTHER BOLT TENSIONING METHOD SHALL BE PERMITTED ON THE BOLTED TRUSS CONNECTIONS.

2.9. ALL STRUCTURAL STEEL USED IN THE TRUSS BRIDGE SHALL MEET THE REQUIREMENTS OF AASHTO M 270M/M 270, GRADE 50.

2.10. ALL FASTENERS UNLESS OTHERWISE NOTED SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 164 TYPE 1.

2.11. THE FABRICATOR SHALL IDENTIFY ALL TENSILE STRUCTURAL STEEL MEMBERS AND PLATES REQUIRING A CHARPY V-NOTCH TEST ON THE PLANS BY THE INITIALS "CVN". STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH SUBSECTION 714.01 OF THE STANDARD SPECIFICATIONS.

2.12. THE FABRICATOR SHALL IDENTIFY ALL TENSILE STRUCTURAL STEEL MEMBERS AND COMPONENTS THAT ARE CATEGORIZED AS "FRACTURE CRITICAL" ON THE PLANS BY THE INITIALS "FCM". FRACTURE CRITICAL MEMBERS SHALL MEET THE FOLLOWING CONSTRUCTION AND TESTING REQUIREMENTS:

- **A.** ALL FRACTURE CRITICAL MEMBERS SHALL BE FABRICATED ACCORDING TO SECTION 12 OF THE AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE.
- **B.** ALL FRACTURE CRITICAL MEMBERS SHALL BE FABRICATED IN A PLANT HAVING AN AISC FRACTURE CRITICAL ENDORSEMENT OR THE FABRICATOR SHALL PROVIDE TO THE STRUCTURES ENGINEER AN ACCEPTABLE FRACTURE CONTROL PLAN MEETING THE REQUIREMENTS OF AASHTO/AWS D1.5 PRIOR TO FABRICATION.
- **C.** ALL FRACTURE CRITICAL MEMBERS SHALL BE IMPACT TESTED TO THE FRACTURE CRITICAL REQUIREMENTS AS SPECIFIED IN AASHTO M 270M/M 270.

2.13. THE INDIVIDUAL SIZE, LENGTH AND SPACING OF TRUSS MEMBERS WILL BE DETERMINED BY THE FABRICATOR.

2.14. THE SHEAR STUDS SHALL BE APPLIED BEFORE THE TRUSS MEMBERS ARE GALVANIZED. THE COST FOR THE SHEAR STUDS SHALL BE INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (PREFABRICATED TRUSS BRIDGE).

2.15. ALL STEEL SHALL BE GALVANIZED ACCORDING TO SUBSECTION 726.08 OF THE STANDARD SPECIFICATIONS. PRIOR TO GALVANIZATION ALL SURFACES SHALL BE PREPARED ACCORDING TO SUBSECTION 506.14 OF THE STANDARD SPECIFICATIONS. GALVANIZING SHALL BE PAID FOR UNDER ITEM 900.645, SPECIAL PROVISION (PREFABRICATED TRUSS BRIDGE).

2.16. ANY DAMAGE CAUSED TO GALVANIZING BEFORE ACCEPTANCE OF THE WORK SHALL BE REPAIRED AS REQUIRED BY THE SPECIFICATIONS AND THE COST SHALL BE INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (PREFABRICATED TRUSS BRIDGE).

2.17. THE BEARING DEVICES SHALL BE DESIGNED, DETAILED, FABRICATED, AND TRANSPORTED TO THE SITE BY THE FABRICATOR. THE BEARING DEVICES SHALL CONFORM TO THE APPLICABLE SUBSECTIONS OF SECTIONS 531 AND 731. EXPANSION BEARINGS SHALL BE ADJUSTED FOR TEMPERATURE AS SHOWN ON THE FABRICATION DRAWINGS. THE COSTS OF THE BEARINGS SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.645 SPECIAL PROVISION (PREFABRICATED TRUSS BRIDGE).

2.18. FABRICATION DRAWINGS, DESIGN CALCULATIONS AND WELD PROCEDURES MUST BE SUBMITTED IN ACCORDANCE WITH SUBSECTION 105.03(b) (6 WEEKS PRIOR TO BEGINNING FABRICATION OF THE TRUSS) TO THE STRUCTURES ENGINEER TO BE REVIEWED FOR CONFORMANCE. THE DESIGN CALCULATIONS FOR THE TRUSS, BEARINGS, BEAM PROFILES, AND DECK SLAB SHALL BE STAMPED AND SIGNED BY A QUALIFIED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF VERMONT (STRUCTURAL OR CIVIL). THE FABRICATION DRAWINGS SHALL INCLUDE ALL TRUSS DEAD LOAD DEFLECTION AND CAMBER INFORMATION AND SHALL BE STAMPED WITH THE DESIGN ENTITY'S FABRICATION DRAWING APPROVAL STAMP OR STAMPED AND SIGNED BY A QUALIFIED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF VERMONT (STRUCTURAL OR CIVIL).

2.19. THE FABRICATOR WILL BE RESPONSIBLE FOR SUPPLYING STAMPED LOAD RATING CALCULATIONS FOR THE NEW BRIDGE AND COMPLETING THE LOAD RATING TABLE SHOWN ON THE PRELIMINARY INFORMATION SHEET OF THE PLANS. THIS LOAD RATING MUST BE SUBMITTED WITH THE FABRICATION DRAWINGS; TRUCK CONFIGURATIONS TO BE USED IN COMPLETING THE LOAD RATING SHALL BE AS LISTED IN THE 2010 VTRANS STRUCTURES DESIGN MANUAL SECTION 15 .

2.20. THE CONTRACTOR SHALL ADHERE TO ALL INSTRUCTIONS FROM THE TRUSS SUPPLIER REGARDING ERECTION AND FIELD CONNECTIONS.

2.21. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE DETAILING OF THE HOPPER AND HOPPER DOWNSPOUT FOR THE EXPANSION JOINT. COORDINATION WILL BE REQUIRED TO ENSURE AN ADEQUATE FIT OF THE HOPPER WITH THE BRIDGE EXPANSION JOINT, TRUSS BRIDGE AND ABUTMENT BRIDGE SEAT. DETAILING, FABRICATION, TRANSPORTATION TO THE SITE AND INSTALLATION OF THE HOPPER AND DOWNSPOUT SHALL BE INCIDENTAL TO ITEM 516.11 BRIDGE EXPANSION JOINT, VERMONT. THE DOWNSPOUT SHALL EXTEND A MINIMUM OF 1 FT AND NOT MORE THAN 2 FT BELOW THE BRIDGE SEAT

3 PILES

3.1. TWO DYNAMIC PILE TESTS PER PILE SUPPORTED SUBSTRUCTURE SHALL BE CONDUCTED. THE FIRST TEST SHALL BE ON THE FIRST PILE DRIVEN FOR EACH SUBSTRUCTURE AND THE SECOND TEST SHALL BE ON THE SECOND PILE DRIVEN FOR EACH SUBSTRUCTURE.

3.2. FOR ESTIMATING PURPOSES, THE PILE TIP ELEVATIONS WERE ASSUMED AS SHOWN ON THE BORING LOGS. ACTUAL IN PLACE LENGTHS MAY VARY.

3.3. TO PREVENT DAMAGE TO THE PILES, PILE SHOES ARE REQUIRED AND SHALL CONFORM TO SECTION 505.

3.4. THE PILES SHALL BE DRIVEN TO A NOMINAL RESISTANCE OF 461.00 KIPS.

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4 CONCRETE

4.1. CONCRETE PORTIONS OF THE ABUTMENT AND WINGWALLS ABOVE THE TOP OF FOOTING SHALL NOT BE PLACED UNTIL THE ENGINEER HAS APPROVED THE FINAL BRIDGE SEAT ELEVATIONS FOR THE TRUSS AND RELATED BRIDGE COMPONENTS.

4.2. NO CONCRETE IN ABUTMENTS OR WINGWALLS SHALL BE PLACED ABOVE THE BRIDGE SEAT ELEVATIONS UNTIL THE STRINGERS OR BEAMS HAVE BEEN PROFILED AND THE FINISHED GRADE OF THE DECK HAS BEEN DETERMINED.

4.3. FOR BRIDGE DECK POURS, THE MAXIMUM TIME LIMIT FOR ANY COMBINATION OF POURS DONE IN ANY ONE DAY SHALL BE EIGHT HOURS. THERE SHALL BE A MINIMUM OF 96 HOURS BETWEEN THE COMPLETION OF ONE DAY'S POUR AND THE BEGINNING OF OTHER ADJACENT POURS. ALL INDIVIDUAL DECK POURS SHALL START FROM THE LOW END OF THE BRIDGE.

4.4. THE VERTICAL CONSTRUCTION JOINTS FOR THE ABUTMENTS AND WINGWALLS AS SHOWN IN THESE PLANS ARE OPTIONAL. CONTRACTION JOINTS SHALL BE PROVIDED AS DETAILED IN THESE PLANS IF ANY OF THE CONSTRUCTION JOINTS ARE RELOCATED OR REMOVED.

4.5. ALL PERMANENTLY EXPOSED CONCRETE SURFACES, EXCEPT THE BOTTOM OF THE DECK, BETWEEN THE DRIP NOTCHES, SHALL BE TREATED WITH WATER REPELLENT, SILANE IN ACCORDANCE WITH SECTION 514.

4.6. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL. ALL OTHER AREAS OF BRIDGE SEATS SHALL BE SLOPED DOWN 1/2 INCH PER FOOT TOWARD THE NEAREST OUTSIDE FACE OF THE SUBSTRUCTURE UNIT TO PREVENT WATER PONDING ON THE BRIDGE SEAT AREA. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE GIVEN A MAGNESIUM FLOAT FINISH.

4.7. ALL ABUTMENT REINFORCING STEEL ABOVE THE BRIDGE SEAT ELEVATION, INCLUDING REINFORCING STEEL THAT EXTENDS ABOVE THE BRIDGE SEAT, SHALL BE LEVEL II REINFORCING STEEL AS DESCRIBED IN SECTION 507 OF THE GENERAL SPECIAL PROVISIONS.

4.8. THE AGENCY PROJECT RESIDENT ENGINEER SHALL DOCUMENT STEEL TYPE AND GRADE FOR EACH CORRESPONDING LEVEL OF CORROSION RESISTANCE ON "AS BUILT "REBAR" DETAIL" BOX LOCATED ON PRELIMINARY INFORMATION SHEET. THIS INFORMATION IS REQUIRED FOR THE AS CONSTRUCTED (AS BUILT) RECORD PLANS.

4.9. SUBSTRUCTURE CONCRETE, INCLUDING THE BACKWALL AND APPROACH SLABS SHALL BE HIGH PERFORMANCE CLASS B AND SHALL BE PAID FOR UNDER ITEM 501.34, CONCRETE, HIGH PERFORMANCE CLASS B. DECK CONCRETE SHALL BE HIGH PERFORMANCE CLASS A AND SHALL BE PAID FOR UNDER ITEM 900.645, SPECIAL PROVISION (PREFABRICATED TRUSS BRIDGE.). BRIDGE CURB SHALL BE HIGH PERFORMANCE CLASS A AND SHALL BE PAID FOR UNDER ITEM 501.33, CONCRETE, HIGH PERFORMANCE CLASS A. CURB FOR APPROACH RAIL SECTIONS SHALL BE AS DETAILED ON THE PLANS AND SHALL BE INCIDENTAL TO ITEM 900.620 SPECIAL PROVISION (GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM).

4.10. THE BAR LIST AND BENDING SCHEDULES SHALL BE PREPARED BY THE VENDOR AS SPECIFIED IN SUBSECTION 507.09. PAYMENT FOR THIS WORK SHALL BE INCIDENTAL TO ITEMS 507.11 REINFORCING STEEL, LEVEL I AND 507.12 REINFORCING STEEL LEVEL II.

5 TEMPORARY DETOUR AND TRAFFIC CONTROL

5.1. DURING CONSTRUCTION, TRAFFIC SHALL BE MAINTAINED ON A TWO-WAY TEMPORARY BRIDGE, TO BE LOCATED DOWNSTREAM OF THE EXISTING STRUCTURE IN ACCORDANCE WITH SECTION 528. ALL WORK ASSOCIATED WITH THE INSTALLATION AND REMOVAL OF THE TEMPORARY BRIDGE AND ITS APPROACHES, INCLUDING TEMPORARY TRAFFIC BARRIER, ENERGY ABSORPTION ATTENUATORS, PAVEMENT, AND PAVEMENT MARKINGS WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 528.11. ALL FILLS AND CONSTRUCTION ACTIVITIES SHALL TAKE PLACE WITHIN THE LIMITS SHOWN ON THE PLANS.

5.2. THE CONTRACTORS ATTENTION IS DIRECTED TO THE REQUIREMENTS OF SECTION 621 REGARDING TEMPORARY TRAFFIC BARRIER AND ENERGY ABSORPTION ATTENUATORS.

5.3. THE CONTRACTOR SHALL ERECT AND MAINTAIN ALL TEMPORARY SIGNS ON AND OFF THE PROJECT INCLUDING DRUMS AND BARRICADES AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 641.10, TRAFFIC CONTROL.

5.4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE EXISTING STRUCTURE UNTIL THE TEMPORARY BRIDGE IS IN PLACE AND OPEN TO TRAFFIC. THIS WORK SHALL MEET THE REQUIREMENTS OF SECTION 527 AND SHALL BE PAID FOR UNDER ITEM 527.10.

5.5. THE AREA DISTURBED BY THE TEMPORARY DETOUR SHALL BE RESTORED TO ITS ORIGINAL GRADE AND VEGETATED. THE COST OF THE SEED, FERTILIZER, MULCH AND LIME WILL BE INCIDENTAL TO ITEM 528.11, TWO-WAY TEMPORARY BRIDGE.

5.6. THE CONTRACTOR SHALL COVER OR REMOVE ANY SIGNS THAT CONTRADICT TEMPORARY TRAFFIC CONTROL SIGNS. ALL SIGNS REMOVED OR COVERED BY THE CONTRACTOR SHALL BE REPLACED OR UNCOVERED BY THE CONTRACTOR WHEN THE TRAFFIC CONTROL PLAN IS DISASSEMBLED. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 641.10, TRAFFIC CONTROL. ANY DAMAGE TO EXISTING SIGNS BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR WITH NO ADDITIONAL COMPENSATION.

5.7. THE SPEED LIMIT SHALL BE REDUCED TO 25 MPH DURING CONSTRUCTION. THE CONTRACTOR SHALL PLACE REVISED SPEED LIMIT SIGNS AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD. ONCE WORK HAS BEEN COMPLETED THE SIGNS SHALL BE REMOVED. THE DETOUR IS DESIGNED FOR 15 MPH. ADVISORY SIGNS SHALL BE POSTED IN ACCORDANCE WITH STANDARD E-107. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 641.10, TRAFFIC CONTROL.

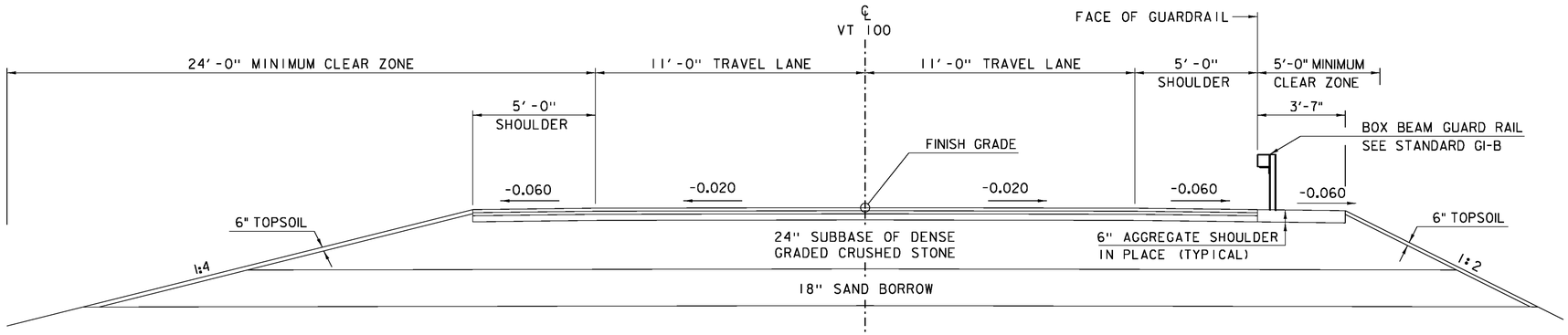
PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242forms.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
GENERAL NOTES SHEET 2

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VT 100

1 ½" BITUMINOUS CONCRETE PAVEMENT TYPE IVS
1 ½" BITUMINOUS CONCRETE PAVEMENT TYPE IVS
3" BITUMINOUS CONCRETE PAVEMENT TYPE IIIS
24" SUBBASE OF DENSE GRADED CRUSHED STONE
18" SAND BORROW
EMULSIFIED ASPHALT TO BE APPLIED AT A RATE OF 0.025 GAL/SY
BETWEEN SUCCESSIVE COURSES OF PAVEMENT, AS DIRECTED BY THE ENGINEER.



VT 100 NORMAL SECTION TYPICAL

SCALE ⅜" = 1'-0"

MATERIAL TOLERANCES

(IF USED ON PROJECT)

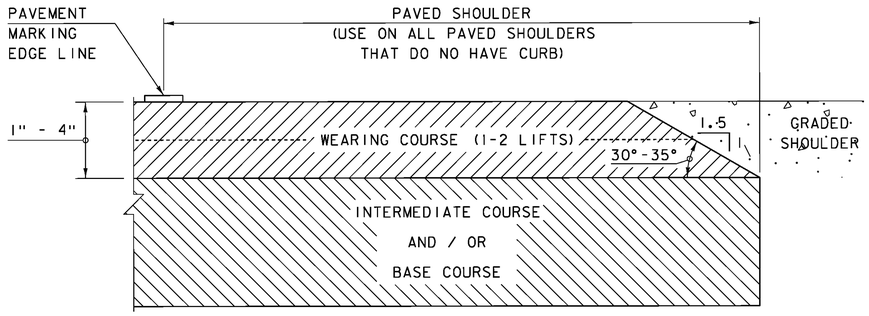
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- ¼"
- AGGREGATE SURFACE COURSE	+/- ½"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

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TYPICAL SECTIONS SHEET 1

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
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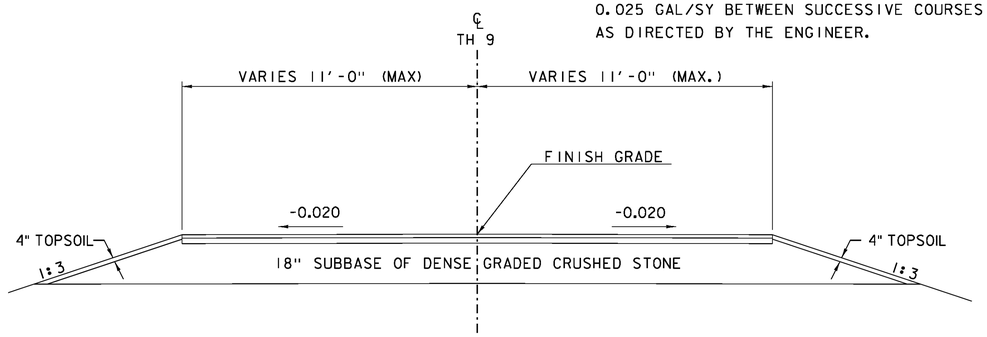
TOWN HIGHWAY AND DRIVES
1 ½" BITUMINOUS CONCRETE PAVEMENT TYPE IVS
3" BITUMINOUS CONCRETE PAVEMENT TYPE IIIS
18" SUBBASE OF DENSE GRADED CRUSHED STONE
EMULSIFIED ASPHALT TO BE APPLIED AT A RATE OF
0.025 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEME
AS DIRECTED BY THE ENGINEER.



SAFETY EDGE DETAIL

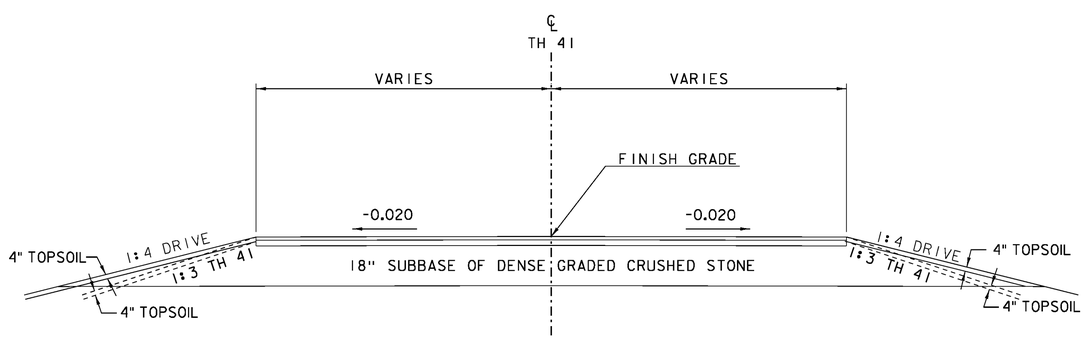
NOT TO SCALE

NOTE: LEVELING COURSE MAY INCLUDE THE "SAFETY EDGE" AT THE CONTRACTOR'S CHOICE.



TH 9 TYPICAL

SCALE ⅜" = 1'-0"



TH 41 & DRIVE TYPICAL

SCALE ⅜" = 1'-0"

MATERIAL TOLERANCES

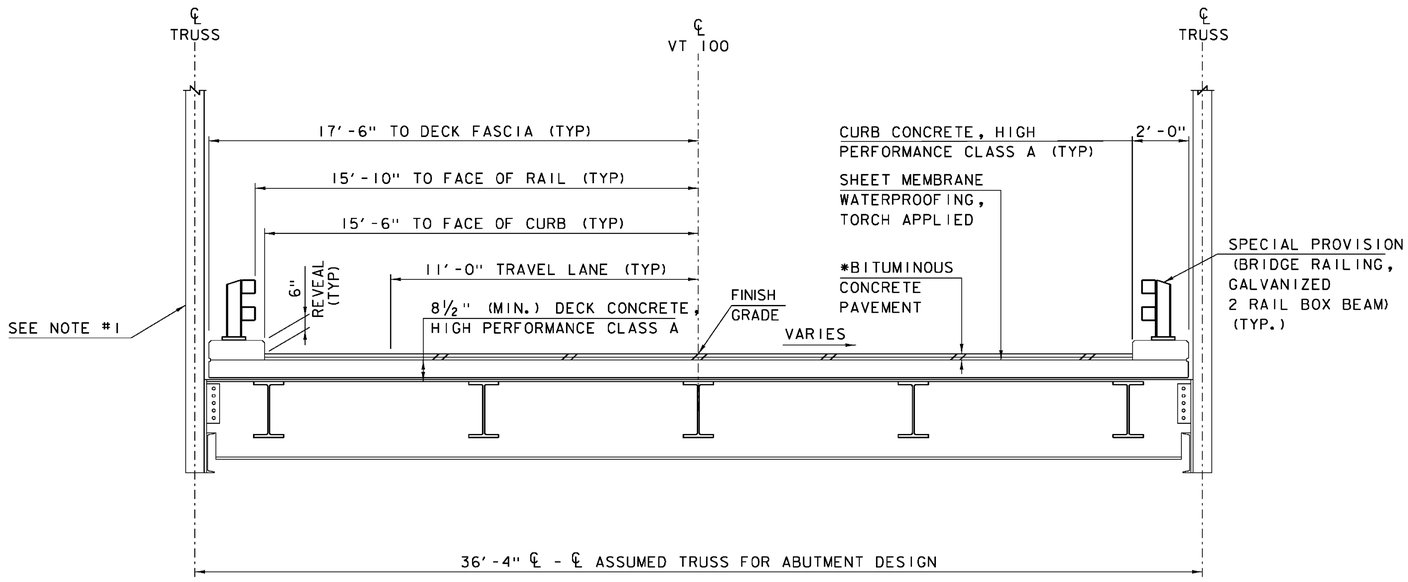
(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- ¼"
- AGGREGATE SURFACE COURSE	+/- ½"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

PROJECT NAME: WARREN
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TYPICAL SECTIONS SHEET 2

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CHECKED BY: U. STANLEY
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BRIDGE TYPICAL

SCALE ⅜" = 1'-0"

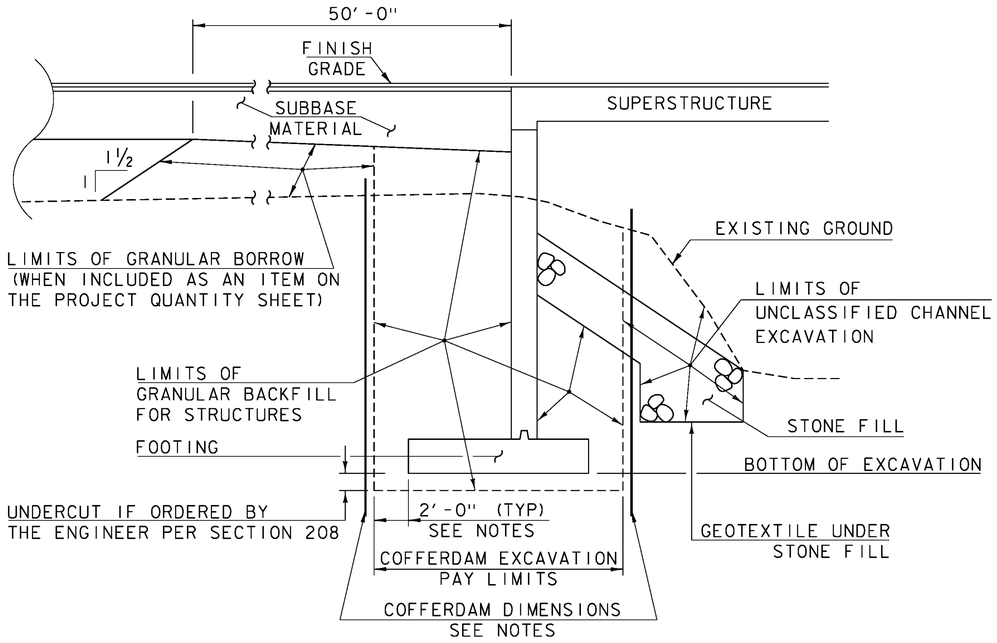
BARE DECK

~~*1½" BITUMINOUS CONCRETE PAVEMENT TYPE IVS OVER~~
~~1½" BITUMINOUS CONCRETE PAVEMENT TYPE IVS~~

NOTES:

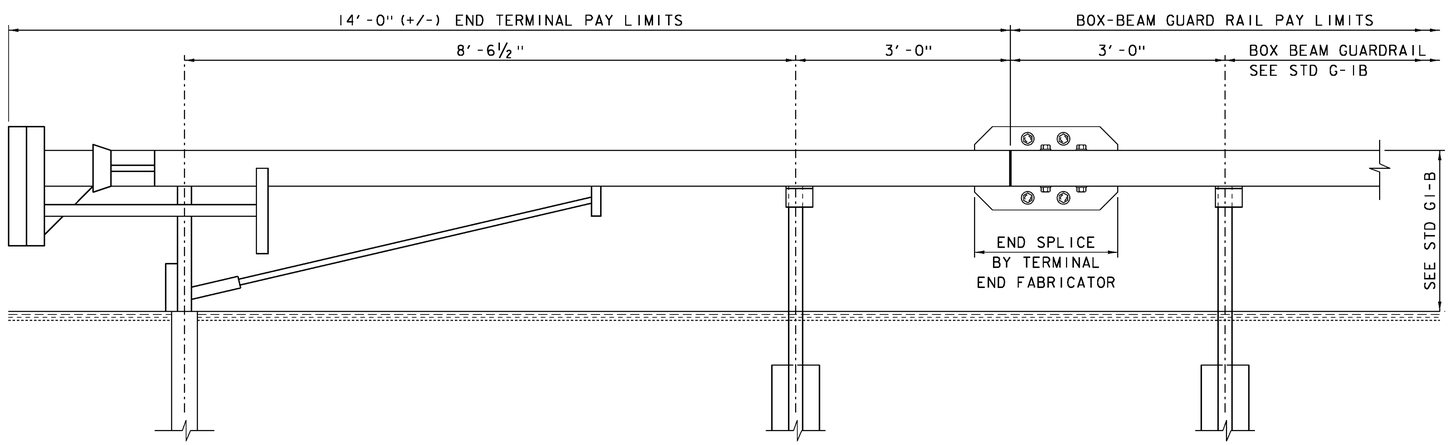
1. TRUSS DIMENSIONS AND DETAILS WILL BE DETERMINED BY THE FABRICATOR.

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DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
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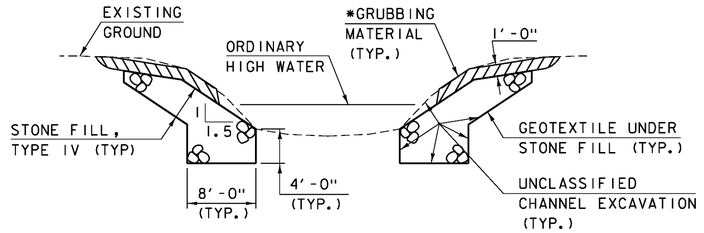
COFFERDAM AND EARTHWORK SECTION

(NOT TO SCALE)



MANUFACTURED TERMINAL SECTION, TANGENT DETAIL

SCALE 1" = 1'-0"



TYPICAL CHANNEL SECTION

NOT TO SCALE

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

COFFERDAM NOTES

1. COFFERDAM DIMENSIONS TO BE DETERMINED BY THE CONTRACTOR.

2. THE PAY LIMITS OF EITHER "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 2'-0" OUTSIDE THE PERIMETER OF THE FOOTING AND FROM BOTTOM OF EXCAVATION UP TO THE EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.

3. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE INDICATED COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION. NO MEASUREMENT AND PAYMENT WILL BE MADE FOR COFFERDAM EXCAVATION AND GRANULAR BACKFILL FOR STRUCTURES OUTSIDE THE PAY LIMITS DEFINED IN NOTE 2.

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DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
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STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	Full C&E	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
						1					1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				FILL AVAILABLE
						3320					3320		CY	COMMON EXCAVATION	203.15		2324	CY	COMMON EXCAVATION (0.7*3320 CY)
																	225	CY	UNCLASSIFIED CHANNEL EXCAVATION (0.3*750CY)
						840					840		CY	SOLID ROCK EXCAVATION	203.16		196	CY	TRENCH EXCAVATION, EARTH (0.7*280CY)
									750		750		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27		2745	CY	TOTAL FILL AVAILABLE
						2170					2170		CY	SAND BORROW	203.31				FILL REQUIRED
						280					280		CY	TRENCH EXCAVATION OF EARTH	204.20		839.5	CY	COMMON FILL (1.15*730)
						32					32		CY	TRENCH EXCAVATION OF ROCK	204.21		839.5	CY	TOTAL FILL REQUIRED
						1					1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22				
									758.21								1905.5		WASTE
						93			~~633~~		726		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30				
									1090		1090		CY	COFFERDAM EXCAVATION, EARTH	208.30				
									233		233		CY	COFFERDAM EXCAVATION, ROCK	208.35				
									1		1		LS	COFFERDAM (ABUTMENT #1)	208.40				
									1		1		LS	COFFERDAM (ABUTMENT #2)	208.40				
						360					360		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10				
						2570					2570		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35				
						50					50		CY	AGGREGATE SHOULDERS, IN PLACE	402.10				
						23					23		CWT	EMULSIFIED ASPHALT	404.65				
						1					1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50				
									18		18		CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33				
									560		560		CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34				
									1		1		LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10				
									5075		5075		LF	STEEL PILING, HP 14 X 117	505.20				
									4		4		EACH	DYNAMIC PILE LOADING TEST	505.45				
									40100		40100		LB	REINFORCING STEEL, LEVEL I	507.11				
									15700		15700		LB	REINFORCING STEEL, LEVEL II	507.12				
						16			21		37		GAL	WATER REPELLENT, SILANE	514.10				
									44		44		LF	BRIDGE EXPANSION JOINT, VERMONT	516.11				
									508		508		SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20				
						44					44		LF	JOINT SEALER, HOT POURED	524.11				
									1		1		LS	MAINTENANCE OF STRUCTURES AND APPROACHES	527.10				
									1		1		LS	TWO-WAY TEMPORARY BRIDGE (2376 SF. - EST.)	528.11				
									1		1		EACH	REMOVAL OF STRUCTURE (3015 SF. - EST.)	529.15				
														BEGIN OPTION AA					
						58					58		LF	18" CAAP .060 (2-2/3 X 1/2)	601.0215				
						58					58		LF	18" PCCSP .064 (2-2/3 X 1/2)	601.0415				
						58					58		LF	18" CPEP	601.0915				
														END OPTION AA					

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QUANTITY SHEET 1

PLOT DATE: 27-JUL-2012
DRAWN BY: M. LONGSTREET
CHECKED BY: J. GRFFIN
SHEET 9 OF 83

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES								TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
					ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	Full C&E	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
													BEGIN OPTION BB					
					93					93		LF	24" CAAP .060 (2-2/3 X 1/2)	601.0225				
					93					93		LF	24" PCCSP .064 (2-2/3 X 1/2)	601.0425				
					93					93		LF	24" CPEP	601.0920				
													END OPTION BB					
					1					1		EACH	PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE	604.20				
					245					245		CY	STONE FILL, TYPE I	613.10				
					176					176		CY	STONE FILL, TYPE III	613.12				
								750		750		CY	STONE FILL, TYPE IV	613.13				
					1					1		EACH	RELOCATE MAILBOX, SINGLE SUPPORT	617.10				
					1					1		EACH	RELOCATE MAILBOX, MULTIPLE SUPPORT	617.12				
					230					230		SY	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	618.10				
					672					672		LF	BOX BEAM GUARDRAIL	621.30				
					2					2		EACH	MANUFACTURED TERMINAL SECTION, TANGENT	621.51				
					561					561		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
					200					200		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
					2250					2250		HR	FLAGGERS	630.15				
									1	1		LS	FIELD OFFICE, ENGINEERS	631.10				
									1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16				
									1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
									3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26				
						520				520		HR	EMPLOYEE TRAINEESHIP	634.10				
					1					1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
					1					1		LS	TRAFFIC CONTROL	641.10				
					1					1		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15				
					2510					2510		LF	DURABLE 4 INCH WHITE LINE	646.400				
					2510					2510		LF	DURABLE 4 INCH YELLOW LINE	646.410				
					15					15		LF	DURABLE 24 INCH STOP BAR	646.480				
					1000			300		1300		SY	GEOTEXTILE UNDER STONE FILL	649.31				
							330			330		SY	GEOTEXTILE FOR SILT FENCE	649.51				
							210			210		SY	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515				
							670			670		SY	GEOTEXTILE FOR FILTER CURTAIN	649.61				
							70			70		LB	SEED	651.15				
							10			10		LB	SEED, WINTER RYE	651.17				
							590			590		LB	FERTILIZER	651.18				
							3			3		TON	AGRICULTURAL LIMESTONE	651.20				
							3			3		TON	HAYMULCH	651.25				
							610			610		CY	TOPSOIL	651.35				
							238			238		SY	GRUBBING MATERIAL	651.40				
							1			1		LS	EPSC PLAN	652.10				

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242forms.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
QUANTITY SHEET 2

PLOT DATE: 27-JUL-2012
DRAWN BY: M. LONGSTREET
CHECKED BY: J. GRFFIN
SHEET 10 OF 83

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
					ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	Full C&E	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							230			230		HR	MONITORING EPSC PLAN	652.20				
							1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
							3640			3640		SY	TEMPORARY EROSION MATTING	653.20				
							8			8		CY	TEMPORARY STONE CHECK DAM, TYPE I	653.25				
							90			90		CY	VEHICLE TRACKING PAD	653.35				
							1			1		EACH	INLET PROTECTION DEVICE, TYPE I	653.40				
							530			530		LF	BARRIER FENCE	653.50				
							1440			1440		LF	PROJECT DEMARCATION FENCE	653.55				
					14					14		SF	TRAFFIC SIGNS, TYPE A	675.20				
					16					16		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
					24					24		EACH	REMOVING SIGNS	675.50				
					13					13		EACH	ERECTING SALVAGED SIGNS	675.60				
					16					16		EACH	SETTING SALVAGED POSTS	675.61				
					13					13		EACH	DELINEATOR WITH STEEL POST	676.10				
					1					1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50				
					4					4		EACH	SPECIAL PROVISION (GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM)	900.620				
								301		301		LF	SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED 2 RAIL BOX BEAM/CURB MOUNTED)	900.640				
					173					173		LF	SPECIAL PROVISION (PEDESTRIAN HAND RAILING)	900.640				
								1		1		LS	SPECIAL PROVISION (PREFABRICATED TRUSS BRIDGE)	900.645				
					1					1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I.)	900.650				
					1					1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)(N.A.B.I.)	900.650				
					1193					1193		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242forms.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
QUANTITY SHEET 3

PLOT DATE: 27-JUL-2012
DRAWN BY: M. LONGSTREET
CHECKED BY: J. GRFFIN
SHEET 11 OF 83

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

SUMMARY OF BRIDGE QUANTITIES								TOTALS	DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
CHANNEL	ABUT. 1	ABUT.2	TEMPORARY	SUPER STRUCTURE	APPROACH SLAB 1	APPROACH SLAB 2	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
~~750~~ 731							750	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
	~~365~~ 460.80	~~268~~ 297.41					633	CY	GRANULAR BACKFILL FOR STRUCTURES	204.30			
	~~768~~ 762.56	~~322~~ 250.56					1090	CY	COFFERDAM EXCAVATION, EARTH	208.30			
	~~86~~ 30.33	~~147~~ 157.78					233	CY	COFFERDAM EXCAVATION, ROCK	208.35			
	1						1	LS	COFFERDAM (ABUTMENT #1)	208.40			
		1					1	LS	COFFERDAM (ABUTMENT #2)	208.40			
		2		16			18	CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33			
	257	225			39	39	560	CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34			
	1						1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10			
	2596	2479					5075	LF	STEEL PILING, HP 14 X 117	505.20			
	2	2					4	EACH	DYNAMIC PILE LOADING TEST	505.45			
	20890	19210					40100	LB	REINFORCING STEEL, LEVEL I	507.11			
	1300	1250		3250	4950	4950	15700	LB	REINFORCING STEEL, LEVEL II	507.12			
	6	4		11			21	GAL	WATER REPELLENT, SILANE	514.10			
				44			44	LF	BRIDGE EXPANSION JOINT, VERMONT	516.11			
				508			508	SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20			
				1			1	LS	MAINTENANCE OF STRUCTURES AND APPROACHES	527.10			
				1			1	LS	TWO-WAY TEMPORARY BRIDGE (2376 SF. - EST.)	528.11			
				1			1	EACH	REMOVAL OF STRUCTURE (3015 SF. - EST.)	529.15			
750							750	CY	STONE FILL, TYPE IV	613.13			
300							300	SY	GEOTEXTILE UNDER STONE FILL	649.31			
				301			301	LF	SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED 2 RAIL BOX BEAM/CURB MOUNTED)	900.640			
				1			1	LS	SPECIAL PROVISION (PREFABRICATED TRUSS BRIDGE)	900.645			

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242forms.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
BRIDGE QUANTITY SHEET 1

PLOT DATE: 27-JUL-2012
DRAWN BY: M. LONGSTREET
CHECKED BY: J. GRFFIN
SHEET 12 OF 83

GPS CONTROL POINTS

HVCTRL #1

SUGARBUSH AZ MK

NORTH = 594971.950
EAST = 1548979.440
ELEV. = 812.81

GENERAL LOCATION - THE STATION IS LOCATED IN THE TOWN OF WARREN, 1.1 MI (1.8 KM) NORTH NORTHEAST OF WARREN VILLAGE, 4.5 MI (7.2 KM) SOUTH SOUTHWEST OF WAITSFIELD, AND 10 MI (16.1 KM) WEST OF NORTHFIELD. TO REACH FROM THE JUNCTION OF VERMONT ROUTE 100 AND VERMONT ROUTE 17 IN THE VILLAGE OF IRASVILLE, PROCEED SOUTHERLY ALONG ROUTE 100 FOR 3.8 MI (6.1 KM) TO THE MARK ON THE LEFT. TO REACH FROM THE JUNCTION OF VERMONT ROUTE 100 AND THE SUGARBUSH ACCESS ROAD IN WARREN, PROCEED 0.4 MI (0.6 KM) SOUTH ALONG ROUTE 100 TO THE MARK ON THE LEFT. TO REACH FROM THE JUNCTION OF VERMONT ROUTE 100 AND VERMONT ROUTE 125 IN HANCOCK, PROCEED NORTHERLY ALONG ROUTE 100 FOR 16.2 MI (26.1 KM) TO THE MARK ON THE RIGHT. THE MARK IS A STATE OF VERMONT SURVEY DISK SET IN THE TOP OF A CONCRETE MONUMENT 30 CM IN DIAMETER FLUSH WITH THE GROUND SURFACE. IT IS LOCATED 21.5 FT (6.6 M) SOUTH SOUTHWEST FROM THE SOUTHERLY END OF A THREE CABLE GUARDRAIL, 20.5 FT (6.2 M) SOUTHEAST FROM THE CENTERLINE OF VERMONT ROUTE 100, 20.5 FT (6.2 M) SOUTHWEST FROM UTILITY POLE 25, 3 FT (0.9 M) FROM A FIBERGLASS WITNESS POST. OWNERSHIP IS THE STATE OF VERMONT.

HVCTRL #2

SUGARBUSH

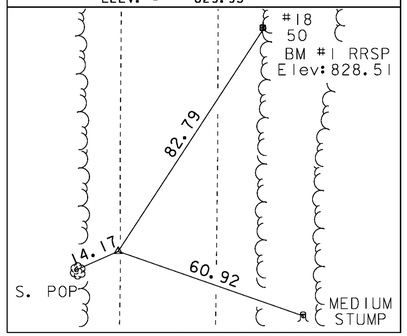
NORTH = 596983.400
EAST = 1549559.000
ELEV. = 814.32

GENERAL LOCATION, WARREN, VT. TO REACH FROM THE INTERSECTION OF VT ROUTE 100 AND VT ROUTE 17 IN IRASVILLE VILLAGE GO SOUTH ALONG ROUTE 100 FOR 3.4 MI (5.5 KM) TO THE SITE OF MARK ON THE NORTHWEST SIDE OF THE ROAD AT THE INTERSECTION OF ROUTE 100 AND THE SUGARBUSH ACCESS ROAD. THE MARK IS A STATE OF VERMONT SURVEY MARK DISK SET IN THE TOP OF A 30 CM DIAMETER CONCRETE MONUMENT FLUSH WITH GROUND SURFACE. IT IS 21 FT (6.4 M) N55W FROM THE CENTERLINE OF ROUTE 100, 52.5 FT (16.0 M) NORTH OF THE CENTERLINE INTERSECTION OF ROUTE 100 AND THE SUGARBUSH ACCESS ROAD, 30 FT (9.1 M) N70E FROM POLE NO.50/01, 72.5 FT (22.1 M) S10E FROM THE NORTHEAST CORNER OF A 1.5 STORY WOOD FRAME BUILDING, 47 FT (14.3 M) S40E FROM THE SOUTHEAST CORNER OF THE BUILDING.

TRAVERSE TIES

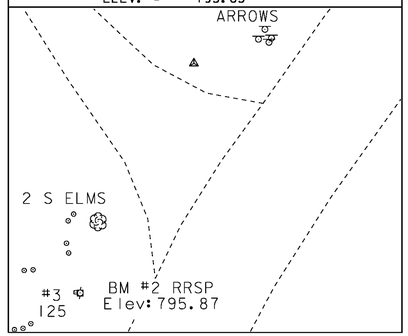
HVCTRL #3

NORTH = 597490.976
EAST = 1549628.239
ELEV. = 829.93



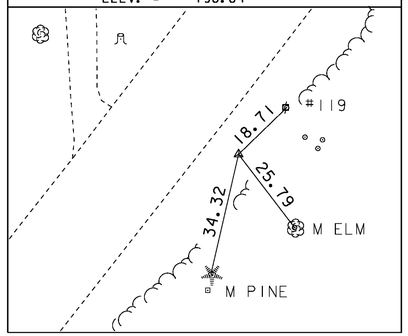
HVCTRL #4

NORTH = 598205.777
EAST = 1549713.176
ELEV. = 795.63



HVCTRL #5

NORTH = 598882.140
EAST = 1550491.199
ELEV. = 798.84



NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

* Main Traverse Completed 11/06/08 by R.Gilman P.C. & P.Winters

ALIGNMENT TIES

VT 100-alt

	STATION	NORTHING	EASTING
POB	200+00.00	597801.3278	1549645.4905
Tangent Direction:		N 1°51'19.83" E	
Tangent Length:		95.70	
PC	200+95.70	597896.9743	1549648.5891
PI	203+53.88	598155.0187	1549656.9487
Radius:		557.74	
Delta:		49°40'44.51" Right	
Degree of Curvature (Arc):		10°16'22.14"	
Length:		483.60	
Tangent:		258.18	
Chord:		468.59	
Middle Ordinate:		51.60	
External:		56.86	
PT	205+79.29	598315.6176	1549859.0992
Tangent Direction:		N 51°32'04.33" E	
Tangent Length:		348.04	
PC	209+27.34	598532.1157	1550131.6116
PI	211+14.95	598648.8163	1550278.5060
Radius:		1574.80	
Delta:		13°35'14.82" Left	
Degree of Curvature (Arc):		3°38'17.84"	
Length:		373.46	
Tangent:		187.61	
Chord:		372.58	
Middle Ordinate:		11.06	
External:		11.14	
PT	213+00.79	598796.7605	1550393.8728
Tangent Direction:		N 37°56'49.52" E	
Tangent Length:		339.49	
PC	216+40.29	599064.4764	1550602.6376
PI	217+77.74	599172.8694	1550687.1624
Radius:		1394.35	
Delta:		11°15'35.64" Left	
Degree of Curvature (Arc):		4°06'32.86"	
Length:		274.02	
Tangent:		137.45	
Chord:		273.58	
Middle Ordinate:		6.73	
External:		6.76	
PT	219+14.31	599295.6802	1550748.8954
POE	233+03.61	600536.9863	1551372.8595

TH #41

	STATION	NORTHING	EASTING
POB	400+00.00	598445.7811	1550107.9602
Tangent Direction:		S 61°32'20.59" W	
Tangent Length:		12.14	
PC	400+12.14	598439.9946	1550097.2854
PI	400+41.72	598425.8990	1550071.2824
Radius:		70.00	
Delta:		45°48'43.00" Left	
Degree of Curvature (Arc):		81°51'04.01"	
Length:		55.97	
Tangent:		29.58	
Chord:		54.49	
Middle Ordinate:		5.52	
External:		5.99	
PT	400+68.11	598397.4285	1550063.2651
POE	401+28.57	598339.2296	1550046.8764

TH #9

	STATION	NORTHING	EASTING
POB	300+00.00	598488.976	1550077.3324
Tangent Direction:		S 38°27'50.40" E	
Tangent Length:		19.88	
PC	300+19.88	598473.4110	1550089.6974
PI	300+69.49	598434.5689	1550120.5540
Radius:		190.00	
Delta:		29°15'55.06" Right	
Degree of Curvature (Arc):		30°09'20.42"	
Length:		97.05	
Tangent:		49.61	
Chord:		96.00	
Middle Ordinate:		6.16	
External:		6.37	
PT	301+16.93	598385.5999	1550128.4841
POE	301+56.30	598346.7333	1550134.7782

Drive left @ 203+75.00

	STATION	NORTHING	EASTING
POB	500+00.00	598162.3903	1549725.7124
POE	501+00.00	598237.3421	1549659.5141

*Alignment Coordinates as of 7/14/2009

DATUM

VERTICAL: NAVD 88
HORIZONTAL: NAD 83(07)
ADJUSTMENT: Compass

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4(14)

FILE NAME: 78f242/str/s78f242tie.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
TIE SHEET

PLOT DATE: 27-JUL-2012
DRAWN BY: R. BULLOCK
CHECKED BY: U. STANLEY
SHEET 13 OF 83

BOX BEAM GUARDRAIL
STA 201+85.61 TO STA 203+74.12 LT
STA 204+06.71 TO STA 205+50.00 LT
STA 204+36.31 TO STA 205+44.40 RT

COLD PLANING, BITUMINOUS PAVEMENT
STA 200+45.00 TO STA 201+45.00

MANUFACTURED TERMINAL SECTION, TANGENT
STA 204+21.87 TO STA 204+36.31 RT

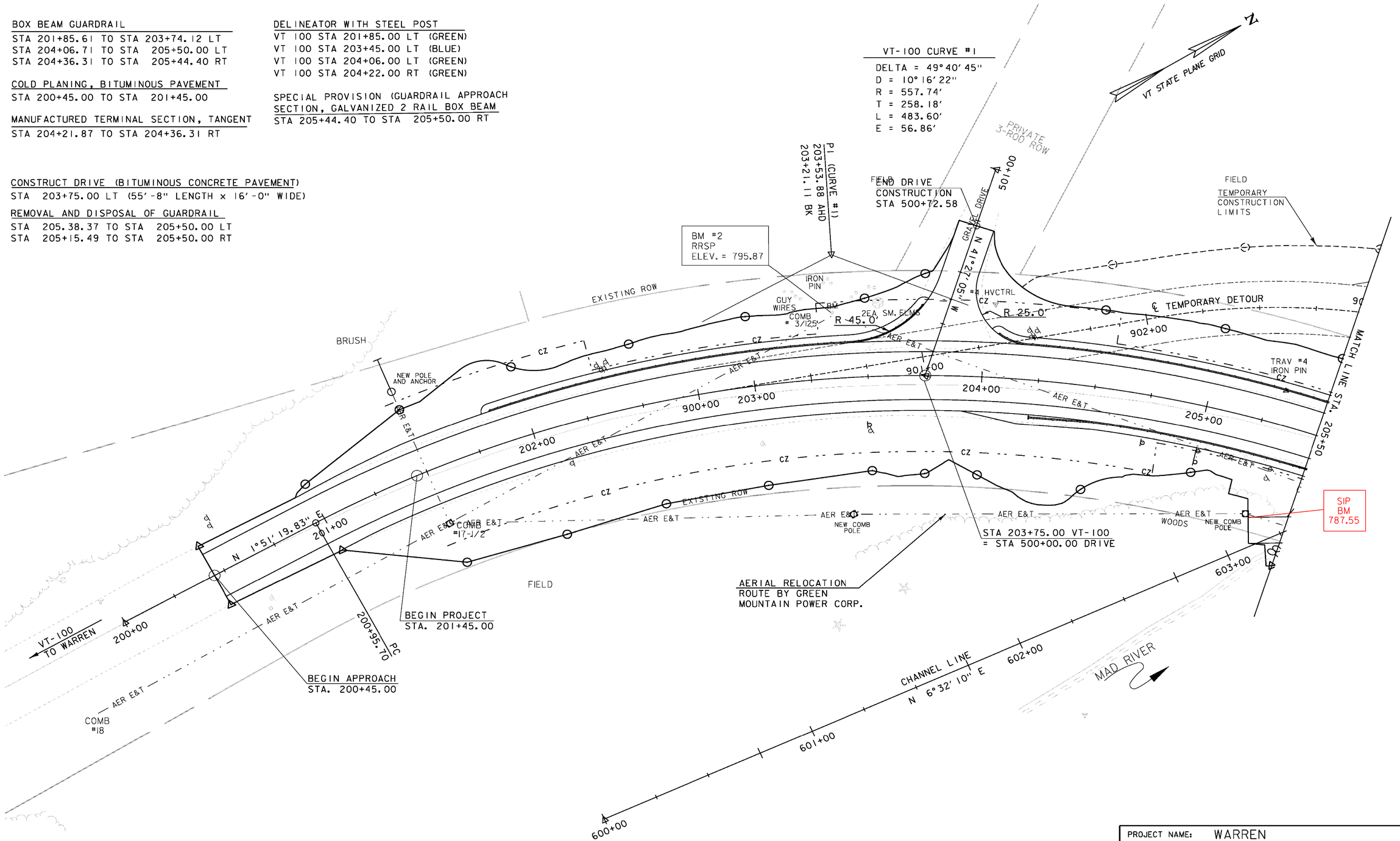
DELINEATOR WITH STEEL POST
VT 100 STA 201+85.00 LT (GREEN)
VT 100 STA 203+45.00 LT (BLUE)
VT 100 STA 204+06.00 LT (GREEN)
VT 100 STA 204+22.00 RT (GREEN)

SPECIAL PROVISION (GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM
STA 205+44.40 TO STA 205+50.00 RT

CONSTRUCT DRIVE (BITUMINOUS CONCRETE PAVEMENT)
STA 203+75.00 LT (55'-8" LENGTH x 16'-0" WIDE)

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 205.38.37 TO STA 205+50.00 LT
STA 205+15.49 TO STA 205+50.00 RT

VT-100 CURVE #1
DELTA = 49° 40' 45"
D = 10° 16' 22"
R = 557.74'
T = 258.18'
L = 483.60'
E = 56.86'



SCALE 1" = 20'-0"
20 0 20

PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4 (14)

FILE NAME: s78f242bdr.dgn		PLOT DATE:	27-JUL-2012
PROJECT LEADER:	J. LACROIX	DRAWN BY:	G. ROKES
DESIGNED BY:	U. STANLEY	CHECKED BY:	U. STANLEY
LAYOUT SHEET 1		SHEET	14 OF 83

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 205+50.00 TO STA 206+50.00 LT
STA 205+50.00 TO STA 206+24.00 RT
STA 207+53.52 TO STA 210+67.82 LT
STA 207+34.59 TO STA 208+07.79 RT

BOX BEAM GUARDRAIL
STA 205+50.00 TO STA 205+78.62 LT
STA 207+93.10 TO STA 208+97.92 LT
STA 207+59.90 TO STA 208+40.06 RT

SPECIAL PROVISTION (BRIDGE RAILING, GALVANIZED 2 RAIL BOX BEAM/CURB MOUNTED
STA 206+10.60 TO STA 207+61.10 LT
STA 205+77.34 TO STA 207+27.90 RT

SPECIAL PROVISION (GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM
STA 205+78.62 TO STA 206+10.60 LT
STA 205+50.00TO STA 205+77.34 RT
STA 207+61.10 TO STA 207+93.10 LT
STA 207+27.90 TO STA 207+59.90 RT

MANUFACTURED TERMINAL SECTION, TANGENT
STA 208+97.92 TO STA 209+11.93 LT

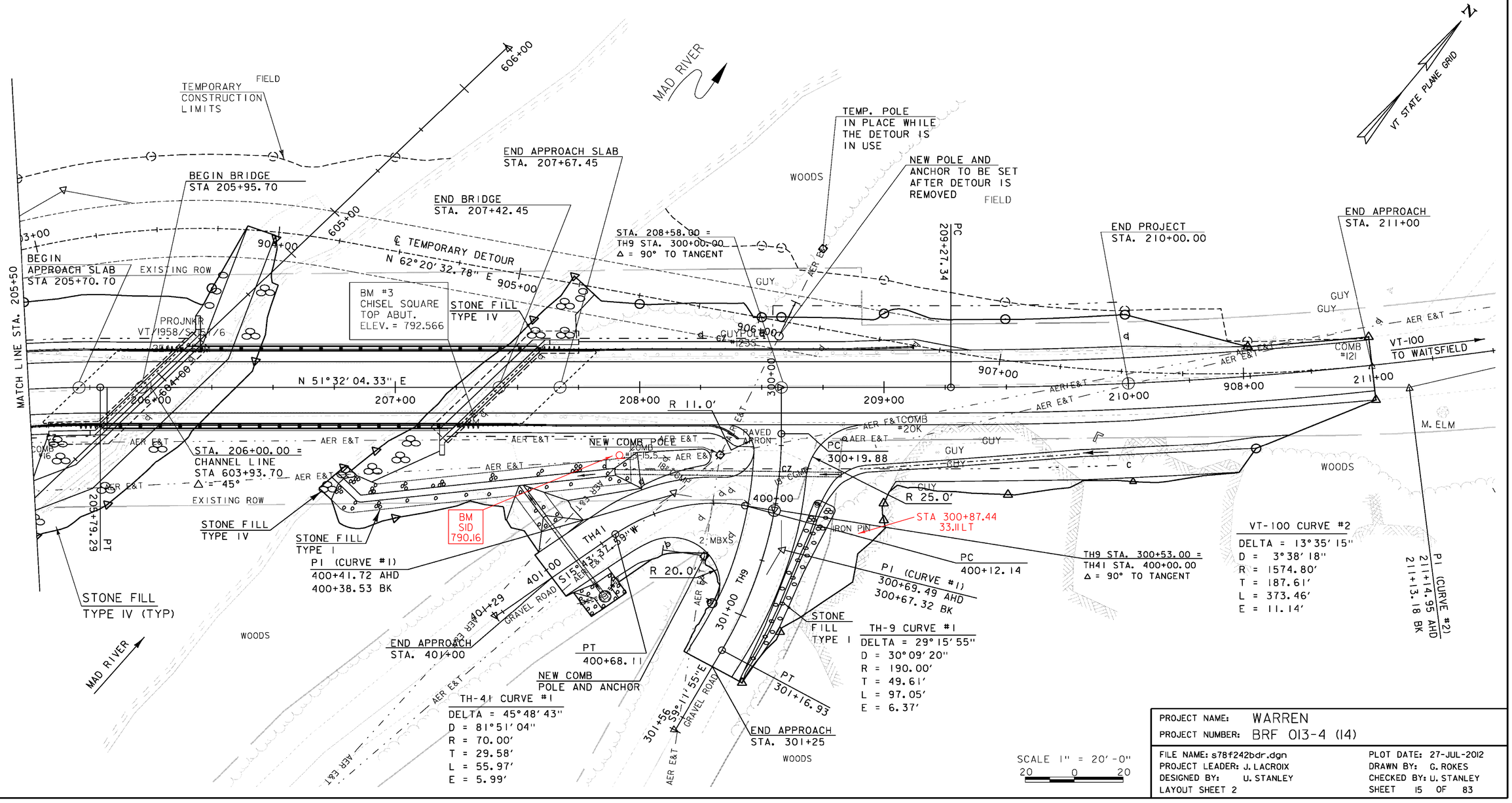
COLD PLANING, BITUMINOUS PAVEMENT
STA 210+00.00 TO STA 211+00.00

RELOCATE MAILBOX, SINGLE SUPPORT
TH 41 STA 400+14.00 RT

RELOCATE MAILBOX, MULTIPLE SUPPORT
TH 9 STA 300+76.00 RT (2 MAILBOX)

DELINEATOR WITH STEEL POST
VT 100 STA 209+12.00 LT (BLUE)
VT 100 STA 208+40.00 RT (GREEN)
TH 9 STA 300+35.38 25.2 FT LT (WHITE)
TH 9 STA 300+45.38 67.1 FT RT (WHITE)
TH 41 STA 400+87.00 19.2 FT LT (WHITE)
TH 41 STA 400+87.00 17.8 FT RT (WHITE)
TH 41 STA 400+78.65 16.1 FT LT (WHITE)
TH 41 STA 400+97.00 15.3 FT LT (WHITE)

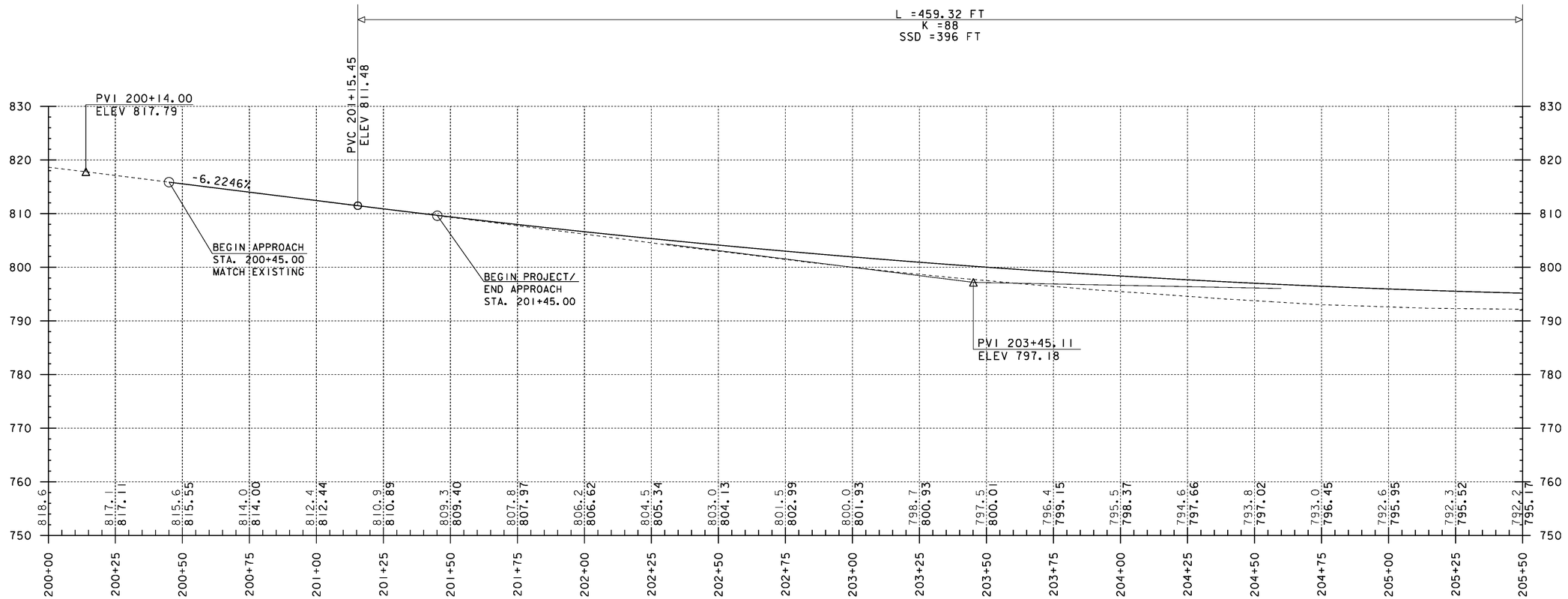
SOLID ROCK EXCAVATION
VT 100 STA 209+00 TO STA 210+00 RT



PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242bdr.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
LAYOUT SHEET 2

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 15 OF 83

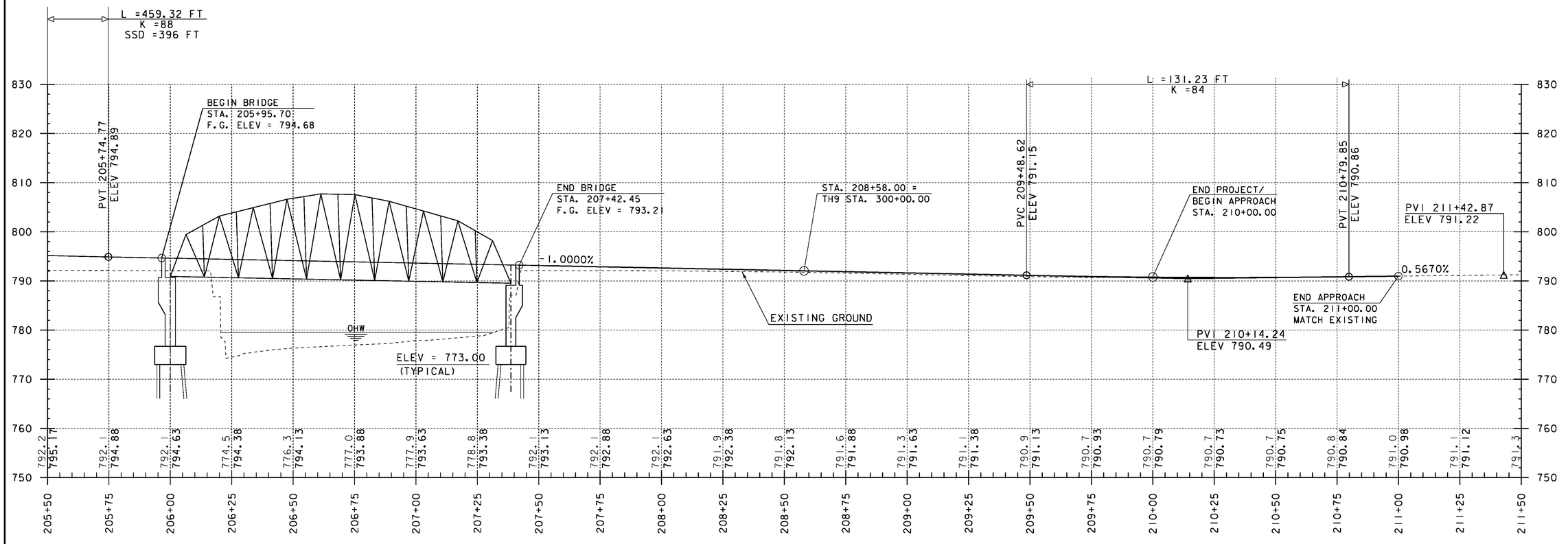


VT 100 PROFILE

HORIZONTAL SCALE 1"=20' VERTICAL SCALE 1"=10'

THE GRADES SHOWN TO THE NEAREST TENTH ARE THE EXISTING GROUND ELEVATIONS ALONG THE NEW ALIGNMENT. THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE PROPOSED GRADES FOR THE NEW ALIGNMENT.

PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4 (14)
FILE NAME: s78f242xs.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J. LACROIX	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
VT 100 PROFILE SHEET 1	SHEET 16 OF 83



VT 100 PROFILE

HORIZONTAL SCALE 1"=20' VERTICAL SCALE 1"=10'

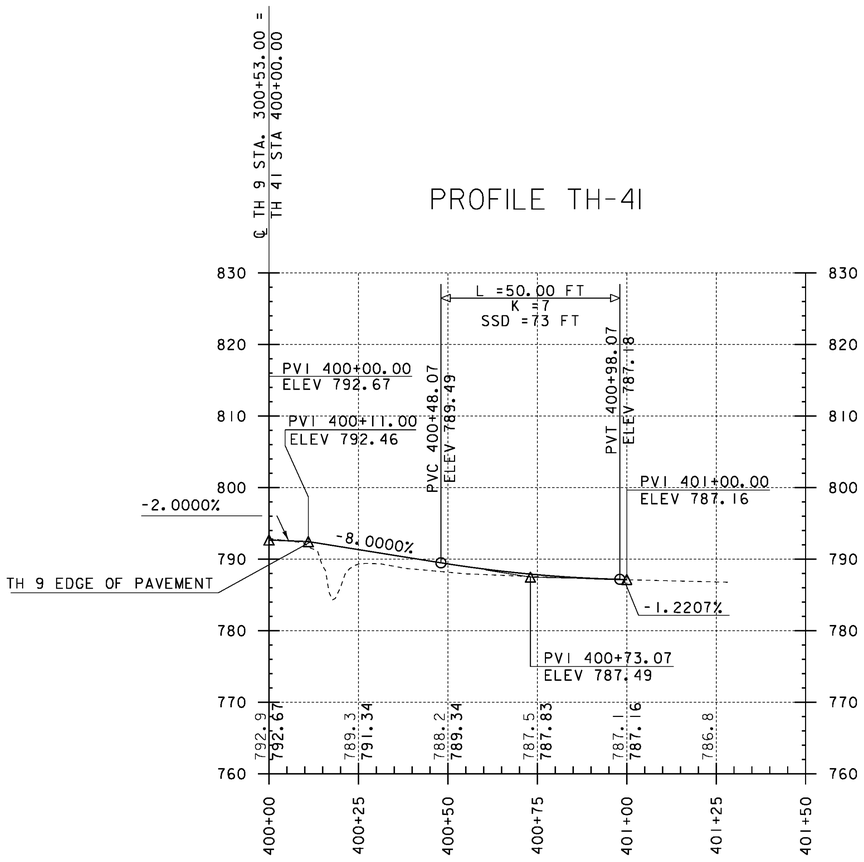
THE GRADES SHOWN TO THE NEAREST TENTH ARE THE EXISTING GROUND ELEVATIONS ALONG THE NEW ALIGNMENT. THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE PROPOSED GRADES FOR THE NEW ALIGNMENT.

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

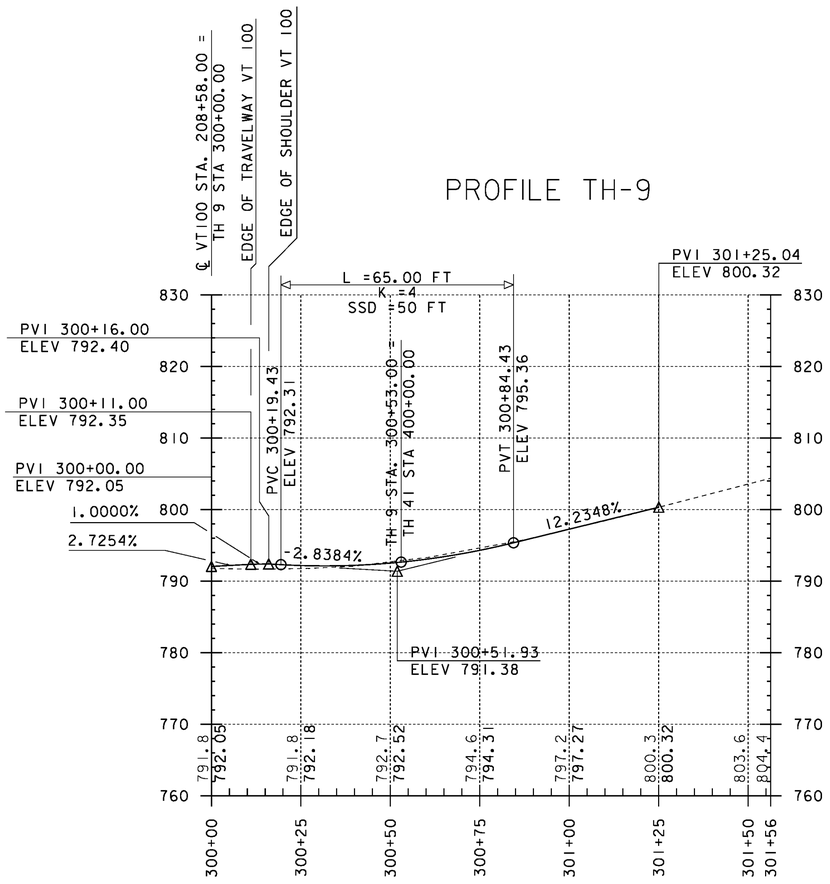
FILE NAME: s78f242xs.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
VT 100 PROFILE SHEET 2

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 17 OF 83

PROFILE TH-41



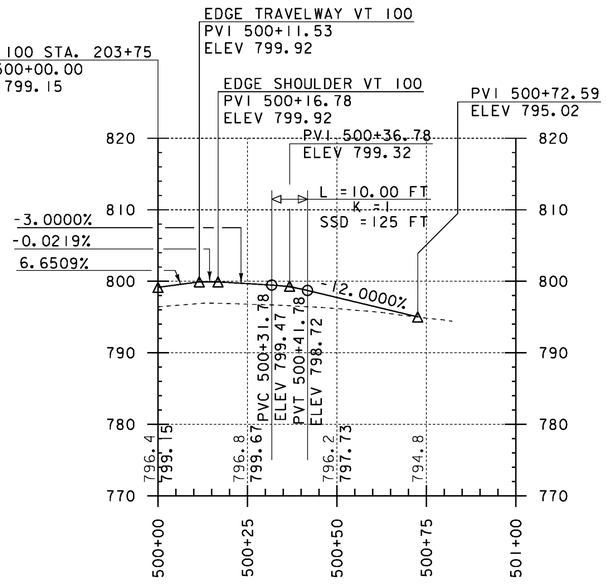
PROFILE TH-9



THE GRADES SHOWN TO THE NEAREST TENTH ARE THE EXISTING GROUND ELEVATIONS ALONG THE NEW ALIGNMENT. THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE PROPOSED GRADES FOR THE NEW ALIGNMENT.

PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4(14)
FILE NAME: s78f242xs.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J. LACROIX	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
Town Highway Profile Sheet	SHEET 18 OF 83

PROFILE DRIVE 203+75.00



THE GRADES SHOWN TO THE NEAREST TENTH ARE THE EXISTING GROUND ELEVATIONS ALONG THE NEW ALIGNMENT. THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE PROPOSED GRADES FOR THE NEW ALIGNMENT.

PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4 (14)
FILE NAME: s78f242xs.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J. LACROIX	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
DRIVE @ 203+91.65 PROFILE	SHEET 19 OF 83

(1) STA. 300+35.38 25.2' LT TO STA. 300+45.38 67.1' RT
NEW 24" x 93 LF CPEP/CAAP/PCCSP PIPE

(2) STA. 400+87.00 22.9' LT TO STA. 400+87 17.8' RT
NEW 18" x 41 LF CPEP/CAAP/PCCSP PIPE

(3) STA. 400+87.00 19.2' LT
NEW PRECAST REINFORCED CONCRETE CATCH
BASIN WITH CAST IRON GRATE (TYPE B)

(4) STA. 400+78.65 16.1' LT TO 400+85.66 18.6' LT
NEW 18" x 8 LF CPEP/CAAP/PCCSP PIPE

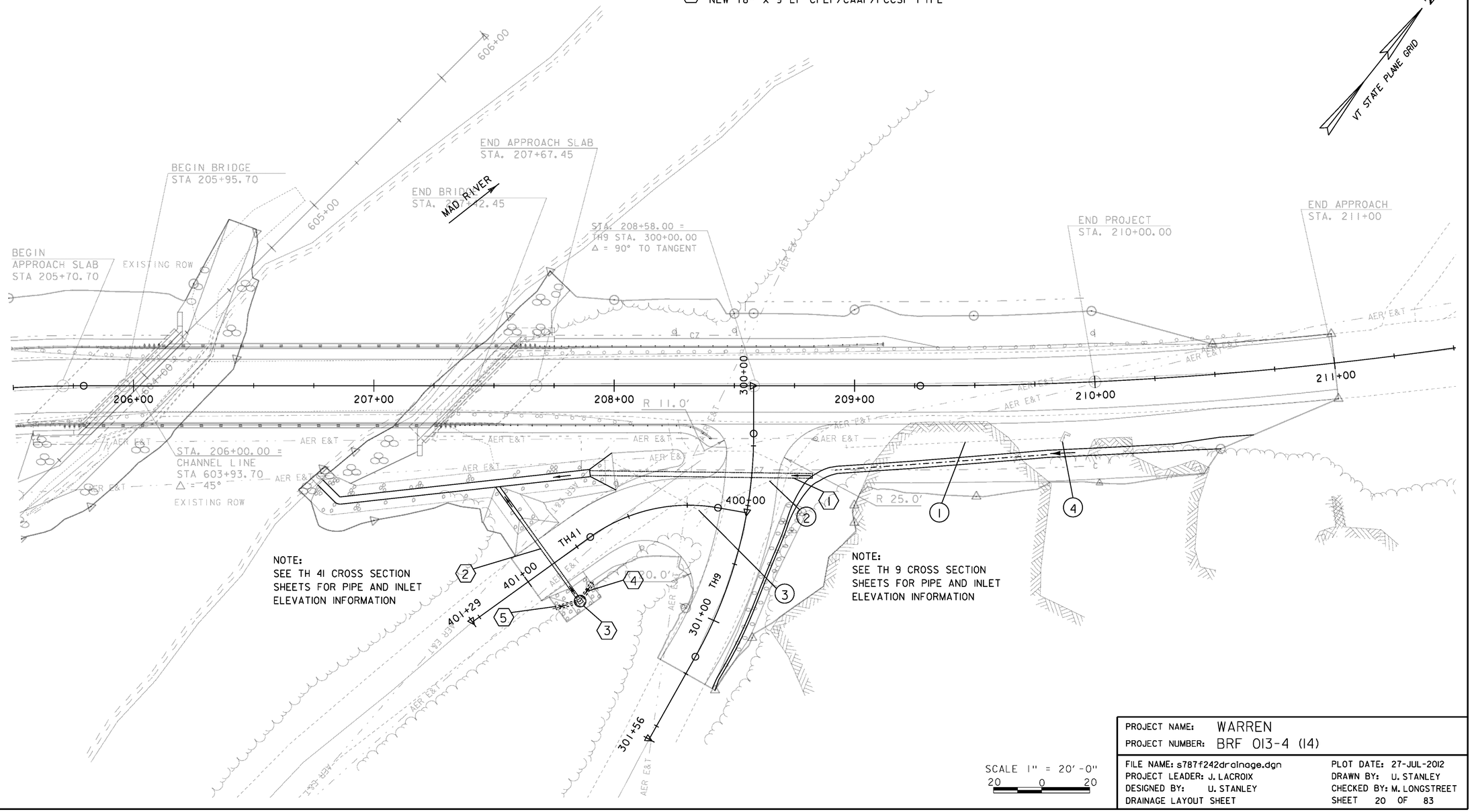
(5) STA. 400+88.63 18.6 LT TO STA. 400+97.00 15.3 LT
NEW 18" x 9 LF CPEP/CAAP/PCCSP PIPE

(1) STA. 208+96.06 25.7' RT TO STA. 209+86.06 22.7' RT
REMOVE 91.8 LF EXISTING PIPE

(2) STA. 300+29.27 27.3' LT TO STA. 300+55.00 17.5' RT
REMOVE 51.8 LF EXISTING PIPE

(3) STA. 400+20.06 2.0' LT TO STA. 400+48.38 23.3' RT
REMOVE 40.8'EXISTING PIPE

(4) STA. 209+86.06 22.8' RT
REMOVE EXISTING CONCRETE HEAD WALL



PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4 (14)
FILE NAME: s787f242drainage.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J. LACROIX	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: M. LONGSTREET
DRAINAGE LAYOUT SHEET	SHEET 20 OF 83

STATE OF VERMONT
AGENCY OF TRANSPORTATION

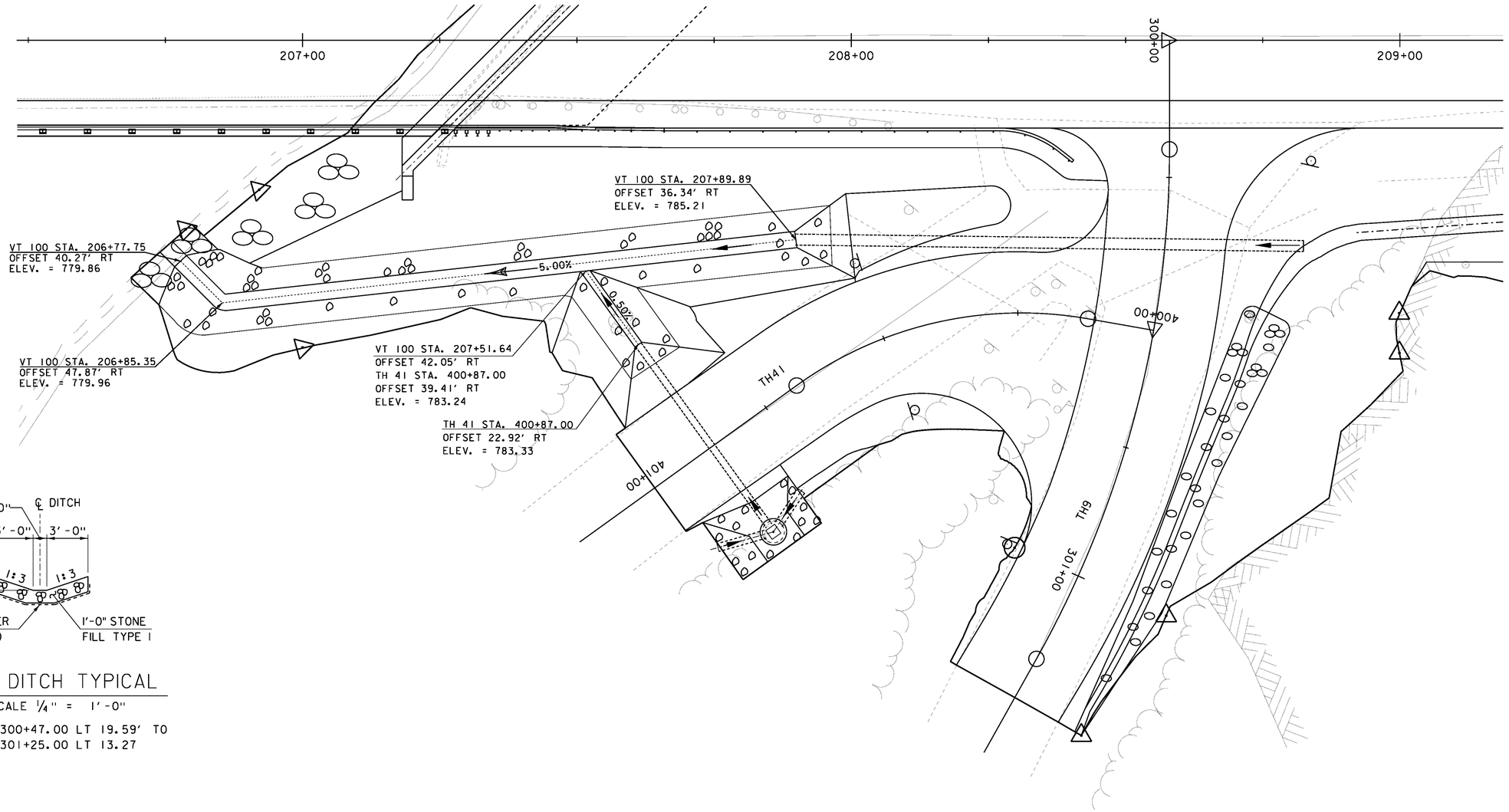
DRAINAGE DETAIL SHEET

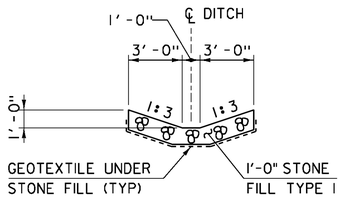
STATION	STATION	POS.	ASKEW	INLET/OUTLET TYPE		DITCH		PIPE ARCH			PIPE		ALLOWABLE OPTIONS						PIPE ELBOW	ES	CB		DEPTH DI	CONC CLASS B	REINF STEEL	DI GRATE	CHAN ELEV	CRM	TRENCH EXCAVATION		COMM EXC	UNC CHAN EXC	STRUCT EXCAV	GRAN BKFILL STRUCT	GRAN BORR	EROS MATT	STONE FILL		MARKER POSTS				REMARKS
				INLET	OUTLET	IN	OUT	SPAN	RISE	L	D	L	PCCSP	CAAP	RCP	CSP	CPEP	PCCSP PI										EARTH	ROCK									LT	RT			
			NO. DEG.					IN	IN	FT	IN	FT	TH	TH	CL	TH	SL	TH	NO. DEG.	EA	EA		FT	CY	LBS	TYPE	EA	CY	CY	CY	CY	CY	CY	CY	CY	CY	TYPE	EA	EA			
208+96.06	209+86.06	LT./RT.																										5.4	0.6													①	REMOVE 91.8 LF EXISITING PIPE
300+29.27	300+55.00	LT./RT.																										3.1	0.4													②	REMOVE 51.8 LF EXISITING PIPE
400+20.06	400+48.38	LT./RT.																										2.4	0.3													③	REMOVE 40.8 LF EXISITING PIPE
209+86.06		RT.																											0.4													④	REMOVE EXISTING CONCRETE HEADWALL
300+35.38	300+45.38	LT./ RT.			STONE						24	93	X	X			X											64	7.1				58					1	1			⟨1⟩	NEW 24" PIPE UNDER TH 9 (AIRPORT RD)
400+87.00	400+87.00	LT./RT.		CB	STONE						18	41	X	X			X											18.3	2.1				22					1	1			⟨2⟩	NEW 18" PIPE UNDER TH 41 (VOLKSTOWN RD)
400+87.00		LT.																			1					B		9.8	1.1				4					1				⟨3⟩	NEW 4'-0" DIAMETER PRECAST CATCH BASIN
400+78.65	400+85.66	LT./RT.		STONE	CB						18	8	X	X			X											5.0	0.6				4					1				⟨4⟩	NEW 18" PIPE CONNECT TO CATCH BASIN
400+88.63	400+97.00	LT./RT.		STONE	CB						18	9	X	X			X											6	0.7				5					1				⟨5⟩	NEW 18" PIPE CONNECT TO CATCH BASIN
																					1							114	13.3				93					5	2				TOTAL

PROJECT NAME: **WARREN**
PROJECT NUMBER: **BRF 013-4(14)**

FILE NAME: **s78f242/str/s78f242forms.dgn**
PROJECT LEADER: **J. LACROIX**
DESIGNED BY: **U. STANLEY**
DRAINAGE DETAIL SHEET

PLOT DATE: **6/9/2012**
DRAWN BY: **U. STANLEY**
CHECKED BY: **J. LACROIX**
SHEET 21 OF 83

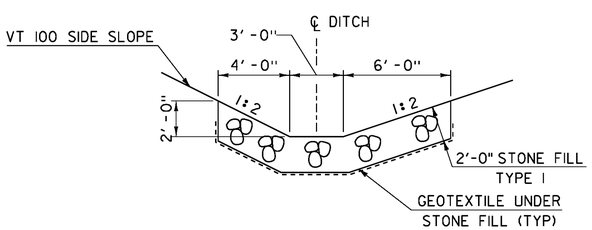




TH 9 DITCH TYPICAL

SCALE 1/4" = 1'-0"

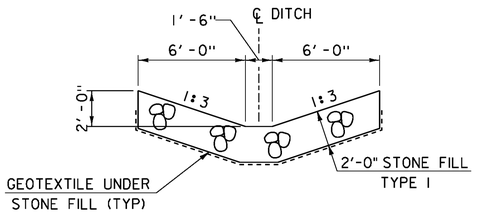
STA. 300+47.00 LT 19.59' TO
STA. 301+25.00 LT 13.27



VT 100 DITCH TYPICAL

SCALE 1/4" = 1'-0"

STA. 206+77.75 RT 40.27' TO
STA. 207+89.89 RT 36.34'



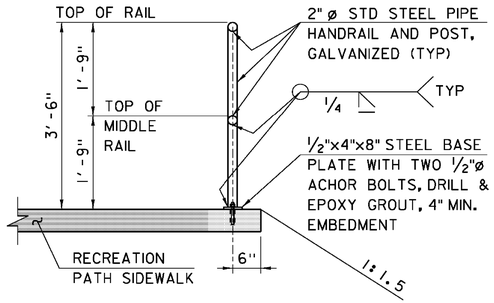
TH 41 DITCH TYPICAL

SCALE 1/4" = 1'-0"

STA. 400+87.00 RT 22.92' TO
STA. 400+87.00 RT 39.41'

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

PROJECT NAME: WARREN	
PROJECT NUMBER: BRF 013-4(14)	
FILE NAME: s87f242drainage.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J. LACROIX	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: M. LONGSTREET
DITCH LAYOUT AND TYPICAL SECTIONS	SHEET 22 OF 83

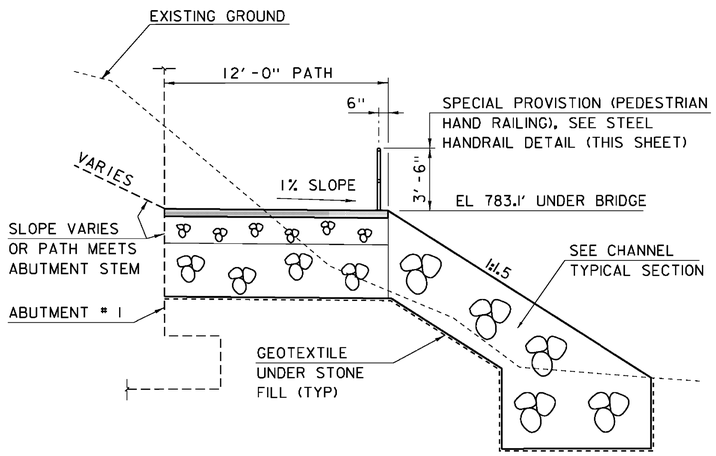


STEEL HANDRAIL DETAIL

SCALE 3/4" = 1'-0"

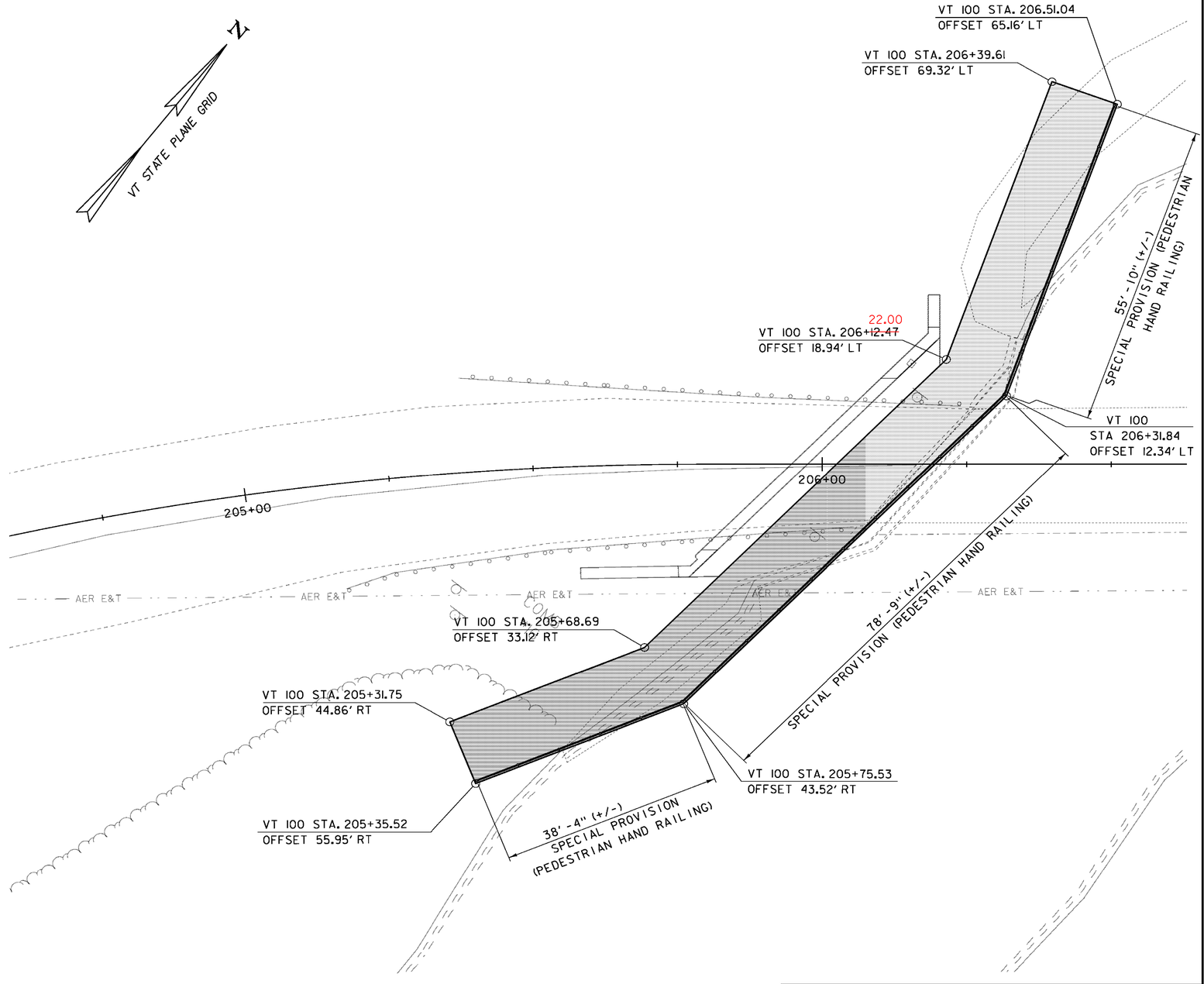
1. HANDRAIL POST, RAILS, AND BASE PLATE ARE TO BE GROUND SMOOTH AND GALVANIZED.
2. OPEN POST & RAIL HANDRAIL STYLE REQUIRED DUE TO THE ELEVATION OF THE PATH RELATIVE TO HIGH WATER. POST SHALL BE SPACED AT 8'-0" CENTER TO CENTER MAX.
3. PAYMENT FOR THIS RAILING AND ITS INSTALLATION WILL BE MADE UNDER CONTRACT ITEM 900.640 SPECIAL PROVISION (PEDESTRIAN HAND RAILING.

RECREATION PATH
5" PORTLAND CEMENT CONCRETE SIDEWALK
18" STONE FILL TYPE I
36" STONE FILL TYPE III



RECREATION PATH TYPICAL

SCALE 1/4" = 1'-0"



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

PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4(14)
FILE NAME: s78f242recpath.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J. LACROIX	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: M. LONGSTREET
RECREATION PATH LAYOUT AND SECTION	SHEET 23 OF 83

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA					REMARKS
					AREA±	AREA±	TYPE	(T)/(P)	AREA ±	TITLE	DATE	TOWN / CITY	BOOK	PAGE	
1A	TOWN OF WARREN	23, 24	201+42.71 LT	201+57.16 LT			INSTALL	(P)				WARREN			GUY WIRE & ANCHOR
			203+54.18 LT	203+88.14 LT			CONST.	(T)	530 SF						INCLUDES EC & PDF
			203+89.36 LT				DRIVE	(T)							GRAVEL DRIVE
			203+96.81 LT	207+26.50 LT			CONST.	(T)	0.12A						5, 068 S.F.±; INCLUDES EC, PDF & BF
			204+22.65 LT	207+22.75 LT			DETOUR	(T)	0.30A						13,281 S.F.±
			206+28.36 LT	206+49.29 LT			CHANNEL	(P)	323 SF						
1B	TOWN OF WARREN	24	300+53.00 RT				APPROACH	(T)							TH# 41 - VOLKSTOWN RD.
1C	TOWN OF WARREN	24	400+12.14 RT				APPROACH	(T)							TH# 9 - AIRPORT RD.
2	HORTON, CATHERINE AND	23,24	200+97.17 RT	205+22.66 RT			CONST.	(T)	0.13A			WARREN			5,768 S.F.±; INCLUDES EC, PDF & BF
	WHITESIDE, ANNA		201+65.98 RT	205+57.93 RT			UE	(P)	0.16A						6,948 S.F.±
			204+14.46 RT	204+46.61 RT			SLOPE	(T)	115 SF						
			205+33.90 RT	205+79.02 RT			CHANNEL	(P)	284 SF						
3	KINGSBURY, SCOTT DAVID	24	206+47.93 RT	207+25.26 RT			CONST	(T)	2,468 SF			WARREN			INCLUDES EC, PDF & BF
	KINGSBURY, KRIS ROBERT		206+74.42 RT	207+28.90 RT			SLOPE	(T)	230 SF						
	KINGSBURY, KRISTOPHER EARL		206+75.59 RT	207+20.26 RT			DITCH & DRAIN	(P)	87 SF						
	KINGSBURY, BRETT ALLEN		207+32.98 RT	207+51.27 RT			SLOPE	(T)	115 SF						
			207+50.78 RT	207+56.62 RT			DITCH & DRAIN	(P)	72 SF						
			207+80.34 RT	208+19.01 RT			INSTALL	(T)							PDF
			208+58.62 RT	210+81.49 RT			CONST.	(T)	2,000 SF						INCLUDES EC, PDF & BF
			208+67.29 RT	210+46.29 RT			SLOPE	(T)	2,049 SF						
			208+81.35 RT	210+62.92 RT			DITCH & DRAIN	(P)	2,198 SF						
4	VT FOODBANK	24	208+10.61 LT	208+64.82 LT			DETOUR	(T)	621 SF	WDOE	07/23/12	WARREN	217	172-	
			208+18.12 LT	210+99.57 LT			CONST.	(T)	3,384 SF					175	INCLUDES EC, PDF & BF
			208+75.00 LT				INSTALL	(T)							UTILITY POLE
			208+81.81 LT				INSTALL	(T)							GUY WIRE AND ANCHOR
			208+90.84 LT	210+40.60 LT			DETOUR	(T)	1,410 SF						
			208+90.95 LT	210+10.21 LT			SLOPE	(P)	317 SF						
	GREEN MOUNTAIN POWER		200+97.17 RT	210+99.57 LT											UTILITY
	WAITSFIELD-FAYSTON TELEPHONE COMPANY, INC.		200+97.17 RT	210+99.57 LT											UTILITY

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION
1	22	UTILITY PARCEL: CHANGE THE UTILITY NAMED
		WAITSFIELD TELECOM TO WAITSFIELD-FAYSTON
		TELEPHONE COMPANY, INC.
		PER C.O. 9770
		MADE BY: MR APPROVED BY: HP

PLAN LEGEND

- EXISTING RIGHT-OF-WAY
- TAKING WITH ACCESS
- TAKING WITHOUT ACCESS
- CLEAR ZONE (CZ)
- PROPERTY LINE (P / L)
- TOE OF SLOPE
- TOP OF CUT
- SLOPE RIGHT (SR (P))
- CONSTRUCTION RIGHT (CONST. (T))
- PROJECT DEMARCATION FENCE (PDF)

EC	-EROSION CONTROL
(P)	-PERMANENT
(T)	-TEMPORARY
DR.	-DRAINAGE RIGHT
DIT.	-DITCHING RIGHT
CH.	-CHANNEL RIGHT
DRIVE	-DRIVE RIGHT
CUL.	-CULVERT RIGHT
C&T	-CLEARING & TRIMMING RIGHT
SR	-SLOPE RIGHT
UE	-UTILITY EASEMENT

APPROVED: HARRY PETROVS DATE:
CHIEF, PLANS & TITLES

PLOT DATE

PROJECT NAME: **WARREN**
PROJECT NUMBER: **BRF 013-4 (14)**

FILE NAME: **78F242\ROW\r78f242detail.xls** PLOT DATE:
PROJECT LEADER: **M. EVANS-MONGEON** DRAWN BY:
DESIGNED BY: **U. STANLEY** CHECKED BY
R.O.W. DETAIL SHEET #1 SHEET **83**

BOX BEAM GUARDRAIL
STA 201+85.61 TO STA 203+74.12 LT
STA 204+06.71 TO STA 205+50.00 LT
STA 204+36.31 TO STA 205+44.40 RT

COLD PLANING, BITUMINOUS PAVEMENT
STA 200+45.00 TO STA 201+45.00

MANUFACTURED TERMINAL SECTION, TANGENT
STA 204+21.87 TO STA 204+36.31 RT

DELINEATOR WITH STEEL POST
VT 100 STA 201+85.00 LT (GREEN)
VT 100 STA 203+45.00 LT (BLUE)
VT 100 STA 204+06.00 LT (GREEN)
VT 100 STA 204+22.00 RT (GREEN)

SPECIAL PROVISION (GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM
STA 205+44.40 TO STA 205+50.00 RT

CONSTRUCT DRIVE (BITUMINOUS CONCRETE PAVEMENT)
STA 203+75.00 LT (55'-8" LENGTH x 16'-0" WIDE)

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 205.38.37 TO STA 205+50.00 LT
STA 205+15.49 TO STA 205+50.00 RT

VT-100 CURVE #1
DELTA = 49°40'45"
D = 10°16'22"
R = 557.74'
T = 258.18'
L = 483.60'
E = 56.86'

TOWN OF WARREN
1A

TOWN OF WARREN
1A

VT STATE PLANE GRID

PRIVATE 3-ROD ROW

P.I. (CURVE #1)
203+53.88 AHD
203+21.11 BK

END DRIVE CONSTRUCTION
STA 500+72.58

TEMPORARY CONSTRUCTION LIMITS

CONST.(T)
DRIVE(T)
DETOUR(T)
SR(T)
CONST.(T)
INSTALL(P)
UE(P)
CHANNEL(P)

℄ TEMPORARY DETOUR

R 45.0'
R 25.0'

NEW POLE AND ANCHOR
NEW COMB POLE
AER E&T

N 1°51'19.83" E
201+00
200+00
202+00
203+00
204+00
205+00
205+44.40
15.95 RT
205+50
900+00
901+00
902+00
600+00
601+00
602+00
603+00

WATCH LINE STA. 205+50

CHANNEL LINE
N 6°32'10" E

AERIAL RELOCATION
ROUTE BY GREEN MOUNTAIN POWER CORP.

HORTON, CATHERINE AND WHITESIDE, ANNA
2

BEGIN PROJECT
STA. 201+45.00

BEGIN APPROACH
STA. 200+45.00

200+95.70

VT-100 TO WARREN

BEGIN R.OW. PROJECT
STA. 200+97.17
46.76' RT

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

SCALE 1" = 20'-0"
20 0 20

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: 78f242/ROW/r78f242layl.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
R.O.W. PLAN SHEET 1

PLOT DATE: 27-JUL-2012
DRAWN BY: JB
CHECKED BY: HP
SHEET 25 OF 83

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 205+50.00 TO STA 206+50.00 LT
STA 205+50.00 TO STA 206+24.00 RT
STA 207+53.52 TO STA 210+67.82 LT
STA 207+34.59 TO STA 208+07.79 RT

BOX BEAM GUARDRAIL
STA 205+50.00 TO STA 205+78.62 LT
STA 207+93.10 TO STA 208+97.92 LT
STA 207+59.90 TO STA 208+40.06 RT

SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED 2 RAIL BOX BEAM/CURB MOUNTED
STA 206+10.60 TO STA 207+61.10 LT
STA 205+77.34 TO STA 207+27.90 RT

SPECIAL PROVISION (GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM
STA 205+78.62 TO STA 206+10.60 LT
STA 205+50.00TO STA 205+77.34 RT
STA 207+61.10 TO STA 207+93.10 LT
STA 207+27.90 TO STA 207+59.90 RT

MANUFACTURED TERMINAL SECTION, TANGENT
STA 208+97.92 TO STA 209+11.93 LT

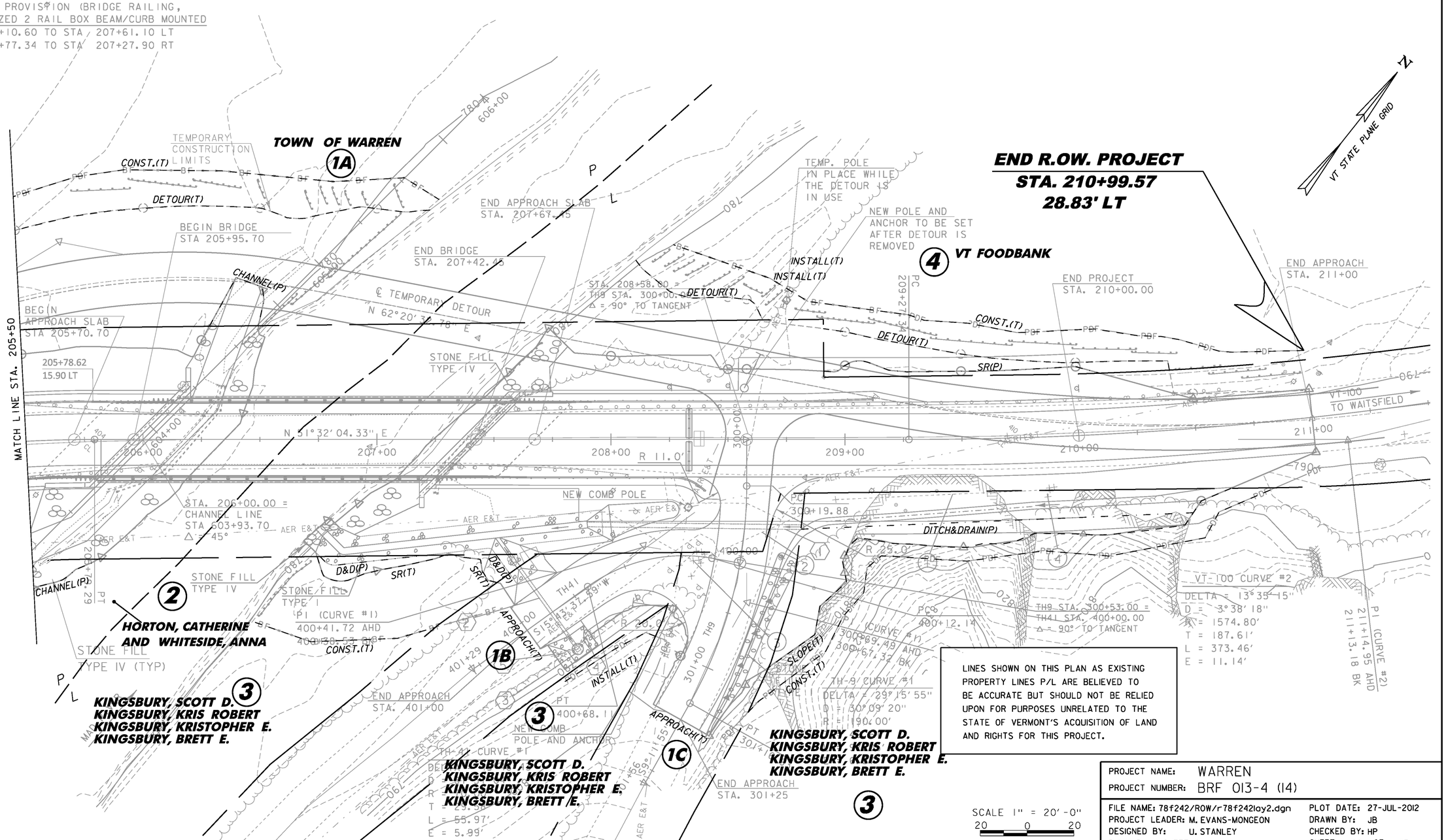
COLD PLANING, BITUMINOUS PAVEMENT
STA 210+00.00 TO STA 211+00.00

RELOCATE MAILBOX, SINGLE SUPPORT
TH 41 STA 400+14.00 RT

RELOCATE MAILBOX, MULTIPLE SUPPORT
TH 9 STA 300+76.00 RT (2 MAILBOX)

DELINEATOR WITH STEEL POST
VT 100 STA 209+12.00 LT (BLUE)
VT 100 STA 208+40.00 RT (GREEN)
TH 9 STA 300+35.38 25.2 FT LT (WHITE)
TH 9 STA 300+45.38 67.1 FT RT (WHITE)
TH 41 STA 400+87.00 19.2 FT LT (WHITE)
TH 41 STA 400+87.00 17.8 FT RT (WHITE)
TH 41 STA 400+78.65 16.1 FT LT (WHITE)
TH 41 STA 400+97.00 15.3 FT LT (WHITE)

SOLID ROCK EXCAVATION
VT 100 STA 209+00 TO STA 210+00 RT



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

SCALE 1" = 20'-0"
20 0 20

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: 78f242/ROW/r78f242lay2.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
R.O.W. PLAN SHEET 2
PLOT DATE: 27-JUL-2012
DRAWN BY: JB
CHECKED BY: HP
SHEET 26 OF 83

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF A TRUSS BRIDGE OVER THE MAD RIVER. THE PROJECT IS ON VT 100, A PAVED MINOR ARTERIAL IN THE TOWN OF WARREN. A TWO LANE TEMPORARY BRIDGE WILL BE ERECTED DOWNSTREAM OF THE EXISTING STRUCTURE. ONCE THE TEMPORARY BRIDGE IS IN PLACE, THE EXISTING TRUSS AND ABUTMENTS CAN BE REMOVED. UPON THE COMPLETION OF THE NEW STRUCTURE THE TEMPORARY BRIDGE WILL BE REMOVED. WORK INCLUDING BOTH APPROACHES IS APPROXIMATELY 1,055 FEET. THERE IS A RECREATIONAL PATH UNDER THE BRIDGE IN FRONT OF ABUTMENT 1.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 2.74 ACRES EXCLUDING ANY WASTE, BORROW OR STAGING AREAS.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST TWO CONSTRUCTION SEASON.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY CAN BE DESCRIBED AS MODERATELY STEEP OR MOUNTAINOUS WITH ROLLING FIELDS. THE PROJECT AREA CONSISTS OF WELL ESTABLISHED VEGETATION AND MIXED SOFTWOOD AND HARDWOOD FOREST WITH WELL DEFINED DRAINAGE WAYS. THERE ARE THREE EXISTING SIDE ROADS ON THE PROJECT, ONE IS A DRIVE BEFORE THE BRIDGE AT STATION 203+91.65 AND THE OTHER TWO ARE AFTER THE BRIDGE, TH9 AND TH41. THE ONLY BUILDING WITHIN THE PROJECT LIMITS IS A SMALL BUS STOP SHELTER ON TH41 ON THE RIGHT SIDE OF THE ROAD AT APPROXIMATELY STATION 400+80.00. THE ONLY UTILITIES LOCATED WITHIN THE PROJECT ARE AERIAL ELECTRICAL AND TELEPHONE LINES.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

THE MAD RIVER IS LOCATED IN THE PROJECT AREA. THERE ARE NO OTHER WATER BODIES WITHIN THE PROJECT AREA. THERE ARE CLASS II AND CLASS III WETLANDS LOCATED IN THE PROJECT LIMITS THAT WILL BE MINIMALLY AFFECTED. THE MAD RIVER IS CLASSIFIED AS PERENNIAL, SINUOUS, NOT BRAIDED AND EQUIWIDTH CONTAINING A STREAMBED OF SOME LEDGE WITH SOME BOULDERS, COBBLES AND GRAVEL. DISTURBANCE OF SOILS NEAR NATURAL OR MAN-MADE WATERWAYS CONSISTS OF THAT WHICH IS NECESSARY TO CONSTRUCT TWO NEW CONCRETE BRIDGE ABUTMENTS, RECREATION PATH AND APPLICABLE ROADWAY APPROACHES AS WELL AS REMOVAL OF THE EXISTING CROSSING. STABILIZATION OF DISTURBANCES TO STREAM BANKS WILL BE ACCOMPLISHED WITH STONE FILL, TYPE IV. DUE TO THE NATURE OF THE SURROUNDING TERRAIN, RUNOFF WATER ENTERING THE PROJECT SITE WILL BE PRIMARILY LIMITED TO THAT WHICH IS CONVEYED ALONG ROADWAY DITCHES AND FROM THE BANK LOCATED ON THE RIGHT SIDE OF THE PROJECT AFTER TH9 INTERSECTS WITH VT 100. THE CURRENT ROADWAY DITCHES ARE NOT WELL DEFINED AND ARE NOT LINED WITH STONE.

1.2.3 VEGETATION

A MIX OF HARDWOOD AND SOFTWOOD TREES OF ALL SIZES EXIST ALONG VT 100. THERE ARE FIELDS ON THE LEFT OF THE PROJECT BEFORE AND AFTER THE BRIDGE WHICH GET FLOODED DURING STORM EVENTS. IMPACTS TO VEGETATION WILL BE LIMITED TO THAT WHICH ARE AFFECTED BY THE CONSTRUCTION OF THE NEW BRIDGE AND THE CONSTRUCTION OF THE DITCH AFTER TH9 ON THE RIGHT SIDE OF VT 100.

UPON PROJECT COMPLETION, TEMPORARY BRIDGE AND ASSOCIATED APPROACHES WILL BE REMOVED THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE IV AS SPECIFIED ON THE PLANS AND VEGETATION REESTABLISHED WITH STANDARD SEED & MULCH PRACTICES

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF WASHINGTON, VERMONT. ONE SOIL TYPE IDENTIFIED FOR THIS PROJECT SITE IS WAITSFIELD SILT LOAM, 0% TO 3% SLOPES. THE LISTED SOIL ERODIBILITY COEFFICIENT (K-VALUE) FOR THIS SOIL TYPE IS 0.32.

THE SECOND SOIL TYPE IDENTIFIED ON THIS PROJECT IS TUNBRIDGE LYMAN COMPLEX, 35% TO 60% SLOPES. THE LISTED SOIL ERODIBILITY COEFFICIENT (K-VALUE) FOR THIS SOIL TYPE IS 0.20. THE SOIL IS CONSIDERED HIGHLY ERODIBLE DUE TO SIGNIFICANT SLOPES.

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING:
0.0-0.23 = LOW EROSION POTENTIAL
0.24-0.36 = MODERATE EROSION POTENTIAL
0.37 AND HIGHER = HIGH EROSION POTENTIAL

1.2.5 SENSITIVE RESOURCE AREAS

WATER RESOURCE: MAD RIVER

THE EXISTING TRUSS HAS BEEN IDENTIFIED AS HISTORIC AND WILL BE DOCUMENTED AND THEN REMOVED. THE TRUSS WILL BE REPLACED WITH A PREFABRICATED TRUSS.

CLASS II WETLANDS ARE LOCATED ON THE LEFT SIDE OF THE ROAD AT THE BEGINNING OF THE PROJECT AND ALONG THE LEFT BANK OF THE MAD RIVER. APPLICABLE PERMITS ARE INCLUDED IN THE CONTRACT DOCUMENTS

ARCHEOLOGICALLY SENSITIVE AREAS HAVE BEEN TESTED AND CLEARED AND ARE NOTED ON THE PLANS.

PRIME AGRICULTURAL LAND HAS BEEN IDENTIFIED WITHIN THE PROJECT AREA; EVERY ATTEMPT SHALL BE MADE TO MINIMIZE OR ELIMINATE ANY IMPACTS WITHIN THE PROJECT AREA.

CRITICAL HABITATS: NO

NO THREATENED AND ENDANGERED SPECIES HAVE BEEN IDENTIFIED WITHIN THIS PROJECT AREA.

1.3 RISK EVALUATION

THIS PROJECT FALLS UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES FOR LOW RISK PROJECTS. ANY MODIFICATIONS TO THE PROJECT THAT INCREASE THE RISK TO ENVIRONMENTAL RESOURCES SHALL BE EVALUATED IN ACCORDANCE WITH THE PERMIT REQUIREMENTS. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION PRACTICES. THEY HAVE BEEN PROPOSED BY THE DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFIC MEANS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

1.4.1 MARK SITE BOUNDARIES
SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED. PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES. BECAUSE THIS PROJECT FALLS UNDER THE CGP 3-9020, BARRIER FENCE SHALL BE USED INSTEAD OF PROJECT DEMARCATION FENCE WITHIN 100 FEET OF A WATER RESOURCE (STREAM, BROOK, LAKE, POND, WETLAND, ETC).

1.4.2 LIMIT DISTURBANCE AREA
PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE. FOR PROJECTS WHICH FALL UNDER THE CONSTRUCTION GENERAL PERMIT, ONLY THE ACREAGE LISTED ON THE PERMIT AUTHORIZATION MAY BE EXPOSED AT ANY GIVEN TIME.

MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

1.4.3 SITE ENTRANCE/EXIT STABILIZATION
TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTOR'S PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

1.4.4 INSTALL SEDIMENT BARRIERS
SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK.

SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN. BECAUSE THIS PROJECT FALLS UNDER THE CGP 3-9020, WOVEN WIRE REINFORCED SILT FENCE SHALL BE USED INSTEAD OF SILT FENCE WITHIN 100 FEET UPSLOPE OF RECEIVING WATERS.

FILTER CURTAIN WILL BE INSTALLED SURROUNDING THE SUBSTRUCTURE CONSTRUCTION AREAS TO CONTAIN SEDIMENT.

1.4.5 DIVERT UPLAND RUNOFF
DIVERSIONARY MEASURES SHALL BE USED TO INTERCEPT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIRECT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDIED WHILE TRAVELING OVER EXPOSED SOILS ON THE CONSTRUCTION SITE.

THE PROJECT AREA IS RELATIVELY FLAT. THEREFORE IT IS NOT ANTICIPATED THAT DIVERSION MEASURES WILL BE NECESSARY.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF
CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSIVE POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

STONE CHECK DAMS WILL BE INSTALLED AS SHOWN ON THE EPSC PLANS AND AS DIRECTED BY THE ENGINEER.

1.4.7 CONSTRUCT PERMANENT CONTROLS
PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH PERMIT CONDITIONS.

PERMANENT CONTROLS CONSIST OF A STONE LINED SWALE AND A GRASS LINED SWALE.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION
ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE OR IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT 3-9020 AUTHORIZATION.

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

1.4.9 WINTER STABILIZATION
VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

1.4.10 STABILIZE SOIL AT FINAL GRADE
EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

1.4.11 DE-WATERING ACTIVITIES
DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

TREATMENT OF DEWATERING COFFERDAM IS ANTICIPATED. A LOCATION FOR TREATMENT HAS BEEN PROPOSED AND IS SHOWN ON THE PLANS. HOWEVER THE SPECIFIC MEANS FOR TREATMENT OF DISCHARGE SHALL BE PROVIDED BY THE CONTRACTOR.

1.4.12 INSPECT YOUR SITE
INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR CONSTRUCTION GENERAL PERMIT AUTHORIZATION STIPULATIONS.

1.5 SEQUENCE AND STAGING

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

1.5.1 CONSTRUCTION SEQUENCE

1.5.2 OFF-SITE ACTIVITIES
IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SUBSECTIONS 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

1.5.3 UPDATES

ON-SITE PLAN COORDINATOR:
TOM HARVEY
S.D. IRELAND
93 INDUSTRIAL AVENUE
WILLISTON, VT 05495
OFFICE: 658-0201 CELL 363-1953

PLAN PREPARATION:
KARL MARCHESSAULT, P.E.
O'LEARY-BURKE CIVIL ASSOCIATES
1 CORPORATE DRIVE, SUITE 1
ESSEX, VT 05452
OFFICE: 878-9990

STATE OF VERMONT
KARL MARCHESSAULT
No. 8932
Civil
LICENSED PROFESSIONAL ENGINEER
10/16/12

EROSION CONTROL PLAN

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242eronarr.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
EPSC NARRATIVE SHEET

PLOT DATE: 27-JUL-2012
DRAWN BY: U. STANLEY
CHECKED BY: EVANS-MONGEON

SOILS INFORMATION
WAITSFIELD SILT LOAM 0 TO 3 PERCENT SLOPES NOT HIGHLY ERODIBLE

N

VT STATE PLANE GRID

PRIVATE 3-ROD ROW

FIELD

FIELD

501+00

GRAVEL DRIVE

BM #2
RRSP
ELEV. = 795.87

IRON PIPE

EXISTING ROW

GUY WIRES

BM

2EA. SM. ELMS

COMB
= 3/125

#4 HVCTRL

CONCRETE

BRUSH

800

008

CLASS II WETLAND

203+00

204+00

205+00

205+44.40
15.95 RT

MATCH LINE STA. 205+50

202+00

201+00

00+00

018

810

AG

790

FLOOD PLAIN

EXISTING ROW

COMB
#17-12

800

FIELD

WOODS

RIPARIAN BUFFER

CLASS III WETLAND

603+00

602+00

601+00

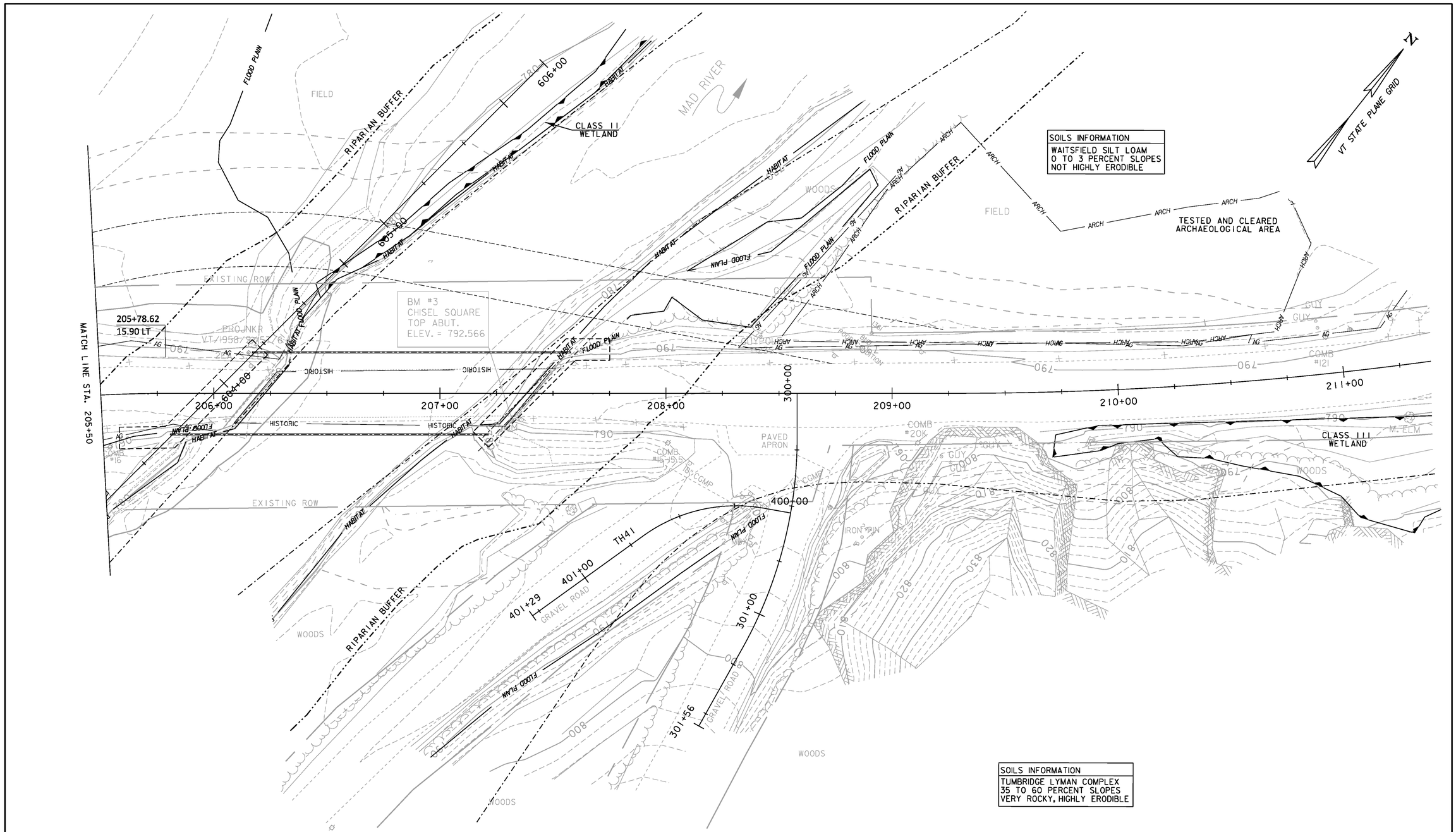
600+00

HABITAT

MAD RIVER

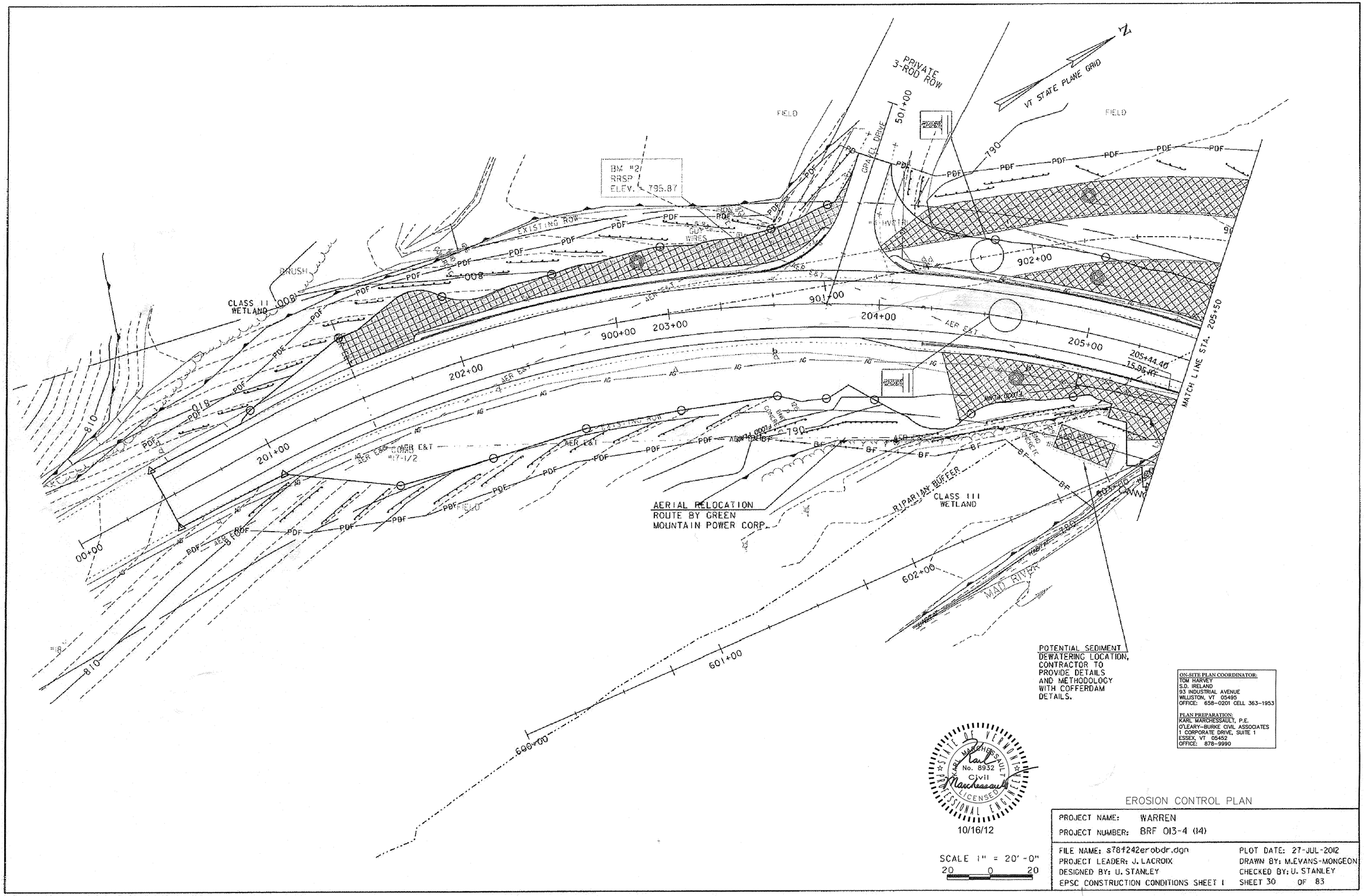
SCALE 1" = 20'-0"
20 0 20

PROJECT NAME: WARREN	
PROJECT NUMBER: BRF 013-4 (14)	
FILE NAME: s78f242erobdr.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J. LACROIX	DRAWN BY: M.EVANSMONGEON
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
EPSC EXISTING CONDITIONS SHEET 1	SHEET 28 OF 83



SCALE 1" = 20'-0"
20 0 20

PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4 (14)
FILE NAME: s78f242erobdr.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J. LACROIX	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: M.EVANSMONGEON
EPSC EXISTING CONDITIONS SHEET 2	SHEET 29 OF 83



ON-SITE PLAN COORDINATOR:
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PLAN PREPARATION:
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OFFICE: 878-9990

STATE OF VERMONT
KARL MARCHESSAULT
No. 8932
Civil
LICENSED PROFESSIONAL ENGINEER

10/16/12

SCALE 1" = 20'-0"
20 0 20

EROSION CONTROL PLAN

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242erobdr.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
EPSC CONSTRUCTION CONDITIONS SHEET 1

PLOT DATE: 27-JUL-2012
DRAWN BY: M.EVANS-MONGEON
CHECKED BY: U. STANLEY
SHEET 30 OF 83

MATCH LINE STA. 205+50

POTENTIAL SEDIMENT DEWATERING LOCATION, CONTRACTOR TO PROVIDE DETAILS AND METHODOLOGY WITH COFFERDAM DETAILS.

BM #3
CHISEL SQUARE
TOP ABUT.
ELEV. = 792.566

TESTED AND CLEARED ARCHAEOLOGICAL AREA

MAD RIVER

VT STATE PLANE GRID

SUPPLEMENTAL EROSION CONTROL:

1. INSTALL/MAINTAIN SILT FENCE AND PROJECT DEMARCATION FENCE THROUGHOUT CONSTRUCTION ACTIVITIES IN THE AREAS MARKED ON THE PLAN OR AS DETERMINED BY THE ON-SITE ENGINEER.
2. DURING AND FOLLOWING EVERY RAINFALL EVENT, THE MATTED SIDE SLOPES OF THE TEMPORARY BYPASS SHALL BE INSPECTED TO ENSURE STABILITY ADN SAFETY OF THE TRAVELING SURFACE AT ALL TIMES.
3. MULCH SHALL BE APPLIED TO ALL DISTURBED SOIL AREAS THAT ARE NOT STONE, GRAVEL OR ASPHALT (STABILIZED SURFACES) EVERY FRIDAY OR AS DIRECTED BY THE ON-SITE PLAN COORDINATOR.
4. THE EPSC (EROSION PREVENTION AND SEDIMENT CONTROL) WILL BE ACCORDING TO THE WINTER GUIDELINES AND ALL INSPECTIONS WILL BE KEPT AT THE SITE.

STATE OF VERMONT
KARL MARCHESSAULT
No. 8932
Civil
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PROFESSIONAL ENGINEER

10/16/12

ON-SITE PLAN COORDINATOR:
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PLAN PREPARATION:
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OFFICE: 878-9990

SCALE 1" = 20'-0"
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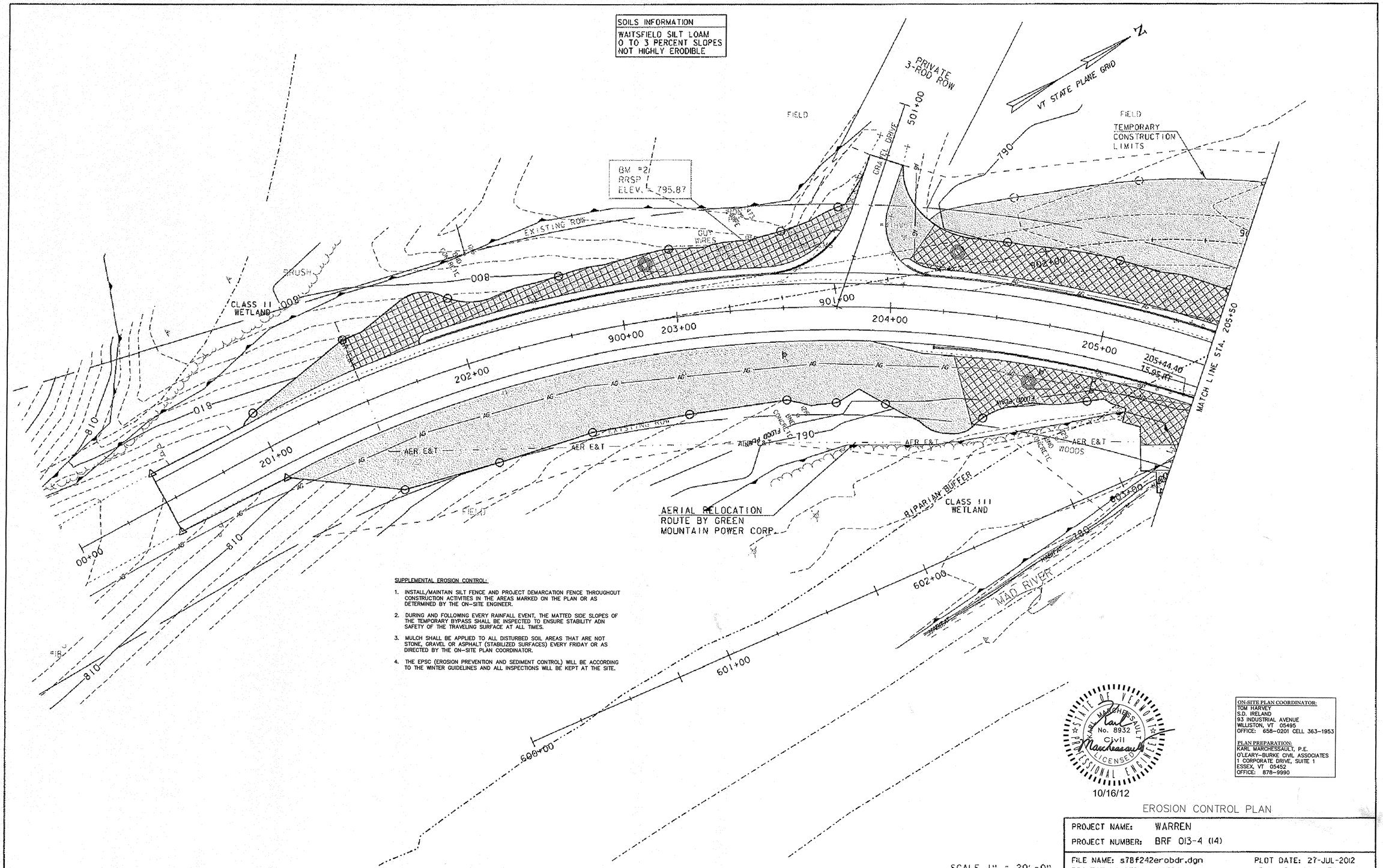
EROSION CONTROL PLAN

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: M.EVANS-MONGEON
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
EPSC CONSTRUCTION CONDITIONS SHEET 2

PLOT DATE: 27-JUL-2012
DRAWN BY: M.EVANS-MONGEON
CHECKED BY: U. STANLEY
SHEET 31 OF 83

SOILS INFORMATION
WAITSFIELD SILT LOAM 0 TO 3 PERCENT SLOPES NOT HIGHLY ERODIBLE



SUPPLEMENTAL EROSION CONTROL:

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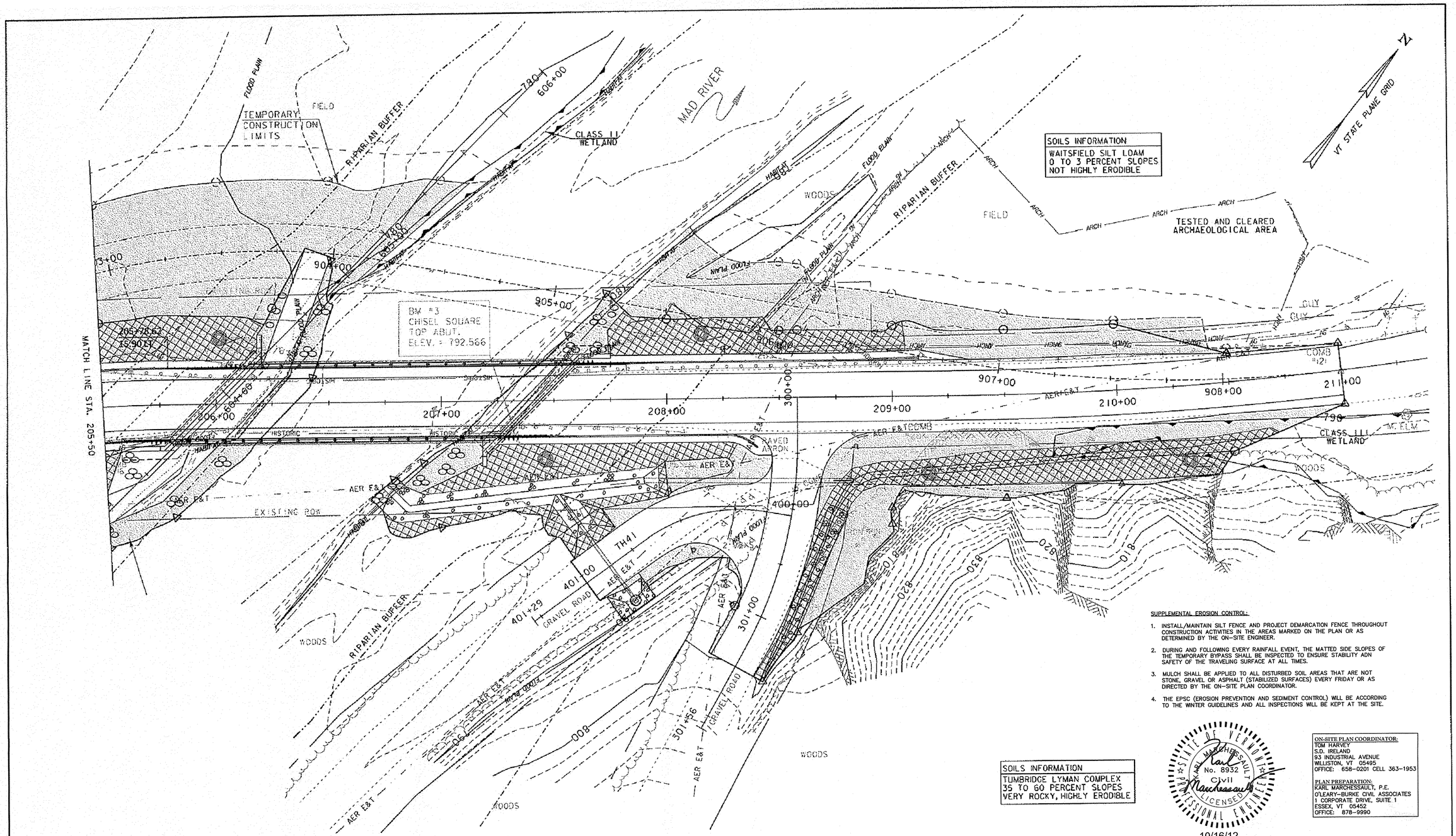
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EROSION CONTROL PLAN

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s7bf242erobdr.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: D. STANLEY
EPSC FINAL CONDITIONS SHEET 1

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: M.EVANSMONGEON
SHEET 32 OF 83



SUPPLEMENTAL EROSION CONTROL:

1. INSTALL/MAINTAIN SILT FENCE AND PROJECT DEMARCATION FENCE THROUGHOUT CONSTRUCTION ACTIVITIES IN THE AREAS MARKED ON THE PLAN OR AS DETERMINED BY THE ON-SITE ENGINEER.
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STATE OF VERMONT
KARL MARCHESSAULT
No. 8932
Civil
LICENSED
PROFESSIONAL ENGINEER

10/16/12

ON-SITE PLAN COORDINATOR:
TOM HARVEY
S.D. IRELAND
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WILLISTON, VT 05495
OFFICE: 658-0201 CELL 363-1953

PLAN PREPARATION:
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OFFICE: 878-9990

SCALE 1" = 20'-0"
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EROSION CONTROL PLAN

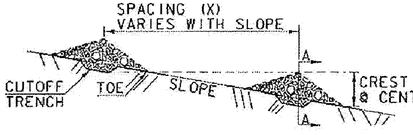
PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242erobdr.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
EPSC FINAL CONDITIONS SHEET 2

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: M. EVANSMONGEON
SHEET 33 OF 83

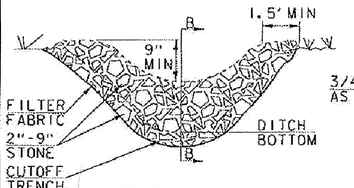
SYMBOL

NOT TO SCALE

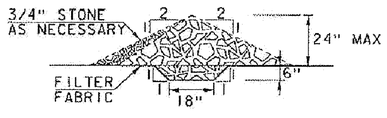


PROFILE

$$X = \frac{H\ (ft)}{SLOPE\ (ft/ft)}$$



SECTION A-A



SECTION B-B

CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. CHECK DAMS SHALL BE SPACED SO THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. 3/4" FILTERING STONE MAY BE ADDED TO THE FACE OF THE CHECK DAM AS NECESSARY.
4. EXTEND THE STONE A MINIMUM OF 1.5' BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
5. PROTECT CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
6. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
7. MAXIMUM DRAINAGE AREA 2 ACRES.

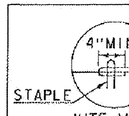
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

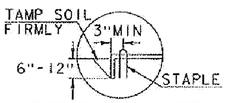
CHECK DAM

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

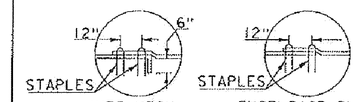
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR TEMPORARY STONE CHECK DAM, TYPE I (PAY ITEM 653.25)

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF

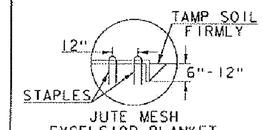




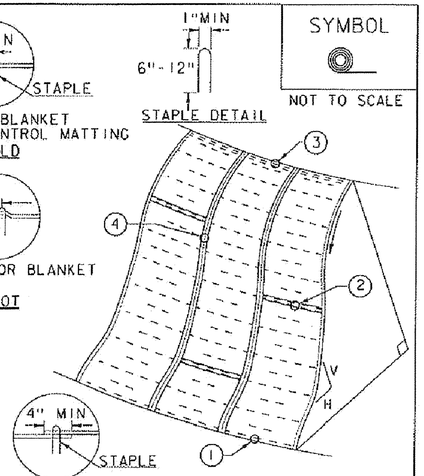
DETAIL 1 TERMINAL FOLD



DETAIL 2 JUNCTION SLOT



DETAIL 3 ANCHOR SLOT



DETAIL 4 LAP JOINT

SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. APPLY TO SLOPES GREATER THAN 3H: 1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

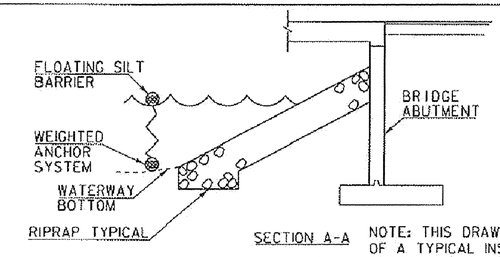
ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) OR PERMANENT EROSION MATTING (PAY ITEM 653.21).

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF

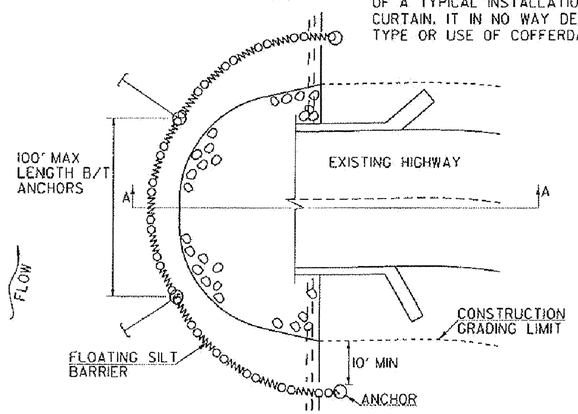
SYMBOL

NOT TO SCALE



SECTION A-A

NOTE: THIS DRAWING IS A DEPICTION OF A TYPICAL INSTALLATION OF FILTER CURTAIN. IT IN NO WAY DEFINES THE TYPE OR USE OF COFFERDAM IF USED.



CONSTRUCTION SPECIFICATIONS

1. FILTER CURTAIN SHALL NOT BE PLACED ACROSS A FLOWING WATERWAY, OR IN A WATERWAY WITH STREAM VELOCITIES GREATER THAN 1.5 FEET/SECOND.
2. MAXIMUM 100' LENGTH BETWEEN ANCHORS.
3. LAST SECTION SHALL TERMINATE A MINIMUM OF 10' BEYOND LIMIT OF DISTURBANCE.
4. THE WEIGHTED ANCHOR SYSTEM SHALL BE A TYPE WHICH ALLOWS THE CURTAIN TO CONFORM TO THE BOTTOM OF THE WATERWAY.
5. THE CURTAIN SHALL BE REMOVED BY SLOWLY PULLING TOWARD THE SHORE MINIMIZING THE ESCAPE OF SEDIMENTS INTO WATERWAY.

FILTER CURTAIN

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 FOR GEOTEXTILE FOR FILTER CURTAIN (PAY ITEM 649.61).

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF
SEPTEMBER 4, 2009	WHF

EPSC LAYOUT PLAN SYMBOLOGY LEGEND

PROJECT BOUNDARY FENCE
- PDF ——— PDF PROJECT DEMARCATION FENCE
- BF ——— BF BARRIER FENCE

EPSC MEASURES
- FILTER CURTAIN
- SILT FENCE
- SILT FENCE WOVEN WIRE
- CHECK DAM
- DISTURBED AREAS REQUIRING RE-VEGETATION
- EROSION MATTING

ENVIRONMENTAL RESOURCES
- WETLAND BOUNDARY
- RIPARIAN BUFFER ZONE
- SOIL TYPE BOUNDARY
- T&E — THREATENED & ENDANGERED SPECIES
- HAZ — HAZ — HAZARDOUS WASTE AREA
- AG — AGRICULTURAL LAND
- HABITAT — FISH & WILDLIFE HABITAT
- FLOOD PLAIN — FLOOD PLAIN
- STORM WATER
- USDA FOREST SERVICE LANDS
- WILDLIFE HABITAT SUIT/CONN

ARCHEOLOGICAL & HISTORIC
- ARCH — ARCHEOLOGICAL BOUNDARY
- HISTORIC DIST — HISTORIC DISTRICT BOUNDARY
- HISTORIC — HISTORIC AREA
- (H) HISTORIC STRUCTURE

UTILITY SYMBOLOGY
- AER E&T — AREAL ELECTRIC & TELEPHONE
- E — AREAL ELECTRIC
- UE — UNDERGROUND ELECTRIC
- UT — UNDERGROUND TELEPHONE
- UC — UNDER GROUND TV
- G — GAS LINE
- W — WATER LINE

CONSTRUCTION FEATURES
- TOE OF SLOPE CUT OR FILL
- STONE FILL, TYPE III
- STONE FILL, TYPE II
- STONE FILL, TYPE I



10/16/12

ON-SITE PLAN COORDINATOR:
TOM HARVEY
S.D. IRELAND
93 INDUSTRIAL AVENUE
WILLISTON, VT 05495
OFFICE: 658-0201 CELL 363-1953

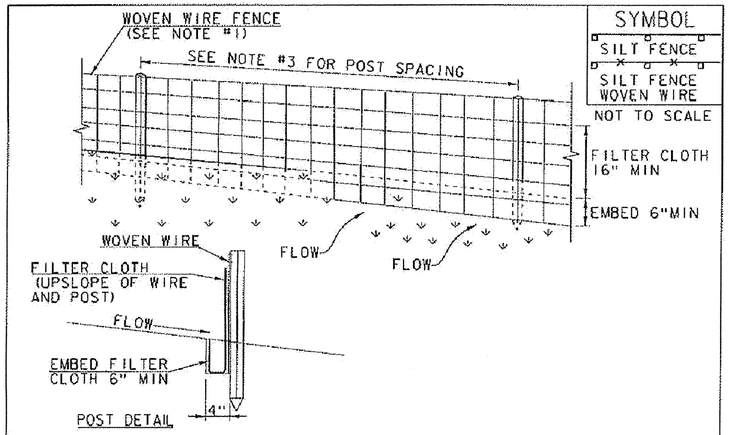
PLAN PREPARATION:
KARL MARCHESSAULT, P.E.
O'LEARY-BURKE CIVIL ASSOCIATES
1 CORPORATE DRIVE, SUITE 1
ESSEX, VT 05452
OFFICE: 878-9990

EROSION CONTROL PLAN

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242erodtls.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U.STANLEY
EPSC DETAILS SHEET 1

PLOT DATE: 27-JUL-2012
DRAWN BY: G.ROKES
CHECKED BY: U.STANLEY
SHEET 34 OF 83



SYMBOL

SILT FENCE

SILT FENCE WOVEN WIRE

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

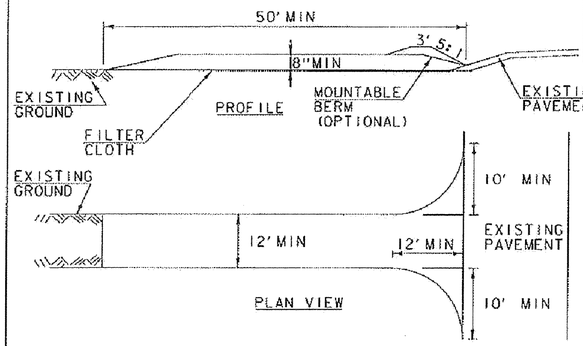
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.51) OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).

REVISIONS		
MARCH 21, 2008		WHF
DECEMBER 11, 2008		WHF
JANUARY 13, 2009		WHF



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH- NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
3. THICKNESS- NOT LESS THAN 8".
4. WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
6. SURFACE WATER- ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

STABILIZED CONSTRUCTION ENTRANCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR VEHICLE TRACKING PAD (PAY ITEM 653.35) OR AS SPECIFIED IN THE CONTRACT.

REVISIONS		
MARCH 24, 2008		WHF
JANUARY 13, 2009		WHF

VAOT RURAL AREA MIX

	LBS/AC				
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
37.5%	22.5	45	CREEPING RED FESCUE	85%	98%
37.5%	22.5	45	TALL FESCUE	90%	95%
5.0%	3	6	RED TOP	90%	95%
15.0%	9	18	BIRDSFOOT TREFOIL	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	85%	95%
100%	60	120			

VAOT URBAN AREA MIX

	LBS/AC				
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
42.5%	34	68	CREEPING RED FESCUE	85%	98%
10.0%	8	16	PERENNIAL RYE GRASS	90%	95%
42.5%	34	68	KENTUCKY BLUE GRASS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	85%	95%
100%	80	160			

SOIL AMENDMENT GUIDANCE

FERTILIZER		LIME	
BROADCAST	HYDROSEED	BROADCAST	HYDROSEED
10-20-10	*FOLLOW*	PELLETIZED	*FOLLOW*
500 LBS/AC	*MANUFACTURER*	2 TONS/AC	*MANUFACTURER*

CONSTRUCTION GUIDANCE

1. RURAL SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
2. URBAN SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LAWN AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
5. HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
6. TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
7. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED
8. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

REVISIONS		
JUNE 23, 2009		WHF
JANUARY 15, 2010		WHF
FEBRUARY 16, 2011		WHF

STATE OF VERMONT
KARL MARCHESSAULT
No. 8932
Civil
LICENSED
PROFESSIONAL ENGINEER

10/16/12

ON-SITE PLAN COORDINATOR:
TOM HARVEY
S.D. IRELAND
93 INDUSTRIAL AVENUE
WILLISTON, VT 05495
OFFICE: 658-0201 CELL 363-1953

PLAN PREPARATION:
KARL MARCHESSAULT, P.E.
O'LEARY-BURKE CIVIL ASSOCIATES
1 CORPORATE DRIVE, SUITE 1
ESSEX, VT 05452
OFFICE: 878-9990

EROSION CONTROL PLAN

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242erodtls.dgn
PROJECT LEADER: J.LACROIX
DESIGNED BY: U.STANLEY
EPSC DETAIL SHEET 2

PLOT DATE: 27-JUL-2012
DRAWN BY: G.ROKES
CHECKED BY: U.STANLEY
SHEET 35 OF 83

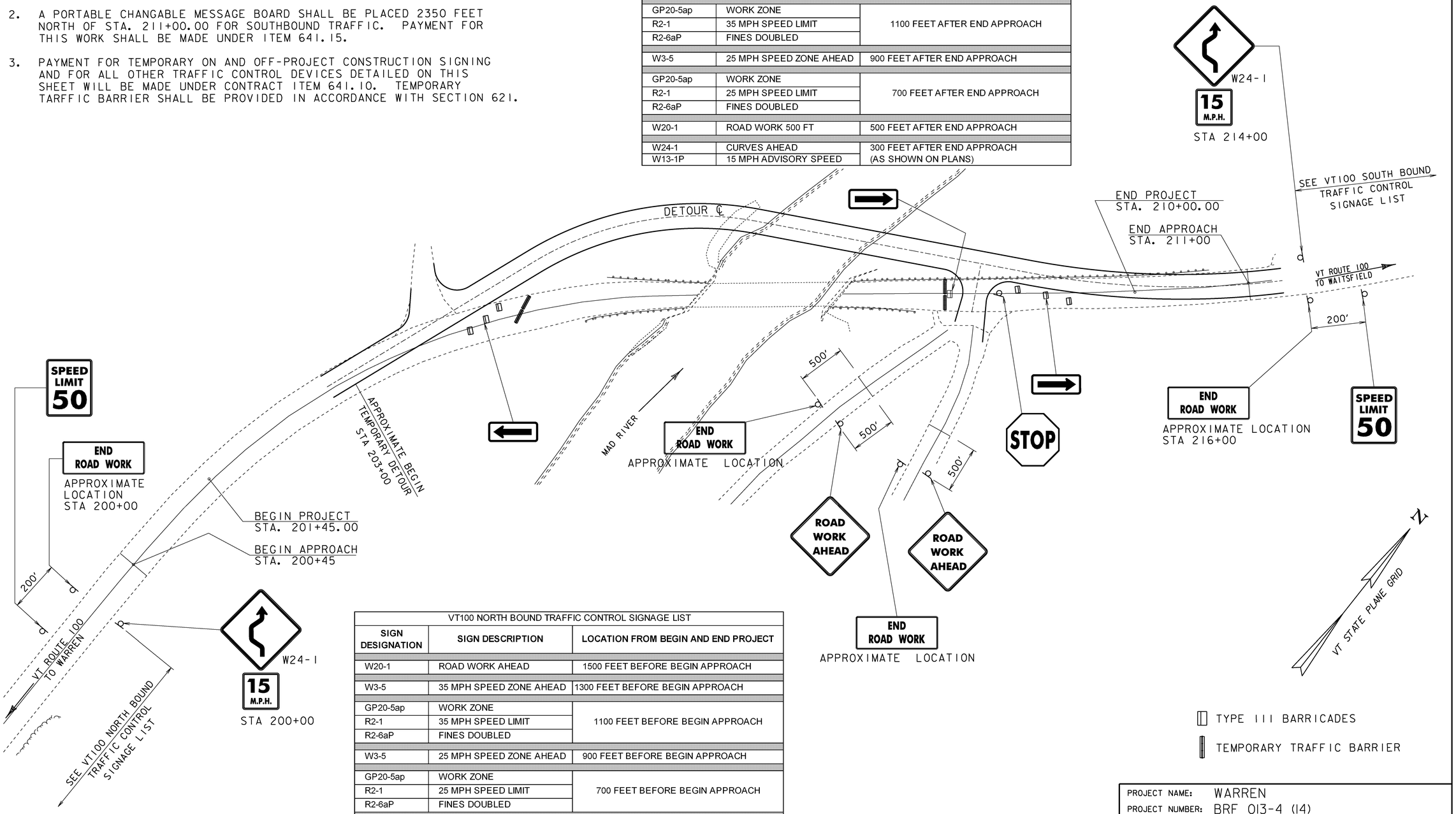
TRAFFIC CONTROL NOTES:

1. THE CURVE WARNING SIGN ASSEMBLIES, AS SHOWN ON TRAFFIC SIGN LAYOUT SHEETS 1 & 2, SHALL BE COVERED FOR THE DURATION THE TRAFFIC CONTROL PLAN IS IN OPERATION.

2. A PORTABLE CHANGABLE MESSAGE BOARD SHALL BE PLACED 2350 FEET NORTH OF STA. 211+00.00 FOR SOUTHBOUND TRAFFIC. PAYMENT FOR THIS WORK SHALL BE MADE UNDER ITEM 641.15.

3. PAYMENT FOR TEMPORARY ON AND OFF-PROJECT CONSTRUCTION SIGNING AND FOR ALL OTHER TRAFFIC CONTROL DEVICES DETAILED ON THIS SHEET WILL BE MADE UNDER CONTRACT ITEM 641.10. TEMPORARY TARFFIC BARRIER SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 621.

VT100 SOUTH BOUND TRAFFIC CONTROL SIGNAGE LIST		
SIGN DESIGNATION	**SIGN DESCRIPTION**	**LOCATION FROM BEGIN AND END PROJECT**
W20-1	ROAD WORK AHEAD	1500 FEET AFTER END APPROACH
W3-5	35 MPH SPEED ZONE AHEAD	1300 FEET AFTER END APPROACH
GP20-5ap	WORK ZONE	1100 FEET AFTER END APPROACH
R2-1	35 MPH SPEED LIMIT	
R2-6aP	FINES DOUBLED	
W3-5	25 MPH SPEED ZONE AHEAD	900 FEET AFTER END APPROACH
GP20-5ap	WORK ZONE	700 FEET AFTER END APPROACH
R2-1	25 MPH SPEED LIMIT	
R2-6aP	FINES DOUBLED	
W20-1	ROAD WORK 500 FT	500 FEET AFTER END APPROACH
W24-1	CURVES AHEAD	300 FEET AFTER END APPROACH
W13-1P	15 MPH ADVISORY SPEED	(AS SHOWN ON PLANS)



VT100 NORTH BOUND TRAFFIC CONTROL SIGNAGE LIST		
SIGN DESIGNATION	**SIGN DESCRIPTION**	**LOCATION FROM BEGIN AND END PROJECT**
W20-1	ROAD WORK AHEAD	1500 FEET BEFORE BEGIN APPROACH
W3-5	35 MPH SPEED ZONE AHEAD	1300 FEET BEFORE BEGIN APPROACH
GP20-5ap	WORK ZONE	1100 FEET BEFORE BEGIN APPROACH
R2-1	35 MPH SPEED LIMIT	
R2-6aP	FINES DOUBLED	
W3-5	25 MPH SPEED ZONE AHEAD	900 FEET BEFORE BEGIN APPROACH
GP20-5ap	WORK ZONE	700 FEET BEFORE BEGIN APPROACH
R2-1	25 MPH SPEED LIMIT	
R2-6aP	FINES DOUBLED	
W20-1	ROAD WORK 500 FT	500 FEET BEFORE BEGIN APPROACH
W24-1	CURVES AHEAD	45 FEET BEFORE BEGIN APPROACH
W13-1P	15 MPH ADVISORY SPEED	(AS SHOWN ON PLANS)

TYPE III BARRICADES

TEMPORARY TRAFFIC BARRIER

SCALE 1" = 40'-0"
40 0 40

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242tcs.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
TRAFFIC CONTROL LAYOUT SHEET

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 36 OF 83

NEW AND SALVAGED SIGNS

EXISTING SIGNS

N = NEW
R = REMOVE
RET = RETAIN
S = SALVAGE
R&S = REMOVE AND SALVAGE

DURABLE 4 INCH YELLOW LINE (DOUBLE CENTER LINE)
ML STA 200+45.00 TO STA 205+50.00

DURABLE 4 INCH WHITE LINE
ML STA 200+45.00 TO STA 205+50.00 LT
ML STA 200+45.00 TO STA 205+50.00 RT

VT STATE PLANE GRID

STA 202+35.72 LT — S, S
STA 202+36.00 LT — R&S, R&S
STA 202+38.00 LT — R&S, R&S
STA 202+38.39 LT — S, S
STA 204+19.44 LT — S, S
STA 204+20.00 LT — R&S, R&S
STA 204+22.00 LT — R&S, R&S
STA 204+22.12 LT — S, S

BM #2
RRSP
ELEV. = 795.87

2473 @ IRPE

126 @ BND CONCRETE

GENERAL T.I.C.S. TYPE B
LOGO OR T.I.C.S. SYMBOL
GENERAL T.I.C.S. TYPE A
RET, RET, RET

201+00
202+00
203+00
204+00
205+00
205+44.40
15.95 RT
MATCH LINE STA 205+50
50'+00

VT-100 TO WARREN
200+00
200'

1000
1217
0595
RET, RET

SCHOOL BUS STOP AHEAD
RET, RET

35 M.P.H.
RET, RET, RET

STA 203+50.00 RT — R&S, SHARE THE ROAD, R&S
STA 203+50.00 RT — S, SHARE THE ROAD, S

125 @ BND CONCRETE

BRIDGE 173 VT100
N
STA 204+75.00 RT

123 @ BND CONCRETE

STA 205+00.00 RT — SUGARBUSH GLIDER RIDES 2, S, S

SUGARBUSH GLIDER RIDES 2, R&S, R&S

MOVED OFF PROJECT BY RICHARD CLEVELAND 8/13

SCALE 1" = 20'-0"
20 0 20

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242signsht.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
TRAFFIC SIGN LAYOUT SHEET 1

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 37 OF 83

NEW AND SALVAGED SIGNS

EXISTING SIGNS

N = NEW
R = REMOVE
RET = RETAIN
S = SALVAGE
R&S = REMOVE AND SALVAGE

DURABLE 4 INCH YELLOW LINE (DOUBLE CENTER LINE)

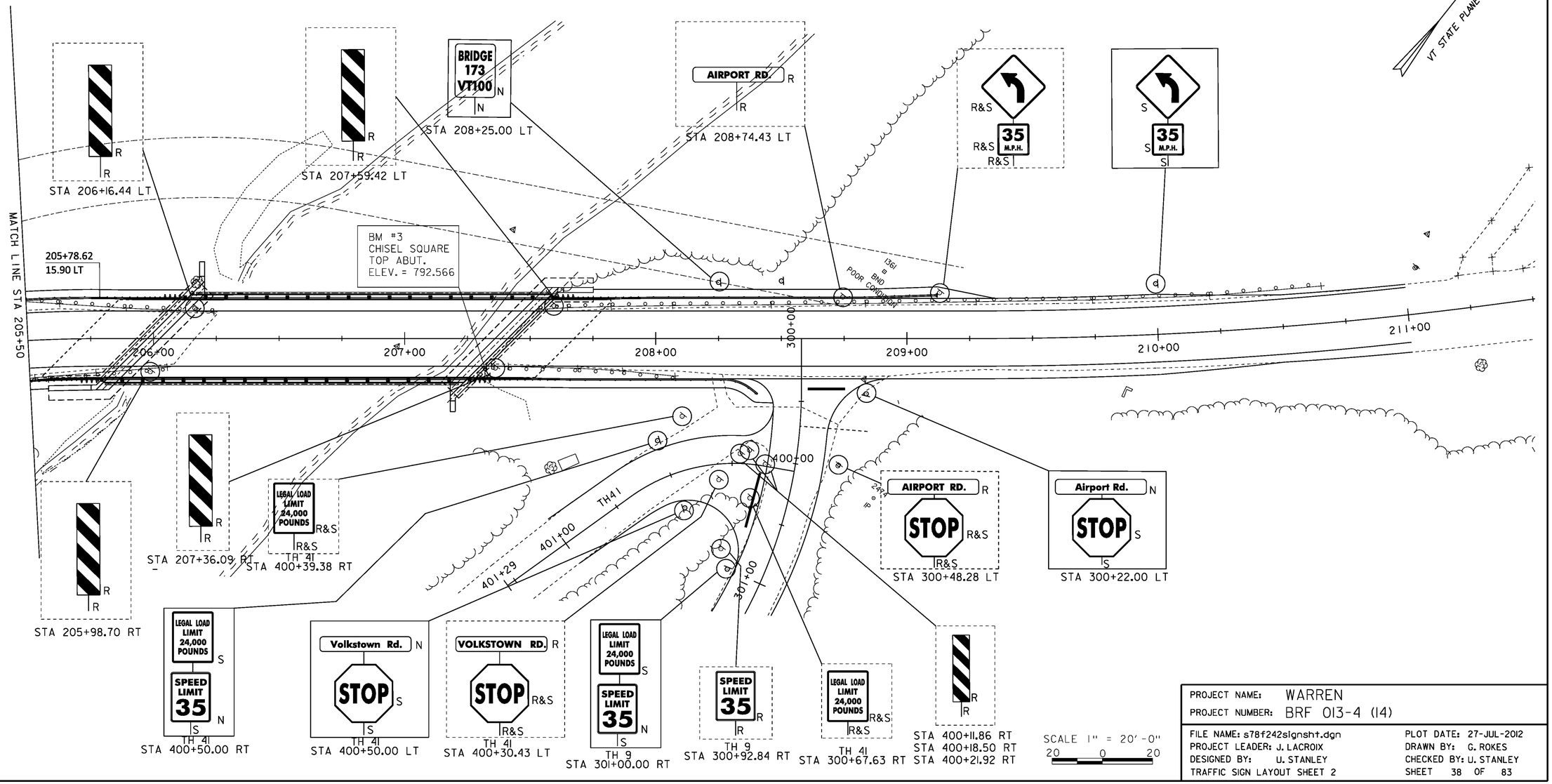
ML STA 205+50 TO STA 211+00
TH 41 STA 400+13 TO STA 401+00
TH 9 STA 300+20 TO STA 301+25

DURABLE 4 INCH WHITE LINE

ML STA 205+50.00 TO STA 211+00.00 LT
ML STA 205+50.00 TO STA 211+00.00 RT
TH 41 STA 400+23.00 TO STA 401+00.00 LT
TH 41 STA 400+13.00 TO STA 401+00.00 RT
TH 9 STA 300+20.00 TO STA 301+25.00 LT
TH 9 STA 300+20.00 TO STA 301+25.00 LT

DURABLE 24 INCH STOP BAR

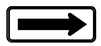
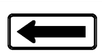
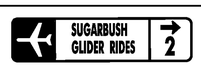
TH 9 STA 300+20.00 LT
TH 41 STA 400+13.00 LT



PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4 (14)
FILE NAME: s78f242signsht.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J. LACROIX	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
TRAFFIC SIGN LAYOUT SHEET 2	SHEET 38 OF 83

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (In)	HEIGHT (In)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) lb/ft 1.75 1.88	2.0 2.42	2.5 3.35	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft 3.0 1.3	4.0 1.7	4.0 MOD 1.7	FOUNDATION	TUBULAR STEEL Ø (in) lb/ft 3.0 7.6	3.5 9.0	4.0 10.8	5.0 14.6	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS SHSM = FHWA STANDARD HIGHWAY SIGNS & MARKINGS BOOK	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
	VT ROUTE 100																																			
202+36.00 LT		1					1			2																								MOUNT SALVAGED SIGN ON SALVAGED POST, WI-6R		
202+38.00 LT		1					1			2																								MOUNT SALVAGED SIGN ON SALVAGED POST, WI-6L		
202+99.70 RT		1					1			1																								MOUNT SALVAGED SIGN ON SALVAGED POST, WI-2R		
		1					1																											MOUNT SALVAGED SIGN ON SALVAGED POST, WI6-1		
204+20.00 LT		1					1			2																								MOUNT SALVAGED SIGN ON SALVAGED POST, WI-6R		
204+22.00 LT		1					1			2																								MOUNT SALVAGED SIGN ON SALVAGED POST, WI-6L		
204+75.00 RT		1	6	8	0.3						1				X			X															VD-701		E-134
205+00.00 RT		1					1																											MOUNT SALVAGED SIGN ON SALVAGED POST		
										11																										
												FT	FT	FT	FT 8	FT	FT		EA	LB	LB	LB		LB	LB	LB	LB									
TOTALS		SF 0.3	SF	EA. 7	SF							FT			FT 8					LB			EA.	LB				EA.	EA.	LB					

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242signsht.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
TRAFFIC SIGN SUMMARY SHEET 1

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 39 OF 83

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NEW SIGN POSTS																				REMARKS	SIGN DETAIL	
		EA	WIDTH (In)	HEIGHT (In)	"A"	"B"	SALV SIGN	SALV TIS	RETAIN	SALVAGE	NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	FLANGED CHANNEL lb/ft 2.0	FLANGED CHANNEL lb/ft 3.0	SQUARE STEEL (in) 1.75 lb/ft 1.88	SQUARE STEEL (in) 2.0 lb/ft 2.42	SQUARE STEEL (in) 2.5 lb/ft 3.35	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) 3.0 lb/ft 1.3	TUBULAR ALUMINUM Ø (in) 4.0 lb/ft 1.7	TUBULAR ALUMINUM Ø (in) 4.0 MOD 1.7	FOUNDATION	TUBULAR STEEL Ø (in) 3.0 lb/ft 7.6	TUBULAR STEEL Ø (in) 3.5 lb/ft 9.0	TUBULAR STEEL Ø (in) 4.0 lb/ft 10.8	TUBULAR STEEL Ø (in) 5.0 lb/ft 14.6	W-SHAPE STEEL FTG. SIZE 24"	W-SHAPE STEEL FTG. SIZE 30"	W-SHAPE STEEL WEIGHT	W-SHAPE STEEL POST SIZE	SIGN FRAME REQUIRED	SHSM = FHWA STANDARD HIGHWAY SIGNS & MARKINGS BOOK	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
	VT ROUTE 100																															
208+25.00 LT	BRIDGE 173 VT100	1	6	8	0.3						1				X			X													VD-701		E-134
210+00.00 LT		1					1			1																					MOUNT SALVAGED SIGN ON SALVAGED POST, WI-2L		
	35 M.P.H.	1					1																								MOUNT SALVAGED SIGN ON SALVAGED POST, WI3-1		
	TH-9	1																														
300+22.00 LT	Airport Rd.	1	36	12	3					1																					MOUNT NEW SIGN ON SALVAGED POST, D3-1 WHITE ON GREEN W/ BORDER		SHSM
	STOP	1					1																								MOUNT SALVAGED SIGN ON SALVAGED POST, RI-1		
301+00.00 RT	LEGAL LOAD LIMIT 24,000 POUNDS	1					1			1																					VR-017		E-141
	SPEED LIMIT 35	1	24	30	5																										MOUNT NEW SIGN ON SALVAGED POST, R2-1		SHSM
										3																							
												FT	FT	FT	FT 8	FT	FT		EA	LB	LB	LB		LB	LB	LB	LB						
TOTALS		SF 8.3	SF	EA. 4	SF							FT			FT 8					LB			EA.	LB				EA.	EA.	LB		

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242signsht.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
TRAFFIC SIGN SUMMARY SHEET 2

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 40 OF 83

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NEW SIGN POSTS																						REMARKS	SIGN DETAIL	
		EA	WIDTH (In)	HEIGHT (In)	"A"	"B"	SALV SIGN	SALV TIS	RETAIN	SALVAGE	NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	FLANGED CHANNEL lb/ft 2.0	FLANGED CHANNEL lb/ft 3.0	SQUARE STEEL (in) 1.75 lb/ft 1.88	SQUARE STEEL (in) 2.0 lb/ft 2.42	SQUARE STEEL (in) 2.5 lb/ft 3.35	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) 3.0 lb/ft 1.3	TUBULAR ALUMINUM Ø (in) 4.0 lb/ft 1.7	TUBULAR ALUMINUM Ø (in) 4.0 MOD 1.7	FOUNDATION	TUBULAR STEEL Ø (in) 3.0 lb/ft 7.6	TUBULAR STEEL Ø (in) 3.5 lb/ft 9.0	TUBULAR STEEL Ø (in) 4.0 lb/ft 10.8	TUBULAR STEEL Ø (in) 5.0 lb/ft 14.6	W-SHAPE STEEL FTG. SIZE 24"	W-SHAPE STEEL FTG. SIZE 30"	W-SHAPE STEEL WEIGHT	W-SHAPE STEEL POST SIZE	SIGN FRAME REQUIRED	SHSM = FHWA STANDARD HIGHWAY SIGNS & MARKINGS BOOK	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
	TH-41																																	
400+50.00 LT	Volkstown Rd.	1	42	12	3.5					1																							MOUNT NEW SIGN ON SALVAGED POST, D3-1 WHITE ON GREEN W/ BORDER		SHSM
	STOP	1					1																										MOUNT SALVAGED SIGN ON SALVAGED POST, R1-1		
400+50.00 RT	LEGAL LOAD LIMIT 24,000 POUNDS	1					1			1																							VR-017		E-141
	SPEED LIMIT 35	1	24	30	5																												MOUNT NEW SIGN ON SALVAGED POST, R2-1		SHSM
	TSS SHEET 1 TOTALS				0.3		7		11						8																				
	TSS SHEET 2 TOTALS				8.3		4		3						8																				
	TSS SHEET 3 TOTALS				8.5		2		2						0																				
												FT	FT	FT	FT	FT	FT		EA	LB	LB	LB		LB	LB	LB	LB							
	TOTALS				SF 17.1	SF	EA. 13	SF				FT			FT 16					LB			EA.	LB				EA.	EA.	LB				

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242signsht.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
TRAFFIC SIGN SUMMARY SHEET 3

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 41 OF 83

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

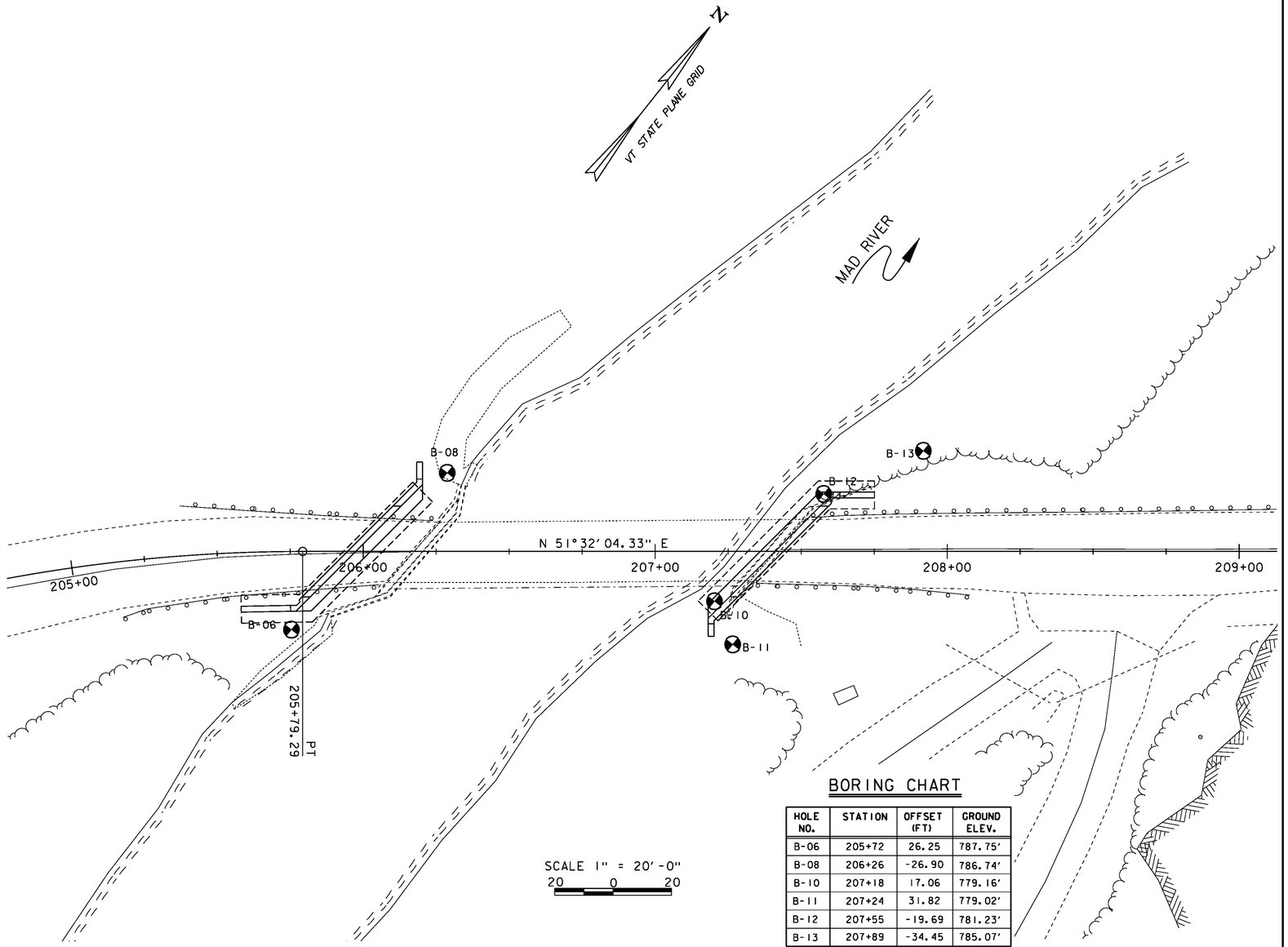
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

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 1⅜" 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 1⅛"
BX	Core Size 1⅝"
NX	Core Size 2⅛"
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	Top of 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)
VTSPG	NAD83 - See Note 7

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		



BORING CHART

HOLE NO.	STATION	OFFSET (FT)	GROUND ELEV.
B-06	205+72	26.25	787.75'
B-08	206+26	-26.90	786.74'
B-10	207+18	17.06	779.16'
B-11	207+24	31.82	779.02'
B-12	207+55	-19.69	781.23'
B-13	207+89	-34.45	785.07'

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 02/01/2000 and 06/01/2000 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgment 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 judgment 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.
7. Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242bor.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
BORING INFORMATION SHEET

PLOT DATE: 27-JUL-2012
DRAWN BY: M.EVANS-MONGEON
CHECKED BY: J. LACROIX
SHEET 42 OF 83

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

BORING NUMBER: B-06
SHEET 1 of 2
DATE STARTED: 5/23/00
DATE COMPLETED: 6/01/00

PROJECT NAME: WARREN
SITE NAME: VT-100
STATION: 205+72
OFFSET: 26.25
VTSPG: N 598293.47 ft E 1549875.85 ft

PROJECT NUMBER: BRF 013-4(14)
SITE NUMBER: BR-173
GROUND ELEVATION: 787.75 ft
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 78F242

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

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CCB

773.00

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		Field Note:, No sample. (Rip Rap)							
10		BXDC, Boulders, (Rip Rap), 8.0 ft - 13.0 ft							
		Visual Classification, A-2-4, SiSa, brn, MTW, Rec. = 1.0 ft	12	26.1					
20		Visual Classification, A-4, SaSi, brn, MTW, Rec. = 0.2 ft	42	37.0					
		Visual Classification, A-2-4, SiSa, brn, MTW, Rec. = 1.1 ft	12	23.9					
30		Visual Classification, A-2-4, Sa, brn, MTW, Rec. = 1.0 ft	10	23.0					
		Visual Classification, A-2-4, SiSa, brn, MTW, Rec. = 1.0 ft	21	24.0					
40		Visual Classification, A-2-4, Sa, brn, MTW, Rec. = 1.3 ft	18	24.6					
		Visual Classification, A-2-4, Sa, brn, MTW, Rec. = 1.3 ft	29	21.4					
50		Visual Classification, A-2-4, Sa, brn, MTW, Rec. = 1.3 ft	13	20.7					
		Visual Classification, A-2-4, Sa, brn, MTW, Rec. = 2.0 ft	10	21.9					
60		A-4, Si, gry, MTW, Rec. = 2.0 ft	7	32.0	0.3	4.4	95.3	28	6
		A-4, Si, gry, MTW, Rec. = 1.5 ft	7	33.0	0.0	6.3	93.7		
70		A-4, Si, gry, MTW, Rec. = 1.5 ft	5	36.8	0.0	2.7	97.3		

LOG OF BORING WARREN BRF 013-4(14).GPJ VT AOT.GDT 4/7/09

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

BORING NUMBER: B-06
SHEET 2 of 2
DATE STARTED: 5/23/00
DATE COMPLETED: 6/01/00

PROJECT NAME: WARREN
SITE NAME: VT-100
STATION: 205+72
OFFSET: 26.25
VTSPG: N 598293.47 ft E 1549875.85 ft

PROJECT NUMBER: BRF 013-4(14)
SITE NUMBER: BR-173
GROUND ELEVATION: 787.75 ft
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 78F242

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

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CCB

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)	LL (%)	PI (%)
		A-4, Si, gry, MTW, Rec. = 1.4 ft	7	30.4	0.0	6.3	93.7		
80		A-4, Si, gry, MTW, Rec. = 1.2 ft	6	33.5	0.0	9.4	90.6		
		A-4, SaSi, gry, MTW, Rec. = 1.9 ft	4	27.6	2.7	42.6	54.7		
90		A-4, SaSi, gry, MTW, Rec. = 1.0 ft	6	29.7	0.5	40.4	59.1		
		A-2-4, SiSa, brn, MTW, Rec. = 1.0 ft	7	25.2	0.1	77.5	22.4		
100		A-2-4, GrSa, brn, Moist, Rec. = 1.2 ft	29	19.8	26.8	59.4	13.8		
		A-1-b, SaGr, brn, Moist, Rec. = 1.1 ft	42	12.2	44.8	38.9	16.3		
110		A-1-a, SaGr, gry, Moist, Rec. = 1.5 ft	77	14.5	58.8	27.6	13.6		
		BXDC, Boulders, 113.2 ft - 117.8 ft							
120		A-4, GrSiSa HP, gry, Dry, Rec. = 0.2 ft	R	9.6	25.7	38.0	36.3		
		No Recovery, 123.0 ft - 125.0 ft	R						
130		A-1-b, Gr, gry, Dry, Rec. = 0.7 ft	80	5.8	77.2	5.1	17.7		
		Top of Bedrock @ 131.0 ft							
		Light gray, Quartz-muscovite-sericite schist, (Fair RQD and Recovery) - Competent., Moderately hard, Unweathered, BXDC, 131.0 ft - 136.0 ft, Rec. = 3.44 ft	1	69	69	60			
140		Light gray, Quartz-muscovite-sericite schist, Competent., Moderately hard, Unweathered, BXDC, 136.0 ft - 140.9 ft, Rec. = 4.36 ft	2	89	89	60			
		Hole stopped @ 140.9 ft							

656.00

LOG OF BORING WARREN BRF 013-4(14).GPJ VT AOT.GDT 4/7/09

BOTTOM OF FOOTING
EST. PILE PENETRATION

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242bor.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
BORING LOG SHEET 1

PLOT DATE: 27-JUL-2012
DRAWN BY: U. STANLEY
CHECKED BY: J. LACROIX
SHEET 43 OF 83

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

BORING NUMBER: B-08
SHEET 1 of 2
DATE STARTED: 4/25/00
DATE COMPLETED: 5/18/00

PROJECT NAME: WARREN
SITE NAME: VT-100
STATION: 206+26
OFFSET: -26.90
VTSPG: N 598368.64 ft E 1549884.25 ft

PROJECT NUMBER: BRF 013-4(14)
SITE NUMBER: BR-173
GROUND ELEVATION: 786.74 ft
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 78F242

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

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CCB

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		No Sample (Rip Rap), 4.9 ft - 6.9 ft					
10		No Sample (Rip Rap), 9.8 ft - 11.8 ft					
773.00		A-2-4, SiSa, brn, MTW, Rec. = 0.7 ft	14	25.3	9.8	62.6	27.6
20		A-4, SaSi, brn, MTW, Rec. = 1.2 ft	15	24.6	0.0	39.0	61.0
		A-2-4, SiSa, brn, MTW, Rec. = 1.3 ft	34	20.8	0.2	74.7	25.1
30		A-2-4, Sa, brn, MTW, Rec. = 1.3 ft	29	21.9	0.0	89.5	10.5
		A-2-4, Sa, brn, MTW, Rec. = 1.0 ft	19	24.2	0.2	86.9	12.9
40		A-3, Sa, brn, Moist, Rec. = 1.2 ft	27	19.1	0.5	89.5	10.0
		A-4, Si, gry, MTW, Rec. = 1.1 ft	9	33.9	0.2	4.8	95.0
50		A-4, Si, gry, MTW, Rec. = 1.2 ft	14	31.6	0.9	3.9	95.2
		A-4, Si, gry, MTW, Rec. = 1.3 ft	18	30.9	0.0	8.5	91.5
60		A-4, SaSi, gry, MTW, Rec. = 0.9 ft	30	24.0	2.0	42.5	55.5
		A-2-4, SiSa, gry, MTW, Rec. = 0.7 ft	21	24.3	4.1	61.2	34.7
70		A-3, Sa, brn, MTW, Rec. = 1.2 ft	42	25.3	0.0	93.0	7.0
		A-1-b, SaGr, brn, Moist, Rec. = 0.6 ft	37	14.1	46.6	39.1	14.3

LOG OF BORING WARREN BRF 013-4(14).GPJ VT AOT.GDT 4/7/09

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

BORING NUMBER: B-08
SHEET 2 of 2
DATE STARTED: 4/25/00
DATE COMPLETED: 5/18/00

PROJECT NAME: WARREN
SITE NAME: VT-100
STATION: 206+26
OFFSET: -26.90
VTSPG: N 598368.64 ft E 1549884.25 ft

PROJECT NUMBER: BRF 013-4(14)
SITE NUMBER: BR-173
GROUND ELEVATION: 786.74 ft
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 78F242

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

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CCB

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
80		No Recovery, Stone on sampler, 78.7 ft - 80.7 ft	44				
		A-1-b, SaGr, brn, Moist, Rec. = 1.0 ft	41	10.9	48.9	37.0	14.1
90		A-1-a, SaGr, brn, Dry, Rec. = 0.7 ft	22	9.8	63.5	27.4	9.1
		BXDC, Boulders, 93.5 ft - 98.5 ft					
100		BXDC, Boulders, 98.5 ft - 103.3 ft					
		No Recovery, Broken stone in sampler, 103.3 ft - 105.3 ft	R				
110		BXDC, Boulders, 108.6 ft - 111.1 ft					
		No Recovery, Stone on sampler, 113.2 ft - 114.8 ft	R				
		BXDC, Boulders, 114.8 ft - 118.1 ft					
120		A-2-4, SiSa, gry, Dry, Rec. = 0.6 ft	R	9.8	16.8	58.8	24.4
		Visual Classification, Broken Rock	R				
130		No Sample, 128.0 ft - 130.0 ft					
		A-1-b, SaGr, gry-brn, Moist, Rec. = 0.4 ft	R	15.4	46.7	37.6	15.7
		Top of Bedrock @ 136.0 ft					
140		Light gray, Quartz-muscovite-sericite schist, Insufficient length of Run to comment on competency., Moderately hard, Unweathered, BXDC, 136.0 ft - 136.5 ft, Rec. = 0.44 ft	1	88	87	60	
			2	88	58	60	
		Light gray, Quartz-muscovite-sericite schist, Competent., Moderately hard, Unweathered, BXDC, 136.5 ft - 141.0 ft, Rec. = 3.94 ft	3	97	97	60	
		Light gray, Quartz-muscovite-sericite schist, Competent., Moderately hard, Unweathered, BXDC, 141.0 ft - 146.0 ft, Rec. = 4.85 ft					
150		Hole stopped @ 146.0 ft					

650.00

LOG OF BORING WARREN BRF 013-4(14).GPJ VT AOT.GDT 4/7/09

BOTTOM OF FOOTING
EST. PILE PENETRATION

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242bor.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
BORING LOG SHEET 2

PLOT DATE: 27-JUL-2012
DRAWN BY: U. STANLEY
CHECKED BY: J. LACROIX
SHEET 44 OF 83

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

BORING NUMBER: B-10
SHEET 1 of 2
DATE STARTED: 2/01/00
DATE COMPLETED: 2/17/00

PROJECT NAME: WARREN
SITE NAME: VT-100
STATION: 207+18
OFFSET: 17.06
VTSPG: N 598391.21 ft E 1549983.24 ft

PROJECT NUMBER: BRF 013-4(14)
SITE NUMBER: BR-173
GROUND ELEVATION: 779.16 ft
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 78F242

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

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CCB

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		BOTTOM OF FOOTING 773.00					
		A-2-4, SiSa, Dk/brn, MTW, Rec. = 0.5 ft	R	41.3	4.7	68.6	26.7
		BXDC, Boulder, 8.4 ft - 9.8 ft					
10		A-2-4, SiSa, brn, MTW, Rec. = 1.2 ft	13	28.7	7.3	71.4	21.3
		A-2-4, SiSa, brn, MTW, Rec. = 0.8 ft	12	26.3	2.8	71.3	25.9
20		A-2-4, SiSa, brn, MTW, Rec. = 0.9 ft	9	24.6	3.8	75.6	20.6
		A-2-4, SiSa, brn, MTW, Rec. = 1.1 ft	14	23.8	1.6	77.4	21.0
30		A-2-4, Sa, brn, MTW, Rec. = 1.4 ft	21	24.3	1.1	85.9	13.0
		A-3, Sa, brn, MTW, Rec. = 1.0 ft	16	23.2	1.3	91.4	7.3
		A-4, Si, gry, MTW, Rec. = 0.2 ft		28.1	0.2	14.1	85.7
40		A-4, Si, gry, MTW, Rec. = 1.0 ft	14	28.5	1.0	10.4	88.6
		A-4, Si, gry, MTW, Rec. = 1.0 ft	18	36.6	0.3	1.8	97.9
50		A-4, Si, gry, MTW, Rec. = 1.0 ft	14	31.4	0.0	8.0	92.0
		A-4, Si, gry, MTW, Rec. = 2.0 ft	13	33.9	0.0	4.7	95.3
60		A-4, SaSi, gry, MTW, Rec. = 1.0 ft	17	28.4	2.0	20.3	77.7
		A-4, Si, gry, MTW, Rec. = 1.1 ft	19	28.9	10.1	10.2	79.7
70		A-4, Si, gry, MTW, Rec. = 1.0 ft	19	21.9	13.0	10.0	77.0

LOG OF BORING WARREN BRF 013-4(14).GPJ VT AOT.GDT 4/7/09

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

BORING NUMBER: B-10
SHEET 2 of 2
DATE STARTED: 2/01/00
DATE COMPLETED: 2/17/00

PROJECT NAME: WARREN
SITE NAME: VT-100
STATION: 207+18
OFFSET: 17.06
VTSPG: N 598391.21 ft E 1549983.24 ft

PROJECT NUMBER: BRF 013-4(14)
SITE NUMBER: BR-173
GROUND ELEVATION: 779.16 ft
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 78F242

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

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CCB

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		A-4, SaSi, gry, MTW, Rec. = 1.2 ft	32	23.6	13.3	28.7	58.0
80		No sample, Cored ahead, 78.7 ft - 80.7 ft					
		A-2-4, SiSa, brn, MTW, Rec. = 2.0 ft	24	23.0	0.2	67.2	32.6
90		A-2-4, Sa, brn, MTW, Rec. = 2.0 ft	33	22.4	0.1	80.6	19.3
		A-4, SaSi, brn, MTW, Rec. = 2.0 ft	20	26.4	6.4	37.2	56.4
100		A-1-a, SaGr HP, gry, Moist, Rec. = 0.9 ft	R	10.3	52.8	37.2	10.0
		BXDC, Boulders, 101.4 ft - 103.3 ft					
		A-2-4, GrSa, gry, Moist, Rec. = 0.5 ft	43	10.3	22.5	60.2	17.3
110		A-2-4, GrSiSa, gry, Moist, Rec. = 0.8 ft	R	12.2	24.1	47.4	28.5
		A-3, Sa, gry, MTW, Rec. = 0.5 ft	R	22.9	0.2	94.1	5.7
120		A-1-a, SaGr HP, gry, Dry, Rec. = 0.4 ft	R	9.2	61.0	31.9	7.1
		A-3, Sa, gry, Moist, Rec. = 0.7 ft	R	16.2	15.9	76.3	7.8
		No Recovery, Boulders, 128.0 ft - 128.2 ft	R	Top of Bedrock @ 129.9 ft			
130		Gray, Quartz-sericite-chlorite schist, Competent. Fracturing of core sample due to mechanical breakage., Moderately hard, Unweathered, BXDC, 129.9 ft - 134.7 ft, Rec. = 4.66 ft	1	97	90	60	
		Gray, Quartz-sericite-chlorite schist, Poor RQD. Numerous closely spaced joints., Moderately hard, Unweathered, BXDC, 134.7 ft - 139.2 ft, Rec. = 3.56 ft	2	79	28	60	
140		Hole stopped @ 139.2 ft					

EST. PILE PENETRATION 650.00

LOG OF BORING WARREN BRF 013-4(14).GPJ VT AOT.GDT 4/7/09

BOTTOM OF FOOTING

EST. PILE PENETRATION

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242bor.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
BORING LOG SHEET 3

PLOT DATE: 27-JUL-2012
DRAWN BY: U. STANLEY
CHECKED BY: J. LACROIX
SHEET 45 OF 83

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

BORING NUMBER: B-11
SHEET 1 of 2
DATE STARTED: 2/17/00
DATE COMPLETED: 2/29/00

PROJECT NAME: WARREN
SITE NAME: VT-100
STATION: 207+24
OFFSET: 31.82
VTSPG: N 598383.47 ft E 1549997.28 ft

PROJECT NUMBER: BRF 013-4(14)
SITE NUMBER: BR-173
GROUND ELEVATION: 779.02 ft
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 78F242

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

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CCB

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
773.00							
		A-2-4, SiSa, brn, MTW, Rec. = 1.0 ft	9	26.0	13.4	58.4	28.2
10		No Recovery, 9.8 ft - 11.8 ft	6				
		A-2-4, SiSa, brn, MTW, Rec. = 1.1 ft	6	28.4	0.0	75.9	24.1
20		A-2-4, Sa, brn, MTW, Rec. = 0.8 ft	8	25.8	0.2	81.6	18.2
		A-2-4, Sa, brn, MTW, Rec. = 0.8 ft	13	28.3	0.0	80.2	19.8
30		No Recovery, 29.5 ft - 31.5 ft	14				
		A-4, Si, gry, MTW, Rec. = 2.0 ft	14	32.9	0.1	6.4	93.5
40		A-4, Si, gry, MTW, Rec. = 1.6 ft	12	33.6	0.0	7.2	92.8
		A-4, Si, gry, MTW, Rec. = 1.6 ft	9	33.1	0.0	9.5	90.5
50		A-4, SaSi, gry, MTW, Rec. = 1.5 ft	9	30.4	0.0	22.1	77.9
		A-4, Si, gry, MTW, Rec. = 1.3 ft	12	32.7	0.0	10.7	89.3
60		A-4, SaSi, gry, MTW, Rec. = 1.5 ft	20	26.0	0.0	42.3	57.7
		A-4, Si, gry, MTW, Rec. = 1.4 ft	16	30.5	0.0	12.0	88.0
70		A-2-4, SiSa, gry, Moist, Rec. = 1.7 ft	38	18.3	0.7	75.0	24.3

LOG OF BORING WARREN BRF 013-4(14).GPJ VT AOT.GDT 4/7/09

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

BORING NUMBER: B-11
SHEET 2 of 2
DATE STARTED: 2/17/00
DATE COMPLETED: 2/29/00

PROJECT NAME: WARREN
SITE NAME: VT-100
STATION: 207+24
OFFSET: 31.82
VTSPG: N 598383.47 ft E 1549997.28 ft

PROJECT NUMBER: BRF 013-4(14)
SITE NUMBER: BR-173
GROUND ELEVATION: 779.02 ft
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 78F242

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

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CCB

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		A-2-4, SiSa, brn-gry, MTW, Rec. = 1.8 ft	17	22.2	4.7	70.5	24.8
80		A-2-4, Sa, brn-gry, MTW, Rec. = 0.7 ft	12	22.8	5.2	76.4	18.4
		A-4, SaSi, brn-gry, MTW, Rec. = 1.1 ft	25	26.7	1.4	42.6	56.0
90		A-4, SiSa, brn, MTW, Rec. = 1.0 ft	32	25.2	6.4	46.9	46.7
		No Sample, 93.5 ft - 95.5 ft					
100		A-2-4, Sa, gry, Moist, Rec. = 0.9 ft	R	15.4	12.1	70.4	17.5
		A-2-4, SiSa, gry, Moist, Rec. = 0.3 ft	R	11.0	13.9	58.9	27.2
110		Visual Classification, Broken Rock, Rec. = 0.1 ft	R				
		Top of Bedrock @ 116.0 ft					
663.00							
120		Gray, Quartz-sericite-chlorite schist, Competent., Moderately hard, Unweathered, BXDC, 116.0 ft - 121.0 ft, Rec. = 4.45 ft	1	89	89	72	
		Gray, Quartz-sericite-chlorite schist, Contains numerous closely spaced joints. Very Poor RQD., Moderately hard, Unweathered, BXDC, 121.0 ft - 125.0 ft, Rec. = 2.5 ft	2	63	0	72	
130		Plugged and Bit broke, 125.0 ft Hole stopped @ 125.0 ft					
140		DRILLER'S NOTES: * Very seamy from 116.0 ft to 121.0 ft.					

LOG OF BORING WARREN BRF 013-4(14).GPJ VT AOT.GDT 4/7/09

BOTTOM OF FOOTING
EST. PILE PENETRATION

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242bor.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
BORING LOG SHEET 4

PLOT DATE: 27-JUL-2012
DRAWN BY: U. STANLEY
CHECKED BY: J. LACROIX
SHEET 46 OF 83

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

BORING NUMBER: B-12
SHEET 1 of 2
DATE STARTED: 3/15/00
DATE COMPLETED: 4/05/00

PROJECT NAME: WARREN
SITE NAME: VT-100
STATION: 207+55
OFFSET: -19.69
VTSPG: N 598443.21 ft E 1549989.67 ft

PROJECT NUMBER: BRF 013-4(14)
SITE NUMBER: BR-173
GROUND ELEVATION: 781.23 ft
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 78F242

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

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CCB

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
773.00							
10		A-1-b, SaGr, gry, Moist, Rec. = 0.9 ft	19	12.3	49.8	37.4	12.8
		No Recovery, 9.8 ft - 11.8 ft	18				
		A-2-4, Sa, brn, MTW, Rec. = 1.0 ft	16	24.2	0.7	82.7	16.6
20		A-2-4, Sa, brn, MTW, Rec. = 1.1 ft	21	21.3	2.4	85.5	12.1
		A-2-4, SiSa, brn, MTW, Rec. = 1.1 ft	24	27.5	6.1	60.2	33.7
30		A-3, Sa, brn, MTW, Rec. = 1.0 ft	14	22.4	0.0	90.9	9.1
		A-2-4, SiSa, gry, Moist, Rec. = 1.5 ft	13	20.4	3.0	68.2	28.8
40		A-4, Si, gry, MTW, Rec. = 2.0 ft	6	38.0	0.0	8.3	91.7
		A-4, Si, gry, MTW, Rec. = 2.0 ft	6	32.0	0.0	7.0	93.0
50		A-4, Si, gry, MTW, Rec. = 1.4 ft	11	28.6	0.0	17.9	82.1
		A-4, Si, gry, MTW, Rec. = 1.0 ft	12	34.5	0.2	4.3	95.5
60		A-4, SaSi, gry, MTW, Rec. = 0.9 ft	13	24.8	1.9	41.4	56.7
		A-4, Si, gry, MTW, Rec. = 1.0 ft	12	29.6	0.0	13.7	86.3
70		A-4, SaSi, gry, Moist, Rec. = 1.7 ft	14	19.9	2.1	41.5	56.4

LOG OF BORING WARREN BRF 013-4(14).GPJ VT AOT.GDT 4/7/09

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

BORING NUMBER: B-12
SHEET 2 of 2
DATE STARTED: 3/15/00
DATE COMPLETED: 4/05/00

PROJECT NAME: WARREN
SITE NAME: VT-100
STATION: 207+55
OFFSET: -19.69
VTSPG: N 598443.21 ft E 1549989.67 ft

PROJECT NUMBER: BRF 013-4(14)
SITE NUMBER: BR-173
GROUND ELEVATION: 781.23 ft
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 78F242

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

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CCB

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		A-4, SiSa, gry, MTW, Rec. = 1.8 ft	13	29.1	1.5	62.9	35.6
80		A-2-4, Sa, gry, Moist, Rec. = 2.0 ft	29	18.2	4.2	79.4	16.4
		No Sample. (sand), 83.7 ft - 85.7 ft					
90		No Sample. (sand), 88.6 ft - 90.6 ft					
		No Sample. (sand), 93.5 ft - 95.5 ft					
		BXDC, 95.9 ft - 97.4 ft					
100		A-1-b, Sa, gry, MTW, Rec. = 2.0 ft	73	23.5	10.4	88.5	1.1
110		A-3, Sa, gry, Moist, Rec. = 0.3 ft	R	20.4	1.1	91.7	7.2
120		A-1-b, SiGrSa HP, gry, Moist, Rec. = 0.4 ft	R	10.6	37.2	42.5	20.3
		Top of Bedrock @ 124.3 ft					
		Gray, Quartz-sericite-chlorite schist, Competent., Moderately hard, Unweathered, BXDC, 124.3 ft - 129.3 ft, Rec. = 4.6 ft	1	92	92	60	
130		Gray, Quartz-sericite-chlorite schist, Competent., Moderately hard, Unweathered, BXDC, 129.3 ft - 134.3 ft, Rec. = 4.3 ft	2	86	86	60	
		Hole stopped @ 134.3 ft					
140							

656.00

LOG OF BORING WARREN BRF 013-4(14).GPJ VT AOT.GDT 4/7/09

BOTTOM OF FOOTING
EST. PILE PENETRATION

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242bor.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
BORING LOG SHEET 5

PLOT DATE: 27-JUL-2012
DRAWN BY: U. STANLEY
CHECKED BY: J. LACROIX
SHEET 47 OF 83

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

BORING NUMBER: B-13
SHEET 1 of 2
DATE STARTED: 4/06/00
DATE COMPLETED: 4/13/00

PROJECT NAME: WARREN
SITE NAME: VT-100
STATION: 207+89
OFFSET: -34.45
VTSPG: N 598475.98 ft E 1550007.19 ft

PROJECT NUMBER: BRF 013-4(14)
SITE NUMBER: BR-173
GROUND ELEVATION: 785.07 ft
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 78F242

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

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CCB

773.00

DEPTH (ft)	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
10	A-1-a, SaGr, gry-brn, Moist, Rec. = 1.2 ft	20	9.7	51.7	37.1	11.2		
	A-1-a, Gr, gry-brn, Dry, Rec. = 0.3 ft	16	4.4	85.2	11.6	3.2		
	A-2-4, SiSa, brn, MTW, Rec. = 1.0 ft	9	27.4	0.0	77.9	22.1		
20	A-2-4, Sa, brn, MTW, Rec. = 1.2 ft	12	25.4	0.5	83.0	16.5		
	A-2-4, SiSa, Lt/gry, MTW, Rec. = 1.4 ft	13	29.0	0.6	66.7	32.7		
30	A-3, Sa, Lt/gry, MTW, Rec. = 1.5 ft	18	20.6	0.7	89.8	9.5		
	A-4, ClSi, gry, MTW, Rec. = 1.7 ft	1	31.6	0.2	6.0	93.8	30	7
40	A-4, Si, gry, MTW, Rec. = 1.5 ft	3	35.1	0.0	10.3	89.7		
	A-4, Si, gry, MTW, Rec. = 1.4 ft	6	31.5	0.0	13.7	86.3		
50	A-4, Si, gry, MTW, Rec. = 1.2 ft	7	29.7	0.0	17.7	82.3		
	A-2-4, SiSa, gry, Moist, Rec. = 2.0 ft	23	16.7	0.0	74.3	25.7		
60	A-2-4, Sa, gry, Moist, Rec. = 1.9 ft	22	20.0	0.4	81.5	18.1		
	A-2-4, SiSa, gry, MTW, Rec. = 1.0 ft	24	21.9	0.5	69.3	30.2		
70	A-2-4, SiSa, gry, MTW, Rec. = 1.0 ft	21	21.0	0.0	79.8	20.2		

LOG OF BORING WARREN BRF 013-4(14).GPJ VT AOT.GDT 4/7/09

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

BORING NUMBER: B-13
SHEET 2 of 2
DATE STARTED: 4/06/00
DATE COMPLETED: 4/13/00

PROJECT NAME: WARREN
SITE NAME: VT-100
STATION: 207+89
OFFSET: -34.45
VTSPG: N 598475.98 ft E 1550007.19 ft

PROJECT NUMBER: BRF 013-4(14)
SITE NUMBER: BR-173
GROUND ELEVATION: 785.07 ft
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 78F242

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

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CCB

DEPTH (ft)	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)	LL (%)	PI (%)
80	A-2-4, Sa, gry, Moist, Rec. = 0.7 ft	9	18.9	0.0	89.4	10.6		
	No Sample, Flowing Sand, 78.7 ft - 80.7 ft							
	No Sample, Flowing Sand, 83.7 ft - 85.7 ft							
90	No Sample, Flowing Sand, 88.6 ft - 90.6 ft							
	A-2-4, Sa, brn, Moist, Rec. = 0.8 ft	20	19.8	3.1	78.4	18.5		
100	A-4, Si, gry, MTW, Rec. = 1.2 ft	27	22.1	4.5	17.4	78.1		
	Visual Classification, Broken Rock, Rec. = 0.3 ft	R						
110	Visual Classification, Broken Rock, Rec. = 0.2 ft	R						
	BXDC, Boulder, Rec. = 0.4 ft, 116.1 ft - 121.1 ft							
120	BXDC, Boulder, No Recovery, 123.0 ft - 128.0 ft							
	Top of Bedrock @ 129.1 ft							
130	Gray, Quartz-sericite-chlorite schist, Competent., Moderately hard, Unweathered, BXDC, 129.1 ft - 134.1 ft, Rec. = 4.3 ft	1	86 / 86	86 / 60	60			
	Gray, Quartz-sericite-chlorite schist, Competent., Moderately hard, Unweathered, BXDC, 134.1 ft - 139.0 ft, Rec. = 4.85 ft	2	99 / 99	99 / 60	60			
140	Hole stopped @ 139.0 ft							

656.00

LOG OF BORING WARREN BRF 013-4(14).GPJ VT AOT.GDT 4/7/09

BOTTOM OF FOOTING
EST. PILE PENETRATION

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242bor.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
BORING LOG SHEET 6

PLOT DATE: 27-JUL-2012
DRAWN BY: U. STANLEY
CHECKED BY: J. LACROIX
SHEET 48 OF 83

PT STA 205+79.29

BEGIN BRIDGE
STA 205+95.70
EL = 794.68

MAINLINE STA 206+00.00 =
CHANNEL LINE STA 603+93.70
DELTA ANGLE 45 DEG.

℄ BEARING
STA 207+38.50
EL = 793.25

END BRIDGE
STA 207+42.45
EL = 793.21

END APPROACH SLAB
STA 207+67.45
EL = 792.96

BEGIN APPROACH SLAB
STA 205+70.70
EL = 794.93

℄ BEARING STA 206+00.00
EL = 794.63

N

VT STATE PLANE GRID

1:2.0

1:1.5

WW1

WW2

WW3

WW4

VT ROUTE 100
TO WARREN

206+00

604+00

SKEW 45°

N 51°32'04.33"E

207+00

2'-0" TYP

VT ROUTE 100
TO WAITSFIELD

STONE FILL
TYPE IV

MAD RIVER

BRIDGE POST MOUNTED ON
ABUTMENTS ARE LOCATED
4'-0" FROM ℄ BEARING LINES
(TYPICAL FOR (4) LOCATIONS)

PLAN

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

BOX BEAM
GUARD RAIL
SEE G-1B

32'-0" PAY LIMITS
SPECIAL PROVISION
(GUARDRAIL APPROACH
SECTION, GALVANIZED
2 RAIL BOX BEAM)

150'-6" PAY LIMIT - SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED 2 RAIL BOX BEAM/CURB MOUNTED)
SEE BRIDGE RAIL DETAIL SHEET & BRIDGE APPROACH RAIL DETAIL SHEET

2'-0" BRIDGE POST TO APPROACH RAIL POST

2'-0" BRIDGE POST TO APPROACH RAIL POST

32'-0" PAY LIMIT
SPECIAL PROVISION
(GUARDRAIL APPROACH
SECTION, GALVANIZED
2 RAIL BOX BEAM)

BOX BEAM
GUARD RAIL
SEE G-1B

138'-6" ℄ BEARING TO ℄ BEARING @ ℄ VT100

810
800
790
780
770

EXP.

7.875' MIN CLEAR

Q100 EL. 790.1

EL 783.1' UNDER BRIDGE

FIXED

STONE FILL
TYPE IV

RECREATION PATH, SEE
RECREATION PATH LAYOUT
AND SECTION SHEET FOR
DETAILS, INCLUDING HANDRAIL

EXISTING
GROUND

STONE FILL
TYPE IV

ELEVATION

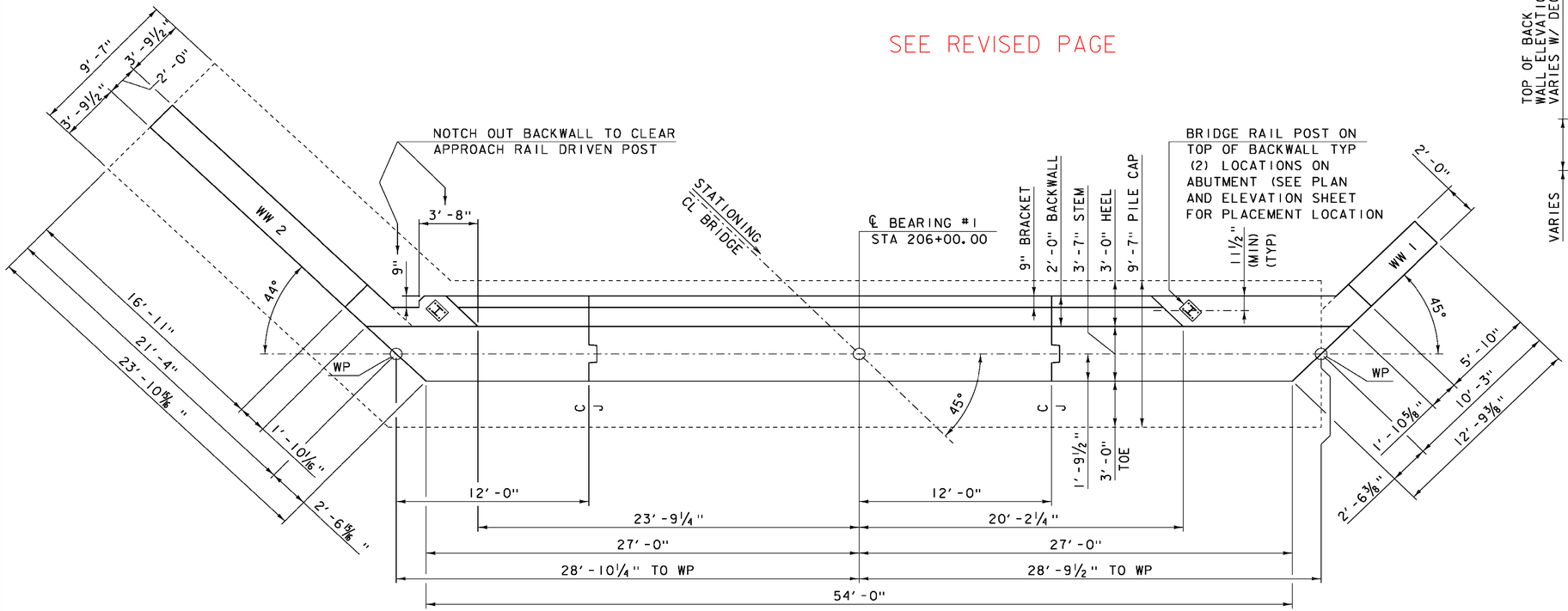
SCALE 1" = 10'-0"
10 0 10

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242pe.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
PLAN AND ELEVATION SHEET

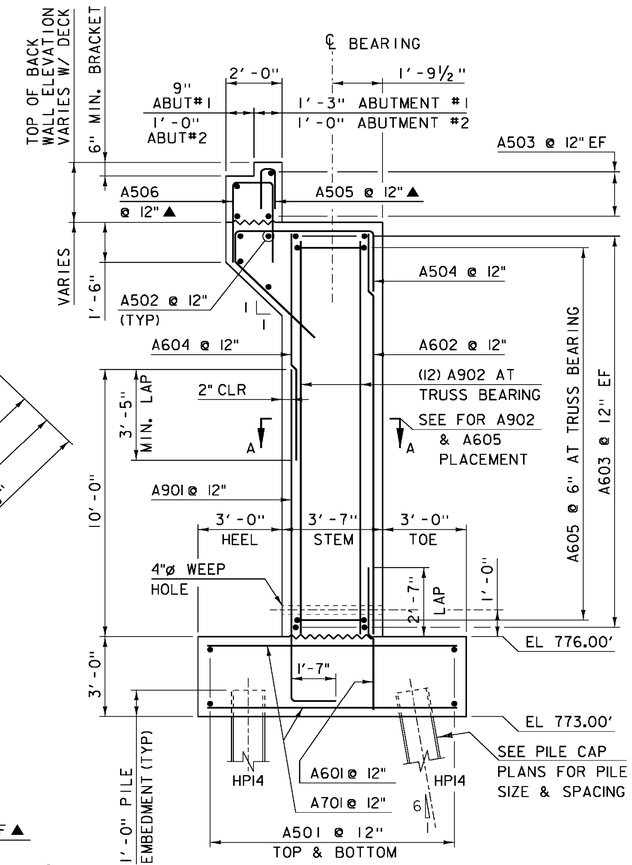
PLOT DATE: 27-JUL-2012
DRAWN BY: M. LONGSTREET
CHECKED BY: U. STANLEY
SHEET 49 OF 83

SEE REVISED PAGE



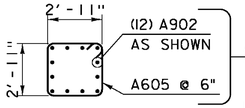
ABUTMENT #1 PLAN VIEW

SCALE ¼" = 1'-0"



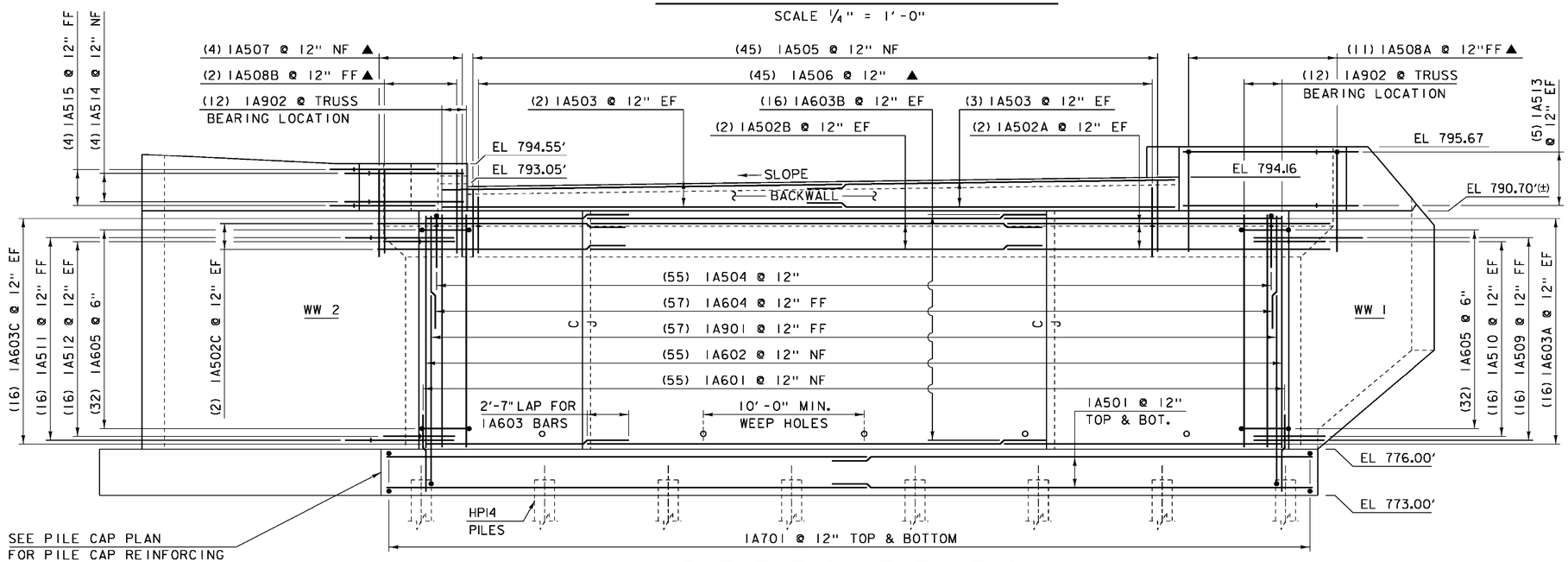
ABUTMENT #1&#2 TYPICAL

SCALE ⅜" = 1'-0"



A902 & A506 BARS ARE TO BE LOCATED UNDER TRUSS BEARING LOCATIONS FOR EACH ABUTMENT

A-A DETAIL



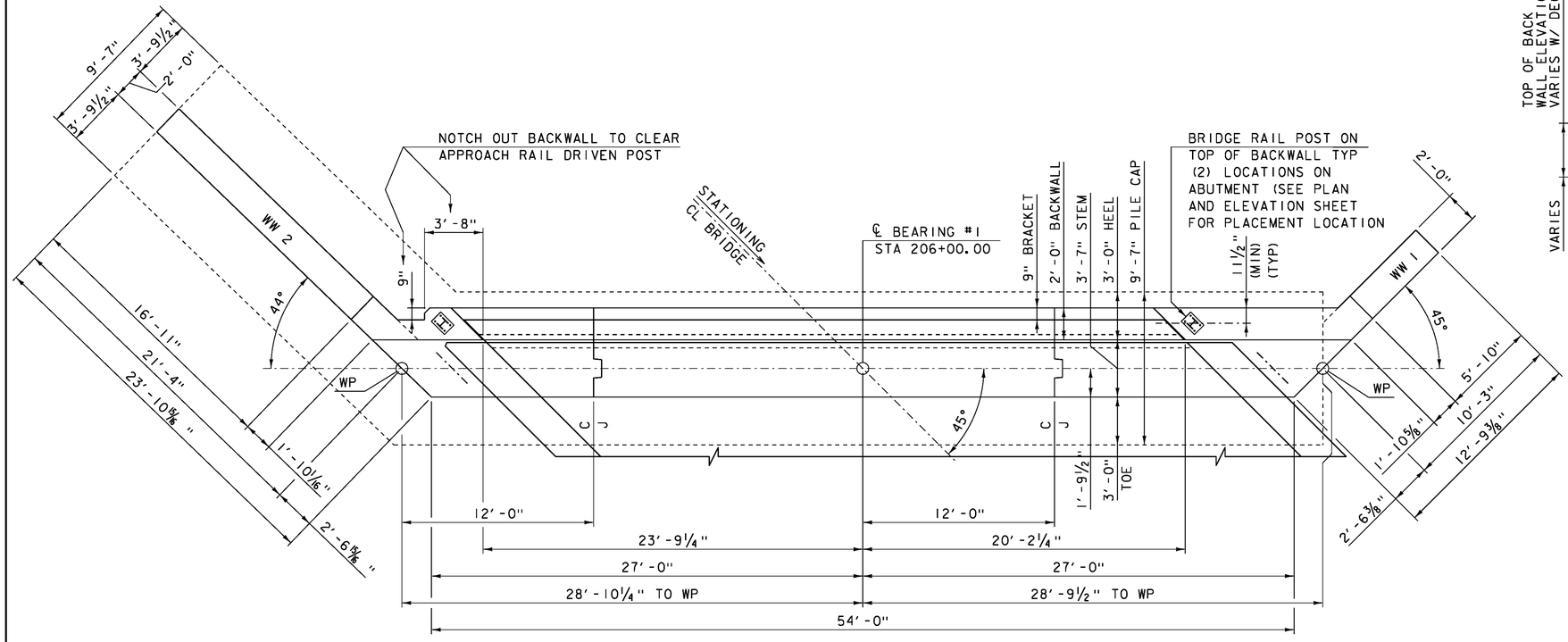
ABUTMENT #1 ELEVATION

SCALE ¼" = 1'-0"

NOTE:

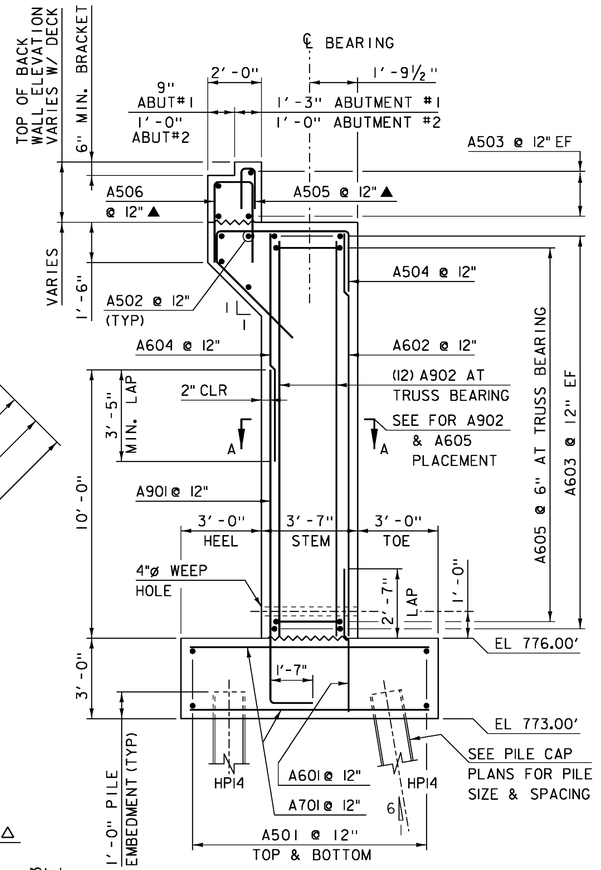
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4 (14)
FILE NAME: s78f242sub.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J.LACROIX	DRAWN BY: M.LONGSTREET
DESIGNED BY: U.STANLEY	CHECKED BY: U. STANLEY
ABUTMENT #1 PLAN & ELEVATION	SHEET 50 OF 83



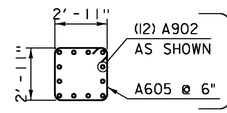
ABUTMENT #1 PLAN VIEW

SCALE ¼" = 1'-0"



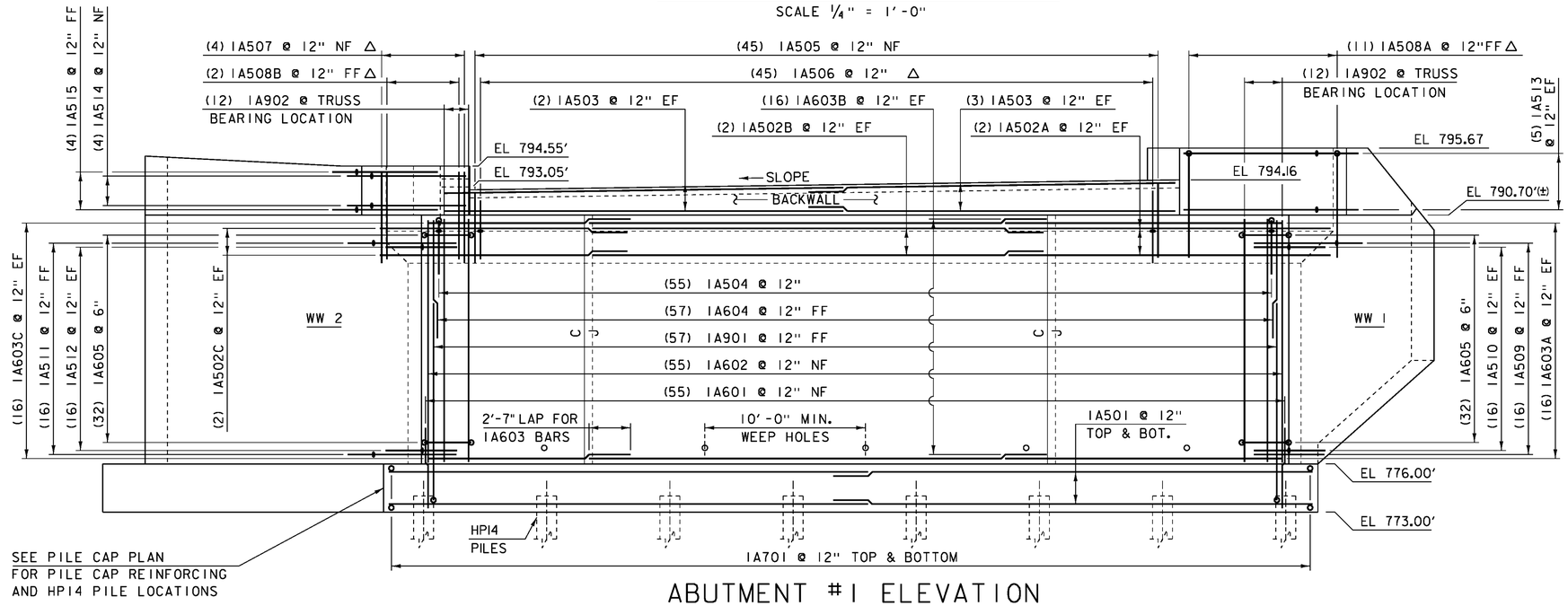
ABUTMENT #1&#2 TYPICAL

SCALE ⅜" = 1'-0"



A902 & A506 BARS ARE TO BE LOCATED UNDER TRUSS BEARING LOCATIONS FOR EACH ABUTMENT

A-A DETAIL



ABUTMENT #1 ELEVATION

SCALE ¼" = 1'-0"

NOTE:

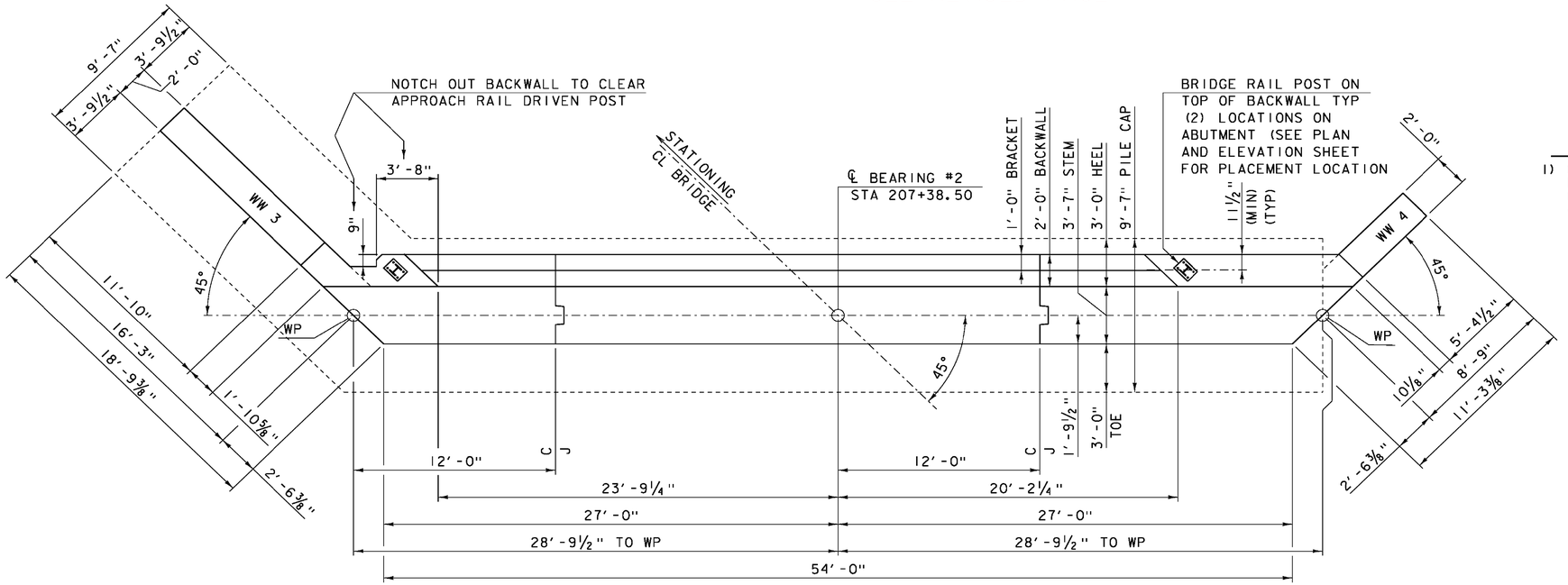
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3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242sub.dgn
PROJECT LEADER: J.LACROIX
DESIGNED BY: U.STANLEY
ABUTMENT #1 PLAN & ELEVATION

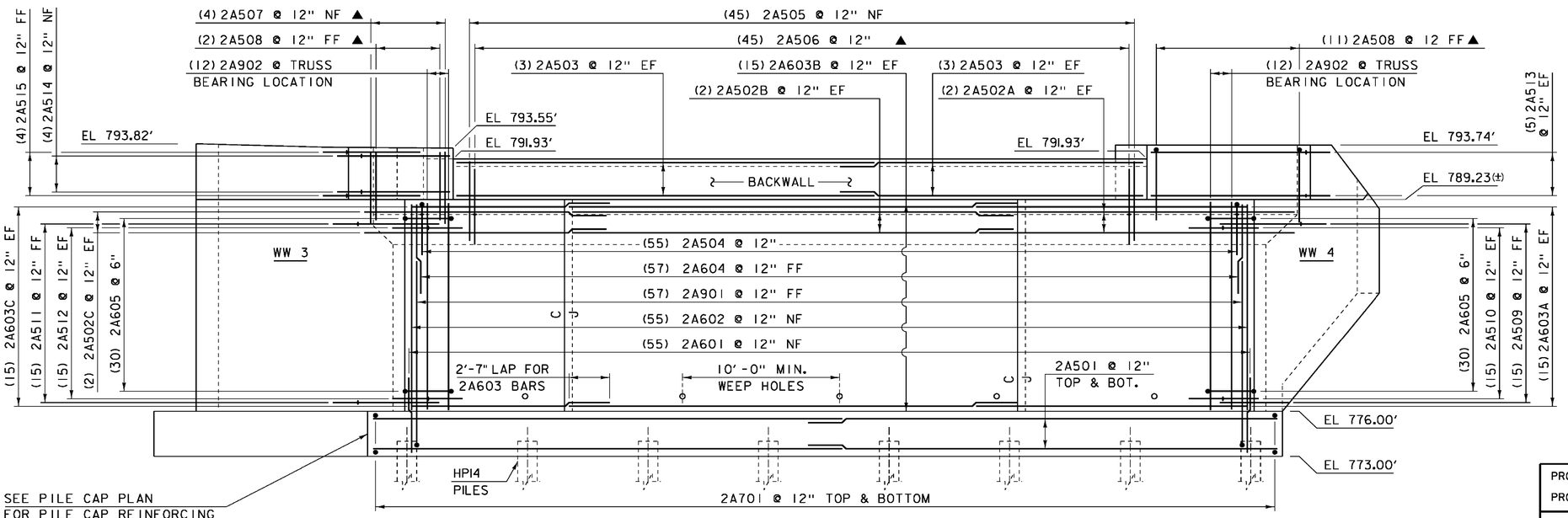
PLOT DATE: 07-MAR-2013
DRAWN BY: M.LONGSTREET
CHECKED BY: U. STANLEY
SHEET 50 OF 83

SEE REVISED PAGE



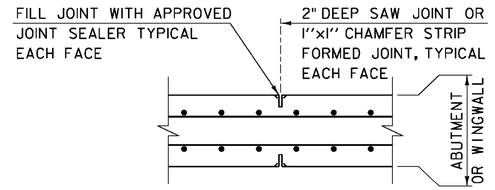
ABUTMENT #2 PLAN VIEW

SCALE ¼" = 1'-0"



ABUTMENT #2 ELEVATION

SCALE ¼" = 1'-0"



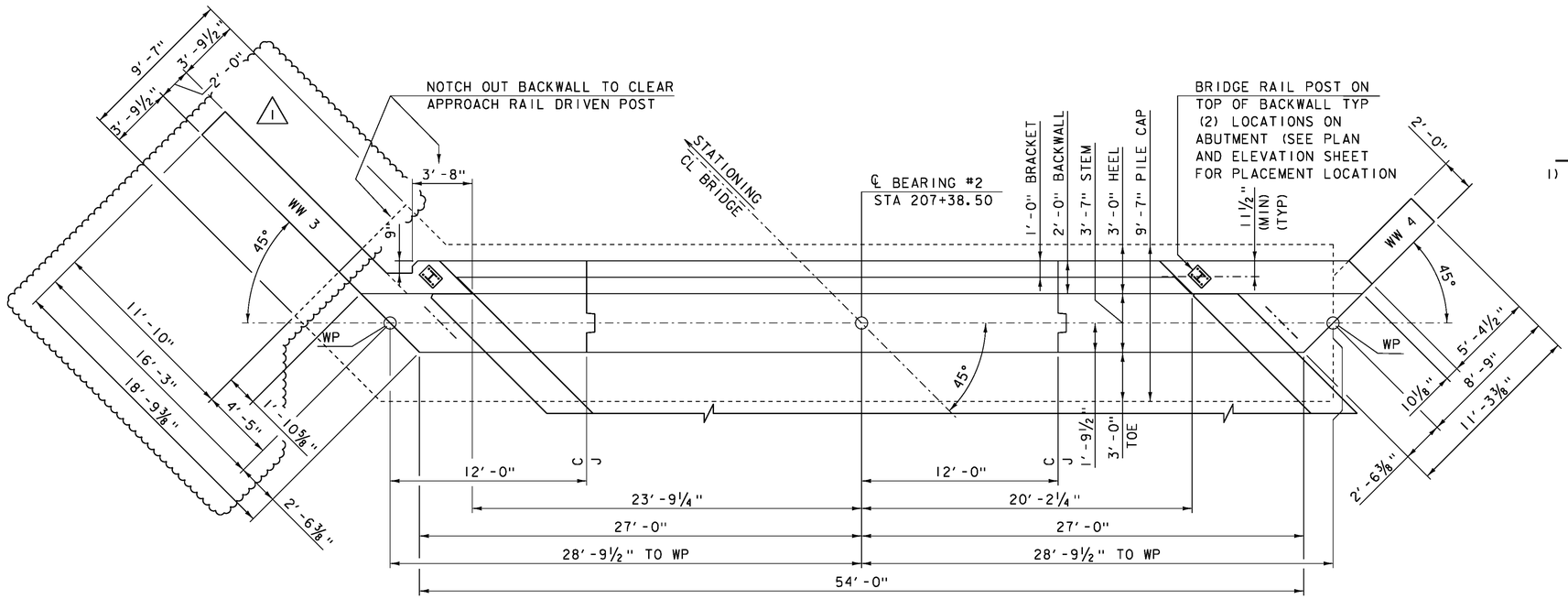
CONTRACTION JOINT

1) CONTRACTION JOINTS SHALL BE PLACED AT NOT MORE THAN 30 FEET APART, MEASURED ALONG THE FACE OF THE ABUTMENT. CONTRACTION JOINTS TO BE USED ON CONTINUOUS POURS OVER 40 FEET IN LENGTH AS MEASURED ALONG THE ABUTMENT FACE.

NOTE:

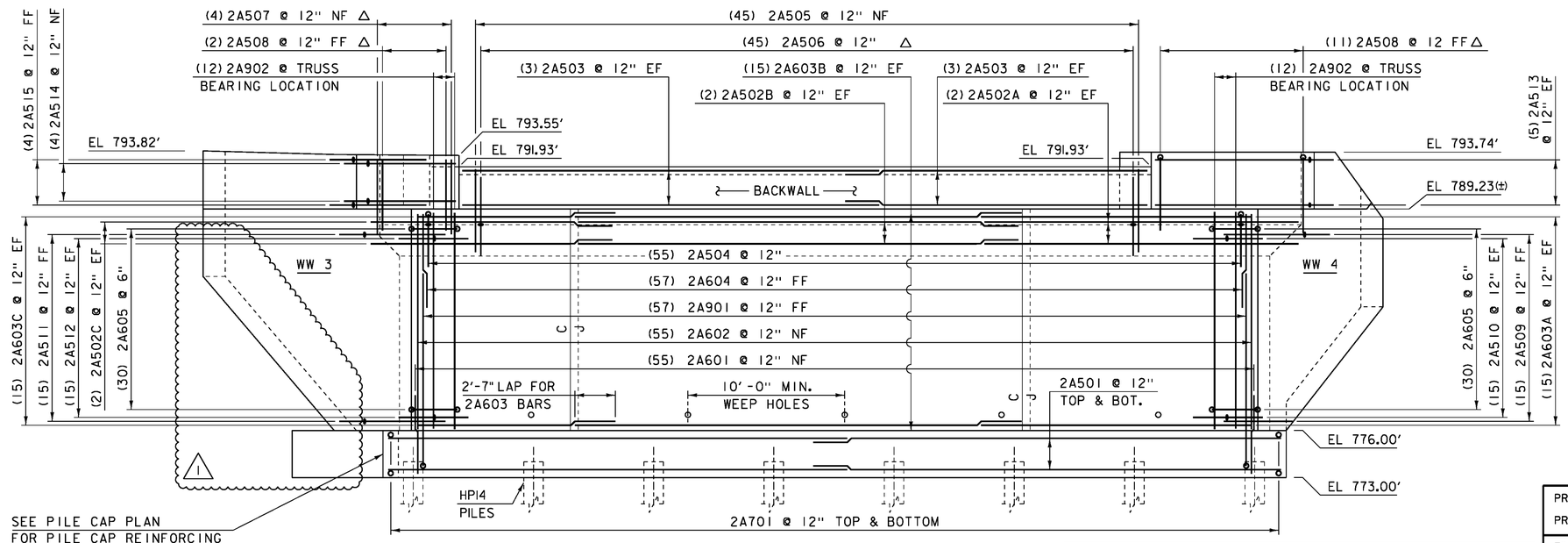
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3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4 (14)
FILE NAME: s78f242sub.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J.LACROIX	DRAWN BY: M.LONGSTREET
DESIGNED BY: U.STANLEY	CHECKED BY: U. STANLEY
ABUTMENT #2 PLAN & ELEVATION	SHEET 51 OF 83



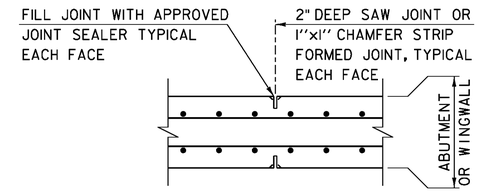
ABUTMENT #2 PLAN VIEW

SCALE ¼" = 1'-0"



ABUTMENT #2 ELEVATION

SCALE ¼" = 1'-0"



CONTRACTION JOINT

1) CONTRACTION JOINTS SHALL BE PLACED AT NOT MORE THAN 30 FEET APART, MEASURED ALONG THE FACE OF THE ABUTMENT. CONTRACTION JOINTS TO BE USED ON CONTINUOUS POURS OVER 40 FEET IN LENGTH AS MEASURED ALONG THE ABUTMENT FACE.

NOTE:

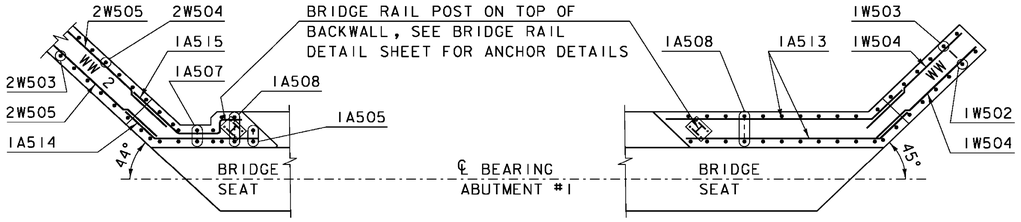
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△ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

REVISION	DATE	DESCIPTION	BY
1	01-25-2013	REMOVE 11' OF FOOTING & (4) PILES & REVISED REBAR FOR WW#3	MCL

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242sub.dgn
PROJECT LEADER: J.LACROIX
DESIGNED BY: U.STANLEY
ABUTMENT #2 PLAN & ELEVATION

PLOT DATE: 07-MAR-2013
DRAWN BY: M.LONGSTREET
CHECKED BY: U. STANLEY
SHEET 51 OF 83

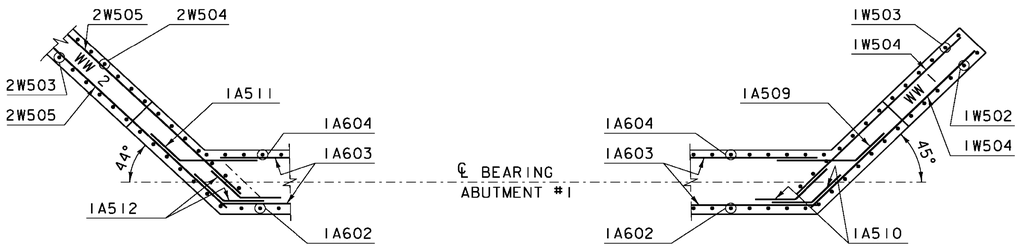


WINGWALL #2 CORNER DETAIL ABOVE SEAT

SCALE 1/4" = 1'-0"

WINGWALL #1 CORNER DETAIL ABOVE SEAT

SCALE 1/4" = 1'-0"

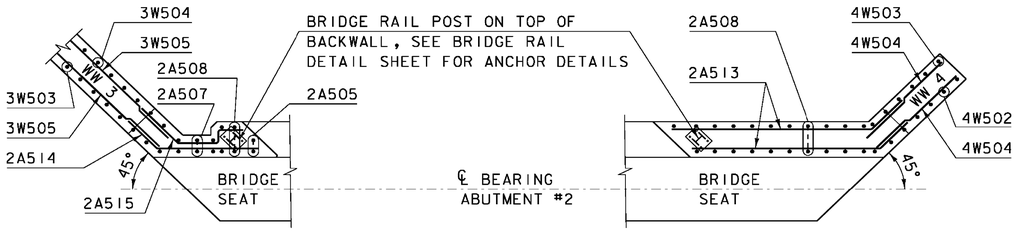


WINGWALL #2 CORNER DETAIL BELOW SEAT

SCALE 1/4" = 1'-0"

WINGWALL #1 CORNER DETAIL BELOW SEAT

SCALE 1/4" = 1'-0"

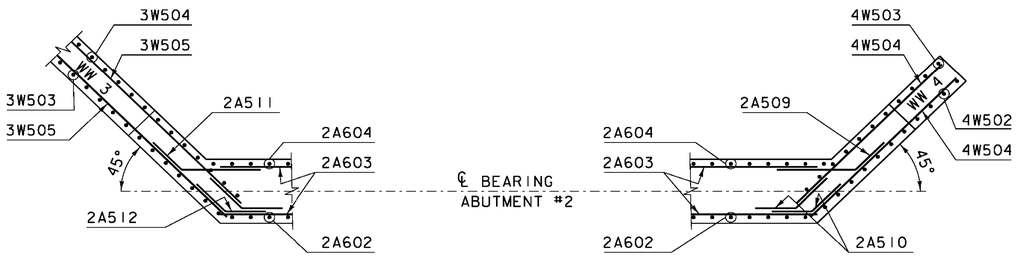


WINGWALL #3 CORNER DETAIL ABOVE SEAT

SCALE 1/4" = 1'-0"

WINGWALL #4 CORNER DETAIL ABOVE SEAT

SCALE 1/4" = 1'-0"



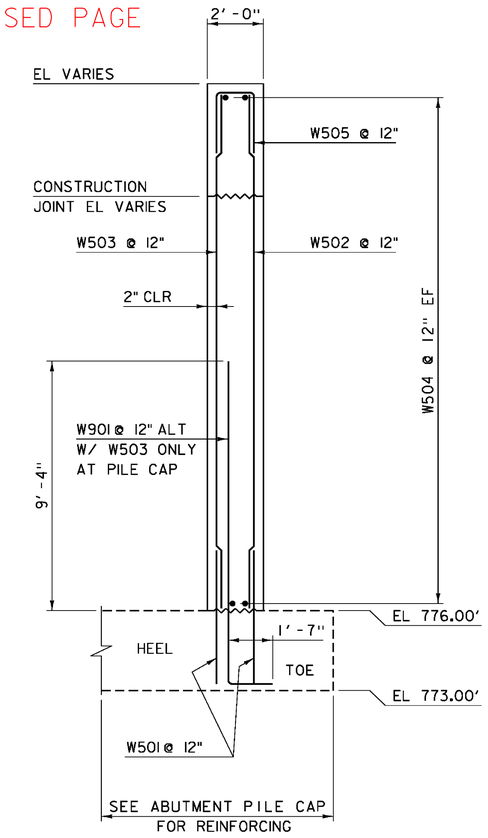
WINGWALL #3 CORNER DETAIL BELOW SEAT

SCALE 1/4" = 1'-0"

WINGWALL #4 CORNER DETAIL BELOW SEAT

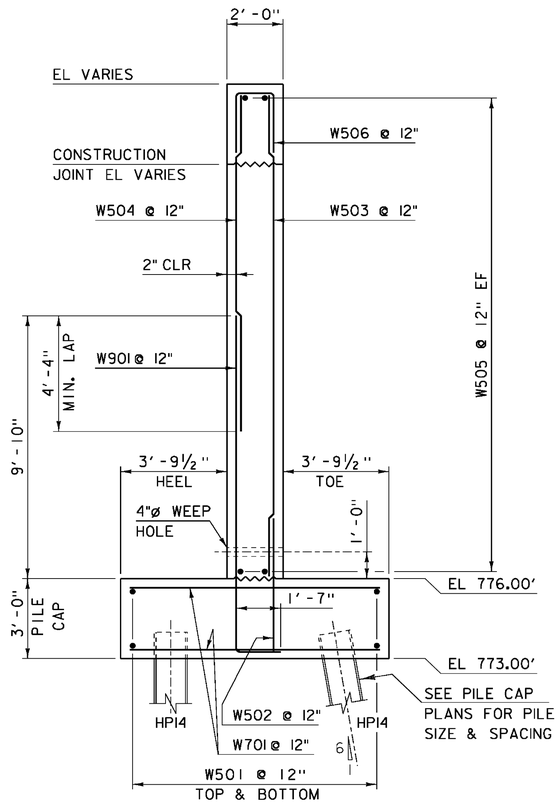
SCALE 1/4" = 1'-0"

SEE REVISED PAGE



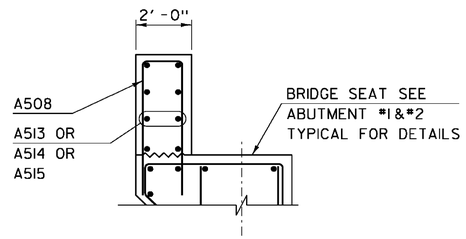
WINGWALL #1 & #4 TYPICAL

SCALE 3/8" = 1'-0"



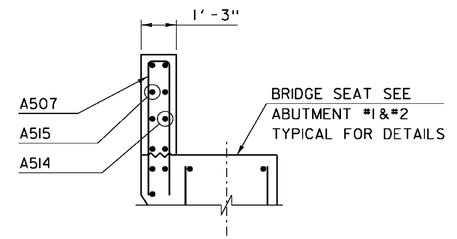
WINGWALL #2 & #3 TYPICAL

SCALE 3/8" = 1'-0"



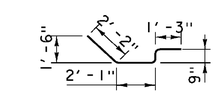
TYPICAL AT FULL WIDTH BACKWALL OUTSIDE FASCIA

SCALE 3/8" = 1'-0"



TYPICAL AT NOTCHED BACKWALL OUTSIDE FASCIA

SCALE 3/8" = 1'-0"



1A515 & 2A515 - BAR DETAIL

NOTE:

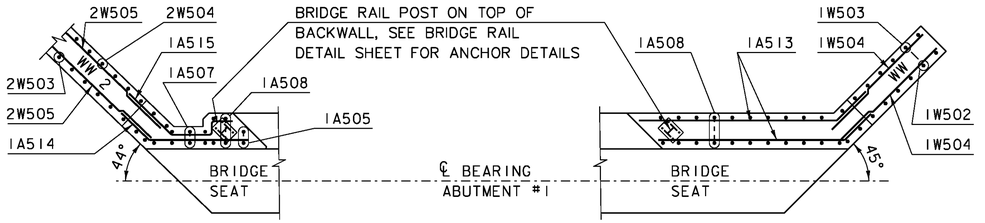
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3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242sub.dgn
PROJECT LEADER: J.LACROIX
DESIGNED BY: U.STANLEY
WINGWALL TYPICALS & DETAILS

PLOT DATE: 27-JUL-2012
DRAWN BY: M.LONGSTREET
CHECKED BY: U. STANLEY
SHEET 52 OF 83

REVISION	DATE	DESCIPTION	BY
1	01-25-2013	REMOVE 11' OF FOOTING & (4) PILES & REVISED REBAR FOR WW#3	MCL

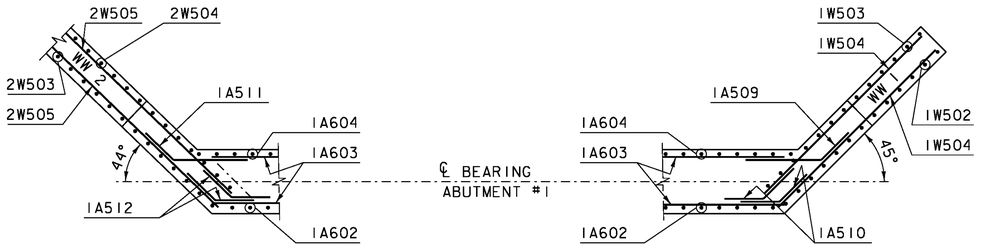


WINGWALL #2 CORNER DETAIL ABOVE SEAT

SCALE 1/4" = 1'-0"

WINGWALL #1 CORNER DETAIL ABOVE SEAT

SCALE 1/4" = 1'-0"

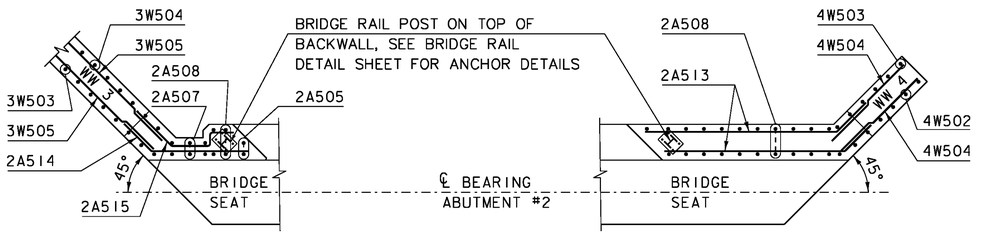


WINGWALL #2 CORNER DETAIL BELOW SEAT

SCALE 1/4" = 1'-0"

WINGWALL #1 CORNER DETAIL BELOW SEAT

SCALE 1/4" = 1'-0"

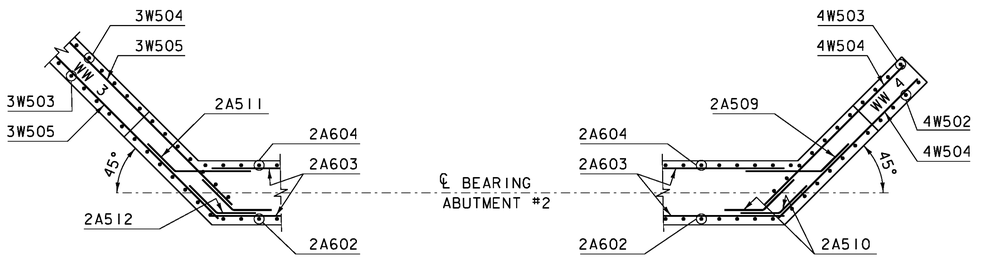


WINGWALL #3 CORNER DETAIL ABOVE SEAT

SCALE 1/4" = 1'-0"

WINGWALL #4 CORNER DETAIL ABOVE SEAT

SCALE 1/4" = 1'-0"

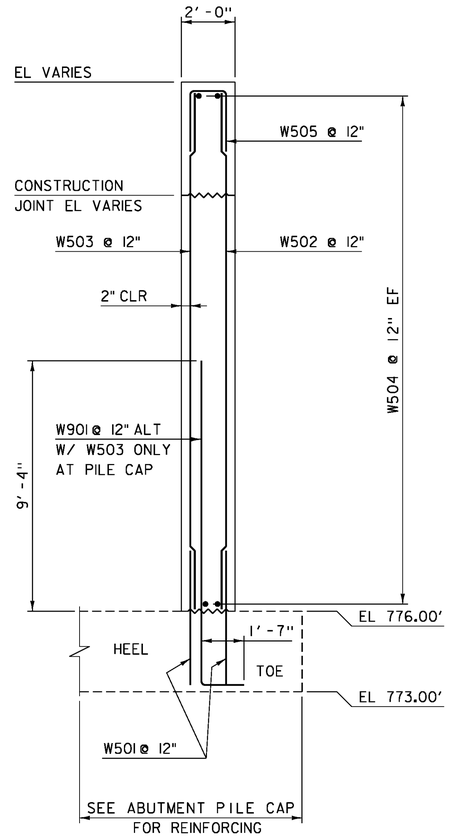


WINGWALL #3 CORNER DETAIL BELOW SEAT

SCALE 1/4" = 1'-0"

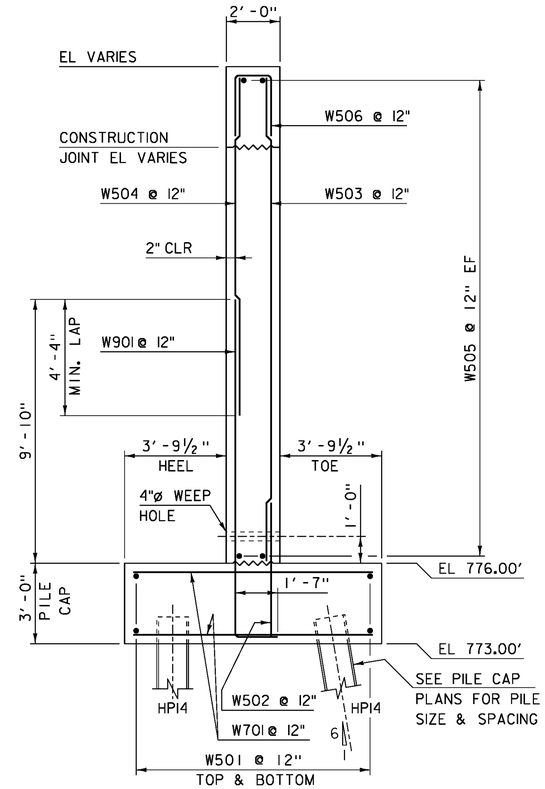
WINGWALL #4 CORNER DETAIL BELOW SEAT

SCALE 1/4" = 1'-0"



WINGWALL #1 & #4 TYPICAL

SCALE 3/8" = 1'-0"

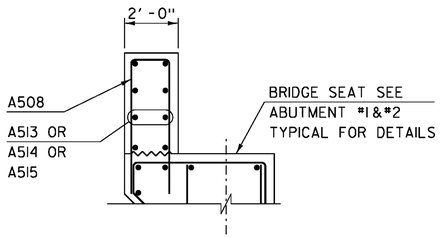


WINGWALL #2 TYPICAL

1

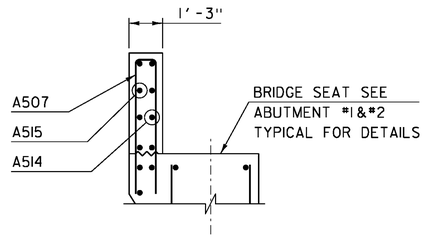
SCALE 3/8" = 1'-0"

SEE "ABUTMENT #2 PILE CAP PLAN" FOR WW#3 TYPICAL



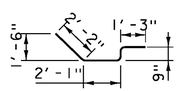
TYPICAL AT FULL WIDTH BACKWALL OUTSIDE FASCIA

SCALE 3/8" = 1'-0"



TYPICAL AT NOTCHED BACKWALL OUTSIDE FASCIA

SCALE 3/8" = 1'-0"



1A515 & 2A515 - BAR DETAIL

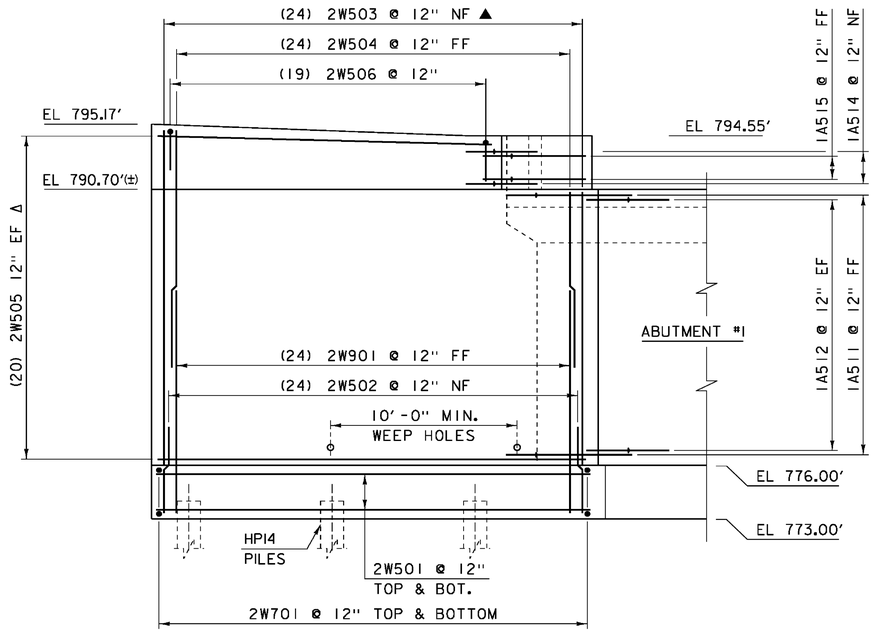
NOTE:

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EF = EACH FACE
△ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

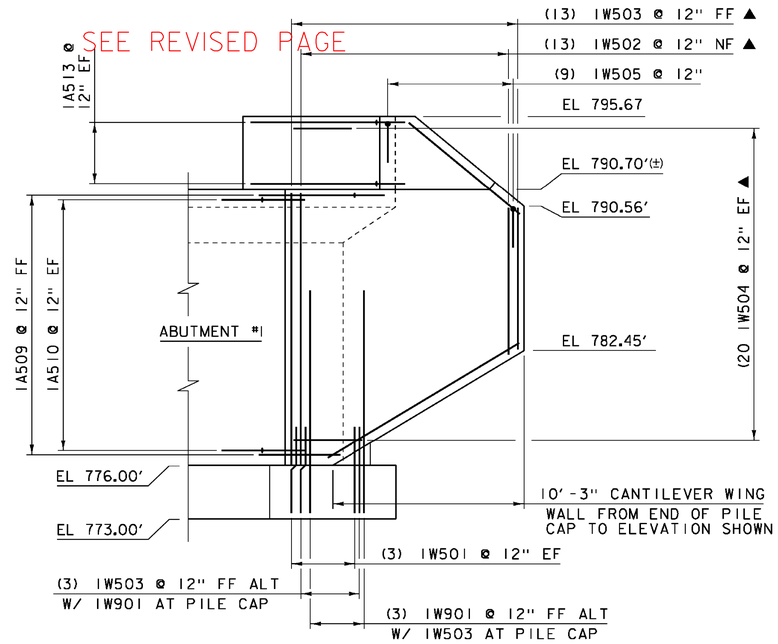
FILE NAME: s78f242sub.dgn
PROJECT LEADER: J.LACROIX
DESIGNED BY: U.STANLEY
WINGWALL TYPICALS & DETAILS

PLOT DATE: 07-MAR-2013
DRAWN BY: M.LONGSTREET
CHECKED BY: U. STANLEY
SHEET 52 OF 83



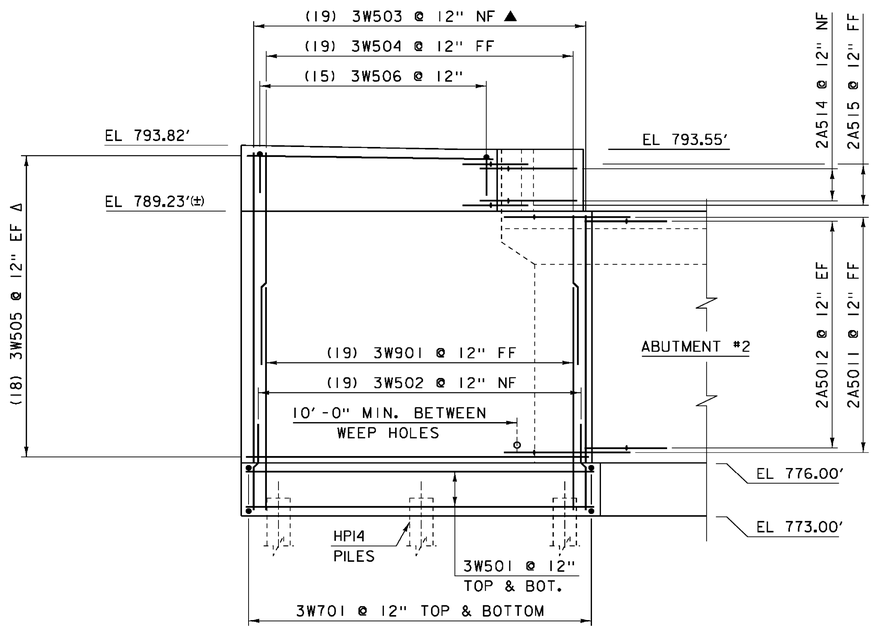
WINGWALL #2 ELEVATION

SCALE 1/4" = 1'-0"



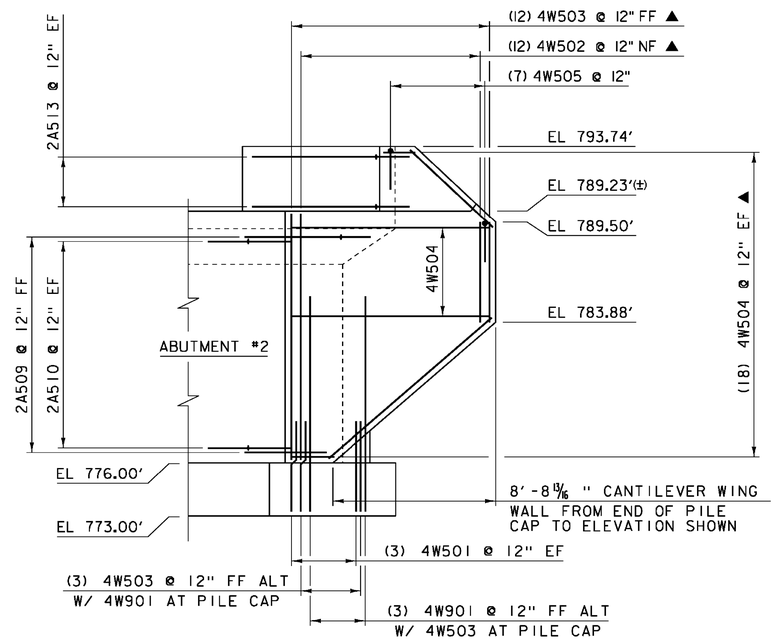
WINGWALL #1 ELEVATION

SCALE 1/4" = 1'-0"



WINGWALL #3 ELEVATION

SCALE 1/4" = 1'-0"



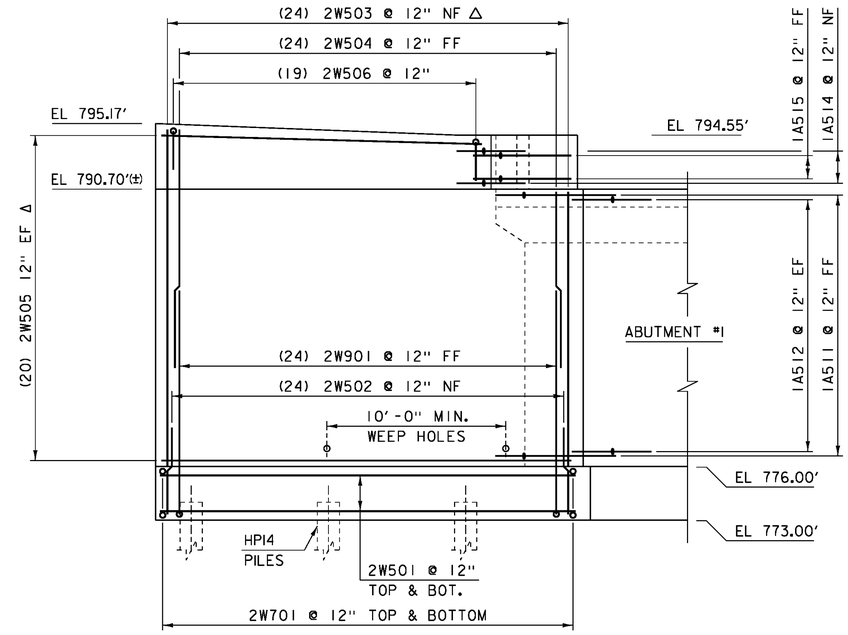
WINGWALL #4 ELEVATION

SCALE 1/4" = 1'-0"

NOTE:

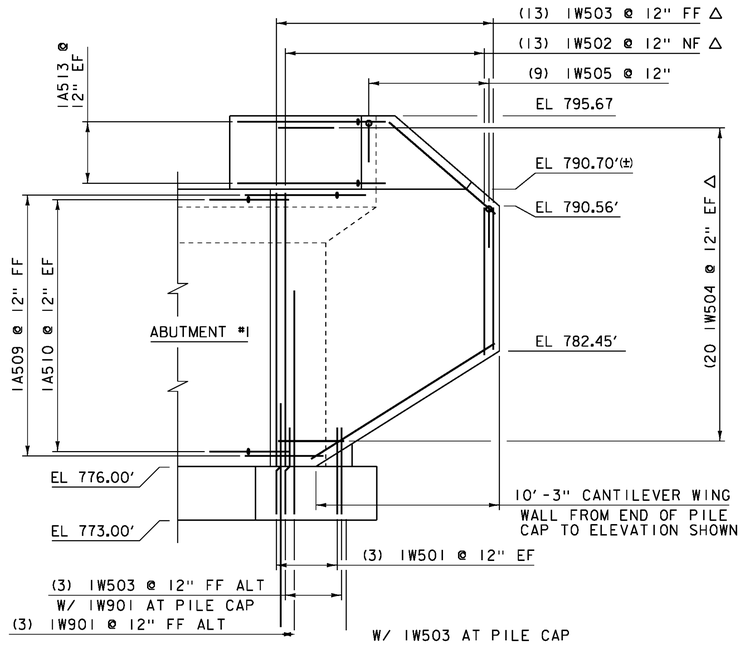
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4 (14)
FILE NAME: s78f242sub.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J.LACROIX	DRAWN BY: M.LONGSTREET
DESIGNED BY: U.STANLEY	CHECKED BY: U. STANLEY
WINGWALL ELEVATIONS	SHEET 53 OF 83



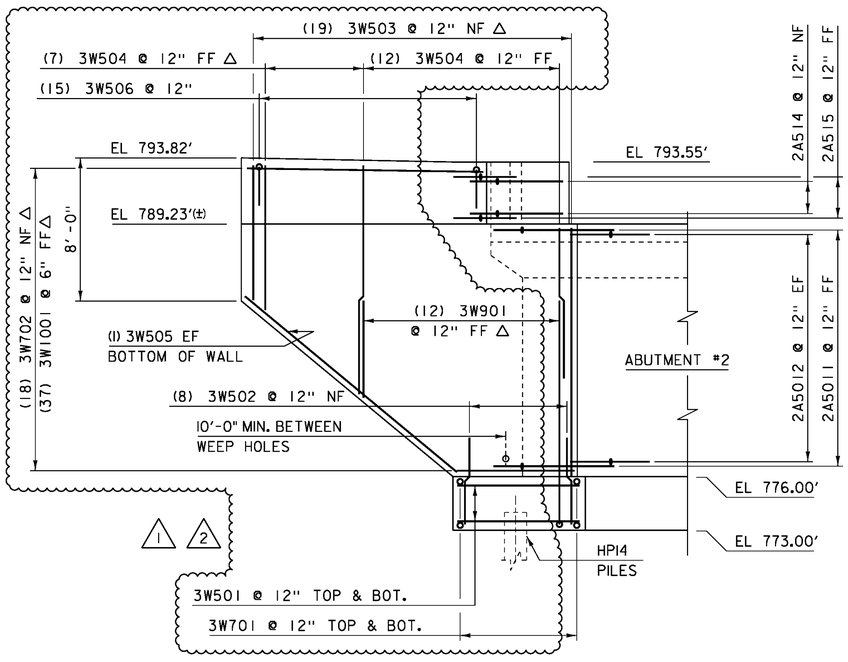
WINGWALL #2 ELEVATION

SCALE 1/4" = 1'-0"



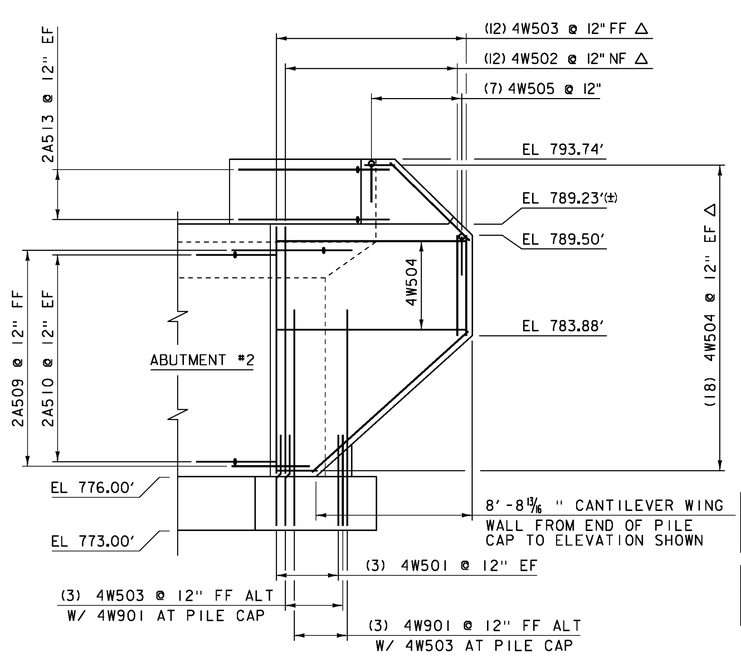
WINGWALL #1 ELEVATION

SCALE 1/4" = 1'-0"



WINGWALL #3 ELEVATION

SCALE 1/4" = 1'-0"



WINGWALL #4 ELEVATION

SCALE 1/4" = 1'-0"

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2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

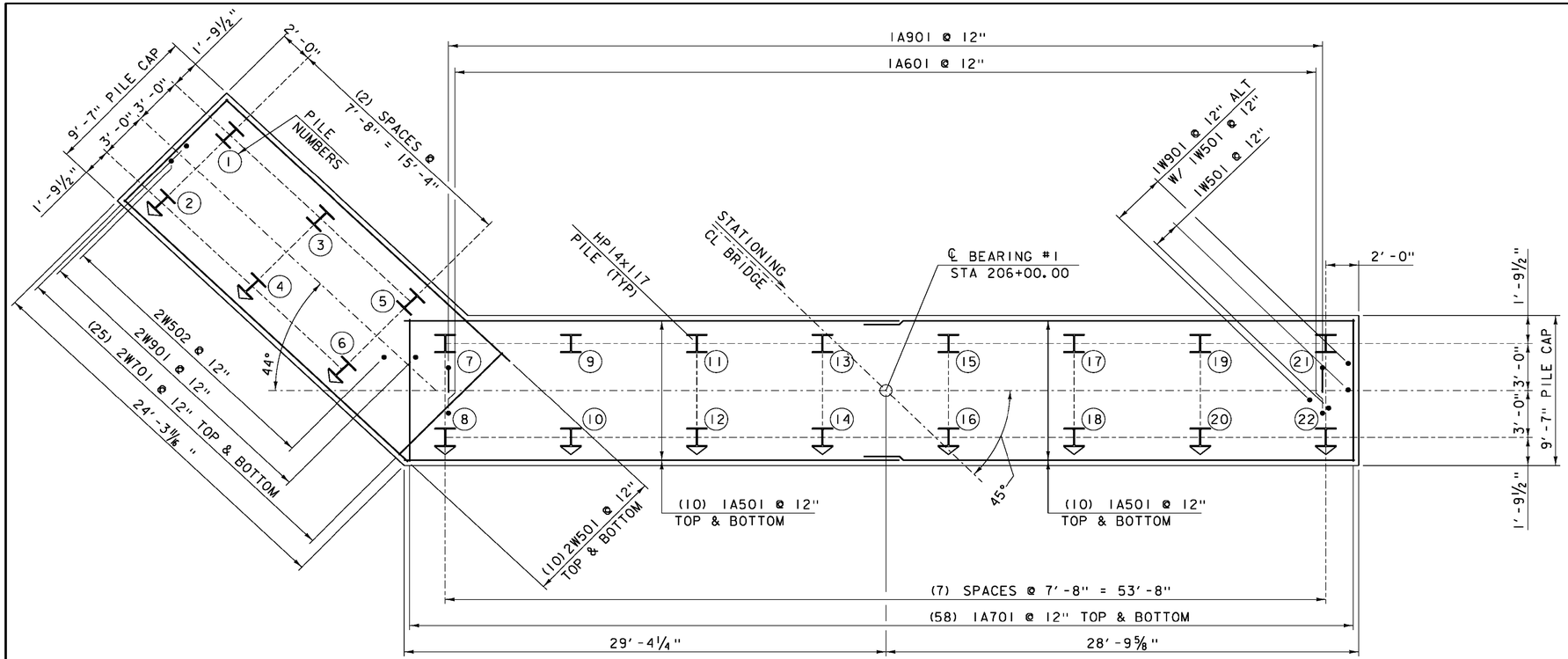
REVISION	DATE	DESCIPTION	BY
1	01-25-2013	REMOVE 11' OF FOOTING & (4) PILES & REVISED REBAR FOR WW#3	MCL

REVISION	DATE	DESCIPTION	BY
2	02-04-2013	CHANGED WW#3 SLOPE & INCREASED REBAR	MRU

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242sub.dgn
PROJECT LEADER: J.LACROIX
DESIGNED BY: U.STANLEY
WINGWALL ELEVATIONS

PLOT DATE: 21-FEB-2013
DRAWN BY: M.LONGSTREET
CHECKED BY: U. STANLEY
SHEET 53 OF 83



ABUTMENT #1 PILE CAP PLAN

SCALE ¼" = 1'-0"

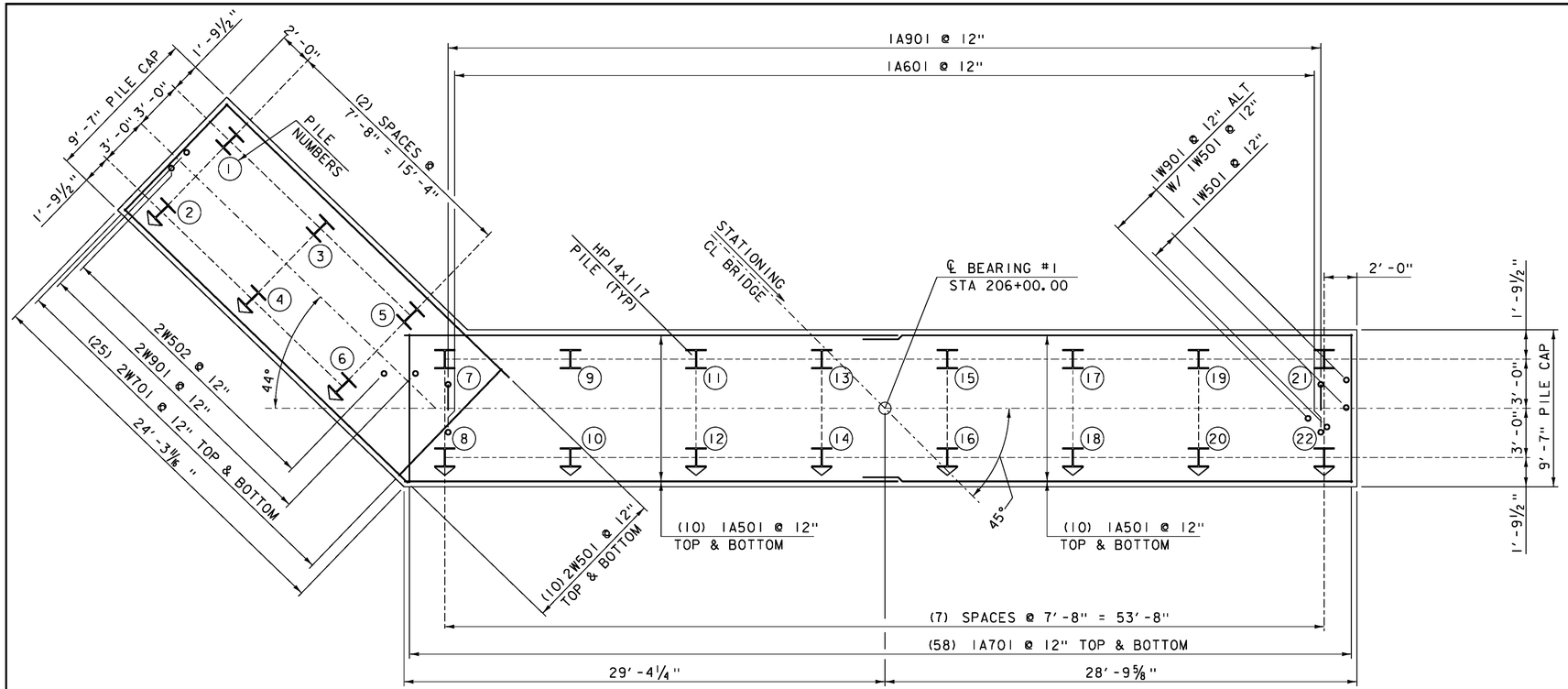
HP14x117 BATTERED PILE

SEE REVISED PAGE

NOTE:

NF = NEAR FACE
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3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4 (14)
FILE NAME: s78f242sub.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J.LACROIX	DRAWN BY: M.LONGSTREET
DESIGNED BY: U.STANLEY	CHECKED BY: U. STANLEY
ABUTMENT #1 PILE CAP PLAN	SHEET 54 OF 83



ABUTMENT #1 PILE CAP PLAN

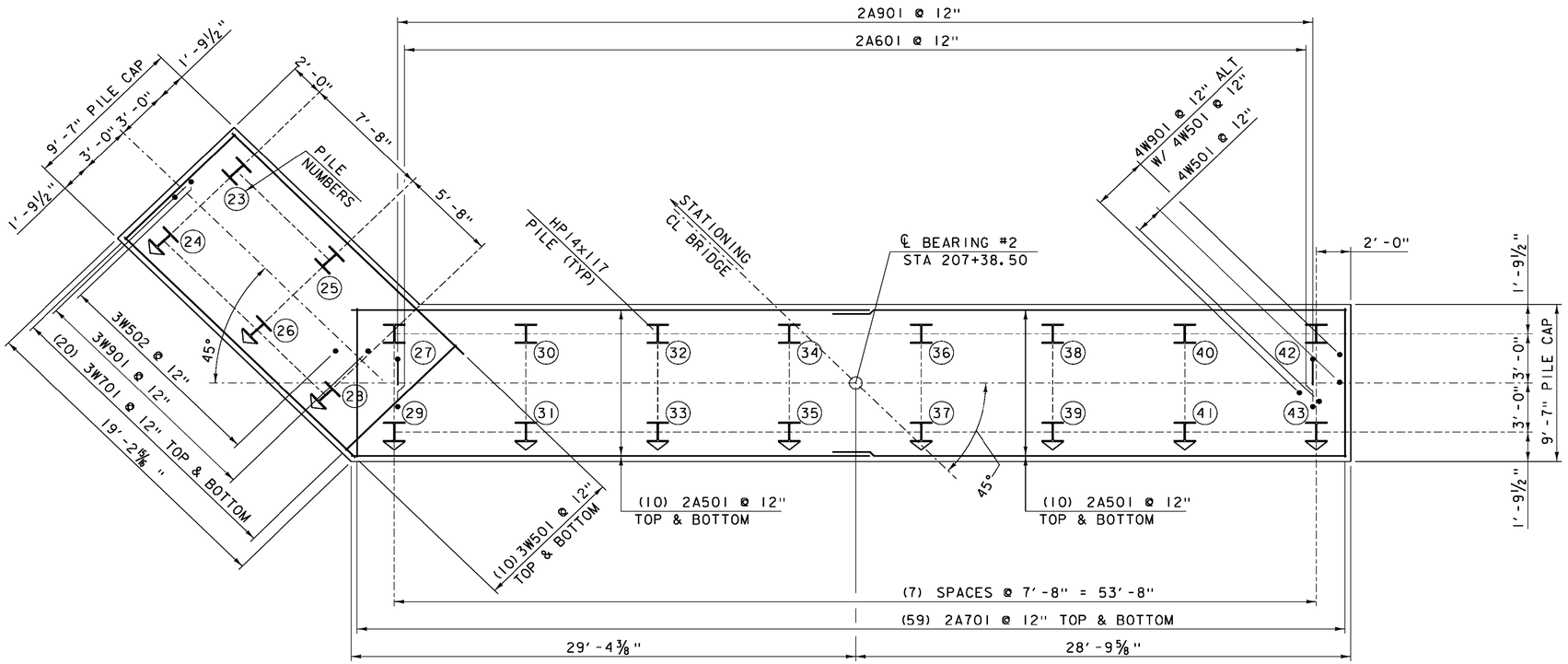
SCALE ¼" = 1'-0"

HP14x117 BATTERED PILE

NOTE:

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2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4 (14)
FILE NAME: s78f242sub.dgn	PLOT DATE: 07-MAR-2013
PROJECT LEADER: J.LACROIX	DRAWN BY: M.LONGSTREET
DESIGNED BY: U.STANLEY	CHECKED BY: U. STANLEY
ABUTMENT #1 PILE CAP PLAN	SHEET 54 OF 83



ABUTMENT #2 PILE CAP PLAN

SCALE ¼" = 1'-0"

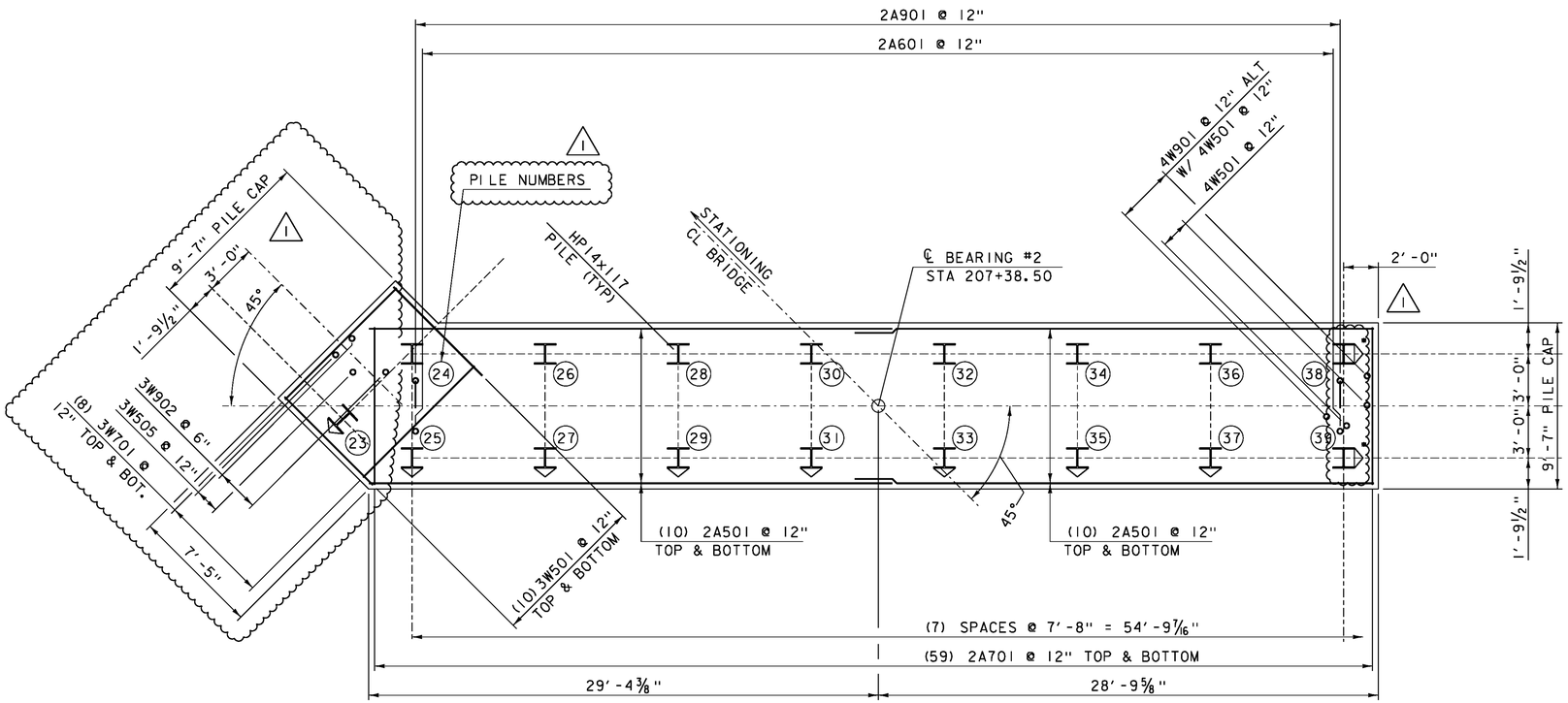
HP14x117 BATTERED PILE

SEE REVISED PAGE

NOTE:

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2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4 (14)
FILE NAME: s78f242sub.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J.LACROIX	DRAWN BY: M.LONGSTREET
DESIGNED BY: U.STANLEY	CHECKED BY: U. STANLEY
ABUTMENT #2 PILE CAP PLAN	SHEET 55 OF 83

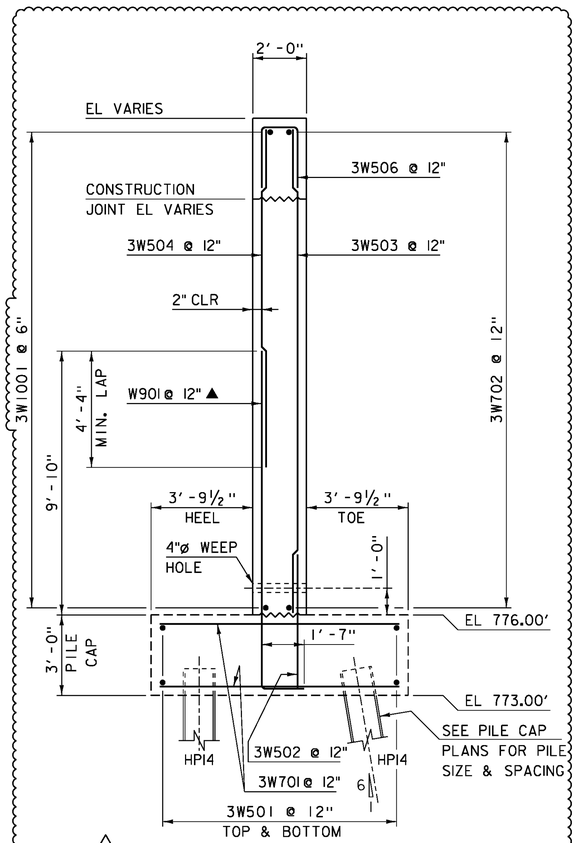


ABUTMENT #2 PILE CAP PLAN

SCALE 1/4" = 1'-0"

HP14x117 BATTERED PILE

* PILES 38 & 39 ARE TO BE BATTERED IN THE NW DIRECTION AT ION 6 TO AVOID UTILITY LINE



WINGWALL #3 TYPICAL

SCALE 3/8" = 1'-0"

NOTE:

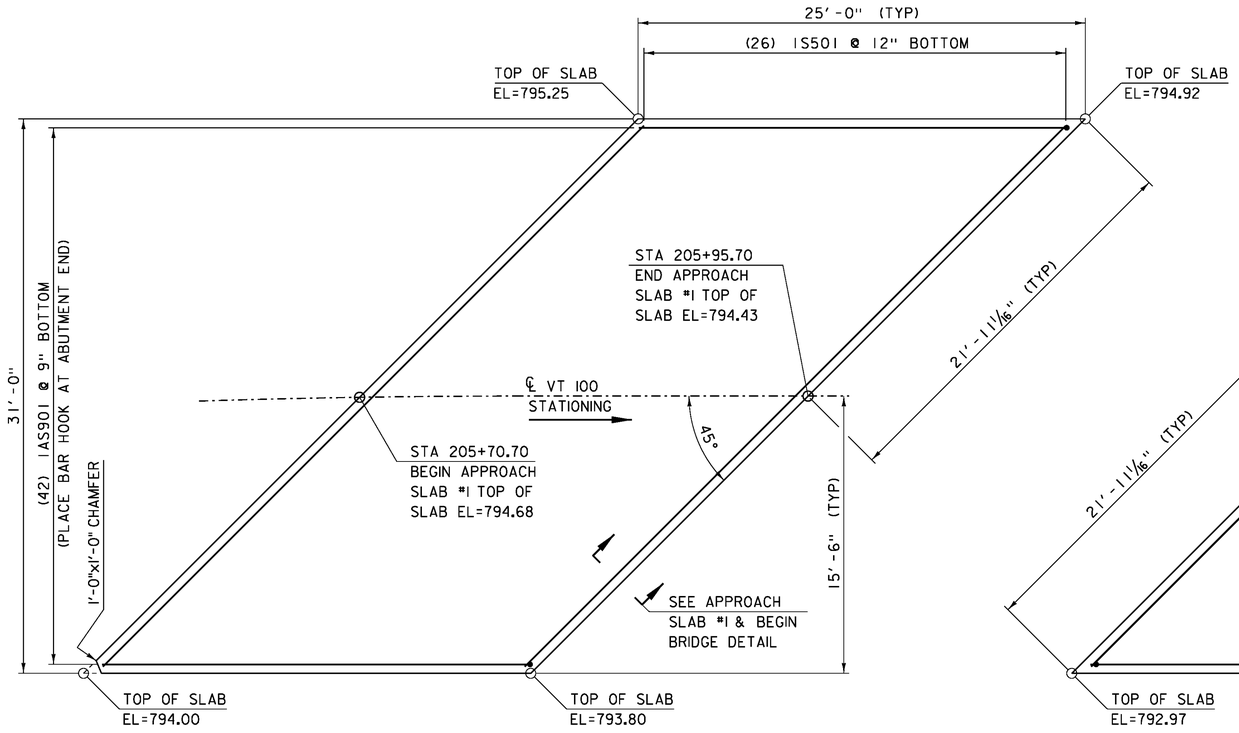
NF = NEAR FACE
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EF = EACH FACE
△ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

REVISION	DATE	DESCIPTION	BY
1	01-25-2013	REMOVE 11' OF FOOTING & (4) PILES & REVISED REBAR FOR WW#3	MCL

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

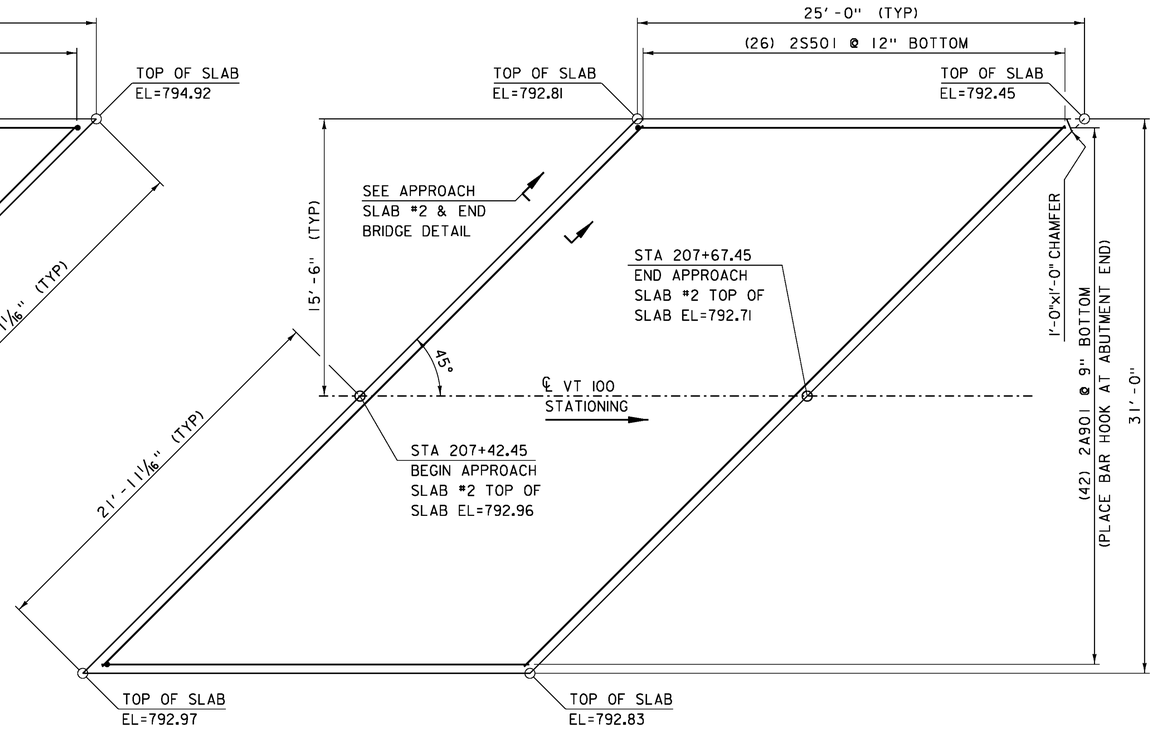
FILE NAME: s78f242sub.dgn
PROJECT LEADER: J.LACROIX
DESIGNED BY: U.STANLEY
ABUTMENT #2 PILE CAP PLAN

PLOT DATE: 07-MAR-2013
DRAWN BY: M.LONGSTREET
CHECKED BY: U. STANLEY
SHEET 55 OF 83



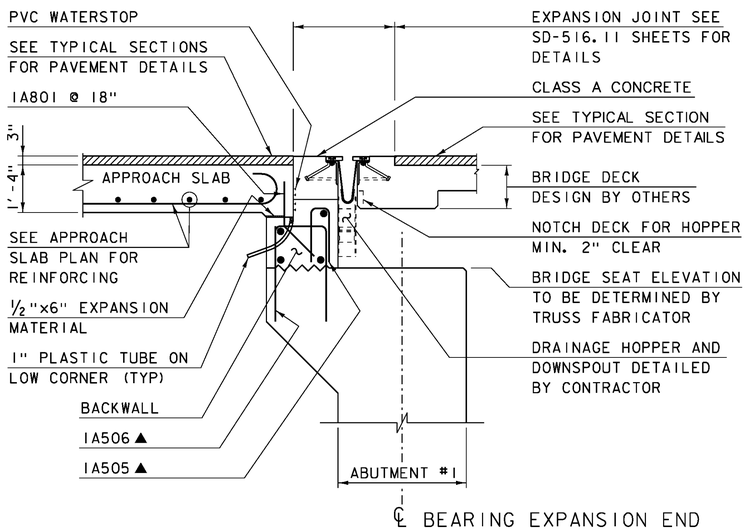
APPROACH SLAB #1 PLAN

SCALE 1/4" = 1'-0"



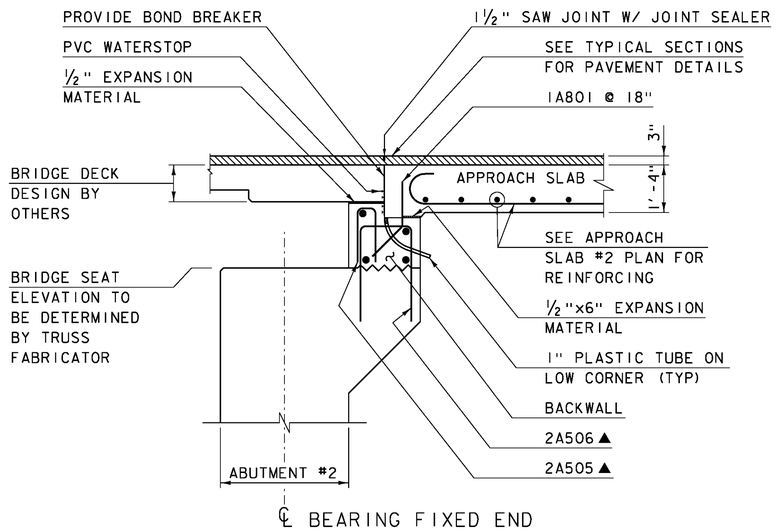
APPROACH SLAB #2 PLAN

SCALE 1/4" = 1'-0"



APPROACH SLAB #1 & BEGIN BRIDGE DETAIL

SCALE 1/2" = 1'-0"



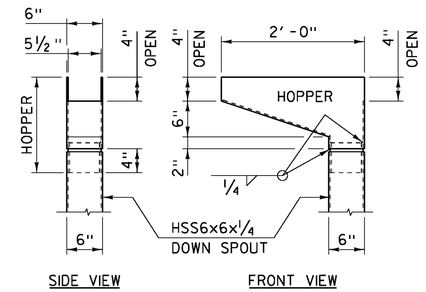
APPROACH SLAB #2 & END BRIDGE DETAIL

SCALE 1/2" = 1'-0"

NOTE:

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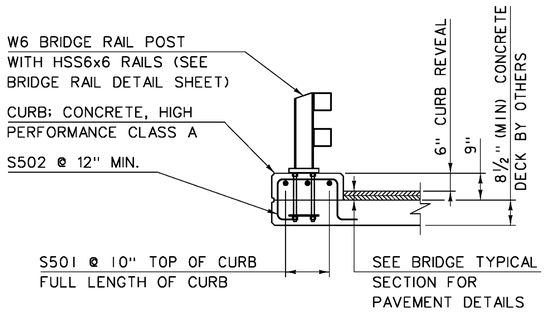
PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4 (14)
FILE NAME: s78f242sup.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J.LACROIX	DRAWN BY: M.LONGSTREET
DESIGNED BY: U.STANLEY	CHECKED BY: U. STANLEY
APPROACH SLAB PLANS AND DETAILS	SHEET 56 OF 83



MINIMUM TYPICAL HOPPER DETAILS

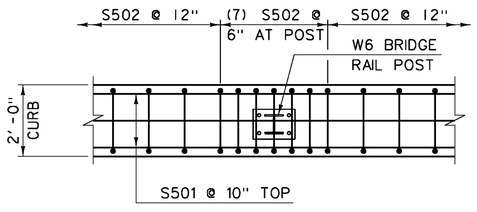
SCALE 1" = 1'-0"

1. DRAINAGE HOPPER AND DOWNSPOUT TO BE DETAILED BY CONTRACTOR.
2. DETAILING, FABRICATION, TRANSPORTATION TO THE SITE AND INSTALLATION OF THE HOPPER AND DOWNSPOUT SHALL BE INCIDENTAL TO ITEM 516.11 BRIDGE EXPANSION JOINT, VERMONT.



DECK CURB REINFORCING TYPICAL SECTION

SCALE ½" = 1'-0"



DECK CURB REINFORCING LAYOUT PLAN DETAIL

SCALE ½" = 1'-0"

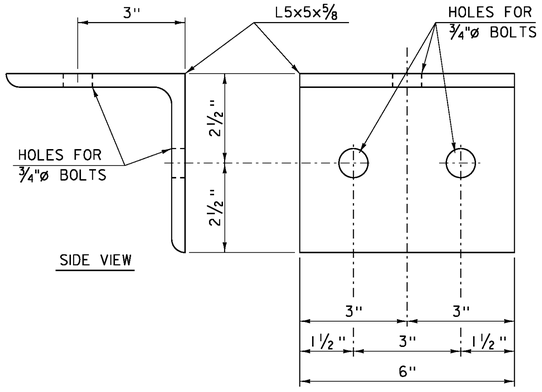
NOTE:

NF = NEAR FACE
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3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

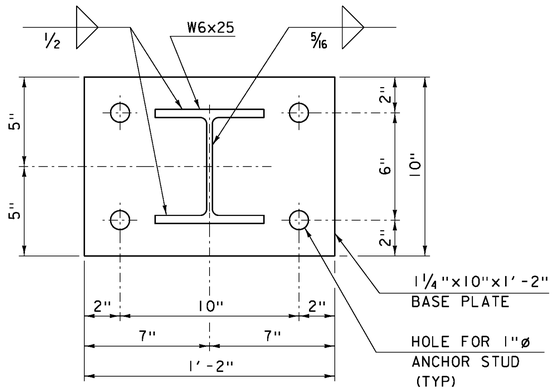
PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242sup.dgn
PROJECT LEADER: J.LACROIX
DESIGNED BY: U.STANLEY
BRIDGE DETAIL SHEET

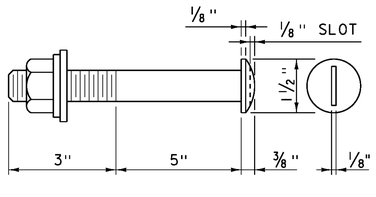
PLOT DATE: 27-JUL-2012
DRAWN BY: M.LONGSTREET
CHECKED BY: U. STANLEY
SHEET 57 OF 83



RAILING ANGLE DETAILS

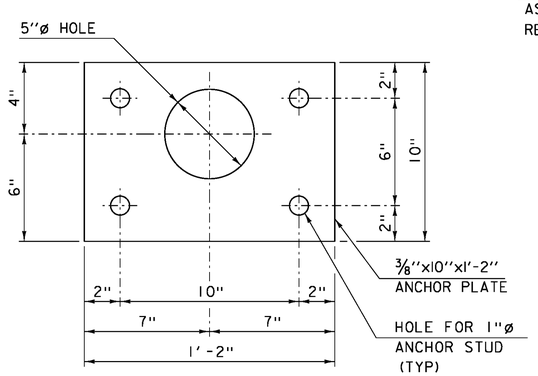


BASE PLATE DETAIL

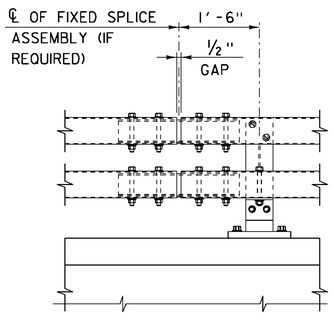


7/8"ø ROUND HEAD BOLT DETAIL

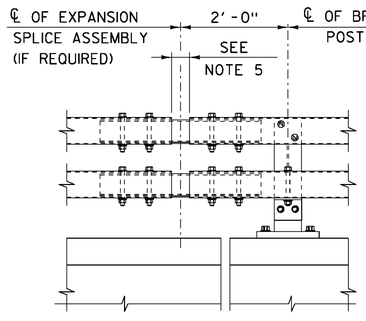
A449 (TYPE 1)



ANCHOR PLATE DETAIL



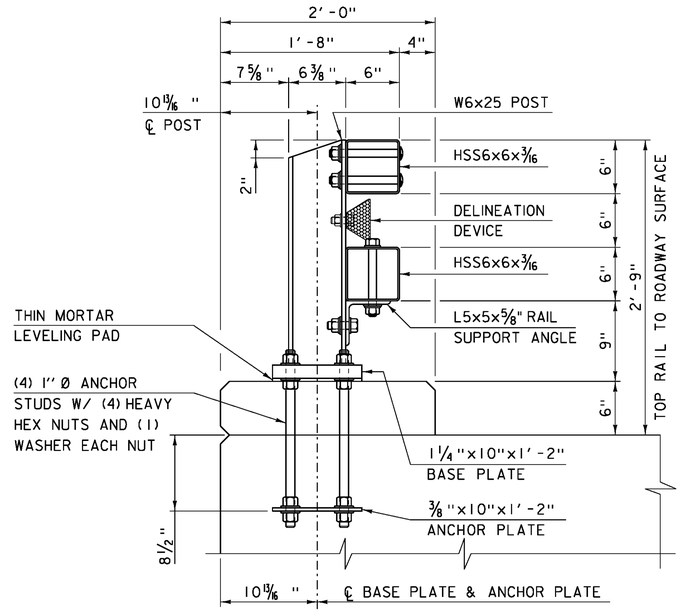
FIXED SPLICE



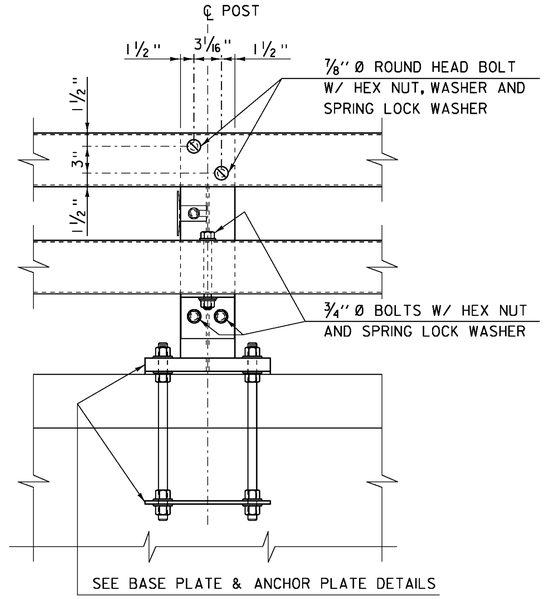
EXPANSION SPLICE

RAILING SPLICE DETAIL ELEVATION

A RAILING EXPANSION SPLICE IS REQUIRED IN ANY POST SPACING THAT CONTAINS A SUPERSTRUCTURE EXPANSION JOINT



RAILING SECTION



RAILING ELEVATION

NOTES:

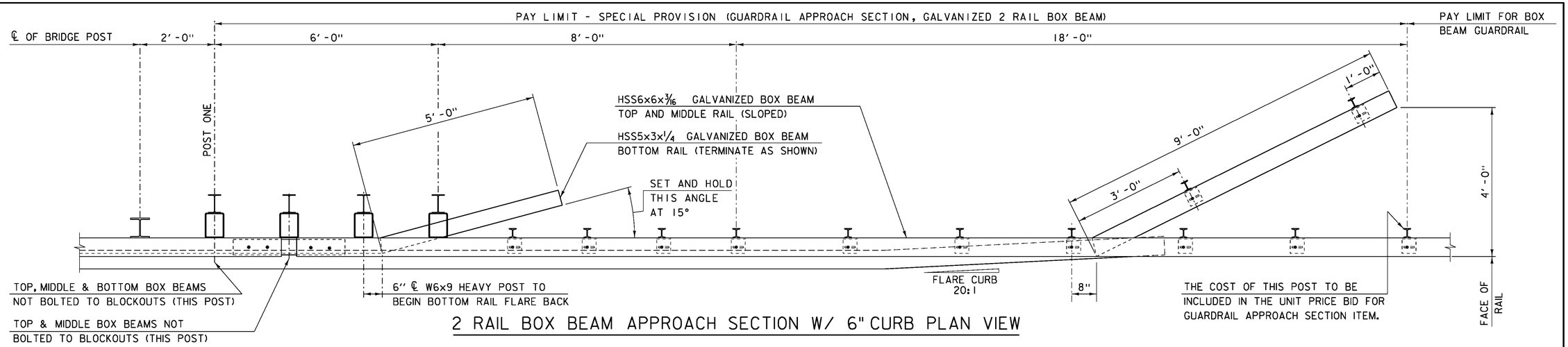
1. ALL WORK AND MATERIALS SHALL CONFORM TO SECTION 525.
2. PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/16".
3. ALL POSTS SHALL BE SET NORMAL TO GRADE. THE MAXIMUM CENTER TO CENTER SPACING OF BRIDGE RAIL POSTS IS 8'-3".
4. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO BRIDGE POSTS AND PREFERABLY TO AT LEAST 4 POSTS.
5. RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING THE END OF AN INTEGRAL ABUTMENT BRIDGE AND AT ALL SUPERSTRUCTURE EXPANSION JOINTS. EXPANSION JOINT WIDTH SHALL BE 4" @ 68°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
6. HOLES IN RAILS FOR TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO INSTALLATION.
7. BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB).
8. SEE STANDARD DRAWING G-1B FOR DETAILS OF DELINEATORS. A DELINEATOR SHALL BE INSTALLED AT 30 FOOT SPACING OR THE NEAREST POST. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT. FOR ONE WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT. PAYMENT SHALL BE INCIDENTAL TO OTHER ITEMS.
9. ANY BENDING OF RAIL SHALL BE DONE AT THE FABRICATION PLANT ACCORDING TO A PROCEDURE PROVIDED BY THE FABRICATOR.
10. THE MINIMUM DISTANCE FROM THE POST TO AN EXPANSION JOINT SHALL BE DETERMINED BY THE MINIMUM EDGE DISTANCE OF 5" FROM ANY ANCHOR STUD TO THE END OF THE SLAB, OR TO THE EXPANSION JOINT RECESS POUR, IF ONE IS USED.
11. THIS RAILING MEETS THE REQUIREMENTS FOR A TL-4 SERVICE LEVEL.

SEE STD S-364C FOR SPLICE DETAILS
SEE STD G-1B FOR DELINEATORS

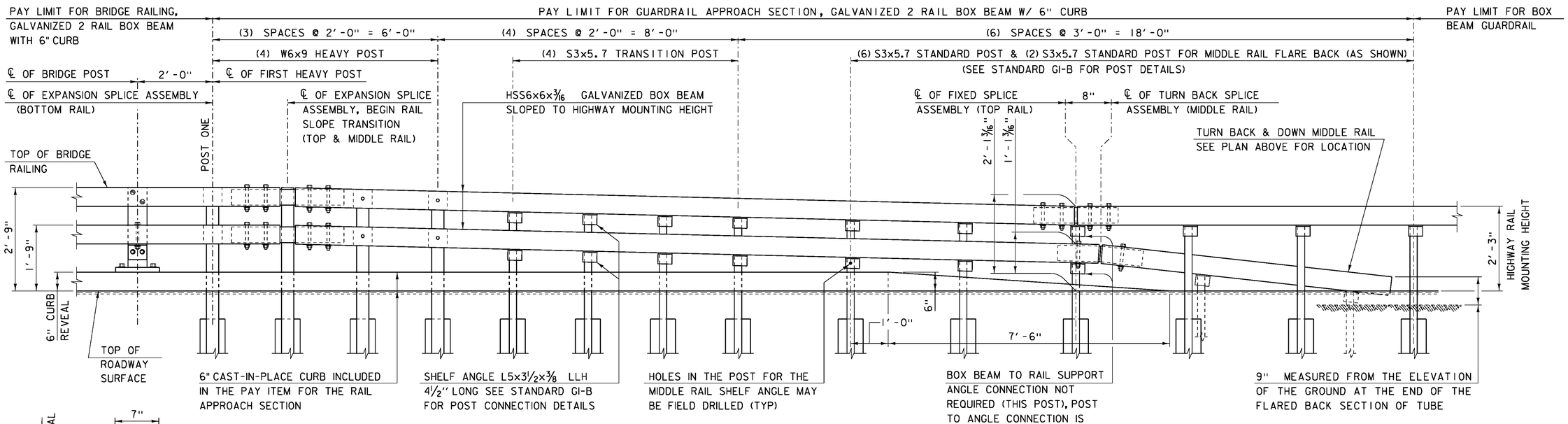
PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242rail.dgn
PROJECT LEADER: J.LACROIX
DESIGNED BY: U. STANLEY
BRIDGE RAIL DETAIL SHEET

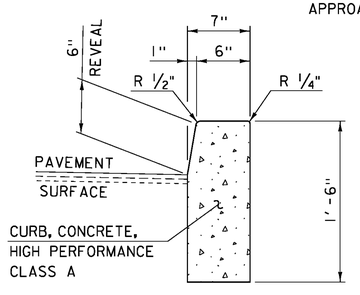
PLOT DATE: 27-JUL-2012
DRAWN BY: M.LONGSTREET
CHECKED BY: U.STANLEY
SHEET 58 OF 83



2 RAIL BOX BEAM APPROACH SECTION W/ 6" CURB PLAN VIEW



2 RAIL BOX BEAM APPROACH SECTION W/ 6" CURB ELEVATION



CAST-IN-PLACE APPROACH RAIL CONCRETE CURB DETAIL

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

NOTES:

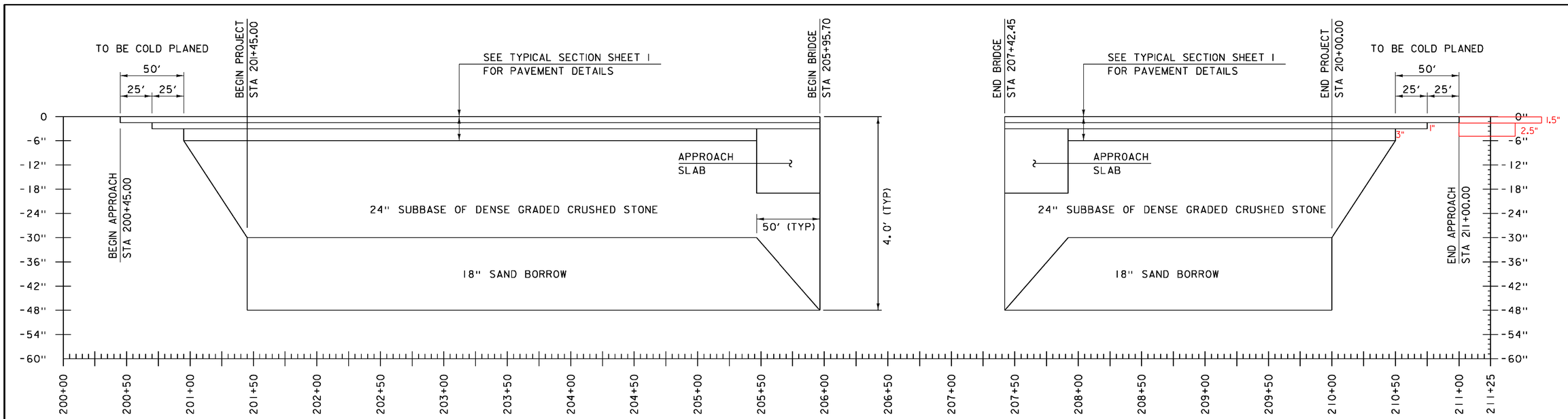
1. BOX BEAM TUBE AND STEEL POST MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED.

SEE STD S-364C FOR SPLICE DETAILS
SEE STD S-364D FOR TRANSITION POST
SEE STD G-IB FOR POST DETAILS

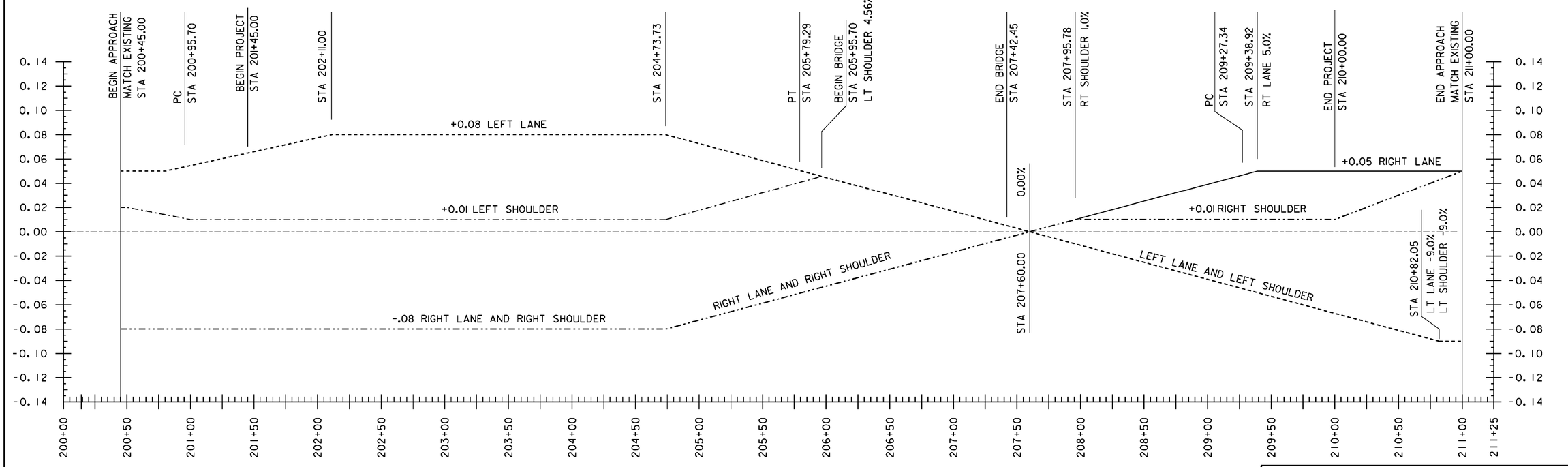
PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242rail.dgn
PROJECT LEADER: J.LACROIX
DESIGNED BY: U. STANLEY
BRIDGE APPROACH RAIL DETAIL SHEET

PLOT DATE: 27-JUL-2012
DRAWN BY: M.LONGSTREET
CHECKED BY: U.STANLEY
SHEET 59 OF 83

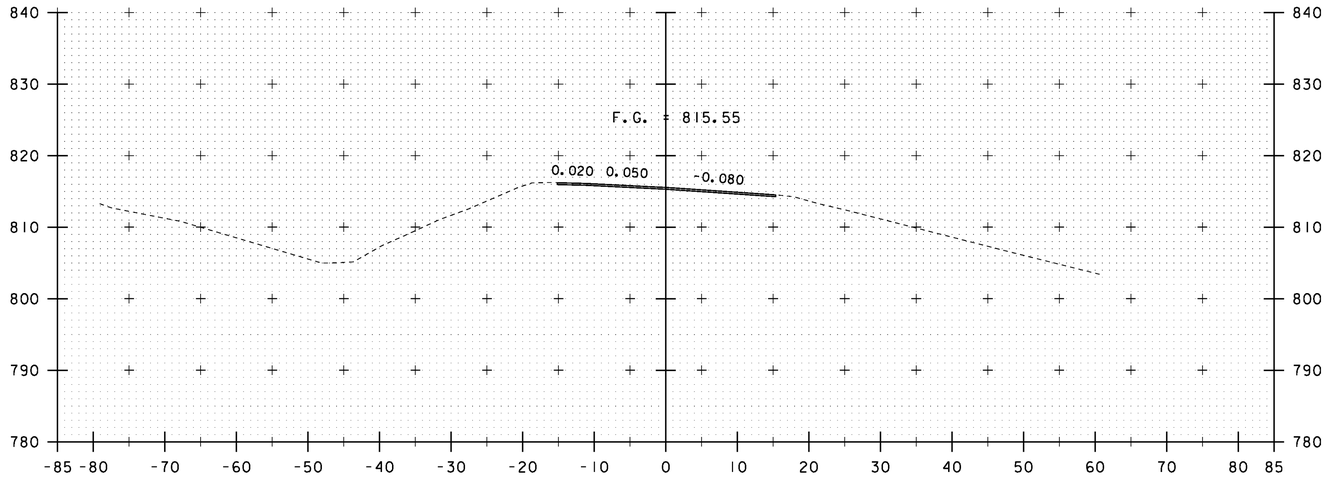


MATERIAL TRANSITION



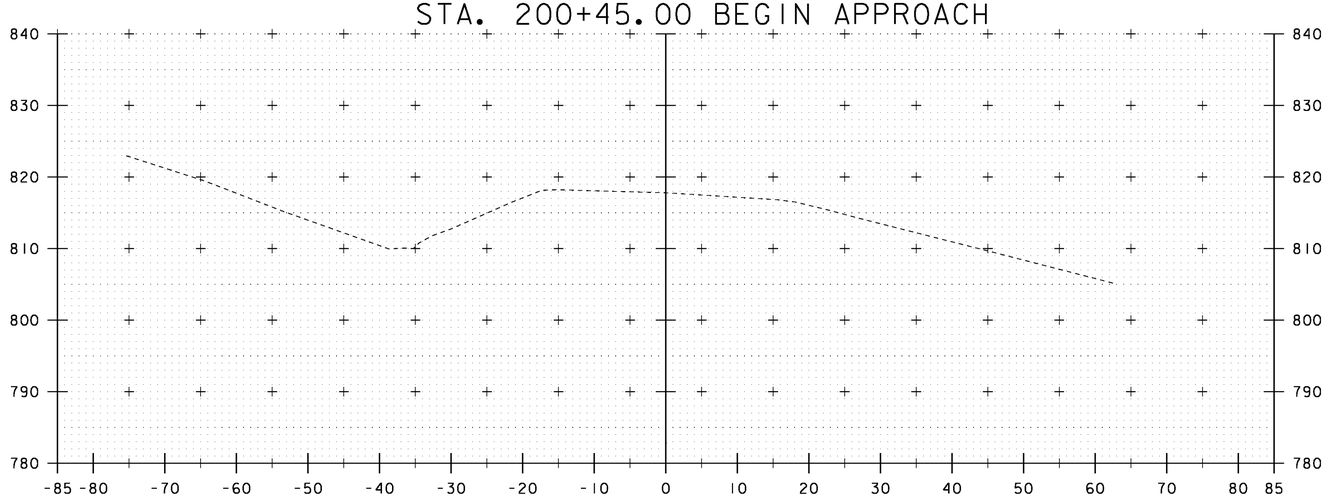
BANKING DIAGRAM

PROJECT NAME: WARREN	
PROJECT NUMBER: BRF 013-4 (14)	
FILE NAME: s78f242xs.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J. LACROIX	DRAWN BY: M. LONGSTREET
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
MATERIAL TRANSITION & BANKING DIAGRAM	SHEET 60 OF 83



200+50

STA. 200+45.00 BEGIN APPROACH



200+00

SCALE 1" = 10'-0"

10 0 10

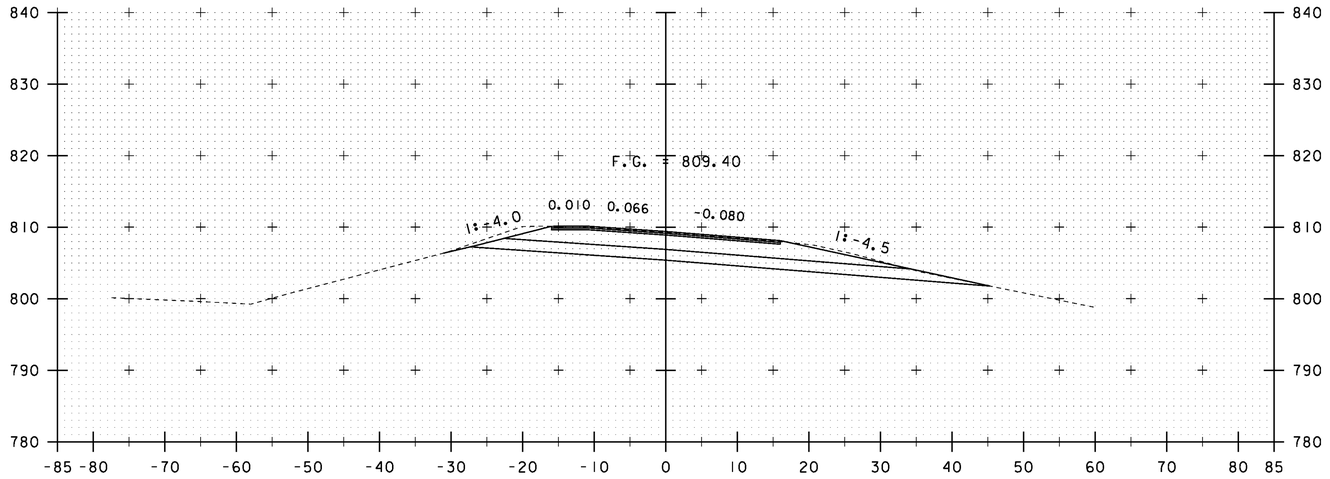
STA. 200+00 TO STA. 200+50

PROJECT NAME: WARREN

PROJECT NUMBER: BRF 013-4 (14)

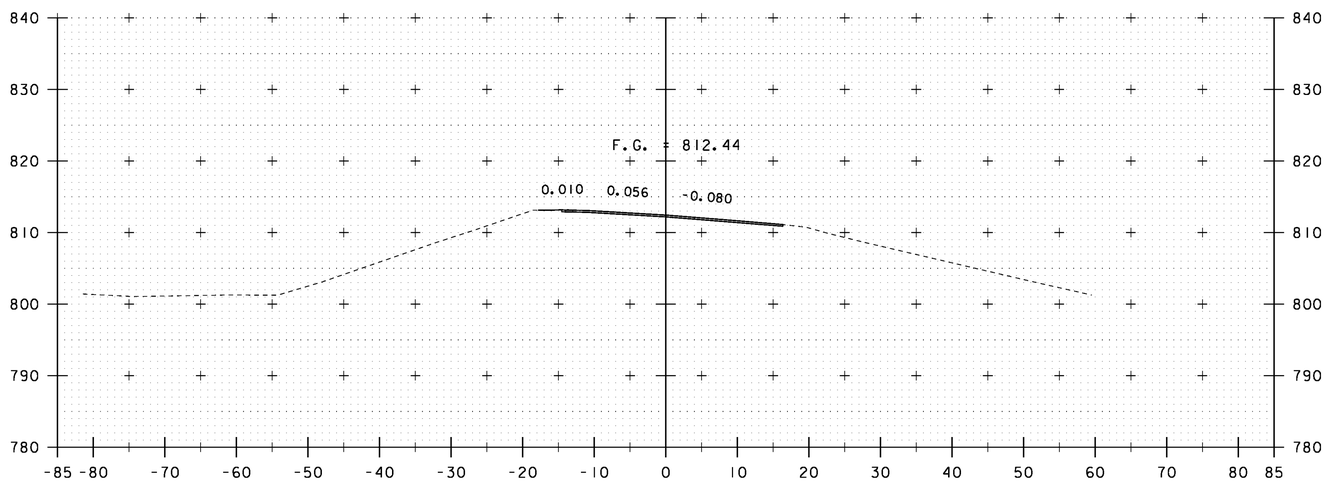
FILE NAME: s78f242xs.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
VT 100 CROSS SECTIONS SHEET 1

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 61 OF 83



201+50

STA. 201+45.00 END APPROACH BEGIN PROJECT



201+00

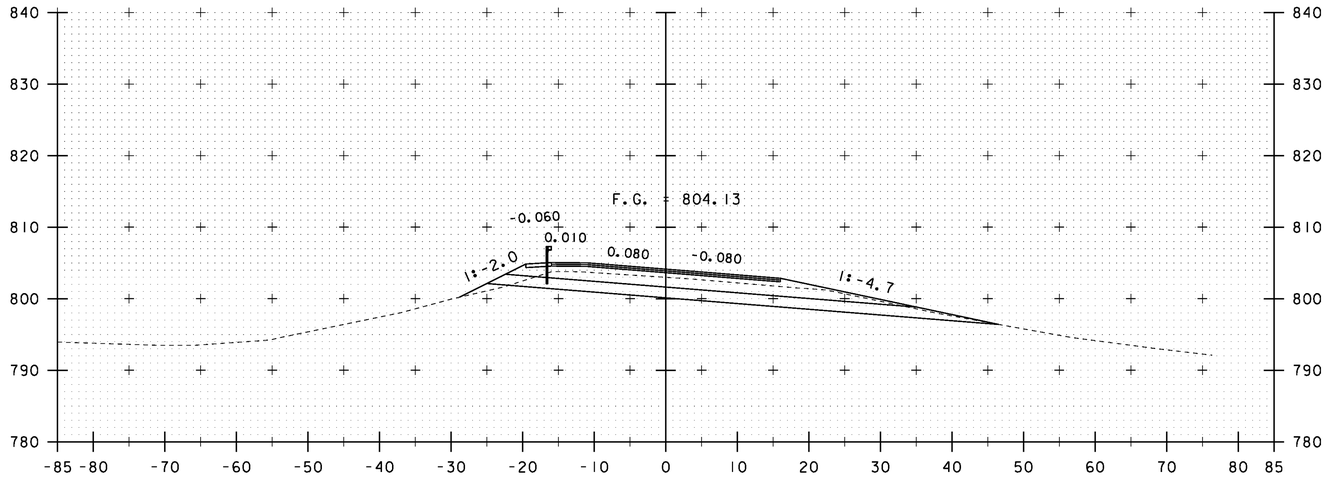
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STA. 201+00 TO STA. 201+50

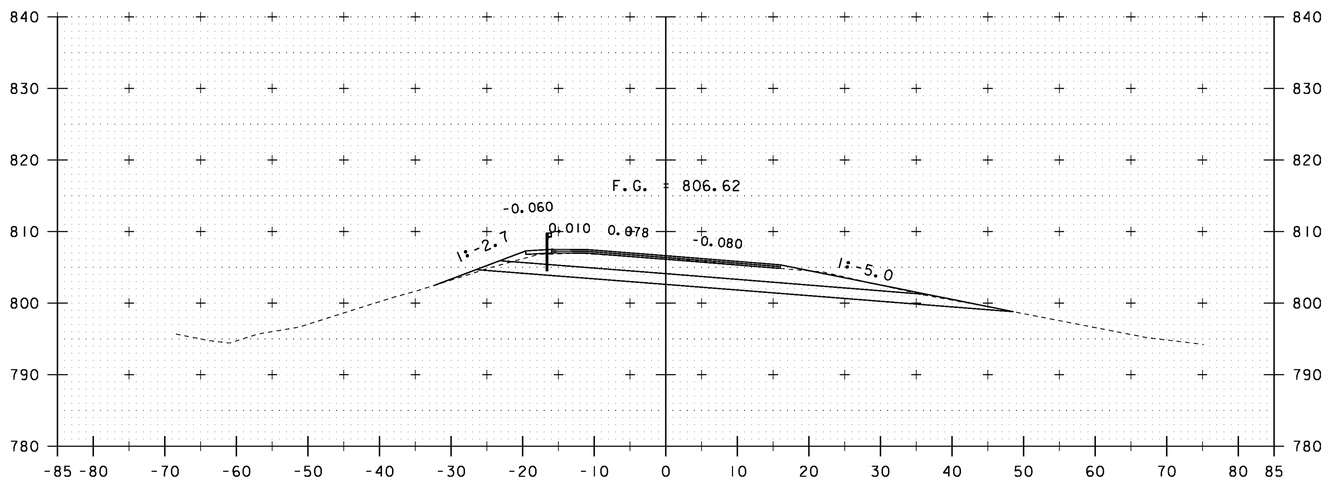
PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242xs.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
VT 100 CROSS SECTIONS SHEET 2

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 62 OF 83



202+50



202+00

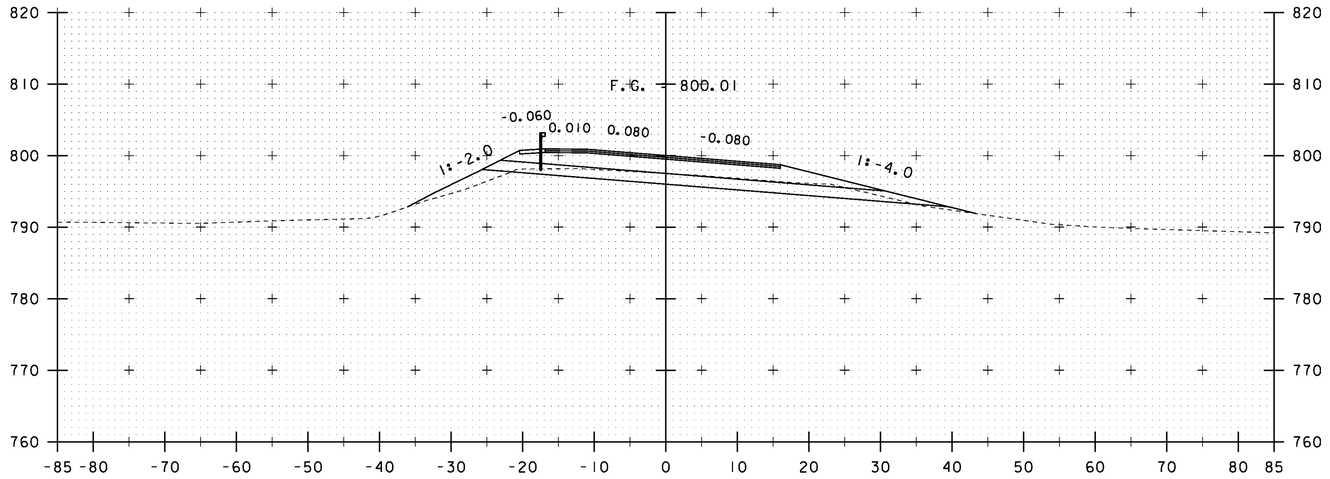
SCALE 1" = 10'-0"
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STA. 202+00 TO STA. 202+50

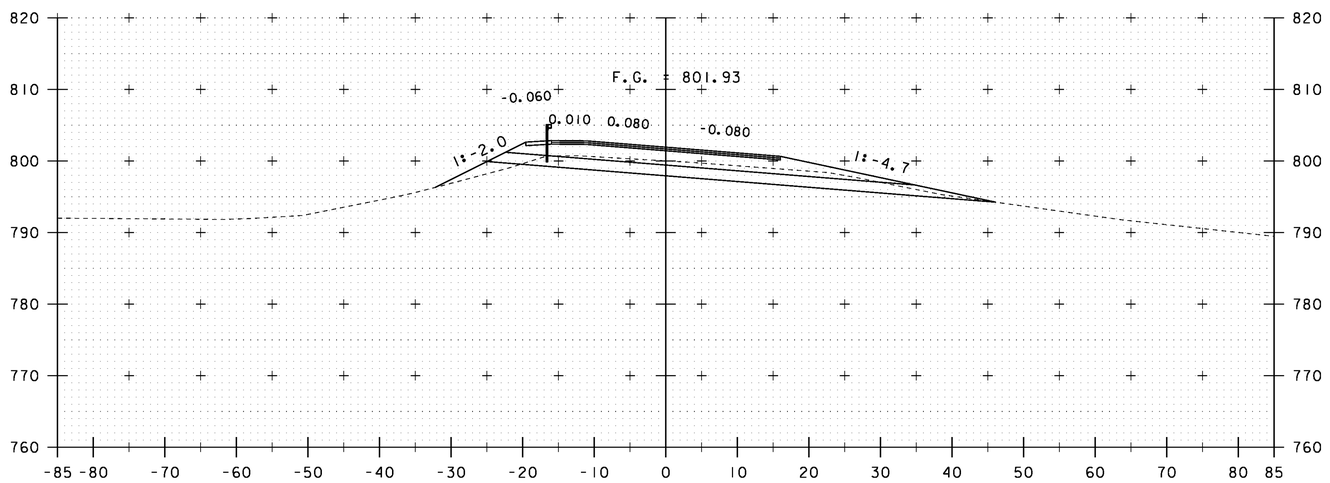
PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242xs.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
VT 100 CROSS SECTIONS SHEET 3

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 63 OF 83



203+50



203+00

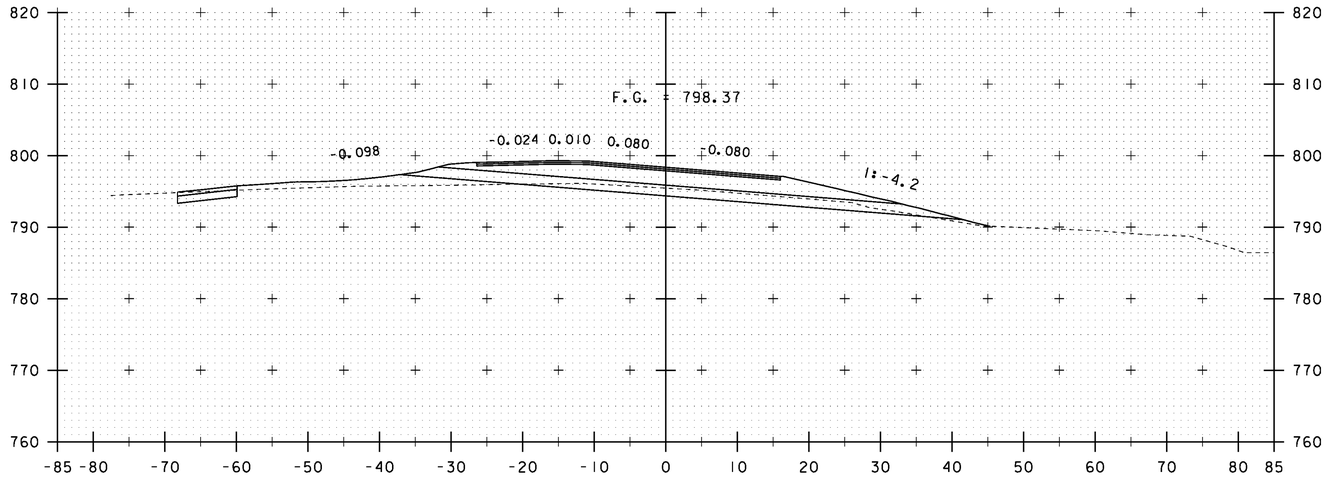
SCALE 1" = 10'-0"
10 0 10

STA. 203+00 TO STA. 203+50

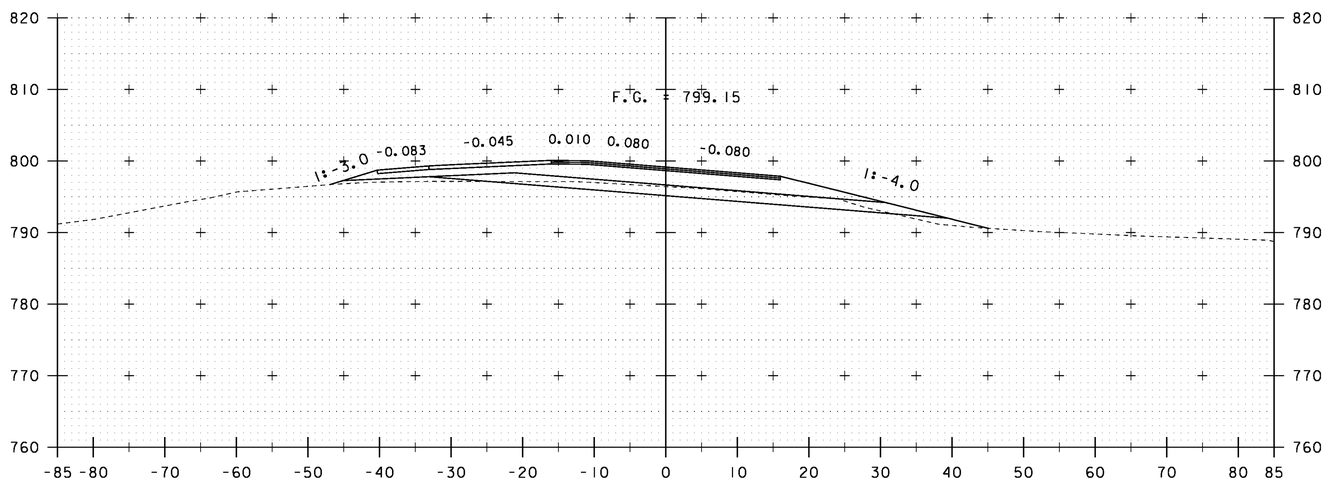
PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242xs.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
VT 100 CROSS SECTIONS SHEET 4

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 64 OF 83



204+00



203+75
DRIVE LEFT

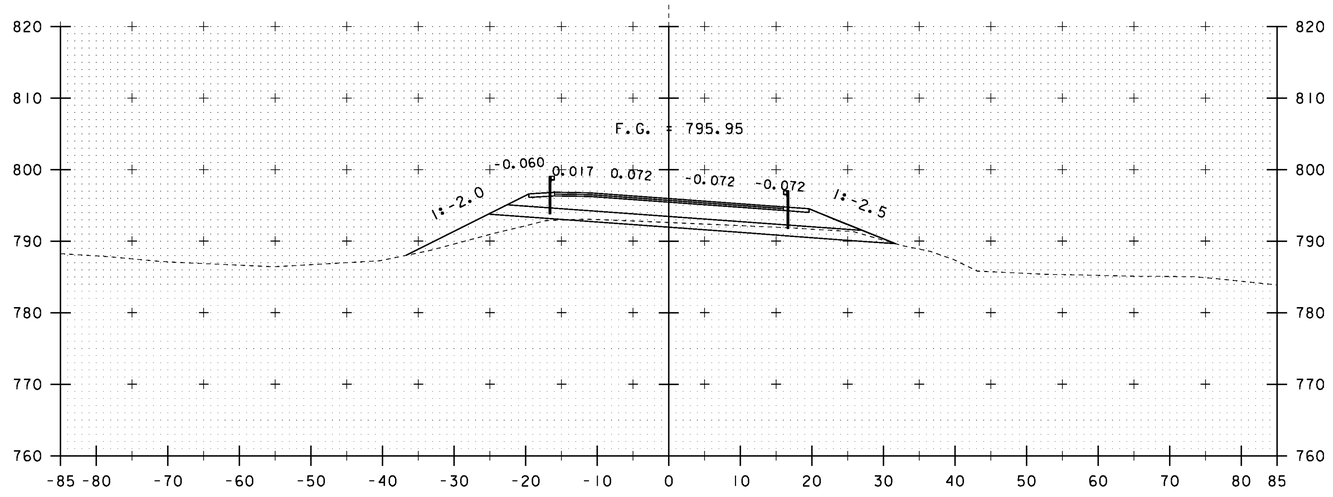
SCALE 1" = 10'-0"
10 0 10

STA. 203+75 TO STA. 204+00

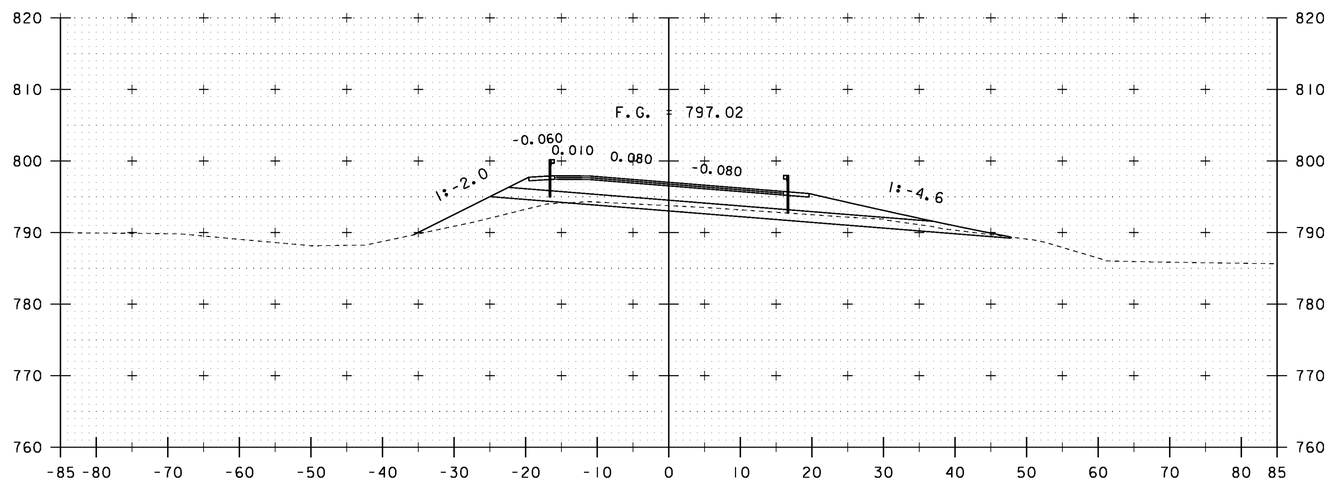
PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242xs.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
VT 100 CROSS SECTIONS SHEET 5

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 65 OF 83



205+00



204+50

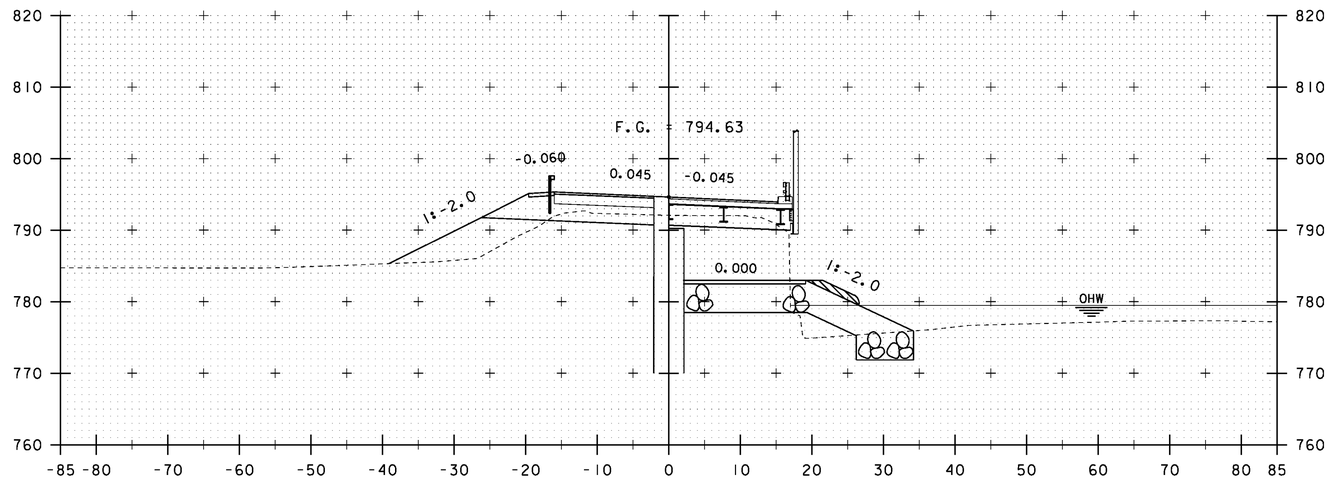
SCALE 1" = 10'-0"
10 0 10

STA. 204+50 TO STA. 205+00

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

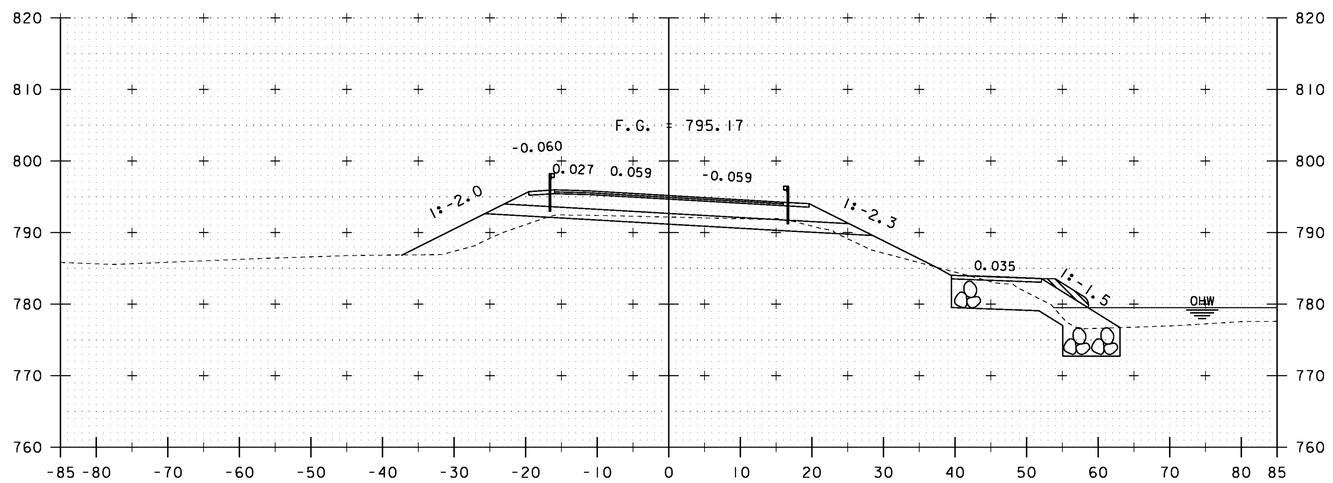
FILE NAME: s78f242xs.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
VT 100 CROSS SECTIONS SHEET 6

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 66 OF 83



206+00

BEGIN BRIDGE STA. 205+95.70



205+50

SCALE 1" = 10'-0"

10 0 10

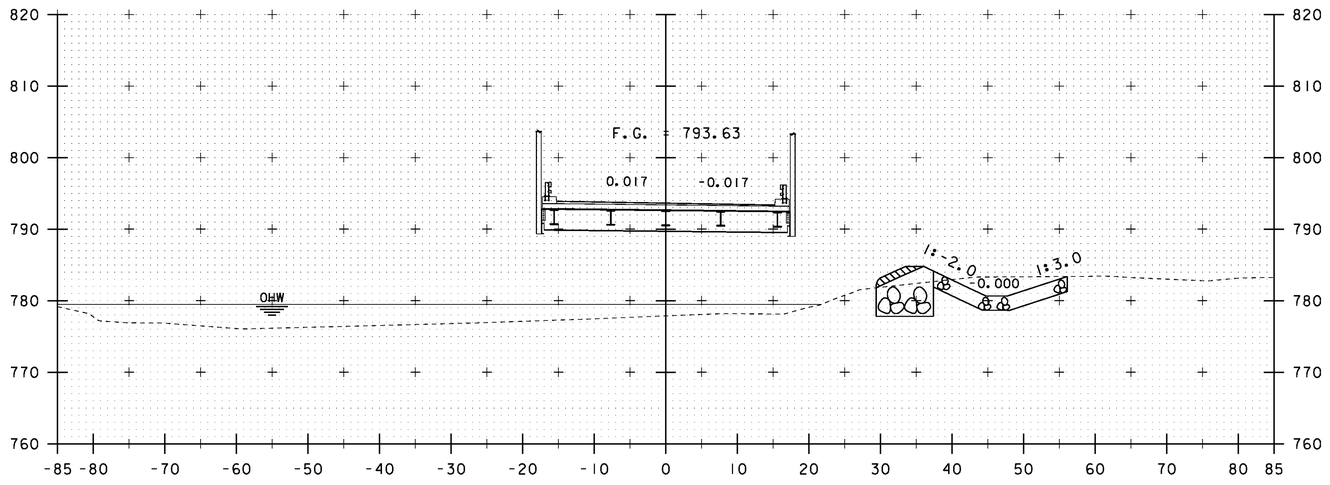
STA. 205+50 TO STA. 206+00

PROJECT NAME: WARREN

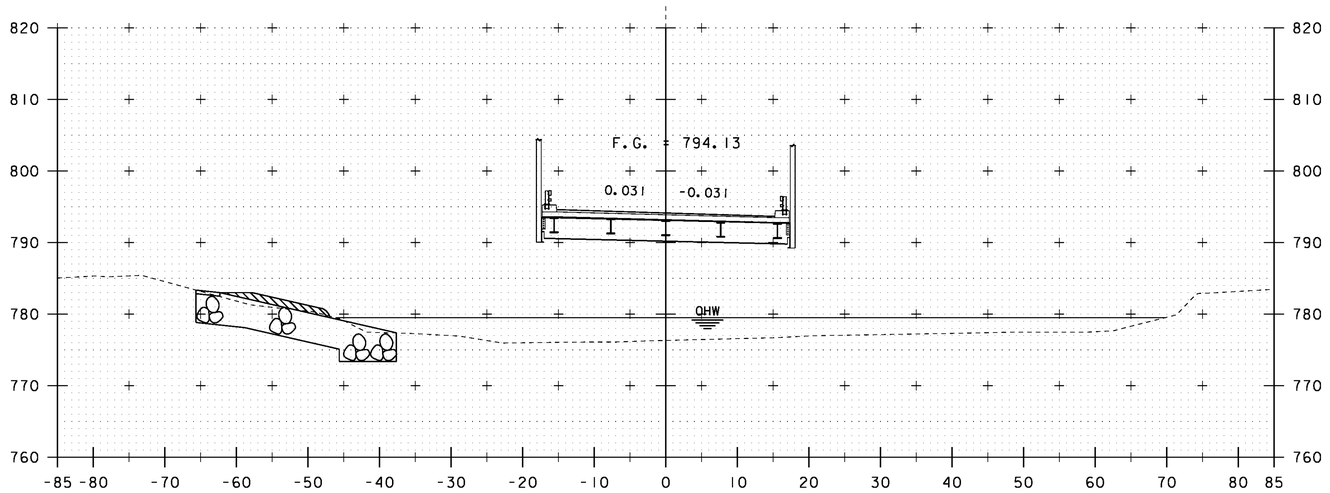
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242xs.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
VT 100 CROSS SECTIONS SHEET 7

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 67 OF 83



207+00



206+50

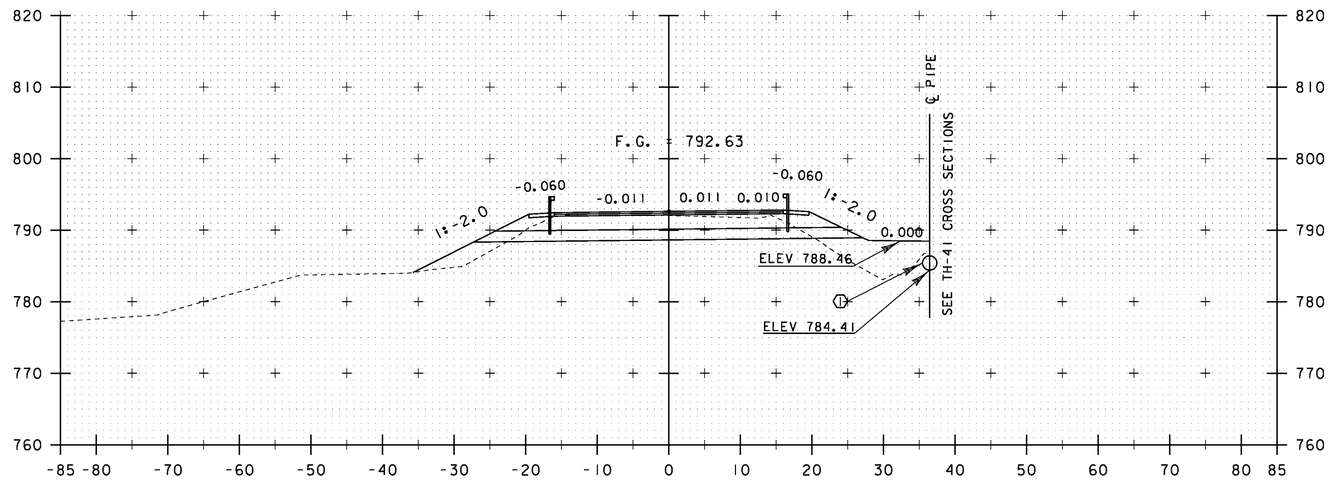
SCALE 1" = 10'-0"
10 0 10

STA. 206+50 TO STA. 207+00

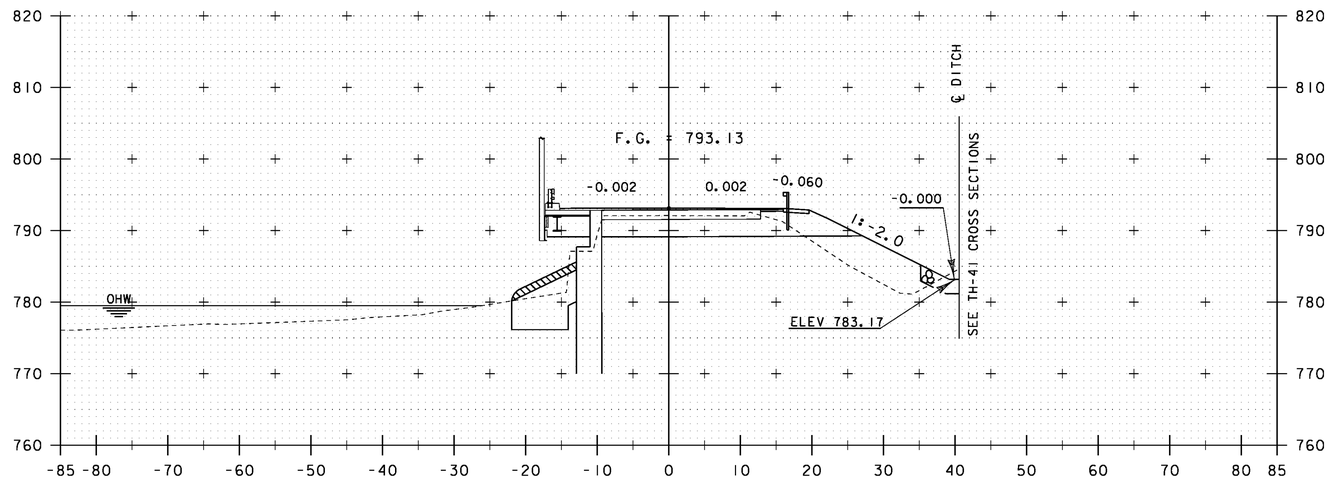
PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242xs.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
VT 100 CROSS SECTIONS SHEET 8

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 68 OF 83



208+00



207+50

END BRIDGE STA. 207+42.45

SCALE 1" = 10'-0"

10 0 10

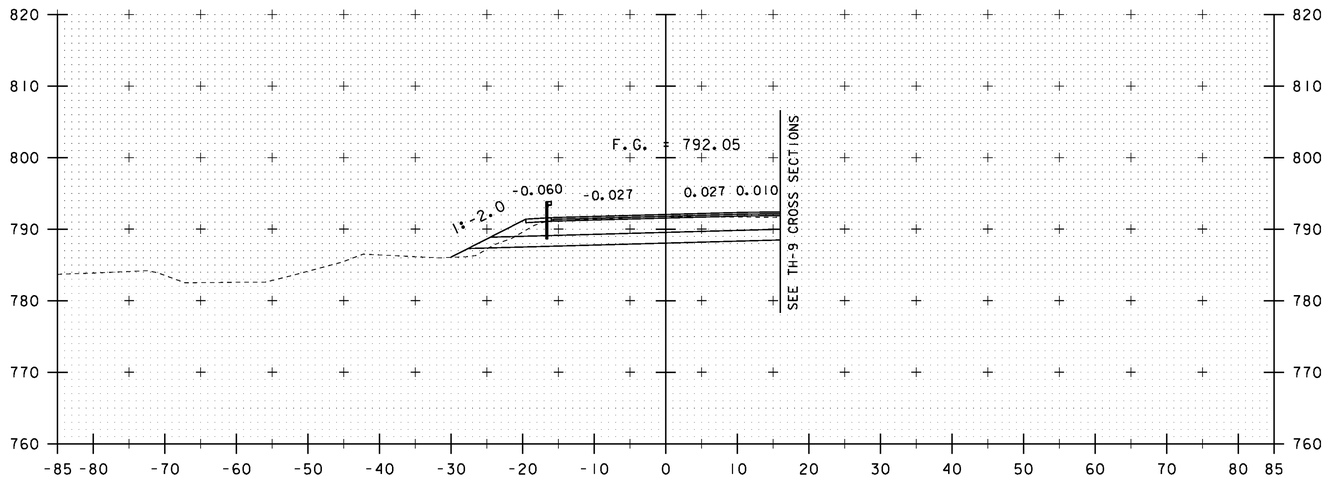
STA. 207+50 TO STA. 208+00

PROJECT NAME: WARREN

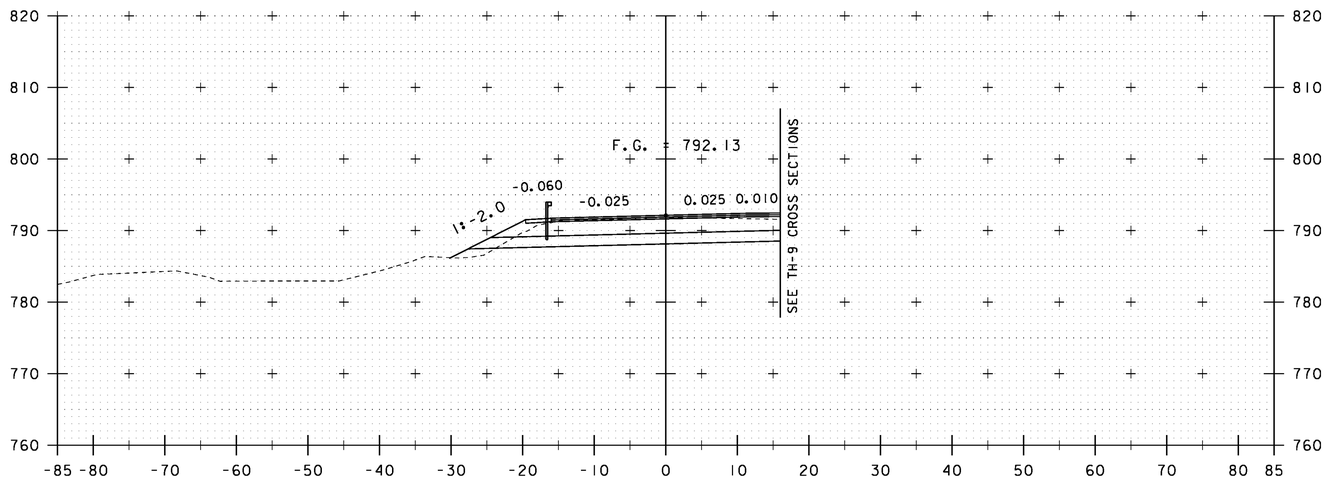
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242xs.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
VT 100 CROSS SECTIONS SHEET 9

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 69 OF 83



208+58 TH-9 (LEFT)



208+50

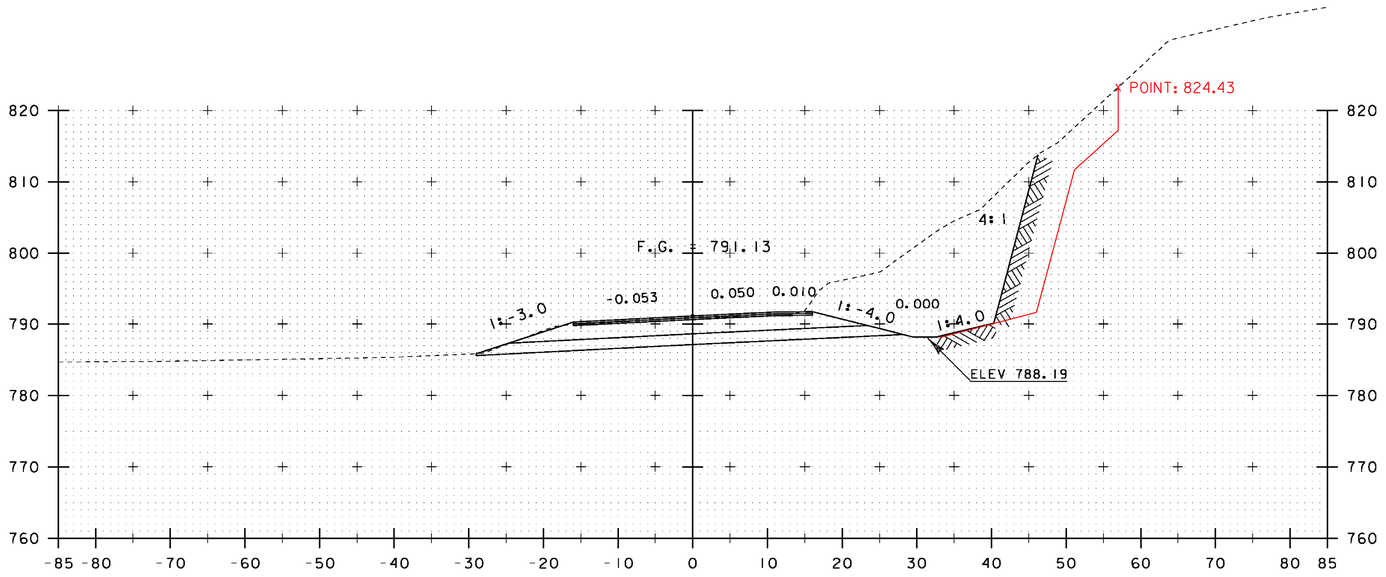
SCALE 1" = 10'-0"
10 0 10

STA. 208+50 TO STA. 208+58

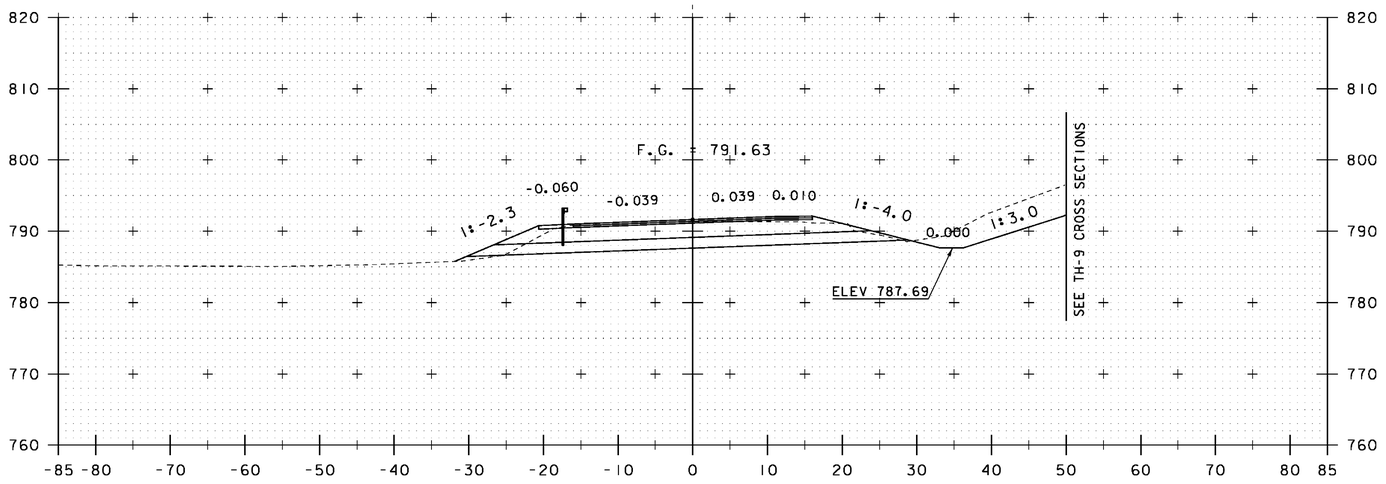
PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242xs.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
VT 100 CROSS SECTIONS SHEET 10

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 70 OF 83



209+50



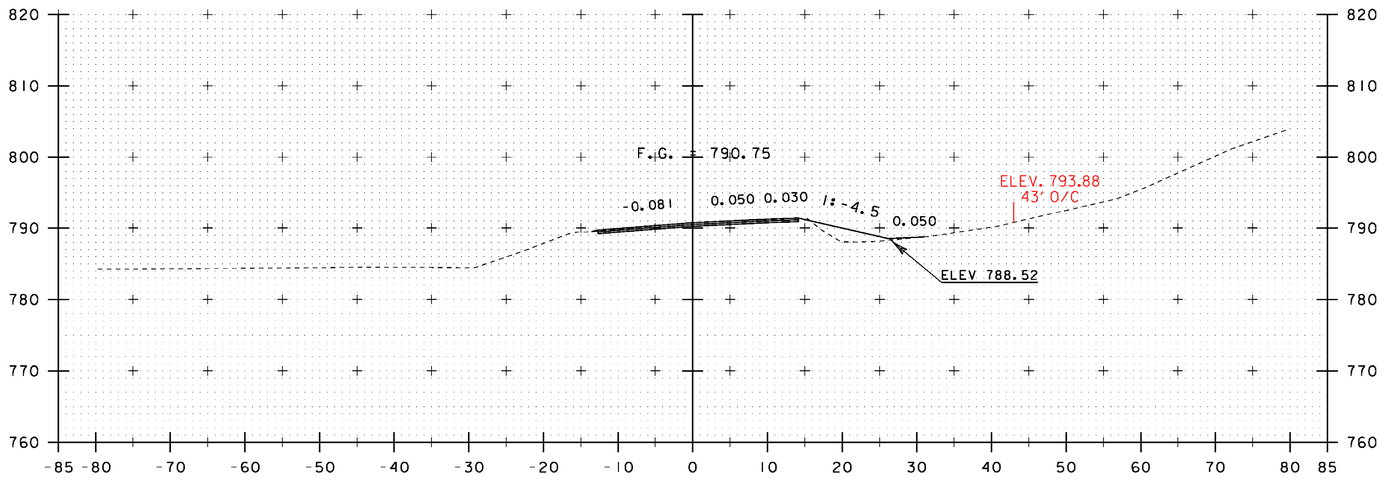
209+00

BEGIN - SOLID ROCK EXCAVATION

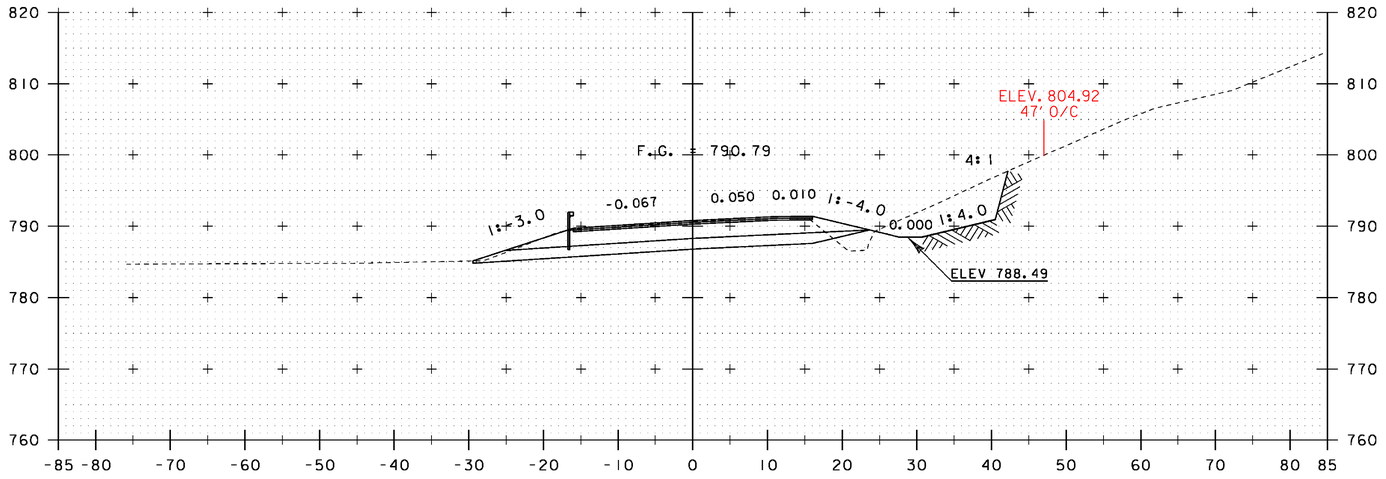
SCALE 1" = 10'-0"
10 0 10

STA. 209+00 TO STA. 209+50

PROJECT NAME: WARREN	
PROJECT NUMBER: BRF 013-4 (14)	
FILE NAME: s78f242xs.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J. LACROIX	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
VT 100 CROSS SECTIONS SHEET II	SHEET 71 OF 83



210+50



210+00

STA. 210+00.00 END PROJECT BEGIN APPROACH
END - SOLID ROCK EXCAVATION

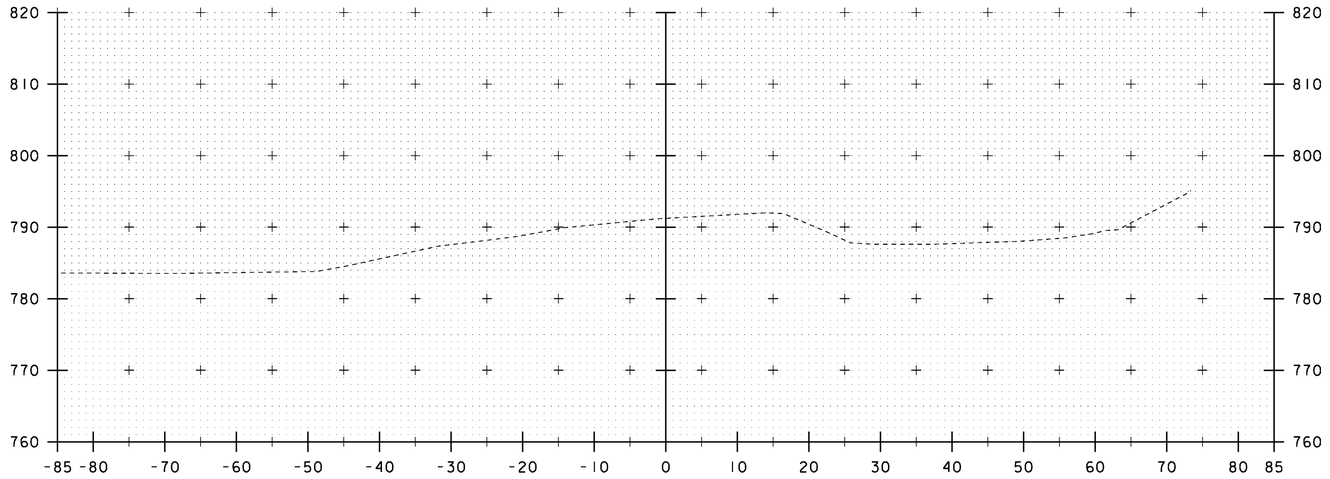
SCALE 1" = 10'-0"
10 0 10

STA. 210+00 TO STA. 210+50

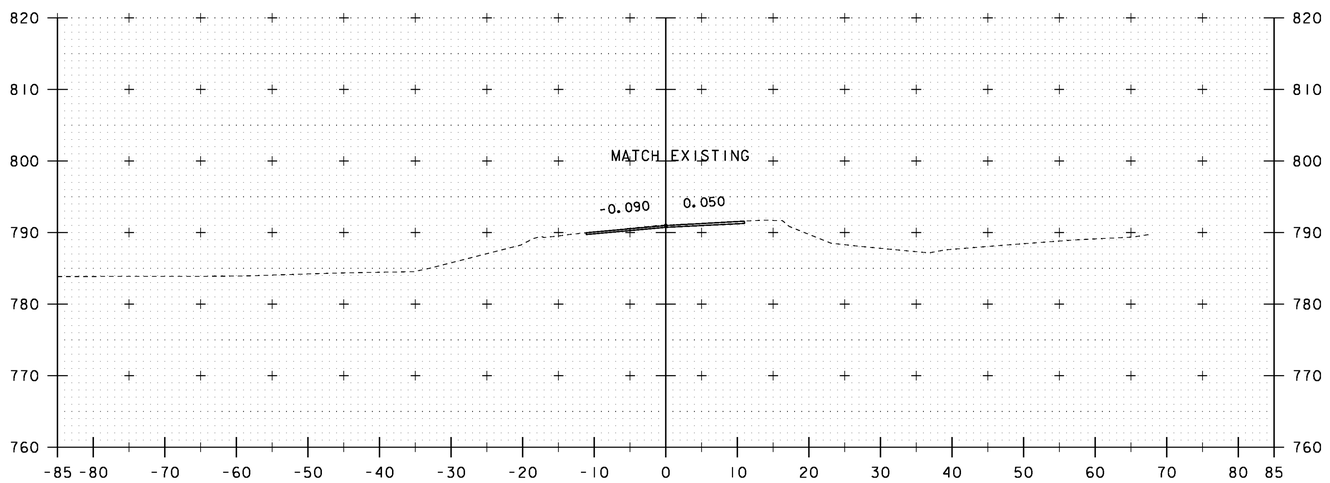
PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242xs.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
VT 100 CROSS SECTIONS SHEET 12

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 72 OF 83



211+30



211+00
END APPROACH

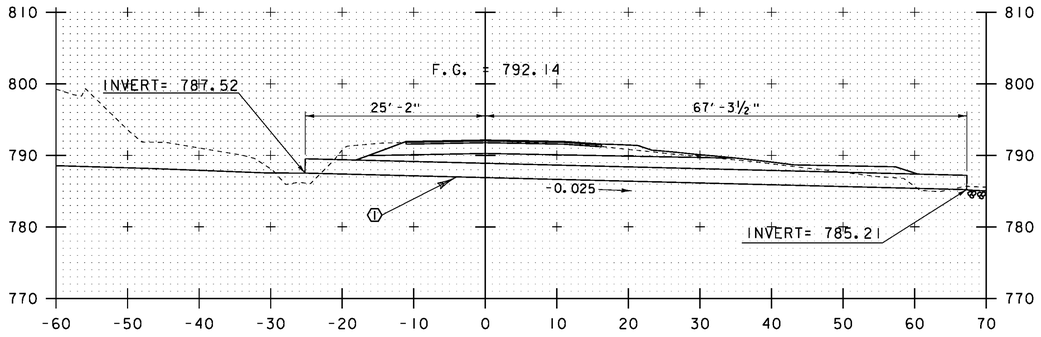
SCALE 1" = 10'-0"
10 0 10

STA. 211+00 TO STA. 211+30

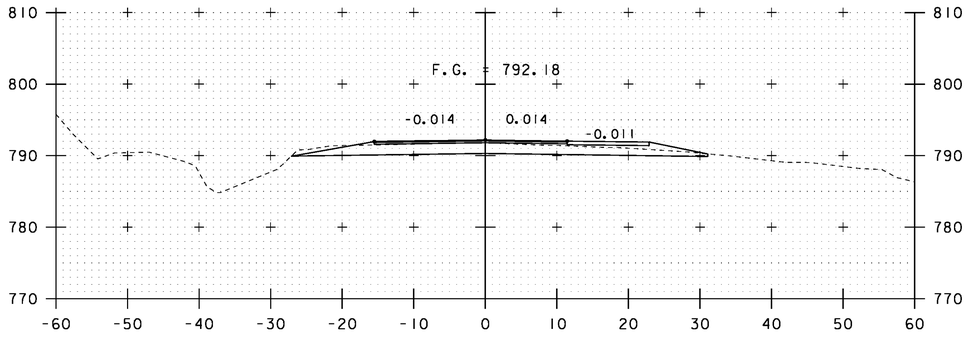
PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242xs.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
VT 100 CROSS SECTIONS SHEET 13

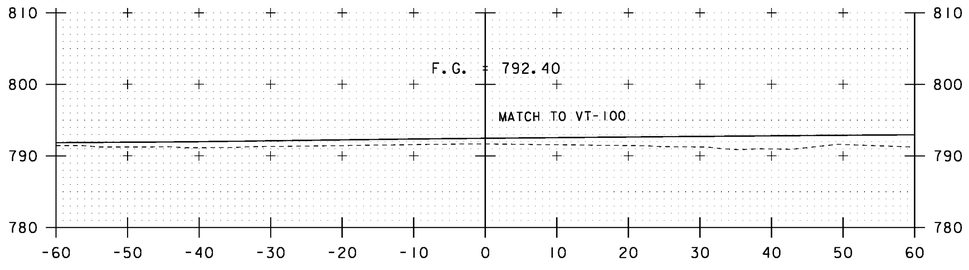
PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 73 OF 83



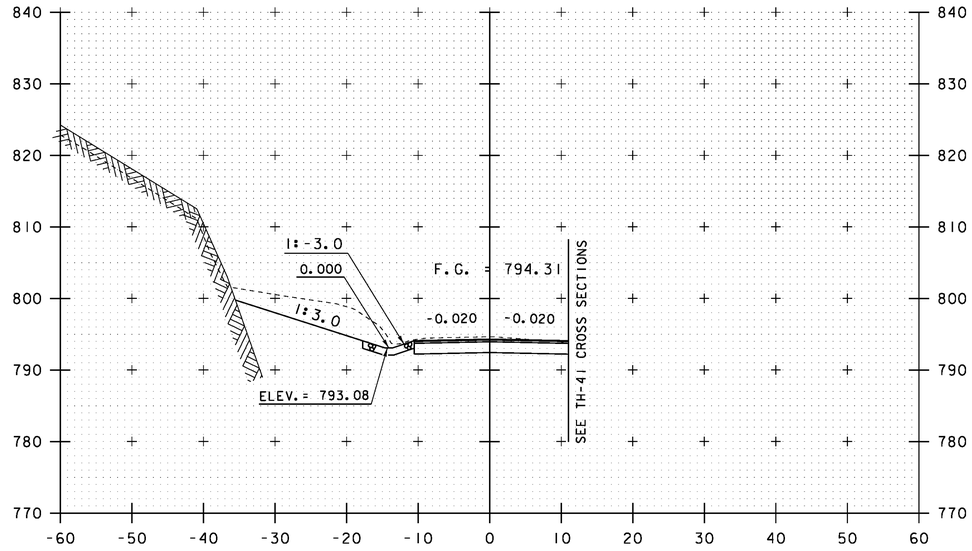
300+37
SKEWED PIPE SECTION



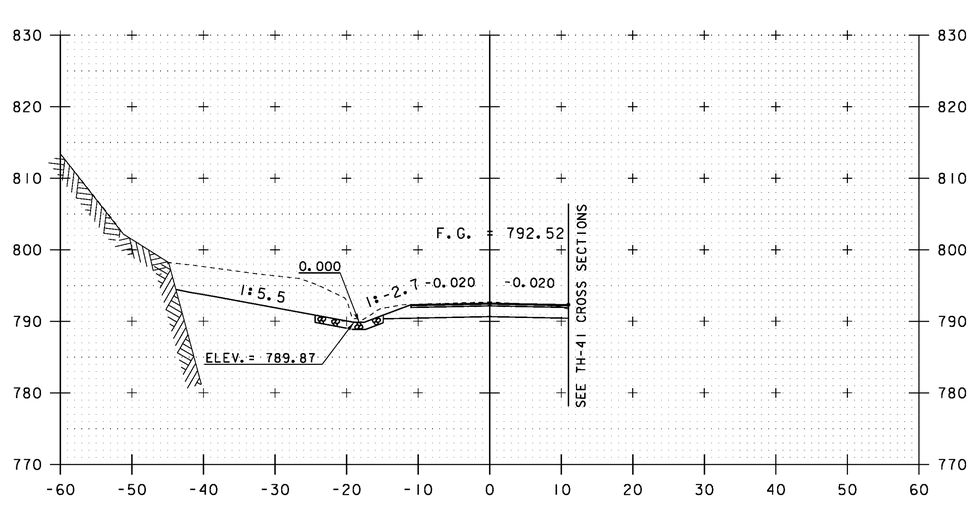
300+25



300+16
SHOULDER OF VT-100



300+75



300+50

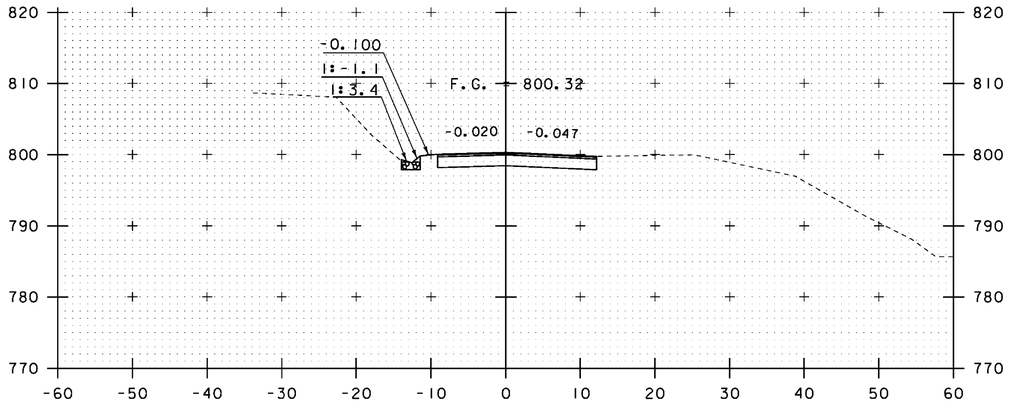
SCALE 1" = 10'-0"
10 0 10

STA. 300+16 TO STA. 300+75

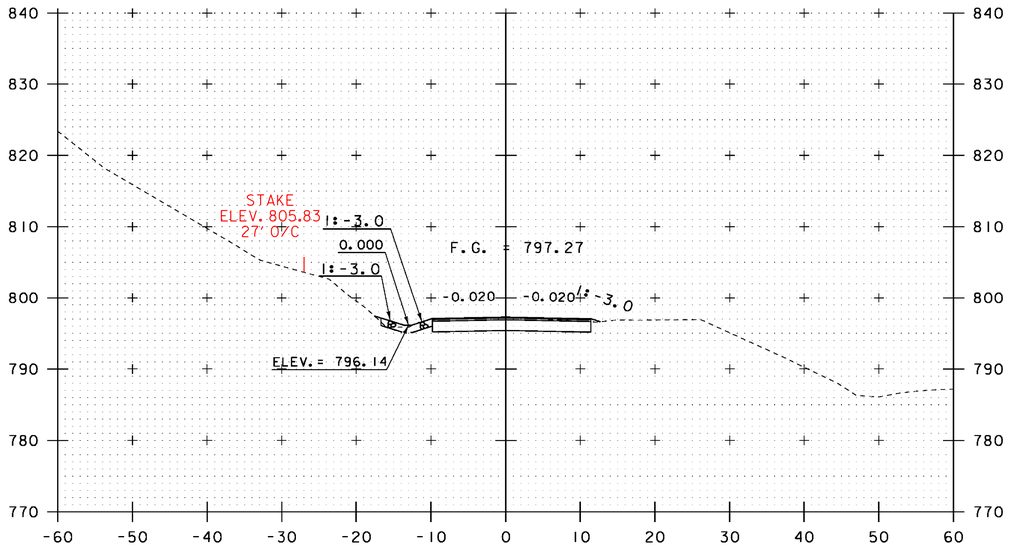
PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4(14)

FILE NAME: s78f242xs.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
TH 9 CROSS SECTION SHEET 1

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 74 OF 83



301+25



301+00

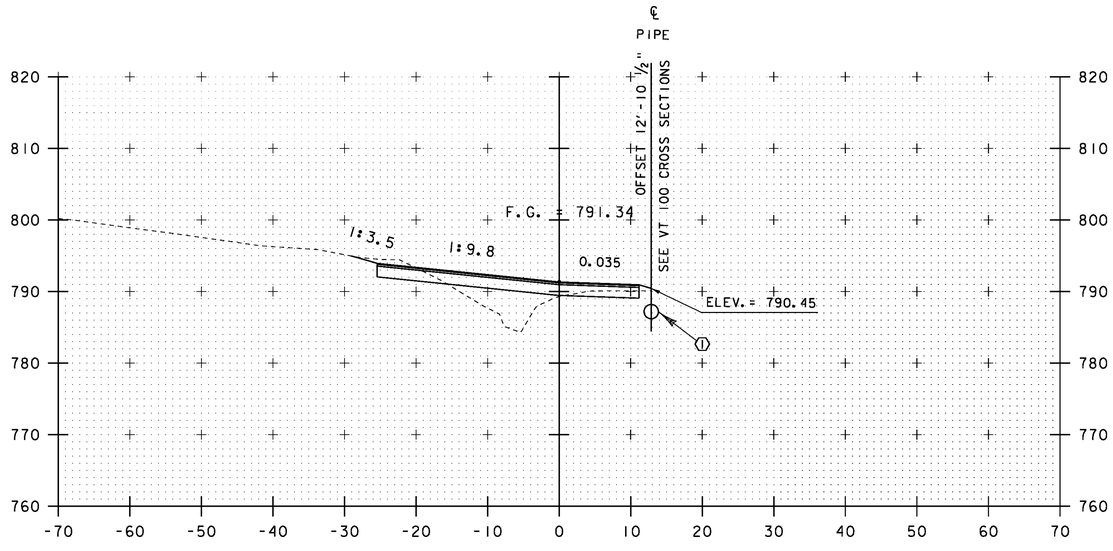
SCALE 1" = 10'-0"
10 0 10

STA. 301+00 TO STA. 300+25

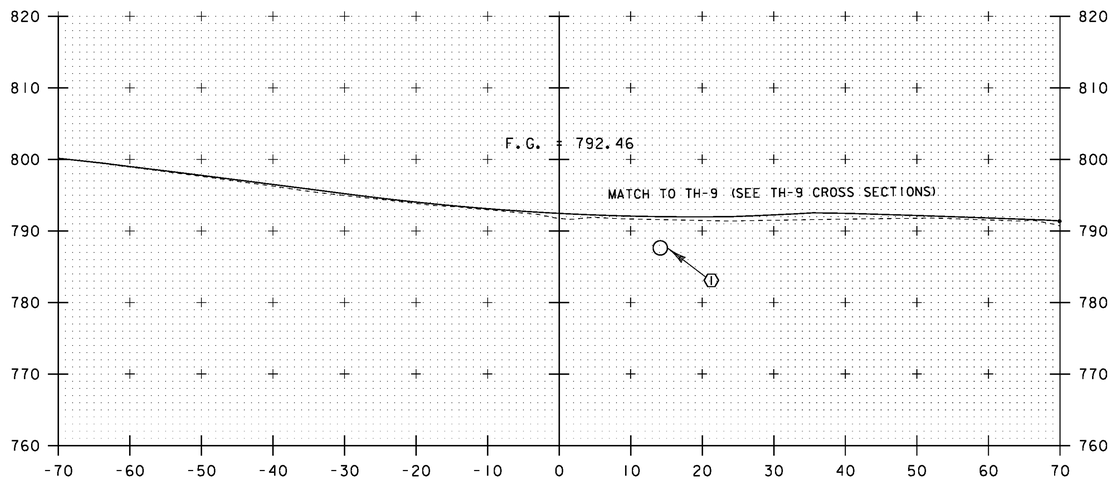
PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4(14)

FILE NAME: s78f242xs.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
TH 9 CROSS SECTION SHEET 2

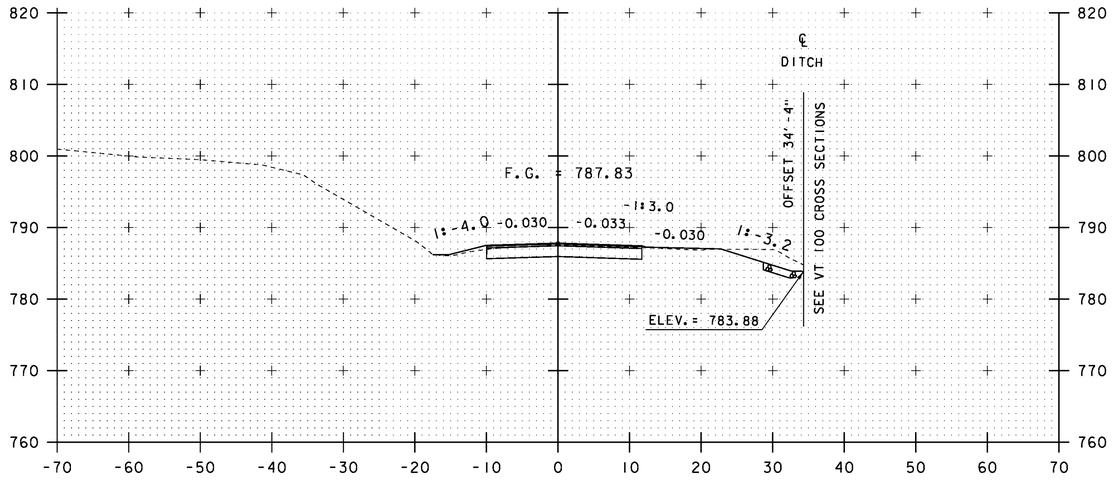
PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 75 OF 83



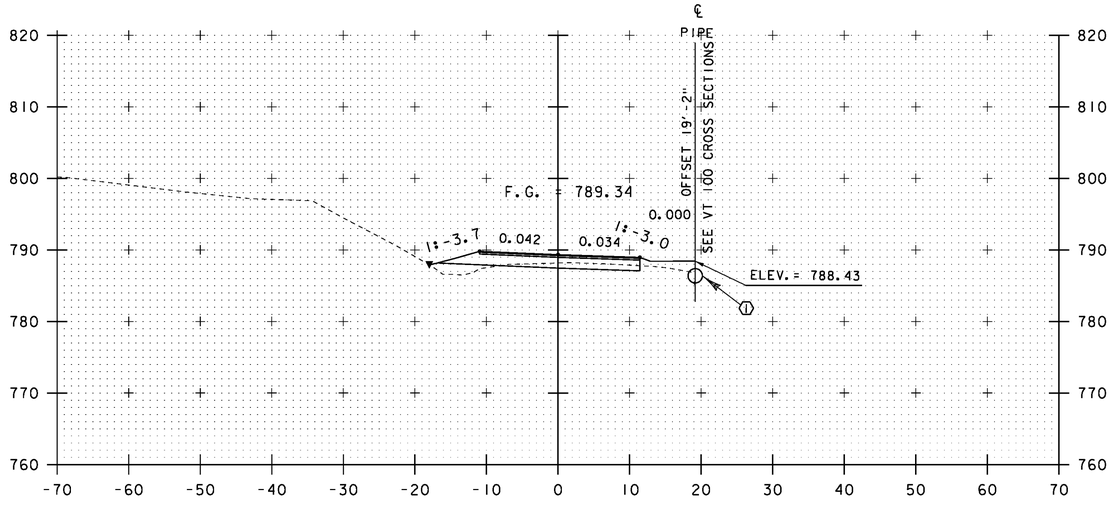
400+25



400+11



400+75

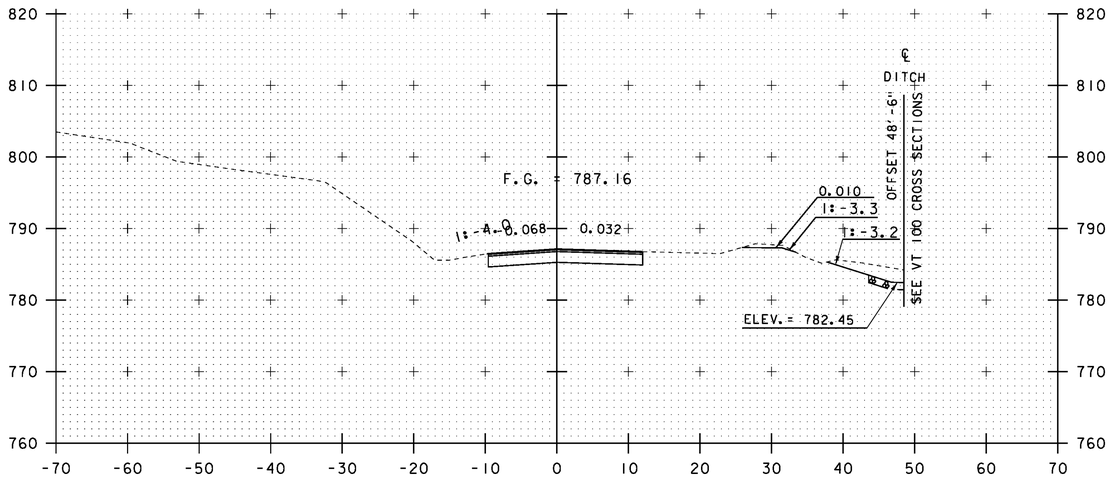


400+50

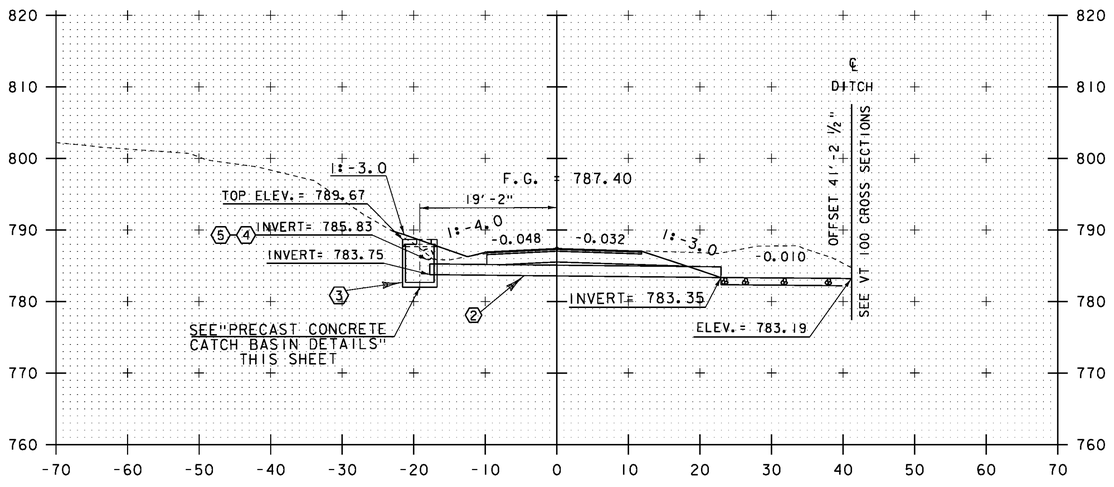
SCALE 1" = 10'-0"
10 0 10

STA. 400+00 TO STA. 400+75

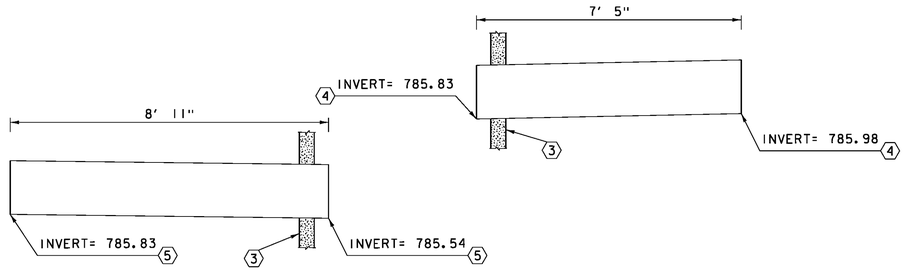
PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4(14)
FILE NAME: s78f242xs.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J. LACROIX	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
TH 41 CROSS SECTION SHEET 1	SHEET 76 OF 83



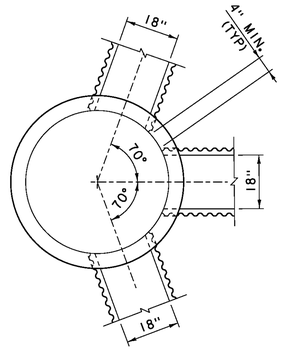
401+00



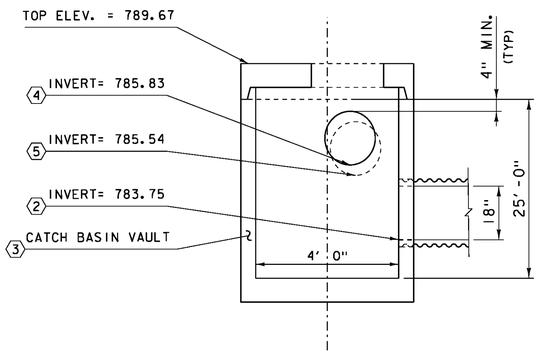
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PIPE PROFILES NOTES 4 & 5



PLAN



ELEVATION

PRECAST CONCRETE CATCH BASIN DETAILS

SCALE ½" = 1'-0"

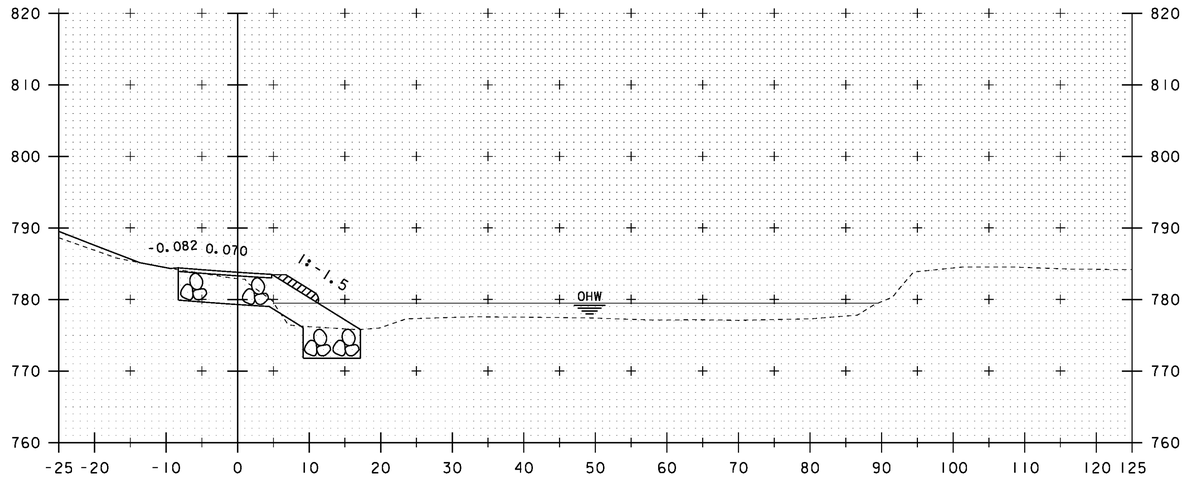
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STA. 400+87 TO STA. 401+00

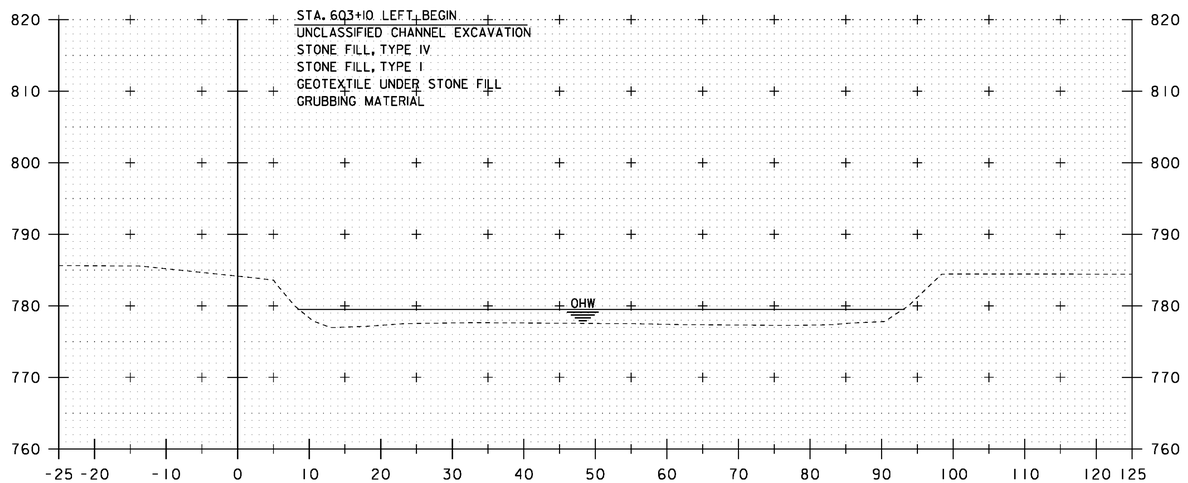
PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4(14)

FILE NAME: s78f242xs.dgn
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
TH 41 CROSS SECTION SHEET 2

PLOT DATE: 27-JUL-2012
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 77 OF 83



603+25

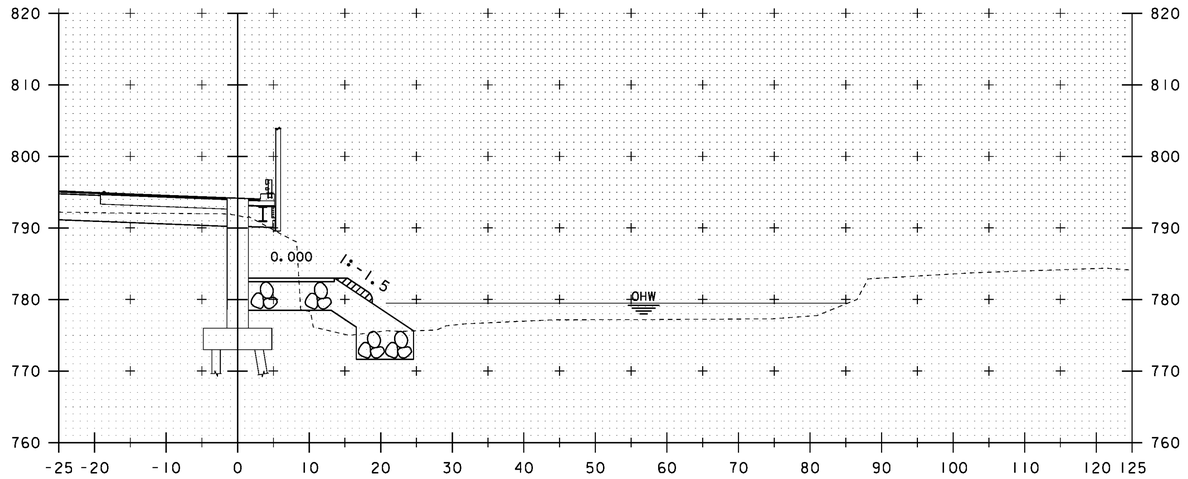


603+00

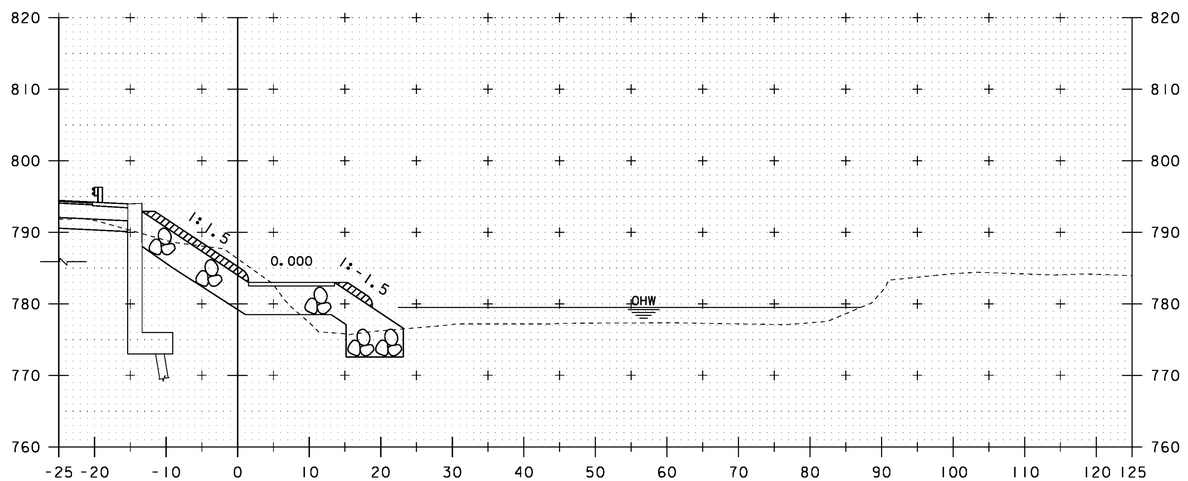
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STA. 603+00 TO STA. 603+25

PROJECT NAME: WARREN	
PROJECT NUMBER: BRF 013-4(14)	
FILE NAME: s78f242xs.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J. LACROIX	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
CHANNEL CROSS SECTION SHEET 1	SHEET 78 OF 83



603+75

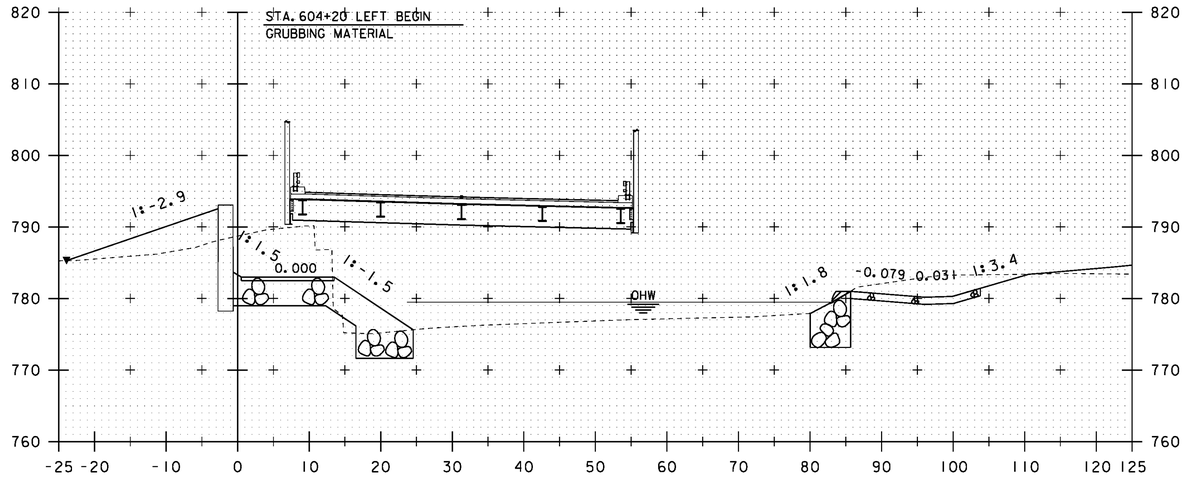


603+50

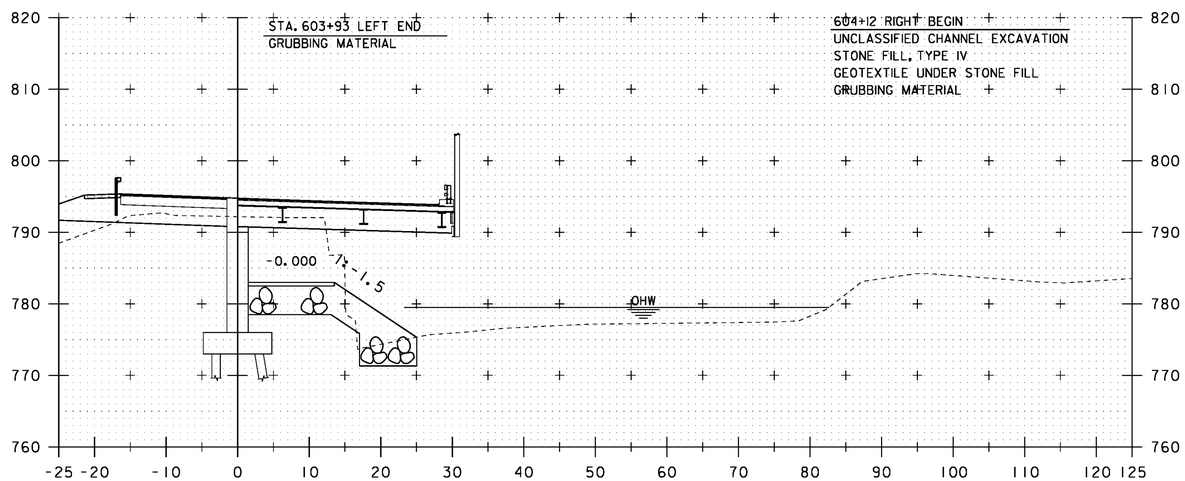
SCALE 1" = 10'-0"
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STA. 603+50 TO STA. 603+75

PROJECT NAME: WARREN	
PROJECT NUMBER: BRF 013-4(14)	
FILE NAME: s78f242xs.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J. LACROIX	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
CHANNEL CROSS SECTION SHEET 2	SHEET 79 OF 83



604+25

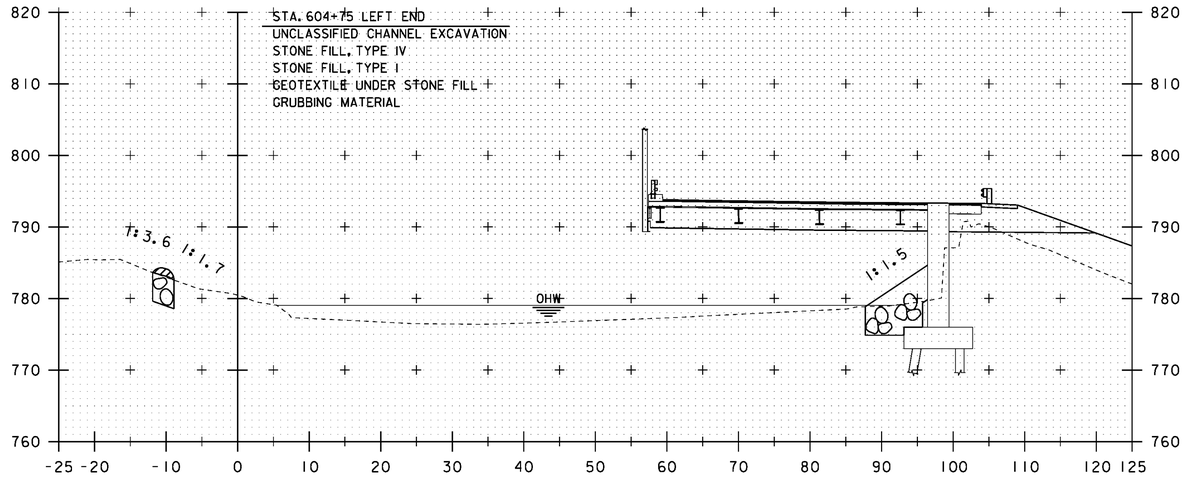


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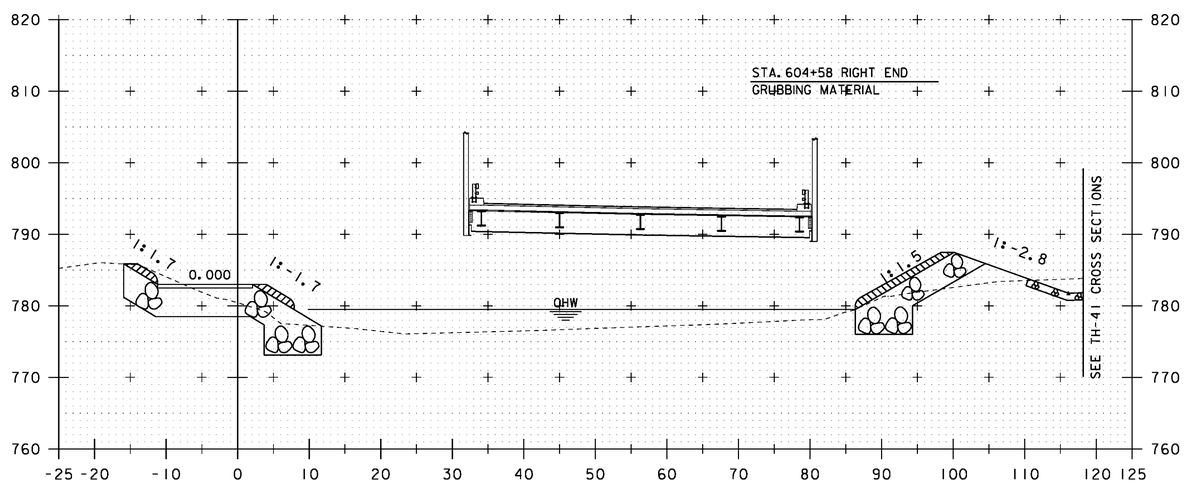
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STA. 604+00 TO STA. 604+25

PROJECT NAME: WARREN	
PROJECT NUMBER: BRF 013-4(14)	
FILE NAME: s78f242xs.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J. LACROIX	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
CHANNEL CROSS SECTION SHEET 3	SHEET 80 OF 83



604+75

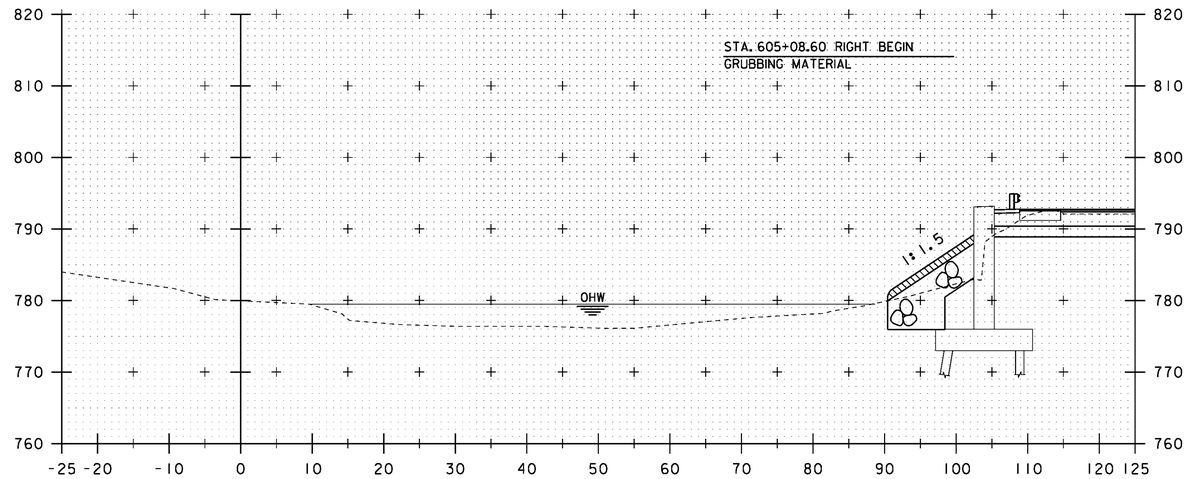


604+50

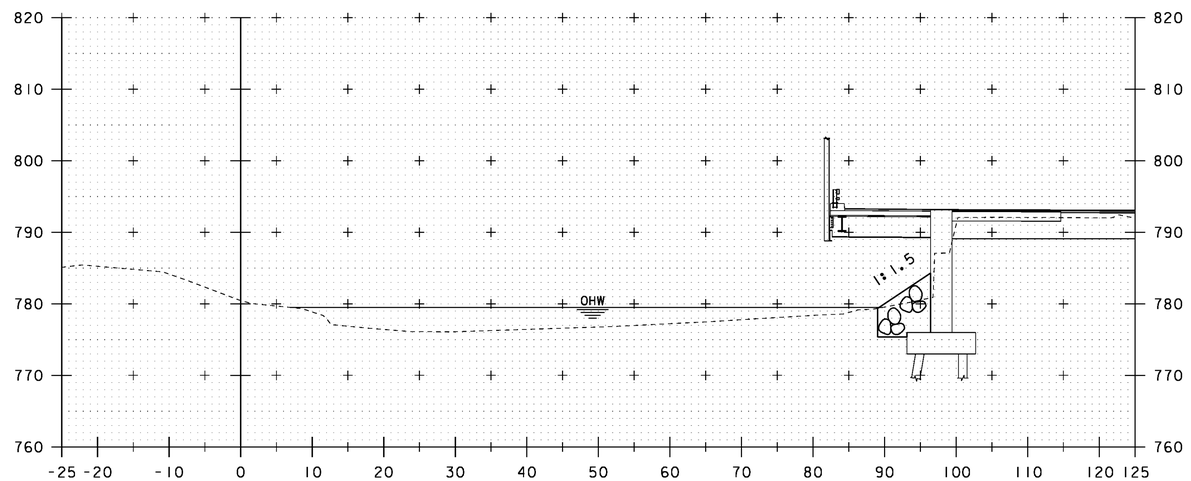
SCALE 1" = 10'-0"
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STA. 604+50 TO STA. 604+75

PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4(14)
FILE NAME: s78f242xs.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J. LACROIX	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
CHANNEL CROSS SECTION SHEET 4	SHEET 81 OF 83



605+25

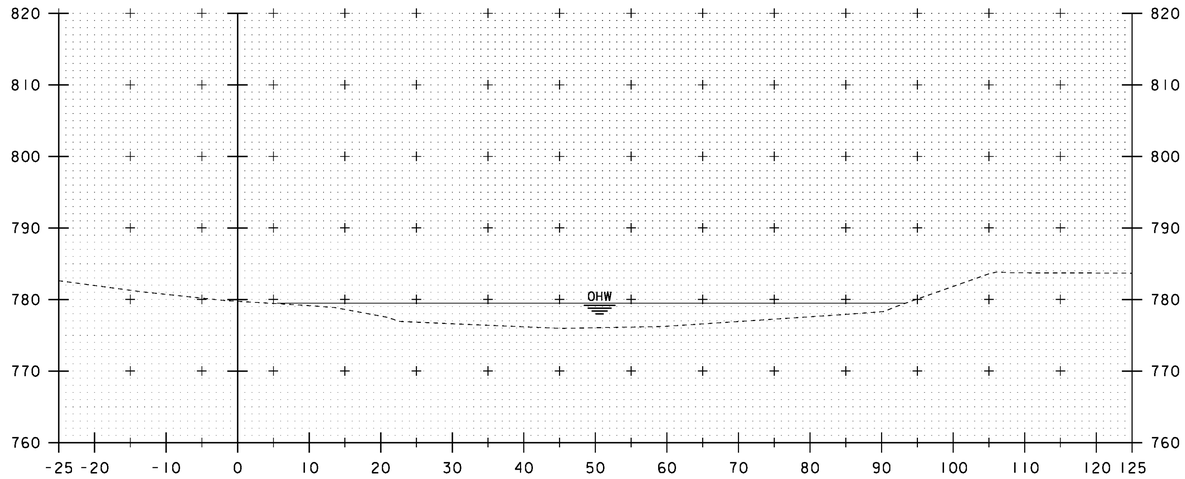


605+00

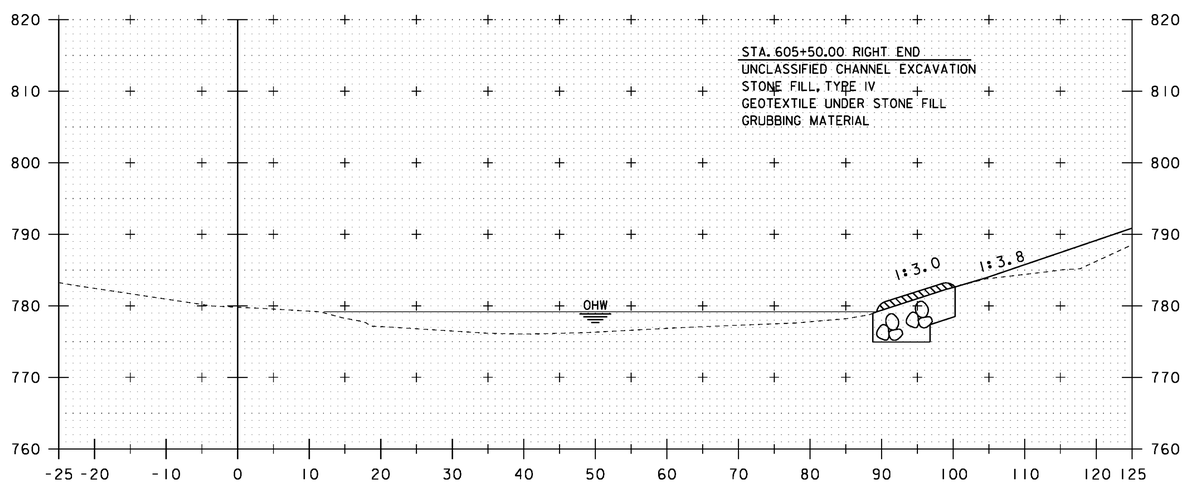
SCALE 1" = 10'-0"
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STA. 605+00 TO STA. 605+25

PROJECT NAME: WARREN	
PROJECT NUMBER: BRF 013-4(14)	
FILE NAME: s78f242xs.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J. LACROIX	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
CHANNEL CROSS SECTION SHEET 5	SHEET 82 OF 83



605+75

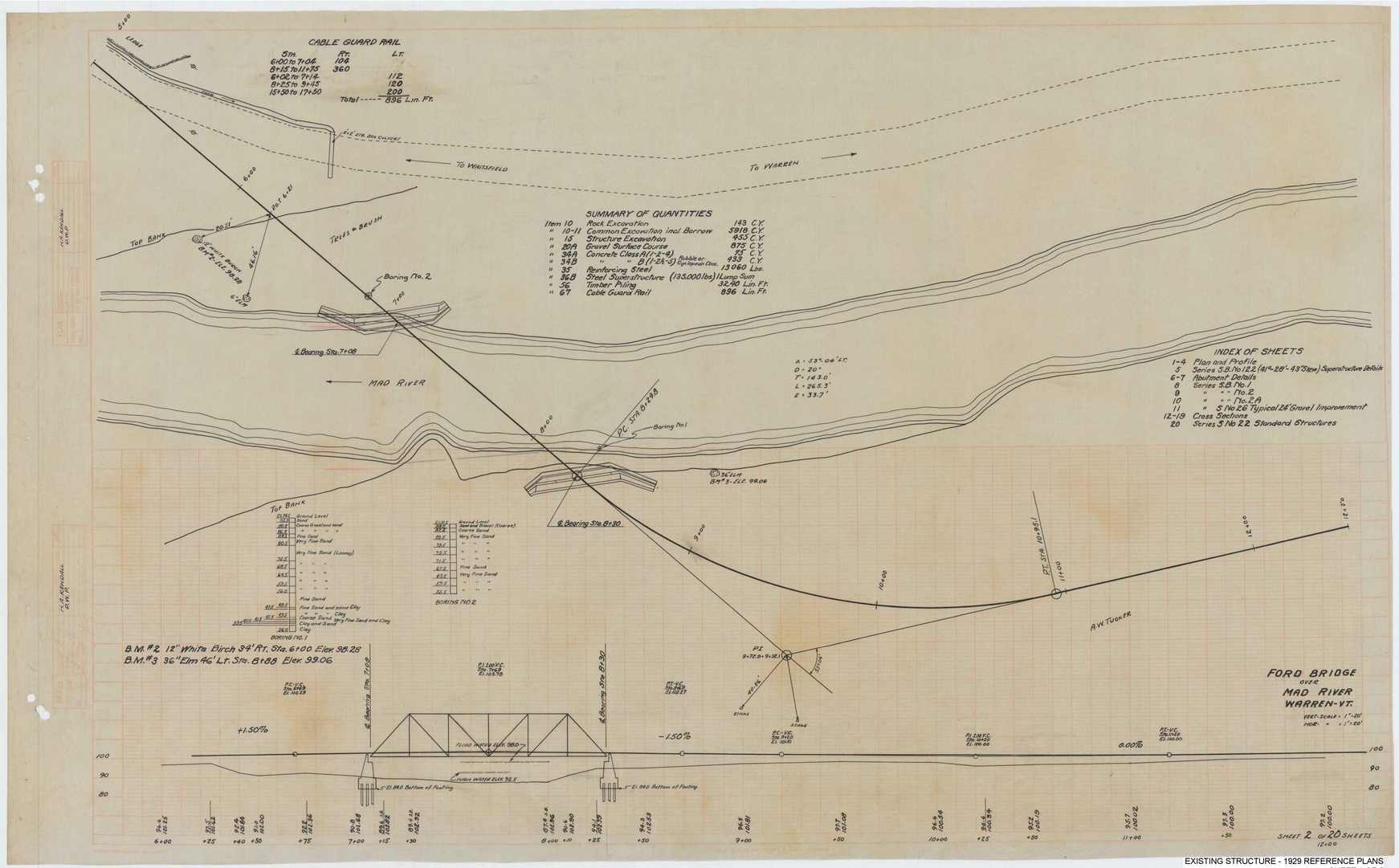


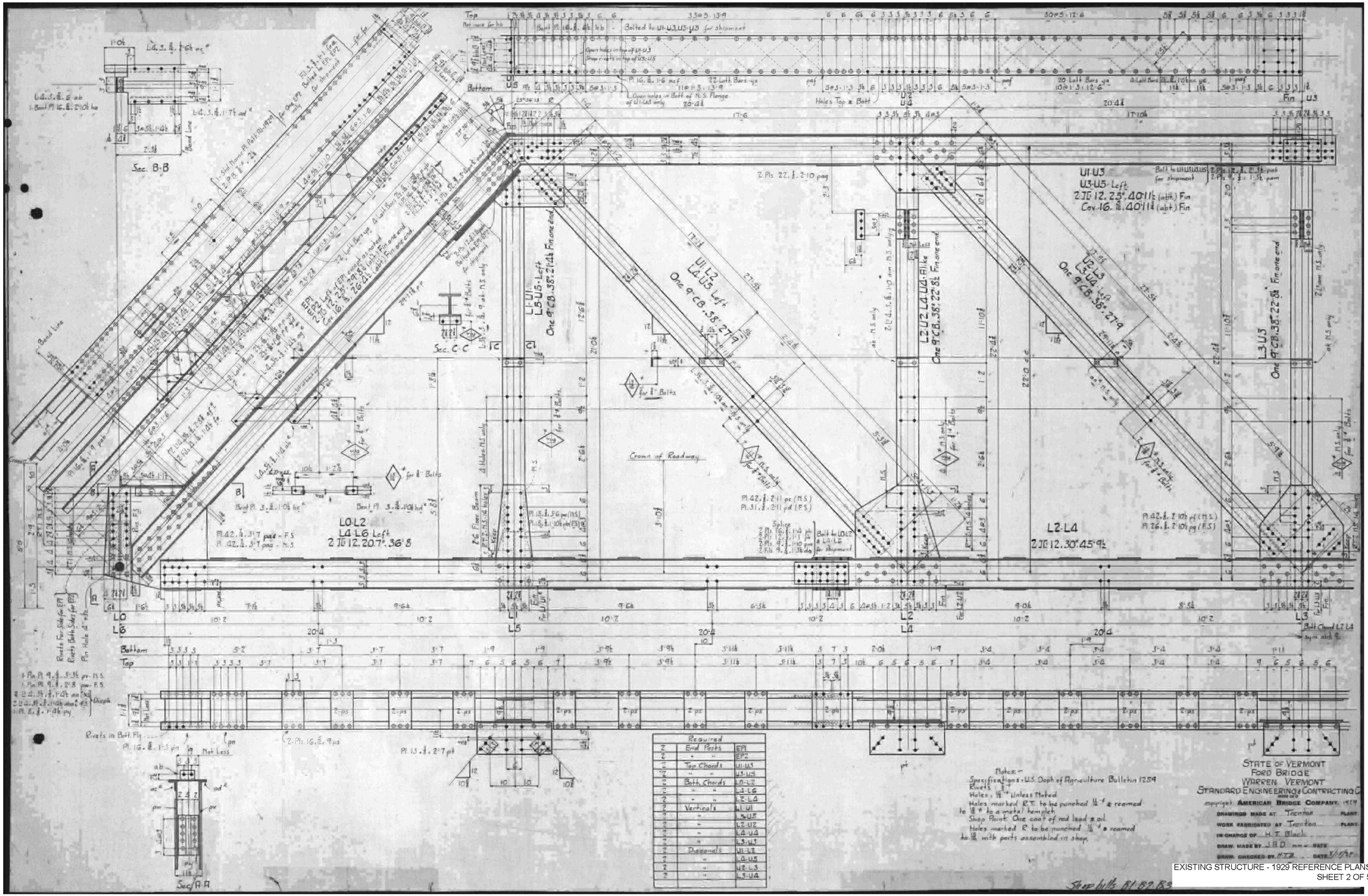
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SCALE 1" = 10'-0"
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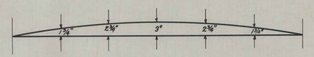
STA. 605+50 TO STA. 605+75

PROJECT NAME: WARREN	
PROJECT NUMBER: BRF 013-4(14)	
FILE NAME: s78f242xs.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J. LACROIX	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
CHANNEL CROSS SECTION SHEET 6	SHEET 83 OF 83


CABLE GUARD RAIL
Sta. Rt. Lt.
6+00 to 7+08 108
8+15 to 11+35 360
6+02 to 7+14 112
8+25 to 9+45 120
15+30 to 17+30 200
Total ---- 896 Lin. Ft.
SUMMARY OF QUANTITIES
Item 10 Rock Excavation 143 C.Y.
" 10-11 Common Excavation incl. Borrow 5918 C.Y.
" 15 Structure Excavation 455 C.Y.
" 20A Gravel Surface Course 875 C.Y.
" 34A Concrete Class A (1-2-4) 73 C.Y.
" 34B " " B (1-2½-5) Rubble or Tightbonn Conc. 455 C.Y.
" 35 Reinforcing Steel 13060 Lbs.
" 56B Steel Superstructure (135,000 lbs) Lump Sum
" 56 Timber Piling 3240 Lin. Ft.
" 67 Cable Guard Rail 896 Lin. Ft.
INDEX OF SHEETS
1-4 Plan and Profile
5 Series S.B. No 12E (41'-28'-43'Skew) Superstructure Details
6-7 Abutment Details
8 Series S.B. No.1
9 " " No.2
10 " " No.2A
11 " S No 26 Typical 26' Gravel Improvement
12-19 Cross Sections
20 Series S No 22 Standard Structures
Δ = 33°06' Lt.
D = 20°
T = 148.10'
L = 265.3'
E = 33.7'
P.C. Sta 8+98
P.T. Sta 10+95.1
P.I. 9+72.8 = 91.21
Boring No. 1
Boring No. 2
Top Bank
MAD RIVER
TREES & BRUSH
To WHITEFIELD
To WARREN
12"x12" STR. BOX CULVERT
℄ Bearing Sta. 7+08
℄ Bearing Sta. 8+30
B.M. #2 12" White Birch 34' Rt. Sta. 6+00 Elev. 98.28
B.M. #3 36" Elm 46' Lt. Sta. 8+88 Elev. 99.06
36" Elm B.M. #3 - Elev. 99.06
BORING NO. 1
BORING NO. 2
A.W. TUCKER
FORD BRIDGE
OVER
MAD RIVER
WARREN-VT.
HORZ. SCALE - 1"=20'
VERT. = 1"=20'
SHEET 2 OF 20 SHEETS
EXISTING STRUCTURE - 1929 REFERENCE PLANS
SHEET 1 OF 5

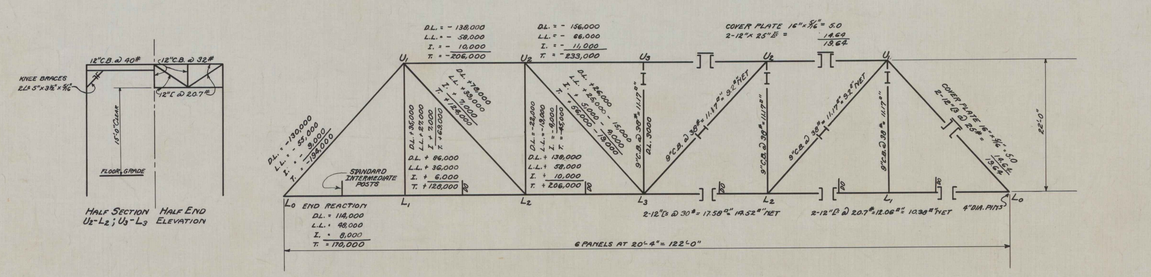


EXISTING STRUCTURE - 1929 REFERENCE PLANS
SHEET 2 OF 5



CAMBER DIAGRAM

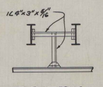
THIS CAMBER TO BE MAINTAINED AFTER DEAD LOAD IS APPLIED



STRINGERS	
MOMENT	SHEAR
D.L. = 490,000 IN LBS.	8000
L.L. = 810,000 " "	16000
I. = 274,000 " "	4000
T. = 1,574,000 " "	28000

FLOOR BEAMS	
MOMENT	SHEAR
D.L. = 2,140,000 IN LBS.	32000
L.L. = 2,114,000 " "	37000
I. = 613,000 " "	8000
T. = 4,875,000 " "	67,000

END FLOOR BEAM	
MOMENT	
D.L. = 113,000 in. lbs.	
L.L. = 2,806,000 " "	
I. = 643,000 " "	
T. = 3867,000 " "	



TIE TO LATERALS

NOTE: SUPPORT LATERAL DIAGONALS FROM 6"x3"x⅜" ℄ CONNECTED TO STRINGER WEBS. DO NOT CONNECT LATERAL DIAGONALS TO BOTTOM FLANGE OF STRINGERS.

NOTES

FLOOR DESIGNED FOR
DEAD LOAD - 8" CONCRETE SLAB + 2.5" PAVING ALLOWANCE + WEIGHT OF STEEL.
LIVE LOAD - ROADWAY 2-H.S. TON TRUCKS 16'-0" ℄ AXLES; 6'0" ℄ WHEELS; 85% OF LOAD ON REAR AXLE.
IMPACT - STRINGERS @ 30% - FLOOR BEAMS 29% END FLOOR BEAMS 35%

TRUSS DESIGNED FOR
DEAD LOAD - CONCRETE FLOOR AND PAVING 1350 #/L
STEEL #550 = 1300 # PER L.IN.FT.
LIVE LOAD - TWO LANES H-15 A.A.S.H.O. SPEC. 1927
IMPACT - 4.2250 / 125+L WHERE L= AGGREGATE LOADED LENGTH
GUSSET PLATES - ⅝" AT L_0 - ⅜" ELSEWHERE.
RIVETS - ⅞" DIA.

SPECIFICATIONS
STANDARD SPECIFICATIONS FOR STEEL HIGHWAY BRIDGES U.S.D.A. BULLETIN NO. 1259 SHALL APPLY TO ALL WORKMANSHIP AND MATERIALS AS REFERRED TO IN V.T. STANDARDS ROAD AND BRIDGE SPECIFICATIONS 1929.

REFERENCES
FOR THIS BRIDGE USE THE FOLLOWING STANDARD DETAILS AND TYPES SHOWN ON SHEET S.B. STANDARD DETAILS NOS. S-2, S-5, S-8, S-10, S-12, S-13, S-15, S-21, S-17. WHEN BRIDGE CONSISTS OF MORE THAN ONE SPAN USE STANDARD DETAIL S-1 AT PIERS.
ON S.B.24 TYPICAL DETAILS USE S-225, S-227, S-228.

NOTE: BOTTOM CHORD SPLICES SHALL BE DETAILED OUTSIDE OF GUSSET PLATES AND AS CLOSE THERETO AS PRACTICABLE.

CORRECT: A. D. Bishop
BRIDGE ENGINEER

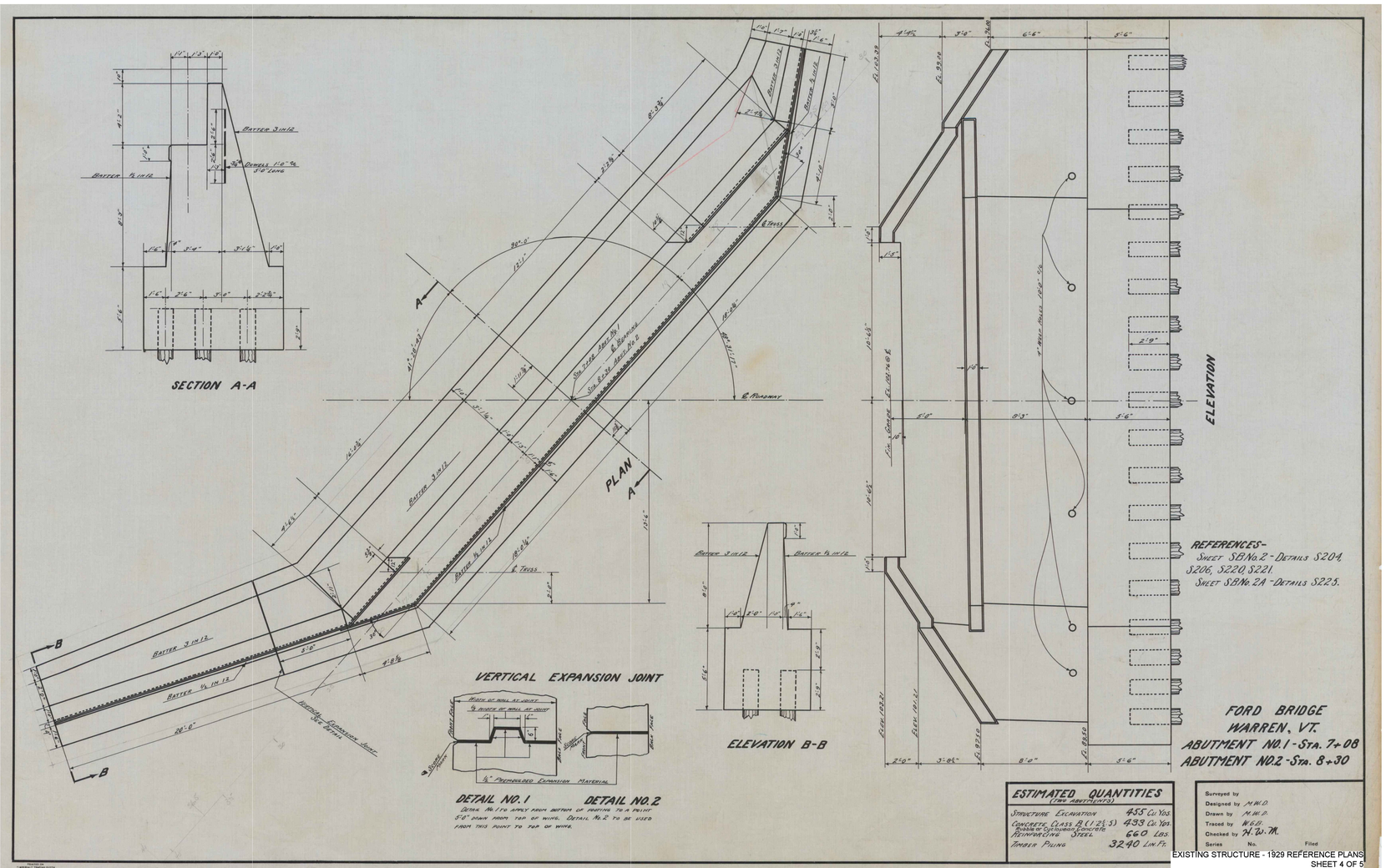
STEEL SUPERSTRUCTURE
122'-0" ℄ BEARINGS
20' ROADWAY 2-H15
SKEW 41°-28'-43"

THIS SHEET USED FOR
Ford Bridge Warren VT.

ESTIMATED QUANTITIES	
STRUCTURAL STEEL	135000 LBS.
CLASS A CONCRETE (ROADWAY SLAB)	95 C.Y.
REINFORCING STEEL (" -)	12900 LBS.

Surveyed by
Designed by A.D. BISHOP
Drawn by C.P.
Traced by C.P.
Checked by A.D.B. A.K.
Series S-820 No. 122 Stow Filed
Sheet 5 of 20 Sheets

EXISTING STRUCTURE - 1929 REFERENCE PLANS
SHEET 3 OF 5

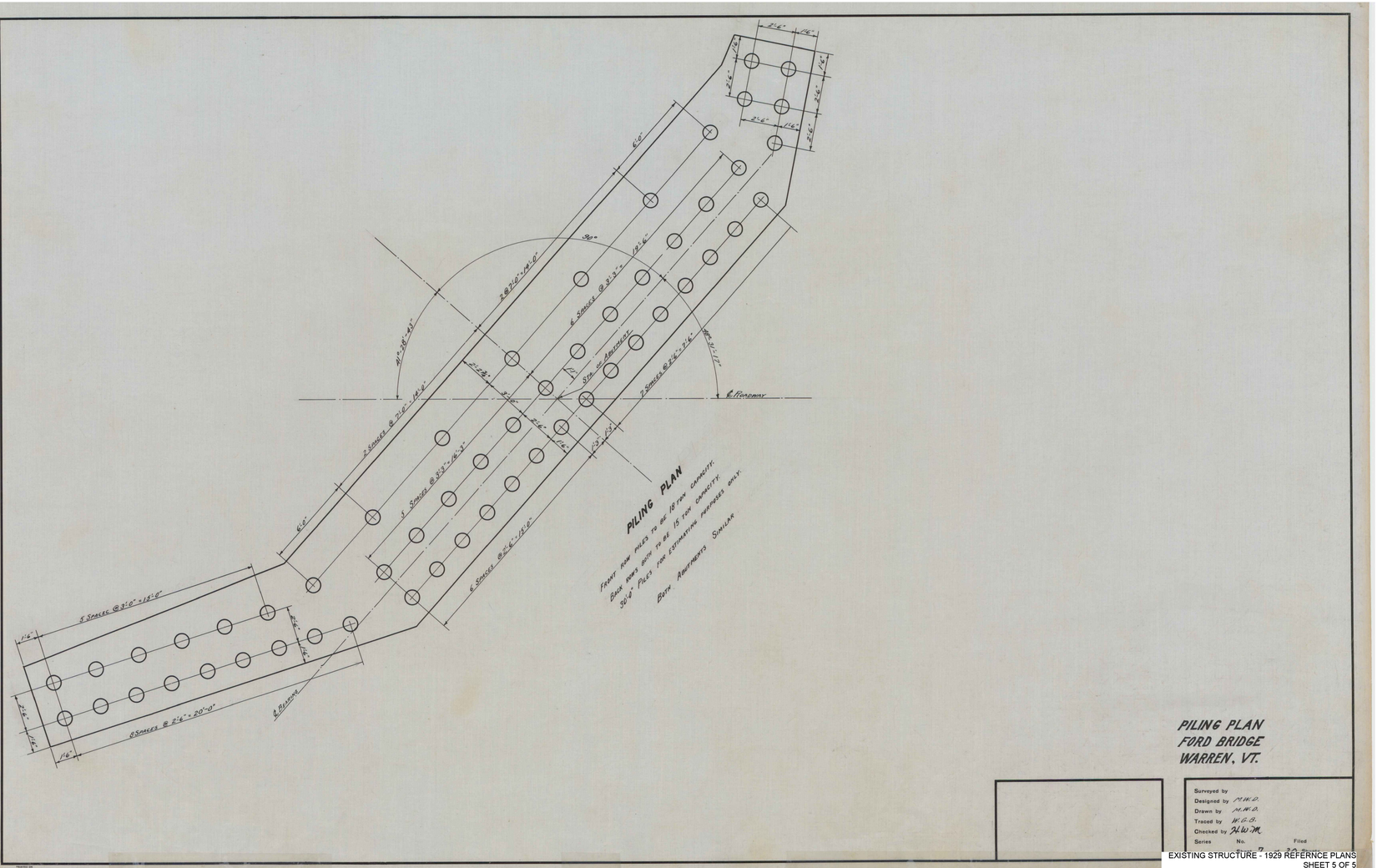


ESTIMATED QUANTITIES
(Two Abutments)

Structure Excavation	455 Cu. Yds.
Concrete, Class B (1-2½-3) Rubble or Cut Stone in Concrete	433 Cu. Yds.
Reinforcing Steel	660 Lbs.
Timber Piling	3240 Lin. Ft.

Surveyed by
Designed by M.W.D.
Drawn by M.W.D.
Traced by W.E.D.
Checked by H.D.M.
Series No. Filed

EXISTING STRUCTURE - 1929 REFERENCE PLANS
SHEET 4 OF 5



PILING PLAN

FRONT IRON PILES TO BE 18 TON CAPACITY.
BACK ROWS BOTH TO BE 15 TON CAPACITY.
30'-0" PILES FOR ESTIMATING PURPOSES ONLY.
BOTH ABUTMENTS SIMILAR

PILING PLAN
FORD BRIDGE
WARREN, VT.

Surveyed by
Designed by M.W.D.
Drawn by M.W.D.
Traced by W.G.S.
Checked by H.W.M.
Series No. Filed

EXISTING STRUCTURE - 1929 REFERNCE PLANS
SHEET 5 OF 5

DATE PLOTTED: June 24, 2013

S:\OBS\VERMONT\51622-Oak Tree-138ft x 36'-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

GENERAL NOTES:

1. DESIGN SPECIFICATION:
   AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 5TH EDITION (2010), WITH ALL INTERIM SPECIFICATIONS IN EFFECT.

2. MATERIAL:
   ALL SUPERSTRUCTURE STEEL SHALL BE ASTM A709, GRADE 50 (A572), UNLESS NOTED OTHERWISE. ALL STEEL GALVANIZED AFTER FABRICATION. NOTE PRIOR TO GALVANIZING, ALL CORNERS AND EDGES OF STEEL PLATEES, SHAPES, ETC., SHALL BE GROUND TO A 1.5mm (1/16 inch) RADIUS. ALL FASTENERS, UNLESS NOTED OTHERWISE SHALL BE 1"ø HIGH STRENGTH BOLTS, ASTM A325 TYPE 1 (MECHANICALLY GALVANIVED) WITH ASTM A563 GRADE DH OR DH3 NUT, ONE DTI WASHER, AND ONE F436 WASHER PER BOLT. FASTENERS SHALL BE FURNISHED WITH ROTATIONAL CAPACITY TEST.

   BOTTOM CHORD, BOTTOM CHORD SPLICE PLATES, & TENSION DIAGONALS ARE DESIGNATED AS FRACTURE CRITICAL MEMBERS (MUST MEET 12.4 BASE METAL REQUIREMENTS OF AASHTO/AWS D1.5M/D1.5:2010). ALL FRACTURE CRITICAL MEMBERS SHALL MEET TOUGHNESS TESTING CRITERIA FOR FC ZONE 2 CVN (25 FT-LBS @ 40°F). ALL FCM STEEL WILL BE VISUALLY INSPECTED BY US BRIDGE QUALLITY CONTROL, THAT NO REPAIRS WERE MADE AT THE MILL. FLOOR BEAMS, FLOOR BEAM END PLATES, STRINGERS, & BOTTOM CHORD GUSSET PLATES SHALL MEET TOUGHNESS TESTING CRITERIA FOR: NFC ZONE 2 CVN (15 FT-LBS @ 40°F)

3. CONSTRUCTION/FABRICATION:
   AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS 2ND EDITION (2004), WITH ALL INTERIM SPECIFICATIONS IN EFFECT.

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

   NON-DESTRUCTIVE TESTS OF ALL WELDS SHALL BE PERFORMED AS FOLLOWS:
   FILLET WELDS - VISUAL INSPECTION - 100%
   FILLET WELDS - MAGNETIC PARTICAL TESTING - 10% MIN PER AWS D1.5

5. FLOORING:
   8½" REINFORCED CONCRETE DECK WITH 3" ASPHALT SURFACING

6. ANCHOR BOLTS:
   THE ANCHOR BOLTS SHALL EITHER BE CAST-IN-PLACE DURING THE ABUTMENT CONSTRUCTION OR DRILLED AND ANCHORED TO THE ABUTMENTS AFTER THE BRIDGE IS ERECTED. THE ANCHOR BOLTS ARE TO BE ANCHORED USING EPCON A7 FAST CURING ACRYLIC ADHESIVE OR EQUAL. EPCON A7 IS A PRODUCT OF ITW RED HEAD, 2171 EXECUTIVE DRIVE, ADDISON, IL 60101, PHONE:603-350-0370. THE ACRYLIC ADHESIVE IS FURTHER DESCRIBED AS A TWO COMPONENT METHYL METHACRYLATE ADHESIVE, NON-SAG PASTE, MOISTURE INSENSITIVE WHEN CURED, DARK GREY IN COLOR. MEETS ASTM C881-90, TYPE IV, GRADE 3, CLASS A,B AND C WITH THE EXCEPTION OF GEL TIME AND EPOXY CONTENT.

7. PROFILE GRADE:
   SLOPE IS PER CONTRACT BID DOCUMENTS.

8. BOLT LENGTHS:
   THE LENGTH OF BOLTS IN THESE PLANS HAS BEEN DESIGNED TO PROVIDE A FULLY TENSIONED BOLT WITH 1 HARDENED WASHER AND A THREAD STICK-THROUGH OF BETWEEN 1 AND 3 THREADS, BASED ON THE THEORETICAL SECTION PROPERTIES OF THE JOINED MEMBERS. THREAD STICK THROUGH OF A FULLY TENSIONED BOLT WITH MORE THAN 3 THREADS IS PERMITTED AND MAY OCCUR BECAUSE OF THINNER MEMBERS THAT ARE WITHIN ACCEPTABLE MILL TOLERANCES. THE MINIMUM STICK THROUGH SHALL NOT BE LESS THAN 0 THREADS (FLUSH).

   ANY CHANGES TO THE INSTALLED BOLT LENGTHS CALLED FOR IN THESE SHOP DRAWINGS SHALL BE REPORTED TO THE ENGINEERING DEPARTMENT TO BE RECORDED AS AN "AS-BUILT" CONDITION.

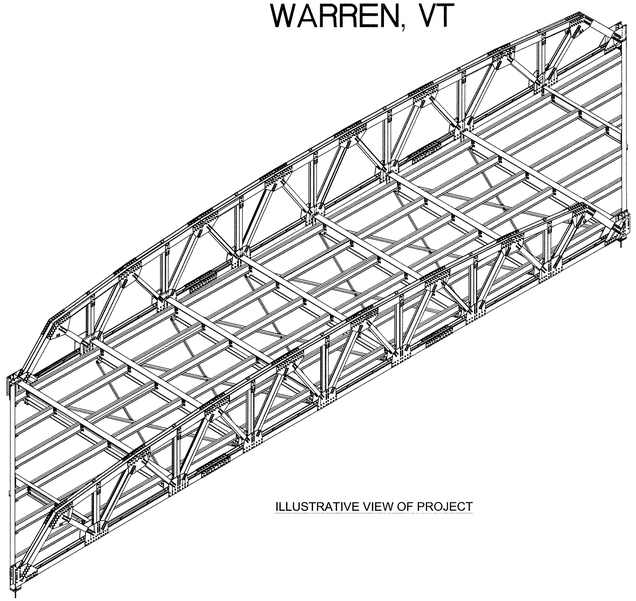
   THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING THE FIELD BOLTS IN ACCORDANCE WITH THESE DRAWINGS. INCORRECTLY INSTALLED BOLTS BY THE CONTRACTOR WILL RESULT IN CHANGED QUANTITIES FROM THOSE INTENDED. THE CONTRACTOR'S INSTALLATION IS SUBJECT TO FIELD REVIEW BY A U.S. BRIDGE REPRESENTATIVE BEFORE ANY CLAIM FOR ADDITIONAL BOLT QUANTITIES OR DELAYS WILL BE CONSIDERED.

   BOLT LENGTHS CALCULATED TO EXCLUDE THREADS IN THE SHEAR PLANE.

SHOP NOTES:

1. "REF" INDICATES DIMENSION HAS BEEN TRANSPOSED FROM THE CONTRACT DOCUMENTS (CD's).
2. "CHK" INDICATES DIMENSION IS TO BE USED TO CHECK FABRICATED MEMBER AFTER LAYOUT.
3. "HOLD" INDICATES DIMENSION HAS GOVERNING PRIORITY OVER OTHER DIMENSIONS.
4. STAMPING LOCATIONS AND BOLT HOLE SIZES ARE SHOWN WITH A BOX SURROUNDING THE TEXT.
5. NATURAL OR MILL CAMBER SHALL BE ORIENTED UP ON ALL MEMBERS UNLESS NOTED OTHERWISE.
6. lower case PIECE MARKS INDICATE INDIVIDUAL PIECES.
7. UPPER CASE PIECE MARKS INDICATE SHIPPABLE ASSEMBLIES.
8. ALL FASTENERS INCLUDE 1 BOLT, 1 NUT & 1 WASHER UNLESS NOTED OTHERWISE.
9. GUSSET PLATE MARKINGS AT VISIBLE PLACE ON OUTSIDE OF CONNECTION.
10. ½" DIAMETER HOLES SHALL BE DRILLED IN PLAIN MATERIAL THAT IS TO BE GALVANIZED. BURNING BY TORCH IS PROHIBITED. TWO HOLES MINIMUM SHALL BE SYMMETRICALLY LOCATED ALONG A USUAL GAGE LINE OF THE SHAPE OR PLATE AND NO CLOSER THAN 2" TO ANY FREE EDGE.
11. TEMPORARY BOLTS FOR SHIPPING (TEMP BOLTS) SHALL BE ZINC PLATED AND INCLUDE 1 FLAT WASHER + 1 LOCK WASHER + 1 NUT INSTALLED IN SAME SIDE AND FASTENED SNUG TIGHT; 3 MIN. PER CONNECTION. TEMPORARY BOLTS ARE NOT QUANTIFIED IN THESE PLANS.

BRIDGE NO.173 REPLACEMENT
WARREN, VT



ILLUSTRATIVE VIEW OF PROJECT

RECORD DWGS
AS FABRICATED
6/24/13

PROJECT DESIGN CRITERIA:

SPAN:	138'-6" C/C BEARINGS
DECK WIDTH:	35'-0"
SIDEWALK:	N/A
SKEW:	45° LF
DESIGN LIVE LOAD:	HL-93
EXPANSION:	1⅛" @ 100° F
CONNECTIONS:	FIELD BOLTED & SHOP WELDED

DESIGN LOADS:

FLOOR 8½" CONCRETE	110 PSF
3" ASPHALT SURFACING	35 PSF
CONCRETE HAUNCHES	5 PSF
CONCRETE CURB WITH RAIL	300 PLF
FUTURE ROADWAY SURFACE	35 PSF

TRUSS SHOE REACTION:

DEAD LOAD	328.7K
LIVE LOAD	143.8K
IMPACT	28.6K

Note: Plans 6/13

INDEX OF SHEETS

SERIES #	DESCRIPTION
1	TITLE SHEET
2	CONSTRUCTION PLANS/FRAMING
3	CONSTRUCTION PLANS/TRANSVERSE SECTIONS
4	CONSTRUCTION PLANS/ABUTMENTS
5	CONSTRUCTION PLANS/FIELD ASSEMBLY
6	BILL OF MATERIALS
7	SHOP DETAILS/TRUSS ASSEMBLY
8	SHOP DETAILS/SHOP ASSEMBLY
9	SHOP DETAILS/PROFILES
10	SHOP DETAILS/PLATES

CERTIFIED FABRICATOR

SYMBOLS & ABBREVIATIONS

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6	6/3/13	DIMENSIONAL ERRORS	TLB

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TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

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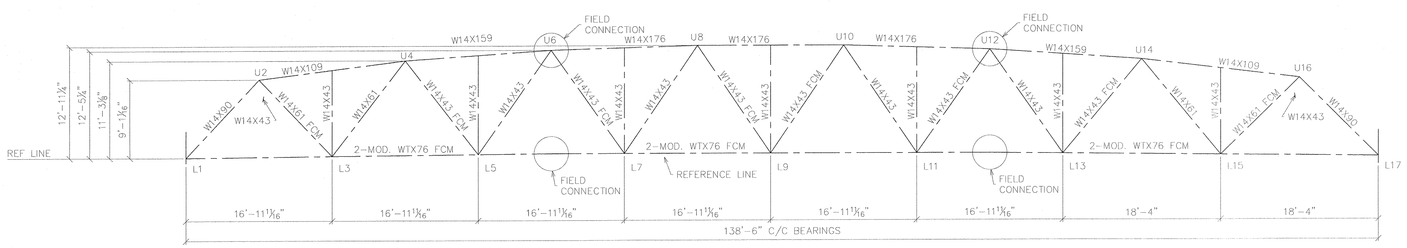
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TITLE SHEET

USB JOB# 51622

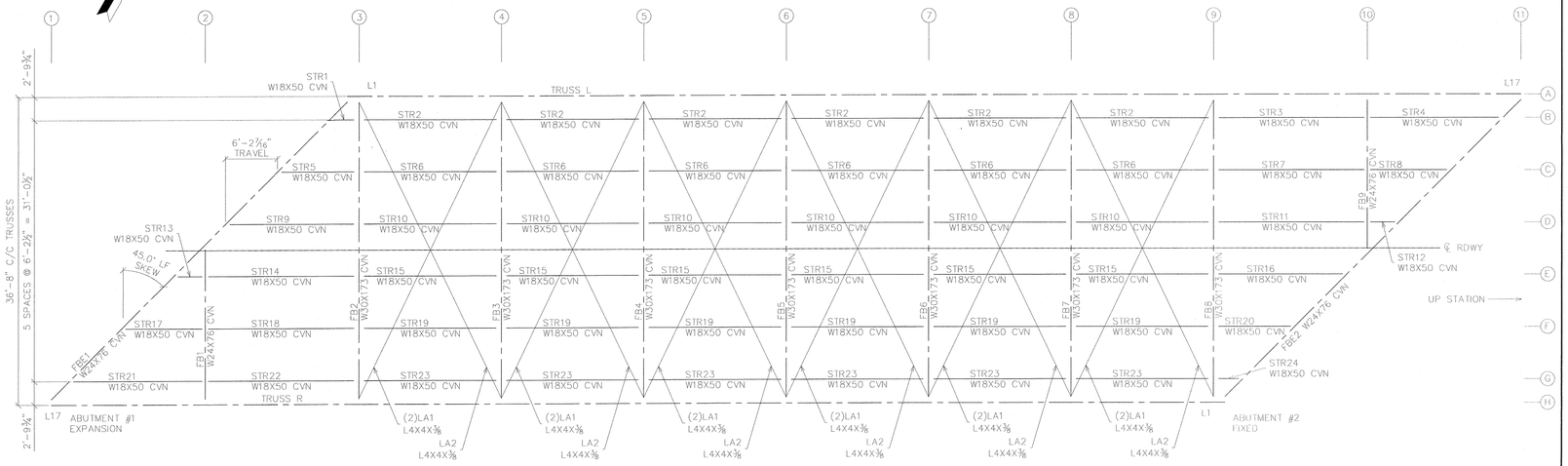
SHEET 1 / 58 TOTAL

DATE PLOTTED: June 24, 2013



TRUSS ELEVATION
(TRUSS GEOMETRY SHOWN IS UNLOADED POSITION WITH 5¼" SHOP CAMBER)

TOTAL SHOP CAMBER IN TRUSS = 5¼"
VERTICAL CURVE CAMBER IN DECK =



FRAMING PLAN

RECORD DWGS
AS FABRICATED
6/24/13

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COUNTY OF WASHINGTON
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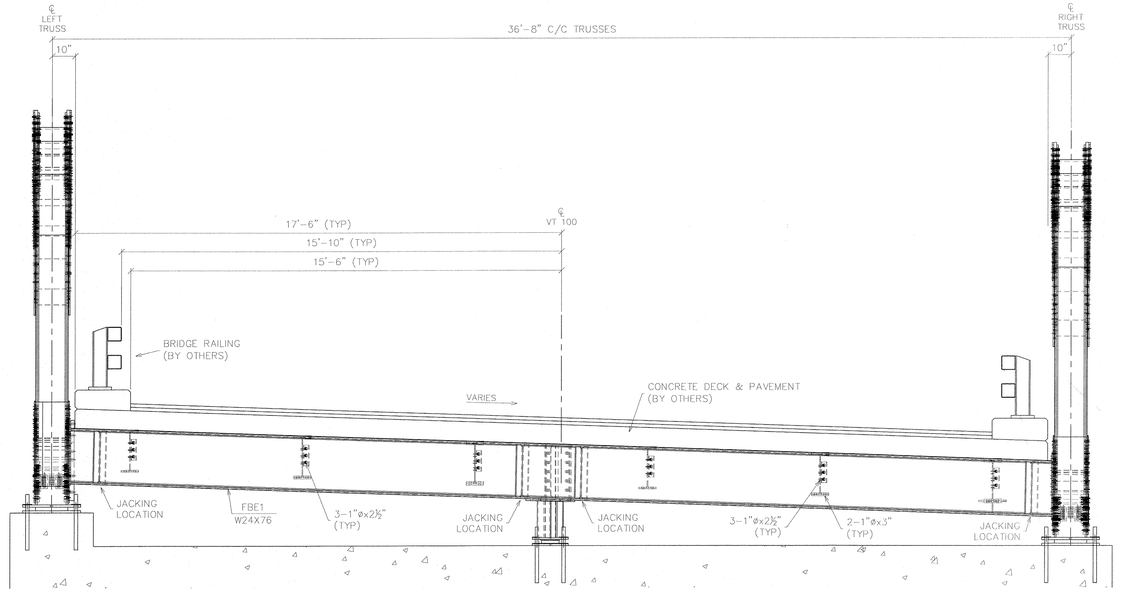
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CONSTRUCTION PLANS / FRAMING

USB JOB# 51622

SHEET 2 / 58 TOTAL

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TRANSVERSE SECTION AT ABUTMENT

NOTE: ALL BOLTS REQUIRE (1) FLAT WASHER, (1) DTI WASHER, AND (1) NUT. ALL BOLTS ARE A325-1 UNO.

RECORD DWGS
AS FABRICATED
6/24/13

DATE PLOTTED: June 24, 2013

S:\JOBS\VERMONT\51622-Oak Trusses-13ft9 x 35-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

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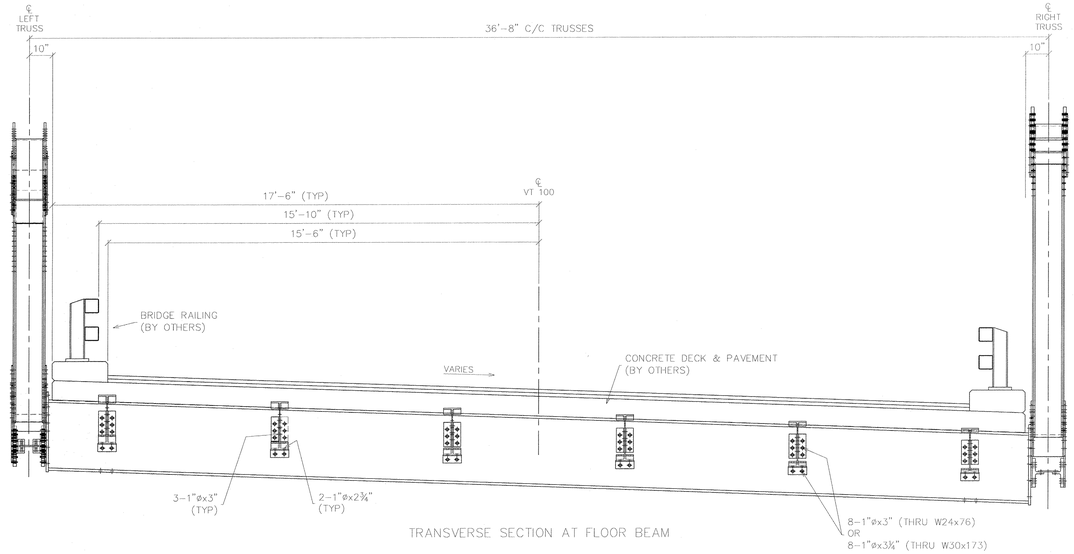
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CONSTRUCTION PLANS / TRANSVERSE SECTION

USB JOB# 51622

SHEET 3a / 58 TOTAL

DATE PLOTTED: June 24, 2013



TRANSVERSE SECTION AT FLOOR BEAM

NOTE: ALL BOLTS REQUIRE (1) FLAT WASHER, (1) DTI WASHER, AND (1) NUT. ALL BOLTS ARE A325-1 UNO.

RECORD DWGS
AS FABRICATED
6/24/13

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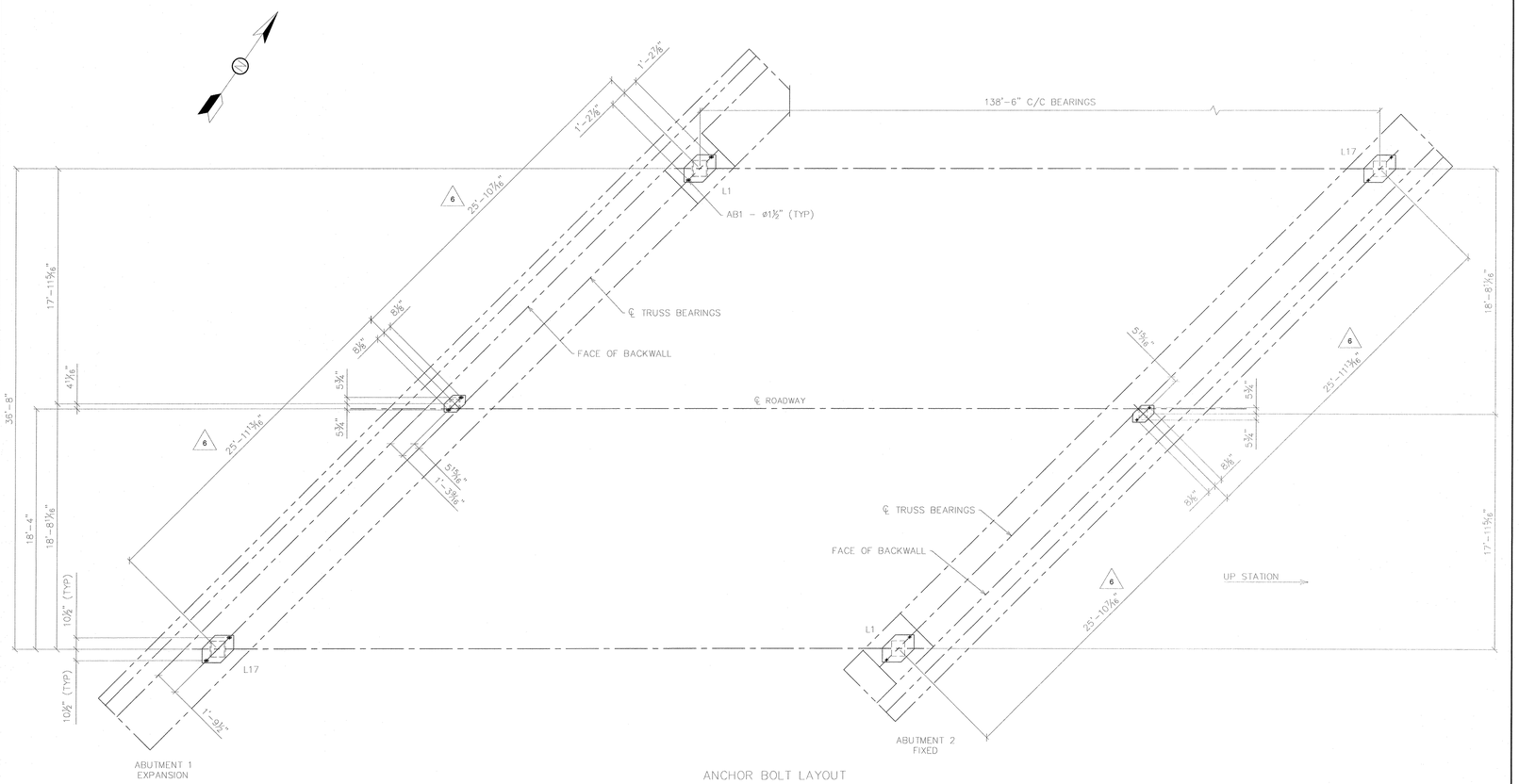
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CONSTRUCTION PLANS / TRANSVERSE SECTION

USB JOB# 51622

SHEET 3b / 58 TOTAL

DATE PLOTTED June 24, 2013



ANCHOR BOLT LAYOUT

RECORD DWGS
AS FABRICATED
6/24/13

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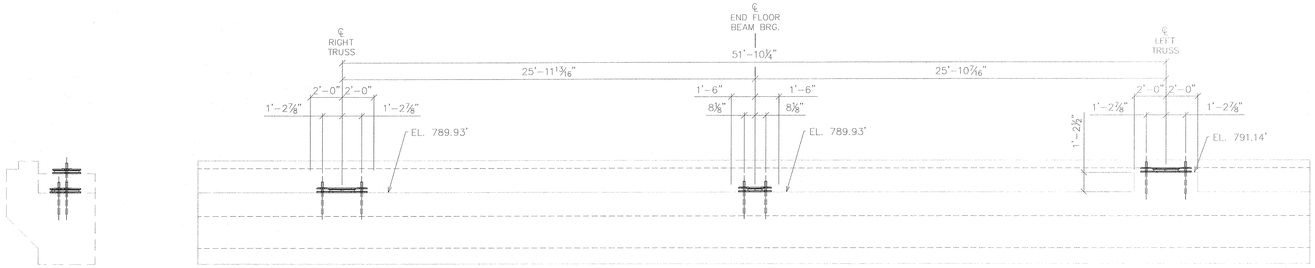
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CONSTRUCTION PLANS / ABUTMENTS

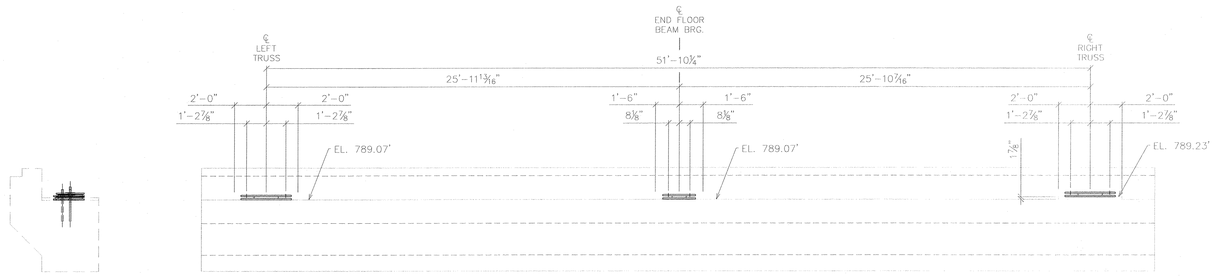
USB JOB# 51622

SHEET 4 / 58 TOTAL

DATE PLOTTED: June 24, 2013



ABUTMENT 1 ELEVATIONS
(LOOKING DOWN STATION)



ABUTMENT 2 ELEVATIONS
(LOOKING UP STATION)

NOTES:

1. MAINTAIN BEARING SEAT ELEVATIONS
2. EXTERIOR CONTOUR OF ABUTMENTS ARE SHOWN AS REPRESENTATION. SEE CONTRACT DRAWINGS FOR FORMING.

RECORD DWGS
AS FABRICATED
6/24/13

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TOWN OF WARREN, VT
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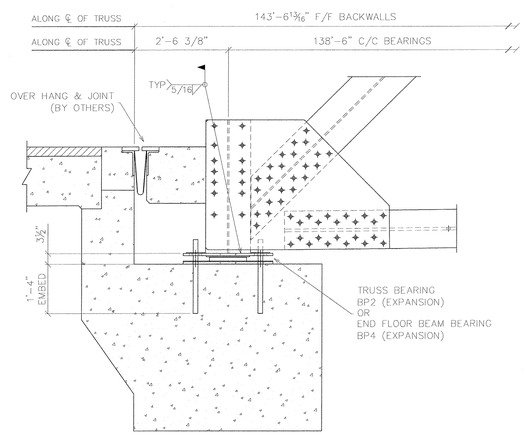
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CONSTRUCTION PLANS / ABUTMENTS

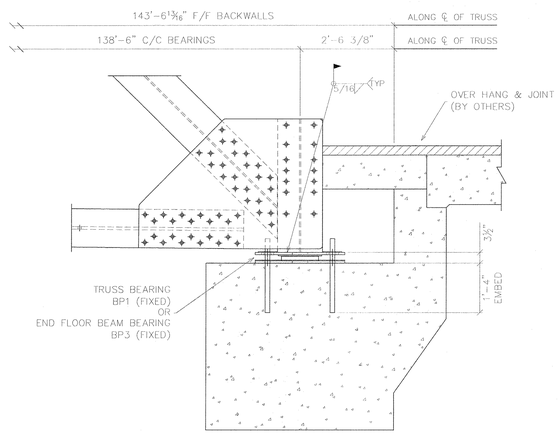
USB JOB# 51622

SHEET 4a TOTAL 58

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ABUTMENT #1 DETAIL AT TRUSS BEARINGS
(END FLOOR BEAM BEARING SIMILAR)



ABUTMENT #2 DETAIL AT TRUSS BEARINGS
(END FLOOR BEAM BEARING SIMILAR)

RECORD DWGS
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6/24/13

DATE PLOTTED: June 24, 2013

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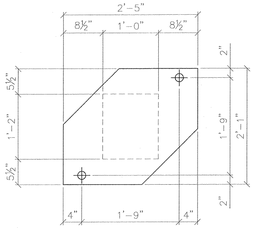
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CONSTRUCTION PLANS / ABUTMENTS

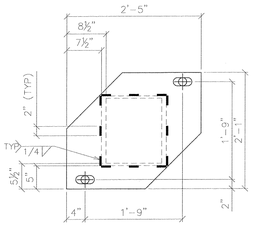
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SHEET 4b / 58 TOTAL

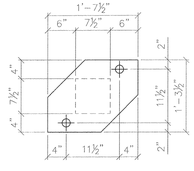
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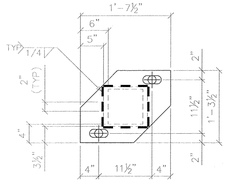
2 - BEARING PLATE - BP1
(FIXED)



2 - BEARING PLATE - BP2
(EXPANSION)



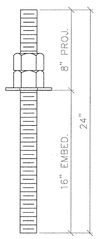
1 - BEARING PLATE - BP3
(FIXED)



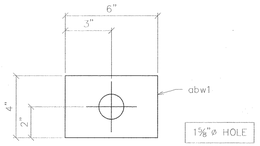
1 - BEARING PLATE - BP4
(EXPANSION)

MATERIAL SCHEDULE

PC QTY	PN	FAMILY	PROFILE	LENGTH	GRADE	WGT EACH (lb)	WGT TOTAL (lb)
PART NO.=BP1	QTY=2	FINISH=GALV	TOTAL WGT=796.60(lb)				
2	bp1	BEARING PLATE	Plate 1"x2'-1"	2'-5"	STEEL A572-50	163.4	326.8
1	csp1	CON-SLIDE PAD	Plate 1 1/2"x1'-2"	1'-0"	User	71.5	71.5
							398.30
PART NO.=BP2	QTY=2	FINISH=GALV	TOTAL WGT=674.49(lb)				
1	bp2	BEARING PLATE	Plate 3/4"x2'-1"	2'-5"	STEEL A572-50	122.6	122.6
1	bp3	BEARING PLATE	Plate 3/4"x2'-1"	2'-5"	STEEL A572-50	120.9	120.9
1	csp1	CON-SLIDE PAD	Plate 1 1/2"x1'-2"	1'-0"	User	71.5	71.5
1	tbsp1	TRSS BRG SL PL W/20GA SS	Plate 3/8"x1'-2"	1'-3"	STEEL A572-50	22.3	22.3
							337.25
PART NO.=BP3	QTY=1	FINISH=GALV	TOTAL WGT=156.39(lb)				
2	bp4	BEARING PLATE	Plate 1"x1'-3 1/2"	1'-7 1/2"	STEEL A572-50	66.2	132.5
1	csp2	CON-SLIDE PAD	Plate 1 1/2"x7 1/2"	7 1/2"	User	23.9	23.9
							156.39
PART NO.=BP4	QTY=1	FINISH=GALV	TOTAL WGT=130.18(lb)				
1	bp5	BEARING PLATE	Plate 3/4"x1'-3 1/2"	1'-7 1/2"	STEEL A572-50	49.7	49.7
1	bp6	BEARING PLATE	Plate 3/4"x1'-3 1/2"	1'-7 1/2"	STEEL A572-50	48.0	48.0
1	csp2	CON-SLIDE PAD	Plate 1 1/2"x7 1/2"	7 1/2"	User	23.9	23.9
1	tbsp2	TRSS BRG SL PL W/20GA SS	Plate 3/8"x8 1/2"	9 1/2"	STEEL A572-50	8.6	8.6
							130.18
Total element mass (lb)							1757.67



12 - TRUSS ANCHOR BOLT - AB1
1½"ø A449
ALL THREAD GALV.
ROD WITH 2 NUTS
& ONE 4"x4"x6" WASHER



12 - ANCHOR BOLT WASHER - ABW1
(2 lbs)

NOTE: TYPE PF PAD TO BE BONDED TO MASONRY PLATE
WITH AN EPOXY ADHESIVE (LORD TWO
PART EPOXY ADHESIVE, 310A AND 310B)

RECORD DWGS
AS FABRICATED
6/24/13

S:\JOBS\VERMONT\51622-Galv. Truss-136'6 x 35'-Warren, VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

SYMBOLS & ABBREVIATIONS

ES: EACH SIDE	NS: NEAR SIDE
EQ: EQUAL	FS: FAR SIDE
℄: CENTERLINE	WP/◆: WORK POINT
REF: REFERENCE	GA: GAUGE
CHK: CHECK	ID: INSIDE DIAMETER
O\O: OUT TO OUT	OD: OUTSIDE DIAMETER
C\C: CENTER TO CENTER	BRG: BEARING
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DIA/◆: DIAMETER	UNO: UNLESS NOTED OTHERWISE
R: RADIUS	ABUT: ABUTMENT
	T&B: TOP & BOTTOM

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U.S. BRIDGE® BRIDGING AMERICA SINCE 1924

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
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2	5/15/13	ADDED 2" DIA. RAT HOLES IN fb1 & fb9	TLB
3	5/15/13	CHANGED WELD WAS 5/16" ALL AROUND	TLB
4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

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TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

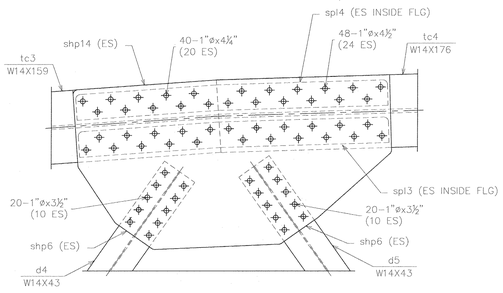
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CONSTRUCTION PLANS / ABUTMENTS

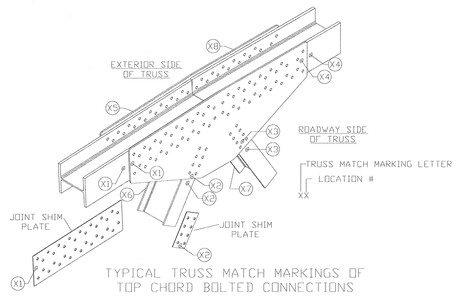
USB JOB# 51622

SHEET 4c / 58 TOTAL

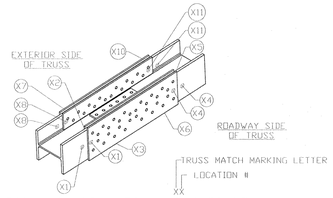
DATE PLOTTED June 24, 2013



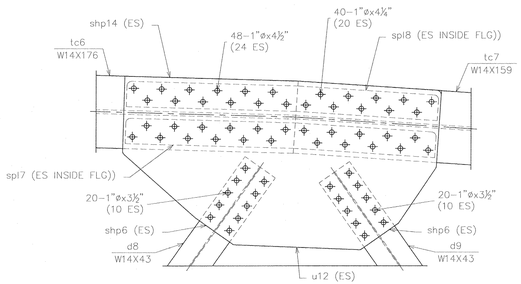
TOP CHORD SPLICE U6



TYPICAL TRUSS MATCH MARKINGS OF
TOP CHORD BOLTED CONNECTIONS
(MARKING SIMILAR ON BOTH SIDES)
NOTE: SEE FABRICATION DETAILS OF EACH JOINT TO
VERIFY NEED FOR JOINT SHIM PLATES.



TYPICAL TRUSS MATCH MARKINGS OF
BOTTOM CHORD BOLTED CONNECTIONS
(MARKING SIMILAR ON BOTH SIDES)
NOTE: SEE FABRICATION DETAILS OF EACH JOINT TO
VERIFY NEED FOR JOINT SHIM PLATES.



TOP CHORD SPLICE U12



TRUSS SECTION "TLA"
SEC. LIFT WGT = 21.7k

TRUSS SECTION "TLB"
SEC LIFT WGT = 28.2k

TRUSS SECTION "TLC"
SEC LIFT WGT = 22.0k

TRUSS "L"
(ROADWAY SIDE FACING UP)



TRUSS SECTION "TRA"
SEC. LIFT WGT = 21.7k

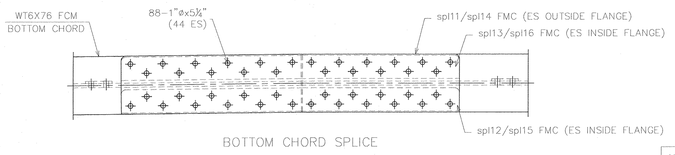
TRUSS SECTION "TRB"
SEC LIFT WGT = 28.2k

TRUSS SECTION "TRC"
SEC LIFT WGT = 22.0k

TRUSS "R"
(ROADWAY SIDE FACING UP)

TRUSS MATCH MARKINGS
NOTE- MATCH MARK LETTERS STAMPED
ON BOTTOM CHORD CHANNELS
& GUSSET PLATES AT CONNECTIONS
WITH 1/2" LETTER STAMPS.

TOTAL LIFTING WGT. PER TRUSS = 72.9k
(WGT. INCLUDES BOLTS & 5% FOR GALV.)



BOTTOM CHORD SPLICE

NOTE: ALL BOLTS REQUIRE (1) FLAT WASHER, (1) DTI WASHER, AND (1) NUT. ALL BOLTS ARE A325-1 UNO.

RECORD DWGS
AS FABRICATED
6/24/13

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TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

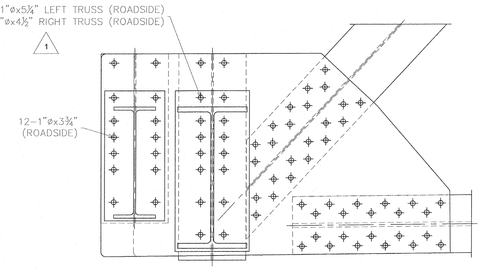
CONSTRUCTION PLANS / FIELD ASSEMBLY

USB JOB# 51622

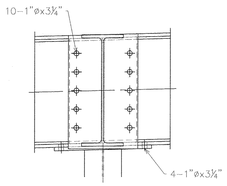
SHEET 5 / 58 TOTAL

S:\JOBS\VERMONT\51622-Gale Truss-138'6 x 35'-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

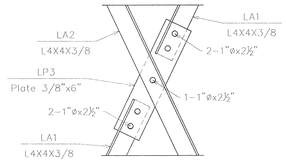
DATE PLOTTED: June 24, 2013



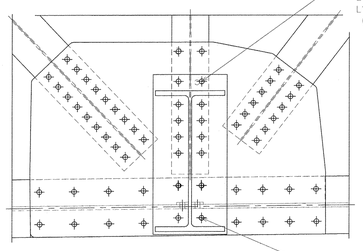
L1 FIELD BOLTING



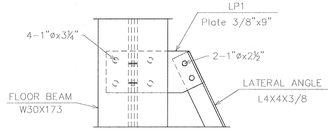
TYPICAL FLOOR BEAM TO END FLOOR BEAM



LATERAL BRACE CROSS CONNECTION



L3 FIELD BOLTING
(L5 – L15 SIMILAR)

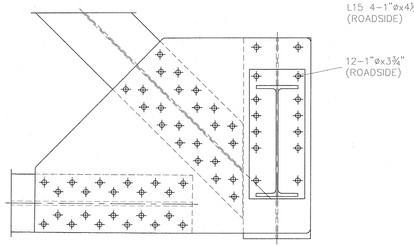


SINGLE LATERAL BRACE CONNECTION

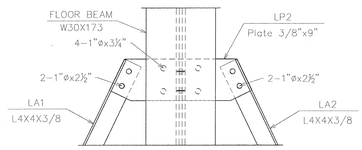
BOLT CHART (FIELD)								
DIAMETER	LENGTH	DESCRIPTION	REMARKS	BOLTS			NUTS	WASHERS
				QTY	CLASS	UNIT WGT	QTY	QTY
1"	2 1/2"			150	A325-1	1.29	150	300
1"	2 3/4"			192	A325-1	1.35	192	384
1"	3"			360	A325-1	1.40	360	720
1"	3 1/4"			420	A325-1	1.46	420	840
1"	3 1/2"			160	A325-1	1.52	160	320
1"	3 3/4"			68	A325-1	1.57	68	136
1"	4"			60	A325-1	1.63	60	120
1"	4 1/4"			170	A325-1	1.68	170	340
1"	4 1/2"			230	A325-1	1.74	230	460
1"	4 3/4"			24	A325-1	1.79	24	48
1"	5"			20	A325-1	1.85	20	40
1"	5 1/4"			380	A325-1	1.91	380	760
1"	5 1/2"			8	A325-1	1.96	8	16
1"	5 3/4"			8	A325-1	2.02	8	16
1"	6"			4	A325-1	2.07	4	8

NOTE QUANTITIES SHOWN FOR FLAT WASHERS INCLUDE DTI

NOTE: ALL BOLTS REQUIRE (1) FLAT WASHER, (1) DTI WASHER, AND (1) NUT. ALL BOLTS ARE A325-1 UNO.



L17 FIELD BOLTING



DOUBLE LATERAL BRACE CONNECTION

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS	
ES: EACH SIDE	NS: NEAR SIDE
EQ: EQUAL	FS: FAR SIDE
℄: CENTERLINE	WP/✥: WORK POINT
REF: REFERENCE	GA: GAUGE
CHK: CHECK	ID: INSIDE DIAMETER
O\O: OUT TO OUT	OD: OUTSIDE DIAMETER
C\C: CENTER TO CENTER	BRG: BEARING
F\F: FACE TO FACE	TYP: TYPICAL
DIA/ø: DIAMETER	UNO: UNLESS NOTED OTHERWISE
R: RADIUS	ABUT: ABUTMENT
	T&B: TOP & BOTTOM

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FAB. BY: U.S. BRIDGE BRIDGING AMERICA SINCE 1936

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CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

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4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

CONSTRUCTION PLANS / FIELD ASSEMBLY

USB JOB# 51622

SHEET 5a / 58 TOTAL

S:\JOBS\VERMONT\51622\Calc Truss-138'6 x 35'-Warren LVT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

DATE PLOTTED: June 24, 2013

S:\JOBS\VERMONT\51622-Galv Truss-13X9 x 35-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

ASSEMBLY LIST (SHIPPING)

QTY	PN	FAMILY	PROFILE	LENGTH	SURFACE FINISH	WGT EACH (lb)	WGT Total (lb)
12	AB1	1 1/2" ANCHOR BOLT W/2N	AB 1 1/2	2'-0"	GALV	11.72	140.64
1	ABD1	AS-BUILT DWGS	Plate 1/8"x1'-10"	1'-5"	GALV	13.26	13.26
12	ABW1	ANCHOR BOLT WASHER	Plate 1/4"x6"	4"	GALV	1.56	18.70
2	BP1	BEARING PLATE	Plate 1"x2'-1"	2'-5"	GALV	398.30	796.60
2	BP2	BEARING PLATE	Plate 3/4"x2'-1"	2'-5"	GALV	337.25	674.49
1	BP3	BEARING PLATE	Plate 1"x1'-3 1/2"	1'-7 1/2"	GALV	156.39	156.39
1	BP4	BEARING PLATE	Plate 3/4"x1'-3 1/2"	1'-7 1/2"	GALV	130.18	130.18
1	FB1	FLOOR BEAM	W24X76	18'-4 1/2"	GALV	1516.72	1516.72
1	FB2	FLOOR BEAM	W30X173	35'-6 13/16"	GALV	6777.13	6777.13
1	FB3	FLOOR BEAM	W30X173	35'-6 9/16"	GALV	6425.88	6425.88
1	FB4	FLOOR BEAM	W30X173	35'-6 5/16"	GALV	6701.34	6701.34
1	FB5	FLOOR BEAM	W30X173	35'-6 1/8"	GALV	6419.97	6419.97
1	FB6	FLOOR BEAM	W30X173	35'-5 7/8"	GALV	6591.28	6591.28
1	FB7	FLOOR BEAM	W30X173	35'-5 11/16"	GALV	6414.61	6414.61
1	FB8	FLOOR BEAM	W30X173	35'-5 1/2"	GALV	6516.57	6516.57
1	FB9	FLOOR BEAM	W24X76	18'-3 7/16"	GALV	1509.78	1509.78
1	FB10	FLOOR BEAM	W8X31	1'-4 3/4"	GALV	80.39	80.39
1	FB11	FLOOR BEAM	W8X31	10 1/16"	GALV	63.47	63.47
1	FBE1	FLOOR BEAM	W24X76	50'-9 7/8"	GALV	4422.51	4422.51
1	FBE2	FLOOR BEAM	W24X76	50'-9 1/8"	GALV	4442.88	4442.88
12	LA1	LATERAL ANGLE	L4X4X3/8	17'-1 9/16"	GALV	167.88	2014.61
6	LA2	LATERAL ANGLE	L4X4X3/8	35'-2 1/8"	GALV	344.76	2068.55
4	LP1	LATERAL PLATE	Plate 3/8"x9"	1'-9 1/8"	GALV	17.86	71.44
10	LP2	LATERAL PLATE	Plate 3/8"x9"	2'-6 3/4"	GALV	25.17	251.73
6	LP3	LATERAL PLATE	Plate 3/8"x6"	2'-2"	GALV	16.01	96.09
1	PLAQ1	PLAQUE	Plate 1/8"x8"	8"	GALV	2.27	2.27
96	SCA1	STRINGER CONNECTION ANGLE	L5X3-1/2X3/8	10 1/2"	GALV	9.10	873.60
96	SCA2	STRINGER CONNECTION ANGLE	L5X3-1/2X3/8	10 1/2"	GALV	9.10	873.60
96	SSA1	STRINGER SEAT ANGLE	L5X3-1/2X3/8	8"	GALV	6.93	665.60
1	STR1	STRINGER	W18X50	3'-2 15/16"	GALV	162.21	162.21
6	STR2	STRINGER	W18X50	16'-9 1/4"	GALV	838.56	5031.35
1	STR3	STRINGER	W18X50	18'-1 11/16"	GALV	907.07	907.07
1	STR4	STRINGER	W18X50	15'-11 5/8"	GALV	798.35	798.35
1	STR5	STRINGER	W18X50	9'-5 9/16"	GALV	473.25	473.25
6	STR6	STRINGER	W18X50	16'-9 1/4"	GALV	838.43	5030.55
1	STR7	STRINGER	W18X50	18'-1 11/16"	GALV	907.08	907.08
1	STR8	STRINGER	W18X50	9'-9 3/16"	GALV	488.19	488.19
1	STR9	STRINGER	W18X50	15'-8"	GALV	783.40	783.40
6	STR10	STRINGER	W18X50	16'-9 3/16"	GALV	838.29	5029.75
1	STR11	STRINGER	W18X50	18'-1 11/16"	GALV	907.08	907.08
1	STR12	STRINGER	W18X50	3'-6 3/4"	GALV	178.10	178.10
1	STR13	STRINGER	W18X50	3'-6 9/16"	GALV	177.34	177.34
1	STR14	STRINGER	W18X50	18'-1 9/16"	GALV	906.43	906.43
6	STR15	STRINGER	W18X50	16'-9 3/16"	GALV	838.17	5029.00
1	STR16	STRINGER	W18X50	15'-8 3/16"	GALV	784.08	784.08
1	STR17	STRINGER	W18X50	9'-9"	GALV	487.51	487.51
1	STR18	STRINGER	W18X50	18'-1 9/16"	GALV	906.42	906.42
6	STR19	STRINGER	W18X50	16'-9 1/8"	GALV	838.04	5028.24
1	STR20	STRINGER	W18X50	9'-5 3/4"	GALV	473.89	473.89
1	STR21	STRINGER	W18X50	15'-11 7/16"	GALV	797.68	797.68
1	STR22	STRINGER	W18X50	18'-1 9/16"	GALV	906.40	906.40
6	STR23	STRINGER	W18X50	16'-9 1/8"	GALV	837.92	5027.51
1	STR24	STRINGER	W18X50	3'-3 1/4"	GALV	163.62	163.62
12	STRP1	STRINGER PLATE	Plate 3/8"x9"	8 1/4"	GALV	7.89	94.63
1	TLA	BOTTOM CHORD	WT6X76	47'-7 7/8"	GALV	21636.20	21636.20
1	TLB	BOTTOM CHORD	WT6X76	57'-5 1/8"	GALV	28127.38	28127.38
1	TLC	BOTTOM CHORD	WT6X76	49'-0 1/4"	GALV	21911.66	21911.66
1	TRA	BOTTOM CHORD	WT6X76	47'-7 7/8"	GALV	21636.20	21636.20
1	TRB	BOTTOM CHORD	WT6X76	57'-5 1/8"	GALV	28127.38	28127.38
1	TRC	BOTTOM CHORD	WT6X76	49'-0 1/4"	GALV	21911.66	21911.66

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REF: REFERENCE	GA: GAUGE
CHK: CHECK	ID: INSIDE DIAMETER
O\O: OUT TO OUT	OD: OUTSIDE DIAMETER
C\C: CENTER TO CENTER	BRG: BEARING
F\F: FACE TO FACE	TYP: TYPICAL
DIA/ø: DIAMETER	UNO: UNLESS NOTED OTHERWISE
R: RADIUS	ABUT: ABUTMENT
	T&B: TOP & BOTTOM

DIST. BY:
CONTECH® CONSTRUCTION PRODUCTS INC.
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FAB. BY:
U.S. BRIDGE® BRIDGING AMERICA SINCE 1936

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
1	5/15/13	FLOOR BEAM END PLATES WAS 1" THK	TLB
2	5/15/13	ADDED 2" DIA. RAT HOLES IN fb1 & fb9	TLB
3	5/15/13	CHANGED WELD WAS 5/16" ALL AROUND	TLB
4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

BILL OF MATERIALS

USB JOB# 51622

SHEET 6 / 58 TOTAL

DATE PLOTTED: June 24, 2013

MATERIAL SCHEDULE

PC QTY	PN	FAMILY	SECTION	LENGTH	GRADE	SURFACE FINISH	WGT EACH
12	ab1	1 1/2" ANCHOR BOLT W/2N	AB 1 1/2	2'-0"	STEEL A449	GALV	11.7
1	abd1	AS-BUILT DWGS	Plate 1/8"x1'-10"	1'-5"	User	GALV	13.3
12	abw1	ANCHOR BOLT WASHER	Plate 1/4"x6"	4"	STEEL A588-50	GALV	1.6
2	bc1	BOTTOM CHORD	WT6X76	40'-11 11/16"	STEEL A572-FCM	GALV	3114.2
2	bc2	BOTTOM CHORD	WT6X76	40'-11 11/16"	STEEL A572-FCM	GALV	3114.2
4	bc3	BOTTOM CHORD	WT6X76	50'-10 3/4"	STEEL A572-FCM	GALV	3868.1
2	bc4	BOTTOM CHORD	WT6X76	43'-7 1/2"	STEEL A572-FCM	GALV	3315.3
2	bc5	BOTTOM CHORD	WT6X76	43'-7 1/2"	STEEL A572-FCM	GALV	3315.3
4	bp1	BEARING PLATE	Plate 1"x2'-1"	2'-5"	STEEL A572-50	GALV	163.4
2	bp2	BEARING PLATE	Plate 3/4"x2'-1"	2'-5"	STEEL A572-50	GALV	122.6
2	bp3	BEARING PLATE	Plate 3/4"x2'-1"	2'-5"	STEEL A572-50	GALV	120.9
2	bp4	BEARING PLATE	Plate 1"x1'-3 1/2"	1'-7 1/2"	STEEL A572-50	GALV	66.2
1	bp5	BEARING PLATE	Plate 3/4"x1'-3 1/2"	1'-7 1/2"	STEEL A572-50	GALV	49.7
1	bp6	BEARING PLATE	Plate 3/4"x1'-3 1/2"	1'-7 1/2"	STEEL A572-50	GALV	48.0
2	bp7	BEARING PLATE	Plate 3/4"x1'-9"	9"	STEEL A572-50	GALV	39.5
4	csp1	CON-SLIDE PAD	Plate 1 1/2"x1'-2"	1'-0"	User	GALV	71.5
2	csp2	CON-SLIDE PAD	Plate 1 1/2"x7 1/2"	7 1/2"	User	GALV	23.9
2	d1	DIAGONAL BRACE	W14X61	9'-10 5/16"	STEEL A572-FCM	GALV	601.4
2	d2	DIAGONAL BRACE	W14X61	11'-0 7/8"	STEEL A572-50	GALV	675.3
2	d3	DIAGONAL BRACE	W14X43	11'-3 1/16"	STEEL A572-FCM	GALV	484.0
2	d4	DIAGONAL BRACE	W14X43	11'-11 5/8"	STEEL A572-50	GALV	514.6
2	d5	DIAGONAL BRACE	W14X43	12'-0 3/8"	STEEL A572-FCM	GALV	517.3
4	d6	DIAGONAL BRACE	W14X43	12'-3 5/8"	STEEL A572-FCM	GALV	529.1
4	d7	DIAGONAL BRACE	W14X43	12'-4 7/16"	STEEL A572-FCM	GALV	531.9
2	d8	DIAGONAL BRACE	W14X43	12'-0 1/4"	STEEL A572-FCM	GALV	517.0
2	d9	DIAGONAL BRACE	W14X43	11'-11 11/16"	STEEL A572-50	GALV	514.8
2	d10	DIAGONAL BRACE	W14X43	11'-8 5/8"	STEEL A572-FCM	GALV	503.9
2	d11	DIAGONAL BRACE	W14X61	11'-9 7/16"	STEEL A572-50	GALV	719.1
2	d12	DIAGONAL BRACE	W14X61	10'-3 5/16"	STEEL A572-FCM	GALV	626.9
1	fb1	FLOOR BEAM	W24X76	18'-2 3/8"	STEEL A572-CVN	GALV	1383.1
1	fb2	FLOOR BEAM	W30X173	35'-2 1/8"	STEEL A572-CVN	GALV	6085.6
1	fb3	FLOOR BEAM	W30X173	35'-4 7/16"	STEEL A572-CVN	GALV	6118.5
1	fb4	FLOOR BEAM	W30X173	35'-2 3/16"	STEEL A572-CVN	GALV	6086.7
1	fb5	FLOOR BEAM	W30X173	35'-4"	STEEL A572-CVN	GALV	6112.6
1	fb6	FLOOR BEAM	W30X173	35'-2 9/16"	STEEL A572-CVN	GALV	6091.9
1	fb7	FLOOR BEAM	W30X173	35'-3 5/8"	STEEL A572-CVN	GALV	6107.3
1	fb8	FLOOR BEAM	W30X173	35'-2 11/16"	STEEL A572-CVN	GALV	6094.0
1	fb9	FLOOR BEAM	W24X76	18'-1 5/16"	STEEL A572-CVN	GALV	1376.2
1	fb10	FLOOR BEAM	W8X31	1'-3 7/8"	STEEL A572-50	GALV	40.9
1	fb11	FLOOR BEAM	W8X31	9 5/16"	STEEL A572-50	GALV	24.0
1	fbc1	FLOOR BEAM CONNECTOR	WT7X45	1'-10 15/16"	STEEL A572-CVN	GALV	85.9
1	fbc2	FLOOR BEAM CONNECTOR	WT7X45	1'-10 5/8"	STEEL A572-CVN	GALV	84.8
1	fbe1	FLOOR BEAM	W24X76	50'-8 9/16"	STEEL A572-CVN	GALV	3854.1
1	fbe2	FLOOR BEAM	W24X76	50'-7 13/16"	STEEL A572-CVN	GALV	3849.7
2	fbep1	FLOOR BEAM END PLATE	Plate 3/4"x2'-4"	10"	STEEL A572-CVN	GALV	57.3
4	fbep2	FLOOR BEAM END PLATE	Plate 3/4"x2'-4"	1'-1"	STEEL A572-CVN	GALV	75.2
1	fbep3	FLOOR BEAM END PLATE	Plate 3/4"x2'-0 11/16"	1'-3"	STEEL A572-50	GALV	76.3
1	fbep4	FLOOR BEAM END PLATE	Plate 3/4"x2'-0 1/2"	1'-3"	STEEL A572-50	GALV	76.3
6	fbep5	FLOOR BEAM END PLATE	Plate 1"x2'-10 5/8"	1'-4"	STEEL A572-CVN	GALV	153.7
2	fbep6	FLOOR BEAM END PLATE	Plate 2 1/4"x2'-10 5/8"	1'-4"	STEEL A572-CVN	GALV	345.7
2	fbep7	FLOOR BEAM END PLATE	Plate 2"x2'-10 5/8"	1'-4"	STEEL A572-CVN	GALV	307.3
2	fbep8	FLOOR BEAM END PLATE	Plate 1 5/8"x2'-10 5/8"	1'-4"	STEEL A572-CVN	GALV	249.7
2	fbep9	FLOOR BEAM END PLATE	Plate 1 3/8"x2'-10 5/8"	1'-4"	STEEL A572-CVN	GALV	211.3
16	jg1	JACKING GUSSET	Plate 1/2"x1'-10 9/16"	3 1/2"	STEEL A572-50	GALV	11.1
4	l3	LOWER GUSSET	Plate 5/8"x3'-6 1/16"	5'-3 13/16"	STEEL A572-CVN	GALV	436.3
4	l5	LOWER GUSSET	Plate 5/8"x3'-2 5/8"	4'-5 1/8"	STEEL A572-CVN	GALV	328.3

△1 fb1, fb2, fb3, fb4, fb5, fb6, fb7, fb8

△1 fbep5

RECORD DWGS
AS FABRICATED
6/24/13

S:\JOBS\VERMONT\51622-Galv.Truss-136ft x 35'-Warren.VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

SYMBOLS & ABBREVIATIONS

ES: EACH SIDE	NS: NEAR SIDE
EQ: EQUAL	FS: FAR SIDE
℄: CENTERLINE	WP/◆: WORK POINT
REF: REFERENCE	GA: GAUGE
CHK: CHECK	ID: INSIDE DIAMETER
O\O: OUT TO OUT	OD: OUTSIDE DIAMETER
C\C: CENTER TO CENTER	BRG: BEARING
F\F: FACE TO FACE	TYP: TYPICAL
DIA/⌀: DIAMETER	UNO: UNLESS NOTED OTHERWISE
R: RADIUS	ABUT: ABUTMENT
	T&B: TOP & BOTTOM

DIST. BY: CONTECH CONSTRUCTION PRODUCTS INC. www.contech-cpi.com

FAB. BY: U.S. BRIDGE BRIDGING AMERICA SINCE 1996

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
1	5/15/13	FLOOR BEAM END PLATES WAS 1" THK	TLB
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5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

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TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF	DRAW: TLB	REVIEW: SAF/RLL	CHECK: CJG

BILL OF MATERIALS

USB JOB# 51622

SHEET 6a / 58 TOTAL

DATE PLOTTED: June 24, 2013

S:\JOBS\VERMONT\51622-Galv.Trusss-139'6 x 35'-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

MATERIAL SCHEDULE (CONTINUED)

PC QTY	PN	FAMILY	SECTION	LENGTH	GRADE	SURFACE FINISH	WGT EACH
4	l7	LOWER GUSSET	Plate 5/8"x3'-1 1/4"	4'-4"	STEEL A572-CVN	GALV	306.1
4	l9	LOWER GUSSET	Plate 5/8"x3'-1 1/4"	4'-4"	STEEL A572-CVN	GALV	308.0
4	l11	LOWER GUSSET	Plate 5/8"x3'-1 1/4"	4'-4"	STEEL A572-CVN	GALV	306.1
4	l13	LOWER GUSSET	Plate 5/8"x3'-1 5/8"	4'-5 1/8"	STEEL A572-CVN	GALV	321.3
4	l15	LOWER GUSSET	Plate 5/8"x3'-5 1/16"	5'-3 3/8"	STEEL A572-CVN	GALV	413.3
4	l17	LOWER GUSSET	Plate 5/8"x4'-11 9/16"	3'-6 1/16"	STEEL A572-CVN	GALV	365.3
2	l1c	LOWER GUSSET	Plate 5/8"x6'-6 5/8"	4'-11 3/8"	STEEL A572-CVN	GALV	444.8
2	l1r	LOWER GUSSET	Plate 5/8"x6'-11 5/8"	5'-4 3/8"	STEEL A572-CVN	GALV	498.2
12	la1	LATERAL ANGLE	L4X4X3/8	17'-1 9/16"	STEEL A572-50	GALV	167.9
6	la2	LATERAL ANGLE	L4X4X3/8	35'-2 1/8"	STEEL A572-50	GALV	344.8
4	lp1	LATERAL PLATE	Plate 3/8"x9"	1'-9 1/8"	STEEL A572-50	GALV	17.9
10	lp2	LATERAL PLATE	Plate 3/8"x9"	2'-6 3/4"	STEEL A572-50	GALV	25.7
6	lp3	LATERAL PLATE	Plate 3/8"x6"	2'-2"	STEEL A572-50	GALV	16.0
1	plaq1	PLAQUE	Plate 1/8"x8"	8"	STEEL	GALV	2.3
96	sca1	STRINGER CONNECTION ANGLE	L5X3-1/2X3/8	10 1/2"	STEEL A572-50	GALV	9.1
96	sca2	STRINGER CONNECTION ANGLE	L5X3-1/2X3/8	10 1/2"	STEEL A572-50	GALV	9.1
2	shoe1	SHOE	W14X90	3'-0 1/2"	STEEL A572-50	GALV	273.7
2	shoe2	SHOE	W14X90	3'-7 1/4"	STEEL A572-50	GALV	324.4
2	shoe3	SHOE	W14X90	3'-8 1/2"	STEEL A572-50	GALV	333.7
8	shp1	SHIM PLATE	Plate 1/2"x7"	8"	STEEL A572-50	GALV	7.4
8	shp2	SHIM PLATE	Plate 3/4"x8"	10 1/2"	STEEL A572-50	GALV	16.8
8	shp3	SHIM PLATE	Plate 1/2"x8"	10 1/2"	STEEL A572-50	GALV	11.2
12	shp4	SHIM PLATE	Plate 7/8"x8"	10 1/2"	STEEL A572-50	GALV	19.5
8	shp5	SHIM PLATE	Plate 7/8"x8"	1'-4 5/8"	STEEL A572-50	GALV	30.8
24	shp6	SHIM PLATE	Plate 7/8"x8"	1'-5"	STEEL A572-50	GALV	31.6
8	shp7	SHIM PLATE	Plate 5/8"x10"	1'-7"	STEEL A572-50	GALV	31.8
8	shp8	SHIM PLATE	Plate 3/4"x8"	1'-7"	STEEL A572-50	GALV	30.1
4	shp9	SHIM PLATE	Plate 1/4"x8"	2'-3 9/16"	STEEL A572-50	GALV	14.9
8	shp10	SHIM PLATE	Plate 3/8"x10"	2'-4"	STEEL A572-50	GALV	28.1
4	shp11	SHIM PLATE	Plate 1/4"x8"	2'-4 9/16"	STEEL A572-50	GALV	15.5
4	shp12	SHIM PLATE	Plate 3/8"x1'-2 5/8"	2'-6 3/4"	STEEL A572-50	GALV	45.8
4	shp13	SHIM PLATE	Plate 3/8"x1'-2 5/8"	2'-6 13/16"	STEEL A572-50	GALV	45.8
8	shp14	SHIM PLATE	Plate 1/4"x1'-3 5/8"	2'-7"	STEEL A572-50	GALV	33.1
4	shp15	SHIM PLATE	Plate 1/4"x1'-2 1/2"	2'-8 7/16"	STEEL A572-50	GALV	29.4
4	shp16	SHIM PLATE	Plate 1/4"x1'-2 1/2"	2'-8 5/8"	STEEL A572-50	GALV	29.5
8	shp17	SHIM PLATE	Plate 1/8"x1'-0 1/2"	2'-10"	STEEL A572-50	GALV	14.4
4	shp19	SHIM PLATE	Plate 1/8"x1'-0 1/2"	5'-3 3/8"	STEEL A572-50	GALV	27.4
4	shp20	SHIM PLATE	Plate 1/8"x1'-0 1/2"	5'-3 11/16"	STEEL A572-50	GALV	27.6
46	sp1	SPACER PLATE	Plate 1/2"x8 11/16"	5 3/4"	STEEL A572-50	GALV	6.6
4	spb1	SPACER BEAM	W14X43	7"	STEEL A572-50	GALV	25.1
4	spl1	SPLICE PLATE	Plate 3/4"x7 1/4"	5'-0 1/4"	STEEL A572-50	GALV	67.0
4	spl2	SPLICE PLATE	Plate 3/4"x7 1/4"	5'-0 11/16"	STEEL A572-50	GALV	67.5
4	spl3	SPLICE PLATE	Plate 3/4"x6 11/16"	5'-7"	STEEL A572-50	GALV	74.2
4	spl4	SPLICE PLATE	Plate 3/4"x6 11/16"	5'-7 5/16"	STEEL A572-50	GALV	74.5
8	spl5	SPLICE PLATE	Plate 3/4"x6 9/16"	6'-1"	STEEL A572-50	GALV	80.8
8	spl6	SPLICE PLATE	Plate 3/4"x6 9/16"	6'-1 1/4"	STEEL A572-50	GALV	81.1
4	spl7	SPLICE PLATE	Plate 3/4"x6 5/8"	5'-7"	STEEL A572-50	GALV	74.2
4	spl8	SPLICE PLATE	Plate 3/4"x6 5/8"	5'-7 5/16"	STEEL A572-50	GALV	74.5
4	spl9	SPLICE PLATE	Plate 3/4"x7 1/16"	5'-0 1/4"	STEEL A572-50	GALV	67.0
4	spl10	SPLICE PLATE	Plate 3/4"x7 1/16"	5'-0 5/8"	STEEL A572-50	GALV	67.5
4	spl11	SPLICE PLATE	Plate 1"x1'-0 7/8"	6'-6 1/16"	STEEL A572-FCM	GALV	265.6
4	spl12	SPLICE PLATE	Plate 1"x5 3/8"	6'-6"	STEEL A572-FCM	GALV	105.0
4	spl13	SPLICE PLATE	Plate 1"x5 3/8"	6'-6 1/16"	STEEL A572-FCM	GALV	105.1

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS

ES: EACH SIDE	NS: NEAR SIDE
EQ: EQUAL	FS: FAR SIDE
℄: CENTERLINE	WP/◆: WORK POINT
REF: REFERENCE	GA: GAUGE
CHK: CHECK	ID: INSIDE DIAMETER
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DIA/⌀: DIAMETER	UNO: UNLESS NOTED OTHERWISE
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DIST. BY:
CONTECH CONSTRUCTION PRODUCTS INC. www.contech-cpi.com
FAB. BY:
U.S. BRIDGE BRIDGING AMERICA SINCE 1936

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
1	5/15/13	FLOOR BEAM END PLATES WAS 1" THK	TLB
2	5/15/13	ADDED 2" DIA. RAT HOLES IN fb1 & fb9	TLB
3	5/15/13	CHANGED WELD WAS 5/16" ALL AROUND	TLB
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5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

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TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF	DRAW: TLB	REVIEW: SAF/RLL	CHECK: CJG

BILL OF MATERIALS

USB JOB# 51622

SHEET 6b / 58 TOTAL

DATE PLOTTED: June 24, 2013

S:\JOBS\VERMONT\51622-Calv Trues-138'x 28'-Warren, VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

MATERIAL SCHEDULE (CONTINUED)

PC QTY	PN	FAMILY	SECTION	LENGTH	GRADE	SURFACE FINISH	WGT EACH
4	spl14	SPLICE PLATE	Plate 1"x1'-0 7/8"	6'-1 1/16"	STEEL A572-FCM	GALV	247.8
4	spl15	SPLICE PLATE	Plate 1"x5 5/16"	6'-1"	STEEL A572-FCM	GALV	97.9
4	spl16	SPLICE PLATE	Plate 1"x5 5/16"	6'-1 1/16"	STEEL A572-FCM	GALV	98.0
96	ssa1	STRINGER SEAT ANGLE	L5X3-1/2X3/8	8"	STEEL A572-50	GALV	6.9
6	sst1	STRINGER SEAT TEE	WT6X32.5	1'-3"	STEEL A572-50	GALV	40.6
6	sst2	STRINGER SEAT TEE	WT6X32.5	1'-4 5/8"	STEEL A572-50	GALV	44.9
1	str1	STRINGER	W18X50	3'-2 15/16"	STEEL A572-CVN	GALV	162.2
6	str2	STRINGER	W18X50	16'-9 1/4"	STEEL A572-CVN	GALV	838.6
1	str3	STRINGER	W18X50	18'-1 11/16"	STEEL A572-CVN	GALV	907.1
1	str4	STRINGER	W18X50	15'-11 5/8"	STEEL A572-CVN	GALV	798.3
1	str5	STRINGER	W18X50	9'-5 9/16"	STEEL A572-CVN	GALV	473.2
6	str6	STRINGER	W18X50	16'-9 1/4"	STEEL A572-CVN	GALV	838.4
1	str7	STRINGER	W18X50	18'-1 11/16"	STEEL A572-CVN	GALV	907.1
1	str8	STRINGER	W18X50	9'-9 3/16"	STEEL A572-CVN	GALV	488.2
1	str9	STRINGER	W18X50	15'-8"	STEEL A572-CVN	GALV	783.4
6	str10	STRINGER	W18X50	16'-9 3/16"	STEEL A572-CVN	GALV	838.3
1	str11	STRINGER	W18X50	18'-1 11/16"	STEEL A572-CVN	GALV	907.1
1	str12	STRINGER	W18X50	3'-6 3/4"	STEEL A572-CVN	GALV	178.1
1	str13	STRINGER	W18X50	3'-6 9/16"	STEEL A572-CVN	GALV	177.3
1	str14	STRINGER	W18X50	18'-1 9/16"	STEEL A572-CVN	GALV	906.4
6	str15	STRINGER	W18X50	16'-9 3/16"	STEEL A572-CVN	GALV	838.2
1	str16	STRINGER	W18X50	15'-8 3/16"	STEEL A572-CVN	GALV	784.1
1	str17	STRINGER	W18X50	9'-9"	STEEL A572-CVN	GALV	487.5
1	str18	STRINGER	W18X50	18'-1 9/16"	STEEL A572-CVN	GALV	906.4
6	str19	STRINGER	W18X50	16'-9 1/8"	STEEL A572-CVN	GALV	838.0
1	str20	STRINGER	W18X50	9'-5 3/4"	STEEL A572-CVN	GALV	473.9
1	str21	STRINGER	W18X50	15'-11 7/16"	STEEL A572-CVN	GALV	797.7
1	str22	STRINGER	W18X50	18'-1 9/16"	STEEL A572-CVN	GALV	906.4
6	str23	STRINGER	W18X50	16'-9 1/8"	STEEL A572-CVN	GALV	837.9
1	str24	STRINGER	W18X50	3'-3 1/4"	STEEL A572-CVN	GALV	163.6
12	strp1	STRINGER PLATE	Plate 3/8"x9"	9"	STEEL A572-50	GALV	7.9
2	tbsp1	TRSS BRG SL PL W/20GA SS	Plate 3/8"x1'-2"	1'-3"	STEEL A572-50	None	22.3
1	tbsp2	TRSS BRG SL PL W/20GA SS	Plate 3/8"x8 1/2"	9 1/2"	STEEL A572-50	GALV	8.6
2	tc1	TOP CHORD	W14X90	12'-4 7/8"	STEEL A572-50	GALV	1116.6
2	tc2	TOP CHORD	W14X109	17'-4 5/16"	STEEL A572-50	GALV	1892.0
2	tc3	TOP CHORD	W14X159	17'-0 1/16"	STEEL A572-50	GALV	2703.6
2	tc4	TOP CHORD	W14X176	17'-0 3/8"	STEEL A572-50	GALV	2997.9
2	tc5	TOP CHORD	W14X176	16'-11 11/16"	STEEL A572-50	GALV	2987.1
2	tc6	TOP CHORD	W14X176	17'-0 1/4"	STEEL A572-50	GALV	2996.0
2	tc7	TOP CHORD	W14X159	17'-8 5/16"	STEEL A572-50	GALV	2813.0
2	tc8	TOP CHORD	W14X109	18'-8 3/8"	STEEL A572-50	GALV	2038.0
2	tc9	TOP CHORD	W14X90	12'-10 1/4"	STEEL A572-50	GALV	1157.0
4	u2	UPPER GUSSET	Plate 5/8"x3'-8 5/8"	5'-6 3/16"	STEEL A572-50	GALV	363.4
4	u3	UPPER GUSSET	Plate 5/8"x10"	2'-3 3/8"	STEEL A572-50	GALV	45.5
4	u4	UPPER GUSSET	Plate 5/8"x3'-1 11/16"	5'-1 13/16"	STEEL A572-50	GALV	357.9
4	u5	UPPER GUSSET	Plate 5/8"x10"	2'-3 13/16"	STEEL A572-50	GALV	46.7
4	u6	UPPER GUSSET	Plate 5/8"x3'-0 1/8"	5'-8 3/8"	STEEL A572-50	GALV	358.6
8	u7	UPPER GUSSET	Plate 5/8"x10"	2'-3 3/8"	STEEL A572-50	GALV	46.3
8	u8	UPPER GUSSET	Plate 5/8"x2'-11 3/4"	6'-2 1/4"	STEEL A572-50	GALV	378.7
4	u9	UPPER GUSSET	Plate 5/8"x10"	2'-3 1/8"	STEEL A572-50	GALV	46.1
4	u12	UPPER GUSSET	Plate 5/8"x3'-0 1/16"	5'-8 5/16"	STEEL A572-50	GALV	358.6
4	u13	UPPER GUSSET	Plate 5/8"x10"	2'-3 3/4"	STEEL A572-50	GALV	46.7
4	u14	UPPER GUSSET	Plate 5/8"x3'-1 1/2"	5'-1 3/4"	STEEL A572-50	GALV	362.2
4	u15	UPPER GUSSET	Plate 5/8"x10"	2'-3 5/16"	STEEL A572-50	GALV	45.4
4	u16	UPPER GUSSET	Plate 5/8"x3'-11 1/4"	5'-2 1/2"	STEEL A572-50	GALV	365.2
2	v1	VERTICAL BRACE	W14X43	8'-8 1/8"	STEEL A572-50	GALV	373.0
2	v2	VERTICAL BRACE	W14X43	10'-1 7/8"	STEEL A572-50	GALV	436.8
4	v3	VERTICAL BRACE	W14X43	10'-11 1/16"	STEEL A572-50	GALV	469.7
2	v4	VERTICAL BRACE	W14X43	11'-2 3/16"	STEEL A572-50	GALV	480.8
2	v5	VERTICAL BRACE	W14X43	10'-2 1/8"	STEEL A572-50	GALV	437.6
2	v6	VERTICAL BRACE	W14X43	8'-8 3/16"	STEEL A572-50	GALV	373.3

BOLT CHART (COMPLETE)

DIAMETER	LENGTH	DESCRIPTION	REMARKS	BOLTS QTY	BOLTS CLASS	BOLTS UNIT WGT	NUTS QTY	WASHERS QTY
1"	2 1/2"			150	A325-1	1.29	150	300
1"	2 3/4"			192	A325-1	1.35	192	384
1"	3"			1586	A325-1	1.40	1586	3172
1"	3 1/4"			1092	A325-1	1.46	1092	2184
1"	3 1/2"			680	A325-1	1.52	680	1360
1"	3 3/4"			748	A325-1	1.57	748	1496
1"	4"			60	A325-1	1.63	60	120
1"	4 1/4"			458	A325-1	1.68	458	916
1"	4 1/2"			614	A325-1	1.74	614	1228
1"	4 3/4"			24	A325-1	1.79	24	48
1"	5"			20	A325-1	1.85	20	40
1"	5 1/4"			380	A325-1	1.91	380	760
1"	5 1/2"			8	A325-1	1.96	8	16
1"	5 3/4"			8	A325-1	2.02	8	16
1"	6"			4	A325-1	2.07	4	8

NOTE QUANTITIES SHOWN FOR FLAT WASHERS INCLUDE DTI

NOTE: ALL BOLTS REQUIRE (1) FLAT WASHER, (1) DTI WASHER, AND (1) NUT. ALL BOLTS ARE A325-1 UNO.

BOLT CHART (SHOP)

DIAMETER	LENGTH	DESCRIPTION	REMARKS	BOLTS QTY	BOLTS CLASS	BOLTS UNIT WGT	NUTS QTY	WASHERS QTY
1"	3"			1226	A325-1	1.40	1226	2452
1"	3 1/4"			672	A325-1	1.46	672	1344
1"	3 1/2"			520	A325-1	1.52	520	1040
1"	3 3/4"			680	A325-1	1.57	680	1360
1"	4 1/4"			288	A325-1	1.68	288	576
1"	4 1/2"			384	A325-1	1.74	384	768

NOTE QUANTITIES SHOWN FOR FLAT WASHERS INCLUDE DTI

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS

ES: EACH SIDE
EQ: EQUAL
℄: CENTERLINE
REF: REFERENCE
CHK: CHECK
O\O: OUT TO OUT
C\C: CENTER TO CENTER
F\F: FACE TO FACE
DIA/⌀: DIAMETER
R: RADIUS
NS: NEAR SIDE
FS: FAR SIDE
WP/⌀: WORK POINT
GA: GAUGE
ID: INSIDE DIAMETER
OD: OUTSIDE DIAMETER
BRG: BEARING
TYP: TYPICAL
UNO: UNLESS NOTED OTHERWISE
ABUT: ABUTMENT
T&B: TOP & BOTTOM

DIST. BY: CONTECH CONSTRUCTION PRODUCTS INC. www.contech-cpi.com
FAB. BY: U.S. BRIDGE BRIDGING AMERICA SINCE 1936

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
1	5/15/13	FLOOR BEAM END PLATES WAS 1" THK	TLB
2	5/15/13	ADDED 2" DIA. RAT HOLES IN fb1 & fb9	TLB
3	5/15/13	CHANGED WELD WAS 5/16" ALL AROUND	TLB
4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

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TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

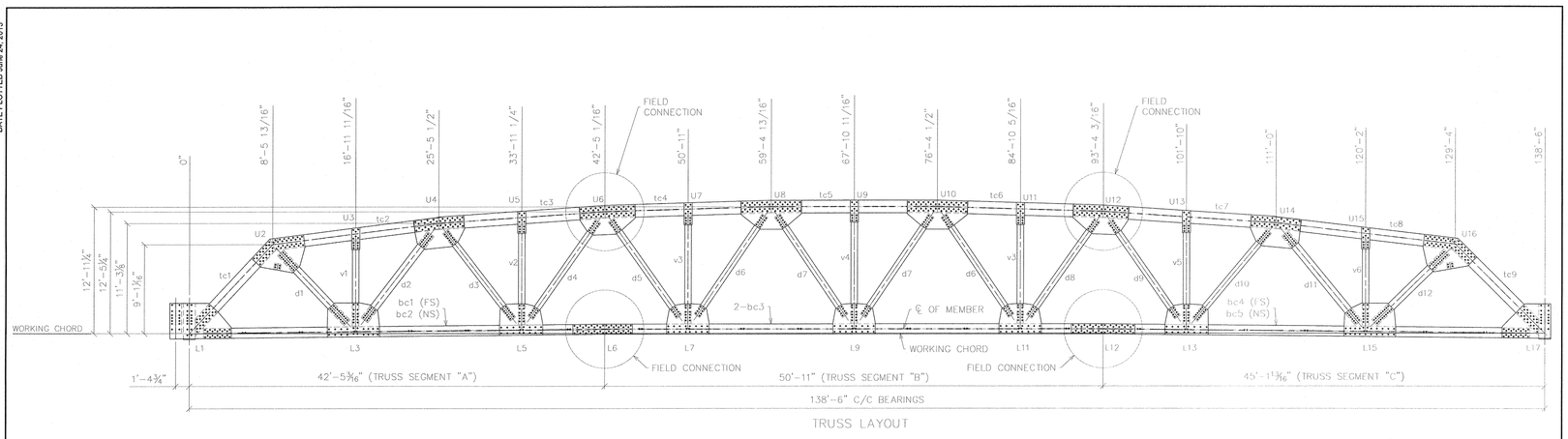
ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

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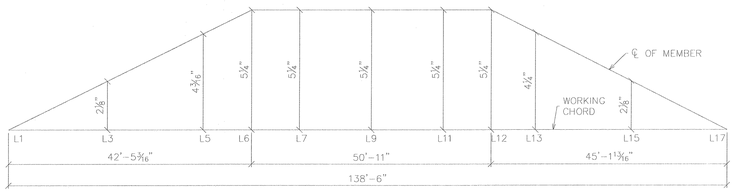
BILL OF MATERIALS

USB JOB# 51622

SHEET 6c / 58 TOTAL



TRUSS LAYOUT



BOTTOM CHORD CAMBER DIAGRAM

TRUSS ASSEMBLY NOTES:

1. THE SQUARE CORNER OF THE LOWER GUSSET PLATES ARE TO FACE TOWARDS THE ℄ OF THE TRUSS
2. SHEETS 9a-9c CONTAIN THE DRAWINGS FOR THE COMPLETED TRUSSES L&R.
3. THE TRUSS LAYOUT IS SHOWN IN THE "UNLOADED" POSITION.
4. FOR FIELD BOLT QUANTITIES AND LENGTHS, SEE SHEET 5a
5. THE SHOP BOLT CHARTS ARE SHOWN ON SHEETS 9a-9c.
6. ASSEMBLY DRAWINGS PROVIDE THE MAXIMUM NUMBER OF SHIMS PERMITTED.
7. TRUSS MEMBERS ARE DESIGNED FOR A ⅛" GAP BETWEEN MEMBERS (¼" MAX) AT COMPLETE FIT UP.

RECORD DWGS
AS FABRICATED
6/24/13

DATE PLOTTED: June 24, 2013

S:\JOBS\VERMONT\51622-Galv.Truss-138'6 x 35'-Warren,\VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

SYMBOLS & ABBREVIATIONS

ES: EACH SIDE	NS: NEAR SIDE
EQ: EQUAL	FS: FAR SIDE
℄: CENTERLINE	WP/✥: WORK POINT
REF: REFERENCE	GA: GAUGE
CHK: CHECK	ID: INSIDE DIAMETER
O\O: OUT TO OUT	OD: OUTSIDE DIAMETER
C\C: CENTER TO CENTER	BRG: BEARING
F\F: FACE TO FACE	TYP: TYPICAL
DIA/ø: DIAMETER	UNO: UNLESS NOTED OTHERWISE
R: RADIUS	ABUT: ABUTMENT
	T&B: TOP & BOTTOM

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FAB. BY: U.S. BRIDGE. BRIDGING AMERICA SINCE 1936

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
1	5/15/13	FLOOR BEAM END PLATES WAS 1" THK	TLB
2	5/15/13	ADDED 2" DIA. RAT HOLES IN fb1 & fb9	TLB
3	5/15/13	CHANGED WELD WAS 5⁄16" ALL AROUND	TLB
4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF	DRAW: TLB	REVIEW: SAF/RLL	CHECK: CJG

SHOP DETAILS / TRUSS ASSEMBLY

USB JOB# 51622

SHEET 7 / 58 TOTAL

DATE PLOTTED June 24, 2013

S:\JOBS\VERMONT\51622-Oak Trusks-138'S x 35'-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

MATERIAL SCHEDULE

PC QTY	PN	FAMILY	PROFILE	LENGTH	GRADE	WGT EACH (lb)	WGT TOTAL (lb)
PART NO.=TLA		QTY=1 FINISH=GALV	TOTAL WGT=21636.20(lb)				
1	bc1	BOTTOM CHORD	W16X76	40'-11 11/16"	STEEL A572-FCM	3114.2	3114.2
1	bc2	BOTTOM CHORD	W16X76	40'-11 11/16"	STEEL A572-FCM	3114.2	3114.2
1	d1	DIAGONAL BRACE	W14X61	9'-10 5/16"	STEEL A572-FCM	601.4	601.4
1	d2	DIAGONAL BRACE	W14X61	11'-0 7/8"	STEEL A572-50	675.3	675.3
1	d3	DIAGONAL BRACE	W14X43	11'-3 1/16"	STEEL A572-FCM	484.0	484.0
1	d4	DIAGONAL BRACE	W14X43	11'-11 5/8"	STEEL A572-50	514.6	514.6
2	l3	LOWER GUSSET	Plate 5/8"x3'-6 1/16"	5'-3 13/16"	STEEL A572-CVN	436.3	872.5
2	l5	LOWER GUSSET	Plate 5/8"x3'-2 5/8"	4'-5 1/8"	STEEL A572-CVN	328.3	656.6
1	l1c	LOWER GUSSET	Plate 5/8"x6'-6 5/8"	4'-11 3/8"	STEEL A572-CVN	444.8	444.8
1	l1r	LOWER GUSSET	Plate 5/8"x6'-11 5/8"	5'-4 3/8"	STEEL A572-CVN	498.2	498.2
1	shoe1	SHOE	W14X90	3'-0 1/2"	STEEL A572-50	273.7	273.7
1	shoe3	SHOE	W14X90	3'-8 1/2"	STEEL A572-50	333.7	333.7
2	shp1	SHIM PLATE	Plate 1/2"x7"	8"	STEEL A572-50	7.4	14.9
2	shp2	SHIM PLATE	Plate 3/4"x8"	10 1/2"	STEEL A572-50	16.8	33.5
2	shp3	SHIM PLATE	Plate 1/2"x8"	10 1/2"	STEEL A572-50	11.2	22.3
2	shp6	SHIM PLATE	Plate 7/8"x8"	1'-5"	STEEL A572-50	31.6	63.2
2	shp7	SHIM PLATE	Plate 5/8"x10"	1'-7"	STEEL A572-50	31.8	63.7
2	shp8	SHIM PLATE	Plate 3/4"x8"	1'-7"	STEEL A572-50	30.1	60.2
2	shp10	SHIM PLATE	Plate 3/8"x10"	2'-4"	STEEL A572-50	28.1	56.2
2	shp11	SHIM PLATE	Plate 1/4"x8"	2'-4 9/16"	STEEL A572-50	15.5	30.9
2	shp13	SHIM PLATE	Plate 3/8"x1'-2 5/8"	2'-6 13/16"	STEEL A572-50	45.8	91.6
1	shp14	SHIM PLATE	Plate 1/4"x1'-3 5/8"	2'-7"	STEEL A572-50	33.1	33.1
2	shp16	SHIM PLATE	Plate 1/4"x1'-2 1/2"	2'-8 5/8"	STEEL A572-50	29.5	58.9
2	shp17	SHIM PLATE	Plate 1/8"x1'-0 1/2"	2'-10"	STEEL A572-50	14.4	28.8
2	shp20	SHIM PLATE	Plate 1/8"x1'-0 1/2"	5'-3 11/16"	STEEL A572-50	27.6	55.2
7	sp1	SPACER PLATE	Plate 1/2"x8 15/16"	5 3/4"	STEEL A572-50	6.6	46.0
1	spb1	SPACER BEAM	W14X43	7"	STEEL A572-50	25.1	25.1
2	spl1	SPLICE PLATE	Plate 3/4"x7 1/4"	5'-0 1/4"	STEEL A572-50	67.0	134.0
2	spl2	SPLICE PLATE	Plate 3/4"x7 1/4"	5'-0 11/16"	STEEL A572-50	67.5	135.1
1	spl3	SPLICE PLATE	Plate 3/4"x6 11/16"	5'-7"	STEEL A572-50	74.2	74.2
1	spl4	SPLICE PLATE	Plate 3/4"x6 11/16"	5'-7 5/16"	STEEL A572-50	74.5	74.5
1	spl14	SPLICE PLATE	Plate 1"x1'-0 7/8"	6'-1 1/16"	STEEL A572-FCM	247.8	247.8
1	spl15	SPLICE PLATE	Plate 1"x5 5/16"	6'-1"	STEEL A572-FCM	97.9	97.9
1	spl16	SPLICE PLATE	Plate 1"x5 5/16"	6'-1 1/16"	STEEL A572-FCM	98.0	98.0

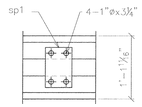
1	tc1	TOP CHORD	W14X90	12'-4 7/8"	STEEL A572-50	1116.6	1116.6
1	tc2	TOP CHORD	W14X109	17'-4 5/16"	STEEL A572-50	1892.0	1892.0
1	tc3	TOP CHORD	W14X159	17'-0 1/16"	STEEL A572-50	2703.6	2703.6
2	u2	UPPER GUSSET	Plate 5/8"x3'-8 5/8"	5'-6 3/16"	STEEL A572-50	363.4	726.7
2	u3	UPPER GUSSET	Plate 5/8"x10"	2'-3 3/8"	STEEL A572-50	45.5	91.0
2	u4	UPPER GUSSET	Plate 5/8"x3'-1 11/16"	5'-1 13/16"	STEEL A572-50	357.9	715.8
2	u5	UPPER GUSSET	Plate 5/8"x10"	2'-3 13/16"	STEEL A572-50	46.7	93.4
1	u6	UPPER GUSSET	Plate 5/8"x3'-0 1/8"	5'-8 3/8"	STEEL A572-50	358.6	358.6
1	v1	VERTICAL BRACE	W14X43	8'-8 1/8"	STEEL A572-50	373.0	373.0
1	v2	VERTICAL BRACE	W14X43	10'-1 7/8"	STEEL A572-50	436.8	436.8
							21636.20
Total element mass (lb)							21636.20

BOLT CHART (SHOP)

DIAMETER	LENGTH	DESCRIPTION	REMARKS	BOLTS QTY	BOLTS GLASS	BOLTS UNIT WGT	NUTS QTY	WASHERS QTY
1"	3"			243	A325-1	1.40	243	486
1"	3 1/4"			150	A325-1	1.46	150	300
1"	3 1/2"			72	A325-1	1.52	72	144
1"	3 3/4"			108	A325-1	1.57	108	216
1"	4 1/4"			72	A325-1	1.68	72	144

NOTE QUANTITIES SHOWN FOR FLAT WASHERS INCLUDE DTI

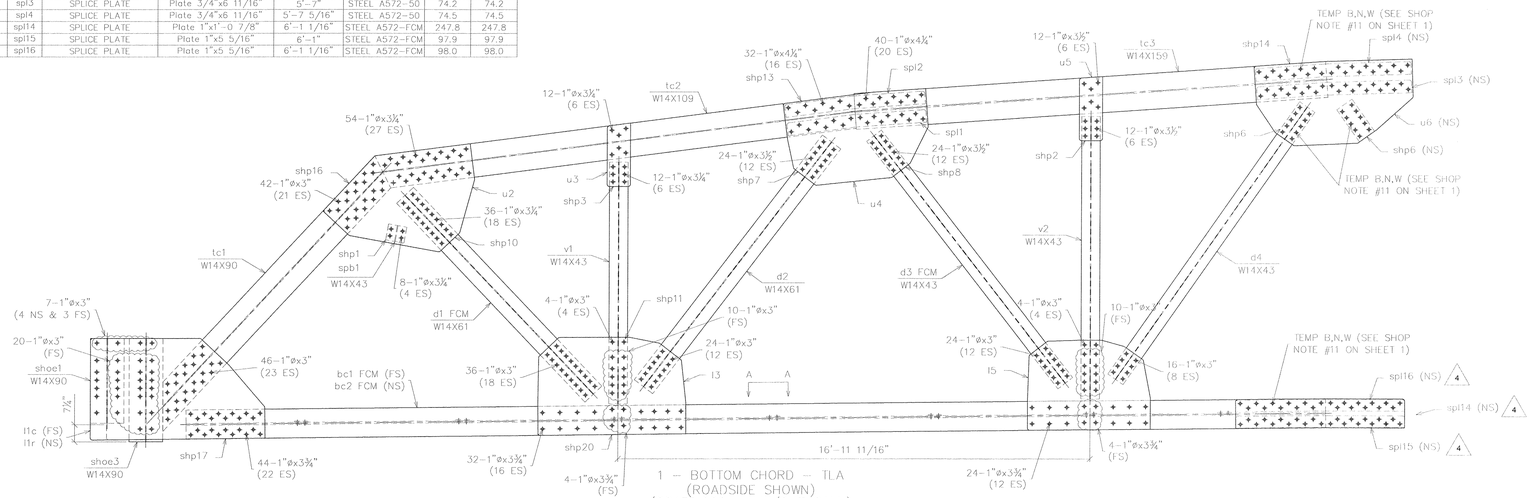
NOTE: ALL BOLTS REQUIRE (1) FLAT WASHER, (1) DTI WASHER, AND (1) NUT. ALL BOLTS ARE A325-1 UNO.



SECTION A-A
(TYPICAL LAYOUT)

NOTE: ALL GUSSETS AND SHIMS = QTY OF 2 (1 ES) UNO.

OVERALL HEIGHT = 1.3'-9⅜"
OVERALL LENGTH = 47'-8³⁄₁₆"



1 - BOTTOM CHORD - TLA
(ROADSIDE SHOWN)
(22473.662 lbs W/OUT GALV)
(TLA IS SHOWN, TRA IS IDENTICAL)

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS

ES: EACH SIDE	NS: NEAR SIDE
EQ: EQUAL	FS: FAR SIDE
℄: CENTERLINE	WP/✥: WORK POINT
REF: REFERENCE	GA: GAUGE
CHK: CHECK	ID: INSIDE DIAMETER
O\O: OUT TO OUT	OD: OUTSIDE DIAMETER
C\C: CENTER TO CENTER	BRG: BEARING
F\F: FACE TO FACE	TYP: TYPICAL
DIA/ø: DIAMETER	UNO: UNLESS NOTED OTHERWISE
R: RADIUS	ABUT: ABUTMENT
	T&B: TOP & BOTTOM

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SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
1	5/15/13	FLOOR BEAM END PLATES WAS 1" THK	TLB
2	5/15/13	ADDED 2" DIA. RAT HOLES IN fb1 & fb9	TLB
3	5/15/13	CHANGED WELD WAS 5⁄16" ALL AROUND	TLB
4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

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TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

SHOP DETAILS | TRUSS ASSEMBLY | USB JOB# 51622 | SHEET 7a | TOTAL 58

DATE PLOTTED: June 24, 2013

S:\JOBS\VERMONT\51622-Galv,Truss-1385 x 35-\Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

MATERIAL SCHEDULE

PC QTY	PN	FAMILY	PROFILE	LENGTH	GRADE	WGT EACH (lb)	WGT TOTAL (lb)
PART NO.=TLB	QTY=1	FINISH=GALV	TOTAL WGT=28127.38(lb)				
2	bc3	BOTTOM CHORD	W16X76	50'-10 3/4"	STEEL A572-FCM	3868.1	7736.2
1	d5	DIAGONAL BRACE	W14X43	12'-0 3/8"	STEEL A572-FCM	517.3	517.3
2	d6	DIAGONAL BRACE	W14X43	12'-3 5/8"	STEEL A572-FCM	529.1	1058.2
2	d7	DIAGONAL BRACE	W14X43	12'-4 7/16"	STEEL A572-FCM	531.9	1063.9
1	d8	DIAGONAL BRACE	W14X43	12'-0 1/4"	STEEL A572-FCM	517.0	517.0
2	l7	LOWER GUSSET	Plate 5/8"x3'-1 1/4"	4'-4"	STEEL A572-CVN	306.1	612.2
2	l9	LOWER GUSSET	Plate 5/8"x3'-1 1/4"	4'-4"	STEEL A572-CVN	308.0	616.0
2	l11	LOWER GUSSET	Plate 5/8"x3'-1 1/4"	4'-4"	STEEL A572-CVN	306.1	612.3
6	shp4	SHIM PLATE	Plate 7/8"x8"	10 1/2"	STEEL A572-50	19.5	117.3
4	shp5	SHIM PLATE	Plate 7/8"x8"	1'-4 5/8"	STEEL A572-50	30.8	123.2
8	shp6	SHIM PLATE	Plate 7/8"x8"	1'-5"	STEEL A572-50	31.6	252.8
2	shp14	SHIM PLATE	Plate 1/4"x1'-3 5/8"	2'-7"	STEEL A572-50	33.1	66.2
9	sp1	SPACER PLATE	Plate 1/2"x8 11/16"	5 3/4"	STEEL A572-50	6.6	59.1
1	spl3	SPLICE PLATE	Plate 3/4"x6 11/16"	5'-7"	STEEL A572-50	74.2	74.2
1	spl4	SPLICE PLATE	Plate 3/4"x6 11/16"	5'-7 5/16"	STEEL A572-50	74.5	74.5
4	spl5	SPLICE PLATE	Plate 3/4"x6 9/16"	6'-1"	STEEL A572-50	80.8	323.4
4	spl6	SPLICE PLATE	Plate 3/4"x6 9/16"	6'-1 1/4"	STEEL A572-50	81.1	324.5
1	spl7	SPLICE PLATE	Plate 3/4"x6 5/8"	5'-7"	STEEL A572-50	74.2	74.2
1	spl8	SPLICE PLATE	Plate 3/4"x6 5/8"	5'-7 5/16"	STEEL A572-50	74.5	74.5
1	spl11	SPLICE PLATE	Plate 1"x1'-0 7/8"	6'-6 1/16"	STEEL A572-FCM	265.6	265.6
1	spl12	SPLICE PLATE	Plate 1"x5 3/8"	6'-6"	STEEL A572-FCM	105.0	105.0
1	spl13	SPLICE PLATE	Plate 1"x5 3/8"	6'-6 1/16"	STEEL A572-FCM	105.1	105.1
1	spl14	SPLICE PLATE	Plate 1"x1'-0 7/8"	6'-1 1/16"	STEEL A572-FCM	247.8	247.8
1	spl15	SPLICE PLATE	Plate 1"x5 5/16"	6'-1"	STEEL A572-FCM	97.9	97.9
1	spl16	SPLICE PLATE	Plate 1"x5 5/16"	6'-1 1/16"	STEEL A572-FCM	98.0	98.0
1	tc4	TOP CHORD	W14X176	17'-0 3/8"	STEEL A572-50	2997.9	2997.9
1	tc5	TOP CHORD	W14X176	16'-11 11/16"	STEEL A572-50	2987.1	2987.1
1	tc6	TOP CHORD	W14X176	17'-0 1/4"	STEEL A572-50	2996.0	2996.0
1	u6	UPPER GUSSET	Plate 5/8"x3'-0 1/8"	5'-8 3/8"	STEEL A572-50	358.6	358.6
4	u7	UPPER GUSSET	Plate 5/8"x10"	2'-3 3/8"	STEEL A572-50	46.3	185.4
4	u8	UPPER GUSSET	Plate 5/8"x2'-11 3/4"	6'-2 1/4"	STEEL A572-50	378.7	1514.8
2	u9	UPPER GUSSET	Plate 5/8"x10"	2'-3 1/8"	STEEL A572-50	46.1	92.2
1	u12	UPPER GUSSET	Plate 5/8"x3'-0 1/16"	5'-8 5/16"	STEEL A572-50	358.6	358.6
2	v3	VERTICAL BRACE	W14X43	10'-11 1/16"	STEEL A572-50	469.7	939.3
1	v4	VERTICAL BRACE	W14X43	11'-2 3/16"	STEEL A572-50	480.8	480.8
							28127.38
Total element mass (lb)							28127.38

BOLT CHART (SHOP)

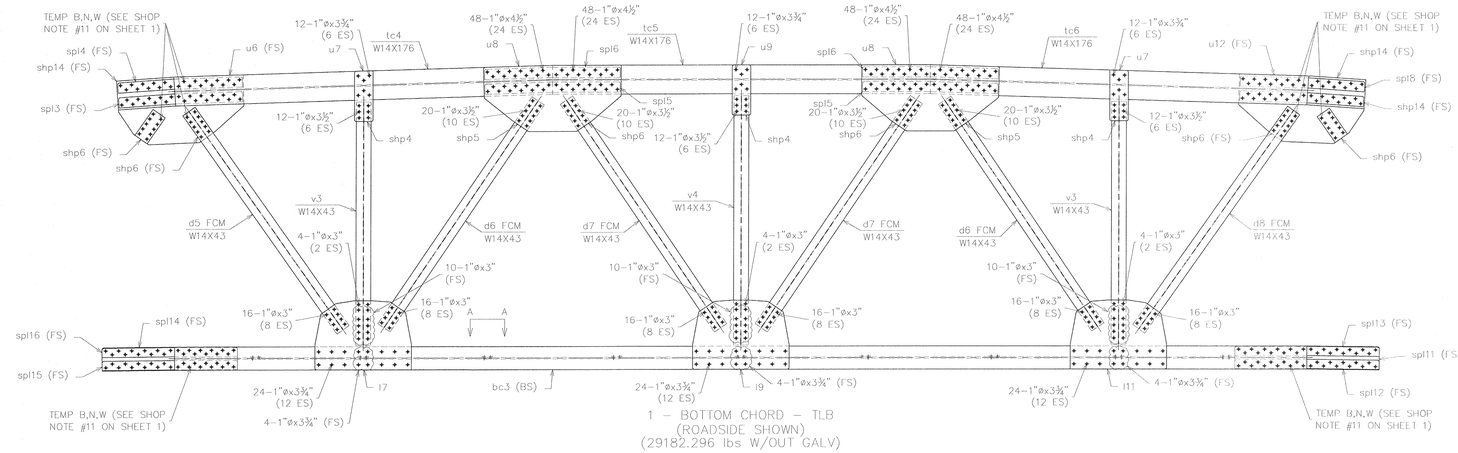
DIAMETER	LENGTH	DESCRIPTION	REMARKS	BOLTS QTY	BOLTS CLASS	BOLTS UNIT WGT	NUTS QTY	WASHERS QTY
1"	3"			138	A325-1	1.40	138	276
1"	3 1/4"			36	A325-1	1.46	36	72
1"	3 1/2"			116	A325-1	1.52	116	232
1"	3 3/4"			120	A325-1	1.57	120	240
1"	4 1/2"			192	A325-1	1.74	192	384

NOTE QUANTITIES SHOWN FOR FLAT WASHERS INCLUDE DTI

NOTE: ALL BOLTS REQUIRE (1) FLAT WASHER, (1) DTI WASHER, AND (1) NUT. ALL BOLTS ARE A325-1 UNO.

NOTE: ALL GUSSETS AND SHIMS = QTY OF 2 (1 LS) UNO.

OVERALL HEIGHT = 13'-8 9/16"
OVERALL LENGTH = 57'-5 5/8"



1 - BOTTOM CHORD - TLB
(ROADSIDE SHOWN)
(29182.296 lbs W/OUT GALV)

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS:

ES: EACH SIDE
EQ: EQUAL
℄: CENTERLINE
REF: REFERENCE
CHK: CHECK
O\O: OUT TO OUT
C\C: CENTER TO CENTER
F\F: FACE TO FACE
DIA/⌀: DIAMETER
R: RADIUS
NS: NEAR SIDE
FS: FAR SIDE
WP/⌀: WORK POINT
GA: GAUGE
ID: INSIDE DIAMETER
OD: OUTSIDE DIAMETER
BRG: BEARING
TYP: TYPICAL
UNO: UNLESS NOTED OTHERWISE
ABUT: ABUTMENT
T&B: TOP & BOTTOM

DIST. BY: CONTECH CONSTRUCTION PRODUCTS INC. www.contech-cpi.com

FAB. BY: U.S. BRIDGE BRIDGING AMERICA SINCE 1926

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
1	5/15/13	FLOOR BEAM END PLATES WAS 1" THK	TLB
2	5/15/13	ADDED 2" DIA. RAT HOLES IN fb1 & fb9	TLB
3	5/15/13	CHANGED WELD WAS 5/16" ALL AROUND	TLB
4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

SHOP DETAILS | TRUSS ASSEMBLY | USB JOB# 51622 | SHEET 7b | 58 TOTAL

DATE PLOTTED: June 24, 2013

S:\JOBS\VERMONT\51622-Galt,Truss=1389 x 35'-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

MATERIAL SCHEDULE

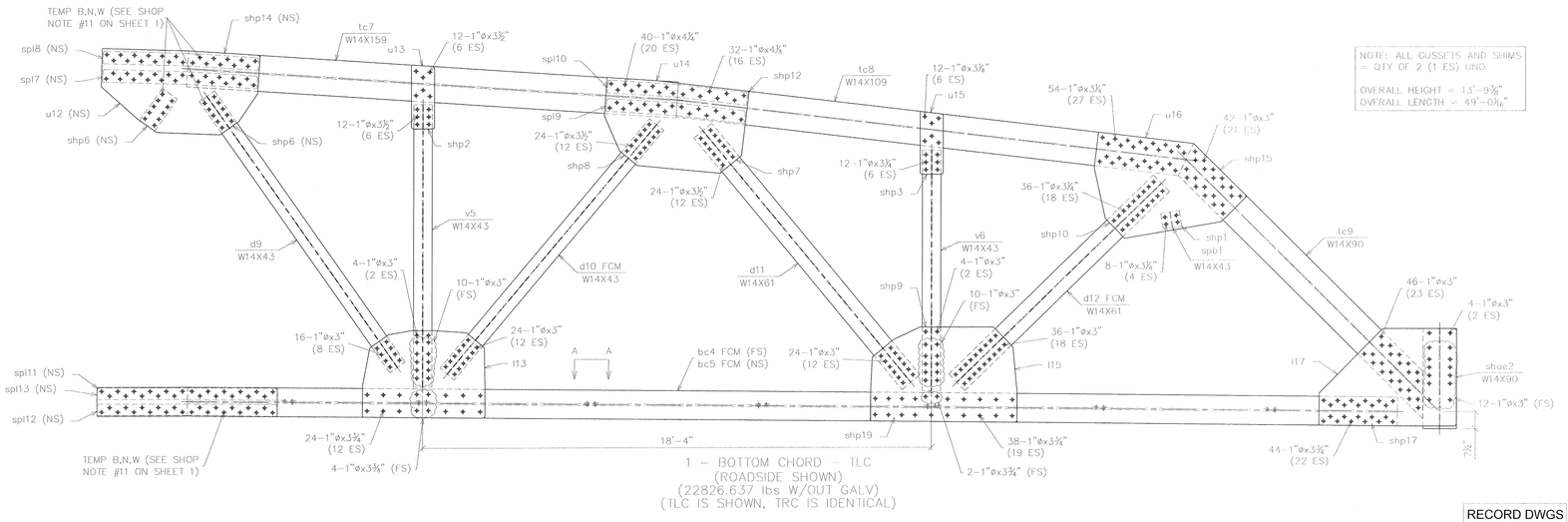
PC QTY	PN	FAMILY	PROFILE	LENGTH	GRADE	WGT EACH (lb)	WGT TOTAL (lb)
PART NO.=TLC		QTY=1 FINISH=GALV	TOTAL WGT=21911.72(lb)				
1	bc4	BOTTOM CHORD	W16X76	43'-7 1/2"	STEEL A572-FCM	3315.3	3315.3
1	bc5	BOTTOM CHORD	W16X76	43'-7 1/2"	STEEL A572-FCM	3315.3	3315.3
1	d9	DIAGONAL BRACE	W14X43	11'-11 11/16"	STEEL A572-50	514.8	514.8
1	d10	DIAGONAL BRACE	W14X43	11'-8 5/8"	STEEL A572-FCM	503.9	503.9
1	d11	DIAGONAL BRACE	W14X61	11'-9 7/16"	STEEL A572-50	719.1	719.1
1	d12	DIAGONAL BRACE	W14X61	10'-3 5/16"	STEEL A572-FCM	626.9	626.9
2	l13	LOWER GUSSET	Plate 5/8"x3'-1 5/8"	4'-5 1/8"	STEEL A572-CVN	321.3	642.7
2	l15	LOWER GUSSET	Plate 5/8"x3'-5 1/16"	5'-3 3/8"	STEEL A572-CVN	413.3	826.7
2	l17	LOWER GUSSET	Plate 5/8"x4'-11 9/16"	3'-6 1/16"	STEEL A572-CVN	365.3	730.5
1	shoe2	SHOE	W14X90	3'-7 1/4"	STEEL A572-50	324.4	324.4
2	shp1	SHIM PLATE	Plate 1/2"x7"	8"	STEEL A572-50	7.4	14.9
2	shp2	SHIM PLATE	Plate 3/4"x8"	10 1/2"	STEEL A572-50	16.8	33.5
2	shp3	SHIM PLATE	Plate 1/2"x8"	10 1/2"	STEEL A572-50	11.2	22.4
2	shp6	SHIM PLATE	Plate 7/8"x8"	1'-5"	STEEL A572-50	31.6	63.2
2	shp7	SHIM PLATE	Plate 5/8"x10"	1'-7"	STEEL A572-50	31.8	63.7
2	shp8	SHIM PLATE	Plate 3/4"x8"	1'-7"	STEEL A572-50	30.1	60.2
2	shp9	SHIM PLATE	Plate 1/4"x8"	2'-3 9/16"	STEEL A572-50	14.9	29.8
2	shp10	SHIM PLATE	Plate 3/8"x10"	2'-4"	STEEL A572-50	28.1	56.2
2	shp12	SHIM PLATE	Plate 3/8"x1'-2 5/8"	2'-6 3/4"	STEEL A572-50	45.8	91.6
1	shp14	SHIM PLATE	Plate 1/4"x1'-3 5/8"	2'-7"	STEEL A572-50	33.1	33.1
2	shp15	SHIM PLATE	Plate 1/4"x1'-2 1/2"	2'-8 7/16"	STEEL A572-50	29.4	58.8
2	shp17	SHIM PLATE	Plate 1/8"x1'-0 1/2"	2'-10"	STEEL A572-50	14.4	28.8
2	shp19	SHIM PLATE	Plate 1/8"x1'-0 1/2"	5'-3 3/8"	STEEL A572-50	27.4	27.4
7	sp1	SPACER PLATE	Plate 1/2"x8 11/16"	5 3/4"	STEEL A572-50	6.6	46.0
1	spb1	SPACER BEAM	W14X43	7"	STEEL A572-50	25.1	25.1
1	spl7	SPLICE PLATE	Plate 3/4"x6 5/8"	5'-7"	STEEL A572-50	74.2	74.2
1	spl8	SPLICE PLATE	Plate 3/4"x6 5/8"	5'-7 5/16"	STEEL A572-50	74.5	74.5
2	spl9	SPLICE PLATE	Plate 3/4"x7 1/16"	5'-0 1/4"	STEEL A572-50	67.0	134.0
2	spl10	SPLICE PLATE	Plate 3/4"x7 1/16"	5'-0 5/8"	STEEL A572-50	67.5	135.0
1	spl11	SPLICE PLATE	Plate 1"x1'-0 7/8"	6'-6 1/16"	STEEL A572-50	265.6	265.6
1	spl12	SPLICE PLATE	Plate 1"x5 3/8"	6'-6"	STEEL A572-50	105.0	105.0
1	spl13	SPLICE PLATE	Plate 1"x5 3/8"	6'-6 1/16"	STEEL A572-50	105.1	105.1
1	tc7	TOP CHORD	W14X159	17'-8 5/16"	STEEL A572-50	2813.0	2813.0
1	tc8	TOP CHORD	W14X109	18'-8 3/8"	STEEL A572-50	2038.0	2038.0
1	tc9	TOP CHORD	W14X90	12'-10 1/4"	STEEL A572-50	1157.0	1157.0
1	u12	UPPER GUSSET	Plate 5/8"x3'-0 1/16"	5'-8 5/16"	STEEL A572-50	358.6	358.6
2	u13	UPPER GUSSET	Plate 5/8"x10"	2'-3 3/4"	STEEL A572-50	46.7	93.3
2	u14	UPPER GUSSET	Plate 5/8"x3'-1 1/2"	5'-1 3/4"	STEEL A572-50	362.2	724.4
2	u15	UPPER GUSSET	Plate 5/8"x10"	2'-3 5/16"	STEEL A572-50	45.4	90.8
2	u16	UPPER GUSSET	Plate 5/8"x3'-11 1/4"	5'-2 1/2"	STEEL A572-50	365.2	730.4
1	v5	VERTICAL BRACE	W14X43	10'-2 1/8"	STEEL A572-50	437.6	437.6
1	v6	VERTICAL BRACE	W14X43	8'-8 3/16"	STEEL A572-50	373.3	373.3
							21911.72
Total element mass (lb)							21911.72

BOLT CHART (SHOP)

DIAMETER	LENGTH	DESCRIPTION	REMARKS	BOLTS QTY	BOLTS CLASS	BOLTS UNIT WGT	NUTS QTY	WASHERS QTY
1"	.5"			232	A325-1	1.40	232	464
1"	3 1/4"			150	A325-1	1.46	150	300
1"	3 1/2"			72	A325-1	1.52	72	144
1"	3 3/4"			112	A325-1	1.57	112	224
1"	4 1/4"			72	A325-1	1.68	72	144

NOTE QUANTITIES SHOWN FOR FLAT WASHERS INCLUDE DTI

NOTE: ALL BOLTS REQUIRE (1) FLAT WASHER, (1) DTI WASHER, AND (1) NUT. ALL BOLTS ARE A325-1 UNO.



1 - BOTTOM CHORD - TLC
(ROADSIDE SHOWN)
(22826.637 lbs W/OUT GALV)
(TLC IS SHOWN, TRC IS IDENTICAL)

NOTE: ALL GUSSETS AND SHIMS = QTY OF 2 (1 ES) UNO.

OVERALL HEIGHT = 13'-9⅜"
OVERALL LENGTH = 49'-0⅞"

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS

ES: EACH SIDE
EQ: EQUAL
℄: CENTERLINE
REF: REFERENCE
CHK: CHECK
O\O: OUT TO OUT
C\C: CENTER TO CENTER
F\F: FACE TO FACE
DIA/Ø: DIAMETER
R: RADIUS
NS: NEAR SIDE
FS: FAR SIDE
WP/✥: WORK POINT
GA: GAUGE
ID: INSIDE DIAMETER
OD: OUTSIDE DIAMETER
BRG: BEARING
TYP: TYPICAL
UNO: UNLESS NOTED OTHERWISE
ABUT: ABUTMENT
T&B: TOP & BOTTOM

DIST. BY: CONTECH CONSTRUCTION PRODUCTS INC. www.contech-cpi.com

FAB. BY: U.S. BRIDGE BRIDGING AMERICA SINCE 1936

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
1	5/15/13	FLOOR BEAM END PLATES WAS 1" THK	TLB
2	5/15/13	ADDED 2" DIA. RAT HOLES IN fb1 & fb9	TLB
3	5/15/13	CHANGED WELD WAS 5/16" ALL AROUND	TLB
4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

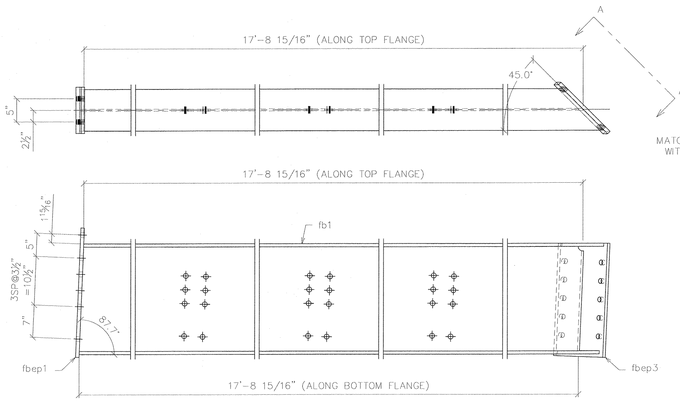
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SHOP DETAILS / TRUSS ASSEMBLY

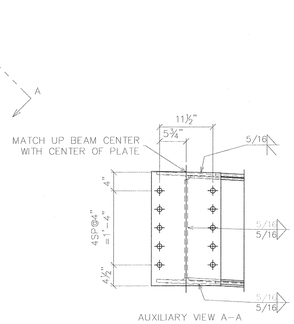
USB JOB# 51622

SHEET 7c / 58 TOTAL

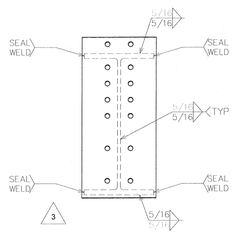
DATE PLOTTED: June 24, 2013



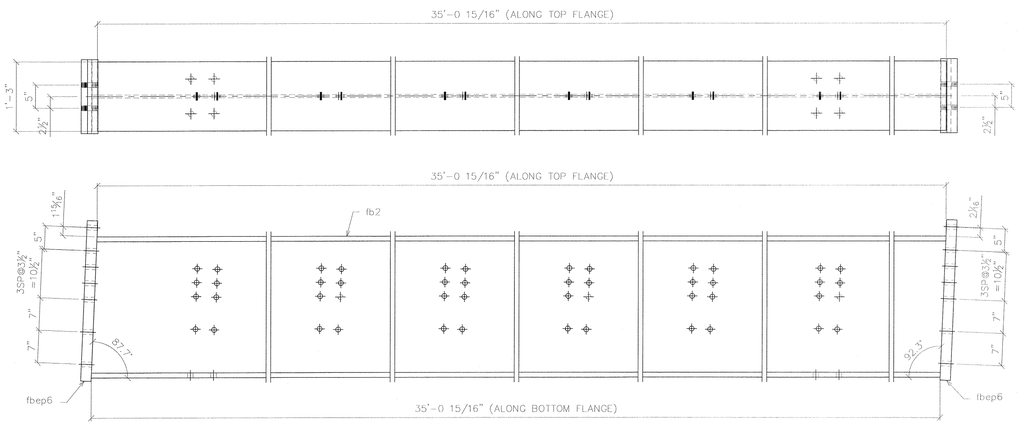
1 – FLOOR BEAM – FB1
(1581 lbs)



AUXILIARY VIEW A-A



TYPICAL FLOOR BEAM END PLATE WELD DETAIL
(TYPICAL WELD DETAIL UNLESS SHOWN OTHERWISE)



1 – FLOOR BEAM – FB2
(6587 lbs)

RECORD DWGS
AS FABRICATED
6/24/13

S:\JOBS\VERMONT\51622-Gale-Truss-1376 x 35'-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

SYMBOLS & ABBREVIATIONS

ES: EACH SIDE	NS: NEAR SIDE
EQ: EQUAL	FS: FAR SIDE
℄: CENTERLINE	WP/✥: WORK POINT
REF: REFERENCE	GA: GAUGE
CHK: CHECK	ID: INSIDE DIAMETER
O\O: OUT TO OUT	OD: OUTSIDE DIAMETER
C\C: CENTER TO CENTER	BRG: BEARING
F\F: FACE TO FACE	TYP: TYPICAL
DIA/⌀: DIAMETER	UNO: UNLESS NOTED OTHERWISE
R: RADIUS	ABUT: ABUTMENT
	T&B: TOP & BOTTOM

DIST. BY:

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U.S. BRIDGE BRIDGING AMERICA SINCE 1936

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
1	5/15/13	FLOOR BEAM END PLATES WAS 1" THK	TLB
2	5/15/13	ADDED 2" DIA. RAT HOLES IN fb1 & fb9	TLB
3	5/15/13	CHANGED WELD WAS 5/16" ALL AROUND	TLB
4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

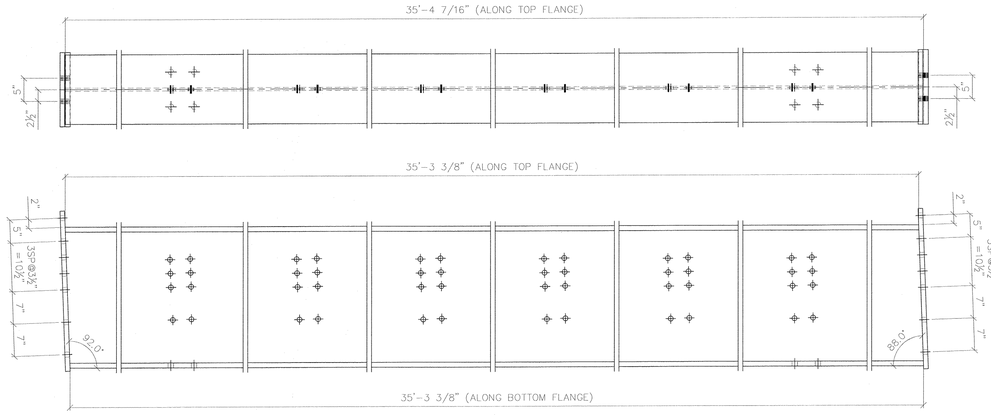
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SHOP DETAILS / SHOP ASSEMBLY

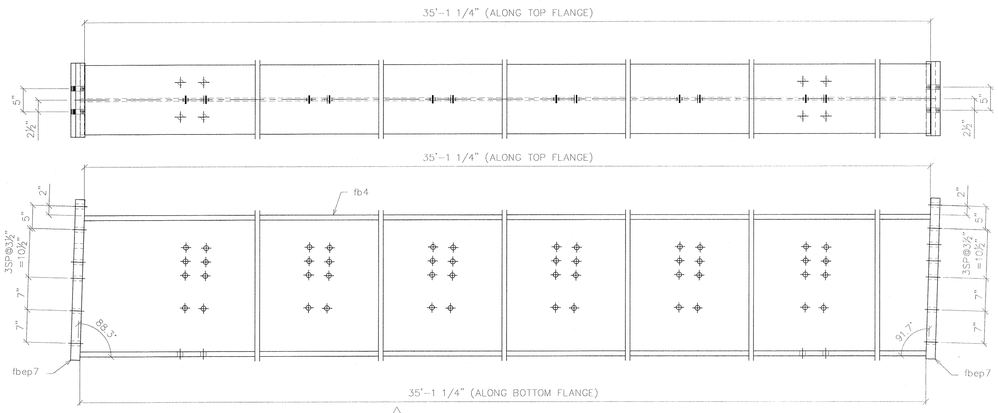
USB JOB# 51622

SHEET 8 / 58 TOTAL

DATE PLOTTED: June 24, 2013



1 – FLOOR BEAM – FB3
(6587 lbs)



1 – FLOOR BEAM – FB4
(6586 lbs)

RECORD DWGS
AS FABRICATED
6/24/13

S:\JOBS\VERMONT\51622-Galt_Truss-13X9 x 35'-Warren, VT over Mad River\Drawings\51622_AS-BUILT 6-24-13.dwg

SYMBOLS & ABBREVIATIONS

ES: EACH SIDE	NS: NEAR SIDE
EQ: EQUAL	FS: FAR SIDE
℄: CENTERLINE	WP/✥: WORK POINT
REF: REFERENCE	GA: GAUGE
CHK: CHECK	ID: INSIDE DIAMETER
O\O: OUT TO OUT	OD: OUTSIDE DIAMETER
C\C: CENTER TO CENTER	BRG: BEARING
F\F: FACE TO FACE	TYP: TYPICAL
DIA/ø: DIAMETER	UNO: UNLESS NOTED OTHERWISE
R: RADIUS	ABUT: ABUTMENT
	T&B: TOP & BOTTOM

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FAB. BY:

U.S. BRIDGE®
BRIDGING AMERICA SINCE 1936

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
1	5/15/13	FLOOR BEAM END PLATES WAS 1" THK	TLB
2	5/15/13	ADDED 2" DIA. RAT HOLES IN fb1 & fb9	TLB
3	5/15/13	CHANGED WELD WAS 5/16" ALL AROUND	TLB
4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

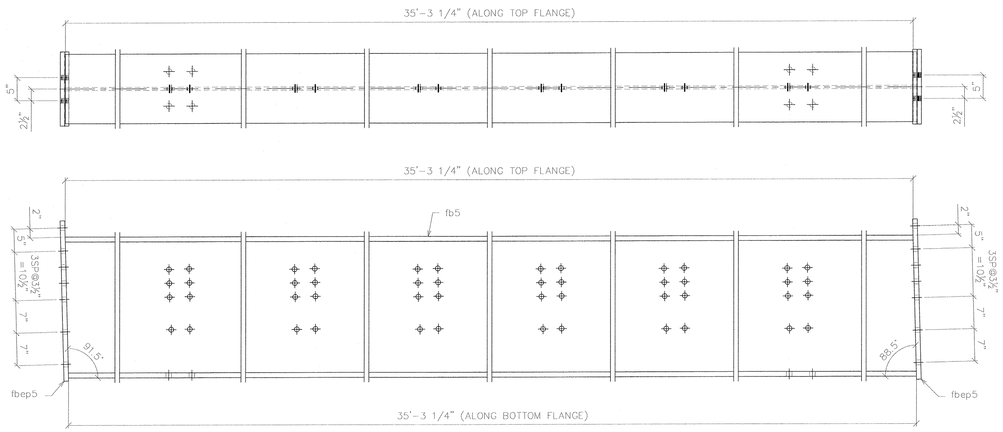
SHOP DETAILS / SHOP ASSEMBLY

USB JOB# 51622

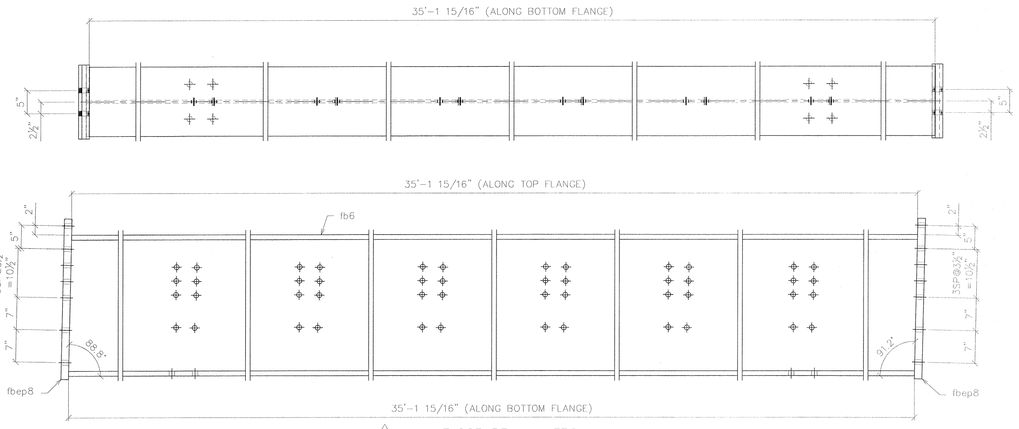
SHEET 8a / 58 TOTAL

DATE PLOTTED: June 24, 2013

S:\JOBS\VERMONT\51622-Galt Truss-135ft x 35-Warren, VT over Mad River\Drawings\51622_AS-BUILT 6-24-13.dwg



1 - FLOOR BEAM - FB5
(6585 lbs)



1 - FLOOR BEAM - FB6
(6585 lbs)

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS

ES: EACH SIDE	NS: NEAR SIDE
EQ: EQUAL	FS: FAR SIDE
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REF: REFERENCE	GA: GAUGE
CHK: CHECK	ID: INSIDE DIAMETER
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C\C: CENTER TO CENTER	BRG: BEARING
F\F: FACE TO FACE	TYP: TYPICAL
DIA/✥: DIAMETER	UNO: UNLESS NOTED OTHERWISE
R: RADIUS	ABUT: ABUTMENT
	T&B: TOP & BOTTOM

DIST. BY:

CONTECH CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com

FAB. BY:

U.S. BRIDGE
BRIDGING AMERICA SINCE 1936

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
1	5/15/13	FLOOR BEAM END PLATES WAS 1" THK	TLB
2	5/15/13	ADDED 2" DIA. RAT HOLES IN fb1 & fb9	TLB
3	5/15/13	CHANGED WELD WAS 5/16" ALL AROUND	TLB
4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

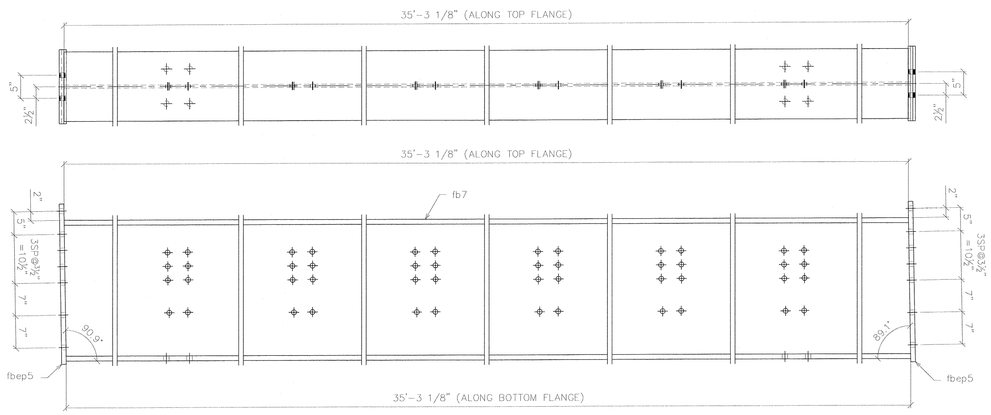
SHOP DETAILS / SHOP ASSEMBLY

USB JOB# 51622

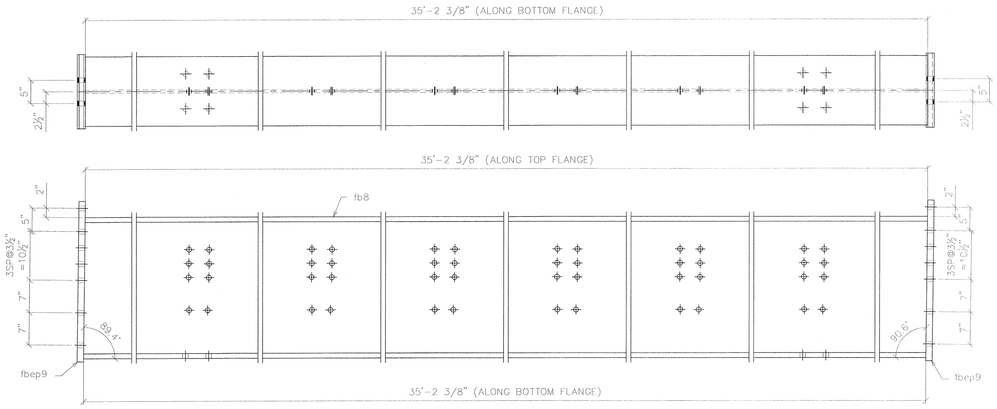
SHEET 8b / 58 TOTAL

DATE PLOTTED: June 24, 2013

S:\JOBS\VERMONT\51622-Colv Truss-1398 x 35'-Warren, VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg



1 – FLOOR BEAM – FB7
(6584 lbs)



1 – FLOOR BEAM – FB8
(6583 lbs)

RECORD DWGS
AS FABRICATED
6/24/13

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DIST. BY:

CONTECH® CONSTRUCTION PRODUCTS INC.
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FAB. BY:

U.S. BRIDGE®
BRIDGING AMERICA SINCE 1936

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

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5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

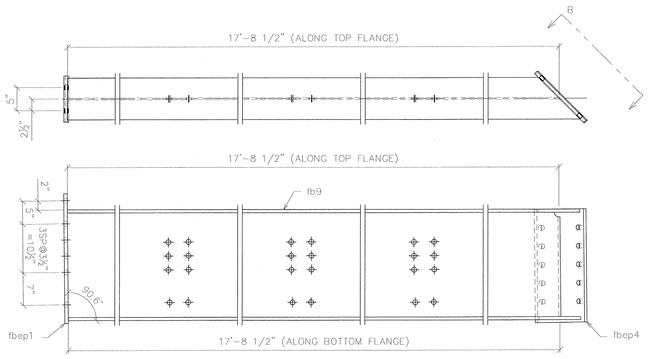
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SHOP DETAILS / SHOP ASSEMBLY

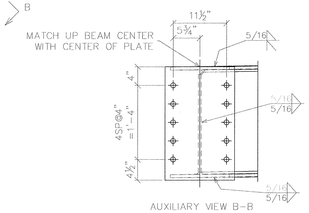
USB JOB# 51622

SHEET 8c / 58 TOTAL

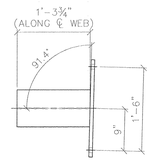
DATE PLOTTED: June 24, 2013

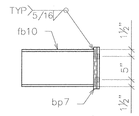


1 – FLOOR BEAM – FB9
(1579 lbs)

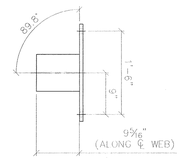


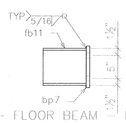
AUXILIARY VIEW B-B





1 – FLOOR BEAM – FB10
(89 lbs)





1 – FLOOR BEAM – FB11
(72 lbs)

RECORD DWGS
AS FABRICATED
6/24/13

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DIST. BY:

CONTECH CONSTRUCTION PRODUCTS INC.
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U.S. BRIDGE
BRIDGING AMERICA SINCE 1936

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
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PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

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6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

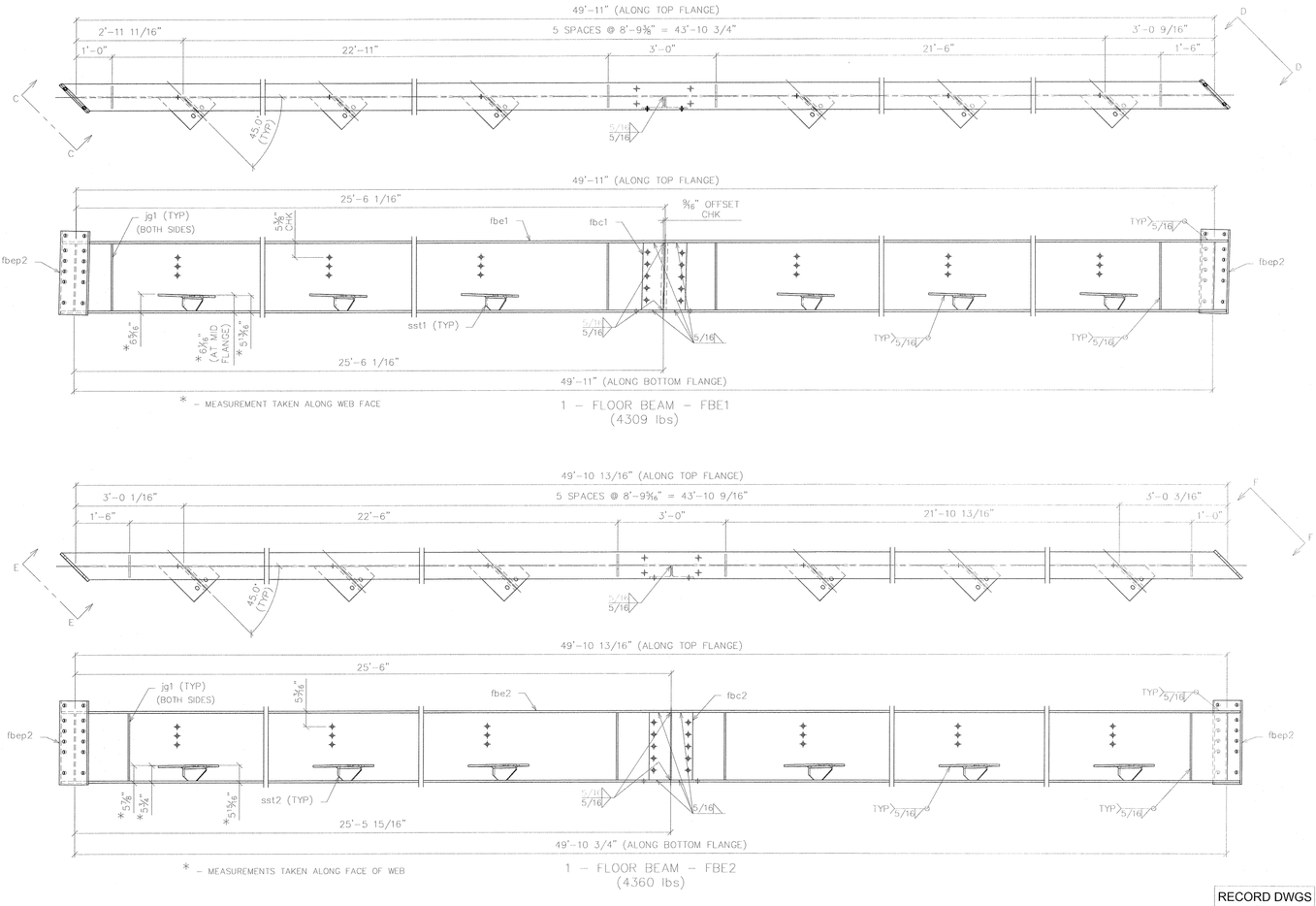
SHOP DETAILS / SHOP ASSEMBLY

USB JOB# 51622

SHEET 8d / 58 TOTAL

S:\USBS\VERMONT\51622-Salk, Trask-1369 x 35'-Warren, VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

DATE PLOTTED: June 24, 2013



RECORD DWGS
AS FABRICATED
6/24/13

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BRIDGING AMERICA SINCE 1936

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00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
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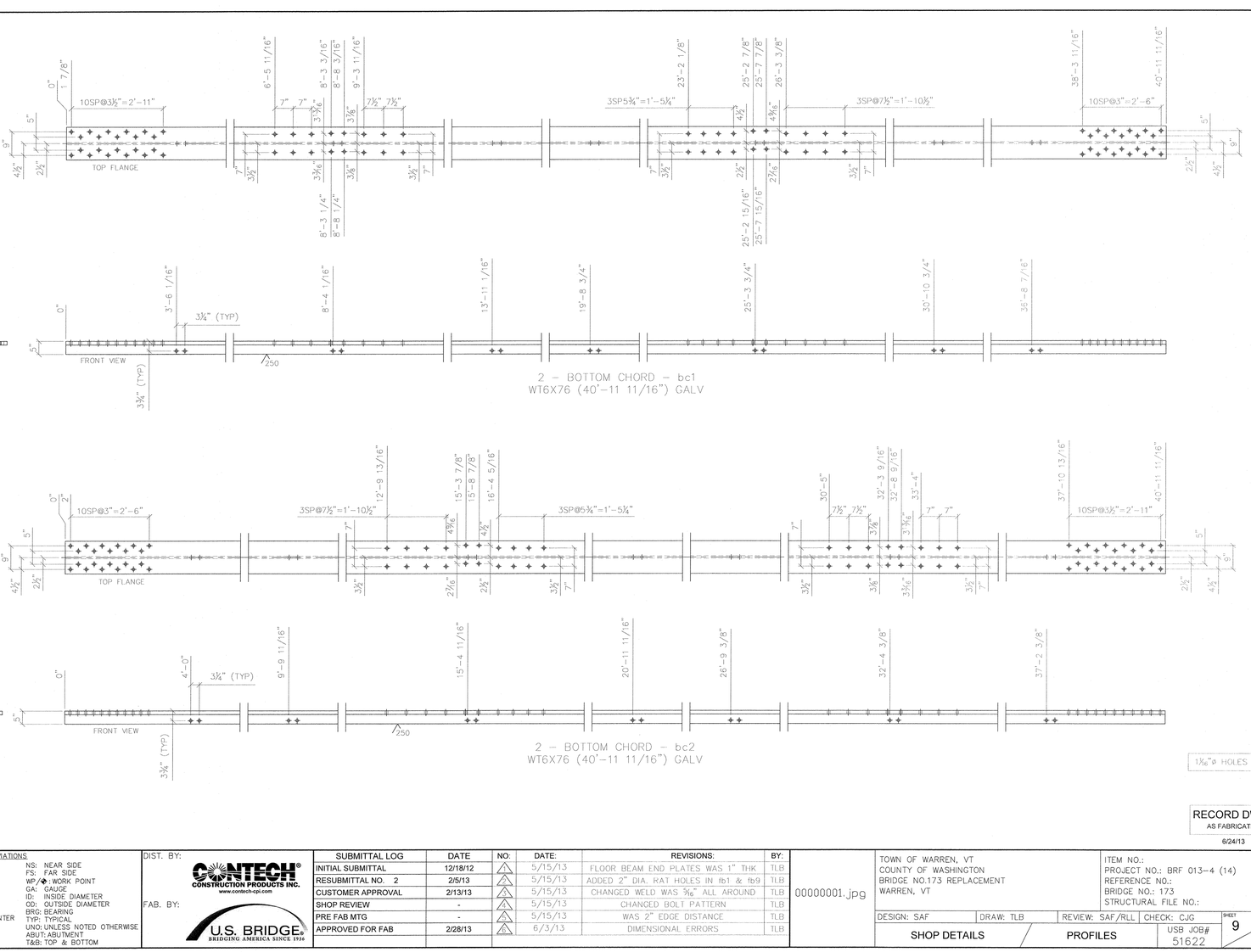
SHOP DETAILS / SHOP ASSEMBLY

USB JOB# 51622

SHEET 8e / 58 TOTAL

S:\JOBS\VERMONT\51622-Gale Trusk-138'6 x 35'-Vernen,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

DATE PLOTTED June 24, 2013



RECORD DWGS
AS FABRICATED
6/24/13

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TOWN OF WARREN, VT
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WARREN, VT

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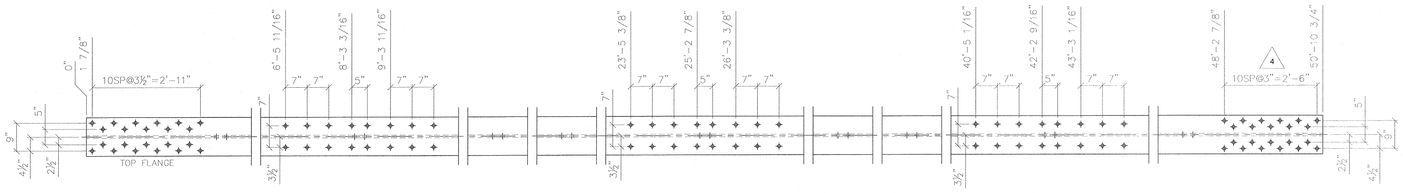
SHOP DETAILS / PROFILES

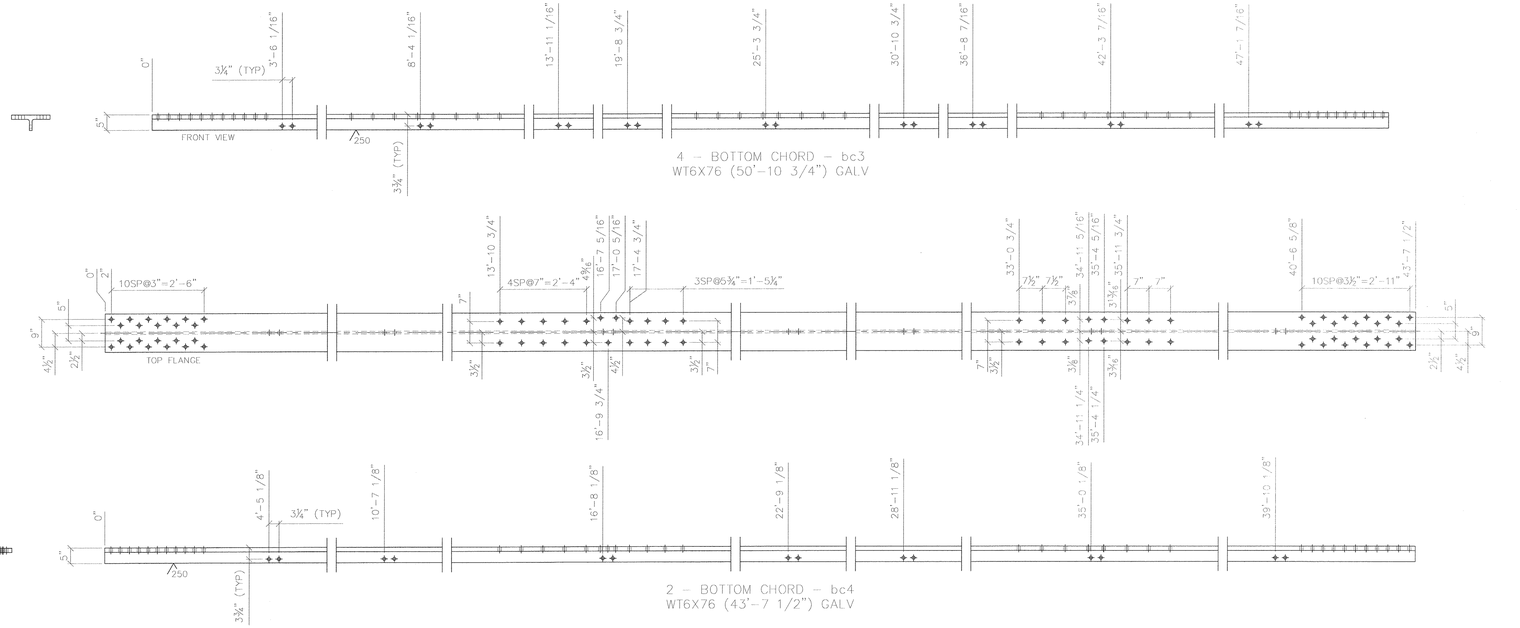
USB JOB# 51622

SHEET 9 / 58 TOTAL

S:\JOBS\VERMONT\51622-Gale\Trusses-138ft x 35'-Warren,VT over Mad River\Drawings\51622 AS-BUILT fr 24-13.dwg

DATE PLOTTED: June 24, 2013





1 1/16"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

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BRIDGING AMERICA SINCE 1936

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PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

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6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
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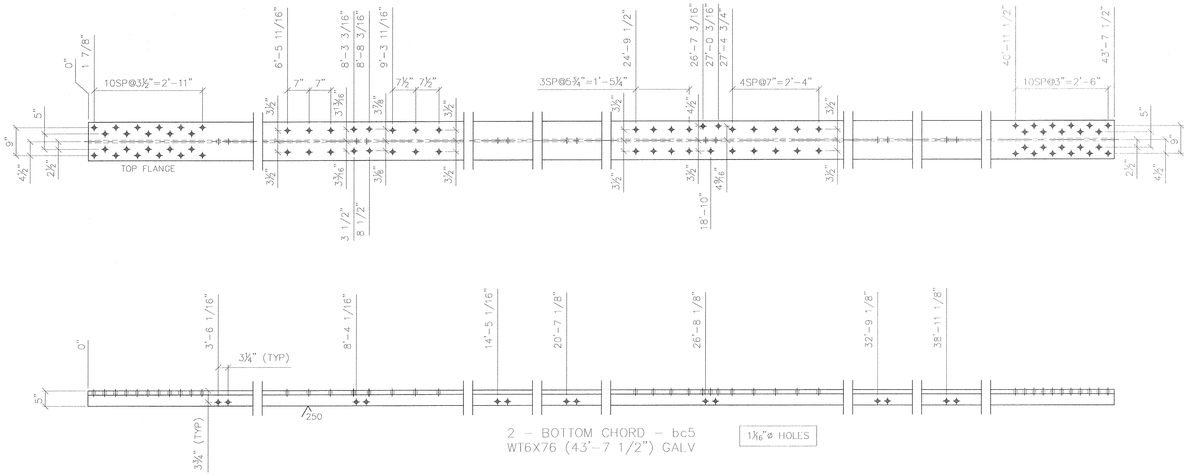
SHOP DETAILS / PROFILES

USB JOB# 51622

SHEET 9a / 58 TOTAL

S:\JOBS\VERMONT\51622\Gdk\Truss-1385 x 35'-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

DATE PLOTTED June 24, 2013



RECORD DWGS
AS FABRICATED
6/24/13

S:\JOBS\VERMONT\51622-Galv_Truss-138ft x 35'-Warren_VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

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00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
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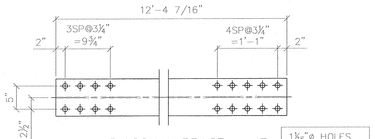
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SHEET 9b 58

101a

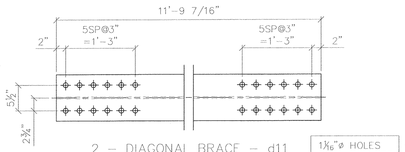
DATE PLOTTED: June 24, 2013

S:\JOBS\VERMONT\51622-Gale Trusts-13R9 x 35-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg



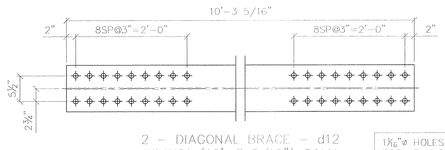
4 – DIAGONAL BRACE – d7
W14X43 (12'-4 7/16") GALV

1⅛"ø HOLES BOTH FLANGES



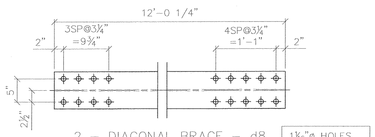
2 – DIAGONAL BRACE – d11
W14X61 (11'-9 7/16") GALV

1⅛"ø HOLES BOTH FLANGES



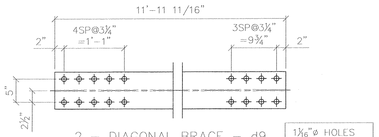
2 – DIAGONAL BRACE – d12
W14X61 (10'-3 5/16") GALV

1⅛"ø HOLES BOTH FLANGES



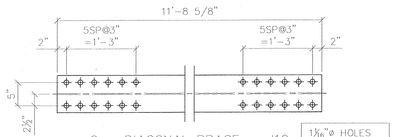
2 – DIAGONAL BRACE – d8
W14X43 (12'-0 1/4") GALV

1⅛"ø HOLES BOTH FLANGES



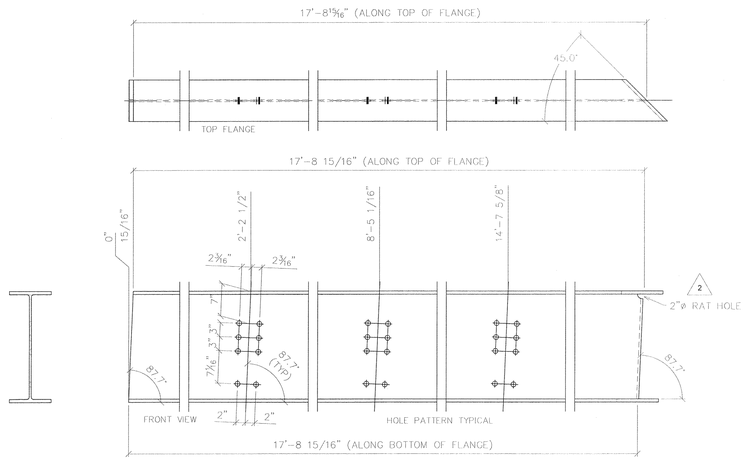
2 – DIAGONAL BRACE – d9
W14X43 (11'-11 11/16") GALV

1⅛"ø HOLES BOTH FLANGES



2 – DIAGONAL BRACE – d10
W14X43 (11'-8 5/8") GALV

1⅛"ø HOLES BOTH FLANGES



1 – FLOOR BEAM – fb1
W24X76 (18'-2 3/8") GALV

1⅛"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS

ES: EACH SIDE	NS: NEAR SIDE
EQ: EQUAL	FS: FAR SIDE
℄: CENTERLINE	WP/✥: WORK POINT
REF: REFERENCE	GA: GAUGE
CHK: CHECK	ID: INSIDE DIAMETER
O\O: OUT TO OUT	OD: OUTSIDE DIAMETER
C\C: CENTER TO CENTER	BRG: BEARING
F\F: FACE TO FACE	TYP: TYPICAL
DIA/ø: DIAMETER	UNO: UNLESS NOTED OTHERWISE
R: RADIUS	ABUT: ABUTMENT
	T&B: TOP & BOTTOM

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SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
1	5/15/13	FLOOR BEAM END PLATES WAS 1" THK	TLB
2	5/15/13	ADDED 2" DIA. RAT HOLES IN fb1 & fb9	TLB
3	5/15/13	CHANGED WELD WAS 5⁄16" ALL AROUND	TLB
4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

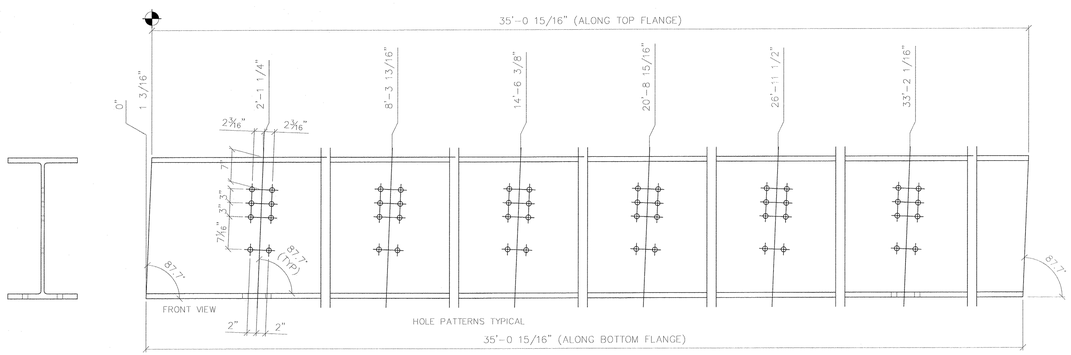
SHOP DETAILS / PROFILES

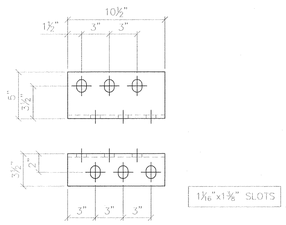
USB JOB# 51622

SHEET 9c / 58 TOTAL

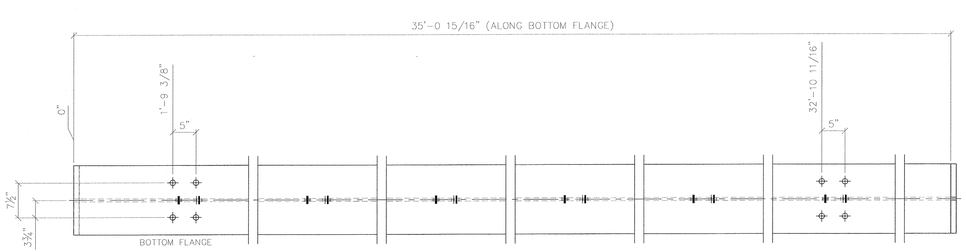
DATE PLOTTED June 24, 2013

S:\JOBS\VERMONT\51622-Galv-Truss-138'6 x 35'-Warren_VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg



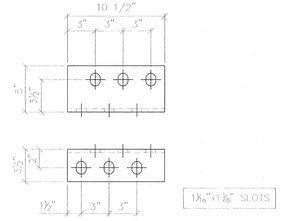


96 – STRINGER CONNECTION ANGLE – sca1
L5X3-1/2X3/8 (10 1/2") GALV

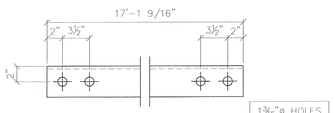


1 – FLOOR BEAM – fb2
W30X173 (35'-2 1/8") GALV

1 1/16"ø HOLES
N.S. ONLY

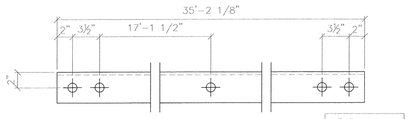


96 – STRINGER CONNECTION ANGLE – sca2
L5X3-1/2X3/8 (10 1/2") GALV



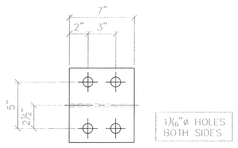
12 – LATERAL ANGLE – la1
L4X4X3/8 (17'-1 9/16") GALV

1 3/16"ø HOLES



6 – LATERAL ANGLE – la2
L4X4X3/8 (35'-2 1/8") GALV

1 3/16"ø HOLES



1 1/16"ø HOLES
BOTH SIDES

4 – SPACER BEAM – spb1
W14X43 (7") GALV

1 1/16"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS

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SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

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4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

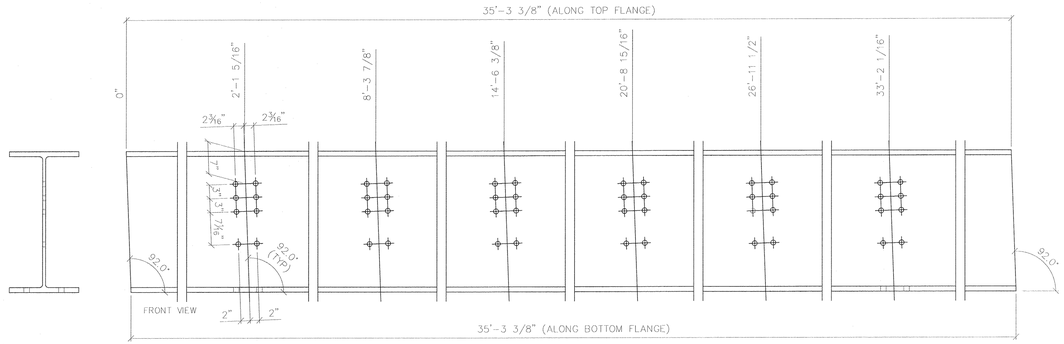
DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

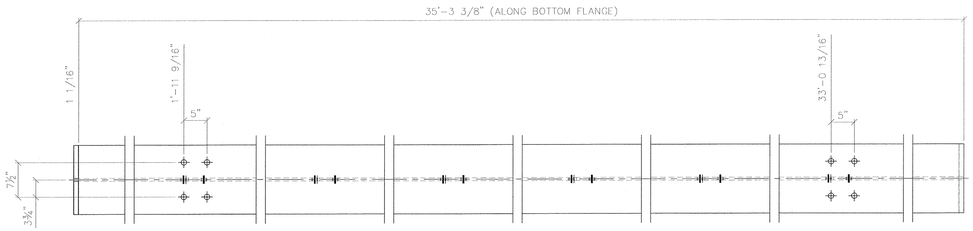
SHOP DETAILS / PROFILES

USB JOB# 51622

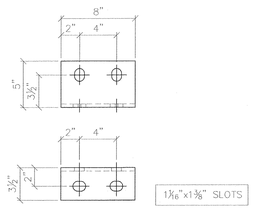
SHEET 9d / 58 TOTAL

DATE PLOTTED: June 24, 2013





1 – FLOOR BEAM – fb3
W30X173 (35'-4 7/16") GALV



96 – STRINGER SEAT ANGLE – ssa1
L5X3-1/2X3/8 (8") GALV

1 1/16"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

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PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

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5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

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TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

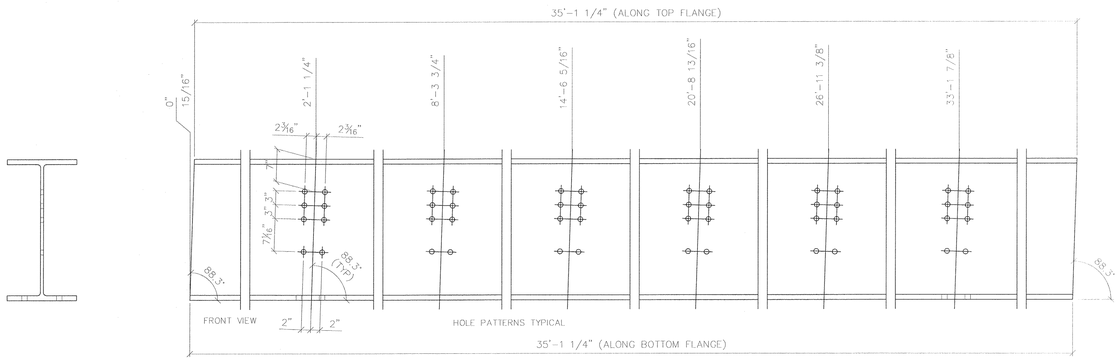
SHOP DETAILS / PROFILES

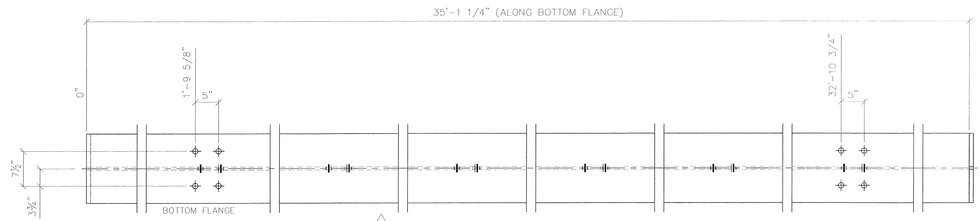
USB JOB# 51622

SHEET 9e / 58 TOTAL

S:\JOBS\VERMONT\51622-Oak Truss-138'6 x 35'-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

DATE PLOTTED: June 24, 2013





1 – FLOOR BEAM – fb4
W30X173 (35'-2 3/16") GALV

1⅜"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS

ES: EACH SIDE	NS: NEAR SIDE
EQ: EQUAL	FS: FAR SIDE
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RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
1	5/15/13	FLOOR BEAM END PLATES WAS 1" THK	TLB
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4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

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TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF	DRAW: TLB	REVIEW: SAF/RLL	CHECK: CJG

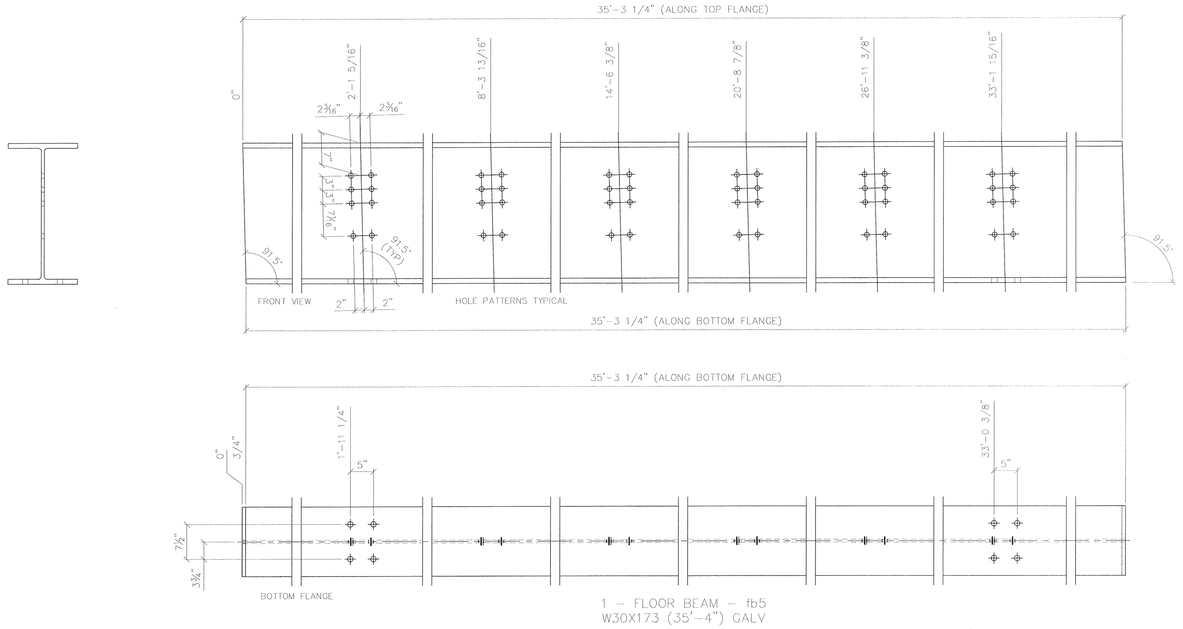
SHOP DETAILS / PROFILES

USB JOB# 51622

SHEET 9f / 58 TOTAL

S:\JOBS\VERMONT\51622-Galv.Truss-138'6 x 35'-Warren,VT over Mad River\Drawings\51622-AS-BUILT 6-24-13.dwg

DATE PLOTTED: June 24, 2013



1 – FLOOR BEAM – fb5
W30X173 (35'-4") GALV

1 1/16"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS

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EQ: EQUAL	FS: FAR SIDE
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SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

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4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

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TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
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DESIGN: SAF	DRAW: TLB	REVIEW: SAF/RLL	CHECK: CJG

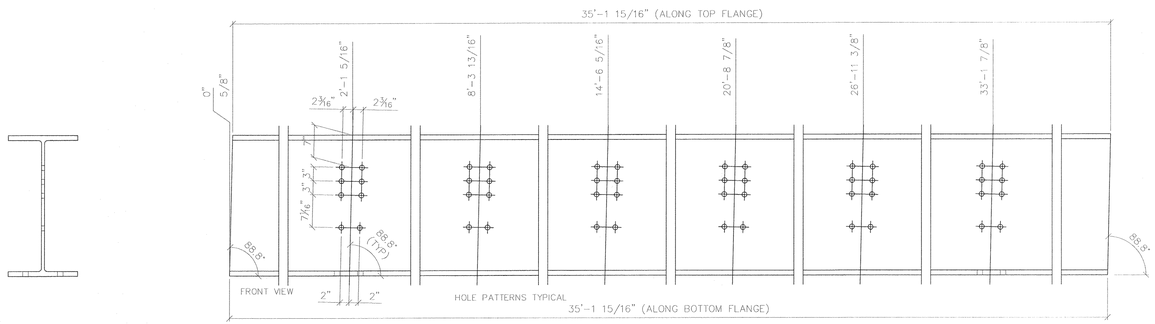
SHOP DETAILS / PROFILES

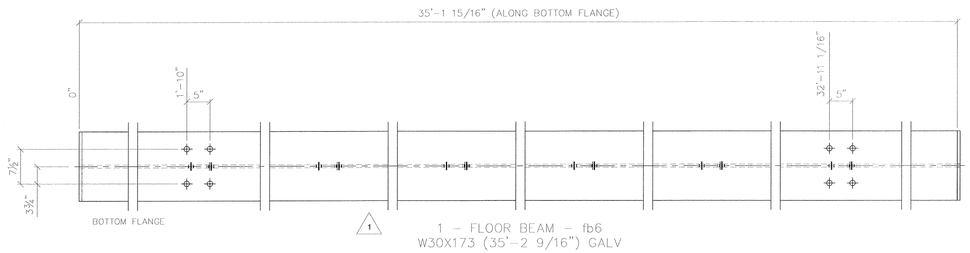
USB JOB# 51622

SHEET 9g / 58 TOTAL

S:\JOBS\VERMONT\51622-Galv.Truss-139'6 x 35'-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

DATE PLOTTED: June 24, 2013





1 – FLOOR BEAM – fb6
W30X173 (35'-2 9/16") GALV

1 1/16"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS

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SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

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6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
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WARREN, VT

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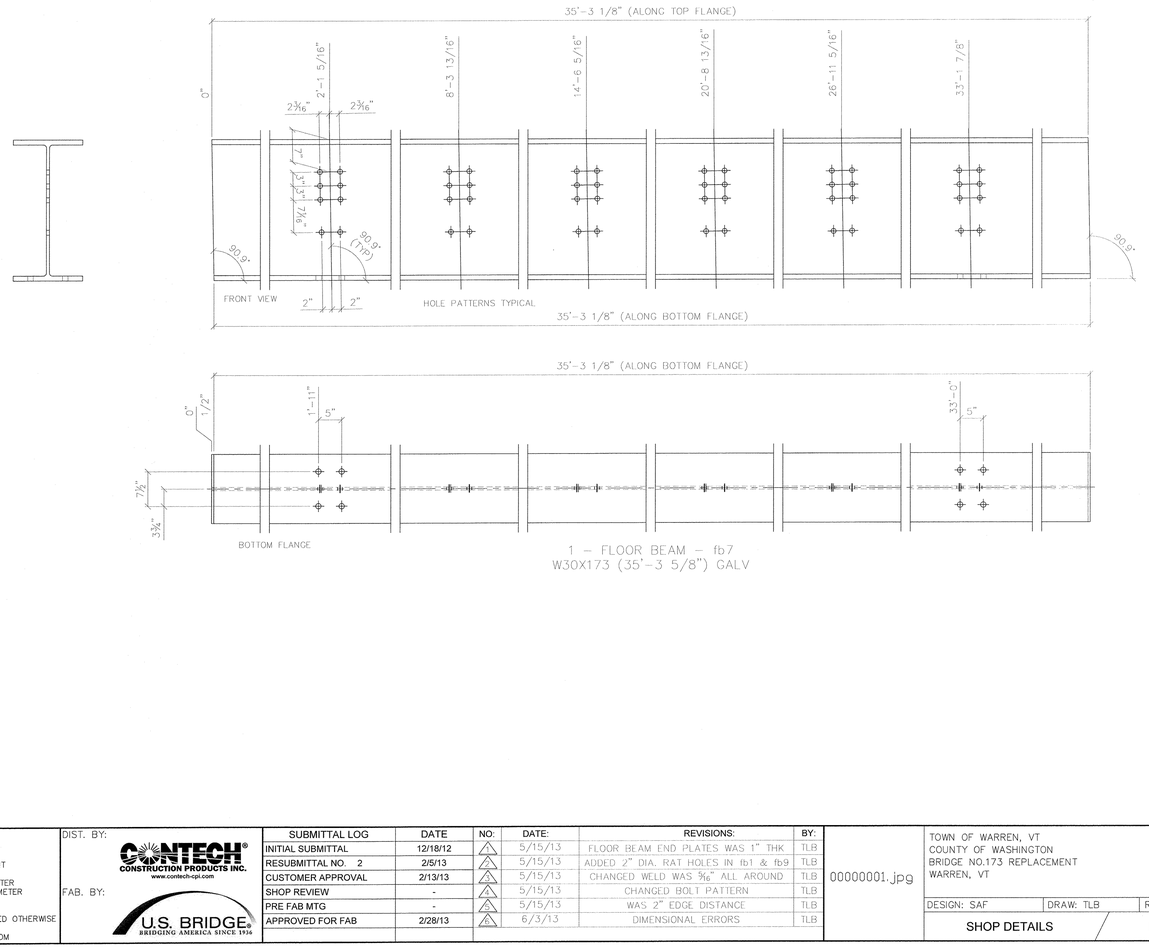
SHOP DETAILS / PROFILES

USB JOB# 51622

SHEET 9h / 58 TOTAL

S:\JOBS\VERMONT\51622-Gale_Truss-1386 x 35'-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

DATE PLOTTED: June 24, 2013



1 – FLOOR BEAM – fb7
W30X173 (35'-3 5/8") GALV

1 1/16"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

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6	6/3/13	DIMENSIONAL ERRORS	TLB

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TOWN OF WARREN, VT
COUNTY OF WASHINGTON
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WARREN, VT

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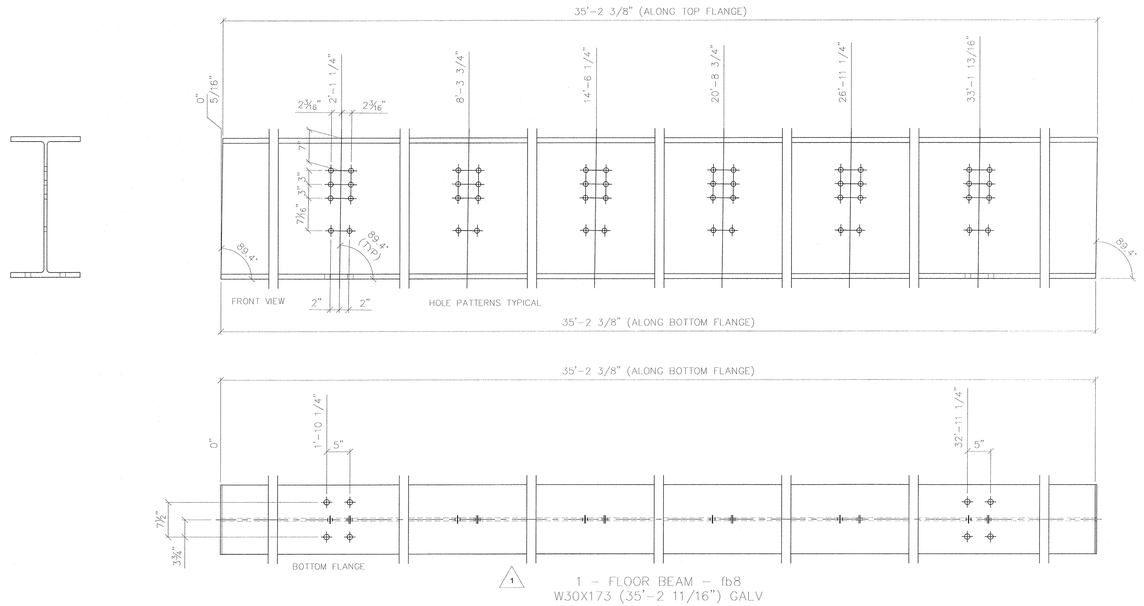
SHOP DETAILS / PROFILES

USB JOB# 51622

SHEET 9j / 58 TOTAL

S:\JOBS\VERMONT\51622-Galv Truss-138'S x 35'-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

DATE PLOTTED: June 24, 2013



1 1/16"Ø HOLES UNO

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6/24/13

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APPROVED FOR FAB	2/28/13

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1	5/15/13	FLOOR BEAM END PLATES WAS 1" THK	TLB
2	5/15/13	ADDED 2" DIA. RAT HOLES IN fb1 & fb9	TLB
3	5/15/13	CHANGED WELD WAS 5/16" ALL AROUND	TLB
4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF	DRAW: TLB	REVIEW: SAF/RLL	CHECK: CJG

SHOP DETAILS / PROFILES

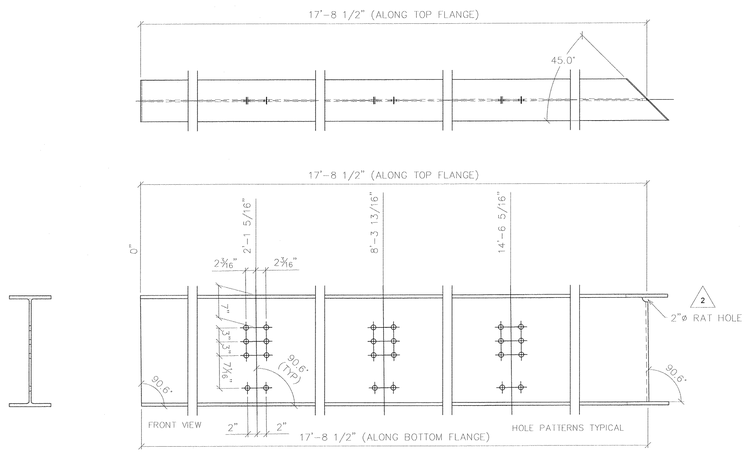
USB JOB# 51622

SHEET 9k / 58 TOTAL

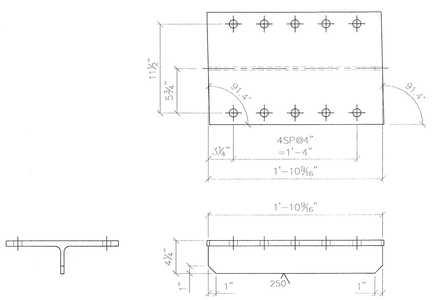
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DATE PLOTTED: June 24, 2013

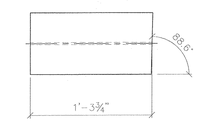
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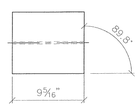
1 – FLOOR BEAM – fb9
W24X76 (18'-1 5/16") GALV



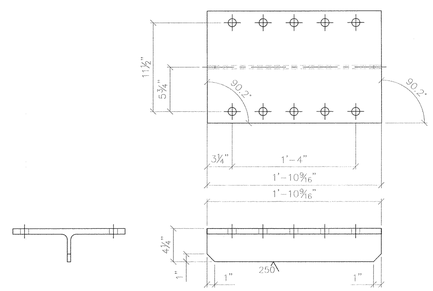
1 – FLOOR BEAM CONNECTOR – fbc1
WT7X45 (1'-10 15/16") GALV



1 – FLOOR BEAM – fb10
W8X31 (1'-3 7/8") GALV



1 – FLOOR BEAM – fb11
W8X31 (9 5/16") GALV



1 – FLOOR BEAM CONNECTOR – fbc2
WT7X45 (1'-10 5/8") GALV

1 3/16"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS

ES: EACH SIDE	NS: NEAR SIDE
EQ: EQUAL	FS: FAR SIDE
℄: CENTERLINE	WP/◆: WORK POINT
REF: REFERENCE	GA: GAUGE
CHK: CHECK	ID: INSIDE DIAMETER
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F\F: FACE TO FACE	TYP: TYPICAL
DIA/ø: DIAMETER	UNO: UNLESS NOTED OTHERWISE
R: RADIUS	ABUT: ABUTMENT
	T&B: TOP & BOTTOM

DIST. BY:
CONTECH® CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com

FAB. BY:
U.S. BRIDGE®
BRIDGING AMERICA SINCE 1936

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

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6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
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STRUCTURAL FILE NO.:

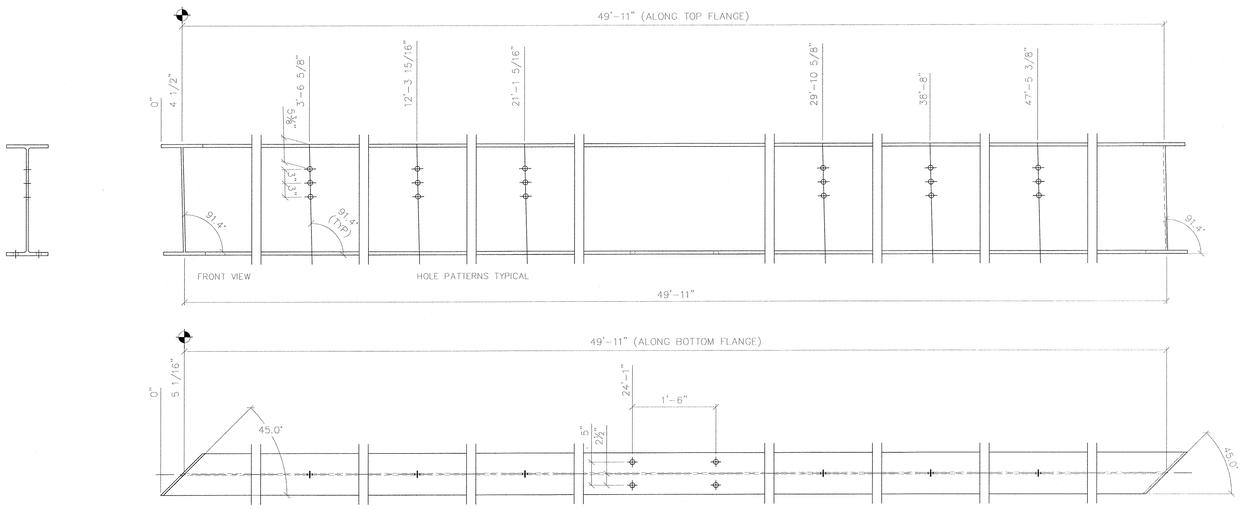
DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

SHOP DETAILS / PROFILES

USB JOB# 51622

SHEET 9I / 58 TOTAL

DATE PLOTTED: June 24, 2013



1 – FLOOR BEAM – fbe1
W24X76 (50'-8 9/16") GALV

1⅛"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

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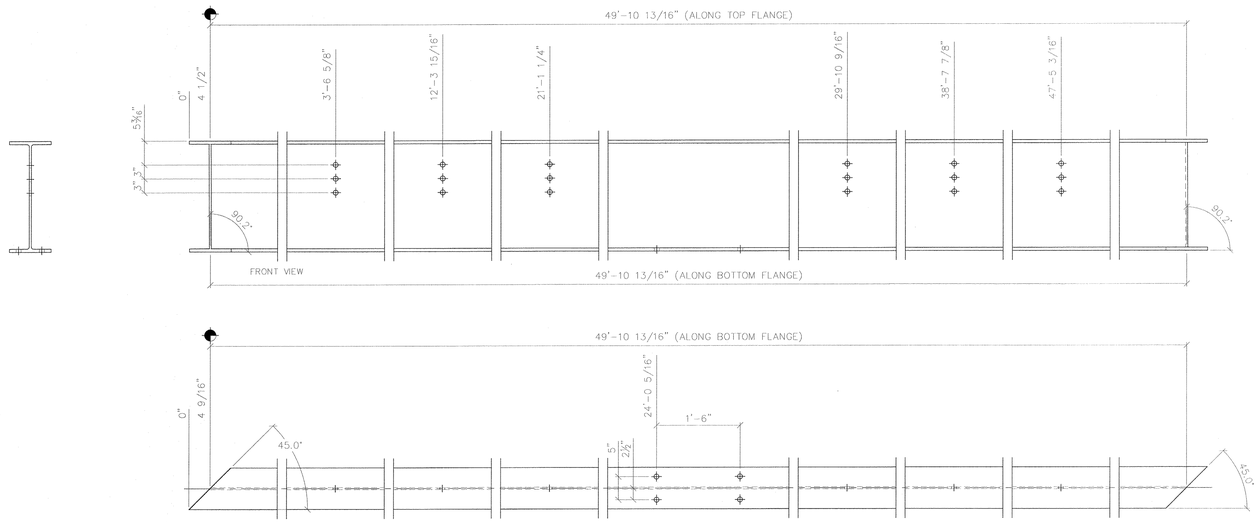
SHOP DETAILS / PROFILES

USB JOB# 51622

SHEET 9m 58 TOTAL

S:\JOBS\VERMONT\51622-Galv Truss-138'6 x 35'-Warren\VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

DATE PLOTTED: June 24, 2013



1 - FLOOR BEAM - fbe2
W24X76 (50'-7 13/16") GALV

1 1/16"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

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SHOP DETAILS / PROFILES

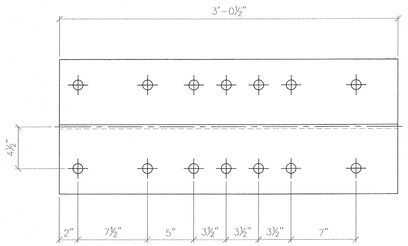
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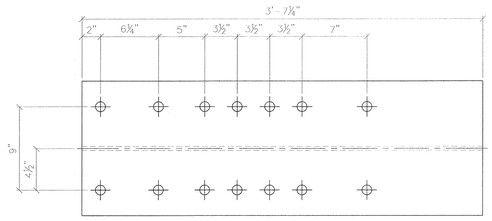
SHEET 9n 58 TOTAL

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DATE PLOTTED: June 24, 2013

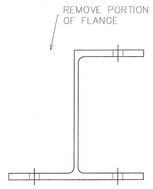
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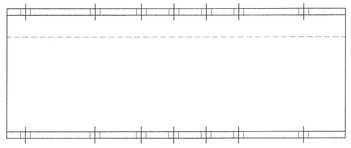


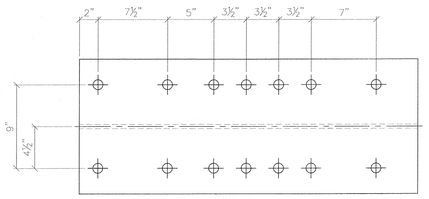


2 – SHOE – shoe2
W14X90 (3'-7 1/4") GALV

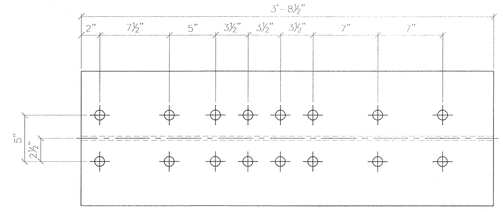
1 1/16"ø HOLES BOTH SIDES







2 – SHOE – shoe1
W14X90 (3'-0 1/2") GALV



2 – SHOE – shoe3
W14X90 (3'-8 1/2") GALV

1 1/16"ø HOLES BOTH SIDES

1 1/16"ø HOLES UNO

RECORD DWGS
AS FABRICATED
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00000001.jpg

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SHOP DETAILS / PROFILES

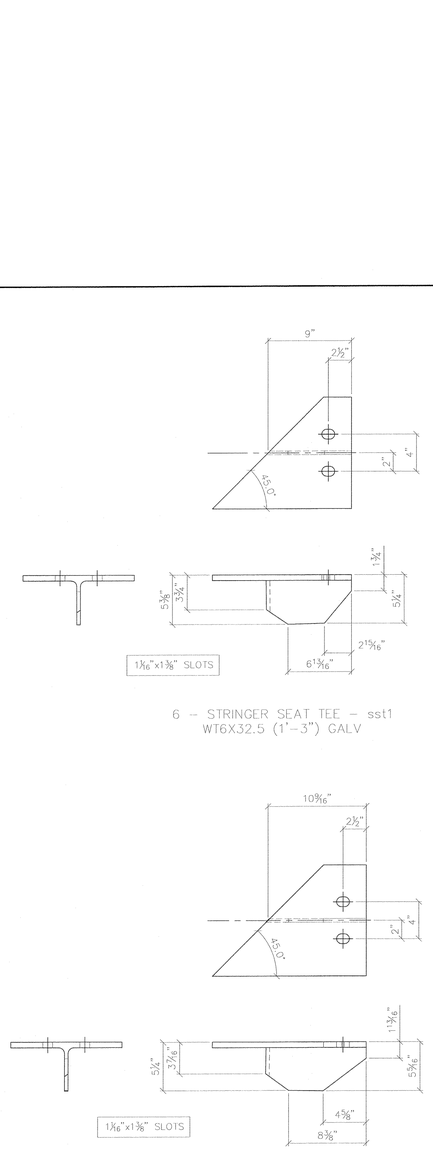
USB JOB# 51622

SHEET 9p / 58 TOTAL

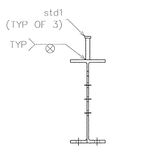
DATE PLOTTED: June 24, 2013

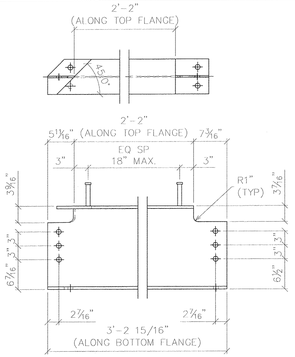
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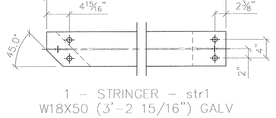
6 – STRINGER SEAT TEE – sst1
WT6X32.5 (1'–3") GALV



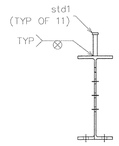
6 – STRINGER SEAT TEE – sst2
WT6X32.5 (1'–4 5/8") GALV

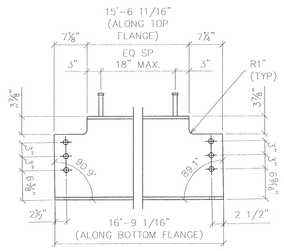


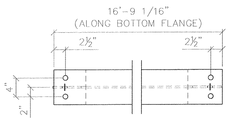




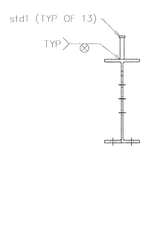
1 – STRINGER – str1
W18X50 (3'–2 15/16") GALV

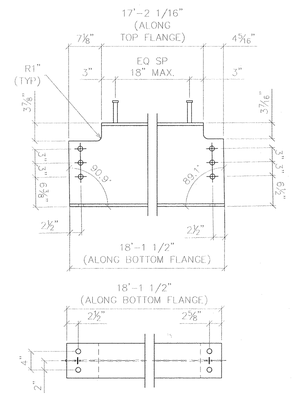




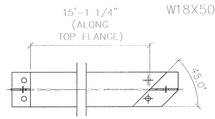


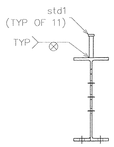
6 – STRINGER – str2
W18X50 (16'–9 1/4") GALV

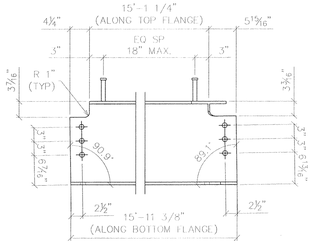


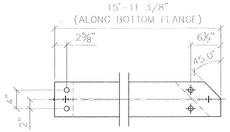


1 – STRINGER – str3
W18X50 (18'–1 11/16") GALV









1 – STRINGER – str4
W18X50 (15'–11 5/8") GALV

1⅛"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

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BRIDGE NO.: 173
STRUCTURAL FILE NO.:

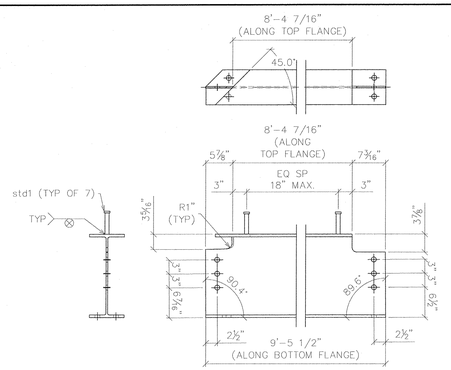
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SHOP DETAILS / PROFILES

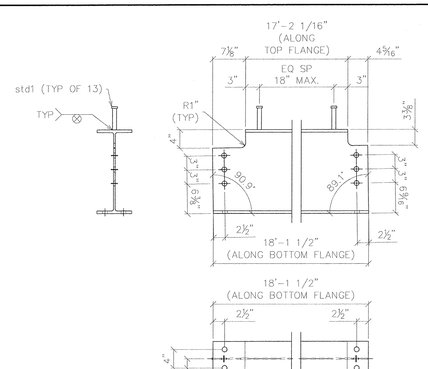
USB JOB# 51622

SHEET 9r 58 TOTAL

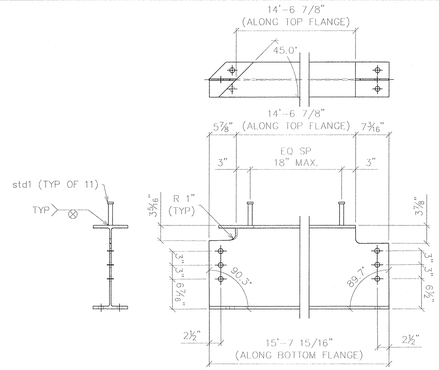
DATE PLOTTED June 24, 2013



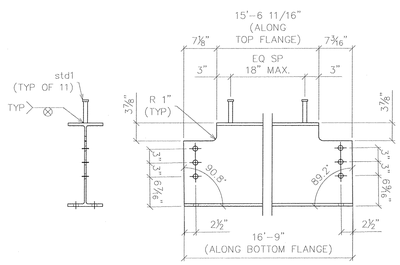
1 – STRINGER – str5
W18X50 (9'–5 9/16") GALV



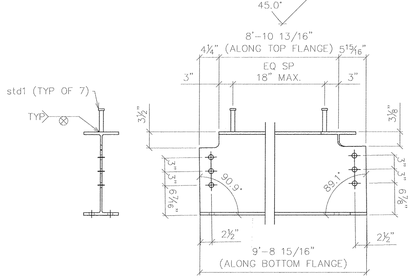
1 – STRINGER – str7
W18X50 (18'–1 11/16") GALV



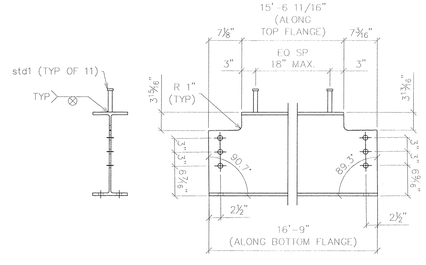
1 – STRINGER – str9
W18X50 (15'–8") GALV



6 – STRINGER – str6
W18X50 (16'–9 1/4") GALV



1 – STRINGER – str8
W18X50 (9'–9 3/16") GALV



6 – STRINGER – str10
W18X50 (16'–9 3/16") GALV

1⅛"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS

ES: EACH SIDE	NS: NEAR SIDE
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R: RADIUS	ABUT: ABUTMENT
	T&B: TOP & BOTTOM

DIST. BY: CONTECH CONSTRUCTION PRODUCTS INC. www.contech-cpi.com

FAB. BY: U.S. BRIDGE BRIDGING AMERICA SINCE 1936

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
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2	5/15/13	ADDED 2" DIA. RAT HOLES IN fb1 & fb9	TLB
3	5/15/13	CHANGED WELD WAS 5⁄16" ALL AROUND	TLB
4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

SHOP DETAILS / PROFILES

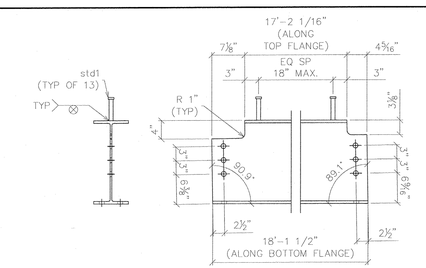
USB JOB# 51622

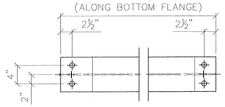
SHEET 9s / 58 TOTAL

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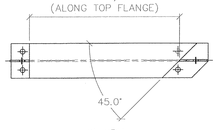
DATE PLOTTED: June 24, 2013

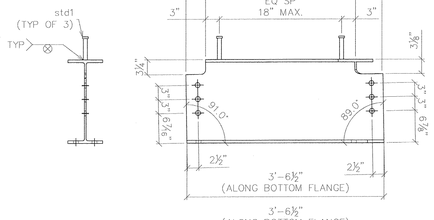
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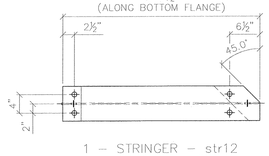




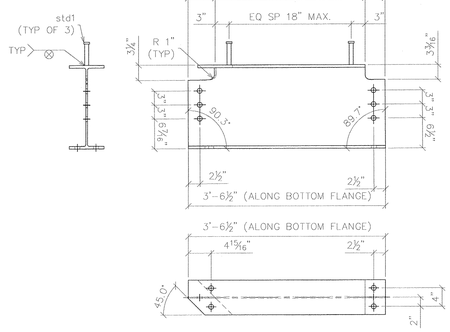
1 – STRINGER – str11
W18X50 (18'-1 11/16") GALV



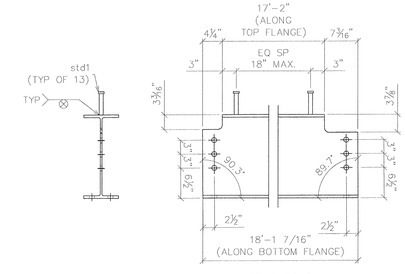


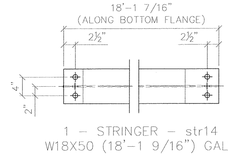


1 – STRINGER – str12
W18X50 (3'-6 3/4") GALV

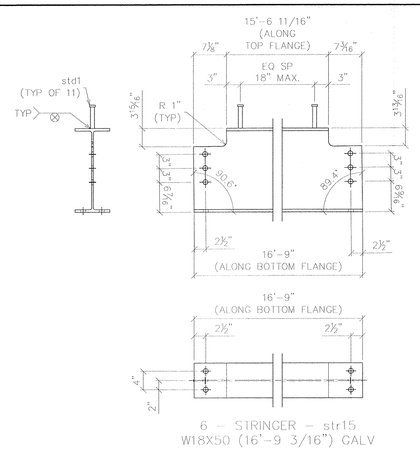


1 – STRINGER – str13
W18X50 (3'-6 9/16") GALV

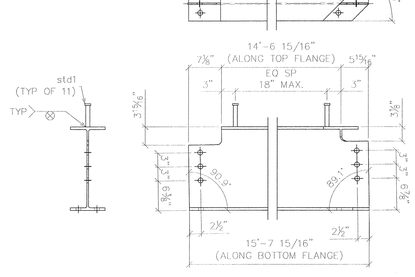


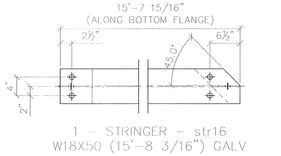


1 – STRINGER – str14
W18X50 (18'-1 9/16") GALV



6 – STRINGER – str15
W18X50 (16'-9 3/16") GALV





1 – STRINGER – str16
W18X50 (15'-8 3/16") GALV

1⅛"ø HOLES UNO

RECORD DWGS
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6/24/13

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APPROVED FOR FAB	2/28/13

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5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF	DRAW: TLB	REVIEW: SAF/RLL	CHECK: CJG

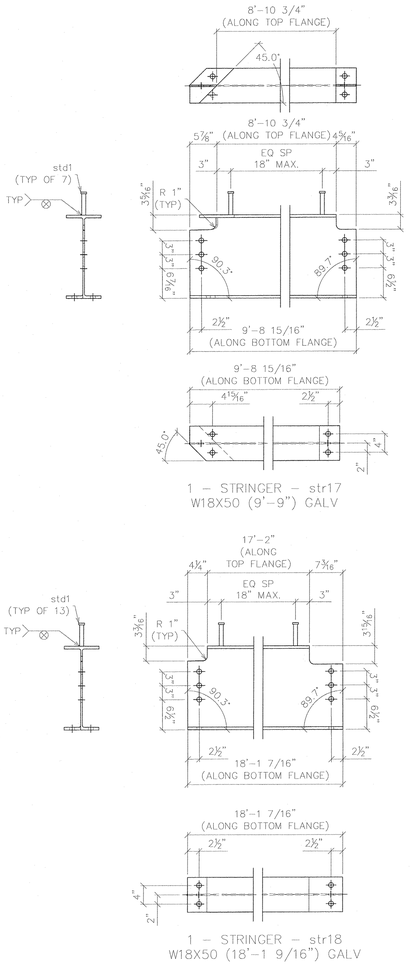
SHOP DETAILS / PROFILES

USB JOB# 51622

SHEET 9t / 58 TOTAL

DATE PLOTTED June 24, 2013

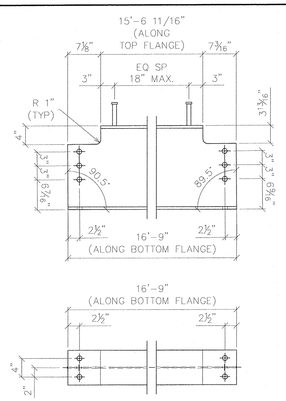
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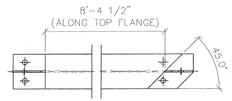
1 – STRINGER – str17
W18X50 (9'-9") GALV

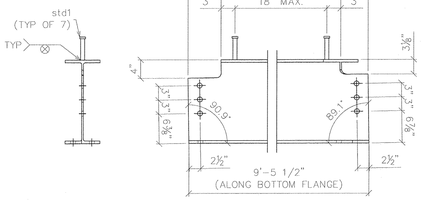
1 – STRINGER – str18
W18X50 (18'-1 9/16") GALV

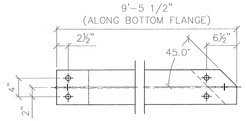




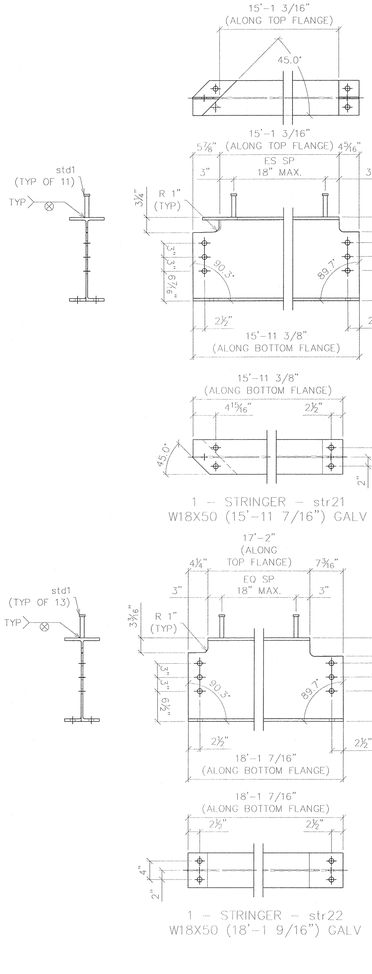
6 – STRINGER – str19
W18X50 (16'-9 1/8") GALV







1 – STRINGER – str20
W18X50 (9'-5 3/4") GALV



1 – STRINGER – str21
W18X50 (15'-11 7/16") GALV

1 – STRINGER – str22
W18X50 (18'-1 9/16") GALV

1⅛"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

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5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF	DRAW: TLB	REVIEW: SAF/RLL	CHECK: CJG

SHOP DETAILS / PROFILES

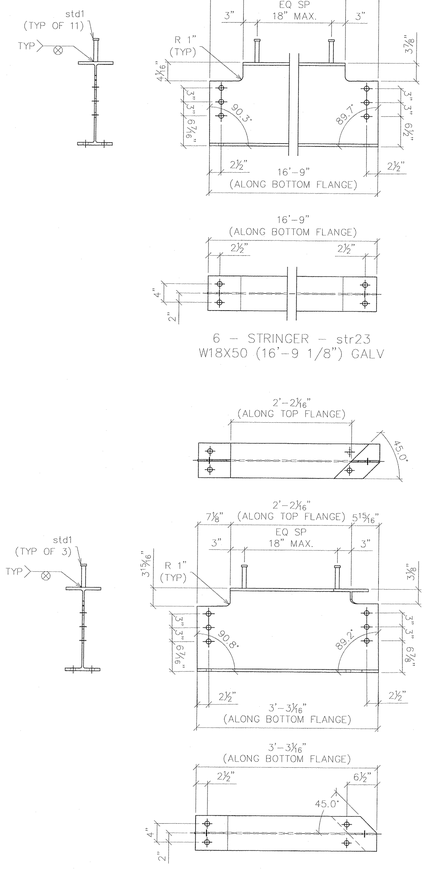
USB JOB# 51622

SHEET 9v

58 TOTAL

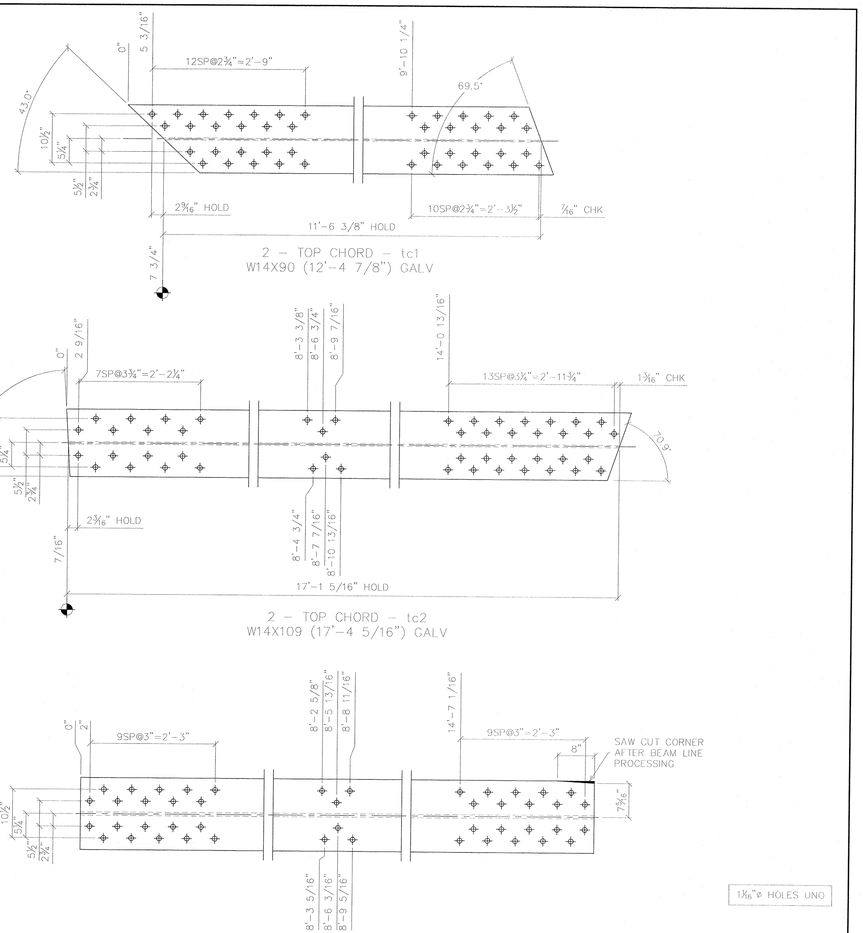
DATE PLOTTED: June 24, 2013

S:\JOBS\VERMONT\51622\Galv_Trusses-135ft x 35'-Warren,\VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg



6 – STRINGER – str23
W18X50 (16'–9 1/8") GALV

1 – STRINGER – str24
W18X50 (3'–3 1/4") GALV



1⁹⁄₁₆"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

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CONTECH CONSTRUCTION PRODUCTS INC.
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U.S. BRIDGE
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00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
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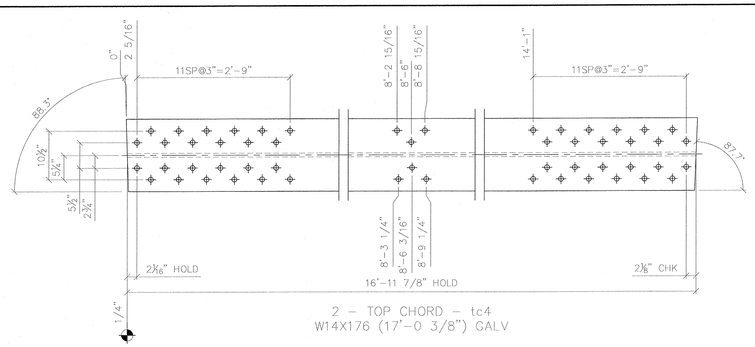
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SHOP DETAILS / PROFILES

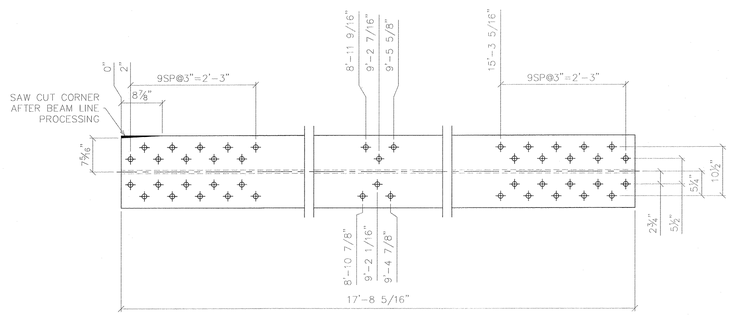
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SHEET 9w 58 TOTAL

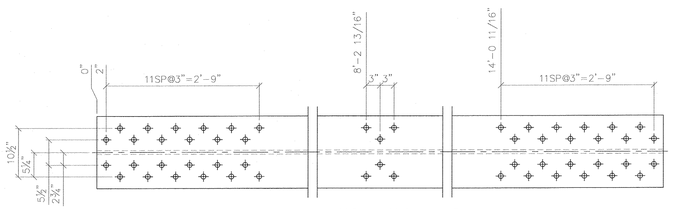
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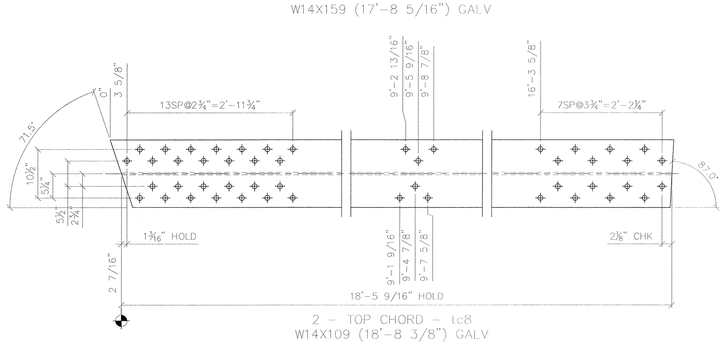
2 – TOP CHORD – tc4
W14X176 (17'-0 3/8") GALV



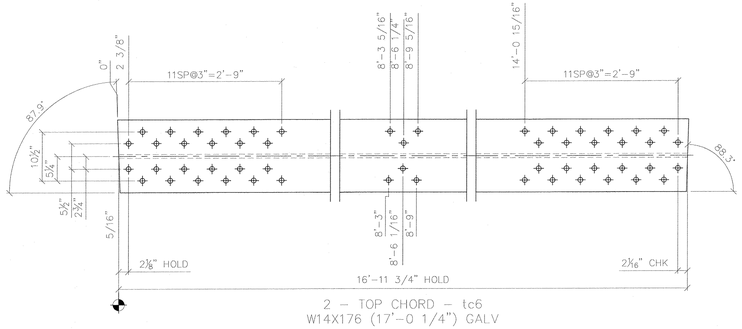
2 – TOP CHORD – tc7
W14X159 (17'-8 5/16") GALV



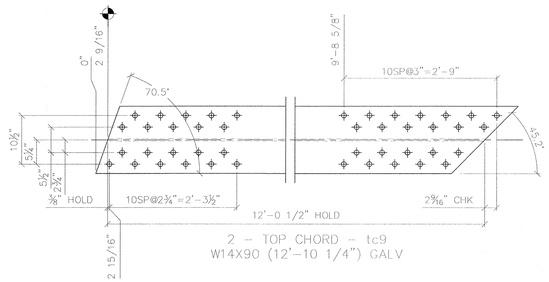
2 – TOP CHORD – tc5
W14X176 (16'-11 11/16") GALV



2 – TOP CHORD – tc8
W14X109 (18'-8 3/8") GALV



2 – TOP CHORD – tc6
W14X176 (17'-0 1/4") GALV



2 – TOP CHORD – tc9
W14X90 (12'-10 1/4") GALV

1⅛6"ø HOLES UNO

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UNO: UNLESS NOTED OTHERWISE
ABUT: ABUTMENT
T&B: TOP & BOTTOM

DIST. BY:
CONTECH CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com

FAB. BY:
U.S. BRIDGE
BRIDGING AMERICA SINCE 1936

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
1	5/15/13	FLOOR BEAM END PLATES WAS 1" THK	TLB
2	5/15/13	ADDED 2" DIA. RAT HOLES IN fb1 & fb9	TLB
3	5/15/13	CHANGED WELD WAS 5⁄16" ALL AROUND	TLB
4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

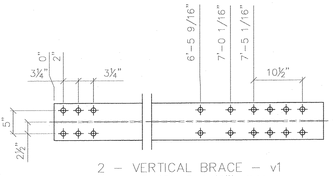
SHOP DETAILS / PROFILES

USB JOB# 51622

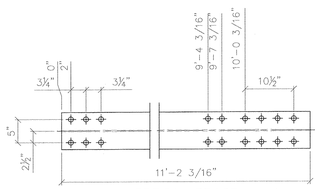
SHEET 9x 58 TOTAL

S:\JOBS\VERMONT\51622\Calc\Truss-138'6 x 35'-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

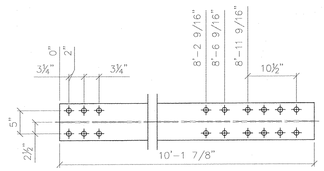
DATE PLOTTED: June 24, 2013



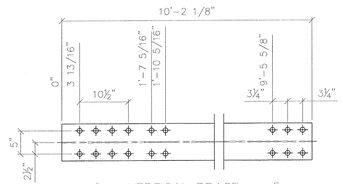
2 – VERTICAL BRACE – v1
W14X43 (8'-8 1/8") GALV



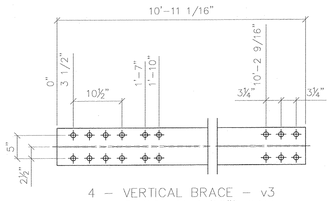
2 – VERTICAL BRACE – v4
W14X43 (11'-2 3/16") GALV



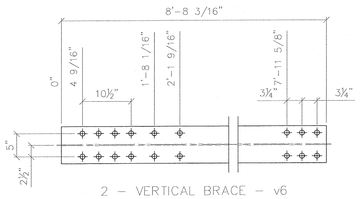
2 – VERTICAL BRACE – v2
W14X43 (10'-1 7/8") GALV



2 – VERTICAL BRACE – v5
W14X43 (10'-2 1/8") GALV



4 – VERTICAL BRACE – v3
W14X43 (10'-11 1/16") GALV



2 – VERTICAL BRACE – v6
W14X43 (8'-8 3/16") GALV

1 1/16"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS

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00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

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STRUCTURAL FILE NO.:

DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

SHOP DETAILS / PROFILES

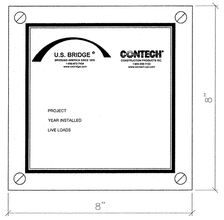
USB JOB# 51622

SHEET 9y / 58 TOTAL

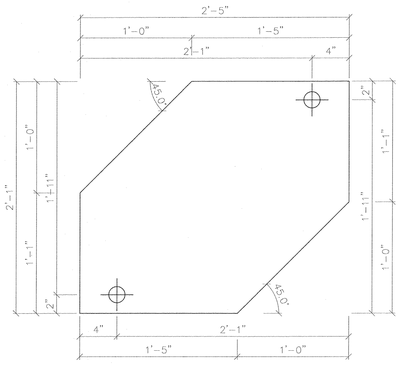
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DATE PLOTTED: June 24, 2013

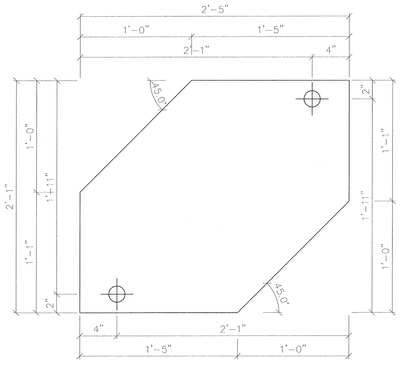
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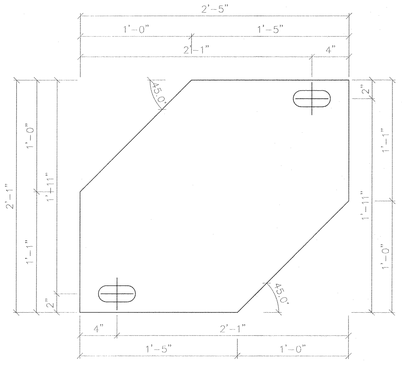
2 – PLAQUE – plaq 1



4 – BEARING PLATE – bp1
Plate 1"x2'–1" (2'–5") GALV

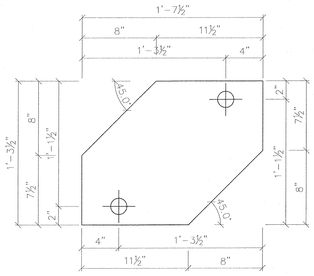


2 – BEARING PLATE – bp2
Plate 3/4"x2'–1" (2'–5") GALV

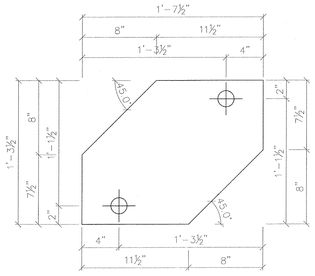


2 – BEARING PLATE – bp3
Plate 3/4"x2'–1" (2'–5") GALV

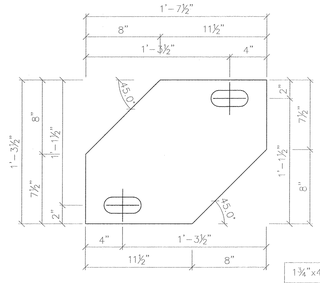
1¾"x4" SLOTS



2 – BEARING PLATE – bp4
Plate 1"x1'–3 1/2" (1'–7 1/2") GALV

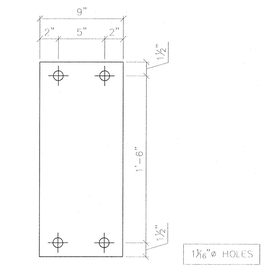


1 – BEARING PLATE – bp5
Plate 3/4"x1'–3 1/2" (1'–7 1/2") GALV



1 – BEARING PLATE – bp6
Plate 3/4"x1'–3 1/2" (1'–7 1/2") GALV

1¾"x4" SLOTS



2 – BEARING PLATE – bp7
Plate 3/4"x1'–9" (9") GALV

1¹⁄₁₆"ø HOLES

1¾"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

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00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
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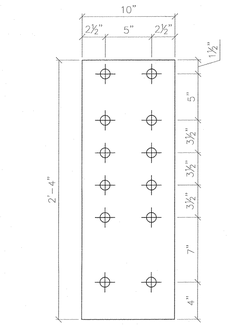
DESIGN: SAF	DRAW: TLB	REVIEW: SAF/RLL	CHECK: CJG

SHOP DETAILS / PLATES

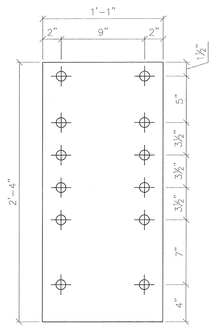
USB JOB# 51622

SHEET 10 58 TOTAL

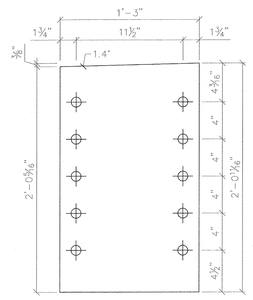
DATE PLOTTED June 24, 2013



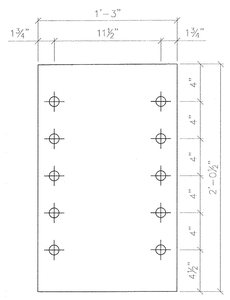
2 – FLOOR BEAM END PLATE – fbep1
Plate 3/4"x2'-4" (10") GALV



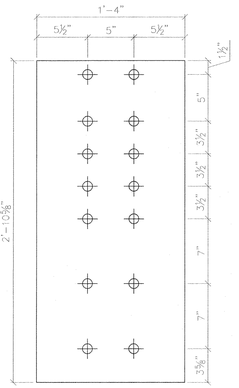
4 – FLOOR BEAM END PLATE – fbep2
Plate 3/4"x2'-4" (1'-1") GALV



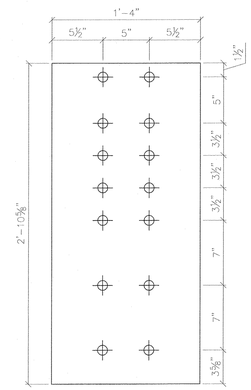
1 – FLOOR BEAM END PLATE – fbep3
Plate 3/4"x2'-0 11/16" (1'-3") GALV



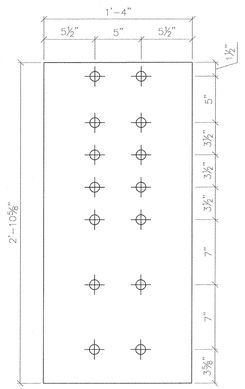
1 – FLOOR BEAM END PLATE – fbep4
Plate 3/4"x2'-0 1/2" (1'-3") GALV



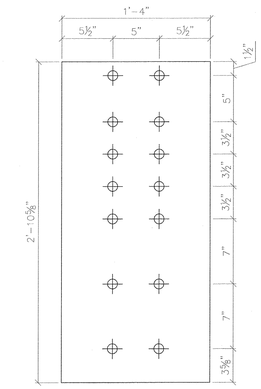
1 6 – FLOOR BEAM END PLATE – fbep5
Plate 1"x2'-10 5/8" (1'-4") GALV



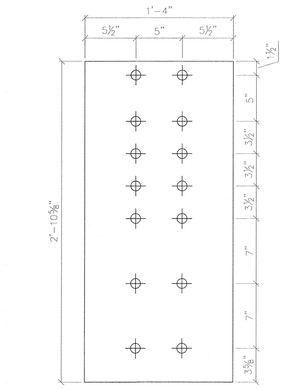
1 2 – FLOOR BEAM END PLATE – fbep6
Plate 2 1/4"x2'-10 5/8" (1'-4") GALV



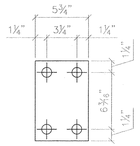
1 2 – FLOOR BEAM END PLATE – fbep7
Plate 2"x2'-10 5/8" (1'-4") GALV



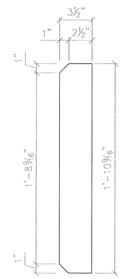
1 2 – FLOOR BEAM END PLATE – fbep8
Plate 1 5/8"x2'-10 5/8" (1'-4") GALV



1 2 – FLOOR BEAM END PLATE – fbep9
Plate 1 3/8"x2'-10 5/8" (1'-4") GALV



46 – SPACER PLATE – sp1
Plate 1/2"x8 11/16" (5 3/4") GALV



16 – JACKING GUSSET – jg1
Plate 1/2"x1'-10 9/16" (3 1/2") GALV

1⅛"ø HOLES UNO

RECORD DWGS
AS FABRICATED
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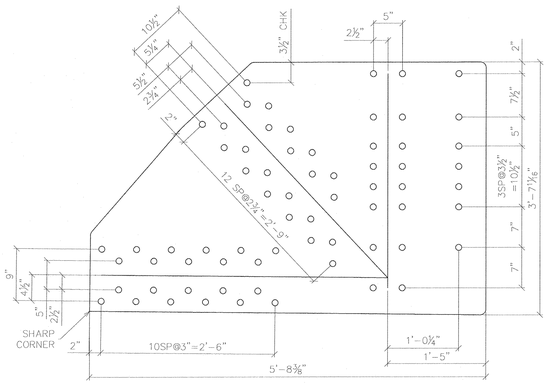
DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

SHOP DETAILS / PLATES

USB JOB# 51622

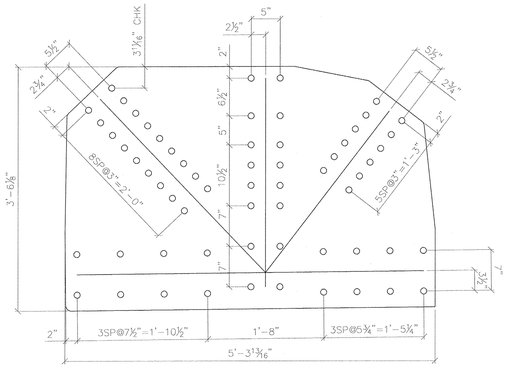
SHEET 10a 58 TOTAL

DATE PLOTTED June 24, 2013



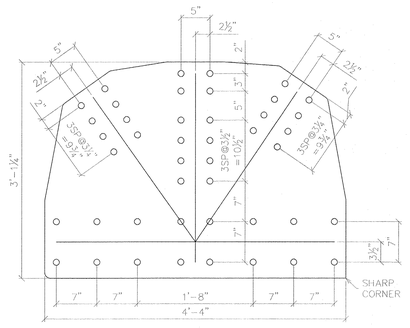
2 – LOWER GUSSET – I1c
Plate 5/8"x6'-6 5/8" (4'-11 3/8") GALV

←— ROLLING DIRECTION —→



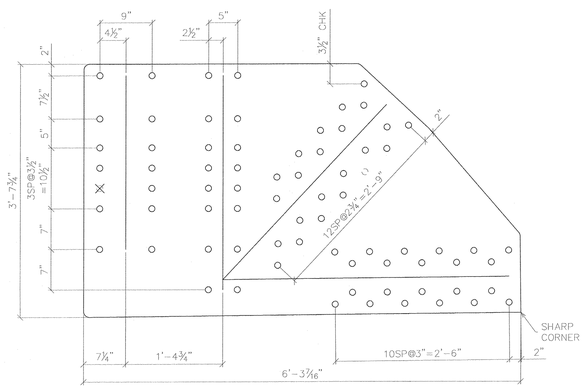
4 – LOWER GUSSET – I3
Plate 5/8"x3'-6 1/16" (5'-3 13/16") GALV

←— ROLLING DIRECTION —→



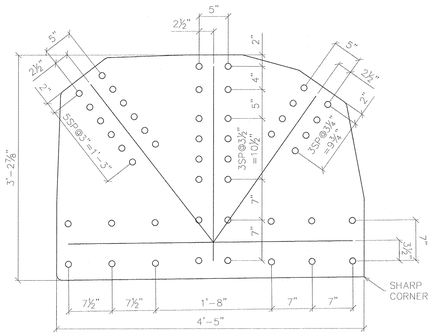
4 – LOWER GUSSET – I7
Plate 5/8"x3'-1 1/4" (4'-4") GALV

←— ROLLING DIRECTION —→



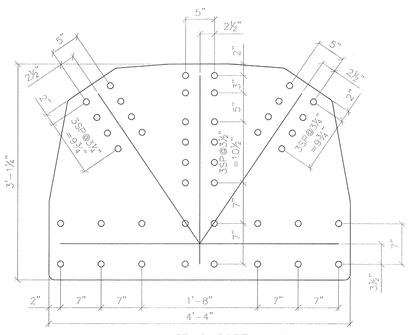
2 – LOWER GUSSET – I1r
Plate 5/8"x6'-11 5/8" (5'-4 3/8") GALV

←— ROLLING DIRECTION —→



4 – LOWER GUSSET – I5
Plate 5/8"x3'-2 5/8" (4'-5 1/8") GALV

←— ROLLING DIRECTION —→



4 – LOWER GUSSET – I9
Plate 5/8"x3'-1 1/4" (4'-4") GALV

←— ROLLING DIRECTION —→

1⅛"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

S:\JOBS\VERMONT\51622-Geb-Truss-1383 x 35'-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

SYMBOLS & ABBREVIATIONS

ES: EACH SIDE	NS: NEAR SIDE
EQ: EQUAL	FS: FAR SIDE
℄: CENTERLINE	WP/◆: WORK POINT
REF: REFERENCE	GA: GAUGE
CHK: CHECK	ID: INSIDE DIAMETER
O\O: OUT TO OUT	OD: OUTSIDE DIAMETER
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R: RADIUS	ABUT: ABUTMENT
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DIST. BY: CONTECH CONSTRUCTION PRODUCTS INC. www.contech-cpi.com

FAB. BY: U.S. BRIDGE BRIDGING AMERICA SINCE 1936

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
1	5/15/13	FLOOR BEAM END PLATES WAS 1" THK	TLB
2	5/15/13	ADDED 2" DIA. RAT HOLES IN fb1 & fb9	TLB
3	5/15/13	CHANGED WELD WAS 5⁄16" ALL AROUND	TLB
4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

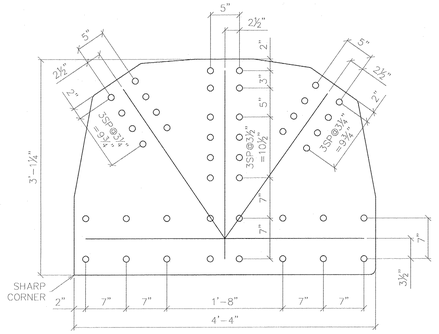
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SHOP DETAILS / PLATES

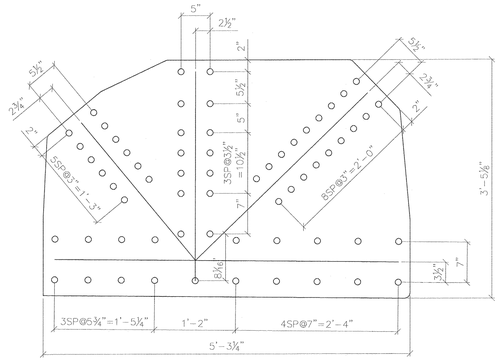
USB JOB# 51622

SHEET 10b / 58 TOTAL

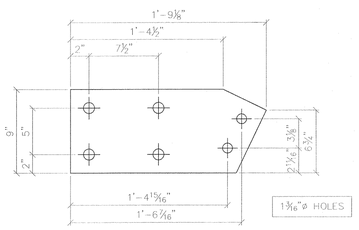
DATE PLOTTED June 24, 2013



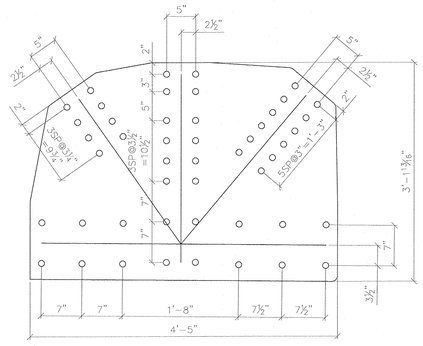
4 – LOWER GUSSET – l11
Plate 5/8"x3'-1 1/4" (4'-4") GALV



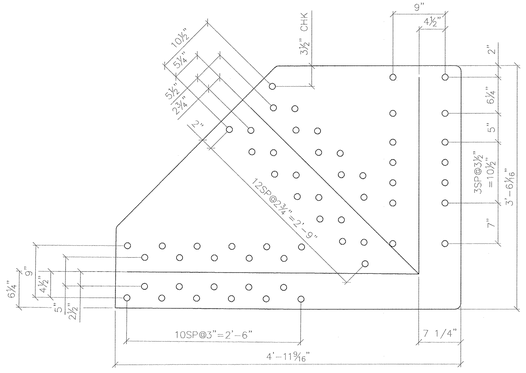
4 – LOWER GUSSET – l15
Plate 5/8"x3'-5 1/16" (5'-3 3/8") GALV



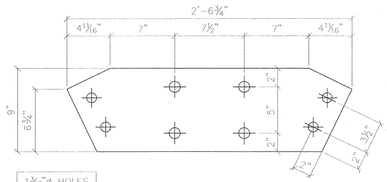
4 – LATERAL PLATE – lp1
Plate 3/8"x9" (1'-9 1/8") GALV



4 – LOWER GUSSET – l13
Plate 5/8"x3'-1 5/8" (4'-5 1/8") GALV

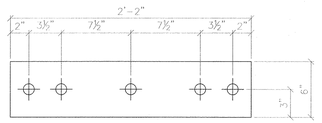


4 – LOWER GUSSET – l17
Plate 5/8"x4'-11 9/16" (3'-6 1/16") GALV



10 – LATERAL PLATE – lp2
Plate 3/8"x9" (2'-6 3/4") GALV

1 3⁄16"ø HOLES



6 – LATERAL PLATE – lp3
Plate 3/8"x6" (2'-2") GALV

1 3⁄16"ø HOLES

1 3⁄16"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS

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FAB. BY: U.S. BRIDGE BRIDGING AMERICA SINCE 1936

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6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

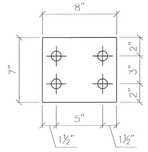
SHOP DETAILS / PLATES

USB JOB# 51622

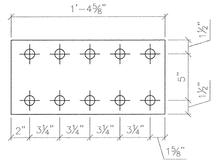
SHEET 10c / 58 TOTAL

S:\JOBS\VERMONT\51622-Gdlv_Truss-138'6 x 35'-Warren\VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

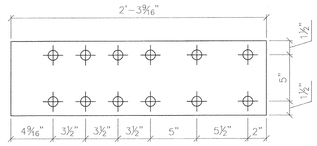
DATE PLOTTED: June 24, 2013



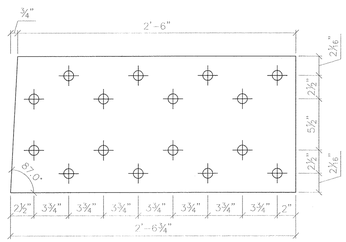
8 – SHIM PLATE – shp1
Plate 1/2"x7" (8") GALV



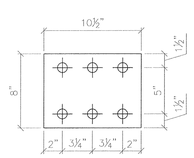
8 – SHIM PLATE – shp5
Plate 7/8"x8" (1'–4 5/8") GALV



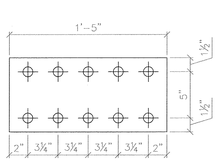
4 – SHIM PLATE – shp9
Plate 1/4"x8" (2'–3 9/16") GALV



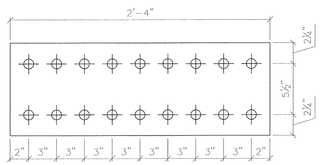
4 – SHIM PLATE – shp12
Plate 3/8"x1'–2 5/8" (2'–6 3/4") GALV



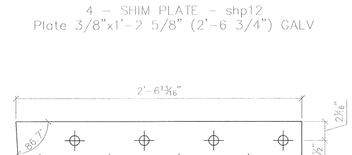
8 – SHIM PLATE – shp2
Plate 3/4"x8" (10 1/2") GALV



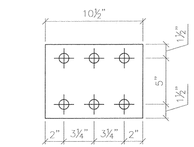
24 – SHIM PLATE – shp6
Plate 7/8"x8" (1'–5") GALV



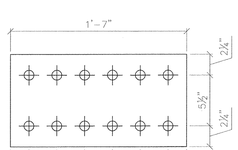
8 – SHIM PLATE – shp10
Plate 3/8"x10" (2'–4") GALV



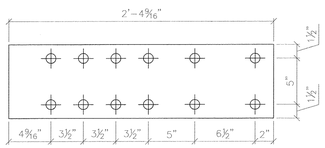
4 – SHIM PLATE – shp13
Plate 3/8"x1'–2 5/8" (2'–6 13/16") GALV



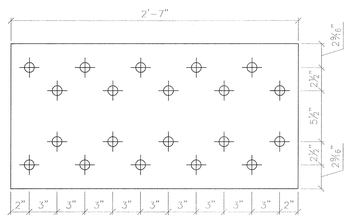
8 – SHIM PLATE – shp3
Plate 1/2"x8" (10 1/2") GALV



8 – SHIM PLATE – shp7
Plate 5/8"x10" (1'–7") GALV



4 – SHIM PLATE – shp11
Plate 1/4"x8" (2'–4 9/16") GALV



8 – SHIM PLATE – shp14
Plate 1/4"x1'–3 5/8" (2'–7") GALV

1⅛₁₆"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

S:\JOBS\VERMONT\51622-Galv Trusses 139ft x 28'-Warren, VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

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CONTECH CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com

FAB. BY:
U.S. BRIDGE
BRIDGING AMERICA SINCE 1936

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00000001.jpg

TOWN OF WARREN, VT
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BRIDGE NO.173 REPLACEMENT
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ITEM NO.:
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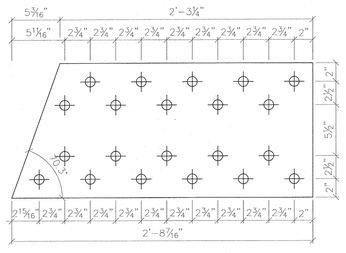
DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

SHOP DETAILS / PLATES

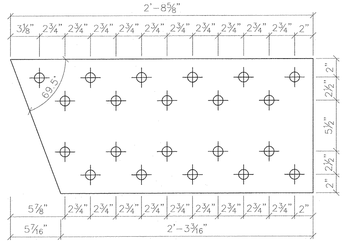
USB JOB# 51622

SHEET 10d / 58 TOTAL

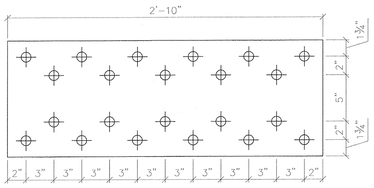
DATE PLOTTED: June 24, 2013



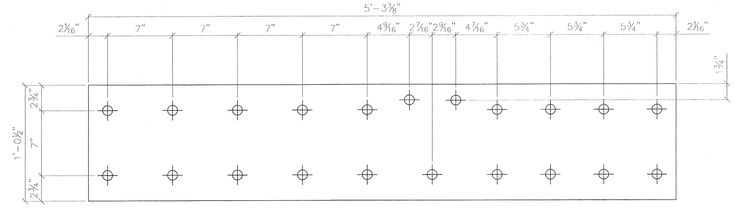
4 – SHIM PLATE – shp15
Plate 1/4"x1'–2 1/2" (2'–8 7/16") GALV



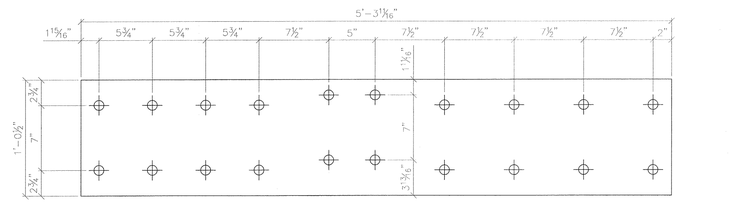
4 – SHIM PLATE – shp16
Plate 1/4"x1'–2 1/2" (2'–8 5/8") GALV



8 – SHIM PLATE – shp17
Plate 1/8"x1'–0 1/2" (2'–10") GALV



4 – SHIM PLATE – shp19
Plate 1/8"x1'–0 1/2" (5'–3 3/8") GALV



4 – SHIM PLATE – shp20
Plate 1/8"x1'–0 1/2" (5'–3 11/16") GALV

1 1/16"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

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00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
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WARREN, VT

ITEM NO.:
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DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

SHOP DETAILS / PLATES

USB JOB# 51622

SHEET 10e 58 TOTAL

S:\JOBS\VERMONT\51622-Galv.Truss-138'8 x 35'-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

DATE PLOTTED: June 24, 2013

SHOP RECORD

BEAM 1 DEPTH	BEAM 2 DEPTH	ACTUAL SHIM THICKNESS	ACTUAL SHIM QTY

MATERIAL SCHEDULE

PC QTY	PN	FAMILY	SECTION	LENGTH	GRADE	SURFACE FINISH	WGT EACH
8	shp1	SHIM PLATE	Plate 1/2"x7"	8"	STEEL A572-50	GALV	7.4
8	shp2	SHIM PLATE	Plate 3/4"x8"	10 1/2"	STEEL A572-50	GALV	16.8
8	shp3	SHIM PLATE	Plate 1/2"x8"	10 1/2"	STEEL A572-50	GALV	11.2
12	shp4	SHIM PLATE	Plate 7/8"x8"	10 1/2"	STEEL A572-50	GALV	19.5
8	shp5	SHIM PLATE	Plate 7/8"x8"	1'-4 5/8"	STEEL A572-50	GALV	30.8
24	shp6	SHIM PLATE	Plate 7/8"x8"	1'-5"	STEEL A572-50	GALV	31.6
8	shp7	SHIM PLATE	Plate 5/8"x10"	1'-7"	STEEL A572-50	GALV	31.8
8	shp8	SHIM PLATE	Plate 3/4"x8"	1'-7"	STEEL A572-50	GALV	30.1
4	shp9	SHIM PLATE	Plate 1/4"x8"	2'-3 9/16"	STEEL A572-50	GALV	14.9
8	shp10	SHIM PLATE	Plate 3/8"x10"	2'-4"	STEEL A572-50	GALV	28.1
4	shp11	SHIM PLATE	Plate 1/4"x8"	2'-4 9/16"	STEEL A572-50	GALV	15.5
4	shp12	SHIM PLATE	Plate 3/8"x1'-2 5/8"	2'-6 3/4"	STEEL A572-50	GALV	45.8
4	shp13	SHIM PLATE	Plate 3/8"x1'-2 5/8"	2'-6 13/16"	STEEL A572-50	GALV	45.8
8	shp14	SHIM PLATE	Plate 1/4"x1'-3 5/8"	2'-7"	STEEL A572-50	GALV	33.1
4	shp15	SHIM PLATE	Plate 1/4"x1'-2 1/2"	2'-8 7/16"	STEEL A572-50	GALV	29.4
4	shp16	SHIM PLATE	Plate 1/4"x1'-2 1/2"	2'-8 5/8"	STEEL A572-50	GALV	29.5
8	shp17	SHIM PLATE	Plate 1/8"x1'-0 1/2"	2'-10"	STEEL A572-50	GALV	14.4
4	shp19	SHIM PLATE	Plate 1/8"x1'-0 1/2"	5'-3 3/8"	STEEL A572-50	GALV	27.4
4	shp20	SHIM PLATE	Plate 1/8"x1'-0 1/2"	5'-3 11/16"	STEEL A572-50	GALV	27.6

1 1/16"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

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R: RADIUS
NS: NEAR SIDE
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T&B: TOP & BOTTOM

DIST. BY:
CONTECH CONSTRUCTION PRODUCTS INC.
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FAB. BY:
U.S. BRIDGE
BRIDGING AMERICA SINCE 1936

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
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3	5/15/13	CHANGED WELD WAS 5/16" ALL AROUND	TLB
4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

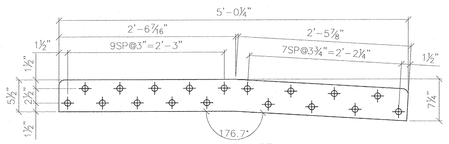
SHOP DETAILS / PLATES

USB JOB# 51622

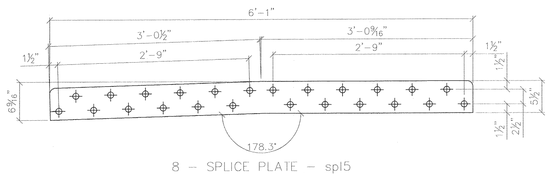
SHEET 10f 58 TOTAL

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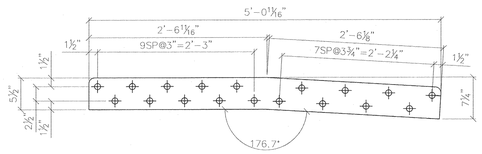
DATE PLOTTED June 24, 2013



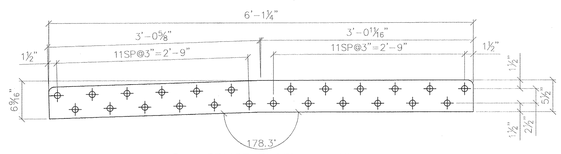
4 – SPLICE PLATE – spl1
Plate 3/4"x7 1/4" (5'-0 1/4") GALV



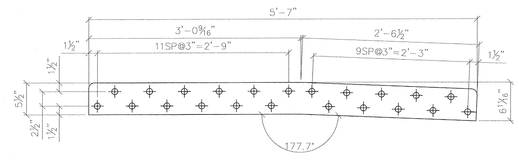
8 – SPLICE PLATE – spl5
Plate 3/4"x6 9/16" (6'-1") GALV



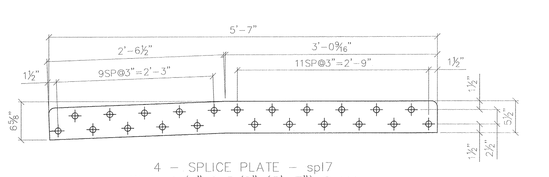
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Plate 3/4"x7 1/4" (5'-0 11/16") GALV



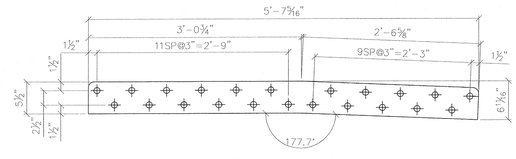
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Plate 3/4"x6 9/16" (6'-1 1/4") GALV



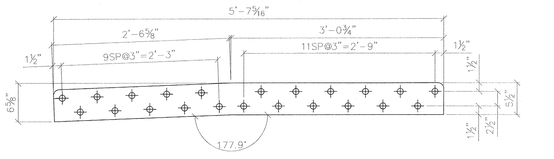
4 – SPLICE PLATE – spl3
Plate 3/4"x6 11/16" (5'-7") GALV



4 – SPLICE PLATE – spl7
Plate 3/4"x6 5/8" (5'-7") GALV



4 – SPLICE PLATE – spl4
Plate 3/4"x6 11/16" (5'-7 5/16") GALV



4 – SPLICE PLATE – spl8
Plate 3/4"x6 5/8" (5'-7 5/16") GALV

1 1/16"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS

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00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

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REFERENCE NO.:
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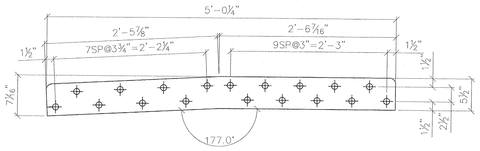
SHOP DETAILS / PLATES

USB JOB# 51622

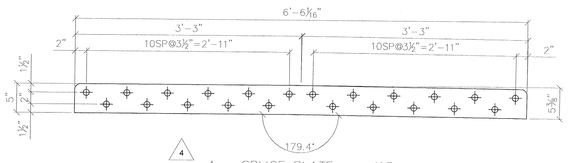
SHEET 10g 58 TOTAL

S:\JOBS\VERMONT\51622-Galv Truss-138'6 x 35'-Warren, VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

DATE PLOTTED June 24, 2013

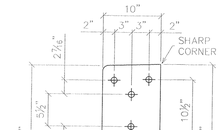


4 – SPLICE PLATE – spl9
Plate 3/4"x7 1/16" (5'-0 1/4") GALV

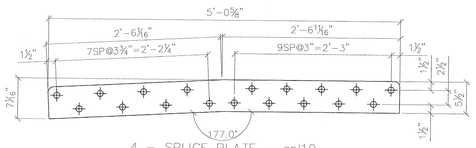


4 – SPLICE PLATE – spl13
Plate 1"x5 3/8" (6'-6 1/16") GALV

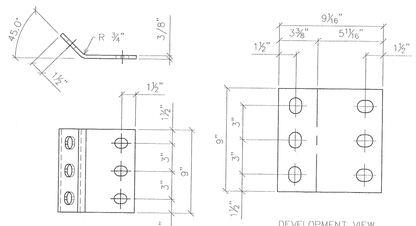
← ROLLING DIRECTION →



8 – UPPER GUSSET – u7
Plate 5/8"x10" (2'-3 3/8") GALV



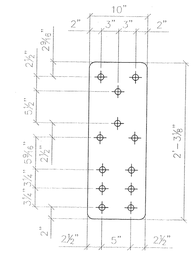
4 – SPLICE PLATE – spl10
Plate 3/4"x7 1/16" (5'-0 5/8") GALV



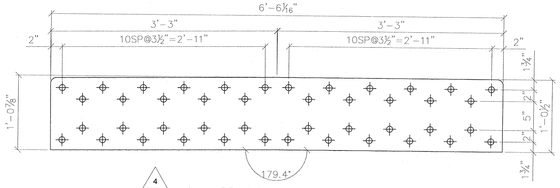
12 – STRINGER PLATE – strp1
Plate 3/8"x9" (9") GALV

DEVELOPMENT VIEW
strp1

1⅛"x1⅜" SLOTS

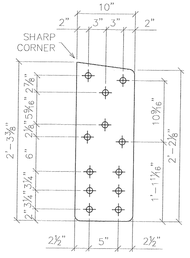


4 – UPPER GUSSET – u9
Plate 5/8"x10" (2'-3 1/8") GALV

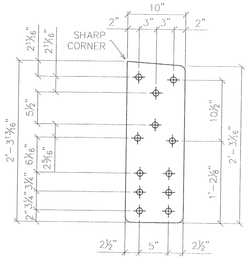


4 – SPLICE PLATE – spl11
Plate 1"x1'-0 7/8" (6'-6 1/16") GALV

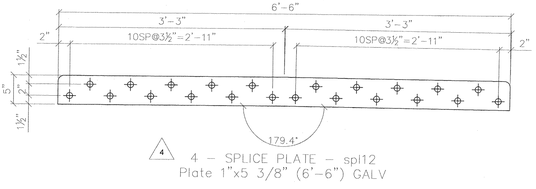
← ROLLING DIRECTION →



4 – UPPER GUSSET – u3
Plate 5/8"x10" (2'-3 3/8") GALV



4 – UPPER GUSSET – u5
Plate 5/8"x10" (2'-3 13/16") GALV



4 – SPLICE PLATE – spl12
Plate 1"x5 3/8" (6'-6") GALV

← ROLLING DIRECTION →

1⅛"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

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00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
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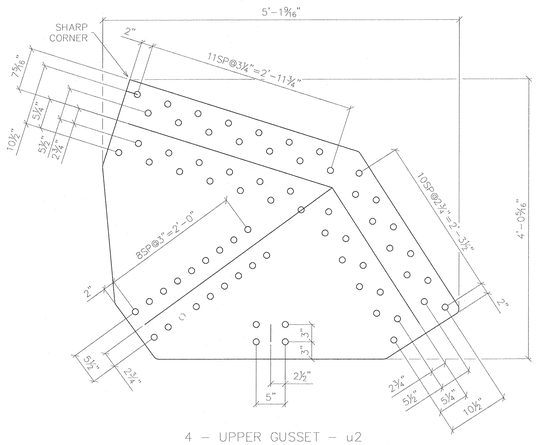
SHOP DETAILS / PLATES

USB JOB# 51622

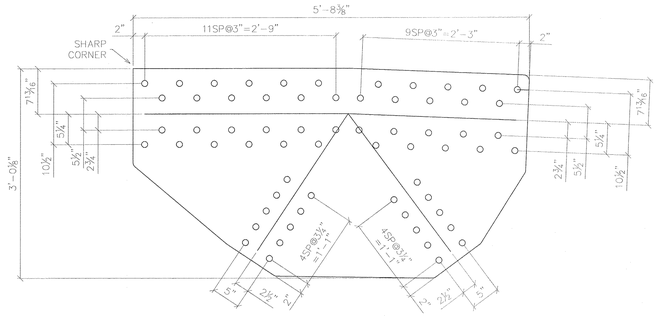
SHEET 10h / 58 TOTAL

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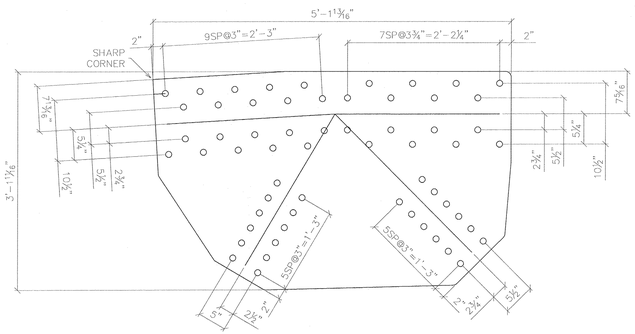
DATE PLOTTED June 24, 2013



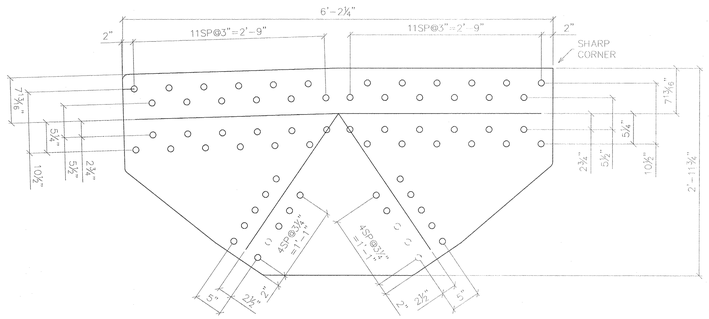
4 – UPPER GUSSET – u2
Plate 5/8"x3'-8 5/8" (5'-6 3/16") GALV



4 – UPPER GUSSET – u6
Plate 5/8"x3'-0 1/8" (5'-8 3/8") GALV



4 – UPPER GUSSET – u4
Plate 5/8"x3'-1 11/16" (5'-1 13/16") GALV



8 – UPPER GUSSET – u8
Plate 5/8"x2'-11 3/4" (6'-2 1/4") GALV

1⅛"ø HOLES UNO

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S:\JOBS\VERMONT\51622-Galv.Truss-1389 x 35-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

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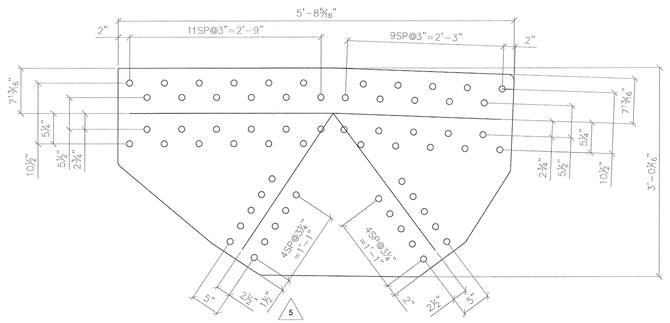
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SHOP DETAILS / PLATES

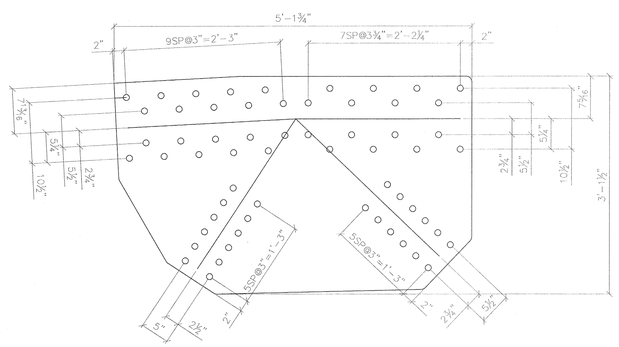
USB JOB# 51622

SHEET 10j / 58 TOTAL

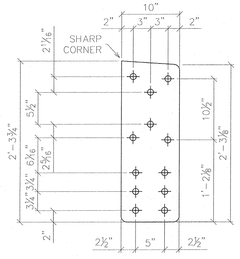
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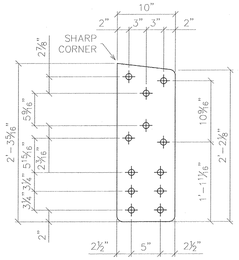
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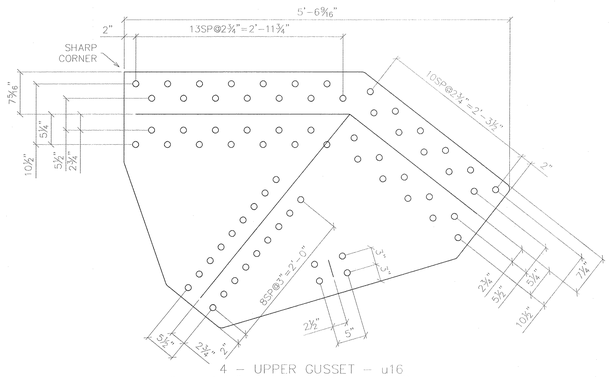
4 – UPPER GUSSET – u14
Plate 5/8"x3'-1 1/2" (5'-1 3/4") GALV



4 – UPPER GUSSET – u13
Plate 5/8"x10" (2'-3 3/4") GALV



4 – UPPER GUSSET – u15
Plate 5/8"x10" (2'-3 5/16") GALV



4 – UPPER GUSSET – u16
Plate 5/8"x3'-11 1/4" (5'-2 1/2") GALV

1 1/16"ø HOLES UNO

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BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF | DRAW: TLB | REVIEW: SAF/RLL | CHECK: CJG

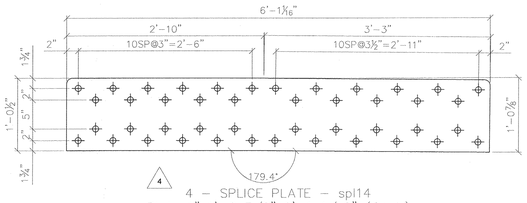
SHOP DETAILS / PLATES

USB JOB# 51622

SHEET 10k 58 TOTAL

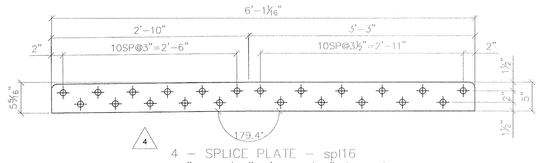
S:\JOBS\VERMONT\51622\Gen Truss-1383 x 35'-Warren, VT over Mad River\Drawings\51622-AS-BUILT 6-24-13.dwg

DATE PLOTTED June 24, 2013



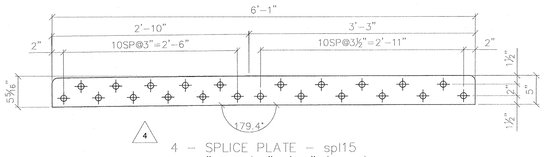
4 – SPLICE PLATE – spl14
Plate 1"x1'-0 7/8"x6'-1 1/16" (GALV)

← ROLLING DIRECTION →



4 – SPLICE PLATE – spl16
Plate 1"x5 5/16"x6'-1 1/16" (GALV)

← ROLLING DIRECTION →



4 – SPLICE PLATE – spl15
Plate 1"x5 5/16"x6'-1" (GALV)

← ROLLING DIRECTION →

1 1/16"ø HOLES UNO

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS

ES: EACH SIDE	NS: NEAR SIDE
EQ: EQUAL	FS: FAR SIDE
℄: CENTERLINE	WP/✥: WORK POINT
REF: REFERENCE	GA: GAUGE
CHK: CHECK	ID: INSIDE DIAMETER
O\O: OUT TO OUT	OD: OUTSIDE DIAMETER
C\C: CENTER TO CENTER	BRG: BEARING
F\F: FACE TO FACE	TYP: TYPICAL
DIA/ø: DIAMETER	UNO: UNLESS NOTED OTHERWISE
R: RADIUS	ABUT: ABUTMENT
	T&B: TOP & BOTTOM

DIST. BY: CONTECH CONSTRUCTION PRODUCTS INC. www.contech-cpi.com

FAB. BY: U.S. BRIDGE BRIDGING AMERICA SINCE 1936

SUBMITTAL LOG	DATE
INITIAL SUBMITTAL	12/18/12
RESUBMITTAL NO. 2	2/5/13
CUSTOMER APPROVAL	2/13/13
SHOP REVIEW	-
PRE FAB MTG	-
APPROVED FOR FAB	2/28/13

NO:	DATE:	REVISIONS:	BY:
1	5/15/13	FLOOR BEAM END PLATES WAS 1" THK	TLB
2	5/15/13	ADDED 2" DIA. RAT HOLES IN fb1 & fb9	TLB
3	5/15/13	CHANGED WELD WAS 5/16" ALL AROUND	TLB
4	5/15/13	CHANGED BOLT PATTERN	TLB
5	5/15/13	WAS 2" EDGE DISTANCE	TLB
6	6/3/13	DIMENSIONAL ERRORS	TLB

00000001.jpg

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF	DRAW: TLB	REVIEW: SAF/RLL	CHECK: CJG

SHOP DETAILS / PLATES

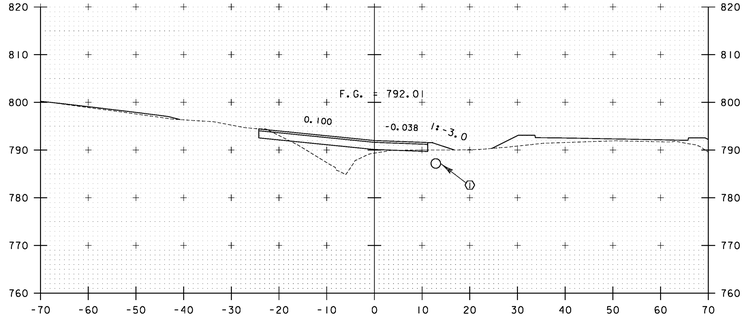
USB JOB# 51622

SHEET 101 / 58 TOTAL

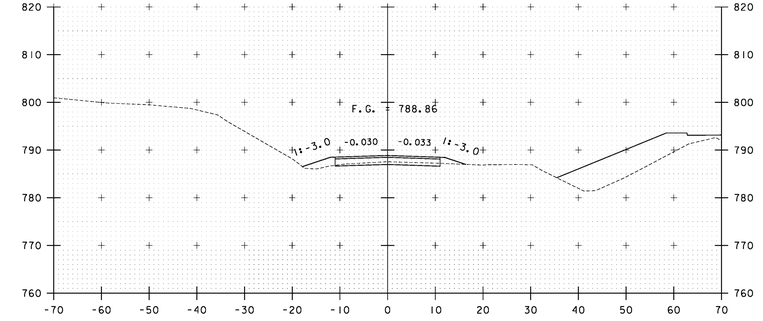
S:\JOBS\VERMONT\51622-Galv-Truss-1393 x 35-Warren,VT over Mad River\Drawings\51622 AS-BUILT 6-24-13.dwg

REVISED TH-41 WITH RAISED GRADE

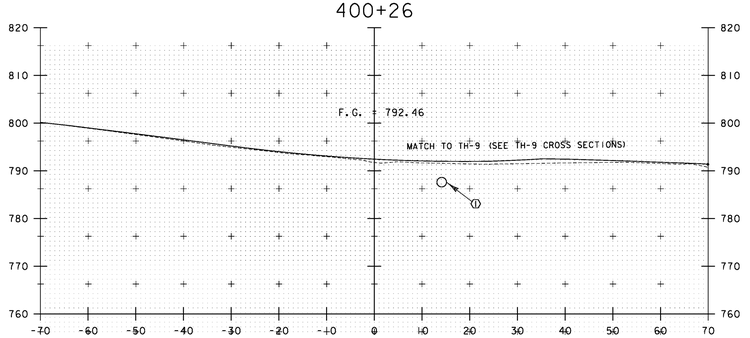
USE THESE CROSS SECTION WITH THE CONTRACT PLAN CROSS SECTIONS FOR SIDE SLOPE AND DRAINAGE REQUIREMENTS



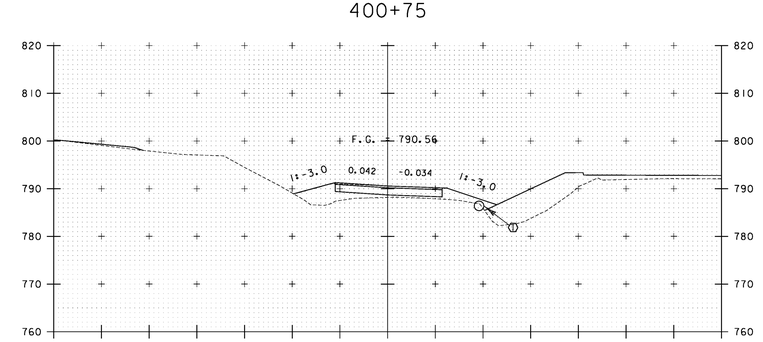
400+26



400+75



400+11
NOT CHANGED



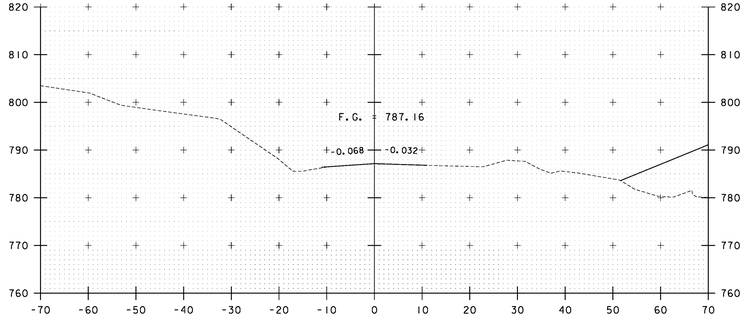
400+50

STA. 400+00 TO STA. 400+75

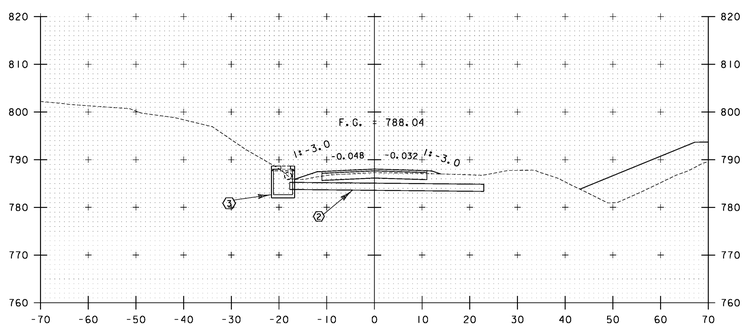
PROJECT NAME:	VAOT PROJECT NAME
PROJECT NUMBER:	PROJECT NUMBER
FILE NAME: ppms*/Section/------.dgn	PLOT DATE: $$$$DATE$$$
PROJECT LEADER: ------	DRAWN BY: ------
DESIGNED BY: ------	CHECKED BY: ------
------ ------	SHEET $S*$ OF $T*$

REVISED TH-41 WITH RAISED GRADE

USE THESE CROSS SECTION WITH THE CONTRACT PLAN CROSS SECTIONS FOR SIDE SLOPE AND DRAINAGE REQUIREMENTS



401+00



400+87

STA. 400+87 TO STA. 401+00

PROJECT NAME: VAOT PROJECT NAME	
PROJECT NUMBER: PROJECT NUMBER	
FILE NAME: ppms*/Section/------.dgn	PLOT DATE: $$$$DATE$$$
PROJECT LEADER: ------	DRAWN BY: ------
DESIGNED BY: ------	CHECKED BY: ------
------ ------	SHEET $S*$ OF $T*$

CROSS SECTION SHEET

PROJECT NAME: _____

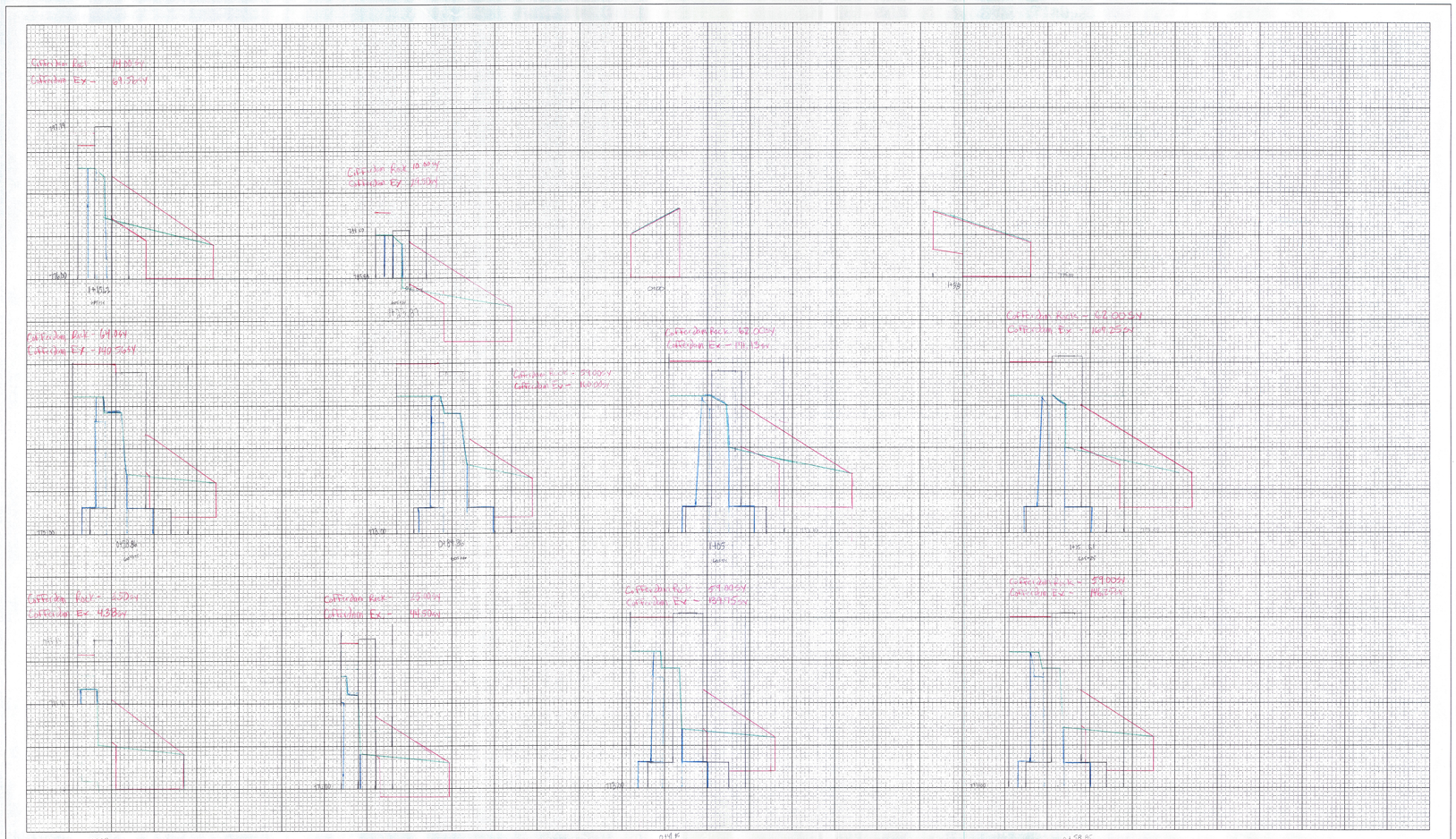
PROJECT NUMBER: _____

FILE NAME: _____ PLOT DATE: 05-JUN-2000 09

PROJECT LEADER: _____ DRAWN BY: _____

DESIGNED BY: _____ CHECKED BY: _____

const: g:/common/cadd/e-xsection.dgn SHEET ____ OF ____



CROSS SECTION SHEET

PROJECT NAME: _____

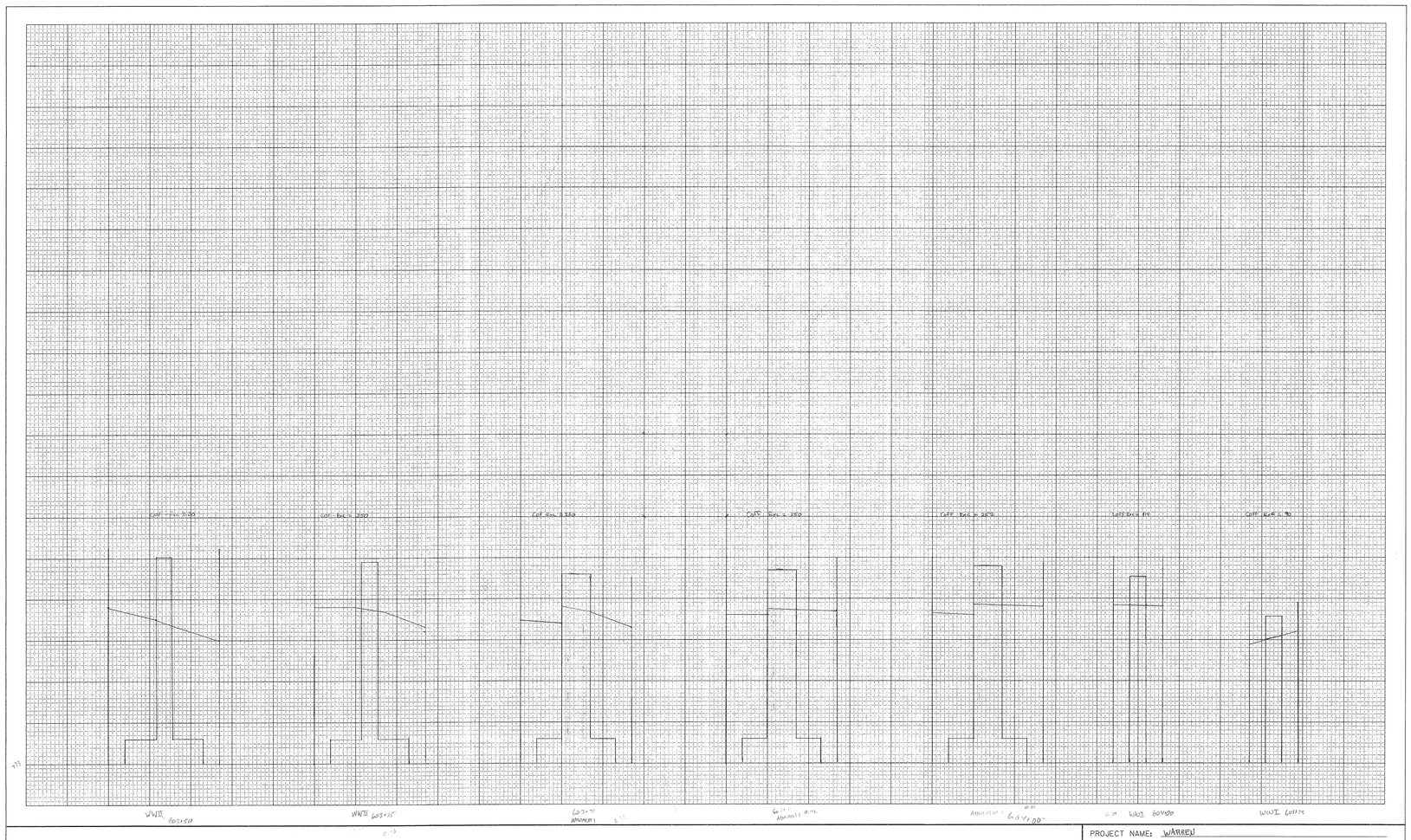
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FILE NAME: _____ PLOT DATE: 05-JUN-2000 09

PROJECT LEADER: _____ DRAWN BY: _____

DESIGNED BY: _____ CHECKED BY: _____

const: gs/common/cadd/e-xsection.dgn SHEET ____ OF ____



CROSS SECTION SHEET

PROJECT NAME: WARREN

PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: const:g:/common/cadd/e-xsection.dgn

PROJECT LEADER:

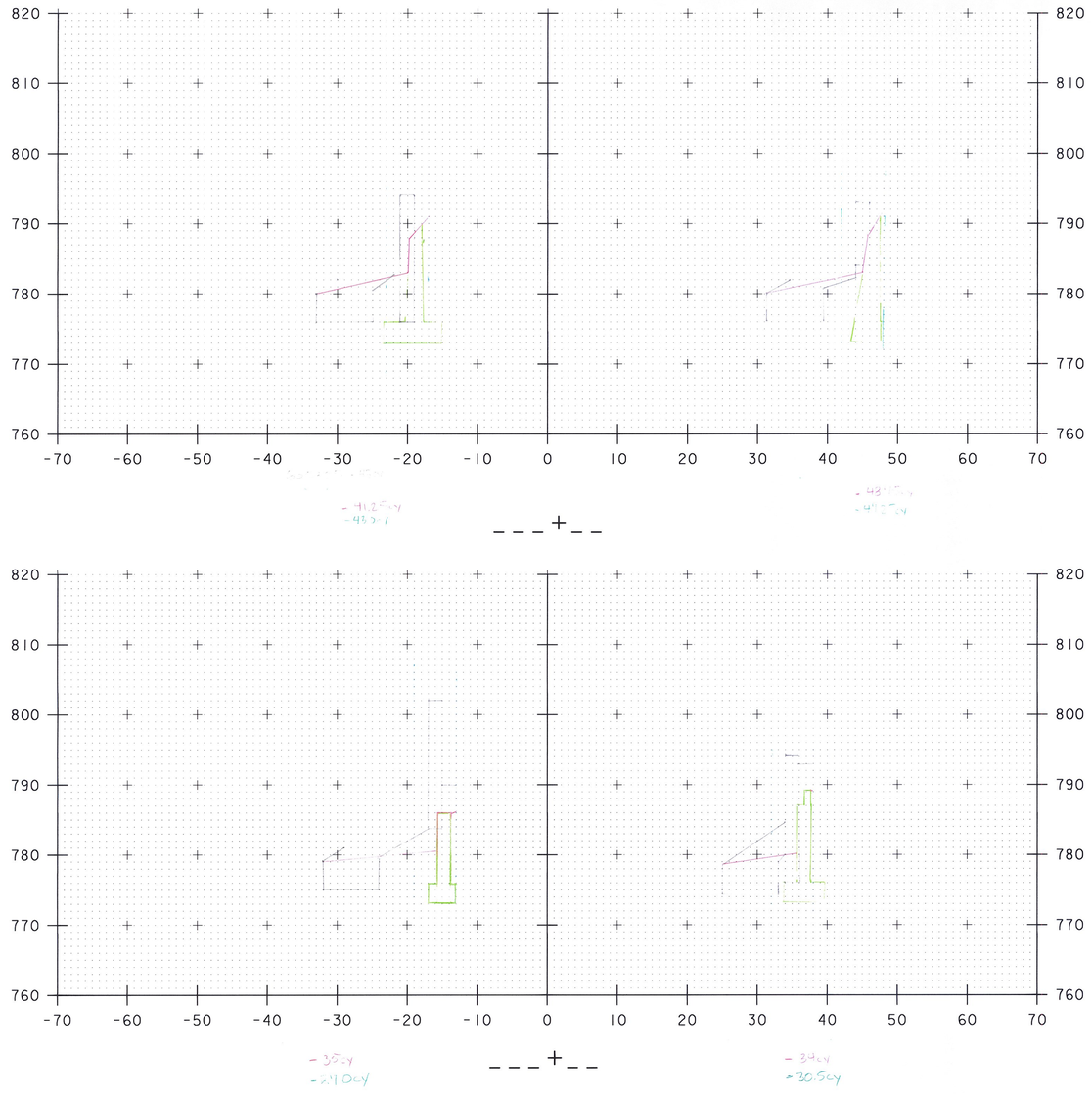
DESIGNED BY:

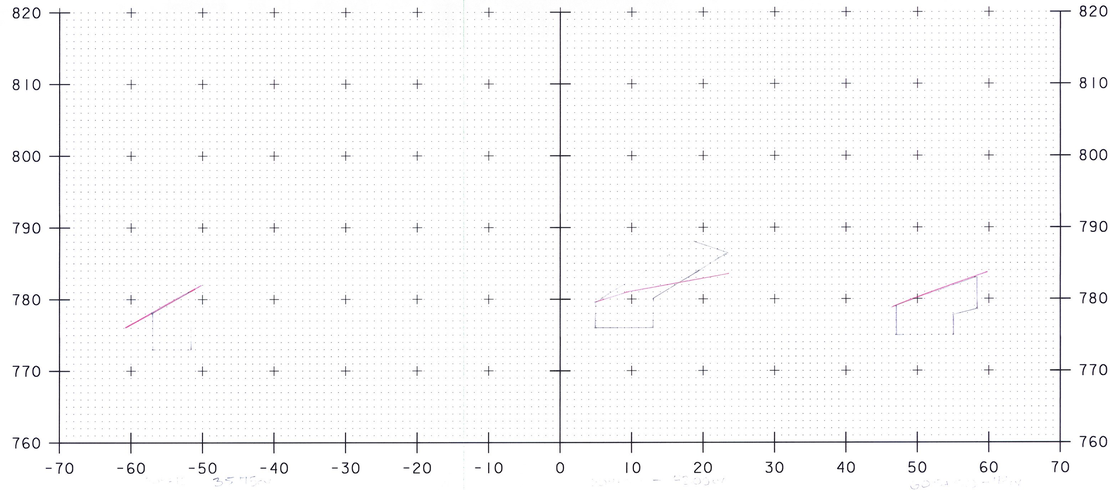
PLOT DATE: 05-JUN-2000 09

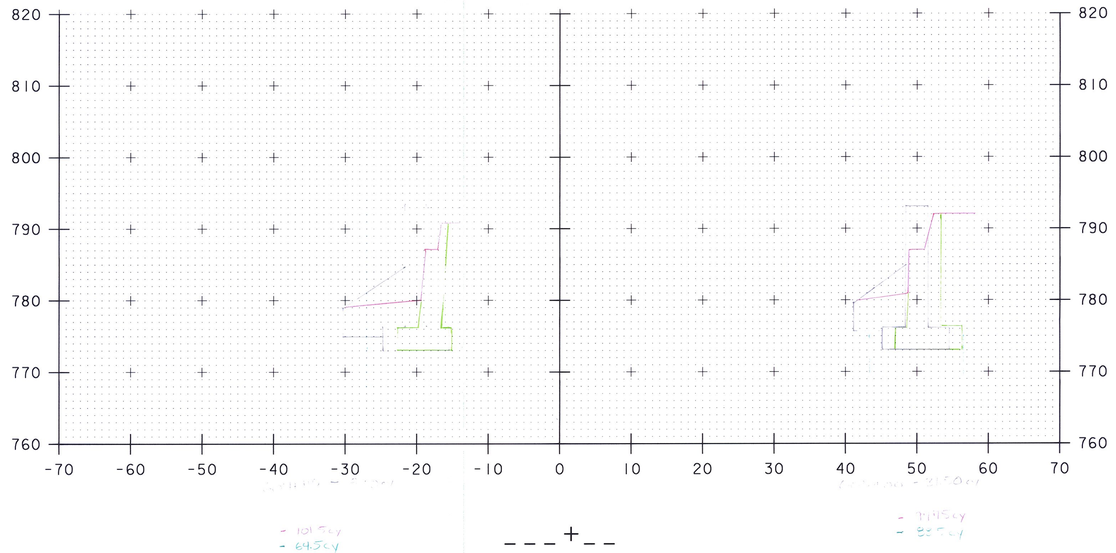
DRAWN BY:

CHECKED BY:

SHEET ____ OF ____





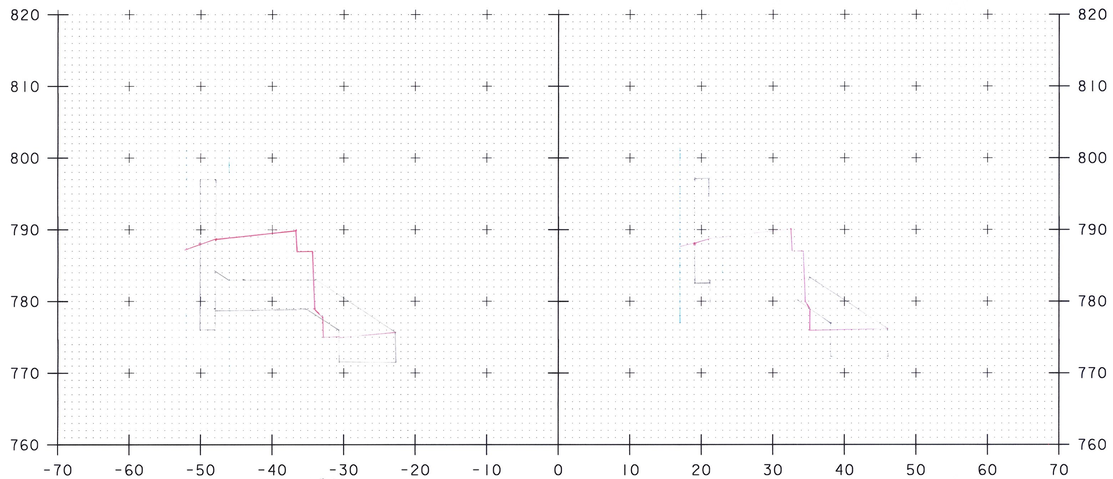


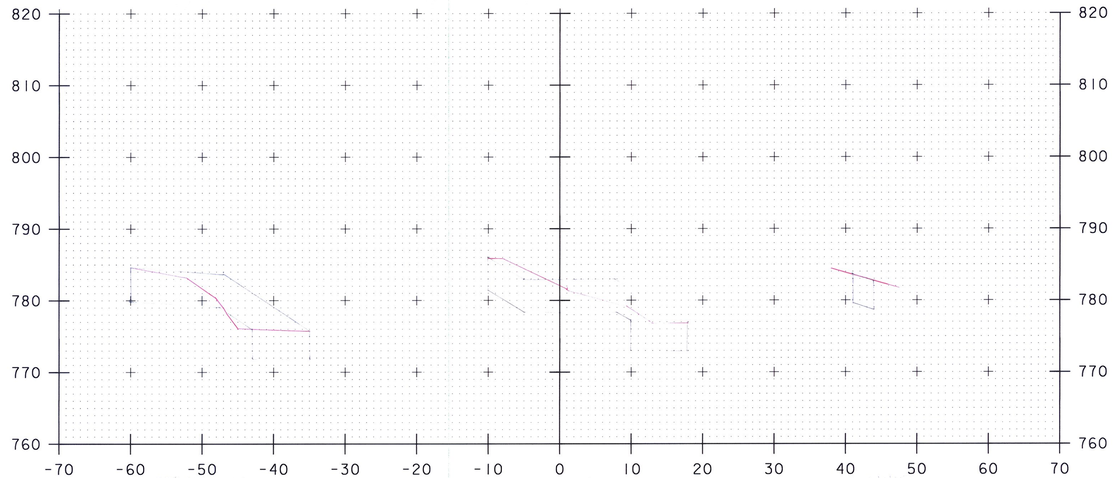
Coffer dam Rock
Coffer dam Earth

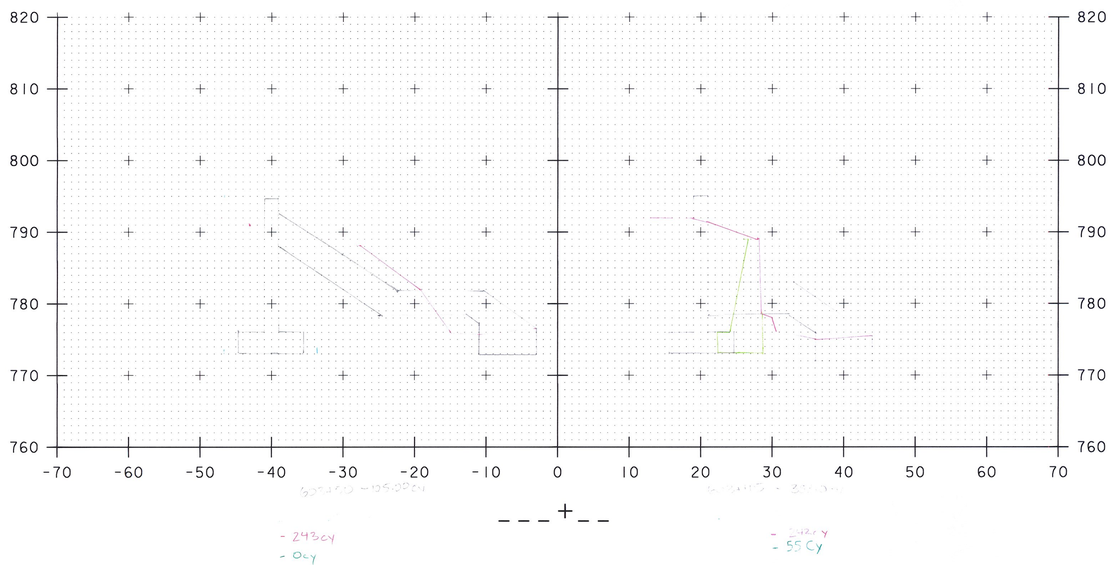
SCALE 1" = 10'-0"
10 0 10

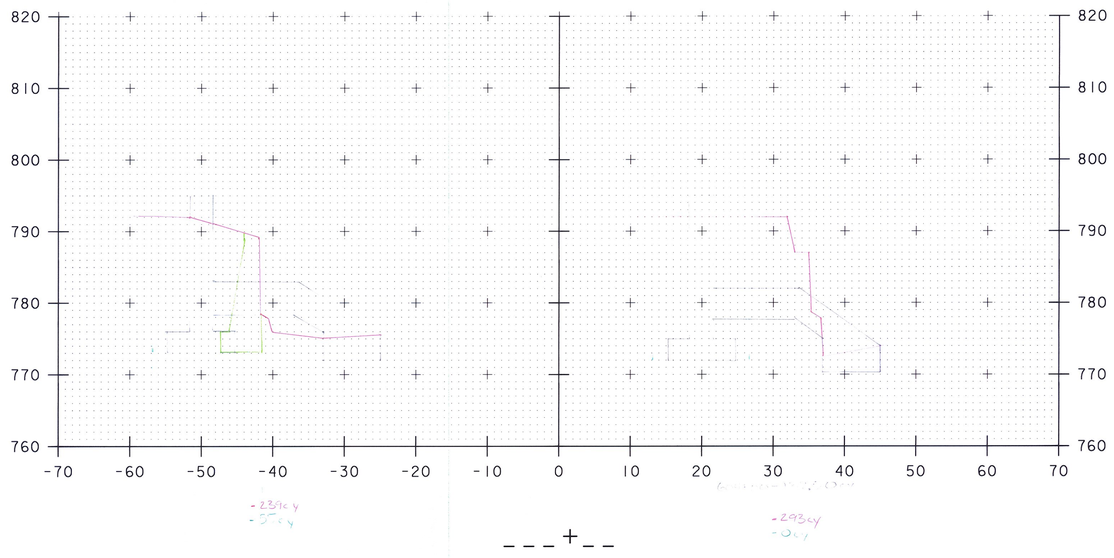
STA. ___+__ TO STA. ___+__

PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4(14)
FILE NAME: s78f242xs.dgn	PLOT DATE: $$$$DATE$$$
PROJECT LEADER: J. LACROIX	DRAWN BY:
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
	SHEET OF







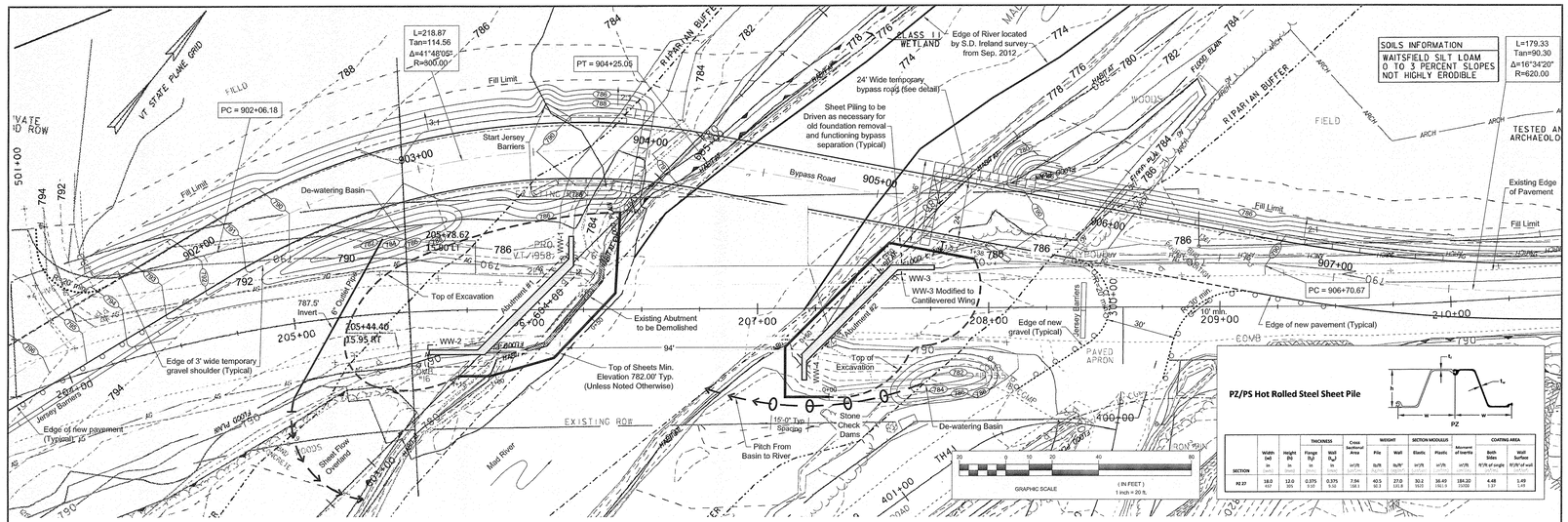


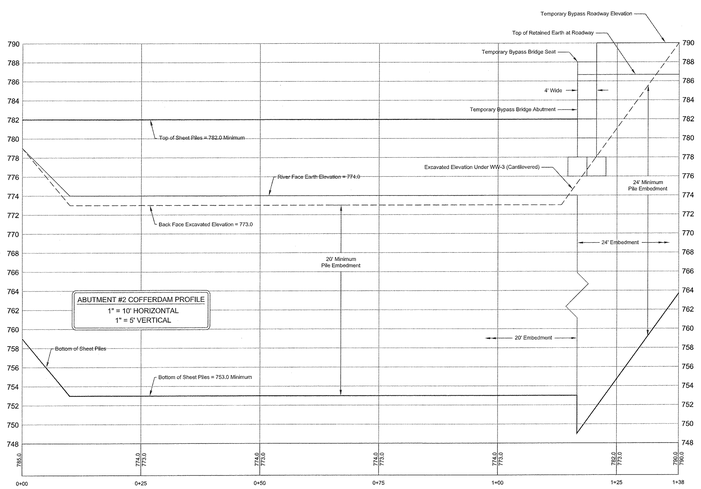
Cofferdam E. &
Cofferdam Earth

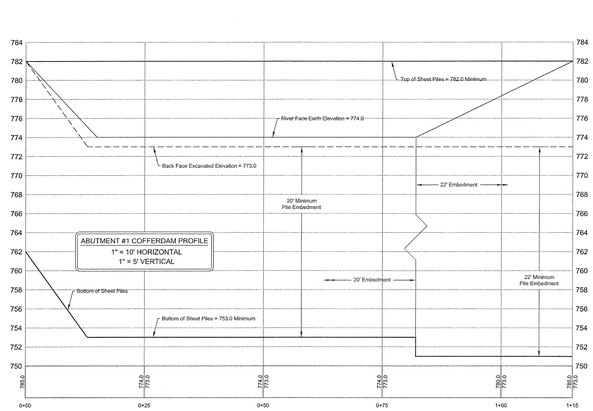
SCALE 1" = 10'-0"
10 0 10

STA. ___+__ TO STA. ___+__

PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4(14)
FILE NAME: s78f242xs.dgn	PLOT DATE: $$$$DATE$$$
PROJECT LEADER: J. LACROIX	DRAWN BY:
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
	SHEET OF







GENERAL NOTES:

1. This plan was derived from images of the approved plans entitled "Warren BRF 013-4 (14)".
2. All excavations sloped a minimum of 1.5 H : 1.0 V.
3. Sheeting shall be in place prior to abutment demolition.
4. Sheeting shall have minimum retaining properties of PZ-27.
5. Additional survey work was performed by S.D. Ireland in September 2012 to verify some of the grades shown hereon found to be quite accurate to the contours shown. The only exception was the location of the Mad River bank which is narrower than the contours depicted from image thought to be as result of the devastation caused by Tropical Storm Irene in 2011.
6. 10% of each cofferdams sheets shall be driven to an exact elevation of 782.0' to allow for water relief in the event of a flood.
7. A cofferdam seal is not required to ensure the structural integrity of the cofferdam during de-watering & foundation construction & inspection.
8. There shall not be any gas or diesel engined equipment left in cofferdam over nights/weekends.

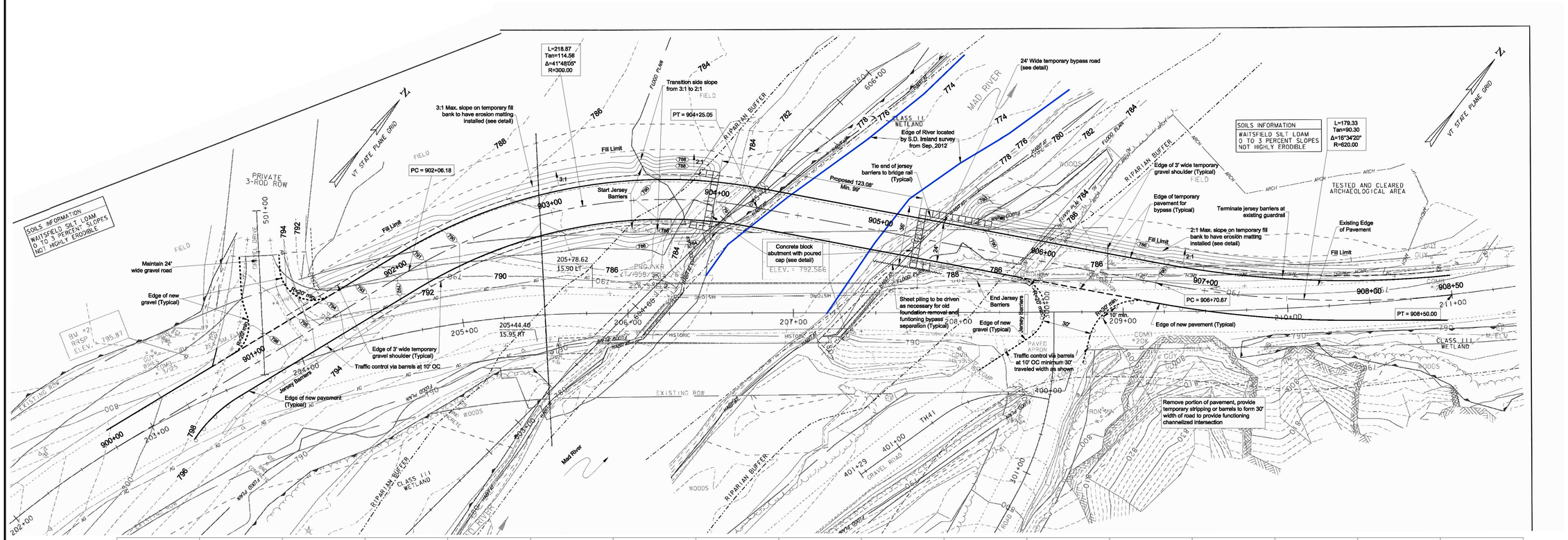
EROSION CONTROL NOTES:

1. Place Jersey Barriers wrapped in plastic in a continuous line in front of sheets prior to driving sheets.
2. When groundwater is reached when excavating, establish de-watering wells in each corner of the excavation.
3. Excavate de-watering pits, line with erosion matting.
4. Pump water from sumps to sedimentation basins.
5. When excavating is complete, line slopes with erosion matting.
6. Prior to backfilling, remove sumps and erosion matting.

STATE OF VERMONT
ADAM A. MORSE
NUMBER
07473
REGISTERED PROFESSIONAL ENGINEER

PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

PLAN & PROFILE FOR COFFERDAMS



Vermont Agency of Transportation
RECEIVED
ON: November 15, 2012
and Checked for
CONFORMANCE
BY: J. Lacroix DATE: 11/16/12

NOTES:

1. This plan is intended to convey the alignment of the bypass roadway necessary to remove and replace the bridge over the Mad River.
2. Modifications may be made to this plan as necessary with the approval of the Engineer - O'Leary-Burke.
2. This plan was derived from images of the approved plans entitled "Warren BRF 013-4 (14)".
3. The bypass is in the same location as shown on the original plans with added detail based on a chosen Mabey Bridge temporary structure as shown hereon.
4. Any questions related to this plan shall be directed to Karl Marchessault from O'Leary-Burke Civil Associates at (802) 878-9990 and Matt Wheeler of S.D. Ireland (802) 324-5726 .
5. Additional survey work was performed by S.D. Ireland in September 2012 to verify some of the grades shown hereon found to be quite accurate to the contours shown. The only exception was the location of the Mad River bank which is narrower than the contours depicted from image thought to be as result of the devastation caused by Tropical Storm Irene in 2011.
6. Line striping and reflectors on barriers shall be installed to define temporary travel lanes per VAOT Standards (12' minimum travel lanes defined by double yellow and fog line and stop bars at all intersections).

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

STATE OF VERMONT
No. 9932
CIVIL
REGISTERED PROFESSIONAL ENGINEER
REVISED 11/08/12

PLAN & PROFILE FOR TEMPORARY BYPASS

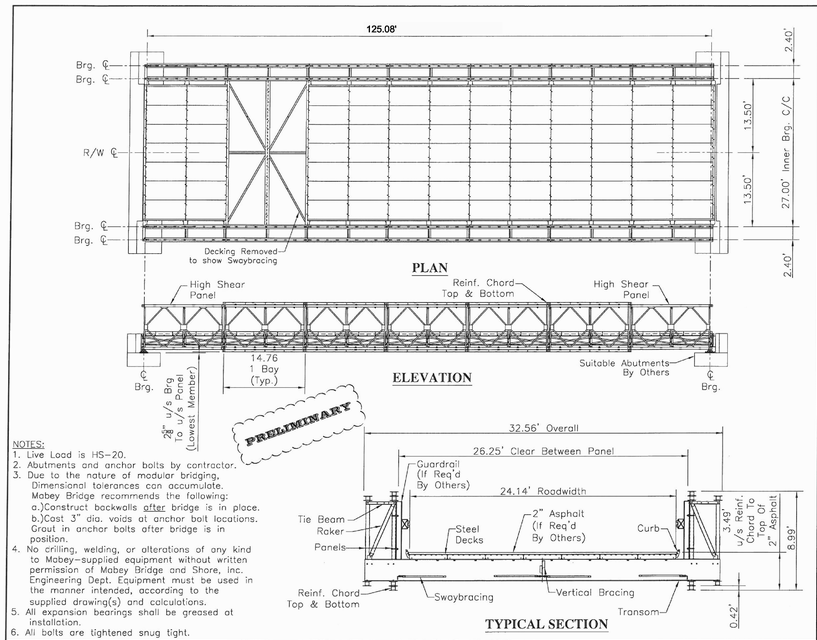
PROJECT NAME: WARREN
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: WAITSFIELD BRIDGE
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
PLOT FILE: WAITSFIELD BRIDGE
PLOT DATE: 27-JUL 2012
DRAWN BY: G. ROXES
CHECKED BY: M. EVANSMONGEON
SHEET 33A OF 19

ER-2.DWG

PRELIMINARY ARRANGEMENT ~ DSHR1H+ ~ 24'RW ~ 7 BAYS

JOB No.: BR0064512P01A | **DRAWN BY:** D.P. | **DATE:** 10-03-12

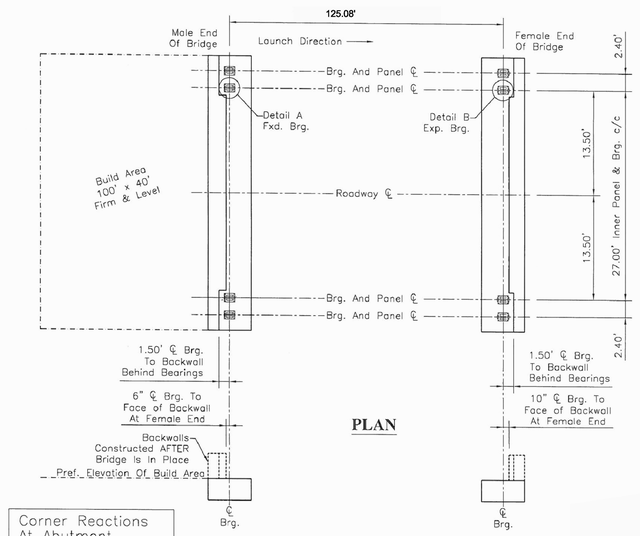


NOTES:
1. Live Load is HS-20.
2. Abutments and anchor bolts by contractor.
3. Due to the nature of modular bridging, Dimensional tolerances can accumulate. Mabey Bridge recommends the following:
   a.)Construct backwalls after bridge is in place.
   b.)Cast 3" dia. voids at anchor bolt locations. Grout in anchor bolts after bridge is in position.
4. No drilling, welding, or alterations of any kind to Mabey-supplied equipment without written permission of Mabey Bridge and Shore, inc. Engineering Dept. Equipment must be used in the manner intended, according to the supplied drawing(s) and calculations.
5. All expansion bearings shall be greased at installation.
6. All bolts are tightened snug tight.

MABEY MABEY BRIDGE AND SHORE INC. 6770 Dorsey Rd. Elkridge, Md. 21075 tel: (410)-379-2800 fax: (410)-379-2801

PRELIMINARY ABUTMENT LAYOUT ~ DSHR1H+ ~ 24'RW ~ 7 BAYS

JOB No.: BR0064512P01A | **DRAWN BY:** D.P. | **DATE:** 10-03-12



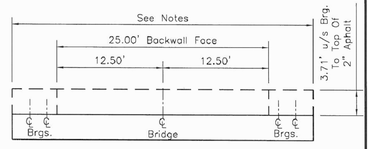
Corner Reactions At Abutment

	Min.	Max.
Dead	60	60
Live	90	75
Total	150	135

Reactions in Kips. 1 Kip = 1000 lbs.
Live Reactions (max. and min.) are concurrent. Difference is due to eccentricity of loading.
Exposed area of bridge (for calculating wind load) is 3.66 sq. ft. per ft.

NOTES:
1. Live Load is HS-20.
2. Abutments and anchor bolts by contractor.
3. Due to the nature of modular bridging, Dimensional tolerances can accumulate. Mabey Bridge recommends the following:
   a.)Construct backwalls after bridge is in place.
   b.)Cast 3" dia. voids at anchor bolt locations. Grout in anchor bolts after bridge is in position.
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5. All expansion bearings shall be greased at installation.
6. All bolts are tightened snug tight.

ELEVATION

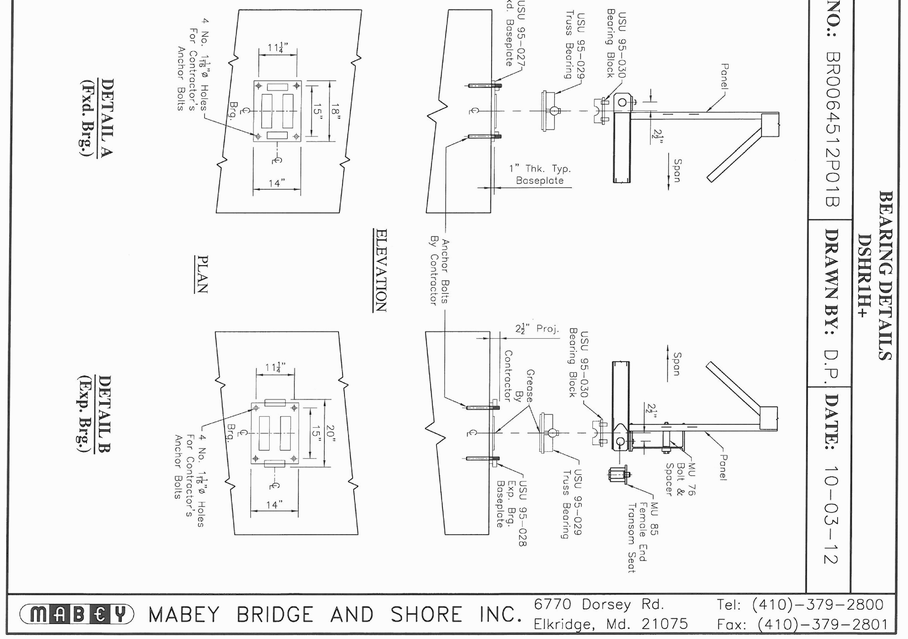


ABUTMENT ELEVATION

MABEY MABEY BRIDGE AND SHORE INC. 6770 Dorsey Rd. Elkridge, Md. 21075 Tel: (410)-379-2800 Fax: (410)-379-2801

BEARING DETAILS DSHR1H+

JOB NO.: BR0064512P01B | **DRAWN BY:** D.P. | **DATE:** 10-03-12



MABEY MABEY BRIDGE AND SHORE INC. 6770 Dorsey Rd. Elkridge, Md. 21075 Tel: (410)-379-2800 Fax: (410)-379-2801

Vermont Agency of Transportation
RECEIVED
ON: November 15, 2012
and Checked for
CONFORMANCE
BY: J. Lacroix DATE: 11/16/12

REVISED 11/08/12

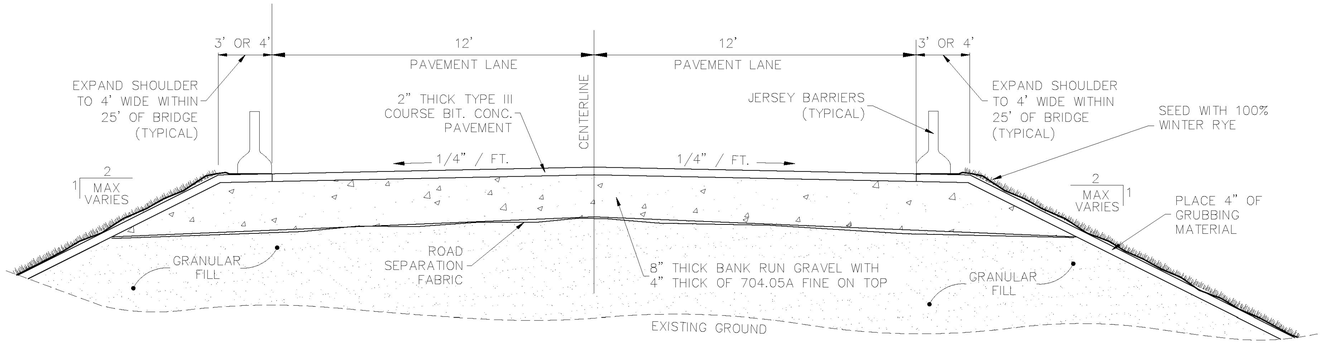
TEMPORARY BRIDGE DETAILS

PROJECT NAME: WARREN – BYPASS BRIDGE
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: WAITSFIELD BRIDGE
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
PLOT FILE: WAITSFIELD BRIDGE

PLOT DATE: 27-JUL 2012
DRAWN BY: G. ROXES
CHECKED BY: M. EVANSMONGEON
SHEET 33B OF 19

ER-2.DWG



1. INSTALL TOPSOIL, SEED AND EROSION MATTING ON SIDE SLOPES.
2. INSPECT SIDE SLOPES REGULARLY DURING AND AFTER RAINFALL EVENTS TO ENSURE NO SCOURING UNDER MATTING.

TEMPORARY BYPASS ROAD CROSS-SECTION

NTS

Basis of Design:

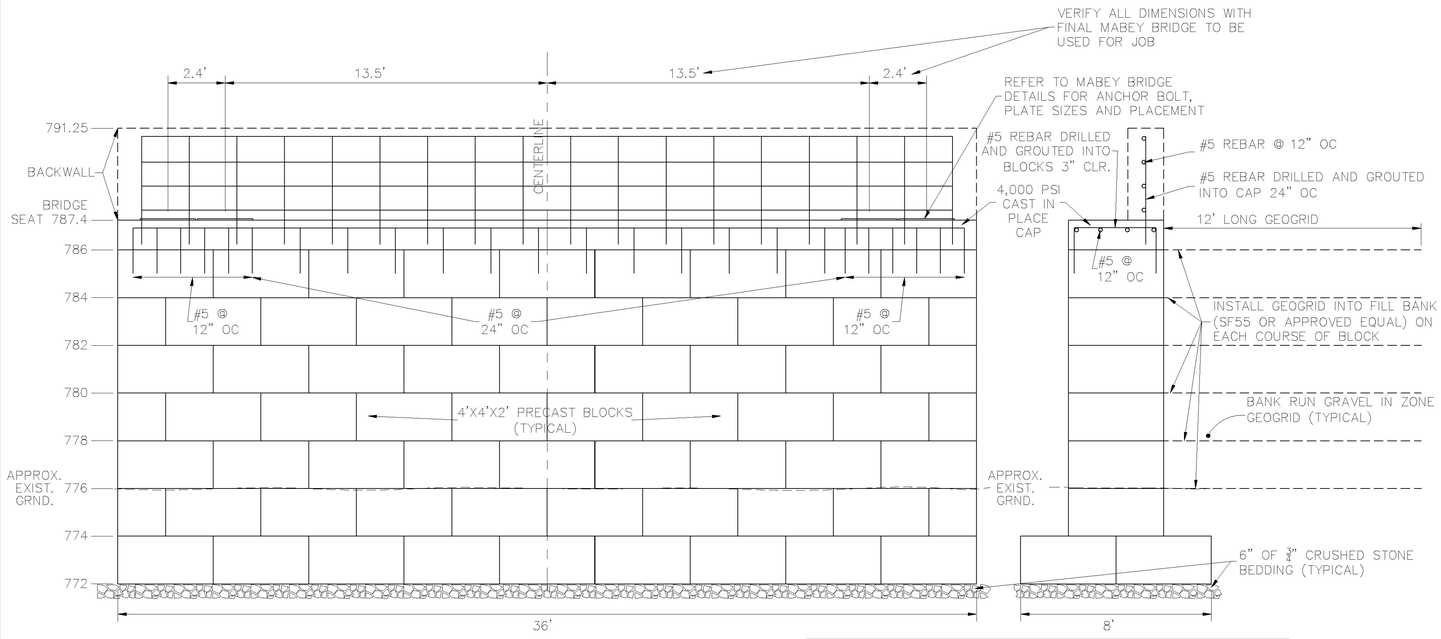
1. Live Load Criteria;
   - 1.1 HS-20 Loading
     - 1.1.1 8 kip front axle (6 ft. wheel spacing)
     - 1.1.2 32 kip rear axle (6 ft. wheel spacing) 14 feet back, then 14 ft. on center
     - 1.1.3 Wheel area 10' in direction of travel, 20' perpendicular to travel
   - 1.2 100 psf - Construction live load
2. Dead Loads
   - 2.1 Self weight
3. Temporary foundation bearing capacity - 3,000 psf on 6" layer of crushed stone
4. Temporary structure to be used from October 2012 to October 2013.

Reinforcing Notes:

1. Reinforcing steel: ASTM A615, 60 KSI yield grade; Deformed billete steel bars.
2. Stirrup steel: ASTM A82.
3. Welded steel wire fabric: ASTM A185 plain type: In flat sheets.
4. Tie wire: Minimum 16 gage annealed type.
5. Chairs, bolsters, bar supports, spacers: Sized and shaped for strength and support of reinforcement during concrete placement.
6. Maintain a minimum of 2 inches concrete cover around reinforcing.

Cast in Place Concrete Notes:

1. Perform work in accordance with ACI 301 standards and recommended practices.
2. Acquire cement and aggregate from same source for all work.
3. Conform to ACI 305R when concreting during hot weather.
4. Conform to ACI 306R when concreting during cold weather.
5. Cement: ASTM C150, Type I, Gray-Normal; Do not change source of manufacturer of cement during the course of the work.
6. Fine and coarse aggregaates: ASTM C33.
7. Water: Clean, potable and not detrimental to concrete.
8. Air entrainment: ASTM C260.
9. Chemical: ASTM C494 Type A - water reducing.
10. Non-shrink grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; Capable of developing minimum compressive strength of 2,400 psi in 48 hours and 7,000 psi in 28 days: Manufactured by five star products, Inc. or approved equivalent.
11. Epoxy injection system: Two-component injectable adhesive as manufactered by Hilti or approved equivalent.
12. Mix concrete in accordance with ACI 304. Deliver concrete in accordance with ASTM C94.
13. Concrete mixtures shall consist of the appropriate proportions of portland cement, water, coarse and fine aggregate, air entraining agent and water reducing agent for the intended application.
14. Concrete mix for pre-cast blocks and abutment caps:
    - 14.1 4,000 psi compressive strength at 28 days
    - 14.2 2-4 inch slump before addition of water reducer, 6-8 inches after the addition of water reducer
    - 14.3 5-7% Air Entrainment
15. Use accelerating admixtures in cold weather only when approved by architect/engineer. Use of admixtures will not relax cold weather placement requirements.
16. Use of calcium chloride shall not be permitted.
17. Use set retarding admixtures during hot weather only when approved by architect/engineer.
18. Place concrete in accordance with ACI 301, ACI 318 and ACI 304.
19. Ensure reinforcement, inserts, embedded parts, formed expansion and contraction joints are not disturbed during concrete placement.
20. Do not interrupt successive placement; Do not permit cold joints to occur.
21. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures and mechanical injury.
22. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
23. Cure floor surfaces in accordance with ACI 305, ACI 306 and ACI 308.

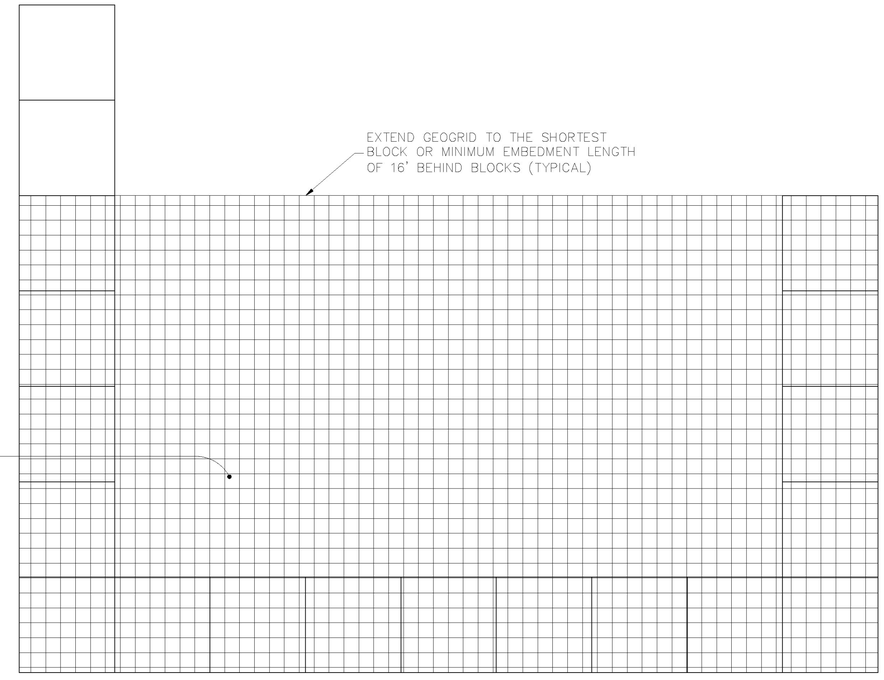


TEMPORARY BYPASS FOUNDATION DETAILS

NTS

NOTE:

1. TYPICAL NORTHERN ABUTMENT
2. SOUTHERN ABUTMENT BOTTOM OF BLOCK ELEVATION = 778.0



TOP GEOGRID VIEW

NTS

Vermont Agency of Transportation

RECEIVED

ON: November 15, 2012

and Checked for

CONFORMANCE

BY: J. Lacroix DATE: 11/16/12

REVISED 11/08/12

TEMPORARY BRIDGE ABUTMENT DETAILS

PROJECT NAME: WARREN – BYPASS BRIDGE

PROJECT NUMBER: BRF 013-4 (14)

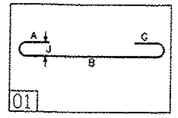
FILE NAME: WAITSFIELD BRIDGE
PROJECT LEADER: J. LACROIX
DESIGNED BY: U. STANLEY
PLOT FILE: WAITSFIELD BRIDGE

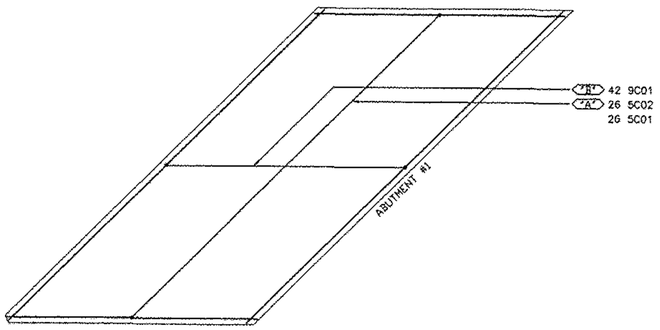
PLOT DATE: 27-JUL 2012
DRAWN BY: G. ROXES
CHECKED BY: M. EVANSMONGEON
SHEET 33C OF 19

ER-2.DWG

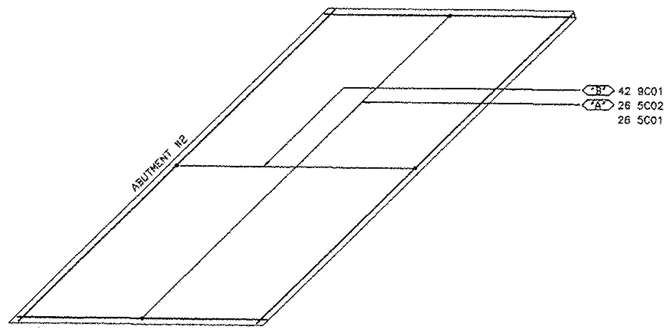
APPROACH SLAB A					BEND SCHEDULE											
Bar Mark	Qty	Size	Total Length	Type	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'K'	'O'	'R'
SC02	26	#5	30'-0"			30'-0"										
9C01	42	#9	25'-9"	1	1'-3"	24'-6"							0'-11 ¾"			
SC01	26	#5	15'-6"			15'-6"										

APPROACH SLAB B					BEND SCHEDULE											
Bar Mark	Qty	Size	Total Length	Type	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'K'	'O'	'R'
SC02	26	#5	30'-0"			30'-0"										
9C01	42	#9	25'-9"	1	1'-3"	24'-6"							0'-11 ¾"			
SC01	26	#5	15'-6"			15'-6"										

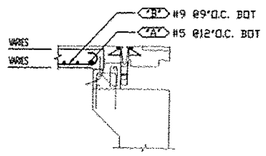




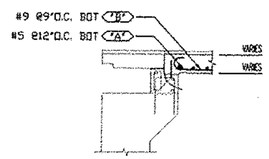
APPROACH SLAB #1 PLAN
CONTR. REF: APPROACH SLAB #1 PLAN



APPROACH SLAB #2 PLAN
CONTR. REF: APPROACH SLAB #2 PLAN



SECTION 1
REF: APPROACH SLAB #1 &BEGIN BRIDGE DETAIL/ 56 OF 83



SECTION 2
REF: APPROACH SLAB #1 &BEGIN BRIDGE DETAIL/ 56 OF 83

LEGENDS:
CONT-CONTINUOUS
TRANS-TRANSVERSE
DWLS-DOWELS
VERTS-VERTICAL
HORIZ-HORIZONTAL
T&B - TOP & BOTTOM
IF-INNER FACE
OF-OUTER FACE
EF-EACH FACE
EW-EACH WAY
O.C.-ON CENTER
LW-LONG WAY
SW-SHORT WAY

BLACK REINFORCING BAR-ASTM A615 GRADE 60
DUAL COATED BARS-ASTM A1055 (Z) BAR
DUAL COATED BAR DENOTED (Z)

ELEVATIONS & DIMENSIONS SHOWN ON THIS DWG. ARE FOR REINF. DETAILING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION.

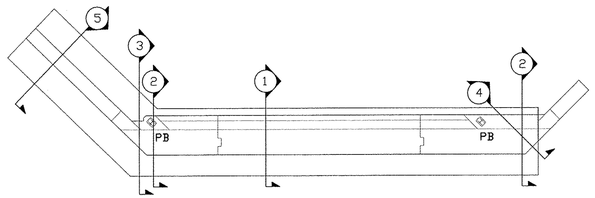
FOOTING AND HORIZ. WALL REINF. LAP=2'-2"

FOR FIELD USE

6			
5			
4			
3	6/19/13	⚠	DETAILER REVIEW/FOR RECORD
2	1/18/13	⚠	APPROVED AS NOTED/FOR APPROVAL
1	1/14/13	0	APPROVAL
	DATE	REV.#	SENT FOR

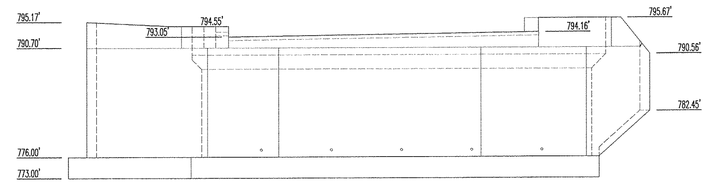
DIMENSION
DIMENSION FABRICATORS INC.
2000 7TH STREET
ROTAL, N.Y. 13303
PH: (518) 274-1506
FAX: (518) 374-4820
www.dimensionfabricators.com

STRUCTURE	VTAOT WARREN BRF 013-14(4)
LOCATION	WARREN, VERMONT
ARCHITECT	
ENGINEER	VERMONT AGENCY OF TRANSPORTATION
CUSTOMER	S.D. IRELAND CONCRETE CONSTR. GROUP
DRAWN BY: ASHLEE G.	DATE: 1/14/13
DRAWING CONTENTS: ABUTMENT 2 REINFORCING	DWG. #: 8387
	DRAWING #: C



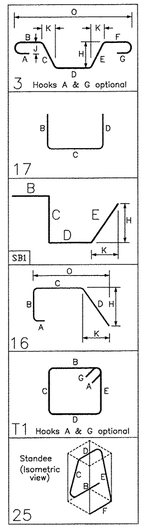
PLAN: ABUTMENT #1 & WINGWALLS #1 & #2

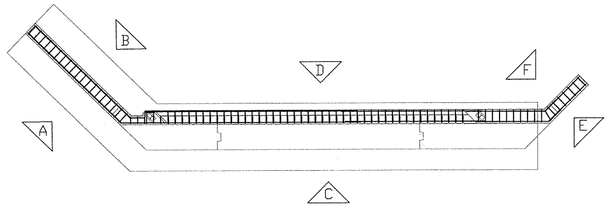
REF: ABUTMENT # 1 PLAN VIEW/ 50 of 83



ABUTMENT #1 & WINGWALLS #1 & #2 ELEVATION

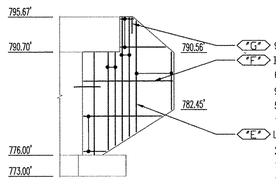
REF: ABUTMENT #1 ELEVATION/ 50 of 83





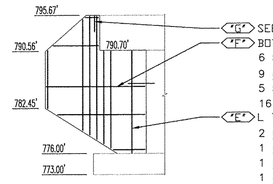
PLAN 3: ABUTMENT #1 & WINGWALLS #1 & #2 ABOVE SEAT

REF: WINGWALLS #1 & #2 CORNER DETAIL ABOVE SEAT/ 52 of 83



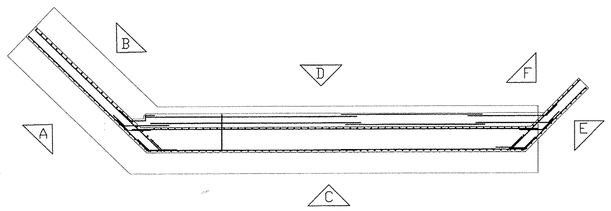
"G" 9 5A03
"F" BOT TO TOP
6 5A10 (a-f)
9 #5 X 12'-8"
5 5A11 (a-e)
16 5A02
"E" L TO R
2 #5 X 14'-6"
1 #5 X 13'-0"
1 #5 X 13'-7"
1 #5 X 14'-3"
1 #5 X 16'-9"
1 #5 X 17'-4"
6 5A14 (a-f)

WALL ELEVATION E



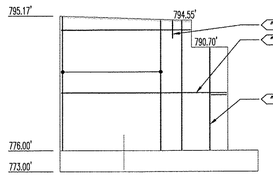
"G" SEE ELEVATION E
"F" BOT TO TOP
6 5A12 (a-f)
9 #5 X 14'-0"
5 5A11 (a-e)
16 5A02
"E" L TO R
2 #5 X 14'-6"
1 #5 X 13'-0"
1 #5 X 13'-7"
1 #5 X 14'-3"
1 #5 X 16'-9"
1 #5 X 17'-4"
6 5A14 (a-f)

WALL ELEVATION F



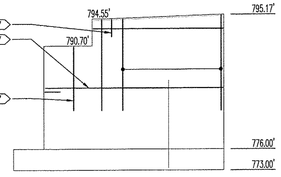
PLAN 2: ABUTMENT #1 & WINGWALLS #1 & #2 BELOW SEAT

REF: WINGWALLS #1 & #2 CORNER DETAIL BELOW SEAT/ 52 of 83



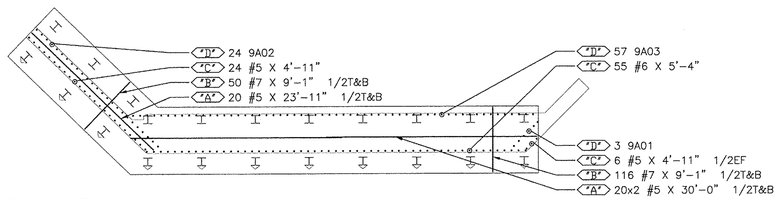
"H" 19 5A03
"F" BOT TO TOP
16 #5 X 23'-9"
16 5A02
4 #5 X 18'-6"
"E" R TO L
5 #5 X 14'-6"
3 #5 X 18'-4"
4x4 5A01 (a-d)

WALL ELEVATION A



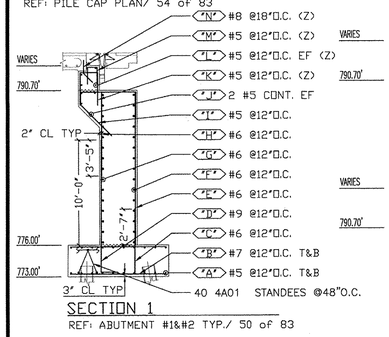
SEE ELEVATION A "H"
BOT TO TOP "F"
16 #5 X 25'-3"
16 5A02
4 #5 X 18'-11"
L TO R "G"
5 #5 X 9'-0"
3 #5 X 12'-10"
4x4 5A04 (a-d)

WALL ELEVATION B



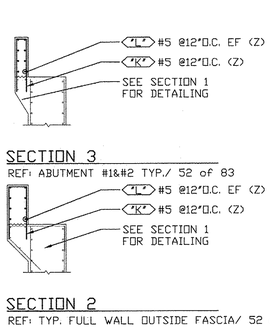
PLAN 1: PILE CAP

REF: PILE CAP PLAN/ 54 of 83



SECTION 1

REF: ABUTMENT #1&#2 TYP./ 50 of 83

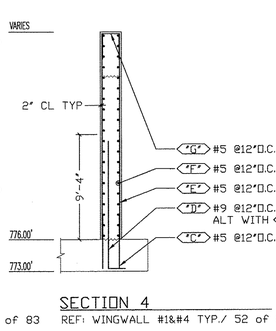


SECTION 3

REF: ABUTMENT #1&#2 TYP./ 52 of 83

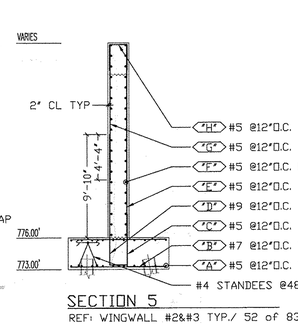
SECTION 2

REF: TYP. FULL WALL OUTSIDE FASCIA/ 52 of 83



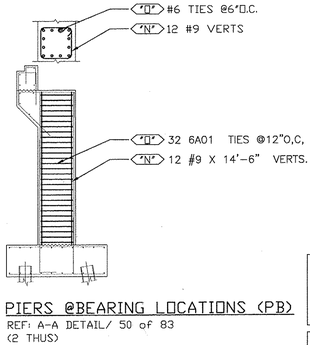
SECTION 4

REF: WINGWALL #1&#4 TYP./ 52 of 83



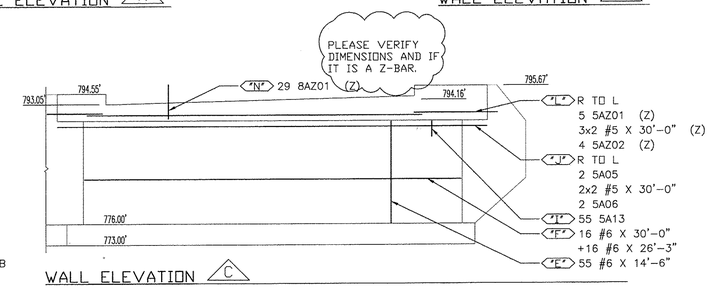
SECTION 5

REF: WINGWALL #2&#3 TYP./ 52 of 83

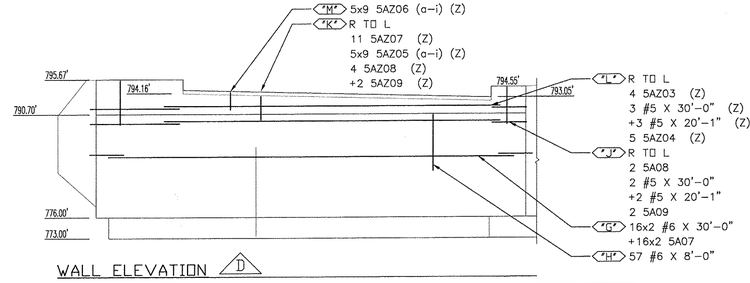


PIERS @BEARING LOCATIONS (PB)

REF: A-A DETAIL/ 50 of 83
(2 THUS)



WALL ELEVATION C



WALL ELEVATION D

Release Number: 101					BEND SCHEDULE												
Bar Mark	Qty	Size	Total Length	Type	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'K'	'O'	'R'
4A01	40	#4	9'-3 K"	25		1'-6"	2'-4 K"	1'-6"	2'-4 K"	1'-6"		2'-4"		1'-2"		
5A01a	4	#5	18'-5"			18'-5"										
Varies To																
5A01d	4	#5	18'-10"			18'-10"										
5A02	64	#5	4'-4"	3		2'-2"	2'-2"					1'-6"		1'-7"	3'-9"	
5A03	28	#5	6'-0"	17		2'-2"	1'-8"	2'-2"								
5A04a	4	#5	12'-11"			12'-11"										
Varies To																
5A04d	4	#5	13'-4"			13'-4"										
5A05	2	#5	12'-8 K"	3		10'-4"	2'-2 K"					1'-7"		1'-7"	11'-11"	
5A06	2	#5	8'-6"	3		6'-4"	2'-2"					1'-6"		1'-7"	7'-11"	
5A07	32	#5	5'-8 K"	3		3'-4"	2'-2 K"					1'-7"		1'-7"	4'-11"	
5A08	2	#5	6'-3"	SB1		1'-3"	0'-9"	2'-1"	2'-2"			1'-6"		1'-7"		
5A09	2	#5	13'-4 K"	3		11'-2"	2'-2 K"					1'-7"		1'-7"	12'-9"	
5A10a	1	#5	3'-2"			3'-2"										
Varies To																
5A10f	1	#5	11'-1"			11'-1"										
5A11a	2	#5	1'-10"			1'-10"										
Varies To																
5A11e	2	#5	6'-5"			6'-5"										
5A12a	1	#5	4'-6"			4'-6"										
Varies To																
5A12f	1	#5	12'-5"			12'-5"										
5A13	55	#5	12'-11 K"	16	2'-2"	5'-3"	1'-3 K"	4'-2 K"				3'-0"		3'-0"	4'-3 K"	
5A14a	2	#5	7'-11"			7'-11"										
Varies To																
5A14f	2	#5	15'-5"			15'-5"										
6A01	64	#6	13'-0"	T1	0'-8"	2'-11"	2'-11"	2'-11"	2'-11"		0'-8"					
9A01	3	#9	13'-8"	17		1'-7"	12'-1"									
9A02	24	#9	14'-2"	17		1'-7"	12'-7"									
9A03	57	#9	14'-4"	17		1'-7"	12'-9"									

Release Number: 201					BEND SCHEDULE												
Bar Mark	Qty	Size	Total Length	Type	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'K'	'O'	'R'
5A201	5	#5	12'-6 K"	3		10'-4"	2'-2 K"					1'-7"		1'-7"	11'-11"	
5A202	4	#5	8'-6"	3		6'-4"	2'-2"					1'-6"		1'-7"	7'-11"	
5A203	4	#5	6'-3"	SB1		1'-3"	0'-9"	2'-1"	2'-2"			1'-6"		1'-7"		
5A204	5	#5	13'-4 K"	3		11'-2"	2'-2 K"					1'-7"		1'-7"	12'-9"	
5A205a	5	#5	8'-4"	17		3'-4"	1'-8"	3'-4"								
Varies To																
5A205f	5	#5	10'-3"	17		4'-3 K"	1'-8"	4'-3 K"								
5A206a	5	#5	5'-3"	17		2'-2"	0'-11"	2'-2"								
Varies To																
5A206f	5	#5	7'-3"	17		3'-2"	0'-11"	3'-2"								
5A207	11	#5	12'-2"	17		5'-3"	1'-8"	5'-3"								
5A208	4	#5	13'-6"	17		6'-3 K"	0'-11"	6'-3 K"								
5A209	2	#5	14'-3"	17		6'-3 K"	1'-8"	6'-3 K"								
8A201	29	#8	2'-5"	3		1'-3"	1'-2"					0'-10"		0'-10"	2'-1"	

Vermont Agency of Transportation

RECEIVED

s76342 Attachment 1 Reinforcing 1_14_13_revsns.pdf

CK'D BY C. Burrall OK'D BY C. Burrall

January 14, 2013

RESUBMIT NO **Approved AsNoted**

BY J. Lacroix DATE 01/17/13

FOR APPROVAL

LEGENDS:
CONT-CONTINUOUS
TRANS-TRANSVERSE
DWLS-DOWELS
VERTS-VERTICAL
HORIZ-HORIZONTAL
T&B -TOP & BOTTOM
IF-INNER FACE
OF-OUTER FACE
EF-EACH FACE
EW-EACH WAY
O.C.-ON CENTER
LW-LONG WAY
SW-SHORT WAY
(Z)-Z-BAR

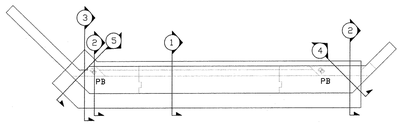
ELEVATIONS & DIMENSIONS SHOWN ON THIS DWG. ARE FOR REINF. DETAILING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION.

FOOTING AND HORIZ. WALL REINF. LAP=2'-2"

6			
5			
4			
3			
2			
1	1/14/13	0	APPROVAL
	DATE	REV.#	SENT FOR

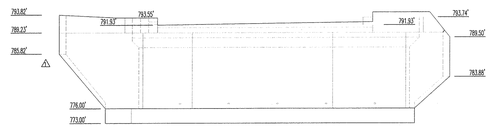
DIMENSION
DIMENSION FABRICATORS INC.
2000 7TH STREET
SCOTIA, N.Y. 12302
PH: (518) 374-1538
FAX: (518) 374-4830
www.dimensionfabricators.com

STRUCTURE	VTAOT WARREN BRF 013-14(4)
LOCATION	WARREN, VERMONT
ARCHITECT	
ENGINEER	VERMONT AGENCY OF TRANSPORTATION
CUSTOMER	S.D. IRELAND CONCRETE CONSTR. GROUP
DRAWN BY	ASHLEE G.
DATE	1/14/13
DR. #	8387
DRAWING CONTENTS	ABUTMENT 1 REINFORCING
DRAWING #	A



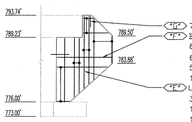
PLAN: ABUTMENT #2 & WINGWALLS #3 & #4

REF: ABUTMENT # 2 PLAN VIEW/ 50 of 83



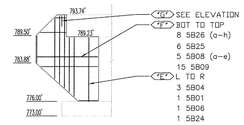
ABUTMENT #2 & WINGWALLS #3 & #4 ELEVATION

REF: ABUTMENT #1 ELEVATION/ 50 of 83



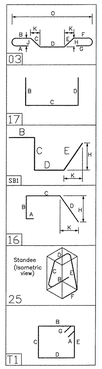
WALL ELEVATION E

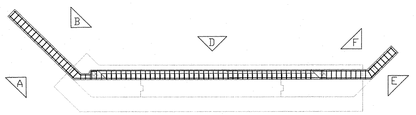
REF: WING WALL 4



WALL ELEVATION F

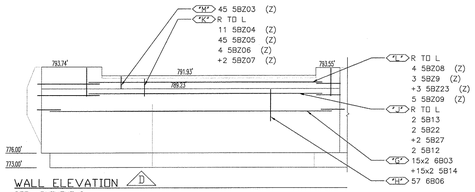
REF: WING WALL 4





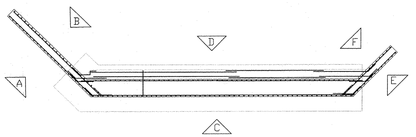
PLAN 3: ABUTMENT #2 & WINGWALLS #3 & #4 ABOVE SEAT

REF: WINGWALLS #1 & #2 CORNER DETAIL ABOVE SEAT/ 52 of 83



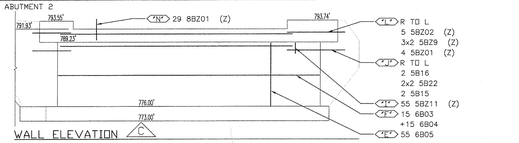
WALL ELEVATION D

REF: ABUTMENT 2



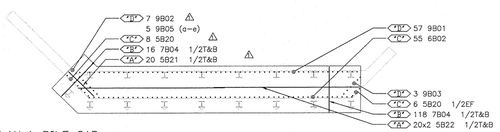
PLAN 2: ABUTMENT #2 & WINGWALLS #3 & #4 BELOW SEAT

REF: WINGWALLS #1 & #2 CORNER DETAIL BELOW SEAT/ 52 of 83



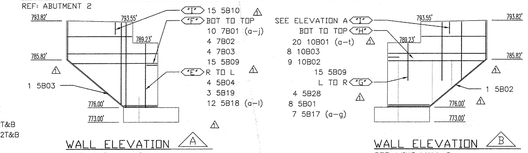
WALL ELEVATION C

REF: ABUTMENT 2



PLAN 1: PILE CAP

REF: PILE CAP PLAN/ 54 of 83

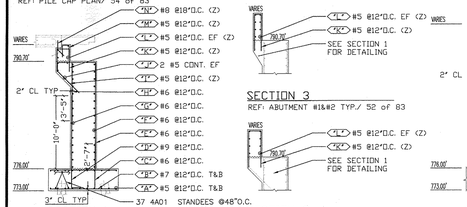


WALL ELEVATION A

REF: WING WALL 3

WALL ELEVATION B

REF: WING WALL 3

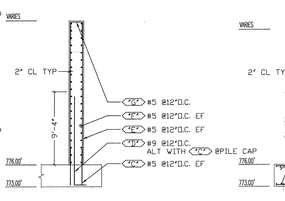


SECTION 1

REF: ABUTMENT #1&#2 TYP./ 50 of 83

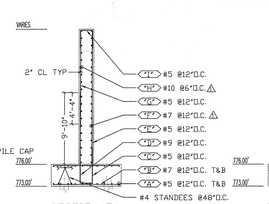
SECTION 3

REF: ABUTMENT #1&#2 TYP./ 52 of 83



SECTION 2

REF: TYP. FULL WALL OUTSIDE FASCIA/ 52 of 83

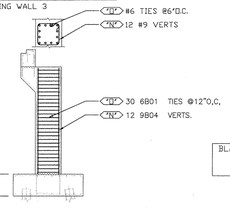


SECTION 4

REF: WINGWALL #1&#4 TYP./ 52 of 83

SECTION 5

REF: WINGWALL #2&#3 TYP./ 52 of 83



PIERS @BEARING LOCATIONS (PB)

REF: A-A DETAIL/ 50 of 83

(2 THUS)

BEND SCHEDULE

ABUTMENT 2

Bar Mark	Qty	Size	Total Length	Type	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'K'	'L'	'M'
4A01	37	#4	9'-3.5"	25		1'-6"	2'-4.5"	1'-6"	2'-4.5"	1'-6"		2'-6"		1'-2"		
5B13	2	#5	12'-4.5"	3		11'-7"	2'-2.5"					1'-7"		1'-7"	12'-6"	
5B13	2	#5	6'-.5"	33		1'-3"	6'-9"	2'-1"	2'-3"			1'-6"		1'-7"		
5B14	30	#5	5'-4.5"	3		3'-6"	2'-2.5"					1'-7"		1'-7"	6'-11"	
5B15	2	#5	8'-6"	3		6'-6"	2'-2"					1'-6"		1'-7"	7'-11"	
5B16	2	#5	12'-6.5"	3		10'-6"	2'-2.5"					1'-7"		1'-7"	11'-11"	
5B22	48	#5	30'-6"			30'-6"										
5B27	2	#5	28'-1"			28'-1"										
6B01	60	#6	15'-6"	13	6'-8"	2'-11"	2'-11"	2'-11"	2'-11"		6'-8"					
6B02	118	#6	5'-6"			5'-6"										
6B03	45	#6	30'-0"			30'-0"										
6B04	110	#6	28'-1"			28'-1"										
6B05	55	#6	13'-0"			13'-0"										
6B06	57	#6	6'-6"			6'-6"										
7B04	1148	#7	9'-1"			9'-1"										
9B01	57	#9	14'-6"	17		1'-7"	12'-6"									
9B04	24	#9	13'-6"			13'-6"										

BEND SCHEDULE

WING WALL 3

Bar Mark	Qty	Size	Total Length	Type	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'K'	'L'	'M'
5B01	1	#5	13'-6"			13'-6"										
5B02	1	#5	22'-1.5"	3		13'-7"	8'-5.5"					5'-5"		6'-6"	21'-6"	
5B03	1	#5	22'-6.5"	3		13'-7"	8'-10.5"					4'-5"		5'-5"	20'-5"	
5B04	4	#5	13'-6"			13'-6"										
5B09	30	#5	6'-6"	3		5'-7"	2'-2"					1'-6"		1'-7"	5'-8"	
5B10	15	#5	6'-6"	17		5'-7"	1'-6"	2'-5"								
5B17a	1	#5	7'-6"			7'-6"										
Varies To																
5B17b	1	#5	13'-6"			13'-6"										
5B18a	1	#5	7'-6"			7'-6"										
Varies To																
5B18	1	#5	16'-6"			16'-6"										
5B19	3	#5	13'-6"			13'-6"										
5B20	16	#5	4'-11"			4'-11"										
5B21	20	#5	7'-2"			7'-2"										
5B28	4	#5	7'-2"			7'-2"										
7B04	1	#7	13'-2"			13'-2"										
Varies To																
7B11	1	#7	13'-2"			13'-2"										
7B02	4	#7	18'-2"			18'-2"										
7B03	4	#7	13'-6"			13'-6"										
7B04	16	#7	9'-1"			9'-1"										
9B02	7	#9	14'-6"	17		1'-7"	12'-6"									
9B05a	1	#9	5'-10"			5'-10"										
Varies To																
9B12a	1	#9	8'-5"			8'-5"										
10B01a	1	#10	8'-5"			8'-5"										
Varies To																
10B01	1	#10	19'-5"			19'-5"										
10B02	10	#10	13'-10"			13'-10"										
10B03	8	#10	20'-1"			20'-1"										

BEND SCHEDULE

WING WALL 4

Bar Mark	Qty	Size	Total Length	Type	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'K'	'L'	'M'
5B01	3	#5	13'-6"			13'-6"										
5B04	6	#5	13'-6"			13'-6"										
5B05	2	#5	13'-10"			13'-10"										
5B06	2	#5	11'-1"			11'-1"										
5B07a	2	#5	5'-5"			5'-5"										
Varies To																
5B07c	2	#5	12'-5"			12'-5"										
5B08a	2	#5	2'-1"			2'-1"										
Varies To																
5B08b	2	#5	5'-11"			5'-11"										
5B09	30	#5	6'-6"	3		5'-7"	2'-2"					1'-6"		1'-7"	5'-8"	
5B10	7	#5	6'-6"	17		5'-7"	1'-6"	2'-5"								
5B11a	1	#5	2'-6"			2'-6"										
Varies To																
5B11b	1	#5	10'-5"			10'-5"										
5B23	6	#5	6'-11"			6'-11"										
5B13	6	#5	11'-2"			11'-2"										
5B24	2	#5	14'-6"			14'-6"										
5B25	6	#5	12'-6"			12'-6"										
5B26a	1	#5	3'-10"			3'-10"										
Varies To																
5B26b	1	#5	11'-1"			11'-1"										
9B03	3	#9	13'-6"	17		1'-7"	12'-1"									

C-BAR REINFORCING

BEND SCHEDULE

Bar Mark	Qty	Size	Total Length	Type	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'K'	'L'	'M'
5B201	4	#5	8'-6"	3		6'-9"	2'-2"					1'-6"		1'-7"	7'-11"	
5B202	5	#5	10'-6.5"	3		10'-6"	2'-2.5"					1'-7"		1'-7"	11'-11"	
5B203	40	#5	5'-6"	17		3'-6"	2'-6"	2'-6"								
5B204	11	#5	13'-6"	17		5'-6"	1'-6"	5'-6"								
5B205	45	#5	6'-6"	17		3'-6"	1'-6"	2'-6"								
5B206	4	#5	15'-7"	17		5'-10"	6'-11"	5'-10"								
5B207	2	#5	13'-6"	17		5'-10"	1'-6"	5'-10"								
5B28	4	#5	6'-2"	581		1'-0"	1'-6"	2'-1"	2'-0"			1'-6"		1'-7"		
5B208	5	#5	11'-4.5"	3		11'-7"	2'-2.5"					1'-7"		1'-7"	10'-6"	
5B211	55	#5	11'-3.5"	17	6'-10"	1'-7"	1'-6.5"	4'-2.5"				2'-6"		2'-6"	6'-3.5"	
5B223	3	#5	28'-1"			28'-1"										
5B29	3	#5	30'-6"			30'-6"										
8B201	29	#8	9'-4"	3		1'-7"	5'-7"					8'-10"		8'-10"	8'-7"	

LEGENDS:
CONT-CONTINUOUS
TRANS-TRANSVERSE
DWLS-DOWELS
VERTS-VERTICAL
HORIZ-HORIZONTAL
T&B-TOP & BOTTOM
IF-INNER FACE
OF-OUTER FACE
EF-EACH FACE
EW-EACH WAY
O.C.-ON CENTER
LW-LONG WAY
SW-SHORT WAY

BLACK REINFORCING BAR-ASTM A615 GRADE 60
DUAL COATED BARS-ASTM A1055 (Z) BAR
DUAL COATED BAR DENOTED (Z)

ELEVATIONS & DIMENSIONS SHOWN ON THIS DWG. ARE FOR REINF. DETAILING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION.

FOOTING AND HORIZ. WALL REINF. LAP=2'-2"

Now 4/20/13

FOR FIELD USE

6	6/5/13	⚠	DETAILER REVIEW/FOR RECORD
5	5/28/13	⚠	ADJUSTMENT PER CONTRACTOR FOR RECORD
4			
3	3/25/13	⚠	APPROVED AS NOTED
2	2/28/13	⚠	CONTRACT CHANGES/FOR APPROVAL
1	1/14/13	0	APPROVAL
	DATE	REV.#	SENT FOR

DIMENSION
DIMENSION FABRICATORS INC.
3000 7TH STREET
BOX 7 N. TROY
VT. 05860
TEL: (802) 744-6800
FAX: (802) 744-6825
www.dimensionfabricators.com

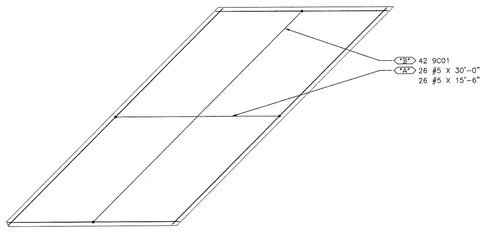
STRUCTURE	VTAOT WARREN BRF 013-14(4)
LOCATION	WARREN, VERMONT
ARCHITECT	
ENGINEER	VERMONT AGENCY OF TRANSPORTATION
CUSTOMER	S.D. IRELAND CONCRETE CONSTR. GROUP
DRAWN BY	ASHLEE G.
DATE	1/14/13
BY #	8387
DRAWING COVERS	ABUTMENT 2 REINFORCING
DRAWING #	B

Member Title : APPROACH SLAB REINFORCING

BEND SCHEDULE

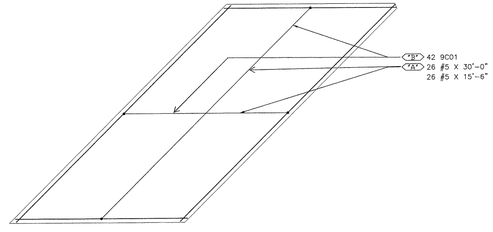
Bar Mark	Qty	Size	Total Length	Type	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'K'	'O'	'R'
9001	846	#9	25'-9"	1	1'-3"	24'-6"								0'-11 K"		





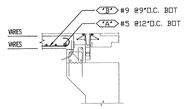
APPROACH SLAB #1 PLAN

CONTR. REF: APPROACH SLAB #1 PLAN



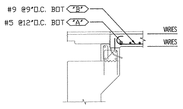
APPROACH SLAB #2 PLAN

CONTR. REF: APPROACH SLAB #2 PLAN



SECTION 1

REF: APPROACH SLAB #1 &BEGIN BRIDGE DETAIL/ S6 OF 83



SECTION 2

REF: APPROACH SLAB #1 &BEGIN BRIDGE DETAIL/ S6 OF 83

PLEASE VERIFY IF APPROACH SLABS ARE BLACK BAR OR Z-BAR.

Reinforcing steel in approach slabs should be Reinforcing Steel, Level I.

LEGENDS:
CONT-CONTINUOUS
TRANS-TRANSVERSE
DWLS-DOWELS
VERTS-VERTICAL
HORIZ-HORIZONTAL
T&B -TOP & BOTTOM
IF-INNER FACE
OF-OUTER FACE
EF-EACH FACE
EW-EACH WAY
O.C.-ON CENTER
LW-LONG WAY
SW-SHORT WAY
(Z)-Z-BAR

ELEVATIONS & DIMENSIONS SHOWN ON THIS DWG ARE FOR REINF. DETAILING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION.

FOOTING AND HORIZ. WALL REINF. LAP=2'-2"

Vermont Agency of Transportation

RECEIVED

CK'D BY C. BURRALL OK'D BY C. BURRALL

January 14, 2013

RESUBMIT NO **Approved AsNoted**

BY J. LACROIX DATE 01/17/13

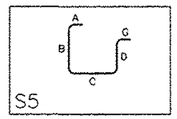
FOR APPROVAL

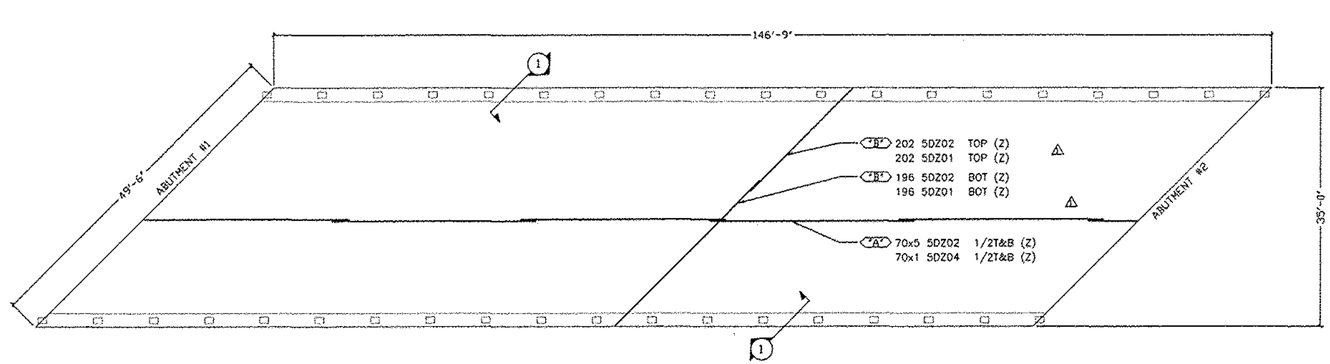
	DATE	REV.#	SENT FOR
6			
5			
4			
3			
2			
1	1/14/13	0	APPROVAL

DIMENSION FABRICATORS INC.
5000 7TH STREET
TROY, N.Y. 12182
PH: (518) 274-1838
FAX: (518) 274-1839
www.dimensionfabricators.com

STRUCTURE	VTAOT WARREN BRF 013-14(4)
LOCATION	WARREN, VERMONT
ARCHITECT	
OWNER	VERMONT AGENCY OF TRANSPORTATION
CUSTOMER	S.D. IRELAND CONCRETE CONSTR. GROUP
DRAWN BY	ASHLEE G.
DATE	1/14/13
SH. #	8387
DRAWING COVERS	APPROACH SLABS
DRAWING #	C

Release Number: 400					BEND SCHEDULE											
Bar Mark	Qty	Size	Total Length	Type	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'K'	'O'	'R'
5DZ02	778	#5	30'-0"			30'-0"										
5DZ03	446	#5	4'-8"	S5	0'-6"	1'-0"	1'-8"	1'-0"			0'-6"					
5DZ04	76	#5	7'-3"			7'-3"										
5DZ01	388	#5	21'-4"			21'-4"										





DECK SLAB AND CURB PLAN
CONTR. REF: PLAN/SHEET 49 OF 83

LEGENDS:
CONT-CONTINUOUS
TRANS-TRANSVERSE
DWLS-DOWELS
VERTS-VERTICAL
HORIZ-HORIZONTAL
T&B -TOP & BOTTOM
IF-INNER FACE
OF-OUTER FACE
EF-EACH FACE
EW-EACH WAY
O.C.-ON CENTER
LW-LONG WAY
SW-SHORT WAY

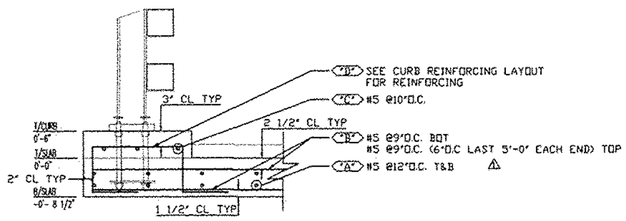
NOTE: ALL REINFORCING ON THIS DRAWING IS DUAL COATED.

DUAL COATED BARS-ASTM A1055 (Z) BAR
DUAL COATED BAR DENOTED (Z)

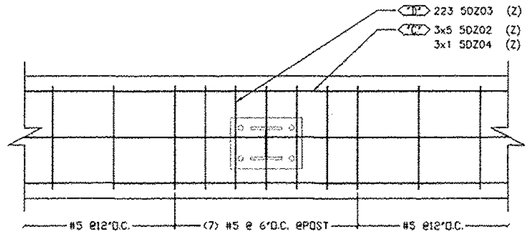
ELEVATIONS & DIMENSIONS SHOWN ON THIS DWG. ARE FOR REINF. DETAILING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION.

DECK REINFORCING LAP
#5=2'-2"

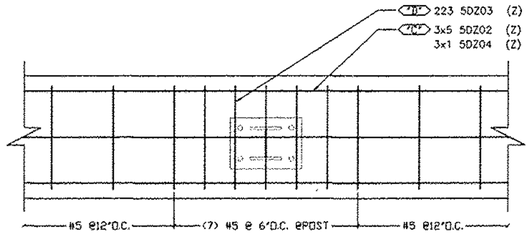
FOR FIELD USE



SECTION 1
REF: DECK CURB REINFORCING SECTION/ 57 OF 83
REF: ENLARGED VIEW OF DECK CROSS SECTION/ 6a OF 59



DECK CURB LAYOUT SIDE A
REF: DECK CURB REINFORCING LAYOUT PLAN DETAIL/ 57 OF 83

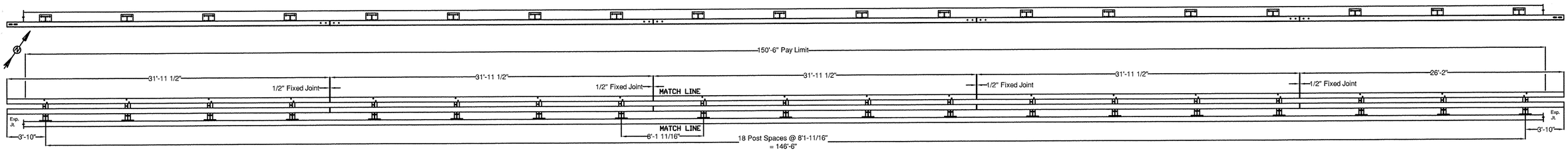


DECK CURB LAYOUT SIDE B
REF: DECK CURB REINFORCING LAYOUT PLAN DETAIL/ 57 OF 83

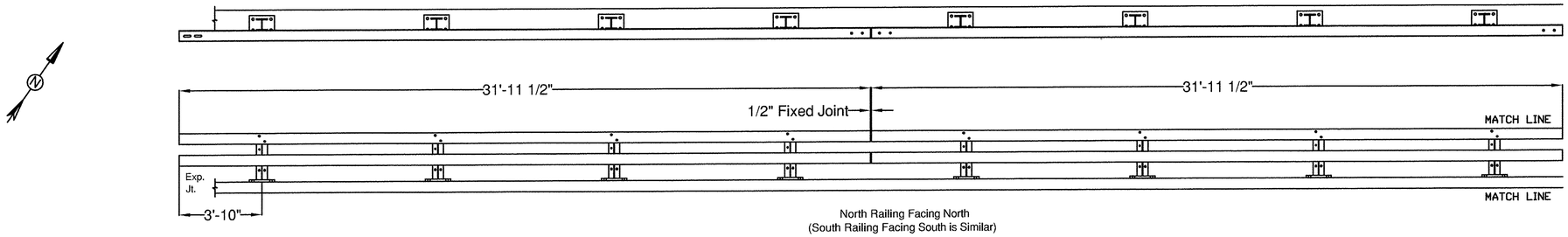
6			
5			
4			
3	6/19/13	⚠	DETAILER REVIEW/FOR RECORD
2	6/18/13	⚠	APPROVED AS NOTED/FOR RECORD
1	6/11/13	0	APPROVAL
	DATE	REV.#	SENT FOR

DIMENSION
DIMENSION FABRICATORS INC.
2900 7TH STREET
ROCHELLE, IL 61068
PH: (815) 374-1636
FAX: (815) 374-1820
www.dimensionfabricators.com

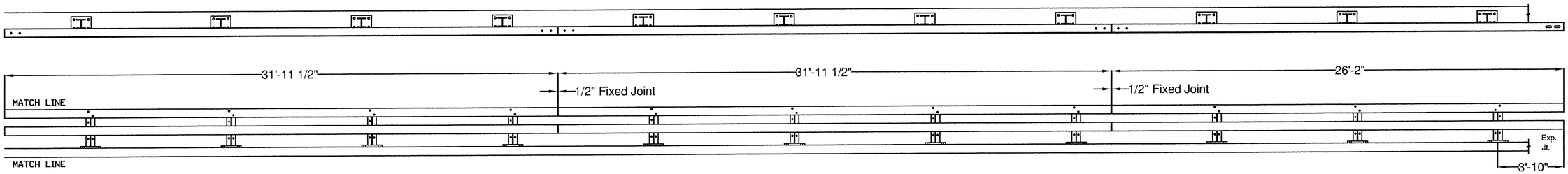
STRUCTURE	VTAOT WARREN BRF 013-14(4)
LOCATION	WARREN, VERMONT
ARCHITECT	
ENGINEER	VERMONT AGENCY OF TRANSPORTATION
CUSTOMER	S.D. IRELAND CONCRETE CONSTR. GROUP
DRAWN BY	ASHLEE G.
DATE	6/11/13
JOB #	8387
DRAWING CONTENTS	DECK SLAB AND DECK CURB REINFORCING
DRAWING #	D



North Railing Facing North
(South Railing Facing South is Similar)



North Railing Facing North
(South Railing Facing South is Similar)



BILL OF MATERIAL		
QTY	DESCRIPTION	ASTM DESIGNATION
38	TWO RAIL POST @ 2'-3" O.A. (W6x25)	A572 Gr. 50
16	6" X 6" X 3/16" RAIL @ 31'-11 1/2"	A500 Gr. B
4	6" X 6" X 3/16" RAIL @ 26'-2"	A500 Gr. B
16	5" X 5" X 5/16" FIX. SPLICE TUBE @ 2'-3"	A500 Gr. B, A36
8	5" X 5" X 5/16" EXP. SPLICE TUBE @ 3'	A500 Gr. B, A36
38	3/8" X 10" X 14" ANCHOR PLATES	A36
152	ø 1" X 18" FULL THREADED ANCHOR STUDS	A449
608	ø 1" HEAVY HEX NUTS	A563
608	ø 1" FLAT WASHERS	F436
76	ø 7/8" X 8" ROUND HEAD BOLT, NUT, WASHER, L.W.	A449, A563, F436, ASME B18.21.1
38	ø 3/4" X 8" HEX BOLT, NUT, (2) F.W., & L.W.	A325, A563, F436, & ASME B18.21.1
76	ø 3/4" X 2-3/4" HEX BOLT, NUT, (2) F.W., & L.W.	A325, A563, F436, & ASME B18.21.1
96	ø 3/4" X 7-1/2" HEX BOLT, NUT, & (2) F.W.	A325, A563, & F436
38	ø 5/8" X 1-1/2" HEX BOLT, NUT, & (2) F.W.	A325, A563, & F436
38	L5" X 5" X 5/8" RAILING ANGLE	A572 Gr.50 CVN
10	DELINEATORS, .10 THICK (5 Each North & South)	Not to be Supplied by Elderlee, Inc.

GENERAL NOTES:

1) ALL RAILING IS TO BE FABRICATED AND ERECTED ACCORDING TO SECTION 525 OF THE STANDARD SPECIFICATIONS.
2) PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/16".
3) BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB).
4) RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING THE END OF AN INTEGRAL ABUTMENT BRIDGE AND AT ALL SUPER STRUCTURE EXPANSION JOINTS. EXPANSION JOINT WIDTH SHALL BE 4"@ 68°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
5) RETROREFLECTIVE MATERIAL SHALL MEET THE REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE A .063" ALUMINUM BACKING WHITE OR YELLOW REFLECTOR. WHITE IS TO BE INSTALLED ON THE DRIVERS RIGHT. FOR ONE WAY BRIDGES , YELLOW IS TO BE INSTALLED ON THE DRIVERS LEFT.
6) PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.
7) THE MINIMUM DISTANCE FROM THE POST TO AN EXPANSION JOINT SHALL BE DETERMINED BY THE MINIMUM EDGE DISTANCE OF 5" FROM ANY ANCHOR STUD TO THE END OF THE SLAB, OR THE EXPANSION JOINT RECESS POUR, IF ONE IS USED.
8) THE MAXIMUM CENTER TO CENTER SPACING OF BRIDGE RAIL POST IS 8' 3".
9) STD. SPLICE HOLES ONLY IN BRIDGE RAIL TUBES. REST TO BE DRILLED BY CUSTOMER.

Vermont Agency of Transportation
RECEIVED
CK'D BY M. LONGSTREET OK'D BY MCL
January 29, 2013
RESUBMIT NO Approved
BY J. LACROIX DATE 01-30-2013

ITEM #: 900.640 GEN CONTR: F.R. Lafayette - Warren

SHEET 1 OF 2

APPROVED BY:

Galvanized 2-Rail Curb Mounted Bridge Rail

WARREN BRF 013-4 (14) VERMONT ROUTE 100 (MINOR ARTERIAL) - BR NO. 173
TOWN OF WARREN, WASHINGTON COUNTY, VT

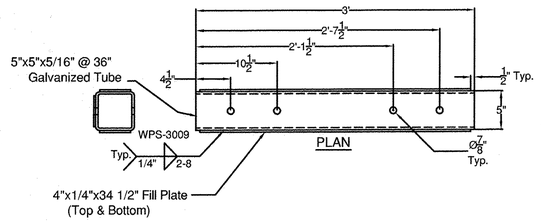
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	1	1/28/13	REVISED PER 12/12/12 MARK-UP	E.P.

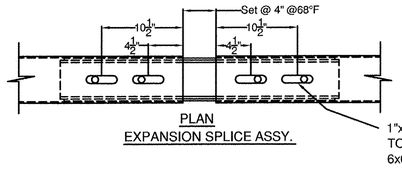
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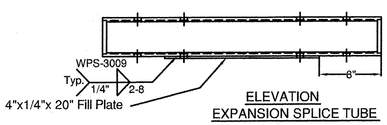
ELDERLEE, INC.
OAKS CORNERS, NEW YORK 14518
E-Mail: dlong@elderlee.com
Tel:315-789-6670 Fax:315-789-6615

CERTIFIED FABRICATOR

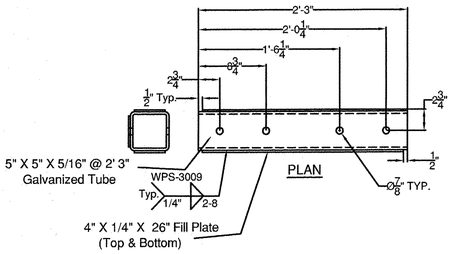
DRAWN	D.L.	12/05/12
CHECKED	E.P.	12/05/12
APPROVED	M.V.	.
SCALE	SCHEMATIC	
DRAWING NO.	FR Lafayette - WARREN-B	

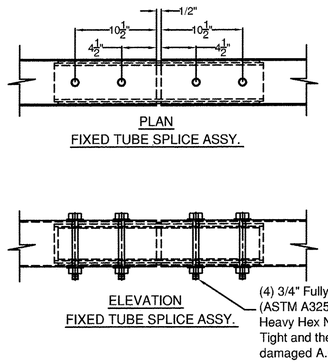


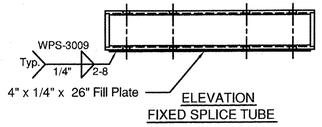




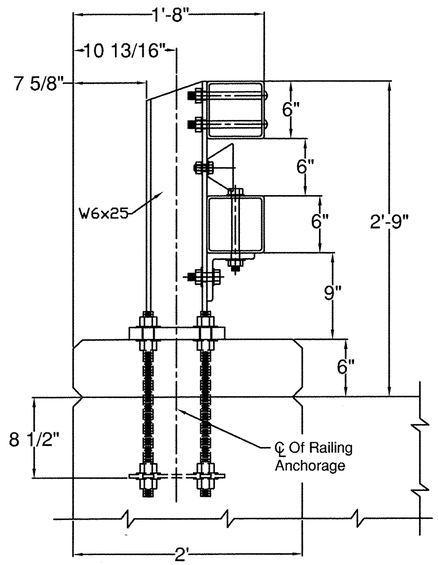
SPLICE TUBE - EXPANSION



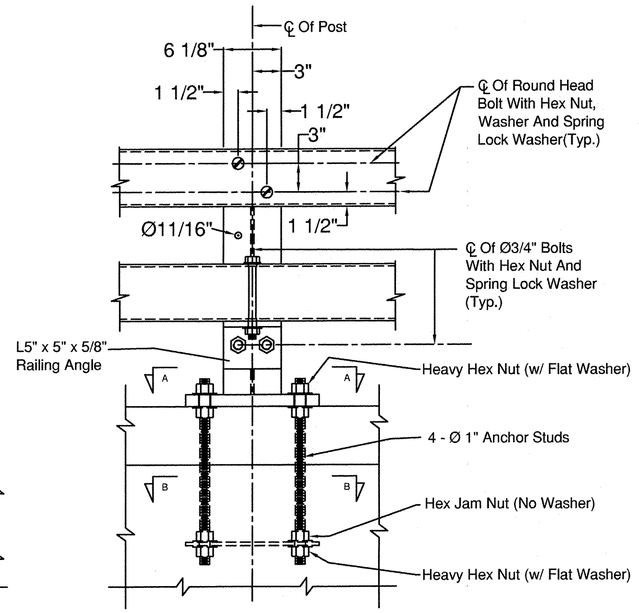




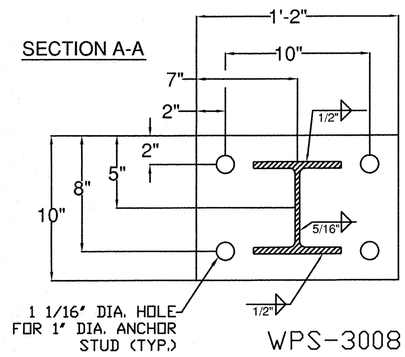
SPLICE TUBE - FIXED



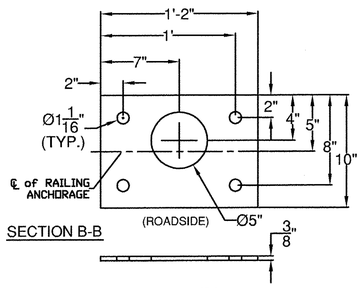
Typical Post Section



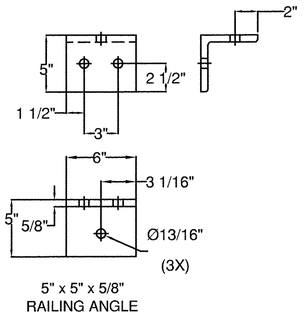
Typical Post Elevation

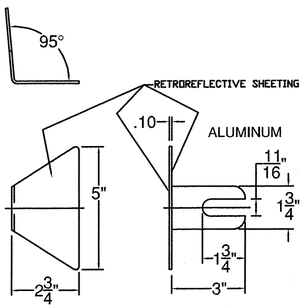


Base Plate Weld Details

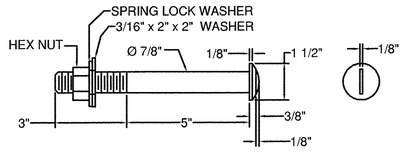


Anchor Plate





DELINEATOR DETAIL



ROUND HEAD BOLT

ITEM #: 900.640 GEN CONTR: F.R. Lafayette - Warren

SHEET 2 OF 2

APPROVED BY:
Vermont Agency of Transportation
RECEIVED
CK'D BY M. LONGSTREET OK'D BY MCL
January 29, 2013
RESUBMIT NO Approved
BY J. LACROIX DATE 01-30-2013

Galvanized 2-Rail Curb Mounted Bridge Rail

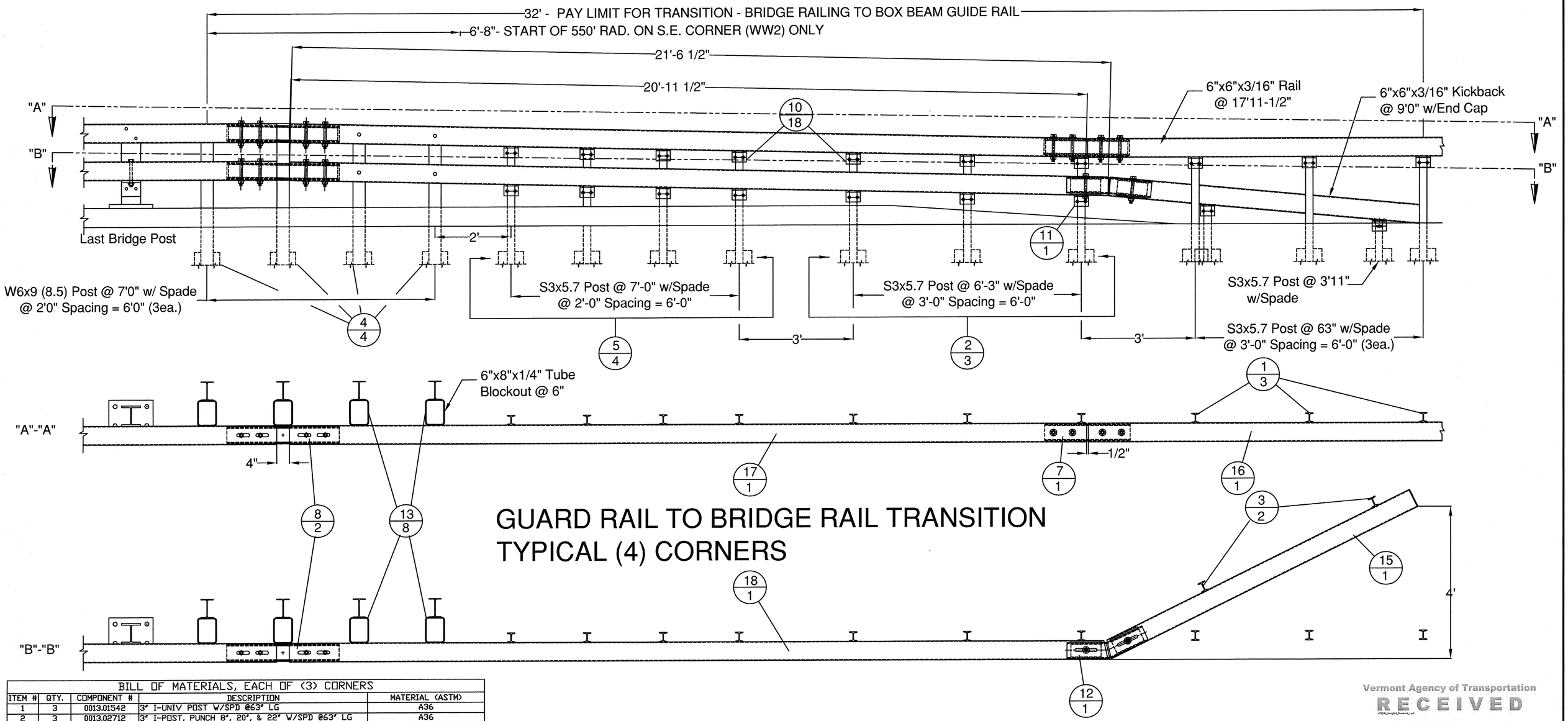
WARREN BRF 013-4 (14) VERMONT ROUTE 100 (MINOR ARTERIAL) - BR NO. 173
TOWN OF WARREN, WASHINGTON COUNTY, VT

R	NO.	DATE	DESCRIPTION	BY	R	NO.	DATE	DESCRIPTION	BY
E	1	1/28/13	REVISED PER 12/12/12 MARK-UP	E.P.	E				
V					V				

ELDERLEE, INC.
OAKS CORNERS, NEW YORK 14518
E-Mail: dlong@elderlee.com
Tel:315-789-6670 Fax:315-789-6615

CERTIFIED FABRICATOR

DRAWN	D.L.	12/05/12
CHECKED	E.P.	12/05/12
APPROVED	M.V.	
SCALE	SCHEMATIC	
DRAWING NO.	FR Lafayette - WARREN-B	



GUARD RAIL TO BRIDGE RAIL TRANSITION TYPICAL (4) CORNERS

BILL OF MATERIALS, EACH OF (3) CORNERS

ITEM #	QTY.	COMPONENT #	DESCRIPTION	MATERIAL (ASTM)
1	3	0013.01542	3' I-UNIV POST W/SPD @63' LG	A36
2	3	0013.02712	3' I-POST, PUNCH 8', 20', & 22' W/SPD @63' LG	A36
3	2	0013.02713	3' I-END POST W/SPD @ 3'11' LG	A36
4	4	0013.23920	W6X9 (8.5)# POST @ 7' W/SPD & 5/8' HOLE	A36
5	4	0013.57010	3' I-POST, PUNCH 8' & 20', W/8X32' SPADE @7'	A36
6	1	0033.80403	3X5' BTM TRANS RAIL W/4'11' KB, EXP END	A500 Gr. B
7	1	0033.00640	5X5 TUBE SPLICE @27' LG W/ 1/4' SHIMS	A500 Gr. B / A572 Gr 50
8	2	0033.00730	5x5 EXP TUBE SPLICE @ 36' LG W/ 1/4' SHIMS	A500 Gr. B / A572 Gr 50
9	1	0033.00930	BR EXP BAR SPLICE 2-1/8' X 4-1/4' @ 36' LG	A36
10	18	0054.00050	REG BB SHELF ANGLES @ 4-1/2'	A36
11	1	0054.00052	DWY BB SHELF ANGLES @ 4-1/2'	A36
12	1	0054.00074	5X5 DBL BEND TUBE SPL @ 27' LG	A500 Gr. B / A572 Gr 50
13	8	0054.00583	6X8' TUBE B/O W/5/8' SLOT	A500 Gr. B
14	3	0054.00585	6X8' TRANS TUBE B/O @ 3' LG	A500 Gr. B
15	1	0054.09000	6X6' BB @ 9'-0' KICKBACK, W/ CAP	A500 Gr. B / A36
16	0.5	0054.18000	6X6' BB @ 17'-11 1/2', DRILL 3' CC	A500 Gr. B
17	1	0054.90092	6X6' BB TOP TRANS @ 20'-11 1/2' LG W/EXP END	A500 Gr. B
18	1	0054.90093	6X6' BB BTM TRANS @ 21'-6 1/2' LG W/EXP END	A500 Gr. B
19	18	0080.03355	3/8' X 7 1/2' BOLT, NUT, & 2 FW	A307
20	19	0080.04100	1/2' x 1-1/2' BOLT, NUT, & FW	A307
21	16	0080.04120	1/2' x 1-1/2' BOLT, NUT, 2 FW & LW	A307
23	12	0080.06340	3/4' X 7-1/2' BOLT, NUT, 2 FW	A325
24	6	0080.06370	3/4' X 8' CARR BOLT, NUT, FW & LW	A307
25	2	0080.06400	3/4' X 8' BOLT, NUT, 2 FW, & LW	A325

NOTE: BILL OF MATERIALS FOR FORTH CORNER (SOUTH EAST - WW2) IS SAME AS OTHERS EXCEPT 550' RADIUS STARTS 6'-8" FROM BEGINNING OF TRANSITION PAY LIMIT.

HARDWARE NOTES

ITEM #	FUNCTION
19	BOLT RAIL TO SHELF ANGLE (ITEM #10)
20	BOLT SHELF ANGLE (ITEM #'S 10 & 11) TO POST
21	BOLT BLOCK-OUTS (ITEM #13) TO HEAVY POST
23	(4) PER SPLICE TUBING (ITEM #'S 7 & 8)
24	BOLT RAIL (ITEMS #'S 6,17, & 18 TO BLOCK-OUTS (ITEM #13) [WHERE FASTENED]
25	BOLT DOUBLE BEND SPLICE TUBE (ITEM #12) TO RAIL (ITEM #18) & KICKBACK (ITEM #15) & ITEM #11)

Vermont Agency of Transportation

RECEIVED

CK'D BY M. LONGSTREET OK'D BY MCL

January 29, 2013

RESUBMIT NO Approved

BY J. LACROIX DATE 01-30-2013

ITEM #: 900.620 GEN CONTR: F.R. Lafayette - Warren

SHEET 1 OF 3

APPROVED BY:

Galvanized 2-Rail Box Beam Guardrail Approach Section

WARREN BRF 013-4 (14) VERMONT ROUTE 100 (MINOR ARTERIAL) - BR NO. 173

TOWN OF WARREN, WASHINGTON COUNTY, VT

REVISIONS	NO.	DATE	DESCRIPTION	BY
	1	1/28/13	REVISED PER 12/12/12 MARK-UP	E.P.

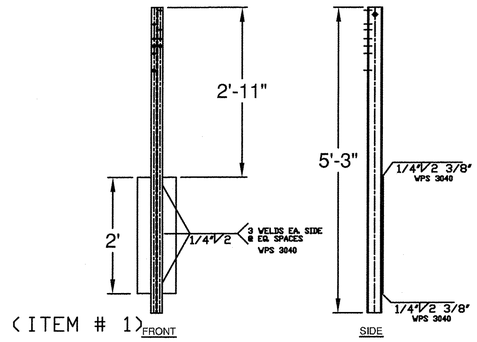
ELDERLEE, INC.
OAKS CORNERS, NEW YORK 14518
E-Mail: dlong@elderlee.com
Tel:315-789-6670 Fax:315-789-6615

CERTIFIED FABRICATOR

DRAWN	D.L.	12/05/12
CHECKED	E.P.	12/05/12
APPROVED	M.V.	.
SCALE	SCHEMATIC	
DRAWING NO.	FR Lafayette - WARREN-A	

PLAN VIEW

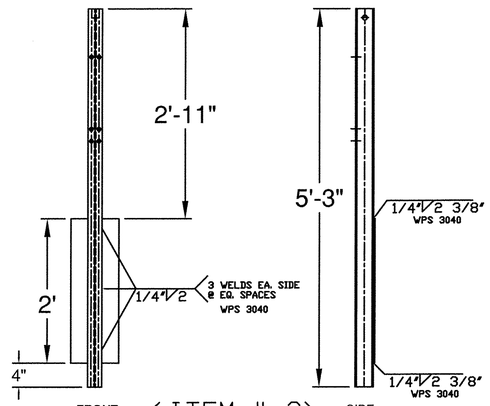
1/4" SPADE



(ITEM # 1)

PLAN VIEW

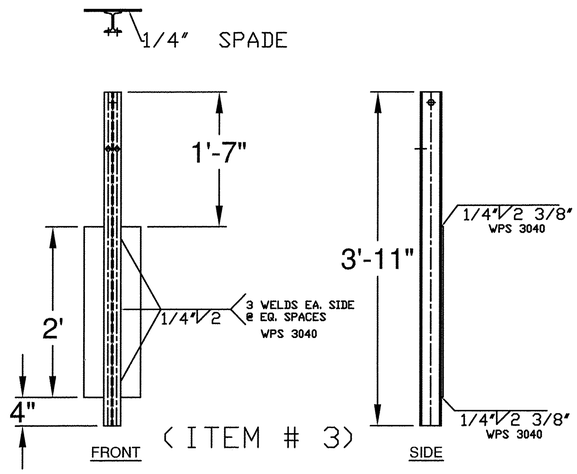
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(ITEM # 2)

PLAN VIEW

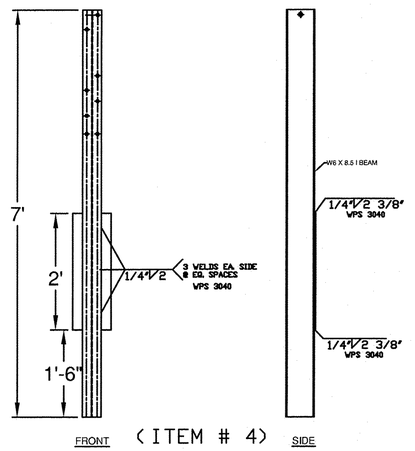
1/4" SPADE



(ITEM # 3)

PLAN VIEW

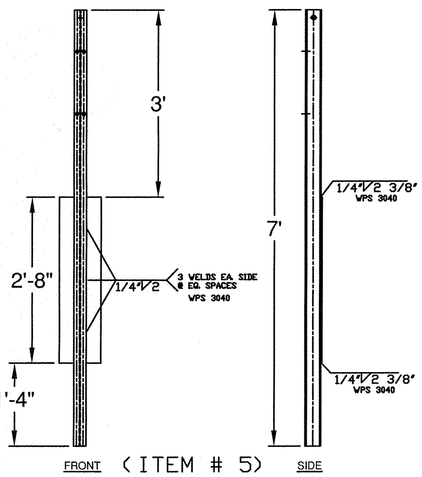
1/4" SPADE



(ITEM # 4)

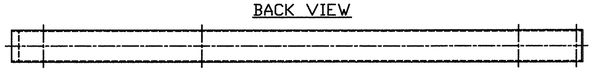
PLAN VIEW

1/4" SPADE



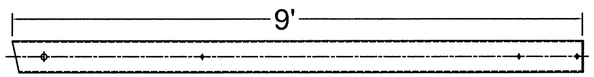
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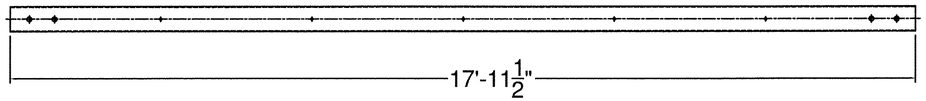
BACK VIEW

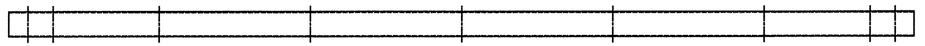


(ITEM # 15)

TOP VIEW

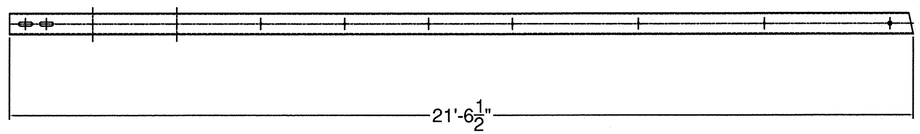




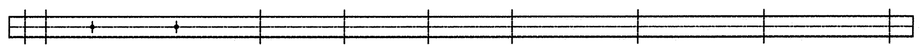


(ITEM # 16)

TOP VIEW

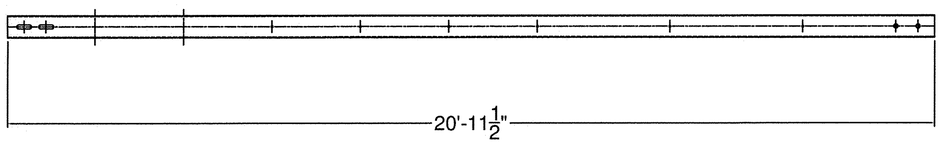


SIDE VIEW

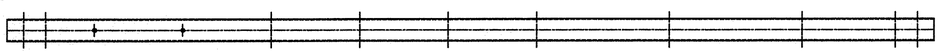


(ITEM # 18)

TOP VIEW



SIDE VIEW



(ITEM # 17)

Vermont Agency of Transportation

RECEIVED

CK'D BY M. LONGSTREET OK'D BY MCL

January 29, 2013

RESUBMIT NO **Approved**

BY J. LACROIX DATE 01-30-2013

GENERAL NOTES:

1) ALL RAILING IS TO BE FABRICATED AND ERECTED ACCORDING TO SECTION 525 OF THE STANDARD SPECIFICATIONS.
2) BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB).
3) PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.

ITEM #: 900.620 GEN CONTR: F.R. Lafayette - Warren

SHEET 2 OF 3

APPROVED BY:

Galvanized 2-Rail Box Beam Guardrail Approach Section

WARREN BRF 013-4 (14) VERMONT ROUTE 100 (MINOR ARTERIAL) - BR NO. 173
TOWN OF WARREN, WASHINGTON COUNTY, VT

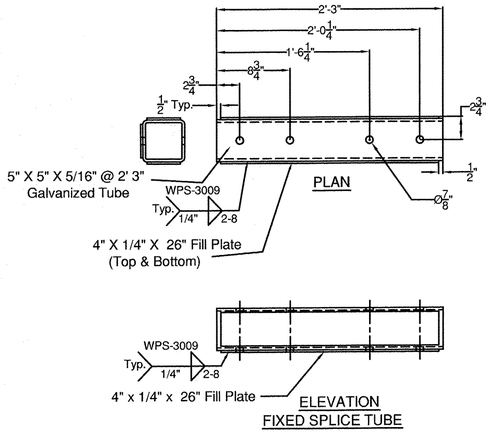
R E V	NO.	DATE	DESCRIPTION	BY
	1	1/28/13	REVISED PER 12/12/12 MARK-UP	E.P.

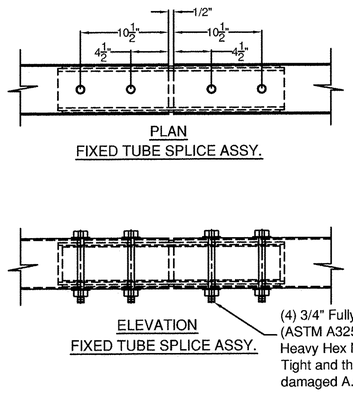
R E V	NO.	DATE	DESCRIPTION	BY

ELDERLEE, INC.
OAKS CORNERS, NEW YORK 14518
E-Mail: dlong@elderlee.com
Tel: 315-789-6670 Fax: 315-789-6615

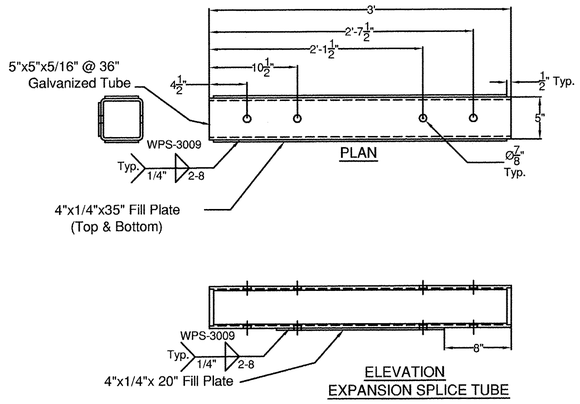
AISC CERTIFIED FABRICATOR

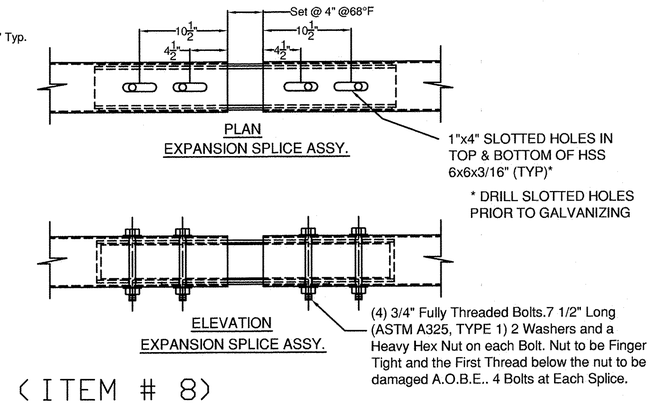
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CHECKED	E.P.	12/05/12
APPROVED	M.V.	
SCALE	SCHEMATIC	
DRAWING NO.	FR Lafayette - WARREN-A	



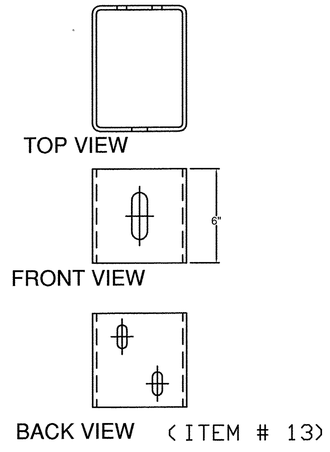


SPLICE TUBE - FIXED (ITEM # 7)

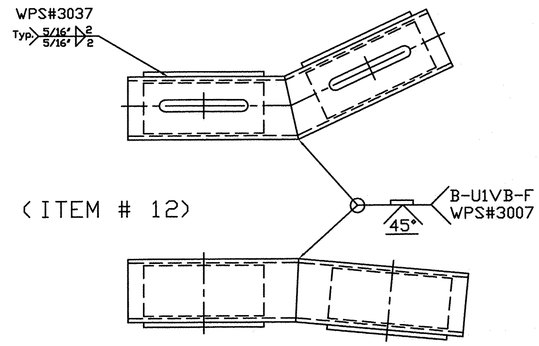




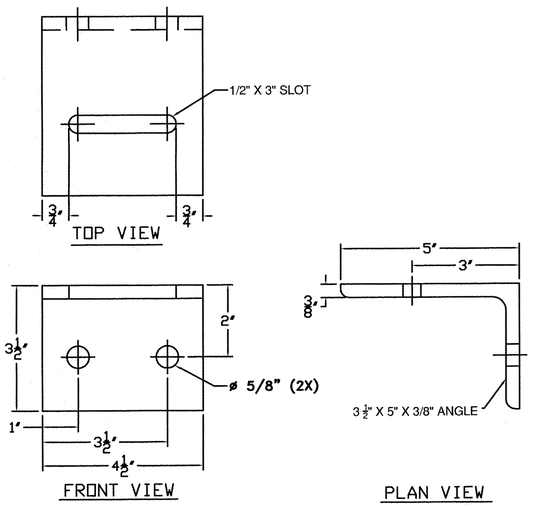
SPLICE TUBE - EXPANSION (ITEM # 8)

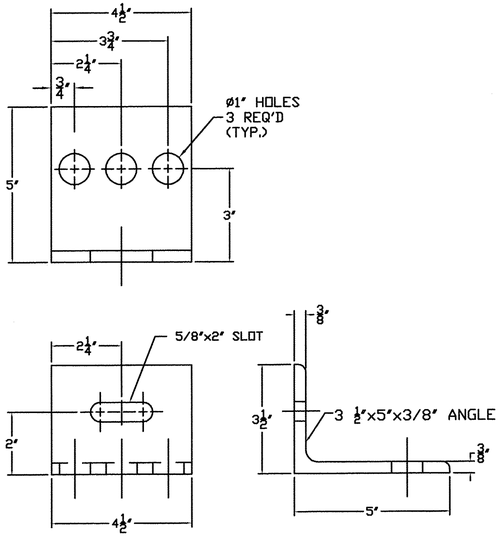


(ITEM # 13)



(ITEM # 12)





(ITEM # 10)

(ITEM # 11)

ITEM #: 900.620 GEN CONTR: F.R. Lafayette - Warren

SHEET 3 OF 3

APPROVED BY:

Vermont Agency of Transportation

RECEIVED

CK'D BY M. LONGSTREET OK'D BY MCL

January 29, 2013

RESUBMIT NO Approved

BY J. LACROIX DATE 01-30-2013

Galvanized 2-Rail Box Beam Guardrail Approach Section

WARREN BRF 013-4 (14) VERMONT ROUTE 100 (MINOR ARTERIAL) - BR NO. 173

TOWN OF WARREN, WASHINGTON COUNTY, VT

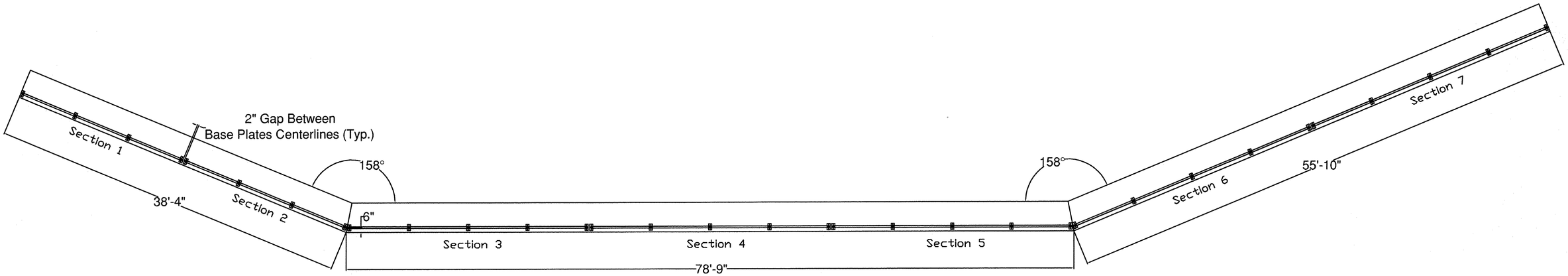
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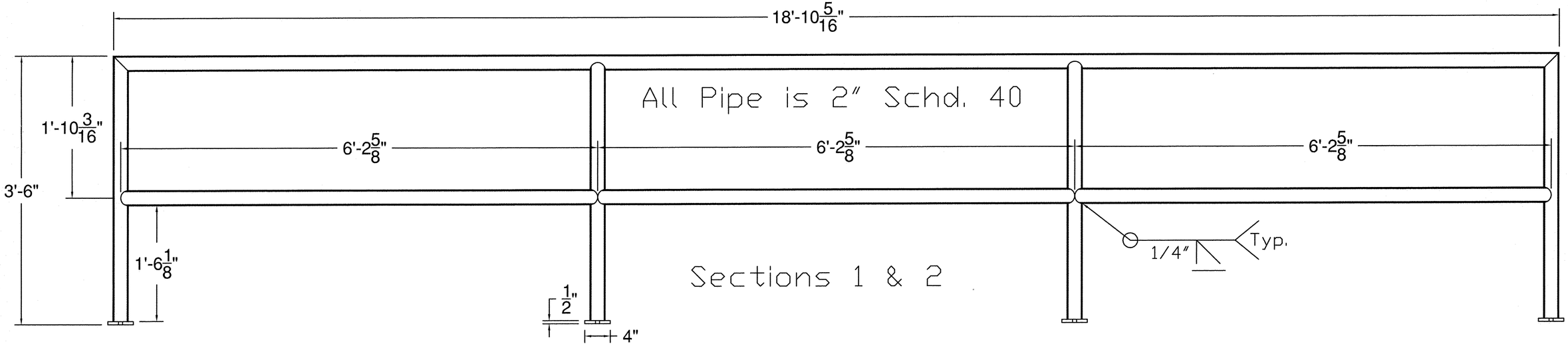
R E V	NO.	DATE	DESCRIPTION	BY

ELDERLEE, INC.
OAKS CORNERS, NEW YORK 14518
E-Mail: dlong@elderlee.com
Tel: 315-789-6670 Fax: 315-789-6615

CERTIFIED FABRICATOR

DRAWN	D.L.	12/05/12
CHECKED	E.P.	12/05/12
APPROVED	M.V.	
SCALE	SCHEMATIC	
DRAWING NO.	FR Lafayette - WARREN-A	





Sections 1 & 2

NOTES:

- HANDRAIL POST, RAILS AND BASE PLATE ARE TO BE GROUND SMOOTH AND GALVANIZED.
- OPEN POST & RAIL HANDRAIL STYLE REQUIRED DUE TO THE ELEVATION OF THE PATH RELATIVE TO HIGH WATER. POST SHALL BE SPACED AT 8'-0" CENTER TO CENTER MAX.
- PAYMENT FOR THIS RAILING AND ITS INSTALLATION WILL BE MADE UNDER CONTRACT ITEM 900.640 SPECIAL PROVISION (PEDESTRIAN HAND RAILING).
- 2 EACH (½"x8") ANCHOR STUDS PER POST TO BE DRILL AND EPOXY GROUT, 4" MINIMUM EMBEDMENT.

1/2"x7" anchor studs

BILL OF MATERIALS "Galvanized"

QTY	DESCRIPTION	ASTM DESIGNATION
2	RAIL SECTIONS 1 & 2	A36/A53
3	RAIL SECTIONS 3, 4 & 5	A36/A53
2	RAIL SECTIONS 6 & 7	A36/A53
66	1/2" X 7" ANCHOR STUD	A449
66	1/2" HEAVY HEX NUT	A563
66	1/2" FLAT WASHER	F436

Vermont Agency of Transportation
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ITEM #: 900.640 GEN CONTR: F.R. LAFAYETTE - WARREN BRF 013-4 (14) SHEET 1 OF 3

APPROVED BY:

SPECIAL PROVISION (GALVANIZED PEDESTRIAN HAND RAILING)

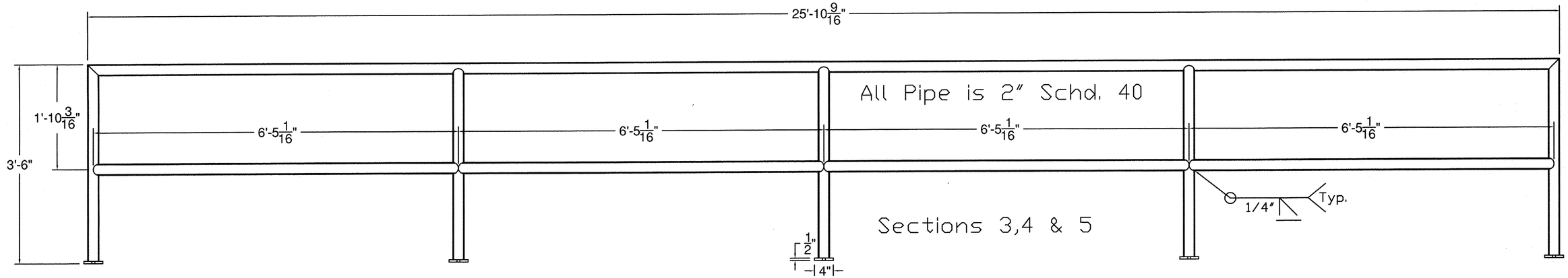
EM12-200 WARREN BRF 013-4(14) VT ROUTE 100 (MINOR ARETERIAL) - BR NO. 173
TOWN OF WARREN, WASHINGTON COUNTY, VERMONT

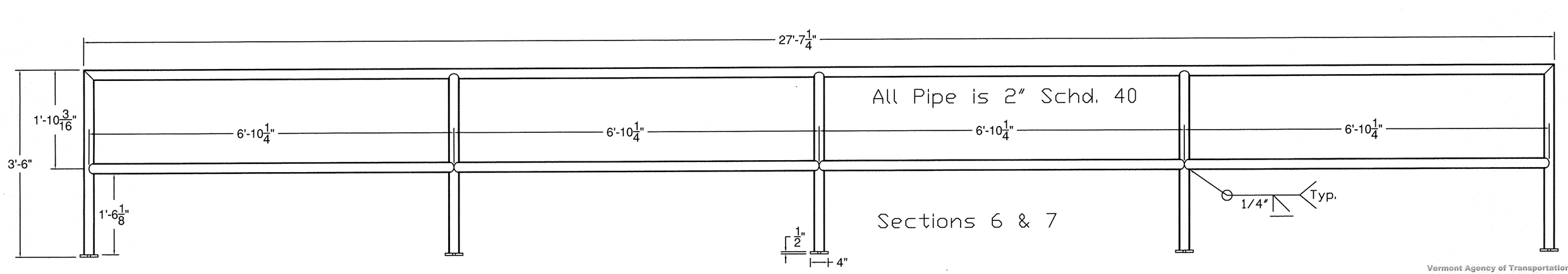
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CHECKED	E.P.	12/04/12
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DRAWING NO.	F.R. LaFayette -EM12-200	





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ITEM #: 900.640 GEN CONTR: F.R. LAFAYETTE - WARREN BRF 013-4 (14) SHEET 2 OF 3

APPROVED BY:

SPECIAL PROVISION (GALVANIZED PEDESTRIAN HAND RAILING)

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TOWN OF WARREN, WASHINGTON COUNTY, VERMONT

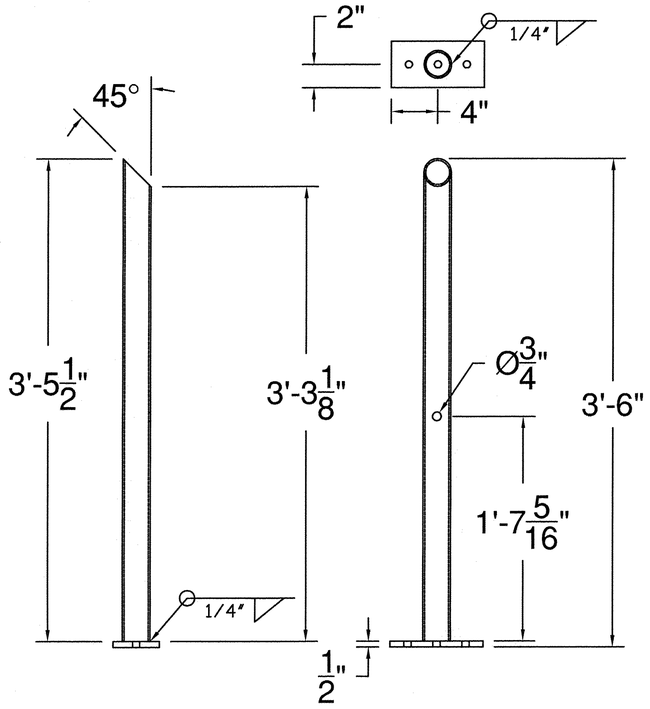
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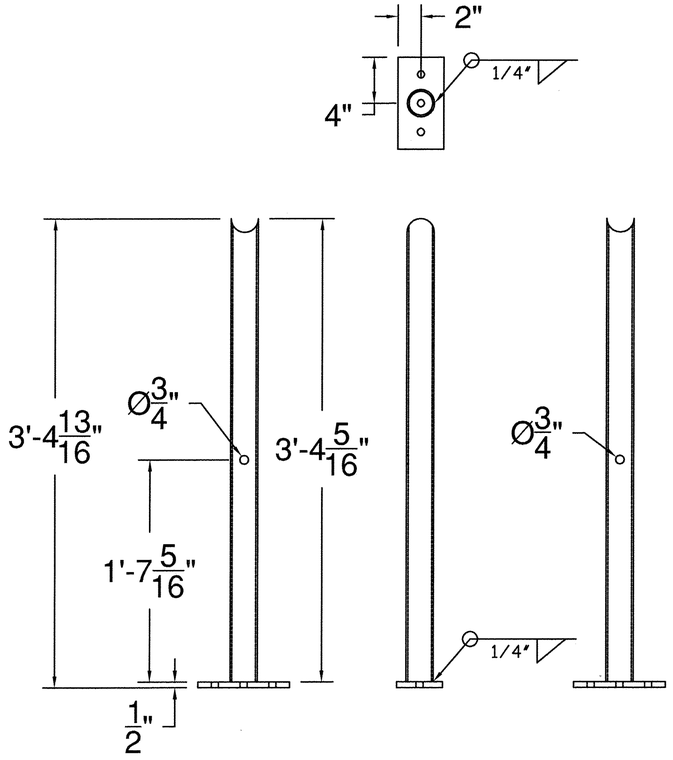
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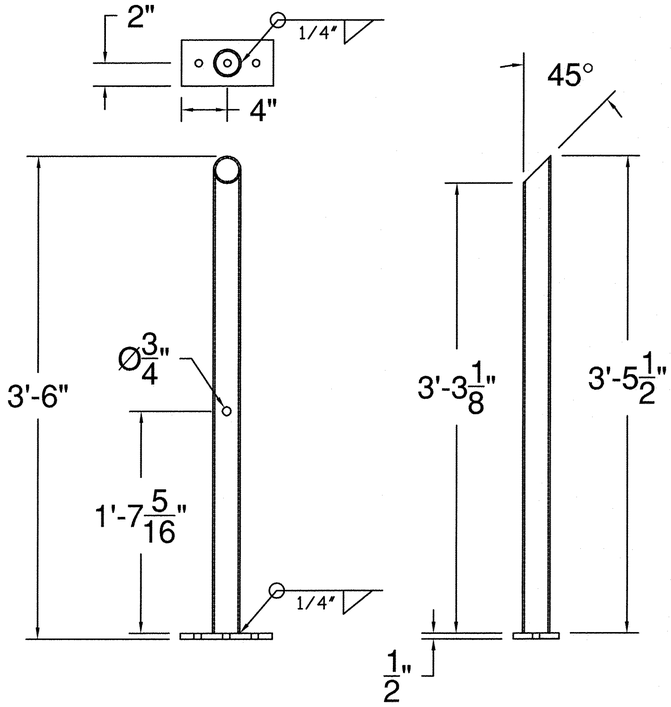
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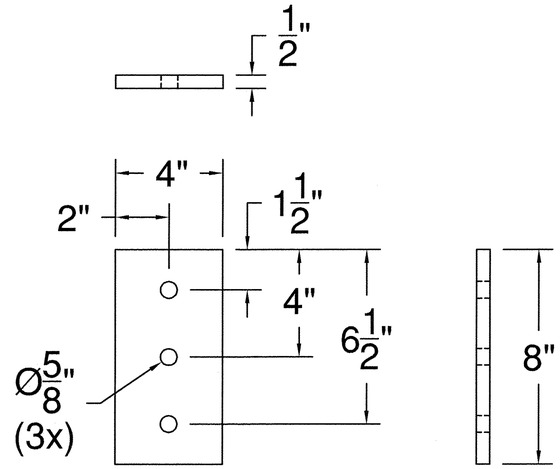
"Left" End Post Detail
(2" Schd. 40 Pipe)



Intermediate Post Detail
(2" Schd. 40 Pipe)



"Right" End Post Detail
(2" Schd. 40 Pipe)



Post Base Plate Detail

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ITEM #: 900.640 GEN CONTR: F.R. LAFAYETTE - WARREN BRF 013-4 (14) SHEET 3 OF 3

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SPECIAL PROVISION (GALVANIZED PEDESTRIAN HAND RAILING)

EM12-200 WARREN BRF 013-4(14) VT ROUTE 100 (MINOR ARETERIAL) - BR NO. 173
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