

STATE OF VERMONT  
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT  
BRIDGE PROJECT

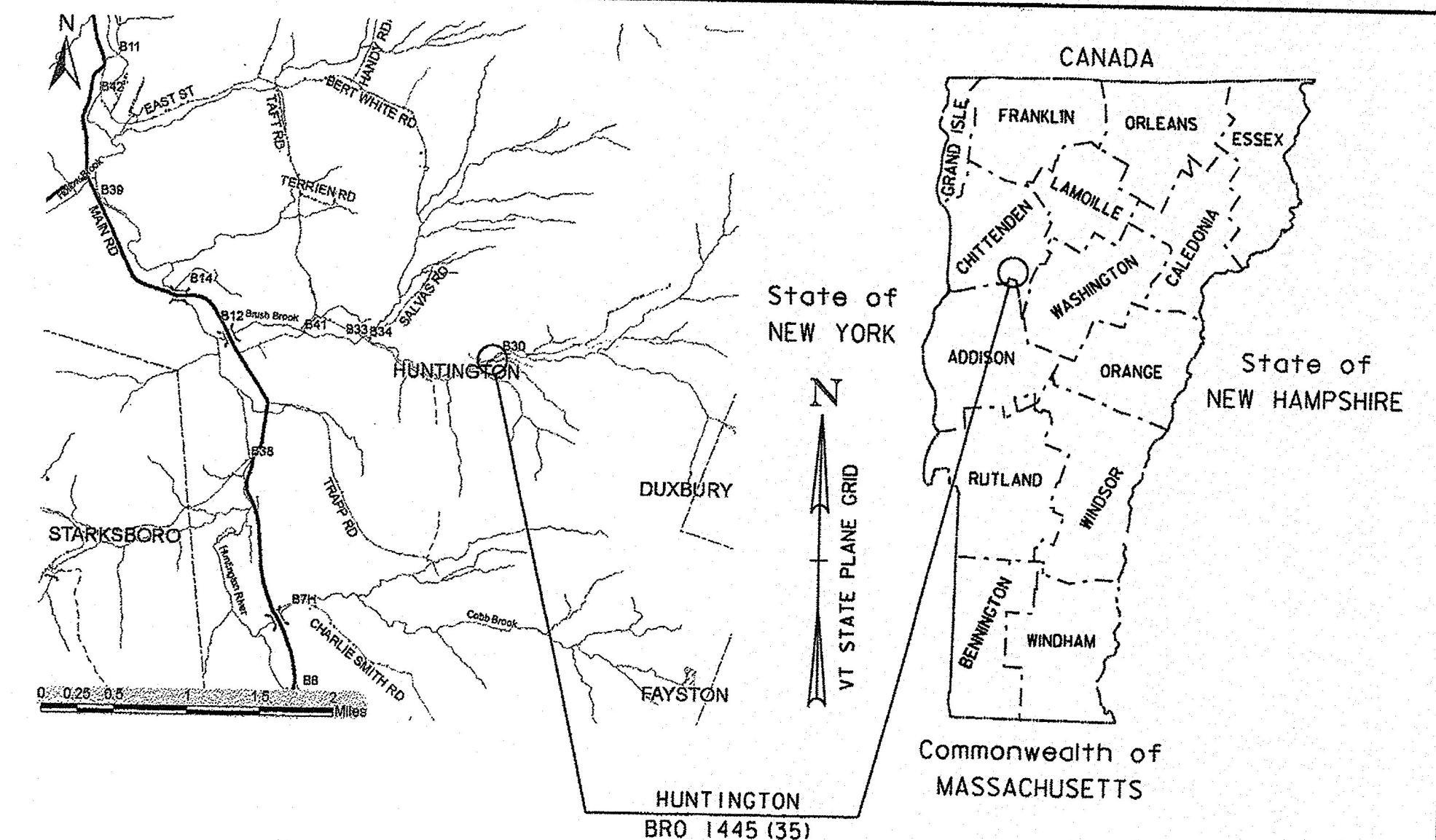
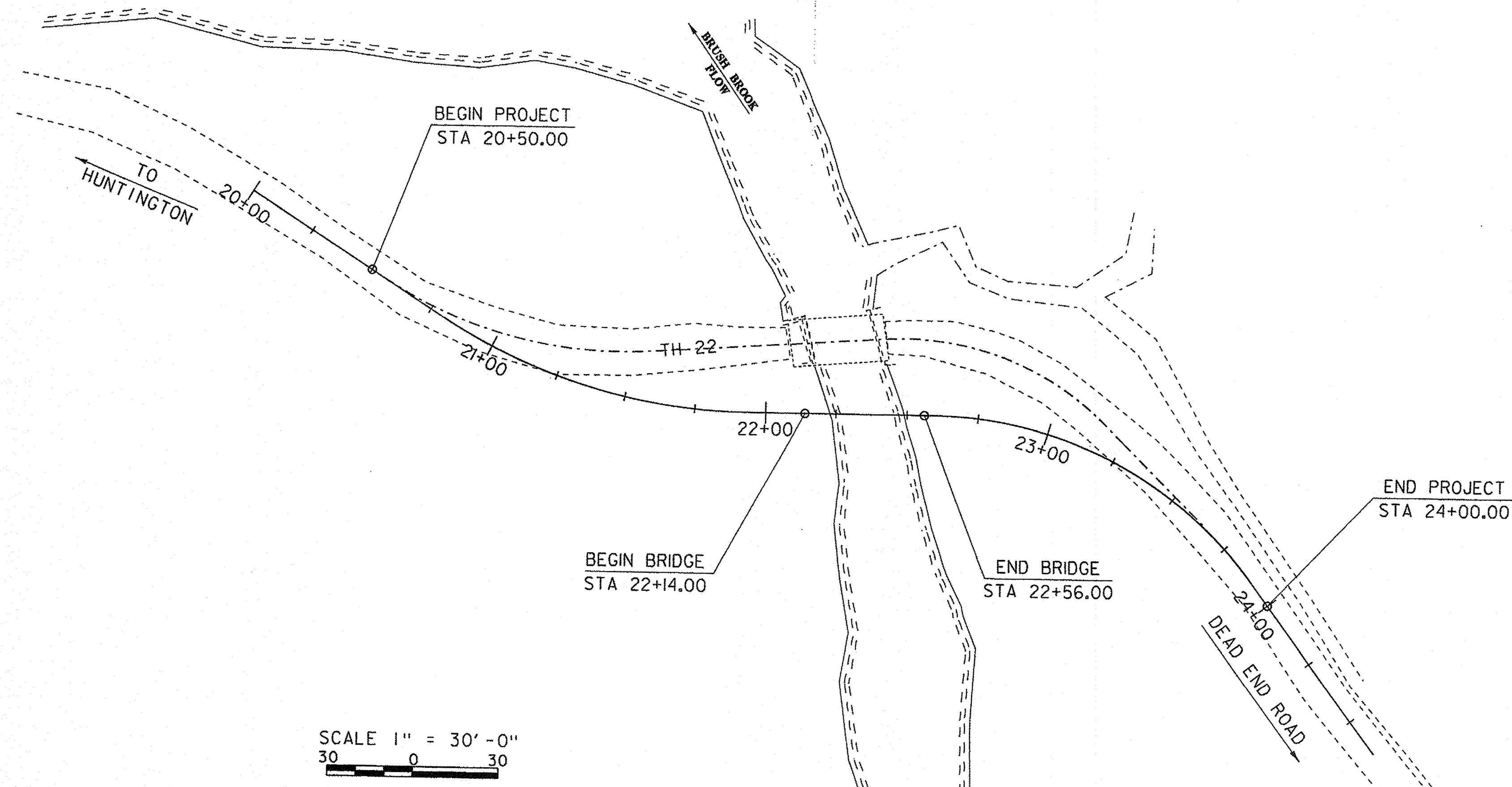
TOWN OF HUNTINGTON  
COUNTY OF CHITTENDEN

ROUTE NO : TOWN HIGHWAY 22, CLASS 3 (CAMELS HUMP ROAD) BRIDGE NO : 30

PROJECT LOCATION: 1.4 MILES EAST OF JUNCTION WITH TOWN HIGHWAY 4 (TAFT ROAD) (CLASS 3)

PROJECT DESCRIPTION: REPLACEMENT OF EXISTING BRIDGE WITH A NEW BRIDGE ON A NEW ALIGNMENT,  
WITH RELATED CHANNEL AND ROADWAY WORK.

LENGTH OF STRUCTURE: 42.00 FEET  
LENGTH OF ROADWAY: 308.00 FEET  
LENGTH OF PROJECT: 350.00 FEET



| RECORD PLANS                                                                                                                                                           |                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| CONTRACTOR:                                                                                                                                                            | PARENT CONSTRUCTION INC. - HINESBURG, VT |
| RESIDENT ENGINEER:                                                                                                                                                     | GREG WILCOX                              |
| CONSTRUCTION BEGAN:                                                                                                                                                    | MAY 09, 2016                             |
| CONSTRUCTION COMPLETE:                                                                                                                                                 | DECEMBER 09, 2016                        |
| RECORD PLANS BY:                                                                                                                                                       | GREG WILCOX & AARON WEAVER               |
| I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.                                                 |                                          |
| BY                                                                                                                                                                     | RESIDENT ENGINEER                        |
| DATE                                                                                                                                                                   | 6/1/18                                   |
| 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. |                                          |

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

|                                     |            |
|-------------------------------------|------------|
| QUALITY ASSURANCE PROGRAM : LEVEL 2 |            |
| SURVEYED BY :                       | R. GILMAN  |
| SURVEYED DATE :                     | 03-20-2012 |
| DATUM                               |            |
| VERTICAL                            | NAVD88     |
| HORIZONTAL                          | NAD83 (92) |

SCALE 1" = 30' - 0"

|                                         |                 |
|-----------------------------------------|-----------------|
| DIRECTOR OF PROJECT DELIVERY            |                 |
| APPROVED                                | DATE 10/19/2015 |
| PROJECT MANAGER : CAROLYN CARLSON, P.E. |                 |
| PROJECT NAME : HUNTINGTON               |                 |
| PROJECT NUMBER : BRO 1445 (35)          |                 |
| SHEET 1 OF 44                           | SHEETS          |



STATE OF VERMONT  
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version

LRFD

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STANDARDS LIST

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STEEL BEAM GUARDRAIL WITH STEEL POSTS

11-10-2015

G-1D

STEEL BEAM GUARDRAIL WITH WOOD POSTS

G-1D

STEEL BEAM GUARDRAIL DETAILS (END TERMINAL, ANCHOR, MEDIAN)

02-10-2014

S-367A

BRIDGE RAILING, GALVANIZED HDSB/FASCIA MOUNTED/STEEL TUBING

05-24-2012

S-367B

GUARDRAIL APPROACH SECTION, GALVANIZED HD STEEL BEAM

05-24-2012

T-1

TRAFFIC CONTROL GENERAL NOTES

08-06-2012

T-10

CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING

08-06-2012

T-28

CONSTRUCTION SIGN DETAILS

08-06-2012

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: June 2014

DRAINAGE AREA : 5.1 sq. mi.

CHARACTER OF TERRAIN : Hilly to mountainous, mostly forested

STREAM CHARACTERISTICS : Steep, sinuous, semi-alluvial, incised, narrow valley setting

NATURE OF STREAMBED : Gravel, cobbles and boulders

PEAK FLOW DATA

Q 2.33 = 365 cfs

Q 50 = 1350 cfs

Q 10 = 810 cfs

Q 100 = 1550 cfs

Q 25 = 1125 cfs

Q 500 = 2050 cfs

DATE OF FLOOD OF RECORD unknown

ESTIMATED DISCHARGE: unknown

WATER SURFACE ELEV.: unknown

NATURAL STREAM VELOCITY: @ Q25 = 11.0 fps

ICE CONDITIONS : Slight to moderate

DEBRIS: moderate

DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes

IS ORDINARY RISE RAPID? Yes

IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No

IF YES, DESCRIBE:

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

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single span steel beam bridge with timber deck

YEAR BUILT: 1925

CLEAR SPAN(NORMAL TO STREAM): 25'

VERTICAL CLEARANCE ABOVE STREAMBED: 10'

WATERWAY OF FULL OPENING: 230 sq. ft.

DISPOSITION OF STRUCTURE: Remove and replace with new bridge

TYPE OF MATERIAL UNDER SUBSTRUCTURE: See boring logs

WATER SURFACE ELEVATIONS AT:

Q2.33 = 1081.3' \*

VELOCITY = 7.3 fps

Q10 = 1082.4'

" 9.3 fps

Q25 = 1083.1'

" 10.1 fps

Q50 = 1083.5'

" 10.6 fps

Q100 = 1083.8'

" 11.1 fps

LONG TERM STREAMBED CHANGES: Some local scour along the abutments and through the bridge area.

IS THE ROADWAY OVERTOPPED BELOW Q100: No

FREQUENCY: Above Q100

RELIEF ELEVATION: 1086'

DISCHARGE OVER ROAD @Q100: N.A.

UPSTREAM STRUCTURE

TOWN: N.A - Stream divides DISTANCE: STRUCTURE #: CLEAR SPAN: CLEAR HEIGHT: YEAR BUILT: FULL WATERWAY: STRUCTURE TYPE:

DOWNSTREAM STRUCTURE

TOWN: Huntington DISTANCE: 1,000' HIGHWAY #: TH 22 STRUCTURE #: 31 CLEAR SPAN: 31' CLEAR HEIGHT: 9' YEAR BUILT: 2001 FULL WATERWAY: 275 sq. ft. STRUCTURE TYPE: Concrete slab bridge

LRFR LOAD RATING FACTORS

LOADING LEVELS

H-20

HL-93

3S2

6 AXLE

3A. STR.

4A. STR.

5A SEM

TONNAGE 20 36 36 66 30 34.5 38

INVENTORY 1.96 1.19

POSTING

OPERATING 2.54 1.54 2.7 1.4 1.89 1.73 2.33

COMMENTS:

AS BUILT "REBAR" DETAIL

LEVEL I

LEVEL II

LEVEL III

TYPE:

TYPE:

TYPE:

GRADE:

GRADE:

GRADE:

TRAFFIC DATA

YEAR

ADT

DHV

% D

% T

ADTT

20 year ESAL for flexible pavement from 2015 to 2035 : 39000

2015

270

55

55

4.7

10

40 year ESAL for flexible pavement from 2015 to 2055 : 74000

2035

290

60

55

5.3

15

Design Speed : 20 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: Single span concrete slab bridge

CLEAR SPAN(NORMAL TO STREAM): 36'

VERTICAL CLEARANCE ABOVE STREAMBED: 12'

WATERWAY OF FULL OPENING: 380 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 = 1081.3' \*

VELOCITY= 8.1 fps

Q10 = 1082.4'

" 9.9 fps

Q25 = 1083.2'

" 10.7 fps

Q50 = 1083.7'

" 11.4 fps

Q100 = 1084.1'

" 11.8 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No

FREQUENCY: Above Q100

RELIEF ELEVATION: 1088'

DISCHARGE OVER ROAD @Q100: N.A.

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 1088.1'

VERTICAL CLEARANCE: @ Q25 = 5.1'

SCOUR: Contraction scour is 1' up to Q500.

REQUIRED CHANNEL PROTECTION: Stone Fill, Type IV

PERMIT INFORMATION

AVERAGE DAILY FLOW: 10 cfs DEPTH OR ELEVATION: ORDINARY LOW WATER: 5 cfs Depth = 0.5' ORDINARY HIGH WATER: 160 cfs Depth = 3'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: No temporary bridge required.

CLEAR SPAN (NORMAL TO STREAM): VERTICAL CLEARANCE ABOVE STREAMBED: WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

\* Proposed bridge reported water surface elevations are higher than those for the existing bridge, because the proposed bridge is located upstream of the existing bridge.

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TWO-WAY TRAFFIC ON THE EXISTING STRUCTURE.  
2. TRAFFIC SIGNALS ARE NOT NECESSARY.  
3. SIDEWALKS ARE NOT NECESSARY

DESIGN VALUES

1. DESIGN LIVE LOAD HL-93

2. FUTURE PAVEMENT dp: 2.5 INCH

3. DESIGN SPAN L: 42.00 FT

4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS) Δ: ---

5. PRESTRESSING STRAND fy: ---

6. PRESTRESSED CONCRETE STRENGTH f'c: ---

7. PRESTRESSED CONCRETE RELEASE STRENGTH f'ci: ---

8. CONCRETE, HIGH PERFORMANCE CLASS AA f'c: ---

9. CONCRETE, HIGH PERFORMANCE CLASS A f'c: ---

10. CONCRETE, HIGH PERFORMANCE CLASS B f'c: 3.5 KSI

11. CONCRETE, CLASS C f'c: 3.0 KSI

12. REINFORCING STEEL fy: 60 KSI

13. STRUCTURAL STEEL AASHTO M270 fy: ---

14. NOMINAL BEARING RESISTANCE OF SOIL qn: 6.5 KSF

15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) φ: 0.45 KSF

16. NOMINAL BEARING RESISTANCE OF ROCK qn: 20.0 KSF

17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) φ: 0.45

18. PILE RESISTANCE FACTOR φ: ---

19. LATERAL PILE DEFLECTION Δ: ---

20. BASIC WIND SPEED V3s: ---

21. MINIMUM GROUND SNOW LOAD pg: ---

22. SEISMIC DATA PGA: 0 Ss: St: ---

23. ---

24. ---

25. ---

26. ---

PROJECT NAME: HUNTINGTON

PROJECT NUMBER: BRO 1445(35)

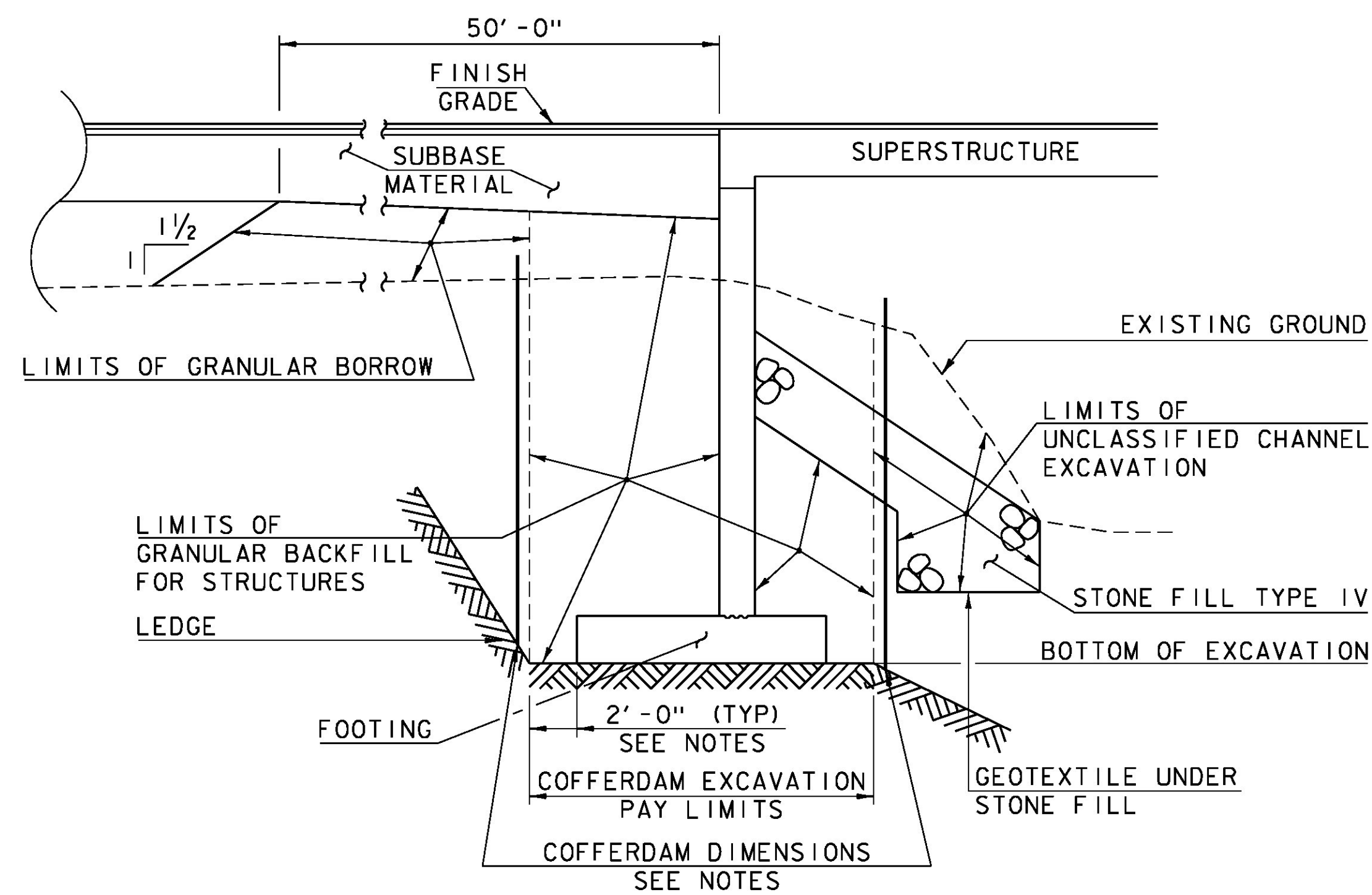
FILE NAME: s12j162pi.xls PLOT DATE: 12/3/2015

PROJECT LEADER: C. CARLSON DRAWN BY: R. PELLETT

DESIGNED BY: D. PETERSON CHECKED BY: C. MOONEY

PRELIMINARY INFORMATION SHEET 2 OF 44

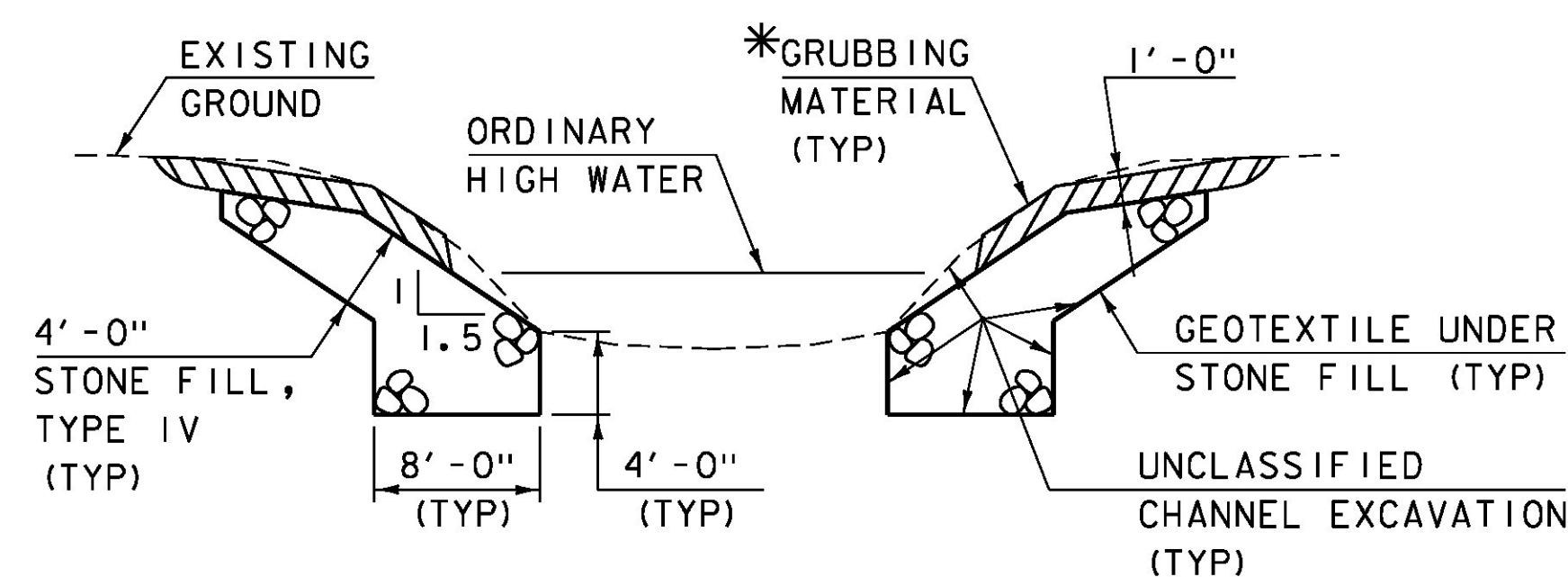




COFFERDAM AND EARTHWORK SECTION  
(NOT TO SCALE)

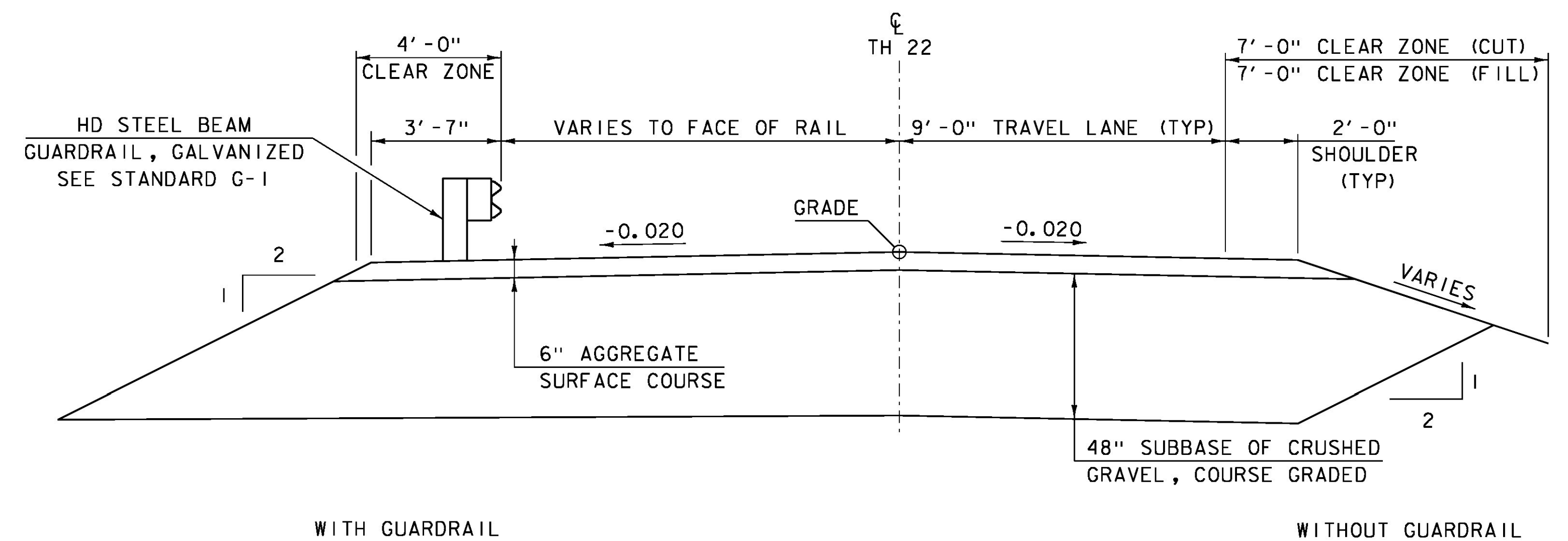
#### COFFERDAM NOTES

1. COFFERDAM DIMENSIONS TO BE DETERMINED BY THE CONTRACTOR.
2. THE PAY LIMITS OF "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 2'-0" OUTSIDE THE PERIMETER OF THE FOOTING AND FROM BOTTOM OF EXCAVATION UP TO THE EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.
3. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE INDICATED COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION. NO MEASUREMENT AND PAYMENT WILL BE MADE FOR COFFERDAM EXCAVATION AND GRANULAR BACKFILL FOR STRUCTURES OUTSIDE THE PAY LIMITS DEFINED IN NOTE 2.



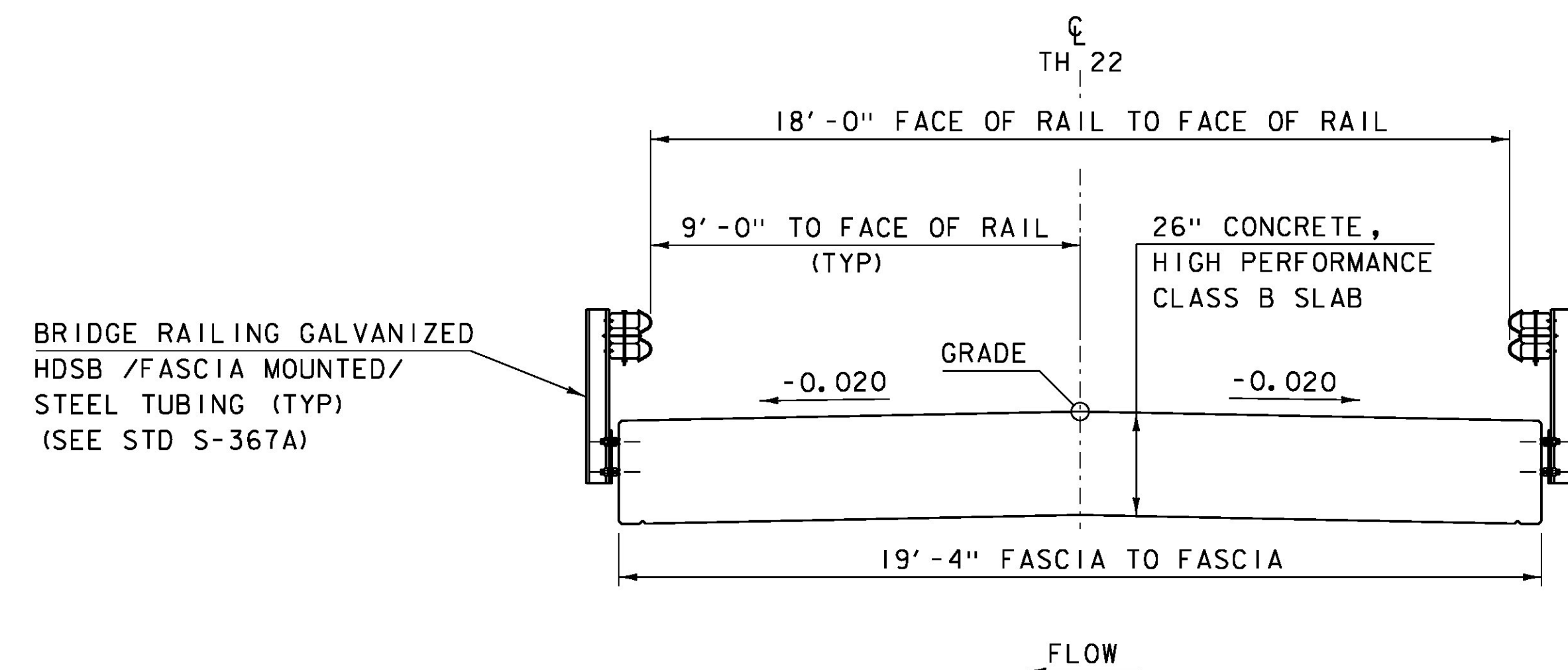
TYPICAL CHANNEL SECTION  
(NOT TO SCALE)

\* WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.



PROPOSED TH 22 TYPICAL SECTION

SCALE  $\frac{3}{8}$ " = 1'-0"



PROPOSED BRIDGE TYPICAL SECTION

SCALE  $\frac{3}{8}$ " = 1'-0"

#### MATERIAL TOLERANCES (IF USED ON PROJECT)

|                              |                     |
|------------------------------|---------------------|
| SURFACE                      |                     |
| - PAVEMENT (TOTAL THICKNESS) | +/- $\frac{1}{4}$ " |
| - AGGREGATE SURFACE COURSE   | +/- $\frac{1}{2}$ " |
| SUBBASE                      | +/- 1"              |
| SAND BORROW                  | +/- 1"              |

PROJECT NAME: HUNTINGTON  
PROJECT NUMBER: BRO 1445(35)

FILE NAME: sl2ji62+yp.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
TYPICAL SECTIONS

PLOT DATE: 15-OCT-2015  
DRAWN BY: R. PELLETT  
CHECKED BY: D. PETERSON  
SHEET 3 OF 44



GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, DATED 2012, AND ITS LATEST REVISIONS.
2. DURING CONSTRUCTION, TRAFFIC SHALL BE MAINTAINED ON THE EXISTING BRIDGE DOWNSTREAM OF THE NEW STRUCUTRE. PAYMENT FOR MAINTENANCE OF THE EXISTING STRUCTURE WILL BE PAID FOR UNDER ITEM 527.10 "MAINTENANCE OF STRUCTURES AND APPROACHES".
3. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.

EARTHWORK AND RELATED ITEMS

4. REMOVAL OF THE EXISTING SUPERSTRUCTURE AND THOSE PORTIONS OF THE EXISTING SUBSTRUCTURES NOT REMOVED UNDER ITEM 203.27, "UNCLASSIFIED CHANNEL EXCAVATION" WILL BE PAID FOR UNDER ITEM 529.15 "REMOVAL OF STRUCTURE" (400 SF - EST).
5. THE "STONE FILL, TYPE IV" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE SLAB IS POURED.
6. THE BACKFILL BEHIND THE ABUTMENTS SHALL NOT BE PLACED HIGHER THAN THE BRIDGE SEATS UNTIL THE ABUTMENTS AND SLAB CONSTRUCTION IS COMPLETED.
7. IF BEDROCK IS ENCOUNTERED IN THE SLOPE FROM APPROXIMATELY STA. 20+75 RT TO STA. 22+00 RT. PAYMENT FOR ANY BEDROCK REMOVAL IN THE SLOPE WILL BE PAID FOR UNDER ITEM 203.16, "SOLID ROCK EXCAVATION". ANY BEDROCK ENCOUNTERED IN A LOCATION WHERE SUBBASE MATERIAL TO BE PLACED, WILL BE PAID FOR UNDER ITEM 205.20 "DRILLING AND BLASTING OF SOLID ROCK SUBGRADE".

STRUCTURAL STEEL

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

CONCRETE

9. ALL CONCRETE FOR THE SUPERSTRUCTURE AND SUBSTRUCTURE, EXCLUDING THE SUBFOOTINGS, WILL BE PAID FOR UNDER ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B".
10. THE CONCRETE SLAB SHALL BE TURF DRAGGED per 501.16(d) (2).
11. CONCRETE FOR SUBFOOTING WILL BE PAID FOR UNDER ITEM 541.30, "CONCRETE, CLASS C". PAYMENT FOR SUBFOOTING CONCRETE WILL BE MADE ONLY FOR CONCRETE WITHIN THE LIMITS FOR SUBFOOTING SHOWN ON THE PLANS.
12. THE TOP SURFACE OF SUBFOOTING POURS SHALL BE ROUGHENED TO A RAKE FINISH TO HELP PREVENT SLIDING AT THE SUBFOOTING/FOOTING INTERFACE.
13. THE SLAB SHALL BE POURED IN ONE CONTINUOUS POUR WITH A MAXIMUM DURATION OF EIGHT HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTOR'S CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A TRANSVERSE CONSTRUCTION JOINT SHALL BE USED BETWEEN ADJACENT POURS. A MINIMUM 96 HOUR DELAY BETWEEN ADJACENT POURS SHALL BE OBSERVED.
14. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1 INCH X 1 INCH.
15. ITEM 514.10 "WATER REPELLENT, SILANE" SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES, EXCEPT THE UNDERSIDE OF THE SLAB BETWEEN DRIP NOTCHES. PAYMENT FOR WATER REPELLENT, SILANE WILL BE MADE UNDER ITEM 514.10, WATER REPELLENT, SILANE.
16. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.
17. ALL REINFORCING STEEL IN THE CONCRETE SLAB SHALL BE ITEM 507.11 REINFORCING STEEL, LEVEL I (EPOXY COATED). ALL OTHER STEEL SHALL BE LEVEL I.

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

SUBSTRUCTURES ON BEDROCK

19. THE SUBFOOTING FOR THE ABUTMENTS AND WINGWALLS WILL BE FOUNDED ON BEDROCK AND SHALL BE PLACED ON CLEAN COMPETENT ROCK. ALL LOOSE ROCK AND DEBRIS SHALL BE REMOVED.
20. ONCE THE CONTRACTOR HAS EXCAVATED FOR THE SUBFOOTINGS; THE RESIDENT ENGINEER WILL CONTACT THE PROJECT MANAGER AND AGENCY GEOLOGIST TO DETERMINE IF THE BEDROCK IS COMPETENT. FIVE (5) WORKING DAYS FROM NOTIFICATION WILL BE ALLOWED TO MAKE THE INSPECTION AND THE DETERMINATION FOR THE COMPETENCY OF THE BEDROCK.
21. ANY BEDROCK THAT NEEDS TO BE REMOVED WILL BE PAID FOR WITH THE APPROPRIATE EXCAVATION ITEM. INCLUDED IN THE CONTRACT. OVERBREAKAGE BEYOND THE AVERAGE MAXIMUM ALLOWANCE SPECIFIED IN SUBSECTION 204.09(B) (1) WILL BE AT THE CONTRACTOR'S EXPENSE.
22. DOWELS SHALL BE DRILLED AND GROUTED INTO BEDROCK AS SHOWN ON THE PLANS OR AS ORDERED BY THE ENGINEER. THE DOWELS SHALL HAVE A 2'-0" MINIMUM EMBEDMENT IN THE BEDROCK AND SHALL EXTEND THROUGH THE SUBFOOTING INTO THE FOOTING A MINIMUM OF 1'-6", UNLESS NOTED OTHERWISE. DRILLING AND GROUTING THROUGH THE SUBFOOTING WILL BE ALLOWED BUT PAYMENT SHALL ONLY BE FOR DRILLING INTO LEDGE AS SHOWN IN PLANS.
23. THE SUBSTRUCTURES HAVE BEEN DESIGNED FOR THE FOOTING ELEVATIONS SHOWN ON THE PLANS. THE INTENTION IS TO USE SUBFOOTINGS OF CONCRETE, CLASS "C" IN AREAS WHERE THE BEDROCK IS MORE THAN 6 INCHES BELOW THE DESIGN BOTTOM OF FOOTING ELEVATIONS. AFTER THE BEDROCK HAS BEEN EXPOSED, ADJUSTMENTS TO THE BOTTOM OF FOOTING ELEVATIONS MAY BE NECESSARY TO MINIMIZE THE BEDROCK REMOVAL AND/OR REDUCE THE AMOUNT OF SUBFOOTING CONCRETE. CONTACT THE PROJECT MANAGER FOR POSSIBLE REDESIGN IF THE BEDROCK PROFILES DIFFER FROM THOSE SHOWN ON THE PLANS. NO FURTHER WORK SHALL BE DONE ON THE FOOTINGS UNTIL A REPLY IS RECEIVED FROM THE STRUCTURES SECTION. A TURN-AROUND TIME OF UP TO FIVE BUSINESS DAYS MAY BE EXPECTED.

TRAFFIC CONTROL

24. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF A SITE SPECIFIC TRAFFIC CONTROL PLAN. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A DETAILED TRAFFIC CONTROL PLAN TO THE ENGINEER FOR ALL STAGES OF CONSTRUCTION. NO CONSTRUCTION OPERATIONS WILL BEGIN UNTIL THE TRAFFIC CONTROL PLAN HAS BEEN APPROVED. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS, ALL COSTS WILL BE INCLUDED IN ITEM 900.645 "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).
25. THE CONTRACTOR SHALL NOTE THE PROXIMITY OF THE EXISTING BRIDGE TO WINGWALL #1. ANY WORK OUTSIDE OF THE COFFERDAM LIMITS TO MAINTAIN THE EXISTING STRUCTURE WILL BE PAID FOR UNDER ITEM 527.10 "MAINTENANACE OF STRUCTURES AND APPROACHES".
26. TEMPORARY SHORING FOR THE NEW DECK SLAB CAN BE PLACED ANYWHERE INSIDE THE STONE FILL LIMITS SHOWN IN THE PLANS WITHOUT REQUIRING ANY ADDITIONAL PERMITTING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY ADDITIONAL PERMITS FROM THE U.S. ARMY CORPS OF ENGINEERS FOR ANY WORK OUTSIDE THE PROJECT LIMITS.
27. THE CONTRACTOR SHALL BE AWARE THAT THE EXISTING BRIDGE #32 ON TH #22 APPROXIMATELY 0.55 MILES WEST OF BRIDGE #30 IS POSTED FOR 16,000 LBS. THE CONTRACTOR WILL NEED TO OBTAIN A PERMIT FROM THE TOWN TO CROSS THIS STRUCTURE WITH EQUIPMENT EXCEEDING THAT LOAD. THE CONTRACTOR SHALL SUPPLY THE AGENCY WITH INFORMATION ON OVERLOAD VEHICLES REQUIRED TO COMPLETE THE NEW BRIDGE CONSTRUCTION THAT WILL EXCEED THIS WEIGHT, SO THAT THE AGENCY MAY MAKE A RECOMMENDATION TO THE TOWN ABOUT THE VEHICLE CROSSING THE STRUCTURE. IF ADDITIONAL WORK IS REQUIRED TO THE EXISTING BRIDGE IN ORDER TO ALLOW THE VEHICLE TO PASS, IT SHALL BE PAID FOR AS EXTRA WORK IN ACCORDANCE WITH 104.03.

| KEY | DATE     | BY   | REVISION              |
|-----|----------|------|-----------------------|
| △   | 1/5/2016 | VAOT | PROJECT NOTE REVISION |
| △   | 1/5/2016 | VAOT | ADDED PROJECT NOTES   |

|                              |                         |
|------------------------------|-------------------------|
| PROJECT NAME: HUNTINGTON     |                         |
| PROJECT NUMBER: BRO 1445(35) |                         |
| FILE NAME: sl2ji62notes.dgn  | PLOT DATE: 31-DEC-2015  |
| PROJECT LEADER: C. CARLSON   | DRAWN BY: R. PELLETT    |
| DESIGNED BY: D. PETERSON     | CHECKED BY: D. PETERSON |
| PROJECT NOTES                | SHEET 4 OF 44           |



QUANTITY SHEET 1

| SUMMARY OF ESTIMATED QUANTITIES |  |  |  |  |  |  |  |         |                    |        |                    | TOTALS      |       | DESCRIPTIONS |                                                              |             |       | DETAILED SUMMARY OF QUANTITIES |      |                                              |
|---------------------------------|--|--|--|--|--|--|--|---------|--------------------|--------|--------------------|-------------|-------|--------------|--------------------------------------------------------------|-------------|-------|--------------------------------|------|----------------------------------------------|
|                                 |  |  |  |  |  |  |  | ROADWAY | EROSION<br>CONTROL | BRIDGE | FULL C.E.<br>ITEMS | GRAND TOTAL | FINAL | UNIT         | ITEMS                                                        | ITEM NUMBER | ROUND | QUANTITIES                     | UNIT | ITEMS                                        |
|                                 |  |  |  |  |  |  |  | 1       |                    |        |                    | 1           |       | LS           | CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS | 201.10      |       |                                |      | EARTHWORKS SUMMARY                           |
|                                 |  |  |  |  |  |  |  | 2100    |                    |        |                    | 2100        |       | CY           | COMMON EXCAVATION                                            | 203.15      |       |                                |      | FILL AVAILABLE                               |
|                                 |  |  |  |  |  |  |  | 20      |                    |        |                    | 20          |       | CY           | SOLID ROCK EXCAVATION                                        | 203.16      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  | 550     |                    |        |                    | 550         |       | CY           | UNCLASSIFIED CHANNEL EXCAVATION                              | 203.27      |       | 1470                           | CY   | COMMON EXCAVATION (0.70 x 2100 CY)           |
|                                 |  |  |  |  |  |  |  | 1       |                    |        |                    | 1           |       | CY           | TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)           | 204.22      |       | 165                            | CY   | UNCLASSIFIED CHANNEL EXCAVATION (0.30 x 550) |
|                                 |  |  |  |  |  |  |  |         |                    | 280    |                    | 280         |       | CY           | GRANULAR BACKFILL FOR STRUCTURES                             | 204.30      |       | 156                            | CY   | COFFERDAM EXCAVATION (0.30 x 520)            |
|                                 |  |  |  |  |  |  |  | 30      |                    |        |                    | 30          |       | SY           | DRILLING AND BLASTING OF SOLID ROCK SUBGRADE                 | 205.20      |       | 4                              | CY   | ROUNDING                                     |
|                                 |  |  |  |  |  |  |  |         |                    | 520    |                    | 520         |       | CY           | COFFERDAM EXCAVATION, EARTH                                  | 208.30      |       | 1795                           | CY   | TOTAL FILL AVAILABLE                         |
|                                 |  |  |  |  |  |  |  |         |                    | 50     |                    | 50          |       | CY           | COFFERDAM EXCAVATION, ROCK                                   | 208.35      |       |                                |      | FILL REQUIRED                                |
|                                 |  |  |  |  |  |  |  |         |                    | 1      |                    | 1           |       | LS           | COFFERDAM (ABUTMENT #1)                                      | 208.40      |       | 125                            | CY   | FACTORED FILL (109 x 1.15)                   |
|                                 |  |  |  |  |  |  |  |         |                    | 1      |                    | 1           |       | LS           | COFFERDAM (ABUTMENT #2)                                      | 208.40      |       | 5                              | CY   | ROUNDING                                     |
|                                 |  |  |  |  |  |  |  | 1500    |                    |        |                    | 1500        |       | CY           | SUBBASE OF CRUSHED GRAVEL, COARSE GRADED                     | 301.25      |       | 130                            | CY   | TOTAL FILL REQUIRED                          |
|                                 |  |  |  |  |  |  |  | 140     |                    |        |                    | 140         |       | CY           | AGGREGATE SURFACE COURSE                                     | 401.10      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  |         |                    | 222    |                    | 222         |       | CY           | CONCRETE, HIGH PERFORMANCE CLASS B                           | 501.34      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  |         |                    | 28550  |                    | 28550       |       | LB           | REINFORCING STEEL, LEVEL I                                   | 507.11      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  |         |                    | 92     |                    | 92          |       | LF           | DRILLING AND GROUTING DOWELS                                 | 507.16      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  |         |                    | 20     |                    | 20          |       | GAL          | WATER REPELLENT, SILANE                                      | 514.10      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  |         |                    | 88     |                    | 88          |       | LF           | BRIDGE RAILING, GALVANIZED HDSB/FASCIA MOUNTED/STEEL TUBING  | 525.44      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  | 1       |                    |        |                    | 1           |       | LS           | MAINTENANCE OF STRUCTURES AND APPROACHES                     | 527.10      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  | 1       |                    |        |                    | 1           |       | EACH         | REMOVAL OF STRUCTURE (400 SF - EST)                          | 529.15      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  |         |                    | 75     |                    | 75          |       | CY           | CONCRETE, CLASS C                                            | 541.30      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  | 1       |                    |        |                    | 1           |       | MGAL         | DUST CONTROL WITH WATER                                      | 609.10      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  | 0.5     |                    |        |                    | 0.5         |       | TON          | DUST AND ICE CONTROL WITH CALCIUM CHLORIDE                   | 609.15      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  | 190     |                    |        |                    | 190         |       | CY           | STONE FILL, TYPE II                                          | 613.11      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  |         |                    | 490    |                    | 490         |       | CY           | STONE FILL, TYPE IV                                          | 613.13      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  | 137.5   |                    |        |                    | 137.5       |       | LF           | HD STEEL BEAM GUARDRAIL, GALVANIZED                          | 621.21      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  | 4       |                    |        |                    | 4           |       | EACH         | ANCHOR FOR STEEL BEAM RAIL                                   | 621.60      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  | 4       |                    |        |                    | 4           |       | EACH         | GUARDRAIL APPROACH SECTION, GALV HD STEEL BEAM               | 621.737     |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  | 39      |                    |        |                    | 39          |       | LF           | REMOVAL AND DISPOSAL OF GUARDRAIL                            | 621.80      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  | 400     |                    |        |                    | 400         |       | HR           | FLAGGERS                                                     | 630.15      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  |         |                    |        | 1                  | 1           |       | LS           | FIELD OFFICE, ENGINEERS                                      | 631.10      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  |         |                    |        | 1                  | 1           |       | LS           | TESTING EQUIPMENT, CONCRETE                                  | 631.16      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  |         |                    |        | 3000               | 3000        |       | DL           | FIELD OFFICE TELEPHONE (N.A.B.I.)                            | 631.26      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  | 1       |                    |        |                    | 1           |       | LS           | MOBILIZATION/DEMOBILIZATION                                  | 635.11      |       |                                |      | N.A.B.I. = NOT A BID ITEM                    |
|                                 |  |  |  |  |  |  |  | 400     |                    | 570    |                    | 970         |       | SY           | GEOTEXTILE UNDER STONE FILL                                  | 649.31      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  |         | 65                 |        |                    | 65          |       | SY           | GEOTEXTILE FOR SILT FENCE                                    | 649.51      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  |         | 79                 |        |                    | 79          |       | SY           | GEOTEXTILE FOR FILTER CURTAIN                                | 649.61      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  |         | 14                 |        |                    | 14          |       | LB           | SEED                                                         | 651.15      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  |         | 11                 |        |                    | 11          |       | LB           | SEED, WINTER RYE                                             | 651.17      |       |                                |      |                                              |
|                                 |  |  |  |  |  |  |  |         | 100                |        |                    | 100         |       | LB           | FERTILIZER                                                   | 651.18      |       |                                |      |                                              |



## QUANTITY SHEET 2

[illegible]

|                              |                         |
|------------------------------|-------------------------|
| PROJECT NAME: HUNTINGTON     |                         |
| PROJECT NUMBER: BRO 1445(35) |                         |
| FILE NAME: si2j162qs.dgn     | PLOT DATE: 19-OCT-2015  |
| PROJECT LEADER: C. CARLSON   | DRAWN BY: R. PELLETT    |
| DESIGNED BY: D. PETERSON     | CHECKED BY: D. PETERSON |
| QUANTITY SHEET 2             | SHEET 6 OF 44           |



[illegible][illegible]



## SYMBOL OGY LEGEND NOTE

## R. O. W. ABBREVIATIONS (CODES) & SYMBOLS

## COMMON TOPOGRAPHIC POINT SYMBOLS

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

| CODE | DESCRIPTION             |
|------|-------------------------|
| PC   | POINT OF CURVATURE      |
| PI   | POINT OF INTERSECTION   |
| CC   | CENTER OF CURVE         |
| PT   | POINT OF TANGENCY       |
| PCC  | POINT OF COMPOUND CURVE |
| PRC  | POINT OF REVERSE CURVE  |
| POB  | POINT OF BEGINNING      |
| POE  | POINT OF ENDING         |
| STA  | STATION PREFIX          |
| AH   | AHEAD STATION SUFFIX    |
| BK   | BACK STATION SUFFIX     |
| D    | CURVE DEGREE OF (100FT) |
| R    | CURVE RADIUS OF         |
| T    | CURVE TANGENT LENGTH    |
| L    | CURVE LENGTH OF         |
| E    | CURVE EXTERNAL DISTANCE |

## UNDERGROUND UTILITIES

ABOVE GROUND UTILITIES (AERIAL)

## PROJECT CONSTRUCTION SYMBOLOGY

— -- CZ — -- — CLEAR ZONE  
 \_\_\_\_\_ PLAN LAYOUT MATCHLINE

|                                                                                       |                            |
|---------------------------------------------------------------------------------------|----------------------------|
|  | TOP OF CUT SLOPE           |
|  | TOE OF FILL SLOPE          |
|  | STONE FILL                 |
|  | BOTTOM OF DITCH            |
|  | CULVERT PROPOSED           |
|  | STRUCTURE SUBSURFACE       |
|  | PROJECT DEMARCATION FENCE  |
|  | BARRIER FENCE              |
|  | TREE PROTECTION ZONE (TPZ) |
|  | STRIPING LINE REMOVAL      |
|  | SHEET PILES                |

## BOUNDARY LINES

---

EPSC MEASURES

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLOGY

|                                                                                     |                                 |
|-------------------------------------------------------------------------------------|---------------------------------|
|  | WETLAND BOUNDARY                |
|  | RIPARIAN BUFFER ZONE            |
|  | WETLAND BUFFER ZONE             |
|  | SOIL TYPE BOUNDARY              |
|  | THREATENED & ENDANGERED SPECIES |
|  | HAZARDOUS WASTE AREA            |
|  | AGRICULTURAL LAND               |
|  | FISH & WILDLIFE HABITAT         |
|  | FLOOD PLAIN                     |
|  | ORDINARY HIGH WATER (OHW)       |
|  | STORM WATER                     |
|  | USDA FOREST SERVICE LANDS       |
|  | WILDLIFE HABITAT SUIT/CONN      |

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

## EXISTING FEATURES

|                 |              |
|-----------------|--------------|
| PROJECT NAME:   | HUNTINGTON   |
| PROJECT NUMBER: | BRO 1445(35) |

|                             |                         |
|-----------------------------|-------------------------|
| FILE NAME: sl2j62legend.dgn | PLOT DATE: 15-OCT-2015  |
| PROJECT LEADER: C. CARLSON  | DRAWN BY: R. PELLETT    |
| DESIGNED BY: D. PETERSON    | CHECKED BY: D. PETERSON |
| CONVENTIONAL SYMBOLS LEGEND | SHEET 8 OF 44           |



GPS CONTROL POINTS

THUMPER

NORTH = 655889.449  
EAST = 1517698.644  
ELEV. =

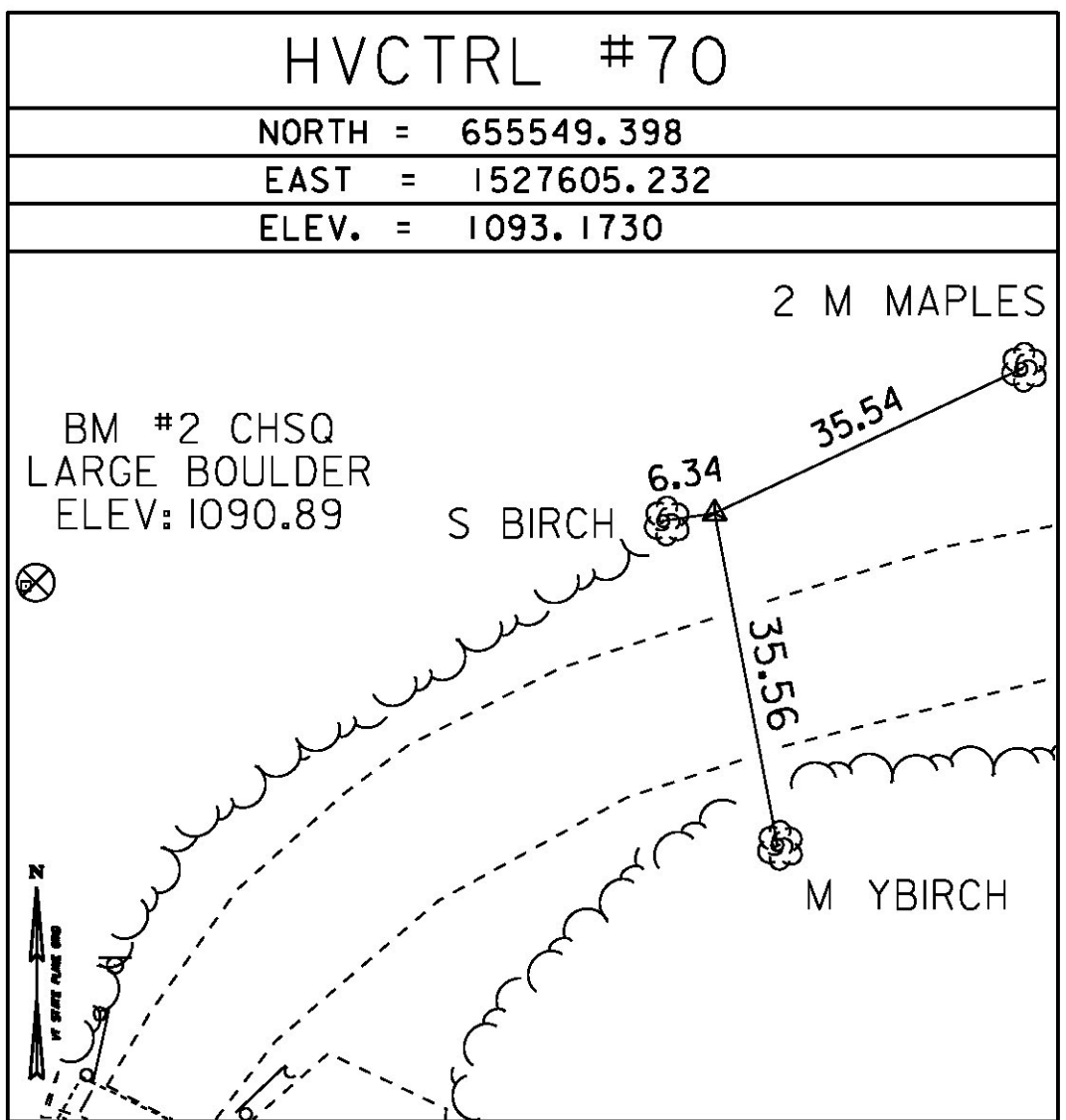
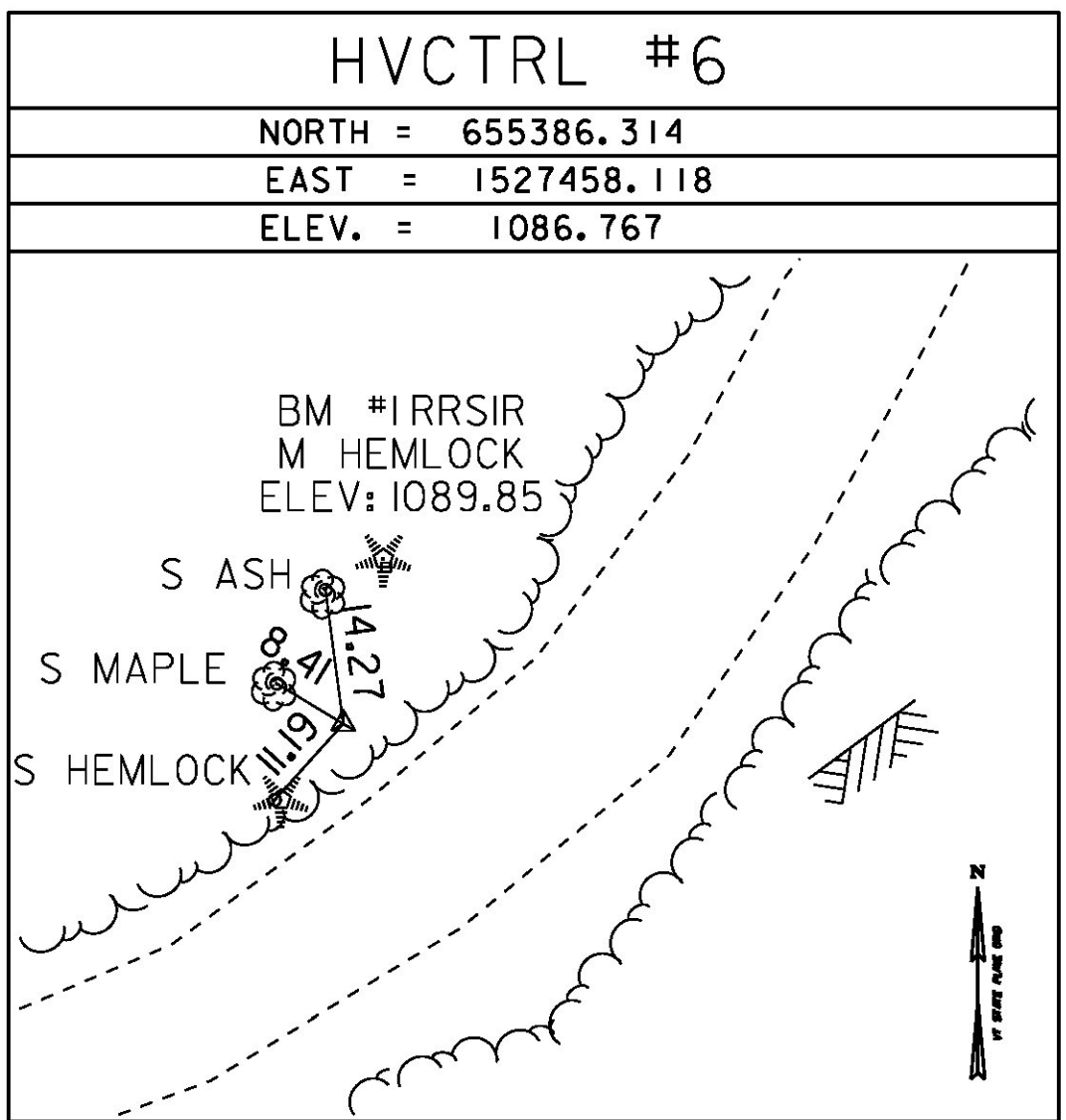
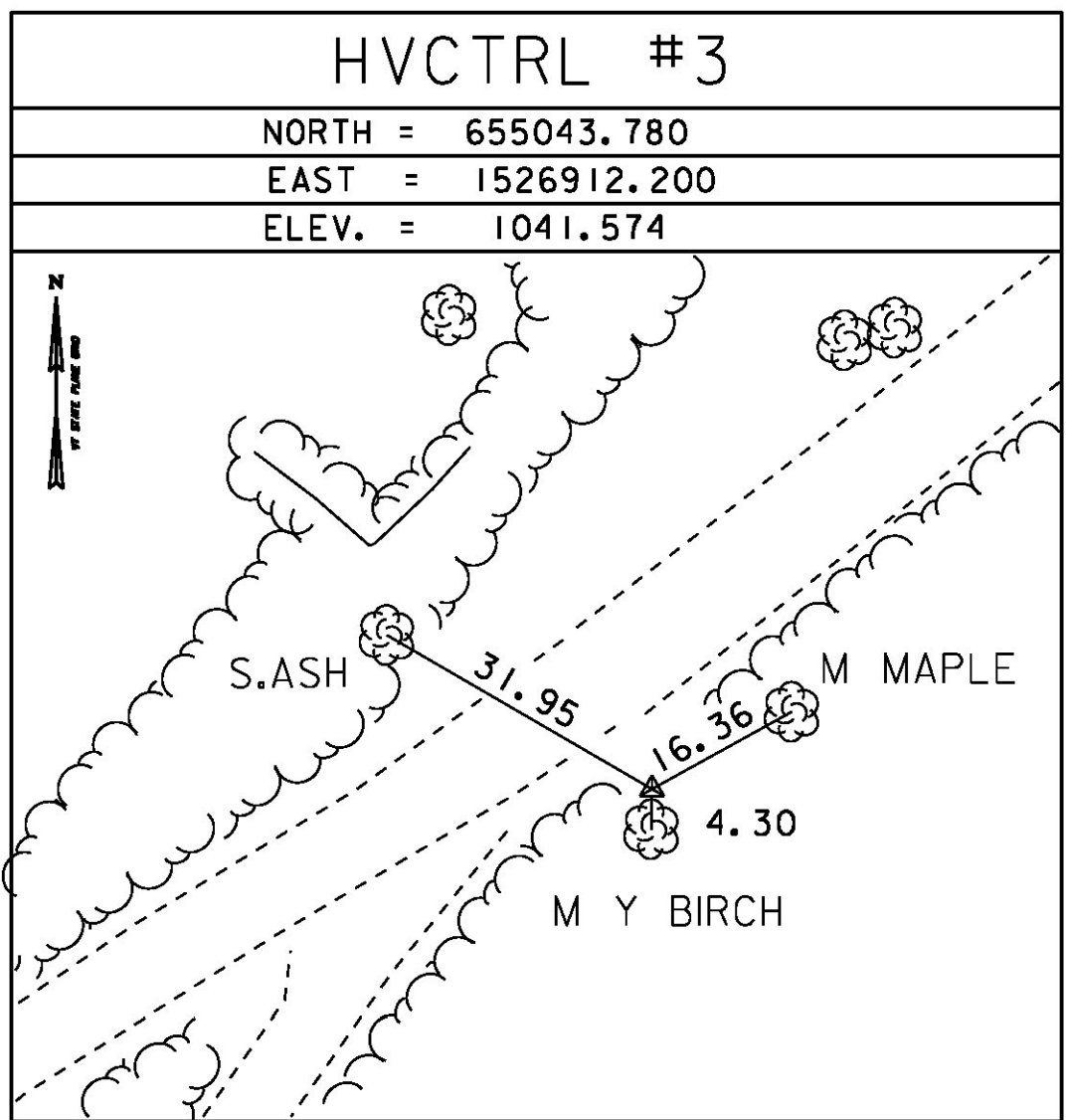
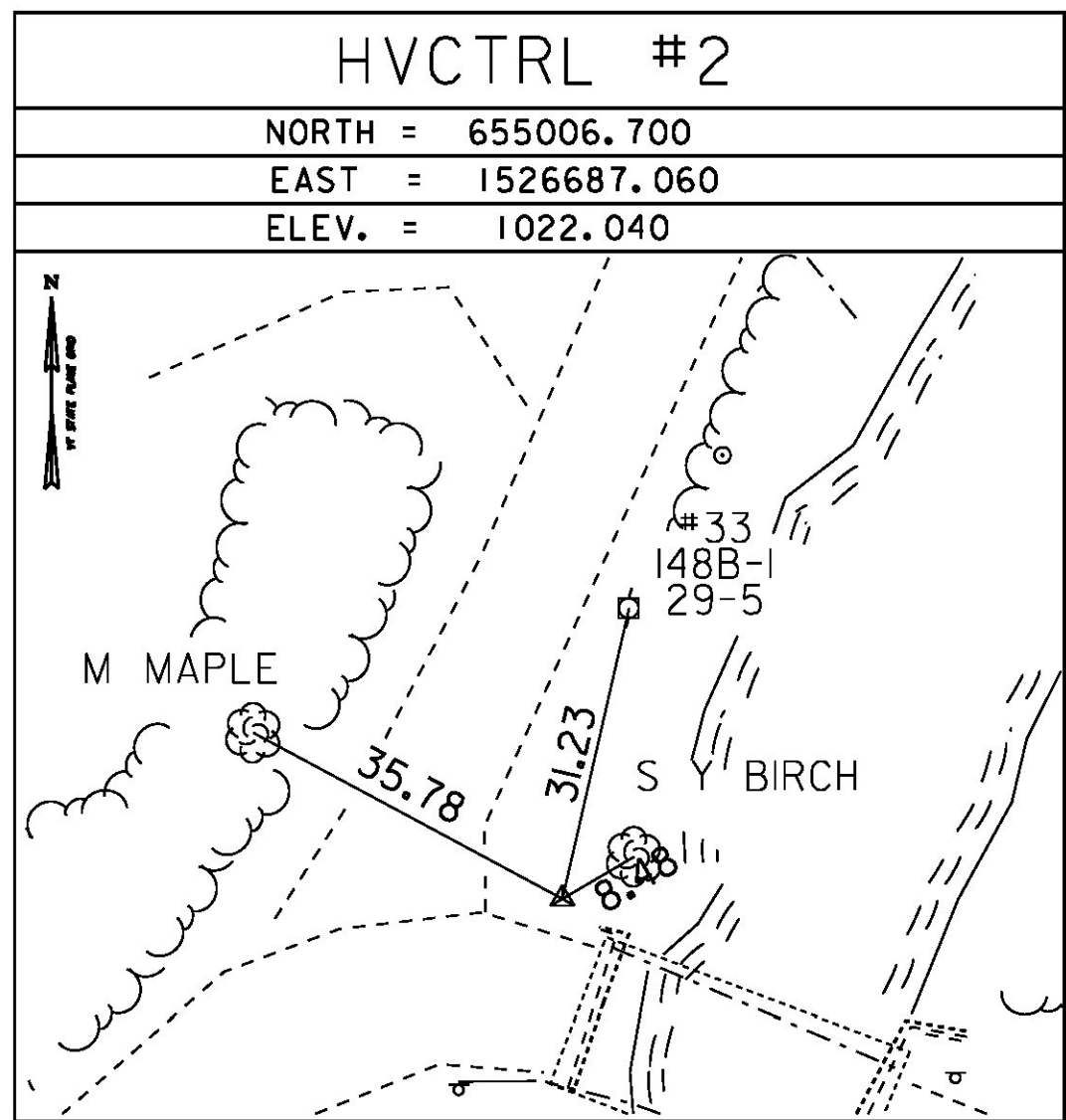
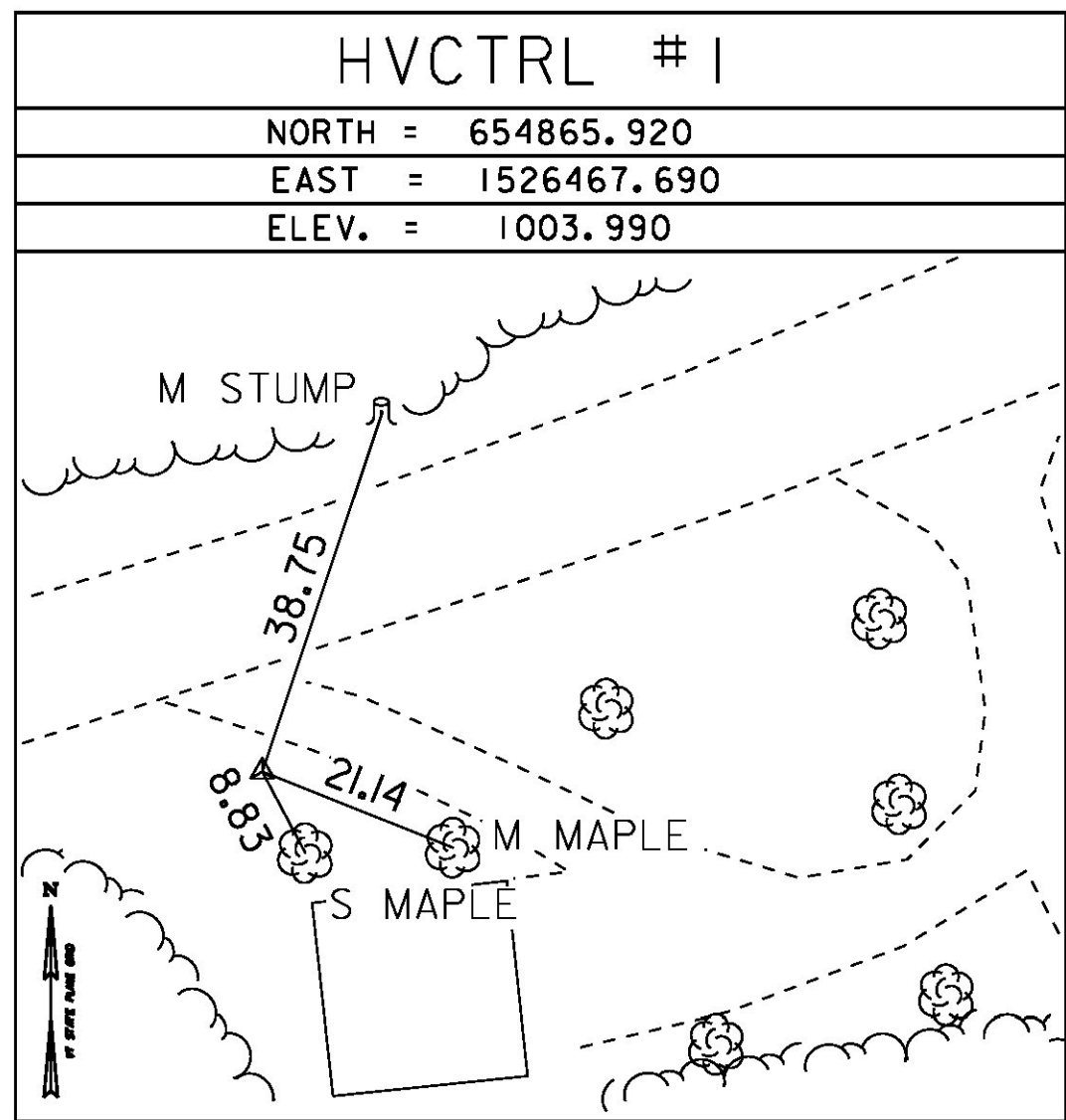
GENERAL LOCATION - THE STATION IS LOCATED IN HUNTINGTON CENTER, VT, 2.1 MI (3.4 KM) SOUTH OF HUNTINGTON VILLAGE, 7.4 MI (11.9 KM) SOUTH OF RICHMOND, AND 10.8 MI (17.4 KM) WEST OF WATERBURY. TO REACH FROM THE JUNCTION OF THE MAIN ROAD (TH1) AND CAMELS HUMP ROAD (TH4), PROCEED NORTHWESTERLY ALONG TH1 FOR 0.1 MI (0.2 KM) TO A BRIDGE OVER BRUSH BROOK AND THE MARK SET IN THE SOUTHEAST CORNER OF THE BRIDGE. ALSO 2.45 MI (3.94 KM) SOUTHEASTERLY ALONG TH1 FROM ITS INTERSECTION WITH EAST STREET IN HUNTINGTON VILLAGE TO THE MARK ON THE LEFT. IT IS LOCATED 64 FT (19.5 M) NORTHEAST OF POLE 86/122, 17 FT (5.2 M) EAST OF THE CENTERLINE OF TH1, AND 1.5 FT (0.5 M) EAST OF A STEEL GUARDRAIL. OWNERSHIP IS THE TOWN OF HUNTINGTON.

BAMBI

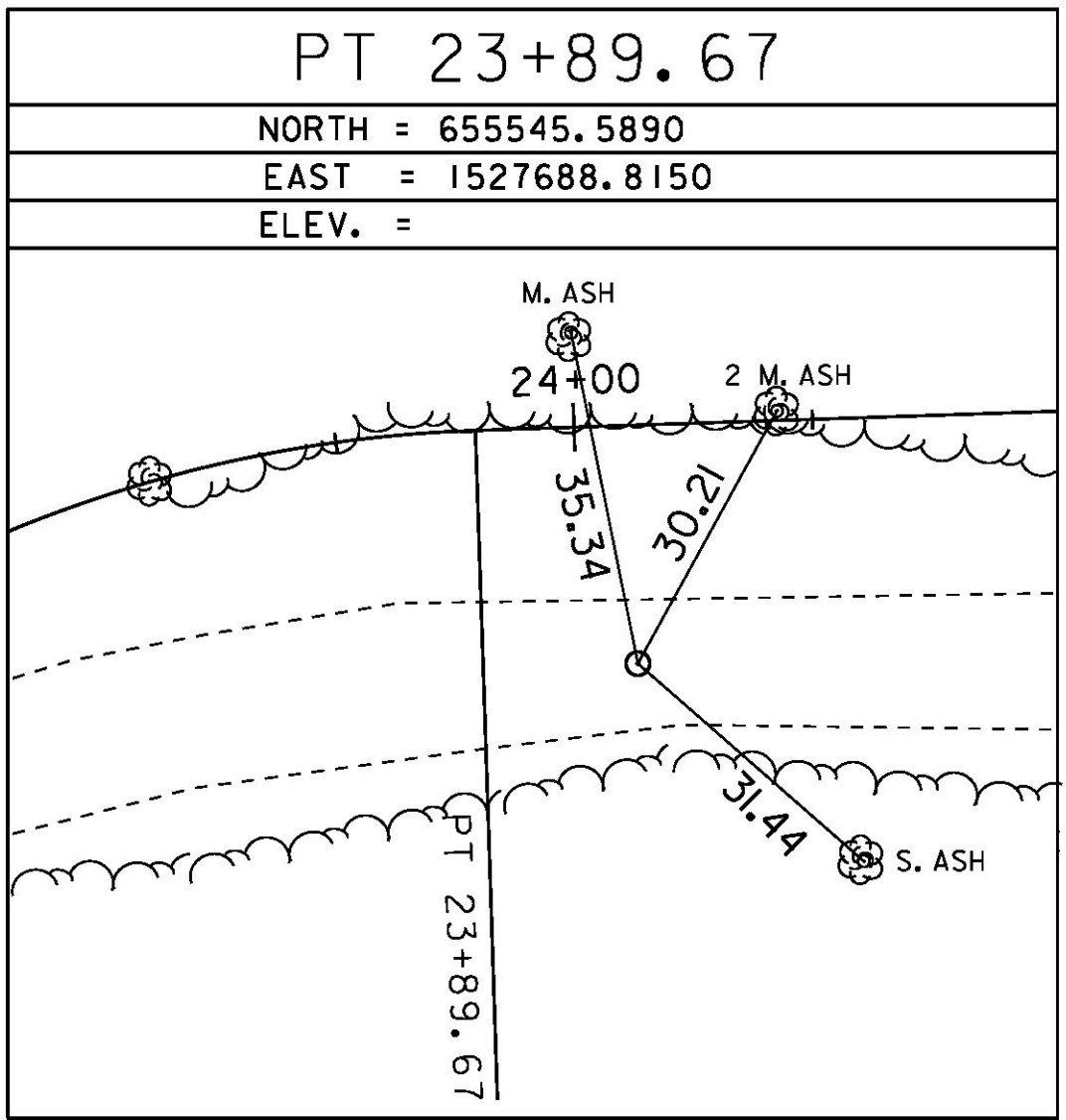
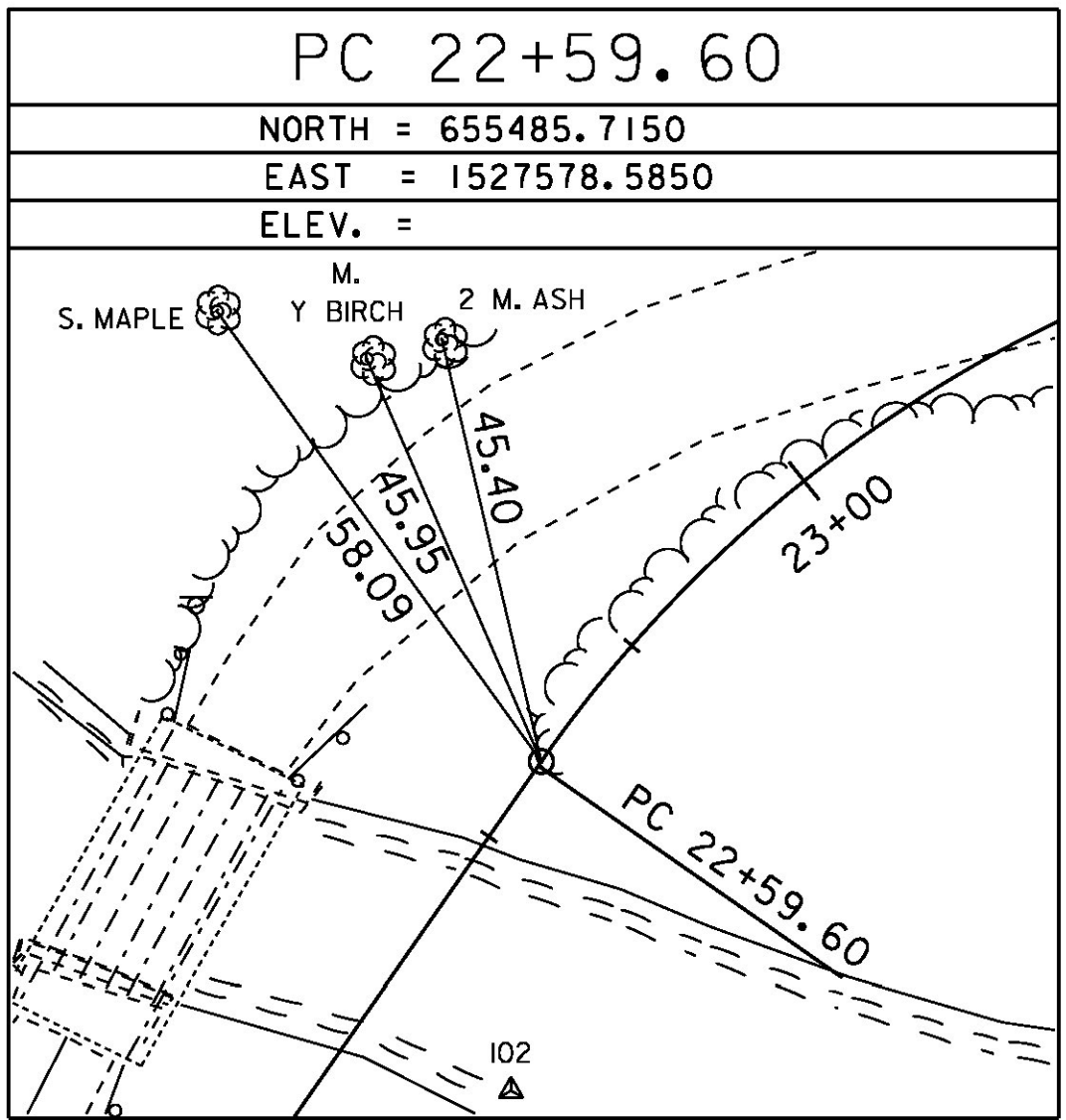
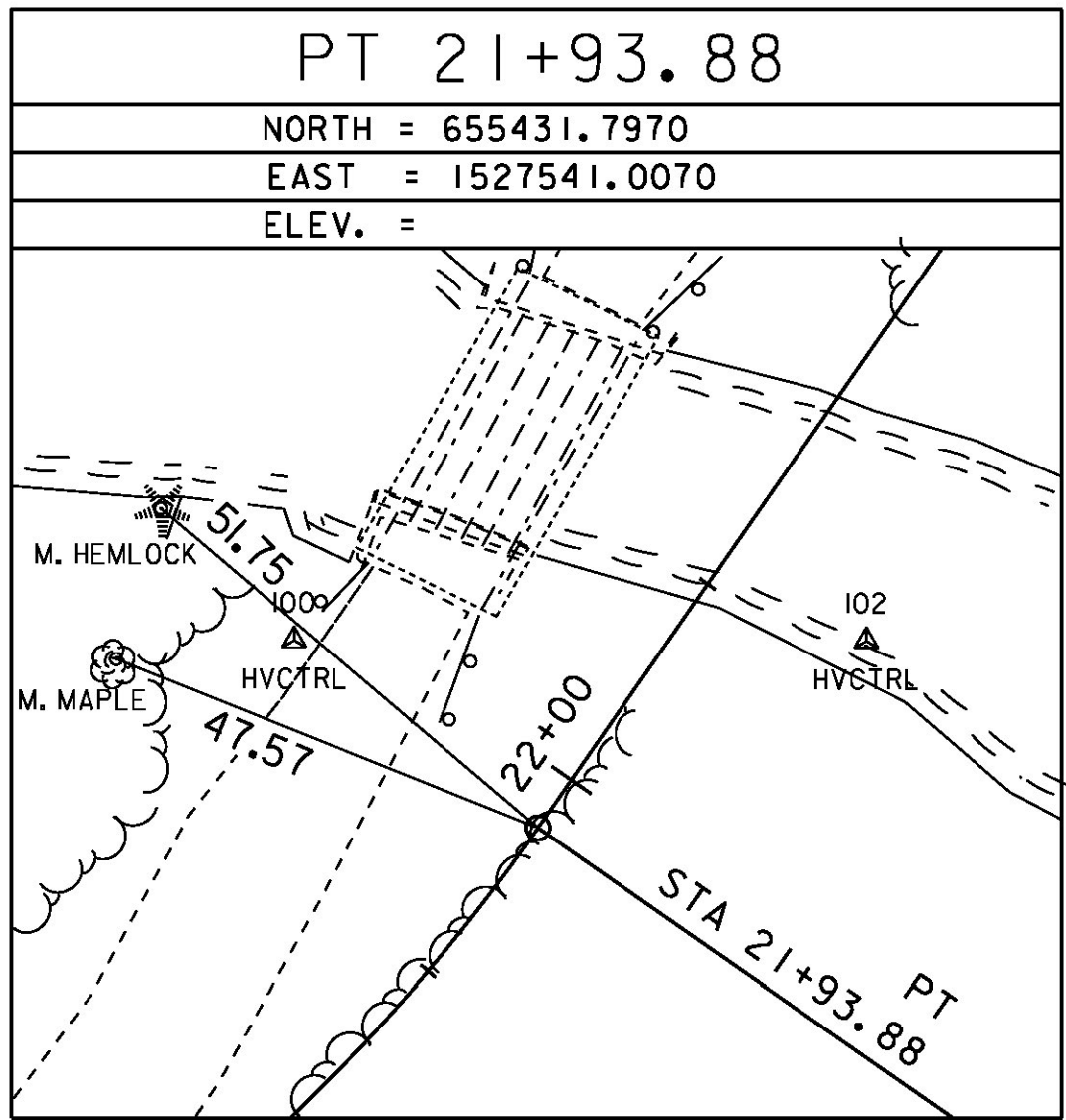
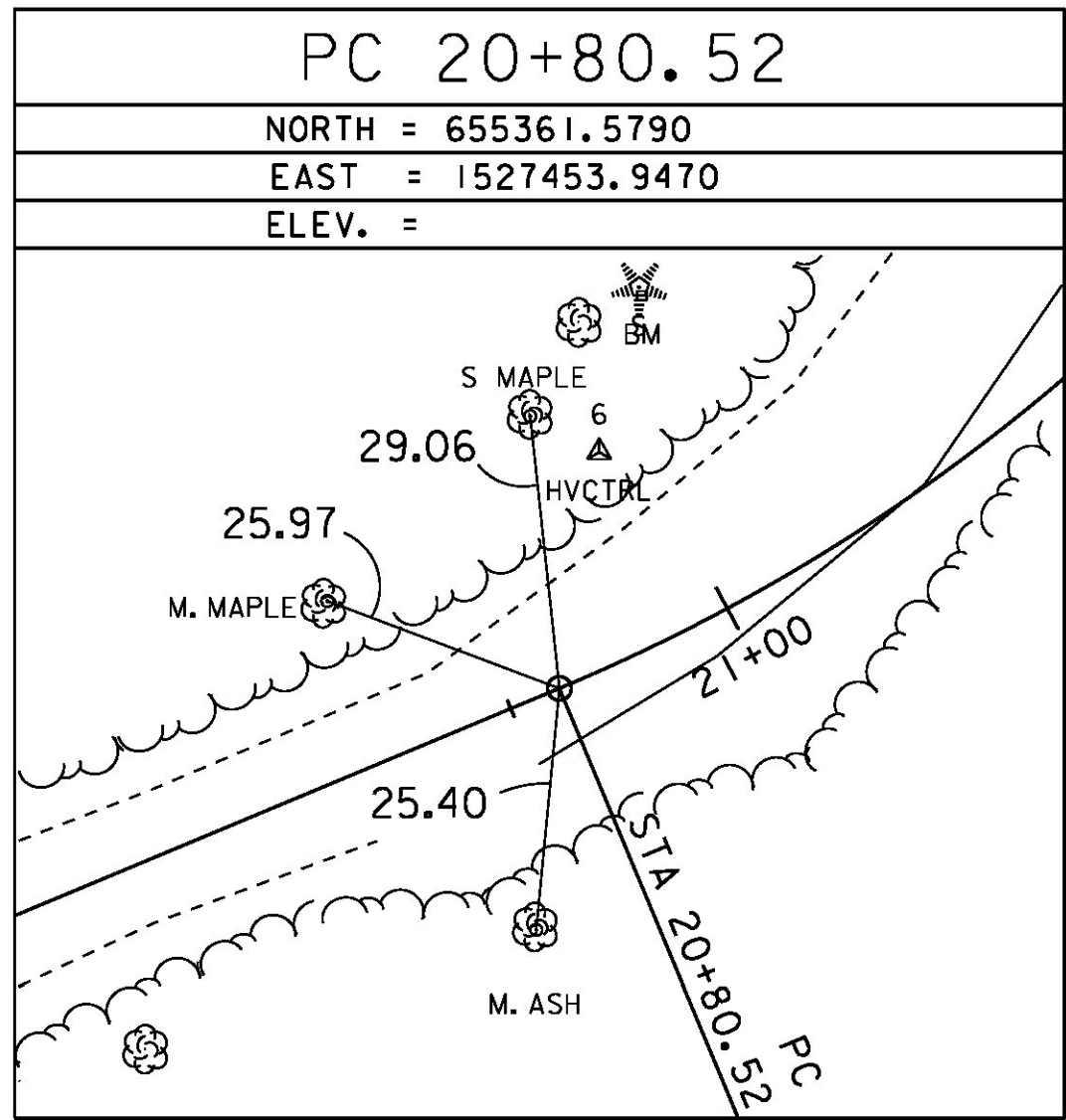
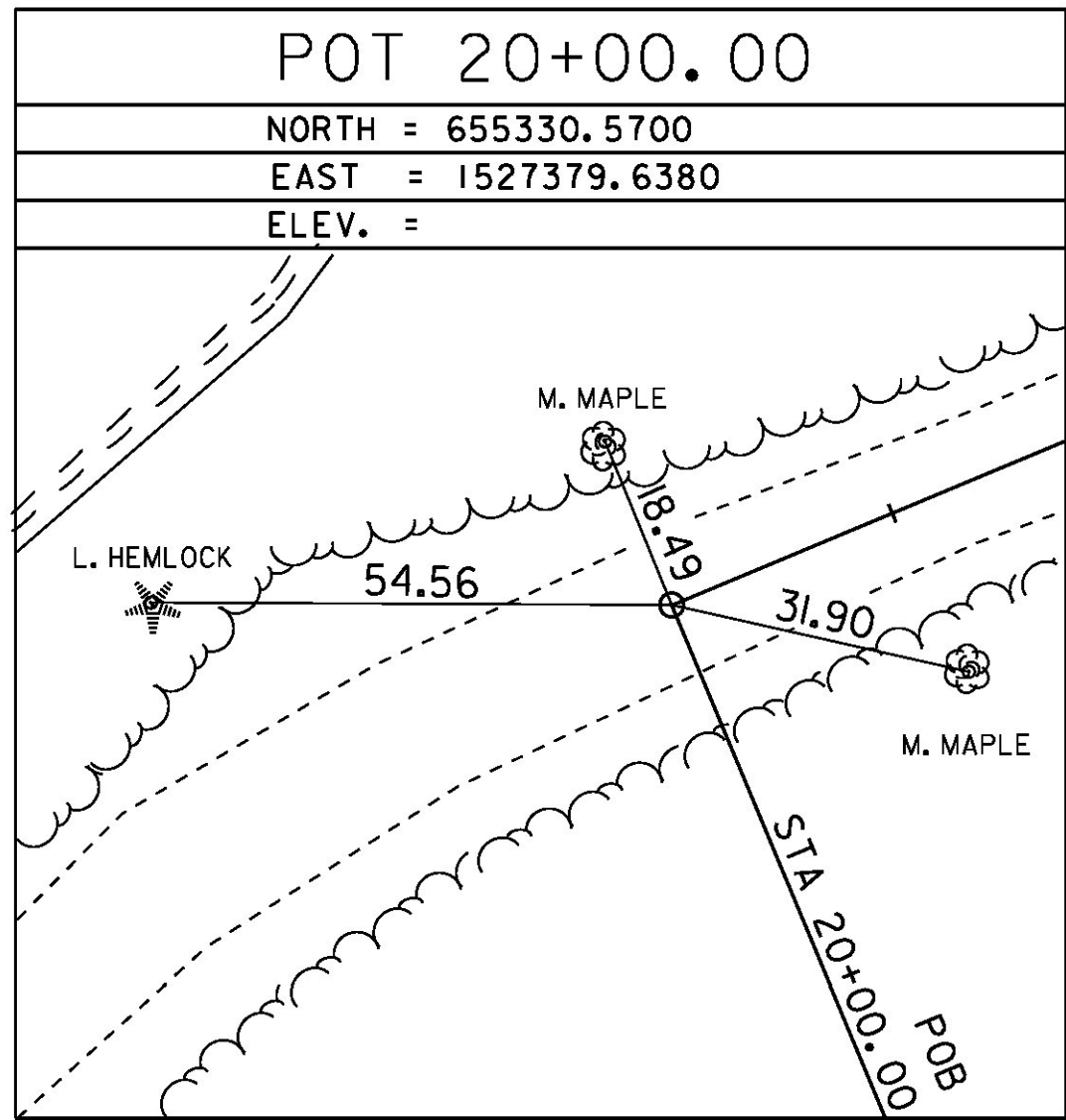
NORTH = 657332.336  
EAST = 1515932.398  
ELEV. =

GENERAL LOCATION - THE STATION IS LOCATED IN HUNTINGTON CENTER, VT, 1.7 MI (2.7 KM) SOUTH OF HUNTINGTON VILLAGE, 7.1 MI (11.4 KM) SOUTH OF RICHMOND, AND 11 MI (17.7 KM) WEST OF WATERBURY. TO REACH FROM THE JUNCTION OF THE MAIN ROAD (TH1) AND CAMELS HUMP ROAD (TH4), PROCEED 0.6 MI (1.0 KM) TO A BRIDGE OVER THE HUNTINGTON RIVER AND THE MARK ON THE RIGHT. THE MARK IS A STATE OF VERMONT DISK SET IN THE NORTHEAST BRIDGE ABUTMENT. ALSO 2.45 MI (3.94 KM) SOUTHEASTERLY ALONG TH1 FROM ITS INTERSECTION WITH EAST STREET IN IT IS LOCATED 15.5 FT (4.7 M) NORTH OF THE CENTERLINE OF TH1 AND 2 FT (0.6 M) NORTH OF A BOX BEAM GUARDRAIL. OWNERSHIP TOWN OF HUNTINGTON.

TRAVERSE TIES



ALIGNMENT TIES

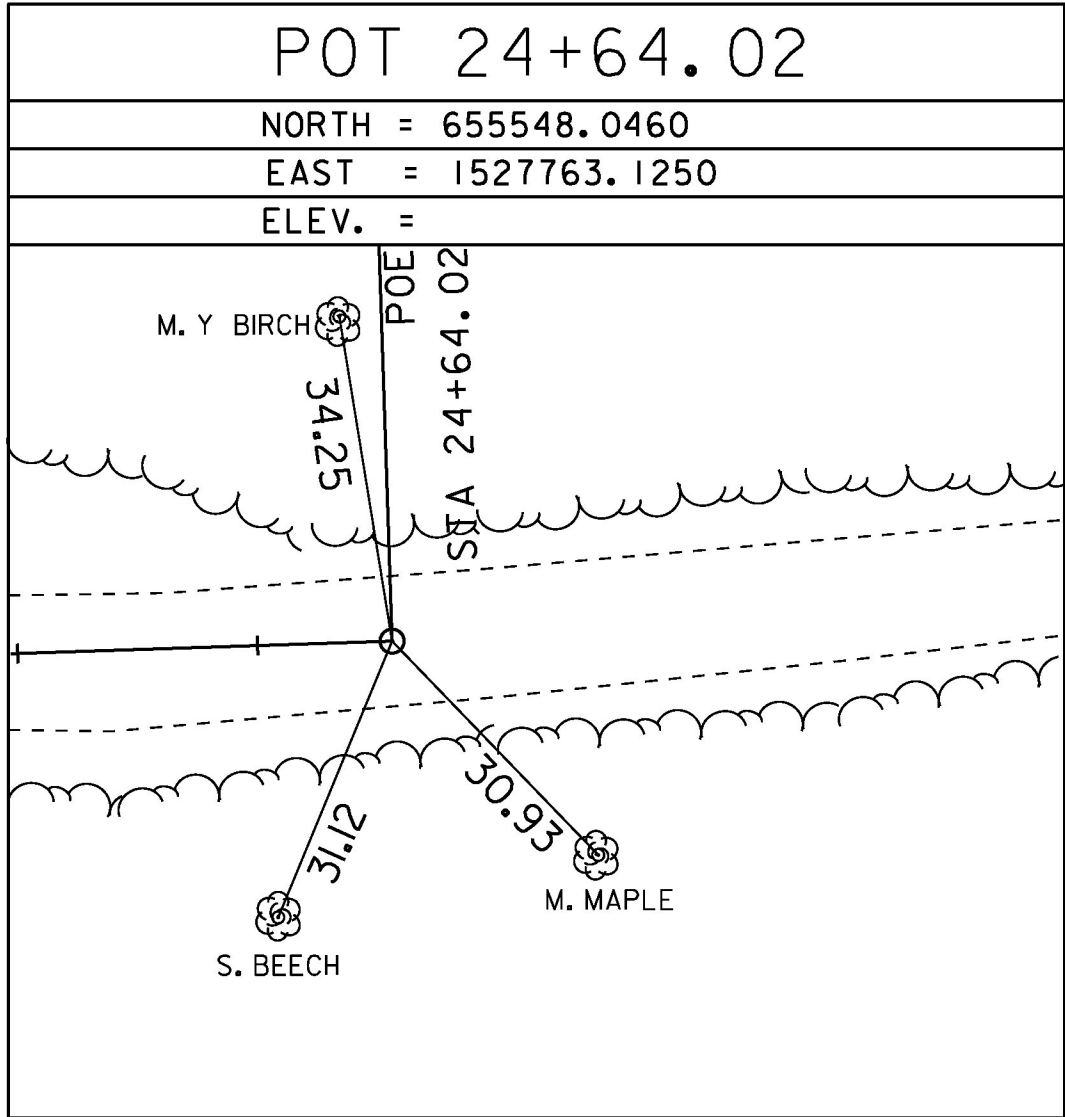


|            |             |
|------------|-------------|
| DATUM      |             |
| VERTICAL   | NAVD 88     |
| HORIZONTAL | NAD 83 (92) |
| ADJUSTMENT | COMPASS     |

|                 |                |
|-----------------|----------------|
| PROJECT NAME:   | HUNTINGTON     |
| PROJECT NUMBER: | BRO 1445(35)   |
| FILE NAME:      | si2ji62+1e.dgn |
| PROJECT LEADER: | C. CARLSON     |
| DESIGNED BY:    | D. PETERSON    |
| TIE SHEET 1     |                |
| PLOT DATE:      | 15-OCT-2015    |
| DRAWN BY:       | C. CYR         |
| CHECKED BY:     | P. BEYOR       |
| SHEET           | 9 OF 44        |



ALIGNMENT TIES



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

TH 22

| STATION      | NORTHING    | EASTING      |
|--------------|-------------|--------------|
| POB 20+00.00 | 655330.5699 | 1527379.6375 |
| PC 20+80.52  | 655361.5795 | 1527453.9488 |
| PI 21+38.77  | 655384.0117 | 1527507.7055 |

|                            |                   |
|----------------------------|-------------------|
| Radius:                    | 200.00            |
| Delta:                     | 32°28'33.86" Left |
| Degree of Curvature (Arc): | 28°38'52.40"      |
| Length:                    | 113.36            |
| Tangent:                   | 58.25             |
| Chord:                     | 111.85            |
| Middle Ordinate:           | 7.98              |
| External:                  | 8.31              |

|             |             |              |
|-------------|-------------|--------------|
| PT 21+93.88 | 655431.8004 | 1527541.0106 |
| PC 22+59.60 | 655485.7104 | 1527578.5817 |
| PC 22+59.60 | 655485.7104 | 1527578.5817 |
| PI 23+29.75 | 655543.2686 | 1527618.6953 |

|                            |                    |
|----------------------------|--------------------|
| Radius:                    | 140.00             |
| Delta:                     | 53°13'59.19" Right |
| Degree of Curvature (Arc): | 40°55'32.00"       |
| Length:                    | 130.07             |
| Tangent:                   | 70.16              |
| Chord:                     | 125.44             |
| Middle Ordinate:           | 14.84              |
| External:                  | 16.60              |

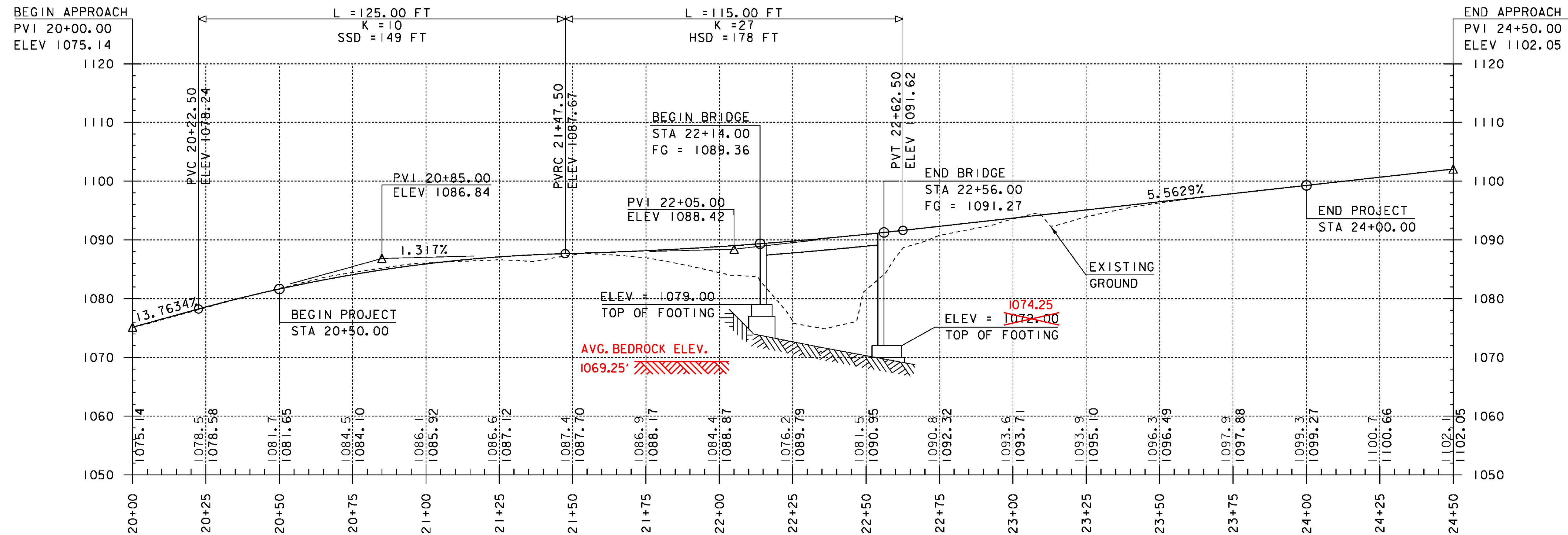
|              |             |              |
|--------------|-------------|--------------|
| PT 23+89.67  | 655545.5866 | 1527688.8144 |
| POE 24+64.02 | 655548.0431 | 1527763.1262 |

|                              |                        |
|------------------------------|------------------------|
| PROJECT NAME: HUNTINGTON     |                        |
| PROJECT NUMBER: BRO 1445(35) |                        |
| FILE NAME: sl2ji62+ie.dgn    | PLOT DATE: 15-OCT-2015 |
| PROJECT LEADER: C. CARLSON   | DRAWN BY: C. CYR       |
| DESIGNED BY: D. PETERSON     | CHECKED BY: P. BEYOR   |
| TIE SHEET 2                  | SHEET 10 OF 44         |





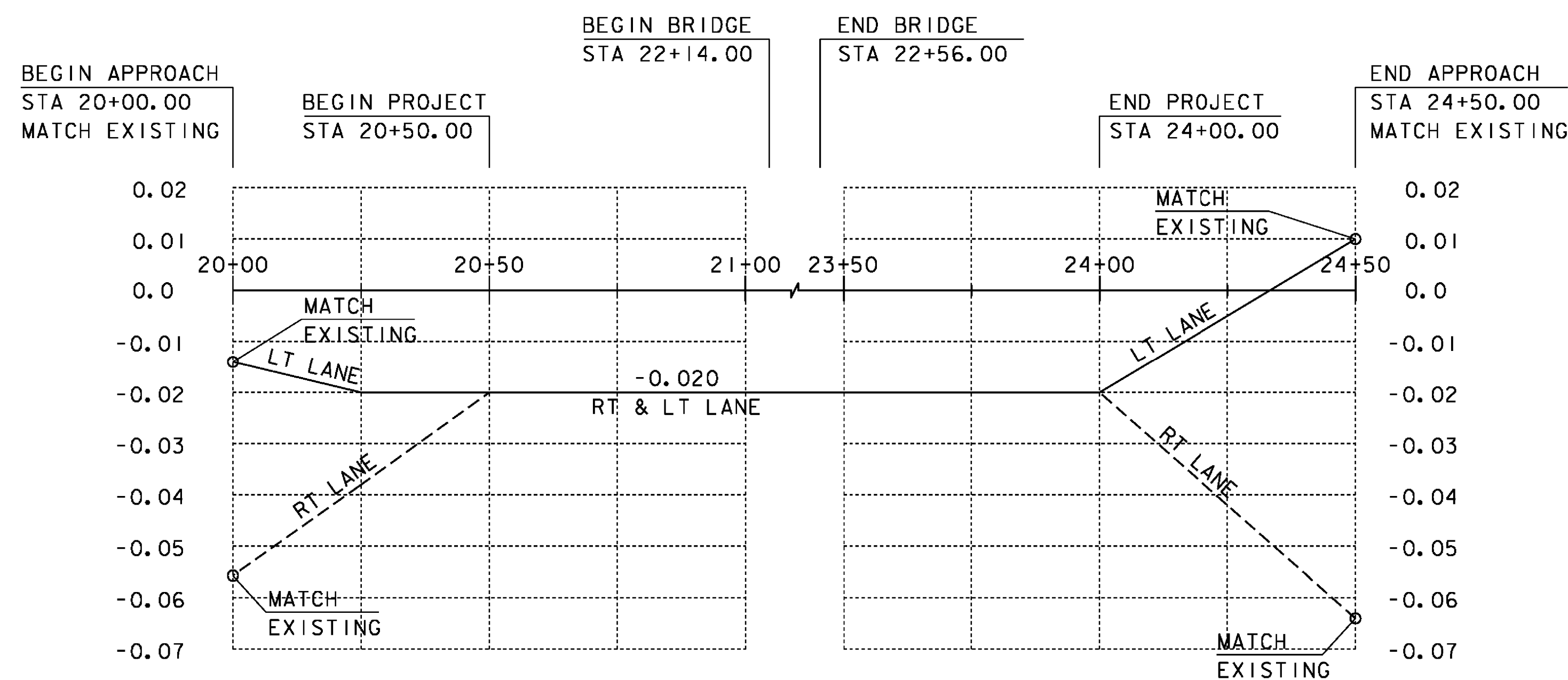




### TH 22 PROPOSED PROFILE

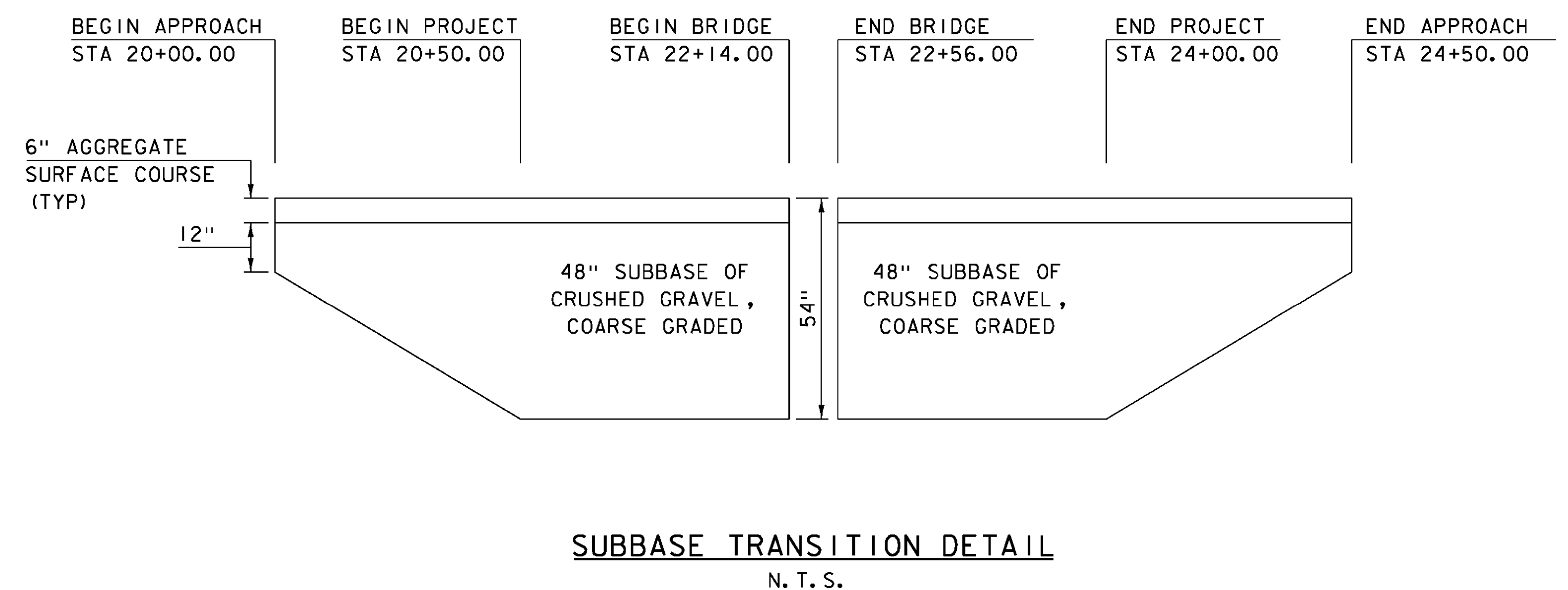
SCALE: HORIZONTAL 1"=20'-0"  
VERTICAL 1"=10'-0"

THE GRADES SHOWN TO THE NEAREST TENTH  
ARE THE OLD GROUND ALONG THE CENTERLINE.  
THE GRADES SHOWN TO THE NEAREST  
HUNDREDTH ARE THE PROPOSED FINISHED GRADE  
ALONG THE CENTERLINE.



### BANKING DIAGRAM

SCALE: HORIZONTAL 1" = 20'-0"  
VERTICAL 1" = 0.02' /'



### SUBBASE TRANSITION DETAIL

PROJECT NAME: HUNTINGTON  
PROJECT NUMBER: BRO 1445(35)

FILE NAME: sl2j162pro.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
TH 22 PROFILE

PLOT DATE: 15-OCT-2015  
DRAWN BY: R. PELLETT  
CHECKED BY: D. PETERSON  
SHEET 12 OF 44



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 3/8"                  |
| 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  | Top of Ledge Or Boulder           |
| NR    | No Recovery                       |
| Rec.  | Recovery                          |
| %Rec. | Percent Recovery                  |
| RQD   | Rock Quality Designation          |
| CBR   | California Bearing Ratio          |
| <     | Less Than                         |
| >     | Greater Than                      |
| R     | Refusal (N > 100)                 |
| VTSPG | NAD83 - See Note 7                |

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

•BORINGS REPORTEDLY TAKEN AT INCORRECT BRIDGE SITE

ALL BORINGS IN THIS PLAN SET ARE NOT REPRESENTATIVE OF THE PROJECT SITE

BORING CHART

| HOLE NO. | SURV. STATION | OFFSET | NORTHING   | EASTING   | TLOB    |
|----------|---------------|--------|------------|-----------|---------|
| B-1      | 4+01.50       | 11.25R | 1527538.13 | 655450.20 | 1074.00 |
| B-2      | 4+46.00       | 14.00R | 1527563.22 | 655485.68 | 1070.00 |
| B-4      | 4+66.50       | 38.40R | 1527591.25 | 655480.80 | 1068.00 |
| TP-1     | 3+95.00       | 22.40R | 1527544.33 | 655438.91 | 1077.1  |
| TP-2     | 4+11.50       | 37.40R | 1527565.83 | 655455.38 | 1076.50 |

GENERAL NOTES

- The subsurface explorations shown herein were made between 11/11/13 and 12/06/13 Terracon Consultants, Inc.
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
- Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
- Engineering 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.
- Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
- Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.
- Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in survey feet.

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 > 0.075" (#10 sieve).

SAND - Particles of rock < 0.075" (#10 sieve) and > 0.0025" (#200 sieve).

SILT - Soil < 0.0025" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

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

VARVED - Alternate layers of silt and clay.

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

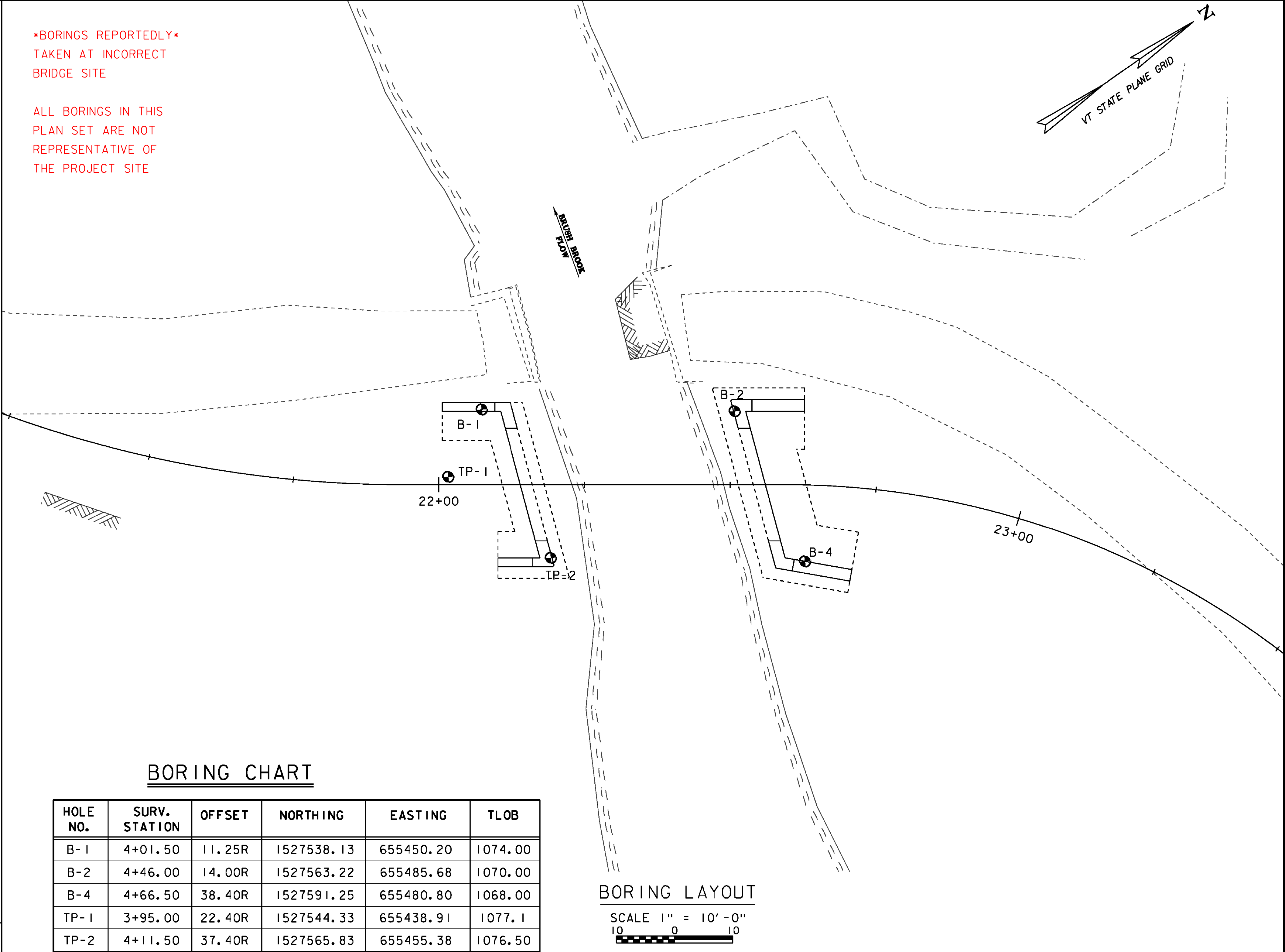
MUCK - Soft organic soil (containing > 10% organic material).

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

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

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

DIP - Inclination of bed with a horizontal plane.



BORING LAYOUT

SCALE 1" = 10'-0"

PROJECT NAME: HUNTINGTON  
PROJECT NUMBER: BRO 1445(35)

FILE NAME: sl2j162boring.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
BORING INFORMATION SHEET

PLOT DATE: 15-OCT-2015  
DRAWN BY: R. PELLETT  
CHECKED BY: D. PETERSON  
SHEET 13 OF 44



ABUTMENT #1  
TOP OF FOOTING  
ELEV 1079.00

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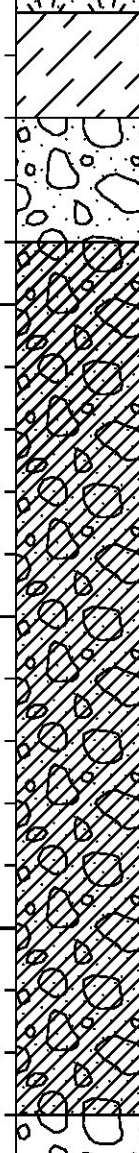
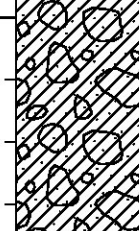
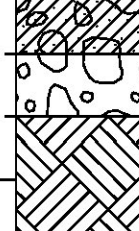
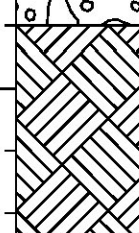
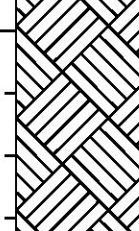
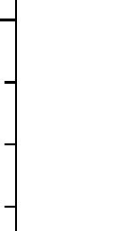
|                                                                                   |  |                                                                                                        |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                     |  |
|-----------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------|--|
|  |  | STATE OF VERMONT<br>AGENCY OF TRANSPORTATION<br>MATERIALS & RESEARCH SECTION<br>SUBSURFACE INFORMATION |  | BORING LOG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Boring No.: B-1     |  |
|                                                                                   |  |                                                                                                        |  | Huntington BRO 1445(35)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | Page No.: 1 of 1    |  |
|                                                                                   |  |                                                                                                        |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Pin No.: 12J162     |  |
|                                                                                   |  |                                                                                                        |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Checked By: ASP     |  |
| Boring Crew: New Hampshire Boring, Derry, NH, CBR                                 |  |                                                                                                        |  | Casing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | Sampler             |  |
| Date Started: 11/14/13 Date Finished: 11/15/13                                    |  |                                                                                                        |  | Type: WB SS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                     |  |
| VTSPG NAD83: N 1527538.13 ft E 655450.20 ft                                       |  |                                                                                                        |  | I.D.: 4.25 in 1.38 in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                     |  |
| Station: 4+01.50 Offset: 11.25R                                                   |  |                                                                                                        |  | Hammer Wt: N.A. N.A.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                     |  |
| Ground Elevation: 1086.0 ft                                                       |  |                                                                                                        |  | Hammer Fall: N.A. N.A.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                     |  |
|                                                                                   |  |                                                                                                        |  | Hammer/Rod Type: Manual                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                     |  |
|                                                                                   |  |                                                                                                        |  | Rig: CME 45C SKID CE = 1.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                     |  |
| Groundwater Observations                                                          |  | Date                                                                                                   |  | Depth (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Notes               |  |
| 11/14/13                                                                          |  | 7.5                                                                                                    |  | WS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                     |  |
| 11/15/13                                                                          |  | 8.0                                                                                                    |  | ACR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                     |  |
| 11/15/13                                                                          |  | 8.3                                                                                                    |  | BCR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                     |  |
| Depth (ft)                                                                        |  | Strata (1)                                                                                             |  | CLASSIFICATION OF MATERIALS (Description)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | Run (Dip deg.)      |  |
| 5                                                                                 |  | x x x                                                                                                  |  | Rec. = 0.5 ft, 0.0 ft - 0.33 ft, 4-inches topsoil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Core Rec. % (ROD %) |  |
|                                                                                   |  | x x x                                                                                                  |  | A-1-b, SaGrSi, brn, Moist, FILL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Blows/6" (N Value)  |  |
|                                                                                   |  | o o o                                                                                                  |  | A-2-4, GrSiSa, brn, Moist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | Moisture Content %  |  |
|                                                                                   |  | o o o                                                                                                  |  | Rec. = 0.5 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | Gravel %            |  |
|                                                                                   |  | o o o                                                                                                  |  | A-4, SiSaGr, brn, Wet, Rec. = 0.75 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | Sand %              |  |
|                                                                                   |  | o o o                                                                                                  |  | A-2-4, SaGrSi, red-brn, with organics from 6-8 feet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | Fines %             |  |
|                                                                                   |  | o o o                                                                                                  |  | Rec. = 1.16 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                     |  |
| 10                                                                                |  | o o o                                                                                                  |  | A-2-4, SaSiGr, brn-gry, Rec. = 0.5 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                     |  |
|                                                                                   |  | o o o                                                                                                  |  | A-1-b, GrSaSi, gry-brn, Rec. = 0.75 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                     |  |
|                                                                                   |  | o o o                                                                                                  |  | A-1-b, GrSaSi, brn, Weathered bedrock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                     |  |
|                                                                                   |  | o o o                                                                                                  |  | 10.75 ft - 12.0 ft, Weathered bedrock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                     |  |
|                                                                                   |  | o o o                                                                                                  |  | 12.0 ft - 17.0 ft, Bedrock. Gray, greenish gray muscovite-quartz SCHIST, magnetite rich zone at 14.5', moderately hard, moderately weathered from 15' to 16', remainder of run unweathered                                                                                                                                                                                                                                                                                                                                                                         |  |                     |  |
| 15                                                                                |  | o o o                                                                                                  |  | 17.0 ft - 22.0 ft, Bedrock. Gray, greenish gray muscovite-quartz SCHIST, moderately hard, unweathered                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                     |  |
| 20                                                                                |  | o o o                                                                                                  |  | Hole stopped @ 22.0 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                     |  |
| 25                                                                                |  | o o o                                                                                                  |  | Remarks: Elevations are approximate.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                     |  |
| 30                                                                                |  | o o o                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                     |  |
| Notes:                                                                            |  |                                                                                                        |  | 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.<br>2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. CE is an estimated value.<br>3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.<br>4. Ground surface elevations indicated on the boring logs were estimated based on the grading plan provided by VDOT. |  |                     |  |

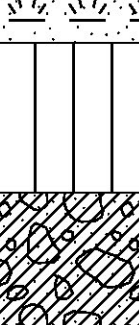
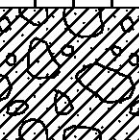
ABUTMENT #2  
TOP OF FOOTING  
ELEV 1072.00

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|                                                                                     |  |                                                                                                        |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                     |  |
|-------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------|--|
|  |  | STATE OF VERMONT<br>AGENCY OF TRANSPORTATION<br>MATERIALS & RESEARCH SECTION<br>SUBSURFACE INFORMATION |  | BORING LOG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Boring No.: B-2     |  |
|                                                                                     |  |                                                                                                        |  | Huntington BRO 1445(35)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | Page No.: 1 of 1    |  |
|                                                                                     |  |                                                                                                        |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Pin No.: 12J162     |  |
|                                                                                     |  |                                                                                                        |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Checked By: ASP     |  |
| Boring Crew: New Hampshire Boring, Derry, NH, CBR                                   |  |                                                                                                        |  | Casing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | Sampler             |  |
| Date Started: 11/11/13 Date Finished: 11/12/13                                      |  |                                                                                                        |  | Type: WB SS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                     |  |
| VTSPG NAD83: N 1527563.22 ft E 655485.68 ft                                         |  |                                                                                                        |  | I.D.: 4.25 in 1.38 in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                     |  |
| Station: 4+46.00 Offset: 14.00R                                                     |  |                                                                                                        |  | Hammer Wt: N.A. N.A.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                     |  |
| Ground Elevation: 1086.0 ft                                                         |  |                                                                                                        |  | Hammer Fall: N.A. N.A.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                     |  |
|                                                                                     |  |                                                                                                        |  | Hammer/Rod Type: Manual                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                     |  |
|                                                                                     |  |                                                                                                        |  | Rig: CME 45C SKID CE = 1.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                     |  |
| Groundwater Observations                                                            |  | Date                                                                                                   |  | Depth (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Notes               |  |
| 11/12/13                                                                            |  | 5.0                                                                                                    |  | ACR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                     |  |
| 11/13/13                                                                            |  | 8.0                                                                                                    |  | 16 hrs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                     |  |
| 11/13/13                                                                            |  | 8.0                                                                                                    |  | BCR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                     |  |
| Depth (ft)                                                                          |  | Strata (1)                                                                                             |  | CLASSIFICATION OF MATERIALS (Description)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | Run (Dip deg.)      |  |
| 5                                                                                   |  | x x x                                                                                                  |  | A-2-4, SaGrSi, brn, Moist, Rec. = 1.5 ft, FILL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | Core Rec. % (ROD %) |  |
|                                                                                     |  | x x x                                                                                                  |  | A-2-4, GrSaSi, brn, Moist, Rec. = 0.7 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | Blows/6" (N Value)  |  |
|                                                                                     |  | o o o                                                                                                  |  | A-1-a, GrSaSi, brn-gry, Moist, Rec. = 0.8 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Moisture Content %  |  |
|                                                                                     |  | o o o                                                                                                  |  | A-1-b, GrSaSi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | Gravel %            |  |
|                                                                                     |  | o o o                                                                                                  |  | A-1-a, GrSaSi, Rec. = 1.3 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Sand %              |  |
|                                                                                     |  | o o o                                                                                                  |  | A-1-a, GrSaSi, Rec. = 1.0 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Fines %             |  |
| 10                                                                                  |  | o o o                                                                                                  |  | A-1-a, GrSaSi, Rec. = 0.5 ft, same as above with probable cobbles or boulder                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                     |  |
|                                                                                     |  | o o o                                                                                                  |  | 10.58 ft - 12.0 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                     |  |
|                                                                                     |  | o o o                                                                                                  |  | A-4, SiGrSa, brn-gry, Moist, Rec. = 0.8 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                     |  |
|                                                                                     |  | o o o                                                                                                  |  | A-4, GrSiSa, Rec. = 0.4 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                     |  |
|                                                                                     |  | o o o                                                                                                  |  | 14.5 ft - 16.0 ft, Probable weathered bedrock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                     |  |
| 15                                                                                  |  | o o o                                                                                                  |  | 16.0 ft - 21.0 ft, Gray, greenish gray muscovite-quartz SCHIST, moderately hard, unweathered                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                     |  |
| 20                                                                                  |  | o o o                                                                                                  |  | 21.0 ft - 26.0 ft, Gray, greenish gray muscovite-quartz SCHIST, moderately hard, unweathered                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                     |  |
| 25                                                                                  |  | o o o                                                                                                  |  | Hole stopped @ 26.0 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                     |  |
| 30                                                                                  |  | o o o                                                                                                  |  | Remarks: Elevations are approximate.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                     |  |
| Notes:                                                                              |  |                                                                                                        |  | 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.<br>2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. CE is an estimated value.<br>3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.<br>4. Ground surface elevations indicated on the boring logs were estimated based on the grading plan provided by VDOT. |  |                     |  |



|                                                                                   |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |                                       |                                                                                              |                                                                           |           |                          |         |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-----------|--------------------------|---------|
|  |                                                                                     | STATE OF VERMONT<br>AGENCY OF TRANSPORTATION<br>MATERIALS & RESEARCH SECTION<br>SUBSURFACE INFORMATION                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                | BORING LOG<br>Huntington BRO 1445(35) |                                                                                              | Boring No.: 8-4<br>Page No.: 1 of 1<br>Pin No.: 12J162<br>Checked By: ASP |           |                          |         |
| Boring Crew: New Hampshire Boring, Derry, NH, CBR                                 |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                | Casing: WB<br>Sampler: SS             |                                                                                              | Groundwater Observations                                                  |           |                          |         |
| Date Started: 11/13/13 Date Finished: 11/13/13                                    |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                | Type: I.D.: 4.25 in 1.38 in           |                                                                                              | Date Depth (ft) Notes                                                     |           |                          |         |
| VTSPG NAD83: N 1527591.25 ft E 655480.80 ft                                       |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                | Hammer Wt: N.A. N.A.                  |                                                                                              | 11/13/13 7.0 ACR                                                          |           |                          |         |
| Station: 4+66.50 Offset: 38.40R                                                   |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                | Hammer Fall: N.A. N.A.                |                                                                                              | 11/14/13 7.0 16 hrs                                                       |           |                          |         |
| Ground Elevation: 1087.0 ft                                                       |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                | Hammer/Rod Type: Manual               |                                                                                              |                                                                           |           |                          |         |
| Rig: CME 45C SKID CE = 1.3                                                        |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |                                       |                                                                                              |                                                                           |           |                          |         |
| Depth (ft)                                                                        | Strata (1)                                                                          | CLASSIFICATION OF MATERIALS (Description)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Run (tip dep.) | Core Rec. % (ROD %)                   | Blows/6" (N Value)                                                                           | Moisture Content %                                                        | Gravel %  | Sand %                   | Fines % |
| 5                                                                                 |   | Rec. = 1.2 ft, 0.0 ft - 0.33 ft, 4-inches topsoil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                |                                       | 2-6-8-4 (14)                                                                                 | 37.5                                                                      | 2.6       | 59.9                     | 37.5    |
|                                                                                   |                                                                                     | A-4, SaSiGr, brn, Moist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                |                                       | 3-6-37-22 (43)                                                                               | 11.6                                                                      | 40.8      | 42.8                     | 16.4    |
|                                                                                   |                                                                                     | A-1-b, SaGrSi, brn, Rec. = 0.9 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                |                                       | 27-27-19-100 (46)                                                                            | 7.8                                                                       | 59.4      | 25.3                     | 15.3    |
|                                                                                   |                                                                                     | A-1-a, GrSaSi, gry-brn, Rec. = 0.5 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |                                       | 8-17-17-34 (34)                                                                              | 10.7                                                                      | 55.1      | 25.5                     | 19.4    |
|                                                                                   |                                                                                     | A-1-b, GrSaSi, gry-brn, Rec. = 0.3 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |                                       | 23-35-40-100 (75)                                                                            | 8.9                                                                       | 51.1      | 24.5                     | 24.4    |
| 10                                                                                |    | A-1-b, GrSaSi, brn, Rec. = 1.3 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                |                                       | 22-24-33-45 (57)                                                                             | 9.9                                                                       | 58.6      | 26.3                     | 15.1    |
|                                                                                   |                                                                                     | A-1-a, GrSaSi, gry-brn, Rec. = 0.5 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |                                       | 50 (50+)                                                                                     | 14.3                                                                      | 22.1      | 29.8                     | 48.1    |
|                                                                                   |                                                                                     | A-4, SiSaGr, gry-brn, Rec. = 0.4 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                |                                       | 35-50-100 (150+)                                                                             | 9.7                                                                       | 24.7      | 27.3                     | 48.0    |
| 15                                                                                |  | A-4, SiSaGr, brn, Rec. = 0.4 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |                                       | 49-50 (50+)                                                                                  | 9.7                                                                       | 63.9      | 23.0                     | 13.1    |
|                                                                                   |                                                                                     | A-4, SiSaGr, gry-brn, Rec. = 0.2 ft, Soil classification for this sample based on visual observation                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |                                       | 50 (50+)                                                                                     | 9.7                                                                       | 63.9      | 23.0                     | 13.1    |
|                                                                                   |                                                                                     | A-1-a, GrSaSi, brn, Rec. = 0.2 ft, Probable weathered bedrock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                |                                       | 19.0 ft - 24.0 ft, Gray, greenish gray muscovite-quartz SCHIST, moderately hard, unweathered | 1                                                                         | 57 (68.4) | Top of Bedrock @ 19.0 ft |         |
| 20                                                                                |  | 24.0 ft - 29.0 ft, Gray, greenish gray muscovite-quartz SCHIST, moderately hard, slight weathering along foliation                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2              | 46 (41.3)                             |                                                                                              |                                                                           |           |                          |         |
| 25                                                                                |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |                                       |                                                                                              |                                                                           |           |                          |         |
| 30                                                                                |  | Hole stopped @ 29.0 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |                                       |                                                                                              |                                                                           |           |                          |         |
| Notes:                                                                            |                                                                                     | 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.<br>2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. CE is an estimated value.<br>3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.<br>4. Ground surface elevations indicated on the boring logs were estimated based on the grading plan provided by VDOT. |                |                                       |                                                                                              |                                                                           |           |                          |         |

|                                                                                     |                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                               |                                       |          |                                                                            |         |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------------------------------------|----------|----------------------------------------------------------------------------|---------|
|  |                                                                                      | STATE OF VERMONT<br>AGENCY OF TRANSPORTATION<br>MATERIALS & RESEARCH SECTION<br>SUBSURFACE INFORMATION                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                               | BORING LOG<br>Huntington BRO 1445(35) |          | Boring No.: TP-1<br>Page No.: 1 of 1<br>Pin No.: 12J162<br>Checked By: ASP |         |
| Boring Crew: New Hampshire Boring, Derry, NH, RJF                                   |                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                               | Casing: _____<br>Sampler: _____       |          | Groundwater Observations                                                   |         |
| Date Started: 12/06/13 Date Finished: 12/06/13                                      |                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                               | Type: I.D.: _____                     |          | Date Depth (ft) Notes                                                      |         |
| VTSPG NAD83: N 1527544.33 ft E 655438.91 ft                                         |                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                               | Hammer Wt: N.A. N.A.                  |          | 12/06/13 None observed                                                     |         |
| Station: 3+95.00 Offset: 22.40R                                                     |                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                               | Hammer Fall: N.A. N.A.                |          |                                                                            |         |
| Ground Elevation: 1082.5 ft                                                         |                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                               | Hammer/Rod Type: _____                |          |                                                                            |         |
| Rig: KX71-3 Excavator CE = _____                                                    |                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                               |                                       |          |                                                                            |         |
| Depth (ft)                                                                          | Strata (1)                                                                           | CLASSIFICATION OF MATERIALS (Description)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Blows/6" (N Value)                            | Moisture Content %                    | Gravel % | Sand %                                                                     | Fines % |
| 5                                                                                   |   | 0.0 ft - 0.8 ft, Topsoil/roots/organics, moist to wet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |                                       |          |                                                                            |         |
|                                                                                     |                                                                                      | A-4, SiSaGr, brn, trace roots, soil classification for this sample based on visual observation                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                               |                                       |          |                                                                            |         |
|                                                                                     |                                                                                      | A-4, SiSaGr, olive-brn, trace weathered rock and occasional boulders ~12", soil classification for this sample based on visual observation                                                                                                                                                                                                                                                                                                                                                                                                                         |                                               |                                       |          |                                                                            |         |
| 5                                                                                   |   | 5.3 ft, Apparent weathered rock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Hole stopped @ 5.4 ft Top of Bedrock @ 5.4 ft |                                       |          |                                                                            |         |
| 10                                                                                  |   | Remarks:<br>Test pit excavated by New Hampshire Boring.<br>Excavator: Kubota KX71-3<br>Operator: Mike<br><br>Although water was present within excavation, there did not appear to be a static CWL encountered. Water present in excavation appeared to be from surface run-off.<br><br>Ground surface elevation at top of test pit 3.5 feet below bridge deck based on visual observation.                                                                                                                                                                        |                                               |                                       |          |                                                                            |         |
| 15                                                                                  |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                               |                                       |          |                                                                            |         |
| 20                                                                                  |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                               |                                       |          |                                                                            |         |
| 25                                                                                  |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                               |                                       |          |                                                                            |         |
| 30                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                               |                                       |          |                                                                            |         |
| Notes:                                                                              |                                                                                      | 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.<br>2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. CE is an estimated value.<br>3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.<br>4. Ground surface elevations indicated on the boring logs were estimated based on the grading plan provided by VDOT. |                                               |                                       |          |                                                                            |         |

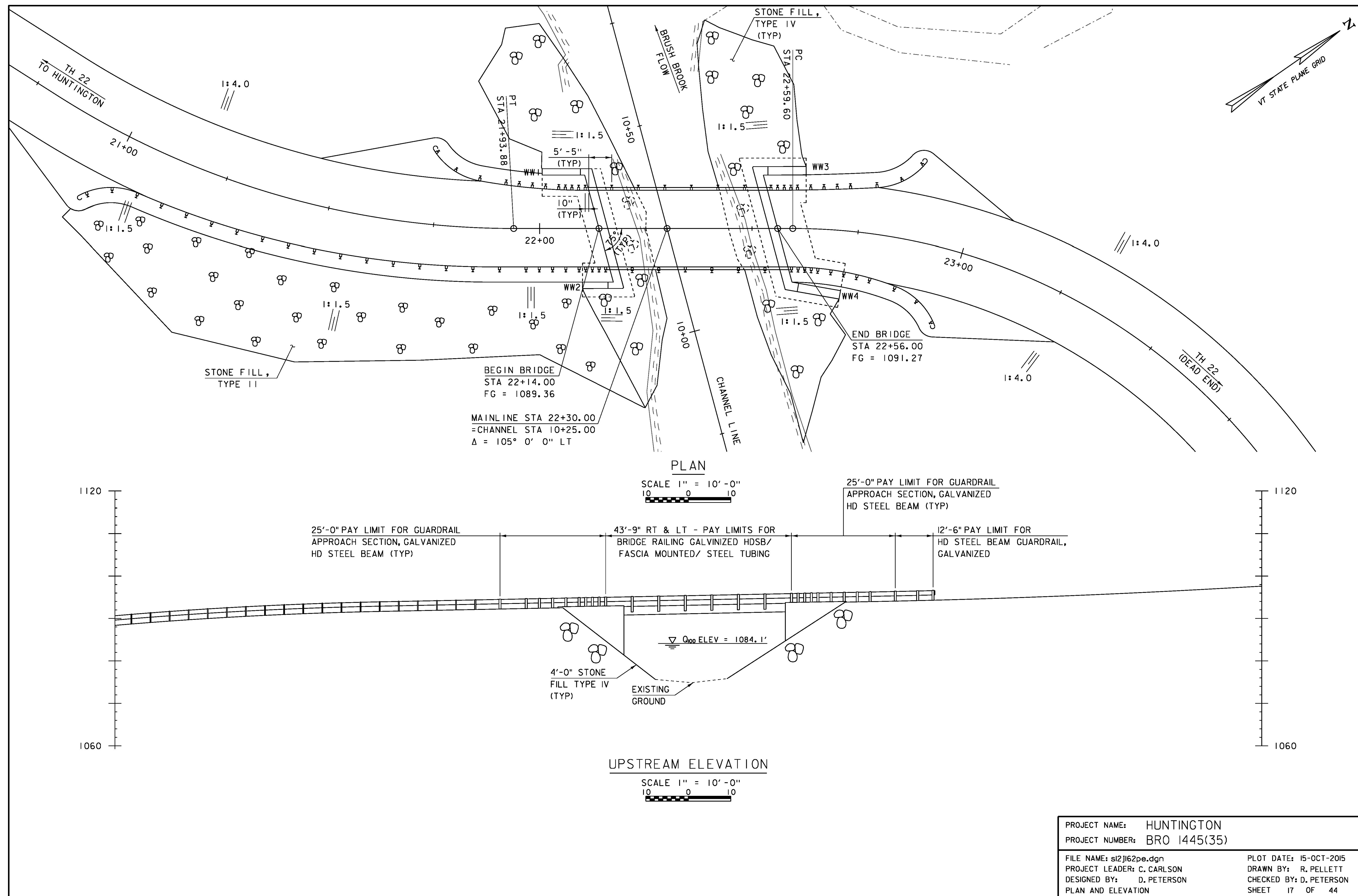


|                                                                                                                                                                                                                      |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                                                                                      |  |                                                                             |                    |          |        |         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------|--------------------|----------|--------|---------|
|                                                                                                                                     |            | STATE OF VERMONT<br>AGENCY OF TRANSPORTATION<br>MATERIALS & RESEARCH SECTION<br>SUBSURFACE INFORMATION                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | BORING LOG<br>Huntington BRO 1445(35)                                                                                                                |  | Boring No.: TP-2<br>Page No.: 1 of 1<br>Pin No.: 121162<br>Checked By: ASP  |                    |          |        |         |
| Boring Crew: New Hampshire Boring, Derry, NH, CBR<br>Date Started: 11/15/13 Date Finished: 11/15/13<br>VTSPG NAD83: N 1527565.83 ft E 655455.38 ft<br>Station: 4+11.50 Offset: 37.40R<br>Ground Elevation: 1080.5 ft |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Casing Sampler<br>Type: _____<br>I.D.: _____<br>Hammer Wt: N.A. N.A.<br>Hammer Fall: N.A. N.A.<br>Hammer/Rod Type: _____<br>Rig: Hand dug CE = _____ |  | Groundwater Observations<br>Date Depth (ft) Notes<br>11/15/13 None observed |                    |          |        |         |
| Depth (ft)                                                                                                                                                                                                           | Strata (1) | CLASSIFICATION OF MATERIALS (Description)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                                                                                      |  | Blows/6" (N Value)                                                          | Moisture Content % | Gravel % | Sand % | Fines % |
|                                                                                                                                                                                                                      |            | 0.0 ft - 0.5 ft, 6-inches topsoil, organics, moist, brown<br>A-4, SiSaGr, brn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                                                                                      |  |                                                                             |                    |          |        |         |
|                                                                                                                                                                                                                      |            | A-4, SiSaGr, gray, Moist, weathered bedrock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                                                                                                                                      |  |                                                                             |                    |          |        |         |
|                                                                                                                                                                                                                      |            | Hole stopped @ 4.0 ft Top of Bedrock @ 4.0 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                                                                                      |  |                                                                             |                    |          |        |         |
| 5                                                                                                                                                                                                                    |            | Remarks:<br>Hand dug by New Hampshire Boring.<br>Metal rod probed throughout approximate 10-foot radius around TP-2, rod hit probable bedrock at approximately 4 feet.<br>Elevations are approximate.                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                      |  |                                                                             |                    |          |        |         |
| 10                                                                                                                                                                                                                   |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                                                                                      |  |                                                                             |                    |          |        |         |
| 15                                                                                                                                                                                                                   |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                                                                                      |  |                                                                             |                    |          |        |         |
| 20                                                                                                                                                                                                                   |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                                                                                      |  |                                                                             |                    |          |        |         |
| 25                                                                                                                                                                                                                   |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                                                                                      |  |                                                                             |                    |          |        |         |
| 30                                                                                                                                                                                                                   |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                                                                                      |  |                                                                             |                    |          |        |         |
| Notes:                                                                                                                                                                                                               |            | 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.<br>2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. CE is an estimated value.<br>3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.<br>4. Ground surface elevations indicated on the boring logs were estimated based on the grading plan provided by VDOT. |  |                                                                                                                                                      |  |                                                                             |                    |          |        |         |

ABUTMENT #1  
TOP OF FOOTING  
ELEV 1079.00

2010\_COPY J:\135155.GPJ VERMONT\_A01.GBT 3/21/14

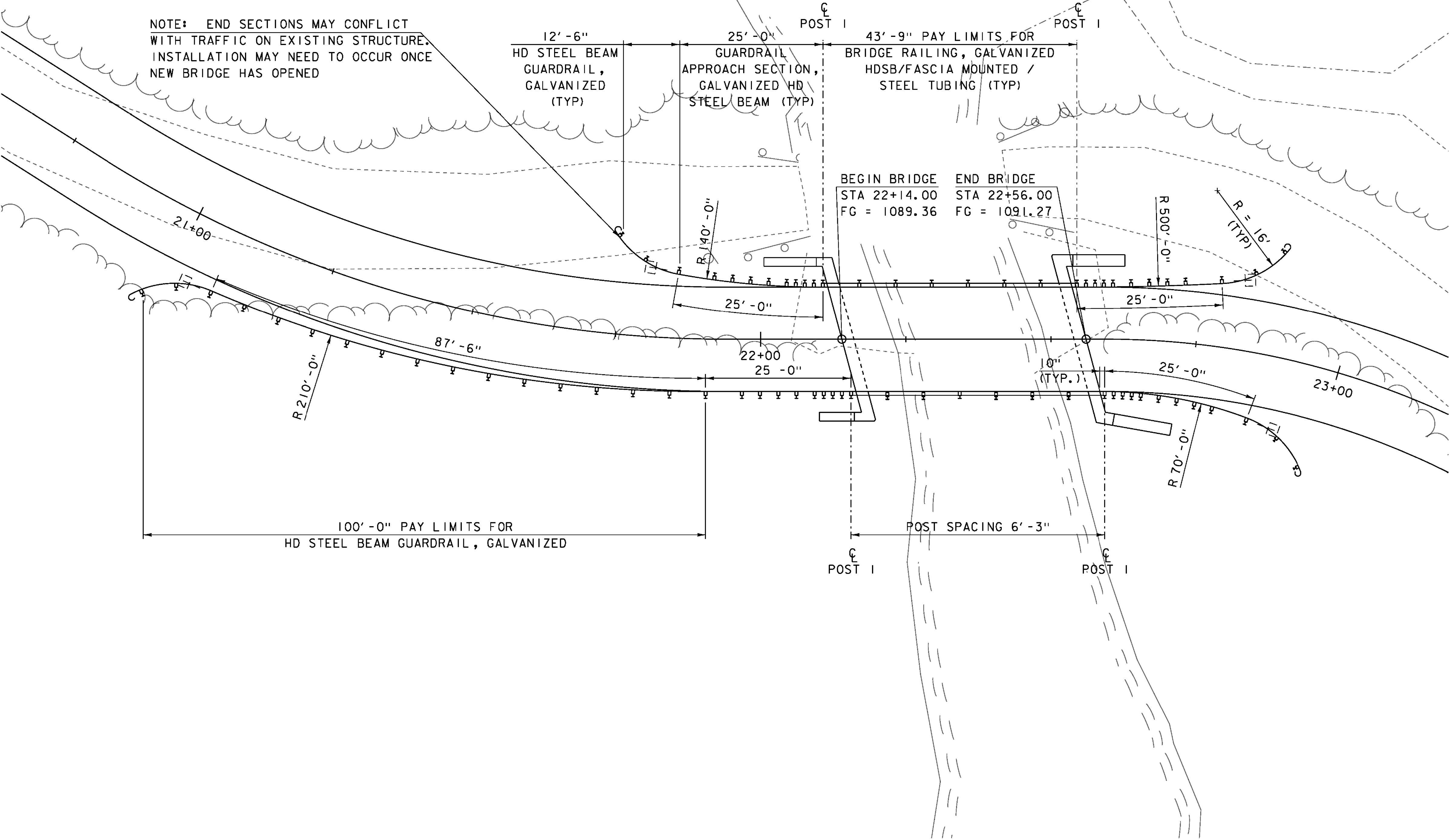
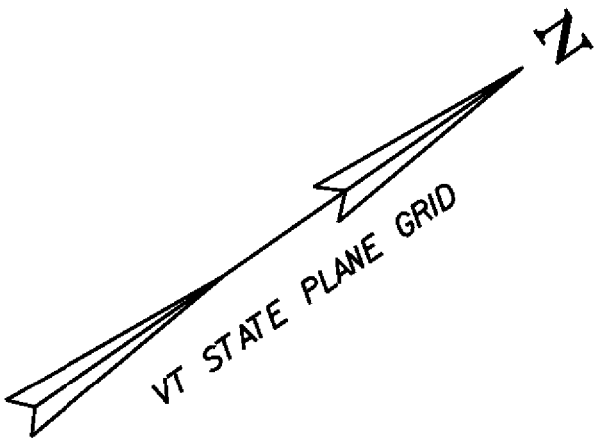




|                              |                         |
|------------------------------|-------------------------|
| PROJECT NAME: HUNTINGTON     |                         |
| PROJECT NUMBER: BRO 1445(35) |                         |
| FILE NAME: sl2j162pe.dgn     | PLOT DATE: 15-OCT-2015  |
| PROJECT LEADER: C. CARLSON   | DRAWN BY: R. PELLETT    |
| DESIGNED BY: D. PETERSON     | CHECKED BY: D. PETERSON |
| PLAN AND ELEVATION           | SHEET 17 OF 44          |



THIS SHEET IS ONLY REPRESENTATIVE  
OF GUARDRIAL AND BRIDGE RAIL ON THE  
RIGHT SIDE OF THE ROADWAY. SEE SHEETS  
17 & 17A FOR OTHER RAIL DETIALS



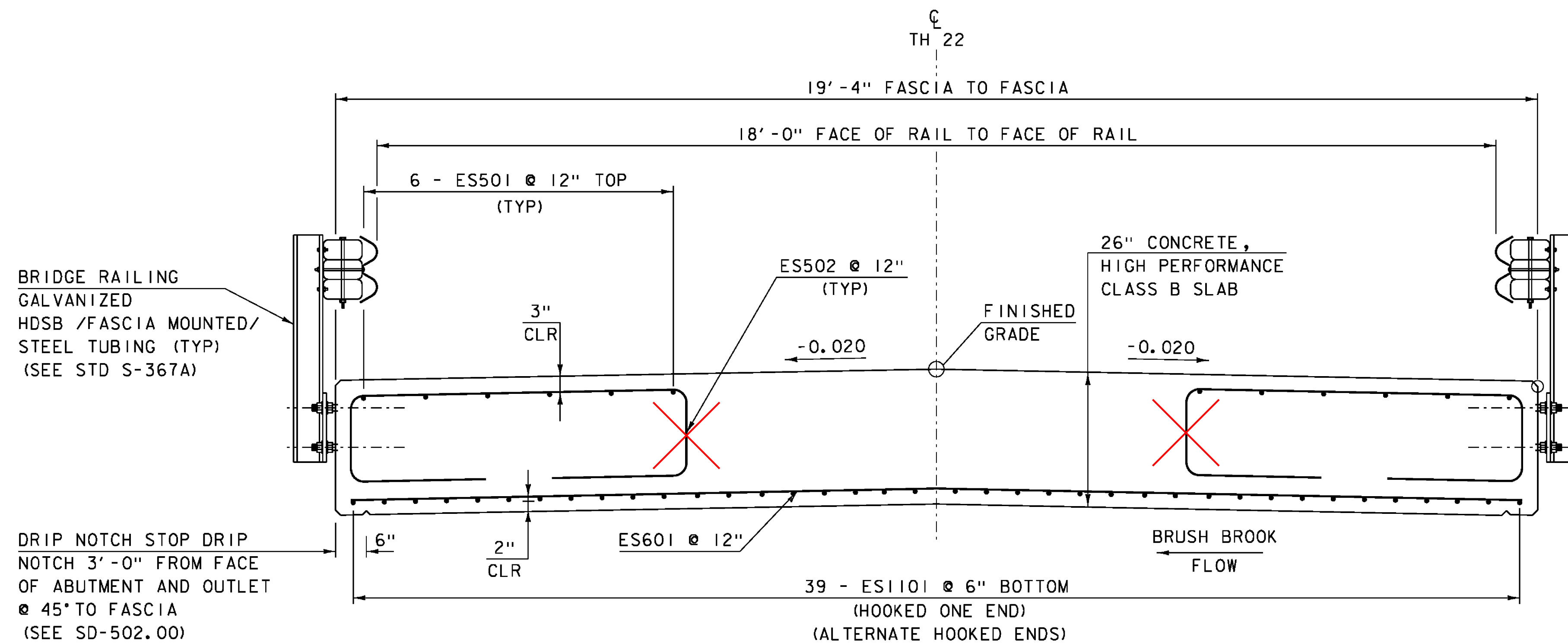
SCALE 1" = 10'-0"  
10 0 10

PROJECT NAME: HUNTINGTON  
PROJECT NUMBER: BRO 1445(35)

FILE NAME: sl2j162rail.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
RAIL LAYOUT SHEET

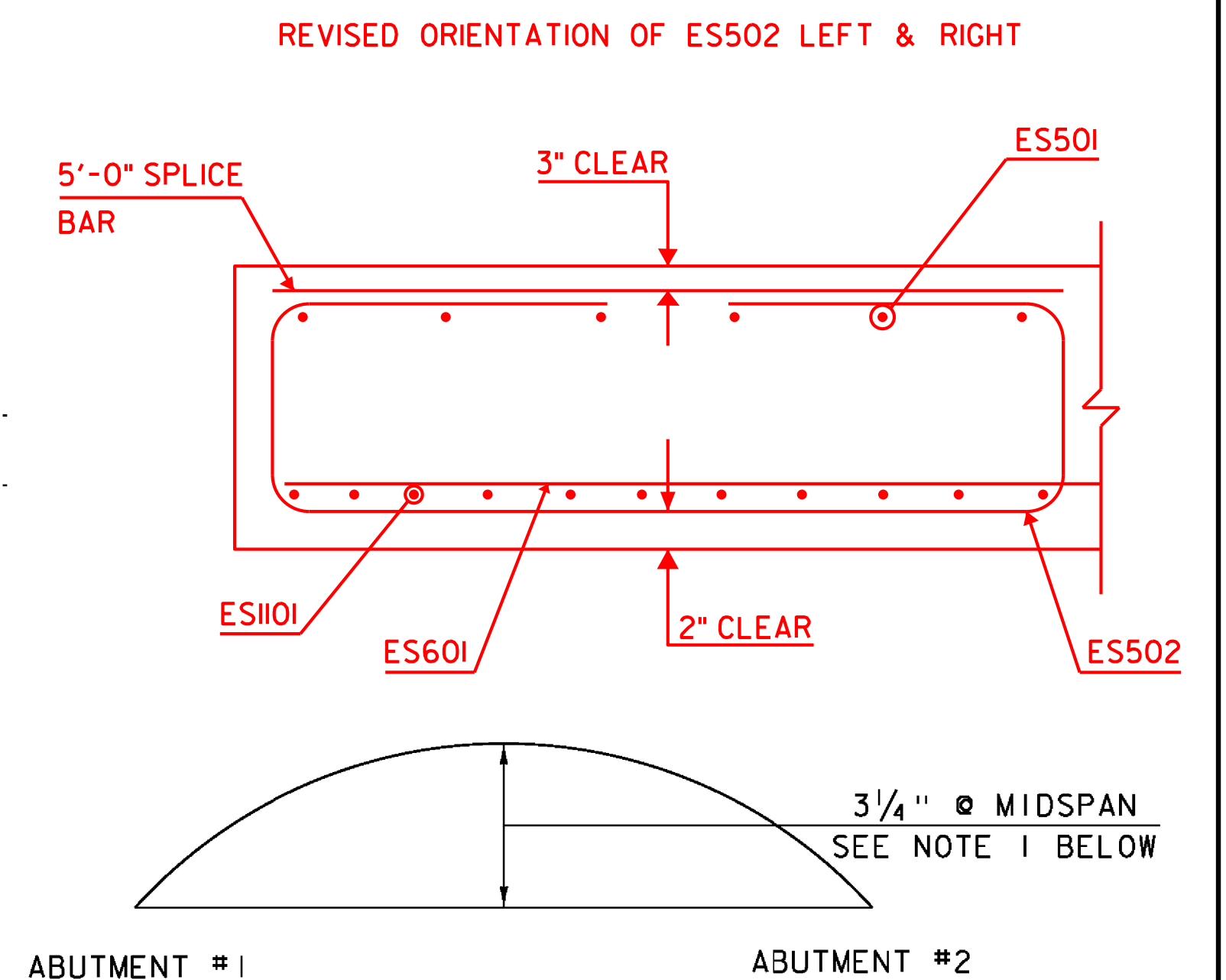
PLOT DATE: 15-OCT-2015  
DRAWN BY: R. PELLETT  
CHECKED BY: D. PETERSON  
SHEET 18 OF 44





**BRIDGE DECK TYPICAL SECTION**

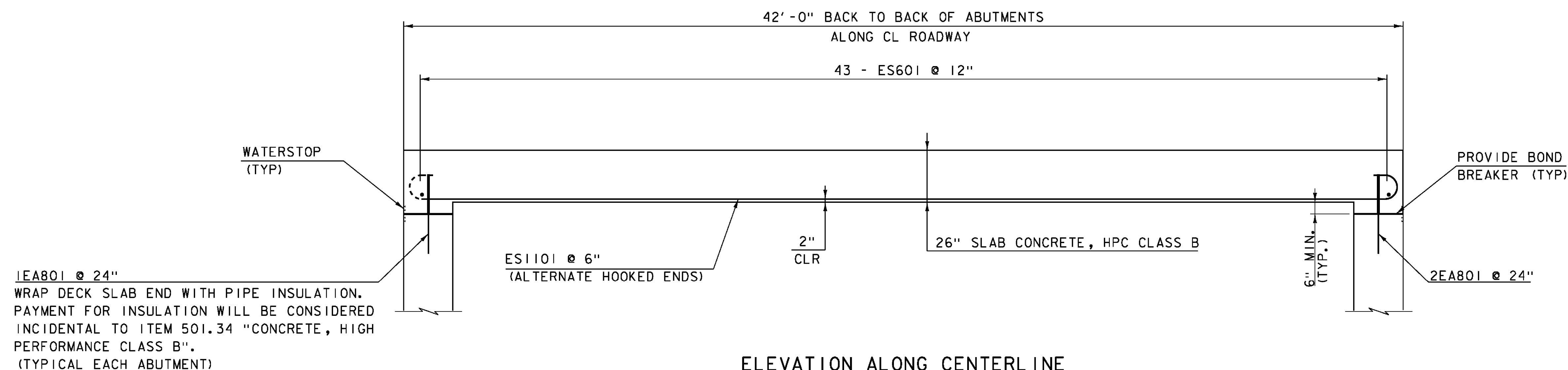
SCALE:  $\frac{3}{4}$ " = 1'-0"



**CAMBER DIAGRAM**

NOT TO SCALE

NOTE 1:  
THE SLAB SHALL BE CAMBERED A TOTAL OF 3 1/4" AT MIDSPAN.  
THIS INITIAL CAMBER SHALL APPROXIMATE A CIRCULAR CURVE.



**ELEVATION ALONG CENTERLINE**

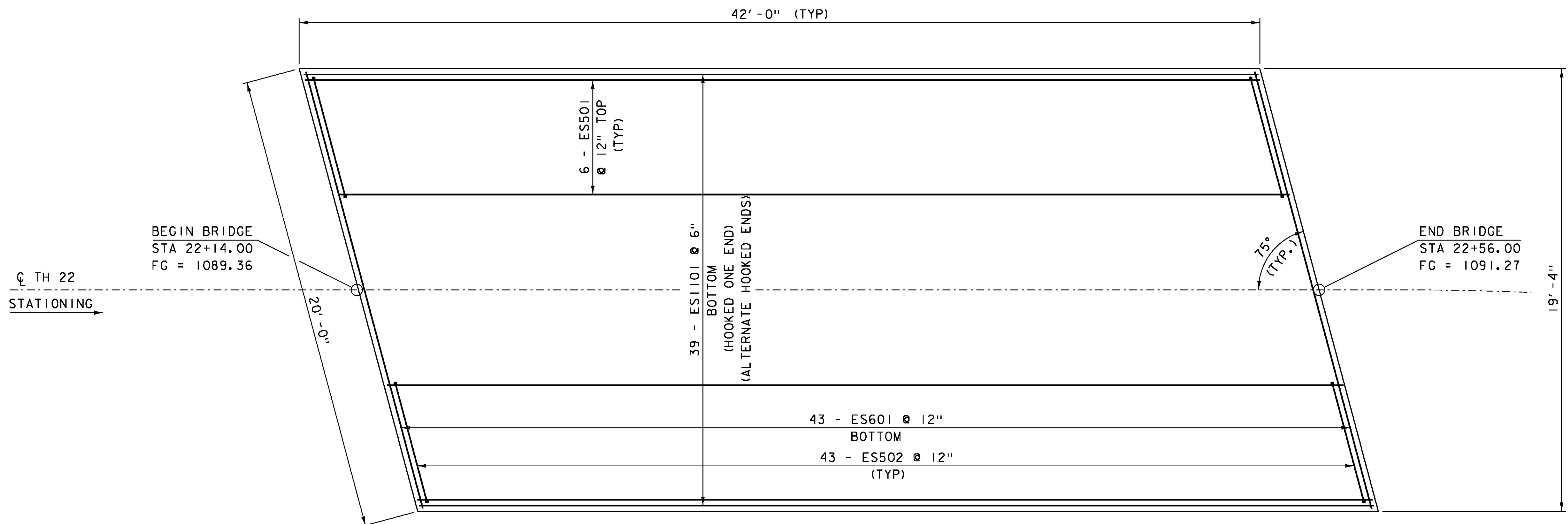
SCALE:  $\frac{3}{8}$ " = 1'-0"

**NOTE:**

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

|                 |                |
|-----------------|----------------|
| PROJECT NAME:   | HUNTINGTON     |
| PROJECT NUMBER: | BRO 1445(35)   |
| FILE NAME:      | sl2j162sup.dgn |
| PROJECT LEADER: | C. CARLSON     |
| DESIGNED BY:    | D. PETERSON    |
| DECK TYPICAL    |                |
| PLOT DATE:      | 15-OCT-2015    |
| DRAWN BY:       | R. PELLETT     |
| CHECKED BY:     | D. PETERSON    |
| SHEET           | 19 OF 44       |





BRIDGE DECK PLAN

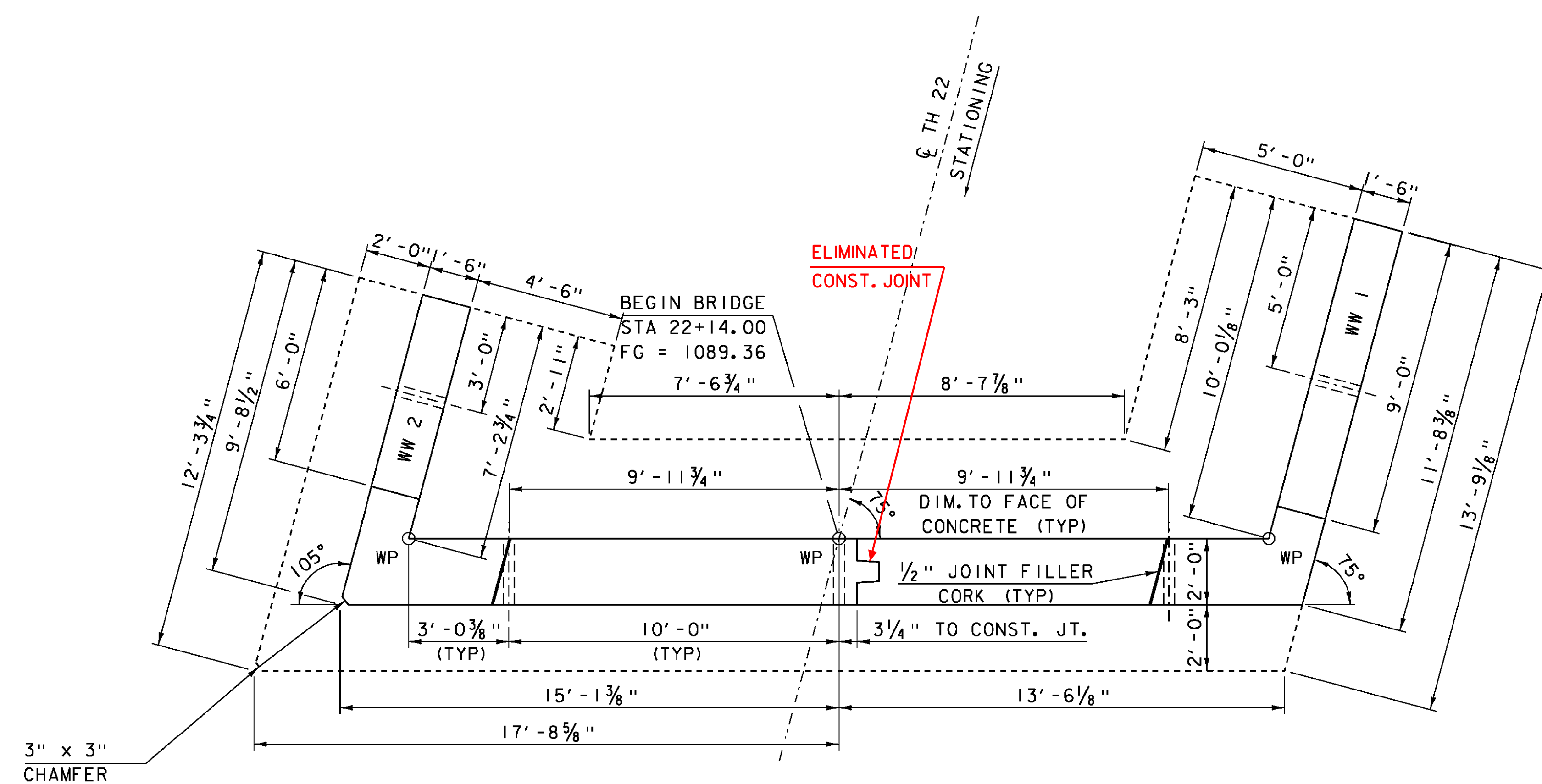
SCALE: 3/8" = 1'-0"

NOTE:

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

|                              |                         |
|------------------------------|-------------------------|
| PROJECT NAME: HUNTINGTON     |                         |
| PROJECT NUMBER: BRO 1445(35) |                         |
| FILE NAME: sl2j162sup.dgn    | PLOT DATE: 15-OCT-2015  |
| PROJECT LEADER: C. CARLSON   | DRAWN BY: R. PELLETT    |
| DESIGNED BY: D. PETERSON     | CHECKED BY: D. PETERSON |
| DECK REINFORCING PLAN        | SHEET 20 OF 44          |

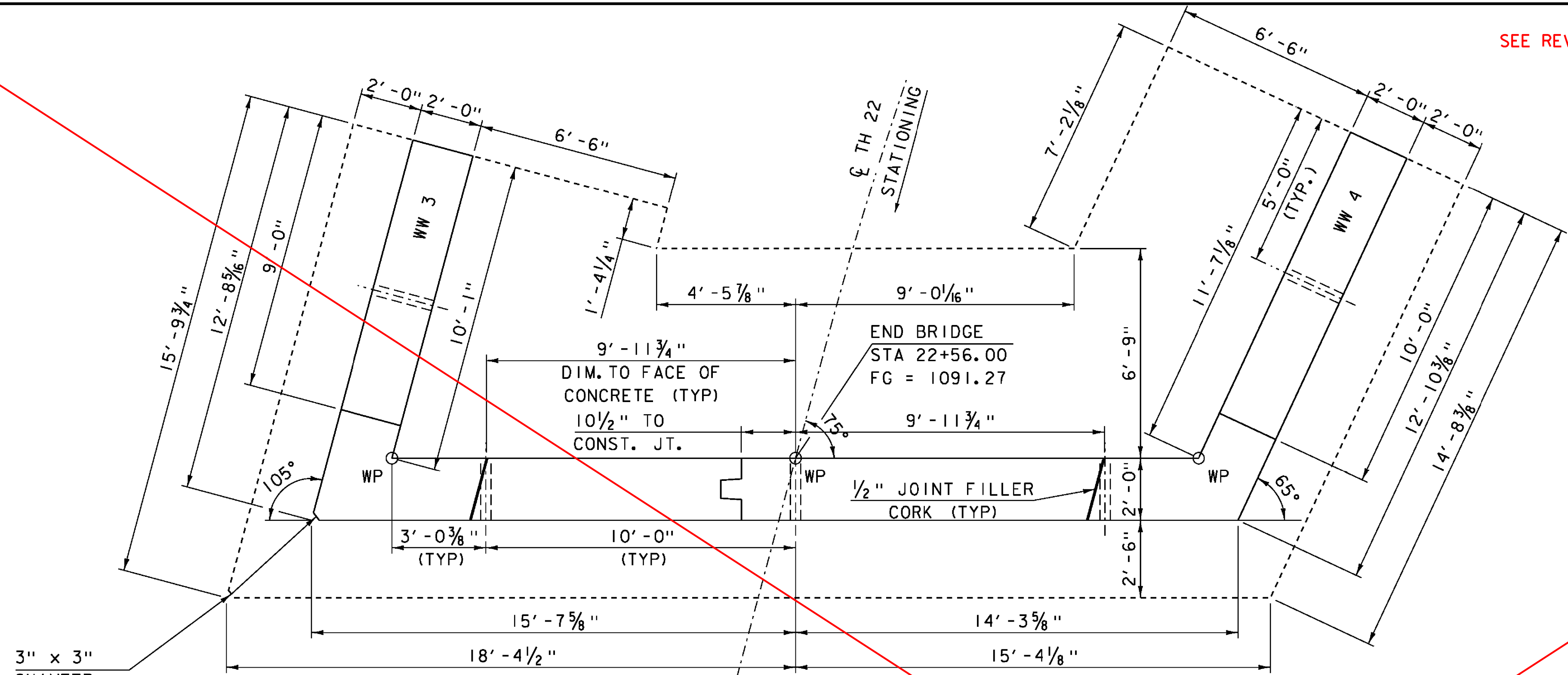




|                              |                         |
|------------------------------|-------------------------|
| PROJECT NAME: HUNTINGTON     |                         |
| PROJECT NUMBER: BRO 1445(35) |                         |
| FILE NAME: sl2J62sub.dgn     | PLOT DATE: 15-OCT-2015  |
| PROJECT LEADER: C. CARLSON   | DRAWN BY: R. PELLETT    |
| DESIGNED BY: D. PETERSON     | CHECKED BY: D. PETERSON |
| ABUTMENT 1 PLAN & ELEVATION  | SHEET 21 OF 44          |

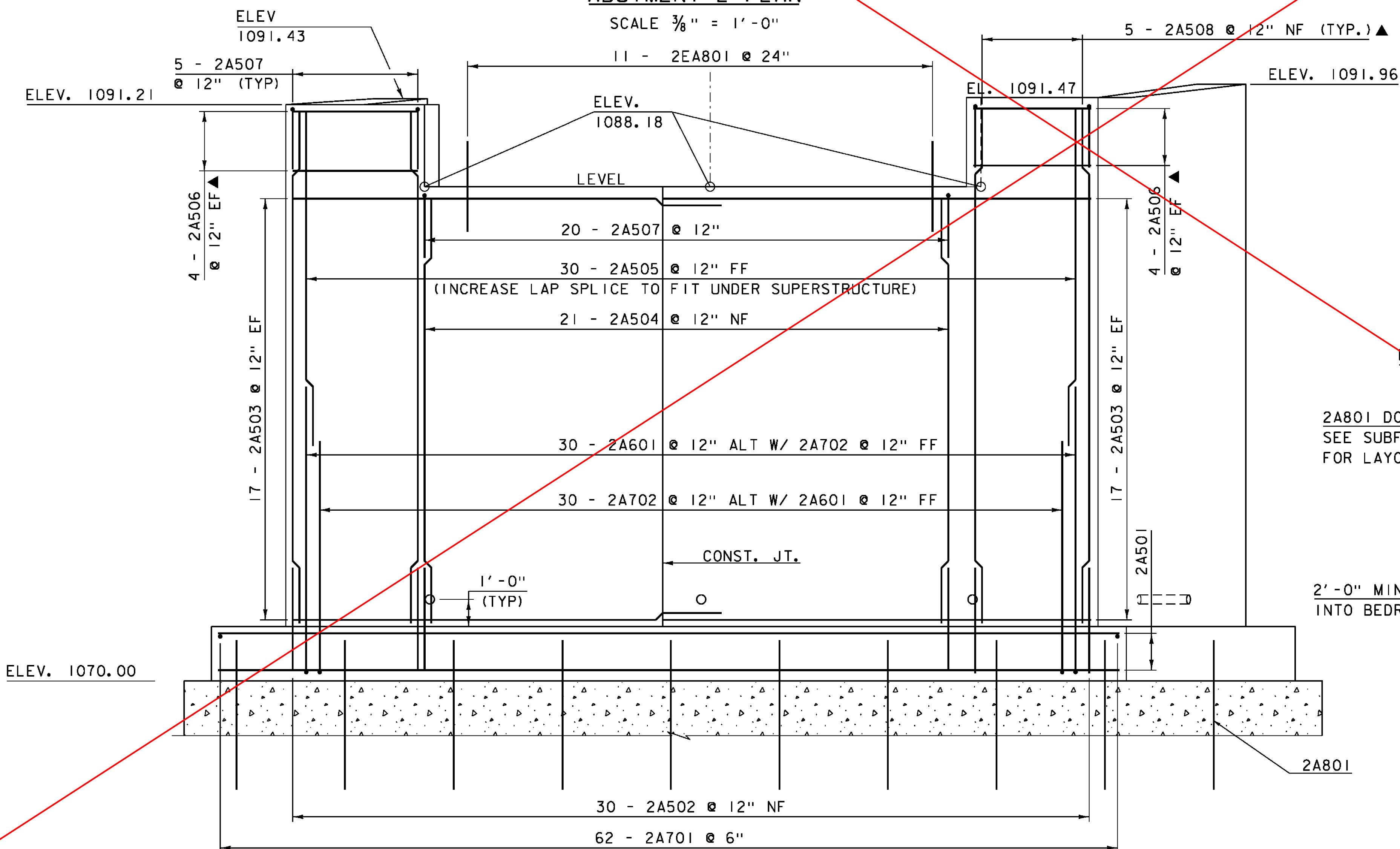


SEE REVISED SHEET 22A



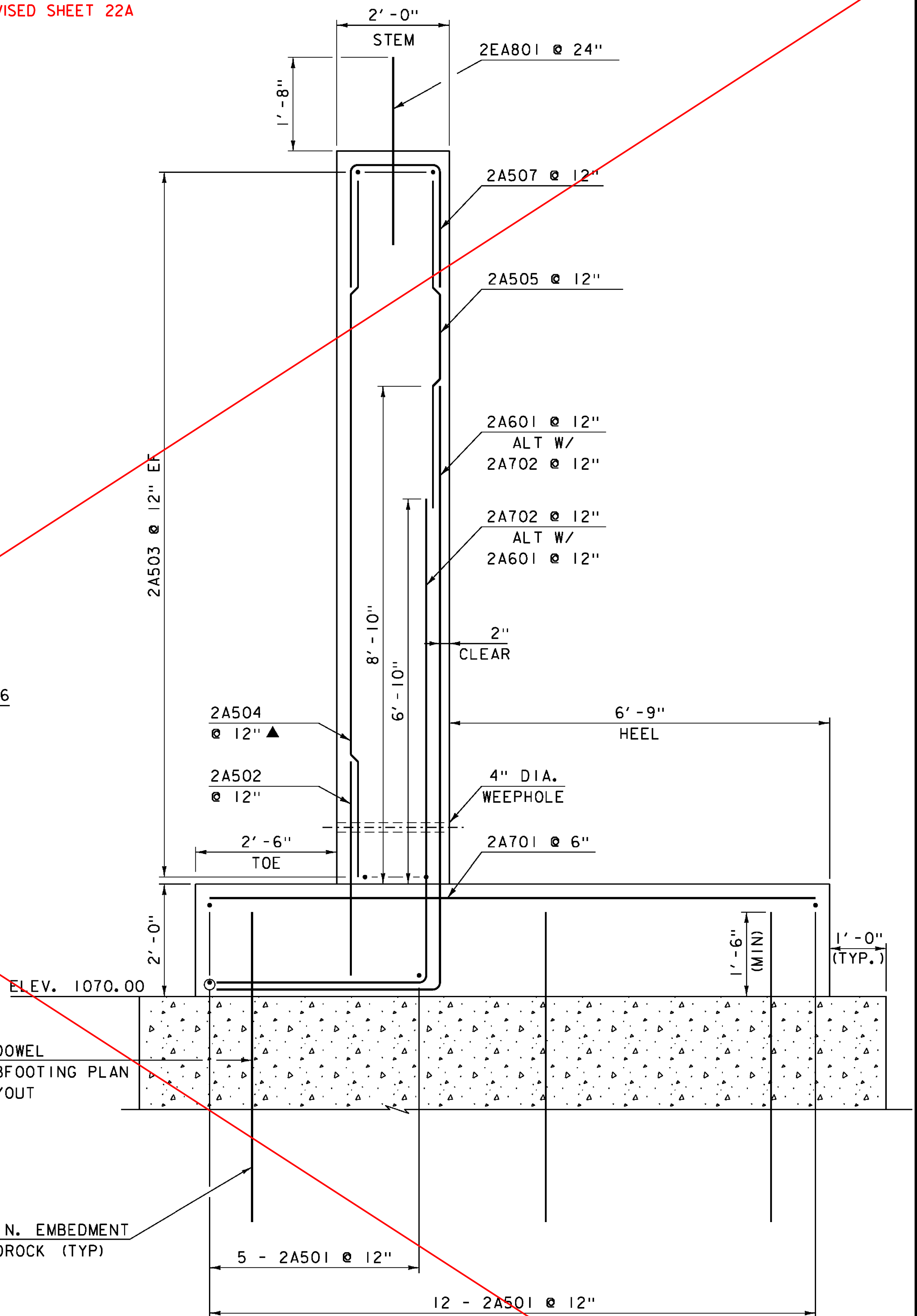
ABUTMENT 2 PLAN

SCALE  $\frac{3}{8}$ " = 1' - 0"



ABUTMENT 2 ELEVATION

SCALE  $\frac{3}{8}" = 1' - 0"$



ABUTMENT 2 TYPICAL SECTION

SCALE  $\frac{3}{4}" = 1' - 0"$

PROJECT NAME: HUNTINGTON

PROJECT NUMBER: BRO 1445(35)

FILE NAME: sl2jl62sub.dgn

PROJECT LEADER: C. CARLSON

DESIGNED BY: D. PETERSON  
ABUTMENT 2 PLAN & ELEVATION

PLOT DATE: 15-OCT-2015

DRAWN BY: ~~R. PELLETT~~

CHECKED BY: D. PETERSON  
SHEET 22 OF 44

NOTE:

NF = NEAR FACE

FF = FAR FACE

EF = EACH FACE

▲ = CUT TO FIT IN FIELD  
3" CLEAR UNLESS OTHERWISE NOTED

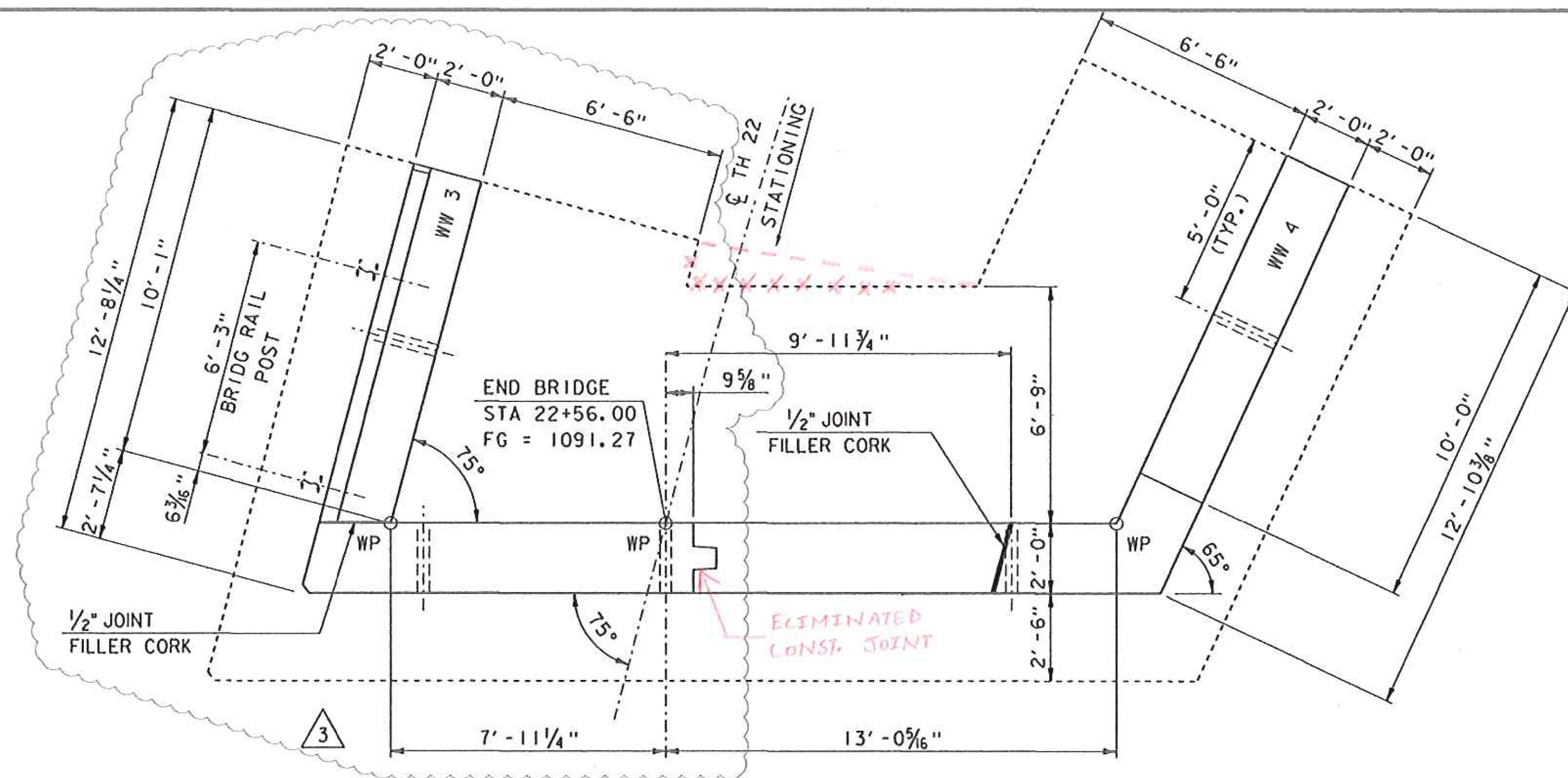
3" CLEAR, UNLESS OTHERWISE  
SPECIFIED ON THE PLANS

SPECIFIED ON THE PLANS.

2'-2" BAR LAP UNLESS OTHERWISE  
SPECIFIED ON THE DRAWING

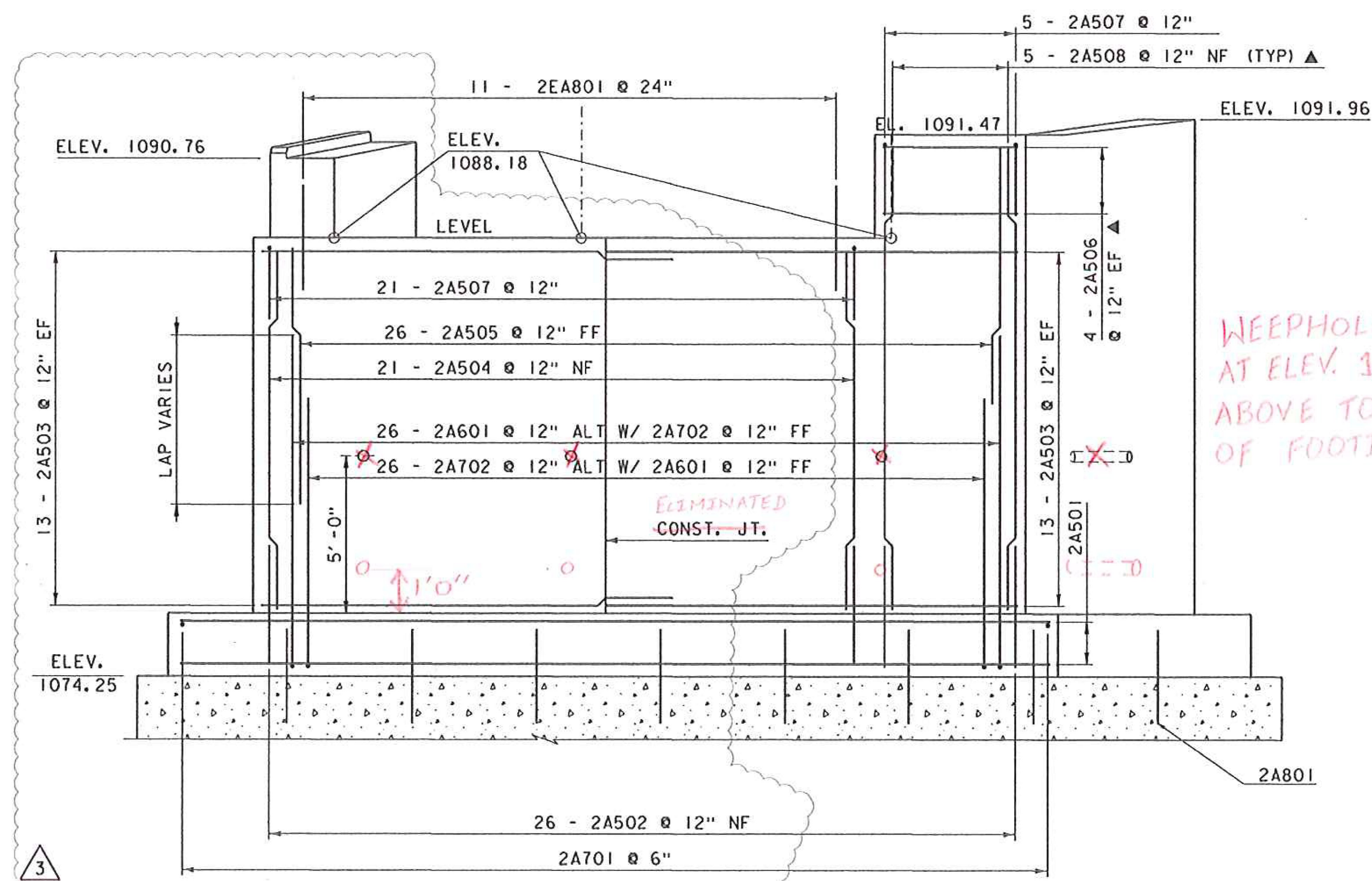
SPECIFIED ON THE PLANS.





ABUTMENT 2 PLAN

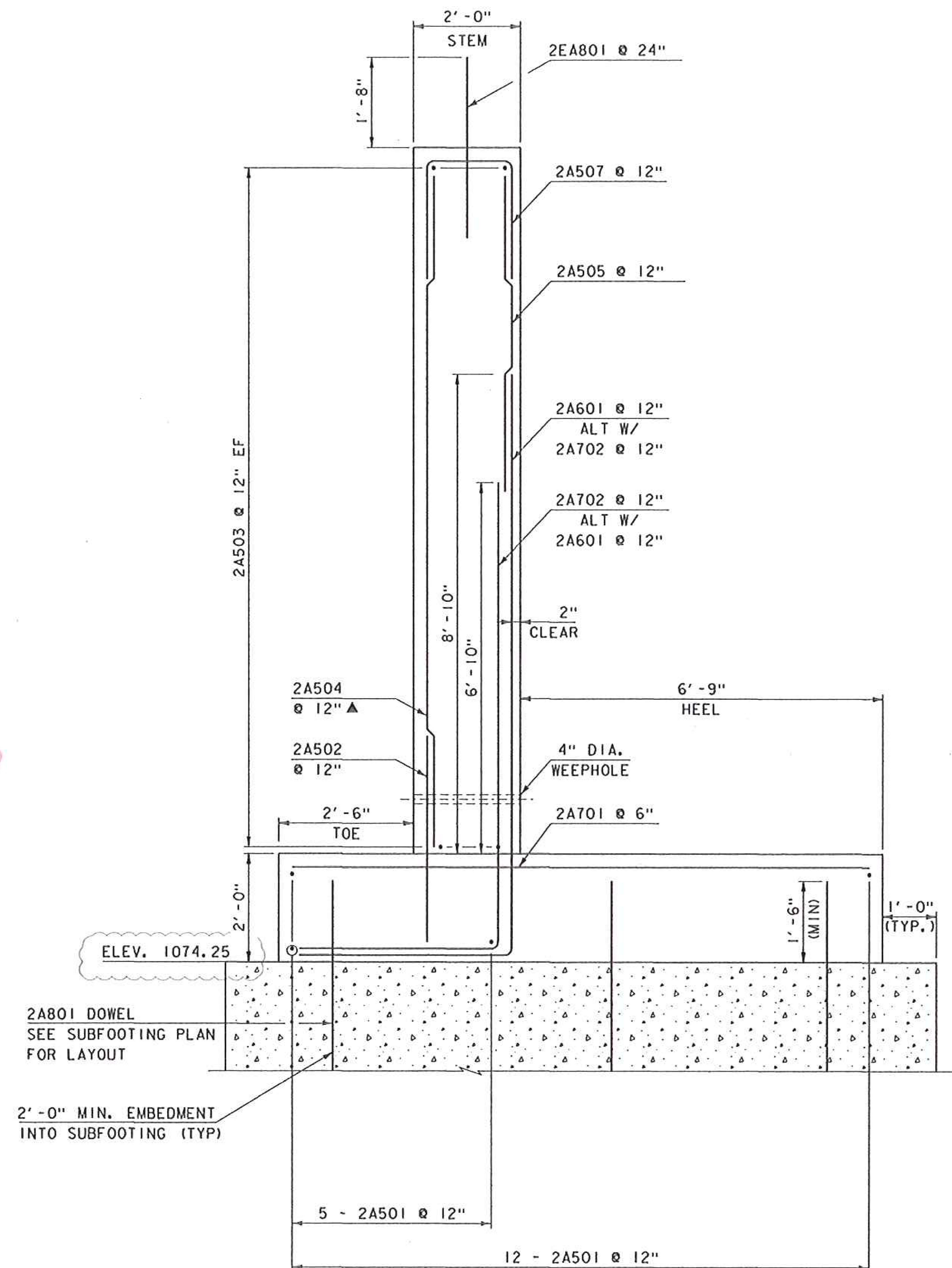
SCALE  $\frac{3}{8}$ " = 1'-0"



ABUTMENT 2 ELEVATION

SCALE  $\frac{3}{8}$ " = 1'-0"

| REVISION | DATE       | DESCRIPTION                                  | BY  |
|----------|------------|----------------------------------------------|-----|
| 3        | 07-12-2016 | ABUTMENT 2 & WINGWALL 3<br>DIMENSION CHANGES | MCL |



ABUTMENT 2 TYPICAL SECTION

SCALE  $\frac{3}{4}$ " = 1'-0"

NOTE:

NF = NEAR FACE  
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EF = EACH FACE  
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SPECIFIED ON THE PLANS.  
2'-2" BAR LAP UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.

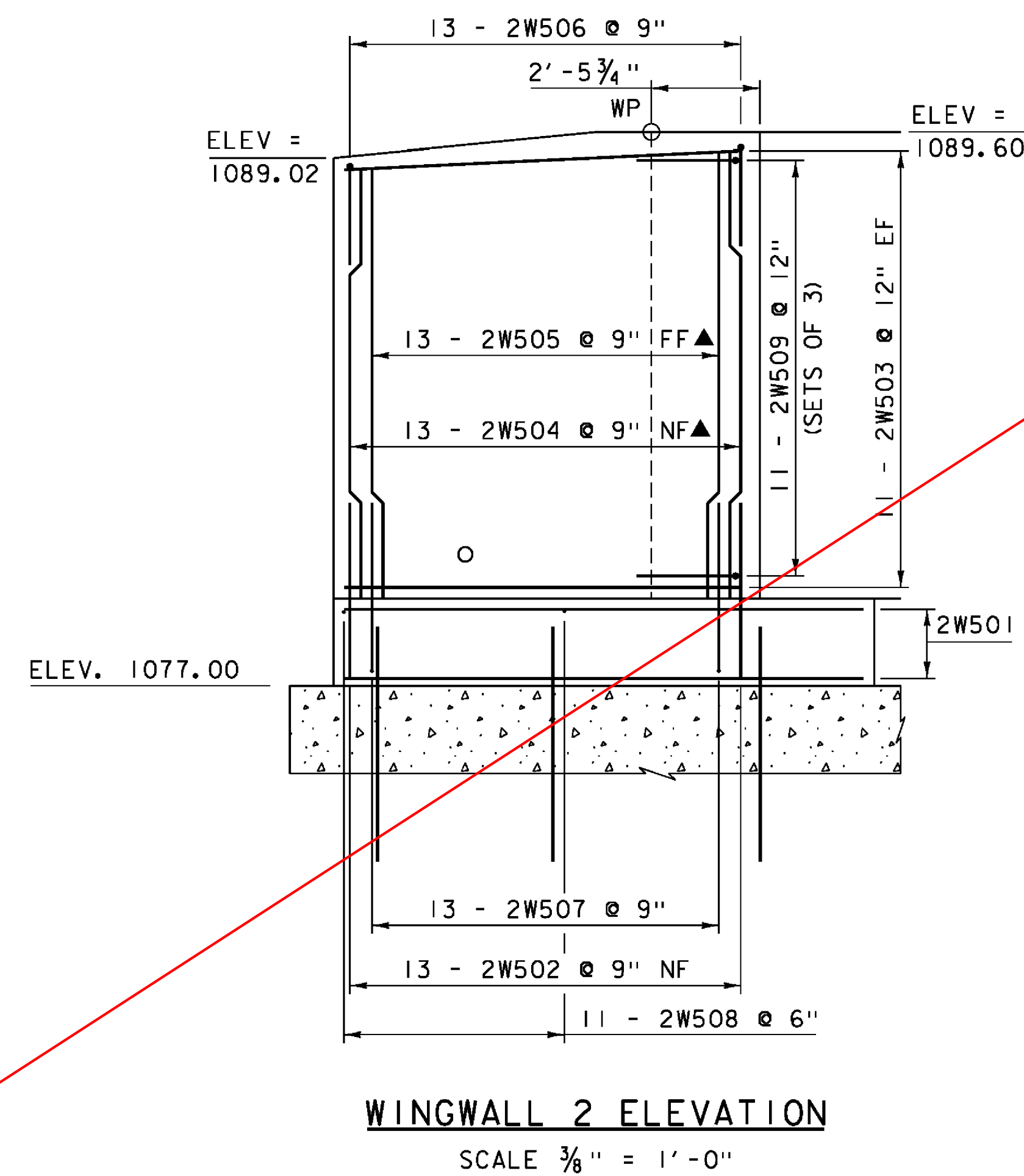
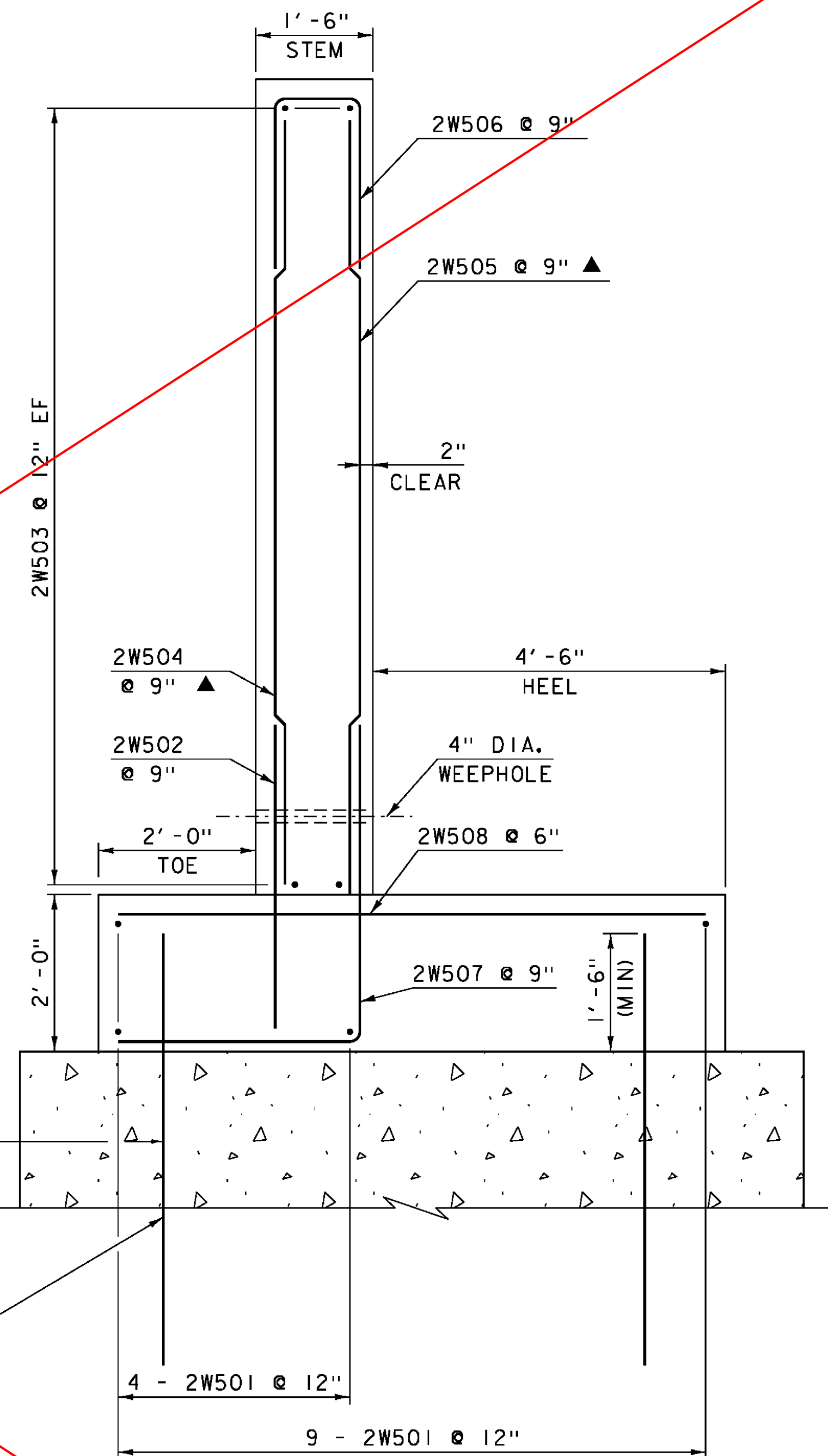
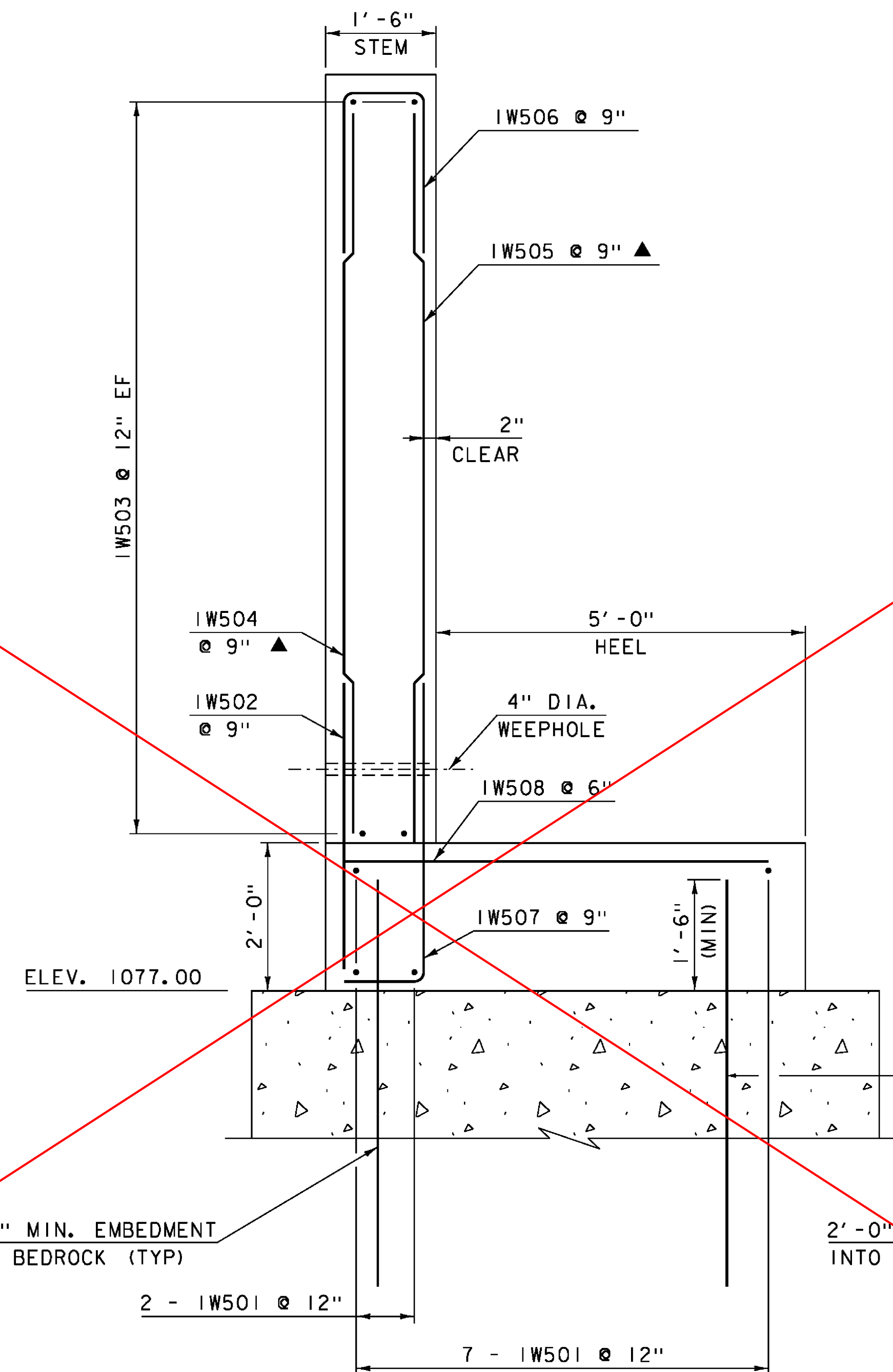
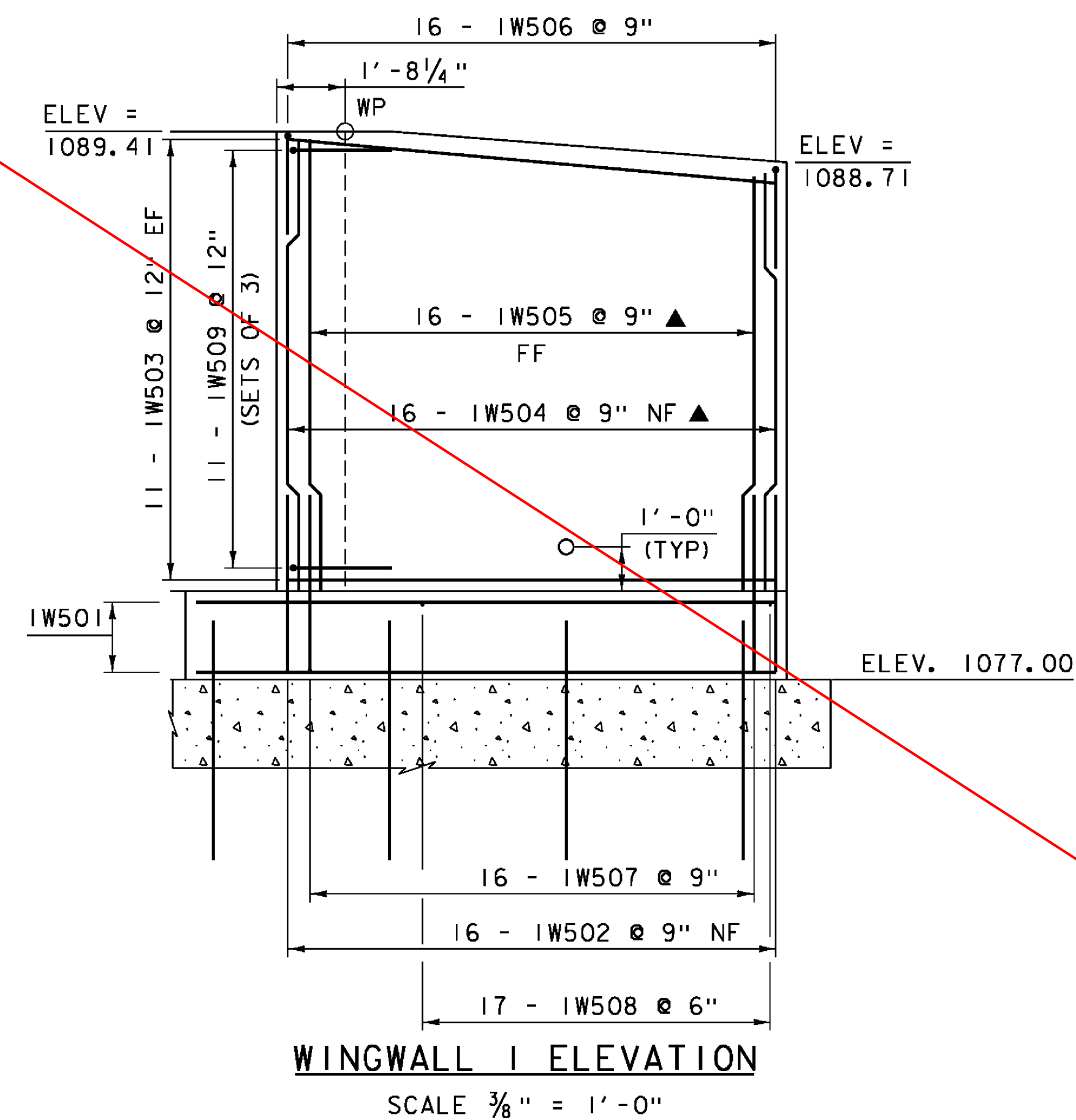
PROJECT NAME: HUNTINGTON  
PROJECT NUMBER: BRO 1445(35)

FILE NAME: sl2j162sub.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
ABUTMENT 2 PLAN & ELEVATION

PLOT DATE: 13-JUL-2016  
DRAWN BY: R. PELLETT  
CHECKED BY: D. PETERSON  
SHEET 22A OF 44



SEE REVISED SHEET 23A

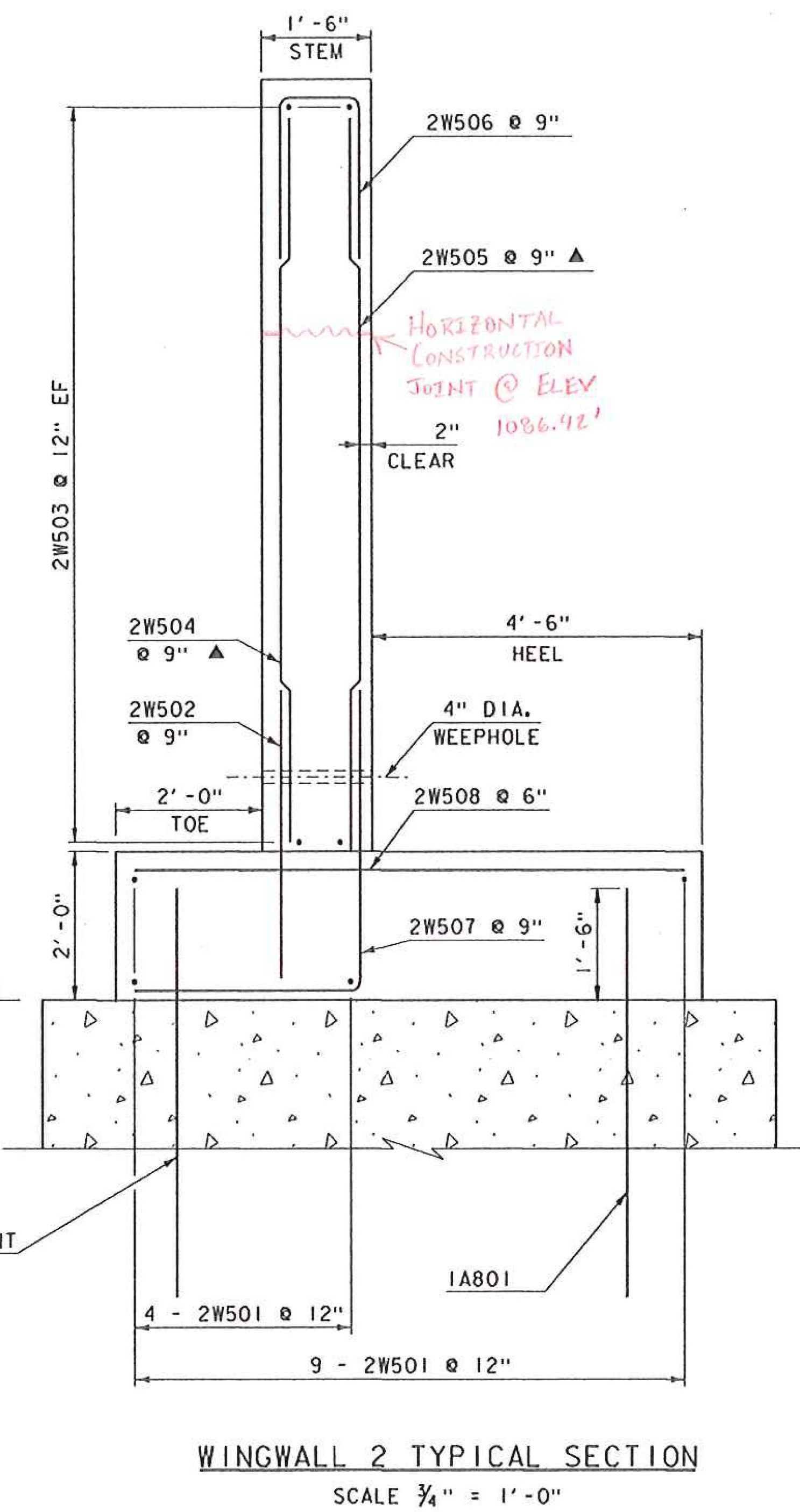
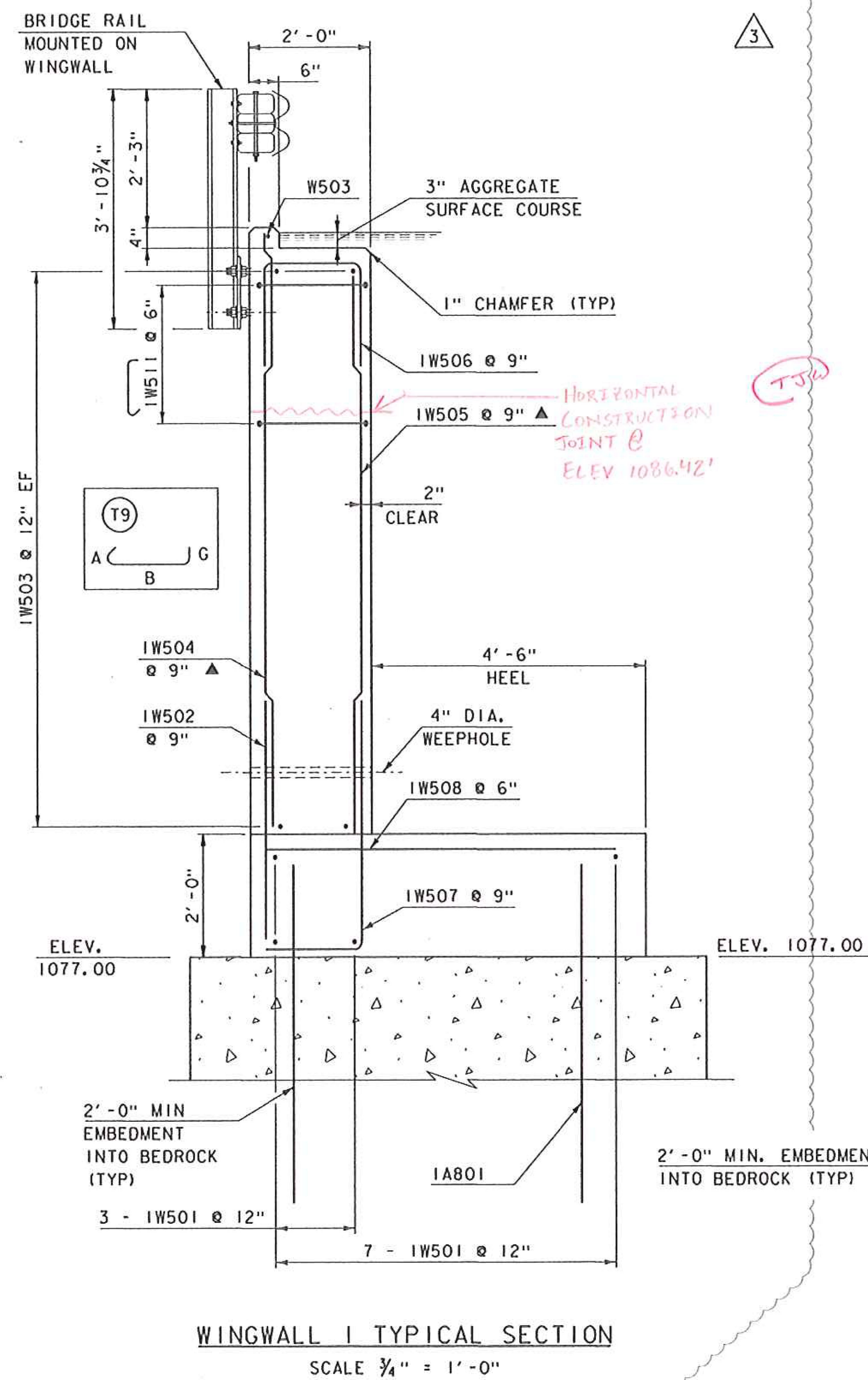
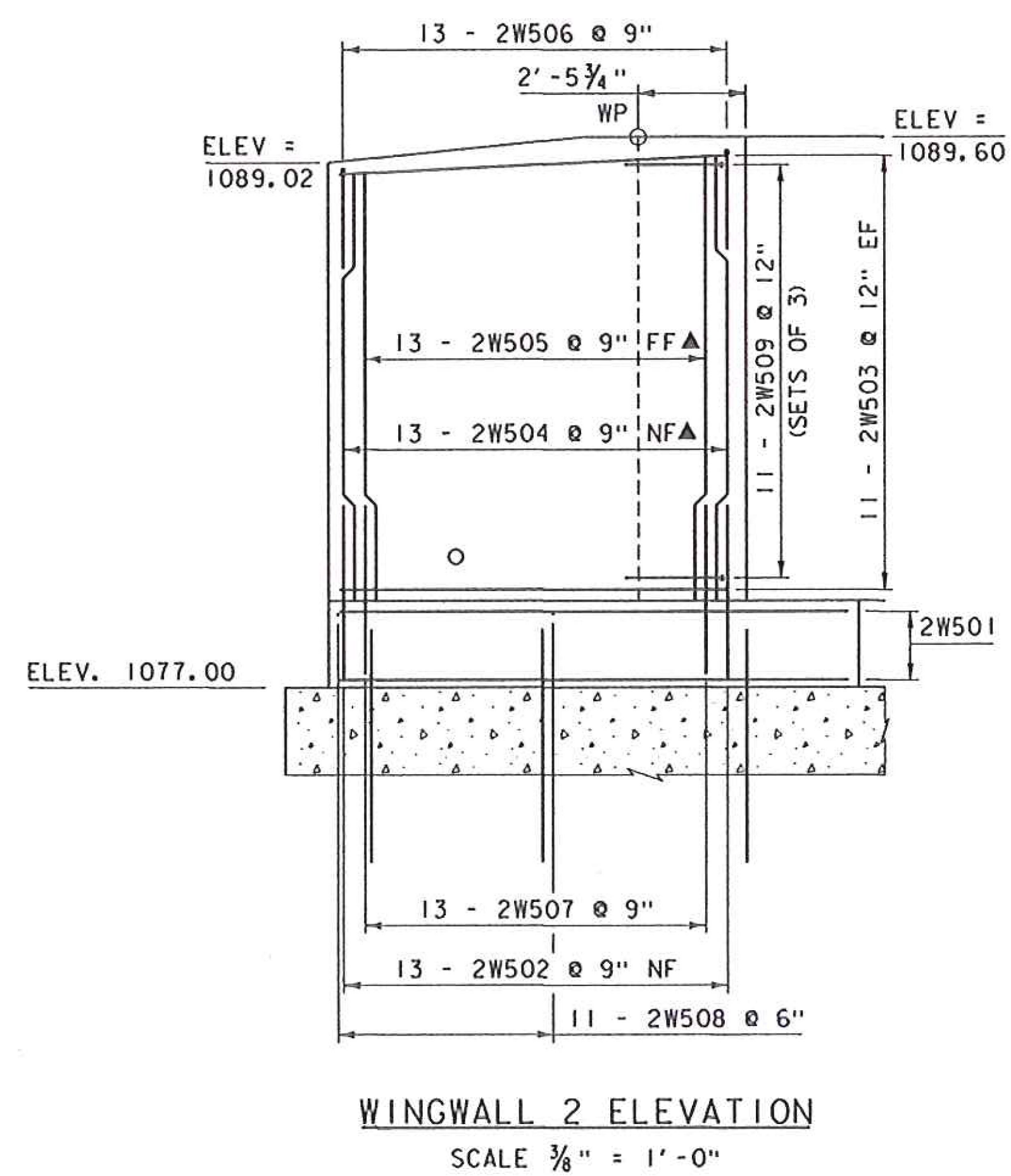
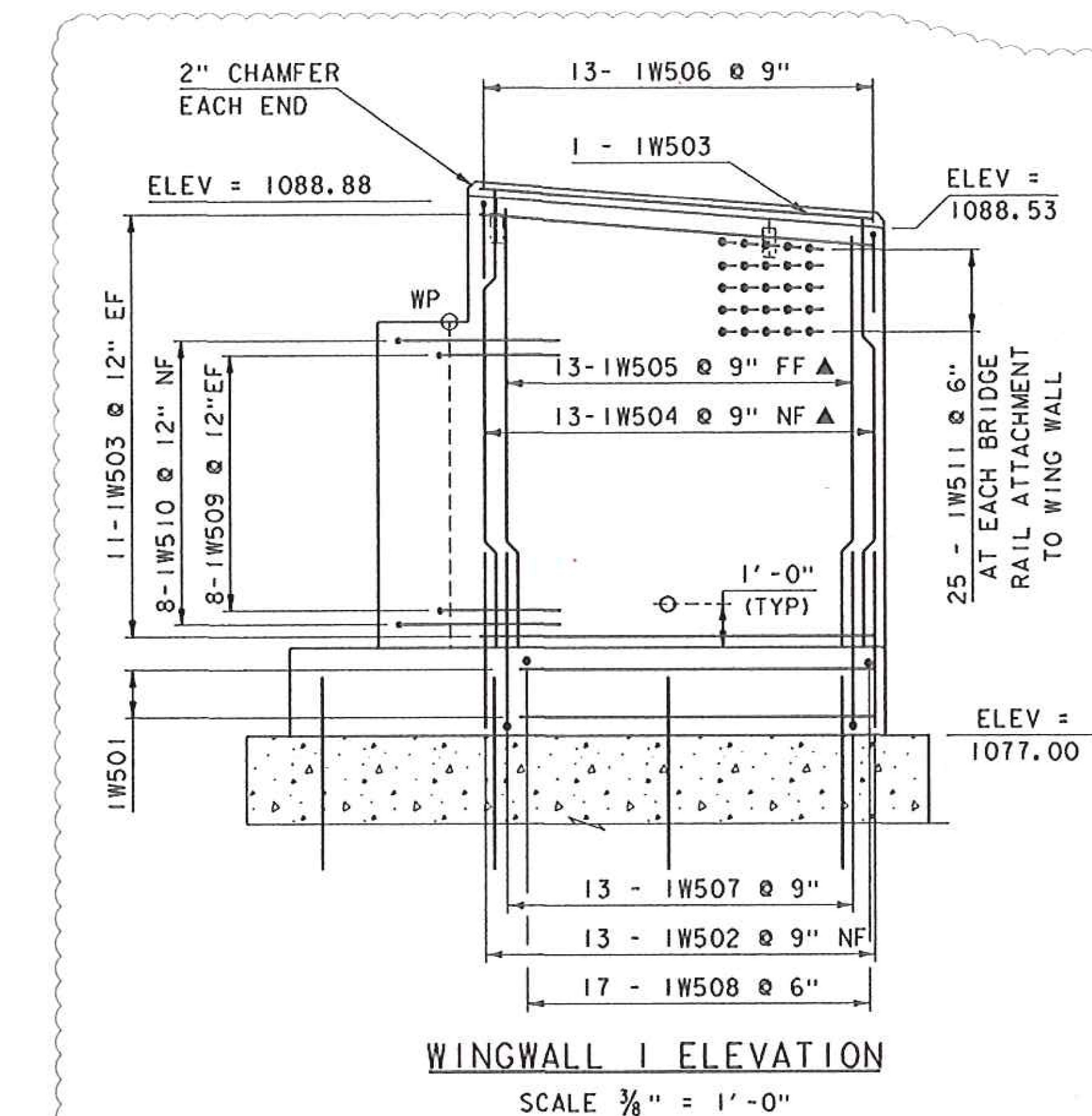


NOTE:

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

|                           |                |              |             |
|---------------------------|----------------|--------------|-------------|
| PROJECT NAME:             | HUNTINGTON     | PLOT DATE:   | 15-OCT-2015 |
| PROJECT NUMBER:           | BRO 1445(35)   | DRAWN BY:    | R. PELLETT  |
| FILE NAME:                | sl2j162sub.dgn | DESIGNED BY: | D. PETERSON |
| PROJECT LEADER:           | C. CARLSON     | CHECKED BY:  | D. PETERSON |
| WINGWALL 1 & 2 ELEVATIONS |                | SHEET        | 23 OF 44    |





**NOTE:**

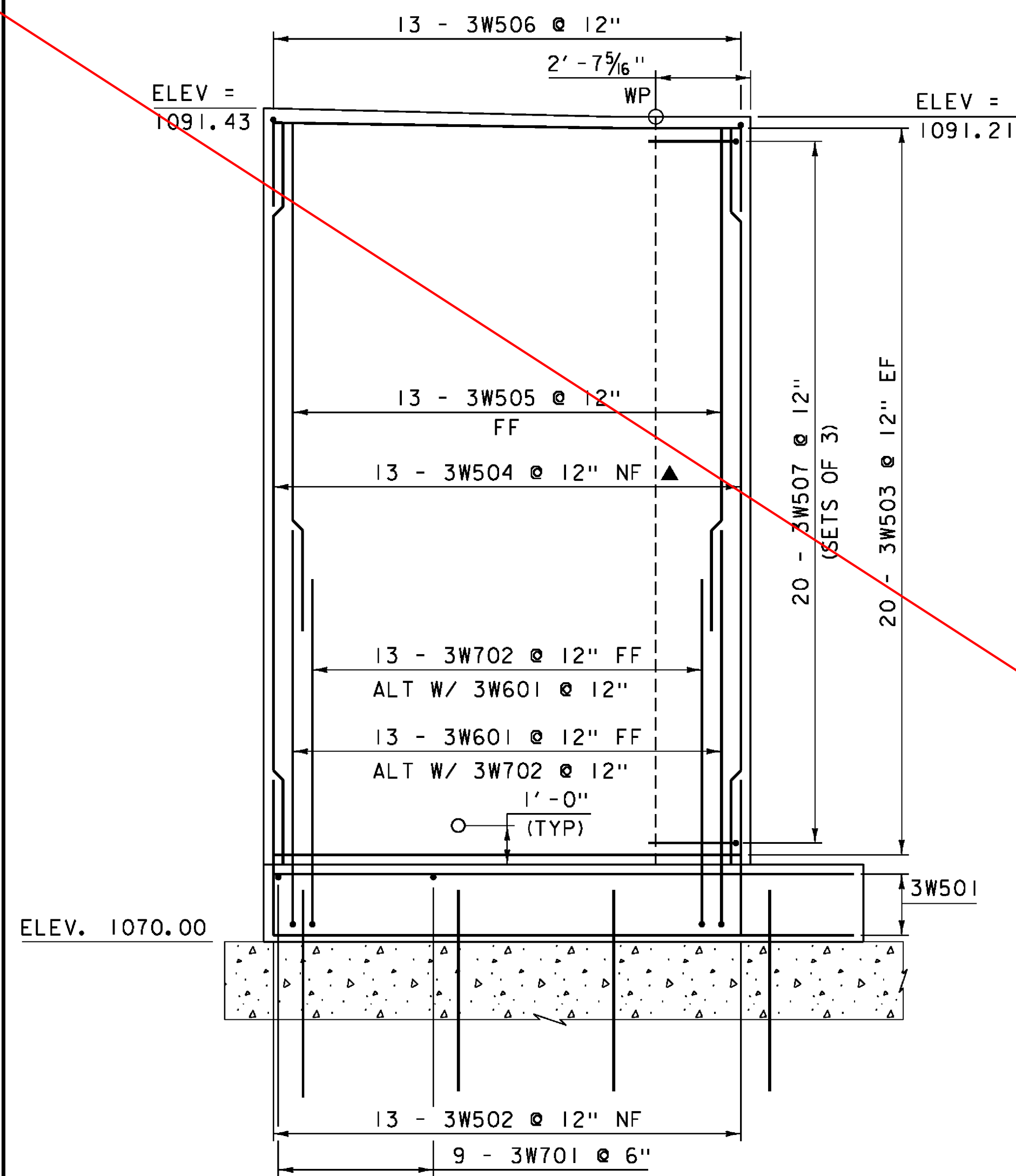
NF = NEAR FACE  
FF = FAR FACE  
EF = EACH FACE  
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2'-2" BAR LAP UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.

| REVISION | DATE       | DESCRIPTION                                  | BY  |
|----------|------------|----------------------------------------------|-----|
| 3        | 07-12-2016 | ABUTMENT 1 & WINGWALL 1<br>DIMENSION CHANGES | MCL |

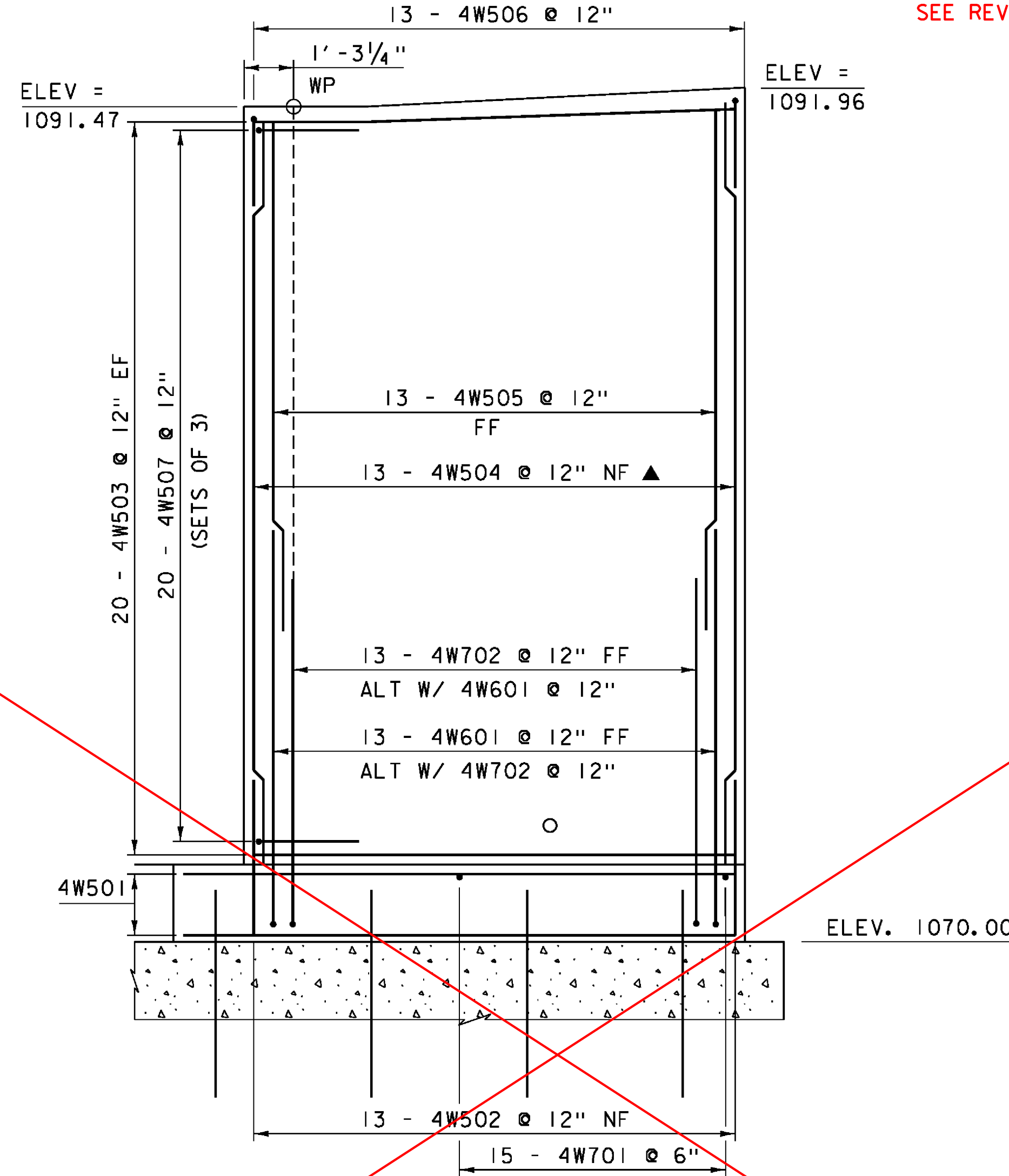
|                           |                |             |             |
|---------------------------|----------------|-------------|-------------|
| PROJECT NAME:             | HUNTINGTON     | PLOT DATE:  | 13-JUL-2016 |
| PROJECT NUMBER:           | BRO 1445(35)   | DRAWN BY:   | R. PELLETT  |
| FILE NAME:                | sl2j162sub.dgn | CHECKED BY: | D. PETERSON |
| PROJECT LEADER:           | C. CARLSON     | SHEET       | 23A OF 44   |
| DESIGNED BY:              | D. PETERSON    |             |             |
| WINGWALL 1 & 2 ELEVATIONS |                |             |             |



SEE REVISED SHEET 24A

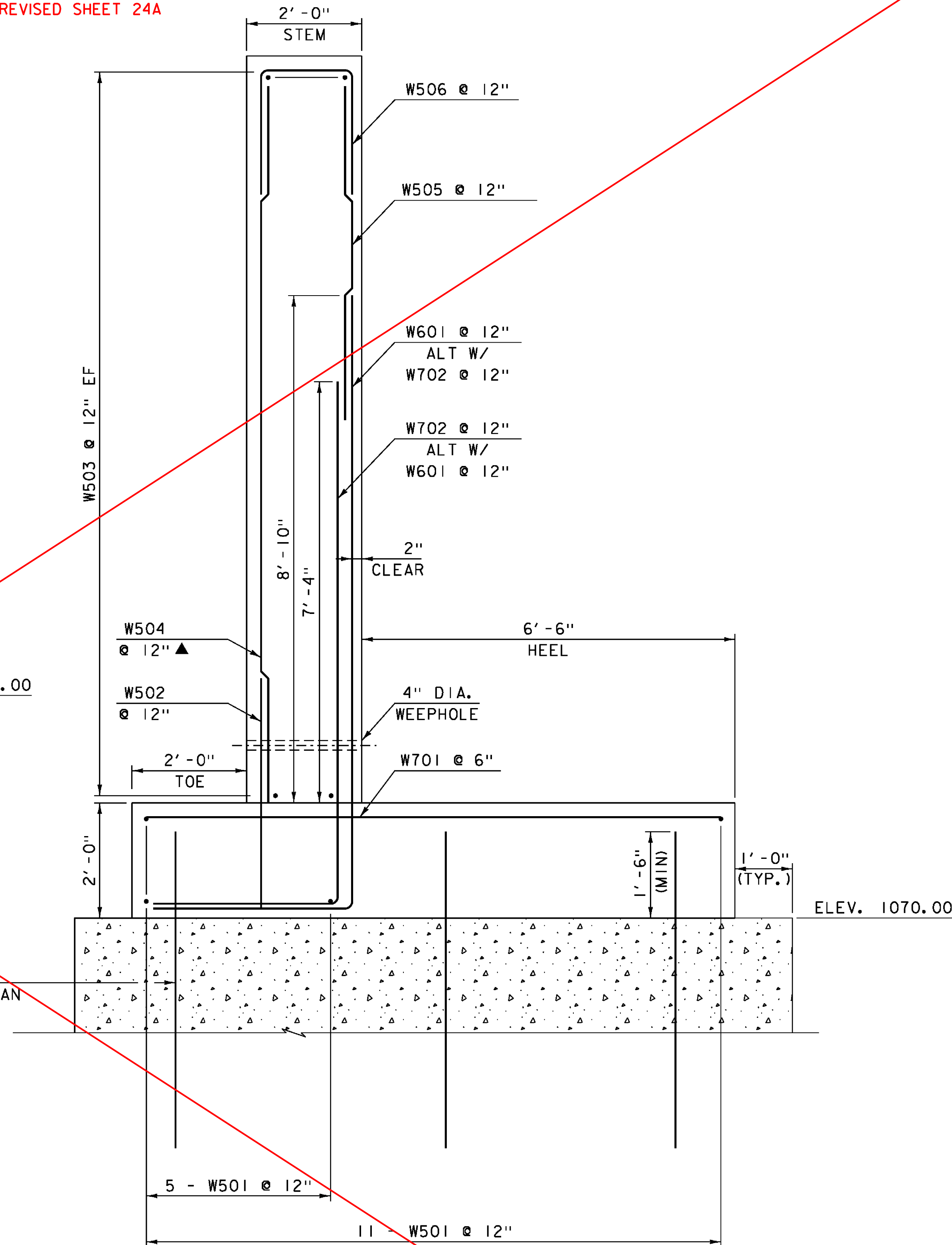


WINGWALL 3 ELEVATION  
SCALE 3/8" = 1'-0"



WINGWALL 4 ELEVATION  
SCALE 3/8" = 1'-0"

2A801 DOWEL  
SEE SUBFOOTING PLAN  
FOR LAYOUT

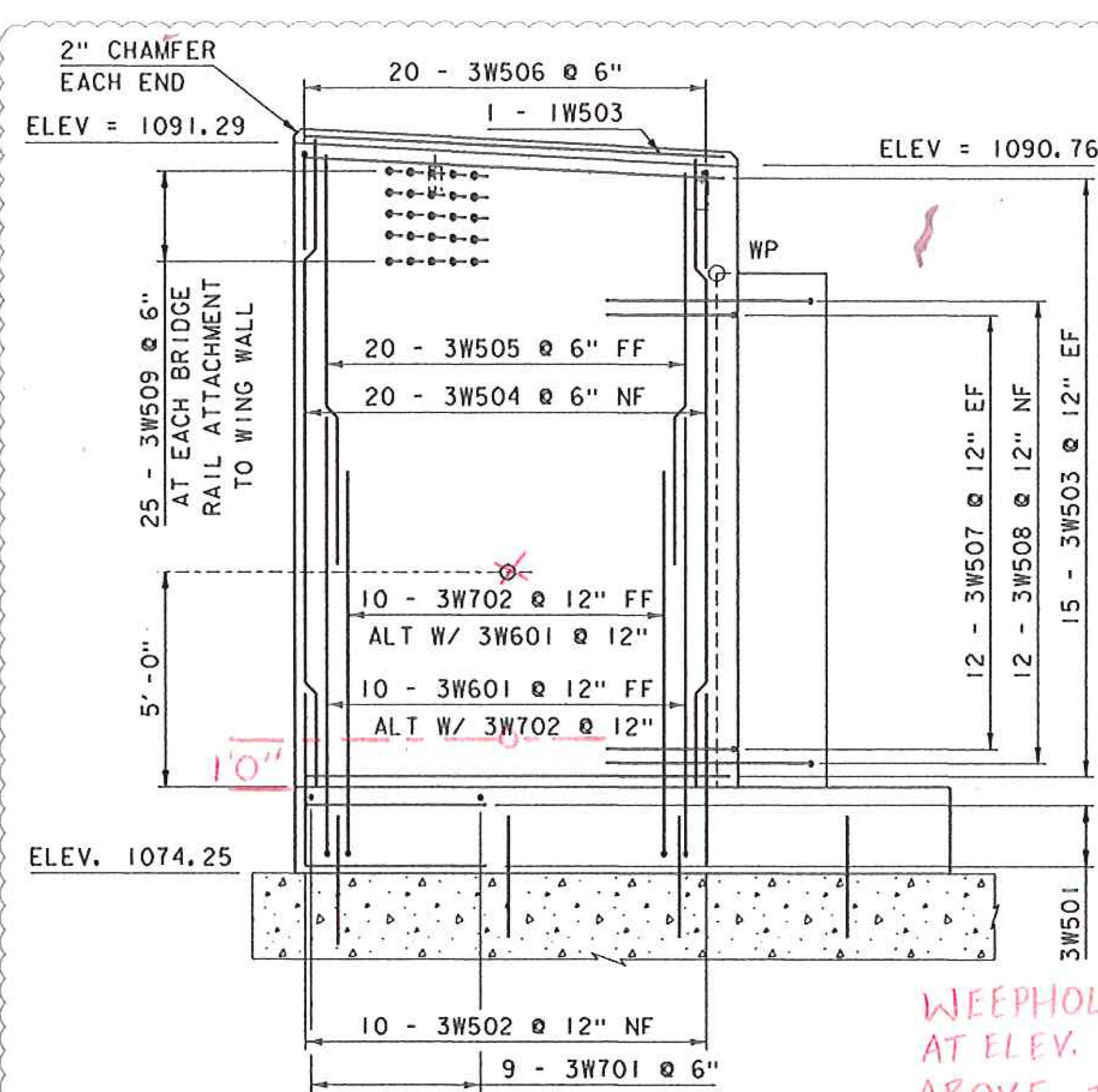


WINGWALL 3 & 4 TYPICAL SECTION  
SCALE 3/4" = 1'-0"

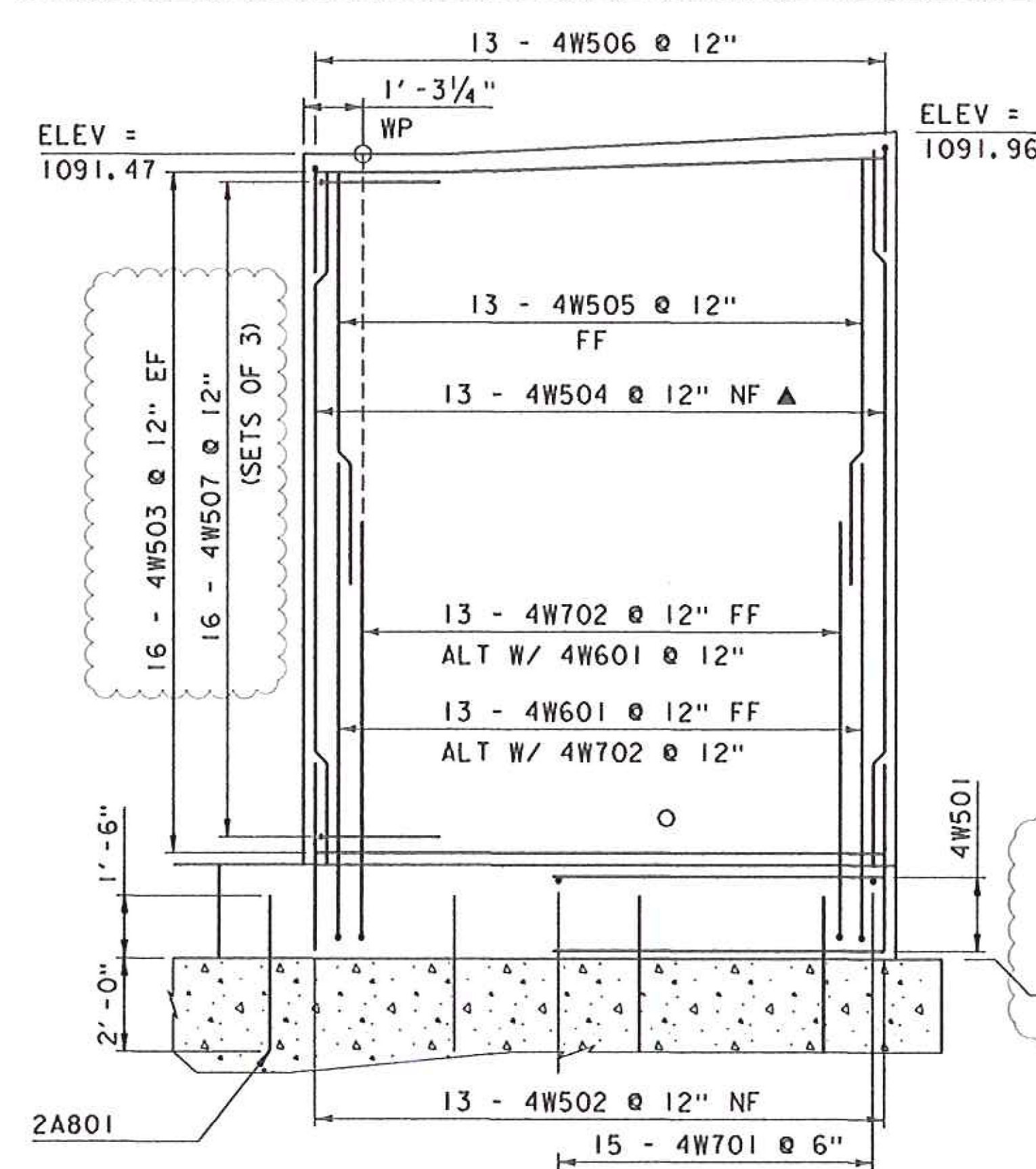
NOTE:  
NF = NEAR FACE  
FF = FAR FACE  
EF = EACH FACE  
▲ = CUT TO FIT IN FIELD  
3" CLEAR, UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.  
2'-2" BAR LAP UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.

|                              |                         |
|------------------------------|-------------------------|
| PROJECT NAME: HUNTINGTON     |                         |
| PROJECT NUMBER: BRO 1445(35) |                         |
| FILE NAME: sl2j162sub.dgn    | PLOT DATE: 15-OCT-2015  |
| PROJECT LEADER: C. CARLSON   | DRAWN BY: R. PELLETT    |
| DESIGNED BY: D. PETERSON     | CHECKED BY: D. PETERSON |
| WINGWALL 3 & 4 ELEVATIONS    | SHEET 24 OF 44          |

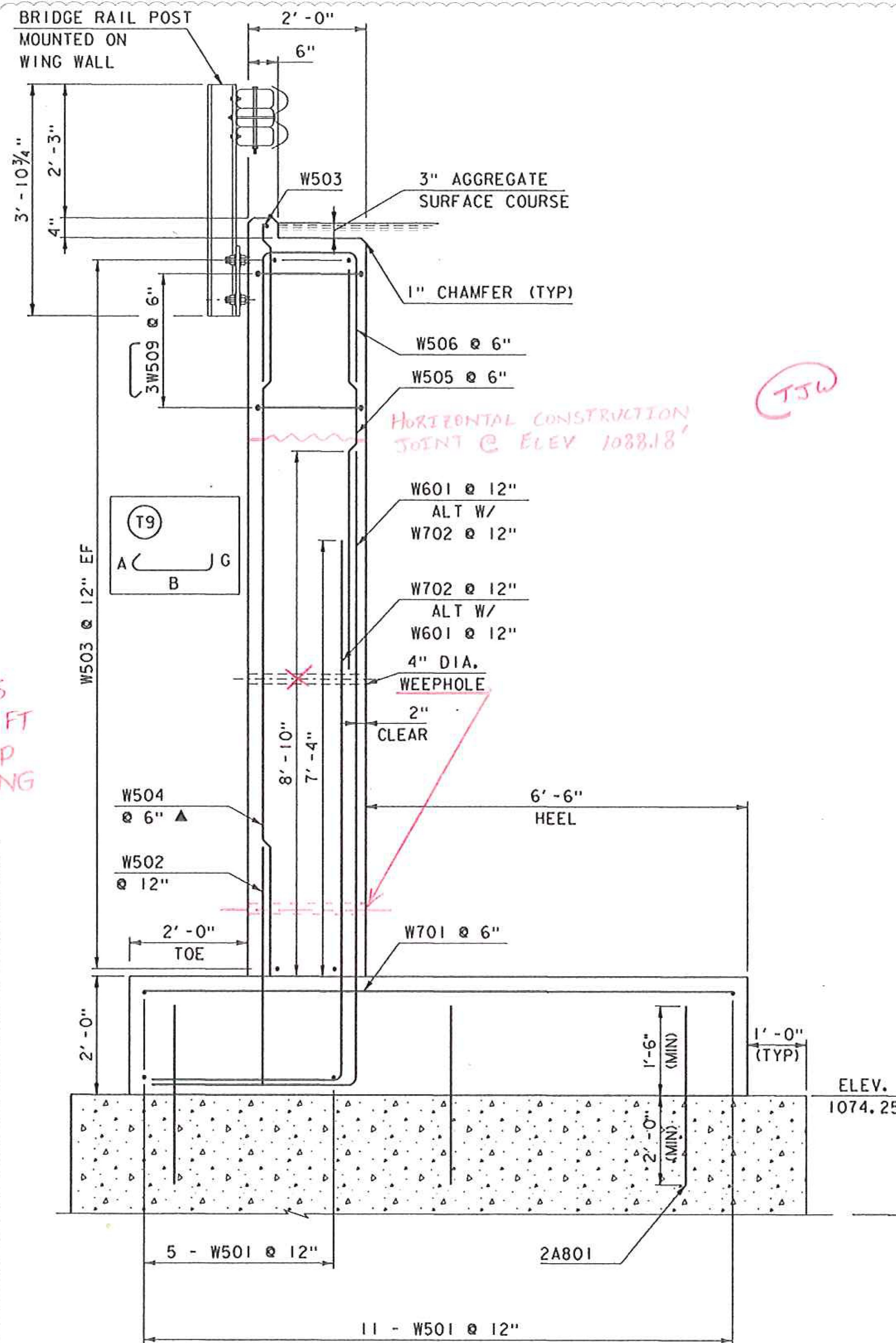




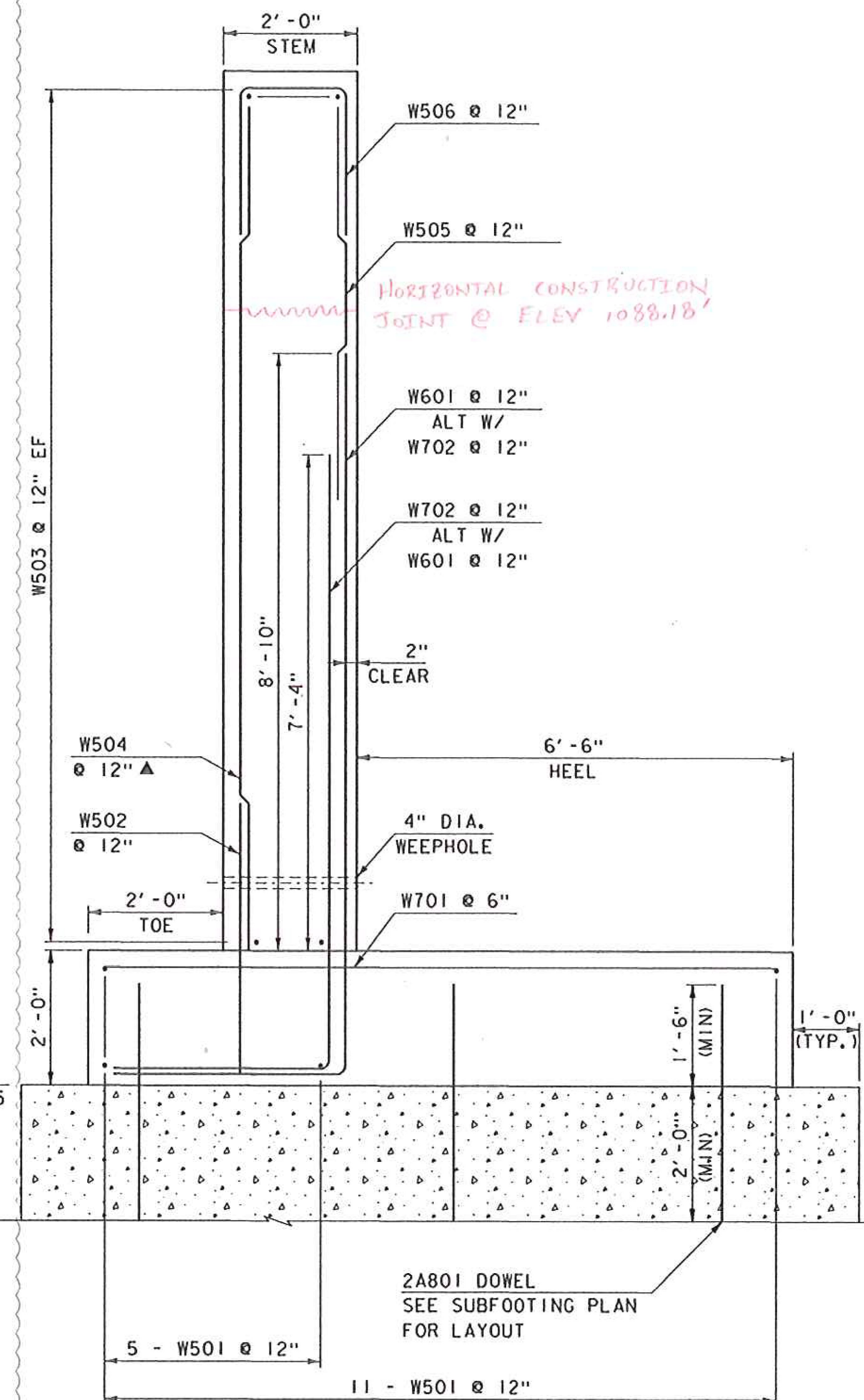
WINGWALL 3 ELEVATION  
SCALE 3/8" = 1'-0"



WINGWALL 4 ELEVATION  
SCALE 3/8" = 1'-0"



WINGWALL 3 TYPICAL SECTION  
SCALE 3/4" = 1'-0"



WINGWALL 4 TYPICAL SECTION  
SCALE 3/4" = 1'-0"

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

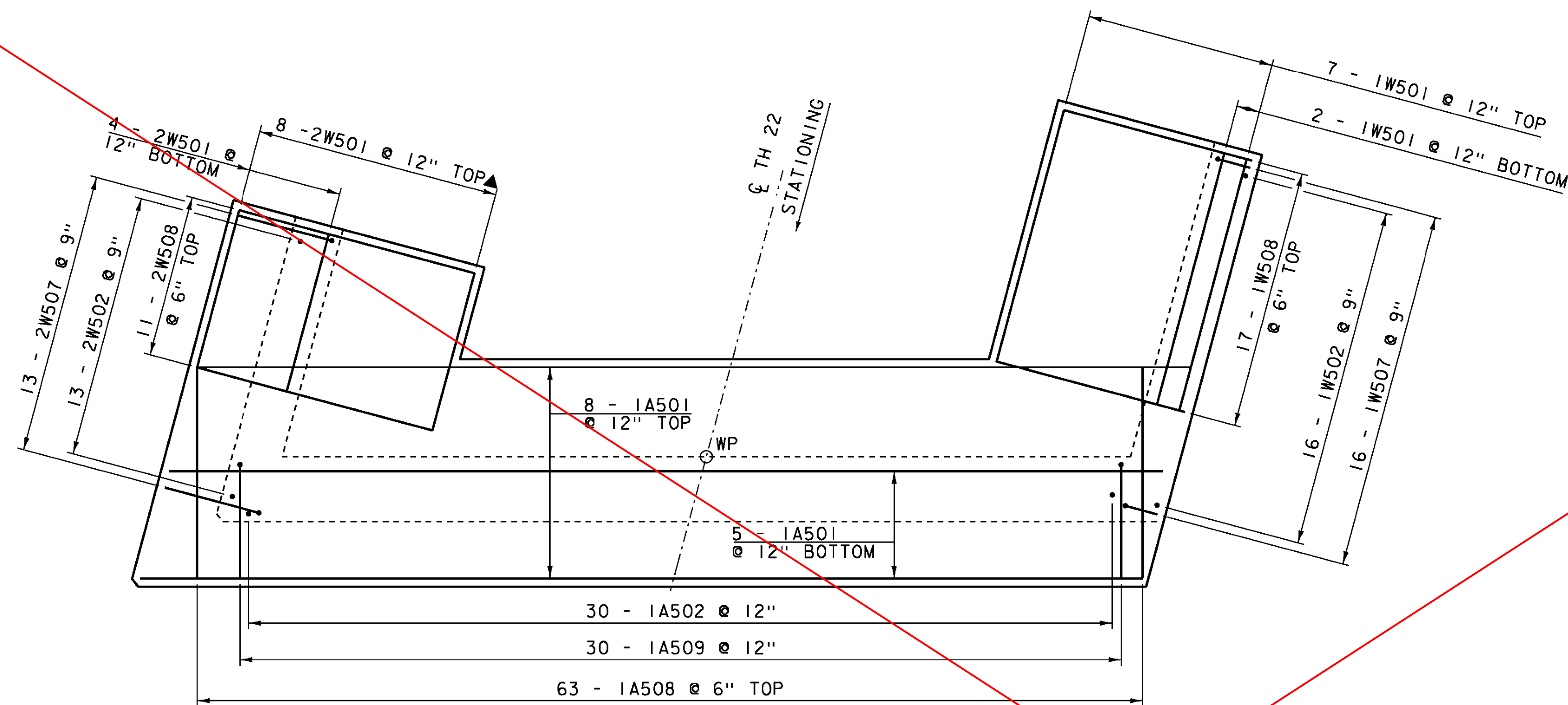
| REVISION | DATE       | DESCRIPTION                                  | BY  |
|----------|------------|----------------------------------------------|-----|
| 3        | 07-12-2016 | ABUTMENT 2 & WINGWALL 3<br>DIMENSION CHANGES | MCL |

PROJECT NAME: HUNTINGTON  
PROJECT NUMBER: BRO 1445(35)  
FILE NAME: sl2j162sub.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
WINGWALL 3 & 4 ELEVATIONS

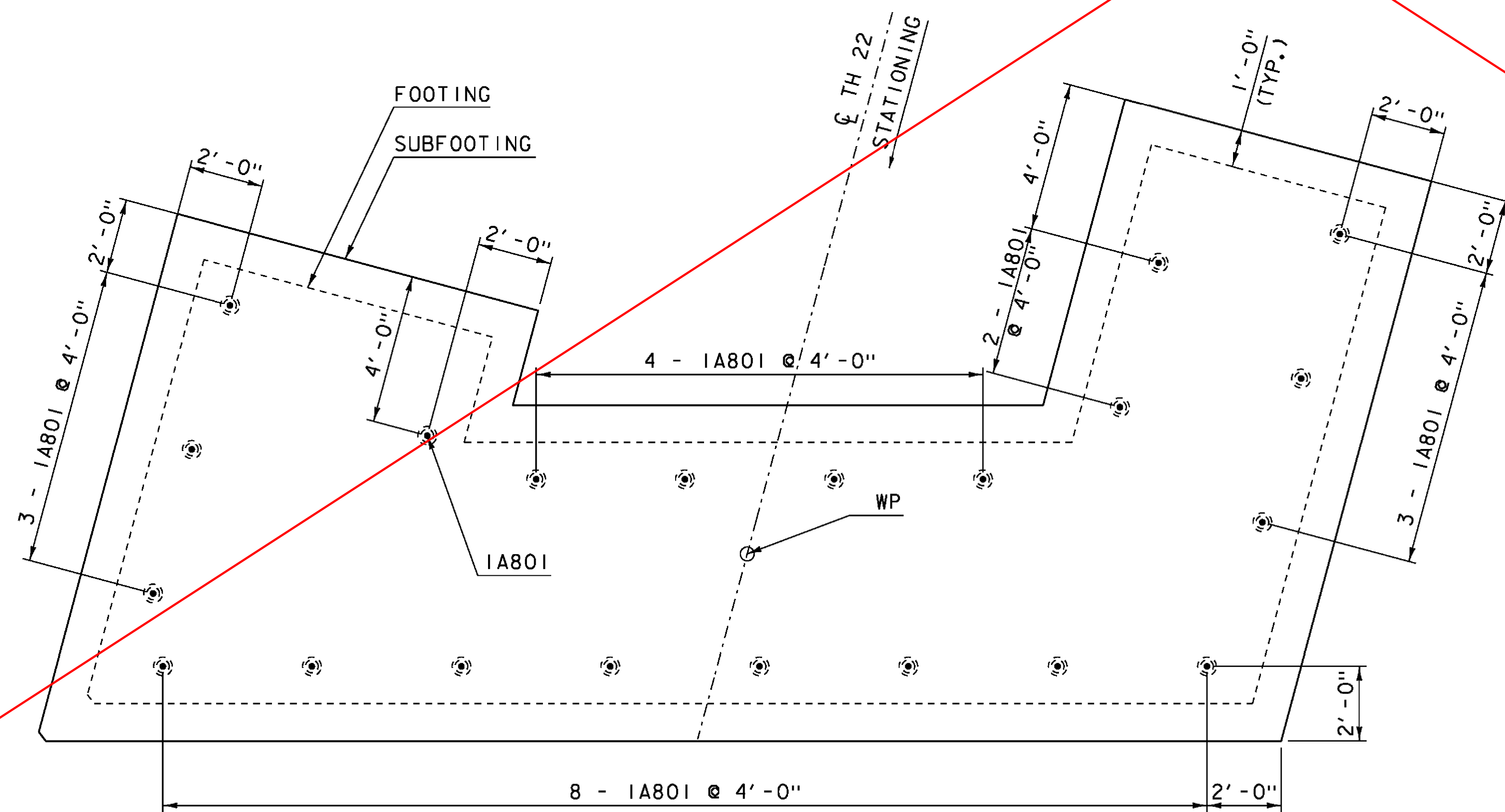
PLOT DATE: 13-JUL-2016  
DRAWN BY: R. PELLET  
CHECKED BY: D. PETERSON  
SHEET 24 OF 44



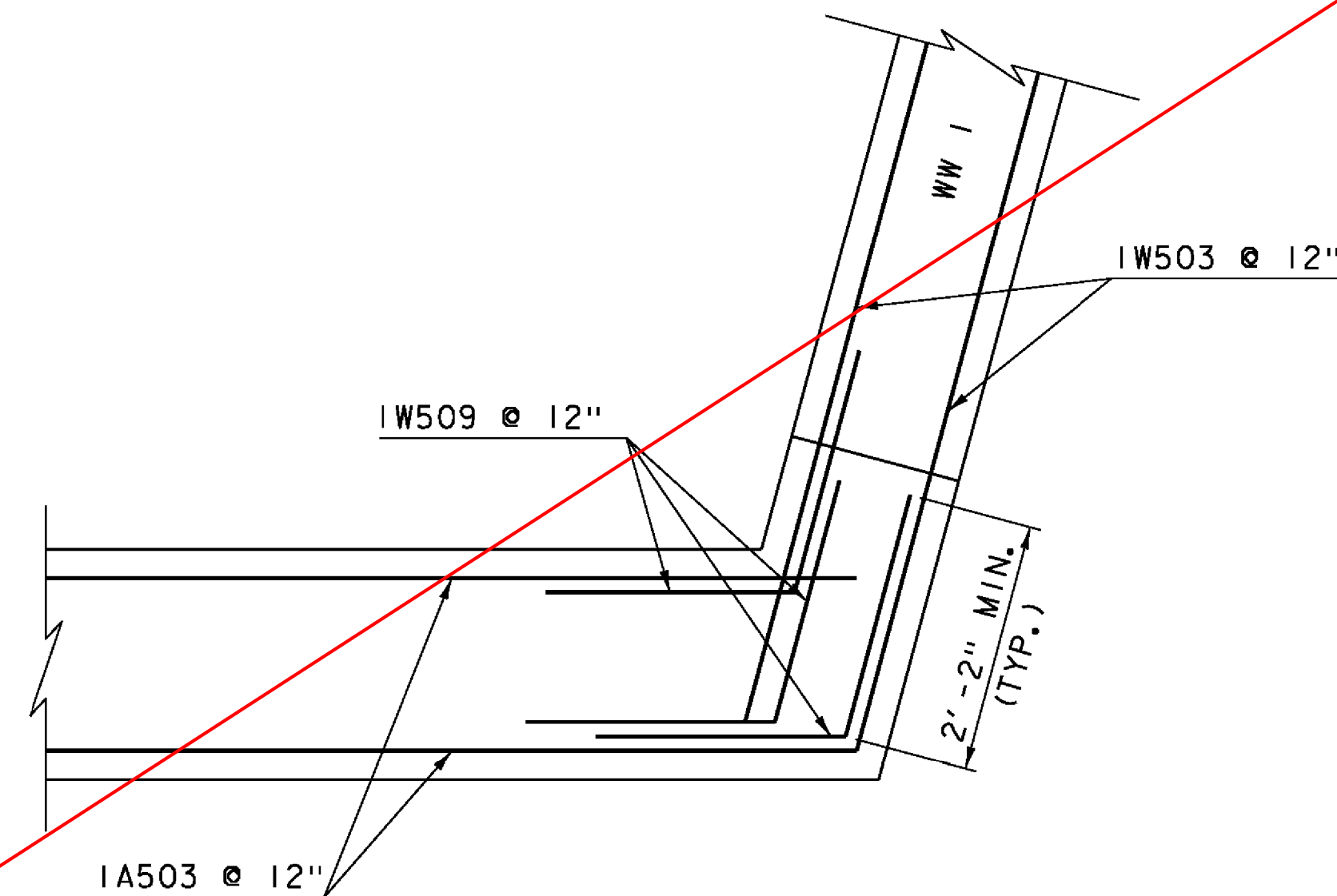
SEE REVISED SHEET 25A



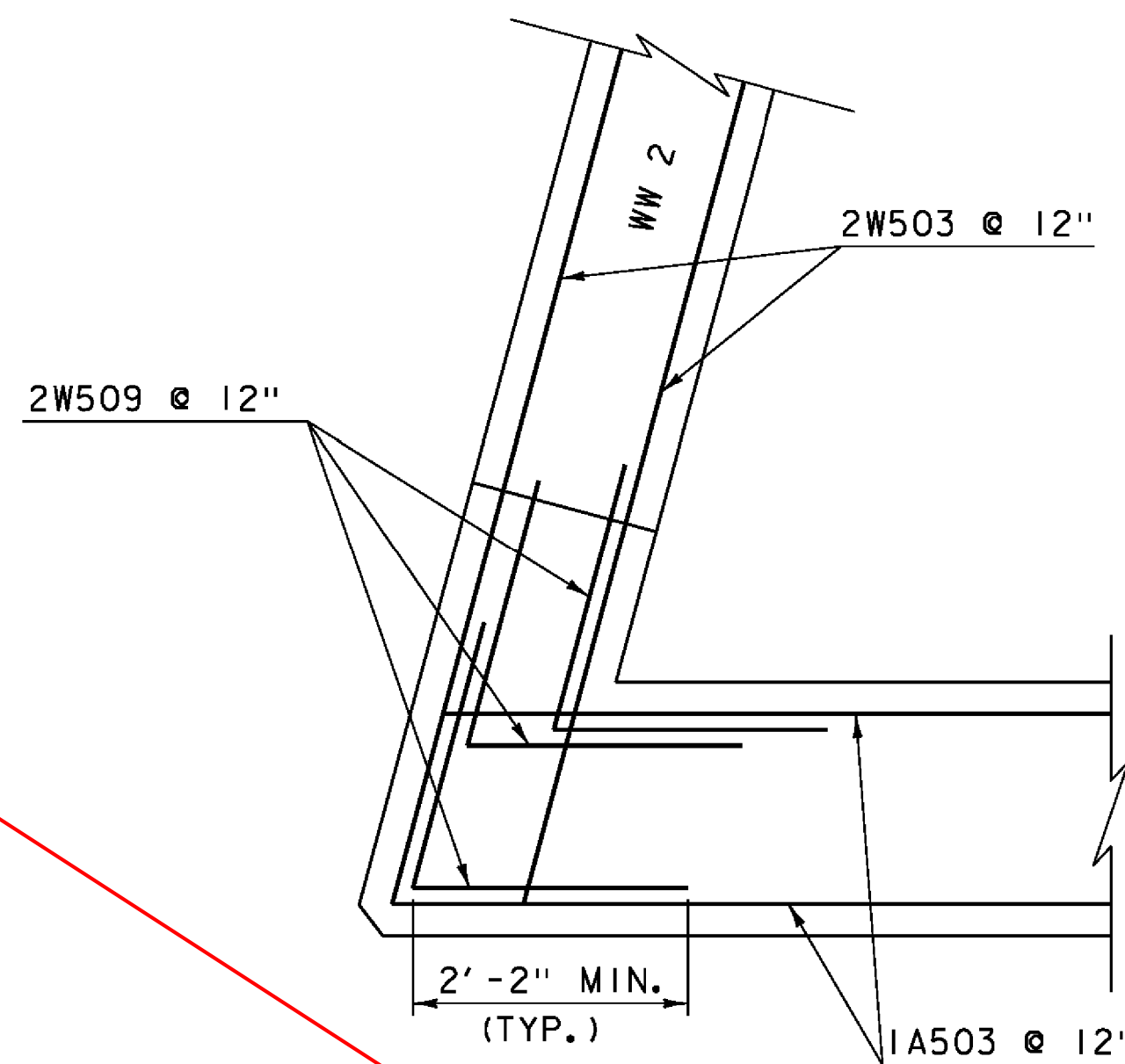
ABUTMENT 1 FOOTING REINFORCING PLAN  
SCALE  $\frac{3}{8}" = 1'-0"$



ABUTMENT 1 SUBFOOTING REINFORCING PLAN  
SCALE  $\frac{3}{8}" = 1'-0"$



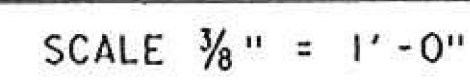
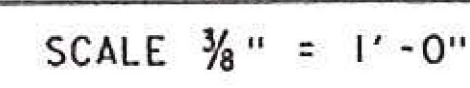
WINGWALL 1 CORNER  
REINFORCING  
SCALE  $\frac{3}{4}" = 1'-0"$



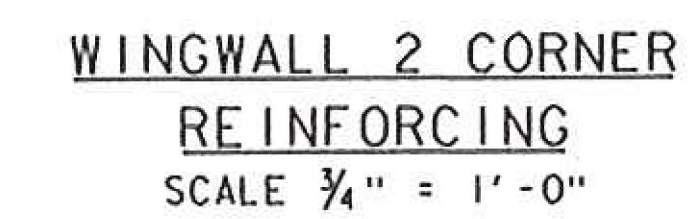
WINGWALL 2 CORNER  
REINFORCING  
SCALE  $\frac{3}{4}" = 1'-0"$

|                         |                |             |             |
|-------------------------|----------------|-------------|-------------|
| PROJECT NAME:           | HUNTINGTON     | PLOT DATE:  | 15-OCT-2015 |
| PROJECT NUMBER:         | BRO 1445(35)   | DRAWN BY:   | R. PELLETT  |
| FILE NAME:              | sl2j162sub.dgn | CHECKED BY: | D. PETERSON |
| PROJECT LEADER:         | C. CARLSON     | SHEET       | 25 OF 44    |
| DESIGNED BY:            | D. PETERSON    |             |             |
| ABUTMENT 1 FOOTING PLAN |                |             |             |





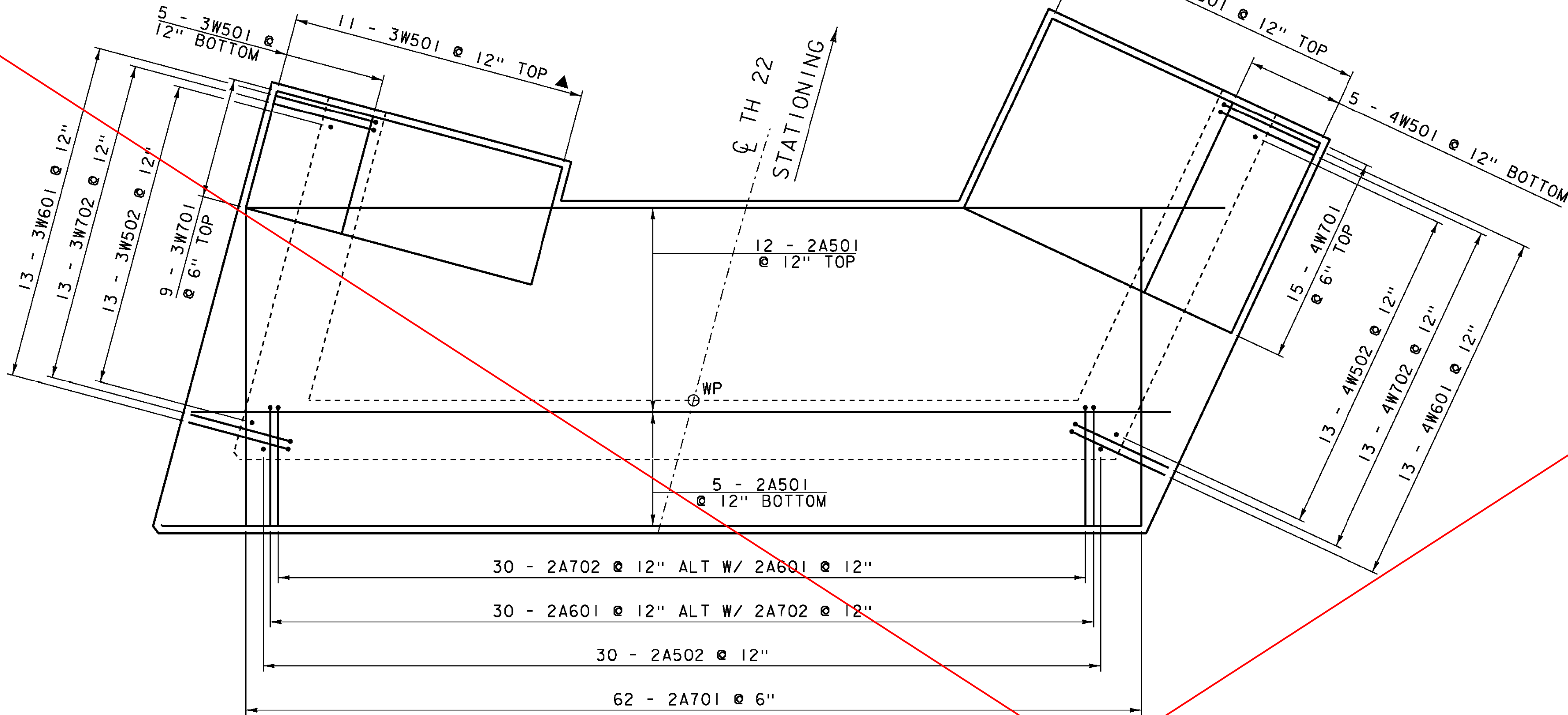
WINGWALL 1 BELOW BRIDGE  
SEAT CORNER REINFORCING  
SCALE  $\frac{3}{4}" = 1' - 0"$



PLOT DATE: 13-JUL-2016  
DRAWN BY: R. PELLETT  
CHECKED BY: D. PETERSON  
SHEET 25A OF 44

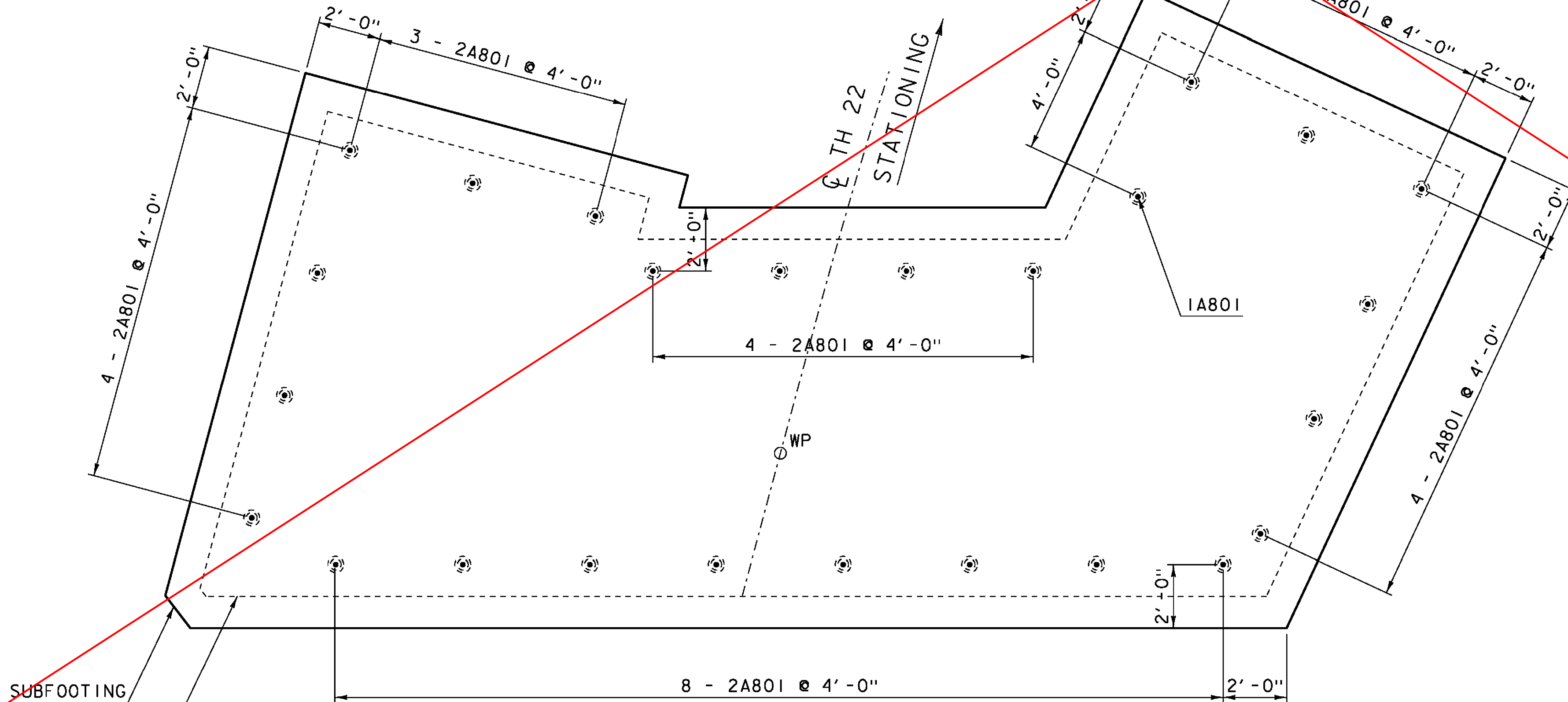


SEE REVISED SHEET 26A



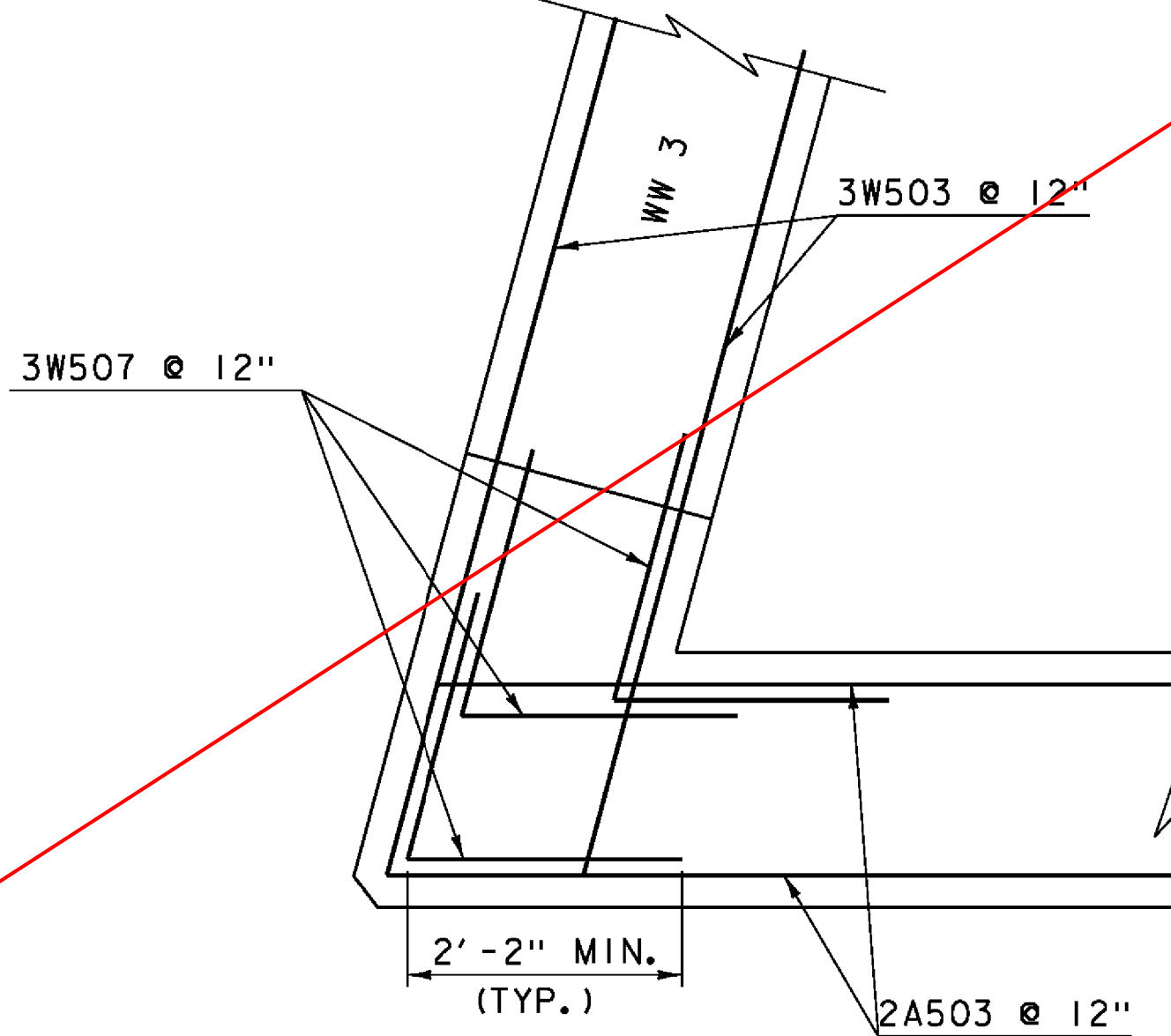
ABUTMENT 2 FOOTING REINFORCING PLAN

SCALE  $\frac{3}{8}" = 1' - 0"$



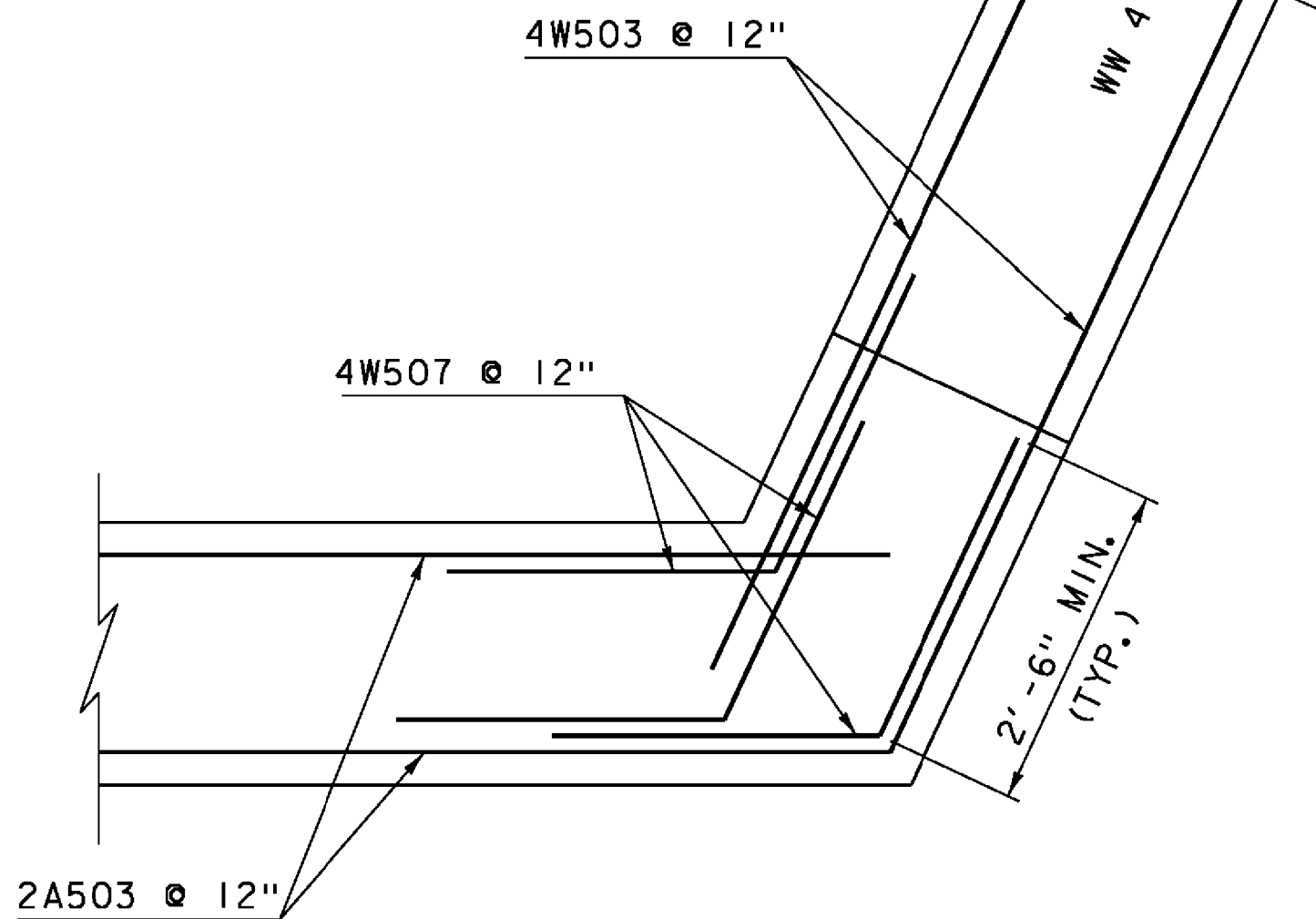
ABUTMENT 2 SUBFOOTING REINFORCING PLAN

SCALE  $\frac{3}{8}'' = 1' - 0$



WINGWALL 3 CORNER

## REINFORCING

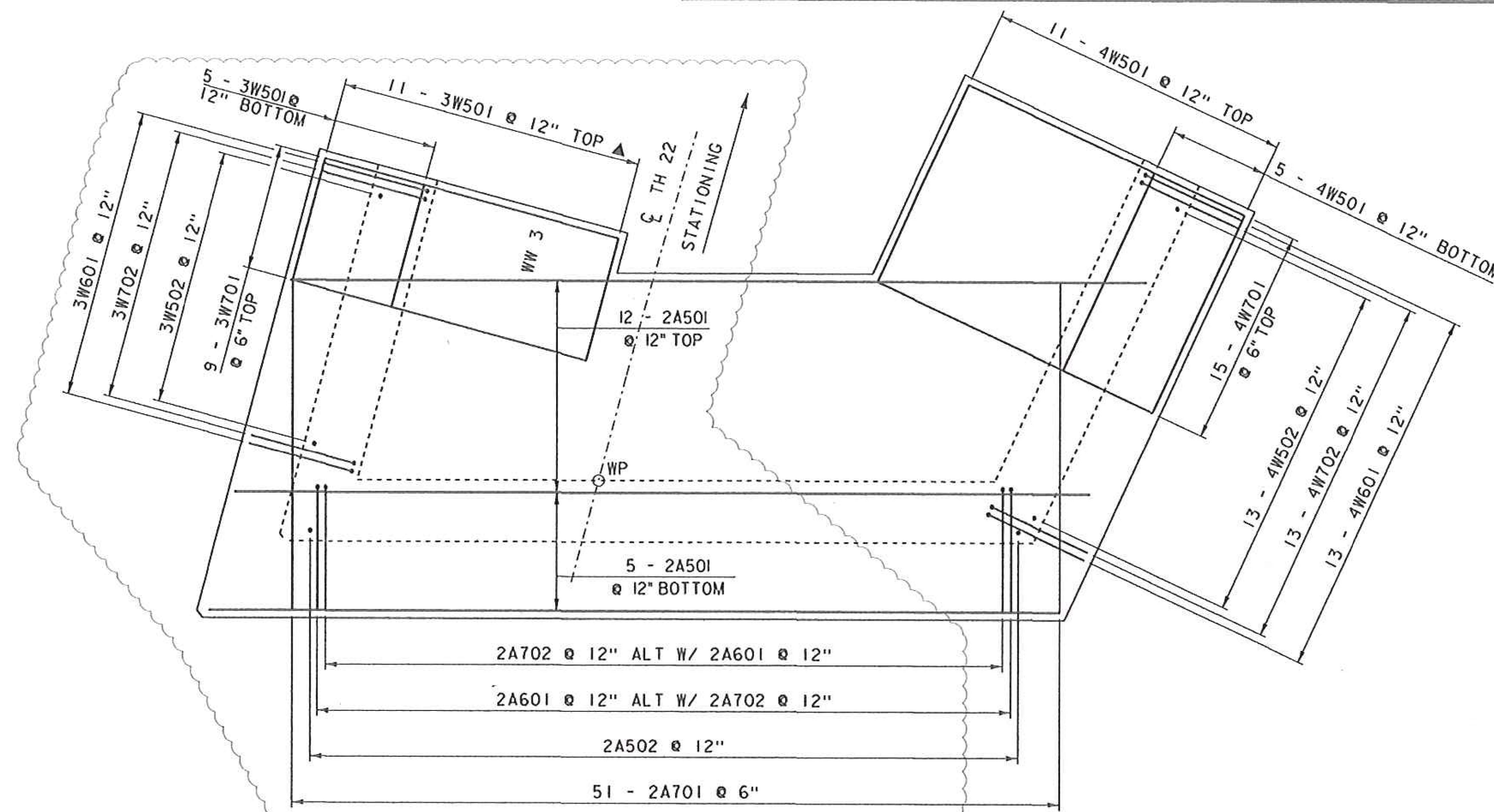


WINGWALL 4 CORNER

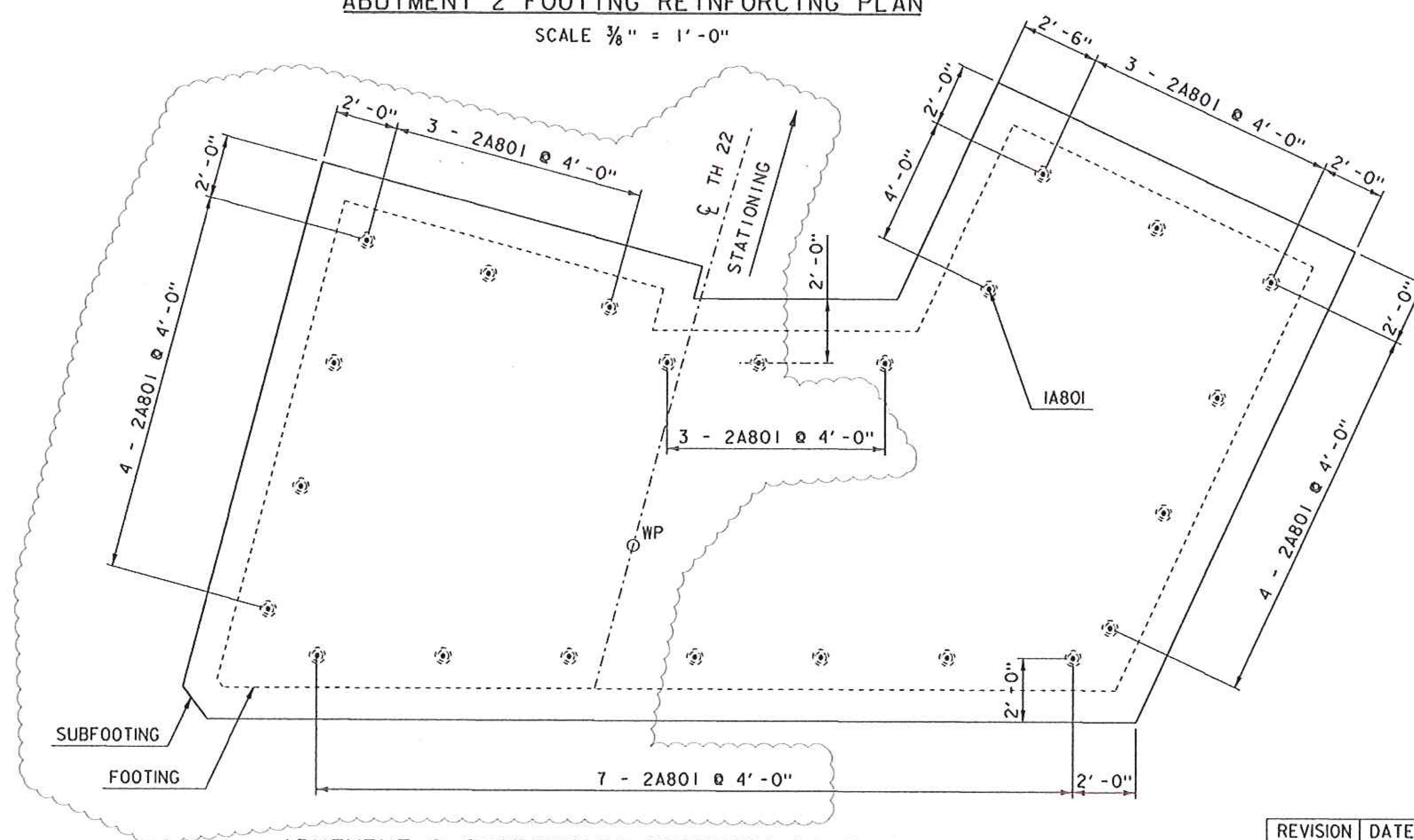
## REINFORCING

|                          |               |                         |
|--------------------------|---------------|-------------------------|
| PROJECT NAME:            | HUNTINGTON    |                         |
| PROJECT NUMBER:          | BRO 1445(35)  |                         |
| FILE NAME:               | sl2j62sub.dgn | PLOT DATE: 15-OCT-2015  |
| PROJECT LEADER:          | C. CARLSON    | DRAWN BY: R. PELLETT    |
| DESIGNED BY:             | D. PETERSON   | CHECKED BY: D. PETERSON |
| ABUTMENT: 2 FOOTING PLAN |               | SHEET 26 OF 44          |

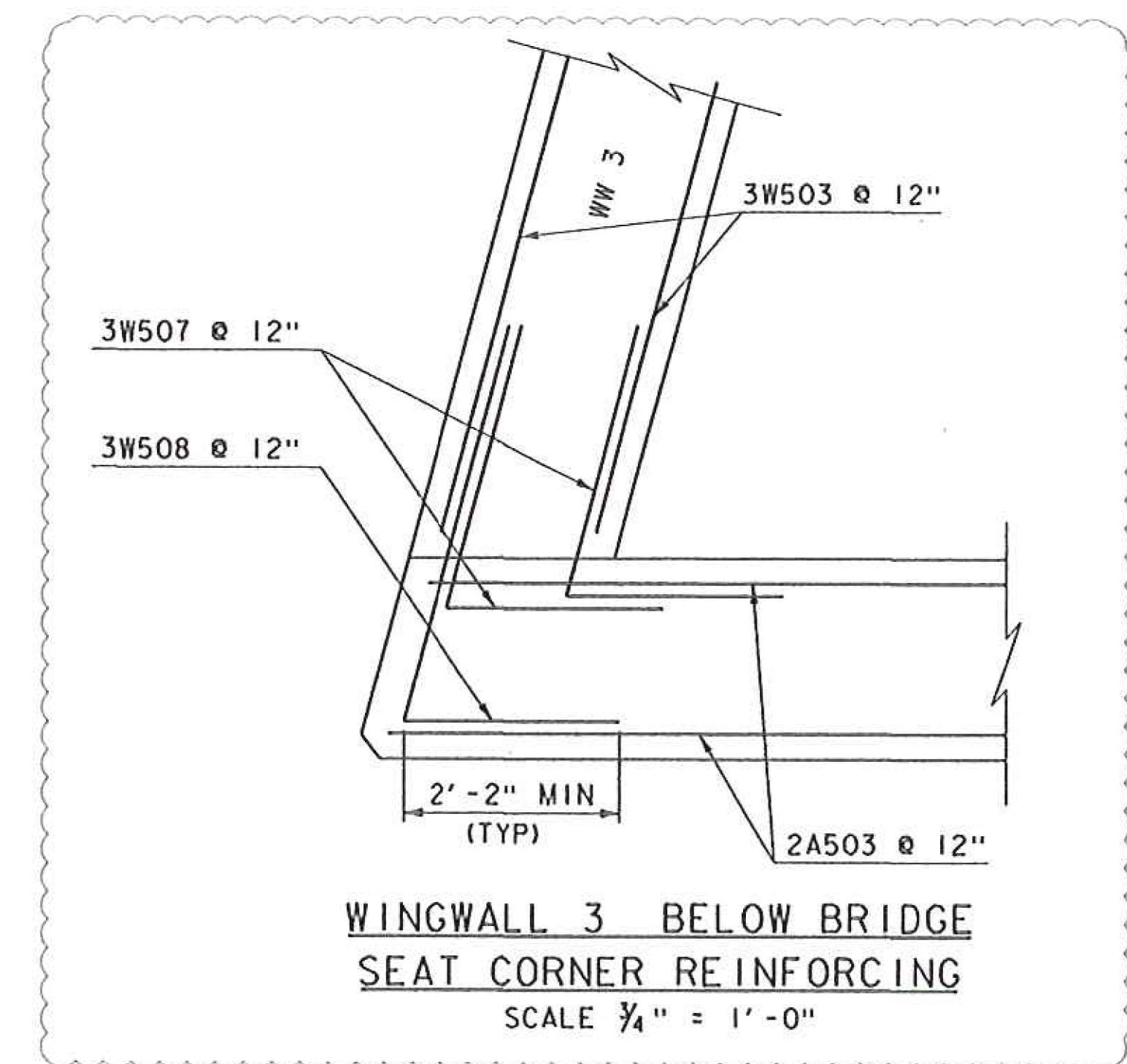




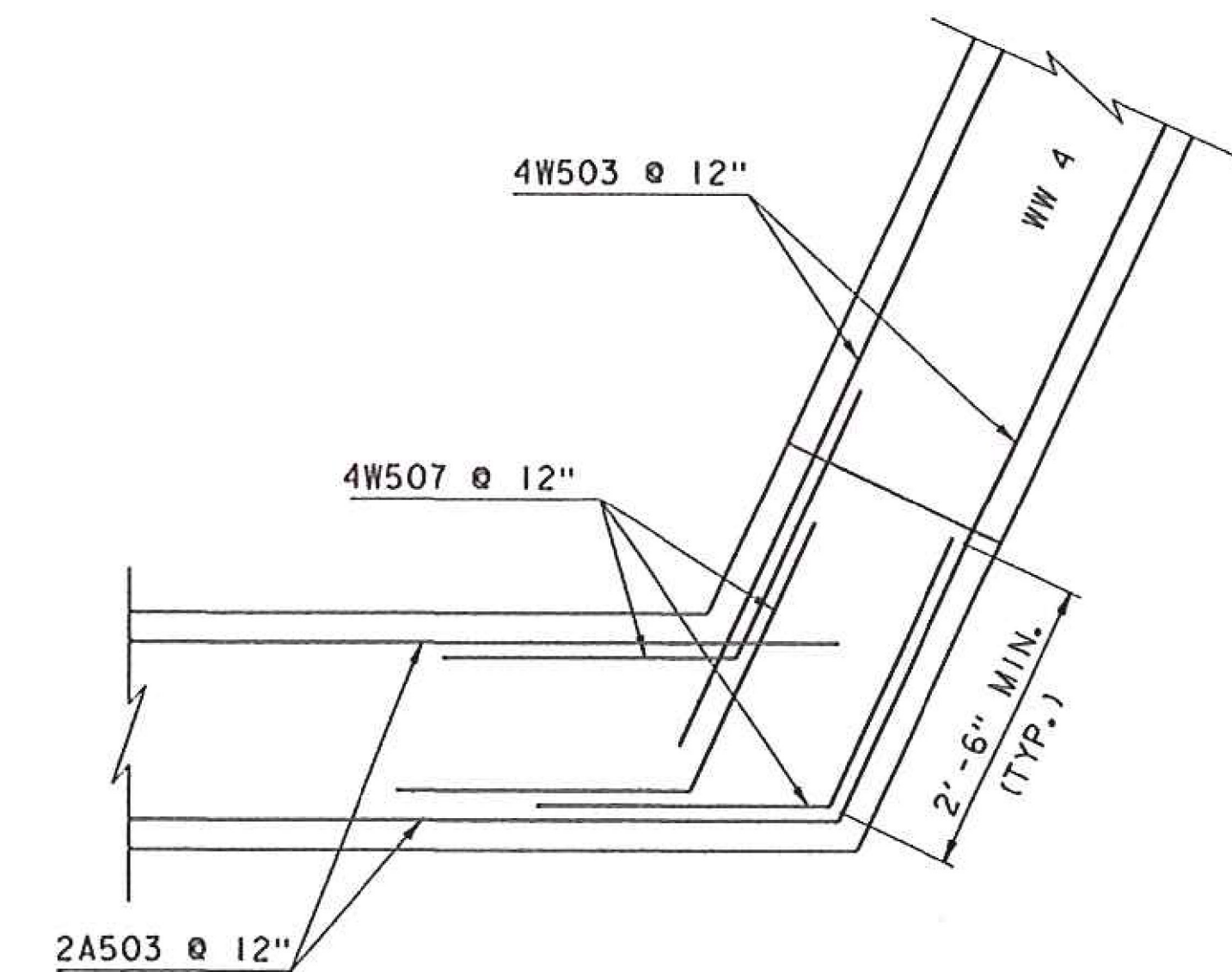
ABUTMENT 2 FOOTING REINFORCING PLAN  
SCALE  $\frac{3}{8}$ " = 1'-0"



ABUTMENT 2 SUBFOOTING REINFORCING PLAN  
SCALE  $\frac{3}{8}$ " = 1'-0"



WINGWALL 3 BELOW BRIDGE  
SEAT CORNER REINFORCING  
SCALE  $\frac{3}{4}$ " = 1'-0"



WINGWALL 4 CORNER  
REINFORCING  
SCALE  $\frac{3}{4}$ " = 1'-0"

| REVISION | DATE       | DESCRIPTION                                  | BY  |
|----------|------------|----------------------------------------------|-----|
| 3        | 07-12-2016 | ABUTMENT 2 & WINGWALL 3<br>DIMENSION CHANGES | MCL |

PROJECT NAME: HUNTINGTON  
PROJECT NUMBER: BRO 1445(35)

FILE NAME: sl2j162sub.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
ABUTMENT 2 FOOTING PLAN

PLOT DATE: 13-JUL-2016  
DRAWN BY: R. PELLET  
CHECKED BY: D. PETERSON  
SHEET 26A OF 44



STATE OF VERMONT  
AGENCY OF TRANSPORTATION

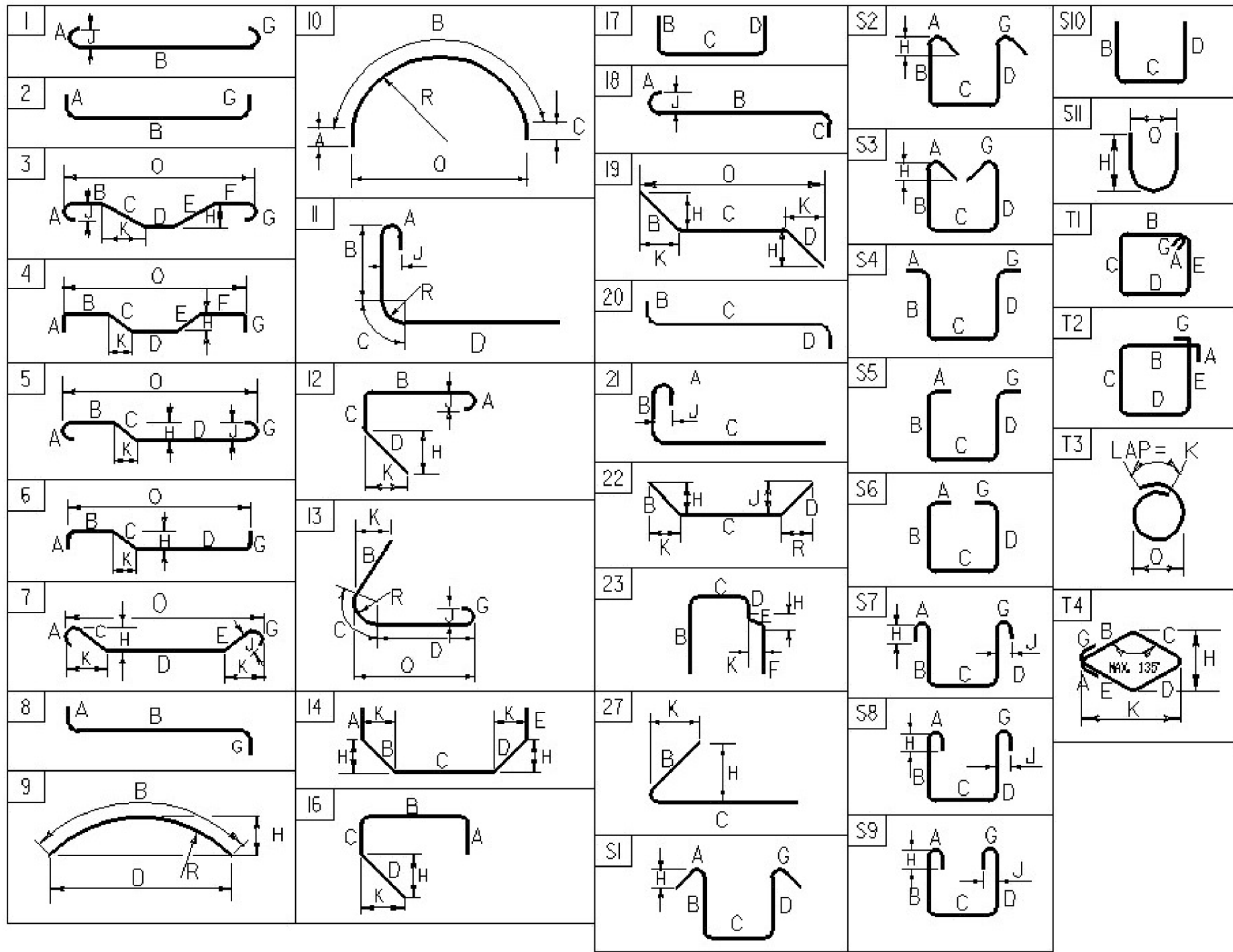
REINFORCING STEEL SCHEDULE

SEE REVISED SHEET 27A

| ITEM           | EACH | SIZE | LENGTH   | MARK   | TYPE  | A        | B       | C       | D      | E | F | G      | H      | J      | K      | R   | O | ITEM           | EACH | SIZE     | LENGTH  | MARK  | TYPE     | A       | B       | C      | D | E | F | G | H | J | K | R | O |
|----------------|------|------|----------|--------|-------|----------|---------|---------|--------|---|---|--------|--------|--------|--------|-----|---|----------------|------|----------|---------|-------|----------|---------|---------|--------|---|---|---|---|---|---|---|---|---|
| DECK           |      |      |          |        |       |          |         |         |        |   |   |        |        |        |        |     |   | WINGWALL NO. 3 |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |
| *              | 13   | 5    | 41'- 6"  | ES501  | STR   | 41'- 6"  |         |         |        |   |   |        |        |        |        |     |   | 16             | 5    | 4'- 1"   | 3W501   | STR   | 4'- 1"   |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 86   | 5    | 12'- 10" | ES502  | S6    | 2'- 2"   | 1'- 9"  | 5'- 0"  | 1'- 9" |   |   | 2'- 2" |        |        |        |     |   | 13             | 5    | 3'- 11"  | 3W502   | STR   | 3'- 11"  |         |         |        |   |   |   |   |   |   |   |   |   |
| *              | 44   | 6    | 19'- 6"  | ES601  | STR   | 19'- 6"  |         |         |        |   |   |        |        |        |        |     |   | 40             | 5    | 12'- 0"  | 3W503   | STR   | 12'- 0"  |         |         |        |   |   |   |   |   |   |   |   |   |
| *              | 40   | 11   | 42'- 6"  | ES1101 | 1     | 1'- 7"   | 41'- 0" |         |        |   |   |        |        | 1'- 9" |        |     |   | 13             | 5    | 18'- 11" | 3W504   | STR   | 18'- 11" |         |         |        |   |   |   |   |   |   |   |   |   |
|                |      |      |          |        |       |          |         |         |        |   |   |        |        |        |        |     |   | 13             | 5    | 12'- 11" | 3W505   | STR   | 12'- 11" |         |         |        |   |   |   |   |   |   |   |   |   |
| ABUTMENT NO. 1 |      |      |          |        |       |          |         |         |        |   |   |        |        |        |        |     |   | WINGWALL NO. 4 |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |
| *              | 14   | 5    | 30'- 8"  | 1A501  | STR   | 30'- 8"  |         |         |        |   |   |        |        |        |        |     |   | 16             | 5    | 7'- 1"   | 4W501   | STR   | 7'- 1"   |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 30   | 5    | 3'- 11"  | 1A502  | STR   | 3'- 11"  |         |         |        |   |   |        |        |        |        |     |   | 13             | 5    | 3'- 11"  | 4W502   | STR   | 3'- 11"  |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 32   | 5    | 15'- 5"  | 1A503  | STR   | 15'- 5"  |         |         |        |   |   |        |        |        |        |     |   | 40             | 5    | 12'- 4"  | 4W503   | STR   | 12'- 4"  |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 21   | 5    | 6'- 11"  | 1A504  | STR   | 6'- 11"  |         |         |        |   |   |        |        |        |        |     |   | 13             | 5    | 19'- 5"  | 4W504   | STR   | 19'- 5"  |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 21   | 5    | 6'- 11"  | 1A505  | STR   | 6'- 11"  |         |         |        |   |   |        |        |        |        |     |   | 13             | 5    | 13'- 5"  | 4W505   | STR   | 13'- 5"  |         |         |        |   |   |   |   |   |   |   |   |   |
| ▲              | 16   | 5    | 4'- 1"   | 1A506  | STR   | 4'- 1"   |         |         |        |   |   |        |        |        |        |     |   | 13             | 5    | 5'- 11"  | 4W506   | S10   |          | 2'- 2"  | 1'- 7"  | 2'- 2" |   |   |   |   |   |   |   |   |   |
|                | 63   | 5    | 6'- 6"   | 1A508  | STR   | 6'- 6"   |         |         |        |   |   |        |        |        |        |     |   | 60             | 5    | 5'- 0"   | 4W507   | 27    |          | 2'- 6"  | 2'- 6"  |        |   |   |   |   |   |   |   |   |   |
| ▲              | 10   | 5    | 10'- 1"  | 1A510  | STR   | 10'- 1"  |         |         |        |   |   |        |        |        |        |     |   | 13             | 6    | 14'- 2"  | 4W601   | 17    |          | 3'- 7"  | 10'- 7" | ---    |   |   |   |   |   |   |   |   |   |
| ▲              | 10   | 5    | 10'- 1"  | 1A511  | STR   | 10'- 1"  |         |         |        |   |   |        |        |        |        |     |   | 15             | 7    | 10'- 0"  | 4W701   | STR   | 10'- 0"  |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 31   | 5    | 5'- 11"  | 1A507  | S10   |          | 2'- 2"  | 1'- 7"  | 2'- 2" |   |   |        |        |        |        |     |   | 13             | 7    | 12'- 8"  | 4W702   | 17    |          | 3'- 7"  | 9'- 1"  | ---    |   |   |   |   |   |   |   |   |   |
|                | 30   | 5    | 7'- 6"   | 1A509  | 17    |          | 3'- 7"  | 3'- 11" |        |   |   |        |        |        |        |     |   |                |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |
| *              | ▲    | 22   | 8        | 9'- 0" | 1A801 | STR      | 9'- 0"  |         |        |   |   |        |        |        |        |     |   | 13             | 5    | 5'- 11"  | 4W506   | S10   |          | 2'- 2"  | 1'- 7"  | 2'- 2" |   |   |   |   |   |   |   |   |   |
| △              | 13   | 8    | 3'- 4"   | 1EA801 | STR   | 3'- 4"   |         |         |        |   |   |        |        |        |        |     |   | 60             | 5    | 5'- 0"   | 4W507   | 27    |          | 2'- 6"  | 2'- 6"  |        |   |   |   |   |   |   |   |   |   |
| WINGWALL NO. 1 |      |      |          |        |       |          |         |         |        |   |   |        |        |        |        |     |   |                |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 9    | 5    | 8'- 0"   | 1W501  | STR   | 8'- 0"   |         |         |        |   |   |        |        |        |        |     |   | 13             | 5    | 5'- 0"   | 2W501   | STR   | 5'- 0"   |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 16   | 5    | 3'- 11"  | 1W502  | STR   | 3'- 11"  |         |         |        |   |   |        |        |        |        |     |   | 13             | 5    | 3'- 11"  | 2W502   | STR   | 3'- 11"  |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 22   | 5    | 11'- 0"  | 1W503  | STR   | 11'- 0"  |         |         |        |   |   |        |        |        |        |     |   | 22             | 5    | 9'- 2"   | 2W503   | STR   | 9'- 2"   |         |         |        |   |   |   |   |   |   |   |   |   |
| ▲              | 16   | 5    | 9'- 11"  | 1W504  | STR   | 9'- 11"  |         |         |        |   |   |        |        |        |        |     |   | ▲              | 13   | 5        | 10'- 1" | 2W504 | STR      | 10'- 1" |         |        |   |   |   |   |   |   |   |   |   |
| ▲              | 16   | 5    | 9'- 11"  | 1W505  | STR   | 9'- 11"  |         |         |        |   |   |        |        |        |        |     |   | ▲              | 13   | 5        | 10'- 1" | 2W505 | STR      | 10'- 1" |         |        |   |   |   |   |   |   |   |   |   |
|                | 17   | 5    | 6'- 0"   | 1W508  | STR   | 6'- 0"   |         |         |        |   |   |        |        |        |        |     |   | 11             | 5    | 7'- 6"   | 2W508   | STR   | 7'- 6"   |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 16   | 5    | 5'- 5"   | 1W506  | S10   |          | 2'- 2"  | 1'- 1"  | 2'- 2" |   |   |        |        |        |        |     |   | 13             | 5    | 5'- 5"   | 2W506   | 17    |          | 2'- 2"  | 1'- 1"  | 2'- 2" |   |   |   |   |   |   |   |   |   |
|                | 16   | 5    | 5'- 0"   | 1W507  | 17    |          | 1'- 1"  | 3'- 11" |        |   |   |        |        |        |        |     |   | 13             | 5    | 7'- 0"   | 2W507   | 17    |          | 3'- 1"  | 3'- 11" |        |   |   |   |   |   |   |   |   |   |
|                | 33   | 5    | 4'- 4"   | 1W509  | 22    |          | 2'- 2"  | 2'- 2"  | ---    |   |   |        | 2'- 1" | ---    | 0'- 7" | --- |   | 33             | 5    | 4'- 4"   | 2W509   | 27    |          | 2'- 2"  | 2'- 2"  |        |   |   |   |   |   |   |   |   |   |
| WINGWALL NO. 2 |      |      |          |        |       |          |         |         |        |   |   |        |        |        |        |     |   |                |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 13   | 5    | 5'- 0"   | 2W501  | STR   | 5'- 0"   |         |         |        |   |   |        |        |        |        |     |   | 13             | 5    | 5'- 0"   | 2W501   | STR   | 5'- 0"   |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 13   | 5    | 3'- 11"  | 2W502  | STR   | 3'- 11"  |         |         |        |   |   |        |        |        |        |     |   | 13             | 5    | 3'- 11"  | 2W502   | STR   | 3'- 11"  |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 22   | 5    | 9'- 2"   | 2W503  | STR   | 9'- 2"   |         |         |        |   |   |        |        |        |        |     |   | 22             | 5    | 9'- 2"   | 2W503   | STR   | 9'- 2"   |         |         |        |   |   |   |   |   |   |   |   |   |
| ▲              | 13   | 5    | 10'- 1"  | 2W504  | STR   | 10'- 1"  |         |         |        |   |   |        |        |        |        |     |   | ▲              | 13   | 5        | 10'- 1" | 2W504 | STR      | 10'- 1" |         |        |   |   |   |   |   |   |   |   |   |
| ▲              | 13   | 5    | 10'- 1"  | 2W505  | STR   | 10'- 1"  |         |         |        |   |   |        |        |        |        |     |   | ▲              | 13   | 5        | 10'- 1" | 2W505 | STR      | 10'- 1" |         |        |   |   |   |   |   |   |   |   |   |
|                | 11   | 5    | 7'- 6"   | 2W508  | STR   | 7'- 6"   |         |         |        |   |   |        |        |        |        |     |   | 11             | 5    | 7'- 6"   | 2W508   | STR   | 7'- 6"   |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 13   | 5    | 5'- 5"   | 2W506  | 17    |          | 2'- 2"  | 1'- 1"  | 2'- 2" |   |   |        |        |        |        |     |   | 13             | 5    | 5'- 5"   | 2W506   | 17    |          | 2'- 2"  | 1'- 1"  | 2'- 2" |   |   |   |   |   |   |   |   |   |
|                | 13   | 5    | 7'- 0"   | 2W507  | 17    |          | 3'- 1"  | 3'- 11" |        |   |   |        |        |        |        |     |   | 13             | 5    | 7'- 0"   | 2W507   | 17    |          | 3'- 1"  | 3'- 11" |        |   |   |   |   |   |   |   |   |   |
|                | 33   | 5    | 4'- 4"   | 2W509  | 27    |          | 2'- 2"  | 2'- 2"  |        |   |   |        | 2'- 1" |        | 0'- 7" |     |   | 33             | 5    | 4'- 4"   | 2W509   | 27    |          | 2'- 2"  | 2'- 2"  |        |   |   |   |   |   |   |   |   |   |
| ABUTMENT NO. 2 |      |      |          |        |       |          |         |         |        |   |   |        |        |        |        |     |   |                |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |
| *              | 18   | 5    | 33'- 2"  | 2A501  | STR   | 33'- 2"  |         |         |        |   |   |        |        |        |        |     |   |                |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 30   | 5    | 3'- 11"  | 2A502  | STR   | 3'- 11"  |         |         |        |   |   |        |        |        |        |     |   |                |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 68   | 5    | 15'- 9"  | 2A503  | STR   | 15'- 9"  |         |         |        |   |   |        |        |        |        |     |   |                |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 21   | 5    | 15'- 8"  | 2A504  | STR   | 15'- 8"  |         |         |        |   |   |        |        |        |        |     |   |                |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 30   | 5    | 12'- 3"  | 2A505  | STR   | 12'- 3"  |         |         |        |   |   |        |        |        |        |     |   |                |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |
| *              | ▲    | 17   | 5        | 4'- 7" | 2A506 | STR      | 4'- 7"  |         |        |   |   |        |        |        |        |     |   |                |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |
| ▲              | 10   | 5    | 18'- 11" | 2A508  | STR   | 18'- 11" |         |         |        |   |   |        |        |        |        |     |   |                |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 30   | 5    | 5'- 11"  | 2A507  | 17    |          | 2'- 2"  | 1'- 7"  | 2'- 2" |   |   |        |        |        |        |     |   |                |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 30   | 6    | 14'- 8"  | 2A601  | 17    |          | 4'- 1"  | 10'- 7" | ---    |   |   |        |        |        |        |     |   |                |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 62   | 7    | 10'- 9"  | 2A701  | STR   | 10'- 9"  |         |         |        |   |   |        |        |        |        |     |   |                |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |
|                | 30   | 7    | 12'- 8"  | 2A702  | 17    |          | 4'- 1"  | 8'- 7"  | ---    |   |   |        |        |        |        |     |   |                |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |
| *              | ▲    | 26   | 8        | 8'- 0" | 2A801 | STR      | 8'- 0"  |         |        |   |   |        |        |        |        |     |   |                |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |
| △              | 13   | 8    | 3'- 4"   | 2EA801 | STR   | 3'- 4"   |         |         |        |   |   |        |        |        |        |     |   |                |      |          |         |       |          |         |         |        |   |   |   |   |   |   |   |   |   |

~ NOTES ~

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



ASTM STANDARD  
REINFORCING BARS

| BAR SIZE | WEIGHT<br>POUNDS<br>PER FOOT | CROSS-SECTIONAL AREA |                       |                     |
|----------|------------------------------|----------------------|-----------------------|---------------------|
|          |                              | DIAMETER<br>INCHES   | AREA<br>SQUARE INCHES | PERIMETER<br>INCHES |
| #3       | 0.376                        | 0.375                | 0.11                  | 1.178               |
| #4       | 0.668                        | 0.500                | 0.20                  | 1.571               |
| #5       | 1.043                        | 0.625                | 0.31                  | 1.963               |
| #6       | 1.502                        | 0.750                | 0.44                  | 2.356               |
| #7       | 2.04                         | 0.875                | 0.60                  | 2.749               |
| #8       | 2.670                        | 1.000                | 0.79                  | 3.14                |
| #9       | 3.400                        | 1.13                 | 1.00                  | 3.54                |
| #10      | 4.3                          | 1.270                | 1.27                  | 3.990               |
| #11      | 5.31                         | 1.410                | 1.56                  | 4.430               |
| #14      | 7.65                         | 1.69                 | 2.25                  | 5.32                |
| #18      | 13.60                        | 2.26                 | 4.00                  | 7.09                |

~ REINFORCING STEEL CORROSION RESISTANCE LEVEL ~

THE REINFORCING STEEL MARKS IN THIS SCHEDULE INDICATE THE REQUIRED BAR CORROSION RESISTANCE LEVEL. CORROSION RESISTANCE LEVEL IS DENOTED WITH A .2 FOR LEVEL TWO SUFFIX, OR .3 FOR LEVEL THREE SUFFIX. .1 FOR LEVEL ONE IS TO BE OMITTED. THE BAR MATERIAL TYPE AND BAR STEEL GRADE PROVIDED FOR EACH CORROSION LEVEL WILL BE RECORDED ON THE PLAN SET PI SHEET FOR AS-BUILT RECORD PLAN ARCHIVES.

PROJECT NAME: HUNTINGTON  
PROJECT NUMBER: BRO 1445(35)

FILE NAME: sl2j162r-ss.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
REINFORCING STEEL SCHEDULE

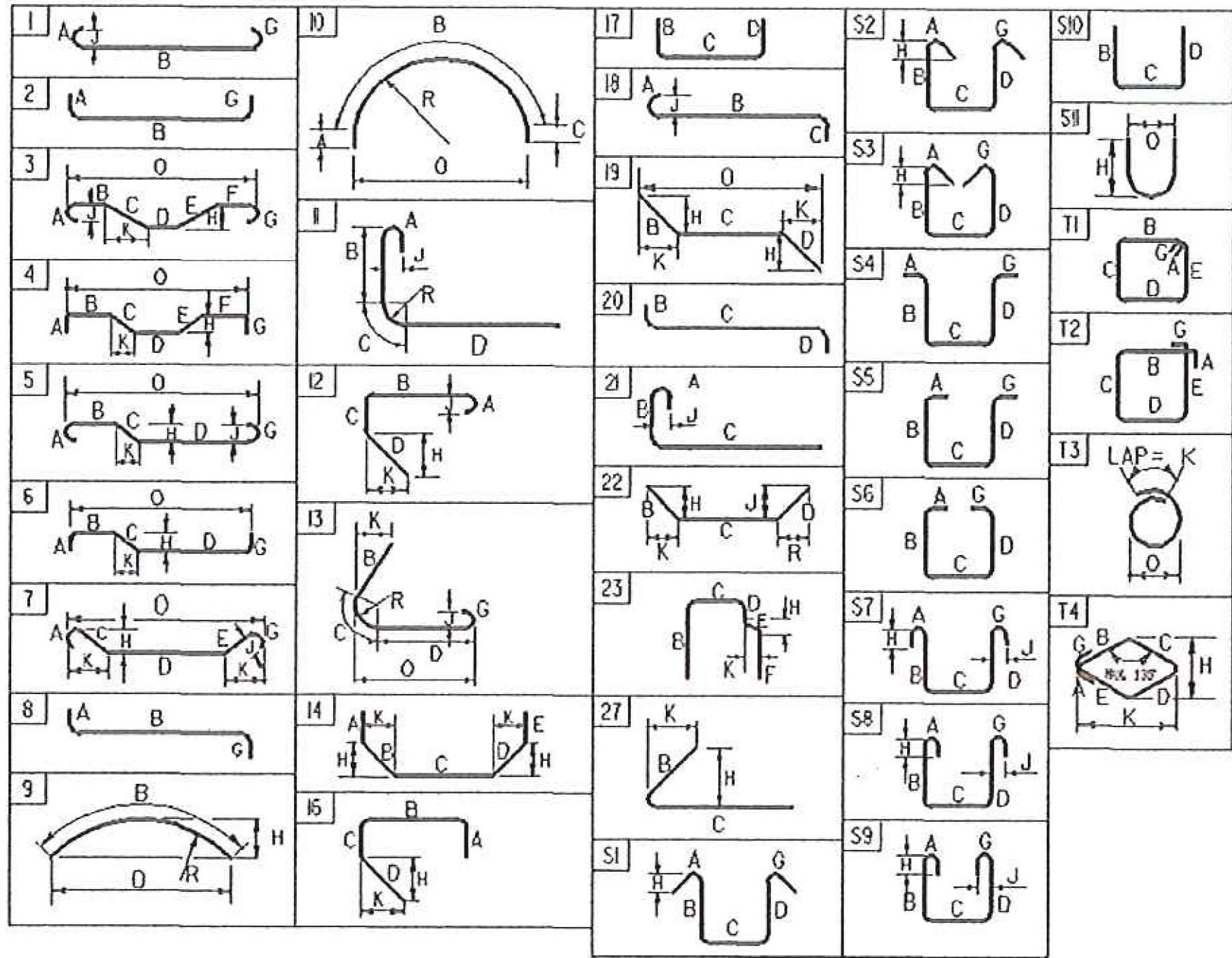
PLOT DATE: 15-OCT-2015  
DRAWN BY: R. PELLET  
CHECKED BY: D. PETERSON  
SHEET 27 OF 44



## REINFORCING STEEL SCHEDULE

## ~ NOTES ~

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



| ASTM STANDARD<br>REINFORCING BARS |                          |                               |                   |                   |
|-----------------------------------|--------------------------|-------------------------------|-------------------|-------------------|
| BAR<br>NUMBER                     | YIELD<br>STRENGTH<br>MPA | TENSILE STRENGTH REQUIREMENTS |                   |                   |
|                                   |                          | TENSILE<br>STRENGTH           | ELONG.<br>MODULUS | TENSILE<br>ELONG. |
| #3                                | 0.376                    | 0.375                         | 0.11              | 1.178             |
| #4                                | 0.668                    | 0.500                         | 0.20              | 1.571             |
| #5                                | 1.043                    | 0.625                         | 0.31              | 1.963             |
| #6                                | 1.502                    | 0.750                         | 0.44              | 2.356             |
| #7                                | 2.04                     | 0.875                         | 0.60              | 2.749             |
| #8                                | 2.670                    | 1.000                         | 0.79              | 3.14              |
| #9                                | 3.400                    | 1.13                          | 1.00              | 3.54              |
| #10                               | 4.3                      | 1.270                         | 1.27              | 3.990             |
| #11                               | 5.31                     | 1.410                         | 1.56              | 4.430             |
| #14                               | 7.65                     | 1.69                          | 2.25              | 5.32              |
| #18                               | 13.60                    | 2.26                          | 4.00              | 7.09              |

~ REINFORCING STEEL CORROSION RESISTANCE LEVEL ~

THE REINFORCING STEEL MARKS IN THIS SCHEDULE INDICATE THE REQUIRED BAR CORROSION RESISTANCE LEVEL. CORROSION RESISTANCE LEVEL IS DENOTED WITH A 2 FOR LEVEL TWO SUFFIX OR .3 FOR LEVEL THREE SUFFIX. 1 FOR LEVEL ONE IS TO BE OMITTED. THE BAR MATERIAL TYPE AND BAR STEEL GRADE PROVIDED FOR EACH CORROSION LEVEL WILL BE RECORDED ON THE PLAN SET P SHEET FOR AS-BUILT RECORD PLAN ARCHIVES.

| REVISION | DATE       | DESCRIPTION                                      | BY  |
|----------|------------|--------------------------------------------------|-----|
| 3        | 07-12-2016 | ABUTMENT & WINGWALL<br>REINFORCING STEEL CHANGES | MCL |

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PROJECT NAME: HUNTINGTON

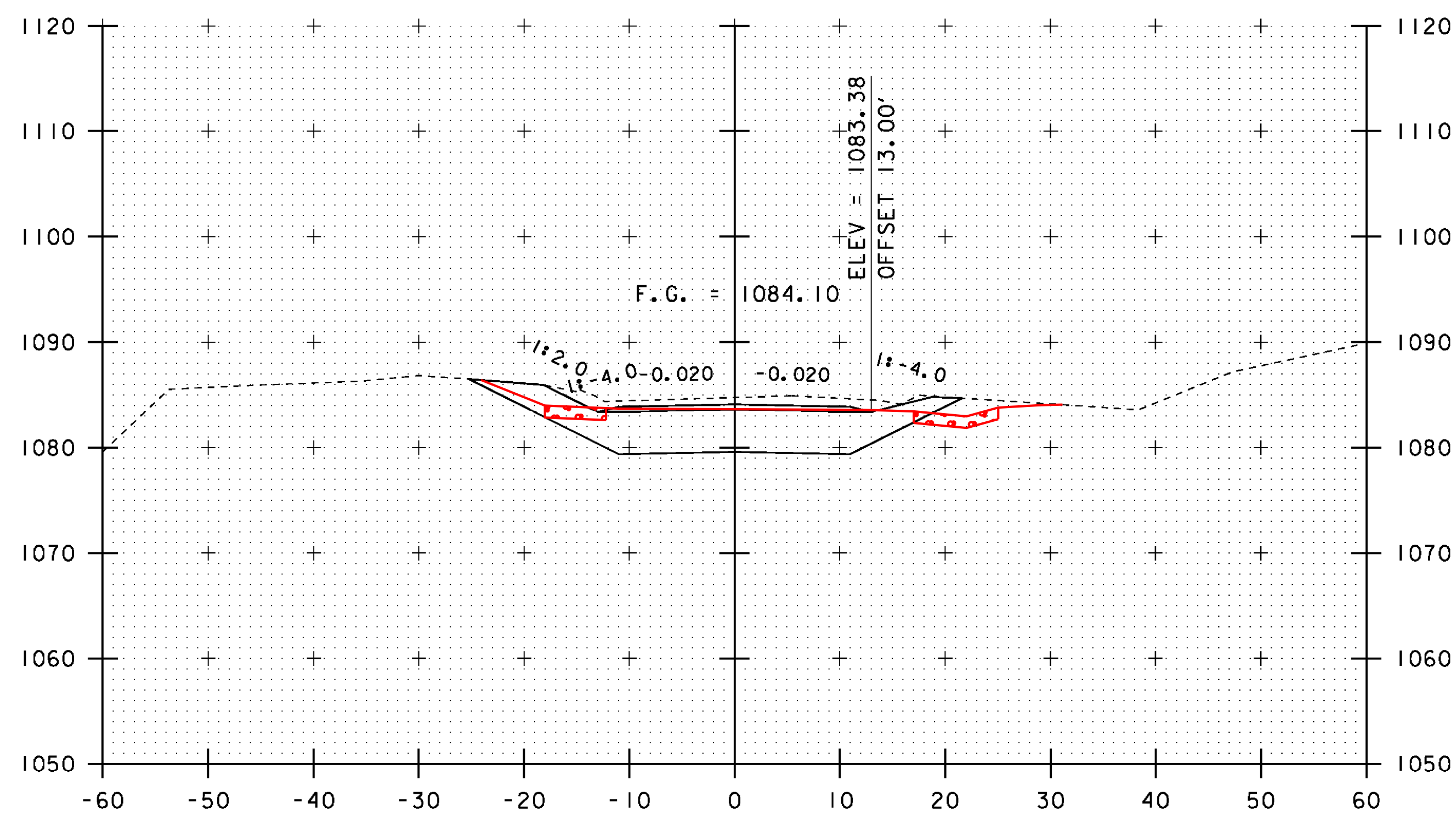
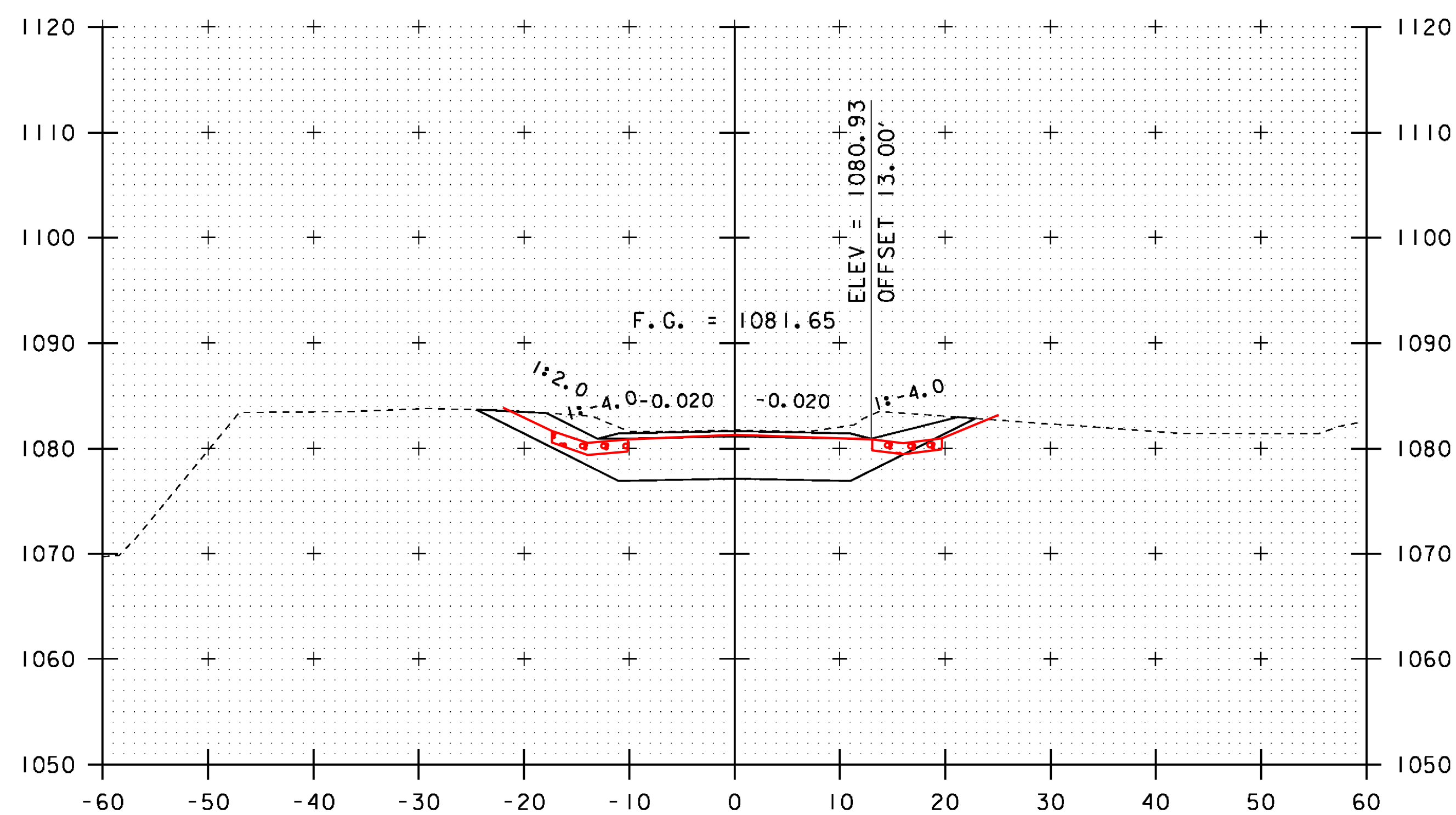
PROJECT NUMBER: BRO 1445(35)

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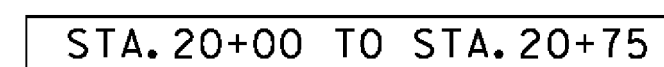
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| FILE NAME: s2j162r.ss.dgn  | PLOT DATE: 13-JUL-2016  |
| PROJECT LEADER: C. CARLSON | DRAWN BY: R. PELLETT    |
| DESIGNED BY: D. PETERSON   | CHECKED BY: D. PETERSON |
| REINFORCING STEEL SCHEDULE | SHEET 27A OF 44         |



|                              |                         |
|------------------------------|-------------------------|
| PROJECT NAME: HUNTINGTON     |                         |
| PROJECT NUMBER: BRO 1445(35) |                         |
| FILE NAME: si2j62xs.dgn      | PLOT DATE: 15-OCT-2015  |
| PROJECT LEADER: C. CARLSON   | DRAWN BY: R. PELLETT    |
| DESIGNED BY: D. PETERSON     | CHECKED BY: D. PETERSON |
| MAINLINE CROSS SECTIONS 1    | SHEET 28 OF 44          |

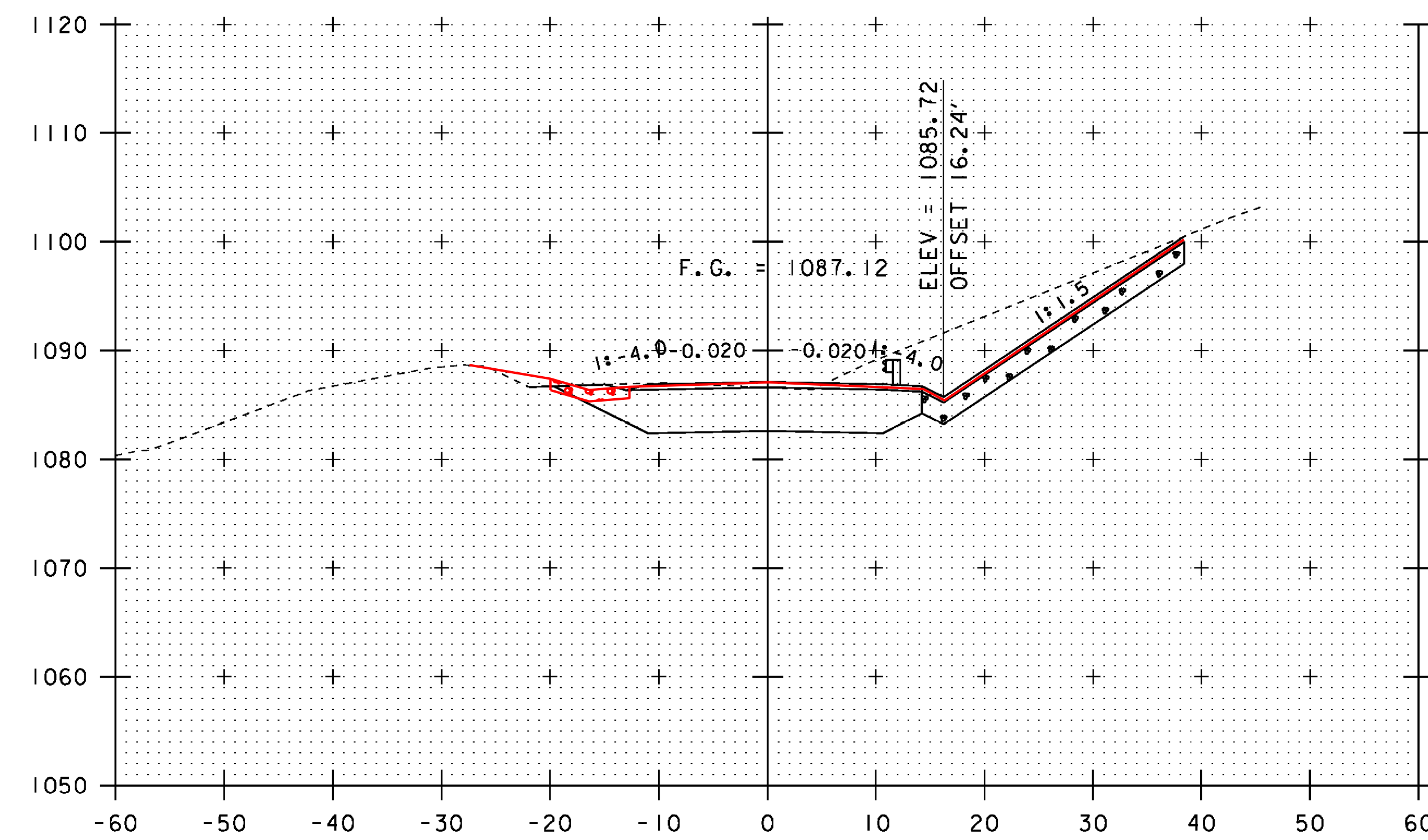
 $20+75$ 

20+50  
BEGIN PROJECT

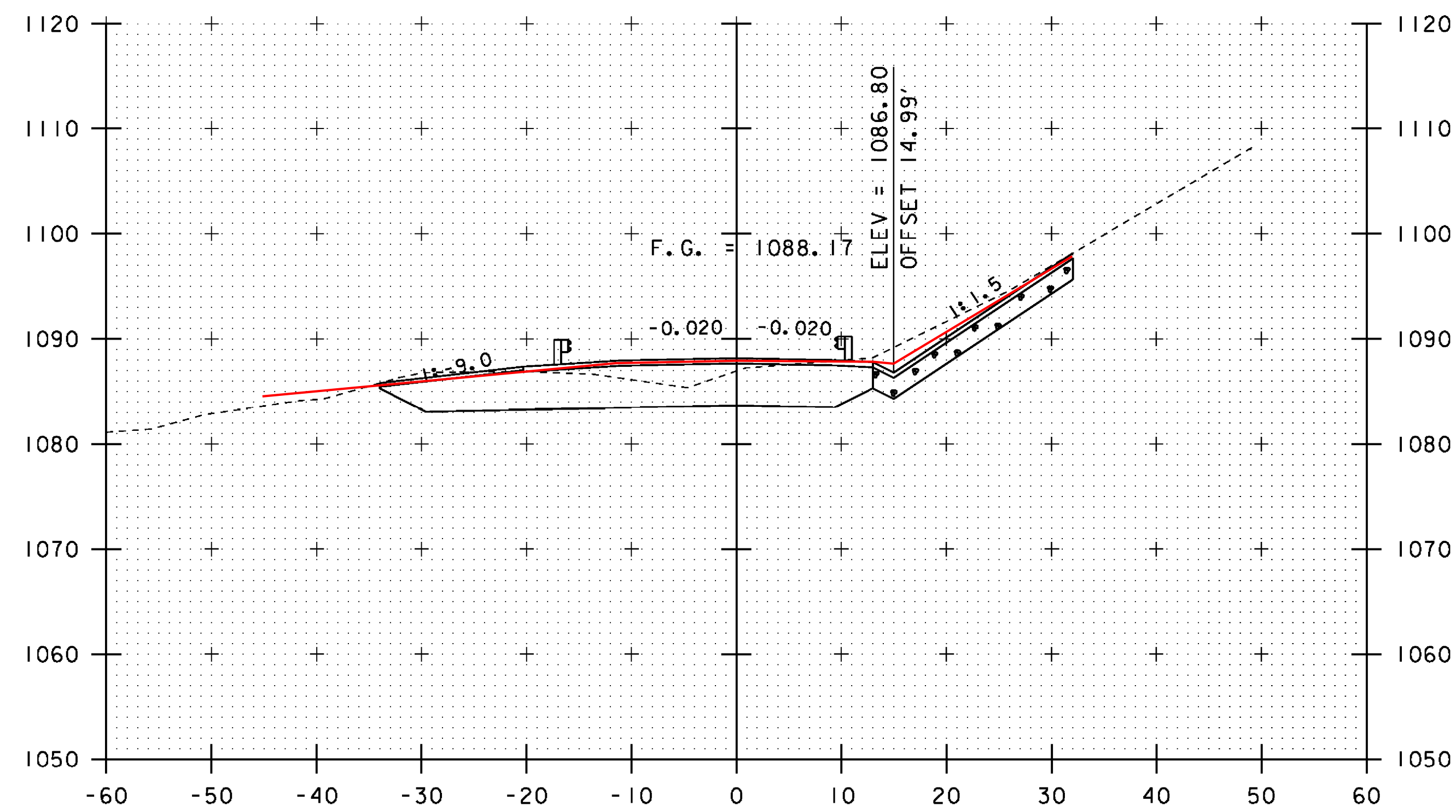




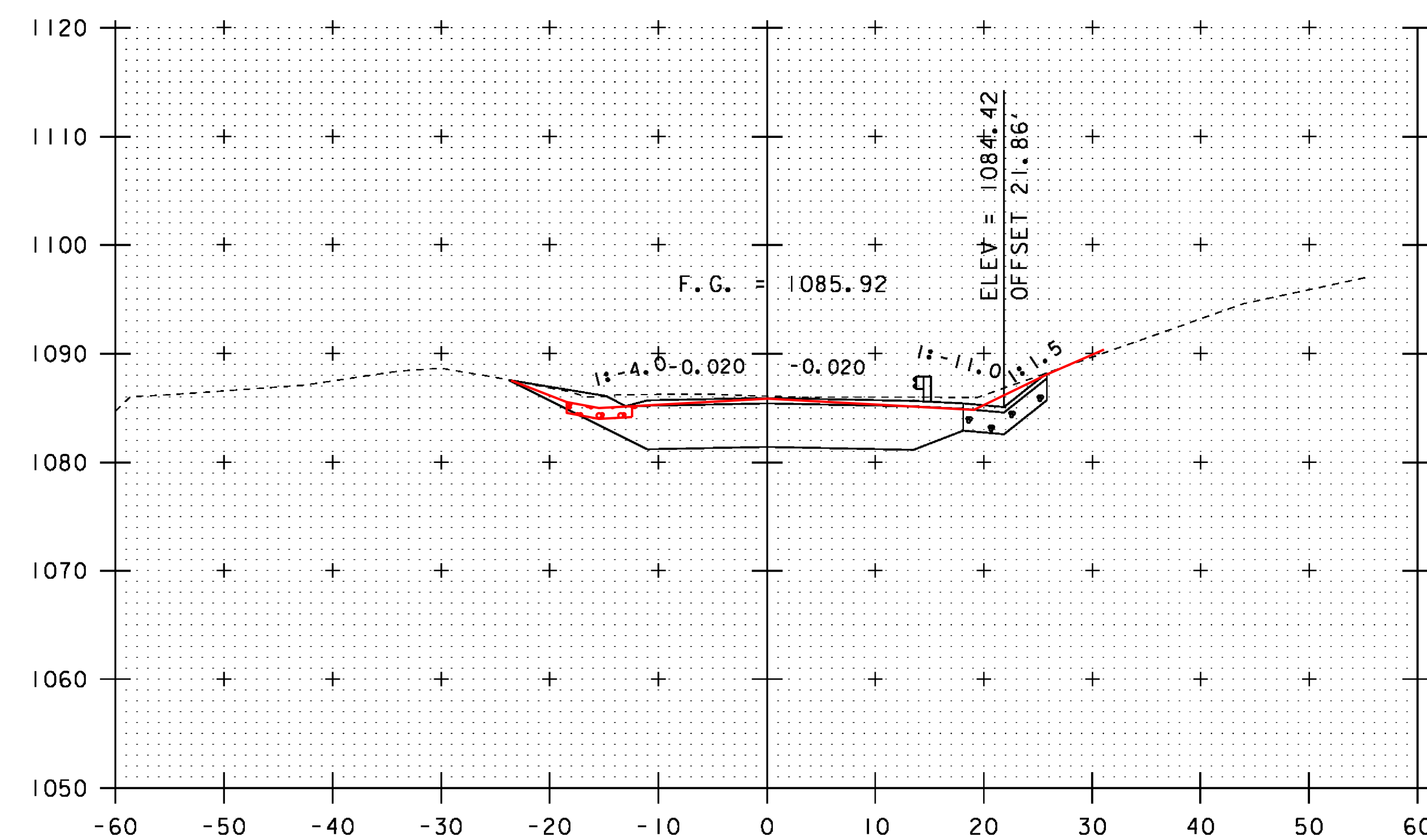
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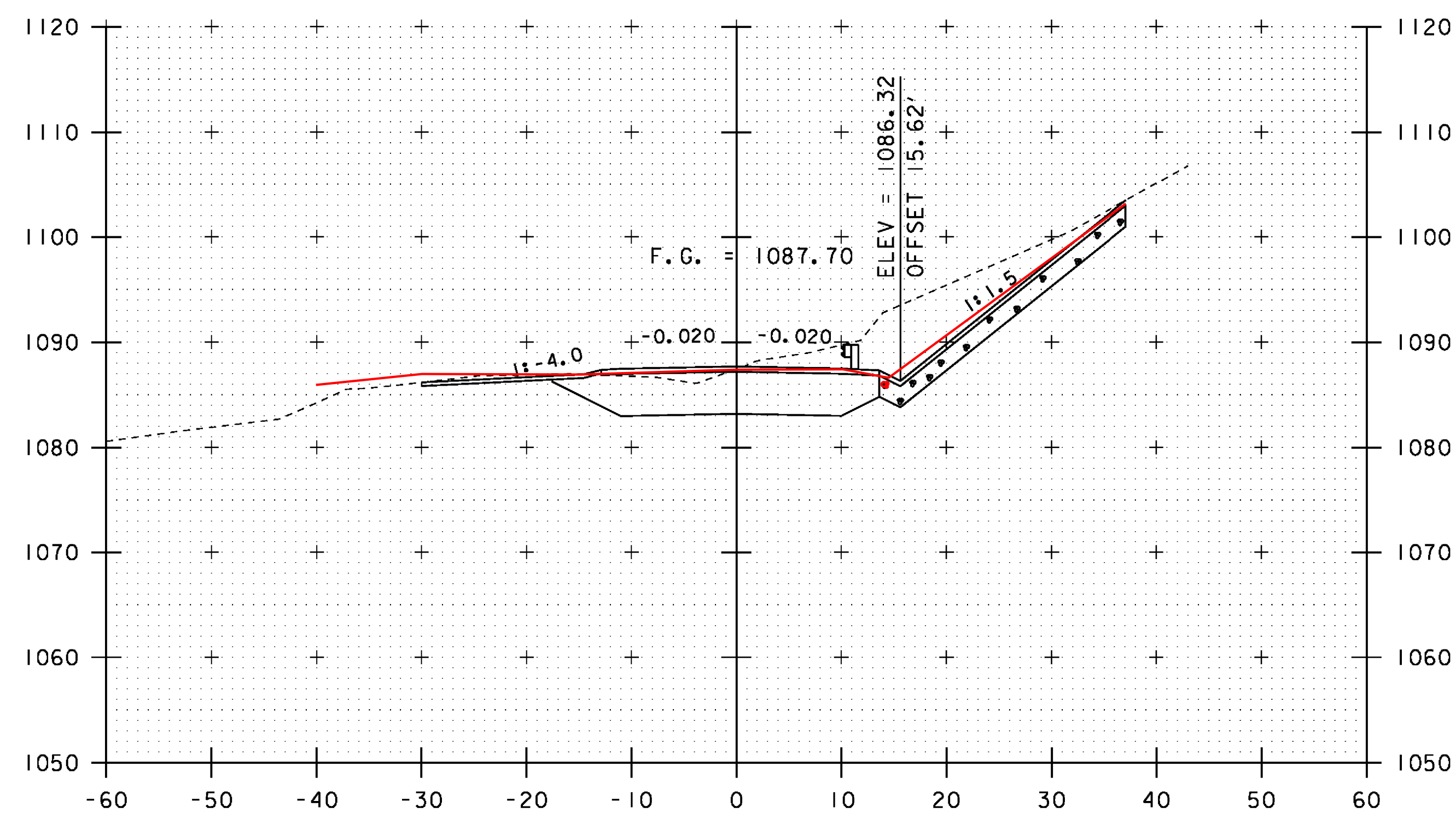
21+25



21+75



21+00



21+50

SCALE 1" = 10'-0"

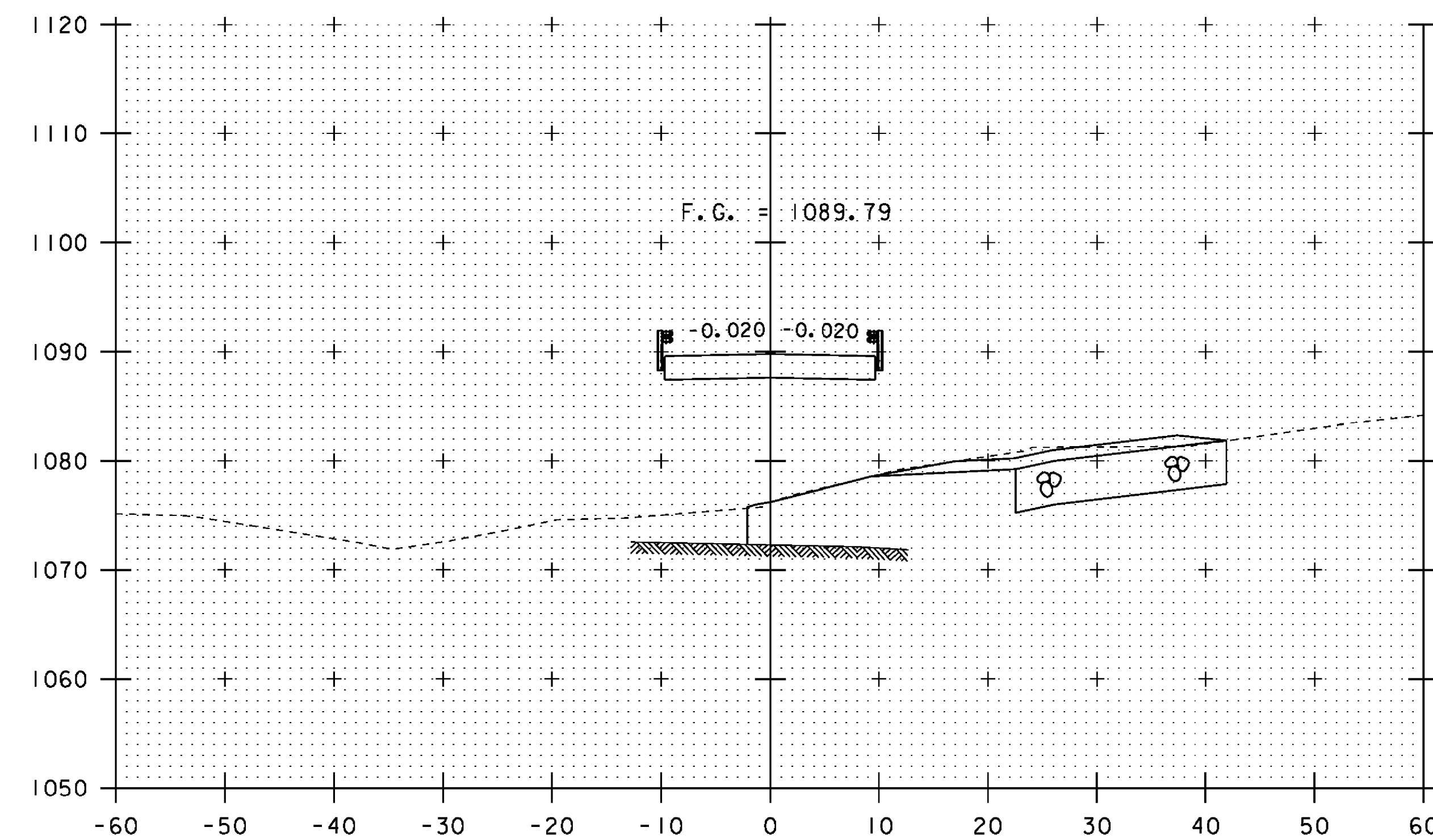
STA. 21+00 TO STA. 21+75

|                           |               |
|---------------------------|---------------|
| PROJECT NAME:             | HUNTINGTON    |
| PROJECT NUMBER:           | BRO 1445(35)  |
| FILE NAME:                | sl2j162xs.dgn |
| PROJECT LEADER:           | C. CARLSON    |
| DESIGNED BY:              | D. PETERSON   |
| MAINLINE CROSS SECTIONS 2 |               |
| PLOT DATE:                | 15-OCT-2015   |
| DRAWN BY:                 | R. PELLETT    |
| CHECKED BY:               | D. PETERSON   |
| SHEET                     | 29 OF 44      |



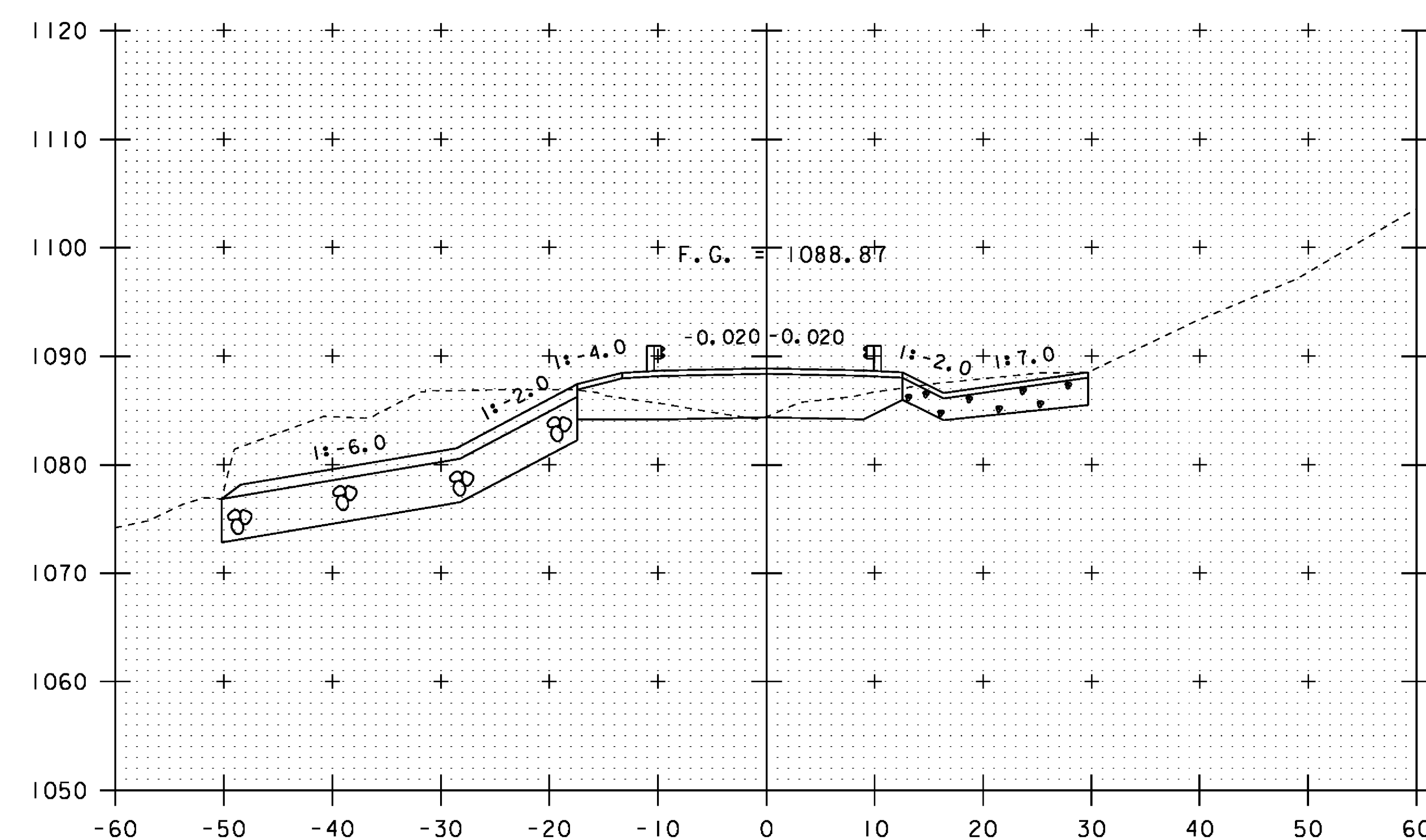
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SEE CHANNEL SECTIONS



SEE CHANNEL SECTIONS

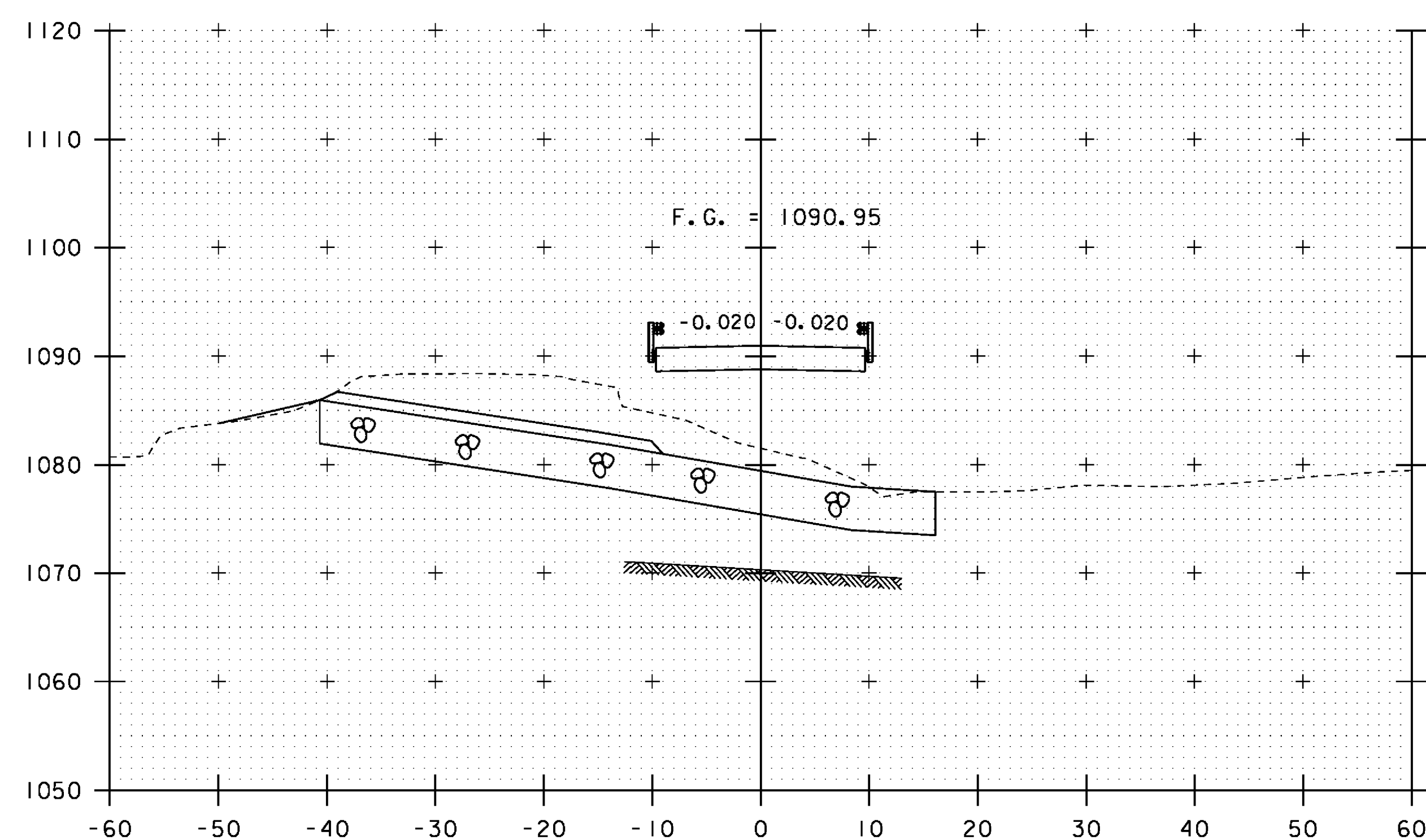
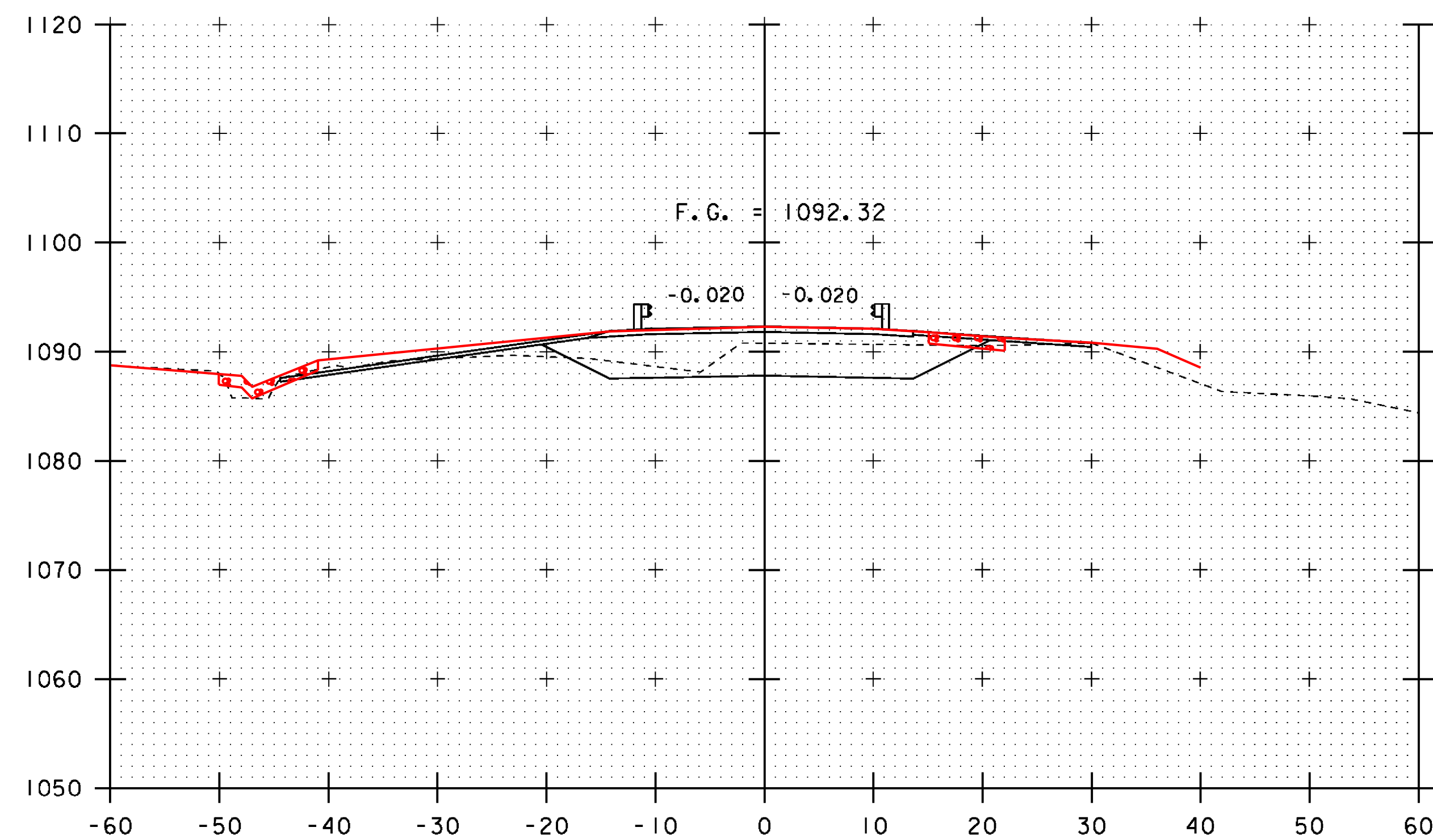
22+25  
BEGIN BRIDGE 22+14.00



22+00

SEE CHANNEL SECTIONS

22+75



22+50  
END BRIDGE 22+56.00

SCALE 1" = 10'-0"

STA. 22+00 TO STA. 22+75

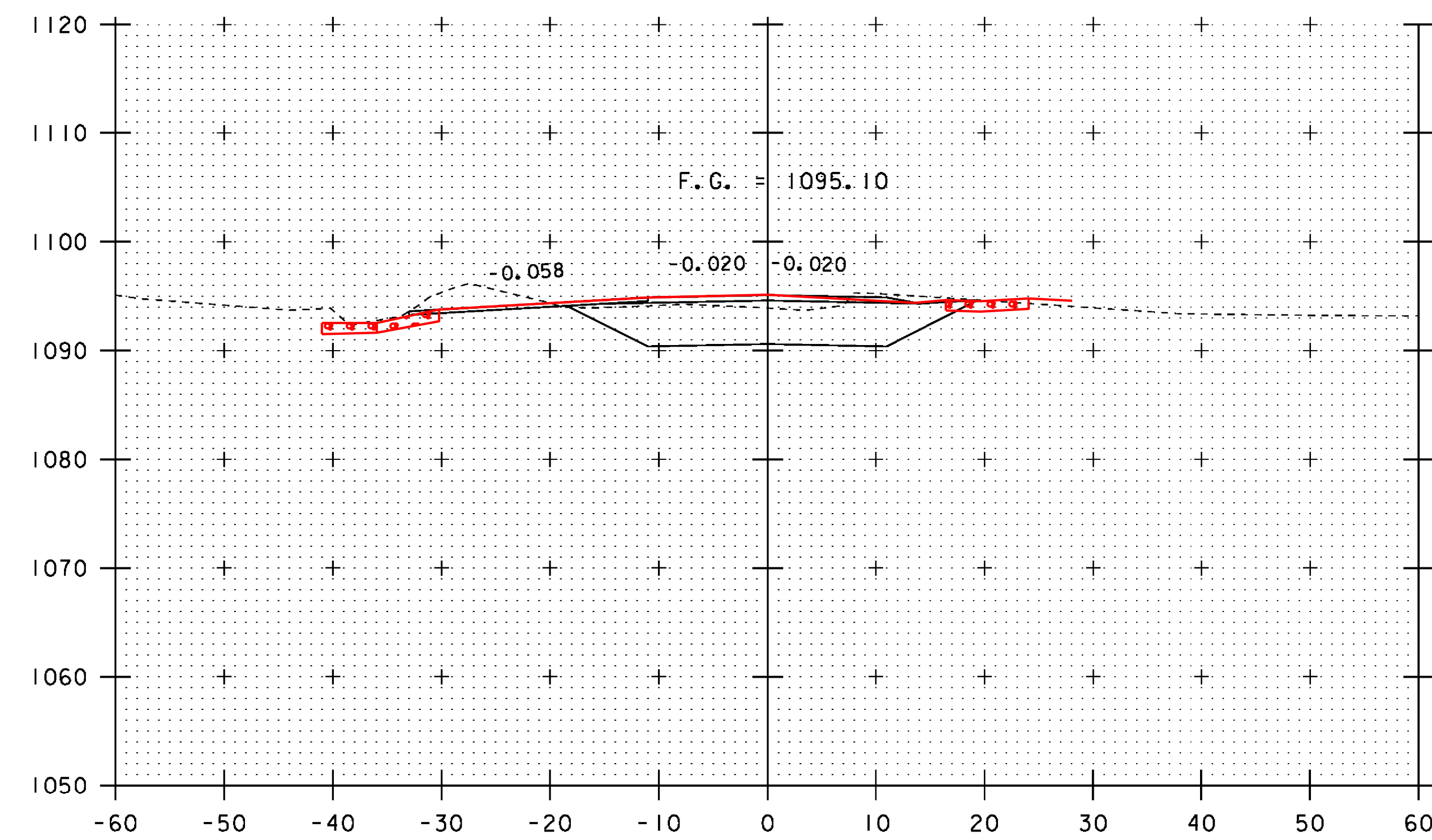
PROJECT NAME: HUNTINGTON  
PROJECT NUMBER: BRO 1445(35)

FILE NAME: sl2j162xs.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
MAINLINE CROSS SECTIONS 3

PLOT DATE: 15-OCT-2015  
DRAWN BY: R. PELLETT  
CHECKED BY: D. PETERSON  
SHEET 30 OF 44

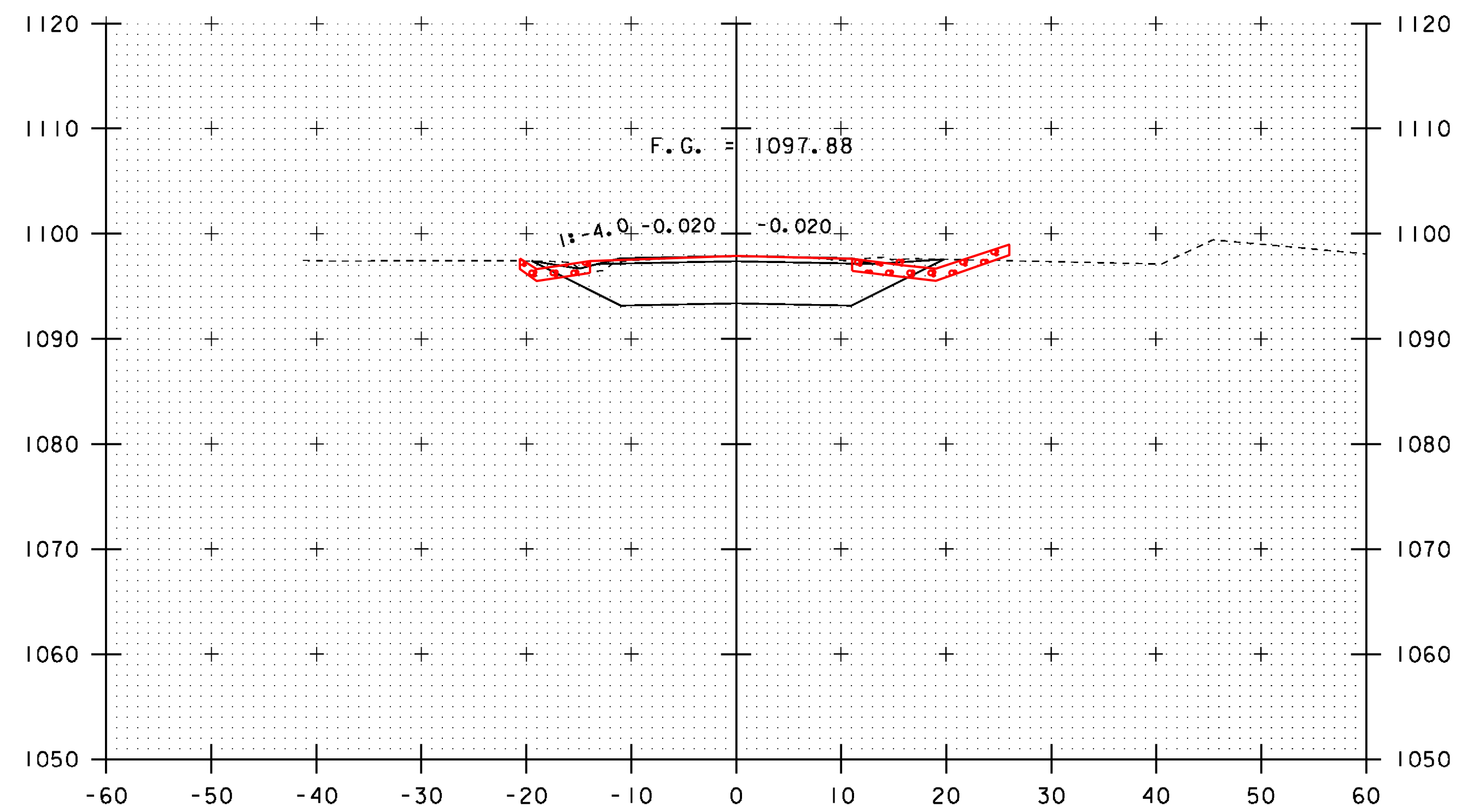


FINAL GRADES DROWN. SEE SURVEY FOLDER FOR EXACT ELEVATIONS.

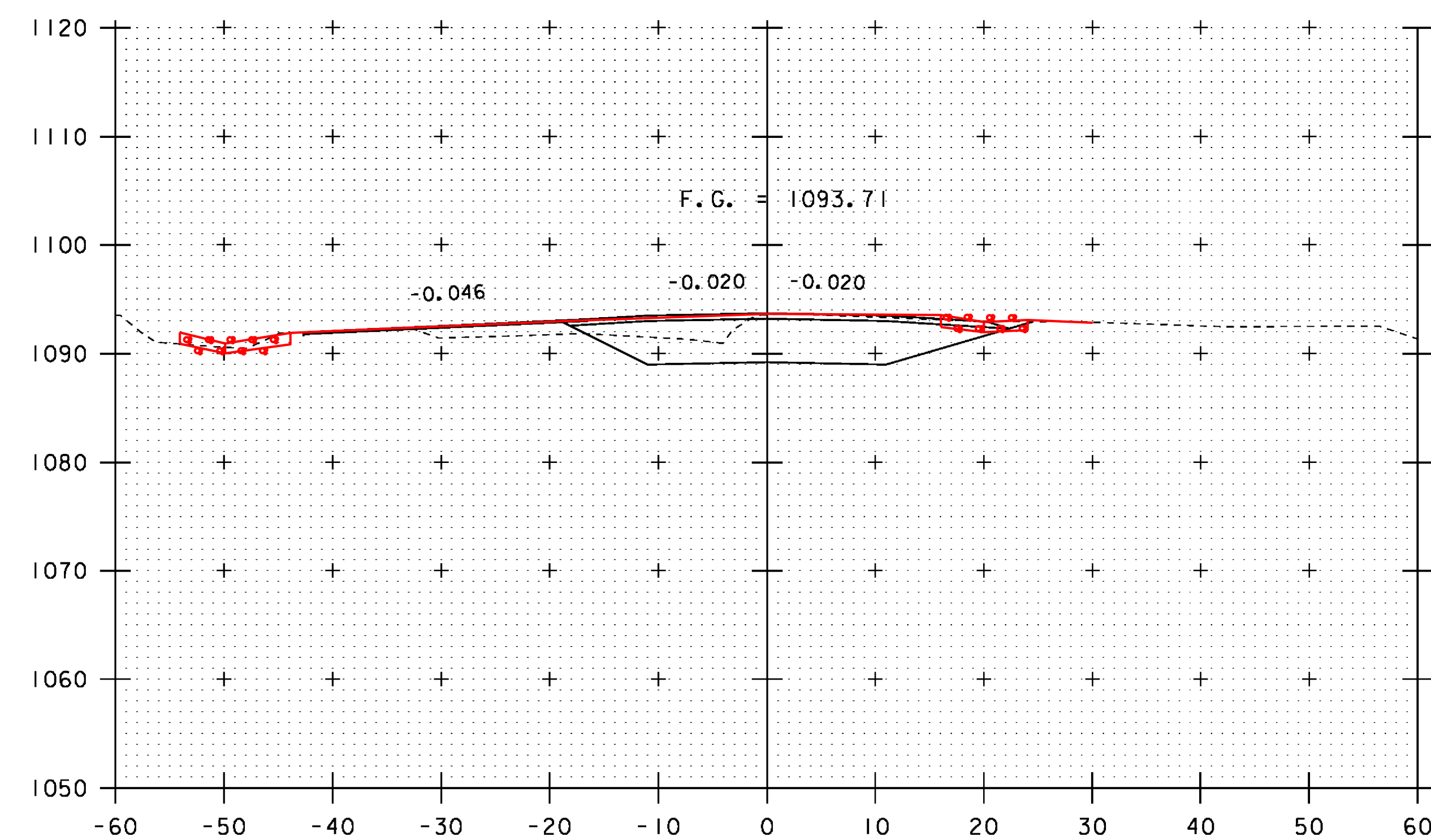


23+25

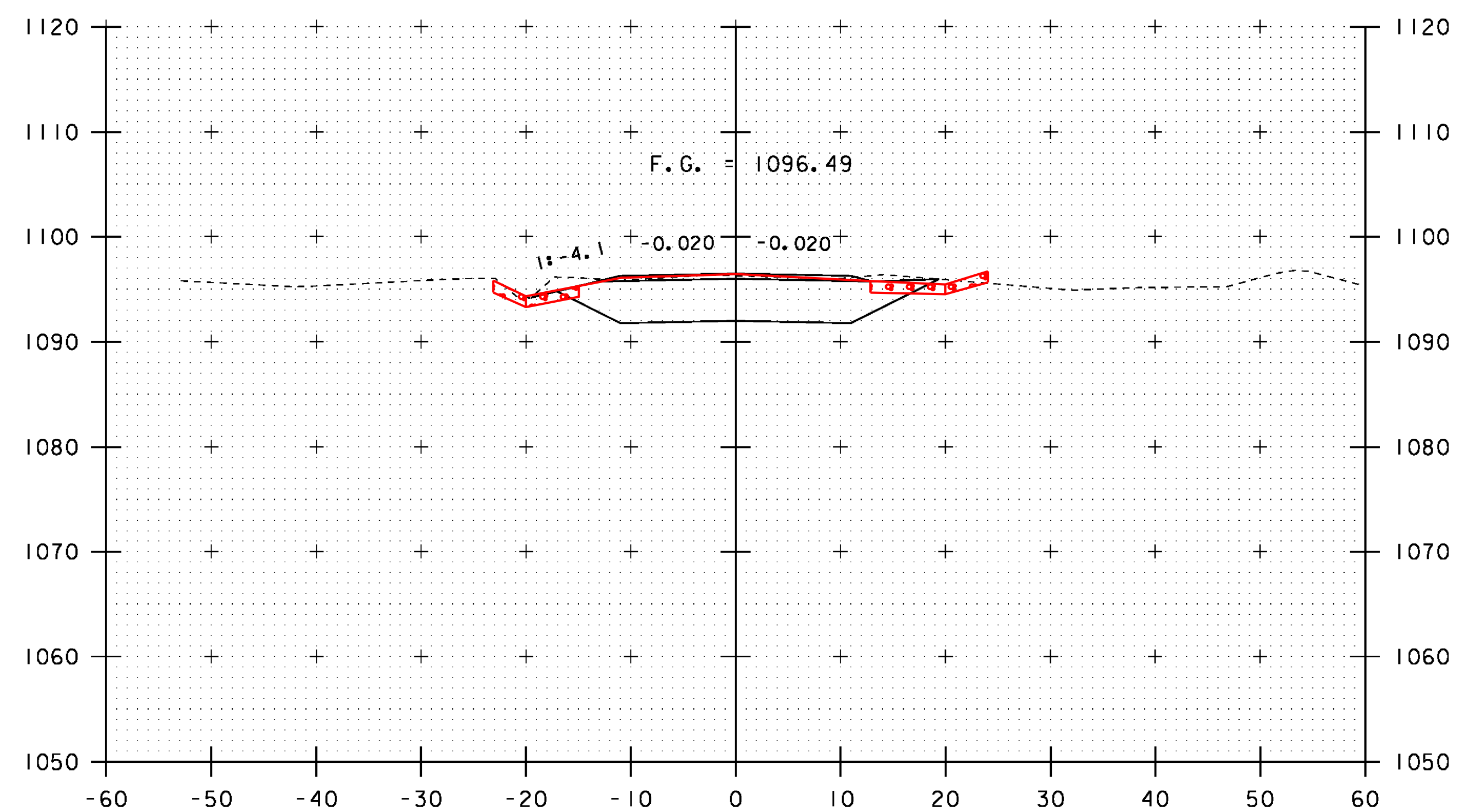
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23+75



23+00



23+50

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

STA. 23+00 TO STA. 23+75

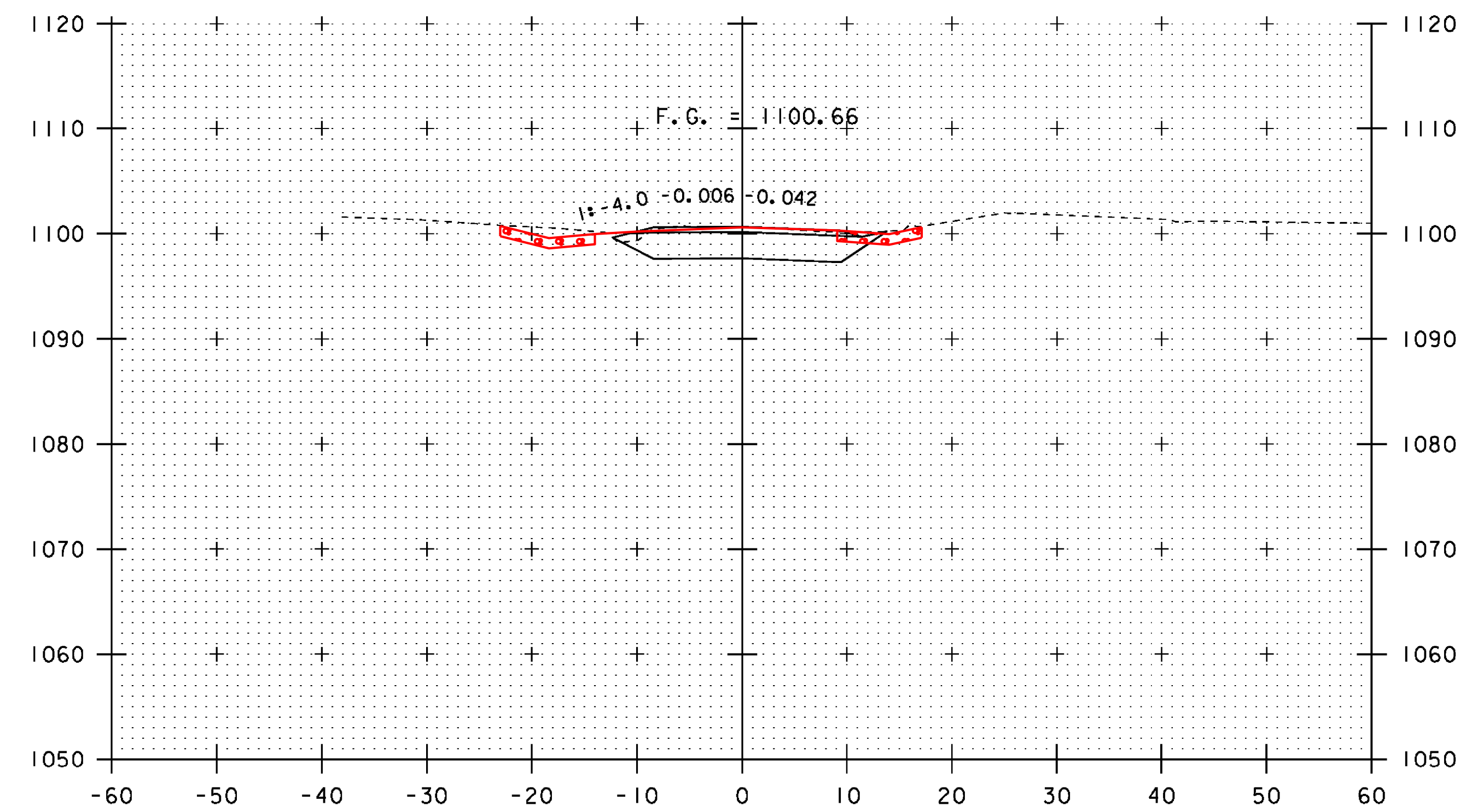
PROJECT NAME: HUNTINGTON  
PROJECT NUMBER: BRO 1445(35)

FILE NAME: sl2j162xs.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
MAINLINE CROSS SECTIONS 4

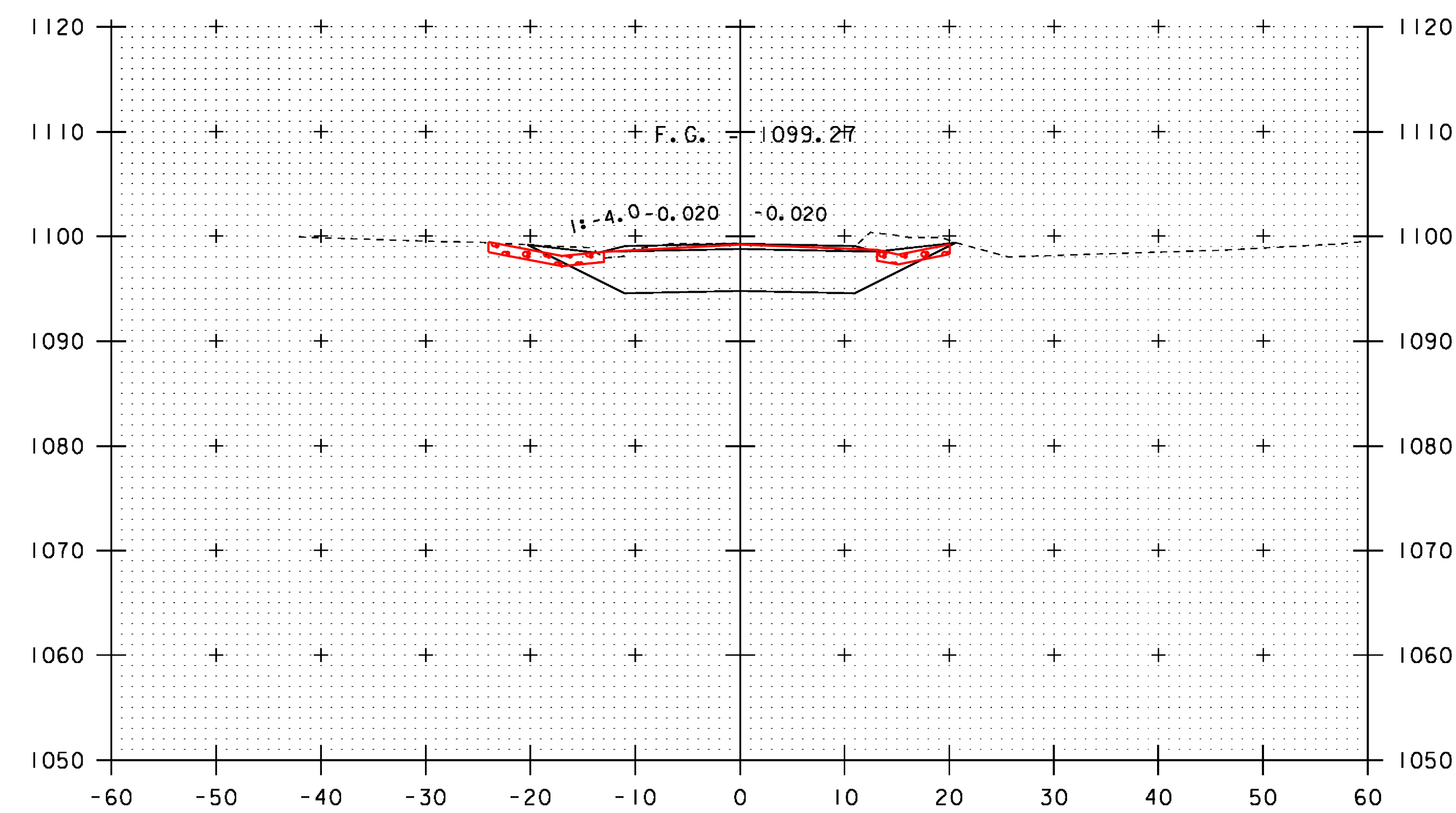
PLOT DATE: 15-OCT-2015  
DRAWN BY: R. PELLETT  
CHECKED BY: D. PETERSON  
SHEET 31 OF 44



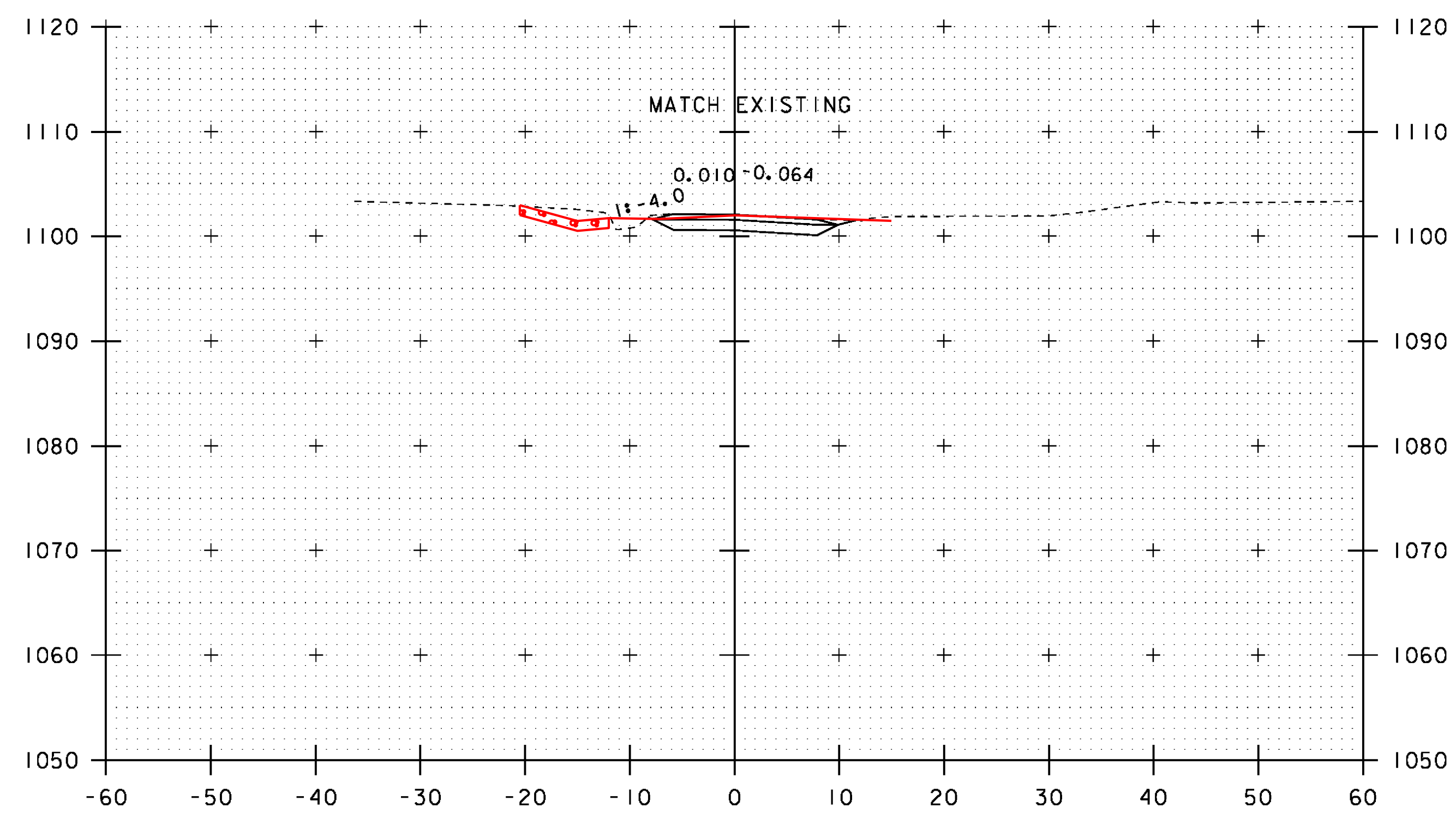
FINAL GRADES DROWN. SEE SURVEY FOLDER FOR EXACT ELEVATIONS.



24+25



24+00  
END PROJECT



24+50  
END APPROACH

SCALE 1" = 10'-0"  
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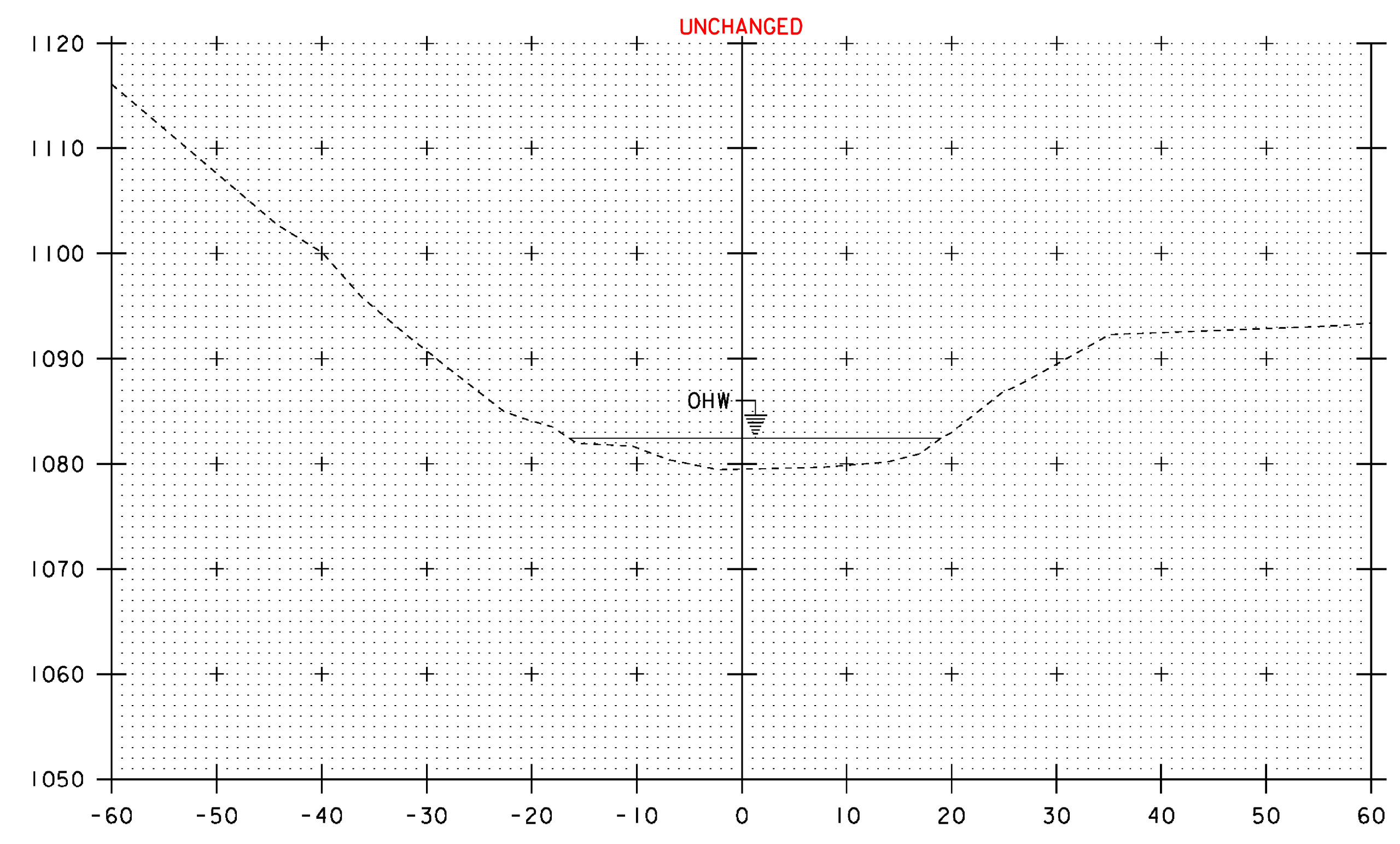
STA. 24+00 TO STA. 24+50

PROJECT NAME: HUNTINGTON  
PROJECT NUMBER: BRO 1445(35)

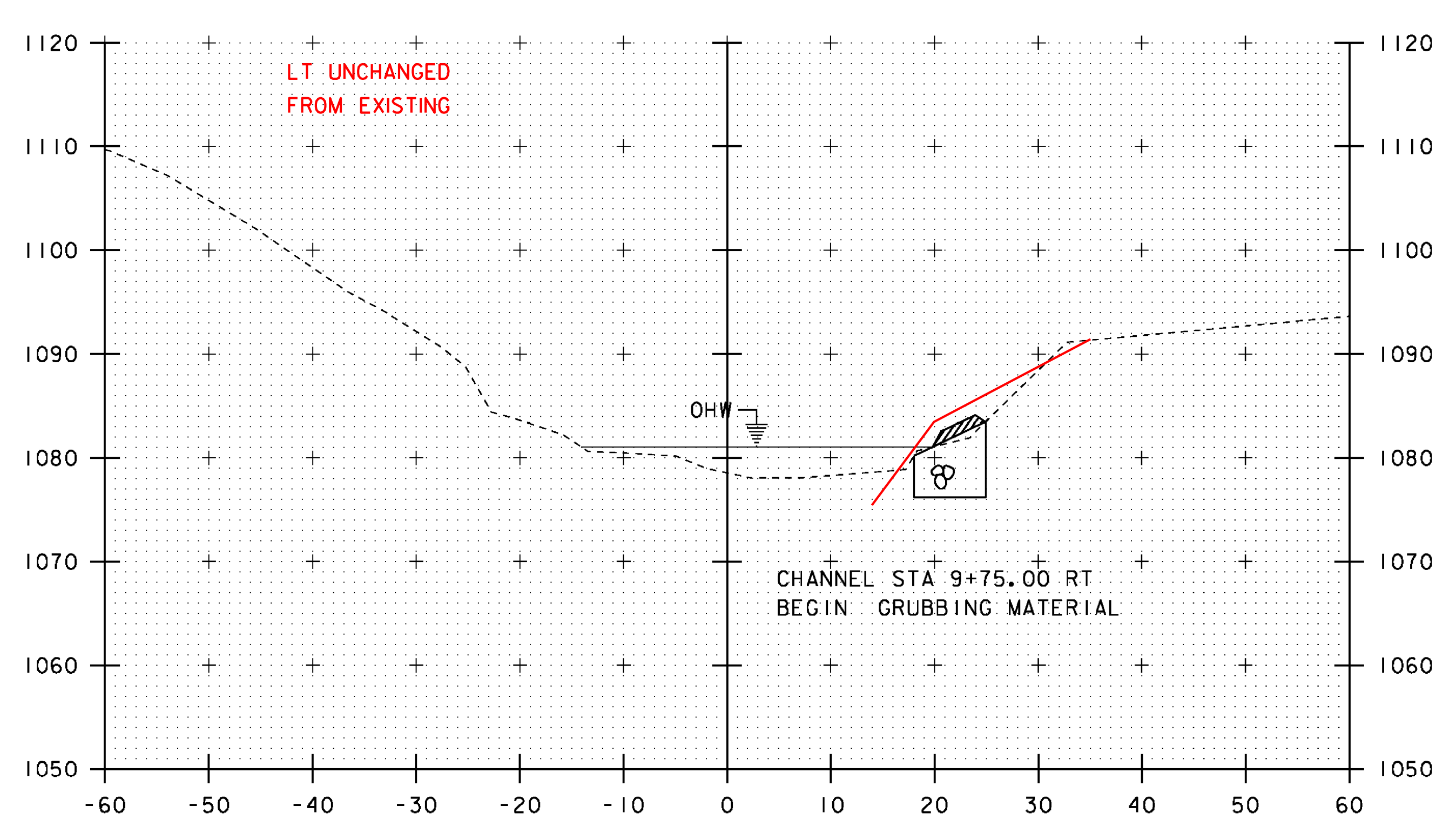
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PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
MAINLINE CROSS SECTIONS 5

PLOT DATE: 15-OCT-2015  
DRAWN BY: R. PELLETT  
CHECKED BY: D. PETERSON  
SHEET 32 OF 44

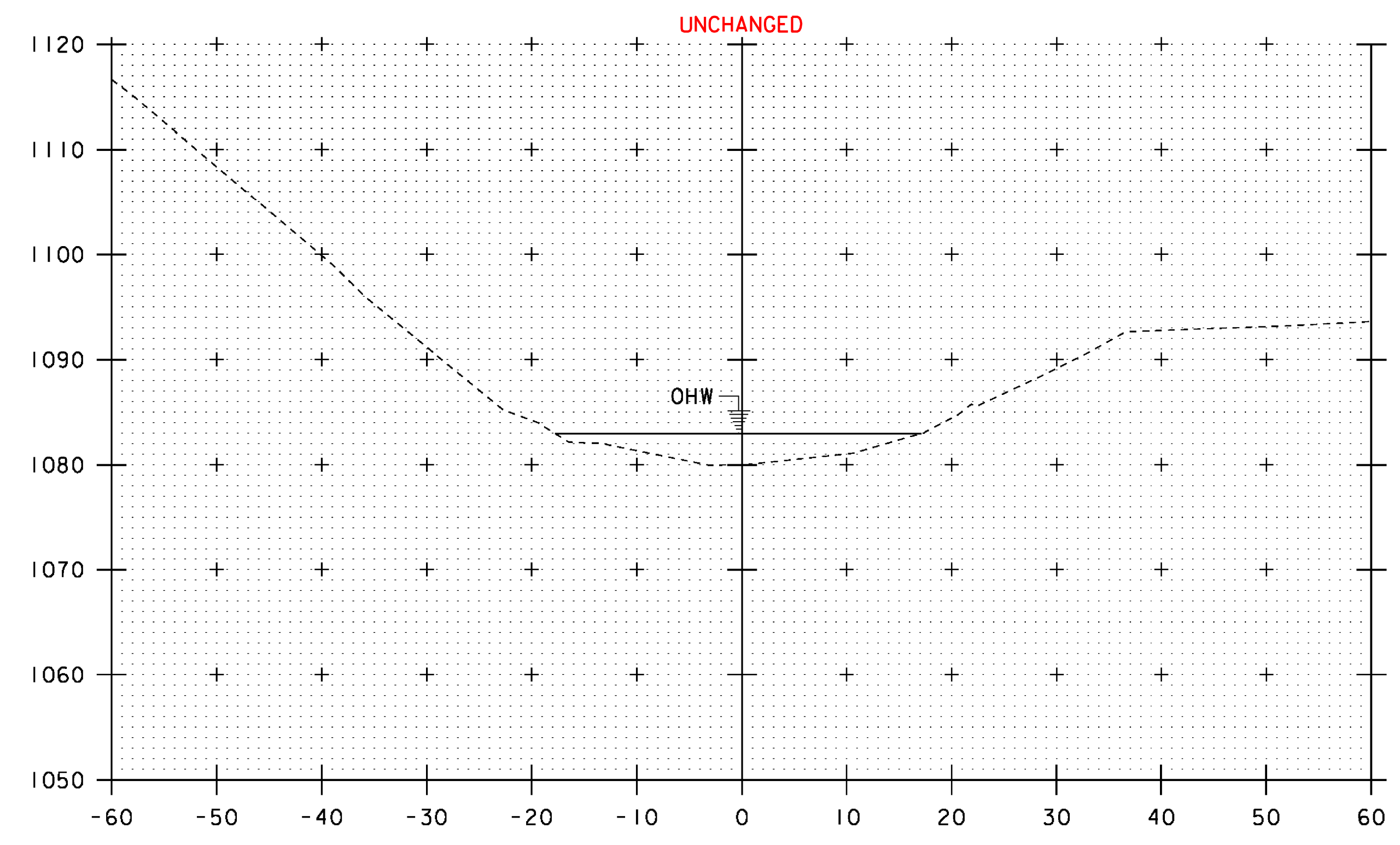




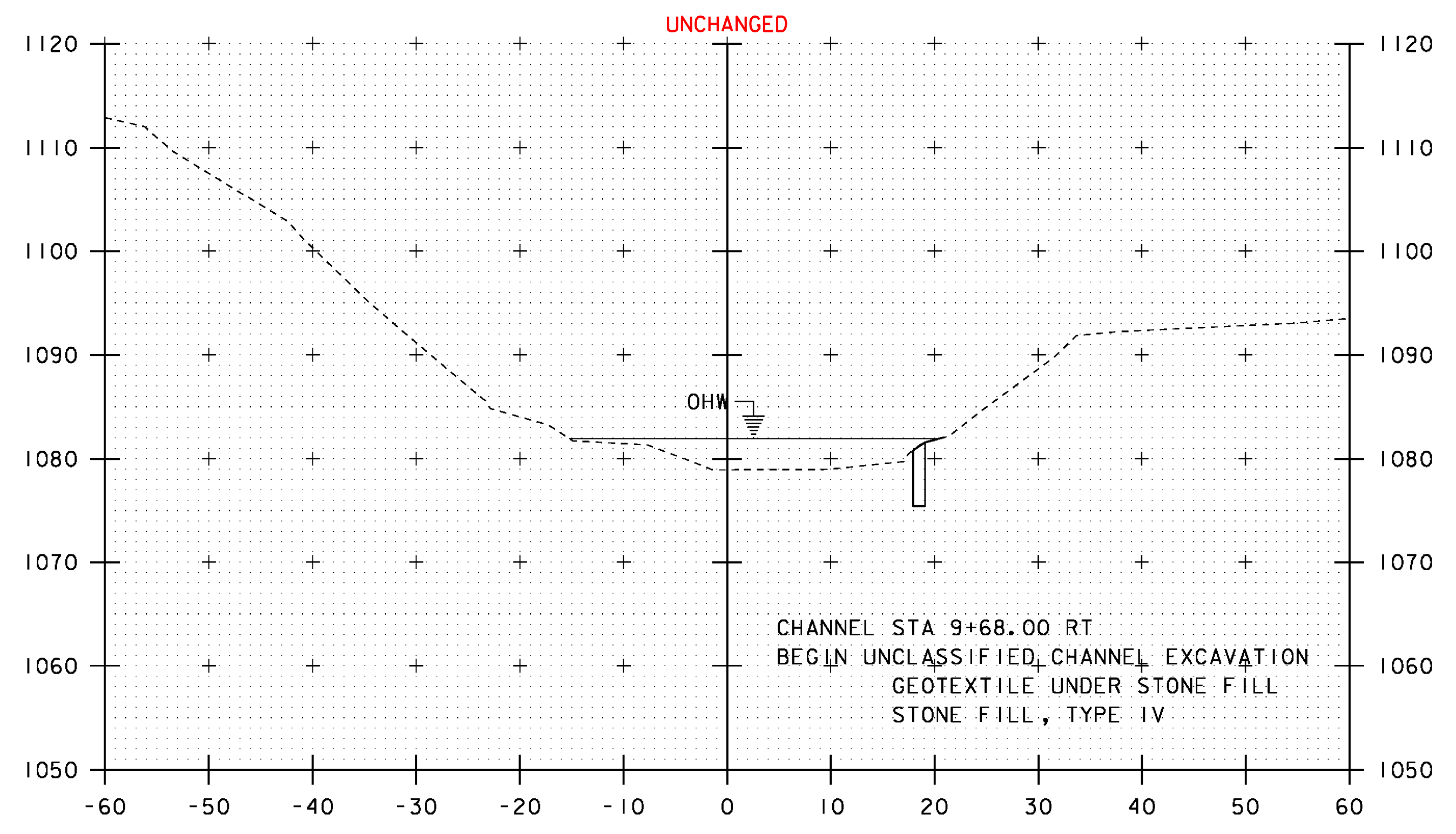
9+60



9+80



9+50



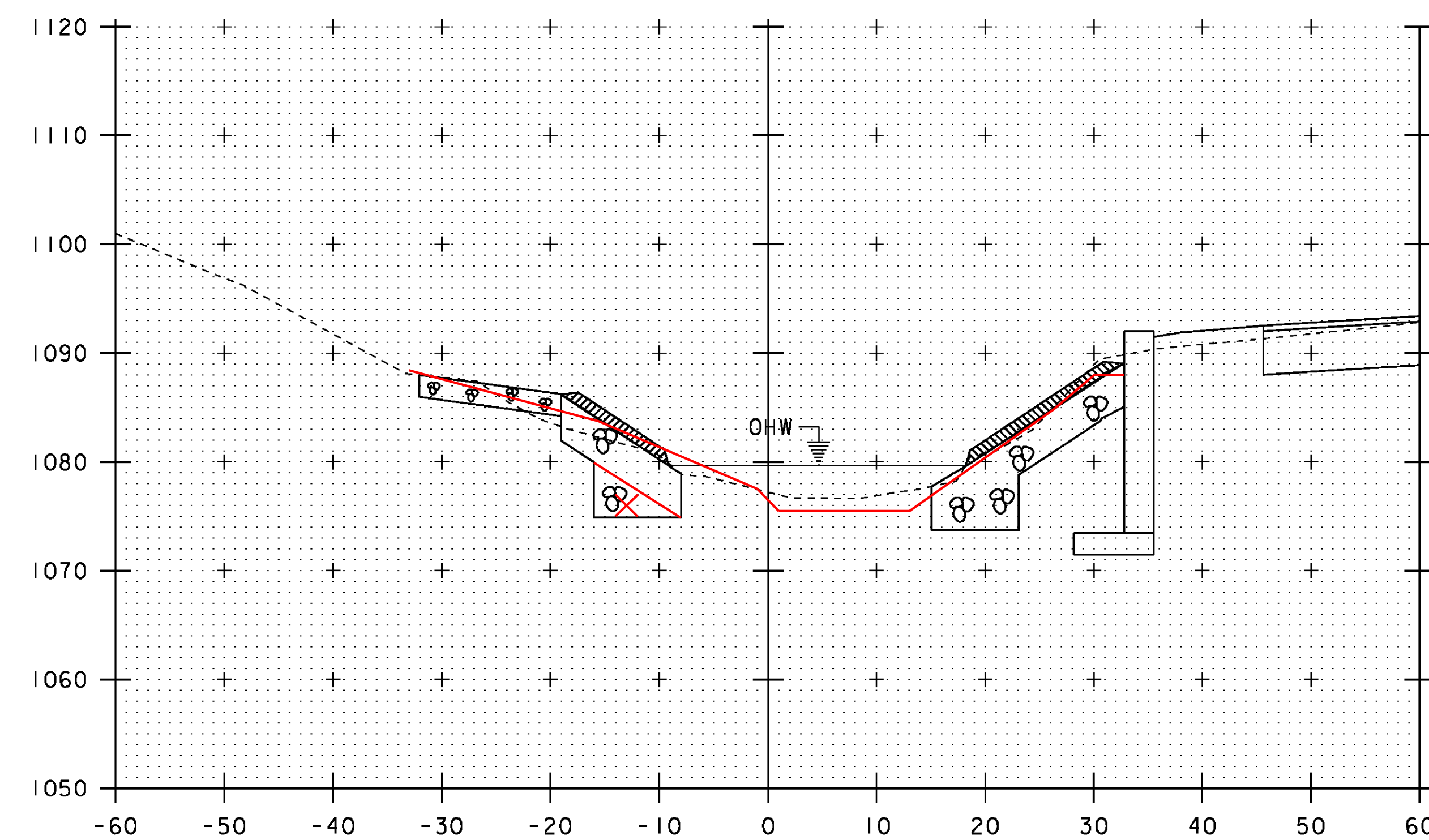
9+70

SCALE 1" = 10'-0"

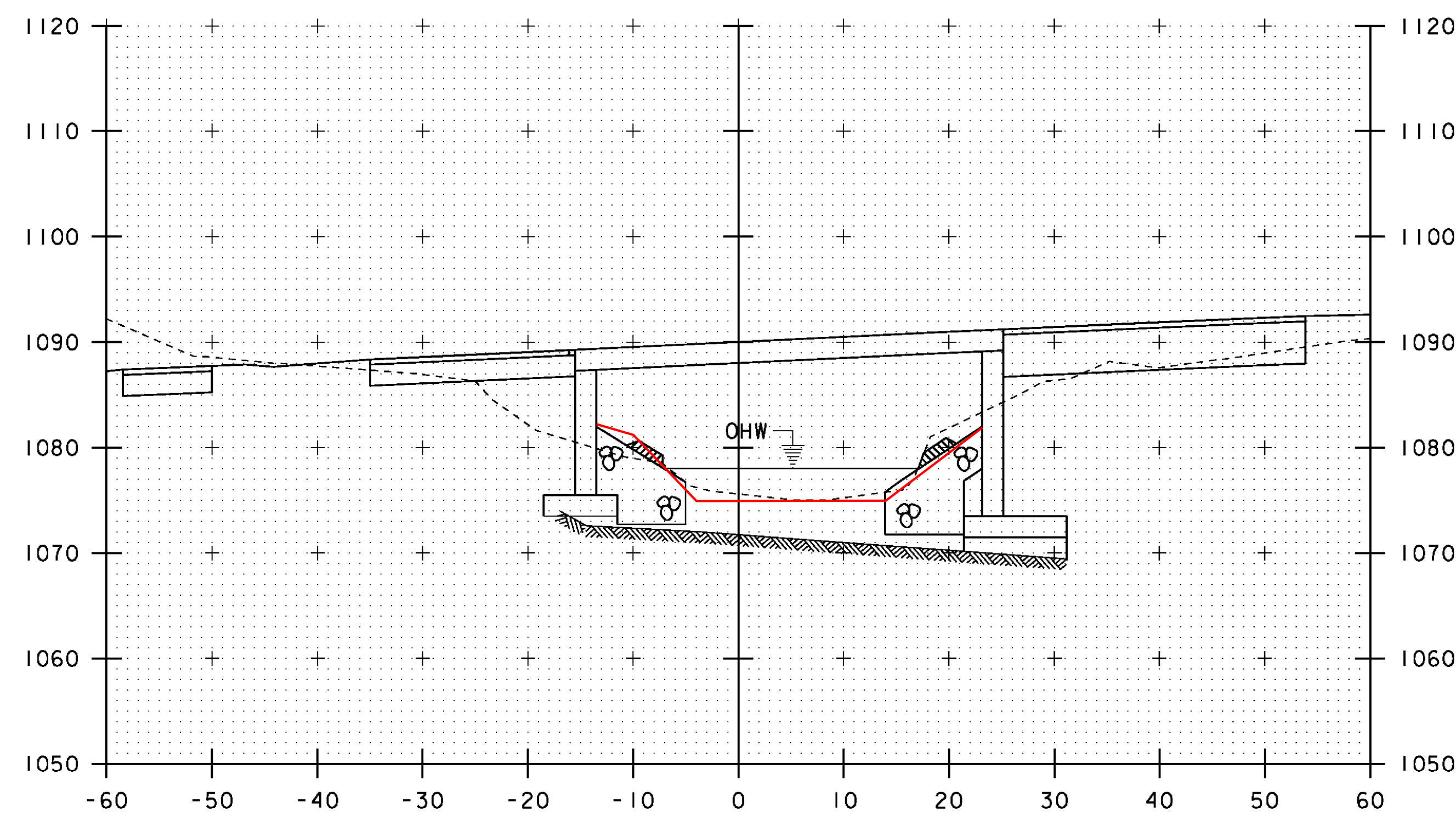
STA. 9+50 TO STA. 9+80

|                              |                         |
|------------------------------|-------------------------|
| PROJECT NAME: HUNTINGTON     |                         |
| PROJECT NUMBER: BRO 1445(35) |                         |
| FILE NAME: sl2j162xs.dgn     | PLOT DATE: 15-OCT-2015  |
| PROJECT LEADER: C. CARLSON   | DRAWN BY: R. PELLETT    |
| DESIGNED BY: D. PETERSON     | CHECKED BY: D. PETERSON |
| CHANNEL CROSS SECTIONS I     |                         |
| SHEET 33 OF 44               |                         |

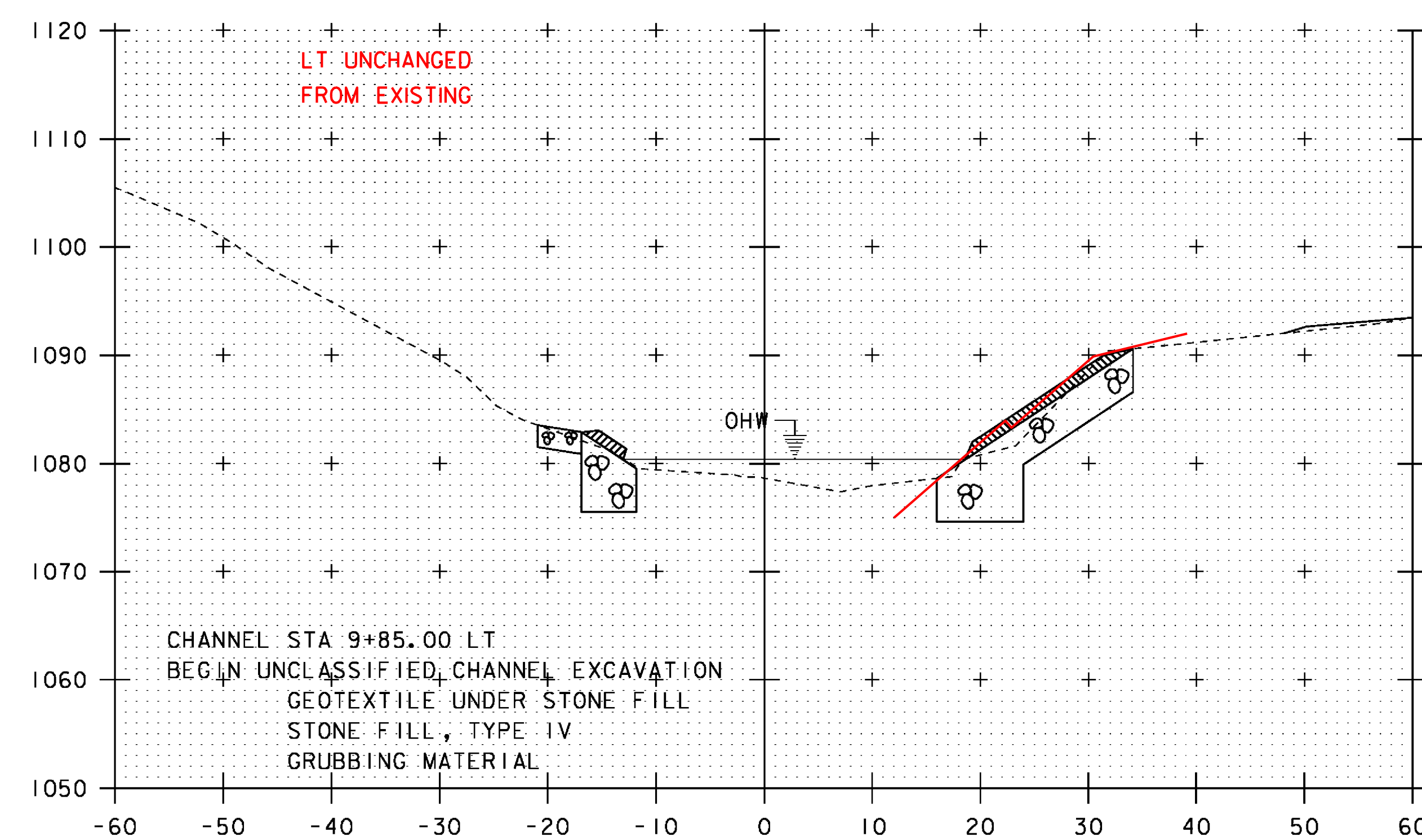




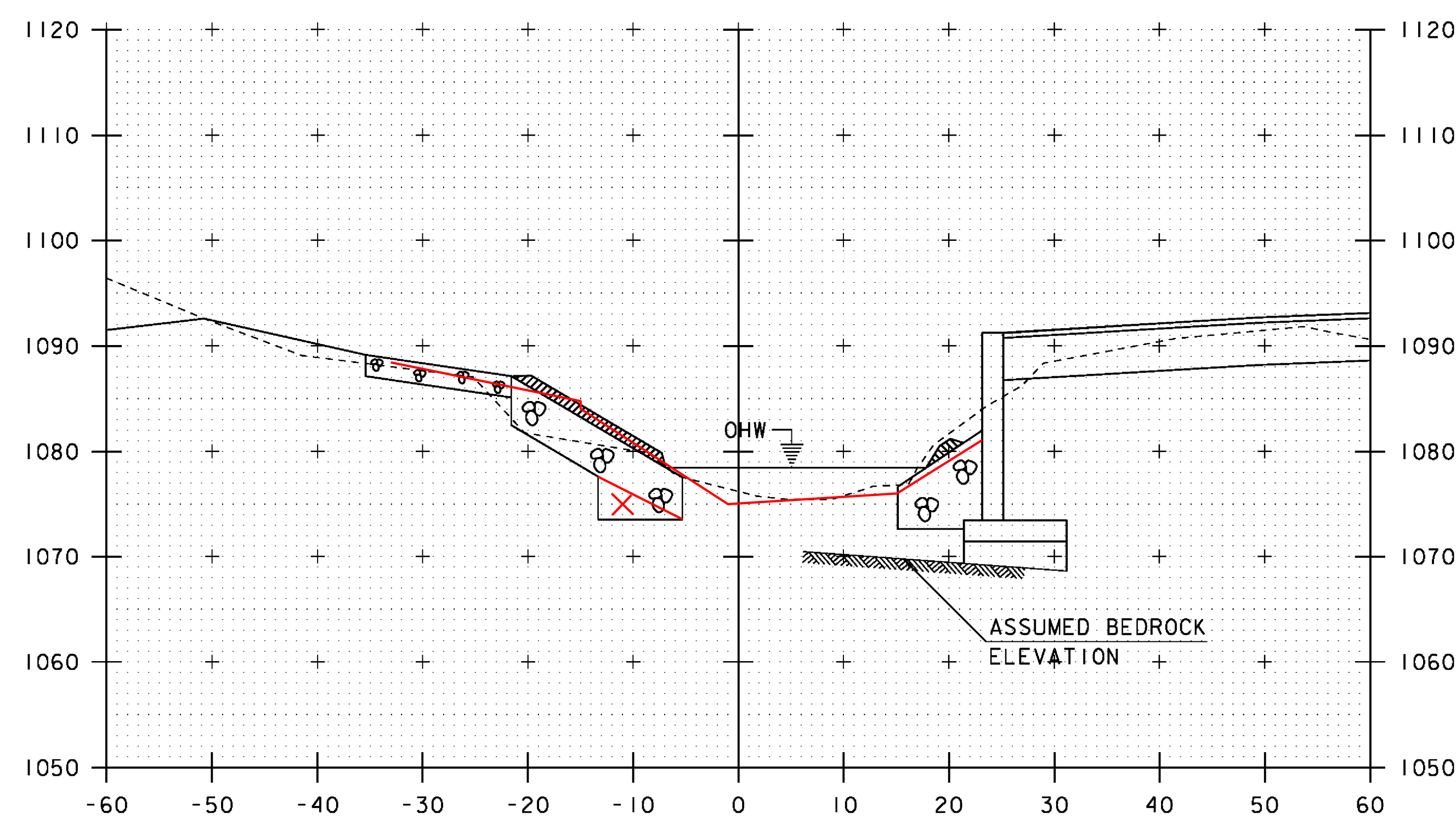
10+00



10+20



9+90



10+10

SCALE 1" = 10'-0"

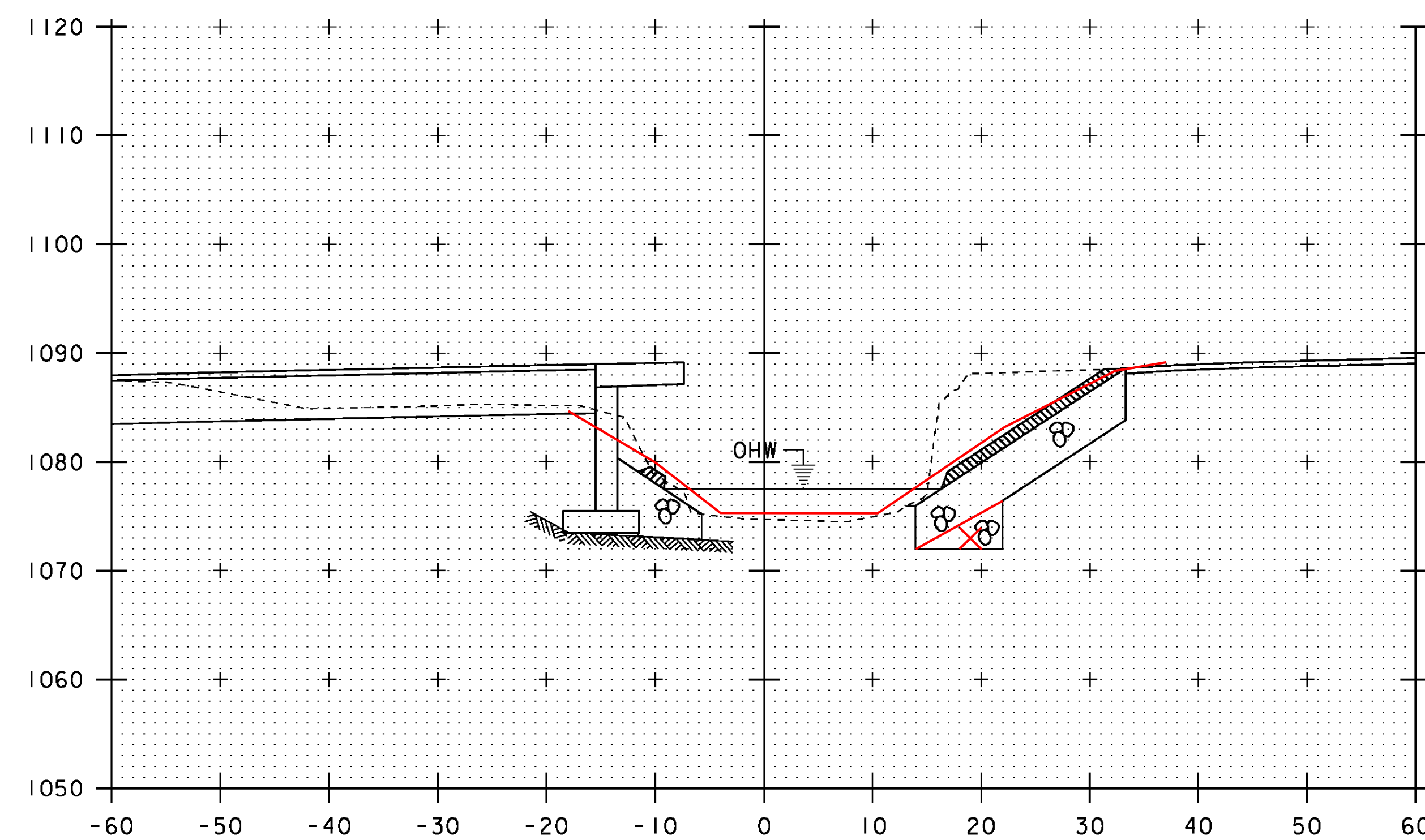
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PROJECT NAME: HUNTINGTON  
PROJECT NUMBER: BRO 1445(35)

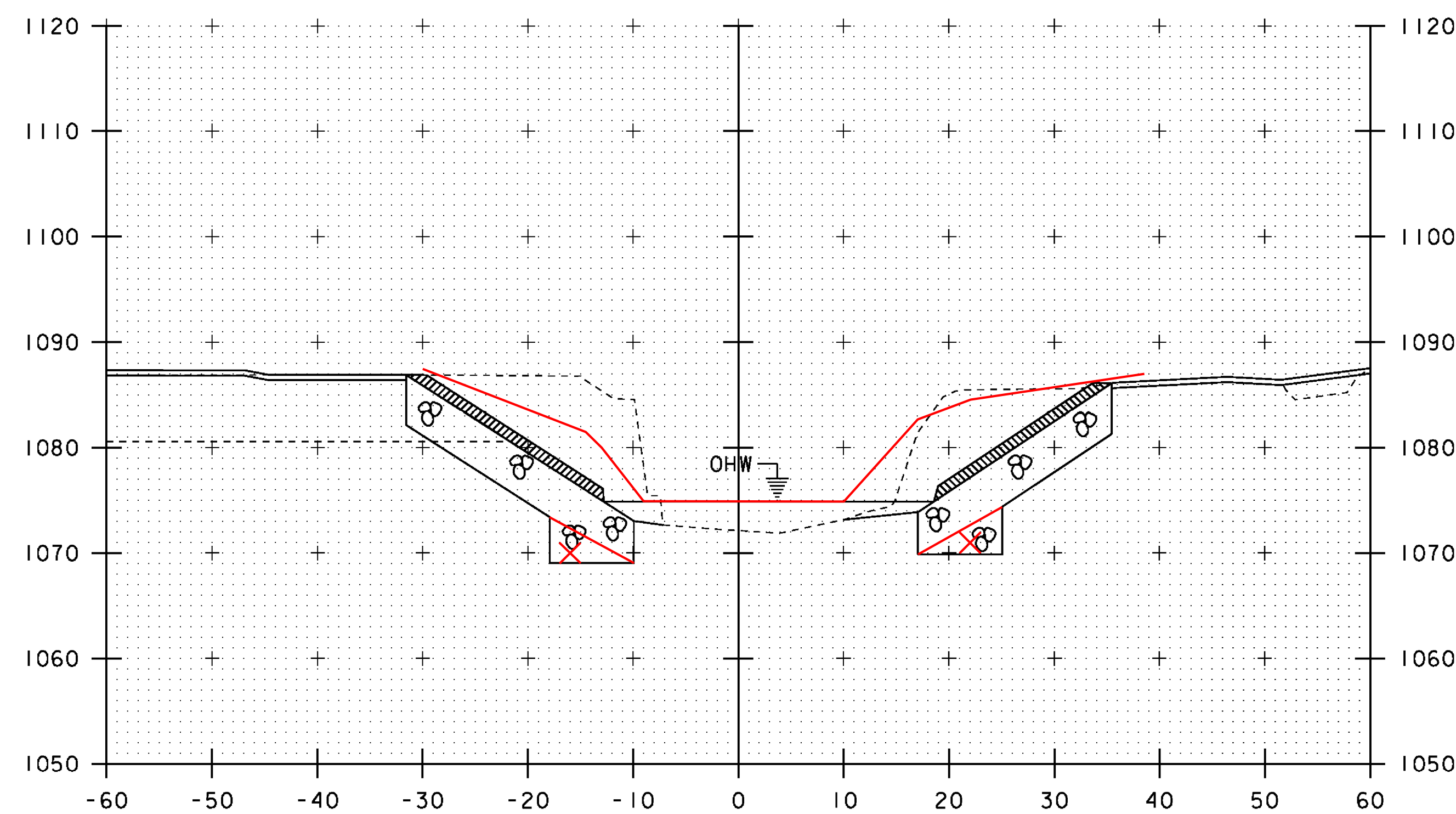
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PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
CHANNEL CROSS SECTIONS 2

PLOT DATE: 15-OCT-2015  
DRAWN BY: R. PELLETT  
CHECKED BY: D. PETERSON  
SHEET 34 OF 44

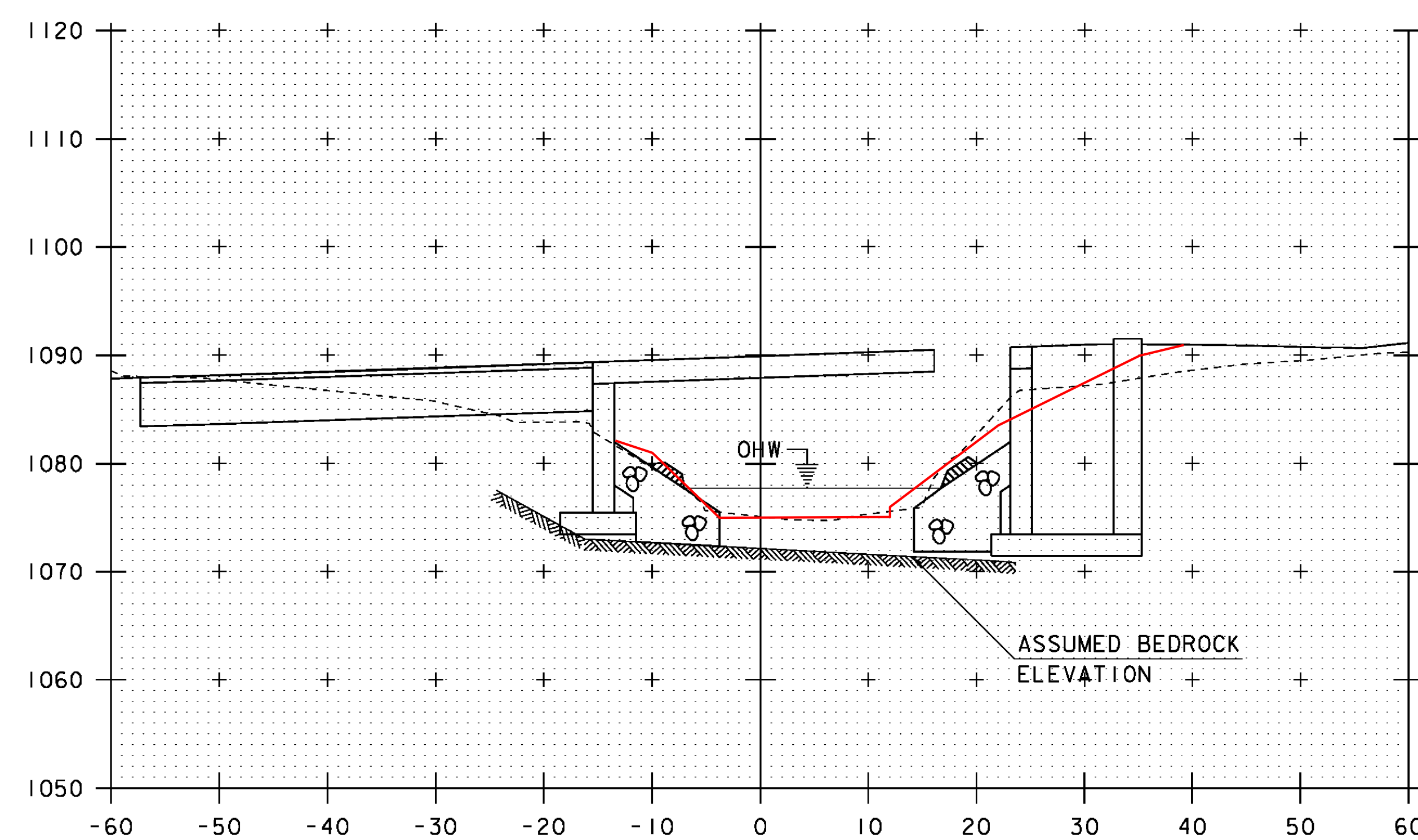




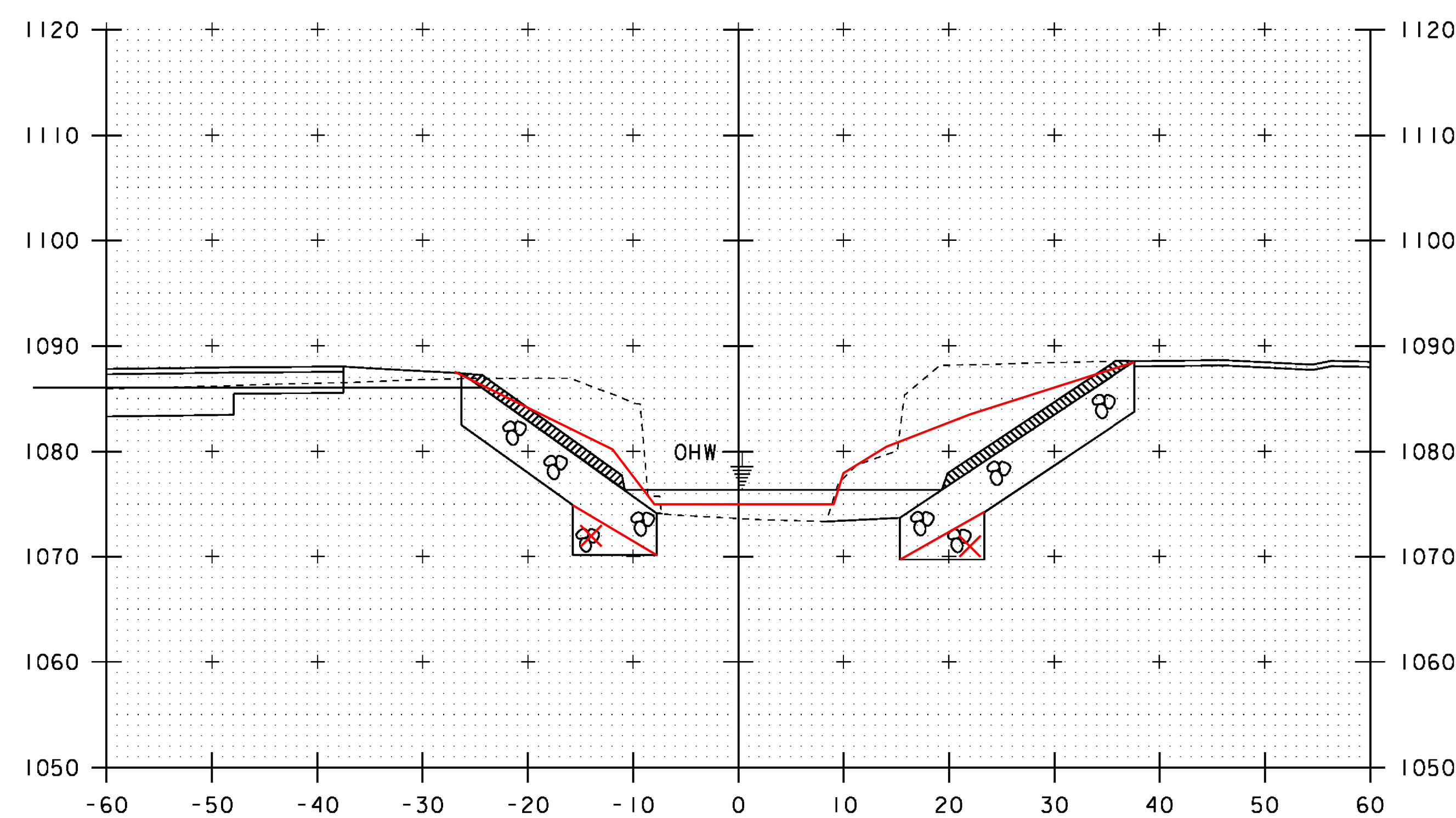
10+40



10+60



10+30



10+50

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

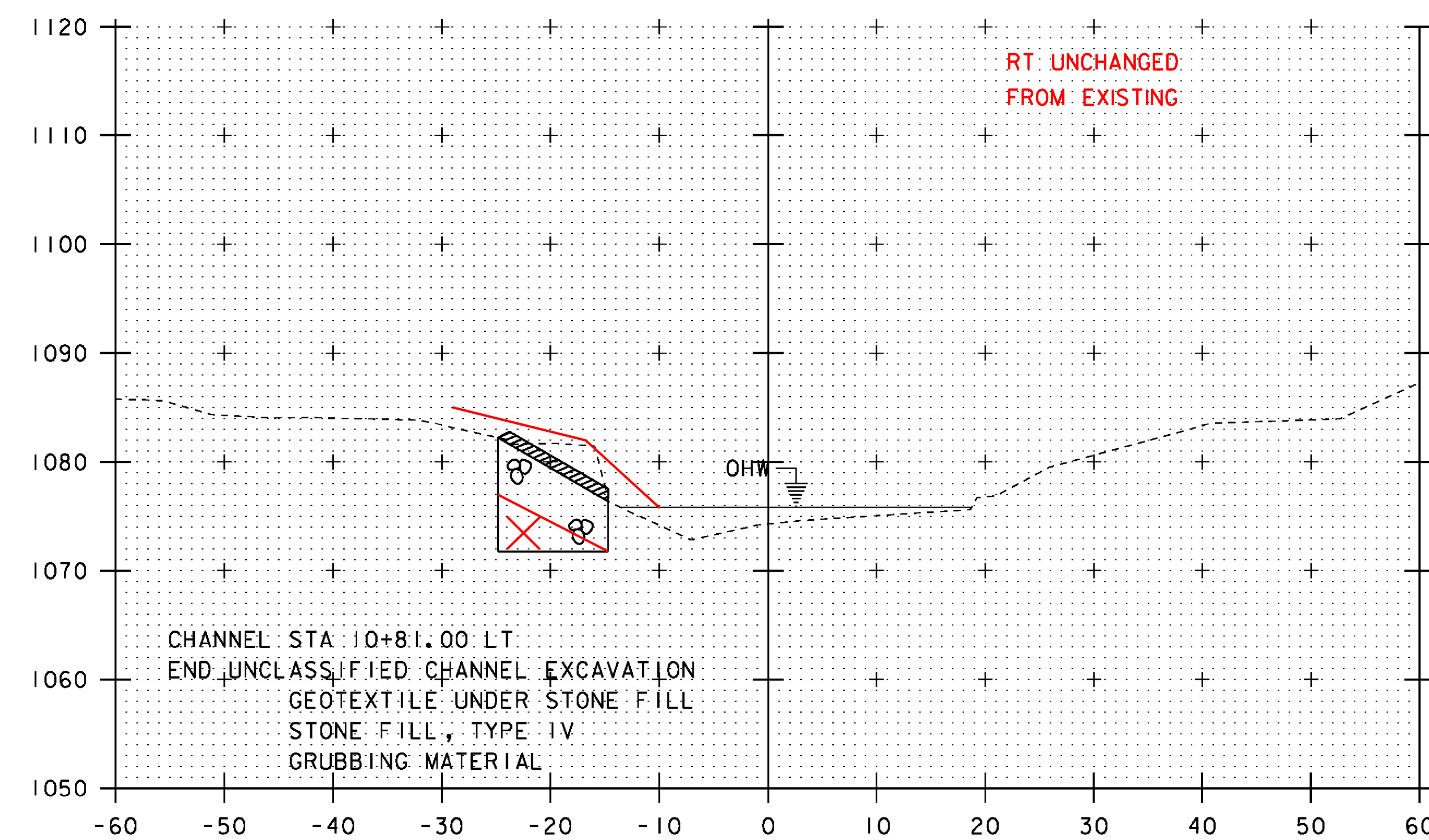
STA. 10+30 TO STA. 10+60

PROJECT NAME: HUNTINGTON  
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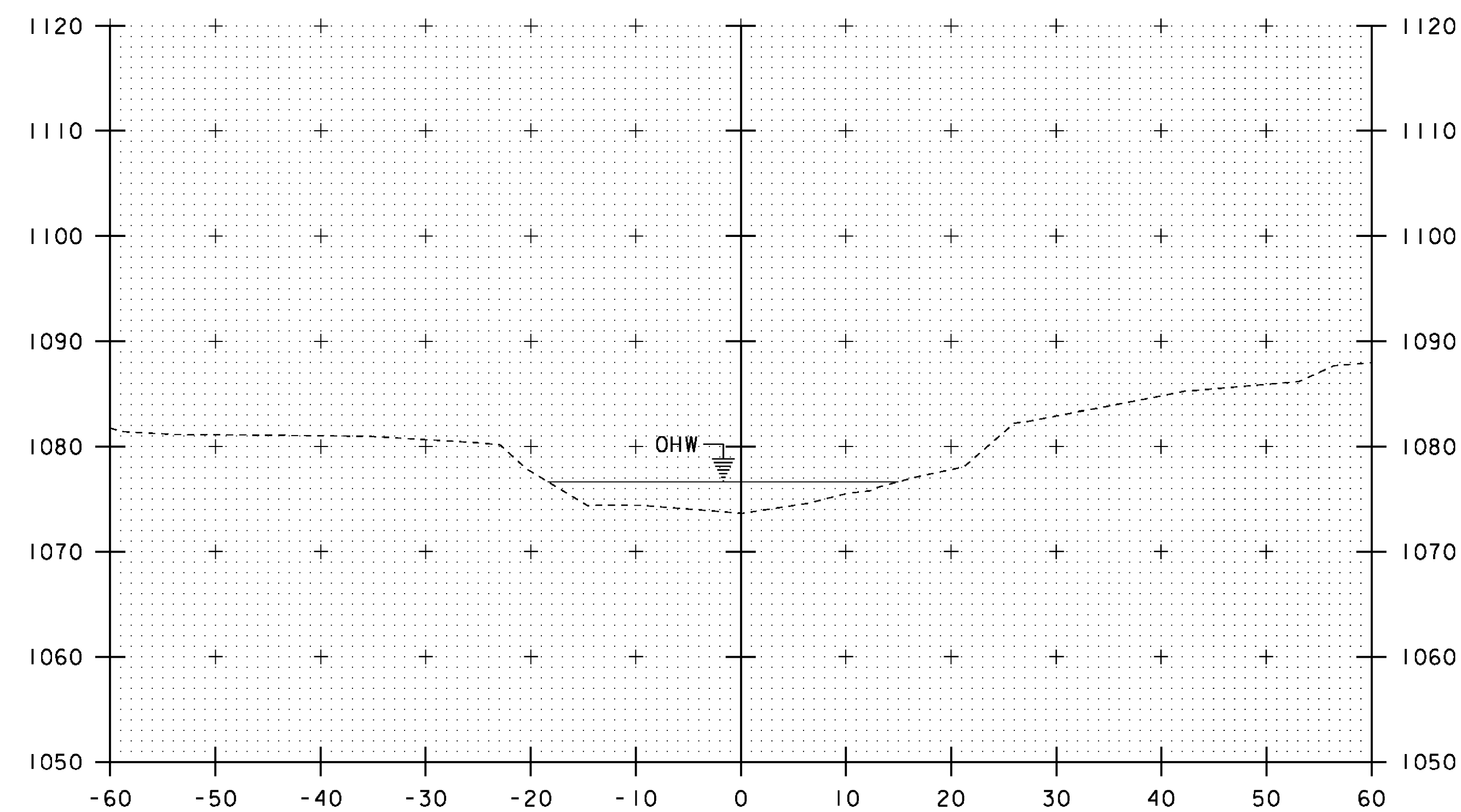
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PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
CHANNEL CROSS SECTIONS 3

PLOT DATE: 15-OCT-2015  
DRAWN BY: R. PELLETT  
CHECKED BY: D. PETERSON  
SHEET 35 OF 44

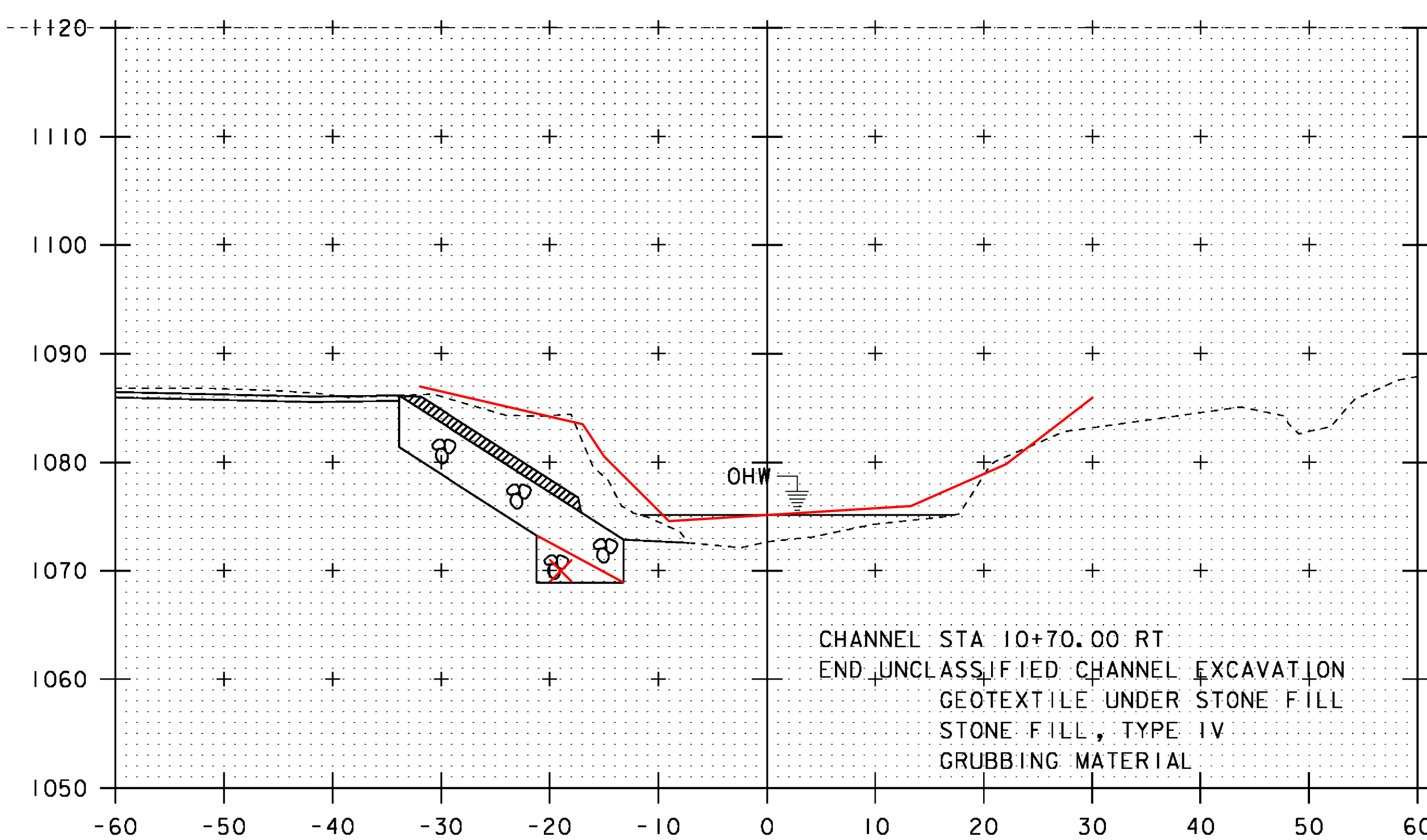




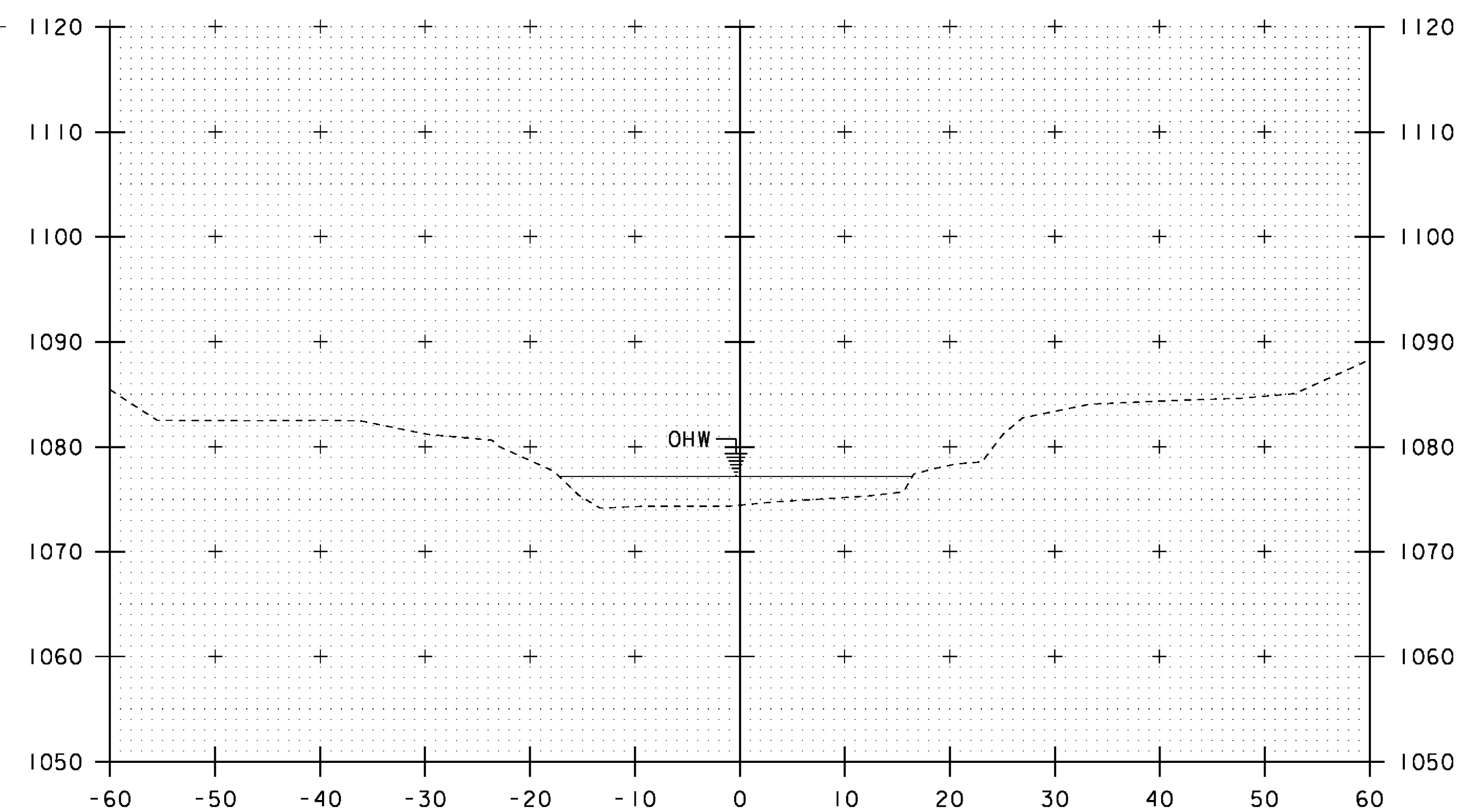
10+80



11+00



10+70



10+90

SCALE 1" = 10'-0"

STA. 10+70 TO STA. 11+00

PROJECT NAME: HUNTINGTON  
PROJECT NUMBER: BRO 1445(35)

FILE NAME: sl2j162xs.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
CHANNEL CROSS SECTIONS 4

PLOT DATE: 15-OCT-2015  
DRAWN BY: R. PELLETT  
CHECKED BY: D. PETERSON  
SHEET 36 OF 44



EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REMOVAL OF EXISTING BRIDGE 30 THAT WILL BE REPLACED WITH A NEW CAST-IN-PLACE CONCRETE SLAB BRIDGE, SPANNING 40’ OVER BRUSH BROOK, ON NEW ALIGNMENT. BRIDGE 30 IS LOCATED IN THE TOWN OF HUNTINGTON, ON TOWN HIGHWAY 22 (CAMELS HUMP ROAD), APPROXIMATELY 1.2 MILES OF JUNCTION WITH TOWN HIGHWAY 4 (TAFT ROAD).

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS WASTE, BORROW AND STAGING AREAS, AND OTHER EARTH DISTURBING ACTIVITIES WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS AS SHOWN ON THE ATTACHED EPSC PLAN.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.48 ACRES.

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

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE AREA IS A SADDLE THAT IS MOSTLY WELL ESTABLISHED FOREST WITH OCCASIONAL OPEN AREAS. TOWN HIGHWAY 22 (CAMELS HUMP ROAD) IS WITHIN THE PROJECT SITE.

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

THE BRUSH BROOK IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE BROOK IS CLASSIFIED AS STEEP, SINUOUS, NARROW, WITH A CONFINED AND ARMORED CHANNEL AT THE SITE. THE STREAM BED CONSISTS OF GRAVEL, COBBLES AND BOULDERS. THE TRIBUTARY AREA AT THE BRIDGE CROSSING IS 4.6 MILES<sup>2</sup>. DUE TO THE NATURE OF THE SURROUNDING TERRAIN THE PROJECT SITE COULD RECEIVE RUNOFF WATER FROM A FEW NEARBY SLOPES.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF HARDWOOD TREES AND UNDERGROWTH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF THE EXISTING BRIDGE ON NEW ALIGNMENT. UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE IV AS SPECIFIED ON THE PLANS. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF CHITTENDEN, VERMONT. SOILS ON THE PROJECT SITE ARE MARLOW LOW EXTREMELY STONY LOAM , 20% TO 60% SLOPES, “K FACTOR” = 0.24. THE SOIL IS CONSIDERED HIGHLY ERODIBLE DUE TO SIGNIFICANT SLOPES.

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

1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: YES, WILDLIFE HABITAT  
HISTORICAL OR ARCHEOLOGICAL AREAS: NO  
PRIME AGRICULTURAL LAND: NO  
THREATENED AND ENDANGERED SPECIES: NEWLY LISTED STATEWIDE THREATENDED BAT SPECIES, NOT SUITABLE HABITAT WITHIN PROJECT LIMITS ALTHOUGH IT IS PRESENT SURROUNDING PROJECT.  
WATER RESOURCE: BRUSH BROOK  
WETLANDS: YES

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. 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, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL (EPSC)

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

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

1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED.

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES.

1.4.2 LIMIT DISTURBANCE AREA

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

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

1.4.3 SITE ENTRANCE/EXIT STABILIZATION

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTORS PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

1.4.4 INSTALL SEDIMENT BARRIERS

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

SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

1.4.5 DIVERT UPLAND RUNOFF

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

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

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSION POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

STONE CHECK DAMS WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN, AT A MINIMUM.

1.4.7 CONSTRUCT PERMANENT CONTROLS

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

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

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

BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

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

1.4.9 WINTER STABILIZATION

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

1.4.10 STABILIZE SOIL AT FINAL GRADE

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

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

1.4.11 DE-WATERING ACTIVITIES

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

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

1.4.12 INSPECT YOUR SITE

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

1.5 SEQUENCE AND STAGING

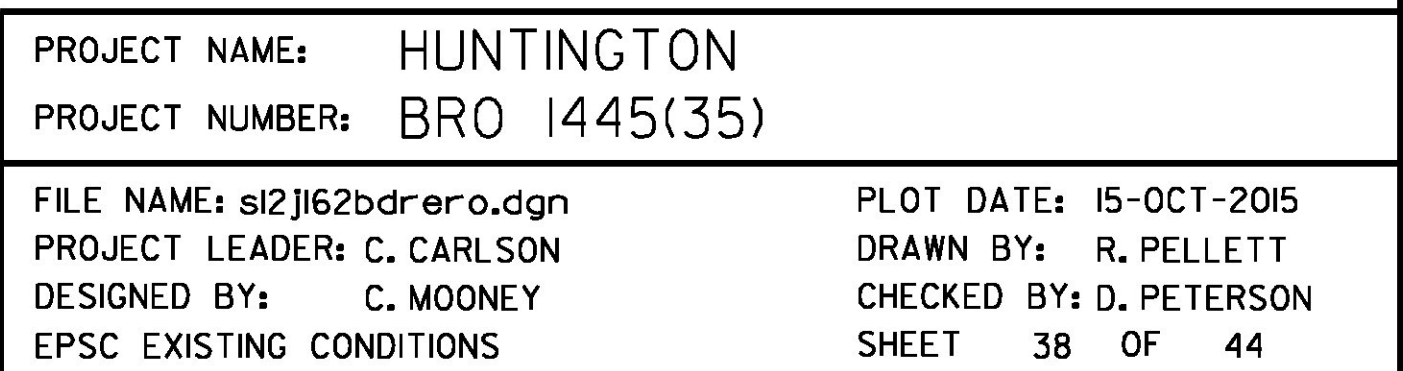
THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

1.5.1 OFF SITE ACTIVITIES

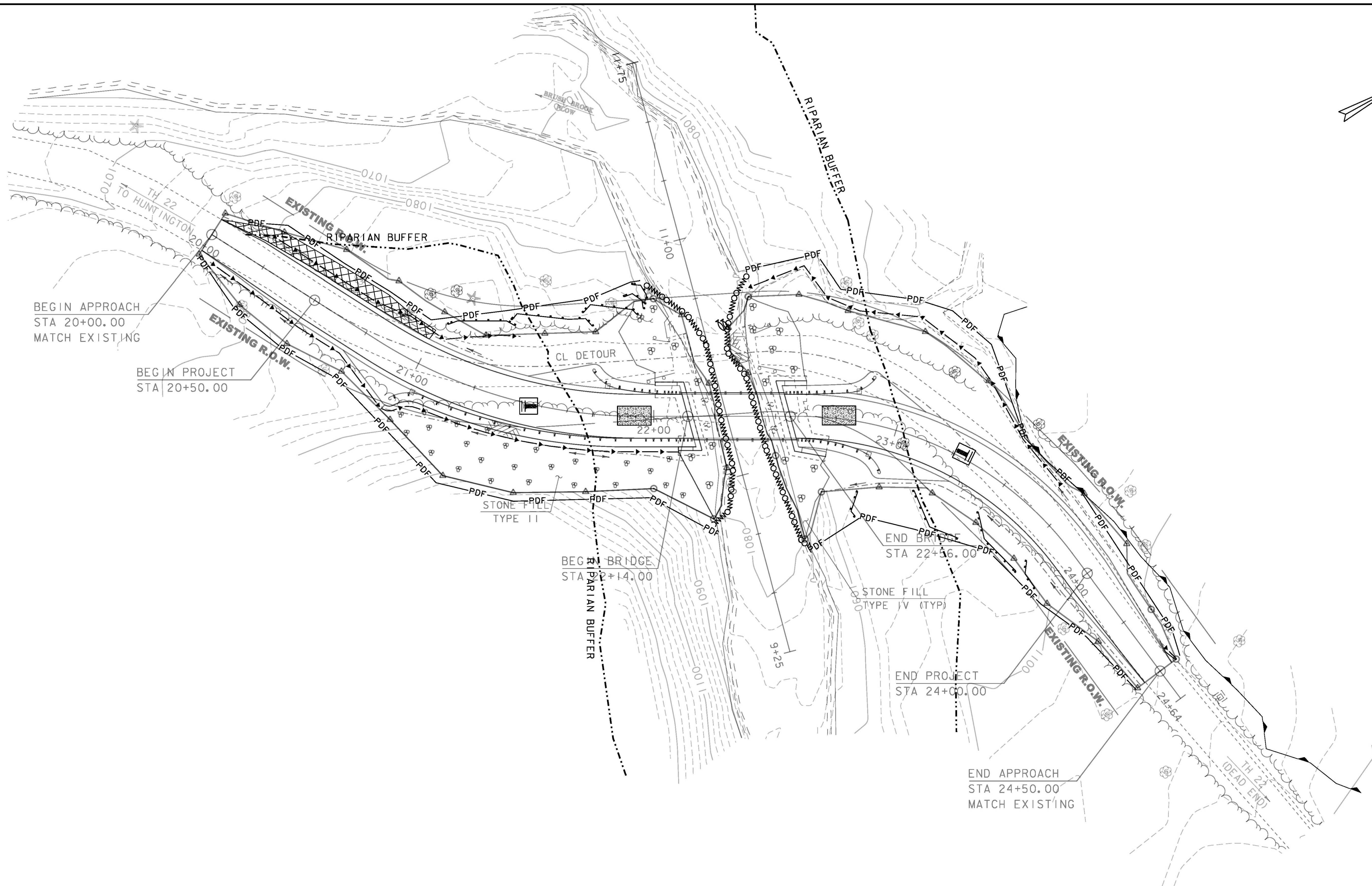
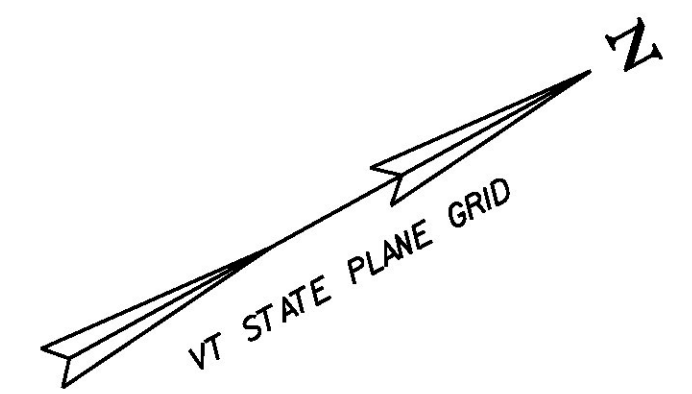
IN ADDITION TO THE CONTRACTOR CHECKLIST AND ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SUBSECTIONS 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

|                              |                         |
|------------------------------|-------------------------|
| PROJECT NAME: HUNTINGTON     |                         |
| PROJECT NUMBER: BRO 1445(35) |                         |
| FILE NAME: sl2ji62erode1.dgn | PLOT DATE: 15-OCT-2015  |
| PROJECT LEADER: C. CARLSON   | DRAWN BY: R. PELLETT    |
| DESIGNED BY: D. PETERSON     | CHECKED BY: D. PETERSON |
| EPSC NARRATIVE               | SHEET 37 OF 44          |







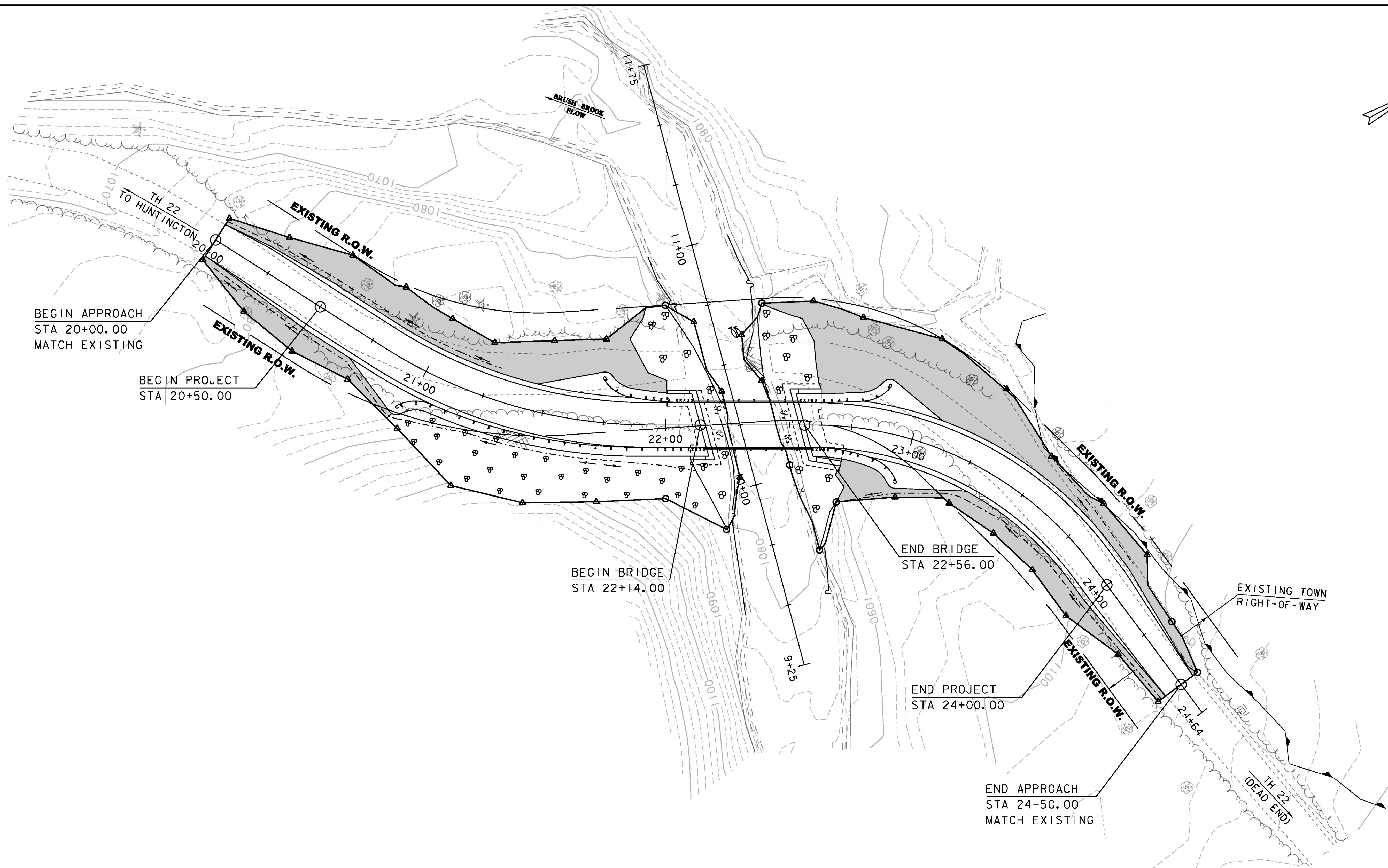
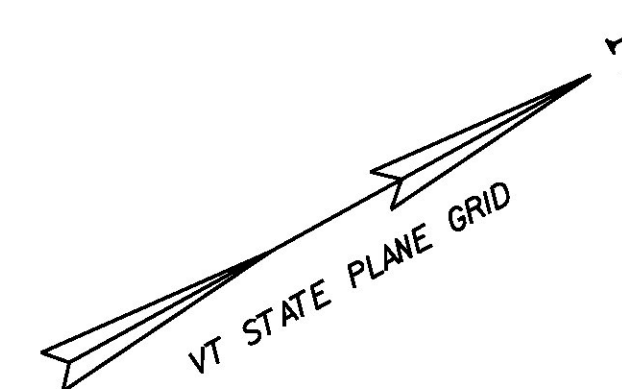


SCALE 1" = 20' - 0"  
20 0 20

- LEGEND**
- FISH HABITAT (RESOURCE PRESENT)
  - PROPOSED DEWATERING AREA
  - STABILIZED CONSTRUCTION ENTRANCE

|                              |                         |
|------------------------------|-------------------------|
| PROJECT NAME: HUNTINGTON     |                         |
| PROJECT NUMBER: BRO 1445(35) |                         |
| FILE NAME: sl2j162bdrero.dgn | PLOT DATE: 15-OCT-2015  |
| PROJECT LEADER: C. CARLSON   | DRAWN BY: R. PELLETT    |
| DESIGNED BY: C. MOONEY       | CHECKED BY: D. PETERSON |
| EPSC CONSTRUCTION CONDITIONS | SHEET 39 OF 44          |





NOTE:  
REFER TO CROSS SECTIONS FOR FINAL GROUND CONTOURS

SEE "CONVENTIONAL SYMBOLS LEGEND" SHEET FOR LEGEND

**LEGEND**  
FISH HABITAT (RESOURCE PRESENT)

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

|                              |                         |
|------------------------------|-------------------------|
| PROJECT NAME: HUNTINGTON     |                         |
| PROJECT NUMBER: BRO 1445(35) |                         |
| FILE NAME: sl2j162bdrero.dgn | PLOT DATE: 15-OCT-2015  |
| PROJECT LEADER: C. CARLSON   | DRAWN BY: R. PELLETT    |
| DESIGNED BY: C. MOONEY       | CHECKED BY: D. PETERSON |
| EPSC FINAL CONDITIONS        | SHEET 40 OF 44          |



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

|                                                 |                   |     |
|-------------------------------------------------|-------------------|-----|
| THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH | REVISIONS         |     |
|                                                 | APRIL 1, 2008     | WHF |
|                                                 | JANUARY 13, 2009  | WHF |
|                                                 | SEPTEMBER 4, 2009 | WHF |

## CONSTRUCTION SPECIFICATIONS

|                  |     |
|------------------|-----|
| REVISIONS        |     |
| MARCH 24, 2008   | WHF |
| JANUARY 13, 2009 | WHF |

|                 |              |
|-----------------|--------------|
| PROJECT NAME:   | HUNTINGTON   |
| PROJECT NUMBER: | BRO 1445(35) |

|                             |                         |
|-----------------------------|-------------------------|
| FILE NAME: si2j62erodet.dgn | PLOT DATE: 15-OCT-2015  |
| PROJECT LEADER: C. CARLSON  | DRAWN BY: R. PELLETT    |
| DESIGNED BY: D. PETERSON    | CHECKED BY: D. PETERSON |
| EPSC DETAILS I              | SHEET 41 OF 44          |







# RIGHT - OF - WAY DETAIL SHEET

[illegible][illegible]

APPROVED: RYAN CLOUTIER DATE: 01-20-15  
CHIEF, PLANS & TITLES

CHIEF, PLANS &amp; TITLES

PROJECT NAME: **HUNGTINGTON**

PROJECT NUMBER: **BRO 1445(35)**

|            |                   |
|------------|-------------------|
| FILE NAME: | r12j162detail.xls |
|------------|-------------------|

PROJECT LEADER: C. CARLSON

DESIGNED BY: A. PROULX

R.O.W. DETAIL SHEET #1

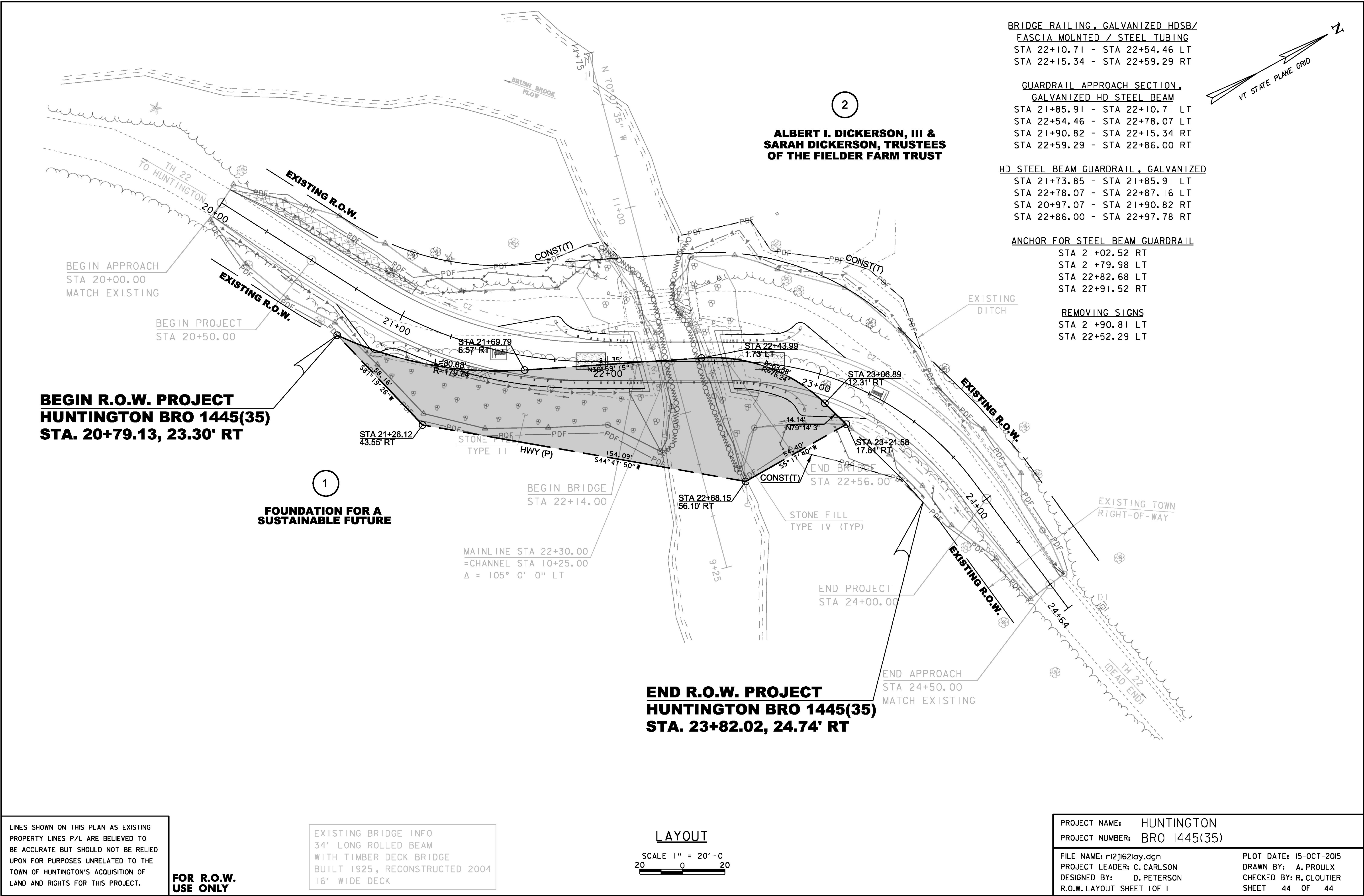
PLOT DATE: 15-OCT-2015

DRAWN BY: M. TROTTIER

CHECKED BY: R. CLOUTIER

SHEET 43 OF 44

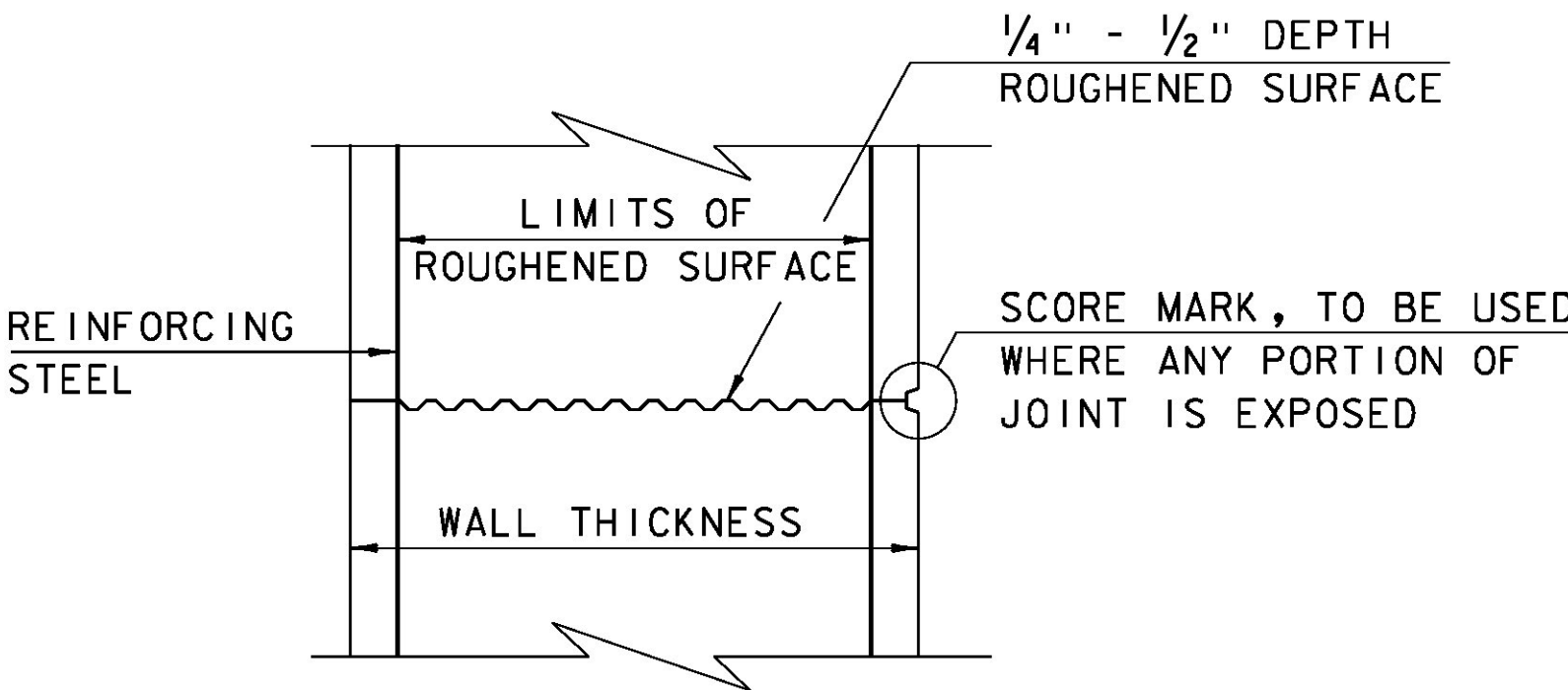






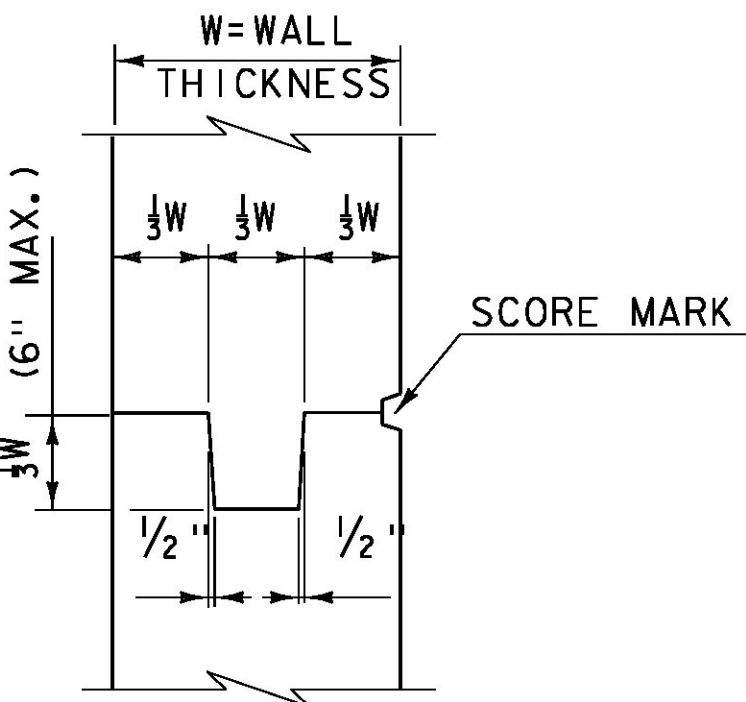
CONCRETE GENERAL NOTES

- 1. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1"
- 2. REINFORCING STEEL SIZE AND SPACING SHOWN IN THE PLANS IS BASED ON 60 KSI STEEL, UNLESS NOTED OTHERWISE. WITH THE ENGINEER'S PERMISSION, BAR SIZE AND SPACING MAY BE MODIFIED ACCORDING TO THE LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATION AND STRUCTURES DESIGN MANUAL WHEN USING HIGHER STRENGTH STEEL.

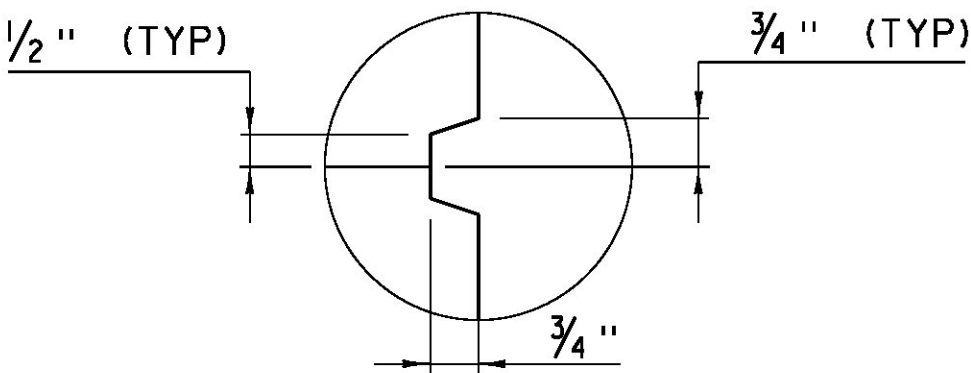


TYPICAL HORIZONTAL CONSTRUCTION JOINT  
(NOT TO SCALE)

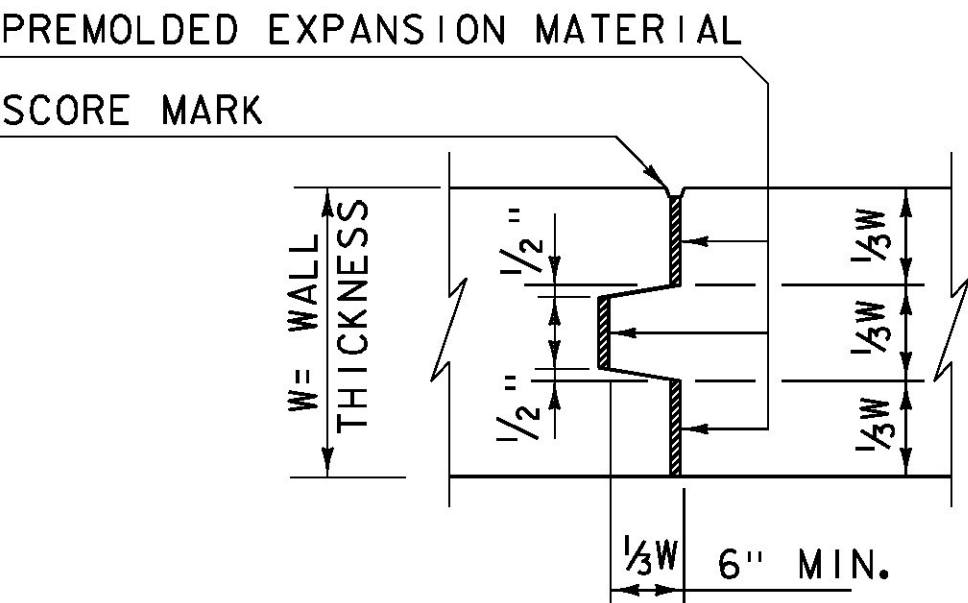
- 1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE.
- 2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.



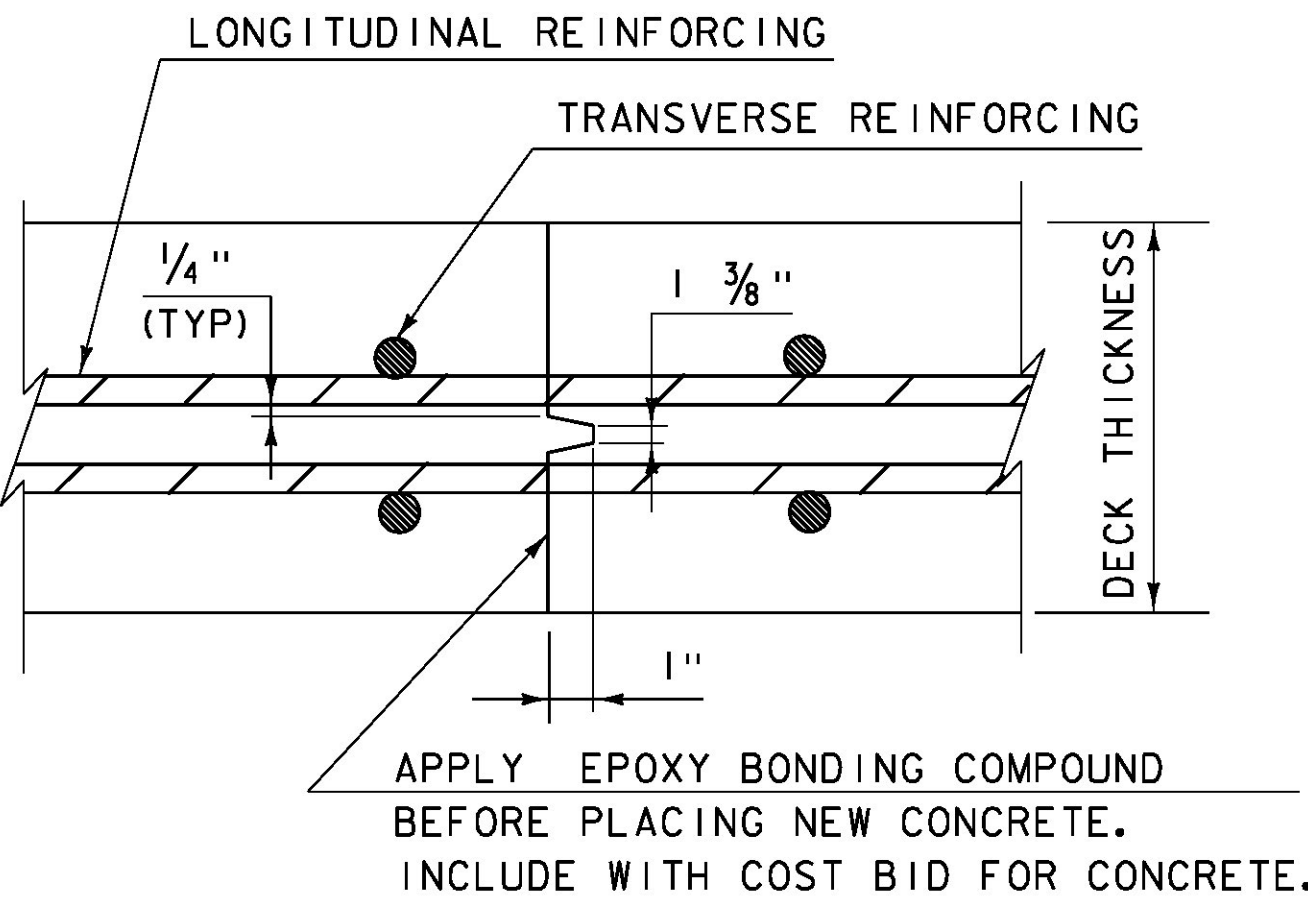
TYPICAL CONCRETE CONSTRUCTION JOINT  
(NOT TO SCALE)



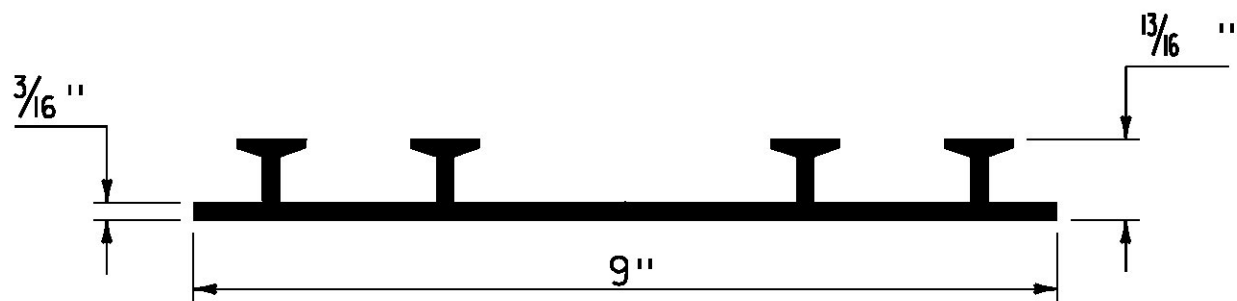
SCORE MARK DETAIL  
(NOT TO SCALE)



TYPICAL CONCRETE EXPANSION JOINT  
(NOT TO SCALE)



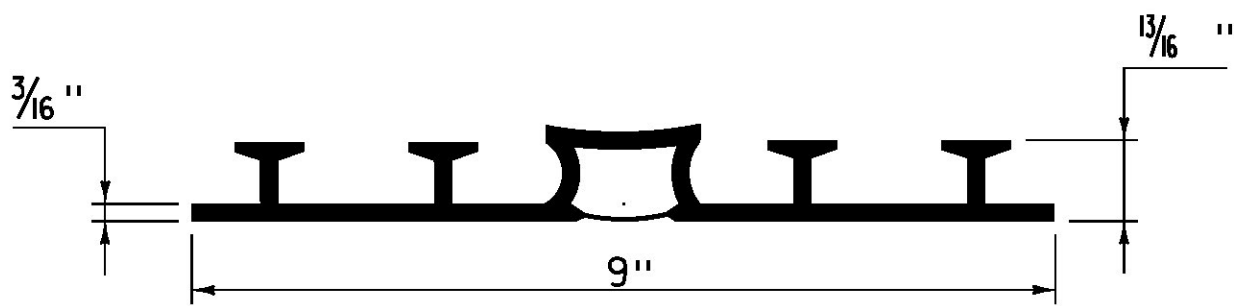
TRANSVERSE BRIDGE SLAB  
CONSTRUCTION JOINT DETAILS  
(NOT TO SCALE)



P.V.C. WATERSTOP FOR  
CONSTRUCTION JOINTS  
(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

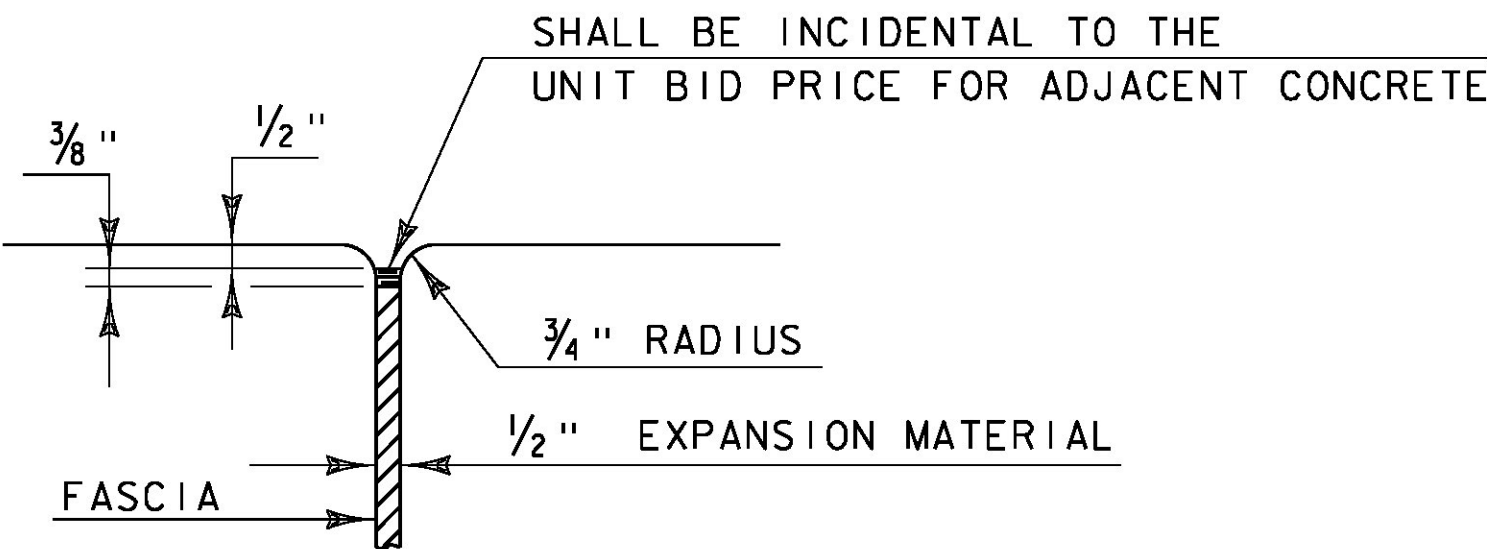
OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



P.V.C. WATERSTOP FOR  
EXPANSION JOINTS  
(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.

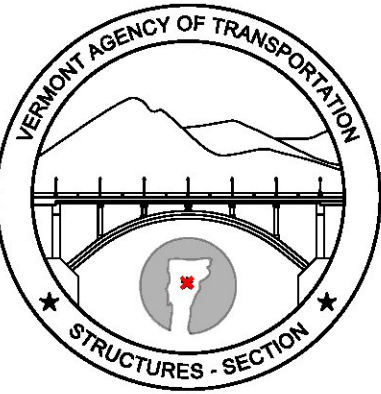


JOINT BETWEEN FASCIA  
AND WINGWALL  
(NOT TO SCALE)

REVISIONS

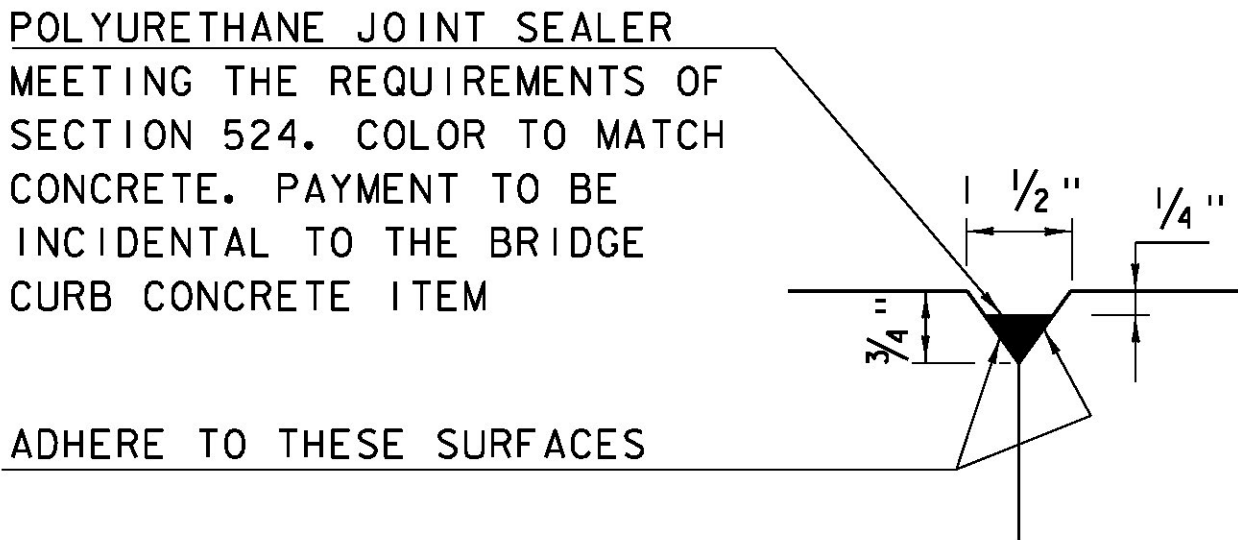
|                  |                                                               |
|------------------|---------------------------------------------------------------|
| MAY 7, 2010      | APPROVED FOR USE BY VAOT STRUCTURES SECTION                   |
| FEBRUARY 9, 2012 | REBAR SUBSTITUTION ALLOWANCE ADDED TO CONCRETE GENERAL NOTES. |
|                  |                                                               |
|                  |                                                               |
|                  |                                                               |
|                  |                                                               |
|                  |                                                               |

CONCRETE  
DETAILS AND NOTES

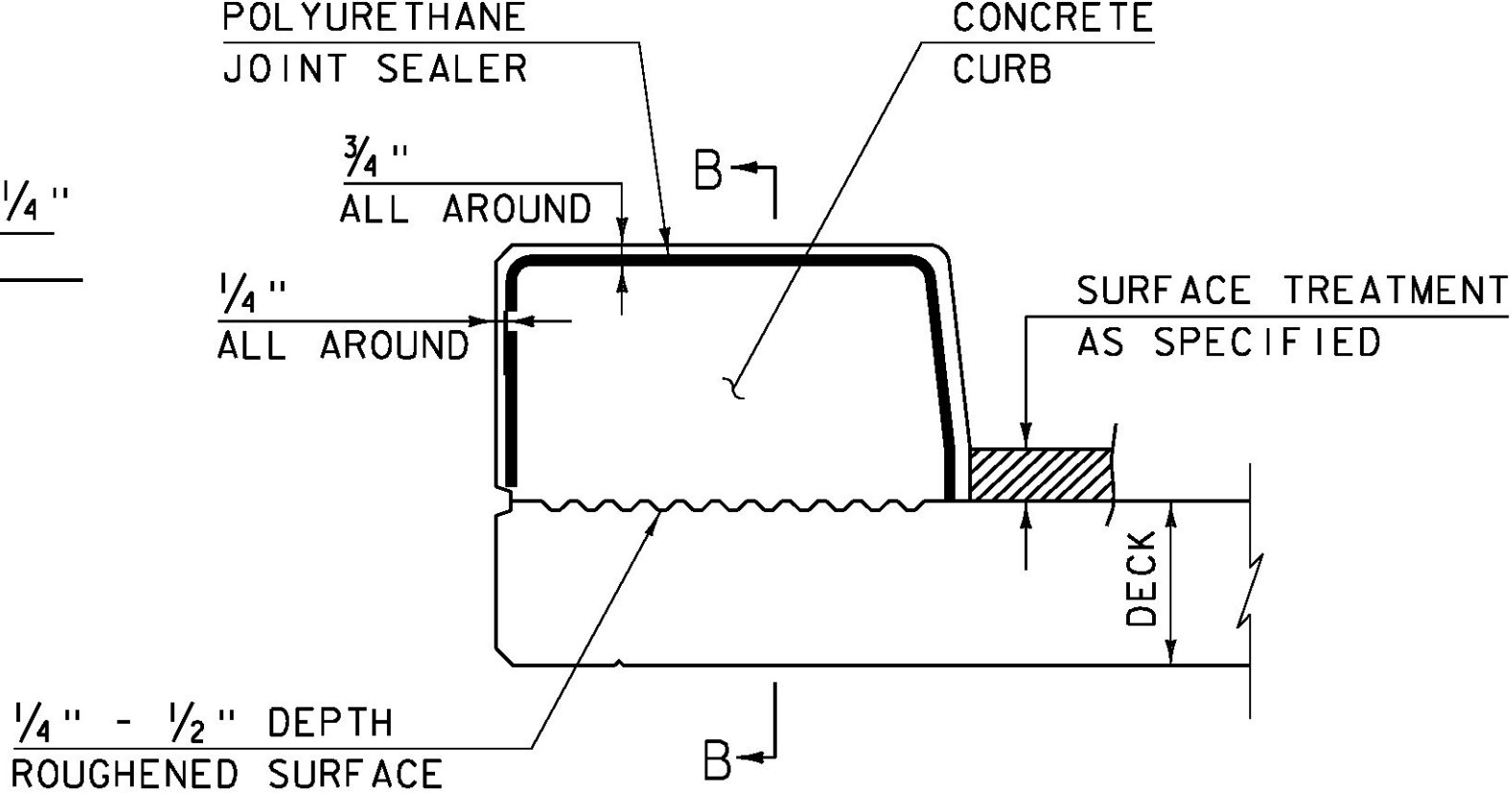


STRUCTURES  
DETAIL  
SD-501.00



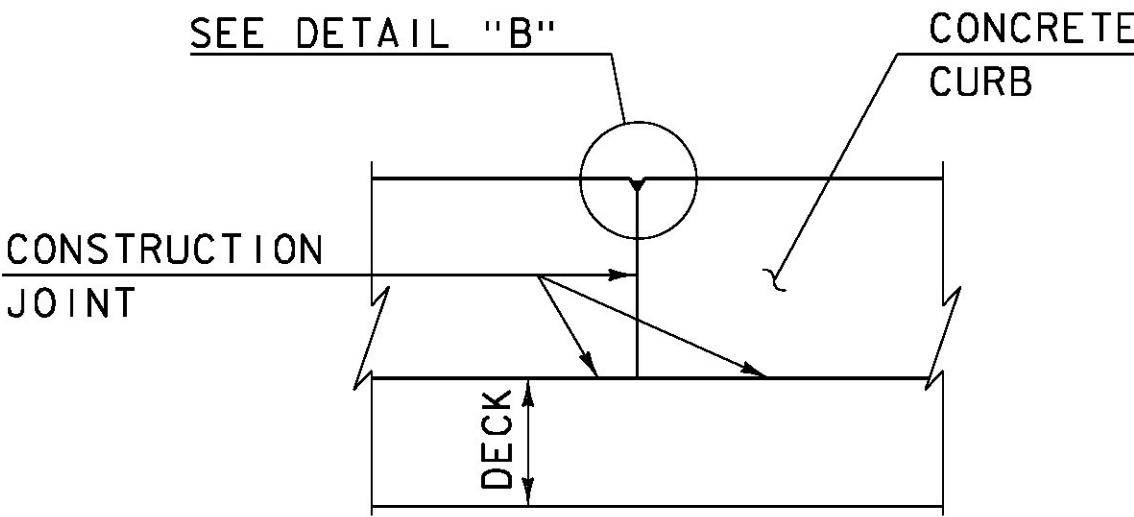


DETAIL "B"  
(NOT TO SCALE)

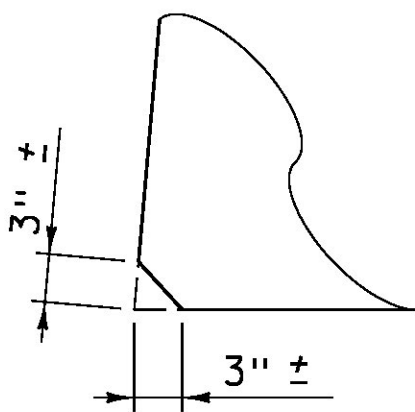


CONCRETE CURB JOINT SECTION  
(NOT TO SCALE)

1. SEE TYPICAL HORIZONTAL CONSTRUCTION JOINT  
DETAIL FOR ADDITIONAL INFORMATION



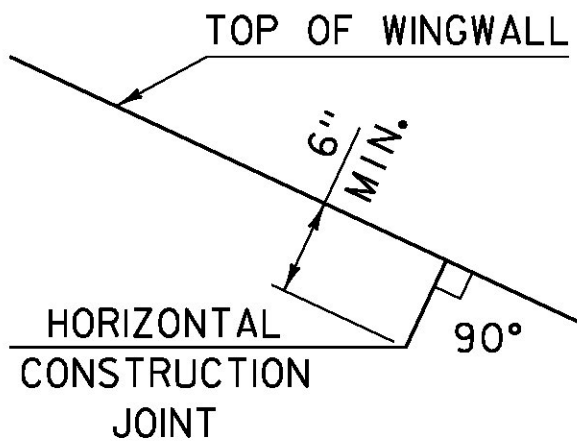
SECTION B - B  
(NOT TO SCALE)



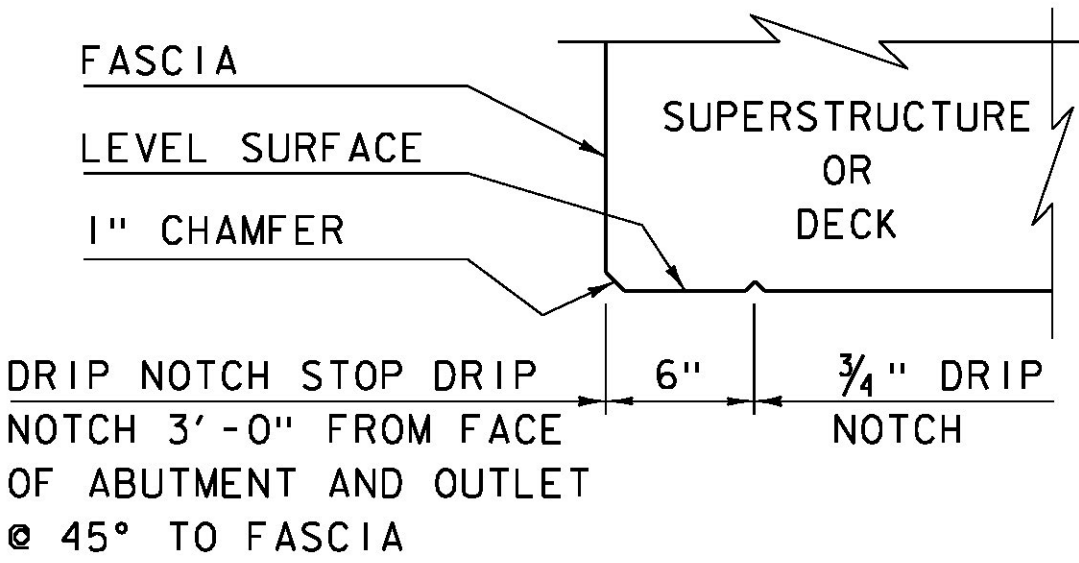
ACUTE ANGLE  
CLIP DETAIL  
(NOT TO SCALE)

CONCRETE CURB JOINT NOTES

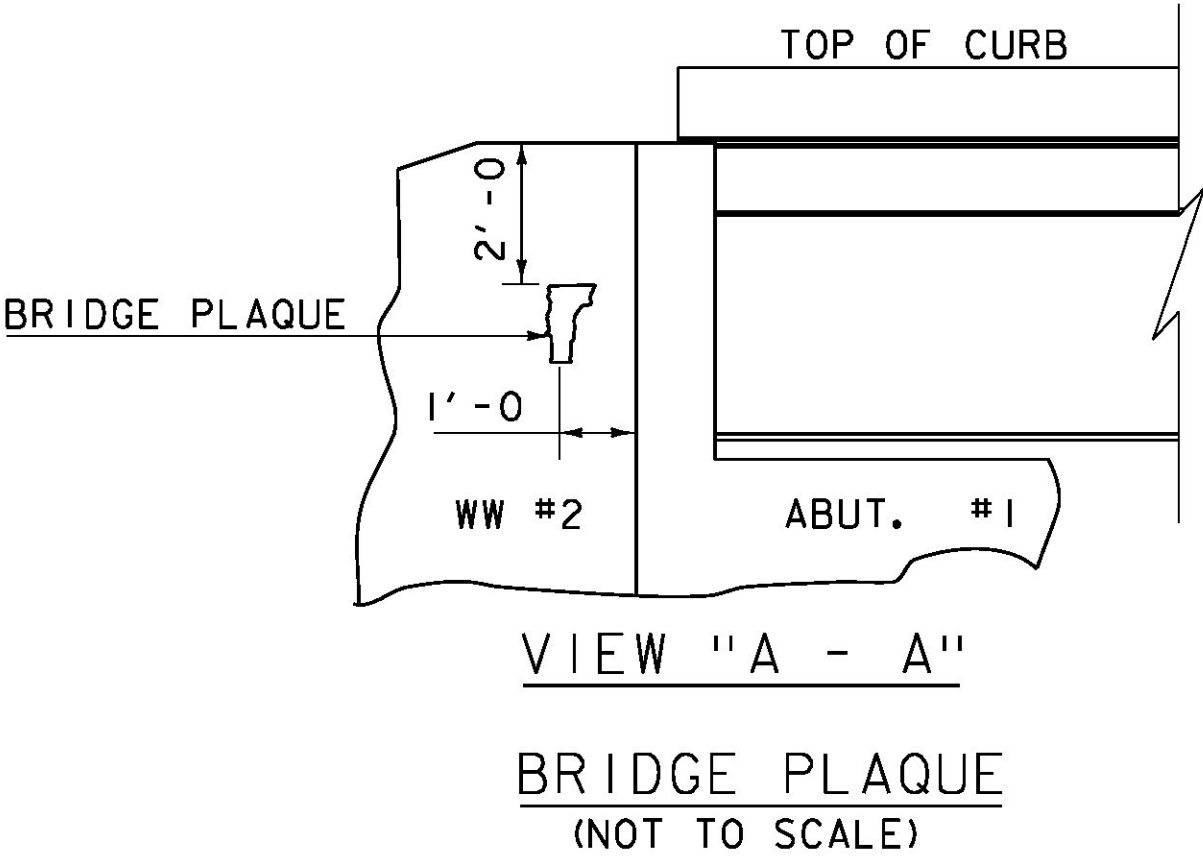
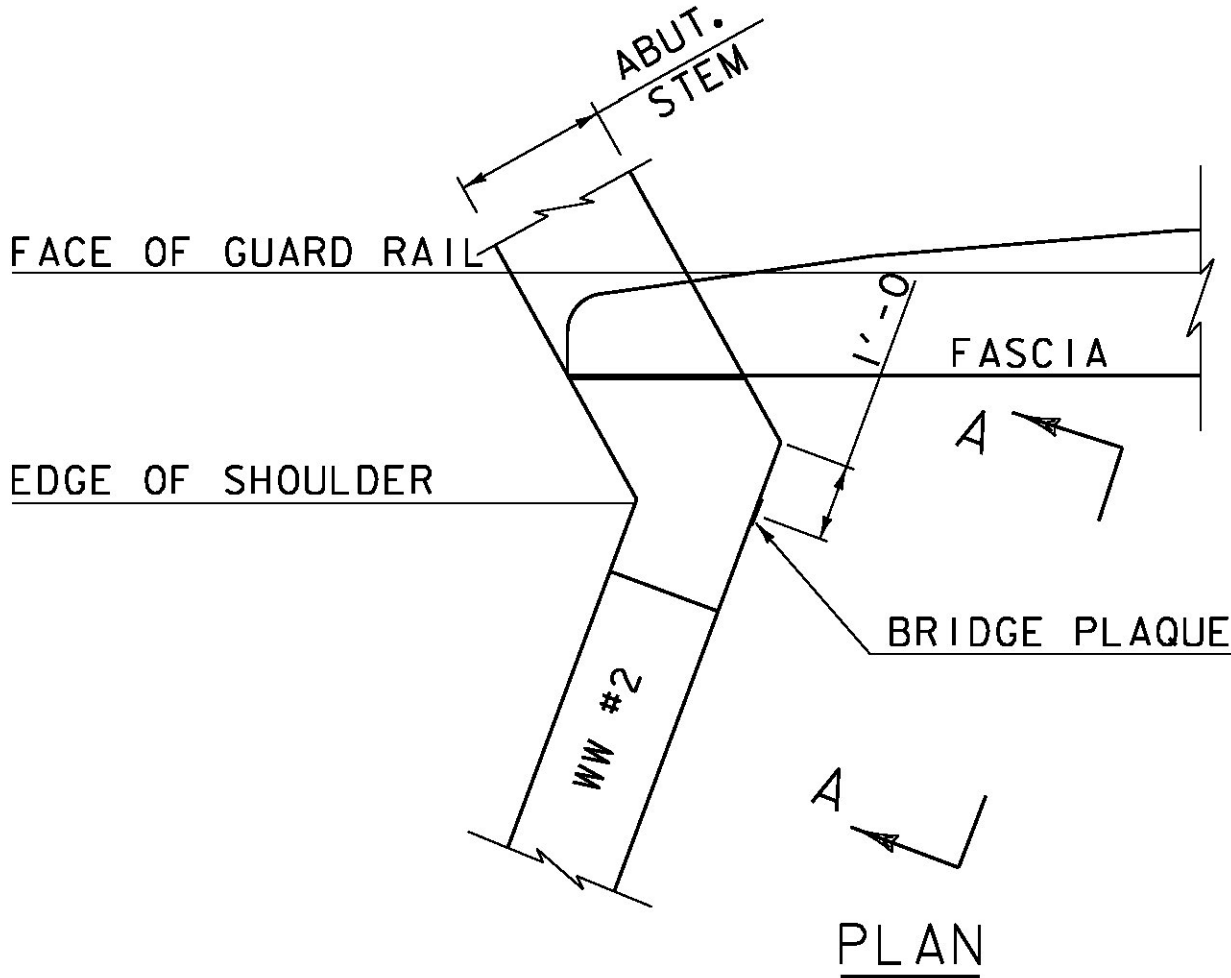
1. CONCRETE CURBS MAY BE PLACED IN ONE CONTINUOUS OPERATION IF AN APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED WITH THE CONCRETE MIX DESIGN. PAYMENT FOR THE SHRINKAGE REDUCING ADMIXTURE WILL BE INCIDENTAL TO THE BRIDGE CURB CONCRETE ITEM.
2. IF THE CONTRACTOR CHOOSES NOT TO USE AN APPROVED SHRINKAGE REDUCING ADMIXTURE, THE CURBS SHALL BE CONSTRUCTED WITH CONSTRUCTION JOINTS SPACED AT A MAXIMUM OF 15'-0" CENTER TO CENTER AND 2'-0" MINIMUM FROM THE CENTER OF NEAREST BRIDGE RAILING POST.
3. ON MULTI-SPAN CONTINUOUS SUPERSTRUCTURES, REGARDLESS OF WHETHER APPROVED SHRINKAGE REDUCING ADMIXTURE IS USED, CURB JOINTS SHALL BE LOCATED OVER THE CENTERLINE OF PIERS AND 7'-0" EACH SIDE OF THE CENTERLINE OF EACH PIER.
4. WHEN CURB JOINTS ARE USED THE CURBS SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOUR DELAY BETWEEN ADJACENT PLACEMENTS.
5. LONGITUDINAL REINFORCING SHALL BE CONTINUOUS THROUGH CURB CONSTRUCTION JOINTS. CURB STIRRUP BARS SHALL BE TURNED AS NECESSARY TO MAINTAIN COVER IN THE FLARED CURB ENDS.
6. THE JOINT SPACING AND DETAILS SHOWN SHALL APPLY TO SIDEWALKS WHEN SHOWN IN THE PLANS.



HORIZONTAL WINGWALL  
CONSTRUCTION JOINT  
(NOT TO SCALE)



DRIP NOTCH DETAIL  
(NOT TO SCALE)



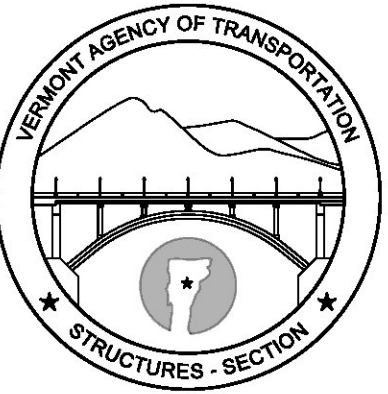
THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF  
TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT  
ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY  
THE ENGINEER.

PAYMENT FOR INSTALLATION OF THE BRIDGE PLAQUE SHALL BE  
INCIDENTAL TO THE ADJACENT CONCRETE.

REVISIONS

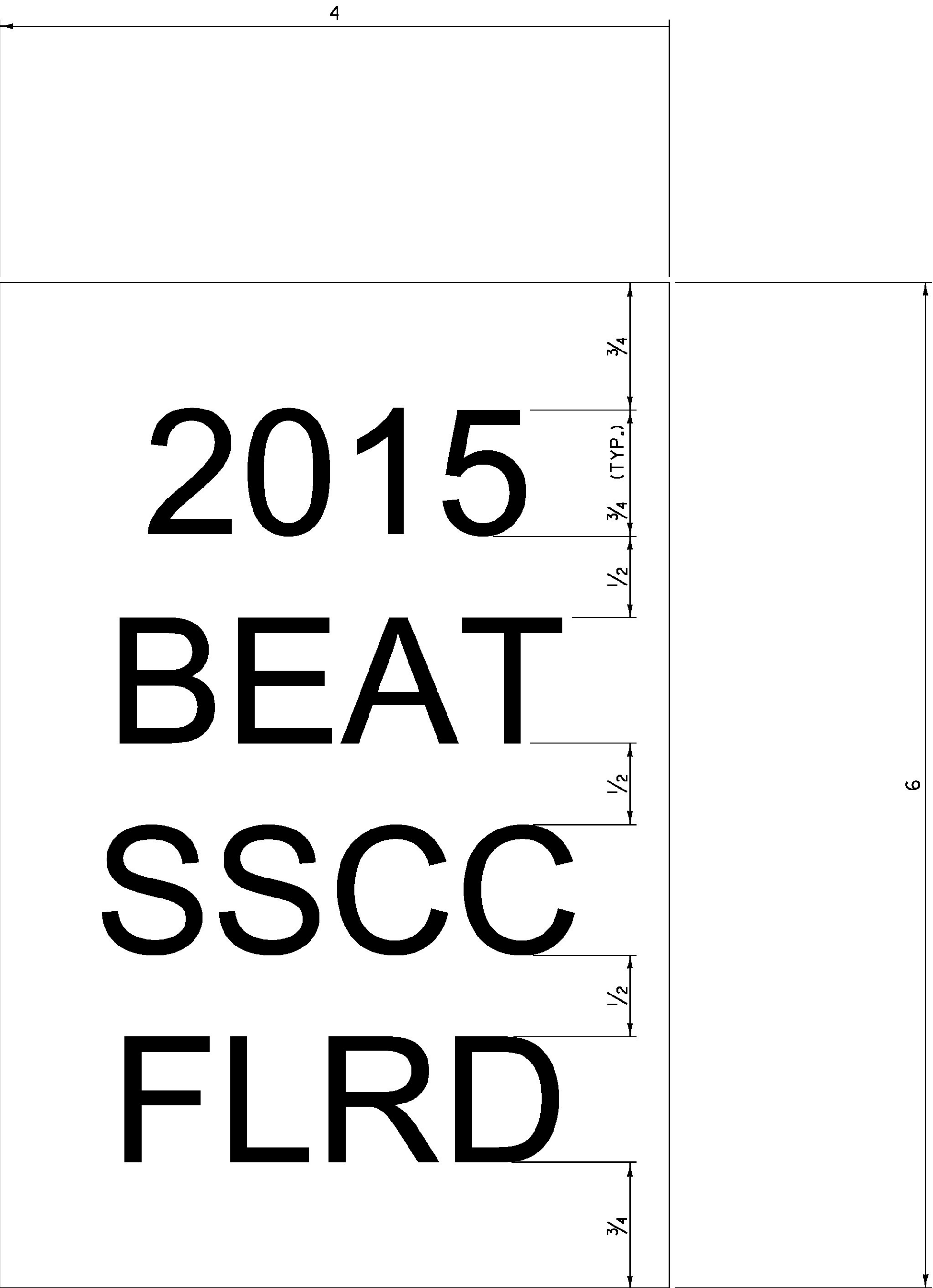
|                  |                                                     |
|------------------|-----------------------------------------------------|
| MAY 7, 2010      | APPROVED FOR USE BY VAOT STRUCTURES SECTION         |
| JUNE 4, 2010     | MODIFIED AND ADDED TWO DETAILS                      |
| OCTOBER 10, 2012 | MODIFIED HORZ. JOINT WINGWALL ADD 6" MIN. DIMENSION |
|                  |                                                     |
|                  |                                                     |
|                  |                                                     |
|                  |                                                     |
|                  |                                                     |

CONCRETE  
DETAILS AND NOTES



STRUCTURES  
DETAIL  
SD-502.00





**GENERAL NOTES:**

1. LINE ONE SHALL INDICATE THE INSTALLATION YEAR (YYYY).
2. LINE TWO SHALL INDICATE THE MODEL AS IDENTIFIED ON THE APPROVED PRODUCTS LIST. FOR GENERIC INSTALLATIONS THE STANDARD DRAWING DESIGNATION OR NAME AS IDENTIFIED IN THE FHWA ELIGIBILITY LETTER SHALL BE USED.
3. LINE THREE SHALL SHALL INDICATE ADDITIONAL MODEL INFORMATION IF NECESSARY.
4. LINE FOUR SHALL INDICATE FLARED (FLRD) OR TANGENT (TANG).
5. LEGEND SHALL BE ONE ARIEL FONT.
6. LEGEND SHALL BE BLACK ON A WHITE BACKGROUND, LENGEND AND BACKGROUND SHALL NOT BE REFLECTIVE.
7. SUITABLE MATERIAL SHALL BE USED SO AS TO NOT DETERIORATE DURING EXPOSURE TO WEATHER.
8. LABELS SHALL BE APPLIED IN SUCH A WAY THAT THEY REMAIN INTACT DURING THE LIFE OF THE TERMINAL.
9. FOR W-BEAM GUARDRAIL, LABEL SHALL BE PLACED ON THE TOP OF POST ONE FACING AWAY FROM TRAFFIC.
10. FOR BOX BEAM GUARDRAIL, LABEL SHALL BE PLACED ON THE BOX BEAM ADJACENT TO POST ONE FACING AWAY FROM TRAFFIC.
11. PAYMENT SHALL BE INCIDENTAL TO OTHER TRAFFIC BARRIER ITEMS.
12. ALL DIMENSIONS IN INCHES.

| REV.                                                | DATE         | DESCRIPTION       |
|-----------------------------------------------------|--------------|-------------------|
| 0                                                   | NOV. 3, 2015 | ORIGINAL APPROVAL |
|                                                     |              |                   |
|                                                     |              |                   |
|                                                     |              |                   |
| OTHER DETAILS REQUIRED: NONE                        |              |                   |
| DETAILS APPROVED FOR USE BY HIGHWAY SAFETY & DESIGN |              |                   |

GUARDRAIL TERMINAL LABEL DETAIL



HIGHWAY SAFETY  
& DESIGN DETAIL  
HSD - 621.06



|                                                                                       |                                         |          |
|---------------------------------------------------------------------------------------|-----------------------------------------|----------|
|  | SCALE                                   | SCHMATIC |
|                                                                                       | DRAWING NO. FR LaFAYETTE-HUNTINGTON - W |          |



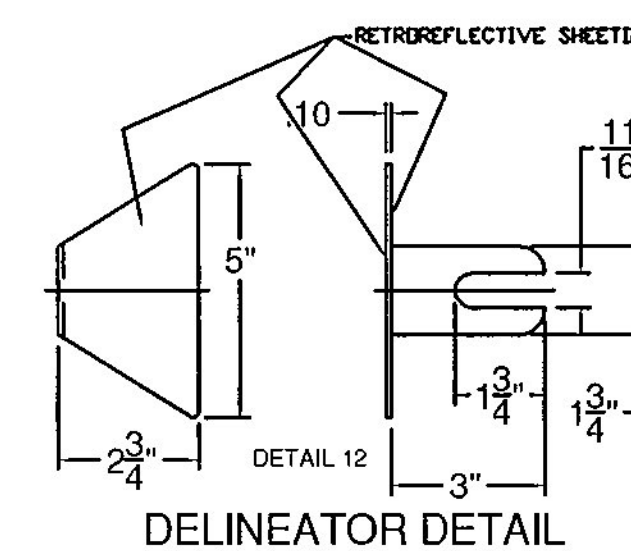
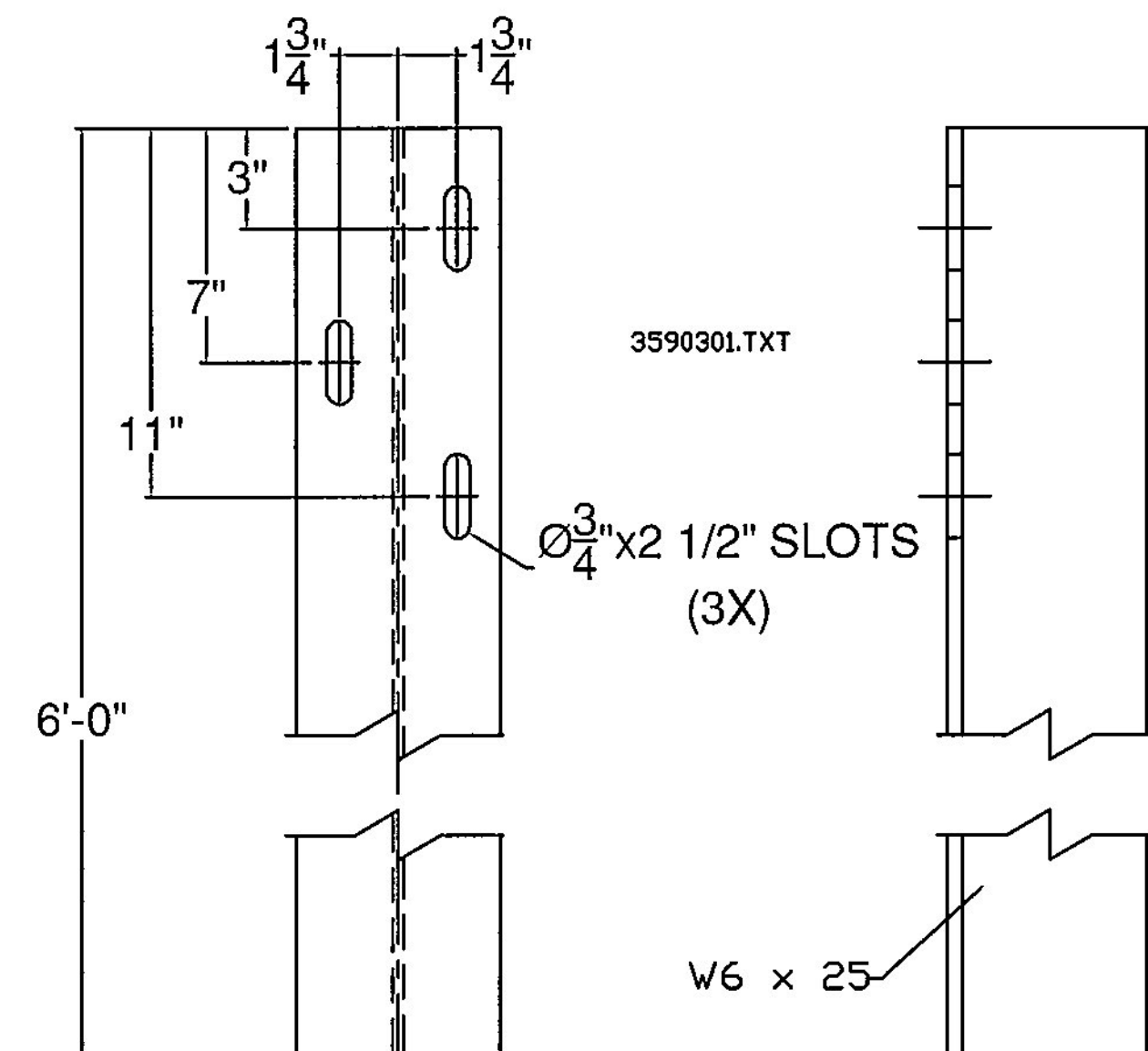
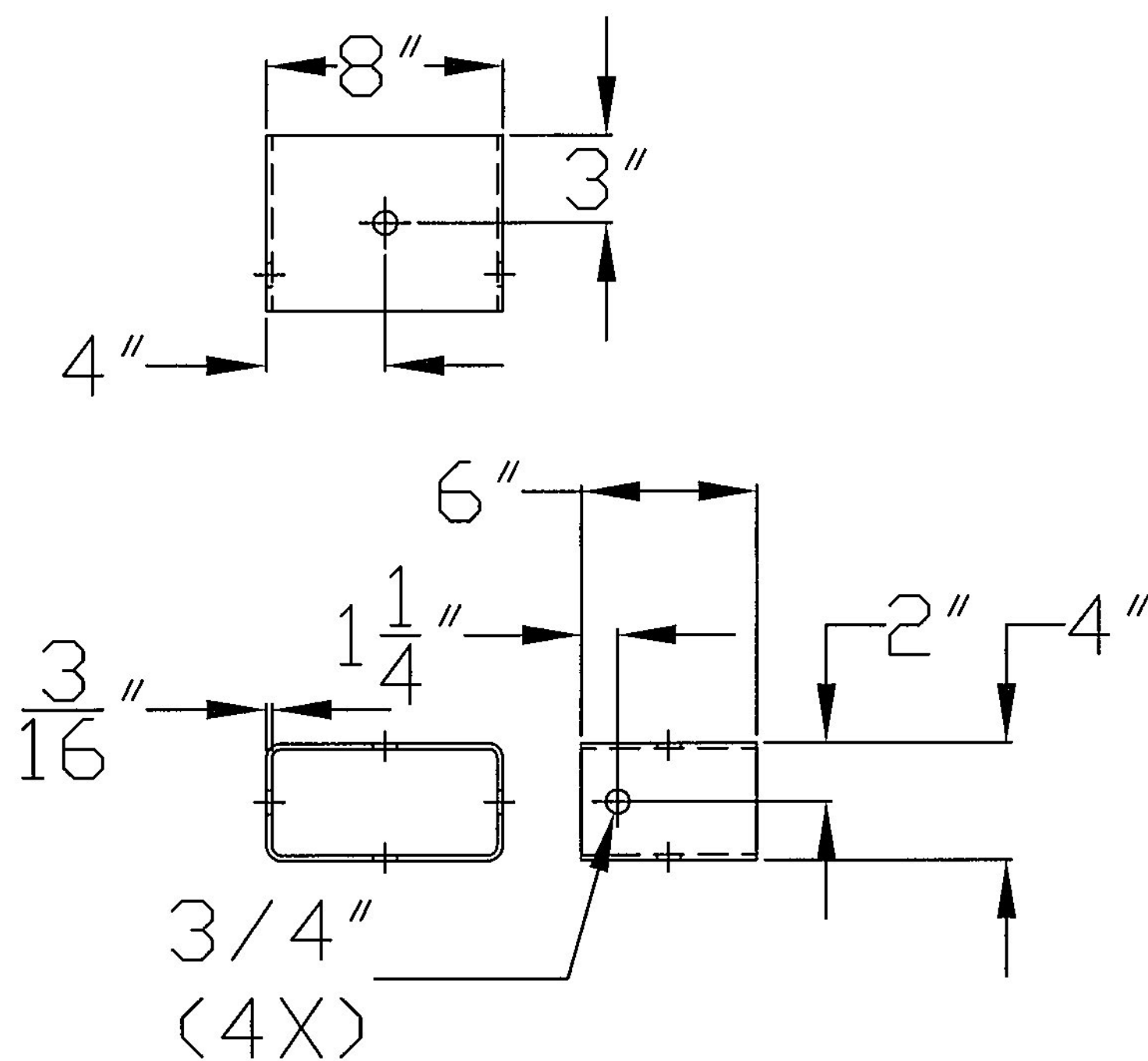
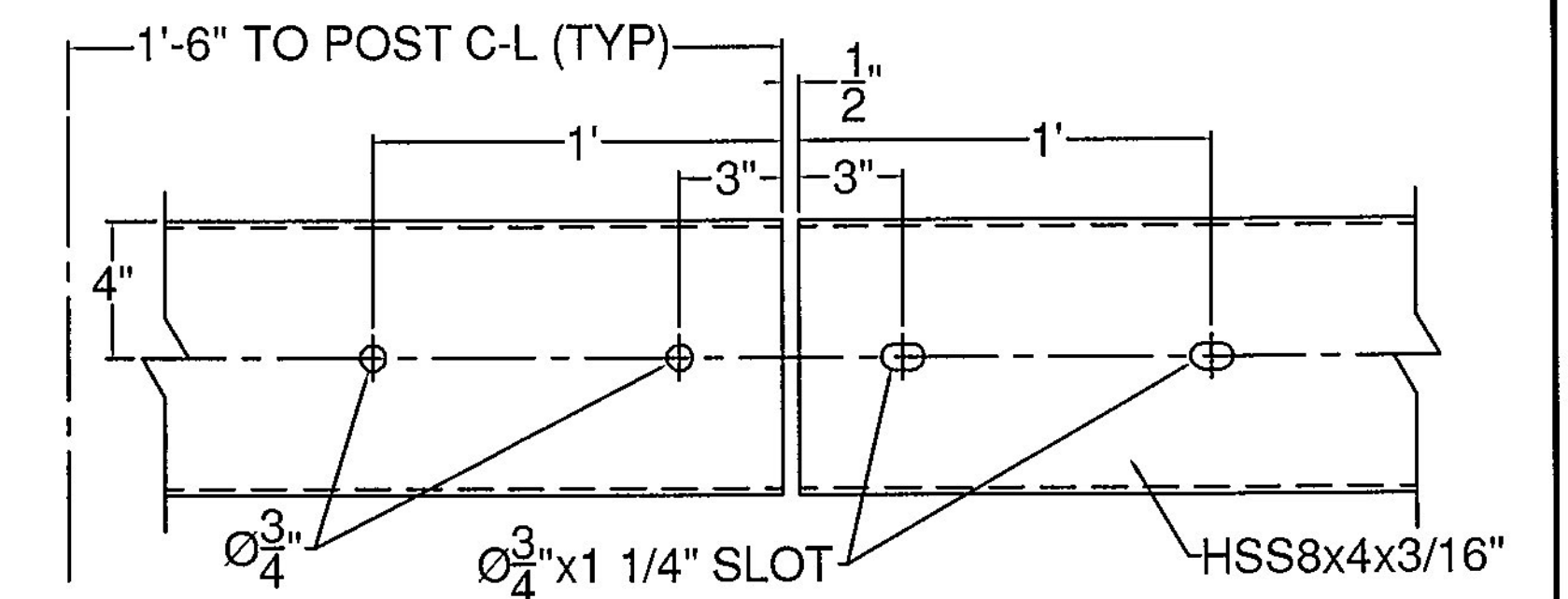
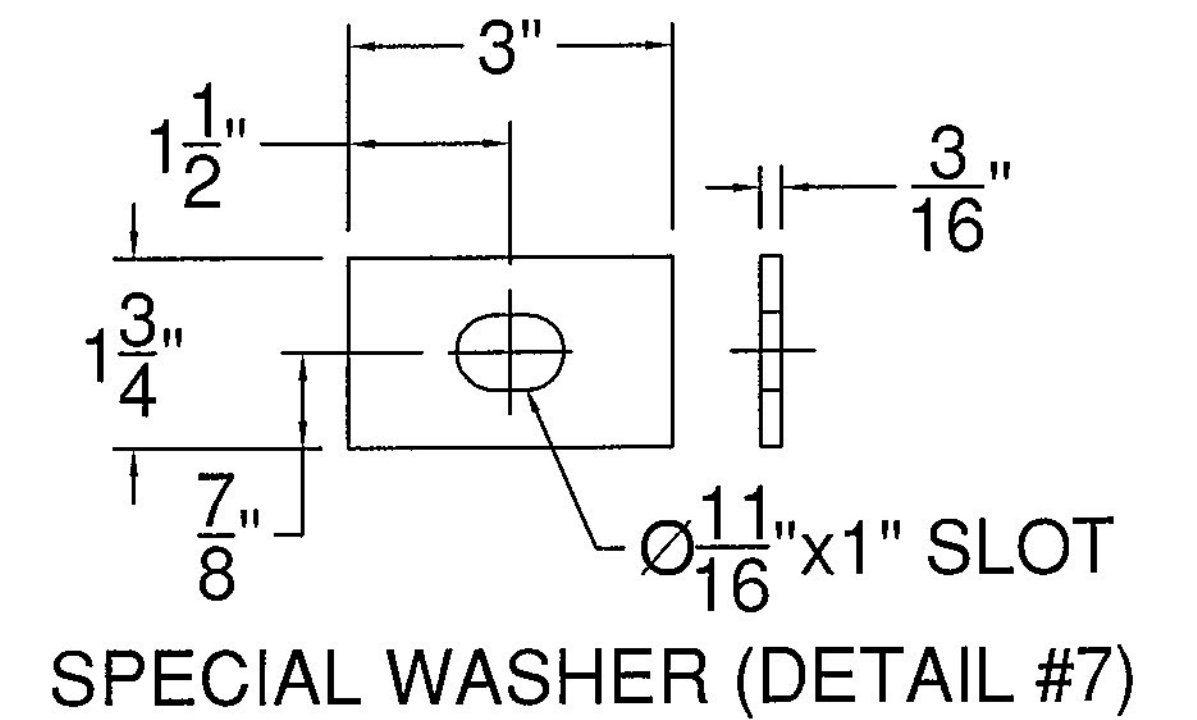
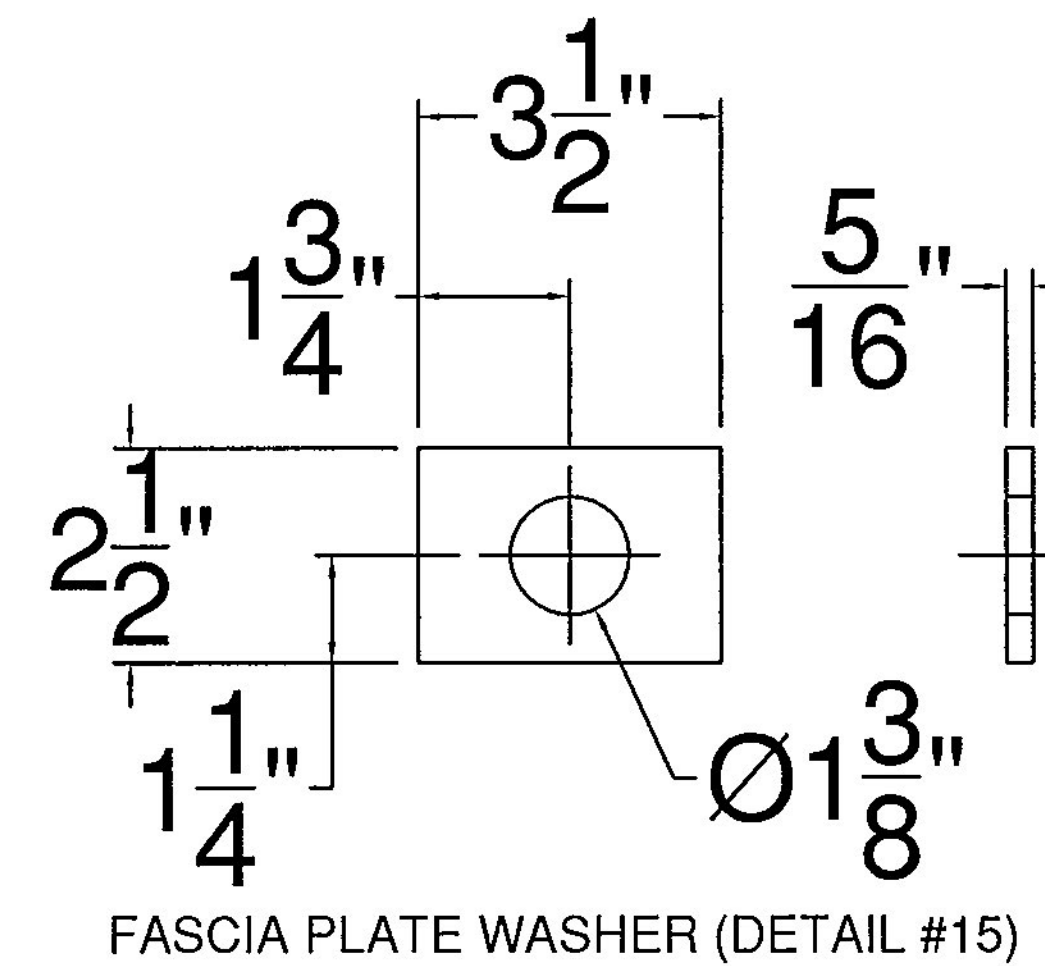
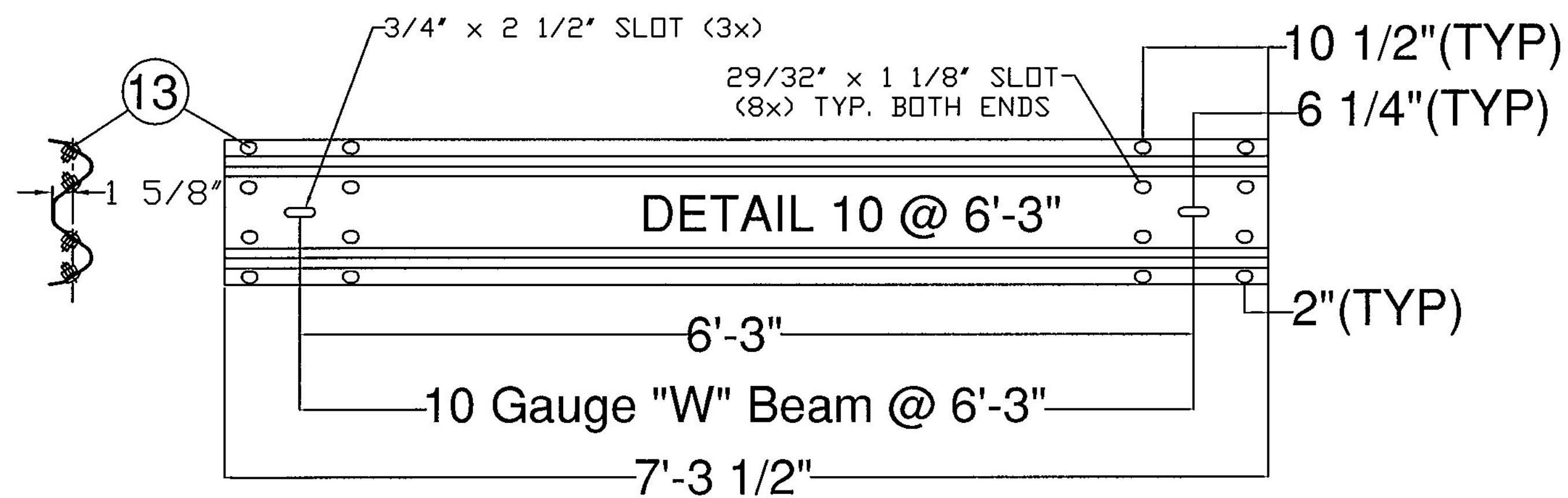
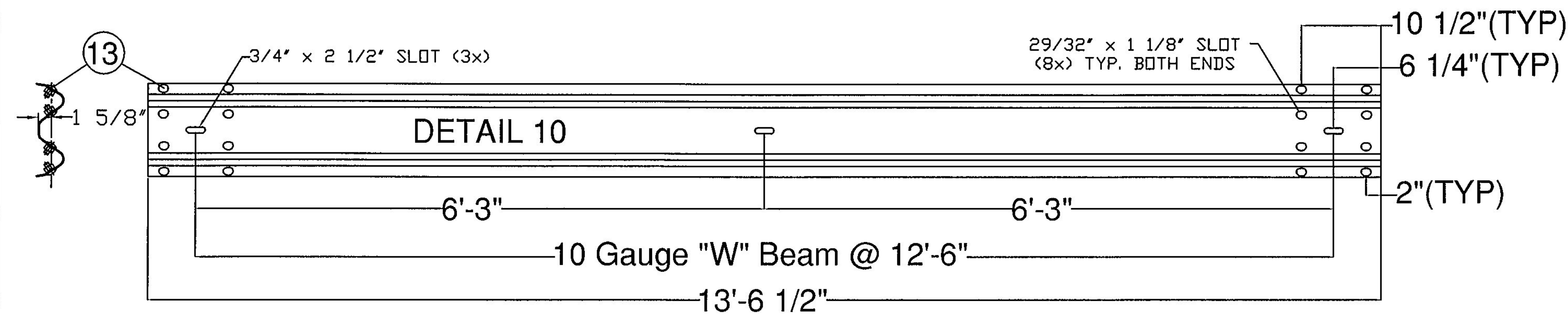
Vermont Agency of Transportation

**RECEIVED**

CK'D BY D. PETERSON OK'D BY C. CARLSON

July 26, 2016

RESUBMIT NO Approved  
BY C. CARLSON DATE 07/27/2016



ITEM #: 525.44

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

GALVANIZING TO BE PER ASTM A123, UNLESS OTHERWISE SPECIFIED.

TOLERANCE UNLESS OTHERWISE NOTED:  
HOLES -  $\pm 1/32"$   
FRACTIONS -  $\pm 1/16"$   
ANGLES -  $\pm 1/2"$

| BRIDGE RAIL DETAILS SHEET                                                        |         |                                   |      |                                         |      |             |    |
|----------------------------------------------------------------------------------|---------|-----------------------------------|------|-----------------------------------------|------|-------------|----|
| ROUTE NO: TOWN HIGHWAY 22, CLASS 3 (CAMELS HUMP ROAD) BRIDGE NO : 30 - WEST SIDE |         |                                   |      |                                         |      |             |    |
| TOWN OF HUNTINGTON, COUNTY OF CHITTENDEN, VERMONT                                |         |                                   |      |                                         |      |             |    |
| R NO.                                                                            | DATE    | DESCRIPTION                       | BY   | R NO.                                   | DATE | DESCRIPTION | BY |
| 1                                                                                | 7/19/16 | SEPERATE DRAWINGS FOR EAST & WEST | E.P. |                                         |      |             |    |
| ELDERLEE, INC.                                                                   |         |                                   |      | DRAWN D.K. 2/23/16                      |      |             |    |
| OAKS CORNERS, NEW YORK 14518                                                     |         |                                   |      | CHECKED E.P. 2/24/16                    |      |             |    |
| email: dlong@elderlee.com / speek@elderlee.com                                   |         |                                   |      | APPROVED D.L. 2/24/16                   |      |             |    |
| Tel: 315-789-6670 Fax: 315-789-6615                                              |         |                                   |      | SCALE SCHEMATIC                         |      |             |    |
|                                                                                  |         |                                   |      | DRAWING NO. FR LAFAYETTE-HUNTINGTON - W |      |             |    |

SHEET 2 OF 2



Vermont Agency of Transportation

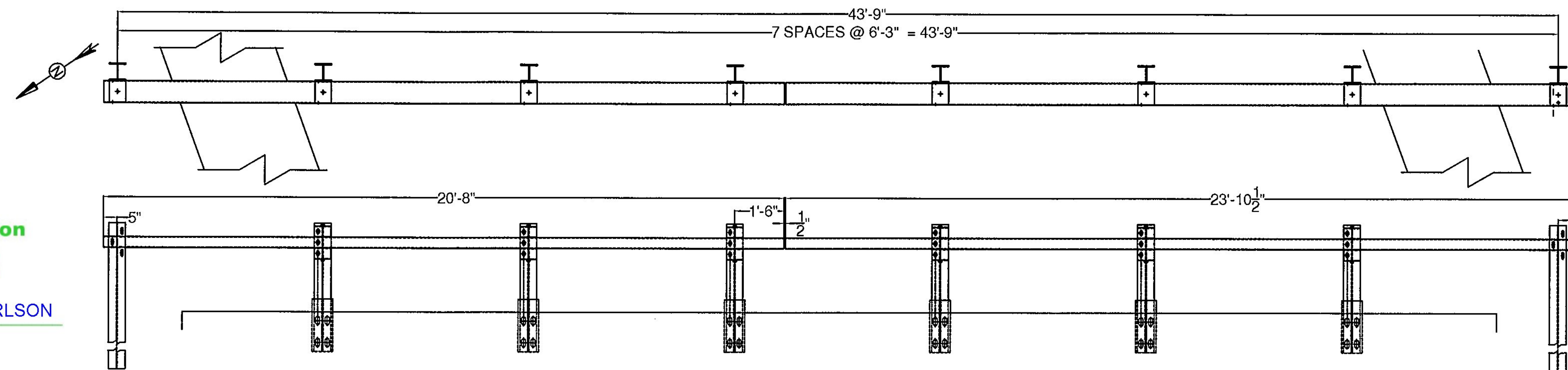
**RECEIVED**

CK'D BY D. PETERSON OK'D BY C. CARLSON

July 19, 2016

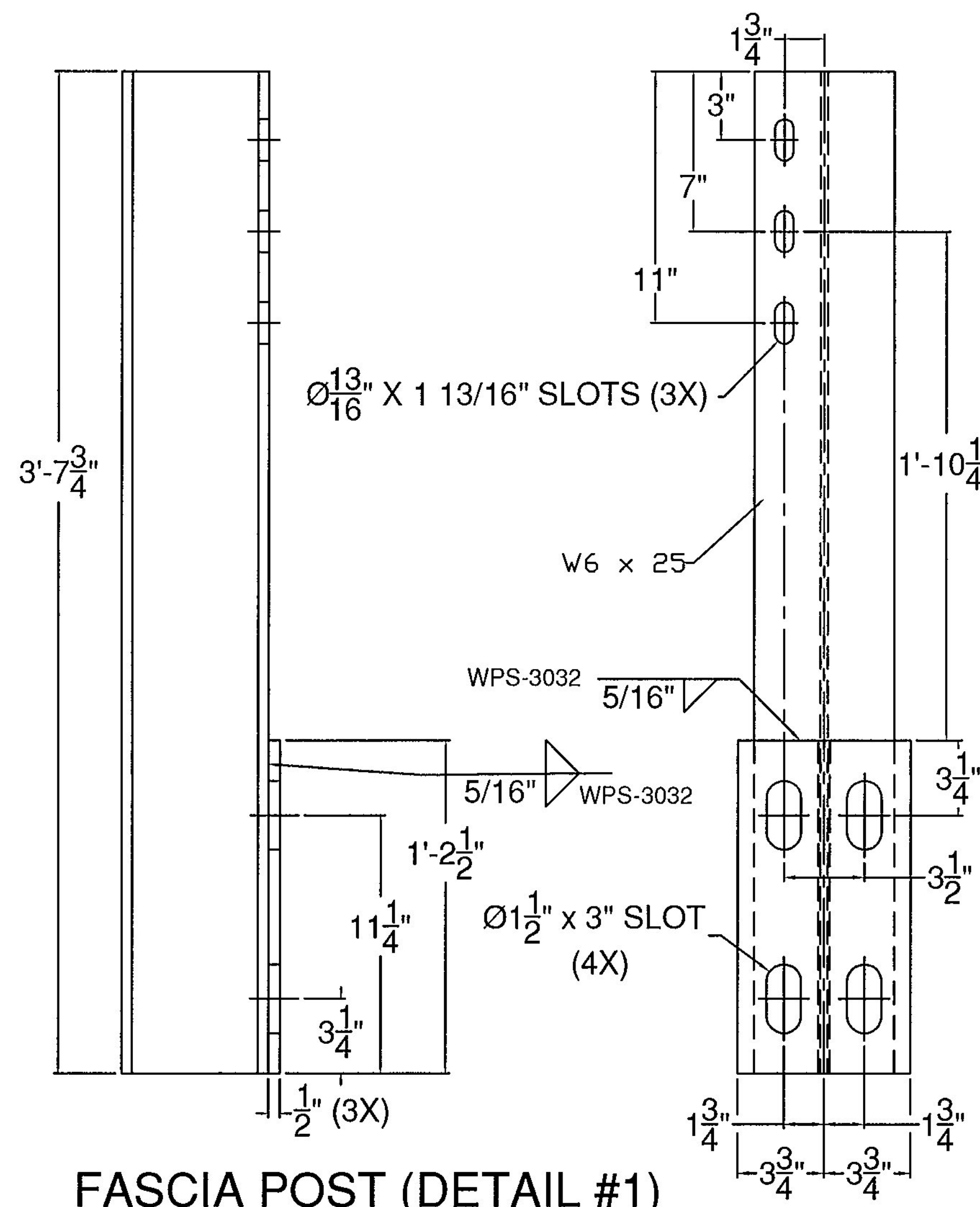
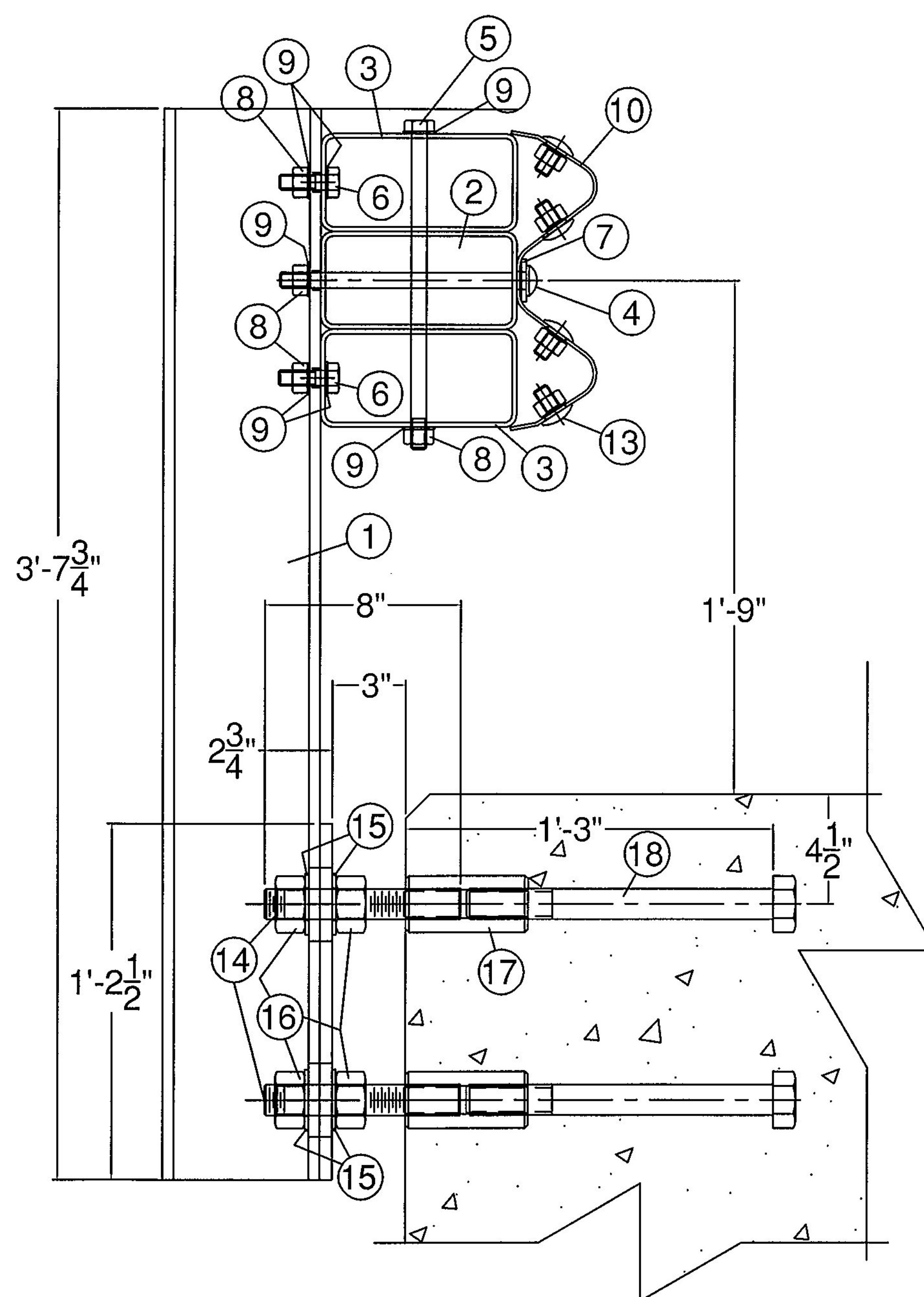
RESUBMIT NO  
BY C. CARLSON

Approved  
DATE 07/28/2016



"W" PANEL NOT SHOWN FOR DRAWING CLARITY

EAST RAILING, FACING EAST



| BILL OF MATERIAL - EAST SIDE |     |                                                           |                               |  |
|------------------------------|-----|-----------------------------------------------------------|-------------------------------|--|
| DET#                         | QTY | PART                                                      | ASTM DESIGNATION              |  |
| 1                            | 6   | 0033.903090 W6x25, TYPE 1, FASCIA POST @ 3'-7 3/4"        | ASTM A572 Gr. 50              |  |
| 2                            | 1   | 0033.930030 HSS8x4x3/16" TUBING @ 20'-8"                  | ASTM A500 Gr. B               |  |
| 2                            | 1   | 0033.930031 HSS8x4x3/16" TUBING @ 23'-10 1/2"             | ASTM A500 Gr. B               |  |
| 3                            | 16  | 0033.90045 HSS8x4x3/16" TUBE BLOCKOUT @ 6"                | ASTM A500 Gr. B               |  |
| 4                            | 8   | 0080.05710 5/8"x10" POST BOLT, NUT, & F.W.                | ASTM A307                     |  |
| 5                            | 8   | 0080.15595 5/8"x13" HEX BOLT                              | ASTM A307                     |  |
| 6                            | 20  | 0080.15036 5/8"x2" HEX BOLT                               | ASTM A307                     |  |
| 7                            | 8   | 0080.15913 3/16"x1 3/4"x3" SPECIAL WASHER                 | ASTM A36                      |  |
| 8                            | 32  | 0080.15901 5/8" HEX NUT                                   | ASTM A307                     |  |
| 9                            | 60  | 0080.15911 5/8" FLAT WASHER                               | ASTM A307                     |  |
| 10                           | 3   | 6043.00012 10 GAUGE "W" BEAM @ 12'-6" C.-C.               | AASHTO M180, CLASS B, TYPE II |  |
| 10                           | 1   | 6043.00002 10 GAUGE "W" BEAM @ 6'-3" C.-C.                | AASHTO M180, CLASS B, TYPE II |  |
| 11                           | 2   | 0033.90301 W6X25 POST @ 6'-0" O.A. (POST #1)              | ASTM A572 Gr. 50              |  |
| * 12                         | 3   | - DELINEATOR - TO BE SUPPLIED BY FR LAFAYETTE             | ALUMINUM                      |  |
| 13                           | 32  | 0080.15013 5/8"x1-1/4" SPLICE BOLT (PANEL ASS'Y)          | ASTM A307                     |  |
| 13                           | 32  | 0080.15905 5/8"x1-1/4" RECESSED NUT (PANEL ASS'Y)         | ASTM A307                     |  |
| * 14                         | 26  | 0042.21408 1 1/4"x8" STUD                                 | ASTM A449                     |  |
| * 15                         | 52  | 0080.19922 5/16"x2 1/2"x3 1/2" FASCIA PLATE WASHERS       | ASTM A572 Gr. 50              |  |
| * 16                         | 52  | 0080.19918 1 1/4" HEX NUT                                 | ASTM A563                     |  |
| * 17                         | 26  | 0080.19921 1 1/4" x 5" COUPLER NUT W/ RT. HAND MACH. THD. | ASTM A563                     |  |
| * 18                         | 26  | 0042.21412 1 1/4" x 12" MACHINE BOLT, THREAD LEN. @ 3"    | ASTM A449                     |  |
| 19                           | 1   | 0033.90074 C7x9.8 CHANNEL SPLICE @ 2'-6 1/2"              | ASTM A36                      |  |

\* - SUPPLIED BY OTHERS \*\* - TWO ADDITIONAL FOR Vtrans QA TESTING

NOTES:

- ALL WORK AND MATERIALS SHALL CONFORM TO SECTION 525.
- GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/16", PRIOR TO GALVANIZING.
- ALL POSTS SHALL BE SET NORMAL TO GRADE.
- SPLICES FOR THE STEEL BEAM GUARDRAIL SHALL LAP IN THE DIRECTION OF TRAFFIC.
- A RAILING JOINT SPLICE SHALL BE PROVIDED IN ANY RAIL BAY SPANNING THE END OF AN INTEGRAL ABUTMENT BRIDGE AND AT ALL SUPERSTRUCTURE EXPANSION JOINTS.
- SEE STANDARD DRAWING G-1 FOR DETAILS OF DELINEATORS. A DELINEATOR SHALL BE INSTALLED AT 30 FOOT SPACING OR THE NEAREST POST. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT. FOR ONE WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT.
- THE 1/2" EXPANSION JOINT SHOWN IN THE RAILING ELEVATION IS DESIGNED FOR BRIDGE LENGTHS UP TO 80 FEET, ANY LONGER SPANS WILL HAVE TO BE MODIFIED TO ACCOUNT FOR THEIR MOVEMENT.
- FOR RADIUS LESS THAN 950 FEET, HSS8x4 TUBES SHALL BE SHOP BENT TO FIT THE APPLICABLE CURVE.
- THE MINIMUM DISTANCE FROM THE LAST POST TO THE END OF SLAB IS 1'-6".
- FERRULES SHALL BE 12L14 COLD DRAWN CARBON STEEL.
- HOLES IN RAIL FOR RAIL TUBE ATTACHMENT WILL BE SHOP DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO INSTALLATION.
- THIS RAILING MEETS THE REQUIREMENTS FOR A TL-2 SERVICE LEVEL.

ITEM #: 525.44

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

GALVANIZING TO BE PER ASTM A123, UNLESS OTHERWISE SPECIFIED.

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FRACTIONS -  $\pm 1/16"$   
ANGLES -  $\pm 1/2"$

SHEET 1 OF 2

BRIDGE RAIL DETAILS SHEET

ROUTE NO: TOWN HIGHWAY 22, CLASS 3 (CAMELS HUMP ROAD) BRIDGE NO : 30 - EAST SIDE  
TOWN OF HUNTINGTON, COUNTY OF CHITTENDEN, VERMONT

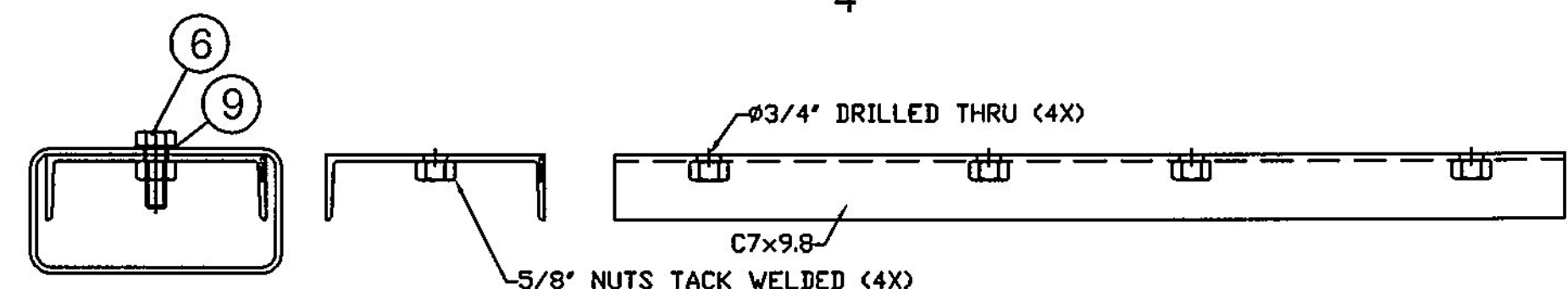
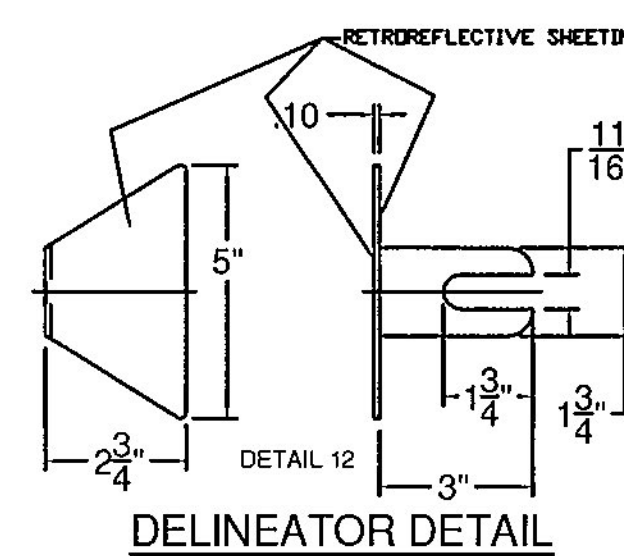
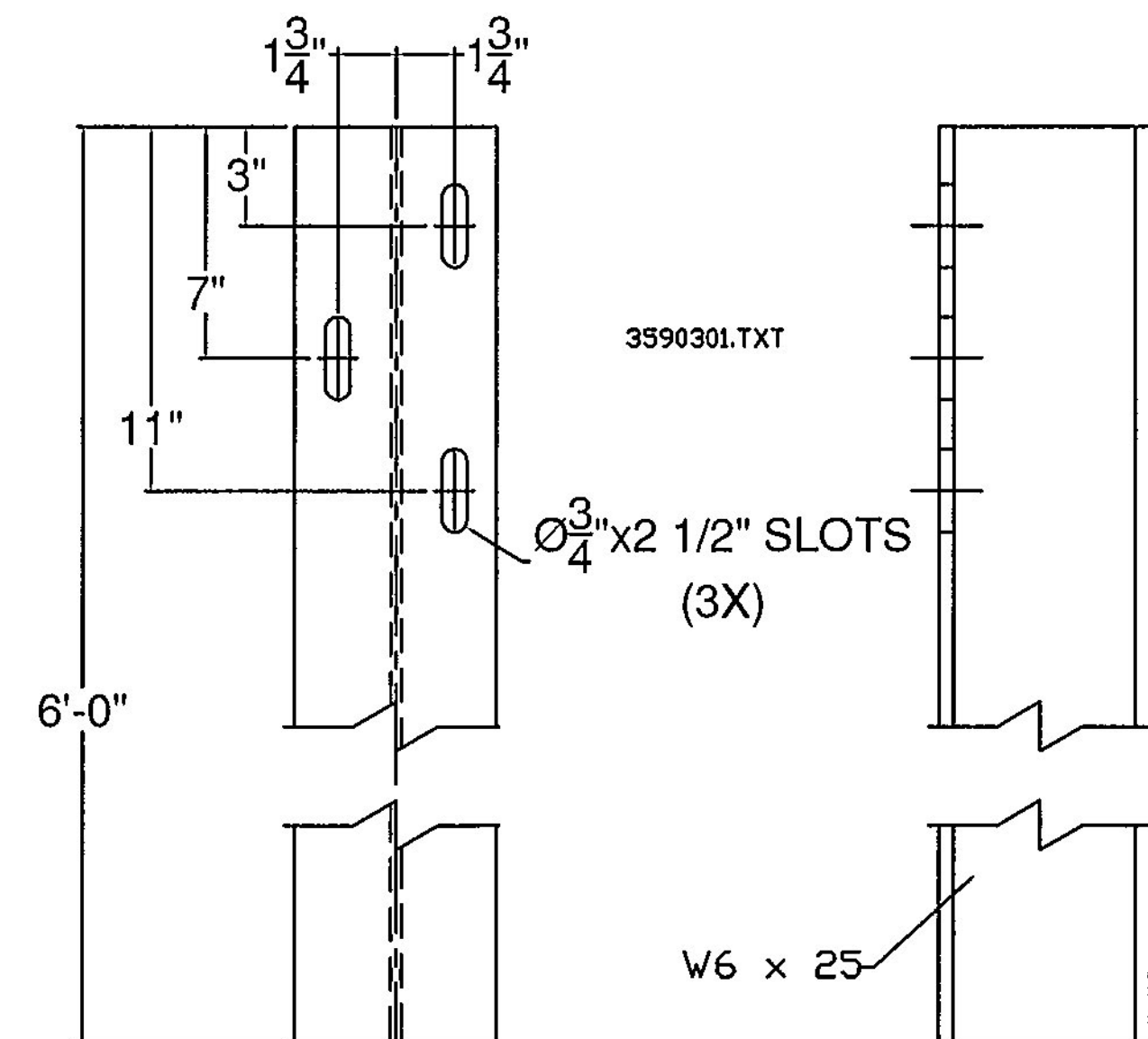
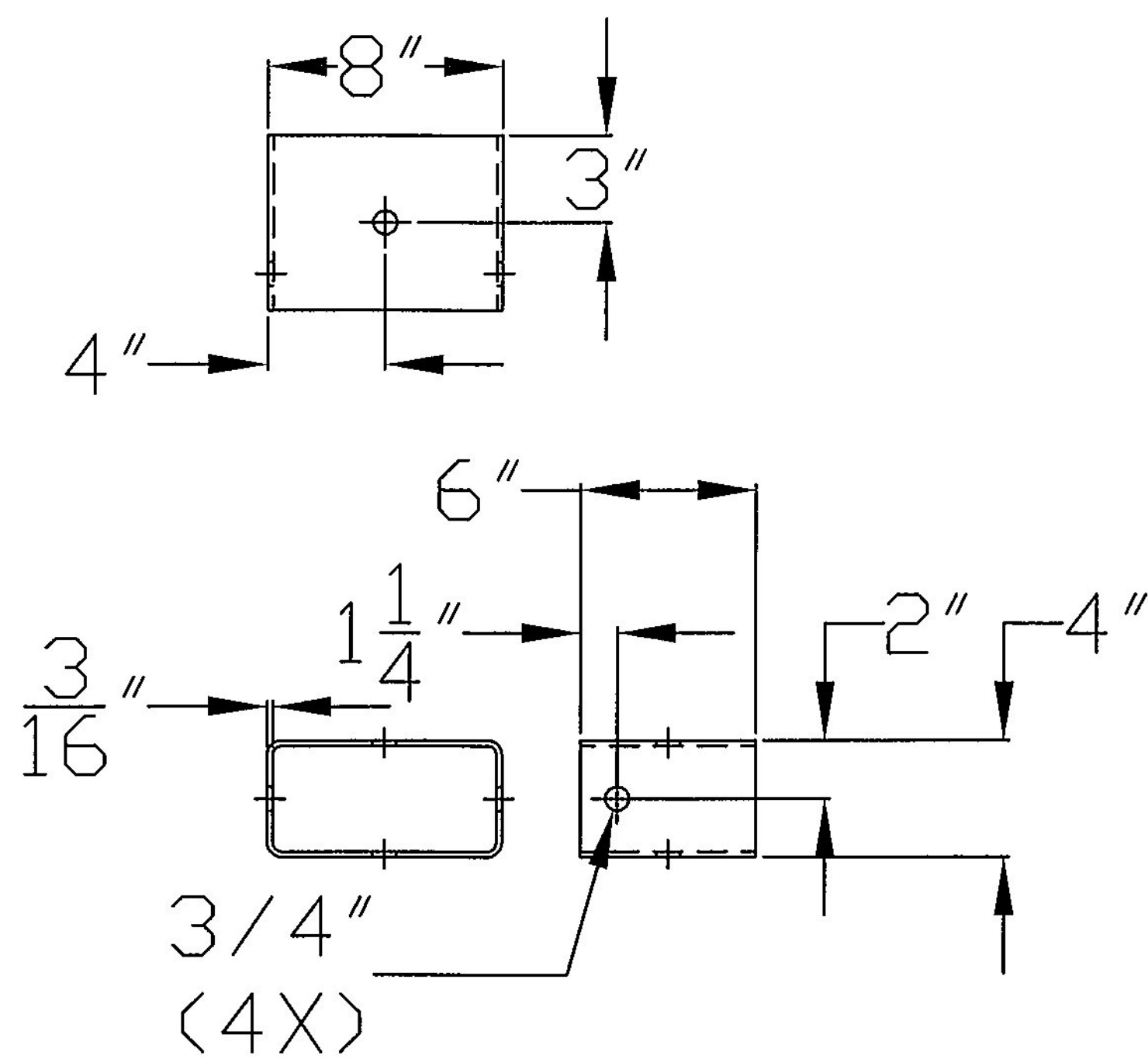
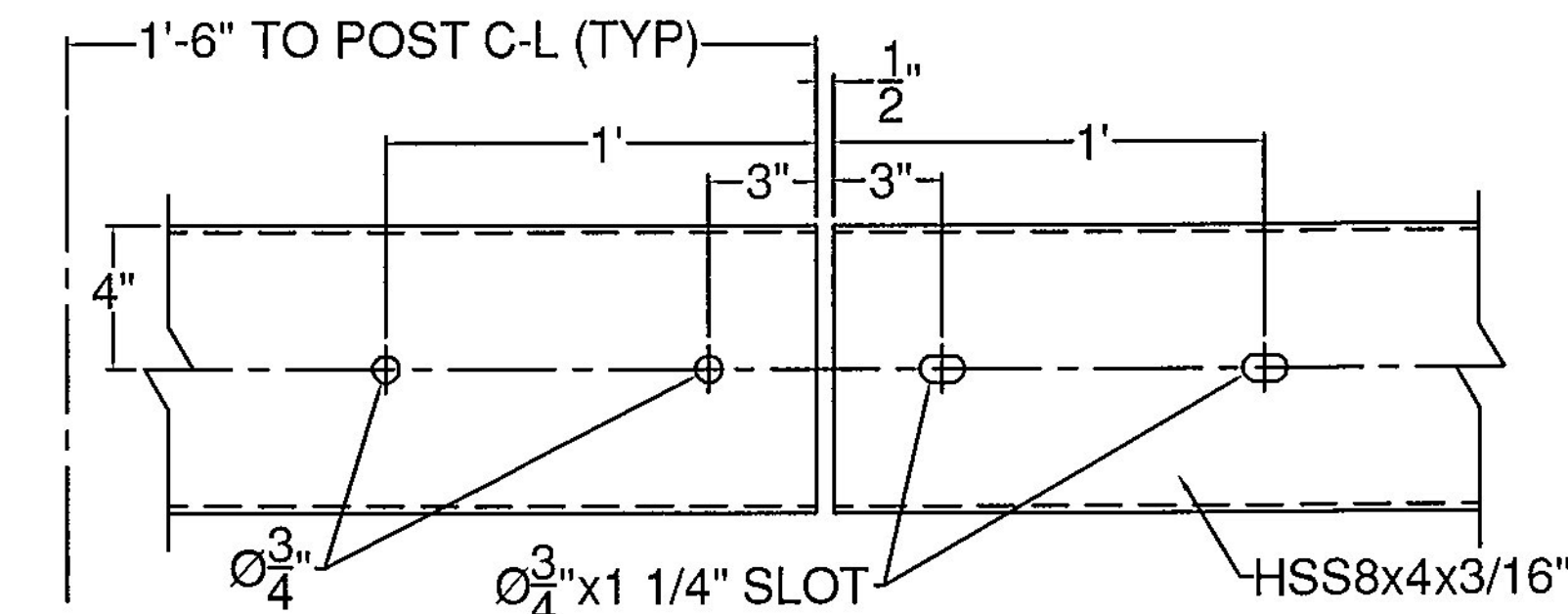
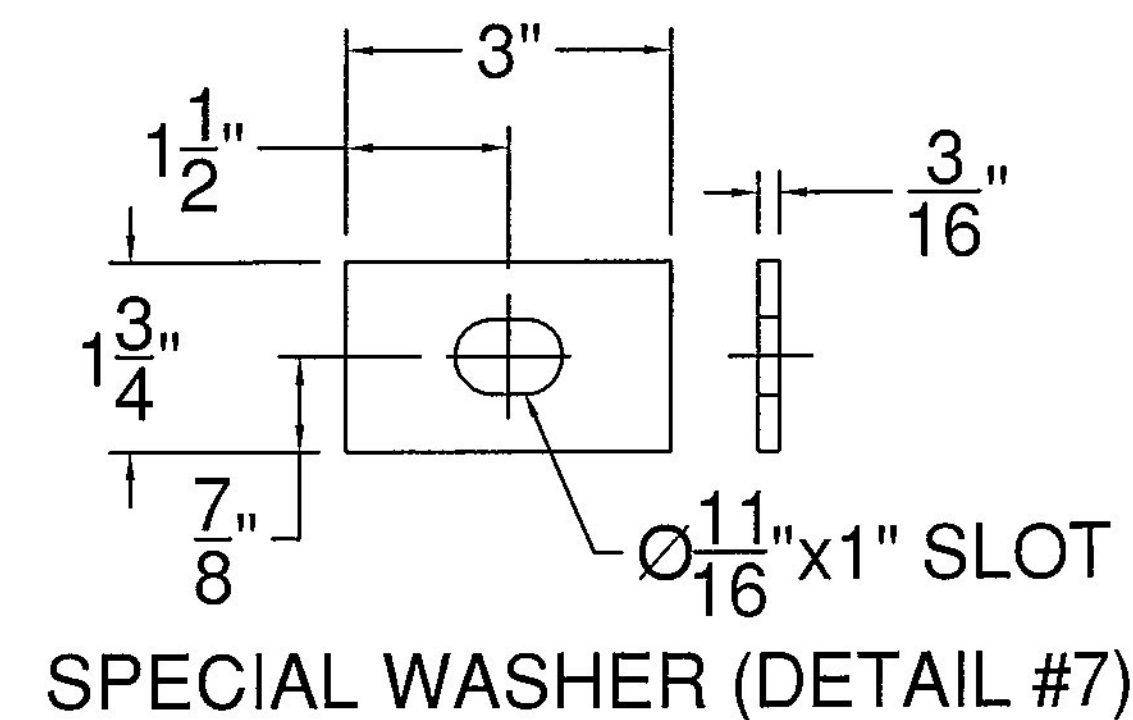
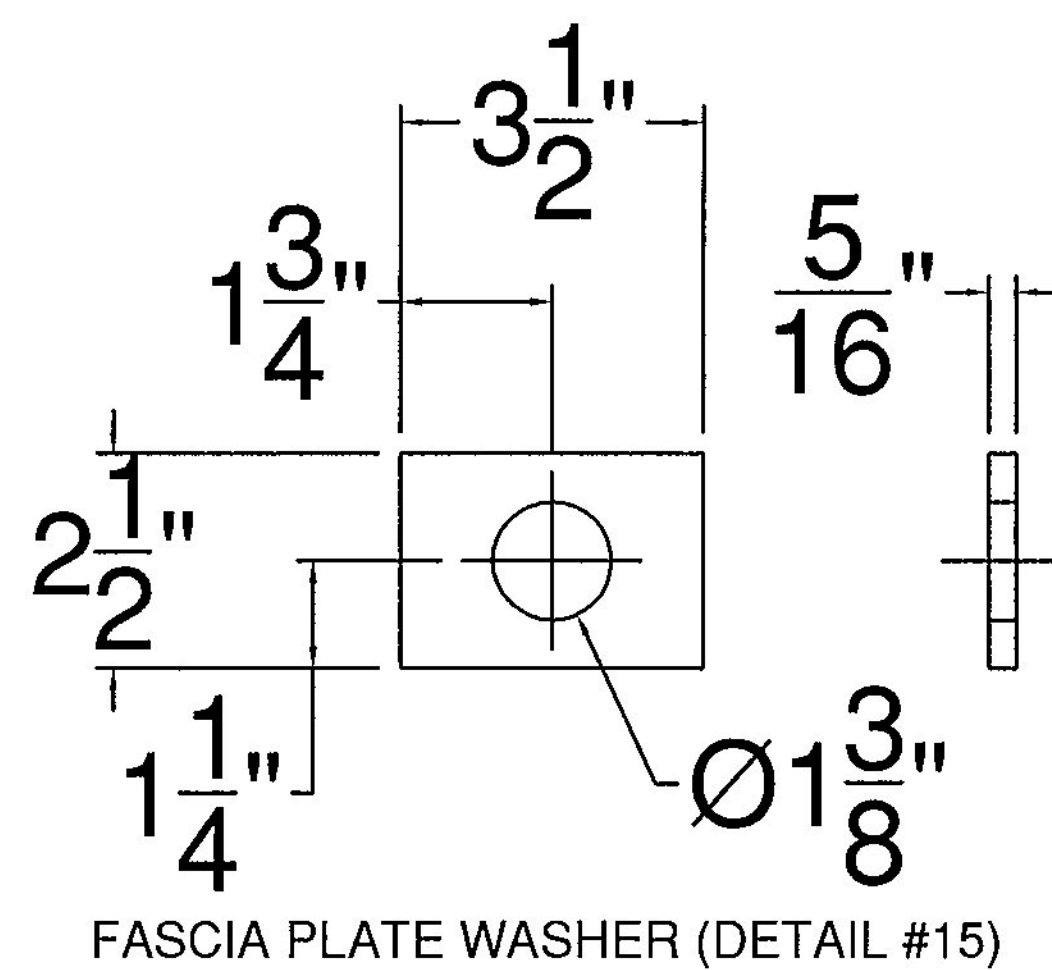
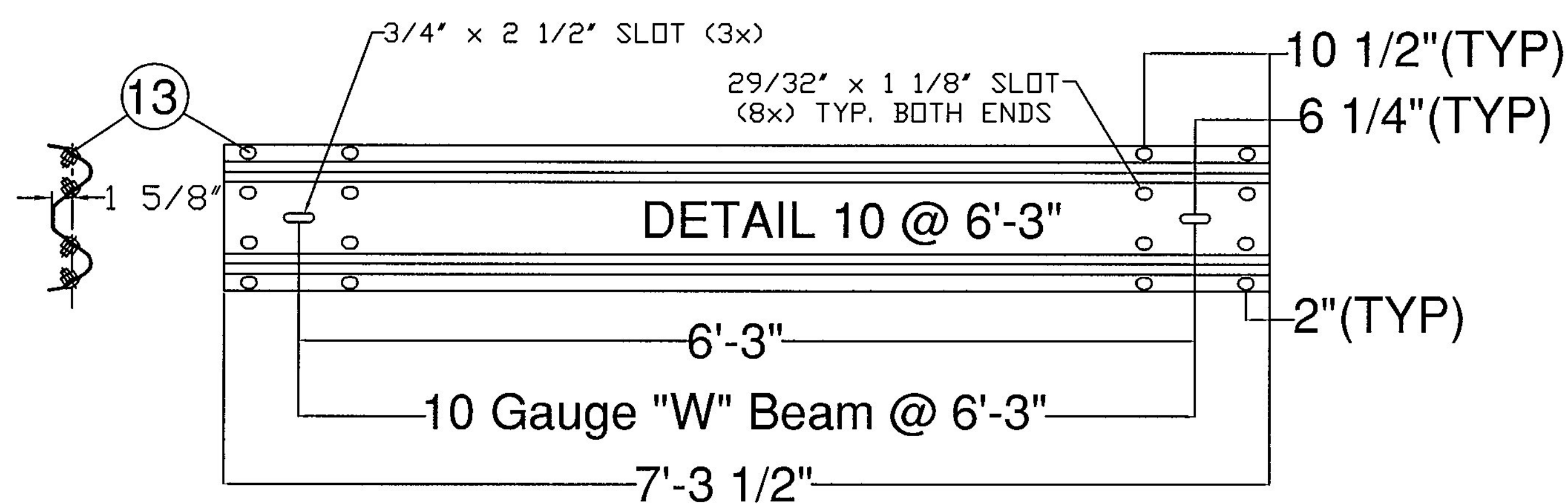
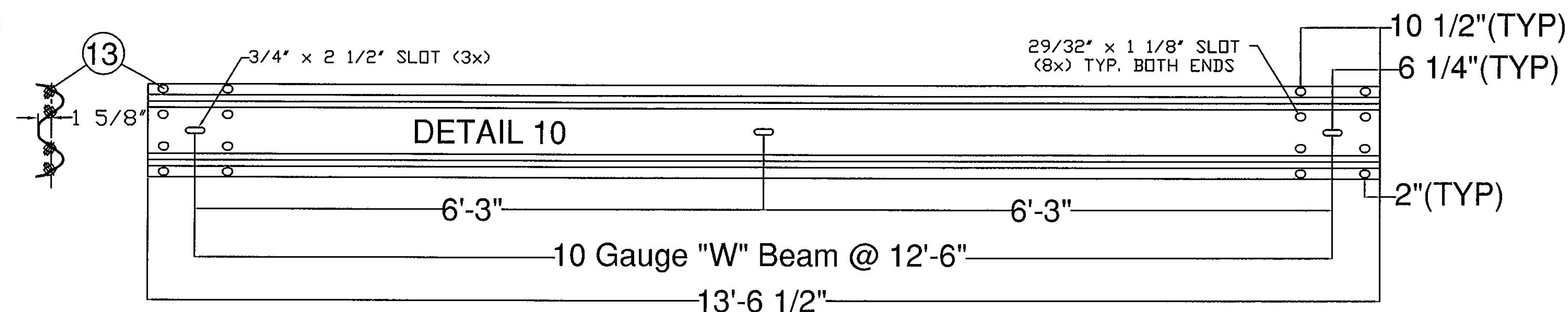
| R NO. | DATE    | DESCRIPTION                       | BY   | R NO. | DATE    | DESCRIPTION                       | BY   |
|-------|---------|-----------------------------------|------|-------|---------|-----------------------------------|------|
| 1     | 7/19/16 | SEPERATE DRAWINGS FOR EAST & WEST | E.P. | 1     | 7/19/16 | SEPERATE DRAWINGS FOR EAST & WEST | E.P. |

|                                                |                        |             |                             |           |
|------------------------------------------------|------------------------|-------------|-----------------------------|-----------|
| ELDERLEE, INC.                                 | ORTHOGRAHIC PROJECTION | DRAWN       | D.K.                        | 2/23/16   |
| OAKS CORNERS, NEW YORK 14518                   |                        | CHECKED     | E.P.                        | 2/24/16   |
| email: dlong@elderlee.com / epeek@elderlee.com |                        | APPROVED    | D.L.                        | 2/24/16   |
| Tel: 315-789-6670 Fax: 315-789-6615            |                        | SCALE       |                             | SCHEMATIC |
|                                                |                        | DRAWING NO. | FR LAFAYETTE-HUNTINGTON - E |           |



July 19, 2016

RESUBMIT NO Approved  
BY C. CARLSON DATE 07/28/2016



ITEM #: 525.44

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

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TOLERANCE UNLESS OTHERWISE NOTED:  
HOLES - ± 1/32"  
FRACTIONS - ± 1/16"  
ANGLES - ± 1/2°

**BRIDGE RAIL DETAILS SHEET**

ROUTE NO: TOWN HIGHWAY 22, CLASS 3 (CAMELS HUMP ROAD) BRIDGE NO : 30 - EAST SIDE  
TOWN OF HUNTINGTON, COUNTY OF CHITTENDEN, VERMONT

| R NO. | DATE    | DESCRIPTION                       | BY   | R NO. | DATE    | DESCRIPTION                       | BY   |
|-------|---------|-----------------------------------|------|-------|---------|-----------------------------------|------|
| E 1   | 7/19/16 | SEPARATE DRAWINGS FOR EAST & WEST | E.P. | E 1   | 7/19/16 | SEPARATE DRAWINGS FOR EAST & WEST | E.P. |
| V     |         |                                   | V    | V     |         |                                   | V    |

|             |                             |         |
|-------------|-----------------------------|---------|
| DRAWN       | D.K.                        | 2/23/16 |
| CHECKED     | E.P.                        | 2/24/16 |
| APPROVED    | D.L.                        | 2/24/16 |
| SCALE       | SCHMATIC                    |         |
| DRAWING NO. | FR LAFAYETTE-HUNTINGTON - E |         |



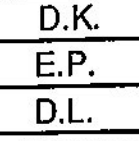
**ELDERLEE, INC.**  
OAKS CORNERS, NEW YORK 14518  
email: [dlong@elderlee.com](mailto:dlong@elderlee.com) / [speak@elderlee.com](mailto:speak@elderlee.com)  
Tel: 315-789-6670 Fax: 315-789-6615



CERTIFIED FABRICATOR



ORTHOGRAPHIC PROJECTION



DRAWING NO.