* SEE SHEET 8 FOR AN INDEX OF SHEETS AND LIST OF STANDARDS.

| RECORD PLANS | |
|---|---|
| CONTRACTOR: | RENAUD BROTHERS, INC. – VERNON, VT |
| RESIDENT ENGINEER: | DARYL BASSETT |
| CONSTRUCTION BEGAN: | DECEMBER 13, 2010 |
| CONSTRUCTION COMPLETE: | JUNE 5, 2013 |
| RECORD PLANS BY: | DARYL BASSETT, NICK GARBACIK & P. BANNERMAN |

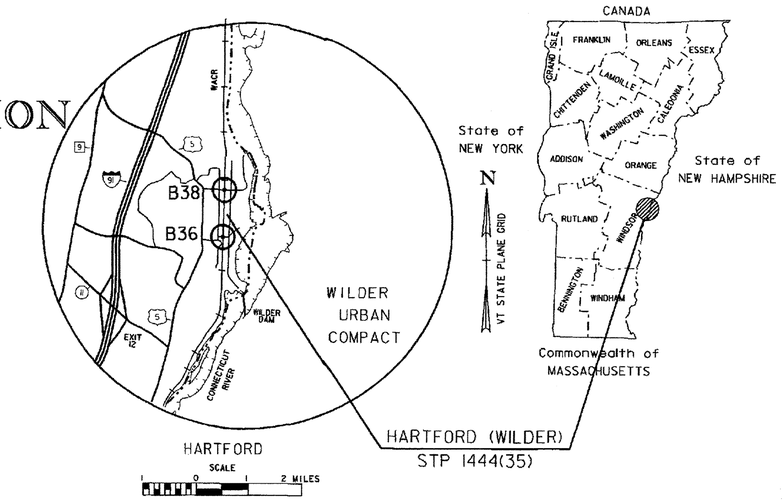
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY _____ RESIDENT ENGINEER

DATE 2/12/15

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

# STATE OF VERMONT
# AGENCY OF TRANSPORTATION




# PROPOSED IMPROVEMENT
# BRIDGE PROJECT
## TOWN OF HARTFORD (WILDER)
## COUNTY OF WINDSOR

ROUTE NO : TH 29, CLASS 3 (LOCAL) BRIDGE NO : 38

PROJECT LOCATION : BEGINNING AT A POINT ON TH 29 APPROXIMATELY 125 FEET EAST OF THE INTERSECTION OF TH 29 AND TH 30 AND PROGRESSING EASTERLY ALONG TH 29 FOR 125 FEET. PASSING OVER WACR CONN RIVER DIVISION

PROJECT DESCRIPTION : THIS PROJECT SHALL CONSIST OF THE REHABILITATION OF THE HISTORIC SINGLE SPAN STEEL PONY TRUSS BRIDGE WHICH CARRIES TH 29 OVER THE WASHINGTON COUNTY RAILROAD (CONNECTICUT RIVER LINE).

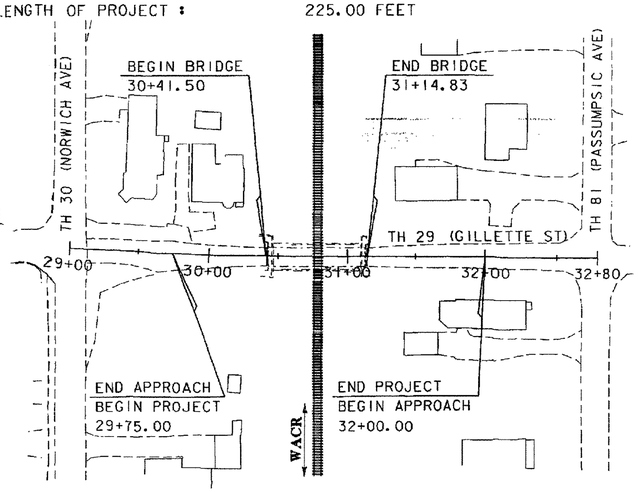
LENGTH OF STRUCTURE : 73.33 FEET
LENGTH OF ROADWAY : 151.67 FEET
LENGTH OF PROJECT : 225.00 FEET

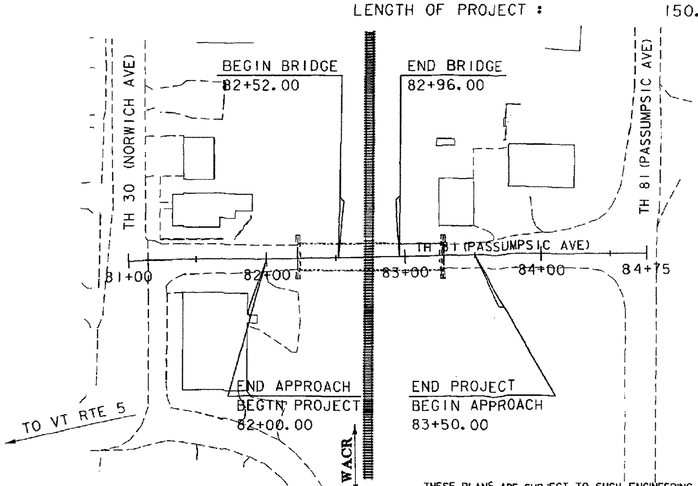
ROUTE NO : TH 81, CLASS 3 (LOCAL) BRIDGE NO : 36

PROJECT LOCATION : BEGINNING AT A POINT ON TH 81 APPROXIMATELY 75 FEET EAST OF THE INTERSECTION OF TH 81 AND TH 30 AND PROGRESSING EASTERLY ALONG TH 81 FOR 200 FEET. PASSING OVER WACR CONN RIVER DIVISION

PROJECT DESCRIPTION : THE PROJECT SHALL CONSIST OF REPLACING THE EXISTING WOODEN BRIDGE WITH A SINGLE SPAN BRIDGE WHICH CARRIES TH 81 OVER THE WASHINGTON COUNTY RAILROAD (CONNECTICUT RIVER LINE).

LENGTH OF STRUCTURE : 44.00 FEET
LENGTH OF ROADWAY : 106.00 FEET
LENGTH OF PROJECT : 150.00 FEET







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 : | GILMAN & WINTER |
| SURVEYED DATE : | MAY 2003 |

DATUM

| | |
|---|---|
| VERTICAL | NAVD 88 |
| HORIZONTAL | NAD 83 (92) |

SCALE 1" = 50'-0
50 0 50

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.

s96j0701title.dgn PLOTTED 16-JUN-2010

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 6-17-10

PROJECT MANAGER : KRISTIN HIGGINS

PROJECT NAME : HARTFORD (WILDER)
PROJECT NUMBER : STP 1444(35)

SHEET 1 OF 69 SHEETS

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, 4TH EDITION, DATED 2007 AND ITS LATEST REVISIONS.

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

3. THE CORRESPONDING 529.20 PARTIAL REMOVAL OF STRUCTURE ITEMS SHALL INCLUDE THE REMOVAL AND DISPOSAL OF ANY COMPONENTS ASSOCIATED WITH THE EXISTING BRIDGES NECESSARY TO PERFORM THE REQUIRED WORK.

4. SEE THE RAILROAD AGREEMENT FOR RESTRICTIONS ON WORKING WITHIN THE RAILROAD ROW FOR THIS PROJECT.

BRIDGE 36 SITE

5. STONE ORNAMENTS LOCATED NEAR STATION 83+60 LT SHALL BE MOVED TO A LOCATION SUITABLE TO THE PROPERTY OWNER. THIS WORK SHALL BE INCIDENTAL TO OTHER ITEMS IN THE CONTRACT.

6. THE CONTRACTOR SHALL CONSTRUCT A TRENCH DRAIN FOR THE DRIVE AT STATION 83+50 LT. AFTER INSTALLATION OF THIS DRAIN, THE CONTRACTOR SHALL REPAIR THE DRIVE AND PAVE AS REQUIRED TO MATCH INTO THE DRAIN. THIS WORK SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.640 SPECIAL PROVISION (TRENCH DRAIN). THE GRATE DESIGN SHALL HAVE AN INFLOW CAPACITY (LINEAR INFLOW PER FOOT) OF 10 GPM, AND SHALL BE RATED CLASS "C" FOR LOADING.

7. AN ARCHEOLOGICALLY SENSITIVE AREA WAS DEFINED NEAR THIS SITE AND DELINEATED ON SHEET 68 IN THE PLANS. THIS PROJECT WAS CLEARED FOR CONSTRUCTION WITH THE PROVISION THAT THIS DELINEATED AREA NOT BE DISTURBED.

BRIDGE 38 SITE

8. THE CONTRACTOR SHALL WORK WITH THE PROPERTY OWNER TO DETERMINE AN EXACT CONFIGURATION AND LOCATION FOR THE RETAINING WALL LOCATED AT STATION 30+20 LEFT. THE TOP 6" OF THE PLANTER SHALL BE FILLED WITH TOPSOIL AND WILL BE PAID FOR UNDER ITEM 651.35 TOPSOIL.

9. THE CONTRACTOR SHALL TAKE CARE TO NOT DISTURB THE BLOCK WALL AT STATION 31+40 RT. IF THE WALL IS DISTURBED, THE CONTRACTOR SHALL REPAIR OR REPLACE THE WALL TO THE SATISFACTION OF THE PROPERTY OWNER. THIS WORK SHALL BE INCIDENTAL TO OTHER ITEMS IN THE CONTRACT.

10. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE PORTION OF THE RETAINING WALL NEAR STATION 31+50 TO 31+75 LT WITHIN THE RIGHT OF WAY AND TO THE OWNERS' SATISFACTION. THE COST FOR PERFORMING THIS WORK SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 203.17 UNCLASSIFIED EXCAVATION.

UTILITIES

11. TOWN RECORDS SHOW A 1949 8" ASBESTOS CEMENT WATER LINE BURIED ON THE NORTH SIDE OF GILLETTE ST. THIS WATER LINE SHALL NOT BE DISTURBED. ITEM 204.22 TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.) HAS BEEN INCLUDED IN THE CONTRACT TO PAY FOR ANY WORK REQUIRED TO LOCATE THIS WATER LINE.

12. TOWN RECORDS ALSO SHOW A MANHOLE NEAR STA 30+25. IF THIS STRUCTURE IS ENCOUNTERED AND NEEDS TO BE REMOVED, IT SHALL BE PAID FOR UNDER ITEM 204.21 TRENCH EXCAVATION OF ROCK.

TRAFFIC CONTROL - BR 36 & BR 38

13. AS PART OF THE 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE) ITEM, THE CONTRACTOR SHALL SUBMIT A SITE SPECIFIC TRAFFIC CONTROL PLAN TO THE ROADWAY, TRAFFIC, AND SAFETY ENGINEER FOR APPROVAL PER SUBSECTION 105.03. SEE SPECIAL PROVISIONS.

14. FULL ACCESS TO ALL SIDE ROADS AND DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. THIS WILL NOT BE PAID DIRECTLY BUT WILL BE INCLUDED IN THE BID PRICE FOR THE ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).

15. UNRESTRICTED TRAFFIC ACCESS BETWEEN NORWICH AVENUE AND PASSUMPSIC AVENUE SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INDIVIDUAL BRIDGES MAY BE CLOSED AT TIMES DURING THE PROJECT WITH APPROPRIATELY SIGNED DETOURS.

SPECIAL PROVISION (DESIGN AND CONSTRUCT BRIDGE)

16. ALL BRIDGE COMPONENTS THAT FALL WITHIN THE LIMITS SHOWN ON THE PLANS FOR BRIDGE 36 SHALL BE PAID FOR UNDER ITEM 900.645 SPECIAL PROVISION (DESIGN AND CONSTRUCT BRIDGE).

17. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF THE SUPERSTRUCTURE BETWEEN THE DRIP BEADS.

18. ALL COSTS ASSOCIATED WITH CONSTRUCTING THE CURB AND SIDEWALK SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.645 SPECIAL PROVISION (DESIGN AND CONSTRUCT BRIDGE).

19. NO SALVAGED MATERIALS OR COMPONENTS FROM EXISTING OR PREVIOUS STRUCTURES SHALL BE ALLOWED IN THE FINISHED AND ACCEPTED BRIDGE.

20. FABRICATION DRAWINGS SHALL INCLUDE THE LOCATION OF ANY HOLES OR ANCHORS THAT NEED TO BE INSTALLED TO SUPPORT THE WATER LINE. SEE UTILITIES SHEETS.

21. ANY SUBBASE AND SIDEWALK INCLUDED WITHIN BRIDGE LIMITS SHOW ON THE PLANS RESULTING FROM A PROPOSED BRIDGE LENGTH SHORTER THAN THE ASSUMED BRIDGE LENGTH DETAILED IN THE PLANS SHALL PAID FOR UNDER ITEM 900.645 SPECIAL PROVISION (DESIGN AND CONSTRUCT BRIDGE). ANY QUANTITY OF THESE ITEMS PLACED WITHIN THE BRIDGE LIMITS SHOWN ON THE PLANS SHALL BE PLACED AT THE DEPTHS AND WIDTHS SHOWN IN THE PLANS AT BEGINNING AND ENDING STATIONS OF THE BRIDGE LIMITS.

22. THE DESIGN OF BRIDGE 36 SHALL MEET THE REQUIREMENTS OF THE SPECIAL PROVISIONS FOR ITEM 900.645 SPECIAL PROVISION (DESIGN AND CONSTRUCT BRIDGE) AND THE FOLLOWING REQUIREMENTS:

| | |
|---|---|
| DESIGN LIFE | 75 YEARS |
| MAXIMUM ALLOWABLE HEADWATER ELEVATION | N/A |
| MAXIMUM ALLOWABLE VELOCITY THOUGH THE STRUCTURE | N/A |
| TAILWATER DEPTH USED FOR DESIGN | N/A |
| MINIMUM REQUIRED OPEN-END AREA | SEE SHEET 19 |
| BEARING CAPACITY TO BE USED FOR THE DESIGN OF THE FOUNDATION, AT THE REQUIRED LOCATION | SEE SHEET 4 |
| DESIGN YEAR ADT | SEE SHEET 8 |
| DESIGN YEAR PERCENT TRUCKS | SEE SHEET 8 |
| TYPICAL ROADWAY SECTION | 2-9-9-2 TYPICAL WITH A 5 FOOT SIDEWALK (SEE SHEET 10) |
| ROADWAY PROFILE AND ELEVATION | SEE SHEET 12 |
| REQUIRED CLEARANCE ENVELOPE, BEARING CAPACITY AND ROADWAY PROFILE FOR TUNNELS OR UNDERPASS STRUCTURES | SEE SHEET 19 |

A. THE BRIDGE SHALL BE DESIGNED FOR THE BRIDGE RAIL SHOWN ON THE PLANS. NO ALTERNATIVE TO THIS RAIL SHALL BE ALLOWED. PAYMENT FOR THE BRIDGE RAIL SHALL BE INCLUDED UNDER THE APPROPRIATE 525 RAILING ITEM.

B. THE BRIDGE DECK SHALL BE CONCRETE. IN THE ABSENCE OF A DISCRETE DECK, THE TOP OF THE SUPERSTRUCTURE ELEMENTS SHALL BE CONCRETE AND WILL BE CONSIDERED THE DECK FOR THIS PURPOSE. THE DECK SHALL BE PAVED.

C. LIVE LOAD DEFLECTION PER SECTION 2.5.2.6.2 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SHALL BE LIMITED TO SPAN/1000 FOR VEHICULAR AND/OR PEDESTRIAN LOADS.

D. MINIMUM RESIDUAL CAMBER SHALL BE PROVIDED PER THE STRUCTURES DESIGN MANUAL. MINOR ADJUSTMENTS MAY BE ALLOWED AT THE DISCRETION OF THE ENGINEER.

E. THE ABUTMENTS HAVE BEEN DESIGNED FOR THE LOADS LISTED ON SHEET 4. IF THE LOADS OR ABUTMENT CONFIGURATION IS MODIFIED BY THE PROPOSED DESIGN, THE ABUTMENTS AND RETAINING WALL SHALL BE REDESIGNED ACCORDINGLY.

CONCRETE - BRIDGE 38

23. THE CONCRETE IN THE DECK FOR BRIDGE 38 SHALL BE SPECIFIED BY THE HALF-FILLED GRID DECK MANUFACTURER AND MEET THE REQUIREMENTS OF HIGH PERFORMANCE LIGHTWEIGHT CONCRETE OF SECTION 900. THE COST FOR THIS CONCRETE SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.670 SPECIAL PROVISION (HALF-FILLED GRID DECK).

24. THE CONCRETE FOR THE CURBS AND SIDEWALK ON THE BRIDGE SHALL MEET THE REQUIREMENTS OF HIGH PERFORMANCE LIGHTWEIGHT CONCRETE OF SECTION 900 BUT HAVE A DRY UNIT WEIGHT NO GREATER THAN 110 PCF.

25. UNLESS OTHERWISE NOTED, ALL OTHER CONCRETE ON BRIDGE 38 SHALL BE CONCRETE, HIGH PERFORMANCE CLASS B.

26. THE DECK FOR BRIDGE 38 IS TO BE POURED IN ONE CONTINUOUS POUR WITH A MAXIMUM DURATION OF EIGHT (8) 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.

27. THE DECK PANELS ON BRIDGE 38 SHALL BE FABRICATED AND INSTALLED TO ACCOMMODATE THE FINISH GRADE ELEVATIONS DUE TO THE VERTICAL CURVE AND CROSS SLOPE WITHOUT EXCEEDING THE WEIGHT CRITERIA LISTED IN NOTE 29 AND WITHOUT VIOLATING THE MANUFACTURER'S APPROVED INSTALLATION PROCEDURES.

28. SHEAR CONNECTORS SHALL BE PROVIDED ON ALL FLOORBEAMS ON BRIDGE 38. THE HALF-FILLED GRID DECK MANUFACTURER SHALL BE RESPONSIBLE FOR DETERMINING THE TYPE, SIZE AND SPACING. THE COST FOR THE SHEAR CONNECTORS SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.670 SPECIAL PROVISION (HALF-FILLED GRID DECK).

29. THE STRUCTURAL GRID AND CONCRETE SYSTEM, EXCLUDING THE HAUNCHES AND INTEGRAL WEARING SURFACE, SHALL NOT WEIGH MORE THAN 60 LB/SQ FT AND SHALL NOT BE DEEPER THAN 9 INCHES.

30. ANY FALSEWORK REQUIRED TO CONSTRUCT THE DECK SECTIONS ON BRIDGE 38 SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE DESIGN AND WORKING DRAWINGS SHALL BE SUBMITTED IN ACCORDANCE WITH SECTION 105.

31. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTHED WITH A MAGNESIUM FLOAT.

32. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF THE SUPERSTRUCTURE BETWEEN THE DRIP BEADS.

STRUCTURAL STEEL - BRIDGE 38

33. THE DIMENSIONS OF EXISTING MATERIALS GIVEN IN THE PLANS HAVE BEEN ASSUMED. THE ACTUAL DIMENSIONS OF EXISTING MATERIALS MAY DIFFER FROM THOSE GIVEN IN THE PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING DIMENSIONS.

34. THE TRUSS SHALL BE MOVED AND REHABILITATED IN A DIFFERENT LOCATION AND REINSTALLED IN ITS FINAL LOCATION AND PAID FOR UNDER ITEM 900.645 SPECIAL PROVISION (HANDLING, TRANSPORT AND RE-ERECTION OF TRUSS BRIDGE SUPERSTRUCTURE) AND ITEM 900.645 SPECIAL PROVISION (REHABILITATING TRUSS BRIDGE SUPERSTRUCTURE).

35. BEFORE THE TRUSS IS REMOVED, THE OVERALL DIMENSIONS OF THE TRUSS ELEMENTS AND CORRESPONDING TEMPERATURE READINGS SHALL BE RECORDED AND GIVEN TO THE ENGINEER. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (REHABILITATING TRUSS BRIDGE SUPERSTRUCTURE).

36. CERTAIN TRUSS COMPONENTS AND PARTS, INCLUDING THE DECORATIVE BRIDGE RAIL, HAVE BEEN DESIGNATED IN THE PLANS FOR STRAIGHTENING AND REPLACEMENT. ADDITIONAL MEMBERS MAY REQUIRE STRAIGHTENING AND REPLACEMENT ONCE THE TRUSSES HAVE BEEN CLEANED AND DISASSEMBLED. AN ADDITIONAL 25% HAS BEEN ADDED TO ITEM 506.60 STRUCTURAL STEEL QUANTITY TO COVER THESE POSSIBLE REPLACEMENTS. NO CHANGE IN SCOPE CLAIMS WILL BE ENTERTAINED BECAUSE MORE OR LESS STRUCTURAL STEEL NEEDS TO BE STRAIGHTENED OR REPLACED THAN THAT WHICH IS SHOWN IN THE PLANS.

37. PAYMENT FOR STRAIGHTENING THE TRUSS MEMBERS SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.645 SPECIAL PROVISION (REHABILITATING TRUSS BRIDGE SUPERSTRUCTURE). ALL REPLACED STRUCTURAL STEEL SHALL BE PAID FOR UNDER ITEM 506.60 STRUCTURAL STEEL.

38. THE CONTRACTOR IS RESPONSIBLE FOR MAKING SURE THAT THE TRUSS IN ITS FINAL CONDITION IS NOT RACKED OR OUT OF PLUMB BEYOND THE TOLERANCES SPECIFIED BY AISC AND AASHTO. NO METHODS WHICH WILL OVER-STRESS THE STRUCTURAL COMPONENTS SHALL BE PERMITTED TO GET THE FINAL STRUCTURE IN ITS TRUE LOCATION. THE WORK FOR ENSURING THIS PROVISION SHALL BE CONSIDERED INCIDENTAL TO OTHER ITEMS IN THE CONTRACT.

39. UNLESS OTHERWISE NOTED, ALL NEW STRUCTURAL STEEL SHALL CONFORM TO AASHTO M270M/M270 GRADE 50.

40. ONE OF THE EXISTING TRUSS COMPONENTS THAT IS TO BE REPLACED SHALL BE UTILIZED TO ATTAIN A COUPON FOR TESTING THE MECHANICAL PROPERTIES OF THE EXISTING WROUGHT IRON. AT A MINIMUM, YIELD AND TENSILE STRENGTHS SHALL BE DETERMINED FROM THESE TESTS. THE RESULTS OF THESE TESTS SHALL BE PROVIDED TO THE ENGINEER TO VERIFY THE DESIGN AND DETERMINE IF ADDITIONAL MATERIAL NEEDS TO BE REPLACED. THE COSTS ASSOCIATED WITH ATTAINING THE COUPON AND TESTING THE MATERIAL SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.645 SPECIAL PROVISION (REHABILITATING TRUSS BRIDGE SUPERSTRUCTURE).

41. IF A STRUCTURAL STEEL MEMBER DESIGNATED AS "FCM" (FRACTURE CRITICAL MEMBER) IN THE PLANS IS REPLACED, THE REPLACEMENT MEMBER SHALL MEET THE FOLLOWING CONSTRUCTION AND TESTING REQUIREMENTS:

    A. ALL FRACTURE CRITICAL MEMBERS SHALL BE FABRICATED ACCORDING TO SECTION 12 OF THE AASHTO/AWS D1.5 BRIDGE WELDING CODE.

    B. ALL FRACTURE CRITICAL MEMBERS SHALL BE FABRICATED IN A PLANT HAVING AISC FRACTURE CRITICAL ENDORSEMENT OR THE FABRICATOR SHALL PROVIDE TO THE 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 SPECIFIED IN AASHTO M270M/M270.

42. IF A STRUCTURAL STEEL MEMBER DESIGNATED AS "CVN" IN THE PLANS IS REPLACED, THE REPLACEMENT MEMBER SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH SUBSECTION 714.01.

43. ALL BOLT OR RIVET HOLES IN THE STRUCTURAL STEEL THAT ARE NOT OTHERWISE FILLED, SHALL BE FILLED WITH BUTTON HEAD BOLTS. THESE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19.

44. UNLESS OTHERWISE NOTED, ALL SHOP AND FIELD CONNECTIONS FOR BRIDGE 38 SHALL BE MADE WITH HIGH-STRENGTH TYPE 1 GALVANIZED BOLTS PER SECTION 506. UNLESS OTHERWISE NOTED, THESE BOLTS SHALL BE 5/8" DIAMETER PLACED IN 11/16" HOLES.

45. WHEN CONNECTIONS ARE TO BE MADE WITH EXISTING MATERIAL, THE DIMENSION AND SPACING OF HOLES SHALL BE VERIFIED BEFORE FABRICATING AND CONNECTING NEW MEMBERS. ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THE PLANS SHOULD BE BROUGHT TO THE ENGINEER'S ATTENTION BEFORE MATERIAL IS FABRICATED AND CONNECTIONS ARE MADE.

46. ANY CONNECTIONS THAT ARE NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL.

47. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF SUBSECTION 506.10.

48. NEW PINS SHALL BE PROVIDED AT ALL TRUSS PIN CONNECTIONS. THE PINS AND RECESSED NUTS SHALL BE ASTM A572 GRADE 50. PINS SHALL BE SOLID. STANDARD SIZES AND THREADS ARE PREFERRED. THE TOLERANCES AND SURFACE FINISH REQUIREMENTS FOR THE PINS SHALL MEET THE CONDITIONS SPECIFIED IN THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS. ALL NEW PINS AND RECESSED NUTS SHALL BE PAID FOR UNDER ITEM 506.60 STRUCTURAL STEEL.

49. PIPE SPACERS SHALL BE ASTM A36 SCHEDULE 40 PIPE OF THE CORRECT LENGTH AND SMALLEST DIAMETER ABLE TO LOOSELY FIT OVER THE PIN. THE SPACERS SHALL BE PAID FOR UNDER ITEM 506.60 STRUCTURAL STEEL.

50. SEE STRUCTURAL DETAIL SHEETS FOR ADDITIONAL NOTES.

PROTECTIVE CO

51. THE EXISTING T
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59. ALL CONTRACTO
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60. ALL MATERIAL T
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## RETAINING WALL - DESIGN

61. FINAL DRAWINGS SHALL ALL BE PREPARED BY THE FABRICATOR AND SUBMITTED TO THE PROJECT MANAGER FOR APPROVAL. ALL MATERIALS WITHIN THE RETAINING WALL VOLUME, METHODS OF CONSTRUCTION, AND THE QUALITY OF MATERIALS SHALL MEET THE REQUIREMENTS OF THE SPECIAL PROVISIONS FOR THIS PROJECT.

62. SEE THE BORING LOGS FOR A DESCRIPTION OF THE IN-SITU SOIL CONDITIONS.

63. ASSUMED SOIL PROPERTIES AND DESIGN PARAMETERS FOR BRIDGE 36 SITE:

| | |
|---|---|
| FOUNDATION SOIL DESIGN VALUES | |
| NOMINAL BEARING RESISTANCE | 17.8 KSF |
| EMBEDMENT DEPTH * | 6 FEET |
| LEVELING PAD ELEVATION | 406.75 FT |
| FOUNDATION SOIL PARAMETERS | |
| UNIT WEIGHT, $\gamma$ | 110 LBS/FT$^3$ |
| FRICTION ANGLE, $\varphi$ | 31° |
| RETAINED SOIL PARAMETERS | |
| UNIT WEIGHT, $\gamma$ | 110 LBS/FT$^3$ |
| FRICTION ANGLE, $\varphi$ | 30° |
| REINFORCED SOIL PARAMETERS | |
| UNIT WEIGHT, $\gamma$ | 140 LBS/FT$^3$ |
| FRICTION ANGLE, $\varphi$ | 34° |
| BEARING RESISTANCE FACTOR | |
| MSEW | 0.65 |
| GRAVITY/SEMI-GRAVITY (PROPRIETARY SYSTEM) | 0.55 |
| NON-GRAVITY CANTILEVERED AND ANCHORED | 0.45 |
| SLIDING RESISTANCE FACTOR | |
| MSEW | 1.0 |
| GRAVITY/SEMI-GRAVITY (PROPRIETARY SYSTEM) | 1.0 |
| NON-GRAVITY CANTILEVERED AND ANCHORED | 0.8 |
| *DUE TO FUTURE LOWERING OF TRACK, UPON WHICH EMBEDMENT WILL BE 4 FEET | |

64. ASSUMED SOIL PROPERTIES AND DESIGN PARAMETERS FOR BRIDGE 38 SITE:

| | |
|---|---|
| FOUNDATION SOIL DESIGN VALUES | |
| NOMINAL BEARING RESISTANCE | 10.6 KSF |
| MINIMUM EMBEDMENT DEPTH | 4 FEET |
| FOUNDATION SOIL PARAMETERS | |
| UNIT WEIGHT, $\gamma$ | 120 LBS/FT$^3$ |
| FRICTION ANGLE, $\varphi$ | 32° |
| RETAINED SOIL PARAMETERS | |
| UNIT WEIGHT, $\gamma$ | 120 LBS/FT$^3$ |
| FRICTION ANGLE, $\varphi$ | 33° |
| REINFORCED SOIL PARAMETERS | |
| UNIT WEIGHT, $\gamma$ | 140 LBS/FT$^3$ |
| FRICTION ANGLE, $\varphi$ | 34° |
| BEARING RESISTANCE FACTOR | |
| MSEW | 0.65 |
| GRAVITY/SEMI-GRAVITY (PROPRIETARY SYSTEM) | 0.55 |
| NON-GRAVITY CANTILEVERED AND ANCHORED | 0.45 |
| SLIDING RESISTANCE FACTOR | |
| MSEW | 1.0 |
| GRAVITY/SEMI-GRAVITY (PROPRIETARY SYSTEM) | 1.0 |
| NON-GRAVITY CANTILEVERED AND ANCHORED | 0.8 |

65. ABUTMENT DESIGN LOADS (UNFACTORED):

| | | |
|---|---|---|
| VERTICAL | DC | 9.6 K/FT |
| | DW | 0.7 K/FT |
| | LL | 6.3 K/FT |
| HORIZONTAL | BR | 1.2 K/FT |

66. THE DRAINED STATE OF THE BACKFILL MATERIAL SHALL BE CONSIDERED IN THE DESIGN. IF A FREE DRAINING MATERIAL IS ASSUMED IN THE DESIGN, A DRAINAGE SYSTEM SHALL BE PROVIDED FOR THE WALL SYSTEM CHOSEN. THE COST FOR THE DRAINAGE SYSTEM SHALL BE INCLUDED IN THE CORRESPONDING UNIT RETAINING WALL ITEM.

67. EXPANSION AND CONTRACTION SHALL BE CONSIDERED IN THE DESIGN AND DETAILS. PROPER JOINTS SHALL BE DESIGNED, DETAILED AND INCLUDED IN THE WALL SYSTEM CHOSEN.

68. THE MAXIMUM TOTAL SETTLEMENT HAS BEEN ESTIMATED AS 2.8 INCHES. A DIFFERENTIAL SETTLEMENT OF 0.75 INCHES PER 10 FEET HAS BEEN ASSUMED. THE WALL SHALL BE DESIGNED AND DETAILED TO ACCOMMODATE THE TOTAL AND DIFFERENTIAL SETTLEMENT OR MEANS SHALL BE PROVIDED TO MITIGATE THE SETTLEMENT BEFORE THE WALL SYSTEM IS CONSTRUCTED. COSTS FOR THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 900.645 SPECIAL PROVISION (RETAINING WALL)(BRIDGE NO. 36) AND 900.670 SPECIAL PROVISION (RETAINING WALL)(BRIDGE NO. 38).

69. ALL WALL COMPONENTS SHALL HAVE A MINIMUM DESIGN LIFE OF 75 YEARS.

## RETAINING WALL - CONSTRUCTION

70. ANY FOUNDATION MATERIAL BELOW THE RETAINING WALL VOLUME NOT MEETING THE CRITERIA OF THE DESIGN SHALL BE EXCAVATED AND REPLACED WITH GRANULAR BORROW OR OTHERWISE STABILIZED AS DIRECTED BY THE ENGINEER. GRANULAR BORROW IN THIS APPLICATION SHALL BE PAID FOR UNDER ITEM 203.32 GRANULAR BORROW.

71. BACKFILL MATERIAL SHALL BE COMPACTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND CONTRACT SPECIFICATIONS.

72. THE CONTRACTOR SHALL ACCOMMODATE ANY PIPES, GEOMEMBRANE LINER, DRAINAGE STRUCTURES, FOUNDATIONS, RAILING POSTS, AND ANY OTHER SUCH APPURTENANCES THAT ARE WITHIN THE RETAINING WALL VOLUME.

73. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING THE STORM WATER DRAINAGE IN THE VICINITY OF THE WALL DURING CONSTRUCTION. STORM WATER RUNOFF IS TO BE COLLECTED AND DISCHARGED AWAY FROM THE WALL.

74. ANY DAMAGE TO THE WALL SYSTEM DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE STATE. THIS INCLUDES STAINED OR DISCOLORED FACING ELEMENTS.

## RETAINING WALL - MATERIAL NOTES

75. THE EXTERIOR FACING FOR ALL WALL ELEMENTS SHALL BE STONE OR CONCRETE. ALL EXPOSED EDGES AND FACES SHALL HAVE A FINISHED APPEARANCE AND ALL EXPOSED CORNERS SHALL BE ROUNDED OR CHAMFERED.

76. THE EXPOSED FACES OF THE BRIDGE 38 AND GARDEN RETAINING WALLS SHALL HAVE A ROCK-LIKE APPEARANCE. THE FOLLOWING COMPANIES PROVIDE "ASHLAR STONE" DETAILS THAT ARE ACCEPTABLE: THE REINFORCED EARTH COMPANY, DAYTON SUPERIOR AND SPEC FORMLINERS, INC. OTHER STONE DETAILS AND COLORS MAY BE APPROVED BY CONTRACT ADMINISTRATION BEFORE BIDDING OR AFTER CONTRACT AWARD BY THE ENGINEER.

## RETAINING W

77. NO TIMBER EL
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78. NO GABIONS

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C. ALL EXPO
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PAID FOR UNE

81. EXAMINATION

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VERIFY TH

B. THE CONT

C. THE ENGI
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FOR UNDE

82. NO CHEMICAL
TO MATCH TH

## SHEET PILING

83. THE STONE M
DRIVEN.

84. IF THE EXTEN
OPERATION,
STATE.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

# QUANTITY SHEET 1

| SUMMARY OF ESTIMATED QUANTITIES | | | | | | | | | TOTALS | | DESCRIPTIONS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ROADWAY | TRAINING | EROSION CONTROL | UTILITIES | UTILITIES (NO FED/STATE PART) | BRIDGE 36 | BRIDGE 38 | FULL C.E. ITEMS | GRAND TOTAL | FINAL | UNIT | ITEMS | ITEM NUMBER |
| | | 1 | | | | | | | | 1 | | LS | CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS | 201.10 |
| | | 325 | | | | | | | | 325 | | CY | UNCLASSIFIED EXCAVATION | 203.17 |
| | | | | | 41 | 20 | | | | 61 | | CY | SAND BORROW | 203.31 |
| | | 725 | | | | | | 20 | | 745 | | CY | GRANULAR BORROW | 203.32 |
| | | | | | 196 | 39 | | | | 235 | | CY | TRENCH EXCAVATION OF EARTH | 204.20 |
| | | | | | 20 | | | | | 20 | | CY | TRENCH EXCAVATION OF ROCK | 204.21 |
| | | | | | 1 | | | | | 1 | | CY | TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.) | 204.22 |
| | | | | | | | | 80 | | 80 | | CY | STRUCTURE EXCAVATION | 204.25 |
| | | | | | 25 | | | 15 | | 40 | | CY | GRANULAR BACKFILL FOR STRUCTURES | 204.30 |
| | | | | | | | | | | | | | BEGIN OPTION AA | |
| | | 700 | | | | | | | | 700 | | CY | SUBBASE OF CRUSHED GRAVEL, COARSE GRADED | 301.25 |
| | | 700 | | | | | | | | 700 | | CY | SUBBASE OF CRUSHED GRAVEL, FINE GRADED | 301.26 |
| | | 700 | | | | | | | | 700 | | CY | SUBBASE OF DENSE GRADED CRUSHED STONE | 301.35 |
| | | | | | | | | | | | | | END OPTION AA | |
| | | 10 | | | | | | | | 10 | | CY | AGGREGATE SHOULDERS, IN PLACE | 402.10 |
| | | 2 | | | | | | | | 2 | | CWT | EMULSIFIED ASPHALT | 404.65 |
| | | 1 | | | | | | | | 1 | | LU | PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.) | 406.50 |
| | | 160 | | | | | | | | 160 | | TON | SUPERPAVE BITUMINOUS CONCRETE PAVEMENT | 490.30 |
| | | | | | | | | 65 | | 65 | | CY | CONCRETE, HIGH PERFORMANCE CLASS B | 501.34 |
| | | | | | | | | 1800 | | 1800 | | SF | PERMANENT STEEL SHEET PILING (MIN. SECTION MODULUS = 18.4 IN^3/FT) | 505.35 |
| | | | | | | | | 12100 | | 12100 | | LB | STRUCTURAL STEEL | 506.60 |
| | | | | | | | | 12 | | 12 | | GAL | WATER REPELLENT, SILANE | 514.10 |
| | | | | | | | 105 | | | 105 | | SY | SHEET MEMBRANE WATERPROOFING, TORCH APPLIED (FPQ) | 519.20 |
| | | | | | | | 44 | | | 44 | | LF | BRIDGE RAILING, GALVANIZED NETC 2 RAIL (FPQ) | 525.33 |
| | | | | | | | 44 | | | 44 | | LF | BRIDGE RAILING, GALVANIZED NETC 4 RAIL (FPQ) | 525.34 |
| | | 1 | | | | | | | | 1 | | EACH | PARTIAL REMOVAL OF STRUCTURE (BRIDGE NO. 36) | 529.20 |
| | | 1 | | | | | | | | 1 | | EACH | PARTIAL REMOVAL OF STRUCTURE (BRIDGE NO. 38) | 529.20 |
| | | | | | | | | 4 | | 4 | | EACH | BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD | 531.11 |
| | | | | | | | | 50 | | 50 | | CY | REBUILT STONE MASONRY | 602.35 |
| | | | | | 2 | | | | | 2 | | EACH | SANITARY SEWER MANHOLE | 604.22 |
| | | | | | 1 | | | | | 1 | | EACH | REHAB. DROP INLETS, CATCH BASINS, OR MANHOLES, CLASS II | 604.418 |
| | | | | | 2 | | | | | 2 | | EACH | CAST IRON COVER WITH FRAME, SEWER | 604.56 |
| | | | | | | | | | | | | | BEGIN OPTION BB | |
| | | 210 | | | | | | | | 210 | | LF | PRECAST REINFORCED CONCRETE CURB, TYPE B | 616.26 |
| | | 210 | | | | | | | | 210 | | LF | CAST-IN-PLACE CONCRETE CURB, TYPE B | 616.28 |
| | | | | | | | | | | | | | END OPTION BB | |
| | | 72 | | | | | | | | 72 | | SY | PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH | 618.10 |
| | | 40 | | | | | | | | 40 | | SF | DETECTABLE WARNING SURFACE | 618.30 |
| | | | | | | | 114 | 146 | | 260 | | LF | SNOW BARRIER | 620.75 |
| | | 322.5 | | | | | | | | 322.5 | | LF | HD STEEL BEAM GUARDRAIL, GALVANIZED | 621.21 |

STATE OF VERMONT
AGENCY OF TRANSPORTATION

# QUANTITY SHEET 2

| SUMMARY OF ESTIMATED QUANTITIES | | | | | | | | | TOTALS | | DESCRIPTIONS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ROADWAY | TRAINING | EROSION CONTROL | UTILITIES | UTILITIES (NO FED/STATE PART) | BRIDGE 36 | BRIDGE 39 | FULL C.E. ITEMS | GRAND TOTAL | FINAL | UNIT | ITEMS | ITEM NUMBER |
| | | 5 | | | | | | | | 5 | | EACH | ANCHOR FOR STEEL BEAM RAIL | 621.60 |
| | | 2 | | | | | | | | 2 | | EACH | GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL | 621.72 |
| | | 2 | | | | | | | | 2 | | EACH | GUARDRAIL APPROACH SECTION, GALVANIZED NETC 4 RAIL | 621.73 |
| | | 25 | | | | | | | | 25 | | LF | REMOVE AND RESET GUARDRAIL | 621.75 |
| | | 725 | | | | | | | | 725 | | LF | REMOVAL AND DISPOSAL OF GUARDRAIL | 621.80 |
| | | | | | 36 | | | | | 36 | | LF | DUCTILE IRON PIPE, CEMENT-LINED (6") | 628.28 |
| | | | | | 120 | | | | | 120 | | LF | DUCTILE IRON PIPE, CEMENT-LINED (8") | 628.28 |
| | | | | | 1 | | | | | 1 | | LS | TRANSFER TO NEW SYSTEM, SANITARY SEWER | 628.42 |
| | | | | | | 75 | | | | 75 | | LF | DUCTILE IRON PIPE, CEMENT-LINED (8") | 629.24 |
| | | | | | 44 | 22 | | | | 66 | | TON | CRUSHED STONE BEDDING | 629.54 |
| | | 3500 | | | | | | | | 3500 | | HR | FLAGGERS, RAILROAD | 630.20 |
| | | | | | | | | | 1 | 1 | | LS | FIELD OFFICE, ENGINEERS | 631.10 |
| | | | | | | | | | 1 | 1 | | LS | TESTING EQUIPMENT, CONCRETE | 631.16 |
| | | | | | | | | | 1 | 1 | | LS | TESTING EQUIPMENT, BITUMINOUS | 631.17 |
| | | | | | | | | | 1 | 1 | | LS | TESTING EQUIPMENT, PROTECTIVE COATINGS | 631.18 |
| | | | | | | | | | 5000 | 5000 | | DL | FIELD OFFICE TELEPHONE (N.A.B.I.) | 631.26 |
| | | | 520 | | | | | | | 520 | | HR | EMPLOYEE TRAINEESHIP | 634.10 |
| | | 1 | | | | | | | | 1 | | LS | MOBILIZATION/DEMOBILIZATION | 635.11 |
| | | 840 | | | | | | | | 840 | | LF | 4 INCH YELLOW LINE (FPQ) | 646.21 |
| | | 32 | | | | | | | | 32 | | LF | 24 INCH STOP BAR (FPQ) | 646.26 |
| | | 12 | | | | | | | | 12 | | EACH | LETTER OR SYMBOL | 646.30 |
| | | | | 20 | | | | | | 20 | | LB | SEED | 651.15 |
| | | | | 20 | | | | | | 20 | | LB | SEED, WINTER RYE | 651.17 |
| | | | | 100 | | | | | | 100 | | LB | FERTILIZER | 651.18 |
| | | | | 1 | | | | | | 1 | | TON | AGRICULTURAL LIMESTONE | 651.20 |
| | | | | 1 | | | | | | 1 | | TON | HAYMULCH | 651.25 |
| | | | | 75 | | | | | | 75 | | CY | TOPSOIL | 651.35 |
| | | 73.5 | | | | | | | | 73.5 | | SF | TRAFFIC SIGNS, TYPE A | 675.20 |
| | | 135 | | | | | | | | 135 | | LF | SQUARE TUBE SIGN POST AND ANCHOR | 675.341 |
| | | 16 | | | | | | | | 16 | | EACH | REMOVING SIGNS | 675.50 |
| | | 2 | | | | | | | | 2 | | EACH | ERECTING SALVAGED SIGNS | 675.60 |
| | | | | 10000 | | | | | | 10000 | | DL | SPECIAL PROVISION (EROSION PREVENTION AND SEDIMENT CONTROL MEASURES)(N.A.B.I.) | 900.615 |
| | | | | 5000 | | | | | | 5000 | | DL | SPECIAL PROVISION (MAINTENANCE OF EPSC PLAN)(N.A.B.I) | 900.615 |
| | | 1 | | | | | | | | 1 | | EACH | SPECIAL PROVISION (GUARDRAIL APPROACH SECTION, GALVANIZED BOX BEAM) | 900.620 |
| | | 3 | | | | | | | | 3 | | EACH | SPECIAL PROVISION (GUARDRAIL APPROACH SECTION, TRUSS) | 900.620 |
| | | | | 50 | | | | | | 50 | | HR | SPECIAL PROVISION (MONITORING EPSC PLAN) | 900.630 |
| | | | | | | | | 1600 | | 1600 | | LB | SPECIAL PROVISION (EPOXY COATED REINFORCING STEEL) (FPQ) | 900.635 |
| | | | | | | | | 1900 | | 1900 | | LB | SPECIAL PROVISION (REINFORCING STEEL) (FPQ) | 900.635 |
| | | | | | | | | 153 | | 153 | | LF | SPECIAL PROVISION (BRIDGE RAILING, TRUSS) | 900.640 |

STATE OF VERMONT
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# QUANTITY SHEET 3

| SUMMARY OF ESTIMATED QUANTITIES | | | | | | | | | | TOTALS | | DESCRIPTIONS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ROADWAY | TRAINING | EROSION CONTROL | UTILITIES | UTILITIES (NO FED/STATE PART) | BRIDGE 36 | BRIDGE 38 | FULL CE ITEMS | GRAND TOTAL | FINAL | UNIT | ITEMS | ITEM NUMBER |
| | | | | | 25 | | | | | 25 | | LF | SPECIAL PROVISION (PRE-INSULATED DUCTILE IRON PIPE, CEMENT-LINED)(SEWER)(6") | 900.640 |
| | | | | | 31 | | | | | 31 | | LF | SPECIAL PROVISION (PRE-INSULATED DUCTILE IRON PIPE, CEMENT-LINED)(SEWER)(8") | 900.640 |
| | | | | | | 33 | | | | 33 | | LF | SPECIAL PROVISION (PRE-INSULATED DUCTILE IRON PIPE, CEMENT-LINED)(WATER)(8") | 900.640 |
| | | 55 | | | | | | | | 55 | | LF | SPECIAL PROVISION (TRENCH DRAIN) | 900.640 |
| | | | | | | | | 1 | | 1 | | LS | SPECIAL PROVISION (CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES) | 900.645 |
| | | | | | | | 1 | | | 1 | | LS | SPECIAL PROVISION (DESIGN AND CONSTRUCT BRIDGE) | 900.645 |
| | | | | | | 1 | | | | 1 | | LS | SPECIAL PROVISION (ELECTRIC HEAT TRACE SYSTEM)(BRIDGE NO. 36) | 900.645 |
| | | | | 1 | | | | | | 1 | | LS | SPECIAL PROVISION (EPSC PLAN) | 900.645 |
| | | | | | | | | 1 | | 1 | | LS | SPECIAL PROVISION (HANDLING, TRANSPORT, AND RE-ERECTION OF TRUSS BRIDGE SUPERSTRUCTURE) | 900.645 |
| | | | | | 1 | | | | | 1 | | LS | SPECIAL PROVISION (MAINTENANCE OF EXISTING WASTEWATER FLOWS) | 900.645 |
| | | | | | | | | 1 | | 1 | | LS | SPECIAL PROVISION (QC/QA CLEANING AND PAINTING STRUCTURAL COMPONENTS) | 900.645 |
| | | | | | | | | 1 | | 1 | | LS | SPECIAL PROVISION (REHABILITATING TRUSS BRIDGE SUPERSTRUCTURE) | 900.645 |
| | | 1 | | | | | | | | 1 | | LS | SPECIAL PROVISION (RETAINING WALL)(BRIDGE NO. 36) | 900.645 |
| | | | | | 1 | | | | | 1 | | LS | SPECIAL PROVISION (SEWER MAIN ON BRIDGE)(8") | 900.645 |
| | | 1 | | | | | | | | 1 | | LS | SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE) | 900.645 |
| | | | | | | 1 | | | | 1 | | LS | SPECIAL PROVISION (WATER MAIN ON BRIDGE)(8") | 900.645 |
| | | | | | | | | 1300 | | 1300 | | SF | SPECIAL PROVISION (HALF-FILLED GRID DECK)(FPQ) | 900.670 |
| | | 750 | | | | | | | | 750 | | SF | SPECIAL PROVISION (RETAINING WALL)(BRIDGE NO. 38) | 900.670 |
| | | 150 | | | | | | | | 150 | | SF | SPECIAL PROVISION (RETAINING WALL)(GARDEN) | 900.670 |
| | | 40 | | | | | | | | 40 | | SY | SPECIAL PROVISION (HAND-PLACED BITUMINUOUS CONCRETE MATERIAL, DRIVES) | 900.675 |

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# PRELIMINARY INFORMATION SHEET (BRIDGE 36)

INDEX OF SHEETS

NO FINA

## PLAN SHEETS


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## STANDARDS LIST

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| C-2A | PORTLAND CEMENT CONCRETE SIDEWALK DRIVE ENTRANCES WITH SIDEWALK ADJACENT TO CURB | 10-14-2005 |
| C-2B | PORTLAND CEMENT CONCRETE SIDEWALK DRIVE ENTRANCES WITH SIDEWALK AND GREEN STRIP | 10-14-2005 |
| C-3A | SIDEWALK RAMPS | 03-10-2008 |
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| D-22 | SANITARY SEWER SYSTEMS | 03-10-1995 |
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| E-102 | CONSTRUCTION SIGN DETAILS | 06-30-2003 |
| E-102A | CONSTRUCTION SIGN DETAILS | 05-01-2004 |
| E-107 | DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS | 06-30-2003 |
| E-107A | BREAKAWAY BARRICADE DETAILS | 06-08-2009 |
| E-108 | CONSTRUCTION ZONE LONGITUDINAL DROP OFFS | 06-08-2009 |
| E-108A | CONSTRUCTION ZONE LONGITUDINAL DROP OFFS FOR PAVING | 06-08-2009 |
| E-121 | STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD | 08-08-1995 |
| E-134 | BRIDGE NUMBER PLAQUE | 08-08-1995 |
| E-141 | REGULATORY SIGN DETAILS | 09-20-1995 |
| E-160 | FLANGED CHANNEL STEEL SIGN POST | 05-20-1999 |
| E-164 | SQUARE STEEL SIGN POST | 06-08-2009 |
| E-193 | PAVEMENT MARKING DETAILS | 08-18-1995 |
| G-1 | STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS) | 01-03-2000 |
| G-1D | STEEL BEAM GUARDRAIL DETAILS (END TERMINAL, ANCHOR, MEDIAN) | 01-03-2000 |
| G-16 | STEEL BEAM GUARDRAIL ATTACHMENTS TO EXISTING BRIDGE, TERMINAL | 06-01-1994 |
| S-360a | BRIDGE RAILING, GALVANIZED NETC 2 RAIL | 12-14-2009 |
| S-360b | GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL | 12-14-2009 |
| S-363 | GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 & 4 RAIL | 12-14-2009 |

## STRUCTURAL DETAIL SHEETS

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| SD-502.00 | CONCRETE DETAILS AND NOTES |
| SD-601.00 | STRUCTURAL STEEL DETAILS AND NOTES |
| SD-602.00 | STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES |

## LRFR LOAD RATING FACTORS

| LOADING LEVELS | TRUCK | | | | | |
|---|---|---|---|---|---|---|
| | H-20 | HL-93 | 3S2 | 6 AXLE | 3A STR | 4A STR |
| TONNAGE | 20 | 36 | 36 | 66 | 30 | 34.5 |
| INVENTORY | | | | | | |
| POSTING | | | | | | |
| OPERATING | | | | | | |
| COMMENTS: | TO BE COMPLETED BY CONTRACTOR | | | | | |

## TRAFFIC DATA

| YEAR | ADT | DHV | % D | % T | ADTT |
|---|---|---|---|---|---|
| 2008 | 300 | 95 | 53 | 4 | 10 |
| 2028 | 380 | 105 | 53 | 5 | 15 |

20 year ESAL for flexible pavement from 2008 to 2028 : 54000

40 year ESAL for flexible pavement from 2008 to 2048 : 127000

Design Speed : 25 mph

## GPS CONTROL POINTS

### HVCTRL #1

STANDARD DISK STAMPED
F6 Az

N = 425532.14
E = 1692808.95

LEBANON, NEW HAMPSHIRE. TO REACH FROM THE JUNCTION OF U.S. ROUTE 4 AND NH ROUTE 10 IN WEST LEBANON PROCEED NORTHERLY ALONG NH ROUTE 10 FOR 1.3 MI (2.1 KM) TO THE MARK ON THE LEFT. TO REACH FROM THE JUNCTION OF NH ROUTE 10 AND NH ROUTE 10A IN HANOVER PROCEED SOUTHERLY ALONG NH ROUTE 10 FOR 2.6 MI (4.2 KM) TO THE MARK ON THE RIGHT. THE MARK IS LOCATED IN THE SOUTH CORNER OF A 8.5 FT (2.6 M) X 12 FT (3.7 M) X 4 FT (1.2 M) CONCRETE MASS SUPPORT FOR BUOYS ACROSS CONNECTICUT RIVER, ACROSS FROM THE WILDER DAM. IT IS LOCATED 44.5 FT (13.6 M) NORTHWEST OF THE CENTERLINE OF NH ROUTE 10.

### HVCTRL #2

STANDARD DISK STAMPED
F6 USGS

N = 427424.08
E = 1691655.40
ELEV. = 407.12

0.15 MILE EAST ALONG DEPOT STREET FROM THE P
SET ON THE EAST SIDE OF THE BOSTON AND MAINE
S-125, 24 FEET EAST OF THE EAST RAIL, 115 FE
NUMBER 1250 AND 8.5 FEET NORTHWEST OF AN UNN

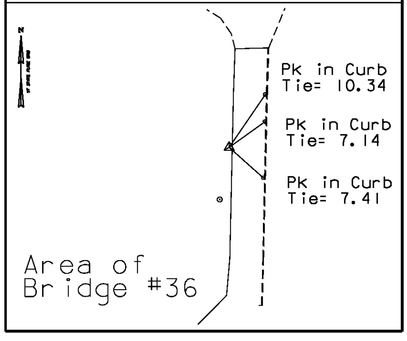
NEW REFERENCE DISTANCES WERE MADE. MARK IS L
SIDE OF TRACK. 47.5 FT. S.E. OF A STEEL POST
AND 24.6 FT. E. OF THE E. RAIL OF THE MAIN T

• DESCRIPTION PROVIDED BY VERMONT AGENCY OF TRANSPORTATION GEODETIC SURVEY UNIT

## TRAVERSE TIES

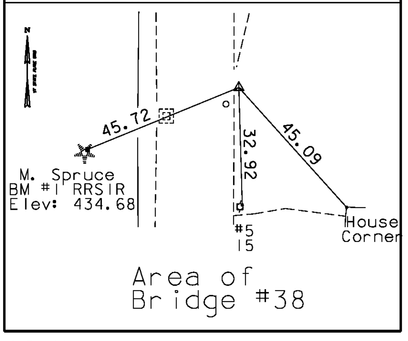
### HVCTRL #3

NORTH = 427590.9864
EAST = 1691427.604
ELEV. = 429.0553



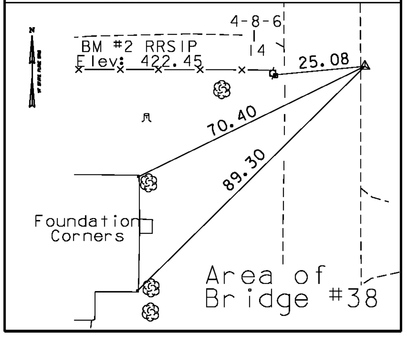

### HVCTRL #4

NORTH = 429361.6891
EAST = 1691468.043
ELEV. = 432.9455



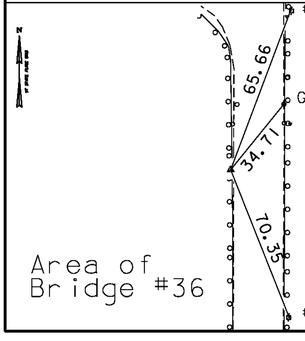

### HVCTRL #5

NORTH = 429351.6516
EAST = 1691846.878
ELEV. = 421.3557




### HVCTRL #6

NORTH = 427578.5500
EAST = 1691815.740
ELEV. = 426.0681




• MAIN TRAVERSE COMPLETED 05/04/03 by R. Gilman P.C. & P. Winters

## ALIGNMENT COORD

# Alignments Current as of 6/1/2010

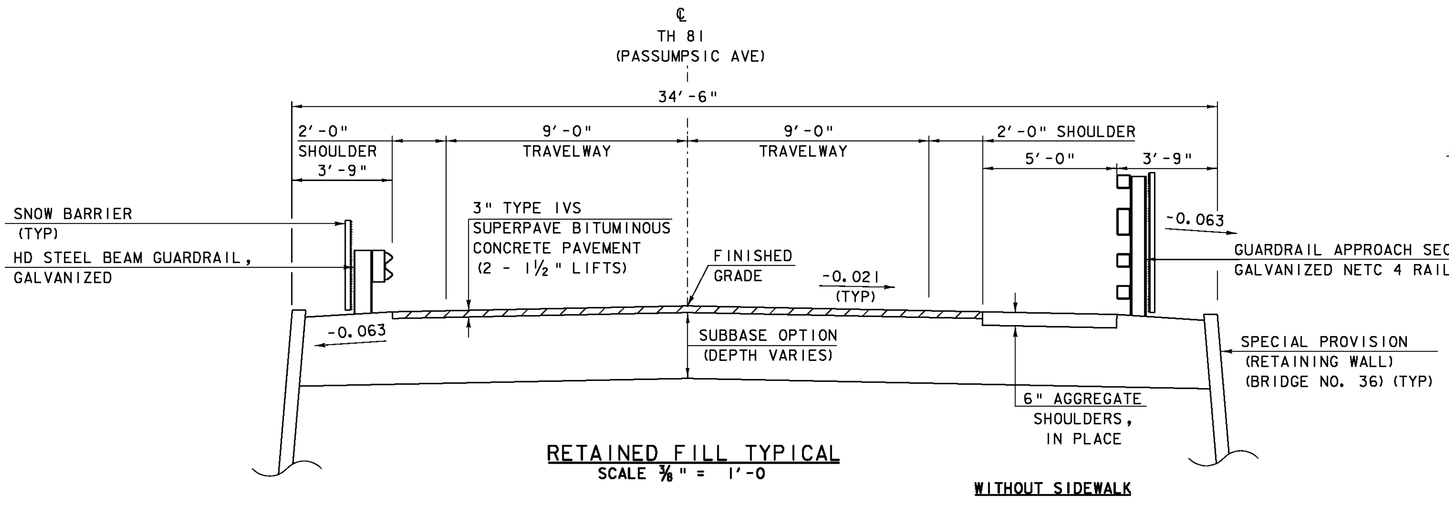
### Bridge 36 Alignment

| | STATION | NORTHING | EASTING |
|---|---|---|---|
| POB | 81+00.00 | 427655.33 | 1691455.84 |
| Tangent Direction: | N 88°59'39.52" E | | |
| Tangent Length: | 375.00 | | |
| POE | 84+75.00 | 427661.92 | 1691830.78 |

### Bridge 38 Alignment

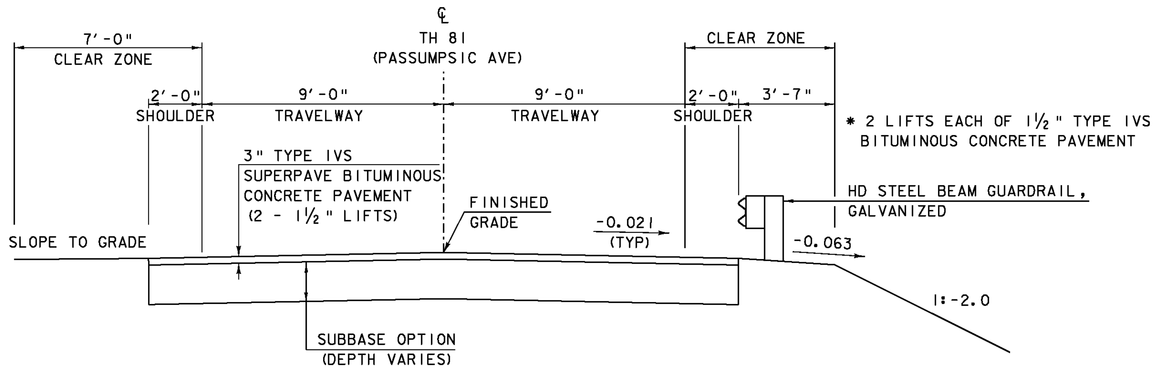
| | STATION | NORTHING | EASTING |
|---|---|---|---|
| POB | 29+00.00 | 429217.19 | 1691455.02 |
| Tangent Direction: | S 86°46'57.53" E | | |
| Tangent Length: | 100.00 | | |
| PC | 30+00.00 | 429211.57 | 1691554.86 |
| PI | 30+07.50 | 429211.15 | 1691562.35 |
| Radius: | 300.00 | | |
| Delta: | 2°51'53.24" Left | | |
| Degree of Curvature (Arc): | 19°05'54.94" | | |
| Length: | 15.00 | | |
| Tangent: | 7.50 | | |
| Chord: | 15.00 | | |
| Middle Ordinate: | 0.09 | | |
| External: | 0.09 | | |
| PT | 30+15.00 | 429211.11 | 1691569.85 |
| Tangent Direction: | S 89°38'50.77" E | | |
| Tangent Length: | 265.00 | | |
| POE | 32+80.00 | 429209.47 | 1691834.85 |

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

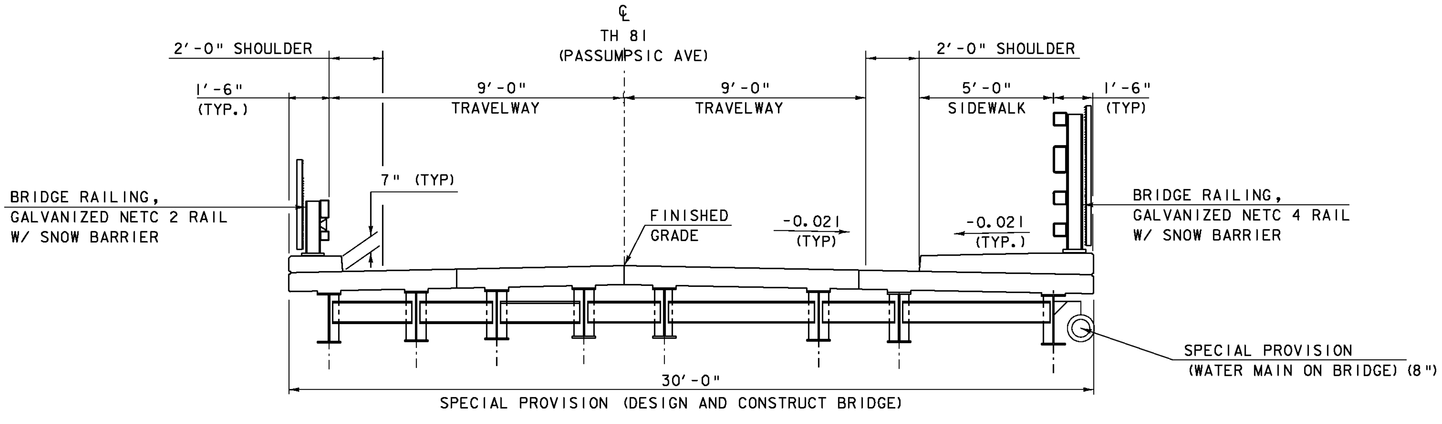



RETAINED FILL TYPICAL
SCALE ⅜" = 1'-0

WITHOUT SIDEWALK




TH 81 (PASSUMPSIC AVE.) ROADWAY TYPICAL
SCALE ⅜" = 1'-0




BRIDGE #36 TYPICAL
SCALE ⅜" = 1'-0

FINISH GRADE
EXISTING GROUND
SUBBASE

LIMITS OF
STRUCTURE EXCAVA

* INCLUDED IN SPE
(DESIGN AND CON
** INCLUDED IN SP
(RETAINING WAL

EA

SCALE ⅜" =
1 0 1 2 3

BRIDGE RAILING, GALVANIZED NETC 2 RAIL
STA 82+52.00 - 82+96.00 LT

GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL
STA 82+18.11 - 82+52.00 LT
STA 82+96.00 - 83+29.88 LT

HD STEEL BEAM GUARDRAIL, GALVANIZED
STA 82+06.06 - 82+18.11 LT
STA 83+29.88 - 83+54.53 LT
STA 83+56.00 - ~~83+93.23 RT~~ (MATCH INTO EXISTING RAIL)
84+35 RT

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 82+11 - 82+23.5 LT & RT
STA 83+29 - 83+58.25 LT
STA 83+29 - ~~83+93.23~~ RT
84+35 RT

BRIDGE RAILING, GALVANIZED NETC 4 RAIL
STA 82+52.00 - 82+96.00 RT

GUARDRAIL APPROACH SECTION, GALVANIZED NETC 4 RAIL
STA 82+06.87 - 82+52.00 RT
STA 82+96.00 - 83+56.00 RT

~~REMOVE AND RESET GUARDRAIL~~
~~STA 83+80 - 84+00 RT~~

SPECIAL PROVISION
(RETAINING WALL) (BRIDGE NO. 36)
STA 82+20 - 82+59 LT & RT
STA 82+89 - 83+34 LT & RT

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
STA 82+00 TO STA 82+52 RT
STA 82+96 TO STA ~~83+06~~ RT
83+35 RT

CONCRETE CURB, TYPE B OPTION
STA 82+00 TO STA 82+52 RT
STA 82+96 TO STA ~~83+06~~ RT
83+35 RT

SNOW BARRIER
STA 82+38 - 82+95 RT
STA 82+52 - 83+09 LT

~~AGGREGATE SHOULDERS, IN PLACE~~
~~STA 83+06 - 83+80 RT~~

BM #2
CHISELED SQUARE
IN CENTER OF
LOADING DOCK
AT POST OFFICE
ELEV. = 430.78

~~SPECIAL PROVISION (TRENCH DRAIN)~~
~~STA 83+45.00 - 84+00.00 LT~~

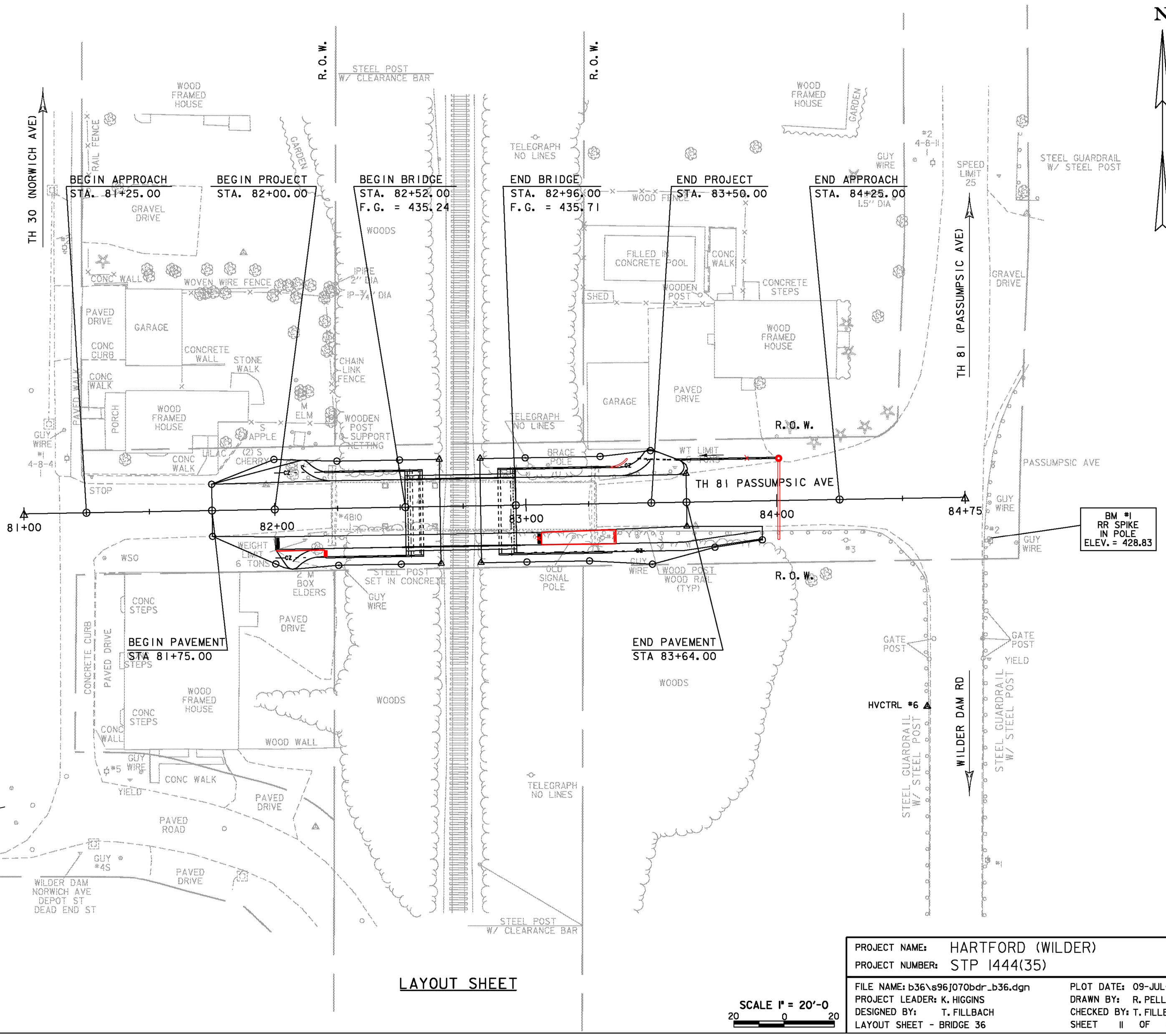
DETECTABLE WARNING SURFACE
STA 82+01.50 RT
STA ~~83+04.80 RT~~
83+35 RT

ANCHOR FOR STEEL BEAM RAIL
STA 82+12.01 LT
STA 83+48.51 LT

SPECIAL PROVISION
(DESIGN AND CONSTRUCT BRIDGE)
STA 82+52.00 - 82+96.00

DETECTABLE WARNING SURFACE
STA 82+00.00 RT
STA ~~83+06.00 RT~~
83+35 RT

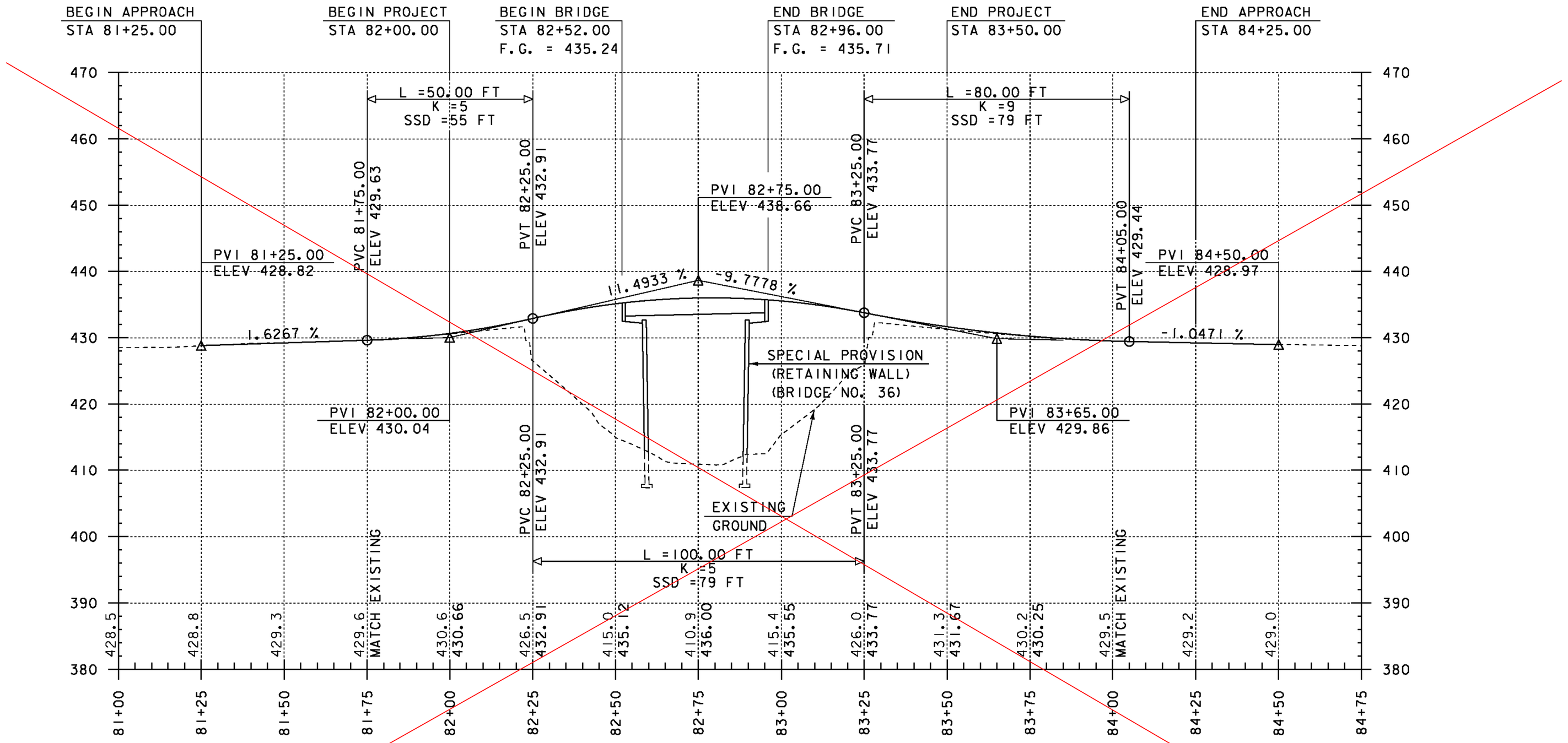
EXISTING BRIDGE DATA
FOUR SPAN TIMBER BEAM WITH TIMBER DECK
LENGTH = 107 FT
WIDTH = 18.7 FT CURB TO CURB
BUILT IN LATE 1800's/EARLY 1900's




LAYOUT SHEET

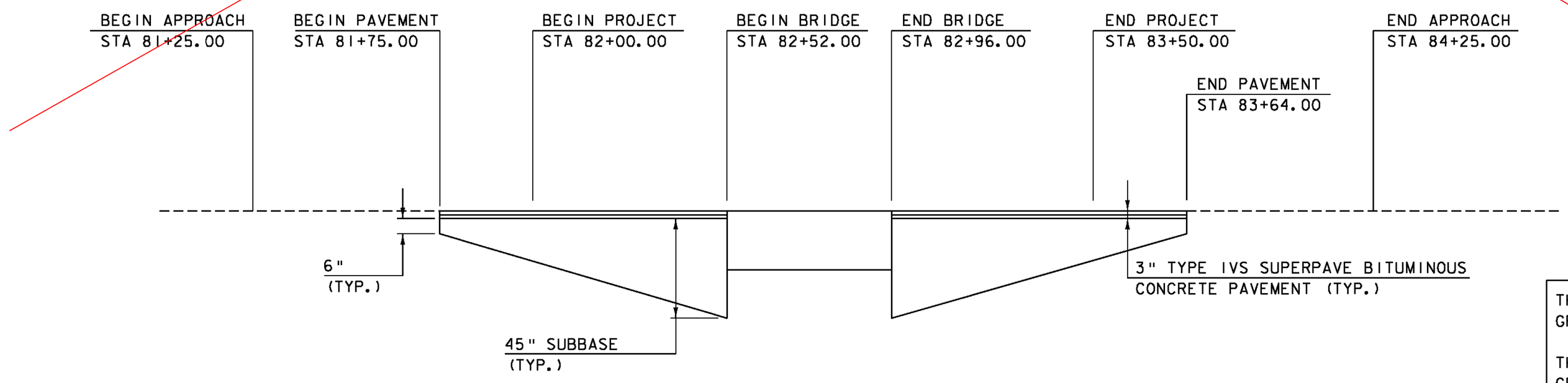
SCALE 1" = 20'-0
20 0 20

| | |
|---|---|
| PROJECT NAME: | HARTFORD (WILDER) |
| PROJECT NUMBER: | STP 1444(35) |
| FILE NAME: b36\s96j070bdr_b36.dgn | PLOT DATE: 09-JUL-2010 |
| PROJECT LEADER: K. HIGGINS | DRAWN BY: R. PELLETT |
| DESIGNED BY: T. FILLBACH | CHECKED BY: T. FILLBACH |
| LAYOUT SHEET - BRIDGE 36 | SHEET 11 OF 69 |



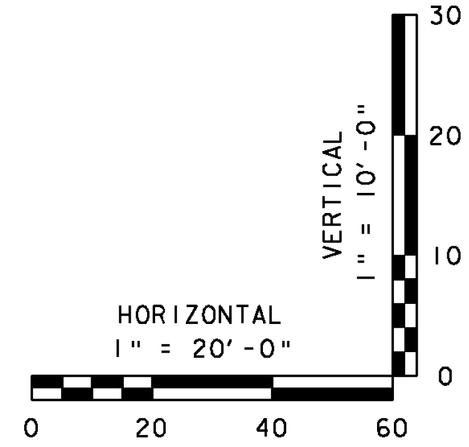

## TH 81 (PASSUMPSIC AVE) PROFILE

HORIZONTAL 1" = 20'-0"
VERTICAL 1" = 10'-0"




## TH 81 (PASSUMPSIC AVE) MATERIAL TRANSITION

HORIZONTAL 1" = 20'-0"
NO VERTICAL SCALE




SEE REVISED PROFILE PASSUMPSIC AVE1
SHEET 2 OF 11 DATED 10/4/11

THE GRADES SHOWN TO THE NEAREST TENTH ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT.

THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE FINISH GRADES ALONG THE PROPOSED ALIGNMENT.

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

FILE NAME: b36\s96j070xsl_b36.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: T. FILLBACH
MAINLINE PROFILE - BRIDGE 36

PLOT DATE: 16-JUN-2010
DRAWN BY: R. PELLETT
CHECKED BY: J. SALVATORI
SHEET 12 OF 69

N

VT STATE PLANE GRID

STEEL POST W/ CLEARANCE BAR

WOOD FRAMED HOUSE

GARDEN

TELEGRAPH NO LINES

WOOD FRAMED HOUSE

GARDEN

GUY WIRE

#2 4-8-11

SPEED LIMIT 25

STEEL GUARDRAIL W/ STEEL POST

GRAVEL DRIVE

PAVED WALK

PAVED SHOULDER

T.H. 30

RAIL FENCE

GRAVEL DRIVE

WOODS

IPIPE 1.5" DIA

WOOD FENCE

FILLED IN CONCRETE POOL

CONC WALK

CONCRETE STEPS

PAVED DRIVE

CONC WALL

WOVEN WIRE FENCE

IPIPE 2" DIA

IP-3/4" DIA

SHED

WOODEN POST

GRAVEL DRIVE

EXISTING OVERHEAD UTILITY LINES (TO BE RELOCATED)

GARAGE

CONCRETE WALL

STONE WALK

CHAIN LINK FENCE

WOOD FRAMED HOUSE

CONC CURB

CONC WALK

PAVED WALK

PORCH

M ELM

S APPLE

WOODEN POST & SUPPORT NETTING

GARAGE

PAVED DRIVE

PAVED DRIVE

HYDRANT

GUY WIRE

#1 4-8-11

LILAC

(2) S CHERRY

CONC WALK

TELEGRAPH NO LINES

BRACE POLE

WT LIMIT 6 TONS

PASSUMPSIC AVE

#4S

GUY WIRE

STOP

81+00

82+00

#4810

83+00

84+00

84+75

GUY WIRE

#2

LIGHT

DO NOT ENTER

WEIGHT LIMIT 6 TONS

WSO

2 M BOX ELDER

STEEL POST SET IN CONCRETE

OLD SIGNAL POLE

GUY WIRE

WOOD POST WOOD RAIL (TYP)

#3

PROPOSED WATER LINE

PROPOSED OVERHEAD UTILITY LINES

NEW UTILITY POLE STA. 83+56 20'-0" RT

NEW POLE W/ GUY WIRE EASEMENTS FOR UTILITIES OBTAINED BY OTHERS STA. 82+24 24'-0" RT

PAVED DRIVE

CONC STEPS

CONCRETE CURB

PAVED DRIVE

CONC STEPS

WOOD FRAMED HOUSE

CONC STEPS

CONC WALL

WOOD WALL

GUY WIRE

#5

CONC WALK

YIELD

PAVED DRIVE

PAVED ROAD

GRANITE CURB

GUY #4S

PAVED DRIVE

WILDER DAM

NORWICH AVE

DEPOT ST

DEAD END ST

T.H. 30 TO VT RTE 5 TO NORWICH

LIGHT

CONC WALK

GRANITE CURB

GRANITE CURB

WOODS

WOODS

TELEGRAPH NO LINES

STEEL GUARDRAIL W/ STEEL POST

STEEL GUARDRAIL W/ STEEL POST

GATE POST

GATE POST

YIELD

STEEL POST W/ CLEARANCE BAR

BM #1
RR SPIKE IN POLE
ELEV. = 428.83

81+85 RT

TRENCH EXCAVATION OF EARTH
STA ~~82+00.00~~ - 82+52.00 RT
STA 82+96.00 - ~~83+50.00~~ RT
83+62 RT

SAND BORROW
STA 82+00.00 - 82+52.00 RT
STA 82+96.00 - 83+50.00 RT

CRUSHED STONE BEDDING
STA 82+00.00 - 82+52.00 RT
STA 82+96.00 - 83+50.00 RT

SPECIAL PROVISION
(WATER MAIN ON BRIDGE) (8")
STA 82+52.00 - 82+96.00 RT

SPECIAL PROVISION (PRE-INSULATED DUCTILE IRON PIPE, CEMENT-LINED) (WATER) (8")
STA 82+35.50 - 82+52.00 RT
STA 82+96.00 - 83+12.50 RT

DUCTILE IRON PIPE, CEMENT LINED (8")
81+85 RT — STA ~~82+00.00~~ - 82+35.50 RT
STA 83+12.50 - ~~83+50.00~~ RT
83+62 RT

## UTILITY LAYOUT SHEET

SCALE 1" = 20'-0
20 0 20

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

FILE NAME: b36\s96j070ut11_b36.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: T. FILLBACH
UTILITY LAYOUT SHEET - BRIDGE 36

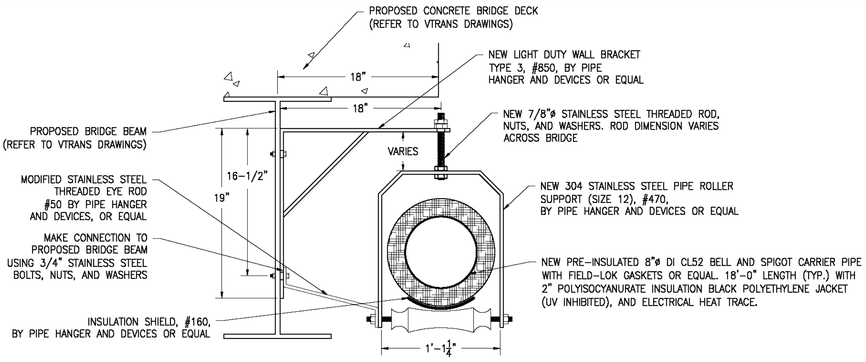
PLOT DATE: 17-JUN-2010
DRAWN BY: J. SALVATORI
CHECKED BY: T. FILLBACH
SHEET 13 OF 69

**PLAN**
SCALE: 1"=30'




**STATE OF VERMONT**
SEWER AND WATER
SEWER AND WATER

*GRAPHIC SCALE*
30 0 15 30 60 120
*( IN FEET )*




## TYPICAL STEEL BEAM PIPE SUPPORT SECTION

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

**NOTES:**

1. PIPE HANGERS SHALL BE MOUNTED AS HIGH AS POSSIBLE WITHIN THE PROPOSED BEAM.

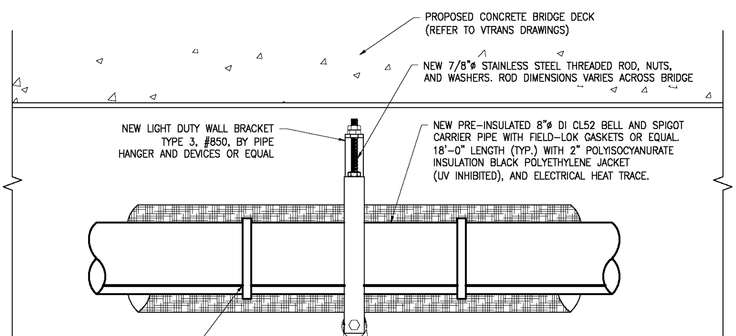



## TYPICAL CONCRETE BEAM PIPE SUPPORT SECTION

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

**NOTES:**

1. PIPE HANGERS SHALL BE MOUNTED AS HIGH AS POSSIBLE WITHIN THE PROPOSED BEAM.

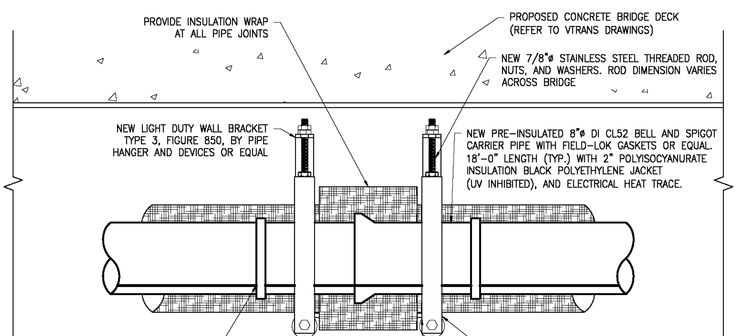



## SINGLE PIPE SUPPORT DETAIL

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

**NOTES:**

1. PIPE HANGERS SHALL BE MOUNTED AS HIGH AS POSSIBLE WITHIN THE PROPOSED BEAM.

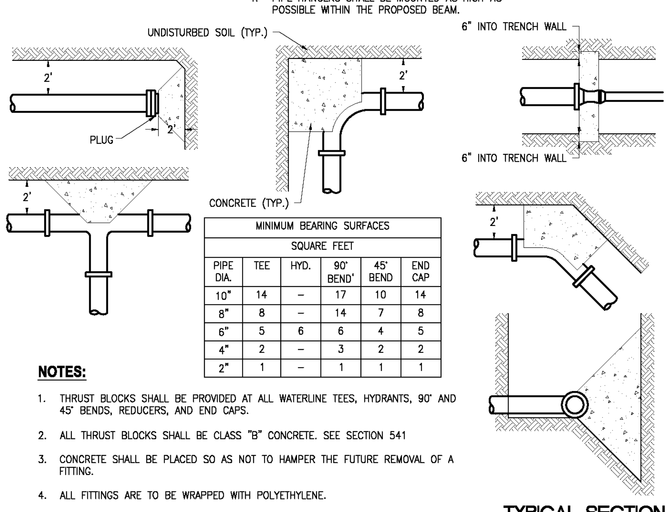



## DOUBLE PIPE SUPPORT DETAIL

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

**NOTES:**

1. PIPE HANGERS SHALL BE MOUNTED AS HIGH AS POSSIBLE WITHIN THE PROPOSED BEAM.




| MINIMUM BEARING SURFACES | | | | | |
|---|---|---|---|---|---|
| SQUARE FEET | | | | | |
| PIPE DIA. | TEE | HYD. | 90° BEND | 45° BEND | END CAP |
| 10" | 14 | – | 17 | 10 | 14 |
| 8" | 8 | – | 14 | 7 | 8 |
| 6" | 5 | 6 | 6 | 4 | 5 |
| 4" | 2 | – | 3 | 2 | 2 |
| 2" | 1 | – | 1 | 1 | 1 |

**NOTES:**

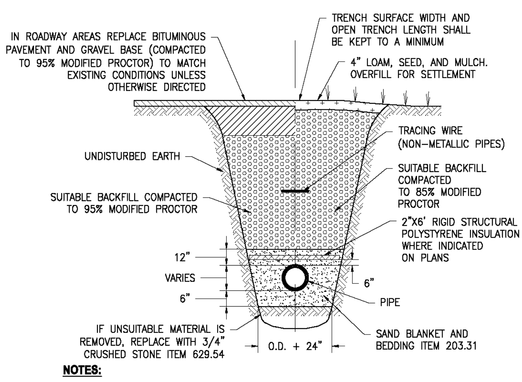
1. THRUST BLOCKS SHALL BE PROVIDED AT ALL WATERLINE TEES, HYDRANTS, 90° AND 45° BENDS, REDUCERS, AND END CAPS.
2. ALL THRUST BLOCKS SHALL BE CLASS "B" CONCRETE. SEE SECTION 541
3. CONCRETE SHALL BE PLACED SO AS NOT TO HAMPER THE FUTURE REMOVAL OF A FITTING.
4. ALL FITTINGS ARE TO BE WRAPPED WITH POLYETHYLENE.
5. THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 629.24 DUCTILE IRON PIPE, CEMENT LINED (8")

## TYPICAL THRUST BLOCK DETAILS

SCALE: NONE

## TYPICAL SECTION

SCALE: NONE




**NOTES:**

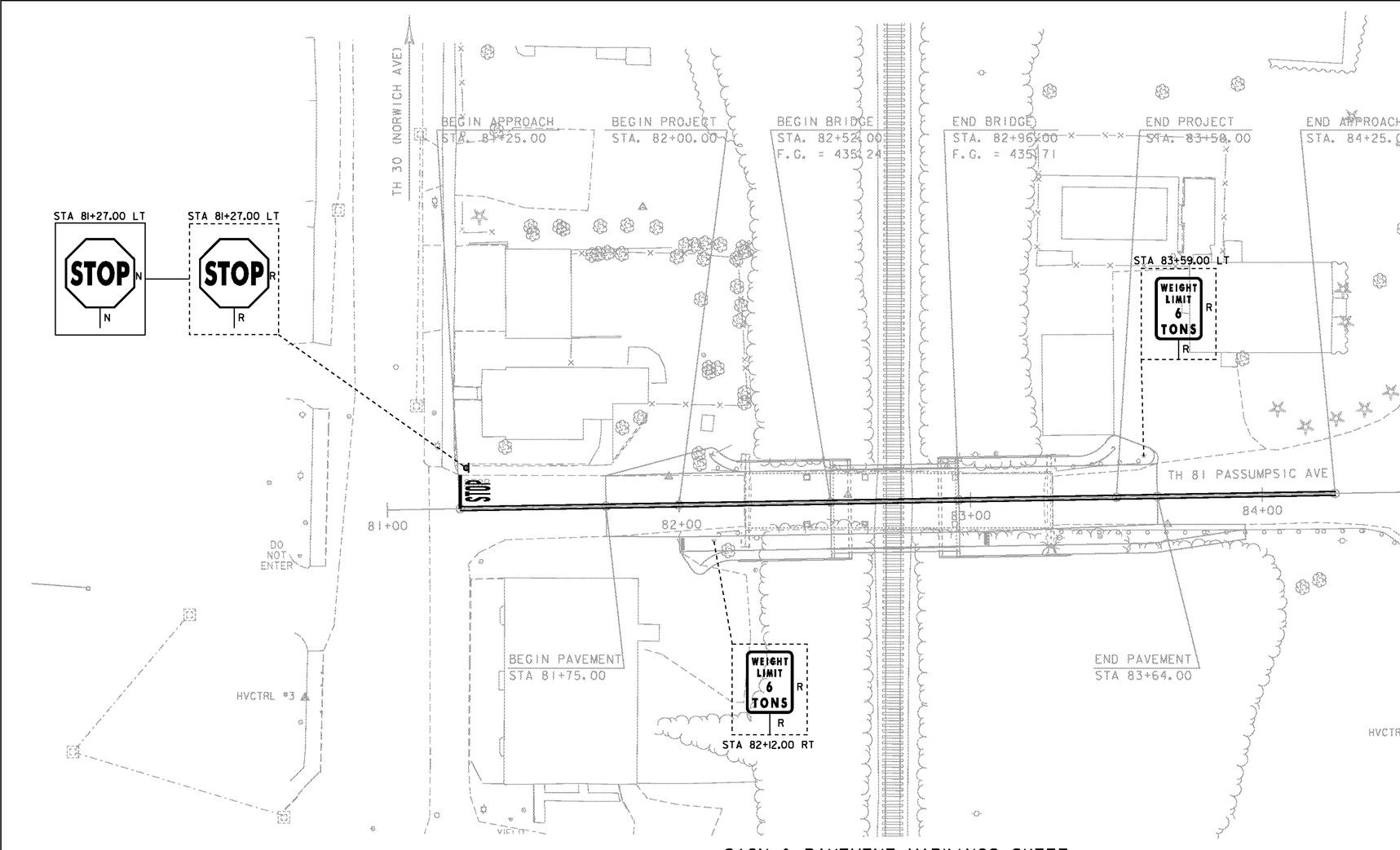
1. NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY OVER PIPE TO INSURE PIPE IS NOT DAMAGED.
2. COMPACTION OF BACKFILL SHALL MEET A MINIMUM 95% STANDARD PROCTOR.
3. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE.

## TYPICAL WATERLINE TRENCH DETAIL

SCALE: NONE

1'-0"

Y:\09024-HARTFORD\WATER-DETAILS.dwg, 6/4/2010 1:33:16 PM




## SIGN & PAVEMENT MARKINGS SHEET

| MILEMARKER, STATION, OR SIGN NUMBER | SIGN LEGEND | SIGN DIMENSIONS WIDTH (In) | SIGN DIMENSIONS HEIGHT (In) | NEW SIGN "A" | EXIST POST RETAIN | EXIST POST SALVAGE | NEW SIGN POSTS NO. OF POSTS | NEW SIGN POSTS SQUARE STEEL (In) 2.0 lb/ft 2.16 | 2.0 lb/ft 2.42 | 2.5 lb/ft 3.35 | ANCHOR | SLEEVE | REMARKS | SIGN DETAIL DETAIL ON SHEET NUMBER | SIGN DETAIL STD. SHEET NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81+27.00 LT | STOP | 30 | 30 | 6.25 | | | 1 | | 10 | | X | | R1-1 | | SHS |
| | | | | | | | | FT | FT 10 | FT | | EA | | | |
| FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE." | | **TOTALS** | | SF 6.25 | | | | | FT 10 | | | | | | |

SHS = STANDARD HIGHWAY SIGNS (MUTCD)

SCALE 1" = 20
20 0

## 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 |

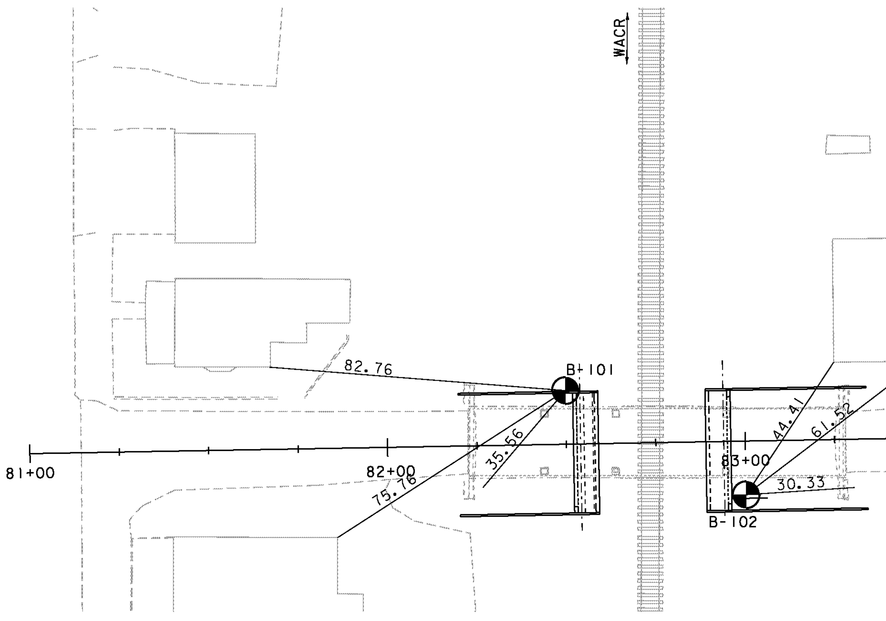
## CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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

## COMMONLY USED SYMBOLS

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




## BORING LAYOUT SHEET

SCALE 1" = 20'-0

20 0 20

## DEFINITIONS (AASHTO)

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

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

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

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

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

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

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

VARVED - Alternate layers of silt and clay.

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

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

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

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

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

DIP - Inclination of bed with a horizontal plane.

## GENERAL NOTES

1. The subsurface explorations shown herein were made between 7/8/08 and 7/11/08 by the Agency.

2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.

3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.

4. Engineering judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.

5. Pictorial structure details show the boring plan layout or soils profile are for illustrative pur only and may not accurately portray final contract details.

6. Terminology used on boring logs describe the hardness, degree weathering, and spacing of fractures, joints and other discontinuities in the bedrock defined in the AASHTO Manual or Subsurface Investigations, 1988.

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

BORING NUMBER: B-101
SHEET 1 of 1
DATE STARTED: 7/10/08
DATE COMPLETED: 7/11/08

PROJECT NAME: HARTFORD (WILDER)
SITE NAME: TH-29 & TH-81
STATION: 82+50
OFFSET: -15.00
VTSPG: N 427672.93 ft E 1691605.70 ft

PROJECT NUMBER: STP 1444(35)SC
SITE NUMBER: BR-38 & BR-36
GROUND ELEVATION: 414.7 ft
GROUNDWATER DEPTH: 39.6 ft 7/11/08
PROJECT PIN NUMBER: 96J070

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

BORING RIG: LAG TRACK RIG #09 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CCB

| DEPTH (ft) | SYMBOL | CLASSIFICATION OF MATERIALS (Description) | BLOWS PER FOOT | M.C. (%) | GRAVEL (%) | SAND (%) | FINES (%) |
|---|---|---|---|---|---|---|---|
| | | A-1-b, Sa, brn, Moist, Rec. = 0.7 ft | 5 | 8.9 | 12.4 | 72.0 | 15.6 |
| | | A-1-b, Sa, brn, Moist, Rec. = 1.3 ft | 5 | 12.6 | 6.0 | 85.9 | 8.1 |
| | | A-1-b, Sa, brn, Moist, Rec. = 1.5 ft | 4 | 9.9 | 4.0 | 88.2 | 7.8 |
| | | A-1-b, Sa, brn-gry, Wet, Rec. = 1.4 ft | 4 | 17.9 | 4.0 | 90.2 | 5.8 |
| | | A-2-4, SlSa, brn-gry, MTW, Rec. = 1.4 ft | 7 | 19.7 | 0.5 | 74.7 | 24.8 |
| 10 | | A-2-4, SlSa, gry-brn, MTW, Rec. = 1.2 ft | 7 | 19.1 | 1.6 | 64.9 | 33.5 |
| | | A-2-4, SlSa, gry, MTW, Rec. = 1.5 ft | 7 | 18.0 | 9.3 | 60.2 | 30.5 |
| | | A-2-4, Sa, brn-gry, MTW, Rec. = 1.4 ft | 19 | 16.6 | 4.9 | 78.0 | 17.1 |
| | | A-4, SaSi, brn, Moist, Rec. = 1.3 ft | 12 | 20.1 | 7.0 | 46.3 | 46.7 |
| | | A-4, Si, brn, MTW, Rec. = 1.4 ft | 16 | 27.2 | 0.0 | 7.6 | 92.4 |
| 20 | | A-4, Si, brn, MTW, Rec. = 1.5 ft | 22 | 27.9 | 3.1 | 6.9 | 90.0 |
| | | A-4, SaSi, gry-brn, Moist, Rec. = 1.3 ft | 25 | 20.9 | 0.0 | 36.9 | 63.1 |
| 30 | | A-4, SaSi, brn, Moist, Rec. = 1.2 ft | 31 | 23.2 | 0.9 | 29.9 | 69.2 |
| | | A-4, SaSi, brn, Moist, Rec. = 1.1 ft | 25 | 22.8 | 0.0 | 31.5 | 68.5 |
| 40 | | A-4, SaSi, brn, MTW, Rec. = 1.4 ft | 11 | 27.8 | 0.0 | 47.8 | 52.2 |
| | | A-4, SaSi, brn, MTW, Rec. = 1.6 ft | 16 | 26.2 | 0.1 | 30.0 | 69.9 |
| 50 | | A-2-4, SlSa, brn, MTW, Rec. = 1.4 ft | 20 | 26.1 | 0.0 | 66.0 | 34.0 |
| | | Hole stopped @ 52.0 ft | | | | | |

LOG OF BORING HARTFORD (WILDER) STP 1444(35)SC.GPJ VT_AOT.GDT 4/9/09

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

PROJECT NAME: HARTFORD (WILDER)
SITE NAME: TH-29 & TH-81
STATION: 83+00
OFFSET: 15.00
VTSPG: N 427643.79 ft E 1691655.87 ft

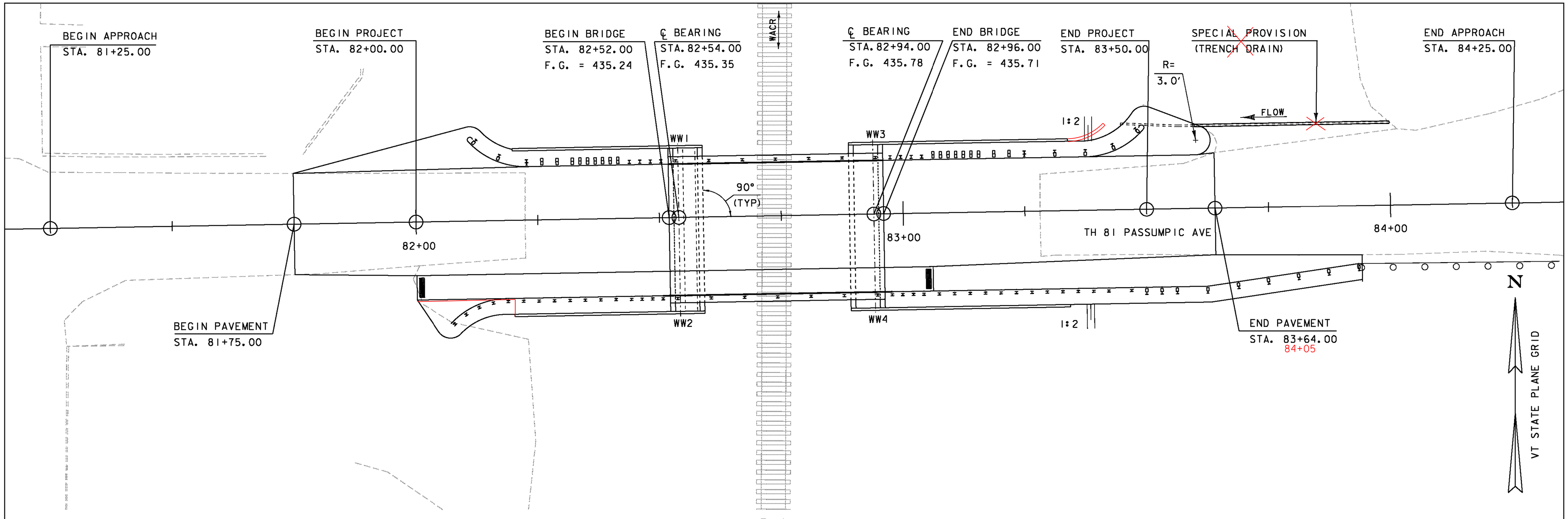
PROJE
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PROJE

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

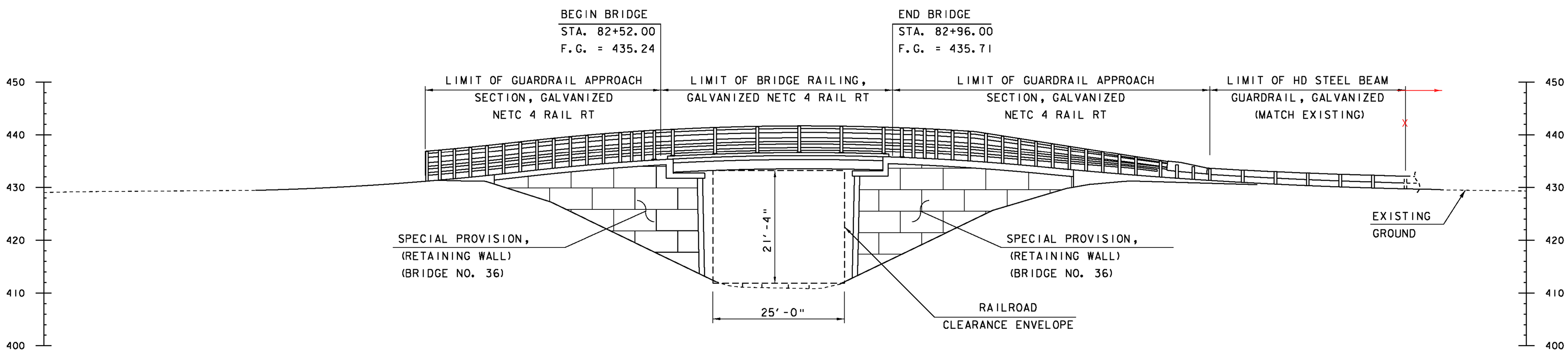
BORING
BORING
SAMPL
CHECK

| DEPTH (ft) | SYMBOL | CLASSIFICATION OF MATERIALS (Description) |
|---|---|---|
| | | A-1-b, Sa, brn, Moist, Rec. = 0.5 ft |
| | | A-2-4, SlSa, brn, Moist, Rec. = 0.2 ft |
| | | Field Note:, No recovery |
| | | A-2-4, SlSa, gry, MTW, Rec. = 0.3 ft |
| | | A-2-4, Sa, gry, Wet, Rec. = 0.7 ft |
| 10 | | A-2-4, Sa, gry, Wet, Rec. = 0.4 ft |
| | | A-2-4, Sa, gry, Moist, Rec. = 1.1 ft |
| | | A-4, SaSi, brn, Moist, Rec. = 1.3 ft |
| | | A-4, Si, brn, Moist, Rec. = 1.5 ft |
| | | A-4, Si, brn, Moist, Rec. = 1.4 ft |
| 20 | | A-4, SaSi, brn, Moist, Rec. = 1.2 ft |
| | | A-4, SaSi, brn, Moist, Rec. = 1.9 ft |
| 30 | | A-2-4, SlSa, brn, Moist, Rec. = 1.2 ft |
| | | A-2-4, Sa, brn, Moist, Rec. = 1.1 ft, Mud drilling from 35 ft. |
| 40 | | A-2-4, Sa, brn, Moist, Rec. = 1.1 ft |
| | | A-3, Sa, brn, Moist, Rec. = 2.0 ft |
| 50 | | A-2-4, Sa, brn, Moist, Rec. = 1.1 ft |
| | | Hole stopped @ 52.0 ft |

LOG OF BORING HARTFORD (WILDER) STP 1444(35)SC.GPJ VT_AOT.GDT 4/9/09




PLAN




ELEVATION @ SOUTH FASCIA

SEE STANDARD DRAWINGS FOR NETC 2 RAIL DETAILS
SEE RAIL LAYOUT SHEET FOR RAIL DETAILS

SCALE 1" = 10'-0
10 0 10

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

FILE NAME: b36\s96j070pe_b36.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
PLAN & ELEVATION - BRIDGE 36

PLOT DATE: 17-JUN-2010
DRAWN BY: R. PELLETT
CHECKED BY: T. FILLBACH
SHEET 19 OF 69

N

VT STATE PLANE GRID

SEE STANDARD DRAWINGS - S-360a, S-360b, S-363, and G-1d

14'-6" PAY LENGTH
HD STEEL BEAM
GUARDRAIL, GALVANIZED

29'-1"
PAY LIMITS
GUARDRAIL
APPROACH
SECTION,
GALVANIZED
NETC 2 RAIL

44'-0" PAY LENGTH
BRIDGE RAILING,
GALVANIZED NETC 2 RAIL

29'-1"
PAY LIMITS
GUARDRAIL APPROACH
SECTION,
GALVANIZED
NETC 2 RAIL

27'-0" PAY LENGTH
HD STEEL BEAM
GUARDRAIL, GALVANIZED

BEGIN BRIDGE
STA. 82+52.00
F.G. = 435.24

END BRIDGE
STA. 82+96.00
F.G. = 435.71

R 16'-0" (TYP)

82+00

83+00

84+00

R 16'-0"

8'-0" MAX SPACING
(TYP)

1'-6"
(TYP)

1'-6"
(TYP)

12 SPACES @ 3'-1 1/2"

3 SPACES @ 2'-2"

3 SPACES @ 2"-2"

12 SPACES @ 3'-1 1/2"

EXISTING
GUARDRAIL

46'-0" PAY LIMITS
GUARDRAIL APPROACH SECTION,
GALVANIZED NETC 4 RAIL
(SEE RAIL DETAIL - WW#2 - BR 36)

44'-0" PAY LENGTH
BRIDGE RAILING,
GALVANIZED NETC 4 RAIL
(SEE NETC 4 BRIDGE
RAILING DETAIL - BR 36)

60'-0" PAY LIMITS
GUARDRAIL APPROACH SECTION,
GALVANIZED NETC 4 RAIL
(SEE RAIL DETAIL - WW#4 - BR 36)

~~37'-6"~~ PAY LENGTH
HD STEEL BEAM GUARDRAIL,
GALVANIZED

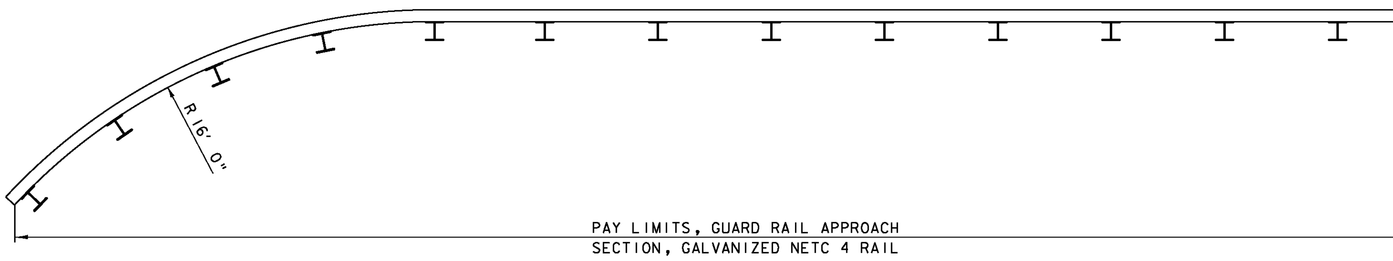
## BRIDGE 36 RAIL LAYOUT

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

| | |
|---|---|
| PROJECT NAME: | HARTFORD (WILDER) |
| PROJECT NUMBER: | STP 1444(35) |

| | |
|---|---|
| FILE NAME: b36\s96j07rail_b36.dgn | PLOT DATE: 16-JUN-2010 |
| PROJECT LEADER: K. HIGGINS | DRAWN BY: G. LAROCHE |
| DESIGNED BY: G. LAROCHE | CHECKED BY: J. SALVATORI |
| RAIL LAYOUT - BRIDGE 36 | SHEET 20 OF 69 |

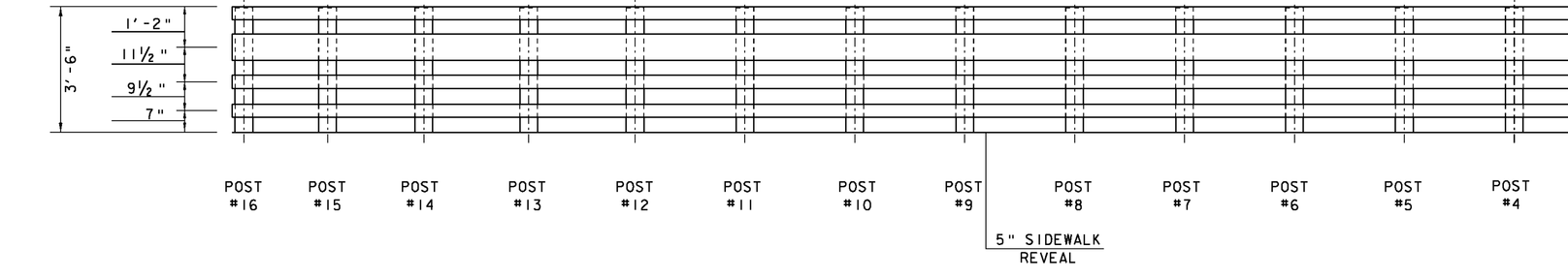
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PAY LIMITS, GUARD RAIL APPROACH
SECTION, GALVANIZED NETC 4 RAIL

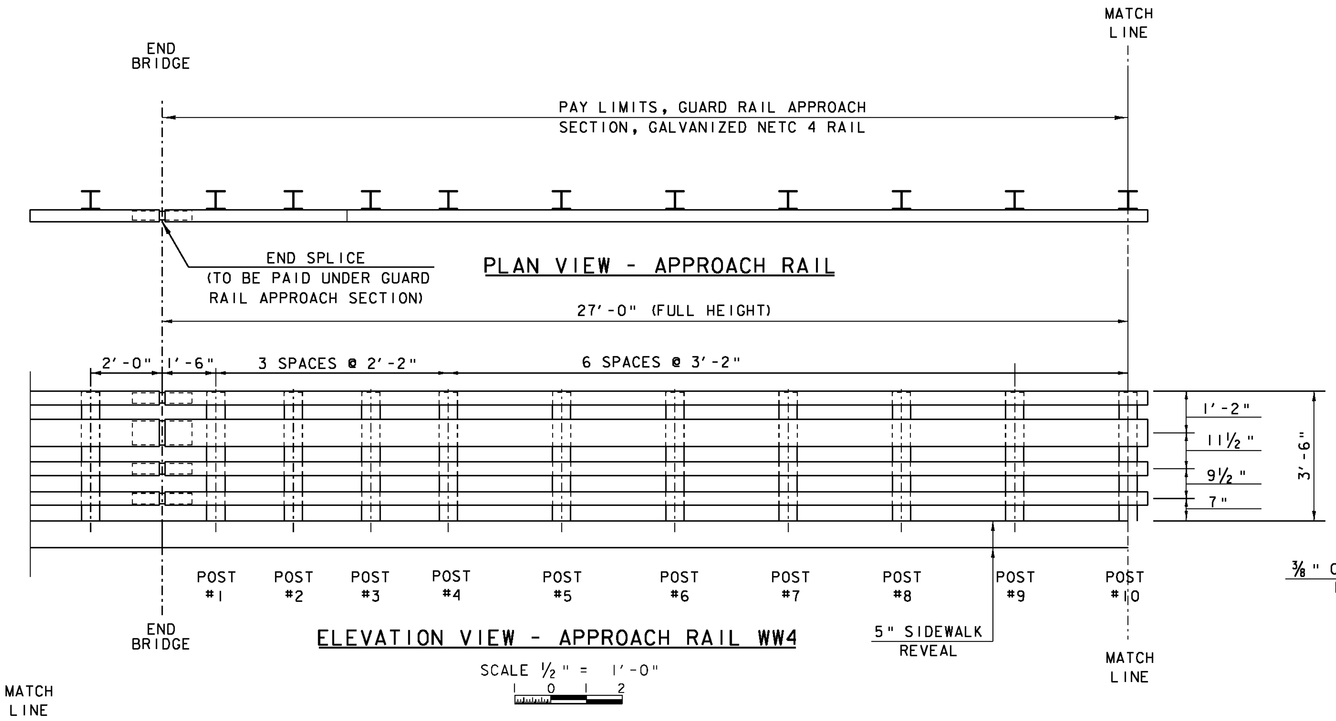
## PLAN VIEW - APPROACH RAIL WW2

SCALE ½" = 1'-0"



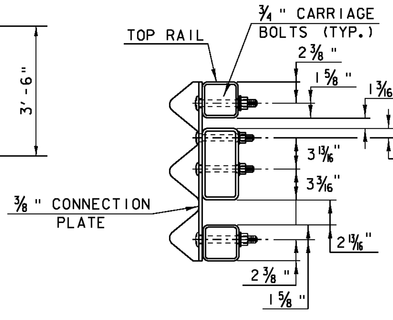

## ELEVATION VIEW - APPROACH RAIL WW2

SCALE ½" = 1'-0"

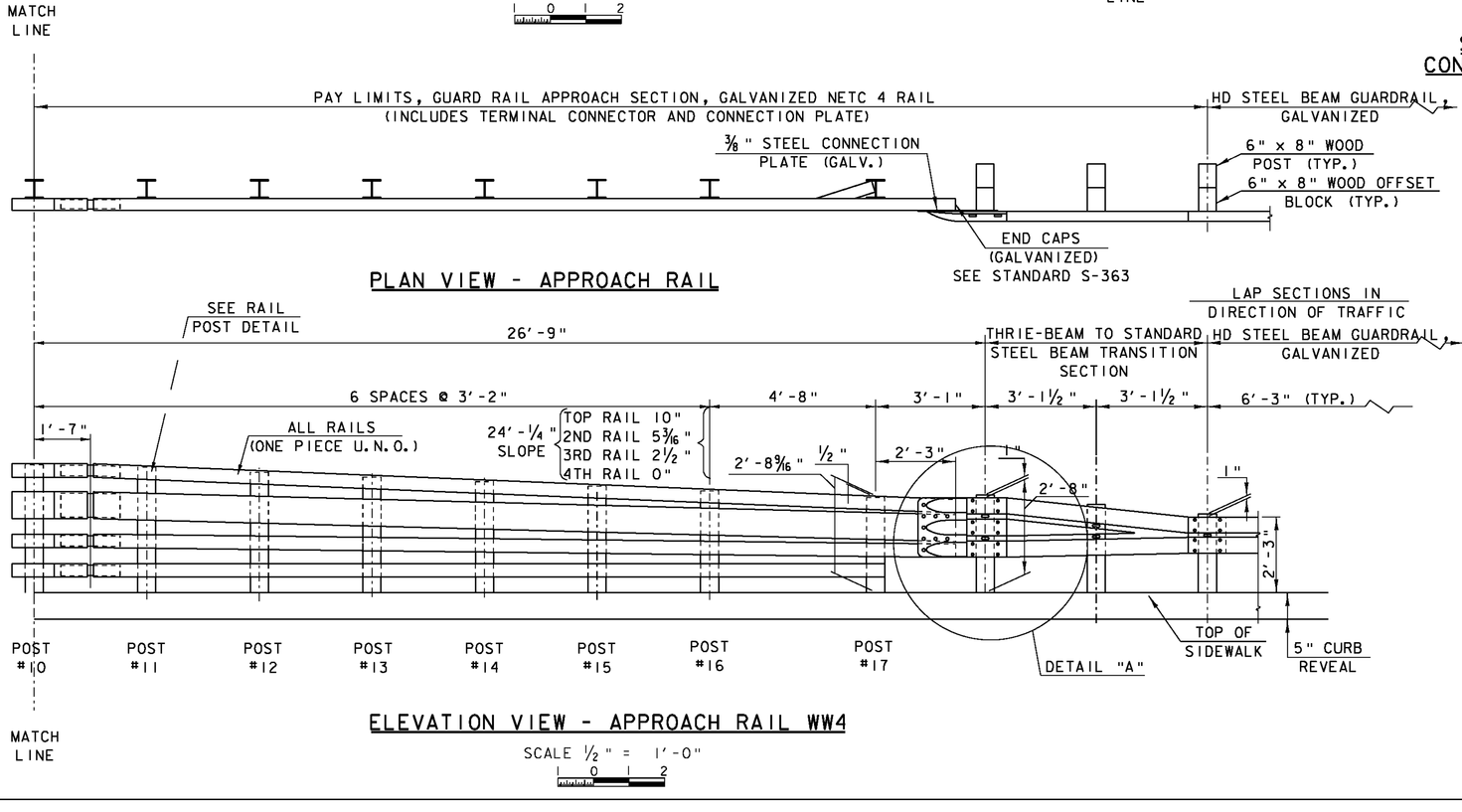


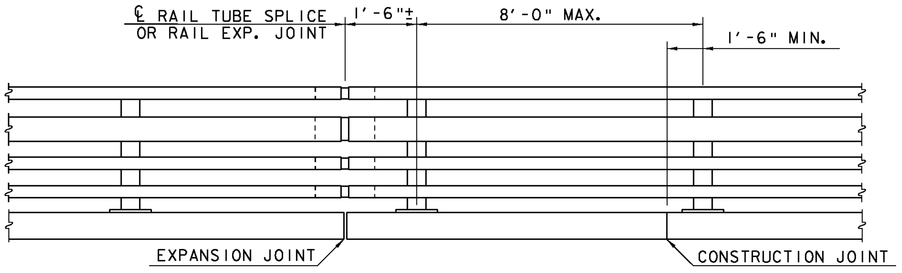

## NOTES

1. REFER TO NETC 2 RAIL STAND DETAILS, NOTES AND MATERIA
2. PAYMENT FOR GUARD RAIL APP CONNECTOR, THE CONNECTION
3. ALL APPROACH RAIL SPLICES
4. ALL BRIDGE APPROACH RAIL M AS THOSE OF THE BRIDGE RAI
5. APPROACH RAIL BOLTS SHALL (ASTM A563 GRADE A OR BETT
6. WELD SPLICE BARS TO FIT BE



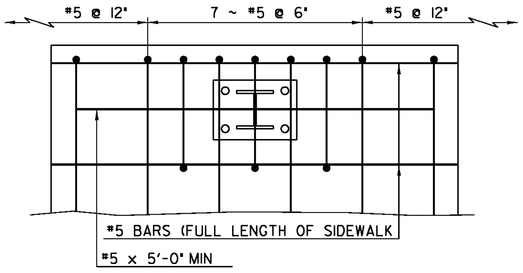

SECTION C-C
CONNECTION PLATE
(NOT TO SCALE)





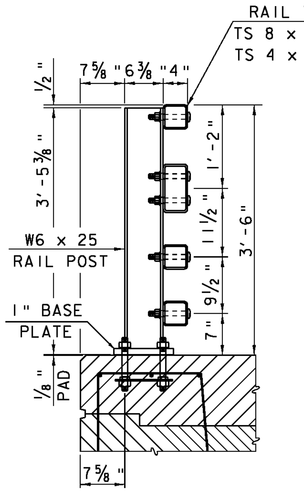

## BRIDGE RAILING ELEVATION

(NOT TO SCALE)



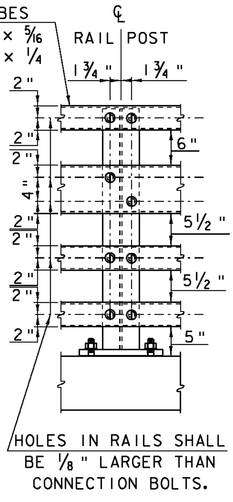

## SIDEWALK REINFORCING PLAN

(NOT TO SCALE)



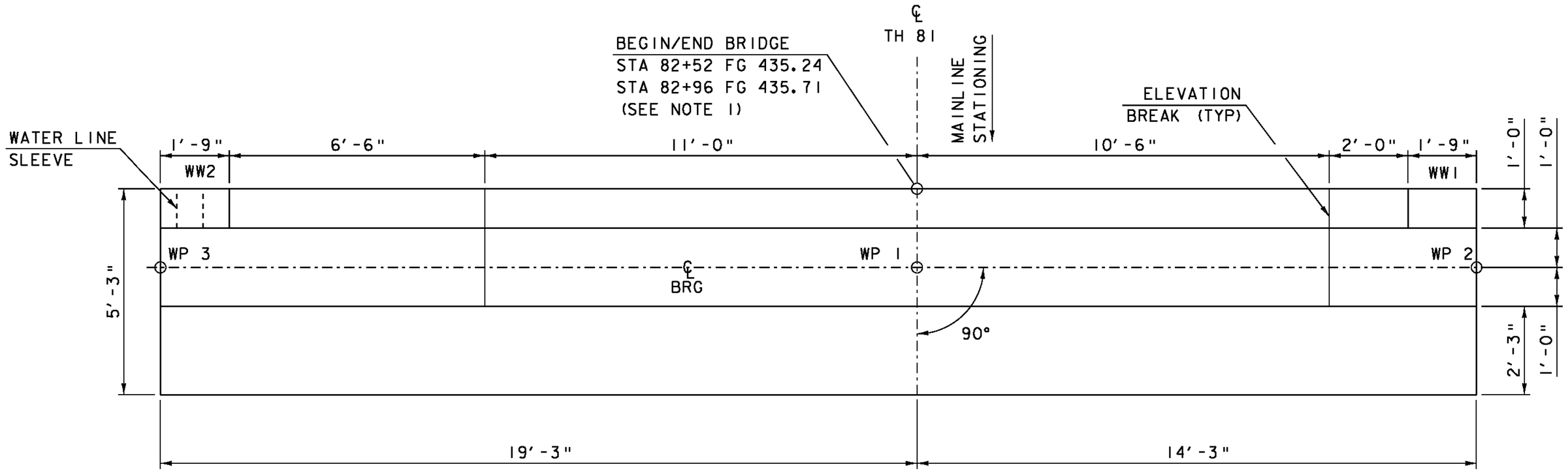

## TYPICAL SECTION

(NOT TO SCALE)




## ELEVATION

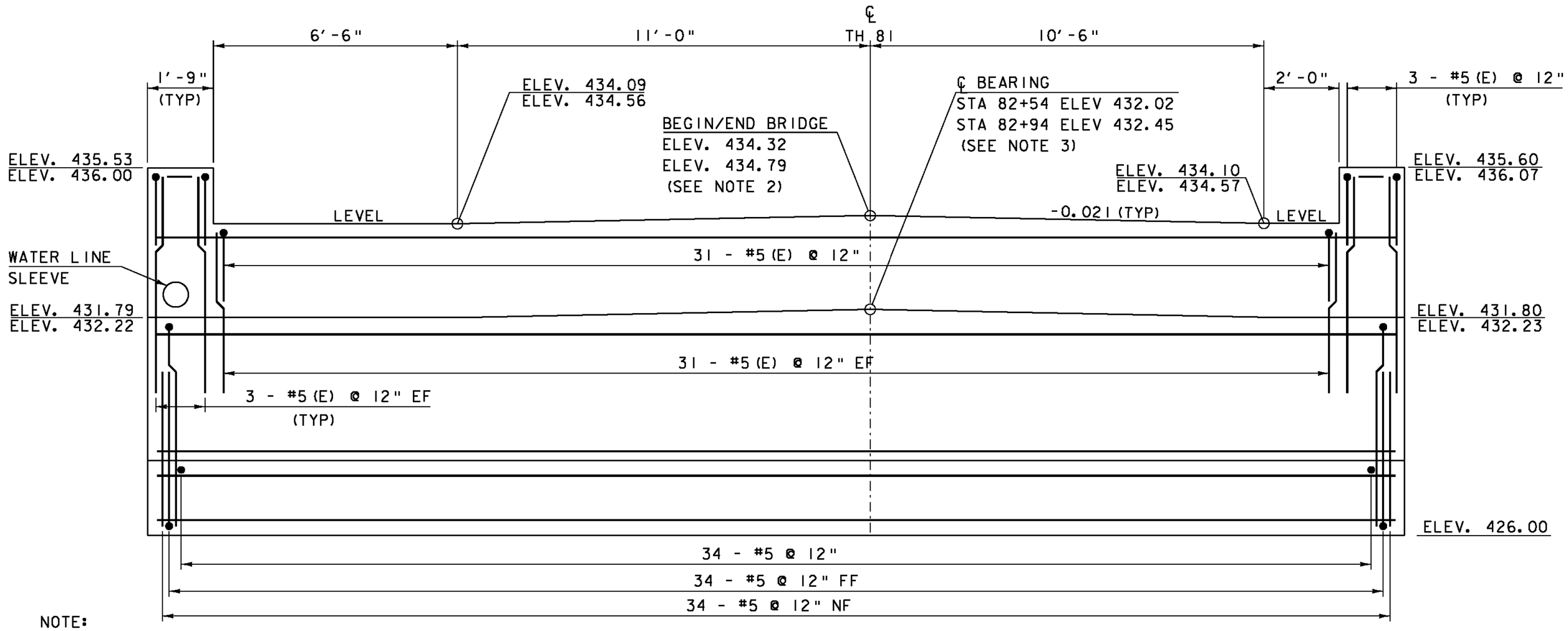
(NOT TO SCALE)




## ABUTMENT 1 PLAN VIEW

SCALE ½" = 1'-0"
(ABUTMENT 2 SIMILAR)

SEE BR. 36 SHOP DRAWINGS SHEETS CT1 - CT19 OF APPROVED DATE 5/3/11 BY CONSPAN



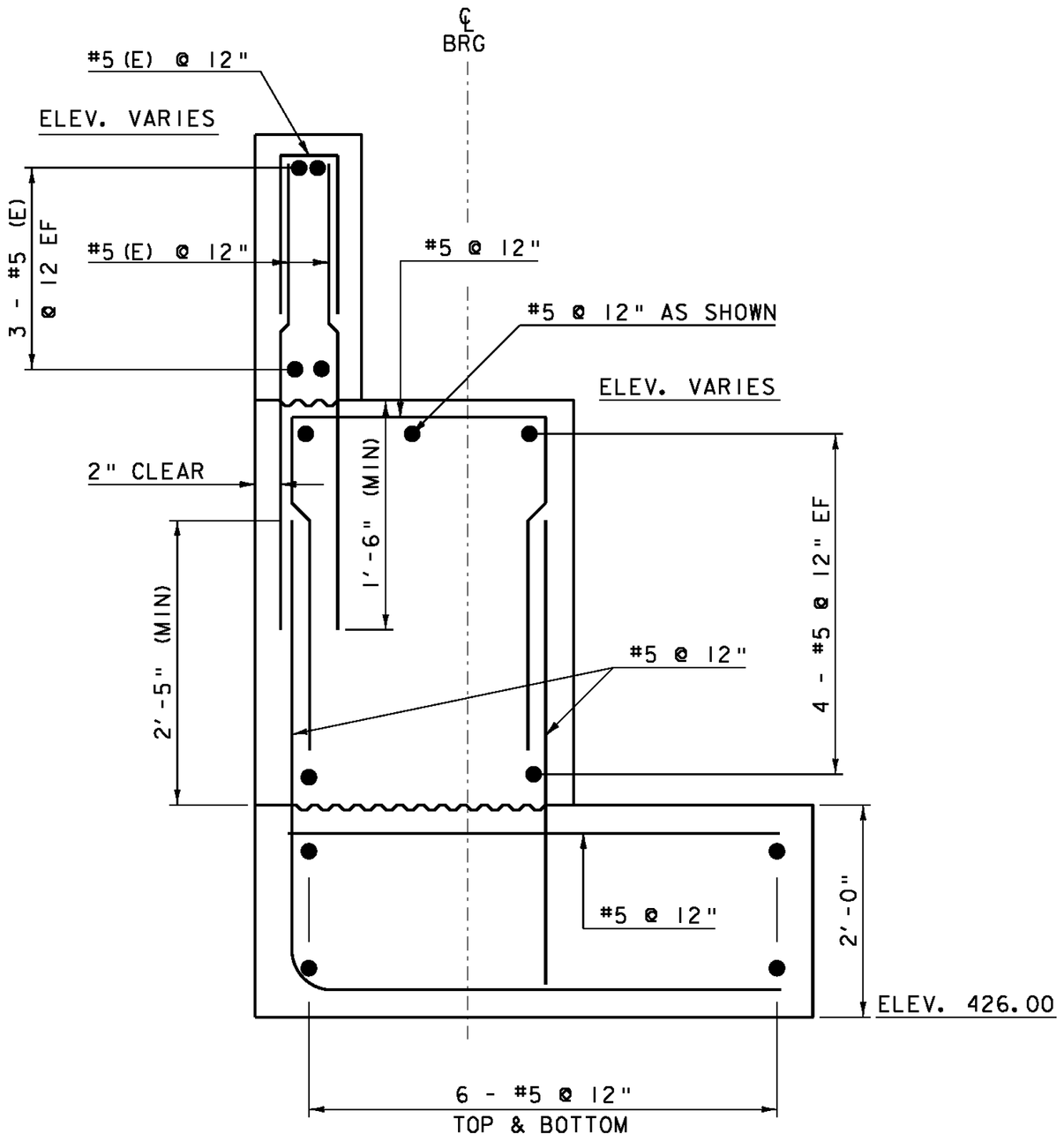

## ABUTMENT 1 ELEVATION VIEW

SCALE ½" = 1'-0"
(ABUTMENT 2 SIMILAR)

NOTE:
CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LENGTHS AND REINFORCING BAR BENDS BASED ON THESE DRAWINGS. ALL LAP LENGTHS SHALL BE AT LEAST THE LENGTH SPECIFIED BELOW:

#5 - 2'-2"
#6 - 2'-7"
#7 - 3'-5"
#8 - 4'-6"
#9 - 5'-8"
#10 - 7'-3"
#11 - 8'-10"

NOTES:
1) BEGIN AND END BRIDGE STATIONS AND ELEVATIONS MAY CHANGE BASED ON THE SUPERSTRUCTURE CHOSEN.
2) ELEVATIONS ARE BASED ON AN 8" DECK AND 3" OF PAVEMENT.
3) ELEVATIONS ARE BASED ON A 27" SUPERSTRUCTURE AND 2" BEARING.
4) DESIGN BASED ON HIGH PERFORMANCE CONCRETE, CLASS B.
5) ANY COSTS ASSOCIATED WITH THE CONCRETE AND REINFORCING STEEL SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.645 SPECIAL PROVISION (DESIGN AND CONSTRUCT BRIDGE)
6) WHEN TWO ELEVATIONS ARE SHOWN, THE TOP ELEVATIONS REFER TO ABUTMENT 1 AND THE BOTTOM ELEVATION REFERS TO ABUTMENT 2.
7) LOCATION AND ELEVATION OF WATER LINE SLEEVE TO BE VERIFIED IN THE FIELD.




## ABUTMENT TYPICAL SECTION

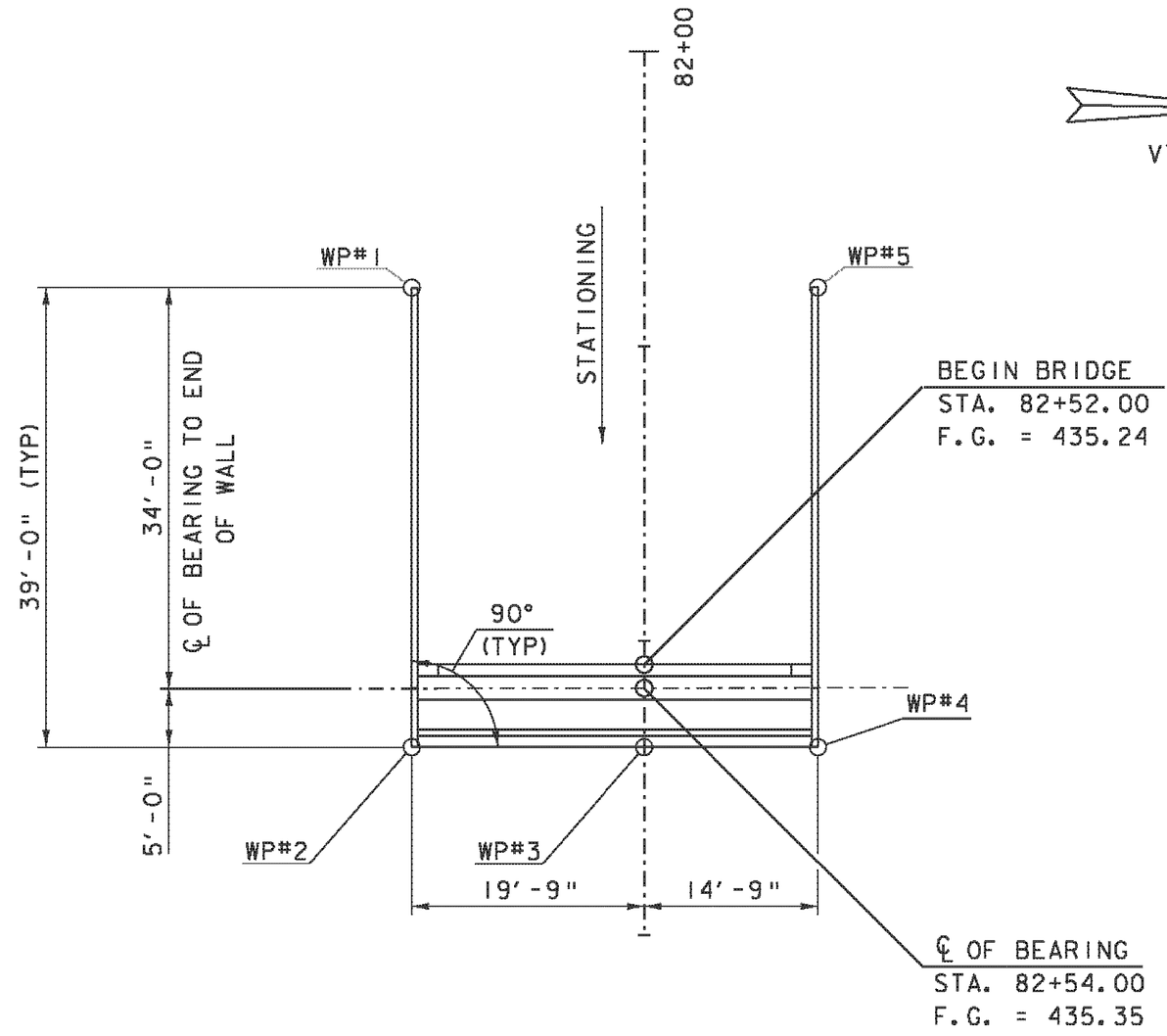
SCALE 1" = 1'-0"

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
E = EPOXY COATED

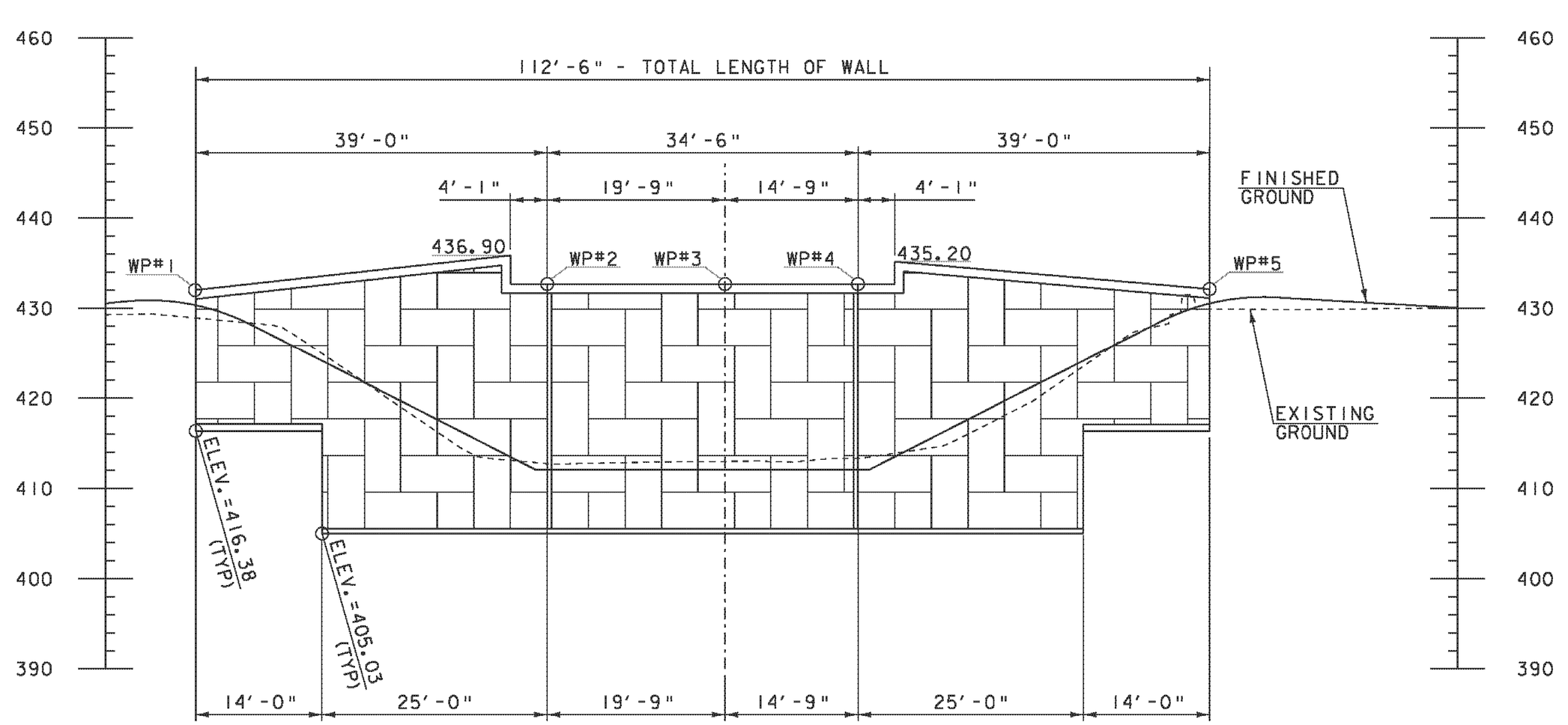
SCALE ½" = 1'-0"
0 1 2

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

| | |
|---|---|
| PROJECT NAME: | HARTFORD (WILDER) |
| PROJECT NUMBER: | STP 1444(35) |
| FILE NAME: b36\s96j070sub2_b36.dgn | PLOT DATE: 16-JUN-2010 |
| PROJECT LEADER: K. HIGGINS | DRAWN BY: J. GRIFFIN |
| DESIGNED BY: T. FILLBACH | CHECKED BY: T. FILLBACH |
| ABUTMENT 1& 2 DETAILS - BRIDGE 36 | SHEET 24 OF 69 |




PLAN OF RETAINING WALL @ ABUTMENT NO. 1

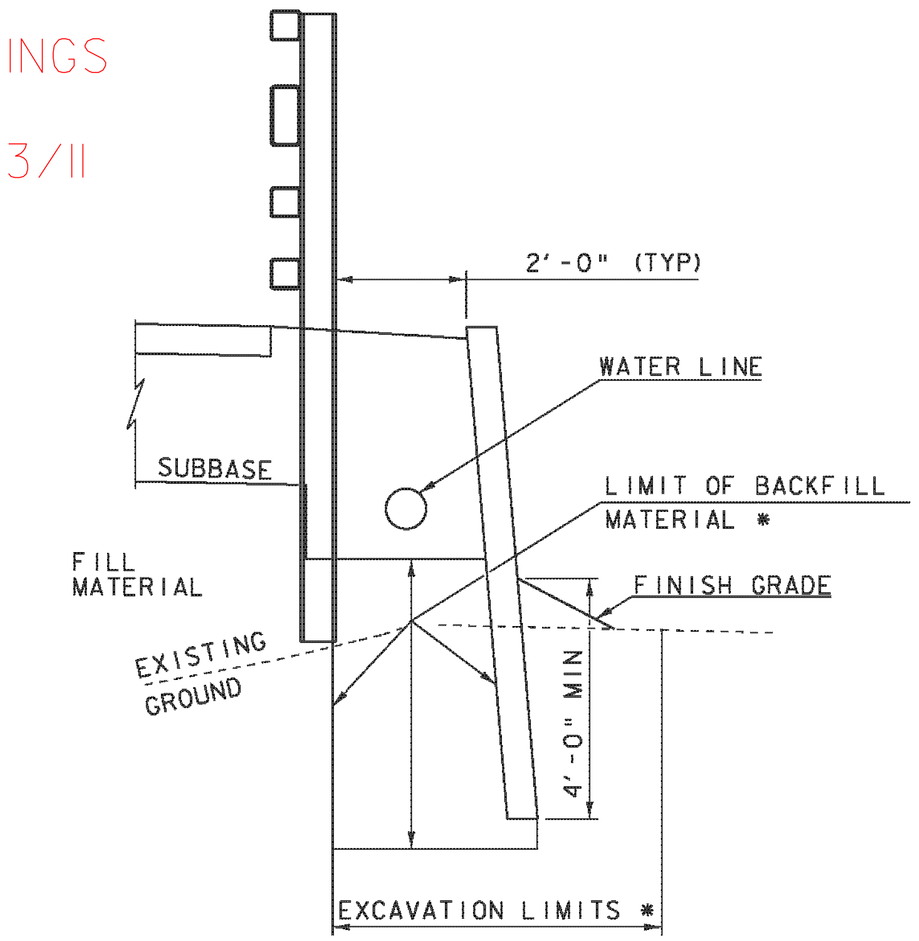



ELEVATION ALONG FACE OF RETAINING WALL @ ABUTMENT NO. 1

NOTES:

1. WP INDICATES WORKING POINTS ALONG FRONT FACE OF WALL. ABUTMENT WORKING POINTS ARE NOT SHOWN ON THIS SHEET.
2. THE ELEVATIONS SHOWN AT THE BOTTOM OF THE WALL ARE MAXIMUM ELEVATIONS TO ACCOUNT FOR FROST DEPTH, STABILITY AND FUTURE RAILROAD EXCAVATION.
3. SEE ADDITIONAL NOTES ON GENERAL NOTES SHEET #3.

SEE BR. 36 SHOP DRAWINGS
SHEETS CT1 - CT19
OF APPROVED DATE 5/3/11
BY CONSPAN




* LIMITS AS DEEMED NECESSARY BY DESIGN AND APPROVED BY THE ENGINEER

RETAINING WALL
TYPICAL SECTION

NOT TO SCALE

**WORKING POINTS**

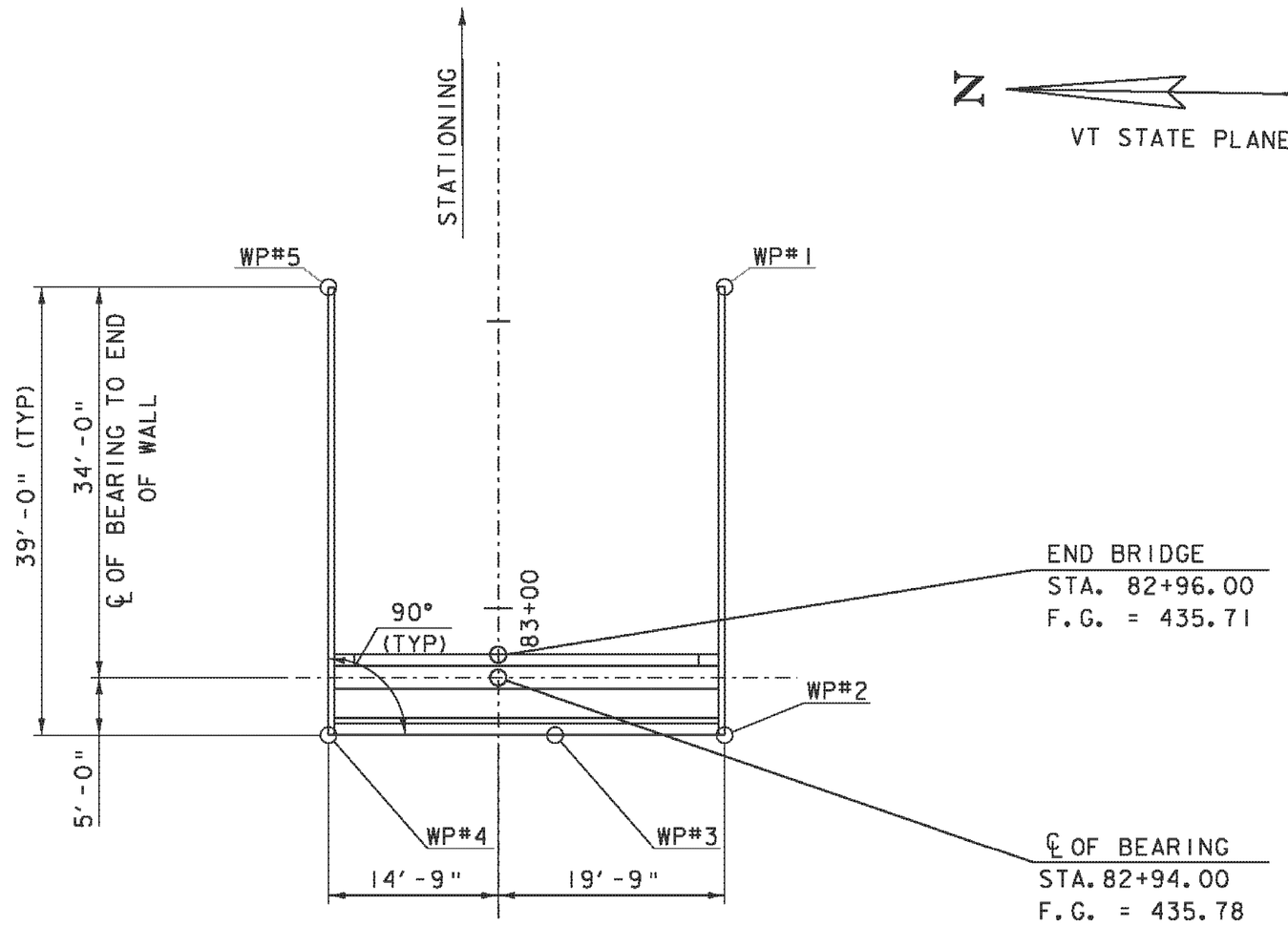
| WP# | STA. | OFFSET | TOP OF WALL ELEV. |
|---|---|---|---|
| #1 | 82+20.00 | 19.75 | 432.04 |
| #2 | 82+59.00 | 19.75 | 432.70 |
| #3 | 82+59.00 | 0.00 | 432.70 |
| #4 | 82+59.00 | -14.75 | 432.70 |
| #5 | 82+20.00 | -14.75 | 432.10 |

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

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

FILE NAME: b36\s96j070wall_b36.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: G. LAROCHE
WALL AT ABUTMENT #1 - BRIDGE 36

PLOT DATE: 17-JUN-2010
DRAWN BY: J. GRIFFIN
CHECKED BY: J. SALVATORI
SHEET 25 OF 69

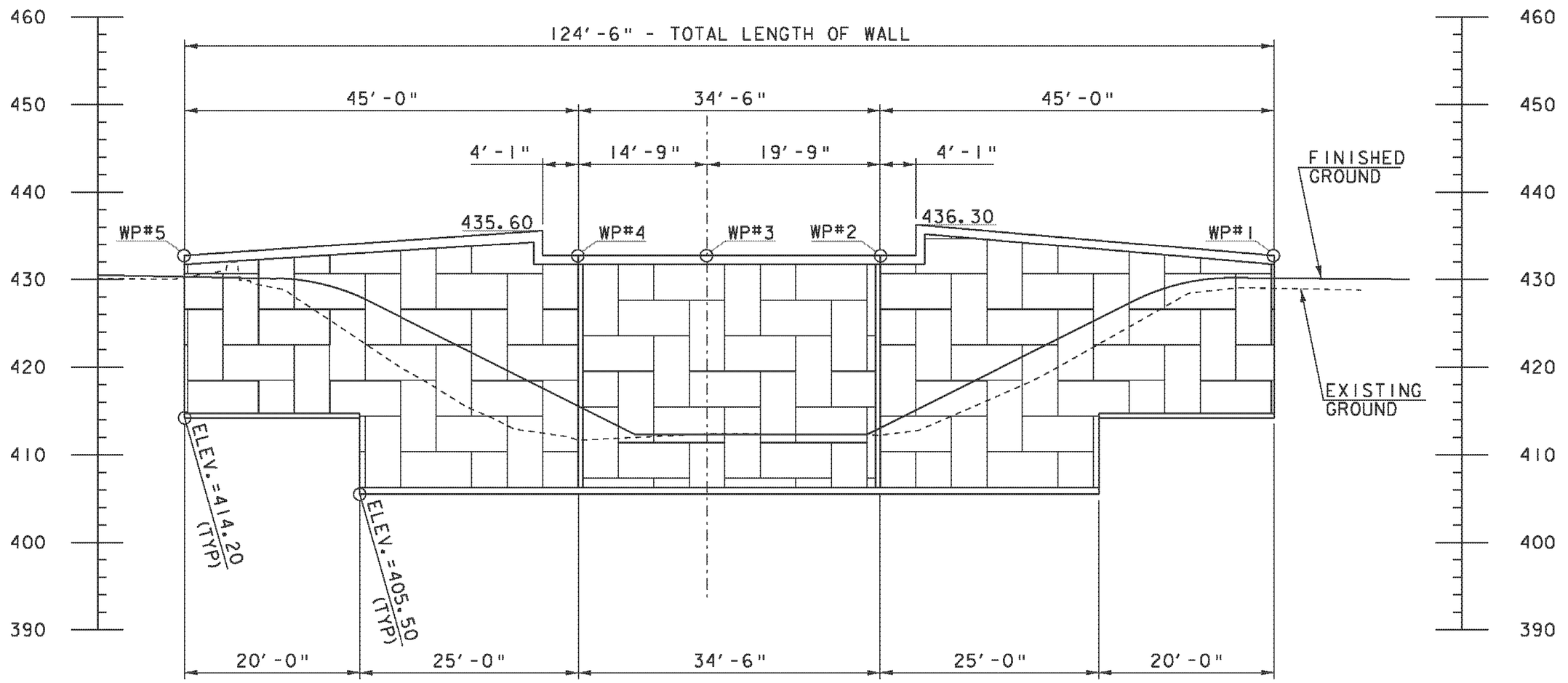



PLAN OF RETAINING WALL @ ABUTMENT NO. 2

NOTES:

1. WP INDICATES WORKING POINTS ALONG FRONT FACE OF WALL. ABUTMENT WORKING POINTS ARE NOT SHOWN ON THIS SHEET.
2. THE ELEVATIONS SHOWN AT THE BOTTOM OF THE WALL ARE MAXIMUM ELEVATIONS TO ACCOUNT FOR FROST DEPTH, STABILITY AND FUTURE RAILROAD EXCAVATION.
3. SEE SHEET 25 FOR RETAINING WALL TYPICAL SECTION.
4. SEE ADDITIONAL NOTES ON GENERAL NOTES SHEET #3.

SEE BR. 36 SHOP DRAWINGS
SHEETS CTI - CTI9
OF APPROVED DATE 5/3/11
BY CONSPAN




ELEVATION ALONG FACE OF RETAINING WALL @ ABUTMENT NO. 2

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

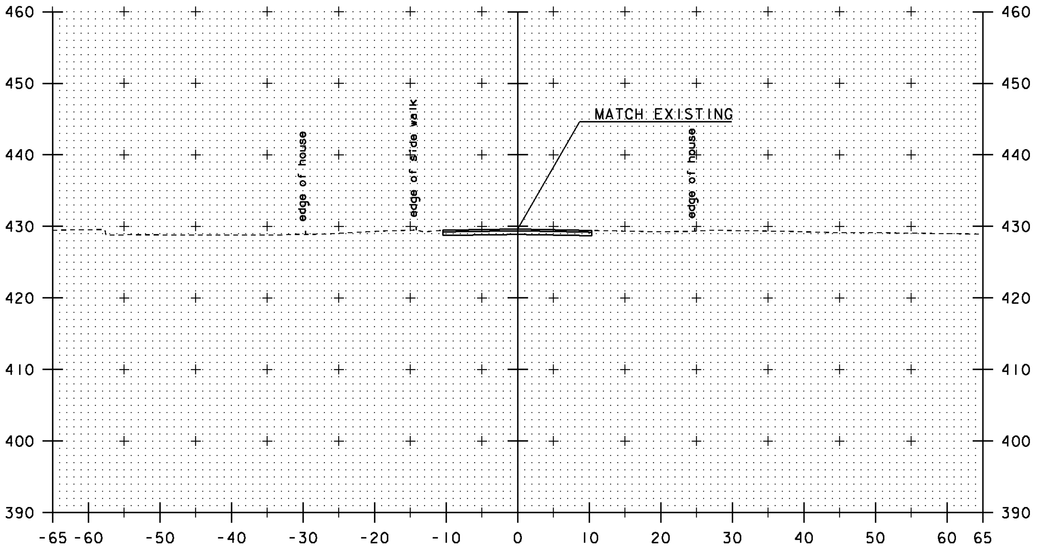
**WORKING POINTS**

| WP# | STA. | OFFSET | TOP OF WALL ELEV. |
|---|---|---|---|
| #1 | 83+34.00 | 19.75 | 432.70 |
| #2 | 82+89.00 | 19.75 | 432.70 |
| #3 | 82+89.00 | 0.00 | 432.70 |
| #4 | 82+89.00 | -14.75 | 432.70 |
| #5 | 83+34.00 | -14.75 | 432.70 |

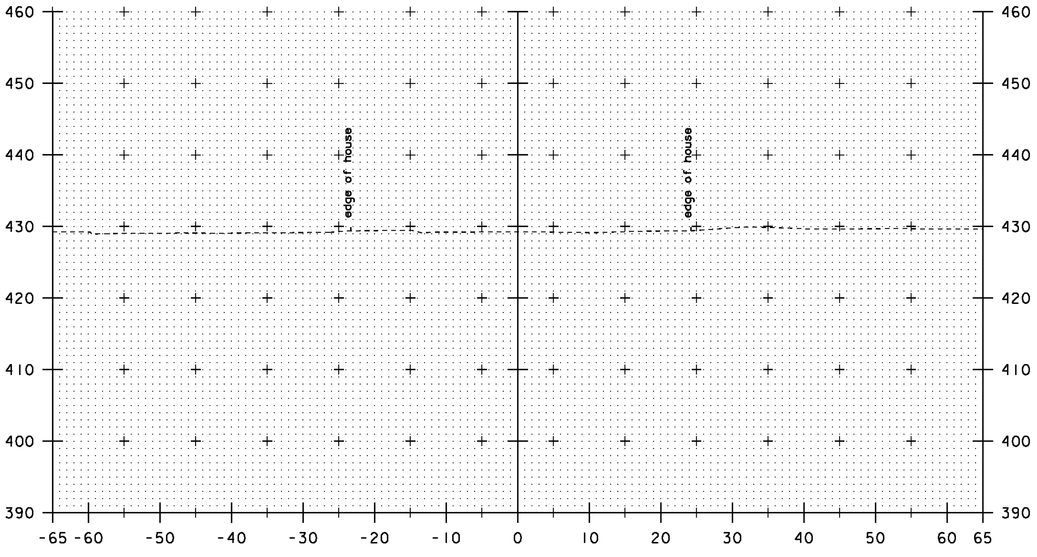
PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

FILE NAME: b36\s96j070wall_b36.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: G. LAROCHE
WALL AT ABUTMENT #2 - BRIDGE 36

PLOT DATE: 17-JUN-2010
DRAWN BY: J. GRIFFIN
CHECKED BY: J. SALVATORI
SHEET 26 OF 69

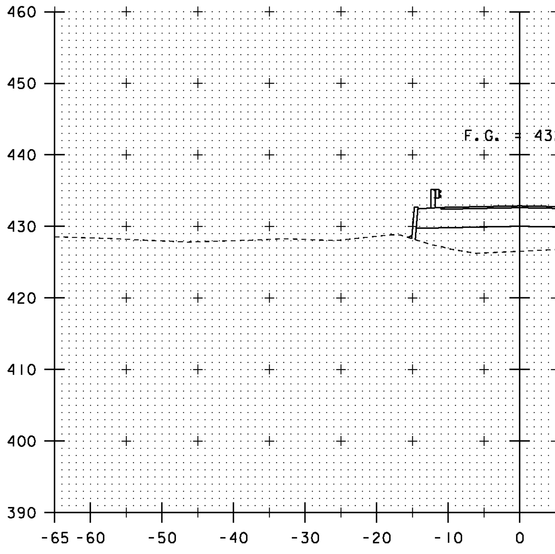



81+75

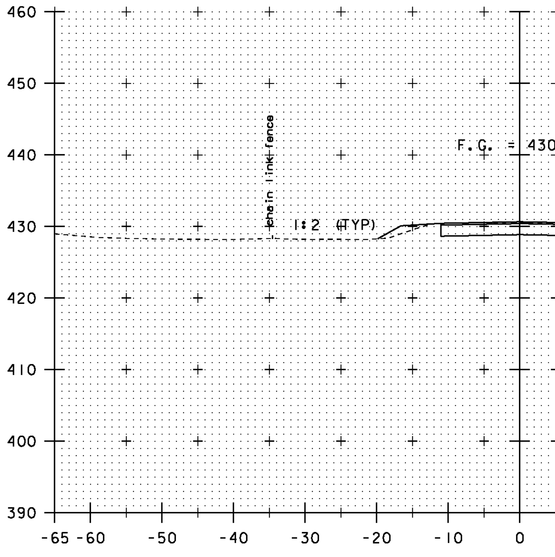



81+50

81+25
BEGIN APPROACH



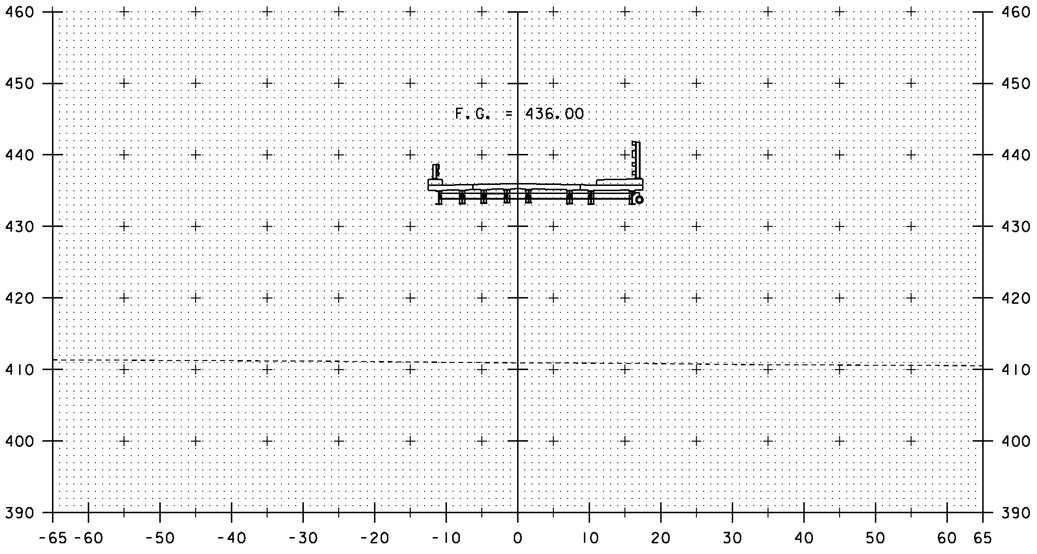

82+25



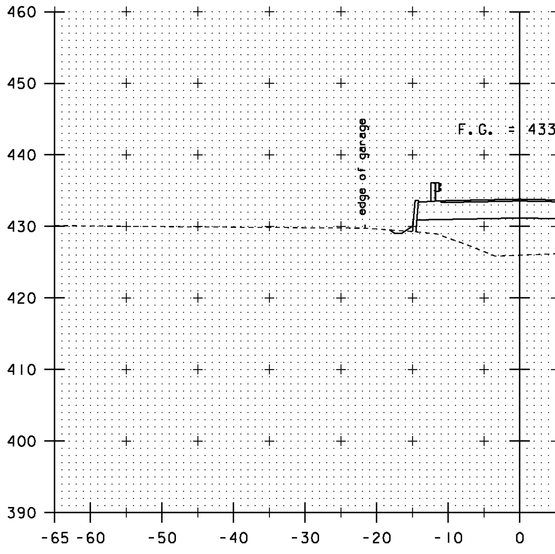

82+00
BEGIN PROJ

STA. 81+50 TO STA. 82

SCALE 1" = 1
10 0

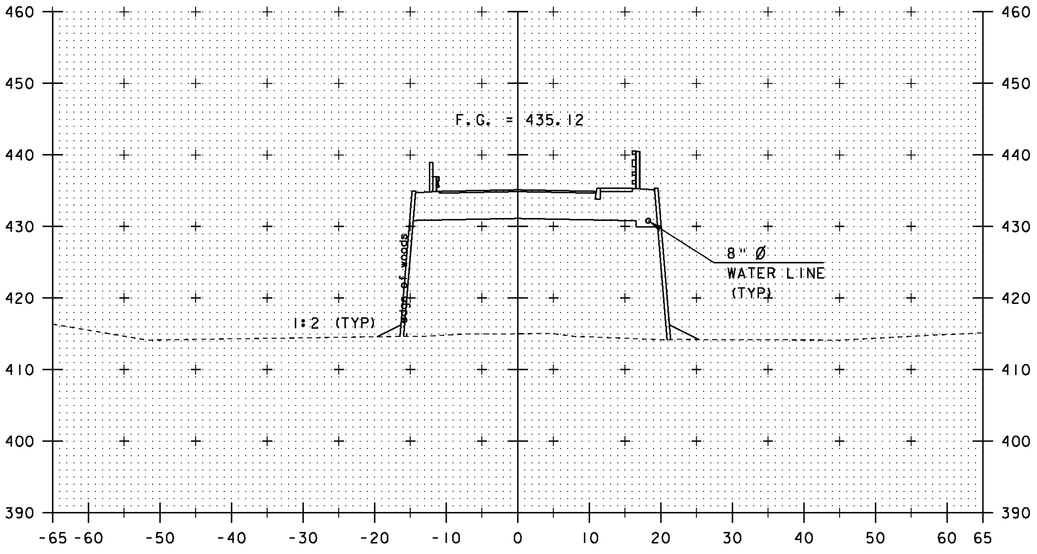



82+75

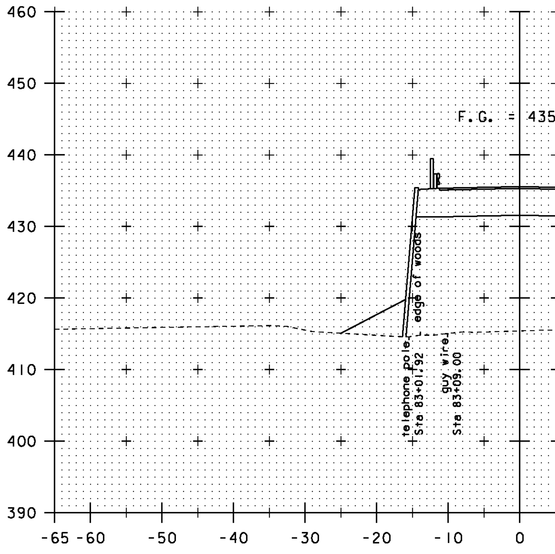



83+25

BEGIN BRIDGE 82+52 - END BRIDGE 82+96



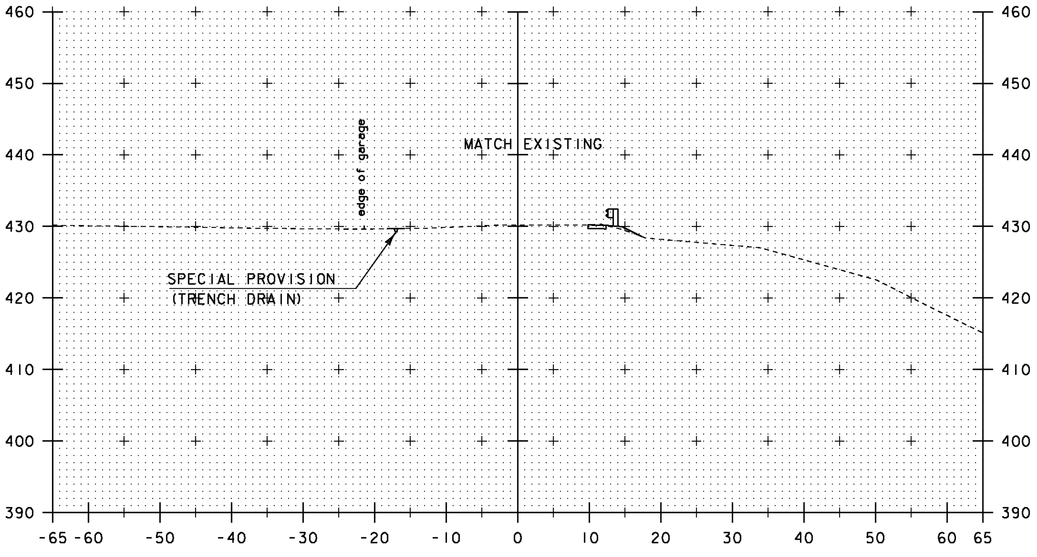

82+50



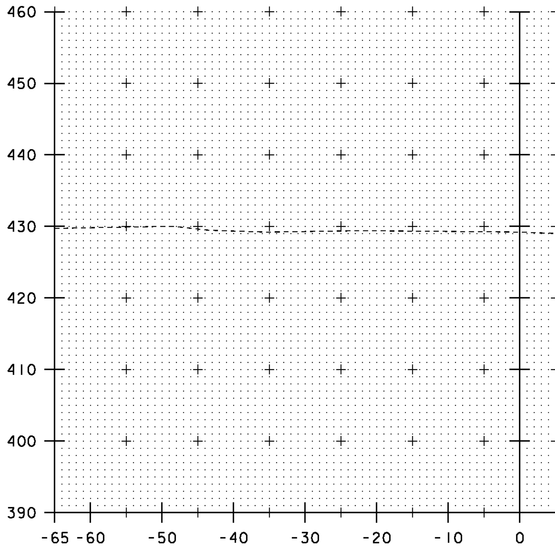

83+00

STA. 82+50 TO STA. 8

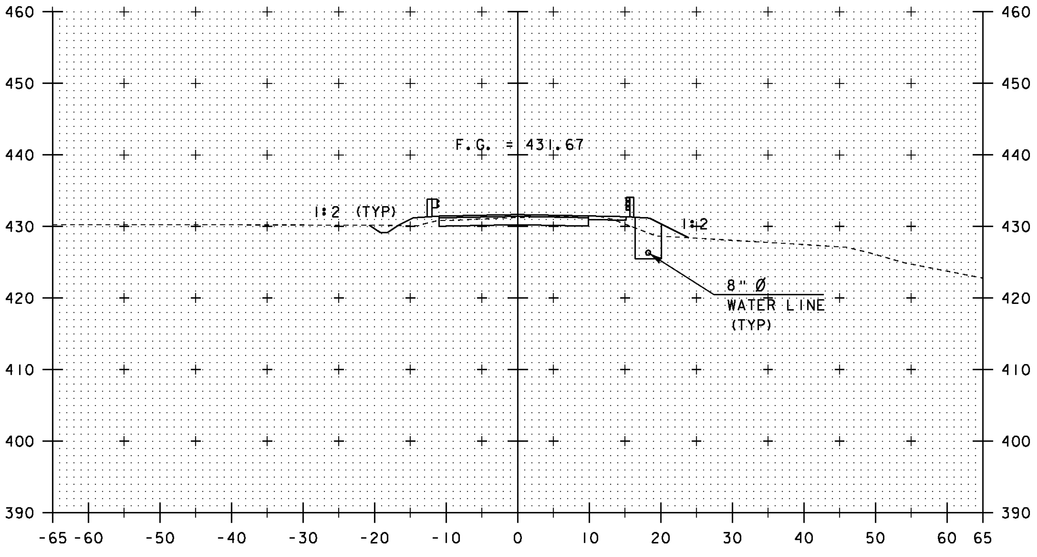
SCALE 1" = 1
10 0



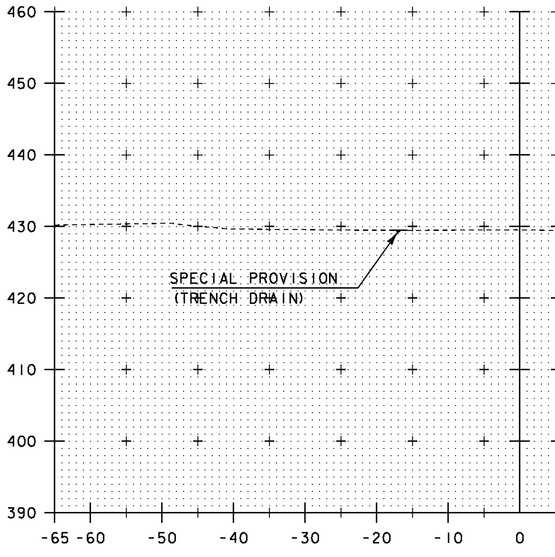

83+75



84+25
END APPRO




83+50
END PROJECT




84+00

STA. 83+50 TO STA. 8

SCALE 1" = 1
10 0

STATE OF VERMONT
AGENCY OF TRANSPORTATION

# PRELIMINARY INFORMATION SHEET (BRIDGE 38)

NO

THIS SPACE HAS BEEN INTENTIONALLY
LEFT BLANK

**LRFR LOAD RATING FACTORS**

| LOADING LEVELS | TRUCK | | | | | |
|---|---|---|---|---|---|---|
| | H-20 | HL-93 | 3S2 | 6 AXLE | 3A STR | 4A STR |
| TONNAGE | 20 | 36 | 36 | 66 | 30 | 34.5 |
| INVENTORY | 0.46 | | | | | |
| POSTING | | | | | | |
| OPERATING | 0.60 | | | | | |
| COMMENTS: | | | | | | |

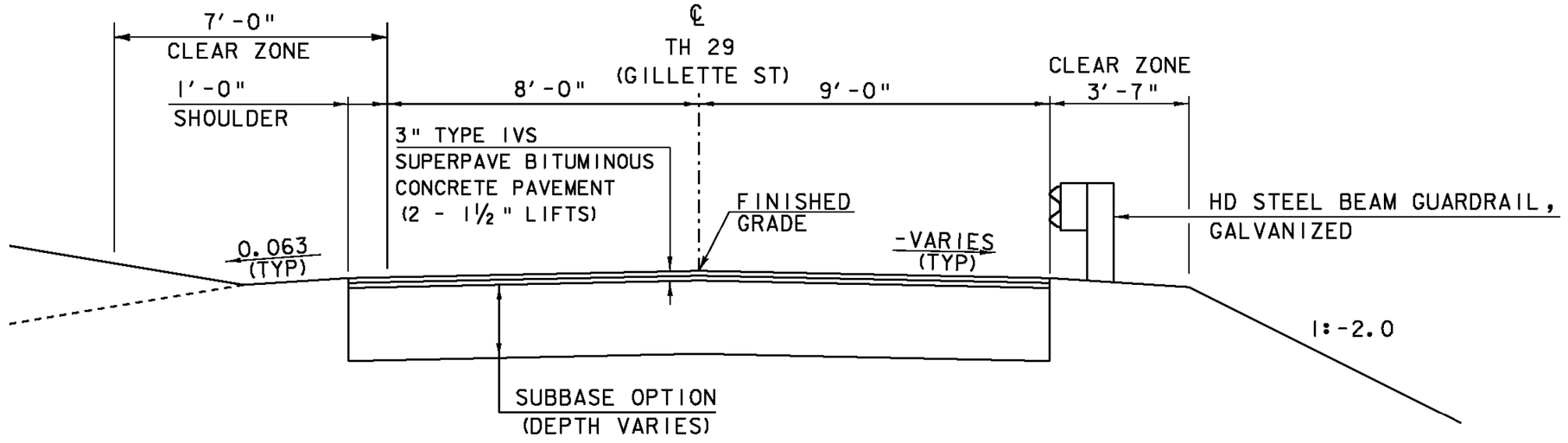
**TRAFFIC DATA**

| YEAR | ADT | DHV | % D | % T | ADTT |
|---|---|---|---|---|---|
| 2008 | 280 | 90 | 53 | 4 | 15 |
| 2028 | 360 | 100 | 53 | 5 | 25 |

20 year ESAL for flexible pavement from 2008 to 2028 : 54000

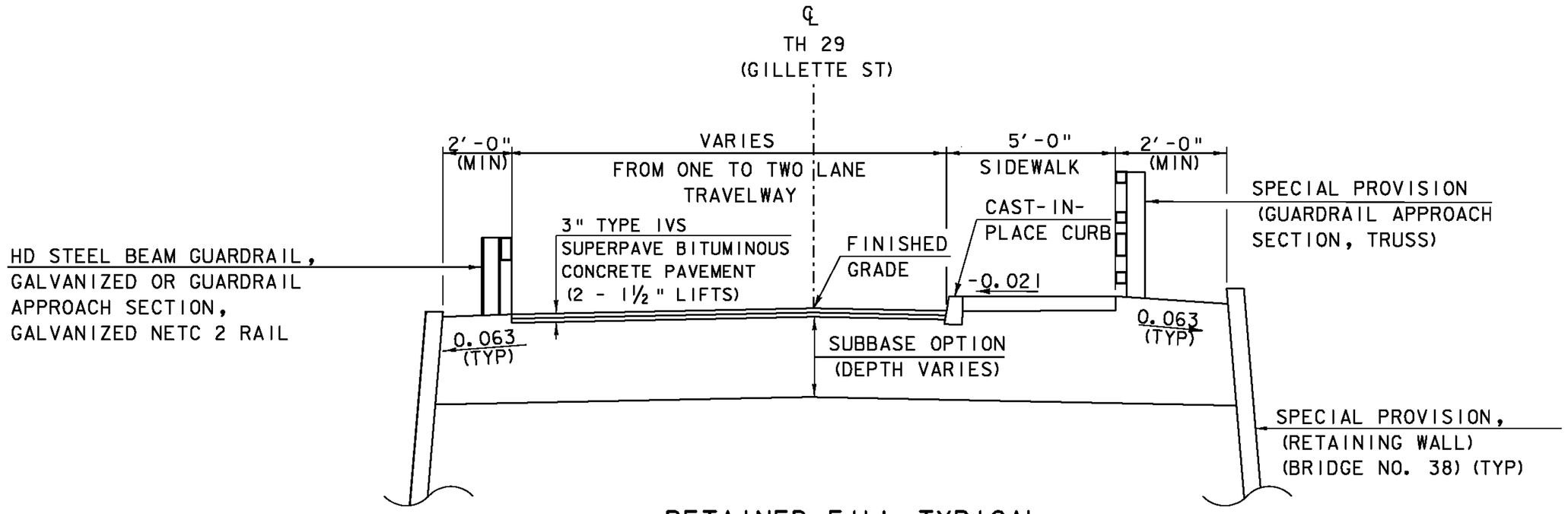
40 year ESAL for flexible pavement from 2008 to 2048 : 127000

Design Speed : 25 mph



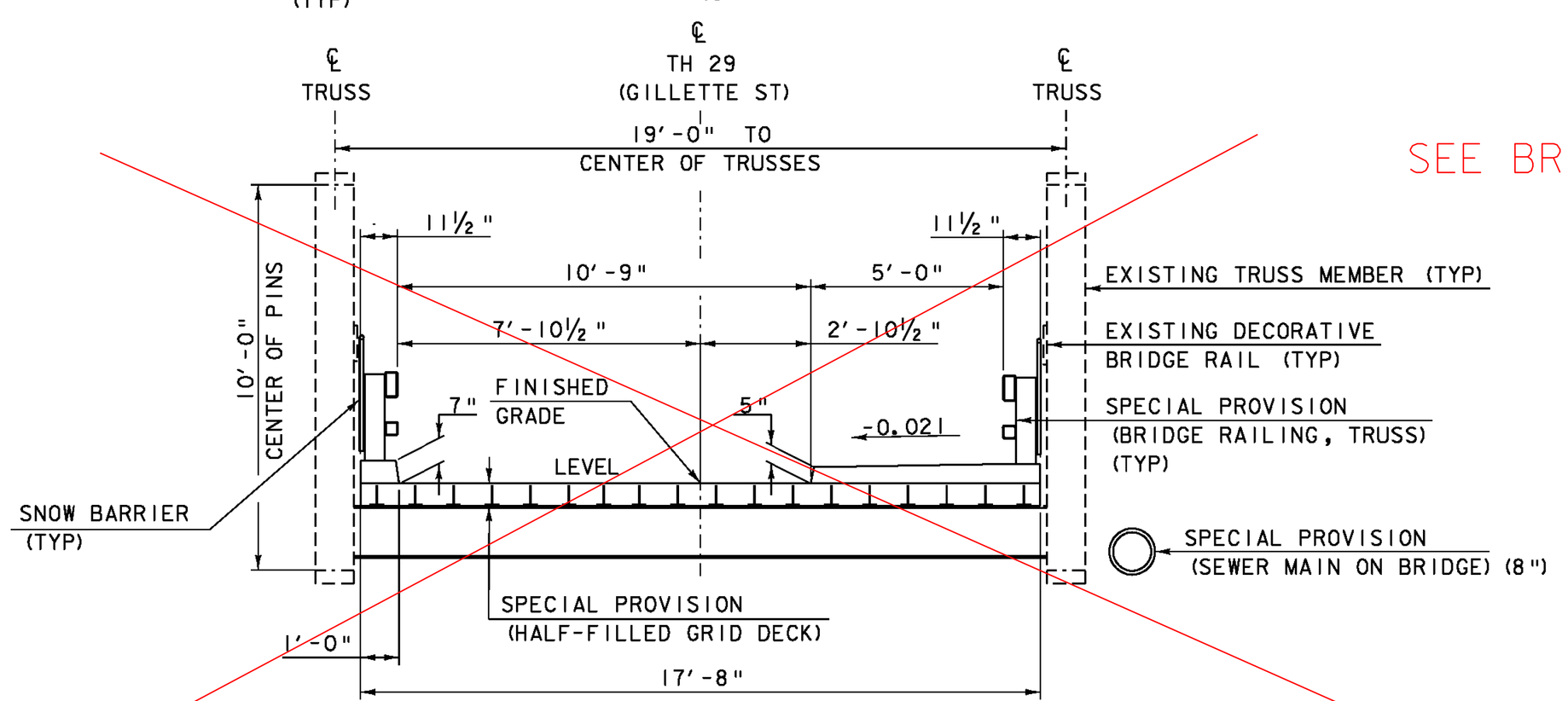

## TH 29 (GILLETTE ST) ROADWAY TYPICAL

SCALE ⅜" = 1'-0




## RETAINED FILL TYPICAL

SCALE ⅜" = 1'-0



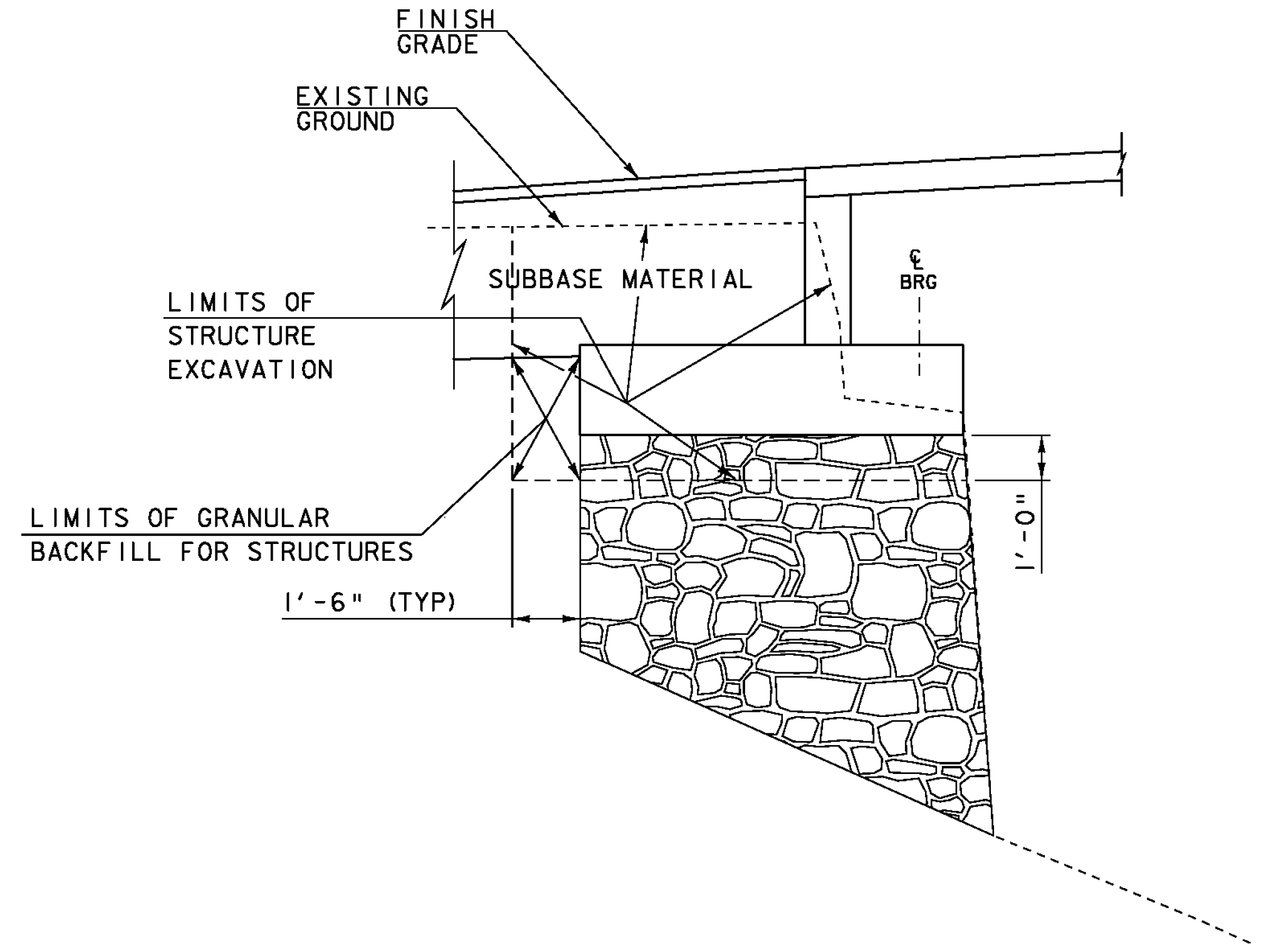

## BRIDGE #38 TYPICAL

SCALE ⅜" = 1'-0

SEE BR.39 TYPICAL REVISION

## SUMMARY OF WORK

1. REMOVE SUPPORT BEAMS, TIMBER DECK AND FLOOR SYSTEM
2. SUPPORT SEWER LINE
3. REMOVE TRUSSES
4. BLAST CLEAN AND PAINT TRUSSES
5. REPLACE DAMAGED TRUSS COMPONENTS
6. REPAIR THE STONE ABUTMENTS
7. INSTALL EARTH RETAINING STRUCTURES
8. INSTALL CONCRETE ABUTMENTS FOR TRUSS BEARING
9. REPLACE TRUSS BEARINGS
10. RE-INSTALL TRUSSES
11. INSTALL FLOOR SYSTEM AND HALF-FILLED GRID DECK
12. INSTALL BRIDGE RAIL AND APPROACH GUIDE RAIL
13. RAISE AND REATTACH SEWER LINE
14. PAVE ROAD, INSTALL SIGNS AND PAVEMENT MARKINGS




## EARTHWORK SECTION

SCALE ⅜" = 1'-0

## MATERIAL TOLERANCES

(IF USED ON PROJECT)

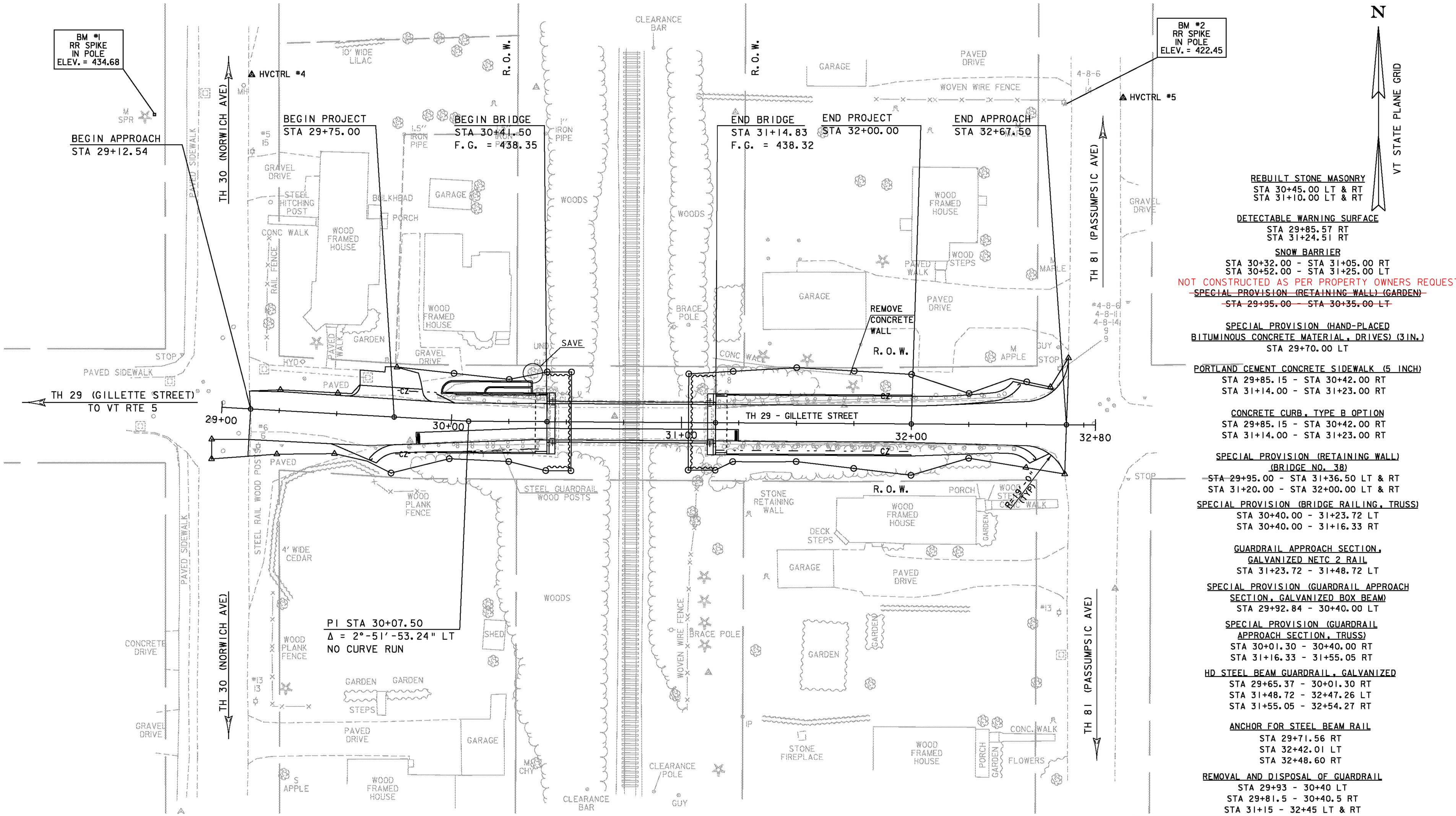
| | |
|---|---|
| SURFACE | |
| - PAVEMENT (TOTAL THICKNESS) | +/- ¼" |
| - AGGREGATE SURFACE COURSE | +/- ½" |
| SUBBASE | +/- 1" |
| SAND BORROW | +/- 1" |

SCALE ⅜" = 1'-0
0 1 2 3 4

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

FILE NAME: b38\s96j070typ_b38.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: T. FILLBACH
TYPICAL SECTIONS - BRIDGE 38

PLOT DATE: 09-JUL-2010
DRAWN BY: R. PELLETT
CHECKED BY: J. SALVATORI
SHEET 31 OF 69




REBUILT STONE MASONRY
STA 30+45.00 LT & RT
STA 31+10.00 LT & RT

DETECTABLE WARNING SURFACE
STA 29+85.57 RT
STA 31+24.51 RT

SNOW BARRIER
STA 30+32.00 - STA 31+05.00 RT
STA 30+52.00 - STA 31+25.00 LT
NOT CONSTRUCTED AS PER PROPERTY OWNERS REQUEST
~~SPECIAL PROVISION (RETAINING WALL) (GARDEN)~~
~~STA 29+95.00 - STA 30+35.00 LT~~

SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES) (3IN.)
STA 29+70.00 LT

PORTLAND CEMENT CONCRETE SIDEWALK (5 INCH)
STA 29+85.15 - STA 30+42.00 RT
STA 31+14.00 - STA 31+23.00 RT

CONCRETE CURB, TYPE B OPTION
STA 29+85.15 - STA 30+42.00 RT
STA 31+14.00 - STA 31+23.00 RT

SPECIAL PROVISION (RETAINING WALL) (BRIDGE NO. 38)
~~STA 29+95.00~~ - STA 31+36.50 LT & RT
STA 31+20.00 - STA 32+00.00 LT & RT

SPECIAL PROVISION (BRIDGE RAILING, TRUSS)
STA 30+40.00 - 31+23.72 LT
STA 30+40.00 - 31+16.33 RT

GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL
STA 31+23.72 - 31+48.72 LT

SPECIAL PROVISION (GUARDRAIL APPROACH SECTION, GALVANIZED BOX BEAM)
STA 29+92.84 - 30+40.00 LT

SPECIAL PROVISION (GUARDRAIL APPROACH SECTION, TRUSS)
STA 30+01.30 - 30+40.00 RT
STA 31+16.33 - 31+55.05 RT

HD STEEL BEAM GUARDRAIL, GALVANIZED
STA 29+65.37 - 30+01.30 RT
STA 31+48.72 - 32+47.26 LT
STA 31+55.05 - 32+54.27 RT

ANCHOR FOR STEEL BEAM RAIL
STA 29+71.56 RT
STA 32+42.01 LT
STA 32+48.60 RT

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 29+93 - 30+40 LT
STA 29+81.5 - 30+40.5 RT
STA 31+15 - 32+45 LT & RT

EXISTING BRIDGE DATA
STEEL PONY TRUSS
LENGTH = 72 FT
WIDTH = 13.4 FT CURB TO CURB
BUILT BEFORE 1900

# LAYOUT SHEET

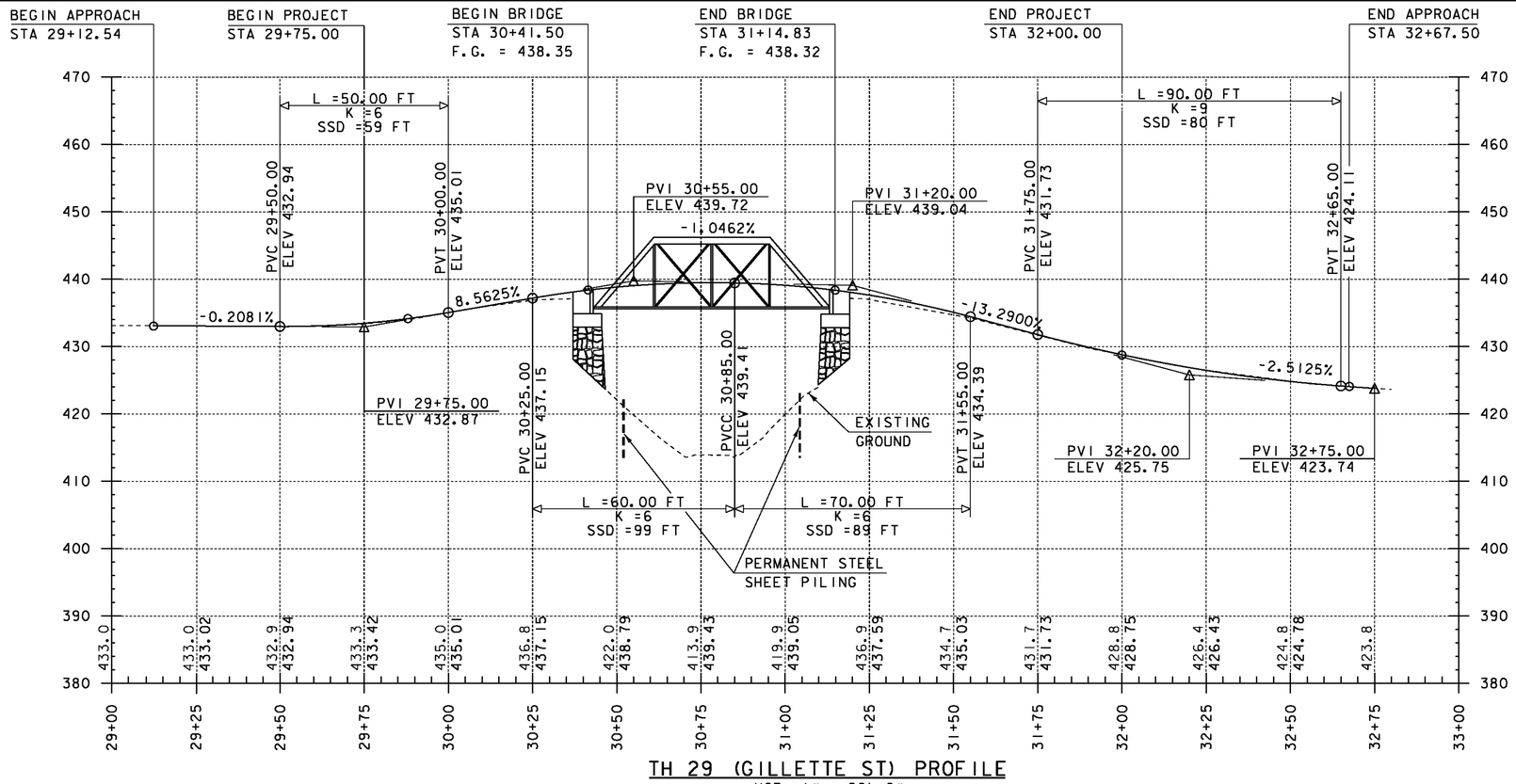
SEE SIGN & PAVEMENT MARKINGS - BRIDGE 38 FOR TRAFFIC SIGNS & PAVEMENT MARKINGS

SCALE 1" = 20'-0
20 0 20

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

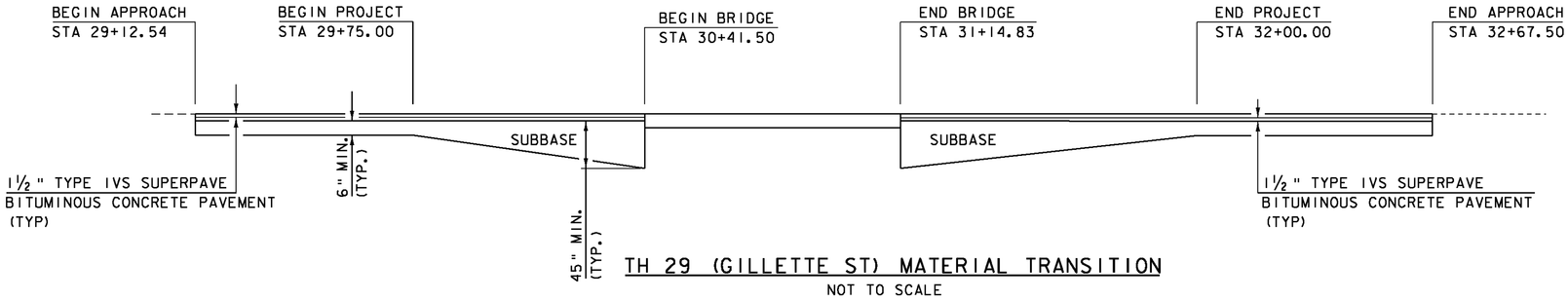
FILE NAME: b38\s96j070bdr_b38.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: T. FILLBACH
LAYOUT SHEET - BRIDGE 38

PLOT DATE: 09-JUL-2010
DRAWN BY: K. PATTERSON
CHECKED BY: T. FILLBACH
SHEET 32 OF 69



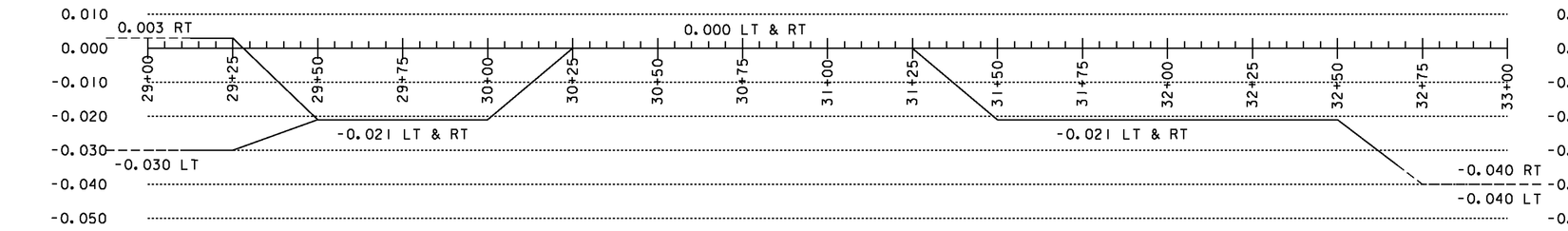

## TH 29 (GILLETTE ST) PROFILE

HOR. 1" = 20'-0"
VERT. 1" = 10'-0"



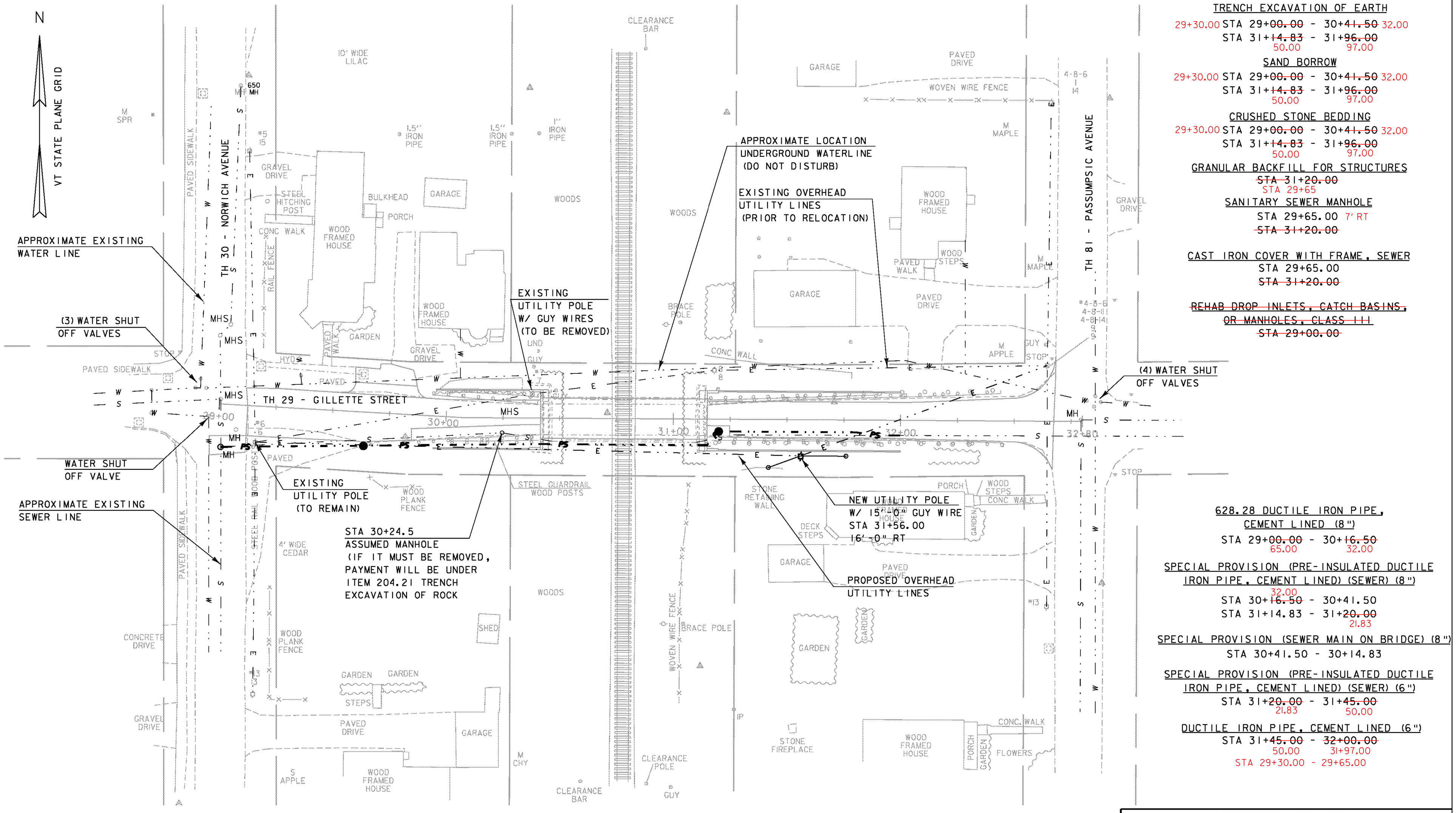

## TH 29 (GILLETTE ST) MATERIAL TRANSITION

NOT TO SCALE




## BANKING DIAGRAM

HOR. 1" = 20'-0"
NO VER. SCALE




## UTILITY LAYOUT SHEET

SCALE 1" = 20'-0
20 0 20

TRENCH EXCAVATION OF EARTH
29+30.00 STA 29+~~00.00~~ - 30+~~41.50~~ 32.00
STA 31+~~14.83~~ - 31+~~96.00~~
50.00 97.00

SAND BORROW
29+30.00 STA 29+~~00.00~~ - 30+~~41.50~~ 32.00
STA 31+~~14.83~~ - 31+~~96.00~~
50.00 97.00

CRUSHED STONE BEDDING
29+30.00 STA 29+~~00.00~~ - 30+~~41.50~~ 32.00
STA 31+~~14.83~~ - 31+~~96.00~~
50.00 97.00

GRANULAR BACKFILL FOR STRUCTURES
~~STA 31+20.00~~
STA 29+65

SANITARY SEWER MANHOLE
STA 29+65.00 7' RT
~~STA 31+20.00~~

CAST IRON COVER WITH FRAME, SEWER
STA 29+65.00
~~STA 31+20.00~~

~~REHAB DROP INLETS, CATCH BASINS, OR MANHOLES, CLASS III~~
~~STA 29+00.00~~

628.28 DUCTILE IRON PIPE, CEMENT LINED (8")
STA 29+~~00.00~~ - 30+~~16.50~~
65.00 32.00

SPECIAL PROVISION (PRE-INSULATED DUCTILE IRON PIPE, CEMENT LINED) (SEWER) (8")
32.00
STA 30+~~16.50~~ - 30+41.50
STA 31+14.83 - 31+~~20.00~~
21.83

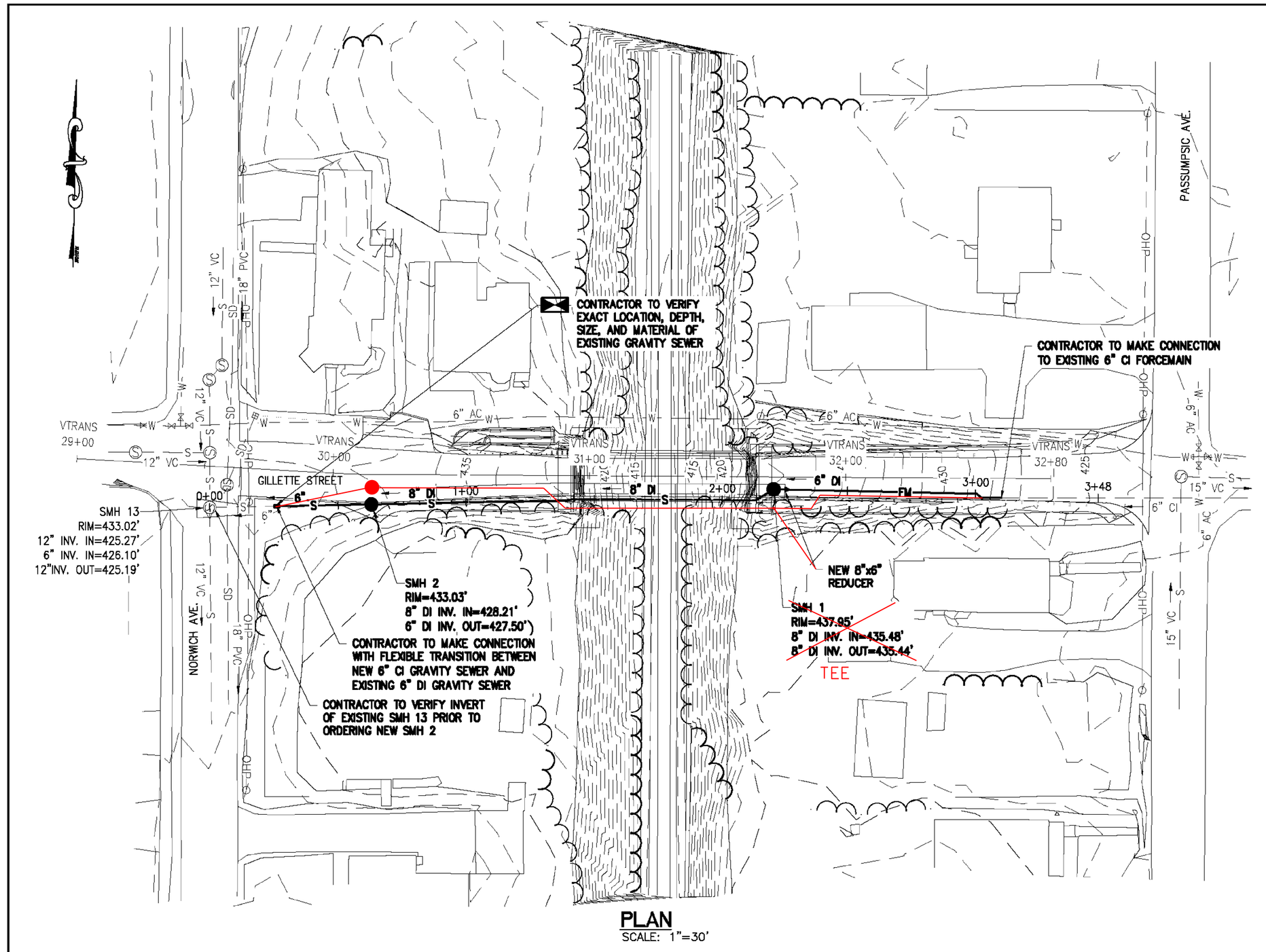
SPECIAL PROVISION (SEWER MAIN ON BRIDGE) (8")
STA 30+41.50 - 30+14.83

SPECIAL PROVISION (PRE-INSULATED DUCTILE IRON PIPE, CEMENT LINED) (SEWER) (6")
STA 31+~~20.00~~ - 31+~~45.00~~
21.83 50.00

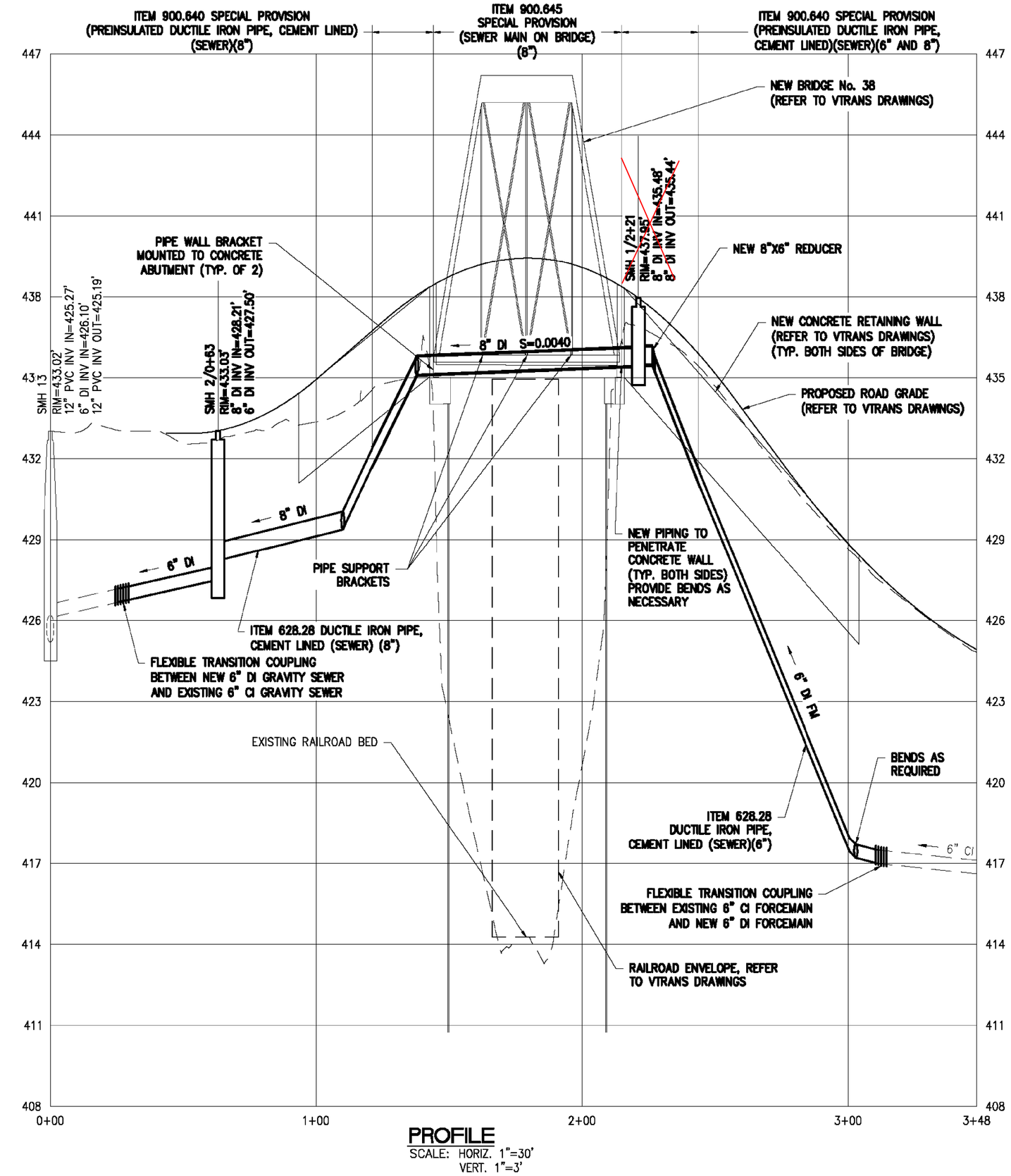
DUCTILE IRON PIPE, CEMENT LINED (6")
STA 31+~~45.00~~ - ~~32+00.00~~
50.00 31+97.00
STA 29+30.00 - 29+65.00

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

FILE NAME: b38\s9601070utl1_b38.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: T. FILLBACH
UTILITY LAYOUT SHEET - BRIDGE 38
PLOT DATE: 16-JUN-2010
DRAWN BY: J. SALVATORI
CHECKED BY: T. FILLBACH
SHEET 34 OF 69



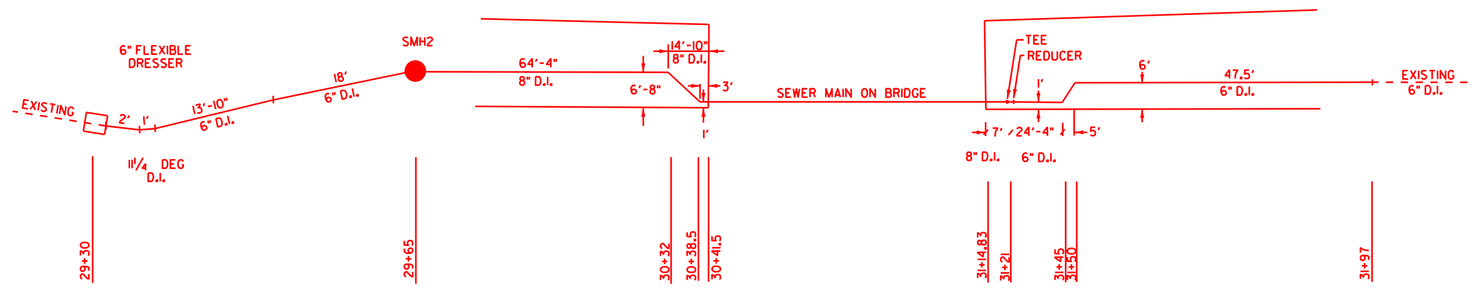

**PLAN**
SCALE: 1"=30'




**PROFILE**
SCALE: HORIZ. 1"=30'
VERT. 1"=3'

## SEWER LINE AS-BUILT (BR.38)

ALL DIMENSIONS FIELD MEASURED SJC 11/12/12




*GRAPHIC SCALE*

30 0 15 30 60 120

*( IN FEET )*

**STATION EQUATIONS**

SEWERLINE STATION 0+50 = VTRANS STATION 30+03
SEWERLINE STATION 3+06 = VTRANS STATION 32+61

**NOTES:**

1. CONTRACTOR SHALL PROVIDE TEMPORARY PROVISIONS TO MAINTAIN OPERATION OF THE PASSUMPSIC PUMP STATION AND FORCEMAIN. CONTRACTOR SHALL PROVIDE A WORK PLAN FOR REVIEW AND APPROVAL, DETAILING HOW TEMPORARY OPERATION SHALL BE PERFORMED AND HOW ANY OPERATION WILL BE MANAGED DURING CONNECTION TO THE EXISTING PIPING.
2. CONTRACTOR SHALL TEST NEW PIPING AND MANHOLES PER THE SPECIFICATIONS PRIOR TO COMMISSIONING THE SEWER. ALL TESTING MUST BE WITNESSED BY A REPRESENTATIVE OF THE OWNER.
3. ALL FITTINGS FOR BENDS SHALL BE MECHANICAL JOINT FITTINGS WITH RETAINER CLANDS.


CIVIL & ENVIRONMENTAL ENGINEERS
9 Market Place, Suite 2
Bellows Falls, VT 05152
P: 802.875.7733
F: 802.875.1742
FA&A
FORCIER ALDRICH & ASSOCIATES


STATE OF VERMONT JOHN A. ELDRICH 10,000 CIVIL REGISTERED PROFESSIONAL ENGINEER

TOWN OF HARTFORD (WILDER)
COUNTY OF WINDSOR

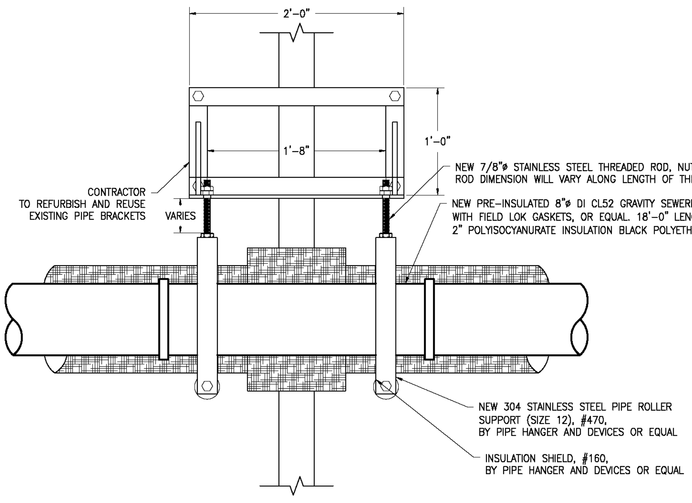
HARTFORD (WILDER)
STP 1444(35)

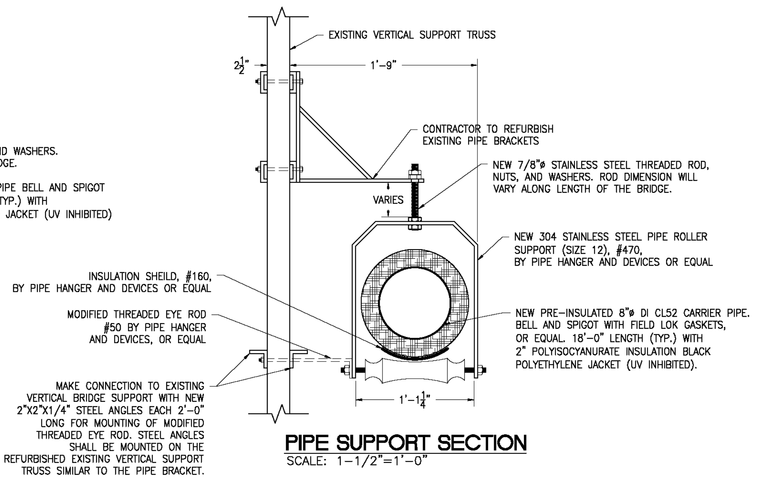
| NO. | DATE | REVISION DESCRIPTION | CHECKED |
|---|---|---|---|

**BRIDGE No.38**
**FORCEMAIN CROSSING**
**PLAN AND PROFILE**

| | |
|---|---|
| DESIGNED | JAB |
| DRAWN | JEB |
| CHECKED | WAE |
| DATE | FEB. 2010 |
| PROJECT NO. | 09024 |
| DRAWING NO. | |

Y:\09024-HARTFORD\12-SITE-BR.dwg, 6/7/2011 1:54:52 PM



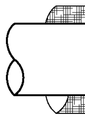




## PIPE SUPPORT SECTION
SCALE: 1-1/2"=1'-0"

**NOTE:**
1. PIPE SUPPORTS SHALL BE MOUNTED SUCH THAT THE BOTTOM OF THE PIPE BRACKET IS ABOVE THE RAILROAD ENVELOPE PER THE VTRANS PLAN.

## DOUBLE PIPE SUPPORT DETAIL
SCALE: NONE

BRIDGE ABUTMENT



LINK-SEAL TYPE
PENETRATION

## BRIDGE
SCALE: NONE

**NOTES:**
1. CENTERLIN
BRIDGE AE

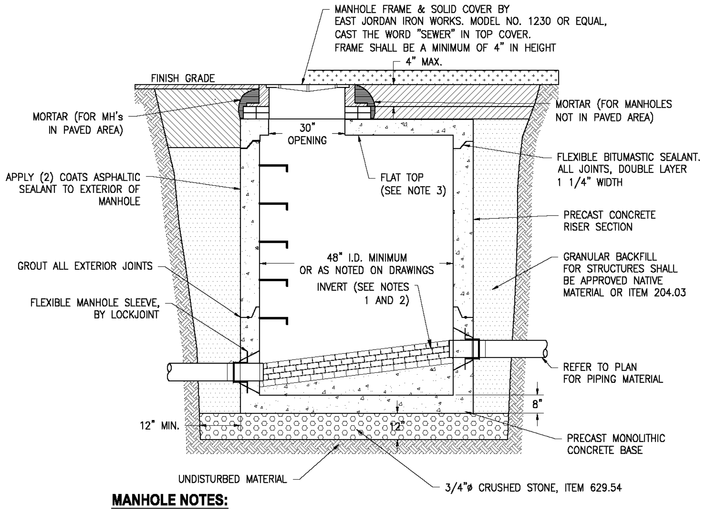
IN ROADWAY AR
PAVEMENT A
TO 95% MODI
EXI

UNDISTU

IF UN
REMOVED
CRUSHE

**NOTES:**
1. BEDDIN
FULL L
2. FOR IN

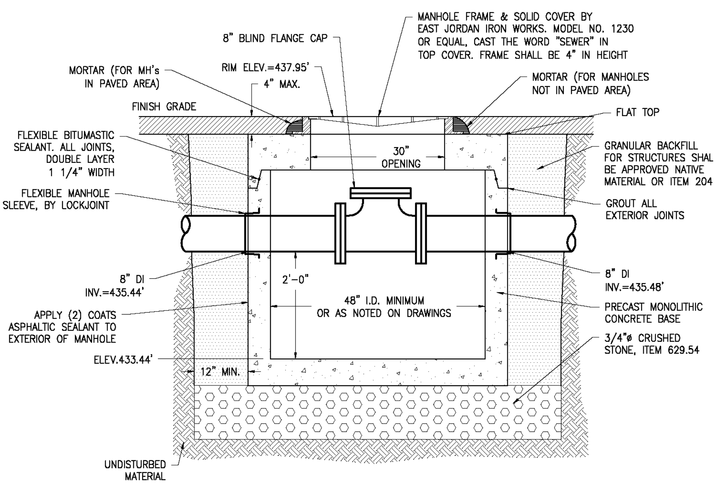
## TYPICAL GR
SCALE: NONE




**MANHOLE NOTES:**

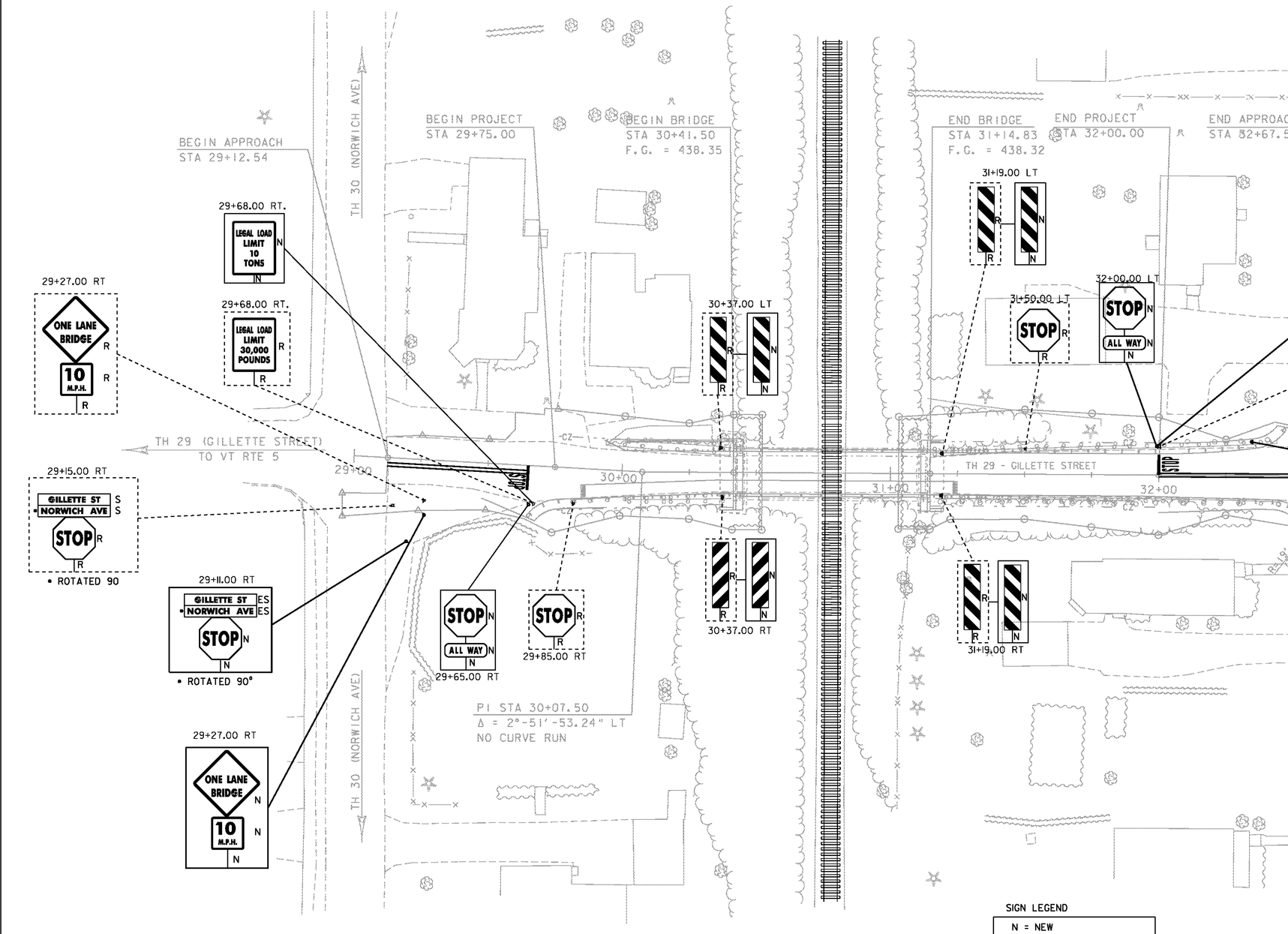
1. INVERTS OF MANHOLE SHALL BE LINED WITH HARD SEWER BRICK OR PRECAST CONCRETE.
2. PROVIDE SMOOTH SWEEPING TRANSITIONS BETWEEN INVERTS OF INTERSECTING PIPE.
3. IF DEPTH OF MANHOLE IS 7 FEET OR LESS FROM RIM TO INVERT THEN A FLAT TOP SHALL BE INSTALLED. IF DEPTH OF MANHOLE FROM RIM TO INVERT IS MORE THAN 7 FEET THEN A CONICAL TOP SHALL BE INSTALLED.

## TYPICAL SANITARY SEWER FLAT TOP MANHOLE DETAIL
SCALE: NONE




## EAST SIDE SANITARY SEWER FLAT TOP MANHOLE DETAIL
SCALE: NONE

V:\28024-AMTRAK\Civil\Sheets\28024-Pipe Details.dwg, 6/7/2018 1:53:13 PM




| SIGN LEGEND |
|---|
| N = NEW |
| R = REMOVE |
| S = SALVAGE |
| ES = ERECT SALVAGED SIGN |

SIGN & PAVEMENT MARKINGS SHEET

SCALE 1" = 20'
20 0

STATE OF VERMONT
AGENCY OF TRANSPORTATION

# TRAFFIC SIGN SUMMARY SHEET

| MILEMARKER, STATION, OR SIGN NUMBER | SIGN LEGEND | SIGN DIMENSIONS EA | WIDTH (In) | HEIGHT (In) | NEW & SALVAGED SIGNS "A" | "B" | SALV SIGN | SALV TIS | EXIST POST RETAIN | SALVAGE | NEW SIGN POSTS NO. OF POSTS | FLANGED CHANNEL lb/ft 1.12 | 2.0 | 3.0 | SQUARE STEEL (In) 2.0 lb/ft 2.16 | 2.0 lb/ft 2.42 | 2.5 lb/ft 3.35 | ANCHOR | SLEEVE | TUBULAR ALUMINUM Ø (In) 3.0 lb/ft 1.3 | 4.0 lb/ft 1.7 | 4.0 MOD lb/ft 1.7 | TUBULAR STEEL Ø (In) FOUNDATION | 3.0 lb/ft 7.6 | 3.5 lb/ft 9.0 | 4.0 lb/ft 10.8 | 5.0 lb/ft 14.6 | W-SHAPE FTG. SIZE 24" | 30" | WEIG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | OPTION ITEMS | | | | | | | | | | | | | | | | | | | |
| 29+11.00 RT | GILLETTE ST / NORWICH AVE / STOP | | 30 | 30 | 6.25 | | X X | | | | 1 | | | | | 13 | | X | | | | | | | | | | | | |
| 29+27.00 RT. | ONE LANE BRIDGE | | 36 | 36 | 9.00 | | | | | | 1 | | | | | 13 | | X | | | | | | | | | | | | |
| 29+27.00 RT. | 10 M.P.H. | | 18 | 18 | 2.25 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29+65.00 RT | STOP / ALL WAY | | 30<br>24 | 30<br>12 | 6.25<br>2.00 | | | | | | 1 | | | | | 13 | | X | | | | | | | | | | | | |
| 29+68.00 RT. | LEGAL LOAD LIMIT 10 TONS | | 24 | 30 | 5 | | | | | | 1 | | | | | 10 | | X | | | | | | | | | | | | |
| 30+37.00 LT. & RT. | | | 12<br>12 | 36<br>36 | 3<br>3 | | | | | | 1<br>1 | | | | | 10<br>10 | | X<br>X | | | | | | | | | | | | |
| 31+19.00 LT. & RT. | | | 12<br>12 | 36<br>36 | 3<br>3 | | | | | | 1<br>1 | | | | | 10<br>10 | | X<br>X | | | | | | | | | | | | |
| 32+00.00 LT | LEGAL LOAD LIMIT 10 TONS | | 24 | 30 | 5 | | | | | | 1 | | | | | 10 | | X | | | | | | | | | | | | |
| 32+00.00 LT | STOP / ALL WAY | | 30<br>24 | 30<br>12 | 6.25<br>2.00 | | | | | | 1 | | | | | 13 | | X | | | | | | | | | | | | |
| 32+35.00 LT. | ONE LANE BRIDGE | | 36 | 36 | 9.00 | | | | | | 1 | | | | | 13 | | X | | | | | | | | | | | | |
| 32+35.00 LT. | 10 M.P.H. | | 18 | 18 | 2.25 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | FT | FT 125 | FT | | EA | LB | LB | LB | | LB | LB | LB | LB | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **TOTALS** | | | | SF 67.25 | SF | EA. 2 | SF | | | | FT | | | FT 125 | | | | | LB | | | EA. | LB | | | | EA. | EA. | LB |

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

SHS = STANDARD HIGHWAY SIGNS (MUTCD)

## 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 |

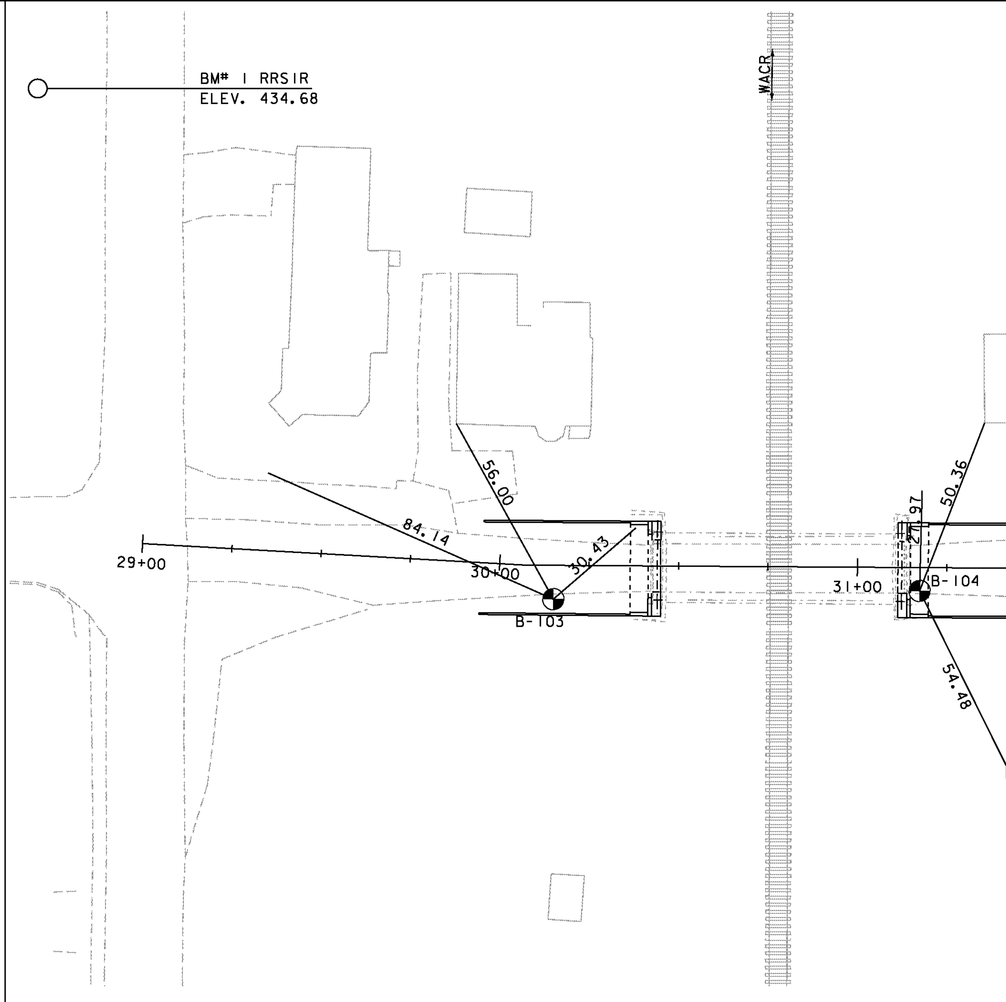
## CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

| 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 | | |




BORING LAYOUT SHEET

## DEFINITIONS (AASHTO)

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

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

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

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

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

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

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

VARVED - Alternate layers of silt and clay.

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

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

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

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

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

DIP - Inclination of bed with a horizontal plane.

## GENERAL NOTES

1. The subsurface explorations shown herein were made between 7/15/08 and 7/18/08 by the Agency.

2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.

3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.

4. Engineering judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.

5. Pictorial structure details show the boring plan layout or soils profile are for illustrative pur only and may not accurately portray final contract details.

6. Terminology used on boring logs describe the hardness, degree weathering, and spacing of fractures, joints and other discontinuities in the bedrock defined in the AASHTO Manual or Subsurface Investigations, 1988.

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

BORING NUMBER: B-103
SHEET 1 of 1
DATE STARTED: 7/15/08
DATE COMPLETED: 7/16/08

PROJECT NAME: HARTFORD (WILDER)
SITE NAME: TH-29 & TH-81
STATION: 31+18
OFFSET: 7.00
VTSPG: N 429203.95 ft E 1691660.54 ft

PROJECT NUMBER: STP 1444(35)SC
SITE NUMBER: BR-38 & BR-36
GROUND ELEVATION: 437.09 ft
GROUNDWATER DEPTH: NO WATER TO DEPTH
PROJECT PIN NUMBER: 96J070

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

BORING RIG: LAG TRACK RIG #09 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CCB

| DEPTH (ft) | SYMBOL | CLASSIFICATION OF MATERIALS (Description) | BLOWS PER FOOT | M.C. (%) | GRAVEL (%) | SAND (%) | FINES (%) |
|---|---|---|---|---|---|---|---|
| | | Asphalt pavement, 0.0 ft – 0.1 ft | | | | | |
| | | A-1-b, GrSa, brn, Moist, Rec. = 1.5 ft | 18 | 3.1 | 35.1 | 55.0 | 9.9 |
| | | A-1-b, GrSa, brn, MTW, Rec. = 1.1 ft | 9 | 13.0 | 28.8 | 56.4 | 14.8 |
| | | A-1-b, GrSa, brn, MTW, Rec. = 0.9 ft | 8 | 11.2 | 36.5 | 51.7 | 11.8 |
| | | A-1-b, GrSa, brn, MTW, Rec. = 0.4 ft | 6 | 13.7 | 35.7 | 47.7 | 16.6 |
| 10 | | Visual Classification, A-1-b, GrSa, brn, MTW, Rec. = 0.1 ft, Insufficient sample for testing. | 5 | | | | |
| | | A-2-4, GrSiSa, brn, MTW, Rec. = 0.5 ft | 5 | 23.7 | 21.8 | 44.4 | 33.8 |
| | | A-4, Si, brn, MTW, Rec. = 1.1 ft | 5 | 25.2 | 6.0 | 18.7 | 75.3 |
| | | A-4, SaSi, brn, Moist, Rec. = 1.2 ft | 8 | 21.7 | 18.3 | 35.6 | 46.1 |
| | | A-1-b, SaGr, brn, Moist, Rec. = 0.9 ft | 16 | 11.4 | 45.7 | 44.0 | 10.3 |
| 20 | | A-1-b, GrSa, gry, MTW, Rec. = 1.1 ft | 9 | 14.0 | 28.8 | 65.1 | 6.1 |
| | | A-1-b, Sa, gry, MTW, Rec. = 1.0 ft | 12 | 16.7 | 15.2 | 77.6 | 7.2 |
| 30 | | A-2-4, GrSiSa, gry, Wet, Rec. = 1.3 ft | 10 | 26.8 | 23.5 | 49.3 | 27.2 |
| | | A-4, Si, brn, MTW, Rec. = 1.7 ft | 17 | 31.5 | 1.2 | 14.7 | 84.1 |
| 40 | | A-4, SiSa, brn, Moist, Rec. = 1.2 ft | 27 | 20.6 | 1.0 | 49.8 | 49.2 |
| | | A-2-4, SiSa, brn, Moist, Rec. = 1.1 ft | 23 | 22.7 | 1.2 | 74.7 | 24.1 |
| 50 | | A-2-4, Sa, brn, Moist, Rec. = 1.3 ft | 22 | 20.8 | 0.2 | 85.4 | 14.4 |
| | | Hole stopped @ 52.0 ft | | | | | |

LOG OF BORING HARTFORD (WILDER) STP 1444(35)SC.GPJ VT_DOT.GDT 4/9/09

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

PROJECT NAME: HARTFORD (WILDER)
SITE NAME: TH-29 & TH-81
STATION: 30+15
OFFSET: 4.50
VTSPG: N 429206.82 ft E 1691558.18 ft

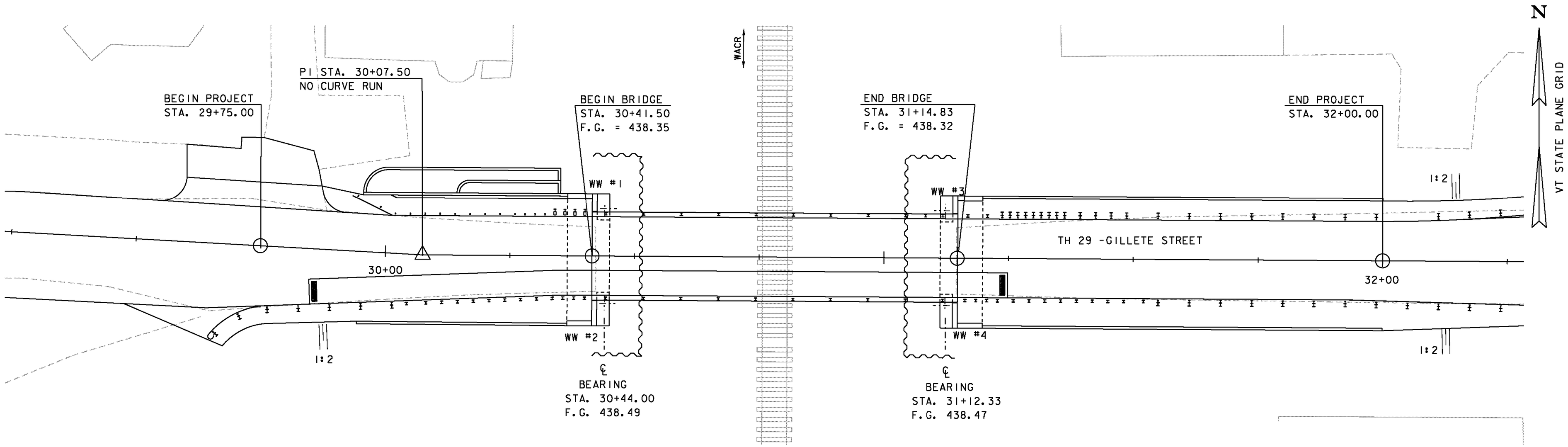
PROJEC
SITE N
GROUN
GROUN
PROJEC

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

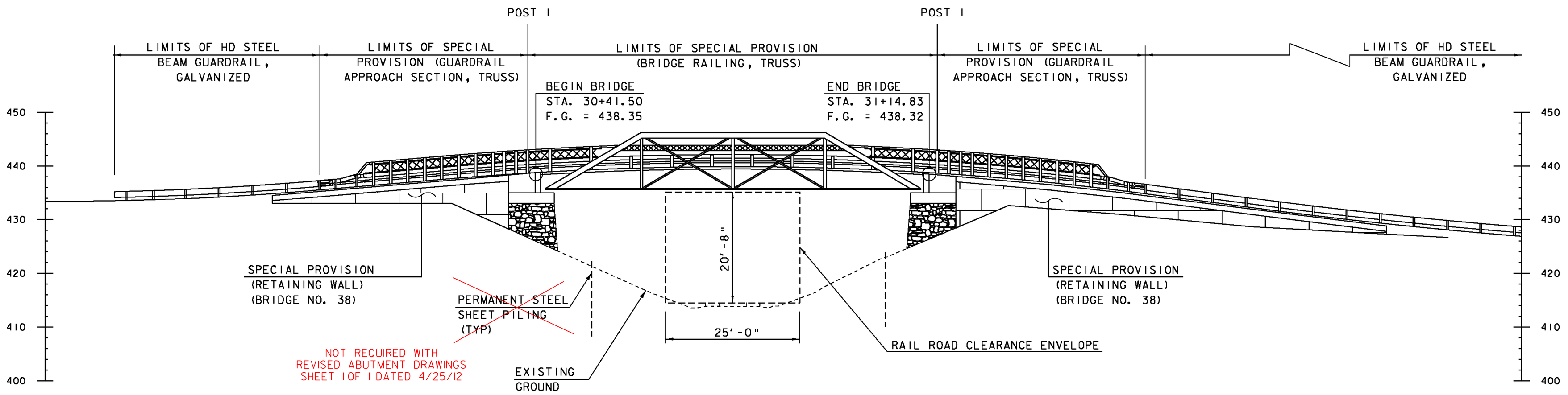
BORING
BORING
SAMPLE
CHECKE

| DEPTH (ft) | SYMBOL | CLASSIFICATION OF MATERIALS (Description) |
|---|---|---|
| | | Asphalt pavement, 0.0 ft – 0.25 ft |
| | | A-1-a, SaGr, brn-gry, Moist, Rec. = 1.3 ft |
| | | A-4, SiSa, brn, Moist, Rec. = 1.4 ft |
| | | A-1-b, GrSiSa, brn, MTW, Rec. = 1.3 ft |
| | | A-1-b, SiGrSa, brn, MTW, Rec. = 1.1 ft |
| 10 | | A-4, SaSi, brn, Moist, Rec. = 0.7 ft |
| | | Visual Classification, A-4, Si, brn, MTW, Rec. = 0.2 ft, Insufficie sample for testing. |
| | | A-1-b, GrSa, gry, MTW, Rec. = 1.0 ft |
| | | A-1-b, Sa, gry, MTW, Rec. = 1.3 ft |
| | | A-1-b, GrSa, gry, MTW, Rec. = 0.9 ft |
| 20 | | A-1-b, GrSa, gry, MTW, Rec. = 1.2 ft |
| | | A-3, Sa, brn, Moist, Rec. = 1.6 ft |
| 30 | | A-4, Si, gry, MTW, Rec. = 1.7 ft |
| | | A-4, Si, gry, MTW, Rec. = 1.9 ft |
| 40 | | A-4, Si, gry, MTW, Rec. = 1.6 ft |
| | | A-4, Si, gry, MTW, Rec. = 1.5 ft |
| 50 | | A-4, Si, gry, Moist, Rec. = 1.4 ft |
| | | Hole stopped @ 52.0 ft |

LOG OF BORING HARTFORD (WILDER) STP 1444(35)SC.GPJ VT_DOT.GDT 4/9/09




PLAN

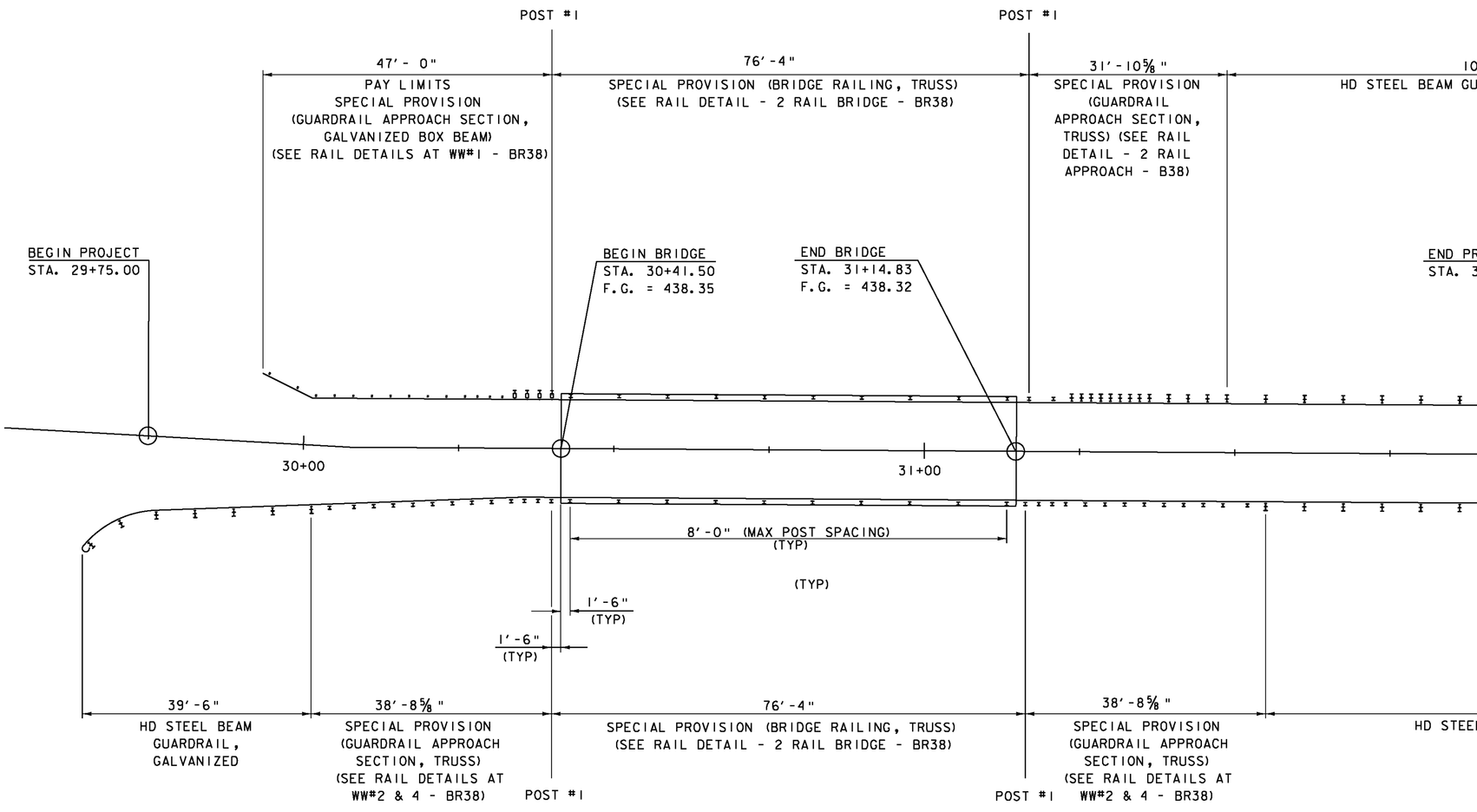



ELEVATION ℄ SOUTH FASCIA

SEE RAIL LAYOUT - BRIDGE 38
FOR RAIL DIMENSIONS

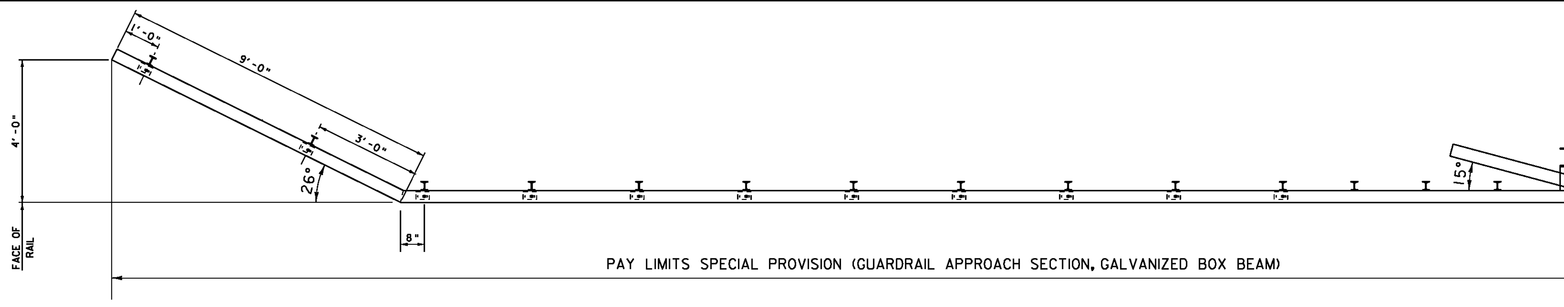
SCALE 1" = 10'-0
10 0 10

| | |
|---|---|
| PROJECT NAME: | HARTFORD (WILDER) |
| PROJECT NUMBER: | STP 1444(35) |
| FILE NAME: b38\s96j070pe_b38.dgn | PLOT DATE: 16-JUN-2010 |
| PROJECT LEADER: K. HIGGINS | DRAWN BY: R. PELLETT |
| DESIGNED BY: T. FILLBACH | CHECKED BY: J. SALVATORI |
| PLAN & ELEVATION - BRIDGE 38 | SHEET 41 OF 69 |



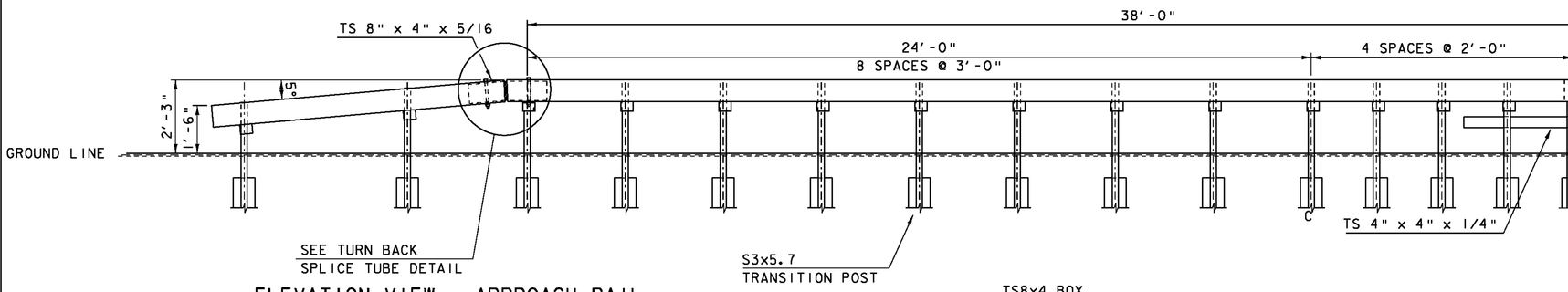

## BRIDGE 38 RAIL LAYOUT

SCALE 1" = 10'-
10 0



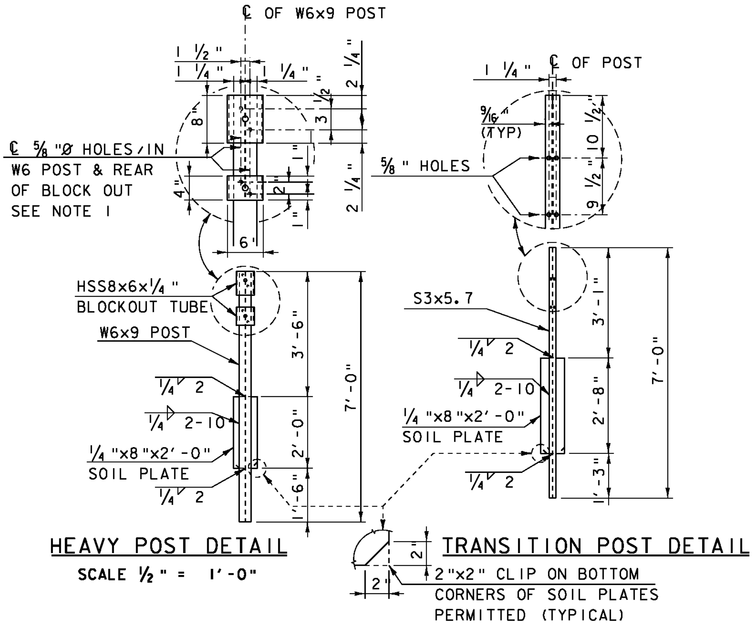

## PLAN - VIEW - APPROACH RAIL

6" ℄ S3x5.7 TRANSITION POST TO BEGIN BOTTOM RAIL FLARE BACK




## ELEVATION VIEW - APPROACH RAIL

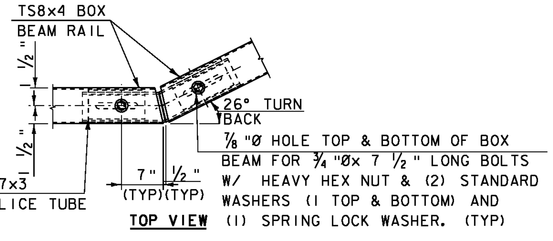
SCALE ½" = 1'-0"



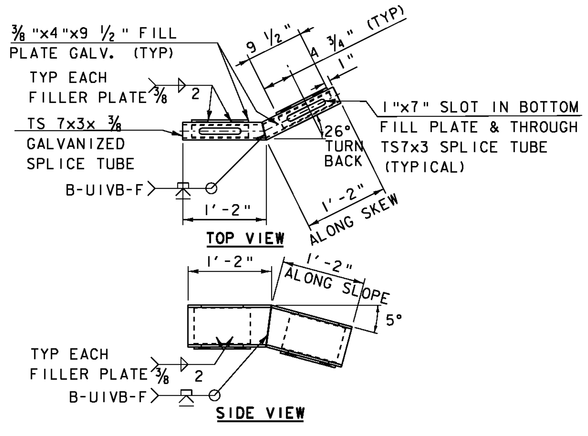

## HEAVY POST DETAIL

SCALE ½" = 1'-0"

## TRANSITION POST DETAIL




## TURN BACK SPLICE TUBE ASSEMBLY



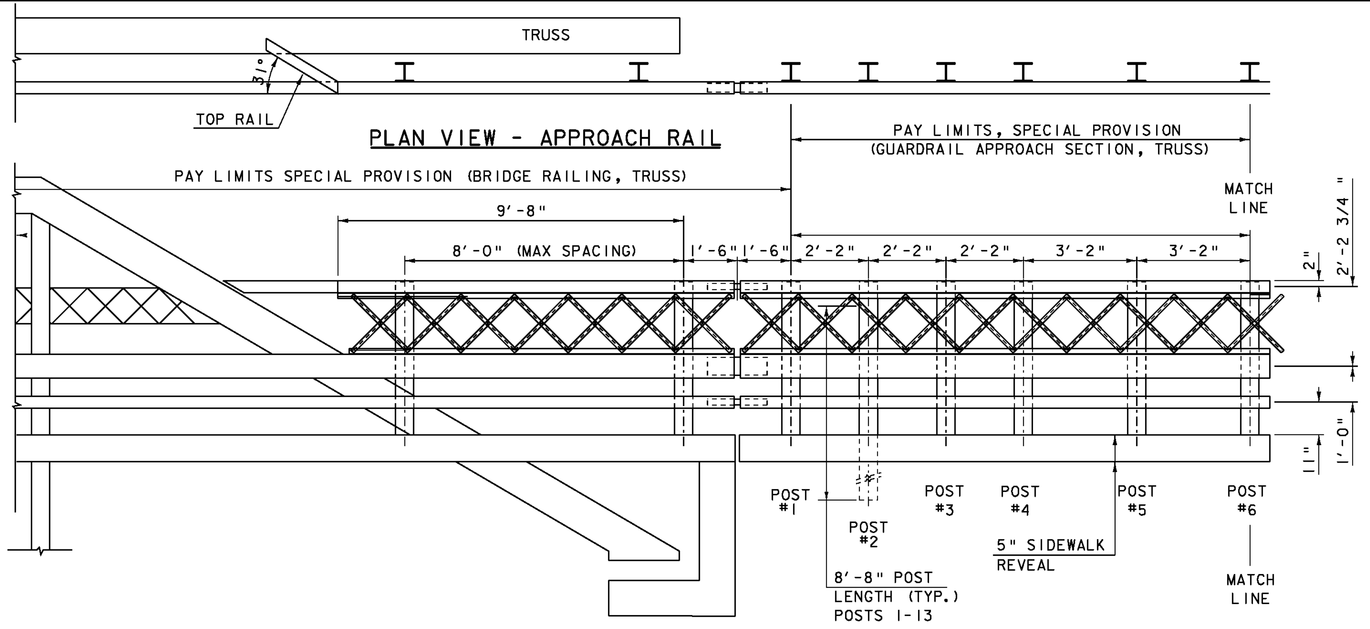

## TURN BACK SPLICE TUBE DETAIL

TURN BACK & TURN DOWN TUBE JOINT

SCALE 1" = 1'-0"

NOTE:

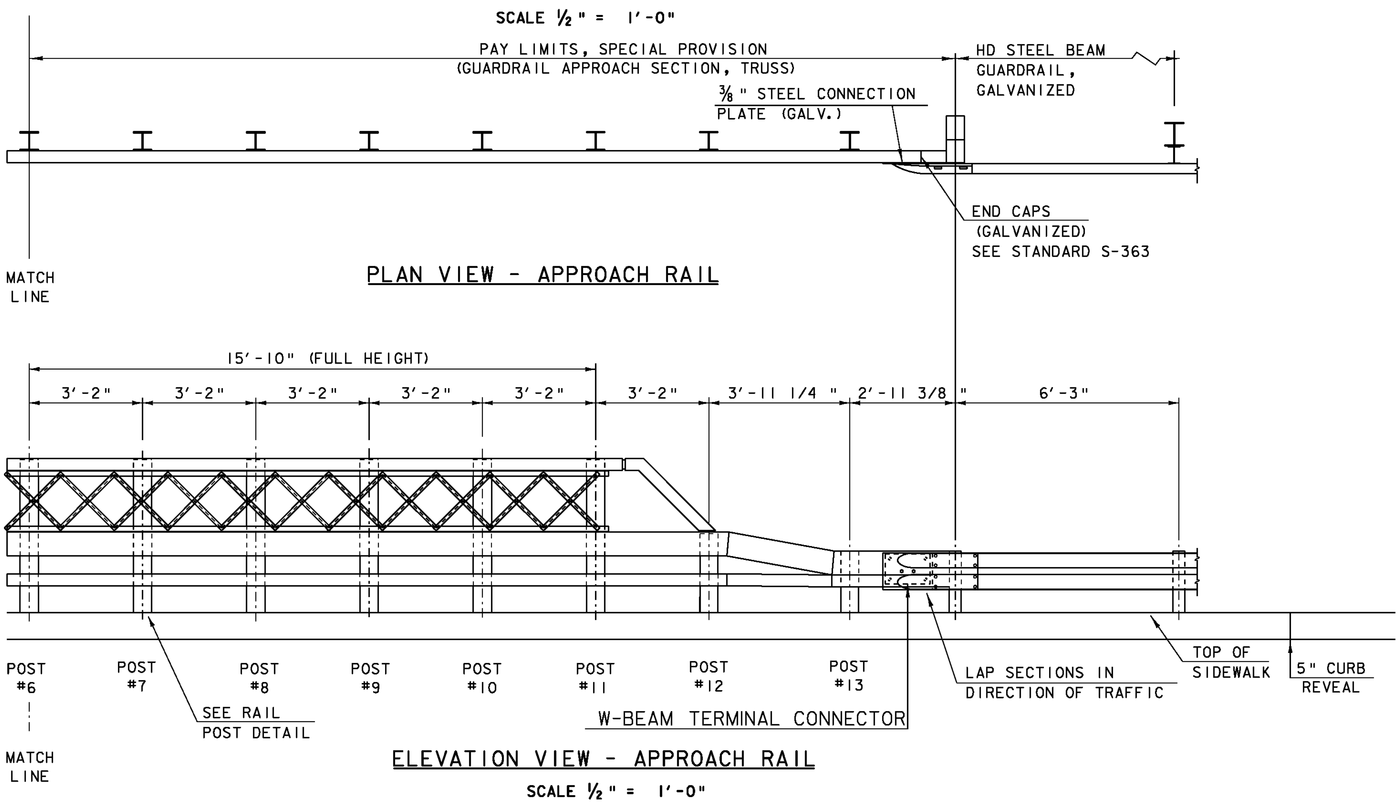
1. HOLES IN THE POST FOR THE LOWER RAIL MAY BE LOCATED AND DRILLED IN THE FIELD. IF SO, THE GALVANIZING SHALL BE REPAIRED IN ACCORDANCE WITH SPECIFICATION SECTION 525.




PLAN VIEW - APPROACH RAIL

ELEVATION VIEW - APPROACH RAIL

SCALE ½" = 1'-0"




PLAN VIEW - APPROACH RAIL

ELEVATION VIEW - APPROACH RAIL

SCALE ½" = 1'-0"

## NOTES

1. REFER TO
   DETAIL -
   MATERIAL
2. PAYMENT F
   TRUSS) SH
   PLATE, RA
3. ALL APPRO
   TRAFFIC F
4. ALL BRIDG
   SHALL BE
   NOTED.
5. APPROACH
   BE AASHTO
   WASHERS S
6. WELD SPL
   (B-U2).

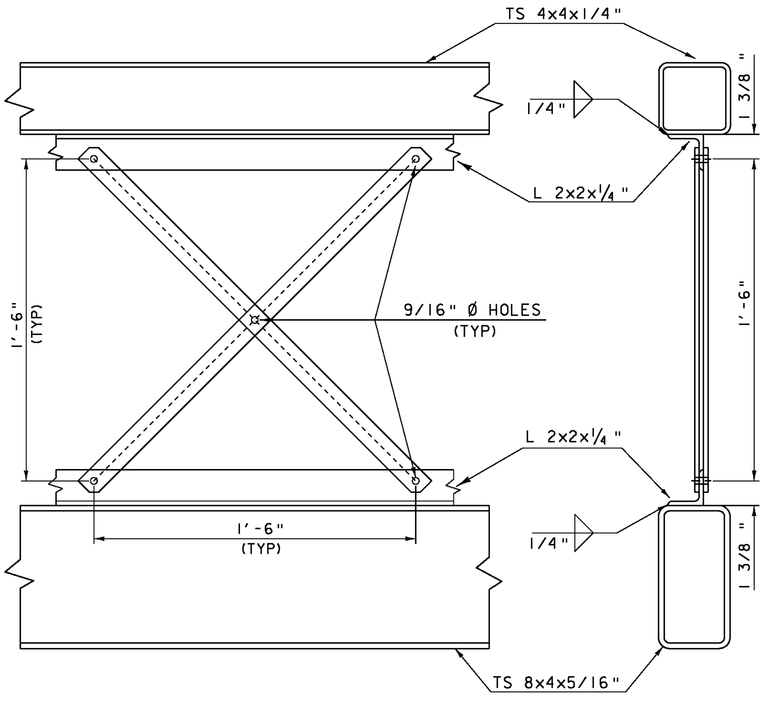
VARIES

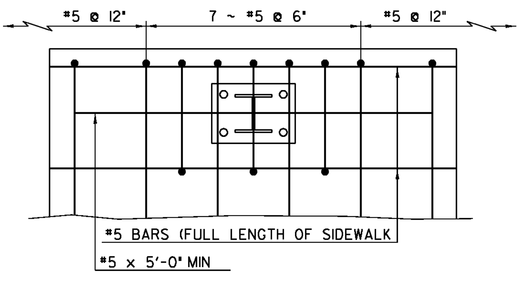
4"

VARIE

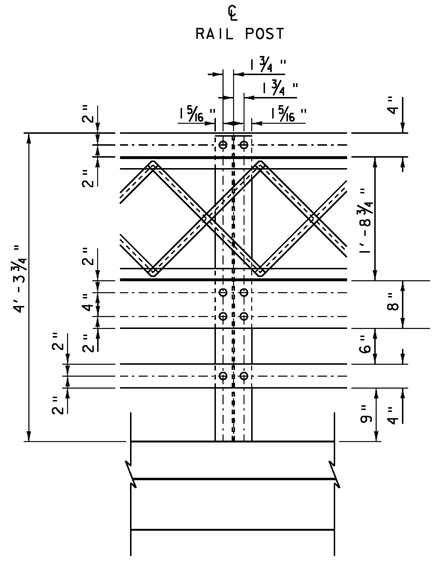
6

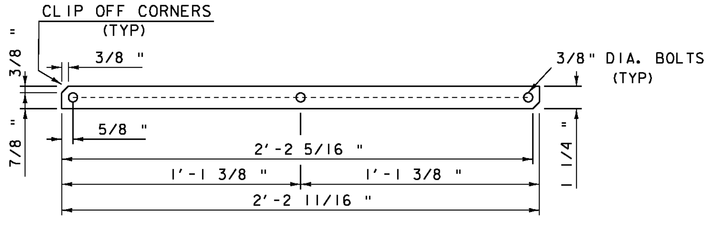
SCALE ½" = 1'-
0 2




SIDEWALK REINFORCING PLAN




LATTICE BAR

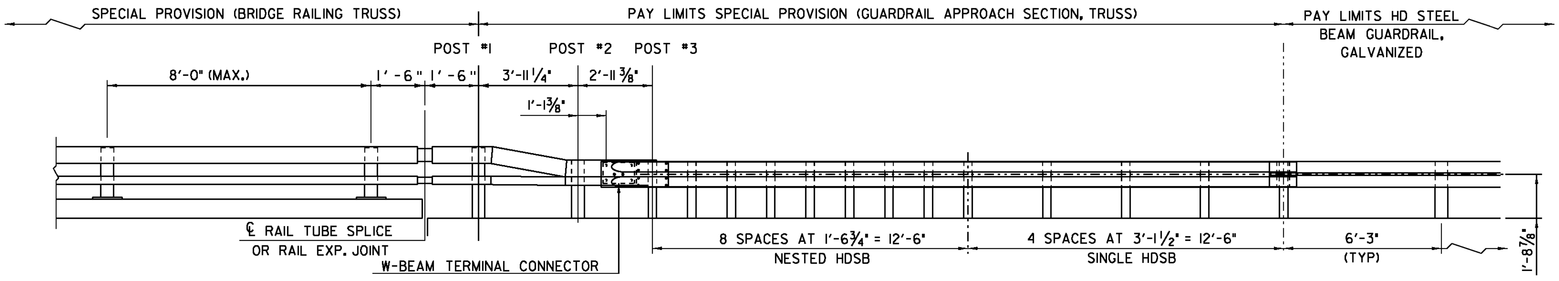
SCALE: 3" = 1'-0"

APPROACH RAILING ELEVATION

SCALE: 1" = 1'-0"

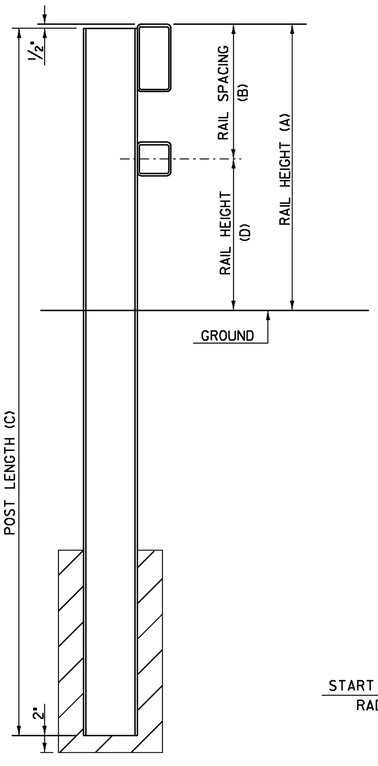
SCALE 1" = 1'-0"

SCALE 3" = 1'-0"



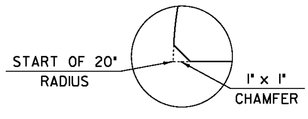

## RAILING TRANSITION ELEVATION

(NOT TO SCALE)




## TYPICAL SECTION

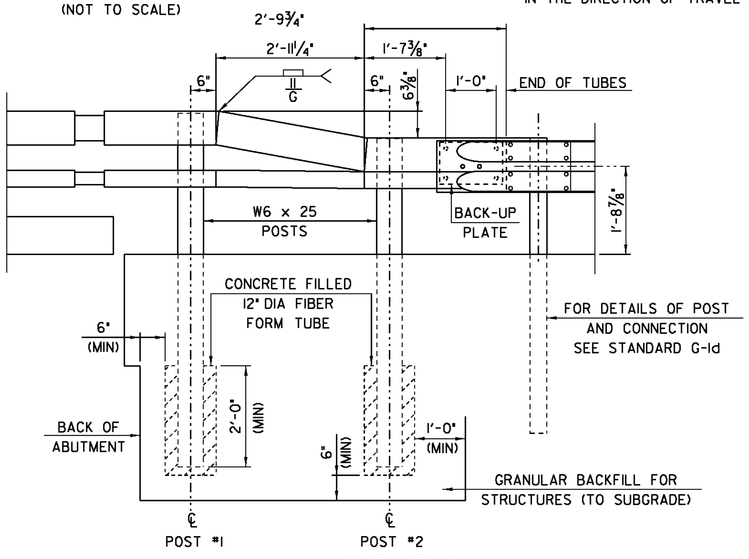
(NOT TO SCALE)




## DETAIL "A"

(NOT TO SCALE)

ALL RAIL SHALL BE LAPPED IN THE DIRECTION OF TRAVEL




## ELEVATION

(NOT TO SCALE)

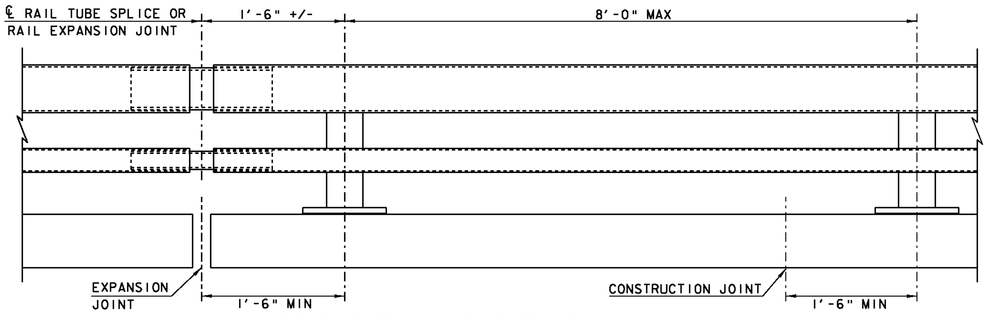
| POST NUMBER | RAIL HEIGHT (A) | RAIL SPACING (B) | POST LENGTH (C) | RAIL HEIGHT (D) |
|---|---|---|---|---|
| 1 | 2'-10" | 1'-4" | 7'-0" | 1'-6" |
| 2 | 2'-3 5/8" | 10" | 6'-5" | 1'-5 5/8" |

## Notes:

1. REFER TO SPECIFICA
2. TO FACILI BE SET LO ASSEMBLED APPROVED PLATE AND TUBES AND TO SPECIA
3. RETRO REFL AND SHALL INSTALLED
4. ALL APPRO FLOW.
5. SEE STAND

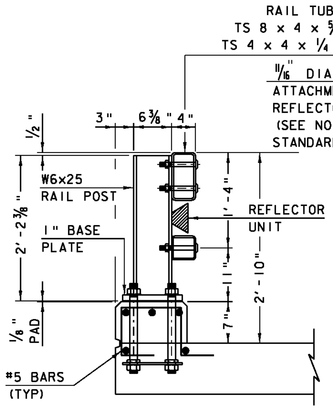
## Notes:

1. REFER TO
SPECIFICA



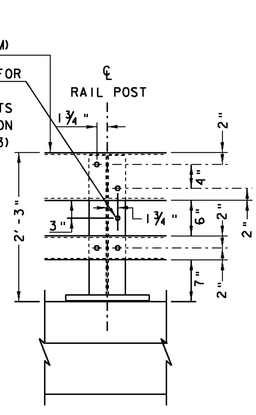

BRIDGE RAILING ELEVATION

(NOT TO SCALE)



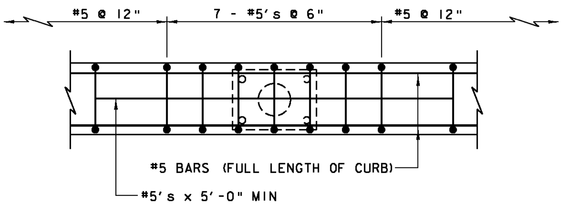

TYPICAL SECTION

SCALE 1" = 1'-0"



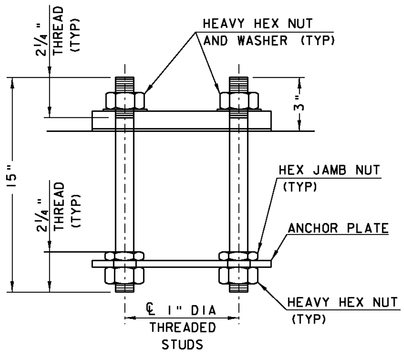

ELEVATION

SCALE 1" = 1'-0"



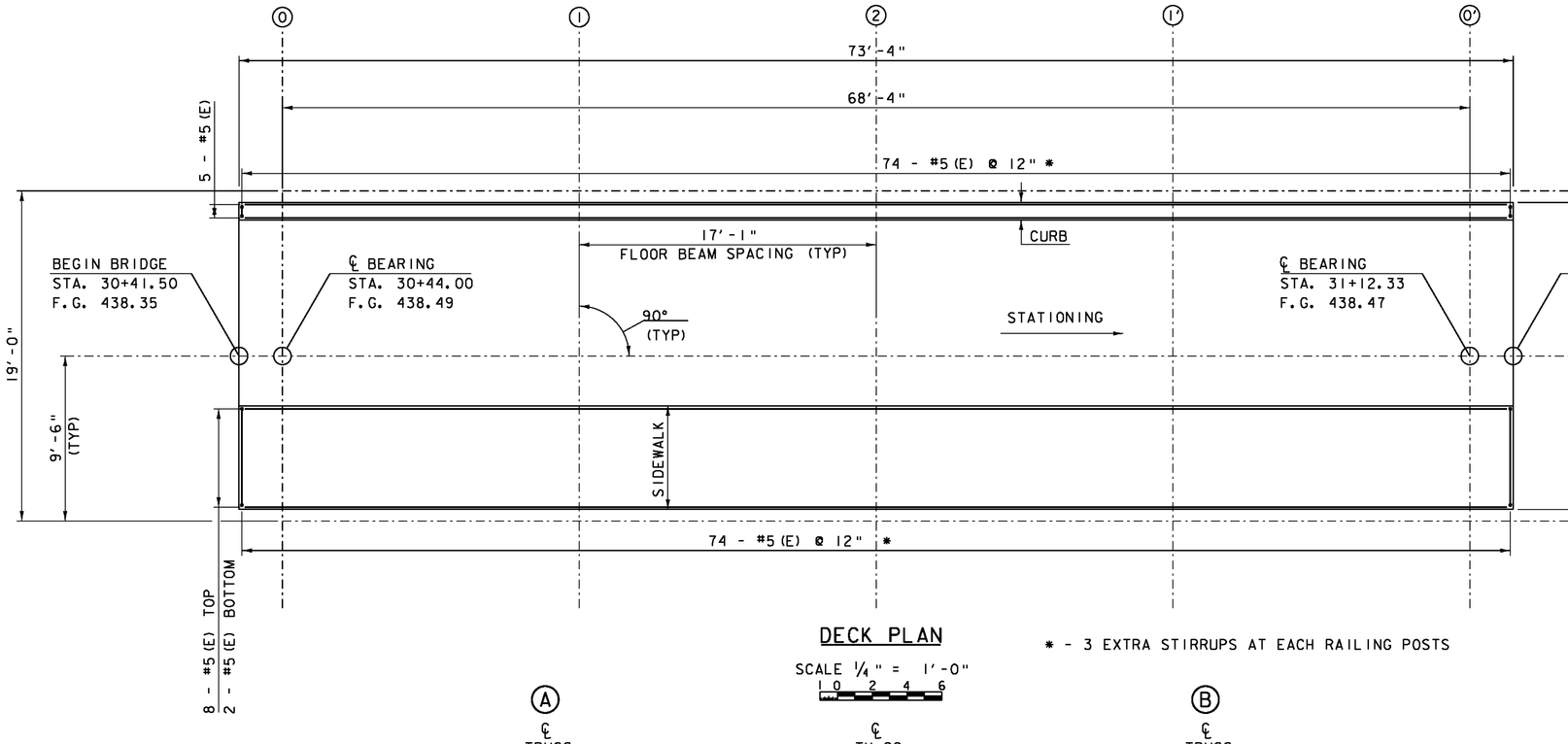

1'-0" CURB REINFORCING PLAN

SCALE 1" = 1'-0"




RAIL POST ANCHORAGE

(NOT TO SCALE)

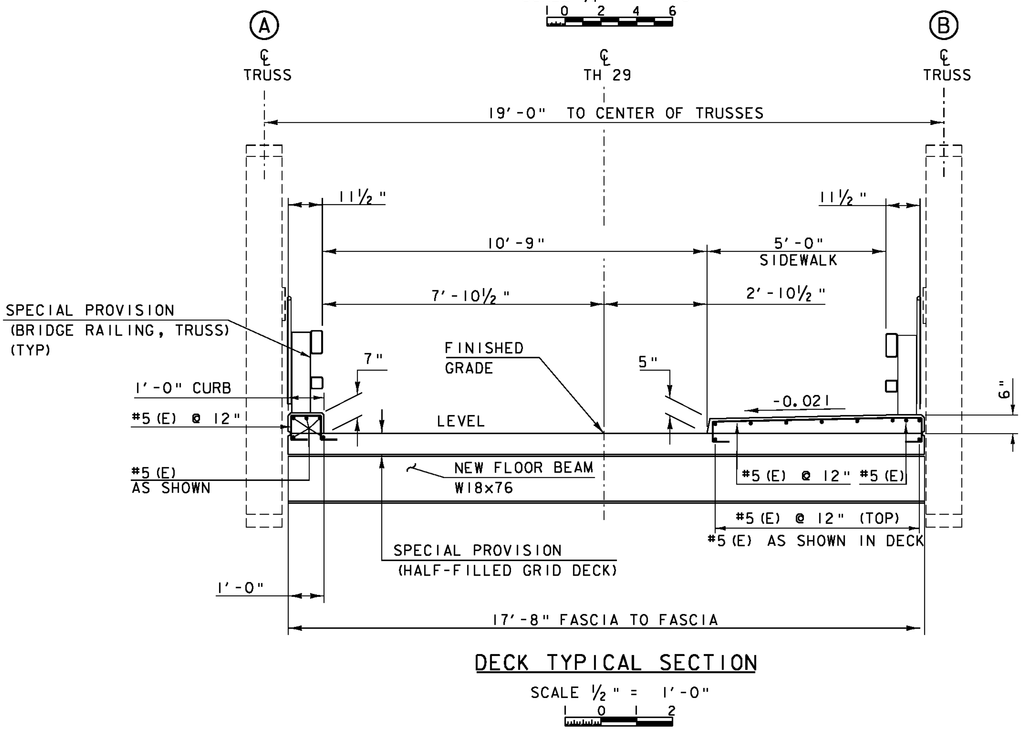



## DECK PLAN

SCALE 1/4" = 1'-0"

0 2 4 6

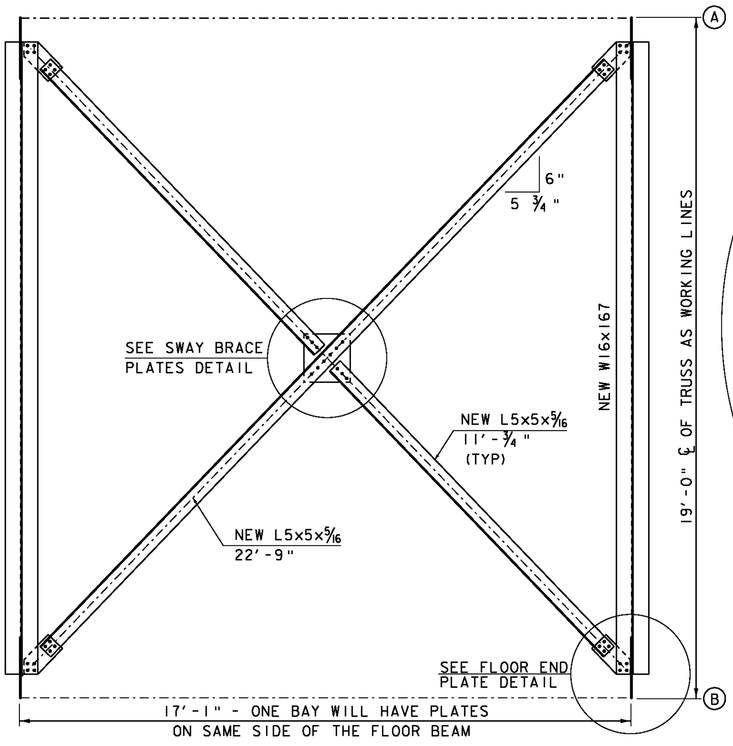
* - 3 EXTRA STIRRUPS AT EACH RAILING POSTS




## DECK TYPICAL SECTION

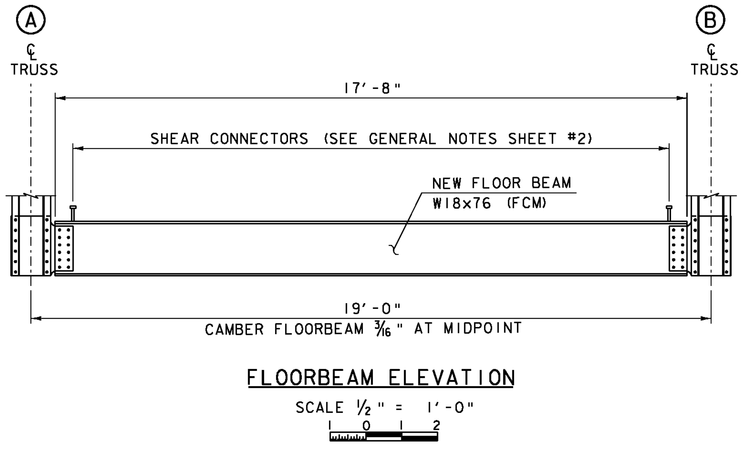
SCALE 1/2" = 1'-0"

0 1 2




## FLOOR CONNECTION

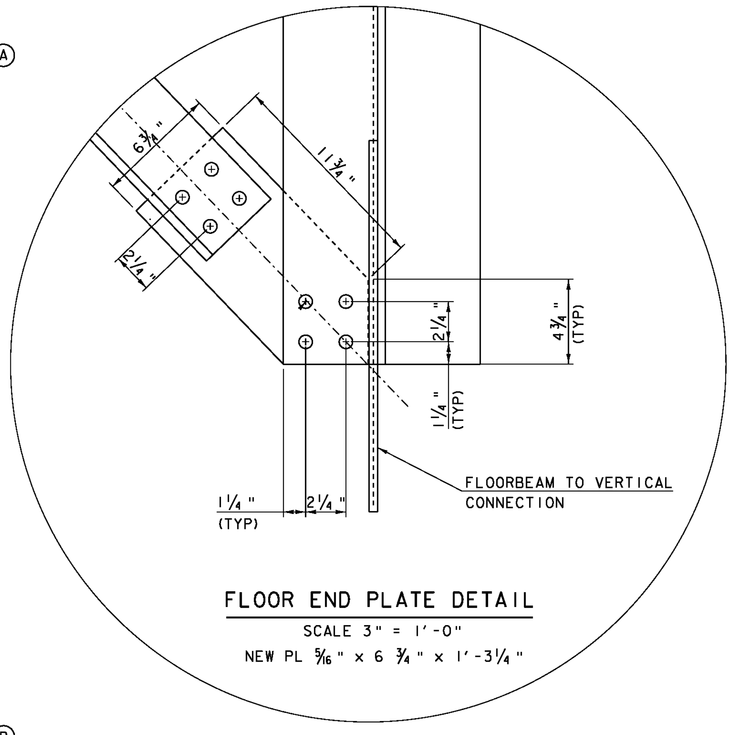
SCALE 1/2" = 1'-0"




## FLOORBEAM ELEVATION

SCALE 1/2" = 1'-0"

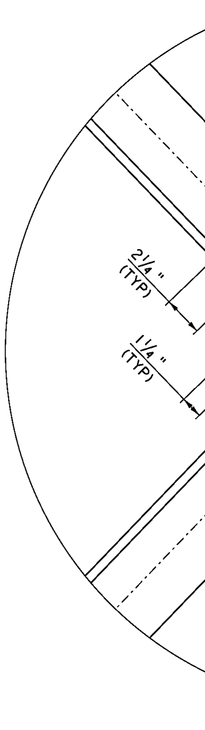
FCM = FRACTURE CRITICAL MEMBER

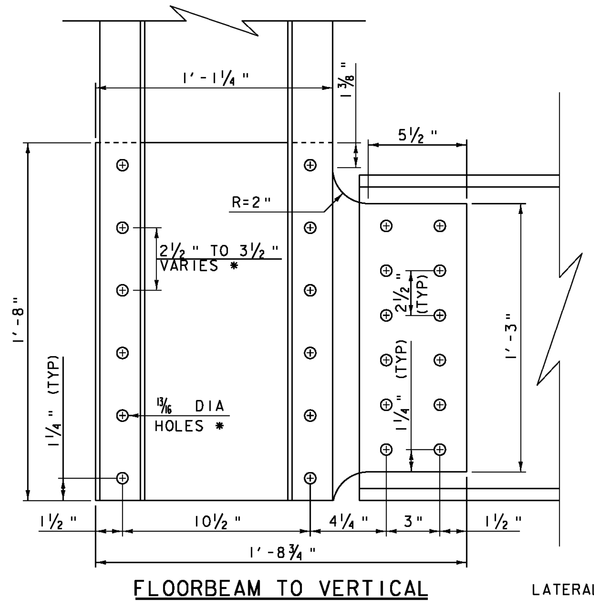



## FLOOR END PLATE DETAIL

SCALE 3" = 1'-0"

NEW PL 5/16" x 6 3/4" x 1'-3 1/4"



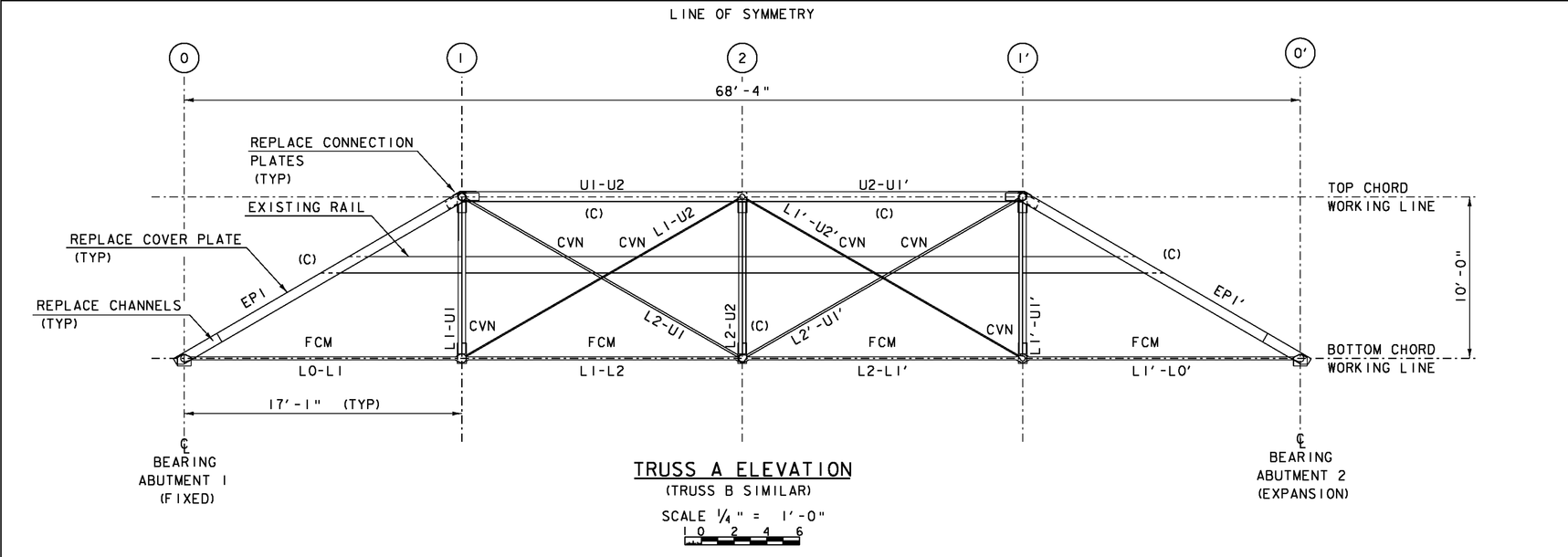

## FLOORBEAM TO VERTICAL CONNECTION

NEW PL 1/2" x 20" x 1'-8 3/4"

SCALE 3" = 1'-0"

LATERAL BRACING NOT SHOWN FOR CLARITY

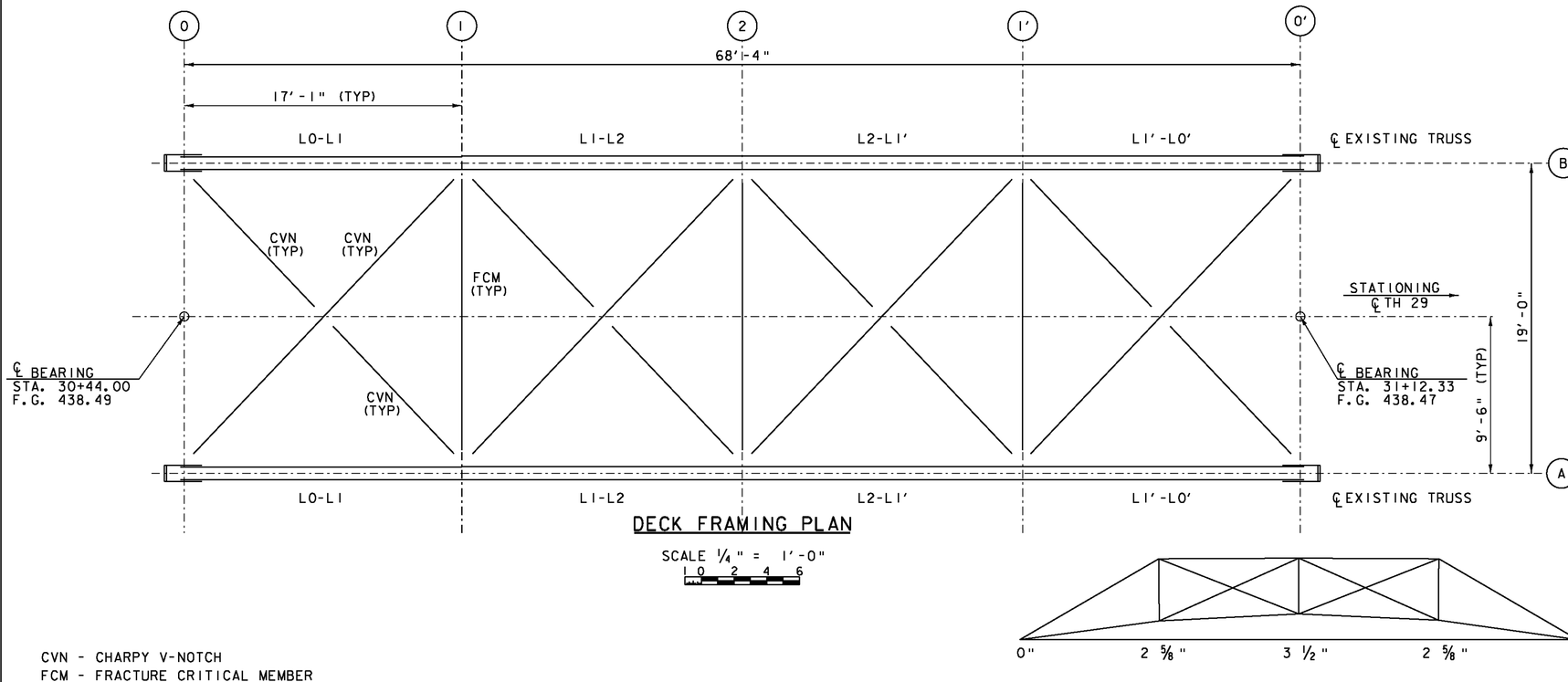
* FIELD VERIFY




## TRUSS A ELEVATION

(TRUSS B SIMILAR)

SCALE 1/4" = 1'-0"




## DECK FRAMING PLAN

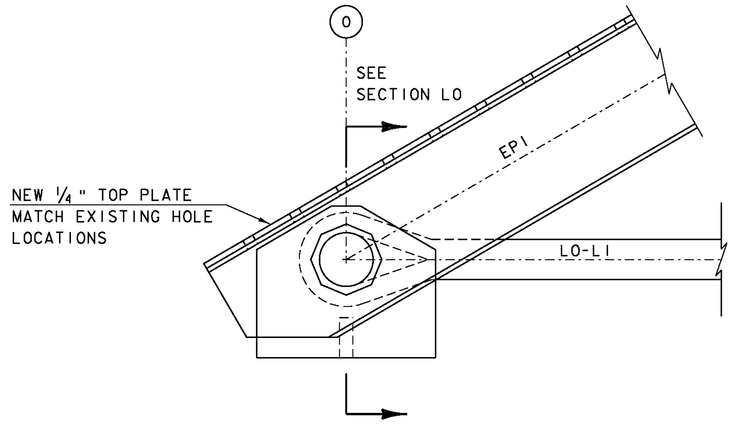
SCALE 1/4" = 1'-0"



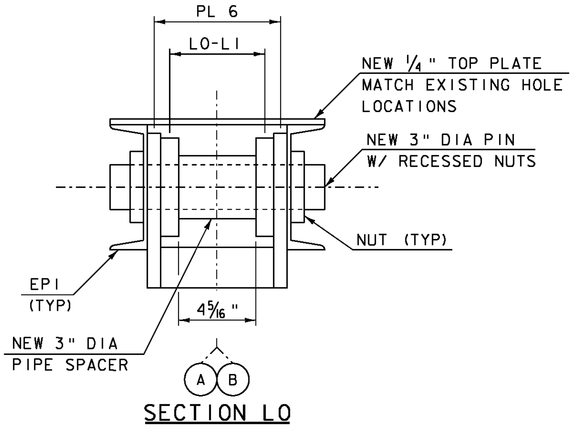

## CAMBER DIAGRAM

NOT TO SCALE

CVN - CHARPY V-NOTCH
FCM - FRACTURE CRITICAL MEMBER
C - COMPRESSION




ELEVATION L0

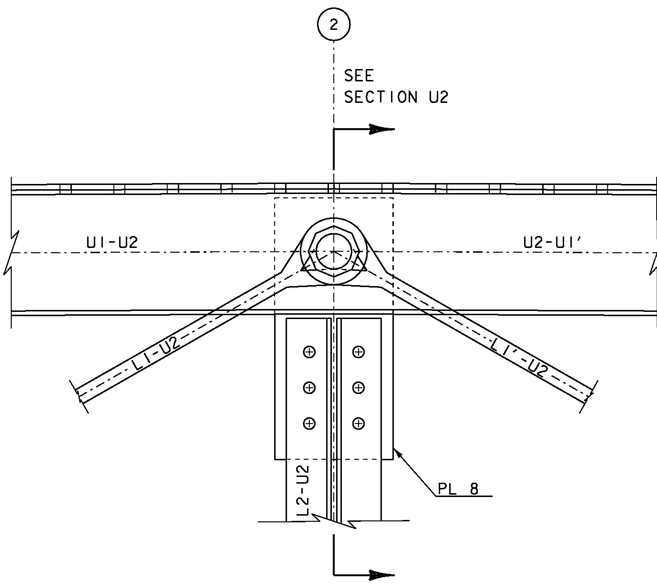



SECTION L0

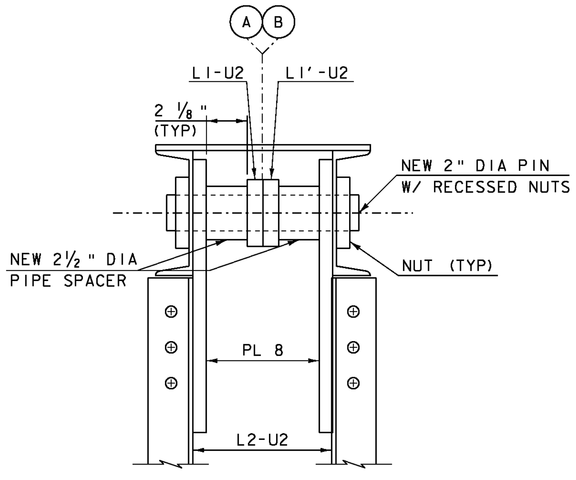
SEE BEARING DETAILS SHEET FOR
ADDITIONAL DETAILS FOT THIS LOCATION

SEE TRUSS JOINT DETAILS #4 SHEET FOR
CLIP DIMENSIONS

(NODE L0' SIMILAR)



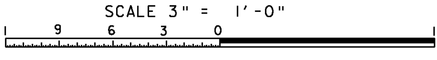

ELEVATION U2

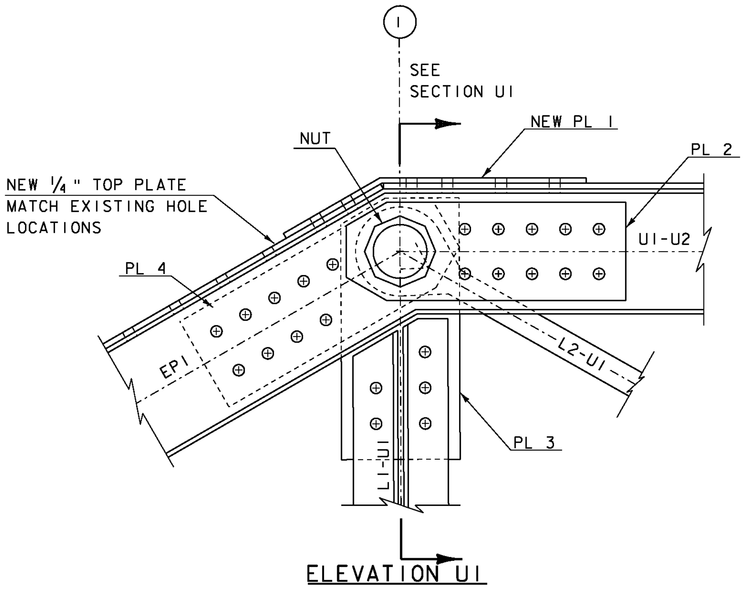



SECTION U2

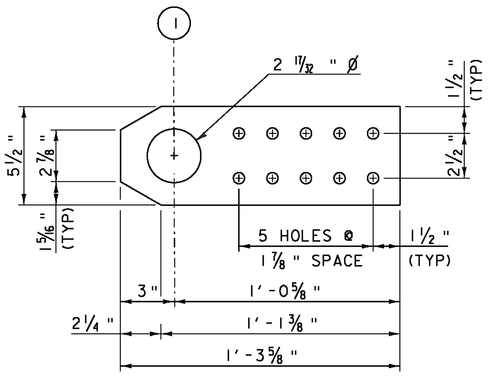
EXISTING RIVETS ARE ASSUMED TO BE 5/8 "
DIAMETER IN 11/16 " DIAMETER HOLES.

SCALE 3" = 1'-0"



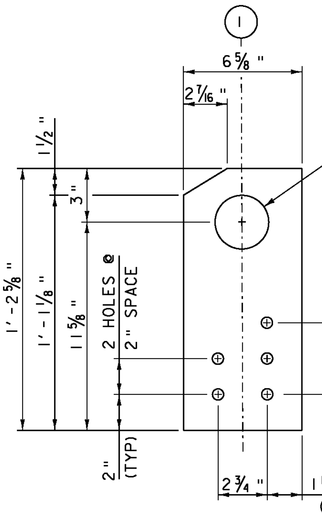



ELEVATION UI



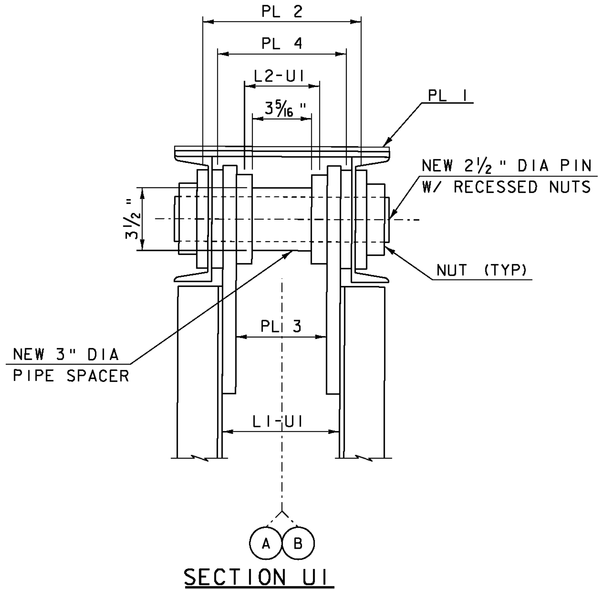

UI - PL2 DETAIL

5/8 " MINIMUM
PLATE THICKNESS



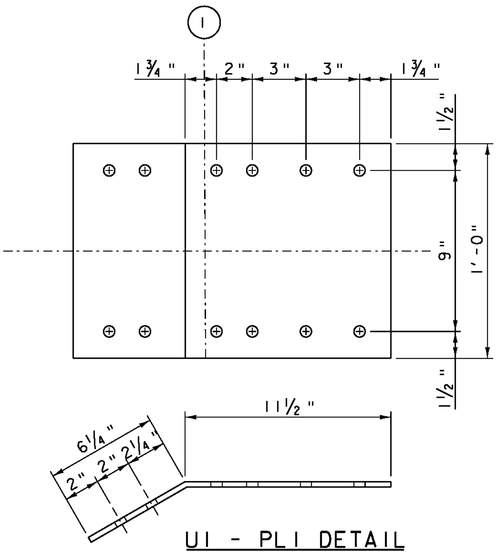

UI - PL3 DETA

3/4 " MINIMUM
PLATE THICKNESS




SECTION UI

(NODE UI' SIMILAR)

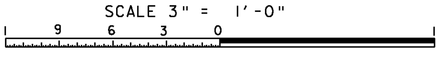


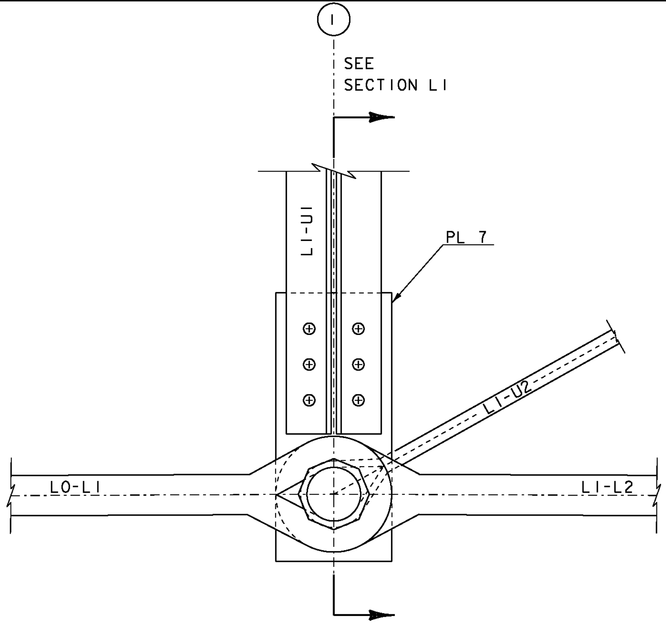

UI - PL1 DETAIL

NEW 5/16 x 12 x 1'-5 3/4 "

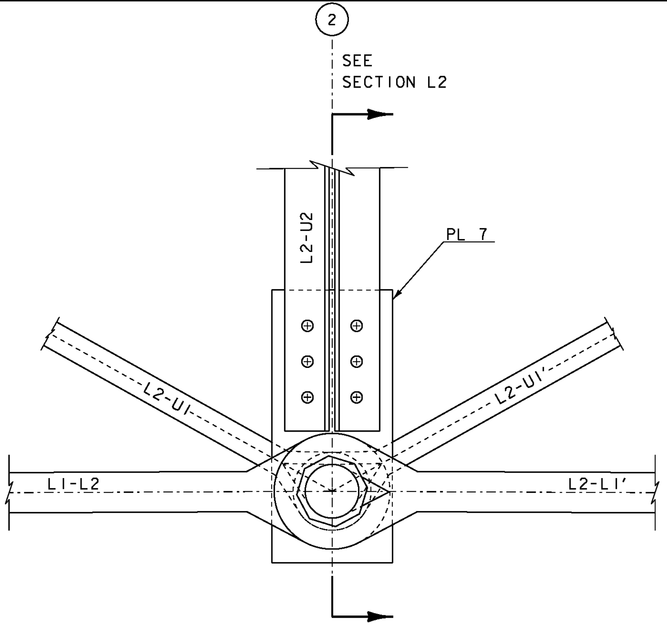
EXISTING RIVETS ARE ASSUMED TO BE 5/8 "
DIAMETER IN 11/16 " DIAMETER HOLES.

SCALE 3" = 1'-0"

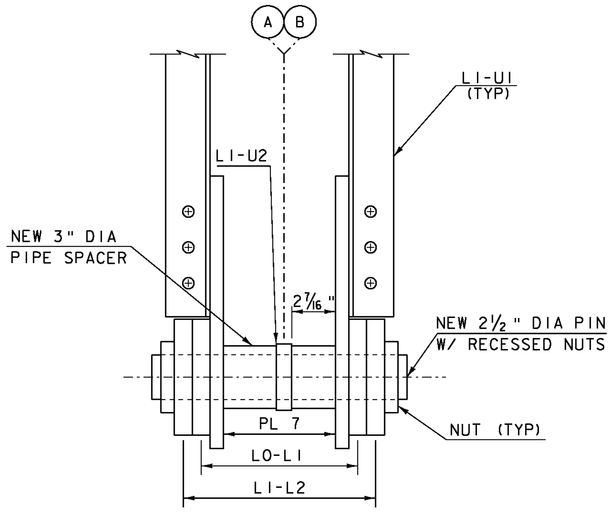





ELEVATION L1

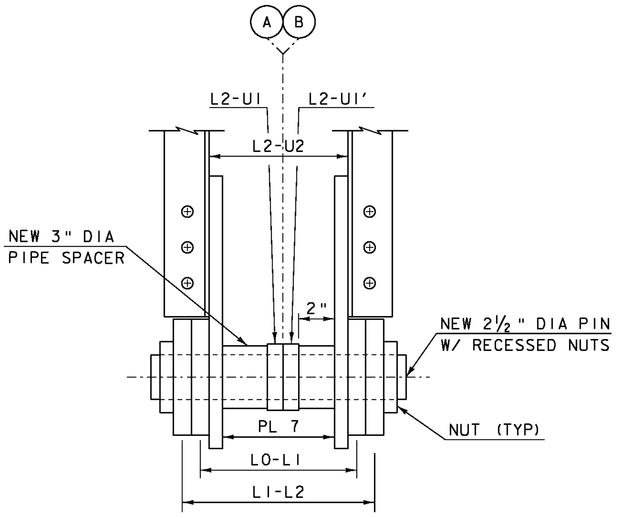



ELEVATION L2




SECTION L1

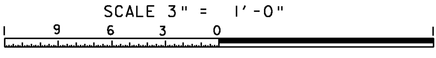
(NODE L1' SIMILAR)

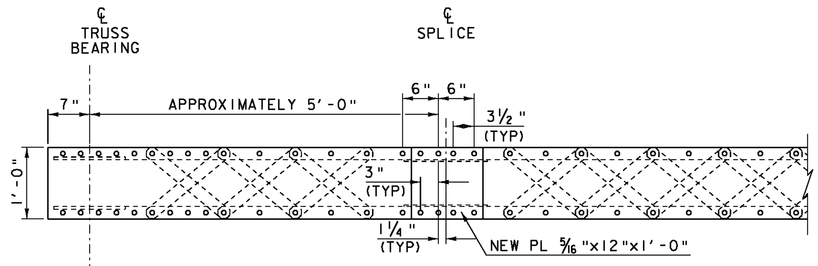



SECTION L2

EXISTING RIVETS ARE ASSUMED TO BE 5/8" DIAMETER IN 11/16" DIAMETER HOLES.

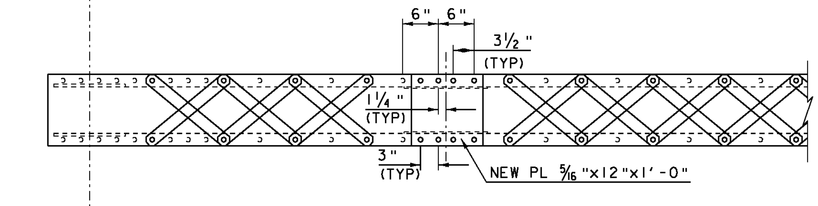
SCALE 3" = 1'-0"





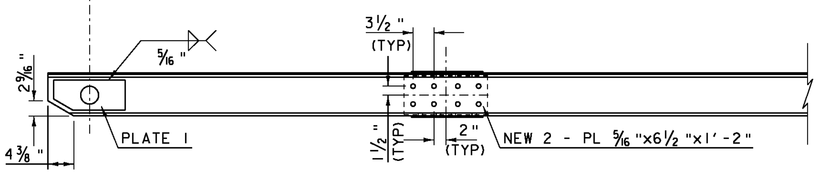

TOP FLANGE - PLAN

SCALE 1" = 1'-0"




BOTTOM FLANGE - PLAN

SCALE 1" = 1'-0"




ELEVATION VIEW

SCALE 1" = 1'-0"

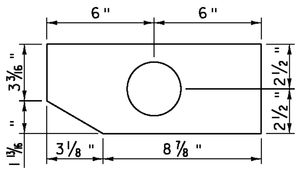


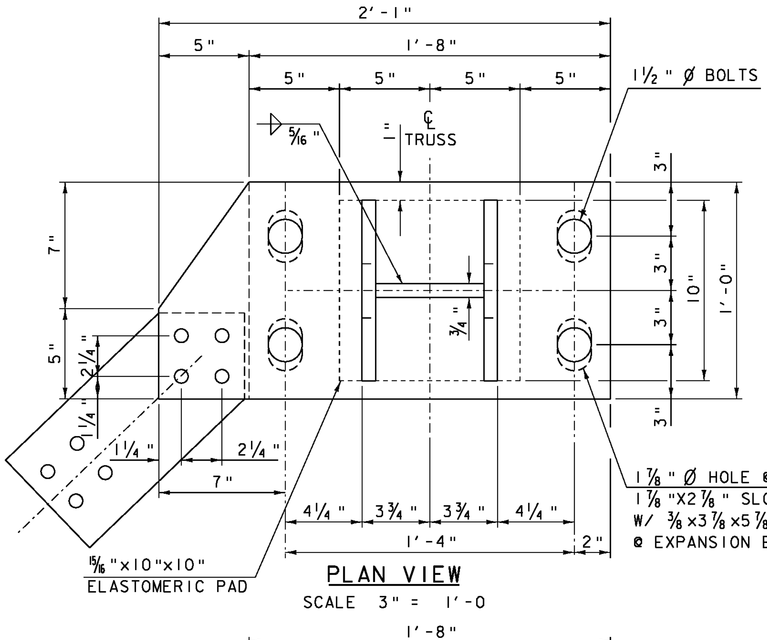

PLATE 1

SCALE 3" = 1'-0"

NEW 2 - PL 5/16"x5"x1'-0"

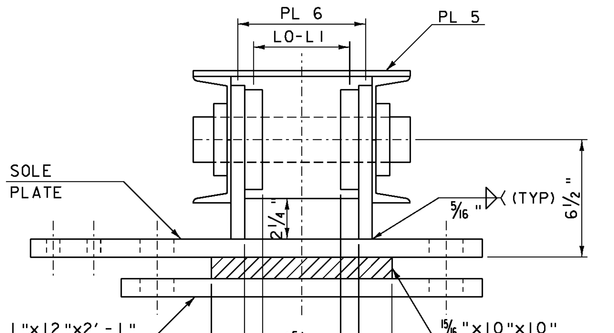
NEW TOP PLATE - PL ¼" X 12" X 20'-3⅞
NEW CHANNELS - C 7 X 12.25

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



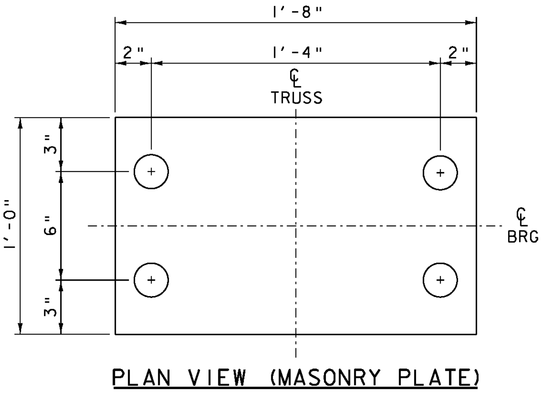

PLAN VIEW

SCALE 3" = 1'-0



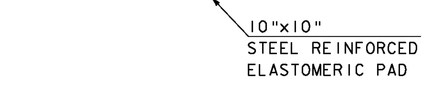

FRONT ELEVATION

SCALE 3" = 1'-0




PLAN VIEW (MASONRY PLATE)

SCALE 3" = 1'-0



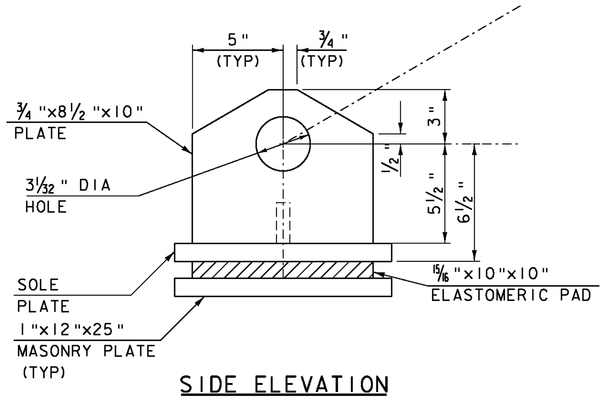

STEEL REINFORCED ELASTOMER PAD

SCALE 1½" = 1'-0

2 EXTERIOR ELASTOMERS = ⅛"

2 INTERIOR ELASTOMERS = ¼"

3 REINFORCING PLATES = 1/16" (16GA)




SIDE ELEVATION

SCALE 3" = 1'-0

| | | | | |
|---|---|---|---|---|
| Design Load (kip) | Service Limit State | Vertical | Max | 70.0 |
| | | | Min | 40.0 |
| | | | Permanent | 45.0 |
| | | | Transverse | 2.0 |
| | | | Longitudinal | 9.0 |
| | Strength Limit State | | Vertical | 98.0 |
| | | | Transverse | 4.0 |
| | | | Longitudinal | 19.5 |
| Translation (in) | Service Limit State | Irreversible | Transverse | 0 |
| | | | Longitudinal | 1/16 |
| | | Reversible | Transverse | 1/8 |
| | | | Longitudinal | 1/2 |
| Rotation (rad) | Service Limit State | Irreversible | Transverse | 0.000 |
| | | | Longitudinal | 0.000 |
| | | Reversible | Transverse | 0.005 |
| | | | Longitudinal | 0.005 |

## BEARING NOTES

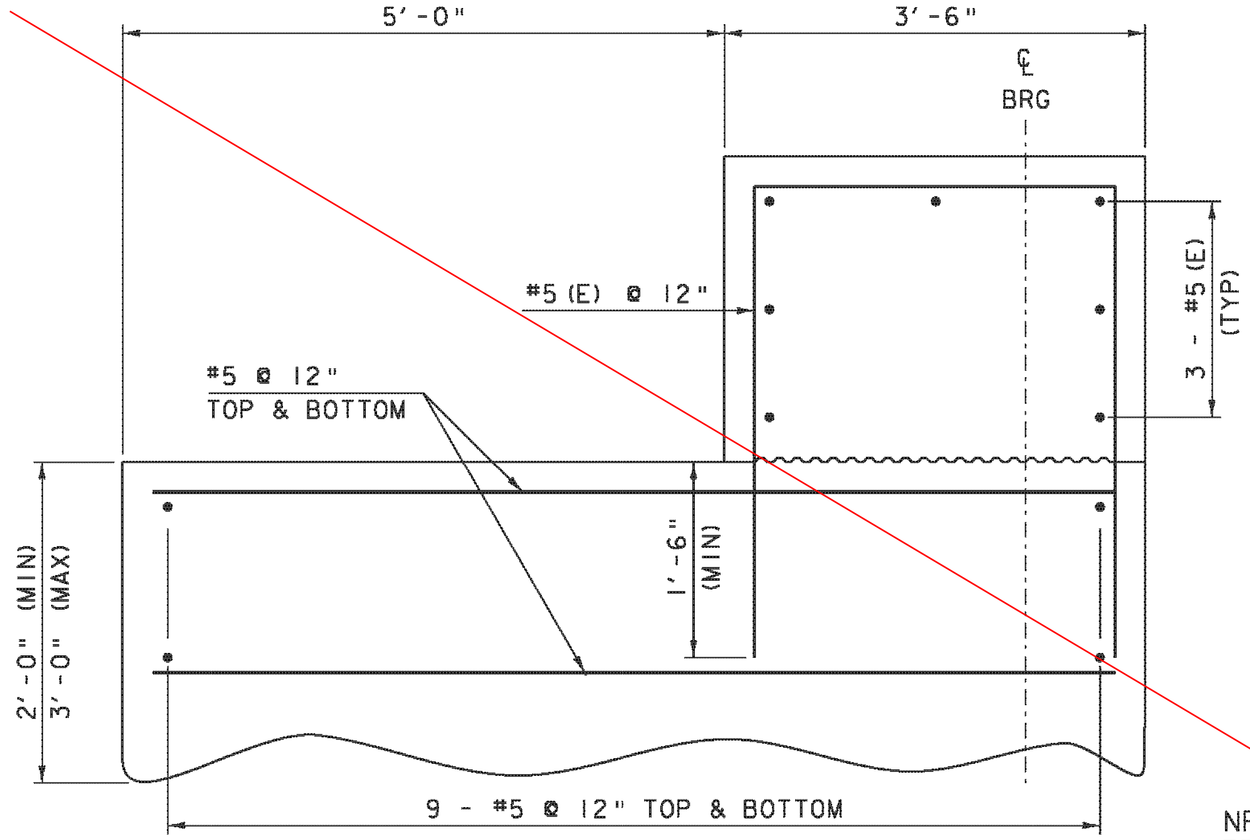
1. BEARINGS SHALL CONFORM TO SPECIFICATIONS SECTIONS 5
2. THE BEARINGS, INCLUDING A WASHERS AND NUTS SHALL BE DEVICE ASSEMBLY, ELASTOME STEEL PLATES AND BUILT-UP STRUCTURAL STEEL.
3. ALL WASHERS SHALL BE 3/8"
4. ALL PLATES, NUTS, WASHERS GALVANIZED OR METALIZED A STANDARD SPECIFICATIONS. WITH AN APPROVED SEALER A SPECIFICATIONS. AREAS OF OR HANDLING SHALL BE REPA 513.
5. ALL STEEL IN THE BEARING 50, UNLESS NOTED OTHERWIS
6. ANCHOR BOLTS SHALL BE AST INTO THE CONCRETE AND SHA
7. ALL REINFORCEMENT BETWEEN M270M/M270 GRADE 36. ALL FREE OF COATINGS, RUST AN EDGES AND BURRS.
8. STEEL REINFORCED ELASTOME ELASTOMER INTEGRAL WITH E
9. THE ELASTOMER WAS DESIGNE
10. THE ELASTOMER SHALL MEET GRADE 4.
11. THE CONCRETE UNDER THE BE
12. ALL DESIGNS DONE FOR THE SPECIFICATIONS 4TH EDITIO
13. ALTERNATE CONFIGURATIONS ALTERNATE SUBMITTED SHALL AND CRITERIA SHOWN ON THE
14. BRIDGE SEAT ELEVATIONS MA CONFIGURATION.
15. ALL BEARINGS SHALL BE MAR BEARING LOCATION ON THE E ALL MARKS SHALL BE PERMAN

SCALE 1 ½" = 1'-0"

1 9 6 3 0 1

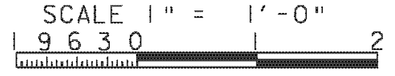
SCALE 3" = 1'-0"

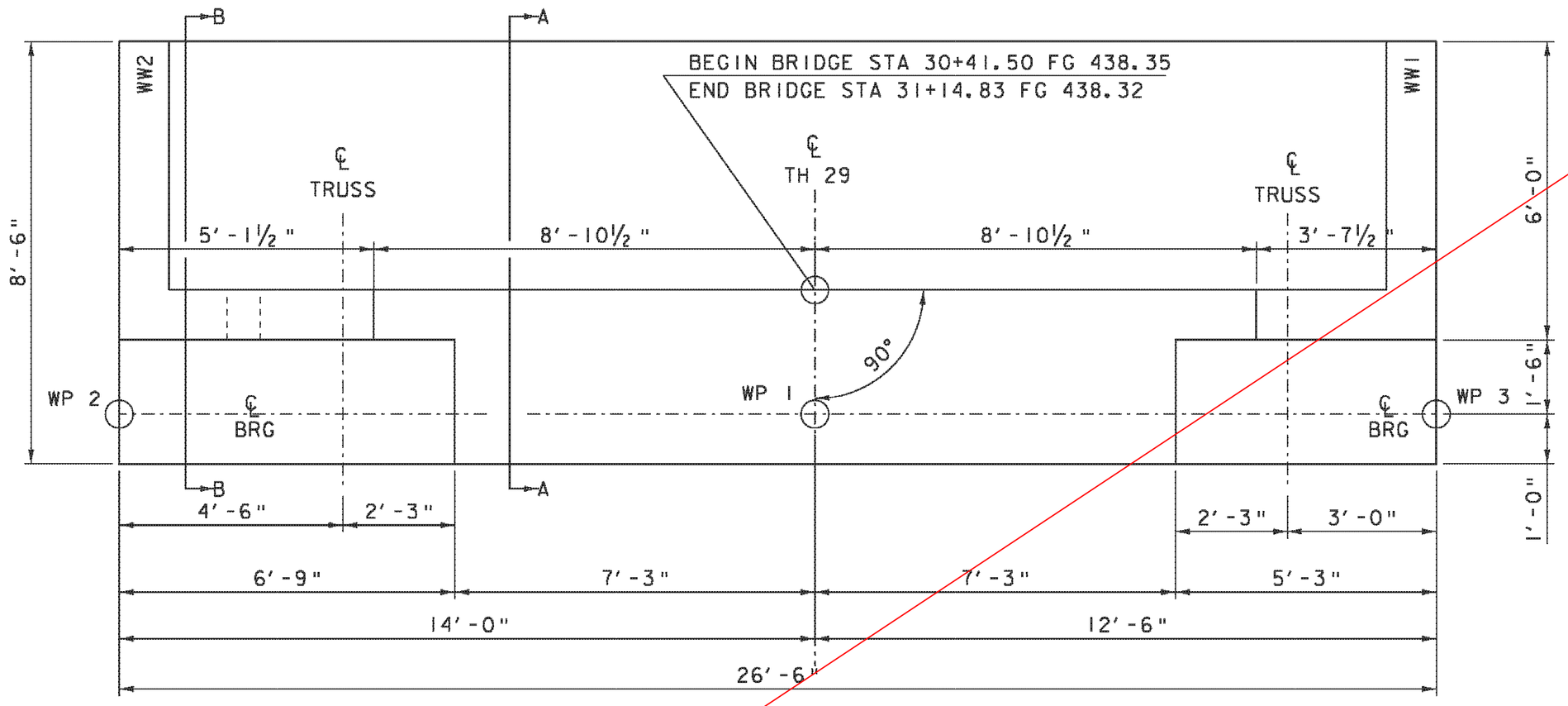
1 9 6 3 0




## SECTION A-A

SCALE 1" = 1'-0"

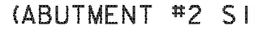



NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
E = EPOXY COATED

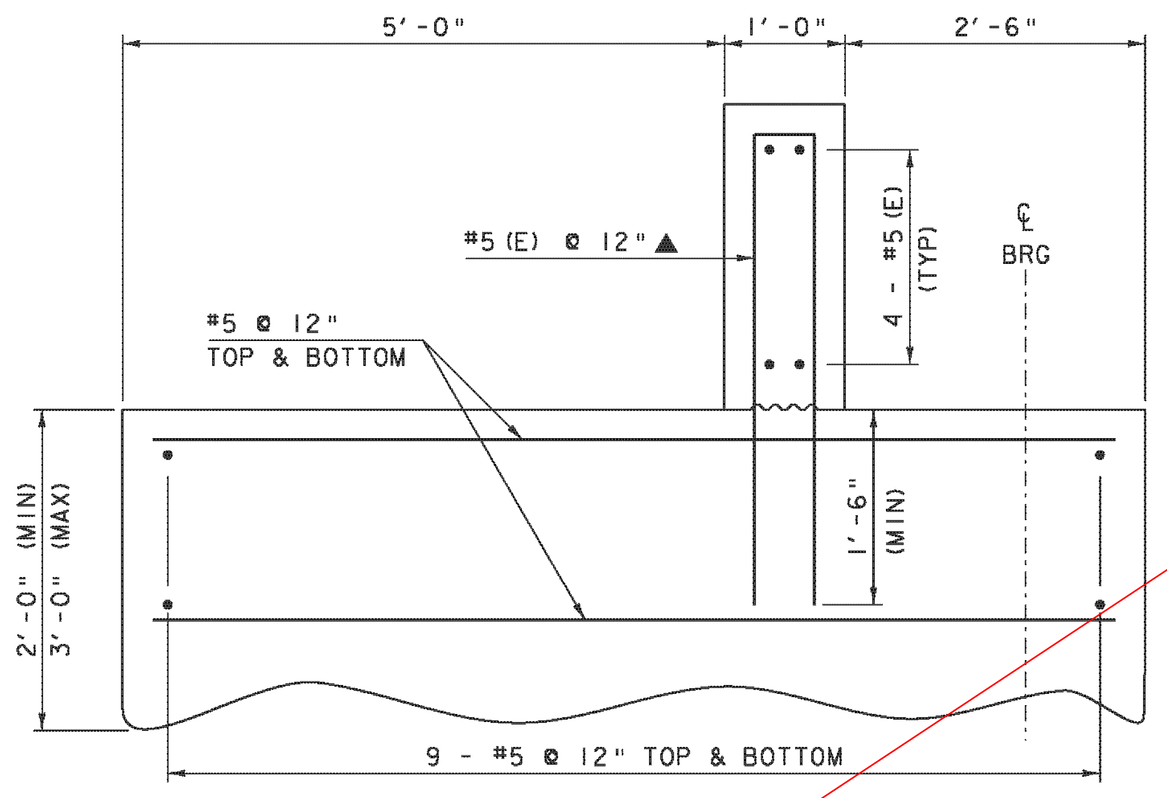
## ABUTMENT 1 PLAN VIEW

SCALE ½" = 1'-0"




(ABUTMENT #2 SIMILAR)

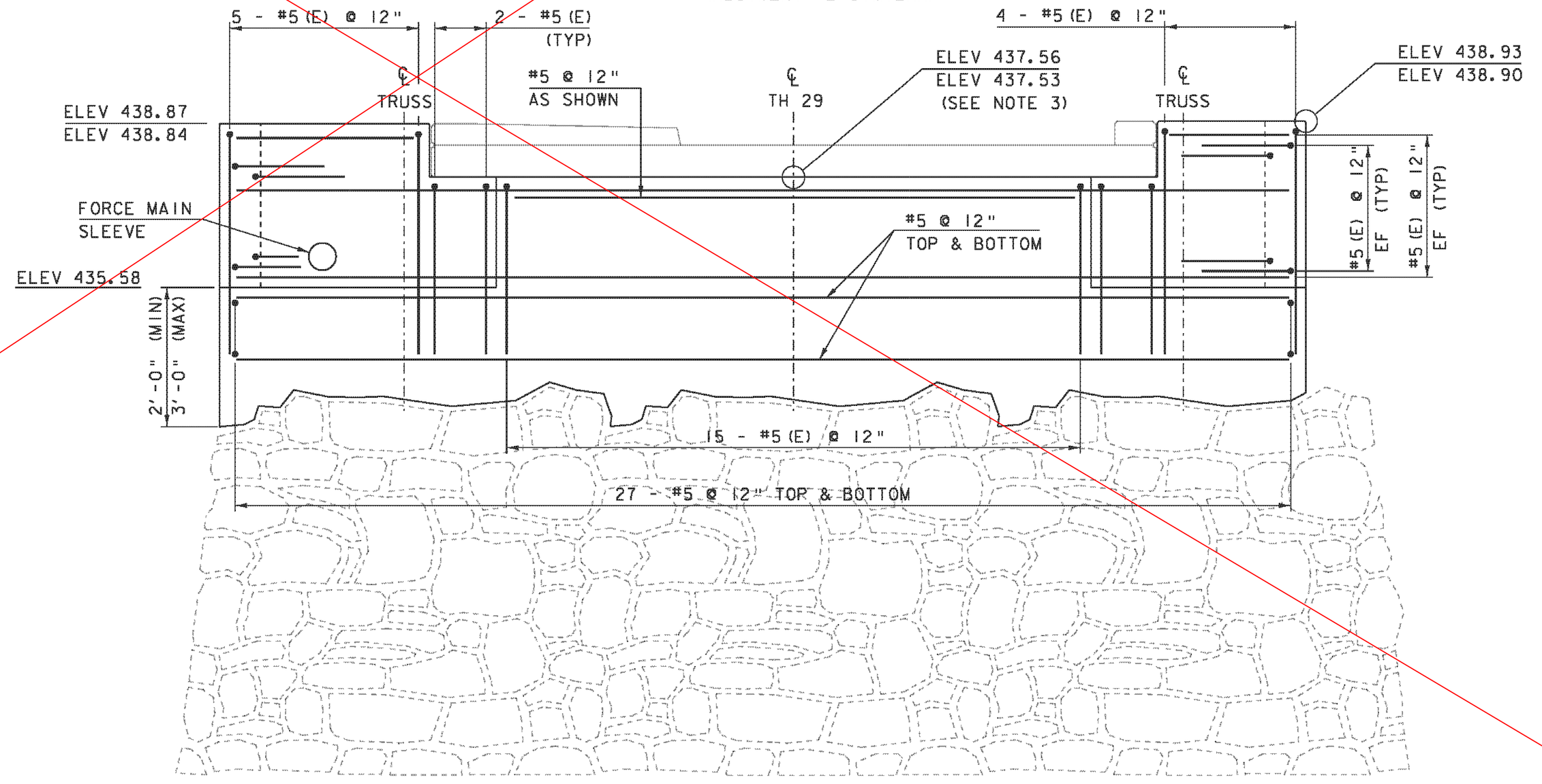
SEE REVISED ABUTMENT DRAWINGS SHEET 1OF 1 DATED 4/25/12




## SECTION B-B

SCALE 1" = 1'-0"



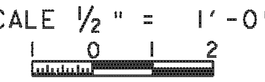

CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LENGTHS AND REINFORCING BAR BENDS BASED ON THESE DRAWINGS. ALL LAP LENGTHS SHALL BE AT LEAST THE LENGTH SPECIFIED BELOW:

#5 - 2'-2"
#6 - 2'-7"
#7 - 3'-5"
#8 - 4'-6"
#9 - 5'-8"
#10 - 7'-3"
#11 - 8'-10"

NOTE
1) CONCRETE SHALL BE PAID FOR UNDER ITEM 501.34 CONCRETE, HIGH PERFORMANCE CLASS B.
2) REINFORCING STEEL SHALL BE PAID FOR UNDER ITEMS 900.635 SPECIAL PROVISION (REINFORCING STEEL) AND 900.635 SPECIAL PROVISION (EPOXY COATED REINFORCING STEEL)
3) ELEVATIONS MAY VARY BASED ON DECK SYSTEM CHOSEN
4) WHEN TWO ELEVATIONS ARE SHOWN, THE TOP ELEVATION REFERS TO ABUTMENT 1 AND THE BOTTOM ELEVATION REFERS TO ABUTMENT 2.
5) LOCATION AND ELEVATION OF FORCE MAIN SLEEVE TO BE VERIFIED IN THE FIELD.

## ABUTMENT 1 ELEVATION VIEW

SCALE ½" = 1'-0"

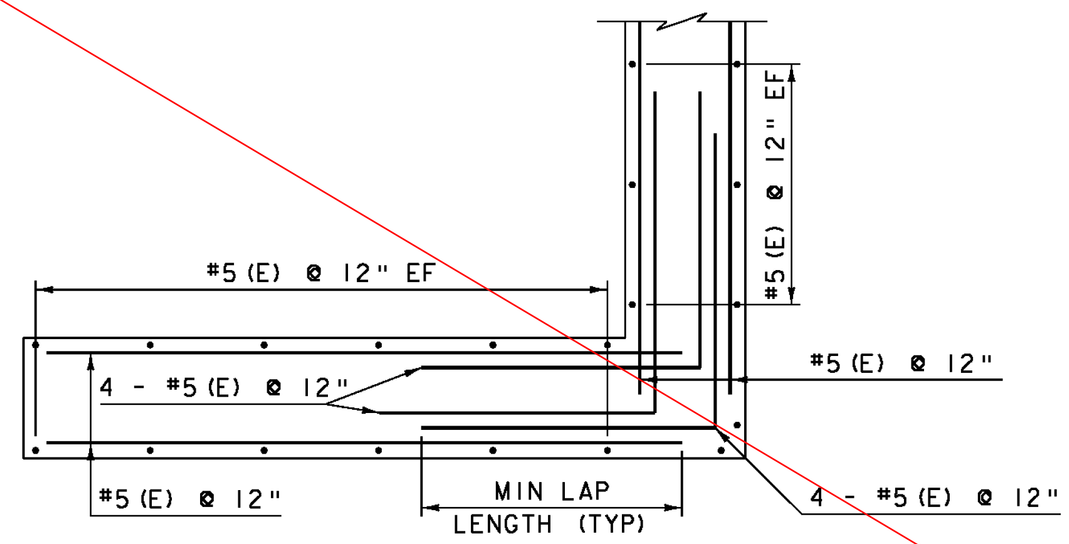



(ABUTMENT #2 SIMILAR)

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

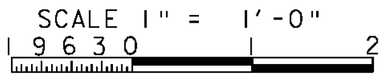
FILE NAME: b38\s96j070sub_b38.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: T. FILLBACH
ABUTMENT 1& 2 DETAILS - BRIDGE 38

PLOT DATE: 16-JUN-2010
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 56 OF 69




## WINGWALL CORNER DETAIL

SCALE 1" = 1'-0"



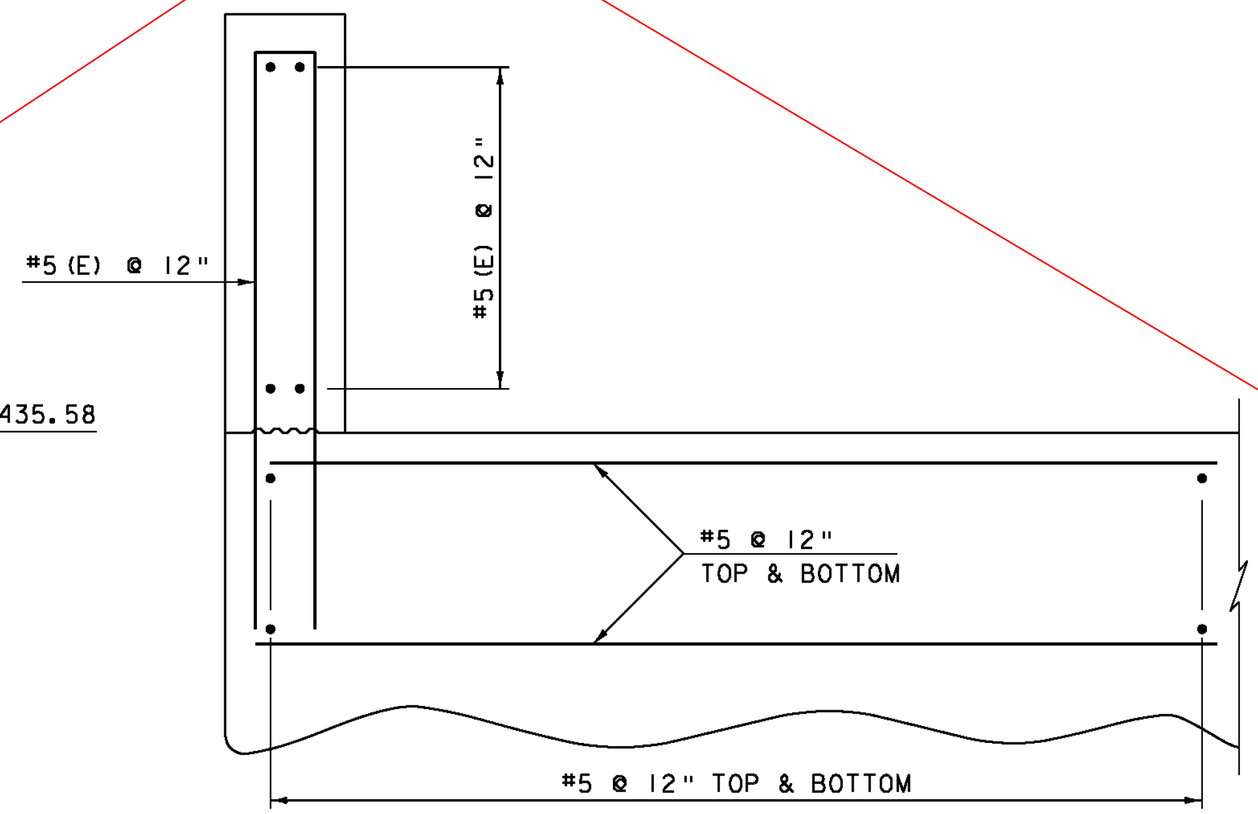




## WINGWALL ELEVATION VIEW

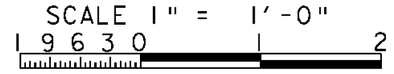
SCALE 1" = 1'-0"




## WINGWALL TYPICAL SECTION

SCALE 1" = 1'-0"




SEE REVISED ABUTMENT DRAWINGS
SHEET 1OF 1 DATED 4/25/12

NOTE:
CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LENGTHS AND REINFORCING BAR BENDS BASED ON THESE DRAWINGS. ALL LAP LENGTHS SHALL BE AT LEAST THE LENGTH SPECIFIED BELOW:

#5 - 2'-2"
#6 - 2'-7"
#7 - 3'-5"
#8 - 4'-6"
#9 - 5'-8"
#10 - 7'-3"
#11 - 8'-10"

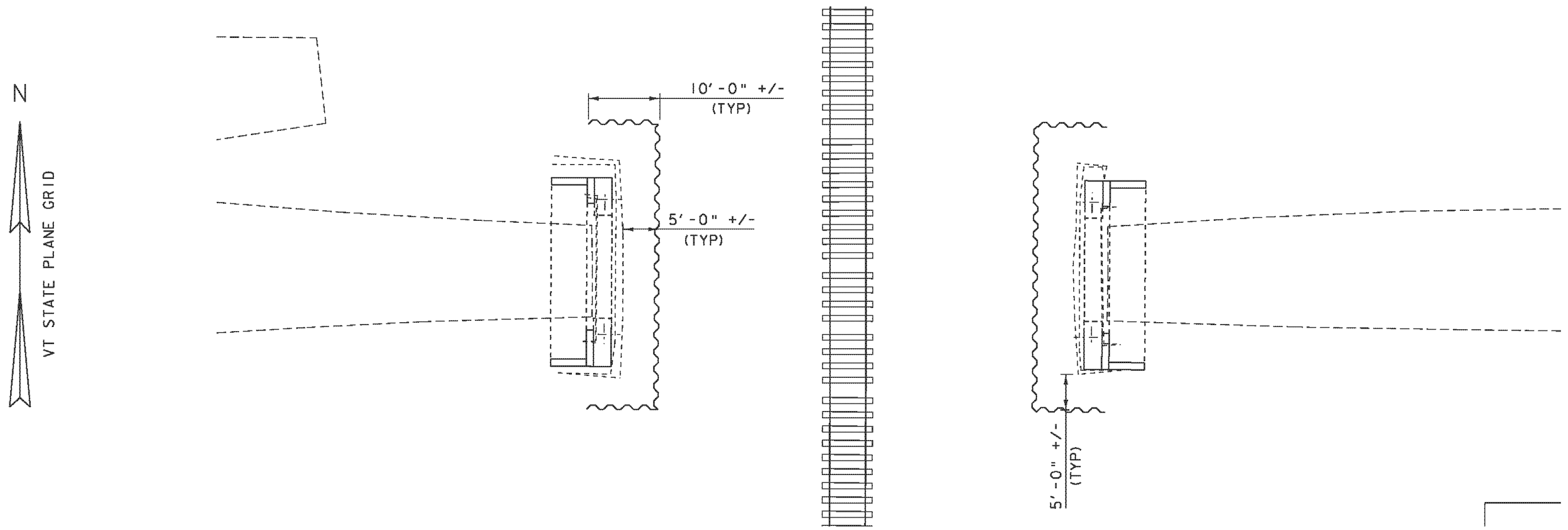
NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

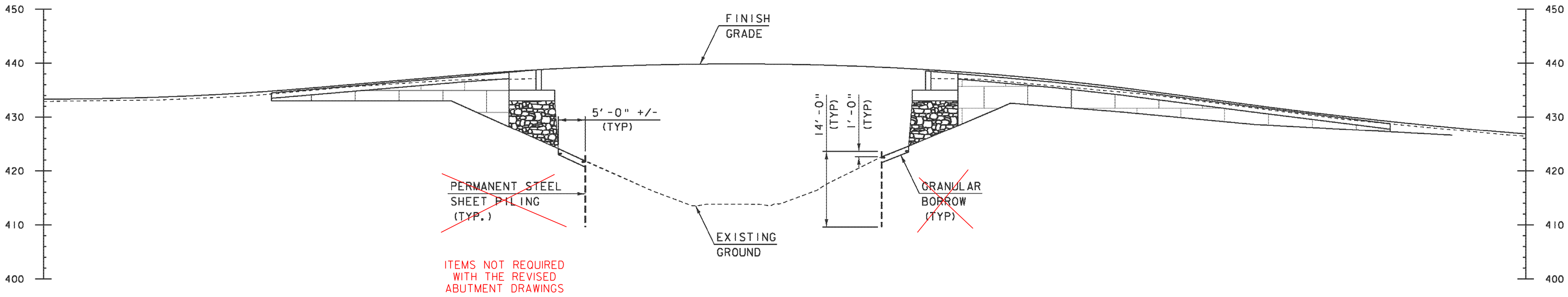
FILE NAME: b38\s96J070sub_b38.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: T. FILLBACH
WINGWALL DETAILS - BRIDGE 38

PLOT DATE: 16-JUN-2010
DRAWN BY: T. FILLBACH
CHECKED BY: J.SALVATORI
SHEET 57 OF 69

SEE REBUILT STONE MASONRY & SHEET PILE NOTES
ON GENERAL NOTES SHEET #3.



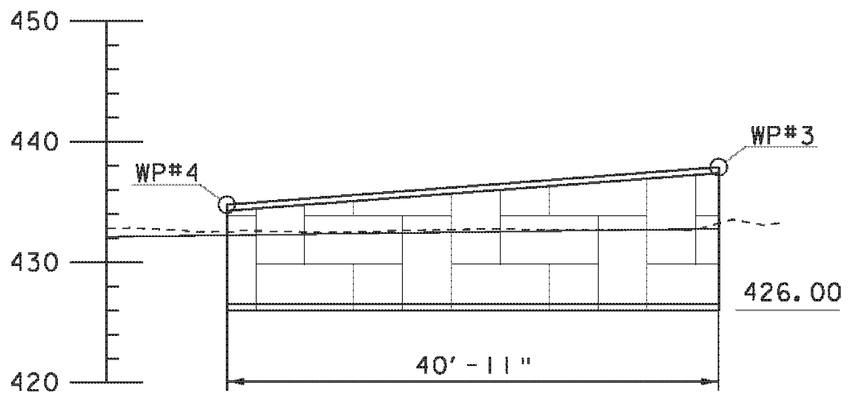

PLAN



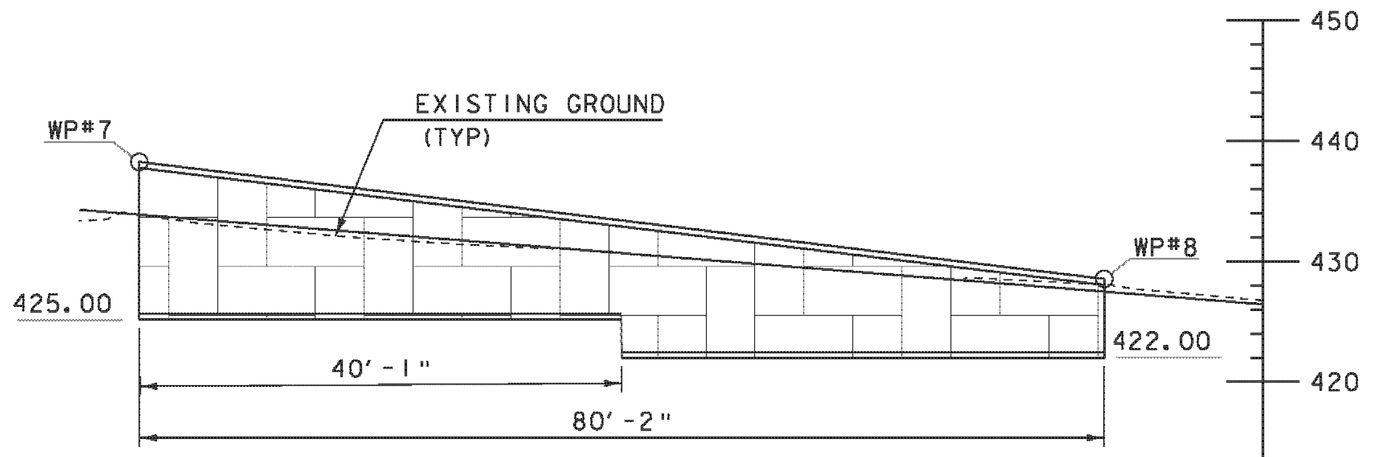

ELEVATION @ SOUTH FASCIA

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

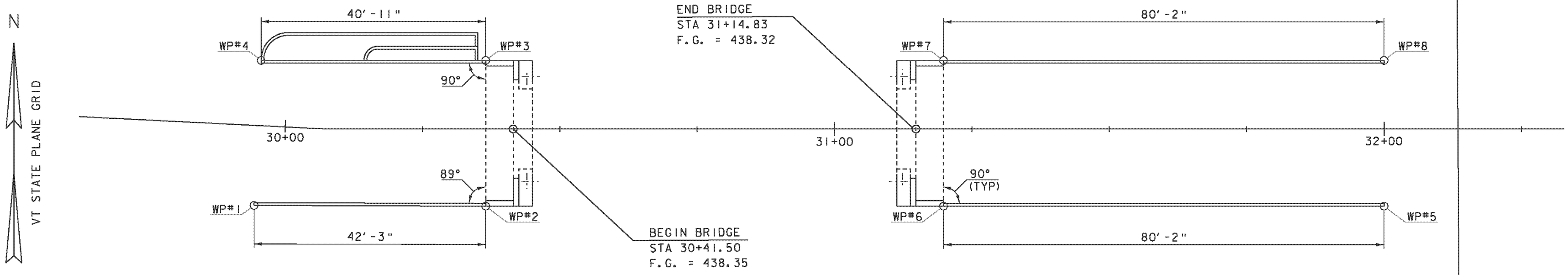
| | |
|---|---|
| PROJECT NAME: | HARTFORD (WILDER) |
| PROJECT NUMBER: | STP 1444(35) |
| FILE NAME: B38/s96j070sheetpile.dgn | PLOT DATE: 16-JUN-2010 |
| PROJECT LEADER: K. HIGGINS | DRAWN BY: T. FILLBACH |
| DESIGNED BY: N. MELTZER | CHECKED BY: T. FILLBACH |
| MASONRY & SHEET PILE DETAILS - BR 38 | SHEET 58 OF 69 |



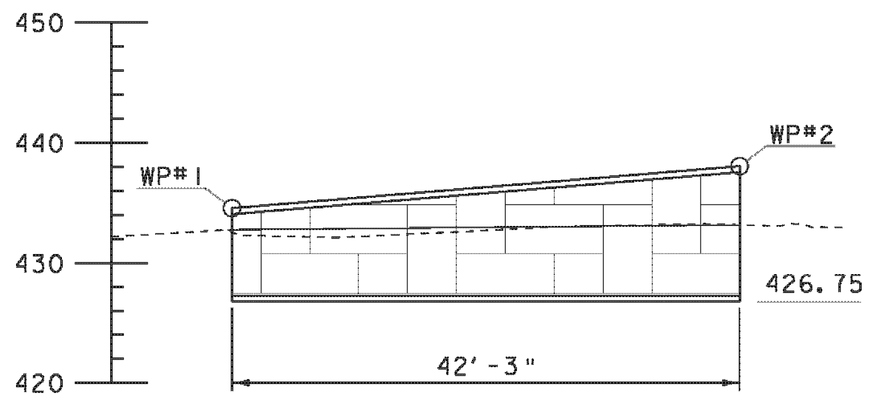

RETAINING WALL @ WW#1



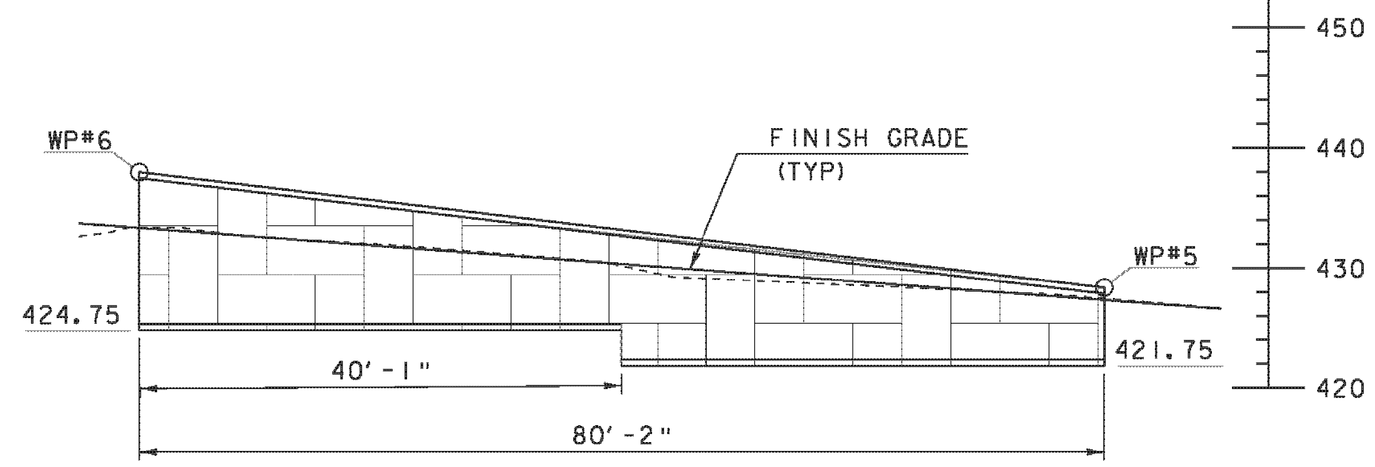

RETAINING WALL @ WW#3




RETAINING WALL LAYOUT




RETAINING WALL @ WW#2




RETAINING WALL @ WW#4

**WORKING POINTS**

| WP# | STA. | OFFSET | TOP OF WALL ELEV. |
|---|---|---|---|
| #1 | 29+95.00 | 14.5 | 435.00 |
| #2 | 30+36.50 | 14.0 | 438.50 |
| #3 | 30+36.50 | -12.5 | 437.87 |
| #4 | 29+95.00 | -11.9 | 434.50 |
| #5 | 32+00.00 | 14.0 | 428.50 |
| #6 | 31+19.83 | 14.0 | 438.50 |
| #7 | 31+19.83 | -12.5 | 438.00 |
| #8 | 32+00.00 | -12.5 | 428.50 |

SEE 'RETAINING WALL DESIGN'
SHEETS 1-3 APPROVED 7/30/12

NOTES:
1. WP INDICATES WORKING POINTS ALONG FRONT FACE OF WALL. ABUTMENT WORKING POINTS ARE NOT SHOWN ON THIS SHEET.
2. THE ELEVATIONS SHOWN AT THE BOTTOM OF THE WALL ARE MAXIMUM ELEVATIONS TO ACCOUNT FOR FROST DEPTH AND STABILITY.

SEE ADDITIONAL NOTES ON GENERAL NOTES SHEET #3.
OR SEE SHEET 60 FOR RETAINING WALL TYPICAL

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

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

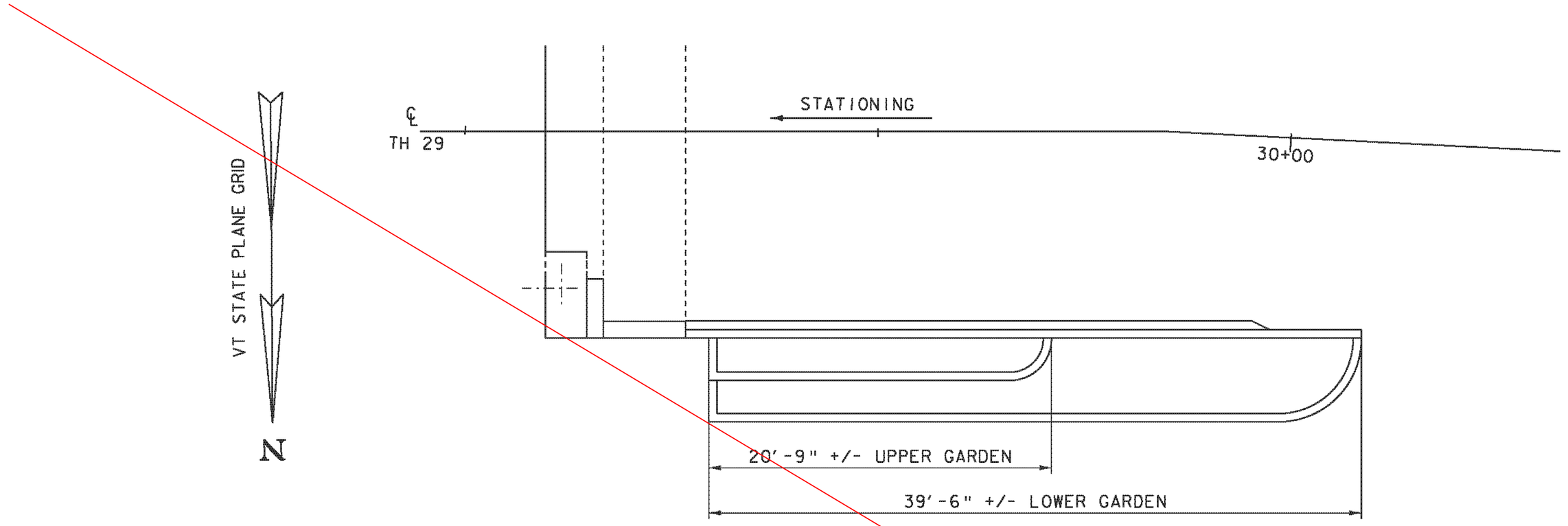
FILE NAME: b38\s96j070wall_b38.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
RETAINING WALLS - BRIDGE 38

PLOT DATE: 16-JUN-2010
DRAWN BY: J. SALVATORI
CHECKED BY: T. FILLBACH
SHEET 59 OF 69

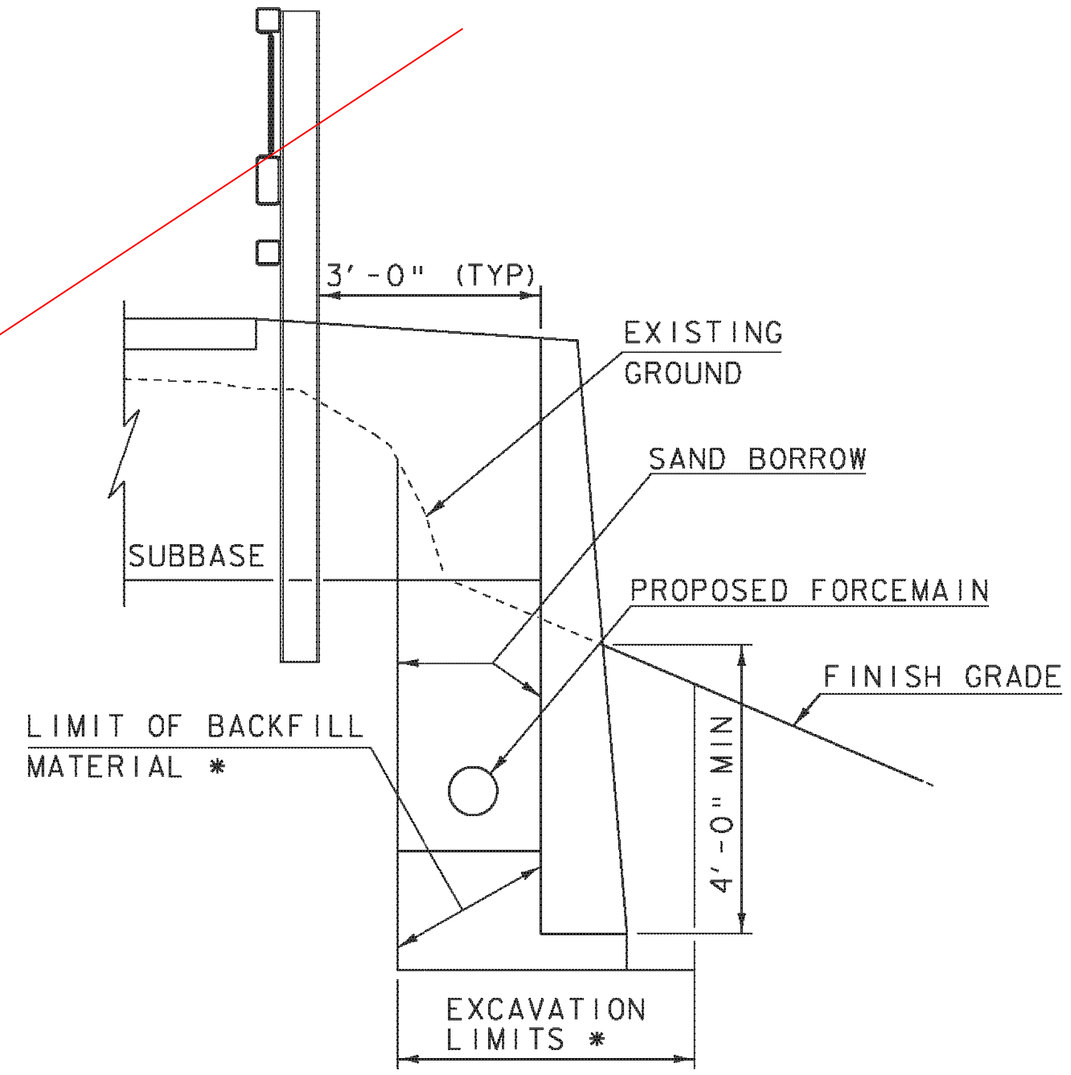
THE GARDEN WALL SHOWN IS A CONCEPT ONLY. WALL SHALL BE CONSTRUCTED TO THE SATISFACTION OF THE ADAJACENT LAND OWNER AND APPROVAL OF THE ENGINEER.

SEE ADDITIONAL NOTES ON GENERAL NOTES SHEET #3.

ADJACENT LAND OWNER DID NOT WANT WALL. GARDEN WALL NOT CONSTRUCTED



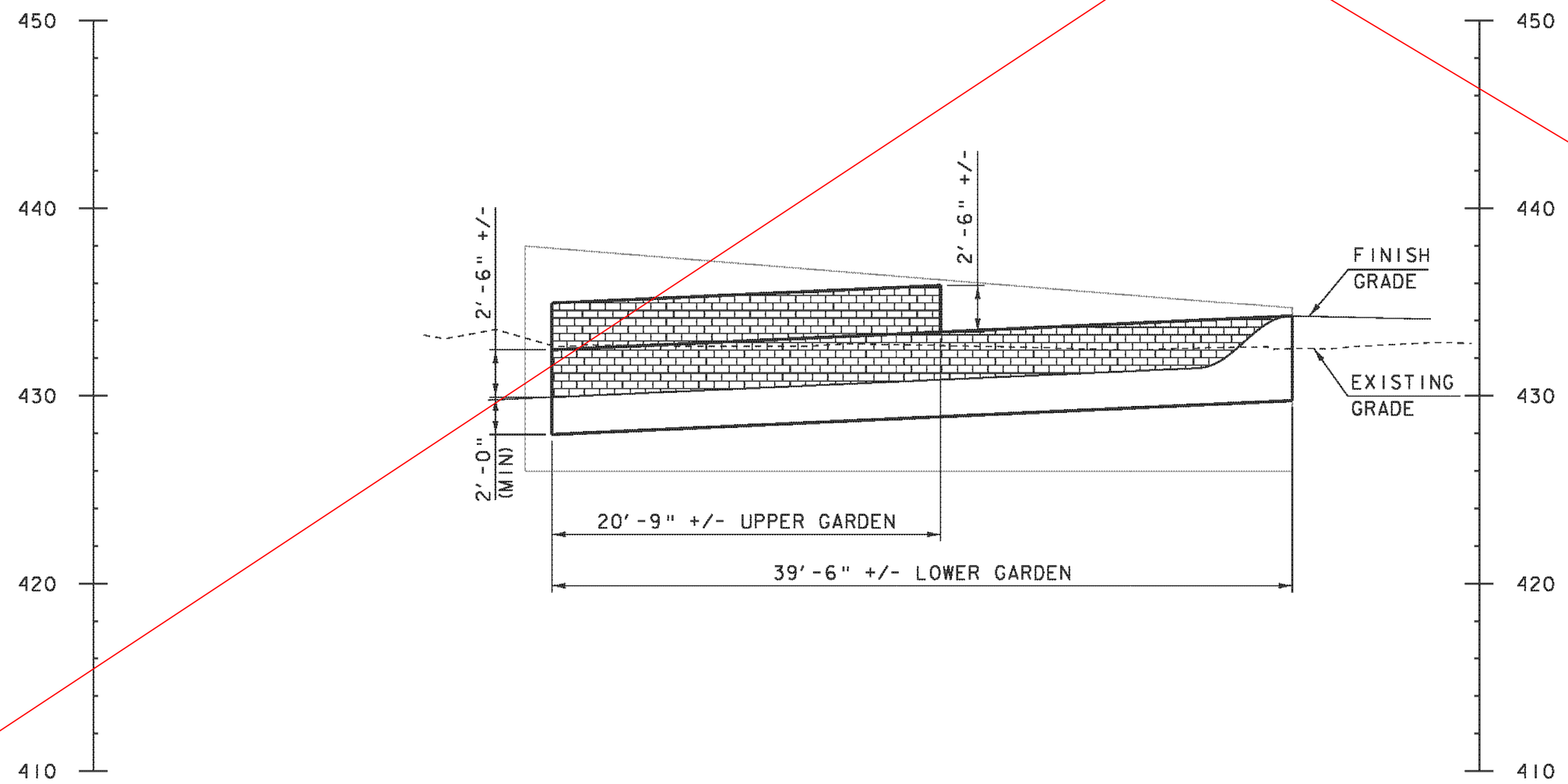

GARDEN WALL PLAN




RETAINING WALL TYPICAL SECTION

* LIMITS AS DEEMED NECESSARY BY DESIGN AND APPROVED BY THE ENGINEER

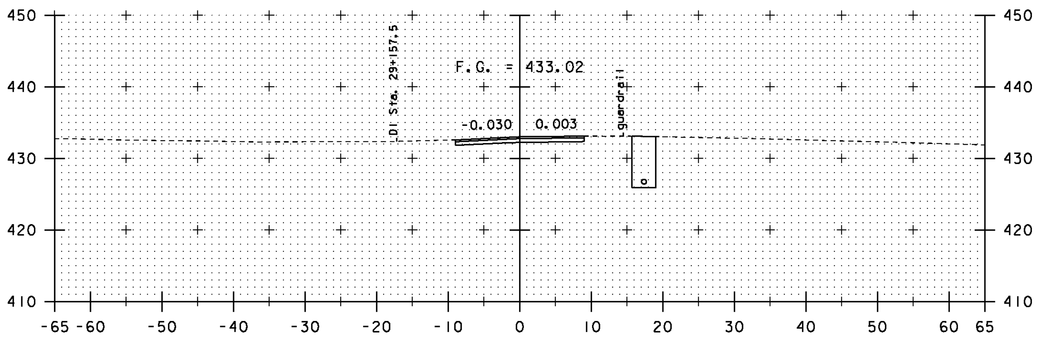
NOT TO SCALE



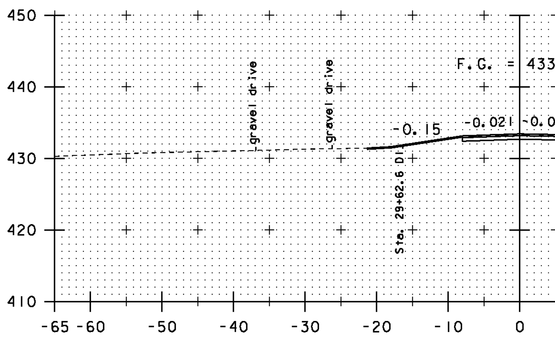

GARDEN WALL ELEVATION

SCALE 1" = 5'-0"
5 0 5

| | |
|---|---|
| PROJECT NAME: | HARTFORD (WILDER) |
| PROJECT NUMBER: | STP 1444(35) |
| FILE NAME: b38\s96j070wall_b38.dgn | PLOT DATE: 16-JUN-2010 |
| PROJECT LEADER: K. HIGGINS | DRAWN BY: R. PELLETT |
| DESIGNED BY: G. LAROCHE | CHECKED BY: T. FILLBACH |
| GARDEN WALL - BRIDGE 38 | SHEET 60 OF 69 |



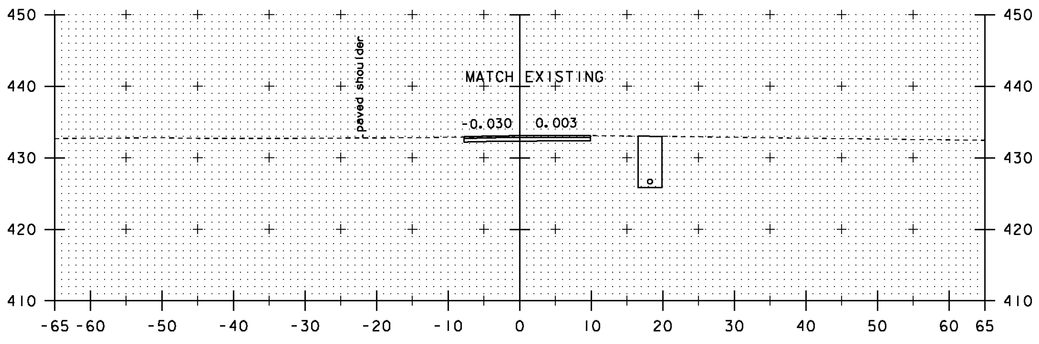

29+25.00



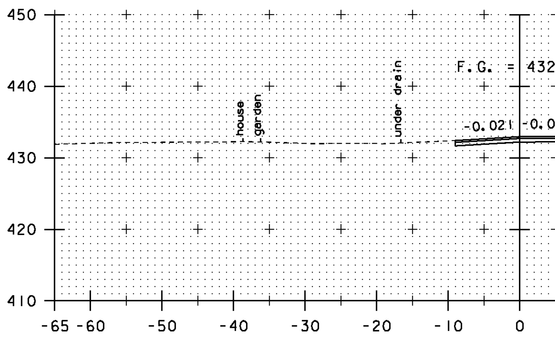

STA 29+70 LT
PAVED APRON & DRIVE

29+75.

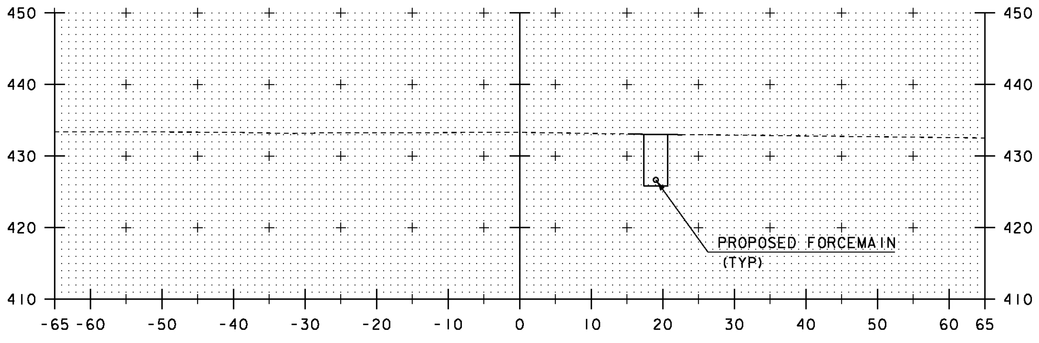
BEGIN PRO



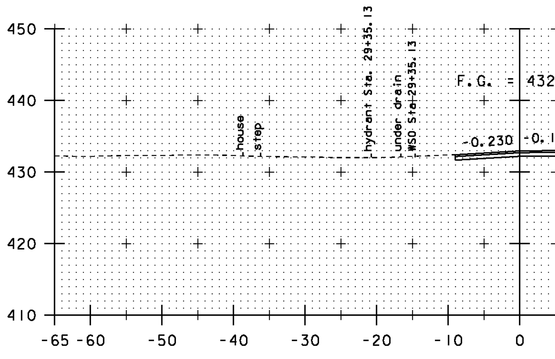

29+12.54
BEGIN APPROACH




29+50.



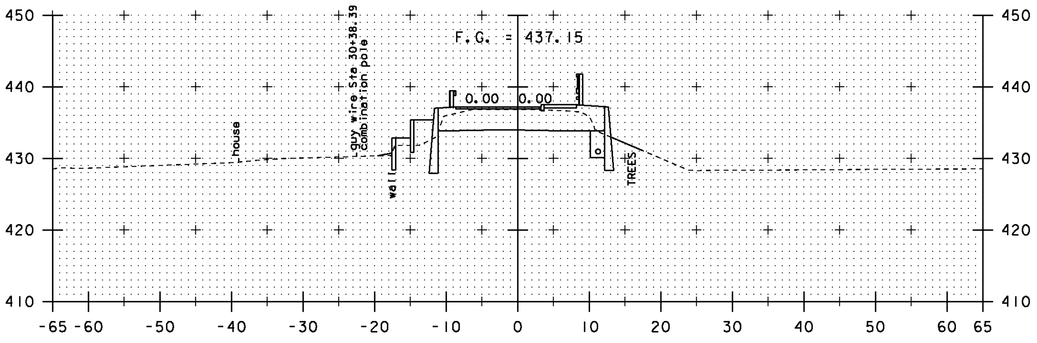

29+00.00



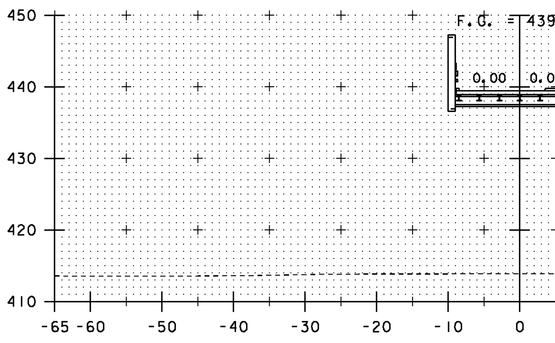

29+43.

SCALE 1" = 10'-0
10 0 10

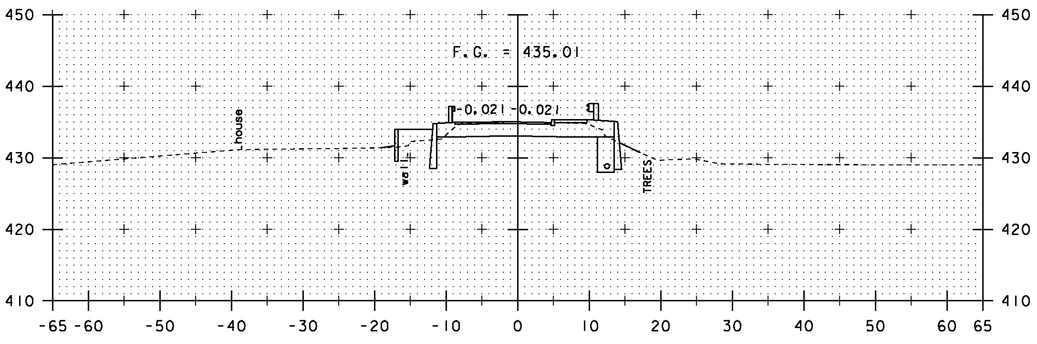
STA. 29+00.00 TO STA. 29+75



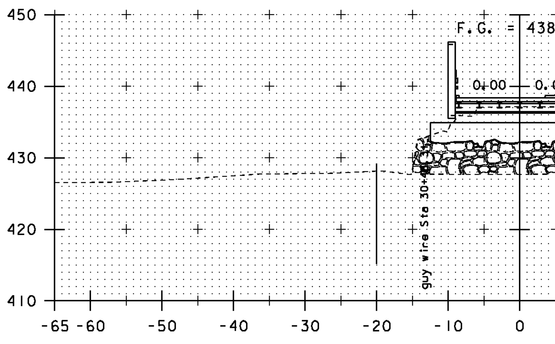

30+25.00



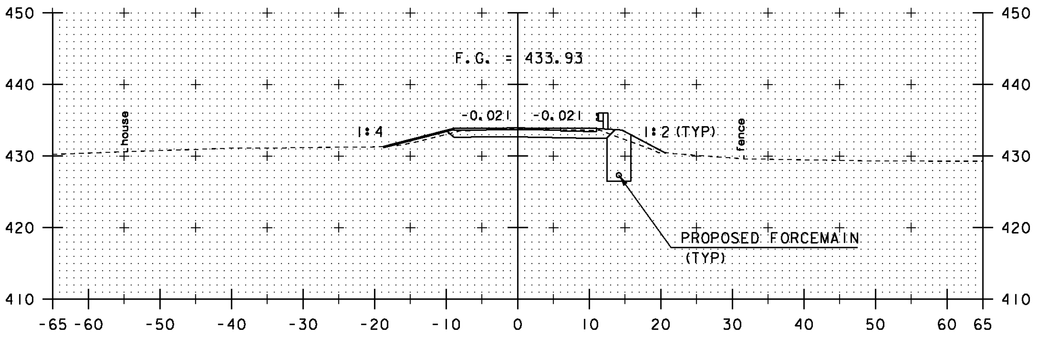

30+75.




30+00.00



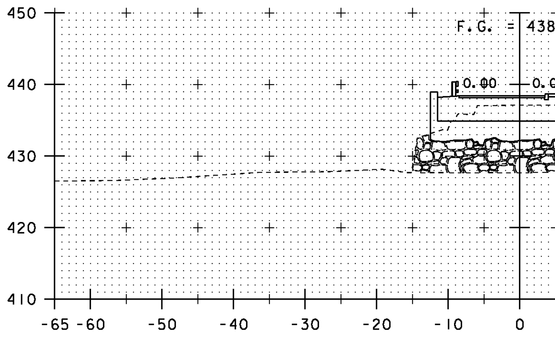

30+41.
BEGIN BRI




STA 29+70 LT
PAVED APRON & DRIVE

29+85.00

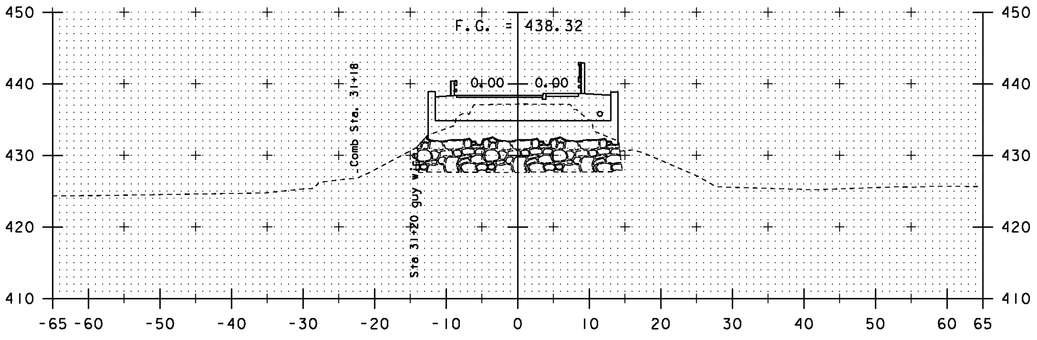
STA 29+85.15 - 30+42.00 RT
PORTLAND CEMENT CONCRETE
SIDEWALK (5 INCH)
CONCRETE CURB, TYPE B



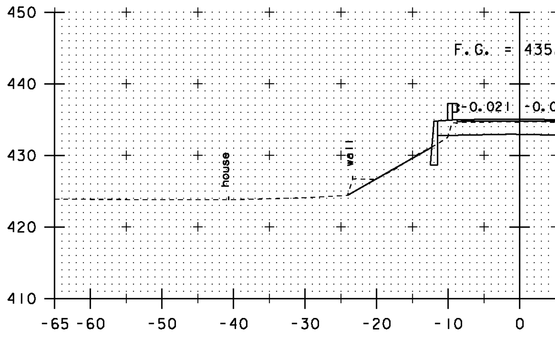

30+41.

SCALE 1" = 10'-0
10 0 10

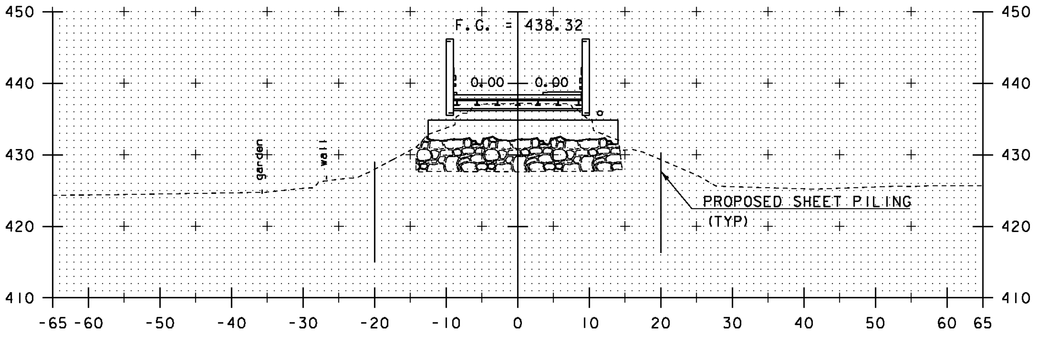
STA. 29+85.00 TO STA. 30+75



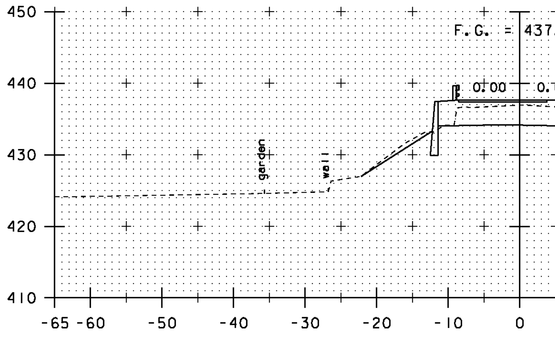

31+14.84



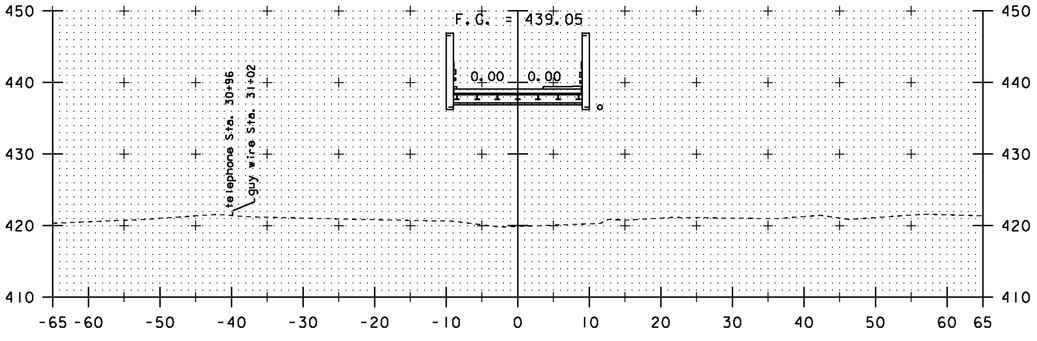

31+50.



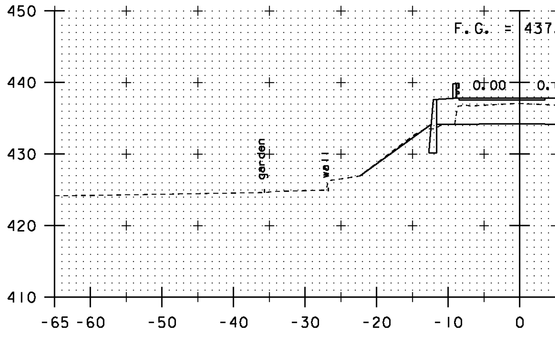

31+14.83
END BRIDGE




31+25.



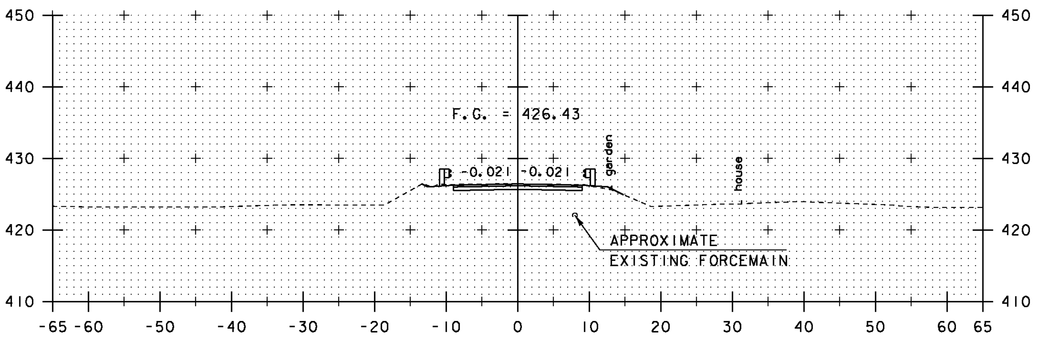

31+00.00



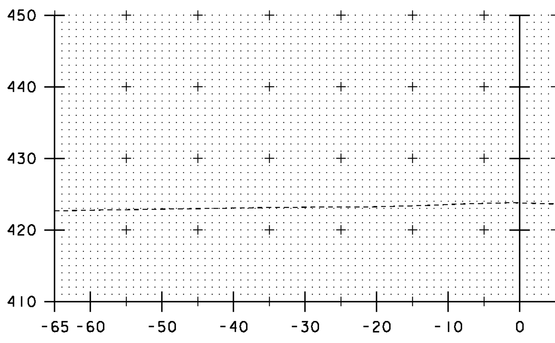

31+22.

SCALE 1" = 10'-0
10 0 10

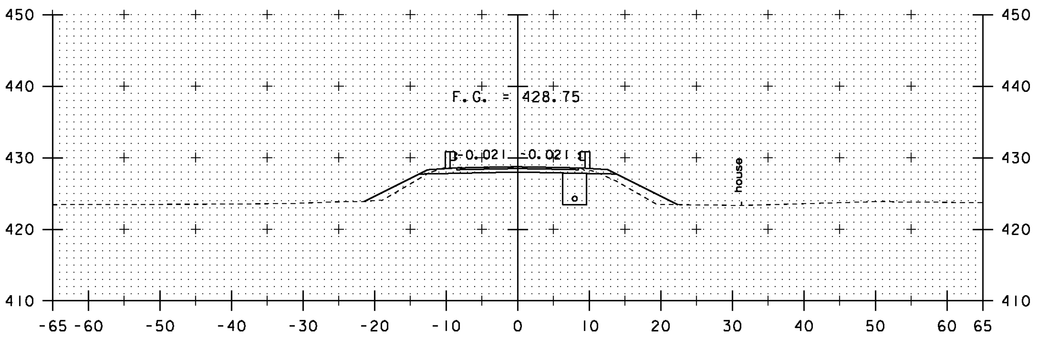
STA. 31+00.00 TO STA. 31+5



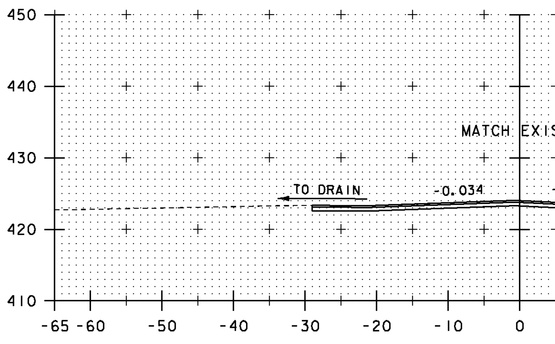

32+25.00



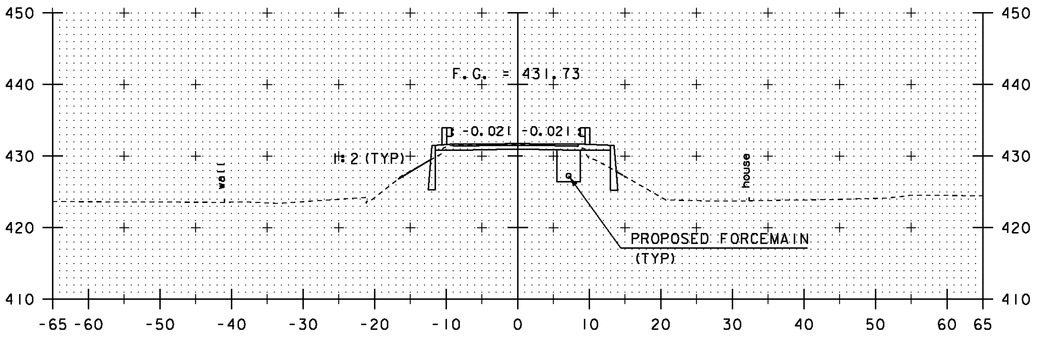
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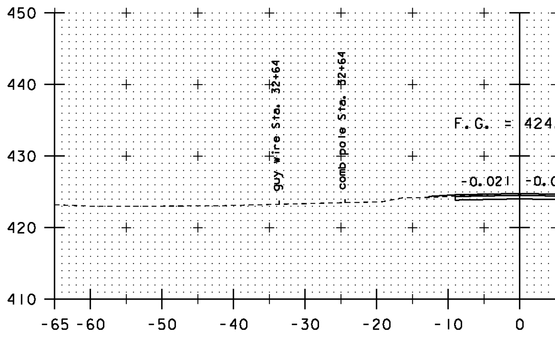

32+00.00
END PROJECT




32+67.
END APPRO



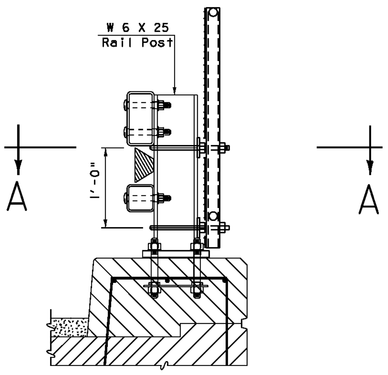

31+75.00




32+50.

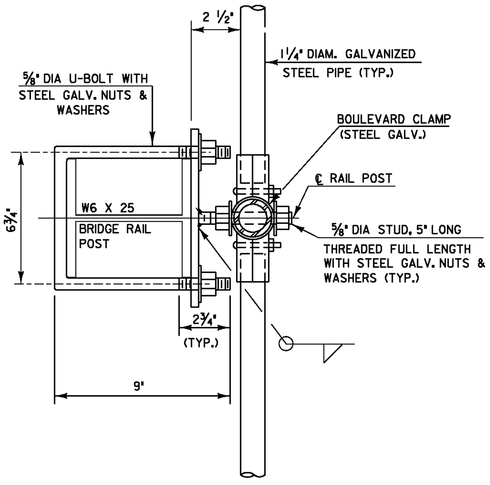
SCALE 1" = 10'-0
10 0 10

STA. 31+75.00 TO STA. 32+75

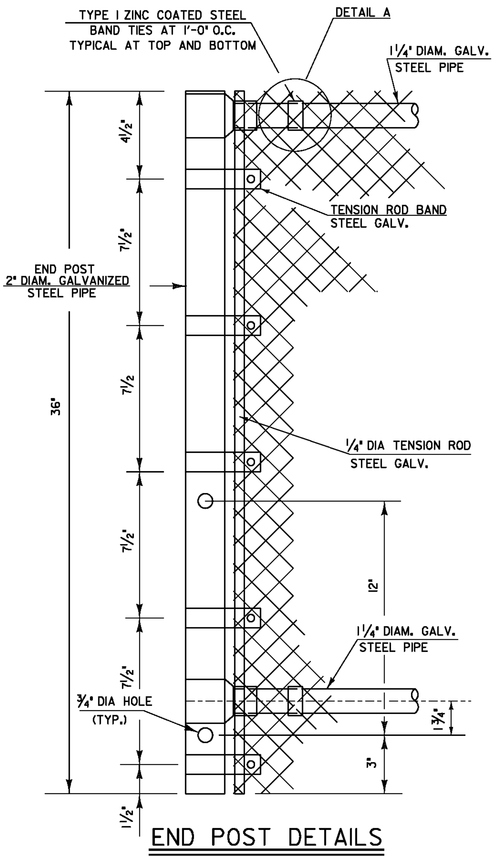



## TYPICAL SECTION

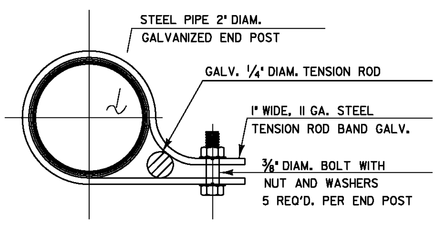
NOTE: FOR DIMENSIONS SEE BRIDGE RAIL SHEETS.



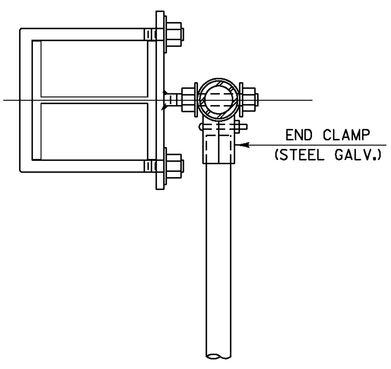

## SECTION A-A



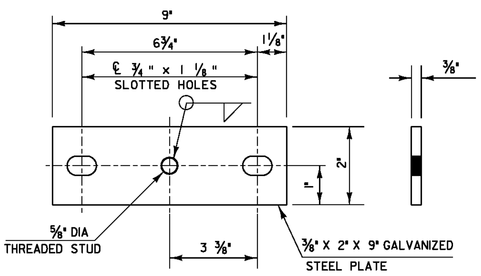

## END POST DETAILS



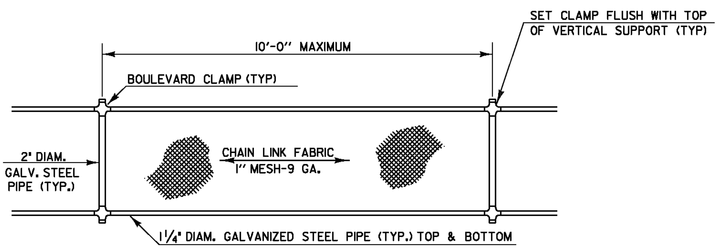

## TENSION ROD BAND



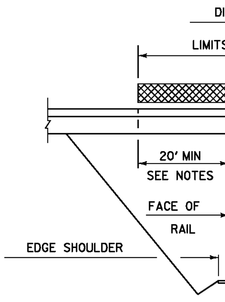

## PLAN VIEW AT END POST




## PLATE DETAILS

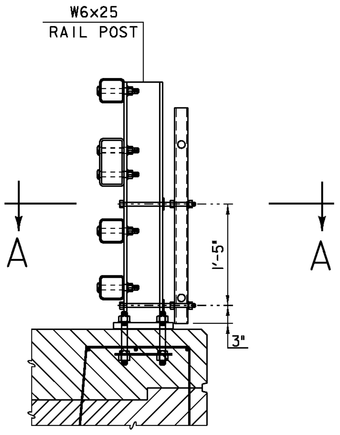



## ELEVATION SNOW BARRIER



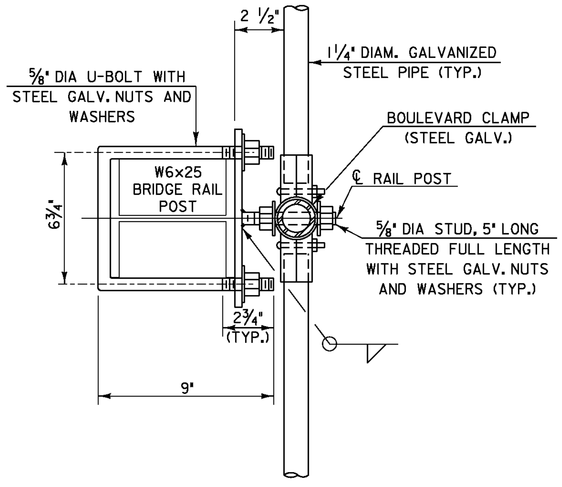

## SCHEMATIC

**SNOW FENCE FOR BRIDGE RAILING - N.E.T.C. 2 RAIL**

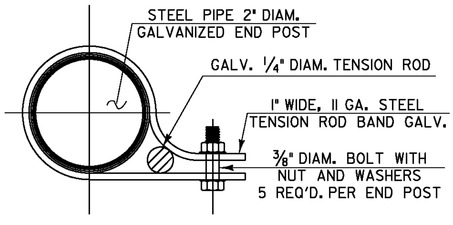



TYPICAL SECTION

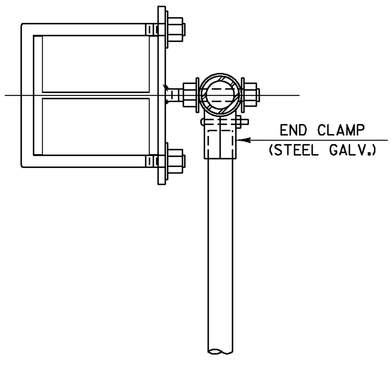
NOTE: FOR DIMENSIONS SEE BRIDGE RAIL SHEET.



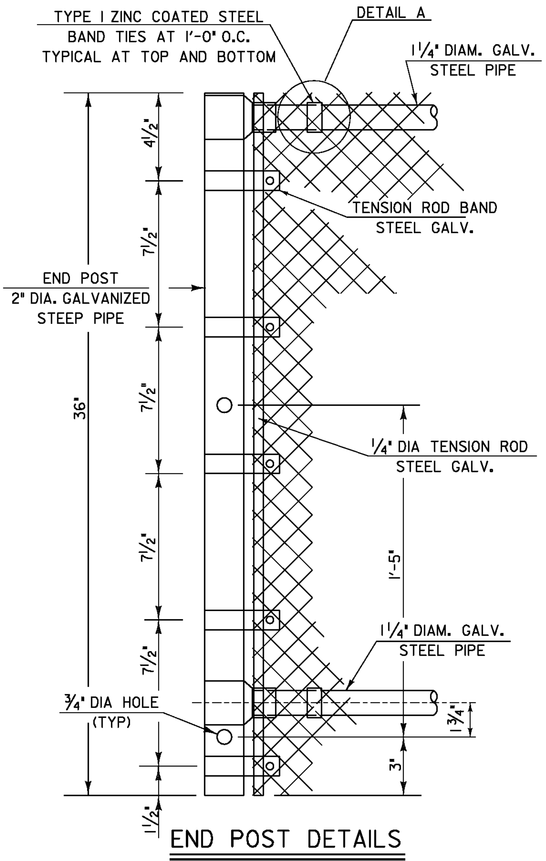

SECTION A-A




TENSION ROD BAND




PLAN VIEW AT END POST




END POST DETAILS

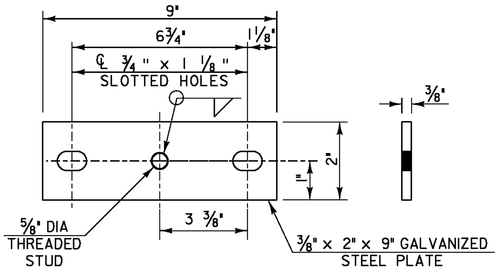
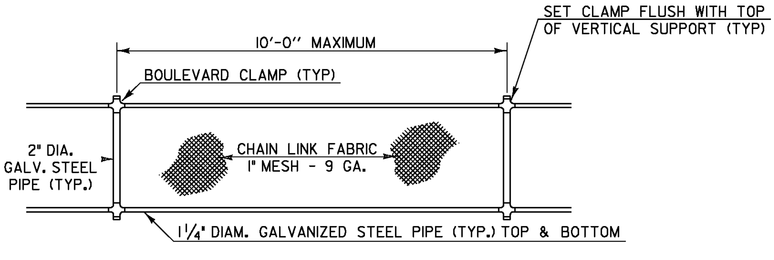



PLATE DETAILS




ELEVATION SNOW BARRIER

**SNOW FENCE FOR BRIDGE RAILING - N.E.T.C. 4 RAIL - SIDEWALK ONLY**

NOTE

1. THREADS
2. ALL CON
3. 1 ¼ " F
4. CHAIN L
5. ALL BOL SPECIF AASHTO
6. ALL STE M270 GR
7. ALL GAL M-181 W OF AASH BOLTS, ACCORDA GALVANI TO THE
8. CHAIN-L THE PRO
9. SNOW BA PROVIDE THE ENG
10. ALL REF REFER T
11. ALL POS TO THE

1'

TYPE

DI
LIMIT
20' MIN
SEE NOTE
FACE OF RAIL
EDGE SHOULDER

SCHEMATIC

# EROSION CONTROL NARRATIVE

## 1.1 PROJECT DESCRIPTION

WORK AT BRIDGE 36 SHALL CONSIST OF REPLACING THE EXISTING WOODEN BRIDGE WITH A SINGLE SPAN CONCRETE BRIDGE WHICH CARRIES TH 81 OVER THE WASHINGTON COUNTY RAILROAD (CONNECTICUT RIVER DIVISION).

WORK AT BRIDGE 38 CONSISTS OF REHABILATION OF THE HISTORIC SINGLE SPAN STEEL PONY TRUSS BRIDGE WHICH CARRIES TH 29 OVER THE WASHINGTON COUNTY RAILROAD (CONNECTICUT RIVER DIVISION).

NOTE: AREA OF DISTURBANCE SHALL INCLUDE LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, INCLUDING ANY WASTE, STAGING AND BORROW AREAS WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS.

THE AREA OF DISTURBANCE FOR BRIDGE 36 IS APPROXIMATELY 0.22 ACRES. THE AREA OF DISTURBANCE FOR BRIDGE 38 IS APPROXIMATELY 0.24 ACRES. THE TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 0.46 ACRES.

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

## 1.2 SITE INVENTORY

### 1.2.1 OFF SITE DRAINAGE CHARACTERISTICS (UP AND DOWN-GRADIENT)

BOTH BRIDGES ARE LOCATED IN RESIDENTIAL NEIGHBORHOODS. THE WATER RUNOFF SHOULD BE MINIMAL AND BE LIMITED TO THE PROJECT AREAS DUE TO THE NATURE OF THE SURROUNDING TERRAIN.

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

### 1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TOPOGRAPHY OF THE AREA IS RELATIVELY FLAT, WITH STEEP SLOPES OCCURING ONLY AT SIDE SLOPES OF EXISTING RAILROAD BED.

### 1.2.4 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF MOSTLY OPEN LAWN AREAS WITH PATCHES OF TREES AND OTHER VEGETATION. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY THE PROPOSED PROJECT.

DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

### 1.2.5 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF WINDSOR, VERMONT. SOILS IN THE PROJECT SITE ARE AS FOLLOWS:

5E WINDSOR , LOAMY FINE SAND, 25 - 60% SLOPES, "K FACTOR" = 0.49

32B URBAN LAND, WINDSOR-AGAWAM COMPLEX, 0 - 8% SLOPES, "K FACTOR" = 0.49

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.

### 1.2.6 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: YES, SEE GENERAL NOTES FOR DETAILS
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: NO
WETLANDS: NO

## 1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF CONSTRUCTION GENERAL PERMIT 3-9020 BASED ON THE PROJECT IMPACT AREA. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, THEN THE SELECTED CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL PERMITTING WITH VANR VIA FILING OF THE APPROPRIATE NOTICE OF INTENT UNDER THE CONSTRUCTION GENERAL PERMIT PROCESS.

## 1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE WORK OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE LIFE OF THE PROJECT MINIMIZING SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION CONTROLS.

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. 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.

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

(REFER TO THE LOW RISK SITE HANDBOOK FOR THE MOST UP TO DATE EROSION CONTROL DETAILS SEE WWW.AOT.STATE.VT.US/CADDHELP FOR EACH PRACTICE REQUIRED ON THE PROJECT TO INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING.)

### 1.4.1 MARK SITE BOUNDARIES
PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO DELINEATE THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION. PDF SHALL BE INSTALLED WHERE NECESSARY AND AT A MAXIMUM DISTANCE OF TEN FEET FROM THE CUT/FILL LIMITS

### 1.4.2 LIMIT DISTURBANCE AREA
IT IS RECOMMENDED TO EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES (PHASING) AS CONSTRUCTION PROCEEDS. ADDITIONAL MEASURES MAY BE NEEDED DUE TO THE PHASING OF THE PROJECT AND AS DIRECTED BY THE ENGINEER.

### 1.4.3 STABILIZE CONSTRUCTION EXIT
STABILIZED CONSTRUCTION ENTRANCES SHALL BE UTILIZED AS NECESSARY.

### 1.4.4 INSTALL SILT FENCE
SILT FENCE SHALL BE INSTALLED PRIOR TO ANY SLOPE WORK AS NECESSARY.

### 1.4.5 DIVERT UPLAND RUNOFF

### 1.4.6 SLOW DOWN CHANNELIZED RUNOFF
CHECK DAMS SHALL BE UTILIZED AS NECESSARY.

### 1.4.7 STABILIZE EXPOSED SOILS
SEED AND MULCH
EROSION MATTING

TRACKING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, WILL BE UTILIZED ON A REGULAR BASIS. SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF FORECASTED RAIN.
SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING INTERMITTENT PHASES OF CONSTRUCTION.

### 1.4.8 WINTER STABILIZATION
VARIOUS MEASURES SPECIFIC TO WINTER (SEE LOW RISK HANDBOOK)

### 1.4.9 STABILIZE SOIL AT FINAL GRADE
SEED AND MULCH
EROSION MATTTING

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

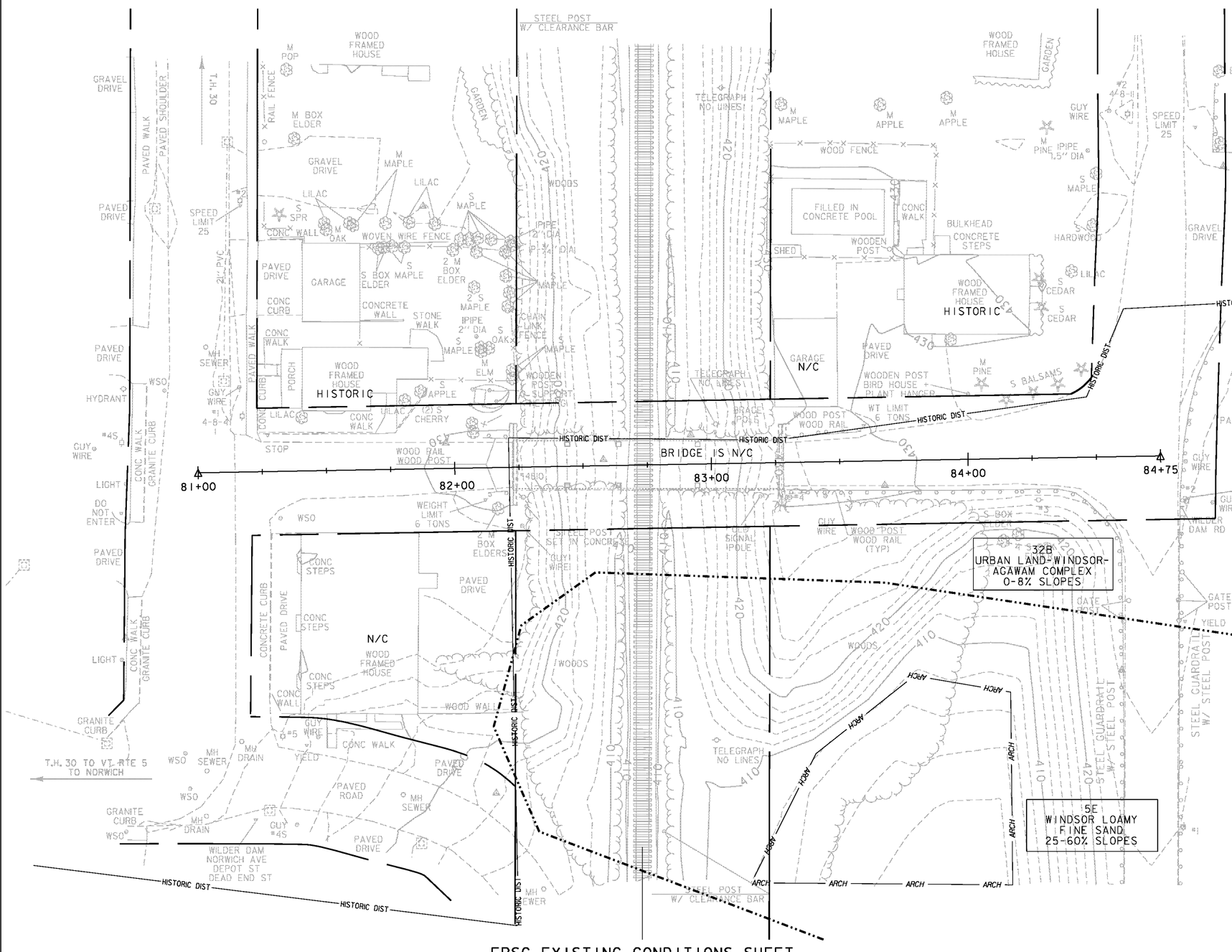
### 1.4.10 INSPECT YOUR SITE
INSPECT SITE BASED ON PERMIT AUTHORIZATION OR SPECIAL PROVISION REQUIREMENTS.

| | |
|---|---|
| % WEIGHT | BROA |
| 37.5% | |
| 37.5% | |
| 5.0% | |
| 15.0% | |
| 5.0% | |
| 100% | |

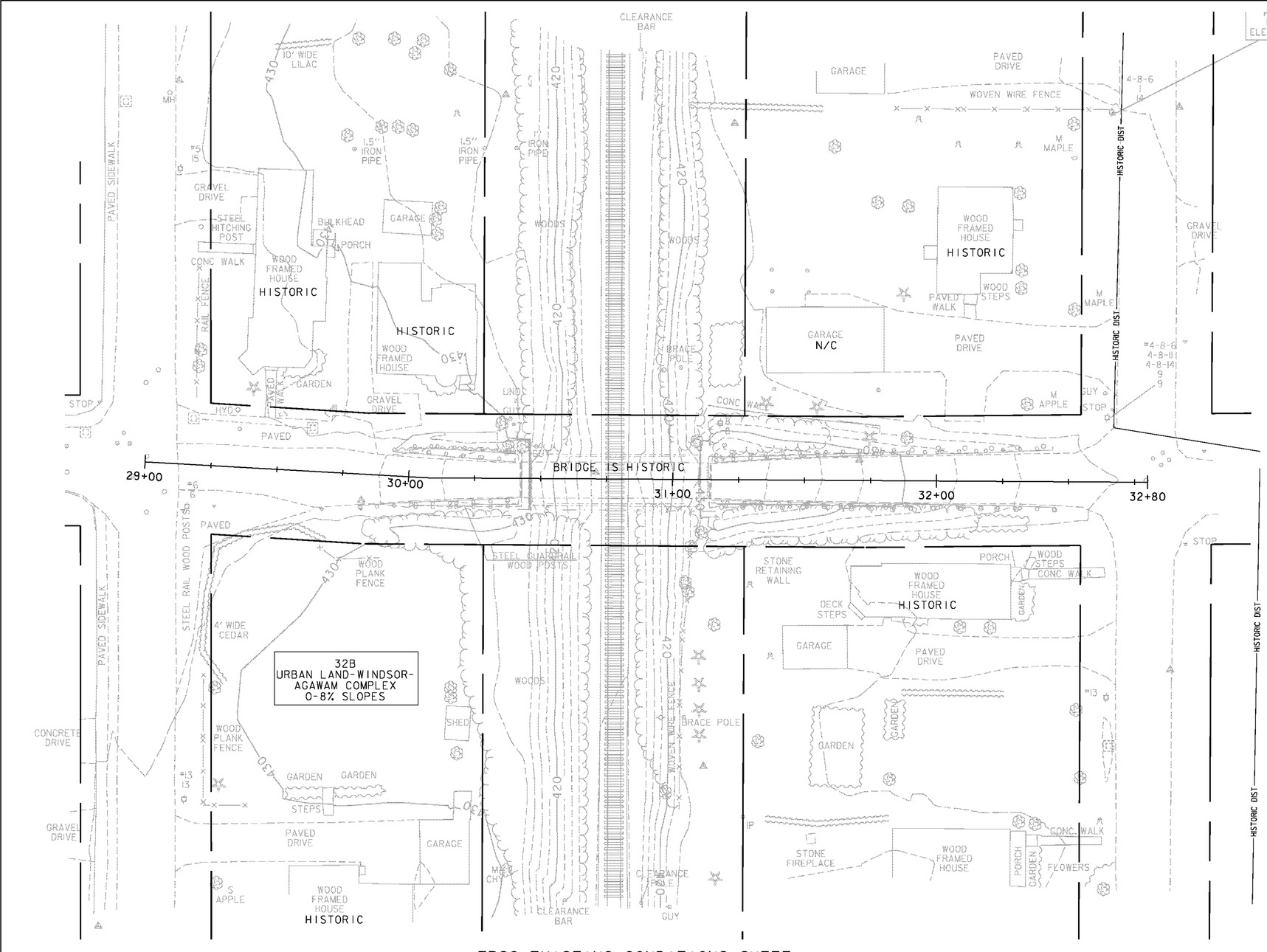
| | |
|---|---|
| % WEIGHT | BROA |
| 42.5% | |
| 10.0% | |
| 42.5% | |
| 5.0% | |
| 100% | |

1. RURAL SEED MIX: ESTABLISHED UPL
2. URBAN SEED MIX: ESTABLISHED LAW
3. ALL SEED MIXTUR WEIGHT AND SHAL
4. FERTILIZER AND DIRECTED BY THE
5. HAY MULCH: TO ACHIEVE 90% GRO
6. TOPSOIL: TO BE DIRECTED BY THE
7. HYDROSEEDING: AND THE TYPE OF TYPES OF SOIL A
8. TURF ESTABLISHM TO SEPTEMBER 15 GROWTH OF GRASS

ADAPTED FROM VTRAN ROADWAYS AND




EPSC EXISTING CONDITIONS SHEET




EPSC EXISTING CONDITIONS SHEET

SCALE 1" = 2
20 0

Vermont Agency of Transportation
RECEIVED
CK'D BY TCF OK'D BY KMH
2:22 pm, Apr 07, 2011
RESUBMIT ____ APPROVED X
BY KMH DATE 4-8-11

**COSMEC INC. / DYNAMIC RUBBER**
P.O. Box 2159
1501 Rocky Ridge Road
Athens, TX 75751
TEL: 903.677.2871 FAX: 903.675.4776

## *TRANSMITTAL SHEET*

TO: RENAUD BROTHERS INC.
ATTN: MIKE RENAUD renaudbr@sover.net
CC: DEBBIE PLANTE dplante@cosmecinc.com

DATE: 4/6/11
JOB: STP 1444 (35)
RE: SEALED SHOP DRAWING APPROVAL
DRP JOB NO: **10910** LOCATION: WILDER, VT.

WE TRANSMIT TO YOU UNDER SEPARATE COVER HERE WITH THE FOLLOWING DRAWINGS:

| DWG NO | REV NO | NO EACH | DESCRIPTION | REMARKS |
|---|---|---|---|---|
| 10910-D1 | 1 | 0 | SHOP DRAWING | P.E. SEAL INCLUDED |
| | | | | |
| | | | | |
| | | | | |
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| DWG NO | REV NO | NO EACH | DESCRIPTION | REMARKS |
|---|---|---|---|---|
| | | | | |
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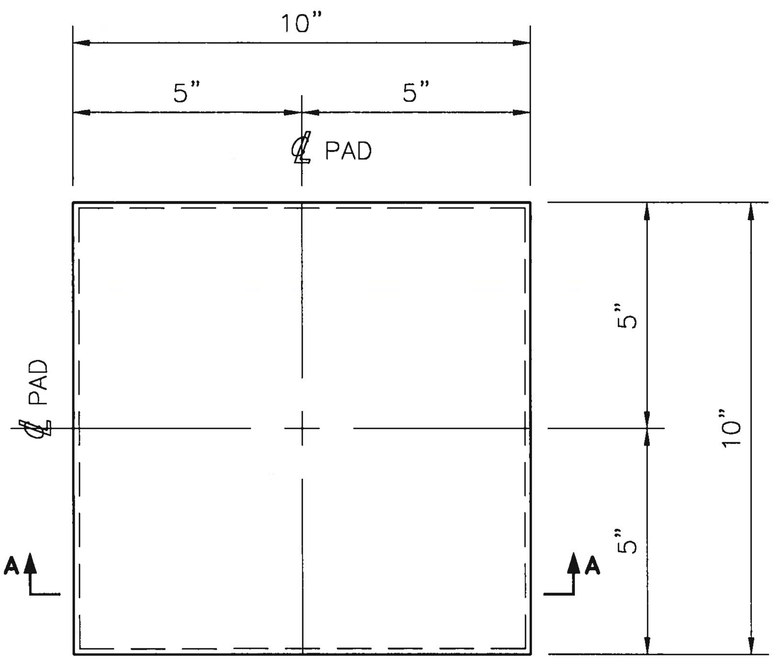
COMMENTS:

SUBMITTED FOR APPROVAL.

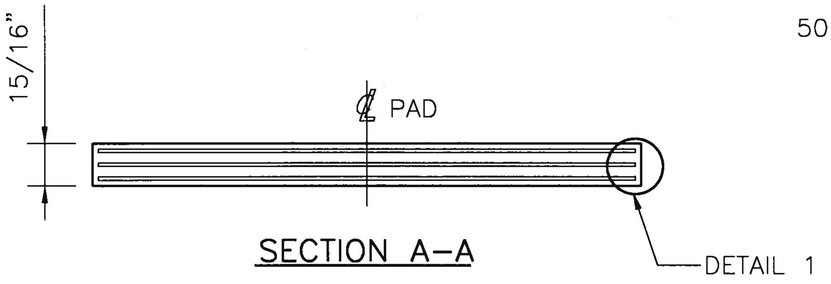
THE ABOVE PRINTS ARE SUBMITTED TO YOU FOR:

BY:
(XXX) Approval ( ) Final Approval ( ) Distribution
( ) Field Use ( ) Fabrication (XXX) E-MAIL
( ) Next Day Air ( ) Second Day Air ( ) Messenger
( ) UPS ( ) First Class Mail ( ) Fax

Thank you
Jennifer Garza
COSMEC INC. / DYNAMIC RUBBER PRODUCTS

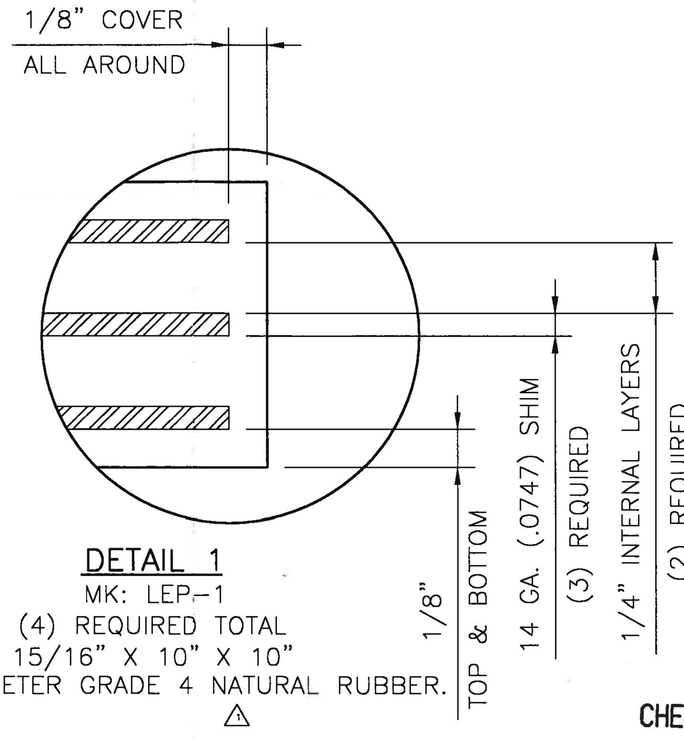



PLAN VIEW




SECTION A–A

LAMINATED ELASTOMERIC BEARING PADS
(4) REQUIRED TOTAL



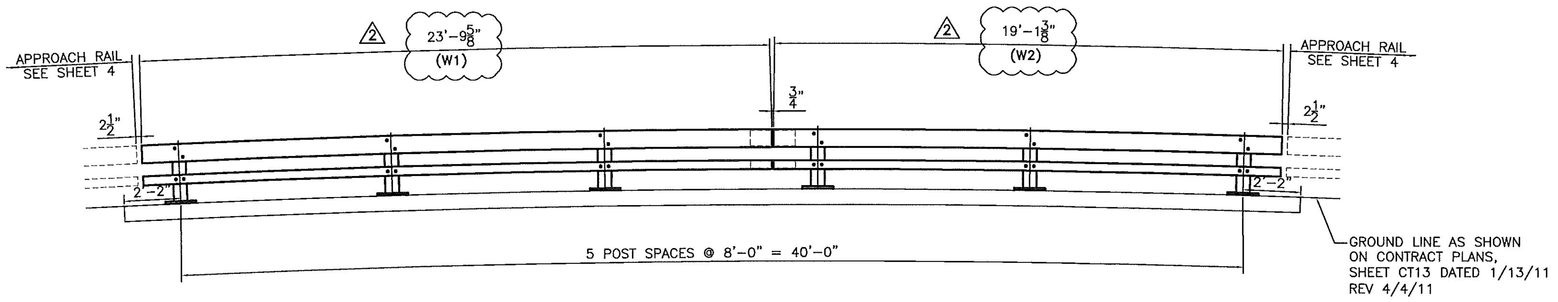

DETAIL 1
MK: LEP–1
(4) REQUIRED TOTAL
15/16" X 10" X 10"
50 DUROMETER GRADE 4 NATURAL RUBBER. △1

CHE

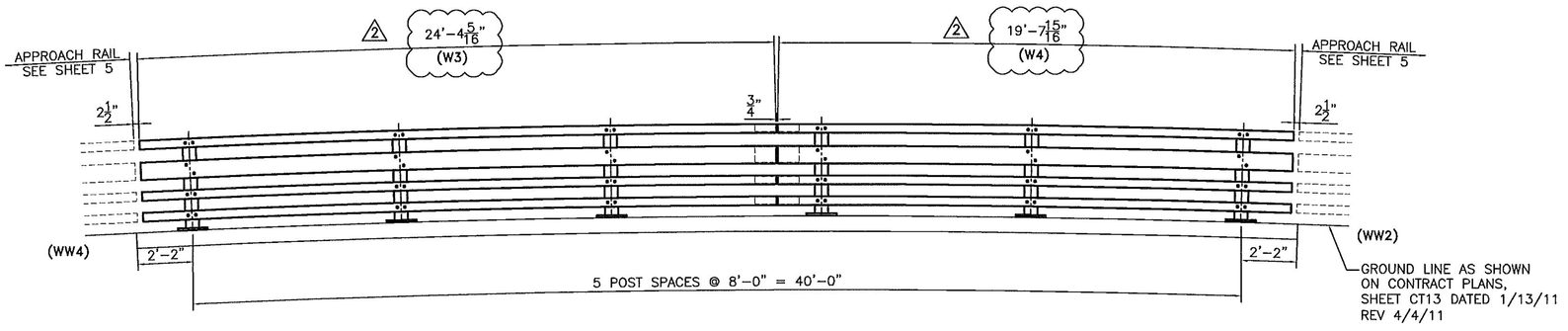
**OWNER PREPARED D**
**FOR CONFORMANCE**
**DIMENSIONAL REQU**

Vermont Agency of Transportation
**RECEIVED**
CK'D BY TCF OK'D BY KMH
2:22 pm, Apr 07, 2011
RESUBMIT _____ APPROVED X
BY KMH DATE 4-8-11

| REV. | |
|---|---|
| 1 | REVISED N PER CUSTO |




## ELEVATON – NORTH BRIDGE RAIL
FACING NORTH FROM ℄ ROAD




## ELEVATON – SOUTH BRIDGE RAIL
FACING SOUTH FROM ℄ ROAD

BILL OF MATERIAL (SOUTH SIDE 4-RAIL)

| Mk.# | Qty. | Description | Size/Shape | Weight/Qty. per Unit | Material |
|---|---|---|---|---|---|
| | 6 | BRIDGE RAIL PED POST 3'-5.375" OAH W/ BASE PLATE | | | |
| | 6 | POST UPRIGHT | W6 x 25 | 3'-4.375" | A572 Gr. 50 |
| | 6 | POST BASE PLATE | 10" x 1" | 1'-2" | A572 Gr. 50 |
| | 1 | SPLICE TUBE FOR 8 x 4 RAIL | | | |
| | 1 | TUBE | TS 7x3x3/8 | 1'-8" | A500 Gr. B |
| | 2 | WELDED LOCK NUT (OUTER HOLES ONLY) | 5/8" | ---- | A563 |
| | 3 | SPLICE TUBE FOR 4 x4 RAIL | | | |
| | 3 | TUBE | TS 3x3x5/16 | 1'-8" | A500 Gr. B |
| | 6 | WELDED LOCK NUT (OUTER HOLES ONLY) | 5/8" | ---- | A563 |
| 2 W3 | 1 | TOP RAIL (SHOP CURVED) | TS 4x4x0.25" | 24'-4 5/16" | A500 Gr. B |
| | 1 | SECOND RAIL (SHOP CURVED) | TS 8x4x0.313" | 24'-3 7/8" | A500 Gr. B |
| | 1 | THIRD RAIL (SHOP CURVED) | TS 4x4x0.25" | 24'-3 1/4" | A500 Gr. B |
| | 1 | BOTTOM RAIL (SHOP CURVED) | TS 4x4x0.25" | 24'-2 13/16" | A500 Gr. B |
| 2 W4 | 1 | TOP RAIL (SHOP CURVED) | TS 4x4x0.25" | 19'-7 15/16" | A500 Gr. B |
| | 1 | SECOND RAIL (SHOP CURVED) | TS 8x4x0.313" | 19'-7 9/16" | A500 Gr. B |
| | 1 | THIRD RAIL (SHOP CURVED) | TS 4x4x0.25" | 19'-7 1/16" | A500 Gr. B |
| | 1 | BOTTOM RAIL (SHOP CURVED) | TS 4x4x0.25" | 19'-6 11/16" | A500 Gr. B |
| | 48 | ROUND HEAD BOLT | 0.75"ø | 6" | A449 TYPE 1 |
| | 48 | LOCK NUT | 0.75"ø | ---- | A563 DH |
| | 48 | TYPE A WIDE PLAIN WASHER | .156"THK, .813" I.D | 2.00" O.D. | F436 |
| | 16 | CAP SCREW | 5/8" DIA. | 1.75" | A325 |
| | 16 | WASHER | 5/8" DIA. | -- -- -- | F436 |
| | 6 | BEARING PAD | 10" x 0.125" | 1'-2" | M251 |

TOTAL PAY LIMIT = 44'

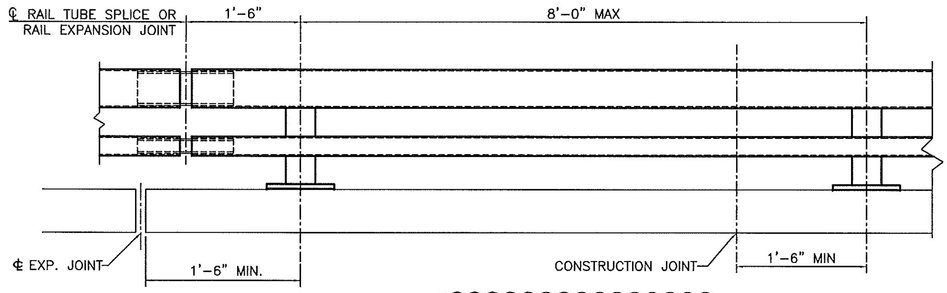
NOTES:
1. SPLICE TUBE AND HARDWARE FOR CONNECTING BRIDGE RAIL TO APPROACH RAIL WILL BE PROVIDED WITH APPROACH RAIL.

2. BRIDGE RAIL TUBES W1, W2, W3 & W4 TO BE SHOP CURVED, (VERTICALLY RADIUSED) TO 420' ± RADIUS.

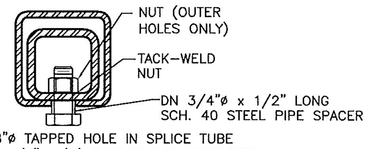
| No. | Remarks | Date |
|---|---|---|
| 2 | Per reviewer | 06-10-11 |
| 1 | Ground profile | 05-17-11 |
| 0 | Initial submittal | 12-15-10 |

REVISIONS

Vermont Agency
RECE
CK'D BY GML
9:00 am,
RESUBMIT
BY TCF

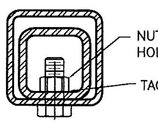



⚠1 BRIDGE RAILING ELEVATION

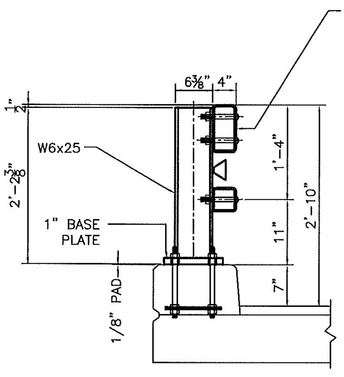



5/8"ø TAPPED HOLE IN SPLICE TUBE
AND 1 1/8" x 'C' SLOT IN RAIL TUBE FOR
BOLT AND PLAIN HARDENED WASHER

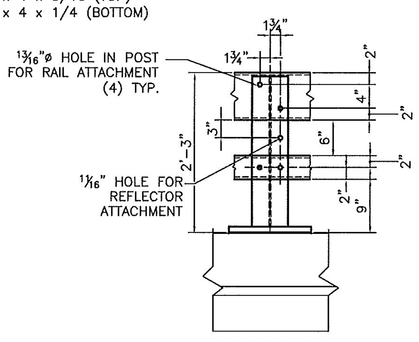
EXPANSION JOINT SECTION
FOR DETAILS NOT SHOWN,
SEE "RAIL TUBE SPLICE SECTION."



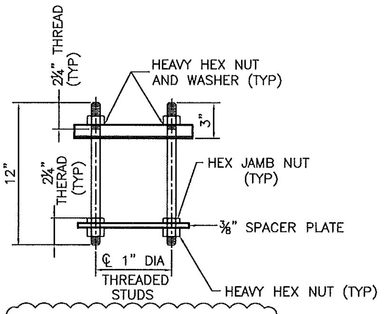

5/8"ø TAPPED HOLE IN SPLICE TU
3/4"ø HOLE IN RAIL TUBE FOR BO
PLAIN HARDENED WASHER



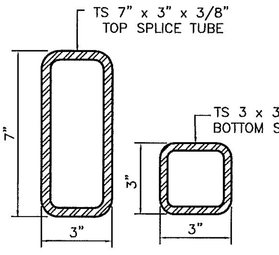

⚠1 TYPICAL SECTION



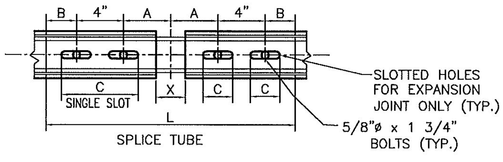

⚠1 ELEVATION



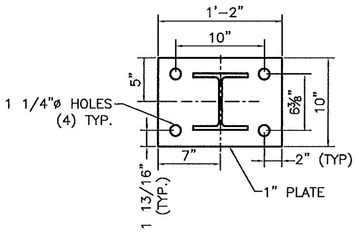

⚠1 RAIL POST ANCHORAGE
(BY OTHERS)



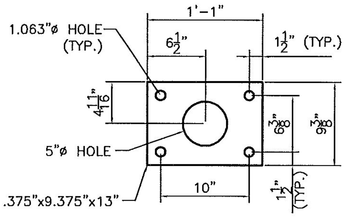

RAIL TUBE SPLICE SECTION




RAIL TUBE SPLICE AND RAIL
EXPANSION JOINT DETAIL



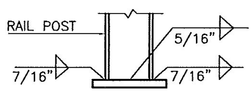

POST AND BASE PLATE




⚠1 ANCHOR PLATE
(BY OTHERS)

| SPLICE TABLE | | | | | |
|---|---|---|---|---|---|
| T | A | B | C | L | X |
| N/A | 4" | 2" | -- | 20" | 3/4" |
| EXPANSION JOINT TABLE | | | | | |
| <4" | 4" | 2" | 2 1/2" | 20" | 2 1/2" ⚠1 |

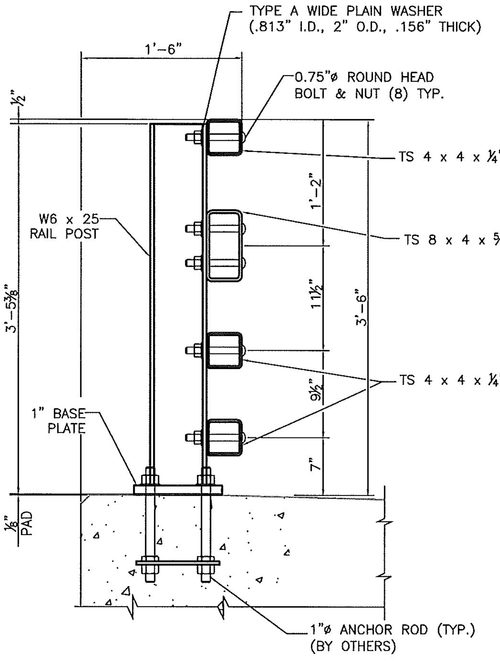
T = TOTAL MOVEMENT BETWEEN BRIDGE
EXPANSION JOINTS. SEE NOTE 5



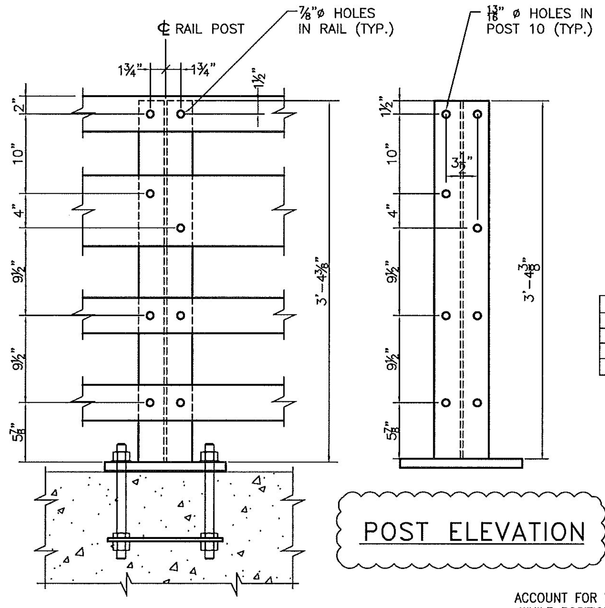

BASE WELD DETAIL

| REVISIONS | | |
|---|---|---|
| No. | Remarks | Date |
| 0 | Initial submittal | 12-15-10 |
| 1 | Per reviewer | 06-10-11 |
| | | |
| | | |

Vermont Age
REC
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BY TCF

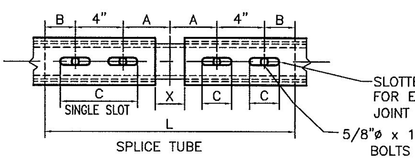



1 SECTION VIEW




1 PARTIAL RAIL ELEVATION

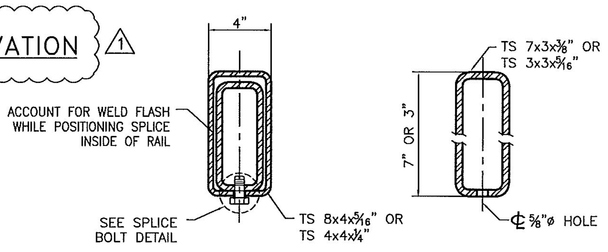
POST ELEVATION 1



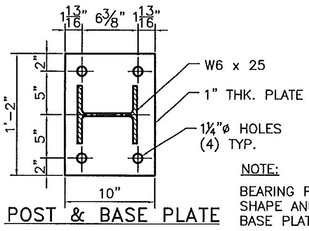

RAIL TUBE SPLICE AND RAIL
EXPANSION JOINT DETAIL

| SPLICE TABLE | | | | | |
|---|---|---|---|---|---|
| T | A | B | C | L | X |
| N/A | 4" | 2" | --- | 20" | 3/4" |
| EXPANSION JOINT TABLE | | | | | |
| <4" | 4" | 2" | 2 1/2" | 20" | 2 1/2 |

T = TOTAL MOVEMENT BETWEEN BRIDGE
EXPANSION JOINTS. SEE NOTE 5 1

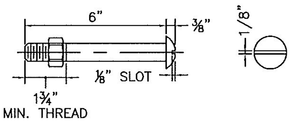


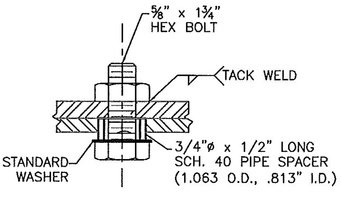

RAIL SPLICE SECTION




POST & BASE PLATE

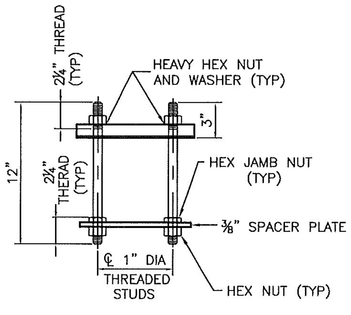
NOTE:
BEARING PAD TO HAVE SAME
SHAPE AND DIMENSIONS AS
BASE PLATE.



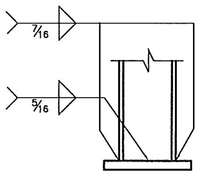




SPLICE BOLT
DETAIL

1 3/4" DIA. A449 (TYPE 1)
ROUND HEAD BOLT
(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT)
(SEE NOTE #8)
ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.




RAIL POST ANCHORAGE
(BY OTHERS)

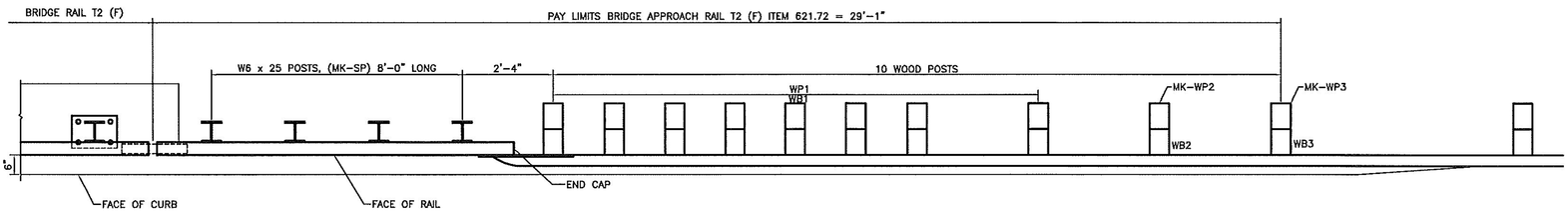



BASE WELD DETAIL

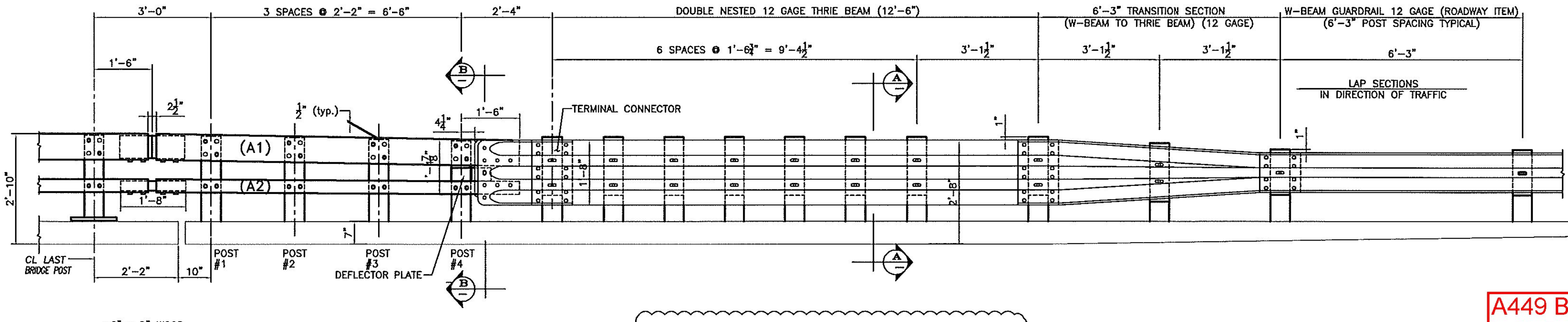
| No. | Remarks | Date |
|---|---|---|
| 1 | Per reviewer | 06-10-11 |
| 0 | initial submittal | 12-15-10 |

REVISIONS

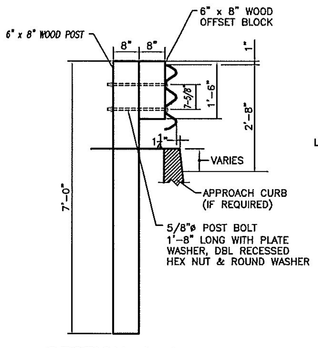
Vermont Agency
RECE
CK'D BY GML
9:00 am, J
RESUBMIT
BY TCF



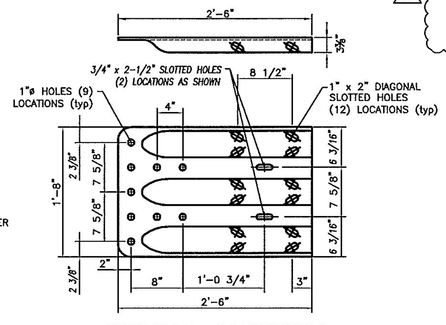

## PLAN



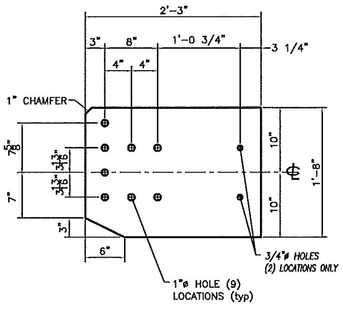

## 2 APPROACH RAIL ELEVATION
(TOTAL LIMIT ITEM 621.72 = 58 LF)



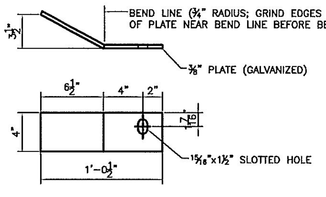

SECTION A–A



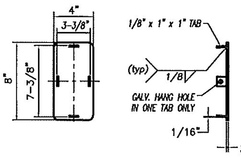

TERMINAL CONNECTOR
10 GAUGE (AASHTO M180 B2)



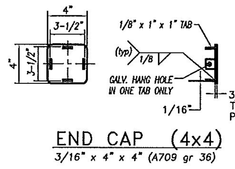

CONNECTION PLATE
3/8" x 1'-8" x 2'-3" (A709 gr 36)



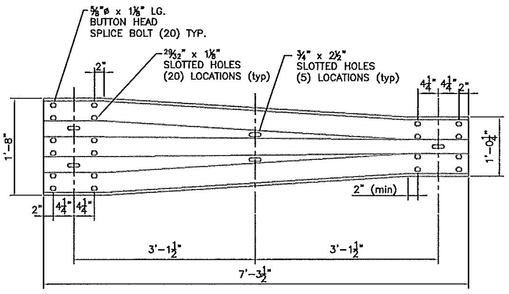

DEFLECTOR PLATE



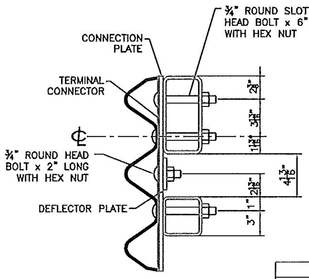

END CAP (8x4)
3/16" x 8" x 4" (A709 gr 36)



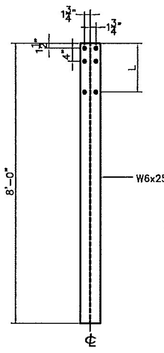

END CAP (4x4)
3/16" x 4" x 4" (A709 gr 36)




THRIE TRANSITION PANEL
12 GAUGE (AASHTO M180 A2)



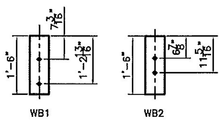

SECTION B–B




STEEL POST

STEEL POST CHART

| No. | L |
|---|---|
| #1 | 1'-3.250" |
| #2 | 1'-3" |
| #3 | 1'-2.688" |
| #4 | 1'-2.375" |

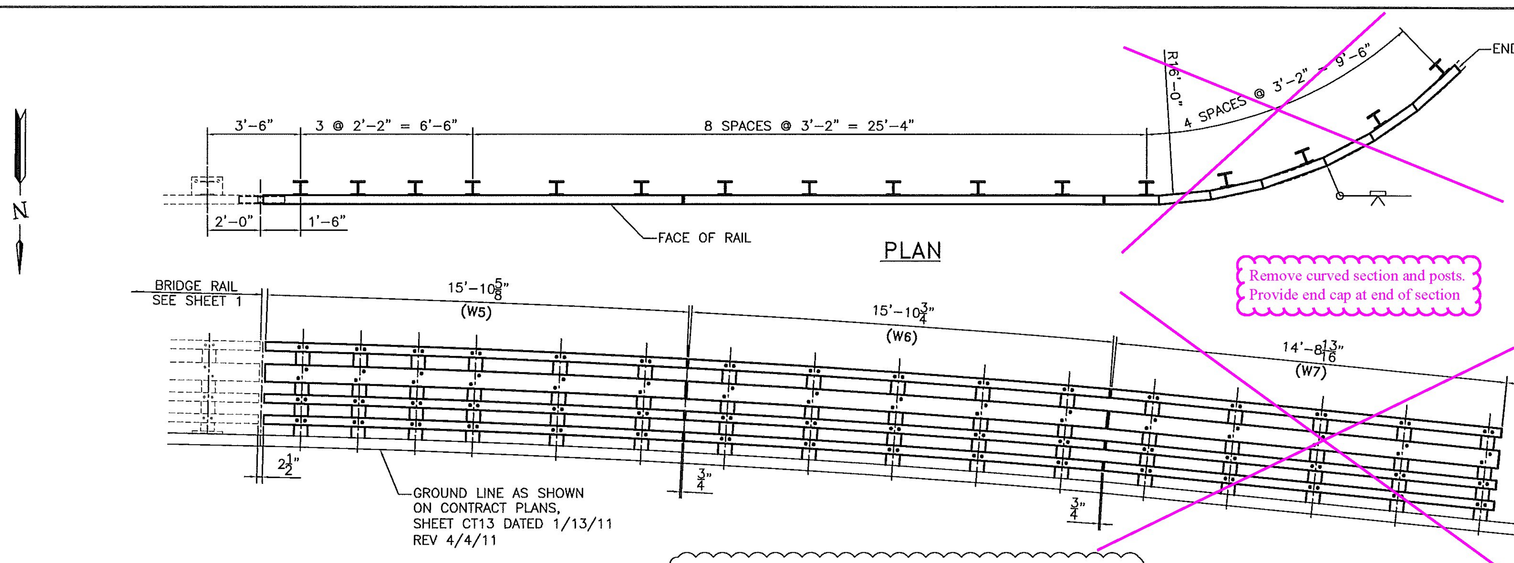



WOOD BLOCK DETA

| REVISIONS | | |
|---|---|---|
| No. | Remarks | Date |
| 0 | Initial submittal | 12-15-10 |
| 1 | Ground profile | 05-17-11 |
| 2 | Per reviewer | 06-10-11 |

A449 B
in Deta

Vermont Age
REC
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RESUBMIT
BY TCF

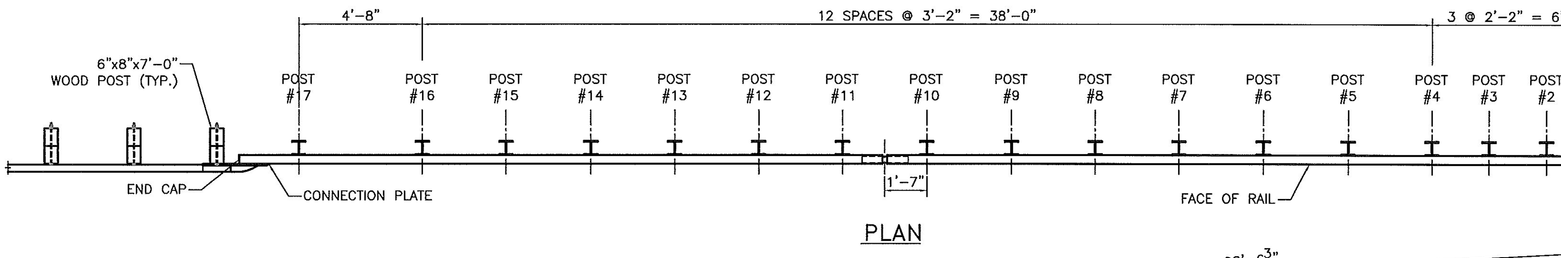



PLAN

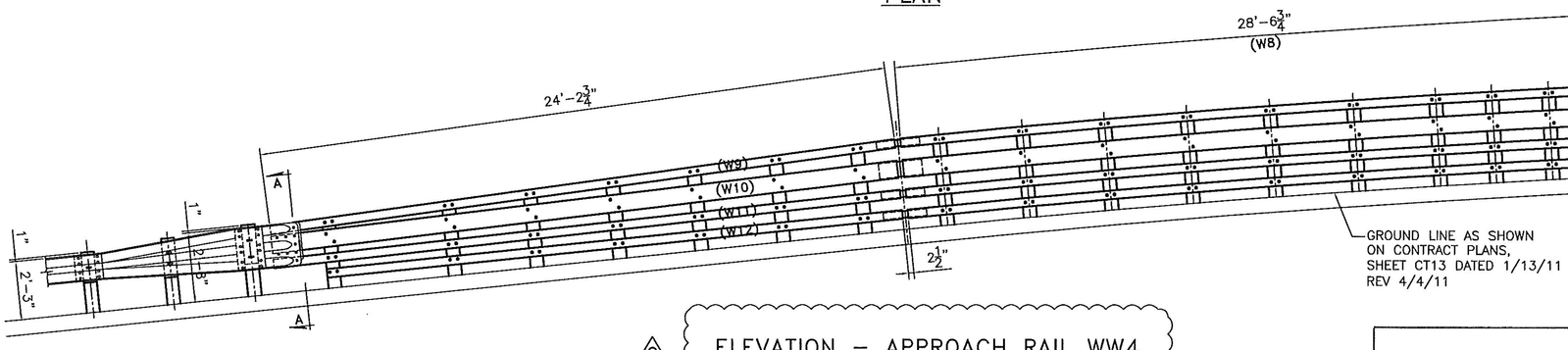
Remove curved section and posts.
Provide end cap at end of section




2 ELEVATION – APPROACH RAIL WW2
FACING SOUTH FROM ℄ ROAD




PLAN

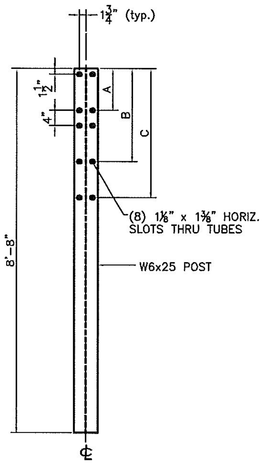



2 ELEVATION – APPROACH RAIL WW4
FACING SOUTH FROM ℄ ROAD

| No. | Remarks | Date |
|---|---|---|
| 2 | Per reviewer | 06-10-11 |
| 1 | Ground profile | 05-17-11 |
| 0 | Initial submittal | 12-15-10 |

REVISIONS

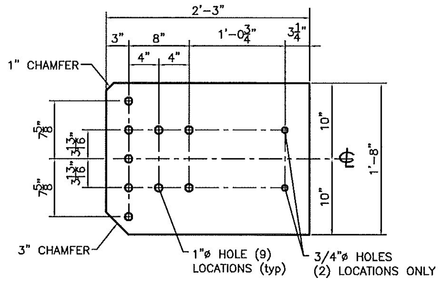
Vermont Agency
RECE
CK'D BY GML
9:00 am,
RESUBMIT
BY TCF



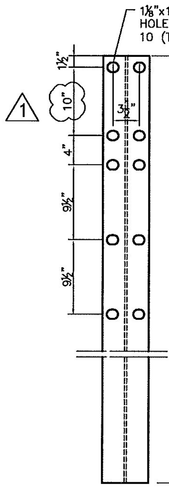

STEEL POST

STEEL POST CHART

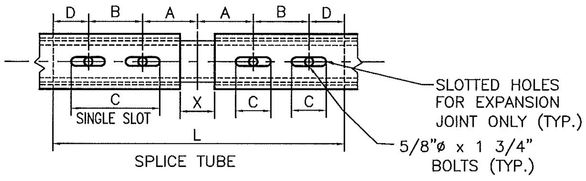
| No. | A | B | C |
|---|---|---|---|
| #11 | 11.188" | 2'-0.500" | 2'-9.813" |
| #12 | 10.563" | 1'-11.500" | 2'-8.500" |
| #13 | 9.938" | 1'-10.500" | 2'-7.125" |
| #14 | 9.250" | 1'-9.500" | 2'-5.75" |
| #15 | 8.625" | 1'-8.438" | 2'-4.438" |
| #16 | 7.938" | 1'-7.438" | 2'-2.563" |
| #17 | 6.875" | 1'-5.875" | 2'-0.563"" |



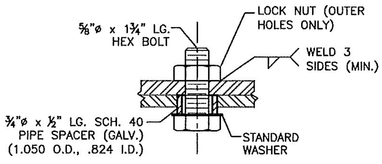

CONNECTION PLATE
3/8" x 1'-8" x 2'-3"




(WW4 POSTS 1
AND ALL POST




RAIL TUBE SPLICE AND RAIL EXPANSION JOINT DETAIL

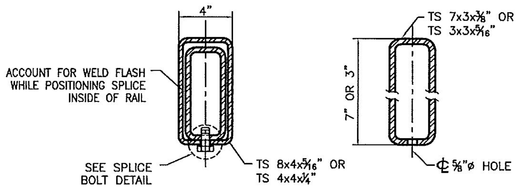



SPLICE BOLT DETAIL

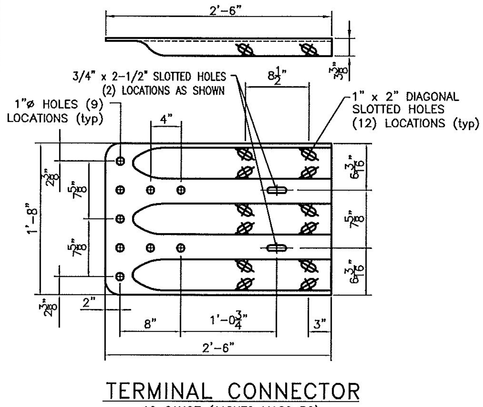
SPLICE JOINT TABLE

| T | A | B | C | D | X | L |
|---|---|---|---|---|---|---|
| INTERIOR | 4" | 4" | 2.5" | 2" | .75" | 1'-8" |
| ≤3.25" | 4" | 4" | 2.5" | 2" | 2.50" ① | 1'-8" |

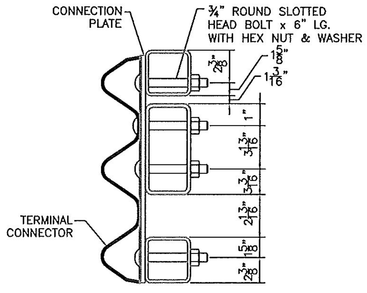
T = TOTAL MOVEMENT



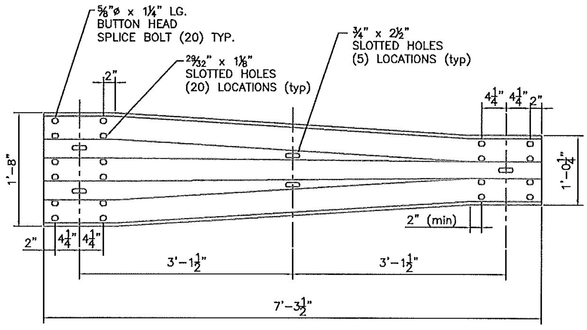

RAIL SPLICE SECTION




TERMINAL CONNECTOR
10 GAUGE (AASHTO M180 B2)




SECTION A–A




THRIE TRANSITION PANEL
12 GAUGE (AASHTO M180 A2)

ANGLED SPLICE

ANGLED SPLI

| TOP SPLICE |
|---|
| 0.750" |

| No. | Remarks | Date |
|---|---|---|
| 1 | Per reviewer | 06-10-11 |
| 0 | Initial submittal | 12-15-10 |

REVISIONS

Vermont Ag
RE
CK'D BY GML
9:00 a
RESUBMIT
BY TCF

# Highway Safety Corporation

Glastonbury, CT

## Welding Procedure Specification

Material specification: ASTM A500 gr B

Welding process: Gas Metal Arc Welding (GMAW)

Manual, semi-automatic, or automatic: Semi-Automatic

Position of welding: Flat (1F) or Horizontal (2F)

Filler metal specification: AWS A5.18

Filler metal classification: ER70S-3

Electrode and manufacturer: Lincoln Electric Lincoln Weld L-50

Flux and manufacturer: N/A

Shielding gas: 85% Argon / 15% CO2 Flow rate: 19-27 L / min

Single or multiple pass: Single

Single or multiple arc: Single

Welding current: DCEP

Polarity: Reverse - electrode positive

Welding progression: Stringers

Root treatment: clean base metal

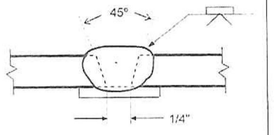
Preheat and interpass temperature: base metal up to 3/4" (50°F)

Postheat treatment: None

Electrode extension: 3/4" ± 1/4"

### WELDING PROCEDURE

| Weld size | Pass no. | Electrode size | Welding parameters | | Travel speed | Joint detail |
|---|---|---|---|---|---|---|
| | | | Amperes | Volts | | |
| | 1 | 0.045" | 300 A ± 30 | 29 V ± 2 | 14 ipm ± 2 | B-U2a |




This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the limitation of variables given in section 5 of latest edition AWS D1.1

WPS no.: W-1791C

Revision no.: 0

Supporting PQR no.: Pre-Qualified

Project Name: Hartford (Wilder) Vermont

Fabricator: Highway Safety Corporation

Prepared By: Paul Radice

Date: 12/14/10

Project Number: STP 1444 (35)

VTRANS
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JUN 06 2011
RESUBMIT _____ APPROVED ✓
BY kmH DATE 06/06/11

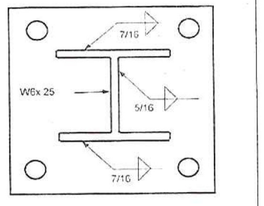
# Highway Safety Corporation

Glastonbury, CT

## Welding Procedure Specification

Material specification: A572 gr 50, A709 Gr 50
Welding process: Gas Metal Arc Welding (GMAW)
Manual, semi-automatic, or automatic: Semi-Automatic
Position of welding: Flat (1F) or Horizontal (2F)
Filler metal specification: AWS A5.18
Filler metal classification: ER70S-3
Electrode and manufacturer: Lincoln Electric Lincoln Weld L-50
Flux and manufacturer: N/A
Shielding gas: 85% Argon / 15% CO2 Flow rate: 19-27 L / min
Single or multiple pass: Single or Multiple
Single or multiple arc: Single
Welding current: DCEP
Polarity: Reverse - electrode positive
Welding progression: Stringers
Root treatment: clean base metal
Preheat and interpass temperature: base metal up to 3/4" (50°F) ; over 3/4 thru 1-1/2" ( 150°F ) : over 1-1/2" thru 2-1/2" (225°F)
Postheat treatment: None
Electrode extension: 3/4" ± 1/4"

### WELDING PROCEDURE

| Weld size | Pass no. | Electrode size | Welding parameters Amperes | Welding parameters Volts | Travel speed | Joint detail |
|---|---|---|---|---|---|---|
| 5/16" | 1 | 0.062" | 275 A ± 25 | 25 V ± 2 | 8-10 ipm |  |
| 7/16" | 1 & 2 | 0.062" | ↓ | ↓ | 8-10 ipm | |
| | | | | | | |



This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the limitation of variables given in section 5 of latest edition AWS D1.5

WPS no: W-1791A
Revision no: 0
Supporting POR no.: Pre-Qualified
Project Name: Hartford (Wilder) Vermont

Fabricator: Highway Safety Corporation
Prepared By: Paul Radice
Date: 12/14/10
Project Number: STP 1444 (35)

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BY KMH DATE 06/06/11

# Highway Safety Corporation

Glastonbury, CT

## Welding Procedure Specification

Material specification: ASTM A36, A709 Gr 36, A500 gr B, A53 gr B

Welding process: Gas Metal Arc Welding (GMAW)

Manual, semi automatic, or automatic: Semi-Automatic

Position of welding: Flat (1F) or Horizontal (2F)

Filler metal specification: AWS A5.18

Filler metal classification: ER70S-3

Electrode and manufacturer: Lincoln Electric Lincoln Weld L-50

Flux and manufacturer: N/A

Shielding gas: 85% Argon / 15% CO2 Flow rate: 19-27 L / min

Single or multiple pass: Single

Single or multiple arc: Single

Welding current: DCEP

Polarity: Reverse - electrode positive

Welding progression: Stringers

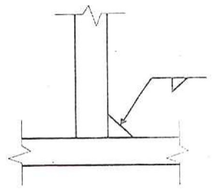
Root treatment: clean base metal

Preheat and interpass temperature: base metal up to 3/4" (50°F) ; over 3/4 thru 1-1/2" ( 150°F ) : over 1-1/2" thru 2-1/2" (225°F)

Postheat treatment: None

Electrode extension: 3/4" ± 1/4"

### WELDING PROCEDURE

| Weld size | Pass no | Electrode size | Welding parameters Amperes | Welding parameters Volts | Travel speed | Joint detail |
|---|---|---|---|---|---|---|
| 1/8" | 1 | 0.045" | 300 A ± 30 | 29 V ± 2 | 28 ipm ± 2 | TYPICAL ALL FILLET WELDS  |
| 3/16" | 1 | 0.045" | 300 A ± 30 | 29 V ± 2 | 14 ipm ± 2 | |

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the limitation of variables given in section 5 of latest edition AWS D1.1 / D1.5

WPS no: W-1791B

Revision no: 0

Supporting PQR no.: Pre-Qualified

Project Name: Hartford (Wilder) Vermont

Fabricator: Highway Safety Corporation

Prepared By: Paul Radice

Date: 12/14/10

Project Number: STP 1444 (35)

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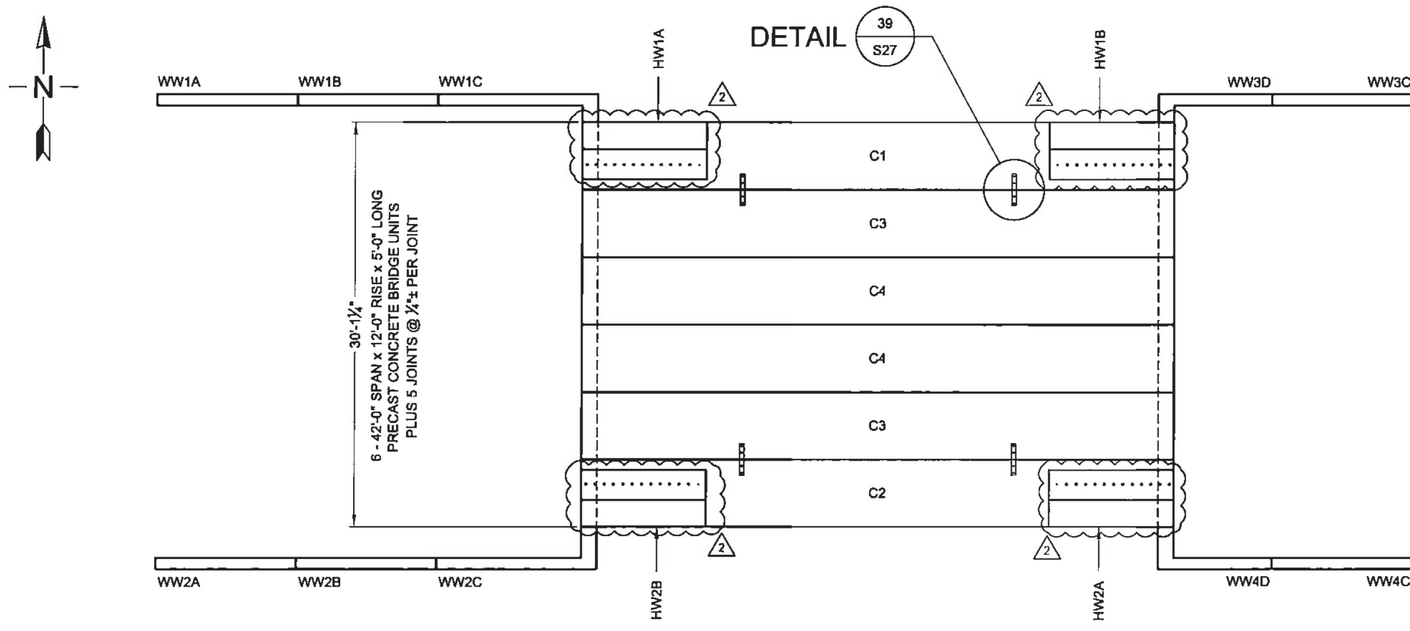
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JUN 06 2011

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BY KMH DATE 06/06/11

# HARTFORD TH#81 BRIDGE #36
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# HARTFORD, VERMONT




KEY PLAN

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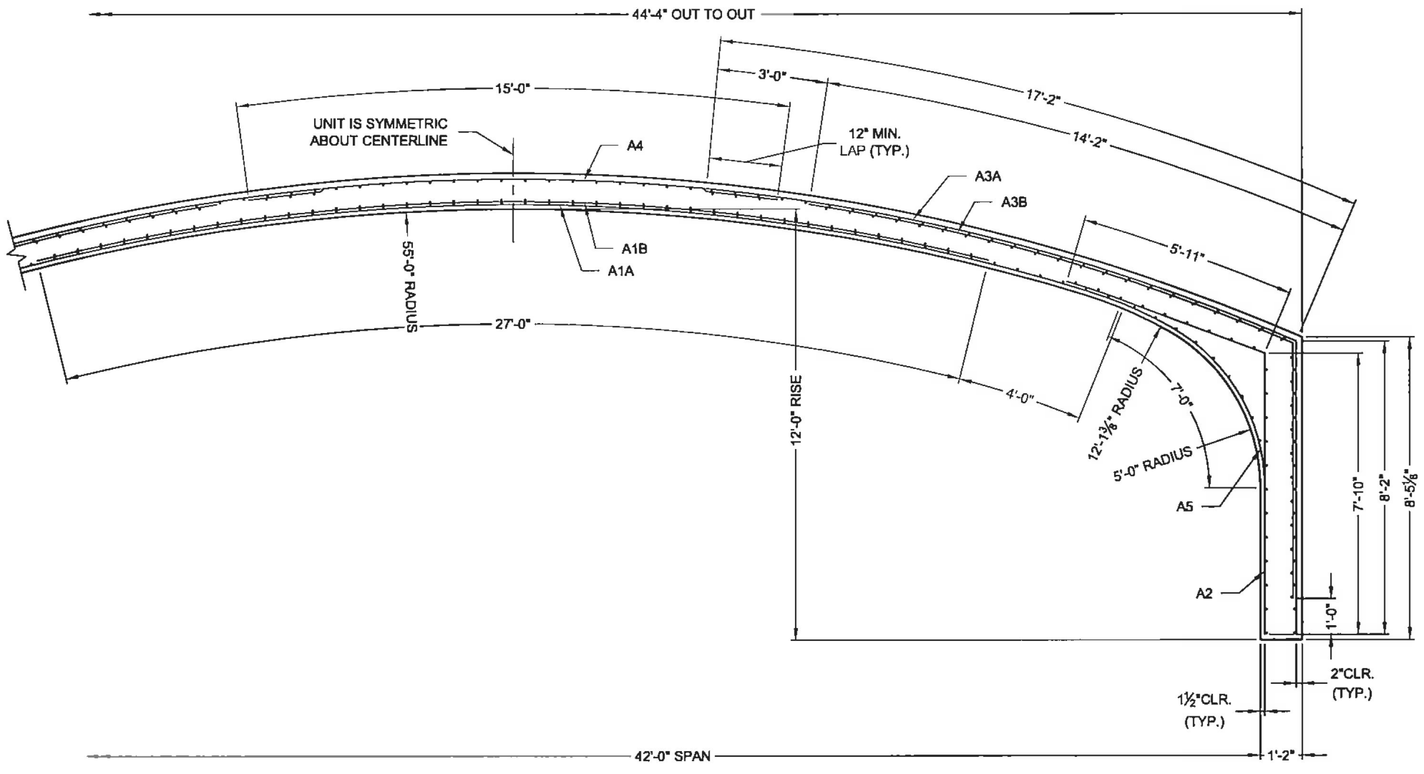

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| 4 | 4/18/2011 | NO CHANGES ON THIS SHEET | RKL |
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| 2 | 4/4/11 | REVISIONS PER REVIEWERS COMMENTS | RKL |
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# PRECAST UNIT REINFORCEMENT

WEIGHT OF REQUIRED REINFORCEMENT = 513 LBS/FT

| SHEET NO. | CIRCUMFERENTIAL AREA REQ'D (IN²/FT) | LONGITUDINAL AREA REQ'D (IN²/FT) | MESH SIZE | LENGTH (FT) | CIRCUMFERENTIAL AREA SUPL'D (IN²/FT) | LONGITUDINAL AREA SUPL'D (IN²/FT) |
|---|---|---|---|---|---|---|
| 1 | A1A = 0.72 | 0.13 | 2 x 6 W10 x W6.5 + #4 EA 18" CIRC | 35'-0" | 1 0.73 | 1 0.13 |
| 2 | A1B = 0.72 | 0.09 | 2 x 6 W10 x W6.5 + #4 EA 18" CIRC | 27'-0" | 0.73 | 0.13 |
| 3 | A2 = 0.48 | 0.13 | 4 x 6 W8 x W6.5 + #4 EA 10" CIRC | 13'-9" | 0.48 | 0.13 |
| 4 | A3A = 0.72 | 0.07 | 2 x 6 W10 x W6.5 + #4 EA 18" CIRC | 25'-4" | 0.72 | 0.13 |
| 5 | A3B = 0.72 | 0.06 | 2 x 6 W10 x W6.5 + #4 EA 18" CIRC | 21'-4" | 0.72 | 0.13 |
| 6 | A4 = 0.48 | 0.13 | 4 x 6 W8 x W6.5 + #4 EA 18" CIRC | 15'-0" | 0.48 | 0.13 |
| 7 | A5 = 0.24 | 0.13 | 4 x 6 W8 x W6.5 | 7'-0" | 0.24 | 0.13 |

DESIGN LOADING: HL-93

COVER = 6" MIN. \ 8⅜" MAX.

Vermont Agency of Transpo
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7:13 am, May 03, 2
RESUBMIT BY KMH APPROVE DATE

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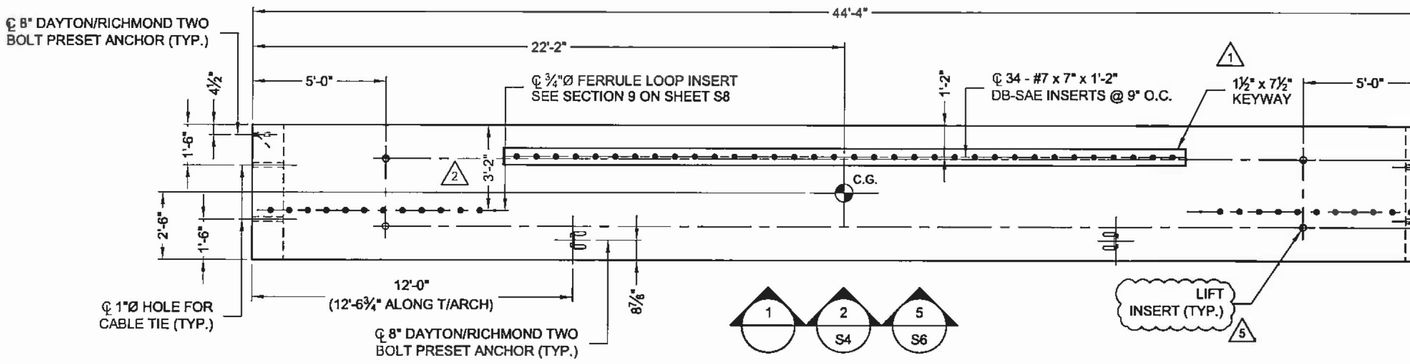
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| 4 | 4/18/2011 | NO CHANGES ON THIS SHEET | RKL |
| 3 | 4/8/2011 | NO CHANGES ON THIS SHEET | RKL |
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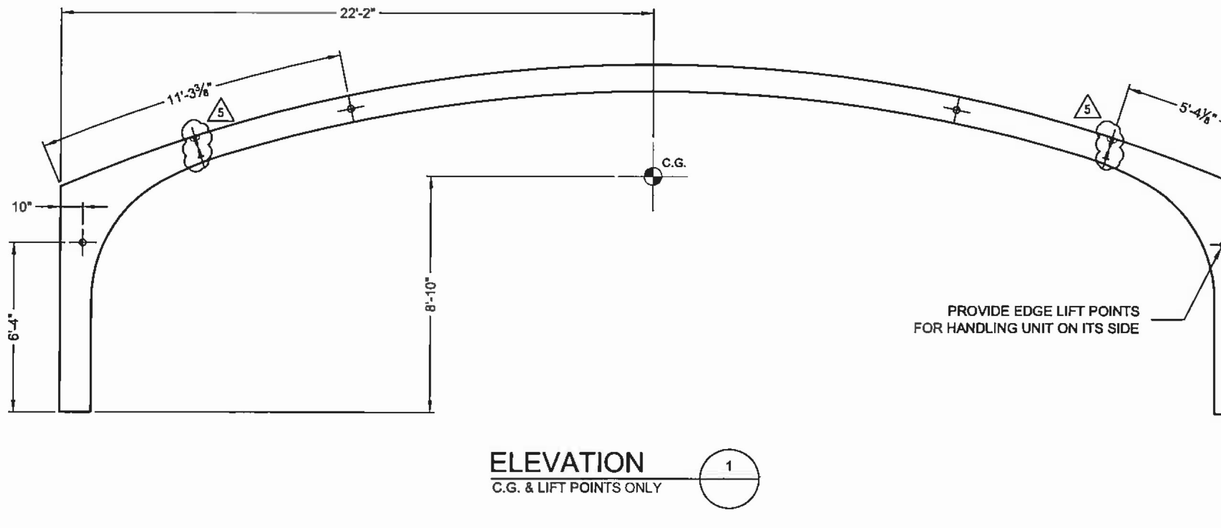
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## PLAN - C1 & C2

TOTAL WEIGHT = 25.8 TONS




## ELEVATION

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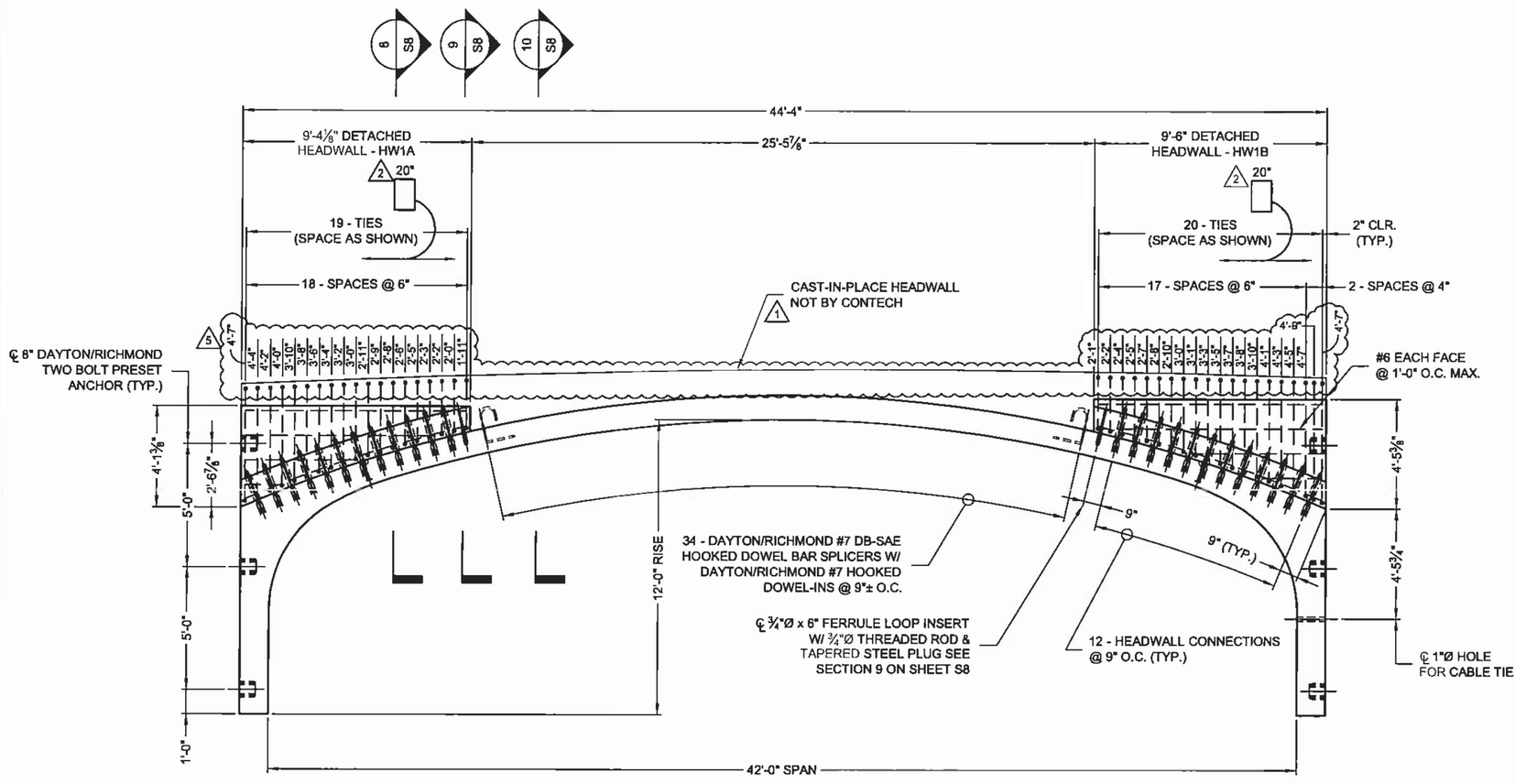
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ELEVATION 2 S3

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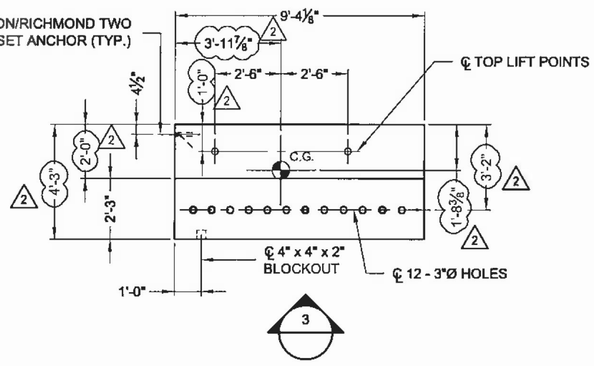
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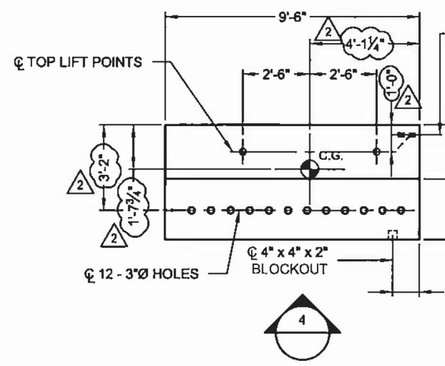
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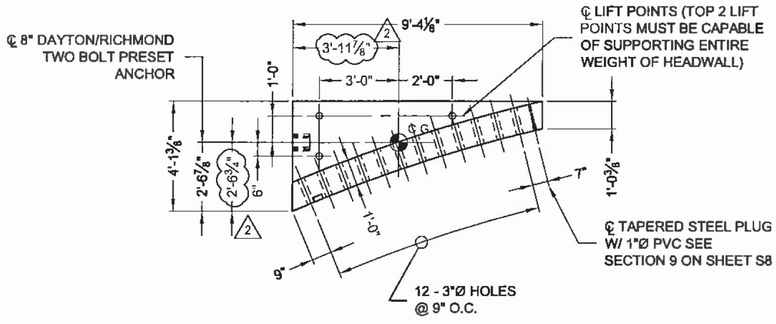

## PLAN - HW1A

TOTAL WEIGHT = 5.1 TONS 2

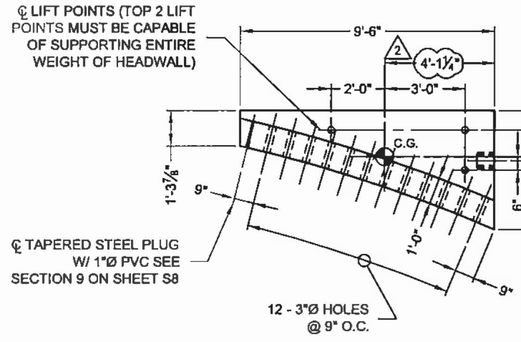



## PLAN - HW1B

TOTAL WEIGHT = 5.6 TONS




## ELEVATION




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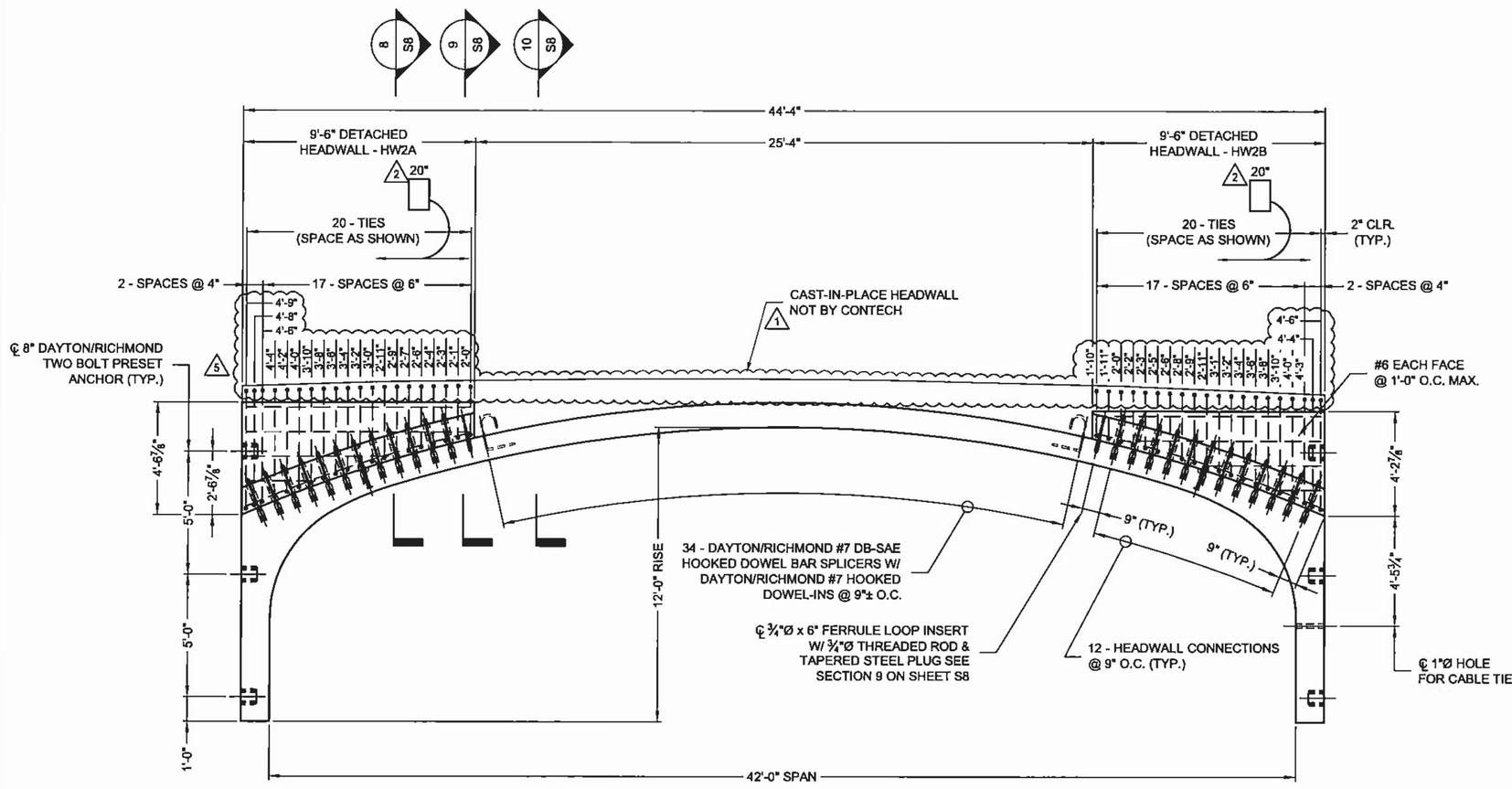

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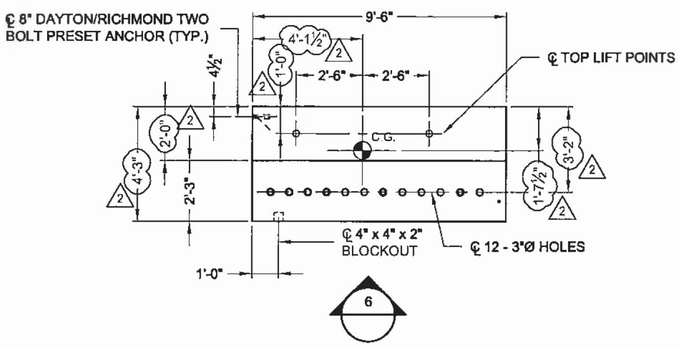
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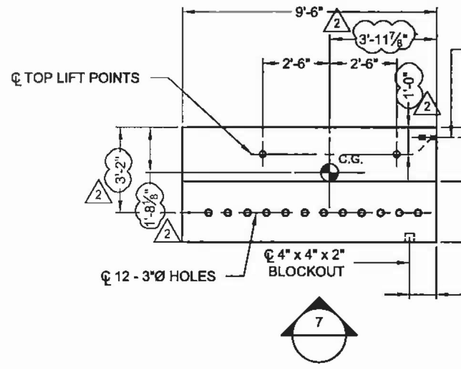
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## PLAN - HW2A

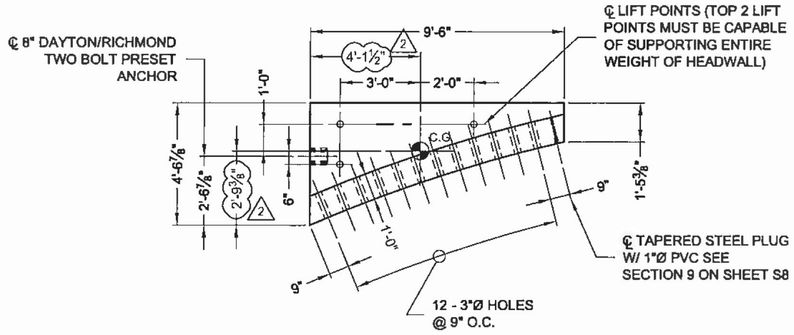
TOTAL WEIGHT = 5.8 TONS 2



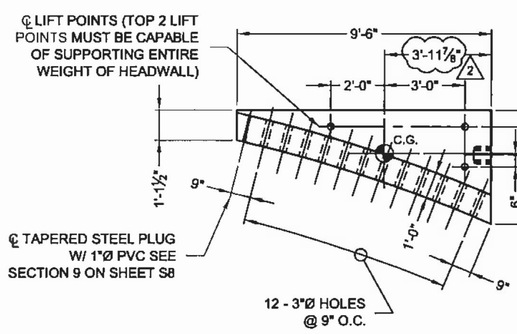

7

## PLAN - HW2B

TOTAL WEIGHT = 5.3 TONS




## ELEVATION 6




## ELEVATION 7


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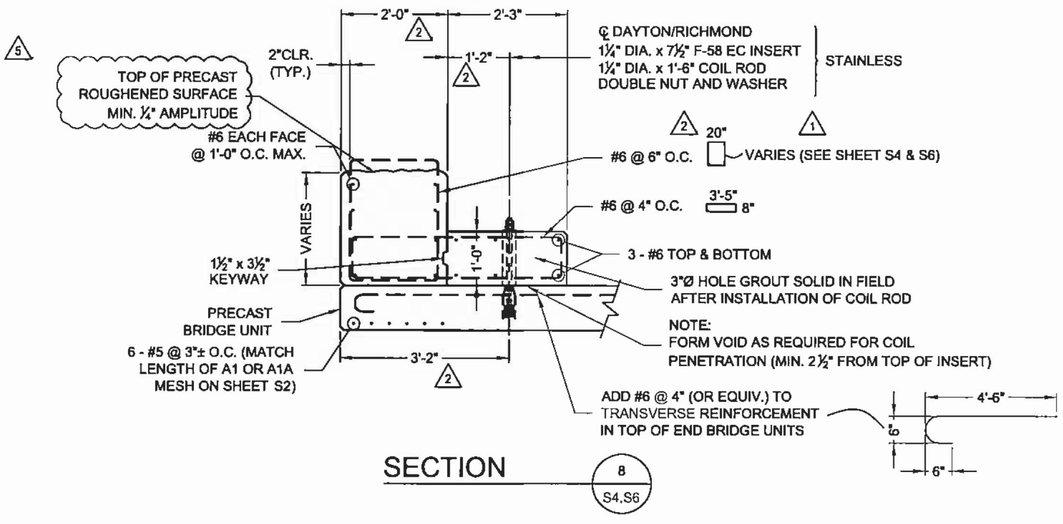

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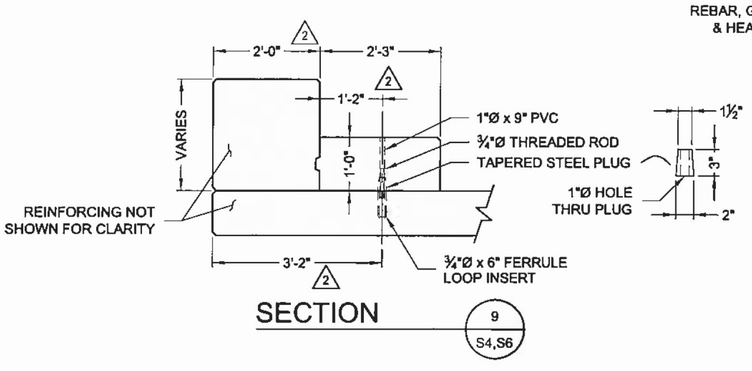

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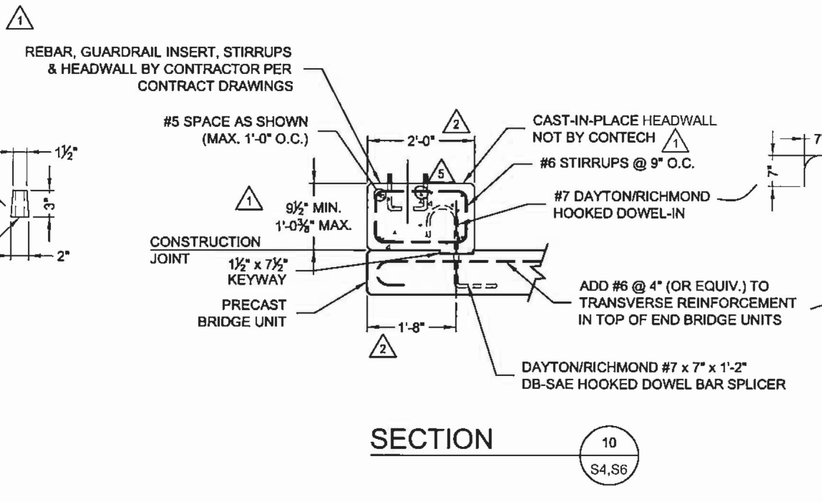

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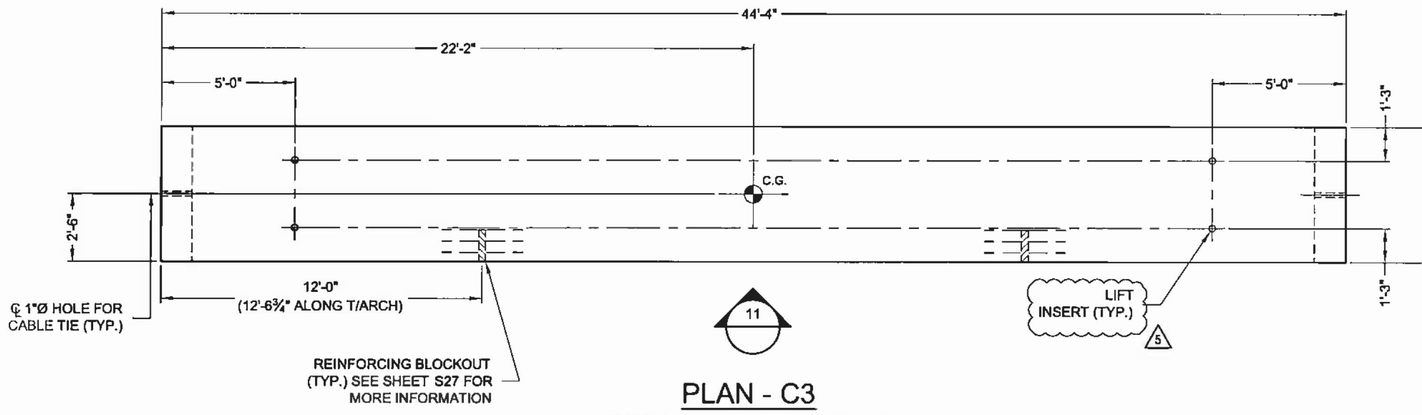
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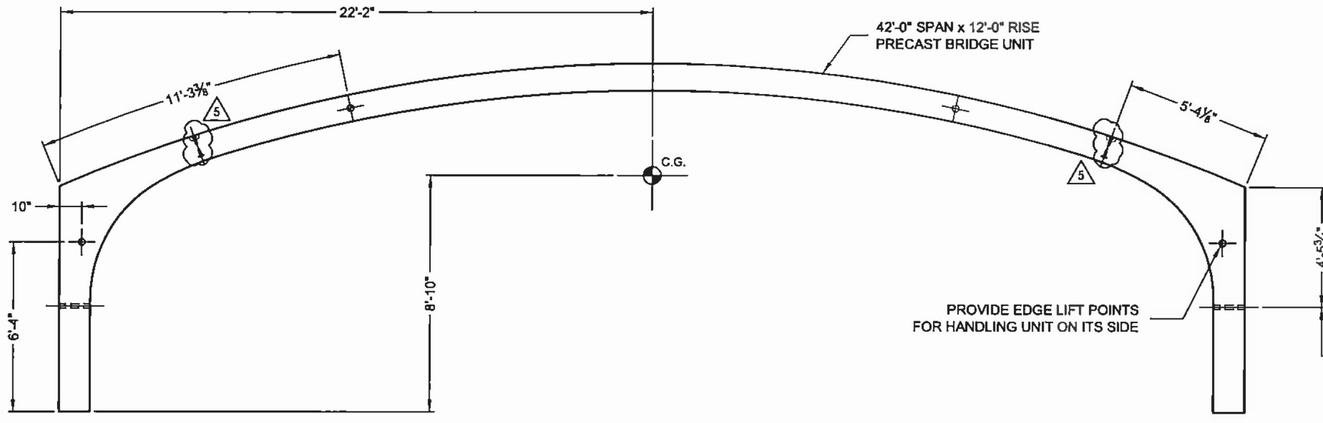
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## PLAN - C3

TOTAL WEIGHT = 25.8 TONS




## ELEVATION

11

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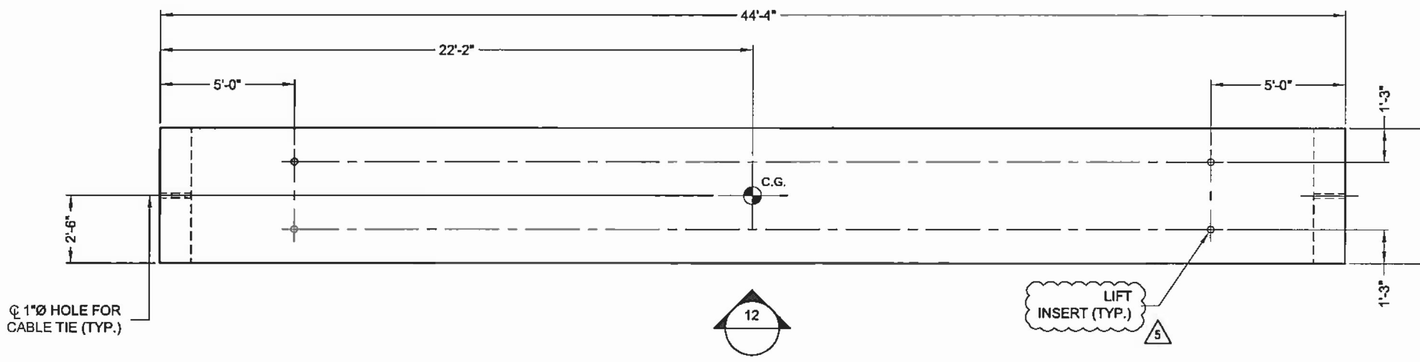
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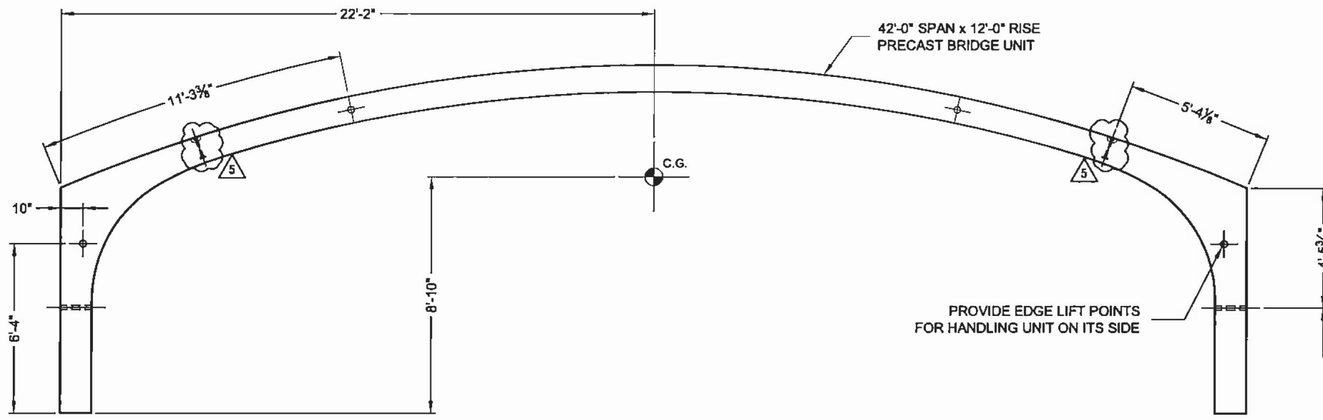
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## PLAN - C4

TOTAL WEIGHT = 25.8 TONS




## ELEVATION 12


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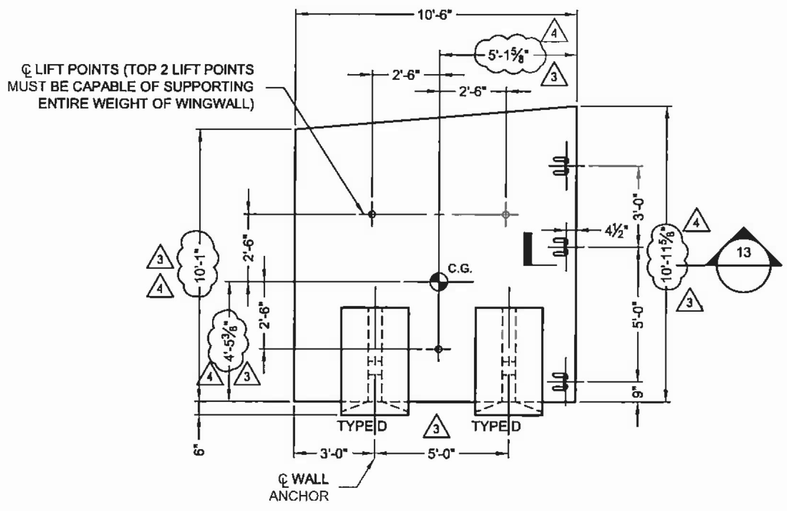

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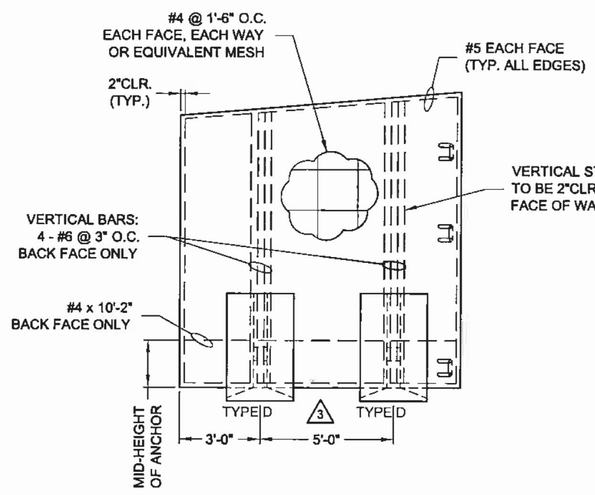
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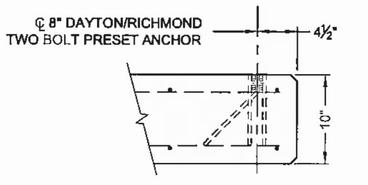

## WINGWALL - WW1A

TOTAL WEIGHT = 9.0 TONS (4)




## REINFORCING DETAIL - WW1A

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SECTION (13)

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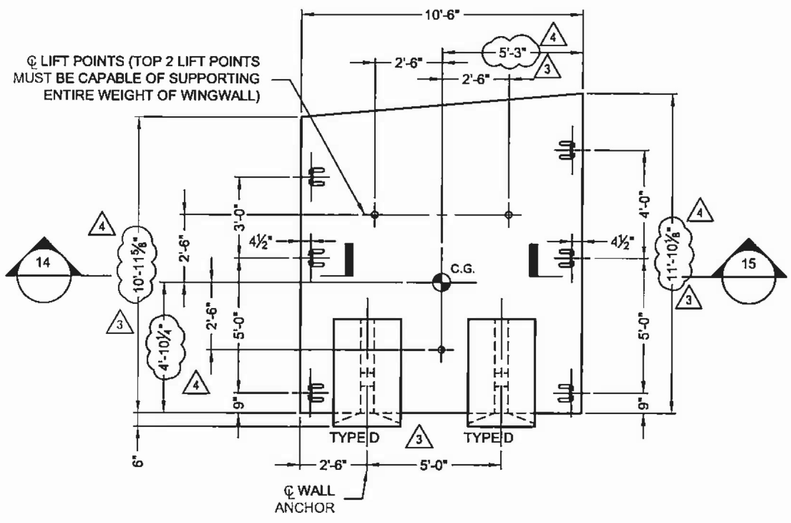
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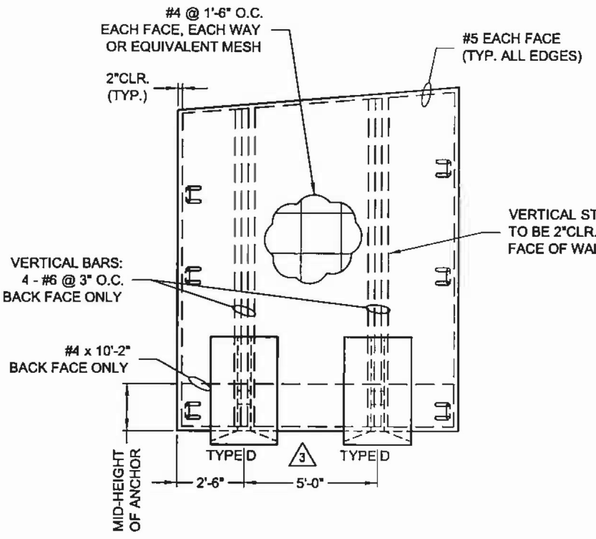
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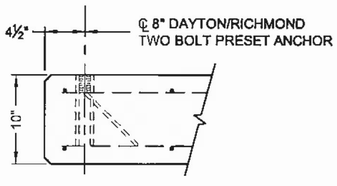

## WINGWALL - WW1B

TOTAL WEIGHT = 9.5 TONS 3 4

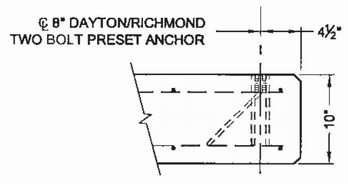



## REINFORCING DETAIL - WW1B

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SECTION 14




SECTION 15

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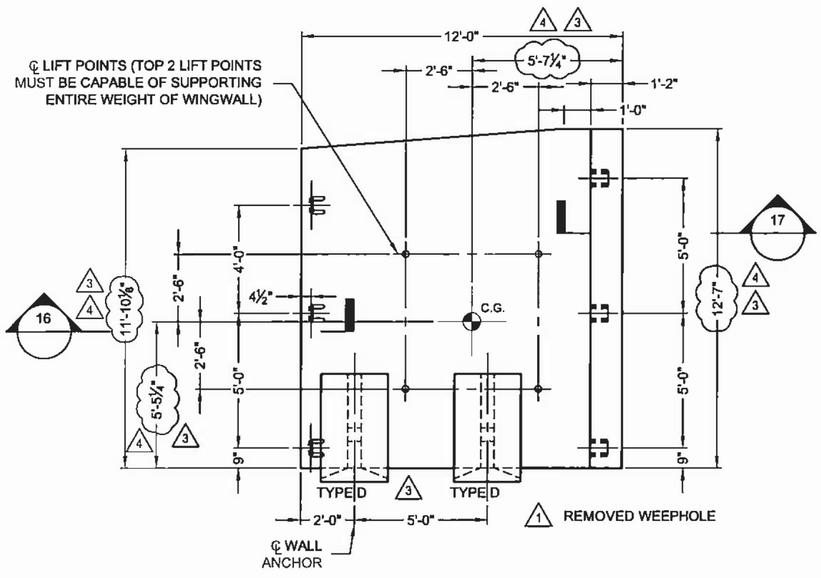
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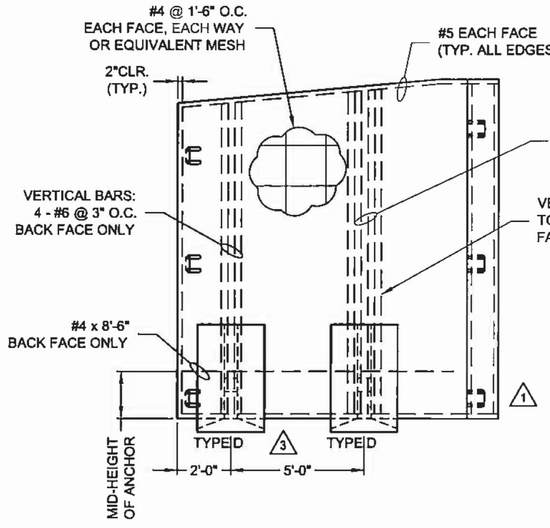
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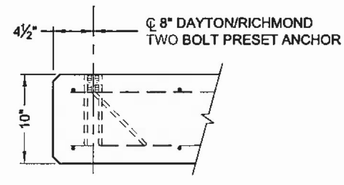

## WINGWALL - WW1C

TOTAL WEIGHT = 12.6 TONS

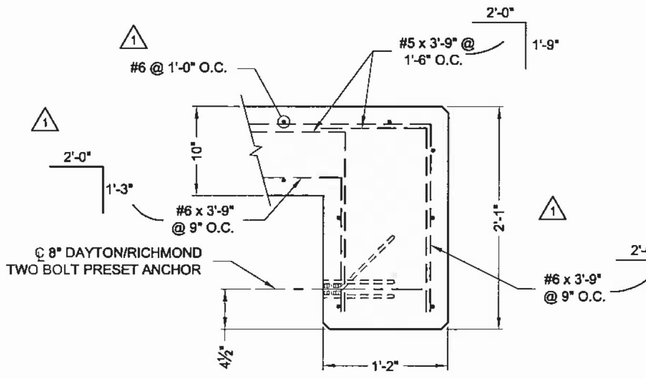



## REINFORCING DETAIL - WW1C

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## SECTION 16




## SECTION 17

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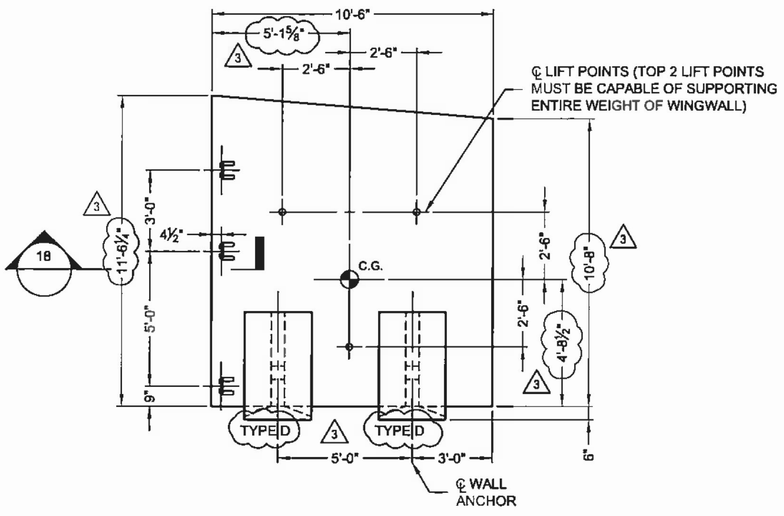
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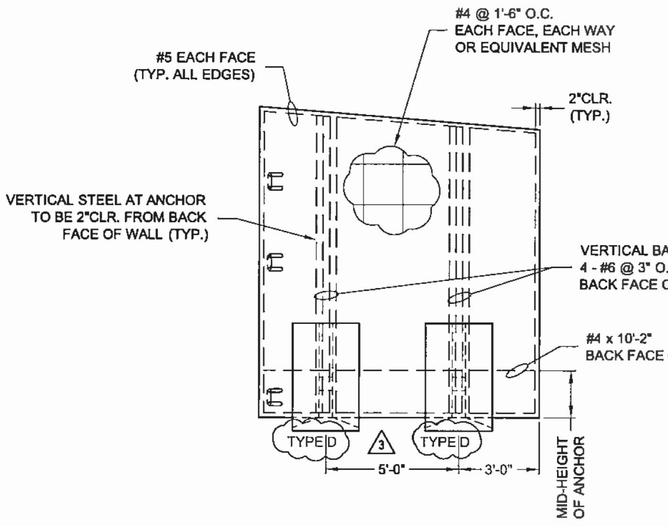
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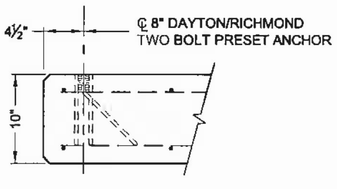

## WINGWALL - WW2A

TOTAL WEIGHT = 9.3 TONS ③




## REINFORCING DETAIL - WW2A

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SECTION 18

Vermont Agency of Transportation

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CK'D BY GML OK'D BY TCF

7:13 am, May 03, 2011

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BY KMH DATE 5-3-11

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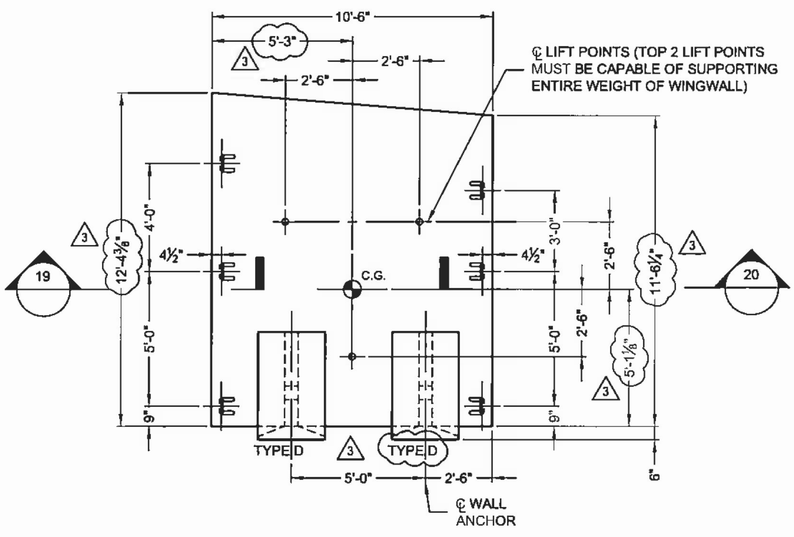
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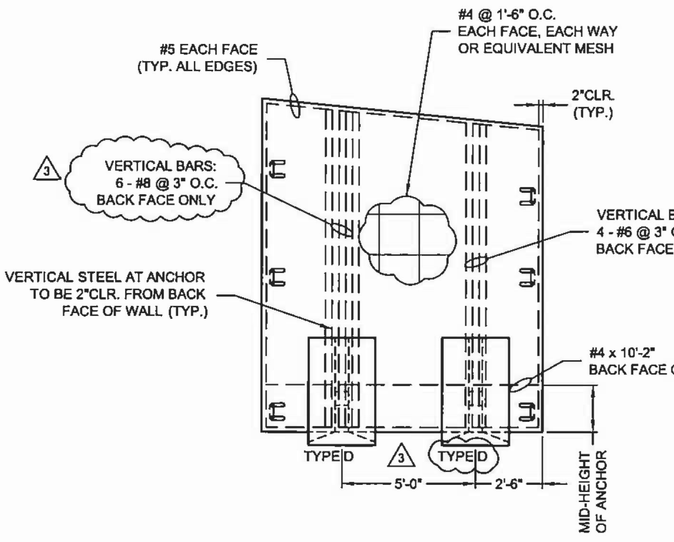
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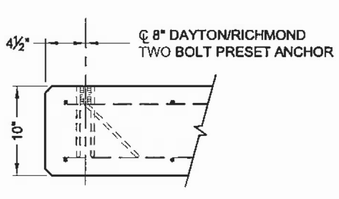

## WINGWALL - WW2B

TOTAL WEIGHT = 9.9 TONS ③

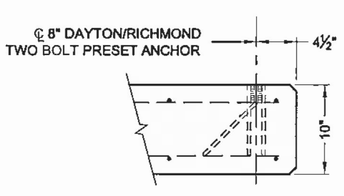



## REINFORCING DETAIL - WW2B

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SECTION 19




SECTION 20

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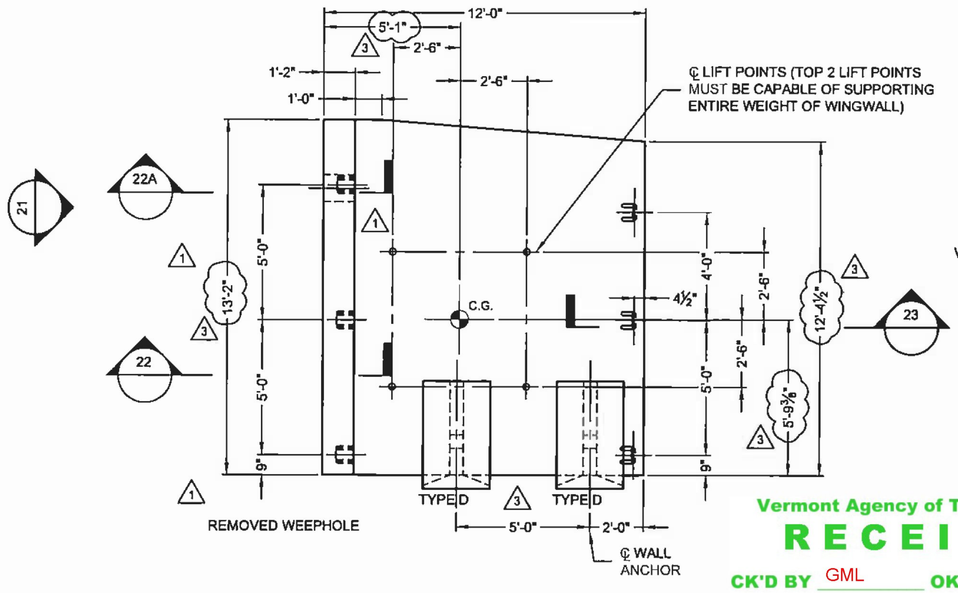
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| 4 | 4/18/2011 | NO CHANGES ON THIS SHEET | RKL |
| 3 | 4/8/2011 | REVISIONS PER REVIEWERS COMMENTS | RKL |
| 2 | 4/4/11 | NO CHANGES ON THIS SHEET | RKL |
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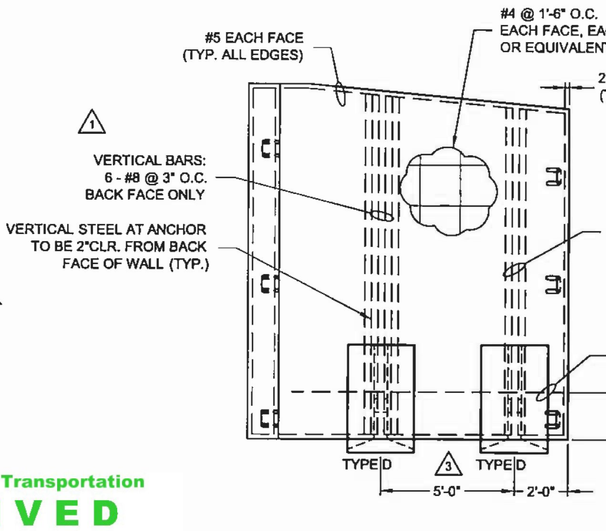
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WINGWALL - WW2C

TOTAL WEIGHT = 14.4 TONS




REINFORCING DETAIL - WW

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Vermont Agency of Transportation

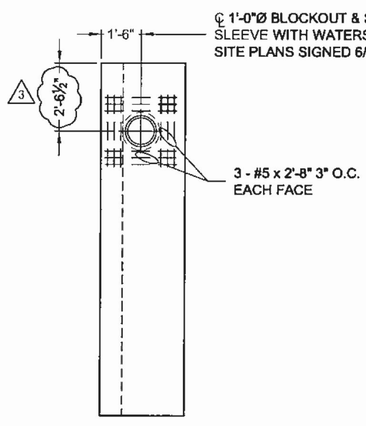
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CK'D BY GML OK'D BY TCF

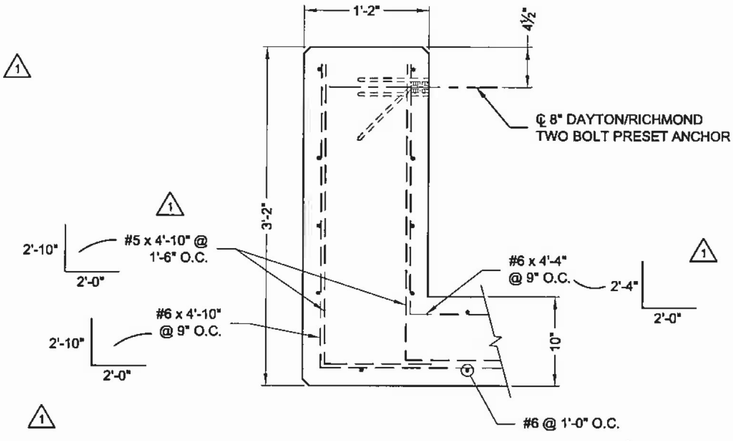
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RESUBMIT _____ APPROVED X

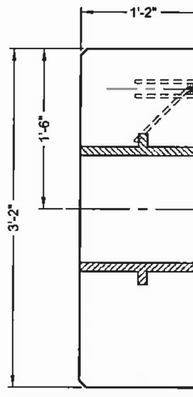
BY KMH DATE 5-3-11




DETAIL 21




SECTION 22




SECTION

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| 4 | 4/18/2011 | NO CHANGES ON THIS SHEET | RKL |
| 3 | 4/8/2011 | REVISIONS PER REVIEWERS COMMENTS | RKL |
| 2 | 4/4/11 | REVISIONS PER REVIEWERS COMMENTS | RKL |
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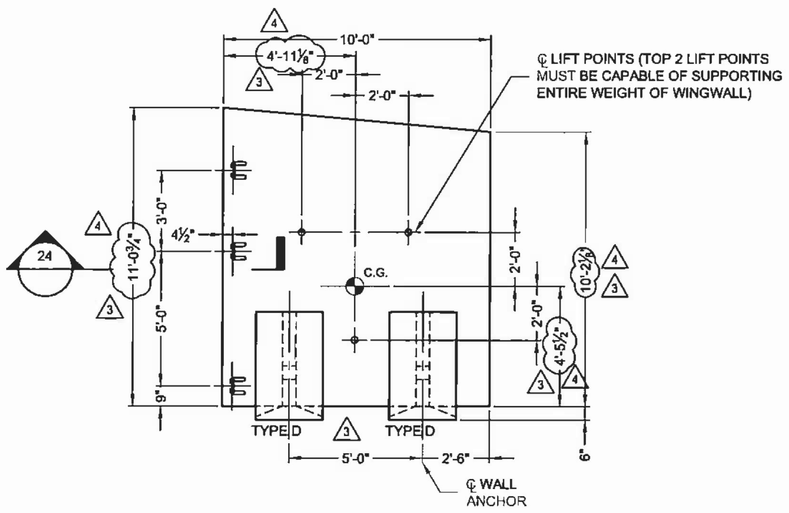
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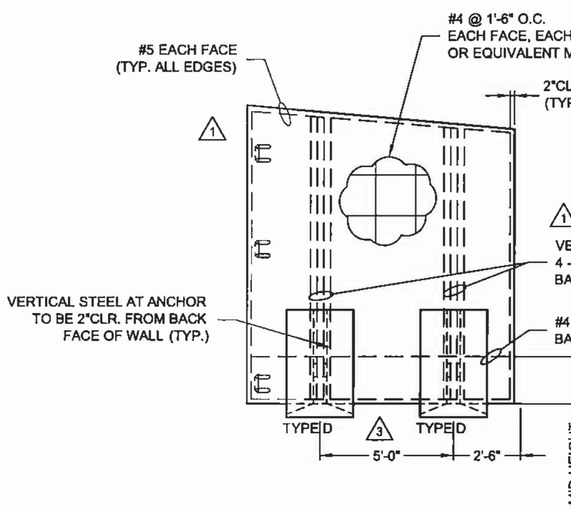
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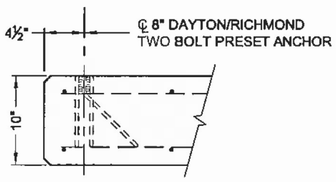

## WINGWALL - WW3A

TOTAL WEIGHT = 8.7 TONS 3 4




## REINFORCING DETAIL - WW3A

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SECTION 24

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BY KMH DATE

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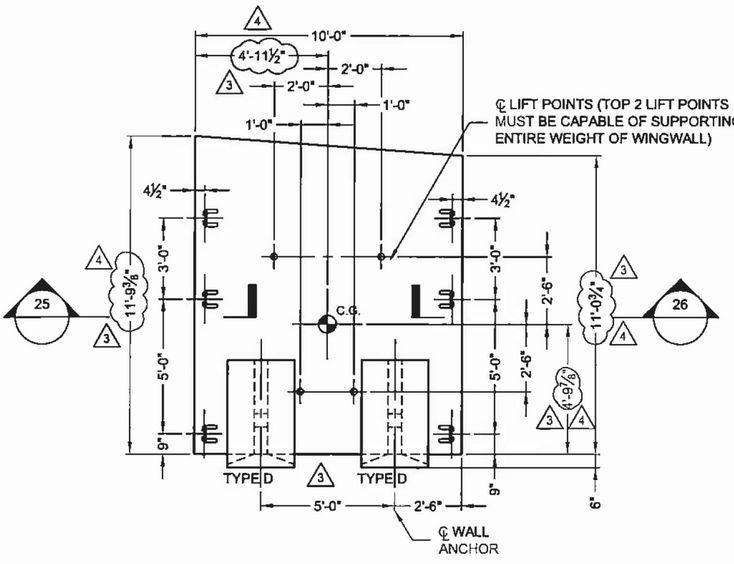
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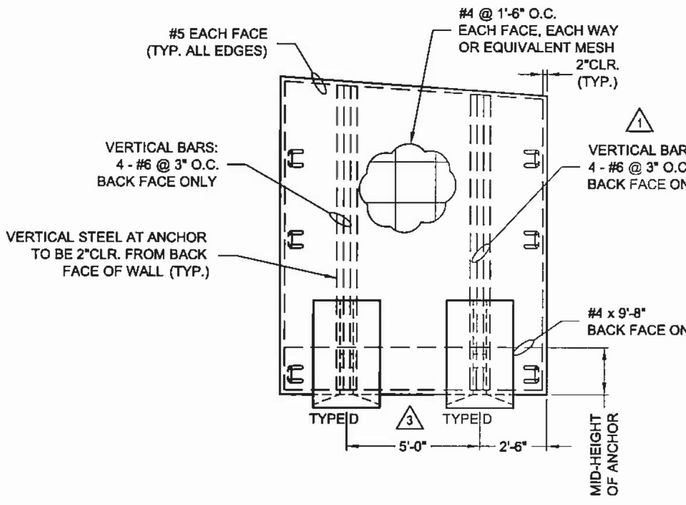
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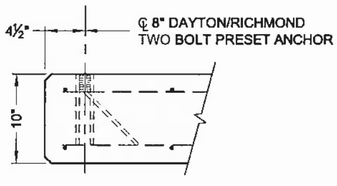

## WINGWALL - WW3B

TOTAL WEIGHT ≐ 9.2 TONS 3 4

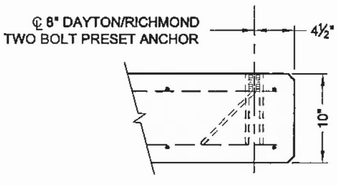



## REINFORCING DETAIL - WW3B

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SECTION 25




SECTION 26

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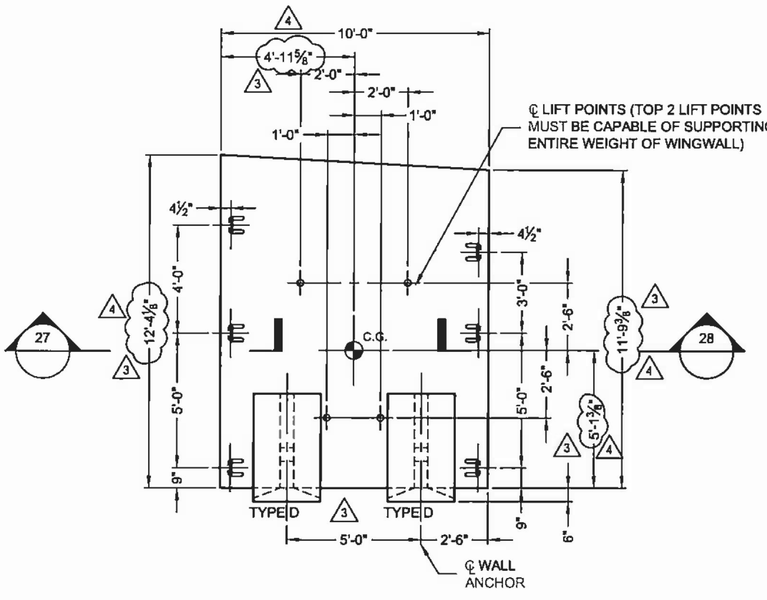
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| 2 | 4/4/11 | NO CHANGES ON THIS SHEET | RKL |
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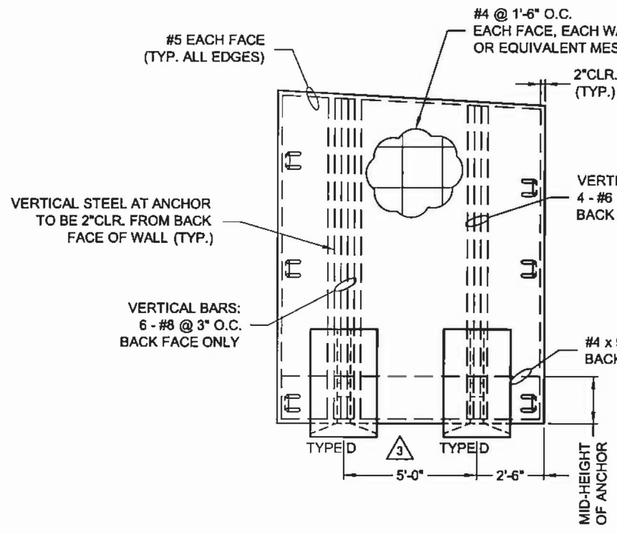
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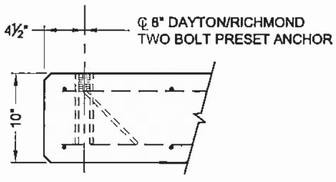

## WINGWALL - WW3C

TOTAL WEIGHT = 9.6 TONS 3 4

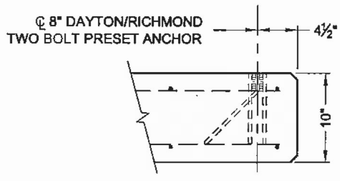



## REINFORCING DETAIL - WW3C

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SECTION 27




SECTION 28

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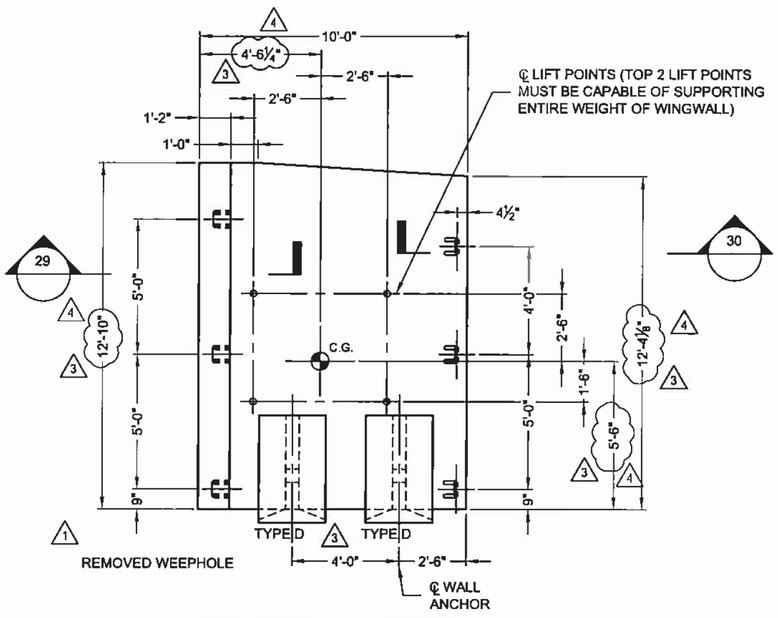
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| 2 | 4/4/11 | NO CHANGES ON THIS SHEET | RKL |
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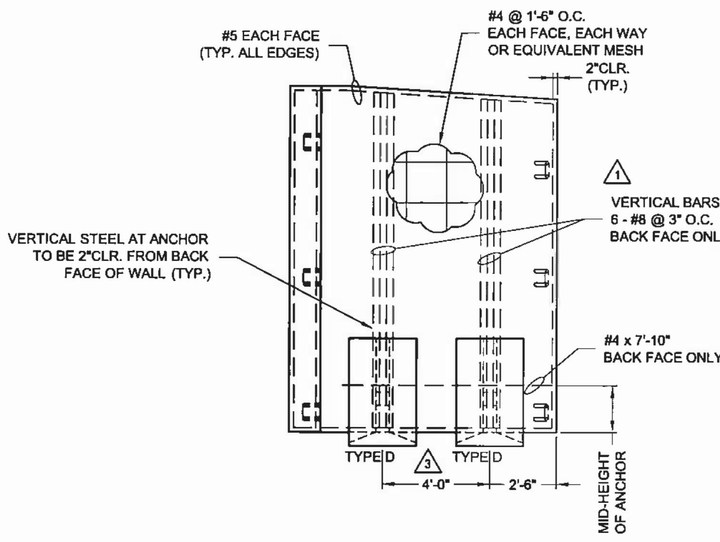
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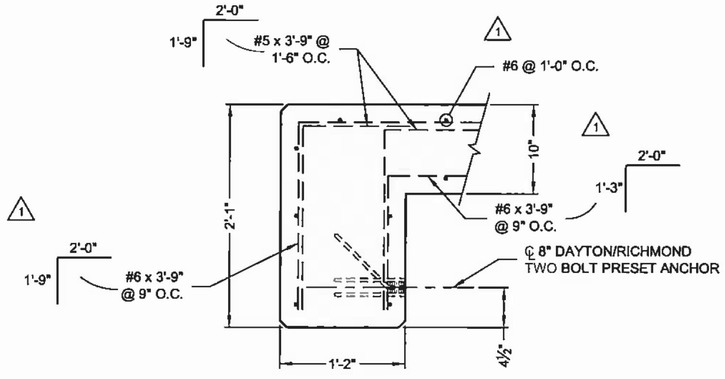

## WINGWALL - WW3D

TOTAL WEIGHT = 11.4 TONS 3 4

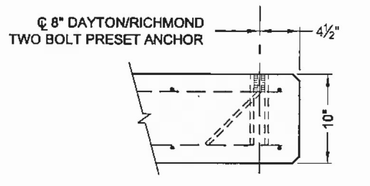



## REINFORCING DETAIL - WW3D

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## SECTION 29




## SECTION 30

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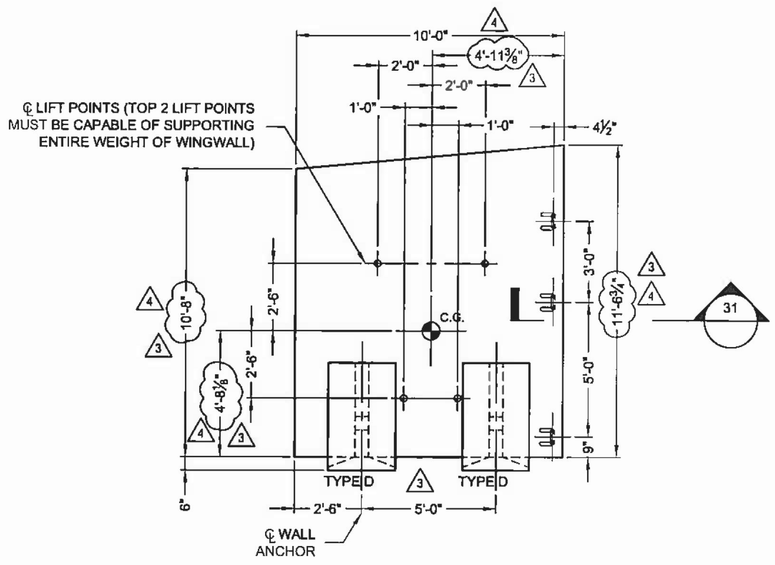
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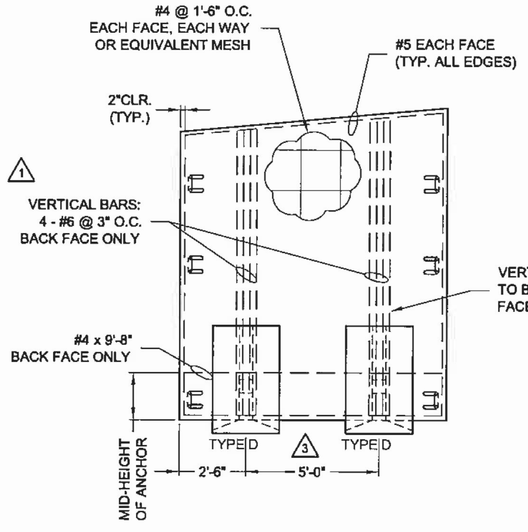
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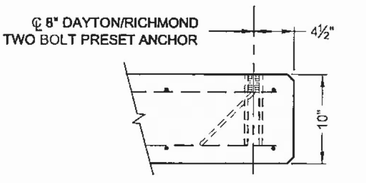

## WINGWALL - WW4A

TOTAL WEIGHT = 9.0 TONS (4)




## REINFORCING DETAIL - WW4A

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## SECTION 31

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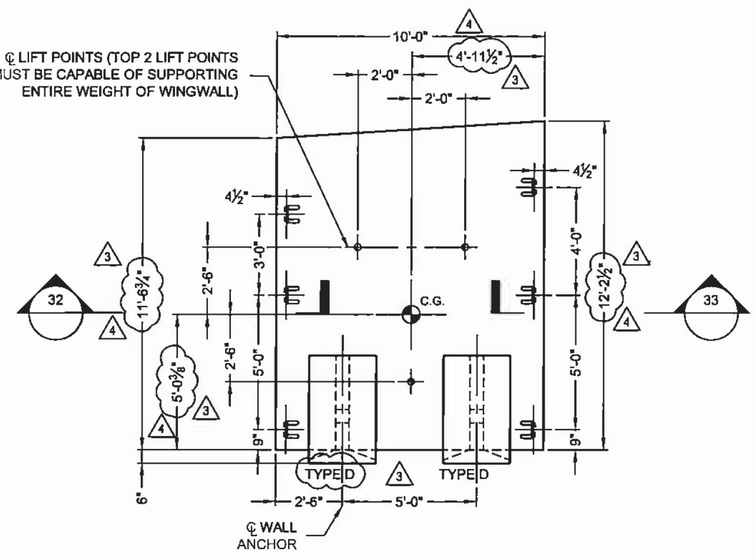
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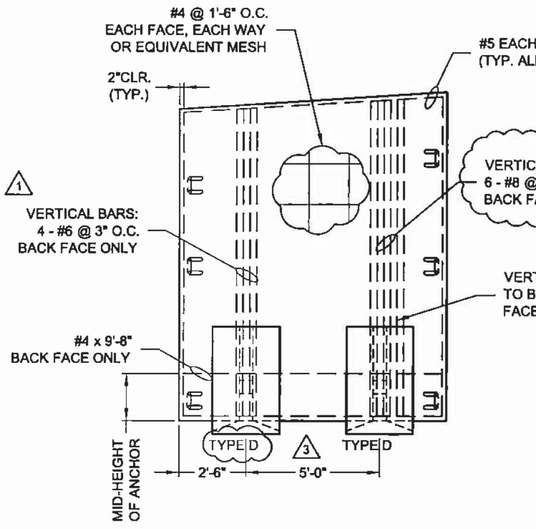
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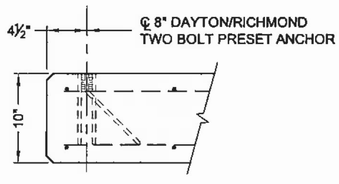

## WINGWALL - WW4B

TOTAL WEIGHT = 9.5 TONS 3 4

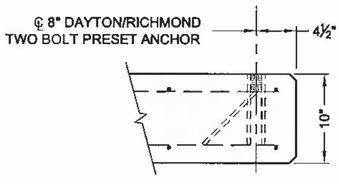



## REINFORCING DETAIL - WW4B

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SECTION 32




SECTION 33

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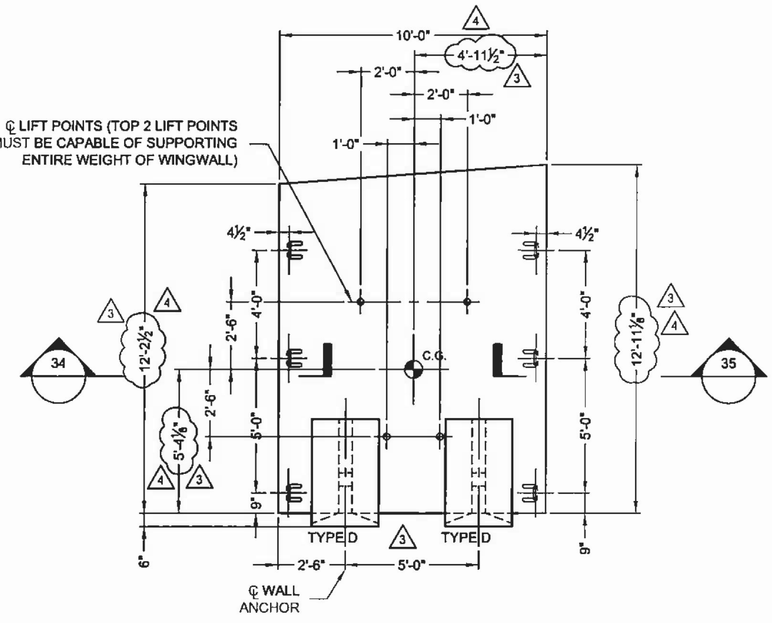
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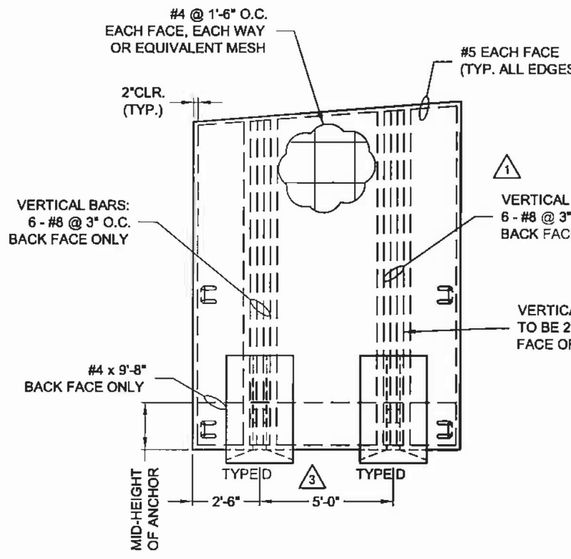
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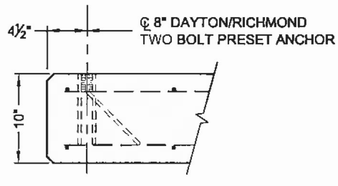

## WINGWALL - WW4C

TOTAL WEIGHT = 9.9 TONS 3 4

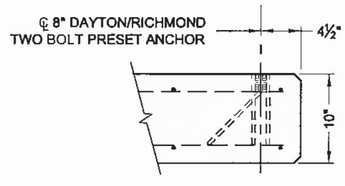



## REINFORCING DETAIL - WW4C

(FOR ANCHOR REINFORCING SEE SHEET S2




SECTION 34




SECTION 35

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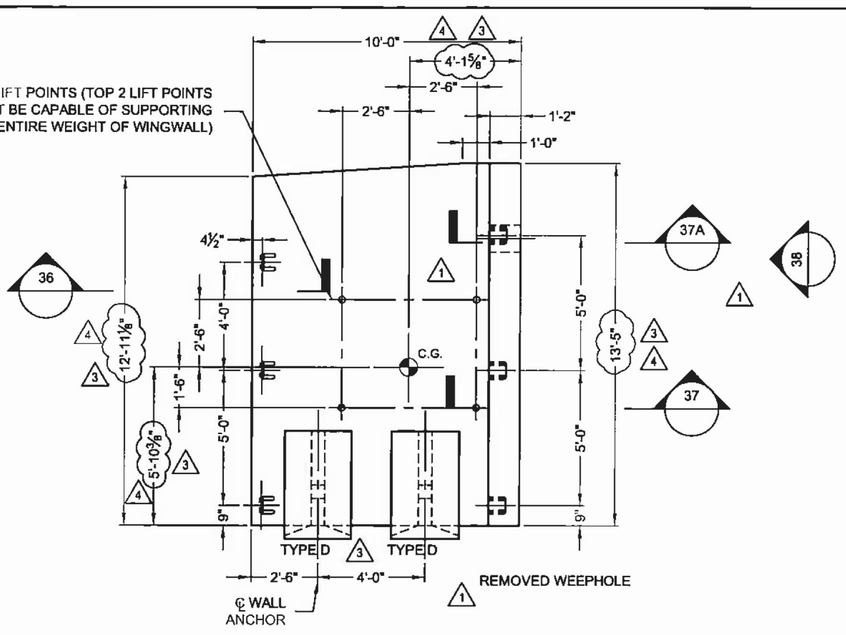
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| 3 | 4/8/2011 | REVISIONS PER REVIEWERS COMMENTS | RKL |
| 2 | 4/4/11 | NO CHANGES ON THIS SHEET | RKL |
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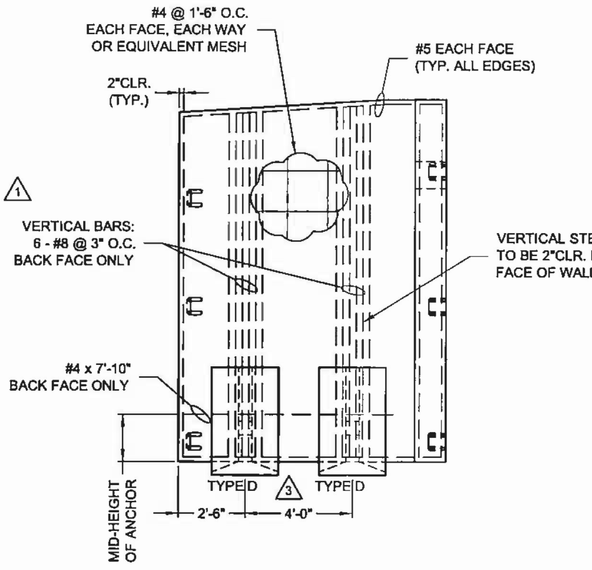
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## WINGWALL - WW4D

TOTAL WEIGHT = 13.1 TONS




## REINFORCING DETAIL - WW4D

(FOR ANCHOR REINFORCING SEE SHEET S25)

Vermont Agency of Transportation

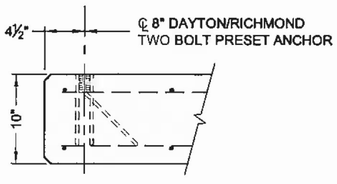
**RECEIVED**

CK'D BY GML OK'D BY TCF

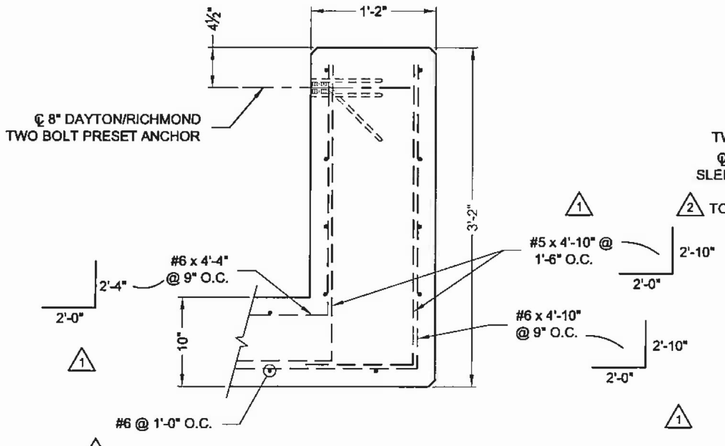
7:13 am, May 03, 2011

RESUBMIT ____ APPROVED X

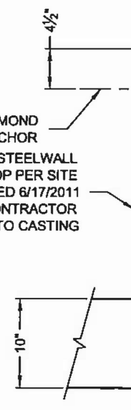
BY KMH DATE 5-3-11




SECTION 36




SECTION 37




SECTION

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| 1 | 3/10/2011 | REVISIONS PER REVIEWERS COMMENTS | RKL |

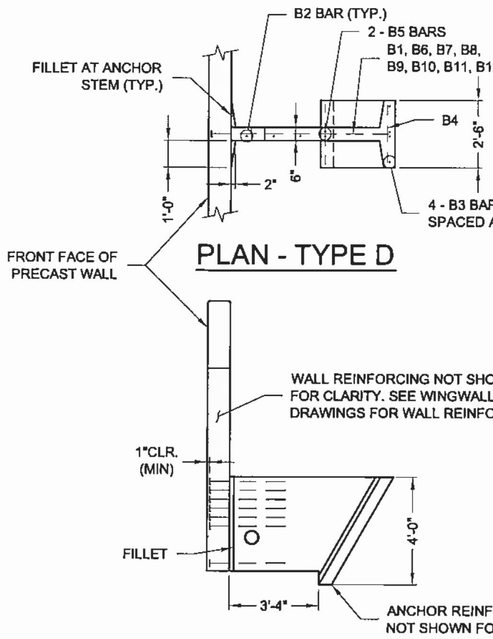
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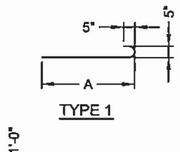
3
REMOVED ANCHOR C



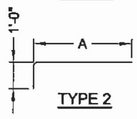

PLAN - TYPE D



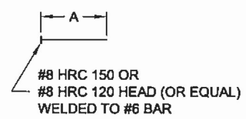

SECTION - TYPE D




TYPE 1



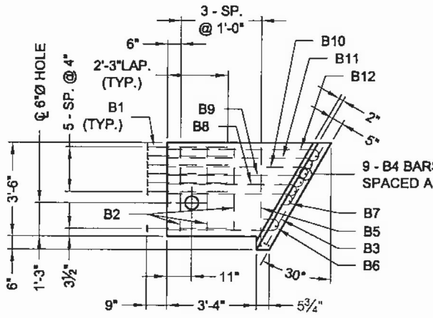

TYPE 2




TYPE 3
(EPOXY COATED*)

*NOTE: EPOXY COATING IS NOT REQUIRED ON HEADED ENDS OF TYPE 3 BARS, BUT WILL NOT BE DETRIMENTAL IF PROVIDED.

*NOTE: HRC HEADS PROVIDED BY HEADED REINFORCEMENT CORP.




PRECAST ANCHOR
TYPE D

TOTAL WEIGHT = 1.028 TONS

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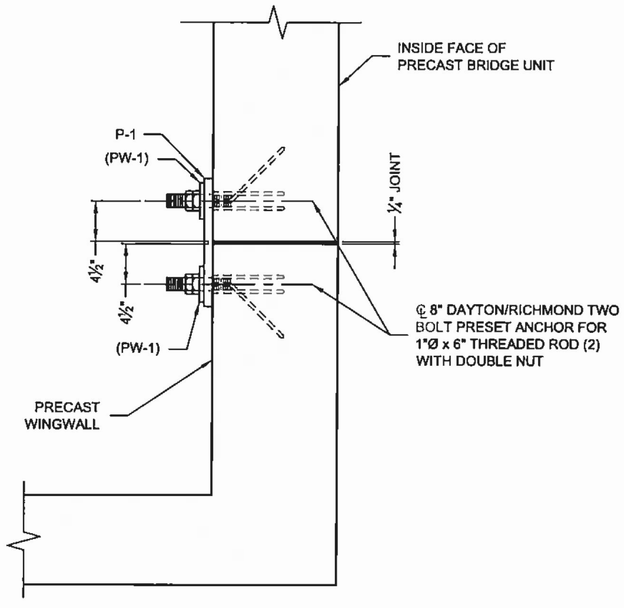
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| 3 | 4/8/2011 | REVISIONS PER REVIEWERS COMMENTS | RKL |
| 2 | 4/4/11 | NO CHANGES ON THIS SHEET | RKL |
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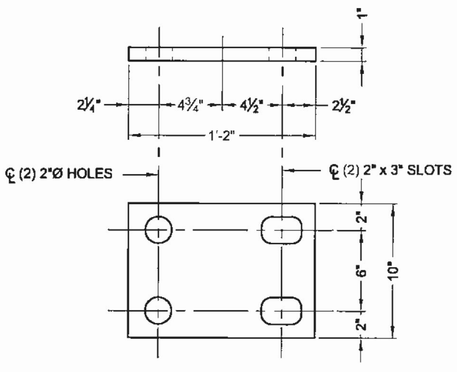
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PLAN VIEW

## TYPICAL CONNECTION DETAIL - P-1




P-1

(℄, 1" x 14" x 10")
(GALVANIZED AS PER ASTM A153)

| PLATE P-1 |
|---|
| TOTAL REQUIRED = 42<br>(4) PW-1 REQ'D. PER PLATE |

45° BEND
(TYP. 2 STRUTS)

SID

TWO

V

CK'

RES
BY

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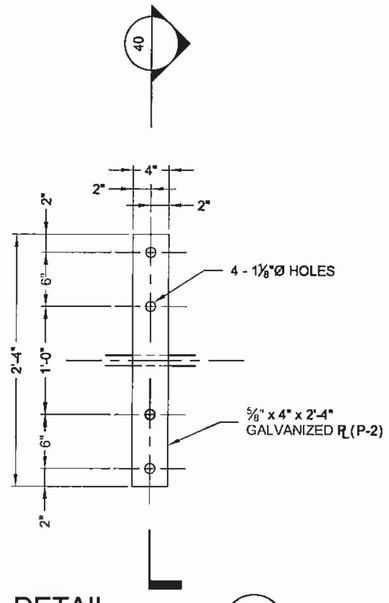
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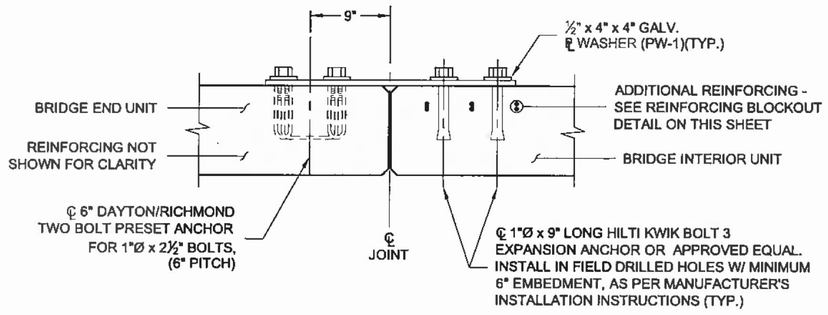
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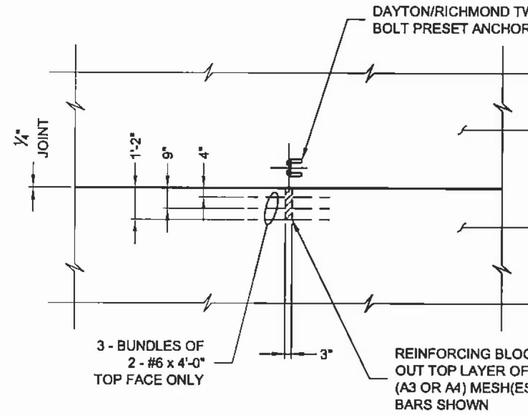
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DETAIL 39 / S1




SECTION 40




REINFORCING BLOCKOUT DETAIL

| PLATE P-2 |
|---|
| TOTAL REQUIRED = 4<br>(4) PW-1 REQ'D. PER PLATE |

Vermont Age
R E C
CK'D BY GML
7:13 an
RESUBMIT
BY KMH

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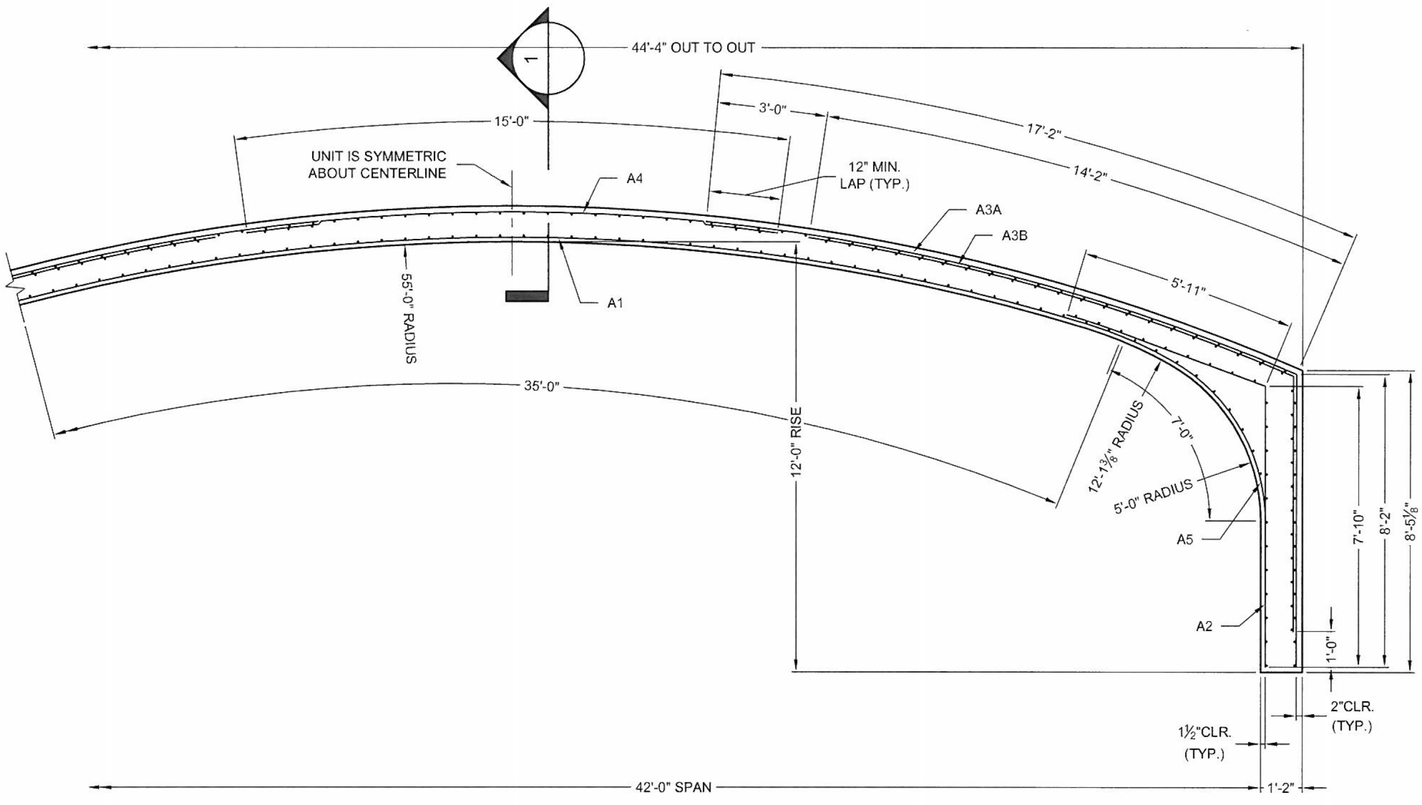
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| 2 | 4/4/11 | NO CHANGES ON THIS SHEET | RKL |
| 1 | 3/10/2011 | NO CHANGES ON THIS SHEET | RKL |

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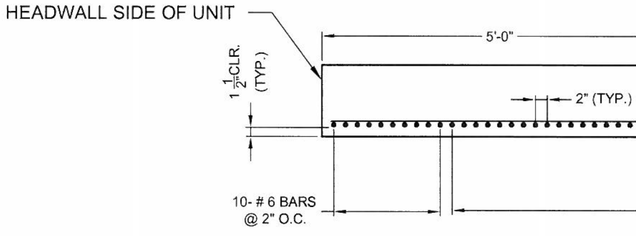
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# PRECAST UNIT REINFORCEMENT

## UNIT C1 ONLY




WEIGHT OF REQUIRED REINFORCEMENT = 513 LBS/FT

| SHEET NO. | CIRCUMFERENTIAL AREA REQ'D (IN²/FT) | LONGITUDINAL AREA REQ'D (IN²/FT) | MESH SIZE | LENGTH (FT) | CIRCUMFERENTIAL AREA SUPL'D (IN²/FT) | LONGITUDINAL AREA SUPL'D (IN²/FT) |
|---|---|---|---|---|---|---|
| 1 | A1 = 1.44 | 0.13 | ALTERNATE #4 @ 4" O.C.WITH #5 @ 4" O.C. | 35'-0" | 1.53 | 0.30 |
| 3 | A2 = 0.48 | 0.13 | 4 x 6 W8 x W6.5 + #4 EA 10" CIRC | 13'-9" | 0.48 | 0.13 |
| 4 | A3A = 0.72 | 0.07 | 2 x 6 W10 x W6.5 + #4 EA 18" CIRC | 25'-4" | 0.72 | 0.13 |
| 5 | A3B = 0.72 | 0.06 | 2 x 6 W10 x W6.5 + #4 EA 18" CIRC | 21'-4" | 0.72 | 0.13 |
| 6 | A4 = 0.48 | 0.13 | 4 x 6 W8 x W6.5 + #4 EA 18" CIRC | 15'-0" | 0.48 | 0.13 |
| 7 | A5 = 0.24 | 0.13 | 4 x 6 W8 x W6.5 | 7'-0" | 0.24 | 0.13 |

DESIGN LOADING: HL-93

COVER = 6" MIN. \ 8⅜" MAX.

## SECTION 1

| MARK | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|
| 7 | 06/27/2011 | C1 UNIT REINFORCING | RKL |
| 6 | 05/05/2011 | APPROVED FOR CONSTRUCTION | RKL |
| 5 | 4/27/2011 | REVISIONS PER REVIEWERS COMMENTS | RKL |
| 4 | 4/18/2011 | NO CHANGES ON THIS SHEET | RKL |
| 3 | 4/8/2011 | NO CHANGES ON THIS SHEET | RKL |
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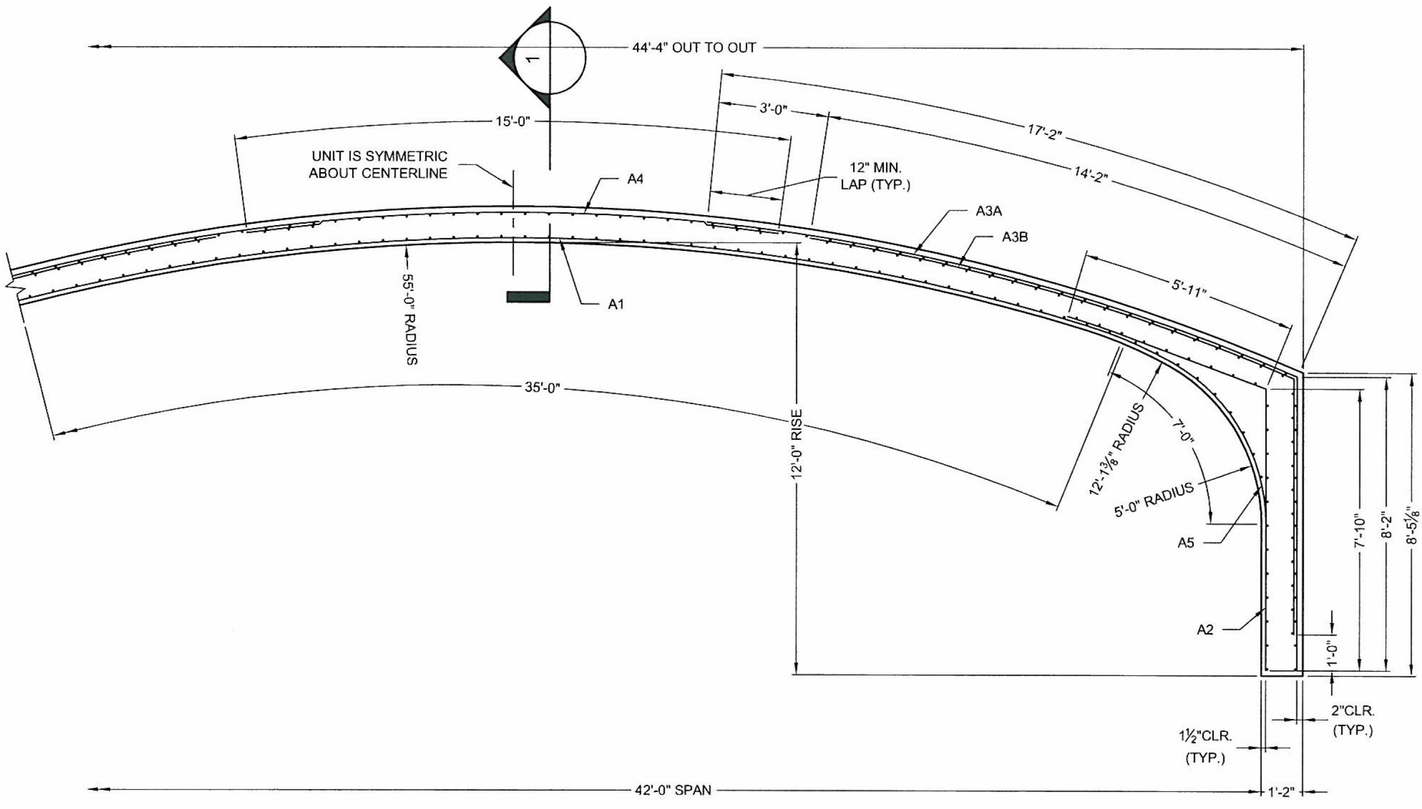
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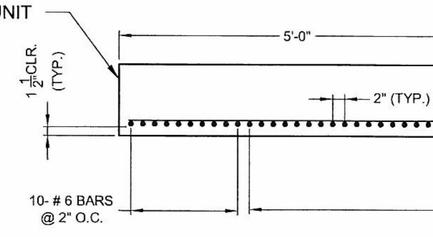
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# PRECAST UNIT REINFORCEMENT
## UNIT C2 ONLY

HEADWALL SIDE OF UNIT




SECTION 1

WEIGHT OF REQUIRED REINFORCEMENT = 513 LBS/FT

| SHEET NO. | CIRCUMFERENTIAL AREA REQ'D (IN²/FT) | LONGITUDINAL AREA REQ'D (IN²/FT) | MESH SIZE | LENGTH (FT) | CIRCUMFERENTIAL AREA SUPL'D (IN²/FT) | LONGITUDINAL AREA SUPL'D (IN²/FT) |
|---|---|---|---|---|---|---|
| 1 | A1 = 1.44 | 0.13 | ALTERNATE #4 @ 4" O.C.WITH #5 @ 4" O.C. | 35'-0" | 1.53 | 0.30 |
| 3 | A2 = 0.48 | 0.13 | 4 x 6 W8 x W6.5 + #4 EA 10" CIRC | 13'-9" | 0.48 | 0.13 |
| 4 | A3A = 0.72 | 0.07 | 2 x 6 W10 x W6.5 + #4 EA 18" CIRC | 25'-4" | 0.72 | 0.13 |
| 5 | A3B = 0.72 | 0.06 | 2 x 6 W10 x W6.5 + #4 EA 18" CIRC | 21'-4" | 0.72 | 0.13 |
| 6 | A4 = 0.48 | 0.13 | 4 x 6 W8 x W6.5 + #4 EA 18" CIRC | 15'-0" | 0.48 | 0.13 |
| 7 | A5 = 0.24 | 0.13 | 4 x 6 W8 x W6.5 | 7'-0" | 0.24 | 0.13 |

DESIGN LOADING: HL-93

COVER = 6" MIN. \ 8 ⅜" MAX.

| MARK | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|
| 7 | 06/27/2011 | C2 UNIT REINFORCING | RKL |
| 6 | 05/05/2011 | APPROVED FOR CONSTRUCTION | RKL |
| 5 | 4/27/2011 | REVISIONS PER REVIEWERS COMMENTS | RKL |
| 4 | 4/18/2011 | NO CHANGES ON THIS SHEET | RKL |
| 3 | 4/8/2011 | NO CHANGES ON THIS SHEET | RKL |
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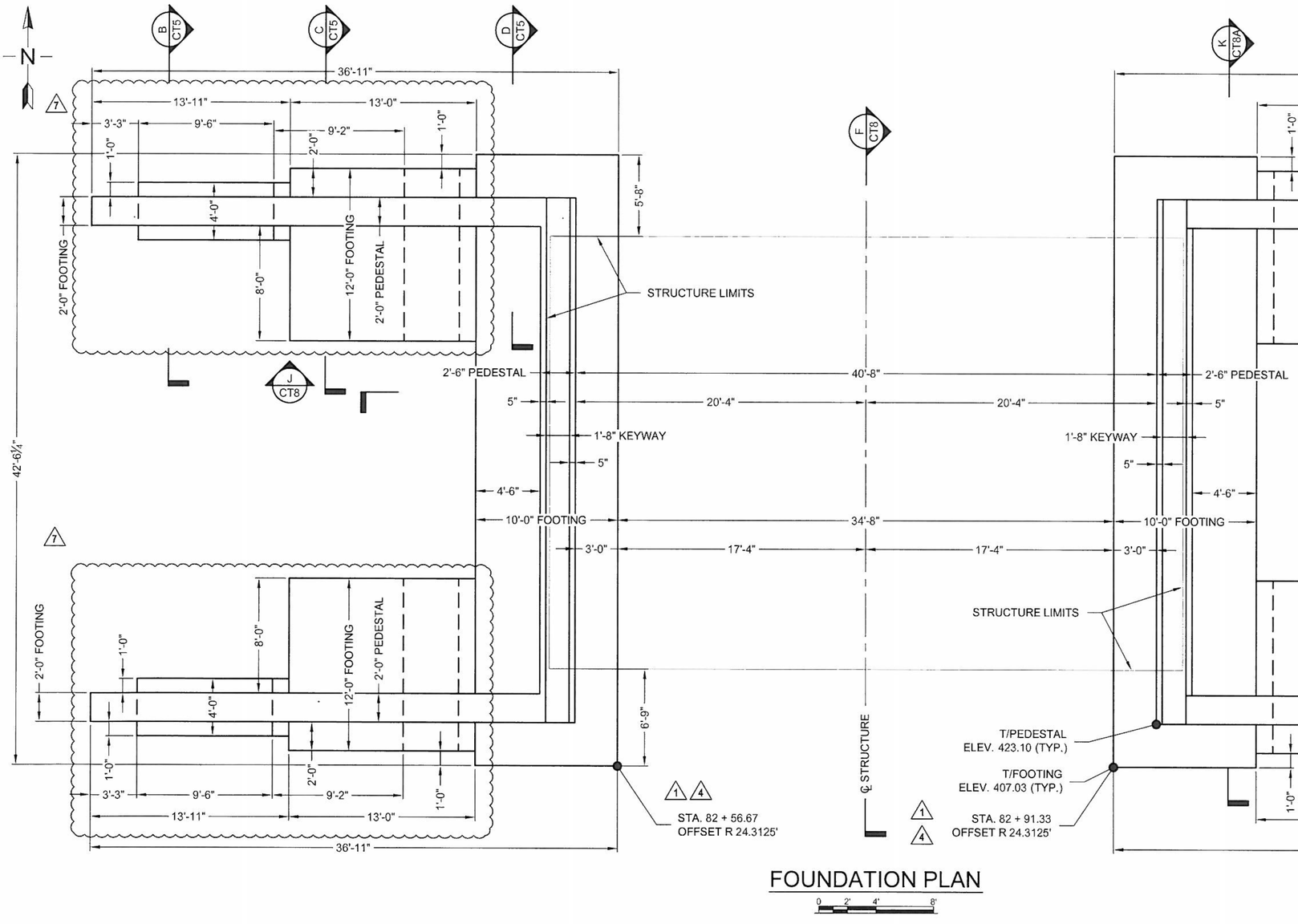
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CONSPAN® BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

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## FOUNDATION PLAN

0 2' 4' 8'

| MARK | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|
| 7 | 6/21/2011 | FOUNDATION REVISED | RKL |
| 6 | 6/3/2011 | FOUNDATION REVISED | RKL |
| 5 | 4/26/2011 | NO CHANGES ON THIS SHEET | RKL |
| 4 | 4/18/2011 | REVISIONS PER REVIEWERS COMMENTS | RKL |
| 3 | 4/6/2011 | NO CHANGES ON THIS SHEET | RKL |
| 2 | 4/4/2011 | NO CHANGES ON THIS SHEET | RKL |
| 1 | 3/8/2011 | REVISIONS PER REVIEWERS COMMENTS | RKL |

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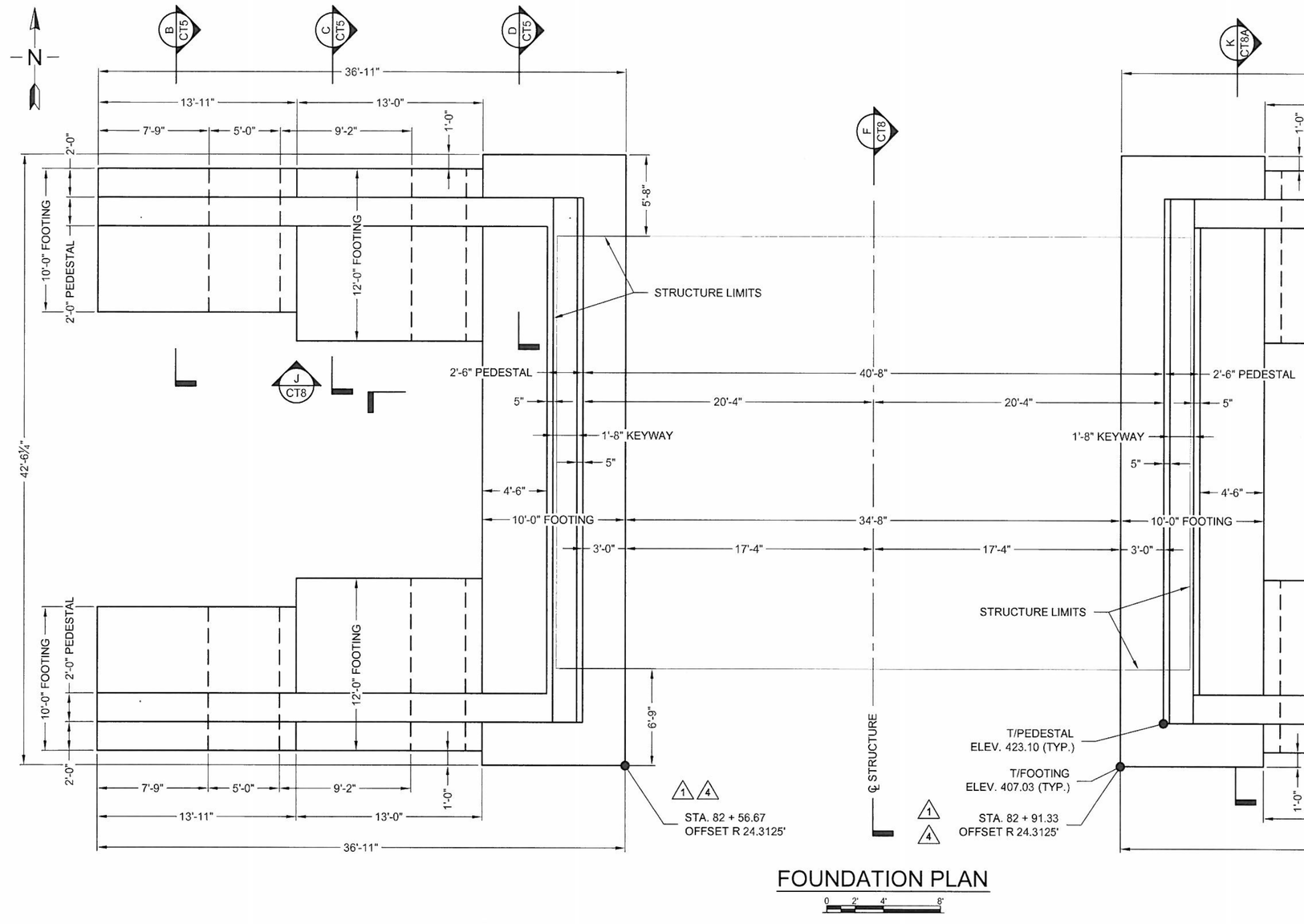
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## FOUNDATION PLAN

0 2' 4' 8'

| MARK | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|
| 6 | 6/3/2011 | FOUNDATION REVISED | RKL |
| 5 | 4/26/2011 | NO CHANGES ON THIS SHEET | RKL |
| 4 | 4/18/2011 | REVISIONS PER REVIEWERS COMMENTS | RKL |
| 3 | 4/6/2011 | NO CHANGES ON THIS SHEET | RKL |
| 2 | 4/4/2011 | NO CHANGES ON THIS SHEET | RKL |
| 1 | 3/8/2011 | REVISIONS PER REVIEWERS COMMENTS | RKL |

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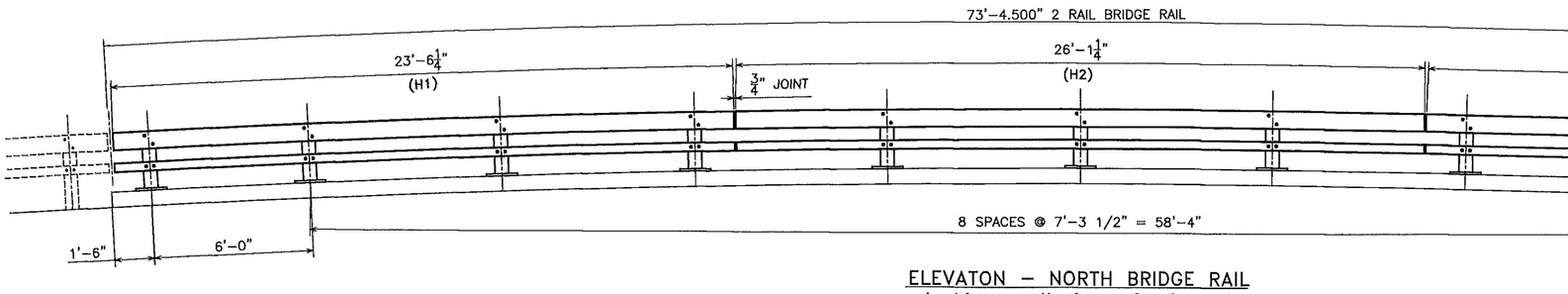
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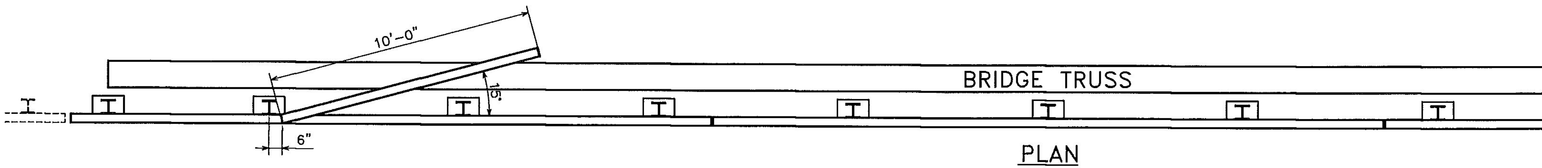
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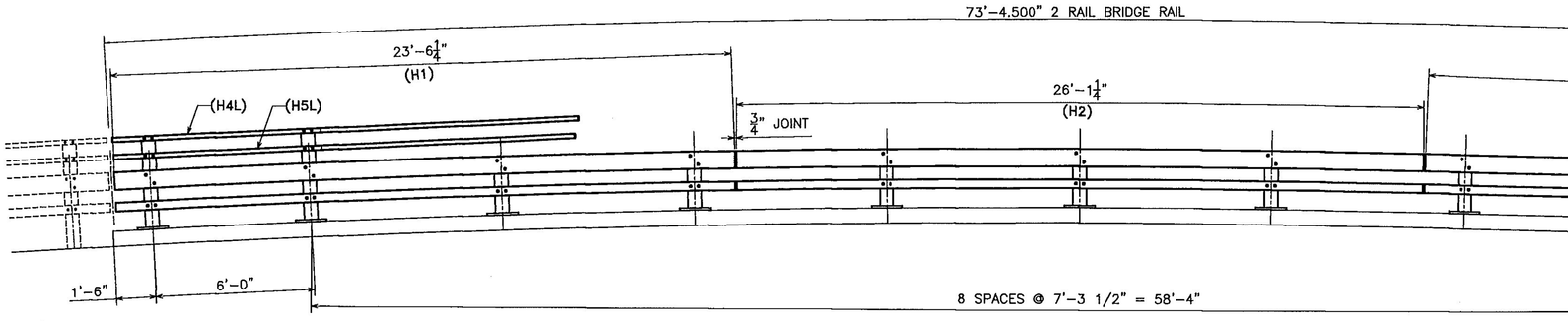
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ELEVATON – NORTH BRIDGE RAIL
looking north from ℄ of road




PLAN




ELEVATON – SOUTH BRIDGE RAIL
looking south from ℄ of road

BILL OF MATERIAL (BOTH SIDES)

| Mk.# | Qty. | Description | Size/Shape | Length/qty. per unit | Material |
|---|---|---|---|---|---|
| | | PED POST | | | |
| | 18 | BRIDGE RAIL PED POST 2'-2 3/8" OAH W/ BASE PLATE | | | |
| | 18 | POST UPRIGHT | W6 x 25 | 2'-1 3/8" | A709 Gr. 50 |
| | 18 | POST BASE PLATE | 10" x 1" | 1'-2" | A709 Gr. 50 |
| | 4 | BRIDGE RAIL PED POST 3'-6 7/8" OAH W/ BASE PLATE | | | |
| | 4 | POST UPRIGHT | W6 x 25 | 3'-5 7/8" | A709 Gr. 50 |
| | 4 | POST BASE PLATE | 10" x 1" | 1'-2" | A709 Gr. 50 |
| | | SPLICES | | | |
| | 8 | SPLICE TUBE FOR 8 x 4 RAIL | TS 7x3x3/8 | 1'-8" | A500 Gr. B |
| | 8 | SPLICE TUBE FOR 4 x4 RAIL | TS 3x3x5/16 | 1'-8" | A500 Gr. B |
| | 32 | WELDED LOCK NUT (OUTER HOLES ONLY) | 5/8" | --- | A563 |
| | 4 | SPLICE PLATE FOR 2 x4 RAIL | 3 1/4" x 1 1/4" | 1'-8" | A36 |
| | | TUBES | | | |
| H1 | 2 | UPPER RAIL (SHOP CURVED) | TS 8x4x5/16 | 23'-6 1/4" | A500 Gr. B |
| | 2 | LOWER RAIL (SHOP CURVED) | TS 4x4x1/4 | 23'-6 1/4" | A500 Gr. B |
| H2 | 2 | UPPER RAIL (SHOP CURVED) | TS 8x4x5/16 | 26'-1 1/4" | A500 Gr. B |
| | 2 | LOWER RAIL (SHOP CURVED) | TS 4x4x1/4 | 26'-1 1/4" | A500 Gr. B |
| H3 | 2 | UPPER RAIL (SHOP CURVED) | TS 8x4x5/16 | 23'-6 1/4" | A500 Gr. B |
| | 2 | LOWER RAIL (SHOP CURVED) | TS 4x4x1/4 | 23'-6 1/4" | A500 Gr. B |
| H4L | 1 | ANGLED UPPER RAIL W/CAP | TS 2x4x1/4 | 17'-10 3/4" | A500 Gr. B |
| H5L | 1 | ANGLED LOWER RAIL W/CAP | TS 2x4x1/4 | 17'-10 3/4" | A500 Gr. B |
| H4R | 1 | ANGLED UPPER RAIL W/CAP | TS 2x4x1/4 | 17'-10 3/4" | A500 Gr. B |
| H5R | 1 | ANGLED LOWER RAIL W/CAP | TS 2x4x1/4 | 17'-10 3/4" | A500 Gr. B |
| | | HARDWARE | | | |
| | 104 | ROUND HEAD BOLT WITH LOCK NUT & ROUND WASHER | 3/4" DIA. | 6" | A449 TYPE 1 |
| | 48 | HEX BOLT WITH WASHER | 5/8" DIA. | 1.75" | A325 |
| | 48 | PIPE SPACER (SCH. 40) | 3/4" DIA. | 1/2" | A53 |
| | 4 | END CAP PLATE FOR TS 2x4 RAIL | 3/16" x 2" | 4" | A36 |
| | 22 | BEARING PAD | 10"x1/8" | 1'-2" | M251 |

NOTES:
1. BRIDGE RAIL TUBES TO BE SHOP CURVED, (VERTICALLY RADIUSED) TO 612' ± RADIUS.

2. THE FINAL COLOR OF ALL BRIDGE AND APPROACH RAILING SHALL BE BLACK CHIP 27038 PER SUBSECTION 708.03 OF THE STANDARD SPECIFICATION.

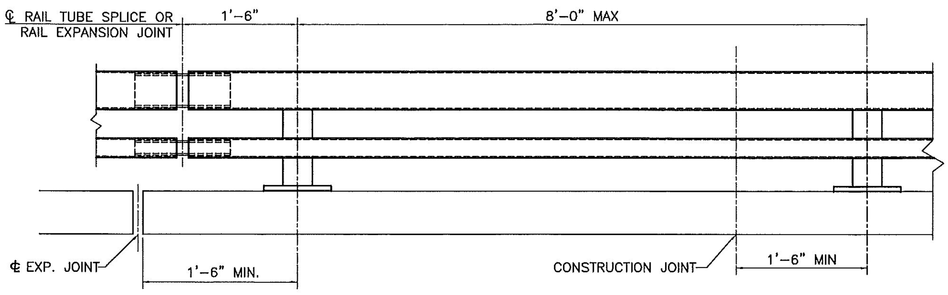
3. ALL NEW STRUCTURAL STEEL SHALL BE GALVANIZED.

4. RAIL SPLICES, HARDWARE AND ANCHORS SHALL BE GALVANIZED ONLY.

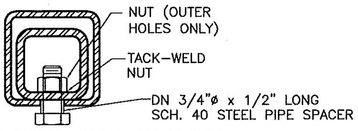
5. CUT 10'-0" LEG TO FIT, COLD GALV, PAINT AND CAP H4, H5 L & R PROVIDING 0.75" TO 2.50" GAP BETWEEN THE RAIL AND TRUSS.

| No. | Remarks | Date |
|---|---|---|
| | REVISIONS | |
| 2 | miscellaneous corrections | 06-06-12 |
| 1 | Per VAOT comments | 05-25-12 |
| 0 | Initial submittal | 04-25-12 |

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BY KMH



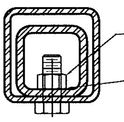

BRIDGE RAILING ELEVATION



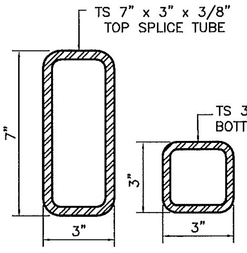

5/8"ø TAPPED HOLE IN SPLICE TUBE AND 1 1/8" x 'C' SLOT IN RAIL TUBE FOR BOLT AND PLAIN HARDENED WASHER

EXPANSION JOINT SECTION

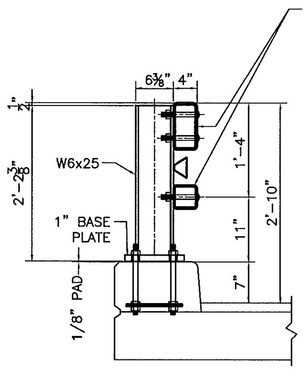
FOR DETAILS NOT SHOWN, SEE "RAIL TUBE SPLICE SECTION."



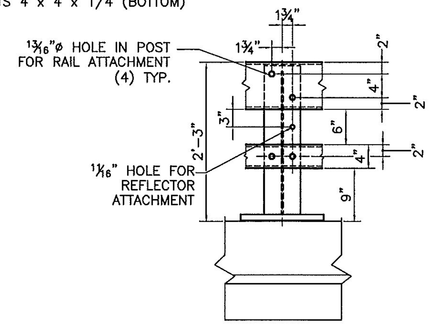
5/8"ø TAPPED HOLE IN SPLICE
3/4"ø HOLE IN RAIL TUBE FOR
PLAIN HARDENED WASH



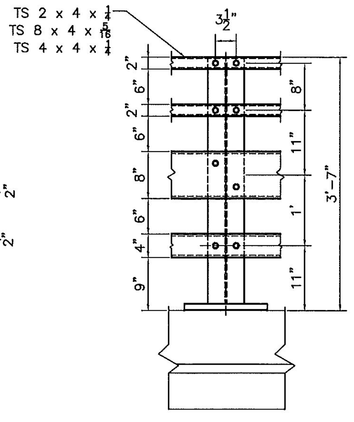

RAIL TUBE SPLICE SEC



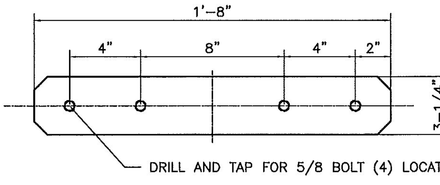

TYPICAL SECTION
(2 – RAIL)

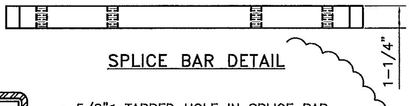



NORT & SOUTH RAIL ELEVATION
(2 – RAIL)

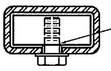



SOUTH RAIL ELEVATION
(4 – RAIL)



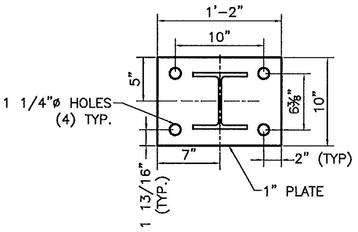




SPLICE BAR DETAIL

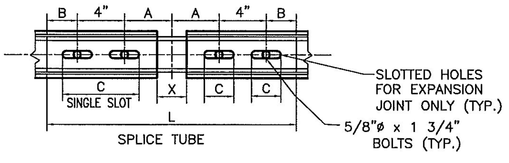


5/8"ø TAPPED HOLE IN SPLICE BAR AND 1 1/8" x 'C' SLOT IN RAIL TUBE FOR BOLT AND PLAIN HARDENED WASHER

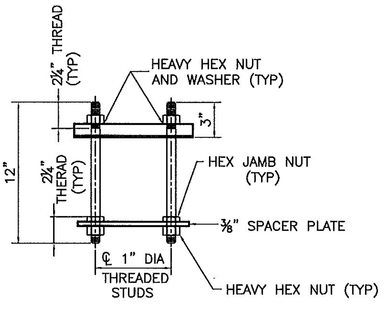
SECTION THRU 4X2 RAIL @ SPLICE BAR



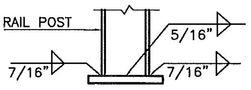

POST AND BASE PLATE



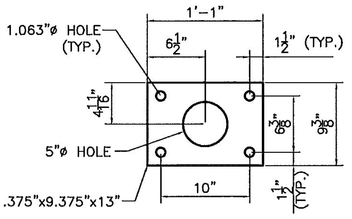

RAIL TUBE SPLICE AND RAIL EXPANSION JOINT DETAIL




RAIL POST ANCHORAGE
(BY OTHERS)




BASE WELD DETAIL



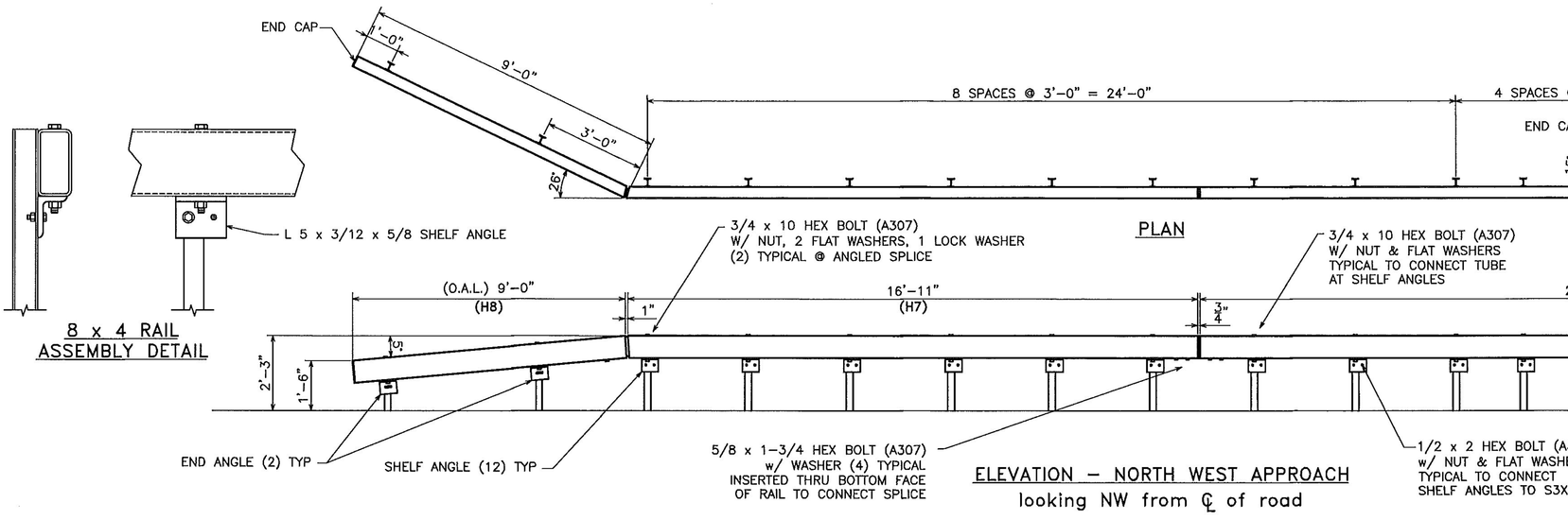

ANCHOR PLATE
(BY OTHERS)

| SPLICE TABLE | | | | | |
|---|---|---|---|---|---|
| T | A | B | C | L | X |
| N/A | 4" | 2" | --- | 20" | 3/4" |
| EXPANSION JOINT TABLE | | | | | |
| <4" | 4" | 2" | 2 1/2" | 20" | 2 1/2" |

T = TOTAL MOVEMENT BETWEEN BRIDGE EXPANSION JOINTS. SEE NOTE 5

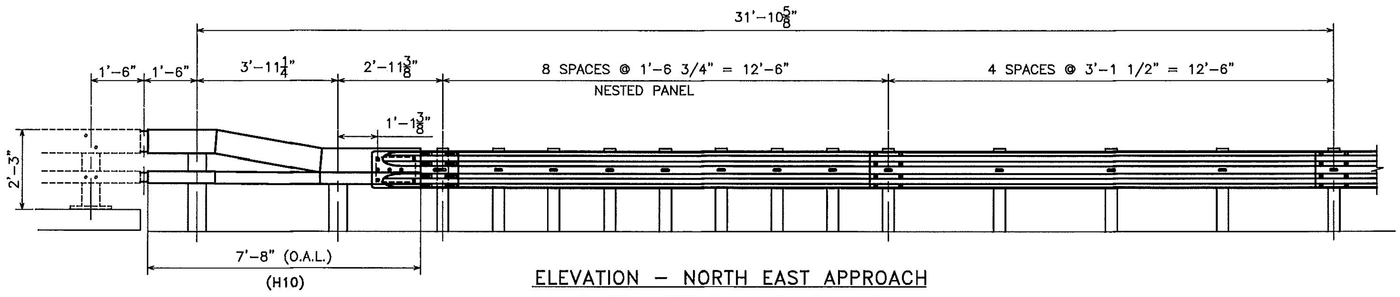
| No. | Remarks | Date |
|---|---|---|
| REVISIONS | | |
| 2 | miscellaneous corrections | 06–06–12 |
| 1 | Per VAOT comments | 05–24–12 |
| 0 | Initial submittal | 04–25–12 |

Vermont
R E
CK'D BY
1:2
RESUBMIT
BY KMH




8 x 4 RAIL
ASSEMBLY DETAIL

ELEVATION – NORTH WEST APPROACH
looking NW from ℄ of road



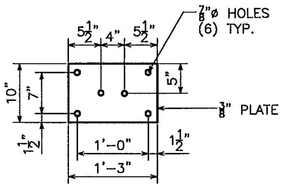

ELEVATION – NORTH EAST APPROACH
looking NE from ℄ of road

BILL OF MATERIAL, (NORTH WEST APPROACHE)

| mk.# | Qty. | Description | Size/Shape | Length\Qty. Per Unit | Material |
|---|---|---|---|---|---|
| | | RAILING TUBE | | | |
| H6 | 1 | APPROACH RAIL | TS 8x4x0.313" | 23'-0" | A500 Gr. B |
| H7 | 1 | APPROACH RAIL | TS 8x4x0.313" | 16'-11" | A500 Gr. B |
| H8 | 1 | TURN DOWN APPROACH RAIL | TS 8x4x0.313" | 9'-0" | A500 Gr. B |
| H9 | 1 | TURN BACK BOTTOM RAIL | TS 4x4x0.25" | 10'-10.75" | A500 Gr. B |
| | | POST | | | |
| | 4 | HEAVY STEEL POST | W6 x 9 | 7'-0" | A36 |
| | 12 | TRANSITION STEEL POST | S3 x 5.7 | 7'-0" | A36 |
| | 2 | TRANSITION STEEL POST | S3 x 5.7 | 5'-3" | A36 |
| | | TUBE BLOCKOUT | | | |
| | 4 | TUBE BLOCKOUT | TS 8x6x.313" | 8" | A500 Gr. B |
| | 3 | TUBE BLOCKOUT | TS 8x3x.250" | 4" | A500 Gr. B |
| | | TUBE SPLICE | | | |
| | 1 | ANGLED SPLICE TUBE | TS 7x3x0.375" | 2'-4" | A500 Gr. B |
| | | | | | |
| | | | | | |
| | | RAILING ANGLE | | | |
| | 14 | 12 SHELF ANGLE / 2 END ANGLE | L5x3.5x.625" | 6.000 | A36 |
| | | HARDWARE | | | |
| | 14 | HEX BOLT w/ NUT, 2 FW, LW | 0.75"ø | 10" | A307 |
| | 2 | HEX BOLT w/ NUT & FW | 0.75"ø | 10" | A307 |
| | 14 | HEX BOLT w/ NUT & FW | 0.500"ø | 2" | A307 |
| | 14 | HEX BOLT w/ NUT & FW | 0.500"ø | 1.500 | A307 |
| | 12 | HEX BOLT w/ FW | 0.625"ø | 1.750 | A307 |
| | 7 | ROUND HEAD BOLT w/ LOCKNUT, FLAT WASHER | 0.750"ø | 6" | A307 |
| | | END CAPS | | | |
| | 1 | END CAP PLATE | 0.188" x 4" | 8" | A36 |
| | 1 | END CAP PLATE | 0.188" x 4" | 4" | A36 |

BILL OF MATERIAL, (NORTH EAST APPROACHE)

| mk.# | Qty. | Description | Size/Shape | Length\Qty. Per Unit | Material |
|---|---|---|---|---|---|
| | | RAILING TUBE | | | |
| H10 | 1 | TOP RAIL | TS 8x4x0.313" | 7'-8" | A500 Gr. B |
| | 1 | BOTTOM RAIL | TS 4x4x0.250" | 7'-8" | A500 Gr. B |
| | | POST | | | |
| | 1 | STEEL POST | W6 x 25 | 7'-0" | A36 |
| | 1 | STEEL POST | W6 x 25 | 6'-5" | A36 |
| | 13 | STEEL POST | W6 x 8.5 | 7'-0" | A36 |
| | | BLOCKOUT | | | |
| | 13 | SYNTHETIC BLOCKOUT | 6" x 8" | 1'-2" | SYNTHETIC |
| | | | | | |
| | 1 | TERMINAL CONNECTOR | 10 GAGE | 2'-6" | M180 B2 |
| | 1 | BACK-UP PLATE | 0.375"x10" | 1'-3" | A709 Gr. 36 |
| | 2 | GUARDRAIL PANEL (1'-6.75" POST SPACING) | 10 GAGE | 12'-6" | M180 B2 |
| | 1 | GUARDRAIL PANEL (3'-1.50" POST SPACING) | 10 GAGE | 12'-6" | M180 B2 |
| | | HARDWARE | | | |
| | 14 | ROUND HEAD BOLT W/LOCK NUT & ROUND WASHER | 0.75"ø | 6" | A307 |
| | 13 | POST BOLT W/DBL RECESSED NUT, PLATE & WASHER | 0.625"ø | 9.50" | A307 |
| | | | | | |
| | 24 | PANEL SPLICE BOLT WITH DBL RECESSED NUT | 0.625"ø | 1.25" | A307 |
| | | END CAPS | | | |
| | 1 | END CAP PLATE | 0.188" x 4" | 8" | A36 |
| | 1 | END CAP PLATE | 0.188" x 4" | 4" | A36 |

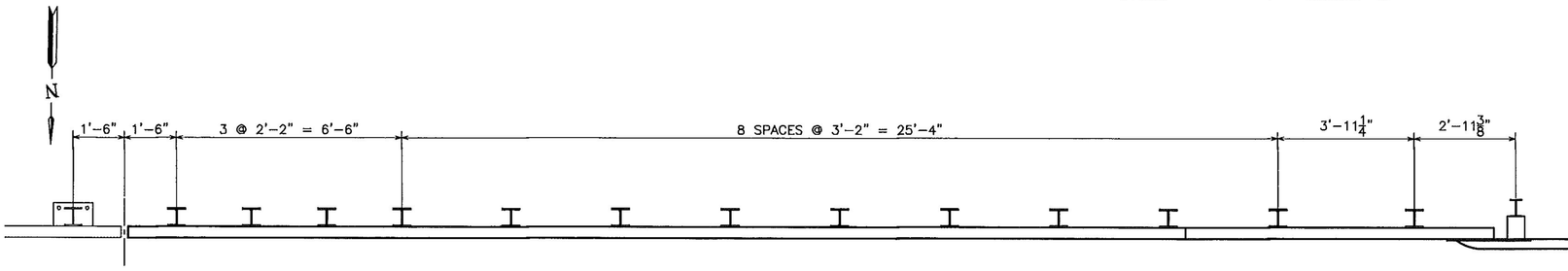



BACK-UP PLATE

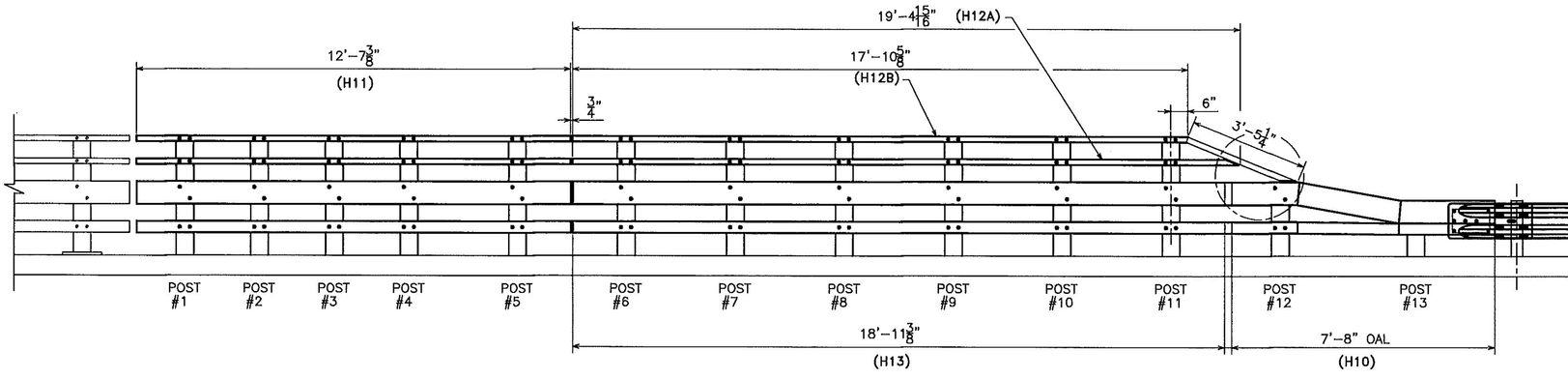
| No. | Remarks | Date |
|---|---|---|
| 2 | miscellaneous corrections | 06-06-12 |
| 1 | Per VAOT comments | 05-24-12 |
| 0 | Initial submittal | 04-25-12 |

REVISIONS

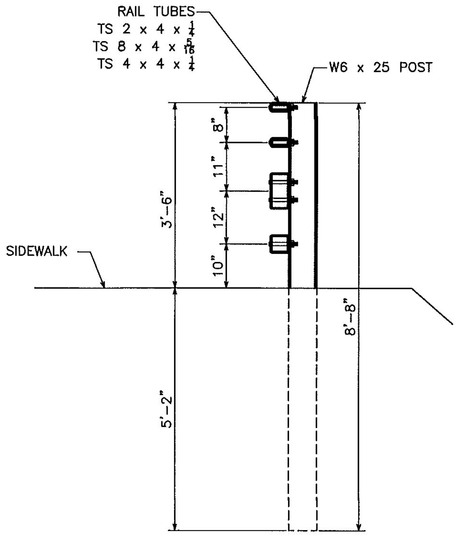
Vermont Age
REC
CK'D BY GMI
1:24 pl
RESUBMIT
BY KMH



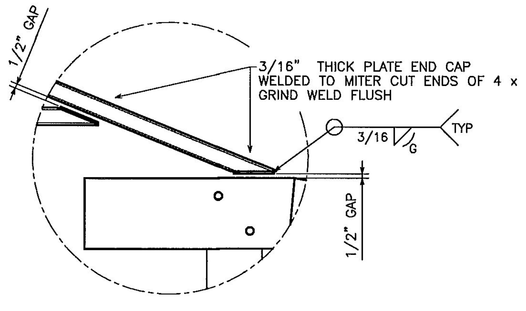

PLAN




ELEVATION – SOUTH WEST APPROACH
looking SW from ℄ of road
(south east elevation similar)



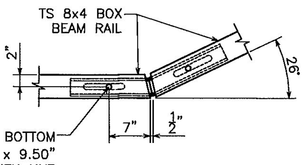

POST 1 THRU 11




| No. | Remarks | Date |
|---|---|---|
| 2 | miscellaneous corrections | 06-06-12 |
| 1 | Per VAOT comments | 05-25-12 |
| 0 | initial submittal | 04-25-12 |

REVISIONS

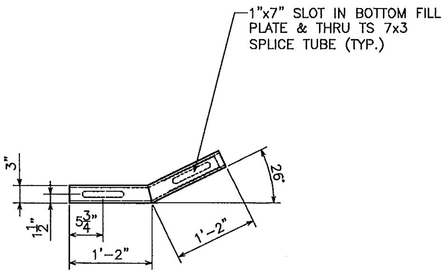
Vermont Age
REC
CK'D BY GML
1:24 pr
RESUBMIT
BY KMH



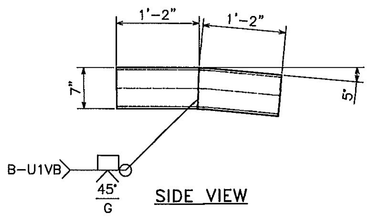

⅞"ø HOLE TOP & BOTTOM OF BOX BEAM FOR ¾"ø x 9.50" LONG BOLT W/ HEAVY HEX NUT & (2) WASHERS & 1 SPRING LOCK WASHER

TOP VIEW

## TURN BACK SPLICE TUBE ASSEMBLY

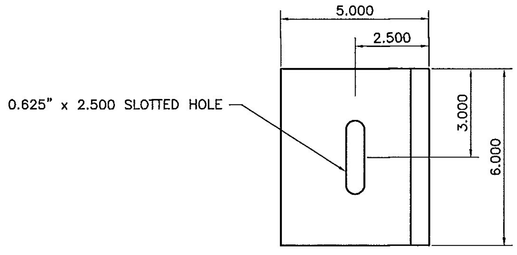


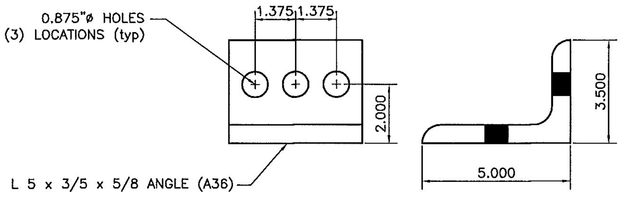

TOP VIEW



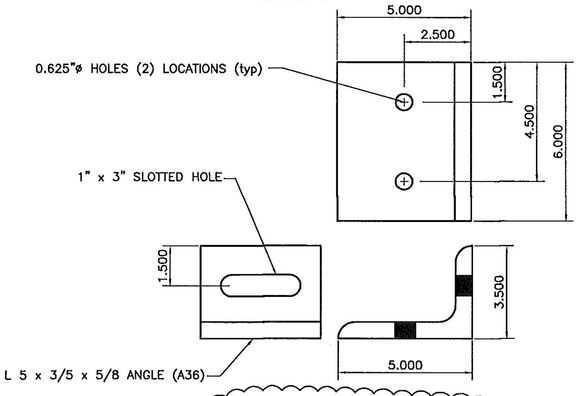

SIDE VIEW

TURN BACK SPLICE TUBE DETAIL

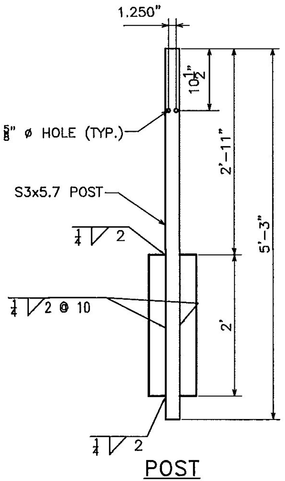


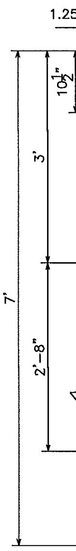

END ANGLE DETAIL




SHELF ANGLE DETAIL




POST



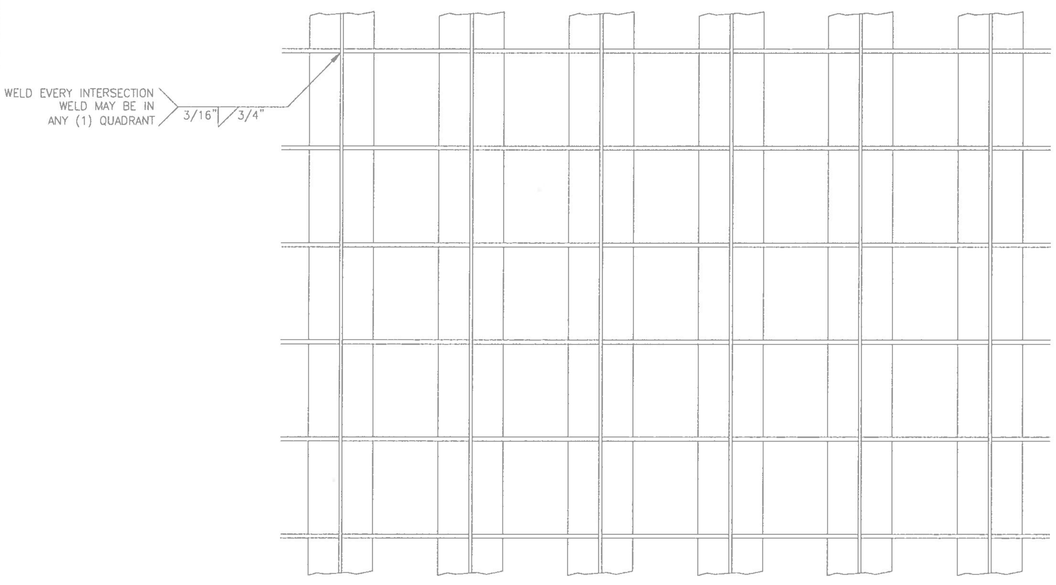

TRAN

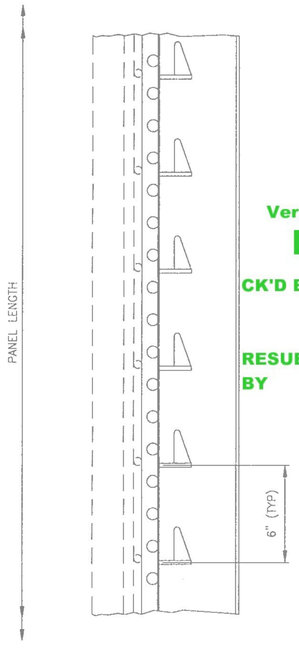
| No. | Remarks | Date |
|---|---|---|
| 2 | miscellaneous corrections | 06-06-12 |
| 1 | Per VAOT comments | 05-25-12 |
| 0 | Initial submittal | 04-25-12 |

REVISIONS

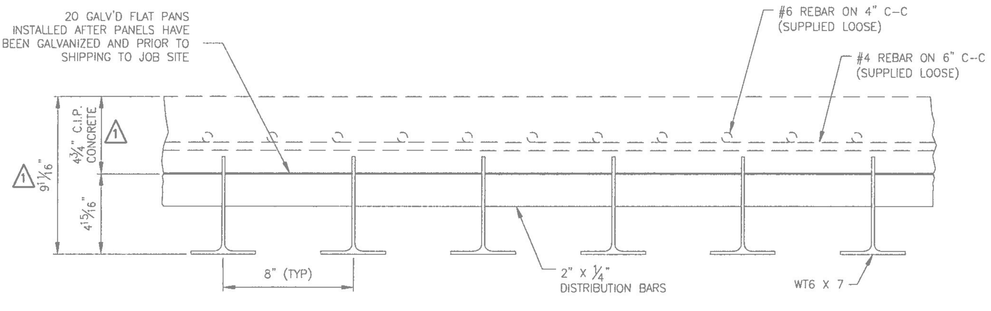
Vermont Ag
RE
CK'D BY GM
1:24 p
RESUBMIT
BY KMH

| STANDARD PANEL TOLERANCE | |
|---|---|
| PANEL WIDTH | +0 −1/8" |
| PANEL LENGTH | ±1/4" |
| SQUARENESS | ±1/2" |
| TRANSVERSE CAMBER (WIDTH) | .004 x WIDTH (IN |
| LONGITUDINAL CAMBER (LENGTH) | .003 x LENGTH (IN |
| SIDE BOW (SWEEP) | .025 x LENGTH (IN |
| MAIN BAR VERTICALITY | .04xH (FULL BAR H |
| CROSS BAR VERTICALITY | .04xH (FULL BAR H |
| BAR SPACING | ±1/8" C-C |

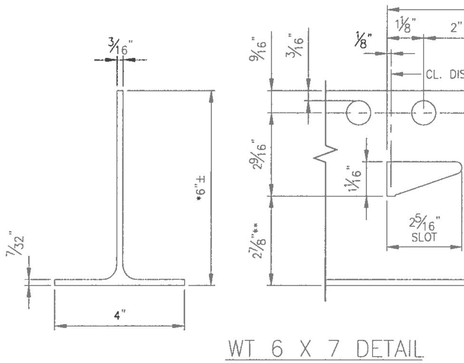



Vermont Agency of T
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CK'D BY TCF OK
8:50 am, Mar
RESUBMIT AP
BY KMH DA



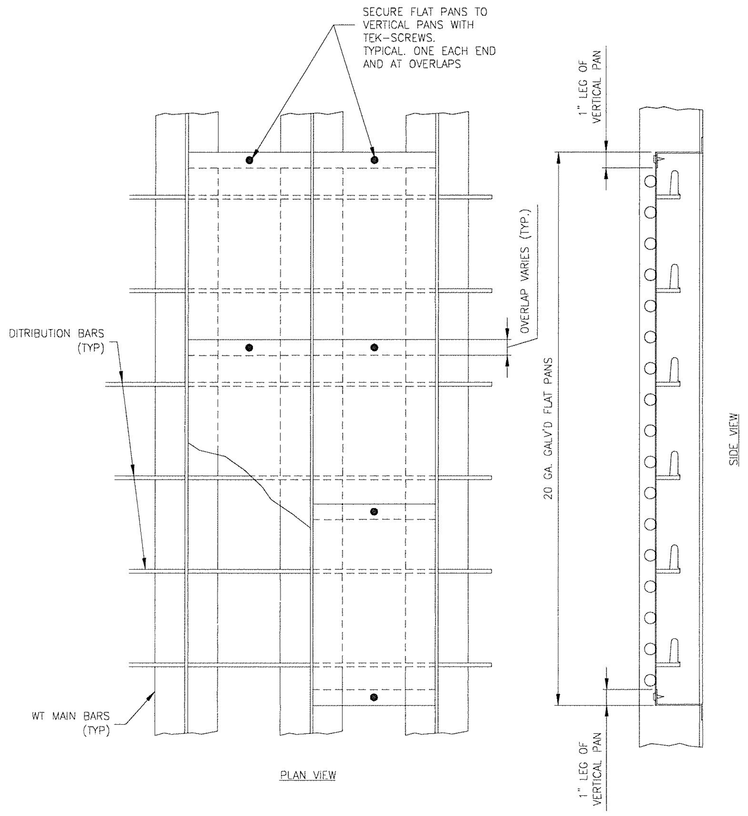

TYPICAL FLOORING DETAILS

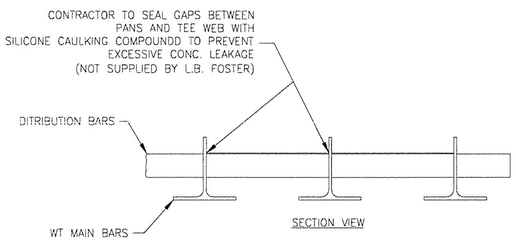



WT 6 X 7 DETAIL

*DUE TO MILL TOLERANCES, THE WT6 X 7
MAY VARY IN HEIGHT.

**THE 2 7/8" DIMENSION MAY VARY IN ORDER TO PREVENT THE SHE
HOLES FROM PIERCING THROUGH THE TOP OF THE TEE FLANGE




TYPICAL PAN INSTALLATION DETAILS

Vermont Agenc

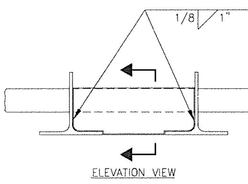
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CK'D BY TCF

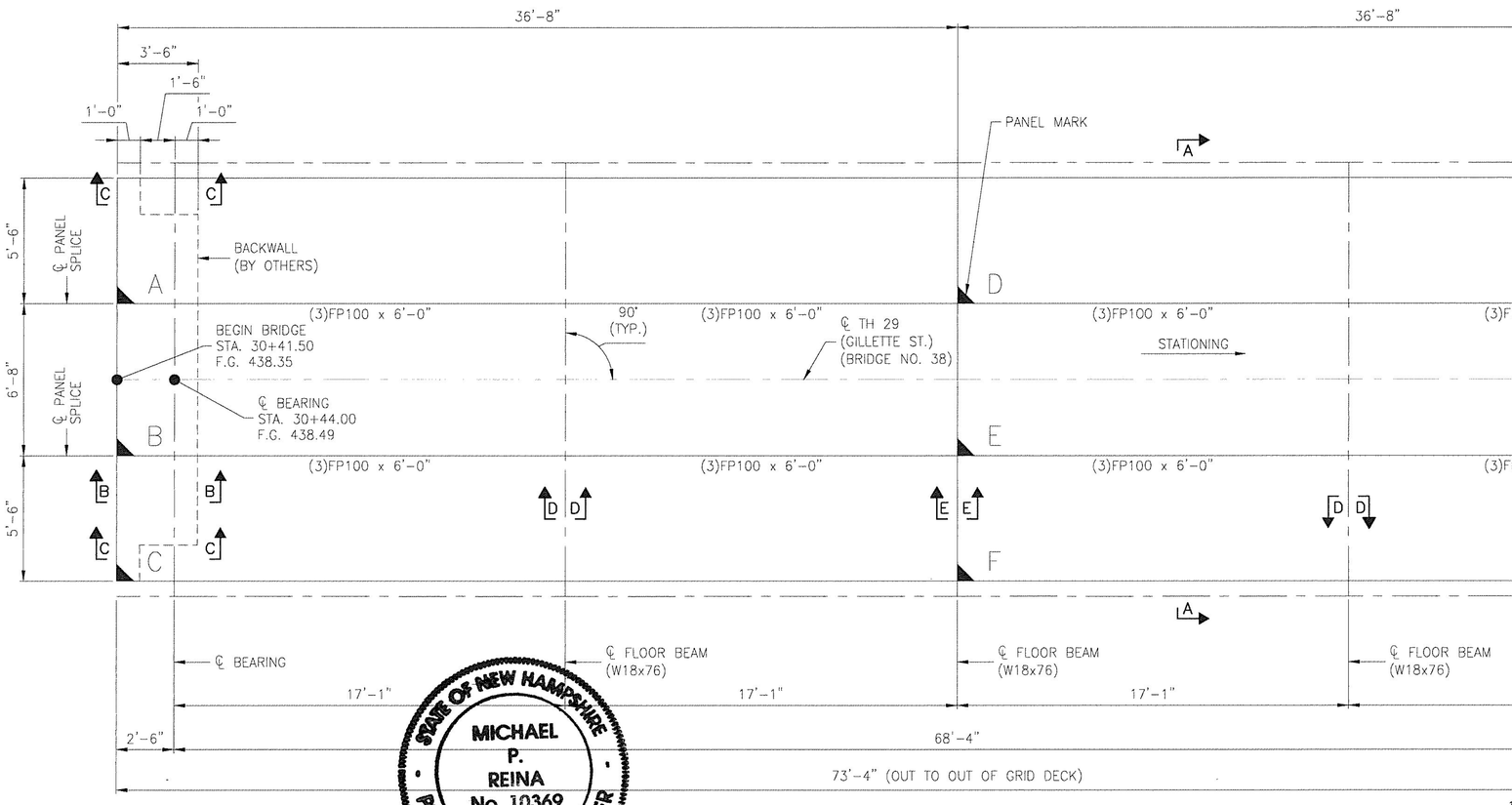
9:55 am, Fe

RESUBMIT

BY KMH

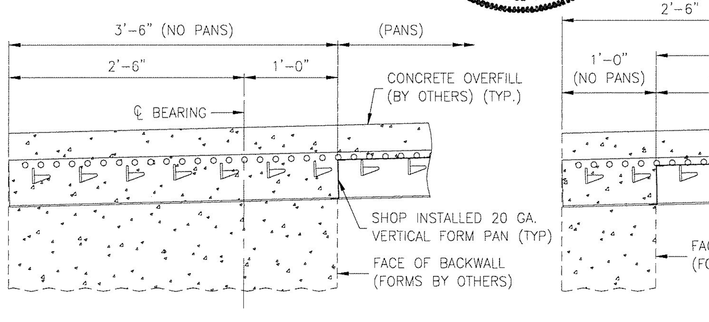



SHOP INSTALLED
WELD DI

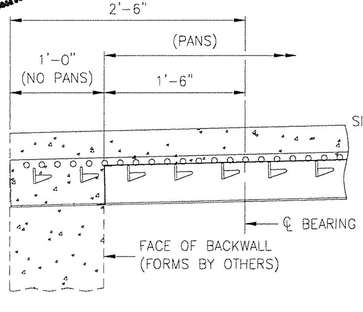



STATE OF NEW HAMPSHIRE
MICHAEL P. REINA
No. 10369
LICENSED
PROFESSIONAL ENGINEER
3/13/11

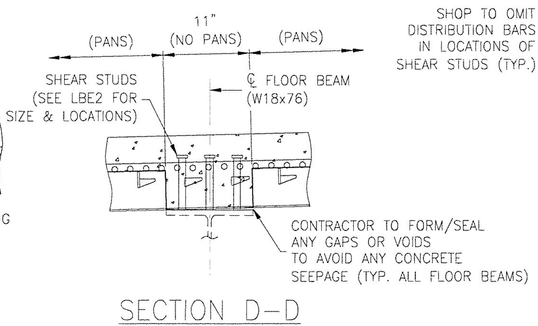
PLAN VIEW



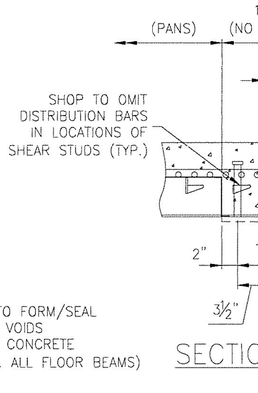

SECTION B–B




SECTION C–C

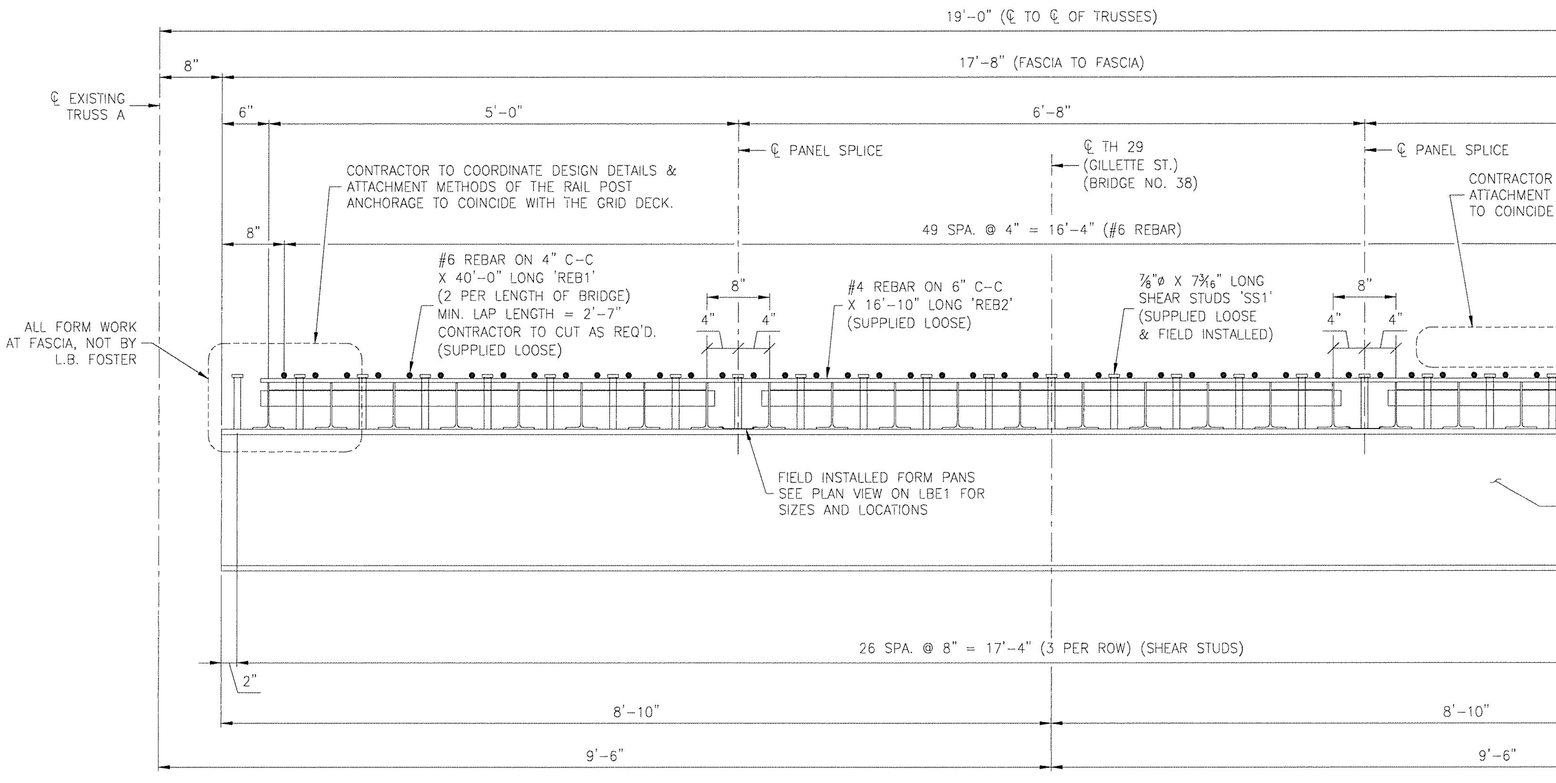



SECTION D–D



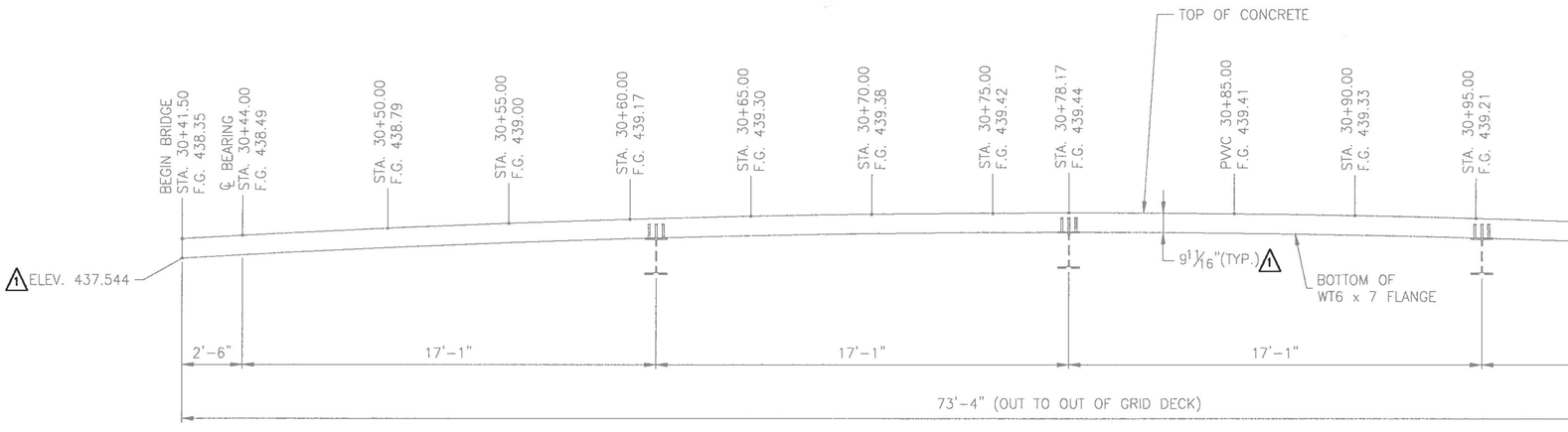

SECTIO

PROJECT NAME: HARTFORD (WILDER
PROJECT NUMBER: STP 1444(35)

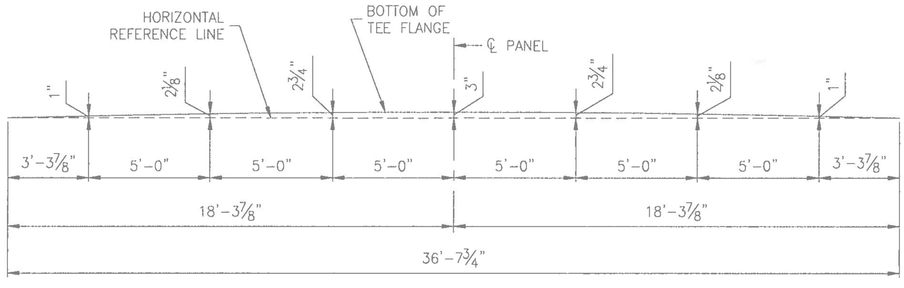



SECTION A–A
BRIDGE CROSS SECTION

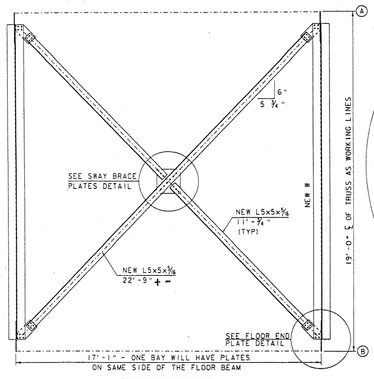

Vermont Agency of Transportation
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CK'D BY TCF OK'D BY KMH
9:55 am, Feb 16, 2011
RESUBMIT _____ APPROVED X
BY KMH DATE 3-30-11




VERTICAL PROFILE

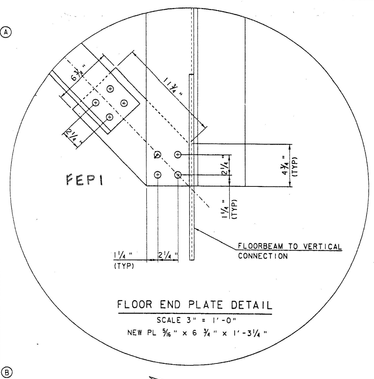



PANEL CAMBER DIAGRAM 1




FLOOR CONNECTION

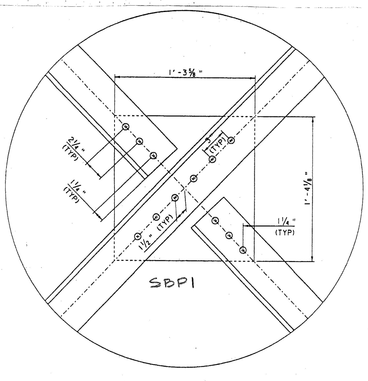
SCALE ½" = 1'-0"




FLOOR END PLATE DETAIL

SCALE 3" = 1'-0"

NEW PL ⅜" x 6 ¾" x 1'-3¼"

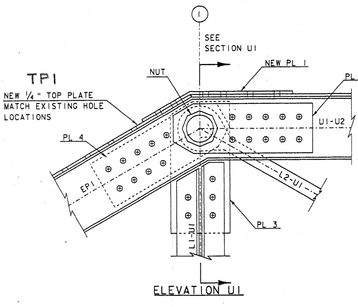



SWAY BRACE PLATE DETAIL

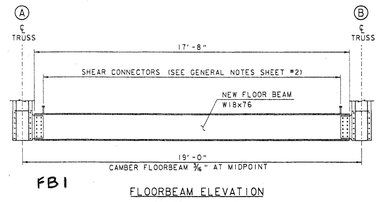
BARS ARE CENTERED ON PLATES

SCALE 3" = 1'-0"

NEW PL ¾" x 15 ⅛" x 1'-4⅛"




ELEVATION U1

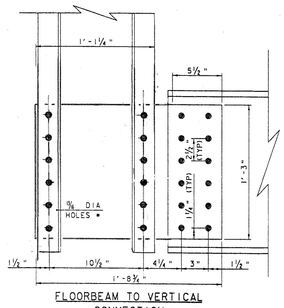



FB1

FLOORBEAM ELEVATION

SCALE ½" = 1'-0"

* FRACTURE CRITICAL MEMBER




FBP1

FLOORBEAM TO VERTICAL CONNECTION

NEW PL ½" x 20" x 1'-8⅜"

SCALE 3" = 1'-0"

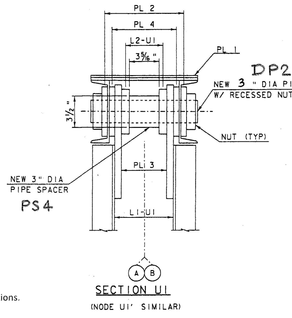
NOTE* ALL BOLTS DETAILED ON THIS SHEET SHALL BE ⅞" DIAMETER IN ⅞" DIAMETER HOLES. IF FIELD MEASUREMENTS INDICATE THAT ALTERNATE SIZE FASTENERS ARE REQUIRED, THE PROJECT MANAGER SHALL BE NOTIFIED TO VERIFY THE DESIGN OF THE COMPONENTS AND CONNECTION PLATES.

Bolts will be used in all main member connections. 5/8" dia. Rivets will be used in all lattice, batten plate and non-critical connections.

All galvanizing will take place before the riveting process begins.

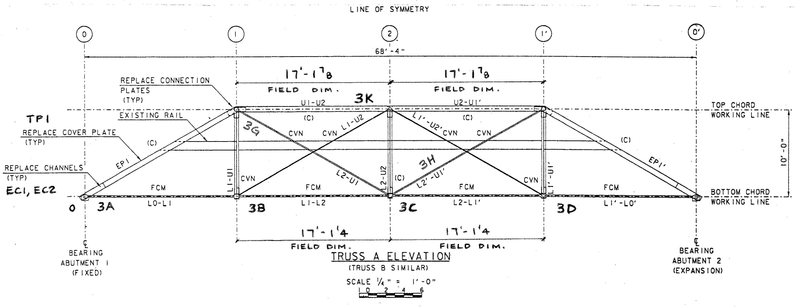
All faying surfaces will be either galvanized or primed prior to assembly with bolts or rivets. All successive coats of the paint system will be applied after the truss components have been assembled.

EXISTING RIVETS ARE ASSUMED TO BE ⅝" DIAMETER IN ⅞" DIAMETER HOLES.




SECTION U1

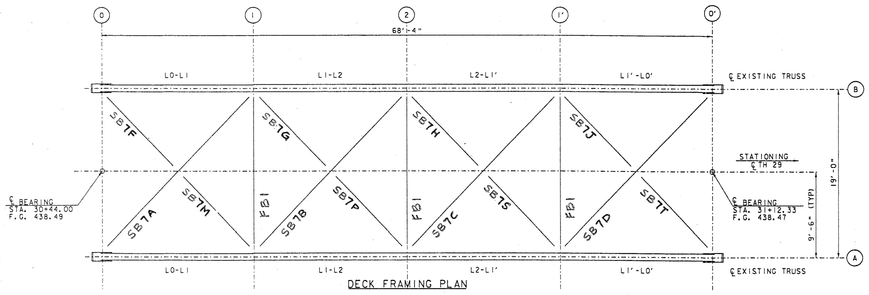
(NODE U1' SIMILAR)




TRUSS A ELEVATION

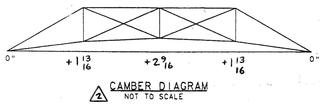
(TRUSS B SIMILAR)

SCALE ⅛" = 1'-0"




DECK FRAMING PLAN

SCALE ⅛" = 1'-0"



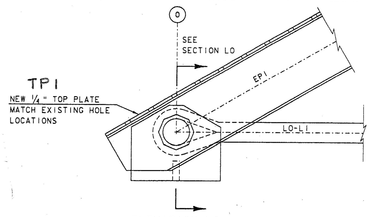

2 CAMBER DIAGRAM

NOT TO SCALE

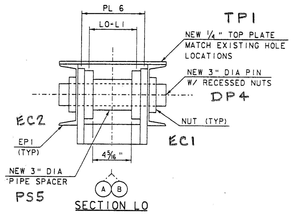
CVN - CHARPY V-NOTCH

FCM - FRACTURE CRITICAL MEMBER

C - COMPRESSION




ELEVATION L0

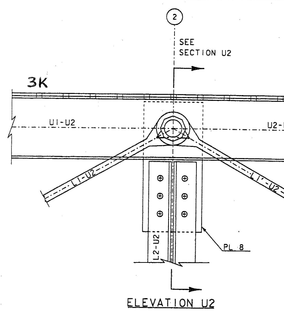



SECTION L0

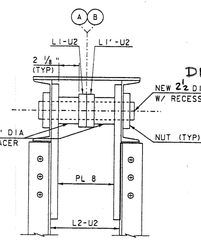
SEE BEARING DETAILS SHEET FOR ADDITIONAL DETAILS FOT THIS LOCATION

SEE TRUSS JOINT DETAILS #4 SHEET FOR CLIP DIMENSIONS

(NODE L0' SIMILAR)




ELEVATION U2




SECTION U2


Vermont Agency of Transportation

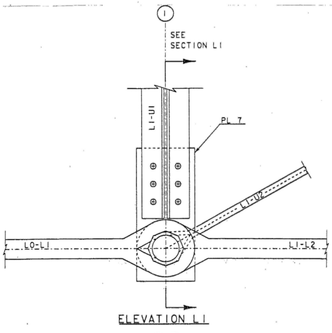
RECEIVED

CK'D BY TCF OK'D BY KMH

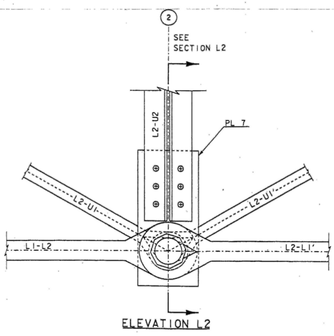
November 9, 2011

RESUBMIT _____ APPROVED As Noted

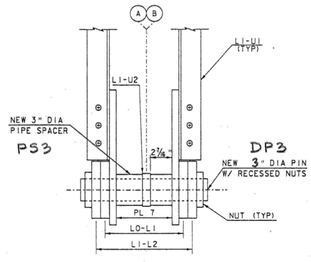
BY KMH DATE 9/10/2012



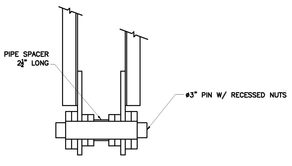

ELEVATION L1




ELEVATION L2



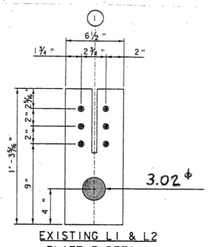

SECTION L1
(NODE L1' SIMILAR)



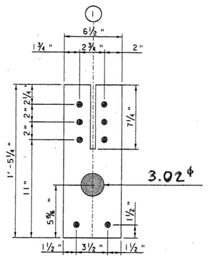

SECTION L2

**PIPE SPACERS WILL BE SUPPLIED BARE, NOT GALVANIZED. THE INSIDE TO BE COATED WITH NEVER-SEEZ, THE OUTSIDE TO BE BLASTED AND PAINTED ACCORDING TO SPECS.

EXISTING RIVETS ARE ASSUMED TO BE ⅛" DIAMETER IN ⅞" DIAMETER HOLES.



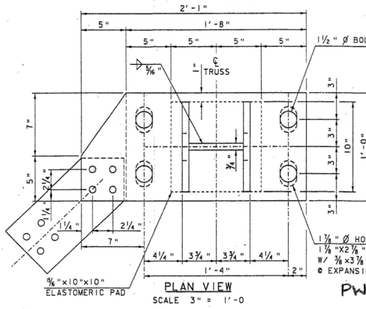

EXISTING L1 & L2
PLATE 7 DETAIL
¾" MINIMUM PLATE THICKNESS




NEW L1 & L2
PLATE 7 DETAIL
PL ¾"x6½"x1'-5¼"

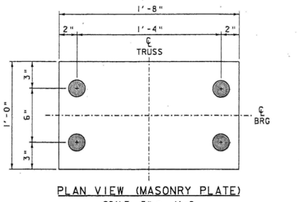
PROVIDE ONE NEW PLATE, THREE TOTAL, AT EACH VERTICAL CONNECTION ON THE SOUTH SIDE OF THE TRUSS FOR ATTACHING THE SEWER LINE.

DIMENSIONS AND DETAILS ARE ASSUMED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY DIMENSIONS AND DETAILS.

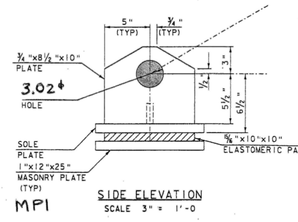



PLAN VIEW
SCALE 3" = 1'-0

PW

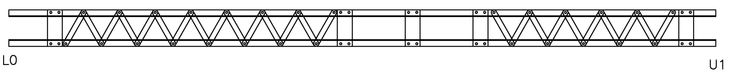



PLAN VIEW (MASONRY PLATE)
SCALE 3" = 1'-0

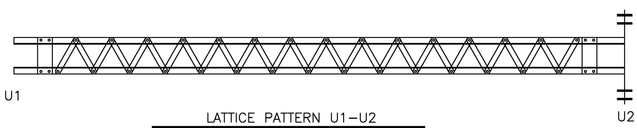



MP1

SIDE ELEVATION
SCALE 3" = 1'-0




LATTICE PATTERN L0-U1
SEE SHOP DRAWINGS FOR DIMENSIONS




LATTICE PATTERN U1-U2
SEE SHOP DRAWINGS FOR DIMENSIONS

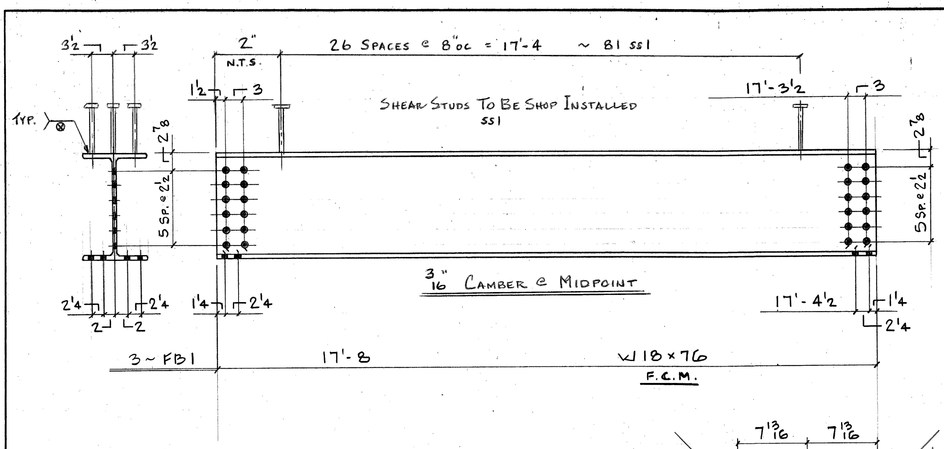
The replacement of members EP1, U1-U2, U2-U1', and EP1' necessitates different details than shown on this sheet. See Sheets 10-13 (1/4-4/4) for modifications.

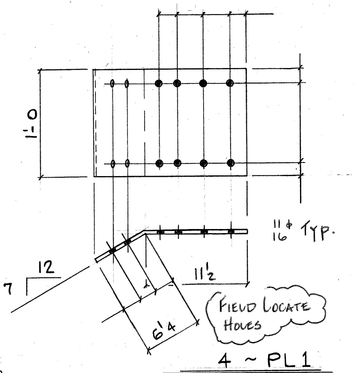
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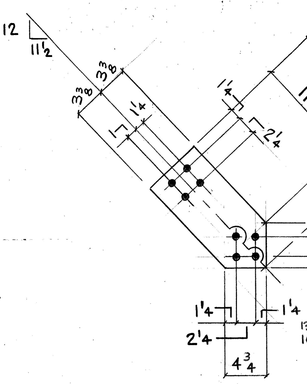
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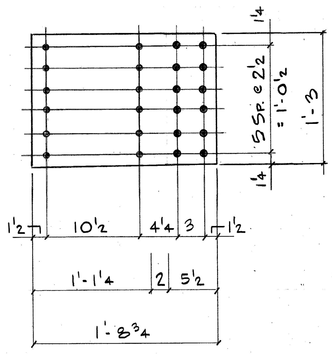
RESUE
BY KM

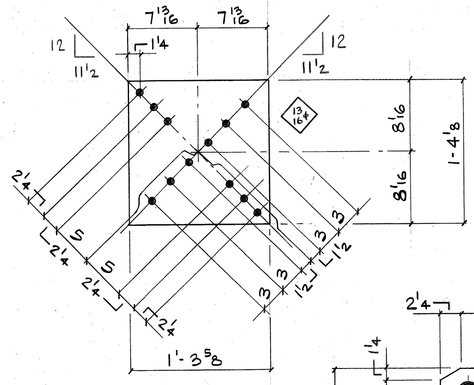
C:\Users\ABuckert\Documents\Works in Progress\Wilder\Drawings & Dimension\Mass Top Chord Details.dwg, 9/6/2012 3:24:32 PM

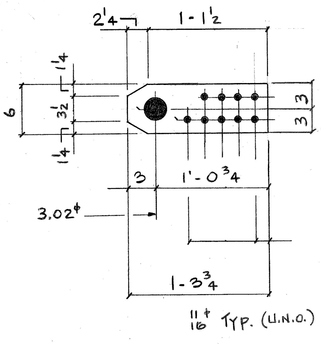


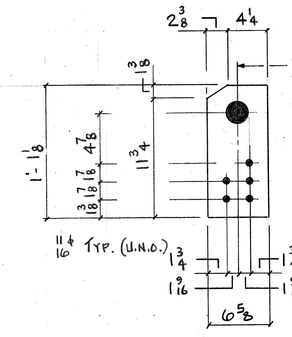




The replacement of members EP1, U1-U2, U2-U1', and EP1' necessitates different details than shown on this sheet. See Sheets 10-13 (1/4-4/4) for modifications.

Deck Bracing Moved To Sheet # 7

PL4 Field Locate Holes Except Pin Hole Shop Drilled After Galvanizing.

Notes:

1) Pin holes shall be bored true to the specified diameter, smooth and straight, at right angles with the axis of the member and parallel with each other unless otherwise required. The fina surface shall be produced by a finishing cut.

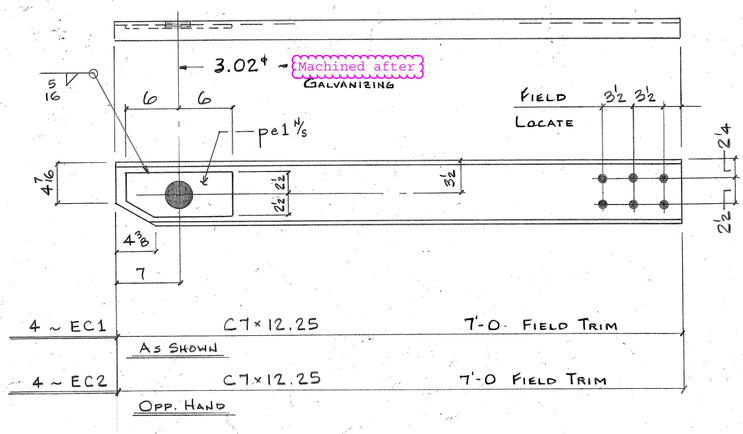
2) Threads for all bolts and pins for structural steel construction shall conform to the United Standard Series UNC ANSI B1.1, Class 2A for external threads and Class 2B for internal thread except that pin ends having a diameter of 1.375 in. or more shall be threaded six threads to the inch.

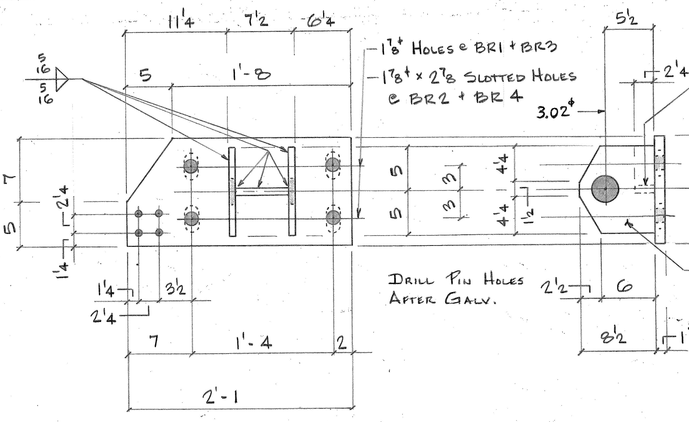
3) All eyebars that are to be placed side by side in the structure shall be securely fastened together in the order that they will be placed on the pin and bored at both ends while so clamp

4) The edges of eyebars that lie between the transverse centerline of their pin holes shall be cut simultaneously with two mechanically operated torches abreast of each other, guided by a substantial template, in such a manner as to prevent distortion of the plates. Edges of eyebars shall be smooth and free of any score marks from torch cutting.

5) Grease for pin connections shall be "Never-Seez Mariner's Choice."

The replacement of members EP1, U1-U2, U2-U1', and EP1' necessitates different details than shown on this sheet. See Sheets 10-13 (1/4-4/4) for modifications.



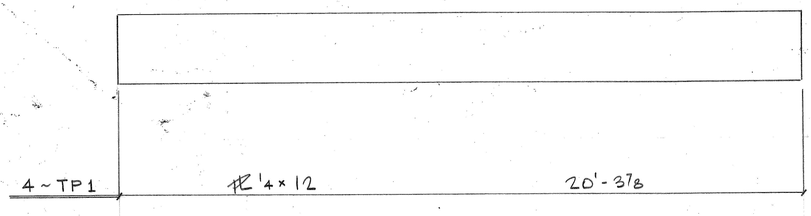



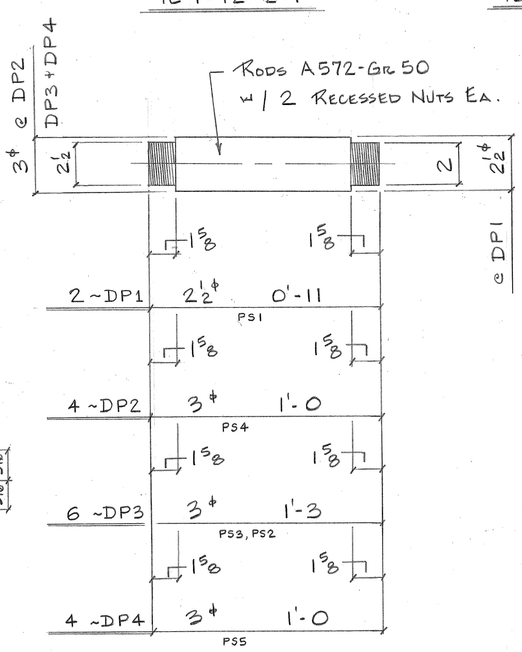

One ~ BR1 : As Shown
PL 1×12×2'-1

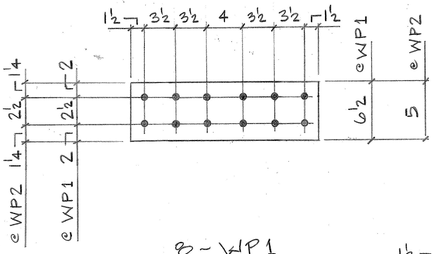
One ~ BR3 : Opp
PL 1×12×2'-1

One ~ BR2 : As Shown & Noted
PL 1×12×2'-1

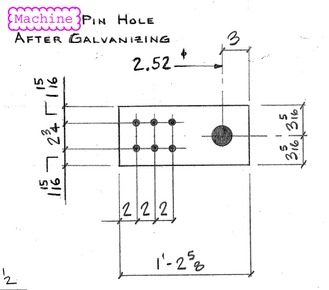
One ~ BR4 : Opp Ha
PL 1×12×2'-1

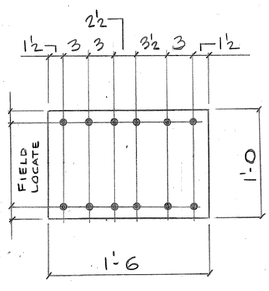



Holes To Be 11/16ϕ U.N.O.




Pipe Spac

4 ~ 3ϕ A572 Rod

4 ~ 3ϕ Sch. 40

8 ~ 3ϕ Sch. 40

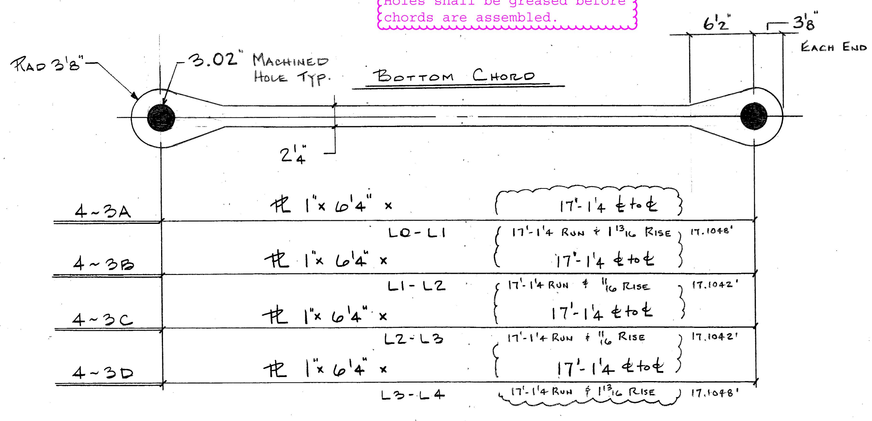
4 ~ 3ϕ Sch. 40

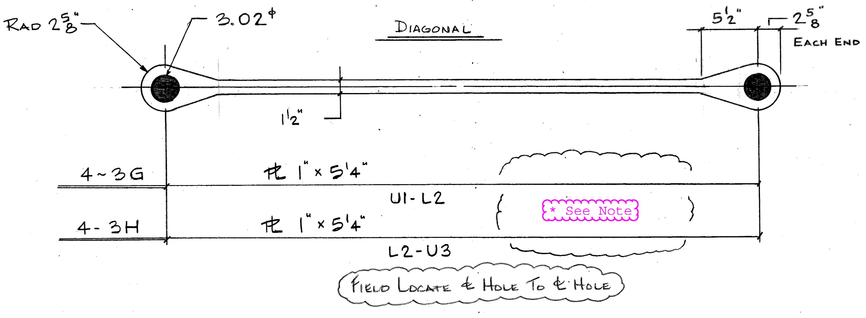
4 ~ 3ϕ Sch. 40

All Rail Compo To Be Furnished Renaud Brothers

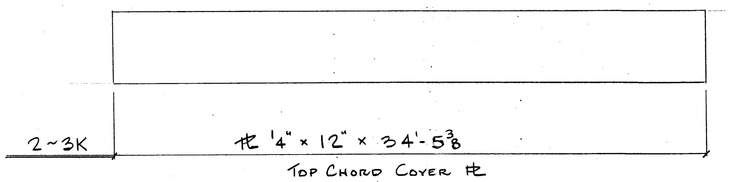
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BY KMH DATE 9/10/2012

Holes shall be machined after galvanizing.
Holes shall be greased before chords are assembled.



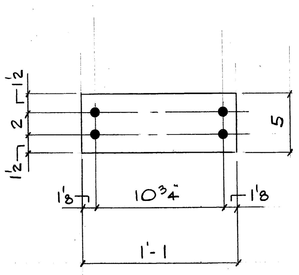




* Note - Original shipment of pieces will not include 3G and 3H pieces. The truss shall be assembled, without these pieces, and the diagonal lengths determined before the pieces are fabricated.

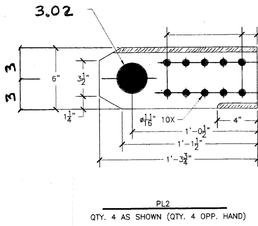



The replacement of members EP1, U1-U2, U2-U1', and EP1' necessitates different details than shown on this sheet. See Sheets 10-13 (1/4-4/4) for modifications.

Machine Pin Hole After Galvanizing



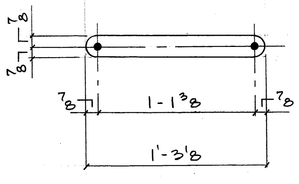

6~3M
PL 1/2 x 5 x 1'-1
BATTEN PLATES



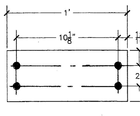

PL2
QTY. 4 AS SHOWN (QTY. 4 OPP. HAND)
HOLE FOR 3" PIN TO BE SHOP DRILLED
11/16ø BOLT HOLES TO BE MATCH DRILLED IN F

4~PL2 R
PL 5/8 x 6 x 1'-3 3/4

4~PL2 L OP
PL 5/8 x 6 x 1'-3 3/4

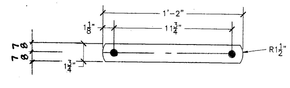



54~3P
PL 1/4 x 1 3/4 x 1'-3 3/8
LATTICE BARS



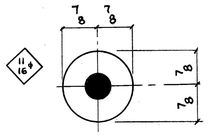

TOP CHORD BATTEN PLATES
3/8" PLATE
ALL BATTEN PLATES TO BE SHOP DR

4~3T
PL 3/8 x 5 x 1'-0




TOP CHORD LATTICE
3/8" PLATE
ALL LATTICE TO BE SHOP DRILLED

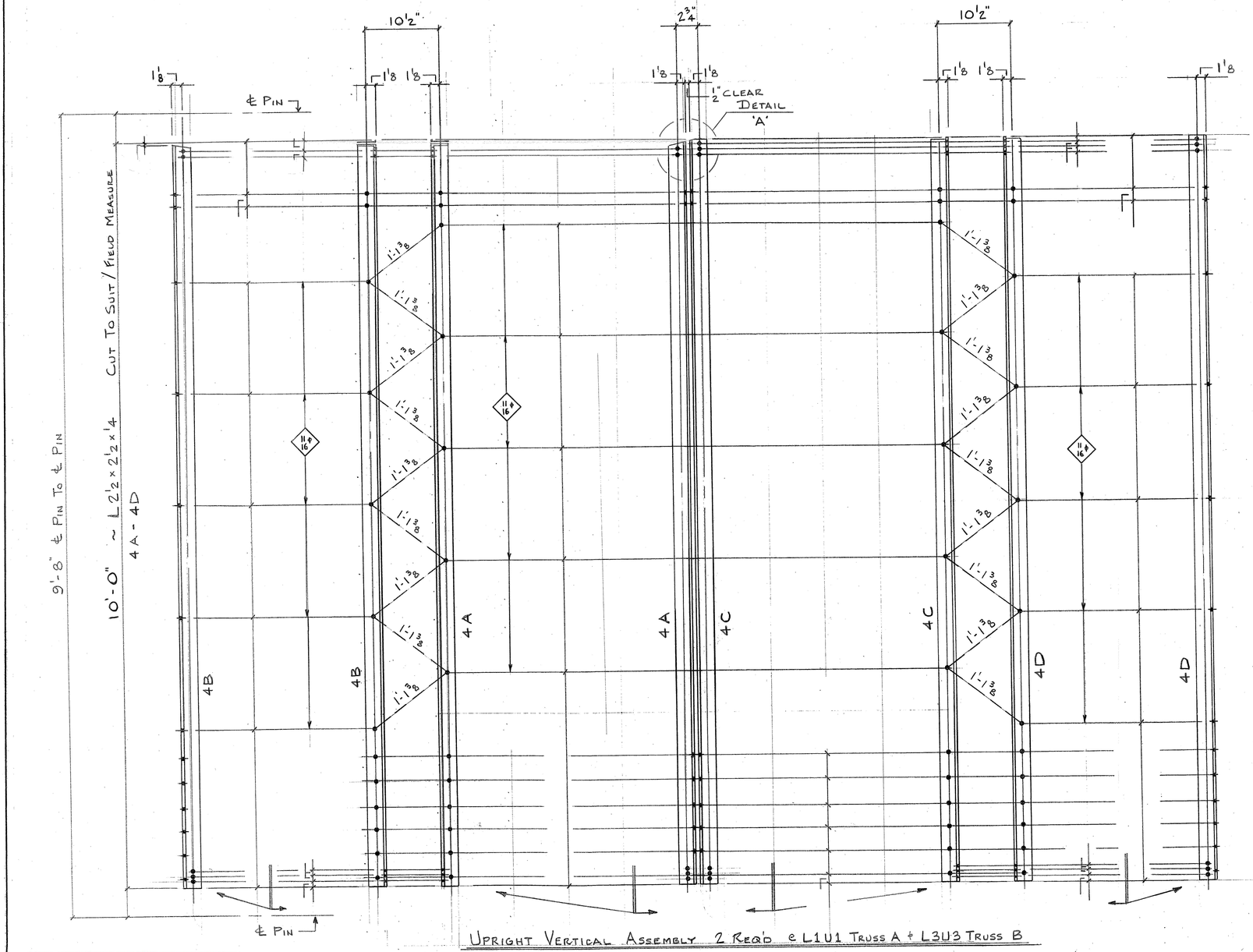
32~3R
PL 3/8 x 1 3/4 x 1'-2"




8~3S
PL 1/4 x 1 3/4 x 0'-1 3/4
END SPACERS

PAINT NOTE :
Steel will be Hot Dipped
Intermediate Coat : Carl
Topcoat : Carboline 133
All faying surfaces shall
be hand wire brushed p
No post treatments c
accelerate cooling w

The replacement of members EP1, U1-U2, U2-U1', and EP1' necessitates different details than shown on this sheet. See Sheets 10-13 (1/4-4/4) for modifications.




UPRIGHT VERTICAL ASSEMBLY 2 REQ'D @ L1U1 TRUSS A & L3U3 TRUSS B

| | |
|---|---|
| 2 ~ 4A | L 2½ x 2½ x ¼ x 10'-0 |
| 2 ~ 4B | L 2½ x 2½ x ¼ x 10'-0 |
| 2 ~ 4C | L 2½ x 2½ x ¼ x 10'-0 |
| 2 ~ 4D | L 2½ x 2½ x ¼ x 10'-0 |

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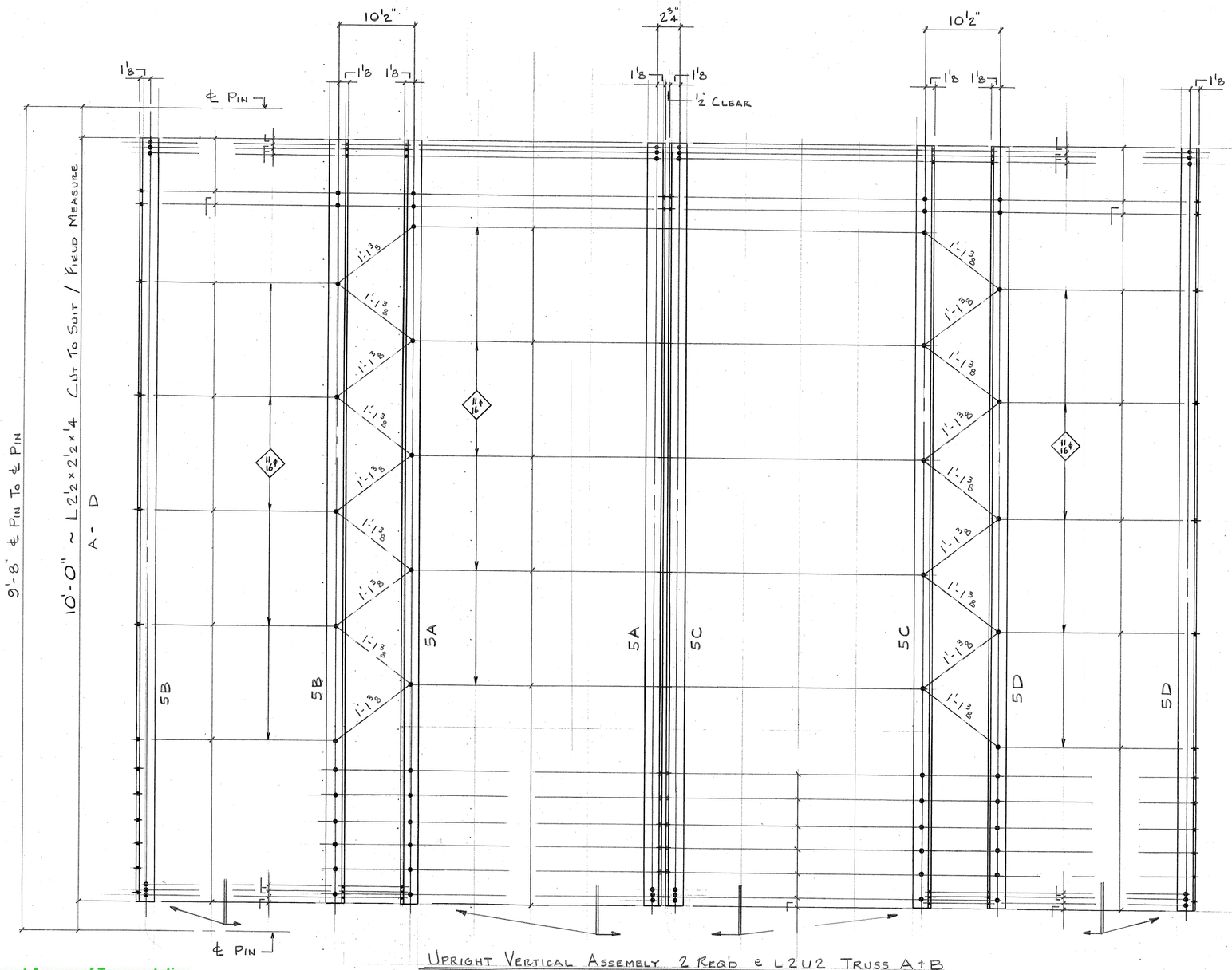
November 9, 2011

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Minimum end and ed
Minimum end and ed

The replacement of members EP1, U1-U2, U2-U1', and EP1' necessitates different details than shown on this sheet. See Sheets 10-13 (1/4-4/4) for modifications.




UPRIGHT VERTICAL ASSEMBLY 2 REQ'D @ L2U2 TRUSS A+B

| | |
|---|---|
| 2 ~ 5A | L 2½ × 2½ × ¼ × 10'-0 |
| 2 ~ 5B | L 2½ × 2½ × ¼ × 10'-0 |
| 2 ~ 5C | L 2½ × 2½ × ¼ × 10'-0 |
| 2 ~ 5D | L 2½ × 2½ × ¼ × 10'-0 |

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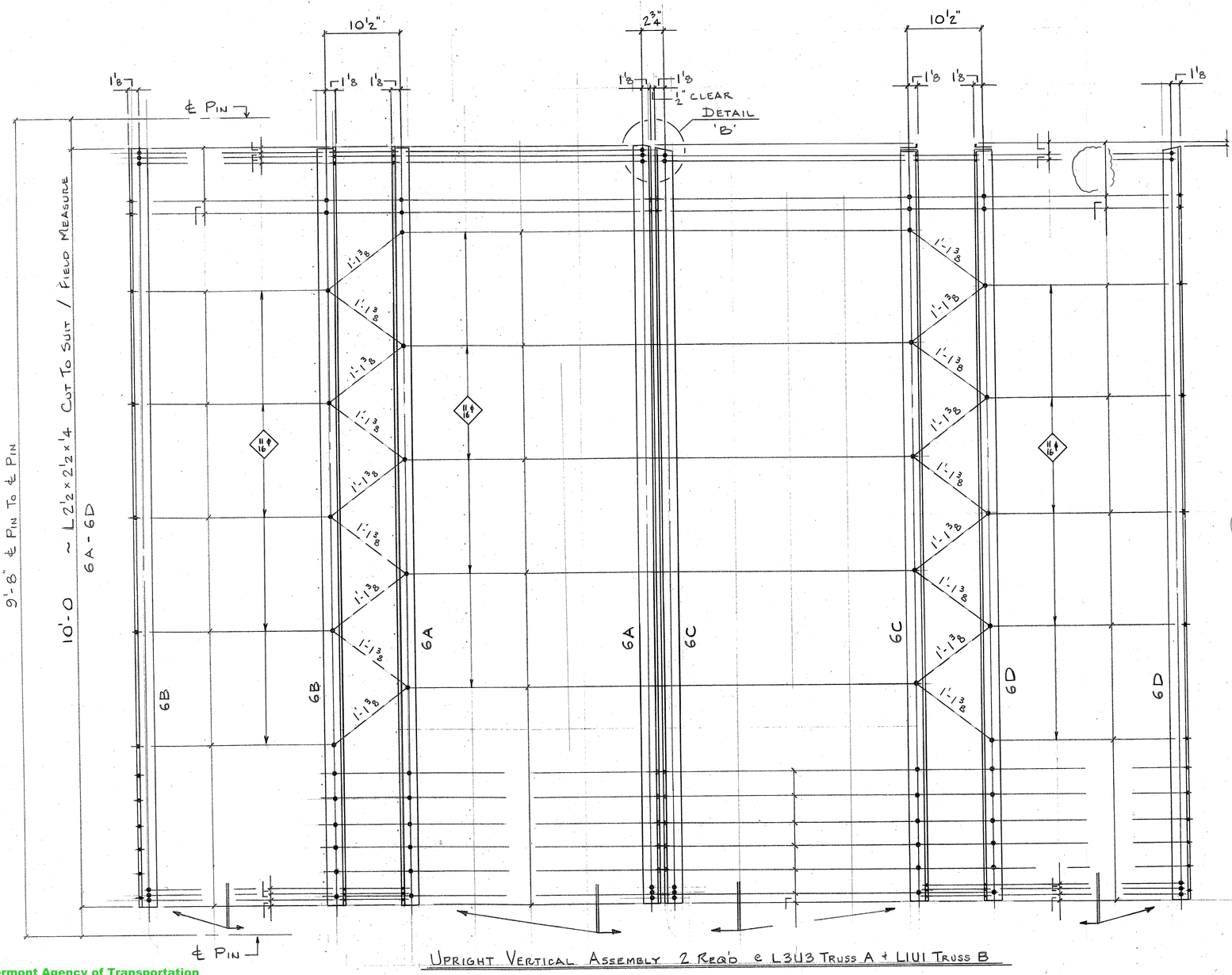
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November 9, 2011

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BY KMH DATE 9/10/2012

The replacement of members EP1, U1-U2, U2-U1', and EP1' necessitates different details than shown on this sheet. See Sheets 10-13 (1/4-4/4) for modifications.




Upright Vertical Assembly 2 Req'd @ L3U3 Truss A + L1U1 Truss B

| | |
|---|---|
| 2 ~ 6A | L 2½ x 2½ x ¼ x 10'-0 |
| 2 ~ 6B | L 2½ x 2½ x ¼ x 10'-0 |
| 2 ~ 6C | L 2½ x 2½ x ¼ x 10'-0 |
| 2 ~ 6D | L 2½ x 2½ x ¼ x 10'-0 |

Vermont Agency of Transportation

**RECEIVED**

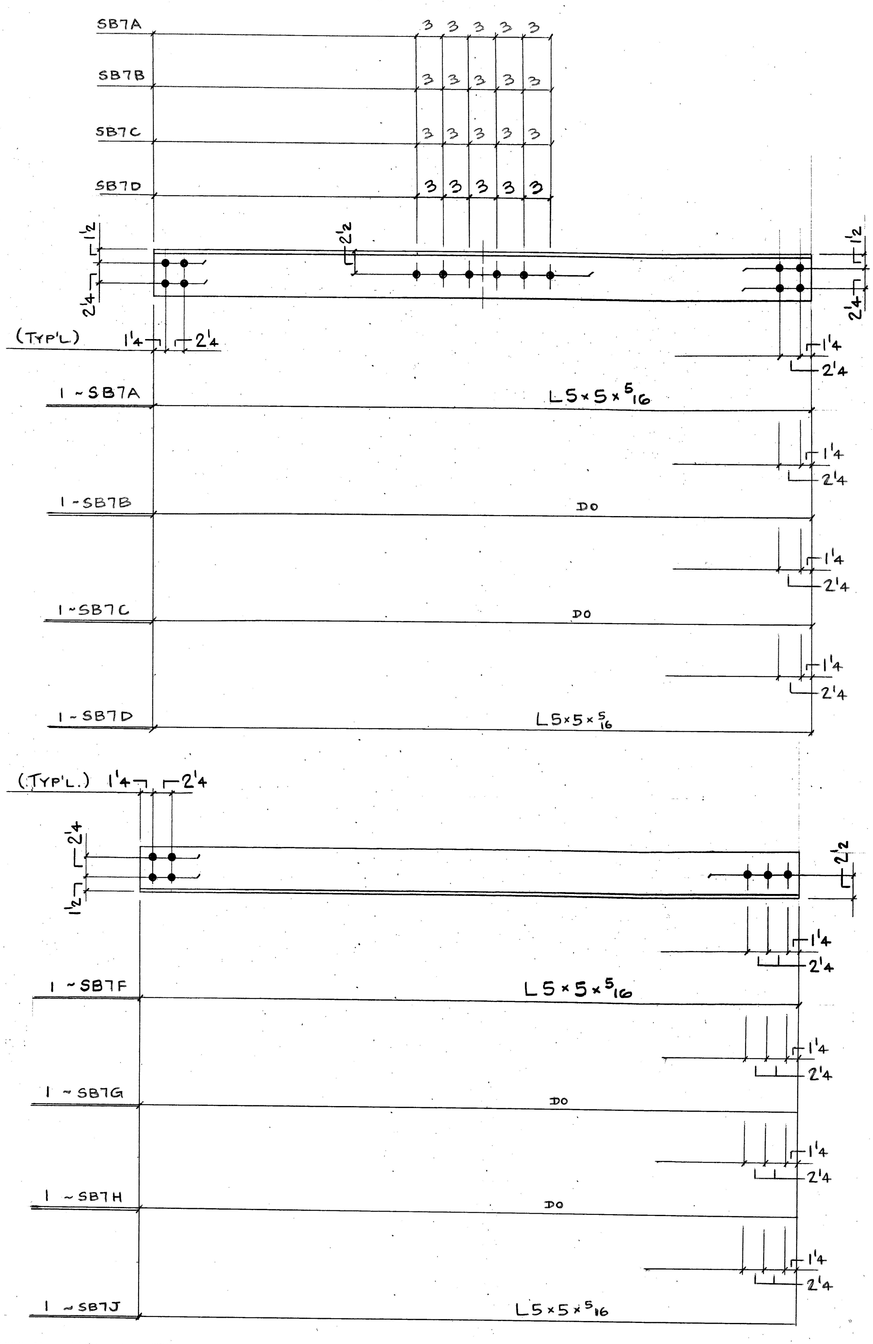
CK'D BY TCF OK'D BY KMH

November 9, 2011

RESUBMIT _____ APPROVED As Noted

BY KMH DATE 9/10/2012

The replacement of members EP1, U1-U2, U2-U1', and EP1' necessitates different details than shown on this sheet. See Sheets 10-13 (1/4-4/4) for modifications.

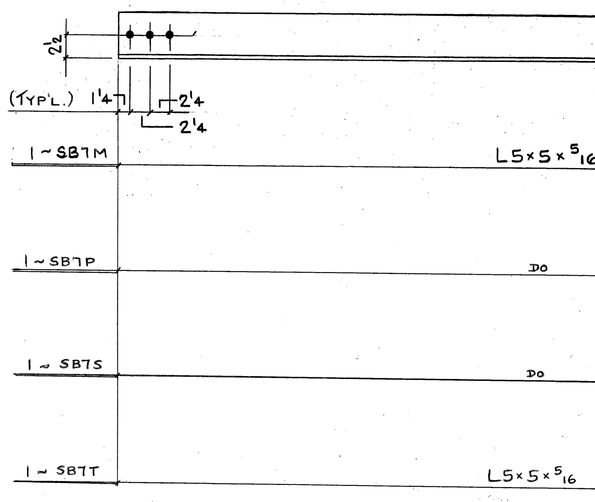


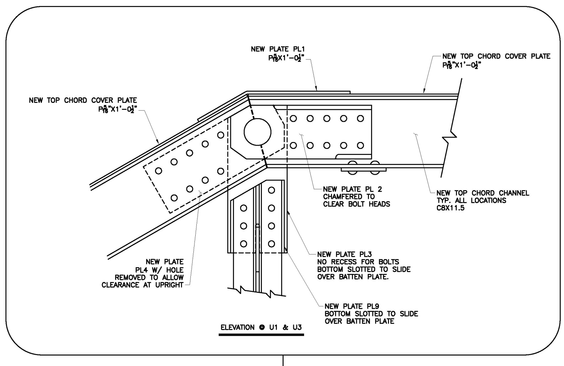


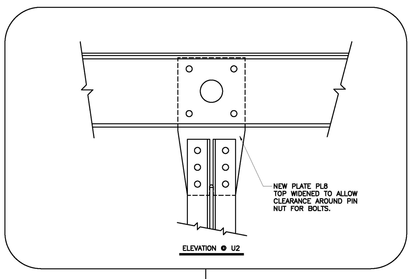


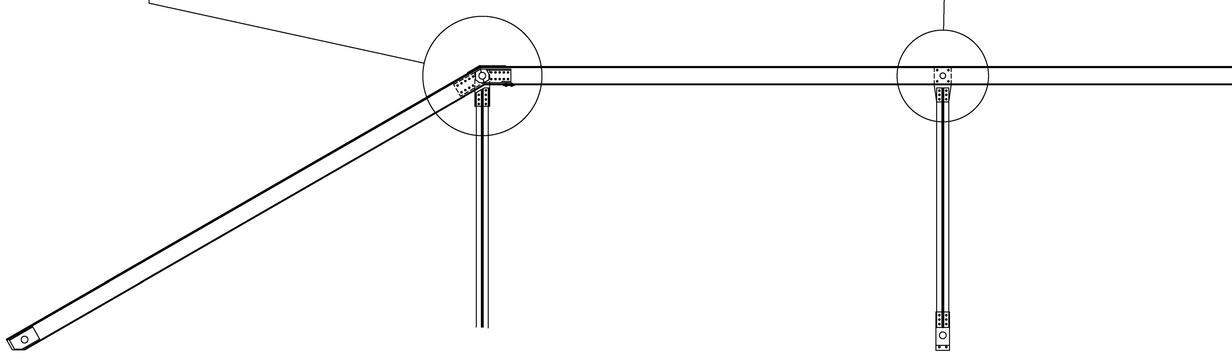
Field Locate Missing Hole Dimension
Holes To Be Shop Drilled.
Field To Supply Cut Lengths For
Angles. Bays Differ Slightly

Note - The original shipment of pieces will not include the an
The truss shall be assembled, without these pieces, and
before the pieces are fabricated.
Deck bracing connection plates and dimensions shall be
angles.





**Hartford (Wilder) STP 1444(35) Bolt Qty. for Top Chord Replacement**

| Qty. | Mem.1 | Mem.2 | Mem.3 | Mem.4 | Mem.5 | Grip |
|---|---|---|---|---|---|---|
| 32 | PL1 | TP1 | EC3/EC4 | Wedg.Wash. | Flat Wash | 1 1/2" |
| 16 | PL1 | TP2 | EC1/EC2 | Wedg.Wash. | Flat Wash | 1 1/2" |
| 80 | PL2 | EC3/EC4 | Flat Wash. | | | 1" |
| 56 | Angle | PL9 | PL3 | Flat Wash. | | 1 3/4" |
| 72 | PL4 | EC1/EC2 | Flat Wash. | | | 1" |
| 24 | Angle | PL8 | Flat Wash. | | | 1 1/8" |
| 16 | EC3/EC4 | PL8 | Flat Wash. | | | 1 1/8" |

**Rivet Quantities** 1

| Qty. | Mem.1 | Mem.2 | Mem.3 | Grip |
|---|---|---|---|---|
| 368 | EC1/EC2 | TP1 | | 3/4" |
| 292 | EC3/EC4 | TP2 | | 3/4" |
| 80 | EC1/EC2 | M1 | | 13/16" |
| 32 | EC3/EC4 | M1 | | 13/16" |
| 100 | EC1/EC2 | 3R | 3R | 1 3/16" |
| 112 | EC3/EC4 | 3R | 3R | 1 3/16" |
| 16 | EC1/EC2 | 3R | | 13/16" |

Notes:

1) All bolts to be gr. A325 Galv heavy hex.
2) All rivets to be gr. A502 gr. 1
3) Exact quantities are given, extra rivets/bolts will need to be ordered for extra field quanties/testing purposes. Casco Bay will be responsible for supplying the bolts, Renaud Bros. Inc. will provide rivets.

ADDITIONAL CONSIDERATIONS:

1) TRIM TOP OF UPRIGHTS, TO ALLOW 8" CHANNEL TO DROP DOWN, AND BRING CENTERLINE OF BOLTS TO CENTER OF THE CHANNEL. MINIMUM EDGE DISTANCE ALLOWED FOR ⅞" BOLTS IS 1⅜". ALL UPRIGHTS SHALL BE CUT USING A BANDSAW. ENDS WILL BE CUT SLIGHTLY LONG, THEN GROUND, ENSURING A ½" RADIUS, AND A SMOOTH, BURR FREE EDGE.
2) BATTEN PLATES NEED TO BE MOVED AWAY FROM THE PIN LOCATIONS, TO ALLOW FOR PASSAGE OF DIAGONAL EYEBARS. THIS OCCURS WHEN THE WIDTH OF THE CHANNEL IS INCREASED, AND THE BOTTOM DROPS DOWN.
3) WEB THICKNESS IS CLOSE TO THAT OF EXISTING, SO PIN LENGTHS SHOULD NOT CHANGE
4) ALL STRUCTURAL BOLTS TO BE NEW, AND NOT REUSED FROM ORIGINAL ASSEMBLY.
5) EXISTING LATTICE RAIL WILL NEED TO BE TRIMMED AND MODIFIED TO FIT THE 8" CHANNEL SECTIONS.

NOTES:

1) ALL STEEL TO BE AASHTO M 270 (ASTM A 709
2) ALL EDGES GROUND TO A 1/16" RADIUS
3) PIN HOLES TO BE MACHINED AT RENAUD BROS.
ALL TOP CHANNEL SECTIONS SHALL BE MATCHED AS
DIRECTION, AND SHALL BE MARKED AND KEPT TOGET
4) ALL TOP CHORD COVER PLATES, LATTICE & BA
5) ALL GUSSET PLATE AND BENT PLATE CONNECTI
HEX BOLTS. WEDGE WASHERS SHALL BE USED
INTERFERENCE ISSUES ARISE.
6) CASCO BAY WILL FABRICATE ALL THE STRUCTUR
GALVANIZER, & TRANSPORT TO THEIR FACILITY
6)1) MACHINE ALL PIN HOLES
6)2) MATCH DRILL ALL HOLES DESIGNATED TO BI
6)3) ASSEMBLE TRUSS HALVES
6)4) TORQUE ALL BOLT LOCATIONS
6)5) SHORE, AND TRANSPORT TO CASCO BAY FO
7) ADDITIONAL WORK RENAUD BROS. WILL BE PERI
7)1) TRIM UPRIGHT MEMBERS TO ALLOW FOR HE
7)2) DRILL ADDITIONAL HOLES IN UPRIGHTS TO C
SHIM PLATE @ LOCATION U1.

Vermont Agency of Transportation

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October 5, 2012

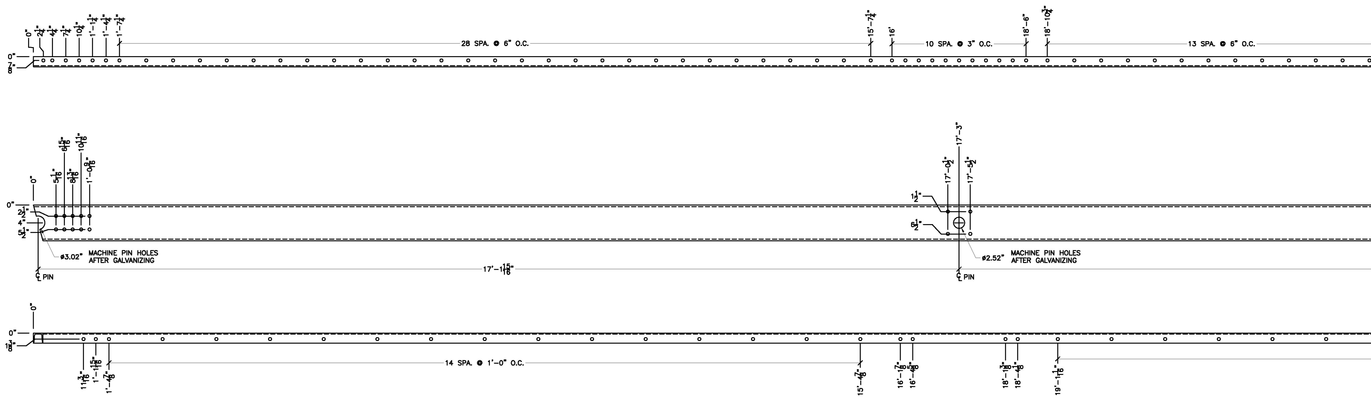
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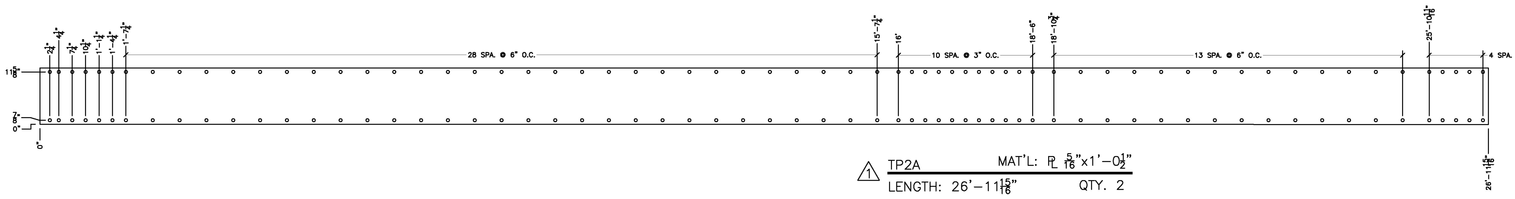
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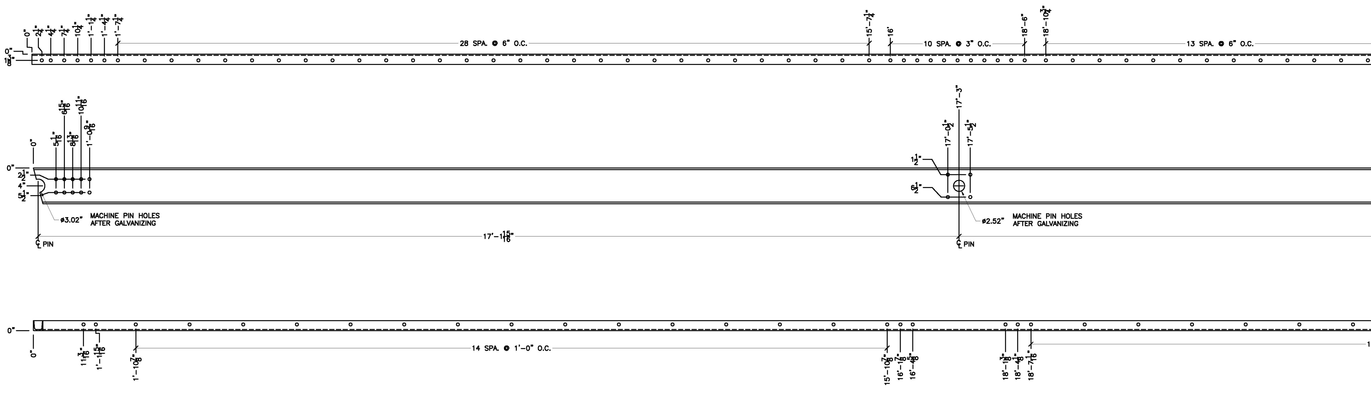
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1 EC3 MAT'L C8X11.5
LENGTH: 34'-5 15/16" QTY. 2




1 TP2A MAT'L: PL 5/16"x1'-0 1/2"
LENGTH: 26'-11 15/16" QTY. 2



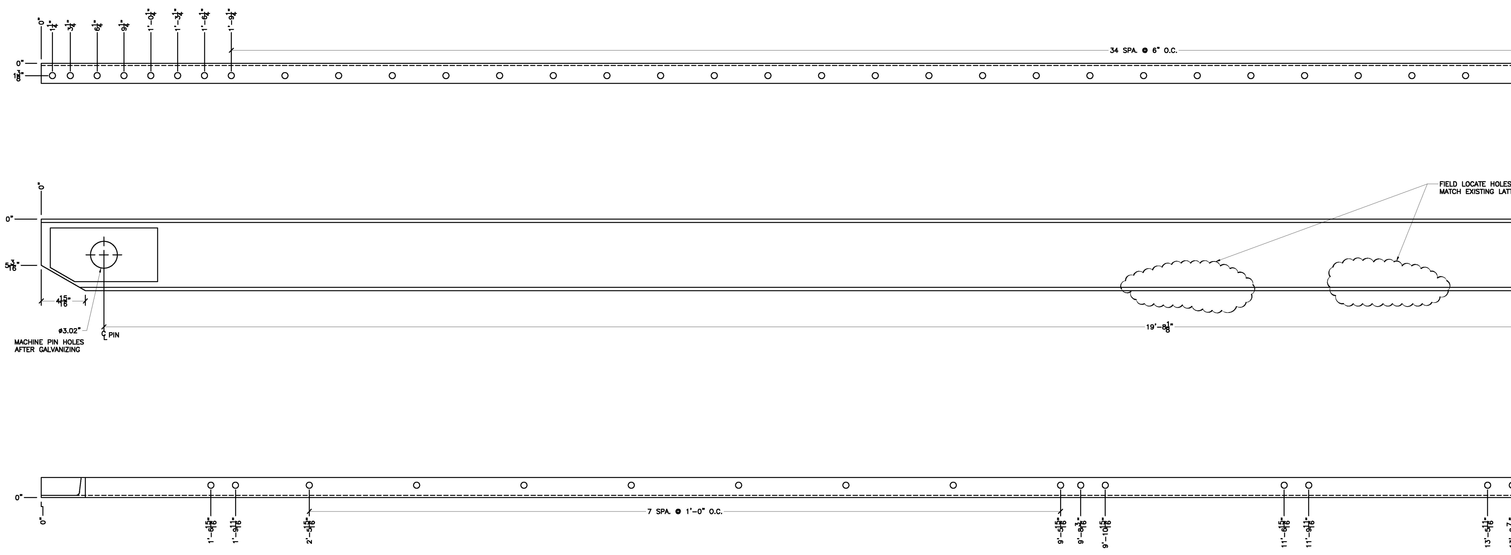

1 EC4 MAT'L C8X11.5
LENGTH: 34'-5 15/16" QTY. 2

Vermont Agency of Transportation
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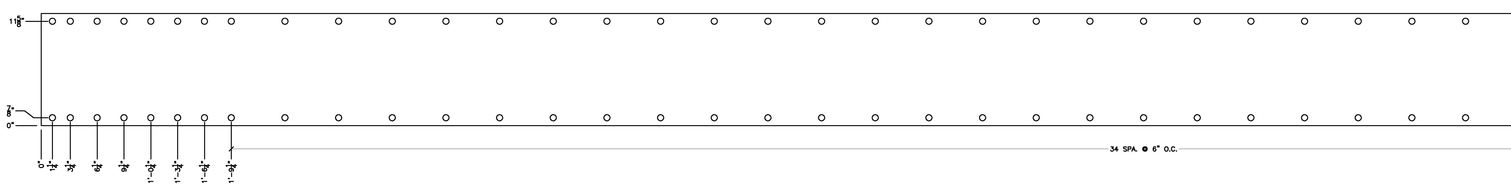
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EC1 MAT'L C8X11.5

LENGTH: 20'-4 3/16" QTY. 4




TP1 MAT'L: PL 5/16"X1'-0 1/2"

LENGTH: 20'-4 3/16" QTY. 4

Vermont Agency of Transportation

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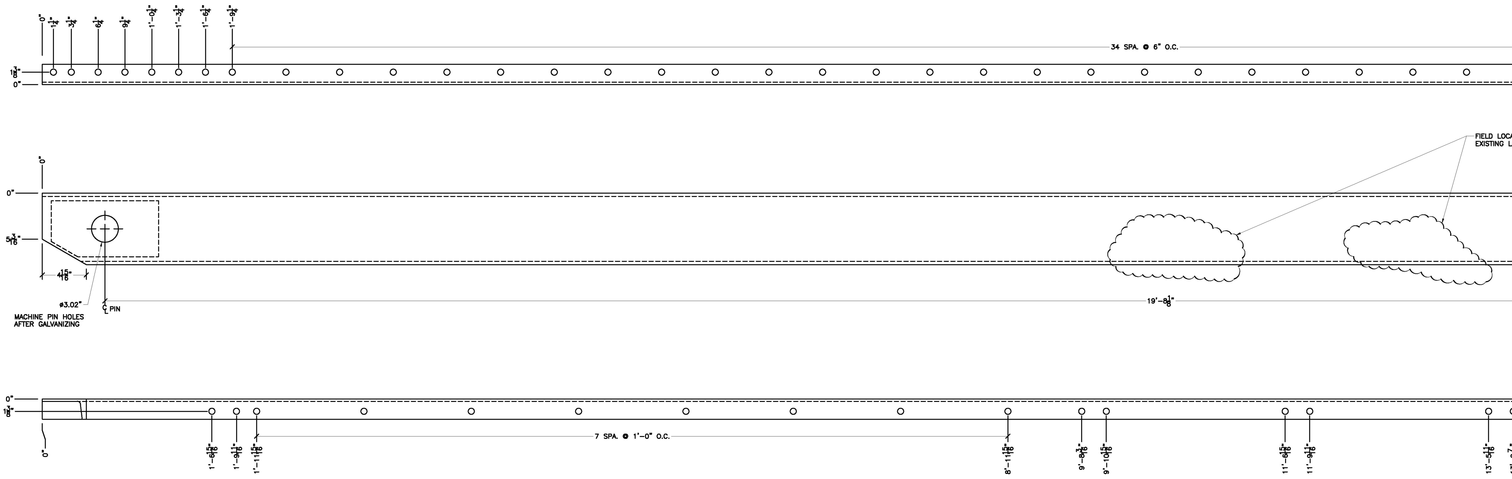
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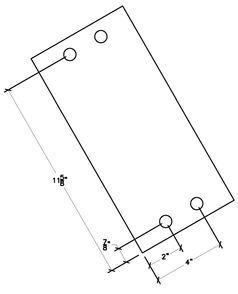
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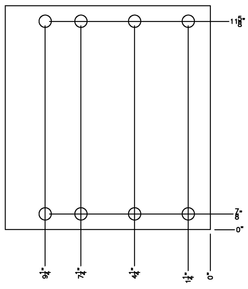
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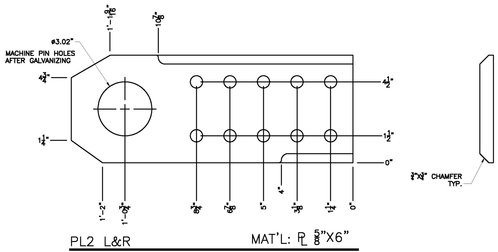
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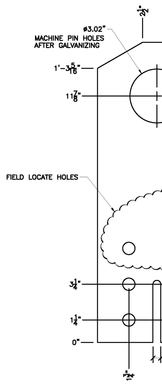

EC2 MAT'L C8X11.5
LENGTH: 20'-4 3/16" QTY. 4



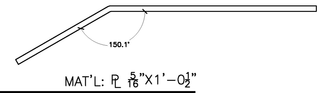




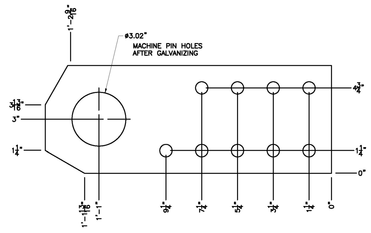

PL2 L&R MAT'L: PL 5/8"X6"
LENGTH: 1'-3¾" QTY. 4 R.H. & 4 L.H.



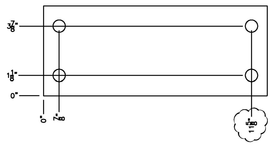

PL3 (FCM) MA
LENGTH: 1'-4¾"



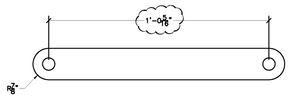

PL1 MAT'L: PL 5/16"X1'-0½"
LENGTH: 1'-5⅝" QTY. 4




PL4 MAT'L: PL 5/8"X6"
LENGTH: 1'-4" QTY. 8



1 M1 MAT'L: PL ⅜"X5"
LENGTH: (1'-0½") QTY. 28



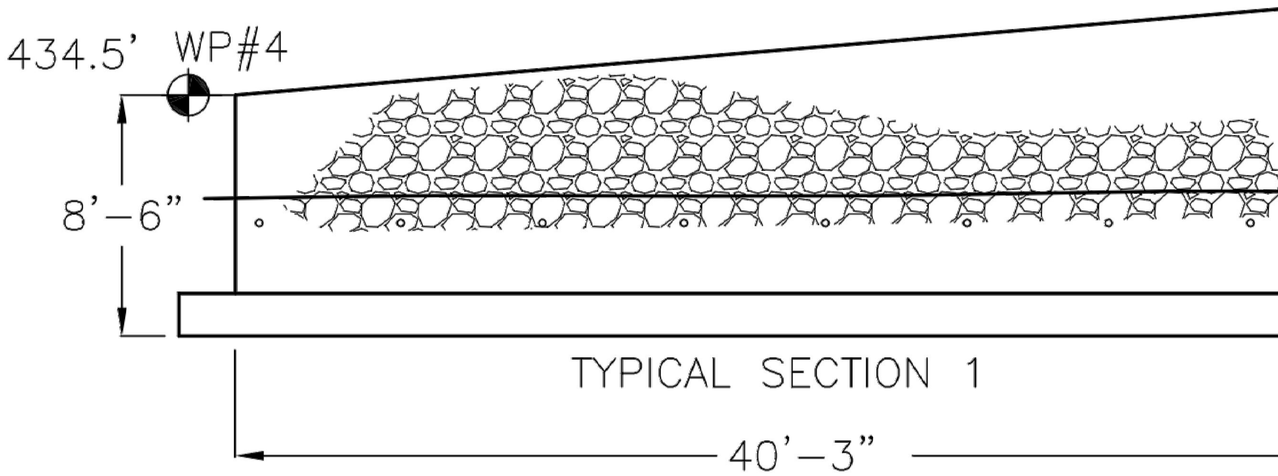

1 3R MAT'L: PL ⅜"X1¼"
LENGTH: (1'-2 1/16") QTY. 216

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BY KMH DATE 10/5/2012

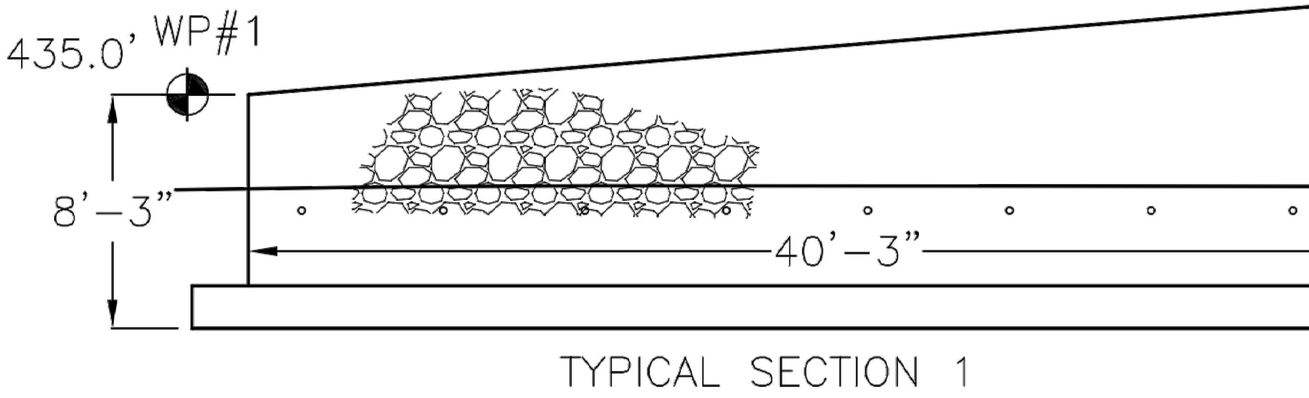
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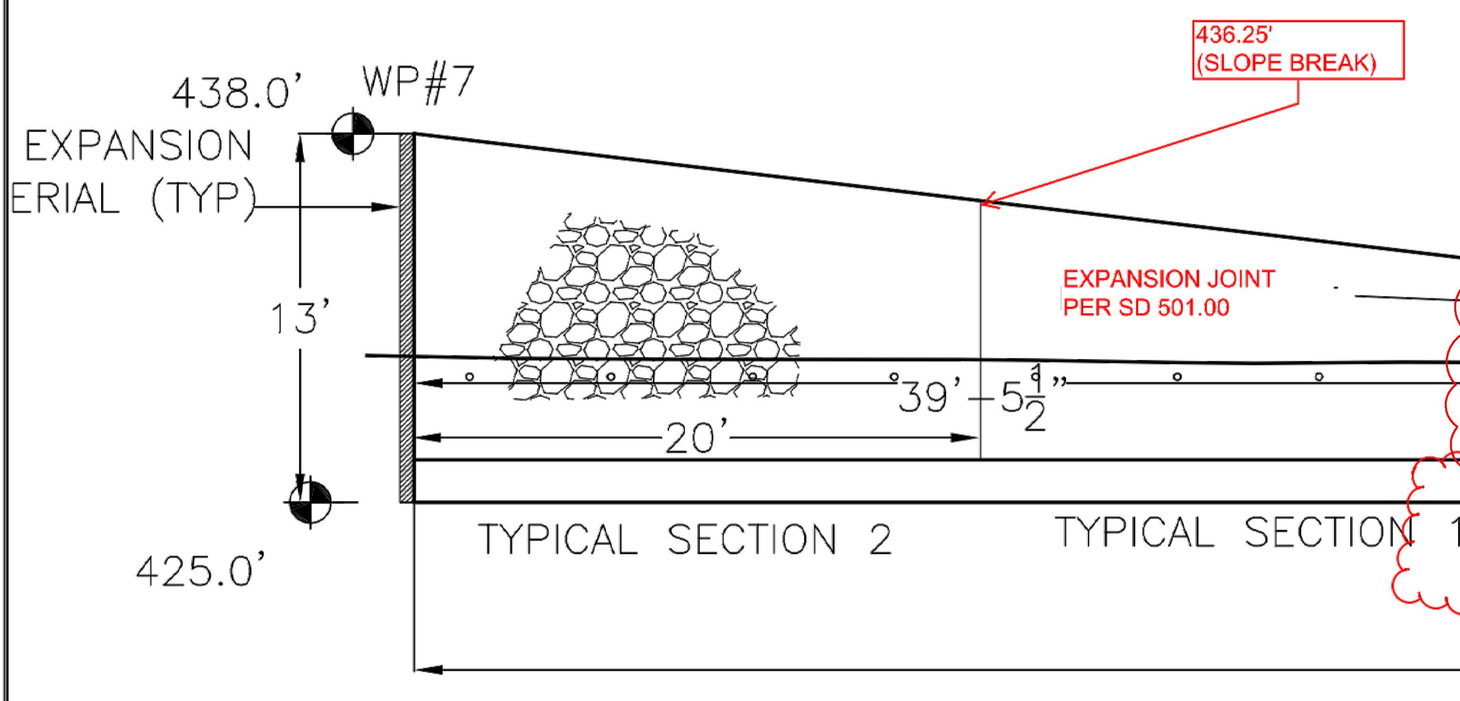
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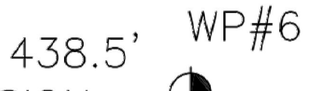

**ELEVATION RETAINING WALL WW #1 1"=5'**




**ELEVATION RETAINING WALL WW #2 1**




**ELEVATION RETAINING WALL W**



# L. B. Foster Co.

## Welding Procedure Specification



**2F PAN**

Material Spec. **ASTM A709Gr.50 to A366 20 Ga.**

Welding Process(es) **GMAW**

Position of Welding **Horizontal**

Manual ☐ Machine ☐ Semi-Automatic ☒ Automatic ☐

Filler Metal Specification **ER70-S3** **Lincoln SuperArc L-50**

Filler Metal Classification **AWS 5.18**

Flux **N/A**

Shielding Gas **80% Argon 20% CO2 (Dew Point<-65°F)** Gas Flow Rate **30 CFH**

Single or Multiple Pass **Single**

Single or Multiple Arc **Single**

Welding Current **Direct Current**

Polarity: AC ☐ DCEP ☒ DCEN ☐ Pulsed ☐

Welding Progression Up ☐ Down ☐

Root Treatment **Wire Brush**

Preheat Temperature **50 Deg. F Min.** Interpass Temperature **N/A**

Postheat Treatment **None**

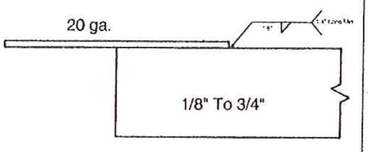
Heat Input Min _____ Max _____

### WELDING PROCEDURE

| Pass No. | Electrode Size | Amperes | Volts | Travel Speed | Other |
|---|---|---|---|---|---|
| All | .045" | 260 | 22 | 15 IPM | |
| | Max. | 286 | 24 | 16 IPM | |
| | Min. | 234 | 20 | 14 IPM | |

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BY KMH DATE 2/24/11

Joint Detail




This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in Section 5.

Procedure No. **2F Pan** Contractor **L.B Foster Co.**

Revision No. **1** Authorized By **Timothy A. Miller** Date **2/23/2010**

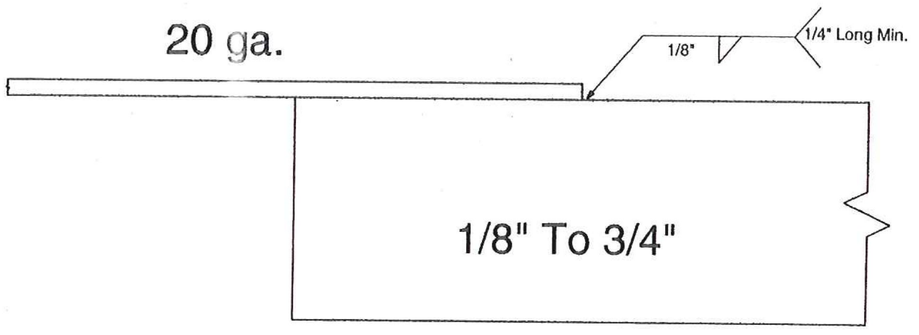
# L. B. Foster Co.

## Welding Procedure Specification



**2F PAN**

**Joint Detail**




**MEMO**

This WPS written in conformance with AWS D1.3 2008

For Bridge Flooring Form Pan Attachment Welding Only.

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# L.B. Foster Co.

## Welding Procedure Specification



1F (AWS)

Material Spec. ASTM A709Gr.36, 50 & 50W, A588, A572, A992 Gr. 36, A36, A615M Gr.420

Welding Process(es) GMAW

Position of Welding Flat

Manual ☐ Machine ☐ Semi-Automatic ☒ Automatic ☐

Filler Metal Specification AWS A5.18

Filler Metal Classification ER70S-3 (Lincoln L-50 Superarc)

Flux N/A

Shielding Gas 80% Argon 20% CarbonDioxide Gas Flow Rate 30 CFH

Single or Multiple Pass Single

Single or Multiple Arc Single

Welding Current Direct Current

Polarity: AC ☐ DCEP ☒ DCEN ☐ Pulsed ☐

Welding Progression Up ☐ Down ☐

Root Treatment Wire Brush

Preheat Temperature See Notes Interpass Temperature

Postheat Treatment N/A

Heat Input Min Max

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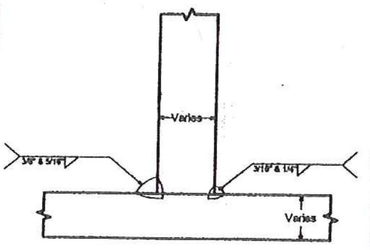
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BY KMH DATE 2/24/11

### WELDING PROCEDURE

| Pass No. | Electrode Size | Amperes | Volts | Travel Speed | Other |
|---|---|---|---|---|---|
| 3/16" | 0.045" | 270 | 26 | 9 IPM | |
| 1/4" | 0.045" | 270 | 26 | 9 IPM | |
| 5/16" | 0.045" | 270 | 26 | 9 IPM | |
| 3/8" | 0.045" | 270 | 26 | 9 IPM | |
| | Min. | 243 | 24 | 8 IPM | |
| | Max. | 297 | 28 | 10 IPM | |

Joint Detail




This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in Section 5.

Procedure No. 1F (AWS) Contractor L. B. Foster Co.

Revision No. Authorized By Julian M. Pedrazzani Date 4/15/2009

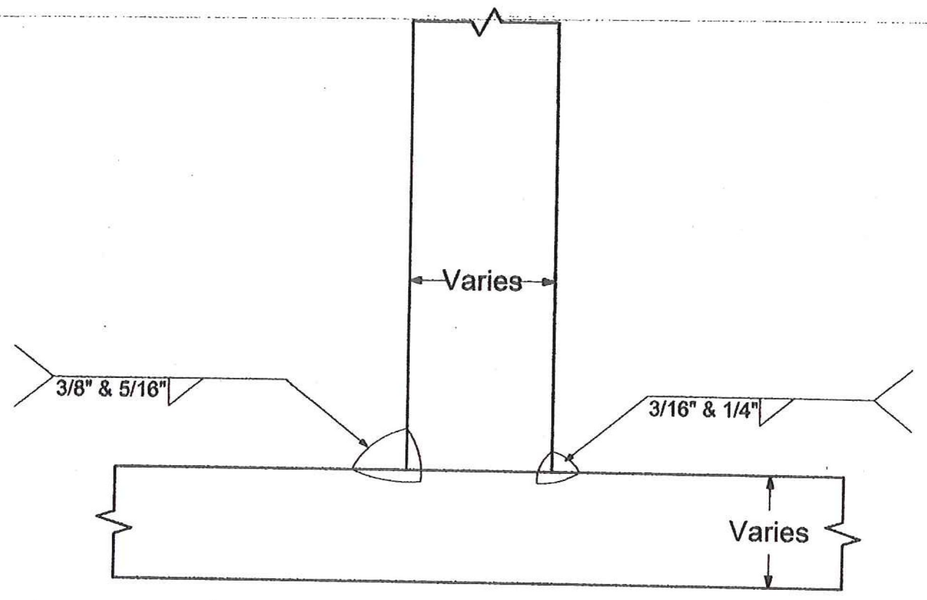
# L.B. Foster Co.

## Welding Procedure Specification



1F (AWS)

**Joint Detail**




**MEMO**

Preheat Treatment:
50 Deg. F up to 3/4";
over 3/4" to 1 1/2" 70 Deg. F;
over 1 1/2" to 2 1/2" 150 Deg. F

Supporting LBF PQR 2009 A Expire March 2014

For Bridge Flooring

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BY KMH DATE 2/24/11

# L.B. Foster Co.

## Welding Procedure Specification



2F (AWS)

Material Spec. ASTM A709Gr.36, 50 & 50W, A588, A572, A992 Gr. 36, A36

Welding Process(es) GMAW

Position of Welding Horizontal

Manual ☐ Machine ☐ Semi-Automatic ☒ Automatic ☐

Filler Metal Specification AWS A5.18

Filler Metal Classification ER70S-3 (Lincoln L-50 Superarc)

Flux N/A

Shielding Gas 80% Argon 20% CarbonDioxide Gas Flow Rate 30 CFH

Single or Multiple Pass Single

Single or Multiple Arc Single

Welding Current Direct Current

Polarity: AC ☐ DCEP ☒ DCEN ☐ Pulsed ☐

Welding Progression Up ☐ Down ☐

Root Treatment Wire Brush

Preheat Temperature See Notes Interpass Temperature

Postheat Treatment N/A

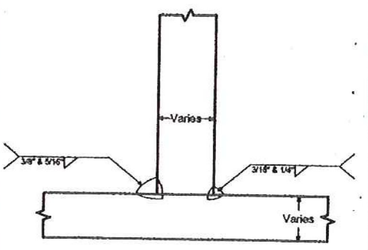
Heat Input Min Max

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BY KMH DATE 2/24/11

### WELDING PROCEDURE

| Pass No. | Electrode Size | Amperes | Volts | Travel Speed | Other |
|---|---|---|---|---|---|
| 3/16" | 0.045" | 270 | 26 | 9 IPM | |
| 1/4" | 0.045" | 270 | 26 | 9 IPM | |
| 5/16" | 0.045" | 270 | 26 | 9 IPM | |
| 3/8" | 0.045" | 270 | 26 | 9 IPM | |
| | | | | | |
| | Min. | 243 | 24 | 8 IPM | |
| | Max. | 297 | 28 | 10 IPM | |

Joint Detail




This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in Section 5.

Procedure No. 2F (AWS) Contractor L. B. Foster Co.

Revision No. Authorized By Julian M. Pedrazzani Date 4/15/2009

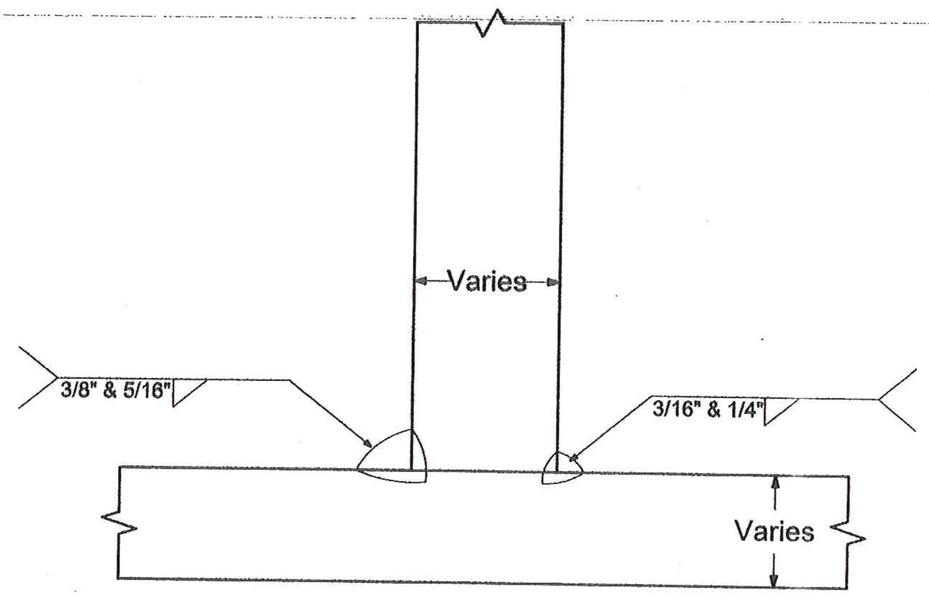
# L.B. Foster Co.

## Welding Procedure Specification



2F (AWS)

**Joint Detail**



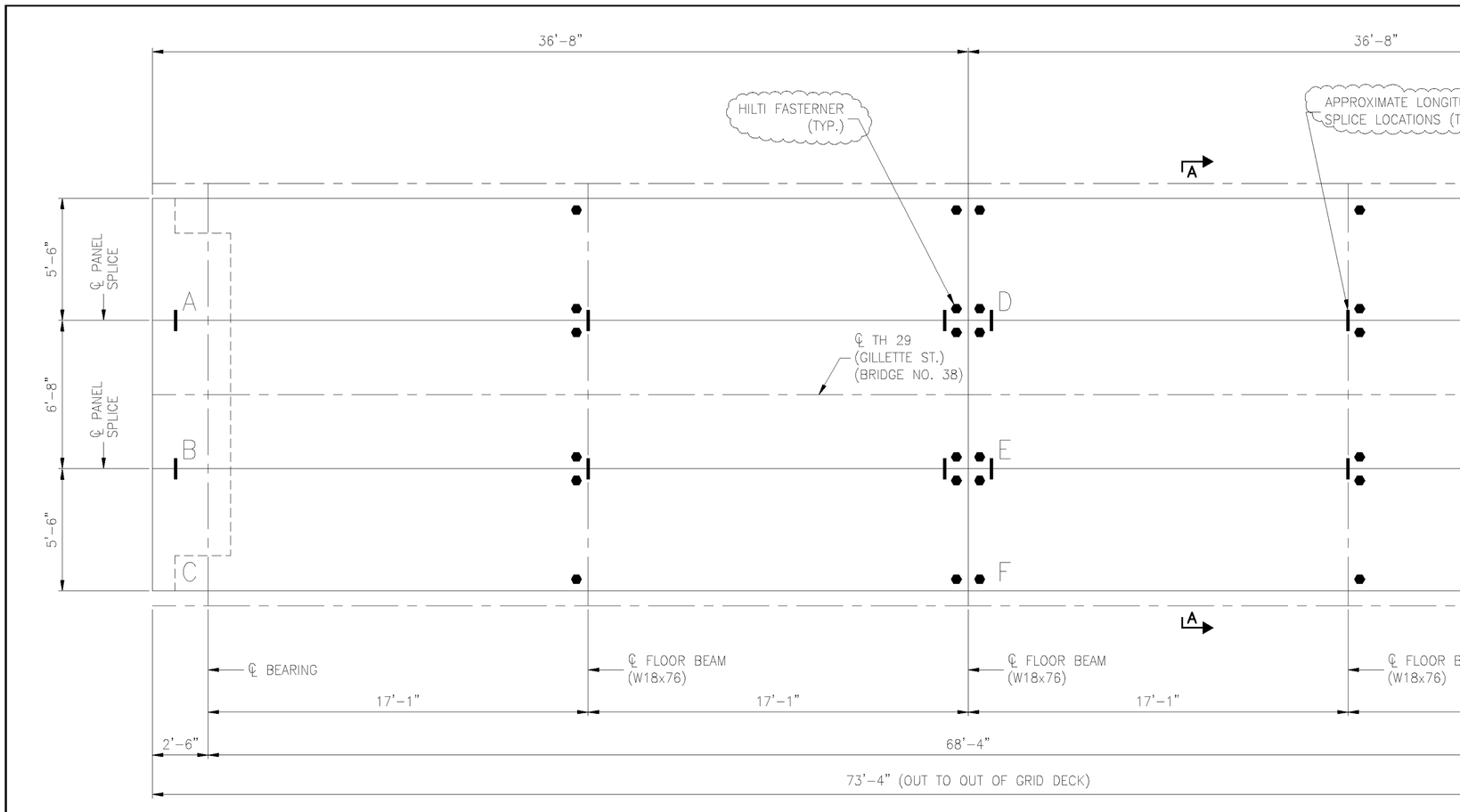

**MEMO**

Preheat Treatment:
50 Deg. F up to 3/4";
over 3/4" to 1 1/2" 70 Deg. F;
over 1 1/2" to 2 1/2" 150 Deg. F

Supporting LBF PQR 2009 A Expire March 2014

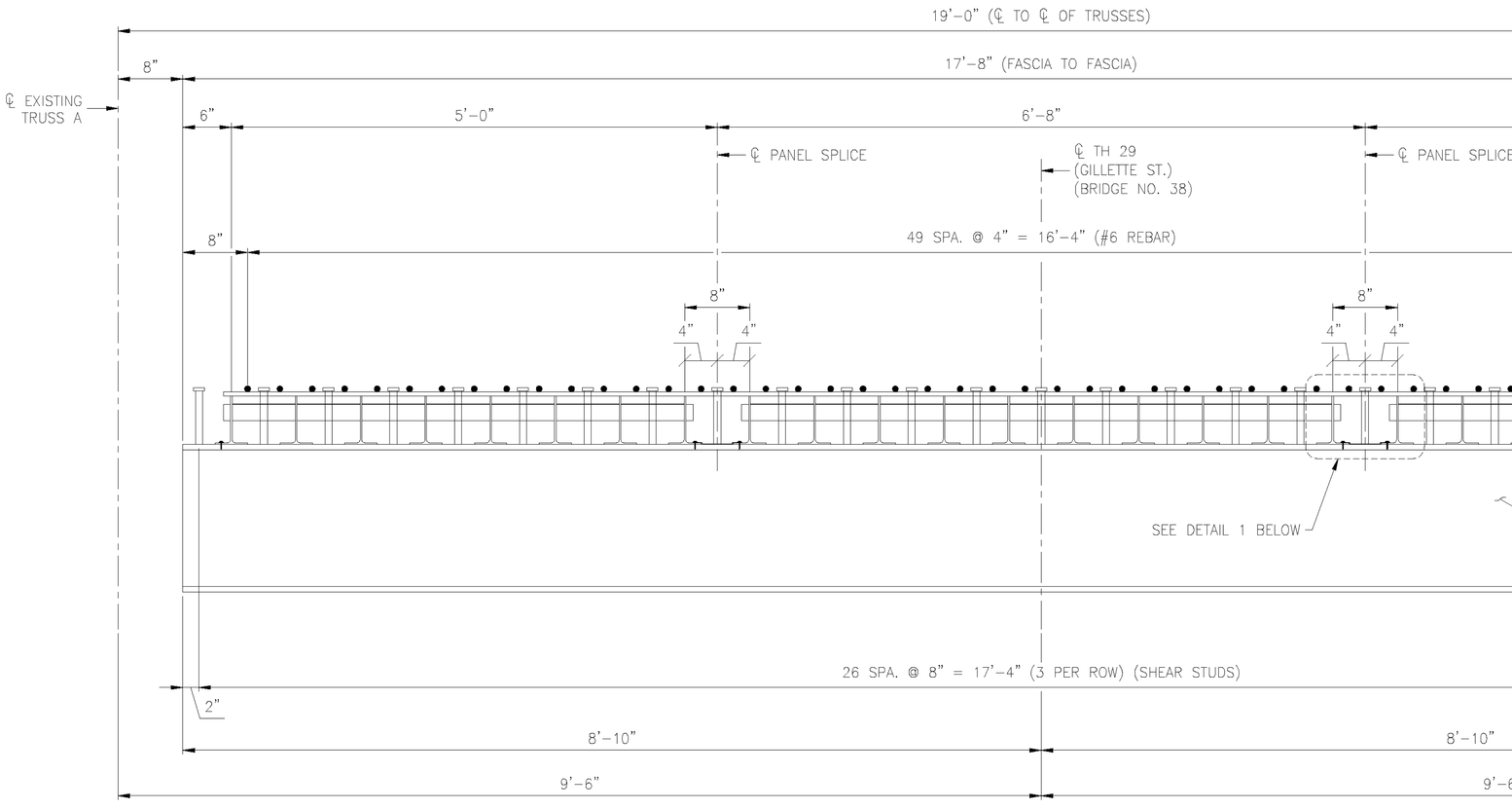
For Bridge Flooring

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BY KmH DATE 2/24/11

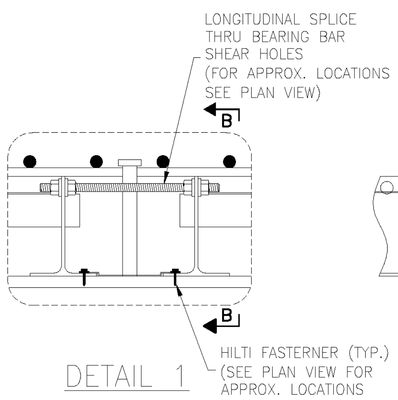



PLAN VIEW

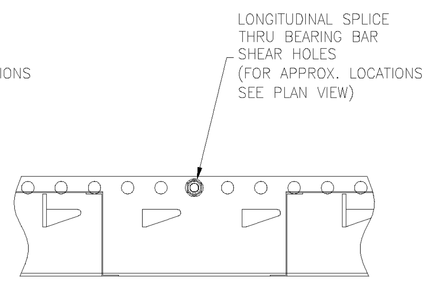
PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 14




SECTION A-A
BRIDGE CROSS SECTION




DETAIL 1




SECTION B-B