SEE SHEET 2 FOR INDEX OF SHEETS & LIST OF STANDARDS

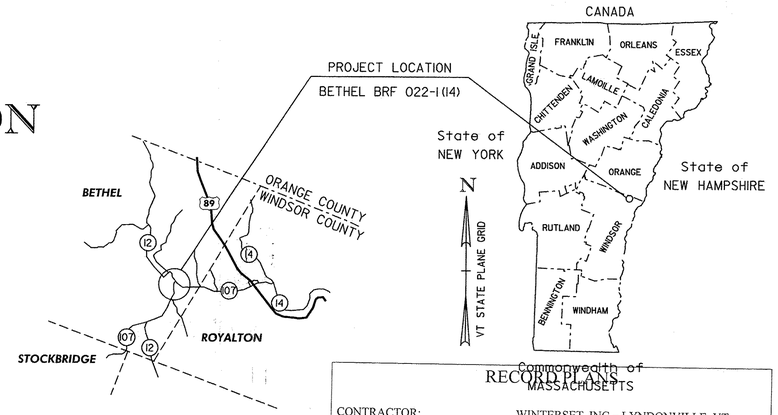
STATE OF VERMONT
AGENCY OF TRANSPORTATION

PROJECT LOCATION:
BEGINNING AT A POINT ON VT. ROUTE 107 APPROXIMATELY 3.180 MILES EASTERLY OF THE STOCKBRIDGE / BETHEL TOWN LINE AND EXTENDING NORTHERLY 0.144 MILES.

LENGTH OF ROADWAY	417.50 FEET
LENGTH OF BRIDGE	323.50 FEET
LENGTH OF PROJECT	741.00 FEET

PROJECT DESCRIPTION:
WORK TO BE PERFORMED UNDER THIS CONTRACT INCLUDES THE REPLACEMENT OF BRIDGE 15 AND RELATED APPROACH AND CHANNEL WORK.

PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF BETHEL
COUNTY OF WINDSOR
VT ROUTE 107
(MINOR ARTERIAL)
BRIDGE #15



RECORD PLANS
Commonwealth of MASSACHUSETTS

CONTRACTOR: WINTERSET, INC.– LYNDONVILLE, VT
RESIDENT ENGINEER: CHRIS BARKER
CONSTRUCTION BEGAN: OCTOBER 3, 2011
CONSTRUCTION COMPLETE: SEPTEMBER 19, 2013
RECORD PLANS BY: CHRIS BARKER & SANDRA SCHMITT

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

BY _____ RESIDENT ENGINEER
DATE 01/16/14

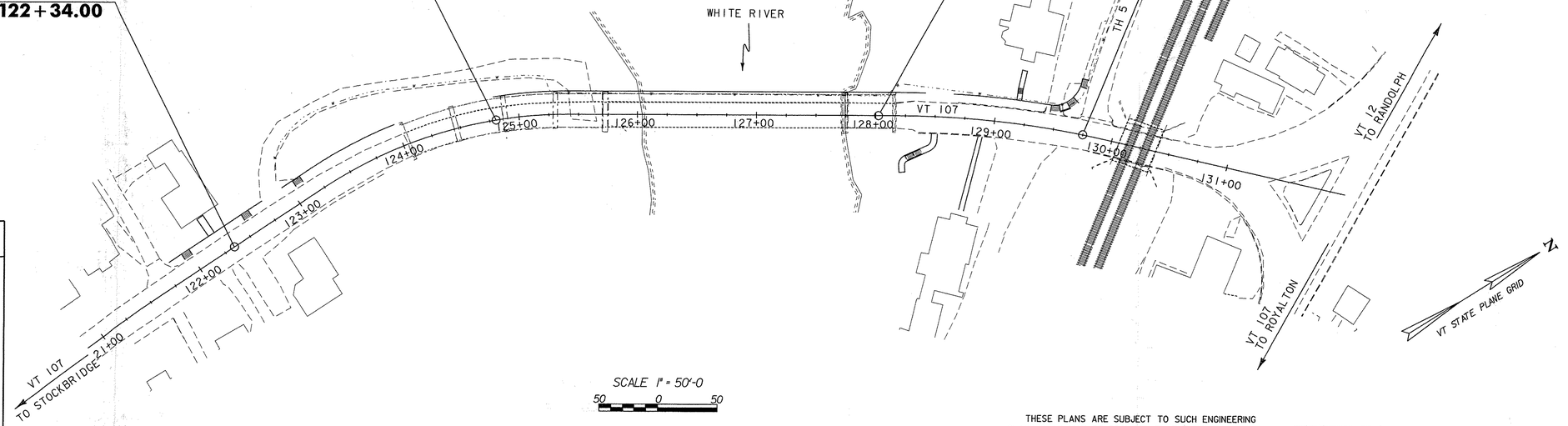
NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.

BEGIN PROJECT
STA 122+34.00

BEGIN BRIDGE
STA. 124+79.00

END BRIDGE
STA. 128+02.50

END PROJECT
129+75.00



SCALE 1" = 50'-0
50 0 50

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 (SR SR SR)
TOP OF CUT
TOE OF SLOPE

SURVEYED BY :	VTRANS
SURVEYED DATE :	12-17-1991

DATUM

VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (92)

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 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

for DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 5-15-11

PROJECT MANAGER : MARTHA EVANS-MONGEON

PROJECT NAME : BETHEL
PROJECT NUMBER : BRF 022-1(14)

SHEET 1 OF 148 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version 09.02.01

LRFD

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SD-502.00	CONCRETE DETAILS AND NOTES
SD-516.10	BRIDGE JOINT ASPHALTIC PLUG
SD-601.00	STRUCTURAL STEEL DETAILS AND NOTES
SD-602.00	STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2013	5400	610	52	14	670
2033	5900	660	52	21	1100

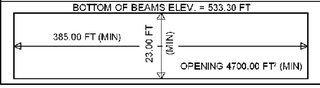
20 year ESAL for flexible pavement from 2013 to 2033 : 5101000

40 year ESAL for flexible pavement from 2013 to 2053 : 11436000

Design Speed : 25 mph

TEMPORARY BRIDGE PROFILE ALONG TEMP CL

BOTTOM OF BEAMS ELEV. = 533.30 FT



FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: April 2000

DRAINAGE AREA : 408 square miles
CHARACTER OF TERRAIN : Mountainous, rolling hills and agricultural lands
STREAM CHARACTERISTICS : Perennial, sinuous, not braided, equiwidth
NATURE OF STREAMBED : Gravel to cobble and boulders with some ledge

PEAK FLOW DATA

Q 2.33 =	11,600 cfs	Q 50 =	42,000 cfs
Q 10 =	25,400 cfs	Q 100 =	51,000 cfs
Q 25 =	34,300 cfs	Q 500 =	76,000 cfs

DATE OF FLOOD RECORD : November 1927
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV : 542 feet (Approximate according to COE 12/73 Study)
NATURAL STREAM VELOCITY : @ Q50 = 11.6 fps
ICE CONDITIONS : moderate
DEBRIS: moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
IS ORDINARY RISE RAPID? No
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE:

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

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Through truss w/ 5 rolled beam approach spans, 4 to south, 1 to north
YEAR BUILT: 1928
CLEAR SPAN(NORMAL TO STREAM): Total = 330 feet
VERTICAL CLEARANCE ABOVE STREAMBED: 25 feet (over main channel)
WATERWAY OF FULL OPENING: Total = 6200 square feet
DISPOSITION OF STRUCTURE: Remove
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 =	527.7 feet *	VELOCITY =	6.0 fps
Q10 =	532.4 feet *	"	9.8 fps
Q25 =	535.3 feet *	"	11.2 fps
Q50 =	537.9 feet *	"	11.6 fps
Q100 =	540.7 feet *	"	12.2 fps

LONG TERM STREAMBED CHANGES: Unknown

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 539.4 feet
DISCHARGE OVER ROAD @Q100: None - due to drawdown through the bridge

UPSTREAM STRUCTURE

TOWN: N/A - confluence 600 feet upstream** DISTANCE:
HIGHWAY# : STRUCTURE #:
CLEAR SPAN: CLEAR HEIGHT:
YEAR BUILT: FULL WATERWAY:
STRUCTURE TYPE:

DOWNSTREAM STRUCTURE

TOWN: Royalton DISTANCE: 3.2 miles
HIGHWAY# : I-89 STRUCTURE #: 26-S
CLEAR SPAN: 889 feet CLEAR HEIGHT: 17 feet
YEAR BUILT: 1968 FULL WATERWAY: 12,600 sf
STRUCTURE TYPE: 6-span continuous welded plate girder

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK HL-93	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEM
TONNAGE	36	36	66	30	34.5	38
INVENTORY	1.07					
OPERATING	1.43					
LEGAL		1.81	1.19	1.46	1.40	1.14
COMMENTS:						

PILE DRIVING AND TESTING REQUIREMENTS

	Ref	
1. NOMINAL PILE DRIVING CAPACITY		Gen. Notes
2. PILE TEST RESISTANCE FACTOR	ϕ:	0.65
3. MAXIMUM PILE TIP ELEVATION		Per Plans

PROPOSED STRUCTURE

STRUCTURE TYPE: Through truss main span w/1 rolled beam approach span on south side

CLEAR SPAN(NORMAL TO STREAM): Total = 311 feet
VERTICAL CLEARANCE ABOVE STREAMBED: 25 feet (over main channel)
WATERWAY OF FULL OPENING: Total = 6250 square feet

WATER SURFACE ELEVATIONS AT:

Q2.33 =	527.7 feet *	VELOCITY=	6.0 fps
Q10 =	532.3 feet *	"	9.8 fps
Q25 =	535.3 feet *	"	11.2 fps
Q50 =	537.9 feet *	"	11.6 fps
Q100 =	540.6 feet *	"	12.1 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 539.8 feet
DISCHARGE OVER ROAD @Q100: None - due to drawdown through the bridge

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 540.3 feet
VERTICAL CLEARANCE: @ Q50 = 2.4 feet

SCOUR: Maximum contraction scour @ Q100 = 4 feet
Maximum pier scour @ Q500 = 9 feet
REQUIRED CHANNEL PROTECTION: Type IV Stone Fill

PERMIT INFORMATION

AVERAGE DAILY FLOW:	850 cfs	
ORDINARY LOW WATER:	375 cfs	DEPTH OR ELEVATION: 515 feet
ORDINARY HIGH WATER:	5000 cfs	520 feet

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: 4-span rolled beam ***
CLEAR SPAN (NORMAL TO STREAM) Total = 385 feet
VERTICAL CLEARANCE ABOVE STREAMBED: 23 feet (B.O.S. elev = 537.0 feet)
WATERWAY AREA OF FULL OPENING: 4700 square feet

ADDITIONAL INFORMATION

* WSE's are reported 250 feet upstream of the existing and proposed bridge(s) centerline.
** Confluence of White River and the Third Branch of the White River.
*** Temporary bridge designed to be in through the winter.
Pier piles should be designed to be freestanding above elevation 505.5 feet.

TRAFFIC MAINTENANCE NOTES

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

DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	dp:	3 IN
3. DESIGN SPAN 1 (TO THE NEAREST 10TH OF A FOOT)	L1:	67.5 FT
DESIGN SPAN 2	L2:	250 FT
[DESIGN SPAN 3 (LEAVE BLANK IF NOT REQUIRED)]	L3)?	
4. CONCRETE, HIGH PERFORMANCE, MASS POUR	f'c:	3.5 KSI
5. CONCRETE, HIGH PERFORMANCE CLASS A	f'c:	4 KSI
6. CONCRETE, HIGH PERFORMANCE CLASS B	f'c:	3.5 KSI
7. CONCRETE, CLASS C	f'c:	3 KSI
8. REINFORCING STEEL	fy:	60 KSI
9. STRUCTURAL STEEL AASHTO M270	fy:	36,50,70 KSI
TYPE OF STEEL		GEN. NOTES
10. SOIL UNIT WEIGHT	g:	0.14 K/FT3
11. NOMINAL BEARING RESISTANCE OF SOIL	qn:	4.7 KSF
12. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	f:	0.45
13. NOMINAL BEARING RESISTANCE OF ROCK	qn:	10 KSF
14. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	f:	N/A
15. PILE SIZE		(14X117)(14X89)
16. PILE YIELD STRENGTH ASTM A572	fy:	50 KSI
17. NOMINAL AXIAL PILE RESISTANCE PIER	qp:	390 KIPS
NOMINAL AXIAL PILE RESISTANCE ABUTMENT 2	qp:	252 KIPS
ENTER PILES AS OVERALL AVERAGE OR FOR EACH SUBSTRUCTURE		
18. EST. PILE LENGTH AT PIER (TO THE NEAREST TENTH FOOT)	L1:	40.4 FT
EST. PILE LENGTH AT ABUTMENT 2	L2:	18.5 FT
19. PILE RESISTANCE FACTOR (REFER TO AASHTO LRFD)	f:	0.65
20. LATERAL PILE DEFLECTION	Δ	GEN. NOTES
21. BASIC WIND SPEED	V3s:	100 MPH
22. MINIMUM GROUND SNOW LOAD	pg:	N/A
23. SEISMIC DATA (AASHTO LRFD)	PGA:	ZONE 1

PROJECT NAME: **BETHEL**
PROJECT NUMBER: **BRF 022-1(14)**

FILE NAME: **sf161forms.dgn**
PROJECT LEADER: **M. EVANS-MONGEON**
DESIGNED BY: **S. SCRIBNER**
PRELIMINARY INFORMATION SHEET

PLOT DATE: 6/15/2011
DRAWN BY: **M. LONGSTREET**
CHECKED BY: **S. SCRIBNER**
SHEET 2 OF 148

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, DATED 2010, AND ITS LATEST REVISIONS.

2. DURING CONSTRUCTION, TRAFFIC SHALL BE MAINTAINED ON A TWO-WAY TEMPORARY BRIDGE CONSTRUCTED DOWNSTREAM OF THE EXISTING STRUCTURE. THE TEMPORARY BRIDGE AND DETOUR SHALL BE PAVED. CONSTRUCTION AND MAINTENANCE OF THE TEMPORARY BRIDGE AND ITS APPROACHES SHALL BE PAID FOR UNDER ITEM 528.11, TWO-WAY TEMPORARY BRIDGE.

3. THE CONTRACTOR SHALL ERECT AND MAINTAIN ALL TEMPORARY ON AND OFF-PROJECT SIGNS AND BARRICADES AS SHOWN IN THE PLANS AND AS DIRECTED BY THE RESIDENT ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 641.10, TRAFFIC CONTROL.

4. FULL ACCESS TO ALL SIDE ROADS AND DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 641.10, TRAFFIC CONTROL.

5. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DOCUMENT THE CONDITION OF ALL STRUCTURES THAT HAVE THE POTENTIAL FOR DAMAGE FROM CONSTRUCTION ACTIVITIES. THIS DOCUMENTATION SHALL BE IN THE FORM OF VIDEO OR PICTURES, WITH SUFFICIENT DESCRIPTION, AND SHALL BE SUPPLIED TO THE ENGINEER PRIOR TO ANY EXCAVATION OR DRIVING OF PILING OR SHEET PILING. THE COST OF PREPARING THIS DOCUMENTATION WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED INCIDENTAL TO ALL CONTRACT ITEMS. SEE SPECIAL PROVISIONS.

6. ITEM 529.15 REMOVAL OF STRUCTURE SHALL INCLUDE THE REMOVAL AND DISPOSAL OF EXISTING BRIDGE SUPERSTRUCTURES, WATER LINE ON THE BRIDGE AND REMOVAL OF THE ABUTMENTS AND PIERS ABOVE THE ELEVATION SHOWN IN THE PLANS, WHERE THEIR REMOVAL IS OUTSIDE OF THE AREAS COVERED BY ANY OF THE EXCAVATION ITEMS.

7. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT SILTATION OR POLLUTION, IN PARTICULAR THE DISCHARGE OF RAW CONCRETE INTO THE THIRD BRANCH OF THE WHITE RIVER, AS DIRECTED BY THE RESIDENT ENGINEER AND STANDARD SPECIFICATIONS SECTION 105.

8. FOR INFORMATION REGARDING UTILITIES, SEE THE SPECIAL PROVISIONS.

9. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.

10. ANY FALSEWORK SHALL BE SUBMITTED TO THE RESIDENT ENGINEER FOR APPROVAL A MINIMUM OF 14 DAYS PRIOR TO THE ANTICIPATED PLACEMENT DATE. NO FALSEWORK SHALL BE PLACED PRIOR TO APPROVAL OF THE PLAN.

11. ALL EXISTING SIGNS AND SIGN POSTS NOT RE-USED SHALL REMAIN THE PROPERTY OF THE STATE OF VERMONT. THE CONTRACTOR SHALL DELIVER AND STOCKPILE THE PROJECT SALVAGED MATERIALS AT THE TRANSPORTATION DISTRICT #4 FACILITY. THE CONTRACTOR SHALL CONTACT TREVOR STARR AT TRANSPORTATION DISTRICT #4 @ 296-5566 WHEN THESE ITEMS ARE READY FOR DELIVERY FROM THE PROJECT SITE.

12. THE EXISTING TRUSS AND APPROACH SPANS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AFTER DEMOLITION. RECORD PLANS HAVE BEEN PROVIDED.

13. THE EXISTING STRUCTURAL STEEL IS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE REGULATIONS WHEN HANDLING AND WORKING WITH THIS STEEL. THE REMOVED STRUCTURAL STEEL IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE REMOVED EXISTING STRUCTURAL STEEL.

14. "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"

15. EXISTING DRAINAGE CONDITIONS AND DRAINAGE STRUCTURES RELATIVE TO THIS PROJECT SHOULD BE FIELD VERIFIED, FOR ELEVATION, SIZE, AND TYPE PRIOR TO CONSTRUCTION OR EXCAVATION. ALSO, ELEVATION TO LOCATION OF SEWER LINE SHOULD ALSO BE FIELD VERIFIED. THERE WILL BE NO EXTRA COMPENSATION PAID TO THE CONTRACTOR FOR ANY INCONVENIANCE CAUSED BY WORKING AROUND AND WITH THE UTILITY COMPANIES.

EARTHWORK AND RELATED ITEMS

16. TEMPORARY CONSTRUCTION FILLS WITHIN THE WATERCOURSE FOR ANY PURPOSE SHALL CONSIST OF CLEAN STONE FILL ONLY. NO OTHER FILLING IN THE STREAM SHALL OCCUR WITHOUT THE APPROVAL OF THE STREAM ALTERATION ENGINEER.

17. A COFFERDAM IS REQUIRED FOR THE CONSTRUCTION OF ABUTMENT #2. REFER TO "SUBSTRUCTURE EARTHWORK SHEETS" FOR COFFERDAM NOTES.

18. 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 "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".

19. ANY TEMPORARY EXCAVATION AND FILL NECESSARY TO MAINTAIN TRAFFIC SHALL BE INCIDENTAL TO ITEM 528.11, TWO-WAY TEMPORARY BRIDGE.

20. ANY TEMPORARY MEANS OF SUPPORTING EXCAVATION NECESSARY TO MAINTAIN TRAFFIC SHALL BE INCIDENTAL TO ITEM 528.11, TWO-WAY TEMPORARY BRIDGE, AND SHALL MEET THE REQUIREMENTS OF SECTION 204. ASSOCIATED CONSTRUCTION DRAWINGS SHALL BE SUBMITTED IN ACCORDANCE WITH SECTION 105.

21. ALL TEMPORARY MEANS OF SUPPORTING EXCAVATION AND FILL SHALL BE ADEQUATELY SEPARATED FROM THE TRAVELING PUBLIC PER THE AASHTO ROADSIDE DESIGN GUIDE, AND SHALL NOT OBSCURE SIGHT DISTANCE TO TRAFFIC ON VT 107 AND TRAFFIC ENTERING OR EXITING VT 107.

22. THE COST OF THE TEMPORARY CAUSEWAY FOR CONSTRUCTION OF THE PROPOSED TRUSS SUPERSTRUCTURE WILL BE INCIDENTAL TO ALL CONTRACT ITEMS.

23. THE HEIGHT OF FILL BEHIND ABUTMENTS WILL BE LIMITED TO THE BRIDGE SEAT ELEVATION UNTIL THE DECK HAS BEEN POURED AND THE CURING PERIOD IS UP.

24. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SUBSECTION 301.06 REGARDING THE COMPACTION OF THE SUBBASE MATERIAL.

25. THE "STONE FILL, TYPE IV" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE NEW SUPERSTRUCTURES ARE SET.

26. "STONE FILL, TYPE I" SHALL BE USED FOR EROSION CONTROL AS SHOWN IN THE PLANS AND AT THE DISCRETION OF THE RESIDENT ENGINEER. PAYMENT FOR MATERIAL AND PLACEMENT SHALL BE MADE UNDER ITEM 613.10, "STONE FILL, TYPE I".

27. 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.

STRUCTURAL STEEL

28. UNLESS OTHERWISE NOTED, ALL NEW STRUCTURAL STEEL FOR THE ROLLED BEAM APPROACH SPAN SHALL CONFORM TO SECTION 714 AND SHALL BE PAID FOR UNDER ITEM 506.50, "STRUCTURAL STEEL, ROLLED BEAM".

29. THE END OF THE ROLLED BEAMS FOR THE APPROACH SPAN SHALL BE PAINTED FOR A DISTANCE OF 10'-0" AT THE PIER END OF THE SPAN. ALL CHANNELS AND CONNECTION PLATES LOCATED IN THIS AREA SHALL ALSO BE PAINTED. THE PAINT SYSTEM SHALL CONFORM TO SECTION 513 OF THE STANDARD SPECIFICATIONS AND THE FINAL COLOR SHALL BE BROWN, CONFORMING TO SUBSECTION 708.03. GREASE SHALL ALSO BE APPLIED IN THIS AREA AS SPECIFIED IN SUBSECTION 513.06 (d). THE GREASE SHALL BE BROWN.

30. APPROACH SPAN FIELD CONNECTIONS LOCATED IN THE UNPAINTED SECTIONS OF THE BEAM SHALL BE MADE USING 7/8 INCH DIAMETER BOLTS MEETING AASHTO M 164, TYPE 3 SPECIFICATIONS. CONNECTIONS MADE IN THE PAINTED SECTIONS OF THE BEAMS SHALL BE MADE USING 7/8 INCH DIAMETER BOLTS MEETING AASHTO M 164, TYPE 1 SPECIFICATIONS. UNLESS OTHERWISE NOTED, HOLE DIAMETER SHALL BE 15/16 INCH. ANY CONNECTIONS NOT DESIGNATED SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.

31. ALL TRUSS STEEL SHALL BE GALVANIZED ACCORDING TO SUBSECTION 506.15 OF THE STANDARD SPECIFICATIONS.

32. ALL NEW STRUCTURAL STEEL FOR THE TRUSS PRIMARY MEMBERS, LATERAL MEMBERS, CONNECTIONS PLATES, AND FILLER PLATES SHALL CONFORM TO SECTION 714 GRADE 50 STEEL, WITH THE FOLLOWING EXCEPTIONS;

    a. ALL STANDARD SINGLE LEG ANGLE AND DOUBLE LEG ANGLE ROLLED SHAPES EXCEPT FOR THE ANGLES CONNECTING THE END FLOOR BEAM SHALL CONFORM TO SECTION 714 GRADE 36 STEEL HAVING A MINIMUM YIELD STRESS OF 36 KSI AND A MINIMUM ULTIMATE STRESS OF 58 KSI.
    b. THE TWO END FLOORBEAM MEMBERS SHALL BE AASHTO M 270 HIGH PERFORMANCE STEEL GRADE HPS 70W STEEL.
    c. ALL TOP CHORD GUSSET PLATES SHALL BE AASHTO M 270 HIGH PERFORMANCE STEEL GRADE HPS 70W STEEL.

33. THE TRUSS SPAN STEEL SHALL BE PAID FOR UNDER ITEM 506.57, "STRUCTURAL STEEL, TRUSS", AND SPECIAL PROVISION 900.635 "HIGH PERFORMANCE STEEL, GRADE HPS 70W(TRUSS)".

34. ALL NEW STRUCTURAL STEEL FOR THE DOWNSPOUT SHALL BE PAID FOR UNDER ITEM 506.60, "STRUCTURAL STEEL".

35. STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH SUBSECTION 714.01 OF THE STANDARD SPECIFICATIONS.

36. ALL TRUSS SPAN FIELD CONNECTIONS SHALL BE MADE USING 7/8 INCH DIAMETER TYPE 1 BOLTS UNLESS OTHERWISE NOTED, MEETING THE REQUIREMENTS OF AASHTO M 164 SPECIFICATIONS. ALL TYPE 1 BOLTS SHALL BE GALVANIZED PER AASHTO M 232M/M 232. UNLESS OTHERWISE NOTED, HOLE DIAMETER SHALL BE 15/16 INCH. ANY CONNECTIONS NOT DESIGNATED SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.

37. 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.

38. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF THE BEAMS AND STRINGERS SHALL BE TAKEN AS DIRECTED BY THE RESIDENT ENGINEER FOR USE IN DETERMINING FINISHED GRADES.

39. FLEMING BRACKETS OR SIMILAR FALSEWORK SHALL BE SPACED AS REQUIRED BY DESIGN, BUT SHALL BE LIMITED TO A MAXIMUM SPACING OF 4 FEET. THE DESIGN OF FALSEWORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

40. ANY BOLT HOLES IN MEMBERS NOT OTHERWISE FILLED SHALL BE FILLED WITH AASHTO M 164 BUTTON HEAD OR HEX HEAD BOLTS. THE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19 OF THE STANDARD SPECIFICATIONS.

41. ALL STRUCTURAL CONNECTIONS INCORPORATING THE BEVELED SIDE OF A STANDARD BEAM, CHANNEL OR ANGLE SHALL USE THE CORRESPONDING GALVANIZED ASTM F 436 BEVELED WASHERS.

42. ENDS OF APPROACH SPAN BEAMS ARE TO BE VERTICAL IN FINAL POSITION.

43. ALL BOLTED TRUSS CONNECTION FAYING SURFACES SHALL BE HAND WIRE BRUSHED, OR BRUSH BLASTED, AFTER GALVANIZING TO ACHIEVE AN AASHTO CLASS C SURFACE CONDITION. NO MECHANICAL OR POWER BRUSHING ALLOWED. THIS WORK WILL BE PERFORMED UNDER CONTROLLED CONDITIONS IN A SHOP, PRIOR TO ASSEMBLY IN ACCORDANCE WITH SUBSECTION 506.19 OF THE STANDARD SPECIFICATIONS. THE PROCESS MUST ACHIEVE VISIBLE ROUGHENING OR SCORING OF THE FAYING SURFACE.

44. ANY DAMAGE CAUSED TO THE GALVANIZATION, INCLUDING THAT CAUSED BY THE CONCRETE OPERATIONS, SHALL BE REPAIRED AND THE COST SHALL BE INCIDENTAL TO ITEM 506.57, STRUCTURAL STEEL, TRUSS.

45. SHEAR CONNECTORS FOR TRUSS MEMBERS SHALL BE ATTACHED IN THE SHOP, PRIOR TO GALVANIZING.

46. JACKING STIFFENERS HAVE BEEN PROVIDED ON THE TRUSS TO HELP FACILITATE FUTURE BEARING REPAIR. HOWEVER, IT IS IMPORTANT TO NOTE THAT THE END FLOORBEAM CONNECTION COMPONENTS ARE NOT INTENDED TO SUPPORT FULL SERVICE LOADS IN THE JACKING CONDITION.

47. STRUCTURAL STEEL MEMBERS DESIGNATED AS "FCM" (FRACTURE CRITICAL MEMBERS) IN THE PLANS 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 270.

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: sf16lforms.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
GENERAL NOTES SHEET 1

PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: S. SCRIBNER
SHEET 3 OF 148

CONCRETE

48. SUBSTRUCTURE CONCRETE EXCLUDING PIER FOOTING AND ABUTMENT #2 FOOTING, APPROACH SLABS, AND THE STAIRS AT STATION 128+50 (RT) AND 129+18 (LT) SHALL BE HIGH PERFORMANCE CLASS B AND SHALL BE PAID FOR UNDER ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B". DECK (INCLUDING CURTAIN WALLS, BACKWALLS AND APPROACH SLAB BRACKETS ABOVE BRIDGE SEAT ELEVATION), BRIDGE SIDEWALK AND BRIDGE CURB CONCRETE SHALL BE HIGH PERFORMANCE CLASS A AND SHALL BE PAID FOR UNDER ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A". PIER FOOTING AND ABUTMENT #2 FOOTING WILL BE HIGH PERFORMANCE CONCRETE AND PAID FOR UNDER ITEM 900.608 SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, MASS POUR).

49. PRIOR TO ANY COLD WEATHER CONCRETE PLACEMENT AS DEFINED IN SECTION 501, THE CONTRACTOR SHALL SUBMIT A PLAN TO THE RESIDENT ENGINEER FOR APPROVAL. THE PLAN AT A MINIMUM SHALL PROVIDE METHODS FOR INSULATING, CURING, HEATING, TEMPERATURE MONITORING, AND ANY WEATHER RESTRICTIONS FOR CONCRETE PLACEMENT. THE PLAN SHALL BE SPECIFIC TO THE LOCATION OF THE PLACEMENT AND BE SUBMITTED A MINIMUM OF 14 DAYS PRIOR TO THE ANTICIPATED PLACEMENT DATE. COLD WEATHER CONCRETE SHALL NOT BE PLACED PRIOR TO APPROVAL OF THE PLAN.

50. 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.

51. RELATIVE TO GRADE, ALL DECK POURS SHALL BEGIN FROM THE LOW ELEVATION END AND PROCEED TOWARDS THE HIGH ELEVATION END.

52. THE CONSTRUCTION JOINT AT ABUTMENT #1 LOCATED AT ELEVATION 538.31 SHALL HAVE A MINIMUM OF A 5 DAY WAITING PERIOD BEFORE CONCRETE IS POURED FROM THAT ELEVATION TO THE BRIDGE SEAT TO ALLOW FOR POSSIBLE SETTLEMENT DUE TO THE SOILS AT THIS LOCATION.

53. 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, SUCH AS TO PREVENT WATER PONDING ON THE BRIDGE SEAT AREA. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE GIVEN A MAGNESIUM FLOAT FINISH.

54. IN ACCORDANCE WITH SUBSECTION 506.23(A) OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION AND AS DIRECTED BY THE RESIDENT ENGINEER, THE CONTRACTOR SHALL TAKE MEASURES NECESSARY TO PROTECT ALL SUBSTRUCTURE CONCRETE FROM STAINING DUE TO OXIDE FORMATION ON THE STRUCTURAL STEEL PRIOR TO PLACEMENT OF THE DECK. THESE MEASURES WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B". ANY SUCH STAINING THAT OCCURS PRIOR TO DECK PLACEMENT SHALL BE REMOVED AT NO ADDITIONAL COST TO THE STATE.

55. THE DECK FOR EACH SPAN IS TO BE POURED IN ONE CONTINUOUS POUR WITH A MAXIMUM DURATION OF EIGHT HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTOR'S CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A TRANSVERSE CONSTRUCTION JOINT SHALL BE USED BETWEEN ADJACENT POURS. A MINIMUM 96 HOUR DELAY BETWEEN ADJACENT POURS SHALL BE OBSERVED.

56. LOADING ALLOWANCE ON THE NEW DECK SHALL BE IN ACCORDANCE WITH SUBSECTION 501.18(B) OF THE STANDARD SPECIFICATIONS.

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

58. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.

59. THE VERTICAL KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT.

60. ALL SUPERSTRUCTURE REINFORCING STEEL SHALL BE EPOXY COATED AND PAID FOR UNDER ITEM 507.17, "EPOXY COATED REINFORCING STEEL". CUTTING AND REPAIRING DAMAGED AREAS OF COATED REINFORCING STEEL SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 507.04 OF THE STANDARD SPECIFICATIONS.

61. MINIMUM COVER FOR REINFORCING STEEL SHALL BE AS INDICATED IN THE PLANS.

62. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE:
    SPACING: +/- 1 INCH
    CLEARANCE: +/- 1/4 INCH

PILES

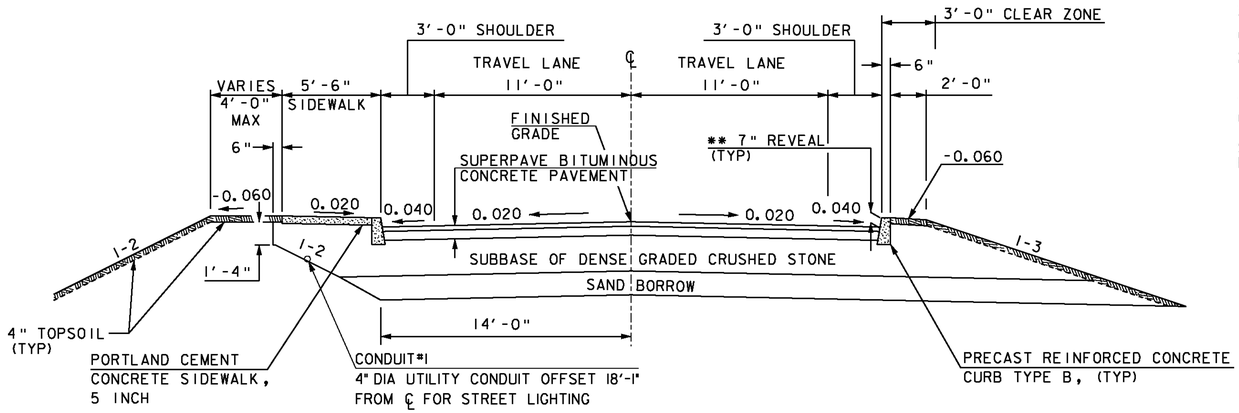
63. TWO DYNAMIC PILE TESTS PER PILE SUPPORTED SUBSTRUCTURE SHALL BE CONDUCTED. THE FIRST TEST SHALL BE ON THE FIRST PILE DRIVEN FOR EACH SUBSTRUCTURE AND THE SECOND TEST SHALL BE ON THE SECOND PILE DRIVEN FOR EACH SUBSTRUCTURE. THE FIRST TWO PILES DRIVEN ON ABUTMENT #2 SHALL BE PILES NUMBER 42 AND NUMBER 19. THE FIRST TWO PILES DRIVEN ON THE PIER SHALL BE PILES NUMBER 1 AND NUMBER 18. THERE WILL BE A TOTAL OF FOUR DYNAMIC PILE TESTS FOR THE PROJECT.

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

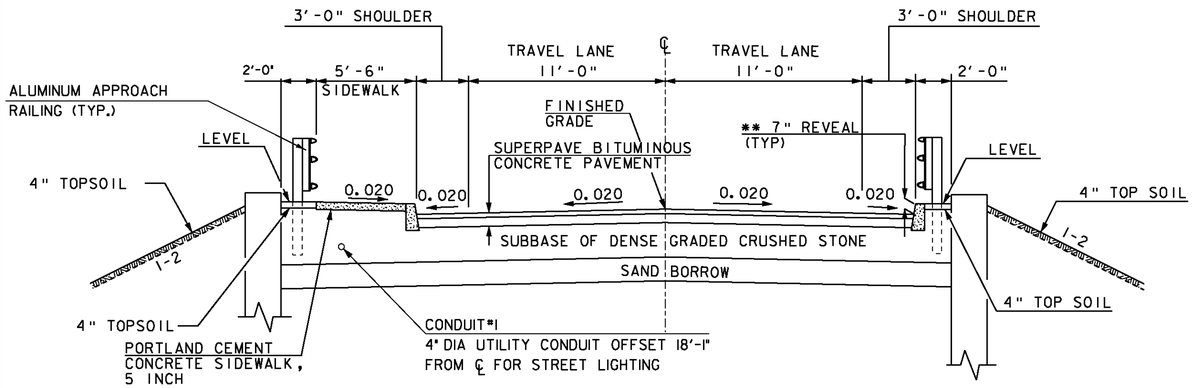
65. THE PILES SHALL BE DRIVEN TO A NOMINAL RESISTANCE OF 390 KIPS FOR THE PIER, AND A NOMINAL RESISTANCE OF 252 KIPS FOR ABUTMENT #2.

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

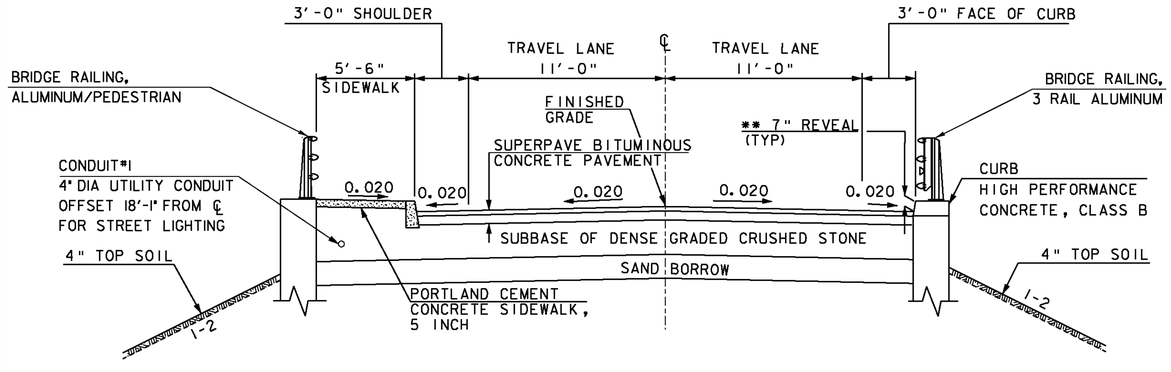
PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: sf161forms.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
GENERAL NOTES SHEET 2	SHEET 4 OF 148



TYPICAL SECTION WITHOUT GUARDRAIL



TYPICAL SECTION WITH GUARDRAIL INSIDE OF WINGWALL



TYPICAL SECTION WITH GUARDRAIL ON TOP OF WINGWALL

VT 107 (RIVER STREET)

3" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (1½" TYPE IVS OVER 1½" TYPE IVS)
6" BASE COURSE OF SUPERPAVE BITUMINOUS CONCRETE PAVEMENT - TYPE IIS (TWO 3" LIFTS)
24" SUBBASE OF DENSE GRADED CRUSHED STONE
16" SAND BORROW

TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.025 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT AS DIRECTED BY THE ENGINEER.

SEE SECTION 490 OF THE GENERAL SPECIAL PROVISIONS AND SPECIAL PROVISIONS FOR PG BINDER REQUIREMENTS.

MATERIAL ITEM	THICKNESS TOLERANCE
SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (TOTAL DEPTH)	+/-¼"
SUBBASE OF DENSE GRADED CRUSHED STONE	+/-½"
SAND BORROW	+/- 1"

** TRANSITION FROM 7" ROADWAY CURB TO 10" BRIDGE CURB IN 10'-0"

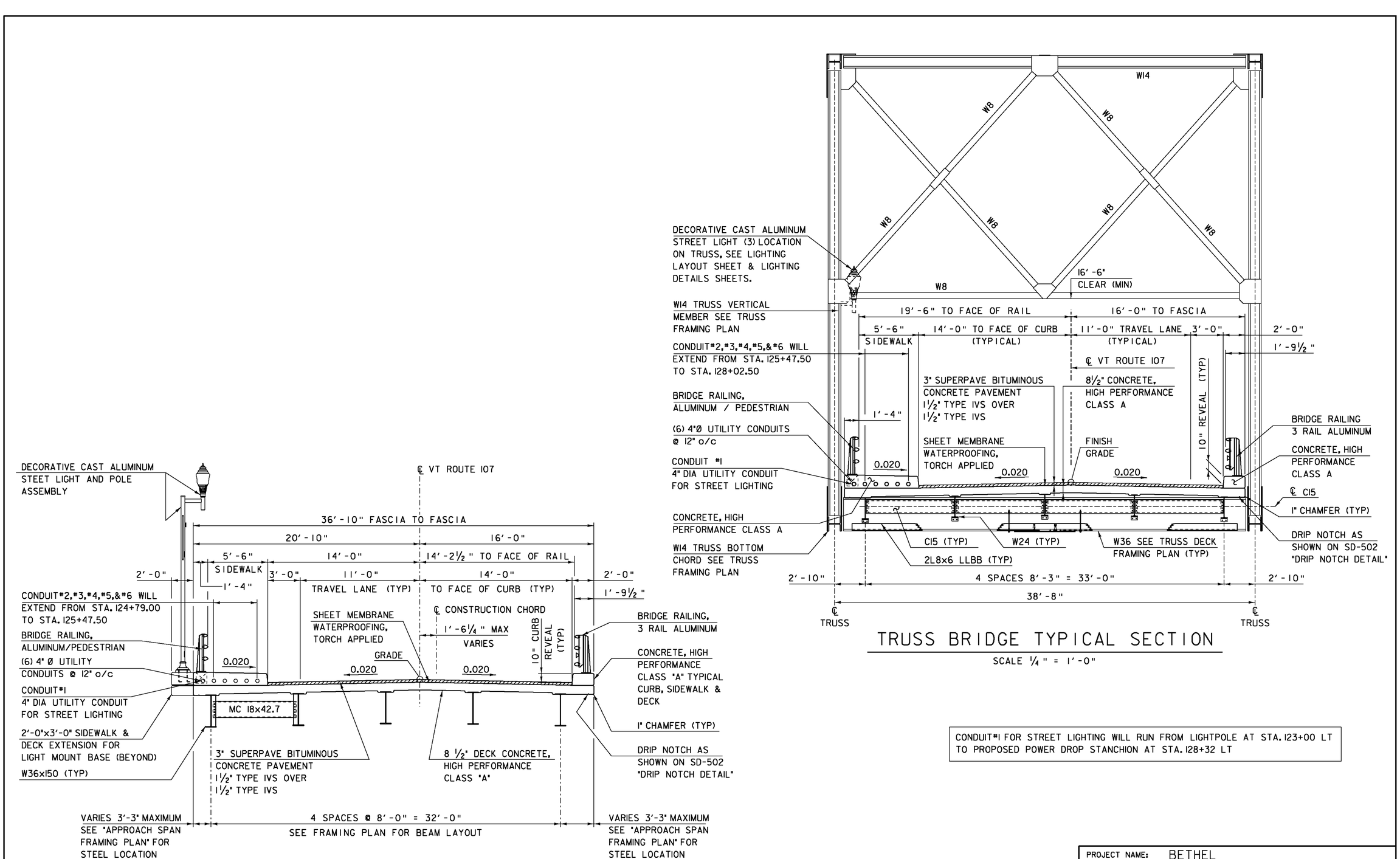
CONDUIT#1 FOR STREET LIGHTING WILL RUN FROM LIGHTPOLE AT STA. 123+00 LT TO PROPOSED POWER DROP STANCHION AT STA. 128+32 LT

SCALE 1/4" = 1'-0
1 0 2 4 6

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: sf161typ.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
TYPICAL SECTIONS - VT 107

PLOT DATE: 20-MAY-2011
DRAWN BY: G. ROKES
CHECKED BY: S. SCRIBNER
SHEET 5 OF 148



TRUSS BRIDGE TYPICAL SECTION

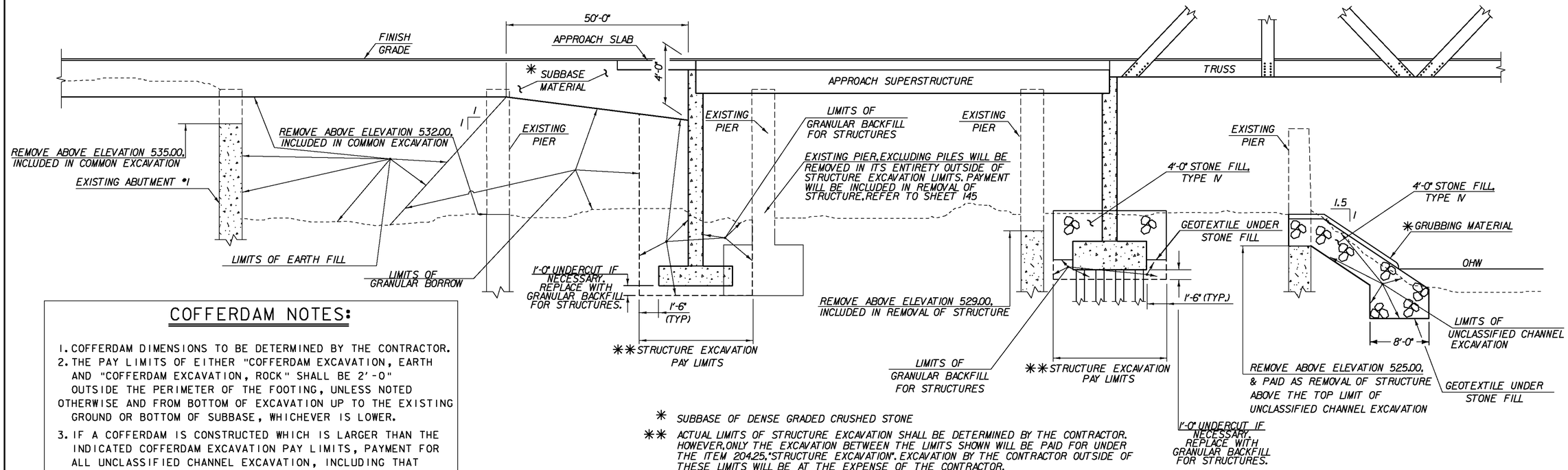
SCALE ¼" = 1'-0"

APPROACH BRIDGE TYPICAL SECTION

SCALE ¼" = 1'-0"

CONDUIT*1 FOR STREET LIGHTING WILL RUN FROM LIGHTPOLE AT STA. 123+00 LT TO PROPOSED POWER DROP STANCHION AT STA. 128+32 LT

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: sf161typ.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
BRIDGE TYPICAL SECTIONS - VT 107	SHEET 6 OF 148



COFFERDAM NOTES:

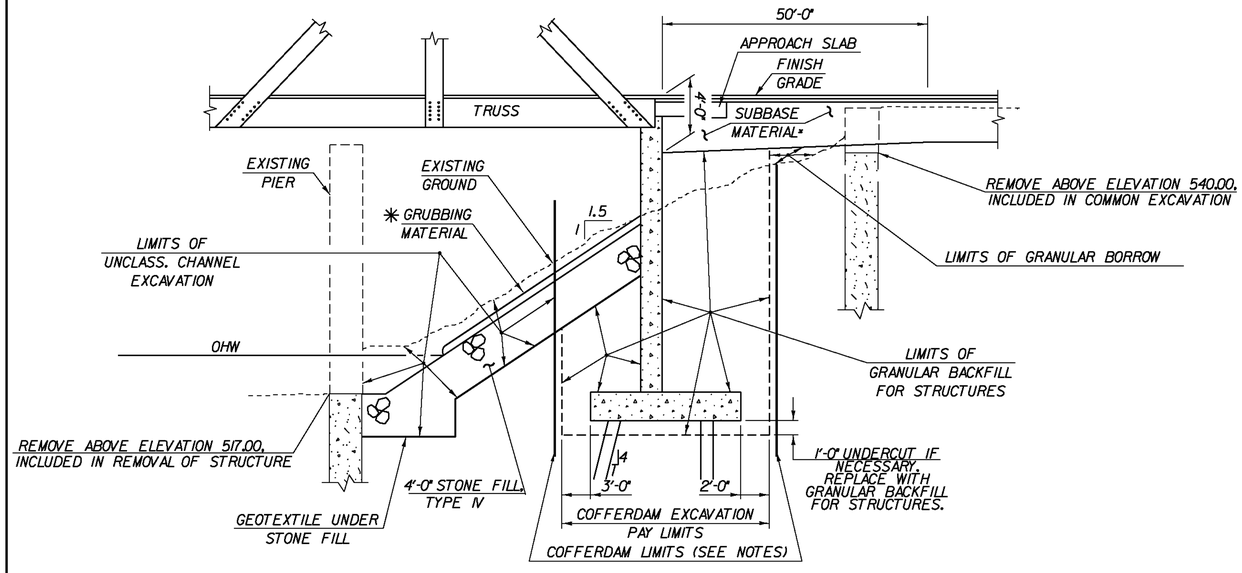
1. COFFERDAM DIMENSIONS TO BE DETERMINED BY THE CONTRACTOR.
2. THE PAY LIMITS OF EITHER "COFFERDAM EXCAVATION, EARTH AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 2'-0" OUTSIDE THE PERIMETER OF THE FOOTING, UNLESS NOTED OTHERWISE AND FROM BOTTOM OF EXCAVATION UP TO THE EXISTING GROUND OR BOTTOM OF SUBBASE, 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 TWO.

* SUBBASE OF DENSE GRADED CRUSHED STONE

** ACTUAL LIMITS OF STRUCTURE EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR. HOWEVER, ONLY THE EXCAVATION BETWEEN THE LIMITS SHOWN WILL BE PAID FOR UNDER THE ITEM 204.25, "STRUCTURE EXCAVATION". EXCAVATION BY THE CONTRACTOR OUTSIDE OF THESE LIMITS WILL BE AT THE EXPENSE OF THE CONTRACTOR.

ABUTMENT 1, PIER AND SOUTH RIVER BANK SECTION

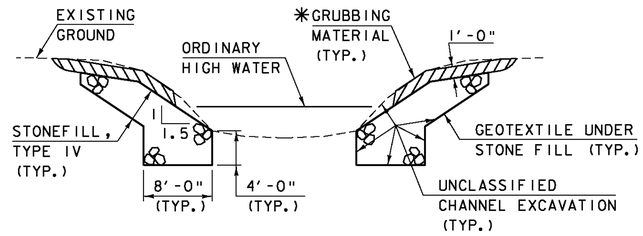
(NOT TO SCALE)



*SUBBASE OF DENSE GRADED CRUSHED STONE

ABUTMENT 2 AND NORTH RIVER BANK SECTION

(NOT TO SCALE)

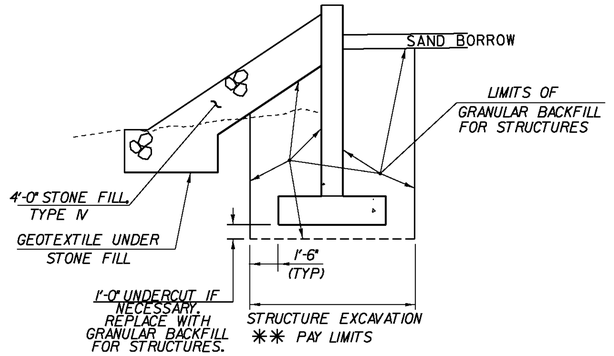


TYPICAL CHANNEL SECTION

(NOT TO SCALE)

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

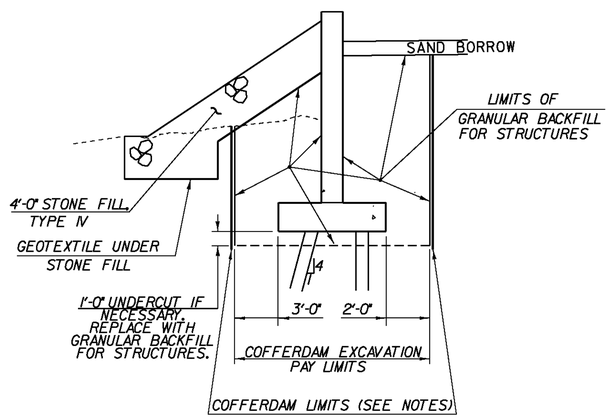
PROJECT NAME:	BETHEL
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FILE NAME: sf161typ.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
SUBSTRUCTURE EARTHWORKS SHEET 1	SHEET 7 OF 148



ABUTMENT#1 TYPICAL WINGWALL SECTION

(NOT TO SCALE)

SEE SUBSTRUCTURE EARTHWORKS SHEET 1
FOR ADDITIONAL DETAIL AND NOTES.



ABUTMENT#2 TYPICAL WINGWALL SECTION

(NOT TO SCALE)

SEE SUBSTRUCTURE EARTHWORKS SHEET 1
FOR ADDITIONAL DETAIL AND NOTES.

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PROJECT NUMBER:	BRF 022-1(14)
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PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
SUBSTRUCTURE EARTHWORKS SHEET 2	SHEET 8 OF 148

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES							TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
Roadway	ROADWAY (NON PARTICIPATING)	TRAINING	Erosion Control	Bridge	Full C&E		GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
															EARTHWORKS SUMMARY
1							1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				
1985							1985		CY	COMMON EXCAVATION	203.15				FILL REQUIRED
				850			850		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27				FILL AVALIABLE
5							5		CY	EXCAVATION OF SURFACES AND PAVEMENTS	203.28		1985	CY	COMMON EXCAVATION(1.0 X 1985)
													510	CY	UNCLASSIFIED CHANNEL EXCAVATION(0.6 X 850)
615							615		CY	SAND BORROW	203.31		812	CY	STRUCTURE EXCAVATION(0.6 X 1354)
													610	CY	TRENCH EXCAVATION EARTH(1.0 X 610)
300							300		CY	GRANULAR BORROW	203.32		188	CY	COFFERDAM EXCAVATION EARTH(0.25 X 750)
													8	CY	TRENCH EXCAVATION ROCK(0.25 X 31)
610							610		CY	TRENCH EXCAVATION OF EARTH	204.20		44	CY	COFFERDAM EXCAVATION ROCK(0.25 X 176)
													4157	CY	SUBTOTAL
31							31		CY	TRENCH EXCAVATION OF ROCK	204.21		0	CY	ROUNDING
													4157	CY	TOTAL
1							1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22				
													4157	CY	FILL AVALIABLE
				1354			1354		CY	STRUCTURE EXCAVATION	204.25		320	CY	FILL REQUIRED
													0	CY	BORROW
495				1475			1970		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30		3837	CY	WASTE
				750			750		CY	COFFERDAM EXCAVATION, EARTH	208.30				COMMON EXCAVATION
													1811	CY	MAINLINE
				176			176		CY	COFFERDAM EXCAVATION, ROCK	208.35		174	CY	DRIVES, SIDEWALKS, & STAIRCASES
													0	CY	ROUNDING
				1			1		LS	COFFERDAM	208.40		1985	CY	TOTAL
538							538		SY	COLD PLANING BITUMINOUS PAVEMENT	210.10				SUBBASE OF DENSE GRADED CRUSHED STONE
													1572	CY	MAINLINE
1680							1680		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35		107	CY	DRIVES, SIDEWALKS, & STAIRCASES
													1	CY	ROUNDING
14							14		CWT	EMULSIFIED ASPHALT	404.65		1680	CY	TOTAL
1							1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50				SUPERPAVE BITUMINOUS CONCRETE PAVEMENT
862				168			1030		TON	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT	490.30		159.8	TONS	TYPE IVS - WEARING COURSE
													159.8	TONS	TYPE IVS - BINDER COURSE
1							1		LU	MAT DENSITY PAY ADJUSTMENT (N.A.B.I.)	490.32		239.9	TONS	TYPE IIVS - BASE COURSE
													239.9	TONS	TYPE IIVS - BASE COURSE
				467			467		CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33		8.1	TONS	TYPE IVS - WEARING COURSE TH5
													8.1	TONS	TYPE IVS - BINDER COURSE TH5
4				681			685		CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34		3.6	TONS	TYPE IVS - WEARING COURSE TH69
													3.6	TONS	TYPE IVS - BINDER COURSE TH69
				1			1		LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10		0	TONS	ROUNDING
													822.8	TONS	TOTAL
				890			890		LF	STEEL PILING, HP 14 X 89	505.18				
															DRIVES
				970			970		LF	STEEL PILING, HP 14 X 117	505.20				
				4			4		EACH	DYNAMIC PILE LOADING TEST	505.45		2.8	TONS	STA 121+55 RT
													3.2	TONS	STA 122+16 RT
				67929			67929		LB	STRUCTURAL STEEL, ROLLED BEAM (FPQ)	506.50		7.2	TONS	STA 122+40 RT
													11.2	TONS	STA 122+85 LT
				761398			761398		LB	STRUCTURAL STEEL, TRUSS (FPQ)	506.57		14.2	TONS	STA 129+25 RT
													38.6	TONS	TOTAL
				200			200		LB	STRUCTURAL STEEL (FPQ)	506.60				
															BRIDGES
				146008			146008		LB	REINFORCING STEEL (FPQ)	507.15				
													84	TONS	TYPE IVS - WEARING COURSE
306							306		LB	REINFORCING STEEL	507.15		84	TONS	TYPE IVS - BINDER COURSE
													168	TONS	TOTAL
				104354			104354		LB	EPOXY COATED REINFORCING STEEL (FPQ)	507.17				
				1			1		LS	SHEAR CONNECTORS (11770 - 7/8" X 7")	508.15		1030	TONS	**TOTAL SUPERPAVE BITUMINOUS CONCRETE PAVEMENT**
				1			1		LS	STRUCTURAL PAINTING, SHOP APPLIED	513.25				
				1			1		LS	SURFACE PREPARATION, SHOP	513.40				
20				118			138		GAL	WATER REPELLENT, SILANE	514.10				
				28			28		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10				
				37			37		LF	BRIDGE EXPANSION JOINT, FINGER PLATE	516.12				
				1002			1002		SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20				
28							28		LF	METAL HAND RAILING	525.15				

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: s78f161qty.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
QUANTITY SHEET #1

PLOT DATE: 06/15/2011
DRAWN BY: M. LONGSTREET
CHECKED BY: N. VANDENBERG

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES							TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
Roadway	ROADWAY (NON PARTI-CIPATING)	TRAINING	Erosion Control	Bridge	Full C&E		GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
				352			352		LF	BRIDGE RAILING, 3 RAIL ALUMINUM	525.22				
				403			403		LF	BRIDGE RAILING, ALUMINUM/PEDESTRIAN	525.23				
				1			1		LS	MAINTENANCE OF STRUCTURES AND APPROACHES	527.10				
				1			1		LS	TWO-WAY TEMPORARY BRIDGE (9240 SF - EST.)	528.11				
				1			1		EACH	REMOVAL OF STRUCTURE (11500 SF - EST.)	529.15				
				10			10		EACH	BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD	531.11				
				4			4		EACH	BEARING DEVICE ASSEMBLY, POT	531.12				
										BEGIN OPTION AA					
24							24		LF	12" CAAP .060 (2-2/3 X 1/2)	601.0205				
24							24		LF	12" PCCSP .064 (2-2/3 X 1/2)	601.0405				
24							24		LF	12" CPEP	601.0905				
										END OPTION AA					
										BEGIN OPTION BB					
412							412		LF	18" CAAP .105 (2-2/3 X 1/2)	601.0217				
412							412		LF	18" PCCSP .079 (2-2/3 X 1/2)	601.0416				
412							412		LF	18" CPEP	601.0915				
										END OPTION BB					
										BEGIN OPTION CC					
170							170		LF	24" CAAP .105 (2-2/3 X 1/2)	601.0227				
170							170		LF	24" PCCSP .109 (2-2/3 X 1/2)	601.0427				
170							170		LF	24" CPEP	601.0920				
										END OPTION CC					
1							1		EACH	CONCRETE MANHOLE WITH CAST IRON COVER	604.11				
9							9		EACH	PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE	604.20				
	4						4		EACH	CHANGING ELEVATION OF SEWER MANHOLES	604.42				
10							10		HR	BULLDOZER RENTAL, TYPE I	608.10				
10							10		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25				
10							10		HR	LOADER RENTAL, TYPE I	608.40				
10							10		MGAL	DUST CONTROL WITH WATER	609.10				
1							1		TON	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15				
			10				10		CY	STONE FILL, TYPE I	613.10				
				1180			1180		CY	STONE FILL, TYPE IV	613.13				
752							752		LF	PRECAST REINFORCED CONCRETE CURB, TYPE B	616.26				
291							291		SY	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	618.10				
65							65		SY	PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH	618.11				
18							18		SF	DETECTABLE WARNING SURFACE	618.30				
37.5							37.5		LF	STEEL BEAM GUARDRAIL GALVANIZED	621.20				
2							2		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60				
				100			100		LF	ALUMINUM APPROACH RAILING	621.74				
27							27		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: s78f161qty.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
QUANTITY SHEET #2

PLOT DATE: 06/15/2011
DRAWN BY: M. LONGSTREET
CHECKED BY: N. VANDENBERG

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

SUMMARY OF ESTIMATED QUANTITIES							TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
Roadway	ROADWAY (NON PARTI-CIPATING)	TRAINING	Erosion Control	Bridge	Full C&E		GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
4000							4000		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				
		1040					1040		HR	EMPLOYEE TRAINEESHIP	634.10				
1							1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
1							1		LS	TRAFFIC CONTROL	641.10				
1900							1900		LF	4 INCH WHITE LINE	646.20				
1900							1900		LF	4 INCH YELLOW LINE	646.21				
31							31		LF	CROSSWALK MARKING	646.31				
17							17		LF	DURABLE 24 INCH STOP BAR	646.480				
100							100		EACH	LINE STRIPING TARGETS	646.76				
			961				961		SY	GEOTEXTILE UNDER STONE FILL	649.31				
			174				174		SY	GEOTEXTILE FOR SILT FENCE	649.51				
			105				105		SY	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515				
			112				112		SY	GEOTEXTILE FOR FILTER CURTAIN	649.61				
			100				100		LB	SEED	651.15				
			10				10		LB	SEED, WINTER RYE	651.17				
			600				600		LB	FERTILIZER	651.18				
			2.5				2.5		TON	AGRICULTURAL LIMESTONE	651.20				
			4				4		TON	HAY MULCH	651.25				
			120				120		CY	TOPSOIL	651.35				
			665				665		SY	GRUBBING MATERIAL	651.40				
			1				1		LS	EPSC PLAN	652.10				
			200				200		HR	MONITORING EPSC PLAN	652.20				
			1				1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
			870				870		SY	TEMPORARY EROSION MATTING	653.20				
			62				62		CY	VEHICLE TRACKING PAD	653.35				
			9				9		EACH	INLET PROTECTION DEVICE, TYPE I	653.40				
			580				580		LF	BARRIER FENCE	653.50				
			570				570		LF	PROJECT DEMARCATION FENCE	653.55				
18.2							18.2		SF	TRAFFIC SIGNS, TYPE A	675.20				
15.6							15.6		LB	TUBULAR ALUMINUM SIGN POST	675.32				
61							61		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
26	1						27		EACH	REMOVING SIGNS	675.50				
21	1						22		EACH	ERECTING SALVAGED SIGNS	675.60				
2							2		EACH	DELINEATOR WITH STEEL POST	676.10				
1761							1761		LF	ELECTRICAL CONDUIT (4")	678.21				
352							352		LF	WIRED CONDUIT (4")	678.23				

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: s78f161qty.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
QUANTITY SHEET #3

PLOT DATE: 06/15/2011
DRAWN BY: M. LONGSTREET
CHECKED BY: N. VANDENBERG

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 4

SUMMARY OF ESTIMATED QUANTITIES							TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
Roadway	ROADWAY (NON PARTI-CIPATING)	TRAINING	Erosion Control	Bridge	Full C&E	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
4				4		8		EACH	JUNCTION BOX	678.26				
4				1		5		EACH	LIGHT POLE BASE	679.21				
4				1		5		EACH	LIGHT POLE	679.45				
4				1		5		EACH	BRACKET ARM	679.47				
8						8		EACH	LUMINAIRE	679.50				
1						1		EACH	POWER DROP STANCHION, STREET LIGHTING	679.55				
				228		228		CY	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, MASS POUR)	900.608				
1						1		EACH	SPECIAL PROVISION (STAINLESS STEEL TRAFFIC MIRROR)	900.620				
				43446		43446		LB	SPECIAL PROVISION (HIGH PERFORMANCE STEEL, GRADE HPS 70W) (TRUSS)(FPQ))	900.635				

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: s78f161qty.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
QUANTITY SHEET #4

PLOT DATE: 06/15/2011
DRAWN BY: M. LONGSTREET
CHECKED BY: N. VANDENBERG

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

SUMMARY OF BRIDGE QUANTITIES									TOTALS	DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
Temporary Bridge	APP SLAB 1	ABUTMENT 1	SUPER-STRUCTURE 1 (APP SPAN)	PIER	SUPER-STRUCTURE 2 (TRUSS SPAN)	ABUTMENT 2	APP SLAB 2		BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
		295				555			850	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
		1149		205					1354	CY	STRUCTURE EXCAVATION	204.25			
		1130				345			1475	CY	GRANULAR BACKFILL FOR STRUCTURES	204.30			
						750			750	CY	COFFERDAM EXCAVATION, EARTH	208.30			
						176			176	CY	COFFERDAM EXCAVATION, ROCK	208.35			
						1			1	LS	COFFERDAM	208.40			
			37		131				168	TON	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT	490.30			
			108		348	11			467	CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33			
	26	247		86		296	26		681	CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34			
				0.5		0.5			1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10			
						890			890	LF	STEEL PILING, HP 14 X 89	505.18			
				970					970	LF	STEEL PILING, HP 14 X 117	505.20			
				2		2			4	EACH	DYNAMIC PILE LOADING TEST	505.45			
			67929						67929	LB	STRUCTURAL STEEL, ROLLED BEAM (FPQ)	506.50			
					761398				761398	LB	STRUCTURAL STEEL, TRUSS (FPQ)	506.57			
					200				200	LB	STRUCTURAL STEEL (FPQ)	506.60			
		46410		35240		64358			146008	LB	REINFORCING STEEL (FPQ)	507.15			
	3030		23442		73769	1013	3100		104354	LB	EPOXY COATED REINFORCING STEEL (FPQ)	507.17			
			0.5		0.5				1	LS	SHEAR CONNECTORS (11770 - 7/8" X 7")	508.15			
			1						1	LS	STRUCTURAL PAINTING, SHOP APPLIED	513.25			
			1						1	LS	SURFACE PREPARATION, SHOP	513.40			
		30	13	25	30	20			118	GAL	WATER REPELLENT, SILANE	514.10			
		28							28	LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10			
					37				37	LF	BRIDGE EXPANSION JOINT, FINGER PLATE	516.12			
			300		702				1002	SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20			
			352						352	LF	BRIDGE RAILING, 3 RAIL ALUMINUM	525.22			
			403						403	LF	BRIDGE RAILING, ALUMINUM/PEDESTRIAN	525.23			
1									1	LS	MAINTENANCE OF STRUCTURES AND APPROACHES	527.10			
					1				1	LS	TWO-WAY TEMPORARY BRIDGE (9240 SF - EST.)	528.11			
			1						1	EACH	REMOVAL OF STRUCTURE (11500 SF - EST.)	529.15			
		5		5					10	EACH	BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD	531.11			
				2		2			4	EACH	BEARING DEVICE ASSEMBLY, POT	531.12			
		670		73		437			1180	CY	STONE FILL, TYPE IV	613.13			
		50				50			100	LF	ALUMINUM APPROACH RAILING	621.74			
			1		3				4	EACH	JUNCTION BOX	678.26			
			1						1	EACH	LIGHT POLE BASE	679.21			
			1						1	EACH	LIGHT POLE	679.45			
			1						1	EACH	BRACKET ARM	679.47			
				107		121			228	CY	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, MASS POUR)	900.608			
					43446				43446	LB	SPECIAL PROVISION (HIGH PERFORMANCE STEEL, GRADE HPS 70W) (TRUSS)(FPQ))	900.635			

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: s78f161qty.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
BRIDGE QUANTITY SHEET #1

PLOT DATE: 05/10/2011
DRAWN BY: M. LONGSTREET
CHECKED BY: N. VANDENBERG

GPS CONTROL POINTS

HVCTRL #1

CLEVELAND

NORTH = 77610.30
EAST = 1931.49
ELEV. = 579.72

DESCRIBED BY VERMONT AGENCY OF TRANSPORTATION 1996 (DJM) GENERAL LOCATION BETHEL, 1.4 MILES (2.3 KM) SW OF BETHEL VILLAGE. TO REACH FROM THE JUNCTION OF VT 107 AND VT 12 SOUTH OF BETHEL, PROCEED EASTERLY ALONG VT 107 AND VT 12 FOR APPROX 0.3 M (1.0 FT) TO THE MARK ON THE LEFT. THE MARK IS DIRECTLY OPPOSITE CLEVELAND BROOK ROAD, 25.5 FT (7.8 M) NORTH FROM THE CENTERLINE OF VT 107 AND VT 12. OWNERSHIP STATE OF VERMONT STATION MARK IS A STATE OF VERMONT SURVEY MARK SET IN THE TOP OF A 12 INCH DIAMETER CONCRETE POST SET FLUSH WITH GROUND. IT IS 25.5 FT (7.8 M) NORTH OF CENTERLINE VT 107 AND VT 12, 4.5 FT (1.4 M) NORTH OF 3 CABLE GUARD RAIL, 45 FT (13.7 M) SOUTHEAST FROM COMBINATION POLE 4/49/57, 15 FT (4.6 M) SOUTH OF THE NORTH END OF A 4 FT (1.2 M) X 5 FT (1.5 M) CONCRETE BOX, 72 FT (21.9 M) NORTH OF THE SOUTH END OF A 4 FT (1.2 M) X 5 FT (1.5 M) CONCRETE BOX.

HVCTRL #2

CLEVELAND AZ

NORTH = 78386.83
EAST = 3594.38
ELEV. = 553.18

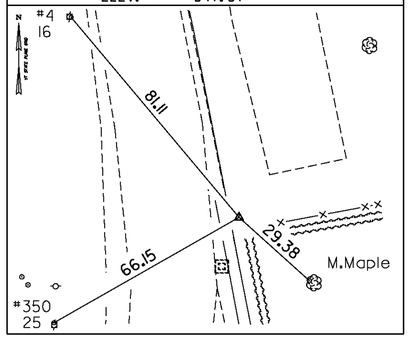
DESCRIBED BY VERMONT AGENCY OF TRANSPORTATION 1996 (DJM) GENERAL LOCATION, BETHEL, VT. 1.1 MILES (1.8 KM) SOUTHWEST OF BETHEL VILLAGE. OWNERSHIP STATE OF VERMONT. TO REACH FROM THE JUNCTION OF VT ROUTE 107 AND VT ROUTE 12, SOUTH OF BETHEL, PROCEED EASTERLY ALONG VT 107 AND VT 12 FOR APPROX 0.6 M (2.0 FT) TO THE MARK ON THE LEFT. STATION MARK IS A STATE OF VERMONT SURVEY MARK SET IN THE TOP OF A 12 INCH DIAMETER CONCRETE POST SET FLUSH WITH GROUND. IT IS 26 FT (7.9 M) NORTHWEST OF THE CENTERLINE OF THE ROAD, 88.5 FT (27.0 M) SOUTHWEST OF COMBINATION POLE 49/4/41, 143 FT (43.6 M) WEST OF 18 INCH CGMP WITH 7FT MARBLE HEADWALL.

- TO ALLOW THE STATE PLANE COORDINATES TO FIT THE AGENCY DESIGN PLANE, SUBTRACT 400,000 FROM THE NORTHINGS AND SUBTRACT 1,600,000 FROM THE EASTINGS

TRAVERSE TIES

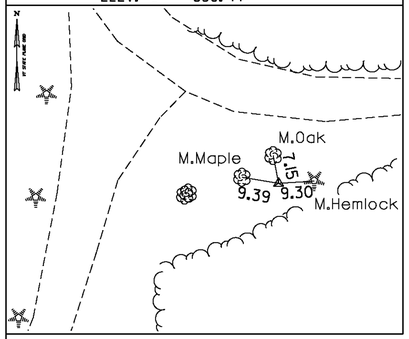
HVCTRL #6

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EAST = 5769.29
ELEV. = 547.37



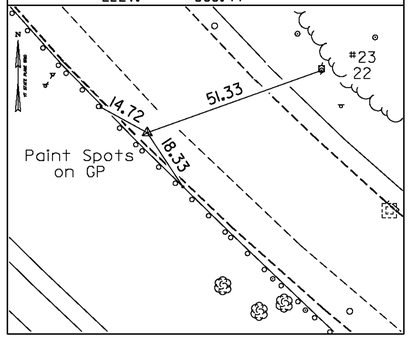
HVCTRL #7

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EAST = 6136.34
ELEV. = 550.44



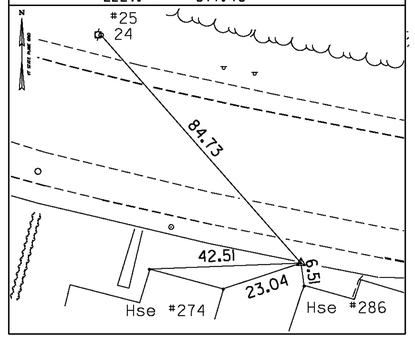
HVCTRL #8

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ELEV. = 568.77



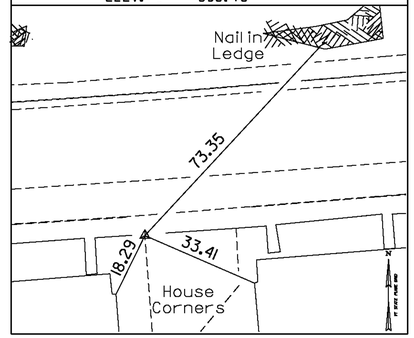
HVCTRL #9

NORTH = 83182.31
EAST = 6845.80
ELEV. = 577.18



HVCTRL #10

NORTH = 83089.54
EAST = 7611.91
ELEV. = 593.13

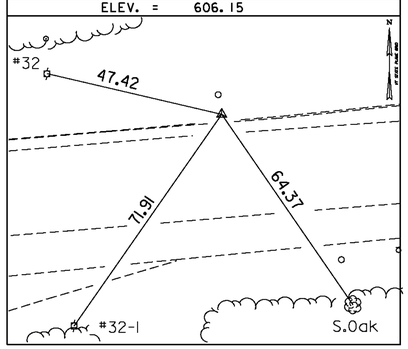


- Main Traverse Completed 12/94 by R.Gilman P.C. & T.Companiion

Traverse Ties

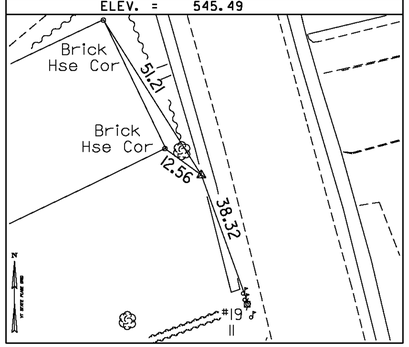
HVCTRL #11

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ELEV. = 606.15



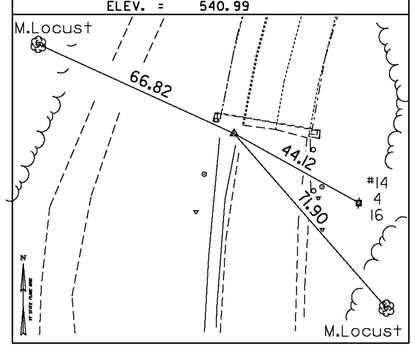
HVCTRL #50

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ELEV. = 545.49



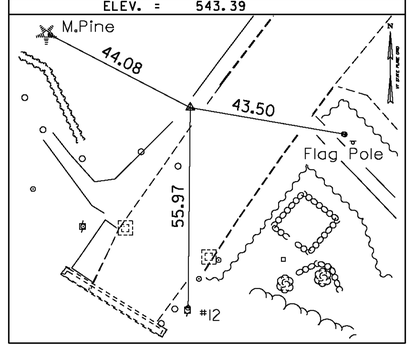
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ELEV. = 540.99



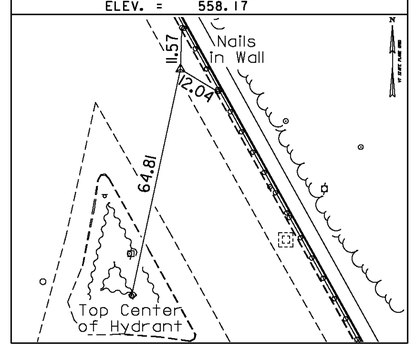
HVCTRL #52

NORTH = 83948.16
EAST = 5714.11
ELEV. = 543.39



HVCTRL #53

NORTH = 84210.63
EAST = 5948.87
ELEV. = 558.17



- Secondary Traverse Completed 3/22/07 by R.Gilman P.C. & P.Winters & R.Bullock

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)
ADJUSTMENT Compass

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

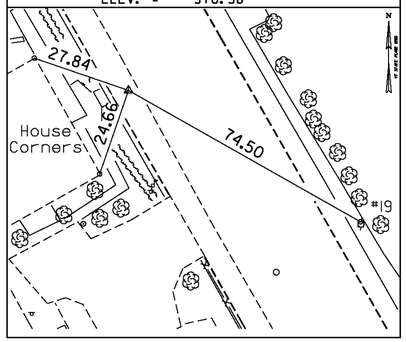
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PROJECT LEADER: Martha Evans-Mongeon
DESIGNED BY:
TIE SHEET 1 OF 2

PLOT DATE: 20-MAY-2011
DRAWN BY: R. Bullock
CHECKED BY:
SHEET 14 OF 148

Traverse Ties

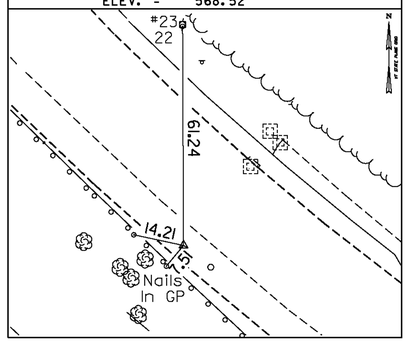
HVCTRL #54

NORTH = 83778.01
EAST = 6163.20
ELEV. = 570.58



HVCTRL #55

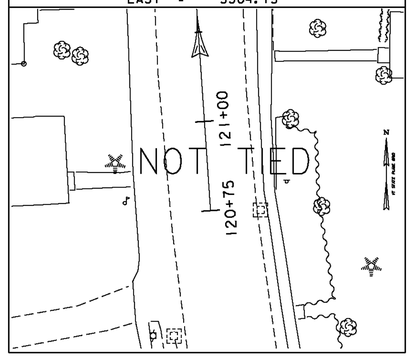
NORTH = 83384.43
EAST = 6440.96
ELEV. = 568.52



ALIGNMENT TIES

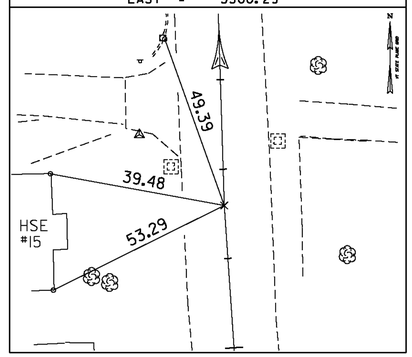
POB 120+75.00

NORTH = 83204.09
EAST = 5504.73



PI 121+39.86

NORTH = 83268.80
EAST = 5500.29

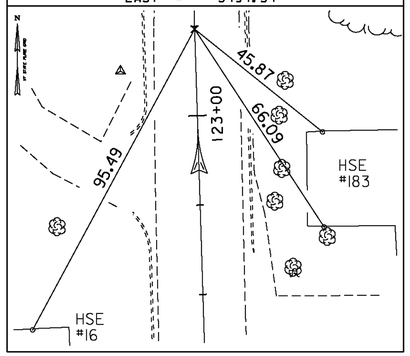


• AlignmentStaked 3/22/07 by R.Gilman P.C. & P.Winters & R.Bullock

Alignment Ties

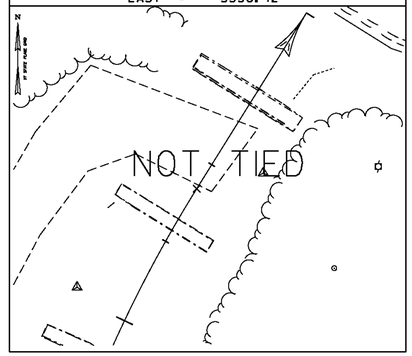
PC 123+24.21

NORTH = 83453.07
EAST = 5494.54



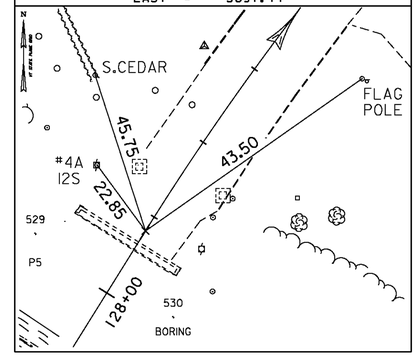
PT 125+42.09

NORTH = 83660.41
EAST = 5550.42



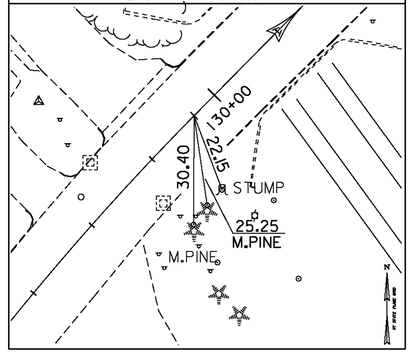
PC 128+20.43

NORTH = 83896.58
EAST = 5697.71



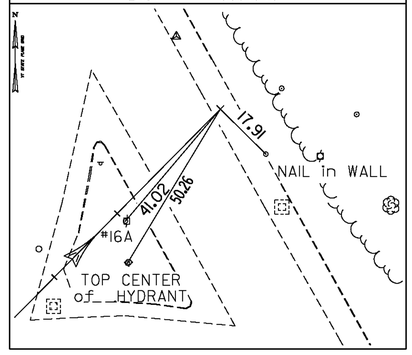
PT 129+91.89

NORTH = 84030.89
EAST = 5803.74



EXT POE 132+16.00

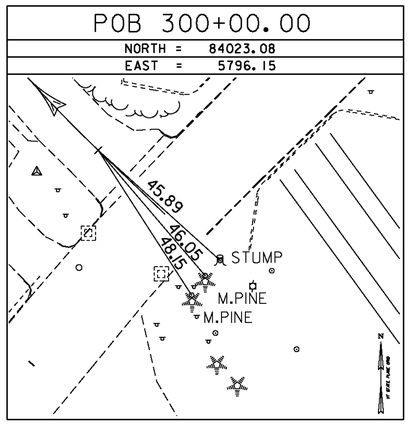
NORTH = 84190.37
EAST = 5961.19



ALIGNMENT TIES

POB 300+00.00

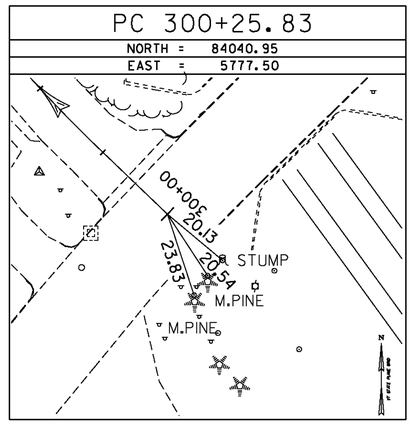
NORTH = 84023.08
EAST = 5796.15



PEVINE BLVRD

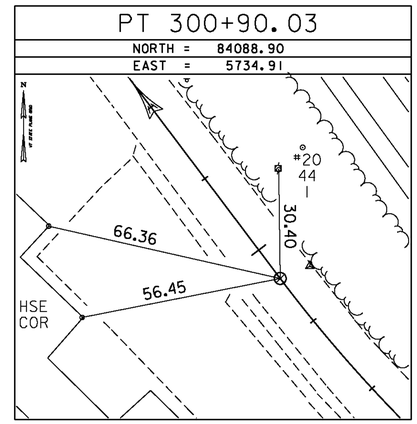
PC 300+25.83

NORTH = 84040.95
EAST = 5777.50



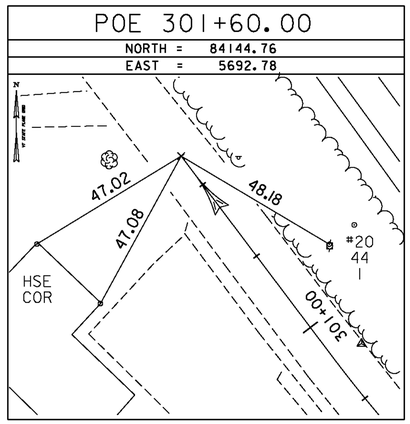
PT 300+90.03

NORTH = 84088.90
EAST = 5734.91



POE 301+60.00

NORTH = 84144.76
EAST = 5692.78

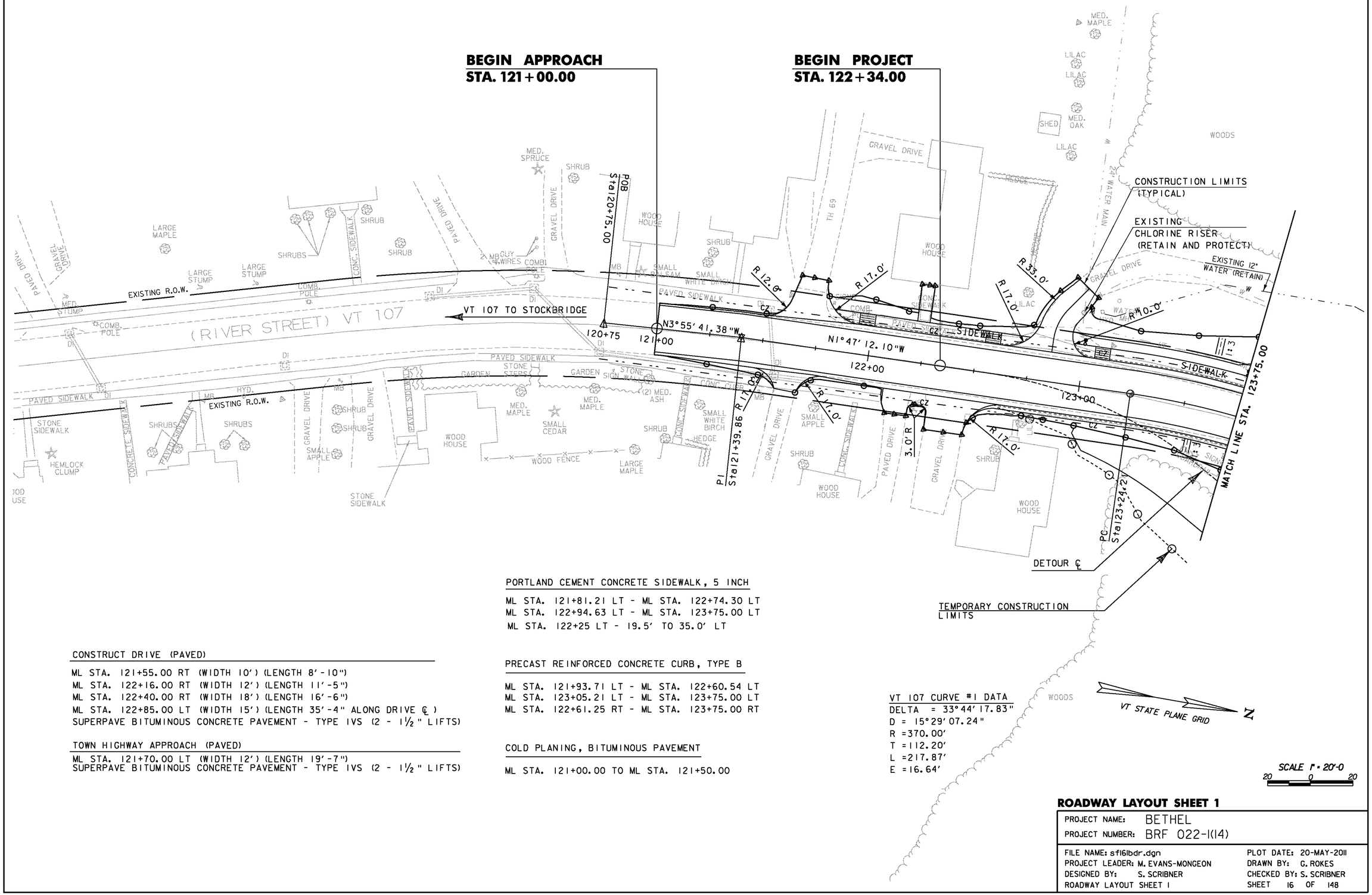


DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (92)
ADJUSTMENT	Compass

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: 78f161\survey\x78f161t1.dg
PROJECT LEADER: Martha Evans-Mongeon
DESIGNED BY:
TIE SHEET 2 OF 2

PLOT DATE: 20-MAY-2011
DRAWN BY: R. Bullock
CHECKED BY:
SHEET 15 OF 148



CONSTRUCT DRIVE (PAVED)

ML STA. 121+55.00 RT (WIDTH 10') (LENGTH 8'-10")
ML STA. 122+16.00 RT (WIDTH 12') (LENGTH 11'-5")
ML STA. 122+40.00 RT (WIDTH 18') (LENGTH 16'-6")
ML STA. 122+85.00 LT (WIDTH 15') (LENGTH 35'-4" ALONG DRIVE ℄)
SUPERPAVE BITUMINOUS CONCRETE PAVEMENT - TYPE IVS (2 - 1½" LIFTS)

TOWN HIGHWAY APPROACH (PAVED)

ML STA. 121+70.00 LT (WIDTH 12') (LENGTH 19'-7")
SUPERPAVE BITUMINOUS CONCRETE PAVEMENT - TYPE IVS (2 - 1½" LIFTS)

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH

ML STA. 121+81.21 LT - ML STA. 122+74.30 LT
ML STA. 122+94.63 LT - ML STA. 123+75.00 LT
ML STA. 122+25 LT - 19.5' TO 35.0' LT

PRECAST REINFORCED CONCRETE CURB, TYPE B

ML STA. 121+93.71 LT - ML STA. 122+60.54 LT
ML STA. 123+05.21 LT - ML STA. 123+75.00 LT
ML STA. 122+61.25 RT - ML STA. 123+75.00 RT

COLD PLANING, BITUMINOUS PAVEMENT

ML STA. 121+00.00 TO ML STA. 121+50.00

VT 107 CURVE #1 DATA

DELTA = 33° 44' 17.83"
D = 15° 29' 07.24"
R = 370.00'
T = 112.20'
L = 217.87'
E = 16.64'

ROADWAY LAYOUT SHEET 1

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: sf161bdr.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
ROADWAY LAYOUT SHEET 1	SHEET 16 OF 148

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH

STAIR STA. 0+00.00 - 0+21.83, ML STA. 128+50 LT
(SEE TOWN STAIRCASE SHEET)
STAIR STA. 0+34.17 - 0+47.75, ML STA. 128+50 LT
(SEE TOWN STAIRCASE SHEET)

ML STA. 123+75.00 LT - 124+79.00 LT
ML STA. 128+02.50 LT - 128+41.23 LT
ML STA. 128+64.73 LT - 129+00.00 LT
ML STA. 128+85.00 RT - 15.0' TO 77.0' RT

METAL HAND RAILING

STAIR STA. 0+21.83 TO 0+34.17, (ML STA. 128+50 RT)
(HAND RAIL EACH SIDE OF STAIR SEE STD J-2)
AND SEE (TOWN STAIRCASE SHEET)

CONCRETE, HIGH PERFORMANCE CLASS B (CONCRETE STAIRS)

STAIR STA. 0+21.83 TO 0+34.17, (ML STA. 128+50 RT)
SEE (TOWN STAIRCASE SHEET)

PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH
CONSTRUCT DRIVE

STATION	WIDTH/OFFSET FROM SHOULDER
ML STA. 128+53.00 LT	24.0 FT / 24.0 FT

BRIDGE RAILING, ALUMINUM/PEDESTRIAN
ML STA. 123+99.33 LT - 128+02.25 LT

BRIDGE RAILING, 3 RAIL ALUMINUM
ML STA. 124+50.26 RT - 128+02.25 RT

ALUMINUM APPROACH RAILING
ML STA. 123+76.52 LT - 123+99.33 LT
ML STA. 124+24.76 RT - 124+50.26 RT
ML STA. 128+02.25 RT - 128+27.38 RT
ML STA. 128+02.25 LT - 128+27.14 LT

STEEL BEAM GUARDRAIL, GALVANIZED
ML STA. 128+27.14 LT - 128+40.49 LT
ML STA. 128+27.38 RT - 128+40.00 RT

REMOVAL AND DISPOSAL OF GUARDRAIL
ML STA. 123+75.00 RT - 124+02.00 RT

DELINEATOR WITH STEEL POST
ML STA. 125+96.00 21'-2" RT (WHITE)
ML STA. 128+01.00 35'-4" RT (WHITE)

N
VT STATE PLANE GRID

MAIN LINE STA. 128+20.00
= CHANNEL STA. 8+00.00
= 90° 00' 00"

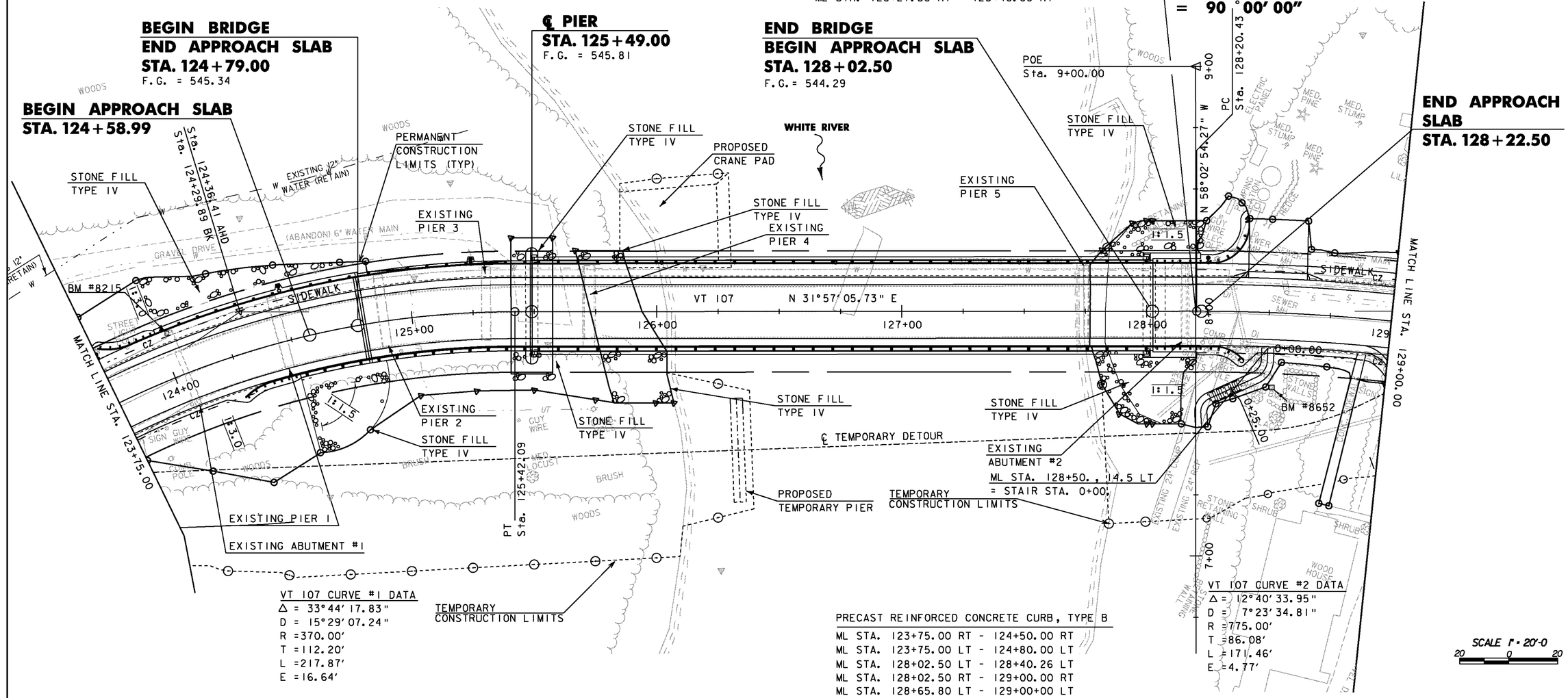
BEGIN BRIDGE
END APPROACH SLAB
STA. 124+79.00
F.G. = 545.34

BEGIN APPROACH SLAB
STA. 124+58.99

℄ PIER
STA. 125+49.00
F.G. = 545.81

END BRIDGE
BEGIN APPROACH SLAB
STA. 128+02.50
F.G. = 544.29

END APPROACH SLAB
STA. 128+22.50



VT 107 CURVE #1 DATA
Δ = 33°44' 17.83"
D = 15°29' 07.24"
R = 370.00'
T = 112.20'
L = 217.87'
E = 16.64'

VT 107 CURVE #2 DATA
Δ = 12°40' 33.95"
D = 7°23' 34.81"
R = 775.00'
T = 86.08'
L = 171.46'
E = 4.77'

PRECAST REINFORCED CONCRETE CURB, TYPE B

ML STA. 123+75.00 RT - 124+50.00 RT
ML STA. 123+75.00 LT - 124+80.00 LT
ML STA. 128+02.50 LT - 128+40.26 LT
ML STA. 128+02.50 RT - 129+00.00 RT
ML STA. 128+65.80 LT - 129+00+00 LT

ANCHOR FOR STEEL BEAM RAIL

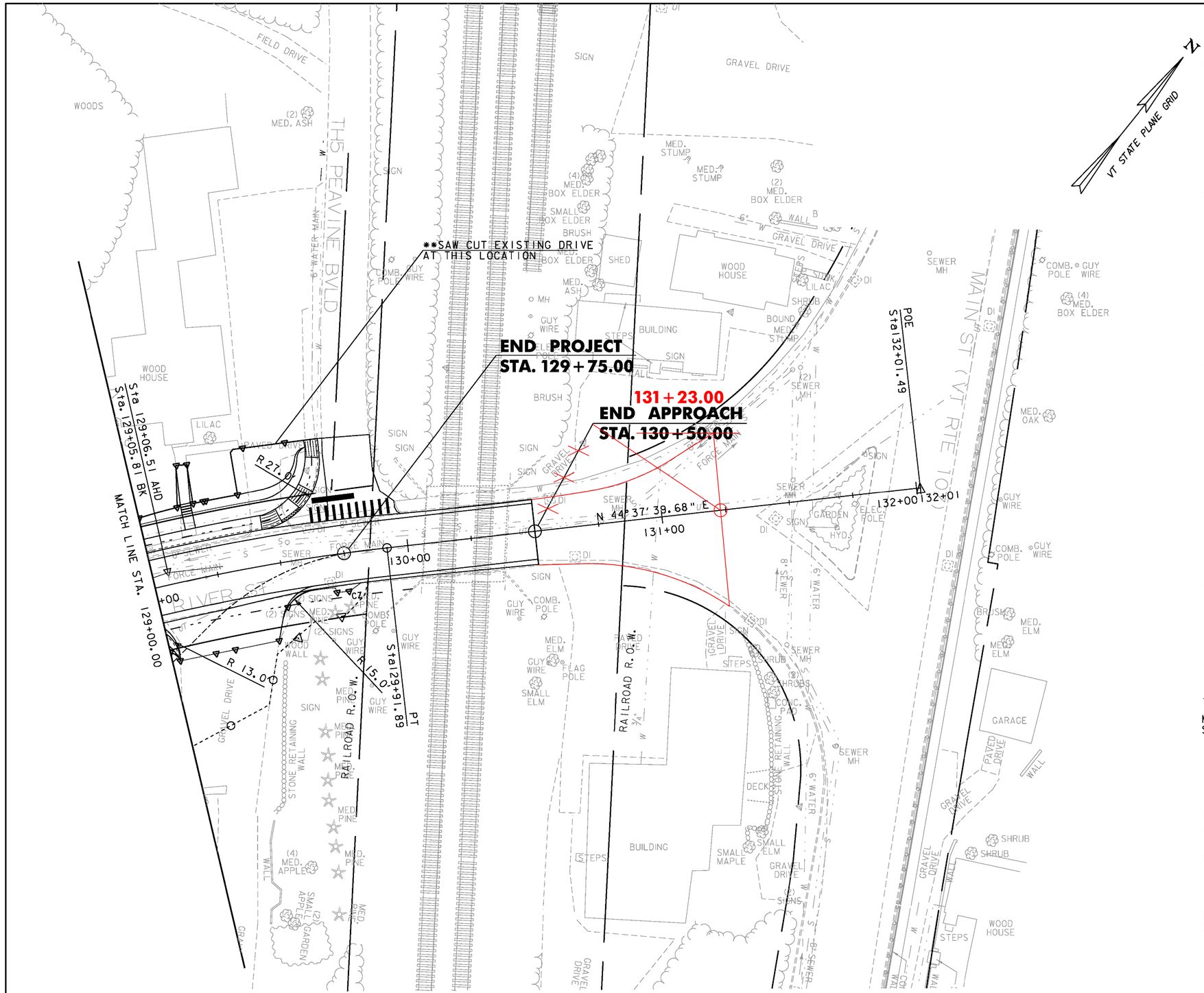
ML STA. 128+41.00 LT
ML STA. 128+35.00 RT

SCALE 1" = 20'-0
20 0 20

ROADWAY LAYOUT SHEET 2

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: sf161bdr.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
ROADWAY LAYOUT SHEET 2	SHEET 17 OF 148



SCALE 1" = 20'-0
20 0 20

EXCAVATION OF SURFACES AND PAVEMENTS

STA. 129+43.10 LT (OFFSET 46'-0")
STA. 129+65.80 LT (OFFSET 46'-0")
**COST OF SAW CUT SHALL BE INCIDENTAL TO THIS ITEM

DETECTABLE WARNING SURFACE

STA. 129+58.00 LT

COLD PLANING, BITUMINOUS PAVEMENT

ML STA. 129+80.00 TO STA. 130+50.00

TH5 STA. 129+72.58 LT OFFSET = 45 FT -
STA. 129+96.60 LT OFFSET = 18 FT
(3 INCH DEPTH)

METAL HAND RAILING

ML STA. 129+18.00 LT (STAIRS, LENGTH= 4 FT/SIDE, 8 FT TOTAL)

CONCRETE, HIGH PERFORMANCE CLASS B (CONCRETE STAIRS)

ML STA. 129+18.00 LT

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH

ML STA. 129+00.00 LT -
ML STA. 129+70.90 LT OFFSET = 45.80 FT

ML STA. 129+18.00 LT (SIDEWALK TO HOUSE) (LENGTH = 21 FT)

PRECAST REINFORCED CONCRETE CURB, TYPE B

ML STA. 129+00.00 LT - ML STA. 129+53.23 LT
ML STA. 129+00.00 RT - ML STA. 129+03.17 RT
ML STA. 129+60.98 LT - ML STA. 129+70.90 LT
OFFSET = 45.80 FT

CONSTRUCT PAVED DRIVE

ML STA. 129+25.00 RT (WIDTH 40') (LENGTH 16'-2")

TOWN HIGHWAY APPROACH (PAVED)

ML STA. 129+81.00 LT (WIDTH 20') (LENGTH 32'-0")
SUPERPAVE BITUMINOUS CONCRETE PAVEMENT - TYPE IVS
(2 - 1½" LIFTS)

VT 107 CURVE #2 DATA

Δ = 12° 40' 33.95"
D = 7° 23' 34.81"
R = 775.00'
T = 86.08'
L = 171.46'
E = 4.77'

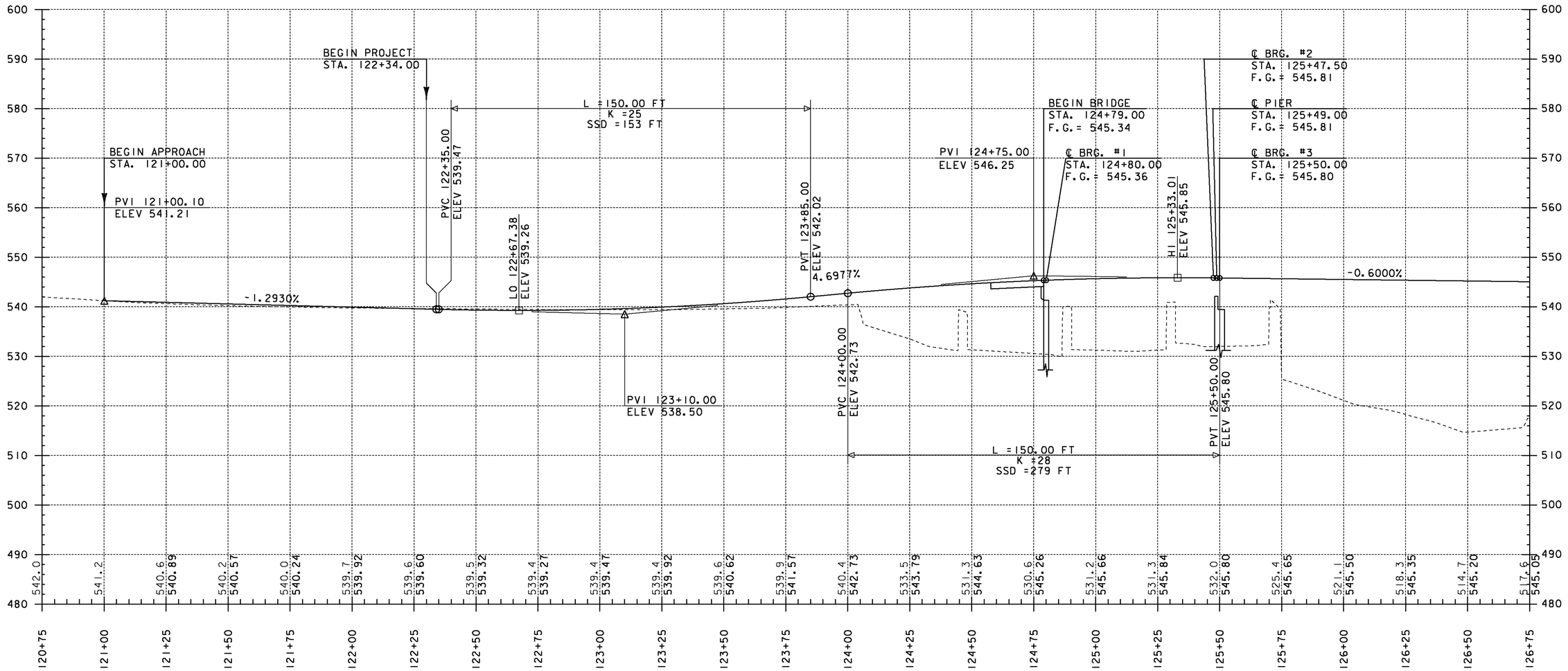
REHAB DI, CB OR MH, CLASS I
ML STA. 130+60.00 LT
ML STA. 130+65.00 RT

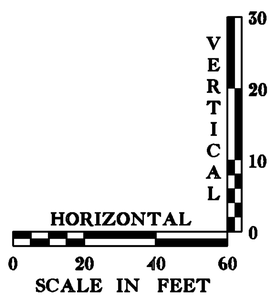
ROADWAY LAYOUT SHEET 3

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: sf161bdr.dgn		PLOT DATE:	20-MAY-2011
PROJECT LEADER:	M. EVANS-MONGEON	DRAWN BY:	G. ROKES
DESIGNED BY:	S. SCRIBNER	CHECKED BY:	S. SCRIBNER
ROADWAY LAYOUT SHEET 3		SHEET	18 OF 148

VT 107 PROFILE





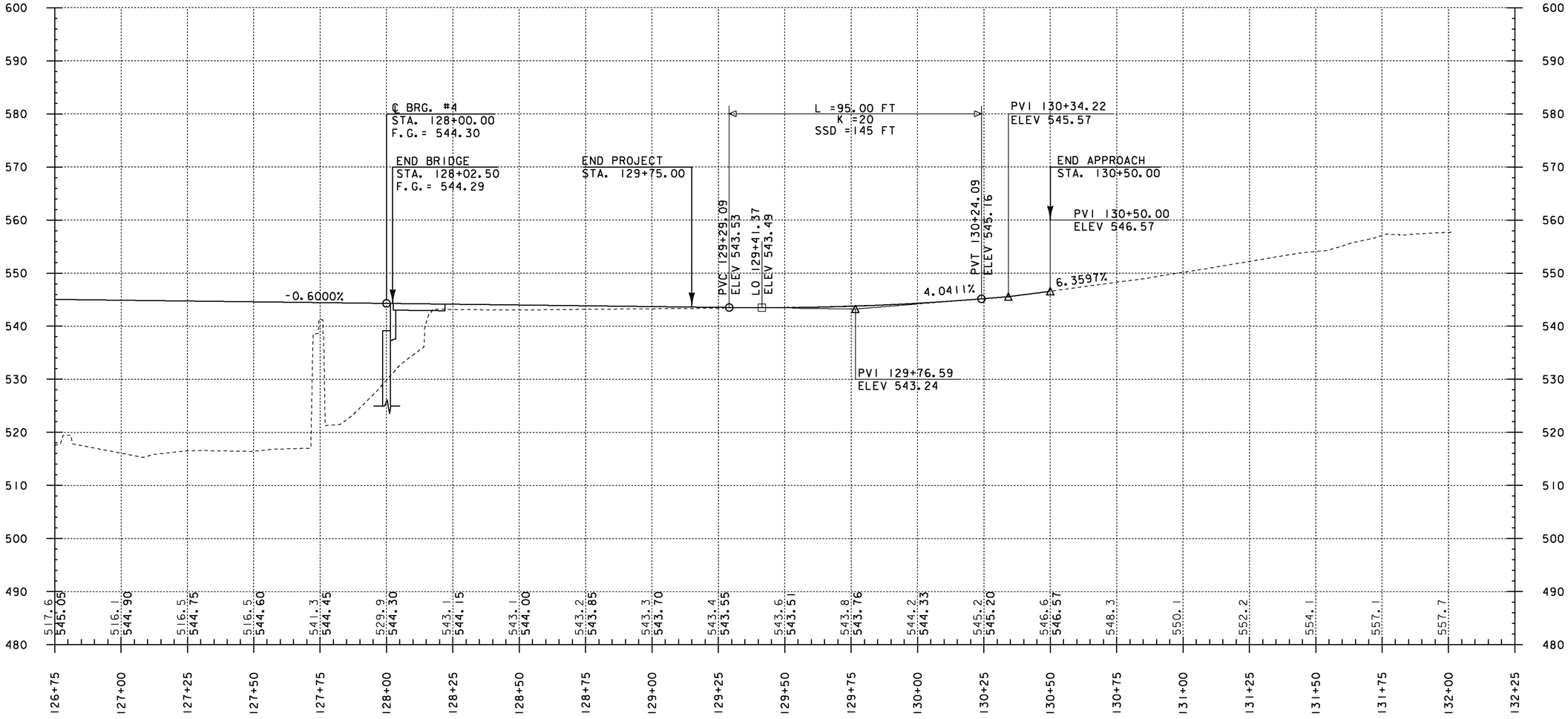
NOTE:
ELEVATIONS SHOWN TO THE TENTH ARE EXISTING GROUND
ELEVATIONS SHOWN TO THE HUNDREDTH ARE FINISH GRADE

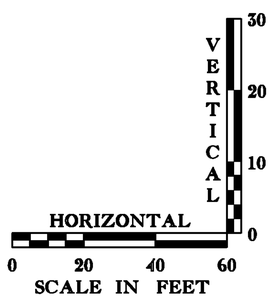
VT 107 PROFILE SHEET 1

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: 78f161\STR\sf161xs.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
VT 107 PROFILE SHEET 1	SHEET 19 OF 148

VT 107 PROFILE



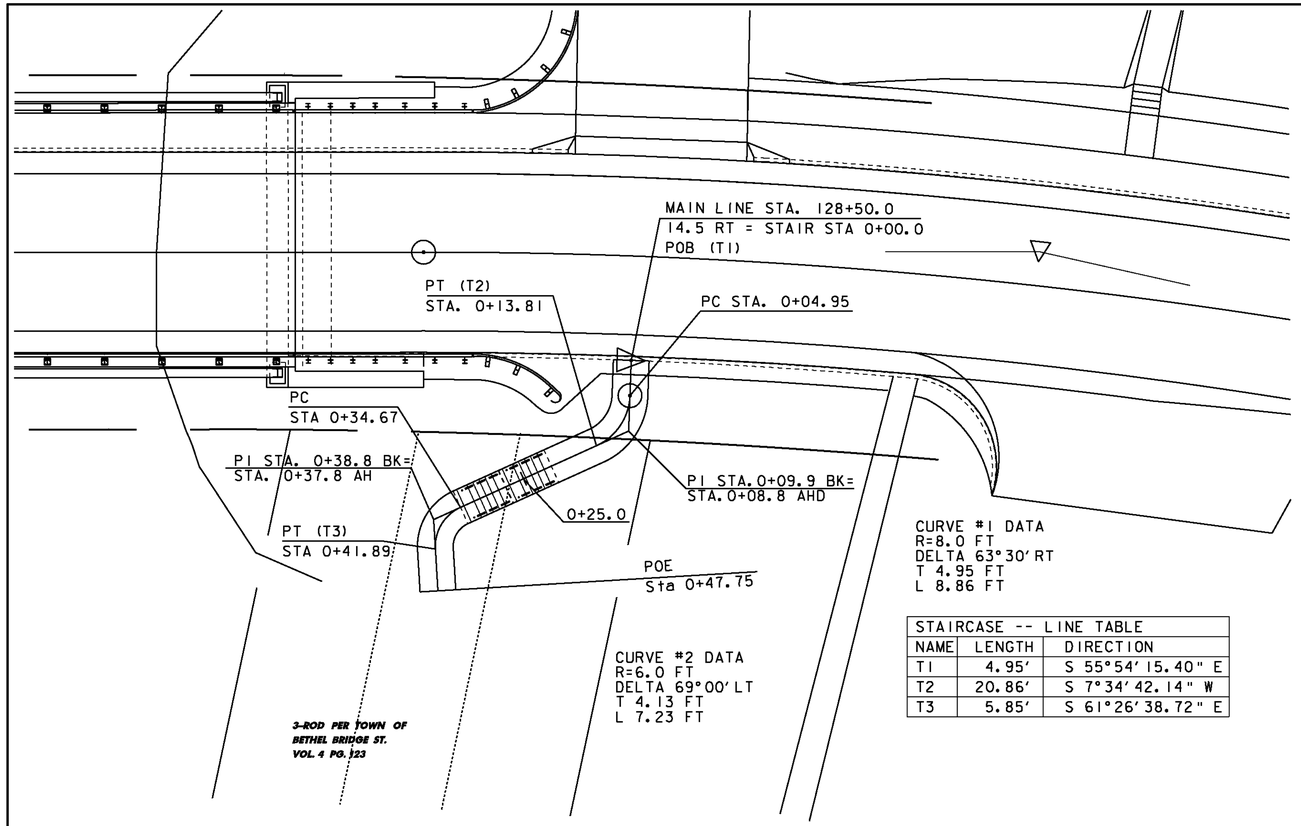


NOTE:
ELEVATIONS SHOWN TO THE TENTH ARE EXISTING GROUND
ELEVATIONS SHOWN TO THE HUNDREDTH ARE FINISH GRADE

VT 107 PROFILE SHEET 2

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: 78f161\STR\sf161xs.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
VT 107 PROFILE SHEET 2	SHEET 20 OF 148



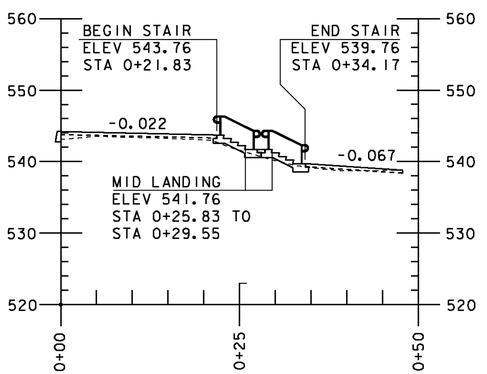
CURVE #1 DATA
R=8.0 FT
DELTA 63°30' RT
T 4.95 FT
L 8.86 FT

CURVE #2 DATA
R=6.0 FT
DELTA 69°00' LT
T 4.13 FT
L 7.23 FT

STAIRCASE -- LINE TABLE		
NAME	LENGTH	DIRECTION
T1	4.95'	S 55°54' 15.40" E
T2	20.86'	S 7°34' 42.14" W
T3	5.85'	S 61°26' 38.72" E

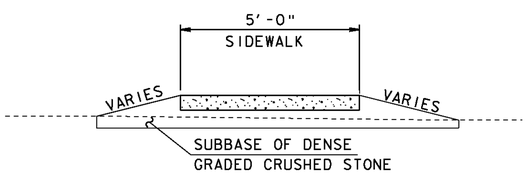
PLAN VIEW OF STAIRCASE @ 128+50

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



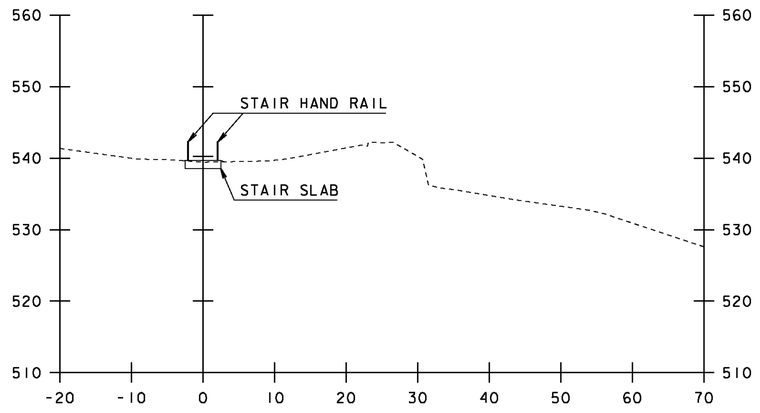
PROFILE OF STAIRCASE @ 128+50

SCALE 1" = 10'-0"
ALL RISERS TO BE 6". ALL TREADS TO BE 12".
SEE STD J-2 FOR ADDITIONAL DETAILS



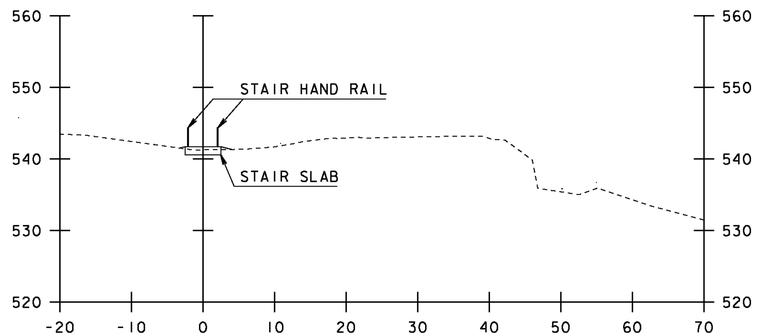
SIDEWALK TYPICAL SECTION

NTS
PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
MINIMUM 6" SUBBASE OF DENSE GRADED CRUSHED STONE
SEE ROADWAY LAYOUT SHEET 2 FOR STAIR AND
SIDEWALK PAY ITEM DETAILS



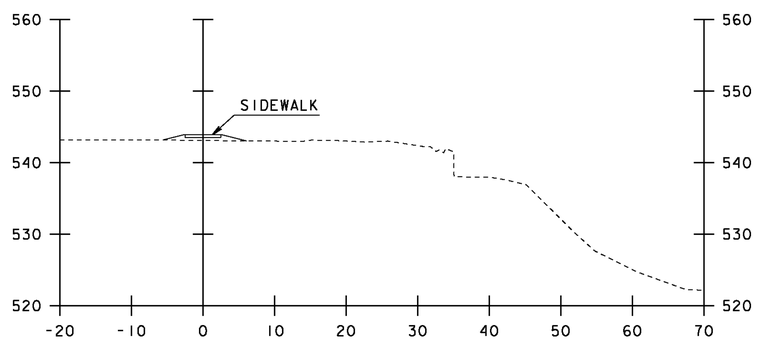
0+33

SCALE 1" = 10'-0
10 0 10



0+26

SCALE 1" = 10'-0
10 0 10

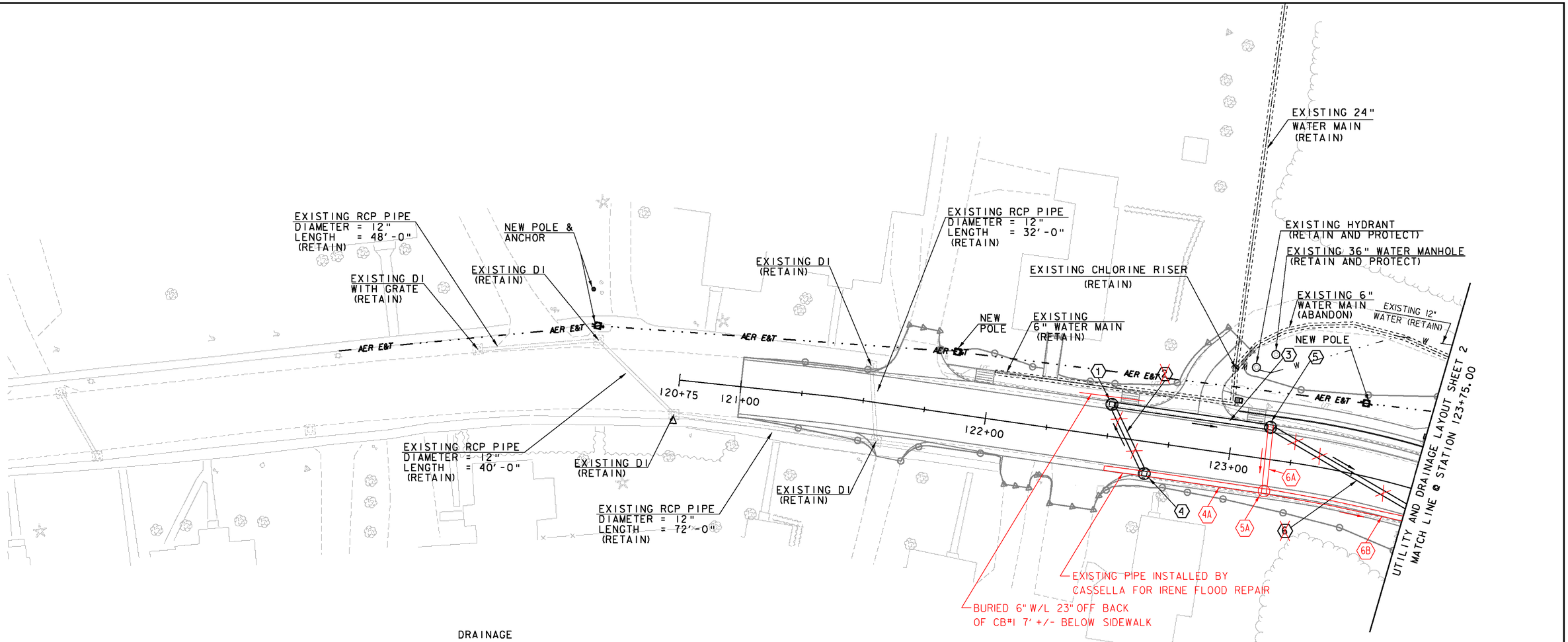


0+12

SCALE 1" = 10'-0
10 0 10

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: s78f161stairs.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
TOWN STAIRCASE SHEET	SHEET 21 OF 148



DRAINAGE

(1) NEW CB AT 122+50.00 LT

(2) ~~VT 107 STA 122+50.00 LT ~ 122+67.00 RT~~
~~NEW 18" X 28'-0" CPEP/CAAP/PCCSP~~

(3) VT 107 STA 122+50.00 LT ~ 123+15.00 LT
NEW 18" X ~~62'-6"~~ 60'-0" CPEP/CAAP/PCCSP

(4) NEW CB AT 122+67.00 RT

(5) NEW CB AT 123+15.00 LT

(6) ~~VT 107 STA 123+15.00 LT ~ 123+75.00 RT~~
~~NEW 18" X 85'-6" CPEP/CAAP/PCCSP~~

(4A) VT 107 STA 122+47 RT - 123+15 RT
RELAY 14' OF EXISTING PIPE AT 122+47 - 122+61RT
NEW 18" X 6' CPEP 122+61 - 122+67 RT
NEW 18" X 54' CPEP 122+67 - 123+15 RT

(5A) NEW CB AT 123+15 RT

(6A) VT 107 STA 123+15 LT - 123+15 RT
NEW 18" X 22' CPEP

(6B) VT 107 STA 123+15 - 124+00 RT
NEW 18" X 82' CPEP

CB = DENOTES PRECAST REINFORCED CONCRETE CATCH BASIN
DI = DENOTES DROP INLET

NOTE : SEE PIPE PROFILE SHEET 1 AND MAINLINE CROSS SECTIONS FOR ADDITIONAL INFORMATION ON STORMWATER CATCH BASINS AND PIPES.

VT STATE PLANE GRID N

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

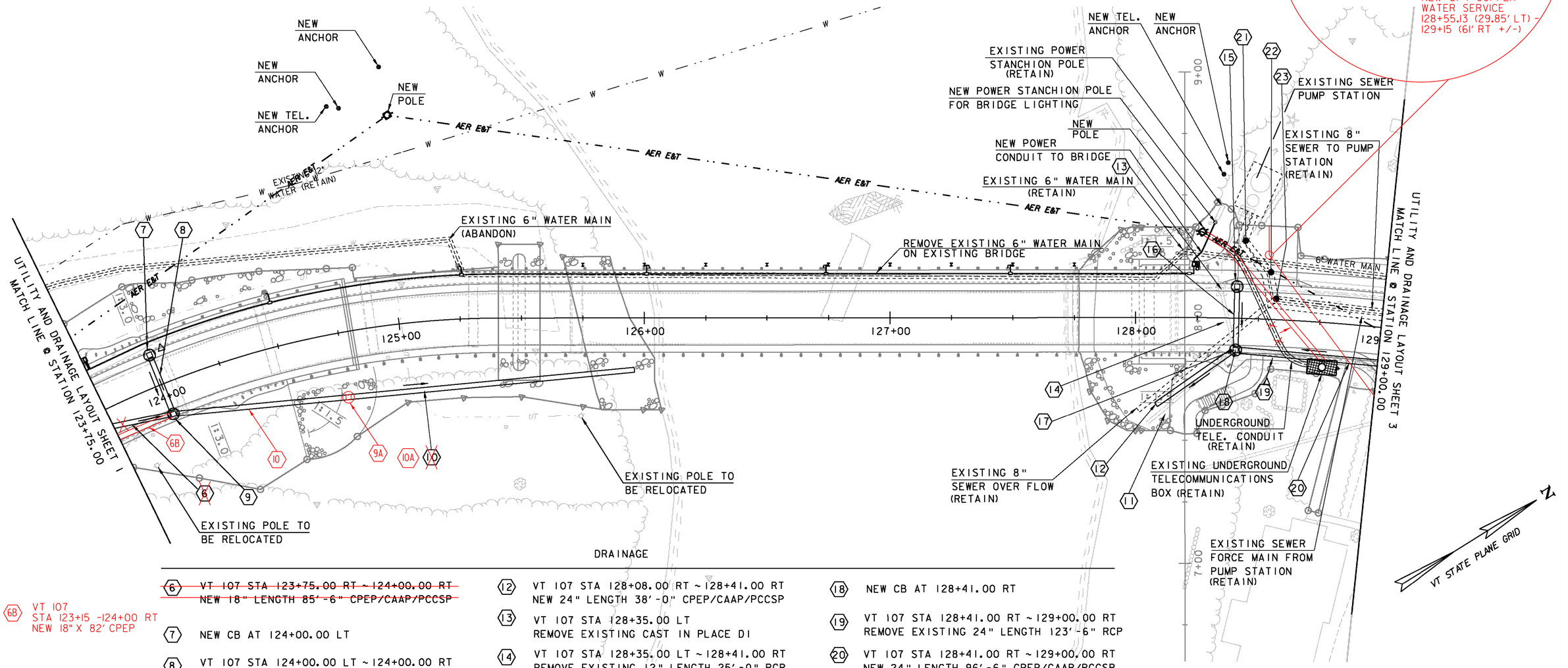
UTILITIES AND DRAINAGE LAYOUT SHEET 1

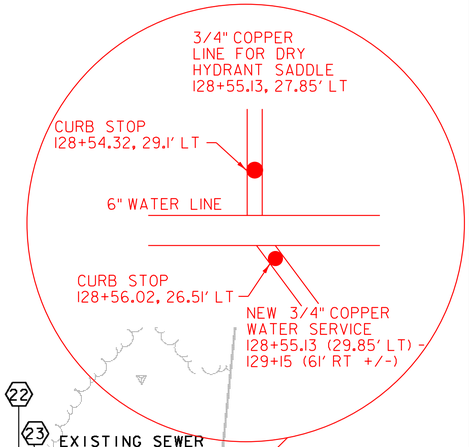
PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: s78f161ut11bdr.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: S. SCRIBNER
UTILITIES AND DRAINAGE LAYOUT SHEET 1	SHEET 22 OF 148

CB = DENOTES PRECAST REINFORCED CONCRETE CATCH BASIN
DI = DENOTES DROP INLET

NOTE : SEE PIPE PROFILE SHEET 1 AND SHEET 2, DRAINAGE DETAIL SHEET, AND MAINLINE CROSS SECTIONS FOR ADDITIONAL INFORMATION ON STORMWATER CATCH BASINS AND PIPES.





DRAINAGE

6B VT 107 STA 123+15 -124+00 RT NEW 18" X 82' CPEP

9A NEW CB AT STA 124+75 RT

10A VT 107 STA. 124+75.00 RT TO 125+95.90 RT PIPE OUTLET OFFSET 21'-2"

6 ~~VT 107 STA 123+75.00 RT ~ 124+00.00 RT NEW 18" LENGTH 85'-6" CPEP/CAAP/PCCSP~~

7 NEW CB AT 124+00.00 LT

8 VT 107 STA 124+00.00 LT ~ 124+00.00 RT NEW 18" LENGTH 23'-0" CPEP/CAAP/PCCSP

9 NEW CB AT 124+00.00 RT

10 VT 107 STA 124+00.00 RT ~ ~~125+95.90 RT~~ 124+75.00 RT ~~PIPE OUTLET OFFSET 21'-2"~~ NEW 18" LENGTH ~~187'-0"~~ 182'-0" CPEP/CAAP/PCCSP

11 VT 107 STA 128+00.00 RT 128+41.00 RT REMOVE EXISTING 24" LENGTH 40'-0" RCP

12 VT 107 STA 128+08.00 RT ~ 128+41.00 RT NEW 24" LENGTH 38'-0" CPEP/CAAP/PCCSP

13 VT 107 STA 128+35.00 LT REMOVE EXISTING CAST IN PLACE DI

14 VT 107 STA 128+35.00 LT ~ 128+41.00 RT REMOVE EXISTING 12" LENGTH 25'-0" RCP

15 NEW CB* AT 128+41.00 LT

16 VT 107 STA 128+41.00 LT ~ 128+41.00 RT NEW 18" LENGTH 23'-0" CPEP/CAAP/PCCSP

17 VT 107 STA 128+41.00 RT REMOVE EXISTING CAST IN PLACE DI

18 NEW CB AT 128+41.00 RT

19 VT 107 STA 128+41.00 RT ~ 129+00.00 RT REMOVE EXISTING 24" LENGTH 123'-6" RCP

20 VT 107 STA 128+41.00 RT ~ 129+00.00 RT NEW 24" LENGTH 96'-6" CPEP/CAAP/PCCSP

21 ADJUST SEWER MANHOLE COVER ELEVATION AT VT 107 STA 128+43.90 LT

22 ADJUST SEWER MANHOLE COVER ELEVATION AT VT 107 STA 128+54.37 LT

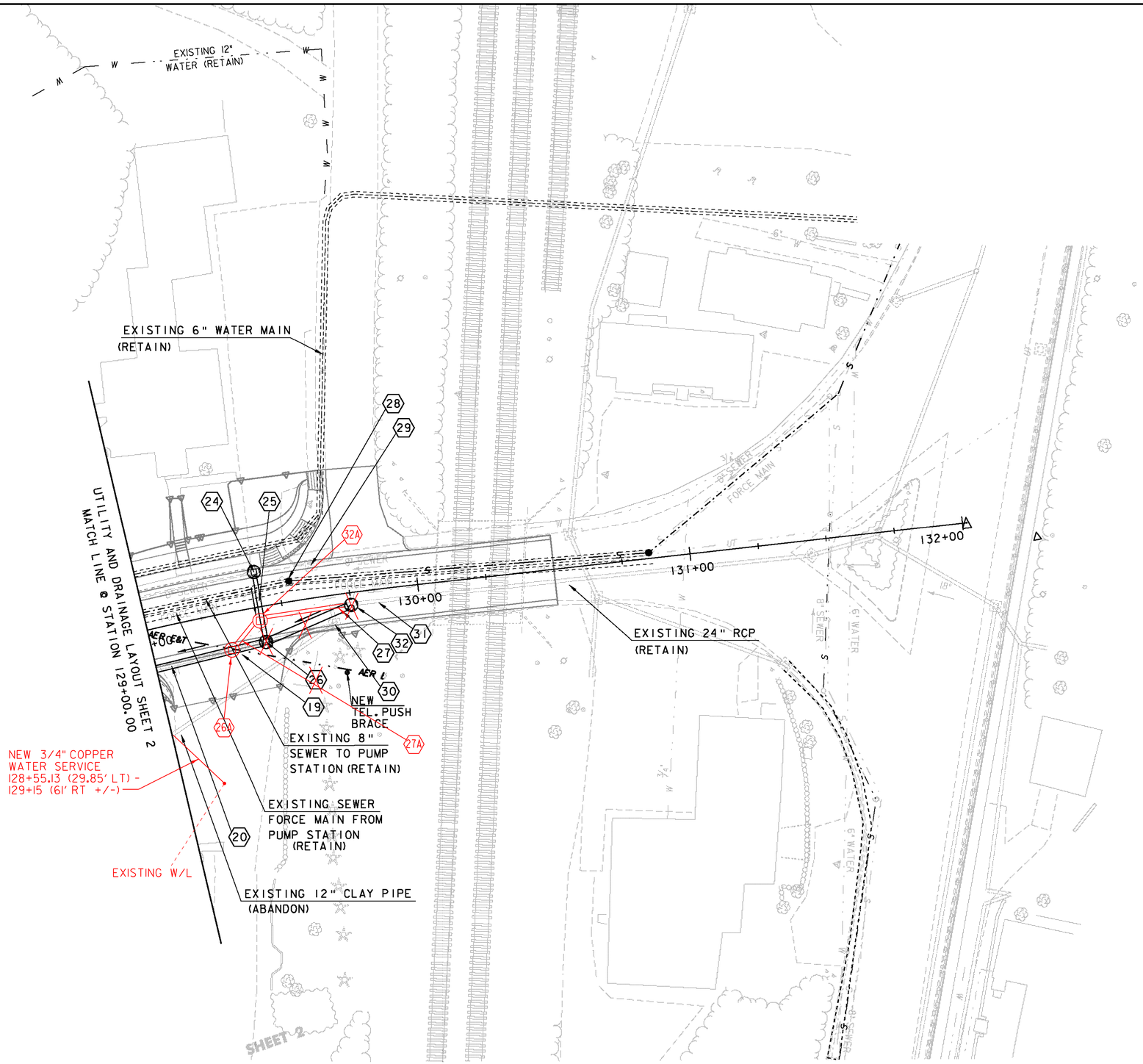
23 ADJUST SEWER MANHOLE COVER ELEVATION AT VT 107 STA 128+56.87 LT

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

UTILITIES AND DRAINAGE LAYOUT SHEET 2

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: s78f16lutl1bdr.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: S. SCRIBNER
UTILITIES AND DRAINAGE LAYOUT SHEET 2	SHEET 23 OF 148



NOTE : SEE PIPE PROFILE SHEET 2, MAINLINE CROSS SECTIONS, AND DRAINAGE DETAIL SHEET FOR ADDITIONAL INFORMATION ON STORMWATER CATCH BASINS, MANHOLE, AND PIPES.

N

VT STATE PLANE GRID

27A VT 107 STA 129+33 RT~129+42 RT
NEW 24" x 5' CPEP

DRAINAGE

19 VT 107 STA 129+00.00 RT ~ 129+68.00 RT
REMOVE 24" LENGTH 123'-6" RCP

20 VT 107 STA 129+00.00 RT ~ 129+~~42~~ 33.00 RT
NEW 24" LENGTH 96'-6" CPEP/CAAP/PCCSP

24 NEW CB AT 129+42.00 LT

25 VT 107 STA 129+42.00 LT ~ 129+42.00 RT
NEW 12" LENGTH ~~23'-0"~~ 16'-0" CPEP/CAAP/PCCSP

26A 26 NEW CB AT 129+~~42~~ 33.00 RT
OFFSET 13'-0"

27 VT 107 STA 129+42.00 RT ~ 129+~~75~~ 74.00 RT
NEW 24" LENGTH ~~32'-5"~~ 30'-0" CPEP/CAAP/PCCSP
W/FURNCO SLEEVE CONNECTING CPEP TO EXISTING RCP

28 ADJUST SEWER MANHOLE COVER ELEVATION AT
VT 107 STA 129+54.00 LT

29 VT 107 STA 129+63.00 LT
REMOVE EXISTING CAST IN PLACE DI

30 VT 107 STA 129+68.00 RT
REMOVE EXISTING CAST IN PLACE DI

31 VT 107 STA 129+68.00 RT ~ 129+~~75~~ 74.00 RT
REMOVE 24" (CUT) LENGTH 7'-0" RCP

32A 32 NEW MH AT 129+~~75~~ 42.00 RT
OFFSET 4'-6"

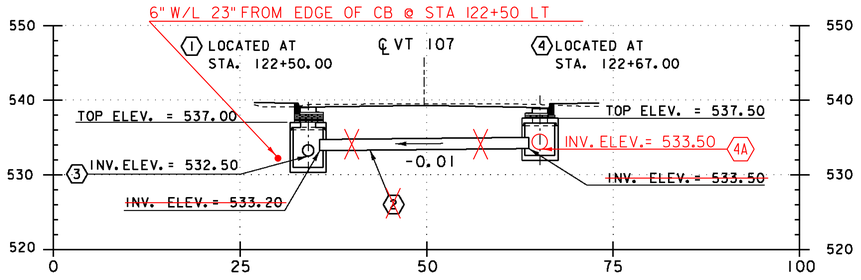
CB = DENOTES PRECAST REINFORCED CONCRETE CATCH BASIN
DI = DENOTES DROP INLET
MH = PRECAST REINFORCED CONCRETE MAN HOLE WITH CAST IRON COVER

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

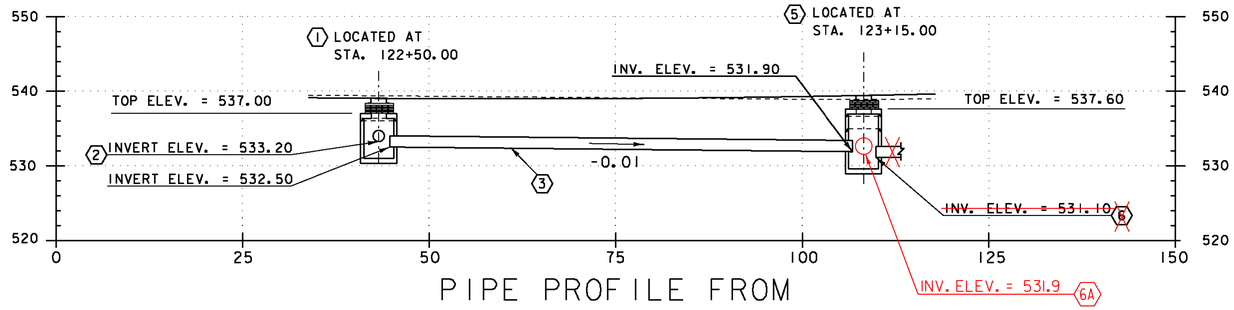
UTILITIES AND DRAINAGE LAYOUT SHEET 3

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

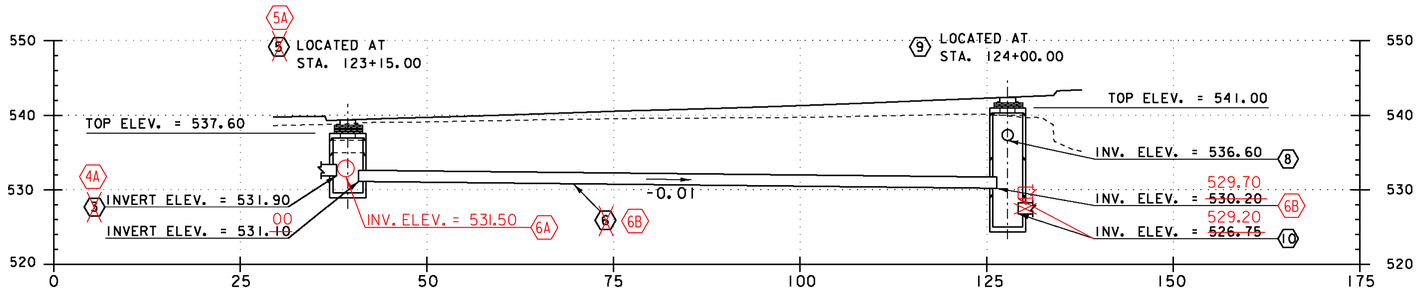
FILE NAME: s78f161ut11bdr.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: S. SCRIBNER
UTILITIES AND DRAINAGE LAYOUT SHEET 3	SHEET 24 OF 148



PIPE PROFILE FROM
STA. 122+50.00 LT TO 122+67.00 RT



PIPE PROFILE FROM
STA. 122+50.00 LT TO 123+15.00 LT



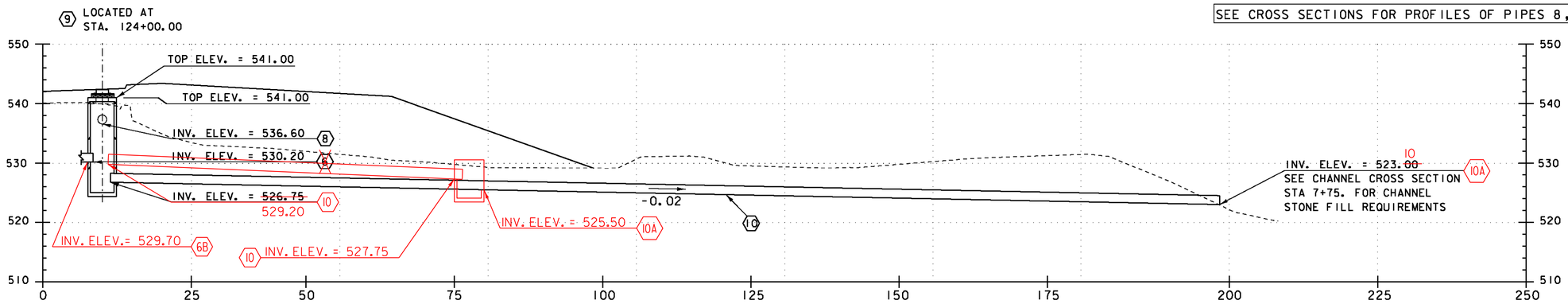
PIPE PROFILE FROM
STA. 123+15.00 ~~LT~~ TO 124+00.00 RT
RT

1 NEW CB
~~NEW CPEP/CAAP/PCCSP~~
~~2 DIAMETER = 18"~~
~~LENGTH = 28'-0"~~
NEW CPEP/CAAP/PCCSP
3 DIAMETER = 18"
LENGTH = ~~62'-6"~~ 60'-0"
4 NEW CB
5 NEW CB
NEW CPEP/CAAP/PCCSP
6A 6 DIAMETER = 18"
LENGTH = ~~85'-6"~~ 22'-4"
NEW CPEP/CAAP/PCCSP
8 DIAMETER = 18"
LENGTH = 23'-0"
9A & 9 NEW CB
NEW CPEP/CAAP/PCCSP
10A & 10 DIAMETER = 18"
LENGTH = ~~187'-0"~~ 182'-0"

4A NEW 18" x 54'
5A NEW CB
6B NEW 18" x 82'

CB = DENOTES PRECAST REINFORCED CONCRETE CATCH BASIN

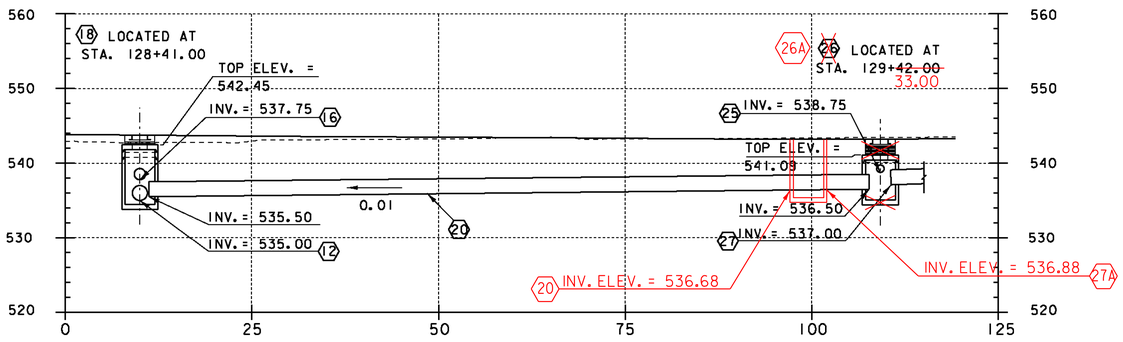
SEE CROSS SECTIONS FOR PROFILES OF PIPES 8,16 AND 25



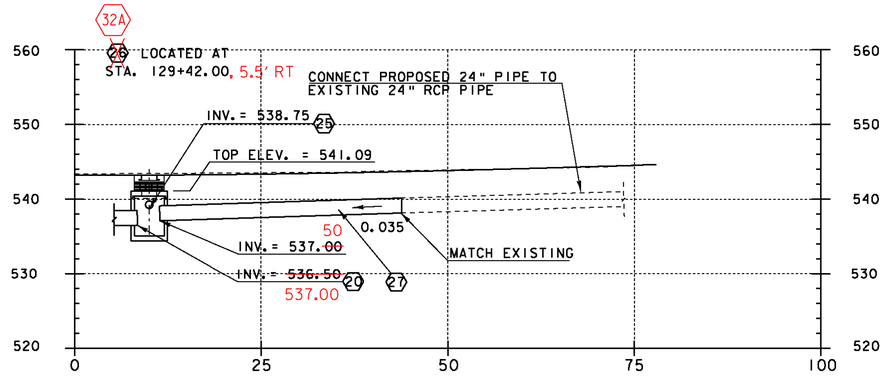
PIPE PROFILE FROM
STA. 124+00.00 RT TO 125+95.90 RT

SCALE 1" = 10'-0
10 0 10

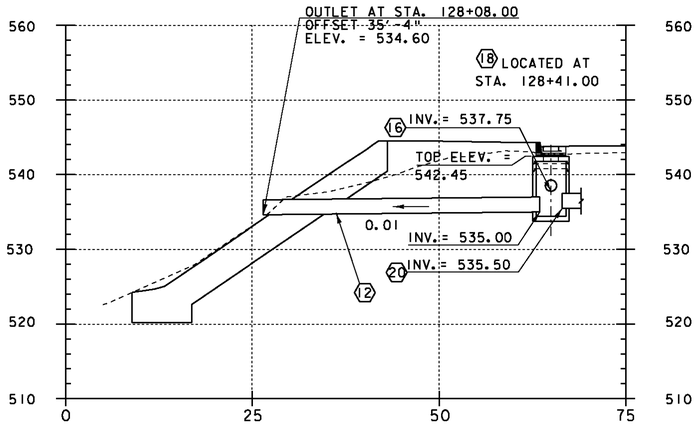
PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: 78f161\STR\sf161xs.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
PIPE PROFILES SHEET 1	SHEET 25 OF 148



PIPE PROFILE FROM
STA. 128+41.00 RT TO 129+42.00 RT



PIPE PROFILE FROM
STA. 129+42.00 RT TO 129+75.00 RT



PIPE PROFILE FROM
STA. 128+08.00 RT TO 128+41.00 RT

12 NEW CPEP/CAAP/PCCSP
DIAMETER = 24"
LENGTH = ~~38'-0"~~ 40'-0"

16 NEW CPEP/CAAP/PCCSP
DIAMETER = 18"
LENGTH = 23'-0"

18 NEW CB

20 NEW CPEP/CAAP/PCCSP
DIAMETER = 24"
LENGTH = ~~96'-6"~~ 88'-0"

25 NEW CPEP/CAAP/PCCSP
DIAMETER = 12"
LENGTH = ~~23'-0"~~ 16'-0"

26A ~~26~~ NEW CB AT STA. 129+33.00 RT

27 NEW CPEP/CAAP/PCCSP
DIAMETER = 24"
LENGTH = ~~32'-5"~~ 30'-0"
TO BE CONNECTED TO CUT PIPE #31
W/FURNCO SLEEVE CONNECTING CPEP TO EXISTING RCP

32A NEW MH AT STA. 129+41 RT, 5.5'

27A NEW 24" x 5' CPEP
STA. 129+41 RT ~ 129+33 RT

CB = DENOTES PRECAST REINFORCED CONCRETE CATCH BASIN
MH = DENOTES PRECAST REINFORCED CONCRETE MANHOLE W/CAST IRON COVER

SEE CROSS SECTIONS FOR PROFILES OF PIPES 8,16 AND 25

SCALE 1" = 10'-0
10 0 10

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: 78f161\STR\sf161xs.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PIPE PROFILES SHEET 2

PLOT DATE: 20-MAY-2011
DRAWN BY: G. ROKES
CHECKED BY: S. SCRIBNER
SHEET 26 OF 148

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
			NO. DEG.	INLET	OUTLET	IN	OUT	SPAN IN	RISE IN	L FT	D IN	L FT	PCCSP TH	CAAP TH	RCP CL	CSP TH	CPEP SL	PCCSP PI TH	NO. DEG.	EA	EA		FT	CY	LBS	TYPE	EA	CY	EARTH CY	ROCK CY	CY	CY	CY	CY	CY	SY	CY	TYPE	LT EA	RT EA			
122+50.00		LT																					8.7			A			8.5					5.3									1	4'-0" DIAMETER PRECAST CB
~~122+50.00~~	~~122+67.00~~	~~LT/RT~~		~~CB~~	~~CB~~						~~18~~	~~28'-0"~~	~~X~~	~~X~~			~~X~~												7.2					4.5									~~2~~	~~18" CROSS PIPE TO CONNECT CB TO CB~~
122+47	123+15	RT/RT		CB	CB						18	60'					X																								4A	RELAY 14' OF EXISTING PIPE
122+50.00	123+15.00	LT/LT		CB	CB						18	~~62'-6"~~ 60'	X	X			~~X~~												29.8					23.2									3	18" PIPE TO CONNECT TWO CB'S
122+67.00		RT																					7.0			A			5.7					3.5									4	4'-0" DIAMETER PRECAST CB
123+15.00		RT																								A																5A	4' DIAMETER PRECAST CB
123+15.00		LT																					10.7			A			11.2					6.9									5	4'-0" DIAMETER PRECAST CB
123+15.00	123+15.00	LT/RT		CB	CB						18	22'					X																								6A	18" PIPE TO CONNECT TWO CB'S
~~123+15.00~~	~~124+00.00~~	~~LT/RT~~		~~CB~~	~~CB~~						~~18~~	~~85'-6"~~	~~X~~	~~X~~			~~X~~												97.2					87.8									~~6~~	~~18" CROSS PIPE TO CONNECT TWO CB'S~~
123+15.00	124+00.00	RT		CB	CB						18	82'					X																								6B	18" PIPE TO CONNECT TWO CB'S
124+00.00		LT																					7.0			A			5.5					3.3									7	4'-0" DIAMETER PRECAST CB
124+00.00	124+00.00	LT/RT		CB	CB						18	23'-0"	X	X			X												6.2					4									8	18" CROSS PIPE TO CONNECT CB TO CB
124+00.00		RT																					18.0			A			33.3					15.6									9	4'-0" DIAMETER PRECAST CB
												182'																															4'-0" DIAMETER PRECAST MH
124+00.0	125+95.90	RT/RT		CB	STONE						18	~~187'-0"~~	X	X			X												239.6					217.3								10A &	10	18" PIPE FROM CB TO OUTLET ON CHANNEL
124+75.00		RT																																								9A	NEW CB
128+00.00	128+41.00	RT/RT																												7.3													11	REMOVE EXISTING 24" REINFORCED CONCRETE PIPE
												40'																															
128+08.00	128+41.00	RT/RT		CB	STONE						24	~~38'-0"~~	X	X			X												38.2					31.7									12	24" PIPE FROM CB TO OUTLET ON CHANNEL
128+35.00		LT																												4.2													13	REMOVE EXISTING CAST IN PLACE DI
128+35.00	128+41.00	LT/RT																												2.4													14	REMOVE EXISTING 12" REINFORCED CONCRETE PIPE
128+41.00		LT																					7.0			A			5.6					3.5									15	4'-0" DIAMETER PRECAST CB
128+41.00	128+41.00	LT/RT		CB	CB						18	23'-0"	X	X			X												7.0					4.9									16	18" CROSS PIPE TO CONNECT CB TO CB
128+41.00		RT																												0													17	REMOVE EXISTING CAST IN PLACE DI
128+41.00		RT																					10.0			A			6.7	4.2				6.8									18	4'-0" DIAMETER PRECAST CB
128+41.00	129+68.00	RT/RT																												3.0													19	REMOVE EXISTING 24" REINFORCED CONCRETE PIPE
	33.00											88'																															
128+41.00	129+~~42.00~~	RT/RT									24	~~96'-6"~~	X	X			X												69.5					52.9									20	24" PIPE FROM CB TO CB
128+43.90		LT																									1																	21	CHANGE ELEVATION OF EXISTING SEWER MANHOLE
128+54.37		LT																									1																	22	CHANGE ELEVATION OF EXISTING SEWER MANHOLE
128+56.87		LT																									1																	23	CHANGE ELEVATION OF EXISTING SEWER MANHOLE
129+33.00		RT																								A																	26A	4'-0" DIAMETER PRECAST CB
129+42.00		LT																					6.0			A			3.7					2.3									24	4'-0" DIAMETER PRECAST CB
129+33.00	129+42.00	RT		CB	MH						24	5'					X																								27A	24" CPEP
129+42.00	129+42.00	LT/RT		CB	~~CB~~ MH						12	~~23'-0"~~ 16'	X	X			X												0.0					0									25	12" CROSS PIPE TO CONNECT CB TO ~~CB~~ MH
129+42.00		RT			MH																		9			~~A~~			8.7					5.4								32A	26	4'-0" DIAMETER PRECAST ~~CB~~ MH
	129+74.00			MH								30'																															
129+42.00	~~129+75.00~~	RT/RT		~~CB~~	PIPE						24	~~32'-5"~~	X	X			X												11.2					~~5.8~~									27	24" PIPE TO CONNECT ~~CB~~ TO ~~MANHOLE~~ EXIST PIPE MH
129+54.00		LT																									1																	28	CHANGE ELEVATION OF EXISTING SEWER MANHOLE
129+63.00		LT																												4.8													29	REMOVE EXISTING CAST IN PLACE DI
129+68.00		RT																												4.8													30	REMOVE EXISTING CAST IN PLACE DI
129+68.00	129+75.00	RT/RT																											0													31	REMOVE EXISTING 24" REINFORCED CONCRETE PIPE (CUT EXISTING PIPE AT STA. 129+75.00 AND CONNECT MANHOLE).
129+75.00		RT																					9						9					5.4									32	4'-0" DIAMETER PRECAST MANHOLE
																													603.8	30.7			0.0	490.1										Totals

PROJECT NAME: **BETHEL**
PROJECT NUMBER: **BRF 022-1(14)**

FILE NAME: **sf161forms.dgn**
PROJECT LEADER: **M. EVANS-MONGEON**
DESIGNED BY: **G.ROKES**
DRAINAGE DETAIL SHEET

PLOT DATE: **5/6/2011**
DRAWN BY: **G.ROKES**
CHECKED BY: **S.SCRIBNER**
SHEET 27 OF 148

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	
1	FEENEY, PAUL J. & DIETRE R.	25	122+16.00 RT				DRIVE	(T)		GTR	01/06/11	BETHEL	101	317	10' PAVED MM 0317
2A	TOWN OF BETHEL	25	121+70.00 LT				APPROACH	(T)		QCD	04/17/11	BETHEL	101	563-564	TH 69, MILLER DRIVE
			121+77.00 LT	121+94.00 LT			INSTALL	(T)							PDF
			121+78.16 LT	121+94.00 LT			SLOPE	(T)	17 SF						
2B	TOWN OF BETHEL	25,26	122+85.00 LT				DRIVE	(T)							15' GRAVEL MM 0319; IN COMMON
															WITH PARCEL 4
			123+89.27 LT	125+73.53 LT			UE	(P)	4,270 SF						
			123+85.31 LT	125+99.56 LT			ACCESS	(T)							FOR CONSTRUCTION VEHICLES
			123+85.31 LT	125+99.56 LT			CONST.	(T)	0.14A						6,112 SF±, INC.EC, PDF&BF, CRANE PAD
			123+89.34 LT	124+00.56 LT			SLOPE	(T)	160 SF						
			124+00.17 LT	124+84.73 LT			SLOPE	(P)	765 SF						
			124+84.56 LT	125+02.87 LT			INSTALL & MAINTAIN	(P)							GUY WIRES
			125+40.50 LT	125+57.50 LT			CHANNEL	(P)	92 SF						
			125+48.95 LT				INSTALL & MAINTAIN	(P)							BRIDGE PIER & FOOTING
2C	TOWN OF BETHEL	25,26	123+43.99 RT	126+09.36 RT			DETOUR	(T)	0.38A						TWO WAY VEHICULAR/PEDESTRIAN
															WALKWAY
			123+42.86 RT	126+09.41 RT			CONST	(T)	0.11A						4,960 SF±, INC. EC, PDF & BF
			123+64.03 RT	125+82.61 RT			SLOPE	(P)	2,768 SF						
			124+50.32 RT	125+67.87 RT			CULVERT	(P)							
			125+79.03 RT	126+06.99 RT			CHANNEL	(P)	310 SF						
2D	TOWN OF BETHEL	26	127+91.48 RT	128+46.28 RT			DETOUR	(T)	2,966 SF						TWO WAY VEHICULAR/PEDESTRIAN
															WALKWAY
			127+82.48 RT	128+37.78 RT			CONST.	(T)	1,586 SF						INCLUDES EC & BF
			128+07.72 RT	128+24.66 RT			CULVERT	(P)							
			127+97.71 RT	128+08.88 RT			DRAINAGE	(P)							
			127+97.28 RT	128+15.18 RT			CHANNEL	(P)	318 SF						
			128+52.76 RT	128+20.99 RT			INSTALL	(T)							SIDEWALK AND STAIRS
2E		27	129+78.00 LT				APPROACH	(T)							TH 5 PEAVINE BOULEVARD
3	PIELA, MICHAEL W. & LESLIE K.	25	122+40.00 RT				DRIVE	(T)		GTR	03/16/11	BETHEL	101	517	18' GRAVEL MM 0318
			122+49.00 RT	122+69.00 RT			INSTALL	(T)							EC
			122+77.00 RT	123+00.00 RT			INSTALL	(T)							EC
			122+98.69 RT	123+45.13 RT			CONST.	(T)	1,231 SF						INCLUDES EC & PDF
			122+98.69 RT	123+42.86 RT			DETOUR	(T)	726 SF						TWO WAY VEHICULAR/PEDESTRIAN
															WALKWAY
4	MILLER, HELEN	25,26	121+94.00 LT	122+10.00 LT			SLOPE	(T)	19 SF	WDOE	03/26/11	BETHEL	101	550-551	
			121+94.00 LT	122+20.59 LT			INSTALL	(T)							PDF
			121+94.00 LT	123+93.41 LT			UE	(P)	1,846 SF						
			122+25.00 LT				WALK	(T)							6' CONCRETE
			122+26.46 LT	122+71.55 LT			INSTALL	(T)							PDF
			122+71.55 LT	123+89.34 LT			CONST	(T)	3,641 SF						INCLUDES PDF & EC
			122+85.00 LT				DRIVE	(T)							15' GRAVEL MM 0319. IN COMMON WITH
															PARCEL 2B
			122+85.00 LT	123+86.18 LT			ACCESS	(T)							FOR CONSTRUCTION VEHICLES
			123+00.00 LT	123+89.55 LT			SLOPE	(T)	911 SF						

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE
1	24	PARCEL NO. 6 RICHARDSON. CHANGE WHAT WAS INTITALLY	05/03/10
		A TAKING OF 336 SF± TO A "HIGHWAY (P)" 336 SF±	
		MADE BY: MR PER C.O. 9611 APPROVED BY: HP	
2	23	PARCEL NO. 2 TOWN OF BETHEL. CHANGE AREA OF	05/27/10
		CHANNEL RIGHT AT STATION 127+97.28 RT ~ 128+15.18 RT	
		FROM 604 SF TO 318 SF.	
		MADE BY: MR PER C.O. 9615 APPROVED BY: HP	
3	23, 26	PARCEL NO. 2B TOWN OF BETHEL - AMEND BEGINNING	05/18/11
		STATION 123+89.10 LT TO 123+89.27 LT; AMEND END	
		STATION 125+62.76 LT TO 125+73.53 LT; AMEND SF FROM	
		4,147 TO 4,270 SF; AMEND GUY WIRE BEGIN STATION	
		FROM 125+06.18 TO 124+84.56 LT AND END STATION	
		FROM 125+20.50 LT TO 125+02.87 LT.	
		MADE BY: MT PER C.O. 9714 APPROVED BY: HP	

PLOT DATE 05/18/11

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: 02-01-10
CHIEF, PLANS & TITLES

PROJECT NAME: **BETHEL**
PROJECT NUMBER: **BRF 022-1(14)**

FILE NAME: **r 78f161 Detail Sheet.xls**
PROJECT LEADER: **M. EVANS-MONGEON**
DESIGNED BY: **S. SCRIBNER**
ROW DETAIL SHEET 1

PLOT DATE:
DRAWN BY: **MR**
CHECKED BY: **JB**
SHEET 28 OF 148

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	
5A	TAYLOR, J. KEPLER & MARY JEANNE	26	127+78.20 RT	127+99.75 RT			DETOUR	(T)	925 SF	COND.	02/23/11	BETHEL	101	440-442	TWO-WAY VEHICULAR/PED. WALKWAY
			127+80.42 RT	128+01.74 RT			CHANNEL	(P)	298 SF						
			127+81.30 RT	127+97.71 RT			DRAINAGE	(P)							
			127+87.24 RT				INSTALL	(T)							EC
5B		26, 27	128+41.44 RT	129+59.40 RT			DETOUR	(T)	3,436 SF						TWO-WAY VEHICULAR/PED. WALKWAY
			128+40.84 RT	128+94.49 RT			INSTALL	(T)							EC & BF
			128+57.32 RT	128+71.68 RT			REMOVE	(T)							STONE WALLS
			128+79.50 RT				INSTALL	(T)							BARRICADE TYPE 2
			128+87.65 RT				WALK	(T)							4' CONCRETE
			128+91.66 RT				REMOVE & RESET	(T)							FLAG POLE
			128+91.66 RT				REMOVE & RESET	(T)							GAZEBO
			128+91.66 RT				REMOVE & RESET	(T)							SIGN
			129+24.05 RT				ACCESS	(T)							INGRESS / EGRESS DETOUR
			129+25.00 RT				DRIVE	(T)							40' GRAVEL MM 0327
			129+63.85 RT				REMOVE & RESET	(T)							SIGN
6	RICHARDSON, JOYCE S.	26, 27	129+55.80 LT	129+77.51 LT			HIGHWAY	(P)	336 SF	WDOE	01/28/11	BETHEL	101	407-408	
			127+81.56 LT	128+23.89 LT			CHANNEL	(P)	417 SF						
			127+81.56 LT	129+37.01 LT			INSTALL	(T)							EC & BF
			127+86.35 LT	128+64.23 LT			UE	(P)	1,133 SF						
			127+98.56 LT	128+21.98 LT			INSTALL & MAINTAIN	(P)							ABUTMENT FOOTING
			128+35.27 LT	128+36.34 LT			INSTALL & MAINTAIN	(P)							(2) GUY WIRES
			128+30.94 LT	128+40.63 LT			INSTALL & MAINTAIN	(P)							GUARD RAIL
			128+53.00 LT				DRIVE	(T)							24' CONCRETE MM 0326; IN COMMON WITH TOWN OF BETHEL
			128+63.30 LT	129+16.14 LT			SLOPE	(P)	242 SF						
			129+18.00 LT				WALK	(T)							4' CONCRETE INCLUDING STAIRS
			129+18.00 LT				INSTALL	(T)							BARRICADE TYPE 2
			129+20.08 LT	129+64.52 LT			SLOPE	(P)	614 SF						
			129+48.57 LT				REMOVE	(T)							ACCESS TO VT. RTE. 107
7	NOT USED														
8	TELEPHONE OPERATING COMPANY OF VERMONT LLC		121+70.00 LT	129+77.51 LT			ALL R.T. & I.			COND.	02/23/11	BETHEL	101	440-442	UTILITY EASEMENTS
9	CENTRAL VERMONT PUBLIC SERVICE CORPORATION		121+70.00 LT	129+77.51 LT			ALL R.T. & I.			COND.	02/23/11	BETHEL	101	440-442	UTILITY EASEMENTS
10	TOWN OF BETHEL (SEWER & WATER)		121+70.00 LT	129+77.51 LT			ALL R.T. & I.			COND.	02/23/11	BETHEL	101	440-442	UTILITY EASEMENTS
	RELINQUISHMENT # I		129+55.80 LT	129+77.51 LT											336 SF±

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE

PLAN LEGEND

- EXISTING RIGHT-OF-WAY
- TAKING WITH ACCESS
- TAKING WITHOUT ACCESS
- CLEAR ZONE (CZ)
- PROPERTY LINE (PL)
- 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

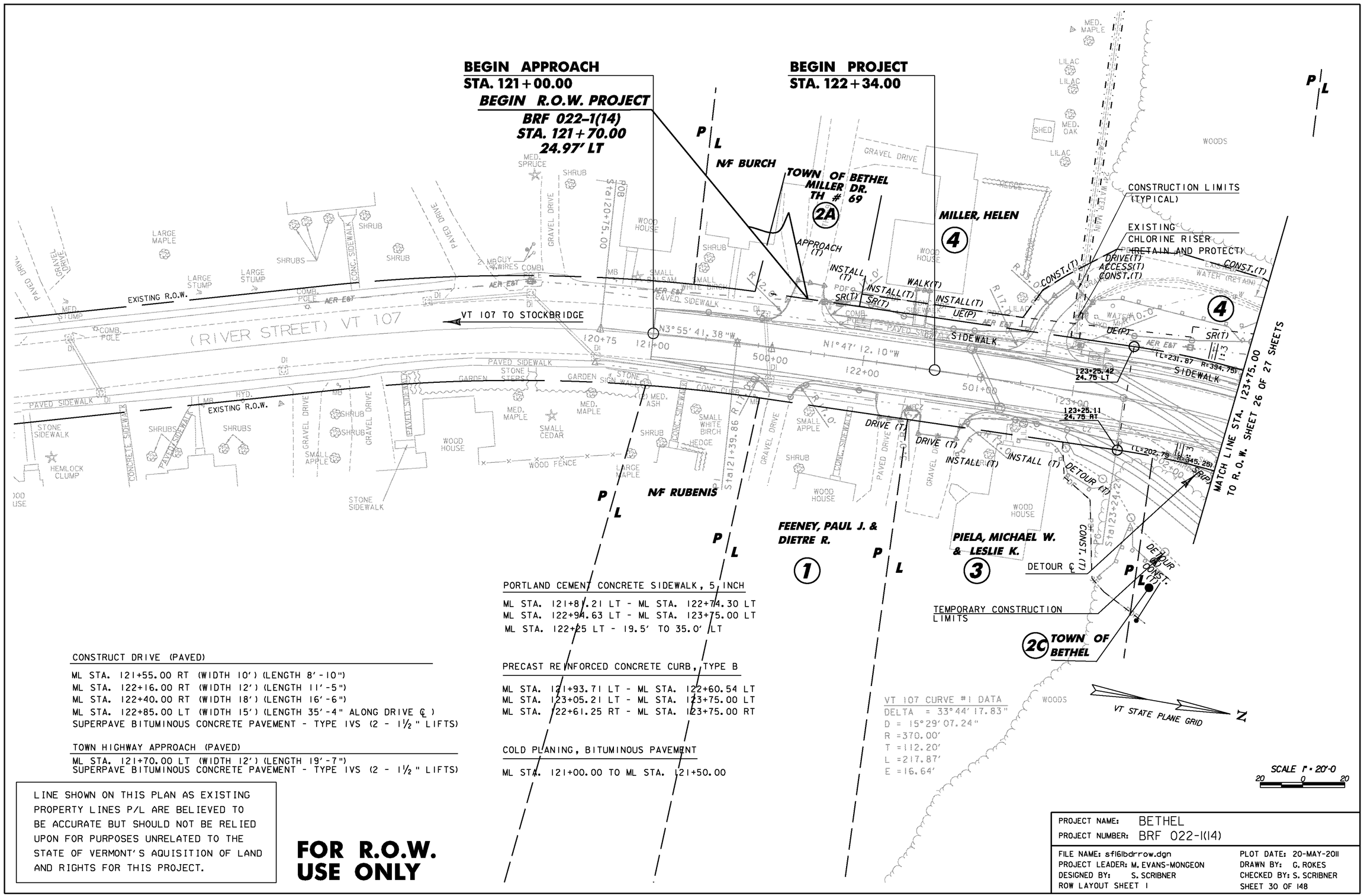
APPROVED: HARRY PETROVS DATE: 02-01-10
CHIEF, PLANS & TITLES

PLOT DATE 05/18/11

PROJECT NAME: **BETHEL**
PROJECT NUMBER: **BRF 022-1(14)**

FILE NAME: **r 78f161 Detail Sheet.xls**
PROJECT LEADER: **M. EVANS-MONGEON**
DESIGNED BY: **S. SCRIBNER**
ROW DETAIL SHEET 2

PLOT DATE:
DRAWN BY: **MR**
CHECKED BY: **JB**
SHEET 29 OF 148



PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH

ML STA. 121+81.21 LT - ML STA. 122+74.30 LT
ML STA. 122+94.63 LT - ML STA. 123+75.00 LT
ML STA. 122+25 LT - 19.5' TO 35.0' LT

PRECAST REINFORCED CONCRETE CURB, TYPE B

ML STA. 121+93.71 LT - ML STA. 122+60.54 LT
ML STA. 123+05.21 LT - ML STA. 123+75.00 LT
ML STA. 122+61.25 RT - ML STA. 123+75.00 RT

COLD PLANING, BITUMINOUS PAVEMENT

ML STA. 121+00.00 TO ML STA. 121+50.00

CONSTRUCT DRIVE (PAVED)

ML STA. 121+55.00 RT (WIDTH 10') (LENGTH 8'-10")
ML STA. 122+16.00 RT (WIDTH 12') (LENGTH 11'-5")
ML STA. 122+40.00 RT (WIDTH 18') (LENGTH 16'-6")
ML STA. 122+85.00 LT (WIDTH 15') (LENGTH 35'-4" ALONG DRIVE ℄)
SUPERPAVE BITUMINOUS CONCRETE PAVEMENT - TYPE IVS (2 - 1½" LIFTS)

TOWN HIGHWAY APPROACH (PAVED)

ML STA. 121+70.00 LT (WIDTH 12') (LENGTH 19'-7")
SUPERPAVE BITUMINOUS CONCRETE PAVEMENT - TYPE IVS (2 - 1½" LIFTS)

VT 107 CURVE #1 DATA
DELTA = 33° 44' 17.83"
D = 15° 29' 07.24"
R = 370.00'
T = 112.20'
L = 217.87'
E = 16.64'

LINE 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 AQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

FOR R.O.W. USE ONLY

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: sf16lbdrrow.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
ROW LAYOUT SHEET 1	SHEET 30 OF 148

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH

STAIR STA. 0+00.00 - 0+21.83, ML STA. 128+50 LT
(SEE TOWN STAIRCASE SHEET)
STAIR STA. 0+34.17 - 0+47.75, ML STA. 128+50 LT
(SEE TOWN STAIRCASE SHEET)

ML STA. 123+75.00 LT - 124+79.00 LT
ML STA. 128+02.50 LT - 128+41.23 LT
ML STA. 128+64.73 LT - 129+00.00 LT
ML STA. 128+85.00 RT - 15.0' TO 77.0' RT

METAL HAND RAILING

STAIR STA. 0+21.83 TO 0+34.17, (ML STA. 128+50 RT)
(HAND RAIL EACH SIDE OF STAIR SEE STD J-2)
AND SEE (TOWN STAIRCASE SHEET)

CONCRETE, HIGH PERFORMANCE CLASS B (CONCRETE STAIRS)

STAIR STA. 0+21.83 TO 0+34.17, (ML STA. 128+50 RT)
SEE (TOWN STAIRCASE SHEET)

PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH
CONSTRUCT DRIVE

STATION	WIDTH/OFFSET FROM SHOULDER
ML STA. 128+53.00 LT	24.0 FT / 24.0 FT

BRIDGE RAILING, ALUMINUM/PEDESTRIAN
ML STA. 123+99.33 LT - 128+02.25 LT

BRIDGE RAILING, 3 RAIL ALUMINUM
ML STA. 124+50.26 RT - 128+02.25 RT

ALUMINUM APPROACH RAILING
ML STA. 123+76.52 LT - 123+99.33 LT
ML STA. 124+24.76 RT - 124+50.26 RT
ML STA. 128+02.25 RT - 128+27.38 RT
ML STA. 128+02.25 LT - 128+27.14 LT

STEEL BEAM GUARDRAIL, GALVANIZED
ML STA. 128+27.14 LT - 128+40.49 LT
ML STA. 128+27.38 RT - 128+40.00 RT

REMOVAL AND DISPOSAL OF GUARDRAIL
ML STA. 123+75.00 RT - 124+02.00 RT

DELINEATOR WITH STEEL POST
ML STA. 125+96.00 21'-2" RT (WHITE)
ML STA. 128+01.00 35'-4" RT (WHITE)

N
VT STATE PLANE GRID

BEGIN BRIDGE
END APPROACH SLAB
STA. 124+79.00
F.G. = 545.34

℄ PIER
STA. 125+49.00
F.G. = 545.81

END BRIDGE
BEGIN APPROACH SLAB
STA. 128+02.50
F.G. = 544.29

MAIN LINE STA. 128+20.00
= CHANNEL STA. 8+00.00
= 90° 00' 00"

BEGIN APPROACH SLAB
STA. 124+58.99

END APPROACH SLAB
STA. 128+22.50

MILLER, HELEN (4)
TOWN OF BETHEL (2B)
TOWN OF BETHEL (2C)
TAYLOR, KEPLER, J. & MARY JEANNE (5A)
TOWN OF BETHEL (2D)
TAYLOR KEPLER, J. & MARY JEANNE (5B)
RICHARDSON, JOYCE S. (6)

WHITE RIVER
PERMANENT CONSTRUCTION LIMITS (TYP)
PROPOSED CRANE PAD
PROPOSED TEMPORARY PIER
TEMPORARY CONSTRUCTION LIMITS
℄ TEMPORARY DETOUR
EXISTING PIER 1
EXISTING PIER 2
EXISTING PIER 3
EXISTING PIER 4
EXISTING PIER 5
EXISTING ABUTMENT #1
EXISTING ABUTMENT #2
STONE FILL TYPE IV
DETOUR (T)
DETOUR SIDEWALK
SIDEWALK
ACCESS(T)
CONST.(T)
SR(P)
CUL(P)
CHANNEL(P)
DRIVE(T)
INSTALL(T)
INSTALL(P)
REMOVE(T)
R&R(T)
WALK(T)
DRAINAGE(P)
I&M(P)
I&M (P) (3)
UE(P)
AER E&T
(ABANDON) 6" WATER MAIN
EXISTING WATER MAIN
BM #8252
BM #8652
VT 107 N 31°57'05.73" E
125+41.32 24.75LT
125+41.32 24.75RT
128+17.13 24.75' LT
128+17.13 24.75' RT
(L=231.87 R=384.75)
(L=202.78 R=345.25)
(L=203.11 R=833.75)
(L=191.13 R=784.25)
POE Sta. 9+00.00
MATCH LINE STA. 123+75.00 TO R.O.W. SHEET 25 OF 27 SHEETS
MATCH LINE STA. 129+00.00 TO R.O.W. SHEET 27 OF 27 SHEETS

VT 107 CURVE #1 DATA
Δ = 33°44'17.83"
D = 15°29'07.24"
R = 370.00'
T = 112.20'
L = 217.87'
E = 16.64'

VT 107 CURVE #2 DATA
Δ = 12°40'33.95"
D = 17°23'34.81"
R = 329.46'
T = 36.86'
L = 171.46'
E = 4.77'

PRECAST REINFORCED CONCRETE CURB, TYPE B

ML STA. 123+75.00 RT	- 124+50.00 RT
ML STA. 123+75.00 LT	- 124+80.00 LT
ML STA. 128+02.50 LT	- 128+40.26 LT
ML STA. 128+02.50 RT	- 129+00.00 RT
ML STA. 128+65.80 LT	- 129+00+00 LT

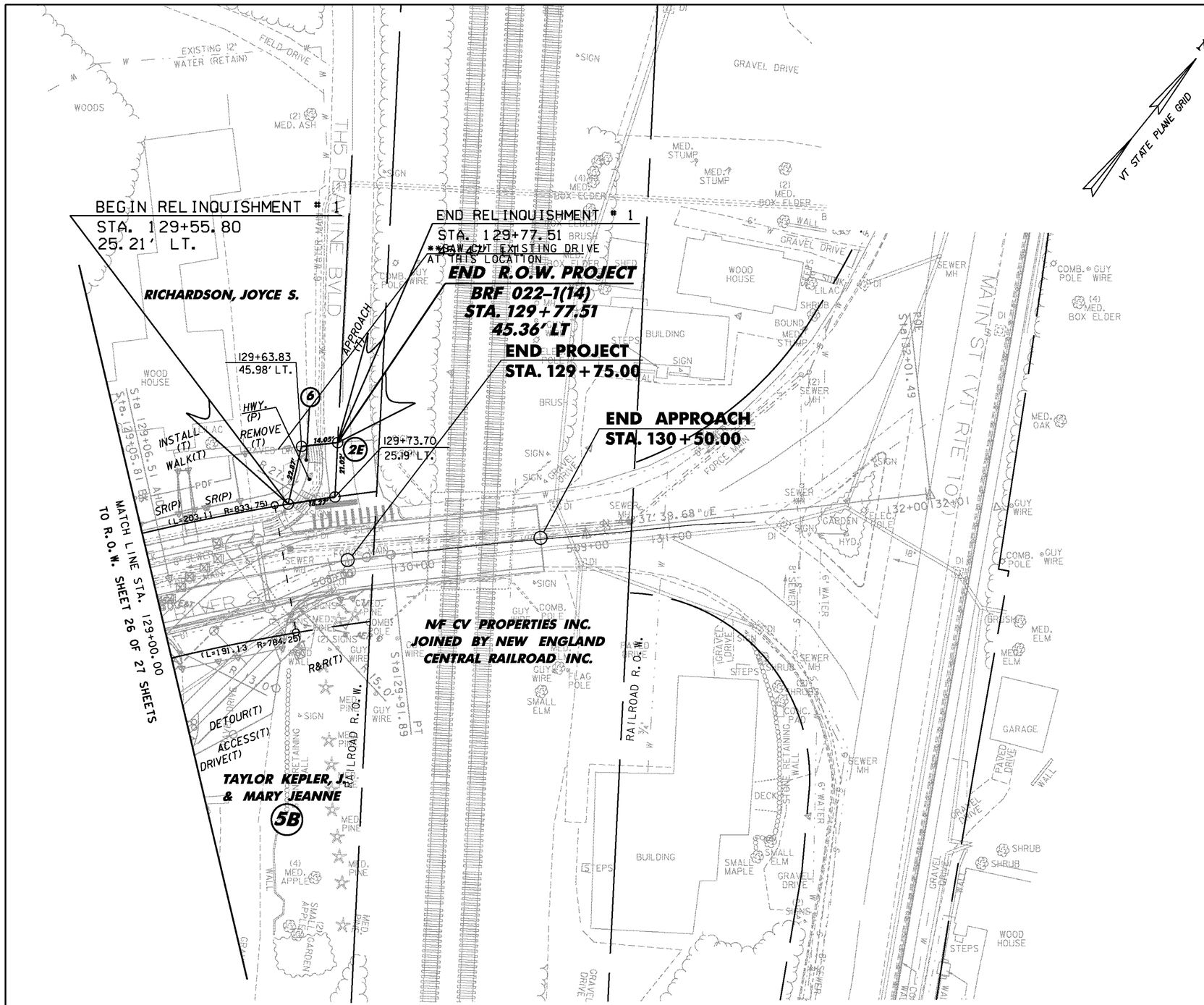
ANCHOR FOR STEEL BEAM RAIL
ML STA. 128+41.00 LT
ML STA. 128+35.00 RT

LINE 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 AQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

FOR R.O.W. USE ONLY

SCALE 1" = 20'-0
20 0 20

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: sf161bdrrow.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
ROW LAYOUT SHEET 2	SHEET 31 OF 148



EXCAVATION OF SURFACES AND PAVEMENTS

STA. 129+43.10 LT (OFFSET 46'-0")
STA. 129+65.80 LT (OFFSET 46'-0")
**COST OF SAW CUT SHALL BE INCIDENTAL TO THIS ITEM

DETECTABLE WARNING SURFACE

STA. 129+58.00 LT

COLD PLANING, BITUMINOUS PAVEMENT

ML STA. 129+80.00 TO STA. 130+50.00

TH5 STA. 129+72.58 LT OFFSET = 45 FT -
STA. 129+96.60 LT OFFSET = 18 FT
(3 INCH DEPTH)

METAL HAND RAILING

ML STA. 129+18.00 LT (STAIRS, LENGTH= 4 FT/SIDE, 8 FT TOTAL)

CONCRETE, HIGH PERFORMANCE CLASS B (CONCRETE STAIRS)

ML STA. 129+18.00 LT

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH

ML STA. 129+00.00 LT -
ML STA. 129+70.90 LT OFFSET = 45.80 FT

ML STA. 129+18.00 LT (SIDEWALK TO HOUSE) (LENGTH = 21 FT)

PRECAST REINFORCED CONCRETE CURB, TYPE B

ML STA. 129+00.00 LT - ML STA. 129+53.23 LT
ML STA. 129+00.00 RT - ML STA. 129+03.17 RT
ML STA. 129+60.98 LT - ML STA. 129+70.90 LT
OFFSET = 45.80 FT

CONSTRUCT PAVED DRIVE

ML STA. 129+25.00 RT (WIDTH 40') (LENGTH 16'-2")

TOWN HIGHWAY APPROACH (PAVED)

ML STA. 129+81.00 LT (WIDTH 20') (LENGTH 32'-0")
SUPERPAVE BITUMINOUS CONCRETE PAVEMENT - TYPE IVS
(2 - 1½" LIFTS)

VT 107 CURVE #2 DATA

Δ = 12°40'33.95"
D = 7°23'34.81"
R = 775.00'
T = 86.08'
L = 171.46'
E = 4.77'

FOR R.O.W. USE ONLY

LINE 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 AQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

SCALE 1" = 20'-0
20 0 20

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: sf16lbdrrow.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
ROW LAYOUT SHEET 3

PLOT DATE: 20-MAY-2011
DRAWN BY: G. ROKES
CHECKED BY: S. SCRIBNER
SHEET 32 OF 148

STATE OF VERMONT
AGENCY OF TRANSPORTATION

EROSION CONTROL NARRATIVE

EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

This project involves the replacement of a truss bridge over the White River. The project is on VT 107 (River Street) a paved, minor arterial in the Town of Bethel. A temporary two lane bridge will be erected downstream of the existing structure. This temporary bridge will be a continuous span with a temporary pier at mid point by the south river edge. The approach work to the temporary bridge will come close to two property owners. Extra caution will be exercised to prevent erosion from the project to cause damage or adversely affect these property owners.
Once the temporary bridge is in place; the existing truss, abutments approach spans, and piers can be removed.
Upon the completion of the new structure the temporary bridge will be removed.
Work including both approaches, is approximately 762.00 feet. The limits of construction approach buildings and other structures.
Historic Resources have been identified in the project area.
The existing structure has been cleared for removal as it has been photo-documented for Historical purposes. The site is located, based upon NAD 83/92 at 258776.257 N, 491595.522 E.

Total area of disturbance including waste, borrow, and staging areas is 1.02 ac., as shown on the attached EPSC plan.
It is anticipated that this project will last three construction seasons.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

The topography of the project site is relatively flat. Before the bridge at around STA. 122+90 there is a gravel access road that goes underneath the bridge to a gravel parking lot. After the bridge at approximately STA.129+80 TH 5 runs parallel with the train tracks before coming to a bridge. Development along VT 107 consists of permanent residences two of which exist near the project limits. Underground utilities run throughout the entire project on both sides of VT 107. There is also a sewage pumping station after the bridge at STA. 128+25

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

The property surrounding the project site consists of well established vegetation, moderate to steeply sloping, mixed softwood and hardwood forest with well defined drainage ways. 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 that which follows River Street along the 14% grade at the end of the project limits. The current roadway ditches are not well defined and are not lined with stone.

White River is located in the project area. There are no other water bodies or wetlands within the project area. The White River is classified as perennial, sinuous, not braided and equiwidth containing a streambed of some ledge with some boulders, cobbles and gravel. The contributing drainage area at the bridge crossing is 408 sq. mi.

Disturbance of soils near natural or man-made waterways consists of that which is necessary to construct two new concrete bridge abutments, a pier and applicable roadway approaches as well as the removal of the existing crossing. Stabilization of disturbances to stream banks will be accomplished with Stone Fill, Type IV.

1.2.3 VEGETATION:

A mix of hardwood and softwood trees of all sizes exist along VT 107
The residences near the bridge site have small areas of lawn and stone walls with plantings. One field exists near the project. Impacts to vegetation will be limited to that which are effected by the construction of the new bridge.

Following construction of the temporary bridge, the existing bridge and roadway approaches will be removed, the slopes stabilized with stone fill and vegetation reestablished with standard seed & mulch practices.

1.2.4 SOILS:

The Soil Conservation Service has mapped the soils throughout Windsor County. One of the soil type identified for this project site is Urban Land-Windsor-Agawam complex. This soil type is described as '...Moderately steep and hilly, shallow, somewhat excessively drained and excessively drained soils and rock outcrop in irregularly shaped areas on bedrock ridges... they have a surface layer of very dark grayish brown fine sandy loam 2 inches thick. The subsoil is friable, brown to dark brown gravelly fine sandy loam 10 inches thick. Hard, massive schist bedrock is at a depth of 12 inches....Permeability is moderately rapid...The potential for erosion is low. Runoff is rapid on the rock outcrop part of this complex.

Another soil type identified on this project is Ondawa fine sandy loam, this soil type is described as '...Moderately sloped with slopes ranging from 0 to 3 percent. The soil is considered to be not erodible and is occasionally flooded. It is identified as not a hydric soil. It's in hydraulic group B and its soil depth will be moderately deep to very deep/ bedrock that is either sandy/sandy-skeletal to loamy/loamy-skeletal.

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:

Critical Habitats: No
Historical or Archeological Areas: No
Prime Agricultural Land: No
Threatened and Endangered Species: No
Water Resource: White River
Wetlands: No

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 shall 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. See EPSC Construction Conditions Sheet 1-3 for proposed locations of PDF and Barrier Fence.

Project Demarcation Fencing (denoted -PDF- on plans) 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 the White River.

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 distrubed and exposed to erosion. Employ temporary construction stabilization practices in incremental stages as phases change. Because this project falls under the Construction General Permit, only the acreage listed on the permit authorization may be exposed at any given time.

Filter curtain shall be used when work is being done for the pier. Additional measures may be needed due to the phasing of the project and as directed by the engineer.

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 water. 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 and as directed by the engineer. The current proposal includes installing two such entrances at each end of the project site.

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 the White River, as shown on plan sheets.

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,as such, the only diversionary methods being utilized are the drop inlet protection devices as shown on the construction condition EPSC sheets.

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 deemed necessary and as directed by the engineer. None are shown on the EPSC plan sheets. Check dams shall be constructed in accordance with Section 653. Payment will be made using the appropriate quantity of Item 613.10 Stone Fill, Type 1.

1.4.7 CONSTRUCT PERMANENT CONTROLS

Permanent stormwater treatment devices shall be installed as shown on the plans and in accordance with permit conditions. Will include the following:

Type IV stone for slope lining and channel protection
Seed and mulch applied where indicated on EPSC Final Condition as 'Disturbed areas requiring re-vegetation'
Drainage inlets and piping installed as shown on plans to control stormwater
Soil retention walls constructed as indicated on plans to retain soils

Stream bank vegetation will be introduced in the grubbing material that is to be placed over the stream bank stone fill, as indicated by the shaded areas of Stone Fill Type IV shown on the EPSC Final Condition sheets.

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 stabilze 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.

Apply seed and mulch where indicated on EPSC Final Condition plan as 'Disturbed areas requiring re-vegetation'. Erosion control matting to be used as shown on EPSC Final Condtion plan.

1.4.11 DE-WATERING ACTIVITIES

Discharge from de-watering activities that flows off of the construction site must not cause or contribute to a violation of the Vermont water quality standards.

Treatment of de-watering cofferdam(s) is anticipated. Locations for treatment have been proposed and are 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 the construction general permit authorization stipulations. Item 652.20 'Monitoring of EPSC Plan' has been included in the project quantities for the purpose of satisfying this requirement.

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

PROJECT NAME:	**BETHEL**		
PROJECT NUMBER:	**BRF 022-1(14)**		
FILE NAME:	**sf161forms.dgn**	PLOT DATE:	**1/18/2011**
PROJECT LEADER:	**M. Evans-Mongeon**	DRAWN BY:	**G. Rokes**
DESIGNED BY:	**G. Colgrove**	CHECKED BY:	**S. Scribner**
EROSION CONTROL NARRATIVE SHEET		SHEET	33 OF 148

SOIL INFORMATION:
WINDSOR-AGAWAM COMPLEX SLOPES 0-8% "K FACTOR" 0.17 LOW ERODIBILITY

(RIVER STREET) VT 107

EXISTING R.O.W.

PAVED SIDEWALK

GRAVEL DRIVE

PAVED DRIVE

CONC. SIDEWALK

CONCRETE SIDEWALK

STONE SIDEWALK

CONC. CURB

STONE STEPS

GARDEN

STONE SIGN WALL

WOOD FENCE

HEDGE

HISTORIC DIST

HISTORIC DISTRICT

24" WATER MAIN

WATER MH

HYD.

COMB. POLE

GUY WIRES

SIGNS

EXIST. SIGNS & GUARDRAIL

120+75

121+00

122+00

123+00

MATCH LINE EPSC EXISTING CONDITIONS SHEET 2

WOOD HOUSE

SHED

TH 69

LARGE MAPLE

LARGE STUMP

MED. STUMP

SHRUBS

SHRUB

MED. SPRUCE

SMALL BALSAM

SMALL WHITE BIRCH

MED. MAPLE

SMALL CEDAR

SMALL APPLE

(2) MED. ASH

SMALL WHITE BIRCH

HEMLOCK CLUMP

LILAC

MED. OAK

WOODS

SOIL INFORMATION:
WINDSOR-AGAWAM COMPLEX SLOPES 0-8% "K FACTOR" 0.17 LOW ERODIBILITY

LEGEND

SOIL BOUNDARY	
WETLAND	
HISTORIC DISTRICT	HISTORIC DIST
AGRICULTURAL LAND	AG — AG
HISTORIC BUILDING	(H)

VT STATE PLANE GRID

N

SCALE 1" = 20'-0

20 0 20

EPSC EXISTING CONDITIONS SHEET 1

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: sf161erobdr.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
EPSC EXISTING CONDITIONS SHEET 1	SHEET 34 OF 148

WHITE RIVER

SOIL INFORMATION:
ONDAWA FINE SANDY LOAM
SLOPES 0-3%
SOIL GROUP B
"K FACTOR" 0.23
LOW ERODIBILITY

SOIL INFORMATION:
WINDSOR-AGAWAM COMPLEX
SLOPES 0-8%
"K FACTOR" 0.17
LOW ERODIBILITY

MATCH LINE EPSC EXISTING CONDITIONS SHEET 1

MATCH LINE EPSC EXISTING CONDITIONS SHEET 3

EXISTING R.O.W.

(ABANDON) 6" WATER MAIN

GRAVEL DRIVE

HISTORIC DIST

WOODS

BRUSH

CONC. SIDEWALK

STONE RETAINING WALL

STONE WALLS

WOOD HOUSE

ELECTRIC PANEL

MED. PINE

MED. STUMP

SEWER MH

6" WATER MAIN

STREET LIGHT POLE

SIGN

GUY WIRE

COMB. POLE

MED. LOCUST

EXISTING 24" COMP

EXISTING 24" RCP

125+00

126+00

127+00

128+00

129

0+00.00

524

525

530

535

540

545

515

LEGEND

- SOIL BOUNDARY
- RAPARIAN BUFFER ZONE
- WETLAND
- HISTORIC DISTRICT — HISTORIC DIST
- AGRICULTURAL LAND — AG
- HISTORIC BUILDING (H)

SCALE 1" = 20'-0

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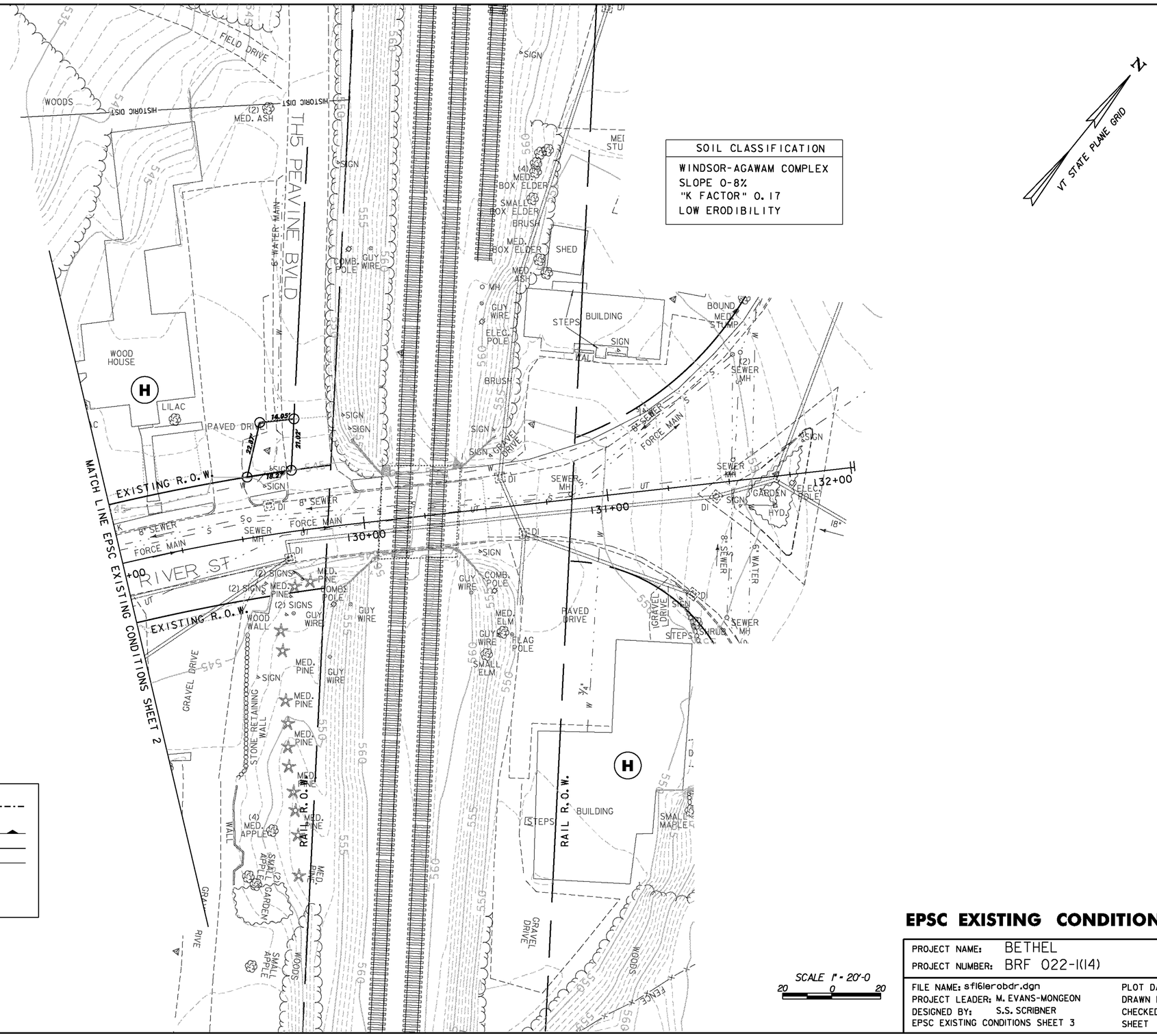
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VT STATE PLANE GRID

EPSC EXISTING CONDITIONS SHEET 2

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: sf16lerobdr.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S.S. SCRIBNER	CHECKED BY: S.S. SCRIBNER
EPSC EXISTING CONDITIONS SHEET 2	SHEET 35 OF 148

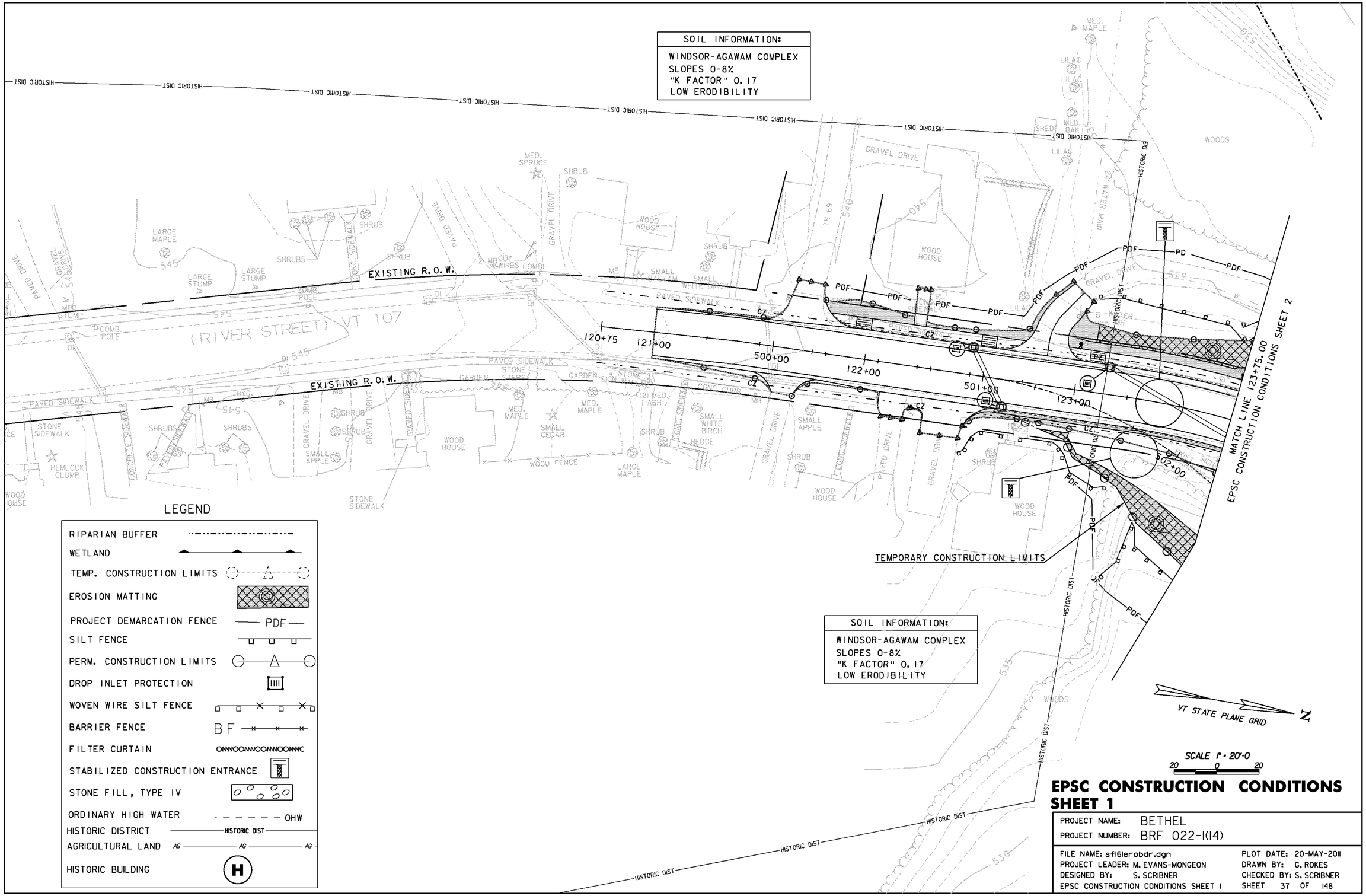


LEGEND

SOIL BOUNDARY	
WETLAND	
HISTORIC DISTRICT	HISTORIC DIST
AGRICULTURAL LAND	AG — AG
HISTORIC BUILDING	H

EPSC EXISTING CONDITIONS SHEET 3

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: sfl6lerobdr.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S.S. SCRIBNER	CHECKED BY: S.S. SCRIBNER
EPSC EXISTING CONDITIONS SHEET 3	SHEET 36 OF 148



LEGEND

- RIPARIAN BUFFER
- WETLAND
- TEMP. CONSTRUCTION LIMITS
- EROSION MATTING
- PROJECT DEMARCATION FENCE — PDF —
- SILT FENCE
- PERM. CONSTRUCTION LIMITS
- DROP INLET PROTECTION
- WOVEN WIRE SILT FENCE
- BARRIER FENCE — BF —
- FILTER CURTAIN
- STABILIZED CONSTRUCTION ENTRANCE
- STONE FILL, TYPE IV
- ORDINARY HIGH WATER — OHW
- HISTORIC DISTRICT — HISTORIC DIST —
- AGRICULTURAL LAND — AG — AG — AG —
- HISTORIC BUILDING (H)

EPSC CONSTRUCTION CONDITIONS SHEET 1

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: sf16erobdr.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
EPSC CONSTRUCTION CONDITIONS SHEET 1	SHEET 37 OF 148

LEGEND

- RIPARIAN BUFFER
- WETLAND
- TEMP. CONSTRUCTION LIMITS
- EROSION MATTING
- PROJECT DEMARCATION FENCE — PDF
- SILT FENCE
- PERM. CONSTRUCTION LIMITS
- DROP INLET PROTECTION
- WOVEN WIRE SILT FENCE
- BARRIER FENCE — BF
- FILTER CURTAIN
- STABILIZED CONSTRUCTION ENTRANCE
- STONE FILL, TYPE IV
- ORDINARY HIGH WATER — OHW
- HISTORIC DISTRICT — HISTORIC DIST
- AGRICULTURAL LAND — AG
- HISTORIC BUILDING — H
- DE-WATERING STRUCTURE

WHITE RIVER

PROPOSED DE-WATERING AREA

RIPARIAN BUFFER

WOODS

ACCESS TO RIVER

(ABANDON) 6" WATER MAIN

GRAVEL DRIVE

MATCH LINE STA. 123+75.00 EPSC CONSTRUCTION CONDITIONS SHEET 1

125+00 126+00 127+00 128+00 129

APPROXIMATE ℄ TEMPORARY BRIDGE

503+00 504+00 505+00 506+00 507+00

HISTORIC DIST

TEMPORARY CONSTRUCTION LIMITS

PROPOSED DE-WATERING AREA

RIPARIAN BUFFER

VT STATE PLANE GRID

MATCH LINE STA. 129+00.00 EPSC CONSTRUCTION CONDITIONS SHEET 3

8+00 9+00 7+00

WOOD HOUSE

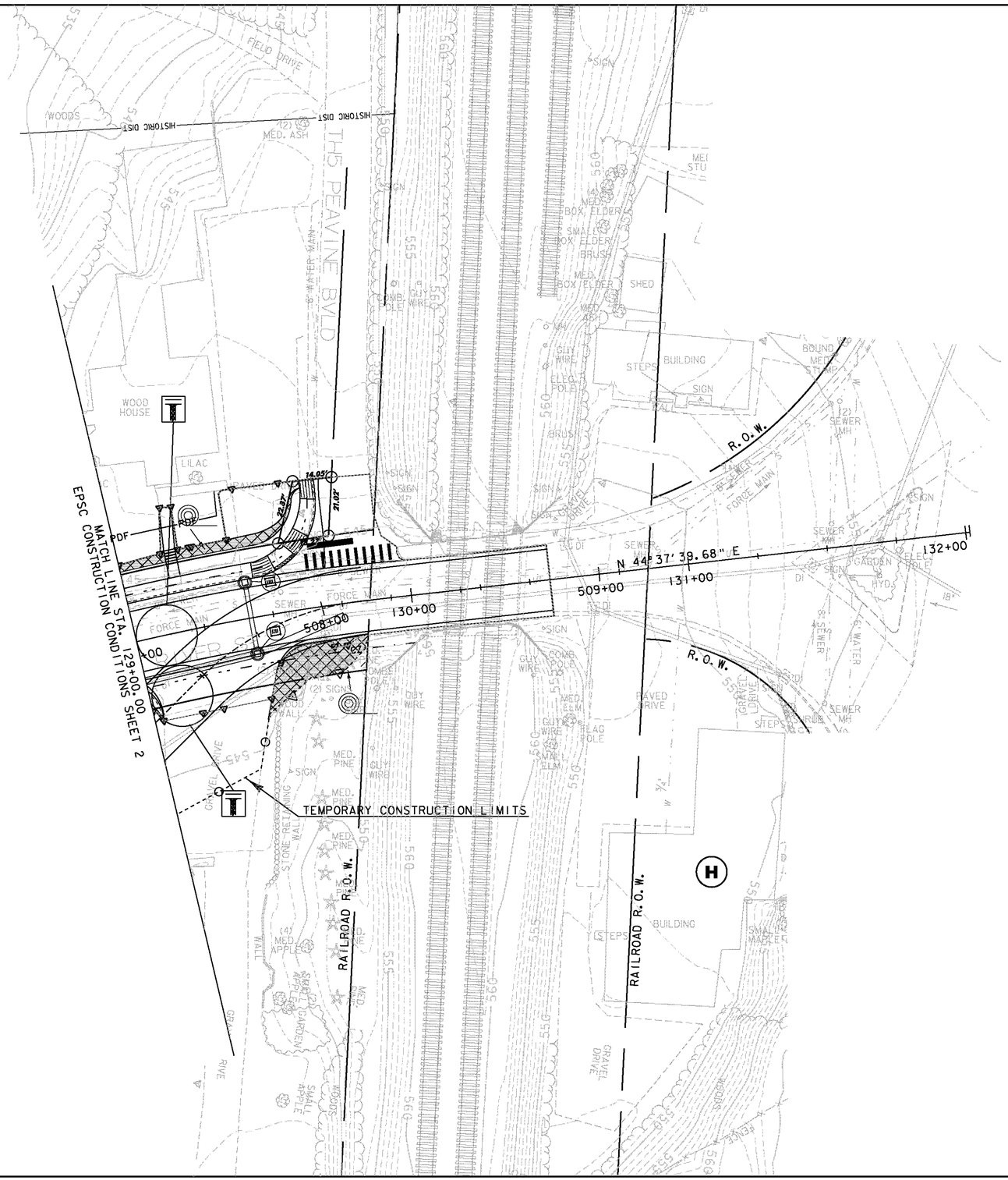
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EPSC CONSTRUCTION CONDITIONS SHEET 2

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: sf16lerobdr.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S.S. SCRIBNER	CHECKED BY: S.S. SCRIBNER
EPSC CONSTRUCTION CONDITIONS SHEET 2	SHEET 38 OF 148



LEGEND

- EROSION CONTROL MATTING
- SILT FENCE
- PROJECT DEMARCATION FENCE PDF——PDF
- LIMITS OF SOIL DISTURBANCE
- DROP INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- HISTORIC BUILDING H

N

VT STATE PLANE GRID

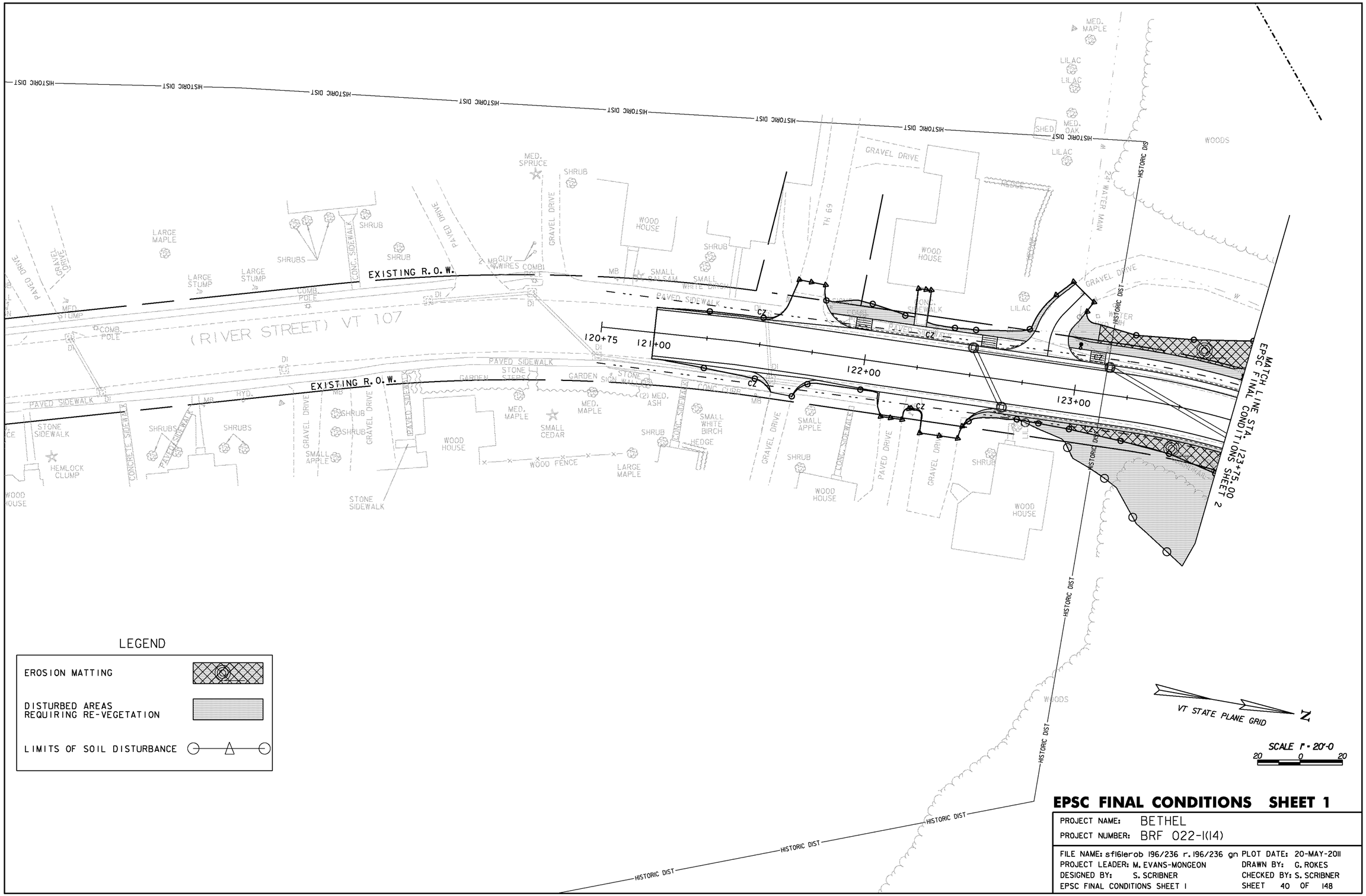
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EPSC CONSTRUCTION CONDITIONS SHEET 3

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: sf16lerobdr.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S.S. SCRIBNER	CHECKED BY: S.S. SCRIBNER
EPSC CONSTRUCTION CONDITIONS SHEET 3	SHEET 39 OF 148



LEGEND

EROSION MATTING	
DISTURBED AREAS REQUIRING RE-VEGETATION	
LIMITS OF SOIL DISTURBANCE	

EPSC FINAL CONDITIONS SHEET 1

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: sf161erob 196/236 r.196/236 gn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
EPSC FINAL CONDITIONS SHEET 1	SHEET 40 OF 148

LEGEND

- DISTURBED AREAS REQUIRING RE-VEGETATION
- EROSION CONTROL MATTING
- TYPE IV STONE FILL
- RIPARIAN BUFFER
- LIMITS OF SOIL DISTURBANCE
- H — HISTORIC BUILDING

WHITE RIVER

RIPARIAN BUFFER

VT STATE PLANE GRID

N

MATCH LINE STA. 123+75.00 EPSC FINAL CONDITIONS SHEET 1

MATCH LINE STA. 129+00.00 EPSC FINAL CONDITIONS SHEET 3

124+00 125+00 126+00 127+00 128+00 129

8+00 9+00 1+00

EXISTING R.O.W.

HISTORIC DIST

(ABANDON) 6" WATER MAIN

GRAVEL DRIVE

WOODS

SHRUB

ELECTRIC PANEL

MED. PINE

MED. STUMP

WOOD HOUSE

H

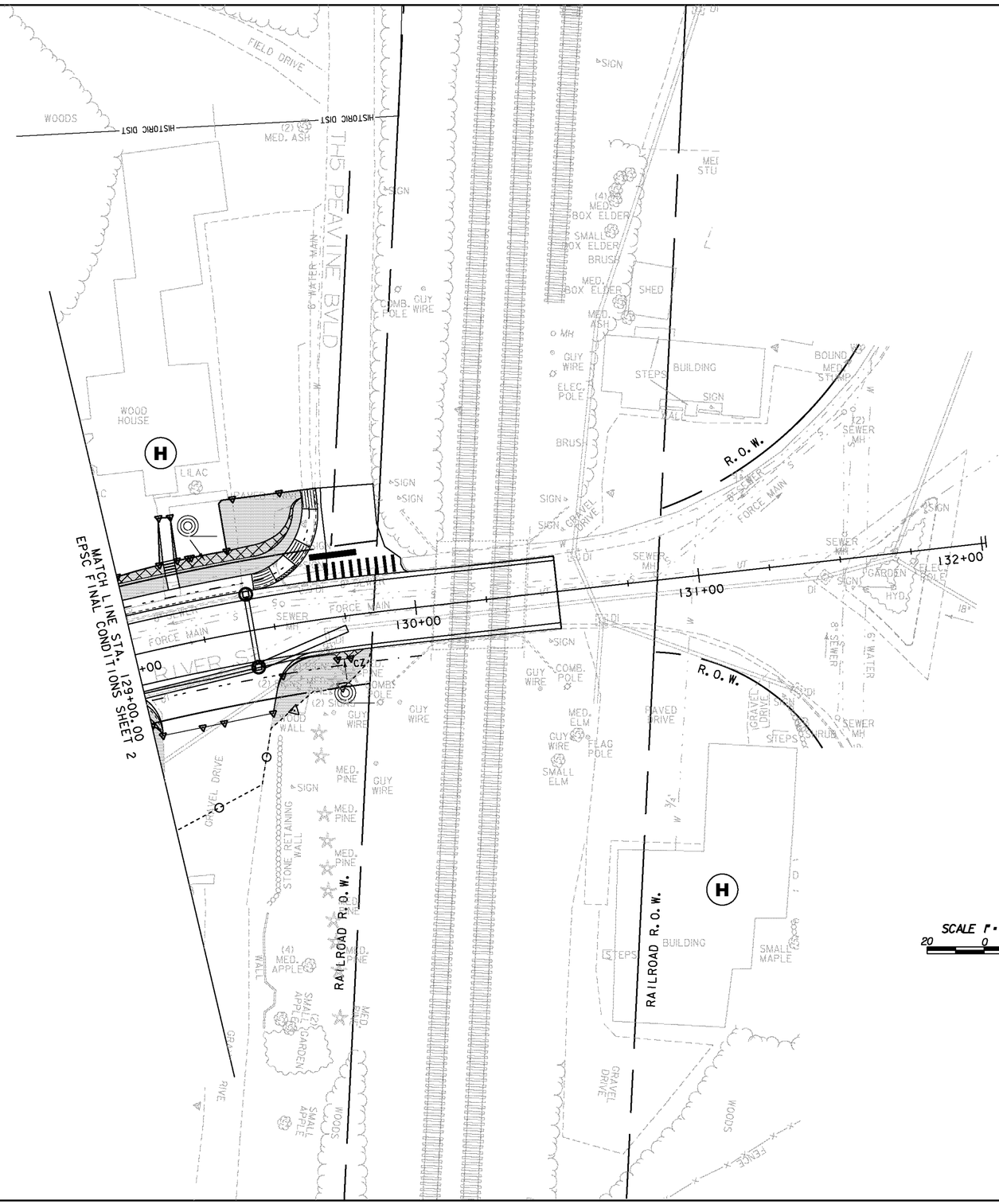
SCALE 1" = 20'-0

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EPSC FINAL CONDITIONS SHEET 2

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: sf16lerobdr.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S.S. SCRIBNER	CHECKED BY: S.S. SCRIBNER
EPSC FINAL CONDITIONS SHEET 2	SHEET 41 OF 148



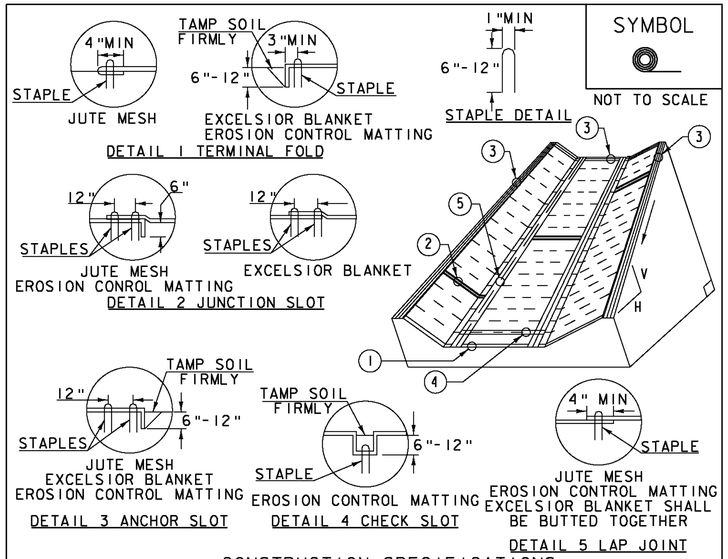
LEGEND

- EROSION CONTROL MATTING
- DISTURBED AREAS REQUIRING RE-VEGETATION
- LIMITS OF SOIL DISTURBANCE
- (H) HISTORIC BUILDING

EPSC FINAL CONDITIONS SHEET 3

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: sfl6lerobdr.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S.S. SCRIBNER	CHECKED BY: S.S. SCRIBNER
EPSC FINAL CONDITIONS SHEET 3	SHEET 42 OF 148



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

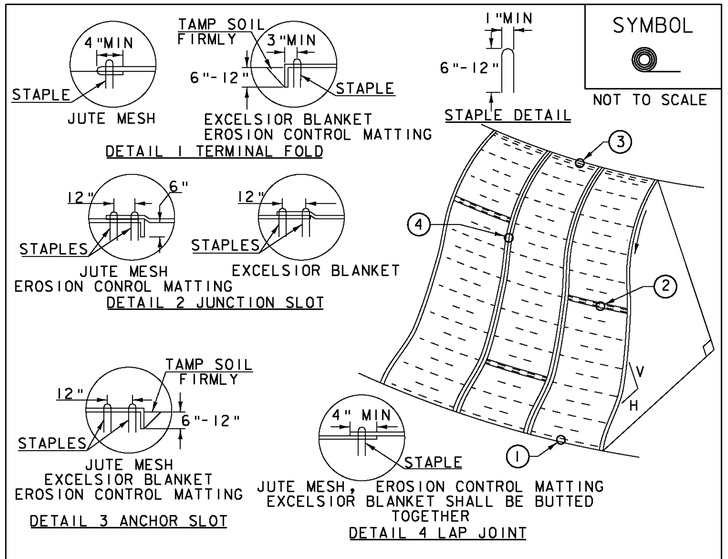
1. EROSION MATTING, CHECK SLOTS, SHALL BE SPACED IN DITCH CHANNEL SO THAT ONE OCCURS WITHIN EACH 50' ON SLOPES OF MORE THAN 4% AND LESS THAN 6%. ON SLOPES OF 6% OR MORE, THEY SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25'.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO 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) DITCH

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	
MARCH 8, 2007	JMF
APRIL 16, 2007	WHF
JANUARY 13, 2009	WHF



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

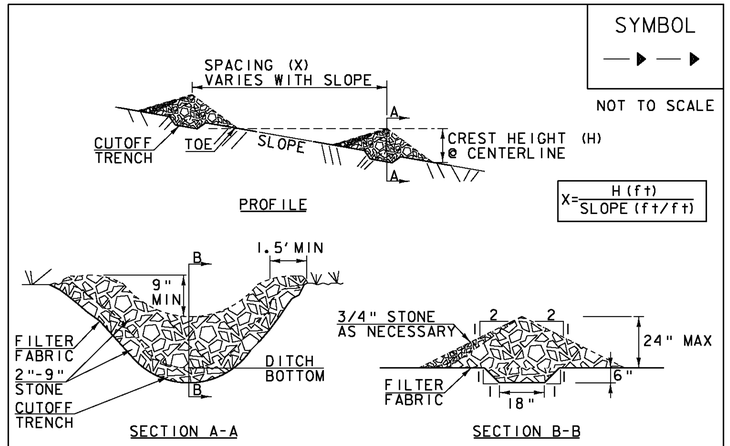
1. APPLY TO SLOPES GREATER THAN 3H: IV OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 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

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)~~ (PAY ITEM 613.10)

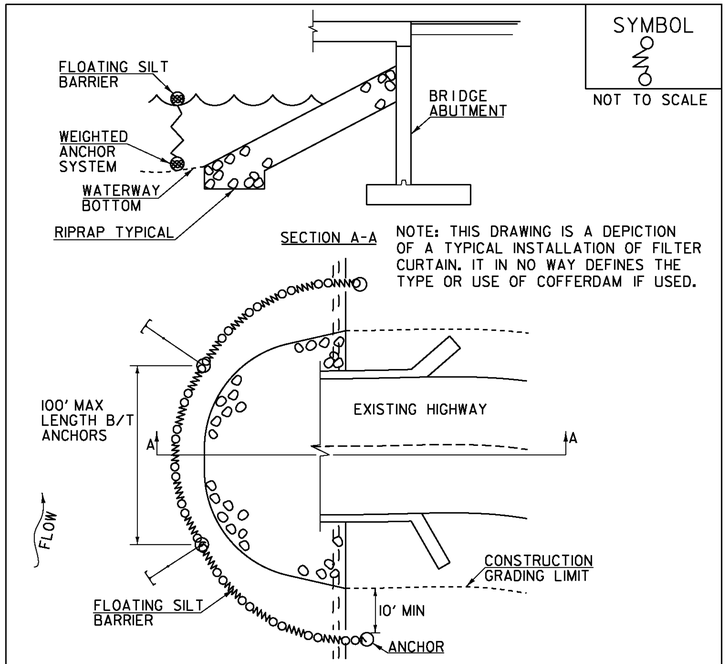
REVISIONS	
MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF

EPSC DETAILS SHEET 1

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: sf16erodtls.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
EPSC DETAILS SHEET 1

PLOT DATE: 20-MAY-2011
DRAWN BY: T. DREW
CHECKED BY: S. SCRIBNER
SHEET 43 OF 148



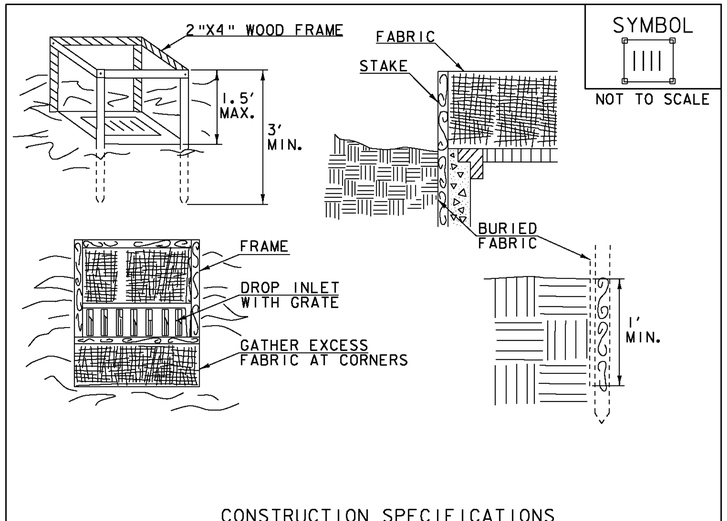
CONSTRUCTION SPECIFICATIONS

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



CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN APPARENT OPENING SIZE OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2"x 4" WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3'.
4. SPACE STAKES EVENLY AROUND INLET 3' APART AND DRIVE A MINIMUM 18" DEEP. SPANS GREATER THAN 3' MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1' MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
7. MAXIMUM DRAINAGE AREA 1 ACRE

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

FILTER FABRIC DROP INLET PROTECTION

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 INLET PROTECTION DEVICE, TYPE I (PAY ITEM 653.40).

REVISIONS	
MARCH 7, 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

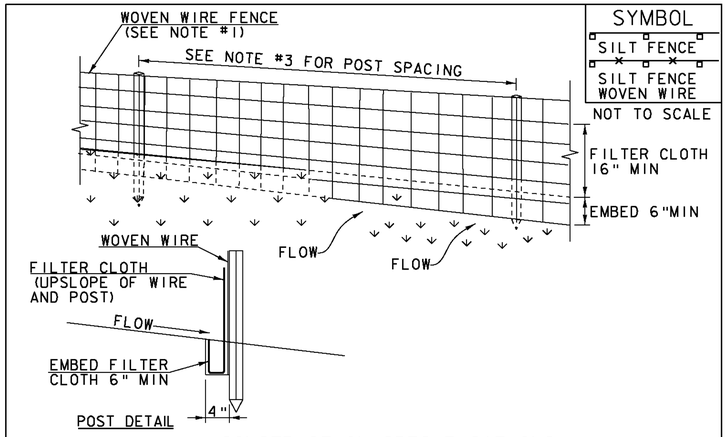
REVISIONS	
JUNE 23, 2009	WHF
JANUARY 15, 2010	WHF
FEBRUARY 16, 2011	WHF

EPSC DETAILS SHEET 2

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: sf16erodtls.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
EPSC DETAILS SHEET 2

PLOT DATE: 20-MAY-2011
DRAWN BY: T. DREW
CHECKED BY: S. SCRIBNER
SHEET 44 OF 148



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.

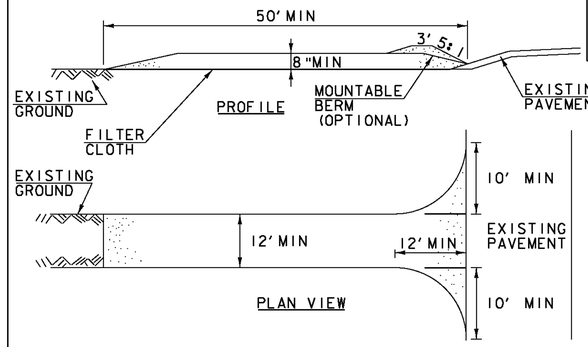
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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

EPSC DETAILS SHEET 3

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: sf16lerodtls.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
EPSC DETAILS SHEET 3

PLOT DATE: 20-MAY-2011
DRAWN BY: T. DREW
CHECKED BY: S. SCRIBNER

SPECIFICATIONS AND CONTRACT ITEM NOTES:

1.) 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.

2.) THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE REQUIRMENTS OF SECTION 621 REGARDING TEMPORARY TRAFFIC BARRIER AND ENERGY ABSORPTION ATTENUATORS.

3.) PAYMENT FOR ALL ON AND OFF-PROJECT CONSTRUCTION SIGNING AND TRAFFIC CONTROL DEVICES, INCLUDING DRUMS AND BARRICADES, WILL BE MADE UNDER CONTRACT ITEM 641.10.

VT STATE PLANE GRID N

END ROAD WORK

APPROXIMATE LOCATION

TEMPORARY CROSSWALK LOCATION

SIDEWALK CLOSED CROSS HERE

MOUNTED ON TYPE II BARRICADE

2 EA

MOUNTED ON TYPE III BARRICADE

MOUNTED ON TYPE III BARRICADE

2 EA

MOUNTED ON TYPE III BARRICADE

ENERGY ABSORPTION ATTENUATOR

120+75 121+00 500+00 122+00 501+00 123+00 124+00 502+00

CZ

DETOUR SIDEWALK AREA

CONCRETE TRAFFIC BARRIER

BEGIN TEMPORARY BRIDGE

STA 502+70.00 (APPROXIMATE)

ENERGY ABSORPTION ATTENUATOR

TEMPORARY CONSTRUCTION LIMITS

DETOUR MATCH LINE STA. 503+00.00

ROAD WORK 500 FT

PLACE SIGN 500 FT FROM BEGIN PROJECT OR AT AN APPROXIMATE LOCATION.

AHEAD

15 M.P.H.

ROAD WORK AHEAD

PLACE SIGN 1000 FT FROM BEGIN PROJECT OR AT AN APPROXIMATE LOCATION.

NORTH TO EAST

VERMONT 12

INTERSTATE 89

VERMONT 107

THIS SIGN ASSEMBLY TO BE SALVAGED FROM ORIGINAL LOCATION AT STA 123+75 RT AND TEMPORARILY INSTALLED AT THIS LOCATION FOR DURATION OF TRAFFIC DETOUR. TO BE REINSTALLED IN FINAL LOCATION FOLLOWING REMOVAL OF TEMPORARY DETOUR.

DETOUR CURVE #1 DATA
Delta = 31°36'36.36"
D = 27°56'56.98"
R =205.00'
T =58.03'
L =113.10'
E =8.05'

SCALE 1" = 20'-0
20 0 20

TEMPORARY DETOUR SHEET 1

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: sf16ldetbdr.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: S. SCRIBNER
TEMPORARY DETOUR SHEET 1	SHEET 46 OF 148

N

VT STATE PLANE GRID

WHITE RIVER

℄ VT 107

125+00

126+00

127+00

DETOUR MATCH LINE STA. 503+00.00

DETOUR MATCH LINE STA. 506+25.00

15°

PT Sta. 125+42.09

504+00

505+00

506+00

+00

ML STA. 128+50. , 14.5 L
= STAIR STA. 0+00

SIDEWALK

TEMPORARY CONSTRUCTION LIMIT

PIER FOR TEMPORARY BRIDGE

SCALE 1" = 20'-0

20 0 20

TEMPORARY DETOUR SHEET 2

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: sf16ldetbdr.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: S. SCRIBNER
TEMPORARY DETOUR SHEET 2	SHEET 47 OF 148

SIDEWALK CLOSED
MOUNTED ON TYPE II BARRICADE

SIDEWALK CLOSED
CROSS HERE
MOUNTED ON TYPE II BARRICADE

2 EA
MOUNTED ON TYPE III BARRICADE

MOUNTED ON TYPE III BARRICADE

2 EA
MOUNTED ON TYPE III BARRICADE

ENERGY ABSORPTION ATTENUATOR

PLACE SIGN 1000 FT FROM INTERSECTION OR AT AN APPROXIMATE DISTANCE.

END ROAD WORK

PLACE SIGN 500 FT FROM INTERSECTION OR AT AN APPROXIMATE DISTANCE.

ROAD WORK AHEAD

15 M.P.H.

PLACE SIGN 500 FT FROM INTERSECTION OR AT AN APPROXIMATE DISTANCE.

TEMPORARY CROSSWALK LOCATION

SIDE ROAD WORK AHEAD

PLACE SIGN 1000 FT FROM INTERSECTION OR AT AN APPROXIMATE DISTANCE.

END ROAD WORK

PLACE SIGN 500 FT FROM INTERSECTION OR AT AN APPROXIMATE DISTANCE.

SIDE ROAD WORK 500 FT

PLACE SIGN 500 FT FROM INTERSECTION OR AT AN APPROXIMATE DISTANCE.

N

VT STATE PLANE GRID

BETHEL
RANDOLPH 8
NORTH TO EAST
VERMONT 12
INTERSTATE 89
VERMONT 107

THIS SIGN ASSEMBLY TO BE SALVAGED FROM ORIGINAL LOCATION AT STA 129+60 RT AND TEMPORARILY INSTALLED AT THIS LOCATION FOR DURATION OF TRAFFIC DETOUR. TO BE REINSTALLED IN FINAL LOCATION FOLLOWING REMOVAL OF TEMPORARY DETOUR.

2 EA
AHEAD

SIDE ROAD WORK 500 FT

PLACE SIGN 500 FT FROM INTERSECTION OR AT AN APPROXIMATE DISTANCE.

SIDE ROAD WORK AHEAD

PLACE SIGN 1000 FT FROM INTERSECTION OR AT AN APPROXIMATE DISTANCE.

506+25.00 STA. LINE MATCH

DETOUR

8+00

0+00.00

1:1.5

507+00

508+00

509+00

130+00

131+00

132+00

132+01

DETOUR SIDEWALK AREA

TEMPORARY CONSTRUCTION LIMIT

SIDEWALK CLOSED
MOUNTED ON TYPE II BARRICADE

SIDEWALK CLOSED
CROSS HERE
MOUNTED ON TYPE II BARRICADE

ENERGY ABSORPTION ATTENUATOR

1 EA
MOUNTED ON TYPE III BARRICADE

CONCRETE TRAFFIC BARRIER

END TEMPORARY BRIDGE
STA 506+50 (APPROXIMATE)

DETOUR CURVE #3 DATA
Delta = 38°31'35.77"
D = 57°43'43.48"
R = 99.25'
T = 34.69'
L = 66.74'
E = 5.89'

DETOUR CURVE #2 DATA
Delta = 23°43'20.35"
D = 57°43'43.48"
R = 99.25'
T = 20.84'
L = 41.09'
E = 2.17'

END ROAD WORK

PLACE SIGN 500 FT FROM INTERSECTION OR AT AN APPROXIMATE DISTANCE.

SCALE 1" = 20'-0
20 0 20

TEMPORARY DETOUR SHEET 3

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: sf16ldetbdr.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: S. SCRIBNER
TEMPORARY DETOUR SHEET 3	SHEET 48 OF 148

EXISTING SIGNS

NEW SIGNS

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

REMOVING EXISTING SIGNS
11 EA (AS SHOWN)

ERECTING SALVAGED SIGNS
9 EA (AS SHOWN)

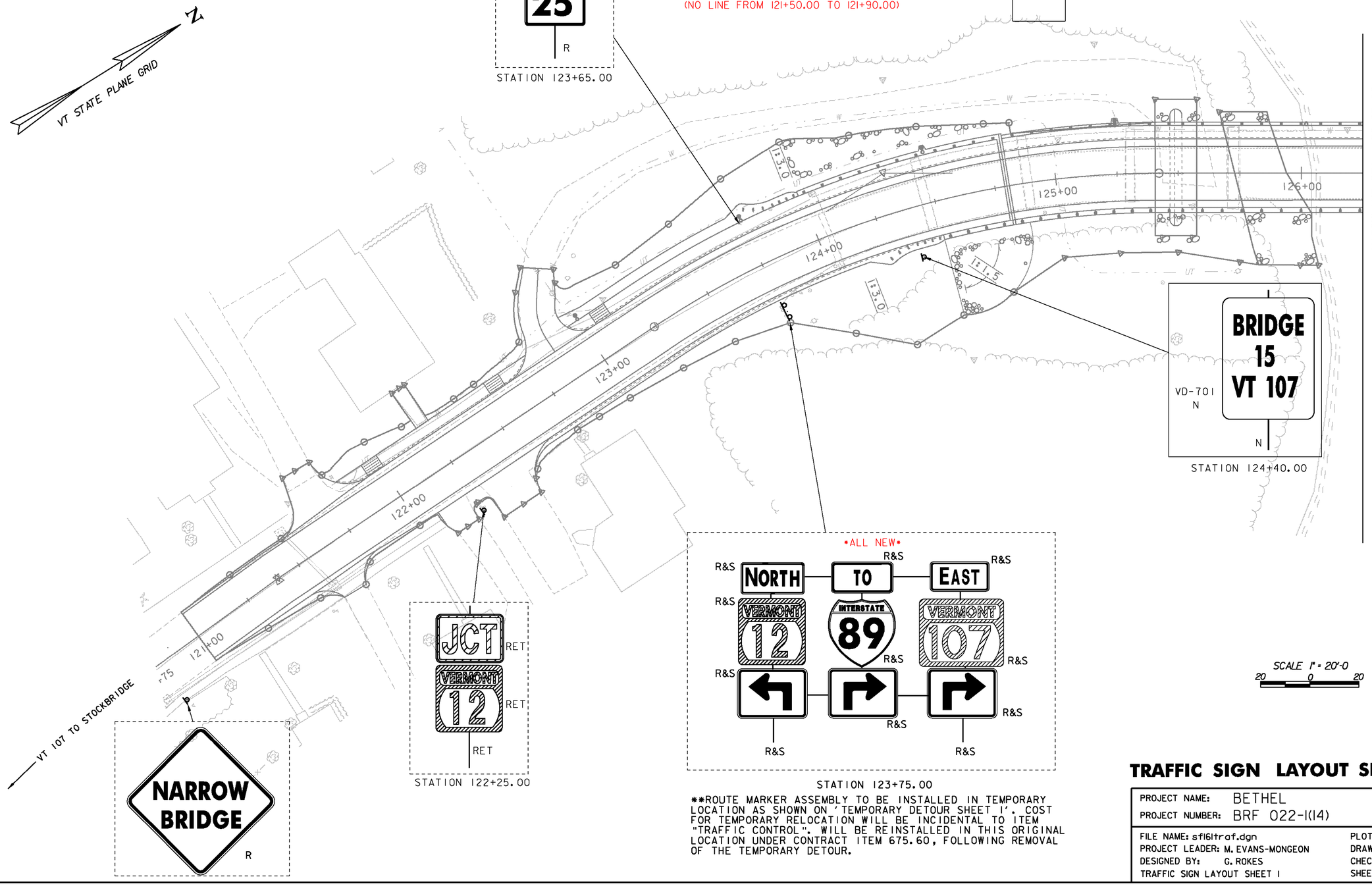
PAVEMENT MARKINGS

4" WHITE LINE

120+23.00 ~~121+00.00~~ TO 126+25.00 RT
120+23.00 ~~121+00.00~~ TO 121+50.00 LT
121+90.00 TO 126+25.00 LT

4" YELLOW LINE

120+39.00 ~~121+00.00~~ TO 126+25.00 LT/RT
(NO LINE FROM 121+50.00 TO 121+90.00)



SCALE 1" = 20'-0
20 0 20

**ROUTE MARKER ASSEMBLY TO BE INSTALLED IN TEMPORARY LOCATION AS SHOWN ON 'TEMPORARY DETOUR SHEET 1'. COST FOR TEMPORARY RELOCATION WILL BE INCIDENTAL TO ITEM "TRAFFIC CONTROL". WILL BE REINSTALLED IN THIS ORIGINAL LOCATION UNDER CONTRACT ITEM 675.60, FOLLOWING REMOVAL OF THE TEMPORARY DETOUR.

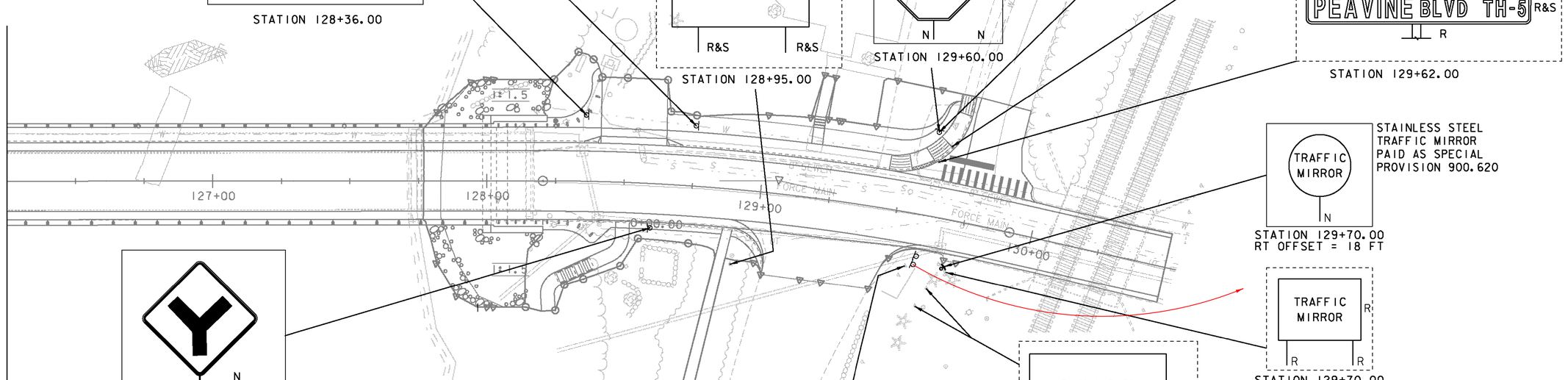
TRAFFIC SIGN LAYOUT SHEET 1

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: sf161traf.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: S. SCRIBNER
TRAFFIC SIGN LAYOUT SHEET 1	SHEET 49 OF 148

VT STATE PLANE GRID

MATCHLINE STA. 126+25.00
TRAFFIC SIGN LAYOUT SHEET 1



BRIDGE 15 VT-107
N
N
STATION 128+36.00

SPEED LIMIT 25
N
N
STATION 128+75.00

BUSINESS SIGN
S
S S
STATION 128+95.00

BUSINESS SIGN
R&S
R&S R&S
STATION 128+95.00

PEAVINE BLVD TH-5
S
STATION 129+60.00
SALVAGE TO NEW STOP SIGN

STOP
N N
STATION 129+60.00

STOP
R
R
STATION 129+65.55

PEAVINE BLVD TH-5
R&S
R
STATION 129+62.00

TRAFFIC MIRROR
N
STAINLESS STEEL TRAFFIC MIRROR PAID AS SPECIAL PROVISION 900.620
STATION 129+70.00
RT OFFSET = 18 FT

TRAFFIC MIRROR
R
R R
STATION 129+70.00

BLANK SIGN
R
R R
STATION 129+68.00

Y
N
N
STATION 128+60.00

PAVEMENT MARKINGS

4" WHITE LINE

126+25.00 TO 130+~~50.00~~ RT 75.00
126+25.00 TO 129+50.00 LT
130+00.00 TO ~~130+50.00 LT~~ 131+25.00 LT

4" YELLOW LINE

126+25.00 TO 130+~~50.00~~ LT/RT 75.00 (NO MARKINGS FROM 129+50.00 TO 130+00.00)

24" STOP BAR

129+65.50 LT TO 129+81.50 LT

CROSSWALK MARKING

129+53.24 LT - 129+96.73 LT

REMOVING EXISTING SIGNS

16 EA (AS SHOWN)

ERECTING SALVAGED SIGNS

13 EA (AS SHOWN)

BETHEL R&S
RANDOLPH 8 R&S
NORTH R&S TO R&S EAST R&S
VERMONT 12 R&S
INTERSTATE 89 R&S
VERMONT 107 R&S
R&S R&S R&S R&S

~~STATION 129+60.00~~ RELOCATED TO MEDIAN AT INTERSECTION

**ROUTE MARKER ASSEMBLY TO BE INSTALLED IN TEMPORARY LOCATION AS SHOWN ON 'TEMPORARY DETOUR SHEET 1'. COST FOR TEMPORARY RELOCATION WILL BE INCIDENTAL TO ITEM "TRAFFIC CONTROL". WILL BE REINSTALLED IN THIS ORIGINAL LOCATION UNDER CONTRACT ITEM 675.60, FOLLOWING REMOVAL OF THE TEMPORARY DETOUR.

EXISTING SIGNS

NEW SIGNS

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

SCALE 1" - 20'-0
20 0 20

TRAFFIC SIGN LAYOUT SHEET 2

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: sf161traf.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: G. ROKES
TRAFFIC SIGN LAYOUT SHEET 2

PLOT DATE: 20-MAY-2011
DRAWN BY: G. ROKES
CHECKED BY: S. SCRIBNER
SHEET 50 OF 148

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 1

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	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	TUBULAR STEEL Ø (in) lb/ft FOUND-ATION	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 REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
											OPTION ITEMS																									
123+75.00 RT	NORTH						X			X																								REMOVE AND SALVAGE ROUTEMARKER ASSEMBLY INSTALL IN TEMPORARY LOCATION FOR DURATION OF TEMPORARY DETOUR.		
	VERMONT 12						X			X																								REMOVE AGAIN AND RESET IN FINAL LOCATION FOLLOWING REMOVAL OF DETOUR.		
							X																													
	TO						X																													
	INTERSTATE 89						X																													
							X																													
	EAST						X																													
	VERMONT 107						X																													
							X																													
124+40.00 RT	BRIDGE 15 VT-107	1	6	8	0.33						1				8			X																VD-701		E-134
128+36.00 LT	BRIDGE 15 VT-107	1	6	8	0.33						1				8			X																VD-701		E-134
128+60.00 RT	Y	1	30	30	6.25						1					15		X																W2-5		SHSM
TOTALS					SF 6.91	SF	EA. 9	SF				FT	FT	FT	FT 16	FT 15	FT		EA	LB	LB	LB		LB	LB	LB	LB	EA.	EA.	LB					
															FT 31					LB			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 VAOT "SIGN POST DESIGN GUIDELINE."

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: 78f161/STR/sf161traf.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: G.ROKES
TRAFFIC SIGN SUMMARY SHEET 1

PLOT DATE: 20-MAY-2011
DRAWN BY: G.ROKES
CHECKED BY: S.SCRIBNER
SHEET 51 OF 148

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 2

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	TUBULAR STEEL Ø (in) FOUNDATION	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 REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
											OPTION ITEMS																									
128+75.00 LT	SPEED LIMIT 25	1	24	30	5						1					15		X	X														R2-1		SHSM
128+95.00 RT	BUSINESS SIGN						X			X																							REMOVE AND SALVAGE BUSINESS SIGN AND RESET ONCE TEMPORARY DETOUR IS REMOVED		
129+60.00 LT	STOP	1	30	30	6.25						1					15		X	X														R1-1		SHSM
129+60.00 LT	PEAVINE BLVD						X																												
129+60.00 RT	BETHEL						X			X																						REMOVE AND SALVAGE ROUTEMARKER ASSEMBLY INSTALL IN TEMPORARY LOCATION FOR DURATION OF TEMPORARY DETOUR.		
	RANDOLPH 8						X			X																						REMOVE AGAIN AND RESET IN FINAL LOCATION FOLLOWING REMOVAL OF DETOUR. PAYMENT INCIDENTAL TO ITEM 528.11.		
	NORTH						X																												
	VERMONT 12						X																												
							X																												
	TO						X																												
	US STATE 89						X																												
							X																												
TOTALS			SF 11.25	SF	EA. 10	SF						FT	FT	FT	FT 30	FT	FT		EA	LB	LB	LB	EA.	LB	LB	LB	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 VAOT "SIGN POST DESIGN GUIDELINE."

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: 78F161/STR/sf161traf.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: G.ROKES
TRAFFIC SIGN SUMMARY SHEET 2

PLOT DATE: 20-MAY-2011
DRAWN BY: G.ROKES
CHECKED BY: S.SCRIBNER
SHEET 52 OF 148

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 3

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			SQUARE STEEL (in) lb/ft			ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft			TUBULAR STEEL Ø (in)					W-SHAPE STEEL				SIGN REQUIRED		DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
																							FOUND-ATION	lb/ft				FTG. SIZE		WEIGHT	POST SIZE				
												1.12	2.0	3.0	1.75	2.0	2.5			3.0	4.0	4.0 MOD		3.5	4.0	5.0	24"	30"					
															1.88	2.42	3.35			1.3	1.7	1.7		7.6	9.0	10.8	14.6							
											OPTION ITEMS																							
129+60.00 RT	EAST						X																										
	VERMONT 107						X																										
							X																										
129+70.00 RT																					12											STAINLESS STEEL TRAFFIC MIRROR PAID AS SPECIAL PROVISION 900.620 (STAINLESS STEEL TRAFFIC MIRROR)		

SOIL CLASSIFICATION

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

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

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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

COMMONLY USED SYMBOLS

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

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

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.

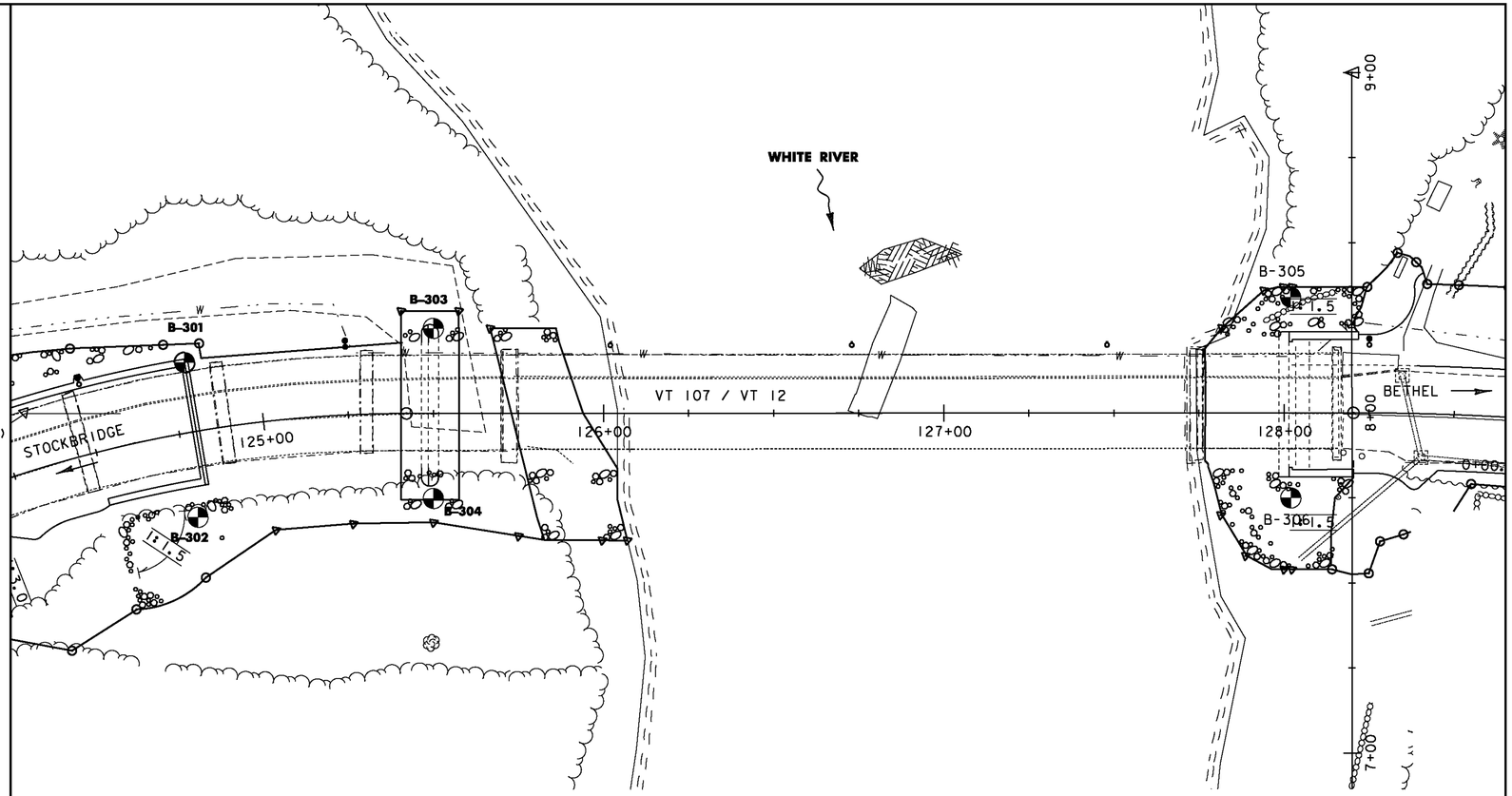
MUCK - Soft organic soil (containing > 10% organic material.

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.



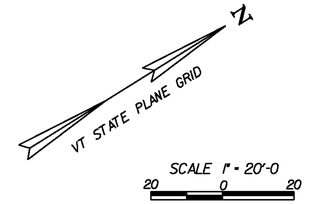
BORING CHART

BORING NO#	STATION	OFFSET (FT)	NORTHING	EASTING	EXISTING GROUND ELEVATION
B-301	124+80.00	20.5 LT	483613.40	1605502.24	532.83
B-302	124+76.00	25 RT	483592.22	1605543.83	529.19
B-303	125+50.00	25 LT	483680.35	1605533.39	531.66
B-304	125+50.00	25 RT	483653.89	1605575.81	530.45
B-305	128+02.00	34 LT	483898.90	1605659.07	526.80
B-306	128+02.00	25 RT	483867.63	1605709.31	531.81

*BORING COORDINATES PROVIDED ARE NOT IN THE "PROJECT COORDINATE SYSTEM" AS DEFINED ON THE SURVEY TIE SHEET. (STATION - OFFSET ARE BASED ON MAINLINE GEOMETRY)

GENERAL NOTES

1. The subsurface explorations shown herein were made between 02-01-2007 and 04-17-2007 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on 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.



BORING LAYOUT SHEET

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: sf161bor.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
BORING LAYOUT SHEET

PLOT DATE: 20-MAY-2011
DRAWN BY: G. ROKES
CHECKED BY: S. SCRIBNER
SHEET 54 OF 148

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

BORING NUMBER: B-301
SHEET 1 of 1
DATE STARTED: 2/22/07
DATE COMPLETED: 2/26/07

PROJECT NAME: BETHEL
SITE NAME: VT-107
STATION: 124+80.00
OFFSET: -20.50
VTSPG: N 483613.40 ft E 1605502.24 ft

PROJECT NUMBER: BRF 022-1(14)
SITE NUMBER: BR-15
GROUND ELEVATION: 532.83 ft
GROUNDWATER DEPTH: Hole Caved In
PROJECT PIN NUMBER: 78F161

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LARGE SKID RIG w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

ABUTMENT #1
ELEV. 523.00

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, GrSiSa, brn, Moist, Rec. = 0.7 ft, Broken rock was within sample.	R	20.3	24.4	48.8	26.8
		Field Note:, Cobbles, Cored ahead.					
		Field Note:, Cored ahead.					
10		A-1-b, GrSa, brn, Wet, Rec. = 0.9 ft, Broken rock was within sample.	13	17.5	32.2	56.6	11.2
		A-2-4, Sa, brn, Wet, Rec. = 1.1 ft, Added bentonite due to flowing sand.	6	27.1	1.1	82.8	16.1
20		A-2-4, SiSa, brn, Wet, Rec. = 1.3 ft, Added bentonite due to flowing sand.	5	25.0	3.7	70.5	25.8
		A-4, GrSiSa, gry, Wet, Rec. = 1.3 ft, Broken rock was within sample.	27	16.9	24.6	39.0	36.4
30		Field Note:, Cored ahead and cleaned out casing.					
		A-2-4, SlGrSa, gry, Wet, Rec. = 0.7 ft, Broken rock was within sample.	12	17.3	23.8	54.7	21.5
		A-4, SiSa, gry, Moist, Rec. = 1.3 ft	75	14.9	18.7	41.1	40.2
40		Field Note:, No Recovery	R				
					Top of Bedrock @ 44.7 ft		
		Dark gray, Amphibolite-Biotite Gneiss, Competent, Dip varies from 60 to 90, Very hard, Unweathered, NXMDC, 44.7 ft - 49.7 ft, Rec. = 4.8 ft	1	96	96		6 6 6 6 8
50		Dark gray, Amphibolite-Biotite Gneiss, Competent, Dip varies from 60 to 90, Very hard, Unweathered, NXMDC, 49.7 ft - 54.7 ft, Rec. = 5.0 ft	2	100	96		7 7 6 7 8
		Hole stopped @ 54.7 ft					

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

BORING NUMBER: B-302
SHEET 1 of 1
DATE STARTED: 3/23/07
DATE COMPLETED: 3/28/07

PROJECT NAME: BETHEL
SITE NAME: VT-107
STATION: 124+76.00
OFFSET: 25.00
VTSPG: N 483592.22 ft E 1605543.83 ft

PROJECT NUMBER: BRF 022-1(14)
SITE NUMBER: BR-15
GROUND ELEVATION: 529.19 ft
GROUNDWATER DEPTH: 7.5 ft 3/28/07
PROJECT PIN NUMBER: 78F161

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

ABUTMENT #1
ELEV. 523.00

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		No Recovery, 0.0 ft - 2.0 ft	2				
		A-2-4, SiSa, brn, Wet, Rec. = 0.8 ft	4	23.4	10.2	61.5	28.3
		A-1-b, SaGr, brn, Wet, Rec. = 1.0 ft	7	16.7	45.6	42.5	11.9
		Field Class:, No Sample, In Cobbles					
10		A-1-b, SiGrSa, brn, Wet, Rec. = 1.6 ft	15	15.7	29.1	50.7	20.2
		A-2-4, SiSa, brn, Wet, Rec. = 0.3 ft, Stone in end of sampler.	25	18.9	19.2	57.1	23.7
		A-4, SaSi, brn, Wet, Rec. = 1.4 ft	20	24.3	2.8	41.7	55.5
		A-4, GrSaSi, brn, Wet, Rec. = 1.7 ft	36	18.4	21.2	37.0	41.8
		A-2-4, SlGrSa, brn, Wet, Rec. = 1.4 ft	28	16.4	33.1	34.6	32.3
		A-2-4, GrSlSa, brn, Wet, Rec. = 1.2 ft	17	20.5	20.2	58.5	21.3
20		A-2-4, GrSlSa, brn, Wet, Rec. = 1.4 ft	34	16.3	27.3	39.6	33.1
		A-1-b, SiSaGr, gry, Wet, Rec. = 1.6 ft	73	12.1	46.1	31.2	22.7
		Field Class:, Boulder					
30		Field Note:, Seam					
		Field Class:, Boulder					
		A-2-4, SiSaGr, gry, Wet, Rec. = 0.8 ft	R	12.6	36.8	34.7	28.5
			R	9.3	33.9	38.5	27.6
					Top of Bedrock @ 40.3 ft		
40		A-2-4, SiSaGr, gry, Wet, Rec. = 0.3 ft	1	95	80	60	8
		Gray, Biotite Gneiss, Competent, Very hard, Unweathered, NXMDC, 40.3 ft - 45.3 ft, Rec. = 4.75 ft					9 7 7 7
		Gray, Biotite Gneiss, with occasional amphibolite stringers. Competent. Lost bottom 1.3' of core run in hole. RQD value may be missleading. Drilling rate indicates bottom 1.3' of core run is probibly competent., Very hard, Unweathered, NXMDC, 45.3 ft - 50.3 ft, Rec. = 3.6 ft	2	72	70	60	7 6 7
50		Drilling break., 46.5 ft - 46.8 ft					20 10
		Hole stopped @ 50.3 ft					

LOG OF BORING BETHEL BRF 022-1(14).GPJ VT AOT.GDT 5/23/07

BOTTOM OF FOOTING

BORING LOG SHEET 1

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: sf161bor.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
BORING LOG SHEET 1

PLOT DATE: 20-MAY-2011
DRAWN BY: G. ROKES
CHECKED BY: S. SCRIBNER
SHEET 55 OF 148

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

BORING NUMBER: B-303
SHEET 1 of 1
DATE STARTED: 2/01/07
DATE COMPLETED: 2/12/07

PROJECT NAME: BETHEL
SITE NAME: VT-107
STATION: 125+50.00
OFFSET: -25.00
VTSPG: N 483680.35 ft E 1605533.39 ft

PROJECT NUMBER: BRF 022-1(14)
SITE NUMBER: BR-15
GROUND ELEVATION: 531.66 ft
GROUNDWATER DEPTH: 16.0 ft 2/17/07
PROJECT PIN NUMBER: 78F161

BORING CREW
CREW CHIEF: HOLT
DRILLER: PORTER
LOGGER: SINGLETON

BORING RIG: LARGE SKID RIG w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

PIER BOT.
PILE CAP EL=527.00

ESTIMATED PILE
TIP EL= 487.6

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, Sa, brn, Moist, Rec. = 1.8 ft	9	18.9	0.6	80.0	19.4
		A-3, Sa, Lt/brn, Moist, Rec. = 1.1 ft	3	16.0	10.4	80.6	9.0
		A-3, Sa, brn, Moist, Rec. = 0.9 ft	R	14.8	8.1	82.8	9.1
		Field Class: Boulder, 7.0 ft - 8.0 ft, Refusal at 7.0 ft, Cored ahead	6	14.5	11.2	78.6	10.2
10		A-3, Sa, brn, Moist, Rec. = 1.1 ft	12	11.0	27.8	63.3	8.9
		A-1-b, GrSa, brn, Moist, Rec. = 1.2 ft	31	9.2	45.1	34.7	20.2
		A-1-b, SlSaGr, gry-brn, MTW, Rec. = 0.9 ft	44	9.1	47.8	39.8	12.4
		A-1-b, SaGr, Lt/brn, Moist, Rec. = 1.2 ft	14	24.9	4.7	81.3	14.0
		A-2-4, Sa, brn, MTW, Rec. = 1.1 ft	6				
		Field Note:, No sample, Trace of Sa Si	6	23.8	0.8	19.9	79.3
20		A-4, SaSi, gry, MTW, Rec. = 1.0 ft	20	19.4	7.5	29.7	62.8
		A-4, SaSi, gry, MTW, Rec. = 1.5 ft					
		Field Class: Boulder, 24.0 ft - 26.0 ft, No sample, Cored ahead	36	15.2	29.3	37.3	33.4
		A-2-4, GrSiSa, gry, Moist, Rec. = 1.4 ft	14	17.4	20.0	41.7	38.3
		A-4, GrSiSa, brn, Wet, Rec. = 1.3 ft	7	23.6	9.6	63.1	27.3
30		A-2-4, SiSa, brn, Wet, Rec. = 1.5 ft	42	19.9	3.5	71.2	25.3
		A-2-4, SiSa, brn, Moist, Rec. = 1.0 ft		16.9	6.6	49.6	43.8
		A-4, SiSa, gry, Moist, Rec. = 1.0 ft	R	8.0			
		Classification:, A-2-4, Si Sa with Broken Rock, gry, Moist, Rec. = 0.4 ft, Insufficient sample for testing.					
		Field Note:, Difficult drilling in flowing sand, Used bentonite mud and continued.					
40		Classification:, A-4, Sa Si with Broken Rock, gry, Moist, Rec. = 0.5 ft, Insufficient sample for testing.	R	12.2			
				Top of Bedrock @ 42.3 ft			
		Greenish gray, Biotite Gneiss, with some Amphibolite. Poor RQD., Very hard, Unweathered, NXDC, 42.3 ft - 44.3 ft, Rec. = 1.6 ft	1	80	25	60	9 12
		Greenish gray, Biotite Gneiss, Competent, Very hard, Unweathered, NXMDC, 44.3 ft - 48.3 ft, Rec. = 3.5 ft	2	88	69	60	5 13 14
50		Greenish gray, Biotite Gneiss, Competent, Very hard, Unweathered, NXMDC, 48.3 ft - 52.3 ft, Rec. = 4.0 ft	3	100	85	60	5 6 5 4 5
		Hole stopped @ 52.3 ft					

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

BORING NUMBER: B-304
SHEET 1 of 1
DATE STARTED: 3/29/07
DATE COMPLETED: 4/02/07

PROJECT NAME: BETHEL
SITE NAME: VT-107
STATION: 125+50.00
OFFSET: 25.00
VTSPG: N 483653.89 ft E 1605575.81 ft

PROJECT NUMBER: BRF 022-1(14)
SITE NUMBER: BR-15
GROUND ELEVATION: 530.45 ft
GROUNDWATER DEPTH: 10.0 ft 4/02/07
PROJECT PIN NUMBER: 78F161

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

PIER BOT.
PILE CAP EL=527.00

ESTIMATED PILE
TIP EL= 487.6

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, Sa, brn, Moist, Rec. = 1.7 ft	6	21.4	11.1	70.0	18.9
		A-2-4, Sa, brn, Moist, Rec. = 1.1 ft	10	16.2	16.9	66.6	16.5
10		A-2-4, GrSiSa, brn, Wet, Rec. = 0.9 ft	27	13.3	25.4	48.7	25.9
		A-2-4, Sa, brn, Wet, Rec. = 1.1 ft	19	18.6	11.6	75.2	13.2
		Field Class:, NXDC, Cobbles, Cleaned out casing.					
20		A-1-b, SiGrSa, gry, Wet, Rec. = 0.6 ft	R	11.9	31.8	47.2	21.0
		Field Note:, NXDC, Cleaned out casing.					
		A-4, SaSi, gry, Moist, Rec. = 1.7 ft	73	15.8	13.2	37.0	49.8
30		A-4, Si, gry, Moist, Rec. = 1.2 ft	30	21.9	0.9	19.1	80.0
		A-4, SiSa, gry, Moist, Rec. = 1.5 ft	91	18.3	2.1	52.3	45.6
40		A-4, SiSa, gry, Moist, Rec. = 1.0 ft	R	16.2	16.8	44.7	38.5
				Top of Bedrock @ 44.5 ft			
		Field Class:, Weathered Rock, Drilled and cored ahead to solid rock.	1	100	90		8 9 7 7
		Gray, Biotite Gneiss, Competent, Dip varies from 60 to 85, Very hard, Unweathered, NXMDC, 45.2 ft - 50.2 ft, Rec. = 5.0 ft					
50		Gray, Biotite Gneiss, Competent, Dip varies from 60 to 85, Very hard, Unweathered, NXMDC, 50.2 ft - 55.2 ft, Rec. = 5.0 ft	2	100	92		7 6 6 5 5 6
		Hole stopped @ 55.2 ft					

BORING LOG SHEET 2

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: sf161bor.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
BORING LOG SHEET 2

PLOT DATE: 20-MAY-2011
DRAWN BY: G. ROKES
CHECKED BY: S. SCRIBNER
SHEET 56 OF 148

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

BORING NUMBER: B-305
SHEET 1 of 1
DATE STARTED: 4/16/07
DATE COMPLETED: 4/17/07

PROJECT NAME: BETHEL
SITE NAME: VT-107
STATION: 128+02.00
OFFSET: -34.00
VTSPG: N 483898.90 ft E 1605659.07 ft

PROJECT NUMBER: BRF 022-1(14)
SITE NUMBER: BR-15
GROUND ELEVATION: 526.8 ft
GROUNDWATER DEPTH: 3.0 ft 4/18/07
PROJECT PIN NUMBER: 78F161

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		Field Note:, Fill material to level sight.					
		Field Class:, Cobbles & Boulder, NXDC, Cored ahead					
5		A-2-4, SiSa, brn, Wet, Rec. = 0.9 ft	4	22.8	7.7	59.3	33.0
		Field Note:, No recovery, Wet sand in barrel., NXDC, Cored ahead	4				
		A-1-b, SaGr with Wood pieces., brn, Wet, Rec. = 1.0 ft	40	17.7	48.6	35.1	16.3
ABUTMENT #2 BOT. PILE CAP EL=516.00 10		A-1-b, SaGr, brn, Wet, Rec. = 0.9 ft	38	12.2	44.3	37.8	17.9
		A-2-4, SiSa, brn, Wet, Rec. = 1.0 ft	13	23.9	4.9	69.6	25.5
15		A-2-4, SiSa, brn-gry, Wet, Rec. = 2.0 ft	14	22.4	3.5	69.7	26.8
		A-4, Si, gry, Wet, Rec. = 2.0 ft	24	21.7	0.2	18.6	81.2
		A-4, SaGrSi, gry, Wet, Rec. = 1.7 ft	72	14.5	23.6	21.9	54.5
20		A-4, SaGrSi, gry, Wet, Rec. = 0.75 ft	R	13.0	30.8	24.7	44.5
			R	17.2	31.4	30.9	37.7
				Top of Bedrock @ 25.2 ft			
25		A-4, SaGrSi, gry, Wet, Rec. = 0.2 ft	1	100	67	60	10
ESTIMATED PILE TIP EL= 498.5		Light gray, Quartz-biotite gneiss, Competent, Very hard, Unweathered, NXMDC, 25.2 ft - 30.2 ft, Rec. = 5.0 ft					10 7 7 7
30		Light gray, Quartz-biotite gneiss, Competent, Very hard, Unweathered, NXMDC, 30.2 ft - 35.2 ft, Rec. = 5.0 ft	2	100	94	60	9 9 9 8 8
35		Hole stopped @ 35.2 ft					

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

BORING NUMBER: B-306
SHEET 1 of 1
DATE STARTED: 3/27/07
DATE COMPLETED: 3/30/07

PROJECT NAME: BETHEL
SITE NAME: VT-107
STATION: 128+02.00
OFFSET: 25.00
VTSPG: N 483867.63 ft E 1605709.31 ft

PROJECT NUMBER: BRF 022-1(14)
SITE NUMBER: BR-15
GROUND ELEVATION: 531.81 ft
GROUNDWATER DEPTH: Hole Caved In
PROJECT PIN NUMBER: 78F161

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: CARRIERE

BORING RIG: SMALL SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

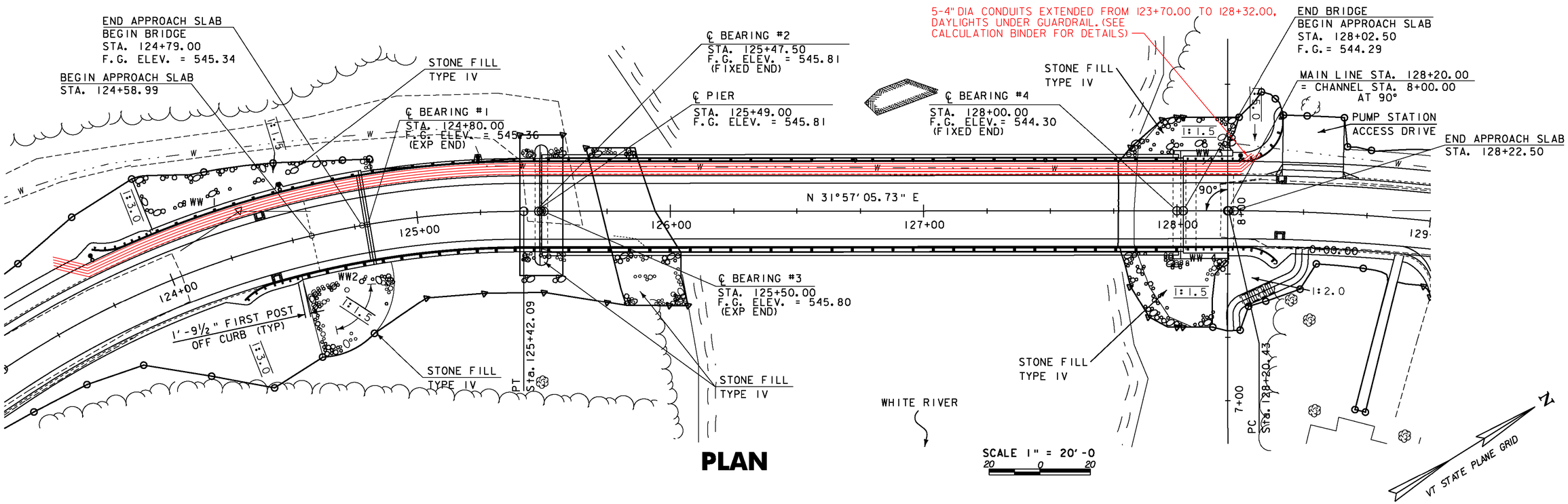
DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		A-1-b, GrSa, brn, Moist, Rec. = 1.4 ft	20	34.1	31.7	53.5	14.8
		Visual Class:, SiSaGr, brn, Moist, Rec. = 0.5 ft, Insufficient sample for testing.	R				
		Field Note:, NXDC, Cleaned out casing.					
		Visual Class:, Broken Rock, Rec. = 0.7 ft	25				
10		A-1-b, SaGr, brn, Moist, Rec. = 0.8 ft	8	12.9	53.0	32.5	14.5
		A-2-4, SiGrSa, gry, Moist, Rec. = 0.8 ft	21	15.7	33.9	37.6	28.5
		A-2-4, Sa, brn, Moist, Rec. = 0.4 ft	10	24.7	12.7	72.1	15.2
		A-4, SiSa, gry, Moist, Rec. = 1.0 ft	17	30.6	6.1	49.5	44.4
ABUTMENT #2 BOT. PILE CAP EL=516.00		A-2-4, SiSa, brn, MTW, Rec. = 0.5 ft	13	32.9	1.2	71.2	27.6
		Field Note:, No Sample	R				
20		Field Note:, No Sample	56				
		A-1-b, SiSaGr, gry, Moist, Rec. = 1.2 ft	38	9.6	41.7	36.3	22.0
30		Field Note:, NXMDC, Cleaned out casing.					
ESTIMATED PILE TIP EL= 498.5							
				Top of Bedrock @ 35.0 ft			
		Light gray, Quartz-biotite gneiss, Competent, Very hard, Unweathered, NXMDC, 35.0 ft - 40.0 ft, Rec. = 4.2 ft	1	84	76	50	22 13 14 16
40		Light gray, Quartz-biotite gneiss, Competent, Very hard, Unweathered, NXMDC, 40.0 ft - 41.8 ft, Rec. = 1.8 ft	2	100	100	50	25 25
		Light gray, Quartz-biotite gneiss, with quartz veins. Competent. Moderately weathered zone at 44.4 ft., Very hard, Unweathered, NXMDC, 41.8 ft - 45.0 ft, Rec. = 3.1 ft	3	97	93	60	31 23 21 18
		Hole stopped @ 45.0 ft					
50		DRILLER'S NOTES: 1. Water table on .3/29/07 was around 12.4 ft.					

BORING LOG SHEET 3

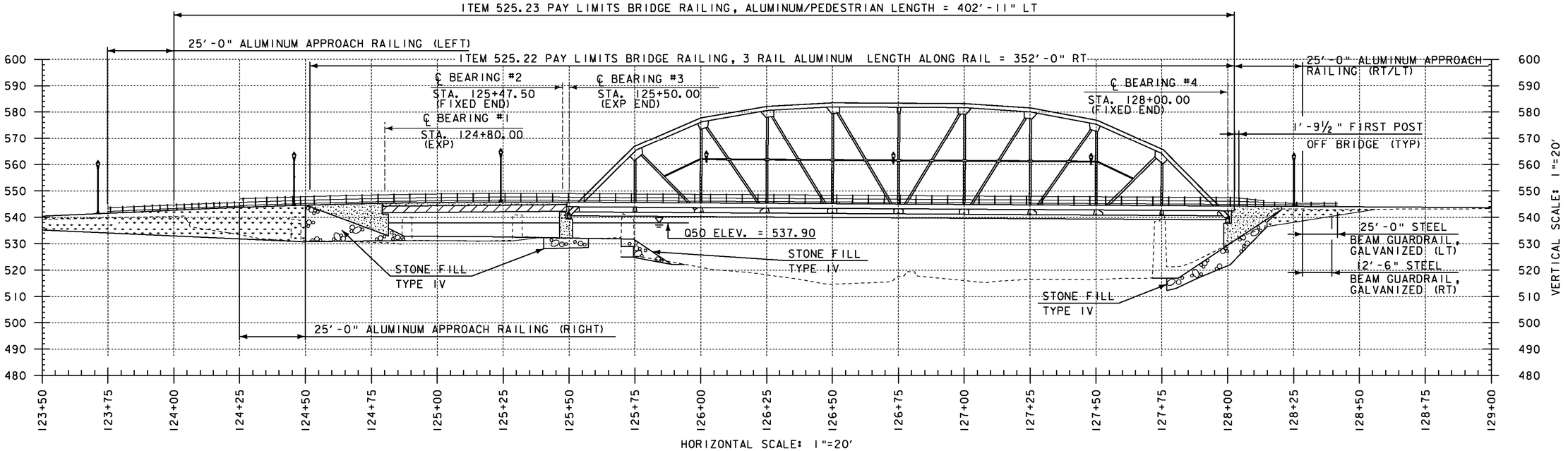
PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: sf161bor.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
BORING LOG SHEET 3

PLOT DATE: 20-MAY-2011
DRAWN BY: G. ROKES
CHECKED BY: S. SCRIBNER
SHEET 57 OF 148

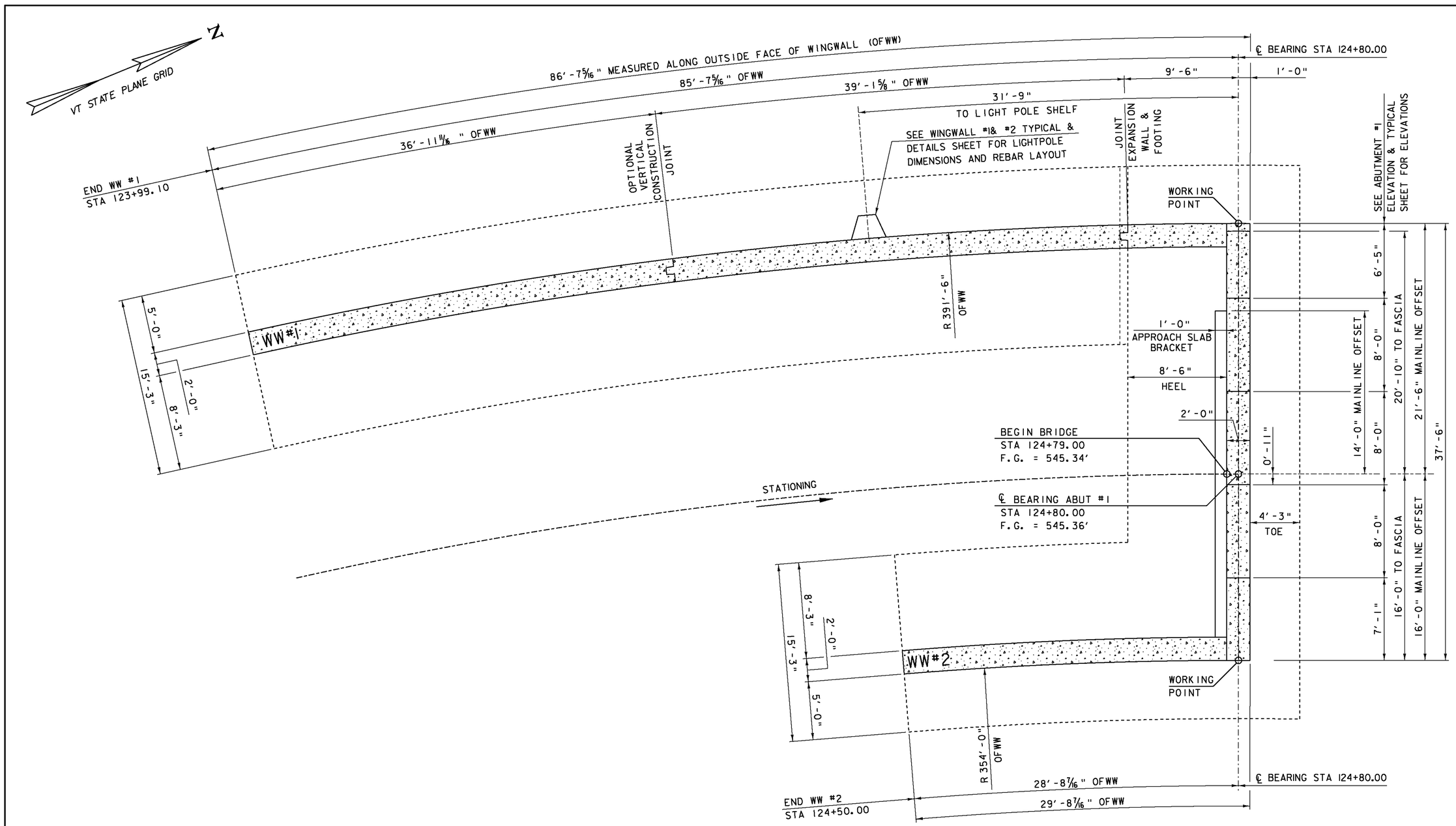


PLAN



ELEVATION

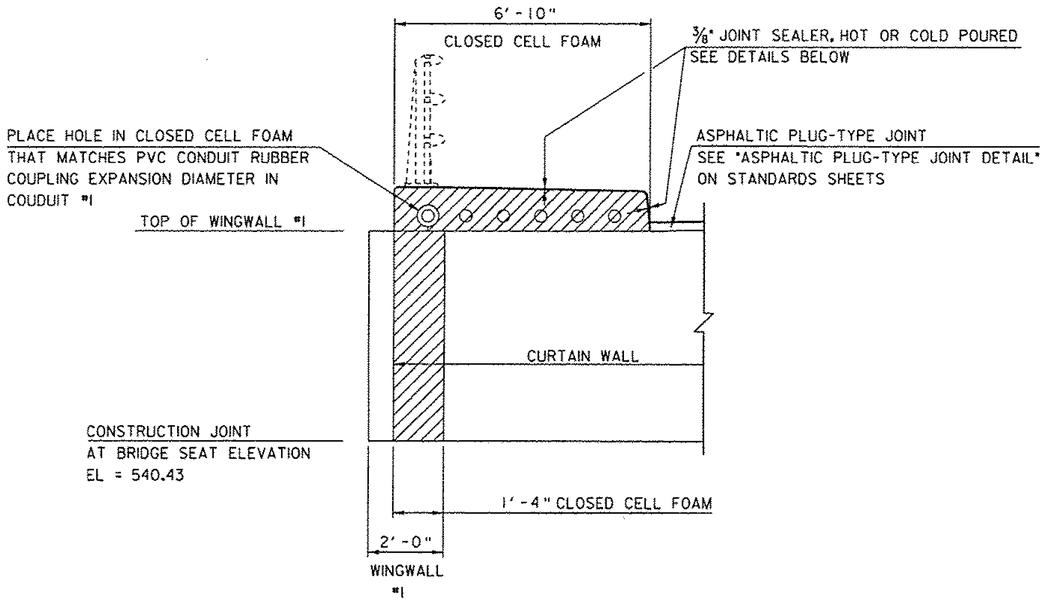
PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: sf161pe.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
PLAN AND ELEVATION	SHEET 58 OF 148



ABUTMENT #1 PLAN VIEW

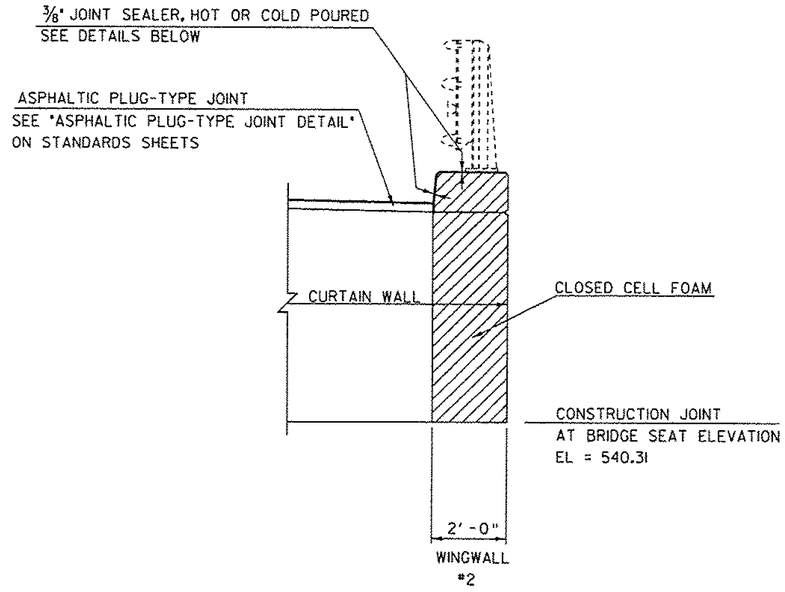
SCALE 1/4" = 1'-0"

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f161subl.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: N. VANDENBERG	CHECKED BY: S. SCRIBNER
ABUTMENT #1 PLAN	SHEET 59 OF 148



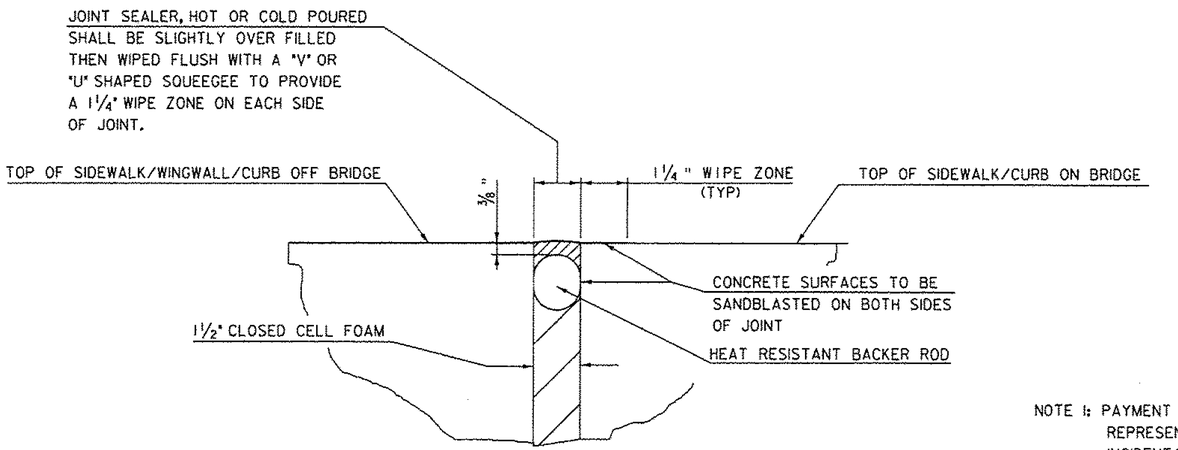
SECTION A-A

SCALE ½" = 1'-0"



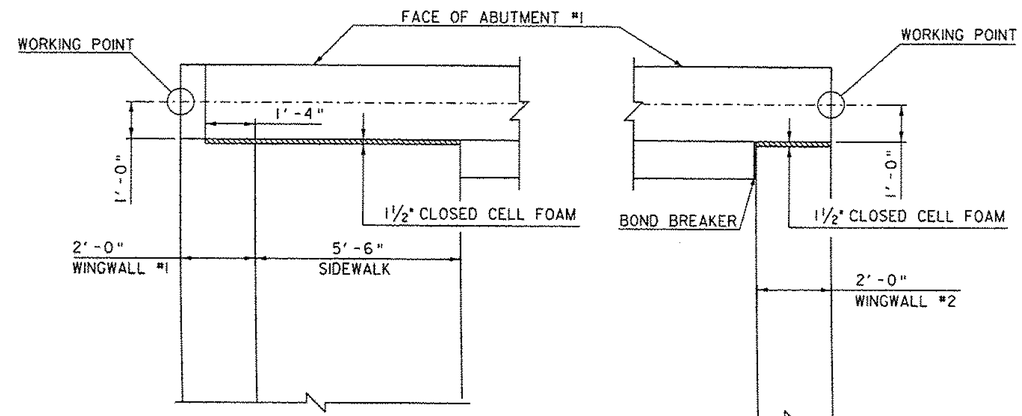
SECTION B-B

SCALE ½" = 1'-0"



JOINT DETAIL

NTS



CLOSED CELL FOAM DETAIL PLAN VIEW

NTS

NOTE 1: PAYMENT FOR MATERIALS NEEDED FOR JOINTS REPRESENTED ON THIS SHEET SHALL BE INCIDENTAL TO ADJACENT CONCRETE.

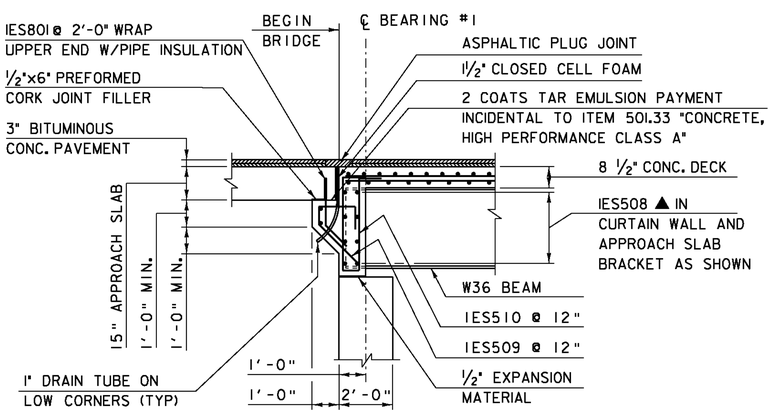
THIS SHEET IS A REVISION TO "ABUTMENT #1 PLAN" SHEET

REVISION	DATE	DESCIPTION	BY
1	6-30-2011	NEW SHEET, JOINT EXPANSION MATERIAL & DETAILS, ABUTMENT #1	GNR

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

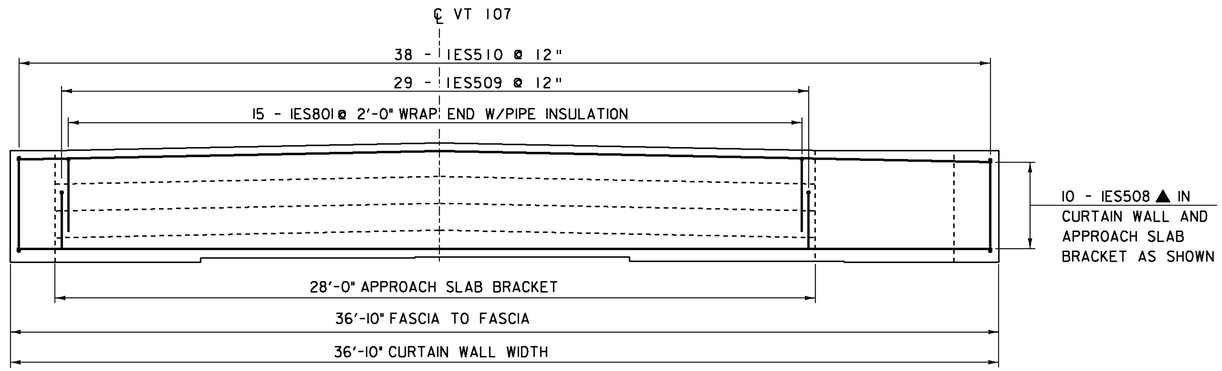
FILE NAME: s78f161sub1. 252/236 gn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S.SCRIBNER
ADDENDUM #1 DETAILS

PLOT DATE: 01-JUL-2011
DRAWN BY: G.ROKES
CHECKED BY: S. SCRIBNER
SHEET 59a OF 148



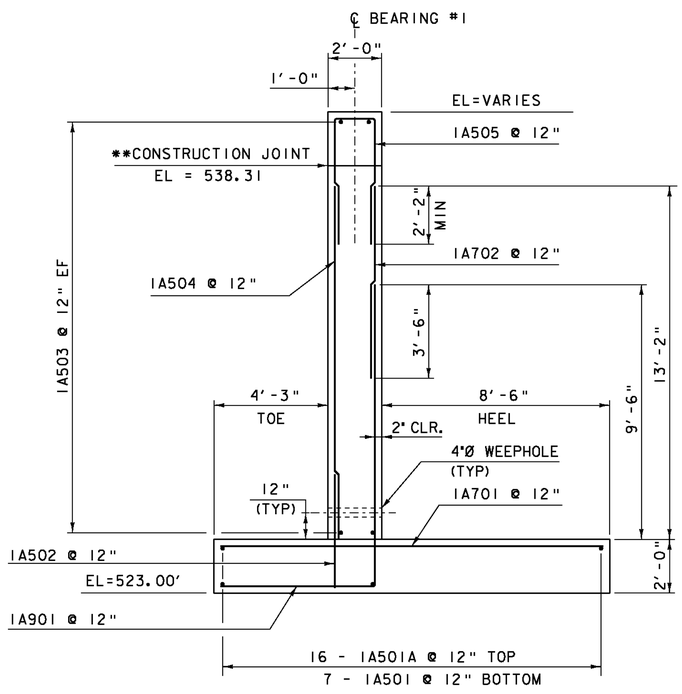
ABUTMENT #1 END DETAIL

SCALE ⅜" = 1'-0"



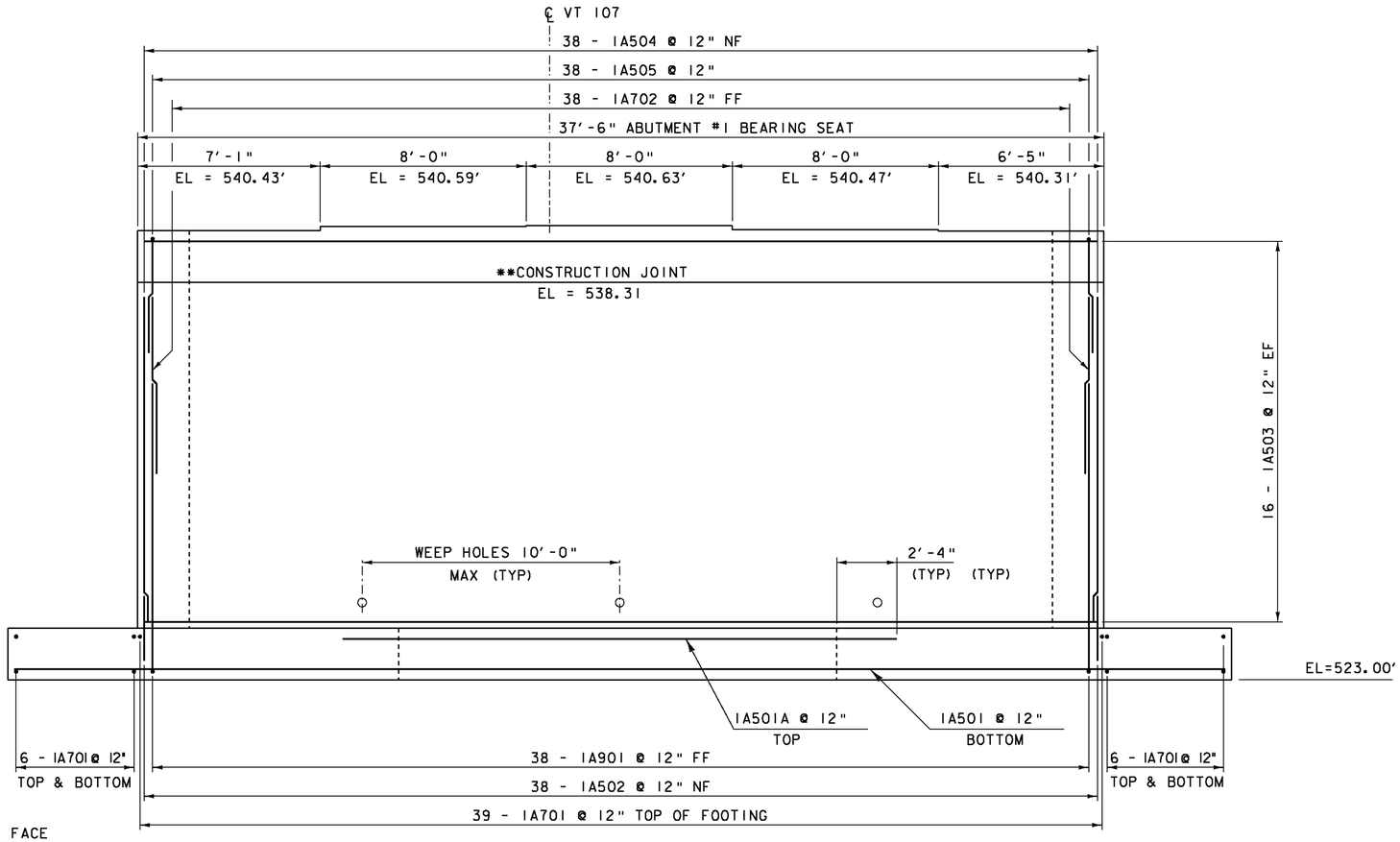
ABUTMENT #1 CURTAIN WALL

SCALE ⅜" = 1'-0"



ABUTMENT #1 TYPICAL

SCALE ⅜" = 1'-0"



ABUTMENT #1 ELEVATION

SCALE ⅜" = 1'-0"

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.

**REFER TO CONCRETE SECTION OF GENERAL NOTES REGARDING CONSTRUCTION JOINT LOCATED AT ELEVATION 538.31 FOR ABUTMENT#1

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f161subl.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: N. VANDENBERG	CHECKED BY: S. SCRIBNER
ABUTMENT #1 ELEVATION & TYPICAL	SHEET 60 OF 148

WW #2 TOP OF WALL ELEVATIONS

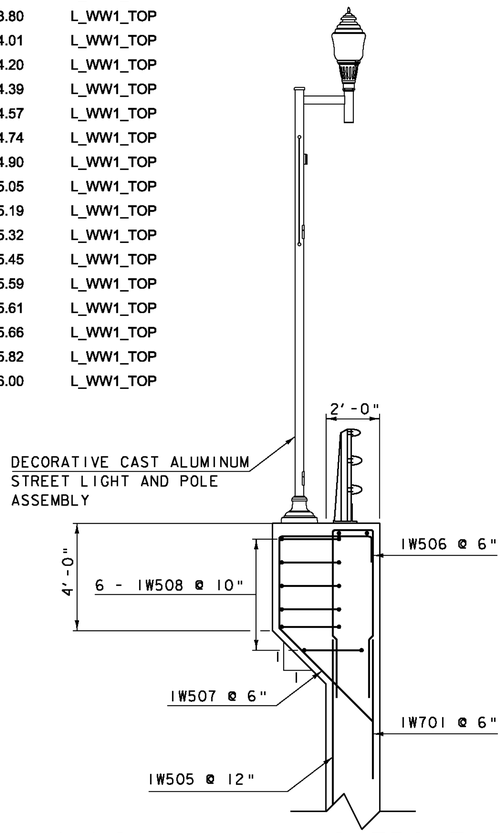
Station Based Offset Elevation Report: WW2

STA	OFFSET	ELEVATION	FEATURE
124+50.00	16.00	544.94	R_WW2_TOP
124+55.00	16.00	545.08	R_WW2_TOP
124+60.00	16.00	545.21	R_WW2_TOP
124+65.00	16.00	545.34	R_WW2_TOP
124+70.00	16.00	545.48	R_WW2_TOP
124+70.55	16.00	545.50	R_WW2_TOP
124+71.55	16.00	545.55	R_WW2_TOP
124+75.00	16.00	545.71	R_WW2_TOP
124+79.00	16.00	545.89	R_WW2_TOP

WW #1 TOP OF WALL ELEVATIONS

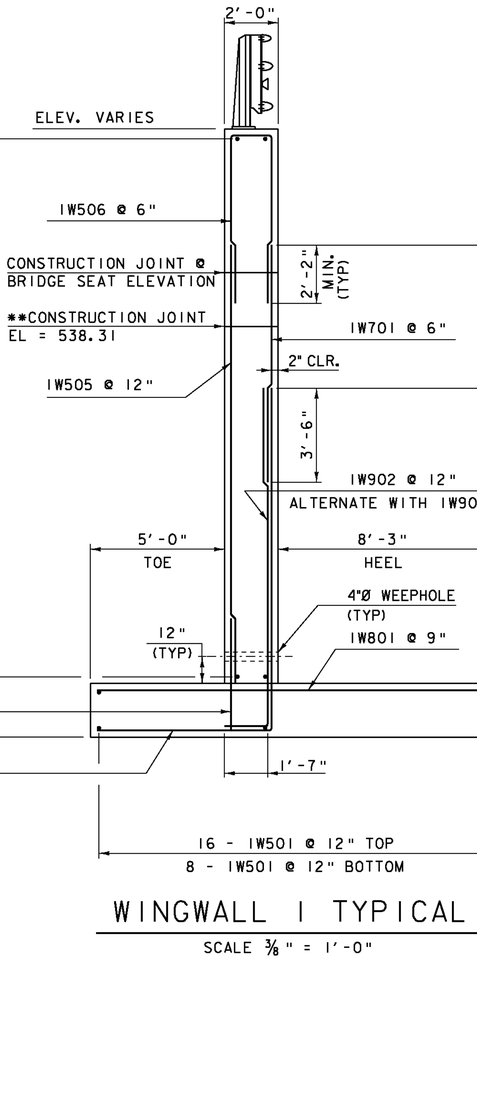
Station Based Offset Elevation Report: WW1

STA	OFFSET	ELEVATION	FEATURE
123+99.10	-21.50	543.10	L_WW1_TOP
124+00.00	-21.50	543.14	L_WW1_TOP
124+05.00	-21.50	543.37	L_WW1_TOP
124+10.00	-21.50	543.59	L_WW1_TOP
124+15.00	-21.50	543.80	L_WW1_TOP
124+20.00	-21.50	544.01	L_WW1_TOP
124+25.00	-21.50	544.20	L_WW1_TOP
124+30.00	-21.50	544.39	L_WW1_TOP
124+35.00	-21.50	544.57	L_WW1_TOP
124+40.00	-21.50	544.74	L_WW1_TOP
124+45.00	-21.50	544.90	L_WW1_TOP
124+50.00	-21.50	545.05	L_WW1_TOP
124+55.00	-21.50	545.19	L_WW1_TOP
124+60.00	-21.50	545.32	L_WW1_TOP
124+65.00	-21.50	545.45	L_WW1_TOP
124+70.00	-21.50	545.59	L_WW1_TOP
124+70.55	-21.50	545.61	L_WW1_TOP
124+71.55	-21.50	545.66	L_WW1_TOP
124+75.00	-21.50	545.82	L_WW1_TOP
124+79.00	-21.50	546.00	L_WW1_TOP



WINGWALL 1 LIGHTPOLE TYPICAL

SCALE 3/8" = 1'-0"

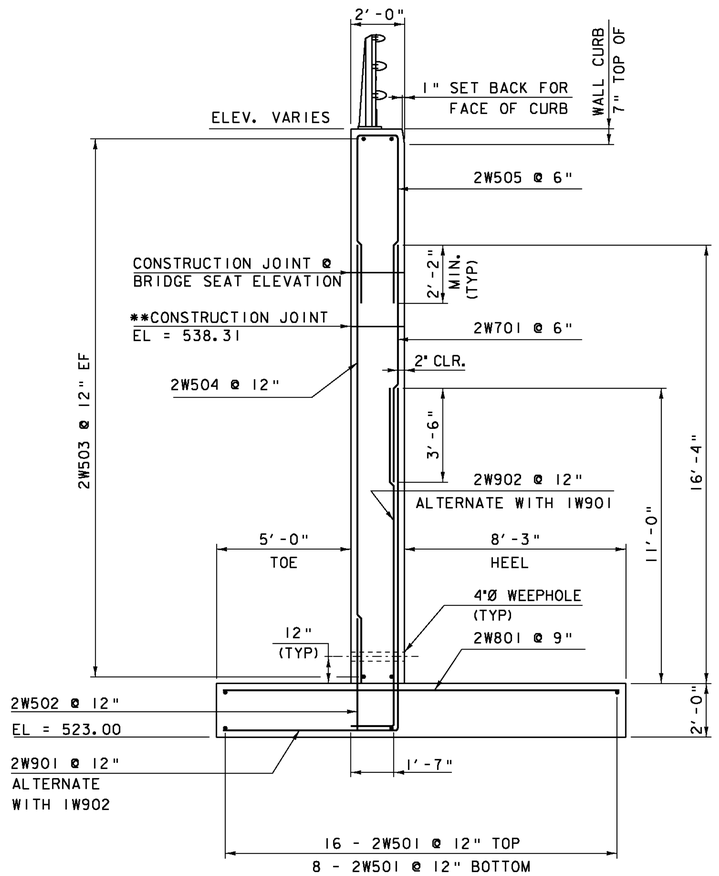


WINGWALL 1 LIGHTPOLE PLAN

SCALE 3/8" = 1'-0"

WINGWALL 1 TYPICAL

SCALE 3/8" = 1'-0"



WINGWALL 2 TYPICAL

SCALE 3/8" = 1'-0"

**REFER TO CONCRETE SECTION OF GENERAL NOTES REGARDING CONSTRUCTION JOINT LOCATED AT ELEVATION 538.31 FOR ABUTMENT#1

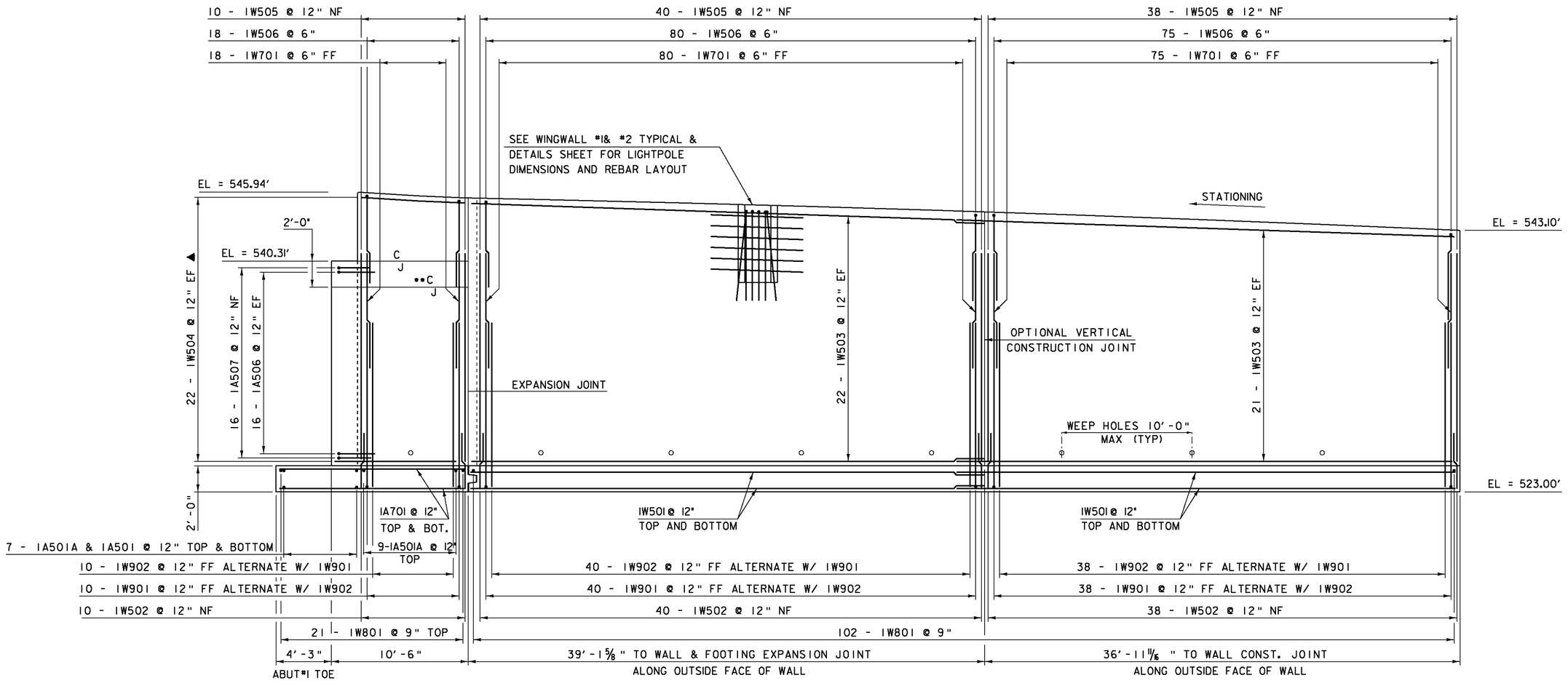
NOTE:

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: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: s78f161subl.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
WINGWALL #1 & #2 TYPICALS & DETAILS

PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: S. SCRIBNER
SHEET 61 OF 148



**REFER TO CONCRETE SECTION OF GENERAL NOTES REGARDING CONSTRUCTION JOINT LOCATED AT ELEVATION 538.31 FOR ABUTMENT*1

WINGWALL # 1 ELEVATION (CURVED)

SCALE 1/4" = 1'-0"

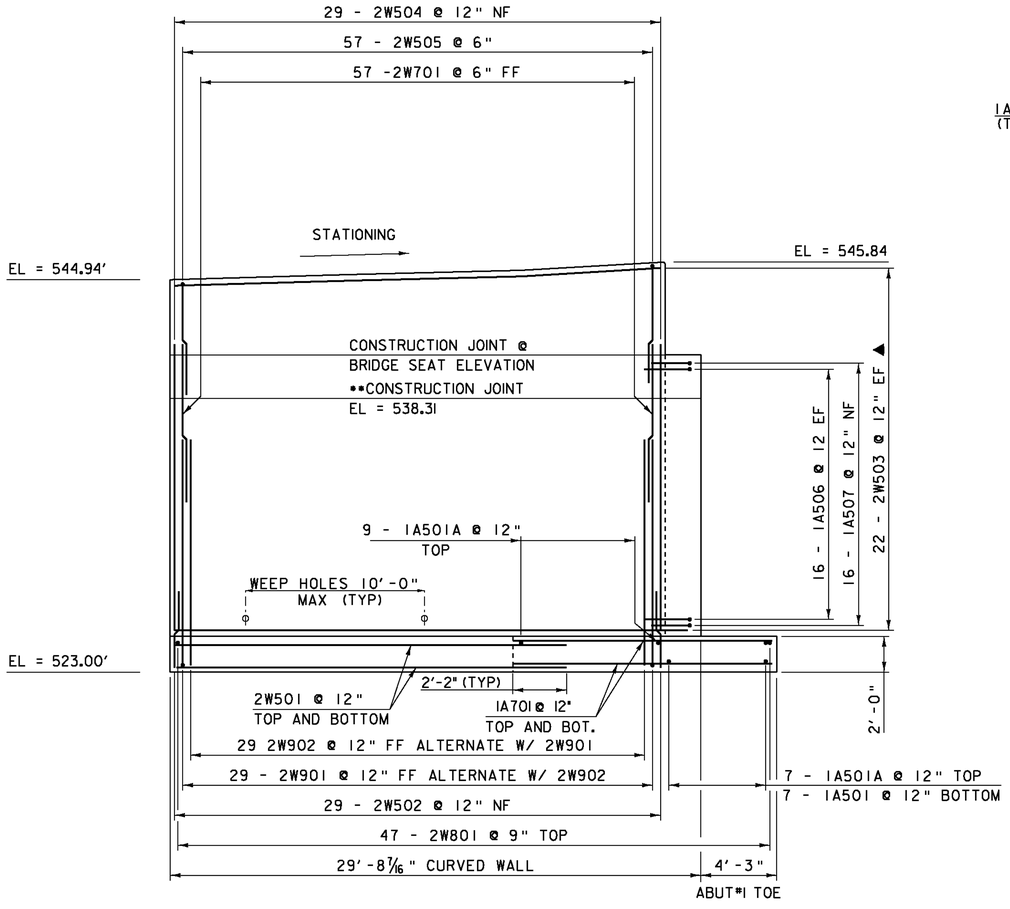
1. TOP OF WW*1 ELEVATION FOLLOWS THE FINISH GRADE ELEVATION OF THE SIDEWALK OUTSIDE EDGE. THE WALL ELEVATION IS 5" ABOVE ROAD CENTER LINE ELEVATION, EXCEPT FOR THE 10'-0" TRANSITION FROM 10" CURB ON THE BRIDGE TO 7" CURB IN THE TYPICAL SECTION. SEE STATION OFFSET ELEVATION REPORT ON THE WINGWALL TYPICALS SHEET.

NOTE:

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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: BETHEL
PROJECT NUMBER: BRF 022-1(14)

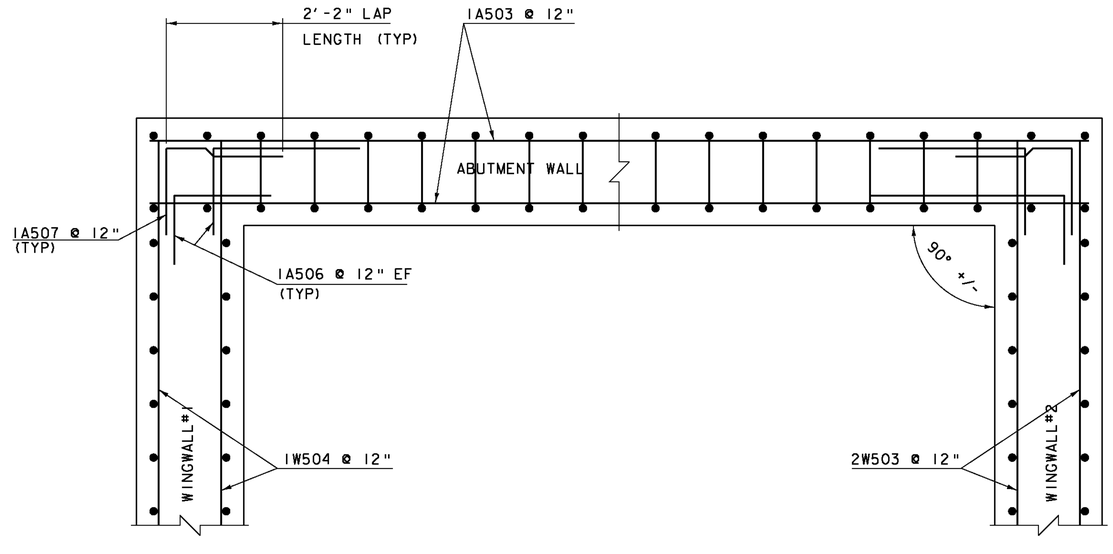
FILE NAME: s78f161subl.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: N. VANDENBERG
WINGWALL *1 ELEVATION
PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: S. SCRIBNER
SHEET 62 OF 148



WINGWALL # 2 ELEVATION (CURVED)

SCALE 1/4" = 1'-0"

1. TOP OF WW#2 ELEVATION FOLLOWS THE RIGHT SHOULDER OUT SIDE EDGE FINISH GRADE ELEVATION +7". THE WALL ELEVATION IS 3 5/8" ABOVE ROAD CENTER LINE ELEVATION, EXCEPT FOR THE 10'-0" TRANSITION FROM 10" CURB ON THE BRIDGE TO 7" CURB IN THE TYPICAL SECTION. SEE STATION OFFSET REPORT ON THE WINGWALL TYPICALS SHEET.



TYPICAL WINGWALL 1&2 CORNER DETAIL BELOW BRIDGE SEAT

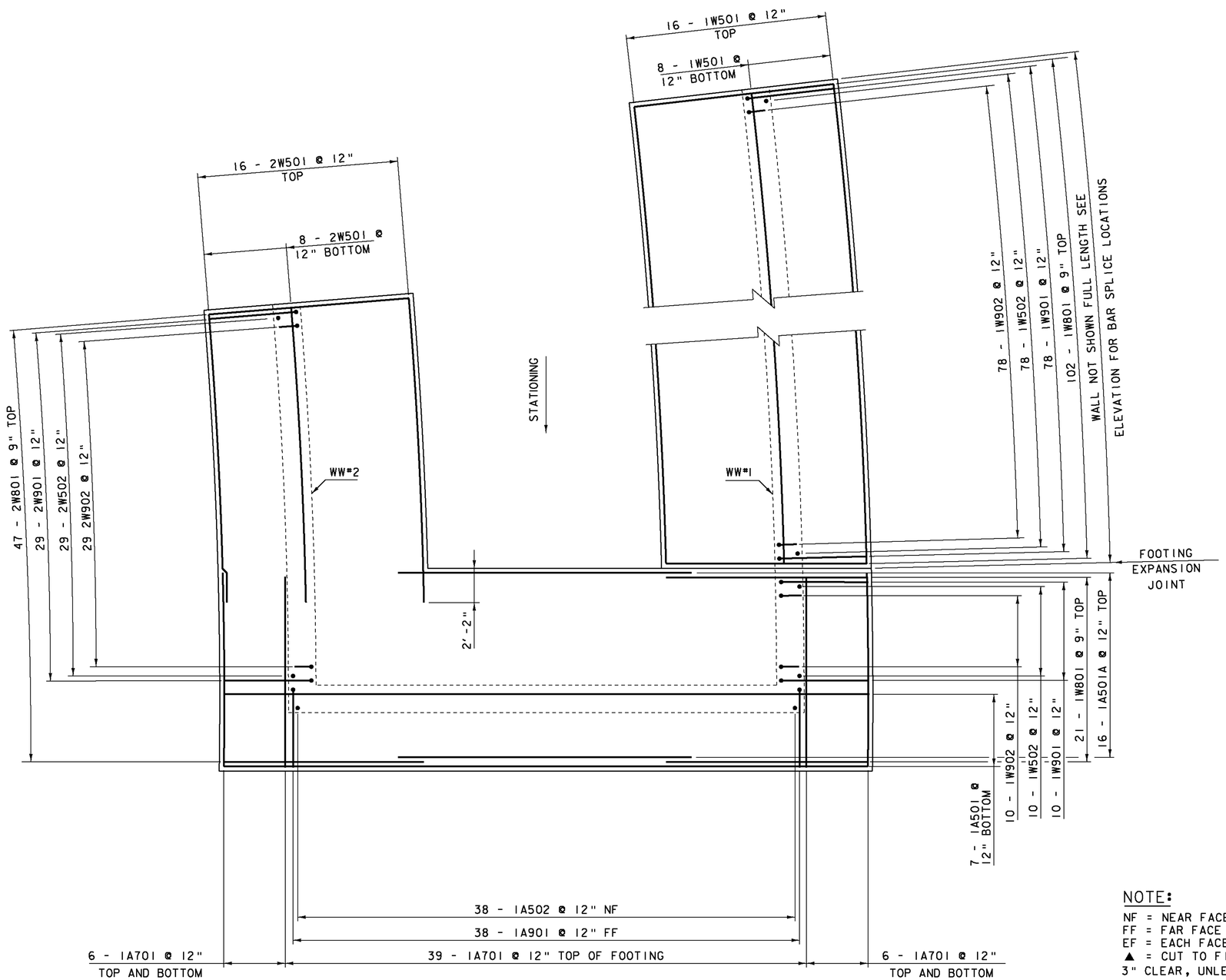
SCALE 3/4" = 1'-0"

**REFER TO CONCRETE SECTION OF GENERAL NOTES REGARDING CONSTRUCTION JOINT LOCATED AT ELEVATION 538.31 FOR ABUTMENT#1

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:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f161subl.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: N. VANDENBERG	CHECKED BY: S. SCRIBNER
WINGWALL #2 ELEVATION & DETAILS	SHEET 63 OF 148



ABUTMENT #1 FOOTING REINFORCING PLAN

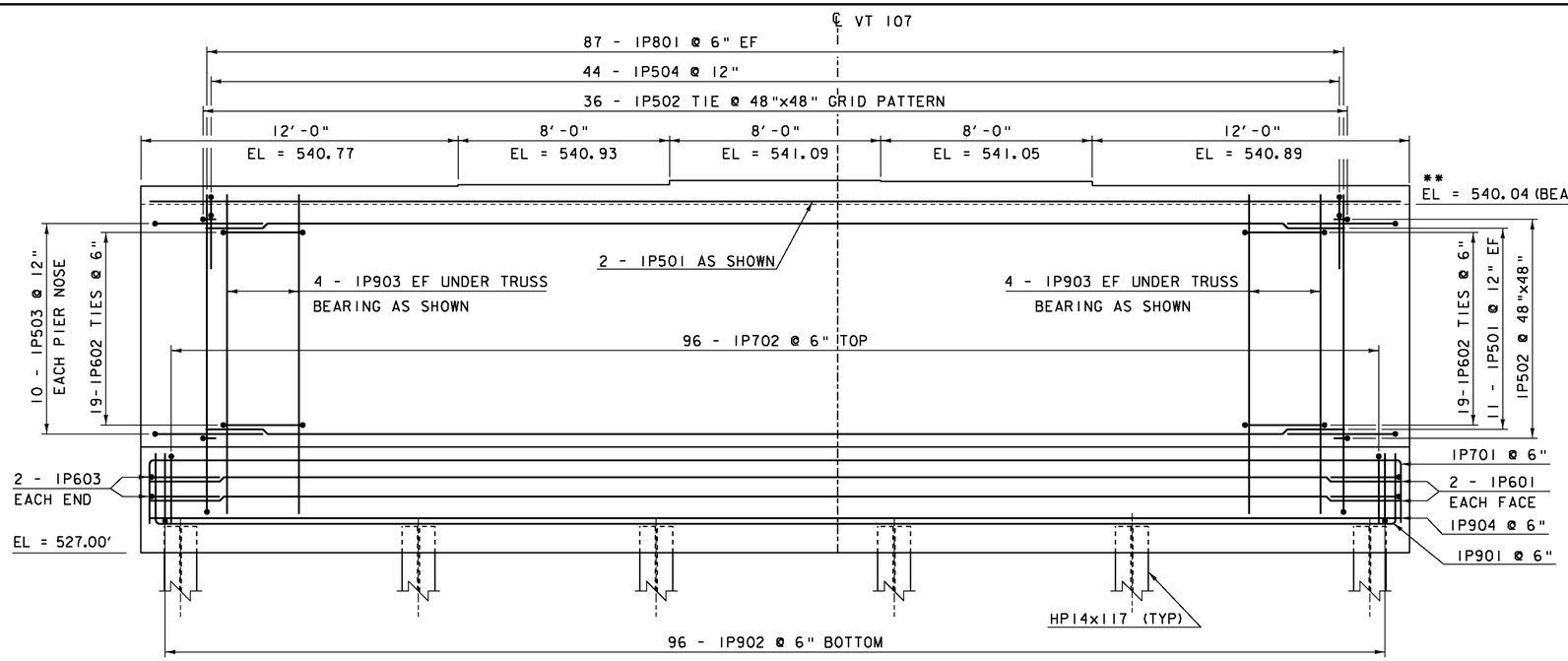
SCALE 1/4" = 1'-0"

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.

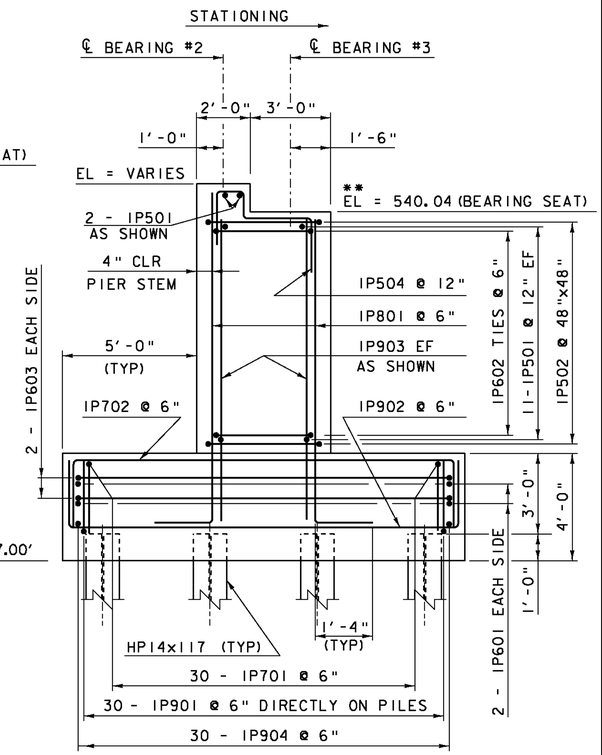
PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: s78f161subl.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: N. VANDENBERG	CHECKED BY: S. SCRIBNER
ABUTMENT #1 FOOTING REINFORCING PLAN	SHEET 64 OF 148



PIER #1 ELEVATION

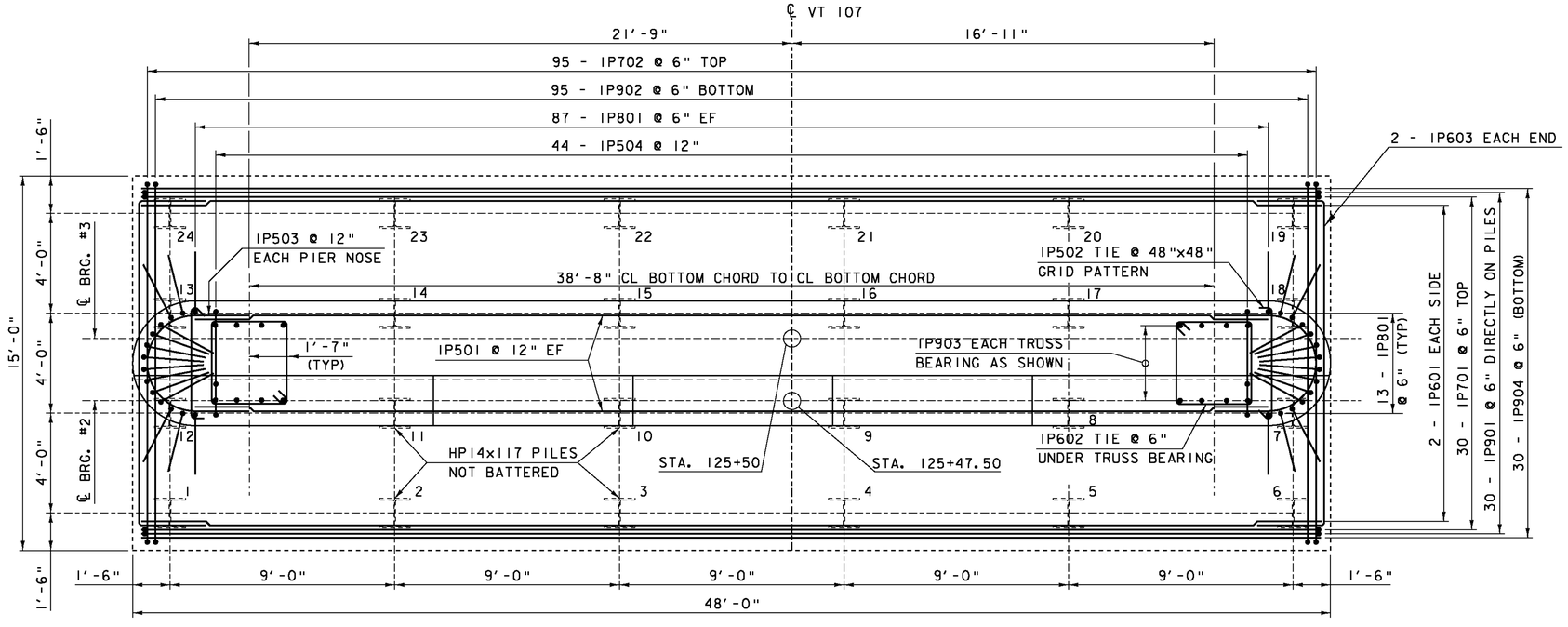
SCALE 3/8" = 1'-0"



PIER #1 TYPICAL

SCALE 3/8" = 1'-0"

**THESE ELEVATIONS MAY HAVE TO BE ADJUSTED TO ACCOMMODATE THE ACTUAL BEARINGS FURNISHED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ANY CHANGES IN THE BEARINGS WHICH MAY AFFECT THE BEARING SEAT ELEVATIONS.



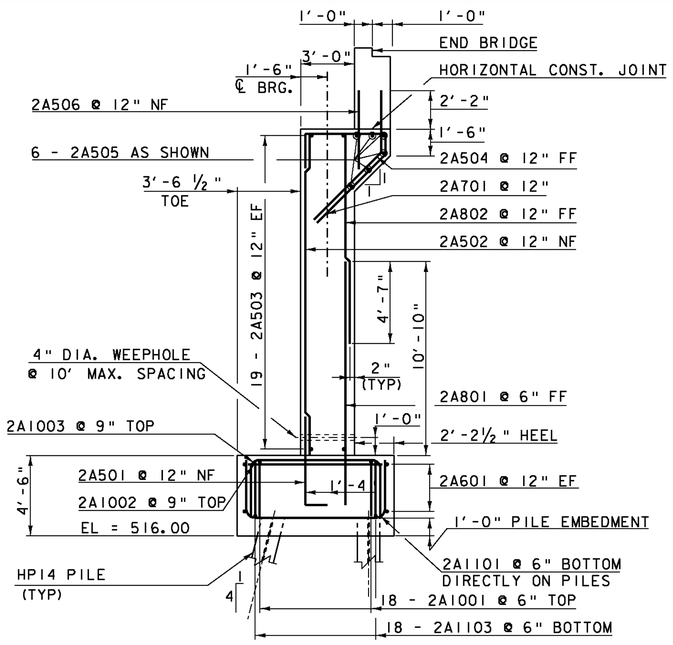
PIER #1 PLAN

SCALE 3/8" = 1'-0"

NOTE:
NF = NEAR FACE
FF = FAR FACE
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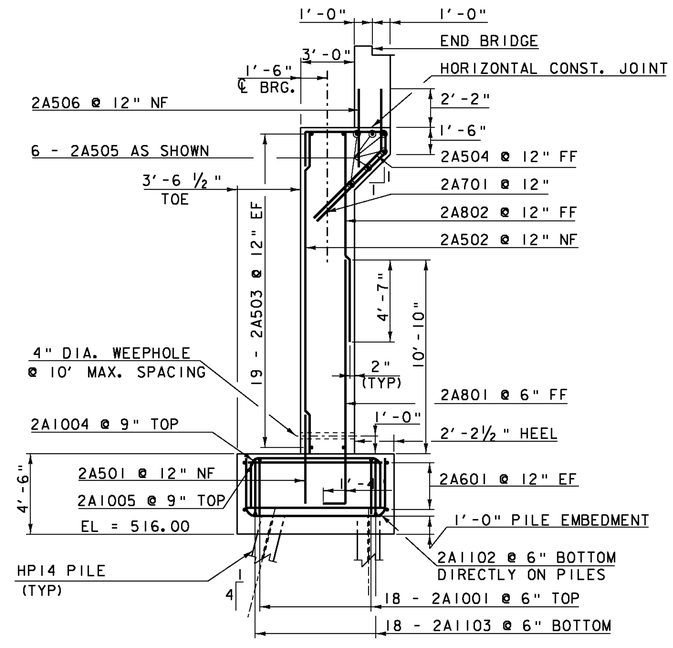
PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: s78f161sub2.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: N. VANDENBERG
PEIR DETAIL SHEET
PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: S. SCRIBNER
SHEET 65 OF 148



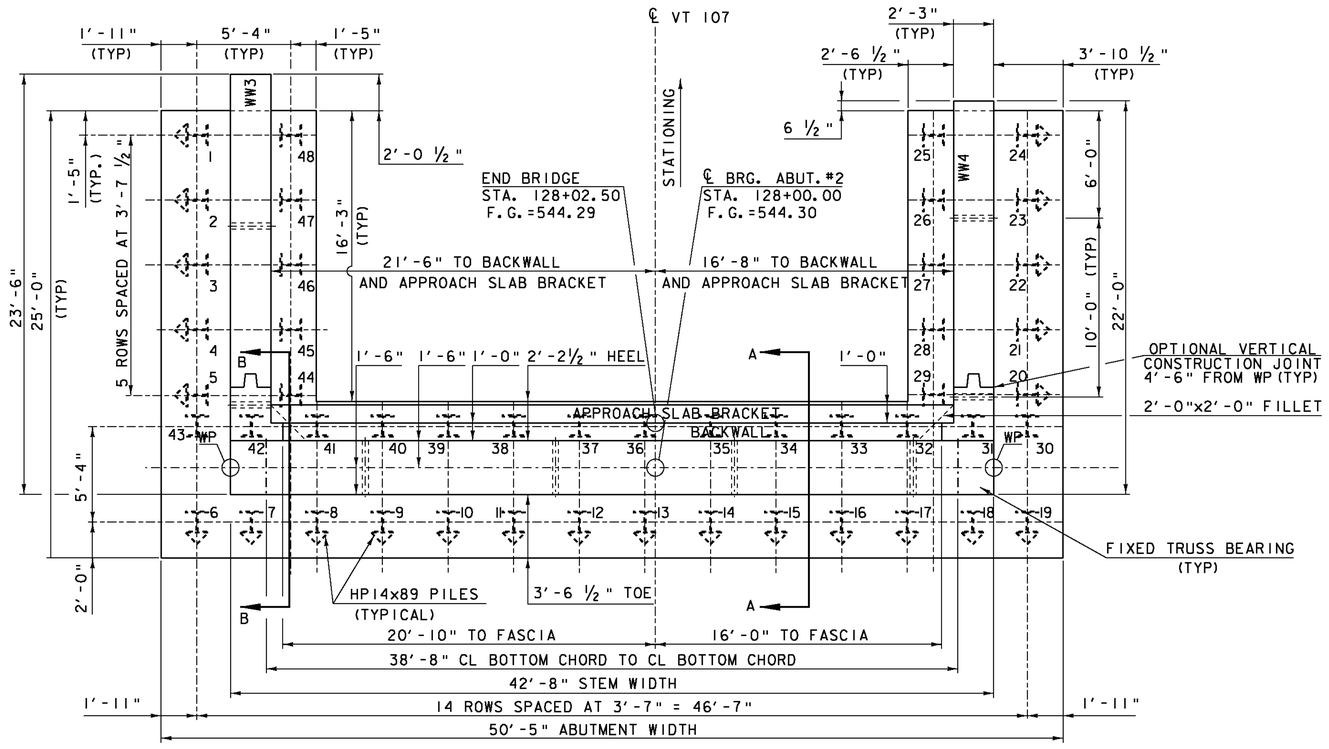
ABUTMENT #2 TYPICAL SECTION A-A

SCALE ¼" = 1'-0"



ABUTMENT #2 TYPICAL SECTION B-B

SCALE ¼" = 1'-0"



ABUTMENT #2 PLAN VIEW

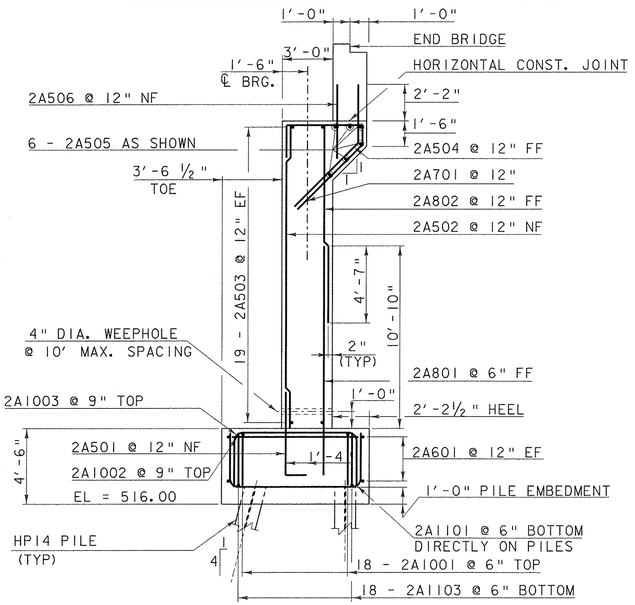
SCALE ¼" = 1'-0"

= HP14x89 BATTERED PILE

NOTE:

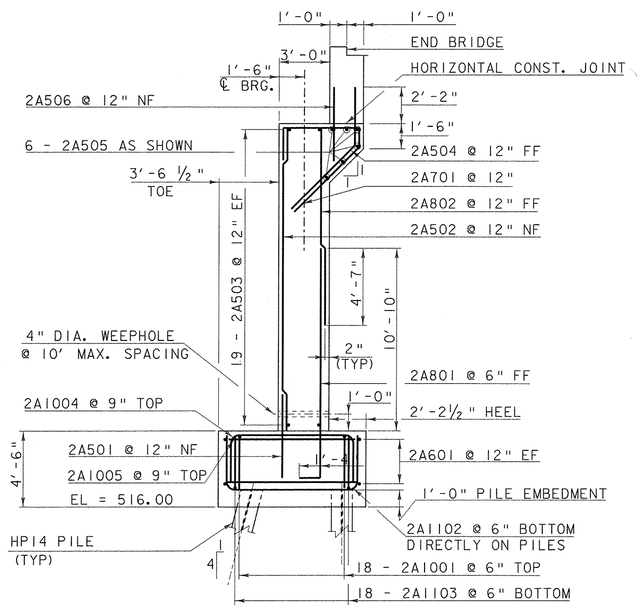
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PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f161sub2.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: S. SCRIBNER
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
ABUTMENT # 2 PLAN & TYPICALS	SHEET 66 OF 148



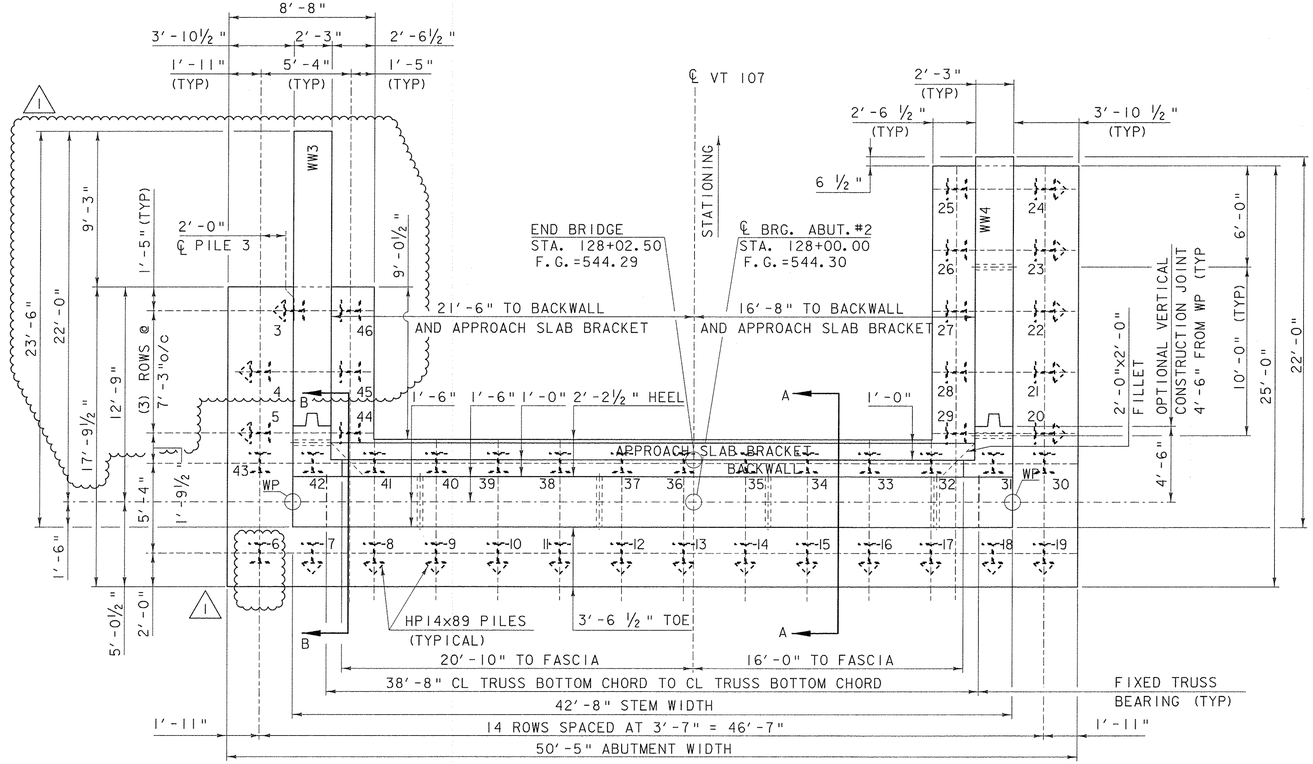
ABUTMENT #2 TYPICAL SECTION A-A

SCALE ¼" = 1'-0"



ABUTMENT #2 TYPICAL SECTION B-B

SCALE ¼" = 1'-0"



ABUTMENT #2 PLAN VIEW

SCALE ¼" = 1'-0"

= HP14x89 BATTERED PILE

NOTE:

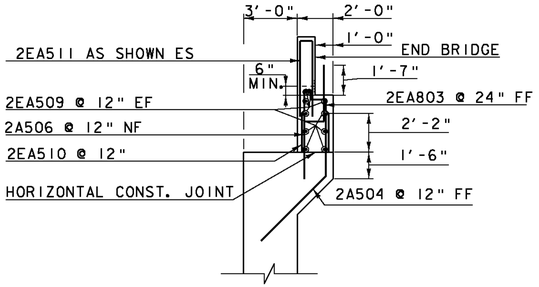
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REVISION	DATE	DESCIPTION	BY
1	01-27-2012	MODIFY WW3 FTG, REMOVE (4) PILES, RELOCATE PILE #3, CANTILEVER WW3	MCL

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

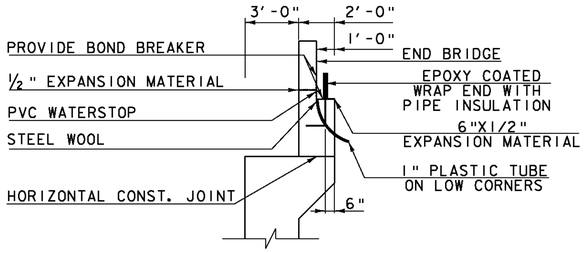
FILE NAME: s78f161sub2.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
ABUTMENT # 2 PLAN & TYPICALS

PLOT DATE: 30-JAN-2012
DRAWN BY: S. SCRIBNER
CHECKED BY: S. SCRIBNER
SHEET 66 OF 148



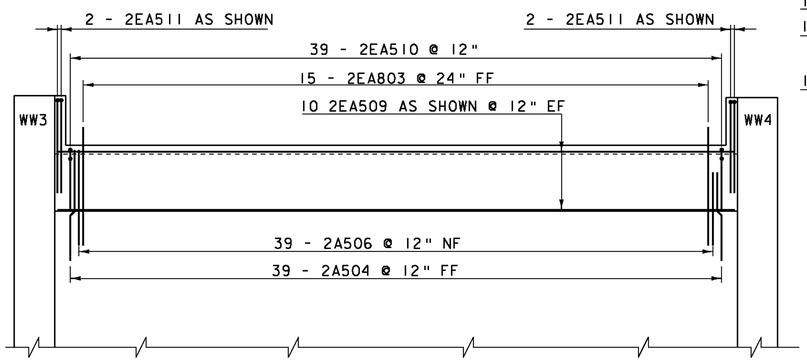
ABUTMENT #2 BACKWALL TYPICAL REINFORCING LAYOUT

SCALE 1/4" = 1'-0"



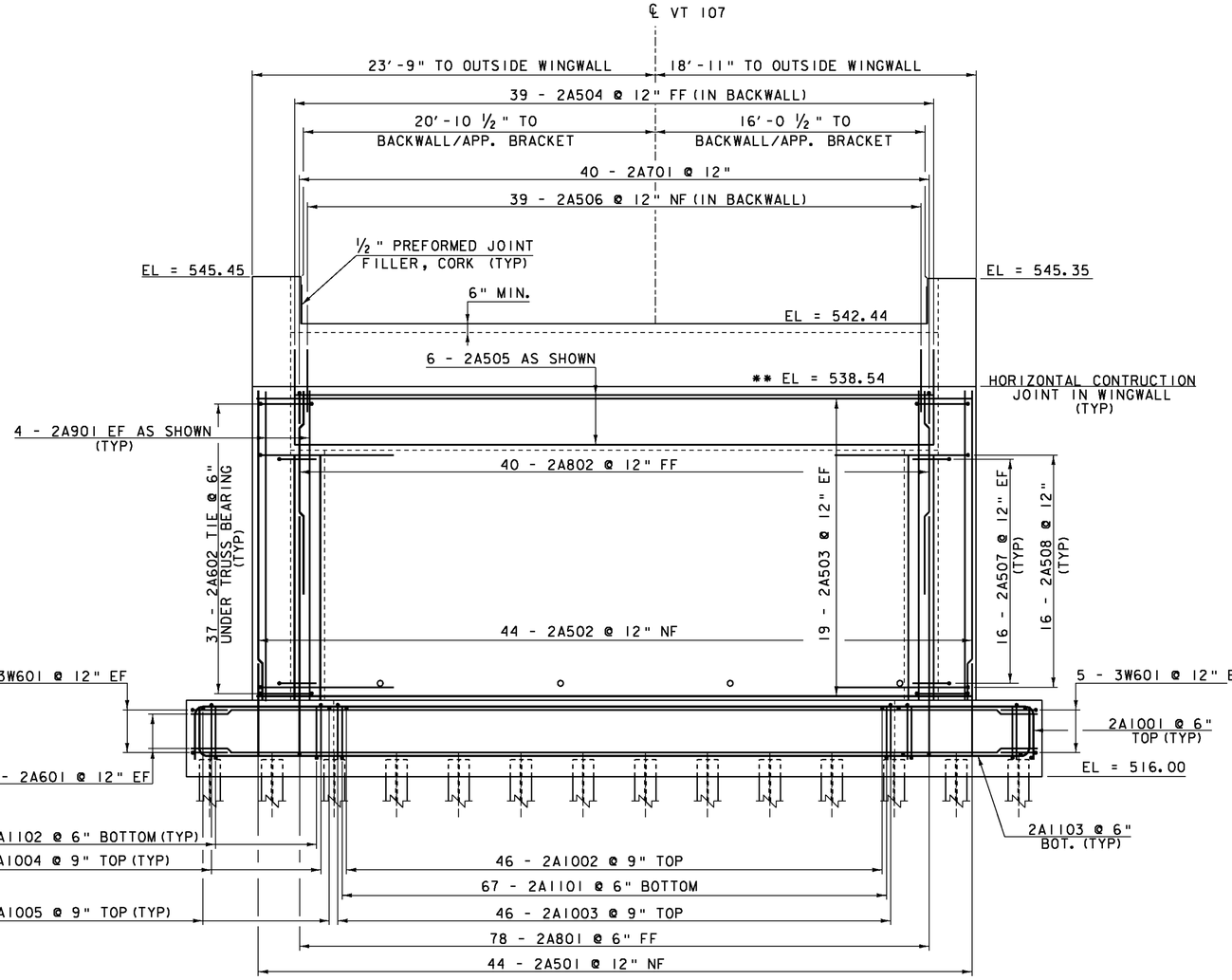
ABUTMENT #2 BACKWALL TYPICAL

SCALE 1/4" = 1'-0"



ABUTMENT #2 BACKWALL ELEVATION

SCALE 1/4" = 1'-0"



ABUTMENT #2 ELEVATION VIEW

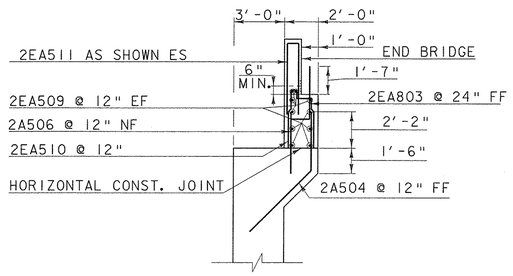
SCALE 1/4" = 1'-0"

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NOTE:

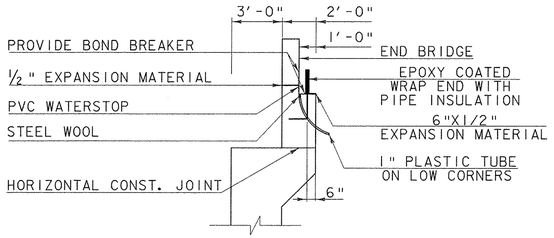
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PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f161sub2.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: S. SCRIBNER
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
ABUTMENT #2 ELEVATION & DETAILS	SHEET 67 OF 148



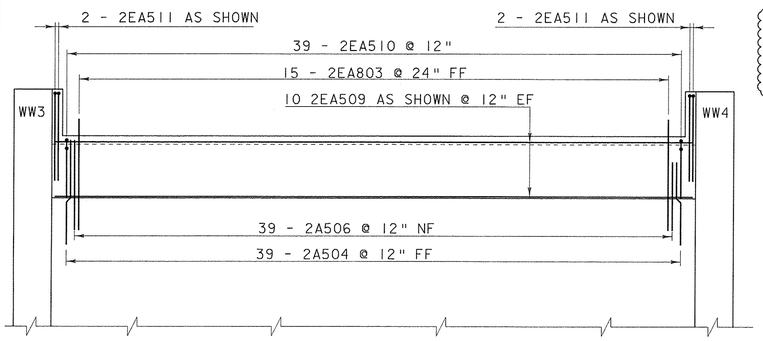
ABUTMENT #2 BACKWALL TYPICAL REINFORCING LAYOUT

SCALE 1/4" = 1'-0"



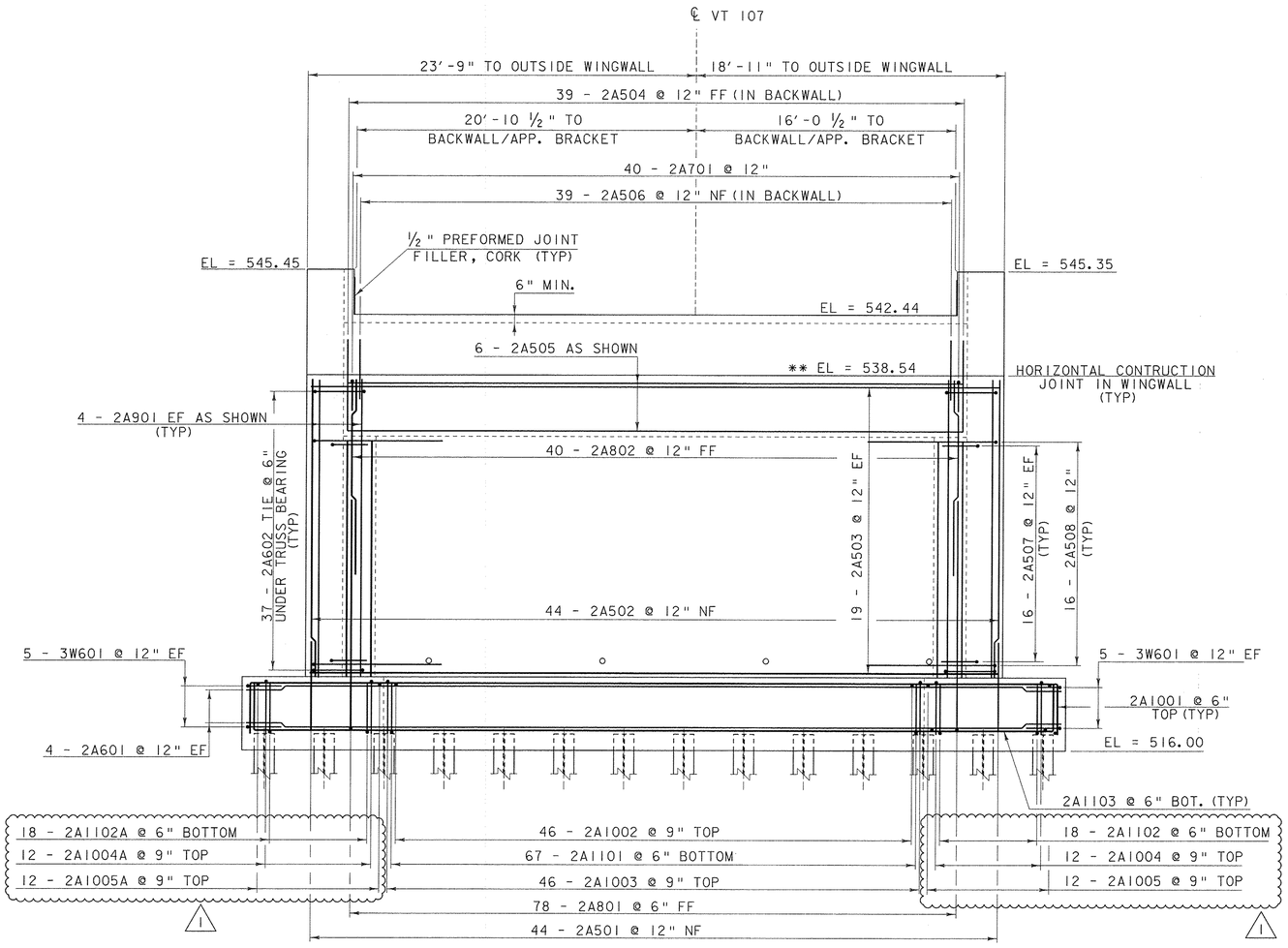
ABUTMENT #2 BACKWALL TYPICAL

SCALE 1/4" = 1'-0"



ABUTMENT #2 BACKWALL ELEVATION

SCALE 1/4" = 1'-0"



ABUTMENT #2 ELEVATION VIEW

SCALE 1/4" = 1'-0"

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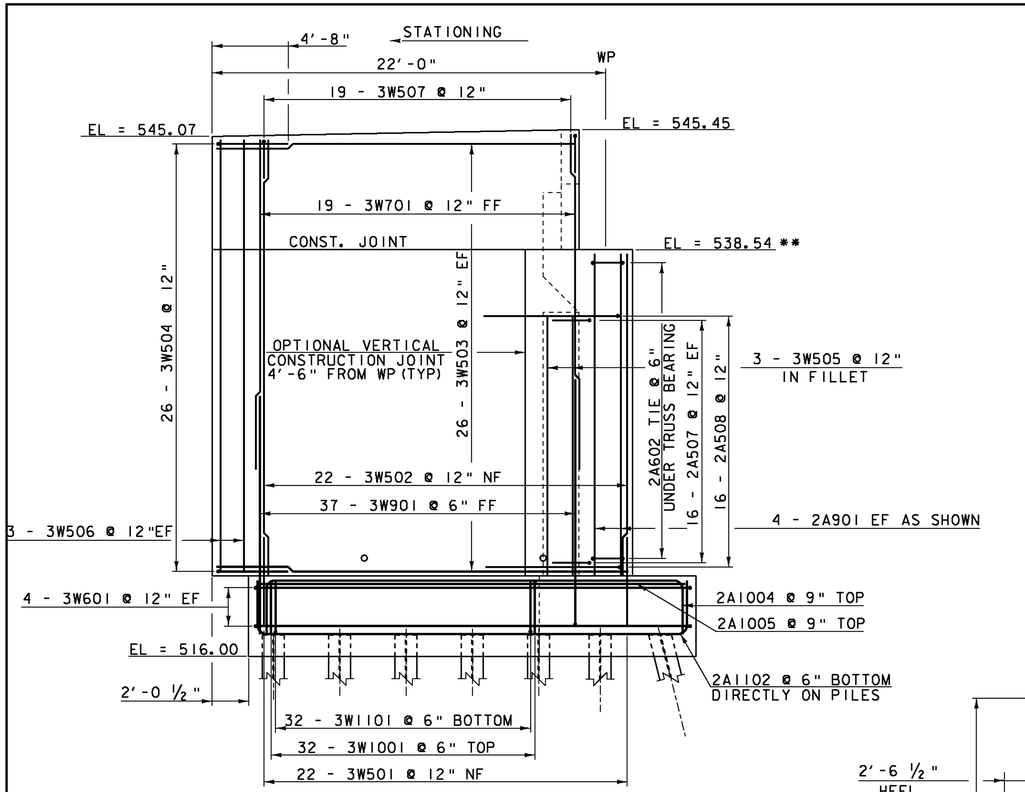
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REVISION	DATE	DESCIPTION	BY
1	01-27-2012	MODIFY WW3 FTG, REMOVE (4) PILES, RELOCATE PILE #3, CANTILEVER WW3	MCL

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

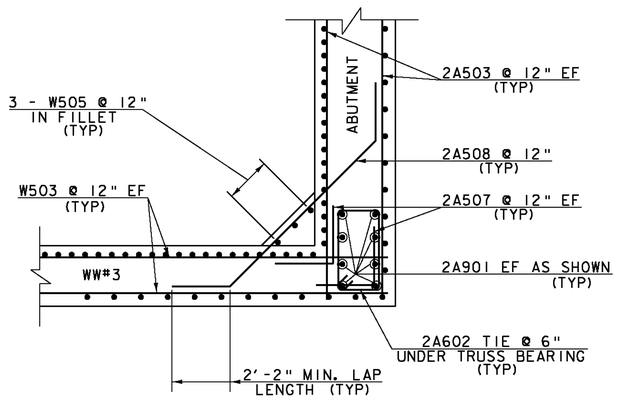
FILE NAME: s78f161sub2.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
ABUTMENT #2 ELEVATION & DETAILS

PLOT DATE: 30-JAN-2012
DRAWN BY: S. SCRIBNER
CHECKED BY: S. SCRIBNER
SHEET 67 OF 148



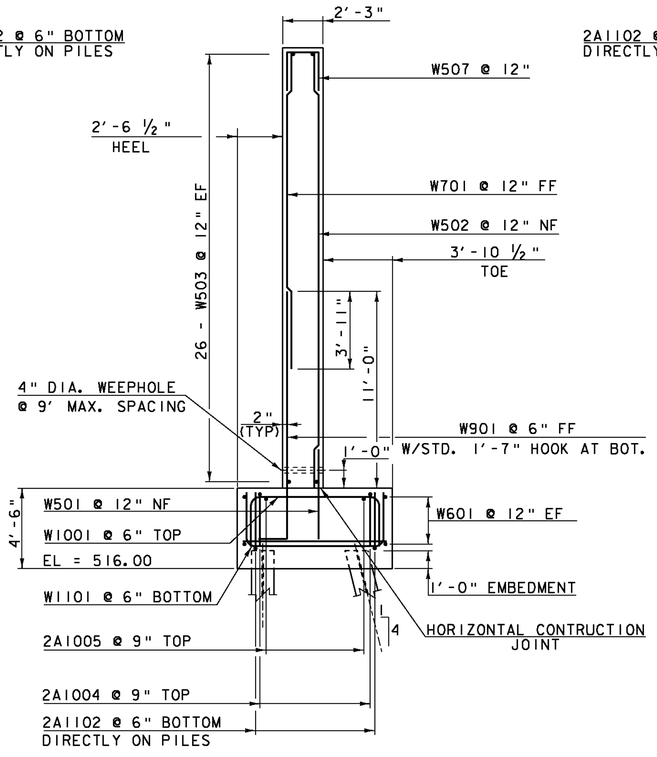
WINGWALL #3 ELEVATION VIEW

SCALE 1/4" = 1'-0"



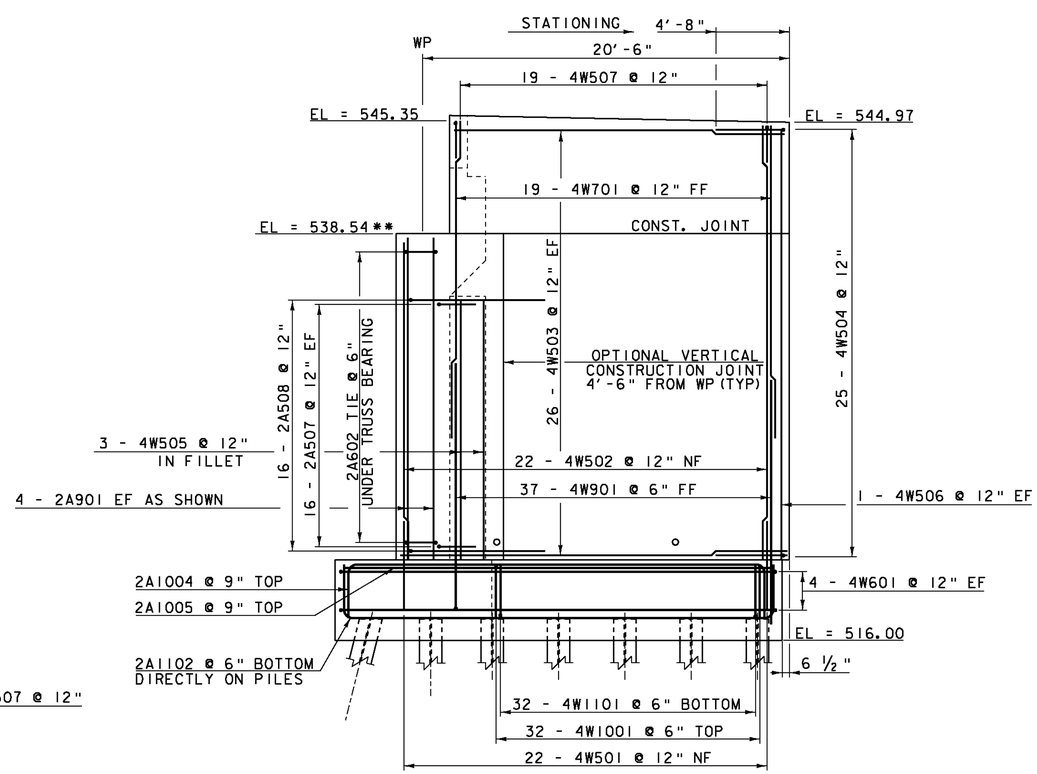
WINGWALL#3 & #4 CORNER DETAIL BELOW BRIDGE SEAT

NTS



WINGWALL #3&#4 TYPICAL

SCALE 1/4" = 1'-0"



WINGWALL #4 ELEVATION VIEW

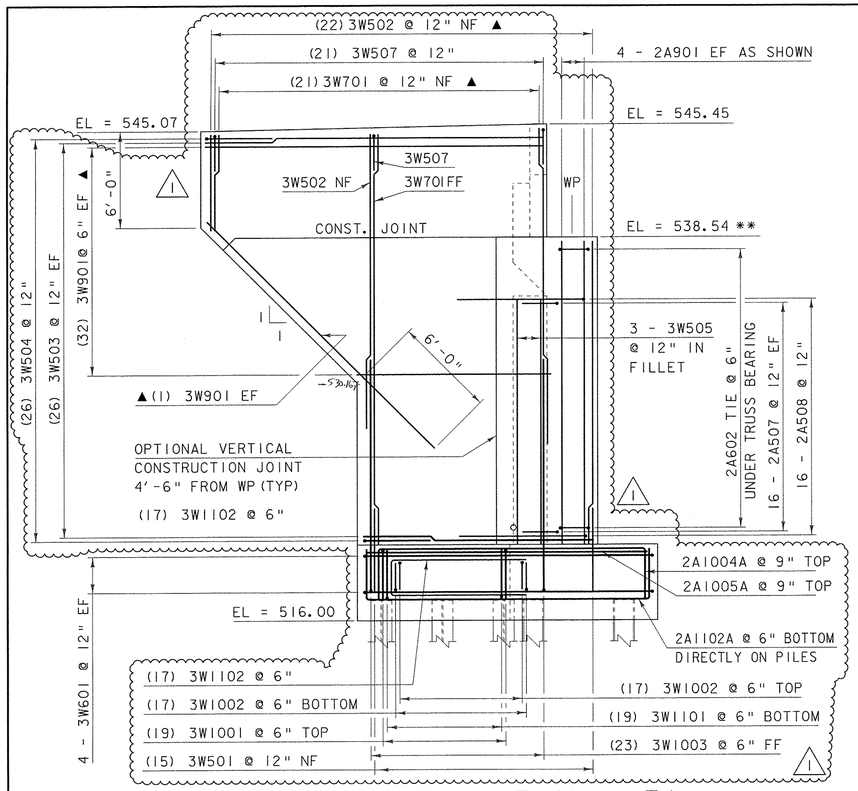
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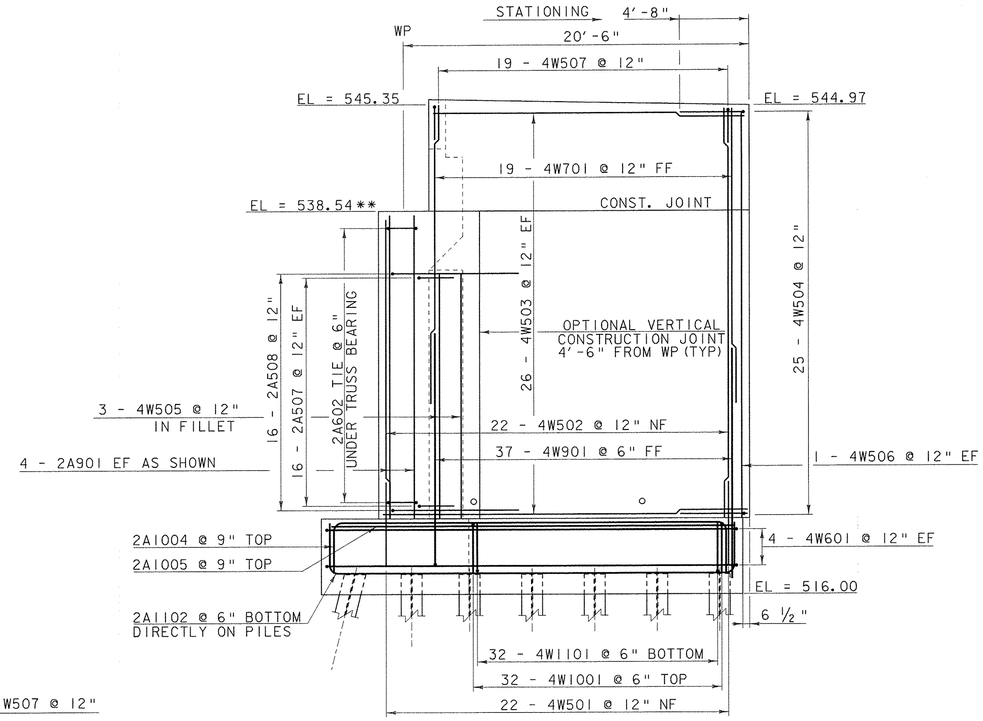
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PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f161sub2.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: S. SCRIBNER
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
WINGWALL 3 & 4 DETAILS	SHEET 68 OF 148



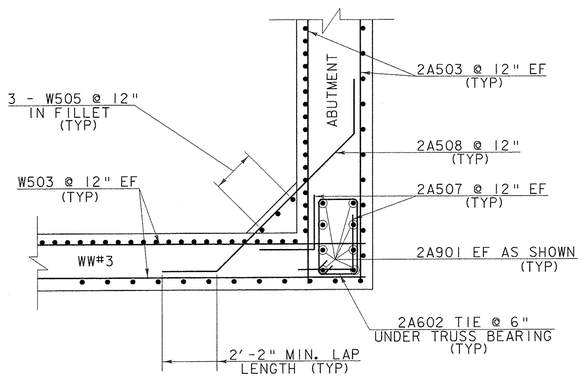
WINGWALL #3 ELEVATION VIEW

SCALE 1/4" = 1'-0"



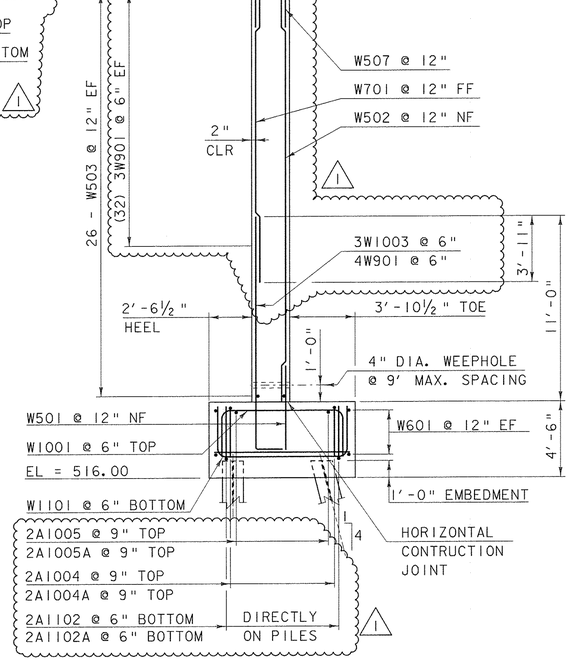
WINGWALL #4 ELEVATION VIEW

SCALE 1/4" = 1'-0"



WINGWALL #3 & #4 CORNER DETAIL BELOW BRIDGE SEAT

NTS



WINGWALL #3 & #4 TYPICAL

SCALE 1/4" = 1'-0"

NOTE: SEE WING WALL 3 ELEVATION FOR PLACEMENT OF 3W1002 3W1102

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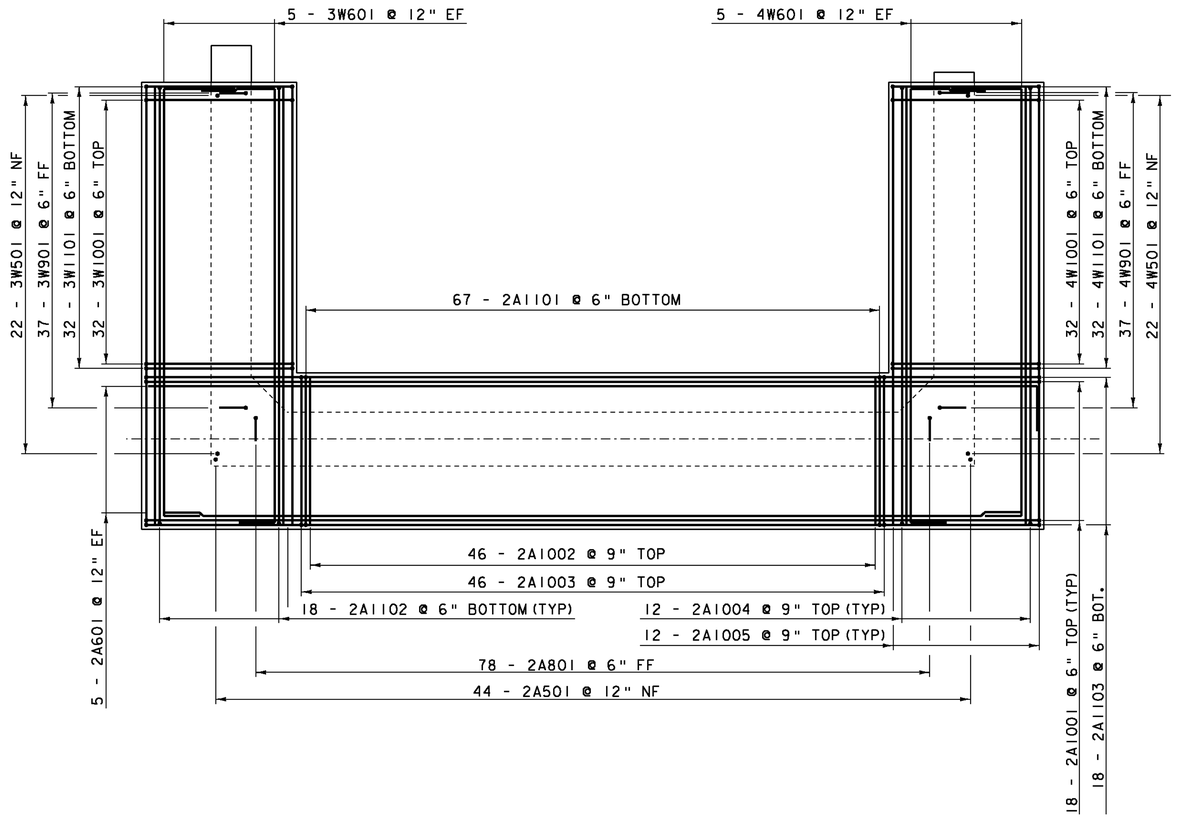
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1	01-27-2012	MODIFY WW3 FTG, REMOVE (4) PILES, RELOCATE PILE #3, CANTILEVER WW3	MCL

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: s78f161sub2.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
WINGWALL 3 & 4 DETAILS

PLOT DATE: 30-JAN-2012
DRAWN BY: S. SCRIBNER
CHECKED BY: S. SCRIBNER
SHEET 68 OF 148



ABUTMENT #2 FOOTING REINFORCING

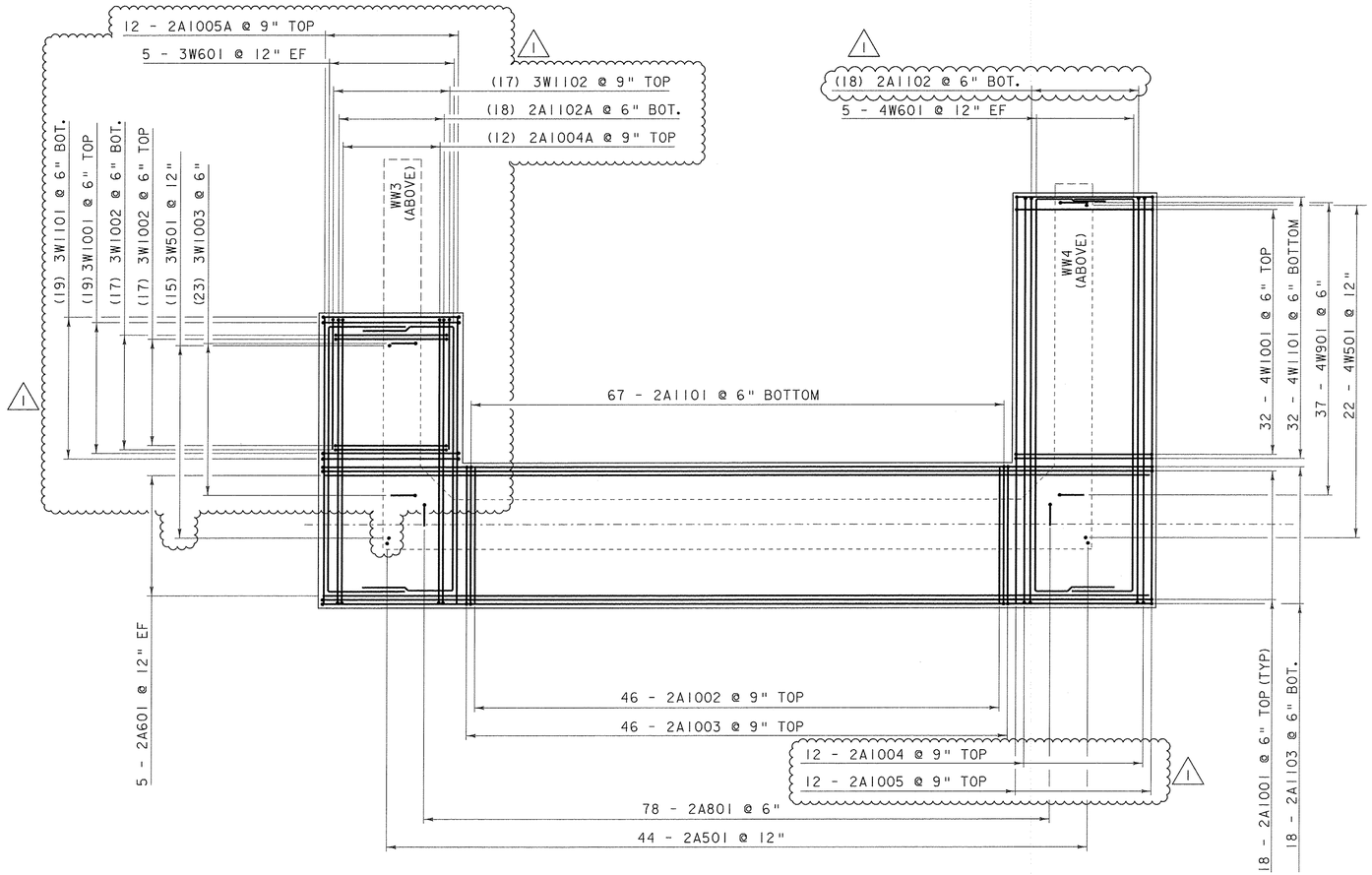
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PROJECT NAME:	BETHEL
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FILE NAME: s78f161sub2.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
ABUTMENT # 2 FOOTING REINFORCING PLAN	SHEET 69 OF 148



ABUTMENT #2 FOOTING REINFORCING

SCALE 1/4" = 1'-0"

NOTE:

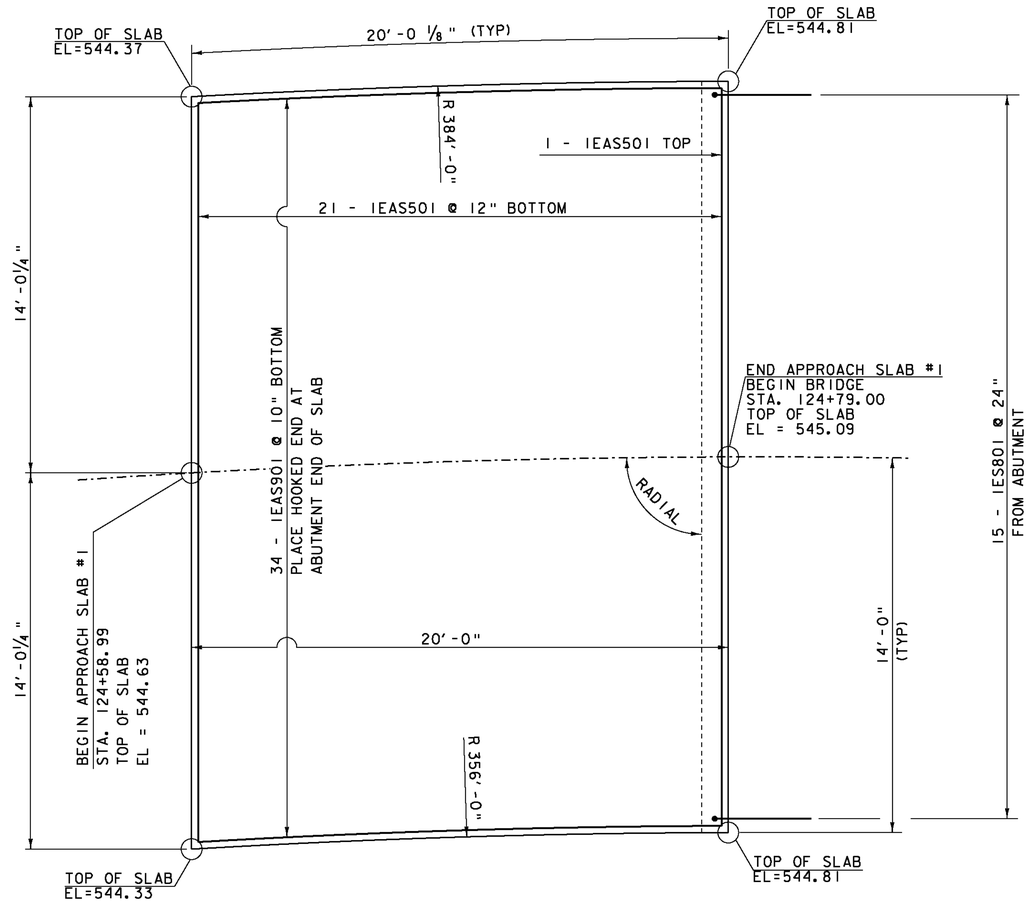
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REVISION	DATE	DESCIPTION	BY
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PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

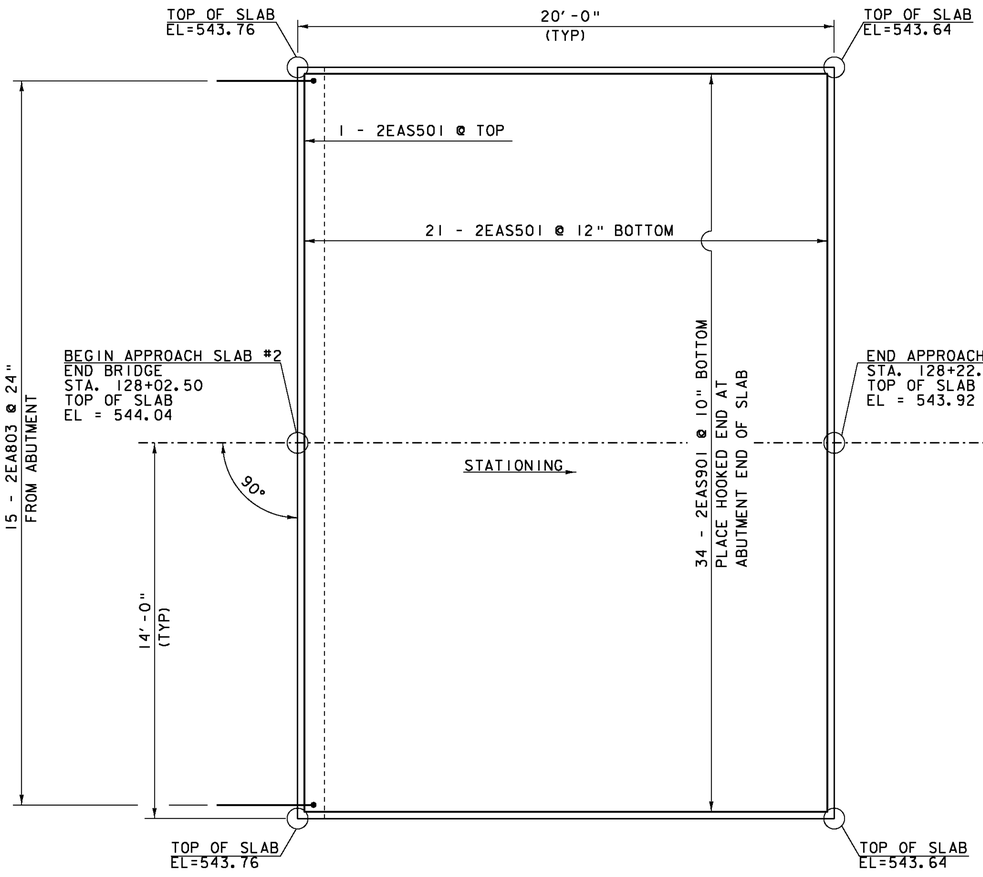
FILE NAME: s78f161sub2.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
ABUTMENT # 2 FOOTING REINFORCING PLAN

PLOT DATE: 30-JAN-2012
DRAWN BY: M. LONGSTREET
CHECKED BY: S. SCRIBNER
SHEET 69 OF 148



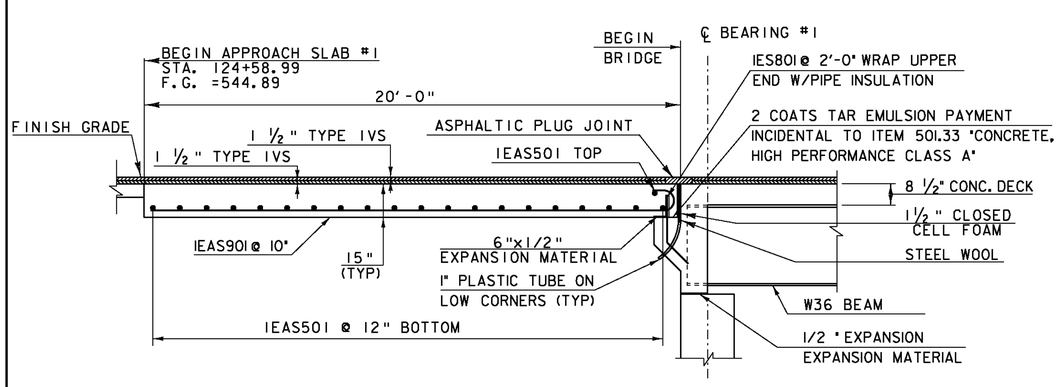
APPROACH SLAB NO. 1 PLAN

SCALE 3/8" = 1'-0"



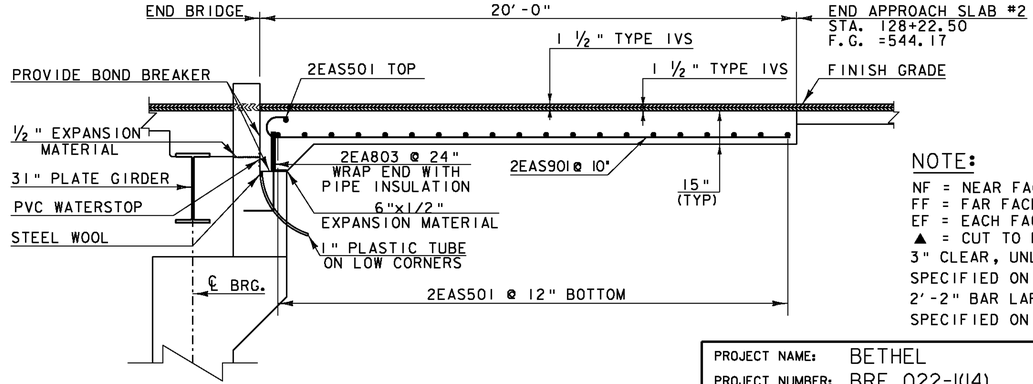
APPROACH SLAB NO. 2 PLAN

SCALE 3/8" = 1'-0"



APPROACH SLAB NO. 1 DETAIL

SCALE 3/8" = 1'-0"



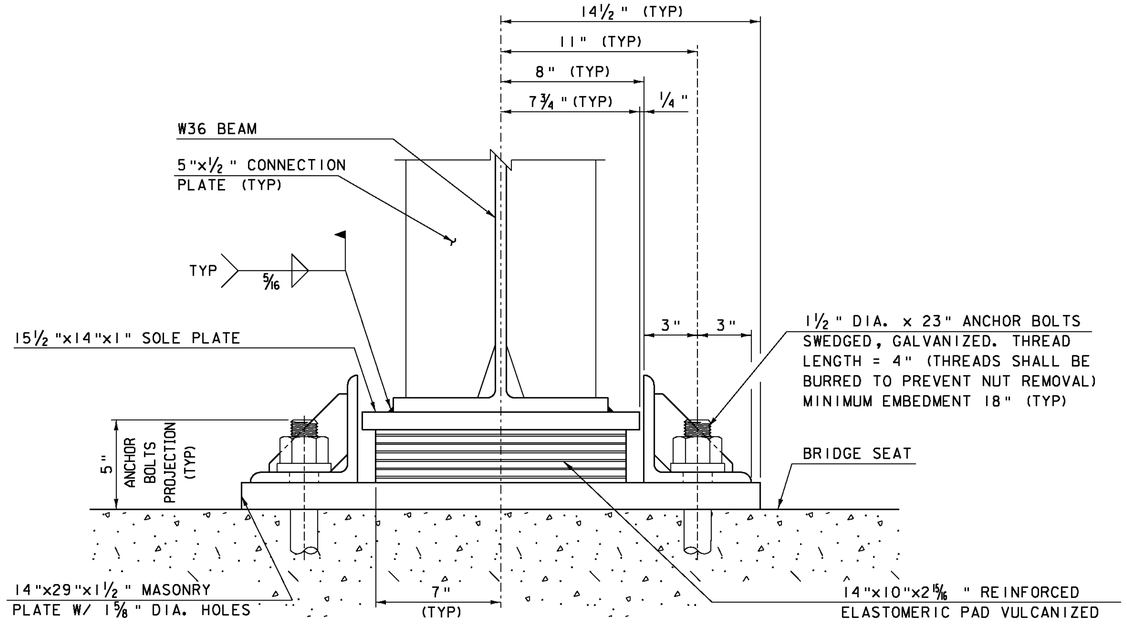
APPROACH SLAB NO. 2 DETAIL

SCALE 3/8" = 1'-0"

NOTE:

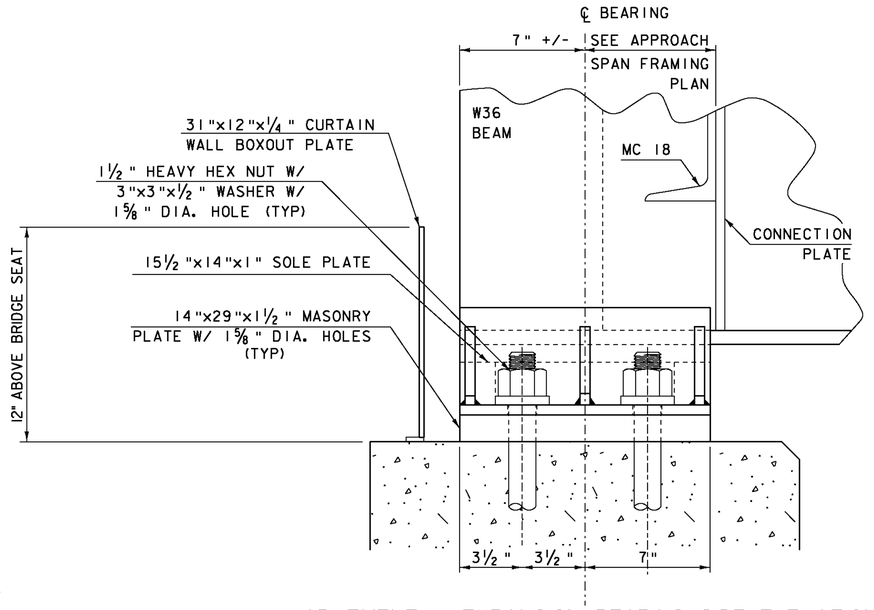
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FILE NAME: s78f161sub2.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: S.SCRIBNER
DESIGNED BY: N. VANDENBERG	CHECKED BY: M. LONGSTREET
APPROACH SLAB 1& 2 DETAILS	SHEET 70 OF 148



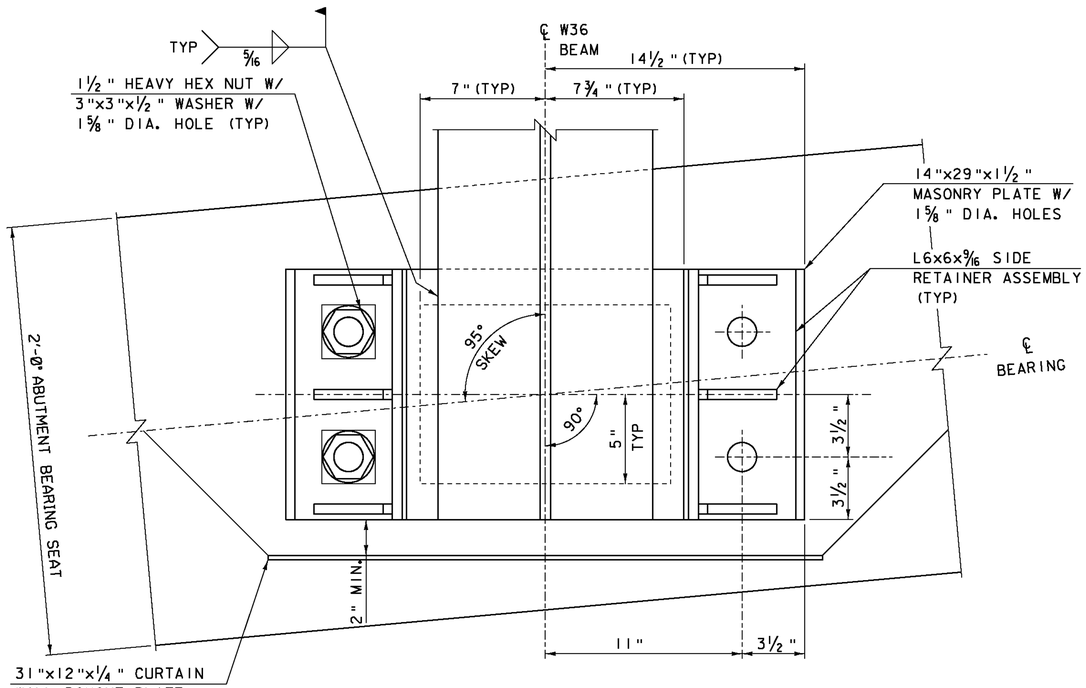
ABUTMENT #1 EXPANSION BEARING END ELEVATION

SCALE 3" = 1'-0"



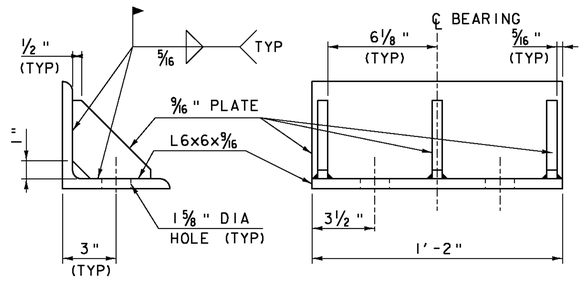
ABUTMENT #1 EXPANSION BEARING SIDE ELEVATION

SCALE 3" = 1'-0"



ABUTMENT #1 EXPANSION BEARING PLAN VIEW

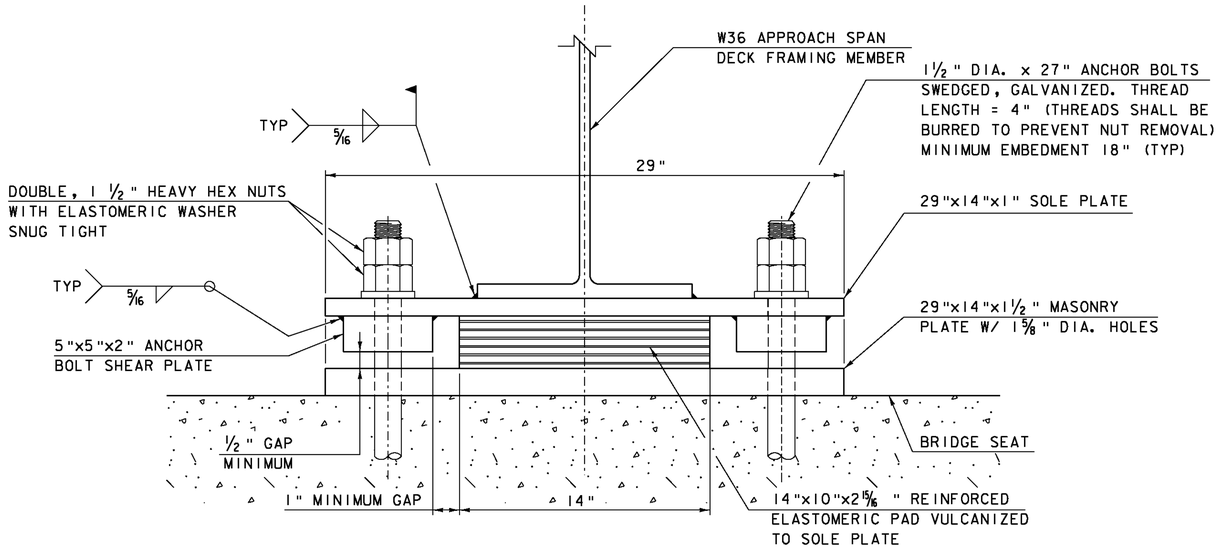
SCALE 3" = 1'-0"



SIDE RETAINER DETAIL

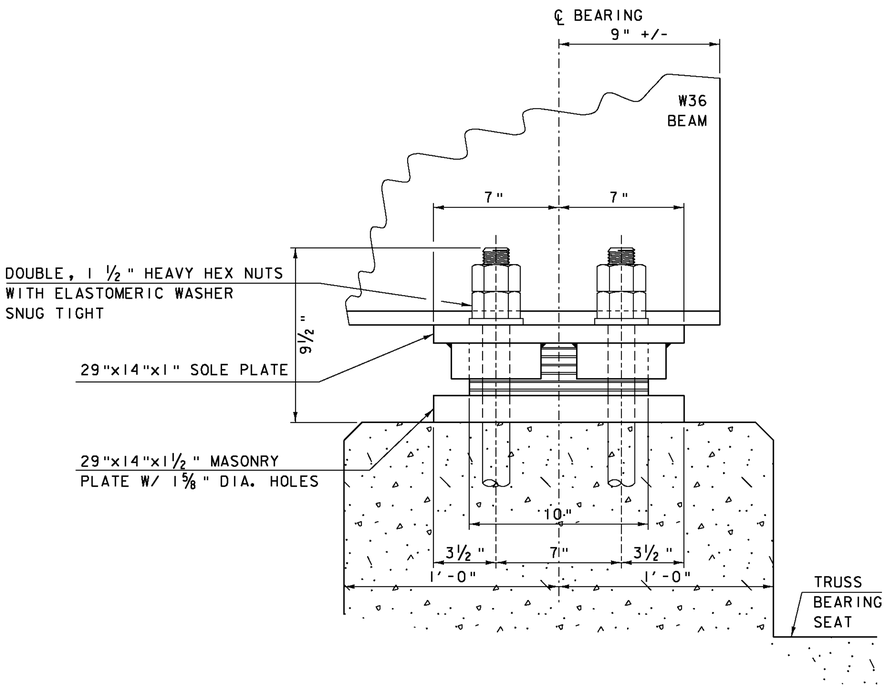
SCALE 3" = 1'-0"

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f161brg.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M.LONGSTREET
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
ABUTMENT 1 EXPANSION BEARING DETAILS	SHEET 71 OF 148



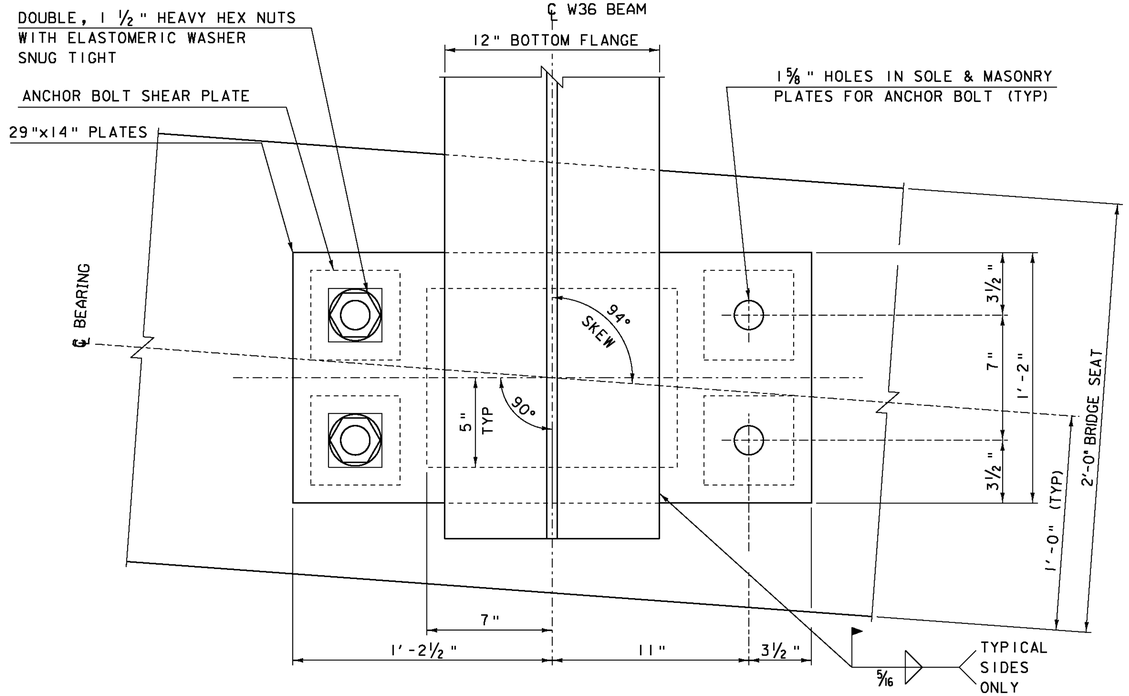
APPROACH SPAN PIER FIXED BEARING END ELEVATION

SCALE 3" = 1'-0"



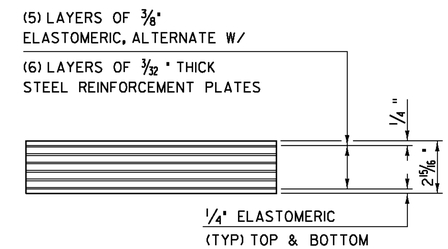
APPROACH SPAN PIER FIXED BEARING SIDE ELEVATION

SCALE 3" = 1'-0"



APPROACH SPAN PIER FIXED BEARING PLAN VIEW

SCALE 3" = 1'-0"



ELASTOMERIC BEARING MAKEUP

SCALE 3" = 1'-0"

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f16ibrg.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M.LONGSTREET
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
APPROACH SPAN PIER FIXED BEARING DETAILS	SHEET 72 OF 148

APPROACH SPAN BEARING NOTES

1) APPROACH SPAN FIXED AND EXPANSION BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.11 "BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD" AND SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 531 AND 731.

2) ALL MATERIALS SHALL CONFORM TO SECTION 14 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND SECTION 18 OF AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS AND ALL AASHTO OR ASTM SPECIFICATIONS SPECIFIED IN THIS SECTION.

3) THE ELASTOMERIC COMPOUND SHALL BE VIRGIN CRYSTALLIZATION RESISTANT POLYCHLOROPENE (NEOPRENE) OR VIRGIN NATURAL POLYISOPRENE (NATURAL RUBBER) AS THE RAW POLYMER, EXCEPT WHEN USING A DISC THE COMPOUND SHALL BE BASED ON POLYETHER URETHANE, USING ONLY VIRGIN MATERIALS. THE RESULTING PRODUCT SHALL BE FREE OF POROUS AREAS, WEAK SECTIONS, BUBBLES, FOREIGN MATTER, OR OTHER DEFECTS AFFECTING SERVICEABILITY. IT SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 251.

4) ELASTOMER WAS DESIGNED USING METHOD A, WITH A NOMINAL HARDNESS OF 50 +/- 5 ON THE SHORE A SCALE, EXCEPT FOR DISCS WHICH SHALL HAVE A HARDNESS OF 50 +/- 5 ON THE SHORE D SCALE. IT IS ACCEPTABLE TO TEST PER AASHTO M 251 APPENDIX X1. ELASTOMER SHALL MEET THE REQUIREMENTS FOR LOW-TEMPERATURE ZONE D, GRADE 4.

5) ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN ON THIS SHEET. THE ALTERNATE SHALL MAINTAIN THE ANCHORAGE SYSTEM SHOWN AND SHALL BE DESIGNED PER THE LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATION. BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATIVE CONFIGURATION.

6) STEEL REINFORCED ELASTOMERIC PADS SHALL BE WITHIN THE TOLERANCES LISTED IN TABLE 2 IN AASHTO M251. EXTERNAL LOAD PLATES SHALL BE WITHIN THE TOLERANCES GIVEN IN SECTION 18 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATION.

7) THE PREFORMED BEARING PAD BENEATH THE MASONRY PLATE SHALL HAVE THE SAME SIZE AND ANCHOR BOLT HOLE LAYOUT AS THE CORRESPONDING MASONRY PLATE.

8) BEARING SHALL BE SET LEVEL AND PARALLEL WITHIN 0.03125 IN./FT. WITH FULL AND UNIFORM BEARING. THE CONCRETE UNDER THE BEARING DEVICE SHALL BE LEVEL.

9) DURING ANY WELDING, SURFACES IN CONTACT WITH THE ELASTOMER SHALL BE RESTRICTED TO 200 DEGREES FAHRENHEIT, AND SUFACES IN CONTACT WITH PTFE SHALL BE RESTRICTED TO 300 DEGREES FAHRENHEIT. TEMPERATURE SHALL BE DETERMINED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS.

10) PRIOR TO ORDERING MATERIALS AND STARTING THE WORK, THE CONTRACTOR SHALL SUBMIT A DRILLING AND MORTARING PROPOSAL TO THE ENGINEER FOR APPROVAL, INCLUDING A PREMIXED MORTAR MATERIAL BRAND NAME.

11) THE DRILLED HOLES TO BE MORTARED SHALL BE THOROUGHLY CLEANED, WETTED, AND FREE OF STANDING WATER.

12) THE MORTAR SHALL BE MIXED IN A MECHANICAL MIXER ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND SHALL BE READILY POURABLE SO THAT WHEN POURED IT COMPLETELY FILLS THE REMAINING HOLE CAVITIES. THE PLACEMENT OF MORTAR FOR EACH BEARING SHALL BE CONTINUOUS AND COMPLETE AT ALL HOLE LOCATIONS.

13) ALL EXPOSED MORTAR SHALL BE CURED FOR A PERIOD OF NOT LESS THAN THREE (3) DAYS BY THE WETTED BURLAP METHOD IN ACCORDANCE WITH SECTION 501. CURING SHALL COMMENCE AS SOON AS PRACTICAL AFTER MORTAR PLACEMENT. THE CONTRACTOR SHALL NOT APPLY ANY FORCES TO THE ANCHOR BOLTS DURING THE CURING PERIOD.

14) ANCHOR BOLTS TO BE DOUBLE NUTTED SHALL USE THE FOLLOWING PROCEDURE: INSTALL THE LOWER NUT IN CONTACT WITH TOP OF SOLE PLATE, AND THEN BACK OFF ½ TURN. INSTALL UPPER NUT SNUG TIGHT TO PREVENT LOWER NUTS FROM LOOSENING.

15) THE BEARING MANUFACTURER SHALL INCLUDE A TEMPERATURE SETTING TABLE ON THE FABRICATION DRAWINGS.

16) APPROACH SPAN SEAT ELEVATIONS ARE BASED ON THE BEARING HEIGHTS SHOWN. PRIOR TO CASTING ABUTMENT 1 AND THE PIER, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE PROPOSED BEARING HEIGHT AS PROVIDED BY THE MANUFACTURER AND ANY ELEVATION MODIFICATIONS REQUIRED BEFORE CONSTRUCTING ABUTMENT 1 OR THE PIER.

17) BOLTS INSTALLED IN PAINTED STRUCTURAL COMPONENTS SHALL BE TYPE 1, SHALL BE PROVIDED WITH APPROPRIATE NUTS AND WASHERS, AS REQUIRED, AND THE COMBINATION OF BOLT, NUT, AND WASHER SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH AASHTO M 298, CLASS 50, TYPE 1.

18) BOLTS FURNISHED FOR BEARINGS SHALL CONFORM TO SUBSECTION 714.08. THE BOLTS, NUTS, AND WASHERS FURNISHED SHALL BE TESTED AND CERTIFIED AS MEETING THE REQUIREMENTS OF THE ZINC THICKNESS TEST AS SPECIFIED IN SUBSECTION 714.05, IN ADDITION TO ANY OTHER TEST AND CERTIFICATION REQUIREMENTS.

19) THE WELDS FOR THE SOLE PLATE CONNECTION SHOULD ONLY BE ALONG THE LONGITUDINAL GIRDER AXIS. TRANSVERSE JOINTS SHOULD BE SEALED WITH AN ACCEPTABLE CAULKING MATERIAL.

20) PRIOR TO WELDING BEAMS TO SOLE PLATES, THE CONCRETE DECK SHALL BE PLACED AND CURED, AND THE BEAMS SHALL BE RAISED TO ALLOW RELEASE OF INITIAL BEARING DEFORMATION DUE TO BEAM CAMBER RELAXATION.

21) GALVANIZING THAT HAS BEEN DAMAGED SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A780, STANDARD PRACTICE FOR REPAIR OF DAMAGED HOT DIPPED GALVANIZED COATINGS, ANNEX A2. THE PAINT USED IN THE REPAIR SHALL BE ORGANIC-RICH, CONTAINING 92 PERCENT(MIN.) ZINC BY WEIGHT IN THE DRY FILM. THE PAINT SHALL BE APPLIED PER MANUFACTURE'S RECOMMENDATIONS TO A THICKNESS EQUIVALENT TO THE SURROUNDING GALVANIZING.

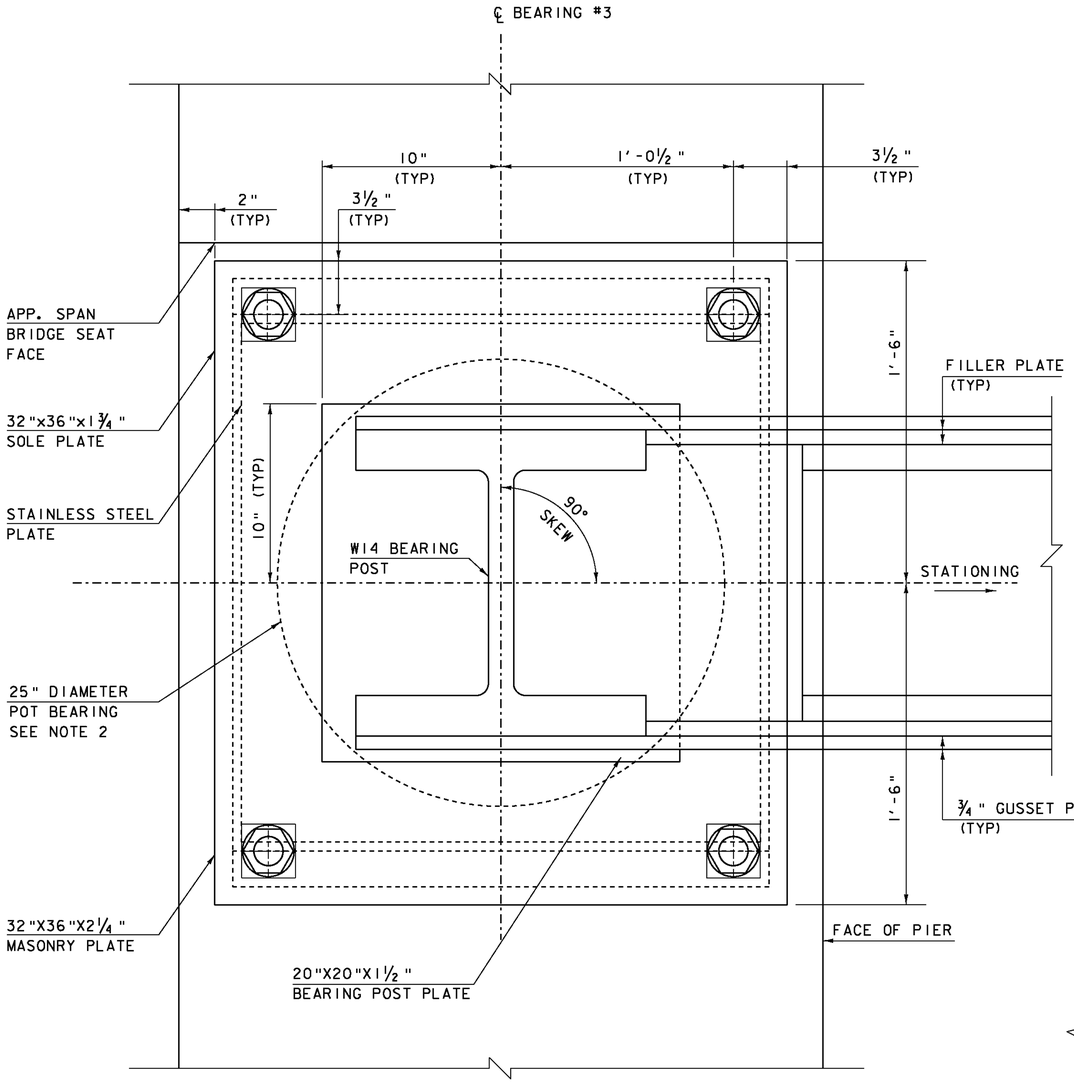
22) METALIZING THAT HAS BEEN DAMAGED SHALL BE REPAIRED USING THE METHODS DESCRIBED IN NOTE 21.

23) STEEL REINFORCED ELASTOMERIC BEARINGS SHALL HAVE A MINIMUM 1/8 INCH EDGE SEAL OF ELASTOMER INTEGRAL WITH BEARING OVER ALL INTERNAL PLATES.

24) DESIGN CRITERIA:

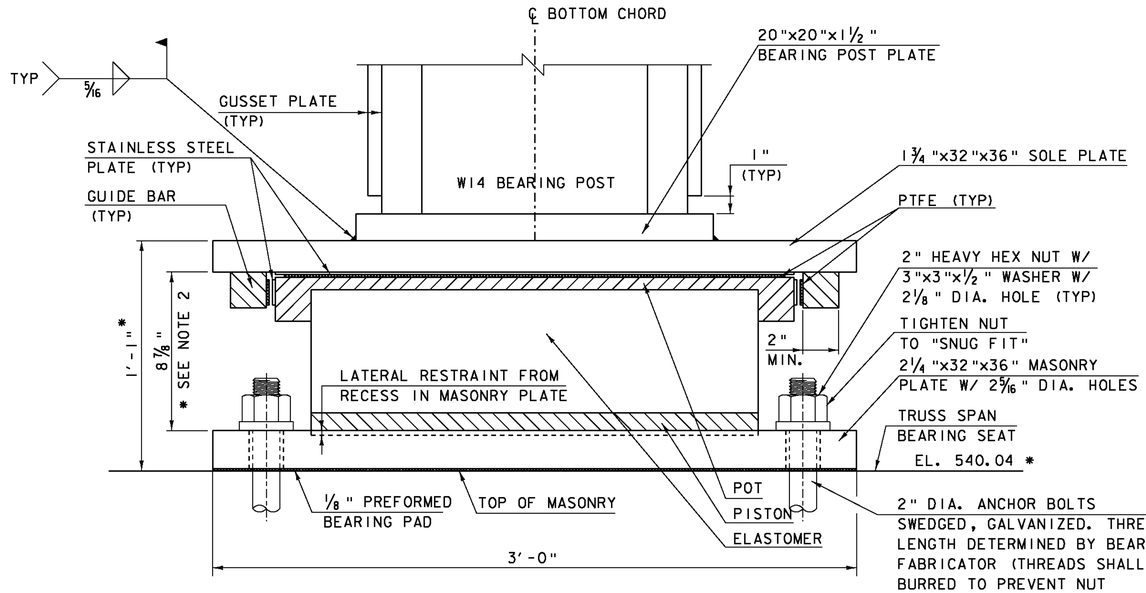
A) MASONRY PLATE TO CONCRETE DESIGN PRESSURE = 800 PSI
B) DESIGN ROTATION = 0.011 RAD
C) HORIZONTAL CAPACITY SHALL BE MINIMUM OF 20% VERTICAL LOAD IN ANY UNRESTRAINED DIRECTION.
D) DESIGN LOAD PER BEARING
RDL = 43.8 KIPS
RLL = 58.2 KIPS
E) NO FABRIC REINFORCEMENT WILL BE ALLOWED IN ELASTOMERIC PADS

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f16lbrg.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M.LONGSTREET
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
APPROACH SPAN BEARING NOTES	SHEET 73 OF 148



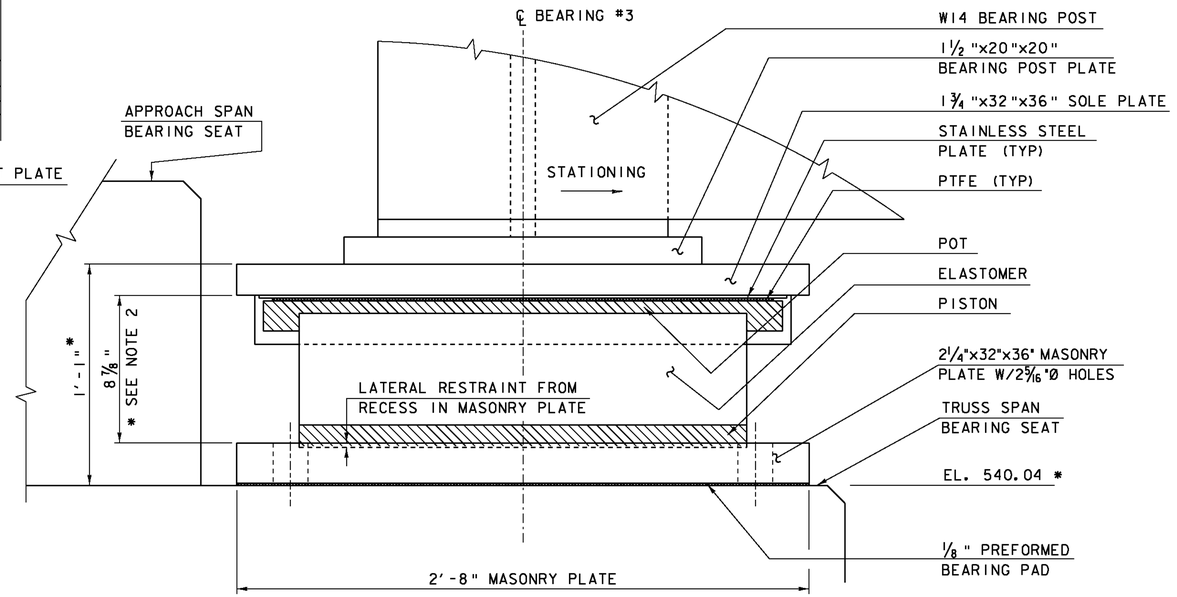
TRUSS EXPANSION BEARING PLAN VIEW

SCALE 3" = 1'-0"



TRUSS EXPANSION BEARING END ELEVATION

SCALE 3" = 1'-0"



TRUSS EXPANSION BEARING SIDE ELEVATION

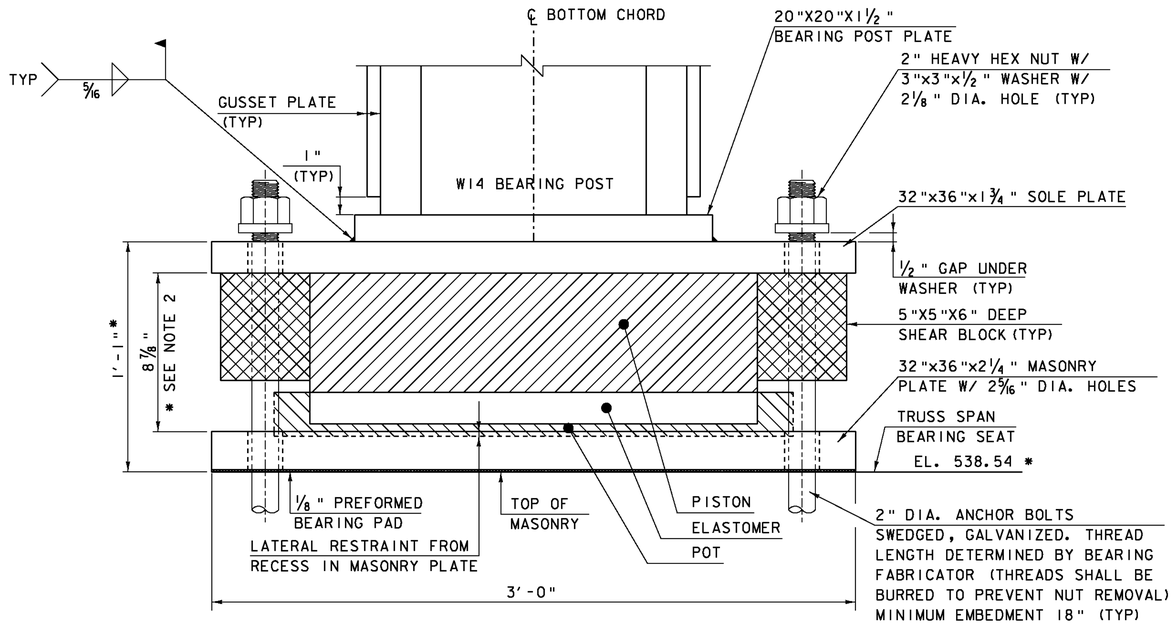
SCALE 3" = 1'-0"

NOTES:

1. APPLY SEALANT ALONG TRANSVERSE EDGE AND UP AND AROUND TO THE FILLET WELD TERMINATION. SEALANT SHALL BE AN APPROVED PRODUCT. COST SHALL BE INCIDENTAL TO TRUSS BEARING ITEM IN CONTRACT.
2. * SEE FINAL FABRICATION DRAWINGS FOR EXACT DIMENSIONS. BRIDGE SEATS MAY NEED ADJUSTMENT. THE CROSS HATCHED COMPONENTS OF THE BEARING ARE SHOWN FOR REPRESENTATIVE PURPOSES ONLY. THE ACTUAL CONFIGURATION OF THE COMPONENTS WILL BE DEPENDENT UPON THE BEARING FABRICATOR.
3. GUIDE BAR IS SHOWN IN THE LONGITUDINAL DIRECTION FOR N2 BEARING. FOR N3 BEARING GUIDE BAR SHALL BE IN THE TRANSVERSE DIRECTION. AND FOR N4 BEARING GUIDE BAR SHALL BE OMITTED.

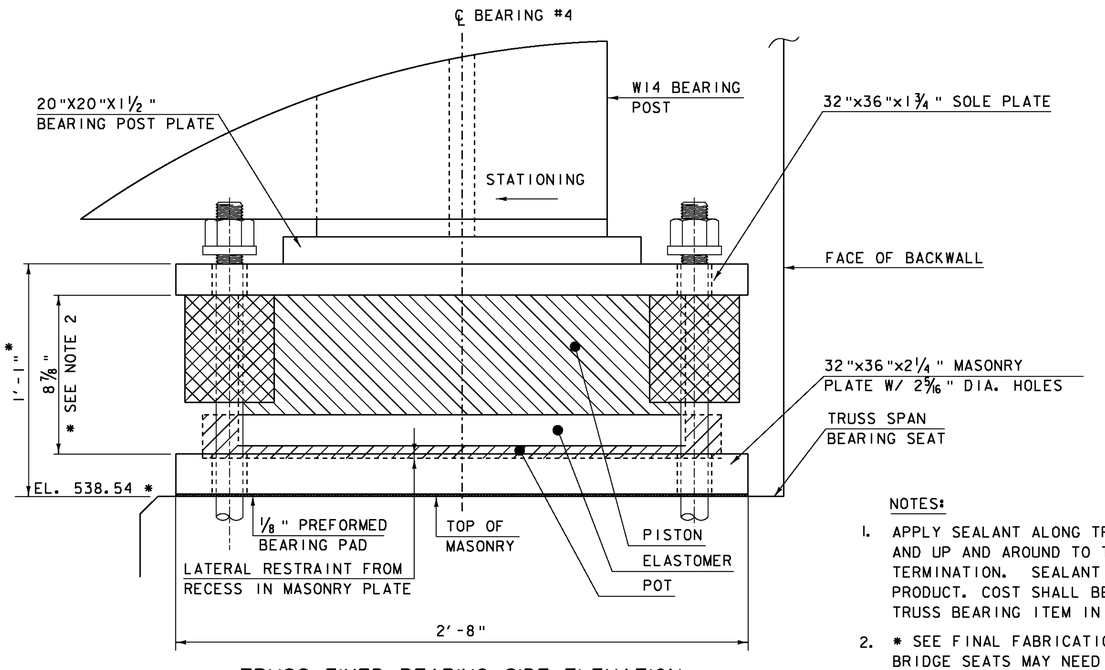
PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: s78f161brg.dgn PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON DRAWN BY: S. SCRIBNER
DESIGNED BY: S. SCRIBNER CHECKED BY: S. SCRIBNER
TRUSS SPAN PIER EXPANSION BEARING DETAILS SHEET 74 OF 148



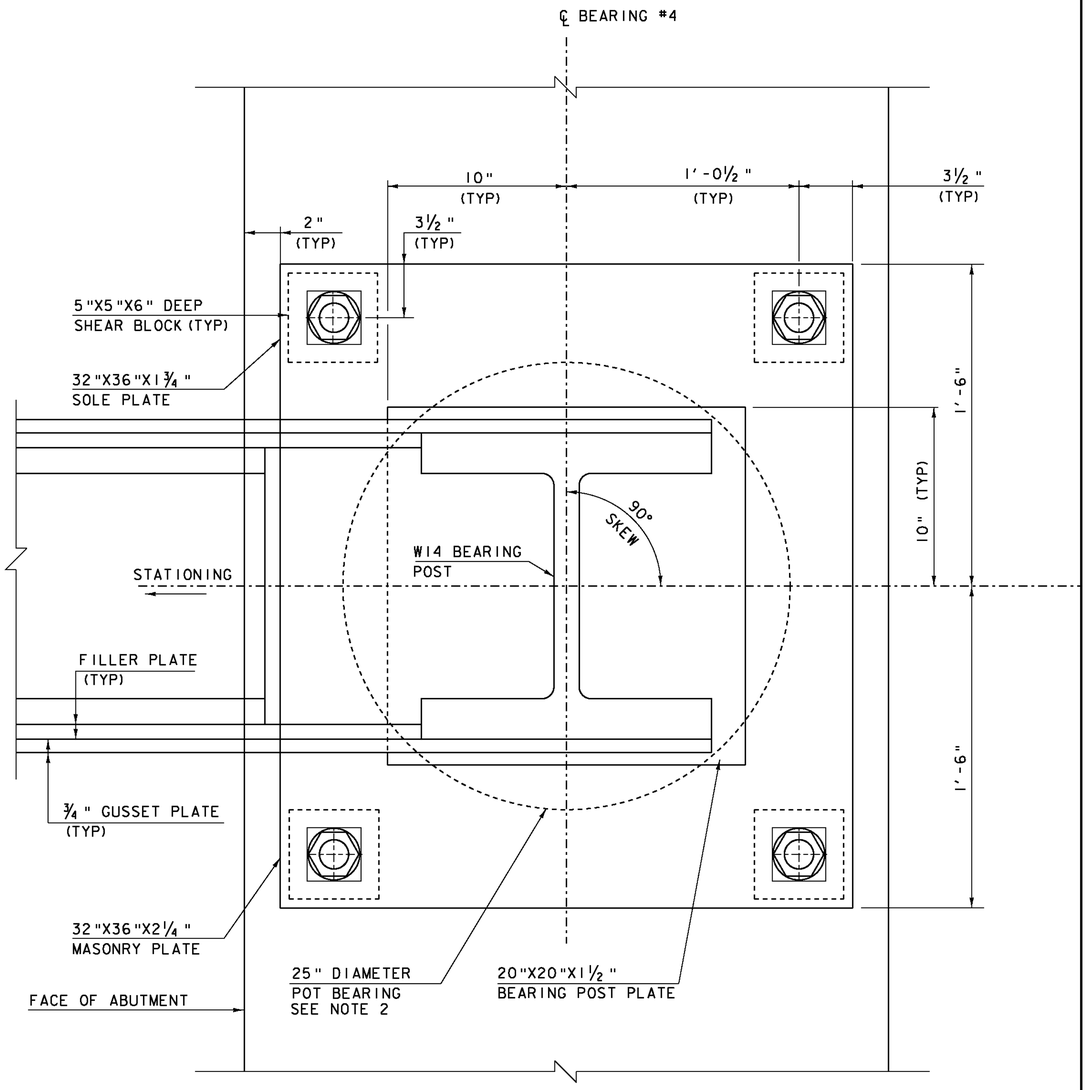
TRUSS FIXED BEARING END ELEVATION

SCALE 3" = 1'-0"



TRUSS FIXED BEARING SIDE ELEVATION

SCALE 3" = 1'-0"



TRUSS FIXED BEARING PLAN VIEW

SCALE 3" = 1'-0"

NOTES:

1. APPLY SEALANT ALONG TRANSVERSE EDGE AND UP AND AROUND TO THE FILLET WELD TERMINATION. SEALANT SHALL BE AN APPROVED PRODUCT. COST SHALL BE INCIDENTAL TO TRUSS BEARING ITEM IN CONTRACT.
2. * SEE FINAL FABRICATION DRAWINGS FOR EXACT DIMENSIONS. BRIDGE SEATS MAY NEED ADJUSTMENT. THE CROSS HATCHED COMPONENTS OF THE BEARING ARE SHOWN FOR REPRESENTATIVE PURPOSES ONLY. THE ACTUAL CONFIGURATION OF THE COMPONENTS WILL BE DEPENDENT UPON THE BEARING FABRICATOR.

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f161brg.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: S. SCRIBNER
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
ABUTMENT 2 FIXED BEARING DETAILS	SHEET 75 OF 148

TRUSS BEARING NOTES

1) TRUSS FIXED AND EXPANSION BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.12 "BEARING DEVICE ASSEMBLY, POT" AND SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 531 AND 731.

2) ALL MATERIALS SHALL CONFORM TO SECTION 14 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND SECTION 18 OF AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS AND ALL AASHTO OR ASTM SPECIFICATIONS SPECIFIED IN THIS SECTION.

3) THE ELASTOMERIC COMPOUND SHALL BE VIRGIN CRYSTALLIZATION RESISTANT POLYCHLOROPENE (NEOPRENE) OR VIRGIN NATURAL POLYISOPRENE (NATURAL RUBBER) AS THE RAW POLYMER, EXCEPT WHEN USING A DISC THE COMPOUND SHALL BE BASED ON POLYETHER URETHANE, USING ONLY VIRGIN MATERIALS. THE RESULTING PRODUCT SHALL BE FREE OF POROUS AREAS, WEAK SECTIONS, BUBBLES, FOREIGN MATTER, OR OTHER DEFECTS AFFECTING SERVICEABILITY. IT SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 251.

4) ELASTOMER WAS DESIGNED USING METHOD A, WITH A NOMINAL HARDNESS OF 50 +/- 5 ON THE SHORE A SCALE, EXCEPT FOR DISCS WHICH SHALL HAVE A HARDNESS OF 50 +/- 5 ON THE SHORE D SCALE. IT IS ACCEPTABLE TO TEST PER AASHTO M 251 APPENDIX X1. ELASTOMER SHALL MEET THE REQUIREMENTS FOR LOW-TEMPERATURE ZONE D, GRADE 4.

5) STAINLESS STEEL SHALL CONFORM TO THE SPECIFICATIONS CONTAINED IN THE LATEST EDITION OF THE SECTION 14 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND SECTION 18 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS. STAINLESS STEEL USED AS A MATING SURFACE WITH PTFE AND INCORPORATED IN BEARING DEVICES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A167 TYPE 304 OR A 240/A 240M, TYPE 304.

6) BRASS SEALING RINGS SATISFYING SUBSECTION 14.7.4.5.2 AND 14.7.4.5.3 OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SHALL CONFORM TO ASTM B36 (HALF HARD) FOR RINGS OF RECTANGULAR CROSS-SECTION, AND ASTM B121, FOR RINGS OF CIRCULAR CROSS-SECTION. THEY SHALL BE IN ACCORDANCE WITH SECTION 18 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS.

7) PTFE (POLYTETRAFLUOROETHYLENE) MATERIAL INCORPORATED IN BEARING DEVICES SHALL BE ALL NEW MATERIAL CONSISTING OF (1/8 INCH) MINIMUM THICKNESS CONFORMING TO THE REQUIREMENTS OF SUBSECTION 14.7.2 OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND SECTION 18 OF AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS.

8) ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN ON THIS SHEET. THE ALTERNATE SHALL MAINTAIN THE ANCHORAGE SYSTEM SHOWN AND SHALL BE DESIGNED PER THE LATEST EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATION. BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATIVE CONFIGURATION.

9) HIGH LOAD MULTI-ROTATIONAL BEARINGS, EXTERNAL LOAD PLATES, AND GUIDES SHALL BE WITHIN THE TOLERANCES GIVEN IN SECTION 18 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATION.

10) THE THICKNESS OF THE STAINLESS STEEL SHEET SHALL BE AT LEAST 1.9 MM (14 GUAGE) WHEN THE MAXIMUM DIMENSION OF THE SURFACE IS LESS THAN OR EQUAL TO 305 MM (12 INCHES), AND AT LEAST 3.0 MM (11 GUAGE) WHEN THE MAXIMUM DIMENSION IS LARGER THAN 305 MM (12 INCHES).

11) EITHER PTFE SHEETS OR OTHER APPROVED MATERIAL SHALL BE PROVIDED TO LUBRICATE COMPRESSIVE SURFACES OF THE ELASTOMER.

12) THE STEEL HOUSING SHALL BE MANUFACTURED BY WELDING OR MACHING FROM A SINGLE PIECE OF PLATE. THE SHEAR RESTRICTION MECHANISM SHALL BE CONNECTED TO THE BEARING PLATE BY MECHANICALLY FASTENING, WELDING, OR OTHER MEANS APPROVED BY THE ENGINEER.

13) HIGH LOAD MULTI-ROTATIONAL BEARINGS SHALL BE TESTED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND SECTION 18 OF THE BRIDGE CONSTRUCTION SPECIFICATIONS.

14) EXPOSED PTFE MATERIAL ON A GUIDE BAR OR OTHER COMPONENT SHALL BE PIGMENTED TO PREVENT PENETRATION OF ULTRAVIOLET LIGHT.

15) THE SOLE PLATE DIMENSIONS SHOWN ARE BASED ON POT DIMENSIONS OBTAINED FROM MANUFACTURER CATALOGS. THE MANUFACTURER SHALL VERIFY THE SOLE PLATE LENGTH AND WIDTH IS SUFFICIENT TO ACCOMMODATE THE ACTUAL BEARING DEVICE AND REQUIRED MOVEMENTS AND INDICATE ANY ADJUSTMENTS REQUIRED ON THE FABRICATION DRAWINGS.

16) THE MANUFACTURER SHALL DESIGN THE POT BEARING ASSEMBLY AND GUIDE BARS. FABRICATION DRAWINGS SHALL INCLUDE THE TOTAL ASSEMBLED BEARING HEIGHT AT THE CENTER OF THE BEARING SO THAT ANY ADJUSTMENTS TO MASONRY ELEVATIONS CAN BE DETERMINED. THE SHOP DRAWINGS SHALL ALSO INCLUDE A PROCEDURE FOR FUTURE BEARING REPLACEMENT WITH A MAXIMUM BEARING POST LIFT OF 1/4".

17) THE PREFORMED BEARING PAD BENEATH THE MASONRY PLATE SHALL HAVE THE SAME SIZE AND ANCHOR BOLT HOLE LAYOUT AS THE CORRESPONDING MASONRY PLATE.

18) BEARING SHALL BE SET LEVEL AND PARALLEL WITHIN 0.03125 IN./FT. WITH FULL AND UNIFORM BEARING. PEDESTALS DETAILED TO BE ON A SLOPE SHALL BE SET AT THE ELEVATION AND POSITION SPECIFIED. THE CONCRETE UNDER THE BEARING DEVICE SHALL BE LEVEL.

19) DURING ANY WELDING, SURFACES IN CONTACT WITH THE ELASTOMER SHALL BE RESTRICTED TO 200 DEGREES FAHRENHEIT, AND SUFACES IN CONTACT WITH PTFE SHALL BE RESTRICTED TO 300 DEGREES FAHRENHEIT. TEMPERATURE SHALL BE DETERMINED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS. NO WELDING CURRENT SHALL BE PERMITTED TO PASS BETWEEN THE POT AND PISTON COMPONENTS.

20) THE WELDS FOR THE SOLE PLATE CONNECTION SHOULD ONLY BE ALONG THE LONGITUDINAL BOTTOM CHORD AXIS. TRANSVERSE JOINTS SHOULD BE SEALED WITH AN ACCEPTABLE CAULKING MATERIAL.

21) PRIOR TO ORDERING MATERIALS AND STARTING THE WORK, THE CONTRACTOR SHALL SUBMIT A DRILLING AND MORTARING PROPOSAL TO THE ENGINEER FOR APPROVAL, INCLUDING A PREMIXED MORTAR MATERIAL BRAND NAME.

22) THE DRILLED HOLES TO BE MORTARED SHALL BE THOROUGHLY CLEANED, WETTED, AND FREE OF STANDING WATER.

23) THE MORTAR SHALL BE MIXED IN A MECHANICAL MIXER ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND SHALL BE READILY POURABLE SO THAT WHEN POURED IT COMPLETELY FILLS THE REMAINING HOLE CAVITIES. THE PLACEMENT OF MORTAR FOR EACH BEARING SHALL BE CONTINUOUS AND COMPLETE AT ALL HOLE LOCATIONS.

24) ALL EXPOSED MORTAR SHALL BE CURED FOR A PERIOD OF NOT LESS THAN THREE (3) DAYS BY THE WETTED BURLAP METHOD IN ACCORDANCE WITH SECTION 501. CURING SHALL COMMENCE AS SOON AS PRACTICAL AFTER MORTAR PLACEMENT. THE CONTRACTOR SHALL NOT APPLY ANY FORCES TO THE ANCHOR BOLTS DURING THE CURING PERIOD.

25) ANCHOR BOLTS TO BE DOUBLE NUTTED SHALL USE THE FOLLOWING PROCEDURE: INSTALL THE LOWER NUT IN CONTACT WITH TOP OF SOLE PLATE, AND THEN BACK OFF ½ TURN. INSTALL UPPER NUT SNUG TIGHT TO PREVENT LOWER NUTS FROM LOOSENING.

26) PTFE AND STAINLESS STEEL SLIDING SURFACES SHALL BE PROTECTED FROM SPLATTER DURING THE WELDING, GROUTING, OR PAINTING OPERATIONS IF APPLICABLE.

27) THE BEARING MANUFACTURER SHALL INCLUDE A TEMPERATURE SETTING TABLE ON THE FABRICATION DRAWINGS.

28) TRUSS SEAT ELEVATIONS ARE BASED ON THE BEARING HEIGHT SHOWN. PRIOR TO CASTING THE PIER OR ABUTMENT 2, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE PROPOSED BEARING HEIGHT AS PROVIDED BY THE MANUFACTURER AND ANY ELEVATION MODIFICATIONS REQUIRED BEFORE CONSTRUCTING THE PIER AND ABUTMENT 2.

29) BOLTS INSTALLED IN GALVANIZED STRUCTURAL COMPONENTS SHALL BE TYPE 1, THEY SHALL BE PROVIDED WITH APPROPRIATE NUTS AND WASHERS, AS REQUIRED, AND THE COMBINATION OF BOLT, NUT, AND WASHER SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH AASHTO M 298, CLASS 50, TYPE 1.

30) BOLTS FURNISHED FOR BEARINGS SHALL CONFORM TO SUBSECTION 714.08. THE BOLTS, NUTS, AND WASHERS FURNISHED SHALL BE TESTED AND CERTIFIED AS MEETING THE REQUIREMENTS OF THE ZINC THICKNESS TEST AS SPECIFIED IN SUBSECTION 714.05, IN ADDITION TO ANY OTHER TEST AND CERTIFICATION REQUIREMENTS.

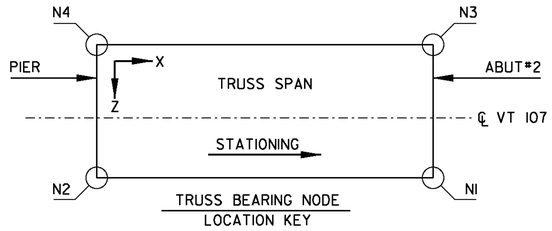
31) GALVANIZING THAT HAS BEEN DAMAGED SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A780, STANDARD PRACTICE FOR REPAIR OF DAMAGED HOT DIPPED GALVANIZED COATINGS, ANNEX A2. THE PAINT USED IN THE REPAIR SHALL BE ORGANIC-RICH, CONTAINING 92 PERCENT(MIN.) ZINC BY WEIGHT IN THE DRY FILM. THE PAINT SHALL BE APPLIED PER MANUFACTURE'S RECOMMENDATIONS TO A THICKNESS EQUIVALENT TO THE SURROUNDING GALVANIZING.

32) METALIZING THAT HAS BEEN DAMAGED SHALL BE REPAIRED USING THE METHODS DESCRIBED IN NOTE 31.

33) DESIGN CRITERIA:

- A) MASONRY PLATE TO CONCRETE DESIGN PRESSURE = 1000 PSI
- B) HORIZONTAL CAPACITY SHALL BE MINIMUM OF 20% VERTICAL LOAD IN ANY RESTRAINED DIRECTION.
- C) SHALL BE DESIGNED FOR FORCES, TRANSLATIONS, AND ROTATIONS SHOWN IN PLANS

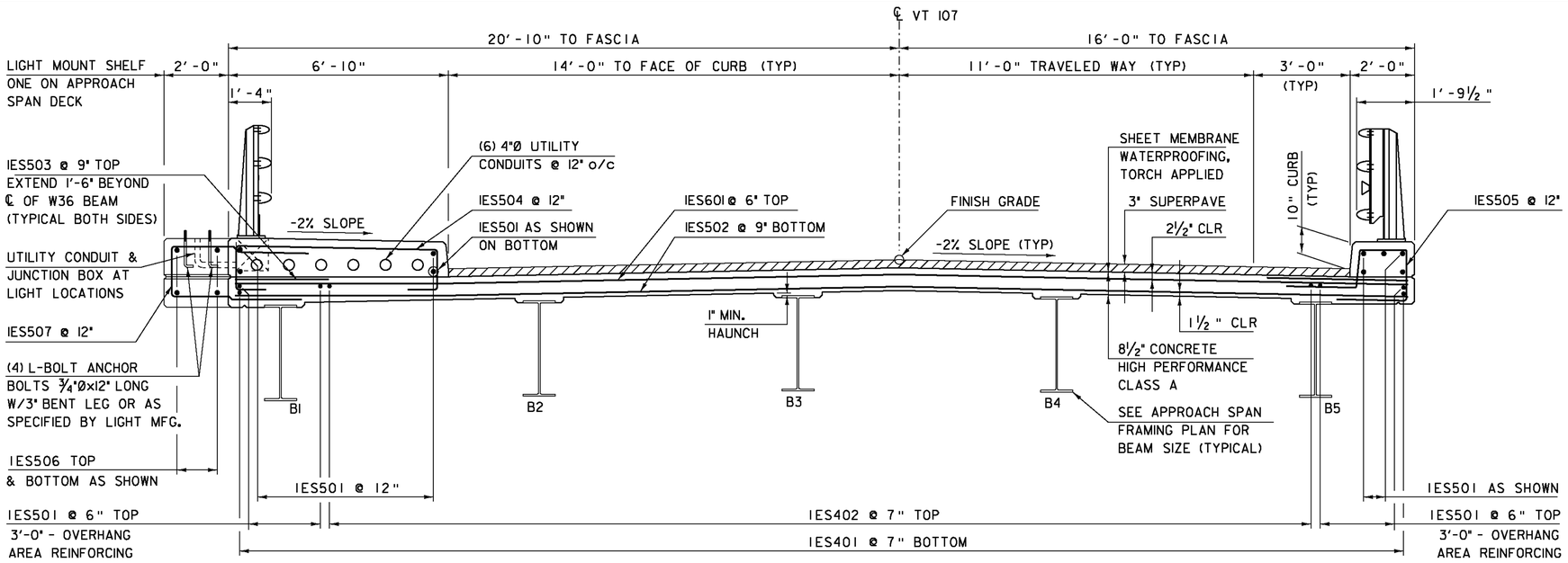
DESIGN LOAD (KIPS)	SERVICE LIMIT STATE	VERTICAL	MAX.	924
			MIN.	681
			PERMANENT	663
			TRANSVERSE	18
			LONGITUDINAL	114
	STRENGTH LIMIT STATE	VERTICAL	STRENGTH I	1195
		TRANSVERSE	STRENGTH III	477
		LONGITUDINAL	STRENGTH V	635
TRANSLATION (INCHES)	SERVICE LIMIT STATE	N1	TRANSVERSE	0.0"
			LONGITUDINAL	0.0"
		N2	TRANSVERSE	0.0"
			LONGITUDINAL	3.65"
		N3	TRANSVERSE	0.384"
			LONGITUDINAL	0.0"
		N4	TRANSVERSE	0.384"
			LONGITUDINAL	3.65"
ROTATION (RADIANS)	SERVICE LIMIT STATE	N1	X	0.0049
			Y	0.0038
			Z	0.0055
		N2	X	0.0070
			Y	0.0004
			Z	0.0055
		N3	X	0.0056
			Y	0.0058
			Z	0.0050
		N4	X	0.0037
			Y	0.0029
			Z	0.0049



PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

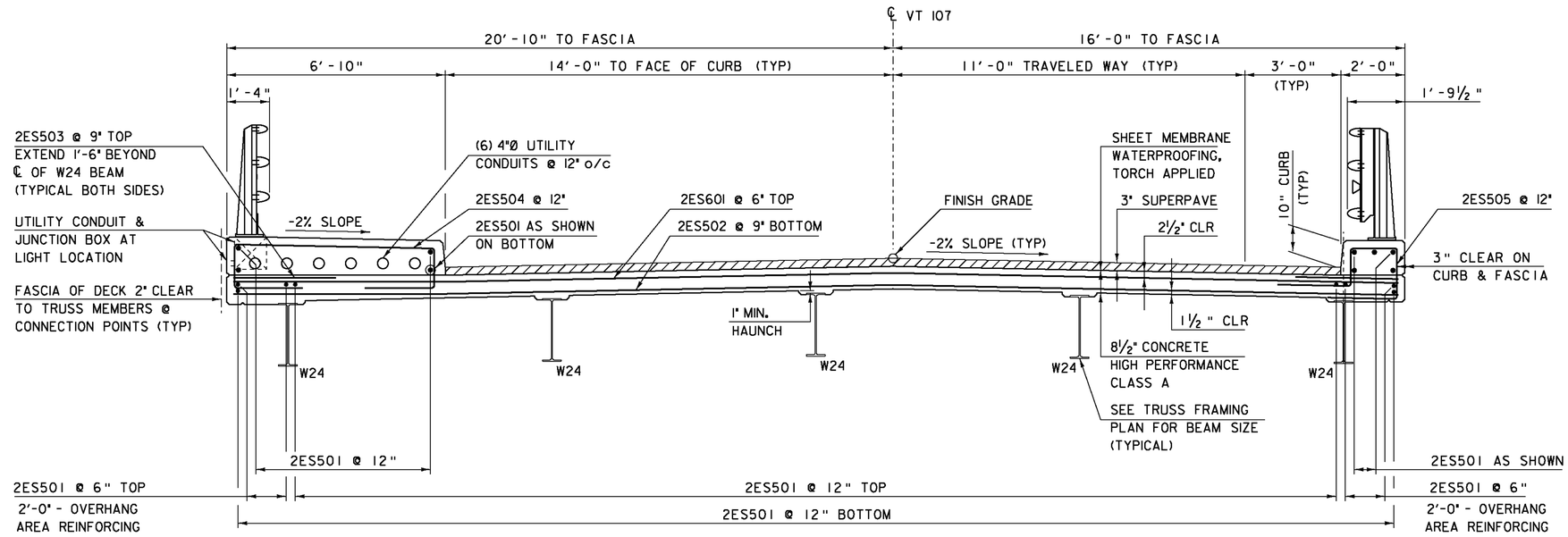
FILE NAME: s78f161brg.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
TRUSS BEARING NOTES

PLOT DATE: 20-MAY-2011
DRAWN BY: M.LONGSTREET
CHECKED BY: S. SCRIBNER
SHEET 76 OF 148



APPROACH SPAN DECK TYPICAL

SCALE ½" = 1'-0"



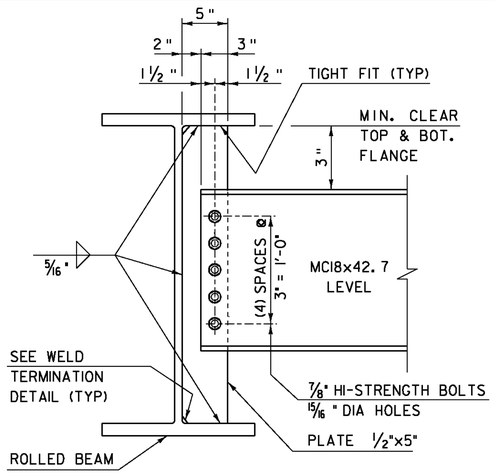
TRUSS DECK TYPICAL

SCALE ½" = 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.

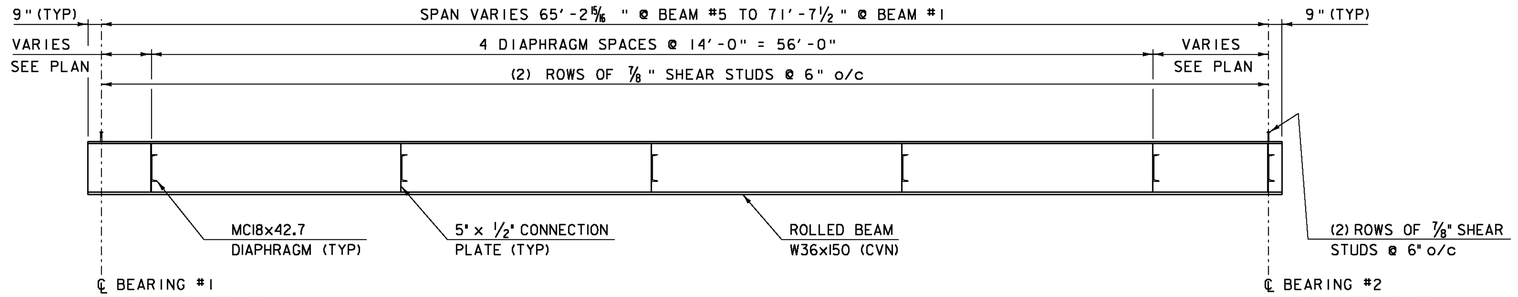
PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f161sup.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: N. VANDENBERG	CHECKED BY: S.SCRIBNER
DECK TYPICALS	SHEET 77 OF 148



NOTE:
HI-STRENGTH BOLTS, NUTS AND WASHERS SHALL CONFORM TO AASHTO DESIGNATION M164.

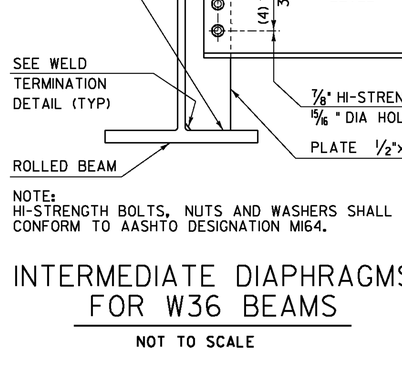
INTERMEDIATE DIAPHRAGMS FOR W36 BEAMS

NOT TO SCALE



W36x150 BEAM ELEVATION (BEAM #5 SHOWN)

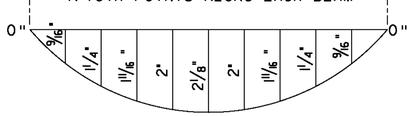
SCALE ¼" = 1'-0" (HORZATAL & VERTICAL)



CAMBER DIAGRAM

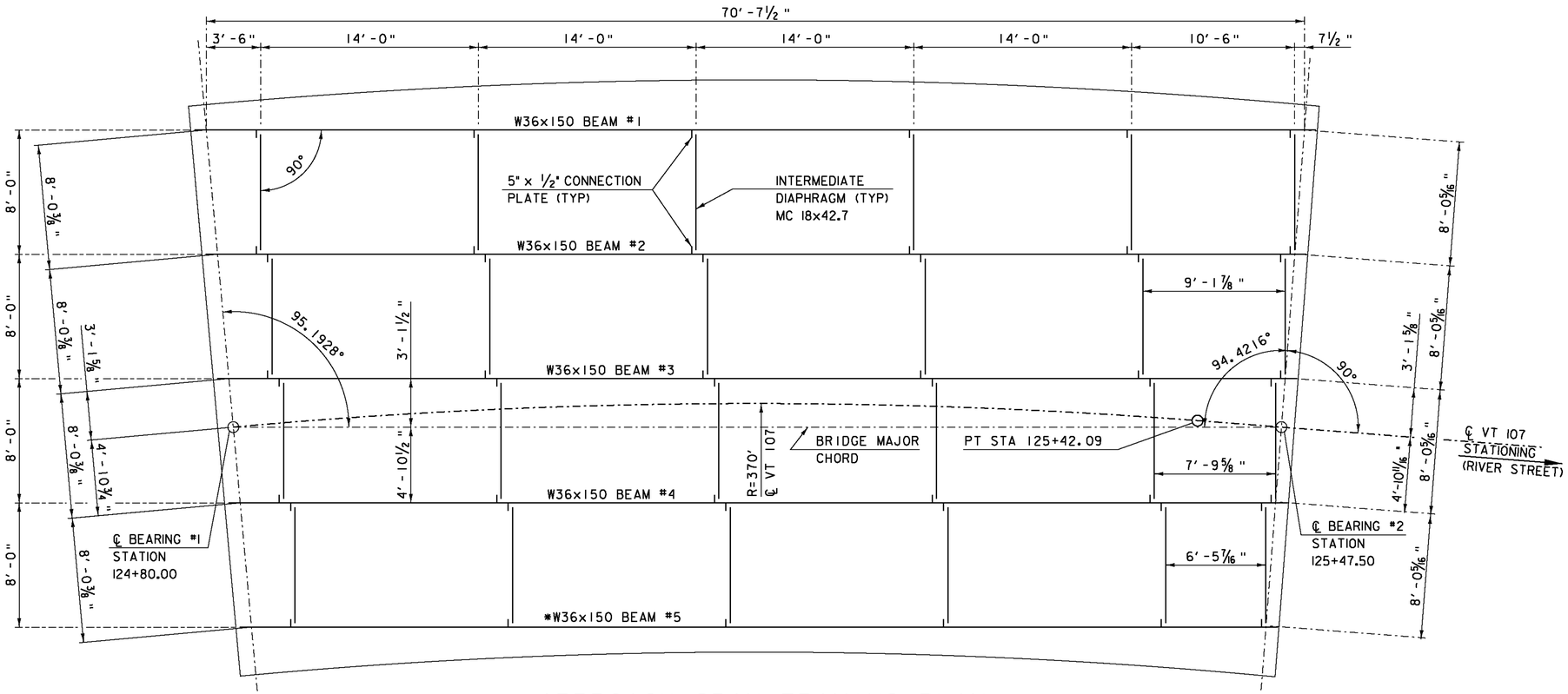
NOT TO SCALE

MEASURMENTS INCLUDE BEAM SELF-WEIGHT
BEAM SPANS VARY - CAMBER SHOWN FOR 1/10TH POINTS ALONG EACH BEAM



DEAD LOAD DEFLECTION DIAGRAM

NOT TO SCALE



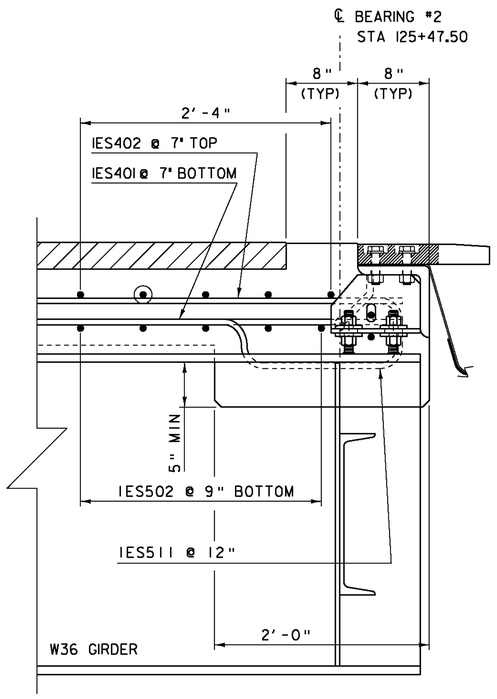
APPROACH SPAN FRAMING PLAN

SCALE ¼" = 1'-0"

•CVN - SHALL MEET CHARPY V-NOTCH REQUIREMENTS FOR MAIN MEMBERS AS INDICATED IN SECTION 714 OF THE STANDARD SPECIFICATIONS

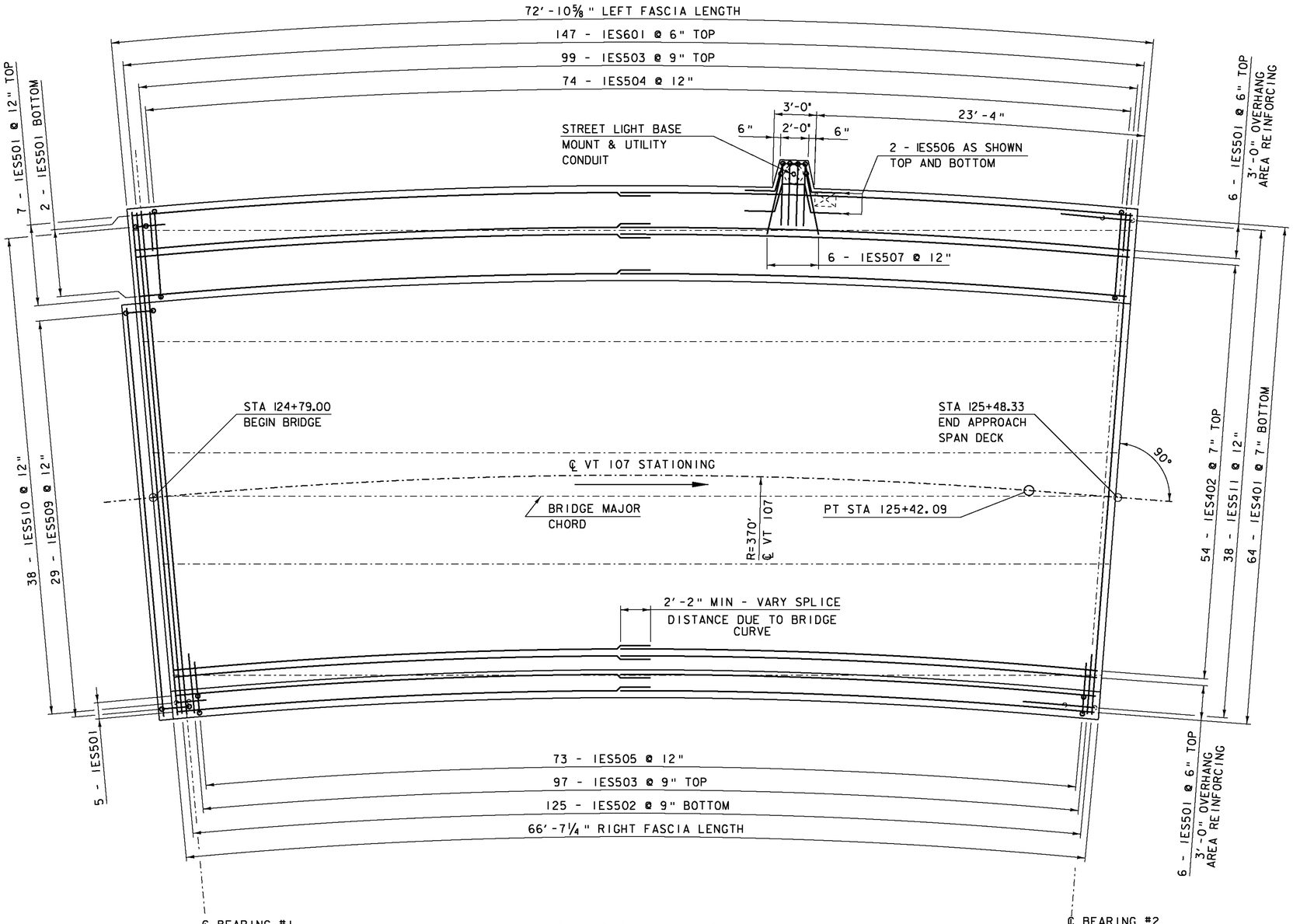
•• HOLES FOR TRANSVERSE ABUTMENT REINFORCING STEEL NOT SHOWN. SEE "ABUTMENT #1 ELEVATION & TYPICAL"

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f161sup.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: S. SCRIBNER	CHECKED BY: S.SCRIBNER
APPROACH SPAN FRAMING PLAN	SHEET 78 OF 148



END APPROACH SPAN DECK SECTION

SCALE 1 ½ " = 1' -0"



APPROACH SPAN DECK PLAN

SCALE ¼ " = 1' -0"

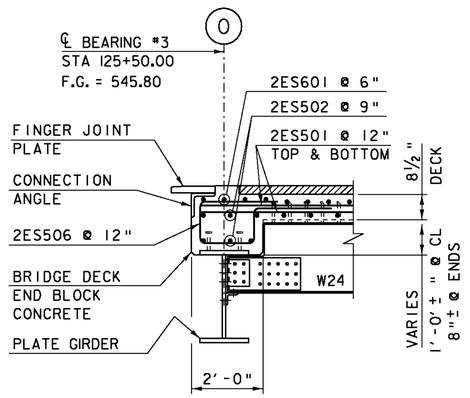
NOTE:

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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: BETHEL
PROJECT NUMBER: BRF 022-1(14)

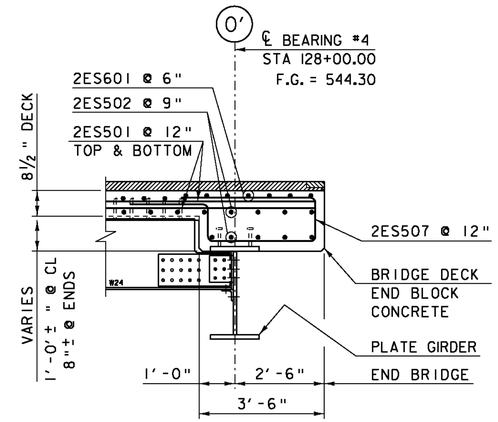
FILE NAME: s78f161sup.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: N. VANDENBERG
APPROACH SPAN DECK PLAN

PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: S.SCRIBNER
SHEET 79 OF 148



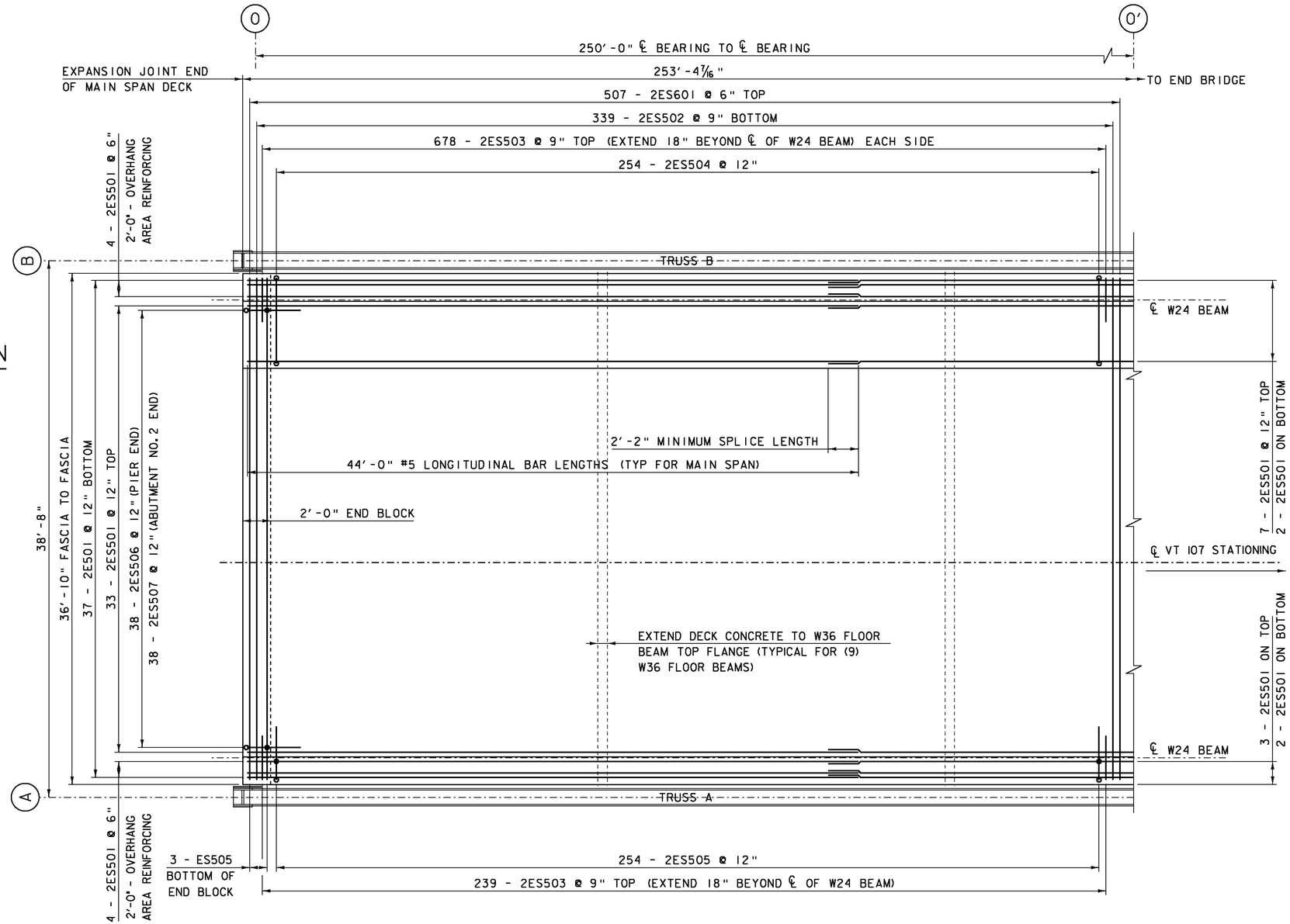
BEGIN TRUSS SPAN DECK SECTION

SCALE ½" = 1'-0"



END TRUSS SPAN DECK SECTION

SCALE ½" = 1'-0"



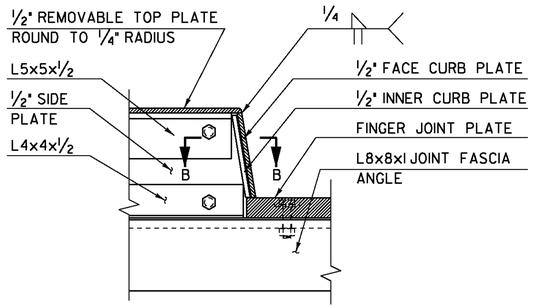
TRUSS SPAN DECK PLAN

SCALE ¼" = 1'-0"

NOTE:

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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.

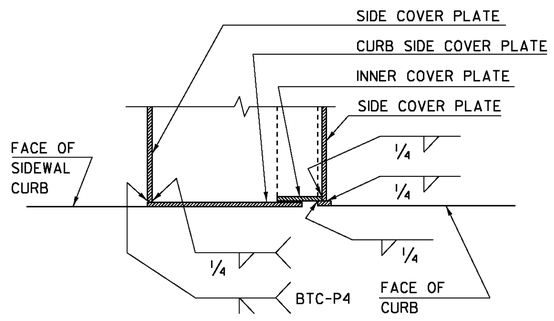
PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f161sup.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: S. SCRIBNER	CHECKED BY: S.SCRIBNER
MAIN SPAN DECK PLAN	SHEET 80 OF 148



SECTION A-A

SCALE 1 ½" = 1'-0"

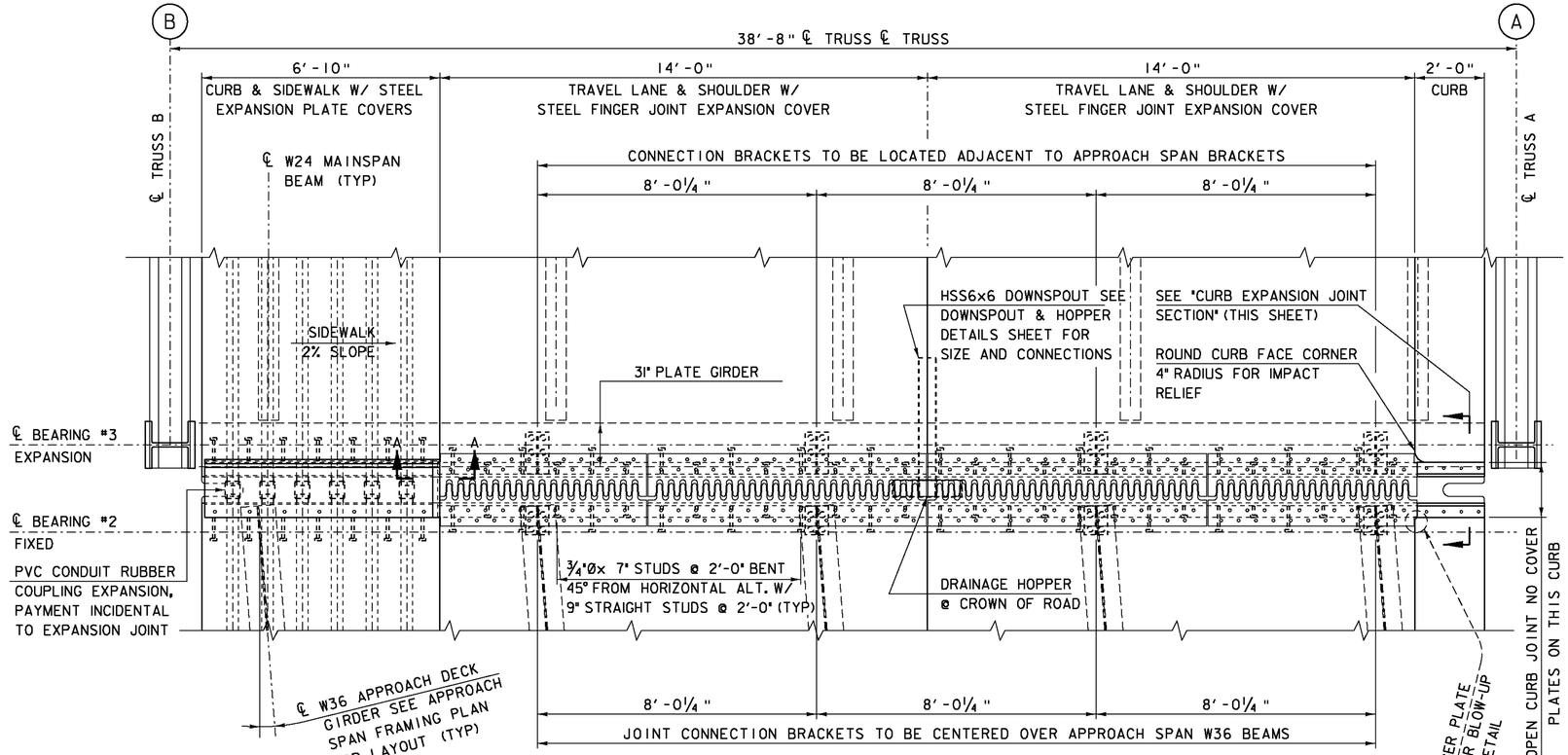
NOTE: SEAL WELD & GRIND SMOOTH ALL PLATE JOINTS PRIOR TO GALVANIZING.



SECTION B-B

SCALE 1 ½" = 1'-0"

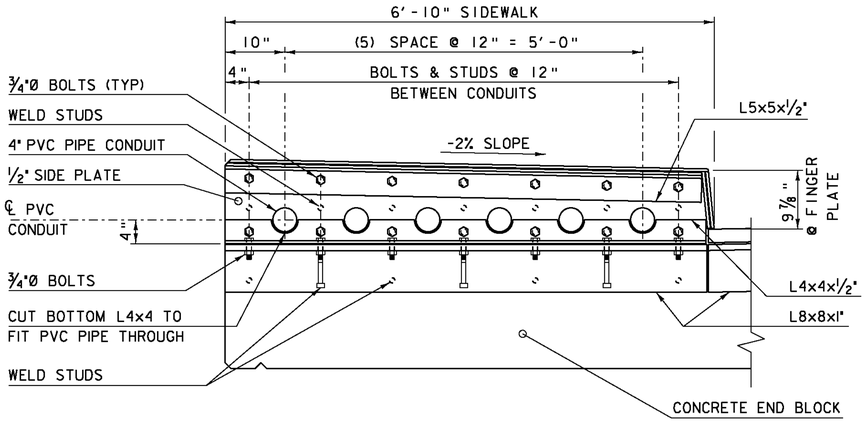
NOTE: SEAL WELD & GRIND SMOOTH ALL PLATE JOINTS PRIOR TO GALVANIZING.



EXPANSION JOINT PLAN DETAIL

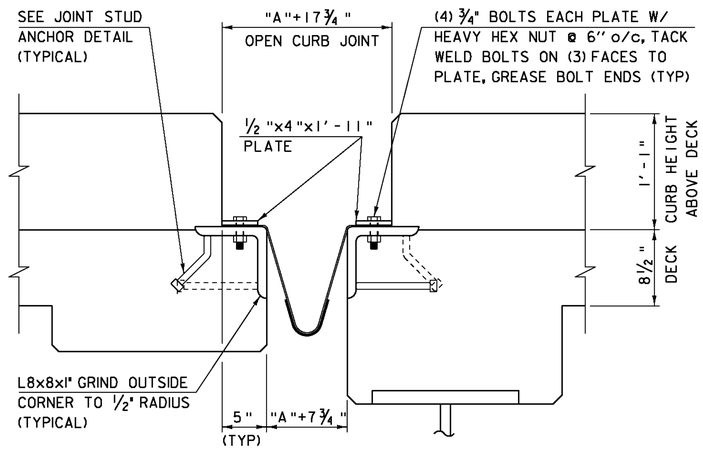
SCALE ½" = 1'-0"

SEE "EXPANSION JOINT DETAIL SHEET 1" FOR EXPANSION JOINT NOTES.



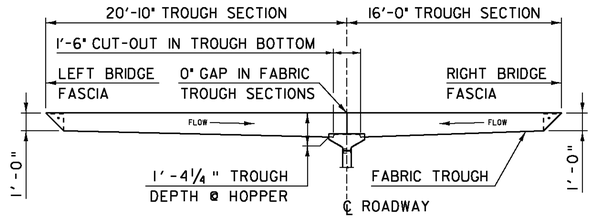
SIDEWALK JOINT ELEVATION

SCALE 1" = 1'-0"



CURB EXPANSION JOINT SECTION

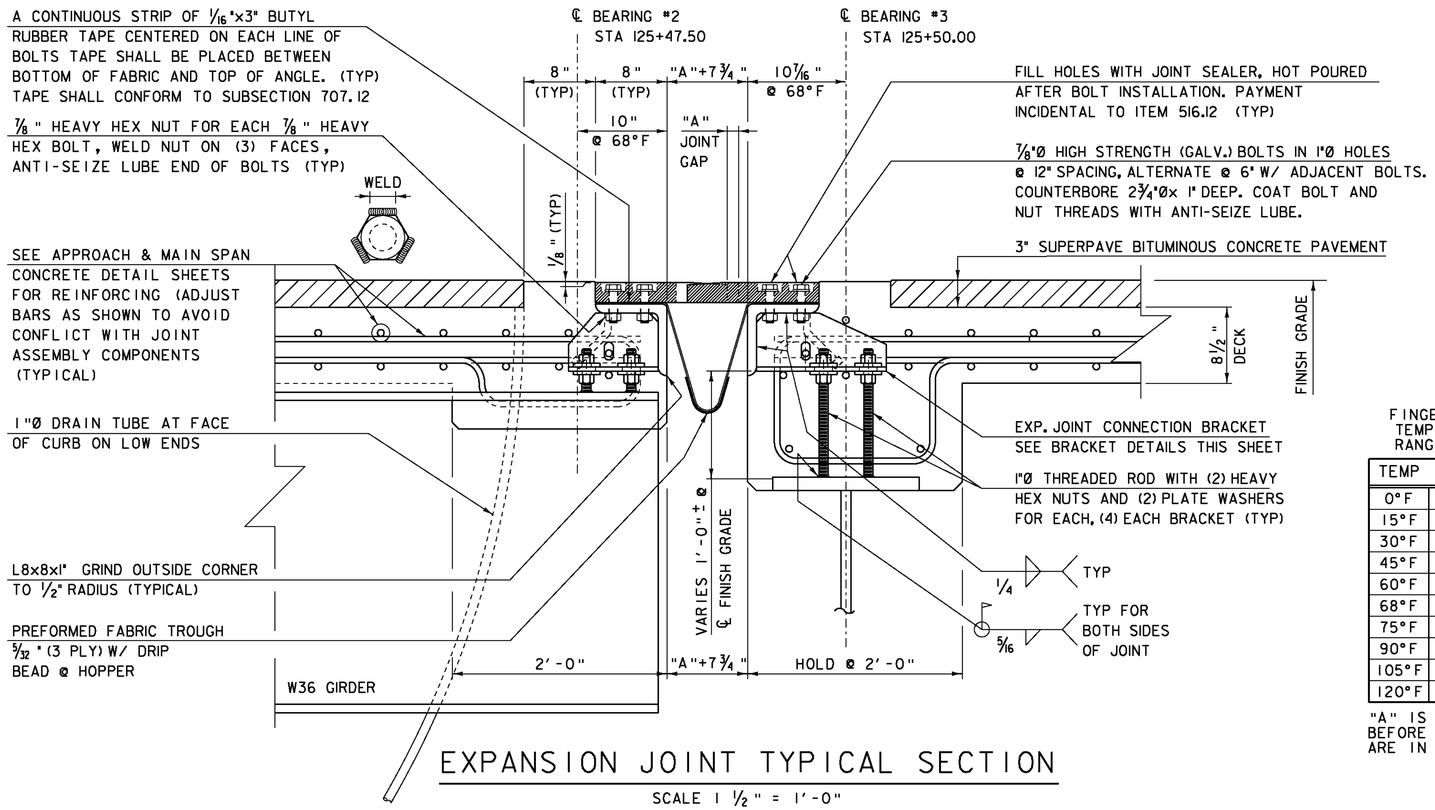
SCALE 1 ½" = 1'-0"



FABRIC TROUGH ELEVATION

NOT TO SCALE

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f161sup.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
EXPANSION JOINT PLAN & DETAILS	SHEET 81 OF 148



EXPANSION JOINT TYPICAL SECTION

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

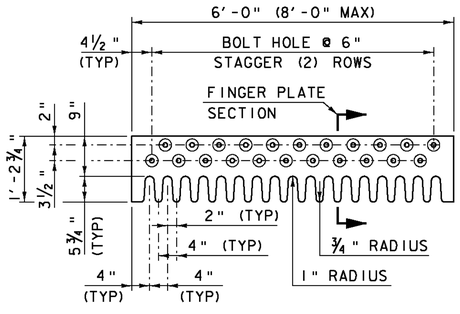
FINGER JOINT TEMPERATURE RANGE TABLE

TEMP	"A" DIST.
0°F	3 1/8"
15°F	2 7/8"
30°F	2 9/16"
45°F	2 5/16"
60°F	2"
68°F	1 7/8"
75°F	1 3/4"
90°F	1 7/16"
105°F	1 3/16"
120°F	7/8"

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

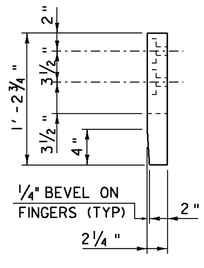
EXPANSION JOINT NOTES

1. JOINT DETAILS ARE FOR ITEM 516.12 "BRIDGE EXPANSION JOINT, FINGER PLATE". FABRIC TROUGH SHALL BE THOROUGHLY CLEANED AND FLUSHED AFTER PAVING OPERATION.
2. PREFORMED FABRIC MATERIAL SHALL BE CONTINUOUS FROM FOLDED ENDS TO THE DOWN SPOUT DRAINAGE HOPPER. PRIOR TO GALVANIZING OR METALIZING, ALL CORNERS AND EDGES OF STEEL PLATES, SHAPES, ETC., SHALL BE GROUND TO A 1/16" INCH RADIUS.
3. THE FINAL FINISH OF THE EXPANSION DEVICE SHALL BE COVERED DURING THE PLACING OF BRIDGE DECK CONCRETE.
4. ALL STEEL COMPONENTS SHALL BE GALVANIZED OR METALIZED AND MEET THE REQUIREMENTS OF SUBSECTION 516.02. THREADED RODS SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 714.04. THE "BRACKET PLATE WASHER" AND WELDED STUDS MAY BE SUPPLIED WITHOUT GALVANIZING OR METALIZING.
5. TEMPORARY SHIPPING ATTACHMENTS SHALL BE ATTACHED BY BOLTING; WELDING WILL NOT BE PERMITTED.
6. PROJECTING THREADS OF THE 7/8" BOLTS IN THE JOINT SHALL BE GREASED BY THE CONTRACTOR PRIOR TO PLACING ADJACENT CONCRETE. THIS WILL FACILITATE BOLT REMOVAL IF REQUIRED IN THE FUTURE.
7. THE ITEM 516.12 "BRIDGE EXPANSION JOINT, FINGER PLATE" SHALL INCLUDE THE FABRICATION AND ERECTION OF THE COMPLETE JOINT ASSEMBLY INCLUDING ALL STEEL PLATES, BRACKETS, ANGLES, WELDED STUDS OR RODS, PREFORMED FABRIC DRAIN TROUGH MATERIAL AND PLASTIC DRAIN TUBES, BUTYL RUBBER TAPE AND ANY OTHER MISCELLANEOUS MATERIAL NECESSARY TO INSTALL JOINT.
8. SEE FINGER JOINT TEMPERATURE RANGE TABLE FOR DISTANCE "A" VALUES.
9. FILL COUNTERBORED HOLES WITH HOT POURED JOINT SEALER (STD. SPEC. 707.04) AFTER BOLT INSTALLATION. PAYMENT FOR THE WORK SHALL BE INCIDENTAL TO ITEM 516.12 "BRIDGE EXPANSION JOINT, FINGER PLATE".
10. THE EXPANSION JOINT SHALL BE SHOP ASSEMBLED AND SHIPPED AS ONE UNIT. A DRIP BEAD OF 1/4"x7" STRIP OF PREFORMED FABRIC MATERIAL SHALL BE CEMENTED TO THE BOTTOM OF THE FABRIC TROUGH USING AN ADHESIVE APPROVED BY THE MANUFACTURER. THE DRIP BEADS SHALL BE APPLIED 1" FROM THE DOWNSPOUT END CUT-OUT IN EACH TROUGH SECTION.



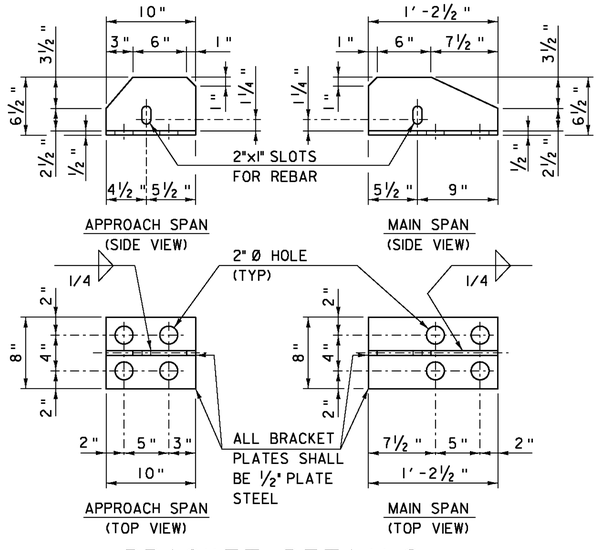
FINGER PLATE DETAIL

SCALE 3/4" = 1'-0"



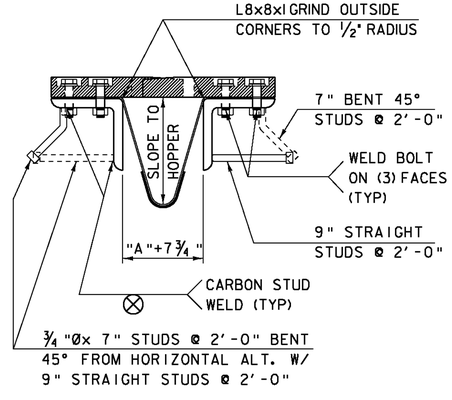
FINGER PLATE SECTION

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



BRACKET DETAILS

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



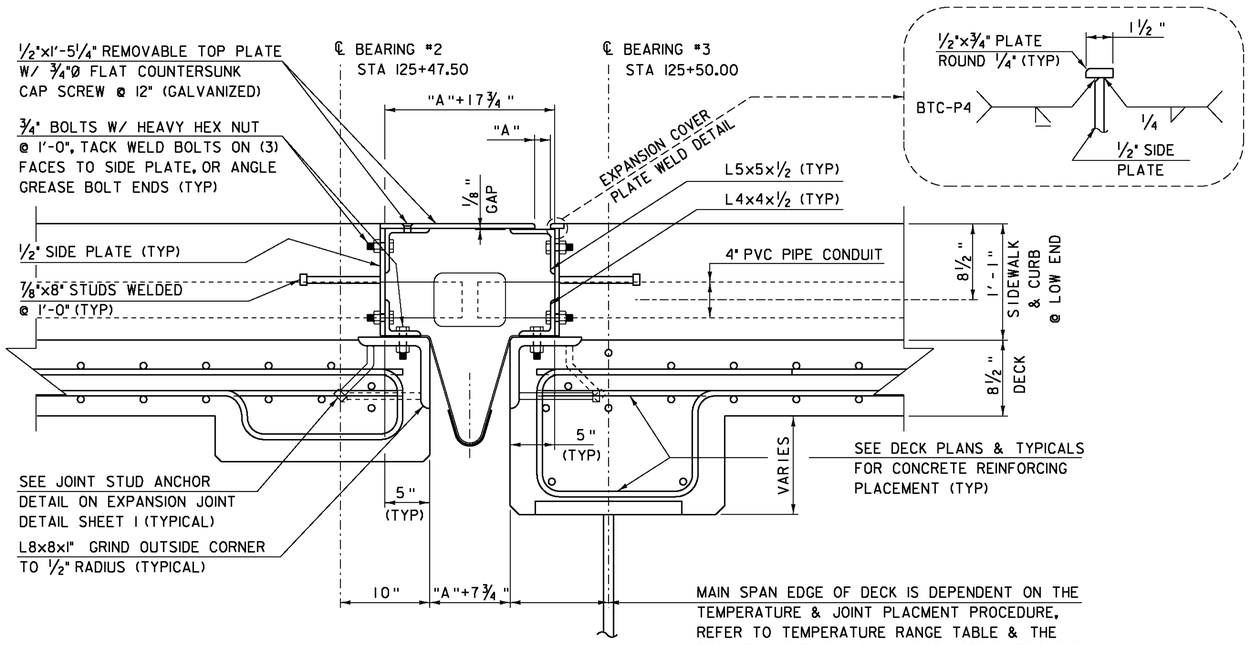
JOINT STUD ANCHOR DETAIL

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

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

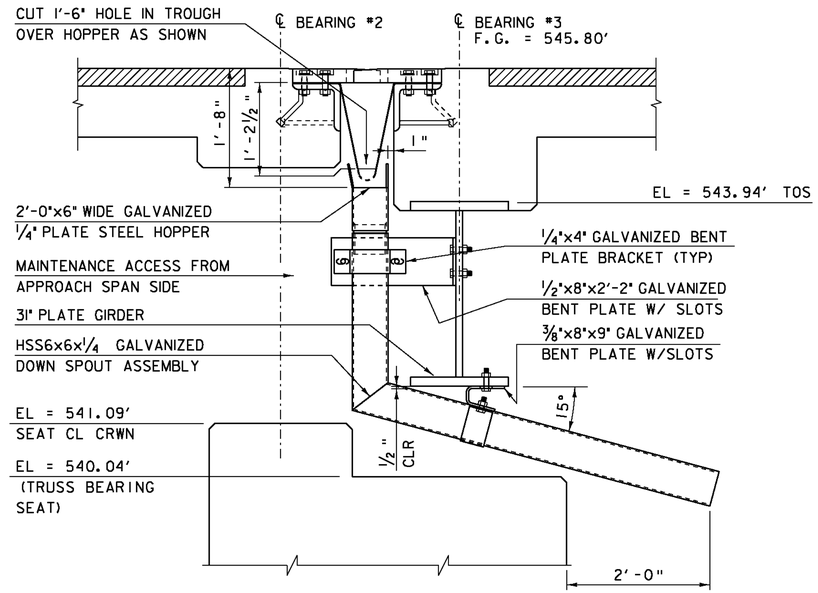
FILE NAME: s78f161sup.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
EXPANSION JOINT DETAIL SHEET 1

PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: S.SCRIBNER
SHEET 82 OF 148



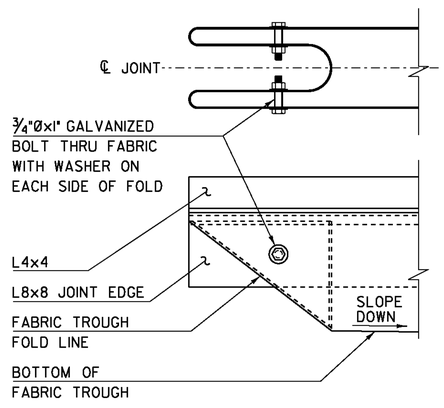
SIDEWALK EXPANSION JOINT (TYP)

SCALE 1 ½" = 1'-0"



HOPPER TYPICAL SECTION

SCALE 1" = 1'-0"

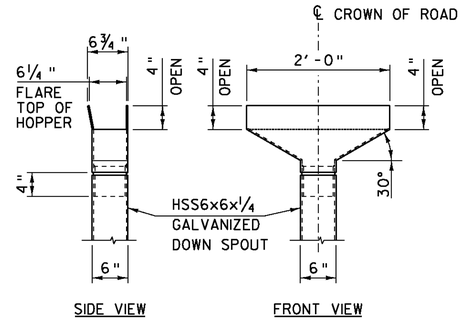


FOLDED TROUGH END DETAIL

SCALE 1 ½" = 1'-0"

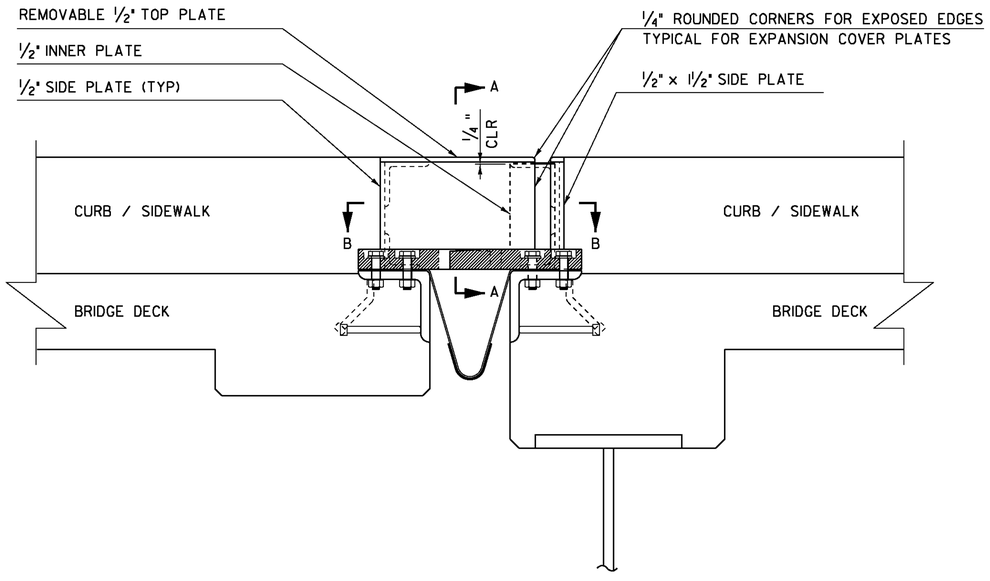
1. TROUGH SHALL BE FOLDED AT BOTH LEFT AND RIGHT BRIDGE FASCIA ENDS. TROUGH SHALL SLOPE TOWARD BRIDGE CENTER DOWN SPOUT HOPPER LOCATION.

2. BOLTS, NUTS AND WASHERS FOR FOLD SHALL MEET REQUIRMENTS OF SUBSECTION 714.04 AND SHALL BE GALVANIZED.



HOPPER DETAILS

SCALE 1" = 1'-0"



SIDEWALK EXPANSION JOINT (TYP)

SCALE 1 ½" = 1'-0"

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f161sup.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: S. SCRIBNER	CHECKED BY: S.SCRIBNER
EXPANSION JOINT DETAIL SHEET 2	SHEET 83 OF 148

STATE OF VERMONT
AGENCY OF TRANSPORTATION

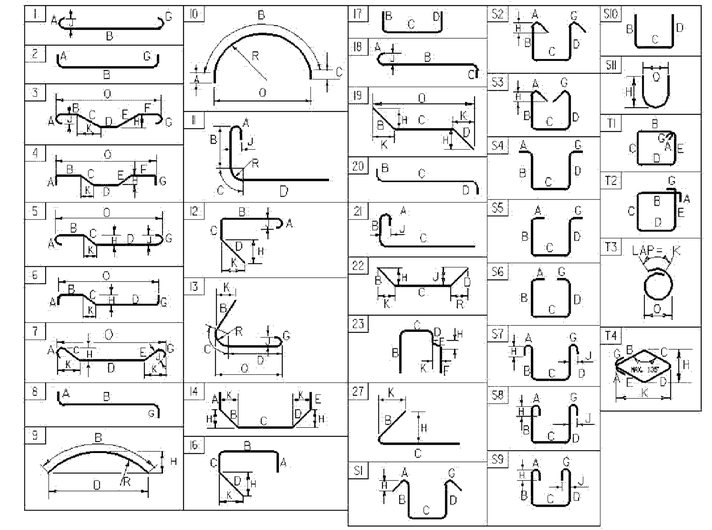
REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	APPROACH SPAN DECK																
✳	129	4	37'- 7"	1ES401	STR	37'- 7"											
	108	4	37'- 7"	1ES402	STR	37'- 7"											
	52	5	37'- 6"	1ES501	STR	37'- 6"											
	99	5	36'- 4"	1ES502	STR	36'- 4"											
△	191	5	4'- 9"	1ES503	STR	4'- 9"											
	10	5	36'- 4"	1ES508	STR	36'- 4"											
✳	148	6	36'- 4"	1ES601	STR	36'- 4"											
	74	5	10'- 8"	1ES504	S6	0'- 10"	1'- 4"	6'- 4"	1'- 4"			0'- 10"					
	68	5	5'- 9"	1ES505	S5	0'- 10"	1'- 4"	1'- 5"	1'- 4"			0'- 10"					
	4	5	10'- 1"	1ES506	4	---	2'- 2"	2'- 1"	1'- 7"	2'- 1"	2'- 2"	---	2'- 0"		0'- 6"	---	
	6	5	10'- 0"	1ES507	17		4'- 2"	1'- 8"	4'- 2"								
	29	5	5'- 1"	1ES509	16	0'- 10"	1'- 6"	0'- 7"	2'- 2"				1'- 6"		1'- 6"		
	38	5	9'- 1"	1ES510	S5	0'- 10"	3'- 4"	0'- 7"	3'- 6"			0'- 10"					
	38	5	6'- 9"	1ES511	S5	0'- 10"	0'- 4"	1'- 6"	0'- 7"			3'- 6"					
✳	16	8	2'- 11"	1ES801	22		1'- 1"	1'- 10"	---				0'- 9"	---	0'- 9"	---	
	TRUSS SPAN DECK																
	564	5	44'- 0"	2ES501	STR	44'- 0"											
✳	340	5	36'- 4"	2ES502	STR	36'- 4"											
	678	5	3'- 3"	2ES503	STR	3'- 3"											
✳	508	6	36'- 4"	2ES601	STR	36'- 4"											
	254	5	10'- 8"	2ES504	S6	0'- 10"	1'- 4"	6'- 4"	1'- 4"			0'- 10"					
	254	5	5'- 9"	2ES505	S5	0'- 10"	1'- 4"	1'- 5"	1'- 4"			0'- 10"					
	38	5	7'- 3"	2ES506	S5	3'- 6"	0'- 10"	1'- 6"	0'- 7"			0'- 10"					
	38	5	10'- 3"	2ES507	S5	5'- 0"	0'- 10"	3'- 0"	0'- 7"			0'- 10"					
	ABUTMENT # 1																
	7	5	47'- 0"	1A501	STR	47'- 0"											
	16	5	36'- 3"	1A501A	STR	36'- 3"											
	38	5	3'- 11"	1A502	STR	3'- 11"											
	32	5	37'- 0"	1A503	STR	37'- 0"											
✳	39	5	13'- 2"	1A504	STR	13'- 2"											
✳	61	7	14'- 3"	1A701	STR	14'- 3"											
	38	7	7'- 2"	1A702	STR	7'- 2"											
	38	5	10'- 11"	1A505	17		4'- 8"	1'- 7"	4'- 8"								
	64	5	4'- 4"	1A506	17		2'- 2"	2'- 2"	---								
	32	5	4'- 4"	1A507	17		2'- 2"	2'- 2"	---								
✳	39	9	17'- 1"	1A901	17		5'- 10"	11'- 3"	---								
	WINGWALL # 1																
	48	5	39'- 0"	1W501	STR	39'- 0"											
	89	5	3'- 11"	1W502	STR	3'- 11"											
	86	5	39'- 0"	1W503	STR	39'- 0"											
▲	22	5	10'- 0"	1W504	STR	10'- 0"											
	89	5	16'- 4"	1W505	STR	16'- 4"											
	170	7	8'- 10"	1W701	STR	8'- 10"											
✳	124	8	14'- 9"	1W801	STR	14'- 9"											
	170	5	14'- 9"	1W506	17		6'- 7"	1'- 7"	6'- 7"								
	6	5	12'- 11"	1W507	16	0'- 10"	3'- 7"	3'- 7"	4'- 11"				3'- 6"		3'- 6"		
	6	5	10'- 5"	1W508	4	---	2'- 2"	2'- 3"	1'- 7"	2'- 3"	2'- 2"	---	2'- 0"		0'- 6"	---	
	89	9	19'- 4"	1W901	17		6'- 7"	12'- 9"	---								
	88	9	14'- 4"	1W902	17		1'- 7"	12'- 9"	---								
	WINGWALL # 2																
	24	5	22'- 0"	2W501	STR	22'- 0"											
	29	5	3'- 11"	2W502	STR	3'- 11"											
▲	44	5	29'- 4"	2W503	STR	29'- 4"											
✳	30	5	16'- 4"	2W504	STR	16'- 4"											
✳	58	7	8'- 10"	2W701	STR	8'- 10"											
✳	48	8	14'- 9"	2W801	STR	14'- 9"											
	57	5	14'- 5"	2W505	17		6'- 5"	1'- 7"	6'- 5"								
✳	30	9	19'- 4"	2W901	17		6'- 7"	12'- 9"	---								
	28	9	14'- 4"	2W902	17		1'- 7"	12'- 9"	---								
	APPROACH SLAB # 1																
	22	5	27'- 6"	1EAS501	STR	27'- 6"											
	34	9	20'- 9"	1EAS901	1	1'- 3"	19'- 6"					---		1'- 0"			

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	ABUTMENT # 2																
✳	45	5	5'- 7"	2A501	STR	5'- 7"											
	44	5	17'- 10"	2A502	STR	17'- 10"											
	38	5	42'- 2"	2A503	STR	42'- 2"											
	6	5	37'- 8"	2A505	STR	37'- 8"											
	39	5	4'- 2"	2A506	STR	4'- 2"											
✳	11	5	37'- 8"	2EA509	STR	37'- 8"											
✳	8	6	49'- 11"	2A601	STR	49'- 11"											
✳	41	8	11'- 7"	2A802	STR	11'- 7"											
✳	17	9	17'- 10"	2A901	STR	17'- 10"											
✳	47	10	8'- 3"	2A1002	STR	8'- 3"											
	24	10	24'- 6"	2A1005	STR	24'- 6"											
	40	5	8'- 8"	2A504	22		3'- 8"	5'- 0"	---							3'- 7"	---	3'- 7"	---
	64	5	4'- 4"	2A507	17		2'- 2"	2'- 2"									
	32	5	13'- 4"	2A508	22		2'- 2"	9'- 0"	2'- 2"							1'- 6"	1'- 6"	1'- 6"	1'- 6"
✳	40	5	8'- 8"	2EA510	23		3'- 7"	0'- 6"	0'- 6"	1'- 0"	3'- 1"					0'- 0"		1'- 0"	
✳	5	5	8'- 6"	2EA511	17		4'- 0"	0'- 6"	4'- 0"								
	74	6	11'- 10"	2A602	T1	0'- 6"	2'- 5"	3'- 0"	2'- 5"	3'- 0"		0'- 6"					
	40	7	14'- 6"	2A701	16	3'- 11"	4'- 6"	1'- 1"	5'- 0"							3'- 10"		3'- 10"	
	78	8	15'- 6"	2A801	17		1'- 4"	14'- 2"	---								
	15	8	4'- 5"	2EA803	17		1'- 4"	3'- 1"	---								
	18	10	56'- 1"	2A1001	17		3'- 2"	49'- 9"	3'- 2"								
	46	10	14'- 7"	2A1003	17		3'- 3"	8'- 1"	3'- 3"								
	24	10	30'- 8"	2A1004	17		3'- 2"	24'- 4"	3'- 2"								
✳	68	11	14'- 9"	2A1101	17		3'- 3"	8'- 3"	3'- 3"								
	36	11	30'- 8"	2A1102	17		3'- 2"	24'- 4"	3'- 2"								
	18	11	56'- 1"	2A1103	17		3'- 2"	49'- 9"	3'- 2"								
	WINGWALL # 3																
✳	23	5	5'- 7"	3W501	STR	5'- 7"											
▲	22	5	24'- 8"	3W502	STR	24'- 8"											
▲	52	5	23'- 0"	3W503	STR	23'- 0"											
	3	5	14'- 4"	3W505	STR	14'- 4"											
	6	5	24'- 0"	3W506	STR	24'- 0"											
	19	7	17'- 8"	3W701	STR	17'- 8"											
	25	5	10'- 5"	3W504	17		4'- 5"	1'- 7"	4'- 5"								
	19	5	6'- 2"	3W507	17		2'- 2"	1'- 10"	2'- 2"								
✳	9	6	35'- 4"	3W601	17		5'- 5"	24'- 6"	5'- 5"								
✳	38	9	15'- 11"	3W901	17		1'- 7"	14'- 4"	---								
	32	10	14'- 6"	3W1001	17		3'- 3"	8'- 0"	3'- 3"								
	32	11	14'- 6"	3W1101	17		3'- 3"	8'- 0"	3'- 3"								
	WINGWALL # 4																
	22	5	5'- 7"	4W501	STR	5'- 7"											
▲	22	5	24'- 10"	4W502	STR	24'- 10"											
▲	52	5	21'- 7"	4W503	STR	21'- 7"											
	3	5	14'- 4"	4W505	STR	14'- 4"											
	2	5	24'- 2"	4W506	STR	24'- 2"											
✳	20	7	17'- 7"	4W701	STR	17'- 7"											
	25	5	10'- 5"	4W504	17		4'- 5"	1'- 7"	4'- 5"								
	19	5	6'- 2"	4W507	17		2'- 2"	1'- 10"	2'- 2"								
	8	6	35'- 4"	4W601	17		5'- 5"	24'- 6"	5'- 5"								
	37	9	15'- 11"	4W901	17		1'- 7"	14'- 4"	---								
✳	33	10	14'- 6"	4W1001	17		3'- 3"	8'- 0"	3'- 3"								
✳	33	11	14'- 6"	4W1101	17		3'- 3"	8'- 0"	3'- 3"								
	APPROACH SLAB # 2																
	22	5	27'- 6"	2EAS501	STR	27'- 6"											
✳	35	9	20'- 9"	2EAS901	1	1'- 3"	19'- 6"					---			1'- 0"		

~ NOTES ~

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



ASTM STANDARD REINFORCING BARS

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

PROJECT NAME: **BETHEL**
PROJECT NUMBER: **BRF 022-1(14)**

FILE NAME: **78f161**
PROJECT MANAGER: **M.EVANS-MONGEON**
DESIGNED BY: **S.SCRIBNER**
REINFORCING STEEL SCHEDULE SHEET #1

PLOT DATE: **1/11/2011**
DRAWN BY: **G. ROKES**
CHECKED BY: **N. VAN DEN BER**
SHEET 84 OF 148

STATE OF VERMONT
AGENCY OF TRANSPORTATION

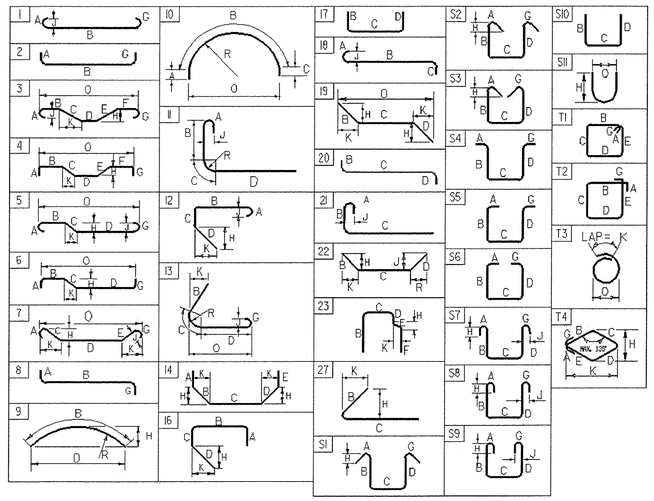
REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
APPROACH SPAN DECK																	
✳	129	4	37'- 7"	1ES401	STR	37'- 7"											
	108	4	37'- 7"	1ES402	STR	37'- 7"											
	52	5	37'- 6"	1ES501	STR	37'- 6"											
	99	5	36'- 4"	1ES502	STR	36'- 4"											
△	191	5	4'- 9"	1ES503	STR	4'- 9"											
	10	5	36'- 4"	1ES508	STR	36'- 4"											
✳	148	6	36'- 4"	1ES601	STR	36'- 4"											
	74	5	10'- 8"	1ES504	S6	0'- 10"	1'- 4"	6'- 4"	1'- 4"			0'- 10"					
	68	5	5'- 9"	1ES505	S5	0'- 10"	1'- 4"	1'- 5"	1'- 4"			0'- 10"					
	4	5	10'- 1"	1ES506	4	---	2'- 2"	2'- 1"	1'- 7"	2'- 1"	2'- 2"	---	2'- 0"		0'- 6"		---
	6	5	10'- 0"	1ES507	17		4'- 2"	1'- 8"	4'- 2"								
	29	5	5'- 1"	1ES509	16	0'- 10"	1'- 6"	0'- 7"	2'- 2"				1'- 6"		1'- 6"		
	38	5	9'- 1"	1ES510	S5	0'- 10"	3'- 4"	0'- 7"	3'- 6"			0'- 10"					
	38	5	6'- 9"	1ES511	S5	0'- 10"	0'- 4"	1'- 6"	0'- 7"			3'- 6"					
✳	16	8	2'- 11"	1ES801	22		1'- 1"	1'- 10"	---				0'- 9"	---	0'- 9"	---	
TRUSS SPAN DECK																	
	564	5	44'- 0"	2ES501	STR	44'- 0"											
✳	340	5	36'- 4"	2ES502	STR	36'- 4"											
	678	5	3'- 3"	2ES503	STR	3'- 3"											
✳	508	6	36'- 4"	2ES601	STR	36'- 4"											
	254	5	10'- 8"	2ES504	S6	0'- 10"	1'- 4"	6'- 4"	1'- 4"			0'- 10"					
	254	5	5'- 9"	2ES505	S5	0'- 10"	1'- 4"	1'- 5"	1'- 4"			0'- 10"					
	38	5	7'- 3"	2ES506	S5	3'- 6"	0'- 10"	1'- 6"	0'- 7"			0'- 10"					
	38	5	10'- 3"	2ES507	S5	5'- 0"	0'- 10"	3'- 0"	0'- 7"			0'- 10"					
ABUTMENT # 1																	
	7	5	47'- 0"	1A501	STR	47'- 0"											
	16	5	36'- 3"	1A501A	STR	36'- 3"											
	38	5	3'- 11"	1A502	STR	3'- 11"											
	32	5	37'- 0"	1A503	STR	37'- 0"											
✳	39	5	13'- 2"	1A504	STR	13'- 2"											
✳	61	7	14'- 3"	1A701	STR	14'- 3"											
	38	7	7'- 2"	1A702	STR	7'- 2"											
	38	5	10'- 11"	1A505	17		4'- 8"	1'- 7"	4'- 8"								
	64	5	4'- 4"	1A506	17		2'- 2"	2'- 2"	---								
	32	5	4'- 4"	1A507	17		2'- 2"	2'- 2"	---								
✳	39	9	17'- 1"	1A901	17		5'- 10"	11'- 3"	---								
WINGWALL # 1																	
	48	5	39'- 0"	1W501	STR	39'- 0"											
	89	5	3'- 11"	1W502	STR	3'- 11"											
	86	5	39'- 0"	1W503	STR	39'- 0"											
▲	22	5	10'- 0"	1W504	STR	10'- 0"											
	89	5	16'- 4"	1W505	STR	16'- 4"											
	170	7	8'- 10"	1W701	STR	8'- 10"											
✳	124	8	14'- 9"	1W801	STR	14'- 9"											
	170	5	14'- 9"	1W506	17		6'- 7"	1'- 7"	6'- 7"								
	6	5	12'- 11"	1W507	16	0'- 10"	3'- 7"	3'- 7"	4'- 11"				3'- 6"		3'- 6"		
	6	5	10'- 5"	1W508	4	---	2'- 2"	2'- 3"	1'- 7"	2'- 3"	2'- 2"	---	2'- 0"		0'- 6"		---
	89	9	19'- 4"	1W901	17		6'- 7"	12'- 9"	---								
	88	9	14'- 4"	1W902	17		1'- 7"	12'- 9"	---								
WINGWALL # 2																	
	24	5	22'- 0"	2W501	STR	22'- 0"											
	29	5	3'- 11"	2W502	STR	3'- 11"											
▲	44	5	29'- 4"	2W503	STR	29'- 4"											
✳	30	5	16'- 4"	2W504	STR	16'- 4"											
✳	58	7	8'- 10"	2W701	STR	8'- 10"											
✳	48	8	14'- 9"	2W801	STR	14'- 9"											
	57	5	14'- 5"	2W505	17		6'- 5"	1'- 7"	6'- 5"								
✳	30	9	19'- 4"	2W901	17		6'- 7"	12'- 9"	---								
	28	9	14'- 4"	2W902	17		1'- 7"	12'- 9"	---								
APPROACH SLAB # 1																	
	22	5	27'- 6"	1EAS501	STR	27'- 6"											
	34	9	20'- 9"	1EAS901	1	1'- 3"	19'- 6"					---		1'- 0"			

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
ABUTMENT # 2																	
✳	45	5	5'- 7"	2A501	STR	5'- 7"											
	44	5	17'- 10"	2A502	STR	17'- 10"											
	38	5	42'- 2"	2A503	STR	42'- 2"											
	6	5	37'- 8"	2A505	STR	37'- 8"											
	39	5	4'- 2"	2A506	STR	4'- 2"											
✳	11	5	37'- 8"	2EA509	STR	37'- 8"											
	8	6	49'- 11"	2A601	STR	49'- 11"											
✳	41	8	11'- 7"	2A802	STR	11'- 7"											
✳	17	9	17'- 10"	2A901	STR	17'- 10"											
✳	47	10	8'- 3"	2A1002	STR	8'- 3"											
	12	10	24'- 6"	2A1005	STR	24'- 6"											
	12	10	17'- 3"	2A1005A	STR	17'- 3"											
	40	5	8'- 8"	2A504	22		3'- 8"	5'- 0"	---						3'- 7"	---	3'- 7"	---
	64	5	4'- 4"	2A507	17		2'- 2"	2'- 2"										
	32	5	13'- 4"	2A508	22		2'- 2"	9'- 0"	2'- 2"						1'- 6"	1'- 6"	1'- 6"	1'- 6"
✳	40	5	8'- 8"	2EA510	23		3'- 7"	0'- 6"	0'- 6"	1'- 0"	3'- 1"				0'- 0"		1'- 0"	
✳	5	5	8'- 6"	2EA511	17		4'- 0"	0'- 6"	4'- 0"									
	74	6	11'- 10"	2A602	T1	0'- 6"	2'- 5"	3'- 0"	2'- 5"	3'- 0"		0'- 6"						
	40	7	14'- 6"	2A701	16	3'- 11"	4'- 6"	1'- 1"	5'- 0"						3'- 10"		3'- 10"	
	78	8	15'- 6"	2A801	17		1'- 4"	14'- 2"	---									
	15	8	4'- 5"	2EA803	17		1'- 4"	3'- 1"	---									
	18	10	56'- 1"	2A1001	17		3'- 2"	49'- 9"	3'- 2"									
	46	10	14'- 7"	2A1003	17		3'- 3"	8'- 1"	3'- 3"									
	12	10	30'- 8"	2A1004	17		3'- 2"	24'- 4"	3'- 2"									
	12	10	23'- 5"	2A1004A	17		3'- 2"	17'- 1"	3'- 2"									
✳	68	11	14'- 9"	2A1101	17		3'- 3"	8'- 3"	3'- 3"									
	18	11	30'- 8"	2A1102	17		3'- 2"	24'- 4"	3'- 2"									
	18	11	23'- 5"	2A1102A	17		3'- 2"	17'- 1"	3'- 2"									
	18	11	56'- 1"	2A1103	17		3'- 2"	49'- 9"	3'- 2"									
WINGWALL # 3																	
✳	16	5	5'- 7"	3W501	STR	5'- 7"											
▲	22	5	24'- 6"	3W502	STR	24'- 6"											
▲	52	5	23'- 0"	3W503	STR	23'- 0"											
	3	5	14'- 4"	3W505	STR	14'- 4"											
▲	21	7	17'- 8"	3W701	STR	17'- 8"											
✳ ▲	67	9	23'- 0"	3W901	STR	23'- 0"											
	26	5	10'- 5"	3W504	17		4'- 5"	1'- 7"	4'- 5"									
	21	5	6'- 2"	3W507	17		2'- 2"	1'- 10"	2'- 2"									
✳	9	6	28'- 1"	3W601	17		5'- 5"	24'- 6"	5'- 5"									
	19	10	14'- 6"	3W1001	17		3'- 3"	8'- 0"	3'- 3"									
	34	10	12'- 6"	3W1002	17		2'- 4"	7'- 10"	2'- 4"									
	23	10	16'- 2"	3W1003	17		1'- 10"	14'- 4"	---									
	19	11	14'- 6"	3W1101	17		3'- 3"	8'- 0"	3'- 3"									
	17	11	19'- 0"	3W1102	17		8'- 0"	3'- 0"	8'- 0"									
WINGWALL # 4																	
	22	5	5'- 7"	4W501	STR	5'- 7"											
▲	22	5	24'- 10"	4W502	STR	24'- 10"											
▲	52	5	21'- 7"	4W503	STR	21'- 7"											
	3	5	14'- 4"	4W505	STR	14'- 4"											
	2	5	24'- 2"	4W506	STR	24'- 2"											
✳	20	7	17'- 7"	4W701	STR	17'- 7"											
	25	5	10'- 5"	4W504	17		4'- 5"	1'- 7"	4'- 5"									
	19	5	6'- 2"	4W507	17		2'- 2"	1'- 10"	2'- 2"									
	8	6	35'- 4"	4W601	17		5'- 5"	24'- 6"	5'- 5"									
	37	9	15'- 11"	4W901	17		1'- 7"	14'- 4"	---									
✳	33	10	14'- 6"	4W1001	17		3'- 3"	8'- 0"	3'- 3"									
✳	33	11	14'- 6"	4W1101	17		3'- 3"	8'- 0"	3'- 3"									
APPROACH SLAB # 2																	
	22	5	27'- 6"	2EAS501	STR	27'- 6"											
✳	35	9	20'- 9"	2EAS901	1	1'- 3"	19'- 6"					---		1'- 0"			

~ NOTES ~

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



ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION DIAMETER INCHES	AREA INCHES²	PERIMETER INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.044	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

REVISION	DATE	DESCIPTION	BY
1	01-27-2012	MODIFY WW3 FTG, REMOVE (4) PILES, RELOCATE PILE #3, CANTILEVER WW3	MCL

PROJECT NAME: **BETHEL**
PROJECT NUMBER: **BRF 022-1(14)**

FILE NAME: **78f161**
PROJECT MANAGER: **M.EVANS-MONGEON**
DESIGNED BY: **S.SCRIBNER**
REINFORCING STEEL SCHEDULE SHEET #1

PLOT DATE: **1/27/2012**
DRAWN BY: **G. ROKES**
CHECKED BY: **N. VAN DEN BER**
SHEET 84 OF 148

STATE OF VERMONT
AGENCY OF TRANSPORTATION

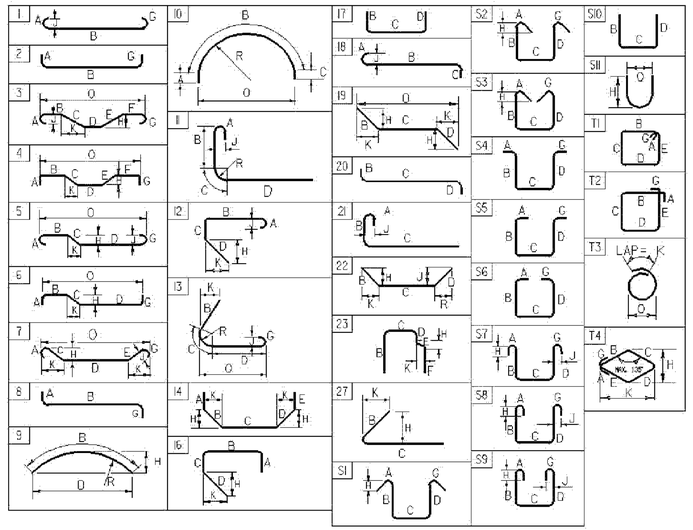
REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	PIER																
✳	25	5	43'- 0"	1P501	STR	43'- 0"											
	36	5	6'- 2"	1P502	S3	0'- 10"	0'- 0"	4'- 6"	0'- 10"			---	0'- 6"				
	20	5		1P503	S11								4'- 2"				4'- 2"
	44	5	9'- 8"	1P504	23		2'- 2"	1'- 4"	1'- 0"	3'- 0"	2'- 2"		0'- 0"		3'- 0"		
	4	6	47'- 4"	1P601	STR	47'- 4"											
	36	6	16'- 0"	1P602	T1	0'- 10"	3'- 0"	4'- 2"	3'- 0"	4'- 2"		0'- 10"					
✳	5	6	18'- 8"	1P603	17		2'- 2"	14'- 4"	2'- 2"								
	30	7	52'- 10"	1P701	17		2'- 8"	47'- 6"	2'- 8"								
✳	97	7	19'- 8"	1P702	17		2'- 8"	14'- 4"	2'- 8"								
	200	8	14'- 8"	1P801	17		2'- 0"	12'- 8"	---								
	30	9	52'- 10"	1P901	17		2'- 8"	47'- 6"	2'- 8"								
	96	9	19'- 4"	1P902	17		2'- 6"	14'- 4"	2'- 6"								
✳	17	9	11'- 9"	1P903	STR	11'- 9"											
	30	9	47'- 4"	1P904	STR	47'- 4"											
	LIGHTPOLE PEDESTAL																
	18	4	9'- 2"	4CP01	S6	1'- 4"	2'- 6"	1'- 6"	2'- 6"			1'- 4"					
	30	6	4'- 4"	6CP01	STR	4'- 4"											

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O

~ NOTES ~

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



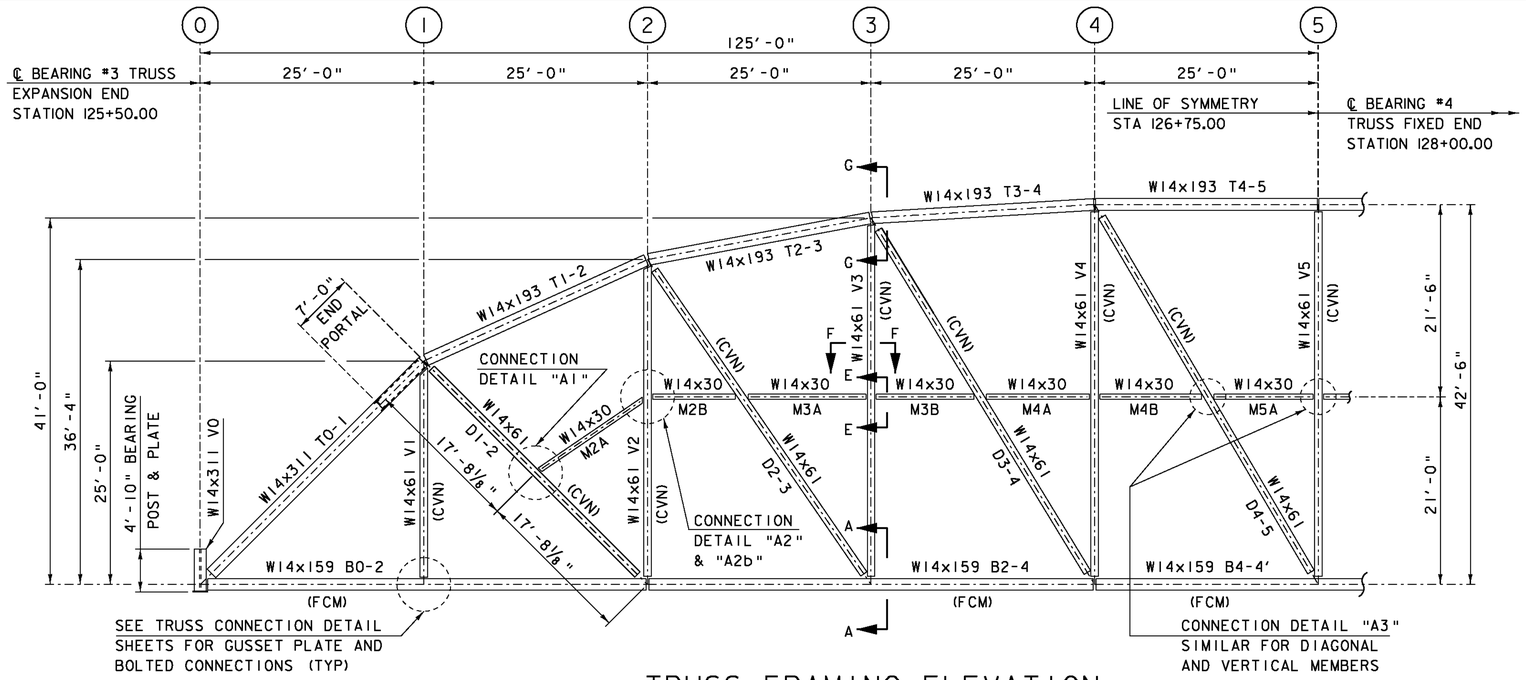
ASTM STANDARD REINFORCING BARS

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

PROJECT NAME: **BETHEL**
PROJECT NUMBER: **BRF 022-1(14)**

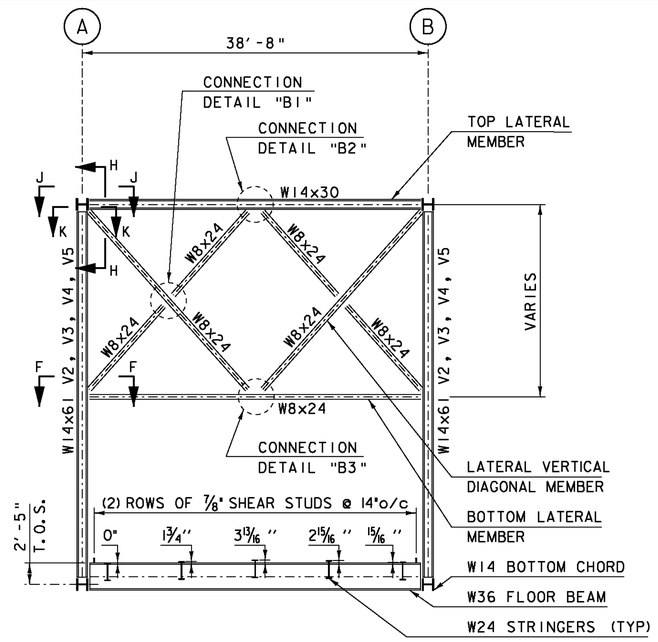
FILE NAME: **78f161**
PROJECT MANAGER: **M.EVANS-MONGEON**
DESIGNED BY: **S.SCRIBNER**
REINFORCING STEEL SCHEDULE SHEET #2

PLOT DATE: **1/11/2011**
DRAWN BY: **G. ROKES**
CHECKED BY: **N. VAN DEN BER**
SHEET 85 OF 148



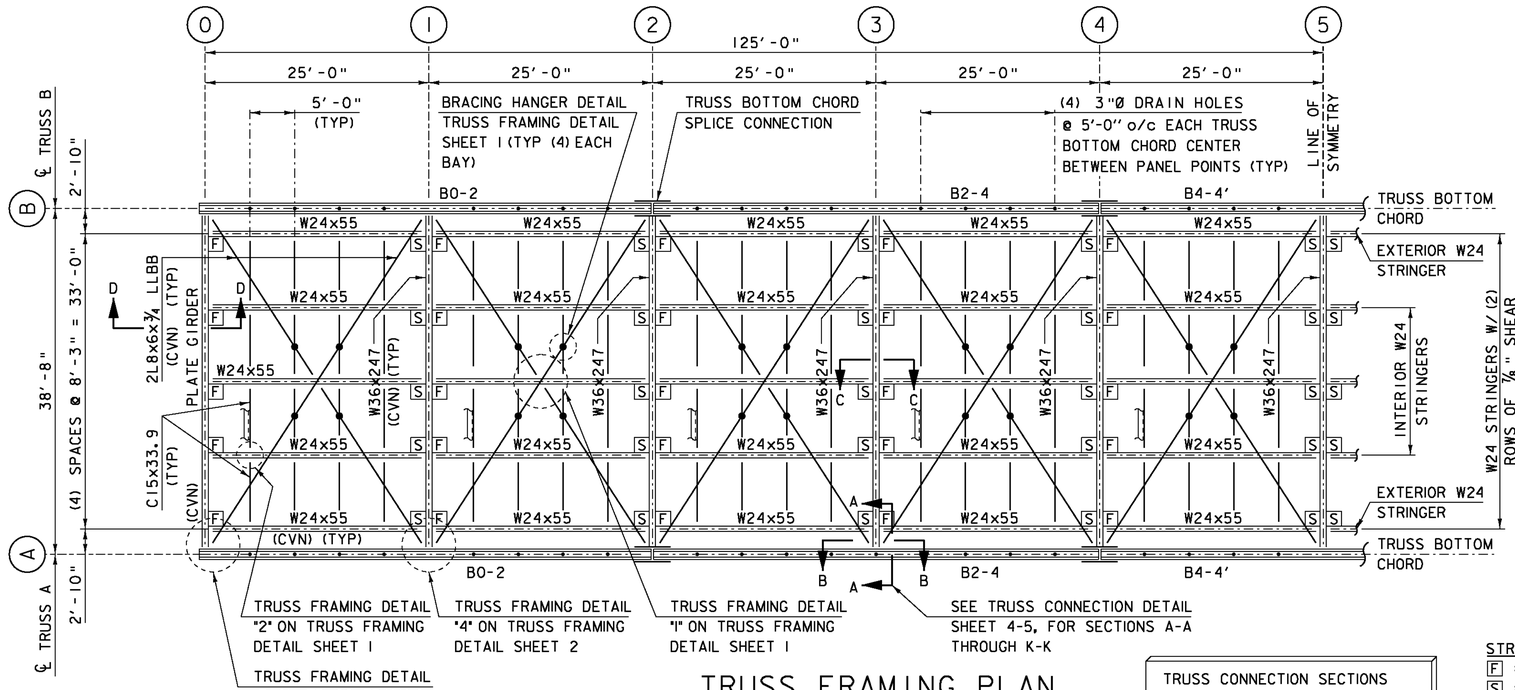
TRUSS FRAMING ELEVATION

SCALE 1/8" = 1'-0"



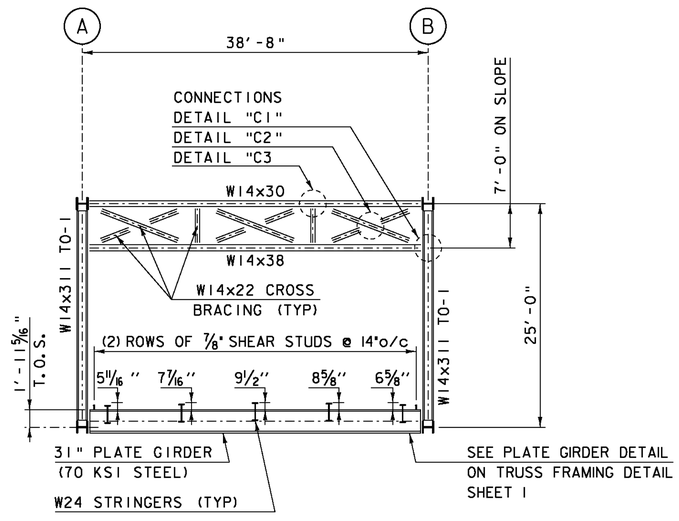
INTERNAL PORTAL ELEVATION

SCALE 1/8" = 1'-0"



TRUSS FRAMING PLAN

SCALE 1/8" = 1'-0"



END PORTAL ELEVATION

SCALE 1/8" = 1'-0"

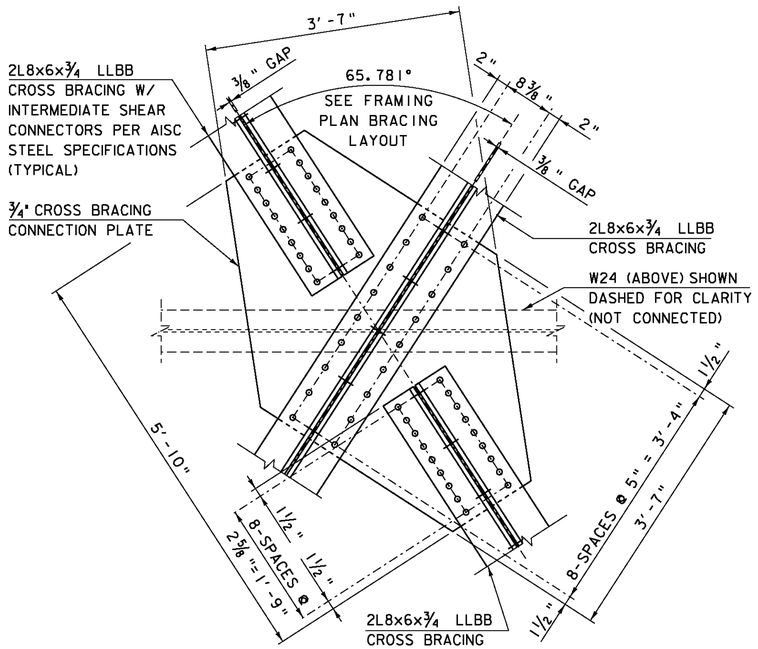
TRUSS CONNECTION SECTIONS & DETAILS SHOWN ON 'TRUSS CONNECTION DETAIL SHEETS 1-7

STRINGER CONNECTION NOTES
F = FIXED CONNECTION
S = SLOTTED CONNECTION
SEE "TRUSS FRAMING DETAIL SHEET 2" FOR CONSTRUCTION SEQUENCE NOTES.

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

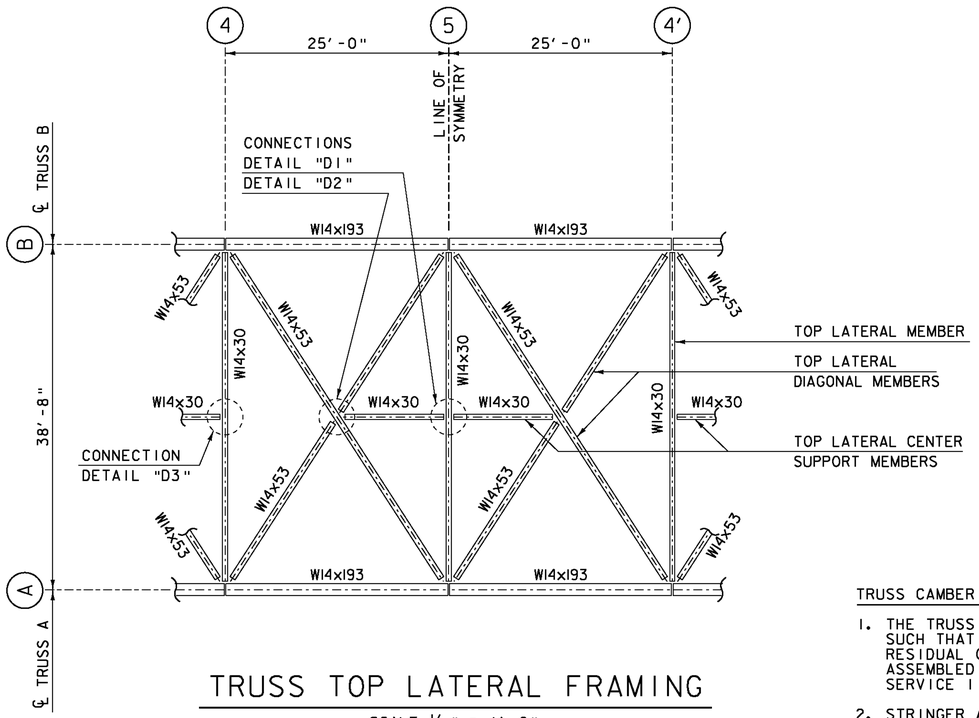
FILE NAME: s78f161truss.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
TRUSS FRAMING PLAN & ELEVATIONS

PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: T. FILLBACH
SHEET 86 OF 148



TRUSS FRAMING DETAIL "1"

SCALE 1" = 1'-0"



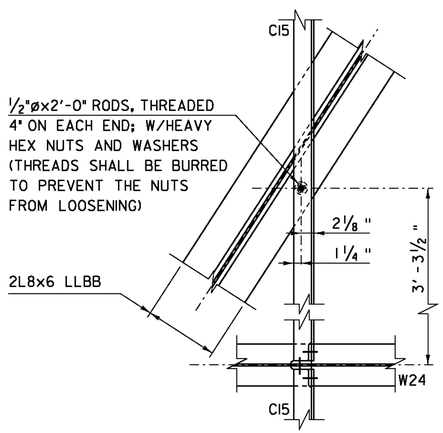
TRUSS TOP LATERAL FRAMING

SCALE ⅛" = 1'-0"

TRUSS CAMBER NOTES:

1. THE TRUSS SHALL BE FABRICATED SUCH THAT IT WILL HAVE NO RESIDUAL CAMBER WHEN IN FINAL ASSEMBLED POSITION WITH ALL SERVICE I L.S. LOADS APPLIED.
2. STRINGER AND FLOORBEAM MEMBERS SHALL BE CAMBERED AS SHOWN ON "TRUSS FRAMING DETAIL SHEET 3".
3. THE FOLLOWING TABLE PROVIDES ASSUMED SERVICE I LIMIT STATE DEFLECTIONS AT EACH OF THE BOTTOM CHORD PANEL POINTS. REFER TO THE TRUSS FRAMING ELEVATION FOR PANEL POINT LOCATIONS.

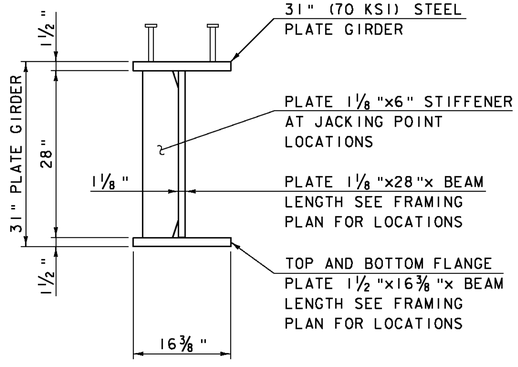
TRUSS BOTTOM CHORD PANEL POINT SERVICE 1 LIMIT STATE DEFLECTIONS	
PANEL POINT	DEFLECTION
0	0.00 in.
1	1.15 in.
2	1.95 in.
3	2.75 in.
4	3.40 in.
5	3.65 in.
4'	3.40 in.
3'	2.75 in.
2'	1.95 in.
1'	1.15 in.
0'	0.00 in.



BRACING HANGER DETAIL

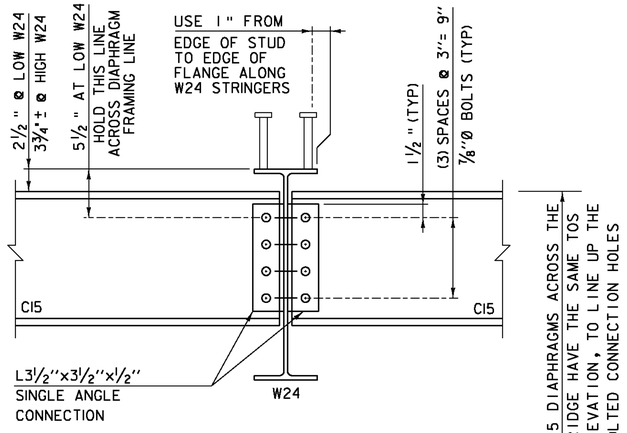
SCALE 1" = 1'-0"

NOTE: (4) HANGERS REQUIRED FOR EACH DECK HORIZONTAL CROSS BRACING ASSEMBLY, SEE TRUSS FRAMING PLAN FOR BAY SPACING.



31" PLATE GIRDER DETAIL

SCALE 1" = 1'-0"



TRUSS FRAMING DETAIL "2"

SCALE 1½" = 1'-0"

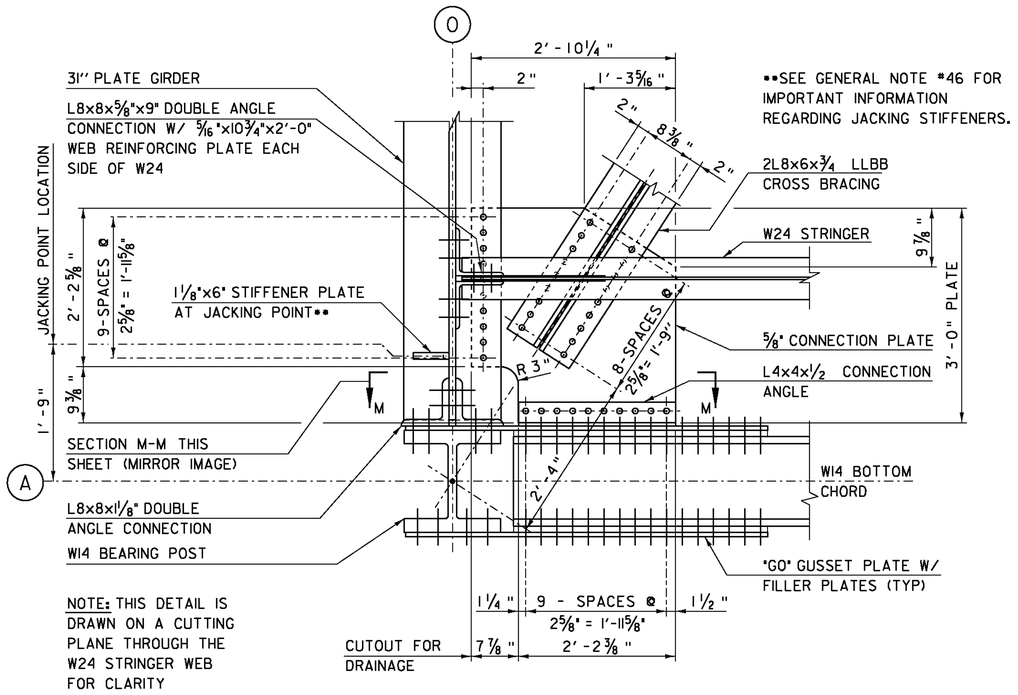
C15 DIAPHRAGMS ACROSS THE BRIDGE HAVE THE SAME TOS ELEVATION, TO LINE UP THE BOLTED CONNECTION HOLES

TRUSS CONNECTION SECTIONS & DETAILS SHOWN ON 'TRUSS CONNECTION DETAIL SHEETS 1-7

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

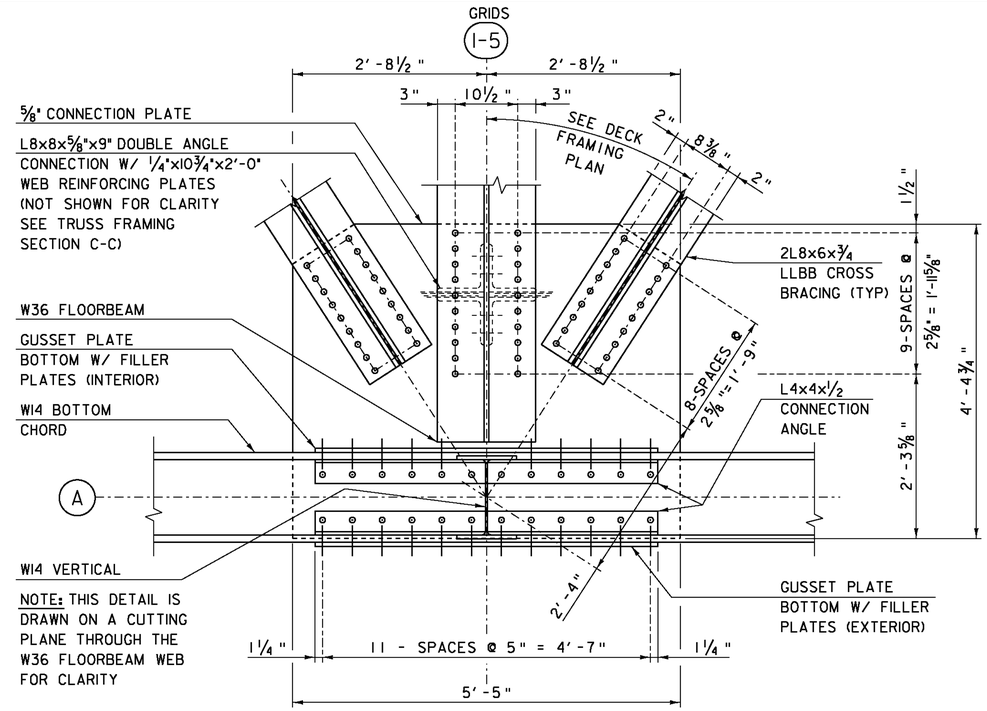
FILE NAME: s78f161truss.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
TRUSS FRAMING DETAIL SHEET 1

PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: T. FILLBACH
SHEET 87 OF 148



TRUSS FRAMING DETAIL "3"

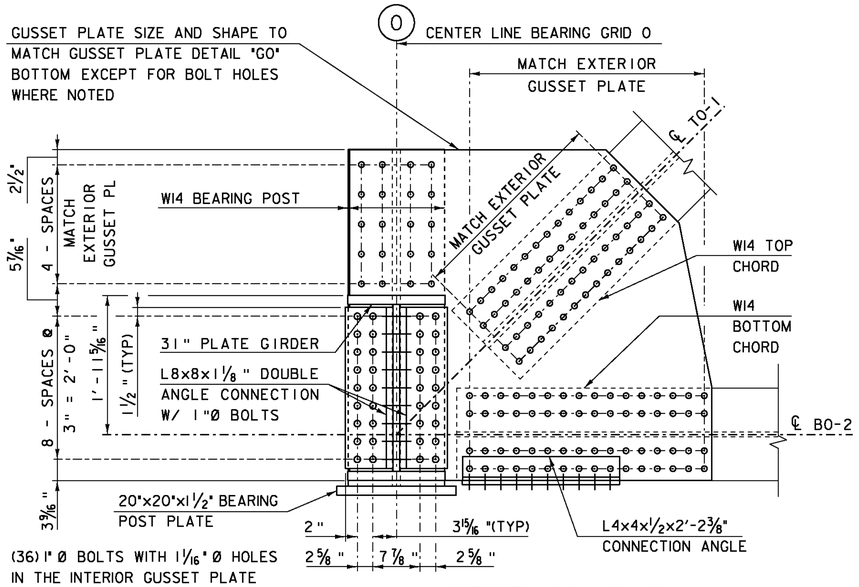
SCALE 1" = 1'-0"



TRUSS FRAMING DETAIL "4"

SCALE 1" = 1'-0"

THIS DETAIL SIMILAR FOR CONNECTIONS AT GRID 1 THRU GRID 5.



(36) 1" Ø BOLTS WITH 1 1/16" Ø HOLES IN THE INTERIOR GUSSET PLATE (TYP FOR L8x8's @ PLATE GIRDER CONNECTION TO GUSSET AND BEARING POST)

SECTION M-M PLATE GIRDER CONNECTION

SCALE 1" = 1'-0"

Member Type	Member Designation	Tension / Compression	Unfactored Dead Loads	Controlling SERVICE Limit State Loads		Controlling STRENGTH Limit State Loads		FATIGUE Limit State Loads	
				Live Load Impact Factor	Factored Load	Live Load Impact Factor	Factored Load	Live Load Impact Factor	Factored Load
Bottom Chord	B0-2, B2-4, B4-4', B2'-4', B0'-2'	T	517 K	1.33	733 K	1.33	949 K	1.15	76 K
		C	-	-	-	-	-	-	-
Top Chord	T0-1, T0'-1'	T	-	-	-	-	-	-	-
		C	850 K	1.33	1183 K	1.33	1530 K	1.15	120 K
Top Chord	T1-2, T2-3, T3-4, T4-5, T4'-5', T3'-4', T2'-3', T1'-2'	T	-	-	-	-	-	-	-
		C	941 K	1.33	1308 K	1.33	1692 K	1.15	128 K
Vertical	V1, V2, V3, V4, V5, V4', V3', V2', V1'	T	117 K	1.33	249	1.33	326 K	1.15	66 K
		C	58 K	1.33	123	1.33	161 K	1.15	36 K
Diagonal	D1-2, D2-3, D3-4, D4-5, D4'-5, D3'-4', D2'-3', D1'-2'	T	212 K	1.33	330 K	1.33	428 K	1.15	53 K
		C	-	-	-	-	-	1.15	39 K
Mid-Brace	M2A, M2B, M3A, etc.	T	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		C	N/A	N/A	N/A	N/A	N/A	N/A	N/A

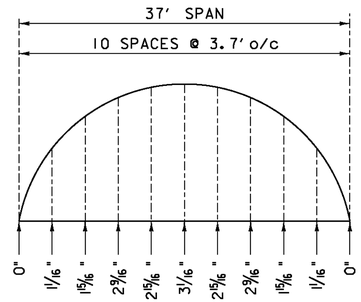
CONSTRUCTION SEQUENCE NOTES

1. THE STRINGER TO FLOORBEAM CONNECTION SHALL BE DETAILED, FABRICATED, AND ASSEMBLED IN THE FIELD IN SUCH A MANNER AS TO PERMIT ISOLATED MOVEMENT BETWEEN THE STRINGER AND FLOOR BEAM SEPARATE FROM THE BOTTOM CHORD MOVEMENT. SLOTTED CONNECTION AT THE END OF THE STRINGERS WILL ALLOW FOR FLEXIBILITY IN PLACEMENT DURING CONSTRUCTION.
2. THE END OF THE STRINGER DESIGNATED ON THE "TRUSS FRAMING PLAN" AS "F" SHALL HAVE ALL THE HIGH STRENGTH BOLTS TENSIONED IN ACCORDANCE WITH CONTRACT DOCUMENT SPECIFICATIONS.
3. THE END OF THE STRINGERS DESIGNATED ON THE "TRUSS FRAMING PLAN" AS "S" SHALL HAVE HIGH STRENGTH FINGER TIGHT BOLTS THAT ALLOW FOR SLIP DURING THE CONCRETE DECK POUR. WITHIN 24 HOURS OF THE DECK POUR, THE FINGER TIGHT BOLTS SHALL BE FULLY TENSIONED IN ACCORDANCE WITH CONTRACT DOCUMENT SPECIFICATIONS.

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

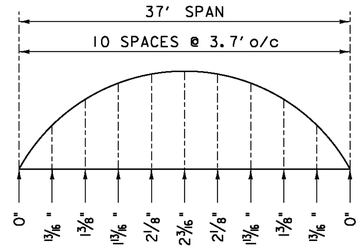
FILE NAME: s78f161truss.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
TRUSS FRAMING DETAIL SHEET 2

PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: T. FILLBACH
SHEET 88 OF 148



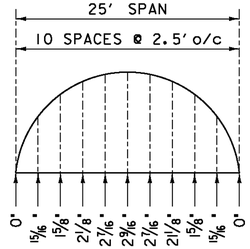
W36x247 FLOOR BEAM
CAMBER DIAGRAM

NTS



31" PLATE GIRDER
CAMBER DIAGRAM

NTS



W24x55 STRINGER
CAMBER DIAGRAM

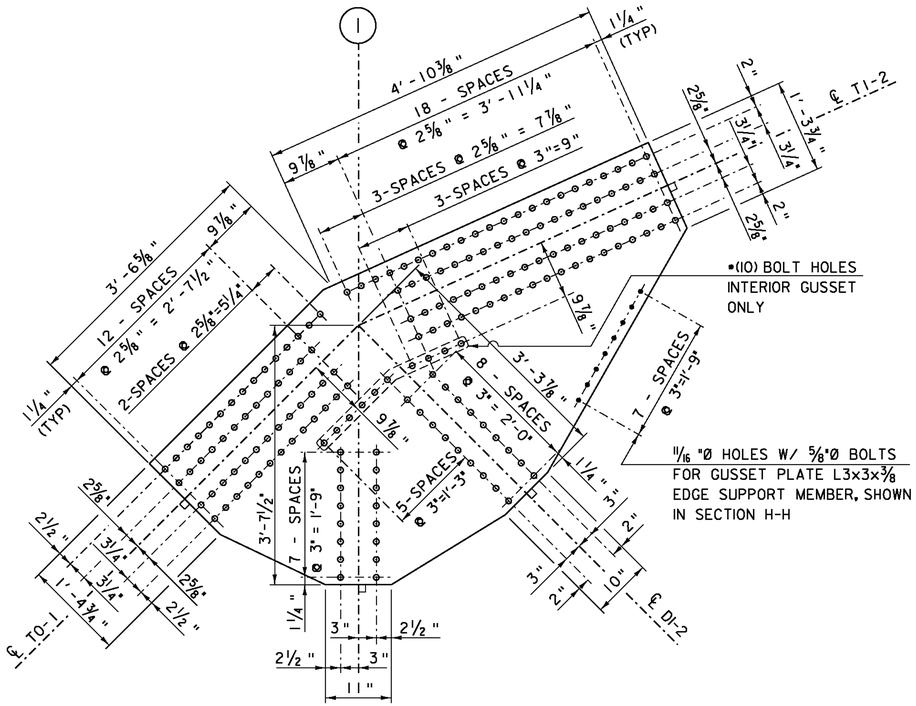
NTS

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: s78f161truss.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: S. SCRIBNER	CHECKED BY: S.SCRIBNER
TRUSS FRAMING DETAIL SHEET 3	SHEET 89 OF 148

TRUSS CONNECTION & GUSSET PLATE NOTES:

1. ALL BOLTS SHALL BE 7/8" DIA. W/ HEAVY HEX NUT AND WASHER, UNLESS NOTED OTHERWISE. BEVELED WASHER ON TRUSS TOP CHORD CONNECTIONS SHALL BE SQUARE. BOLT HOLES SHALL BE 15/16" DIA. UNLESS NOTED OTHERWISE. PUNCHING OF HOLES SHALL NOT BE PERMITTED. ALL BOLT THREADS SHALL BE EXCLUDED FROM THE SHEAR PLANE.
2. BOTTOM CHORD GUSSET PLATES ARE 3/4" GALVANIZED STEEL PLATE, CONFORMING TO SECTION 714 GRADE 50, UNLESS NOTED OTHERWISE.
3. TOP CHORD GUSSET PLATES ARE 3/4" GALVANIZED STEEL PLATE, AASHTO M270 HIGH PERFORMANCE STEEL, GRADE HPS 70W, UNLESS NOTED OTHERWISE.
4. MINIMUM EDGE DISTANCE FROM ANY BOLT HOLE CENTER POINT IS 1.25" UNLESS NOTED OTHERWISE ON GUSSET PLATE OR CONNECTION DETAILS. STANDARD BOLT SPACING IS 3" UNLESS NOTED OTHERWISE.
5. THERE ARE A TOTAL OF (8) GUSSET PLATES FOR EACH DETAIL SHOWN, ONE INTERIOR AND ONE EXTERIOR FOR EACH END OF EACH TRUSS. BOLT PATTERN FOR INTERIOR AND EXTERIOR GUSSET PLATES VARY, SEE GUSSET PLATE DETAILS FOR VARIATIONS (*).
6. GUSSET PLATE CONNECTION BOLTS SHALL HAVE THEIR WASHER AND NUT INSTALLED ON THE INTERNAL SIDE OF EACH TRUSS CONNECTION. BOLT HEADS ARE TO BE PLACED ON THE VISIBLE, EXTERNAL FASCIA OF THE TRUSS GUSSET PLATE CONNECTIONS.
7. ALL PRIMARY TRUSS MEMBER GUSSET PLATES WILL BE (CVN) EXCEPT FOR BOTTOM CHORD GUSSET PLATES, WHICH SHALL BE DESIGNATED (FCM).
8. NO FIELD DRILLING, REAMING, OR CUTTING OF TRUSS OR CONNECTION MEMBERS. TRUSS AND CONNECTION MEMBERS MUST BE SHOP GALVANIZED, NO FIELD GALVANIZING PERMITTED.
9. SEE STRUCTURAL STEEL SECTION OF GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.

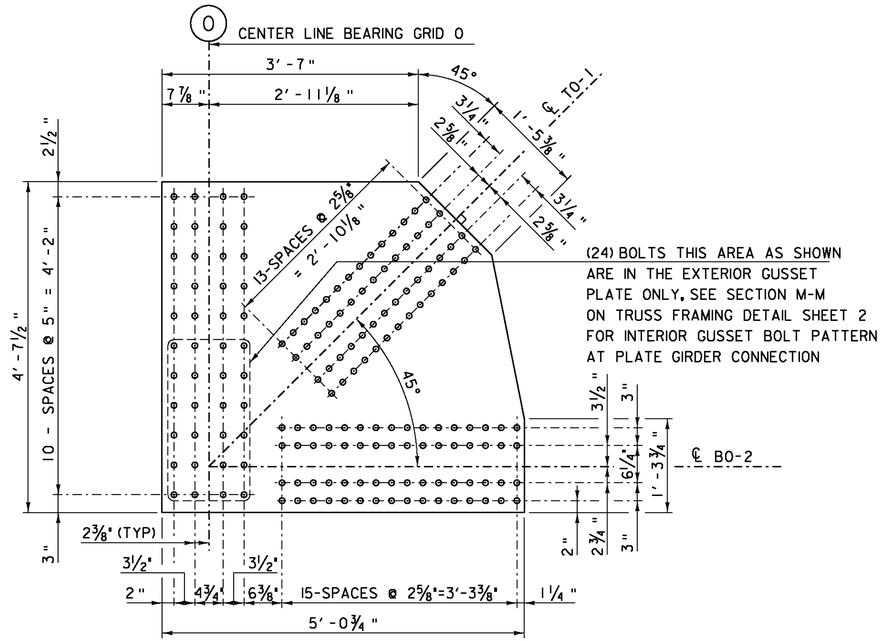


GUSSET PLATE DETAIL G1 TOP

SCALE 1" = 1'-0"

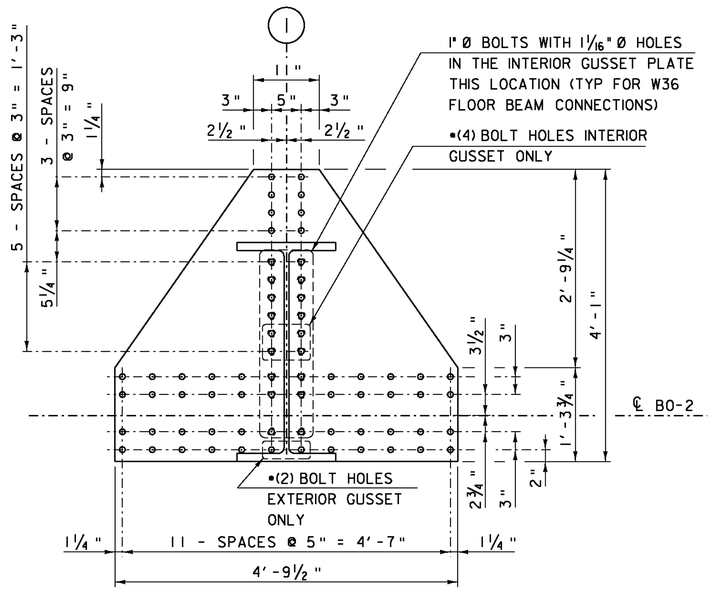
TRUSS STEEL MATERIAL SPECIFICATION NOTES:

1. ALL STANDARD W-SHAPE ROLLED STEEL PRODUCTS SHALL CONFORM TO SECTION 714 GRADE 50, WITH NO EXCEPTIONS.
2. ALL PLATE PRODUCTS USED IN THE TRUSS SHALL CONFORM TO SECTION 714 GRADE 50, WITH THE FOLLOWING EXCEPTIONS:
   a. TOP CHORD GUSSET PLATES SHALL BE AASHTO M270 HIGH PERFORMANCE STEEL, GRADE HPS 70W.
   b. END FLOORBEAM PLATE GIRDER SHALL BE AASHTO M270 HIGH PERFORMANCE STEEL, GRADE HPS 70W.
3. ALL SINGLE AND DOUBLE LEG ANGLE STANDARD ROLLED SHAPES SHALL CONFORM TO SECTION 714 GRADE 36, WITH THE FOLLOWING EXCEPTION:
   a. END FLOORBEAM CONNECTION ANGLES SHALL CONFORM TO SECTION 714 GRADE 50.
4. SHOP DRAWINGS SHALL INDICATE DIRECTION OF ROLL ON ALL PRIMARY STRESS CARRYING MATERIAL.



GUSSET PLATE DETAIL G0 BOTTOM

SCALE 1" = 1'-0"



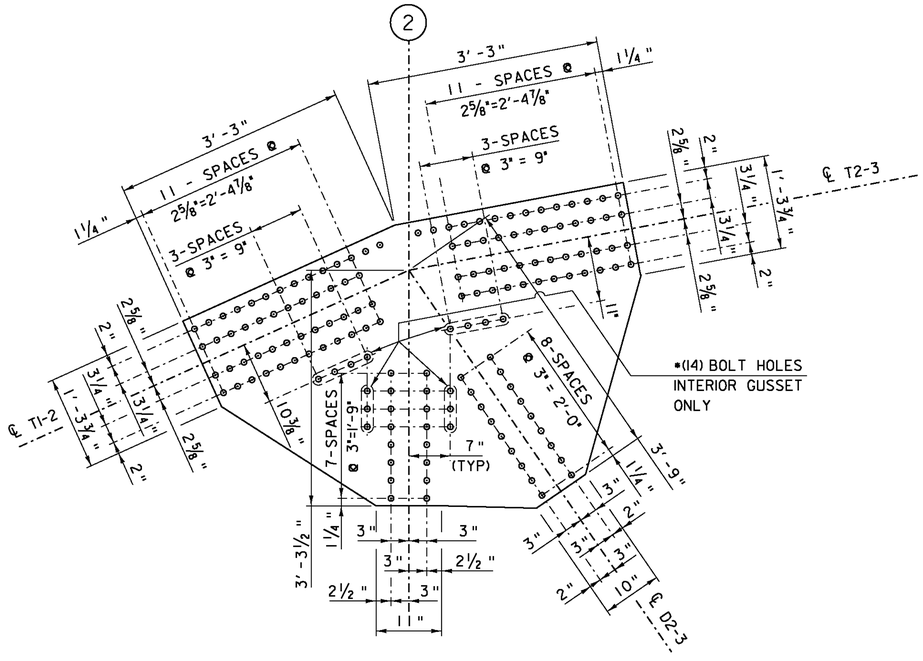
GUSSET PLATE DETAIL G1 BOTTOM

SCALE 1" = 1'-0"

FILLER PLATE NOTES:

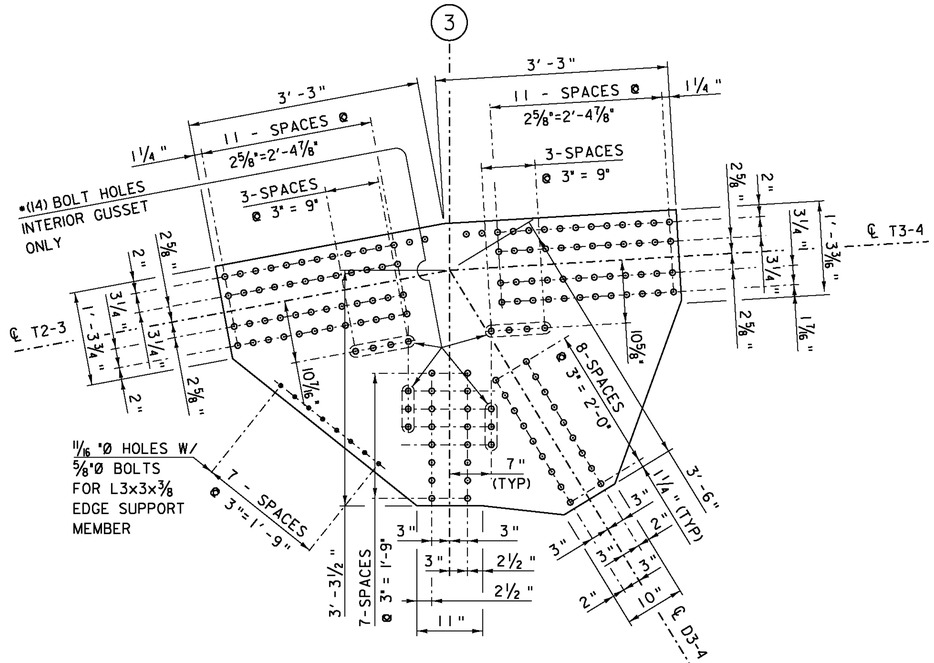
1. FILLER PLATES WILL BE SIZED SUCH THAT THEY ENGAGE ALL BOLTS THAT ARE USED IN THE CONNECTION BEING MADE. FILLER PLATES WILL HAVE BOLT EDGE AND END DISTANCES CONSISTENT WITH THOSE DISTANCES SPECIFIED FOR THE GUSSET PLATES.
2. FINAL FILLER PLATE THICKNESSES WILL BE SUCH AS ARE DETERMINED NECESSARY BY THE FABRICATOR FOR THE PURPOSE OF MAKING CONNECTIONS FIT PROPERLY. WHERE FILLER PLATES ARE REQUIRED THEY SHALL BE A SINGLE THICKNESS PLATE.
3. FABRICATION TOLERANCES WILL BE AS SPECIFIED IN THE CURRENT FABRICATION/WELDING CODES FOR STEEL PLATE PRODUCTS.
4. FILLER PLATES SHALL CONFORM TO SECTION 714 GRADE 50 AND WILL BE GALVANIZED. THEY WILL USE THE SAME MATERIAL AND GALVANIZING SPECIFICATION USED FOR THE PRIMARY TRUSS MEMBERS.

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f161truss.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: N. VANDENBERG	CHECKED BY: S. SCRIBNER
TRUSS CONNECTION DETAIL SHEET 1	SHEET 90 OF 148



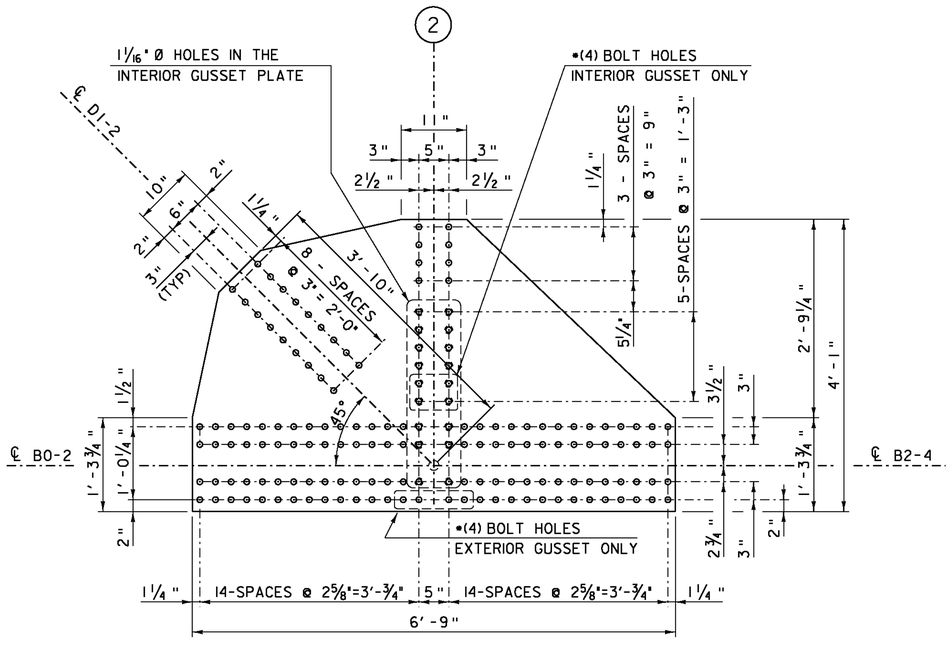
GUSSET PLATE DETAIL G2 TOP

SCALE 1" = 1'-0"



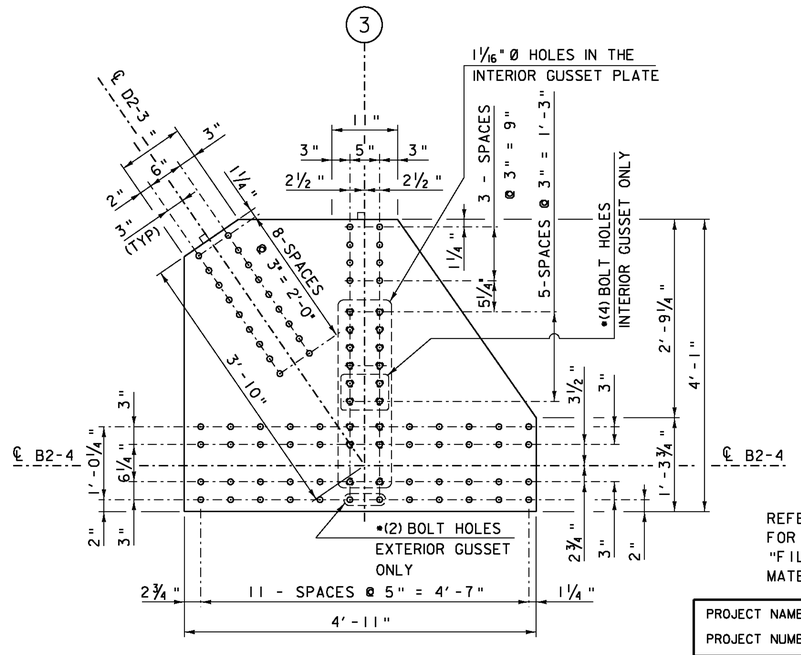
GUSSET PLATE DETAIL G3 TOP

SCALE 1" = 1'-0"



GUSSET PLATE DETAIL G2 BOTTOM

SCALE 1" = 1'-0"

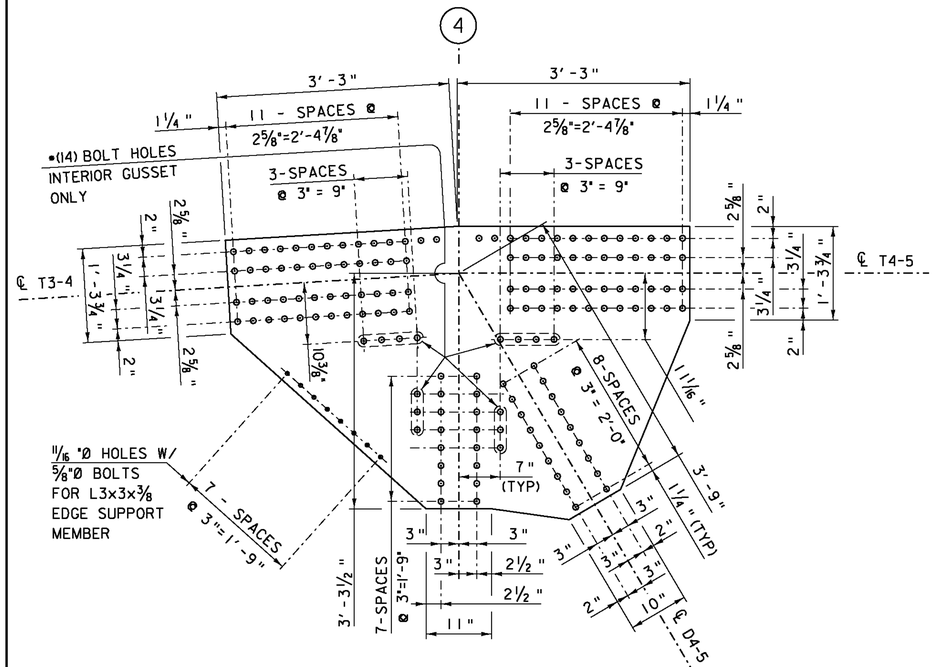


GUSSET PLATE DETAIL G3 BOTTOM

SCALE 1" = 1'-0"

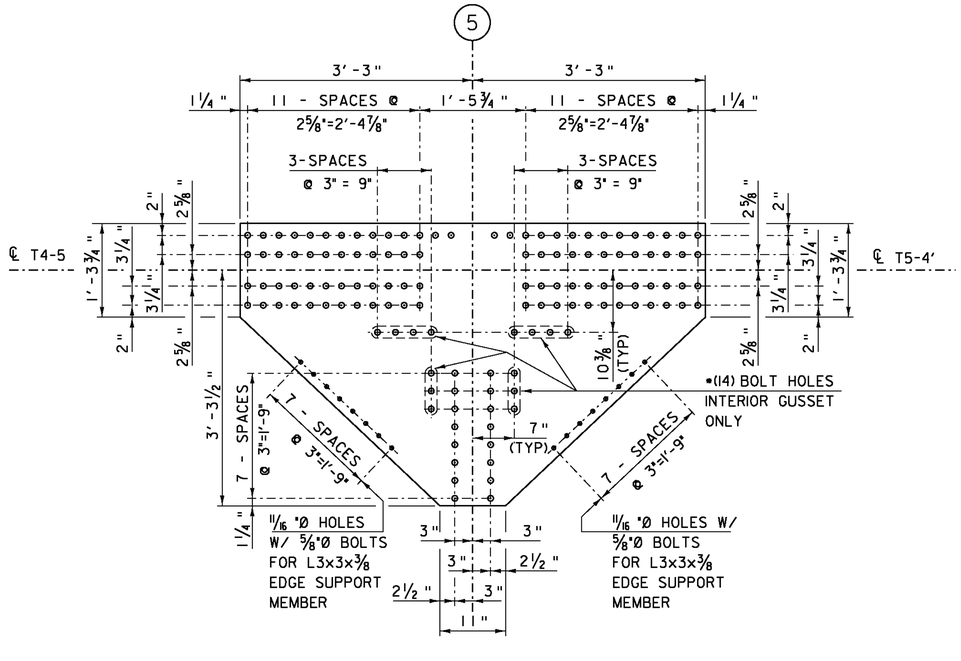
REFER TO TRUSS CONNECTION DETAIL SHEET 1 FOR "TRUSS CONNECTION & GUSSET PLATE NOTES", "FILLER PLATE NOTES", AND "TRUSS STEEL MATERIAL SPECIFICATION NOTES".

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f161truss.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: N. VANDENBERG	CHECKED BY: S. SCRIBNER
TRUSS CONNECTION DETAIL SHEET 2	SHEET 91 OF 148



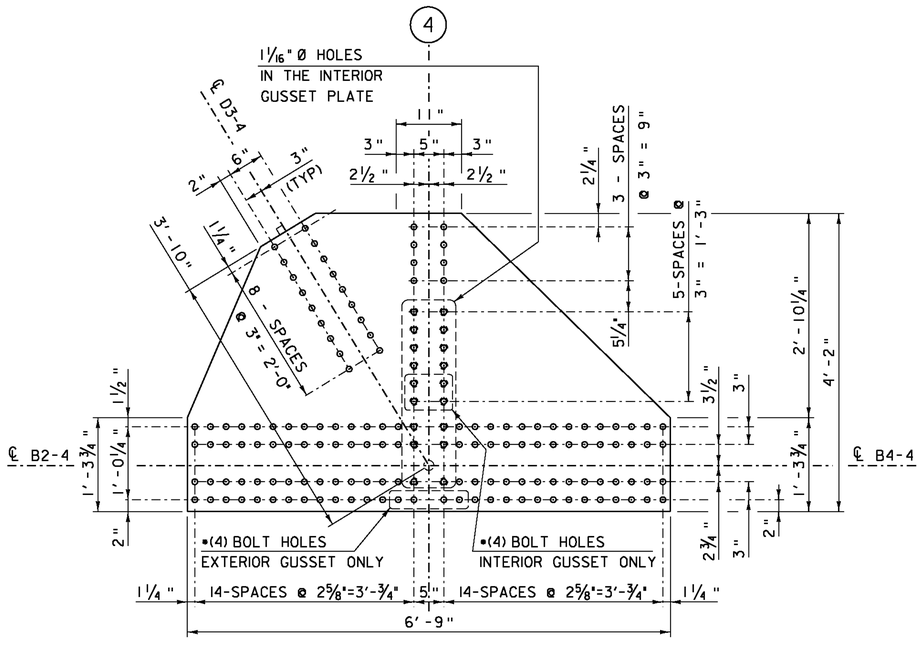
GUSSET PLATE DETAIL G4 TOP

SCALE 1" = 1'-0"



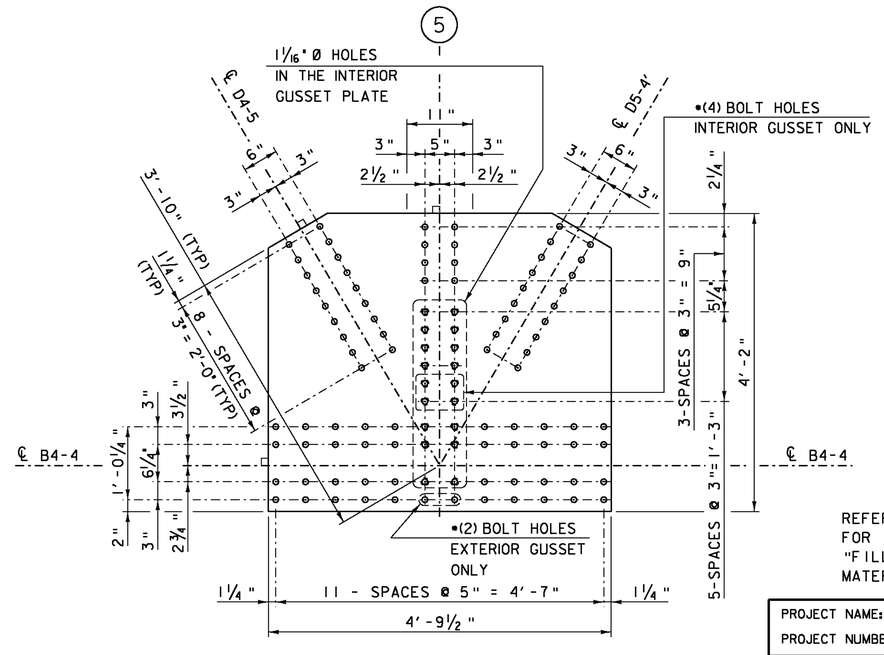
GUSSET PLATE DETAIL G5 TOP

SCALE 1" = 1'-0"



GUSSET PLATE DETAIL G4 BOTTOM

SCALE 1" = 1'-0"

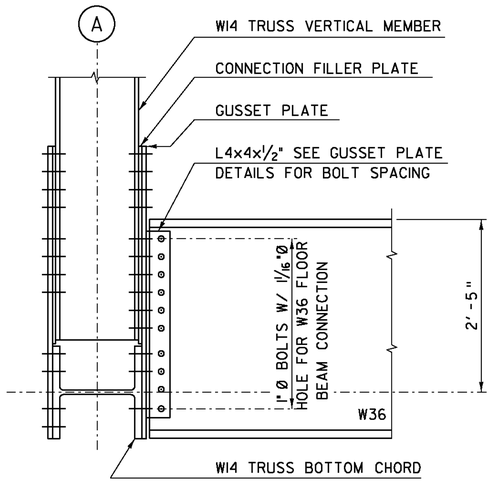


GUSSET PLATE DETAIL G5 BOTTOM

SCALE 1" = 1'-0"

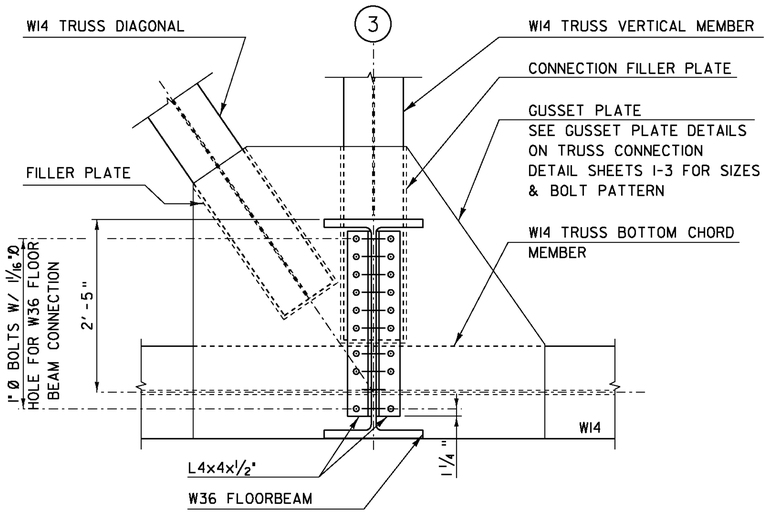
REFER TO TRUSS CONNECTION DETAIL SHEET 1 FOR "TRUSS CONNECTION & GUSSET PLATE NOTES", "FILLER PLATE NOTES", AND "TRUSS STEEL MATERIAL SPECIFICATION NOTES".

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PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: N. VANDENBERG	CHECKED BY: S. SCRIBNER
TRUSS CONNECTION DETAIL SHEET 3	SHEET 92 OF 148



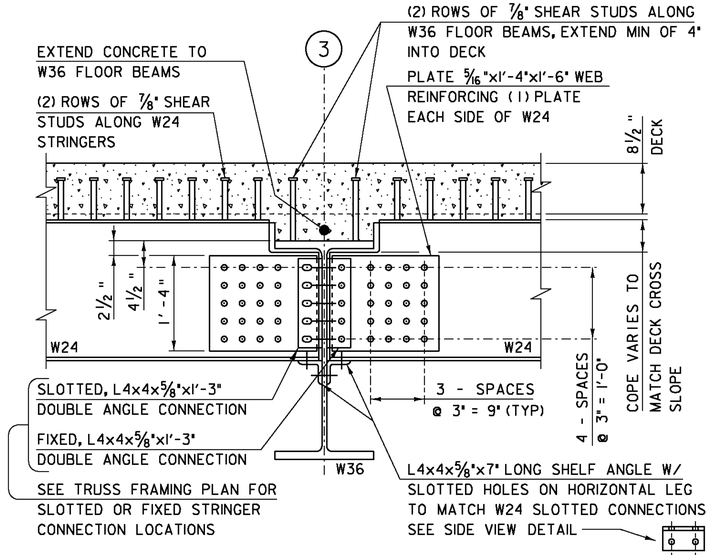
SECTION A-A TYPICAL W36 FLOORBEAM CONNECTION

SCALE 1" = 1'-0"



SECTION B-B TYPICAL W36 FLOORBEAM CONNECTION

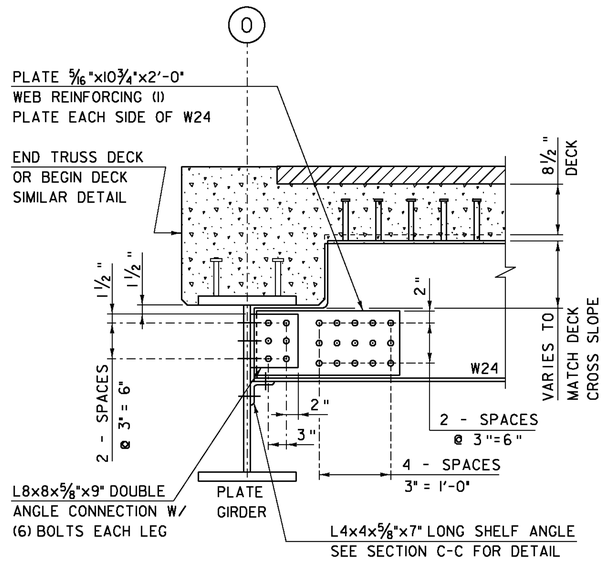
SCALE 1" = 1'-0"



SECTION C-C TYPICAL W24 STRINGER CONNECTION

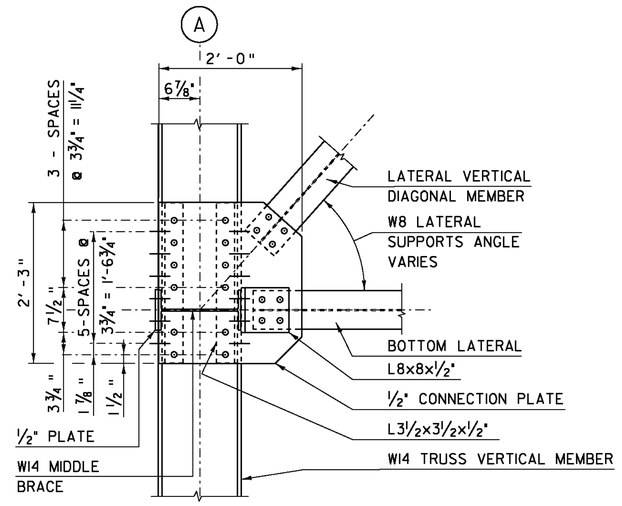
SCALE 1" = 1'-0"

THIS CONNECTION DETAIL IS TYPICAL AT ALL INTERIOR STRINGER TO W36 FLOORBEAM CONNECTIONS. EXTERIOR STRINGERS CONNECTING TO W36 FLOORBEAM WILL NOT REQUIRE WEB REINFORCING PLATES. SEE TRUSS FRAMING PLAN FOR INTERIOR STRINGER LOCATIONS.



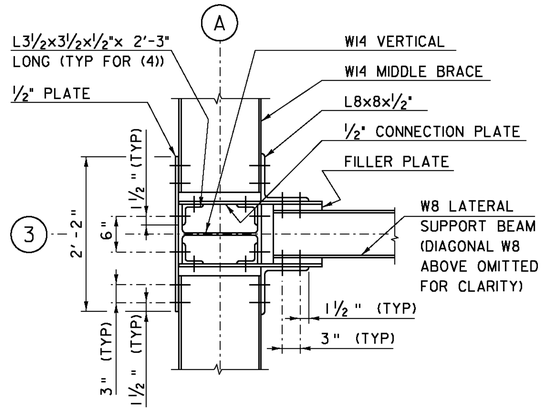
SECTION D-D PLATE GIRDER TO W24 STRINGER CONNECTION

SCALE 1" = 1'-0"



SECTION E-E TYPICAL INTERMEDIATE SUPPORT

SCALE 1" = 1'-0"

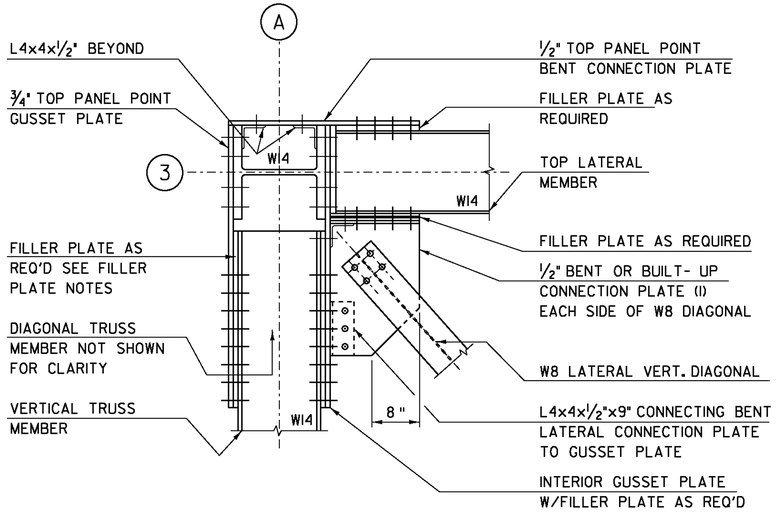


SECTION F-F TYPICAL INTERMEDIATE SUPPORT

SCALE 1" = 1'-0"

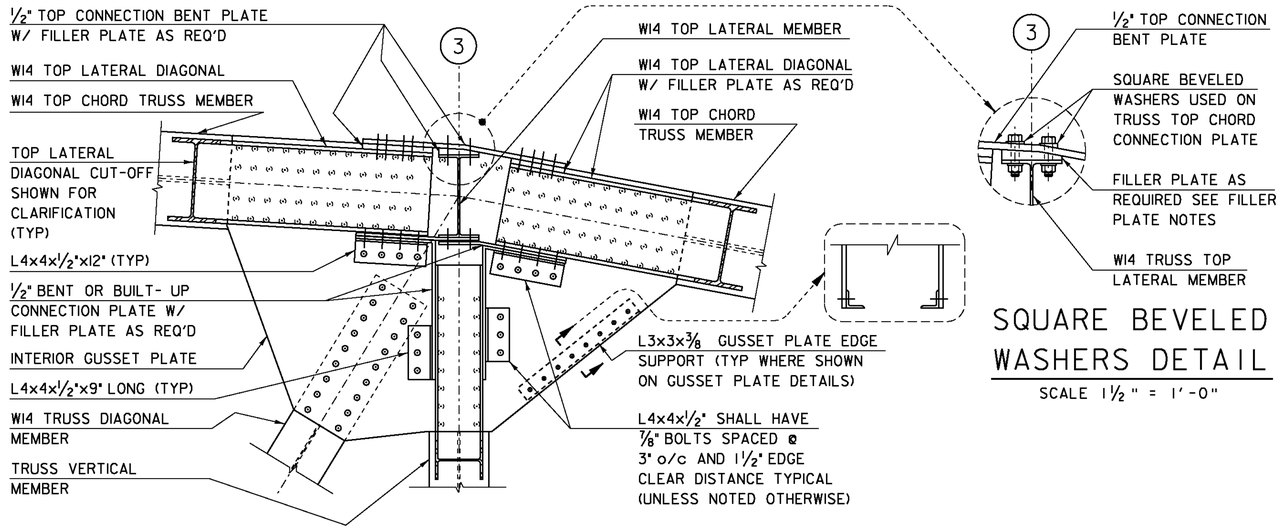
REFER TO TRUSS CONNECTION DETAIL SHEET 1 FOR "TRUSS CONNECTION & GUSSET PLATE NOTES", "FILLER PLATE NOTES", AND "TRUSS STEEL MATERIAL SPECIFICATION NOTES".

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f161truss.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: N. VANDENBERG	CHECKED BY: S. SCRIBNER
TRUSS CONNECTION DETAIL SHEET 4	SHEET 93 OF 148



SECTION G-G TYPICAL TOP PANEL POINT CONNECTION

SCALE 1" = 1'-0"

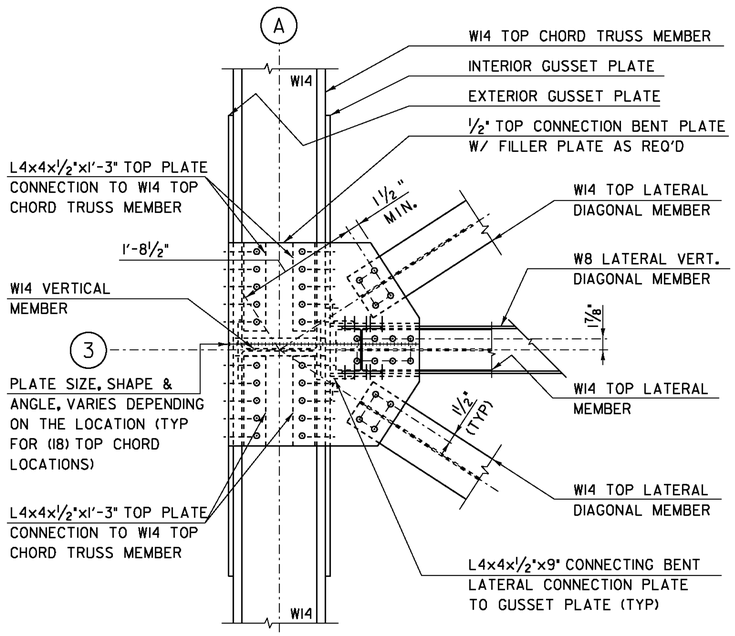


SECTION H-H TYPICAL TOP PANEL POINT CONNECTION

SCALE 1" = 1'-0"

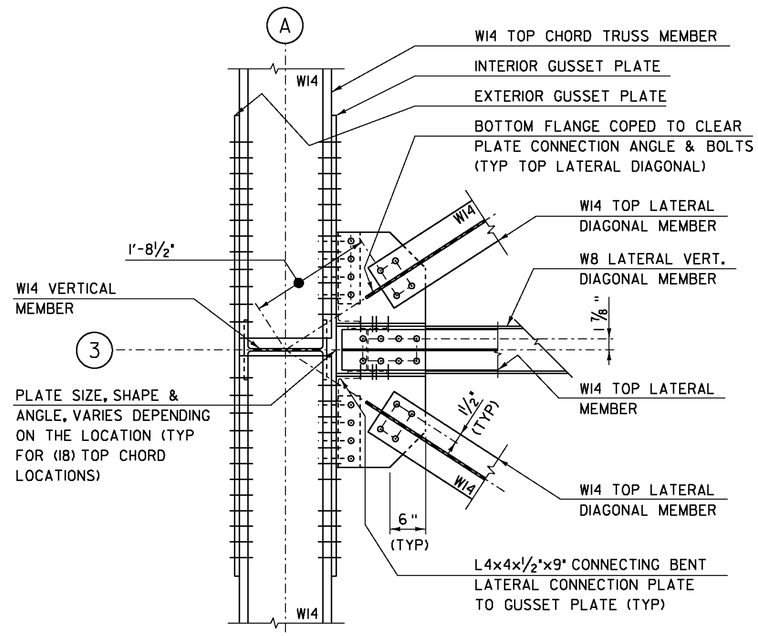
SQUARE BEVELED WASHERS DETAIL

SCALE 1½" = 1'-0"



SECTION J-J TYPICAL TOP PANEL POINT CONNECTION

SCALE 1" = 1'-0"



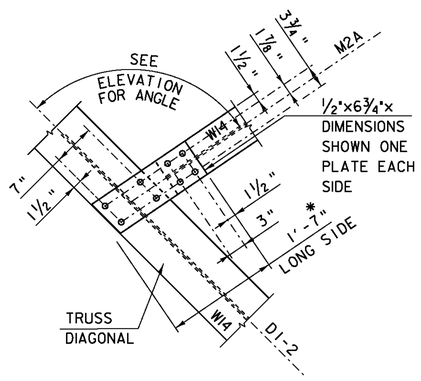
SECTION K-K TYPICAL TOP PANEL POINT CONNECTION

SCALE 1" = 1'-0"

REFER TO TRUSS CONNECTION DETAIL SHEET 1 FOR "TRUSS CONNECTION & GUSSET PLATE NOTES", "FILLER PLATE NOTES", AND "TRUSS STEEL MATERIAL SPECIFICATION NOTES".

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

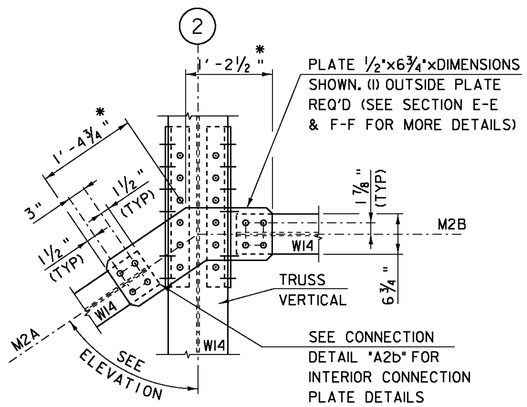
FILE NAME: s78f161truss.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: N. VANDENBERG	CHECKED BY: S. SCRIBNER
TRUSS CONNECTION DETAIL SHEET 5	SHEET 94 OF 148



CONNECTION DETAIL "A1"

SCALE 1" = 1'-0"

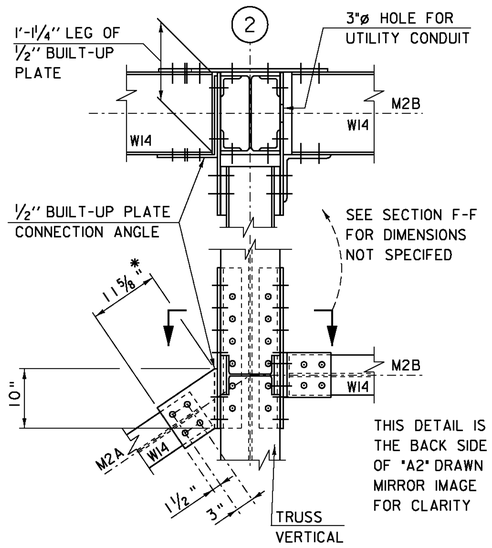
* PLATE DIMENSIONS SHOWN MAY BE ADJUSTED BY FABRICATOR TO ACHIEVE PROPER FIT AND CLEARANCE AS REQUIRED.



CONNECTION DETAIL "A2"

SCALE 1" = 1'-0"

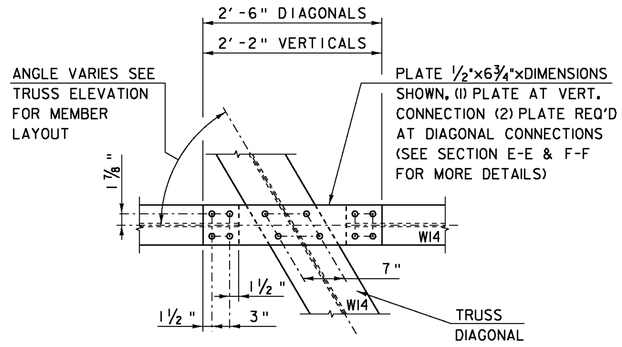
* PLATE DIMENSIONS SHOWN MAY BE ADJUSTED BY FABRICATOR TO ACHIEVE PROPER FIT AND CLEARANCE AS REQUIRED.



CONNECTION DETAIL "A2b"

SCALE 1" = 1'-0"

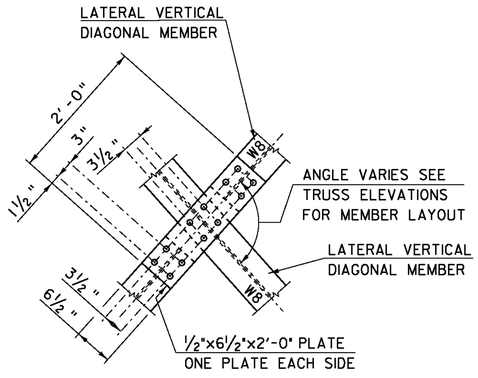
* PLATE DIMENSIONS SHOWN MAY BE ADJUSTED BY FABRICATOR TO ACHIEVE PROPER FIT AND CLEARANCE AS REQUIRED.



CONNECTION DETAIL "A3"

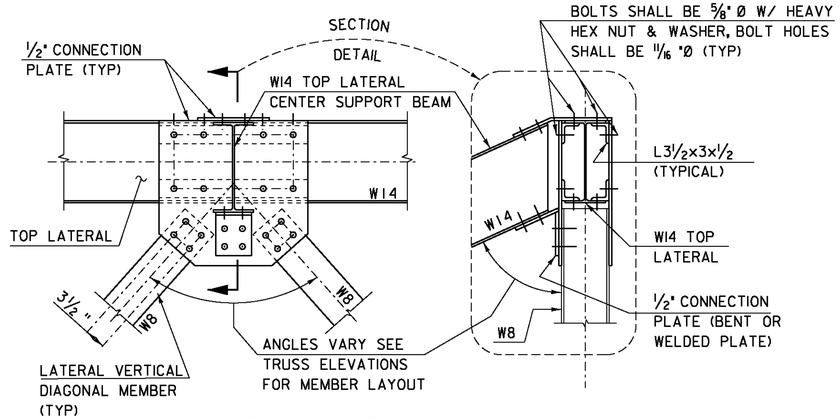
SCALE 1" = 1'-0"

THIS CONNECTION DETAIL IS SIMILAR FOR THE MIDDLE MEMBERS CONNECTION TO THE TRUSS VERTICAL AND THE TRUSS DIAGONAL MEMBERS. (DIAGONAL MEMBER CONNECTION SHOWN IN THE DETAIL)



CONNECTION DETAIL "B1"

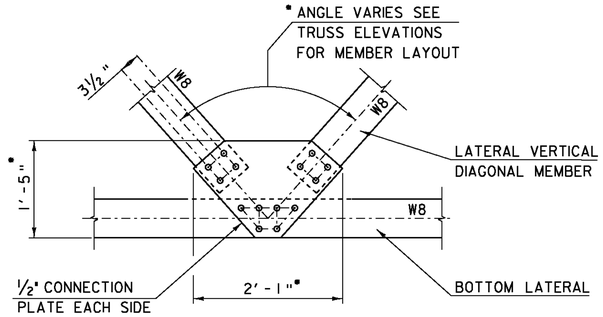
SCALE 1" = 1'-0"



CONNECTION DETAIL "B2"

SCALE 1" = 1'-0"

THIS CONNECTION DETAIL IS TYPICAL AT GRID 2,3, AND 4. THE CONNECTION PLATE IS BENT TO MATCH THE ANGLE BETWEEN THE TOP CHORD AND THE TOP FLANGE OF THE TOP LATERAL. THE W14 TOP LATERAL CENTER SUPPORT BEAM MAY BE MITERED FOR CLEARANCE AT THE BOTTOM FLANGE AS SHOWN IN THE SECTION DETAIL.



CONNECTION DETAIL "B3"

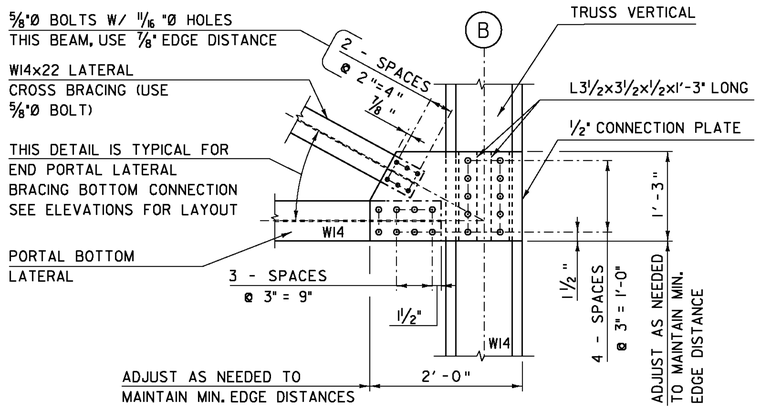
SCALE 1" = 1'-0"

• PLATE DIMENSIONS SHOWN MAY BE ADJUSTED BY FABRICATOR TO ACHIEVE PROPER FIT AND CLEARANCE AS REQUIRED.

REFER TO TRUSS CONNECTION DETAIL SHEET 1 FOR "TRUSS CONNECTION & GUSSET PLATE NOTES", "FILLER PLATE NOTES", AND "TRUSS STEEL MATERIAL SPECIFICATION NOTES".

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

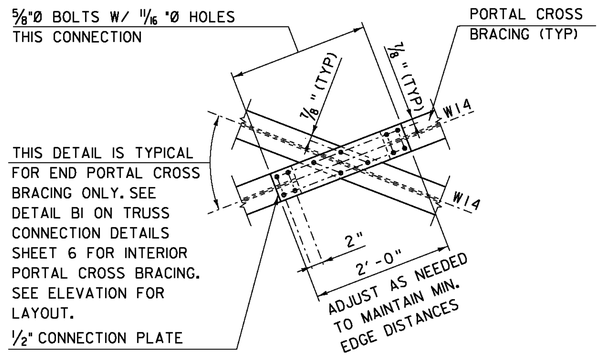
FILE NAME: s78f161truss.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: N. VANDENBERG	CHECKED BY: S. SCRIBNER
TRUSS CONNECTION DETAIL SHEET 6	SHEET 95 OF 148



CONNECTION DETAIL "C1"

SCALE 1" = 1'-0"

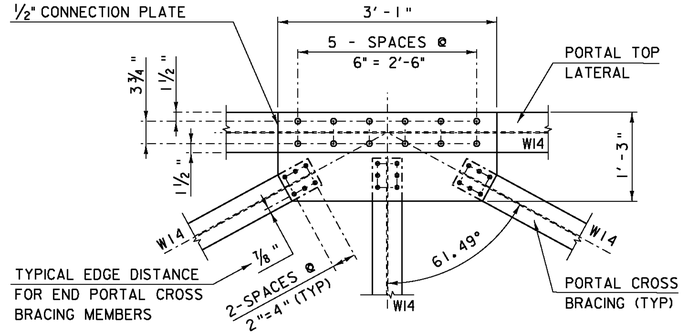
W14x22 CONNECTIONS REQUIRE 5/8"Ø BOLTS W/ HEAVY HEX NUT AND WASHER, BOLT HOLES SHALL BE 11/16 "Ø.



CONNECTION DETAIL "C2"

SCALE 1" = 1'-0"

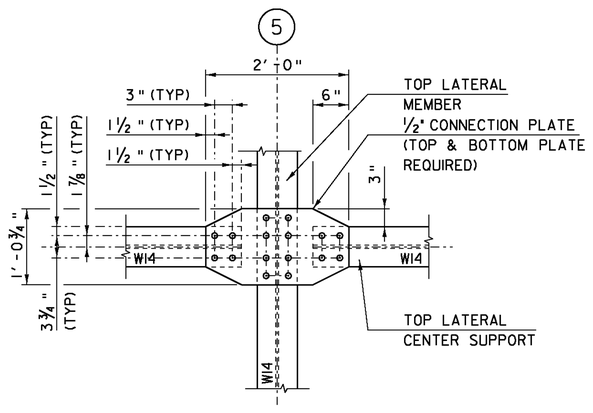
W14x22 CONNECTIONS REQUIRE 5/8"Ø BOLTS W/ HEAVY HEX NUT AND WASHER, BOLT HOLES SHALL BE 11/16 "Ø.



CONNECTION DETAIL "C3"

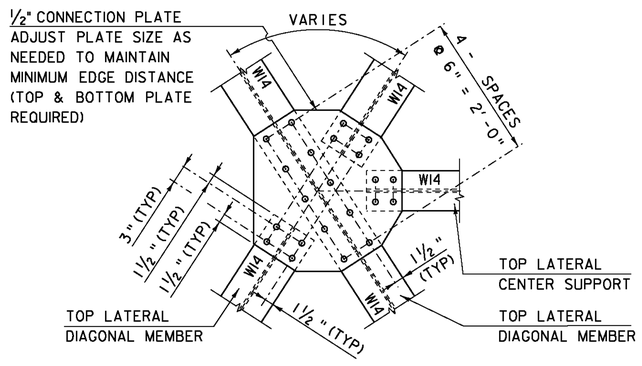
SCALE 1" = 1'-0"

W14x22 CONNECTIONS REQUIRE 5/8"Ø BOLTS W/ HEAVY HEX NUT AND WASHER, BOLT HOLES SHALL BE 11/16 "Ø.



CONNECTION DETAIL "D1"

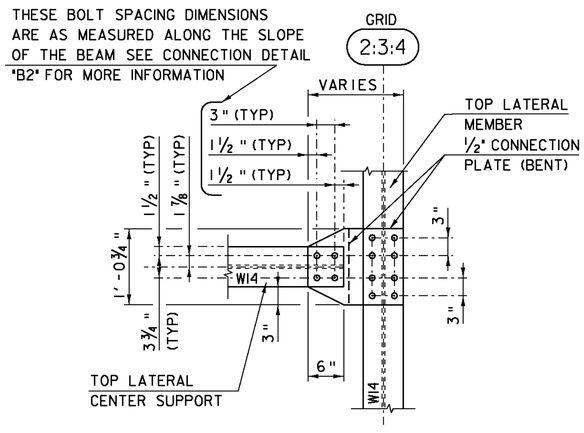
SCALE 1" = 1'-0"



CONNECTION DETAIL "D2"

SCALE 1" = 1'-0"

THIS CONNECTION DETAIL IS TYPICAL AT THE INTERSECTION OF TOP LATERAL DIAGONALS AND THE TOP LATERAL CENTER SUPPORT BEAM. MEMBER ANGLES VARY AS TRUSS TOP CHORD ORIENTATION CHANGES. SEE PLAN AND ELEVATION FOR LAYOUT.



CONNECTION DETAIL "D3"

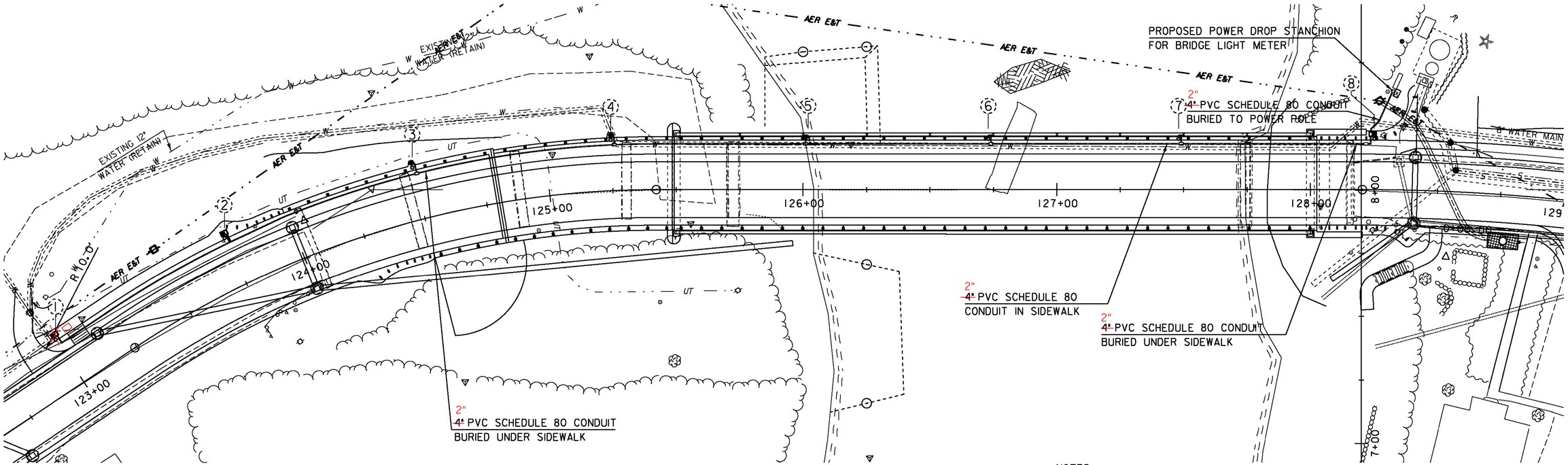
SCALE 1" = 1'-0"

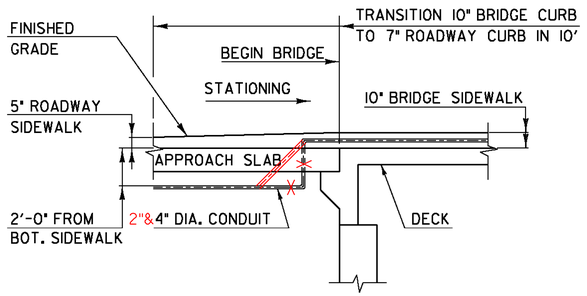
THIS CONNECTION DETAIL IS TYPICAL AT GRID 2, 3, AND 4. THE CONNECTION PLATE IS BENT TO MATCH THE ANGLE BETWEEN THE TOP CHORD AND THE TOP FLANGE OF THE TOP LATERAL. THE W14 TOP LATERAL CENTER SUPPORT BEAM MAY BE MITERED FOR CLEARANCE AT THE BOTTOM FLANGE.

REFER TO TRUSS CONNECTION DETAIL SHEET 1 FOR "TRUSS CONNECTION & GUSSET PLATE NOTES", "FILLER PLATE NOTES", AND "TRUSS STEEL MATERIAL SPECIFICATION NOTES".

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

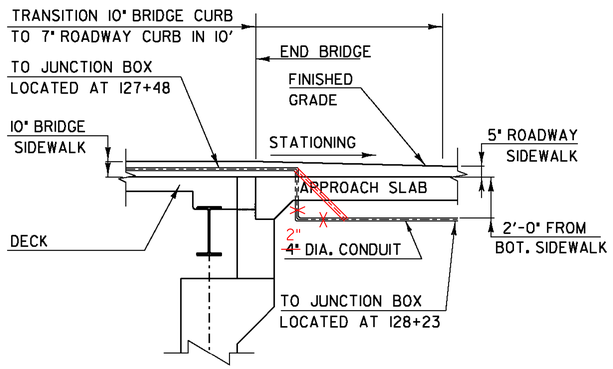
FILE NAME: s78f161truss.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: N. VANDENBERG	CHECKED BY: S. SCRIBNER
TRUSS CONNECTION DETAIL SHEET 7	SHEET 96 OF 148





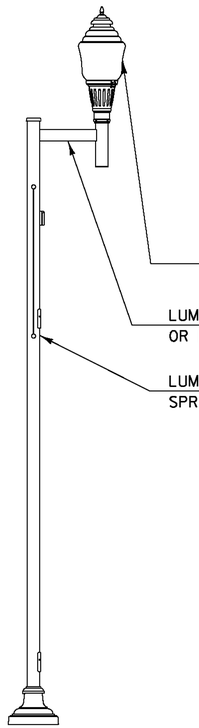
ABUTMENT#1 CONDUIT DETAIL

NTS



ABUTMENT#2 CONDUIT DETAIL

NTS



REFER TO "TYPICAL SECTIONS - VT 107" AND "BRIDGE TYPICAL SECTIONS - VT 107" SHEETS TO DETERMINE START AND STOP POINTS OF CONDUIT.

LIGHTPOLE TYPICAL

NTS

NOTES:

1. ALL WIRING BETWEEN THE METER AND/OR POWER SOURCE AND THE FIRST POLE AND/OR JUNCTION BOX AND BETWEEN POLES AND/OR JUNCTION BOXES SHALL BE COPPER AND SIZE AS SPECIFIED BY THE MANUFACTURER. ALL WIRE SHALL HAVE TYPE XHHW INSULATION OR EQUIVALENT.
2. HARDWARE: ALL EXPOSED SCREWS SHALL BE STAINLESS STEEL WITH CERAMIC PRIMER-SEAL BASECOAT AND COLOR STABLE TOPCOAT. ALL SEALS AND SEALING DEVICES ARE MADE AND/OR LINED WITH EPDM AND/OR SILICONE.
3. FINISH: COLOR TO BE BLACK TEXTURED (BKTX). APPLICATION OF A POLYESTER POWDER COAT PAINT.(4 MILS/100 MICRONS). THE CHEMICAL COMPOSITION PROVIDES A HIGHLY DURABLE UV AND SALT SPRAY RESISTANT FINISH IN ACCORDANCE TO THE ASTM-B117-73 STANDARD AND HUMIDITY PROOF IN ACCORDANCE TO THE ASTM-D2247-68 STANDARD.
4. ALL JUNCTION BOXES UNDER SIDEWALK SHALL HAVE THEIR COVERS MOUNTED FLUSH WITH THE TOP OF THE SIDEWALK. ALL JUNCTION BOXES SHALL BE POLYMER CONCRETE OR REINFORCED FIBERGLASS U.L. LISTED JUNCTION BOXES SHALL BE INSTALLED WITH HEAVY DUTY COVERS.
5. CONDUIT LOCATIONS SHOWN ON THE DRAWING ARE APPROXIMATE. ACTUAL LOCATIONS SHALL BE DETERMINED IN THE FIELD GIVING CONSIDERATION TO DRAINAGE, UNDERGROUND UTILITIES, AND PROPOSED HOLES IN THE EXPANSION JOINT.
6. PAYMENT FOR CONNECTION STEEL AND HARDWARE FOR MOUNTING THE LIGHT TO THE TRUSS WILL BE INCLUDED IN ITEM 506.57, "STRUCTURAL STEEL, TRUSS".

STREET LIGHTING LOCATIONS TABLE

LIGHT NO.	LOCATION	OFFSET *	LUMINAIRE WATTS TYPE	LUMINAIRE HEIGHT	REMARKS	JUNCTION BOX
(1)	STA. 123+~~00~~ 10 LT	21'-10"	150W Me Ha	17'-6"	EMBANKMENT	YES
(2)	STA. 123+75 LT	21'-10"	150W Me Ha	17'-6"	EMBANKMENT	YES
(3)	STA. 124+50 LT	21'-10"	150W Me Ha	17'-6"	WINGWALL	YES
(4)	STA. 125+25 LT	21'-10"	150W Me Ha	17'-6"	DECK	YES
(5)	STA. 126+02 LT	20'-1"	150W Me Ha	18'-6½"	TRUSS	YES
(6)	STA. 126+73 LT	20'-1"	150W Me Ha	18'-6½"	TRUSS	YES
(7)	STA. 127+48 LT	20'-1"	150W Me Ha	18'-6½"	TRUSS	YES
(8)	STA. 128+~~25~~ 26 LT	21'-10"	150W Me Ha	17'-6"	EMBANKMENT	YES

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

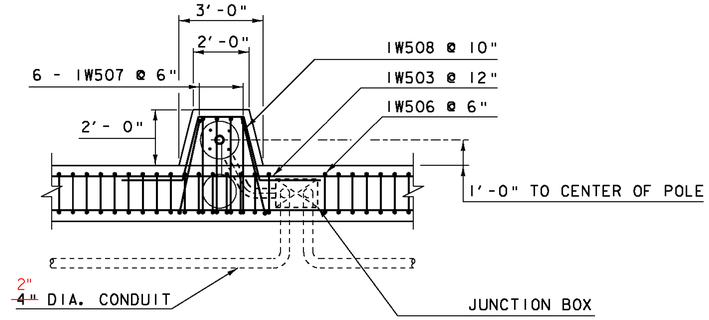
LEGEND

- = PROPOSED LIGHT & BRACKET
- = PROPOSED LIGHT & POLE
- (1) = LIGHT LOCATION NUMBER
- = EXISTING UTILITY POLE
- = JUNCTION BOX
- = PROPOSED LIGHTING CONDUIT
- = PROPOSED METER BOX

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

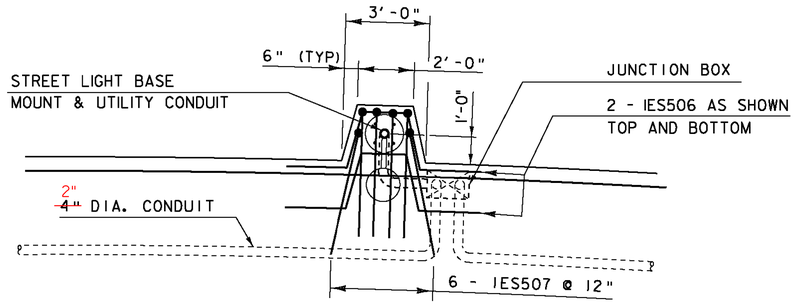
FILE NAME: sf78f16111te.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
LIGHTING LAYOUT

PLOT DATE: 20-MAY-2011
DRAWN BY: S. SCRIBNER
CHECKED BY: S. SCRIBNER
SHEET 97 OF 148



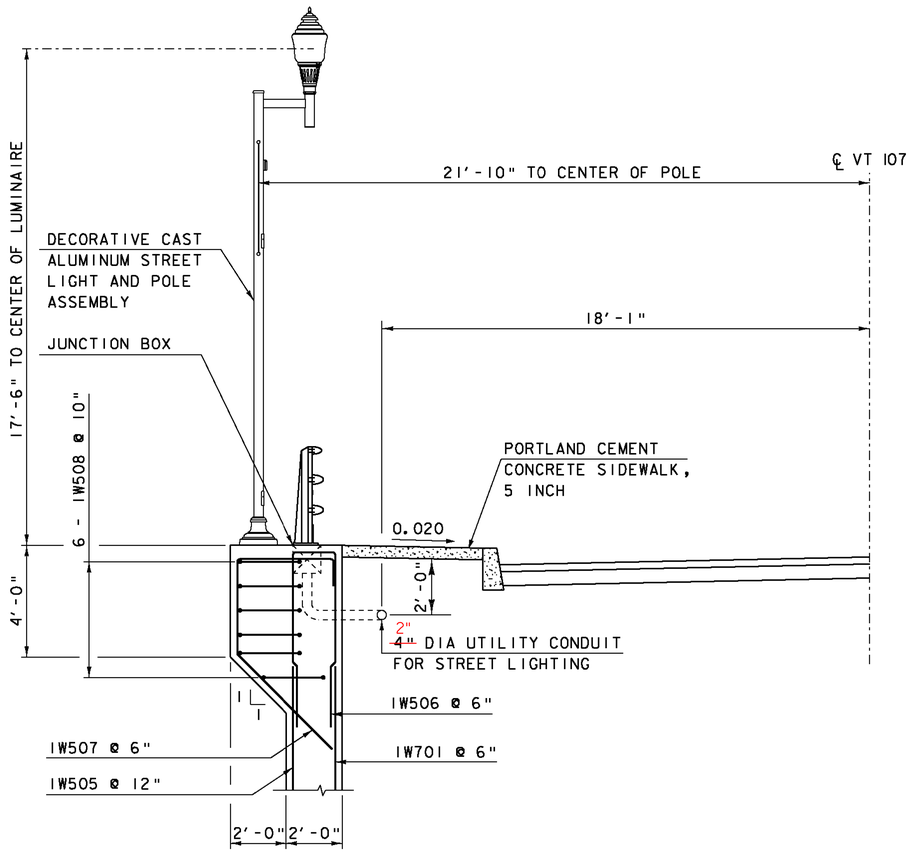
WINGWALL 1 LIGHTPOLE PLAN

SCALE 3/8" = 1'-0"



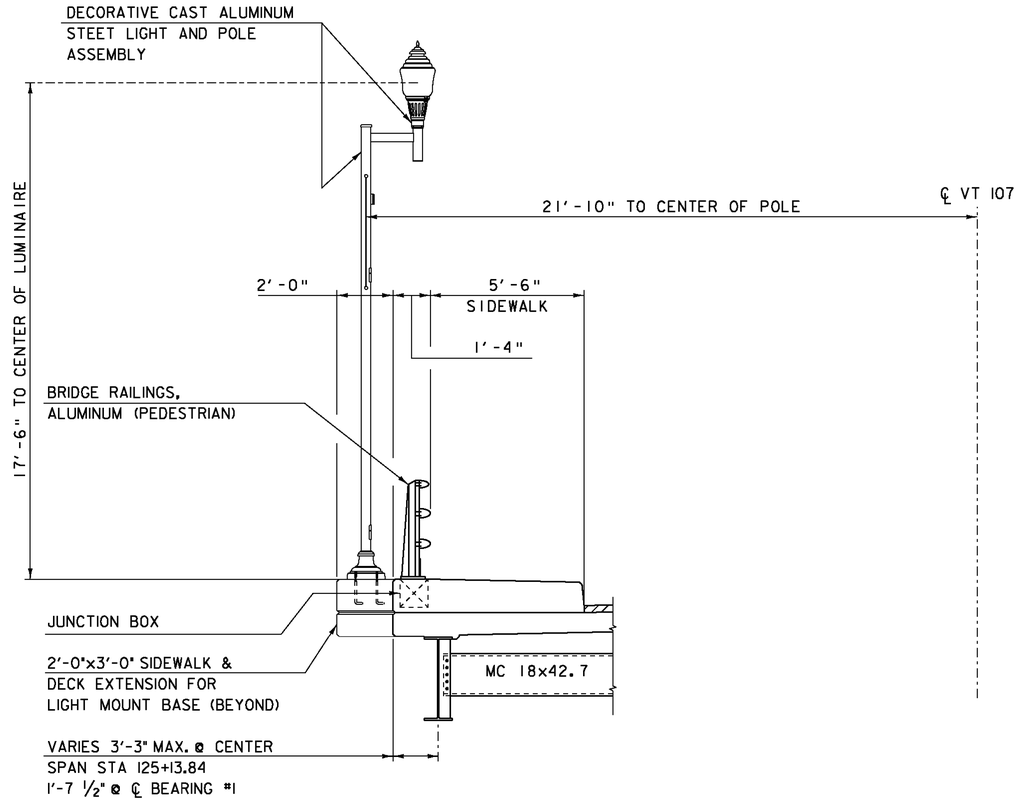
DECK LIGHTPOLE PLAN

SCALE 3/8" = 1'-0"



WINGWALL 1 LIGHTPOLE

SCALE 3/8" = 1'-0"

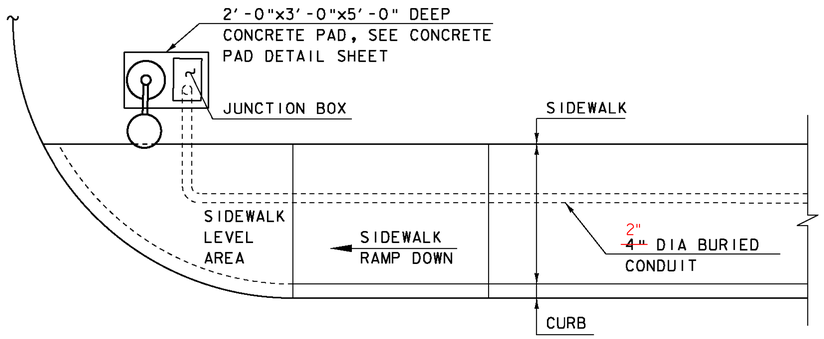


DECK LIGHTPOLE

SCALE 3/8" = 1'-0"

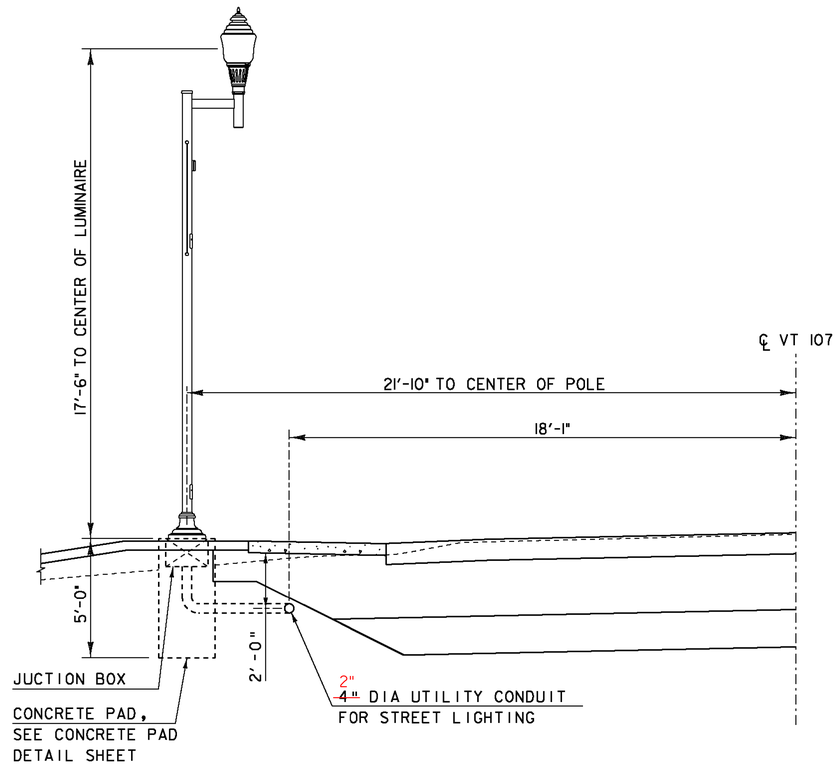
PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: s78f161111te.dgn		PLOT DATE:	20-MAY-2011
PROJECT LEADER:	M. EVANS-MONGEON	DRAWN BY:	M. LONGSTREET
DESIGNED BY:	S. SCRIBNER	CHECKED BY:	S. SCRIBNER
LIGHTPOLE DETAILS 1		SHEET	98 OF 148



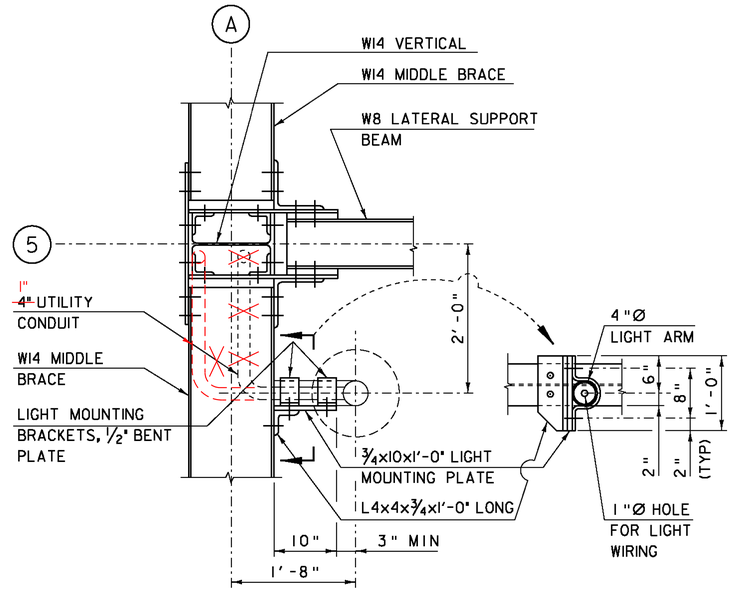
EMBANKMENT LIGHTPOLE PLAN

SCALE 3/8" = 1'-0"



EMBANKMENT LIGHTPOLE TYPICAL

SCALE 3/8" = 1'-0"

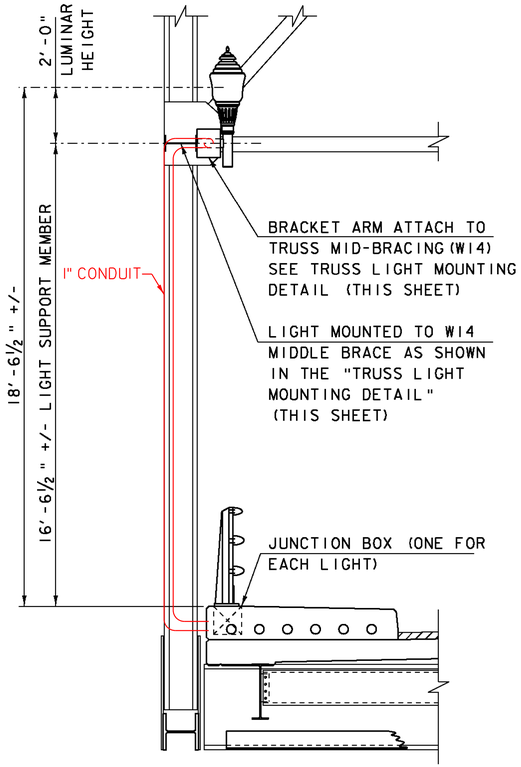


TRUSS LIGHT MOUNTING DETAIL (PLAN VIEW)

SCALE 1" = 1'-0"

1.) CONDUIT SHALL BE ATTACHED TO TRUSS MEMBERS BY MEANS OF EPOXY WELDING OR OTHER METHODS THAT DO NOT REQUIRE FIELD DRILLING OF TRUSS MEMBERS. NO FIELD DRILLING, REAMING, OR CUTTING OF TRUSS OR TRUSS CONNECTION MEMBERS.

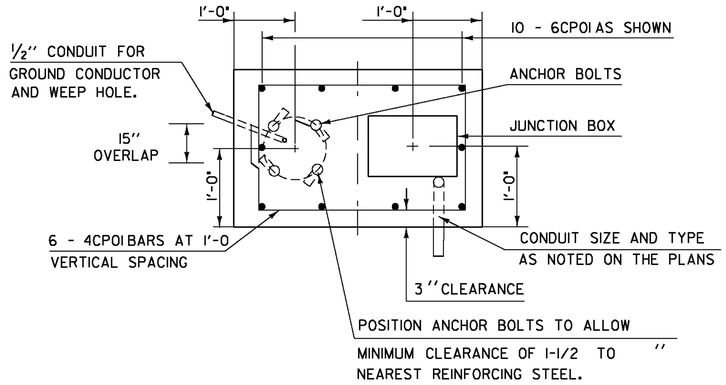
2.) PAYMENT FOR CONNECTION STEEL AND HARDWARE FOR MOUNTING LIGHT WILL BE INCLUDED IN ITEM 506.57 "STRUCTURAL STEEL, TRUSS".



TRUSS LIGHTPOLE TYPICAL

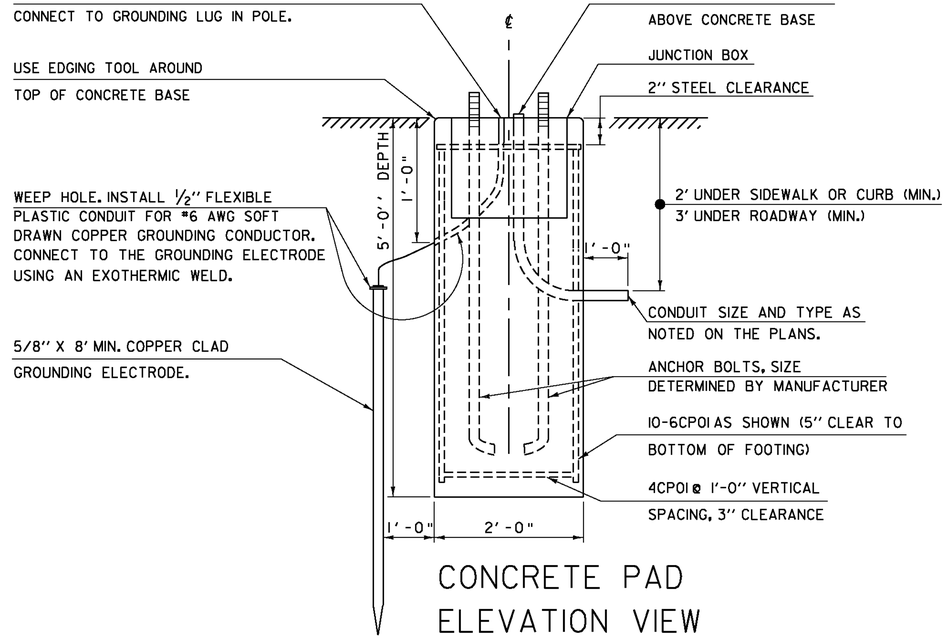
SCALE 3/8" = 1'-0"

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f16111te.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: S. SCRIBNER
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
LIGHTPOLE DETAILS 2	SHEET 99 OF 148



CONCRETE PAD PLAN VIEW

NTS

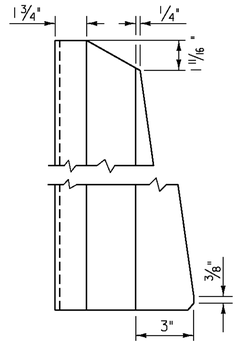


CONCRETE PAD ELEVATION VIEW

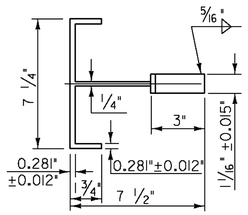
NTS

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

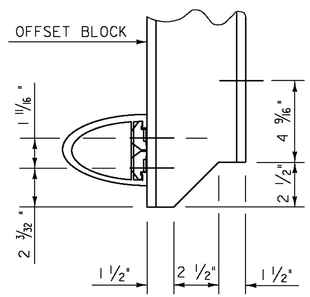
FILE NAME: s78f1611te.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: S. SCRIBNER
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
CONCRETE PAD DETAILS	SHEET 100 OF 148



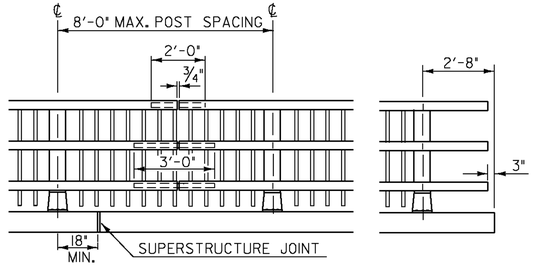
POST SIDE VIEW



POST PLAN VIEW

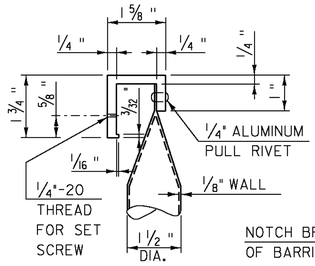


COPING DETAIL

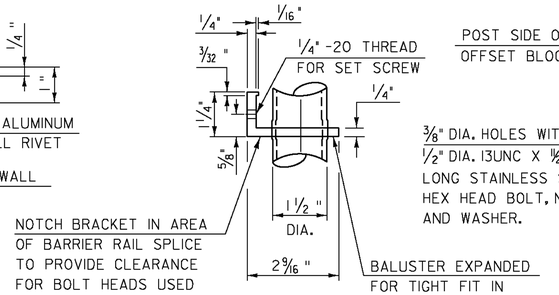


FRONT ELEVATION OF
THREE RAIL WITH SPINDLES

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



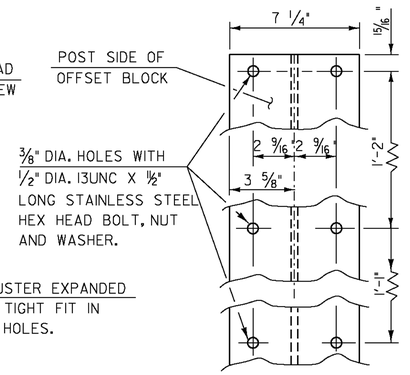
DETAIL A



NOTCH BRACKET IN AREA OF BARRIER RAIL SPLICE TO PROVIDE CLEARANCE FOR BOLT HEADS USED IN SPLICE (BRACKET TO BE NOTCHED IN FIELD)

BALUSTER EXPANDED FOR TIGHT FIT IN ALL HOLES.

DETAIL B

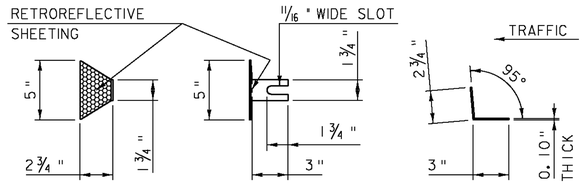


OFFSET BLOCK
CONNECTION

1.) RETROREFLECTIVE MATERIAL SHALL MEET THE REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE A 0.063" ALUMINUM BACKING WHITE OR YELLOW REFLECTOR. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT. FOR ONE WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT.

2.) INSTALL REFLECTOR DEVICE EVERY 30 FT (OR CLOSEST POST)

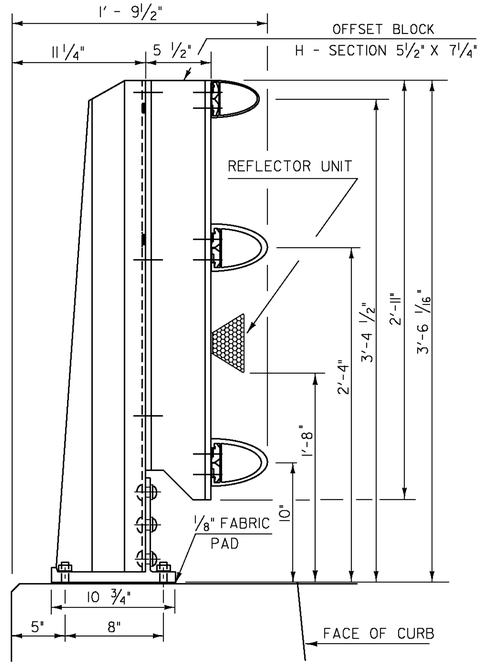
3.) PAYMENT SHALL BE INCIDENTAL TO CONTRACT ITEM 525.22



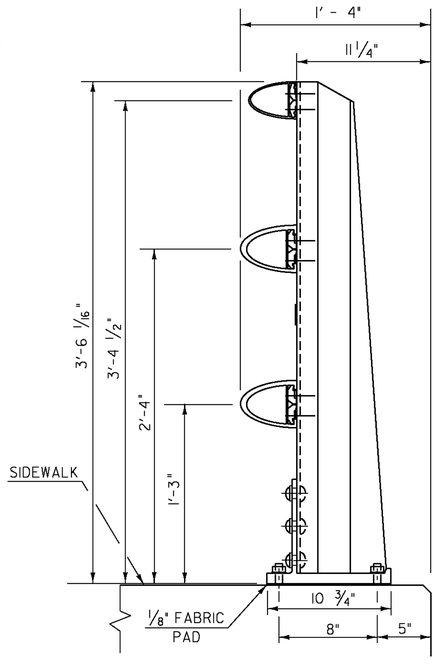
DELINEATION DEVICE DETAILS

ALLOWABLE STRESSES:

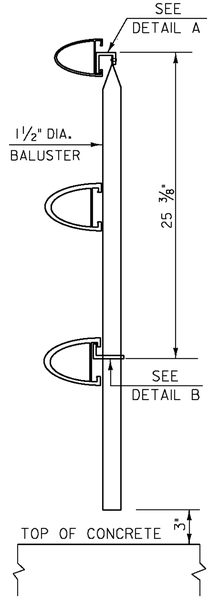
RAILING:	21,000 PSI	TENSION
	22,000 PSI	COMPRESSION
POSTS:	17,000 PSI	TENSION
	19,000 PSI	COMPRESSION



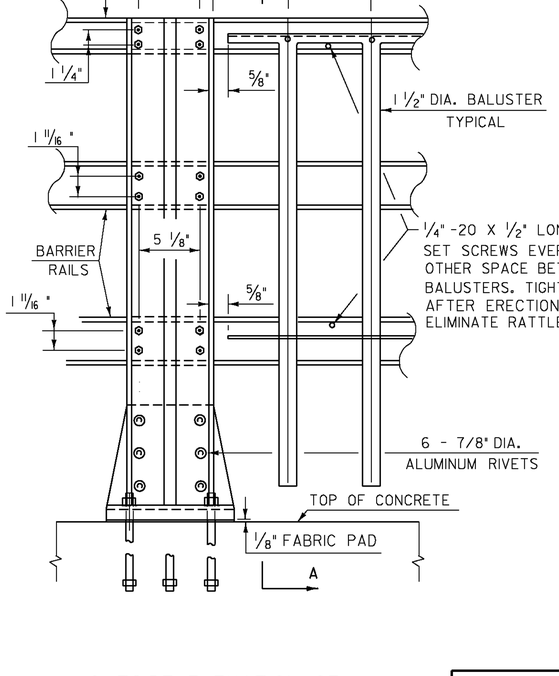
SIDE ELEVATION OF THREE RAIL
TO BE USED ON CURB SIDE



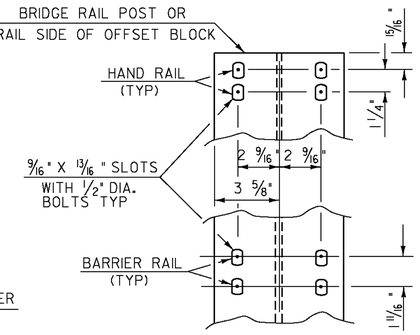
SIDE ELEVATION OF THREE RAIL
TO BE USED ON SIDEWALK SIDE



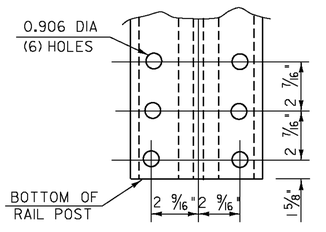
SECTION AA



OUTSIDE ELEVATION OF
THREE RAIL POST & SPINDLES



RAIL CONNECTION

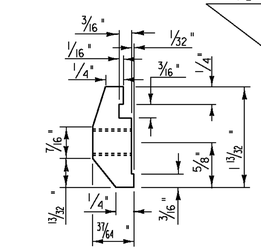


POST BASE
BOLT HOLE DETAILS

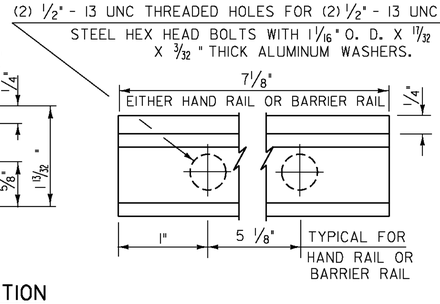
RAIL POST DETAILS ON SUPERSTRUCTURE

DETAILS OF SPINDLES FOR ALUMINUM RAILING

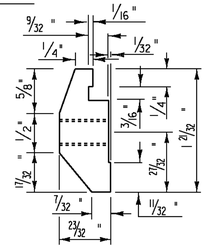
PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: s78f161brail.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
BRIDGE RAILING DETAIL SHEET 1	SHEET 101 OF 148



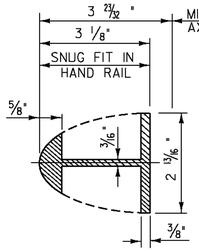
POST CONNECTION HAND RAIL SECTION



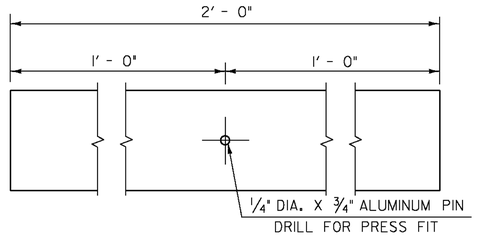
POST CONNECTION ELEVATION



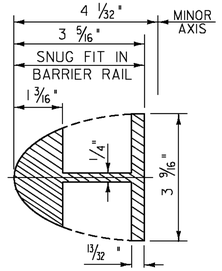
POST CONNECTION BARRIER RAIL SECTION



HAND RAIL SPLICE SECTION

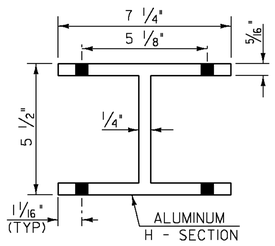


ELEVATION OF HAND RAIL SPLICE BAR

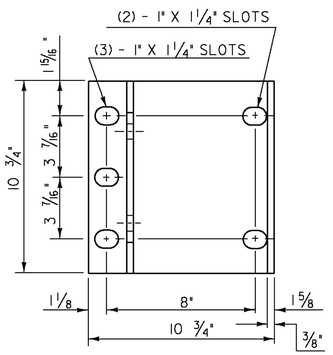


BARRIER RAIL SPLICE SECTION

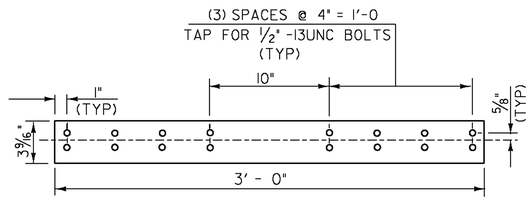
SEE BRIDGE RAILING DETAIL SHEET 3 & 4 FOR ELEVATION OF BARRIER RAIL SPLICE BAR



PLAN VIEW OF OFFSET BLOCK (TO BE USED ON SUPERSTRUCTURE ON CURB SIDE)



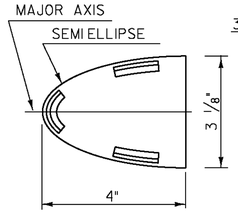
POST BASE PLAN

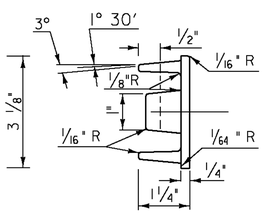


ELEVATION OF STD. BARRIER RAIL SPLICE BAR (FROM BACK)

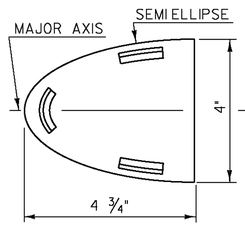
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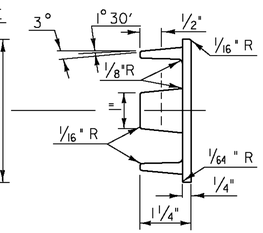
1. ANCHOR BOLTS, WASHERS AND HEAVY HEX NUTS SHALL CONFORM TO SUBSECTION 714.07
2. ALUMINUM POSTS, POST BASES, SPLICE BARS, CONNECTION BARS, RAILS AND BALUSTER FRAMES SHALL CONFORM TO ASTM B221 ALLOY 6061-T6 OR ALLOY 6351-T5. MINIMUM ALLOWABLE STRESS F_t = 35,000 PSI.
3. ALUMINUM BALUSTER TUBES SHALL CONFORM TO ASTM B210 ALLOY 6061-T5 OR 6063-T5.
4. ALUMINUM RAIL END CAPS SHALL CONFORM TO ASTM B26 ALLOY 356-T6.
5. THE POST, RAIL, AND OFFSET BLOCK CONNECTION BOLTS SHALL BE EITHER ASTM A193 OR ASTM A320. EITHER ONE SHALL BE CLASS 1, B8 GRADE A1S1 304 WITH AN ULTIMATE TENSILE STRENGTH OF 75,000 PSI. NUTS FOR EITHER OF THE ABOVE BOLTS SHALL BE ASTM A194, GRADE 8, STAINLESS STEEL WITH AN ULTIMATE TENSILE STRENGTH OF 75,000 PSI.
6. SET SCREWS FOR ATTACHING BALUSTERS TO RAILING SHALL BE ASTM F880, TYPE 303 MATERIAL.
7. RIVETS SHALL BE COLD DRIVEN HIGH BUTTON HEAD "CONE POINT", CONFORMING TO ASTM B316 ALLOY 6061-T6.
8. THE ANCHOR PLATE FOR THE POST ANCHOR ASSEMBLY SHALL BE ASTM A36 STRUCTURAL STEEL.
9. WELDING SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 506.10 USING THE GMAW-INERT GAS PROCESS AND AWS ER 5356 ELECTRODE WIRE.
10. UNLESS OTHERWISE SPECIFIED, ANCHOR BOLTS (RODS) SHALL BE CAST INTO THE CONCRETE AS DETAILED. FULLY THREADED ROD SHALL NOT BE SUBSTITUTED IN PLACE OF ANCHOR BOLT (RODS).
11. WHENEVER FEASIBLE BARRIER RAIL AND HAND RAIL SECTIONS, SHALL BE FULL LENGTH SECTIONS (40'+) AND WHEN POSSIBLE SHALL BE ATTACHED TO THREE POSTS. RAILS SHALL BE SPLICED AT EACH DECK JOINT AND INTERMITTENTLY AS REQUIRED. SPLICES SHALL OCCUR WITHIN THE SAME PANEL.
12. ENDS OF RAILS SHALL BE CUT SQUARE AND GROUND FREE OF BURRS OR RAGGED EDGES. EXPOSED ENDS SHALL BE CAPPED.
13. THE CONCRETE CONTACT SURFACE AT THE POST BASE SHALL BE BUSH HAMMERED AND/OR SHIMMED AS REQUIRED FOR PROPER POST ALIGNMENT. POST HEIGHT ADJUSTMENTS LESS THAN 1/4" SHALL BE WITH 1/16" AND 1/8" SHIMS. CORRECTIONS EXCEEDING 1/4" SHALL BE WITH EPOXY MORTAR CONFORMING WITH SUBSECTION 719.02. FABRIC BEARING PADS AND ANY REQUIRED SHIMS OR EPOXY MORTAR ARE INCIDENTAL TO THE UNIT PRICE BID FOR THE RAILING.
14. SHIMS AND 1/8" FABRIC BEARING PADS SHALL BE 10 3/4" SQUARE WITH SLOTTED HOLES SIZED AND LOCATED THE SAME AS THE POST BASE DETAIL. FABRIC BEARING PADS SHALL CONFORM TO SUBSECTION 731.01 OR 731.02, SHIM MATERIAL SHALL BE ASTM B 209 ALLOY 1100-0.
15. EXTRUDED SECTIONS ARE DETAILED TO COMPLY WITH CURRENT AASHTO-AGC-ARTBA STANDARDS. MINOR VARIATIONS OF THE DETAILS SHOWN MAY BE CONSIDERED PROVIDING THEY DO NOT REDUCE THE STRENGTH CAPACITY OF THE RAIL SYSTEM.
16. ALUMINUM WASHERS SHALL BE ASTM B209 ALLOY ACLAD 2024-T4.



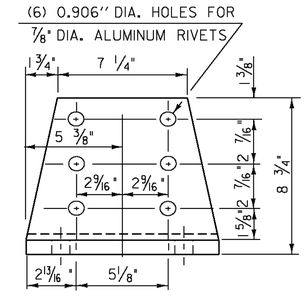


HAND RAIL END CAP

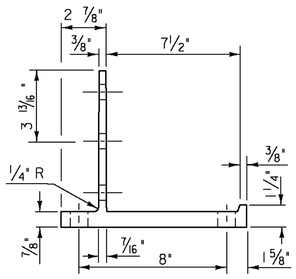




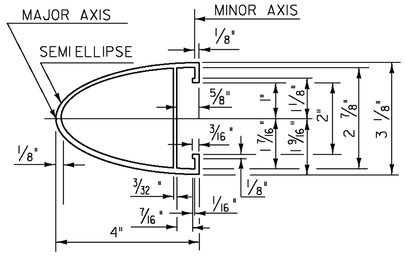
BARRIER RAIL END CAP



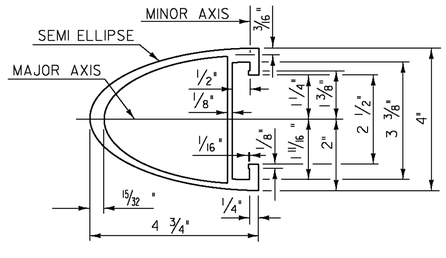
POST BASE FRONT ELEVATION



POST BASE SECTION

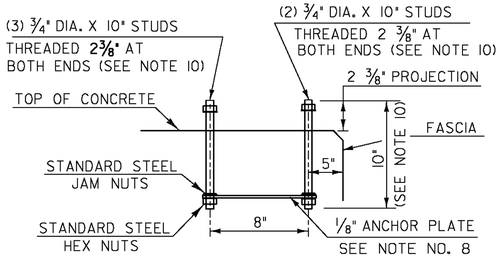


HAND RAIL SECTION

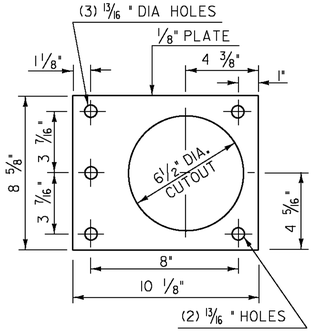


BARRIER RAIL SECTION

SEE BRIDGE RAILING DETAIL SHEET 3 & 4 FOR ELEVATION OF BARRIER RAIL SPLICE BAR



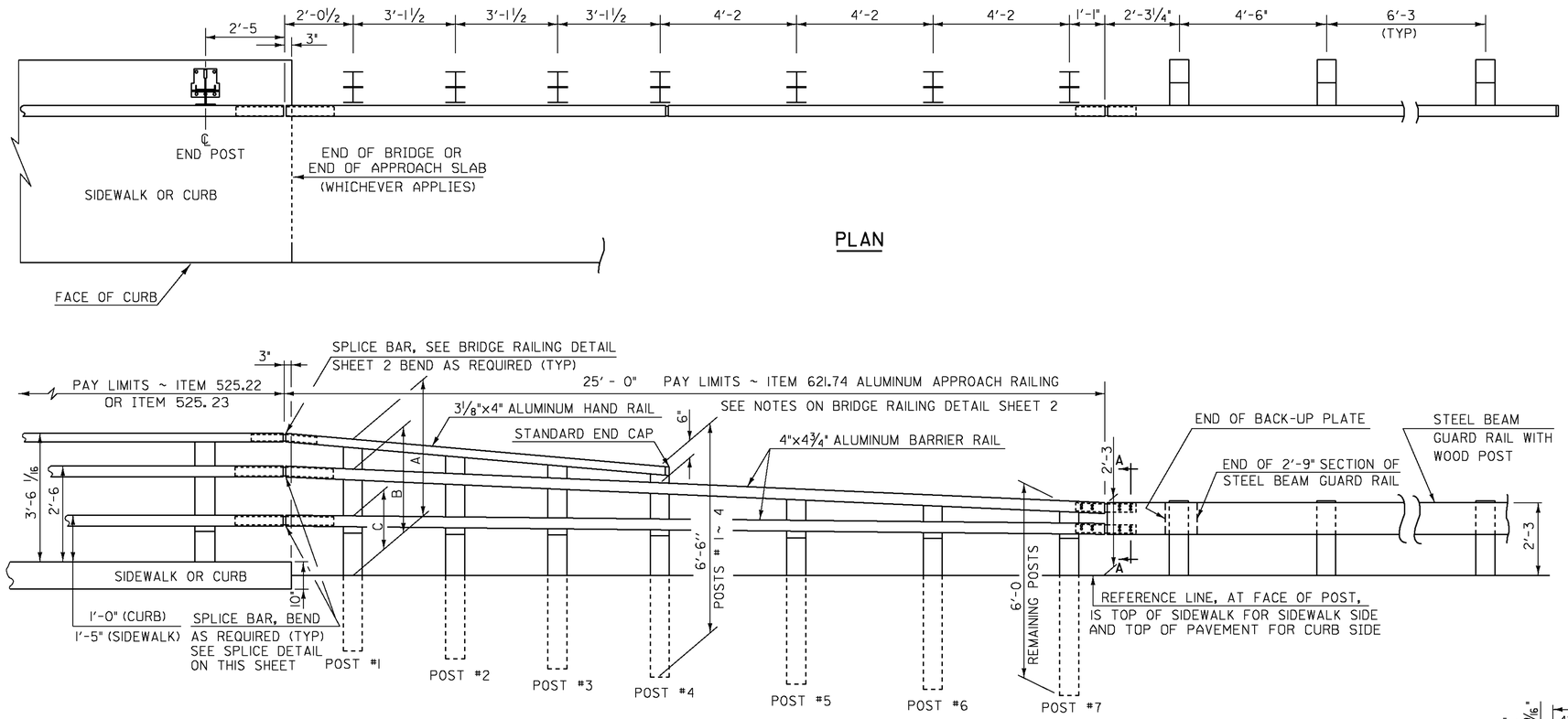
POST ANCHOR ASSEMBLY



ANCHOR PLATE

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

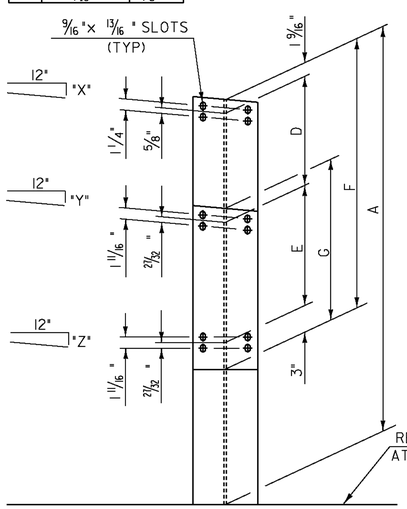
FILE NAME: s78f161brail.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
BRIDGE RAILING DETAIL SHEET 2	SHEET 102 OF 148



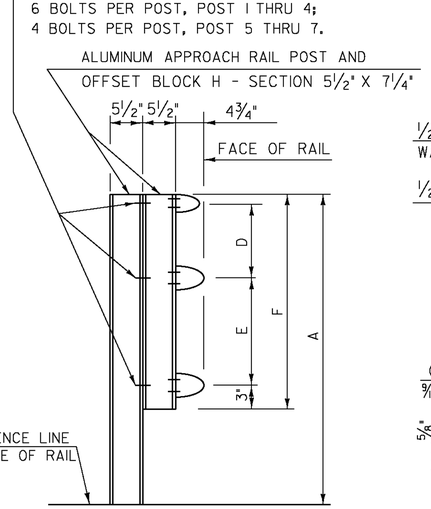
PLAN

ELEVATION

	SIDEWALK SIDE	CURB SIDE
"X"	5/8"	11/16"
"Y"	1/8"	1/2"
"Z"	1/16"	1/8"

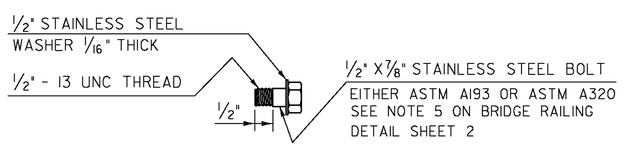


FRONT ELEVATION

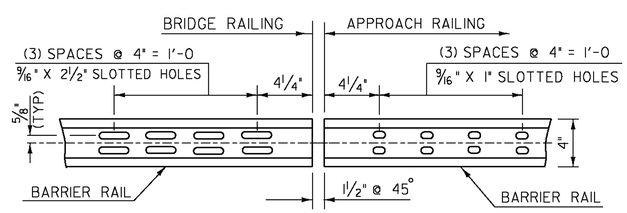


SIDE ELEVATION

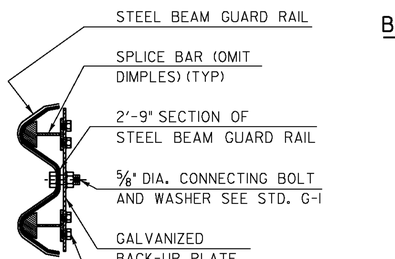
APPROACH RAIL DETAILS



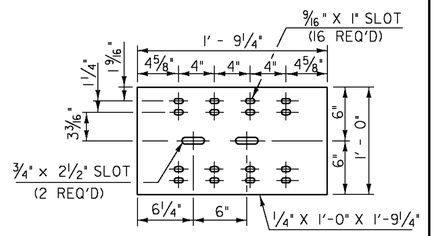
STAINLESS STEEL BOLT DETAILS



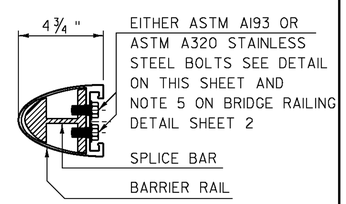
ELEVATION OF BARRIER RAIL (FROM BACK)



SECTION A-A



BACK-UP PLATE DETAILS



TYPICAL SECTION THROUGH
BARRIER RAIL SPLICE

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: s78f16lbrail.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
BRIDGE RAILING DETAIL SHEET 3	SHEET 103 OF 148

ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A CURB CONDITION

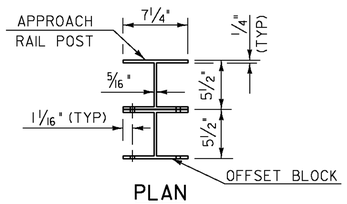
POST NO.	RAIL HEIGHT DIMENSIONS			OFFSET BLOCK DIMENSIONS			
	A	B	C	D	E	F	G
1	4-1 15/16"	3'-2 15/16"	1'-9 11/16"	11 7/16"	1'-5 1/4"	2'-9 3/16"	1'-5 1/16"
2	3-10 5/8"	3'-1 5/16"	1'-9 1/4"	9 3/4"	1'-4 1/16"	2'-6 3/8"	1'-3 1/2"
3	3-7 3/8"	2'-11 11/16"	1'-8 13/16"	8 1/8"	1'-2 7/8"	2'-3 1/2"	1'-1 5/16"
4	3-4 1/16"	2'-10 1/16"	1'-8 3/8"	6 7/16"	1'-1 11/16"	2'-0 11/16"	-
5	-	2-7 7/8"	1'-7 13/16"	-	1'-0 1/16"	-	-
6	-	2"-5 3/4"	1'-7 1/4"	-	10 1/2"	-	-
7	-	2-3 9/16"	1'-6 5/8"	-	8 15/16"	-	-

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

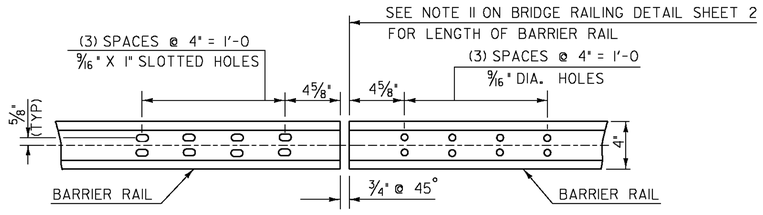
ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A SIDEWALK CONDITION

POST NO.	RAIL HEIGHT DIMENSIONS			OFFSET BLOCK DIMENSIONS			
	A	B	C	D	E	F	G
1	3'-4 3/4"	2'-5 3/4"	1'-5 1/8"	11 7/16"	1'-0 5/8"	2'-4 5/8"	-
2	3'-2 11/16"	2'-5 3/8"	1'-5 5/16"	9 3/4"	1'-0 1/16"	2'-2 3/8"	-
3	3'-0 11/16"	2'-5"	1'-5 1/2"	8 1/8"	11 1/2"	2'-0 3/16"	-
4	2'-10 5/8"	2'-4 5/8"	1'-5 11/16"	6 7/16"	10 15/16"	1'-9 15/16"	-
5	-	2'-4 1/8"	1'-5 15/16"	-	10 3/16"	-	1'-3 3/16"
6	-	2'-3 5/8"	1'-6 3/16"	-	9 7/16"	-	1'-2 7/16"
7	-	2'-3 1/8"	1'-6 7/8"	-	8 11/16"	-	1'-1 11/16"

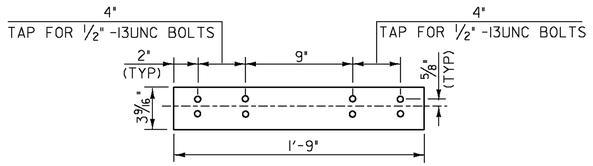
ALL REMAINING POSTS TO HAVE THE SAME DIMENSIONS AS POST NO. 7



PLAN



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



ELEVATION OF BARRIER RAIL SPLICE BAR
TO BE USED AT TRANSITION BETWEEN
APPROACH RAIL & GUARD RAIL (FROM BACK)

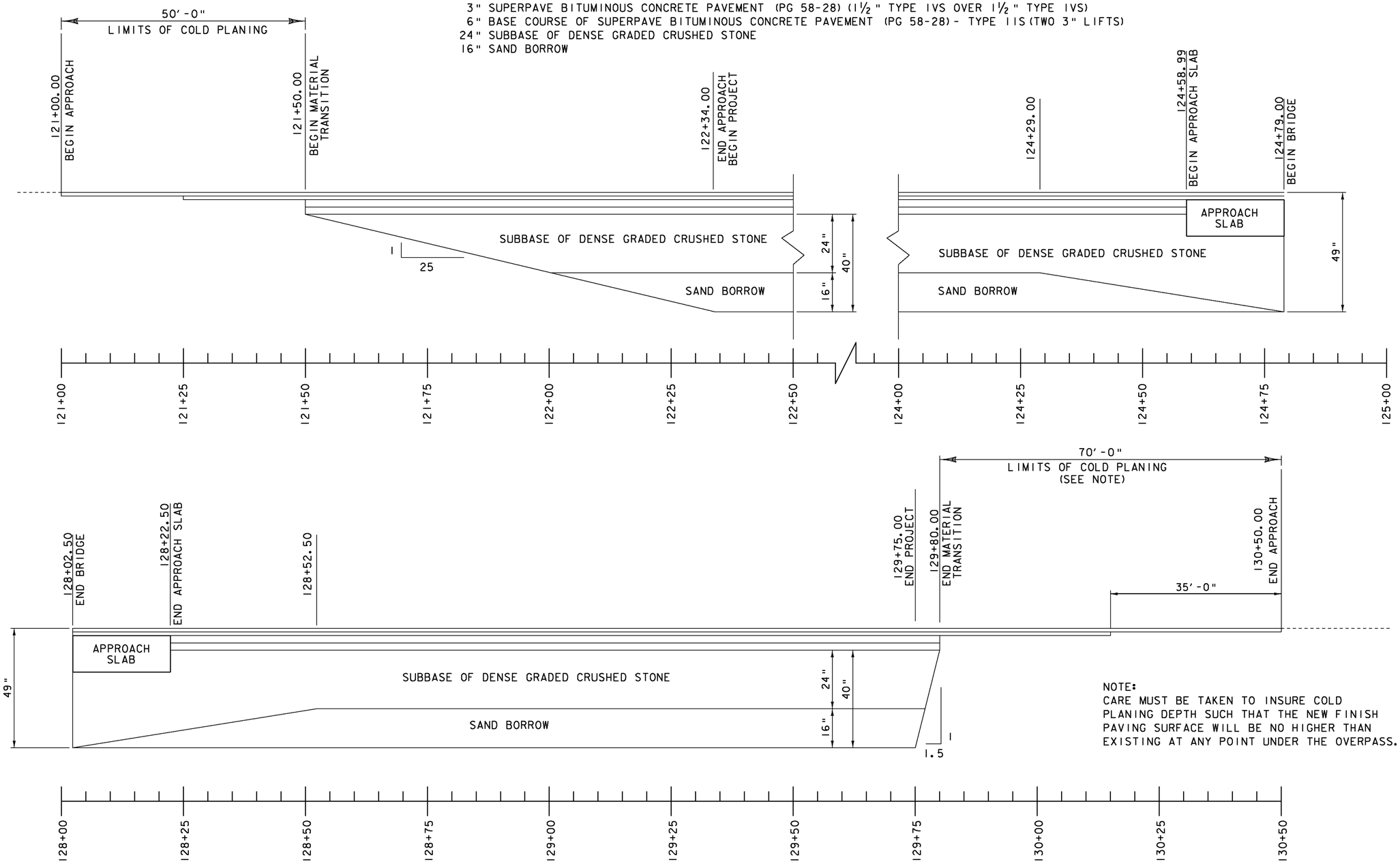
NOTES

1. POST 1 THROUGH 7 SHALL BE EXTRUDED ALUMINUM.
2. ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 36 GALVANIZED AFTER FABRICATION.
3. ALL ITEMS NOT OTHERWISE INDICATED SHALL MEET THE SPECIFICATION REQUIREMENTS OF THE STANDARD SHEETS ON WHICH THEY ARE DETAILED.
4. SEE STANDARD G-1 FOR STEEL BEAM GUARD RAIL DETAILS. SEE BRIDGE RAILING DETAILS SHEET 1-2 FOR ALUMINUM BRIDGE RAILING DETAILS.
5. THE COST OF ALL MATERIALS AND LABOR FOR THE SPLICE BETWEEN THE ALUMINUM APPROACH RAILING AND THE STEEL BEAM GUARD RAIL SHALL BE INCIDENTAL TO ITEM 621.74, ALUMINUM APPROACH RAILING.
6. DETAILS ARE SHOWN FOR TRANSITION TO A 3 RAIL ALUMINUM BRIDGE RAILING.
7. DIMENSIONS SHOWN ARE FROM A REFERENCE LINE AT THE FACE OF POST FOR A NORMAL CROWNED SECTION. APPROPRIATE CORRECTIONS SHALL BE MADE FOR CROSS SLOPES OTHER THAN A NORMAL SECTION.

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: s78f161brail.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
BRIDGE RAILING DETAIL SHEET 4

PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: S. SCRIBNER
SHEET 104 OF 148



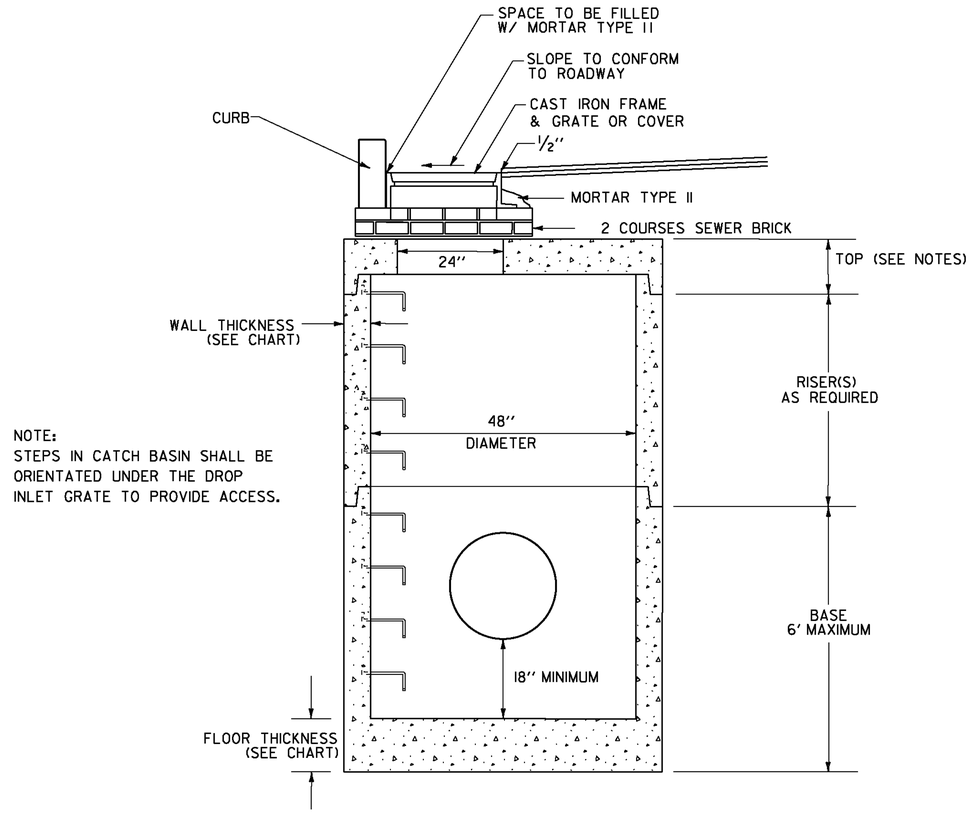
MATERIAL TRANSITION DETAILS

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

PROJECT NAME: BETHEL	
PROJECT NUMBER: BRF 022-1(14)	
FILE NAME: 78f161\STR\sf161xs.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
MATERIAL TRANSITION DETAILS	SHEET 105 OF 148

NOTES:

1. ALL PRECAST CONCRETE CATCH BASINS SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH SUBSECTION 705.04.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL INVERT ELEVATIONS, PIPE SIZES AND LOCATIONS SHOWN PRIOR TO ORDERING THE PRECAST COMPONENTS.
3. SEE STANDARDS D-11, D-15, AND D-16 FOR CAST IRON FRAME AND GRATE DETAILS.
4. THE TOP SECTIONS MAY BE EITHER THE FLAT TOPS AS SHOWN OR CONE SECTIONS. IF CONE SECTIONS ARE USED THEY MAY EITHER BE CONCENTRIC OR ECCENTRIC. PIPES ARE NOT PERMITTTED TO ENTER CONE SECTIONS.
5. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROVE JOINT 4" HIGH AT AN ANGLE OF 11 DEGREES CENTERED IN THE WIDTH OF THE JOINT. ALL SECTIONS SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT.
6. ALL SECTIONS WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 1'-0" OF OUTSIDE SURFACE BETWEEN HOLES. NO MORE THAN 75% OF A HORIZONTAL CROSS SECTION SHALL BE HOLES. HOLES SHALL BE NO CLOSER THAN 3" TO A JOINT.
7. SEE STANDARD D-15 FOR SIZING AND SPACING OF STEPS.
8. ALL HOLES IN BASINS AND INLETS SHALL HAVE SMOOTH, CLEAN EDGES.



NOTE:
STEPS IN CATCH BASIN SHALL BE ORIENTATED UNDER THE DROP INLET GRATE TO PROVIDE ACCESS.

PRECAST CATCH BASIN

N. T. S.

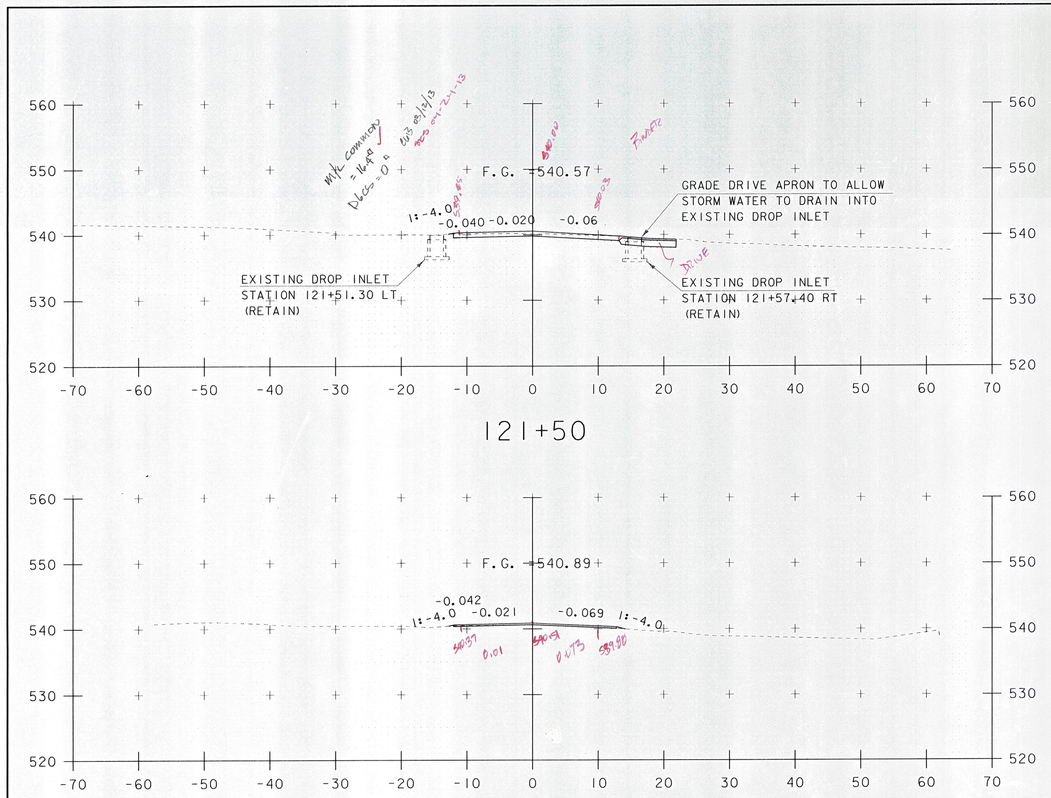
SIZING CHART

DIAMETER	WALL THICKNESS	FLOOR THICKNESS
48" OR SMALLER	5"	6"
60"	6"	8"
72"	7"	8"
84"	8"	10"
96"	9"	10"

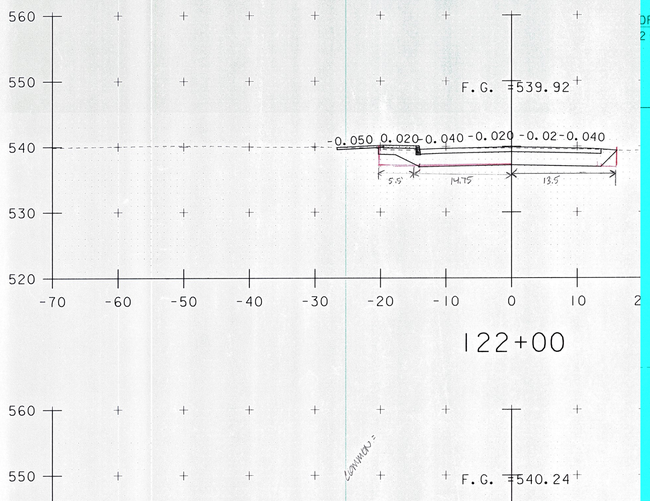
PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: sf16lud.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: G. ROKES
PRECAST CATCH BASIN DETAILS

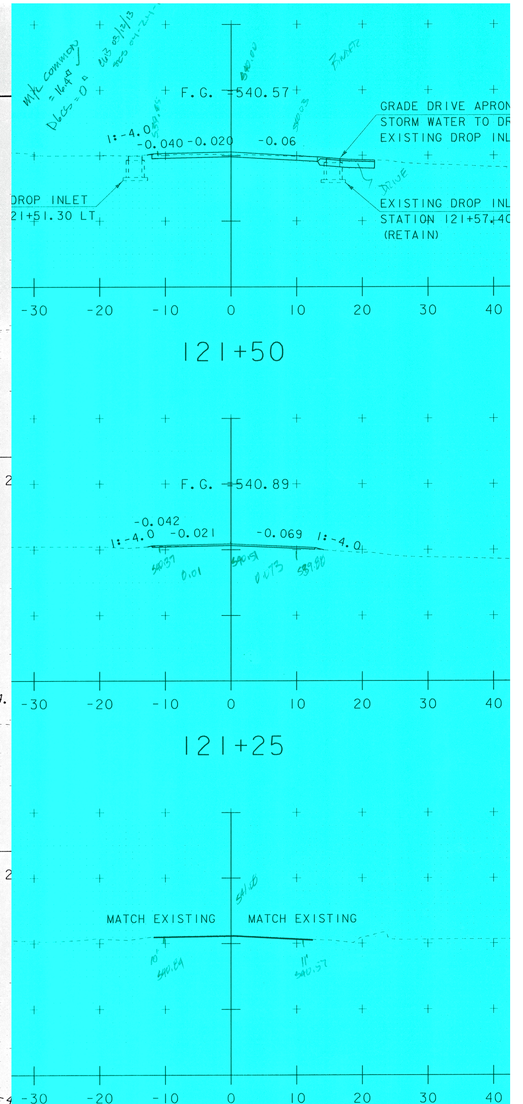
PLOT DATE: 20-MAY-2011
DRAWN BY: G. ROKES
CHECKED BY: S. SCRIBNER
SHEET 106 OF 148



121+50

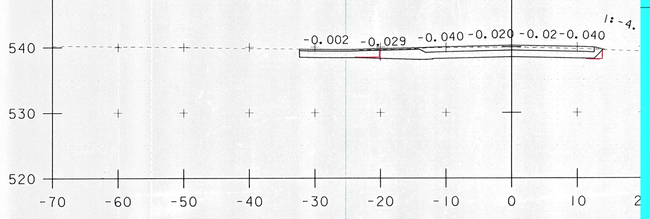


122+00



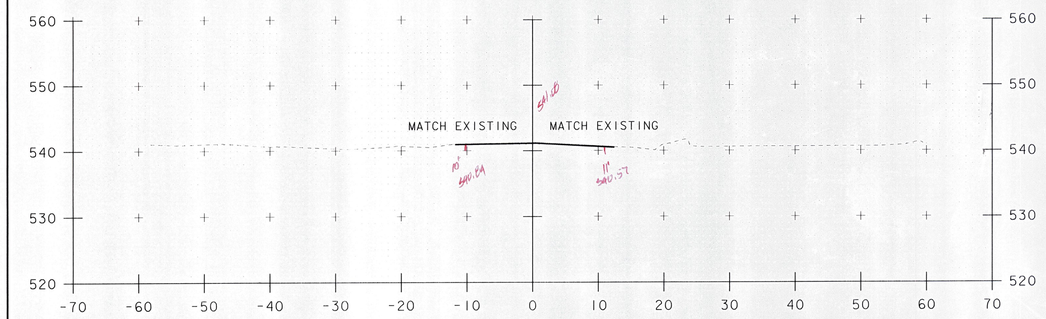
121+50

121+25

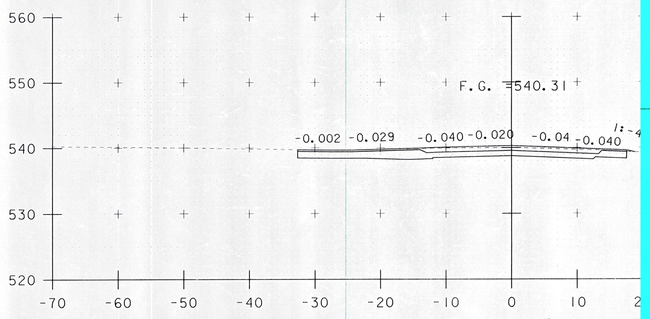


121+75

121+25



121+00
BEGIN APPROACH



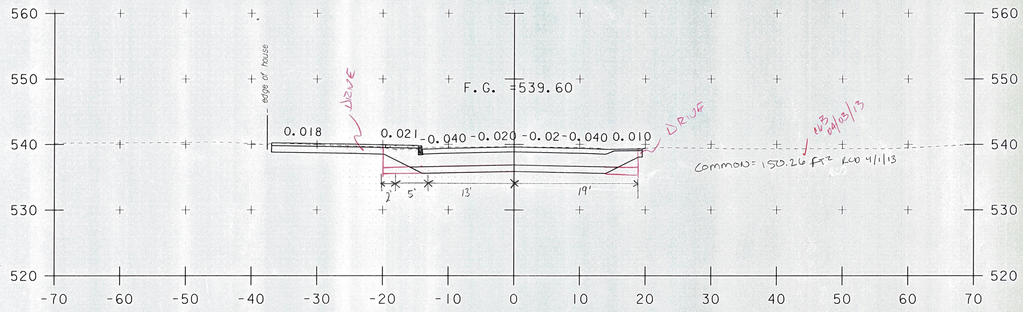
121+70
DRIVE LT & RT

121+00
BEGIN APPROACH

SCALE 1" = 10'-0
10 0 10

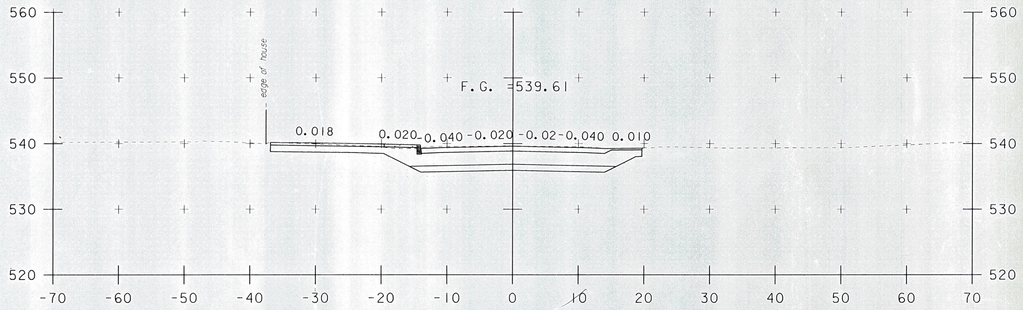
PROJECT NA
PROJECT NU
FILE NAME:
PROJECT LE
DESIGNED BY
VT 107 CROS

STA. 121+00 TO STA. 122+00



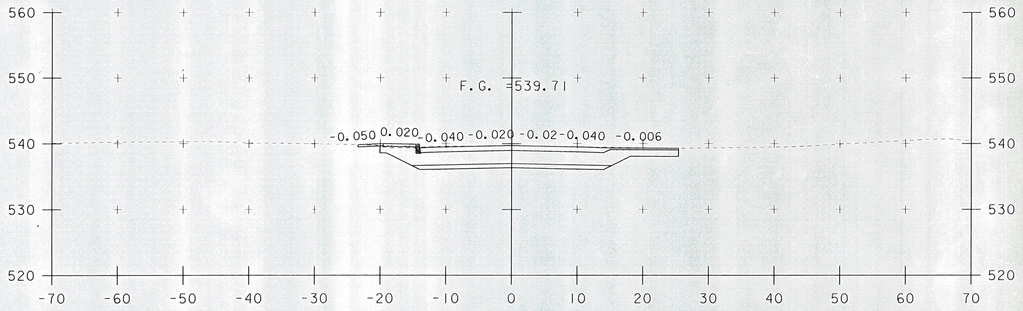
122+25

BEGIN PROJECT/END APPROACH 122+34.00



122+24

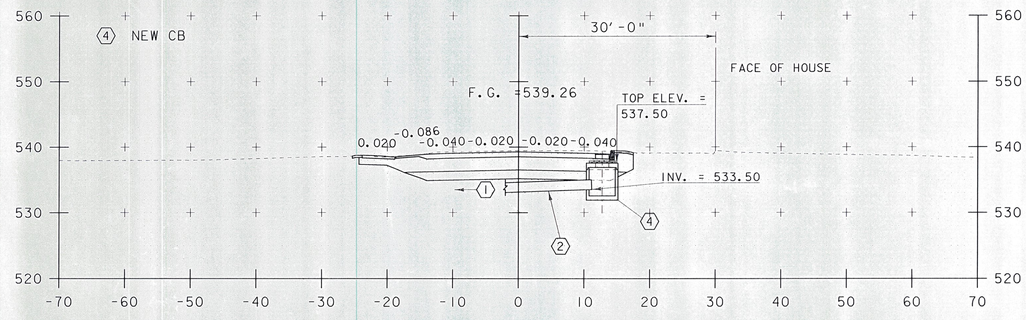
℄ OF WALKWAY TO HOUSE (LEFT)



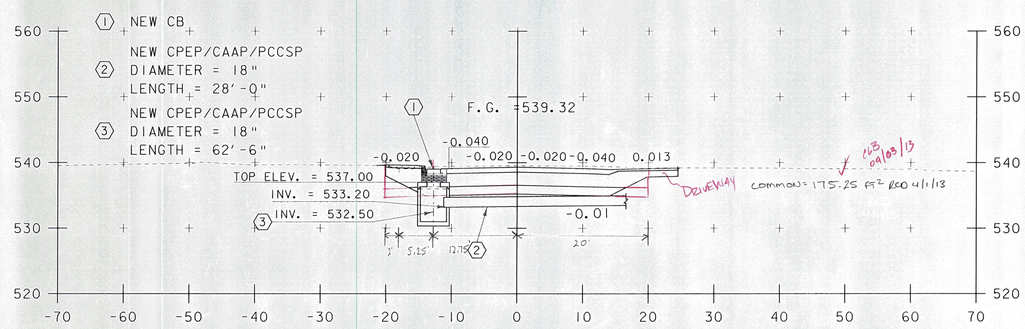
122+16

DRIVE RT

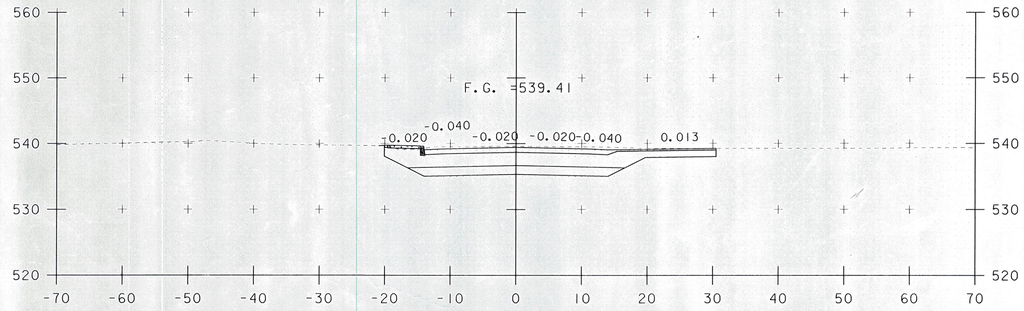
NOTE CB PRECAST CONCRETE CATCH BASIN



122+67



122+50



122+40

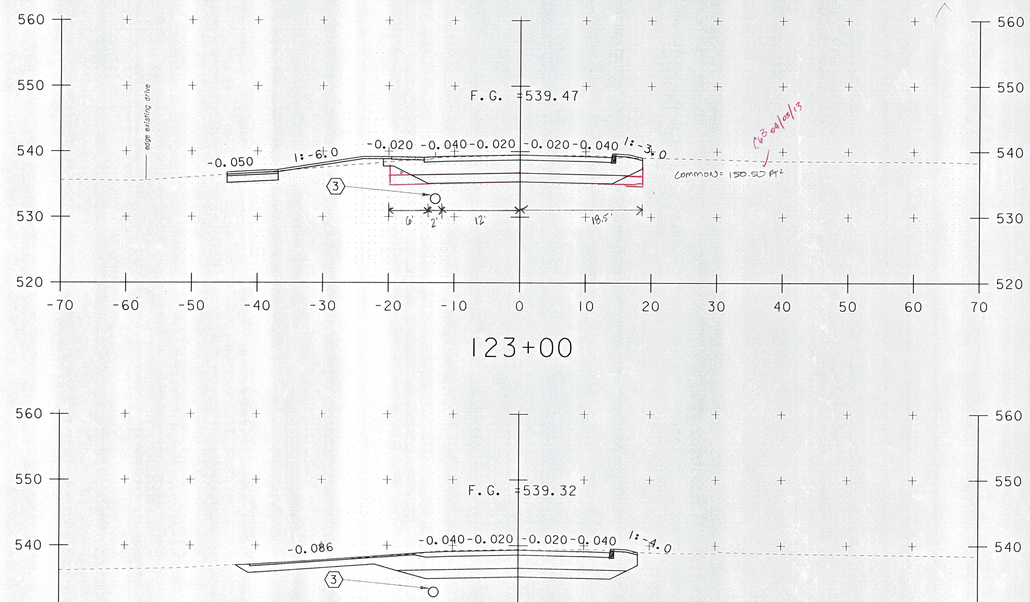
DRIVE RT

SCALE 1" = 10'-0

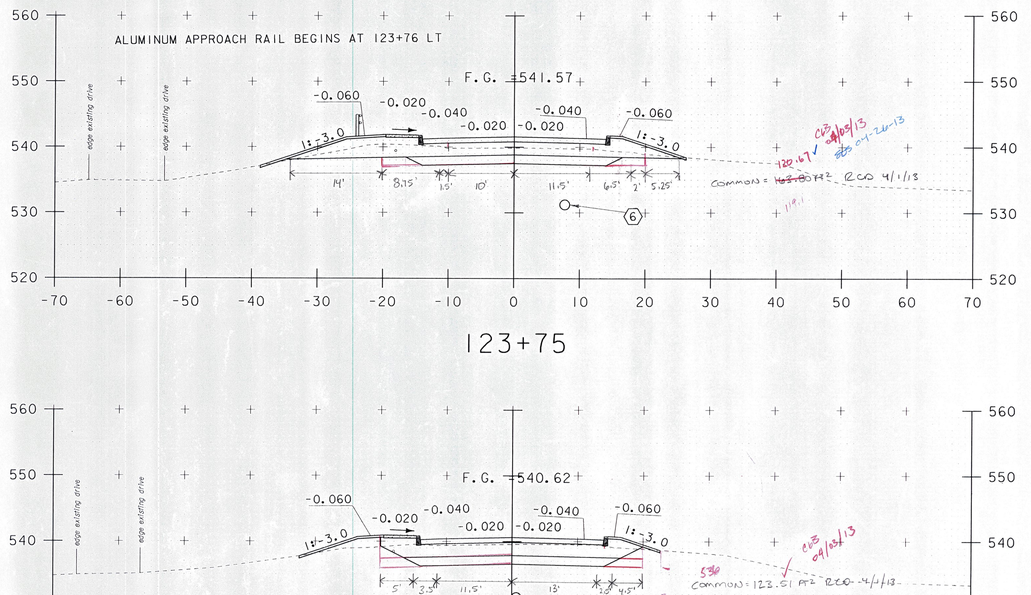
10 0 10

STA. 122+16 TO STA. 122+67

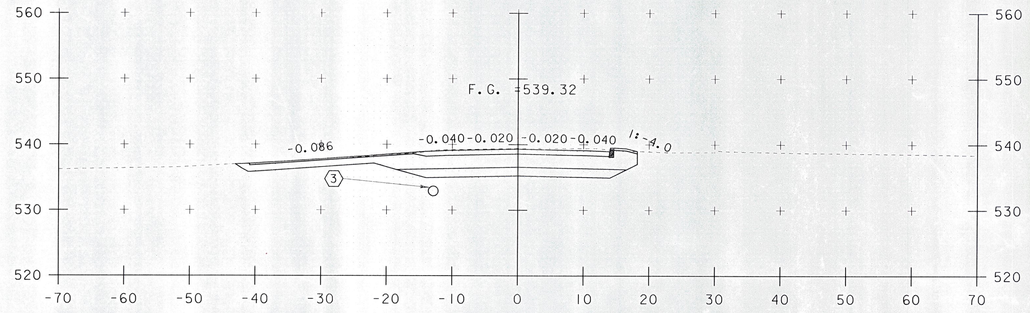
PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: 78f161\STR\sf161xs.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
VT 107 CROSS SECTION SHEET 2	SHEET 108 OF 148



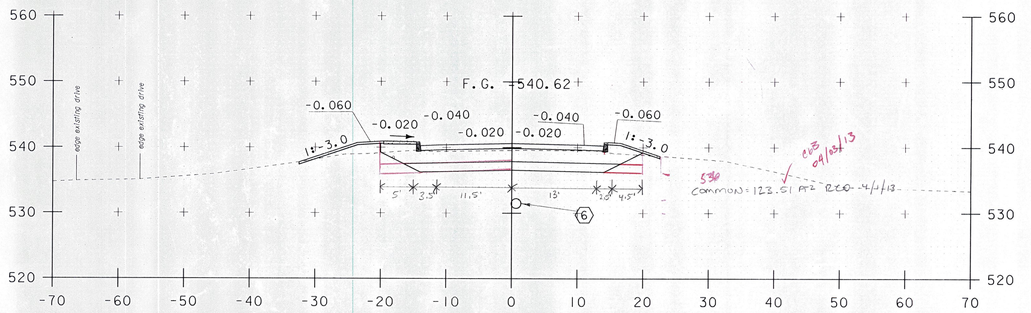
123+00



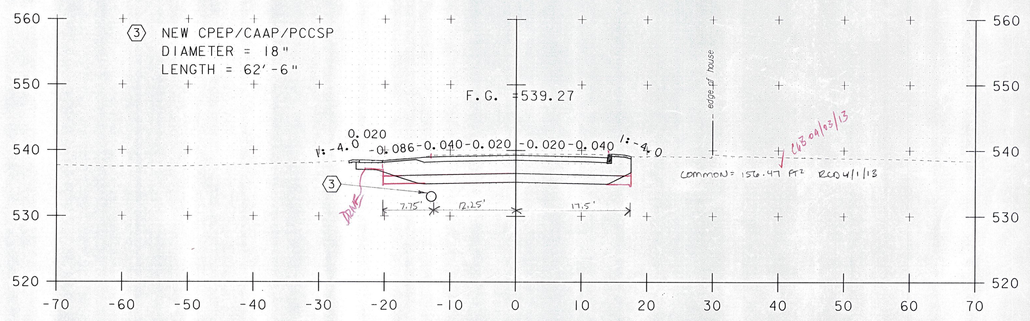
123+75



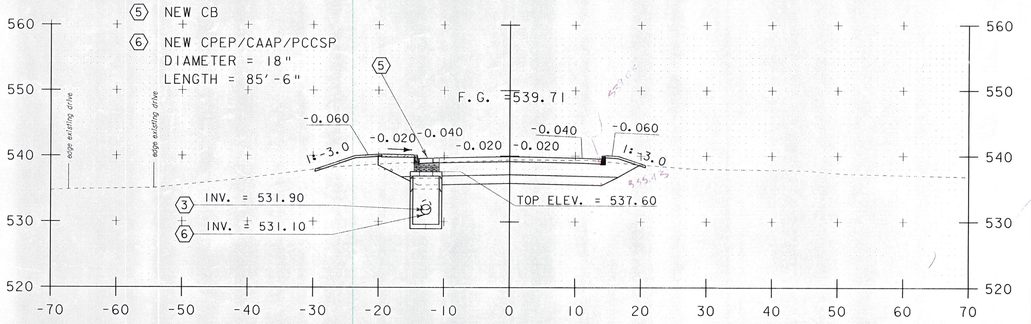
122+85
DRIVE LT



123+50



122+75



123+15

NOTE CB PRECAST CONCRETE CATCH BASIN

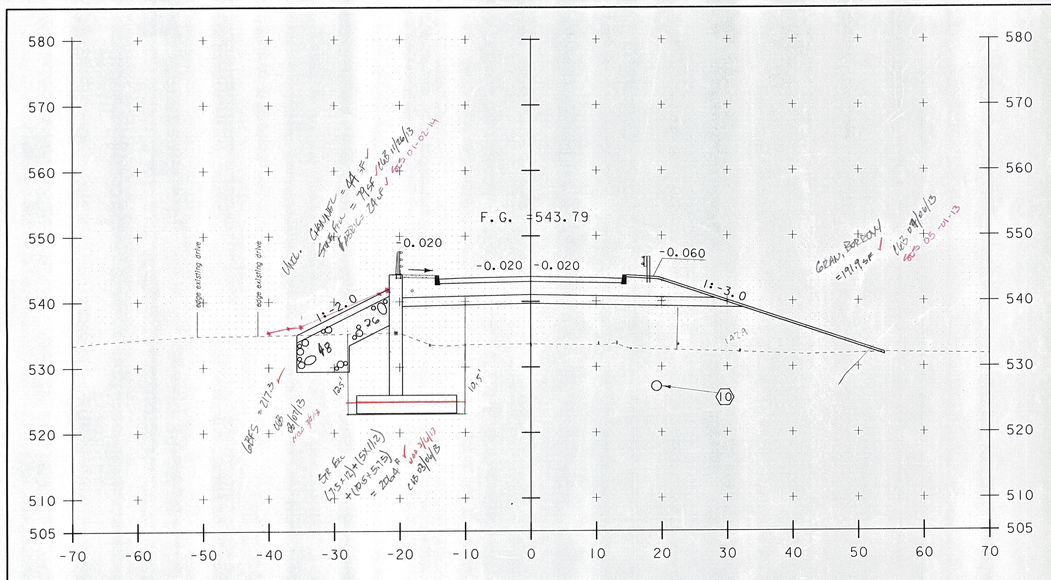
SCALE 1" = 10'-0
10 0 10

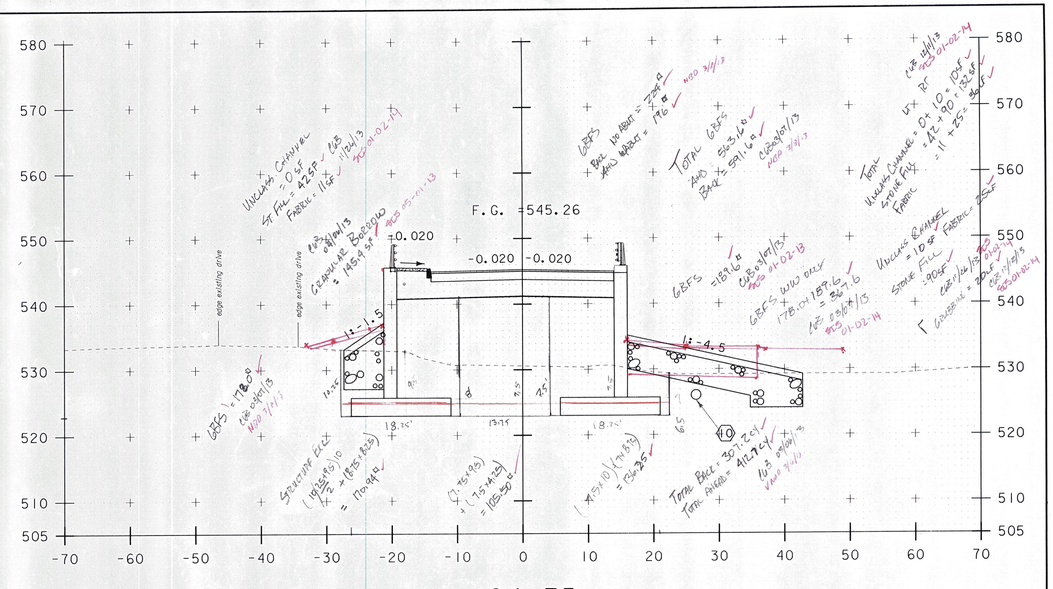
STA. 122+75 TO STA. 123+75

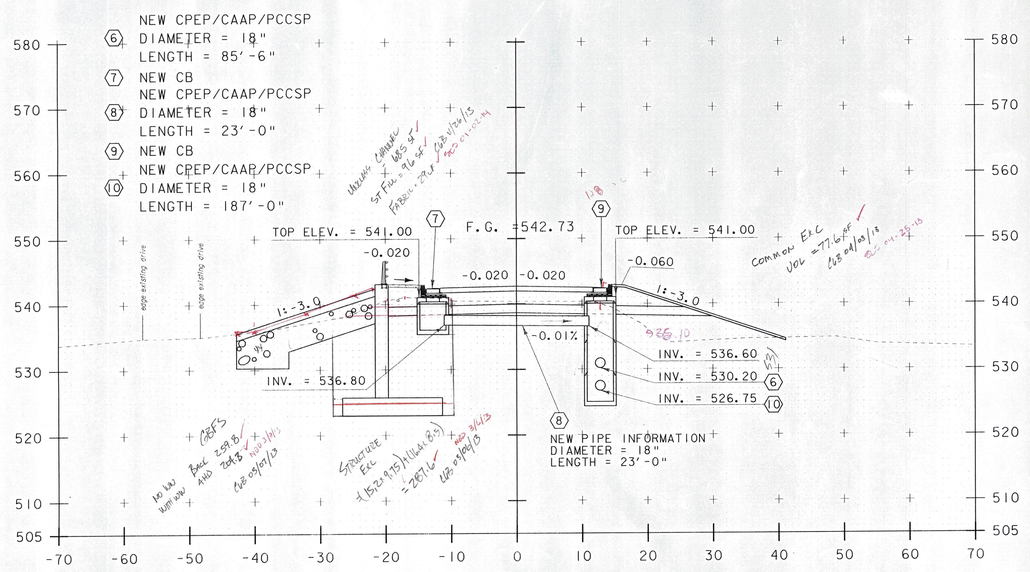
PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

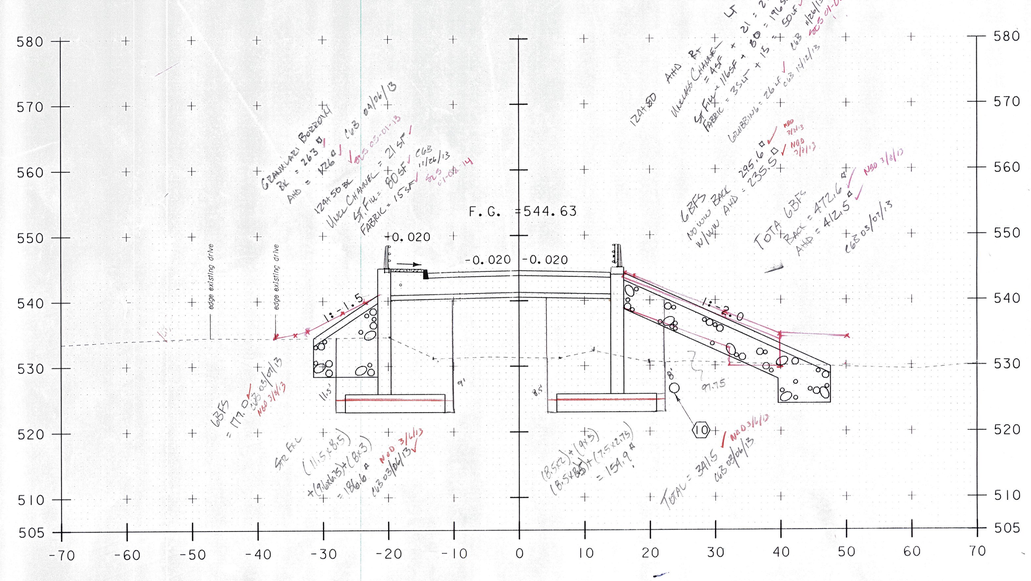
FILE NAME: 78f161\STR\sf161xs.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
VT 107 CROSS SECTION SHEET 3

PLOT DATE: 20-MAY-2011
DRAWN BY: G. ROKES
CHECKED BY: S. SCRIBNER
SHEET 109 OF 148









NOTE CB PRECAST CONCRETE CATCH BASIN

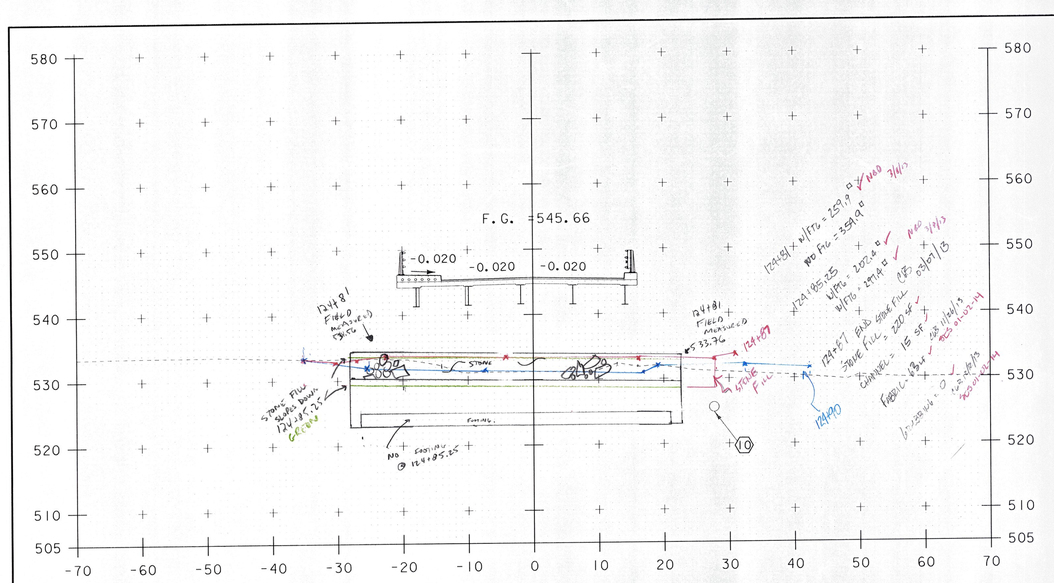
SCALE 1" = 10'-0
10 0 10

STA. 124+00 TO STA. 124+75

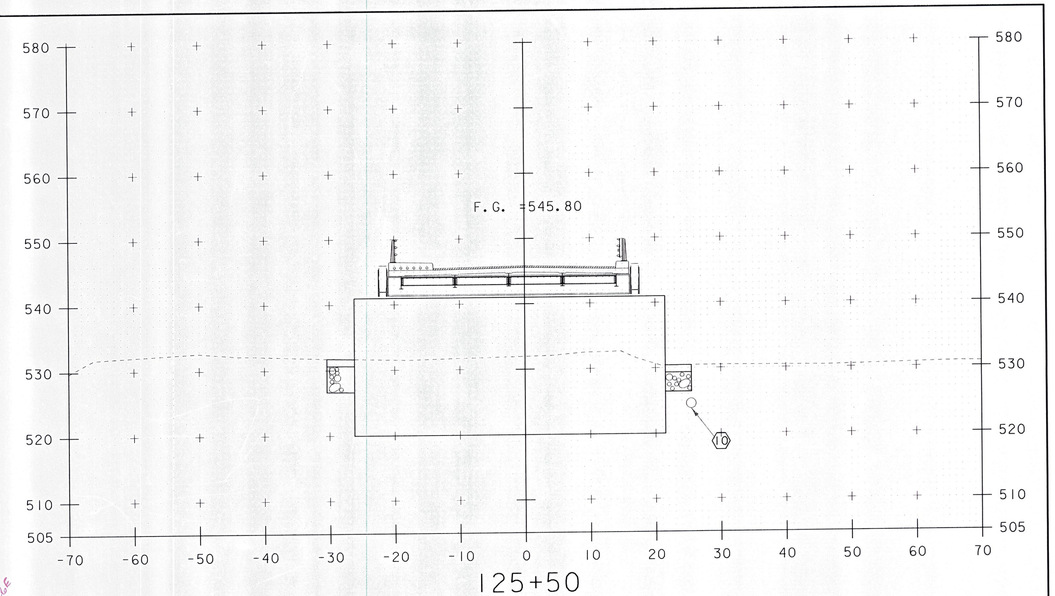
PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: 78f161\STR\sf161xs.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
VT 107 CROSS SECTION SHEET 4

PLOT DATE: 20-MAY-2011
DRAWN BY: G. ROKES
CHECKED BY: S. SCRIBNER
SHEET 110 OF 148

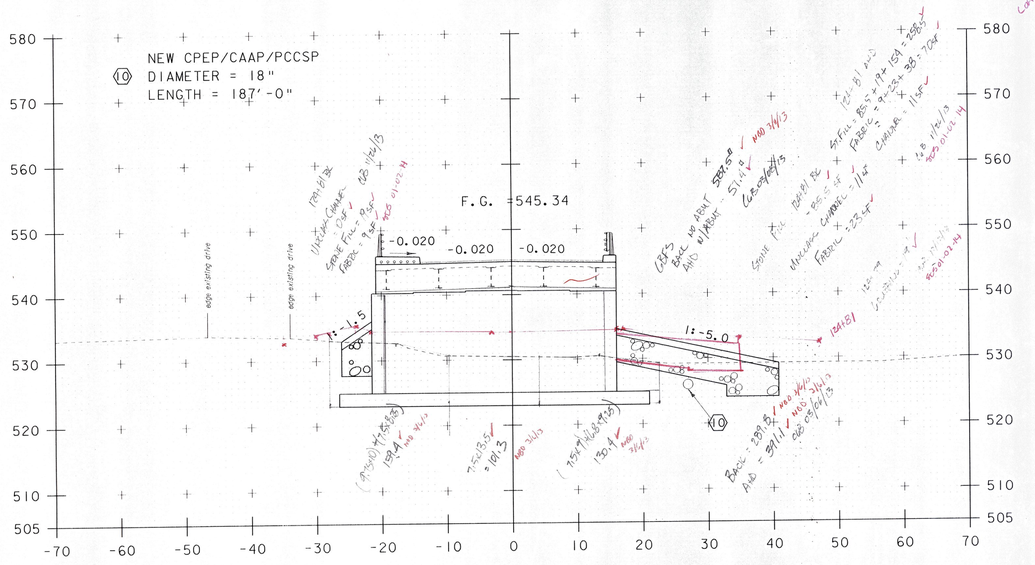


125+00

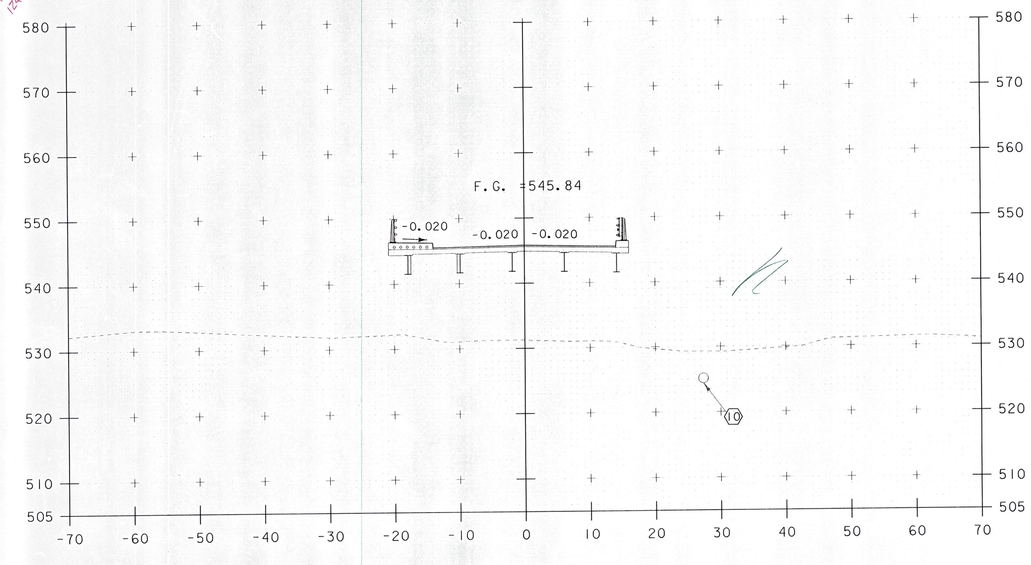


125+50

℄ OF PIER - 125+49



124+79.00
BEGIN BRIDGE



125+25

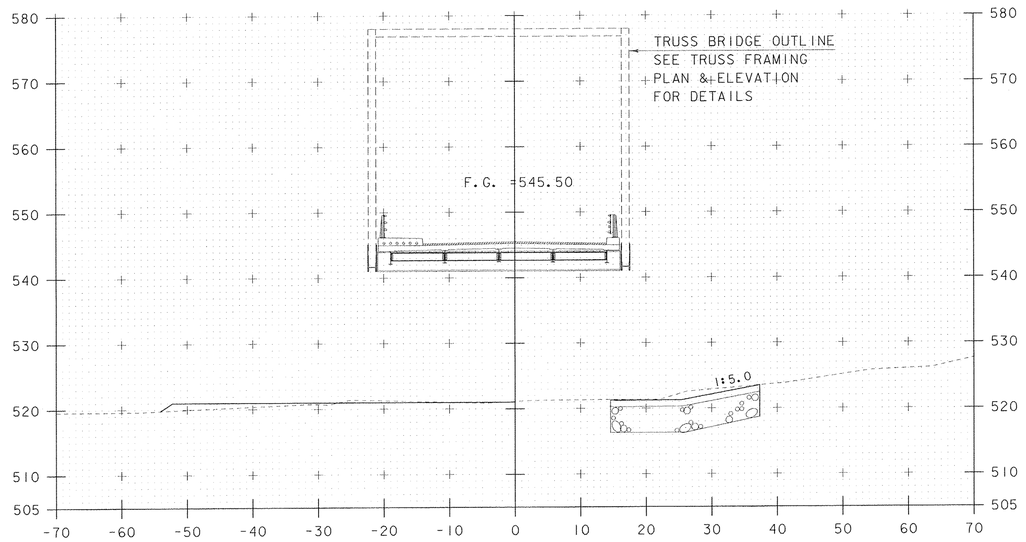
SCALE 1" = 10'-0
10 0 10

STA. 124+79 TO STA. 125+50

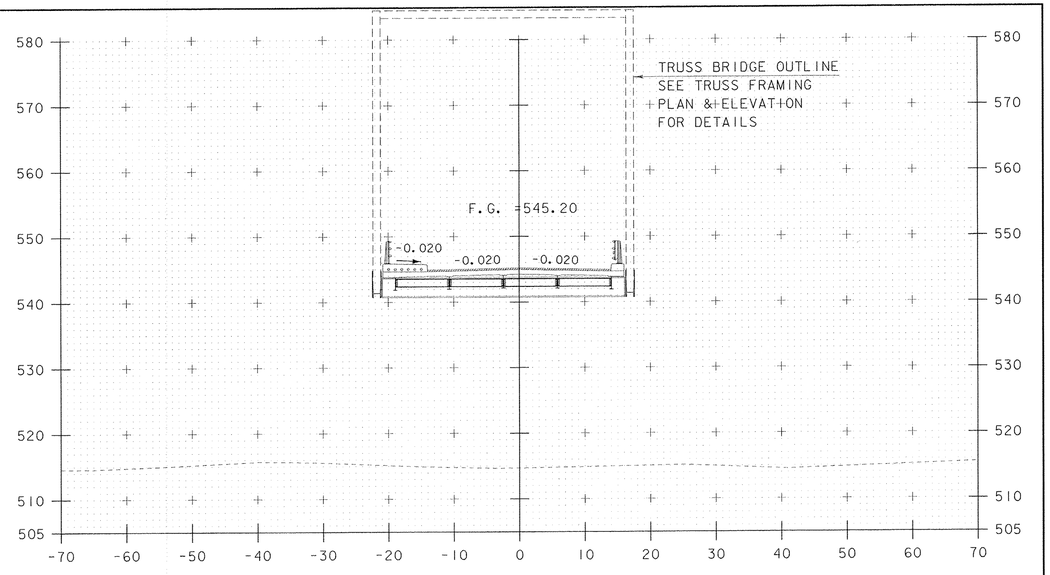
PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: 78f161\STR\sf161xs.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
VT 107 CROSS SECTION SHEET 5

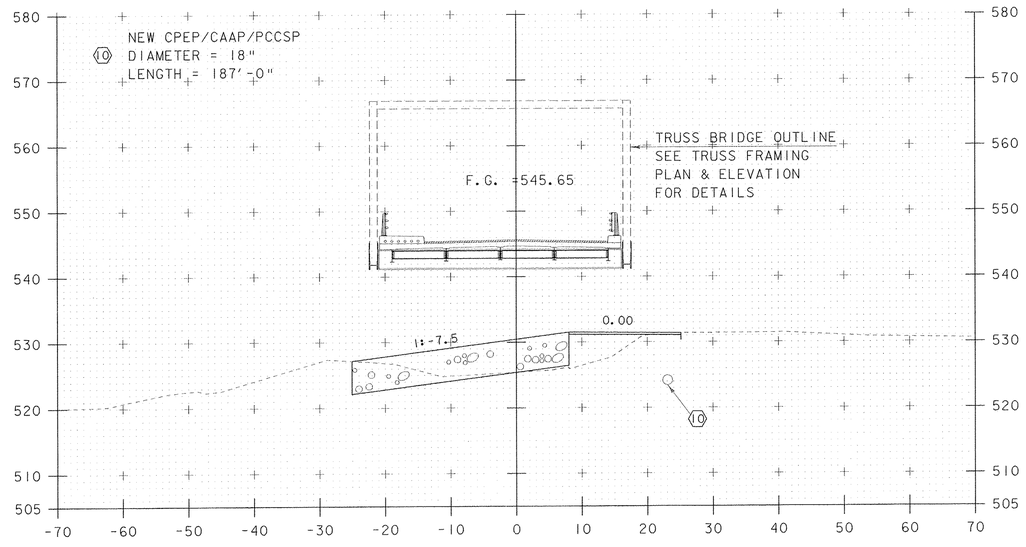
PLOT DATE: 20-MAY-2011
DRAWN BY: G. ROKES
CHECKED BY: S. SCRIBNER
SHEET III OF 148



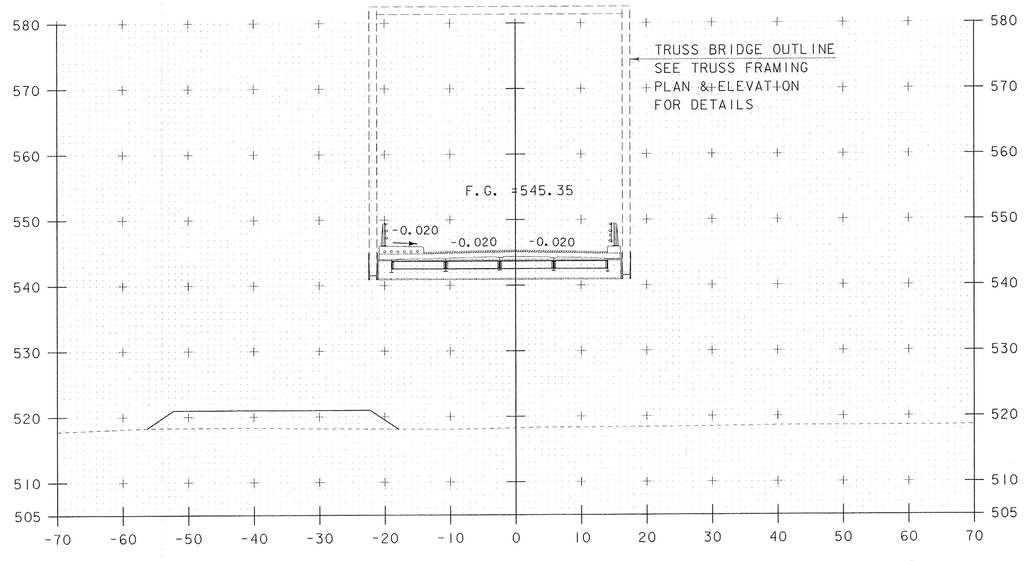
126+00



126+50



125+75



126+25

SCALE 1" = 10'-0

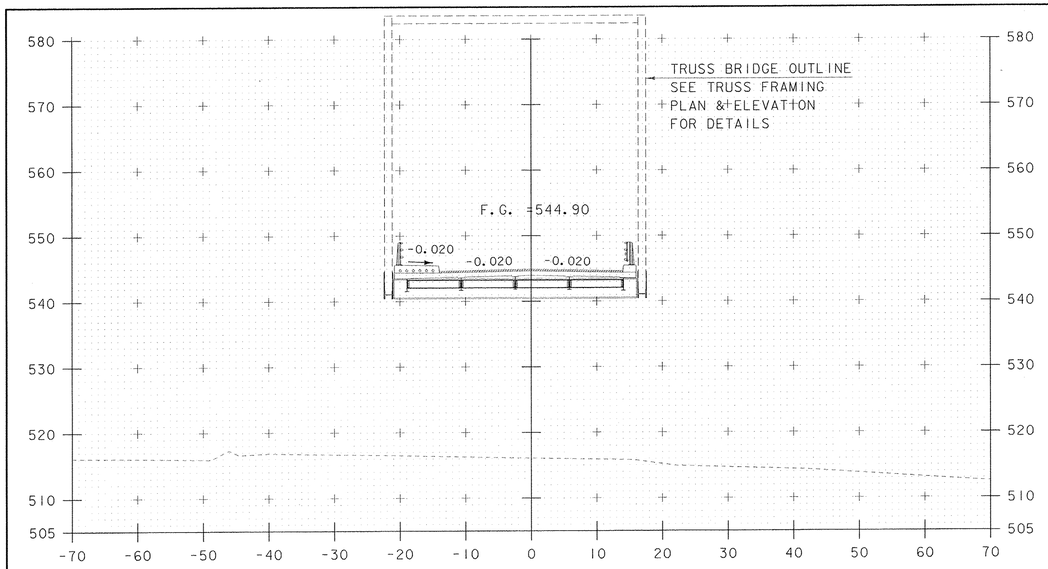
10 0 10

STA. 125+75 TO STA. 126+50

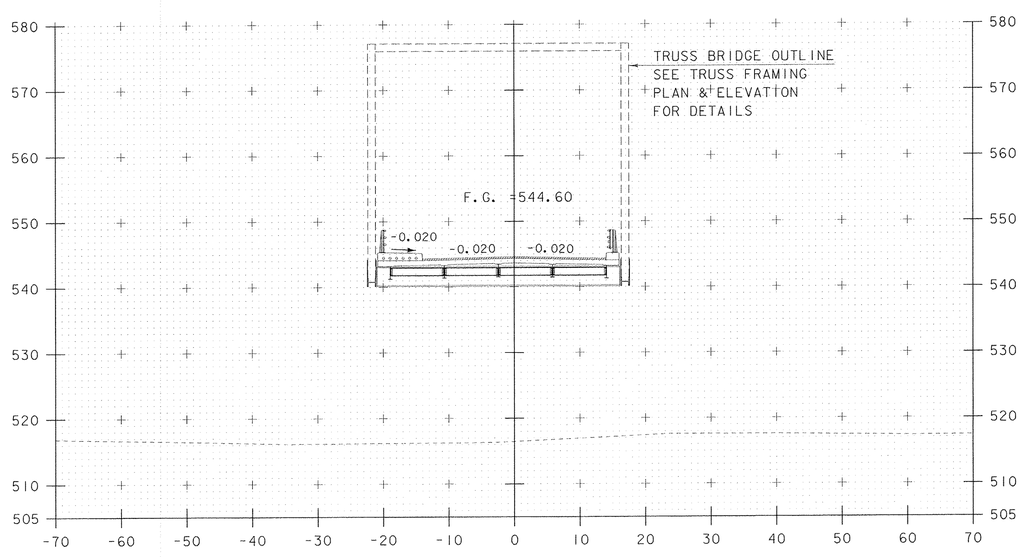
PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: 78f161\STR\s-f161xs.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
VT 107 CROSS SECTION SHEET 6

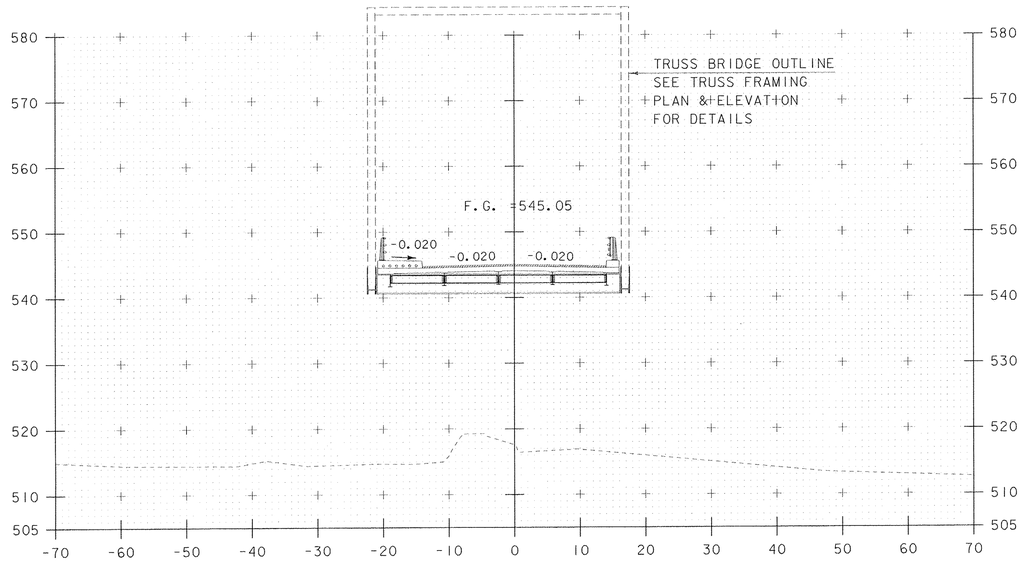
PLOT DATE: 20-MAY-2011
DRAWN BY: G. ROKES
CHECKED BY: S. SCRIBNER
SHEET 112 OF 148



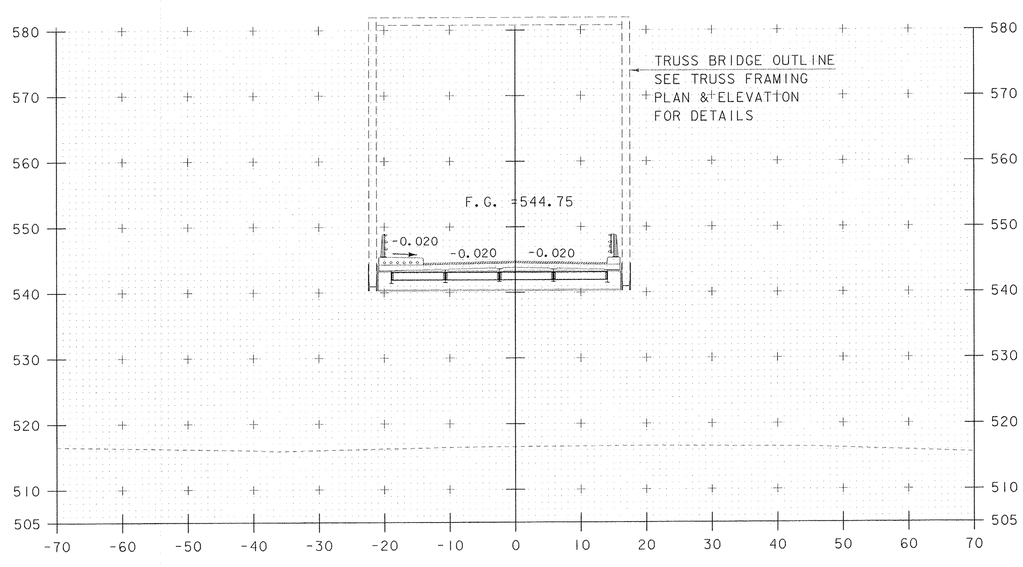
127+00



127+50



126+75



127+25

SCALE 1" = 10'-0

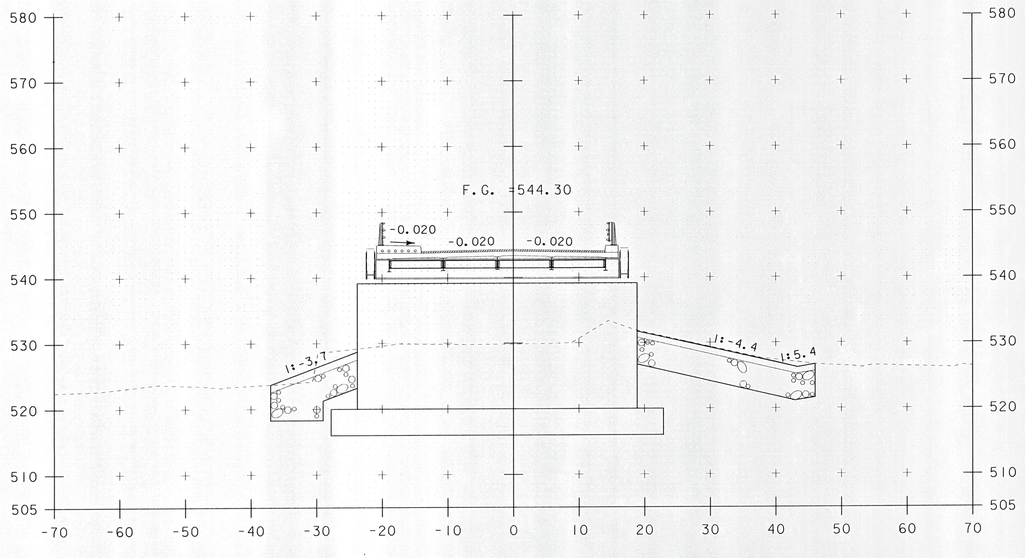
10 0 10

STA. 126+75 TO STA. 127+50

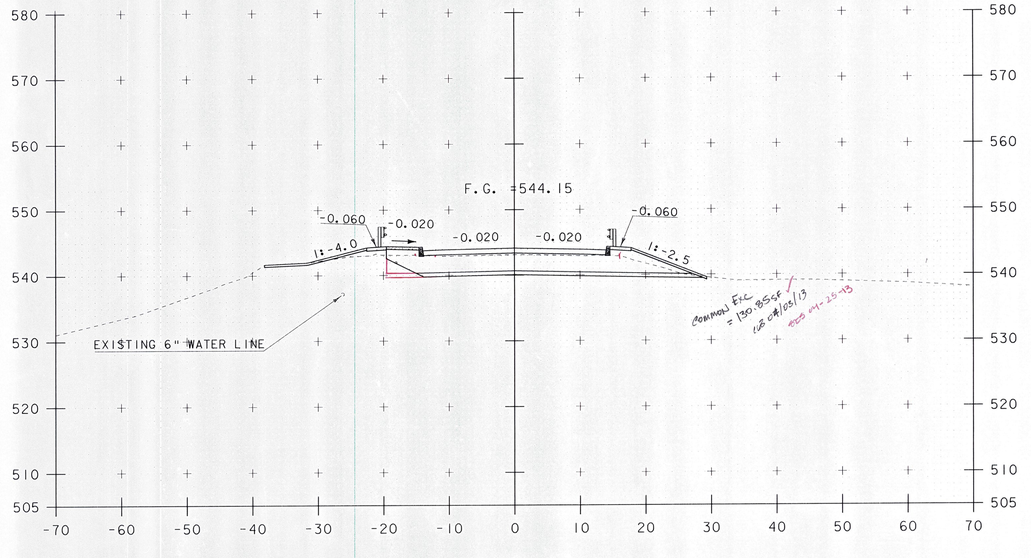
PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: 78f161\STR\sf161xs.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
VT 107 CROSS SECTION SHEET 7

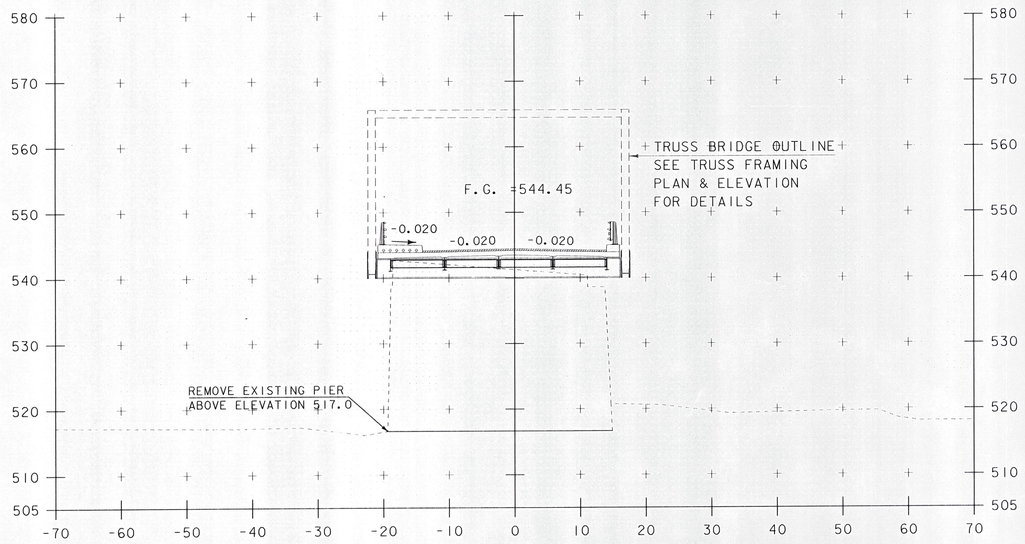
PLOT DATE: 20-MAY-2011
DRAWN BY: G. ROKES
CHECKED BY: S. SCRIBNER
SHEET 113 OF 148



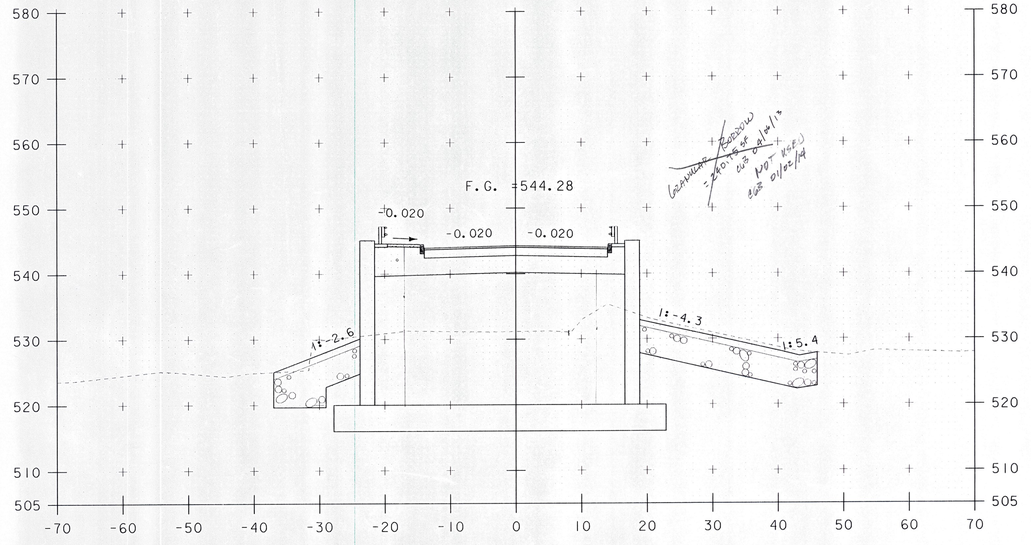
128+00



128+25



127+75



128+02.50
END BRIDGE

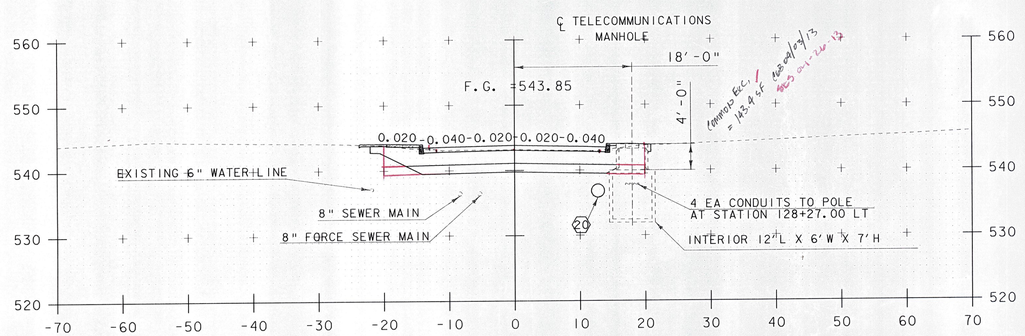
SCALE 1" = 10'-0
10 0 10

STA. 127+75 TO STA. 128+25

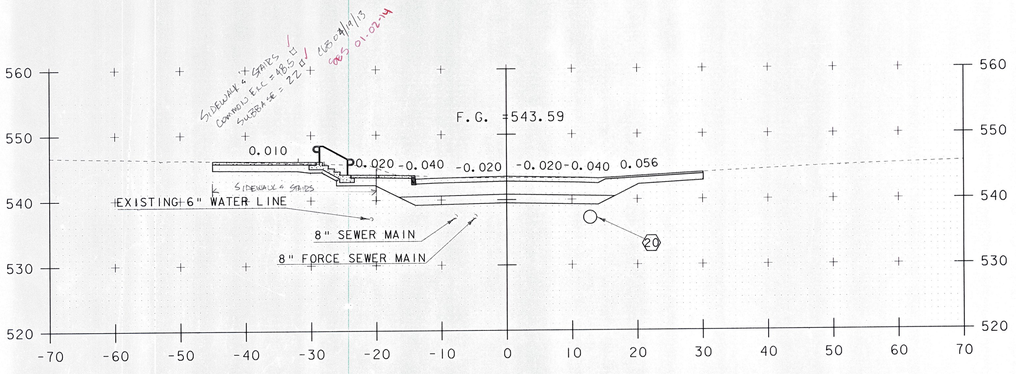
PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: 78f161\STR\sf161xs.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
VT 107 CROSS SECTION SHEET 8

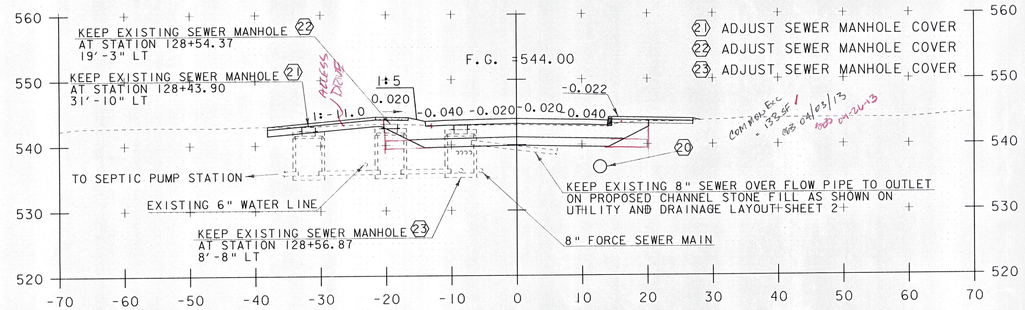
PLOT DATE: 20-MAY-2011
DRAWN BY: G. ROKES
CHECKED BY: S. SCRIBNER
SHEET 114 OF 148



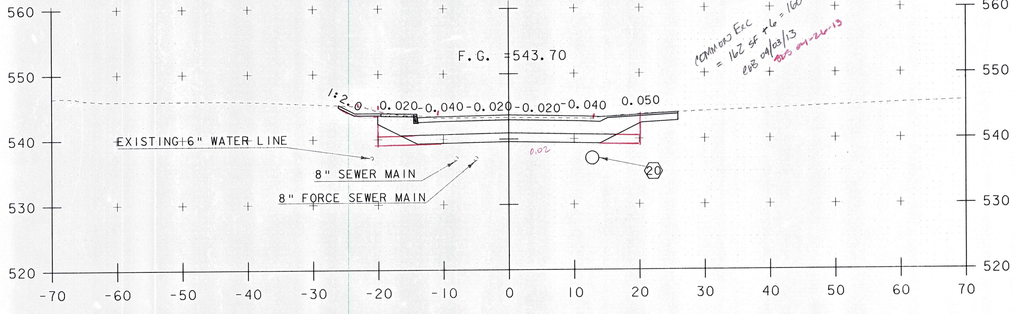
128+75



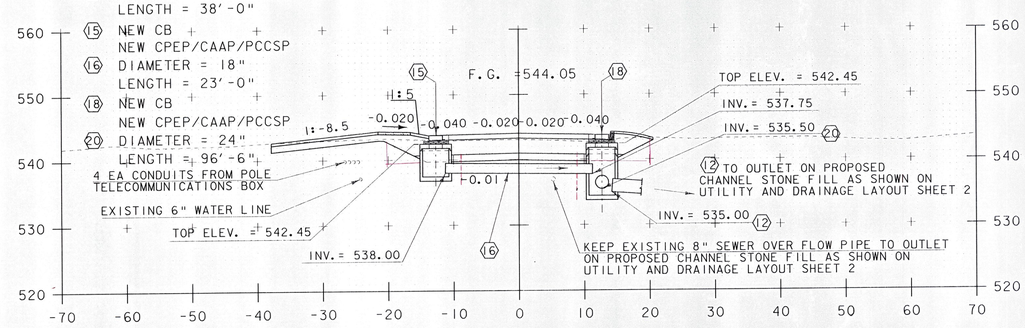
129+18
CAST IN PLACE STAIRS TO HOUSE LEFT



128+50



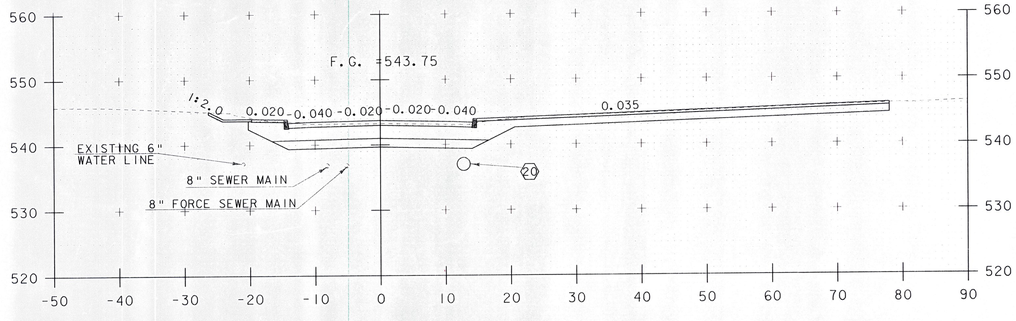
129+00



128+41
PRECAST CONCRETE CATCH BASINS (LT/RT)

NOTE CB PRECAST CONCRETE CATCH BASIN

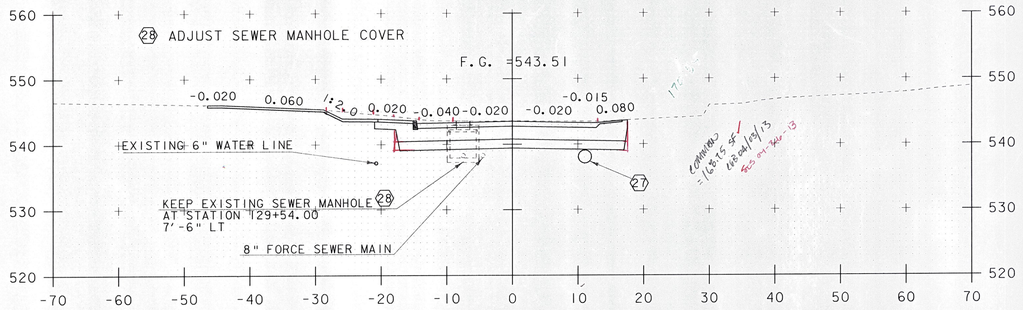
SCALE 1" = 10'-0
10 0 10



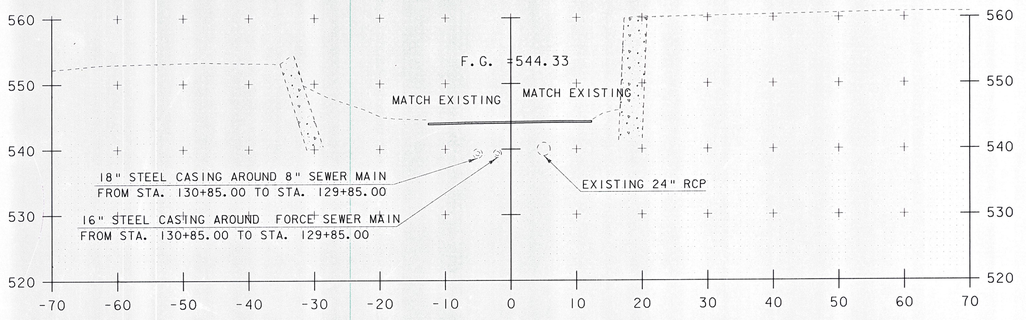
128+92
SKEWED SECTION AT HOUSE SIDEWALK (SKEWED 9°) RT

STA. 128+41 TO STA. 129+18

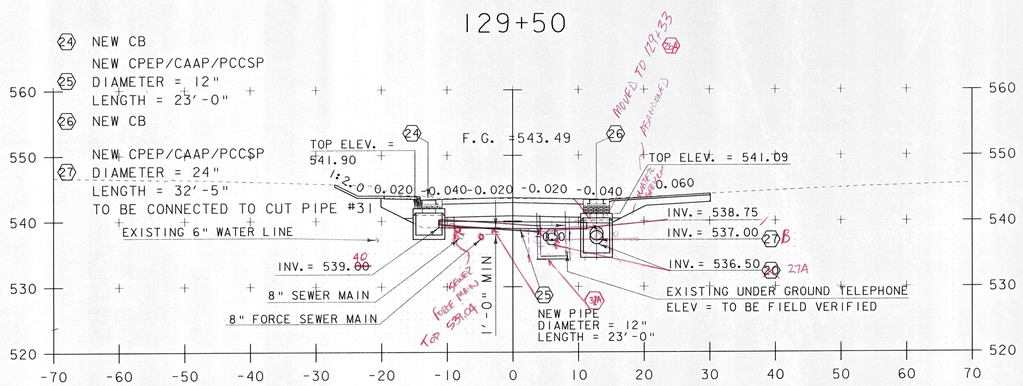
PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME: 78f161\STR\sf161xs.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
VT 107 CROSS SECTION SHEET 9	SHEET 115 OF 148



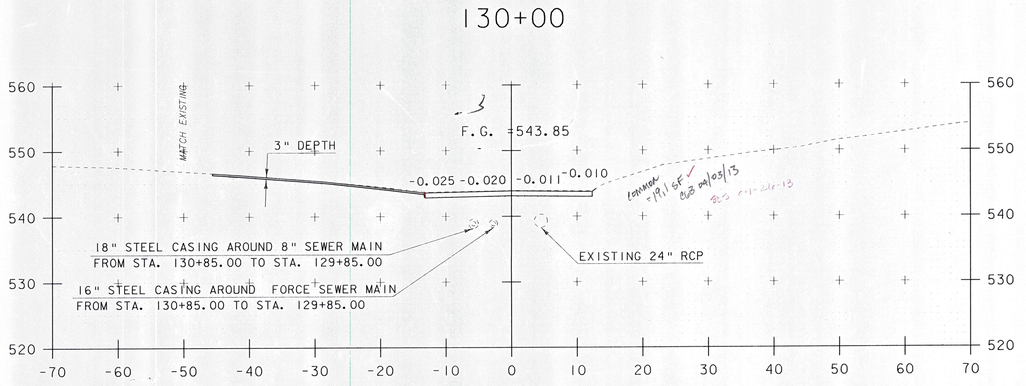
129+50



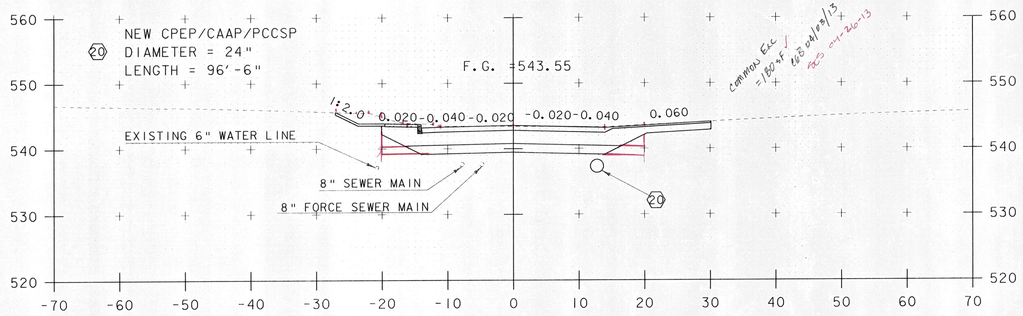
130+00



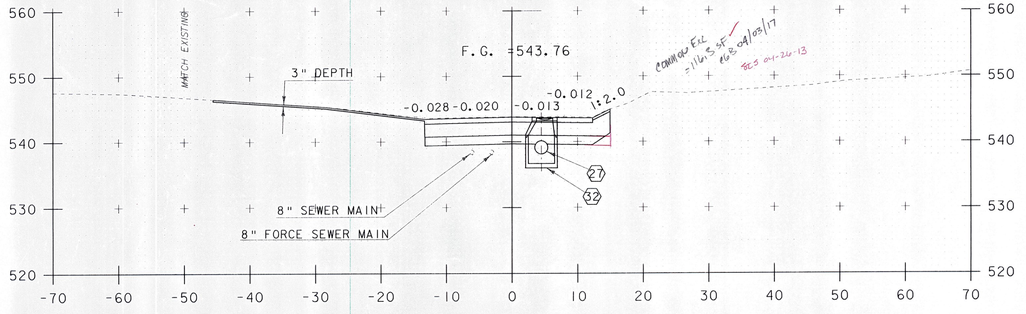
129+42
PRECAST CONCRETE CATCH BASINS (LT/RT)



129+80
END MATERIAL TRANSITION



129+25



129+75
END PROJECT
(TH5 PEAVINE BLVD LT)

SCALE 1" = 10'-0
10 0 10

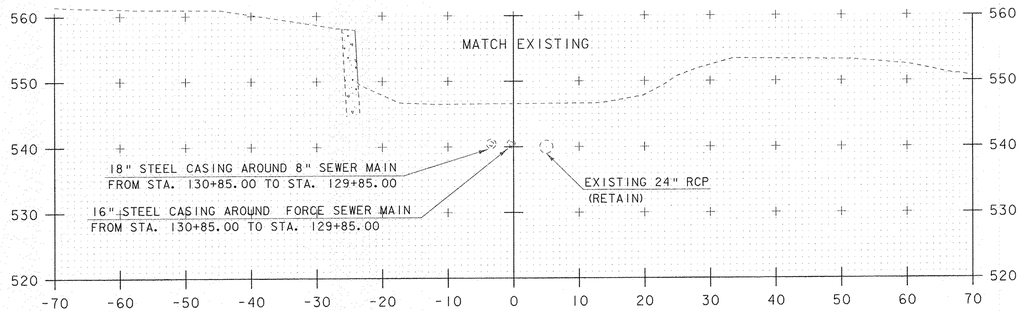
NOTE CB PRECAST CONCRETE CATCH BASIN

STA. 129+25 TO STA. 130+00

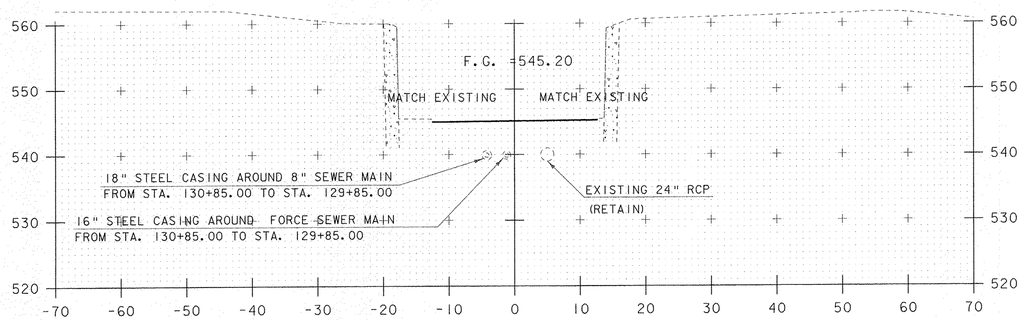
PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: 78f161\STR\sf161xs.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
VT 107 CROSS SECTION SHEET 10

PLOT DATE: 20-MAY-2011
DRAWN BY: G. ROKES
CHECKED BY: S. SCRIBNER
SHEET 116 OF 148



130+50
END APPROACH



130+25

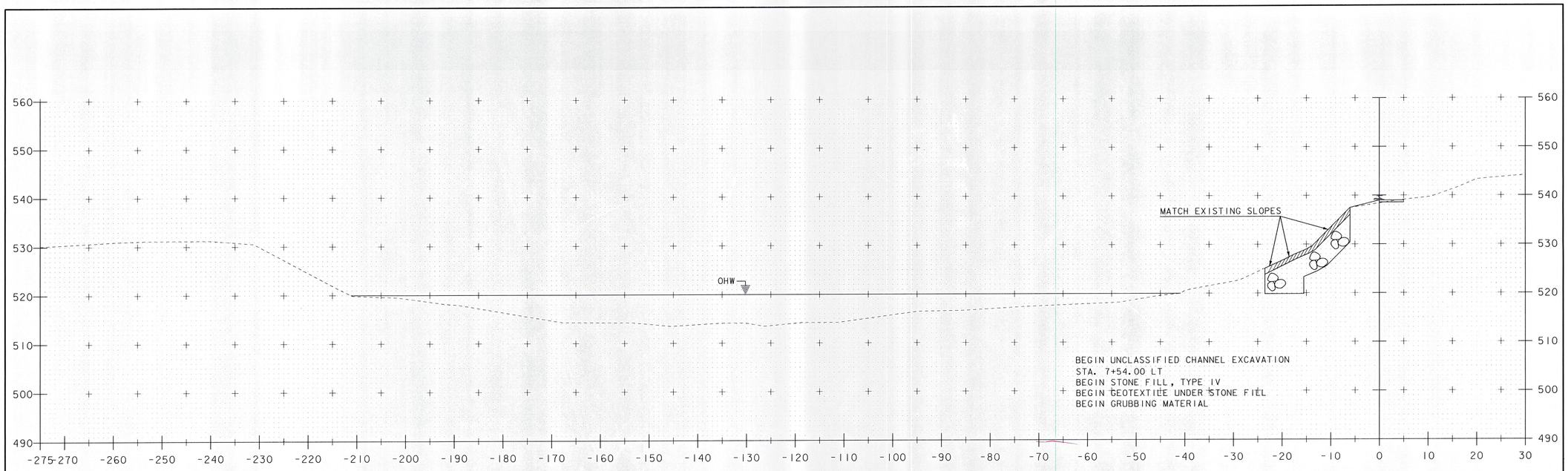
SCALE 1" = 10'-0
10 0 10

STA. 130+25 TO STA. 130+50

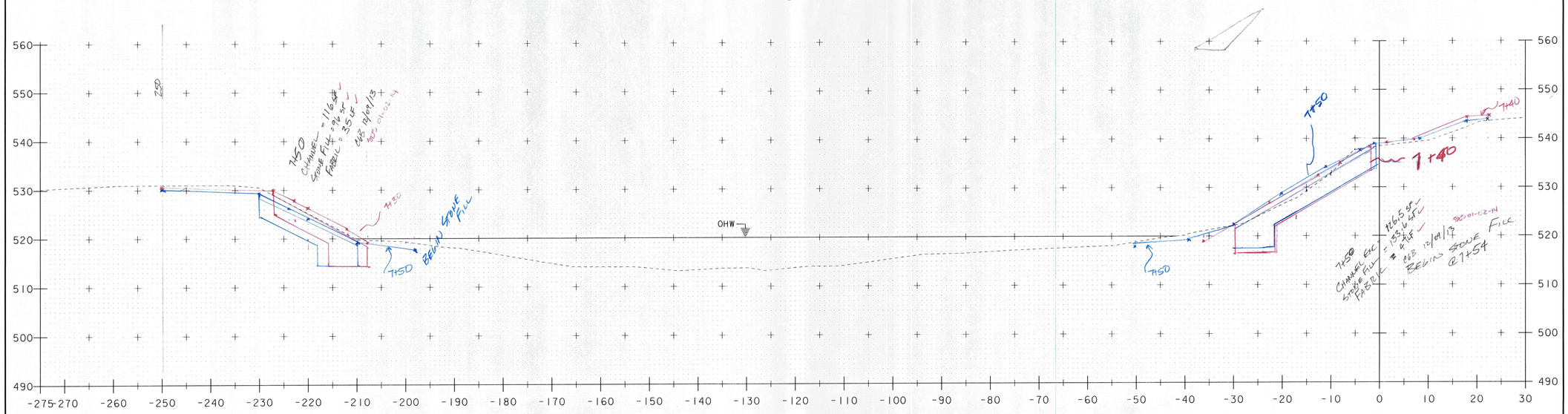
PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: 78f161\STR\sf161xs.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
VT 107 CROSS SECTION SHEET II

PLOT DATE: 20-MAY-2011
DRAWN BY: G. ROKES
CHECKED BY: S. SCRIBNER
SHEET 117 OF 148



7+54



7+50

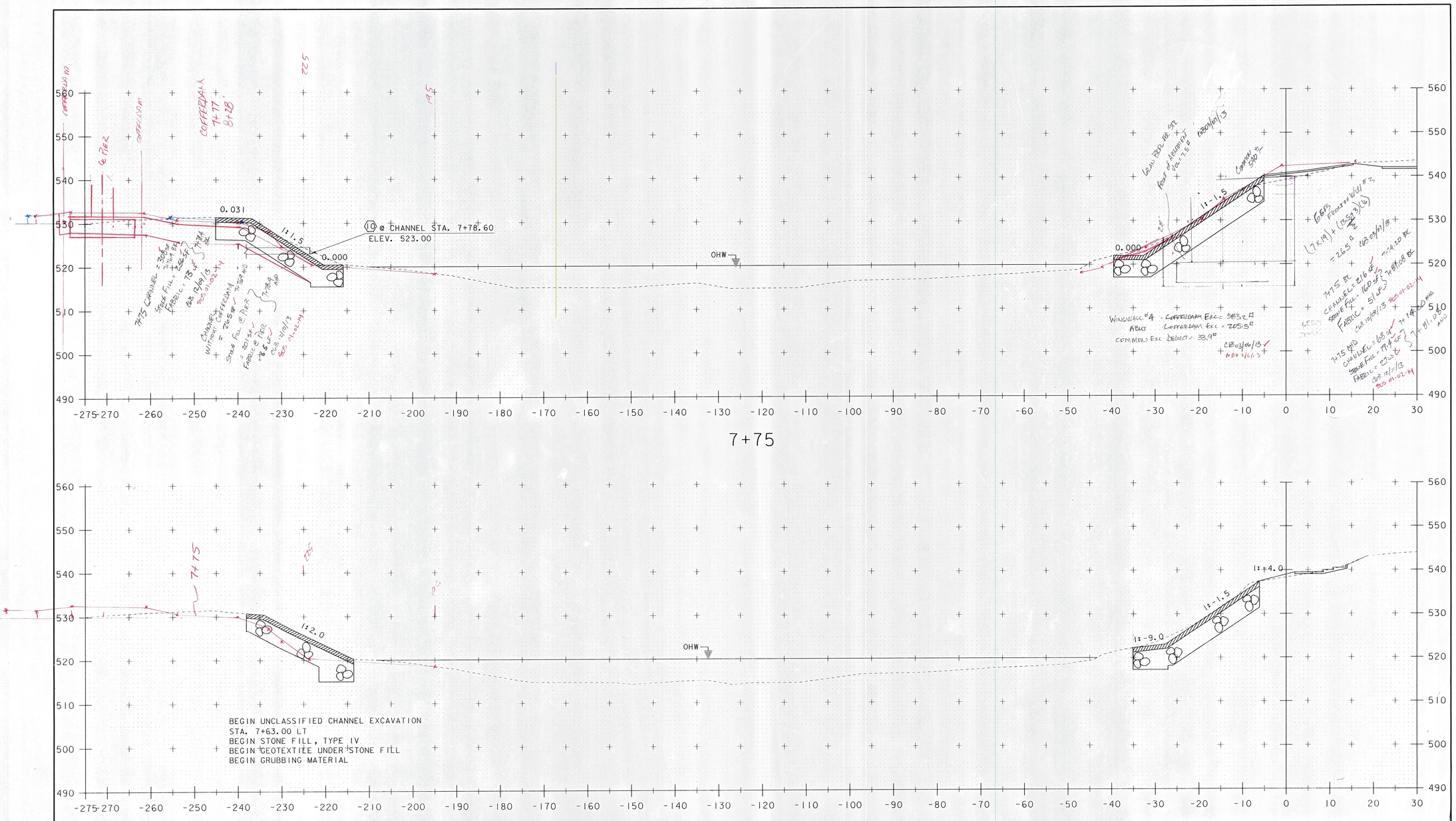
SCALE 1" = 10'-0

10 0 10

CHANNEL CROSS SECTIONS SHEET 1

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

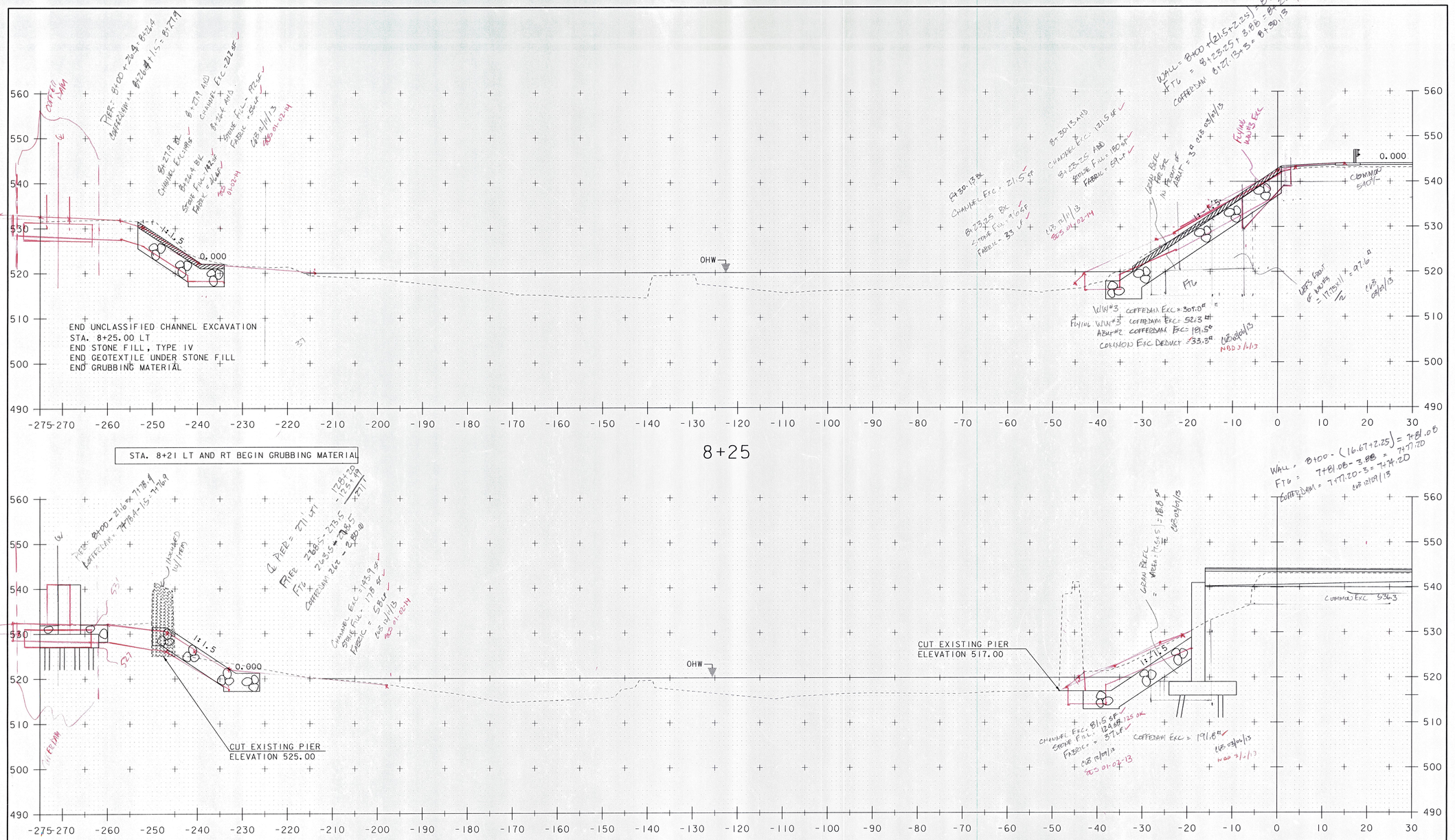
FILE NAME: 78f161\STR\sf161xs.dgn	PLOT DATE: 26-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
CHANNEL CROSS SECTIONS SHEET 1	SHEET 118 OF 148



CHANNEL CROSS SECTIONS SHEET 2

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: 78f161\STR\sf161xs.dgn	PLOT DATE: 26-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
CHANNEL CROSS SECTIONS SHEET 2	SHEET 119 OF 148



CHANNEL CROSS SECTIONS SHEET 3

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

FILE NAME: 78f161\STR\sf16lxs.dgn	PLOT DATE: 26-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
CHANNEL CROSS SECTIONS SHEET 3	SHEET 120 OF 148

SCALE 1" = 10'-0

10 0 10

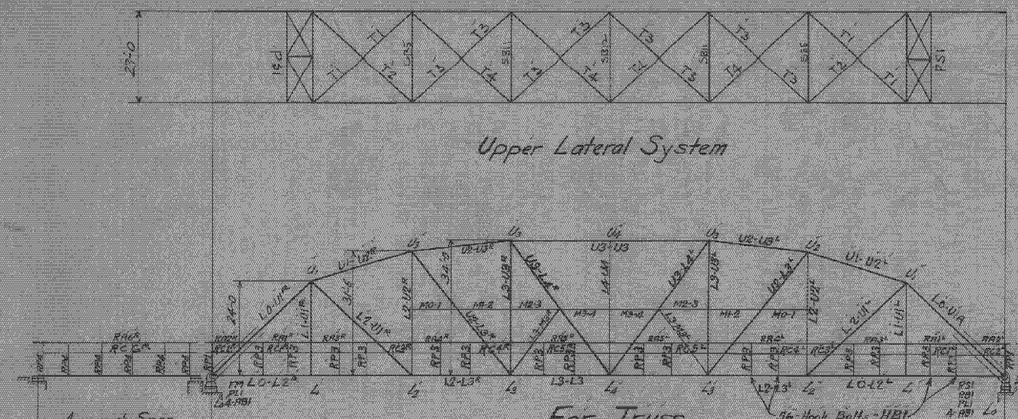
CHANNEL CROSS SECTIONS SHEET 4

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)

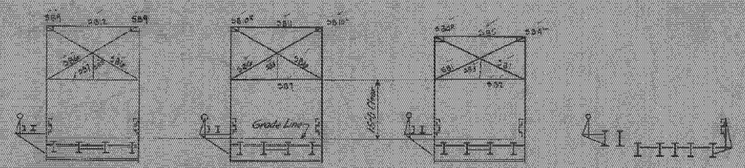
FILE NAME: 78f161\STR\sf161xs.dgn	PLOT DATE: 26-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
CHANNEL CROSS SECTIONS SHEET 4	SHEET 121 OF 148

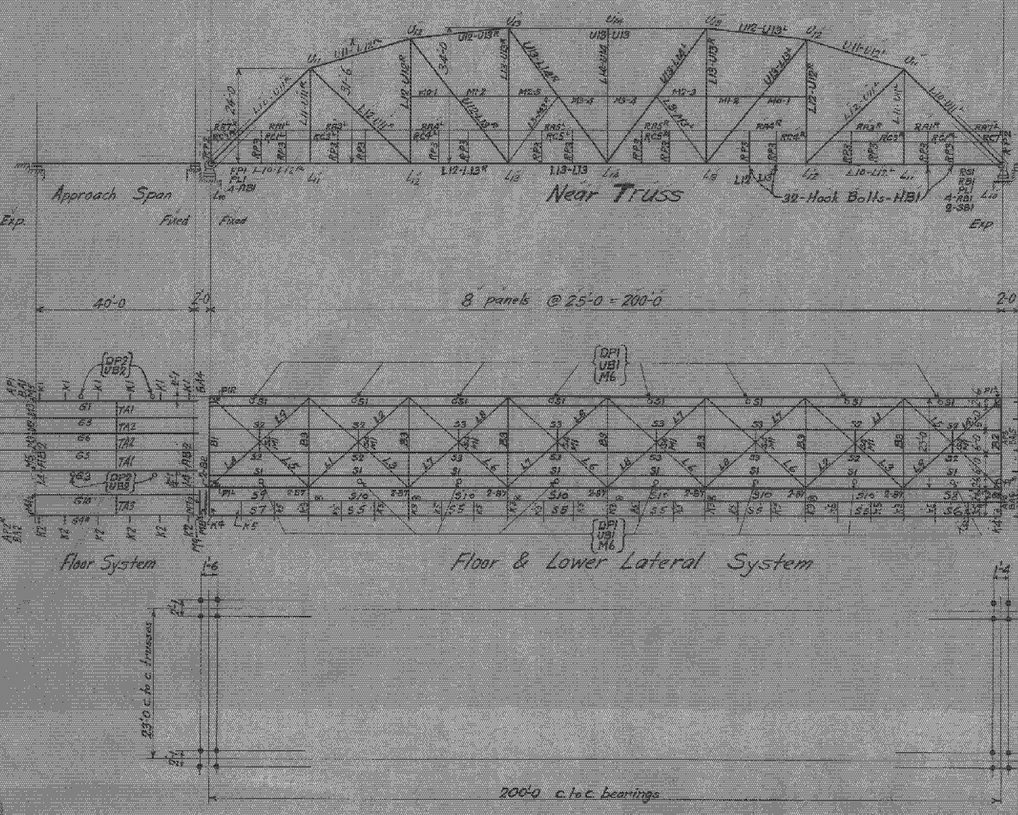
1928 STRUCTURAL PLAN SHEET 1

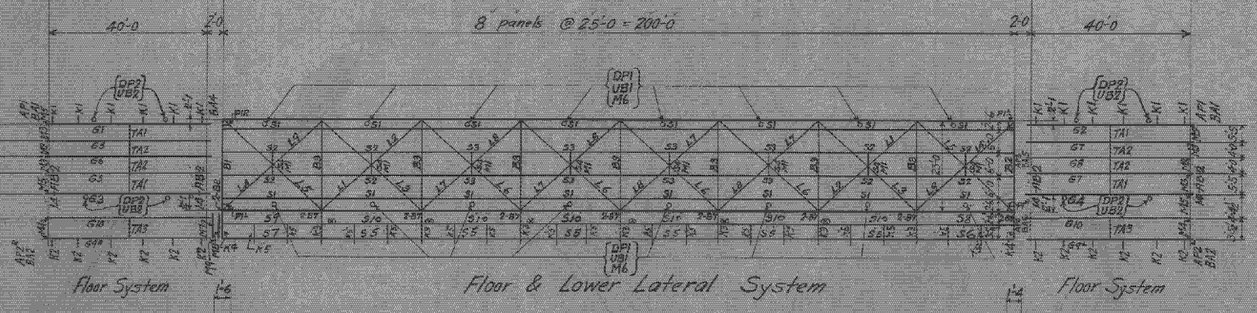
FILE NAME: s78f161plans1928_a.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 122 OF 148




Camber Diagram - Bottom Chord







List of Drawings

E1 - Erec. Diag. & Anchor Bolt Plan
1 - Castings, etc.
2 - Members of Light Truss.
3 - " " " "
4 - " " Heavy "
5 - " " " "
6 - Fl. Brns., Stringers & Bott. Lats.
7 - Portal Struts & Top Lats.
8 - Sway Frames.
9 - Approach Beam Spans.
10 - End Dams.
11 - Sidewalk Brackets & Stringers.
12 - Collision Rail.
13 - " "
14 - Handrailing (Sidewalk)
15 - " "

Note to Erector:- For erection diagram of sidewalk handrailing see sheet 14.

BETHLEHEM STEEL COMPANY
Fabrication and Erection Dept. BETHLEHEM, PA.

DETAIL OF Erection Diagram & Anchor Bolt Plan
STRUCTURE Bridge Over White River, Bethel-Stockbridge Road
CUSTOMER Chas. T. Hosmer - Greenfield, Mass.

SHOP PAINT ✓
RIVETS ✓ OPEN HOLES ✓ UNLESS NOTED

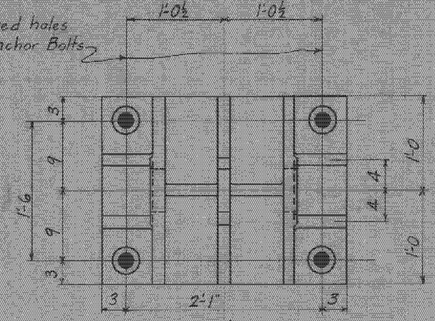
DRAWN BY	DATE	CHECKED BY	DATE	SCALE
WTS.	8-24-28	JOHN Y. 45 M.	9-27-28	Narrow

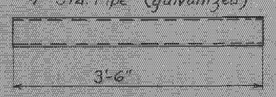
REVISIONS	No.	DATE	BY	DESCRIPTION

FILE- F1814 CONT.- ED1447 DWG. E1

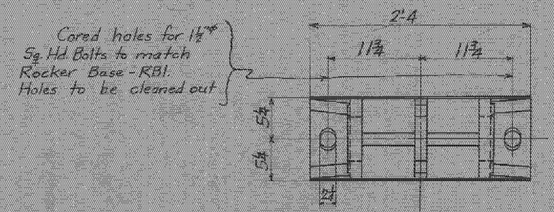
1928 STRUCTURAL PLAN SHEET 2

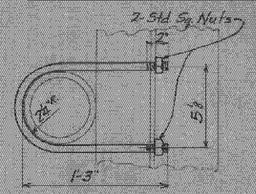
FILE NAME: s78f161plans1928_a.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 123 OF 148



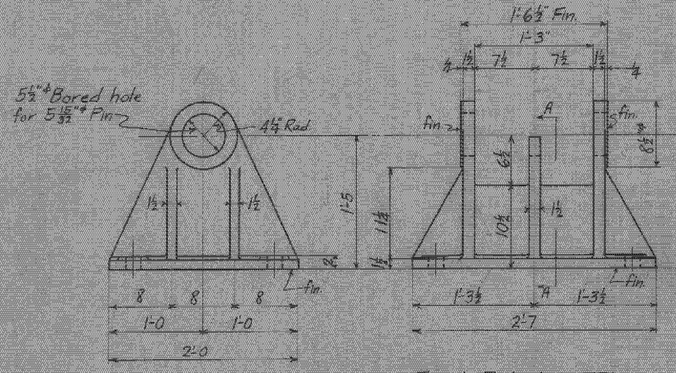


Drain Pipe - DP1

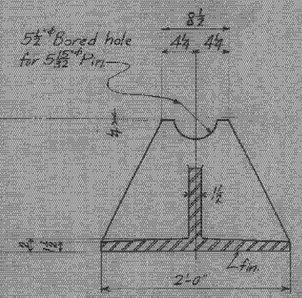




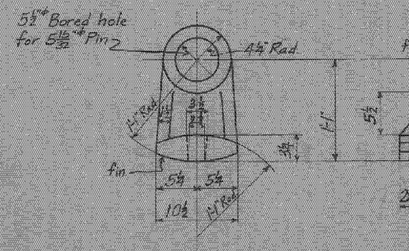
U-Bolt - UB1
⅞" ϕ Rod × 2'-8½" Long (alt.)

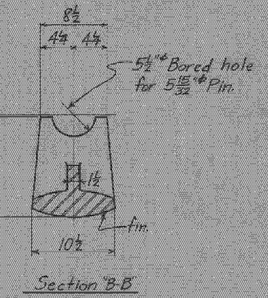


Fixed Pedestal - FP1
Cast Steel - Patt.# B13286



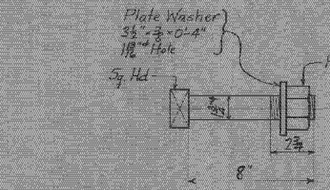
Section "A-A"



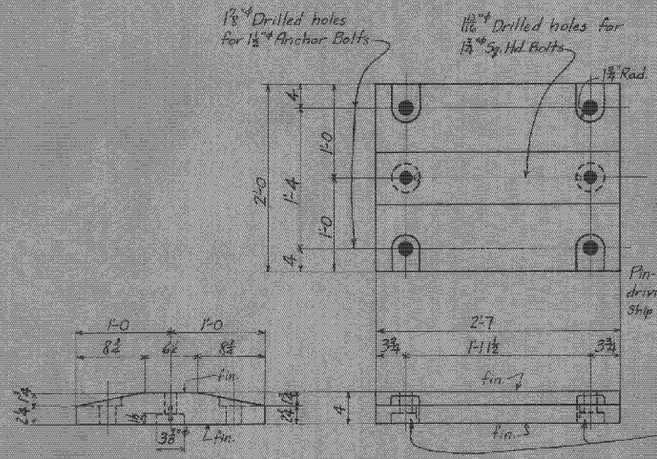


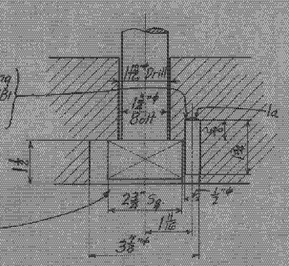
Section "B-B"

Rocker - RS1
Cast Steel - Patt.# B13287

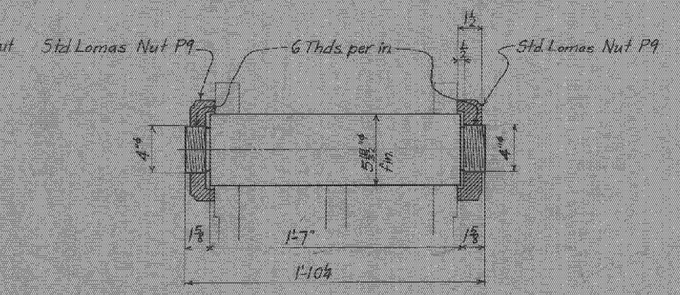


Sq. Hd. Bolt - SB1
(1¾" ϕ × 0'-8")

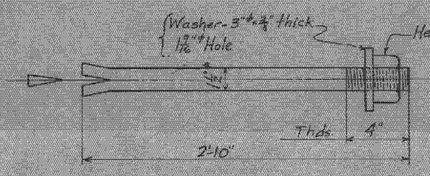




Rocker Base - RB1
24" × 4" × 2'-7" - Steel Slab
(Plane from - 24" × 4¼")



Pin - PL1 - with 2 Std. Lomas Nuts P9
(Pin 5 15/32" ϕ × 1'-10¼") Fin. all over



Anchor Bolts - AB1
(1½" ϕ × 2'-10" Lg.)

Required List

2 - Pedestals	- FP1
2 - Rockers	- RS1
2 - Rocker Bases	- RB1
4 - Pins	- PL1
8 - Std. Lomas nuts	PE - (Ship with PL1)
16 - Anchor Bolts	- AB1 (with hex. nuts, 6 wedges & washers)
16 - U-Bolts	- UB1 (with sq. nuts)
16 - Drain Pipes	- DP1 (4" ϕ Std. pipe - galv.)
4 - Pins - ½" ϕ × 1¾" Lg. - 1a	(Ship with RB1)
4 - Sq. Hd. Bolts	- SB1 (with hex. nut & washer)
One - Driving Nut	- M9
One - Pilot Nut	- N15

Notes:-

All Steel Castings to be annealed.

Shop Paint:- One coat of approved red lead and oil.

Machined surfaces coated with white lead and tallow.

Specif.- 1926 Std. Road & Bridge Specif., State of Vermont.

Shop Bills BS10 & BS11.

BETHLEHEM STEEL COMPANY
Fabrication and Erection Dept. BETHLEHEM, PA.

DETAIL OF Pedestals, Rockers, etc.
STRUCTURE Bridge over White River, Bethel, Vermont
CUSTOMER Charles I. Hosmer, Greenfield, Mass.
SHOP PAINT See Note
RIVETS ✓ OPEN HOLES ✓ UNLESS NOTED

DRAWN BY	DATE	CHECKED BY	DATE	SCALE
E.U.S.	7-3-28	P.B.S.	7-5-28	Various

RECORD OF REVISIONS	No.	DATE	BY	DESCRIPTION
	R1	7-26-28	E.U.S.	Diam. of UB1 changed
	R2	8-1-28	E.U.S.	Rocker Base RB1 Chgd.
	R3	7-1-23	E.U.S.	holes in RB1 Slab.

FILE F7814 CONT. E.D1447 DWG. 1

1928 STRUCTURAL PLAN SHEET 3

FILE NAME: s78f161plans1928_a.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 124 OF 148

K3

K5

S9

S5

S10

K4

S6

S7

S8

Notes—
Specifications - Vermont State Highway 1926
Holes in material ¾" thick or less may be punched full size.
Holes in material more than ¾" thick shall be sub-punched and reamed or drilled from solid.
Floor beams & stringer connections to be sub-punched and reamed to a metal templet not less than 1" thick or reamed while assembled.
Shop Paint:- One Coat of Approved Red Lead Oil.

Required List

7	Brackets	K3
2	do	K4
16	do	K5
6	Stringers	S5
One	do	S6
One	do	S7
One	do	S8
One	do	S9
6	do	S10

BETHLEHEM STEEL COMPANY
Fabrication and Erection Dept. BETHLEHEM, PA.

DETAIL OF Sidewalk Brkts. & Stringers
STRUCTURE Bridge over White River Between Bethel & Royalton
CUSTOMER Charles I. Hosmer Greenfield, Mass.

SHOP PAINT See Note
RIVETS ¾" & 7/8" OPEN HOLES 1/16" UNLESS NOTED

DRAWN BY	DATE	CHECKED BY	DATE	APPROVED
Dr. RDS T.R.B.	8/1/28	J.W.T.	8-15-28	"Approved"

SHOP CHANGES	No.	DATE	BY	DESCRIPTION
	R1	8-10-28	P.C.G.	Holes in batt. Fig. 55-56 & 57

FILE F1814 CONT. ED1447 PKG. 11

1928 STRUCTURAL PLAN SHEET 4

FILE NAME: s78f161plans1928_a.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 125 OF 148

Camber Diagram

Marking Diagram

Notes:-
Specifications:- Vermont State Highway 1926.
Holes in material ¾" Thick or less may be punched full size.
Holes in material more than ¾" thick shall be subpunched and reamed or drilled from solid.
Truss members shall be assembled in shop and holes for field connections reamed or drilled while assembled and the members match marked.
Floor Beams and Stringer connections to be sub punched and reamed.
For a metal template not less than ¼" thick for reamed work assembled.
Field Connections for laterals, Sway bracing and railing punched full size.
Shop paint:- One Coat of approved Red lead and Oil.

Required List

ONE	END POST	(as shown)	L0-U1
ONE	Do.	(opp Op Shown)	L0-U1A
ONE	TOP CHORD		U1-U2 R.
ONE	Do.		U1-U2 L.
ONE	BOTTOM CHORD		L0-L2 R.
ONE	BOTTOM CHORD		L0-L2 L.
ONE	POST		L1-U1 R.
ONE	Do.		L1-U1 L.
ONE	DIAGONAL		L2-U1 R.
ONE	Do.		L2-U1 L.

Work this sheet with Sheet #3

BETHLEHEM STEEL COMPANY
Fabrication and Erection Dept. BETHLEHEM, PA.

DETAIL OF TRUSS END
STRUCTURE BRIDGE OVER WHITE RIVER AT STOCKBRIDGE
CUSTOMER Chas. T. Hosmer, 87 Prospect St. Greenfield Mass.
SHOP PAINT One Coat approved Red lead & Oil.
RIVETS ⅞ OPEN HOLES 15/16

DRAWN BY	DATE	CHECKED BY	DATE
H.S.F.	7/16/28	J.A.N.	7/25/28

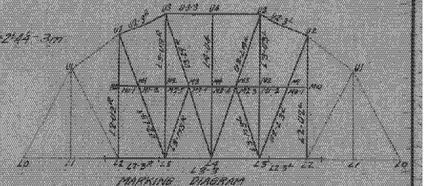
REVISIONS	No.	DATE	BY	DESCRIPTION
	1	10-18-28	K.C.G.	Plate on bott chord at U2
				Rivet spaces at end post cor R

Shop Bills - B310-21
Adv. Bill - 5-10-11

FILE F7814 CONTR ED1447 DWG 2

1928 STRUCTURAL PLAN SHEET 5

FILE NAME: s78f16\plans1928_a.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 126 OF 148



NOTES:—
Specifications
Vermont State Highway—1926.
Rivets $\frac{3}{8}$" Open Holes $\frac{15}{16}$" Except as noted.
Holes in material $\frac{3}{4}$" thick or less may be punched full size.
Holes in material more than $\frac{3}{4}$" thick shall be subpunched and reamed or drilled from solid.
Truss members shall be assembled in shop and holes for field connections reamed or drilled while assembled and the members match marked.
Floor beams and stringer connections to be subpunched and reamed to a metal templet not less than 1" thick or reamed while assembled.
Field connections for laterals, sway bracing and railing punched full size.
Shop paint:—One coat approved red lead and oil.

REQUIRED LIST

One	Top Chord	U3-3
One	do	U2-3R
One	do	U2-3L
One	Bottom Chord	L3-3
One	do	L2-3R
One	do	L2-3L
One	Post	L4-U4
One	do	L3-U3R
One	do	L3-U3L
One	do	L2-U2R
One	do	L2-U2L
One	Diagonals	U3-L4R
One	do	U3-L4L
One	do	U2-L3R
One	do	U2-L3L
2	do	L3-M3R
2	do	L3-M3L
4	Struts	M0-M1
4	do	M1-M2
4	do	M2-M3
4	do	M3-M4

2-15"Bx50#x56'8" (36 f.(FS) 36 f.(NS)) Work this sheet with Sheet #2
Camber Diagram on Sheet 2

BETHLEHEM STEEL COMPANY
Fabrication and Erection Dept. BETHLEHEM, PA.

DETAIL OF TRUSS (Center Section)
BRIDGE OVER WHITE RIVER AT TYLER, VERMONT
DESTINATION BETHEL-STOCKBRIDGE ROAD
CUSTOMER CHARLES L. HOSMER, GREENFIELD, MASS.

SHOP PAINT See Notes
RIVETS $\frac{7}{8}$" OPEN HOLES $\frac{15}{16}$" UNLESS NOTED

DRAWN BY	DATE	CHECKED BY	DATE	ERASE
C.H.B.	7-14-28	G.S.W.	7-27-28	Plainview

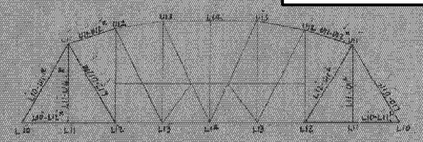
NO.	DATE	BY	DESCRIPTION
R1	10-8-28	R.T.	Riv. & Eff. Changed
R2	11-15-28	R.C.G.	Poke on Bottom Chord changed. Rivet spacing on Mid. chord Sec. A

FILE F7814 CONT.-E.D.4447 DWG. 3

Shop Bills B.S. 30 to 34
Add. Bills # 1 and 2

1928 STRUCTURAL PLAN SHEET 6

FILE NAME: s78f161plans1928_a.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 127 OF 148



Specifications:- Vermont State Highway 1926
Rivets $\frac{7}{8}$" ø - Open holes $\frac{15}{16}$" ø Unless noted
Holes in material $\frac{3}{4}$" thick or less may be punched full size.
Holes in material more than $\frac{3}{4}$" thick shall be sub-punched and reamed or drilled from solid.
Truss members shall be assembled in shop and holes for field connections reamed or drilled while assembled and the members match marked.
Floor beams and Stringers connections to be sub-punched and reamed to a metal templet not less than 1" thick or reamed while assembled.
Field connections for laterals, sway bracing and railing punched full size.
Shop Paint:- One coat of approved red lead and oil.

Required List

One	End Post	L10 - U11 E
One	do	L10 - U11 L
One	Top Chord	U11 - U12 R
One	do	U11 - U12 L
One	Bottom Chord	L10 - L12 E
One	do	L10 - L12 L
One	Post	L11 - U11 E
One	do	L11 - U11 L
One	Diagonal	L12 - U11 E
One	do	L12 - U11 L

BETHLEHEM STEEL COMPANY
Fabrication and Erection Dept. BETHLEHEM, PA.

DETAIL OF Truss End
STRUCTURE Bridge over White River, Stockbridge Rd
CUSTOMER Chas. I. Hosmer, Greenfield, Mass.

SHOP PAINT See note
RIVETS $\frac{7}{8}$ ø OPEN HOLES $\frac{15}{16}$ ø UNLESS NOTED

DRAWN BY	DATE	CHECKED BY	DATE	APPROVED
A.M.S.	7-18-28	J.K.S.	7-26-28	Warren

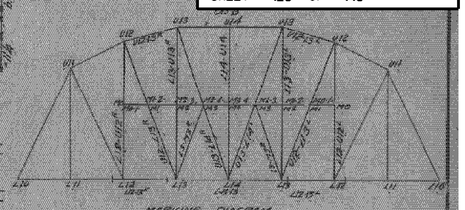
REVISIONS	NO.	DATE	BY	DESCRIPTION
	A1	10-18-28	J.W.S.	Holes in bott. chord at L12.
	A2	10-23-28	R.C.B.	Plate on bott. chord at L12.
				Knee spacing on end post corrected.

FILE F 7814 CONT. ED1447 DWG. 4

Ship Bills-B340-41

1928 STRUCTURAL PLAN SHEET 7

FILE NAME: s78f161plans1928_a.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 128 OF 148



NOTES:-

Specifications:
Vermont State Highway 1926.

Rivets ⅞, Open holes 15/16, Except as noted.

Holes in material ⅜" thick and less may be punched full size.

Holes in material more than ⅜" thick shall be sub punched and reamed or drilled from the solid.

Truss members shall be assembled in shop and holes for field connections reamed or drilled while assembled and the members match marked.

Floor beams and stringer connections to be subpunched and reamed to a metal templet not less than 1" thick or reamed while assembled.

Field connections for laterals, sway bracing and railing punched full size.

Shop paint: One coat approved red lead and oil.

REQUIRED LIST

One	Top Chord	U12-13R
One	do	U12-13L
One	do	U13-13
One	Bottom Chord	L12-13R
One	do	L12-13L
One	do	L13-13
One	Post	L12-U12R
One	do	L12-U12L
One	do	L13-U13R
One	do	L13-U13L
One	do	L14-U14
One	Diagonal	U12-L13R
One	do	U12-L13L
One	do	U13-L14R
One	do	U13-L14L

Work this Sheet with Sheet #4
Camber Diagram on Drawing #2

BETHLEHEM STEEL COMPANY
Fabrication and Erection Dept. BETHLEHEM, PA.

DETAIL OF TRUSS (Center Section) (Heavy)
STRUCTURE BETHEL-STOCKBRIDGE ROAD
CUSTOMER CHARLES E. HOSMER, GREENFIELD, MASS.

SHOP PAINT See Notes
RIVETS ⅞ OPEN HOLES 15/16 UNLESS NOTED

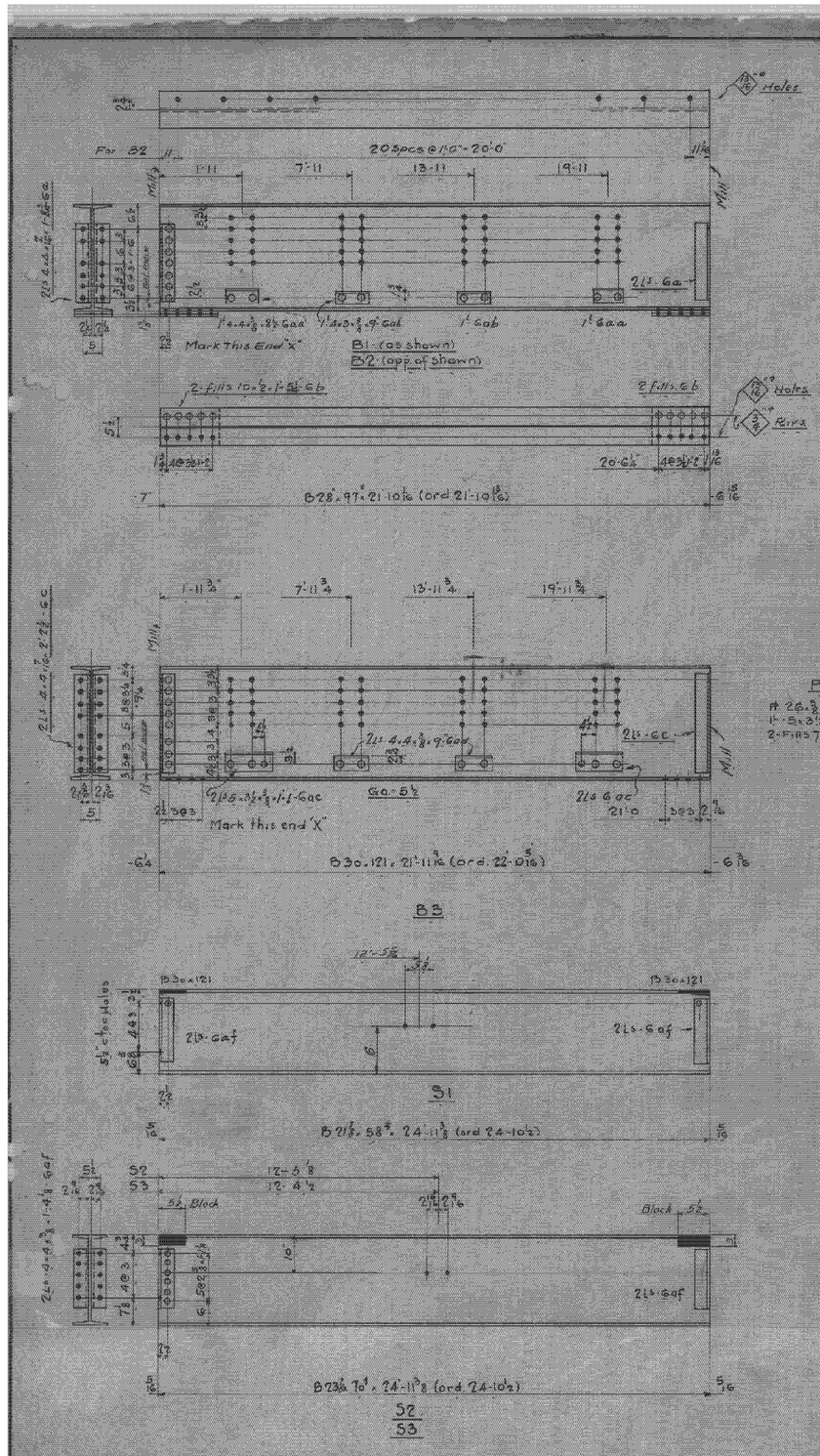
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C.H.B	7-26-28	[illegible]	7/26/28	Warren

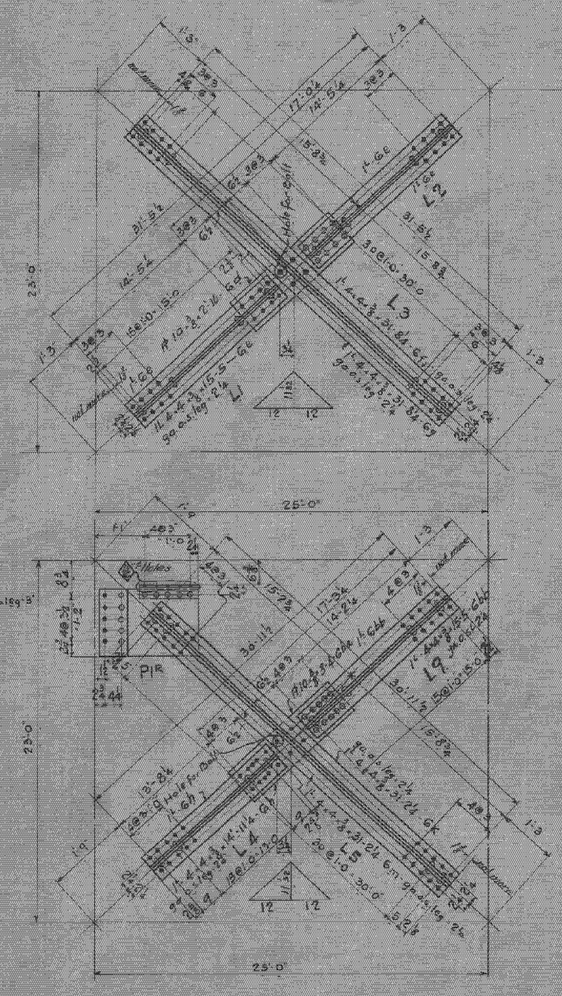
INSURERS	NO	DATE	BY	DESCRIPTION
	R1	11-1928	R.C.G.	Holes in bottom chord changed. New spacing on top chord sec. 1

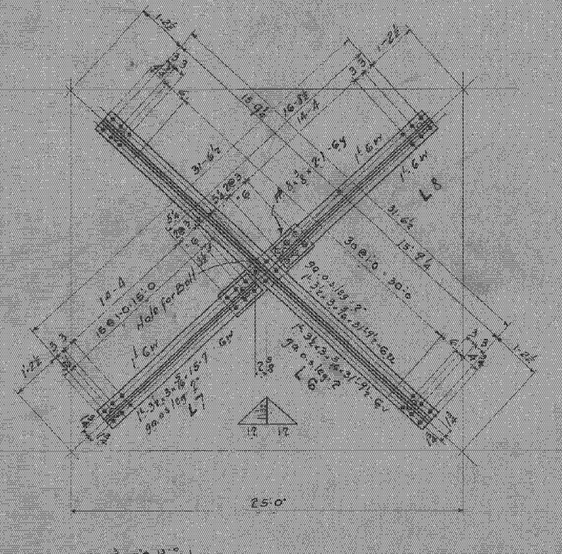
FILE F78A1 CONT. E.DIAM DWG. 5

1928 STRUCTURAL PLAN SHEET 8

FILE NAME: s78f161plans1928_a.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 129 OF 148







P1
4 - 26 x ⅜ x 1'-6½" - Gr
1 - 8 x 3'-2 x ⅜ x 1'-3" - Gr gaa as req'd
2 - Fills 7" - ½ - 1'-4½" - Gr

REQUIRED LIST

One	FL Beam		B1
One	"	"	B2
7	"	"	B3
2	Laterals		L1
2	"		L2
2	"		L3
2	"		L4
2	"		L5
4	"		L6
4	"		L7
4	"		L8
2	Plates		P1*
2	"		P1L
16	Stringers		S1
8	"		S2
8	"		S3
8	Struts		S4
8	Bolts		M1
2	Laterals		L9

Specifications: Vermont State Highway Specifications 1926
Rivets ⅞ø unless noted Open Holes ⅞ø Unless noted
Holes in Material ½" thick or less may be punched full size
Holes in Material more than ½" thick shall be subpunched and reamed or drilled from the solid.
Truss members shall be assembled in the shop and holes for field connections reamed or drilled while assembled and the members match marked
Floor Beams and Stringers connections to be subpunched and reamed
In a metal template not less than ¼" thick or reamed while assembled.
Field connections for laterals, sway bracing and railing punched full size
Shop Paint: One coat of approved Red Lead and Oil

Shop Bills B.3 Go to B2.
Adj. Bills 3

BETHLEHEM STEEL COMPANY
Fabrication and Erection Dept. BETHLEHEM, PA.

DETAIL OF Beams, Struts + Laterals
STRUCTURE Bridge over White River, Bethel-Sharon-Rd. Bethel, Vt.
CUSTOMER Chas. I. Hosmer, 87 Prospect St. Greenfield, Mass.

SHOP PAINT
RIVETS — OPEN HOLES — UNLESS NOTED

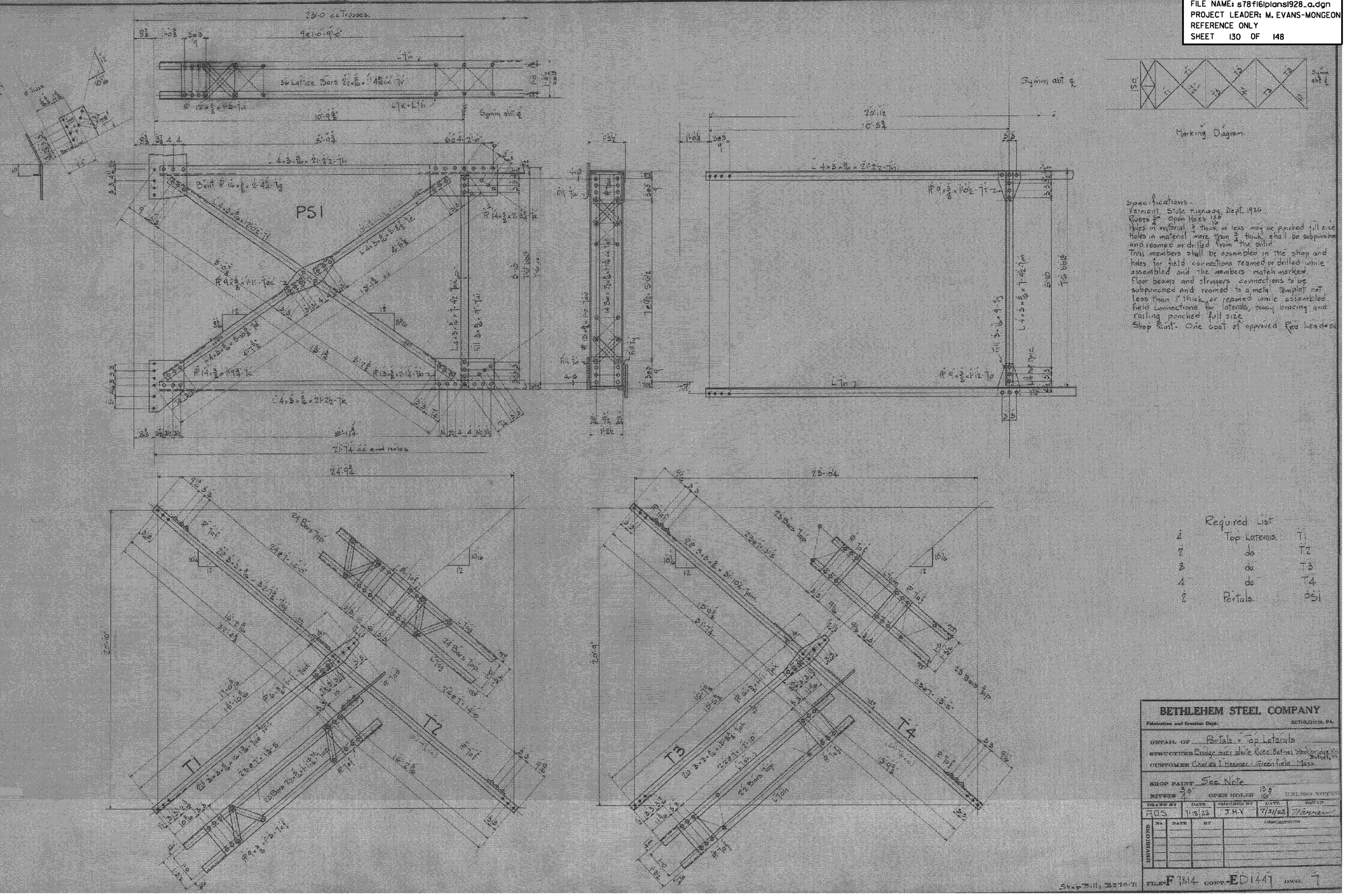
DRAWN BY	DATE	CHECKED BY	DATE	ISSUED
A.K.	7-16-28	[illegible]	8/6/28	Warren

NO.	DATE	BY	DESCRIPTION

FILE F7814 CONT. ED1447 DWG. 6

1928 STRUCTURAL PLAN SHEET 9

FILE NAME: s78f161plans1928_a.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 130 OF 148



Specifications -
Vermont State Highway Dept. 1926
Rivets ⅞" Open Holes 13/16"
Holes in material ¾" thick or less may be punched full size
Holes in material more than ¾" thick shall be subpunched and reamed or drilled from the solid
Truss members shall be assembled in the shop and holes for field connections reamed or drilled while assembled and the members match marked
Floor beams and stringers connections to be subpunched and reamed to a metal templet not less than ¼" thick, or reamed while assembled
Field connections for laterals, sway bracing and railing punched full size
Shop Paint - One coat of approved Red lead paint

Required List

2	Top Laterals	T1
2	do	T2
3	do	T3
4	do	T4
2	Portals	PS1

Shop Bills B270-71

BETHLEHEM STEEL COMPANY
Fabrication and Erection Dept. BETHLEHEM, PA.

DETAIL OF Portals + Top Laterals
STRUCTURE Bridge over White River, Bethel Village Corp. Bethel, Vt.
CUSTOMER Charles I. Hosmer - Greenfield, Mass.

SHOP PAINT See Note
RIVETS ⅞" OPEN HOLES 13/16"

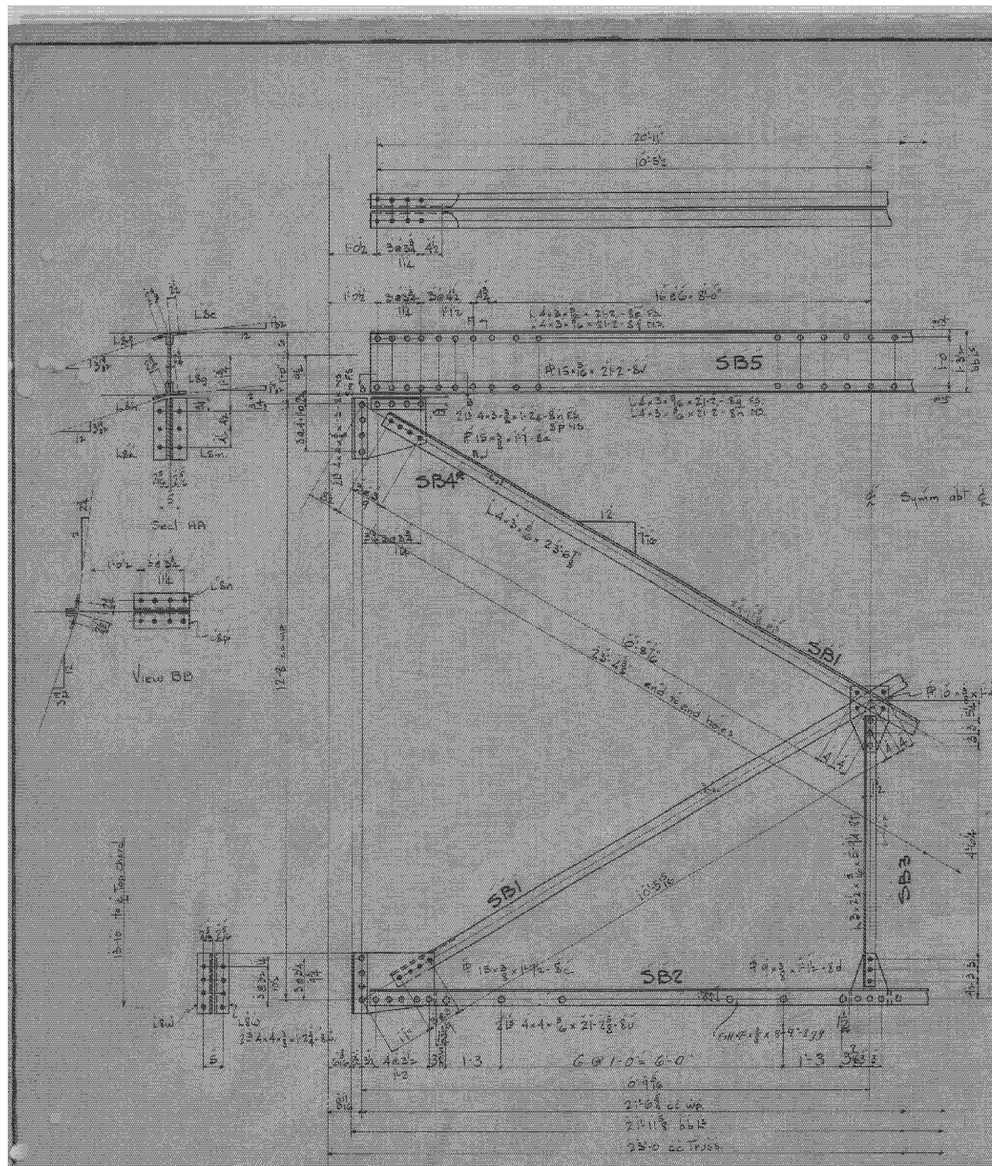
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AOS	11-13-23	J.H.V.	7/31/23	Harman

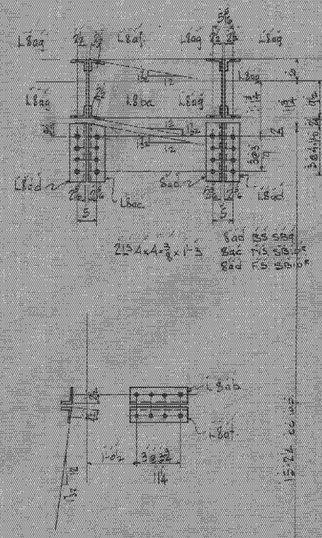
REVISIONS	No.	DATE	BY	DESCRIPTION

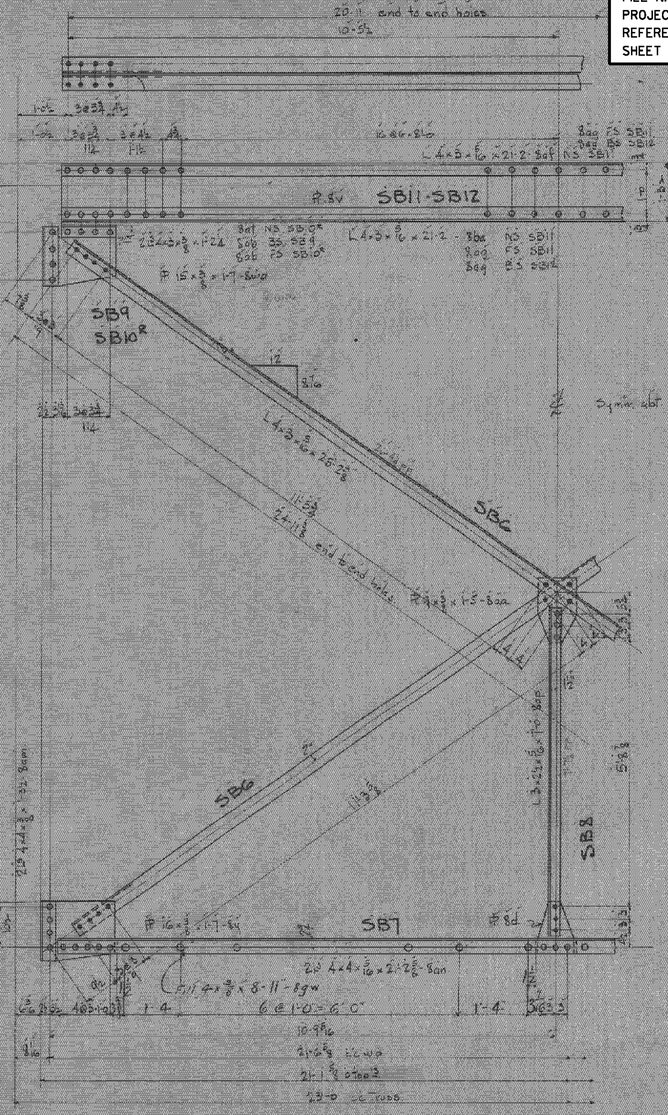
FILE F 1814 CONT. ED 1447 DWG. 7

1928 STRUCTURAL PLAN SHEET 10

FILE NAME: s78f161plans1928_a.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 131 OF 148







Required list

2	Diagonals	SB1
2	Sway Brace	SB2
2	do	SB3
2	Brackets	SB4
2	do	SB9
2	Sway Brace	SB5
6	Diagonals	SB6
3	Sway Brace	SB7
4	do	SB8
2	Brackets	SB9
2	do	SB10
2	do	SB10
1	Sway Brace	SB11
one	do	SB12

Spec. Vermont State Highway 1926
Rivets ⅞ Ø Open Holes 15/16 Ø
Holes in material ¾" thick or less may be punched full size.
Holes in material more than ¾" thick shall be sub-punched and reamed or drilled from the solid
Truss members shall be assembled in the shop and holes for field connections reamed or drilled while assembled and the members match marked
Floor beams and stringer connections to be subpunched and reamed to a template not less than 1" thick or reamed while assembled
Field connections for laterals sway bracing and railing punched full size
Shop Paint. One coat of approved Red lead oil.

Shop Bills 80, 81, 82 Adv. Bill 79

BETHLEHEM STEEL COMPANY
Fabrication and Erection Dept. BETHLEHEM, PA.

DETAIL OF Sway Frames
STRUCTURE Bridge over White River
Bethel-Stockbridge Rd. Bethel Vt.
CUSTOMER Charles T Hosmer Greenfield Mass

SHOP PAINT 2 See Note
RIVETS ⅞ OPEN HOLES 15/16 UNLESS NOTED

DRAWN BY	DATE	CHECKED BY	DATE	ISSUED
HDS		J.H.T	8-8-28	Warren

REVISIONS	No.	DATE	BY	DESCRIPTION

FILE F 1814 CONT. ED1447 DWG. 8

B28@97 × 41'-4

Girders - G1-G2

Expansion End

Fixed End

40'-0 c.c. bearings

Bearing P1-M5

B28@97×41'-4

Girders-G3-G4-G5-G6-G7-G8

Expansion End

Fixed End

40'-0 c.c. Bearings

Bearing P's-M2-M3

B17 15/16 @ 47 × 41'-4

Girders— G10

Bearina P. - M4

Tie Angles - TA1-TA2-TA3

Apron Plate-AP2

Bearing Angles-BA2

Bracket - K1

All Rivets 7/8" & Open holes 1 1/16"

Section B-B

Section A-A

Apron Plate-AP1

Bearing Angles-BA1

Bearing Angle-BA4

Bracket-K2

All Rivets 7/8" & Open Holes 1 1/16"

Shop Bills B.S. 90 to 92

Welding for Bars 91-94

Required List

One	Girder (As Shown)	G1	4	Tie Angles	TA1
One	" (Opp. as Shown)	G2	4	" "	TA2
One	" (As Shown)	G3	2	" "	TA3
One	" (Opp. as Shown)	G4	2	Apron Plates	AP1
2	Girders	G5	One	" "	AP2
One	Girder	G6	One	" "	AP3
2	Girders	G7	2	Bearing Angles	BA2
One	Girder	G8	2	" "	BA1
2	Girders	G10	One	" "	BA4
2	Bearing Plates	M2	12	Brackets	K1
4	" "	M3	12	"	K2
4	" "	M4	4	Bearing Plates	M5

Notes:-
Specifications: Vermont State Highway, 1926.
Shop Paint: One coat of approved Red Lead and Oil.
Holes in material 3/4" thick or less may be punched to full size.

1928 STRUCTURAL PLAN SHEET 11

FILE NAME: s78f161plans1928_a.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 132 OF 148

BETHLEHEM STEEL COMPANY
Fabrication and Erection Dept. BETHLEHEM, PA.

DETAIL OF Approach Beam Spans
STRUCTURE Bridge Over White River, Bethel-Stockbridge Road
CUSTOMER Charles I. Hosmer Greenfield, Mass.
SHOP PAINT See Note
RIVETS 7/8" ø OPEN HOLES 1 1/16" ø UNLESS NOTED

DRAWN BY	DATE	CHECKED BY	SCALE	SHEET NO.
H.T.S.		J.Fox	3-2"=1'-0"	11 Jackson

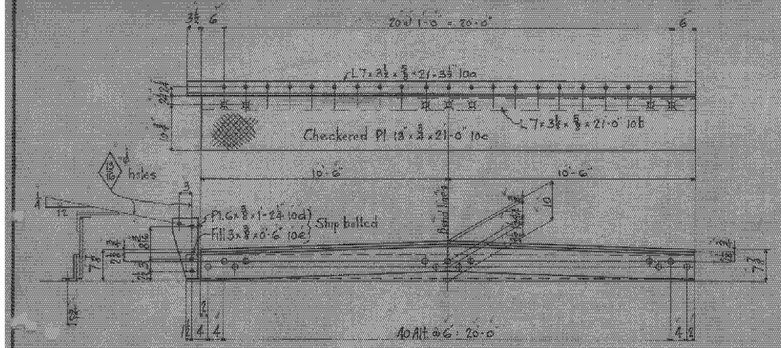
REVISIONS

NO.	DATE	BY	DESCRIPTION

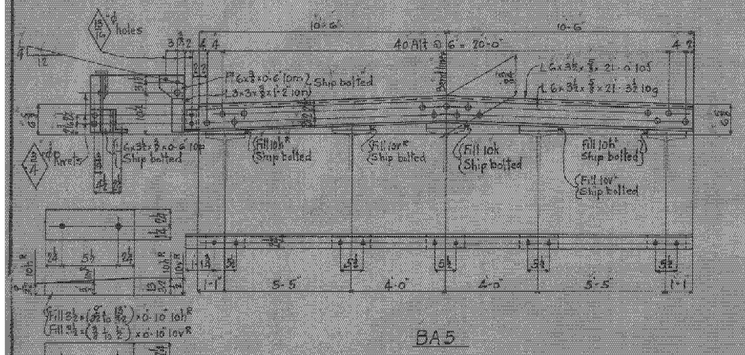
FILE F 7814 CONT. E.D. 1447 DWG. 9

1928 STRUCTURAL PLAN SHEET 12

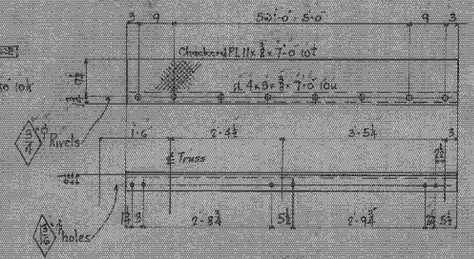
FILE NAME: s78f16\plans\1928_a.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 133 OF 148



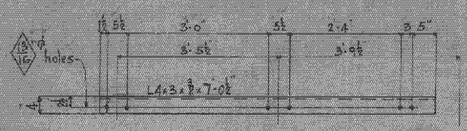
AP3



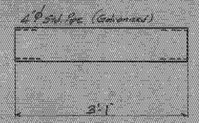
BA5

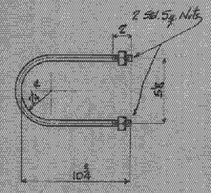


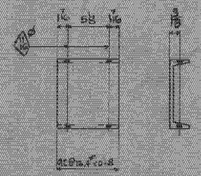
AP4

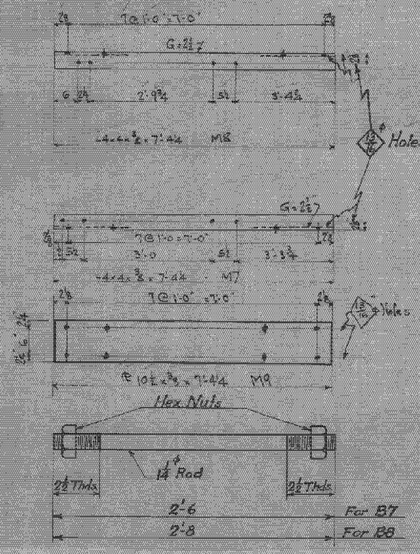


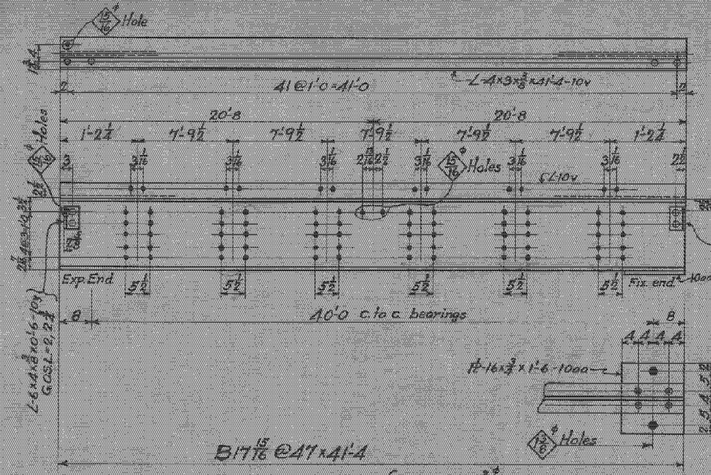
BA6











Specifications: Vt. State Highway Specifications 1926
Rivets ⅞"ϕ Open Holes 15/16"ϕ Unless noted
Holes in material ¾" thick or less may be punched full size.
Holes in material more than ¾" thick shall be sub-punched and reamed or drilled from solid.
Truss members shall be assembled in the shop and holes for field connections reamed or drilled while assembled and the members match marked.
Floor beams and Stringers connections to be sub-punched and reamed to a metal templet not less than 1" thick or reamed while assembled.
Field connections for laterals, sway bracing and railing punched full size.
Shop Paint: One coat of approved red lead and oil.

Required List

One -	Apron Plate	- AP3
One -	do	- AP4
One -	Bearing Angle	- BA5
One -	do	- BA6
4 -	Drain Pipes	- DP2
4 -	U Bolts	- UB2
16 -	Separators	- M6
One -	Angles	- M7
One -	do	- M8
14 -	Tension Bolts	- B7
4 -	" "	- B8
One -	Girder	- G9R
One -	"	G9L
One -	Plate	M9

BETHLEHEM STEEL COMPANY
Fabrication and Erection Dept. BETHLEHEM, PA.

DETAIL OF Apron Pls & Bearing Angles
STRUCTURE Bridge over White River, Bethel-Strafford R.D. Bethel, Vt.
GOVERNOR Chas T. Hosmer, Greenfield, Mass.

SHOP PAINT See Note
RIVETS ⅞" ϕ unless noted / OPEN HOLES 15/16" ϕ 7/8" ϕ

DRAWN BY	DATE	CHECKED BY	DATE	ISSUED
A.M.S.	8-10-28	J.H.Z.	8-15-28	

REVISIONS	NO.	DATE	BY	DESCRIPTION

FILE F7814 CONT. ED1447 DWG. 10

Shop Bill # B5100A101

1928 STRUCTURAL PLAN SHEET 13

FILE NAME: s78f161plans1928_b.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 134 OF 148

RP1 RP2

RP3

RC3R

RC7R

RC4R

RC1R

RC5R

RC2R

RC6R

Specs.
Vermont State Highway Dept. 1926.
Rivets ⅞" unless noted. Open Holes 15/16" unless noted.
Holes in material ¾" thick or less may be punched ⅛" full size.
Shop Paint. One Coat of Red Lead & oil.

Required List

2	Railing Posts.	RP
2	do	RP2
39	do	RP3
2	Hand Railing	RC1R
2	do	RC1L
one	do	RC2R
one	do	RC2L
2	do	RC3R
2	do	RC3L
2	do	RC4R
2	do	RC4L
2	do	RC5R
2	do	RC5L
one	do	RC6R
one	do	RC6L
one	do	RC7R
one	do	RC7L

BETHLEHEM STEEL COMPANY
Fabricating and Erecting Dept. BETHLEHEM, PA.

DETAIL OF Hand Railing - Posts. Bethel-Stockbridge
STRUCTURE Bridge over White River Bethel Vt.
CUSTOMER Cross I Mobile Greenfield Mass.

SHOP PAINT See Note
RIVETS ⅞" OPEN HOLES 15/16" UNLESS NOTED

DRAWN BY	DATE	CHECKED BY	DATE	APPD.
RDS	5-13-28	J.N.Y.	8-15-28	

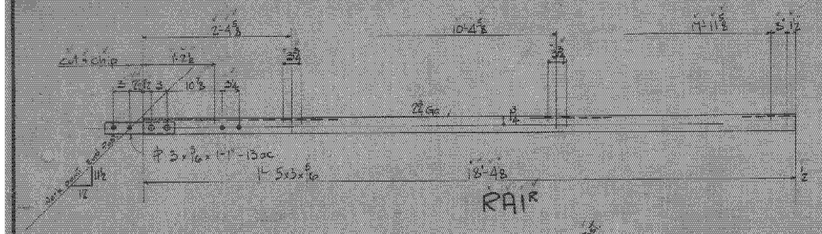
SUPERSEDES	NO.	DATE	BY	DESCRIPTION
	1	11-10-28	J.W.S.	Holes added in RP1 & RP2

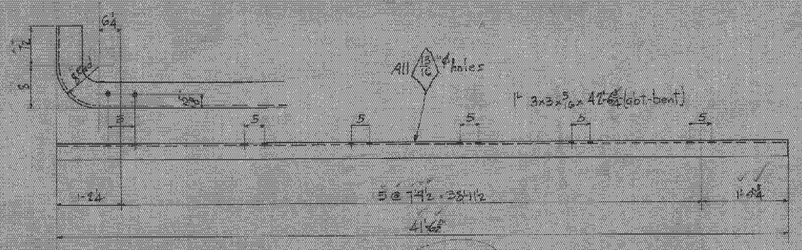
FILE F7814 CONT. ED1447 DWG. 12

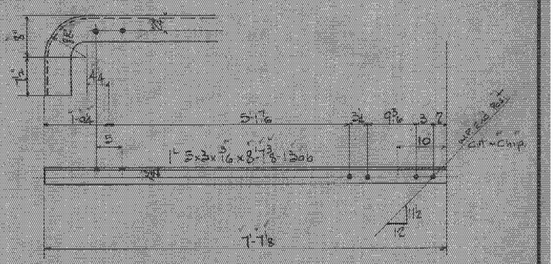
Shop Bills 120, 121, 122. Adv Bill 19

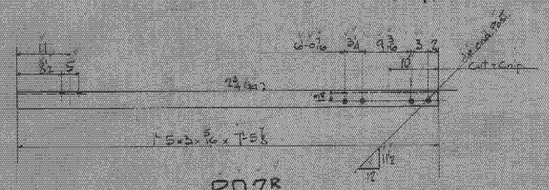
1928 STRUCTURAL PLAN SHEET 14

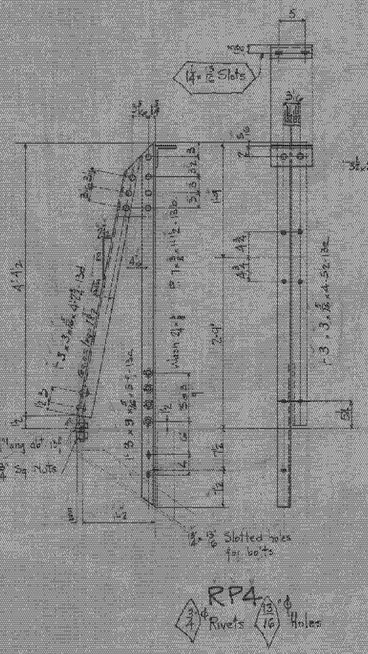
FILE NAME: s78f161plans1928_b.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 135 OF 148

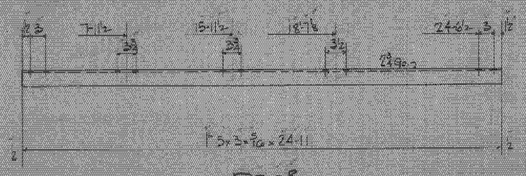


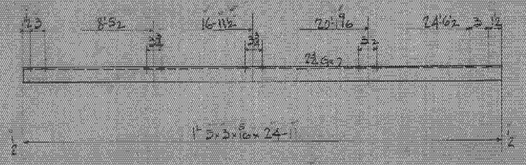


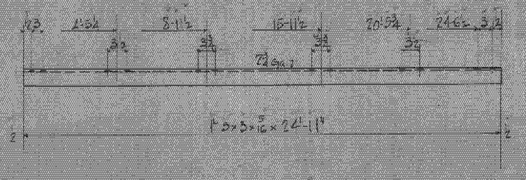


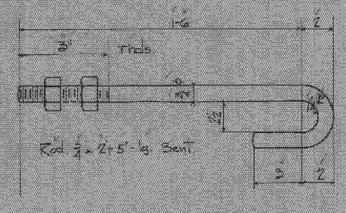


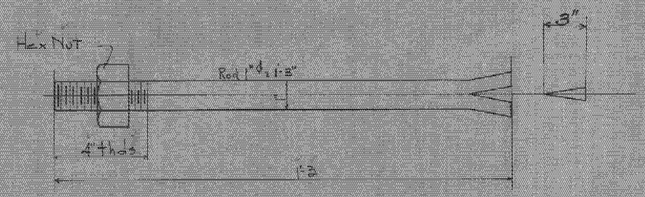












Required List.

one	Railing Angles	RA1R
one	do	RA1L
2	Railing Angles	RA1R
2	do	RA1L
one	do	RA2R
one	do	RA2L
2	do	RA3R
2	do	RA3L
2	do	RA4R
2	do	RA4L
2	do	RA5R
2	do	RA5L
one	do	RA6R
one	do	RA6L
88	Hook Bolts	HB1
12	Railing Post	RP4
56	Anchor Bolts	AB2

Spec - Vermont State Highway Dept 1926
Rivets 3/4 Open Holes 15/16
Holes in materials 5/8 thick or less may be punched full size.
Shop Paint One coat of Red lead + oil

Shop Bills BS130-131

BETHLEHEM STEEL COMPANY
Fabrication and Erection Dept. BETHLEHEM, PA.

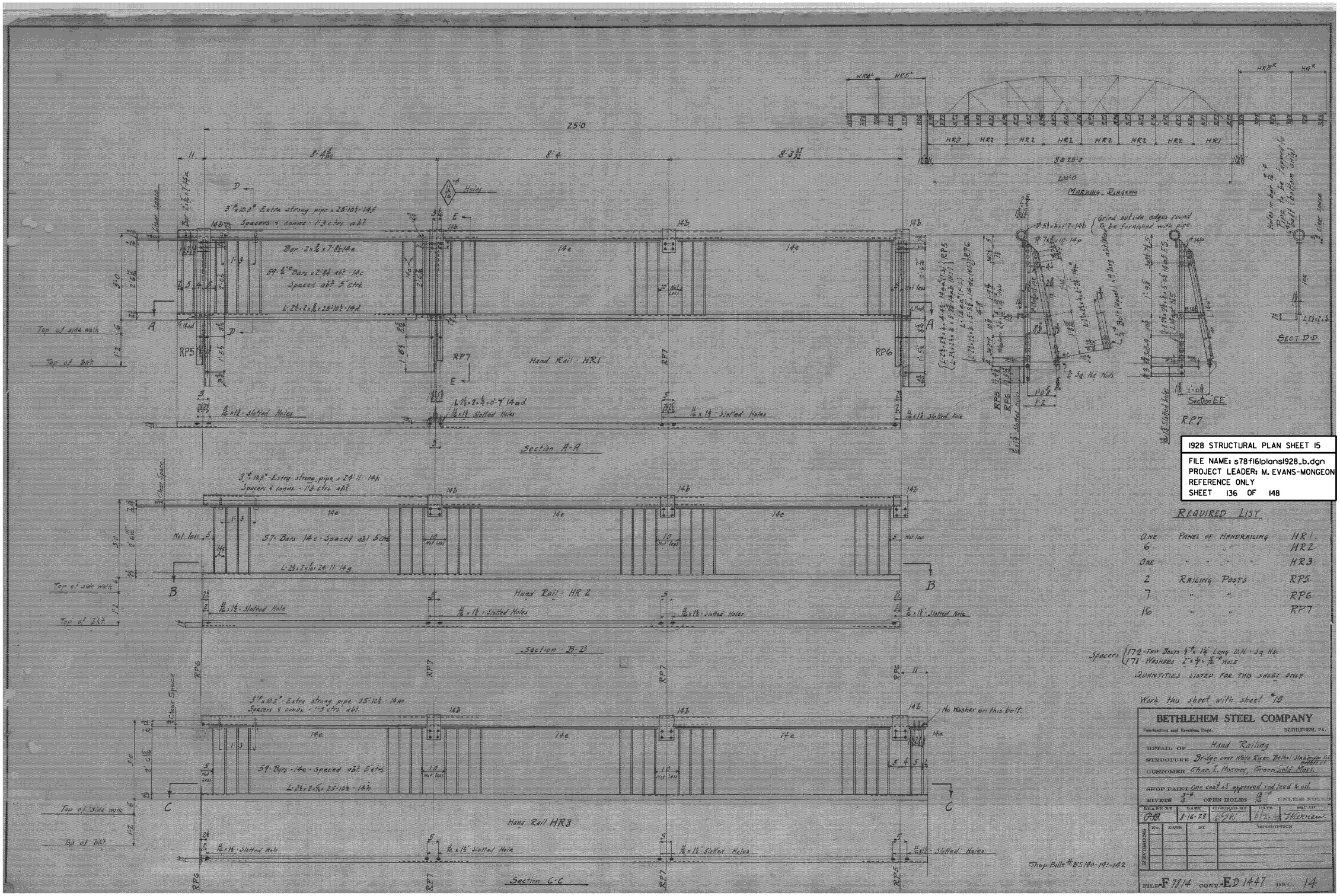
DETAIL OF Hand Railing + Posts
STRUCTURE Bridge over White River Bethel-Stockbridge
CUSTOMER State Highway Dept. Greenfield Mass.

SHOP PAINT See Note
RIVETS 3/4 OPEN HOLES 15/16 CUSTOMER'S NOTES

DRAWN BY	DATE	CHECKED BY	DATE	ISSUED
RDS	8/16/26	J.H.N.	8/16/26	

REFERENCE	No.	DATE	BY	INSTRUCTIONS

FILE F 7814 CONT. E 01447 DWG. 13.



1928 STRUCTURAL PLAN SHEET 15

FILE NAME: s78f16\plans1928_b.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 136 OF 148

REQUIRED LIST

One	Panel of Handrailing	HR1
6	" " "	HR2
One	" " "	HR3
2	Railing Posts	RP5
7	" "	RP6
16	" "	RP7

Spacers { 172 - Thru Bolts ⅝" x 1¼" Long U.H. Sq. Hd.
171 - Washers 2" x ⅞" x 11/16" Hole

QUANTITIES LISTED FOR THIS SHEET ONLY

Work this sheet with sheet #15

BETHLEHEM STEEL COMPANY
Fabrication and Erection Dept. BETHLEHEM, Pa.

DETAIL OF Hand Railing
STRUCTURE Bridge over White River Bellaire-Shebayagan Hwy
CUSTOMER Chas. I. Hosmer, Green, Soltz Mass.
SHOP PAINT One coat of approved red lead & oil
RIVETS ¾" OPEN HOLES 13/16"

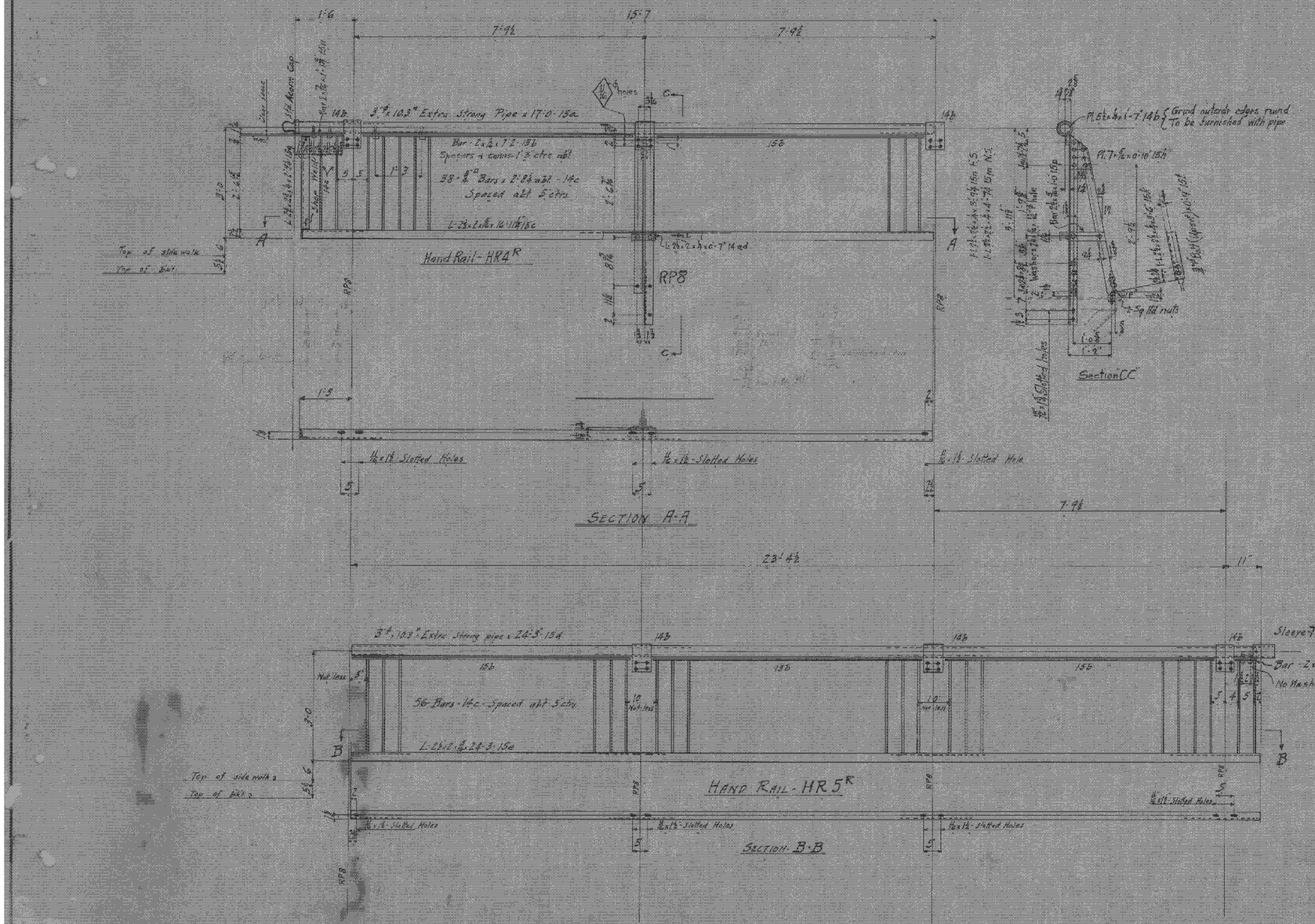
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PB	8-16-28	[illegible]	8/[illegible]	[illegible]

REVISIONS	NO.	DATE	BY	DESCRIPTION

FILE F 78/4 CONT. ED 1447 DWG. 14

1928 STRUCTURAL PLAN SHEET 16

FILE NAME: s78f16lplans1928_b.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 137 OF 148



Required List

One -	Hand Railing	- HR4R
One -	do	- HR5R
12 -	Railing Posts	- RP8
One -	Hand Railing	- HR4L
One -	do	- HR5L

68-Top Bolts ⅝"ø x 1½ long U.H. Sq Hd
67-Washers 2"x 2"x ⅜" 1/16 hole
Quantities listed for this sheet only.

Shop Bills #B5150-151

Work this sheet with Sheet #14

BETHLEHEM STEEL COMPANY
Fabrication and Erection Dept. BETHLEHEM, PA.

DETAIL OF Hand Railing and Railing Posts
STRUCTURE Bridge over White River, Bethel - Steel bridge to Bethel, Vt.
CUSTOMER Chas. T. Hosmer, Greenfield Mass.

SHOP PAINT One coat of approved red lead & oil
RIVETS 4" ϕ OPEN HOLES 15/16

DRAWN BY	DATE	CHECKED BY	DATE	SCALE
F.P. A.M.S.	8-23-28			Varies

NO.	DATE	BY	DESCRIPTION

FILE F 7814 CONT E.D 1447 DWG. 15

1928 STRUCTURAL PLAN SHEET 17

FILE NAME: s78f161plans1928_b.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 138 OF 148

1928 STRUCTURAL PLAN SHEET 18

FILE NAME: s78f16\plans1928_b.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 139 OF 148

S-A 1020(4) 18

WHITE RIVER

Approach washed out Sta. 3+13

Sta. 3+00 Begin Clearing

Sta. 10+00 Begin Clearing

Rubble Retaining Wall

House

Revised Line

Boring #1

Boring #2

Survey Line

Pl 6+68.8 Bk 6+65.8

Δ = 32° 11' 12"
D = 17° 30'
R = 327.4
T = 94.3
L = 183.9
C = 181.3

Do not bank or widen

Δ = 6° 17'
R = 1139.45

Pl 11+26.0 Bk 11+34.9

Rubble Retaining Wall

Δ = 14° 00'
D = 6°
R = 955.0
T = 117.2
L = 233.3
E = 7.2

18" maple

Road will be lowered to this grade

Top of side walls

Top of wing walls

11+00 End of Project

Drive

Gravel

Note

Masonry excavated from present abutments shall be placed on outside of fills in front of new abutments and along outside of road fill as protection against possible scour. It shall be paid for only under the item of structure excavation.

Some additional stone may be necessary and shall be paid for under the light stone rip rap protection.

Estimated additional quantity required 25 cu yds

Sta 7+57.5 Face Abut. Bridge Seating Pl'y El. 96.84

Sta 7+57.5 Face Abut. Bridge Seating Coping El. 96.05

Sta 7+16.25 Pl'y El. 95.51

Sta 6+92.5 Face Abut. Bridge Seating Pl'y El. 96.84

Sta 10+00 Bridge Seating Pl'y El. 95.91

Sta 10+00 Face Abut. Bridge Seating Coping El. 96.05

Sta 11+00.8 Bridge Seating Pl'y El. 95.68

Sta 11+00.8 Face Abut. Bridge Seating Coping El. 95.89

Abutment No 1

Abutment No 2

Pier No 1

Pier No 2

Pier No 3

Pier No 4

Pier No 5

Abutment No 6

Span No 1

Span No 2

Span No 3

Span No 4

Span No 5

Span No 6

Span No 7

Span No 8

Span No 9

Sta 7+57.5 Face Abut. Pl'y El. 96.84

Sta 11+00.8 Face Abut. Pl'y El. 95.91

Sta 11+00.8 Bridge Seating Pl'y El. 95.68

Sta 11+00.8 Face Abut. Bridge Seating Coping El. 95.89

Sta 11+00.8 Bridge Seating Pl'y El. 95.68

Sta 11+00.8 Face Abut. Bridge Seating Coping El. 95.89

Expansion End

Fixed End

N.W.H.W. 98.5

N.W.L.W. 85.8

Bedrock El. 74.0

Bedrock "B" El. 71.0 approx.

Sta 11+00.8 Bridge Seating Pl'y El. 95.68

Sta 11+00.8 Face Abut. Bridge Seating Coping El. 95.89

Sta 11+00.8 Bridge Seating Pl'y El. 95.68

Sta 11+00.8 Face Abut. Bridge Seating Coping El. 95.89

Sta 11+00.8 Bridge Seating Pl'y El. 95.68

Sta 11+00.8 Face Abut. Bridge Seating Coping El. 95.89

Expansion End

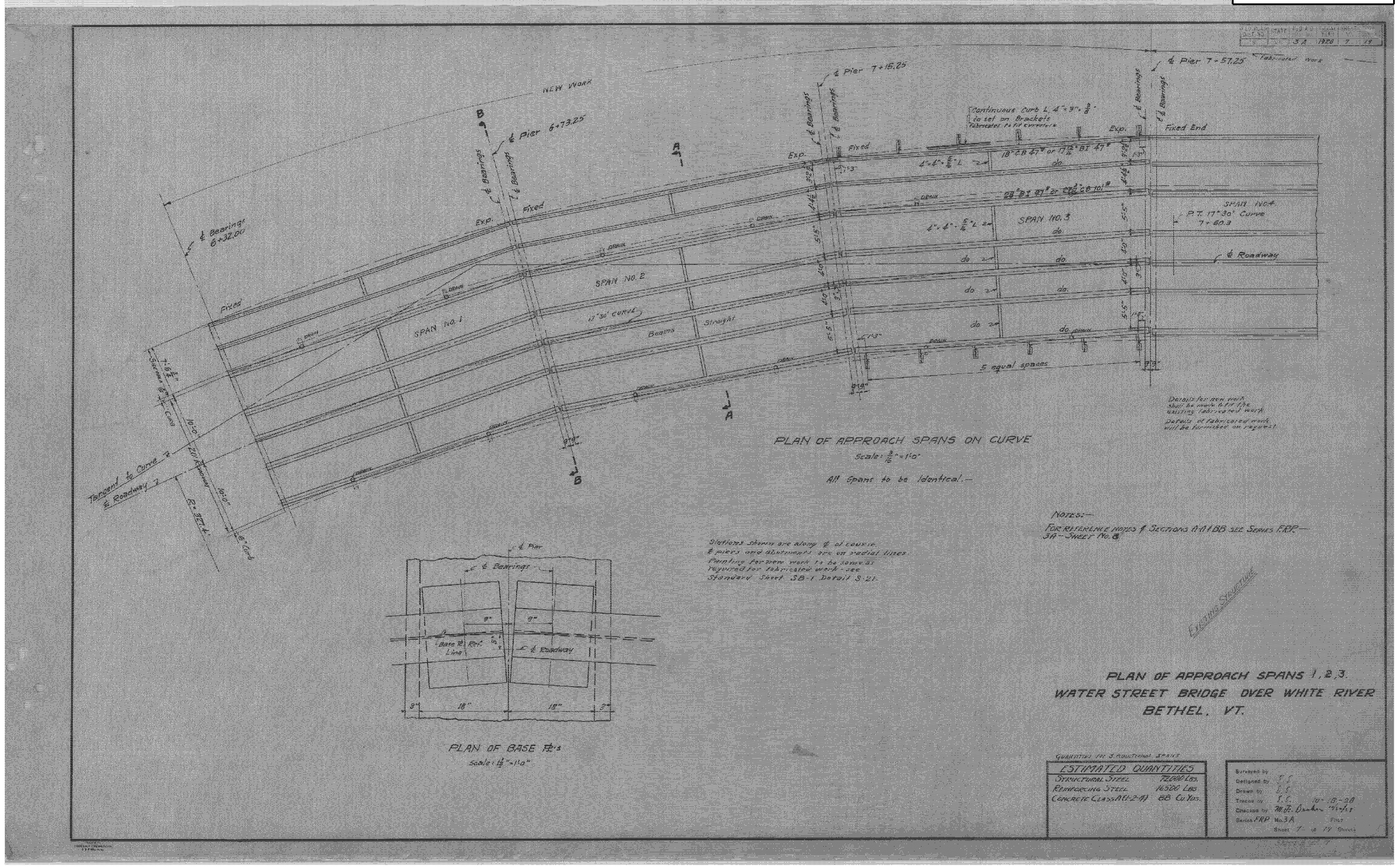
Fixed End

Sta 11+00.8 Bridge Seating Pl'y El. 95.68

Sta 11+00.8 Face Abut. Bridge Seating Coping El. 95.89

1928 STRUCTURAL PLAN SHEET 19

FILE NAME: s78f161plans1928_b.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 140 OF 148



PLAN OF APPROACH SPANS ON CURVE

Scale: $\frac{3}{16}$"=1'0"

All Spans to be identical.—

PLAN OF BASE ℄'s

Scale: 1½"=1'0"

Stations shown are along ℄ of roadway.
℄ piers and abutments are on radial lines.
Painting for new work to be same as required for fabricated work - see Standard Sheet SB-1 Detail S-21.

NOTES:—

FOR REFERENCE NOTES & SECTIONS A-A & B-B SEE SERIES FRP—3A—SHEET No. 8

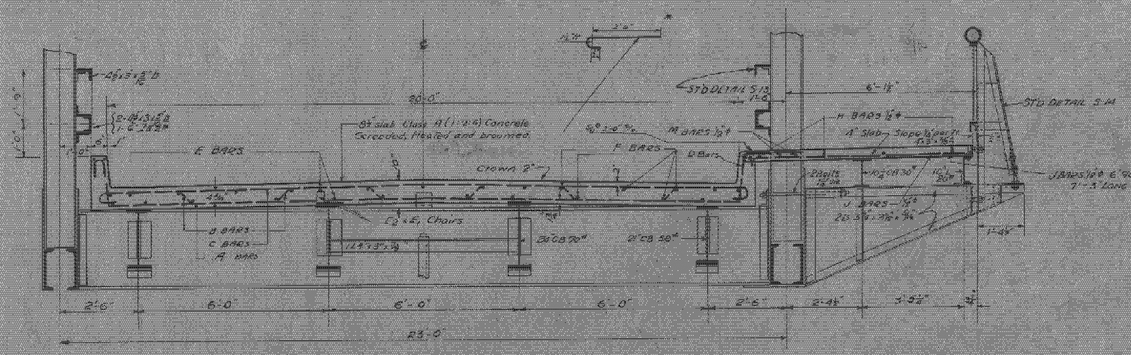
EXISTING STRUCTURE

PLAN OF APPROACH SPANS 1, 2, 3.
WATER STREET BRIDGE OVER WHITE RIVER
BETHEL, VT.

QUANTITIES FOR STRUCTURAL SERIES

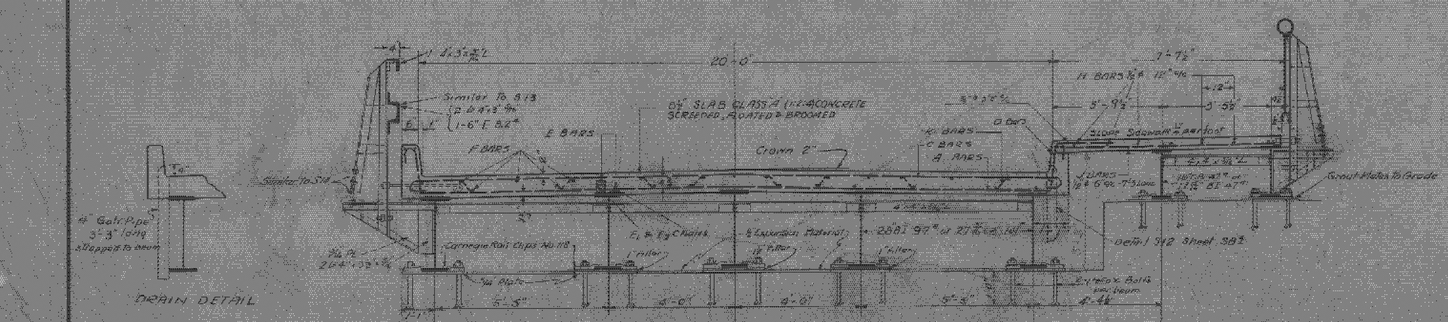
ESTIMATED QUANTITIES	
STRUCTURAL STEEL	72,200 LBS.
REINFORCING STEEL	16,500 LBS
CONCRETE CLASS A(1-2-4)	68 CU YDS.

Surveyed by
Designed by T.J.
Drawn by L.C.
Traced by T.C. 10-18-28
Checked by M.F. Brooks 11-1-28
Series FRP No. 3A Files
Sheet 7 of 19 Sheets



TYPICAL FLOOR SECTION
THRU TRUSS
See Standard Detail S-13
Scale ¾"=1'-0"

SPAN NO 5



4" Galv Pipe 3'-3" long Stepped to Beam

DRAIN DETAIL

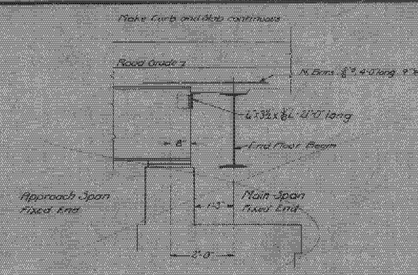
TYPICAL FLOOR SECTION
APPROACH SPAN
Scale ¾"=1'-0"

Note Slabs of Collision Rails on approach spans must line up with faces of collision rails on main span
SPAN NOS 3 & 6

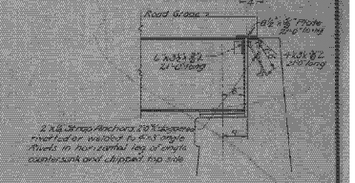


DETAIL OF H BARS
@ 12" c-c

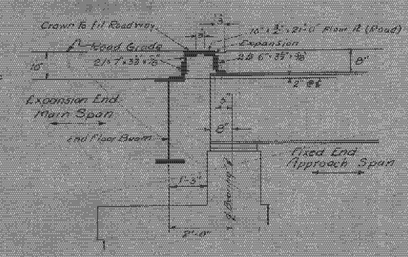
*Revised 1/23/28 (Letter w/dated)



DETAIL AT PIER
FIXED END-MAIN AND APPROACH SPANS
Use 5-10 for Sidewalk



DETAIL AT ABUTMENT
EXPANSION END-APPROACH SLAB
Sidewalk Expansion Detail similar



ROAD EXPANSION DEVICE
BETWEEN APPROACH SPAN & BRIDGE
For Bridge "23 Dist "3 Bethel-Use at In
Sidewalk Expansion Similar to Detail Over Fully at Curb It to be supported by Road Expansion Device
Scale ½"=1'-0"

EXISTING STRUCTURE

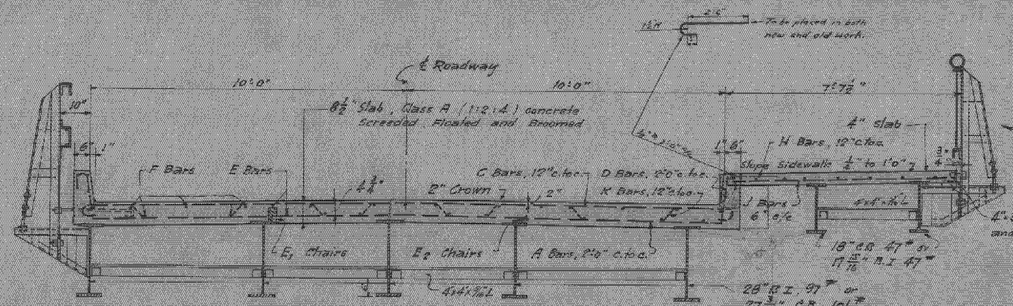
STEEL SUPERSTRUCTURE
200'-0" c BEARINGS
20'-0" ROADWAY
2 H15

THIS PLAN TO ACCOMPANY PROJECT S020-200-1 FAP No "23 Dist "3 (BETHEL)

THIS PLAN WAS USED FOR BRIDGE "23-DIST "3-BETHEL	

Surveyed by
Designed by N.W. Morgan
Drawn by G.L. Hoskins
Traced by W.W.P.
Checked by M. Evans-Mongeon 3/29/28
Series S.A.20 No. 200-2

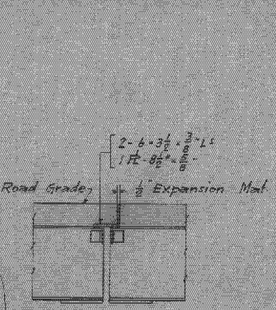
STATE					
VT.		3A	1928	9	19



SECTION "AA"
Scale ½"=1'-0"



For Detail of Drain see Sheet 6 or 19.
If impossible to build drain pipe vertical it shall be built as directed by the Engineer in the field.

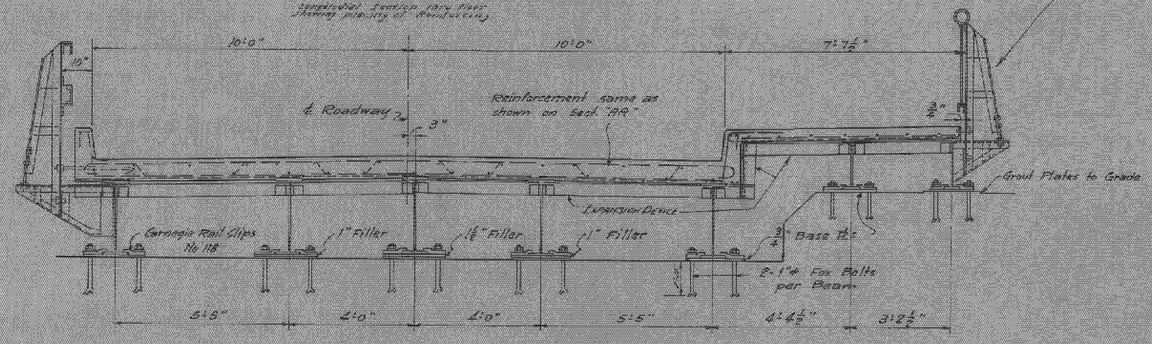


SLAB DETAIL AT PIERS
scale ½"=1'-0"

Similar at Sidewalk

Note: For Detail at Ortho see Series 5820-No.202 (Original Dwg 76.)
(To be modified in field if necessary.)

Rail to be built to fit curvature of both vertical and horizontal after applying deck load.



"BB"
Scale ½"=1'-0"

References:
For further details use following Standard Details and Types shown on Sh. 581 : 513, 514, 519, 521 f. Sh. 582-3201-3204.
Slab Reinforcement same as for Approach span on Tangent
For Plan & Estimated Quantities see Series FRP 3A Sheet No.

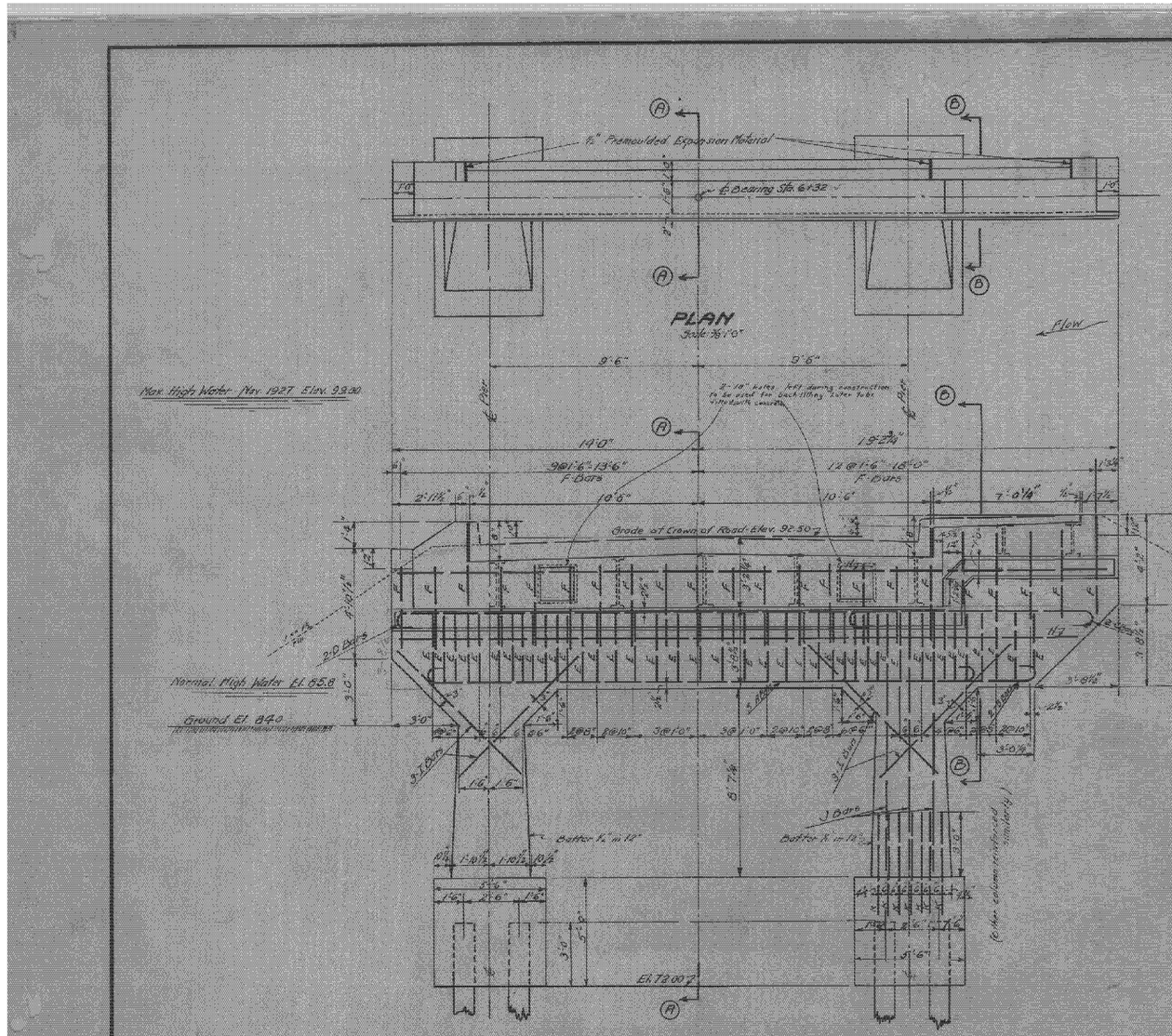
Existing Structure

SPANS 1, 2, 3.
APPROACH SPAN DETAILS
WATER STREET BRIDGE OVER WHITE RIVER
BETHEL, VT.

Surveyed by
Designed by F.I.
Drawn by F.I.
Traced by F.I. 10-17-28
Checked by W.F. Durkee 11-1-28
Series FRP No. 3A Filed
Sheet 8 of 19 Sheets

1928 STRUCTURAL PLAN SHEET 21

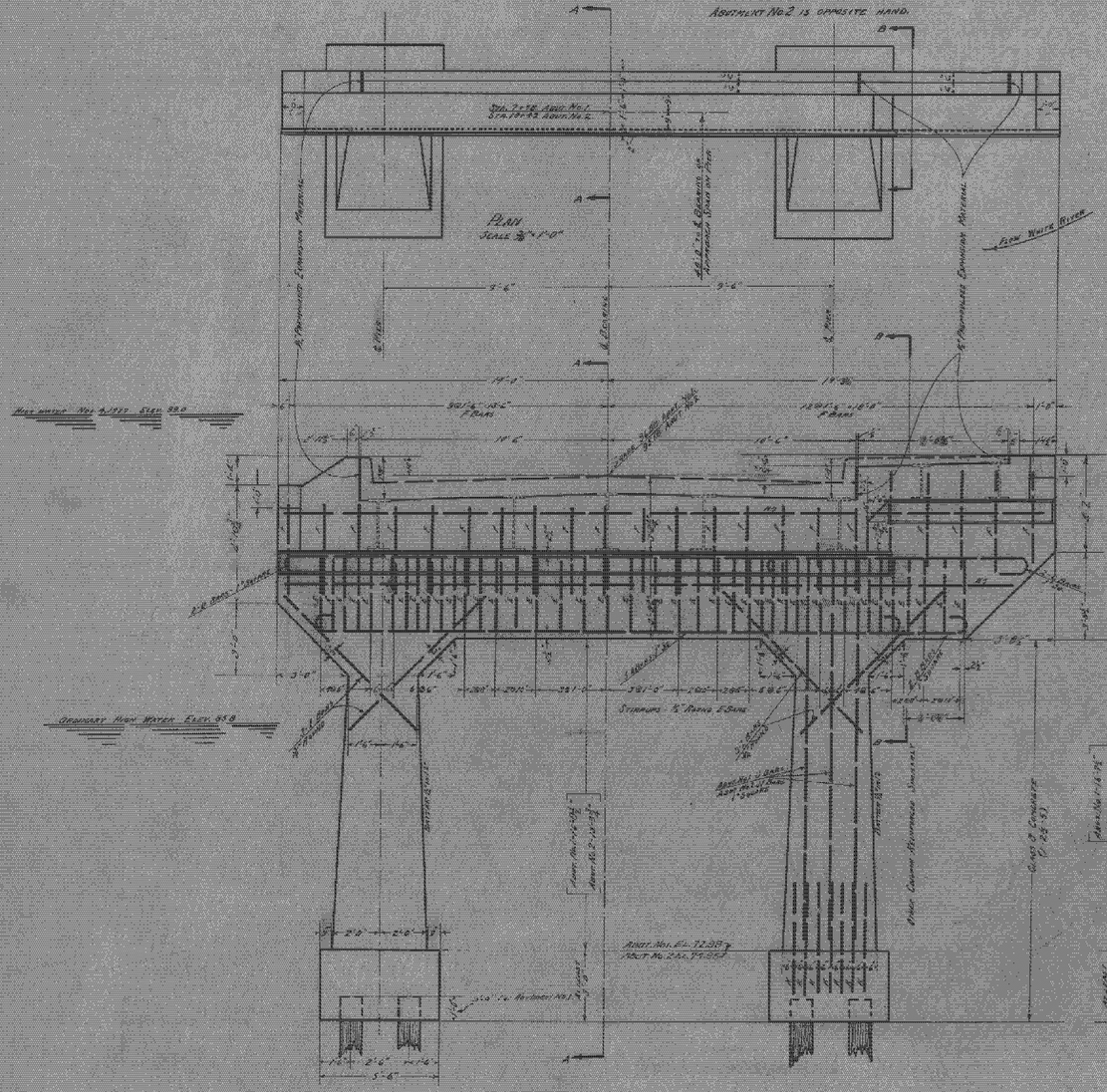
FILE NAME: s78f16lplans1928_b.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 142 OF 148

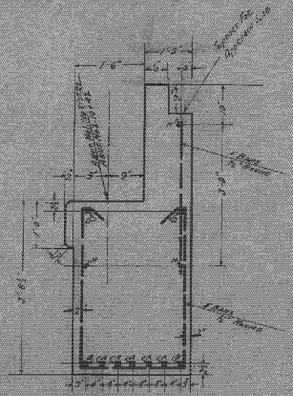


1928 STRUCTURAL PLAN SHEET 22

FILE NAME: s78f16lplans1928_b.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 143 OF 148

NOTE:-
SIDEWALK IS ON UPSTREAM SIDE OF ABUTMENTS
PLAN SHOWN IS FOR ABUTMENT No. 1
ABUTMENT No. 2 IS OPPOSITE HAND.





NOTES:-
ALL EXPOSED EDGES SHALL BE CHAMFERED 1", WHICH DIMENSION SHALL BE THE TOTAL LENGTH ACROSS THE FINISHED CHAMFER.
ANY SUITABLE STRUCTURE EXCAVATION USED BY THE CONTRACTOR FOR ANY OTHER PURPOSE THAN BACK FILL OR APPROACH FILL SHALL BE REPLACED BY AN EQUIVALENT QUANTITY OF BORROW BY THE CONTRACTOR AT HIS OWN EXPENSE, UNLESS SAME IS ORDERED WASTED BY ENGINEER.
ALL WORK AND MATERIAL SHALL CONFORM TO THE STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE VERMONT DEPARTMENT OF HIGHWAYS 1926.
THE ELEVATION OF THE FOOTINGS MAY BE CHANGED BY THE ENGINEER TO MEET FOUNDATION REQUIREMENTS FOUND IN FIELD.
(THESE NOTES APPLY TO PIERS 1 AND 2 ALSO.)

	VT.	3-A	1928	17	19

ALL STEEL SHALL BE DEFORMED BARS. REINFORCING STEEL SHALL CONFORM TO STANDARD SPECIFICATIONS FOR BILLET STEEL CONCRETE REINFORCEMENT BARS, STRUCTURAL OR INTERMEDIATE GRADE OF THE AMERICAN SOCIETY FOR TESTING MATERIALS, SERIAL DESIGNATION A15-19.

REINFORCING STEEL DETAILS

1" SQUARE

4" RAD

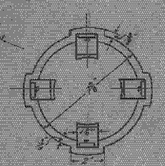
A BARS	A-20'-8"	T.L.-26'-6"
B BARS	A-26'-6"	T.L.=29'-0"
C BARS	A-16'-3"	T.L.=12'-9"
D BARS	A-36'-9"	T.L.=39'-3"

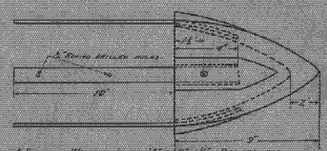
E BARS 1/2" ROUND

TOTAL LENGTH 9'-10"

F BARS - 1/2" RD. - 3'-9"
H BARS - 1/2" RD. - 18'-0"
I BARS - 3/8" SQ. - 3'-6"
J BARS 1" SQ. - 19'-6"
N BARS 1" SQ. - 16'-0"

4" RAD — T.L. 5'-9" — 1" SQUARE — 5'-6"





4 STEPS OF HORIZONTAL IRON 1/4" x 1 1/4" x 4" DRILLED FOR 1 RIVET AND 2 SPIKES

CAST STEEL PILE SHOE FOR 6 TO 8" TIPS
SCALE 4" = 1"

IN JETTING IS NECESSARY, TWO WATER JETS SHOULD BE USED WITH A WATER PRESSURE OF AT LEAST 150 TO 200 LBS. PER SQUARE INCH. PUMP TO BE OF PISTON TYPE WITH A 6" DIAMETER INTAKE PIPE AND A 4" DIAMETER OUTLET PIPE. THE JET PIPE TO BE ABOUT 2" IN DIAMETER, NOZZLE TO BE CIRCULAR IN SECTION OF 1" TO 3/4" IN DIAMETER.
UNIT PRICE BID FOR WOODEN PILES SHALL INCLUDE JETTING IF NECESSARY AND FURNISHING AND DRIVING PILE SHOES.
PILE SHOES AS PER SKETCH TO BE USED AS DIRECTED BY ENGINEER.
PILES ASSUMED AT 25'-0" LENGTH FOR ESTIMATING PURPOSES ONLY.
PILES TO BE DRIVEN TO A 15 TON BEARING VALUE.

NOTE
THIS SHEET NOT USED FOR ABUTMENT NO. 1

ESTIMATED QUANTITIES
— 2 ABUTMENTS —

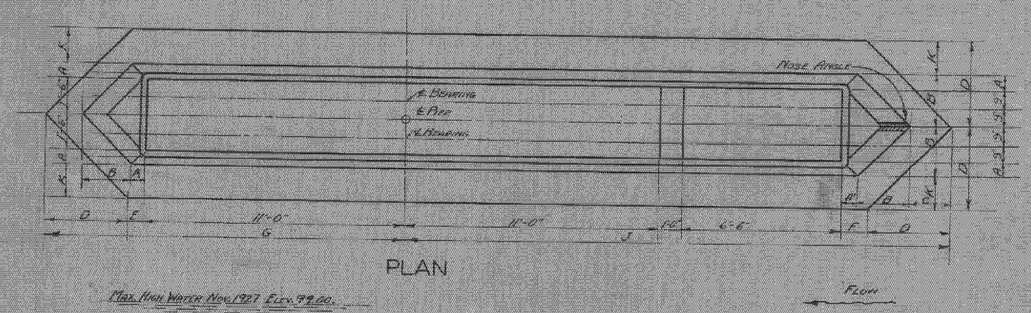
CLASS A (1-2-4) CONCRETE	27	CU YDS.
CLASS B (1-2½-5) CONCRETE	53	CU YDS.
STRUCTURE EXCAVATION	172	CU YDS.
TIMBER PILING	500	LIN. FT.
REINFORCING STEEL	4202	LBS.

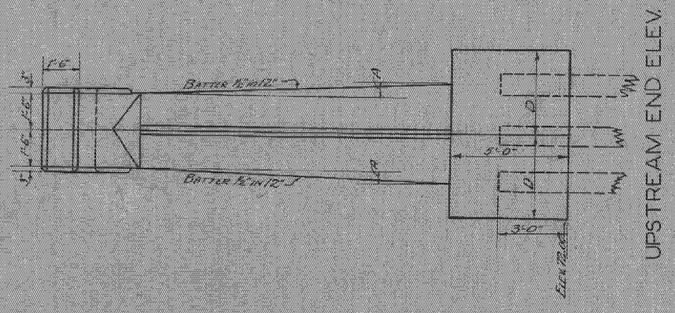
ABUTMENT NO. 2
BRIDGE OVER WHITE RIVER
BETHEL, VT.

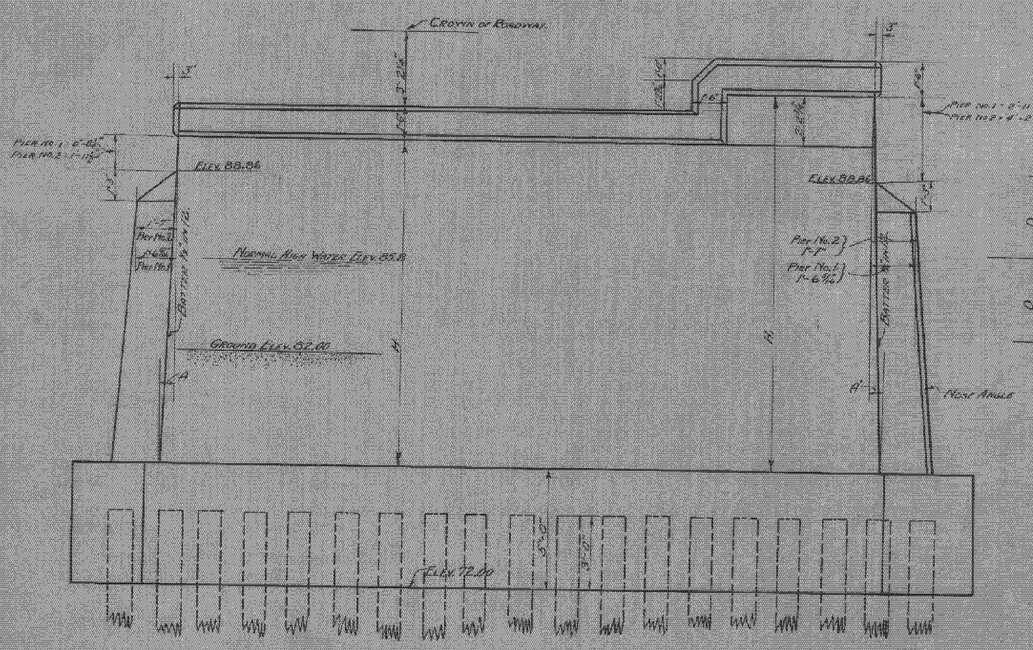
Surveyed by TROPIAN
Designed by FABIAN
Drawn by FABIAN & BARRETT
Traced by BARRETT
Checked by C. R. LAWLER
Series F No. 1010 Plan 5-2-26
Sheet 19 of 19 Sheets

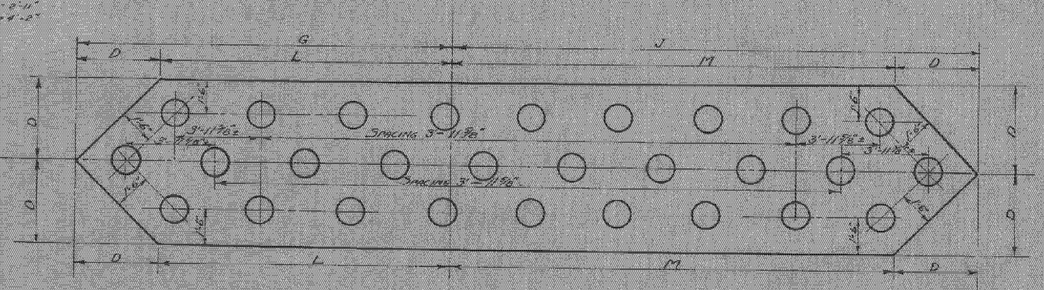
1928 STRUCTURAL PLAN SHEET 23
FILE NAME: s78f16lplans1928_b.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 144 OF 148

DRAWN	CHECKED	DATE	SCALE	SHEET	OF
		3-9	1928	16	19









Notes
For Details of Score Marks & Construction Joints see 382-3204.
" " " Steel Shoes for Piles see 382-3206.
" " " Nose Angle see 382-3207.
" " " Coping see 382-3220.
" General Notes see 382-3221.

℄ Pier Sta.	Crown Rd. Gr. Elev.	H	H₁	A	A₁	B	C	D	E	F	G	J	K	L	M
6+73.25	94.25	12'-6¾"	11'-9⅞"	6¾"	7⅛"	2'-0⅝"	2'-0⅝"	3'-6⅜"	1'-3⅛"	1'-3⅜"	15'-11"	23'-6"	1'-6⅝"	12'-3⅝"	11'-9⅞"
7+15.25	95.51	13'-9⅞"	13'-1⅛"	6⅞"	8"	2'-0⅛"	2'-0⅛"	3'-7"	1'-4⅛"	1'-4¼"	15'-11⅛"	23'-5⅞"	1'-6⅝"	12'-4¼"	11'-10⅛"

Quantities for both Piers

ESTIMATED QUANTITIES

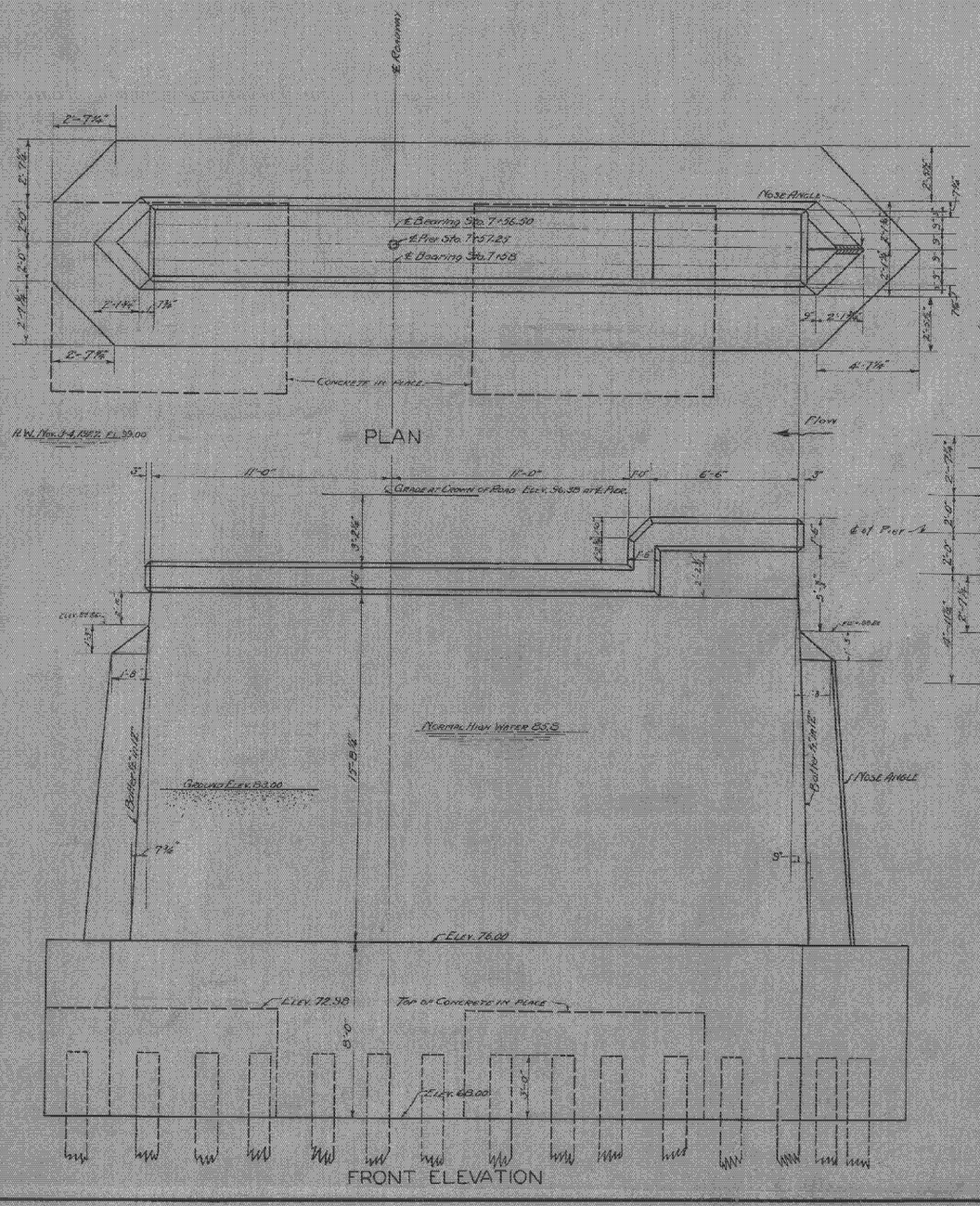
Concrete Class B (1-2.5-5)	230 Cu. Yds.
Steel for Nose Angle	322 Lbs.
Structure Excavation	231 Cu. Yds.
Timber Piling (25' Length used for estimating)	1400 Lin. Ft.

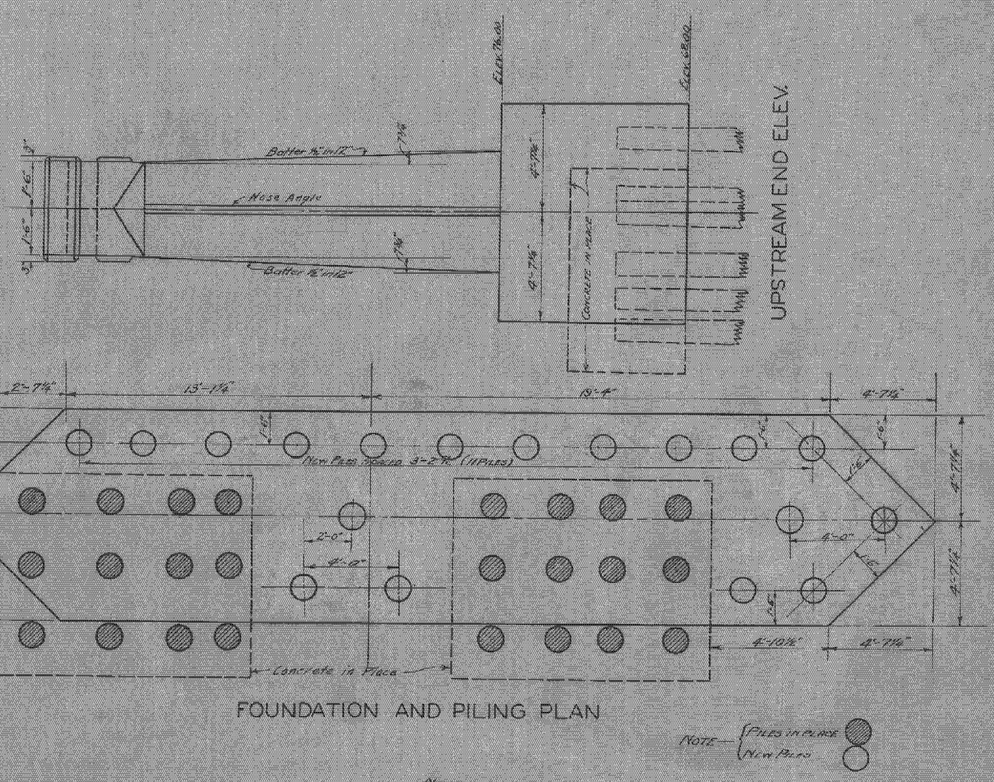
Surveyed by
Designed by W. F. Dunbar Asst.
Drawn by W. F. Dunbar Asst.
Traced by R.G.M.
Checked by Bridge Engr. 10-20-28
Series FRF No. 3A Item
Sheet 12 of 19 Sheets

PIERS AT STA'S 6+73.25 & 7+15.25
WATER ST. BRIDGE
BETHEL VT.
Pier Nos. 1 & 2

1928 STRUCTURAL PLAN SHEET 24

FILE NAME: s78f16\plans1928_b.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 145 OF 148





FOUNDATION AND PILING PLAN

NOTE — Piles in Place; New Piles

NOTES

For Detail of Scour Marks & Construction Joint see 582-3.204.
" " Steel Shoes for Piles see 582-3.206.
" " Nose Angle see 582-207.
" " Coping see 582-220.
" General Notes see 582-221.

NO. 3 PIER AT STA. 7+57.25
WATER ST. BRIDGE
BETHEL VT.

ESTIMATED QUANTITIES		
Concrete Class B (1-2½-3)	194	Cu. Yds.
Steel for Nose Angle	178	Lbs.
Structure Excavation	214	Cu. Yds.
Timber Piling (Length 2.5' each for estimating only.)	400	Lin. Ft.

Surveyed by
Designed by M. F. Barker 1928
Drawn by M. F. Barker 1-16-28
Traced by R.G.M.
Checked by Finlay Lamp 10-19-28
Series F.A.P. No. 31 Files
Sheet 13 of 19 Sheets

1928 STRUCTURAL PLAN SHEET 25

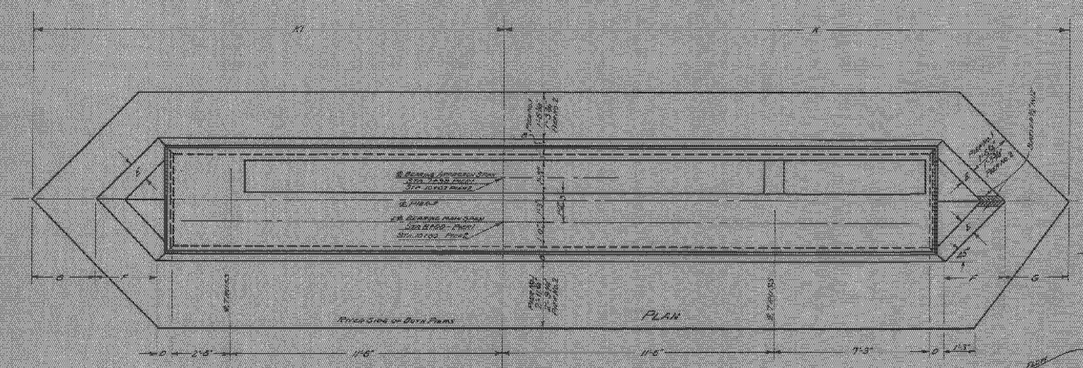
FILE NAME: s78f161plans1928_b.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 146 OF 148

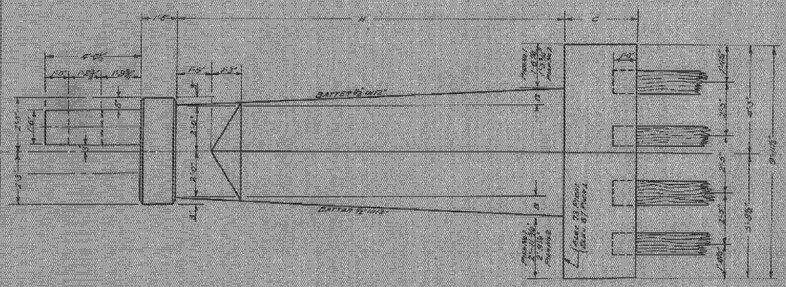
F.A. ROAD	STATE	PROJECT	SHEET	SHEET
DISTRICT		NO.	NO.	TOTAL
		S-A 1928	14	19

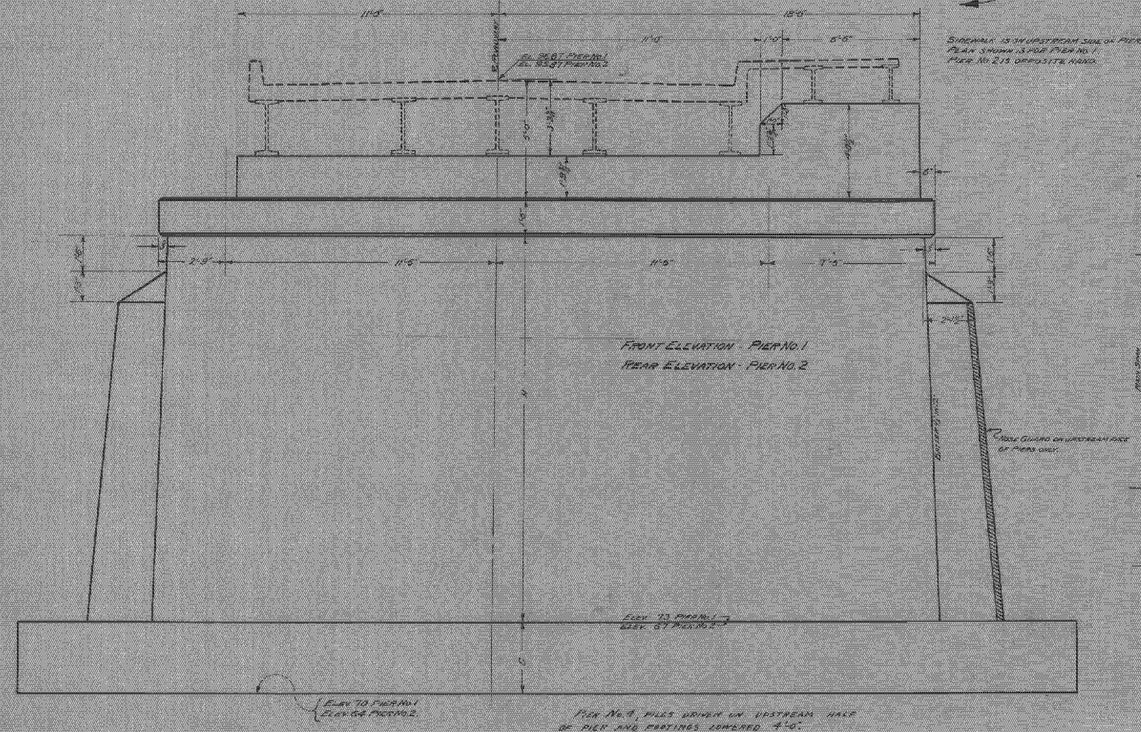
All concrete in these piers to be Class B, 1-2½-5

All work and materials shall conform to the Standard Specifications (1920 and Bridge) of the Vermont Dept. of Highways 1926.

Nose Guard on Pier to be given one Shop Coat of Red Lead and Oil and One Field Coat of Red Lead and Oil and One Field Coat Graphite Paint.





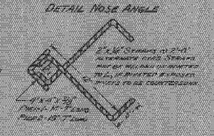


Pier No. 1, piles driven on upstream half of pier and footings lowered 4'-0". Foundation pile No. 9 handrail.

Pier No. 2, piles omitted and footings lowered to 8'-0" below lowest point in stream bed.

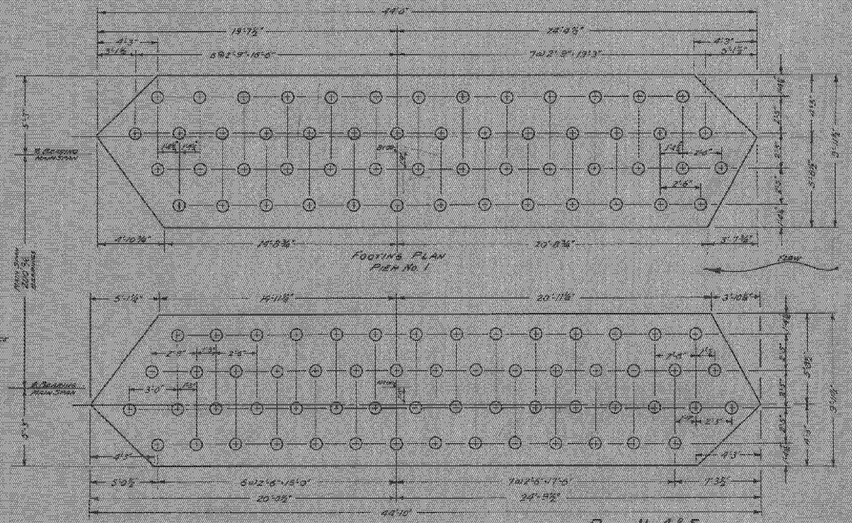
Sidewalk is on upstream side of piers. Plan shown is for Pier No. 1. Pier No. 2 is opposite hand.

Detail Nose Angle



See notes on Sheet No. Abutments 1&2.

Furnishing and Placing Nose Guard on Piers to be included in the unit price bid for Reinforcing Steel.



Note:
Pier No. 1 = Pier No. 4
Pier No. 2 = Pier No. 5

Pier No. 1	Pier No. 2
H = 17'-8½"	H = 22'-4½"
R = 13'-6"	R = 11'-6"
D = 2'-0" At least	C = 3'-0" At least
D' = 8¾"	D' = 11½"
E = 7¼"	E = 0'-10"
F = 2'-0¾"	F = 2'-1½"
G = 2'-2"	G = 2'-2"
A = 24°-48'	A = 21°-39½'
M = 19°-7½'	M = 20°-10½'

Estimated Quantities - 2 Piers		
Structure Excavation	1721	Cu Yds.
1-2½-5 Concrete	370	Cu Yds.
Reinforcing Steel	377	Lbs.
Timber Piling	2875	Lin. Ft.

Surveyed by J. Keenan
Designed by W.P. Madigan
Drawn by W.P. Madigan and J.C. Gleason Jr.
Traced by J.C. Gleason Jr.
Checked by S.E. Leavitt
Series S No. 101 B Filed 5-22-28
Sheet 14 of 19 Sheets

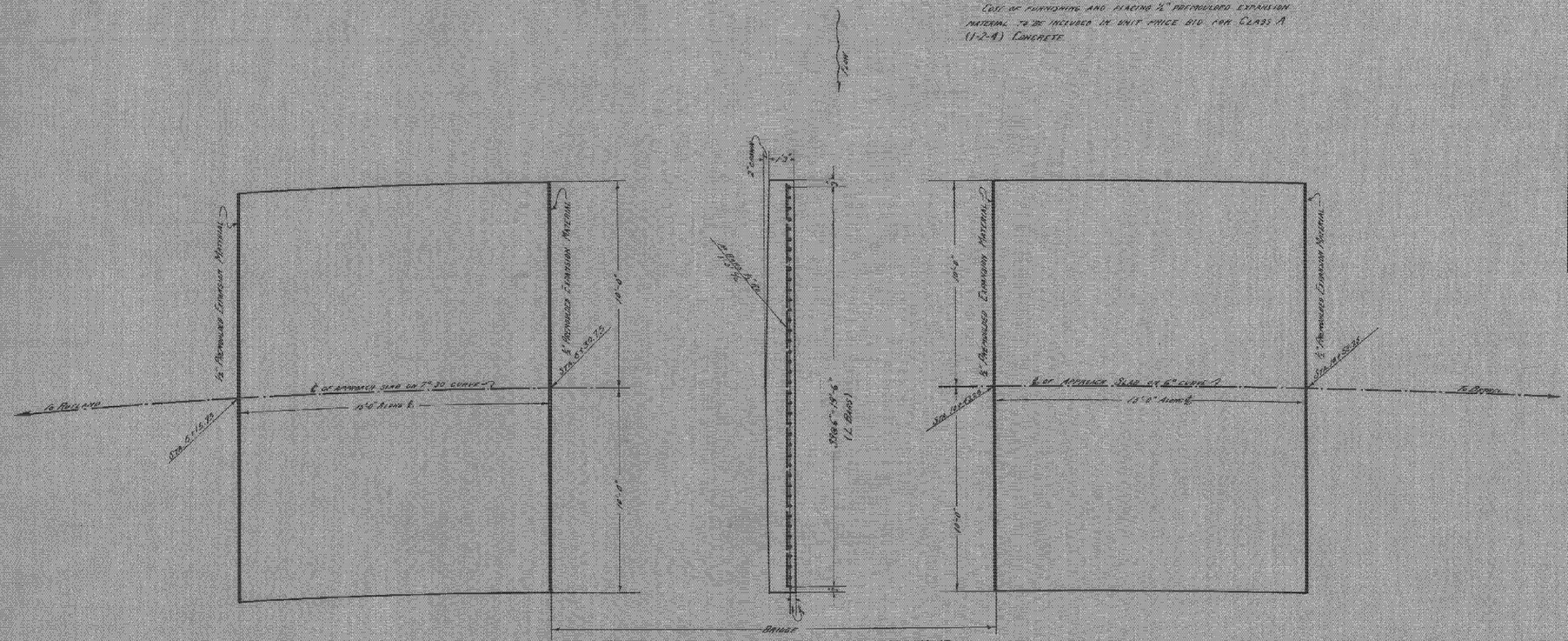
Pier No. 4 & 5
PIER DETAILS
BRIDGE OVER WHITE RIVER
BETHEL, VT.

1928 STRUCTURAL PLAN SHEET 26

FILE NAME: s78f16lplans1928_b.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 147 OF 148

U.S. ROAD	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
			1928	15	19

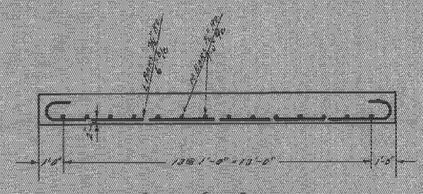
Cost of furnishing and placing ½" preformed expansion material to be included in unit price bid for Class A (1-2-4) Concrete



Engineer in field shall provide for widening and banking at Station 7+11.75 and Station 10+58.25 to meet requirements found during construction.

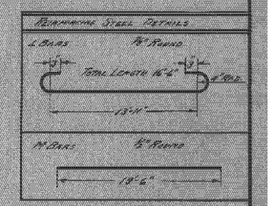
Section Shown is at Station 6+30.18 on Station 10+13.65.

Concrete in Approach Slabs to be Class A (1-2-4).



Opposite Slab Similar

Reinforcing Steel Bethels



All steel to be deformed bars. Reinforcing steel to conform to Standard Specifications for Billet Steel Concrete Reinforcement Bars, Structural or Intermediate Grade, of the American Society for Testing Materials, Serial Designation A15-14.

APPROACH SLAB DETAILS
BRIDGE OVER WHITE RIVER
BETHEL, VT.

Approach Slabs

Estimated Quantities

Class A-(1-2-4) Concrete 30 Cu. Yds.

Reinforcing Steel 3039 Lbs.

Surveyed by Thomas
Designed by Redman
Drawn by Redman
Traced by Barrett
Checked by K.D. Mallett 4-19-28
Boiler F No. 101 C Filed 5-23-28
Sheet 15 of 19 Sheets

1928 STRUCTURAL PLAN SHEET 27

FILE NAME: s78f16lplans1928_b.dgn
PROJECT LEADER: M. EVANS-MONGEON
REFERENCE ONLY
SHEET 148 OF 148