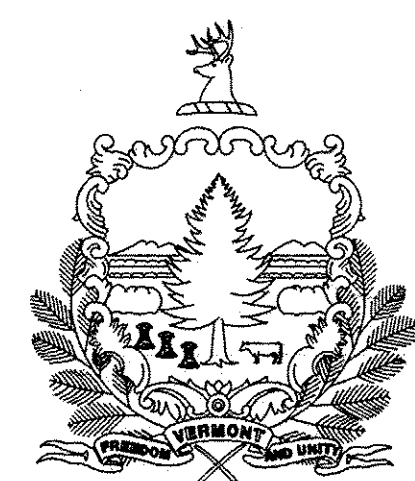


SEE SHEET 2 FOR  
LIST OF SHEETS

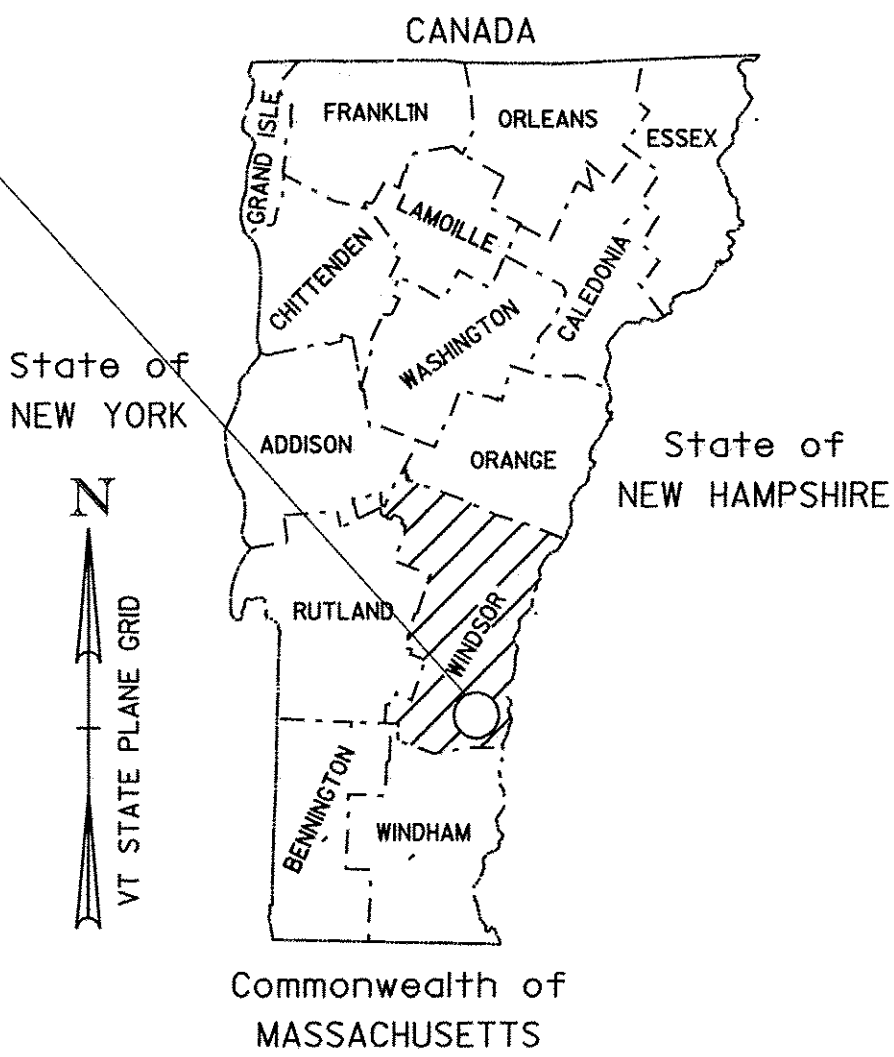
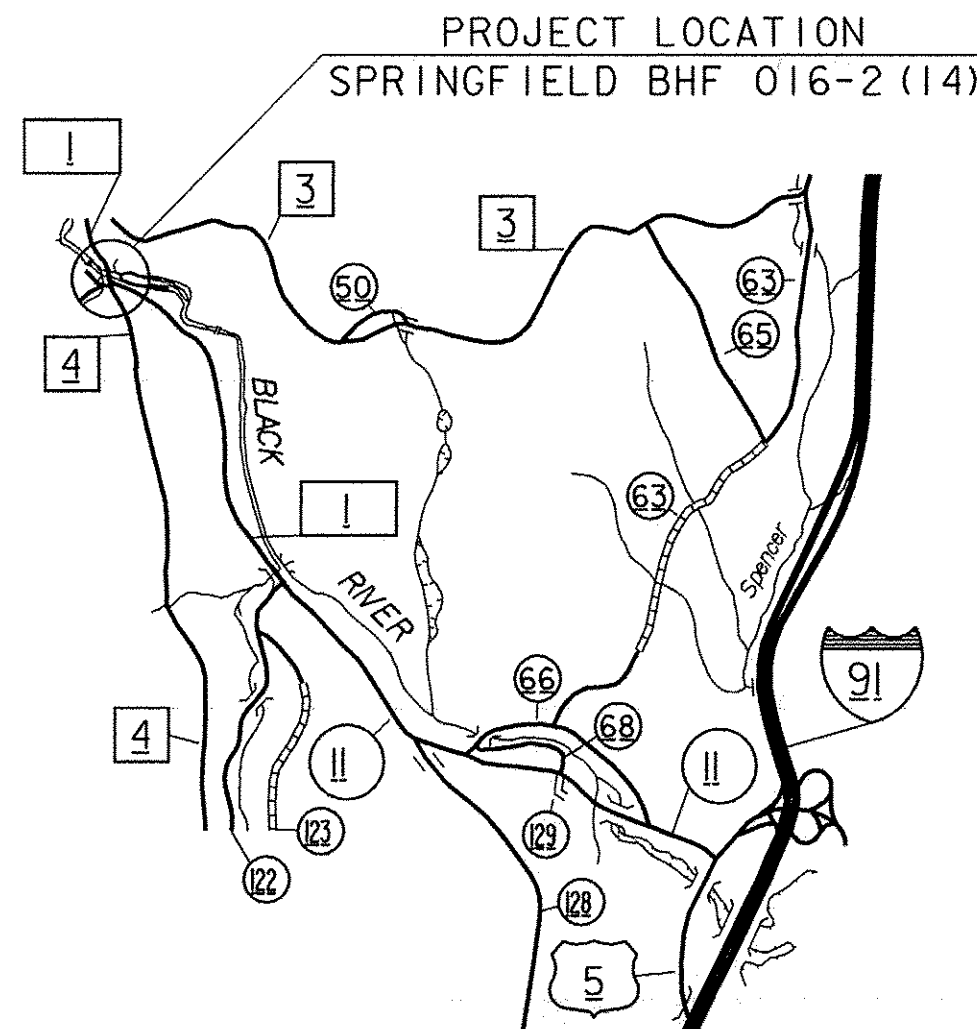
STATE OF VERMONT  
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT  
BRIDGE PROJECT  
TOWN OF SPRINGFIELD  
COUNTY OF WINDSOR  
VT. 11  
MINOR ARTERIAL  
BRIDGE NO. 64

PROJECT LOCATION: BEGINNING ON VT. 11 APPROXIMATELY 3.25 MILES NORTHWESTERLY  
OF THE INTERSECTION OF VT. 11 AND US RTE. 5 AND EXTENDING  
NORTHERLY 158.25'.  
PROJECT DESCRIPTION: THE REHABILITATION OF THE EXISTING SUPERSTRUCTURE  
ALONG WITH RELATED APPROACH ROADWAY WORK.

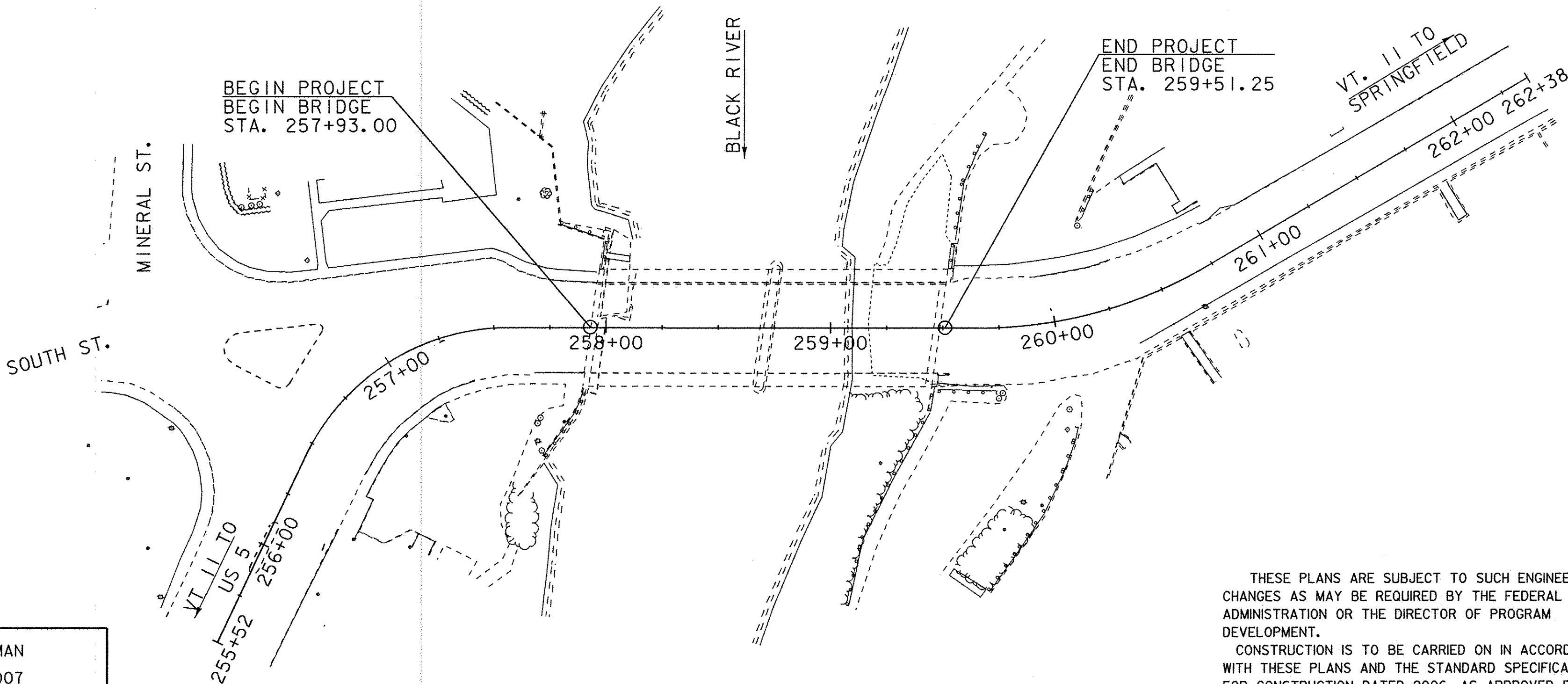
LENGTH OF STRUCTURE: 158.25 FEET  
LENGTH OF ROADWAY: 0.00 FEET  
LENGTH OF PROJECT: 158.25 FEET



RECORD PLANS

CONTRACTOR: COLD RIVER BRIDGES, LLC- KEENE, NH  
RESIDENT ENGINEER: JEREMY REED  
CONSTRUCTION BEGAN: JUNE 1, 2009  
CONSTRUCTION COMPLETE: AUGUST 4, 2010  
RECORD PLANS BY: JEREMY REED & AMOS KEMPTON  
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET  
OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.  
BY Jeremy Reed RESIDENT ENGINEER  
DATE 12/7/11

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.



CONVENTIONAL SYMBOLS

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

SURVEYED BY : R. GILMAN  
SURVEYED DATE : JUNE 2007

DATUM  
VERTICAL NAVD 88  
HORIZONTAL NAD 83 (96)

SCALE 1" = 40'-0"

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING  
CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY  
ADMINISTRATION OR THE DIRECTOR OF PROGRAM  
DEVELOPMENT.  
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE  
WITH THESE PLANS AND THE STANDARD SPECIFICATIONS  
FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE  
FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006  
FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT  
REVISIONS AND SUCH REVISED SPECIFICATIONS AND  
SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE  
PLANS.

DIRECTOR OF PROGRAM DEVELOPMENT

APPROVED [Signature] DATE 2-26-09

PROJECT MANAGER : R. WHITCOMB

PROJECT NAME : SPRINGFIELD  
PROJECT NUMBER : BHF 016-2 (14)

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PRELIMINARY INFORMATION SHEET

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| LIST OF STANDARDS |                                                                    |            |
| C-10              | CURBING                                                            | 2/11/2008  |
| C-2A              | CEMENT CONCRETE SIDEWALK, CONCRETE CURB                            | 10/14/2005 |
| C-2B              | CEMENT CONCRETE SIDEWALK, GRANITE CURB                             | 10/14/2005 |
| C-3A              | SIDEWALK RAMPS                                                     | 3/10/2008  |
| C-3B              | SIDWALK RAMPS AND MEDIAN ISLANDS                                   | 3/10/2008  |
| D-15              | PRECAST RENF. CONC. MANHOLE GRATES (BICYCLE SAFE)                  | 6/1/1994   |
|                   | CAST IRON GRATE WITH FRAME, TYPE D                                 |            |
|                   | CAST IRON GRATE WITH FRAME, TYPE E                                 |            |
| E-100             | CONSTRUCTION APPROACH SIGNS                                        | 1/2/2004   |
| E-100A            | SIDE ROAD CONSTRUCTION SIGNS - APPROACH SIGNS                      | 1/2/2004   |
| E-101             | CONSTRUCTION SIGN DETAILS                                          | 6/30/2003  |
| E-102             | CONSTRUCTION SIGN DETAILS                                          | 6/30/2003  |
| E-102A            | CONSTRUCTION SIGN DETAILS                                          | 5/1/2004   |
| E-106             | TRAFFIC CONTROL - MISCELLANEOUS DETAILS                            | 3/1/2004   |
| E-107             | DELINEATION, BARRICADES AND DETOURS FOR U-TURNS ON DIVIDED HIGHWAY | 6/30/2003  |
| E-107A            | BREAKAWAY BARRICADE DETAILS                                        | 8/8/1995   |
| E-108             | CONSTRUCTION ZONE LONGITUDINAL DROP OFFS                           | 12/8/2008  |
| E-121             | STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD                        | 8/8/1995   |
| E-142             | REGULATORY SIGN DETAILS                                            | 9/20/1995  |
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| E-173             | PULL BOXES AND JUNCTION BOXES                                      | 8/9/1995   |
| E-164             | SQUARE STEEL SIGN POST                                             | 5/20/1999  |
| E-191             | PAVEMENT MARKING DETAILS                                           | 2/1/1999   |
| E-192             | PAVEMENT MARKING DETAILS                                           | 10/12/2000 |
| E-193             | PAVEMENT MARKING DETAILS                                           | 8/18/1995  |
| G-1B              | BOX BEAM GUARDRAIL                                                 | 6/1/1994   |
| G-18              | PRECAST CONCRETE TEMPORARY TRAFFIC BARRIER                         | 6/1/1994   |

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: April 2008

DRAINAGE AREA : 191.5 sq. mi.

CHARACTER OF TERRAIN : Large mostly forested watershed

STREAM CHARACTERISTICS : incised, confined, sinuous

NATURE OF STREAMBED : Gravel with some exposed ledge

PEAK FLOW DATA

Q 2.33 = 2,000 cfs

Q 50 = 5,000

Q 10 = 3,500

Q 100 = 7,000

Q 25 = 4,300

Q 500 = 10,000

DATE OF FLOOD OF RECORD November 1927

ESTIMATED DISCHARGE: 24,000 cfs at confluence with Connecticut River

WATER SURFACE ELEV.: Unknown

NATURAL STREAM VELOCITY: @ Q50 = 7.9 fps

ICE CONDITIONS : Moderate

DEBRIS: Moderate

DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No

IS ORDINARY RISE RAPID? No

IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? Yes

IF YES, DESCRIBE: Multiple dams upstream

WATERSHED STORAGE: 1%

HEADWATERS:

UNIFORM: X

IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Two span rolled beam bridge

YEAR BUILT: 1949

CLEAR SPAN(NORMAL TO STREAM): 152 ft

VERTICAL CLEARANCE ABOVE STREAMBED: 24.7 ft

WATERWAY OF FULL OPENING: 2,330 sq. ft

DISPOSITION OF STRUCTURE: Rehabilitation

TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 = 332.9 ft

VELOCITY = 8.3 fps

Q10 = 334.9

" 8.9 fps

Q25 = 335.7

" 9.1 fps

Q50 = 336.4

" 9.3 fps

Q100 = 338.3

" 9.6 fps

LONG TERM STREAMBED CHANGES: None

IS THE ROADWAY OVERTOPPED BELOW Q100: No

FREQUENCY: n/a

RELIEF ELEVATION: 353.5 ft

DISCHARGE OVER ROAD @Q100: n/a

UPSTREAM STRUCTURE

TOWN: Springfield

DISTANCE: 2,000 ft

HIGHWAY #: Park St

STRUCTURE #: Br 79

CLEAR SPAN: 70 ft

CLEAR HEIGHT: 37 ft

YEAR BUILT:

FULL WATERWAY:

STRUCTURE TYPE: Concrete Arch

DOWNSTREAM STRUCTURE

TOWN: Springfield

DISTANCE: 2,600 ft

HIGHWAY #: Bridge St

STRUCTURE #: Br 43

CLEAR SPAN: 119 ft

CLEAR HEIGHT: 13 ft

YEAR BUILT: 1989

FULL WATERWAY: 1,213 sq ft

STRUCTURE TYPE: Welded plate girder

| LOAD FACTOR    |           | LOAD RATING (TONS) |     |        |          |          |          |    |
|----------------|-----------|--------------------|-----|--------|----------|----------|----------|----|
| LOADING LEVELS | TRUCK     |                    |     |        |          |          |          |    |
|                | H         | HS                 | 3S2 | 6 AXLE | 3A. STR. | 4A. STR. | 5A. SEMI |    |
|                | INVENTORY | 45                 | 60  |        |          |          |          |    |
|                | POSTED    | 63                 | 85  | 102    |          | 77       | 79       | 93 |
|                | OPERATING |                    | 101 | 22     | 146      | 92       | 94       |    |

COMMENTS: 0

| TRAFFIC DATA |       |      |     |      |      |
|--------------|-------|------|-----|------|------|
| YEAR         | ADT   | DHV  | % D | % T  | ADTT |
| 2010         | 11800 | 1200 | 52  | 6.8  | 950  |
| 2030         | 14600 | 1500 | 52  | 10.3 | 1800 |

20 year ESAL for flexible pavement from 2010 to 2030 : 8,007,000  
40 year ESAL for flexible pavement from 2010 to 2050 : 19,301,000  
Design Speed : 25 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: Two span rolled beam bridge

CLEAR SPAN(NORMAL TO STREAM): 152 ft

VERTICAL CLEARANCE ABOVE STREAMBED: 24.7 ft

WATERWAY OF FULL OPENING: 2,330 sq. ft

WATER SURFACE ELEVATIONS AT:

Q2.33 = 332.9 ft

VELOCITY= 8.3 fps

Q10 = 334.9

" 9

Q25 = 335.7

" 9

Q50 = 336.4

" 9

Q100 = 338.3

" 10

IS THE ROADWAY OVERTOPPED BELOW Q100: No

FREQUENCY: n/a

RELIEF ELEVATION: 353.5 ft

DISCHARGE OVER ROAD @Q100: n/a

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 349.7 ft

VERTICAL CLEARANCE: @ Q50 = 13.3 ft

SCOUR: Not calculated, no substructure work

REQUIRED CHANNEL PROTECTION: No work in the channel

PERMIT INFORMATION

AVERAGE DAILY FLOW: 400 cfs

DEPTH OR ELEVATION:

ORDINARY LOW WATER: 175

Depth = 2.5'

ORDINARY HIGH WATER: 850

Depth = 4.5'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: N/A

CLEAR SPAN (NORMAL TO STREAM):

VERTICAL CLEARANCE ABOVE STREAMBED:

WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

- DESIGN CRITERIA
1. DESIGN LIVE LOAD AASHTO HS-25

2. DESIGN SPAN TWO SPANS OF 77' C/L BRG. TO C/L BRG.

3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A

ON LEDGE N/A

4. ALLOWABLE LOAD FOR PILING N/A

TYPE N/A

ESTIMATED LENGTH N/A

5. STRUCTURAL STEEL AASHTO M270M/M270 GRADE 36 OR 50 (PAINTED)

6. REINFORCING STEEL GRADE 60

7. CONCRETE, HIGH PERFORMANCE CLASS A fc: 4000 psi

CONCRETE, HIGH PERFORMANCE CLASS B fc: N/A

8. DESIGN SOIL UNIT WEIGHT 140 pcf

9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL N/A

- TRAFFIC MAINTENANCE
1. IS TRAFFIC TO BE MAINTAINED? YES

IF YES, ON EXISTING STRUCTURE? YES(COMBINATION OF BRIDGE & DETOUR)

OR ON TEMPORARY BRIDGE? NO

ONE OR TWO-WAY TRAVEL? ONE-WAY ON BRIDGE(WESTBOUND)

2. TRAFFIC CONTROL SIGNALS REQUIRED? NO

3. ARE SIDEWALKS REQUIRED? YES, USE EXISTING SIDEWALK

IF SO, ON WHAT SIDE? DOWN STREAM FOR PHASE ONE.

AND THE NEW SIDEWALK UPSTREAM DURING PHASE TWO.

PROJECT NAME: SPRINGFIELD

PROJECT NUMBER: BHF 016-2(14)

FILE NAME: 06j004/str/s06j004pi.xls

PLOT DATE: 2/27/2009

PROJECT LEADER: R. WHITCOMB

DRAWN BY: D. PETERSON

DESIGNED BY: D. PETERSON

CHECKED C. CARLSON

PRELIMINARY INFORMATION SHEET

SHEET 2 OF 72







GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO BRIDGE DESIGN SPECIFICATIONS, DATED 2002, AND ITS LATEST REVISIONS.

2. DURING THIS PROJECT, EASTBOUND VT 11 TRAFFIC WILL BE MAINTAINED ON A ONE WAY DETOUR ON TOWN OF SPRINGFIELD STREETS. WESTBOUND TRAFFIC WILL BE MAINTAINED BY PHASED CONSTRUCTION OF THE NEW SUPERSTRUCTURE.

3. **EXISTING DIMENSIONS:** THESE PLANS WERE PREPARED BASED ON INFORMATION OBTAINED FROM REFERENCE PLAN SHEETS 62 - 72. DIMENSIONS AND ANGLES OF THE EXISTING STRUCTURE SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY TO ENSURE PROPER FIT OF THE FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY. WHEN SHOP DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR APPROVAL, THE FIELD MEASUREMENTS SHALL ALSO BE SUBMITTED FOR REFERENCE BY THE REVIEWER. NO EXTRA PAYMENT WILL BE MADE FOR OBTAINING THE NECESSARY MEASUREMENTS.

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

EARTHWORK AND RELATED ITEMS

5. ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE" SHALL INCLUDE:

- BRIDGE RAILING (REMOVAL ONLY – METAL ELEMENTS WILL BE REUSED)
- CONCRETE DECK, CURTAIN WALLS, AND SIDEWALKS REMOVED TO BRIDGE SEAT ELEVATIONS
- BEAM 10, SPAN 1 **ALL BEAMS**
- ALL EXISTING BEARINGS
- ALL** DIAPHRAGMS TO BE REPLACED WITH NEW DIAPHRAGMS AS INDICATED ON SHEET 25
- FOUR EXISTING ORNAMENTAL LIGHT POSTS (REMOVAL ONLY - LIGHT POSTS/LUMINARIES WILL BE REUSED)
- EXISTING SEWER LINE ON BRIDGE AND ITS SUPPORT STRUCTURE

STRUCTURAL STEEL

6. NEW BEAM 10, NEW DIAPHRAGMS, CONNECTION PLATES, DRIP PLATES AND SEWER SUPPORT BEAMS WILL BE PAID FOR UNDER THE ITEM 506.50 "STRUCTURAL STEEL, ROLLED BEAM".

~~7. THE NEW COVER PLATE INSTALLED ON BEAM 2 WILL BE PAID FOR UNDER ITEM 506.60, "STRUCTURAL STEEL".~~

~~8. THE STRUCTURAL STEEL AND ALL WORK ASSOCIATED WITH THE REMOVAL AND REPLACEMENT OF THE WEBS AT THE PIER WILL BE PAID FOR UNDER THE ITEM 506.75, "STRUCTURAL STEEL". SHORING OF THE BEAMS UNDER REPAIR SHALL BE PAID FOR UNDER ITEM 502.10, "SHORING SUPERSTRUCTURE". SHORING SHALL CONSIST OF SUPPORTING THE BEAM IN PLACE AND PROVIDING A MEANS OF MAINTAINING THE FLANGE TO FLANGE DISTANCE AND INTEGRITY.~~

9. ALL NEW STRUCTURAL STEEL SHALL CONFORM TO AASHTO M 270M/M 270, GRADE ~~36 OR 50W (PAINTED)~~.

10. CONNECTIONS NOT DETAILED SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.

11. ALL NEW STRUCTURAL STEEL ELEMENTS SUBJECT TO TENSION SHALL MEET THE CHARPY V-NOTCH REQUIREMENTS. THESE MEMBERS ARE DESIGNATED BY (CVN).

~~12. THE METHOD OF REMOVING THE EXISTING WELDS CONNECTING SEWER SUPPORT BEAMS TO THE BRIDGE BEAMS SHALL BE SUBMITTED TO THE STRUCTURES ENGINEER. SUBMIT IN ACCORDANCE WITH SUBSECTION 105.03 OF THE STANDARD SPECIFICATIONS. NO WORK SHALL BE DONE ON THE REMOVAL UNTIL THE METHOD IS APPROVED. ALL WELD MATERIAL SHALL BE GROUND FLUSH WITH BOTTOM OF FLANGE. COSTS OF THIS WORK SHALL BE INCIDENTAL TO ITEM 529.20.~~

13. THE EXISTING STRUCTURAL STEEL ON THIS PROJECT WAS PAINTED WITH A MATERIAL WHICH MAY CONTAIN LEAD. THE REMOVED STRUCTURAL STEEL IS TO BECOME 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 STRUCTURAL STEEL.

PAINITING

~~14. ALL EXISTING STRUCTURAL STEEL SHALL BE PAINTED. 100% OF ALL EXISTING STRUCTURAL STEEL PAINT COATING IS TO BE REMOVED AND THE STEEL SURFACES SHALL BE FIELD PREPARED FOR PAINTING, AS PER SECTION 513.~~

~~15. ALL NEW STEEL ELEMENTS UNDER PAY ITEMS 506.50, "STRUCTURAL STEEL, ROLLED BEAM", 506.60, "STRUCTURAL STEEL" AND ITEM 506.75 "STRUCTURAL STEEL" SHALL BE GIVEN AN APPROVED SHOP APPLIED PAINTING SYSTEM PER SPECIFICATION 513.~~

16. ~~THE PAINT SYSTEM USED IN THE FIELD AND THE SHOP APPLIED PAINT SYSTEM SHALL BE COMPATIBLE AND PROVIDED FROM THE SAME MANUFACTURER.~~

~~17. COLOR OF THE FINAL COAT OF PAINT SHALL BE GREEN (COLOR CHIP 14062) IN ACCORDANCE WITH FEDERAL STANDARD NO. 595 AND SUBSECTION 708.03.~~

~~18. AFTER THE FINAL COAT OF PAINT HAS BEEN APPLIED AND HAS THOROUGHLY CURED, THE BEAM ENDS AT THE ABUTMENTS AND PIERS SHALL BE GREASED PER SECTION 513. PAYMENT FOR THE GREASE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 513.30, "STRUCTURAL STEEL PAINTING, FIELD APPLIED." THE COLOR OF THE GREASE SHALL BE GREEN.~~

CONCRETE

19. DECK (INCLUDING CURTAIN WALLS AND SIDEWALKS) SHALL BE HIGH PERFORMANCE CLASS A CONCRETE AND SHALL BE PAID FOR UNDER ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A".

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

21. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1 INCH X 1 INCH.

22. WATER REPELLENT, SILANE (ITEM 514.10) SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES, EXCEPT THE UNDERSIDE OF THE DECK BETWEEN DRIP NOTCHES. SEE SUPPLEMENTAL SPECIFICATION 514.

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

24. ALL SUPERSTRUCTURE REINFORCING STEEL SHALL BE EPOXY COATED AND PAID FOR UNDER ITEM 507.17, "EPOXY COATED REINFORCING STEEL" EXCEPT IN NEW BRIDGE RAILING, WHICH SHALL BE PAID FOR UNDER ITEM 900.640, "SPECIAL PROVISION (BRIDGE RAILING REPAIR, PIPE AND SPINDLE)". CUTTING AND REPAIRING DAMAGED AREAS OF COATED REINFORCING STEEL SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 507.04 OF THE STANDARD SPECIFICATIONS.

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

UTILITIES

26. THE CONTRACTOR SHALL INSTALL PROTECTIVE MEASURES AND USE EXTREME CARE TO ENSURE THAT NO DAMAGE OCCURS TO THE EXISTING PHONE LINES, FIRE ALARM, WATER LINE AND SEWER LINE. ANY COSTS ASSOCIATED WITH THE PROTECTION WILL BE CONSIDERED INCIDENTAL TO THE ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE".

27. THE EXISTING SEWER LINE LOCATED ON THE DOWNSTREAM SIDE OF THE STRUCTURE WILL BE REPLACED WITH A NEW SEWER LINE ON THE UPSTREAM FASCIA AS SHOWN ON CONSULTANT DRAWING SHEETS U2 THRU U5. PAYMENT FOR ALL WORK AND MATERIALS ASSOCIATED WITH THE SEWER LINE BETWEEN SEWER MANHOLES #3 AND #4 WILL BE PAID FOR UNDER ITEM 900.645, "SEWER MAIN ON BRIDGE", **EXCEPT FOR THE SEWER SUPPORT BEAMS**.

28. ALL OTHER SEWER LINE WORK DETAILED ON SHEETS U1 THRU U5 SHALL BE PAID FOR UNDER THEIR RESPECTIVE CONTRACT PAY ITEMS. ITEM 628.42, "TRANSFER TO NEW SYSTEM, SANITARY SEWER" SHALL INCLUDE ALL SEWAGE TRANSFER WORK DESCRIBED ON SHEETS U1 THRU U5 INCLUDING TEMPORARY BYPASS PUMPING. COSTS OF WORK AND MATERIALS ASSOCIATED WITH ABANDONING EXISTING MANHOLES AND SEWER PIPES SHALL ALSO BE INCLUDED IN THIS ITEM. WHERE EXISTING MANHOLES AND/OR PIPES ARE TO BE COMPLETELY REMOVED, PAYMENT SHALL BE MADE UNDER APPROPRIATE TRENCH EXCAVATION AND BACKFILL ITEMS. WHERE BACKFILL MATERIALS SHOWN ON SHEETS U1 THRU U5 DIFFER FROM MATERIALS SPECIFIED IN STANDARD SPECIFICATIONS, THE STANDARD SPECIFICATIONS SHALL CONTROL.

29. THE EXISTING WATER LINE SHALL REMAIN IN PLACE DURING THE CONSTRUCTION OF THE NEW SUPERSTRUCTURE. THE WATER LINE IS SUPPORTED BY DIAPHRAGMS BETWEEN BEAMS 2 AND 3 AND BEAMS 12 AND 13. THE CONTRACTOR SHALL CONSTRUCT WALL SLEEVES AND PLACE A "LINK-SEAL" AT EACH CURTAIN WALL AS DETAILED ON SHEET U4 OF CONSULTANT UTILITY DETAILS. THIS WORK WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CONCRETE CLASS A". IF NECESSARY AND WITH THE PERMISSION OF THE TOWN, THE WATERLINE MAY BE SHUT DOWN FOR SHORT PERIODS OF TIME. CONTACT WATER DEPARTMENT SUPERINTENDENT, JEFF STRONG, AT (802)886-2208 FOR PERMISSION AND TIME RESTRICTIONS.

BRIDGE RAILING

30. ALL METAL ELEMENTS OF THE EXISTING BRIDGE RAILING SHALL BE REMOVED. CARE MUST BE UTILIZED IN THE REMOVAL OF THE RAILING TO PREVENT DAMAGE TO THE RAILING AND CONNECTIONS. THE REMOVAL OF THE RAILING ELEMENTS WILL BE PAID FOR UNDER ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE".

31. ALL THE METAL RAILING ELEMENTS SHALL BE CLEANED, PAINTED AND REPAIRED IN ACCORDANCE WITH SPECIFICATION SECTIONS 506 AND 513. THE FINAL COAT OF PAINT SHALL BE GREEN (COLOR CHIP 14062). THE WORK WILL BE PAID FOR UNDER ITEM 900.640, "SPECIAL PROVISION (BRIDGE RAILING REPAIR, PIPE AND SPINDLE)".

32. ANY MISSING OR DAMAGED METAL RAIL ELEMENTS SHALL BE REPLACED IN KIND. THE RESIDENT ENGINEER SHALL DETERMINE WHICH PIECES OF THE RAILING NEED REPLACEMENT OR REPAIR WITH PAYMENT MADE UNDER ITEM 900.640, "SPECIAL PROVISION (BRIDGE RAILING REPAIR, PIPE AND SPINDLE)".

33. PRIOR TO THE REMOVAL OF THE EXISTING BRIDGE RAILING, THE CONTRACTOR SHALL TAKE DETAILED MEASUREMENTS AND MAKE DRAWINGS AS NECESSARY OF THE EXISTING RAIL ELEMENTS TO ENSURE THAT THE RAILING IS RECONSTRUCTED TO THE EXISTING DIMENSIONS AND APPEARANCE.

TRAFFIC CONTROL

34. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING, INSTALLING AND MAINTAINING ALL ON AND OFF PROJECT DETOUR SIGNS. SEE TRAFFIC CONTROL SHEETS: 12-21. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL."

35. ANY REMOVAL, COVERING AND/OR RESETTING OF EXISTING TRAFFIC SIGNS, AS DEEMED NECESSARY BY THE RESIDENT ENGINEER, WILL BE INCIDENTAL TO THE ITEM 641.10, TRAFFIC CONTROL.

36. PEDESTRIAN TRAFFIC SHALL BE MAINTAINED. PEDESTRIANS WILL BE DETOURED TO EITHER THE UPSTREAM OR DOWNSTREAM SIDEWALK DURING CONSTRUCTION DEPENDING ON WHICH CONSTRUCTION PHASE IS BEING UNDERTAKEN.

37. ALL TEMPORARY PAVEMENT MARKINGS USED ON THE DETOUR SHALL BE PAID UNDER ITEM 641.10, "TRAFFIC CONTROL" AND SHALL MEET THE REQUIREMENTS OF SECTION 646.

38. FULL ACCESS TO ALL SIDE ROADS AND DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. IF THE CONTRACTOR MUST RESTRICT ACCESS, THEY MUST NOTIFY THE PROPERTY OWNERS AND TOWN IN ADVANCE. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL."

39. TWO PORTABLE CHANGEABLE MESSAGE SIGNS ARE INCLUDED IN THE CONTRACT AND ARE TO BE LOCATED AND DISPLAY MESSAGES AS DIRECTED BY THE ENGINEER.

ENERGY ATTENUATOR NOTES

40. ENERGY ABSORPTION ATTENUATORS WILL BE PLACED AS SHOWN ON THE TRAFFIC CONTROL SHEETS. THE ENERGY ABSORPTION ATTENUATORS FOR THIS PROJECT SHALL BE SUITABLE FOR A NARROW WIDTH APPLICATION AND SHALL BE INSTALLED AS SHOWN ON THE TRAFFIC CONTROL PLANS SHEETS. THESE ATTENUATORS WILL BE PAID AS ITEM, 621.56, "ENERGY ABSORPTION ATTENUATOR."

41. THE ATTENUATORS SHALL MEET THE REQUIREMENTS OF THE LATEST VERSION OF THE AASHTO "ROADSIDE DESIGN GUIDE" AND SHALL BE DESIGNED FOR A 4500 LB VEHICLE TRAVELING AT 25 MPH.

MISCELLANEOUS

42. THE CONTRACTOR SHALL REMOVE, CLEAN, REPAIR AND PAINT THE ORNAMENTAL LIGHT POSTS AT EACH CORNER OF THE BRIDGE AND REINSTALL ON NEW CONCRETE RAILING POSTS AT EACH CORNER OF THE BRIDGE. THE FINAL COAT OF PAINT SHALL BE BLACK. CLEANING AND PAINTING THE LIGHT POSTS SHALL BE DONE IN ACCORDANCE WITH SECTION 513. ALL COSTS FOR REMOVING, REFURBISHING AND REINSTALLING THE LIGHT POSTS SHALL BE INCLUDED UNDER ITEM 900.620, SPECIAL PROVISION (REMOVING, REFURBISHING AND RESETTNG LIGHT POST).

ADDITIONAL NOTES DUE TO CONTRACTOR'S PROPOSAL TO USE NEW STEEL

ITEM 506.75, "STRUCTURAL STEEL", SHALL INCLUDE ALL NEW STRUCTURAL STEEL REQUIRED TO CONSTRUCT THE NEW SUPERSTRUCTURE AS DETAILED IN THE REVISED PLANS DATED MAY 26, 2009. FINAL LUMP SUM PAYMENT FOR THIS ITEM SHALL INCLUDE BUT NOT BE LIMITED TO GIRDERS, CONNECTION PLATES, BEARING STIFFENERS, DIAPHRAGMS AND THE SUPPORT BEAMS FOR THE NEW SEWER LINE.

ITEM 502.10, "SHORING SUPERSTRUCTURE", SHALL INCLUDE BOTH THE TEMPORARY AND PERMANENT SUPPORT OF THE EXISTING TELEPHONE AND FIRE ALARM CONDUITS AND THE WATERLINE. LUMP SUM PAYMENT FOR THIS ITEM SHALL INCLUDE PROVIDING AND INSTALLING PERMANENT SUPPORT MECHANISMS ACCEPTABLE TO THE TOWN AND VTCL FOR THEIR RESPECTIVE UTILITY.

|              |    |         |                       |
|--------------|----|---------|-----------------------|
| REV.         | BY | DATE    | DESCRIPTION           |
| <div>3</div> | RW | 5/26/09 | ADDED & DELETED NOTES |

|                               |                              |
|-------------------------------|------------------------------|
| PROJECT NAME: SPRINGFIELD     |                              |
| PROJECT NUMBER: BHF 016-2(I4) |                              |
| FILE NAME: s06j004gen.dgn     | PLOT DATE: 03-APR-2012 11:19 |
| PROJECT LEADER: R. WHITCOMB   | DRAWN BY: C. CARLSON         |
| DESIGNED BY: C. CARLSON       | CHECKED BY: D. PETERSON      |
| GENERAL NOTES                 | SHEET 3 OF 72                |



QUANTITY SHEET 1

| SUMMARY OF ESTIMATED QUANTITIES |  |  |  |  |         |          |                 |           |        |                 | TOTALS      |       | DESCRIPTIONS |                                                              |             |       | DETAILED SUMMARY OF QUANTITIES |      |                                                   |
|---------------------------------|--|--|--|--|---------|----------|-----------------|-----------|--------|-----------------|-------------|-------|--------------|--------------------------------------------------------------|-------------|-------|--------------------------------|------|---------------------------------------------------|
|                                 |  |  |  |  | ROADWAY | TRAINING | EROSION CONTROL | UTILITIES | BRIDGE | FULL C.E. ITEMS | GRAND TOTAL | FINAL | UNIT         | ITEMS                                                        | ITEM NUMBER | ROUND | QUANTITIES                     | UNIT | ITEMS                                             |
|                                 |  |  |  |  | 880     |          |                 |           |        |                 | 880         |       | CY           | COMMON EXCAVATION                                            | 203.15      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          | 10              | 290       |        |                 | 300         |       | CY           | TRENCH EXCAVATION OF EARTH                                   | 204.20      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 | 15        |        |                 | 15          |       | CY           | TRENCH EXCAVATION OF ROCK                                    | 204.21      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 | 1         |        |                 | 1           |       | CY           | TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)           | 204.22      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           | 4      |                 | 4           |       | CY           | STRUCTURE EXCAVATION                                         | 204.25      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 | 100       | 4      |                 | 104         |       | CY           | GRANULAR BACKFILL FOR STRUCTURES                             | 204.30      |       |                                |      |                                                   |
|                                 |  |  |  |  | 420     |          |                 |           |        |                 | 420         |       | SY           | COLD PLANING, BITUMINOUS PAVEMENT                            | 210.10      |       | 10                             | CY   | ITEM 204.20 TRENCH EXCAVATION OF EARTH            |
|                                 |  |  |  |  | 750     |          | 10              |           |        |                 | 760         |       | CY           | SUBBASE OF DENSE GRADED CRUSHED STONE                        | 301.35      |       | 10                             | CY   | ITEM 301.35 SUBBASE OF DENSE GRADED CRUSHED STONE |
|                                 |  |  |  |  | 7       |          |                 |           | 2      |                 | 9           |       | CWT          | EMULSIFIED ASPHALT                                           | 404.65      |       | 10                             | HR   | ITEM 608.25 ALL PURPOSE EXCAVATOR RENTAL, TYPE I  |
|                                 |  |  |  |  | 1       |          |                 |           |        |                 | 1           |       | LU           | PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)                  | 406.50      |       | 10                             | CY   | ITEM 613.10 STONE FILL, TYPE I                    |
|                                 |  |  |  |  |         |          |                 |           | 322    |                 | 322         |       | CY           | CONCRETE, HIGH PERFORMANCE CLASS A                           | 501.33      |       | 20                             | CY   | ITEM 649.51 GEOTEXTILE FOR SILT FENCE             |
|                                 |  |  |  |  |         |          |                 |           | 1      |                 | 1           |       | LS           | SHORING SUPERSTRUCTURE                                       | 502.10      |       | 10                             | LB   | ITEM 651.17 SEED, WINTER RYE                      |
|                                 |  |  |  |  |         |          |                 |           | 40     |                 | 40          |       | EACH         | SHORING SUPERSTRUCTURE BEARINGS                              | 502.11      |       | 0.25                           | TON  | ITEM 651.25 HAY MULCH                             |
|                                 |  |  |  |  |         |          |                 |           | 19510  |                 | 19510       |       | LB           | STRUCTURAL STEEL, ROLLED BEAM                                | 506.50      |       | 10                             | CY   | ITEM 653.35 VEHICLE TRACKING PAD                  |
|                                 |  |  |  |  |         |          |                 |           | 1620   |                 | 1620        |       | LB           | STRUCTURAL STEEL                                             | 506.60      |       | 5                              | EACH | ITEM 653.40 INLET PROTECTION DEVICE, TYPE I       |
|                                 |  |  |  |  |         |          |                 |           | 1      |                 | 1           |       | LS           | STRUCTURAL STEEL                                             | 506.75      |       | 200                            | LF   | ITEM 653.55 PROJECT DEMARCATION FENCE             |
|                                 |  |  |  |  |         |          |                 |           | 57750  |                 | 57750       |       | LB           | EPOXY COATED REINFORCING STEEL                               | 507.17      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           | 1      |                 | 1           |       | LS           | SHEAR CONNECTORS (2720 - 7/8" x 7")                          | 508.15      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           | 1      |                 | 1           |       | LS           | STRUCTURAL PAINTING, SHOP APPLIED                            | 513.25      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           | 1      |                 | 1           |       | LS           | STRUCTURAL PAINTING, FIELD APPLIED                           | 513.30      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           | 1      |                 | 1           |       | LS           | CONTAINMENT & ENVIRONMENTAL PROTECTION, FIELD                | 513.36      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           | 1      |                 | 1           |       | LS           | SURFACE PREPARATION, SHOP                                    | 513.40      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           | 1      |                 | 1           |       | LS           | SURFACE PREPARATION, FIELD                                   | 513.41      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           | 40     |                 | 40          |       | GAL          | WATER REPELLENT, SILANE                                      | 514.10      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           | 104    |                 | 104         |       | LF           | BRIDGE EXPANSION JOINT, ASPHALTIC PLUG                       | 516.10      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           | 850    |                 | 850         |       | SY           | SHEET MEMBRANE WATERPROOFING, TORCH APPLIED                  | 519.20      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           | 1      |                 | 1           |       | LS           | MAINTENANCE OF STRUCTURES AND APPROACHES                     | 527.10      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           | 1      |                 | 1           |       | EACH         | PARTIAL REMOVAL OF STRUCTURE                                 | 529.20      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           | 40     |                 | 40          |       | EACH         | BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD                | 531.10      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 | 6         |        |                 | 6           |       | EACH         | SANITARY SEWER MANHOLE                                       | 604.22      |       |                                |      |                                                   |
|                                 |  |  |  |  | 6       |          |                 |           |        |                 | 6           |       | EACH         | CHANGING ELEVATION OF DROP INLETS, CATCH BASINS, OR MANHOLES | 604.40      |       |                                |      |                                                   |
|                                 |  |  |  |  | 2       |          |                 | 2         |        |                 | 4           |       | EACH         | CHANGING ELEVATION OF SEWER MANHOLES                         | 604.42      |       |                                |      |                                                   |
|                                 |  |  |  |  | 2       |          |                 |           |        |                 | 2           |       | EACH         | CAST IRON GRATE WITH FRAME, TYPE D                           | 604.47      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 | 6         |        |                 | 6           |       | EACH         | CAST IRON COVER WITH FRAME, SEWER                            | 604.56      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          | 10              |           |        |                 | 10          |       | HR           | ALL PURPOSE EXCAVATOR RENTAL, TYPE I                         | 608.25      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          | 10              |           |        |                 | 10          |       | CY           | STONE FILL, TYPE I                                           | 613.10      |       |                                |      |                                                   |
|                                 |  |  |  |  | 285     |          |                 |           |        |                 | 285         |       | LF           | VERTICAL GRANITE CURB                                        | 616.21      |       |                                |      |                                                   |
|                                 |  |  |  |  | 240     |          |                 |           |        |                 | 240         |       | LF           | CAST-IN-PLACE CONCRETE CURB, TYPE B                          | 616.28      |       |                                |      |                                                   |
|                                 |  |  |  |  | 5       |          |                 |           |        |                 | 5           |       | TON          | BITUMINOUS CONCRETE GUTTERS AND TRAFFIC ISLANDS              | 616.47      |       |                                |      |                                                   |
|                                 |  |  |  |  | 36      |          |                 |           |        |                 | 36          |       | SF           | DETECTABLE WARNING SURFACE                                   | 618.30      |       |                                |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                                              |             |       | PROJECT NAME: Springfield      |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                                              |             |       | PROJECT NUMBER: BHF 016-2(14)  |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                                              |             |       | FILE NAME: s06j004qptbuilder   |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                                              |             |       | PLOT DATE: 03/31/2009          |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                                              |             |       | PROJECT MANAGER: R. WHITCOMB   |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                                              |             |       | DRAWN BY: D. PETERSON          |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                                              |             |       | DESIGNED BY: D. PETERSON       |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                                              |             |       | CHECKED BY: C. CARLSON         |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                                              |             |       | QUANTITY SHEET #1              |      |                                                   |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                                              |             |       | SHEET 4 OF 72                  |      |                                                   |



QUANTITY SHEET 2

| SUMMARY OF ESTIMATED QUANTITIES |  |  |  |  |         |          |                 |           |        |                 | TOTALS      |       | DESCRIPTIONS |                                            |             |       | DETAILED SUMMARY OF QUANTITIES |      |       |
|---------------------------------|--|--|--|--|---------|----------|-----------------|-----------|--------|-----------------|-------------|-------|--------------|--------------------------------------------|-------------|-------|--------------------------------|------|-------|
|                                 |  |  |  |  | ROADWAY | TRAINING | EROSION CONTROL | UTILITIES | BRIDGE | FULL C.E. ITEMS | GRAND TOTAL | FINAL | UNIT         | ITEMS                                      | ITEM NUMBER | ROUND | QUANTITIES                     | UNIT | ITEMS |
|                                 |  |  |  |  | 3       |          |                 |           |        |                 | 3           |       | EACH         | ENERGY ABSORPTION ATTENUATOR               | 621.56      |       |                                |      |       |
|                                 |  |  |  |  | 25      |          |                 |           |        |                 | 25          |       | LF           | REMOVAL AND DISPOSAL OF GUARDRAIL          | 621.80      |       |                                |      |       |
|                                 |  |  |  |  | 272     |          |                 |           |        |                 | 272         |       | LF           | TEMPORARY TRAFFIC BARRIER                  | 621.90      |       |                                |      |       |
|                                 |  |  |  |  | 216     |          |                 |           |        |                 | 216         |       | LF           | REMOVE AND RESET TEMPORARY TRAFFIC BARRIER | 621.95      |       |                                |      |       |
|                                 |  |  |  |  |         |          |                 | 61        |        |                 | 61          |       | LF           | PVC SEWER PIPE ( 6") (SDR 35)              | 628.35      |       |                                |      |       |
|                                 |  |  |  |  |         |          |                 | 22        |        |                 | 22          |       | LF           | PVC SEWER PIPE ( 8") (SDR 35)              | 628.35      |       |                                |      |       |
|                                 |  |  |  |  |         |          |                 | 237       |        |                 | 237         |       | LF           | PVC SEWER PIPE (12") (SDR 35)              | 628.35      |       |                                |      |       |
|                                 |  |  |  |  |         |          |                 | 11        |        |                 | 11          |       | LF           | PVC SEWER PIPE (18") (SDR 35)              | 628.35      |       |                                |      |       |
|                                 |  |  |  |  |         |          |                 | 1         |        |                 | 1           |       | LS           | TRANSFER TO NEW SYSTEM, SANITARY SEWER     | 628.42      |       |                                |      |       |
|                                 |  |  |  |  | 5       |          |                 |           |        |                 | 5           |       | EACH         | ADJUST ELEVATION OF VALVE BOX              | 629.20      |       |                                |      |       |
|                                 |  |  |  |  | 100     |          |                 |           |        |                 | 100         |       | HR           | UNIFORMED TRAFFIC OFFICERS                 | 630.10      |       |                                |      |       |
|                                 |  |  |  |  | 1500    |          |                 |           |        |                 | 1500        |       | HR           | FLAGGERS                                   | 630.15      |       |                                |      |       |
|                                 |  |  |  |  |         |          |                 |           |        | 1               | 1           |       | LS           | FIELD OFFICE, ENGINEERS                    | 631.10      |       |                                |      |       |
|                                 |  |  |  |  |         |          |                 |           |        | 1               | 1           |       | LS           | TESTING EQUIPMENT, CONCRETE                | 631.16      |       |                                |      |       |
|                                 |  |  |  |  |         |          |                 |           |        | 1               | 1           |       | LS           | TESTING EQUIPMENT, BITUMINOUS              | 631.17      |       |                                |      |       |
|                                 |  |  |  |  |         |          |                 |           |        | 1               | 1           |       | LS           | TESTING EQUIPMENT, PROTECTIVE COATINGS     | 631.18      |       |                                |      |       |
|                                 |  |  |  |  |         |          |                 |           |        | 1               | 1           |       | LU           | FIELD OFFICE TELEPHONE (N.A.B.I.)          | 631.25      |       |                                |      |       |
|                                 |  |  |  |  |         | 520      |                 |           |        |                 | 520         |       | HR           | EMPLOYEE TRAINEESHIP                       | 634.10      |       |                                |      |       |
|                                 |  |  |  |  | 1       |          |                 |           |        |                 | 1           |       | LS           | MOBILIZATION/DEMOBILIZATION                | 635.11      |       |                                |      |       |
|                                 |  |  |  |  | 1       |          |                 |           |        |                 | 1           |       | LS           | TRAFFIC CONTROL                            | 641.10      |       |                                |      |       |
|                                 |  |  |  |  | 2       |          |                 |           |        |                 | 2           |       | EACH         | PORTABLE CHANGEABLE MESSAGE SIGN           | 641.15      |       |                                |      |       |
|                                 |  |  |  |  | 1518    |          |                 |           |        |                 | 1518        |       | LF           | DURABLE 4 INCH WHITE LINE                  | 646.400     |       |                                |      |       |
|                                 |  |  |  |  | 1154    |          |                 |           |        |                 | 1154        |       | LF           | DURABLE 4 INCH YELLOW LINE                 | 646.410     |       |                                |      |       |
|                                 |  |  |  |  | 39      |          |                 |           |        |                 | 39          |       | LF           | DURABLE 6 INCH WHITE LINE                  | 646.420     |       |                                |      |       |
|                                 |  |  |  |  | 123     |          |                 |           |        |                 | 123         |       | LF           | DURABLE 24 INCH STOP BAR                   | 646.480     |       |                                |      |       |
|                                 |  |  |  |  | 55      |          |                 |           |        |                 | 55          |       | EACH         | DURABLE LETTER OR SYMBOL                   | 646.490     |       |                                |      |       |
|                                 |  |  |  |  | 73      |          |                 |           |        |                 | 73          |       | LF           | DURABLE CROSSWALK MARKING                  | 646.500     |       |                                |      |       |
|                                 |  |  |  |  | 285     |          |                 |           |        |                 | 285         |       | LF           | PAINTED CURB                               | 646.81      |       |                                |      |       |
|                                 |  |  |  |  | 3152    |          |                 |           |        |                 | 3152        |       | SF           | REMOVAL OF EXISTING PAVEMENT MARKINGS      | 646.85      |       |                                |      |       |
|                                 |  |  |  |  |         |          | 20              |           |        |                 | 20          |       | SY           | GEOTEXTILE FOR SILT FENCE                  | 649.51      |       |                                |      |       |
|                                 |  |  |  |  |         |          | 10              |           |        |                 | 10          |       | LB           | SEED                                       | 651.15      |       |                                |      |       |
|                                 |  |  |  |  |         |          | 10              |           |        |                 | 10          |       | LB           | SEED, WINTER RYE                           | 651.17      |       |                                |      |       |
|                                 |  |  |  |  |         |          | 100             |           |        |                 | 100         |       | LB           | FERTILIZER                                 | 651.18      |       |                                |      |       |
|                                 |  |  |  |  |         |          | 0.25            |           |        |                 | 0.25        |       | TON          | AGRICULTURAL LIMESTONE                     | 651.20      |       |                                |      |       |
|                                 |  |  |  |  |         |          | 0.25            |           |        |                 | 0.25        |       | TON          | HAY MULCH                                  | 651.25      |       |                                |      |       |
|                                 |  |  |  |  | 10      |          | 20              |           |        |                 | 30          |       | CY           | TOPSOIL                                    | 651.35      |       |                                |      |       |
|                                 |  |  |  |  |         |          | 1               |           |        |                 | 1           |       | LS           | EPSC PLAN                                  | 652.10      |       |                                |      |       |
|                                 |  |  |  |  |         |          | 50              |           |        |                 | 50          |       | HR           | MONITORING EPSC PLAN                       | 652.20      |       |                                |      |       |
|                                 |  |  |  |  |         |          | 1               |           |        |                 | 1           |       | LU           | MAINTENANCE OF EPSC PLAN (N.A.B.I.)        | 652.30      |       |                                |      |       |
|                                 |  |  |  |  |         |          | 10              |           |        |                 | 10          |       | CY           | VEHICLE TRACKING PAD                       | 653.35      |       |                                |      |       |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                            |             |       | PROJECT NAME: Springfield      |      |       |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                            |             |       | PROJECT NUMBER: BHF 016-2(14)  |      |       |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                            |             |       | FILE NAME: s06j004qnbuilder    |      |       |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                            |             |       | PLOT DATE: 03/31/2009          |      |       |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                            |             |       | PROJECT MANAGER: R. WHITCOMB   |      |       |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                            |             |       | DRAWN BY: D. PETERSON          |      |       |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                            |             |       | CHECKED BY: C. CARLSON         |      |       |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                            |             |       | QUANTITY SHEET #2              |      |       |
|                                 |  |  |  |  |         |          |                 |           |        |                 |             |       |              |                                            |             |       | SHEET 5 OF 72                  |      |       |



# QUANTITY SHEET 3

[illegible]

|                              |                      |             |  |
|------------------------------|----------------------|-------------|--|
| PROJECT NAME:                | <b>Springfield</b>   |             |  |
| PROJECT NUMBER:              | <b>BHF 016-2(14)</b> |             |  |
| FILE NAME: s06j004qntbuidr   | PLOT DATE:           | 03/31/2009  |  |
| PROJECT MANAGER: R. WHITCOMB | DRAWN BY:            | D. PETERSON |  |
| DESIGNED BY: D. PETERSON     | CHECKED BY:          | C. CARLSON  |  |
| QUANTITY SHEET #3            | SHEET 6              | OF 72       |  |



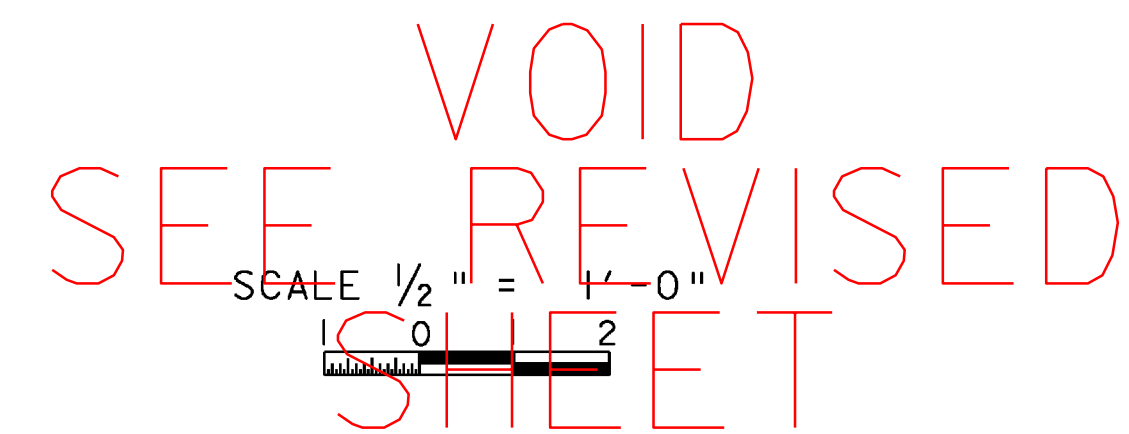
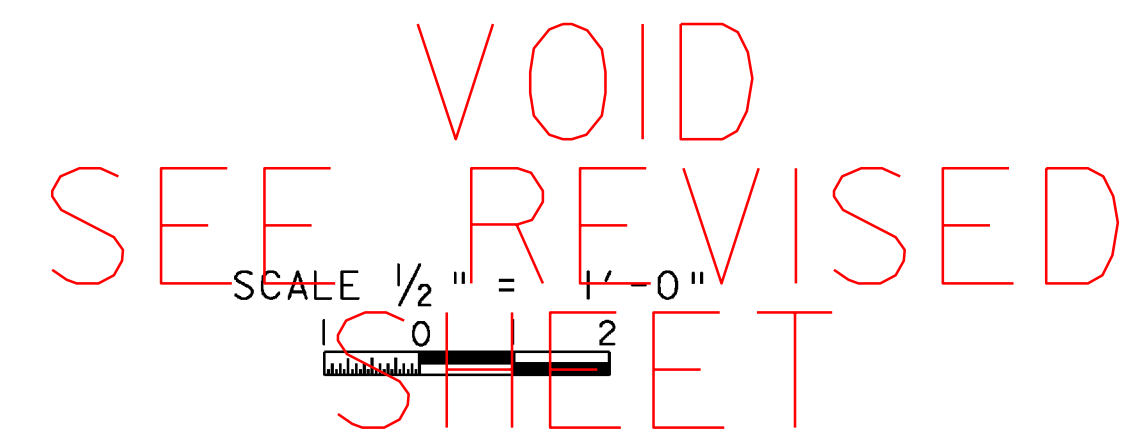
**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

## QUANTITY SHEET 4

[illegible]

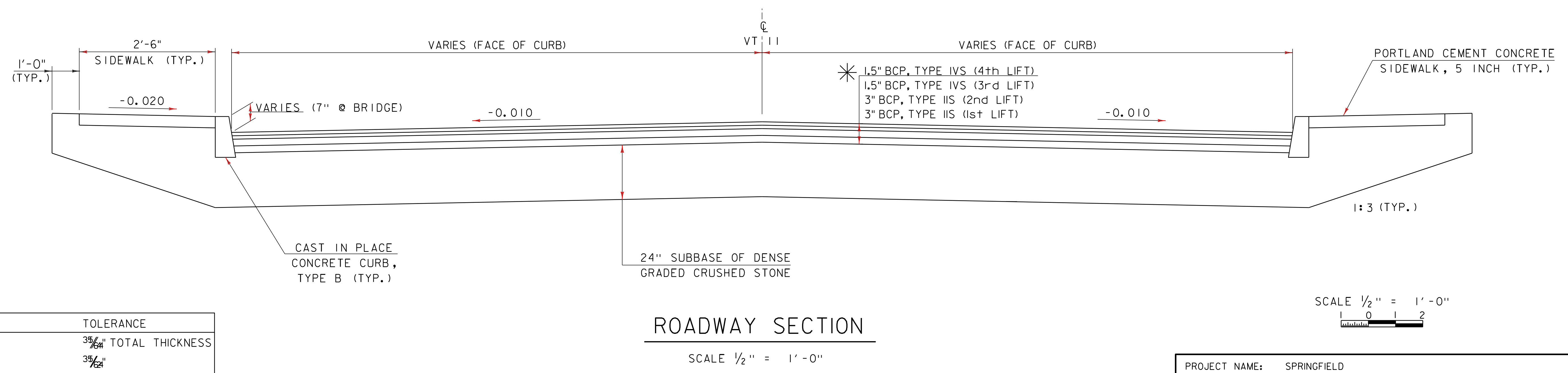
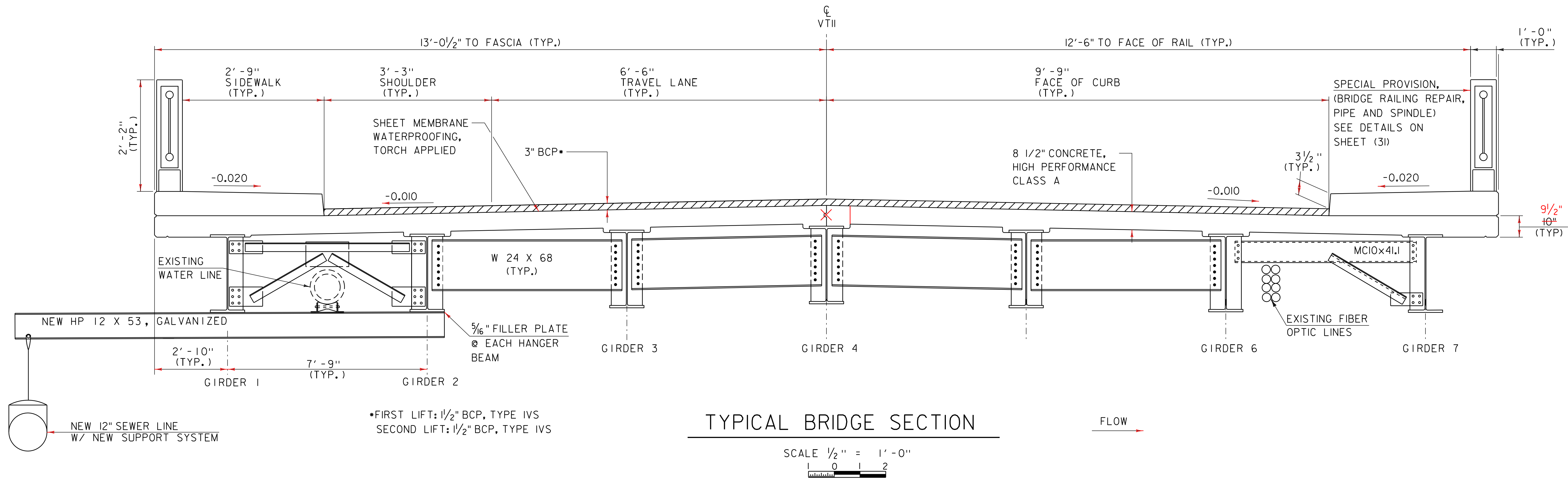
|                                      |                               |
|--------------------------------------|-------------------------------|
| PROJECT NAME: <b>Springfield</b>     |                               |
| PROJECT NUMBER: <b>BHF 016-2(14)</b> |                               |
| FILE NAME: <b>s06j004qntbuidr</b>    | PLOT DATE: <b>03/31/2009</b>  |
| PROJECT MANAGER: <b>R. WHITCOMB</b>  | DRAWN BY: <b>D. PETERSON</b>  |
| DESIGNED BY: <b>D. PETERSON</b>      | CHECKED BY: <b>C. CARLSON</b> |
| QUANTITY SHEET #4                    | SHEET <b>7</b> OF <b>72</b>   |





|                               |                         |
|-------------------------------|-------------------------|
| PROJECT NAME: SPRINGFIELD     |                         |
| PROJECT NUMBER: BHF 016-2(I4) |                         |
| FILE NAME: s06j004sup.dgn     | PLOT DATE: 19-MAR-2009  |
| PROJECT LEADER: R. WHITCOMB   | DRAWN BY: C. MOONEY     |
| DESIGNED BY: C. CARLSON       | CHECKED BY: D. PETERSON |
| TYPICAL SHEET                 | SHEET 8 OF 72           |





| MATERIAL ITEM | TOLERANCE               |
|---------------|-------------------------|
| PAVEMENT      | 3 5/64" TOTAL THICKNESS |
| BASE COURSE   | 3 5/64"                 |
| SUBBASE       | 3 5/64"                 |

| REV. | BY  | DATE    | DESCRIPTION                      |
|------|-----|---------|----------------------------------|
| 3    | LBB | 5/26/09 | REVISED FRAMING PLAN AND BANKING |

|                 |                   |
|-----------------|-------------------|
| PROJECT NAME:   | SPRINGFIELD       |
| PROJECT NUMBER: | BHF 016-2(14)     |
| FILE NAME:      | s06j004sup.dgn    |
| PROJECT LEADER: | R. WHITCOMB       |
| DESIGNED BY:    | C. CARLSON        |
| TYPICAL SHEET   |                   |
| PLOT DATE:      | 03-APR-2012 11:20 |
| DRAWN BY:       | C. MOONEY         |
| CHECKED BY:     | D. PETERSON       |
| SHEET 8         | OF 72             |



GPS CONTROL POINTS

HVCTRL #93

HANDLY

NORTH = 291658.25  
EAST = 1644850.71  
ELEV. = 427.46

TO REACH FROM THE INTERSECTION OF VT ROUTES 11 AND 106 IN SPRINGFIELD GO SOUTHEAST ALONG VT ROUTE 11 FOR 0.5 MI (0.8 KM) TO A CONCRETE SPILLWAY CARRYING THE BLACK RIVER AND THE MARK ON THE RIGHT. THE STATION IS LOCATED 17.5 M (57.4 FT) WEST SOUTHWEST OF AND 2 M (6.6 FT) LOWER THAN THE SOUTHWEST EDGE OF PAVEMENT OF VT ROUTE 11, 7.2 M (23.6 FT) SOUTHWEST OF POLE 5A, 0.9 M (3.0 FT) WEST SOUTHWEST OF THE NORTHWEST CORNER OF A SINGLE STORY BUILDING, AND 1.2 M (3.9 FT) EAST OF THE WEST EDGE OF THE CONCRETE SPILLWAY FOR THE BLACK RIVER.

HVCTRL #94

ONEILL

NORTH = 292646.17  
EAST = 1643742.51  
ELEV. = 450.23

TO REACH FROM THE INTERSECTION OF VT ROUTES 11 AND 106 IN SPRINGFIELD GO SOUTHEAST ALONG VT ROUTE 11 FOR 0.25 MI (0.40 KM) TO THE MARK ON THE LEFT. OWNERSHIP - FRANCES W. ONEILL 108 VT RT 11 RIVER STREET, SPRINGFIELD, VT. THE STATION IS LOCATED 10.0 M (32.8 FT) NORTH NORTHEAST OF AND 1.0 M (3.3 FT) HIGHER THAN THE NORTHEAST EDGE OF PAVEMENT OF VT ROUTE 11, 8.3 M (27.2 FT) EAST SOUTHEAST OF THE CENTERLINE OF A PAVED DRIVE, 5.5 METERS (18.0 FT) SOUTH OF THE SOUTHWEST CORNER OF A 1½ STORY HOUSE (108), AND 6.2 M (20.3 FT) WEST SOUTHWEST OF THE SOUTHEAST CORNER OF HOUSE 108.

GPS CONTROL POINTS

HVCTRL #3

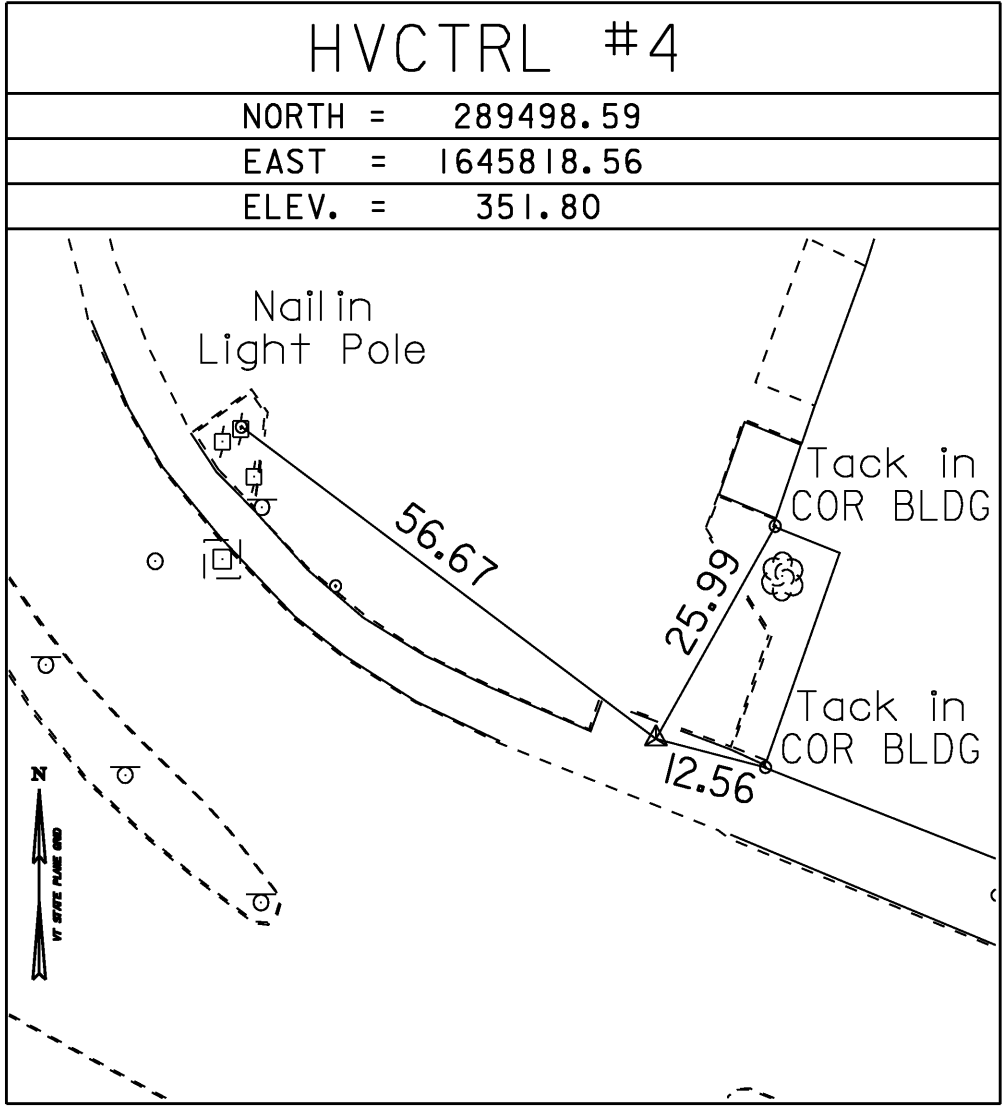
A98006

NORTH = 290068.23  
EAST = 1645556.12  
ELEV. = 367.12

DESCRIBED BY VERMONT GEODETIC SURVEY 1998 (CHR) GENERAL LOCATION, SPRINGFIELD, VT. TO REACH FROM THE INTERSECTION OF VT ROUTE 11, PARK STREET, AND VT ROUTE 143 GO SOUTH ALONG VT ROUTE 11 FOR 0.2 MI (0.3 KM) TO THE SPRINGFIELD POST OFFICE ON THE LEFT AND THE SITE OF THE MARK ON THE LEFT. THE MARK IS SET IN THE TOP OF A FLAT SHELF IN THE WEST END OF A 2.1 M (6.9 FT) X 0.3 M (1.0 FT) SLOPING CONCRETE WALL ON THE SOUTH SIDE OF THE CONCRETE STEPS LEADING TO THE FRONT (WEST) ENTRANCE TO THE POST OFFICE. IT IS 1.9 M (6.2 FT) EAST OF AND ABOUT 0.4 M (1.3 FT) HIGHER THAN THE EAST EDGE OF PAVEMENT OF VT ROUTE 11, 16.3 M (53.5 FT) SOUTHWEST OF THE NORTHWEST CORNER OF THE POST OFFICE, 13.6 M (44.6 FT) NORTHWEST OF THE SOUTHWEST CORNER OF THE POST OFFICE, AND 0.1 M (0.3 FT) EAST OF THE WEST END OF THE CONCRETE WALL. NOTE, MARK IS SUITABLE FOR GPS WHEN FOLIAGE IS GONE.

\*Main Traverse Completed 05/24/07 by R.Gilman P.C. & P.Winters

TRAVERSE TIES



ALIGNMENT TIES

|            |            |
|------------|------------|
| DATUM      |            |
| VERTICAL   | NAVD 88    |
| HORIZONTAL | NAD 83(96) |
| ADJUSTMENT | Compass    |

|                 |                            |
|-----------------|----------------------------|
| PROJECT NAME:   | Springfield                |
| PROJECT NUMBER: | BHF 016-2(14)              |
| FILE NAME:      | 06J004\survey\06J004t1.dgn |
| PROJECT LEADER: | R. WHITCOMB                |
| DESIGNED BY:    | D. PETERSON                |
| TIE SHEET       |                            |
| PLOT DATE:      | 04-MAR-2009                |
| DRAWN BY:       | R. Bullock                 |
| CHECKED BY:     | C. CARLSON                 |
| SHEET           | 9 OF 72                    |



|           |    |
|-----------|----|
| 257+49.25 | RT |
| 259+66.04 | LT |
| 259+77.35 | RT |

257+86.15 LT  
257+86.90 RT

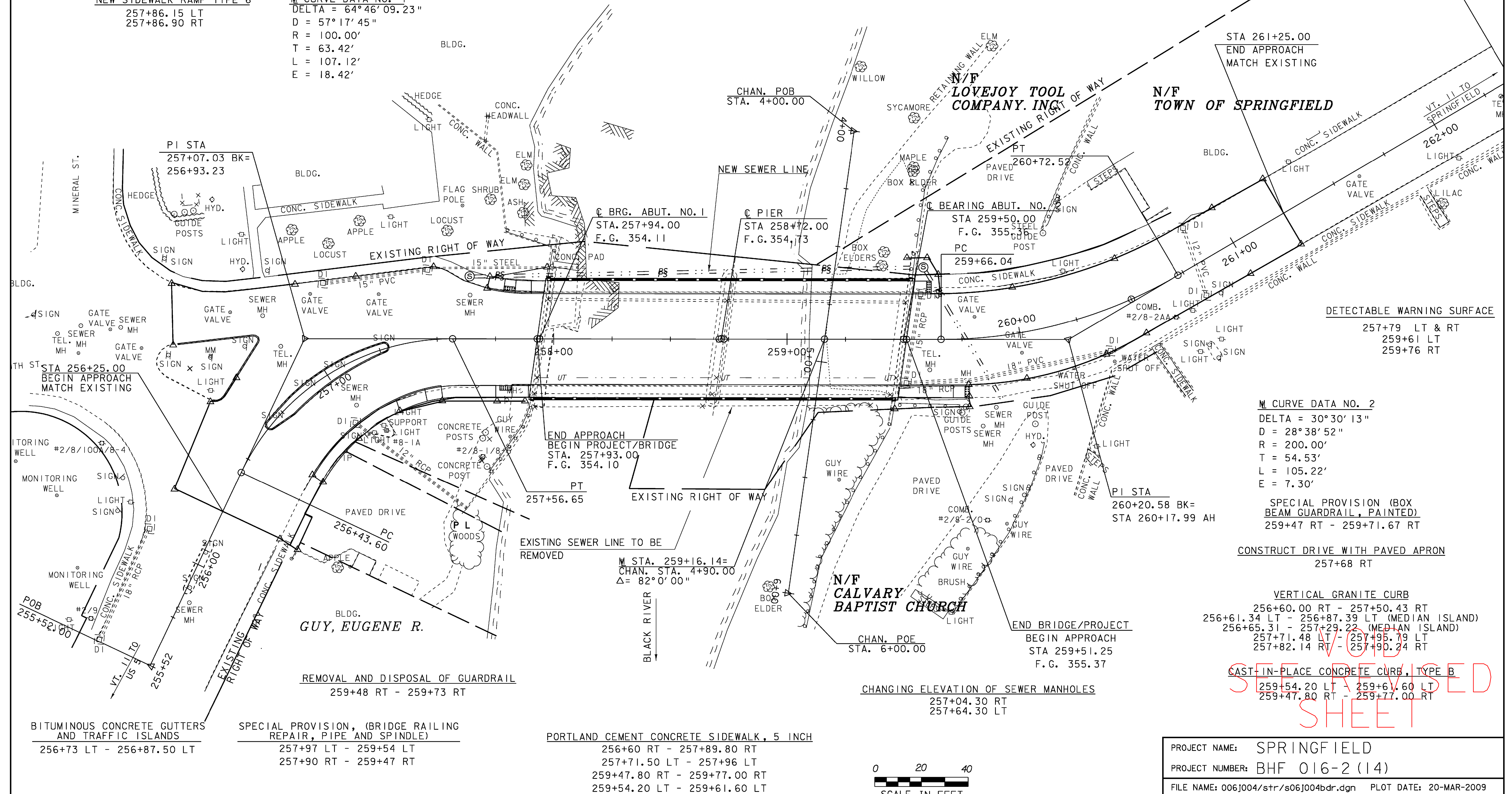
|           |    |
|-----------|----|
| 256+85.88 | LT |
| 257+09.30 | LT |
| 257+30.66 | LT |
| 259+81.07 | LT |
| 259+99.52 | RT |

|           |           |
|-----------|-----------|
| 256+99 RT | 260+34 RT |
| 257+19 LT | 260+58 RT |
| 259+75 RT | 260+85 LT |

259+51.25 RT  
259+57.29 LT

VT STATE PLANE GRID

DELTA = 64° 46' 09.23"  
D = 57° 17' 45"  
R = 100.00'  
T = 63.42'  
L = 107.12'  
E = 18.42'



|                                       |                        |
|---------------------------------------|------------------------|
| FILE NAME: 006J004/s+R/s06J004bdr.dgn | PLOT DATE: 20-MAR-2009 |
| PROJECT LEADER: R. WHITCOMB           | DRAWN BY: D. PETERSON  |
| DESIGNED BY: D. PETERSON              | CHECKED BY: C. CARLSON |
| LAYOUT SHEET                          | SHEET 10 OF 72         |



NEW SIDEWALK RAMP TYPE 1  
257+49.25 RT  
259+66.04 LT  
259+77.35 RT

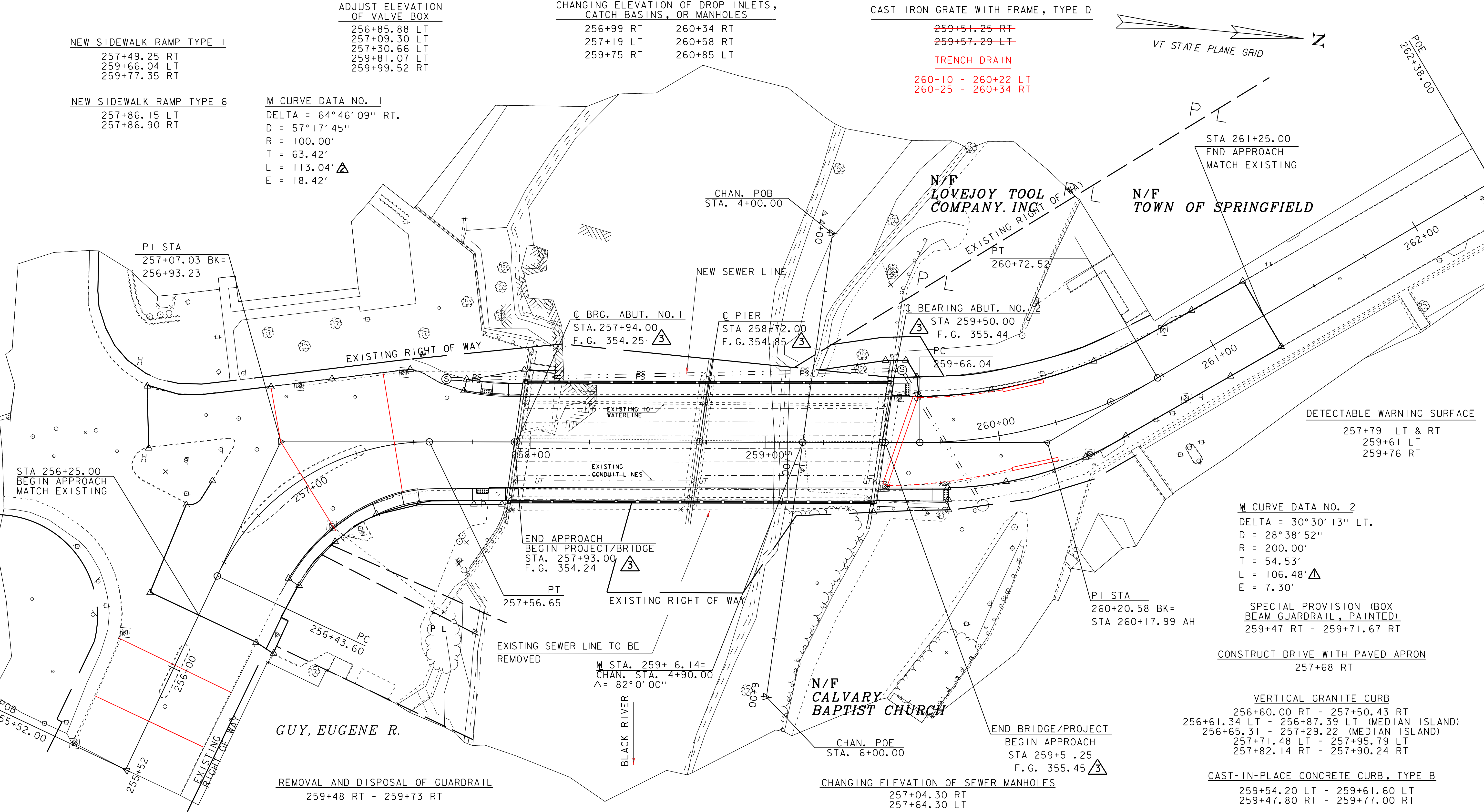
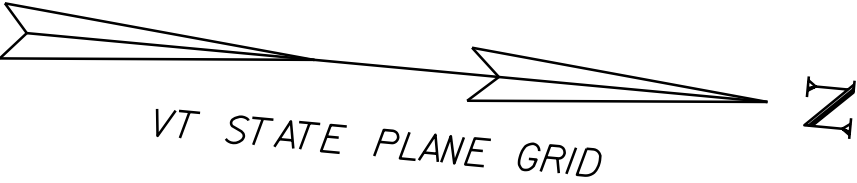
NEW SIDEWALK RAMP TYPE 6  
257+86.15 LT  
257+86.90 RT

M CURVE DATA NO. 1  
DELTA = 64°46'09" RT.  
D = 57°17'45"  
R = 100.00'  
T = 63.42'  
L = 113.04' Δ  
E = 18.42'

ADJUST ELEVATION  
OF VALVE BOX  
256+85.88 LT  
257+09.30 LT  
257+30.66 LT  
259+81.07 LT  
259+99.52 RT

CHANGING ELEVATION OF DROP INLETS,  
CATCH BASINS, OR MANHOLES  
256+99 RT 260+34 RT  
257+19 LT 260+58 RT  
259+75 RT 260+85 LT

CAST IRON GRATE WITH FRAME, TYPE D  
~~259+51.25 RT~~  
~~259+57.29 LT~~  
TRENCH DRAIN  
260+10 - 260+22 LT  
260+25 - 260+34 RT



DETECTABLE WARNING SURFACE  
257+79 LT & RT  
259+61 LT  
259+76 RT

M CURVE DATA NO. 2  
DELTA = 30°30'13" LT.  
D = 28°38'52"  
R = 200.00'  
T = 54.53'  
L = 106.48' Δ  
E = 7.30'

SPECIAL PROVISION (BOX  
BEAM GUARDRAIL, PAINTED)  
259+47 RT - 259+71.67 RT

CONSTRUCT DRIVE WITH PAVED APRON  
257+68 RT

VERTICAL GRANITE CURB  
256+60.00 RT - 257+50.43 RT  
256+61.34 LT - 256+87.39 LT (MEDIAN ISLAND)  
256+65.31 - 257+29.22 (MEDIAN ISLAND)  
257+71.48 LT - 257+95.79 LT  
257+82.14 RT - 257+90.24 RT

CAST-IN-PLACE CONCRETE CURB, TYPE B  
259+54.20 LT - 259+61.60 LT  
259+47.80 RT - 259+77.00 RT

BITUMINOUS CONCRETE GUTTERS  
AND TRAFFIC ISLANDS  
256+73 LT - 256+87.50 LT

SPECIAL PROVISION, (BRIDGE RAILING  
REPAIR, PIPE AND SPINDLE)  
257+97 LT - 259+54 LT  
257+90 RT - 259+47 RT

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH  
256+60 RT - 257+89.80 RT  
257+71.50 LT - 257+96 LT  
259+47.80 RT - 259+77.00 RT  
259+54.20 LT - 259+61.60 LT

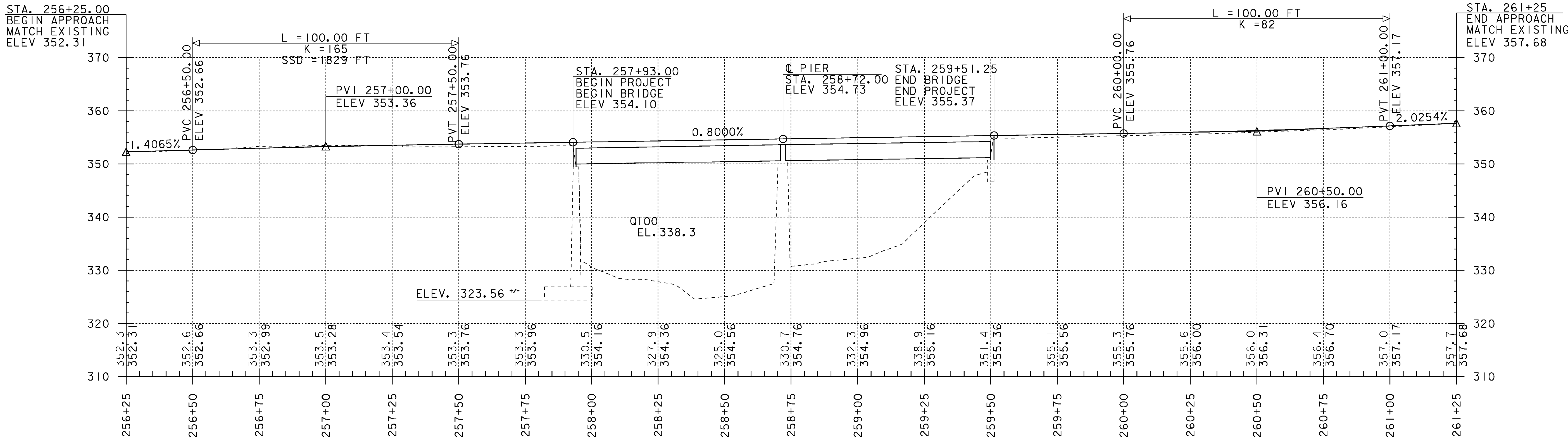


| REV. | BY  | DATE    | DESCRIPTION                          |
|------|-----|---------|--------------------------------------|
| Δ    | DRP | 4/24/09 | REVISED LENGTH (L)<br>OF CURVE NO. 2 |
| Δ    | DRP | 4/27/09 | REVISED LENGTH (L)<br>OF CURVE NO. 1 |
| Δ    | LBB | 5/26/09 | REVISED ELEVATIONS                   |

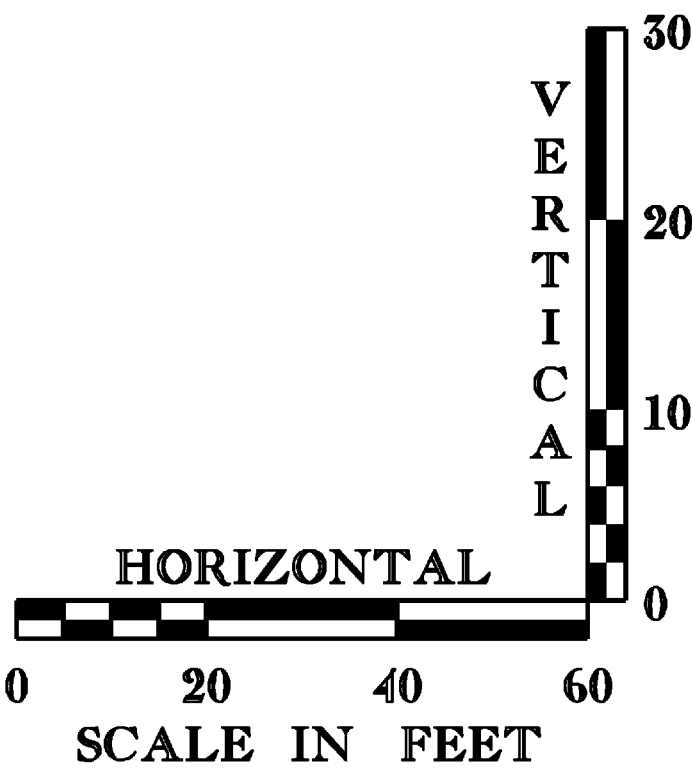
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|-----------------|----------------------------|
| PROJECT NAME:   | SPRINGFIELD                |
| PROJECT NUMBER: | BHF 016-2 (14)             |
| FILE NAME:      | 006j004/s+r/s06j004bdr.dgn |
| PROJECT LEADER: | R. WHITCOMB                |
| DESIGNED BY:    | D. PETERSON                |
| LAYOUT SHEET    |                            |
| PLOT DATE:      | 03-APR-2012 11:20          |
| DRAWN BY:       | D. PETERSON                |
| CHECKED BY:     | C. CARLSON                 |
| SHEET           | 10 OF 72                   |



VT I I



GRADES SHOWN TO THE NEAREST TENTH ARE OLD  
GROUND ALONG THE MAINLINE. GRADES SHOWN  
TO THE NEAREST HUNDREDTH ARE FINISH GRADE  
ALONG THE MAINLINE.

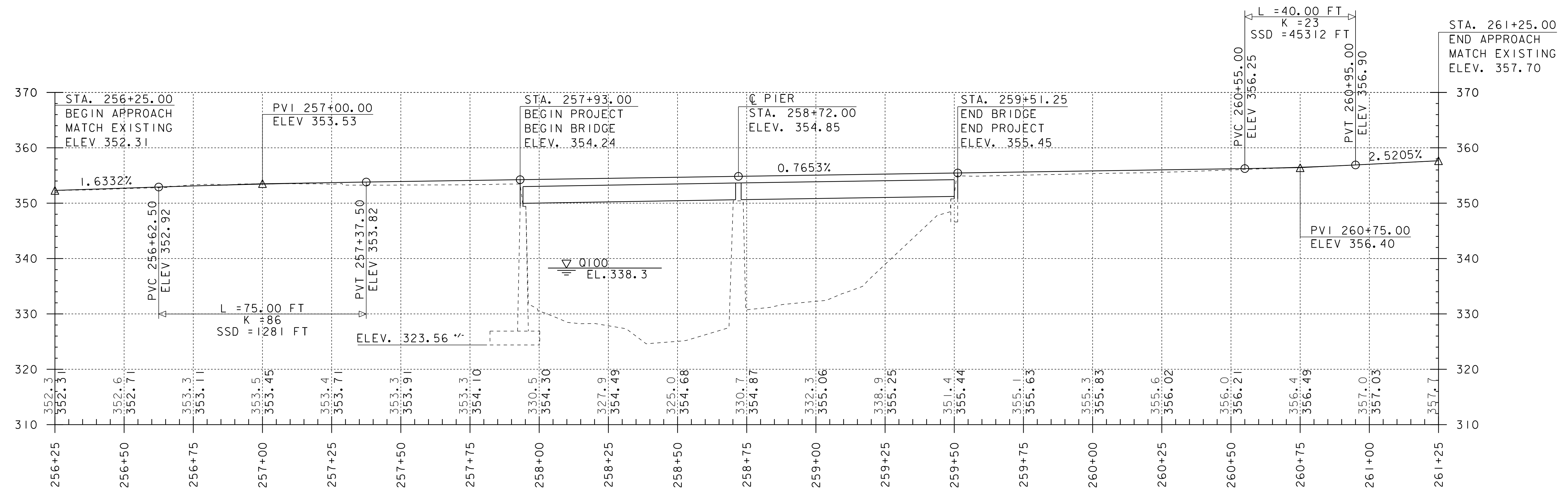


VOID  
SEE REVISED  
SHEET

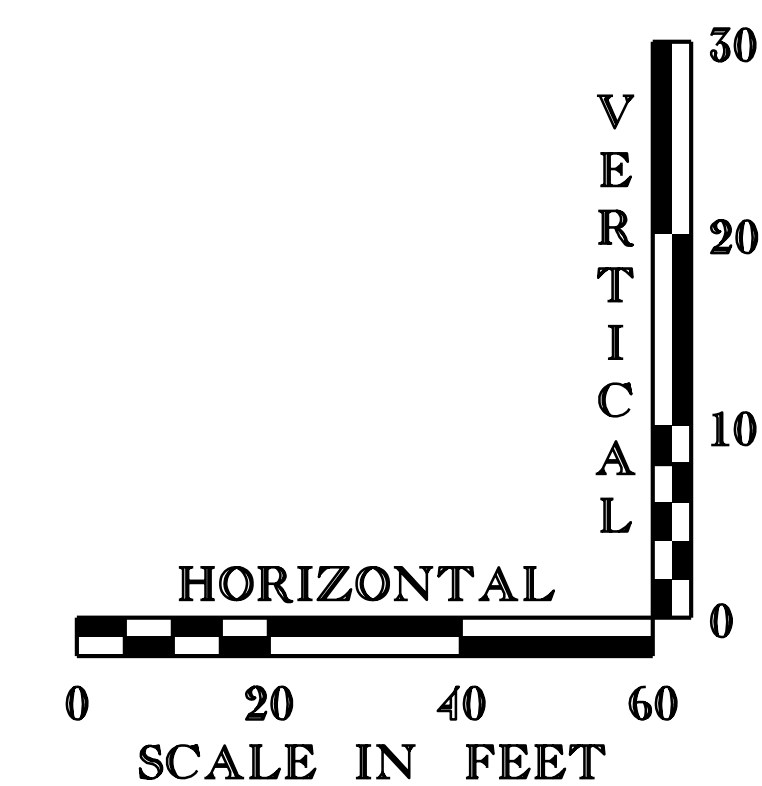
|                                      |                        |
|--------------------------------------|------------------------|
| PROJECT NAME: SPRINGFIELD            |                        |
| PROJECT NUMBER: BHF 016-2(14)        |                        |
| FILE NAME: 06J004/str/s06J004xsl.dgn | PLOT DATE: 04-MAR-2009 |
| PROJECT LEADER: R. WHITCOMB          | DRAWN BY: D. PETERSON  |
| DESIGNED BY: D. PETERSON             | CHECKED BY: C. CARLSON |
| PROFILE SHEET                        | SHEET 11 OF 72         |



# VT 11



GRADES SHOWN TO THE NEAREST TENTH ARE OLD  
GROUND ALONG THE MAINLINE. GRADES SHOWN  
TO THE NEAREST HUNDREDTH ARE FINISH GRADE  
ALONG THE MAINLINE.



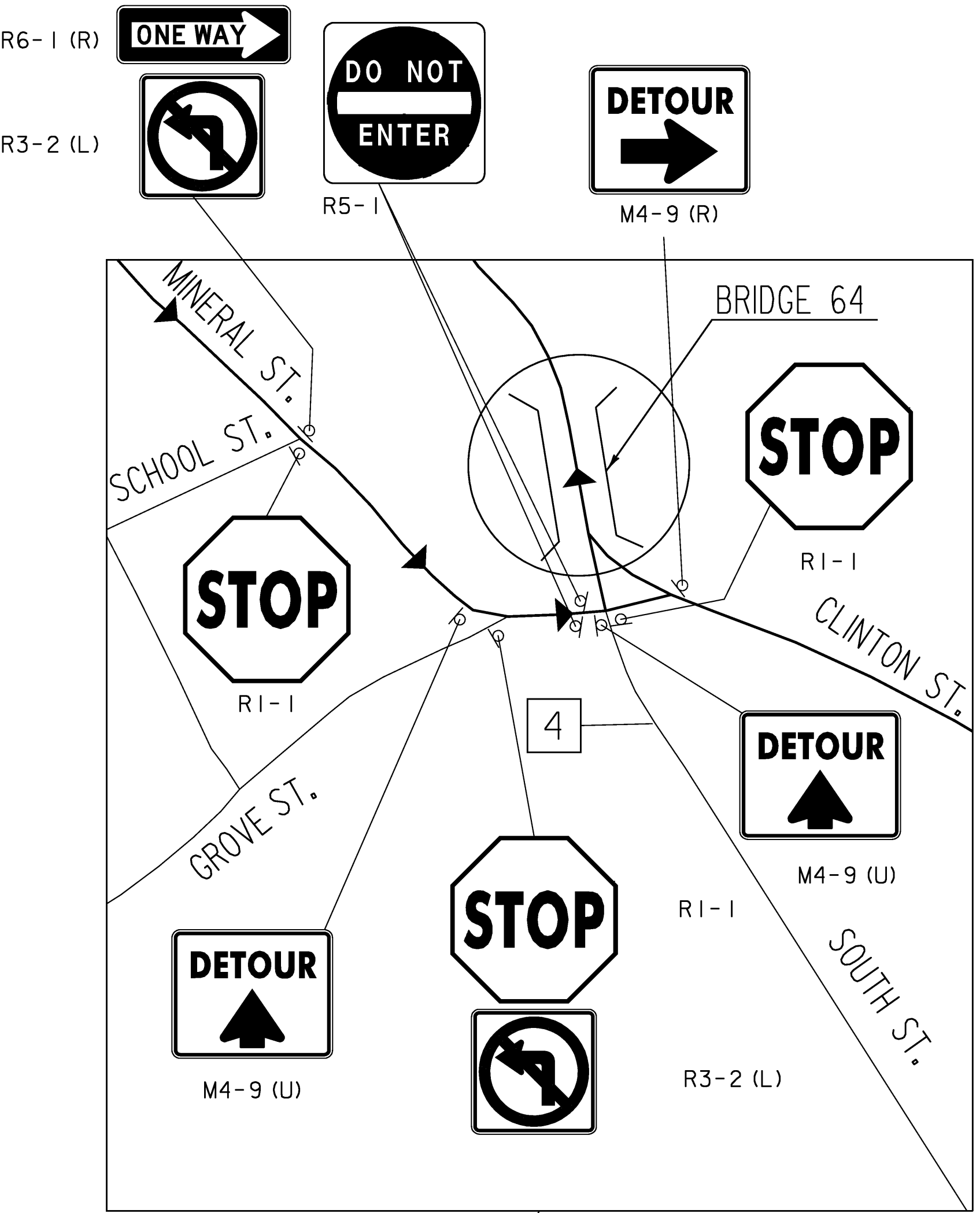
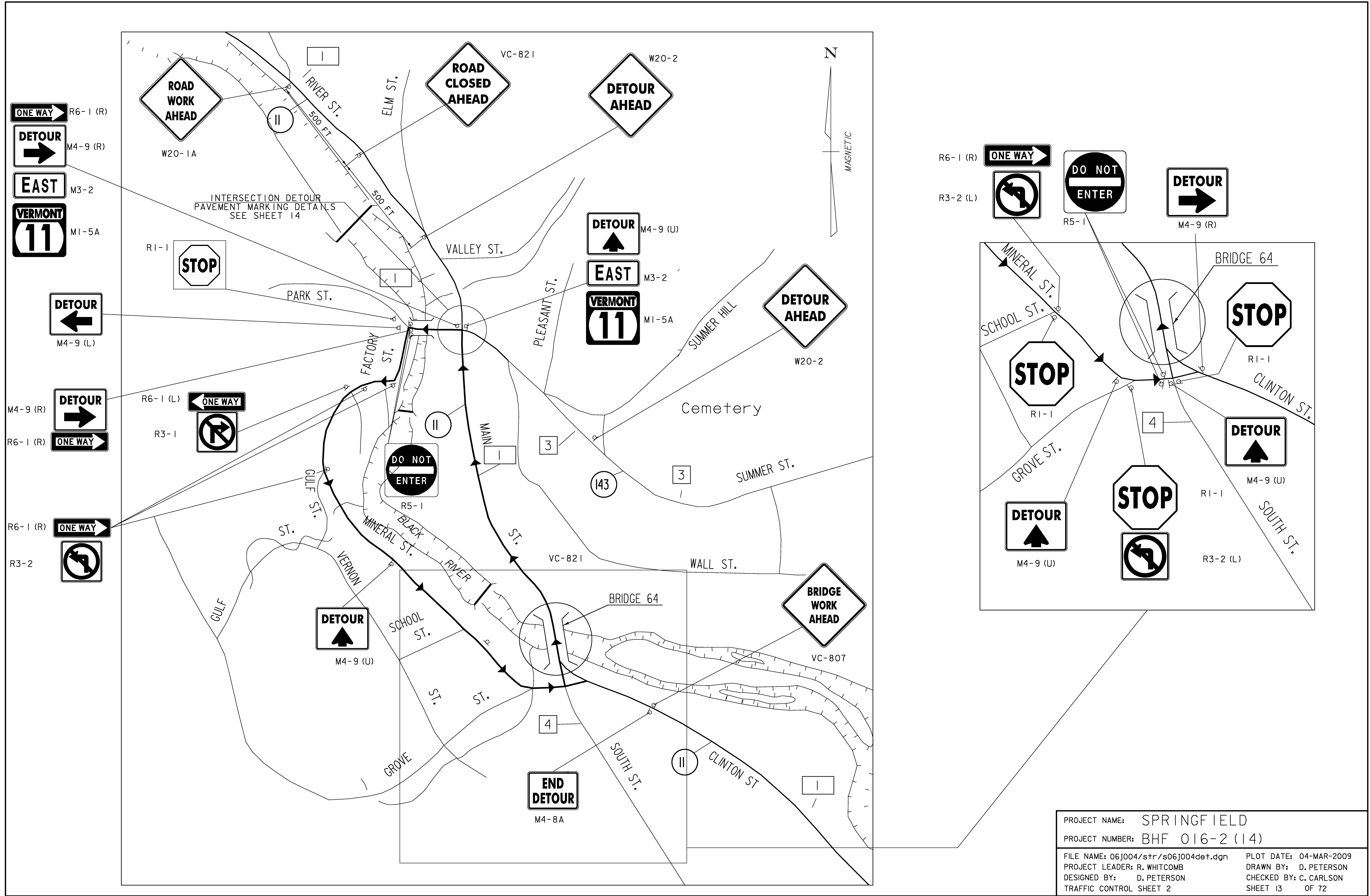
| REV. | BY  | DATE    | REVISION             |
|------|-----|---------|----------------------|
| 3    | LBB | 5/26/09 | REVISED FINISH GRADE |

|                 |                   |
|-----------------|-------------------|
| PROJECT NAME:   | SPRINGFIELD       |
| PROJECT NUMBER: | BHF 016-2(14)     |
| FILE NAME:      | s06j004gen.dgn    |
| PROJECT LEADER: | R. WHITCOMB       |
| DESIGNED BY:    | C. CARLSON        |
| GENERAL NOTES   |                   |
| PLOT DATE:      | 03-APR-2012 11:20 |
| DRAWN BY:       | C. CARLSON        |
| CHECKED BY:     | D. PETERSON       |
| SHEET           | 11 OF 72          |

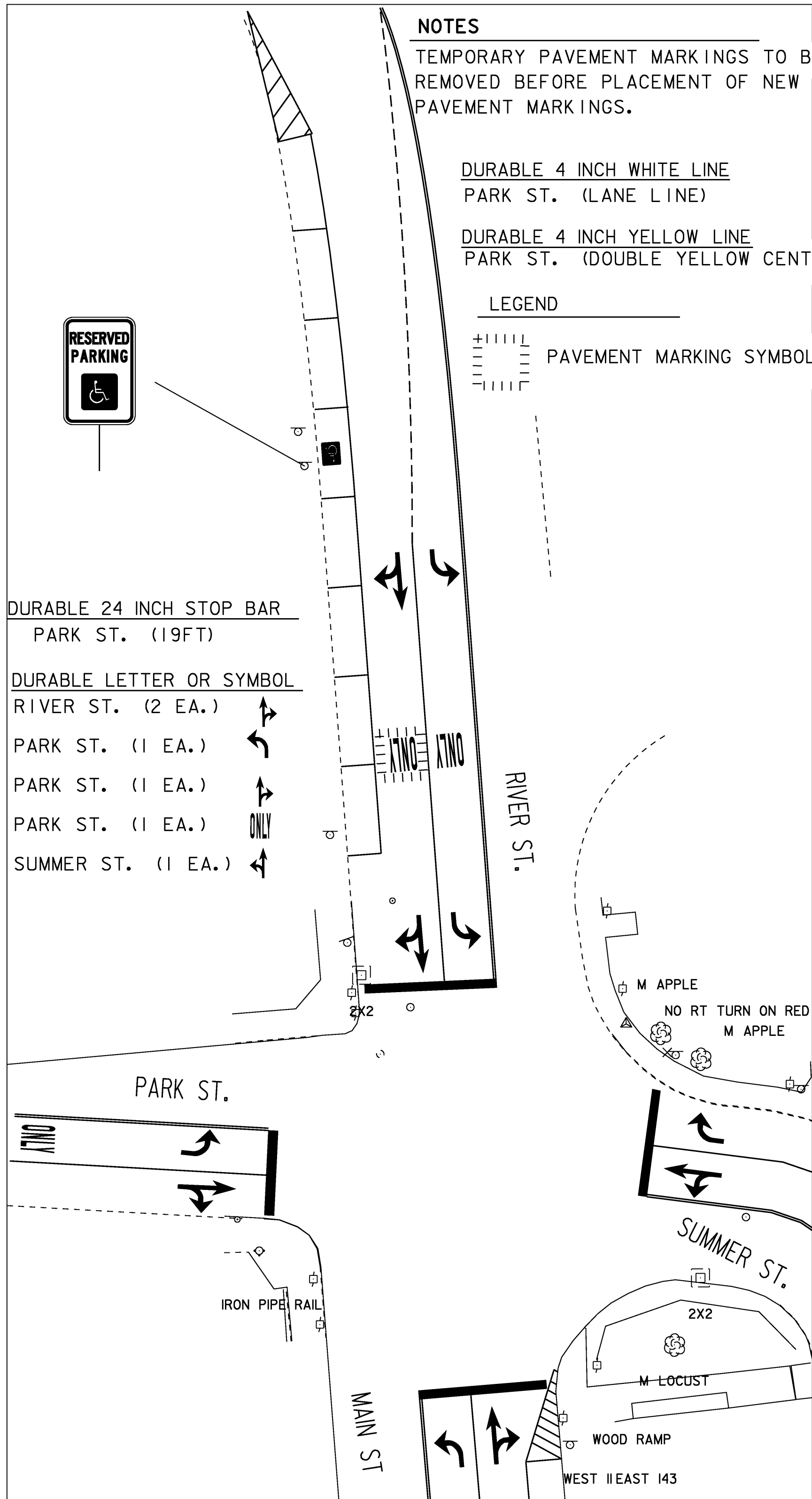
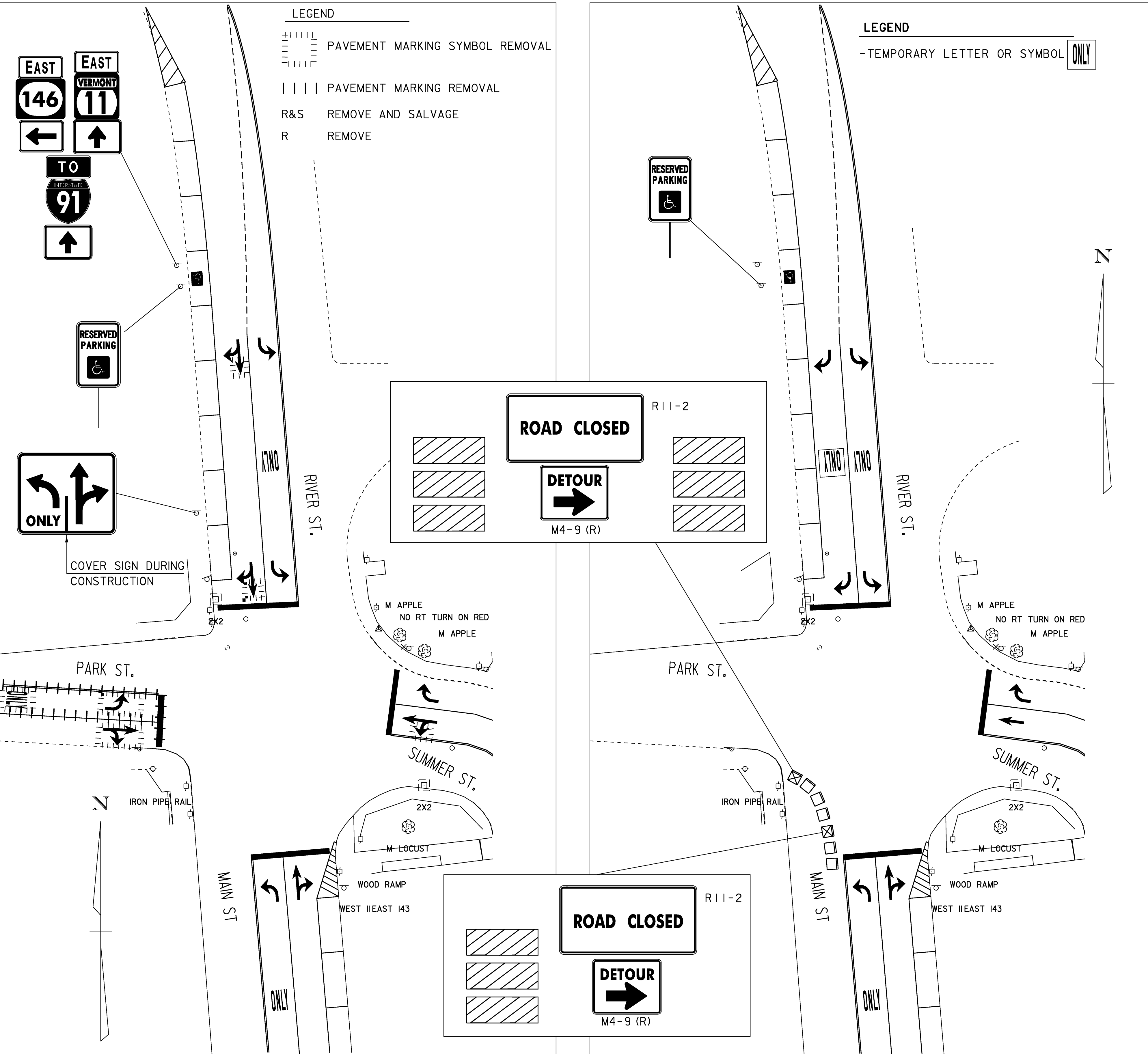








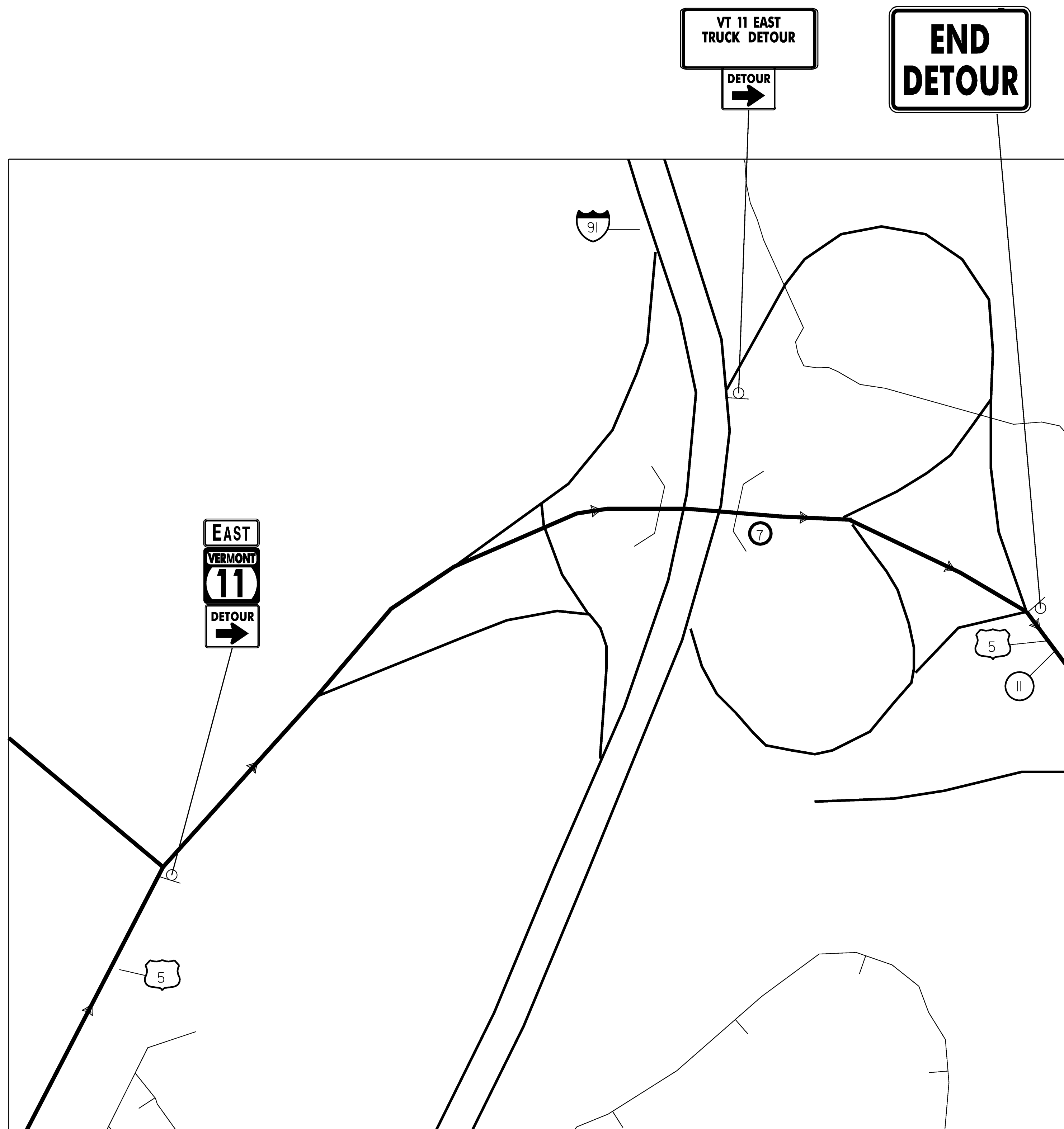




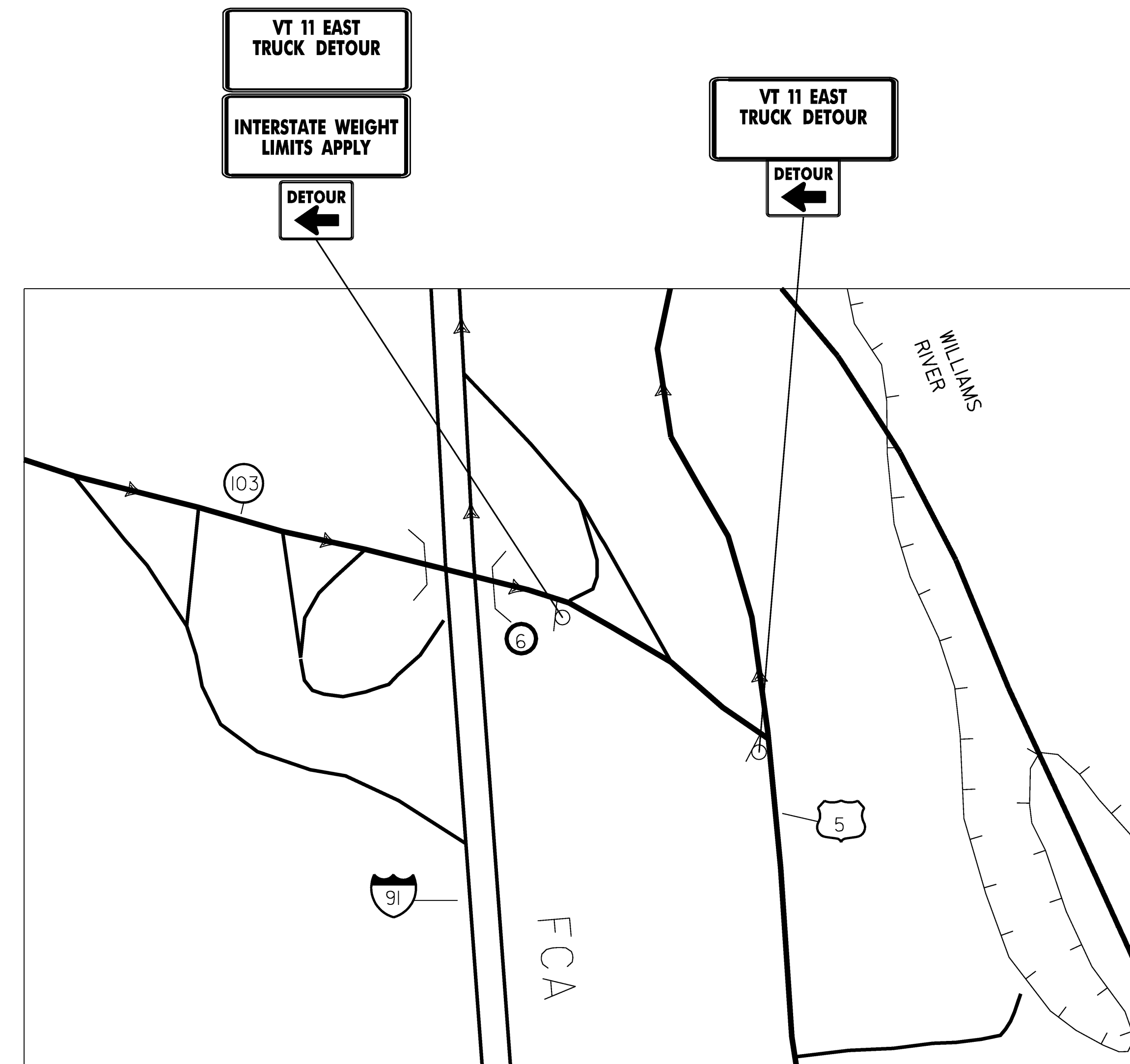
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|-------------------------|---------------------------|
| PROJECT NAME:           | SPRINGFIELD               |
| PROJECT NUMBER:         | BHF 016-2 (14)            |
| FILE NAME:              | 06J004/str/s06J004det.dgn |
| PROJECT LEADER:         | R. WHITCOMB               |
| DESIGNED BY:            | D. PETERSON               |
| TRAFFIC CONTROL SHEET 3 |                           |
| PLOT DATE:              | 04-MAR-2009               |
| DRAWN BY:               | D. PETERSON               |
| CHECKED BY:             | C. CARLSON                |
| SHEET 14                | OF 72                     |

NTS

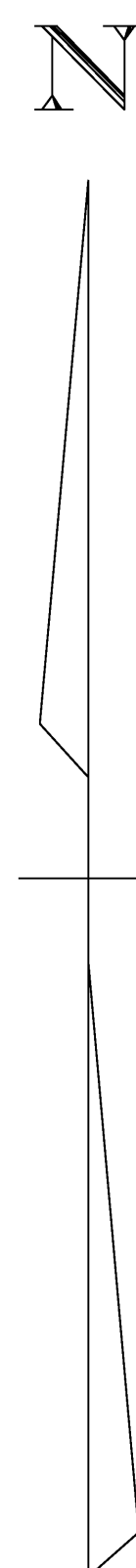




VT 11 TRUCK DETOUR I-91 EXIT 7



VT 11 TRUCK DETOUR I-91 EXIT 6



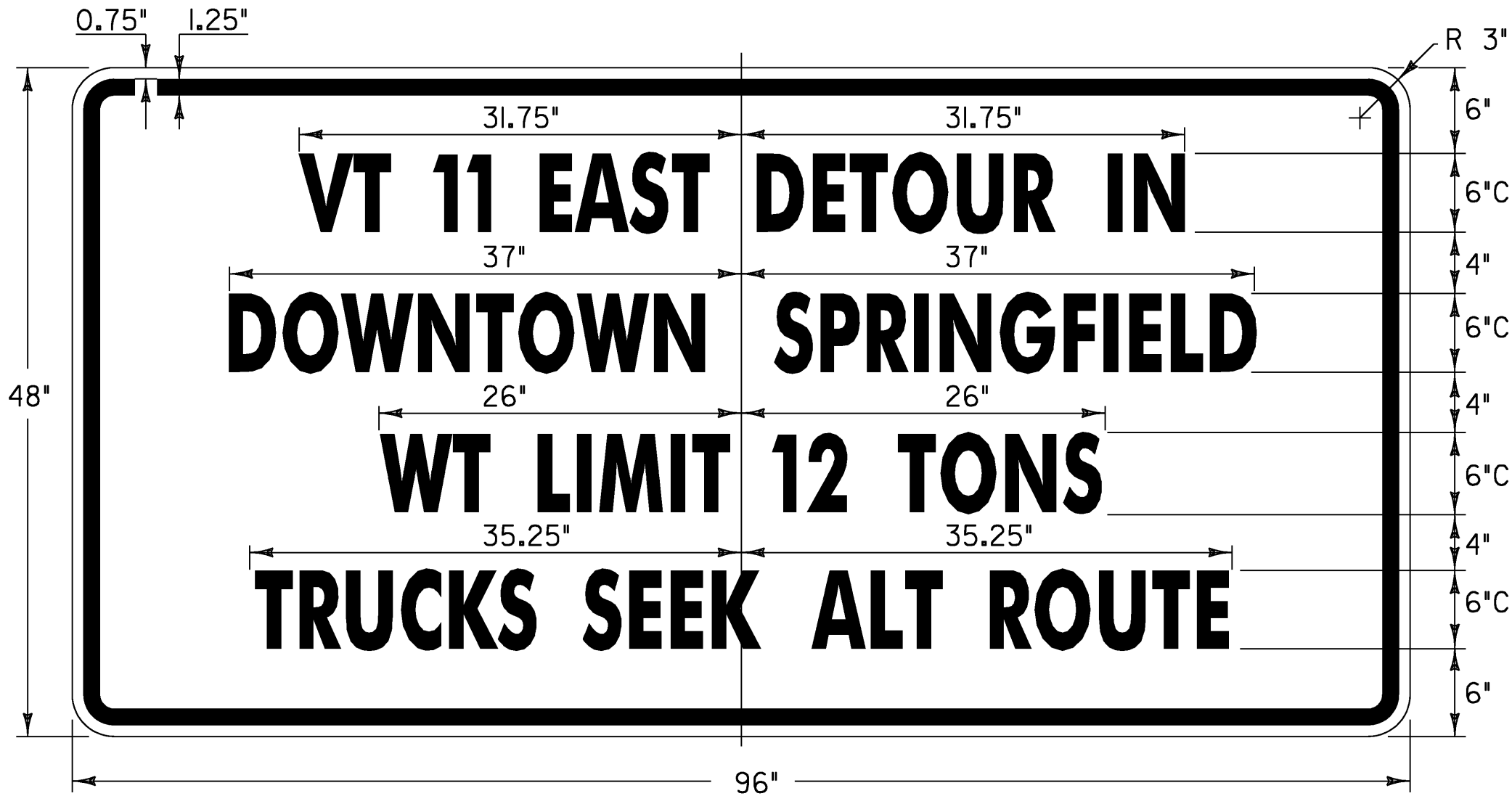
NTS

|                         |                           |
|-------------------------|---------------------------|
| PROJECT NAME:           | SPRINGFIELD               |
| PROJECT NUMBER:         | BHF 016-2 (14)            |
| FILE NAME:              | 06J004/str/s06J004det.dgn |
| PROJECT LEADER:         | R. WHITCOMB               |
| DESIGNED BY:            | D. PETERSON               |
| TRAFFIC CONTROL SHEET 4 |                           |
| PLOT DATE:              | 04-MAR-2009               |
| DRAWN BY:               | D. PETERSON               |
| CHECKED BY:             | C. CARLSON                |
| SHEET 15                | OF 72                     |

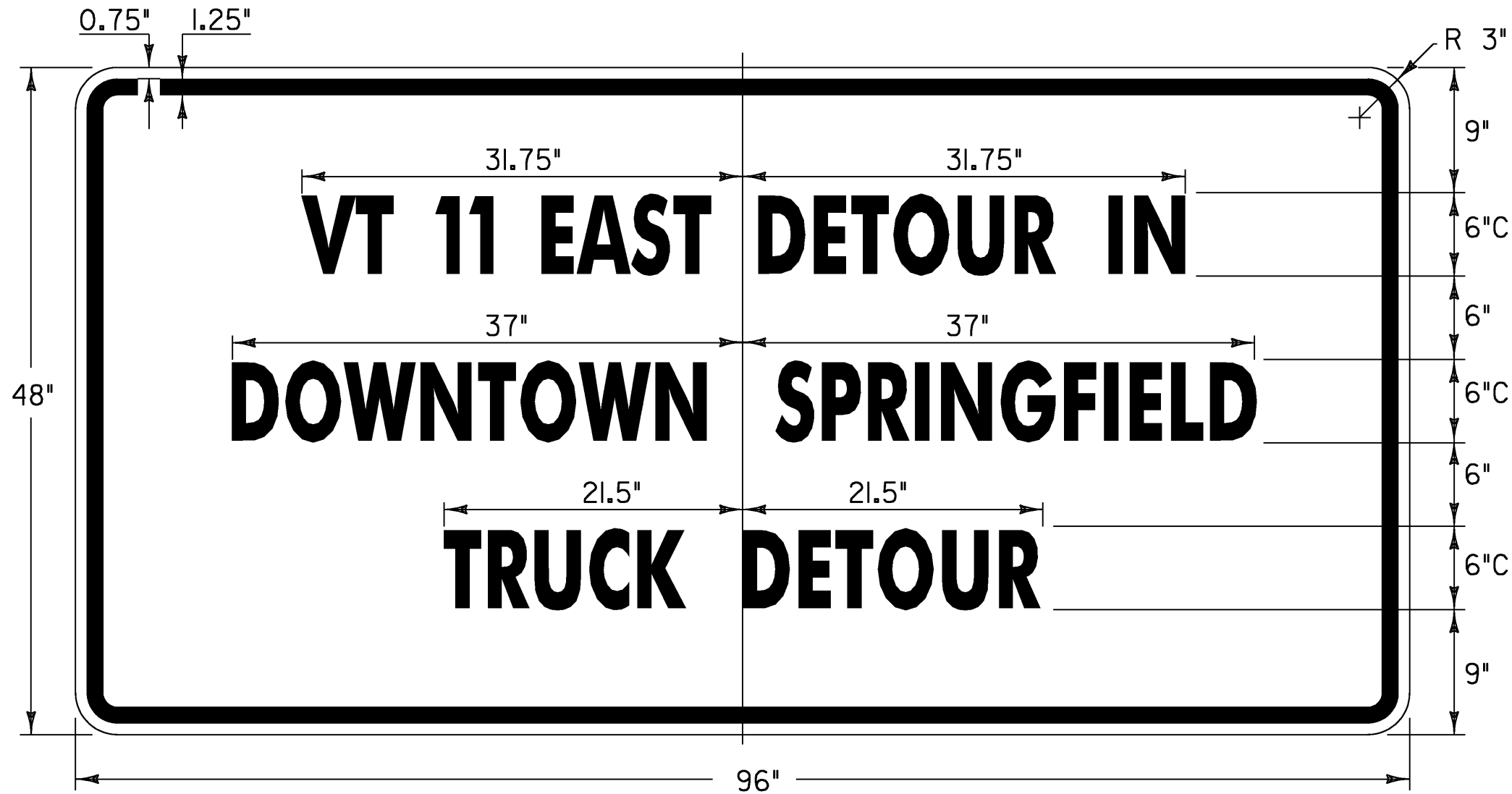


| QUANTITY<br>OF<br>SIGNS | SIGN<br>LEGEND                                                                            | SIGN<br>DIMENSIONS |                | FLANGED<br>CHANNEL<br>lbs/ft<br>2.0 |
|-------------------------|-------------------------------------------------------------------------------------------|--------------------|----------------|-------------------------------------|
|                         |                                                                                           | WIDTH<br>(In)      | HEIGHT<br>(In) |                                     |
| 11                      | VT 11 EAST DETOUR IN<br>DOWNTOWN SPRINGFIELD<br>VT LIMIT 12 TONS<br>TRUCKS SEEK ALT ROUTE | 96                 | 48             | x                                   |
| 1                       | VT 11 EAST DETOUR IN<br>DOWNTOWN SPRINGFIELD<br>TRUCK DETOUR                              | 96                 | 48             | x                                   |
| 6                       | VT 11 EAST<br>TRUCKS DETOUR                                                               | 60                 | 30             | x                                   |
| 1                       | INTERSTATE WEIGHT<br>LIMITS APPLY                                                         | 60                 | 30             | x                                   |
| 2                       | ROAD<br>CLOSED R11-2                                                                      | 60                 | 30             | x                                   |
| 1                       | ROAD<br>WORK<br>AHEAD W20-1A                                                              | 36                 | 36             | x                                   |
| 2                       | DETOUR<br>AHEAD W20-2                                                                     | 36                 | 36             | x                                   |
| 1                       | ROAD<br>CLOSED<br>AHEAD W20-3                                                             | 36                 | 36             | x                                   |
| 1                       | BRIDGE<br>WORK<br>AHEAD VC-807                                                            | 36                 | 36             | x                                   |
| 1                       | BRIDGE<br>CLOSED<br>AHEAD VC-821                                                          | 36                 | 36             | x                                   |
| 1                       | BRIDGE<br>CLOSED<br>500 FT VC-821                                                         | 36                 | 36             | x                                   |
| 5                       | DETOUR<br>▲ M4-9(U)                                                                       | 30                 | 24             | x                                   |
| 8                       | DETOUR<br>➡ M4-9(R)                                                                       | 30                 | 24             | x                                   |
| 5                       | DETOUR<br>◀ M4-9(L)                                                                       | 30                 | 24             | x                                   |
| 2                       | END<br>DETOUR M4-8A                                                                       | 24                 | 18             | x                                   |
| 4                       | VERMONT<br>11 MI-6A                                                                       | 24                 | 24             | x                                   |
| 3                       | EAST M3-2                                                                                 | 24                 | 12             | x                                   |
| 1                       | WEST M3-4                                                                                 | 24                 | 12             | x                                   |
| 5                       | STOP RI-1                                                                                 | 30                 | 30             | x                                   |
| 5                       | R3-2                                                                                      | 24                 | 24             | x                                   |
| 6                       | DO NOT<br>ENTER R5-1                                                                      | 30                 | 30             | x                                   |

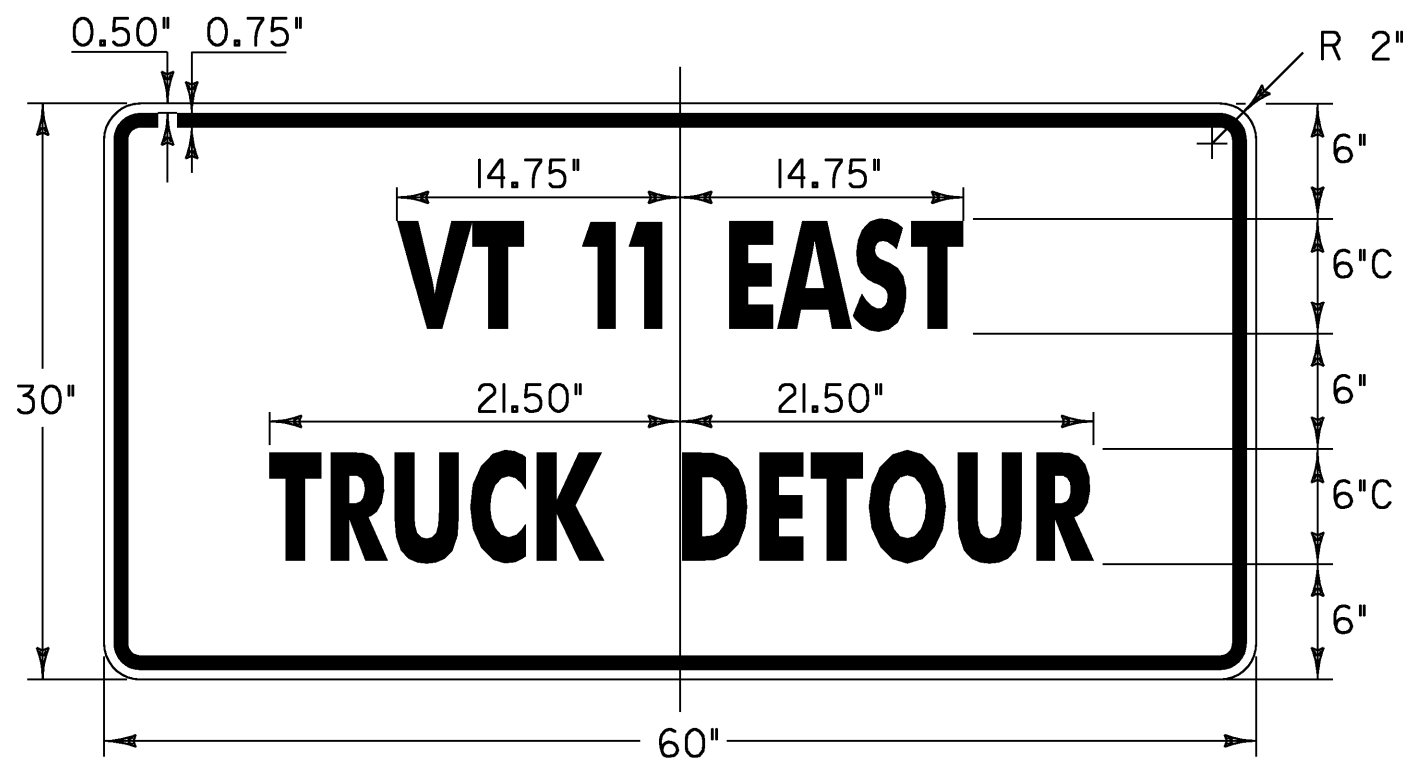
SEE STD. E-121M FOR SIGN PLACEMENT



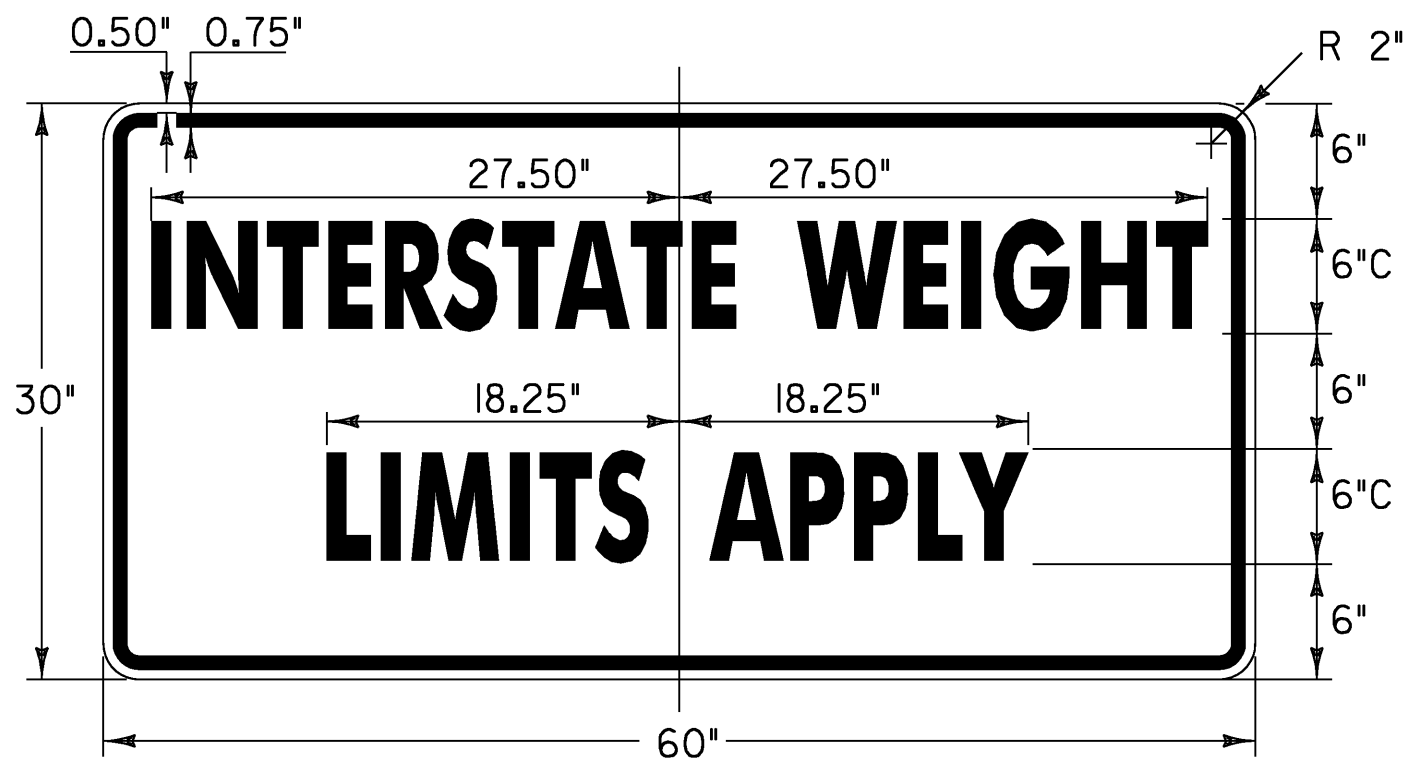
BLACK TEXT & BORDER  
WITH ORANGE BACKGROUND



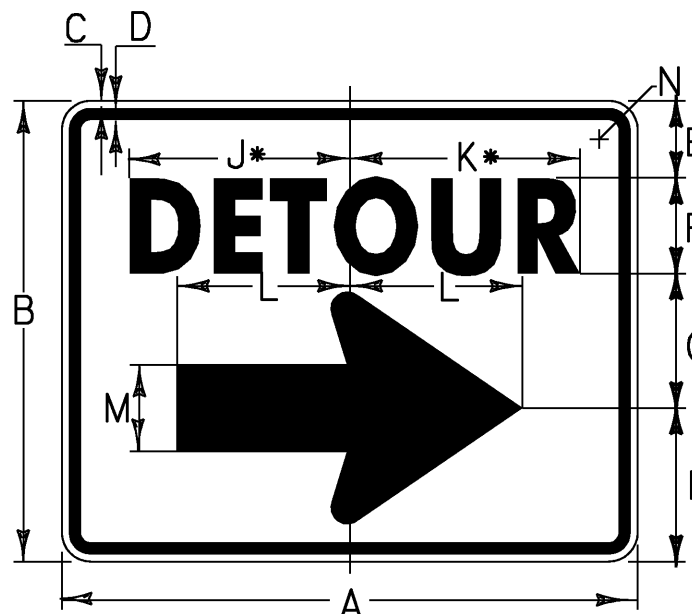
BLACK TEXT & BORDER  
WITH ORANGE BACKGROUND



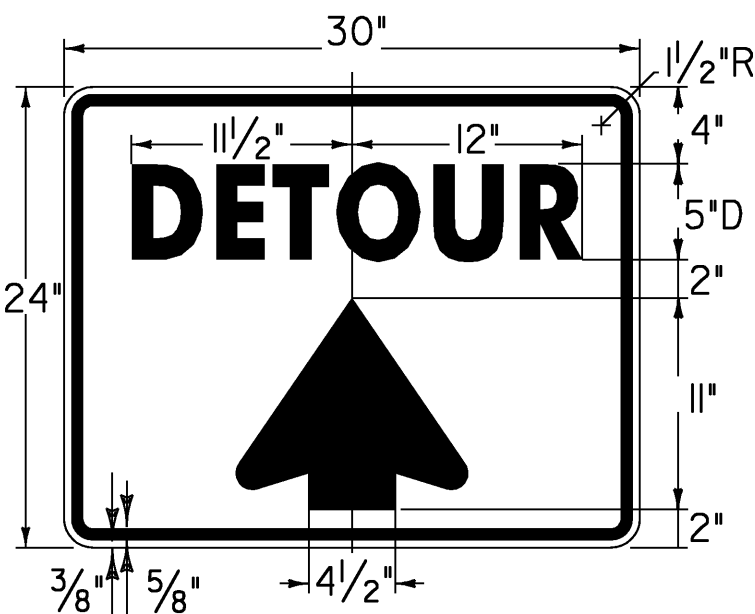
BLACK TEXT & BORDER  
WITH ORANGE BACKGROUND



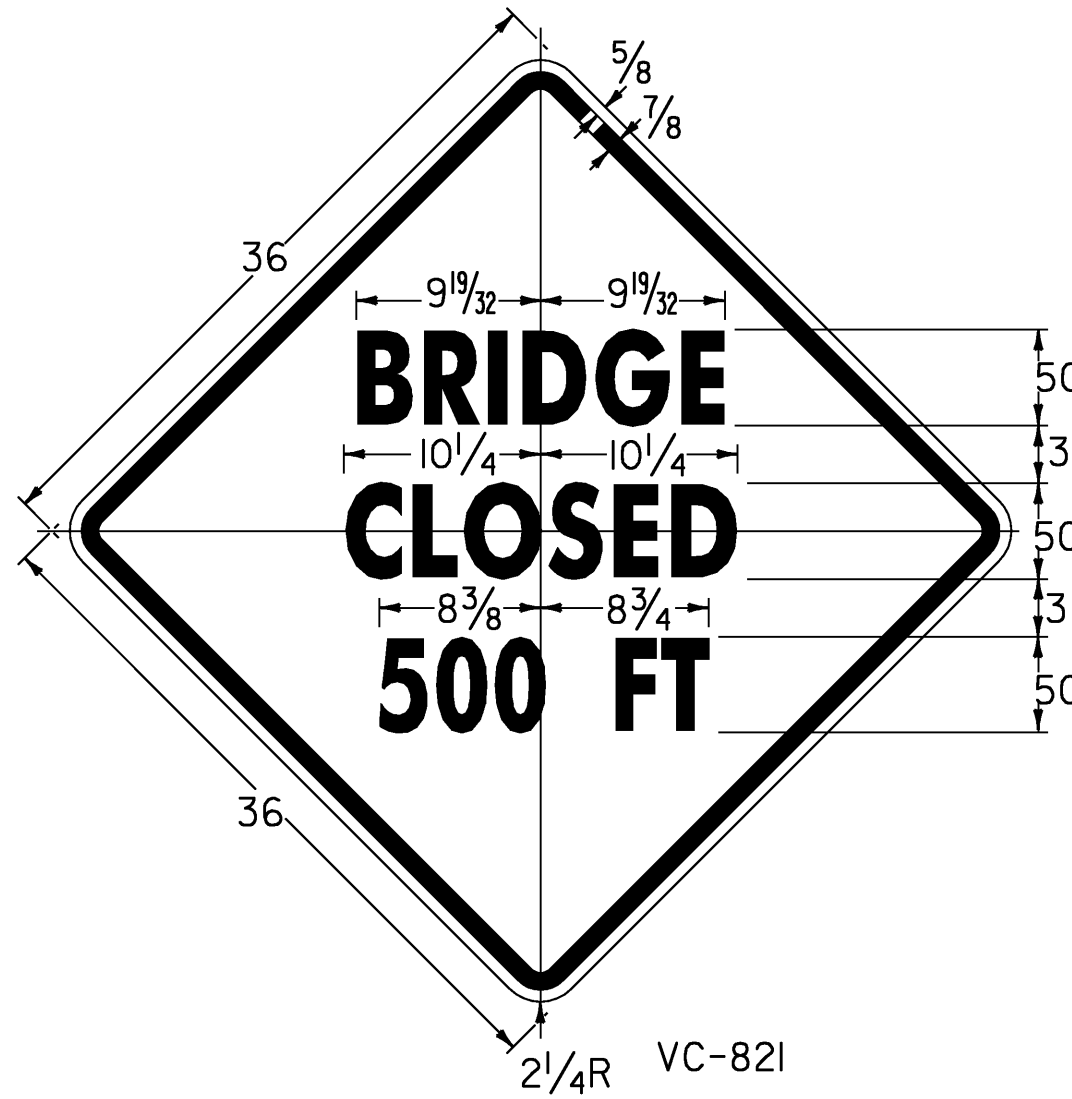
BLACK TEXT & BORDER  
WITH ORANGE BACKGROUND



BLACK TEXT & BORDER  
WITH ORANGE BACKGROUND



BLACK TEXT & BORDER  
WITH ORANGE BACKGROUND



COLORS:  
BLACK BORDER AND TEXT NON (REFL.)  
ORANGE BACKGROUND (REFL.)

| SIGN    | DIMENSIONS (INCHES) |    |     |       |   |     |    |    |        |        |        |       |       |
|---------|---------------------|----|-----|-------|---|-----|----|----|--------|--------|--------|-------|-------|
|         | A                   | B  | C   | D     | E | F   | G  | H  | J      | K      | L      | M     | N     |
| STD.    | 30                  | 24 | 3/8 | 5/8   | 4 | 5D  | 7  | 8  | 11 1/2 | 12     | 9      | 4 1/2 | 1 1/2 |
| SPECIAL | 48                  | 36 | 5/8 | 7/8   | 6 | 8D  | 10 | 12 | 19 1/2 | 20 1/4 | 13 1/2 | 7     | 2 1/4 |
| SPECIAL | 60                  | 48 | 3/4 | 1 1/4 | 8 | 10D | 14 | 16 | 23     | 24     | 18     | 9     | 3     |

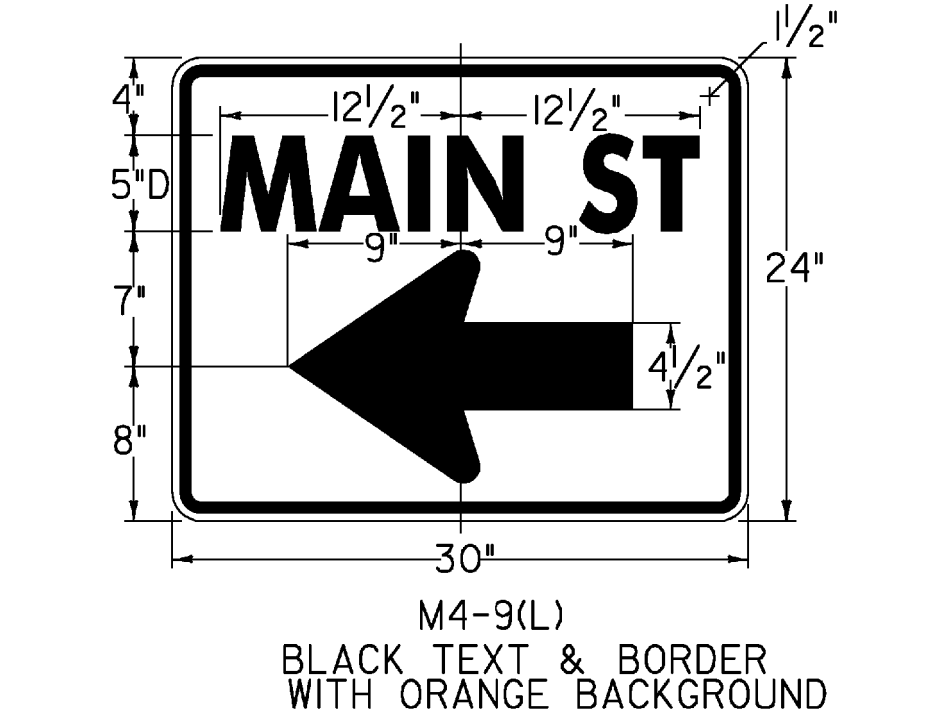
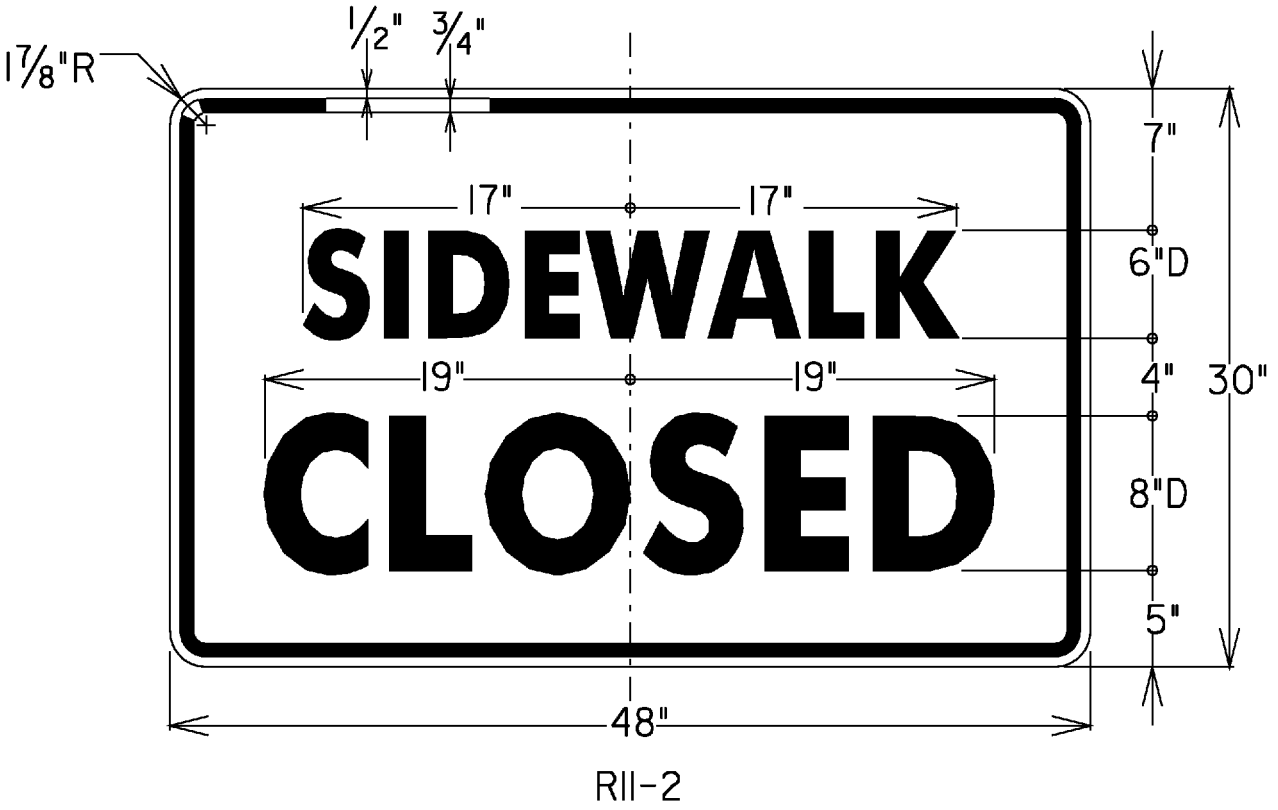
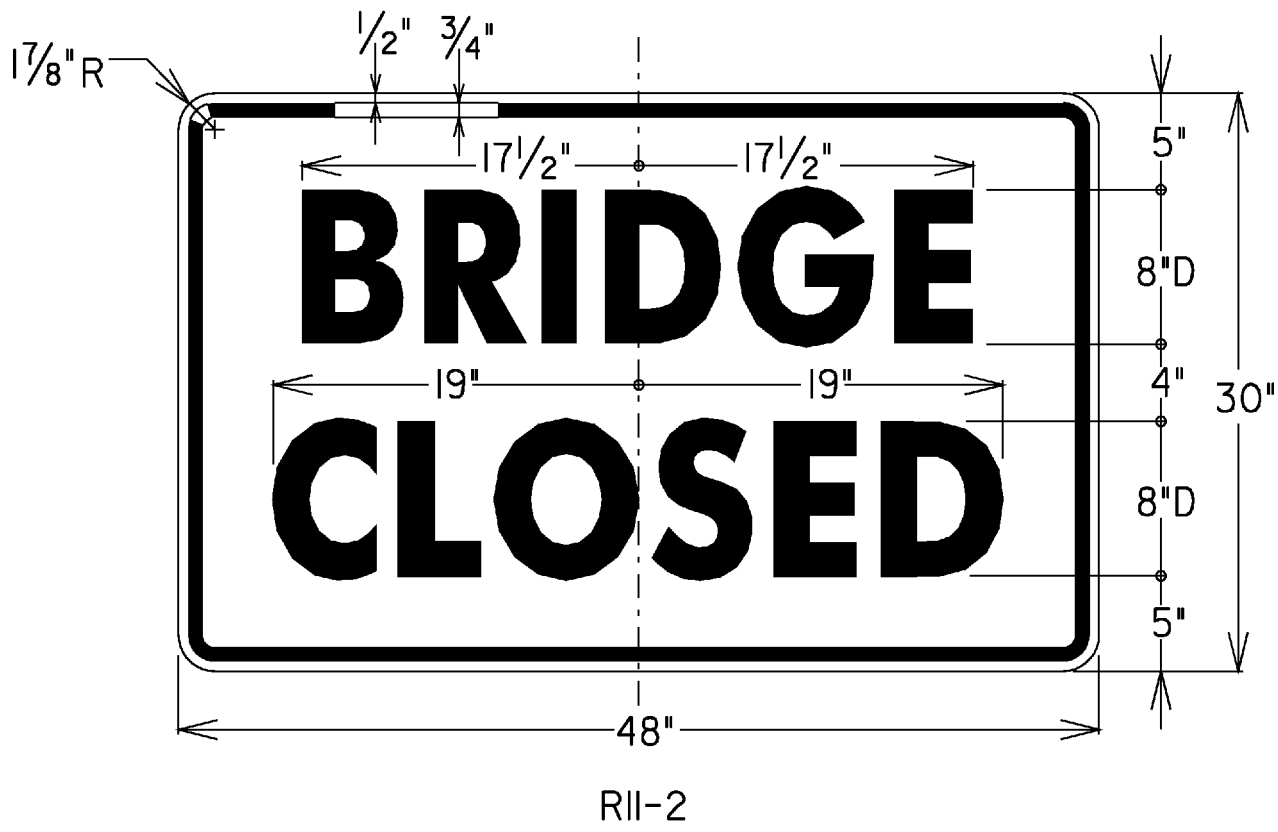
\* REDUCE SPACING 40%

|                              |                           |
|------------------------------|---------------------------|
| PROJECT NAME:                | SPRINGFIELD               |
| PROJECT NUMBER:              | BHF 016-2(14)             |
| FILE NAME:                   | 06J004/Str/s06J004def.dgn |
| PROJECT LEADER:              | R. WHITCOMB               |
| DESIGNED BY:                 | C. CARLSON                |
| DETOUR SIGN SUMMARY SHEET #1 |                           |
| PLOT DATE:                   | 19-MAR-2009               |
| DRAWN BY:                    | D. PETERSON               |
| CHECKED BY:                  | C. CARLSON                |
| SHEET 16                     | OF 72                     |

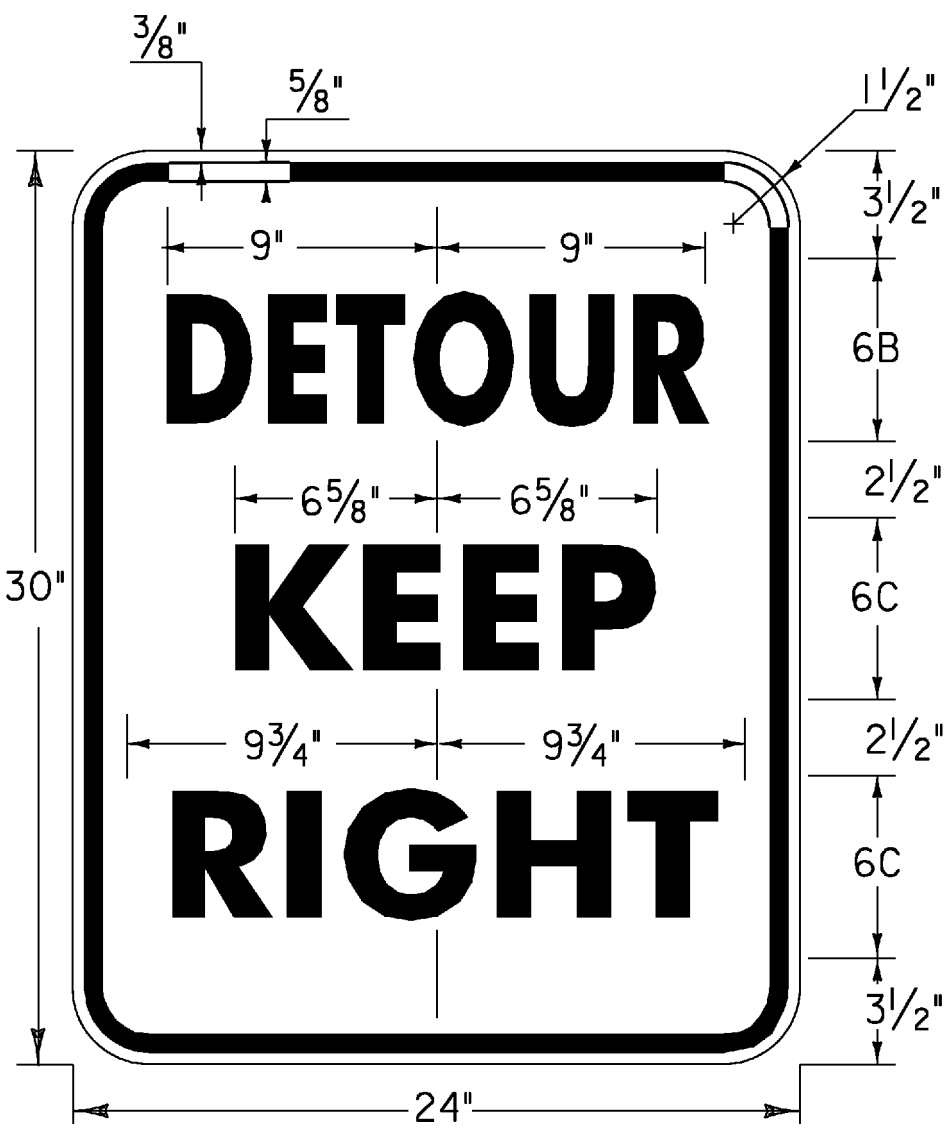


| QUANTITY<br>OF<br>SIGNS | SIGN<br>LEGEND                                                                                                            | SIGN<br>DIMENSIONS |                | FLANGED<br>CHANNEL<br>lbs/ft |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------------|----------------|------------------------------|
|                         |                                                                                                                           | WIDTH<br>(In)      | HEIGHT<br>(In) |                              |
|                         |                                                                                                                           |                    |                | 2.0                          |
| 1                       |  R6-I(L)                                 | 36                 | 12             | x                            |
| 6                       |  R6-I(R)                                 | 36                 | 12             | x                            |
| 1                       |  M6-2R                                   | 24                 | 24             | x                            |
| 3                       |  W11-2<br>(FLUORESCENT<br>YELLOW GREEN)  | 30                 | 30             | x                            |
| 3                       |  W16-7P<br>(FLUORESCENT<br>YELLOW GREEN) | 24                 | 12             | x                            |
| 1                       |  R9-II(R)                                | 24                 | 12             | x                            |
| 2                       |  R9-II(L)                                | 24                 | 12             | x                            |
| 1                       |  R11-2                                   | 60                 | 30             | x                            |
| 2                       |  R11-2                                   | 60                 | 30             | x                            |
| 1                       |  M4-9(L)                                 | 30                 | 24             | x                            |
| 1                       |  R4-3                                    | 24                 | 30             | x                            |
| 1                       |  R2-5A                                 | 24                 | 30             | x                            |
| 21                      |  E-107a M                              |                    |                |                              |
|                         |                                                                                                                           |                    |                |                              |
|                         |                                                                                                                           |                    |                |                              |

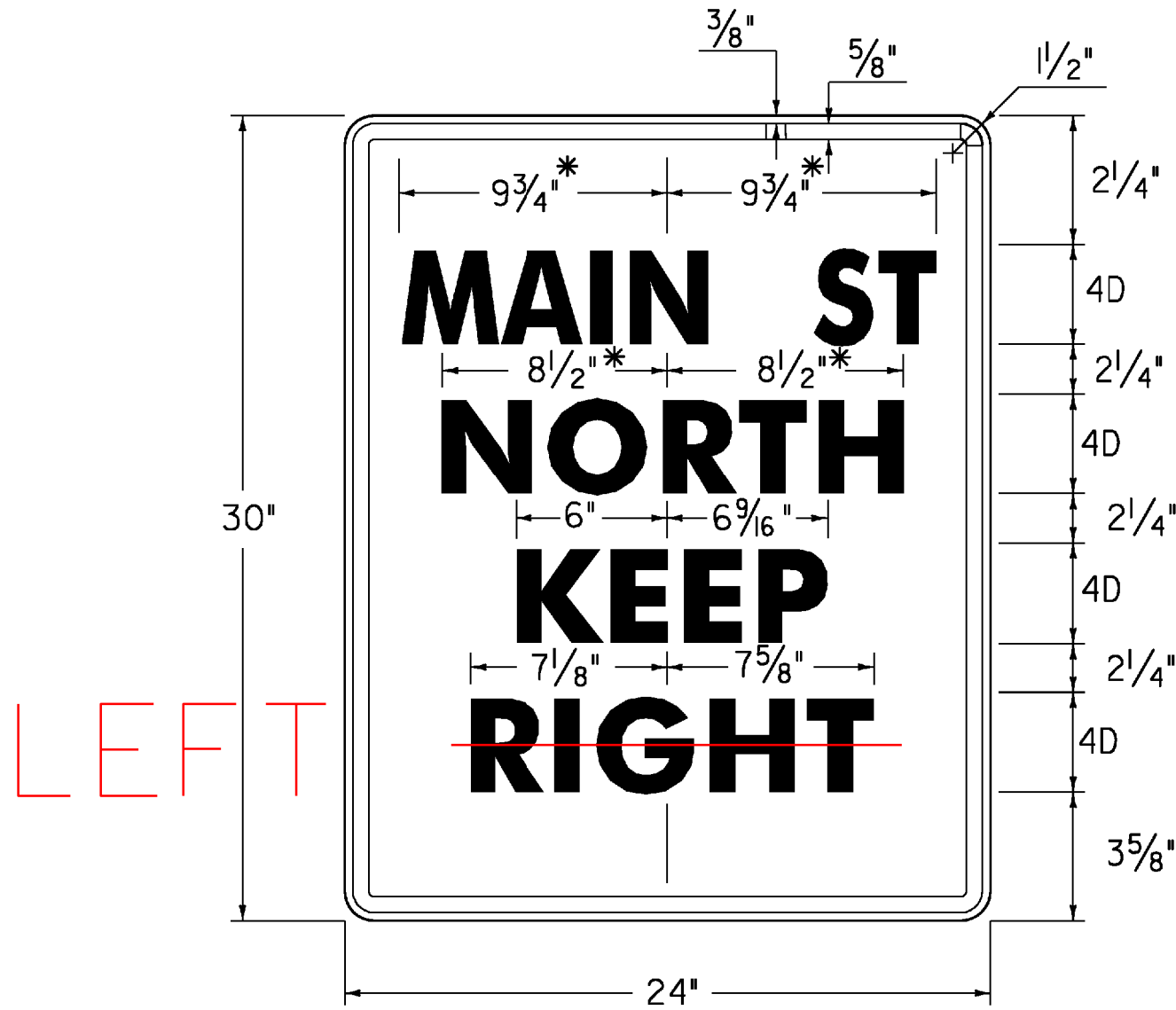
SEE STD. E-121M FOR SIGN PLACEMENT



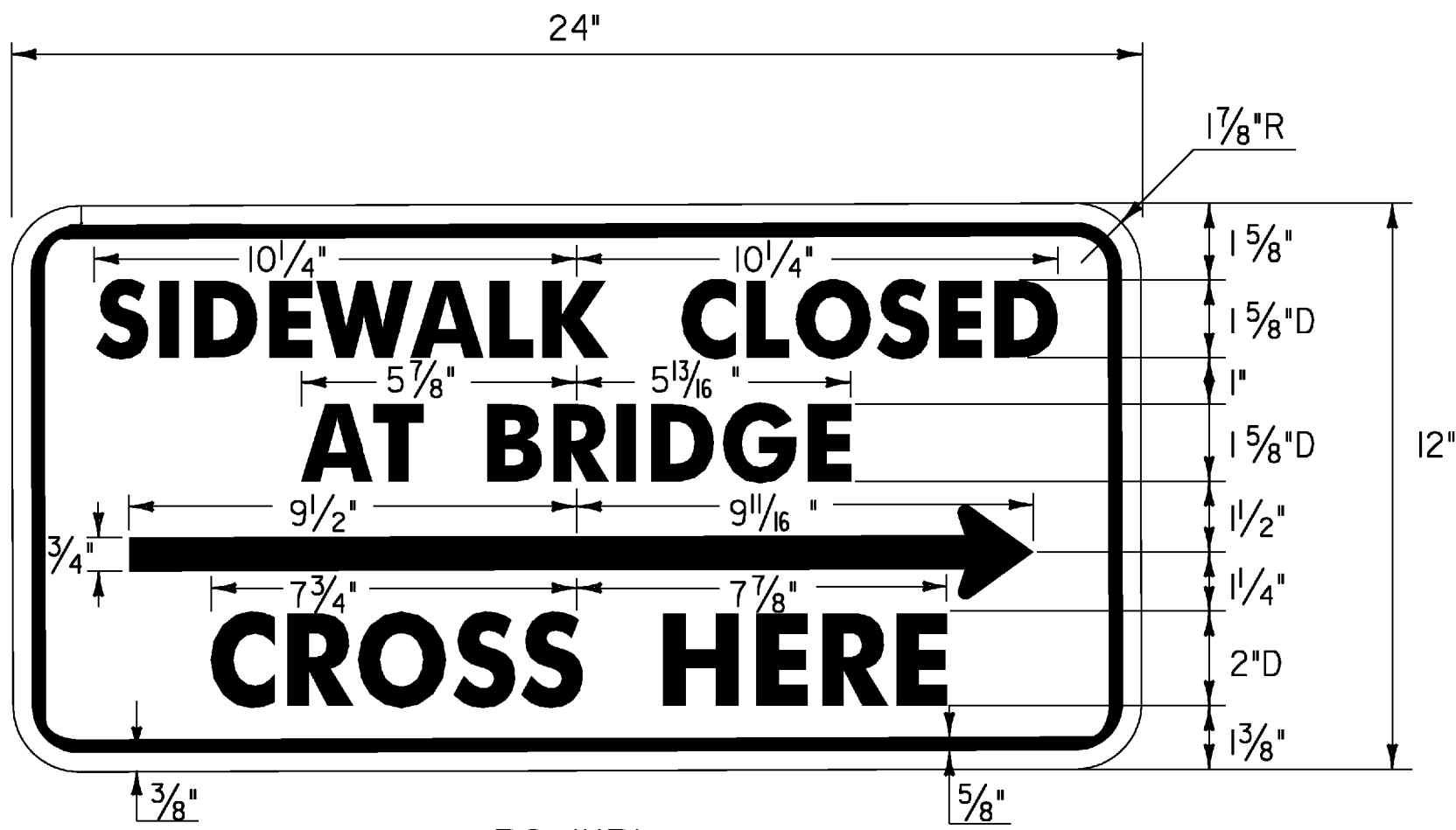
M4-9(L)  
BLACK TEXT & BORDER  
WITH ORANGE BACKGROUND



R2-5A



\* REDUCE SPACING 25 %  
R4-3



R9-II(R)  
R9-II(L) SIMILAR

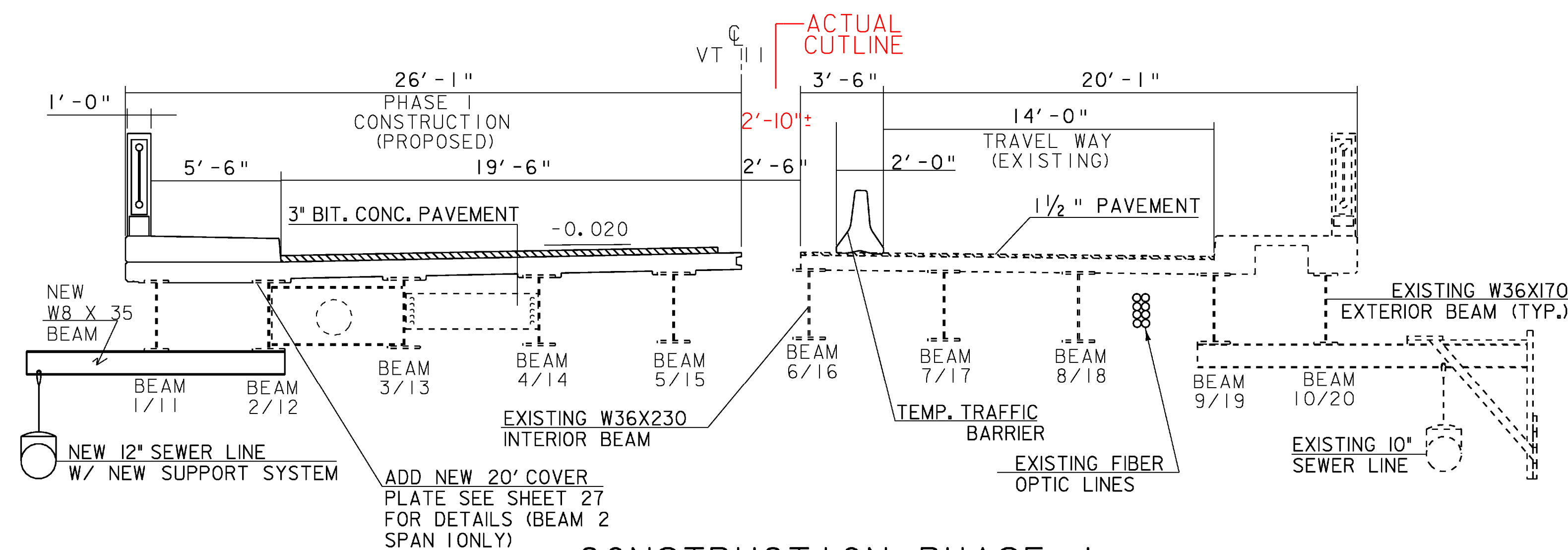
PROJECT NAME: SPRINGFIELD  
PROJECT NUMBER: BHF 016-2(14)

FILE NAME: 06j004/Str/s06j004det.dgn  
PROJECT LEADER: R. WHITCOMB  
DESIGNED BY: C. CARLSON  
DETOUR SIGN SUMMARY SHEET \*2

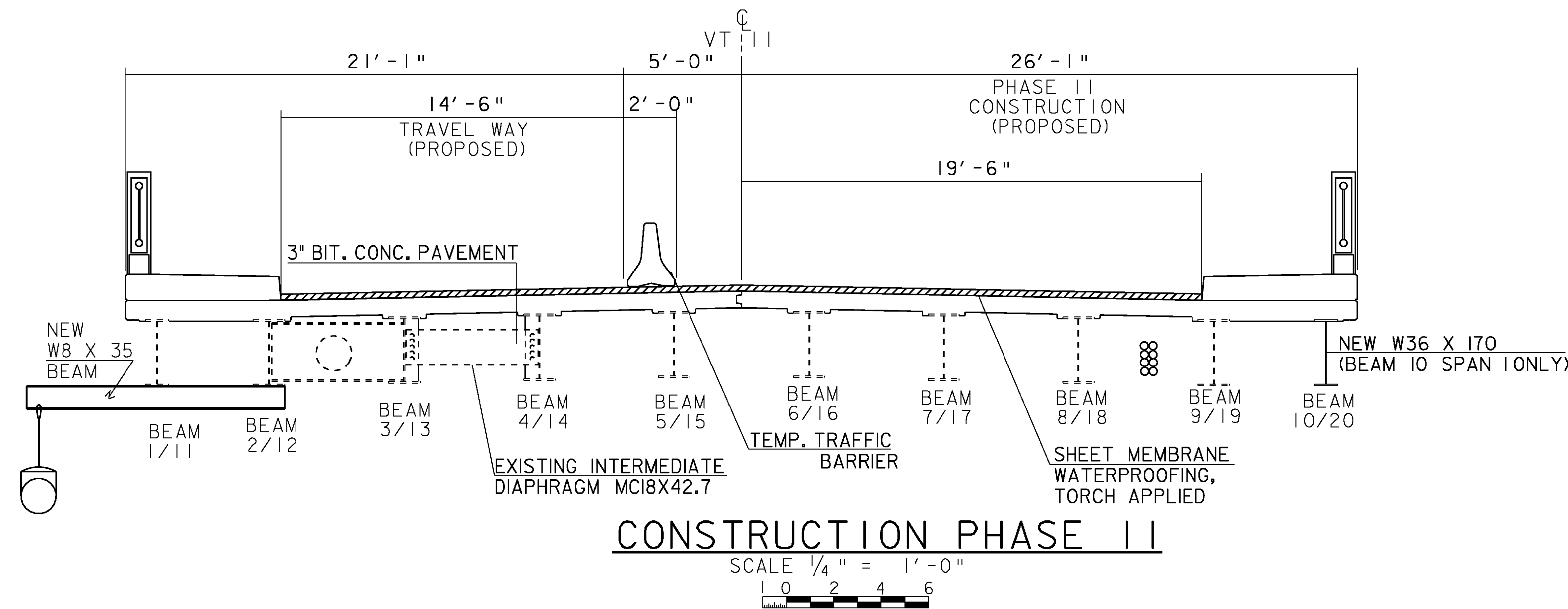
PLOT DATE: 19-MAR-2009  
DRAWN BY: D. PETERSON  
CHECKED BY: C. CARLSON  
SHEET 17 OF 72



MOVED CUTLINE BECAUSE  
NEW GIRDER WILL BE @  
CENTERLINE. 1ST POUR  
WILL BE +0'-0" RT. OF  
CENTERLINE.



### CONSTRUCTION PHASE I



### CONSTRUCTION PHASE II

### SUGGESTED CONSTRUCTION PHASING

#### PHASE I

1. INSTALL EROSION CONTROL MEASURES.
2. INSTALL TEMPORARY TRAFFIC BARRIER.
3. MOVE TRAFFIC TO THE EASTERN SIDE OF THE BRIDGE.
4. DISCONNECT ONE END OF DIAPHRAGMS ON EAST SIDE OF BEAM 5/15 PRIOR TO PHASE I SUPERSTRUCTURE REMOVAL.
5. REMOVE EXISTING CONCRETE DECK AND BRIDGE RAILING TO LIMITS SHOWN.
6. CLEAN AND REPAIR EXISTING BEAMS, INSTALL NEW BEARINGS AND NEW COVER PLATE ON BEAM 2.
7. INSTALL NEW SUPPORT SYSTEM FOR SEWER LINE AND NEW SEWER LINE.
8. CONSTRUCT NEW CONCRETE BRIDGE DECK, SIDEWALK AND BRIDGE RAIL.
9. INSTALL SHEET MEMBRANE WATERPROOFING AND PLACE 3" BITUMINOUS CONCRETE PAVEMENT (TWO LIFTS).

#### PHASE II

1. RELOCATE TEMPORARY TRAFFIC BARRIER FOR PHASE 2 CONSTRUCTION. MOVE VEHICULAR TRAFFIC TO WESTERN SIDE OF BRIDGE.
2. SHORE AND PROTECT UTILITIES ON EASTERN SIDE. TRANSFER SEWER FLOW TO NEW SEWER LINE AND REMOVE EXISTING SEWER LINE AND SUPPORTS.
3. REMOVE CONCRETE DECK, SIDEWALK AND BRIDGE RAILING TO LIMITS SHOWN.
4. REMOVE BEAM 10 AND THE DIAPHRAGMS BETWEEN BEAMS 9 AND 10.
5. CLEAN, REPAIR AND PAINT EXISTING BEAMS.
6. INSTALL NEW STRUCTURAL STEEL AND BEARINGS.
7. CONSTRUCT NEW CONCRETE BRIDGE DECK.
8. CONSTRUCT SIDEWALK AND BRIDGE RAILING.
9. COMPLETE APPROACH WORK.
10. REMOVE ALL TEMPORARY TRAFFIC BARRIER FROM BRIDGE.
11. INSTALL BARRELS.
12. COMPLETE INSTALLATION OF SHEET MEMBRANE WATERPROOFING AND PLACEMENT OF 3" BITUMINOUS CONCRETE PAVEMENT (TWO LIFTS).
13. PLACE NEW PAVEMENT MARKINGS.
14. COMPLETE MISCELLANEOUS CONSTRUCTION.

PROJECT NAME: SPRINGFIELD

PROJECT NUMBER: BHF 016-2(14)

FILE NAME: 06J004\str\s06J004trf.dgn

PROJECT LEADER: R.WHITCOMB

DESIGNED BY: D. PETERSON

PHASE CONSTRUCTION TYPICALS

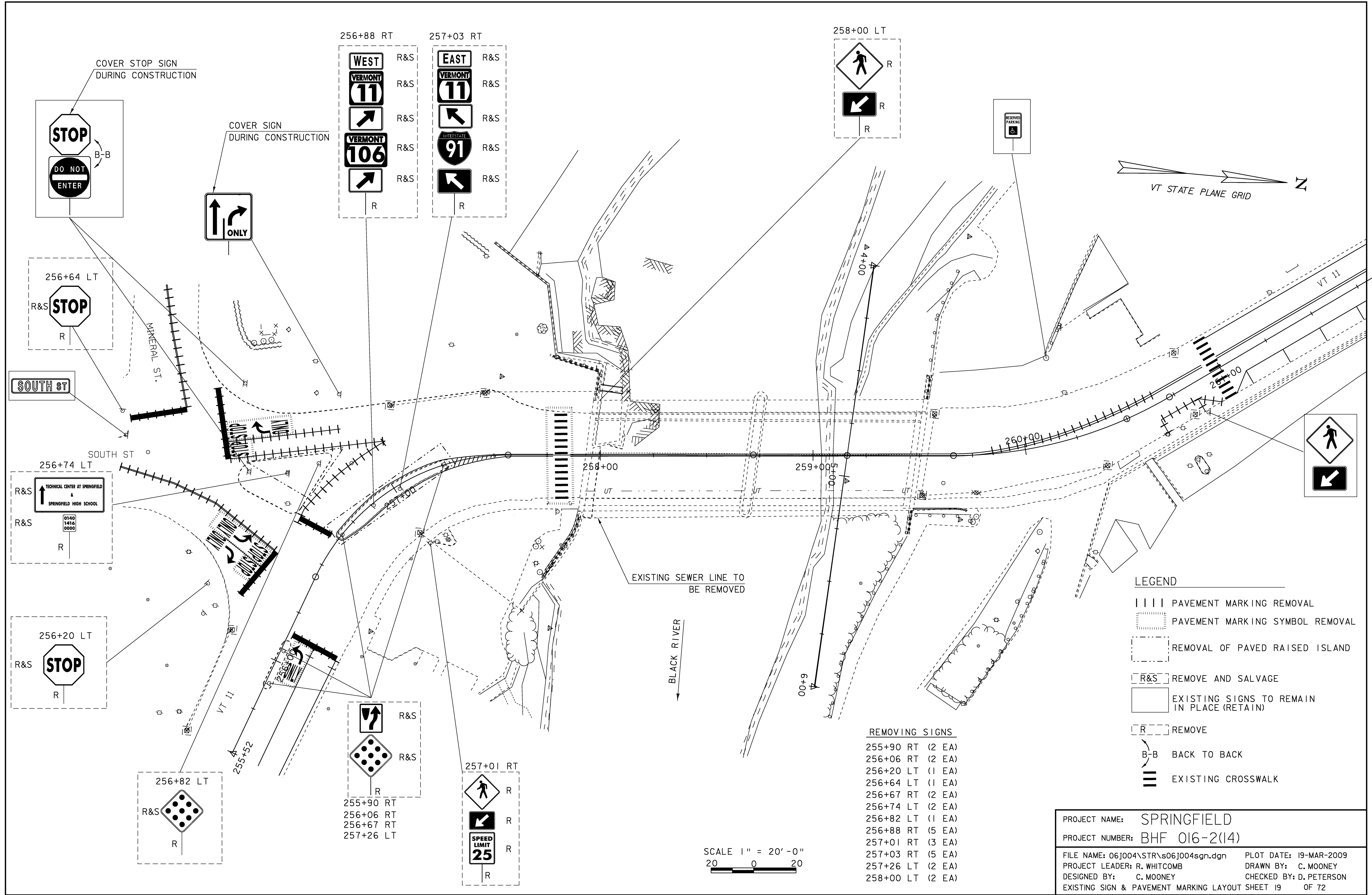
PLOT DATE: 04-MAR-2009

DRAWN BY: C. MOONEY

CHECKED BY: C. CARLSON

SHEET 18 OF 72







| LEGEND |                                                                                 |
|--------|---------------------------------------------------------------------------------|
|        | REFLECTORIZED PLASTIC DRUMS (SEE STD. E-106)                                    |
|        | PRECAST CONCRETE TEMPORARY TRAFFIC BARRIER (SEE STD. G-18)                      |
|        | TYPE III BARRICADE (SEE STD. E-107)                                             |
|        | TYPE III BARRICADE (MOD.) (SEE STD. E-107A)                                     |
|        | TEMPORARY (4 inch) WHITE OR YELLOW LINE                                         |
|        | ENERGY ABSORPTION ATTENUATOR<br>(SEE GENERAL NOTES SHEET REGARDING ATTENUATORS) |
|        | FLOW OF TRAFFIC                                                                 |
|        | TEMPORARY CROSSWALK MARKING                                                     |
|        | DETECTABLE WARNING SURFACE                                                      |
|        | EXISTING CROSSWALK MARKING                                                      |

PORTLAND CEMENT CONCRETE  
SIDEWALK, 5' INCH

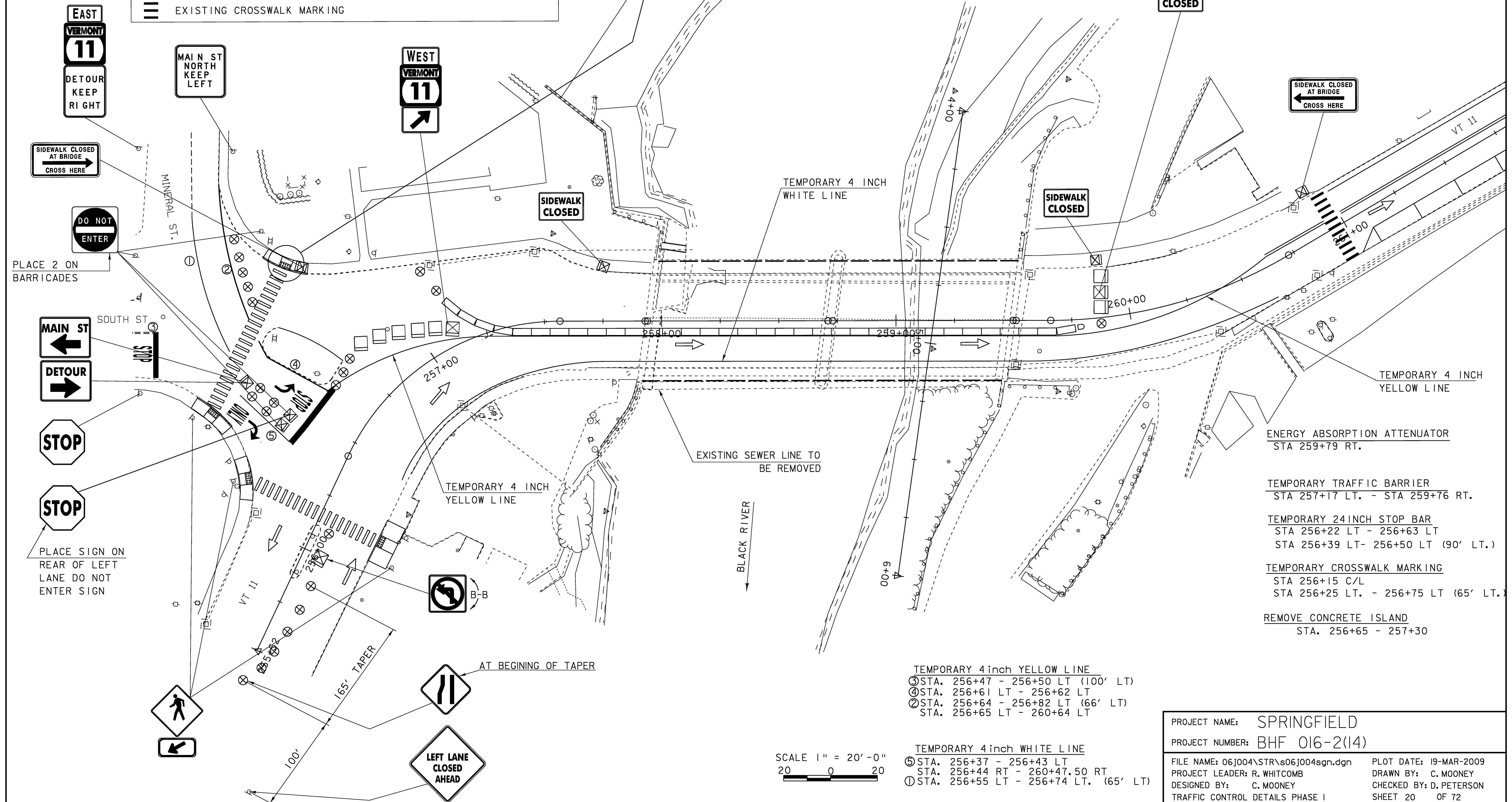
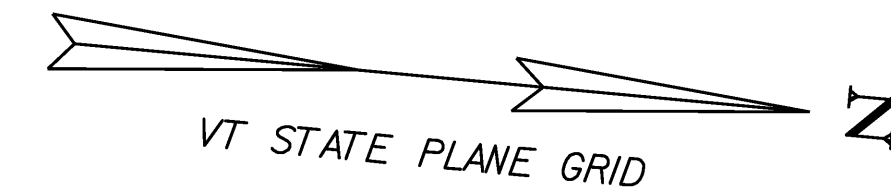
STA. 256+06.83 RT - 256+25.70 RT  
STA. 256+09.06 LT - 256+23.32 LT  
STA. 256+31.60 LT - 256+36.34 LT (51' LEFT)  
STA. 256+80.89 LT - 256+92.50 LT (61' LEFT)

DETECTABLE WARNING SURFACE

STA 256+18 LT  
STA 256+18 RT  
STA 256+36 LT  
STA 256+85 LT

TEMPORARY LETTER OR SYMBOL

STA. 256+45 LT STOP  
STA. 256+53 LT STOP  
STA. 256+53 LT   
STA. 256+53 LT ONLY



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

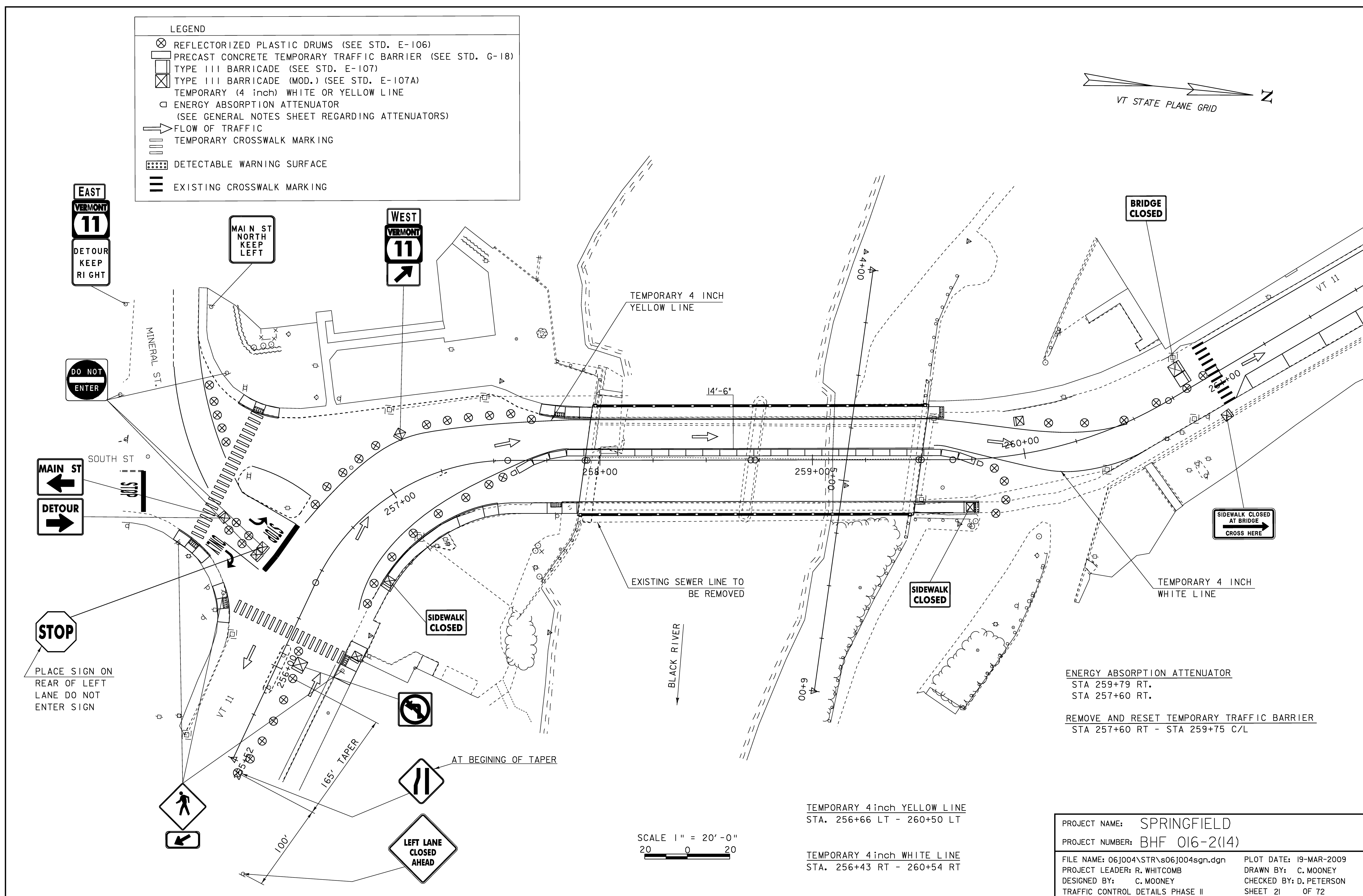
TEMPORARY 4 inch YELLOW LINE  
③ STA. 256+47 - 256+50 LT (100' LT.)  
④ STA. 256+61 LT - 256+62 LT  
② STA. 256+64 - 256+82 LT (66' LT.)  
STA. 256+65 LT - 260+64 LT

TEMPORARY 4 inch WHITE LINE  
⑤ STA. 256+37 - 256+43 LT  
STA. 256+44 RT - 260+47.50 RT  
① STA. 256+55 LT - 256+74 LT. (65' LT.)

PROJECT NAME: SPRINGFIELD  
PROJECT NUMBER: BHF 016-2(14)

FILE NAME: 06J004\STR\s06J004sgn.dgn PLOT DATE: 19-MAR-2009  
PROJECT LEADER: R. WHITCOMB DRAWN BY: C. MOONEY  
DESIGNED BY: C. MOONEY CHECKED BY: D. PETERSON  
TRAFFIC CONTROL DETAILS PHASE I SHEET 20 OF 72





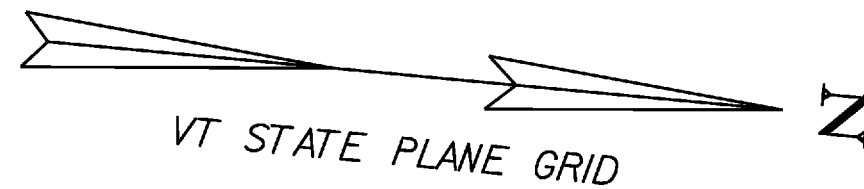


LEGEND

S SALVAGE  
N NEW

TRAFFIC SIGNS, TYPE A

257+01 RT



DURABLE CROSSWALK MARKING

257+82 (41 FT)  
260+97 (32 FT.)

DURABLE 24 INCH STOP BAR

256+14 RT (24 FT)  
256+65 LT (18 FT)  
256+66 LT - 256+78 LT (32 FT)  
256+18 LT - 256+46 LT (30 FT)

DURABLE LETTER OR SYMBOL

|           |      |           |      |
|-----------|------|-----------|------|
| 256+70 LT | STOP | 256+43 LT | STOP |
| 256+73 LT | STOP | 256+45 LT | STOP |
| 256+79 LT | STOP | 256+46 LT | STOP |
| 256+83 LT | STOP | 256+65 LT | STOP |
| 256+00 RT | STOP |           |      |
| 256+35 LT | STOP |           |      |
| 256+38 LT | STOP |           |      |
| 256+40 LT | STOP |           |      |

ERECTING SALVAGED SIGNS

255+90 RT (2 EA)  
256+06 RT (2 EA)  
256+20 LT (1 EA)  
256+64 LT (1 EA)  
256+67 RT (2 EA)  
256+74 LT (2 EA)  
256+82 LT (1 EA)  
256+88 RT (5 EA)  
257+03 RT (5 EA)  
257+26 LT (2 EA)  
257+82 LT (2 EA)  
257+82 RT (2 EA)

DURABLE 4 INCH YELLOW LINE

256+65 LT - 260+64 LT (DOUBLE)  
SOUTH ST 17 FT (DOUBLE)  
SOUTH ST 42 FT

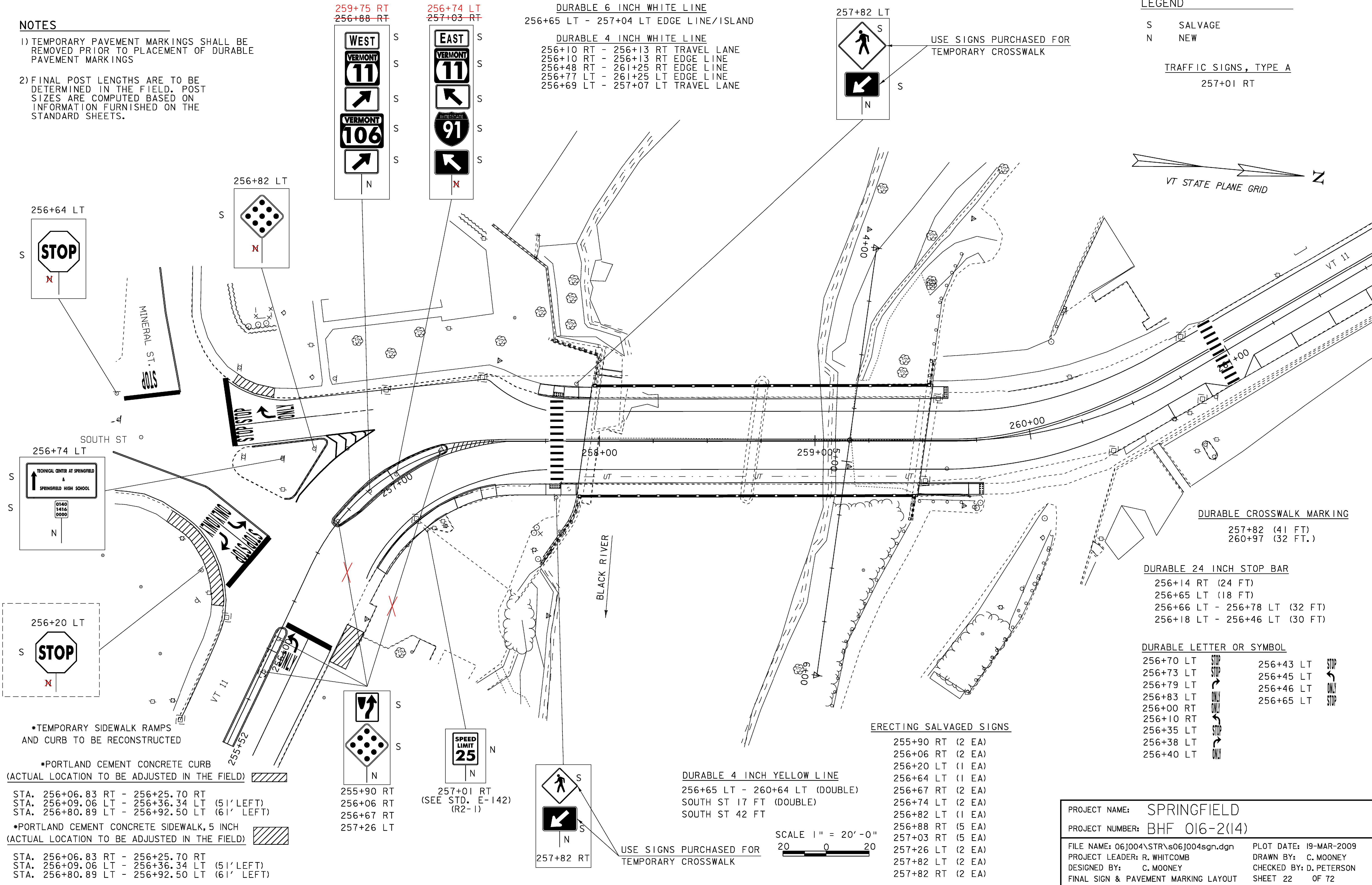
SCALE 1" = 20' - 0"  
20 0 20

DURABLE 6 INCH WHITE LINE  
256+65 LT - 257+04 LT EDGE LINE/ISLAND

DURABLE 4 INCH WHITE LINE  
256+10 RT - 256+13 RT TRAVEL LANE  
256+10 RT - 256+13 RT EDGE LINE  
256+48 RT - 261+25 RT EDGE LINE  
256+77 LT - 261+25 LT EDGE LINE  
256+69 LT - 257+07 LT TRAVEL LANE

NOTES

- 1) TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO PLACEMENT OF DURABLE PAVEMENT MARKINGS
- 2) FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS.



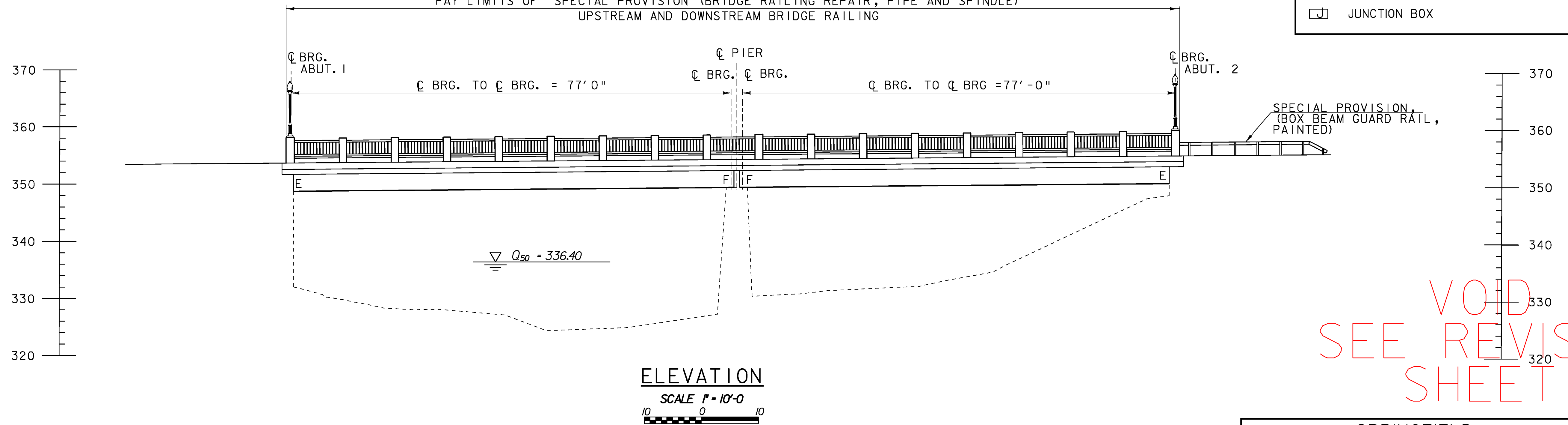
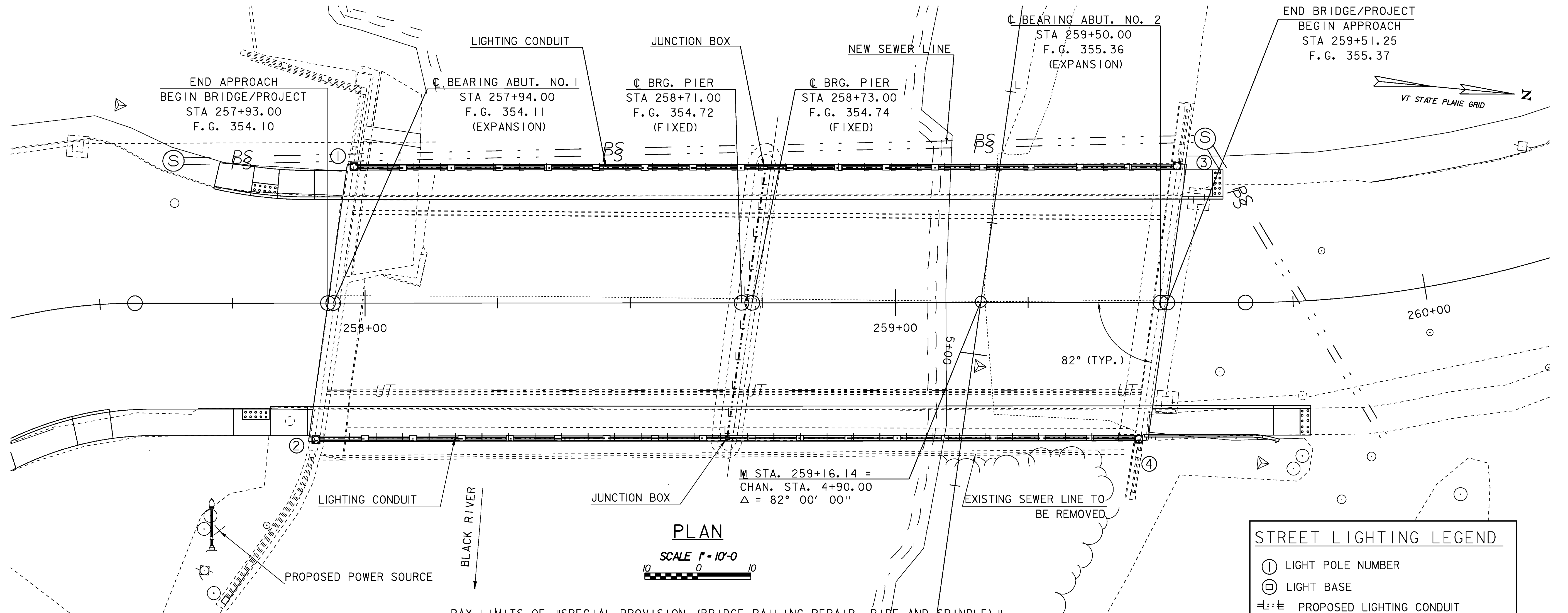
PROJECT NAME: SPRINGFIELD

PROJECT NUMBER: BHF 016-2(14)

FILE NAME: 06J004\STR\s06J004sgn.dgn  
PROJECT LEADER: R. WHITCOMB  
DESIGNED BY: C. MOONEY  
FINAL SIGN & PAVEMENT MARKING LAYOUT

PLOT DATE: 19-MAR-2009  
DRAWN BY: C. MOONEY  
CHECKED BY: D. PETERSON  
SHEET 22 OF 72

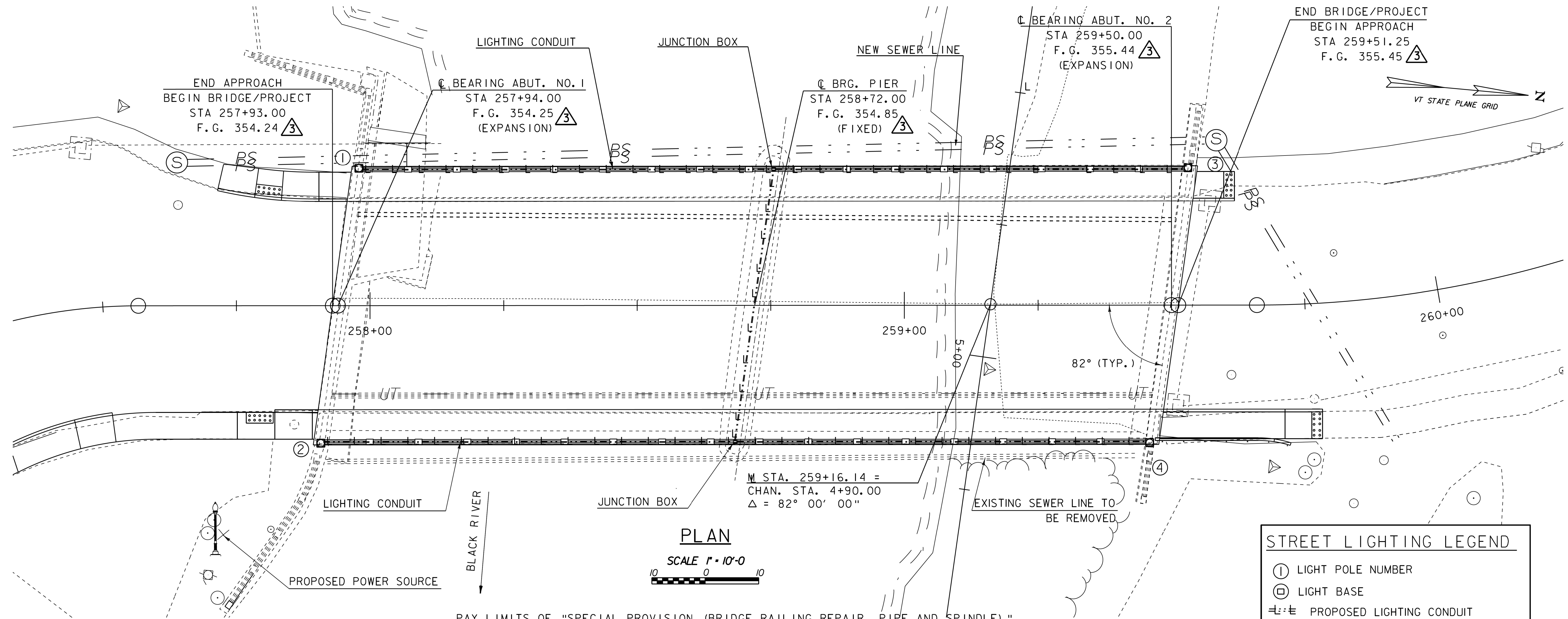




VOID  
SEE REVISED  
SHEET

|                                     |                        |
|-------------------------------------|------------------------|
| PROJECT NAME: SPRINGFIELD           |                        |
| PROJECT NUMBER: BHF 016-2(14)       |                        |
| FILE NAME: 06J004/str/s06J004pe.dgn | PLOT DATE: 19-MAR-2009 |
| PROJECT LEADER: R. WHITCOMB         | DRAWN BY: D. PETERSON  |
| DESIGNED BY: D. PETERSON            | CHECKED BY: C. CARLSON |
| PLAN AND ELEVATION SHEET            | SHEET 23 OF 72         |



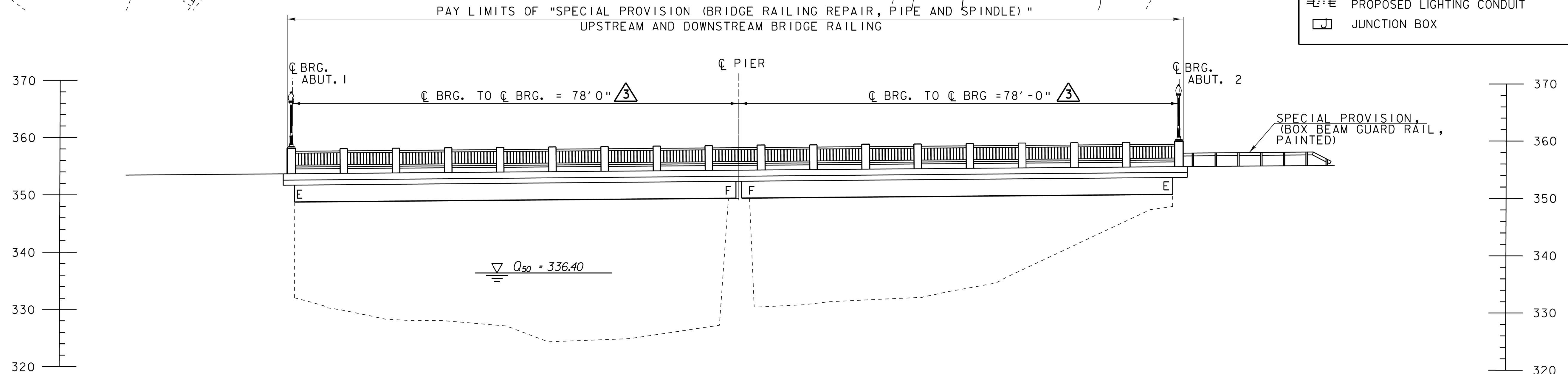


PLAN

SCALE 1" = 10'-0"

STREET LIGHTING LEGEND

- ① LIGHT POLE NUMBER
- ⊕ LIGHT BASE
- +—+— PROPOSED LIGHTING CONDUIT
- JUNCTION BOX



ELEVATION

SCALE 1" = 10'-0"

| REV. | BY  | DATE    | DESCRIPTION                                   |
|------|-----|---------|-----------------------------------------------|
| 3    | LBB | 5/26/09 | CHANGED FINISH GRADE AND LENGTH TO CL BEARING |

PROJECT NAME: SPRINGFIELD  
PROJECT NUMBER: BHF 016-2(14)

FILE NAME: 06j004/str/s06j004pe.dgn  
PROJECT LEADER: R. WHITCOMB  
DESIGNED BY: D. PETERSON  
PLAN AND ELEVATION SHEET

PLOT DATE: 10-AUG-2011  
DRAWN BY: D. PETERSON  
CHECKED BY: C. CARLSON  
SHEET 23 OF 72



STREET LIGHTING NOTES

A. CONDUIT AND JUNCTION BOXES

- 1. 2 INCH (INSIDE DIAMETER) CONDUIT SHALL BE USED THROUGHOUT THE PROJECT. ALL CONDUIT SHALL BE PVC SCHEDULE 80 CONDUIT AS DETAILED IN THESE PLANS.
- 2. SEE SUBSECTION 679.04 CONCERNING THE PLACING OF CONDUIT, PULL BOXES AND JUNCTION BOXES.

B. GROUNDING

- 1. ALUMINUM WIRE SHALL NOT BE USED FOR GROUND WIRE.
- 2. SEE SUBSECTION 679.08 CONCERNING GROUNDING AND TESTING.

C. LUMINAIRES, POLES, ANCHOR BASES

- 1. EACH EXISTING POLE SHALL BE MOUNTED TO A NEW RAILING POST WITH FOUR ANCHOR BOLTS, NUTS, AND WASHERS. SEE "LIGHT POST BASE DETAILS" ON SHEET 31 FOR ANCHORAGE TO BRIDGE. POLE WIRING ACCESS SHALL BE THROUGH THE EXISTING HANDHOLE IN POLE BASE.
- 2. LAMPS SHALL BE "175 WATT HIGH PRESSURE SODIUM".

D. WIRE

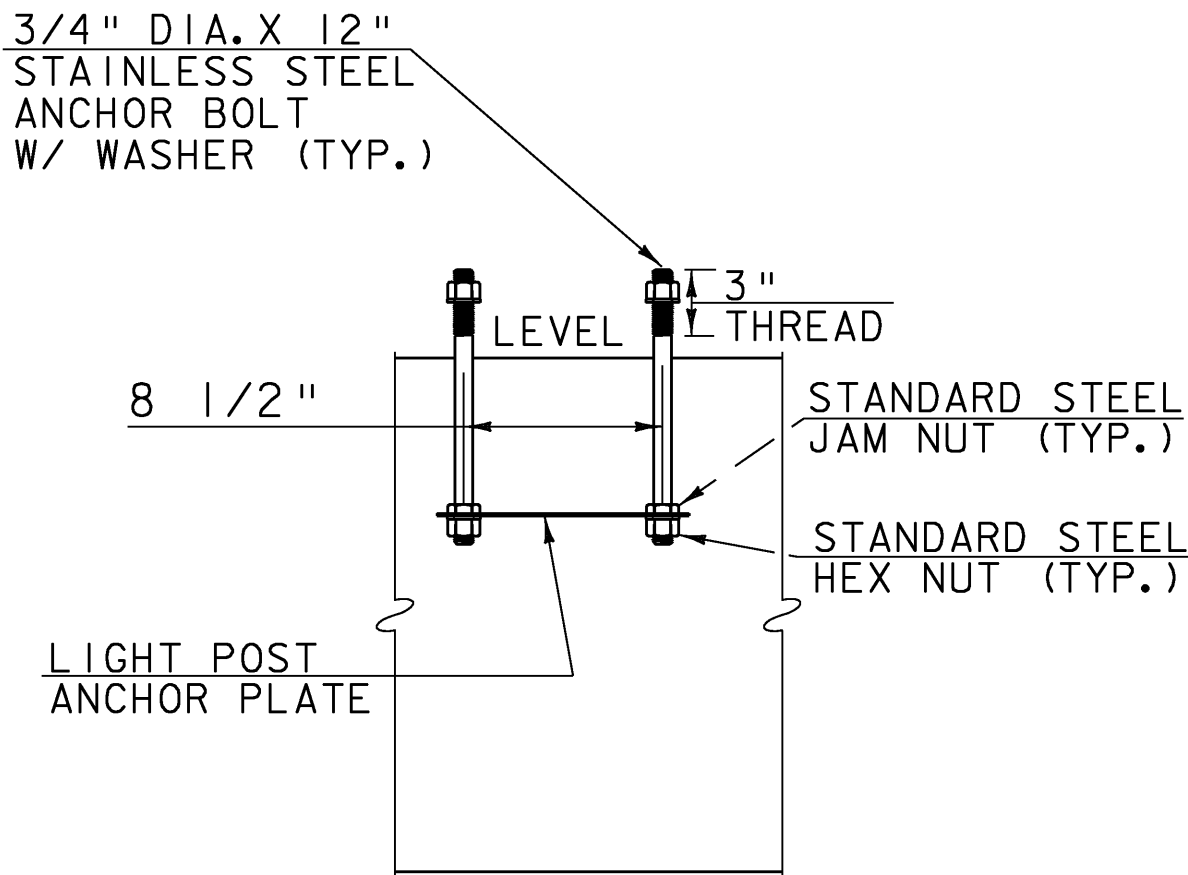
- 1. ALL WIRING BETWEEN THE METER AND THE FIRST POLE AND/OR PULLBOX AND BETWEEN POLES AND/OR PULLBOXES SHALL BE COPPER AND CONFORM TO SUBSECTION 679.02 (c). ALL WIRE SHALL HAVE TYPE XHHW INSULATION OR EQUIVALENT.
- 2. ALL CONDUITS SHALL INCLUDE A GROUNDING CONDUCTOR.
- 3. SEE SUBSECTIONS 678.09, 679.06 AND 679.07 CONCERNING ELECTRIC POWER SERVICE AND WIRING.

E. GENERAL

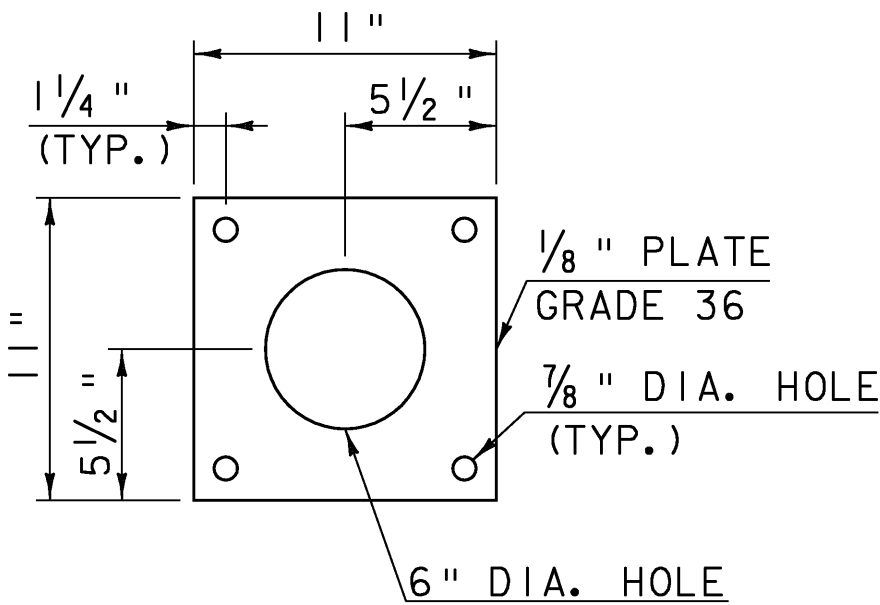
- 1. ALL ELECTRICAL MATERIAL AND INSTALLATION SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE, STATE AND LOCAL CODES AND THE LOCAL UTILITY COMPANY REQUIREMENTS.
- 2. THE LOAD ON EACH BRANCH OF A THREE WIRE CIRCUIT SHALL BE AS BALANCED AS POSSIBLE. LOAD TO NEUTRAL.
- 3. CONDUIT LOCATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE. ACTUAL LOCATIONS SHALL BE DETERMINED IN THE FIELD.
- 4. THE CONTRACTOR SHALL CONTACT UTILITY COMPANIES WITH UNDERGROUND FACILITIES WHEN EXCAVATING IN THE AREA OF THESE UTILITIES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR CONTACTING AND SCHEDULING WORK WITH LOCAL UTILITIES WITH FACILITIES IN THE PROJECT AREA FOR LOCATION OF POWER SOURCES.
- 5. ONE PHOTOCELL FOR THE LIGHTING CIRCUIT SHALL BE LOCATED AT THE POWER SOURCE OR SOME COMMON POINT, AS DIRECTED BY THE ENGINEER.
- 6. THE CONTRACTOR MAY OPEN THE BRIDGE TO TRAFFIC WITHOUT THE STREET LIGHTING IN OPERATION.
- 7. IF THE LOCATION OF THE POWER SOURCE, JUNCTION BOX, AND METER VARIES FROM THE PROPOSED LOCATIONS SHOWN ON THE PLANS, THE NEW LOCATION WILL BE APPROVED BY THE ENGINEER AND THE TOWN OF SPRINGFIELD.

F. WORK TO BE PERFORMED BY THE CONTRACTOR

- 1. COORDINATE ALL ITEMS REGARDING PROJECT POWER WITH THE TOWN OF SPRINGFIELD BEFORE COMMENCING WORK.
- 2. REMOVE, CLEAN AND PAINT EXISTING POLES.
- 3. INSTALL ALL EXISTING LIGHT POLES AND LUMINAIRES, LAMPS, WIRING AND DISCONNECT PLUG KITS.
- 4. INSTALL ALL JUNCTION BOXES, THE CONDUIT, PHOTOCELL AND WIRING AS DETAILED ON PLAN DRAWINGS.
- 5. INSTALL REMOTE TWO RELAYS WITH CIRCUIT BREAKERS FOR AUTOMATIC SWITCHING OF THE TWO LIGHTING CIRCUITS.
- 6. THE CONTRACTOR IS DIRECTED TO SUBSECTION 679.09 REGARDING POWER COSTS FOR THE STREET LIGHTING.
- 7. PAYMENT FOR THE LIGHTING WORK SHALL BE MADE UNDER 900.620, "SPECIAL PROVISION (REMOVING, REFURBISHING, AND RESETTNG LIGHT POST)."



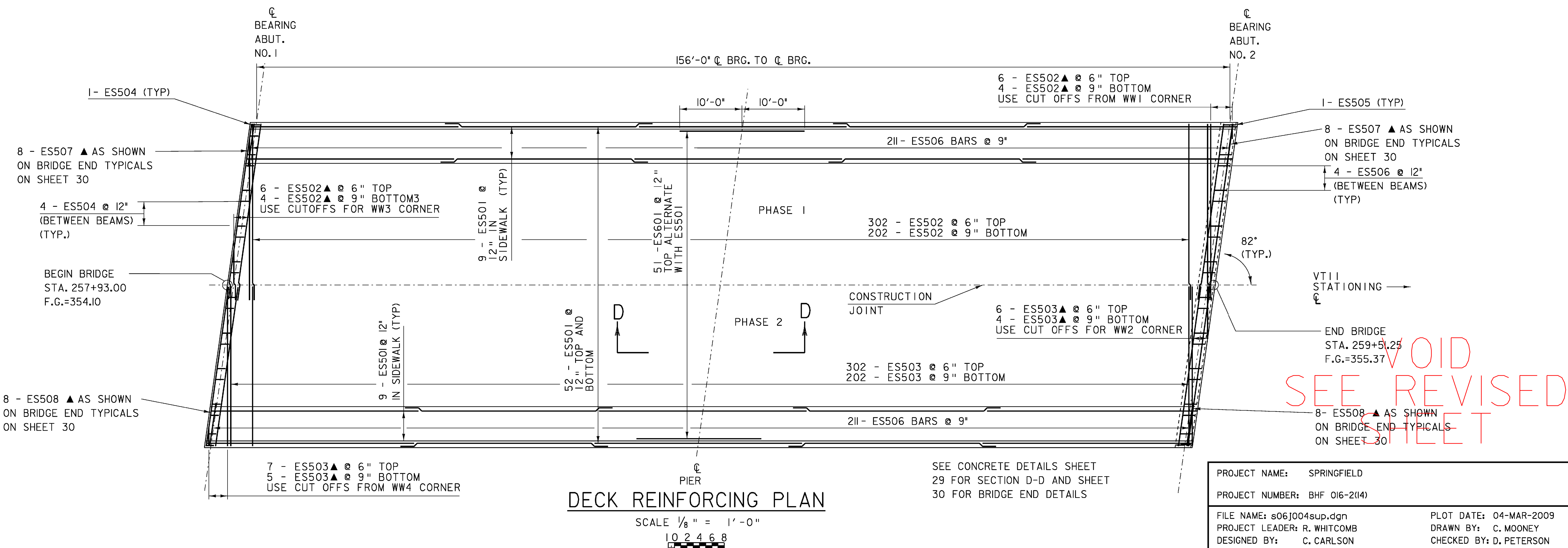
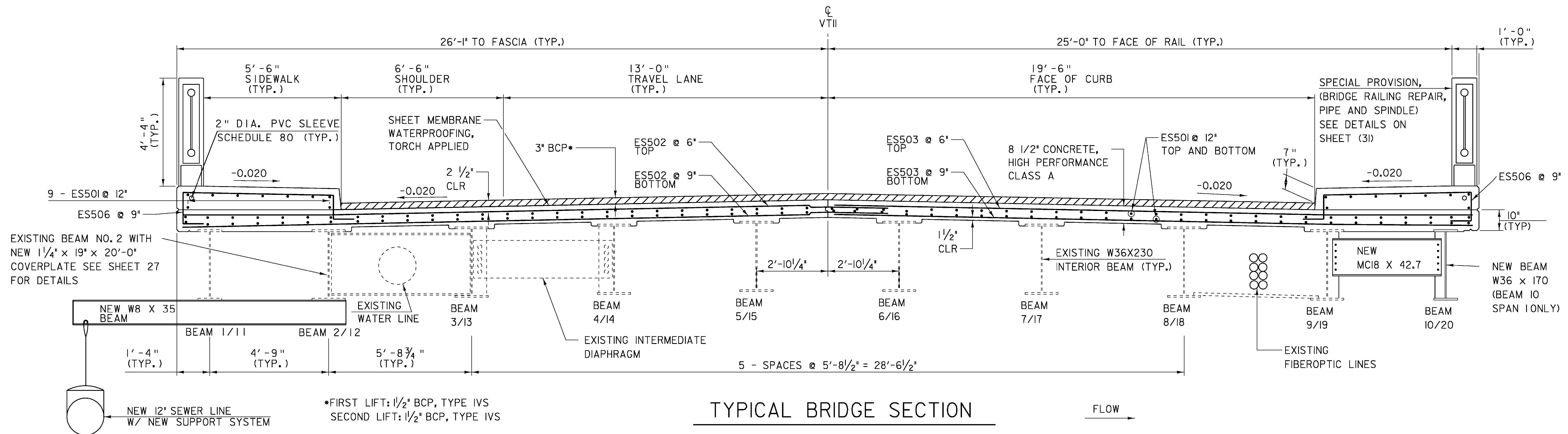
LIGHT POST ANCHOR ASSEMBLY  
(NTS)



LIGHT POST ANCHOR PLATE  
(NTS)

|                               |                        |
|-------------------------------|------------------------|
| PROJECT NAME: SPRINGFIELD     |                        |
| PROJECT NUMBER: BHF 016-2(14) |                        |
| FILE NAME: s06J004rail.dgn    | PLOT DATE: 04-MAR-2009 |
| PROJECT LEADER: R. WHITCOMB   | DRAWN BY: D. PETERSON  |
| DESIGNED BY: C. CARLSON       | CHECKED BY: C. CARLSON |
| LIGHTING NOTES SHEET          | SHEET 24 OF 72         |













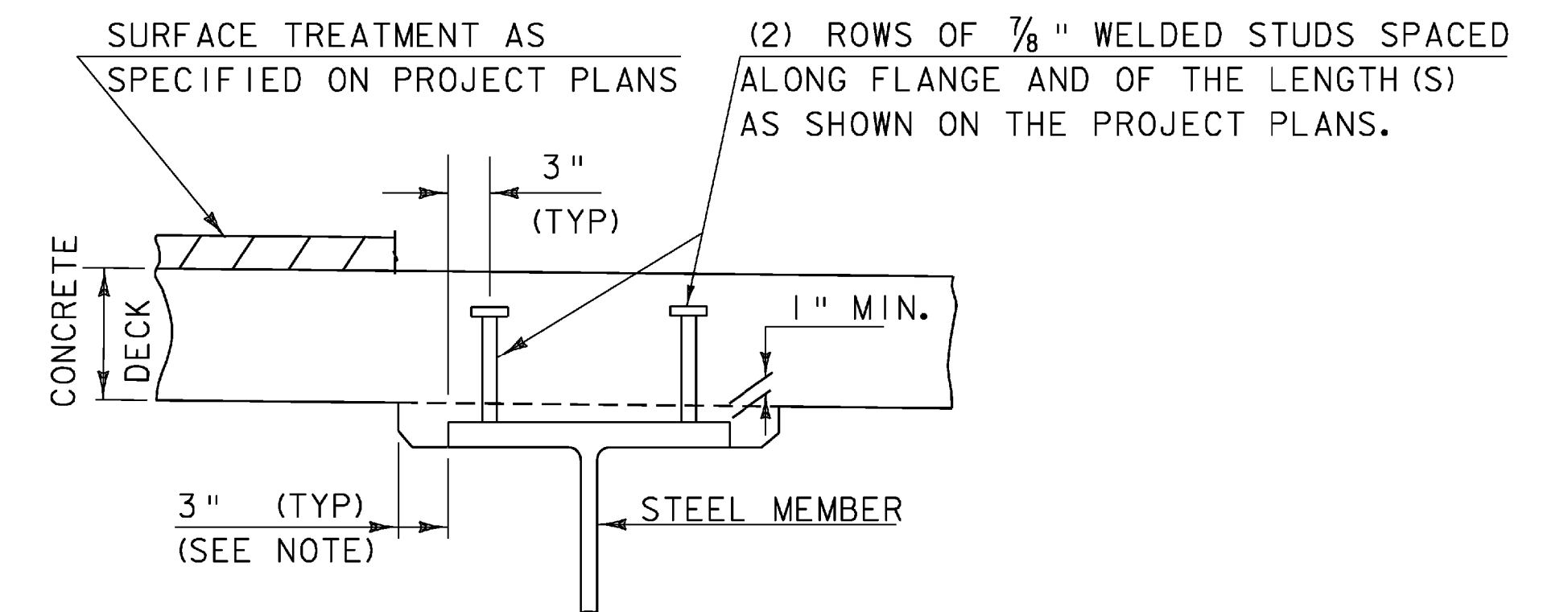
| REV. | BY  | DATE    | DESCRIPTION                        |
|------|-----|---------|------------------------------------|
| ③    | LBB | 5/26/09 | REVISED BANKING AND FINISHED GRADE |

PROJECT NAME: SPRINGFIELD  
PROJECT NUMBER: BHF 016-2(14)

FILE NAME: s06j004sup.dgn  
PROJECT LEADER: R. WHITCOMB  
DESIGNED BY: C. CARLSON  
DECK REINFORCING PLAN

PLOT DATE: 09-AUG-2011  
DRAWN BY: C. MOONEY  
CHECKED BY: D. PETERSON  
SHEET 25 OF 72



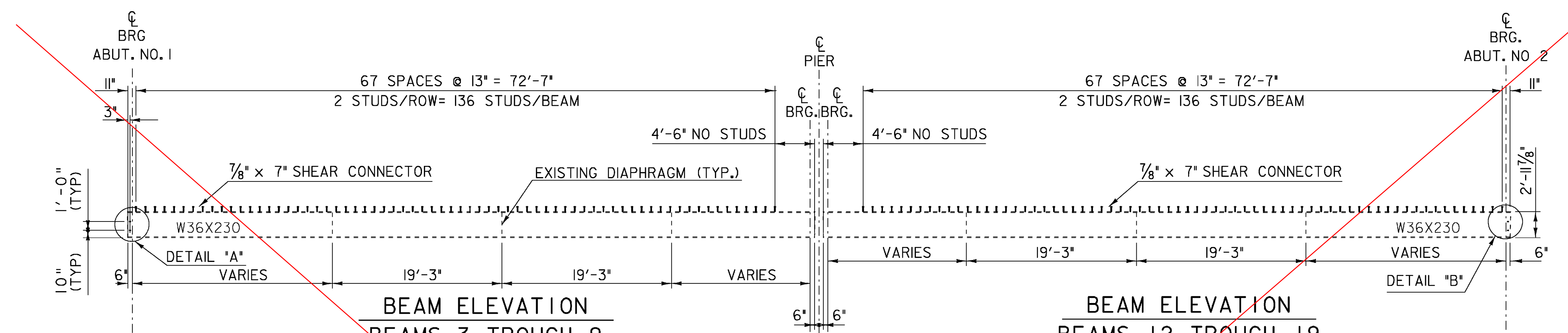


HAUNCH AND SHEAR CONNECTOR DETAIL  
(NOT TO SCALE)

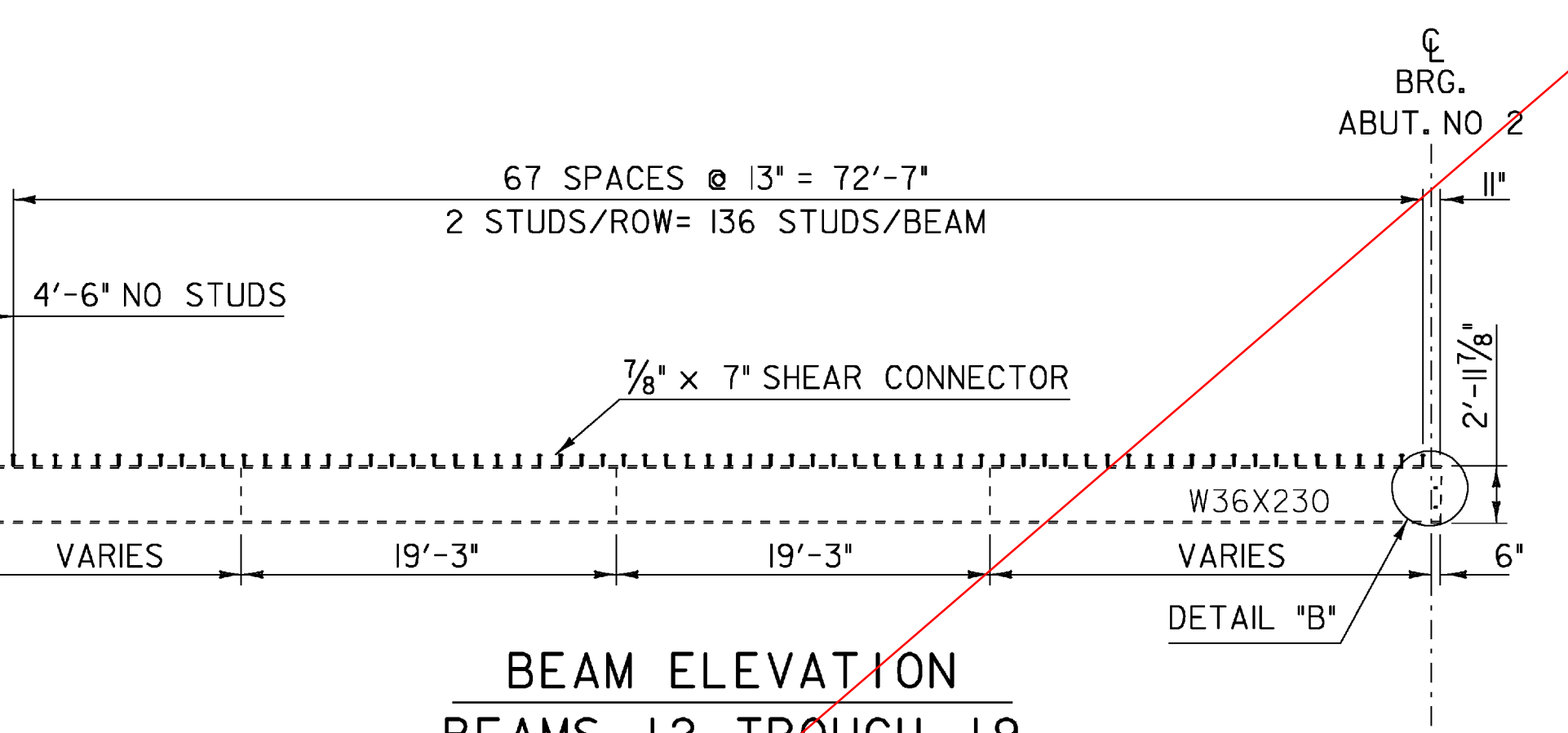


PLOT DATE: 24-MAR-2009  
DRAWN BY: C. MOONEY  
CHECKED BY: D. PETERSON  
SHEET 26 OF 72

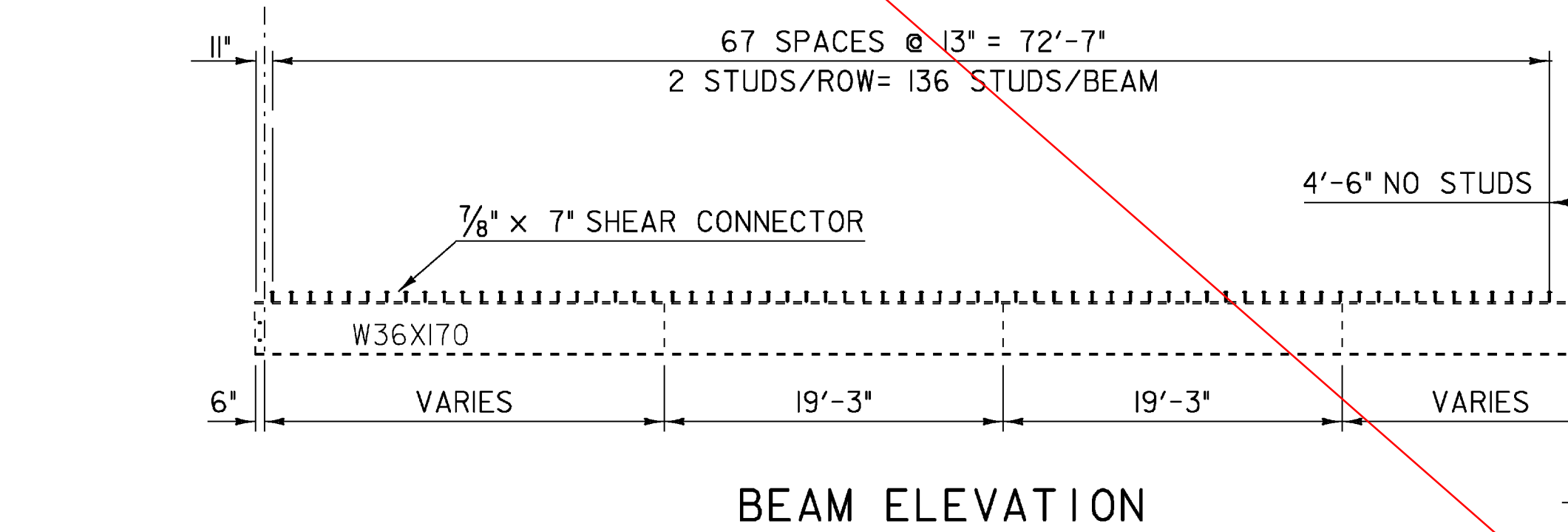




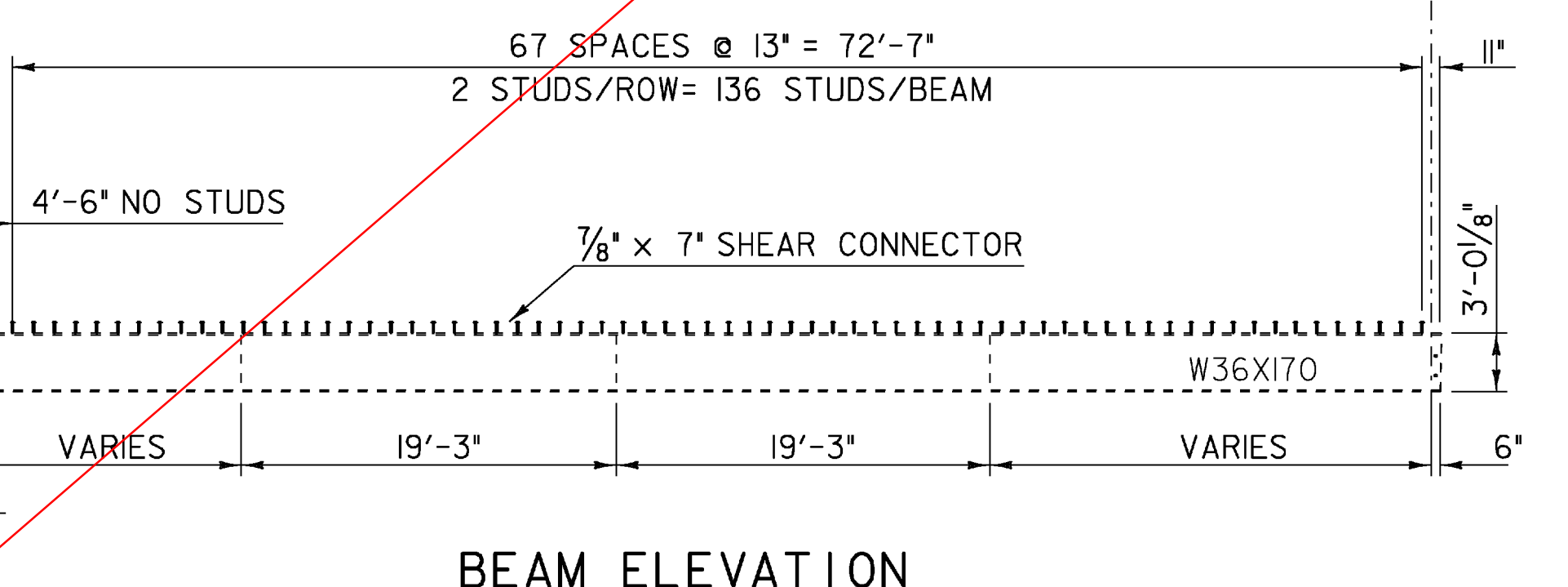
BEAM ELEVATION  
BEAMS 3 THROUGH 9  
SCALE 1/8" = 1'-0"  
1 0 2 4 6 8



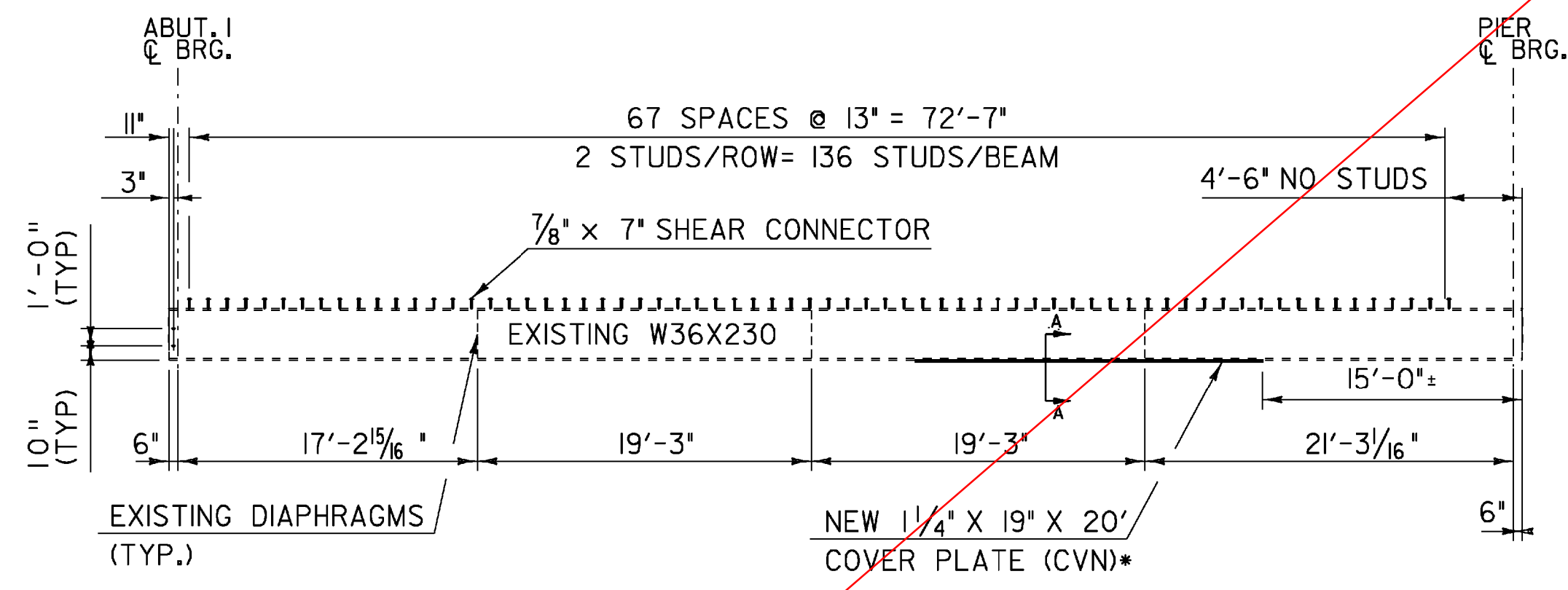
BEAM ELEVATION  
BEAMS 12 THROUGH 19  
SCALE 1/8" = 1'-0"  
1 0 2 4 6 8



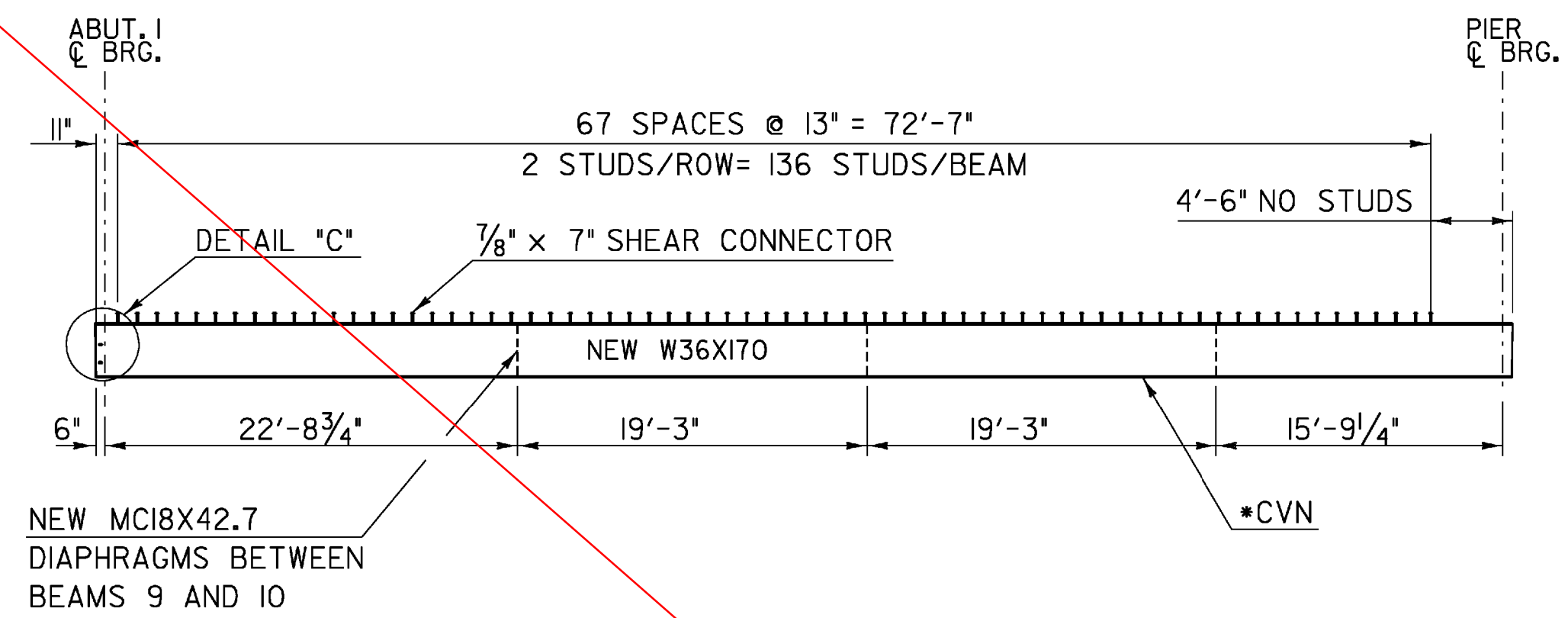
BEAM ELEVATION  
BEAM 1  
SCALE 1/8" = 1'-0"  
1 0 2 4 6 8



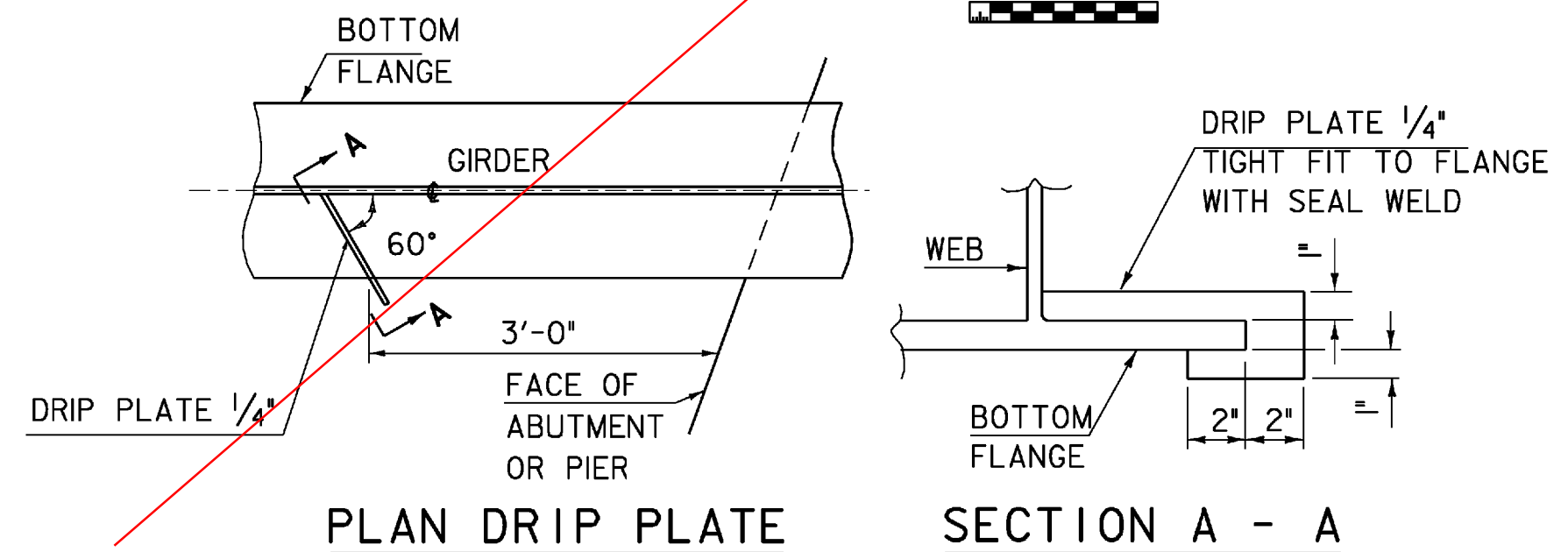
BEAM ELEVATION  
BEAMS 11 AND 20  
SCALE 1/8" = 1'-0"  
1 0 2 4 6 8



BEAM ELEVATION  
BEAM 2  
SCALE 1/8" = 1'-0"  
1 0 2 4 6 8

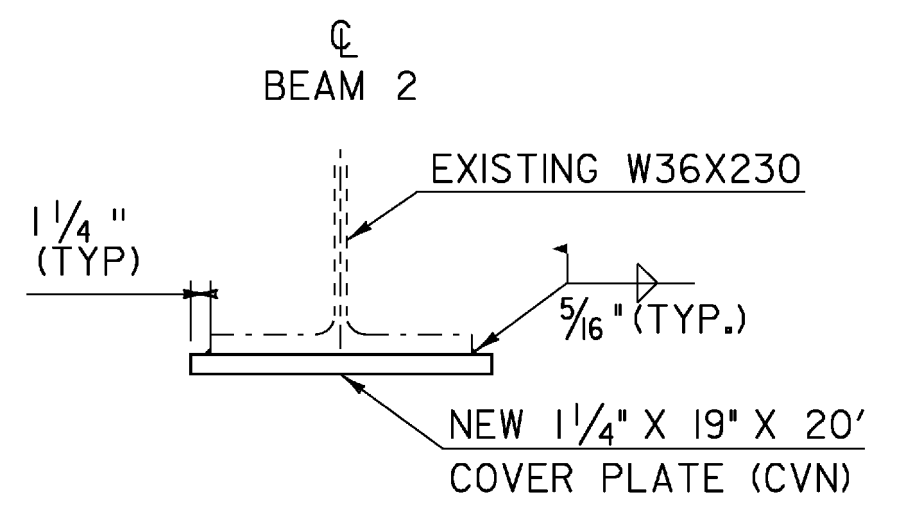


BEAM ELEVATION  
BEAM 10  
SCALE 1/8" = 1'-0"  
1 0 2 4 6 8

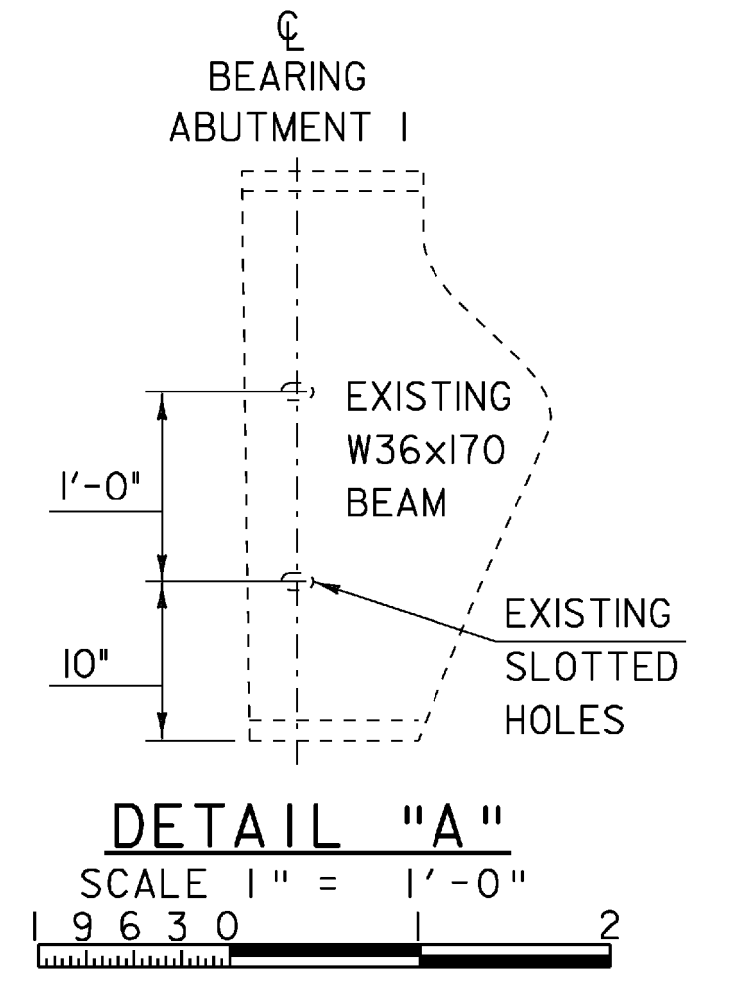


PLAN DRIP PLATE

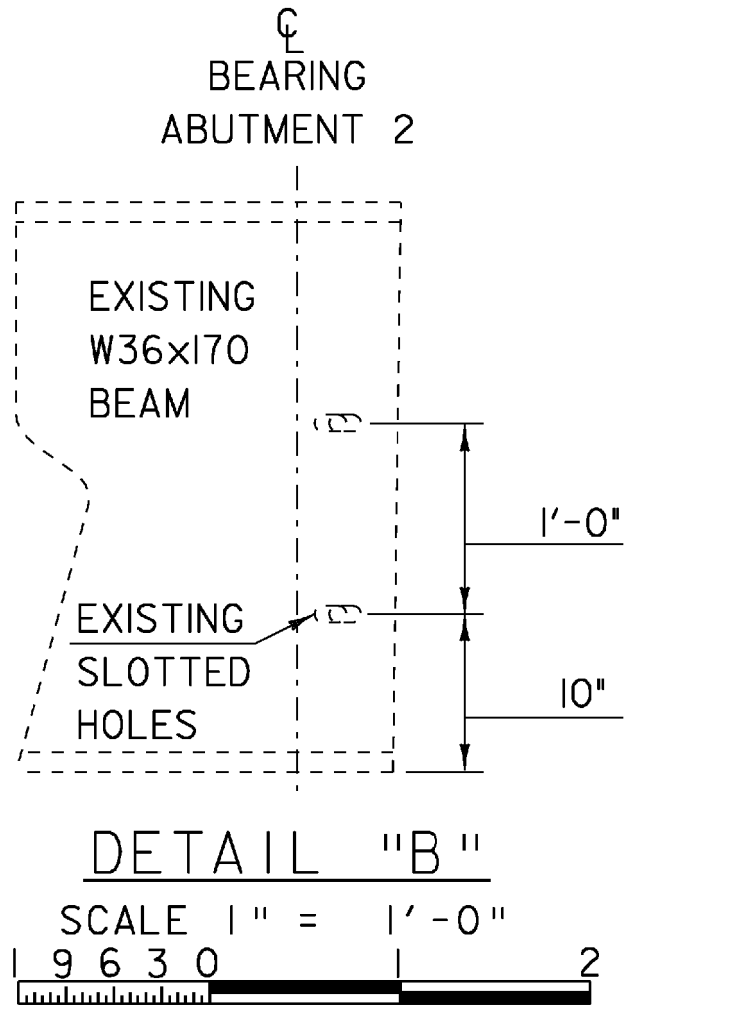
SECTION A - A



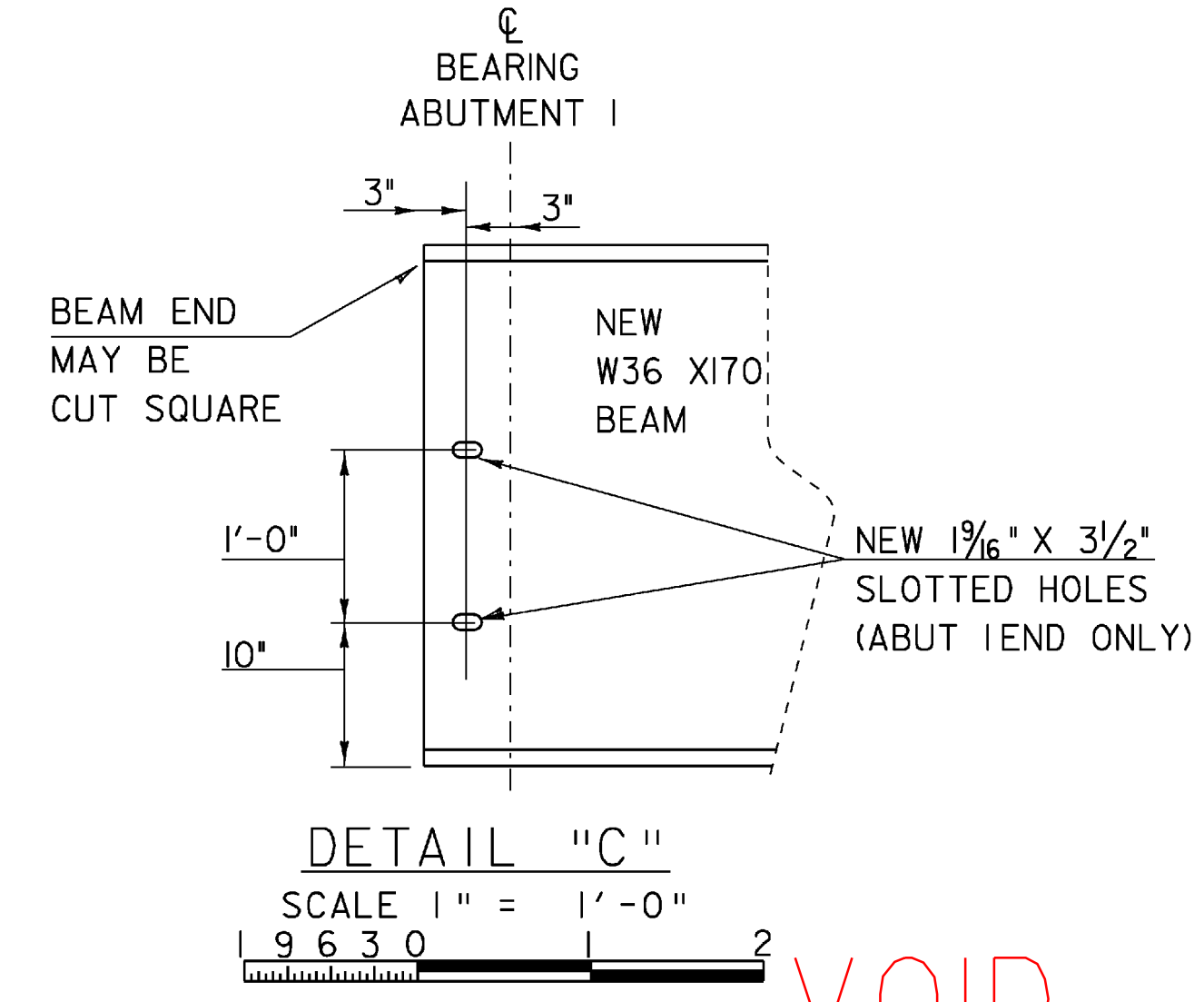
COVER PLATE DETAIL  
SCALE 1" = 1'-0"  
1 9 6 3 0 2



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



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



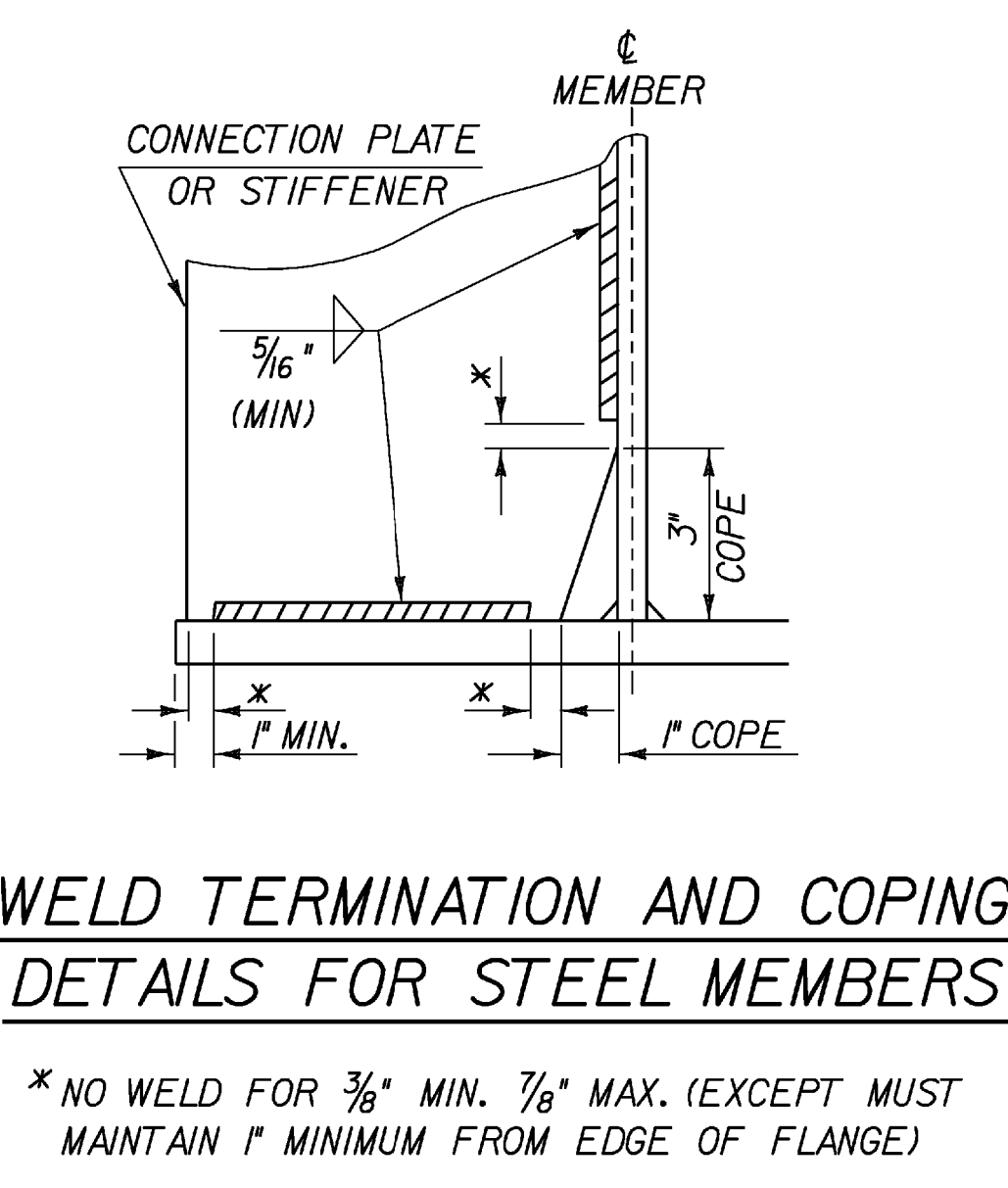
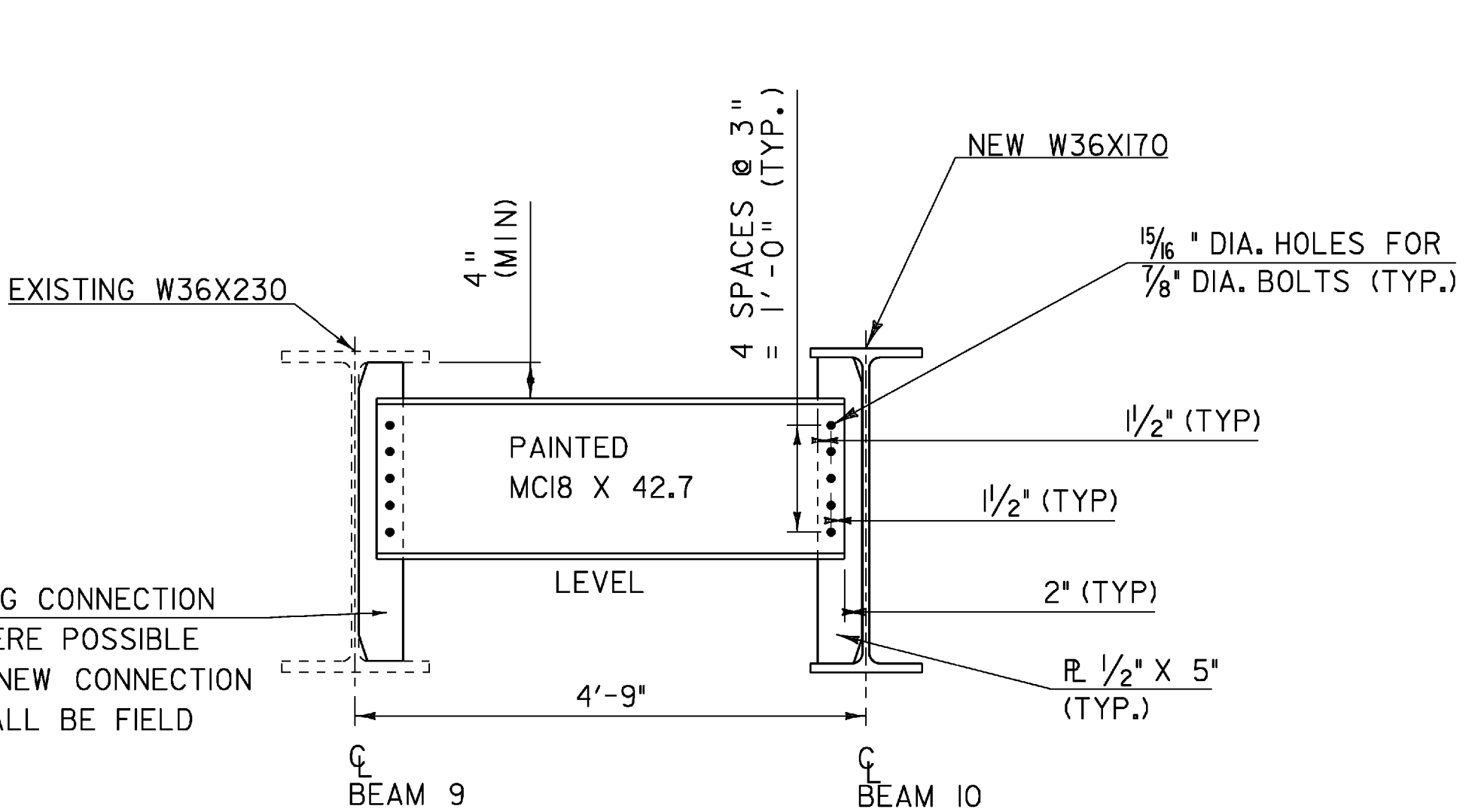
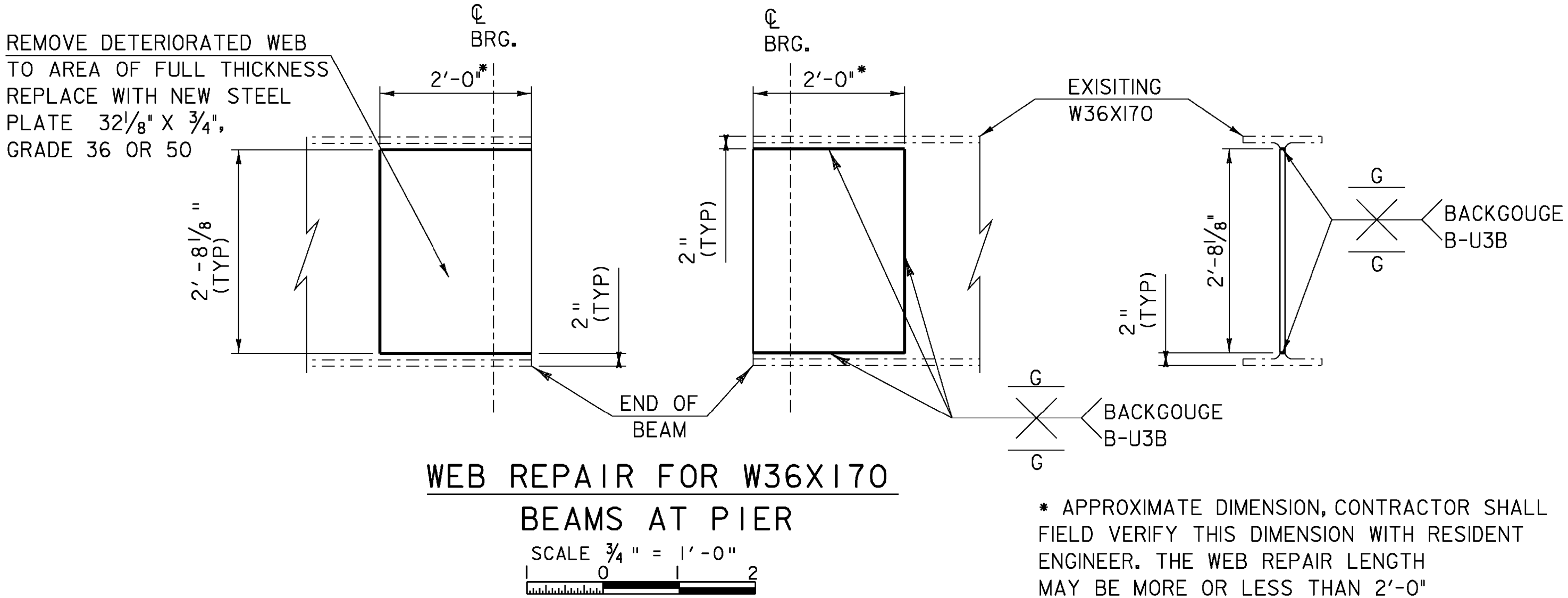
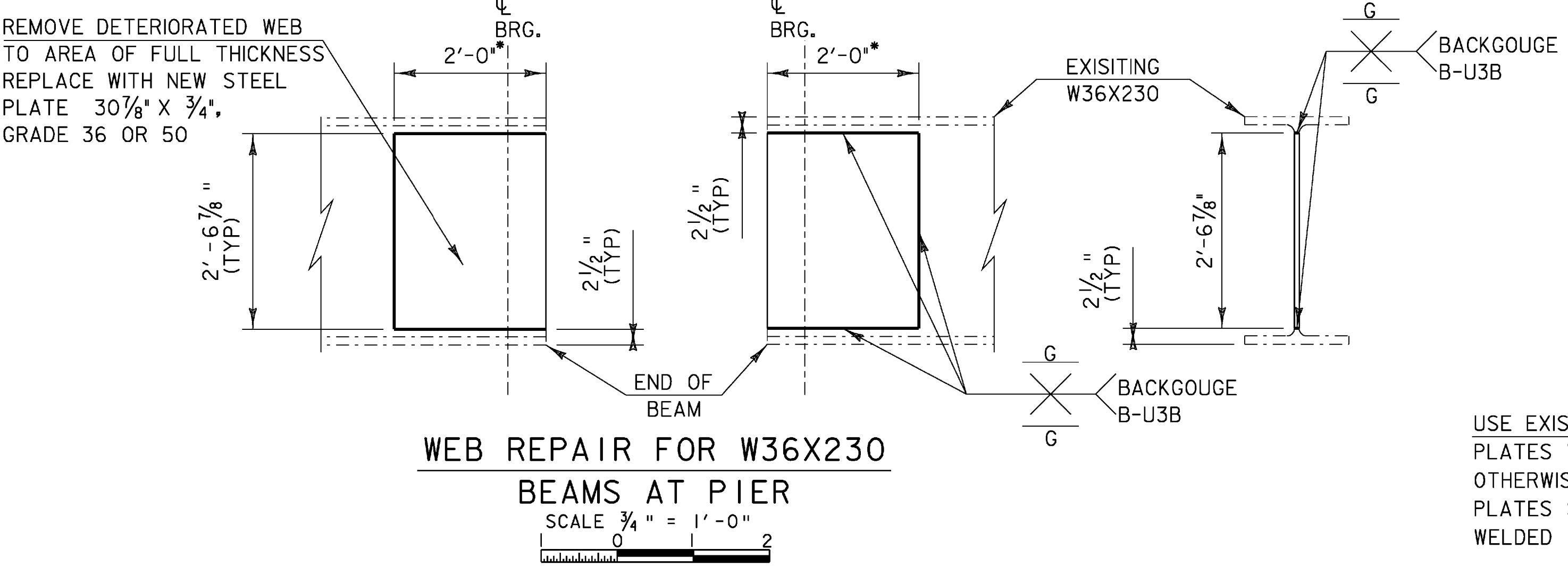
DETAIL "C"  
SCALE 1" = 1'-0"  
1 9 6 3 0 2

VOID

NOTE:  
DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF  
BEAM NO.10 AT ABUTMENT NO.1.

|                 |               |                                  |                |             |             |
|-----------------|---------------|----------------------------------|----------------|-------------|-------------|
| PROJECT NAME:   | SPRINGFIELD   | FILE NAME:                       | s06j004sup.dgn | PLOT DATE:  | 04-MAR-2009 |
| PROJECT NUMBER: | BHF 016-2(14) | PROJECT LEADER:                  | R. WHITCOMB    | DRAWN BY:   | C. MOONEY   |
|                 |               | DESIGNED BY:                     | C. CARLSON     | CHECKED BY: | D. PETERSON |
|                 |               | STRUCTURAL STEEL ELEVATION SHEET |                | SHEET 27    | OF 72       |

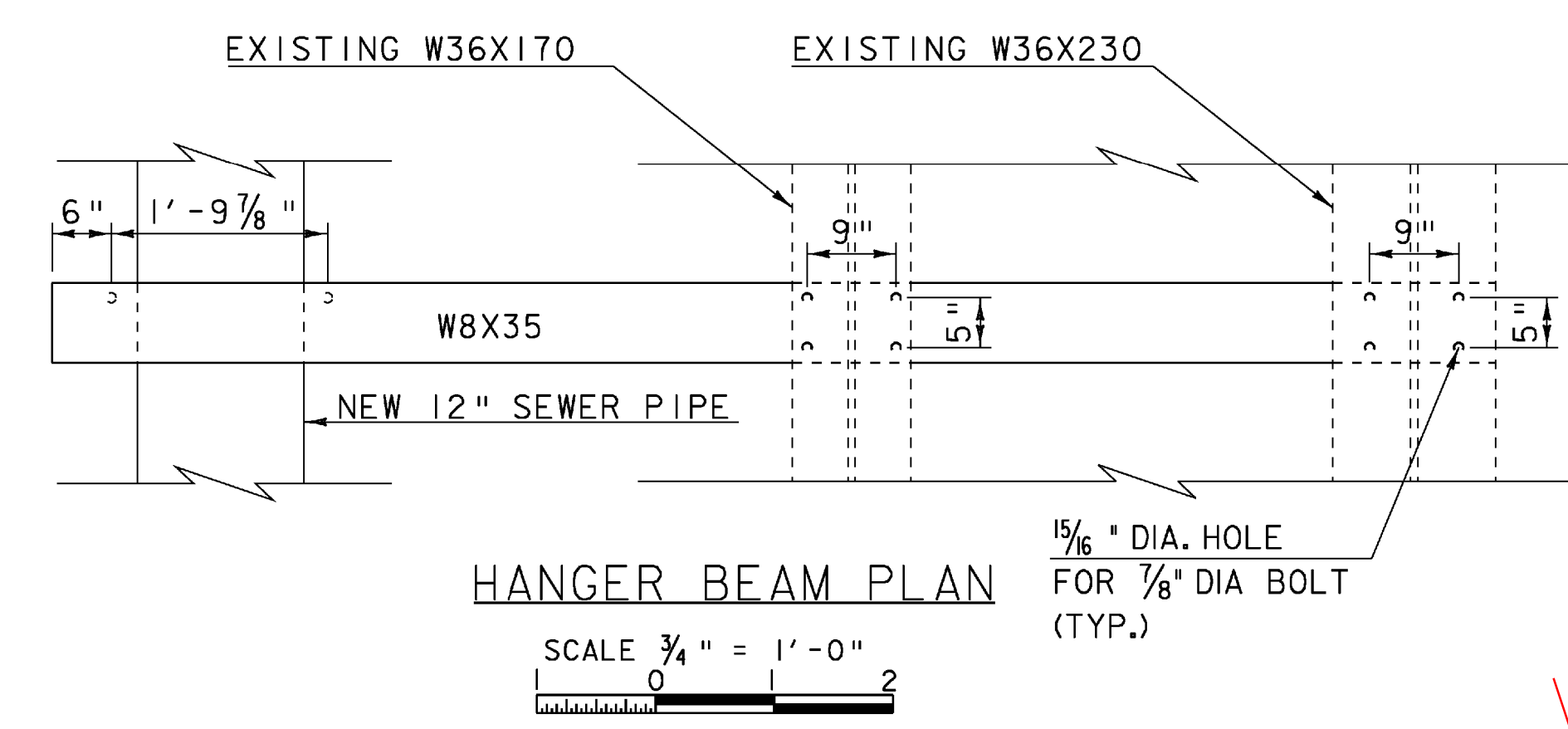
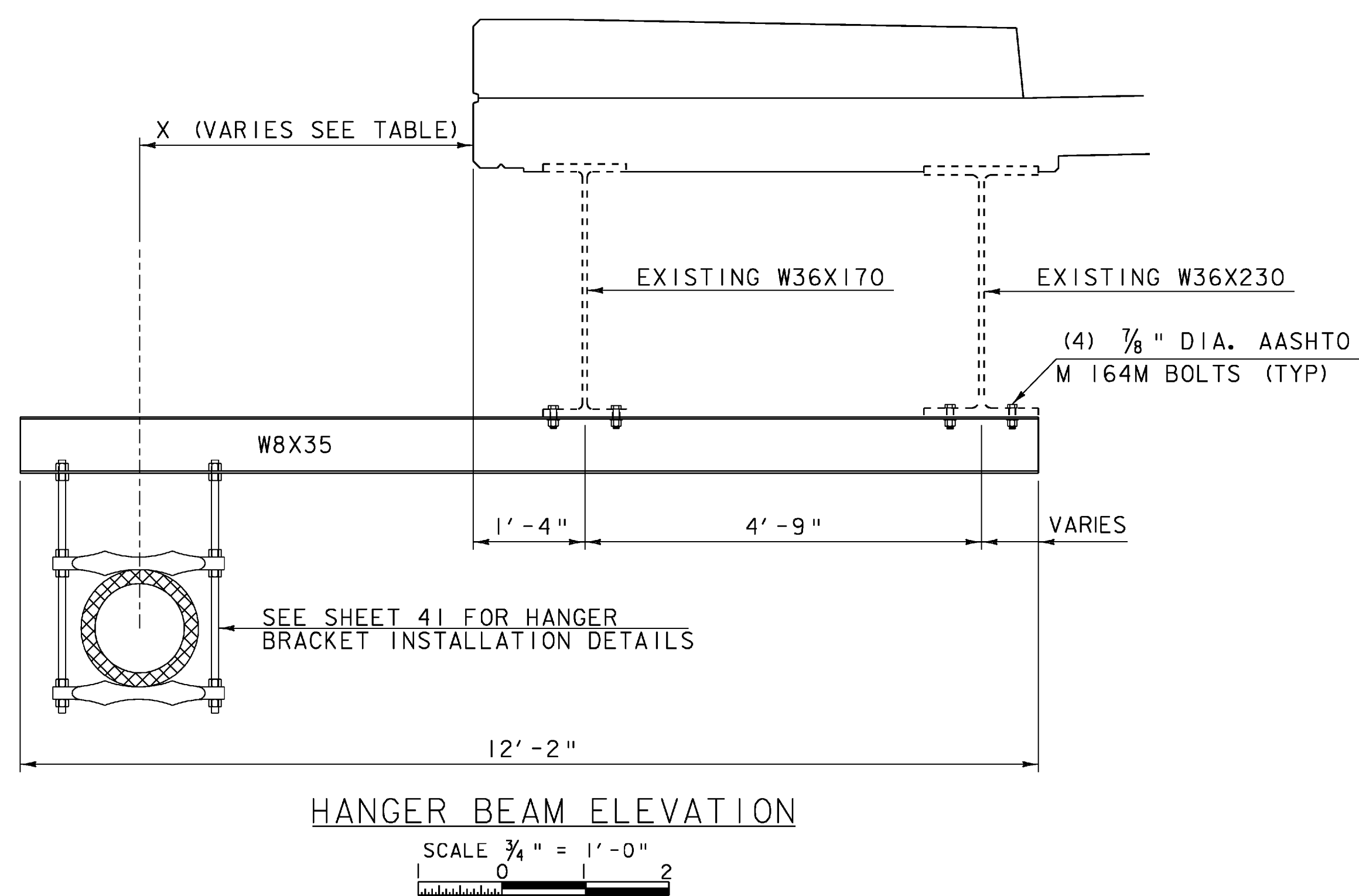




NOTE:  
SEWER HANGER BEAMS (SHB) ARE NUMBERED  
WITH SHBI CLOSEST TO ABUTMENT NO. 1

| BEAM # | L (FT) | X (FT)    |
|--------|--------|-----------|
| SHBI   | 12'-2" | 2'-4 3/4" |
| SHB2   | 12'-2" | 2'-9"     |
| SHB3   | 12'-2" | 3'-1 1/4" |
| SHB4   | 12'-2" | 3'-5 1/2" |
| SHB5   | 12'-2" | 3'-9 3/4" |
| SHB6   | 12'-2" | 4'-0"     |
| SHB7   | 12'-2" | 4'-0"     |
| SHB8   | 12'-2" | 4'-0"     |
| SHB9   | 12'-2" | 4'-0"     |
| SHB10  | 12'-2" | 4'-0"     |
| SHB11  | 12'-2" | 4'-0"     |
| SHB12  | 12'-2" | 4'-0"     |
| SHB13  | 12'-2" | 4'-0"     |

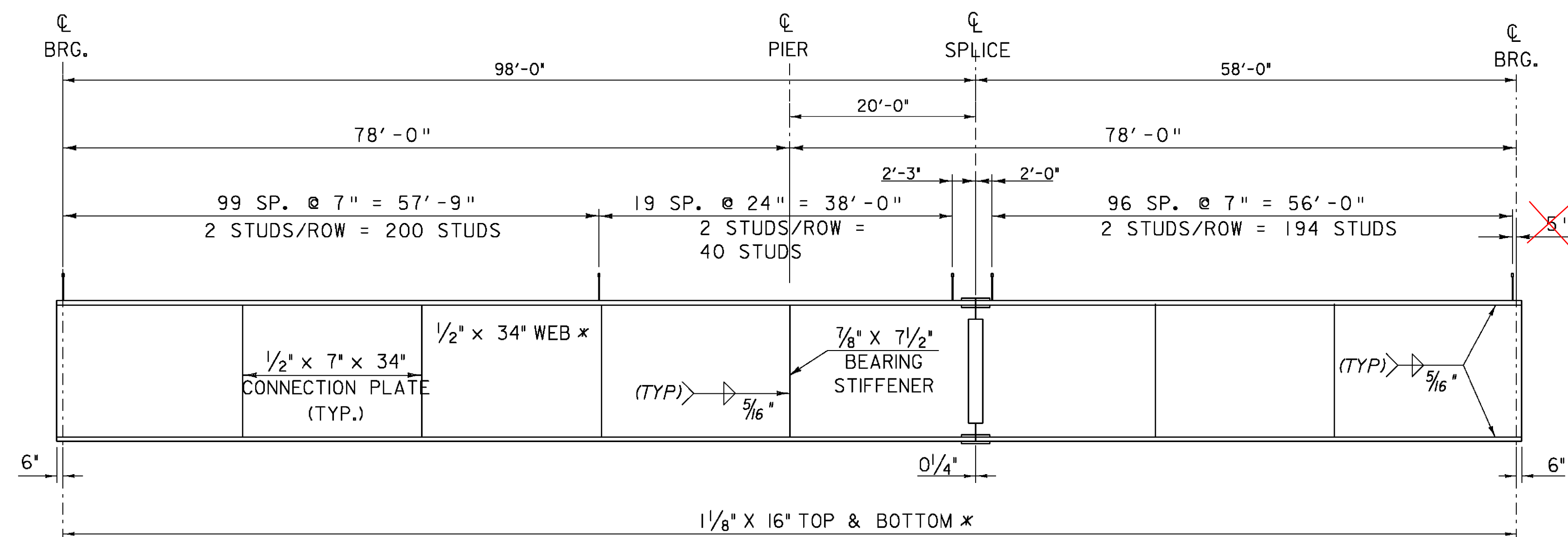
SCALE 3/4" = 1'-0"



VOID  
SEE REVISED  
SHEET

|                                 |                |
|---------------------------------|----------------|
| PROJECT NAME:                   | SPRINGFIELD    |
| PROJECT NUMBER:                 | BHF 016-2(14)  |
| FILE NAME:                      | s06j004sup.dgn |
| PROJECT LEADER:                 | R. WHITCOMB    |
| DESIGNED BY:                    | C. CARLSON     |
| STRUCTURAL STEEL REPAIR DETAILS |                |
| PLOT DATE:                      | 24-MAR-2009    |
| DRAWN BY:                       | C. MOONEY      |
| CHECKED BY:                     | D. PETERSON    |
| SHEET                           | 28 OF 72       |

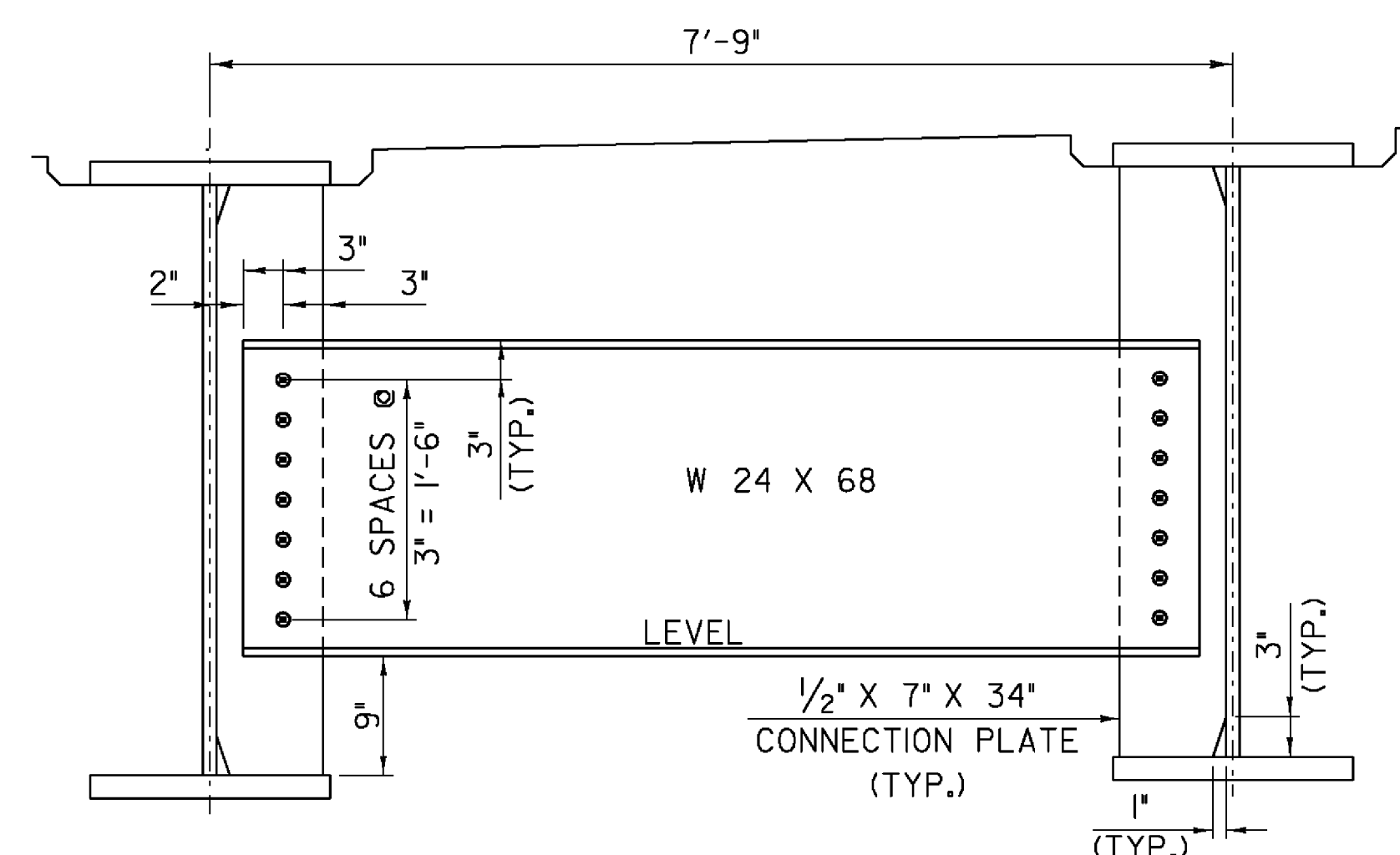




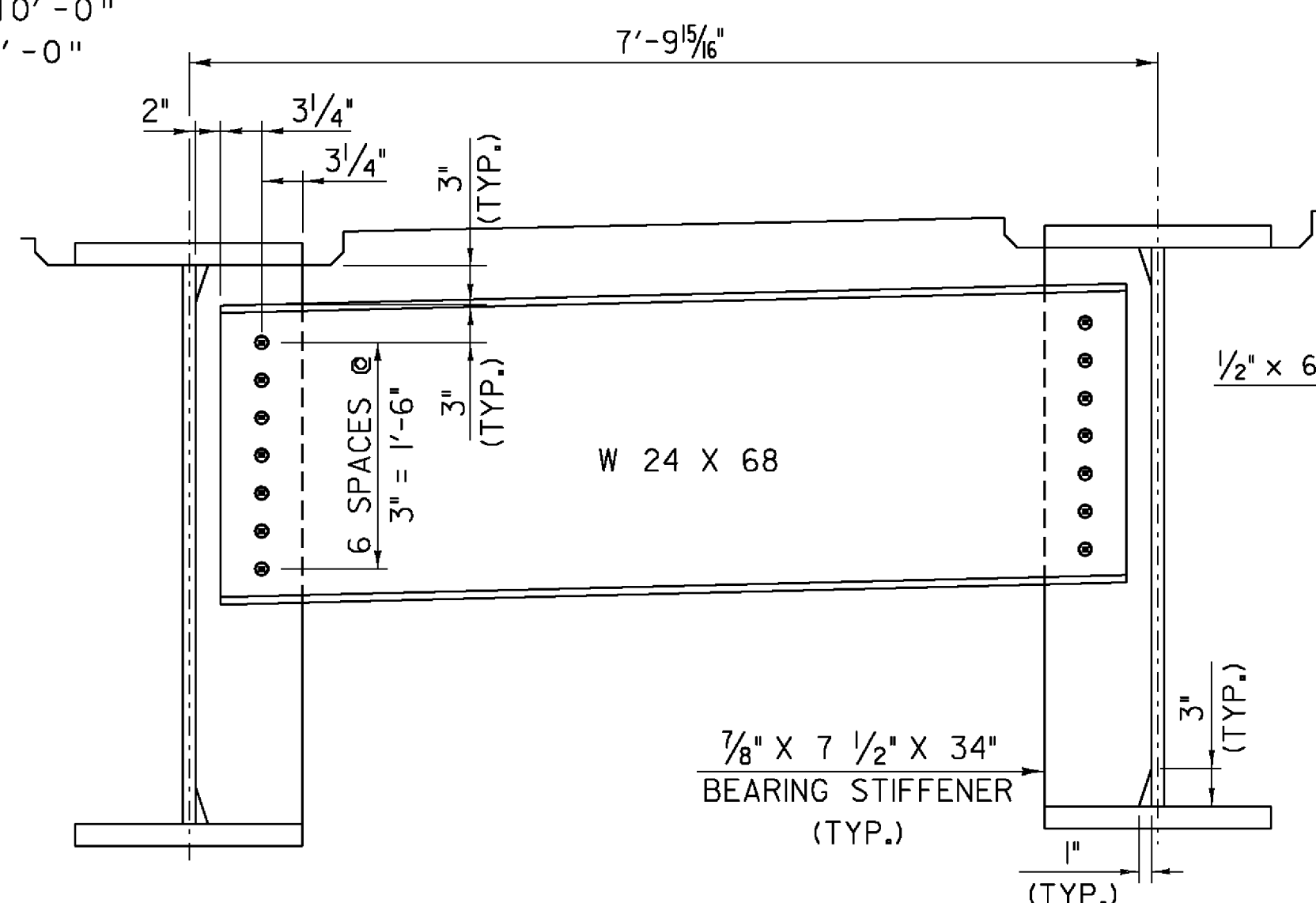
### GIRDER ELEVATION

HORIZONTAL SCALE 1" = 10'-0"  
VERTICAL SCALE 1" = 2'-0"

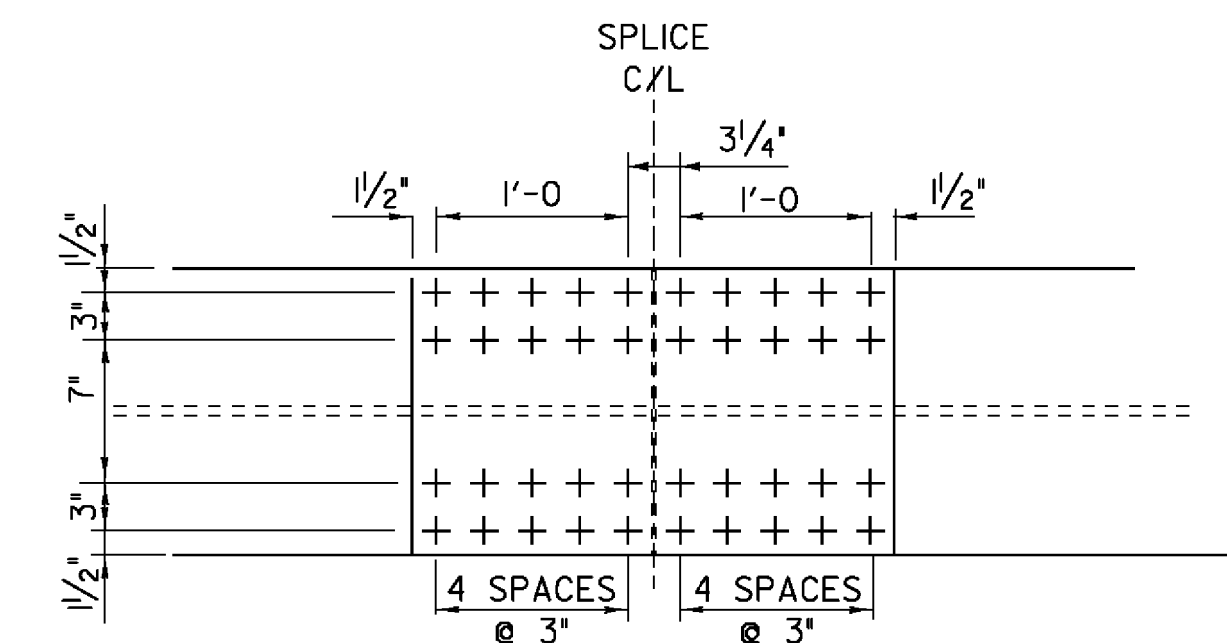
\* CVN ~ CHARPY V NOTCH TESTING



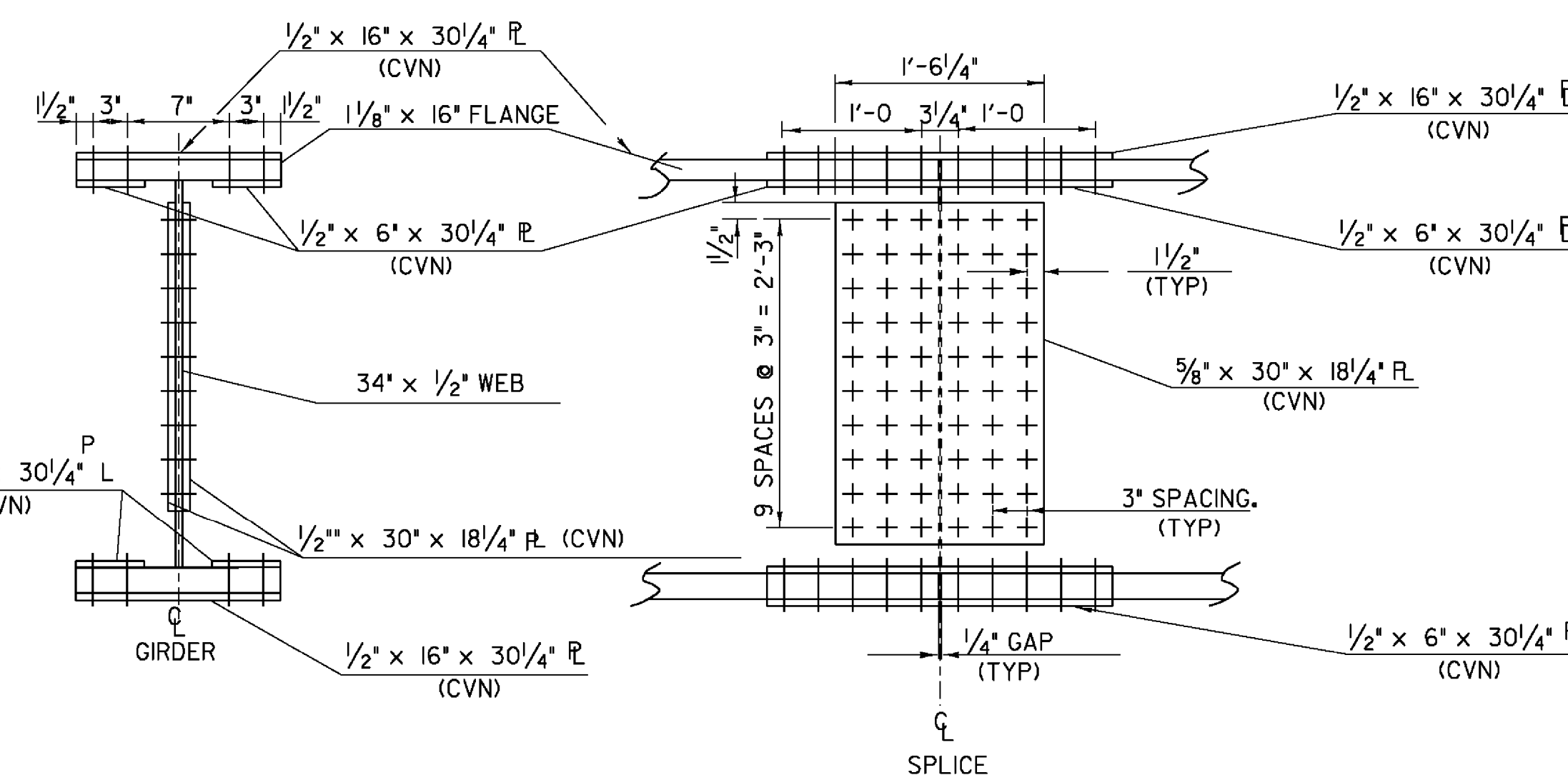
TYPICAL INTERMEDIATE DIAPHRAGM DETAIL  
(NTS)



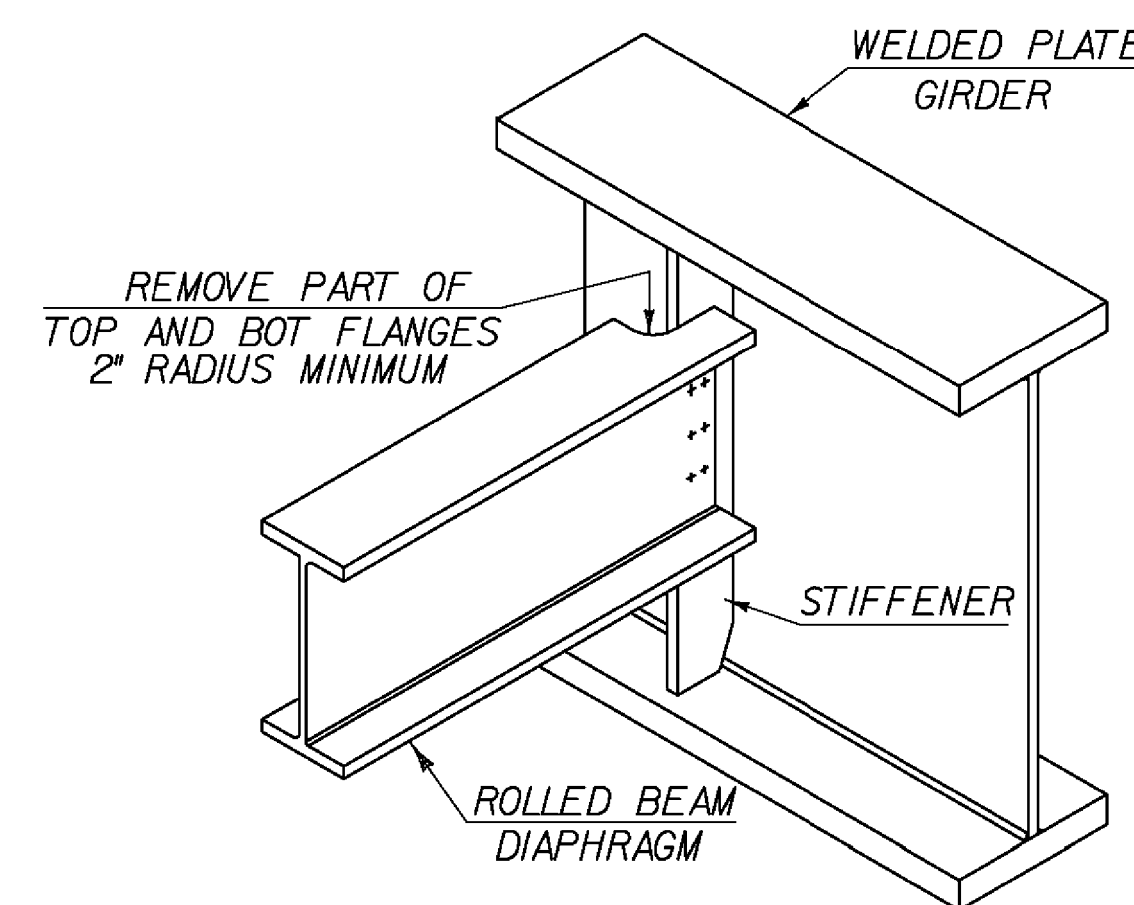
TYPICAL PIER DIAPHRAGM  
DETAIL  
(NTS)



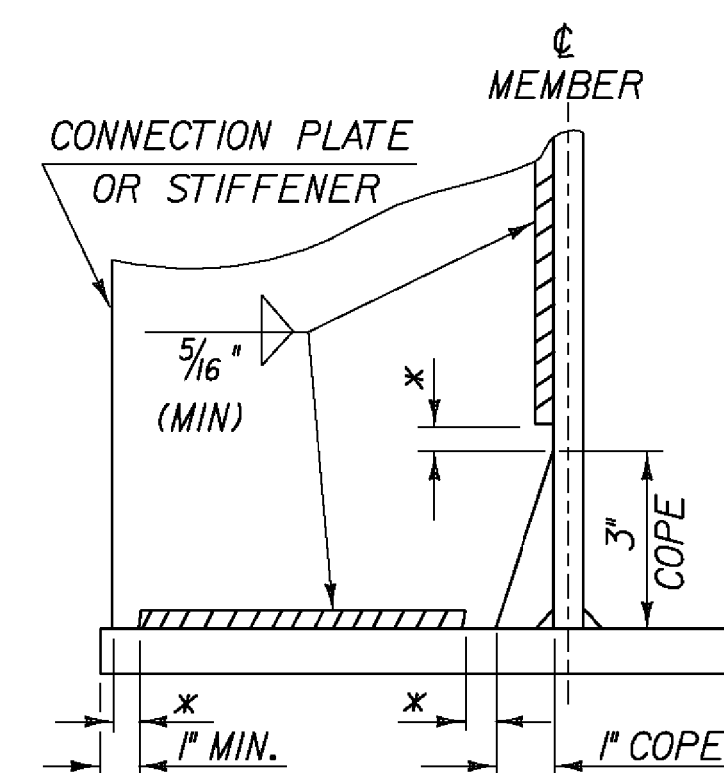
PLAN VIEW  
TOP & BOTTOM  
(TYP)



SPRINGFIELD BHF 016-2(14)  
(NEW DESIGN)  
SPLICE DETAIL SPAN #2  
(NTS)

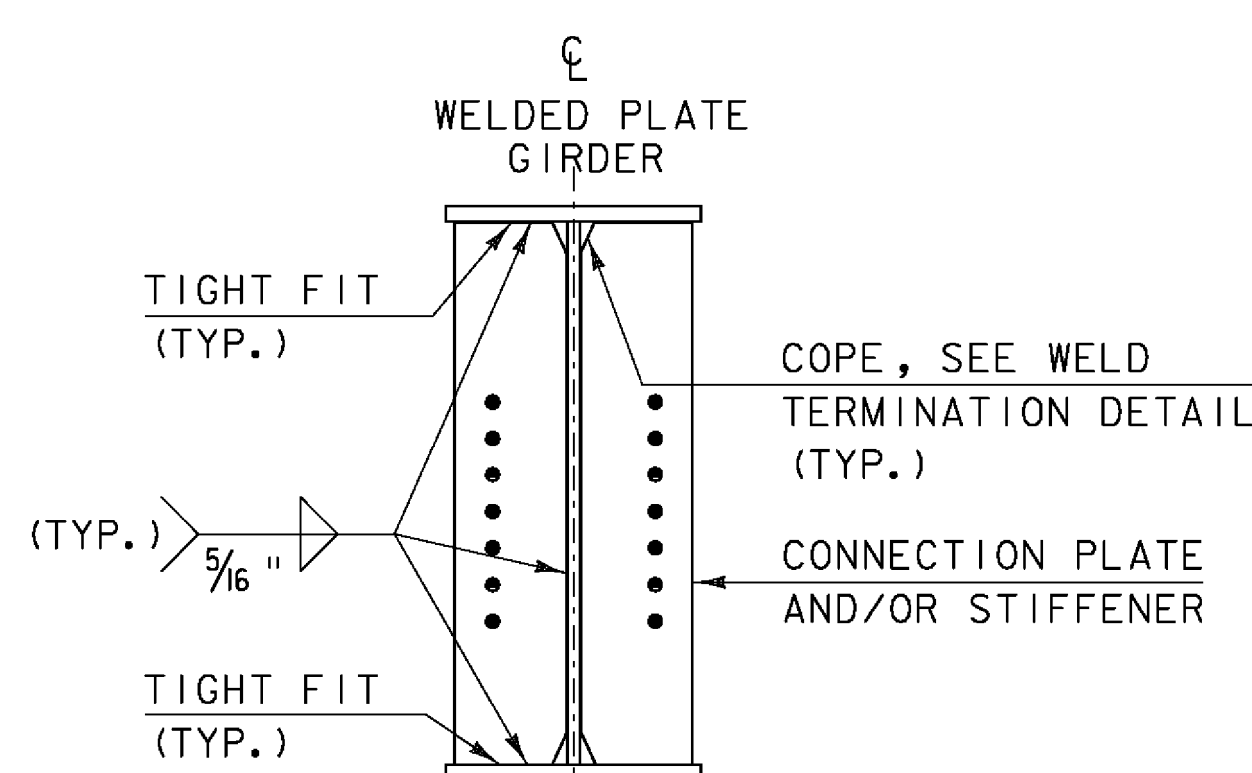


ROLLED BEAM USED AS DIAPHRAGM

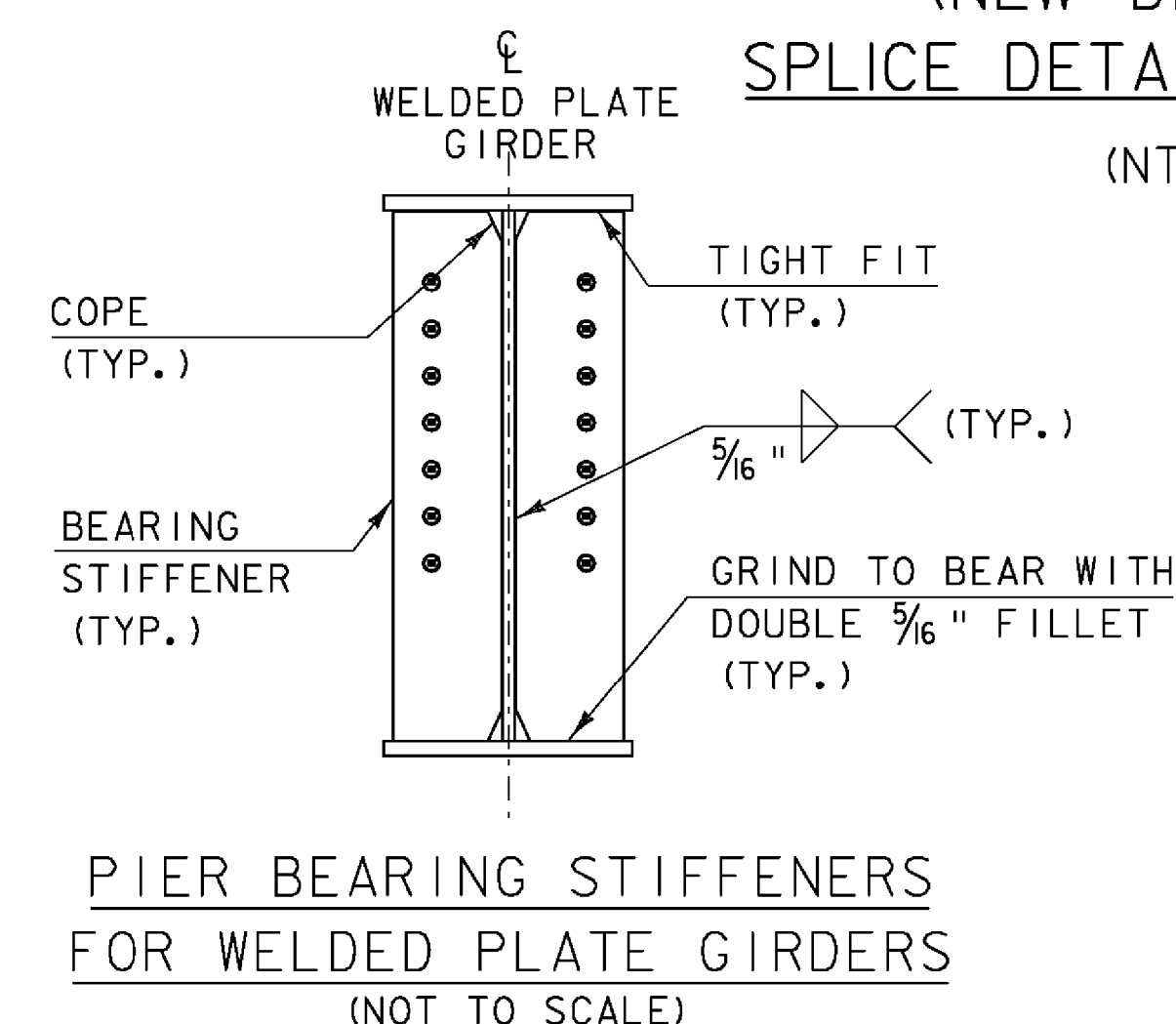


WELD TERMINATION AND COPING  
DETAILS FOR STEEL MEMBERS

\* NO WELD FOR 3/8" MIN. 7/8" MAX. (EXCEPT MUST MAINTAIN 1" MINIMUM FROM EDGE OF FLANGE)



INTERMEDIATE CONNECTION PLATES  
AND/OR STIFFENERS FOR WELDED  
PLATE GIRDERS  
(NOT TO SCALE)



PIER BEARING STIFFENERS  
FOR WELDED PLATE GIRDERS  
(NOT TO SCALE)

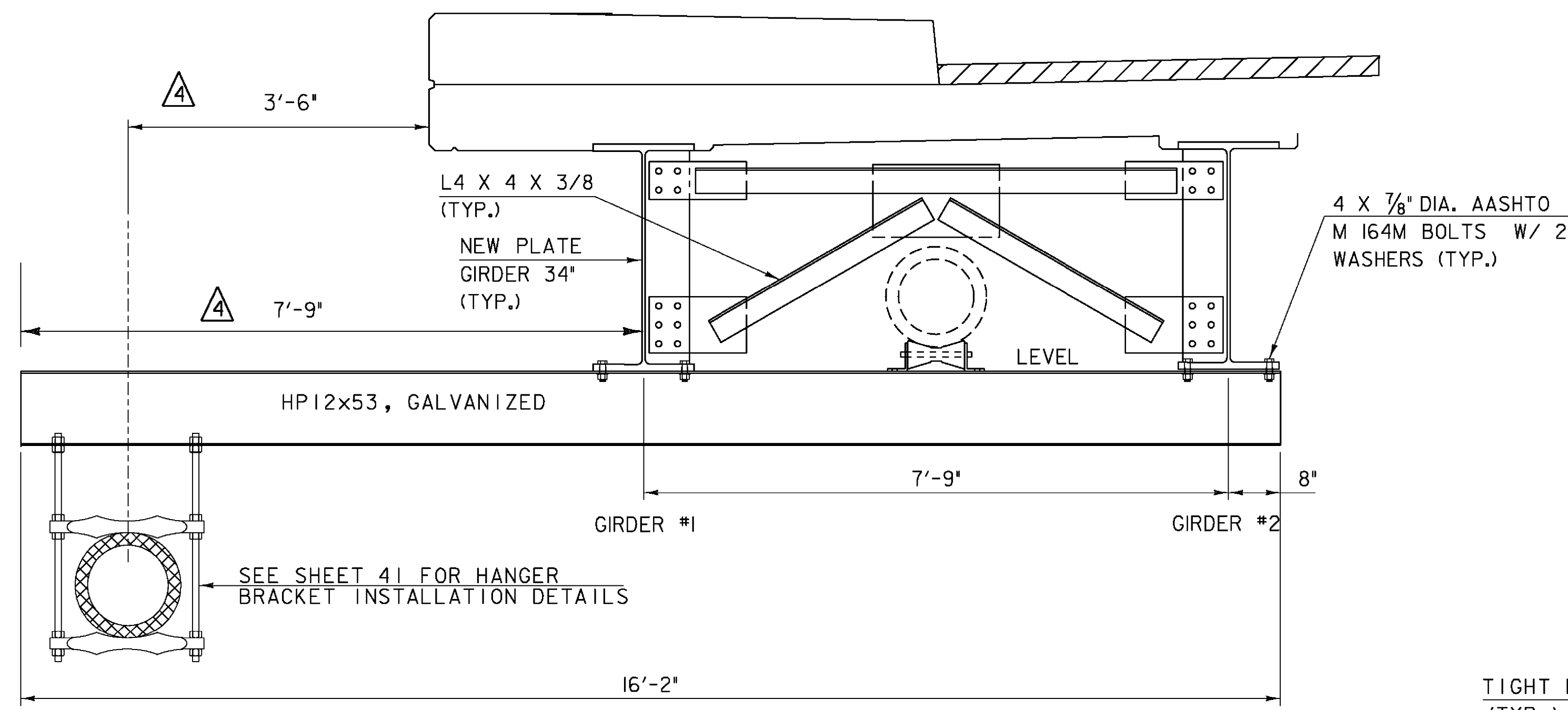
| REV. | BY  | DATE    | DESCRIPTION     |
|------|-----|---------|-----------------|
| 3    | LBB | 5/26/09 | REVISED GIRDERS |

PROJECT NAME: SPRINGFIELD  
PROJECT NUMBER: BHF 016-2(14)

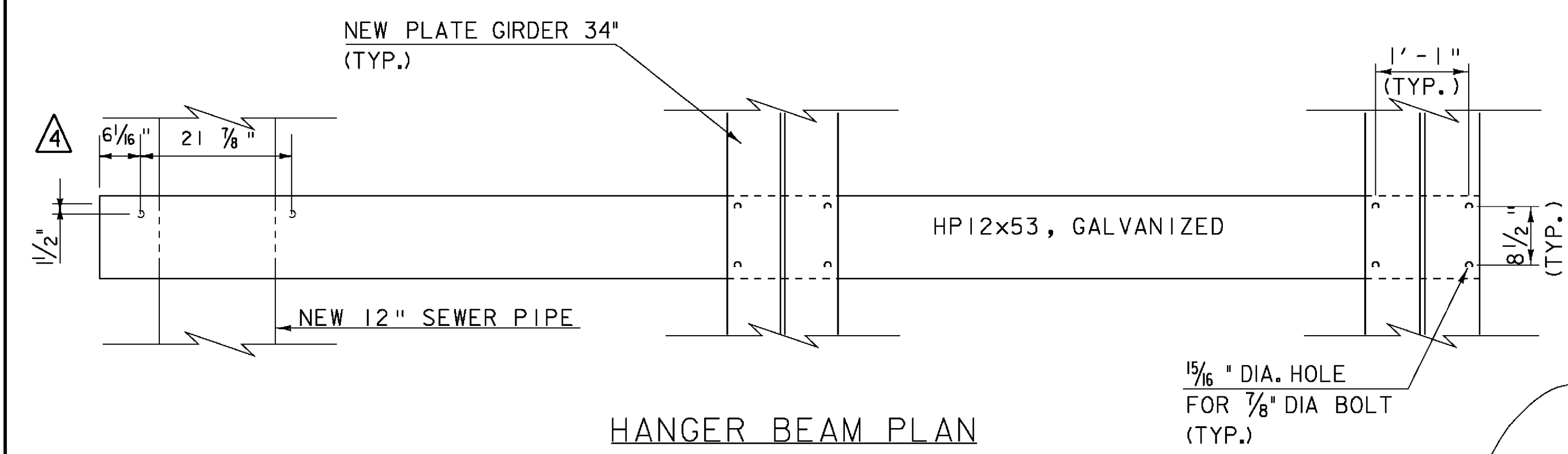
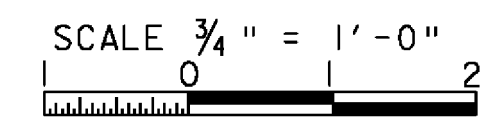
FILE NAME: s06j004sup.dgn  
PROJECT LEADER: R. WHITCOMB  
DESIGNED BY: C. CARLSON  
VE GIRDER ELEVATION

PLOT DATE: 29-MAY-2009  
DRAWN BY: L. BULLOCK  
CHECKED BY: C. CARLSON  
SHEET 28A OF 72

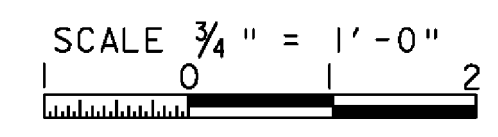




HANGER BEAM ELEVATION



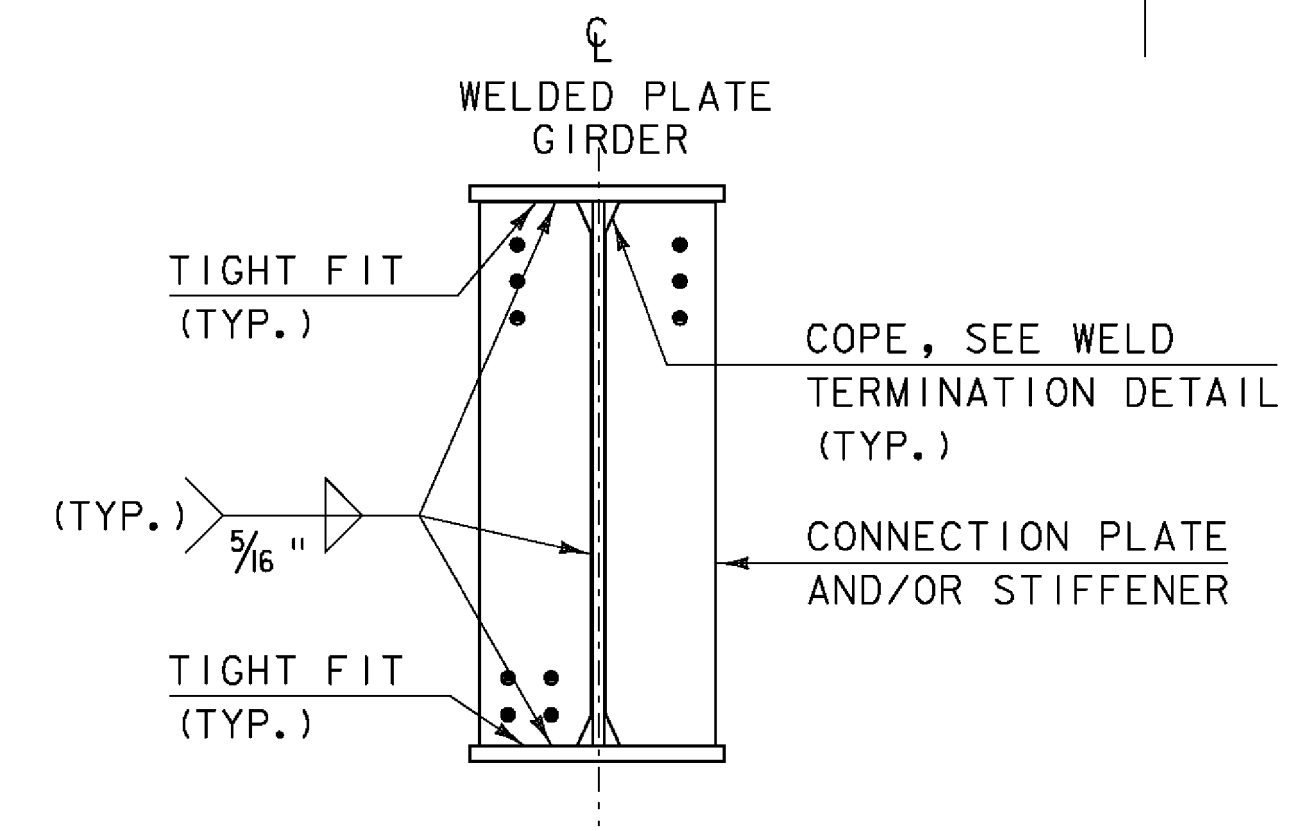
HANGER BEAM PLAN



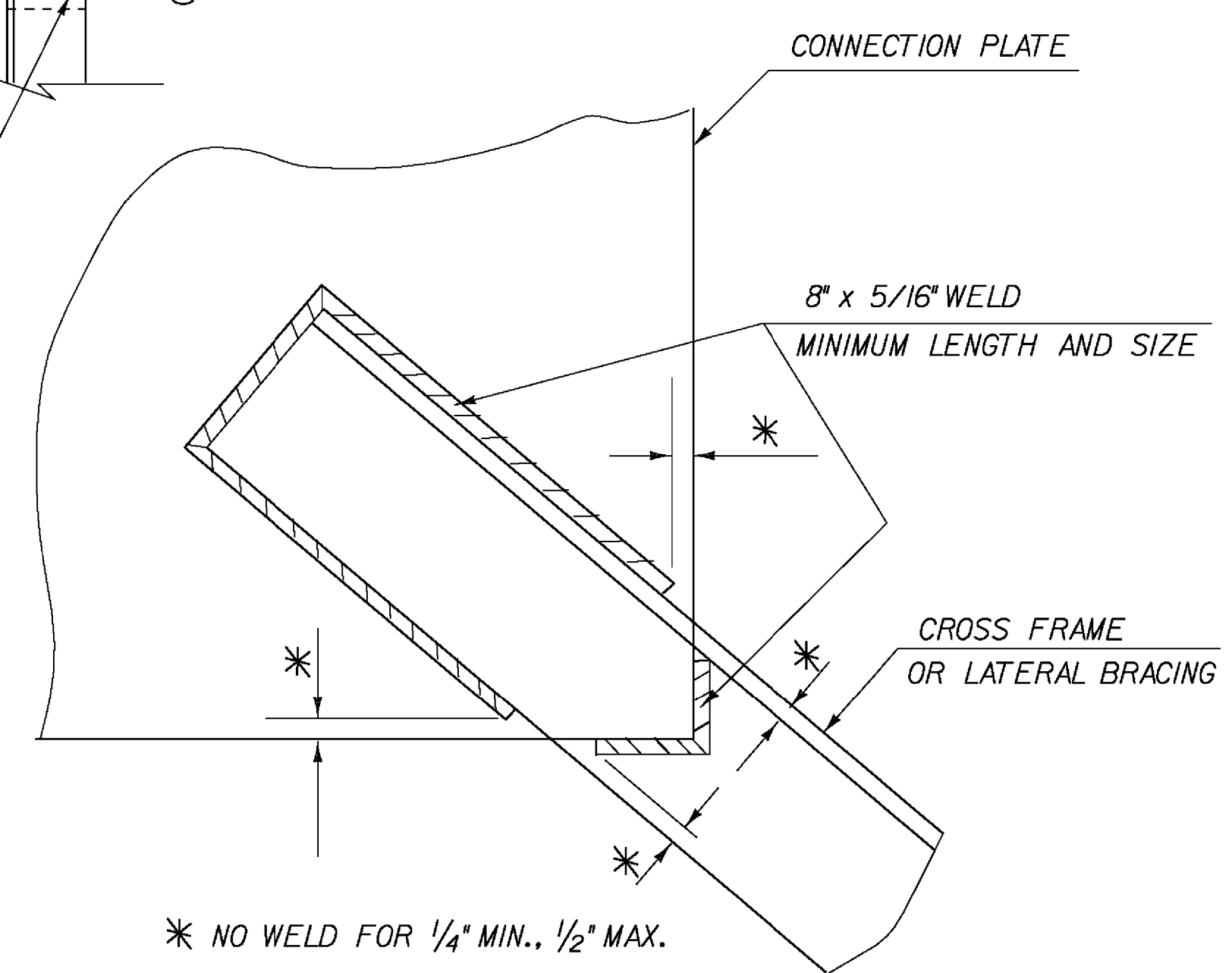
NOTE:  
SEWER HANGER BEAMS (SHB) ARE NUMBERED  
WITH SHBI CLOSEST TO ABUTMENT NO. 1

| BEAM # | L (FT) | X (FT)    |
|--------|--------|-----------|
| SHB1   | 16'-8" | 2'-4 3/4" |
| SHB2   | 16'-8" | 2'-9"     |
| SHB3   | 16'-8" | 3'-1 1/4" |
| SHB4   | 16'-8" | 3'-5 1/2" |
| SHB5   | 16'-8" | 3'-9 3/4" |
| SHB6   | 16'-8" | 4'-0"     |
| SHB7   | 16'-8" | 4'-0"     |
| SHB8   | 16'-8" | 4'-0"     |
| SHB9   | 16'-8" | 4'-0"     |
| SHB10  | 16'-8" | 4'-0"     |
| SHB11  | 16'-8" | 4'-0"     |
| SHB12  | 16'-8" | 4'-0"     |
| SHB13  | 16'-8" | 4'-0"     |

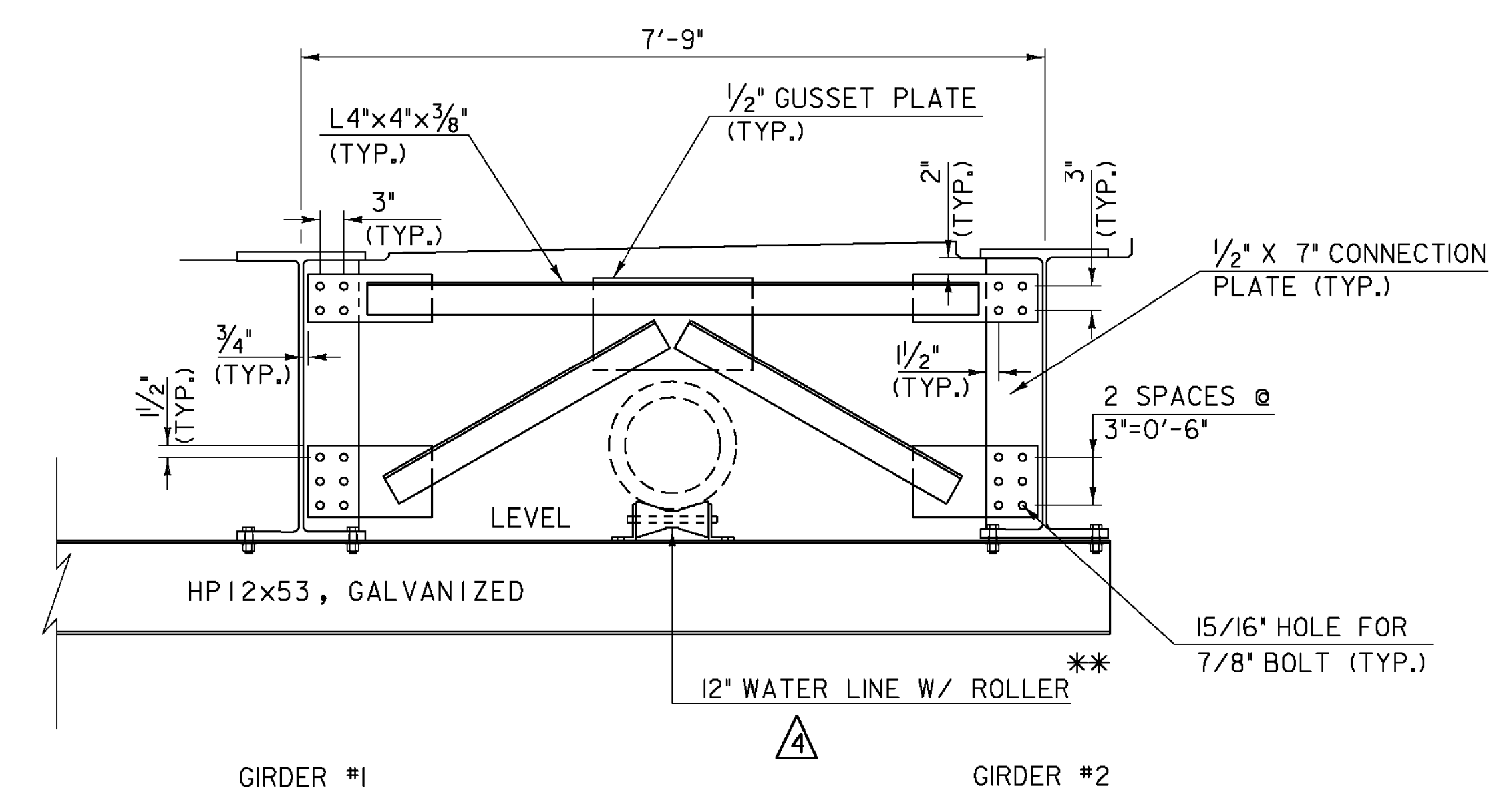
HANGER BEAM  
SETTING TABLE



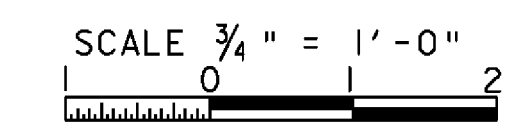
INTERMEDIATE CONNECTION PLATES  
FOR CROSS FRAME B  
(NOT TO SCALE)



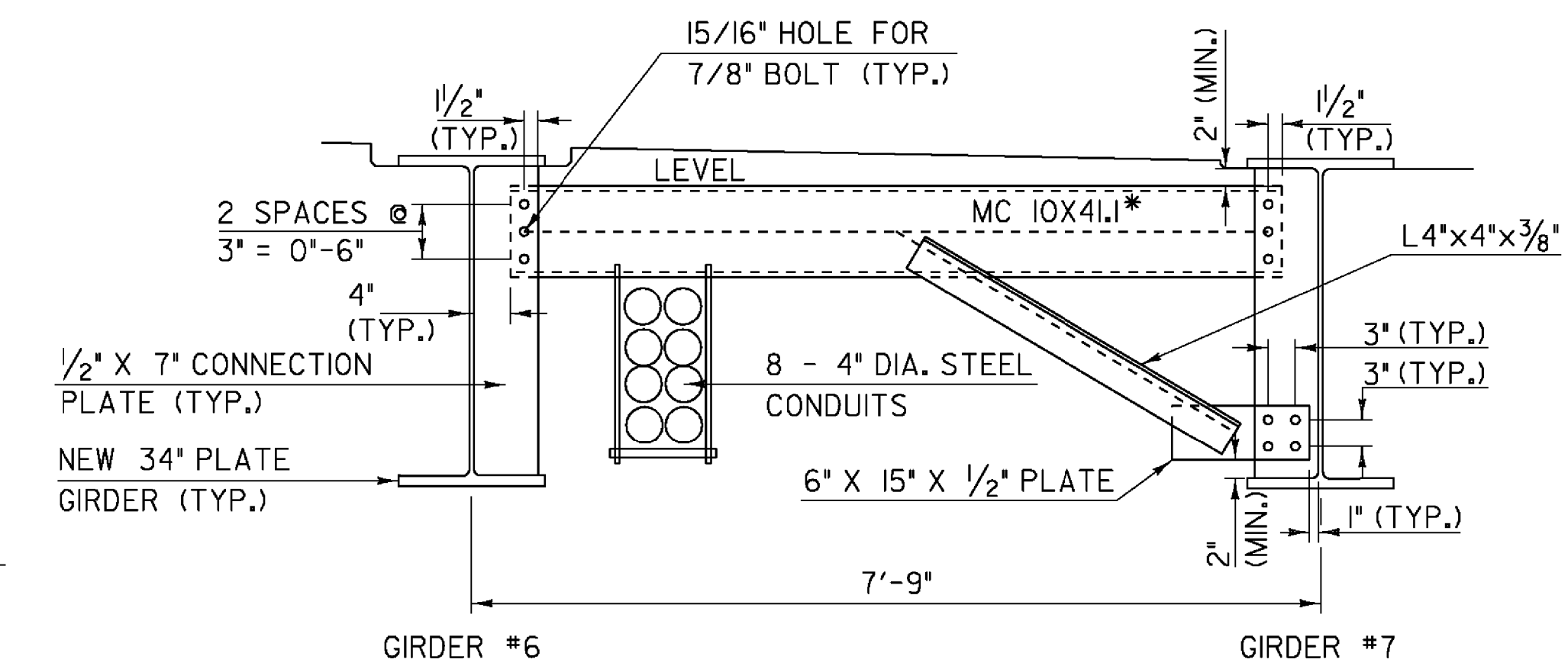
WELD LOCATION DETAIL  
AT CROSS FRAMES AND  
LATERAL BRACING



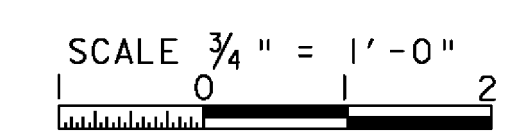
CROSS FRAME A DETAIL



\*\* THE DETAIL FOR CROSS FRAME A APPLIES ONLY  
IF THE WATERLINE IS MOVED TO THE CENTER OF  
BAY 1. IF THE WATERLINE IS NOT MOVED THE  
CONTRACTOR SHALL SUPPLY A LATERAL BRACING  
SYSTEM BETWEEN GIRDER 1 AND GIRDER 2.



CROSS FRAME B DETAIL

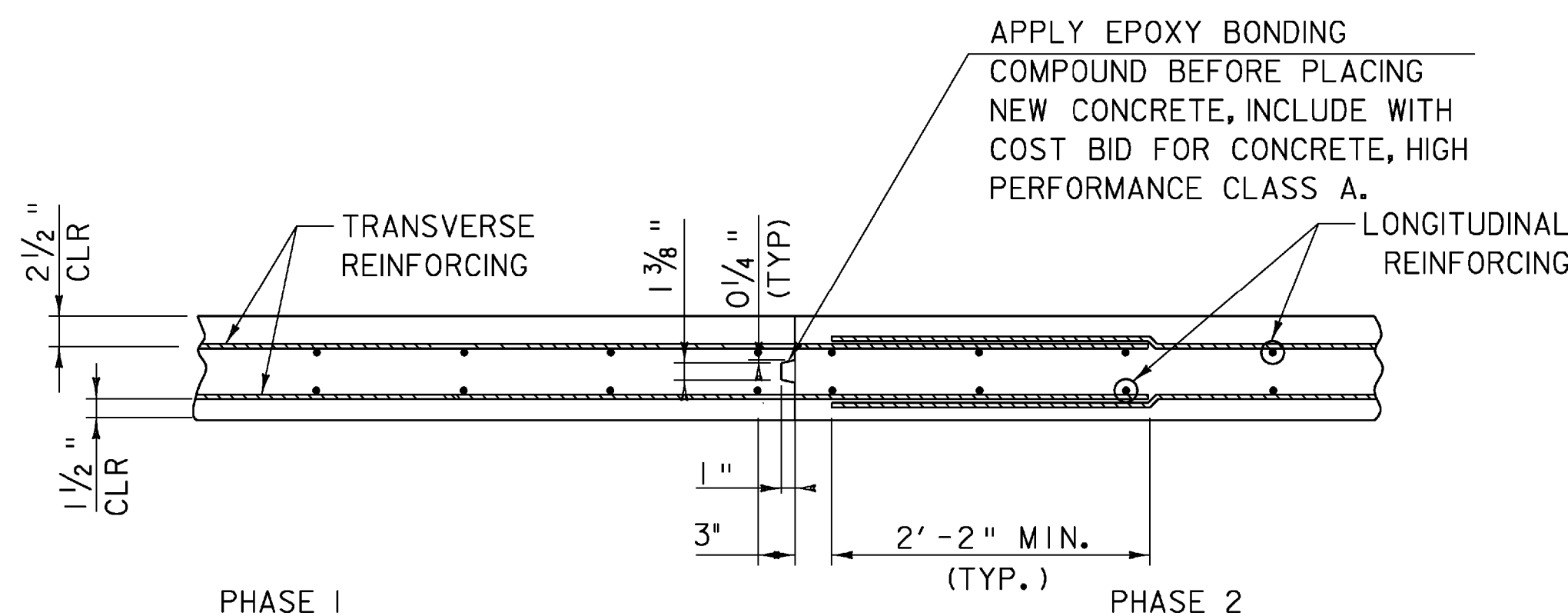


\* MC10x41.1 AT THE PIER SHALL BE  
7'-1 5/16" LONG.

| REV. | BY  | DATE    | DESCRIPTION                    |
|------|-----|---------|--------------------------------|
| A    | LBB | 5/26/09 | REVISED HANGER AND CROSS FRAME |
| A    | CWC | 6/18/09 | REVISED SEWER SUPPORT LENGTH   |

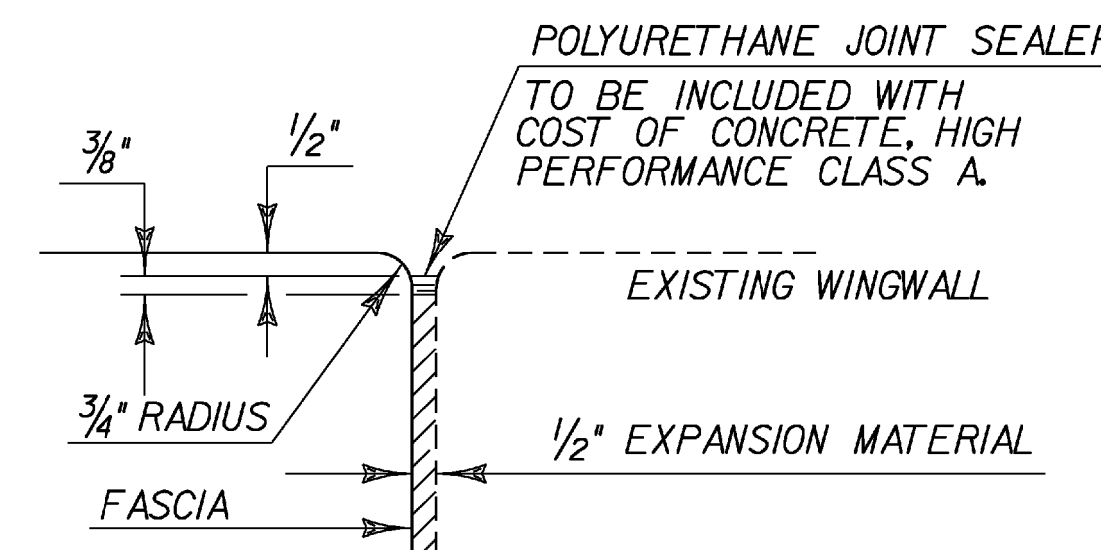
|                        |                |
|------------------------|----------------|
| PROJECT NAME:          | SPRINGFIELD    |
| PROJECT NUMBER:        | BHF 016-2(14)  |
| FILE NAME:             | s06j004sup.dgn |
| PROJECT LEADER:        | R. WHITCOMB    |
| DESIGNED BY:           | C. CARLSON     |
| VE CROSS FRAME DETAILS |                |
| PLOT DATE:             | 18-JUN-2009    |
| DRAWN BY:              | D. PETERSON    |
| CHECKED BY:            | C. CARLSON     |
| SHEET                  | 28 OF 72       |





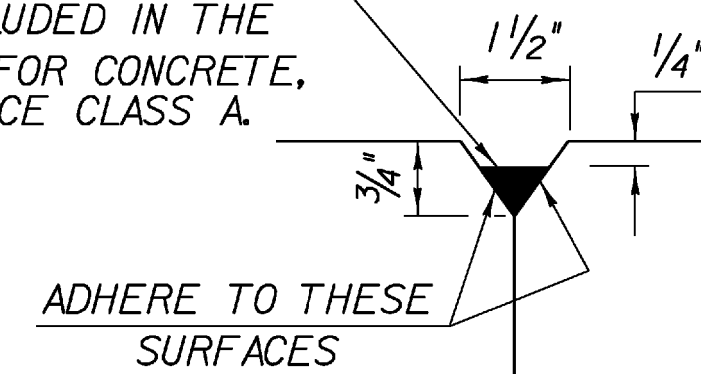
### LONGITUDINAL BRIDGE SLAB CONSTRUCTION JOINT DETAIL

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

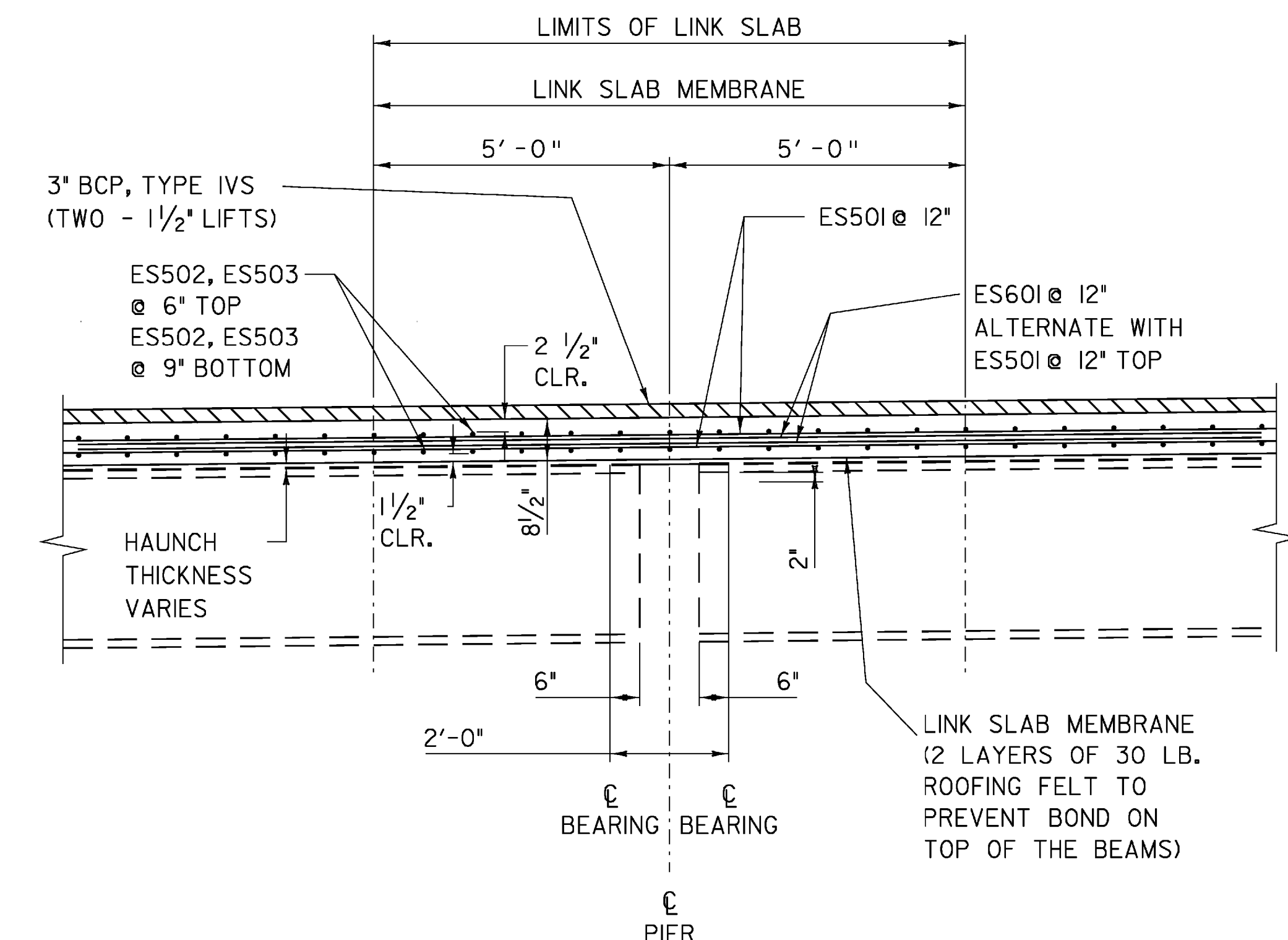


### JOINT BETWEEN FASCIA AND WINGWALL

POLYURETHANE JOINT SEALER  
PER SUBSECTION 524.06C  
COLOR TO MATCH CONCRETE.  
COST TO BE INCLUDED IN THE  
UNIT PRICE BID FOR CONCRETE,  
HIGH PERFORMANCE CLASS A.



### DETAIL "B"



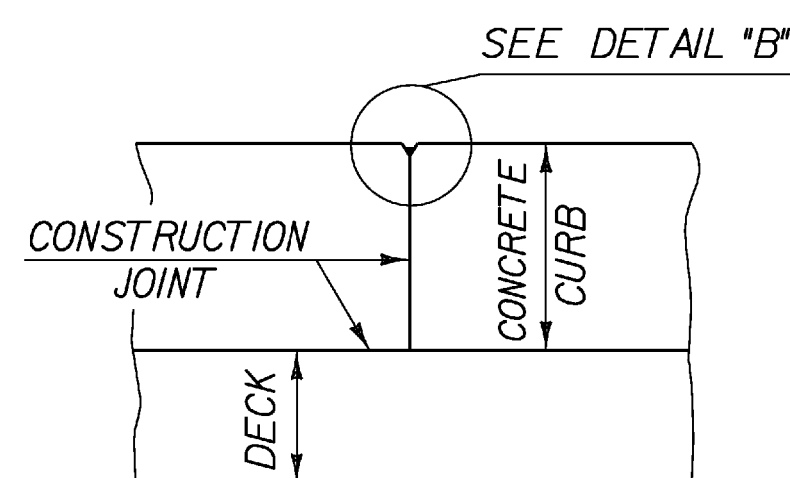
### SECTION D-D LINK SLAB DETAIL

SEE LINK SLAB NOTES

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

### SHEET MEMBRANE NOTES:

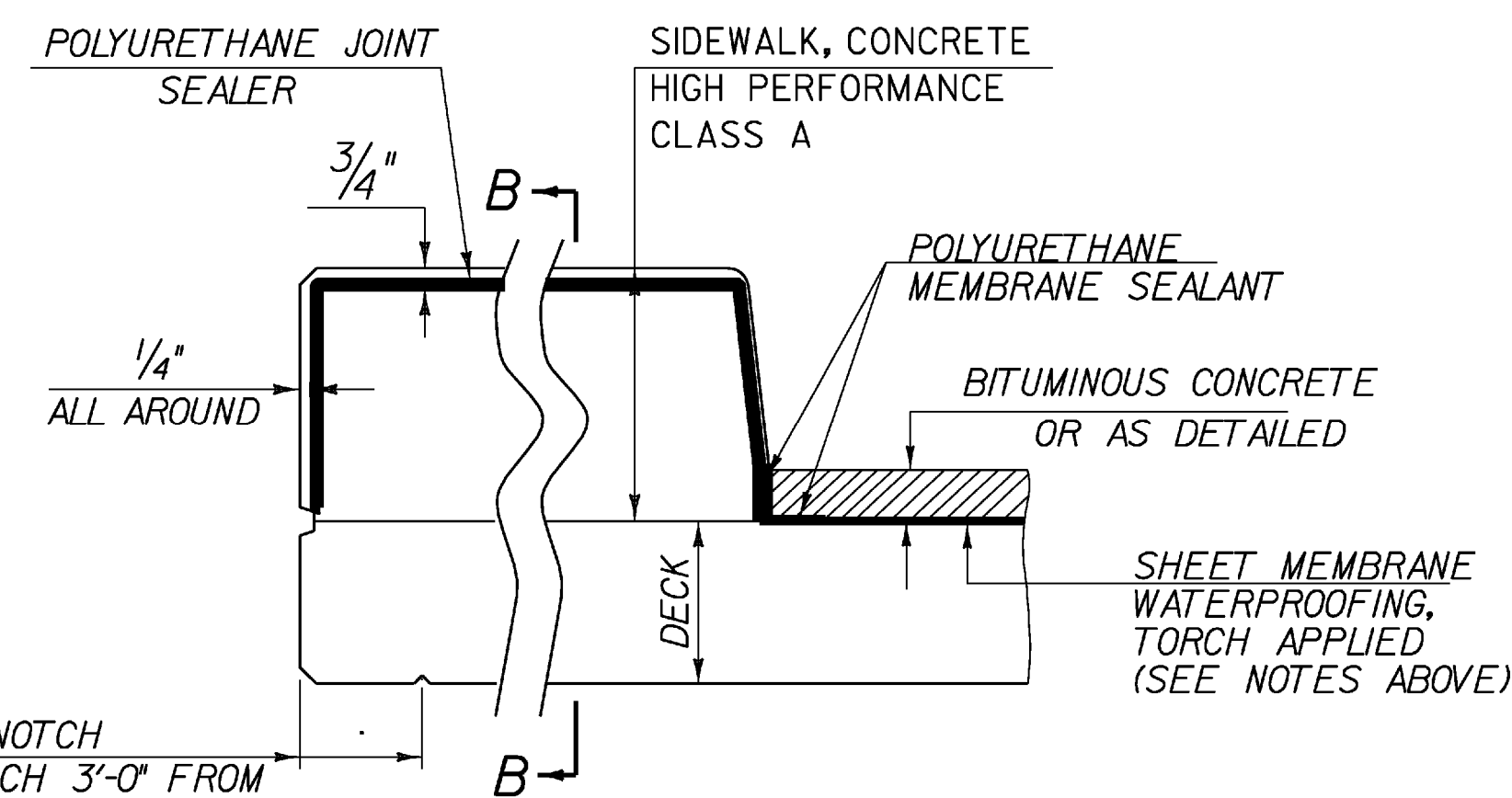
1. PREPARE THE SURFACE OF THE FACE OF THE SIDEWALK TO BE SEALED WITH POLYURETHANE MEMBRANE SEALANT IN ACCORDANCE WITH SUBSECTION 519.04 SURFACE PREPARATION.(PAYMENT FOR POLYURETHANE MEMBRANE SEALANT SHOULD BE INCLUDED IN ITEM 519.20,"SHEET MEMBRANE WATERPROOFING,TORCH APPLIED".)
2. SHEET MEMBRANE WATERPROOFING,TORCH APPLIED :  
EXTEND SHEET MEMBRANE WATERPROOFING TO FACE OF SIDEWALK.



### SECTION B - B

### SIDEWALK 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.



### TYPICAL SECTION THROUGH CONCRETE SIDEWALK CONSTRUCTION JOINT

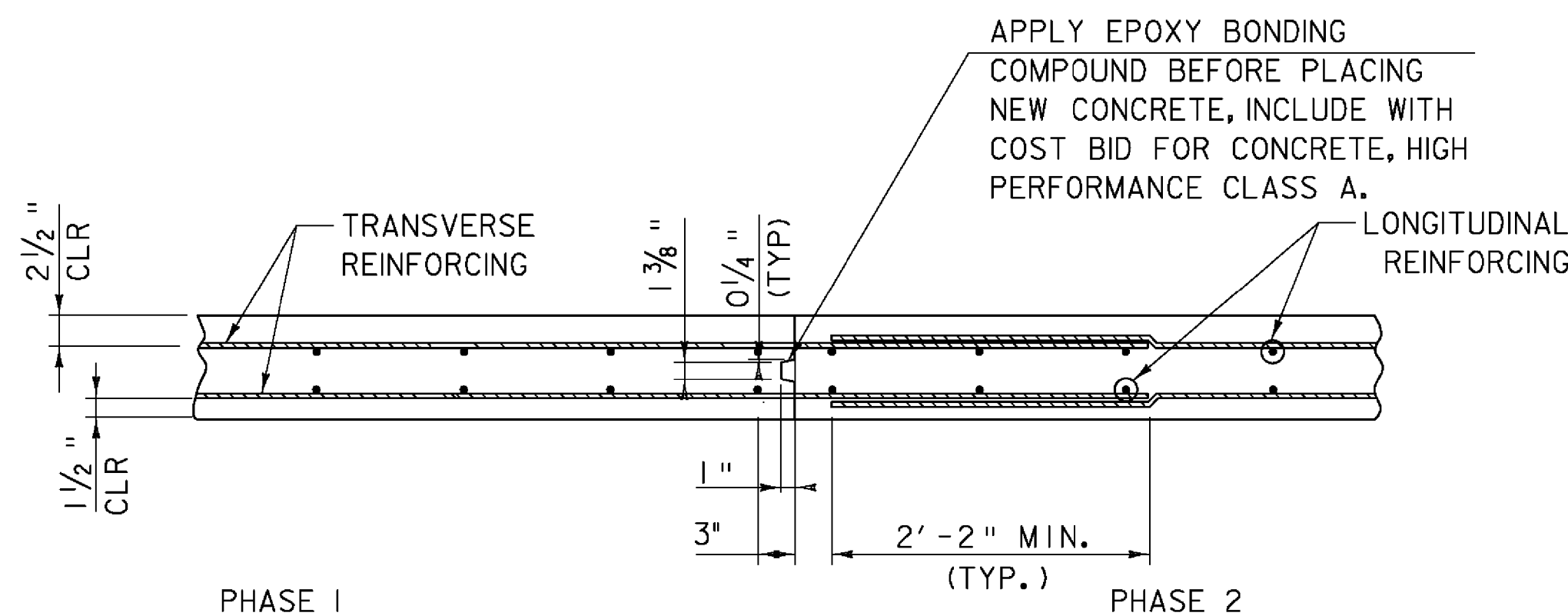
### LINK SLAB NOTES:

1. THE TOP OF THE BEAM IN THE REGION OF THE LINK SLAB SHALL BE SMOOTH AND FREE OF SHEAR CONNECTORS. NO WELDING OF FORMS OR FALSEWORK TO THE TOP FLANGE WILL BE PERMITTED IN THIS REGION.
2. THE COST OF THE LINK SLAB MEMBRANE SHALL BE INCIDENTAL TO PAY ITEM 501.33 " CONCRETE, HIGH PERFORMANCE CLASS A".

VOID  
SEE REVISED  
SHEET

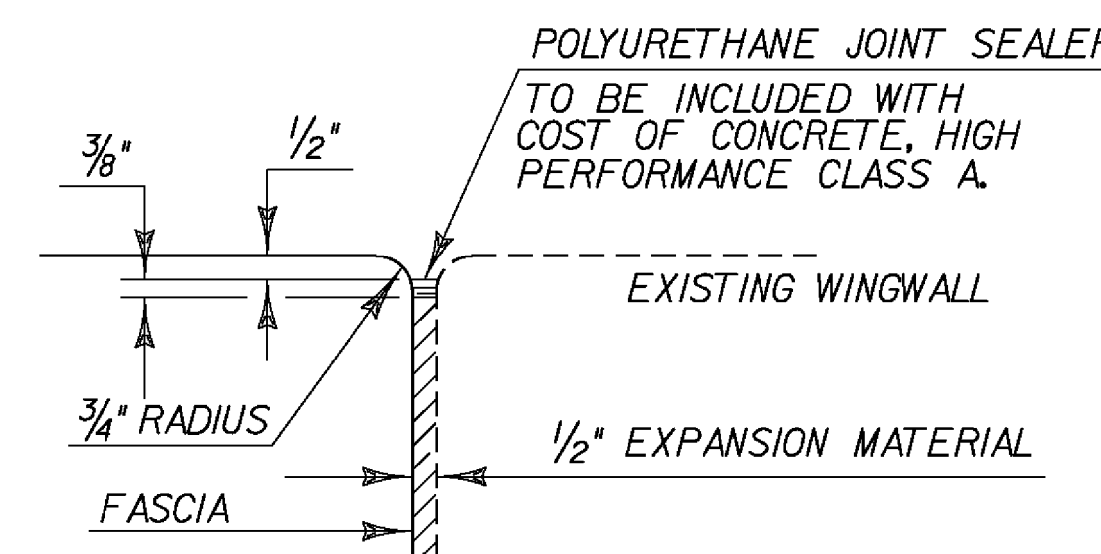
|                  |                |
|------------------|----------------|
| PROJECT NAME:    | SPRINGFIELD    |
| PROJECT NUMBER:  | BHF 016-2(14)  |
| FILE NAME:       | s06j004sup.dgn |
| PROJECT LEADER:  | R. WHITCOMB    |
| DESIGNED BY:     | C. CARLSON     |
| CONCRETE DETAILS |                |
| PLOT DATE:       | 04-MAR-2009    |
| DRAWN BY:        | C. MOONEY      |
| CHECKED BY:      | D. PETERSON    |
| SHEET            | 29 OF 72       |



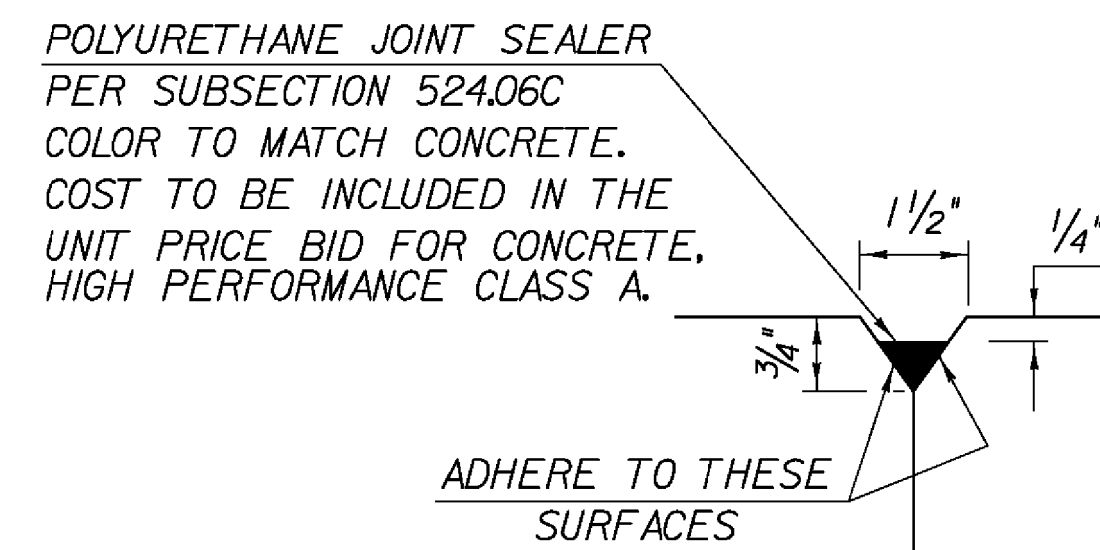


### LONGITUDINAL BRIDGE SLAB CONSTRUCTION JOINT DETAIL

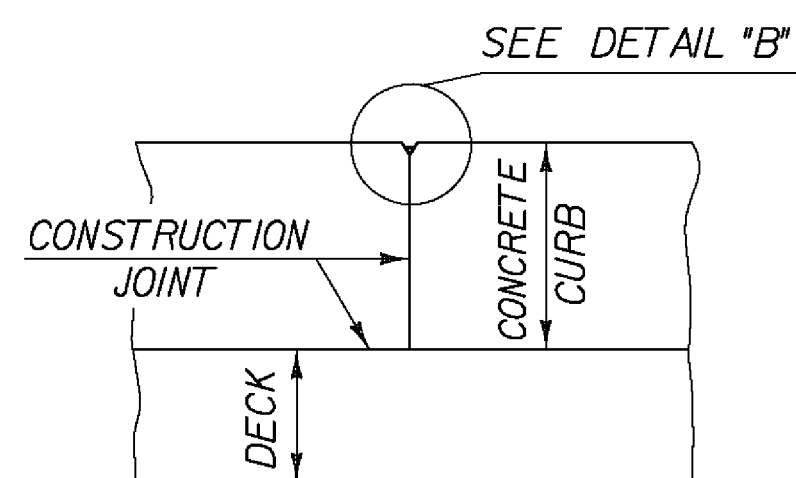
SCALE 1" = 1'-0"  
9 6 3 0 2



### JOINT BETWEEN FASCIA AND WINGWALL



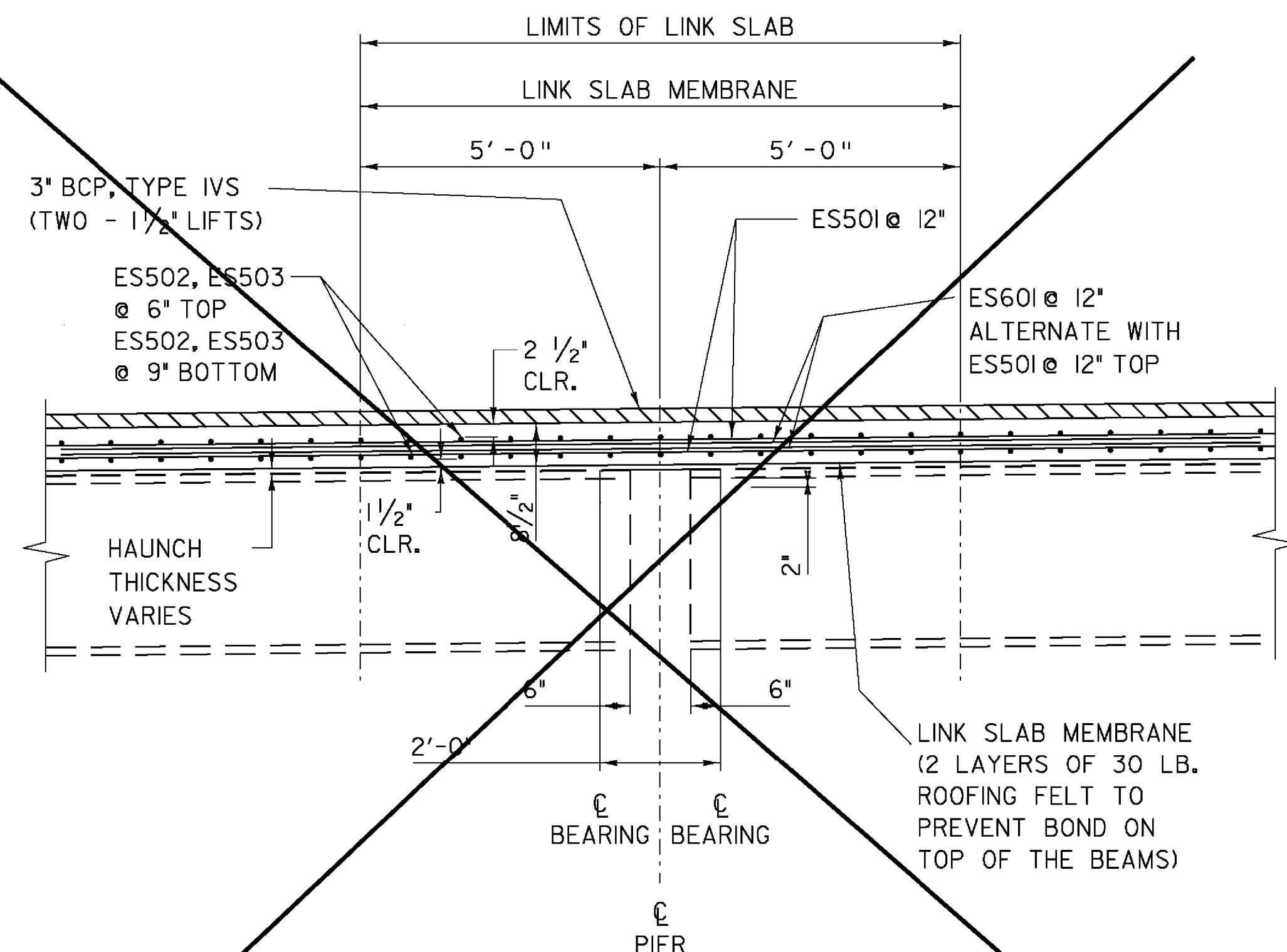
### DETAIL "B"



### SECTION B - B

### SIDEWALK 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.



### SECTION D-D LINK SLAB DETAIL

SEE LINK SLAB NOTES

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

### LINK SLAB NOTES:

1. THE TOP OF THE BEAM IN THE REGION OF THE LINK SLAB SHALL BE SMOOTH AND FREE OF SHEAR CONNECTORS. NO WELDING OF FORMS OR FALSEWORK TO THE TOP FLANGE WILL BE PERMITTED IN THIS REGION.
2. THE COST OF THE LINK SLAB MEMBRANE SHALL BE INCIDENTAL TO PAY ITEM 501.33 "CONCRETE, HIGH PERFORMANCE CLASS A".

| REV. | BY  | DATE    | DESCRIPTION                    |
|------|-----|---------|--------------------------------|
| 1    | LBB | 5/26/09 | REVISED HANGER AND CROSS FRAME |

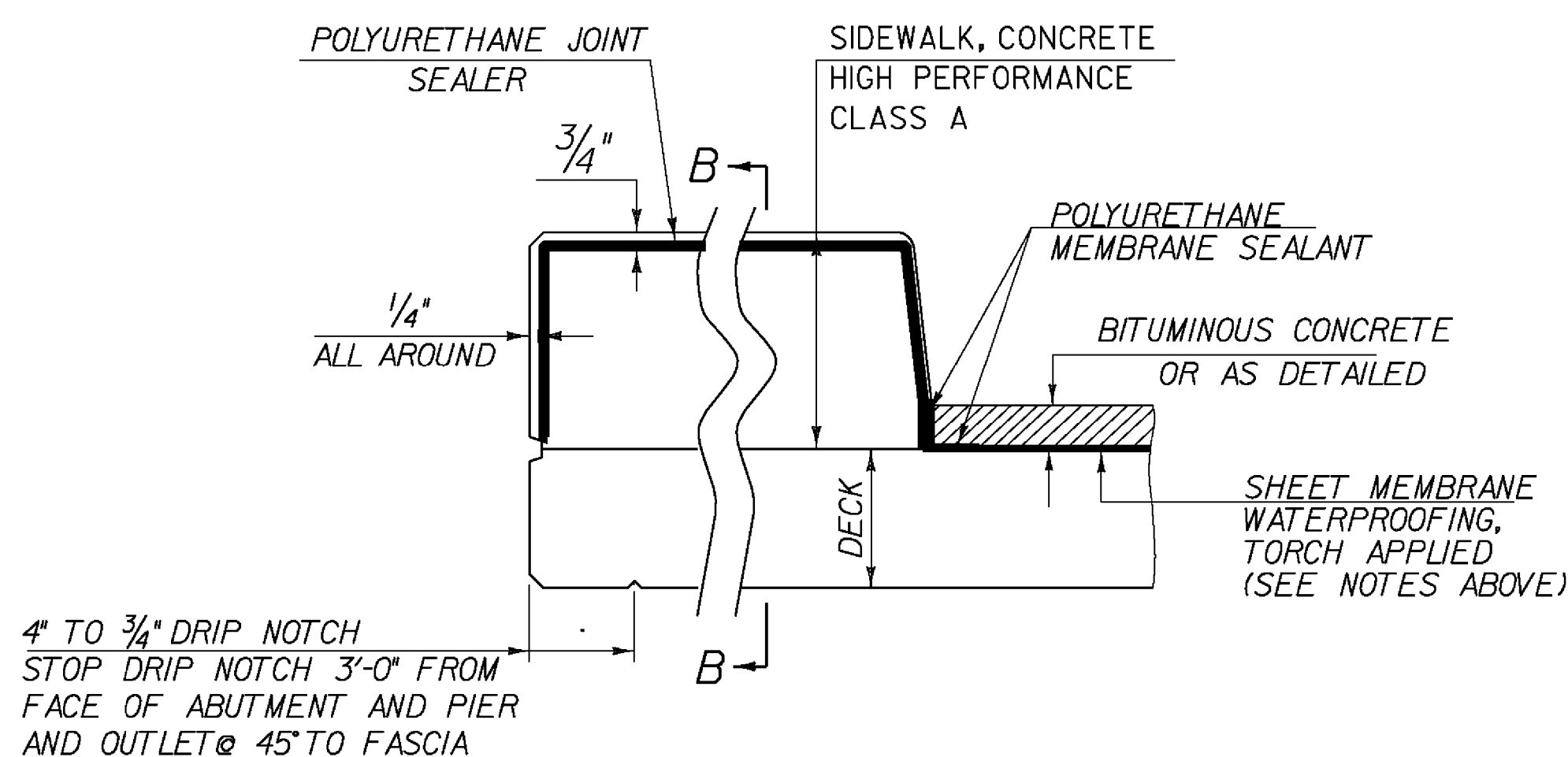
PROJECT NAME: SPRINGFIELD  
PROJECT NUMBER: BHF 016-2(14)

FILE NAME: s06j004sup.dgn  
PROJECT LEADER: R. WHITCOMB  
DESIGNED BY: C. CARLSON  
CONCRETE DETAILS

PLOT DATE: 29-MAY-2009  
DRAWN BY: C. MOONEY  
CHECKED BY: D. PETERSON  
SHEET 29 OF 72

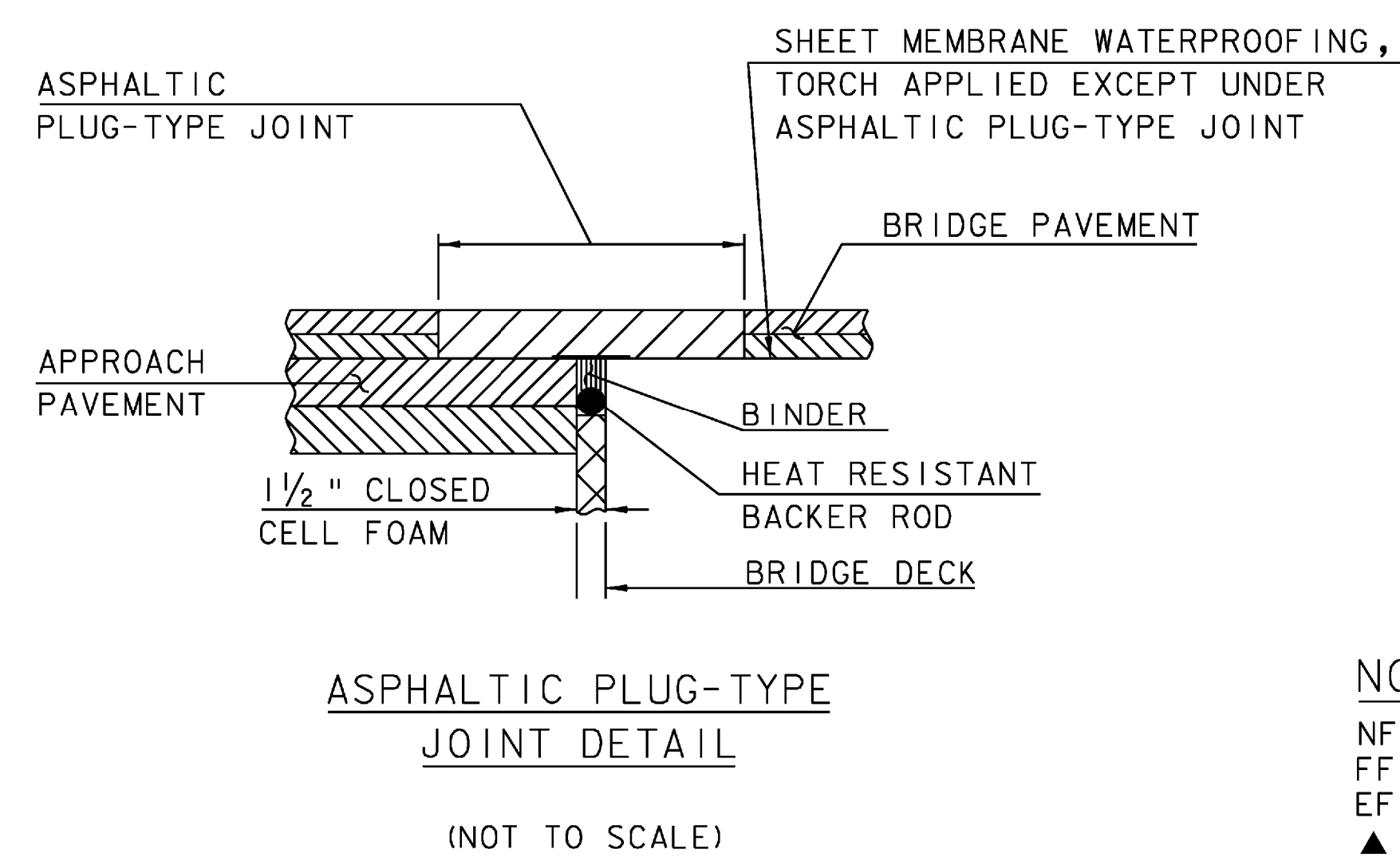
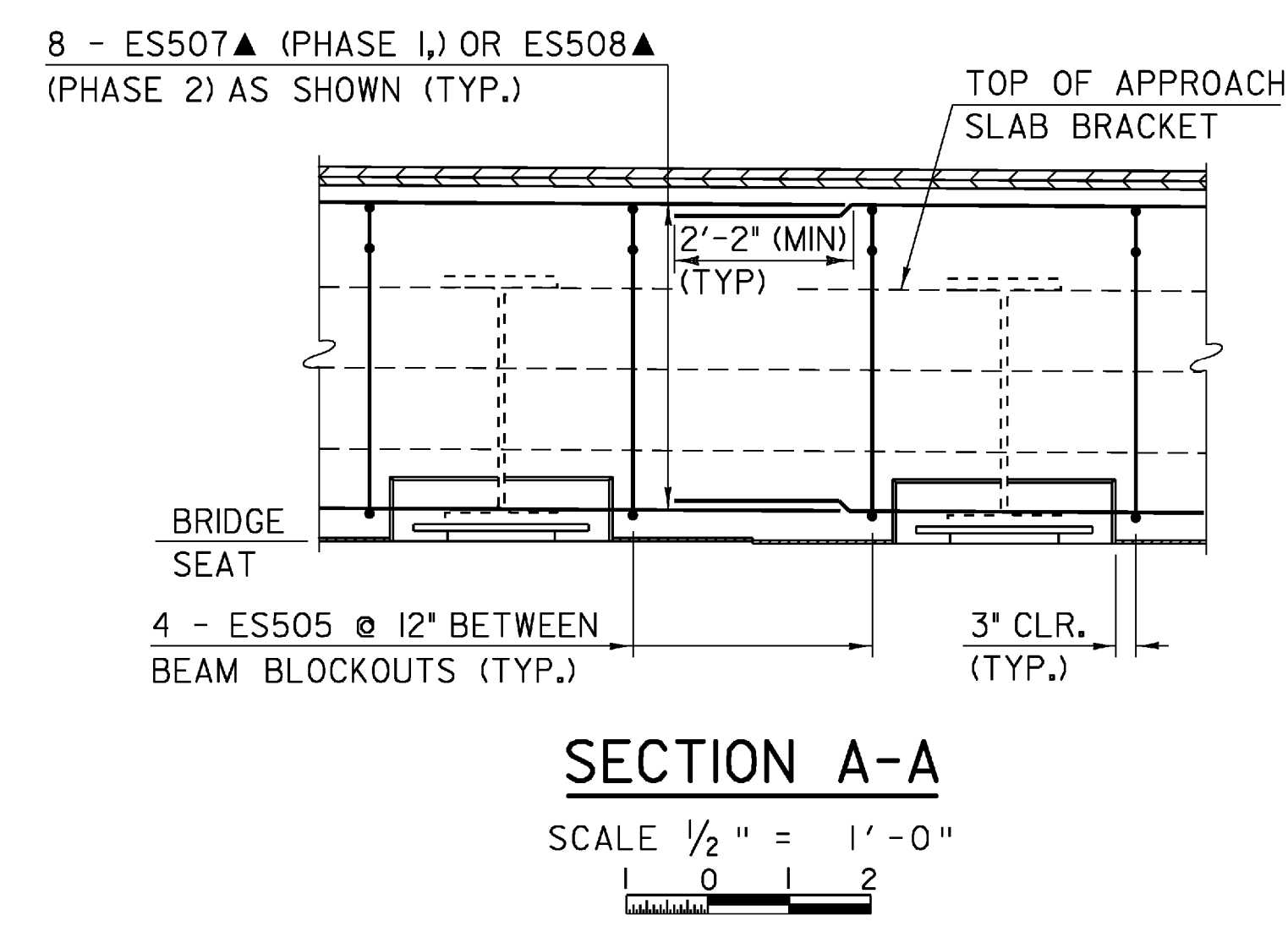
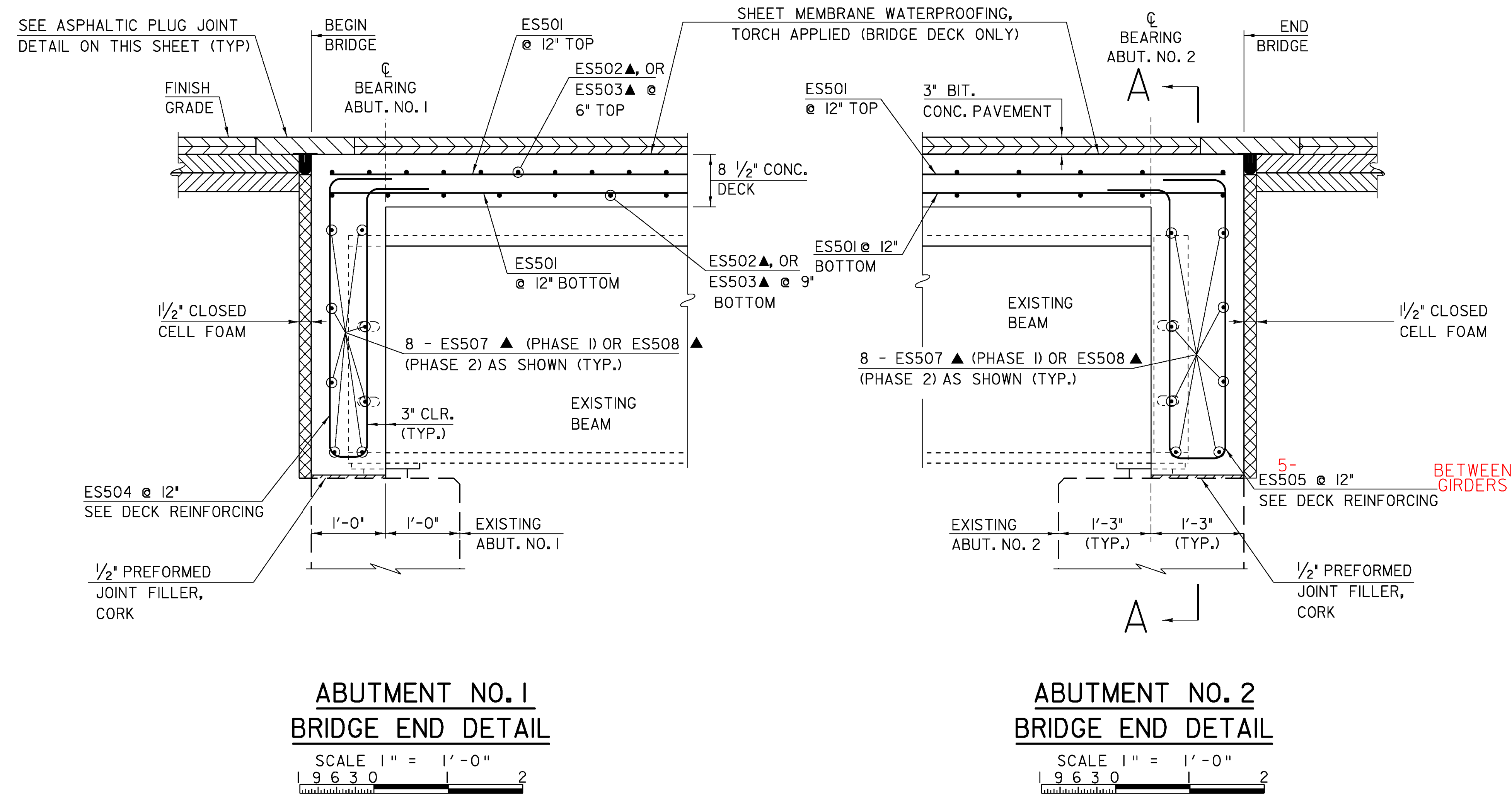
### SHEET MEMBRANE NOTES:

1. PREPARE THE SURFACE OF THE FACE OF THE SIDEWALK TO BE SEALED WITH POLYURETHANE MEMBRANE SEALANT IN ACCORDANCE WITH SUBSECTION 519.04 SURFACE PREPARATION. (PAYMENT FOR POLYURETHANE MEMBRANE SEALANT SHOULD BE INCLUDED IN ITEM 519.20, "SHEET MEMBRANE WATERPROOFING, TORCH APPLIED".)
2. SHEET MEMBRANE WATERPROOFING, TORCH APPLIED : EXTEND SHEET MEMBRANE WATERPROOFING TO FACE OF SIDEWALK.



### TYPICAL SECTION THROUGH CONCRETE SIDEWALK CONSTRUCTION JOINT





**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.

ASPHALTIC PLUG JOINT NOTES

I. INSTALLATION

A. LOCATE THE JOINT CENTRALLY OVER THE DECK EXPANSION GAP OR FIXED JOINT MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.

B. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.

C. BLAST CLEAN THE JOINT AREA OF DEBRIS AND ASPHALT. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.

D. REPAIR SPALLED AND DEFECTIVE CONCRETE WITH AN APPROVED MATERIAL AS AGREED UPON BY THE ENGINEER.

E. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.

F. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.

G. PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRESTAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER.

H. HEAT AND MIX THE BINDER MATERIAL AND AGGREGATE AS RECOMMENDED BY THE MANUFACTURER.

I. INSTALLATION OF MATERIAL, COMPACTION, AND TOP COATING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

J. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.

K. PROTECT JOINT FROM TRAFFIC UNTIL THE MATERIAL HAS COOLED TO 51 DEG C (125 DEG F) +/-.

2. WEATHER LIMITATIONS.  
(APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTURER):

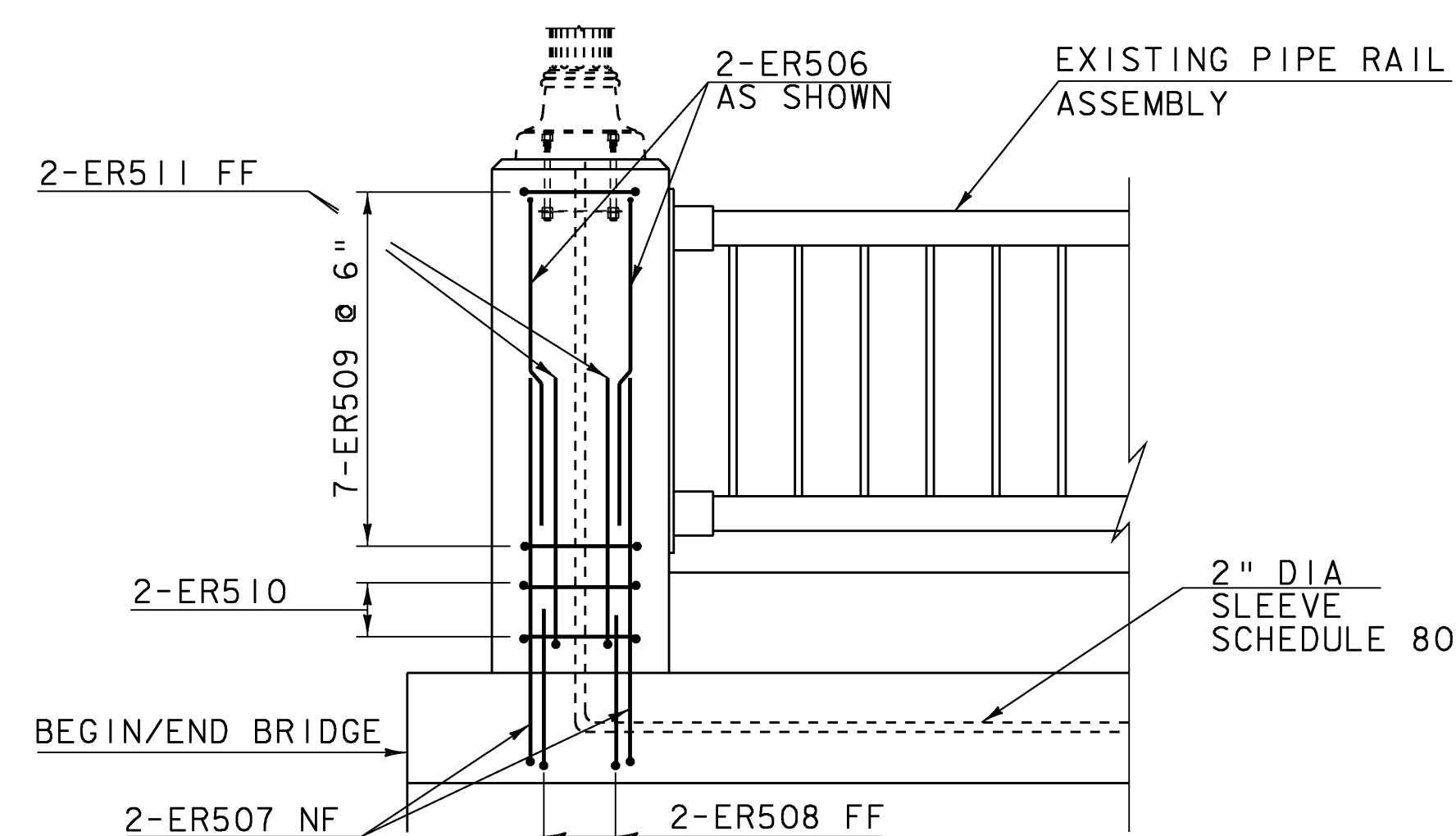
A. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.

B. THE ROAD SURFACE IS DRY.

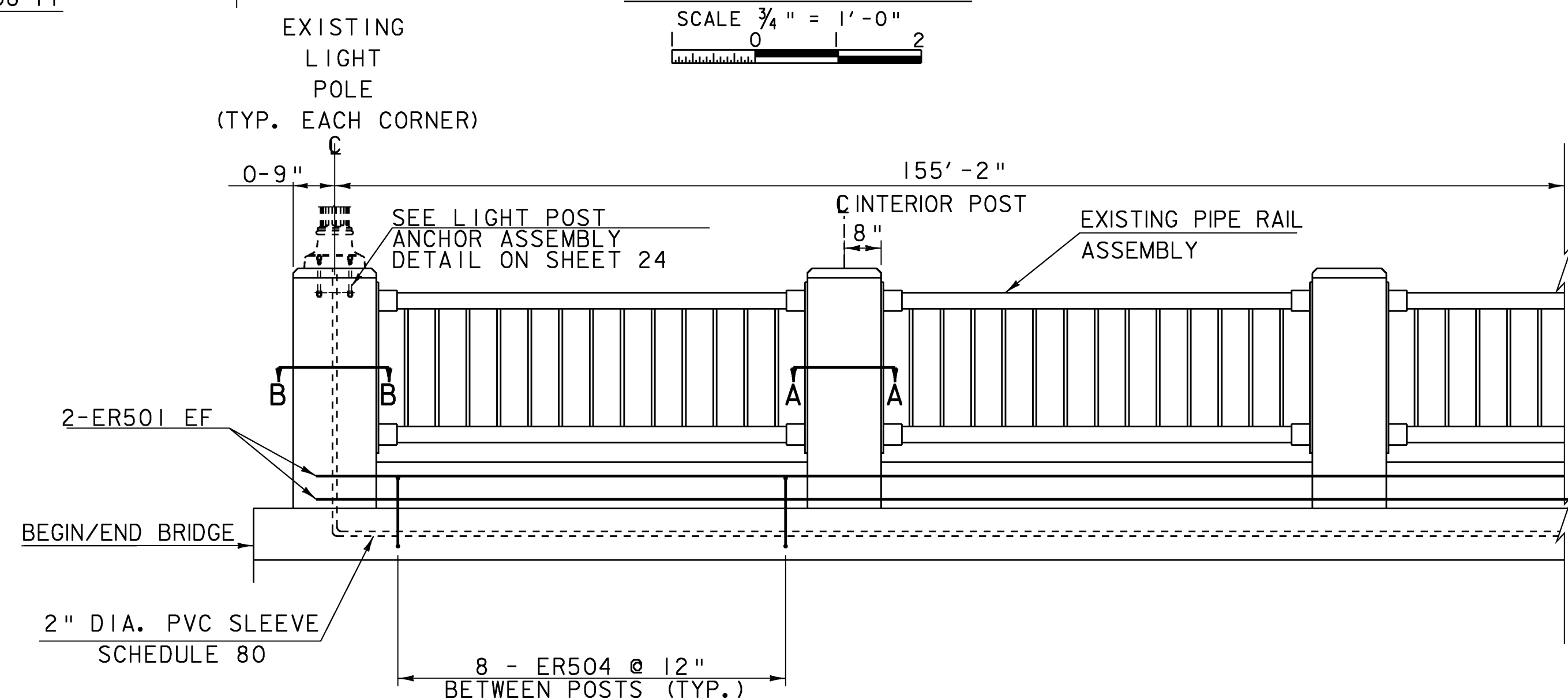
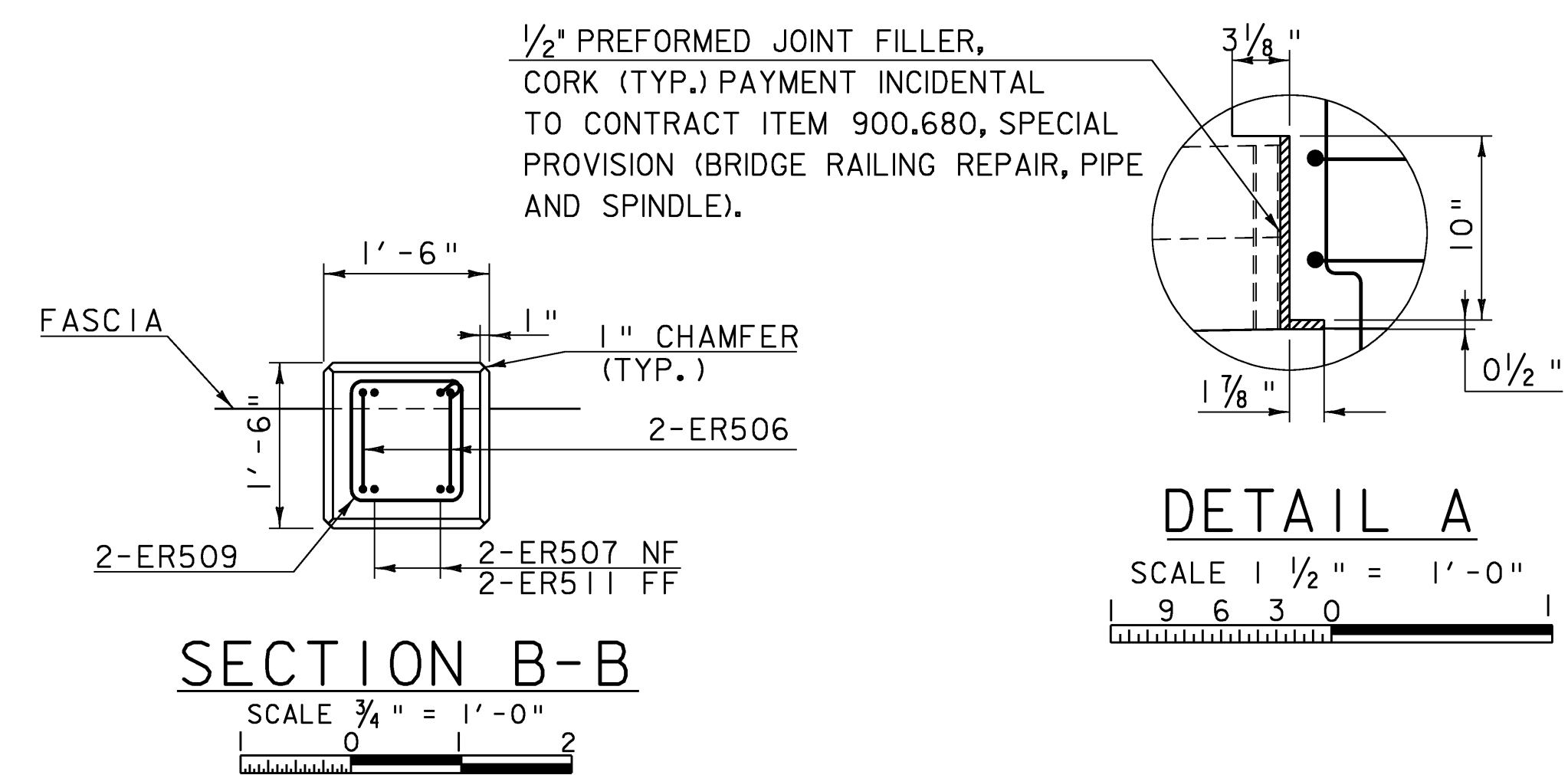
C. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

|                               |                        |
|-------------------------------|------------------------|
| PROJECT NAME: SPRINGFIELD     |                        |
| PROJECT NUMBER: BHF 016-2(14) |                        |
| FILE NAME: s06j004sup.dgn     | PLOT DATE: 04-MAR-2009 |
| PROJECT LEADER: R. WHITCOMB   | DRAWN BY: D. PETERSON  |
| DESIGNED BY: C. CARLSON       | CHECKED BY: C. CARLSON |
| BRIDGE END DETAILS            | SHEET 30 OF 72         |





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



SCALE  $\frac{1}{2}$ " = 1'-0"

Technical drawing of a vertical pipe assembly, showing two views: a front view (left) and a side view (right).

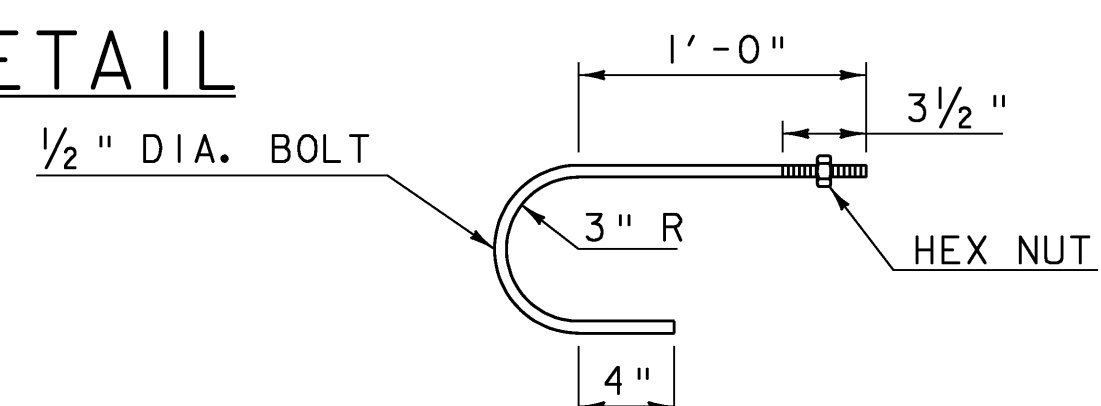
**Front View (Left):**

- Overall height: 4' - 4"
- Top section height: 1' - 4"
- Middle section height: 2' - 5"
- Bottom section height: 10' - ER505
- Top connection: 2-ER502 AS SHOWN
- Middle connection: 2-ER503 AS SHOWN
- Bottom connection: 2-ER504 IN POST
- Section height: 10"
- Section height: 1" - 3" (MIN.)
- Note: 8-ER504 @ 12" BETWEEN POSTS

**Side View (Right):**

- Overall height: 4' - 4"
- Top section height: 1' - 0"
- Middle section height: 10' - ER505
- Bottom section height: 2" CLR
- Top connection: 1" CHAMFER
- Middle connection: 4-ER501
- Bottom connection: 2-ER504 IN POST
- Section height: 3" CLR
- Note: 2" DIA SLEEVE SCHEDULE 80

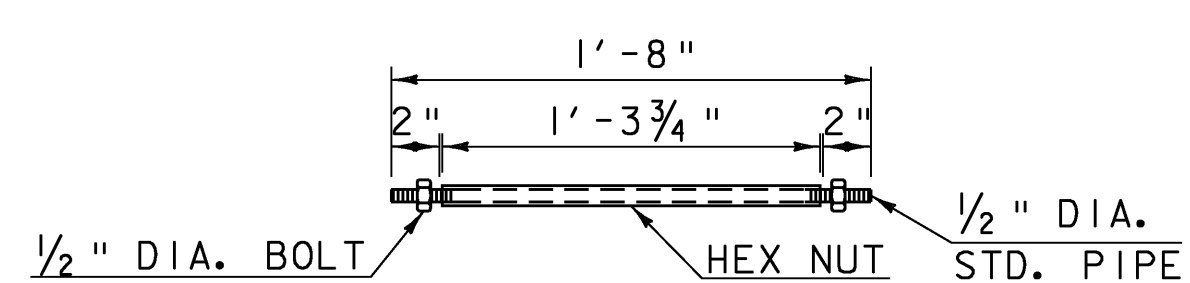
SCALE  $\frac{3}{4}$ " = 1'-0"



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

| 9 6 3 0 |

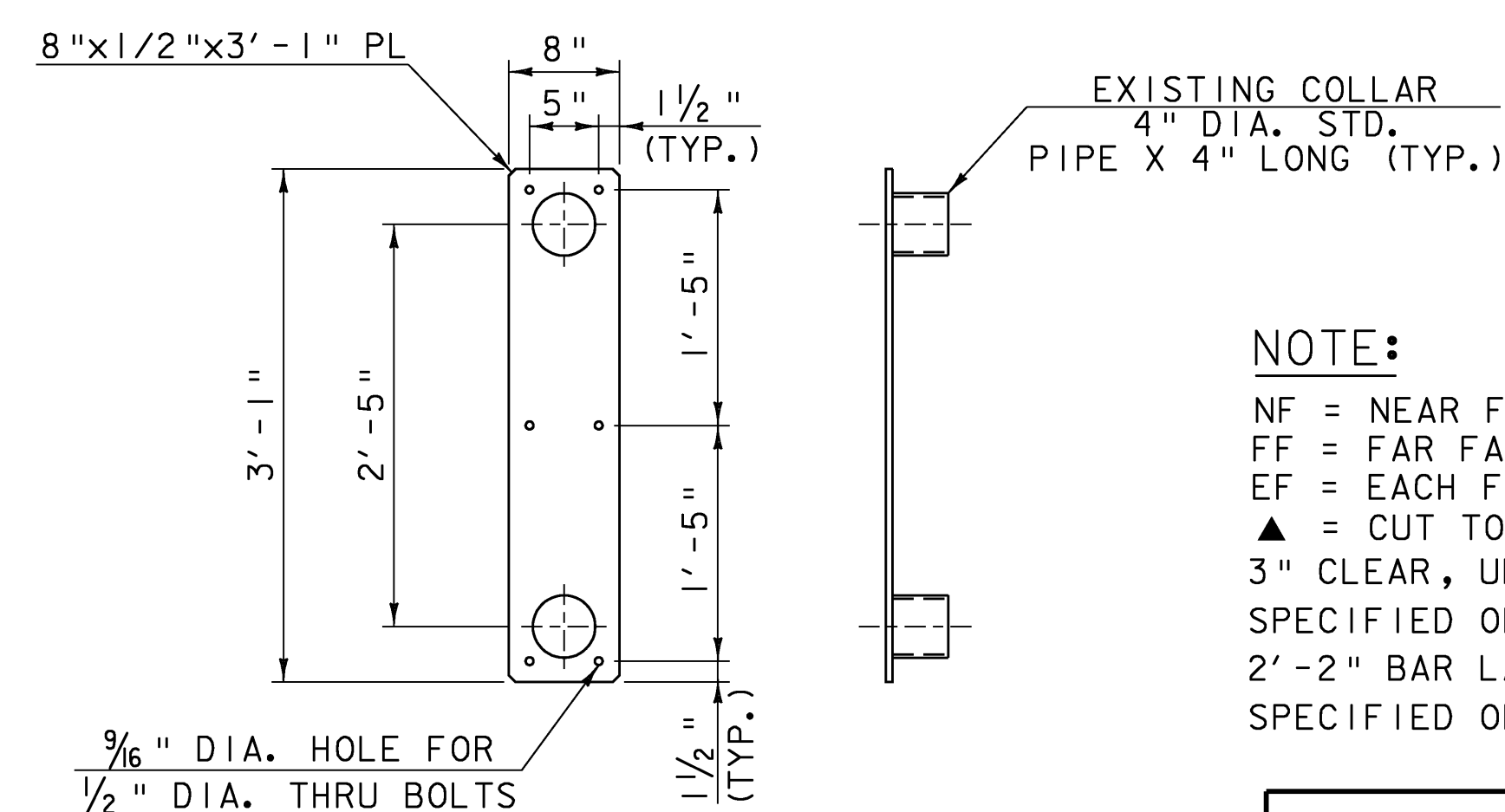
(USE 6 AT EACH END POST LOCATION)



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

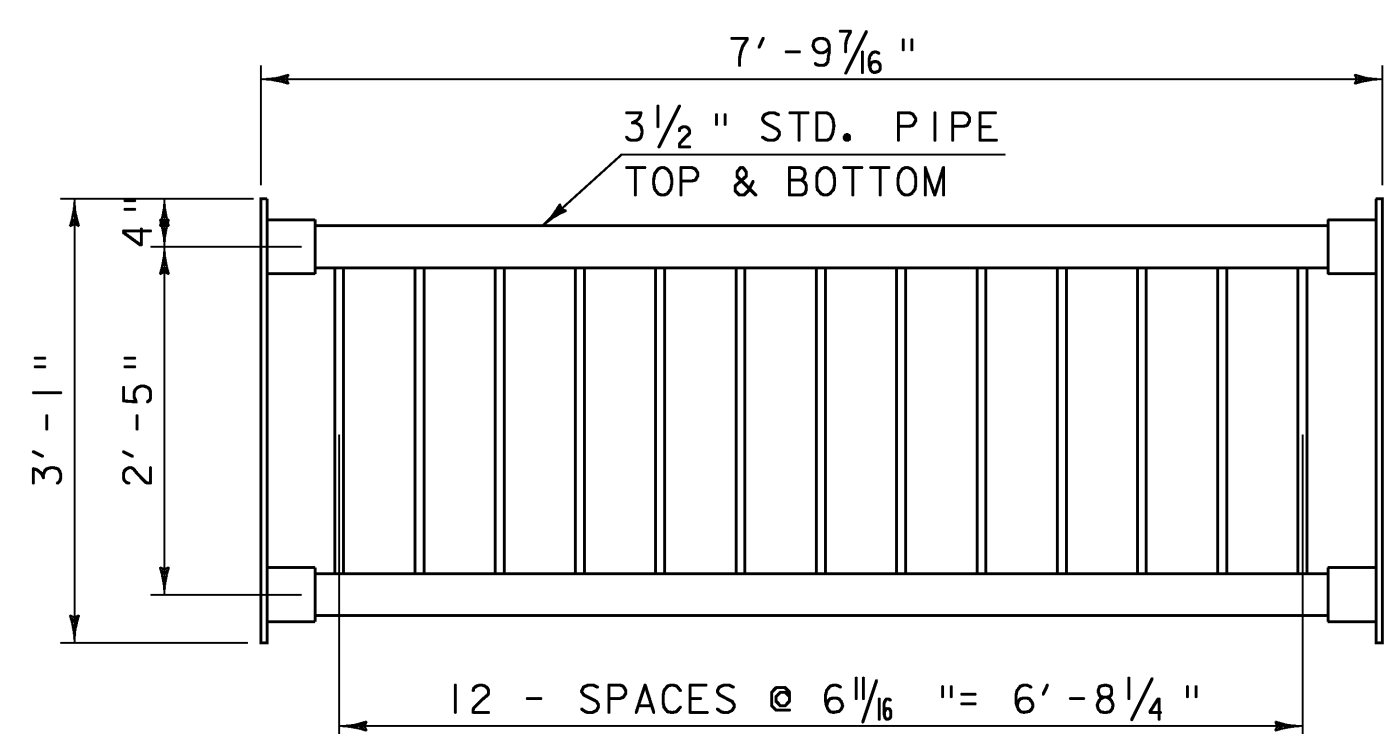
1 9 6 3 0

(USE 6 AT EACH INTERIOR POST LOCATION)



SCALE 1" = 1'-0"

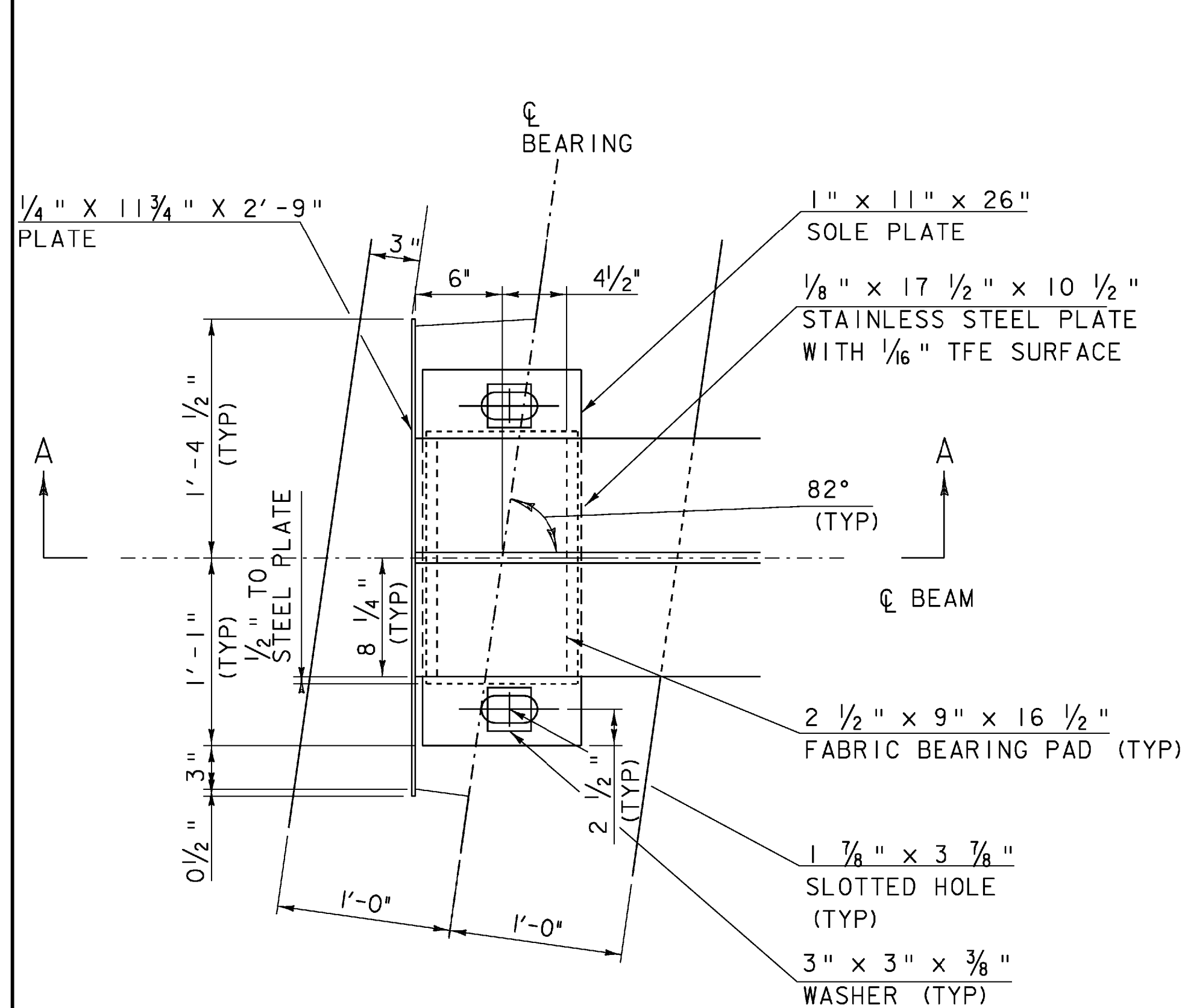
NF = NEAR FACE  
FF = FAR FACE  
EF = EACH FACE  
▲ = CUT TO FIT IN FIELD  
3" CLEAR, UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.  
2'-2" BAR LAP UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.



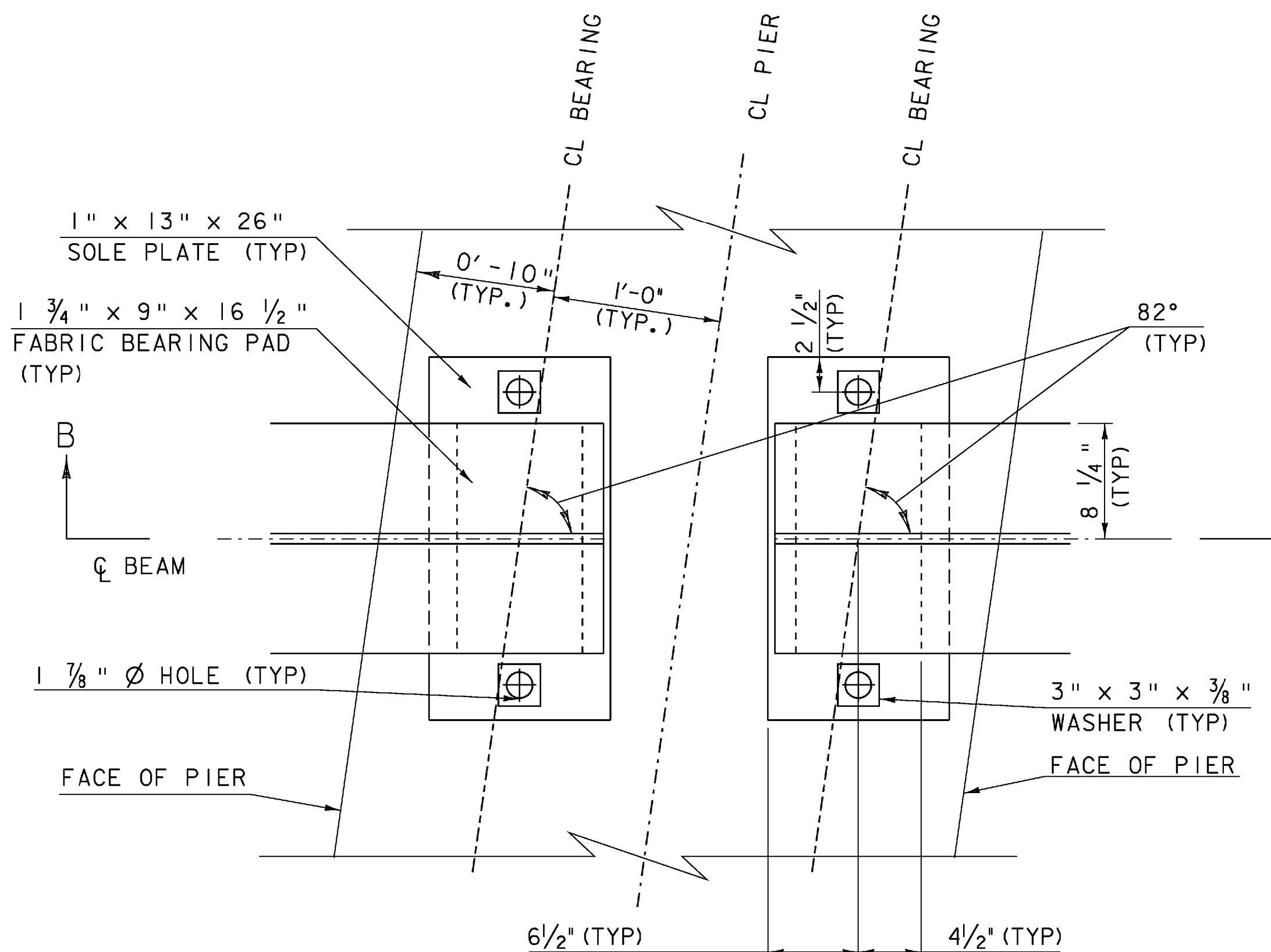
SCALE  $\frac{3}{4}$ " = 1'-0"

|                               |                        |
|-------------------------------|------------------------|
| PROJECT NAME: Springfield     |                        |
| PROJECT NUMBER: BHF 016-2(14) |                        |
| FILE NAME: s06j004rail.dgn    | PLOT DATE: 04-MAR-2009 |
| PROJECT LEADER: R. WHITCOMB   | DRAWN BY: D. PETERSON  |
| DESIGNED BY: D. PETERSON      | CHECKED BY: C. CARLSON |
| BRIDGE RAIL DETAILS           | SHEET 31 OF 72         |

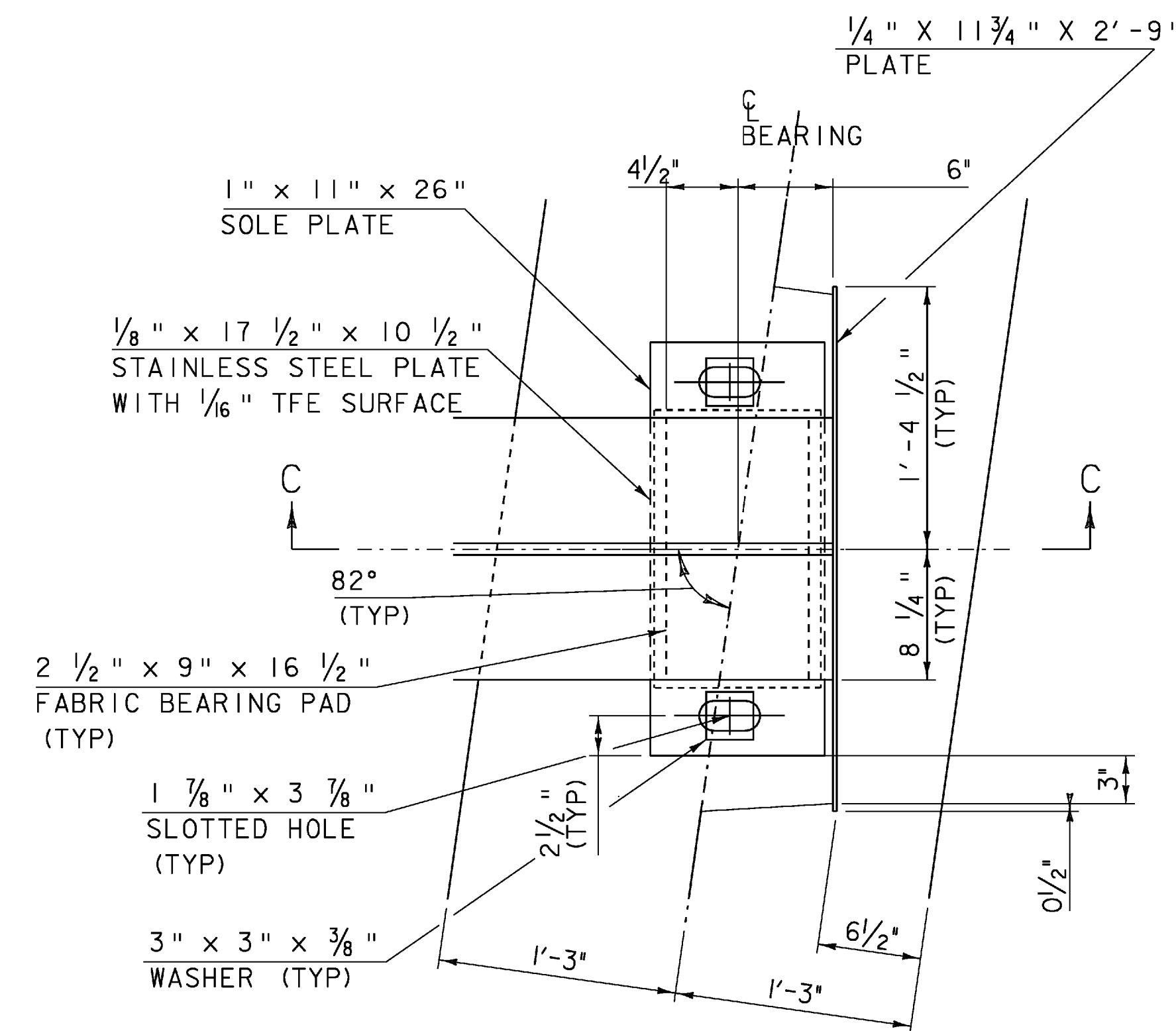




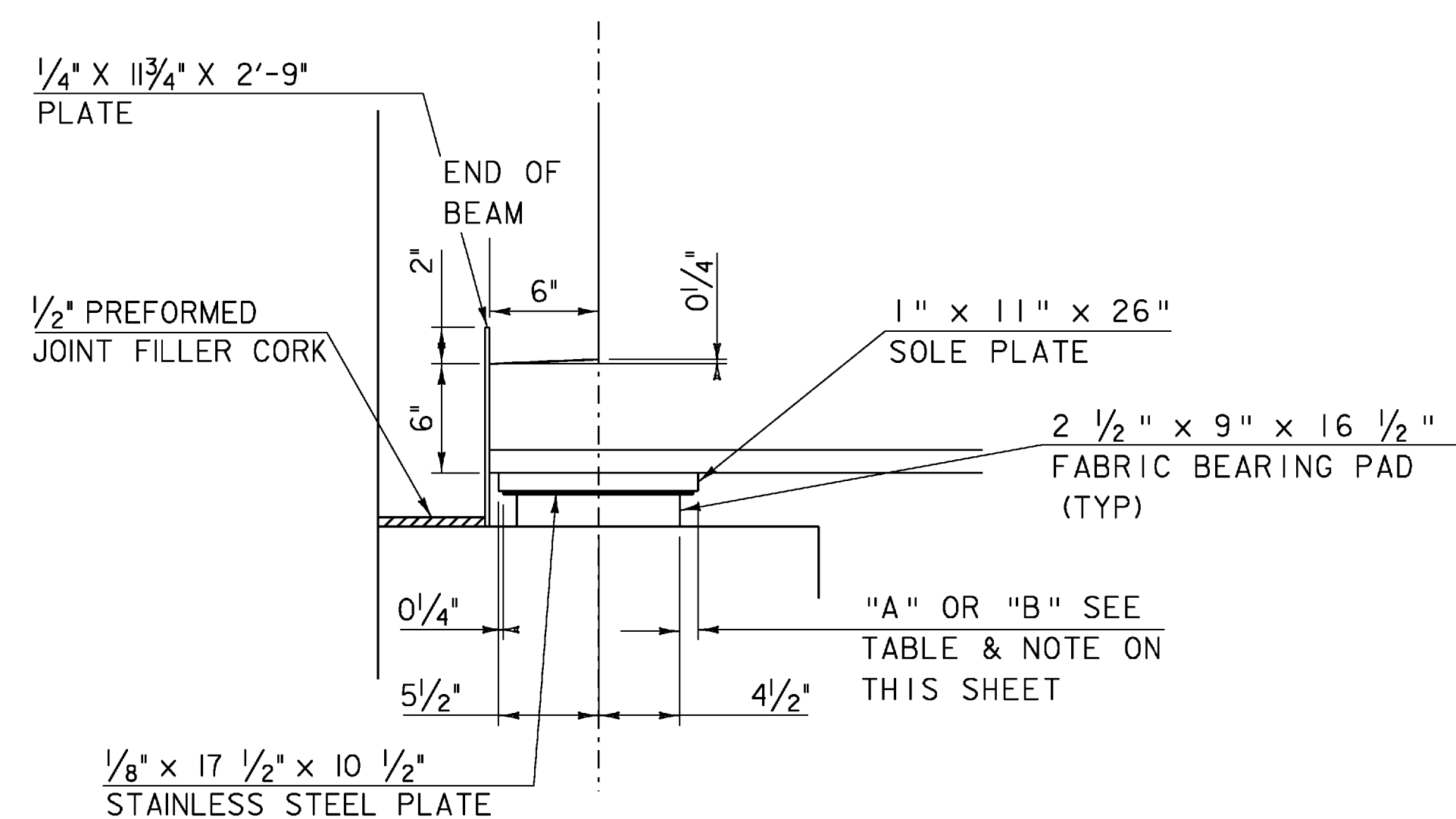
EXPANSION BEARING  
BEAMS 2 THROUGH 9  
ABUTMENT 1  
SCALE 1 1/2" = 1'-0"



FIXED BEARING  
PIER 1 BEAMS 2 THROUGH 9  
PIER 2 BEAMS 12 THROUGH 19  
SCALE 1 1/2" = 1'-0"

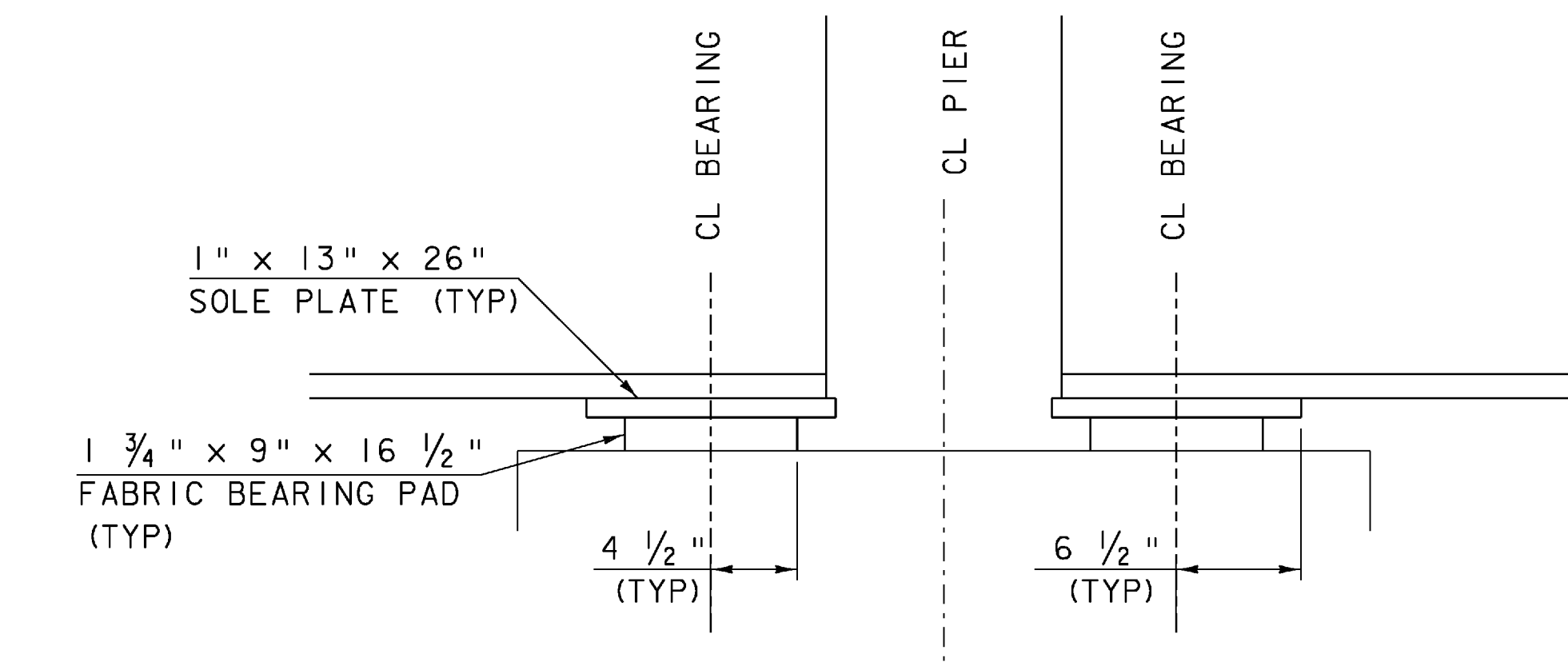


EXPANSION BEARING  
BEAMS 12 THROUGH 19  
ABUTMENT 2  
SCALE 1 1/2" = 1'-0"

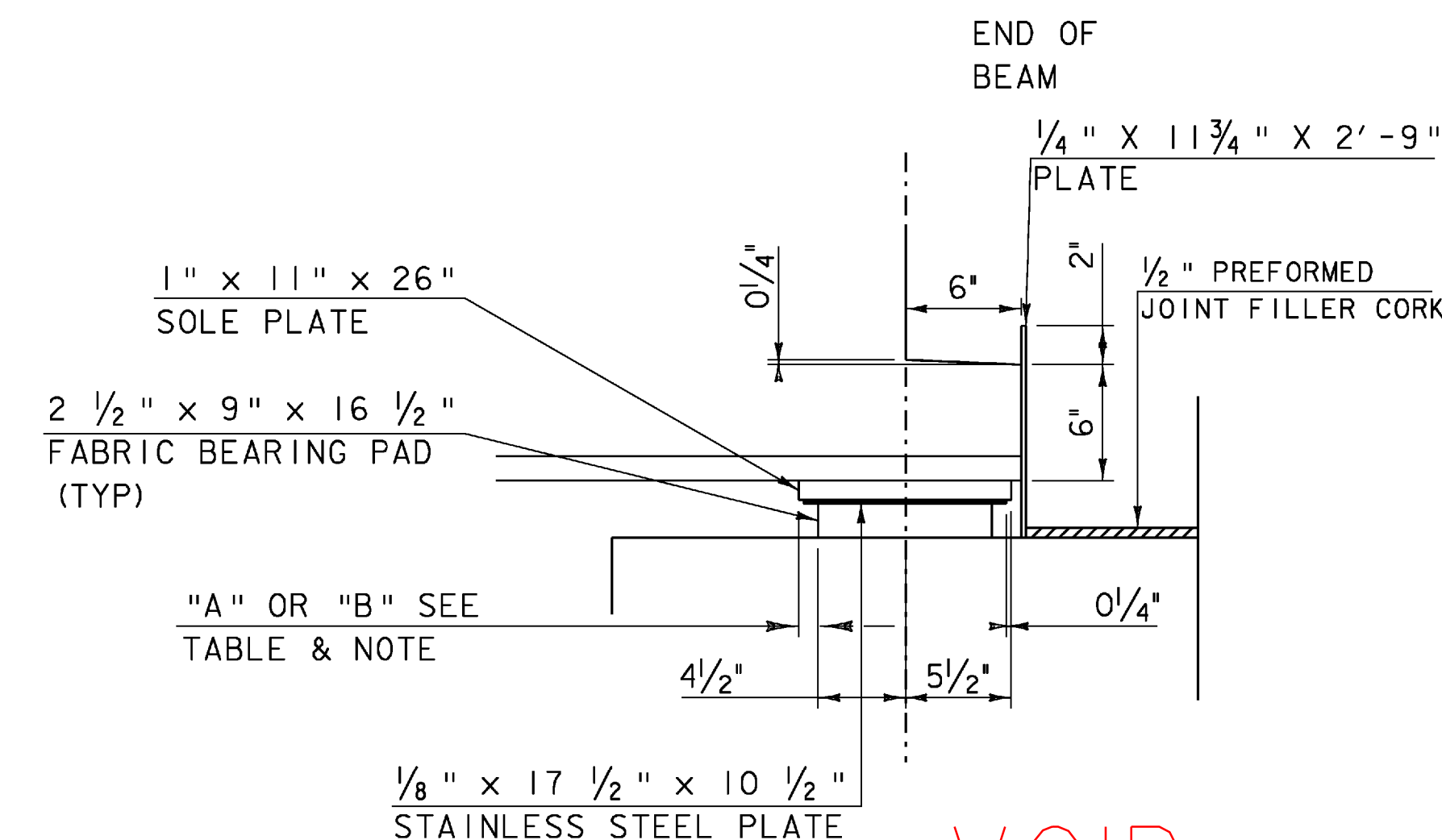


SECTION A-A  
SCALE 1 1/2" = 1'-0"

| BEAMS 2 - 9 & 12 - 19 |        |        |
|-----------------------|--------|--------|
| TEMPERATURE           | "A"    | "B"    |
| 0                     | 1 5/8" | 1 3/8" |
| 15                    | 1 1/2" | 1 1/4" |
| 30                    | 1 3/8" | 1 1/8" |
| 45                    | 1 1/4" | 1"     |
| 60                    | 1 1/8" | 7/8"   |
| 75                    | 1"     | 3/4"   |
| 90                    | 7/8"   | 5/8"   |
| 105                   | 3/4"   | 1/2"   |



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



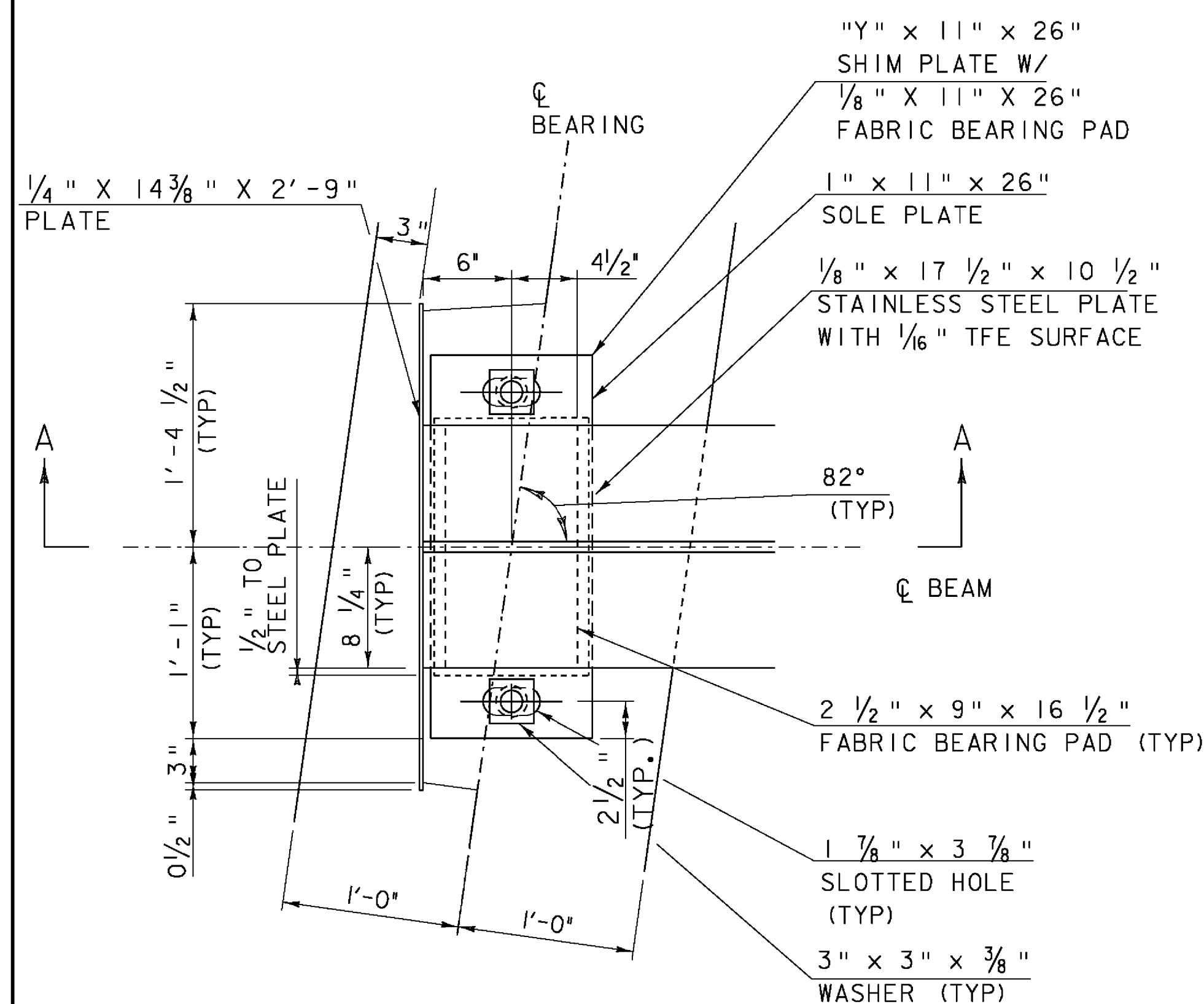
SECTION C-C  
SCALE 1 1/2" = 1'-0"

NOTE:  
THE "A" DISTANCE IS THE SOLE PLATE ADJUSTMENT TO BE USED BEFORE DEAD LOAD IS ADDED TO THE GIRDERS. THE "B" DISTANCE IS THE SOLE PLATE ADJUSTMENT TO BE USED AFTER THE DECK AND SIDEWALK HAVE BEEN POURED. THE DIFFERENCE IS THE THEORETICAL ELONGATION OF THE BOTTOM FLANGE DUE TO THE DEAD LOAD DEFLECTION FROM THE DECK AND SIDEWALK. THE FINAL "B" DISTANCE MUST BE REACHED WITHIN 1/8".

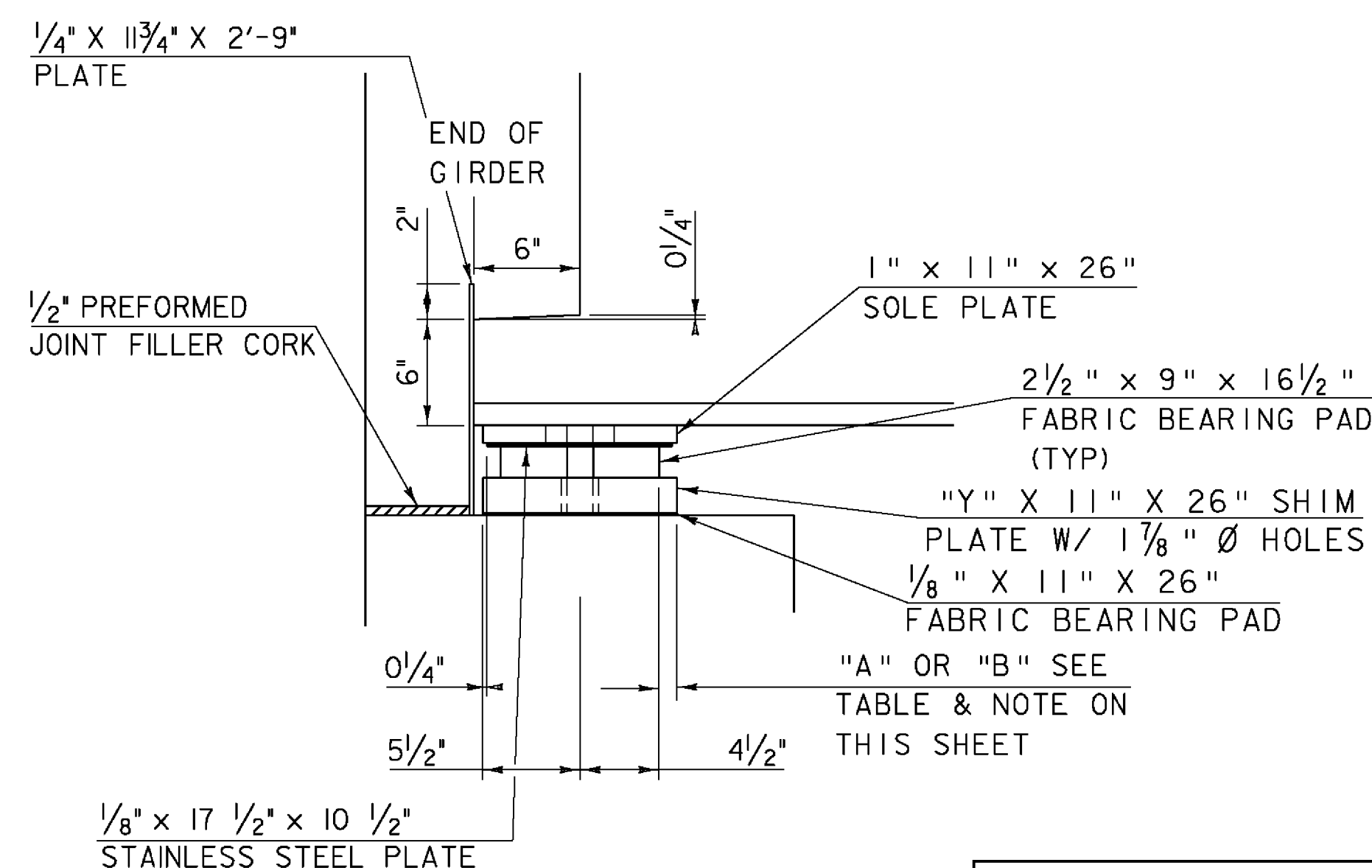
SCALE 1 1/2" = 1'-0"  
9 6 3 0

PROJECT NAME: SPRINGFIELD  
PROJECT NUMBER: BHF 016-2(14)  
FILE NAME: s06j004sup.dgn  
PROJECT LEADER: R. WHITCOMB  
DESIGNED BY: C. CARLSON  
INTERIOR BEARING DETAILS  
PLOT DATE: 04-MAR-2009  
DRAWN BY: C. MOONEY  
CHECKED BY: D. PETERSON  
SHEET 32 OF 72



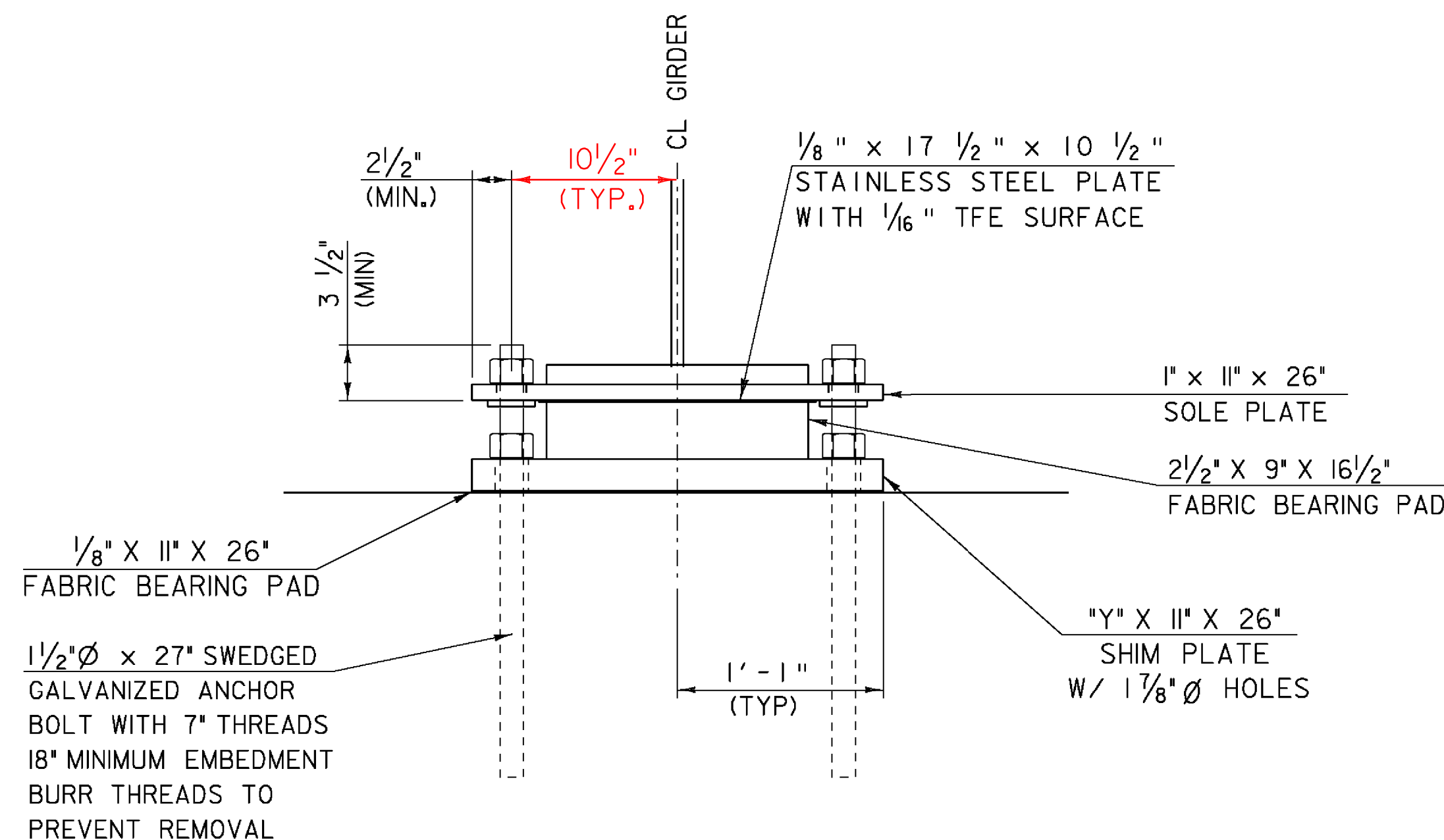


EXPANSION BEARING  
GIRDERS 1 THROUGH 7  
ABUTMENT 1  
SCALE 1/2" = 1'-0"  
(SHIM PLATE NOT SHOWN)



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

| GIRDERS 1 - 7<br>TEMPERATURE | "A"    | "B"    |
|------------------------------|--------|--------|
| 0                            | 1 5/8" | 1 3/8" |
| 15                           | 1 1/2" | 1 1/4" |
| 30                           | 1 3/8" | 1 1/8" |
| 45                           | 1 1/4" | 1"     |
| 60                           | 1 1/8" | 7/8"   |
| 75                           | 1"     | 3/4"   |
| 90                           | 7/8"   | 5/8"   |
| 105                          | 3/4"   | 1/2"   |



SHIM PLATE DETAIL



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

SHIM PLATES @ ABUT. 1 & 2

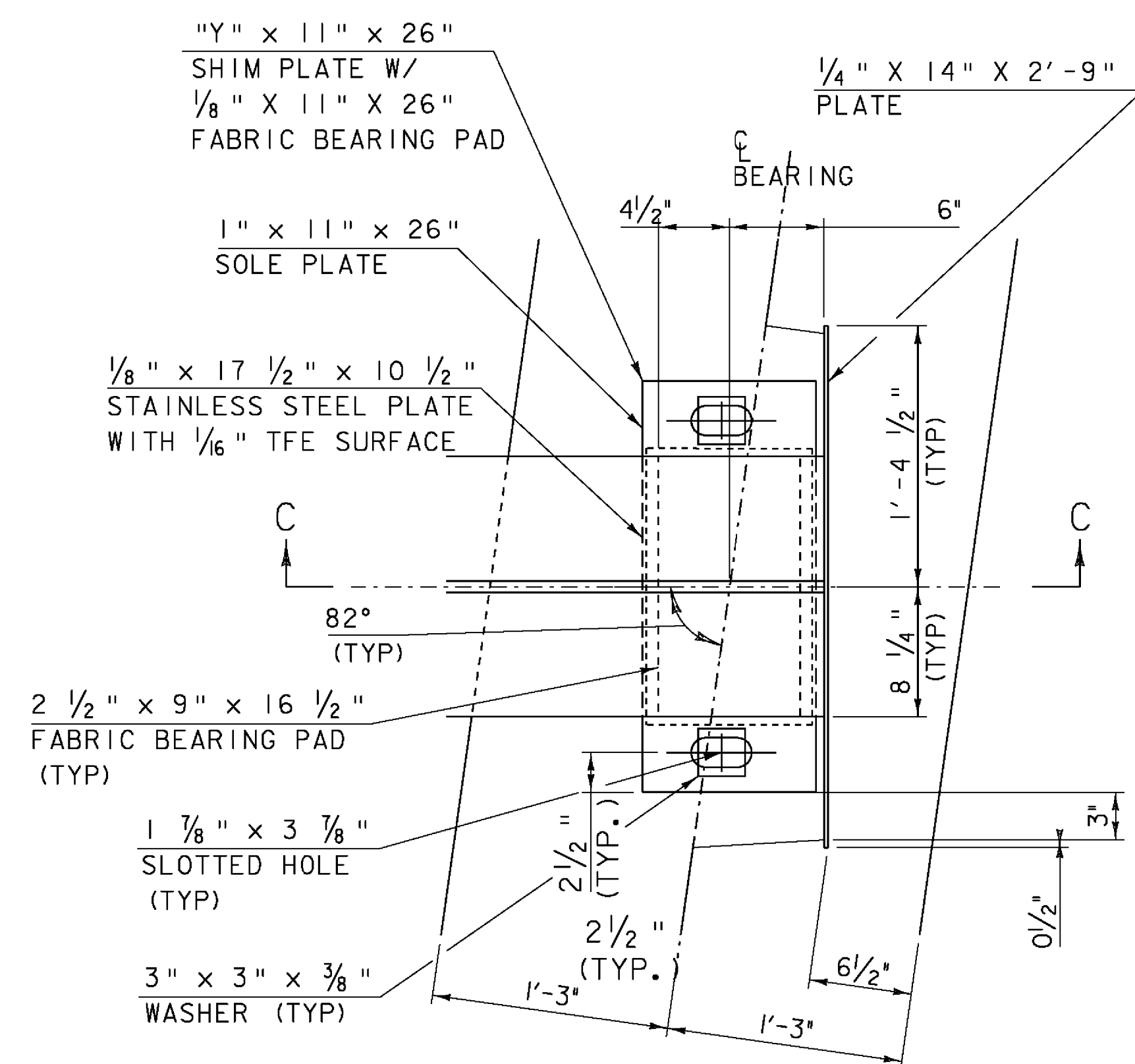
| GIRDER<br>NO. | ABT. NO. 1<br>"Y" | ABT. NO. 2<br>"Y" |
|---------------|-------------------|-------------------|
| 1             | 2 1/2"            | 2"                |
| 2             | 2"                | 1 1/2"            |
| 3-7           | 2 1/2"            | 2"                |

SHIM PLATES SHALL BE CONSIDERED  
INCIDENTAL TO ITEM 531.10, BEARING  
DEVICE ASSEMBLY, PREFORMED  
FABRIC PAD

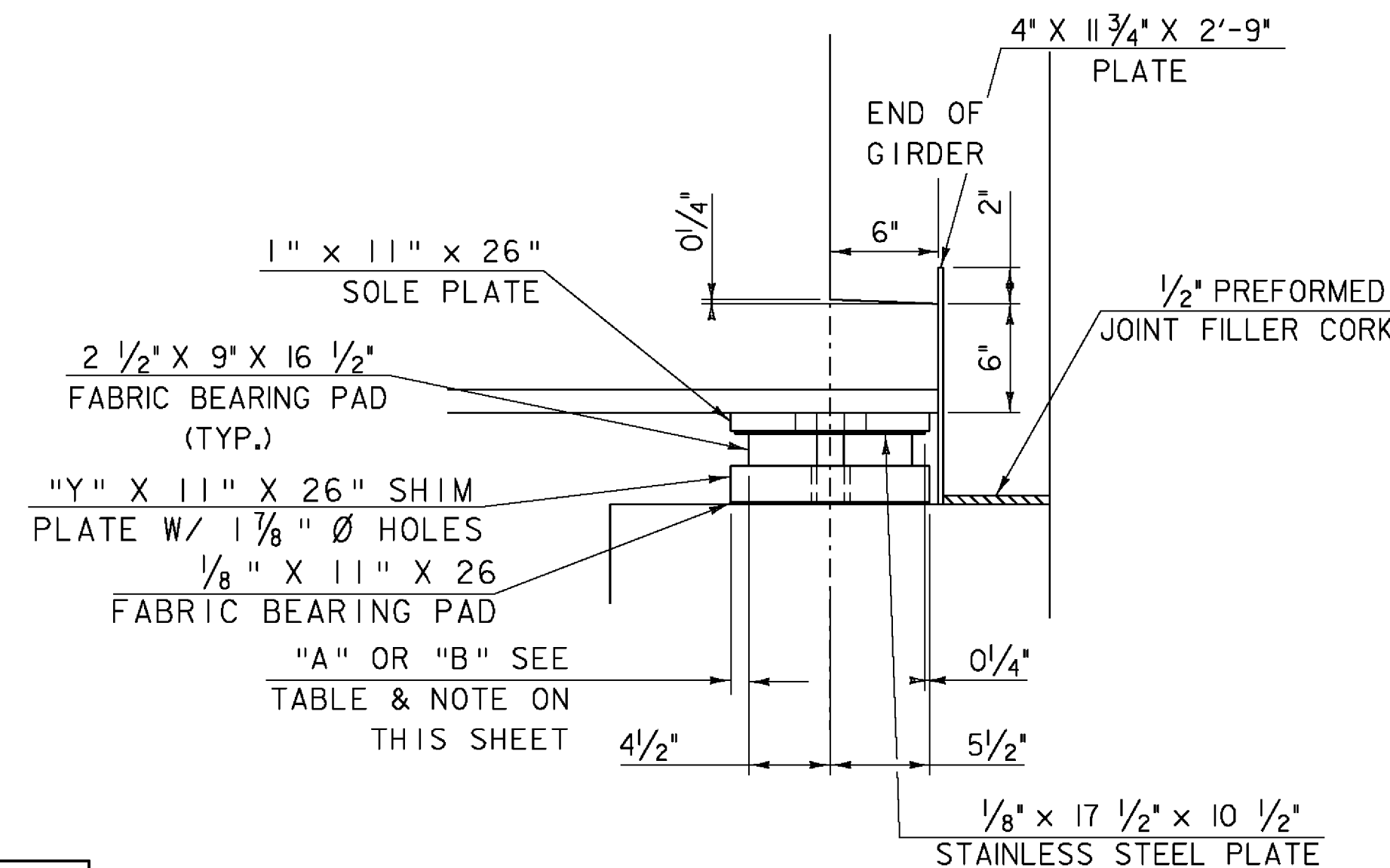
| REV. | BY  | DATE    | DESCRIPTION                |
|------|-----|---------|----------------------------|
| 3    | LBB | 5/26/09 | REVISED - ADDED SHIM PLATE |

NOTE:

THE "A" DISTANCE IS THE SOLE PLATE ADJUSTMENT TO BE USED BEFORE DEAD LOAD IS ADDED TO THE GIRDERS. THE "B" DISTANCE IS THE SOLE PLATE ADJUSTMENT TO BE USED AFTER THE DECK AND SIDEWALK HAVE BEEN POURED. THE DIFFERENCE IS THE THEORETICAL ELONGATION OF THE BOTTOM FLANGE DUE TO THE DEAD LOAD DEFLECTION FROM THE DECK AND SIDEWALK. THE FINAL "B" DISTANCE MUST BE REACHED WITHIN 1/8".



EXPANSION BEARING  
GIRDERS 8 THROUGH 14  
ABUTMENT 2  
SCALE 1/2" = 1'-0"  
(SHIM PLATE NOT SHOWN)



SECTION C-C

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

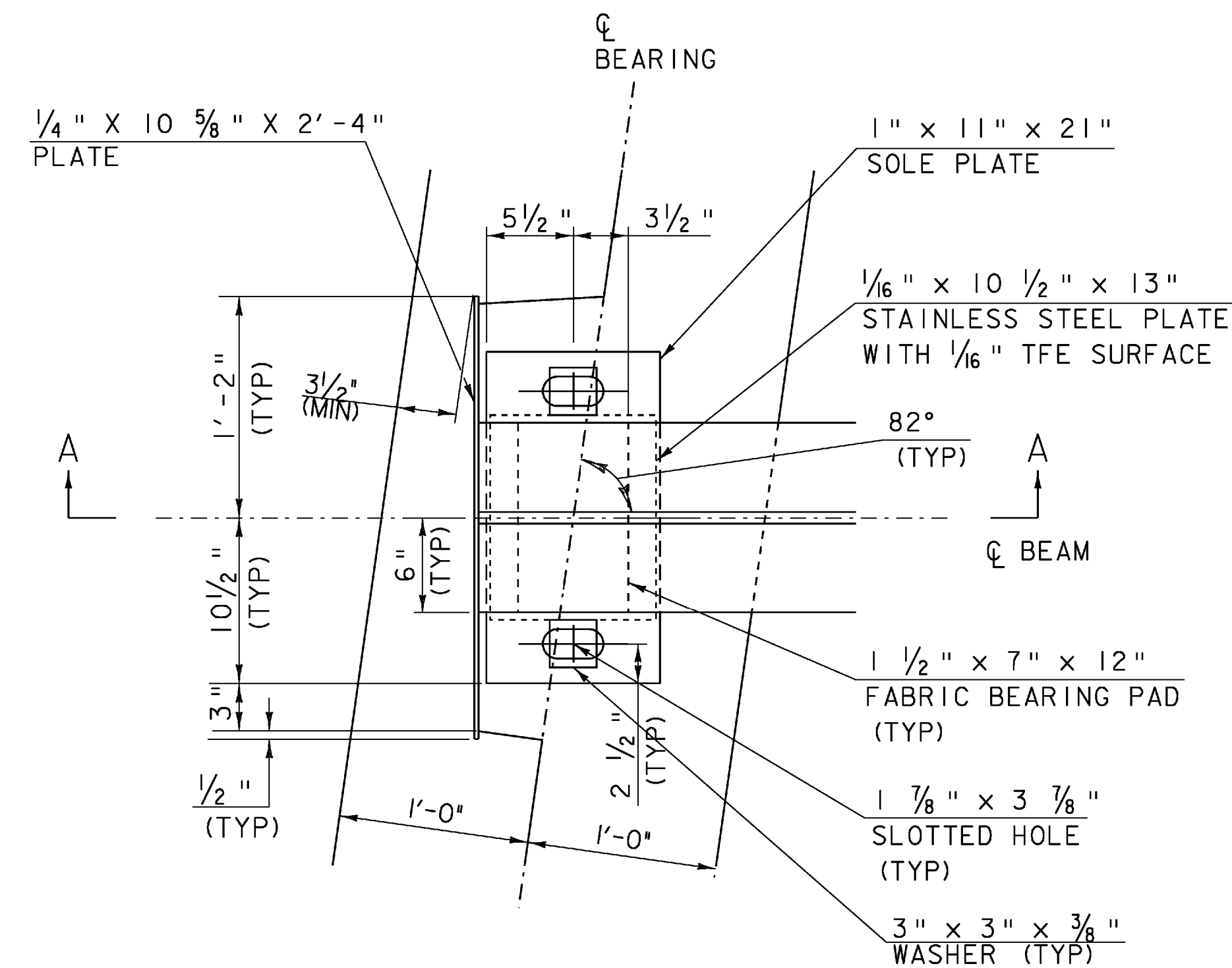
PROJECT NAME: SPRINGFIELD

PROJECT NUMBER: BHF 016-2(14)

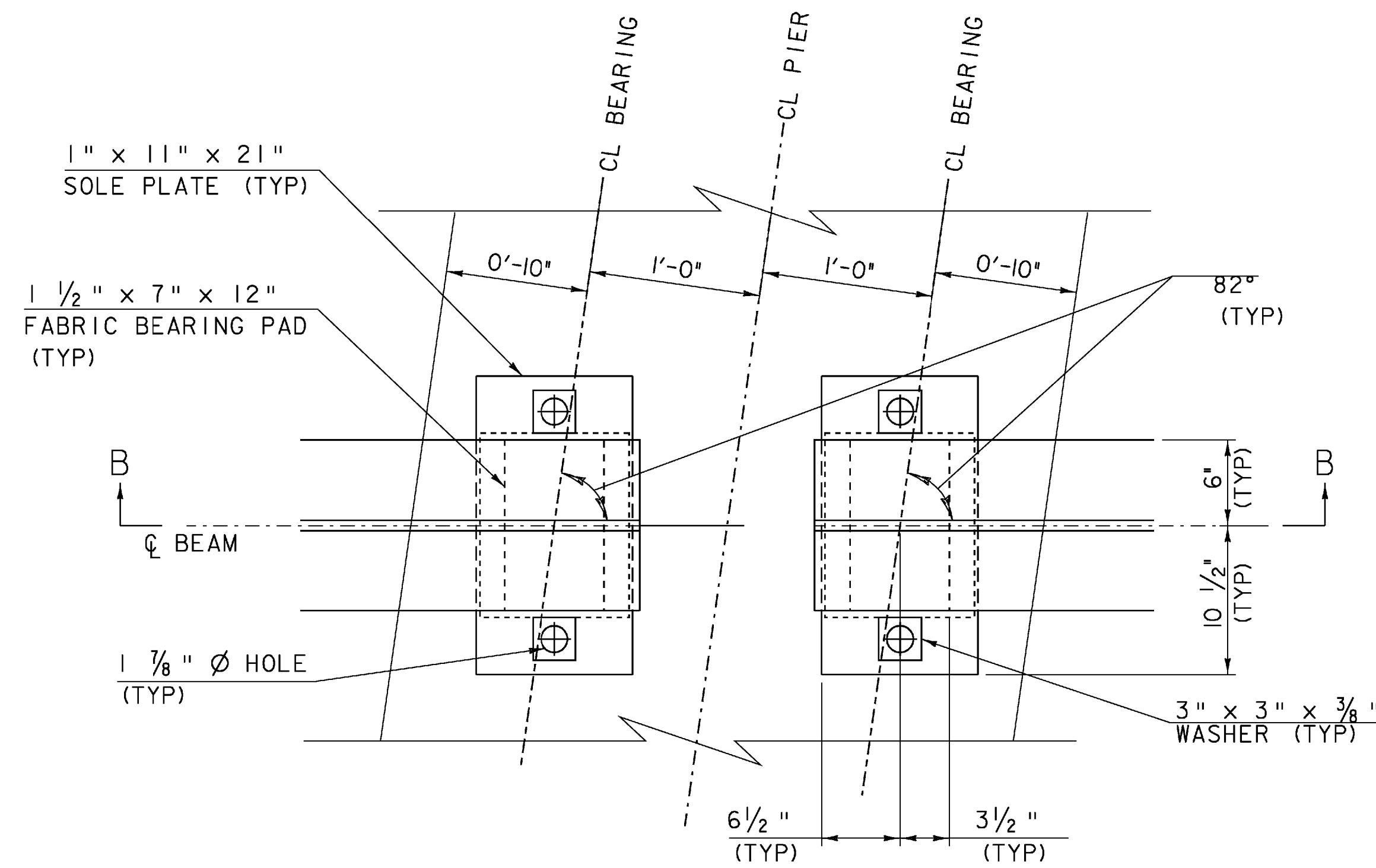
FILE NAME: s06j004sup.dgn  
PROJECT LEADER: R. WHITCOMB  
DESIGNED BY: C. CARLSON  
INTERIOR BEARING DETAILS

PLOT DATE: 29-MAY-2009  
DRAWN BY: C. MOONEY  
CHECKED BY: D. PETERSON  
SHEET 32 OF 72

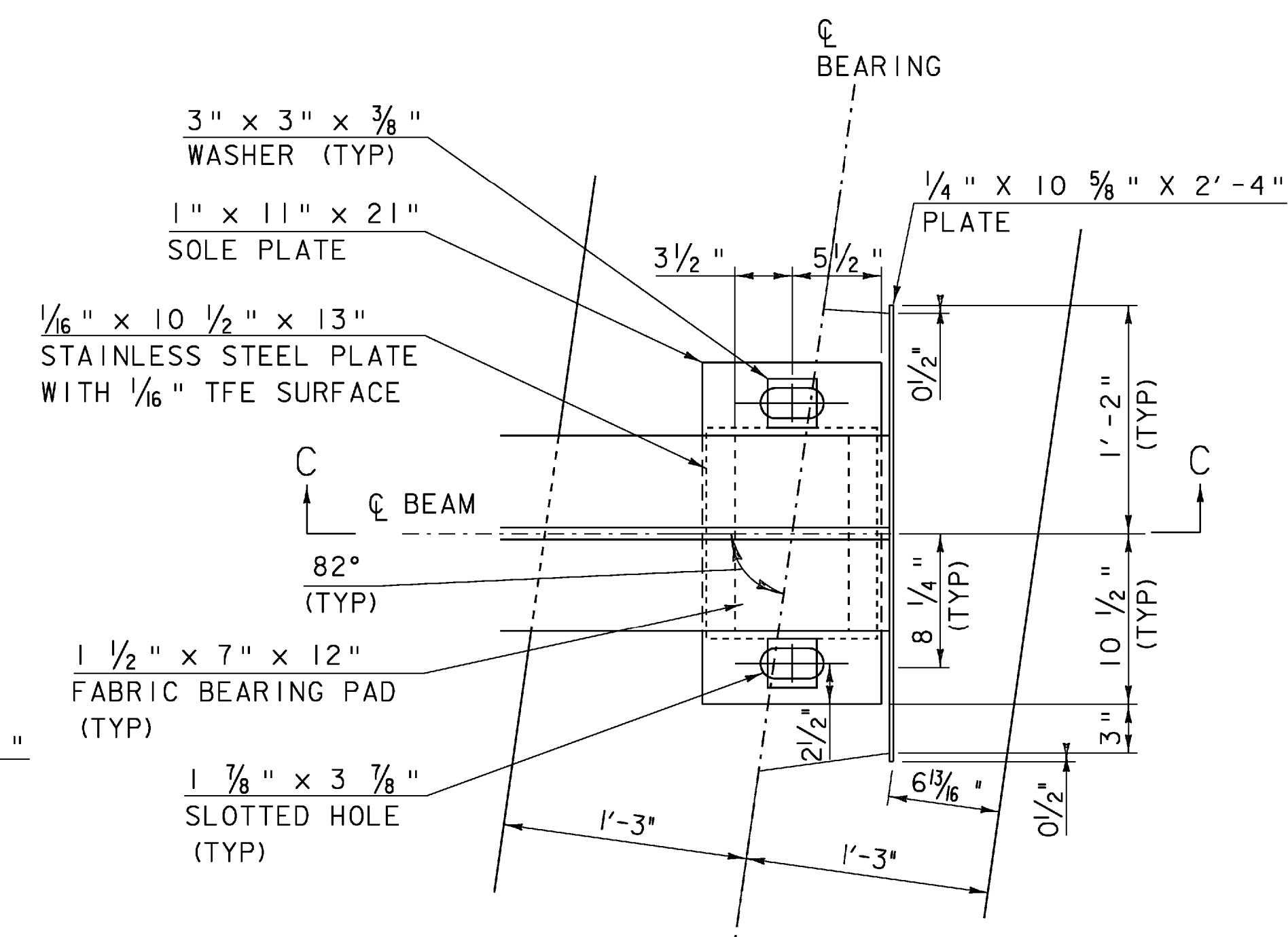




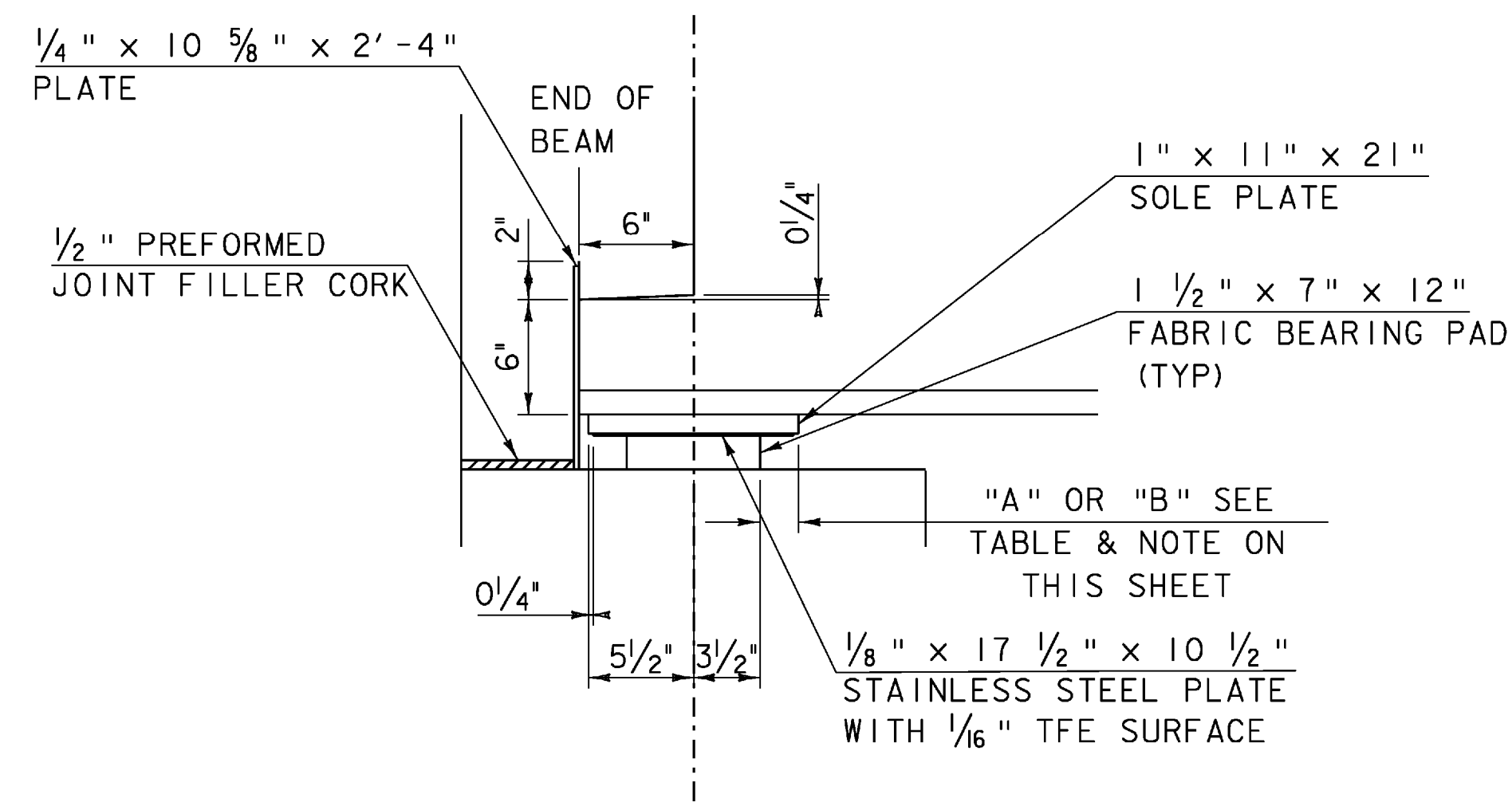
EXPANSION BEARING  
BEAMS 1 AND 10  
ABUTMENT 1  
SCALE 1 1/2" = 1'-0"



FIXED BEARING  
PIER 1 BEAMS 1 AND 10  
PIER 2 BEAMS 11 AND 20  
SCALE 1 1/2" = 1'-0"



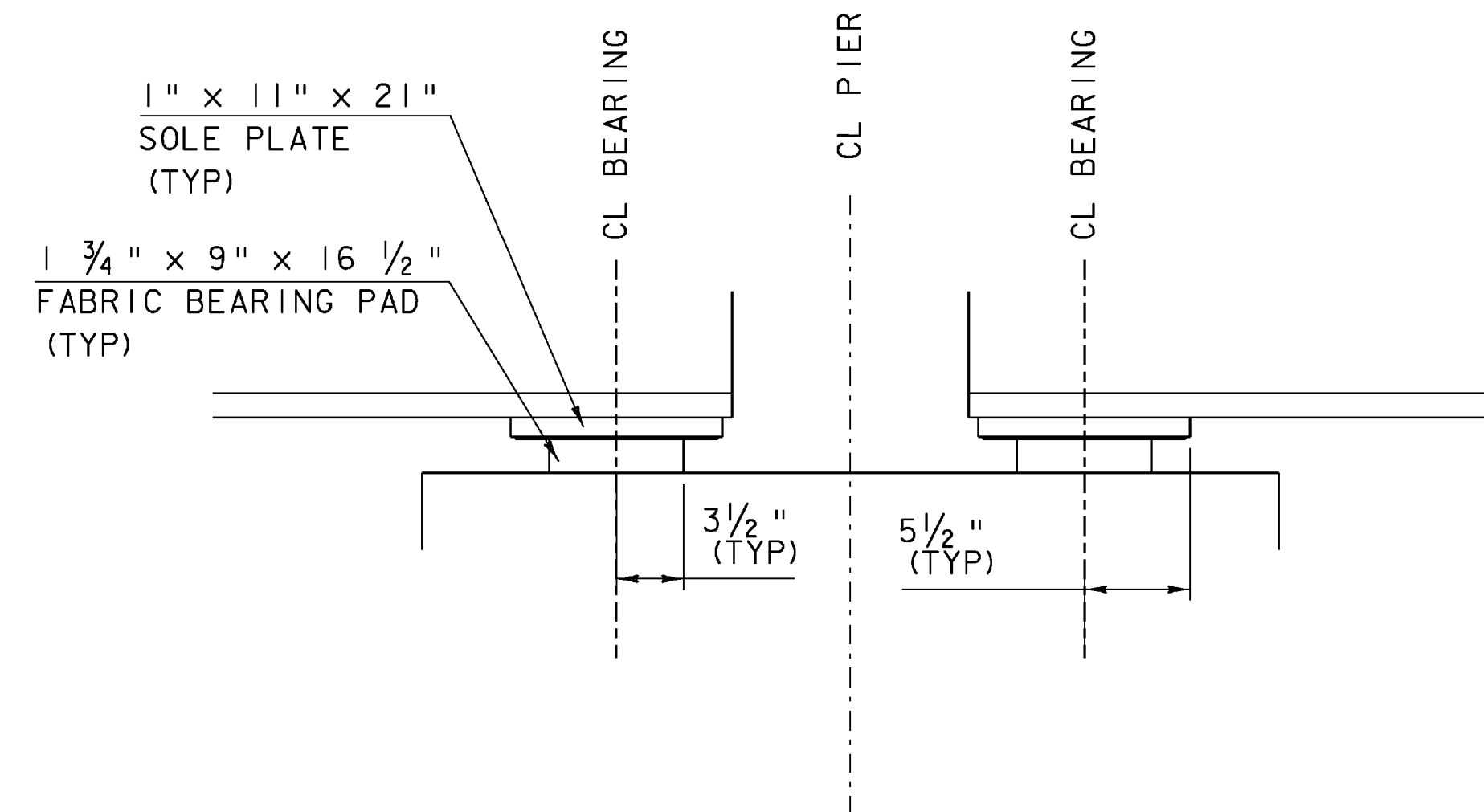
EXPANSION BEARING  
BEAMS 11 AND 20  
ABUTMENT 2  
SCALE 1 1/2" = 1'-0"



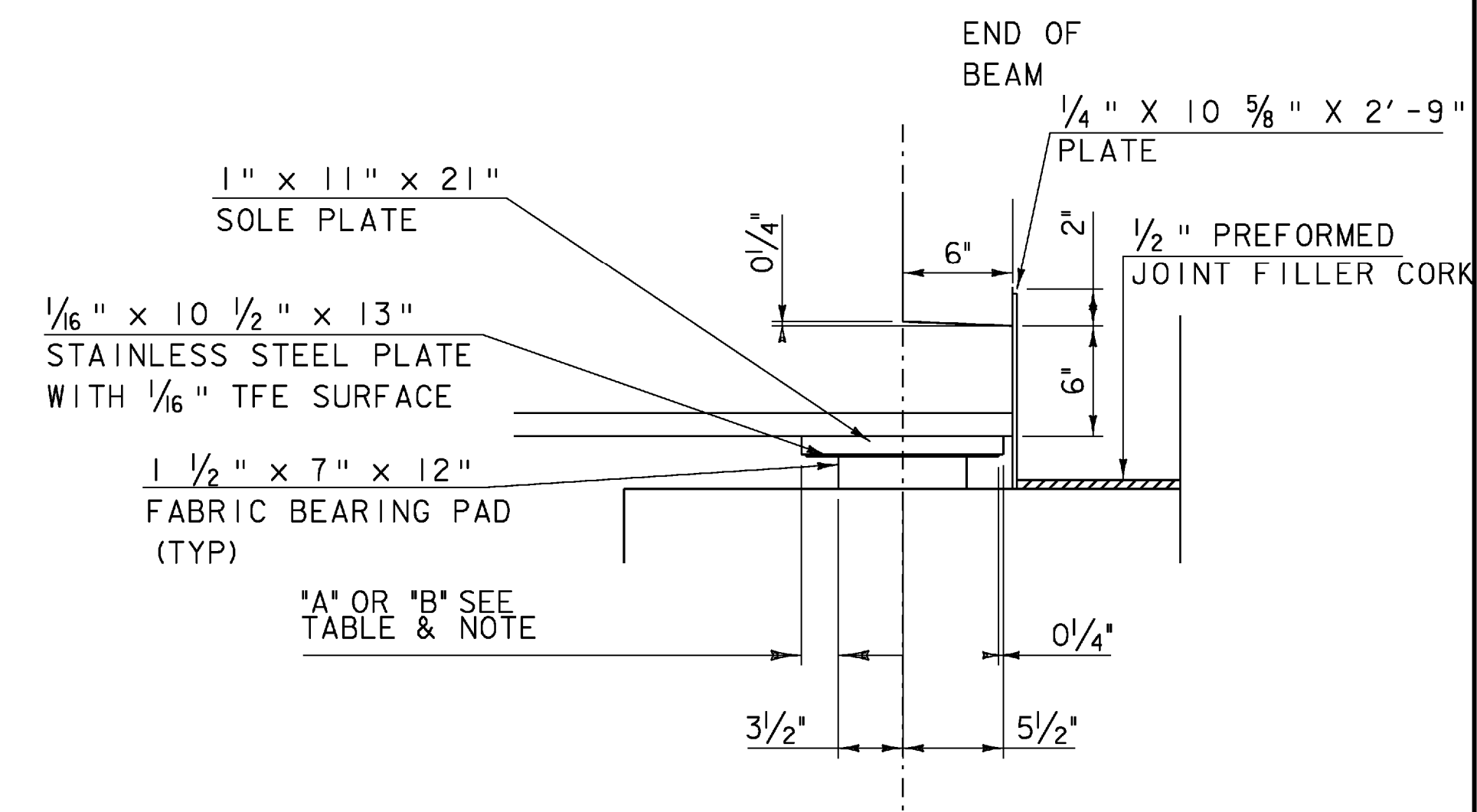
SECTION A-A  
SCALE 1 1/2" = 1'-0"

| BEAMS 1&10; 11 & 20 |        |        |
|---------------------|--------|--------|
| TEMPERATURE         | "A"    | "B"    |
| 0                   | 2 3/8" | 2 5/8" |
| 15                  | 2 1/4" | 2 1/2" |
| 30                  | 2 1/8" | 2 3/8" |
| 45                  | 2"     | 2 1/4" |
| 60                  | 1 7/8" | 2 1/8" |
| 75                  | 1 3/4" | 2"     |
| 90                  | 1 5/8" | 1 7/8" |
| 105                 | 1 1/2" | 1 3/4" |

NOTE:  
THE "A" DISTANCE IS THE SOLE PLATE ADJUSTMENT TO BE USED BEFORE DEAD LOAD IS ADDED TO THE GIRDERS. THE "B" DISTANCE IS THE SOLE PLATE ADJUSTMENT TO BE USED AFTER THE DECK AND SIDEWALK HAVE BEEN POURED. THE DIFFERENCE IS THE THEORETICAL ELONGATION OF THE BOTTOM FLANGE DUE TO THE DEAD LOAD DEFLECTION FROM THE DECK AND SIDEWALK. THE FINAL "B" DISTANCE MUST BE REACHED WITHIN 1/8".



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



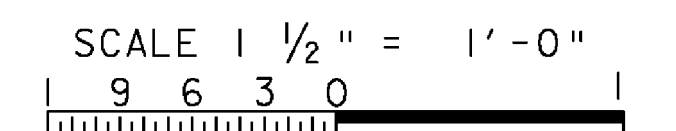
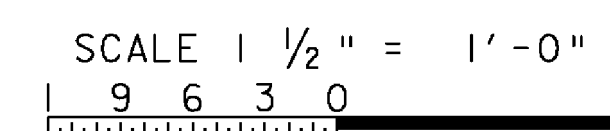
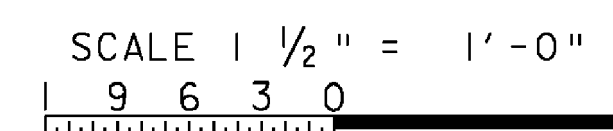
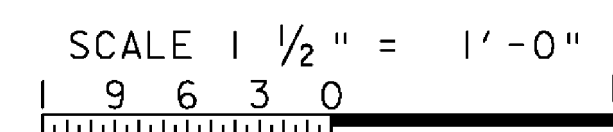
SECTION C-C  
SCALE 1 1/2" = 1'-0"

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

|                               |                         |
|-------------------------------|-------------------------|
| PROJECT NAME: SPRINGFIELD     |                         |
| PROJECT NUMBER: BHF 016-2(14) |                         |
| FILE NAME: s06j004sup.dgn     | PLOT DATE: 04-MAR-2009  |
| PROJECT LEADER: R. WHITCOMB   | DRAWN BY: C. MOONEY     |
| DESIGNED BY: C. CARLSON       | CHECKED BY: D. PETERSON |
| FASCIA BEARING DETAILS        | SHEET 33 OF 72          |

VOID  
SEE REVISED  
SHEET





1. ALTERNATE CONFIGURATIONS FOR ELASTOMERIC BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE BEARING SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE LOADS AND CRITERIA SHOWN ON THIS SHEET AND MAINTAIN THE ANCHORAGE SYSTEM SHOWN. THE BEARINGS SHALL BE DESIGNED ACCORDING TO AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" 2002 EDITION AND ITS LATEST REVISIONS.
2. THE BEARING SHAPE FACTOR SHALL BE BETWEEN 5.0 AND 12.0.
3. ALL REINFORCEMENT BETWEEN LAYERS OF ELASTOMERIC SHALL BE STEEL GRADE 50. NO FABRIC REINFORCEMENT WILL BE PERMITTED.
4. ELASTOMERIC BEARINGS REINFORCED WITH STEEL SHALL HAVE A  $\frac{1}{8}$ " EDGE SEAL OF ELASTOMERIC INTEGRAL WITH THE BEARING OVER ALL PLATES.
5. ALL MATERIALS AND FABRICATION SHALL BE PER AASHTO DIVISION II SECTION 18.2 AND AASHTO MATERIAL SPECIFICATION M251.
6. DESIGN CRITERIA:
  - A. TEMPERATURE RANGE: 80 F
  - B. 60 DUROMETER ELASTOMERIC
  - C. DESIGN ROTATION: 0.016 rad
  - D. REACTION/BEAM:

| REV. | BY  | DATE    | DESCRIPTION                                               |
|------|-----|---------|-----------------------------------------------------------|
| 3    | CAM | 5/26/09 | CHANGE IN BEARING DESIGN TO ACCOMMODATE NEW PLATE GIRDERS |

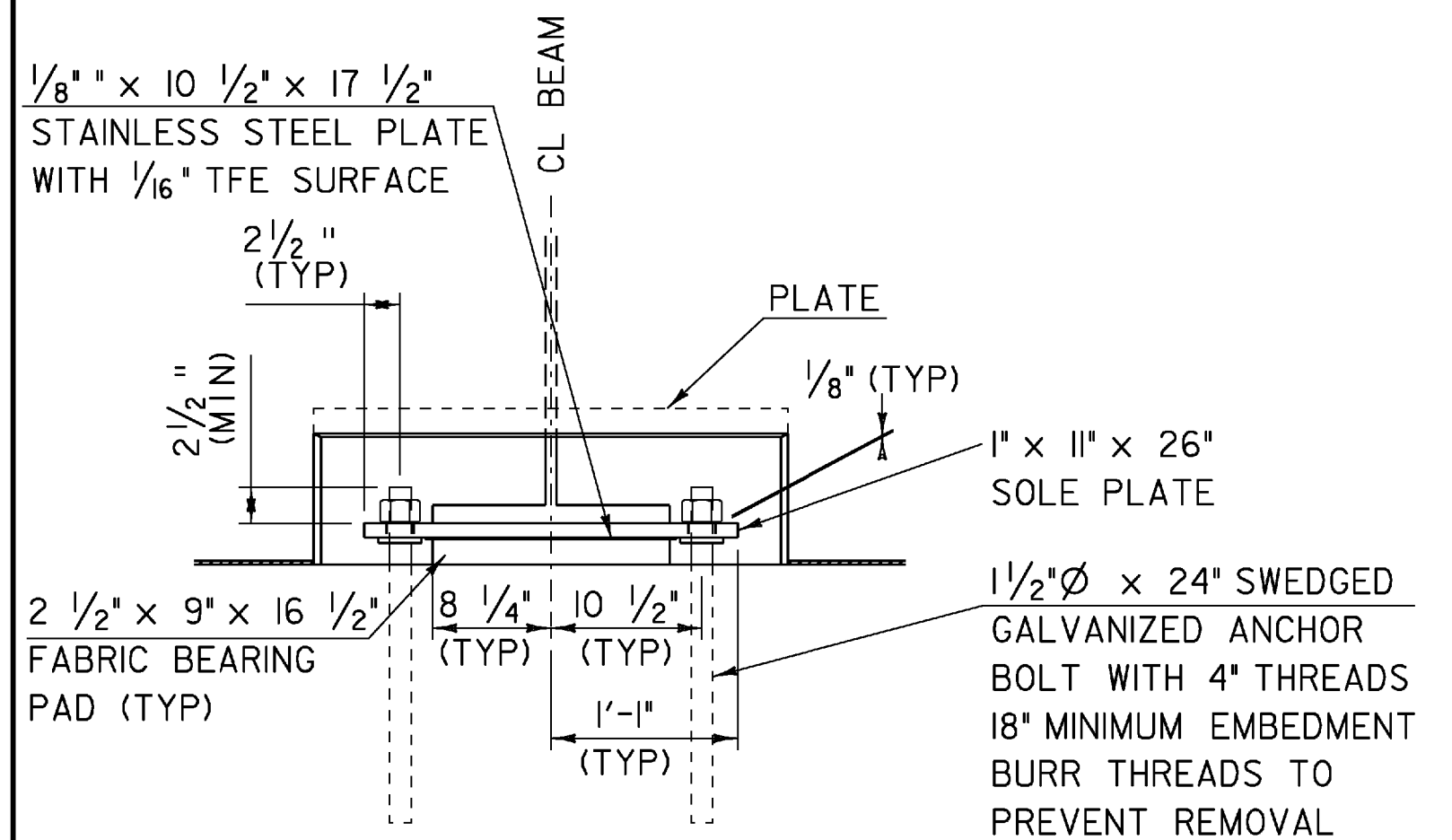
## FIXED BEARING DETAILS

|                 |               |
|-----------------|---------------|
| PROJECT NAME:   | SPRINGFIELD   |
| PROJECT NUMBER: | BHF 016-2(14) |

FILE NAME: s06j004sup.dgn  
PROJECT LEADER: R. WHITCOMB  
DESIGNED BY: C. CARLSON  
FASCIA BEARING DETAILS

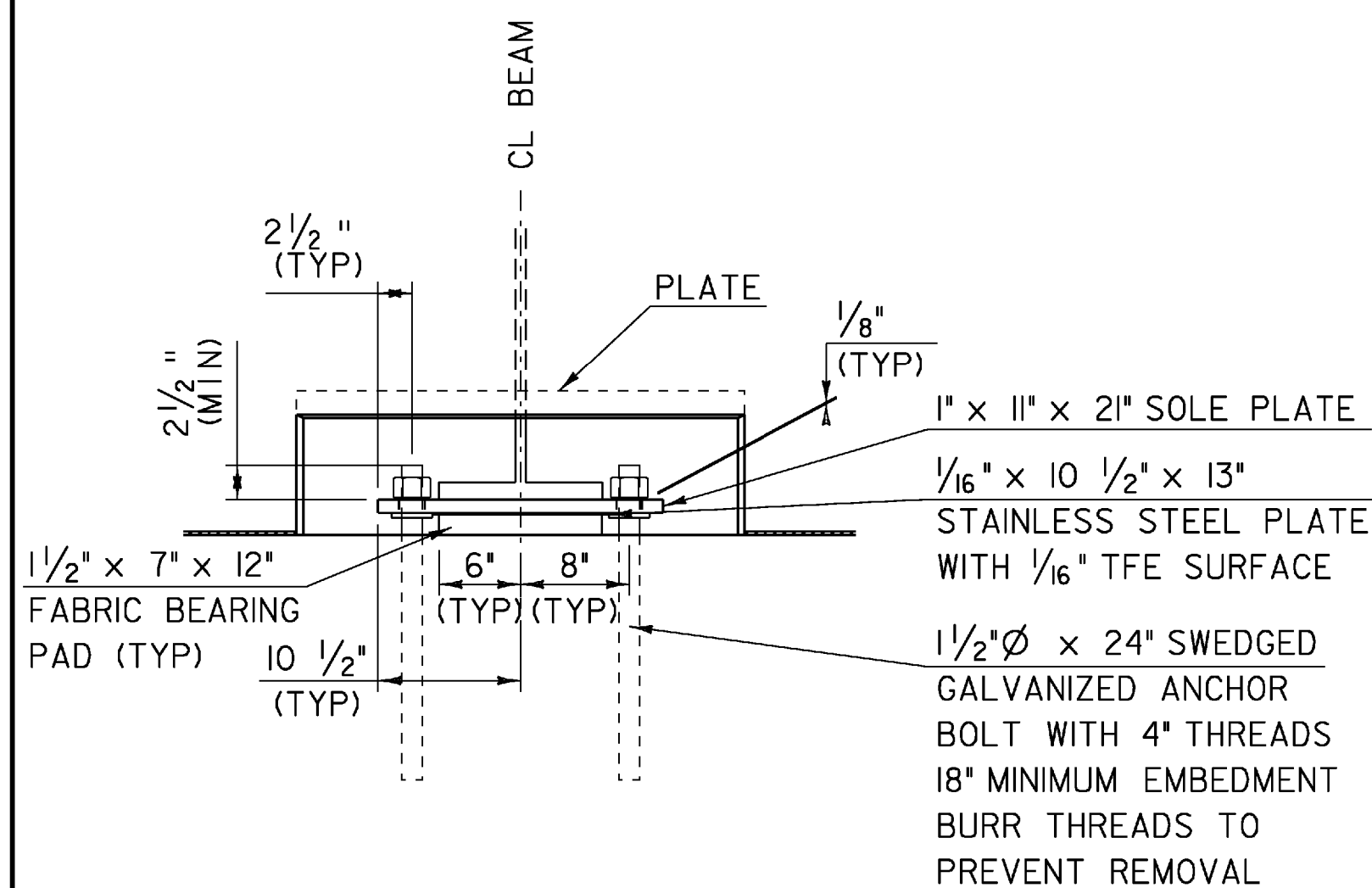
PLOT DATE: 29-MAY-2009  
DRAWN BY: C. MOONEY  
CHECKED BY: D. PETERSON  
SHEET 33 OF 72





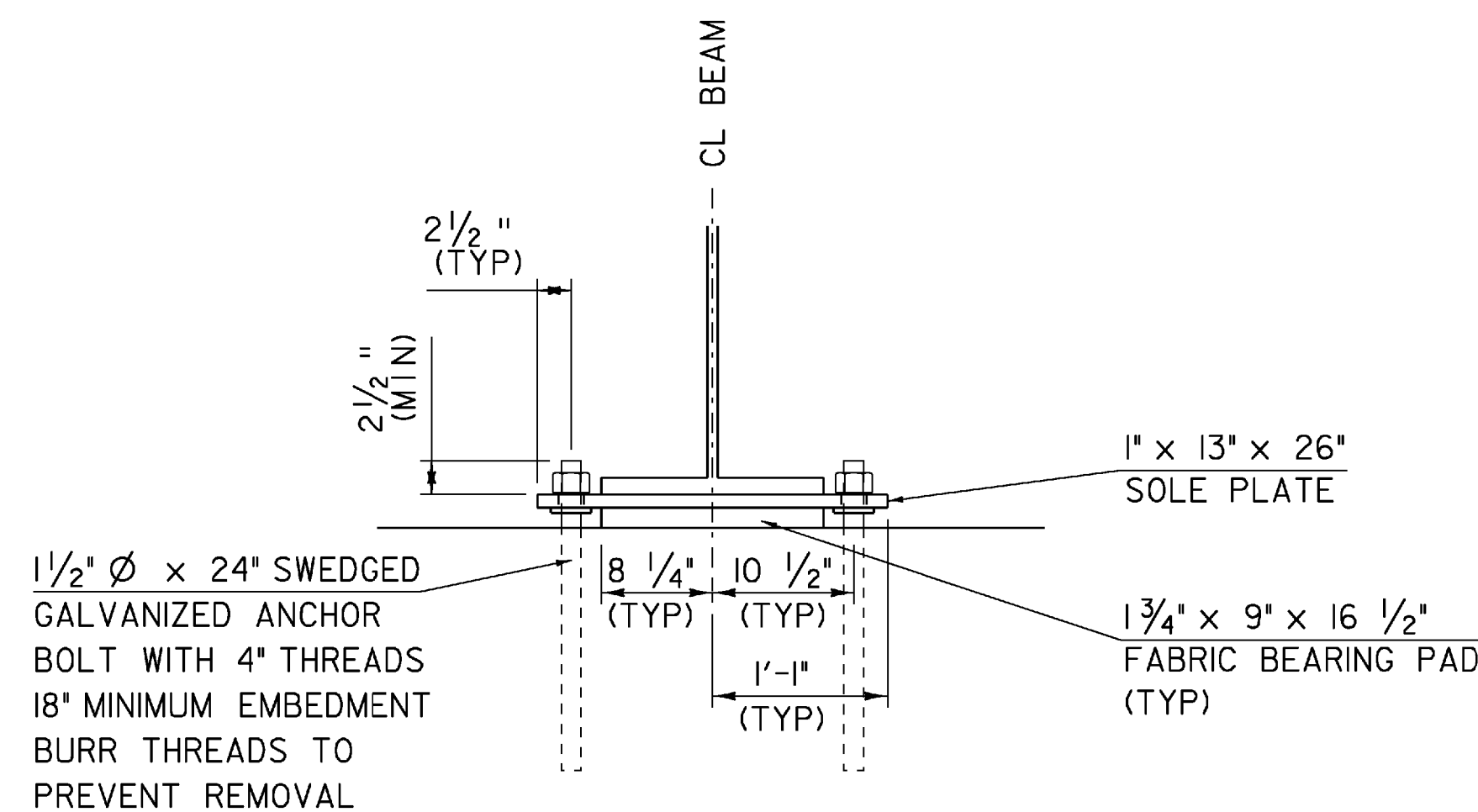
**EXPANSION BEARING**  
 ABUTMENT 1 BEAMS 2 THROUGH 9  
 ABUTMENT 2 BEAMS 12 THROUGH 19

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



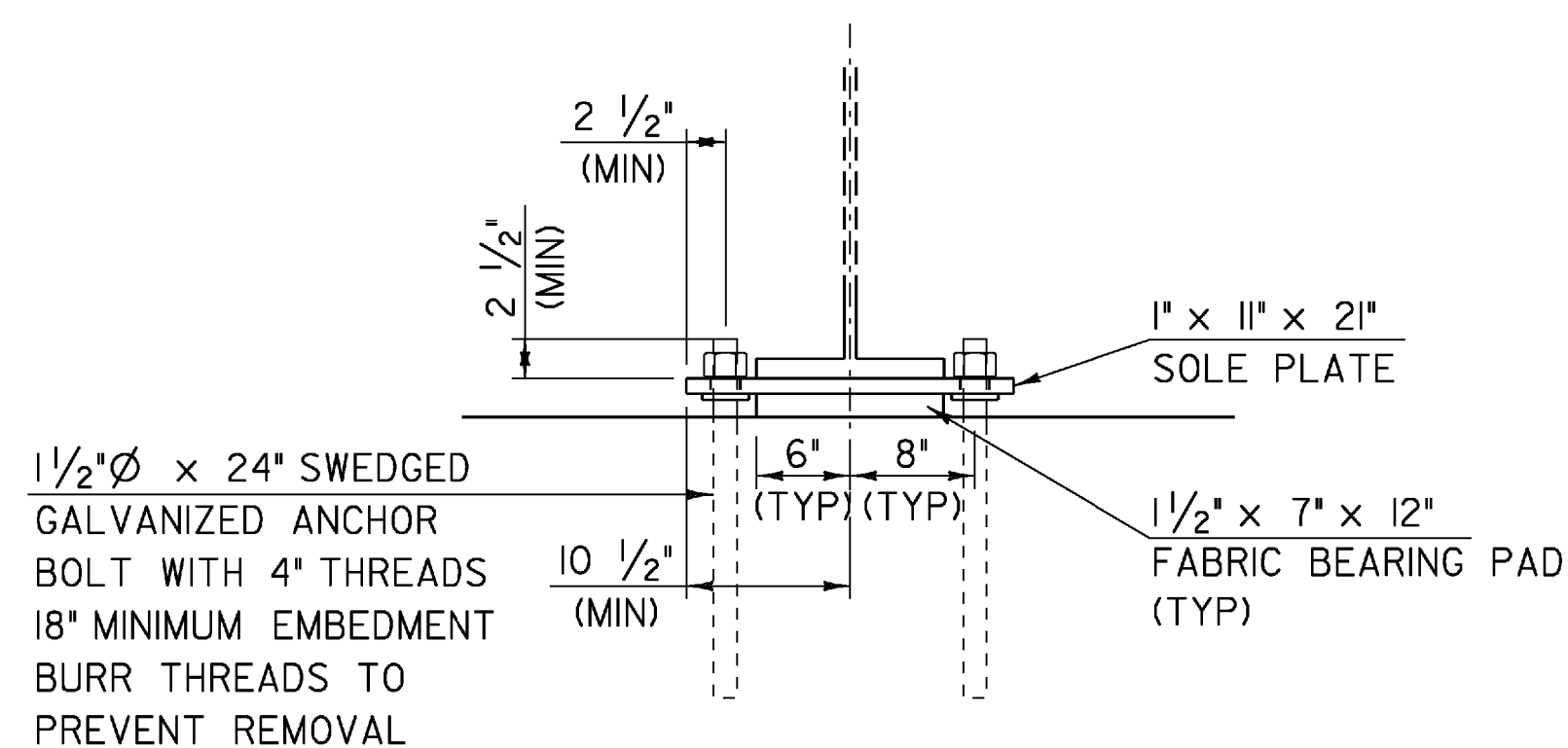
**EXPANSION BEARING**  
 ABUTMENT 1 BEAMS 1 AND 10  
 ABUTMENT 2 BEAMS 11 AND 20

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



**FIXED BEARING**  
 PIER (C/L BRG SPAN 1)  
 BEAMS 2 THROUGH 9  
 PIER (C/L BRG SPAN2)  
 BEAMS 12 THROUGH 19

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



**FIXED BEARING**  
 PIER (C/L BRG SPAN 1)  
 BEAMS 1 AND 10  
 PIER (C/L BRG SPAN2)  
 BEAMS 11 AND 20

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

## BEARING NOTES

- BEARINGS SHALL BE PAID FOR UNDER ITEM 531.10, "BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD" AND SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 531 AND 731. FABRICATION DRAWINGS CONFORMING TO SUBSECTION 531.03 SHALL BE SUBMITTED AND INCLUDE ANY NECESSARY WELDING OR BONDING PROCEDURES.
  - NEW 1 1/2" ANCHOR BOLTS SHALL BE INSTALLED BY DRILLING HOLES AND GROUTING THE BOLTS INTO THE ABUTMENT OR PIER SEATS. DRILLING AND GROUTING THE ANCHOR BOLTS SHALL BE INCIDENTAL TO ITEM 531.10, "BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD". ANCHOR BOLTS SHALL HAVE A MINIMUM EMBEDMENT OF 18" INTO CONCRETE AND SHALL CONFORM TO STANDARD SPECIFICATION 714.08.
  - THE FIELD WELD CONNECTING THE BOTTOM FLANGE WITH THE BEARING DEVICE SHALL BE MADE WITH E7018 ELECTRODES. THE CONTRACTOR SHALL ENSURE THE HEAT FROM WELDING DOES NOT DAMAGE THE BEARING PAD. AREAS OF GALVANIZING OR METALIZING DAMAGED BY WELDING AND/OR HANDLING SHALL BE REPAIRED IN ACCORDANCE WITH SECTION 513. WELD PROCEDURES MUST BE SUBMITTED FOR REVIEW.
  - ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN ON THIS SHEET AND SHALL MAINTAIN THE ANCHORAGE SYSTEM SHOWN.
  - MASONRY SURFACES UNDER BEARINGS SHALL BE SMOOTH AND LEVEL BEFORE INSTALLING BEARING DEVICES. EXISTING ANCHOR BOLTS SHALL BE CUT FLUSH AND SMOOTH WITH THE BRIDGE SEAT. THIS WORK SHALL BE INCIDENTAL TO ITEM 531.10, "BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD"
  - BEARINGS MUST BE INSTALLED BEFORE THE DIAPHRAGMS AND ANCHOR BOLTS ARE INSTALLED.
- DESIGN CRITERIA:
- BEARING PAD TO CONCRETE DESIGN PRESSURE = 1000 PSI MAXIMUM
  - MINIMUM ALLOWABLE DESIGN ROTATION = 0.015 RADIANS.
  - HORIZONTAL CAPACITY SHALL BE A MINIMUM 10% OF VERTICAL LOAD
  - DESIGN LOAD PER BEARING (UNFACTORED)
- |        | BEAMS 2-9 | BEAMS 1&10 | BEAMS 12-19 | BEAMS 11&20 |
|--------|-----------|------------|-------------|-------------|
| DL =   | 37.2 KIPS | 26.6 KIPS  | 37.2 KIPS   | 26.6 KIPS   |
| LL+I = | 70.6 KIPS | 31.9 KIPS  | 70.6 KIPS   | 31.9 KIPS   |
| SDL =  | 9.4 KIPS  | 25.9 KIPS  | 9.4 KIPS    | 25.9 KIPS   |
- ALL JACKING AND SHORING REQUIRED TO REPLACE BEARINGS WILL BE PAID FOR UNDER ITEM 502.11, "SHORING SUPERSTRUCTURE BEARINGS". THE CONTRACTOR SHALL SUBMIT DETAILS AND CALCULATIONS FOR SHORING AND JACKING AS SPECIFIED IN SECTION 502.
  - THE WORK REQUIRED TO REMOVE EXISTING BEARINGS IN ORDER TO INSTALL NEW BEARINGS AS SHOWN ON THE PLANS, SHALL BE INCLUDED IN ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE".
  - ALL STEEL IN BEARING DEVICES (EXCEPT STAINLESS STEEL) AS WELL AS THE 1/4" PLATE SHALL BE AASHTO M270M/M270, GRADE 36 OR 50.
  - ALL BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER STANDARD SPECIFICATIONS 506.15 AND 531.04(b). IF THE BEARINGS ARE METALIZED, THEY SHALL BE SEALED WITH AN APPROVED SEALER AS SPECIFIED IN SUBSECTION 506.15. AREAS OF GALVANIZING OR METALIZING DAMAGED BY FIELD WELDING OR HANDLING SHALL BE REPAIRED IN CONFORMANCE WITH ASTM A-760.
  - ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. ALL WASHERS SHALL BE 3/8" PLATE MINIMUM. PAYMENT FOR ANCHOR BOLTS, NUTS, WASHERS AND THEIR INSTALLATIONS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 531.10, "BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD".
  - EXISTING HOLES IN THE EXISTING BEAM FLANGES SHALL BE CLEANED AND FILLED WITH JOINT SEALER, POLYURETHANE AS SPECIFIED IN SUBSECTION 707.05. THIS WORK SHALL BE INCIDENTAL TO ITEM 531.10, "BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD".

PROJECT NAME: SPRINGFIELD

PROJECT NUMBER: BHF 016-2(14)

FILE NAME: s06j004sup.dgn

PROJECT LEADER: R. WHITCOMB

DESIGNED BY: C. CARLSON

BEARING ELEVATIONS AND NOTES

PLOT DATE: 04-MAR-2009

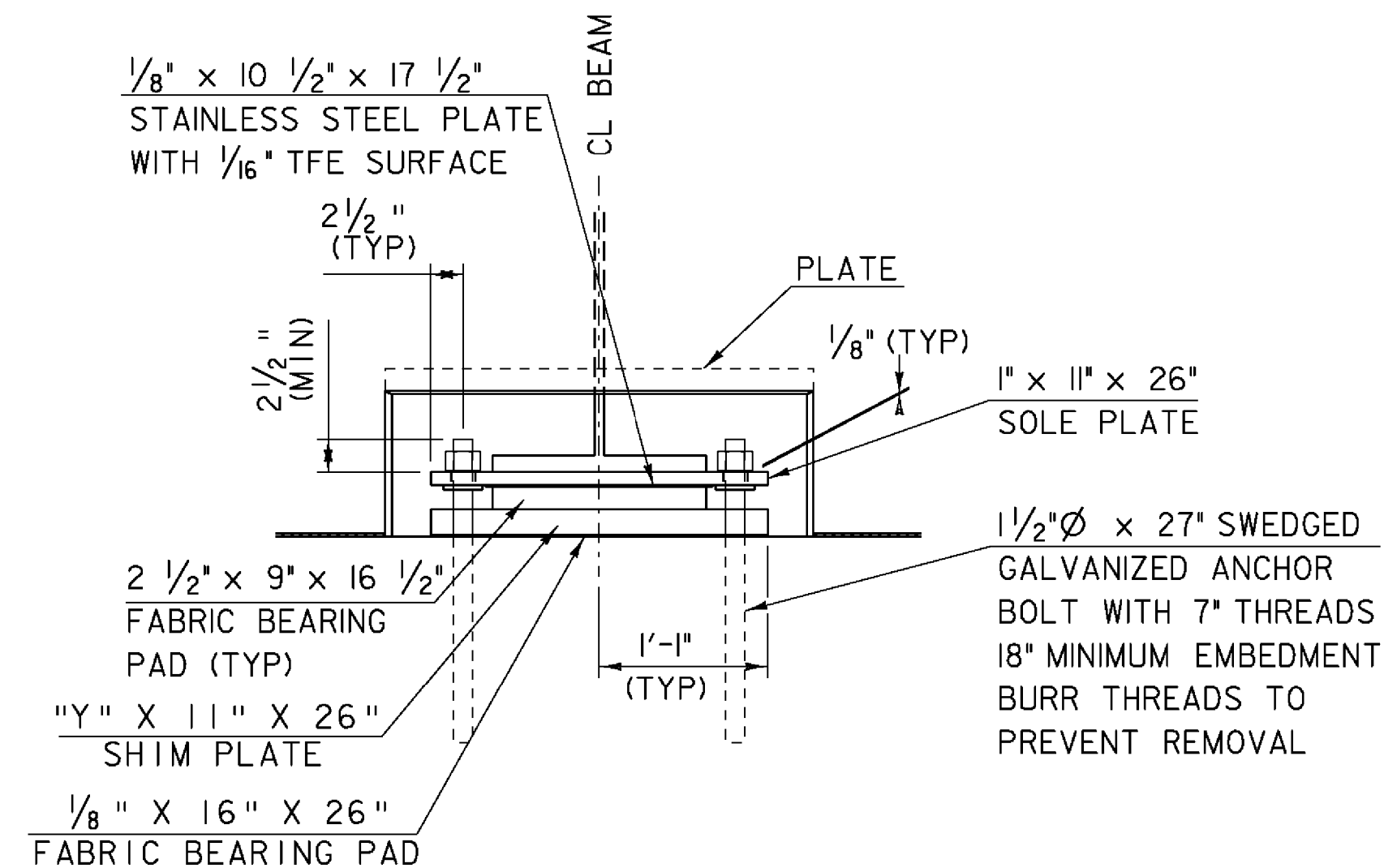
DRAWN BY: C. MOONEY

CHECKED BY: D. PETERSON

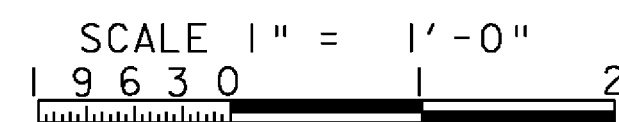
SHEET 34 OF 72

VOID  
 SEE REVISED  
 SHEET

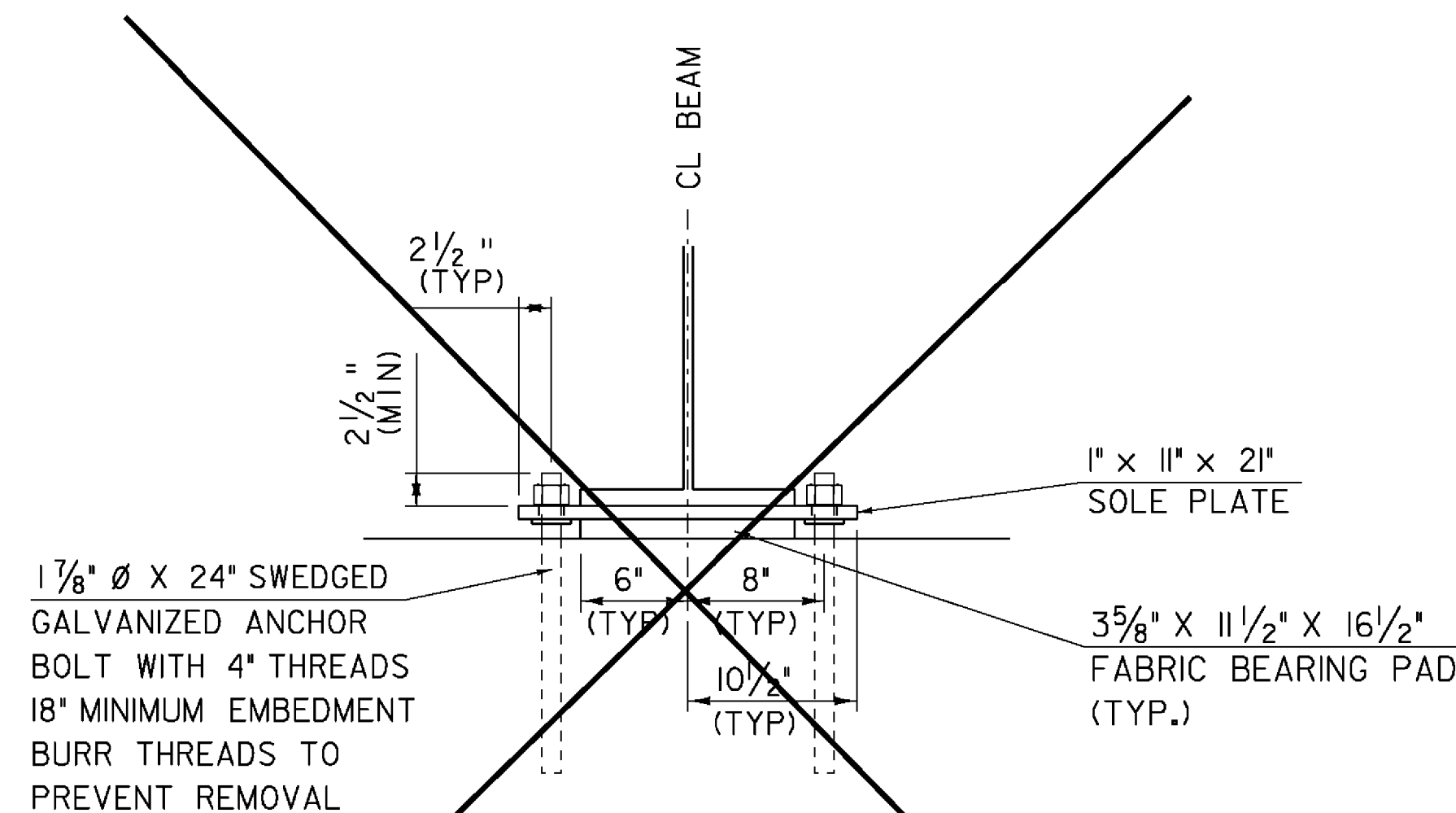




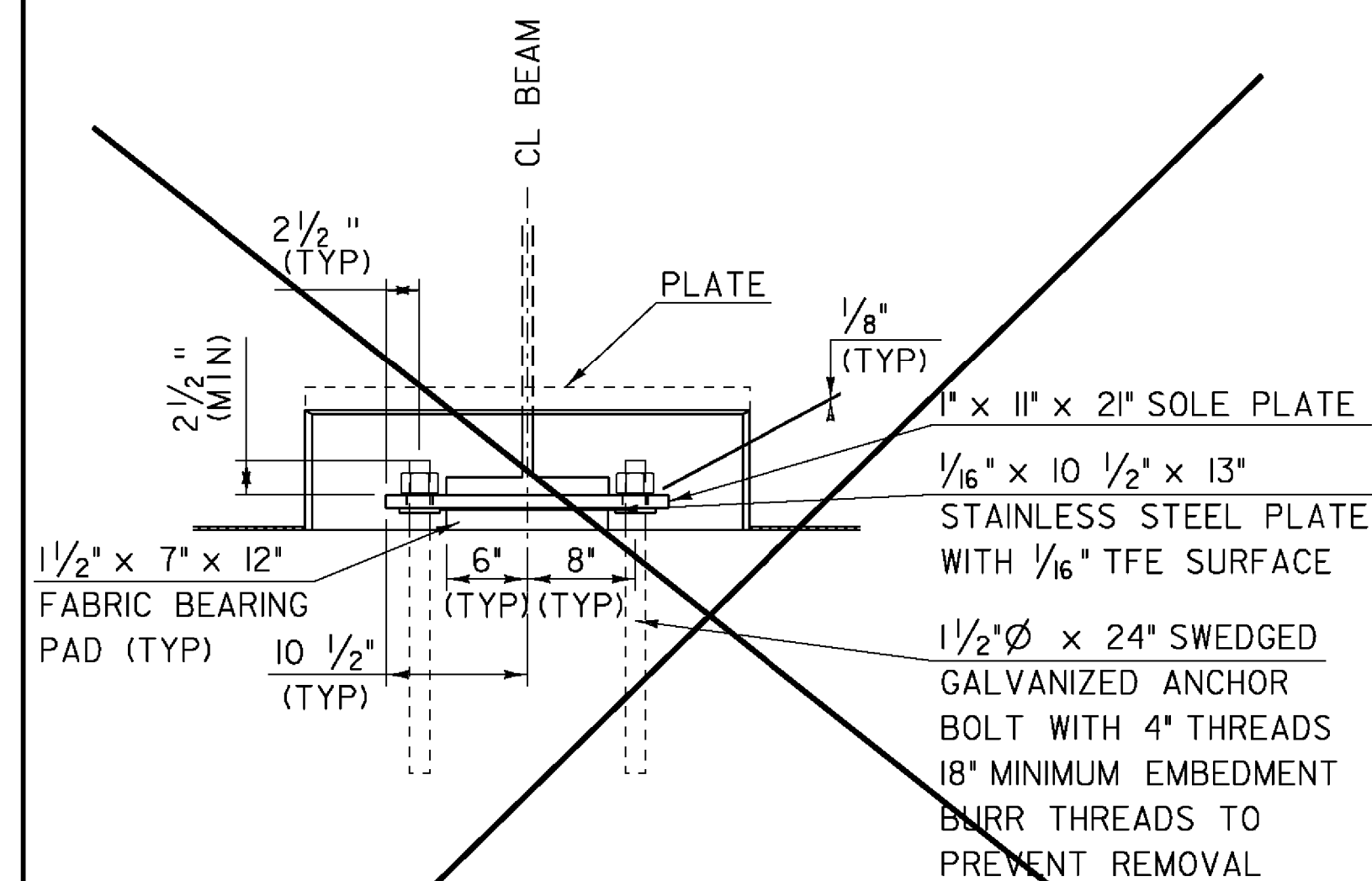
EXPANSION BEARING  
GIRDERS 1 THROUGH 7



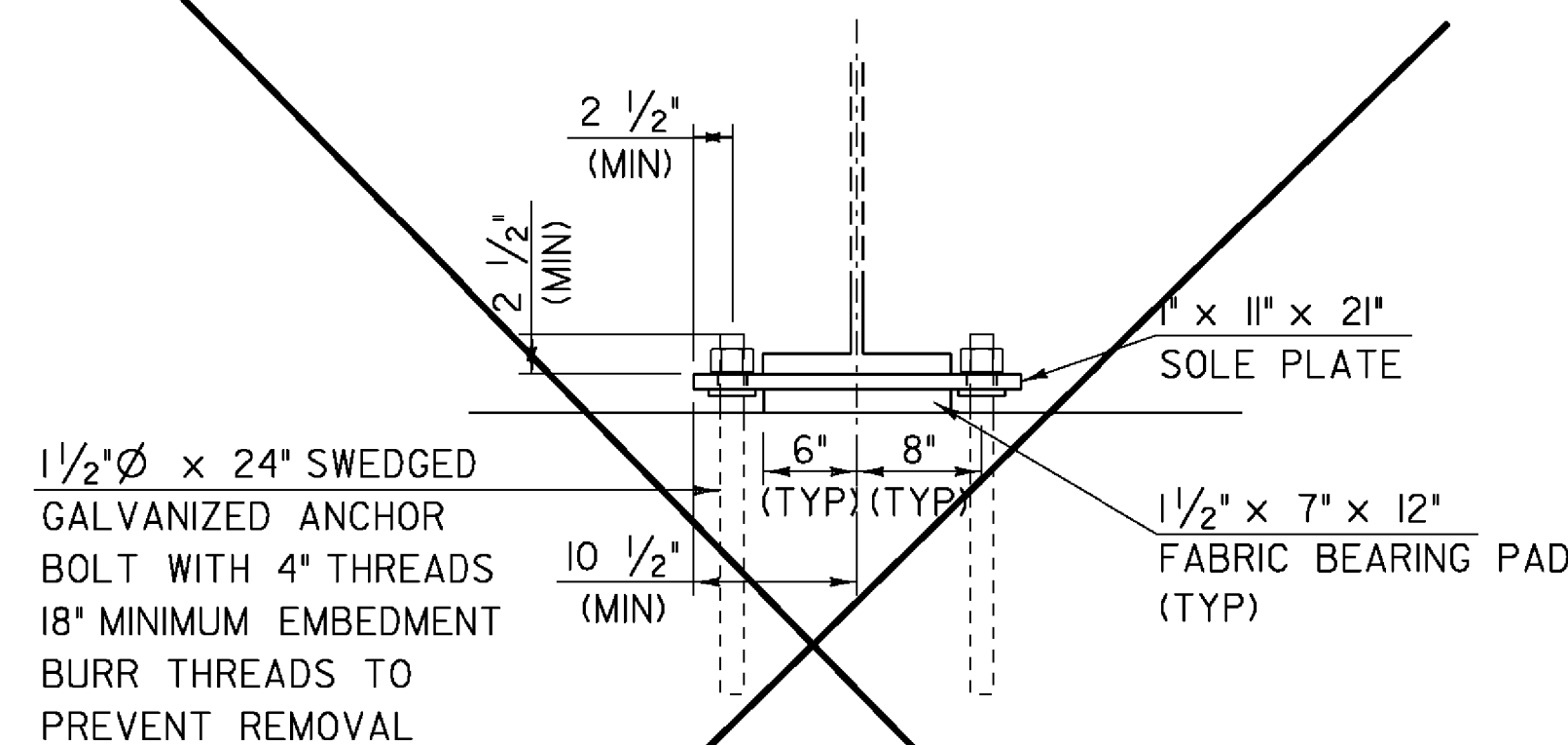
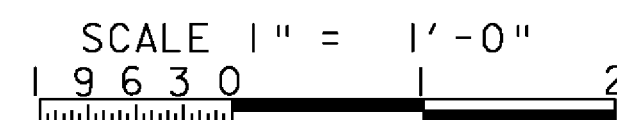
NOTE: SEE SHEET 32 FOR "Y" DIMENSION



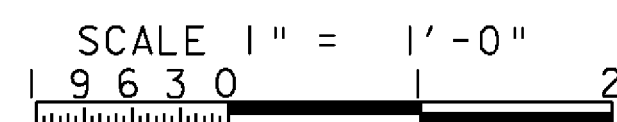
FIXED BEARING  
PIER (C/L BRG SPAN 1)  
BEAMS 1 THROUGH 7  
NTS



EXPANSION BEARING  
ABUTMENT 1 BEAMS 1 AND 10  
ABUTMENT 2 BEAMS 11 AND 20



FIXED BEARING  
PIER (C/L BRG SPAN 1)  
BEAMS 1 AND 10  
PIER (C/L BRG SPAN 2)  
BEAMS 11 AND 20



## BEARING NOTES

1. BEARINGS SHALL BE PAID FOR UNDER ITEM 531.0, "BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD" AND SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 531 AND 731. FABRICATION DRAWINGS CONFORMING TO SUBSECTION 531.03 SHALL BE SUBMITTED AND INCLUDE ANY NECESSARY WELDING OR BONDING PROCEDURES.
2. NEW 1 1/2" ANCHOR BOLTS SHALL BE INSTALLED BY DRILLING HOLES AND GROUTING THE BOLTS INTO THE ABUTMENT OR PIER SEATS. DRILLING AND GROUTING THE ANCHOR BOLTS SHALL BE INCIDENTAL TO ITEM 531.0, "BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD". ANCHOR BOLTS SHALL HAVE A MINIMUM EMBEDMENT OF 18" INTO CONCRETE AND SHALL CONFORM TO STANDARD SPECIFICATION 714.08.
3. THE FIELD WELD CONNECTING THE BOTTOM FLANGE WITH THE BEARING DEVICE SHALL BE MADE WITH E7018 ELECTRODES. THE CONTRACTOR SHALL ENSURE THE HEAT FROM WELDING DOES NOT DAMAGE THE BEARING PAD. AREAS OF GALVANIZING OR METALIZING DAMAGED BY WELDING AND/OR HANDLING SHALL BE REPAIRED IN ACCORDANCE WITH SECTION 513. WELD PROCEDURES MUST BE SUBMITTED FOR REVIEW.
4. ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN ON THIS SHEET AND SHALL MAINTAIN THE ANCHORAGE SYSTEM SHOWN.
5. MASONRY SURFACES UNDER BEARINGS SHALL BE SMOOTH AND LEVEL BEFORE INSTALLING BEARING DEVICES. EXISTING ANCHOR BOLTS SHALL BE CUT FLUSH AND SMOOTH WITH THE BRIDGE SEAT. THIS WORK SHALL BE INCIDENTAL TO ITEM 531.0, "BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD".
6. BEARINGS MUST BE INSTALLED BEFORE THE DIAPHRAGMS AND ANCHOR BOLTS ARE INSTALLED.

### DESIGN CRITERIA:

- A. BEARING PAD TO CONCRETE DESIGN PRESSURE = 1000 PSI MAXIMUM
- B. MINIMUM ALLOWABLE DESIGN ROTATION = 0.015 RADIAN.
- C. HORIZONTAL CAPACITY SHALL BE A MINIMUM 10% OF VERTICAL LOAD
- D. DESIGN LOAD PER BEARING (UNFACTORED)

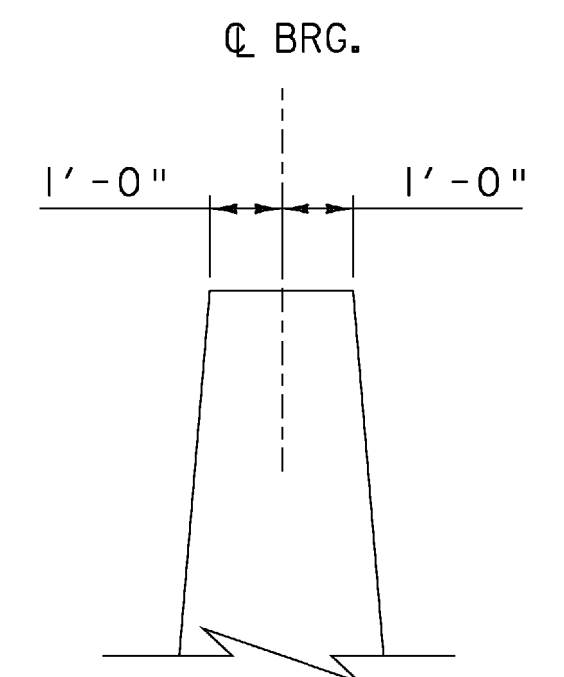
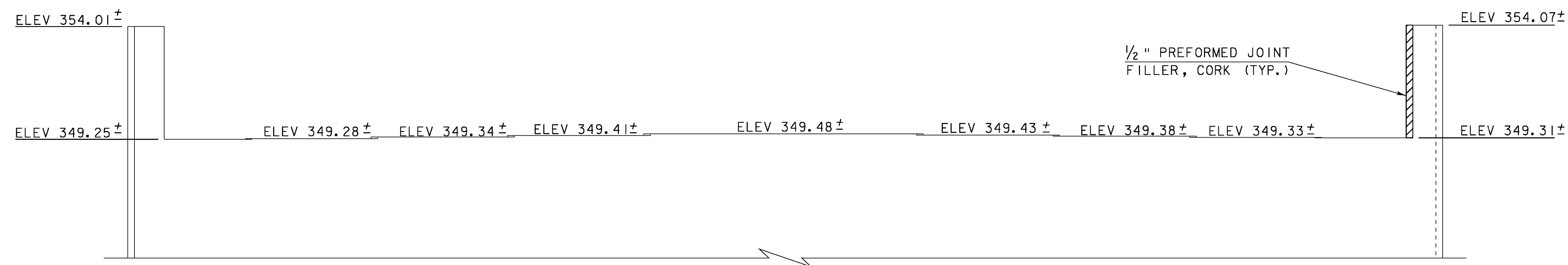
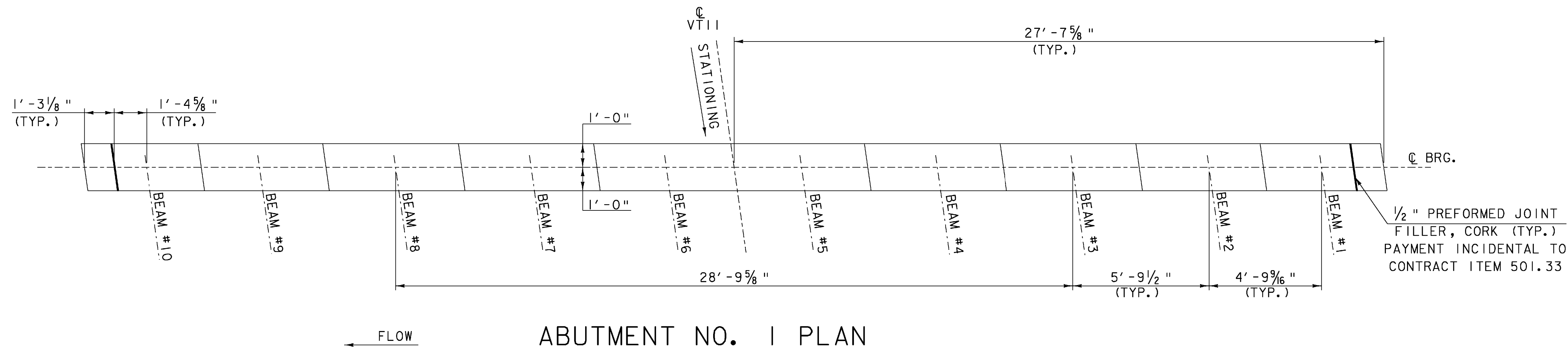
|            | ABUTMENTS 1&2 | PIER     |
|------------|---------------|----------|
| DL & SDL = | 48 KIPS       | 154 KIPS |
| LL+I =     | 76 KIPS       | 145 KIPS |

- ~~7. ALL JACKING AND SHORING REQUIRED TO REPLACE BEARINGS WILL BE PAID FOR UNDER ITEM 502.11, "SHORING SUPERSTRUCTURE BEARINGS". THE CONTRACTOR SHALL SUBMIT DETAILS AND CALCULATIONS FOR SHORING AND JACKING AS SPECIFIED IN SECTION 502.~~
8. THE WORK REQUIRED TO REMOVE EXISTING BEARINGS IN ORDER TO INSTALL NEW BEARINGS AS SHOWN ON THE PLANS, SHALL BE INCLUDED IN ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE".
9. ALL STEEL IN BEARING DEVICES (EXCEPT STAINLESS STEEL) AS WELL AS THE 1/4" PLATE SHALL BE AASHTO M270M/M270, GRADE 36 OR 50.
10. ALL BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER STANDARD SPECIFICATIONS 506.15 AND 531.04(b). IF THE BEARINGS ARE METALIZED, THEY SHALL BE SEALED WITH AN APPROVED SEALER AS SPECIFIED IN SUBSECTION 506.15. AREAS OF GALVANIZING OR METALIZING DAMAGED BY FIELD WELDING OR HANDLING SHALL BE REPAIRED IN CONFORMANCE WITH ASTM A-760.
11. ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. ALL WASHERS SHALL BE 3/8" PLATE MINIMUM. PAYMENT FOR ANCHOR BOLTS, NUTS, WASHERS AND THEIR INSTALLATIONS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 531.0, "BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD".
- ~~12. EXISTING HOLES IN THE EXISTING BEAM FLANGES SHALL BE CLEANED AND FILLED WITH JOINT SEALER, POLYURETHANE AS SPECIFIED IN SUBSECTION 707.05. THIS WORK SHALL BE INCIDENTAL TO ITEM 531.0, "BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD".~~

| REV. | BY  | DATE    | DESCRIPTION                  |
|------|-----|---------|------------------------------|
| 3    | LBB | 5/26/09 | REVISED - ELIMINATED DETAILS |

|                              |                |
|------------------------------|----------------|
| PROJECT NAME:                | SPRINGFIELD    |
| PROJECT NUMBER:              | BHF 016-2(14)  |
| FILE NAME:                   | s06j004sup.dgn |
| PROJECT LEADER:              | R. WHITCOMB    |
| DESIGNED BY:                 | C. CARLSON     |
| BEARING ELEVATIONS AND NOTES |                |
| PLOT DATE:                   | 29-MAY-2009    |
| DRAWN BY:                    | C. MOONEY      |
| CHECKED BY:                  | D. PETERSON    |
| SHEET                        | 34             |
| OF                           | 72             |

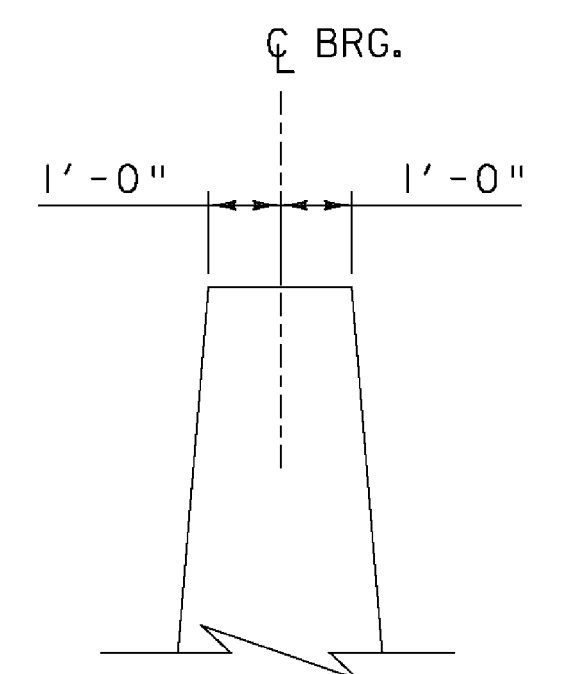
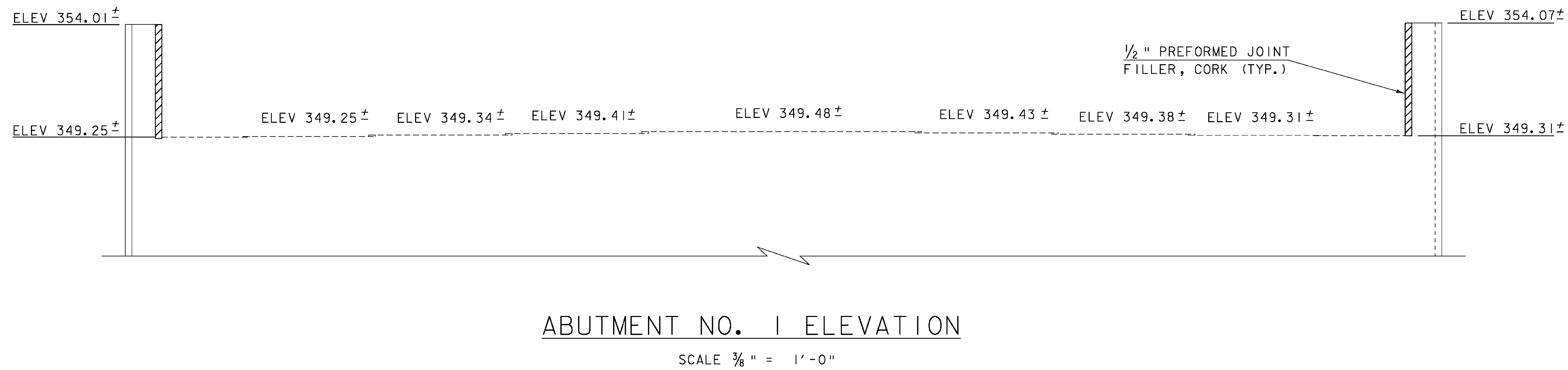
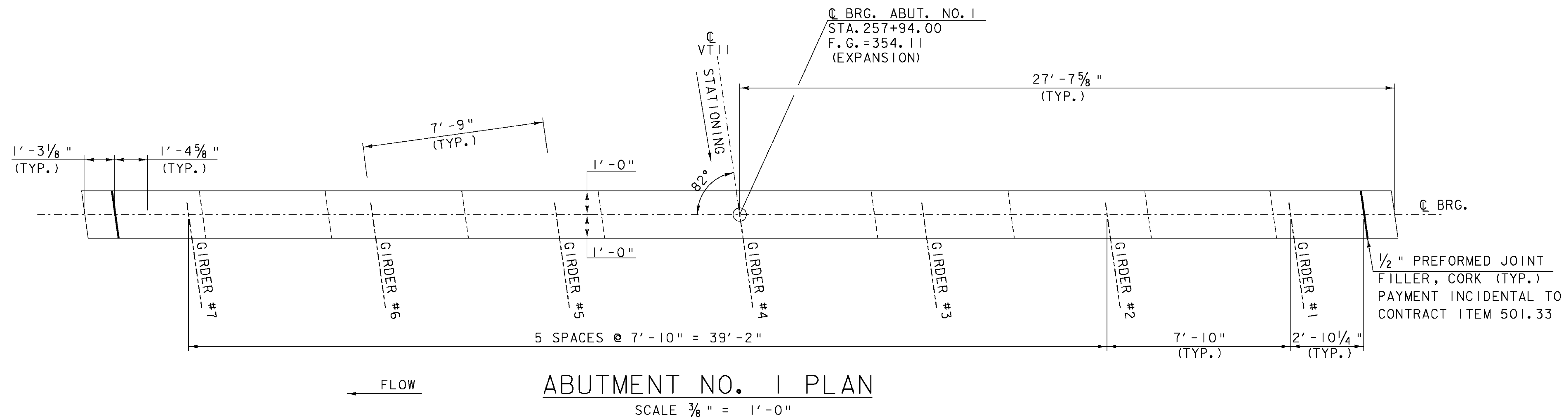




VOID  
SEE REVISED  
SHEET

|                        |                |
|------------------------|----------------|
| PROJECT NAME:          | SPRINGFIELD    |
| PROJECT NUMBER:        | BHF 016-2(14)  |
| FILE NAME:             | s06J004sub.dgn |
| PROJECT LEADER:        | R. WHITCOMB    |
| DESIGNED BY:           | D. PETERSON    |
| ABUTMENT NO. 1 DETAILS |                |
| PLOT DATE:             | 04-MAR-2009    |
| DRAWN BY:              | D. PETERSON    |
| CHECKED BY:            | C. CARLSON     |
| SHEET                  | 35 OF 72       |





EXISTING BRIDGE SEAT ELEVATIONS  
POSTED ABOVE BRIDGE SEAT.  
PROPOSED BRIDGE SEAT ELEVATION  
POSTED BELOW BRIDGE SEAT

| REV. | BY  | DATE    | DESCRIPTION     |
|------|-----|---------|-----------------|
| 3    | LBB | 5/26/09 | REVISED GIRDERS |

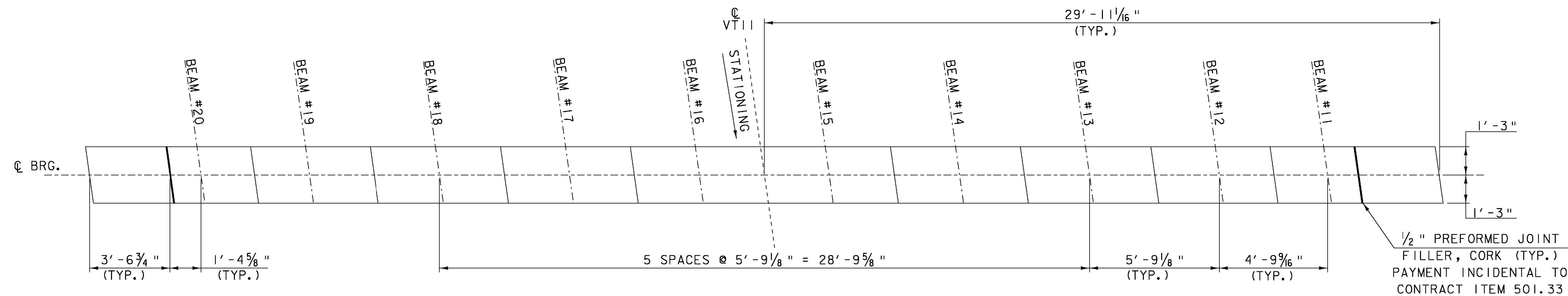
#### ABUTMENT 1

PROJECT NAME: SPRINGFIELD  
PROJECT NUMBER: BHF 016-2(14)

FILE NAME: s06j004sub.dgn  
PROJECT LEADER: R. WHITCOMB  
DESIGNED BY: D. PETERSON  
ABUTMENT NO. 1 DETAILS

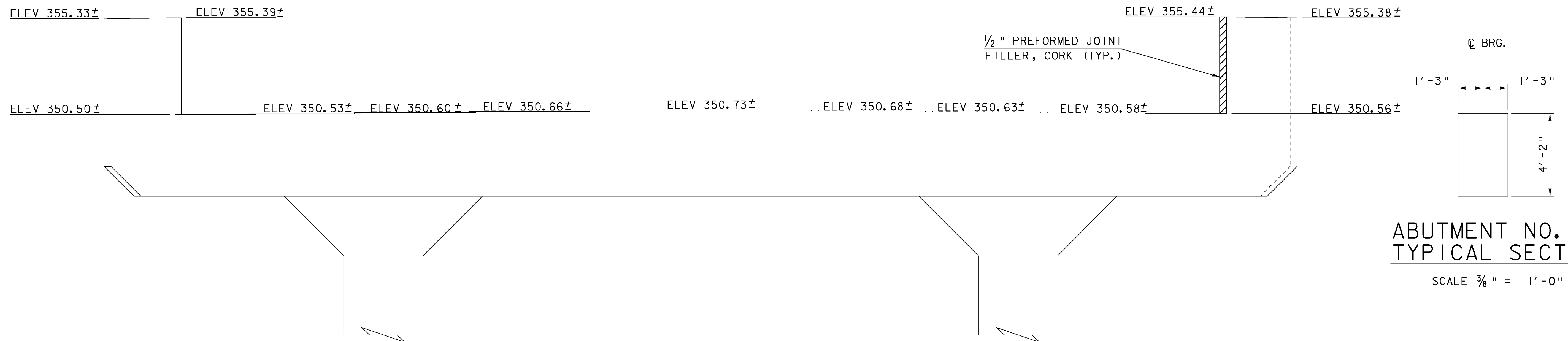
PLOT DATE: 29-MAY-2009  
DRAWN BY: D. PETERSON  
CHECKED BY: C. CARLSON  
SHEET 35 OF 72





ABUTMENT NO. 2 PLAN

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



ABUTMENT NO. 2  
TYPICAL SECTION

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

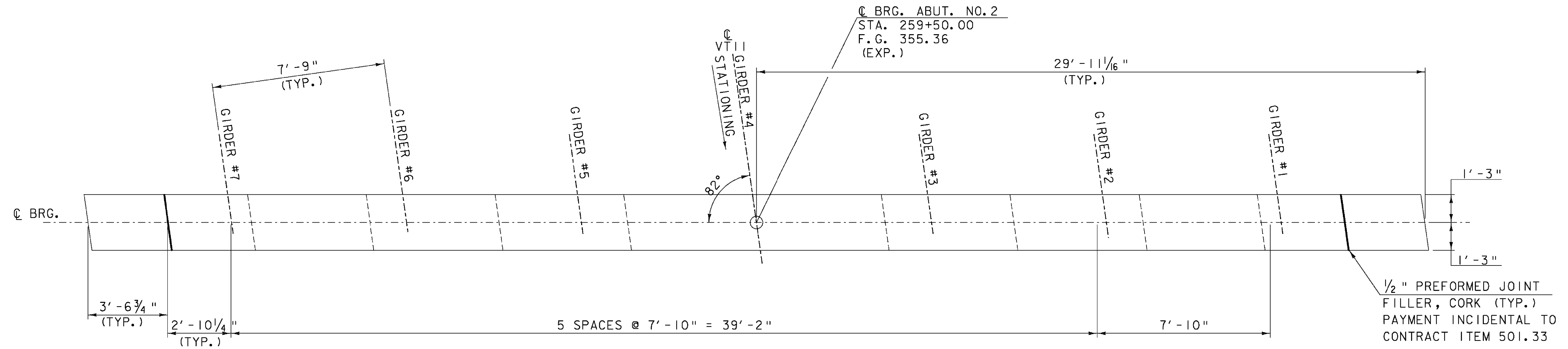
ABUTMENT NO. 2 EVELVATION

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

VOID  
SEE REVISED  
SHEET

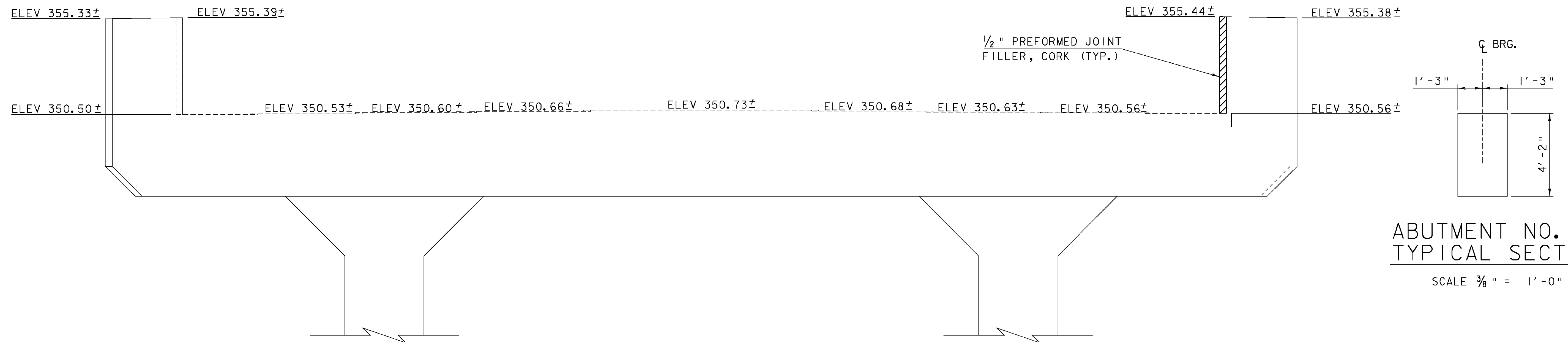
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| PROJECT NAME:   | SPRINGFIELD   | FILE NAME:             | 06J004/Str/s06J004sub.dgn | PLOT DATE:  | 04-MAR-2009 |
| PROJECT NUMBER: | BHF 016-2(14) | PROJECT LEADER:        | R. WHITCOMB               | DRAWN BY:   | D. PETERSON |
|                 |               | DESIGNED BY:           | D. PETERSON               | CHECKED BY: | C. CARLSON  |
|                 |               | ABUTMENT NO. 2 DETAILS |                           | SHEET       | 36 OF 72    |





ABUTMENT NO. 2 PLAN

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



ABUTMENT NO. 2  
TYPICAL SECTION

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

EXISTING BRIDGE SEAT ELEVATIONS  
POSTED ABOVE BRIDGE SEAT.  
PROPOSED BRIDGE SEAT ELEVATION  
POSTED BELOW BRIDGE SEAT

ABUTMENT NO. 2 ELEVATION

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

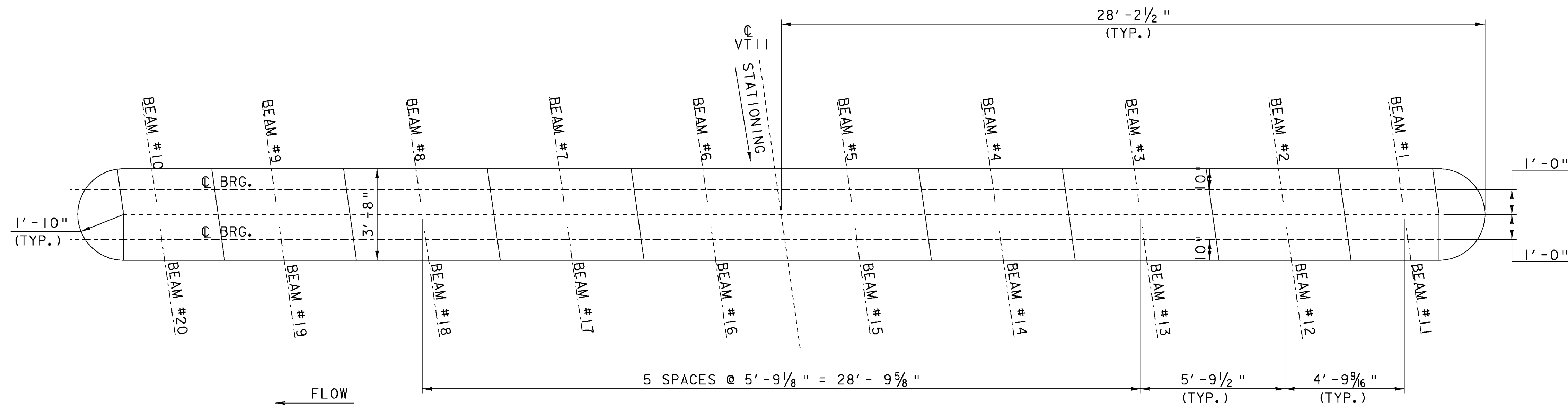
| REV. | BY  | DATE    | DESCRIPTION     |
|------|-----|---------|-----------------|
| 3    | LBB | 5/26/09 | REVISED GIRDERS |

ABUTMENT 2

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PROJECT NUMBER: BHF 016-2(14)

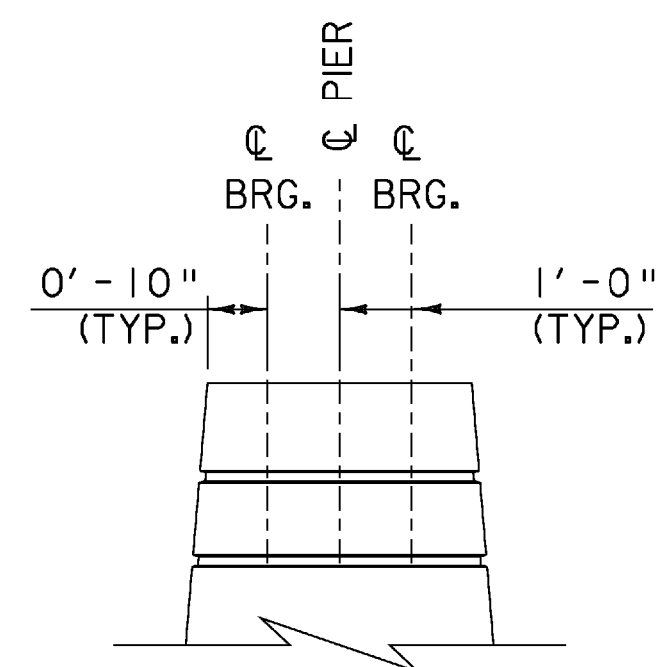
FILE NAME: 06J004/Str/s06J004sub.dgn PLOT DATE: 29-MAY-2009  
PROJECT LEADER: R. WHITCOMB DRAWN BY: D. PETERSON  
DESIGNED BY: D. PETERSON CHECKED BY: C. CARLSON  
ABUTMENT NO. 2 DETAILS SHEET 36 OF 72





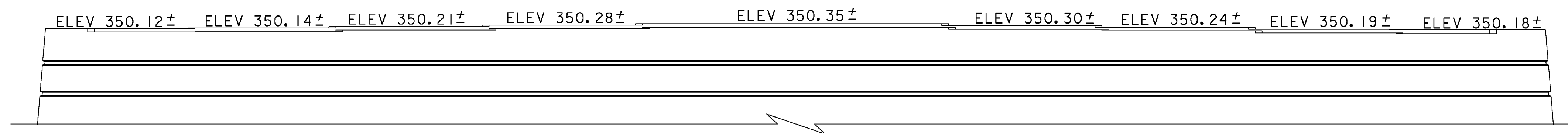
PIER PLAN

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



PIER  
TYPICAL SECTION

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



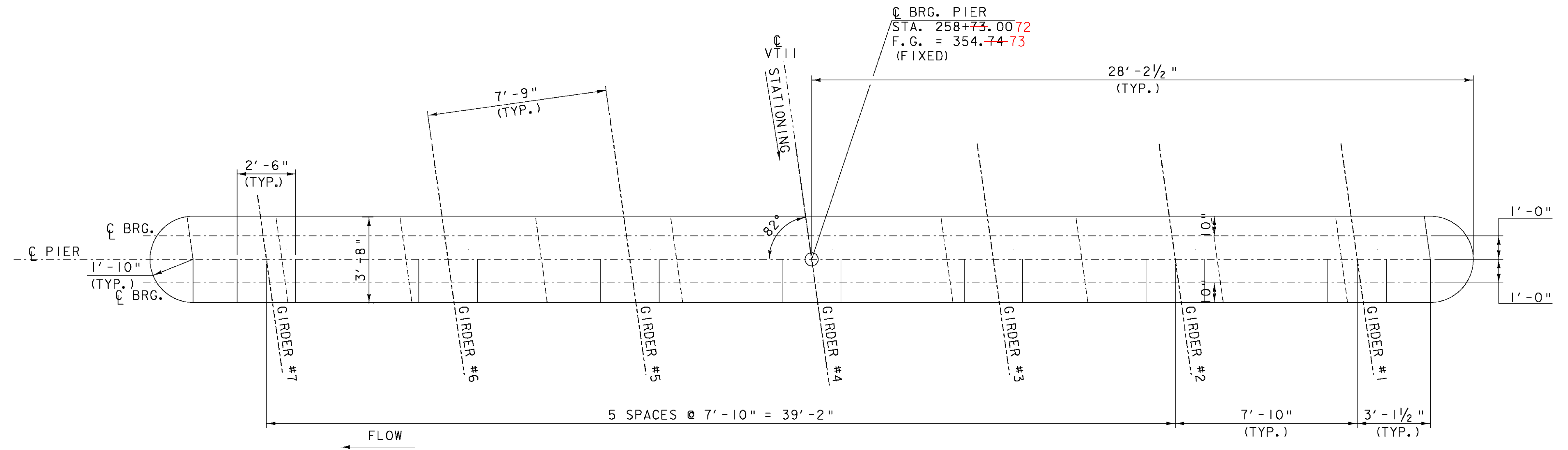
PIER EVELVATION

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

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SEE REVISED  
SHEET

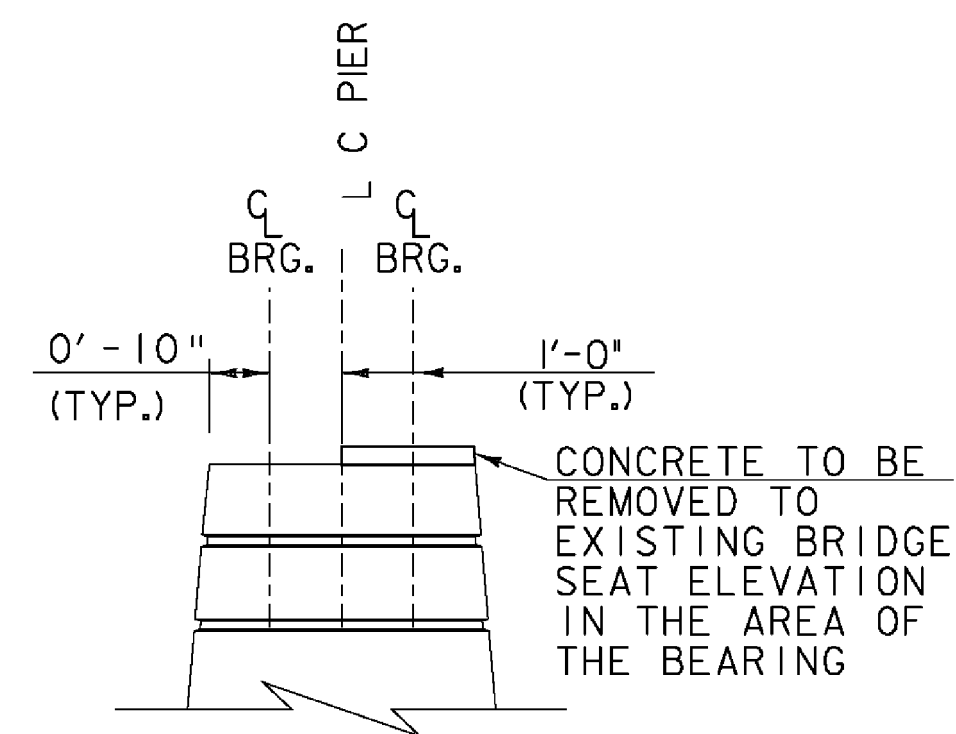
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| PROJECT NUMBER: | BHF 016-2(14)             |
| FILE NAME:      | 06J004/Str/s06J004sub.dgn |
| PROJECT LEADER: | R. WHITCOMB               |
| DESIGNED BY:    | D. PETERSON               |
| PIER DETAILS    |                           |
| PLOT DATE:      | 04-MAR-2009               |
| DRAWN BY:       | D. PETERSON               |
| CHECKED BY:     | C. CARLSON                |
| SHEET           | 37 OF 72                  |





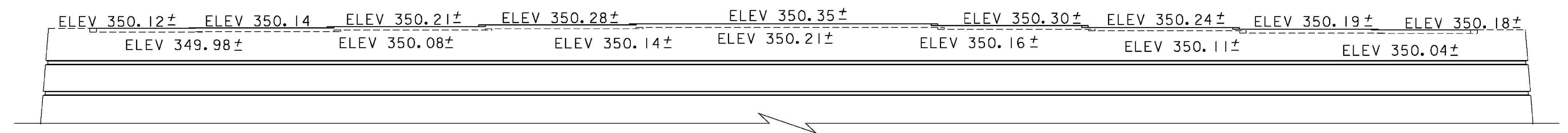
PIER PLAN

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



PIER  
TYPICAL SECTION

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



EXISTING BRIDGE SEAT  
ELEVATIONS POSTED  
ABOVE AND BELOW  
BRIDGE SEATS.

PIER ELEVATION

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

| REV. | BY  | DATE    | DESCRIPTION     |
|------|-----|---------|-----------------|
| 3    | LBB | 5/26/09 | REVISED GIRDERS |

PIER

|                 |                           |
|-----------------|---------------------------|
| PROJECT NAME:   | SPRINGFIELD               |
| PROJECT NUMBER: | BHF 016-2(14)             |
| FILE NAME:      | 06J004/Str/s06J004sub.dgn |
| PROJECT LEADER: | R. WHITCOMB               |
| DESIGNED BY:    | D. PETERSON               |
| PIER DETAILS    |                           |
| PLOT DATE:      | 29-MAY-2009               |
| DRAWN BY:       | D. PETERSON               |
| CHECKED BY:     | C. CARLSON                |
| SHEET           | 37 OF 72                  |



# 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 M 31 (ASTM A 615-S1). 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.
0. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.

1. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.

| ASTM STANDARD<br>REINFORCING BARS |                              |                                  |                             |
|-----------------------------------|------------------------------|----------------------------------|-----------------------------|
| E                                 | WEIGHT<br>POUNDS<br>PER FOOT | NOMINAL DIMENSIONS ROUND SECTION |                             |
|                                   |                              | DIAMETER<br>INCHES               | AREA<br>INCHES <sup>2</sup> |
|                                   | 0.376                        | 0.375                            | 0.11                        |
|                                   | 0.668                        | 0.500                            | 0.20                        |
|                                   | 1.043                        | 0.625                            | 0.31                        |
|                                   | 1.502                        | 0.750                            | 0.44                        |
|                                   | 2.044                        | 0.875                            | 0.60                        |
|                                   | 2.670                        | 1.000                            | 0.79                        |
|                                   | 3.400                        | 1.128                            | 1.00                        |
|                                   | 4.303                        | 1.270                            | 1.27                        |
|                                   | 5.313                        | 1.410                            | 1.56                        |
|                                   | 7.65                         | 1.693                            | 2.25                        |
|                                   | 13.60                        | 2.257                            | 4.00                        |

VOID  
SEE REVISE  
SHEET

|                            |                |             |             |
|----------------------------|----------------|-------------|-------------|
| PROJECT NAME:              | SPRINGFIELD    | PLOT DATE:  | 3/4/2009    |
| PROJECT NUMBER:            | BHF 016-2(14)  | DRAWN BY:   | C. MOON     |
| FILE NAME:                 | s06j004rss.dgn | CHECKED BY: | D. PETERSON |
| PROJECT MANAGER:           | R. WHITCOMB    |             |             |
| DESIGNED BY:               | D. PETERSON    |             |             |
| REINFORCING STEEL SCHEDULE |                | SHEET       | 38 OF 72    |

|                                      |                                |
|--------------------------------------|--------------------------------|
| PROJECT NAME: <b>SPRINGFIELD</b>     |                                |
| PROJECT NUMBER: <b>BHF 016-2(14)</b> |                                |
| <hr/>                                |                                |
| FILE NAME: <b>s06j004rss.dgn</b>     | PLOT DATE: <b>3/4/2009</b>     |
| PROJECT MANAGER: <b>R. WHITCOMB</b>  | DRAWN BY: <b>C. MOONEY</b>     |
| DESIGNED BY: <b>D. PETERSON</b>      | CHECKED BY: <b>D. PETERSON</b> |
| <b>REINFORCING STEEL SCHEDULE</b>    | SHEET <b>38</b> OF <b>72</b>   |

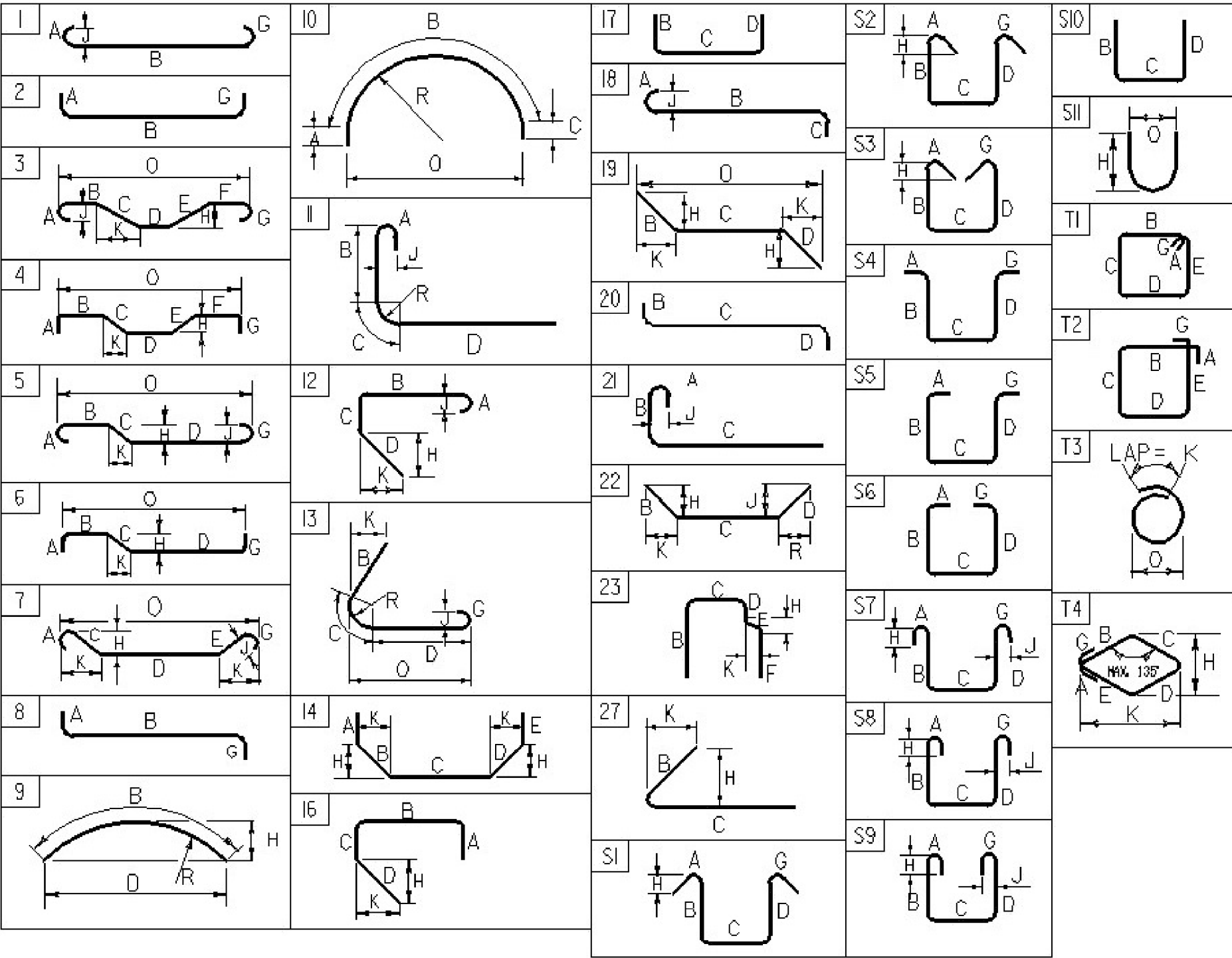


REINFORCING STEEL SCHEDULE

| 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                                                                                                                                                                                                       |      |      |                                       |       |      |         |         |        |         |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
| *                                                                                                                                                                                                          | 591  | 5    | 33'- 4"                               | ES501 | STR  |         |         |        |         |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
| * ▲                                                                                                                                                                                                        | 528  | 5    | <div>29'- 3"</div> <div>28'- 3"</div> | ES502 | STR  |         |         |        |         |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
| * ▲                                                                                                                                                                                                        | 528  | 5    | <div>24'- 7"</div> <div>25'- 7"</div> | ES503 | STR  |         |         |        |         |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
| ▲                                                                                                                                                                                                          | 16   | 5    | 28'- 6"                               | ES507 | STR  |         |         |        |         |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
| ▲                                                                                                                                                                                                          | 16   | 5    | 26'- 1"                               | ES508 | STR  |         |         |        |         |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
| △                                                                                                                                                                                                          | 53   | 6    | 40'- 0"                               | ES601 | STR  |         |         |        |         |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
| *                                                                                                                                                                                                          | 37   | 5    | 8'- 11"                               | ES504 | S5   | 0'- 10" | 3'- 6"  | 0'- 6" | 3'- 3"  |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
|                                                                                                                                                                                                            | 36   | 5    | 9'- 2"                                | ES505 | S5   | 0'- 10" | 3'- 6"  | 0'- 9" | 3'- 3"  |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
|                                                                                                                                                                                                            | 422  | 5    | 9'- 11"                               | ES506 | S5   | 0'- 10" | 1'- 3"  | 6'- 0" | 1'- 0"  |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
| * THE COST FOR THE BRIDGE RAILING REINFORCEMENT FOR THE CONCRETE BRIDGE POSTS DETAILED ON SHEET 31 SHALL BE INCLUDED IN THE PAY ITEM 900.640 "SPECIAL PROVISION (BRIDGE RAILING REPAIR, PIPE AND SPINDLE)" |      |      |                                       |       |      |         |         |        |         |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
| * BRIDGE RAILING                                                                                                                                                                                           |      |      |                                       |       |      |         |         |        |         |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
| △                                                                                                                                                                                                          | 42   | 5    | 33'- 4"                               | ER501 | STR  |         |         |        |         |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
|                                                                                                                                                                                                            | 64   | 5    | 5'- 5"                                | ER502 | S11  |         |         |        |         |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
|                                                                                                                                                                                                            | 64   | 5    | 5'- 5"                                | ER503 | S11  |         |         |        |         |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
|                                                                                                                                                                                                            | 336  | 5    | 3'- 11"                               | ER504 | S5   | ---     | 1'- 4"  | 0'- 5" | 1'- 4"  |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
|                                                                                                                                                                                                            | 336  | 5    | 2'- 8"                                | ER505 | T1   | 0'- 3"  | 0'- 10" | 0'- 6" | 0'- 10" |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
|                                                                                                                                                                                                            | 8    | 5    | 7'- 0"                                | ER506 | S10  |         | 3'- 0"  | 1'- 0" | 3'- 0"  |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
|                                                                                                                                                                                                            | 8    | 5    | 5'- 0"                                | ER507 | S10  |         | 3'- 0"  | 2'- 0" | ---     |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
|                                                                                                                                                                                                            | 8    | 5    | 3'- 2"                                | ER508 | S10  |         | 2'- 8"  | 0'- 6" | ---     |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
|                                                                                                                                                                                                            | 28   | 5    | 4'- 6"                                | ER509 | T1   | 0'- 3"  | 1'- 0"  | 1'- 0" | 1'- 0"  | 1'- 0" |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
|                                                                                                                                                                                                            | 8    | 5    | 3'- 10"                               | ER510 | T1   | 0'- 3"  | 0'- 8"  | 1'- 0" | 0'- 8"  | 1'- 0" |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |
|                                                                                                                                                                                                            | 8    | 5    | 3'- 10"                               | ER511 | S10  |         | 2'- 1"  | 0'- 8" | ---     |        |   |   |   |   |   |   |   |      |      |      |        |      |      |   |   |   |   |   |   |   |   |   |   |   |   |

~ NOTES ~

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

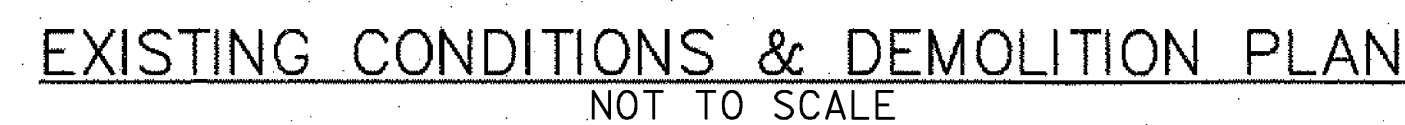


| ASTM STANDARD<br>REINFORCING BARS |                              |                                                        |                             |                     |
|-----------------------------------|------------------------------|--------------------------------------------------------|-----------------------------|---------------------|
| BAR SIZE<br>DESIGNA-<br>TION      | WEIGHT<br>POUNDS<br>PER FOOT | NOMINAL DIMENSIONS ROUND SECTION<br>DIAMETER<br>INCHES | AREA<br>INCHES <sup>2</sup> | 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                                | 2.044                        | 0.875                                                  | 0.60                        | 2.749               |
| #8                                | 2.670                        | 1.000                                                  | 0.79                        | 3.142               |
| #9                                | 3.400                        | 1.128                                                  | 1.00                        | 3.544               |
| #10                               | 4.303                        | 1.270                                                  | 1.27                        | 3.990               |
| #11                               | 5.313                        | 1.410                                                  | 1.56                        | 4.430               |
| #14                               | 7.65                         | 1.693                                                  | 2.25                        | 5.32                |
| #18                               | 13.60                        | 2.257                                                  | 4.00                        | 7.09                |

| REV.   | BY  | DATE    | DESCRIPTION        |
|--------|-----|---------|--------------------|
| △<br>3 | DRP | 5/26/09 | REVISED BAR LENGTH |

|                              |                         |
|------------------------------|-------------------------|
| PROJECT NAME:                | SPRINGFIELD             |
| PROJECT NUMBER:              | BHF 016-2(14)           |
| FILE NAME: s06j004rss.dgn    | PLOT DATE: 5/28/2009    |
| PROJECT MANAGER: R. WHITCOMB | DRAWN BY: C. MOONEY     |
| DESIGNED BY: D. PETERSON     | CHECKED BY: D. PETERSON |
| REINFORCING STEEL SCHEDULE   | SHEET 38 OF 72          |





- ## FINAL DESIGN

FEBRUARY 19, 2009



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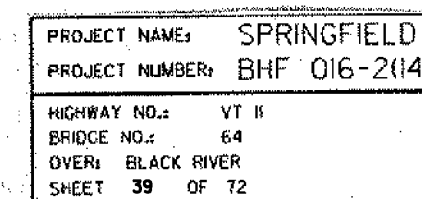
## Consultants

Legend

## Notes

THE TOPOGRAPHIC SURVEY WAS PREPARED BY AERIAL PHOTOGRAPHY PERFORMED BY AERODATA DIGITAL MAPPING, OSSISPEE, NH. THE CONTROL SURVEY WAS PERFORMED BY COLEMAN SURVEYS, SPRINGFIELD, VERMONT.

## Permit-Seal



Client/Project

**TOWN OF SPRINGFIELD**

COMMUNITY CENTER BRIDGE  
UTILITY CROSSING  
Springfield, Vermont

| Title |
|-------|
|-------|

### EXISTING UTILITY & DEMOLITION PLAN

Project No.  
210800385

Scale  $1" = 20'$

Drawing No.

Sheet

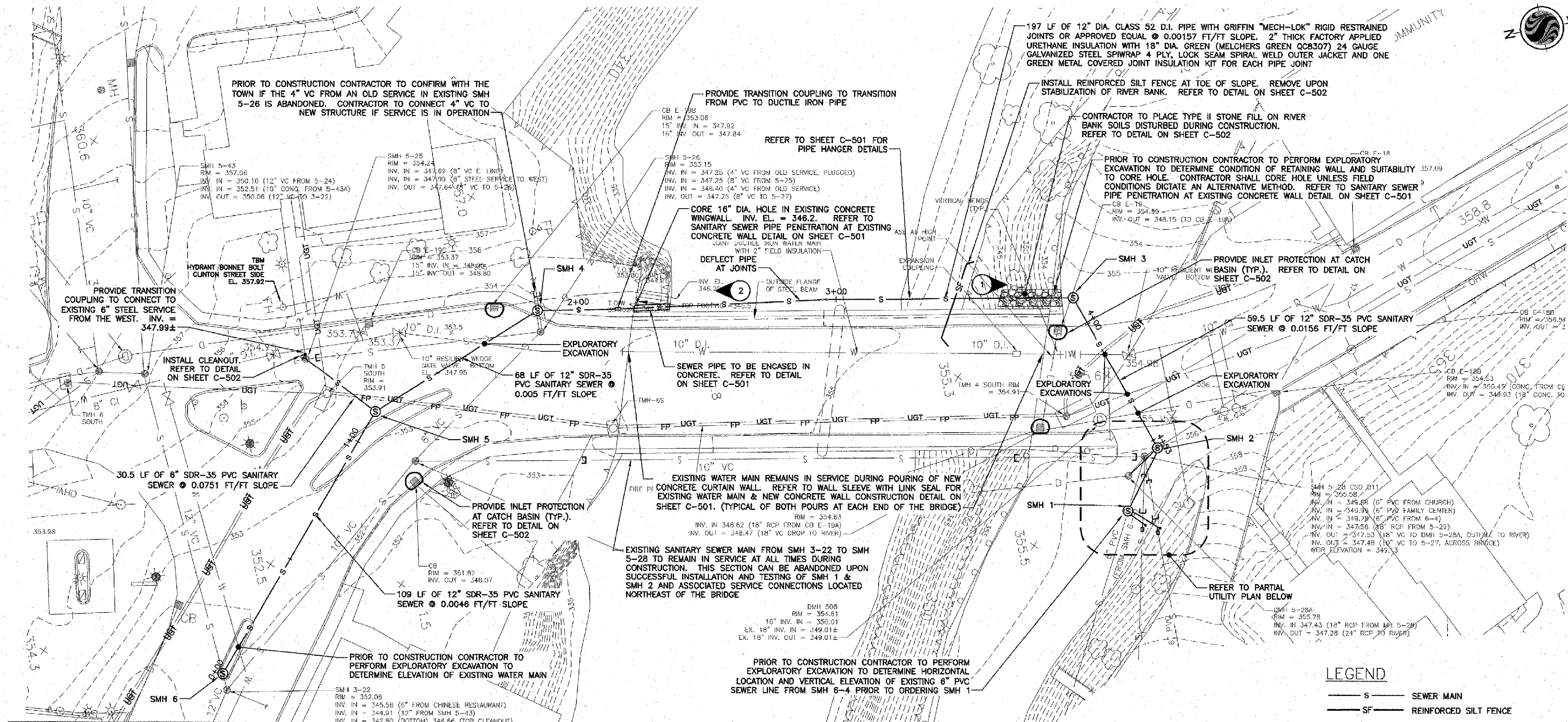
Revision

C-101

U1 of U5

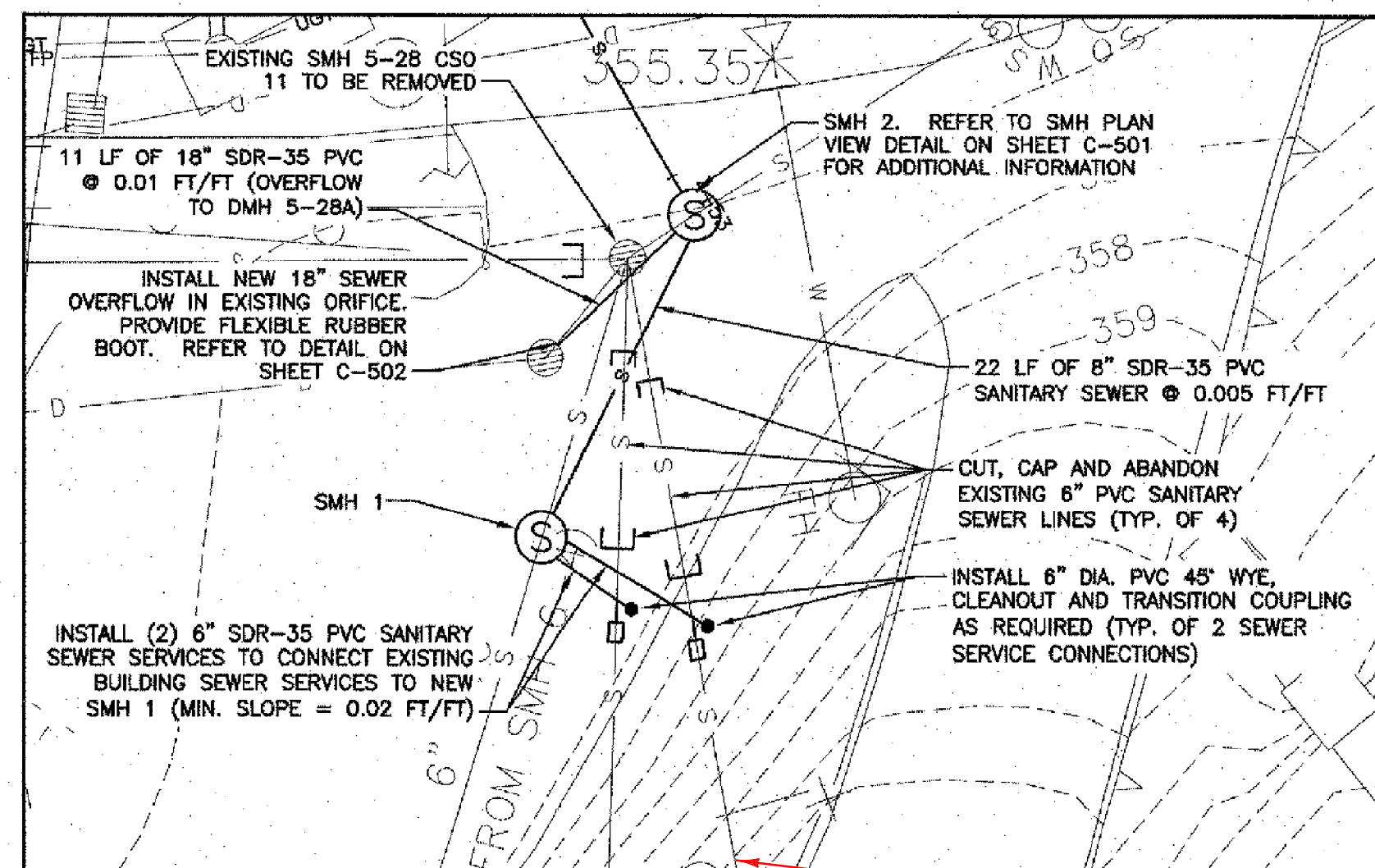
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## PROPOSED UTILITY PLAN

NOT TO SCALE



## PARTIAL UTILITY PLAN

NOT TO SCALE

THIS LINE FROM CHURCH & PARSONAGE RUN DIRECTLY TO SMH2

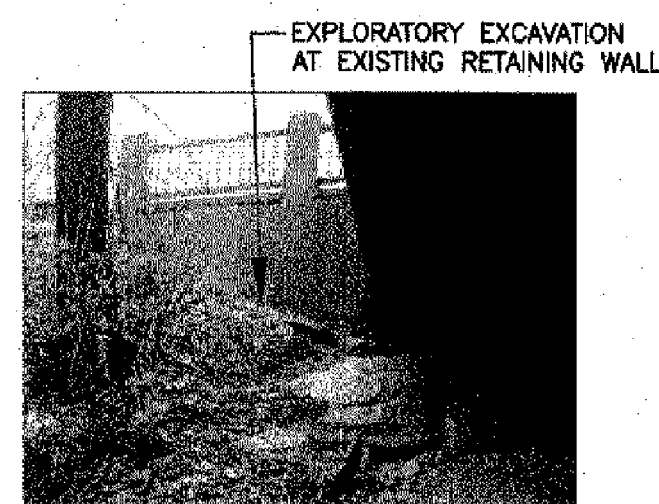


PHOTO 1  
NOT TO SCALE



PHOTO 2  
NOT TO SCALE

## SEWER MANHOLE STRUCTURE TABLE

|            |                                                                                                                                                                                                       |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SMH 1      | RIM = 356.7<br>INV. IN = TO BE DETERMINED (6\"                                                                                                                                                        |
| SMH 2 (5\" | RIM = 356.0<br>INV. IN = 347.58 (FROM EXISTING SMH 5-29)<br>INV. IN = 349.78 (FROM SMH 1)<br>INV. OUT = 347.48 (TO SMH 3)<br>INV. OUT = 347.53 (OUTFALL TO EXISTING DMH 5-28A)<br>WEIR ELEV. = 349.13 |
| SMH 3      | RIM = 354.85<br>INV. IN = 346.55<br>INV. OUT = 346.45                                                                                                                                                 |
| SMH 4      | RIM = 354.0<br>INV. IN = 348.4 (4\"                                                                                                                                                                   |
| SMH 5      | RIM = 352.8<br>INV. IN = 345.7 (FROM SMH 4)<br>INV. IN = 345.7 (FROM NEW CLEANOUT)<br>INV. OUT = 345.6 (TO SMH 6)                                                                                     |
| SMH 6      | RIM = 352.6<br>INV. IN = 345.2 (FROM EXISTING SMH 5-43)<br>INV. IN = 345.1 (FROM SMH 5)<br>INV. OUT = 345.0 (TO EXISTING SMH 3-22)                                                                    |

## LEGEND

- S SEWER MAIN
- SF REINFORCED SILT FENCE
- TRANSITION COUPLING
- CLEANOUT
- ⊕ INLET PROTECTION AT CB
- ⊙ SANITARY SEWER MANHOLE
- ⊖ CAP
- ⊙ TYPE II STONE FILL
- ① PHOTO TARGET INDICATING NUMBER AND DIRECTION OF PHOTO

## FINAL DESIGN

FEBRUARY 19, 2009



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Consultants

Legend

## Notes

- REFER TO SHEET C-501 FOR GENERAL CONSTRUCTION / SEQUENCING NOTES
- REFER TO STATE OF VERMONT AGENCY OF TRANSPORTATION DRAWINGS FOR SITE RELATED LAYOUT INFORMATION AND DETAILS.
- REFER TO STATE OF VERMONT AGENCY OF TRANSPORTATION DRAWINGS FOR ADDITIONAL EROSION CONTROL MEASURES AND DETAILS.
- THE CONTRACTOR IS TO CONTACT DIG SAFE IN VERMONT AT (888) 888-8888, A MINIMUM OF 72 HOURS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL OVERHEAD AND UNDERGROUND ELECTRIC, FIRE PROTECTION AND TELEPHONE LINES AND TAKE NECESSARY PRECAUTIONS IN STRICT ACCORDANCE WITH OSHA STANDARDS DURING CONSTRUCTION.
- ALL NEW PIPE AND SEWER MANHOLE STRUCTURES INSTALLED ARE REQUIRED TO PASS ALL REQUIRED TESTING PROCEDURES.
- STANTEC TO REVIEW AND APPROVE ALL SHOP DRAWINGS ASSOCIATED WITH SEWER MANHOLE STRUCTURES, SEWER PIPE AND ALL MATERIALS APPURTENANT FOR THE BRIDGE CROSSING.

Revision By Appd. Y1MM.DD

1 FINAL DESIGN TO VACT - BRIDGE SECTION B.V.D. G.C.K. 08.02.19  
Issued By Appd. Y1MM.DD

File Name: 00385C-102.dwg B.V.D. G.C.K. B.V.D. 08.02.09  
Dwn. Chld. Dgn. Y1MM.DD

Permit-Seal



PROJECT NAME: SPRINGFIELD  
PROJECT NUMBER: BHF 016-2014  
HIGHWAY NO: VT 1  
BRIDGE NO: 64  
OVER: BLACK RIVER  
SHEET 40 OF 72

Client/Project

TOWN OF SPRINGFIELD

COMMUNITY CENTER BRIDGE  
UTILITY CROSSING

Springfield, Vermont

Title

SITE UTILITY PLAN

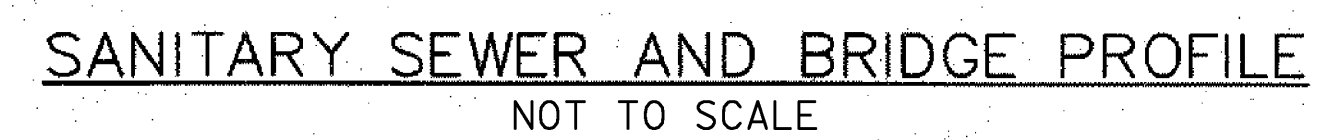
Project No. 210800385 Scale AS SHOWN

Drawing No. Sheet Revision

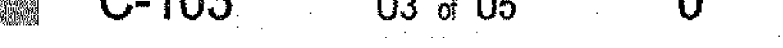
C-102 U2 of U5 0

Stantec Consulting Services Inc.  
54 Route 106  
North Springfield VT U.S.A.  
05150  
Tel: 802.886.2261  
Fax: 802.886.2260  
www.stantec.com





FEBRUARY 19, 2009



**Stantec Consulting Services Inc.**  
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North Springfield VT U.S.A.  
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## Consultants

Legend

## Notes

1. ALL SEWER LINE WORK IN THIS AREA TO BE PAID FOR UNDER ITEM 900.645, SPECIAL PROVISION (SEWER MAIN ON BRIDGE) FROM SMH 3 TO SMH 4.

|          |    |       |         |
|----------|----|-------|---------|
| Revision | By | Appd. | YY.MM.D |
|----------|----|-------|---------|

|                                         |        |        |         |
|-----------------------------------------|--------|--------|---------|
| 1 FINAL DESIGN TO VAOT - BRIDGE SECTION | B.V.D. | G.C.K. | 09.02.1 |
|-----------------------------------------|--------|--------|---------|

|        |    |       |         |
|--------|----|-------|---------|
| Issued | By | Appd. | YY.MM.D |
|--------|----|-------|---------|

|                                   |        |        |        |          |
|-----------------------------------|--------|--------|--------|----------|
| File Name: 00385C-103_profile.dwg | B.V.D. | G.C.K. | B.V.D. | 09.02.09 |
|-----------------------------------|--------|--------|--------|----------|

|  | Dwn. | Chkd. | Dagn. | YY.MM.D |
|--|------|-------|-------|---------|
|  |      |       |       |         |

Permit-Seal

STATE OF VERMONT

RECEIVED MAY 1965

PROJECT NAME: SPRINGFIELD  
PROJECT NUMBER: BHF 016-20

|                                                                                       |                   |
|---------------------------------------------------------------------------------------|-------------------|
|  | HIGHWAY NO.: VT R |
|---------------------------------------------------------------------------------------|-------------------|

BRIDGE NO. 54  
OVER: BLACK RIVER

|                |  |
|----------------|--|
| Client/Project |  |
|----------------|--|

TOWN OF SPRINGFIELD

TOWN OF SPRINGFIELD

[illegible]

COMMUNITY CENTER BRIDGE

UTILITY CROSSING

Springfield, Vermont

Title \_\_\_\_\_

## SANITARY SEWER AND BRIDGE

### SANITARY SEWER AND BRIDGE PROFILE

\_\_\_\_\_

Project No. 010000005 Scale AS SHOWN

210800385 AS SHOWN

|             |       |          |
|-------------|-------|----------|
| Drawing No. | Sheet | Revision |
|-------------|-------|----------|

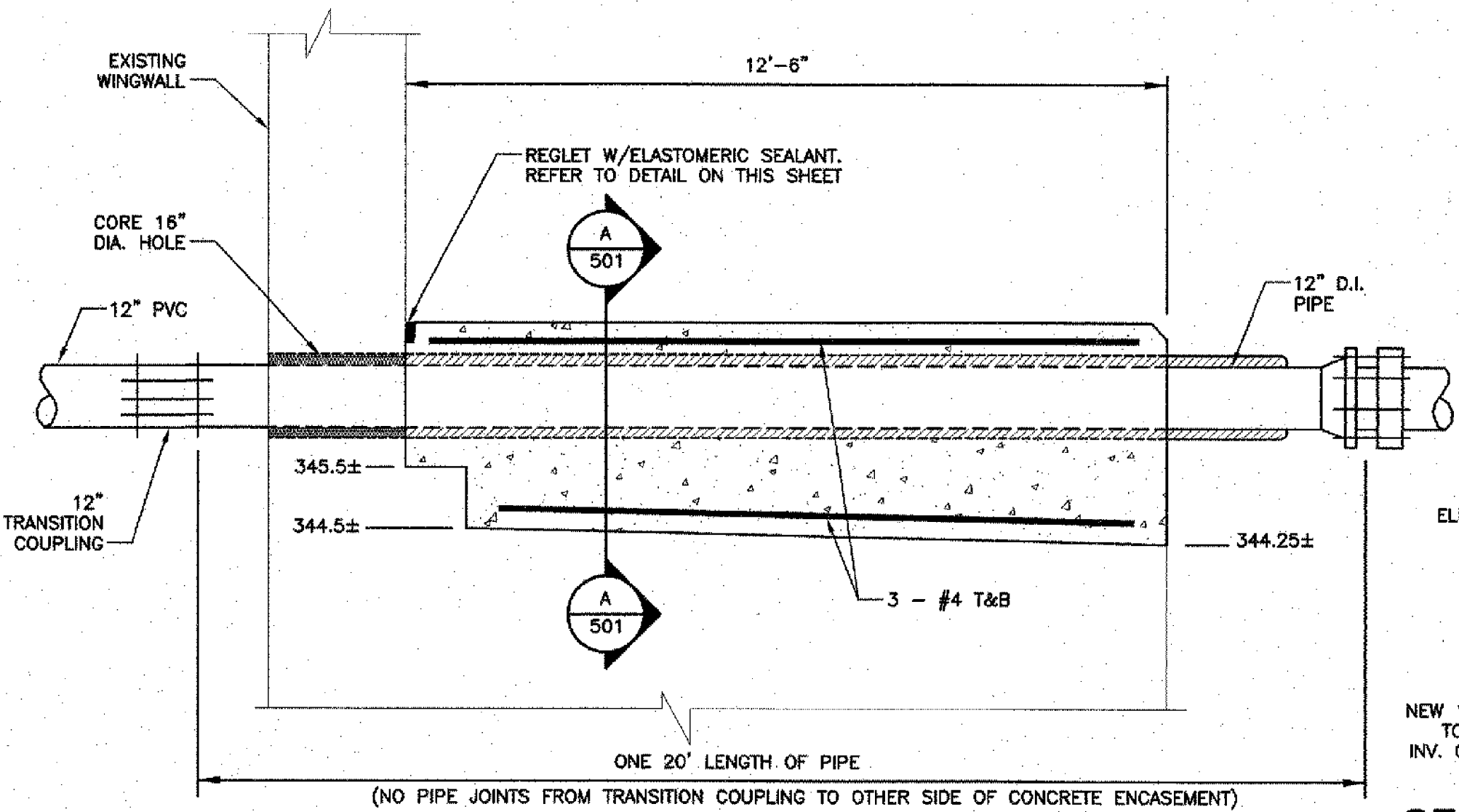
C 103 U3 + U5 0

C-103 03 of 05 0

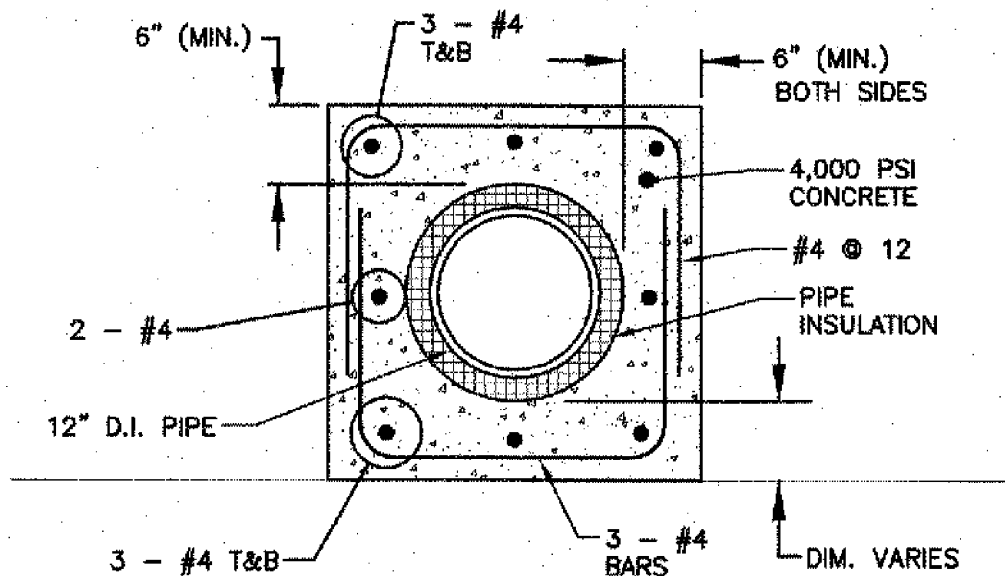


GENERAL CONSTRUCTION SEQUENCE

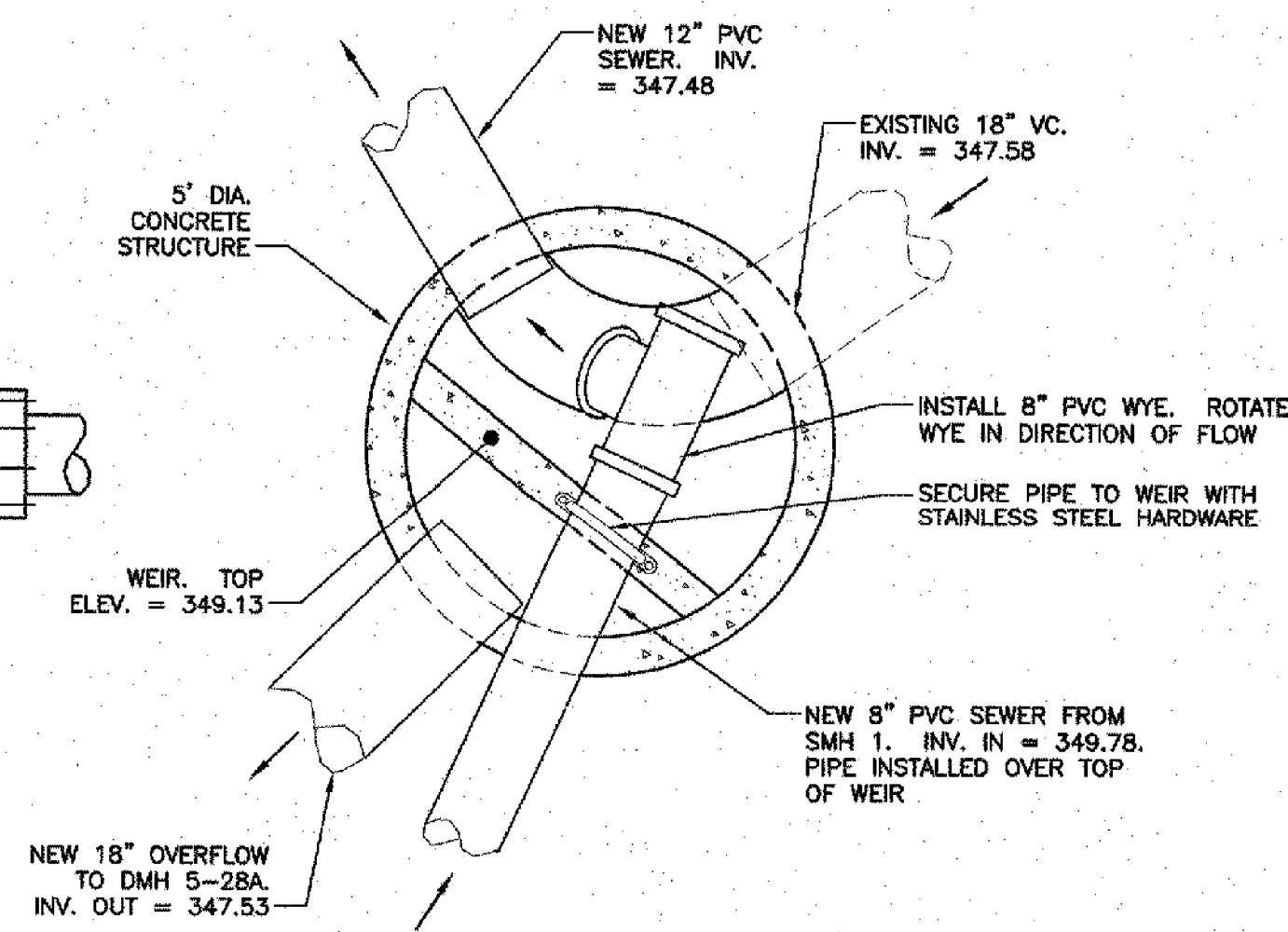
1. CORE HOLE IN EXISTING CONCRETE RETAINING WALL @ STA. 2+20.
2. PERFORM EXPLORATORY EXCAVATION AT EXISTING RETAINING WALL @ STA. 3+85 AND CORE HOLE IN RETAINING WALL (IF NECESSARY).
3. INSTALL SMH 6 AND TIE INTO EXISTING 12" VC SEWER MAIN.
4. CONSTRUCT 12" SEWER PIPE FROM SMH 6 TO SMH 5.
5. INSTALL SMH 5 AND TEST SEWER PIPE AND SMH 5.
6. CONSTRUCT 6" SEWER PIPE FROM SMH 5 TOWARDS EXISTING SMH 5-25.
7. REMOVE EXISTING SMH 5-25 AND PROVIDE TEMPORARY BYPASS PUMPING FROM EXISTING SMH 5-25 TO EXISTING SMH 5-26.
8. TEST 6" SEWER PIPE.
9. CONNECT 6" SEWER PIPE TO EXISTING 6" STEEL SANITARY SEWER SERVICE WITH A TRANSITION COUPLING, WYE FITTING AND CLEANOUT.
10. EXISTING 8" VC SEWER MAIN BETWEEN EXISTING SMH 5-25 AND SMH 5-26 TO BE ABANDONED IN-PLACE.
11. CONTRACTOR TO CONFIRM WITH TOWN IF ANY OF THE TWO 4" VC SERVICES ENTERING EXISTING SMH 5-26 ARE ACTIVE. CONTRACTOR TO MAKE PROVISIONS TO CONNECT THE APPROPRIATE SERVICES TO SMH 4 OR CUT AND CAP ANY SERVICES THAT HAVE BEEN ABANDONED PRIOR TO ORDERING/INSTALLING SMH 4.
12. CONSTRUCT 12" SEWER PIPE FROM SMH 5 TO SMH 4.
13. INSTALL SMH 4 AND TEST SEWER PIPE AND SMH 5.
14. CONSTRUCT 12" SEWER PIPE (BRIDGE CROSSING) FROM SMH 4 TO SMH 3.
15. INSTALL SMH 3 AND TEST SEWER PIPE AND SMH 3.
16. CONSTRUCT AND TEST 12" SEWER PIPE FROM SMH 3 TO SMH 2.
17. CONSTRUCT SMH 2 AND PROVIDE TEMPORARY BYPASS PUMPING TO EXISTING SMH 5-28. CONSTRUCT 8" STUB FOR CONNECTION OF NEW SEWER PIPE FROM SMH 1 AND 18" STUB FOR OVERFLOW TO DMH 5-28A.
18. UPON CONSTRUCTION OF SMH 2, TEMPORARY BYPASS PUMPING WILL BE REMOVED AND FLOWS FROM EXISTING SMH 5-29 WILL BE DIRECTED INTO THE NEWLY CONSTRUCTED SEWER SYSTEM. FLOWS FROM THE CHURCH, FAMILY CENTER AND THE COLLECTION LINE FROM THE EAST WILL CONTINUE TO FLOW THROUGH THE EXISTING SEWER MAIN.
19. INSTALL SMH 1 AND TIE INTO EXISTING 6" PVC FROM 6-4, PROVIDE TEMPORARY BYPASS PUMPING FROM SMH 1 TO EXISTING SMH 5-28.
20. CONSTRUCT AND TEST NEW 8" SEWER MAIN FROM SMH 2 TO SMH 1. CONNECT TO PREVIOUSLY CONSTRUCTED STUB @ SMH 1. REMOVE TEMPORARY BYPASS PUMPING.
21. CONNECT BOTH 6" PVC SANITARY SEWER SERVICES FROM THE CHURCH AND FAMILY CENTER TO SMH 1.
22. REMOVE EXISTING SMH 5-28 AND INSTALL NEW 18" PVC OVERFLOW PIPE FROM SMH 2 TO EXISTING DMH 5-28A. REMOVE AND RE-INSTALL OVERFLOW MONITORING EQUIPMENT FROM EXISTING SMH 5-28 TO EXISTING DMH 5-28A.



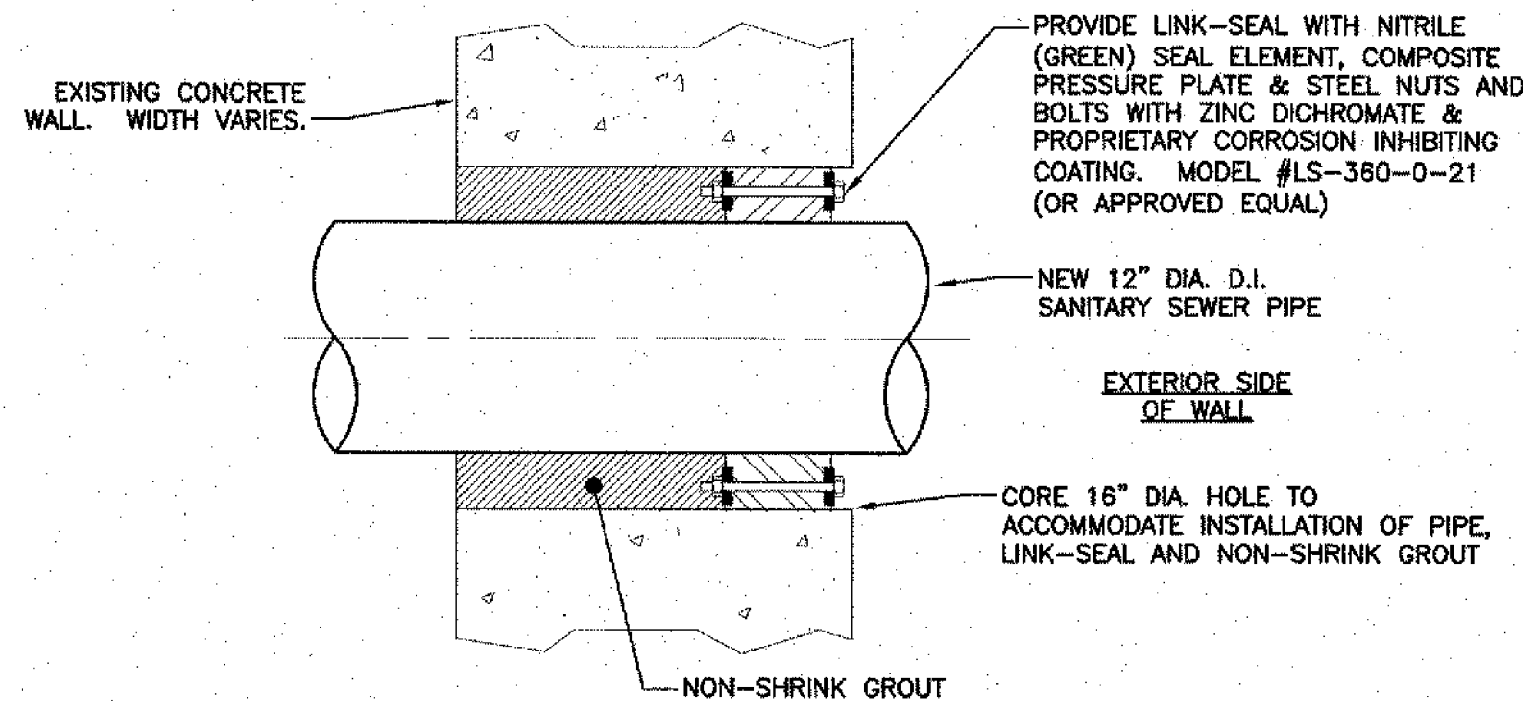
CONCRETE ENCASEMENT SECTION  
NOT TO SCALE



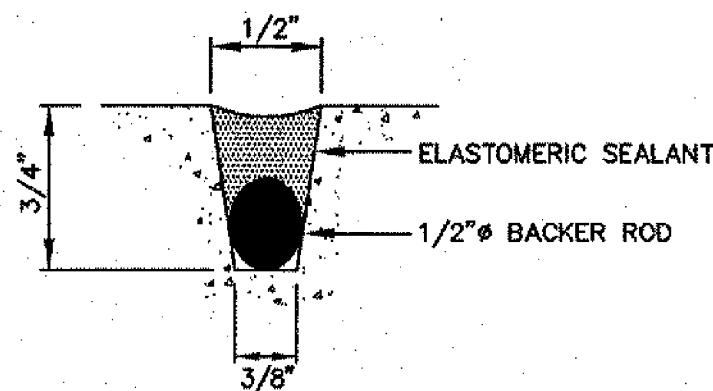
SECTION A-A  
NOT TO SCALE



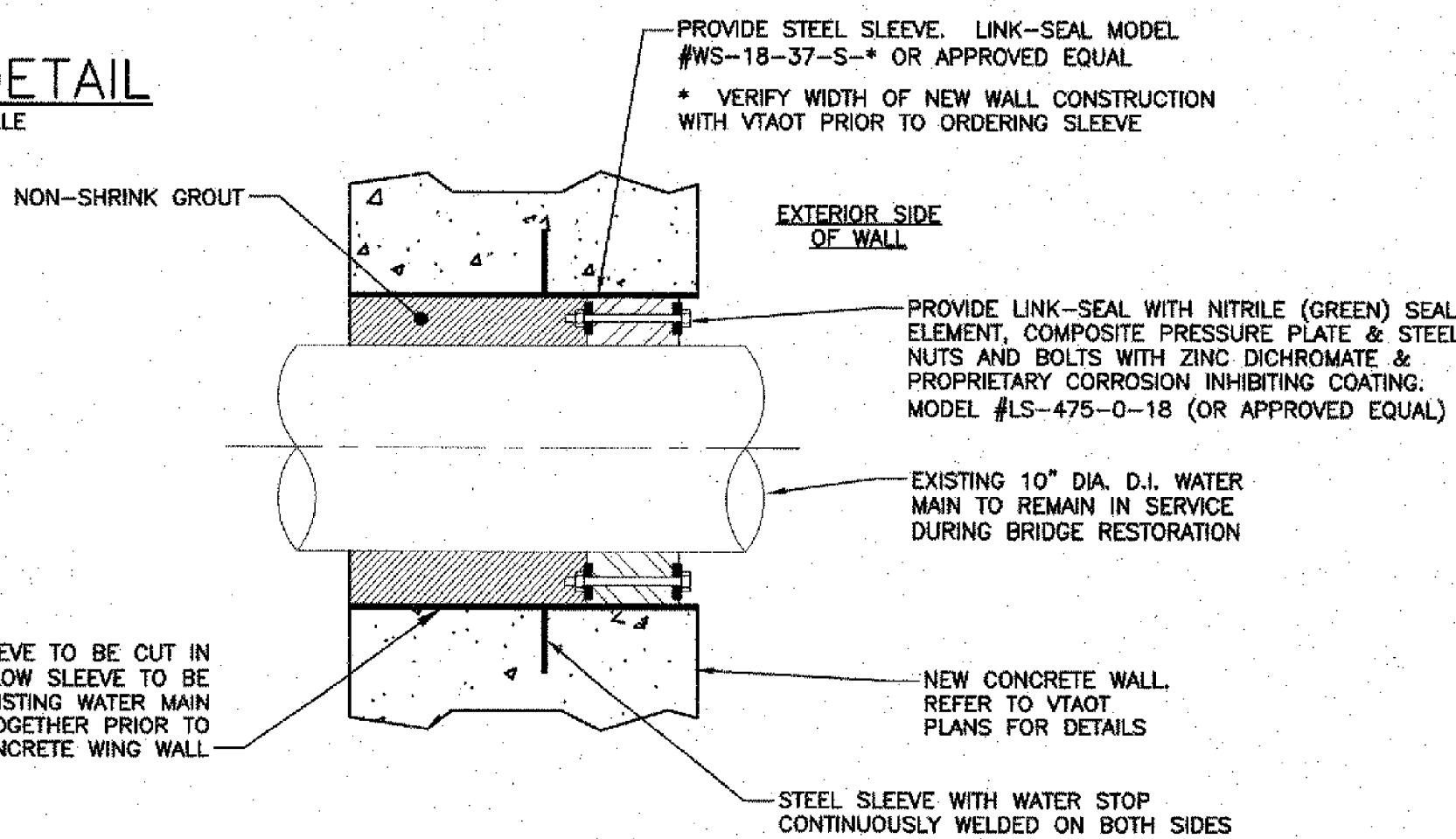
SEWER MANHOLE 2 PLAN VIEW  
NOT TO SCALE



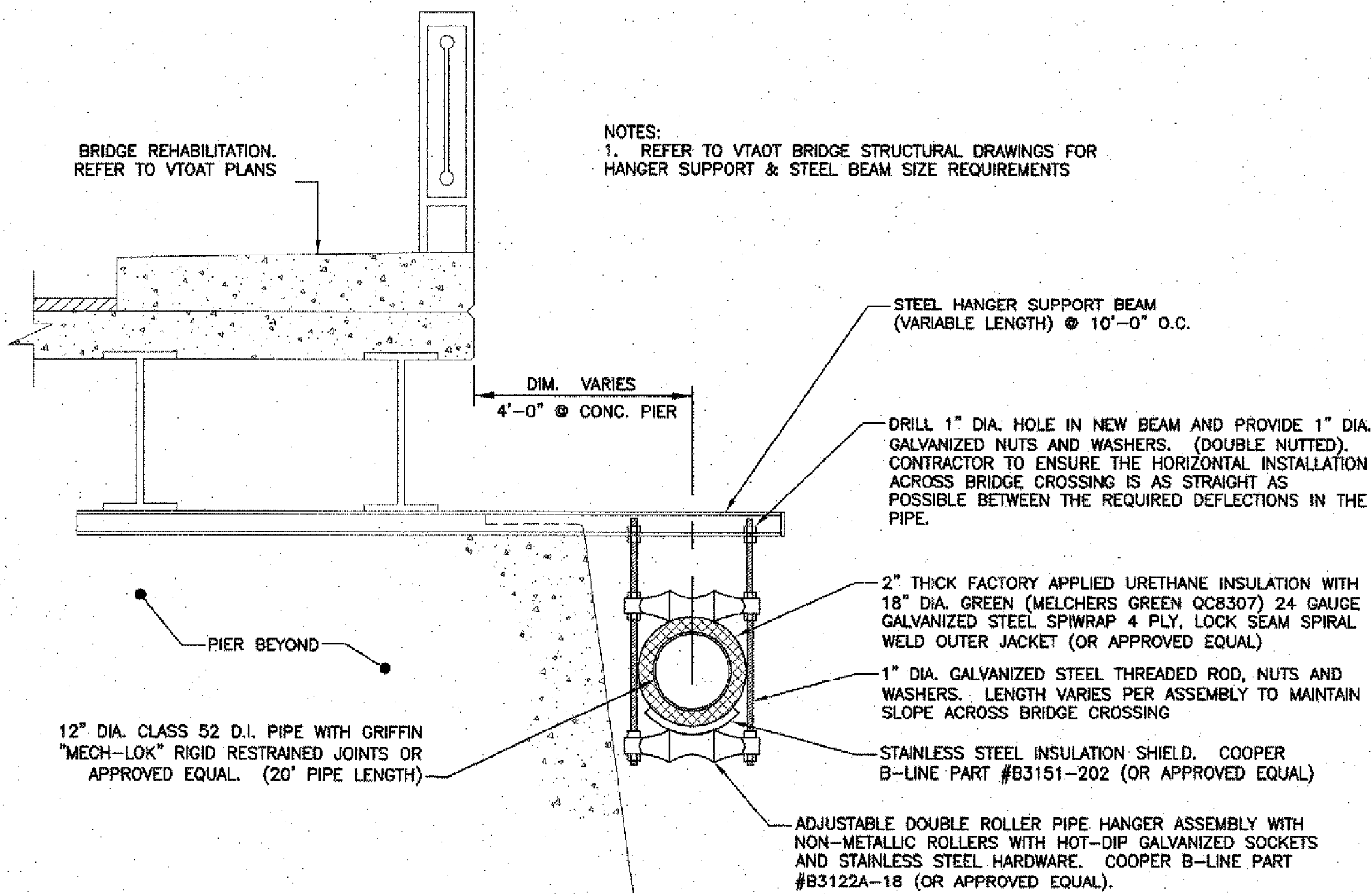
SANITARY SEWER PIPE PENETRATION  
AT EXISTING CONCRETE WALL DETAIL  
NOT TO SCALE



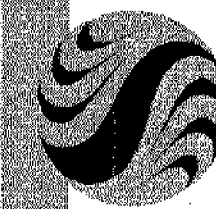
REGLET DETAIL  
NOT TO SCALE



WALL SLEEVE WITH LINK SEAL FOR EXISTING WATER  
MAIN & NEW CONCRETE WALL CONSTRUCTION  
NOT TO SCALE



MAIN STREET BRIDGE OUTRIGGER  
AND HANGER AT CONCRETE PIER DETAIL  
NOT TO SCALE



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Consultants

Legend

Notes

Revision By Appd. YY.MM.DD

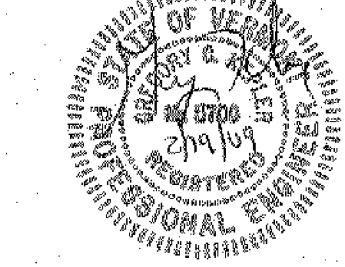
1 FINAL DESIGN TO VTAOT - BRIDGE SECTION B.V.D. G.C.K. 09.02.19

Issued By Appd. YY.MM.DD

File Name: 003850-501.dwg B.V.D. G.C.K. B.V.D. 09.02.09

Dwn. Chkd. Dgn. YY.MM.DD

Permit-Seal



PROJECT NAME: SPRINGFIELD  
PROJECT NUMBER: BHF 016-2(14)  
HIGHWAY NO.: VT 11  
BRIDGE NO.: 64  
OVER: BLACK RIVER  
SHEET 42 OF 72

Client/Project

TOWN OF SPRINGFIELD

COMMUNITY CENTER BRIDGE  
UTILITY CROSSING  
Springfield, Vermont

Title

GENERAL CONSTRUCTION NOTES &  
PIPE SPECIALTY DETAILS

Project No. Scale

210800385 AS SHOWN

Drawing No. Sheet Revision

C-501

U4 of U5

0

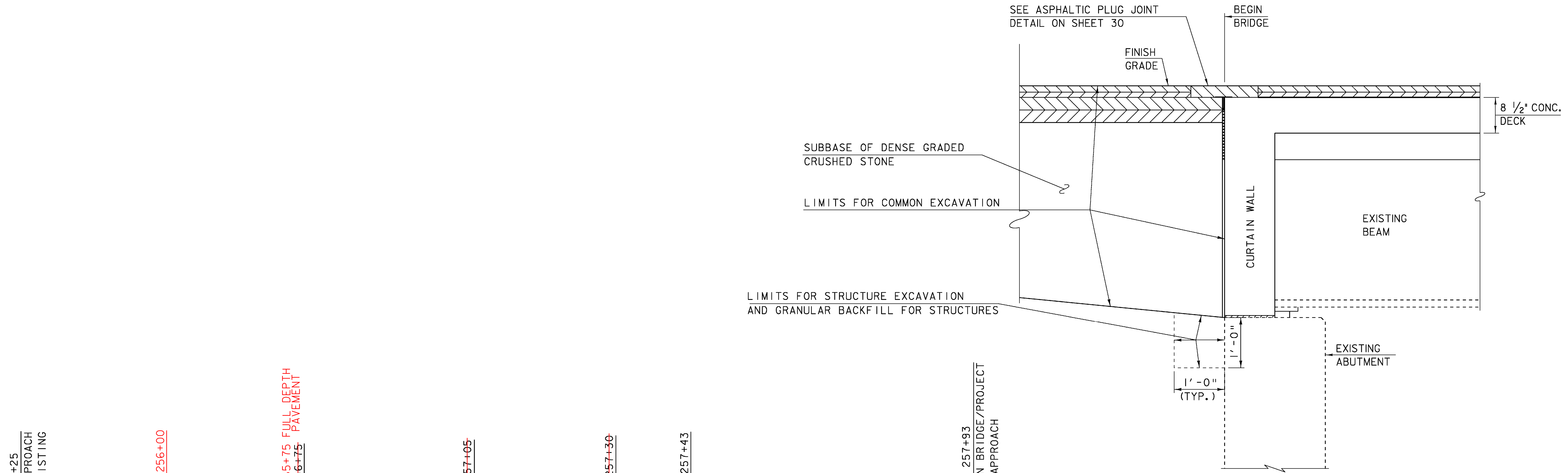
FINAL DESIGN

FEBRUARY 19, 2009



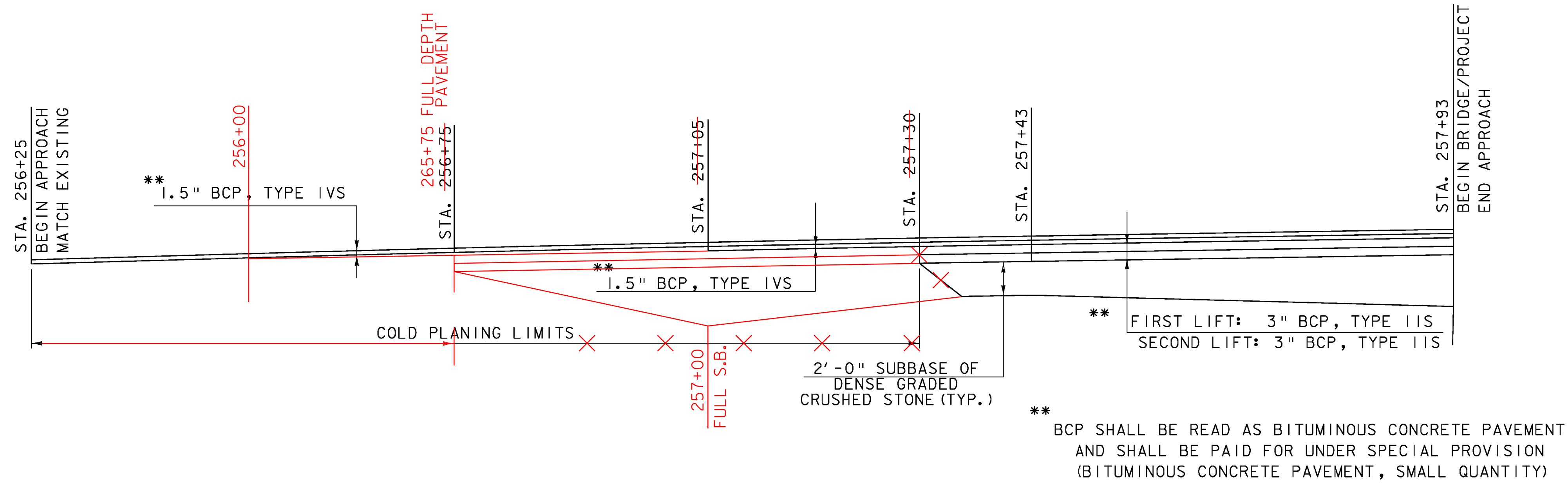






### ABUTMENT BRIDGE END DETAIL

SCALE: 1" = 1'-0"

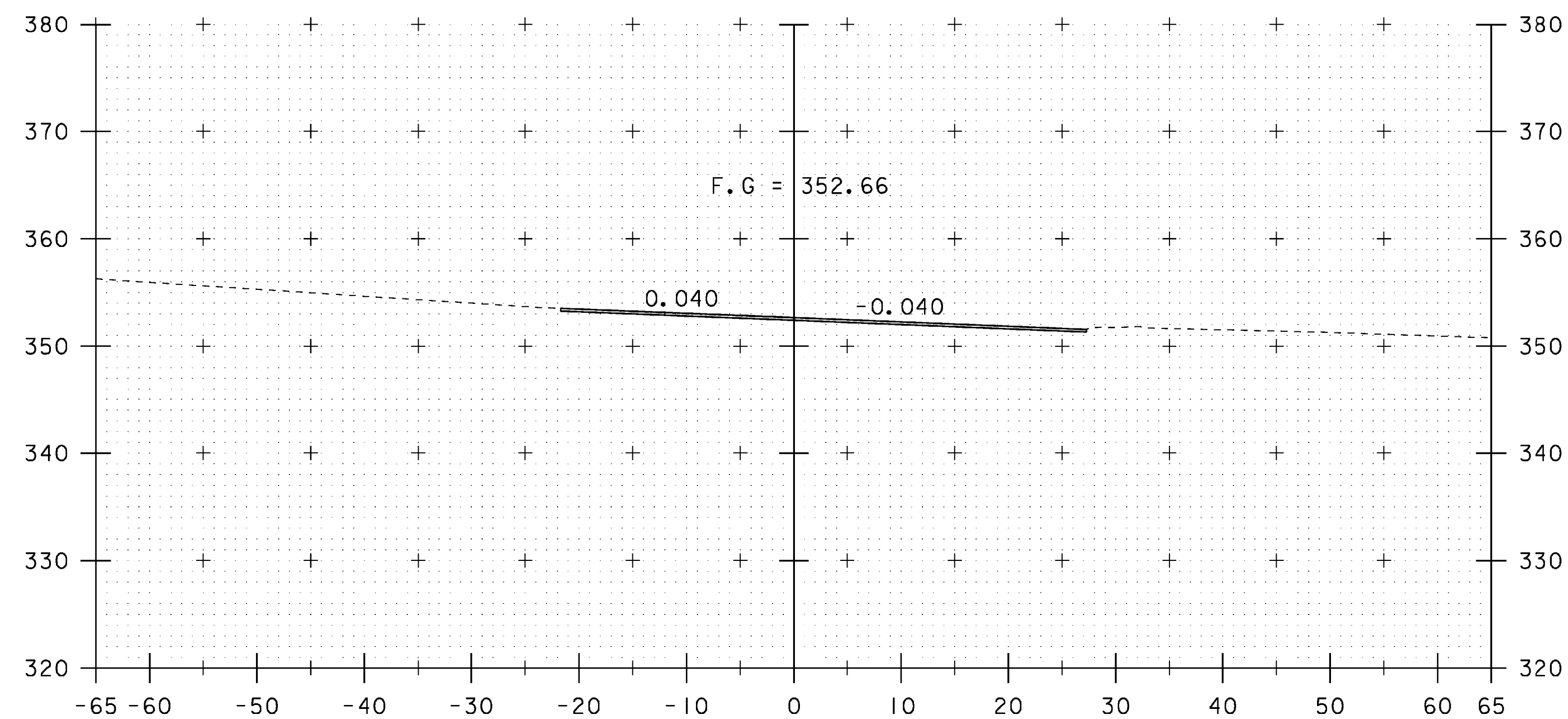


### MATERIAL TRANSITION AND COLD PLANING LIMITS

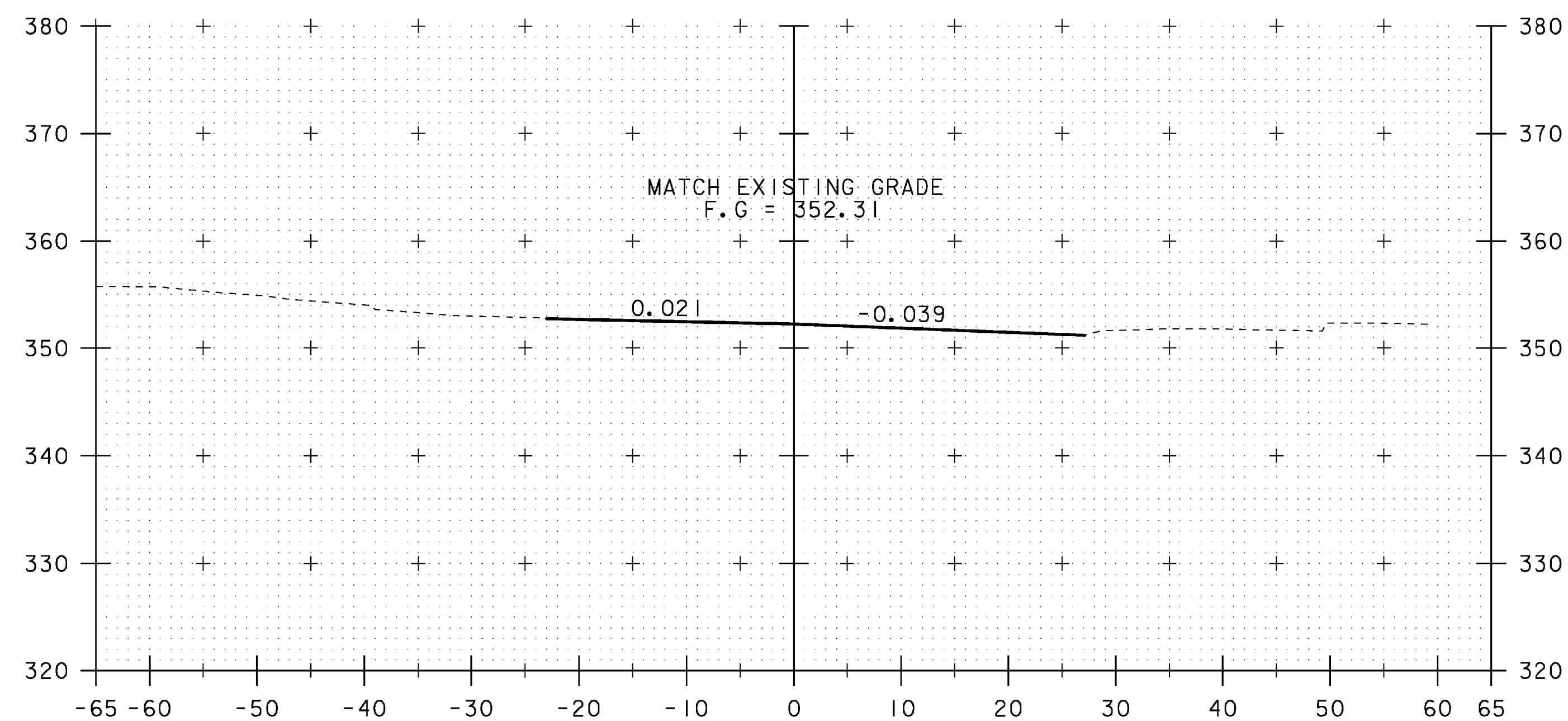
NOT TO SCALE

|                 |               |                             |                           |             |             |
|-----------------|---------------|-----------------------------|---------------------------|-------------|-------------|
| PROJECT NAME:   | SPRINGFIELD   | FILE NAME:                  | 06J004/str/s06J004xsl.dgn | PLOT DATE:  | 24-MAR-2009 |
| PROJECT NUMBER: | BHF 016-2(14) | PROJECT LEADER:             | R. WHITCOMB               | DRAWN BY:   | D. PETERSON |
|                 |               | DESIGNED BY:                | D. PETERSON               | CHECKED BY: | C. CARLSON  |
|                 |               | MATERIAL TRANSITION DETAILS |                           | SHEET 44    | OF 72       |



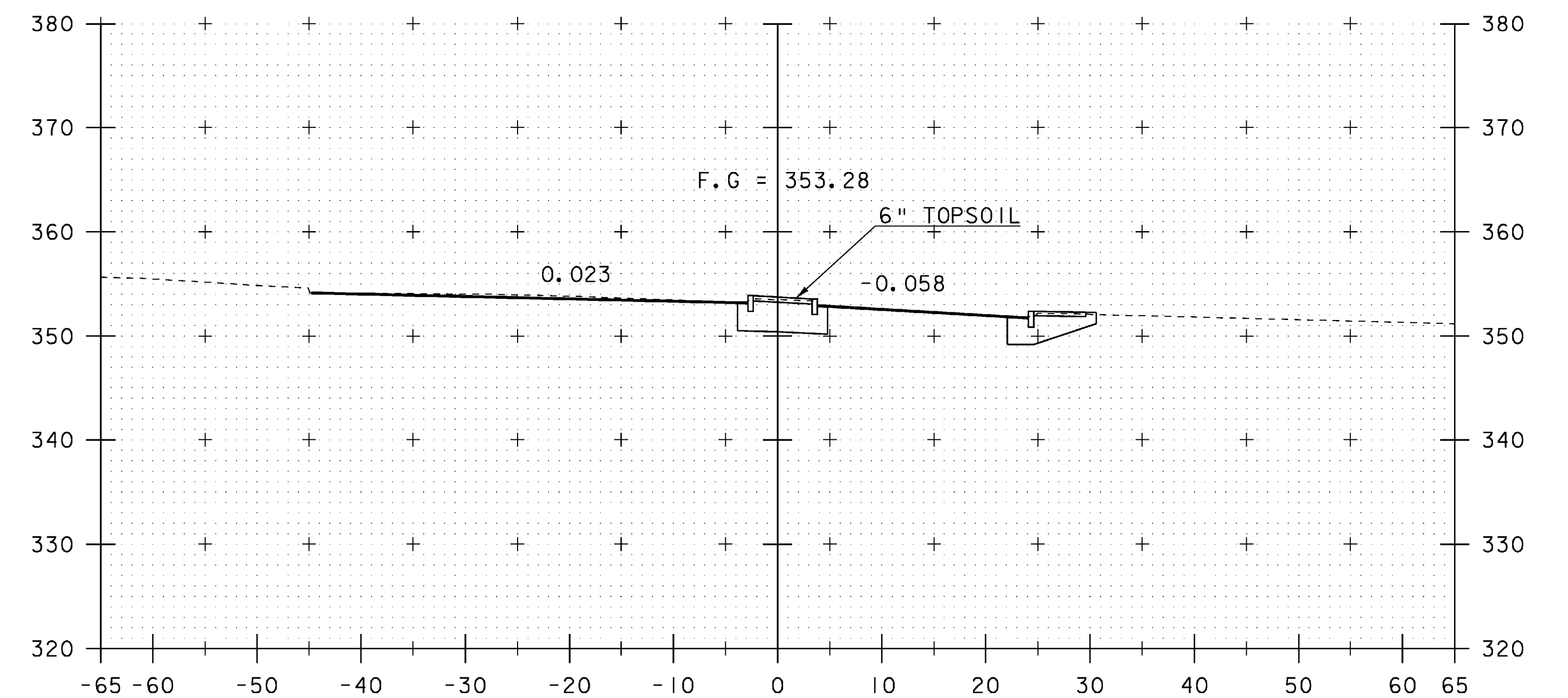


256+50

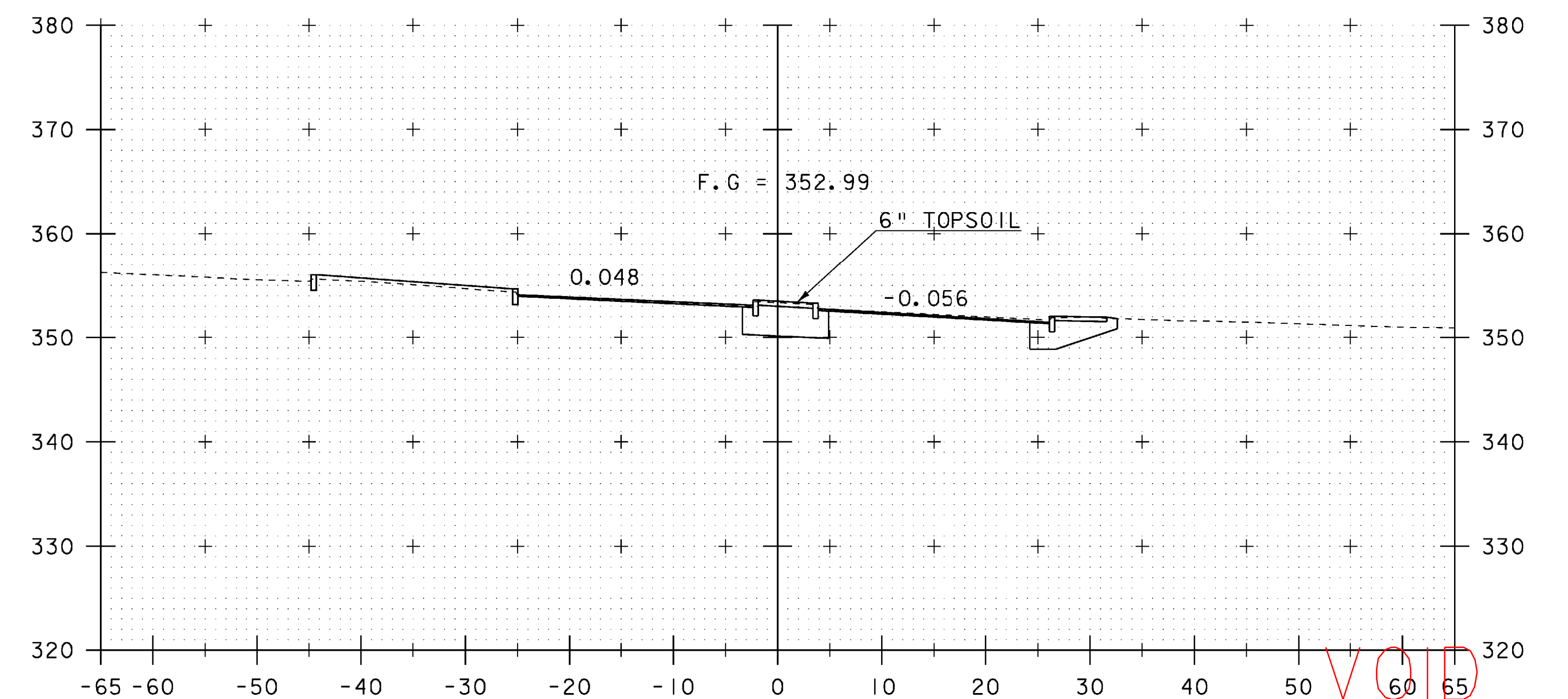


256+25

ML STA 256+25  
BEGIN APPROACH  
MATCH EXISTING



257+00



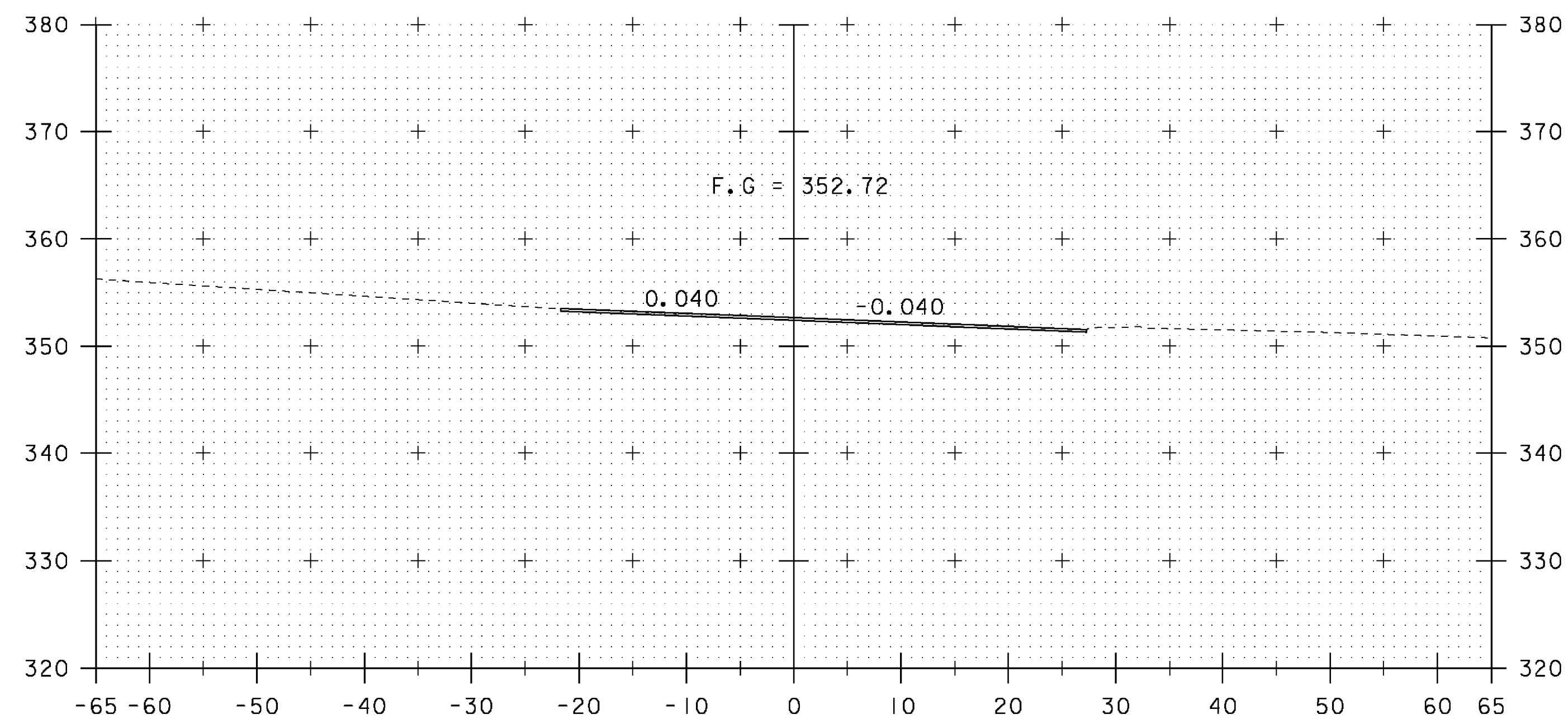
256+75

VOID  
SEE REVISED  
SHEET

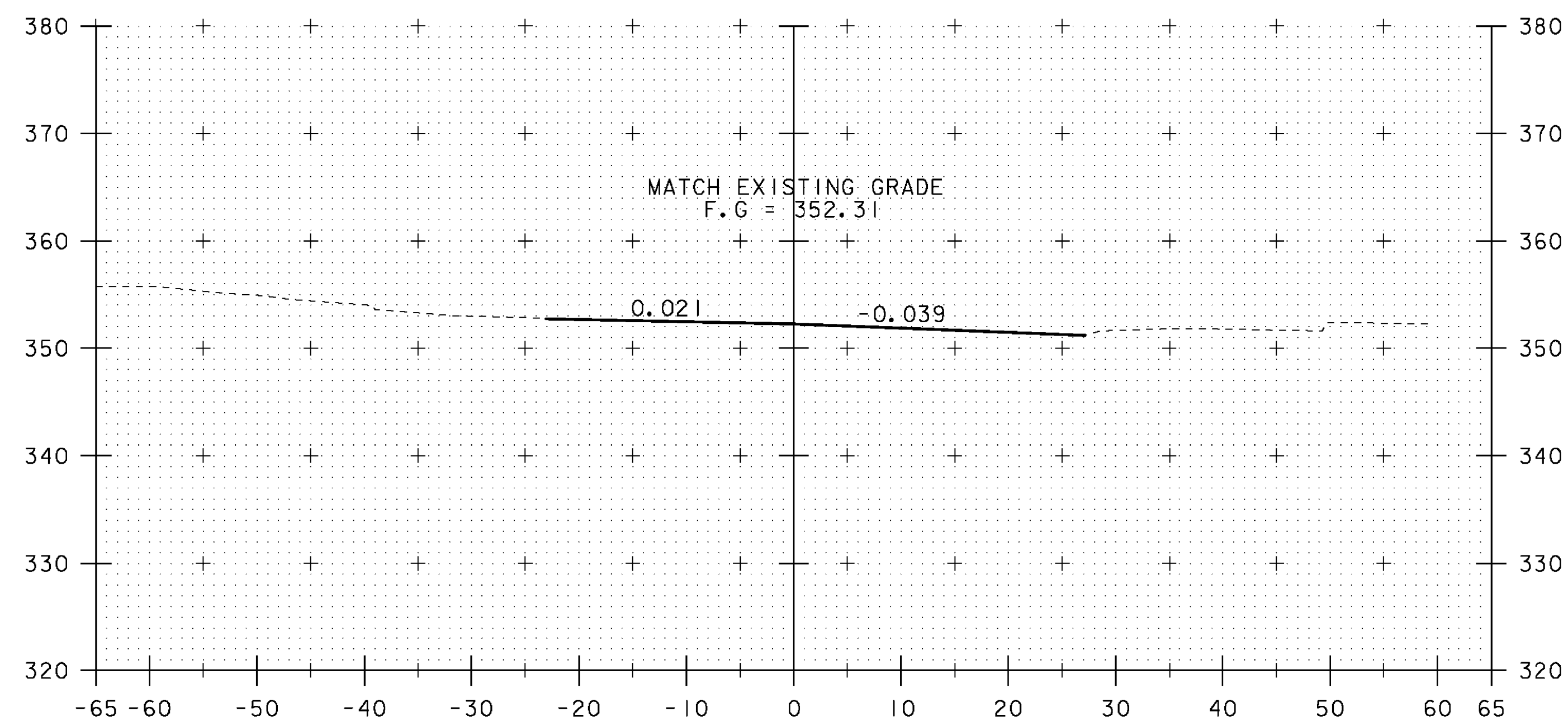
STA. 256+25 TO STA. 257+00

|                                      |                        |
|--------------------------------------|------------------------|
| PROJECT NAME: SPRINGFIELD            |                        |
| PROJECT NUMBER: BHF 016-2(14)        |                        |
| FILE NAME: 06J004/str/s06J004xsl.dgn | PLOT DATE: 04-MAR-2009 |
| PROJECT LEADER: R. WHITCOMB          | DRAWN BY: D. PETERSON  |
| DESIGNED BY: D. PETERSON             | CHECKED BY: C. CARLSON |
| MAINLINE CROSS SECTIONS (I)          | SHEET 45 OF 72         |



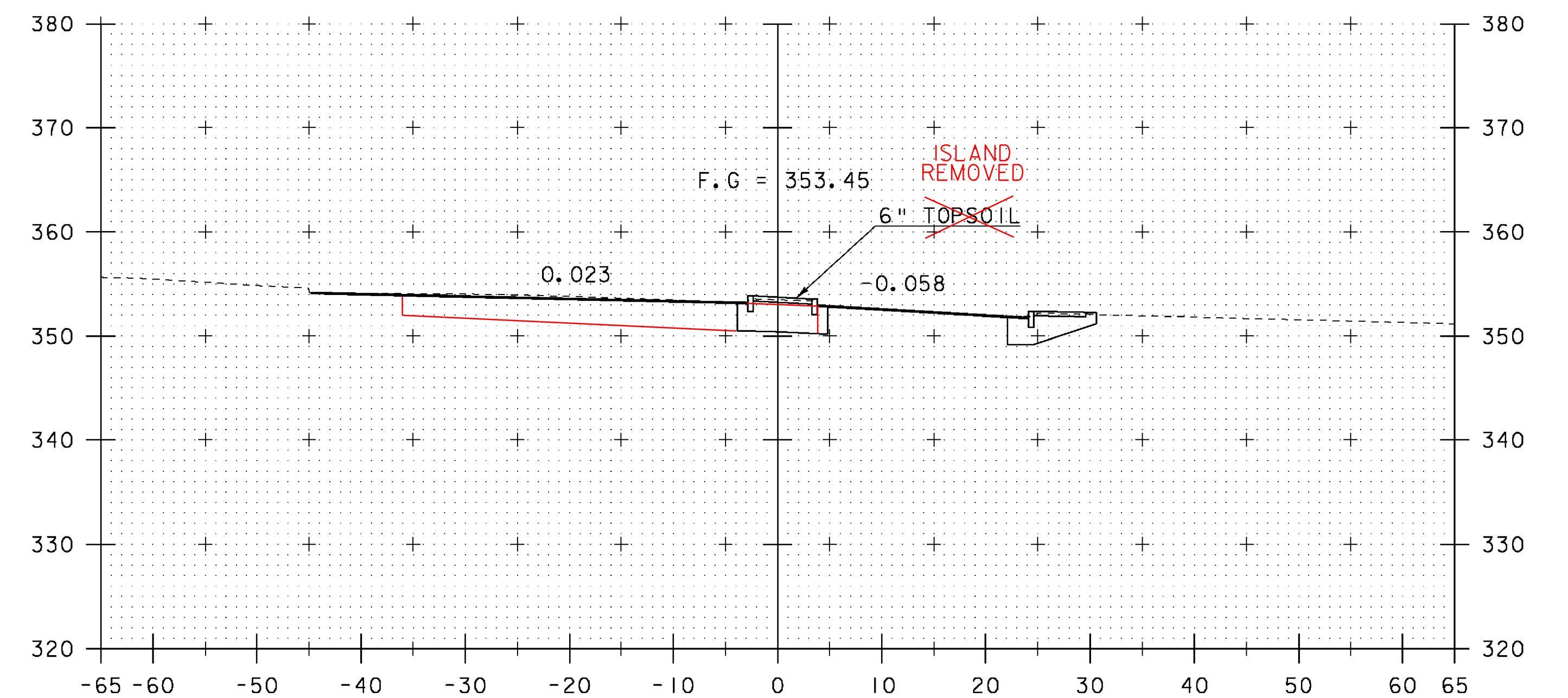


256+50

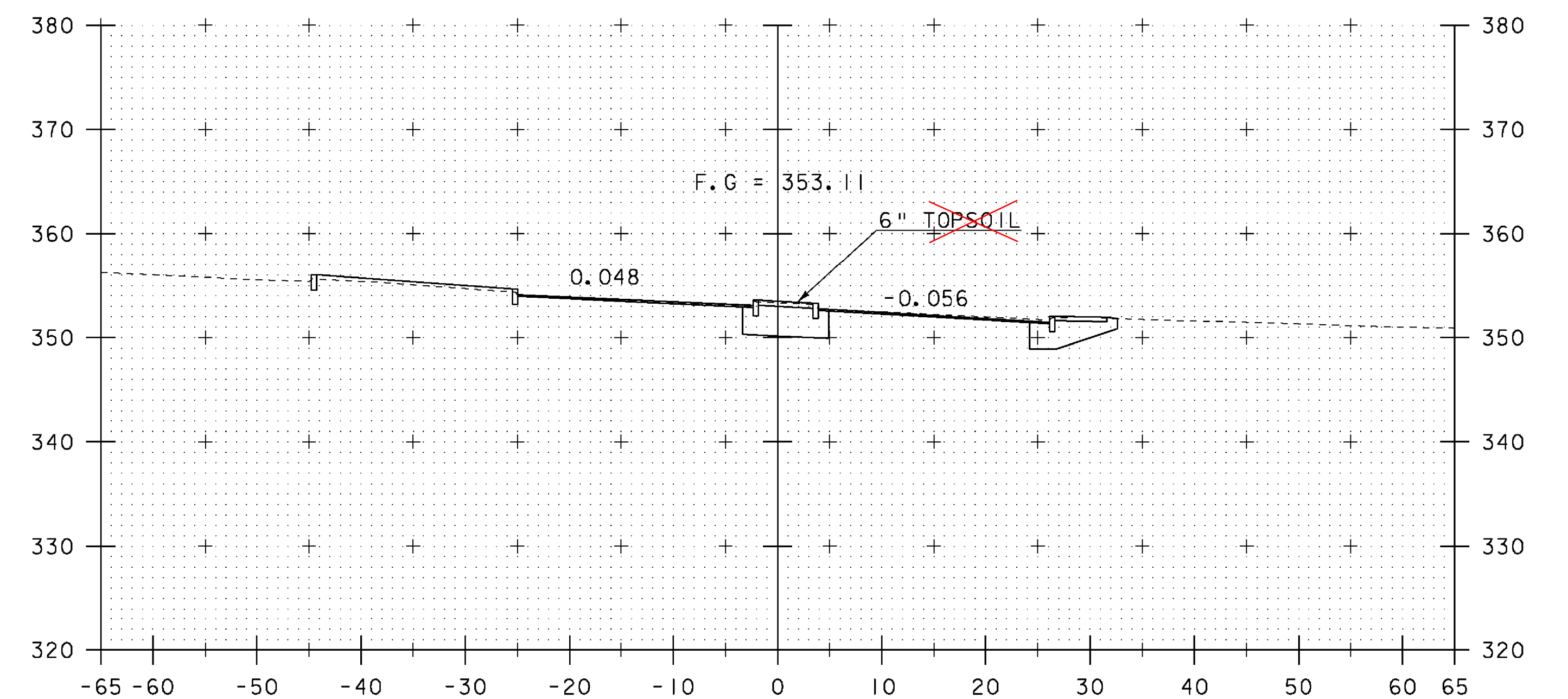


256+25

ML STA 256+25  
BEGIN APPROACH  
MATCH EXISTING



257+00



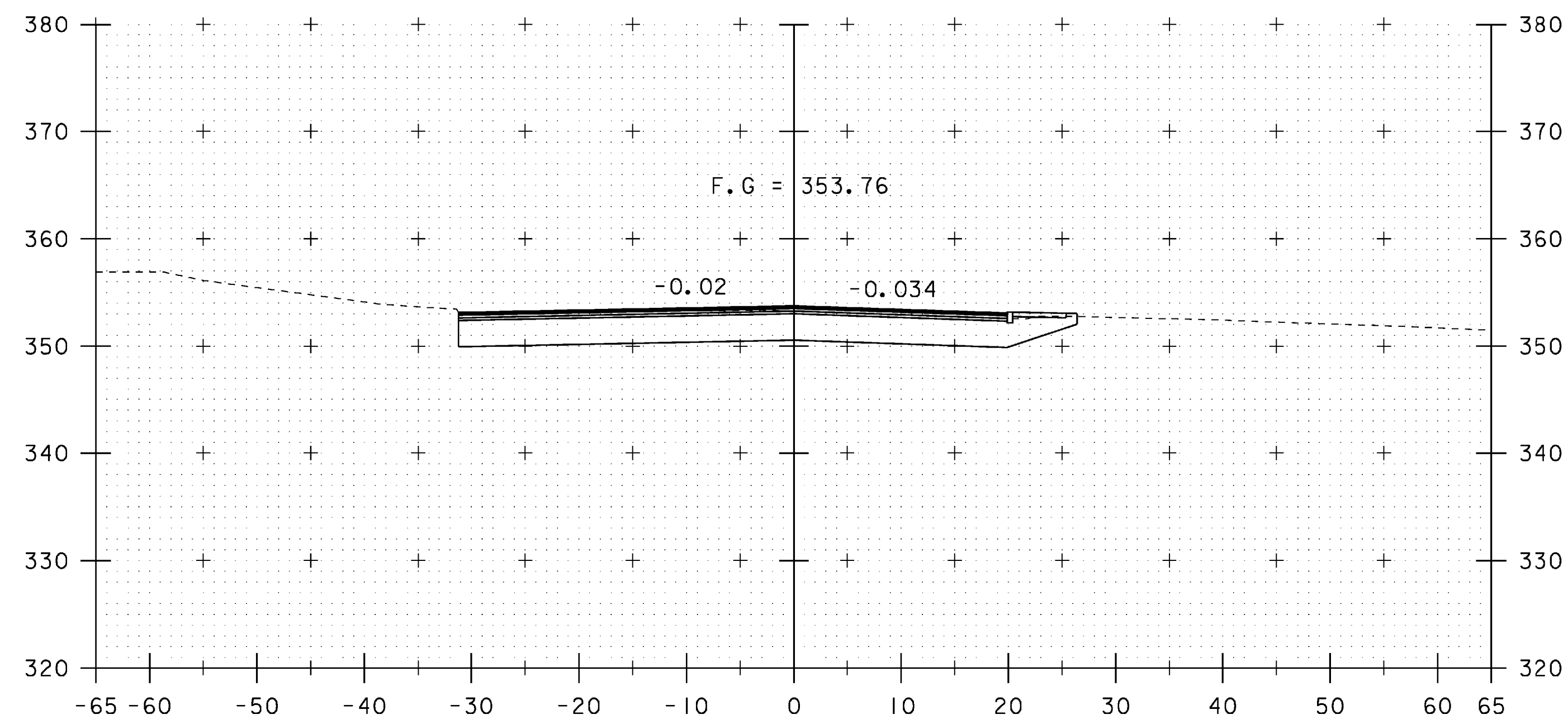
256+75

| REV. | BY  | DATE    | REVISION                         |
|------|-----|---------|----------------------------------|
| 3    | LBB | 5/26/09 | REVISED FINISH GRADE AND BANKING |

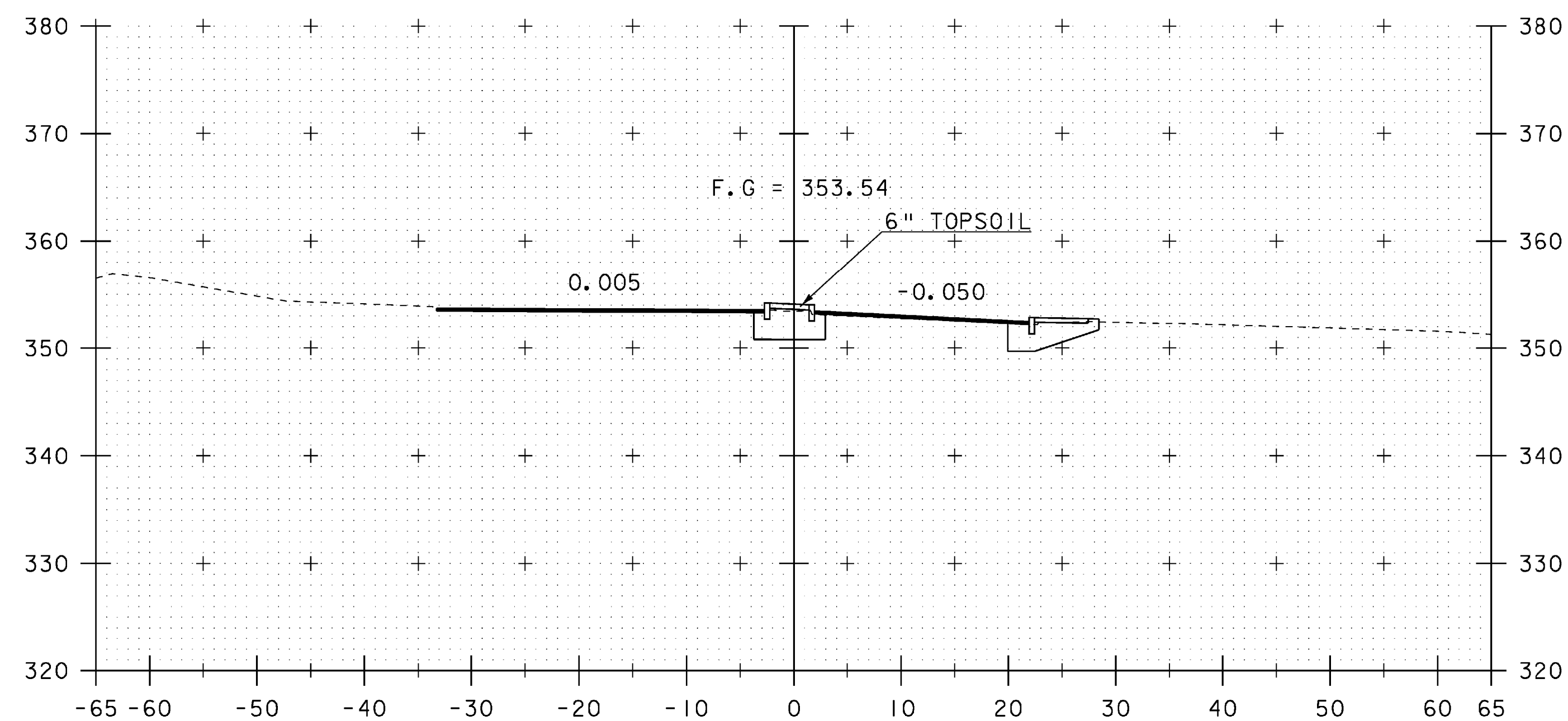
STA. 256+25 TO STA. 257+00

|                             |                           |
|-----------------------------|---------------------------|
| PROJECT NAME:               | SPRINGFIELD               |
| PROJECT NUMBER:             | BHF 016-2(14)             |
| FILE NAME:                  | 06J004/str/s06J004xsl.dgn |
| PROJECT LEADER:             | R. WHITCOMB               |
| DESIGNED BY:                | D. PETERSON               |
| MAINLINE CROSS SECTIONS (I) |                           |
| PLOT DATE:                  | 29-MAY-2009               |
| DRAWN BY:                   | D. PETERSON               |
| CHECKED BY:                 | C. CARLSON                |
| SHEET                       | 45 OF 72                  |

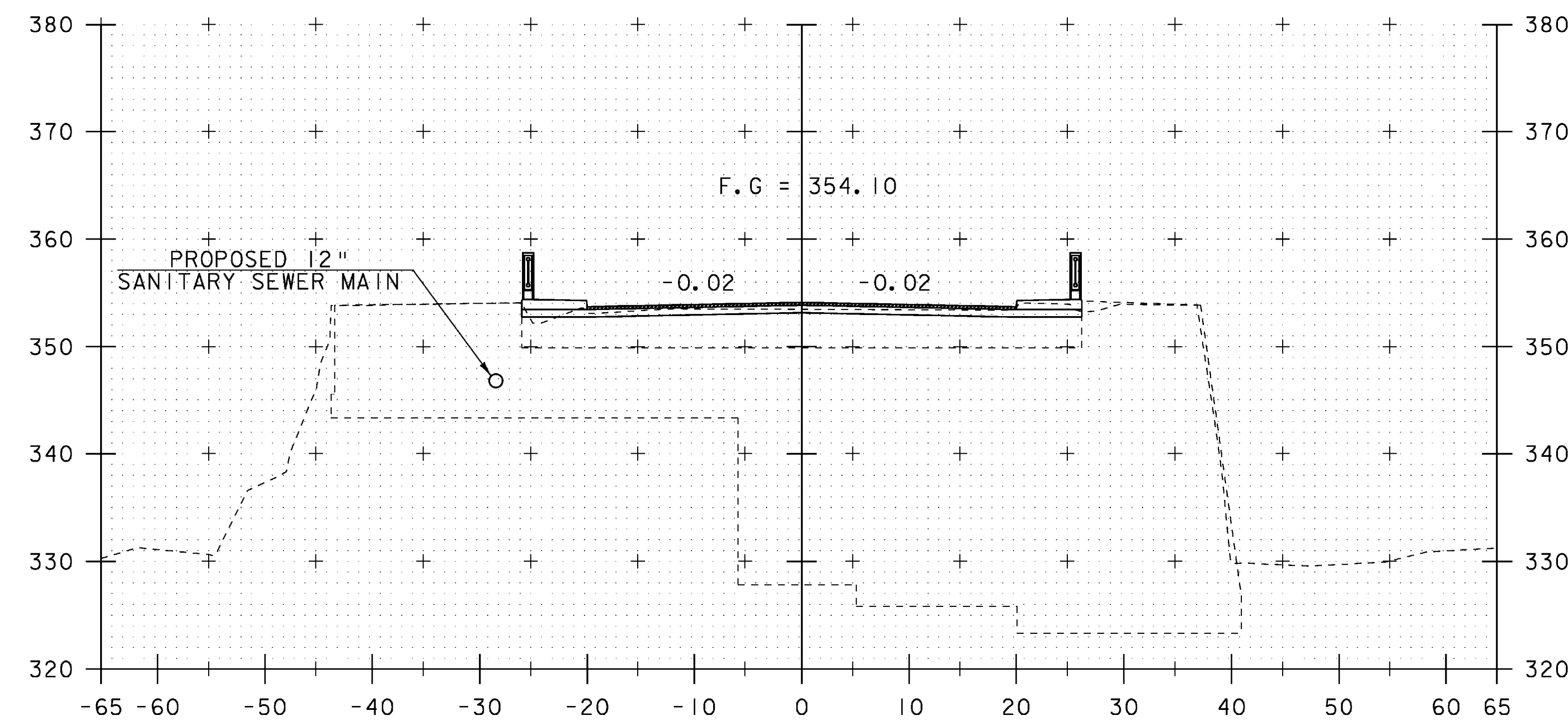




257+50

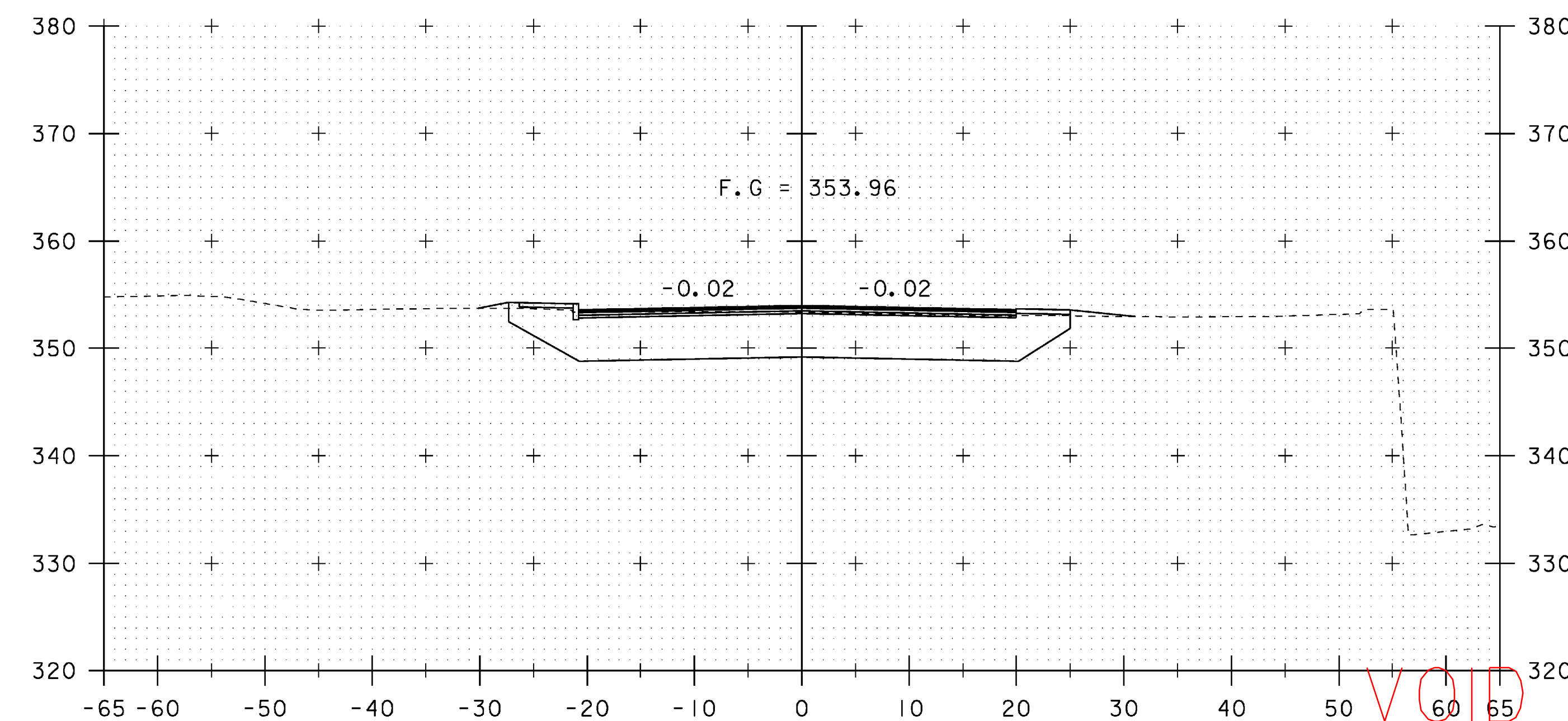


257+25



ML STA 257+93  
END APPROACH  
BEGIN PROJECT/BRIDGE  
SKEWED 8°

257+93



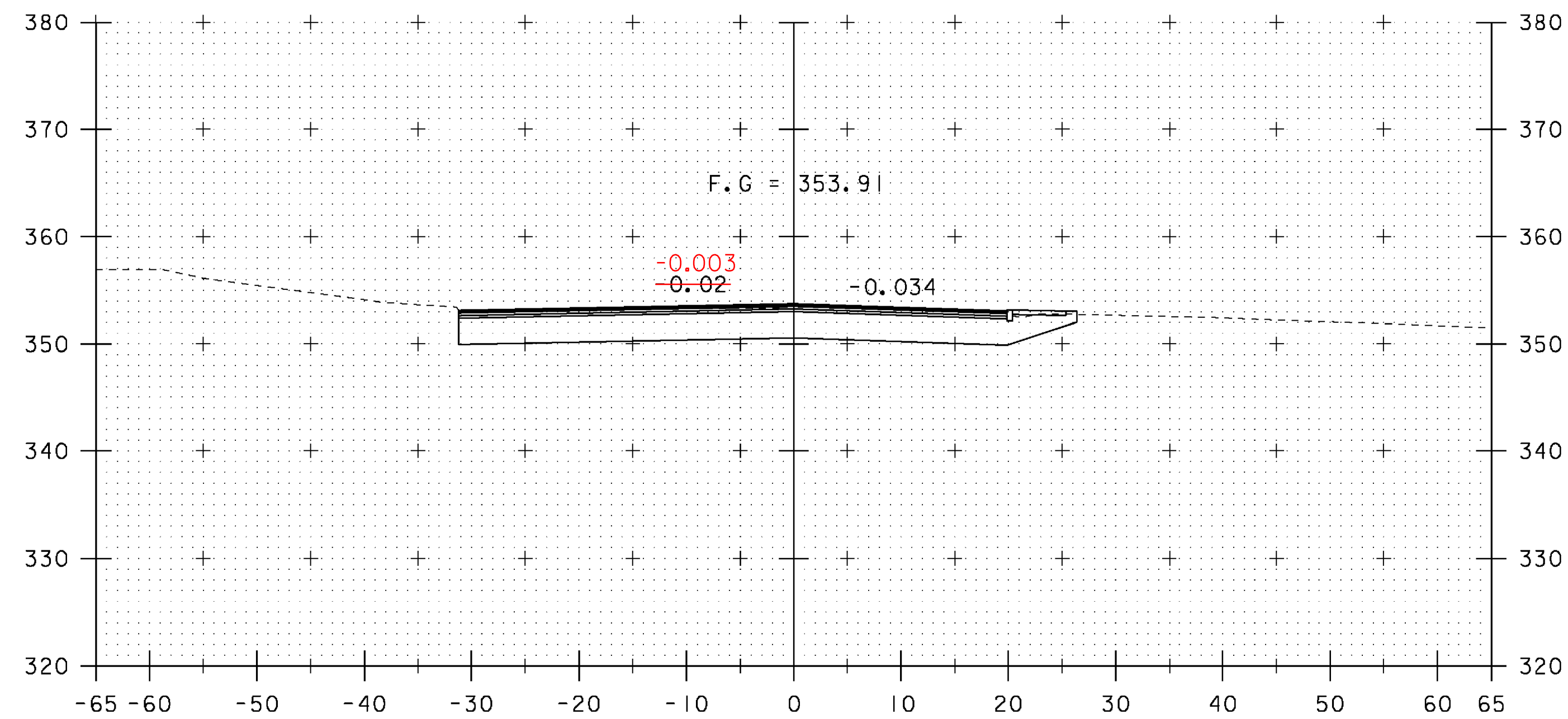
257+75

VOID  
SEE REVISED  
SHEET

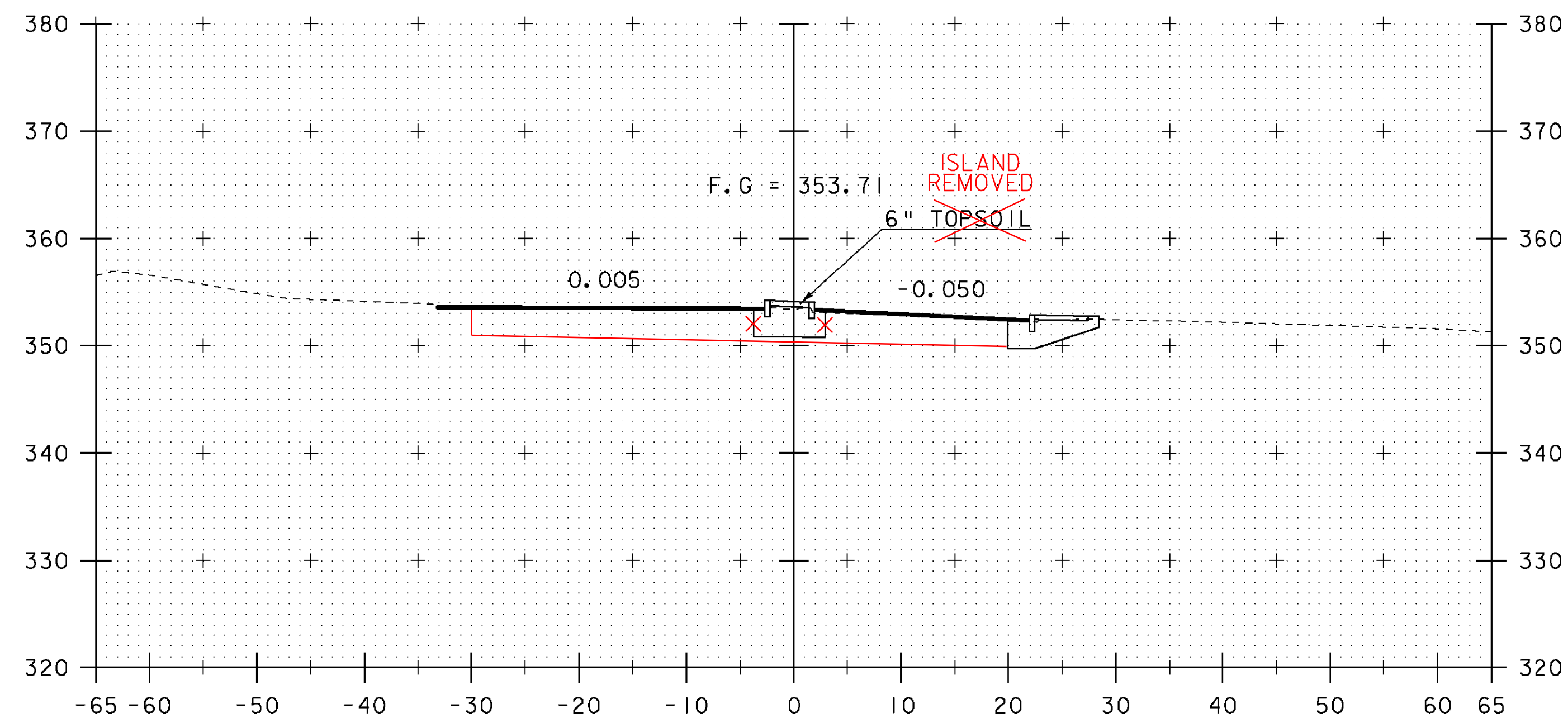
STA. 257+25 TO STA. 257+93

|                             |                           |
|-----------------------------|---------------------------|
| PROJECT NAME:               | SPRINGFIELD               |
| PROJECT NUMBER:             | BHF 016-2(14)             |
| FILE NAME:                  | 06J004/str/s06J004xsl.dgn |
| PROJECT LEADER:             | R. WHITCOMB               |
| DESIGNED BY:                | D. PETERSON               |
| MAINLINE CROSS SECTIONS (2) |                           |
| PLOT DATE:                  | 04-MAR-2009               |
| DRAWN BY:                   | D. PETERSON               |
| CHECKED BY:                 | C. CARLSON                |
| SHEET                       | 46 OF 72                  |

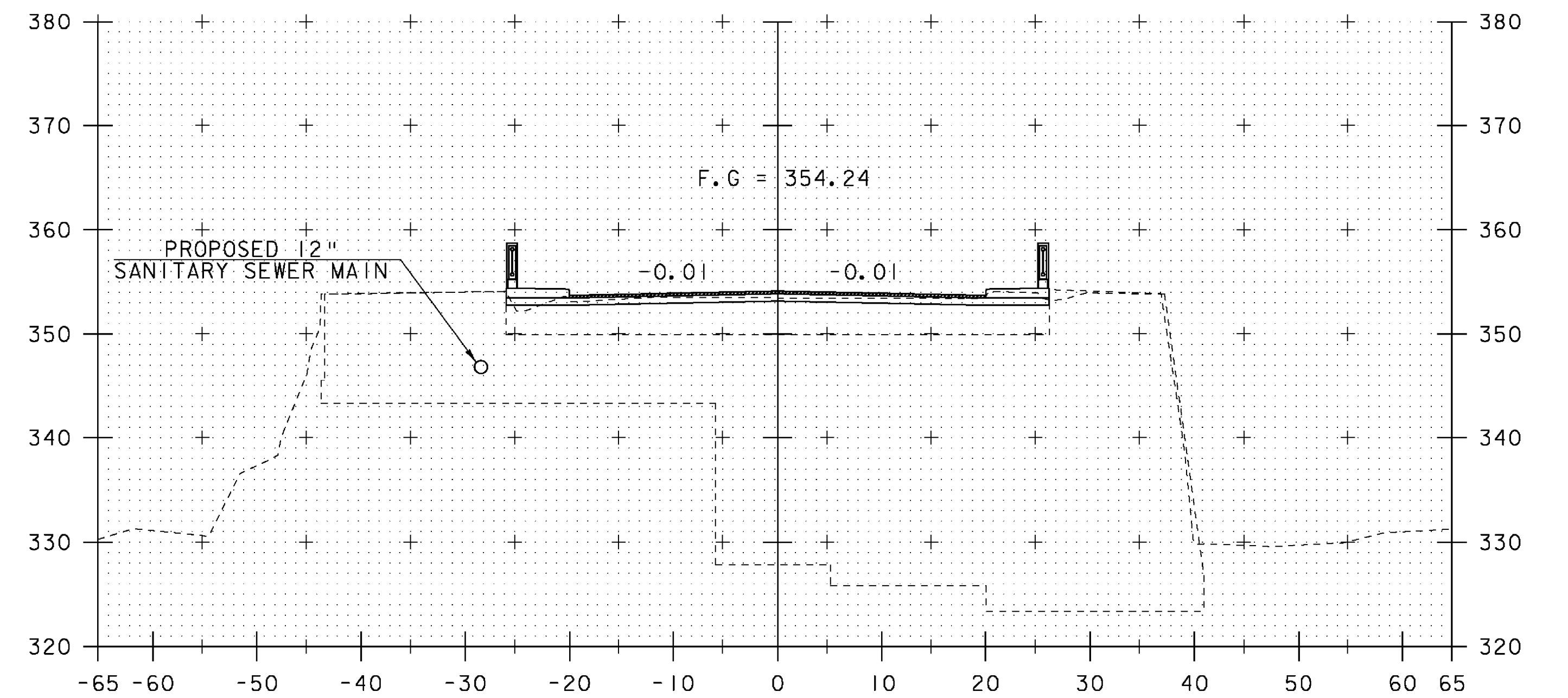




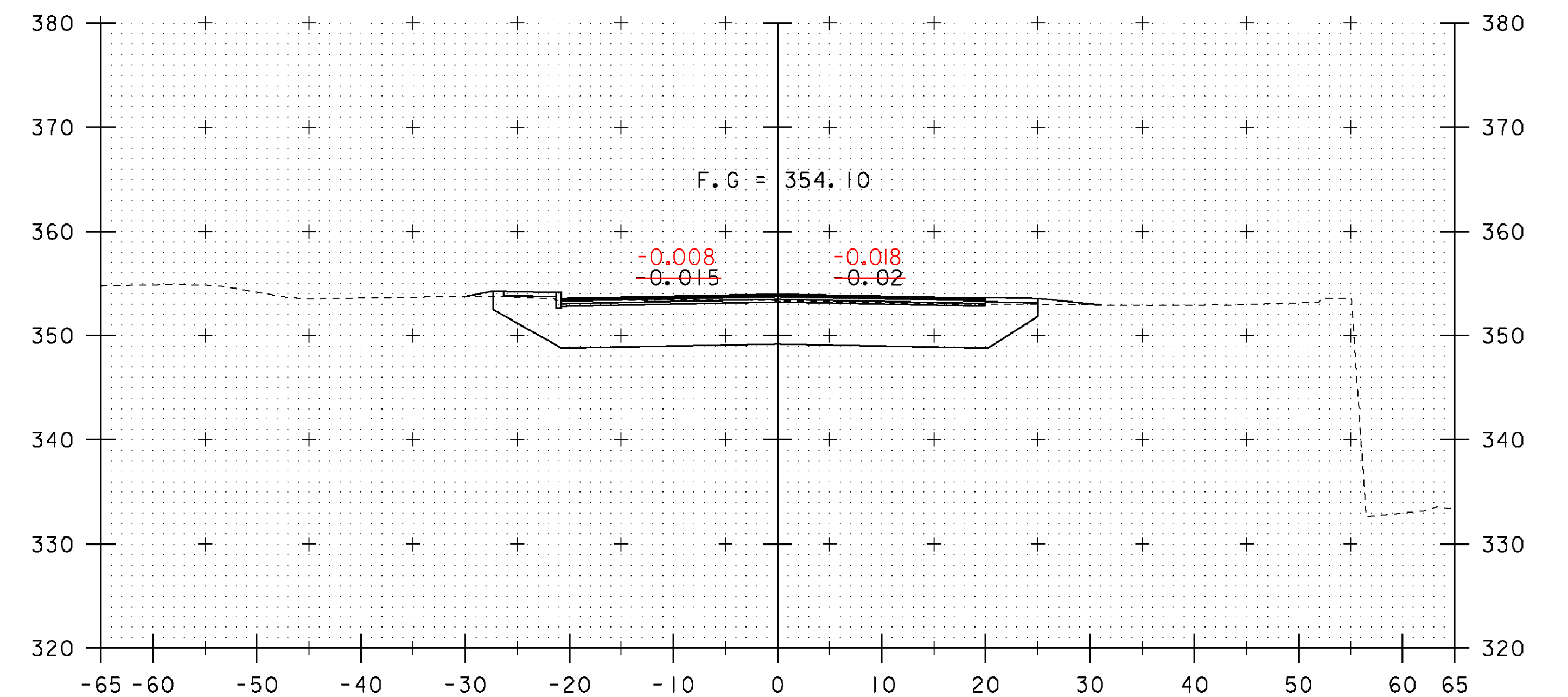
257+50



257+25



257+93



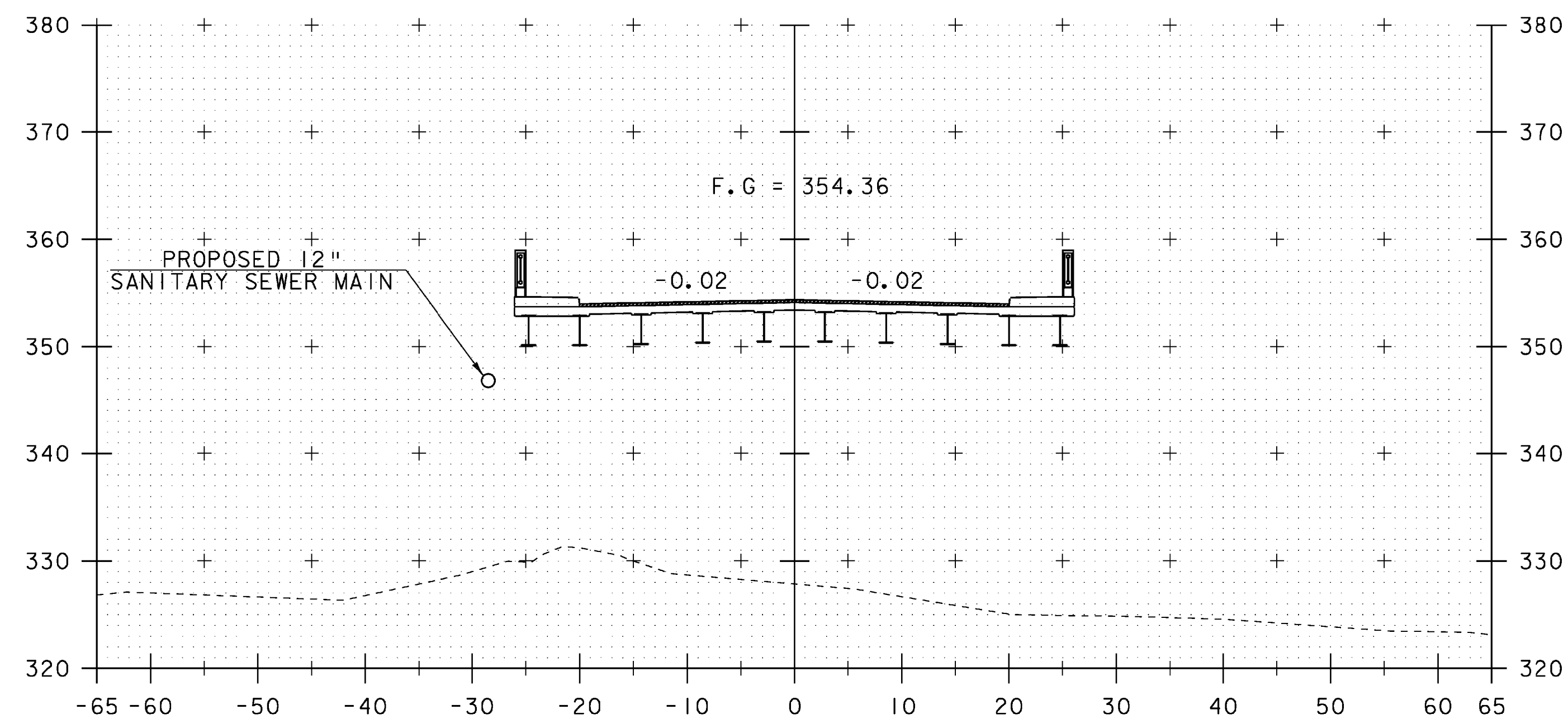
257+75

| REV. | BY  | DATE    | REVISION                         |
|------|-----|---------|----------------------------------|
| 3    | LBB | 5/26/09 | REVISED FINISH GRADE AND BANKING |

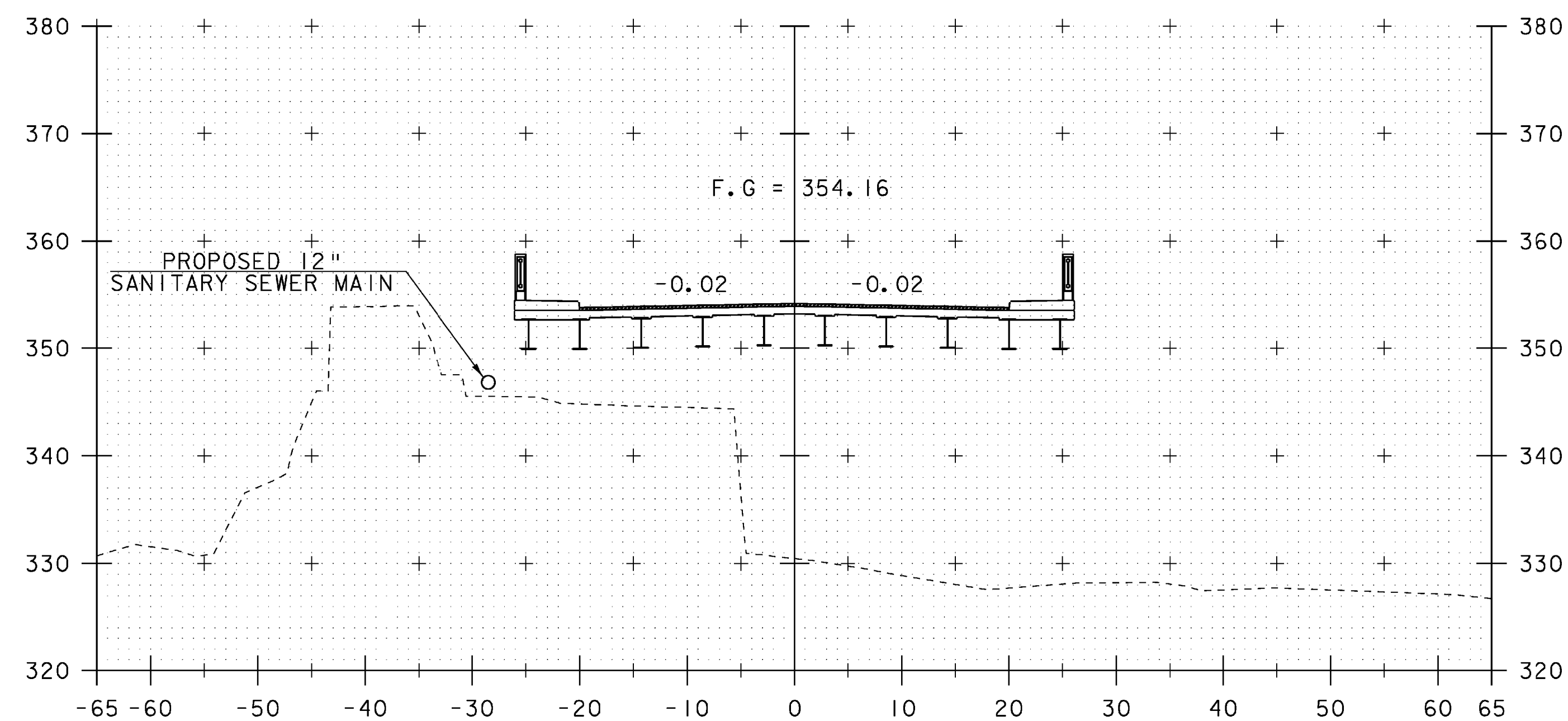
STA. 257+25 TO STA. 257+93

|                 |               |                             |                           |             |             |
|-----------------|---------------|-----------------------------|---------------------------|-------------|-------------|
| PROJECT NAME:   | SPRINGFIELD   | FILE NAME:                  | 06J004/str/s06J004xsl.dgn | PLOT DATE:  | 29-MAY-2009 |
| PROJECT NUMBER: | BHF 016-2(14) | PROJECT LEADER:             | R. WHITCOMB               | DRAWN BY:   | D. PETERSON |
|                 |               | DESIGNED BY:                | D. PETERSON               | CHECKED BY: | C. CARLSON  |
|                 |               | MAINLINE CROSS SECTIONS (2) |                           | SHEET       | 46 OF 72    |

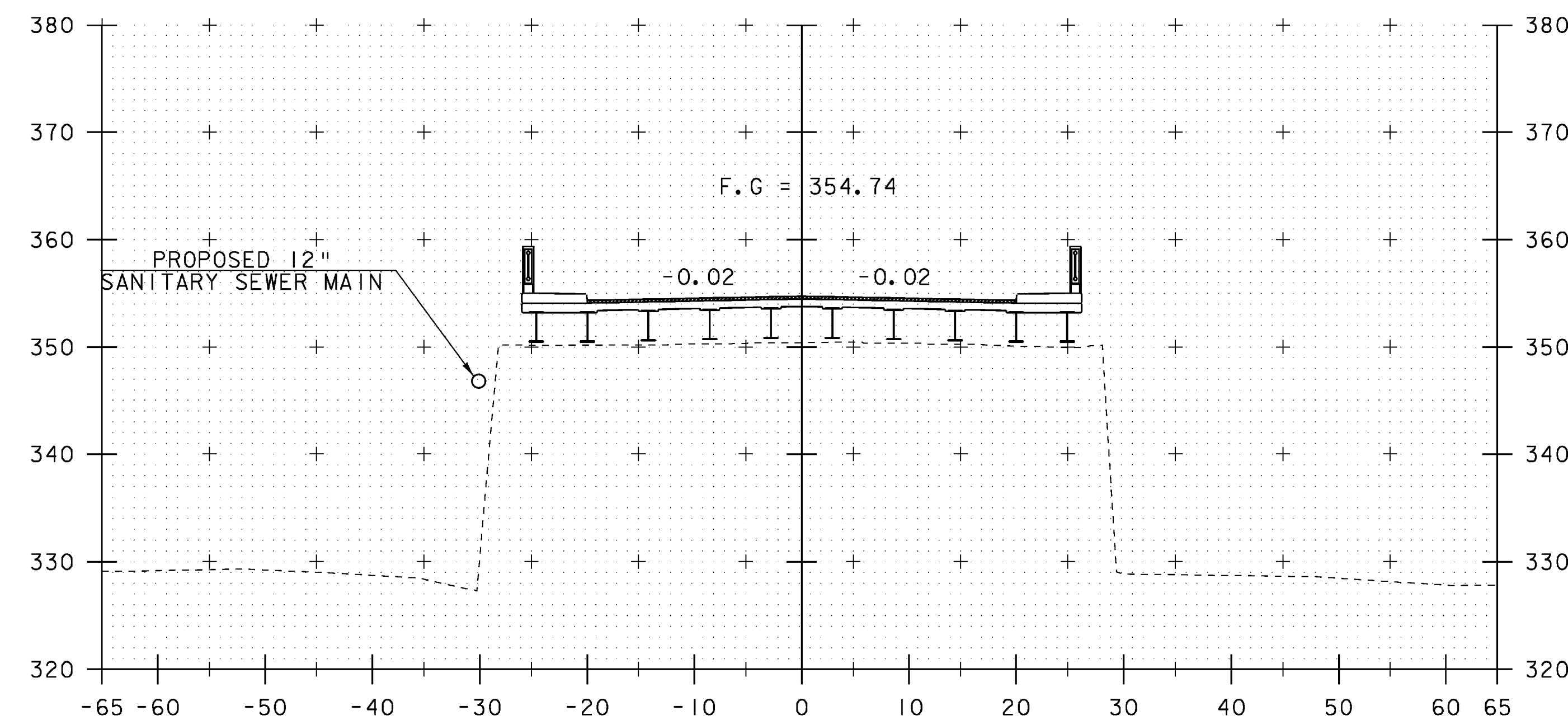




258+25

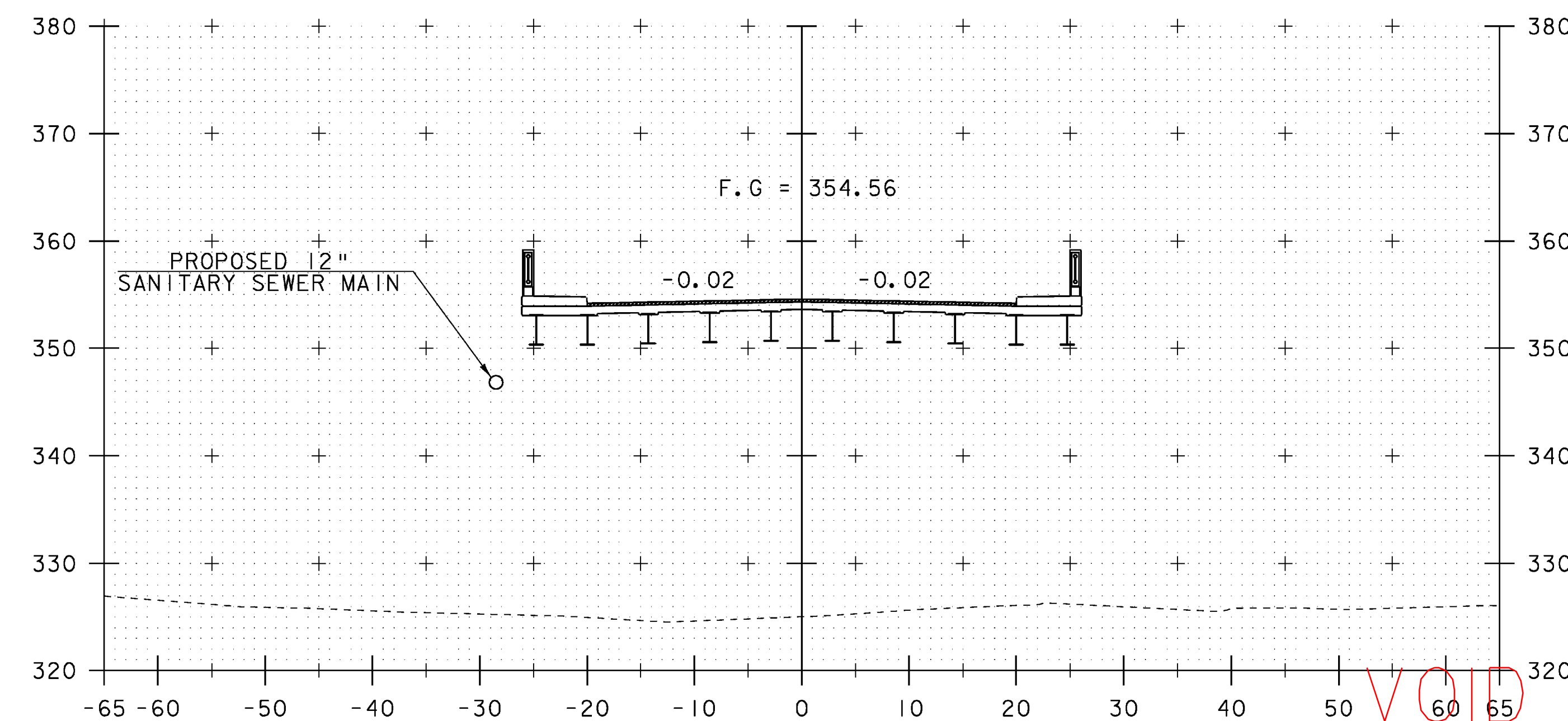


258+00



ML STA 258+72  
 C PIER  
 SKEWED 8°

258+72



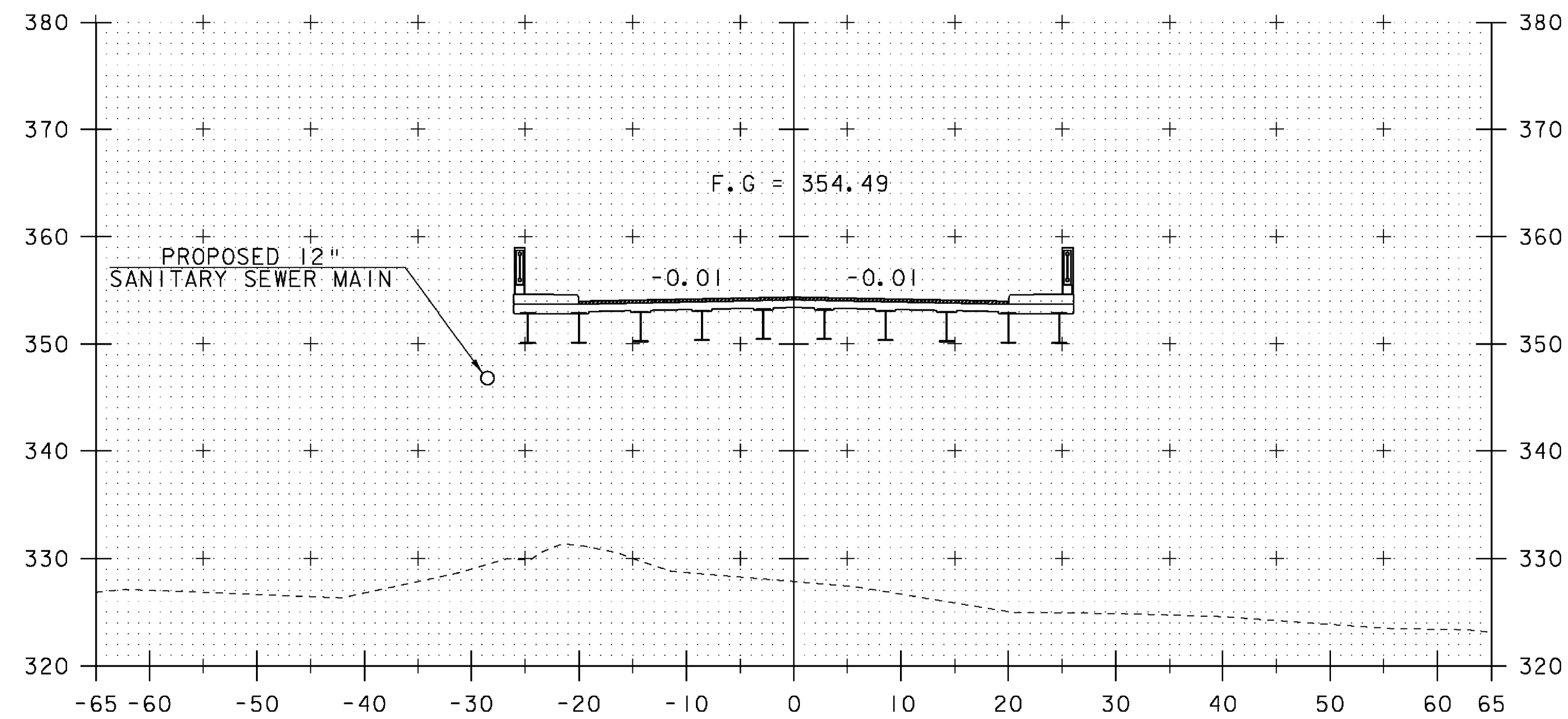
258+50

VOID  
 SEE REVISED  
 SHEET

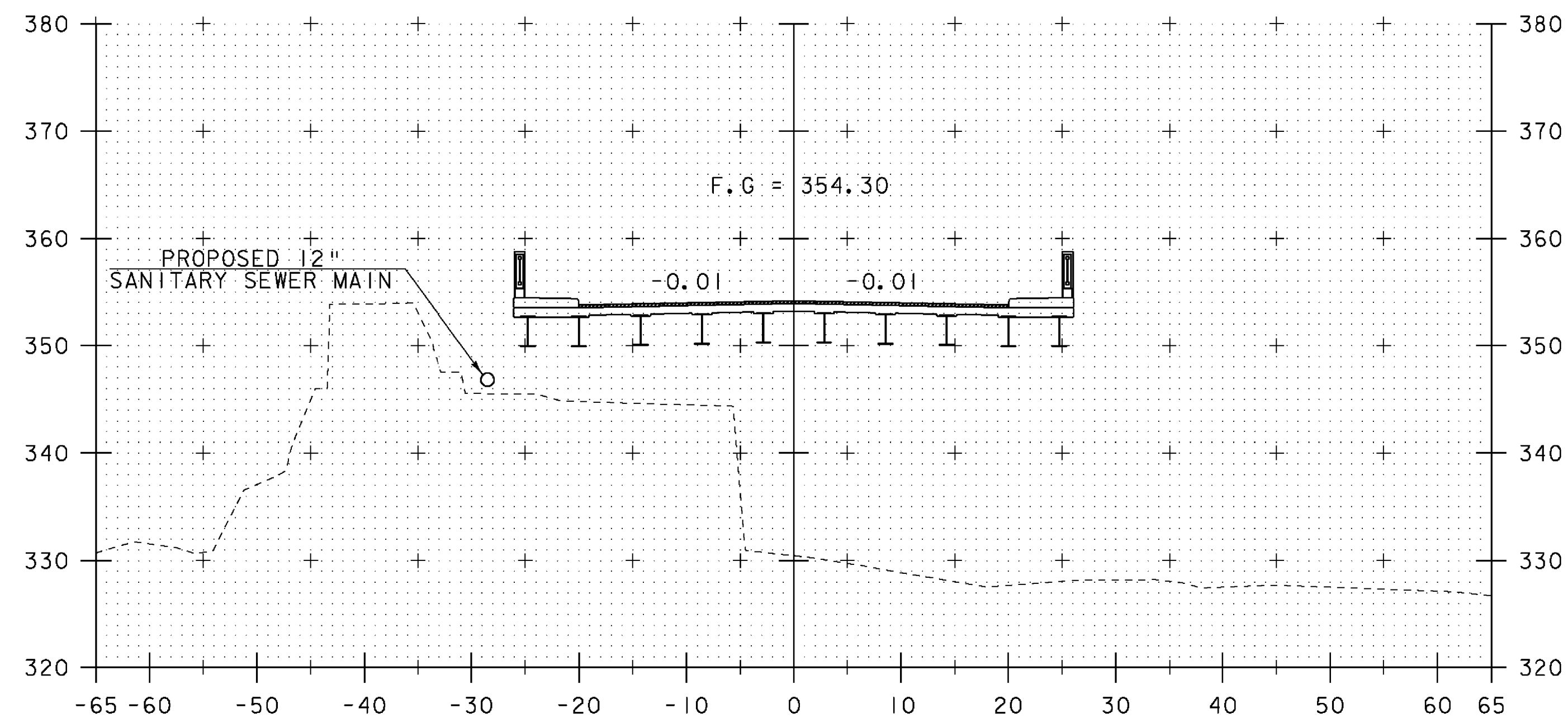
STA. 258+00 TO STA. 258+72

|                 |               |                             |                           |             |             |
|-----------------|---------------|-----------------------------|---------------------------|-------------|-------------|
| PROJECT NAME:   | SPRINGFIELD   | FILE NAME:                  | 06J004/str/s06J004xsl.dgn | PLOT DATE:  | 04-MAR-2009 |
| PROJECT NUMBER: | BHF 016-2(14) | PROJECT LEADER:             | R. WHITCOMB               | DRAWN BY:   | D. PETERSON |
|                 |               | DESIGNED BY:                | D. PETERSON               | CHECKED BY: | C. CARLSON  |
|                 |               | MAINLINE CROSS SECTIONS (3) |                           | SHEET       | 47 OF 72    |

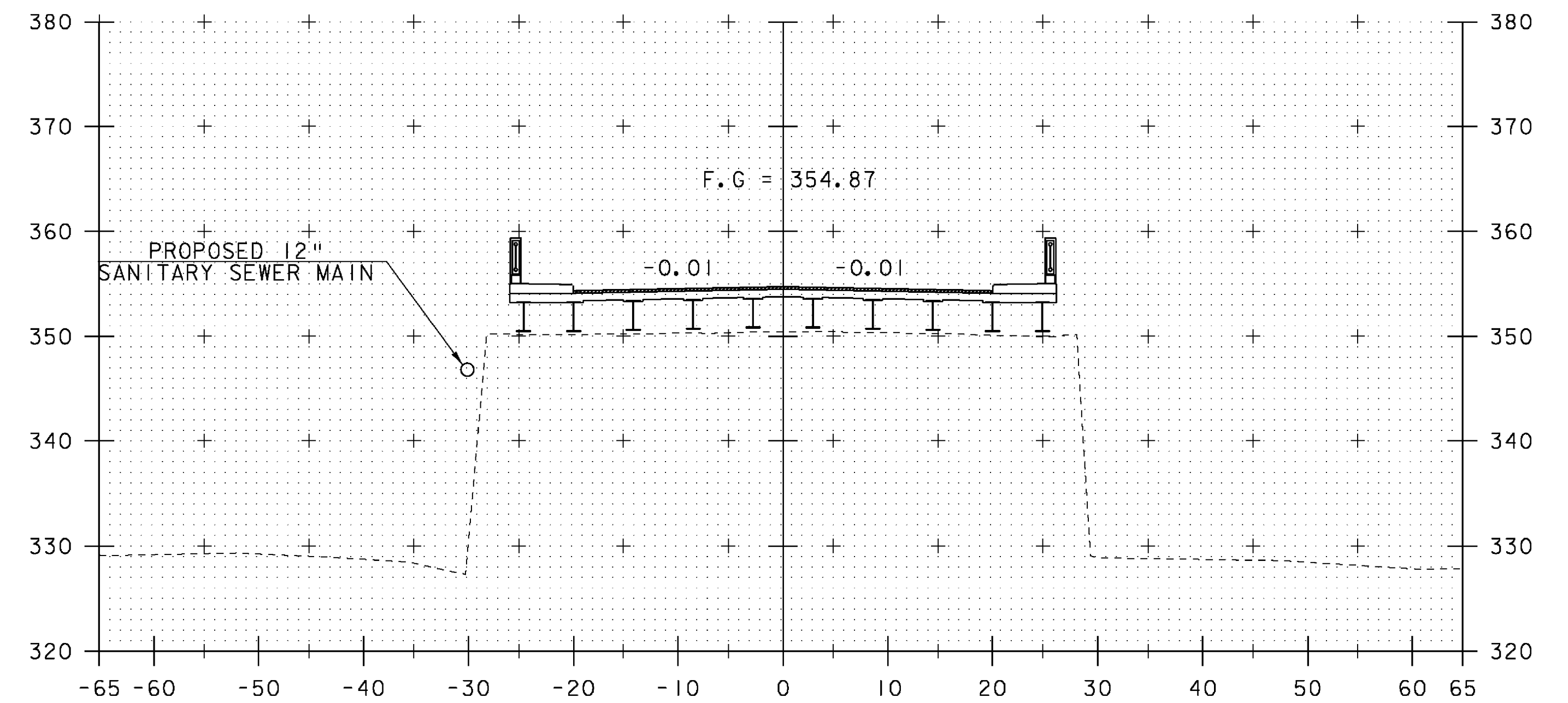




258+25

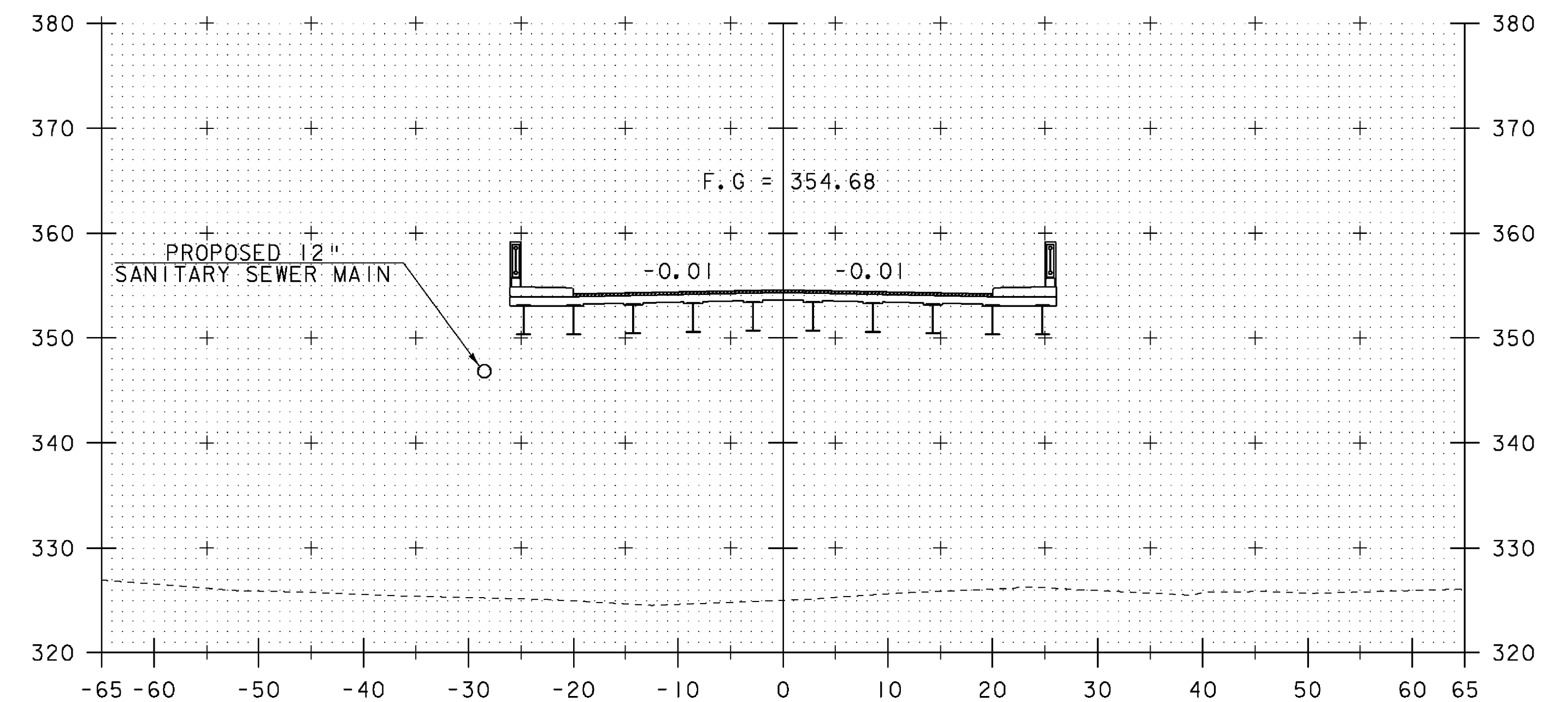


258+00



ML STA 258+72  
 @ PIER  
 SKEWED 8°

258+72



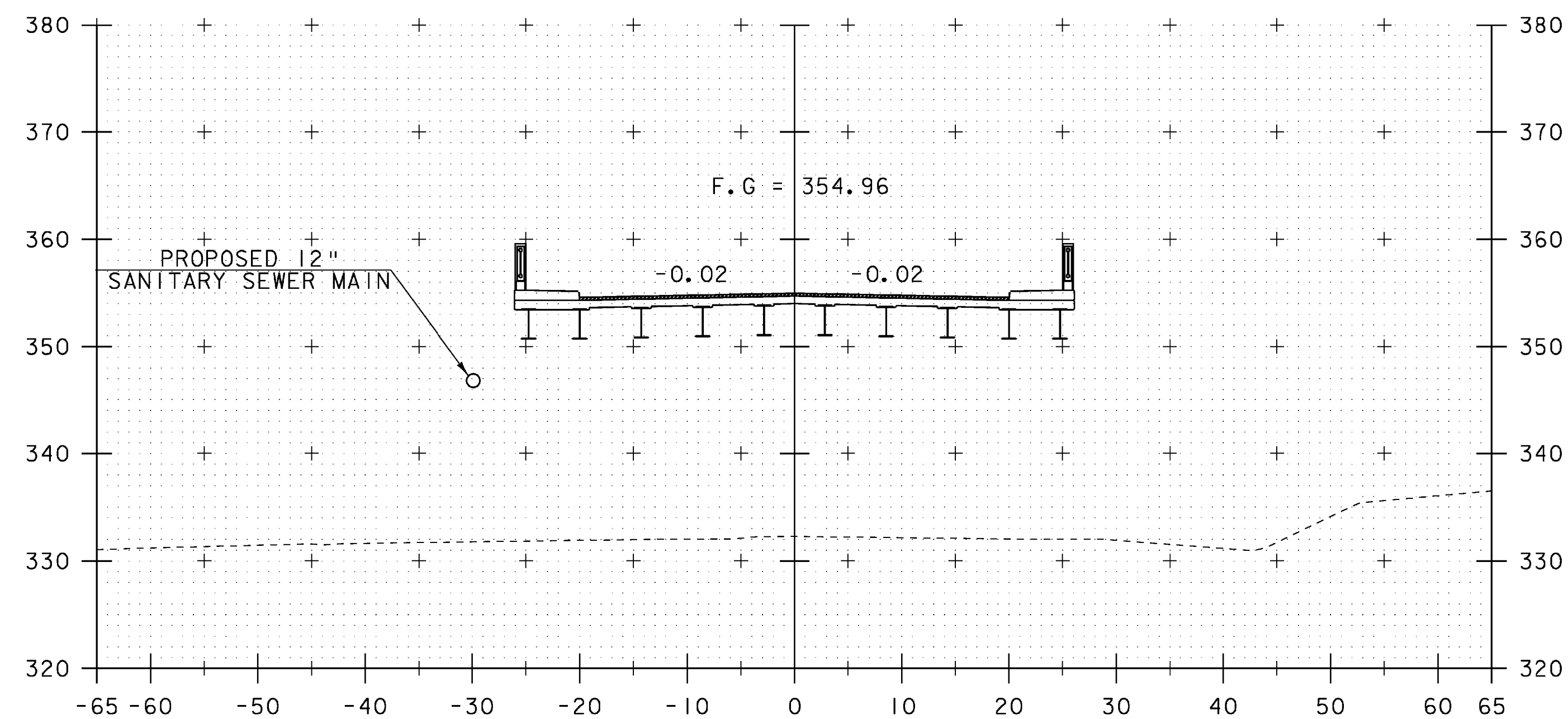
258+50

| REV. | BY  | DATE    | REVISION                         |
|------|-----|---------|----------------------------------|
| 1    | LBB | 5/26/09 | REVISED FINISH GRADE AND BANKING |

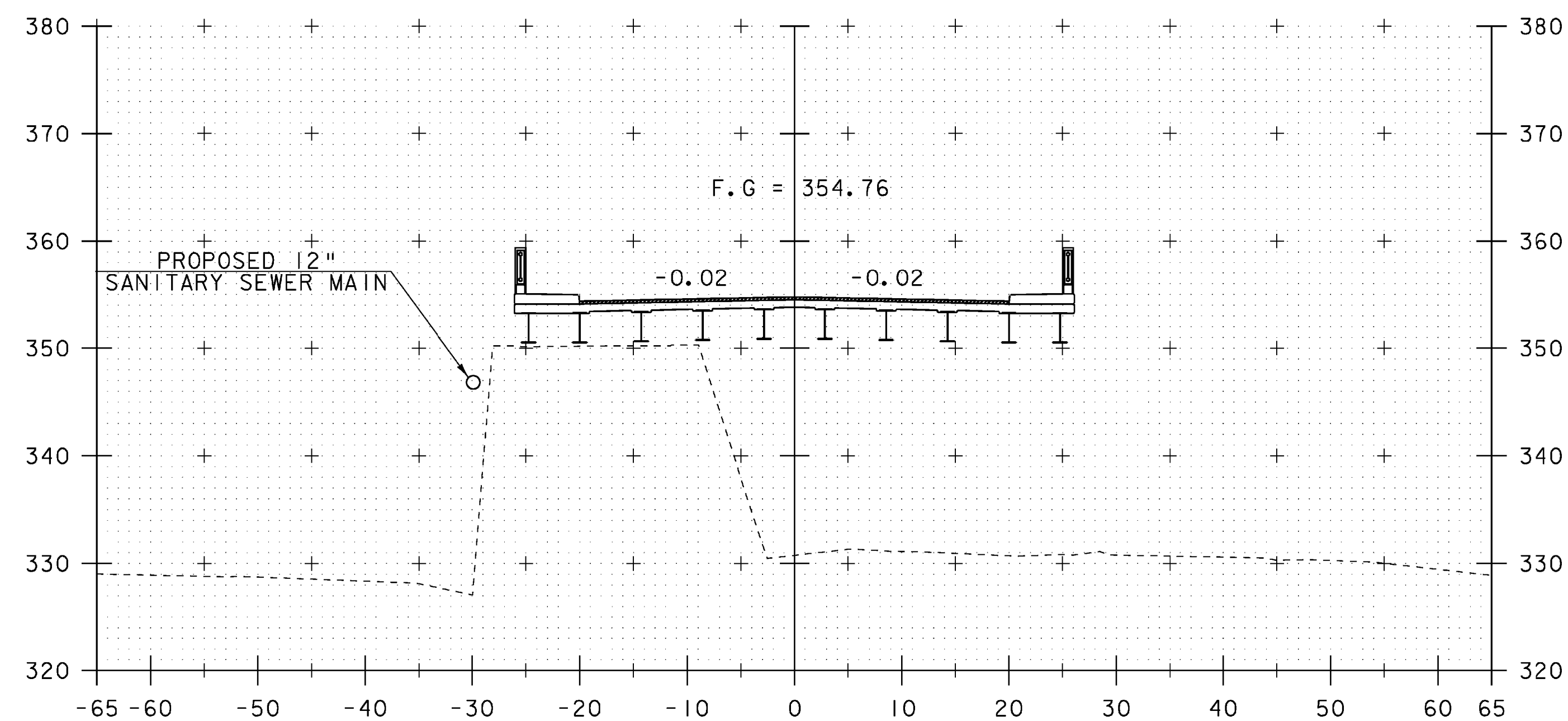
STA. 258+00 TO STA. 258+72

|                 |               |                             |                           |             |             |
|-----------------|---------------|-----------------------------|---------------------------|-------------|-------------|
| PROJECT NAME:   | SPRINGFIELD   | FILE NAME:                  | 06J004/str/s06J004xsl.dgn | PLOT DATE:  | 29-MAY-2009 |
| PROJECT NUMBER: | BHF 016-2(14) | PROJECT LEADER:             | R. WHITCOMB               | DRAWN BY:   | D. PETERSON |
|                 |               | DESIGNED BY:                | D. PETERSON               | CHECKED BY: | C. CARLSON  |
|                 |               | MAINLINE CROSS SECTIONS (3) |                           | SHEET 47    | OF 72       |

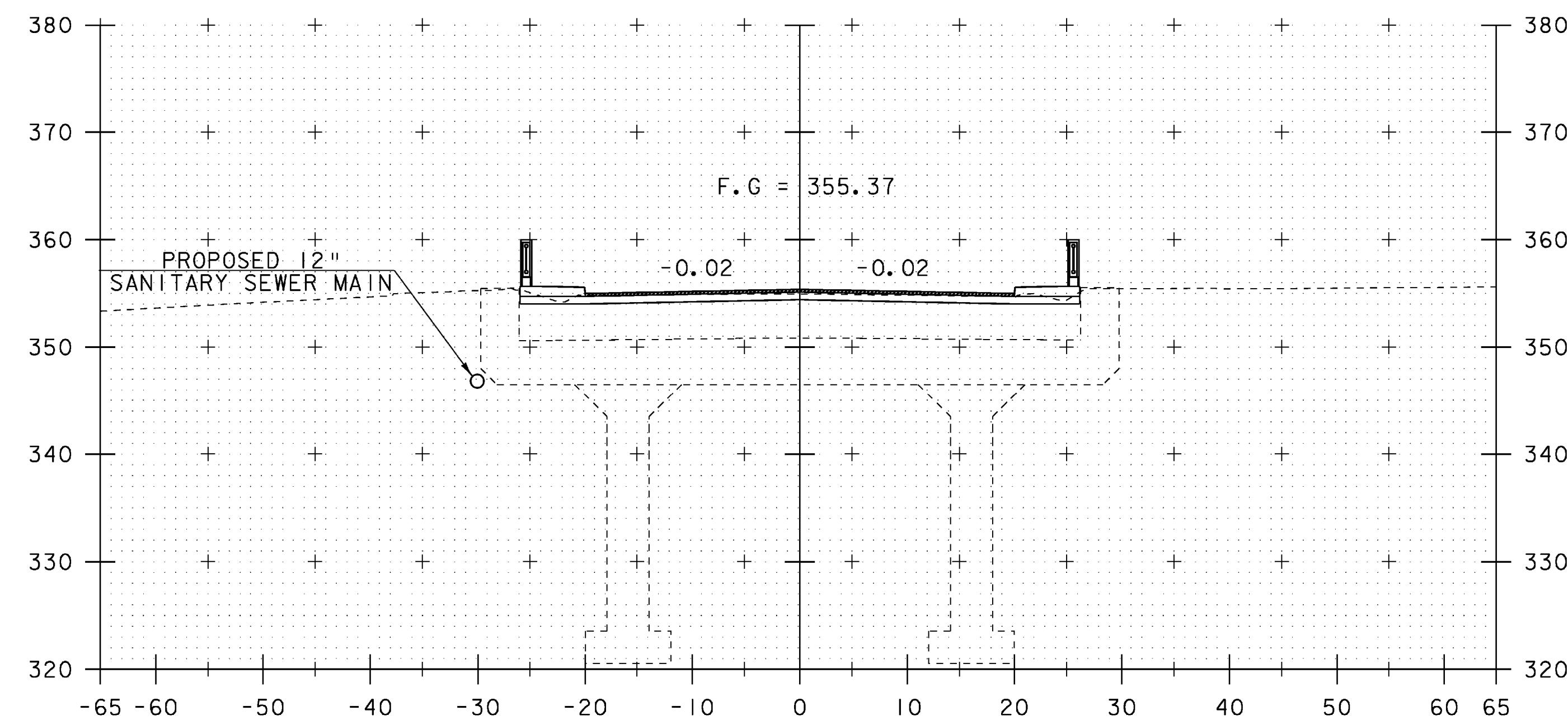




259+00

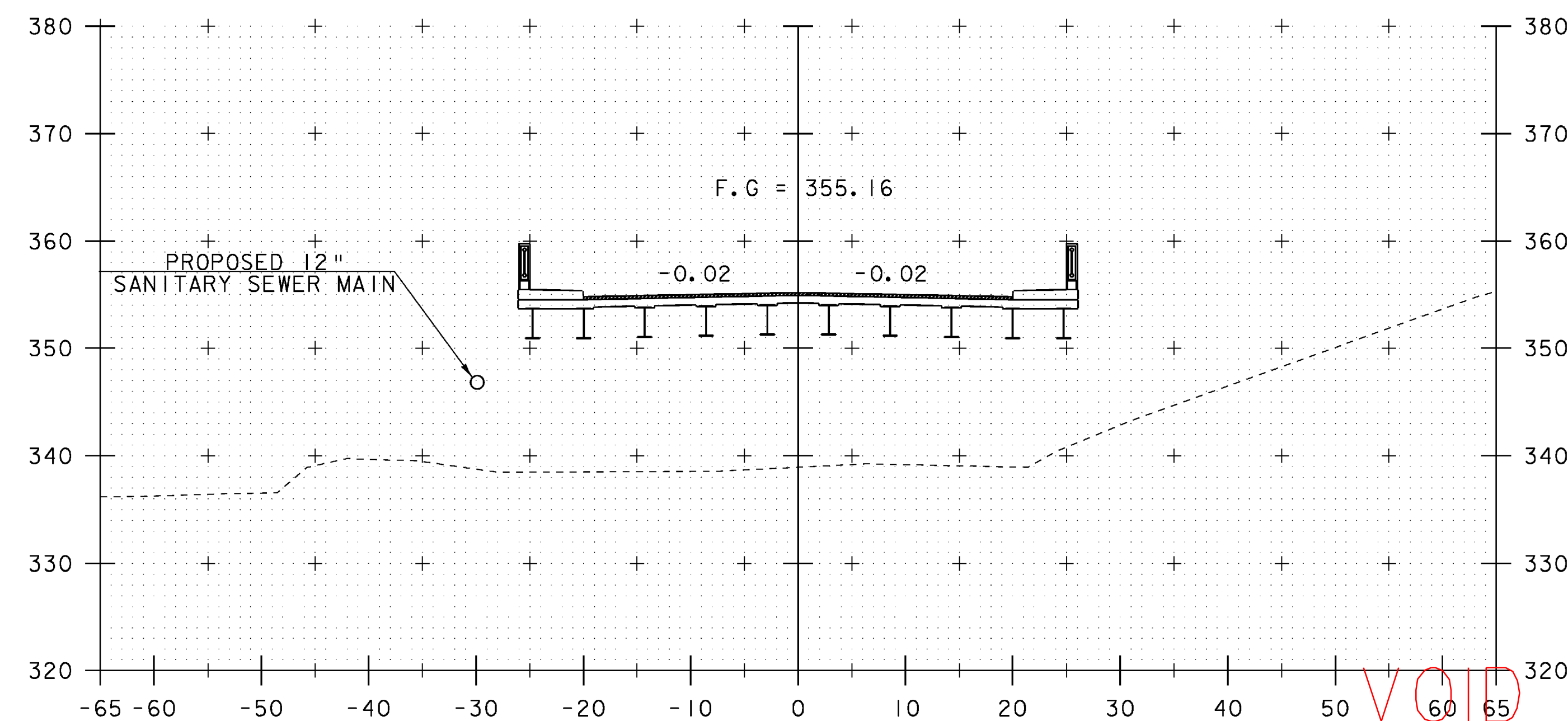


258+75



ML STA 259+51.25  
END BRIDGE/PROJECT  
BEGIN APPROACH  
SKEWED 8°

259+51.25



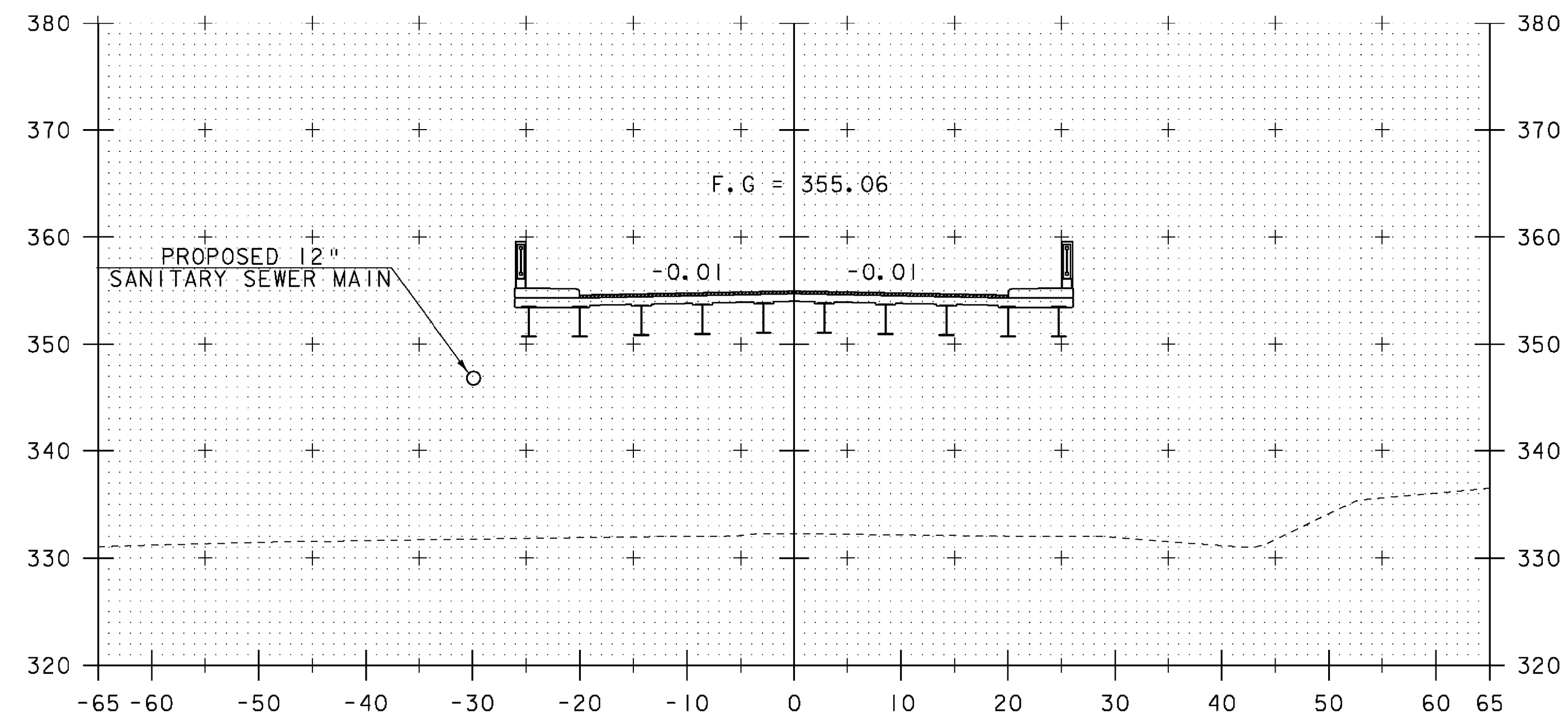
259+25

VOID  
SEE REVISED  
SHEET

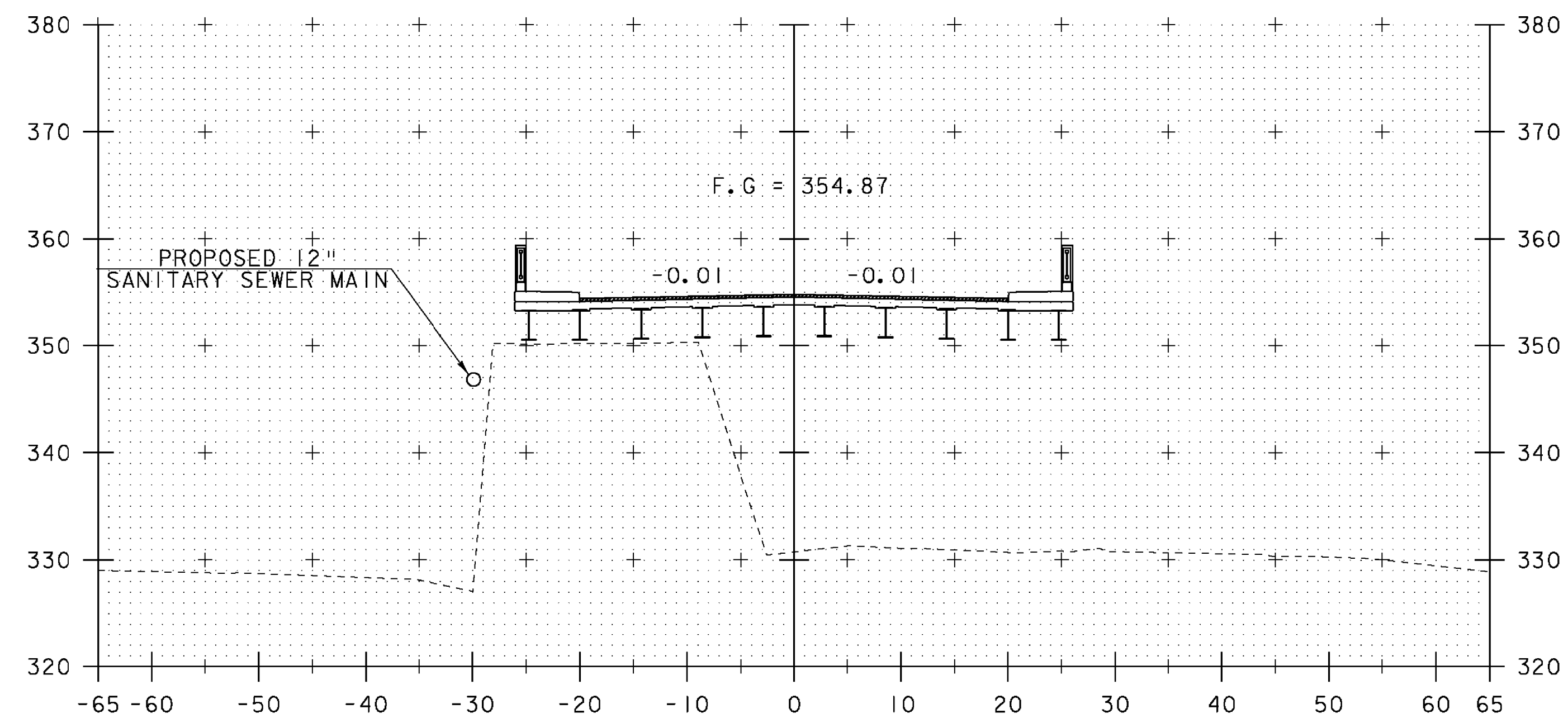
STA. 258+75 TO STA. 259+51.25

|                                      |                        |
|--------------------------------------|------------------------|
| PROJECT NAME: SPRINGFIELD            |                        |
| PROJECT NUMBER: BHF 016-2(14)        |                        |
| FILE NAME: 06J004/str/s06J004xsl.dgn | PLOT DATE: 04-MAR-2009 |
| PROJECT LEADER: R. WHITCOMB          | DRAWN BY: D. PETERSON  |
| DESIGNED BY: D. PETERSON             | CHECKED BY: C. CARLSON |
| MAINLINE CROSS SECTIONS (4)          | SHEET 48 OF 72         |

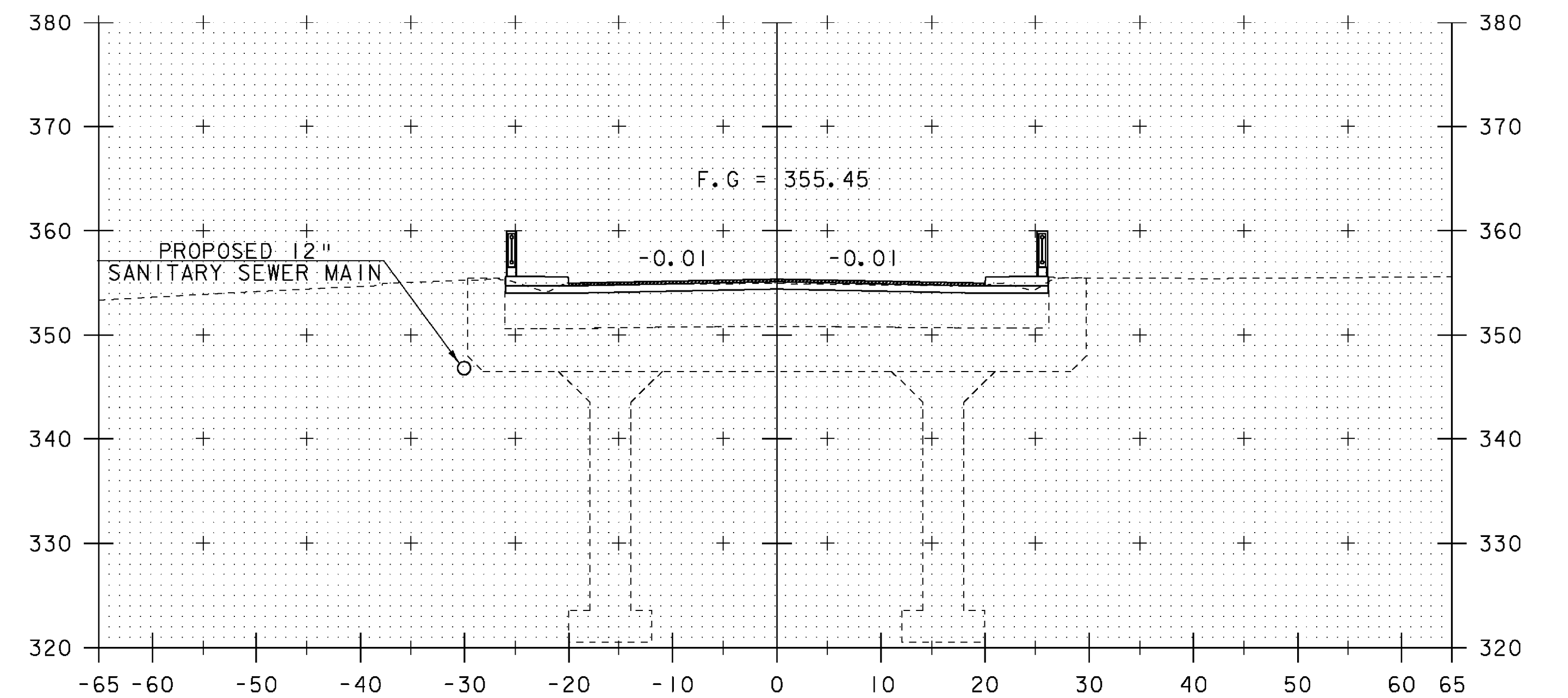




259+00

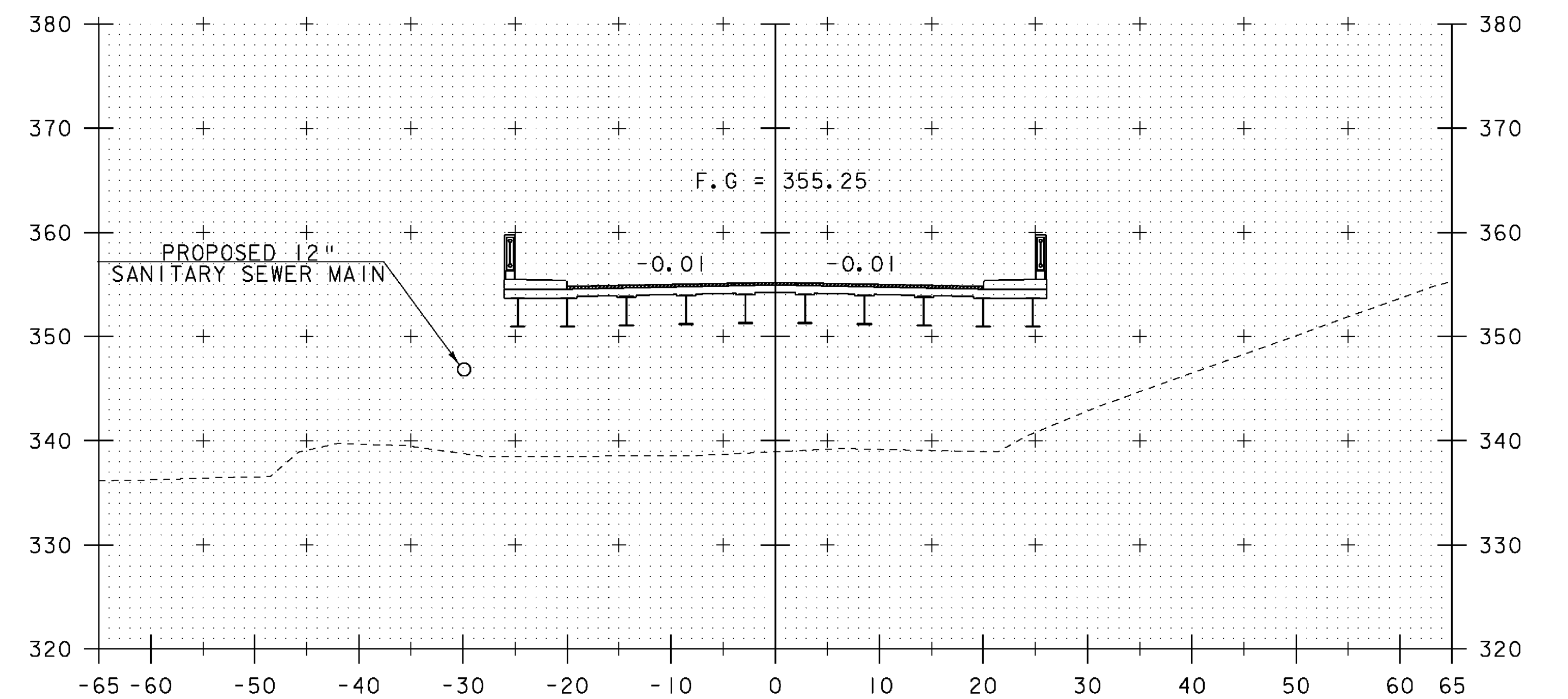


258+75



ML STA 259+51.25  
END BRIDGE/PROJECT  
BEGIN APPROACH  
SKEWED 8°

259+51.25



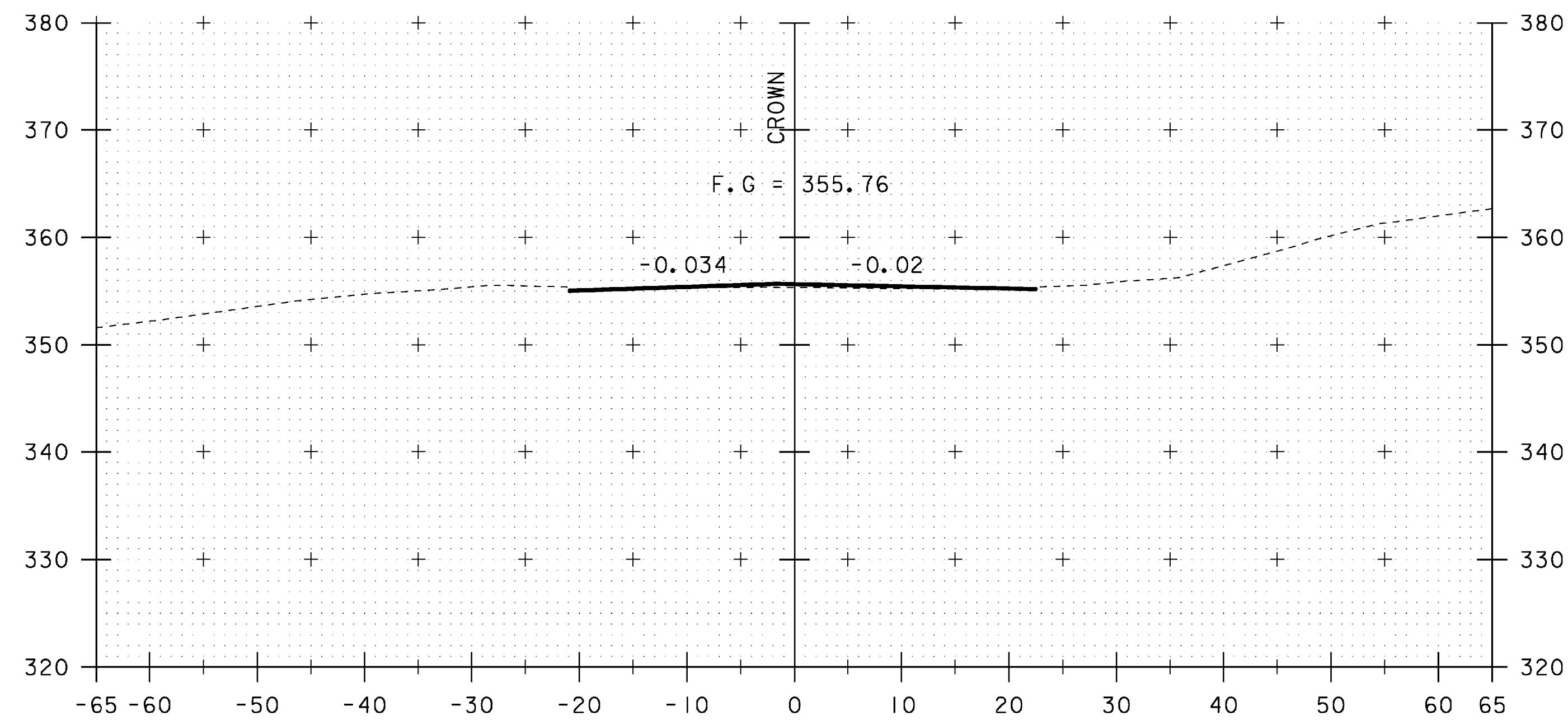
259+25

| REV. | BY  | DATE    | REVISION                         |
|------|-----|---------|----------------------------------|
| 3    | LBB | 5/26/09 | REVISED FINISH GRADE AND BANKING |

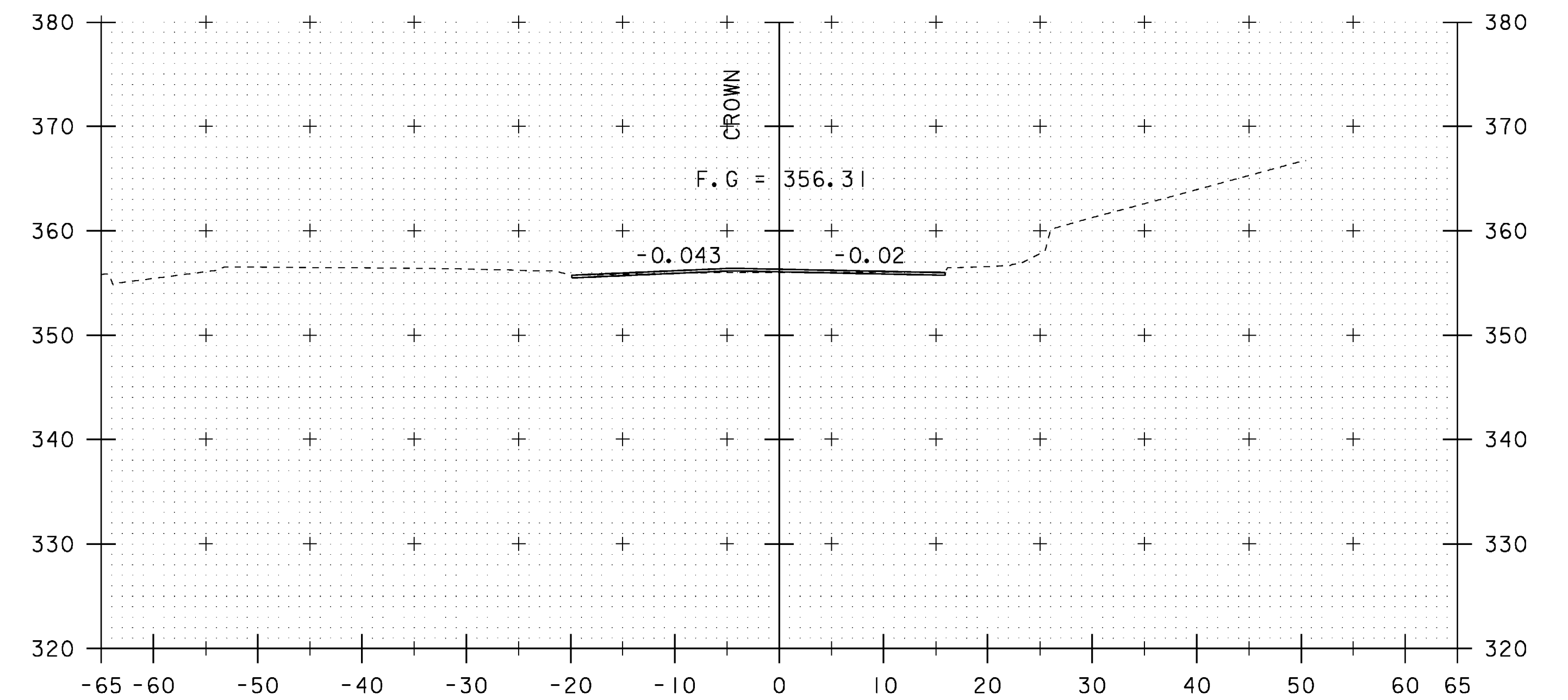
STA. 258+75 TO STA. 259+51.25

|                             |                           |
|-----------------------------|---------------------------|
| PROJECT NAME:               | SPRINGFIELD               |
| PROJECT NUMBER:             | BHF 016-2(14)             |
| FILE NAME:                  | 06J004/str/s06j004xsl.dgn |
| PROJECT LEADER:             | R. WHITCOMB               |
| DESIGNED BY:                | D. PETERSON               |
| MAINLINE CROSS SECTIONS (4) |                           |
| PLOT DATE:                  | 29-MAY-2009               |
| DRAWN BY:                   | D. PETERSON               |
| CHECKED BY:                 | C. CARLSON                |
| SHEET                       | 48 OF 72                  |

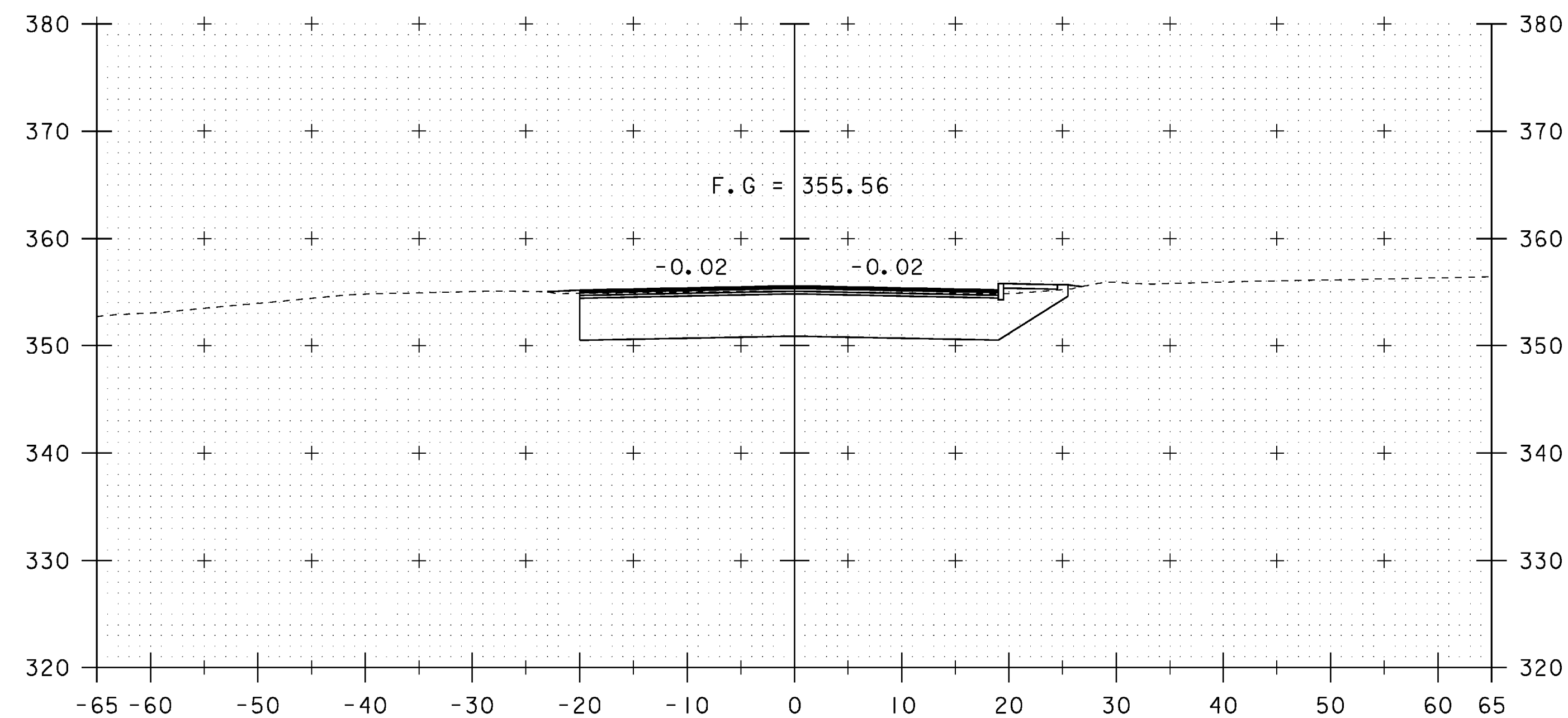




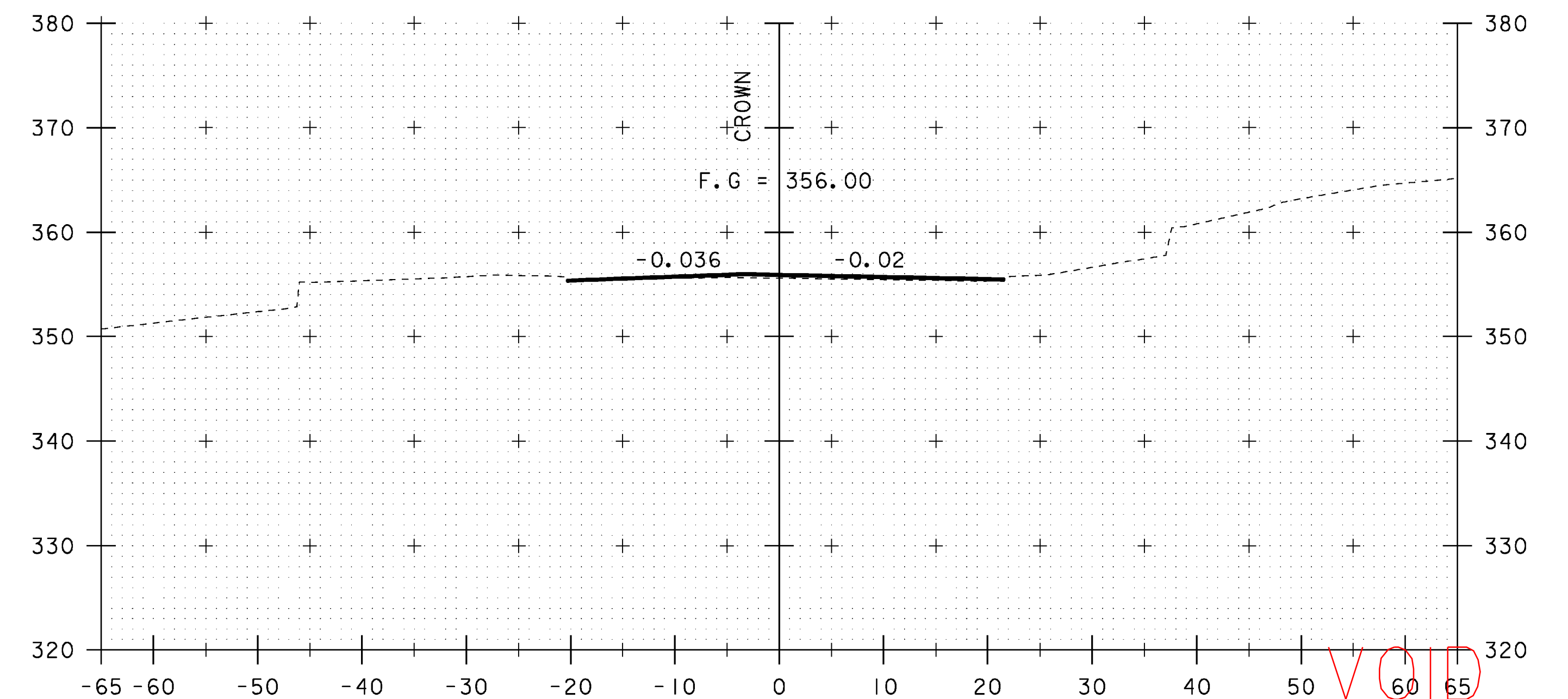
260+00



260+50



259+75



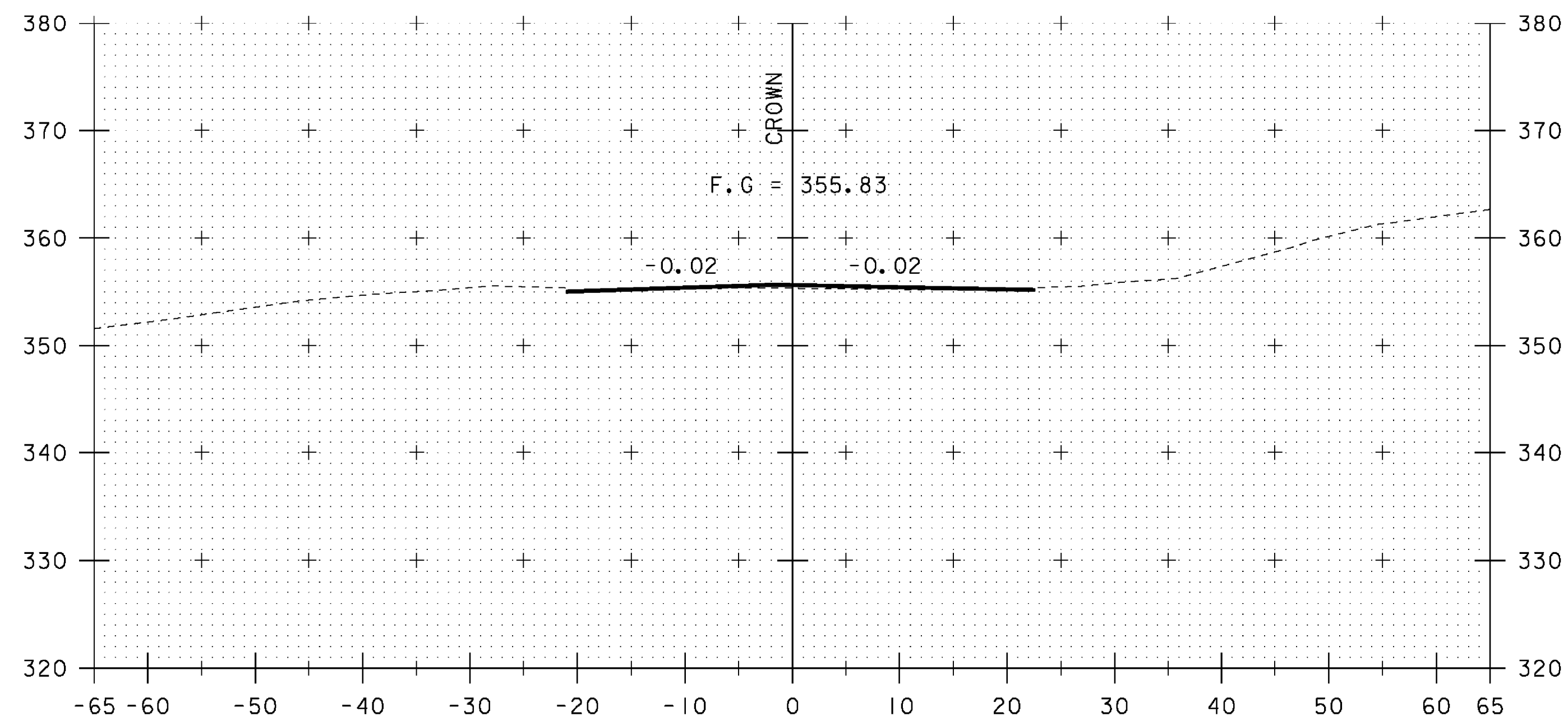
260+25

VOID  
SEE REVISED  
SHEET

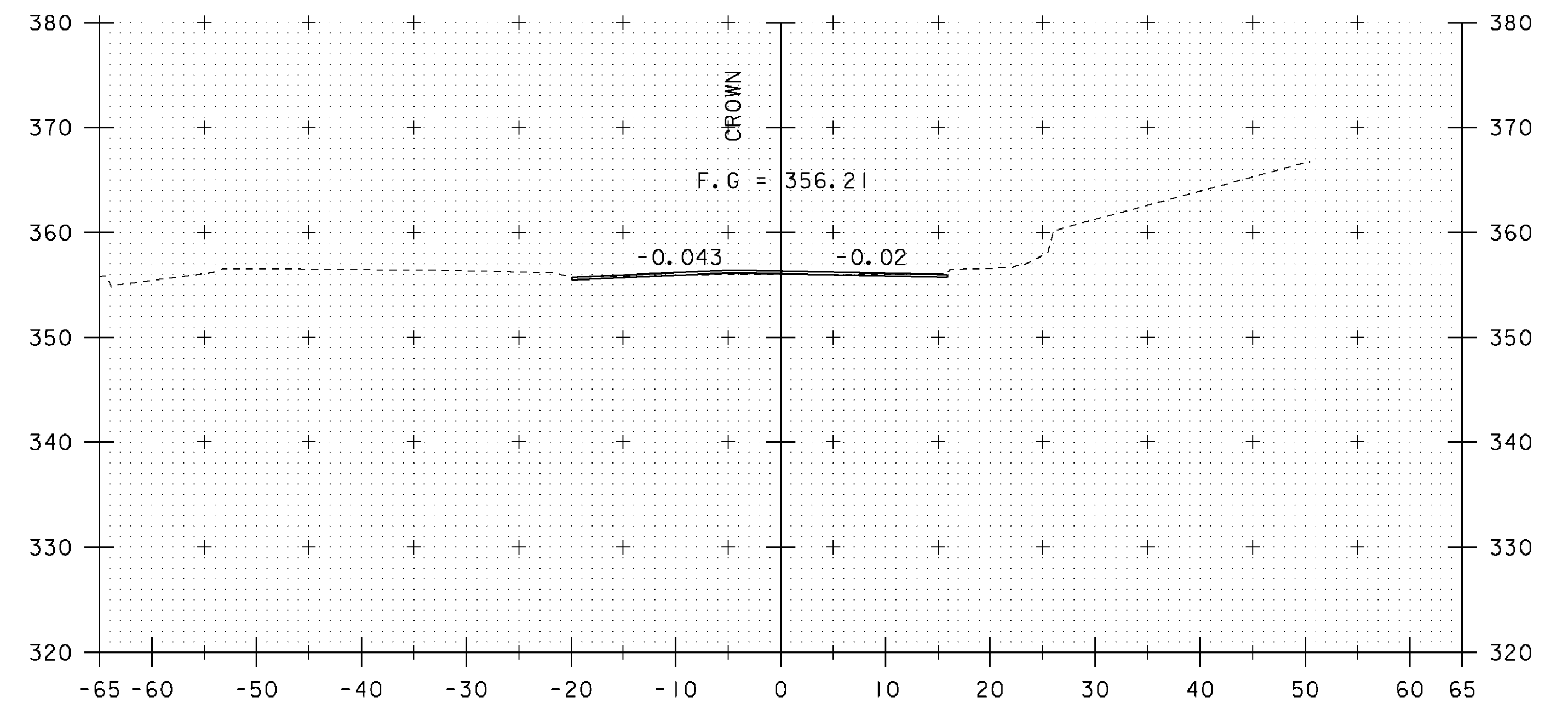
STA. 259+75 TO STA. 260+50

|                                      |                        |
|--------------------------------------|------------------------|
| PROJECT NAME: SPRINGFIELD            |                        |
| PROJECT NUMBER: BHF 016-2(14)        |                        |
| FILE NAME: 06J004/str/s06J004xsl.dgn | PLOT DATE: 04-MAR-2009 |
| PROJECT LEADER: R. WHITCOMB          | DRAWN BY: D. PETERSON  |
| DESIGNED BY: D. PETERSON             | CHECKED BY: C. CARLSON |
| MAINLINE CROSS SECTIONS (5)          | SHEET 49 OF 72         |

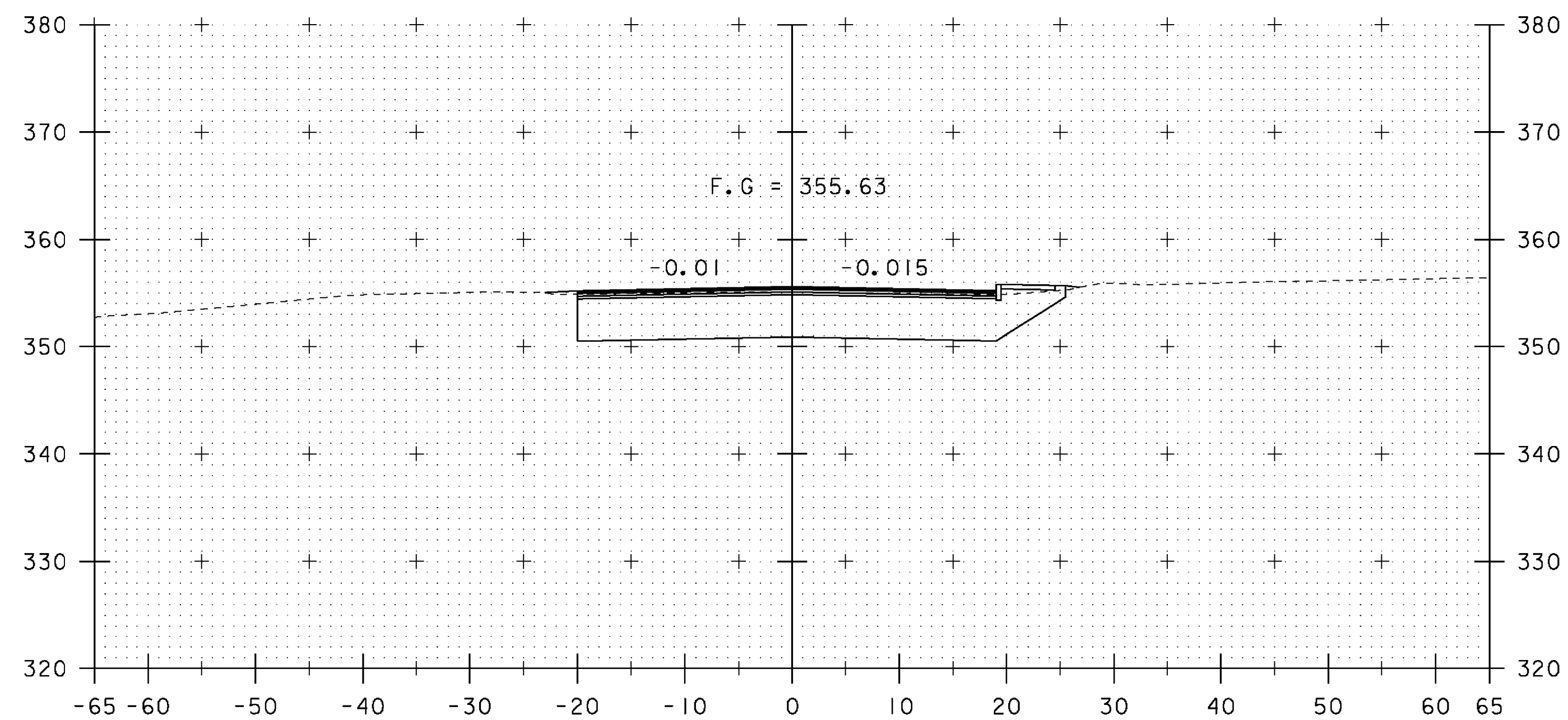




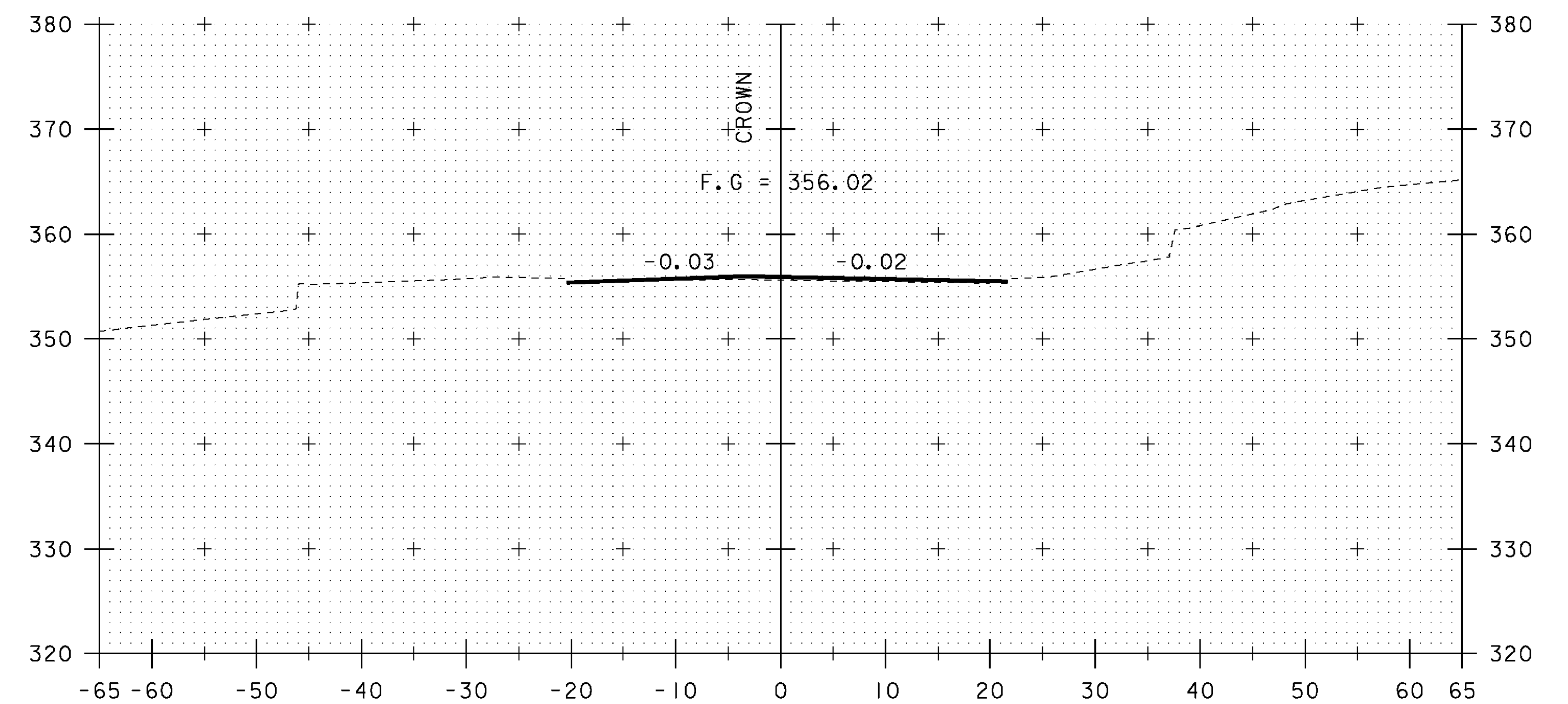
260+00



260+50



259+75



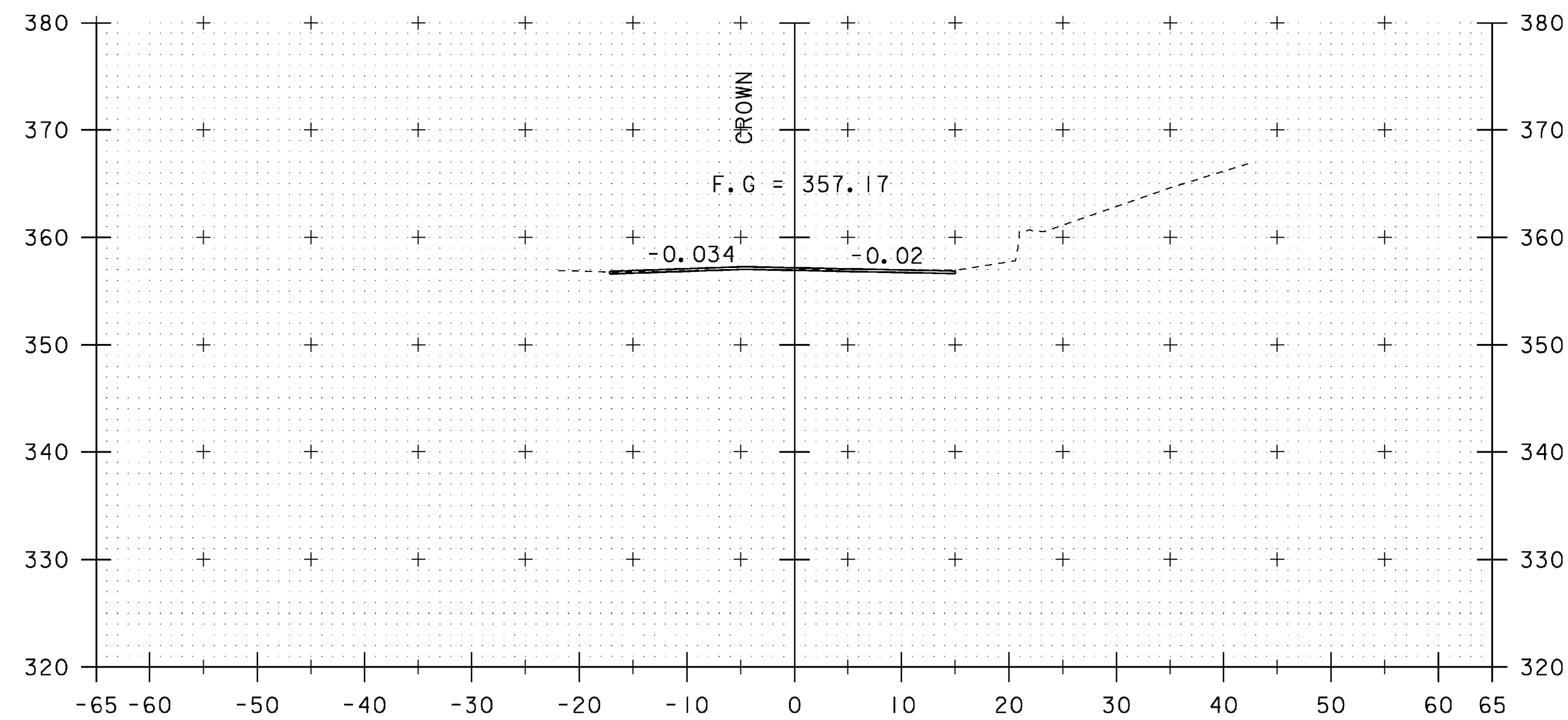
260+25

| REV. | BY  | DATE    | REVISION                         |
|------|-----|---------|----------------------------------|
| 3    | LBB | 5/26/09 | REVISED FINISH GRADE AND BANKING |

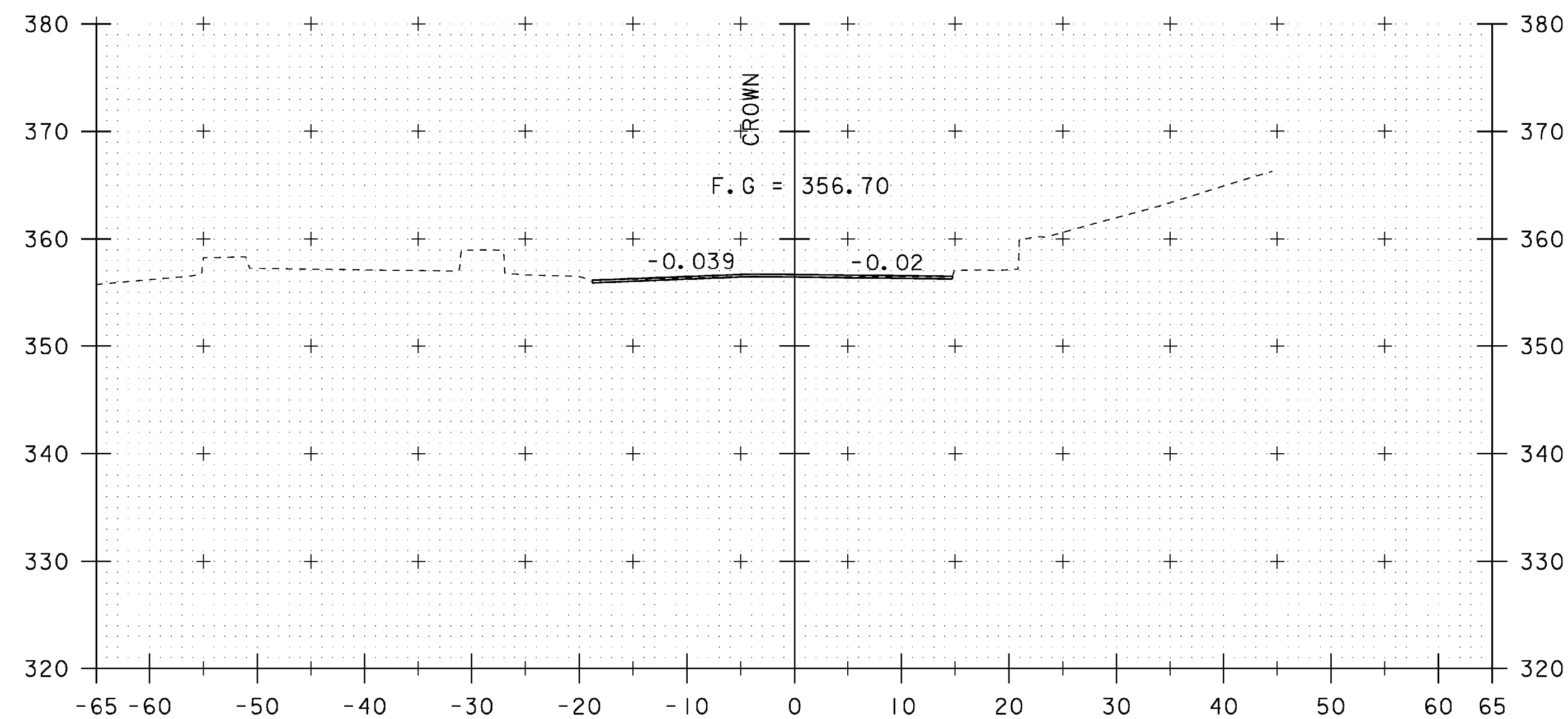
STA. 259+75 TO STA. 260+50

|                             |                           |
|-----------------------------|---------------------------|
| PROJECT NAME:               | SPRINGFIELD               |
| PROJECT NUMBER:             | BHF 016-2(14)             |
| FILE NAME:                  | 06J004/str/s06j004xsl.dgn |
| PROJECT LEADER:             | R. WHITCOMB               |
| DESIGNED BY:                | D. PETERSON               |
| MAINLINE CROSS SECTIONS (5) |                           |
| PLOT DATE:                  | 29-MAY-2009               |
| DRAWN BY:                   | D. PETERSON               |
| CHECKED BY:                 | C. CARLSON                |
| SHEET                       | 49 OF 72                  |

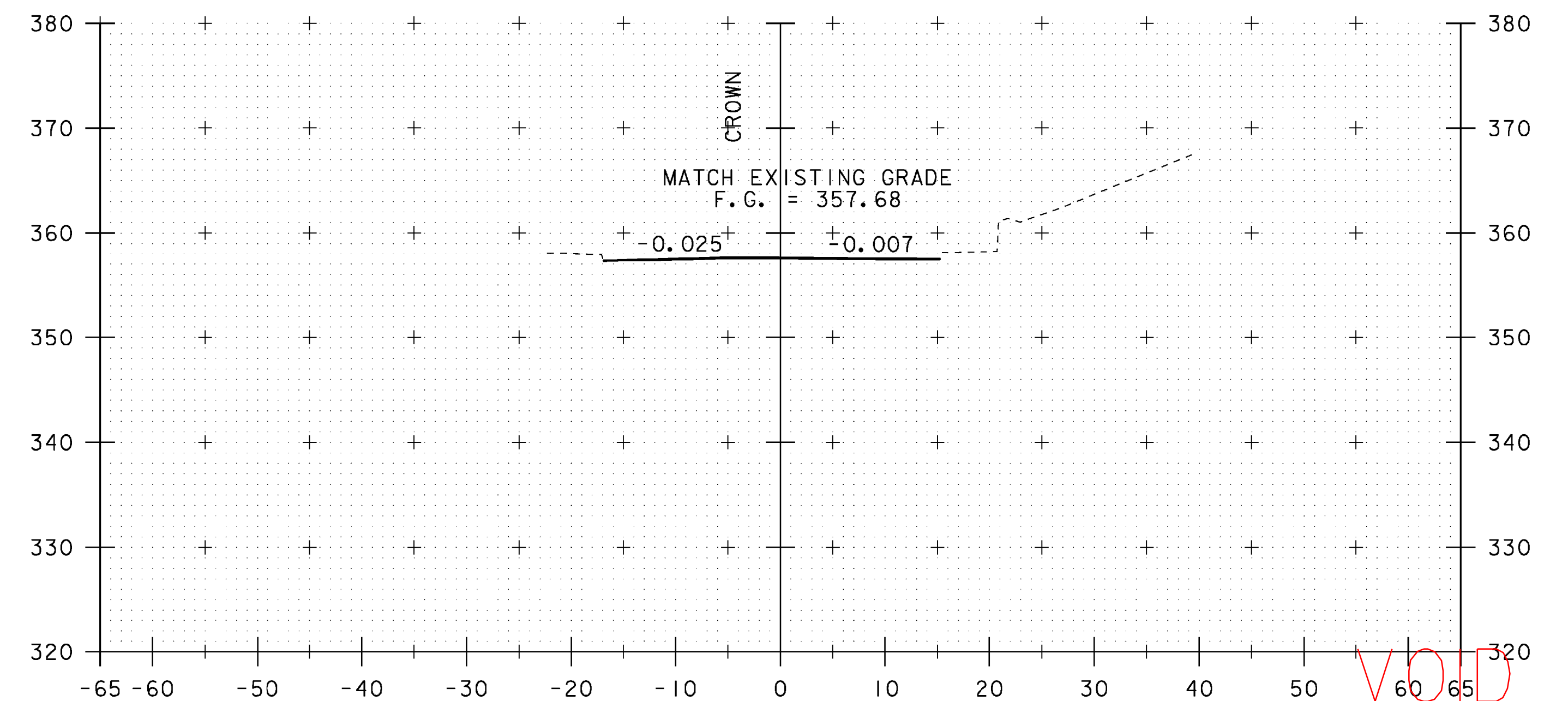




261+00



260+75



ML STA 261+25  
END APPROACH

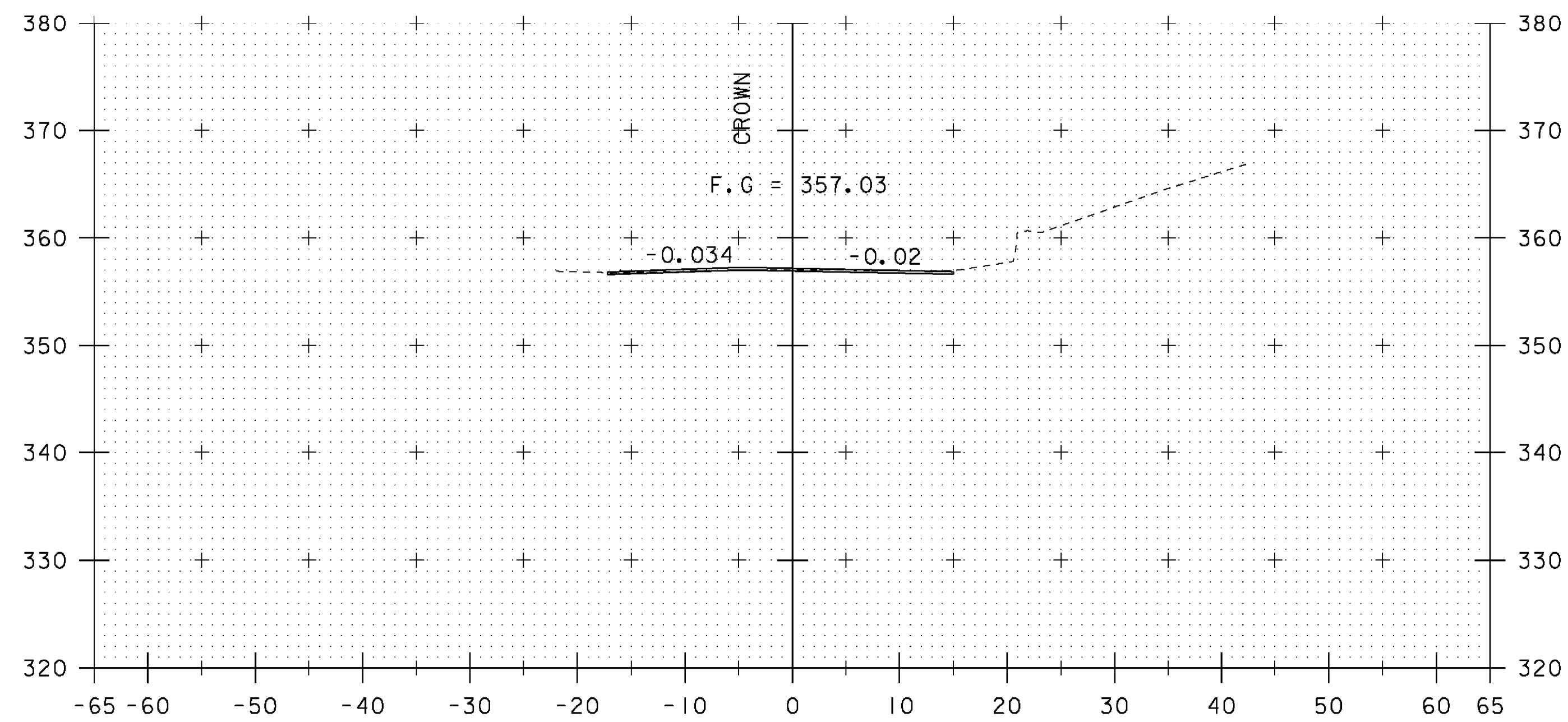
261+25

VOID  
SEE REVISED  
SHEET

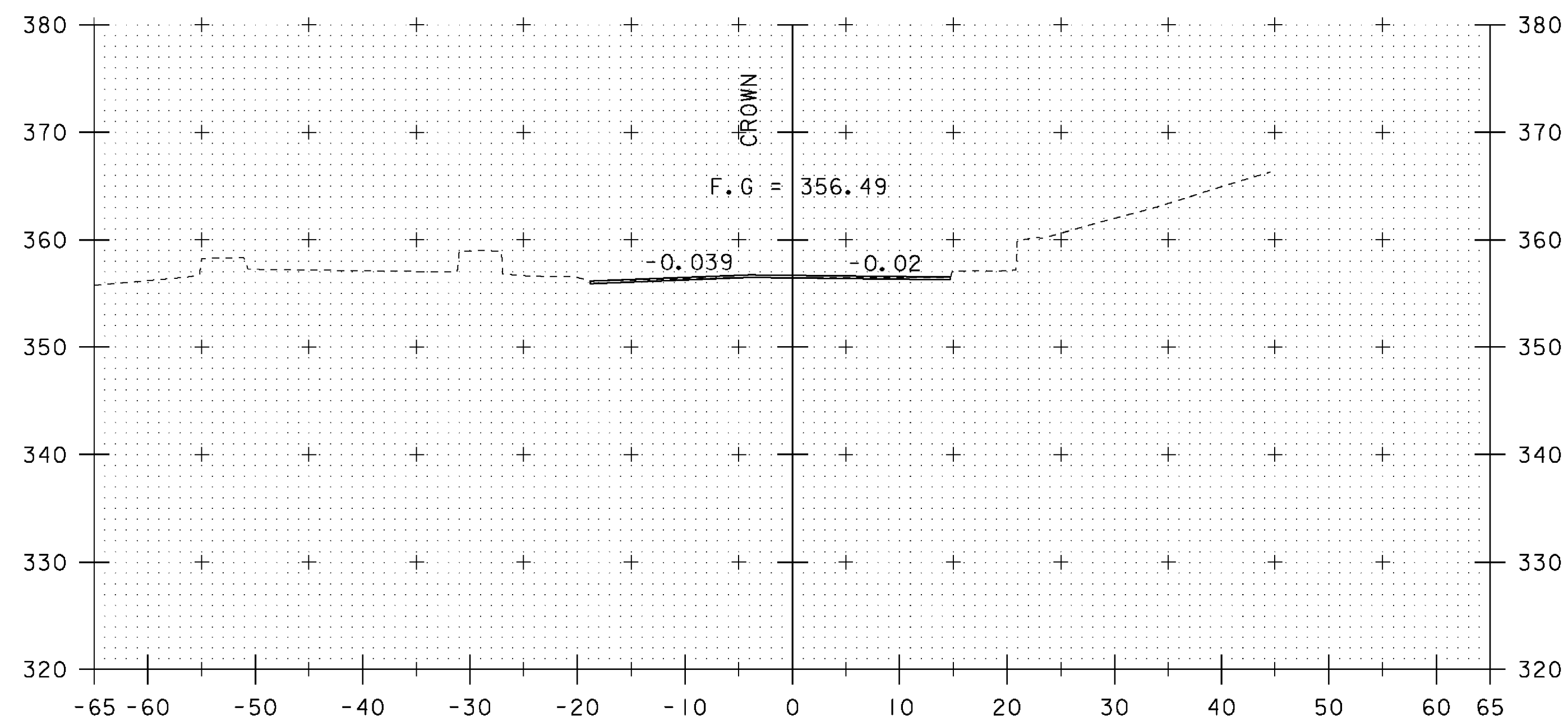
STA. 260+75 TO STA. 261+25

|                                      |                        |
|--------------------------------------|------------------------|
| PROJECT NAME: SPRINGFIELD            |                        |
| PROJECT NUMBER: BHF 016-2(14)        |                        |
| FILE NAME: 06J004/str/s06J004xsl.dgn | PLOT DATE: 04-MAR-2009 |
| PROJECT LEADER: R. WHITCOMB          | DRAWN BY: D. PETERSON  |
| DESIGNED BY: D. PETERSON             | CHECKED BY: C. CARLSON |
| MAINLINE CROSS SECTIONS (6)          | SHEET 50 OF 72         |

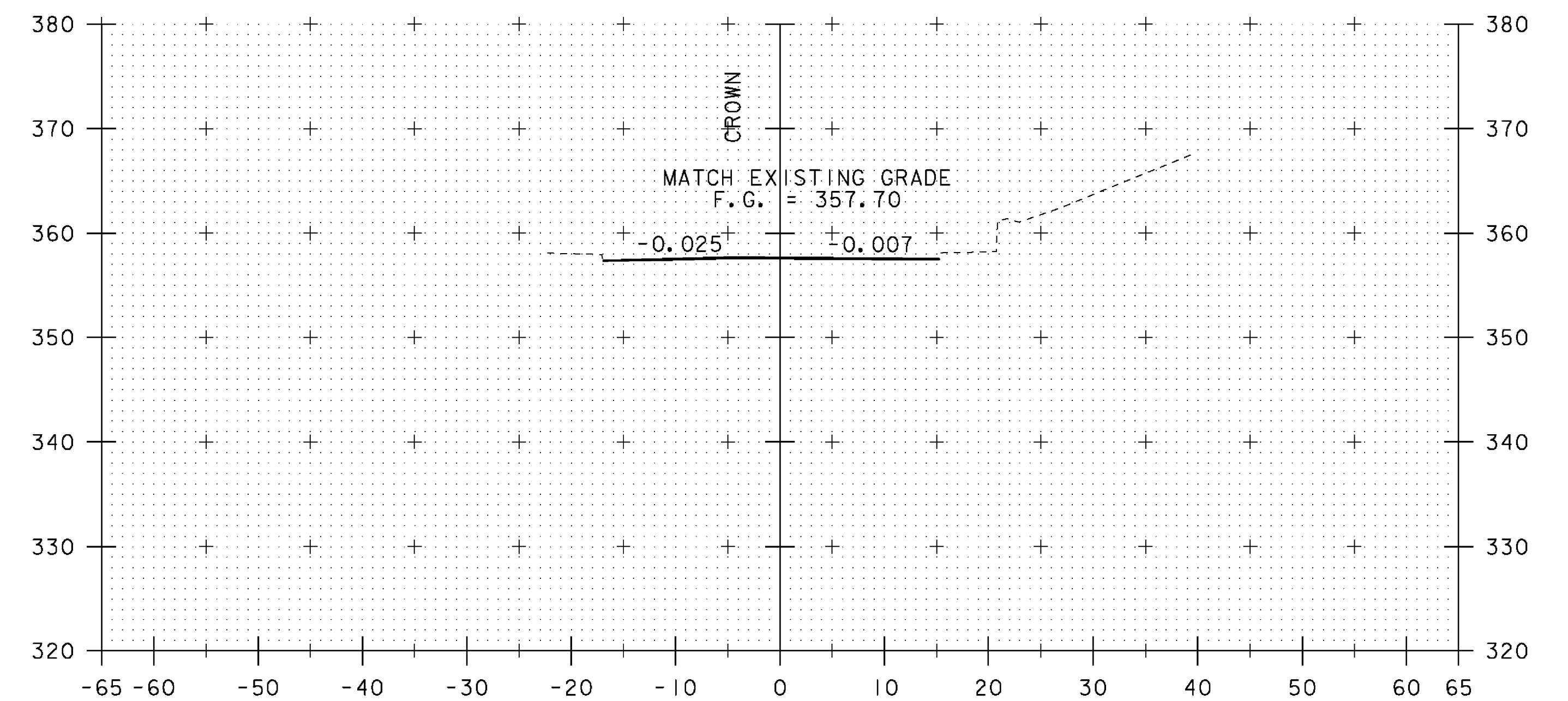




261+00



260+75



ML STA 261+25  
END APPROACH

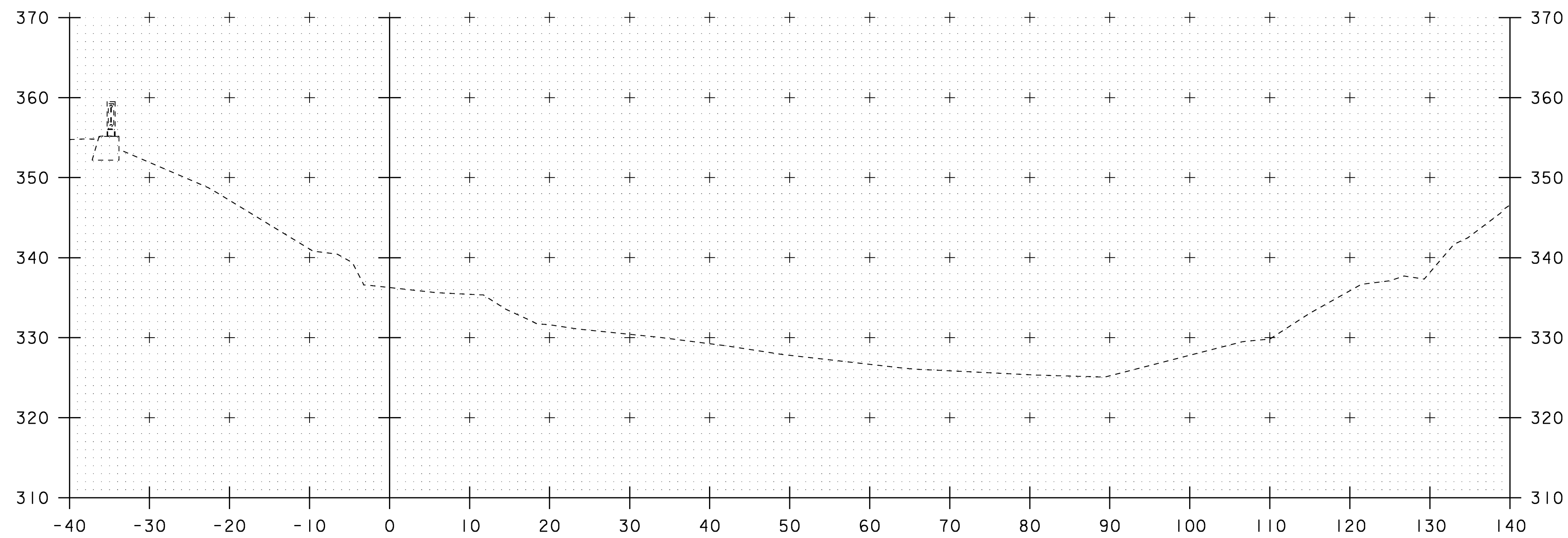
261+25

| REV. | BY  | DATE    | REVISION                         |
|------|-----|---------|----------------------------------|
| 1    | LBB | 5/26/09 | REVISED FINISH GRADE AND BANKING |

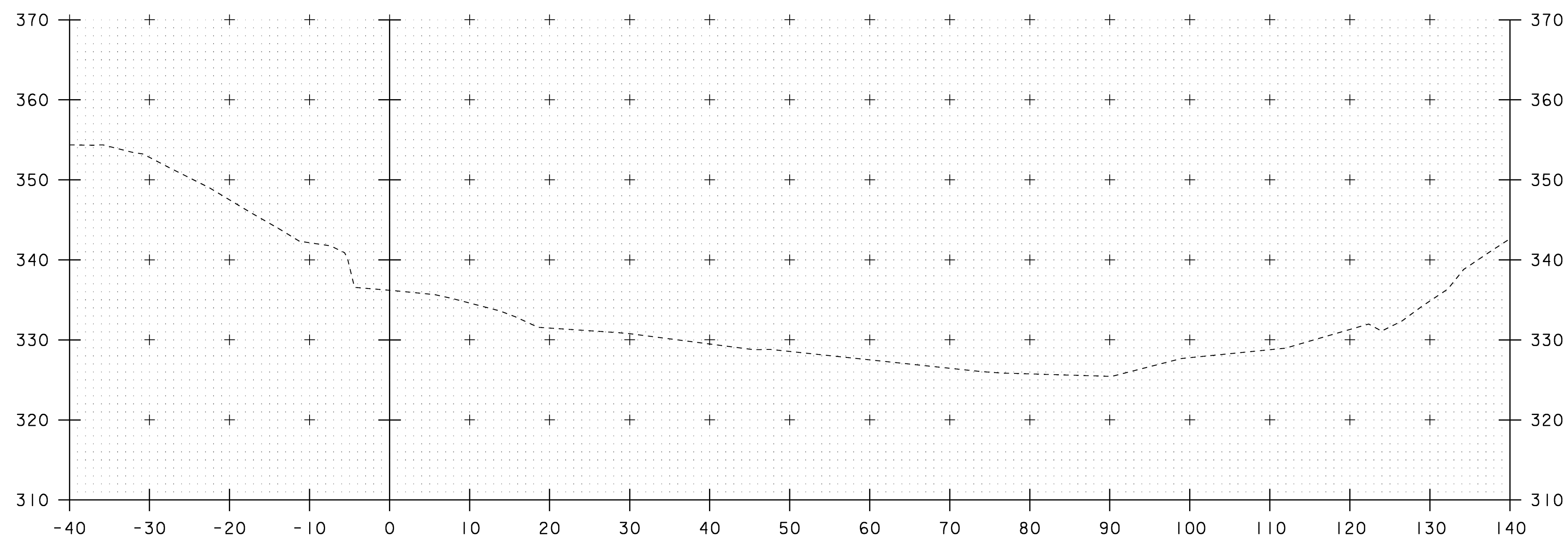
STA. 260+75 TO STA. 261+25

|                                      |                        |
|--------------------------------------|------------------------|
| PROJECT NAME: SPRINGFIELD            |                        |
| PROJECT NUMBER: BHF 016-2(14)        |                        |
| FILE NAME: 06J004/str/s06j004xsl.dgn | PLOT DATE: 29-MAY-2009 |
| PROJECT LEADER: R. WHITCOMB          | DRAWN BY: D. PETERSON  |
| DESIGNED BY: D. PETERSON             | CHECKED BY: C. CARLSON |
| MAINLINE CROSS SECTIONS (6)          | SHEET 50 OF 72         |





4+50

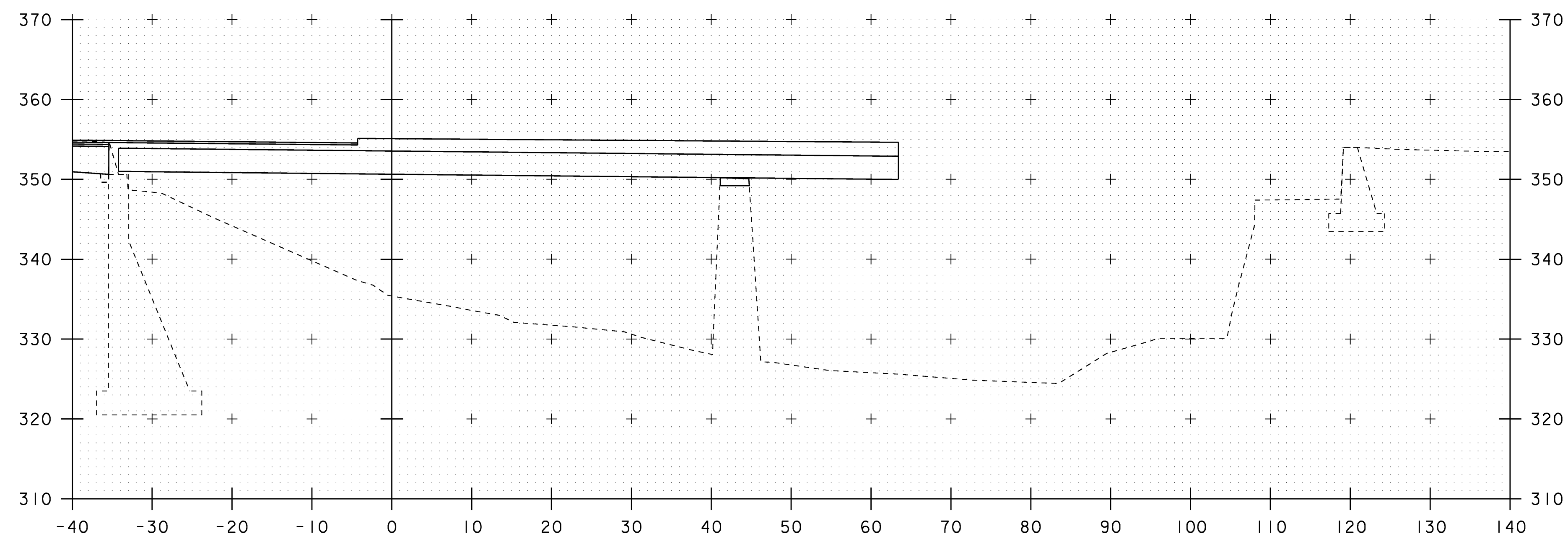


4+40

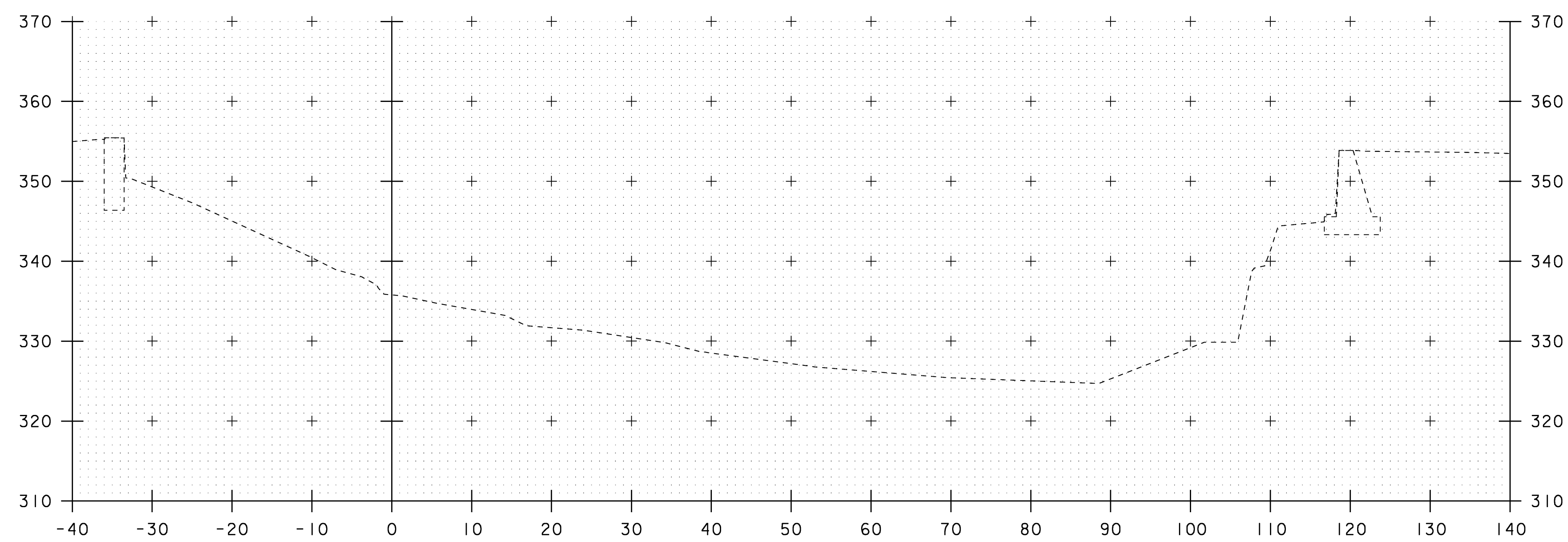
STA. 4+40 TO STA. 4+50

|                                      |                        |
|--------------------------------------|------------------------|
| PROJECT NAME: SPRINGFIELD            |                        |
| PROJECT NUMBER: BHF 016-2(14)        |                        |
| FILE NAME: 06J004/str/s06J004xsl.dgn | PLOT DATE: 04-MAR-2009 |
| PROJECT LEADER: R. WHITCOMB          | DRAWN BY: D. PETERSON  |
| DESIGNED BY: D. PETERSON             | CHECKED BY: C. CARLSON |
| CHANNEL CROSS SECTIONS (I)           | SHEET 51 OF 72         |





4+70

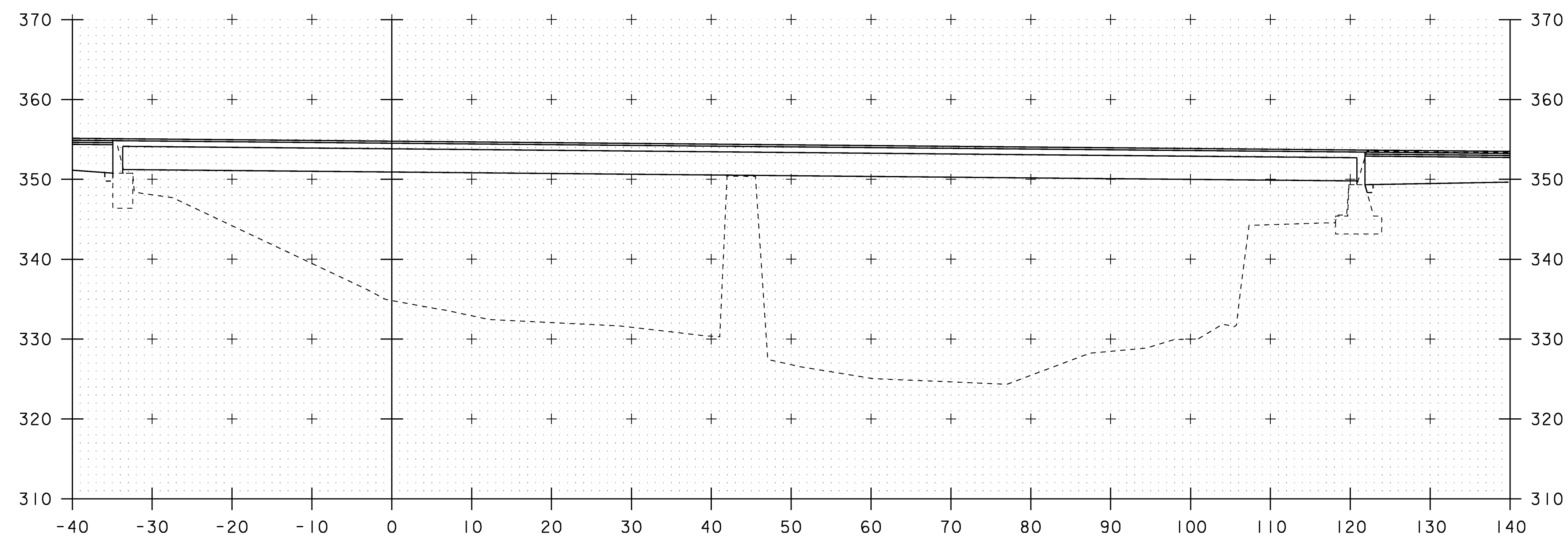


4+60

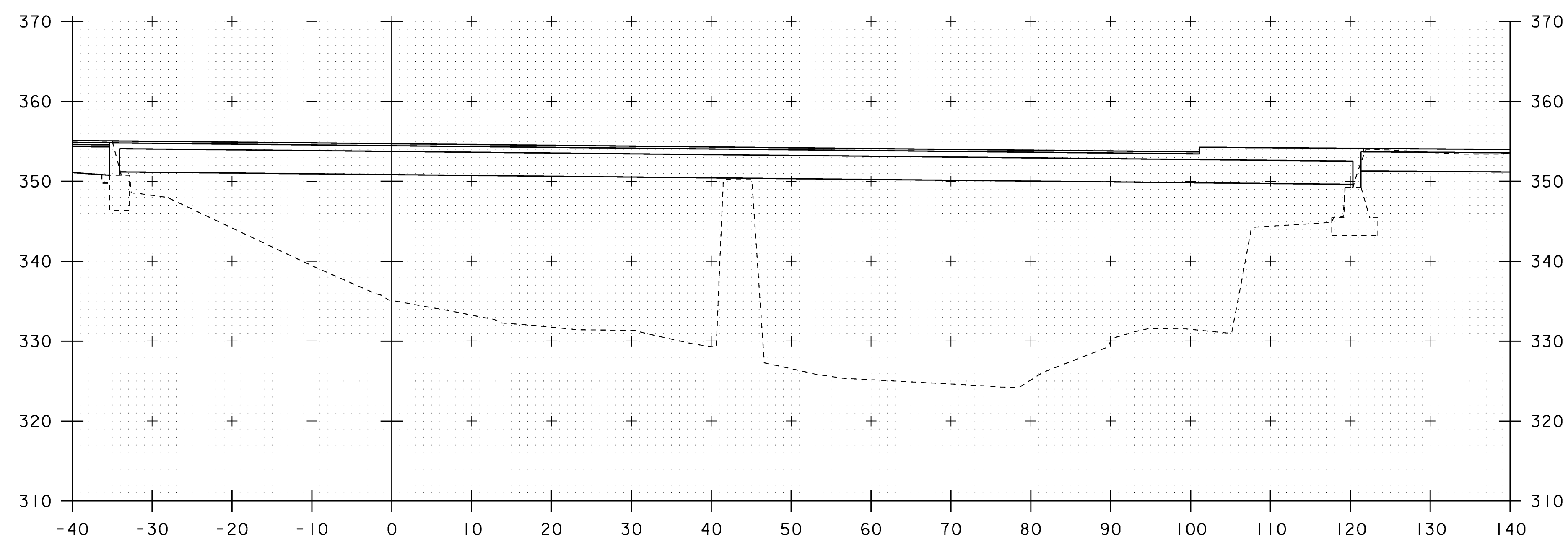
STA. 4+60 TO STA. 4+70

|                                      |                        |
|--------------------------------------|------------------------|
| PROJECT NAME: SPRINGFIELD            |                        |
| PROJECT NUMBER: BHF 016-2(14)        |                        |
| FILE NAME: 06J004/str/s06J004xsl.dgn | PLOT DATE: 04-MAR-2009 |
| PROJECT LEADER: R. WHITCOMB          | DRAWN BY: D. PETERSON  |
| DESIGNED BY: D. PETERSON             | CHECKED BY: C. CARLSON |
| CHANNEL CROSS SECTIONS (2)           | SHEET 52 OF 72         |





4+90

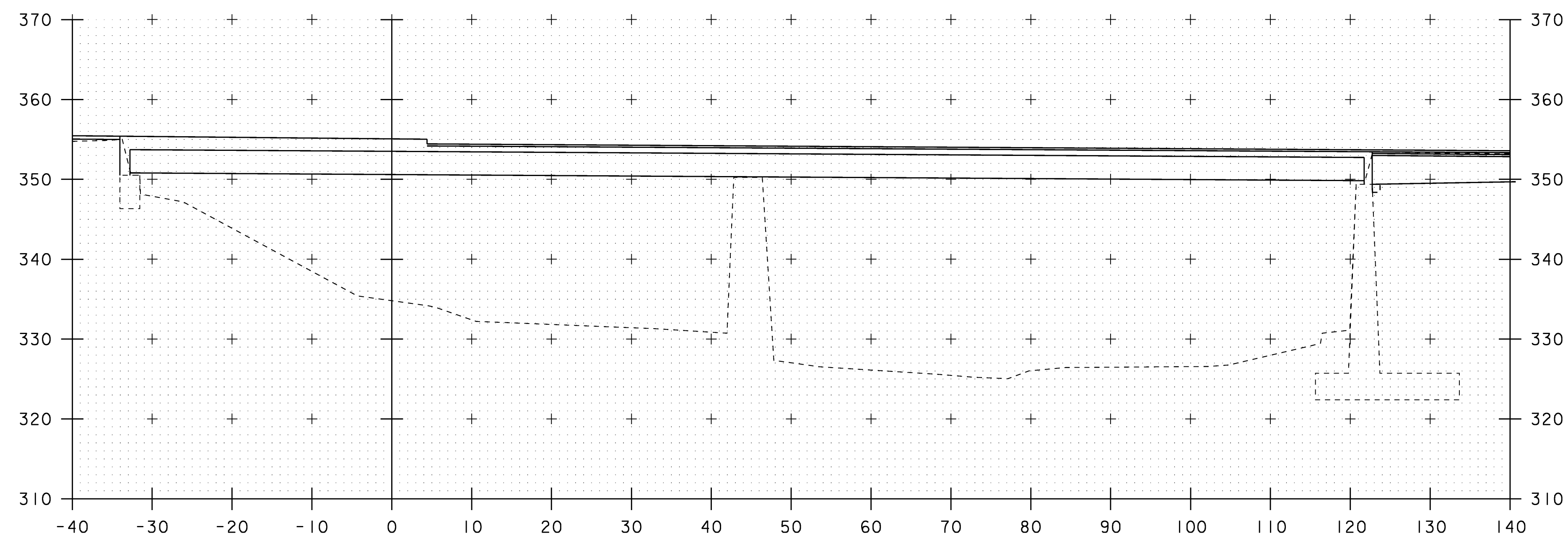


4+80

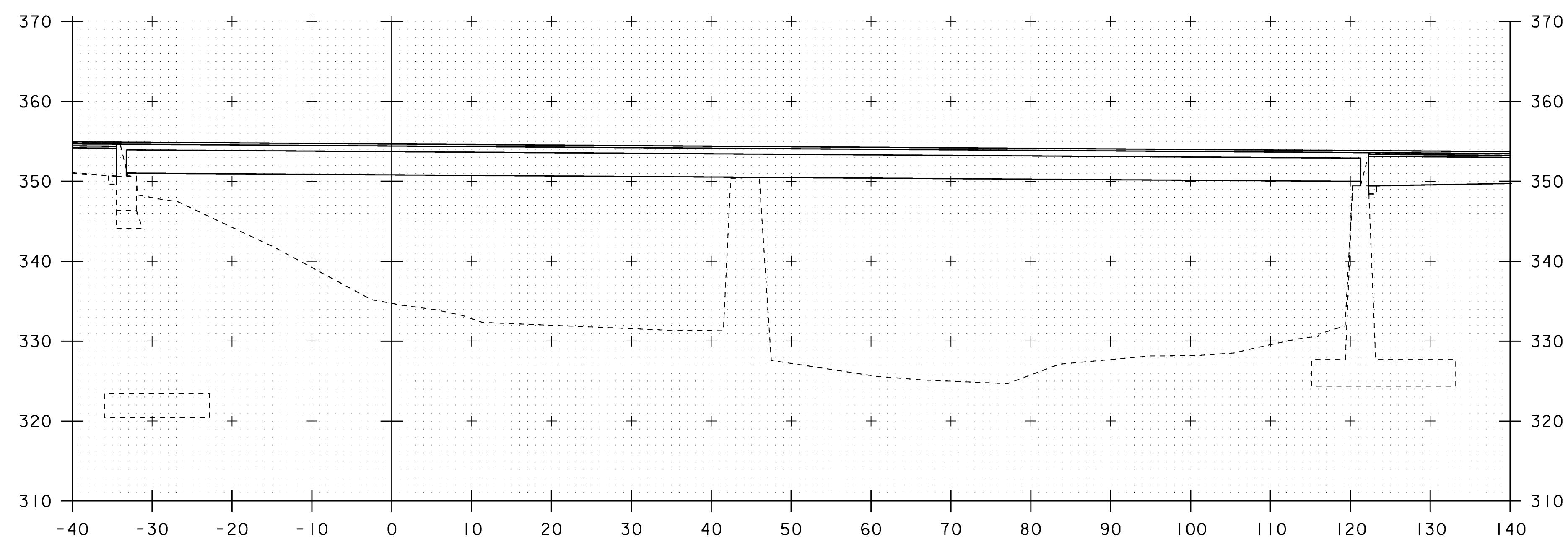
STA. 4+80 TO STA. 4+90

|                                      |                        |
|--------------------------------------|------------------------|
| PROJECT NAME: SPRINGFIELD            |                        |
| PROJECT NUMBER: BHF 016-2(14)        |                        |
| FILE NAME: 06J004/str/s06J004xsl.dgn | PLOT DATE: 04-MAR-2009 |
| PROJECT LEADER: R. WHITCOMB          | DRAWN BY: D. PETERSON  |
| DESIGNED BY: D. PETERSON             | CHECKED BY: C. CARLSON |
| CHANNEL CROSS SECTIONS (3)           | SHEET 53 OF 72         |





5+10

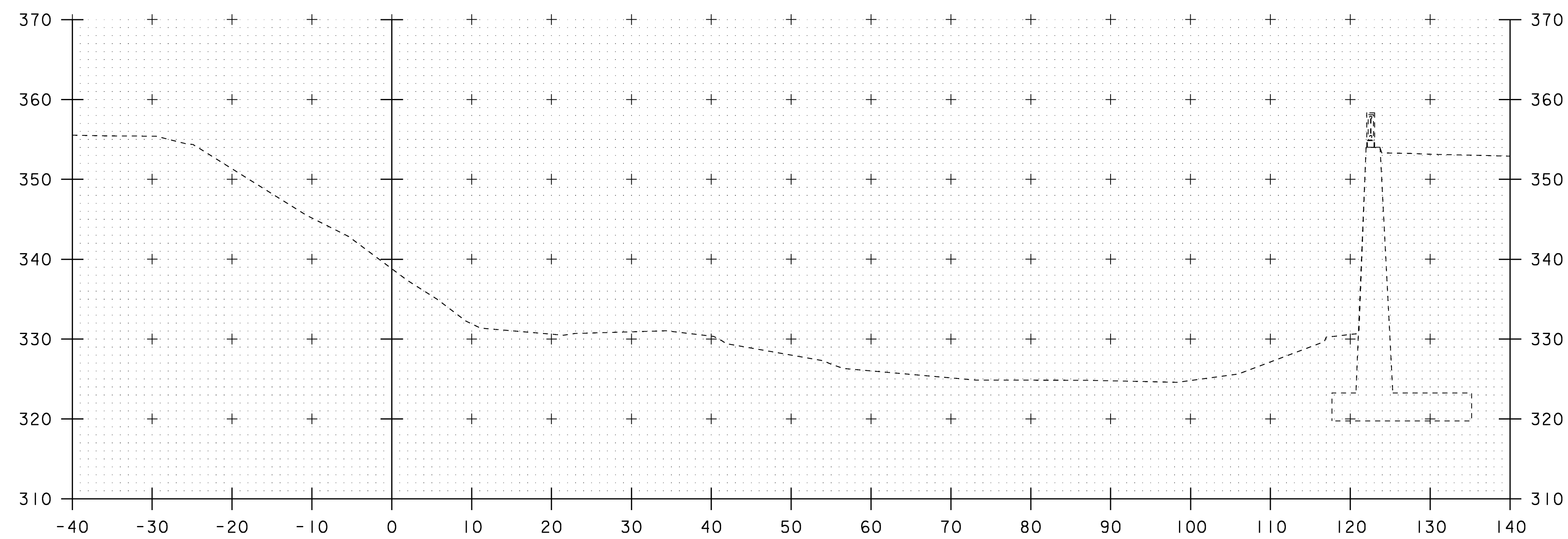


5+00

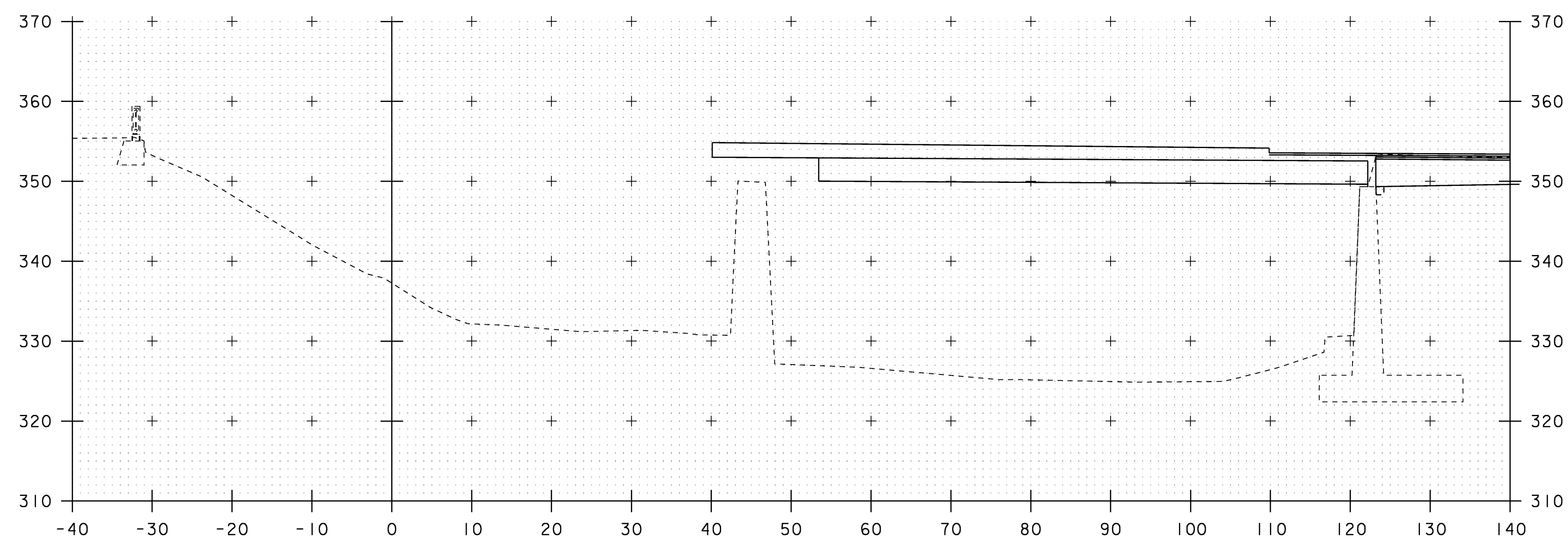
STA. 5+00 TO STA. 5+10

|                                      |                        |
|--------------------------------------|------------------------|
| PROJECT NAME: SPRINGFIELD            |                        |
| PROJECT NUMBER: BHF 016-2(14)        |                        |
| FILE NAME: 06J004/str/s06J004xsl.dgn | PLOT DATE: 04-MAR-2009 |
| PROJECT LEADER: R. WHITCOMB          | DRAWN BY: D. PETERSON  |
| DESIGNED BY: D. PETERSON             | CHECKED BY: C. CARLSON |
| CHANNEL CROSS SECTIONS (4)           | SHEET 54 OF 72         |





5+30

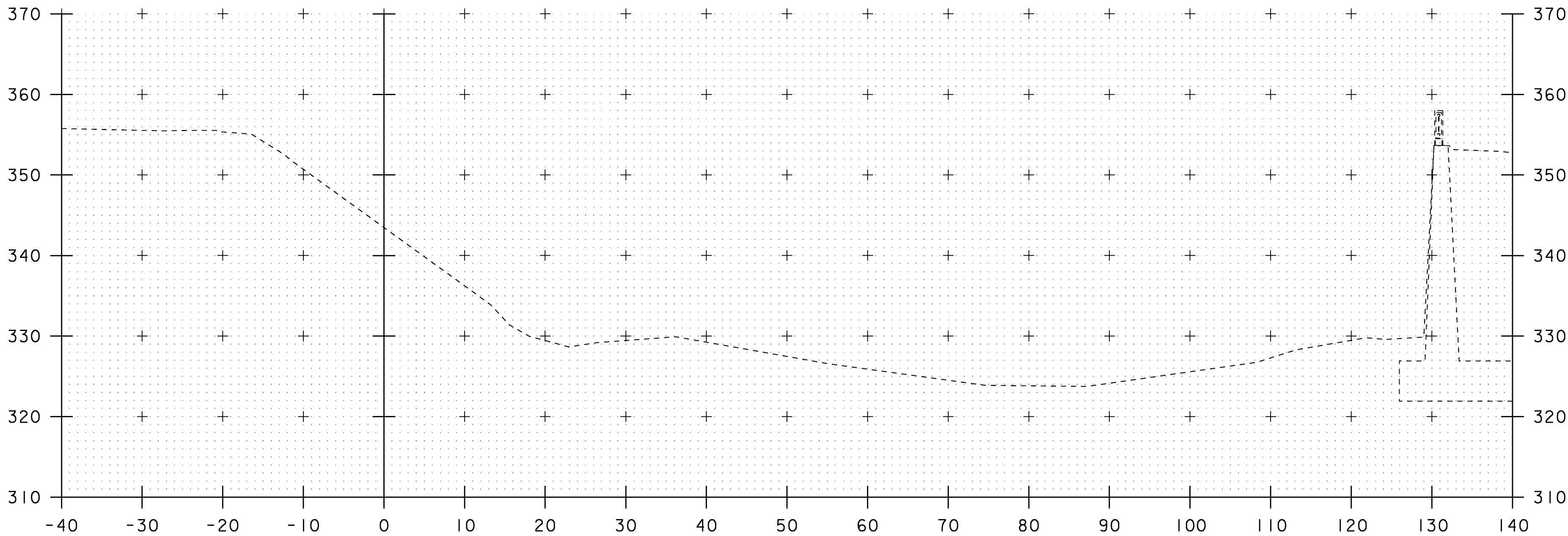


5+20

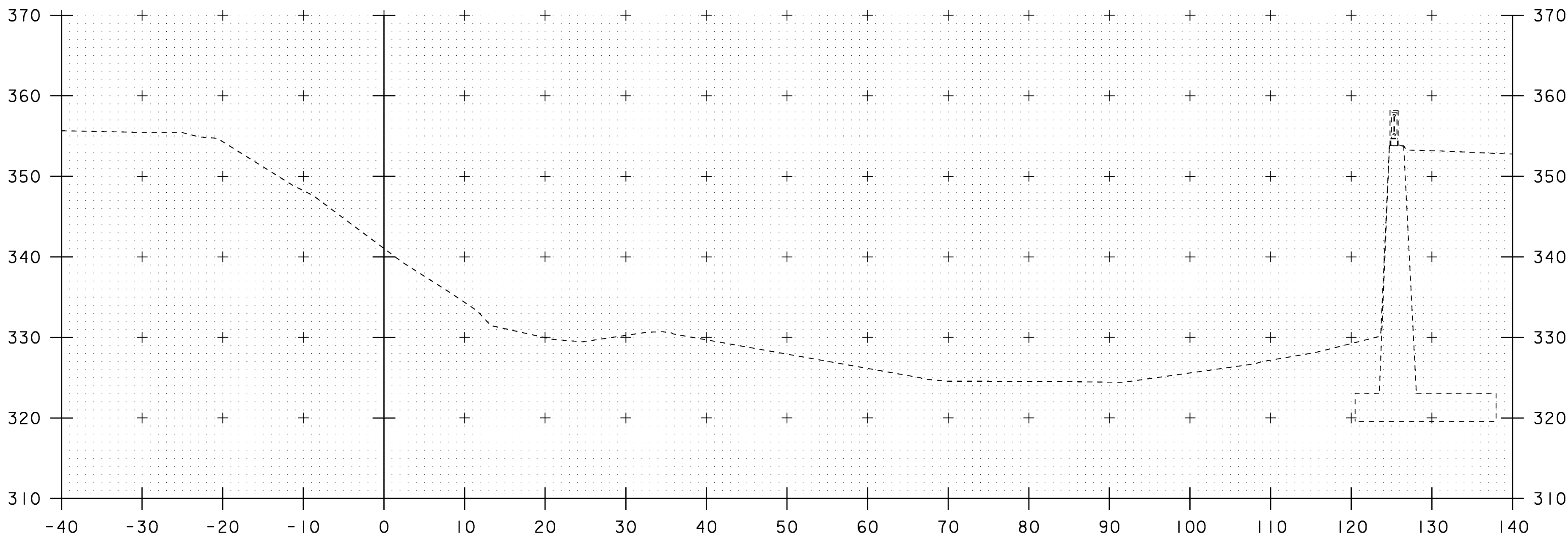
STA. 5+20 TO STA. 5+30

|                                      |                        |
|--------------------------------------|------------------------|
| PROJECT NAME: SPRINGFIELD            |                        |
| PROJECT NUMBER: BHF 016-2(14)        |                        |
| FILE NAME: 06J004/str/s06J004xsl.dgn | PLOT DATE: 04-MAR-2009 |
| PROJECT LEADER: R. WHITCOMB          | DRAWN BY: D. PETERSON  |
| DESIGNED BY: D. PETERSON             | CHECKED BY: C. CARLSON |
| CHANNEL CROSS SECTIONS (5)           | SHEET 55 OF 72         |





5+50

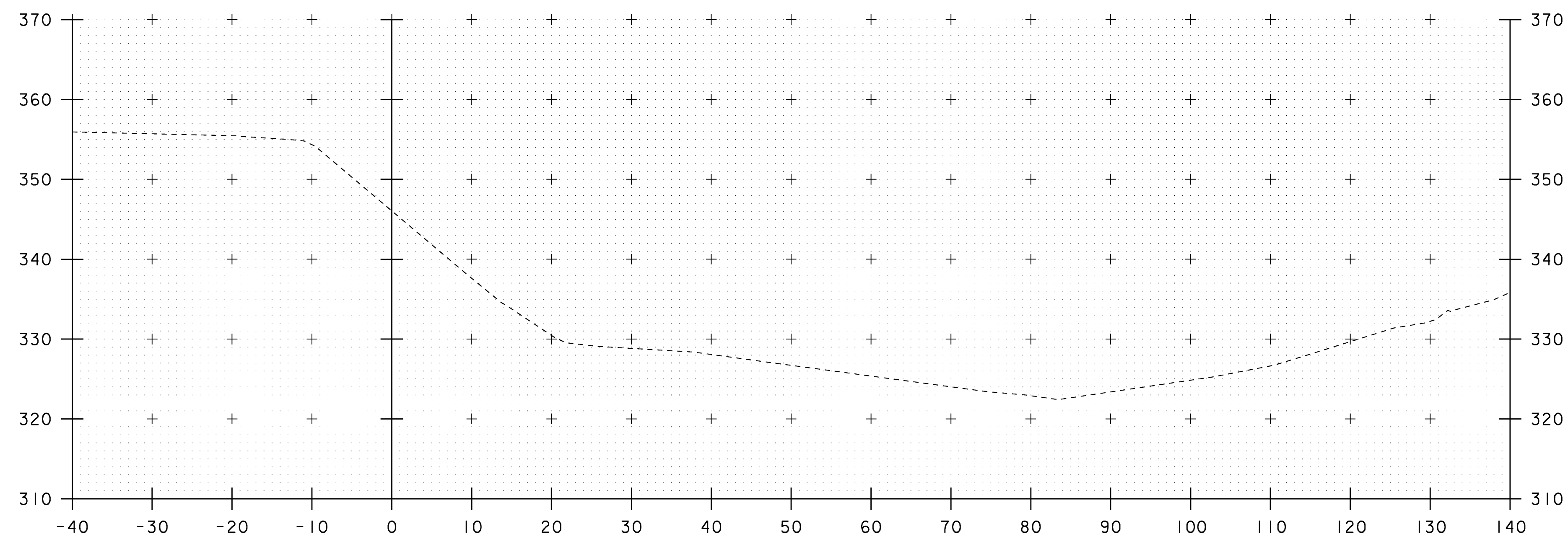


5+40

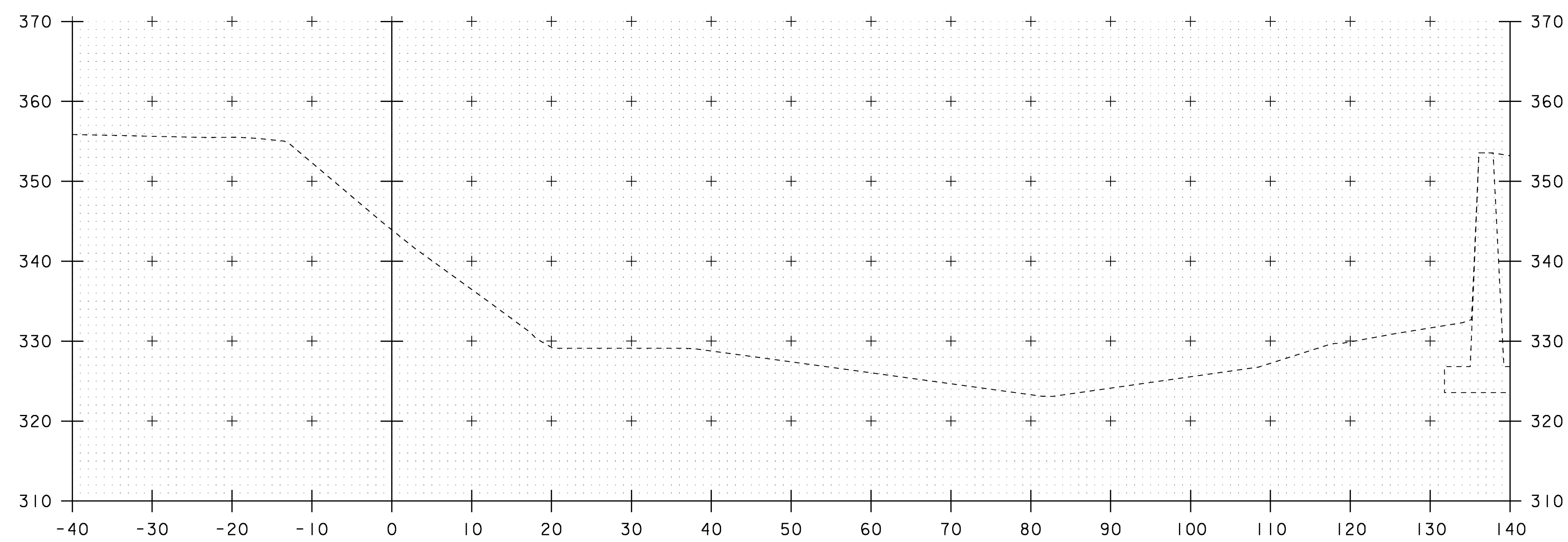
STA. 5+40 TO STA. 5+50

|                                      |                        |
|--------------------------------------|------------------------|
| PROJECT NAME: SPRINGFIELD            |                        |
| PROJECT NUMBER: BHF 016-2(14)        |                        |
| FILE NAME: 06J004/str/s06J004xsl.dgn | PLOT DATE: 04-MAR-2009 |
| PROJECT LEADER: R. WHITCOMB          | DRAWN BY: D. PETERSON  |
| DESIGNED BY: D. PETERSON             | CHECKED BY: C. CARLSON |
| CHANNEL CROSS SECTIONS (6)           | SHEET 56 OF 72         |





5+70



5+60

STA. 5+60 TO STA. 5+70

|                                      |                        |
|--------------------------------------|------------------------|
| PROJECT NAME: SPRINGFIELD            |                        |
| PROJECT NUMBER: BHF 016-2(14)        |                        |
| FILE NAME: 06J004/str/s06J004xsl.dgn | PLOT DATE: 04-MAR-2009 |
| PROJECT LEADER: R. WHITCOMB          | DRAWN BY: D. PETERSON  |
| DESIGNED BY: D. PETERSON             | CHECKED BY: C. CARLSON |
| CHANNEL CROSS SECTIONS (7)           | SHEET 57 OF 72         |



EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REHABILITATION OF THE "COMMUNITY CENTER" BRIDGE (VT 11 OVER THE BLACK RIVER). THE EXISTING TWO SPAN ROLLED BEAM BRIDGE WILL BE REHABILITATED INCLUDING A NEW DECK AT SIDEWALKS, NEW STEEL GIRDERS, CONCRETE DECK, AND SIDEWALKS AND BRIDGE RAILING. THE WORK WILL BE COMPLETED BY DETOURING EASTBOUND TRAFFIC AND ALLOWING WESTBOUND TRAFFIC TO TRAVEL ON THE BRIDGE. THE WORK WILL BE COMPLETED IN A PHASED CONSTRUCTION SEQUENCE. THE EXISTING ABUTMENTS, WINGWALLS AND PIER WILL REMAIN IN PLACE WITH MINOR REPAIRS MADE TO THE BRIDGE SEATS.

THERE WILL BE NO WORK IN THE CHANNEL AND THE ROADWAY WORK WILL BE VERY MINIMAL. ALL WORK WILL STAY WITHIN THE EXISTING RIGHT OF WAY.

TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 0.48 ACRES.

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

1.2 SITE INVENTORY

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

THIS BRIDGE LIES WITHIN AN URBAN SETTING CONSISTING OF SIDEWALKS, DRIVE ENTRANCES TO PARKING LOTS AND A SMALL PARK.

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

THE BLACK RIVER IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THERE ARE NO OTHER WATER BODIES OR WETLANDS WITH IN THE PROJECT AREA. THE BLACK RIVER IS A STRAIGHT, NOT BRAIDED AND A NON ANABRANCH WATER WAY. THERE ARE MULITPLE DAMS UPSTREAM OF THE BRIDGE. THERE ARE A FEW DROP INLETS ON SITE DRAINING FROM THE ROADWAY TO THE RIVER.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TOPOGRAPHY OF THE PROJECT SITE IS FLAT, HOWEVER THERE ARE TWO STEEP PAVED DRIVES AT NORTHWEST CORNER AND AT THE NORTHEAST CORNER OF THE PROJECT. AT THE SOUTHERN END OF THE PROJECT THERE IS AN INTERSECTION WHERE BOTH SOUTH STREET AND MINERAL STREET MEET WITH VT 11.

BUILDINGS AROUND THE PROJECT INCLUDE THE COMMUNITY CENTER BUILDING ON THE NORTHWEST CORNER OF THE BRIDGE, A CHRUCH AT THE TOP OF THE HILL ON THE NORTHEAST CORNER, ON THE SOUTHWEST CORNER IS A LARGE SENIOR CITIZENS HOME, AND ON THE SOUTHEAST CORNER IS A PARKING LOT TO AN ADJACENT RESTAURANT.

UTILITIES ON AND AROUND THIS PROJECT INCLUDE: POWER AND UTILITY POLES RUN ALONG MAINLINE AND CROSS THE RIVER DOWNSTREAM OF THE BRIDGE. SEWER, WATER, AND UNDERGROUND TELEPHONE CROSS UNDER THE BRIDGE AND ARE PRESENT UNDERGROUND ALONG THE LENGTH OF THE PROJECT.

1.2.4 VEGETATION

THE VEGETATION IN THE PROJECT AREA IS VERY MINIMAL. THE ONLY AREA OF IMPACT IS THE NORTH EAST WINGWALL WHERE APPROACH RAILING WILL BE PLACED NEXT TO THE SIDEWALK AND SOME GRASS WILL BE DISTURBED. ALL VEGETATED AREAS THAT ARE DISTURBED WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.5 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF WINDSOR, VERMONT. SOILS ON THE PROJECT SITE CONSIST OF URBAN LAND- WINDSOR-AGAWAM COMPLEX, 0 - 8 PERCENT SLOPES. THE AGAWAM PORTION OF THIS COMPLEX HAS A Kw OF 0.28 FROM 0-9 INCHES, 0.37 FROM 9-26 INCHES, 0.17 FROM 26-35 INCHES, AND 0.10 FROM 35-65 INCHES. THE WINDSOR PORTION OF THIS COMPLEX HAS A Kw OF 0.17 TO 0.10 FOR ITS DEPTH. AS SIGNIFICANT PORTIONS OF THIS PROJECT WILL BE CONSTRUCTED IN PREVIOUSLY DISTURBED AREAS IN THIS URBAN SETTING, IT WILL BE IMPORTANT TO NOTE WHETHER NATIVE MATERIAL OR PREVIOUSLY PLACED GRAVEL BACKFILL WILL BE EXPOSED AS THE PROJECT PROGRESSES.

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

1.2.6 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO  
HISTORICAL AREA: THE ENTIRE BRIDGE IS LOCATED IN A HISTORIC DISTRICT.  
ARCHEOLOGICAL AREAS: NO

PRIME AGRICULTURAL LAND: NO  
THREATENED AND ENDANGERED SPECIES: NO  
WATER RESOURCE: BLACK RIVER  
WETLANDS: NO

1.3 RISK EVALUATION

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

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE WORK OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE LIFE OF THE PROJECT MINIMIZING SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION CONTROLS.

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

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

(REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR EACH PRACTICE REQUIRED ON THE PROJECT TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING.)

1.4.1 MARK SITE BOUNDARIES  
PROJECT DEMARCATION FENCING, DENOTED -PDF- ON THE PLANS IS USED TO DELINEATE THE LIMITS THAT THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION.

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

1.4.3 STABILIZE CONSTRUCTION EXIT  
STABILIZED CONSTRUCTION ENTRANCE SHALL BE UTILIZED AS NECESSARY.

1.4.4 INSTALL SILT FENCE  
SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK AS SHOWN ON THE PLANS OR AS NECESSARY.

1.4.5 DIVERT UPLAND RUNOFF  
SWALE (STORM WATER FROM STREET COLLECTIONS DRAINAGE SYSTEM)

1.4.6 SLOW DOWN CHANNELIZED RUNOFF  
N/A

1.4.7 CONSTRUCT PERMANENT CONTROLS  
SEED AND MULCH  
DRAINAGE INLETS AND PIPING

1.4.8 STABILIZE EXPOSED SOILS  
SEED AND MULCH

1.4.9 WINTER STABILIZATION (IF NECESSARY)  
VARIOUS MEASURES SPECIFIC TO WINTER (SEE LOW RISK HANDBOOK)

1.4.10 STABILIZE SOIL AT FINAL GRADE  
SEED AND MULCH

1.4.11 DEWATERING ACTIVITIES  
N/A

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

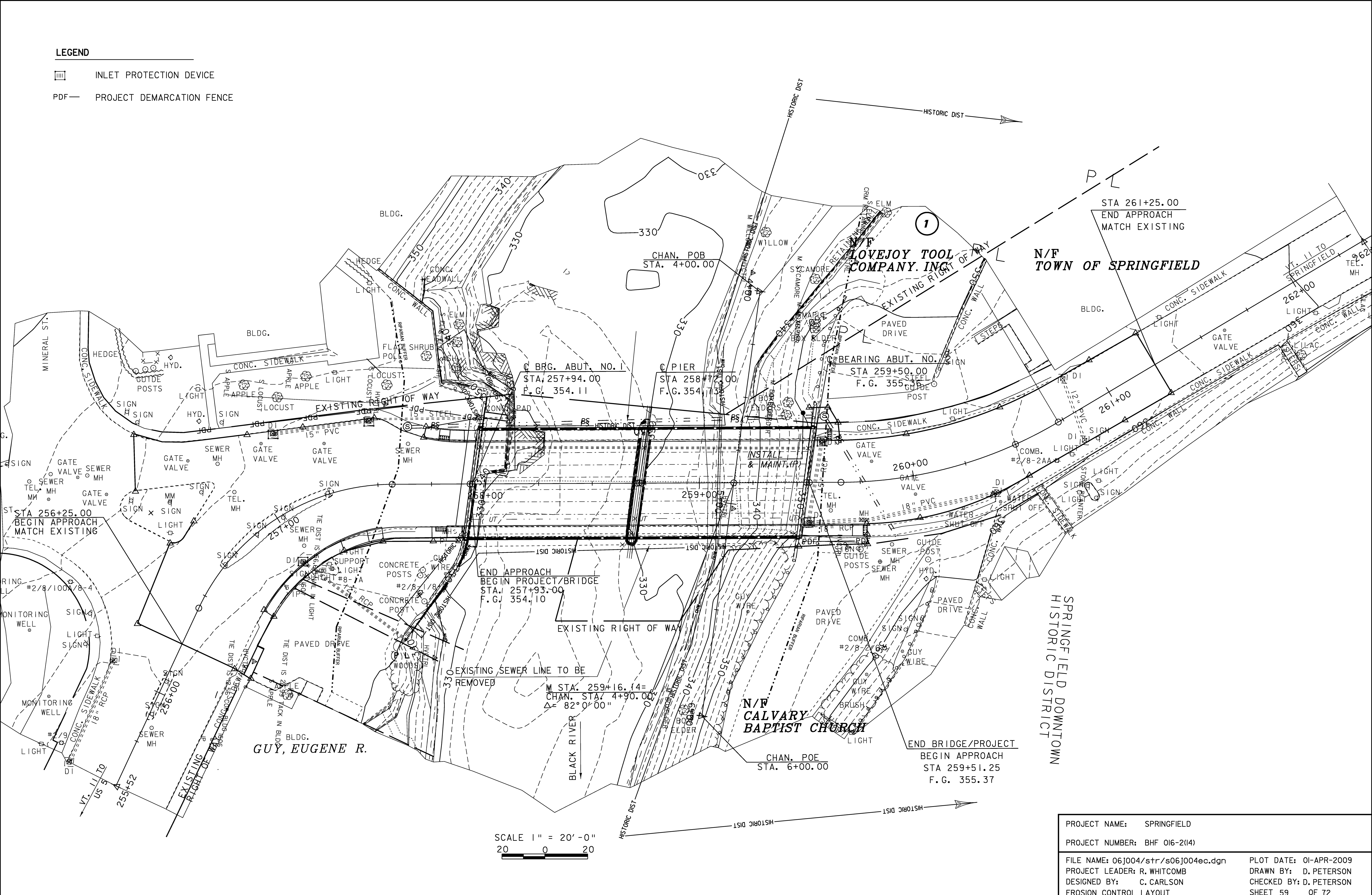
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| PROJECT NAME:             | SPRINGFIELD                 |
| PROJECT NUMBER:           | BHF 016-2(14)               |
| FILE NAME:                | 06J004/str/s06J004ecnar.dgn |
| PROJECT LEADER:           | R. WHITCOMB                 |
| DESIGNED BY:              | C. CARLSON                  |
| EROSION CONTROL NARRATIVE |                             |
| PLOT DATE:                | 04-MAR-2009                 |
| DRAWN BY:                 | C. CARLSON                  |
| CHECKED BY:               | D. PETERSON                 |
| SHEET                     | 58                          |
| OF                        | 72                          |



**LEGEND**

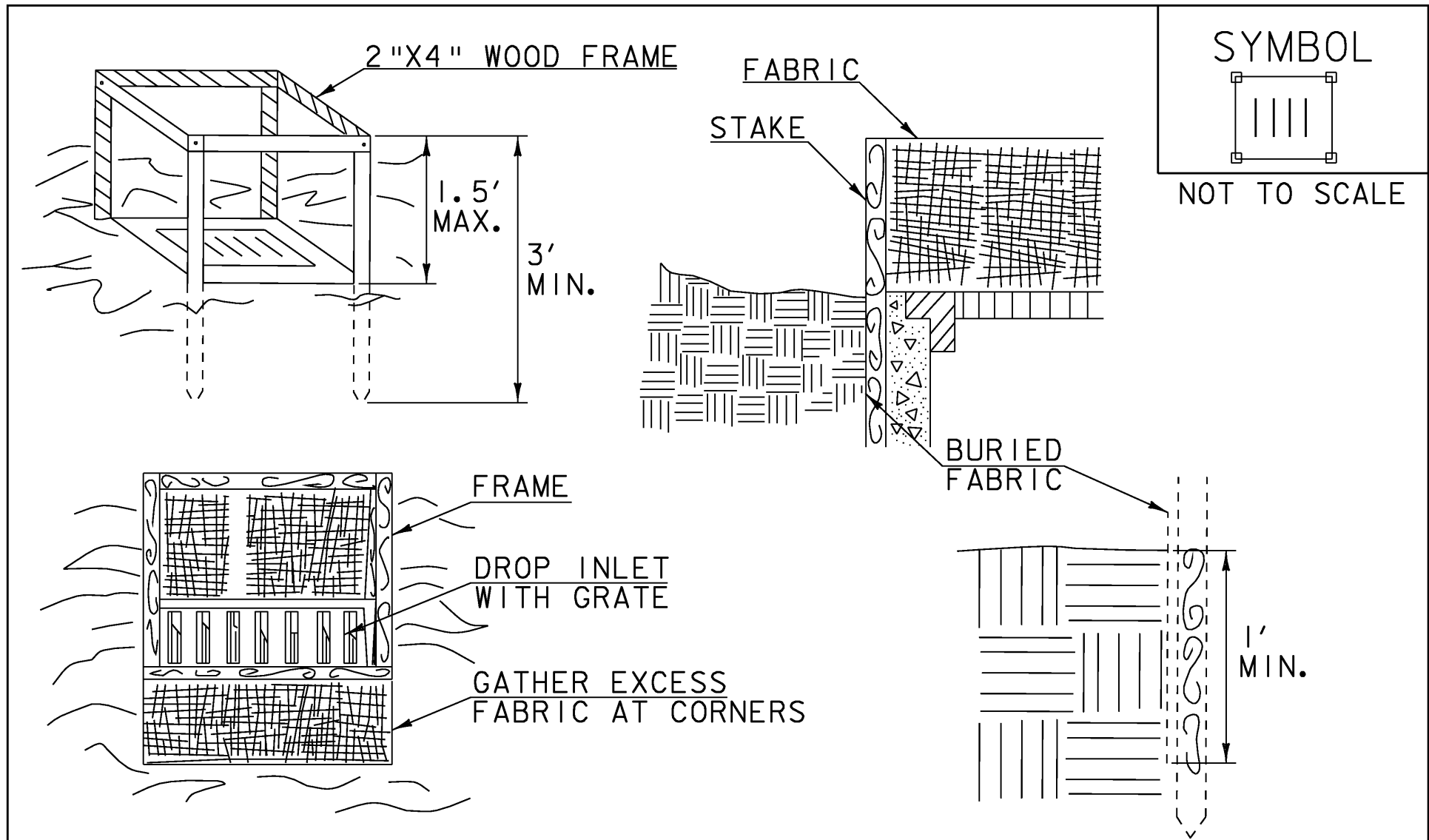
 INLET PROTECTION DEVICE

 PROJECT DEMARCATION FENCE



|                                     |                         |
|-------------------------------------|-------------------------|
| PROJECT NAME: SPRINGFIELD           |                         |
| PROJECT NUMBER: BHF 016-2(14)       |                         |
| FILE NAME: 06J004/str/s06J004ec.dgn | PLOT DATE: 01-APR-2009  |
| PROJECT LEADER: R. WHITCOMB         | DRAWN BY: D. PETERSON   |
| DESIGNED BY: C. CARLSON             | CHECKED BY: D. PETERSON |
| EROSION CONTROL LAYOUT              | SHEET 59 OF 72          |





CONSTRUCTION SPECIFICATIONS

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

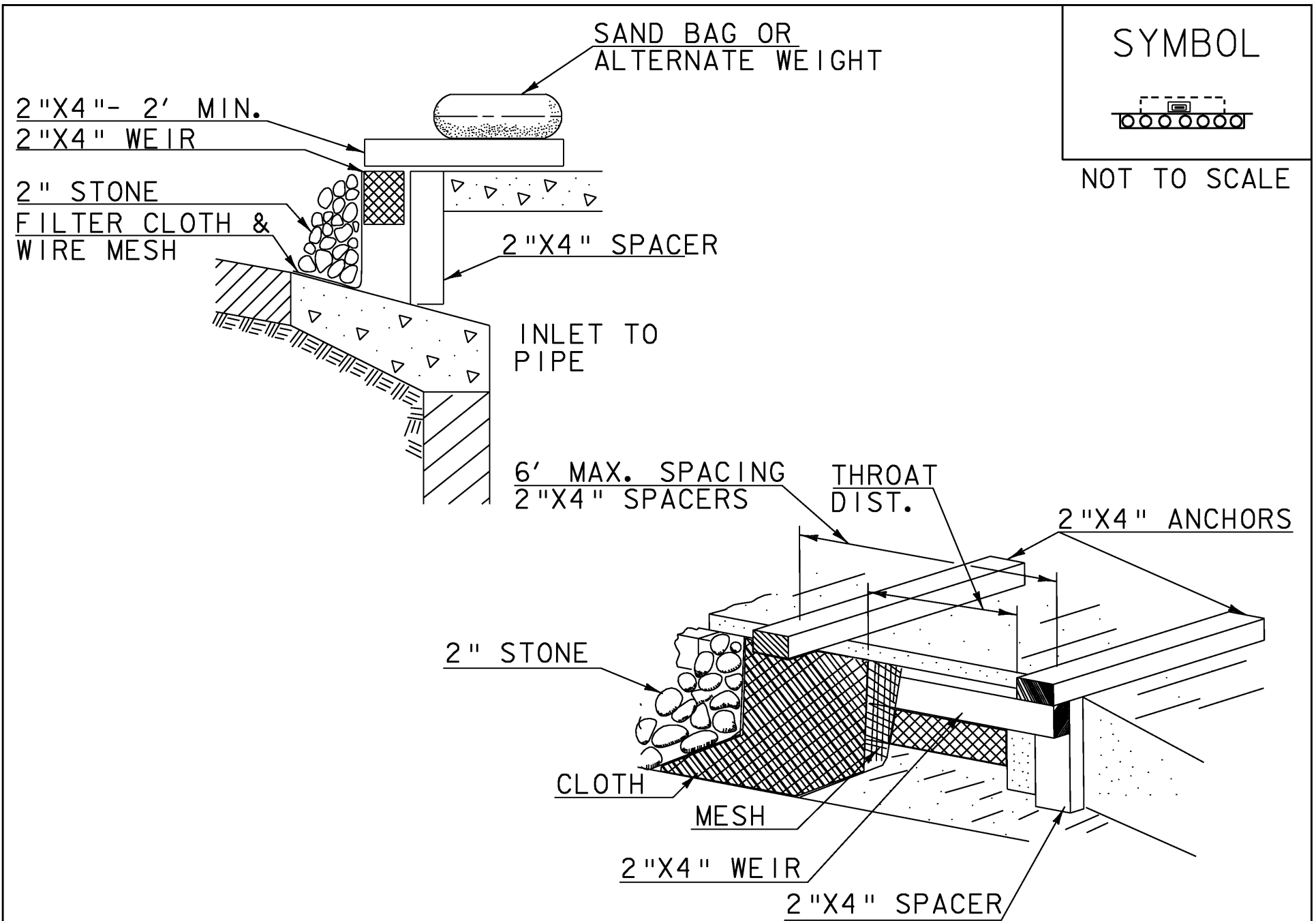
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
ORIGINALLY DEVELOPED BY: USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FILTER FABRIC  
DROP INLET  
PROTECTION

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH  
SECTION 653 FOR INLET PROTECTION DEVICE, TYPE I (PAY  
ITEM 653.40).

| REVISIONS        |     |
|------------------|-----|
| MARCH 7, 2008    | WHF |
| JANUARY 13, 2009 | WHF |
|                  |     |
|                  |     |
|                  |     |



CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN APPARENT OPENING SIZE OF 40-85.
2. WOODEN FRAME SHALL BE CONSTRUCTED OF 2" x 4" CONSTRUCTION GRADE LUMBER.
3. WIRE MESH ACROSS THROAT SHALL BE A CONTINUOUS PIECE 30' MINIMUM WIDTH WITH A LENGTH 4' LONGER THAN THE THROAT. IT SHALL BE SHAPED AND SECURELY NAILED TO A 2'x 4" WEIR.
4. THE WEIR SHALL BE SECURELY NAILED TO 2'x 4" SPACERS 9' LONG SPACED NO MORE THAN 6' APART.
5. THE ASSEMBLY SHALL BE PLACED AGAINST THE INLET AND SECURED BY 2'x 4" ANCHORS 2' LONG EXTENDING ACROSS THE TOP OF THE INLET AND HELD IN PLACE BY SANDBAGS OR ALTERNATE WEIGHTS.
6. MAXIMUM DRAINAGE AREA 1 ACRE

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

CURB DROP INLET  
PROTECTION

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

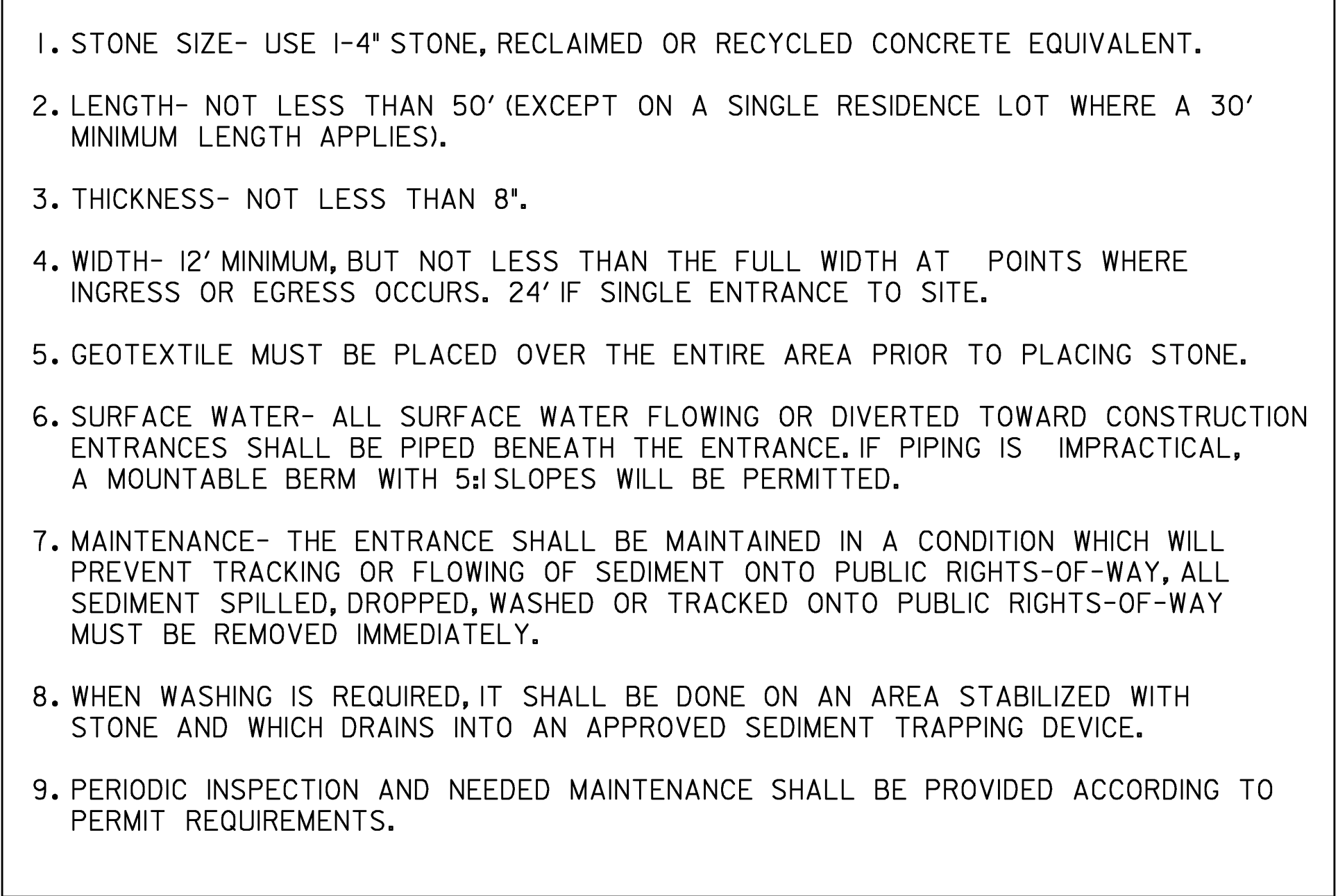
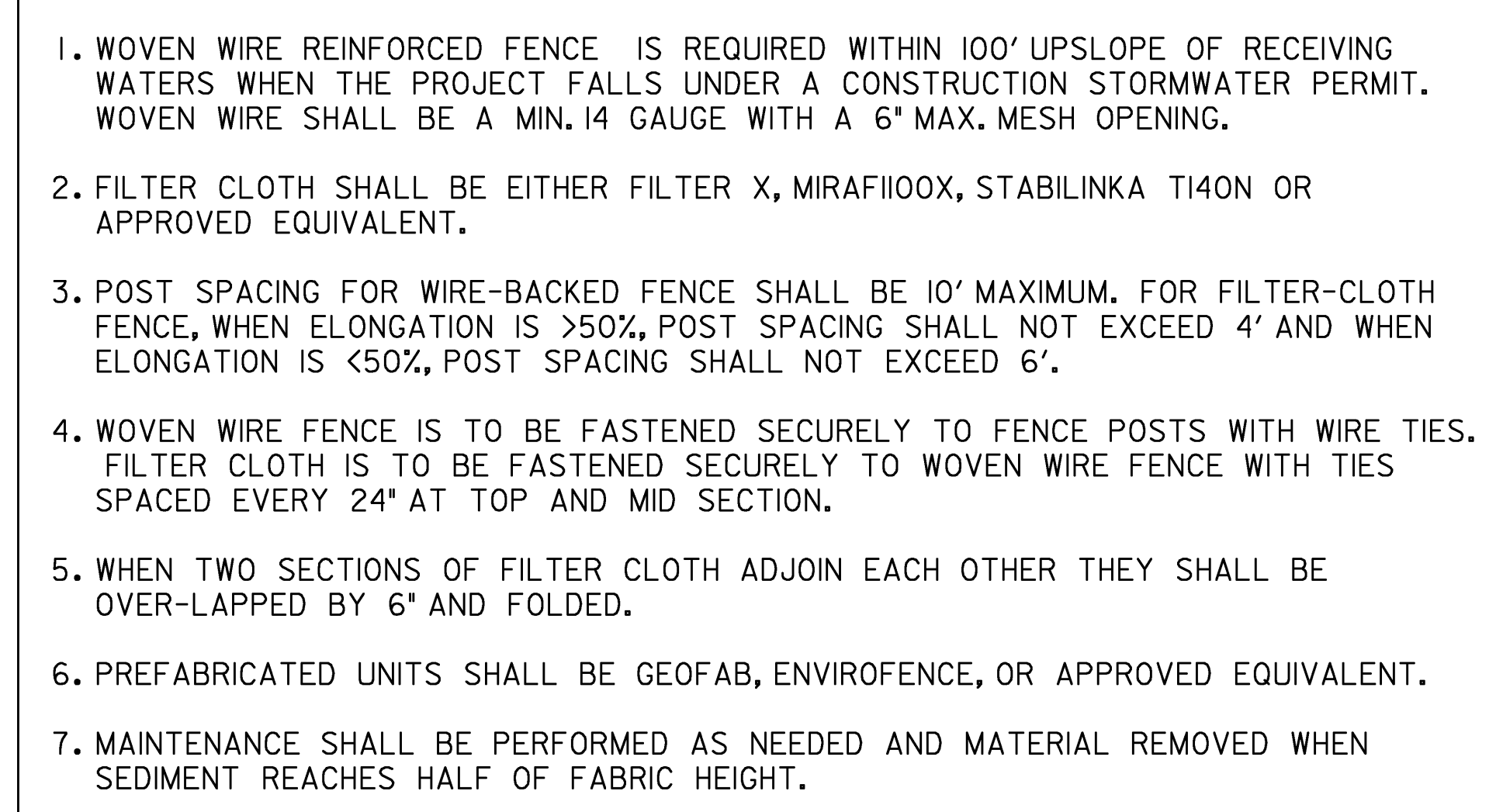
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH  
SECTION 653 FOR INLET PROTECTION DEVICE, TYPE I (PAY  
ITEM 653.40).

| REVISIONS        |     |
|------------------|-----|
| MARCH 6, 2008    | WHF |
| JANUARY 13, 2009 | WHF |
|                  |     |
|                  |     |
|                  |     |

NTS

|                                                                                                                                                                                   |                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| PROJECT:<br>SPRINGFIELD                                                                                                                                                           | PROJECT NO.:<br>BHF 016-2 (14) |
| DESIGN FILE NAME: 06j004\Structures\s06j004erodet.dgn<br>IPARM FILE NAME: 06j004epscl.i<br>DESIGNED BY: CONST. ENV. SECTION<br>SQUAD LEADER: R. WHITCOMB<br>EPSC DETAIL SHEET - I |                                |
| PLOT DATE: 23-MAR-2009<br>DRAWN BY: C. CARLSON<br>CHECKED BY: D. PETERSON<br>SHEET: 60 OF 72                                                                                      |                                |





### **GENERAL NOTES**

SEED MIXTURE: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.

SEED: TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.

FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

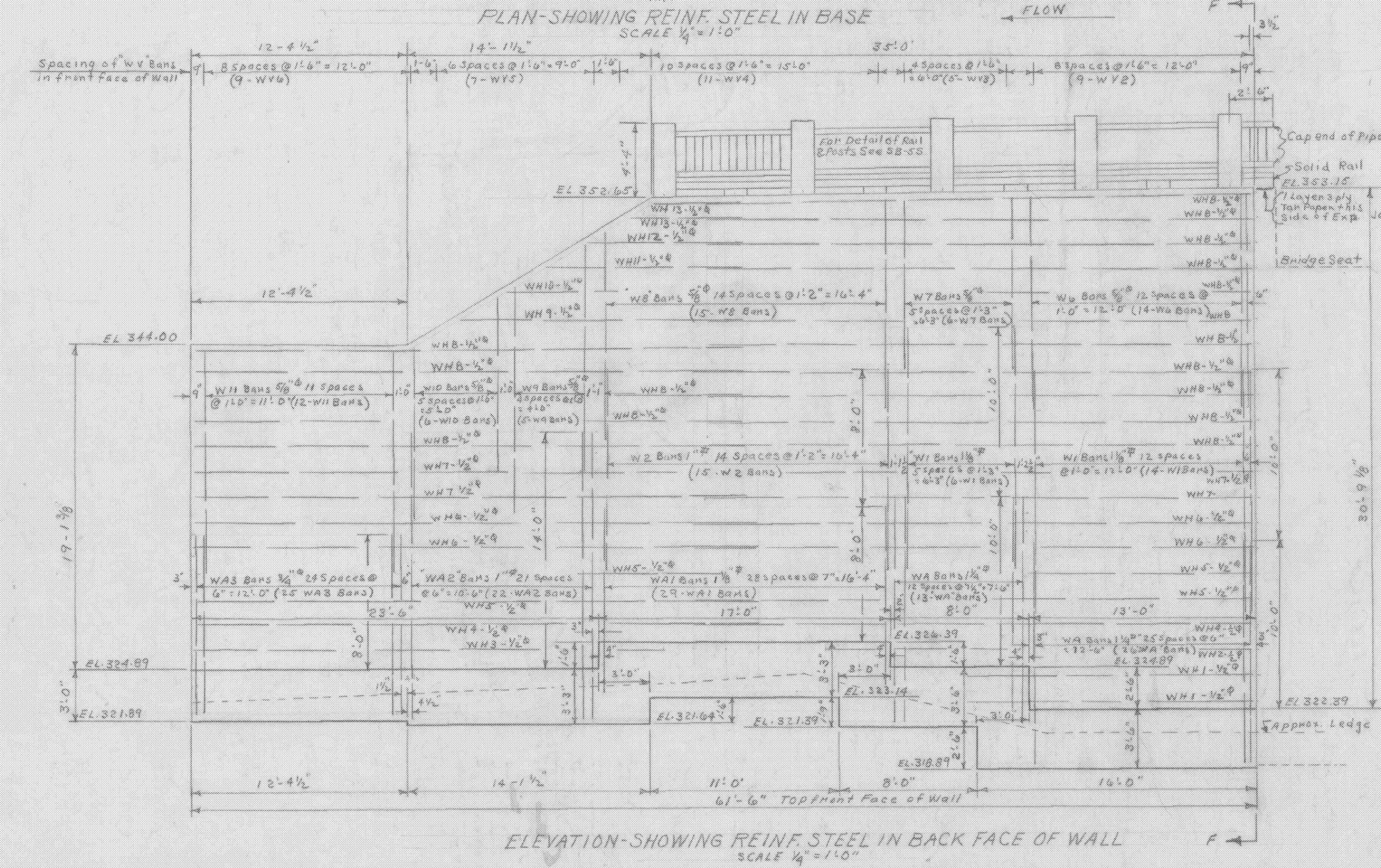
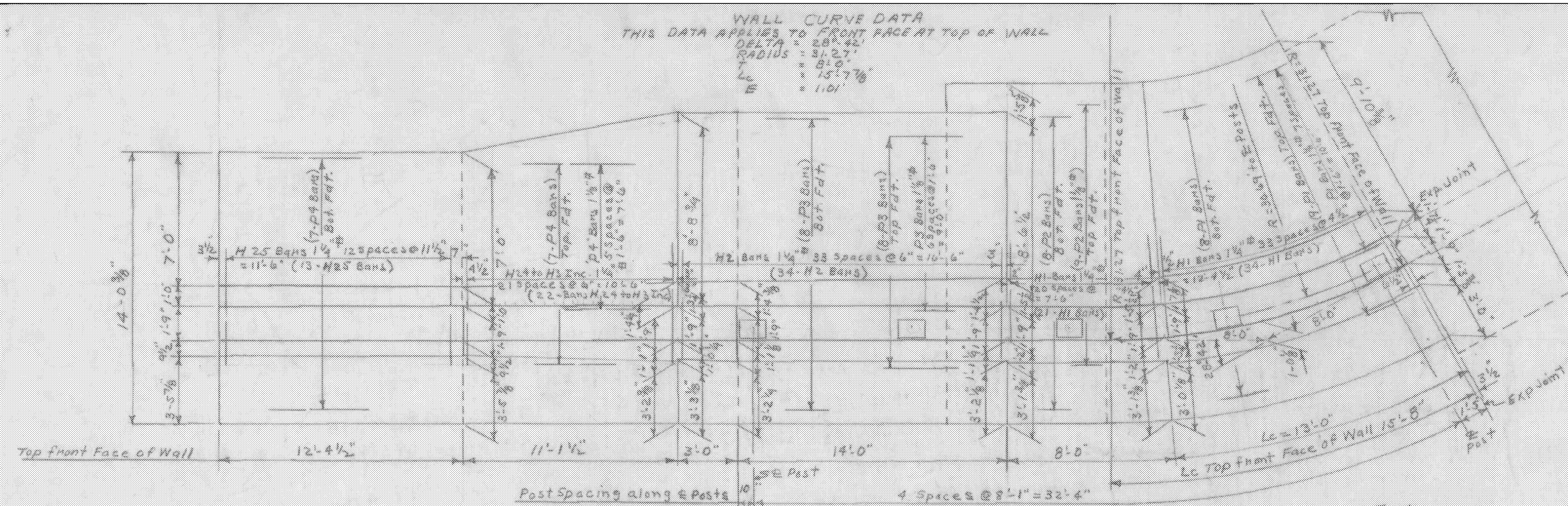
AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

|                                                                                                                                                                                |                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| PROJECT:<br>SPRINGFIELD                                                                                                                                                        | PROJECT NO.:<br>BHF 016-2 (14)                                                                     |
| DESIGN FILE NAME: 06j004Structures\06j004erodet.dgn<br>IPARM FILE NAME: 06j004epsc2.i<br>DESIGNED BY: CONST. ENV. SECTION<br>SQUAD LEADER: R. WHITCOMB<br>EPC DETAIL SHEET - 2 | PLOT DATE: 23-MAR-2009<br>DRAWN BY: CONST. ENV. SECT.<br>CHECKED BY: C. CARLSON<br>SHEET: 61 OF 72 |

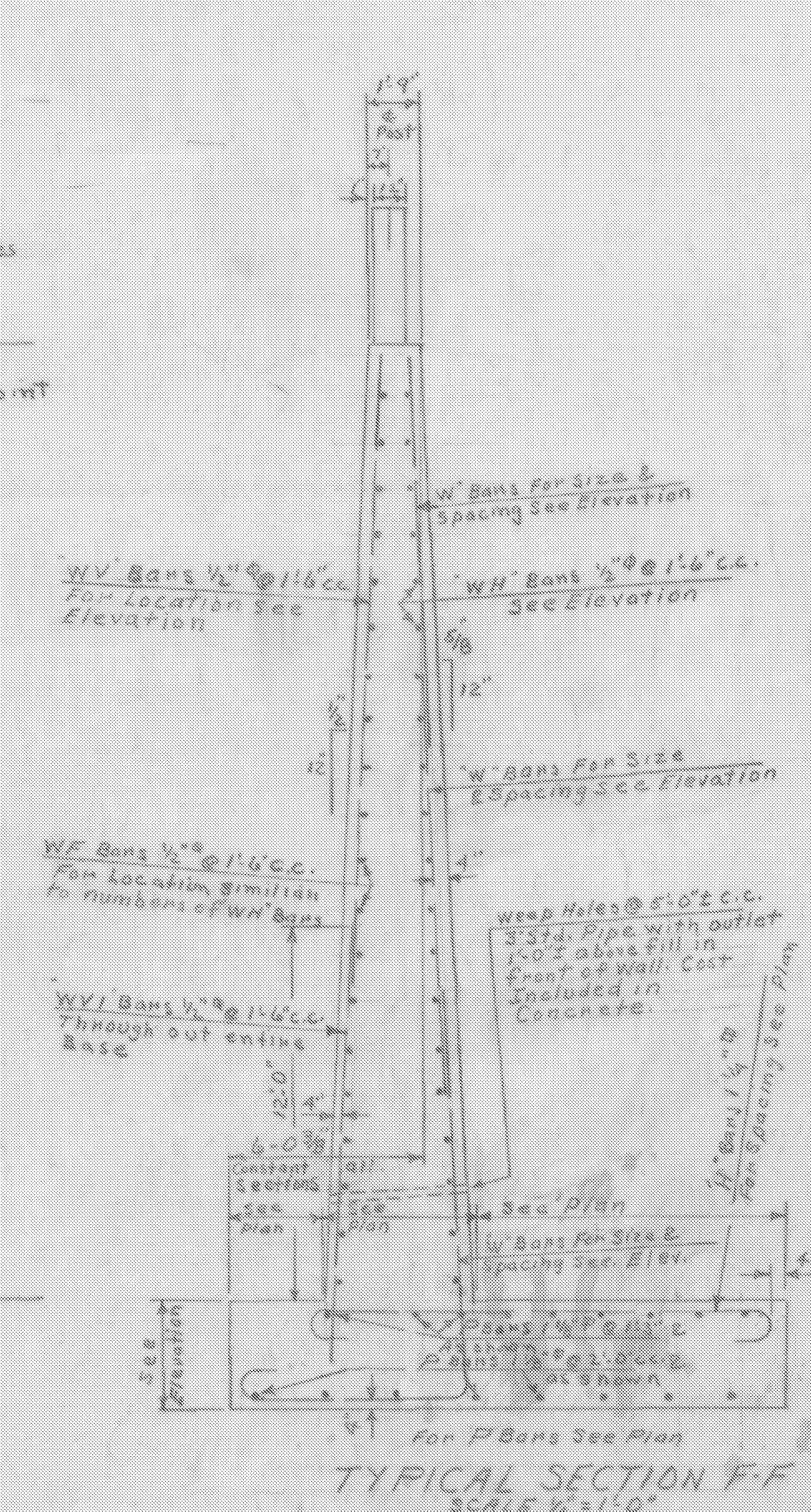




| BAR SIZE | NO.    | TOT. LENS. | X     | Y     | LOCATION    | DETAIL |
|----------|--------|------------|-------|-------|-------------|--------|
| H1       | 1 1/4" | 55         | 17-2  | 13-9  | Trans. Fdt. |        |
| H2       | "      | 34         | 15-2  | 12-3  | "           |        |
| H3       | "      | 1          | 15-8  | 12-2  | "           |        |
| H4       | "      | 1          | 15-7  | 12-1  | "           |        |
| H5       | "      | 1          | 15-6  | 12-0  | "           |        |
| H6       | "      | 1          | 15-5  | 11-11 | "           |        |
| H7       | "      | 1          | 15-4  | 11-10 | "           |        |
| H8       | "      | 1          | 15-3  | 11-9  | "           |        |
| H9       | "      | 1          | 15-2  | 11-8  | "           |        |
| H10      | "      | 1          | 15-1  | 11-7  | "           |        |
| H11      | "      | 1          | 15-0  | 11-6  | "           |        |
| H12      | "      | 1          | 14-11 | 11-5  | "           |        |
| H13      | "      | 1          | 14-10 | 11-4  | "           |        |
| H14      | "      | 1          | 14-9  | 11-3  | "           |        |
| H15      | "      | 1          | 14-8  | 11-2  | "           |        |
| H16      | "      | 1          | 14-7  | 11-1  | "           |        |
| H17      | "      | 1          | 14-6  | 11-0  | "           |        |
| H18      | "      | 1          | 14-5  | 10-11 | "           |        |
| H19      | "      | 1          | 14-4  | 10-10 | "           |        |
| H20      | "      | 1          | 14-3  | 10-9  | "           |        |
| H21      | "      | 1          | 14-2  | 10-8  | "           |        |
| H22      | "      | 1          | 14-1  | 10-7  | "           |        |
| H23      | "      | 1          | 13-10 | 10-6  | "           |        |
| H24      | "      | 1          | 13-9  | 10-5  | "           |        |
| H25      | "      | 1          | 13-8  | 10-4  | "           |        |
| H26      | "      | 1          | 13-7  | 10-3  | "           |        |
| H27      | "      | 1          | 13-6  | 10-2  | "           |        |
| H28      | "      | 1          | 13-5  | 10-1  | "           |        |
| H29      | "      | 1          | 13-4  | 10-0  | "           |        |
| H30      | "      | 1          | 13-3  | 9-11  | "           |        |
| H31      | "      | 1          | 13-2  | 9-10  | "           |        |
| H32      | "      | 1          | 13-1  | 9-9   | "           |        |
| H33      | "      | 1          | 13-0  | 9-8   | "           |        |
| H34      | "      | 1          | 12-11 | 9-7   | "           |        |
| H35      | "      | 1          | 12-10 | 9-6   | "           |        |
| H36      | "      | 1          | 12-9  | 9-5   | "           |        |
| H37      | "      | 1          | 12-8  | 9-4   | "           |        |
| H38      | "      | 1          | 12-7  | 9-3   | "           |        |
| H39      | "      | 1          | 12-6  | 9-2   | "           |        |
| H40      | "      | 1          | 12-5  | 9-1   | "           |        |
| H41      | "      | 1          | 12-4  | 9-0   | "           |        |
| H42      | "      | 1          | 12-3  | 8-11  | "           |        |
| H43      | "      | 1          | 12-2  | 8-10  | "           |        |
| H44      | "      | 1          | 12-1  | 8-9   | "           |        |
| H45      | "      | 1          | 12-0  | 8-8   | "           |        |
| H46      | "      | 1          | 11-11 | 8-7   | "           |        |
| H47      | "      | 1          | 11-10 | 8-6   | "           |        |
| H48      | "      | 1          | 11-9  | 8-5   | "           |        |
| H49      | "      | 1          | 11-8  | 8-4   | "           |        |
| H50      | "      | 1          | 11-7  | 8-3   | "           |        |
| H51      | "      | 1          | 11-6  | 8-2   | "           |        |
| H52      | "      | 1          | 11-5  | 8-1   | "           |        |
| H53      | "      | 1          | 11-4  | 8-0   | "           |        |
| H54      | "      | 1          | 11-3  | 7-11  | "           |        |
| H55      | "      | 1          | 11-2  | 7-10  | "           |        |
| H56      | "      | 1          | 11-1  | 7-9   | "           |        |
| H57      | "      | 1          | 11-0  | 7-8   | "           |        |
| H58      | "      | 1          | 10-11 | 7-7   | "           |        |
| H59      | "      | 1          | 10-10 | 7-6   | "           |        |
| H60      | "      | 1          | 10-9  | 7-5   | "           |        |
| H61      | "      | 1          | 10-8  | 7-4   | "           |        |
| H62      | "      | 1          | 10-7  | 7-3   | "           |        |
| H63      | "      | 1          | 10-6  | 7-2   | "           |        |
| H64      | "      | 1          | 10-5  | 7-1   | "           |        |
| H65      | "      | 1          | 10-4  | 7-0   | "           |        |
| H66      | "      | 1          | 10-3  | 6-11  | "           |        |
| H67      | "      | 1          | 10-2  | 6-10  | "           |        |
| H68      | "      | 1          | 10-1  | 6-9   | "           |        |
| H69      | "      | 1          | 10-0  | 6-8   | "           |        |
| H70      | "      | 1          | 9-11  | 6-7   | "           |        |
| H71      | "      | 1          | 9-10  | 6-6   | "           |        |
| H72      | "      | 1          | 9-9   | 6-5   | "           |        |
| H73      | "      | 1          | 9-8   | 6-4   | "           |        |
| H74      | "      | 1          | 9-7   | 6-3   | "           |        |
| H75      | "      | 1          | 9-6   | 6-2   | "           |        |
| H76      | "      | 1          | 9-5   | 6-1   | "           |        |
| H77      | "      | 1          | 9-4   | 6-0   | "           |        |
| H78      | "      | 1          | 9-3   | 5-11  | "           |        |
| H79      | "      | 1          | 9-2   | 5-10  | "           |        |
| H80      | "      | 1          | 9-1   | 5-9   | "           |        |
| H81      | "      | 1          | 9-0   | 5-8   | "           |        |
| H82      | "      | 1          | 8-11  | 5-7   | "           |        |
| H83      | "      | 1          | 8-10  | 5-6   | "           |        |
| H84      | "      | 1          | 8-9   | 5-5   | "           |        |
| H85      | "      | 1          | 8-8   | 5-4   | "           |        |
| H86      | "      | 1          | 8-7   | 5-3   | "           |        |
| H87      | "      | 1          | 8-6   | 5-2   | "           |        |
| H88      | "      | 1          | 8-5   | 5-1   | "           |        |
| H89      | "      | 1          | 8-4   | 5-0   | "           |        |
| H90      | "      | 1          | 8-3   | 4-11  | "           |        |
| H91      | "      | 1          | 8-2   | 4-10  | "           |        |
| H92      | "      | 1          | 8-1   | 4-9   | "           |        |
| H93      | "      | 1          | 8-0   | 4-8   | "           |        |
| H94      | "      | 1          | 7-11  | 4-7   | "           |        |
| H95      | "      | 1          | 7-10  | 4-6   | "           |        |
| H96      | "      | 1          | 7-9   | 4-5   | "           |        |
| H97      | "      | 1          | 7-8   | 4-4   | "           |        |
| H98      | "      | 1          | 7-7   | 4-3   | "           |        |
| H99      | "      | 1          | 7-6   | 4-2   | "           |        |
| H100     | "      | 1          | 7-5   | 4-1   | "           |        |

| BAR SIZE | NO.    | TOT. LENS. | X        | Y    | LOCATION         | DETAIL |
|----------|--------|------------|----------|------|------------------|--------|
| A        | 1 1/4" | 52         | 19-6     | 6-6  | Abut. Footing    |        |
| A1       | 1 1/4" | 13         | 20-8     | 6-5  | Abut. Footing    |        |
| R        | 1 1/4" | 76         | 16-8     | 13-2 | Abut. Footing    |        |
| B        | 1 1/4" | 12         | 18-8     |      | Abut.            |        |
| C        | 1 1/4" | 7          | 10-3     |      | Abut.            |        |
| D        | 1 1/4" | 7          | 28-6     |      | Abut.            |        |
| E        | 1 1/4" | 3          | 10-0     |      | Abut.            |        |
| F        | 1 1/4" | 4          | 21-8     |      | Abut.            |        |
| G1       | 1 1/4" | 9          | 13-6     |      | Abut. Footing    |        |
| G2       | 1 1/4" | 9          | 23-6     |      | "                |        |
| G3       | 1 1/4" | 9          | 14-6     |      | "                |        |
| G4       | 1 1/4" | 9          | 11-6     |      | "                |        |
| G5       | 1 1/4" | 9          | 11-6     |      | "                |        |
| I        | 1 1/4" | 48         | 24-9     |      | Abut.            |        |
| K        | 1 1/4" | 10         | 32-8     |      | "                |        |
| L        | 1 1/4" | 10         | 35-4     |      | "                |        |
| M        | 1 1/4" | 1          | 17-0     |      | "                |        |
| N        | 1 1/4" | 2          | 5-0      |      | "                |        |
| OA       | 1 1/4" | 31         | 4-4      |      | Abut. Footing    |        |
| O        | 1 1/4" | 5          | 25-4     |      | Abut.            |        |
| OI       | 1 1/4" | 12         | 28-3     |      | "                |        |
| O2       | 1 1/4" | 14         | 31-9     |      | "                |        |
| P        | 1 1/4" | 4          | 7-0      |      | Abut. Haunch     |        |
| Q        | 1 1/4" | 19         | 3-0      |      | Exp. Joint       |        |
| LF       | 1 1/4" | 10         | 30-4     |      | Abut. Front Face |        |
| MF       | 1 1/4" | 1          | 17-0     |      | "                |        |
| NF       | 1 1/4" | 2          | 5-0      |      | "                |        |
| H        | 3/4"   | 19         | 15-4 1/2 |      | Abut. Stumps     |        |

| REINFORCING STEEL FOR WING WALL |        |    |         |        |        |             |   |
|---------------------------------|--------|----|---------|--------|--------|-------------|---|
| WA                              | 1 1/4" | 39 | 21'-2"  | 6'-0"  | 10'-9" | Vent. Back  |   |
| WA1                             | 1 1/4" | 29 | 18'-9"  | 5'-10" | 10'-6" | "           | " |
| WA2                             | 1 1/4" | 22 | 24'-5"  | 5'-6"  | 16'-6" | "           | " |
| WA3                             | 3/4"   | 25 | 18'-2"  | 5'-6"  | 10'-3" | "           | " |
| WB                              | 1 1/4" | 20 | 14'-3"  |        |        | "           | " |
| WB1                             | 1 1/4" | 15 | 11'-2"  |        |        | "           | " |
| WB2                             | 3/4"   | 14 | 15'-2"  |        |        | "           | " |
| WB3                             | 3/4"   | 6  | 10'-8"  |        |        | "           | " |
| WB4                             | 3/4"   | 15 | 13'-8"  |        |        | "           | " |
| WB5                             | 3/4"   | 5  | 13'-5"  |        |        | "           | " |
| WB6                             | 3/4"   | 6  | 10'-3"  |        |        | "           | " |
| WB7                             | 3/4"   | 12 | 15'-0"  |        |        | "           | " |
| WB8                             | 3/4"   | 2  | 16'-6"  |        |        | "           | " |
| WB9                             | 3/4"   | 1  | 24'-6"  |        |        | "           | " |
| WB10                            | 3/4"   | 1  | 27'-8"  |        |        | "           | " |
| WB11                            | 3/4"   | 4  | 32'-2"  |        |        | "           | " |
| WB12                            | 3/4"   | 4  | 31'-11" |        |        | "           | " |
| WB13                            | 3/4"   | 4  | 31'-8"  |        |        | "           | " |
| WB14                            | 1 1/4" | 16 | 31'-6"  |        |        | "           | " |
| WB15                            | 1 1/4" | 1  | 16'-6"  |        |        | "           | " |
| WB16                            | 1 1/4" | 1  | 18'-9"  |        |        | "           | " |
| WB17                            | 1 1/4" | 1  | 11'-4"  |        |        | "           | " |
| WB18                            | 1 1/4" | 1  | 9'-0"   |        |        | "           | " |
| WB19                            | 1 1/4" | 2  | 6'-6"   |        |        | "           | " |
| WB20                            | 1 1/4" | 2  | 14'-9"  |        |        | "           | " |
| WB21                            | 1 1/4" | 1  | 22'-9"  |        |        | "           | " |
| WB22                            | 1 1/4" | 1  | 25'-3"  |        |        | "           | " |
| WB23                            | 1 1/4" | 2  | 31'-6"  |        |        | "           | " |
| WB24                            | 1 1/4" | 2  | 31'-6"  |        |        | "           | " |
| WB25                            | 1 1/4" | 2  | 31'-6"  |        |        | "           | " |
| WB26                            | 1 1/4" | 2  | 31'-6"  |        |        | "           | " |
| WB27                            | 1 1/4" | 2  | 31'-6"  |        |        | "           | " |
| WB28                            | 1 1/4" | 16 | 31'-6"  |        |        | "           | " |
| WB29                            | 1 1/4" | 1  | 18'-6"  |        |        | "           | " |
| WB30                            | 1 1/4" | 1  | 13'-9"  |        |        | "           | " |
| WB31                            | 1 1/4" | 1  | 11'-0"  |        |        | "           | " |
| WB32                            | 1 1/4" | 1  | 9'-0"   |        |        | "           | " |
| WB33                            | 1 1/4" | 2  | 6'-6"   |        |        | "           | " |
| WB34                            | 1 1/4" | 41 | 14'-0"  |        |        | Vent. Front | " |
| WB35                            | 1 1/4" | 9  | 28'-5"  |        |        | "           | " |
| WB36                            | 1 1/4" | 5  | 17'-8"  |        |        | "           | " |
| WB37                            | 1 1/4" | 11 | 12'-0"  |        |        | "           | " |
| WB38                            | 1 1/4" | 7  | 15'-0"  |        |        | "           | " |
| WB39                            | 1 1/4" | 9  | 8'-8"   |        |        | "           | " |
| WB40                            | 1 1/4" | 17 | 15'-6"  |        |        | Long. Fdt.  | " |
| WB41                            | 1 1/4" | 17 | 7'-6"   |        |        | "           | " |
| WB42                            | 1 1/4" | 16 | 16'-8"  |        |        | "           | " |
| WB43                            | 1 1/4" | 14 | 36'-0"  |        |        | "           | " |

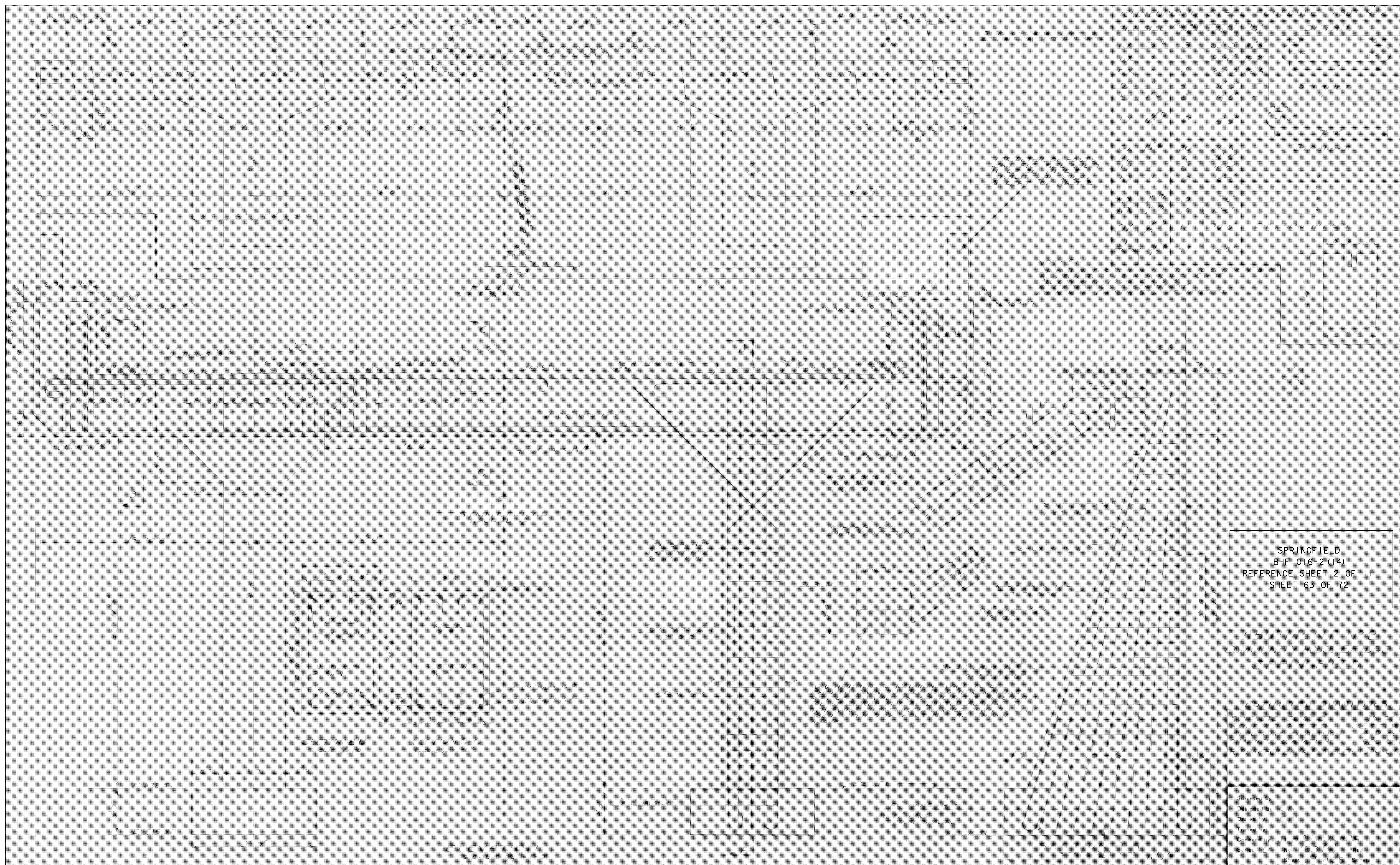


WING WALL-ABUTMENT NO. 1  
COMMUNITY HOUSE BRIDGE  
SPRINGFIELD

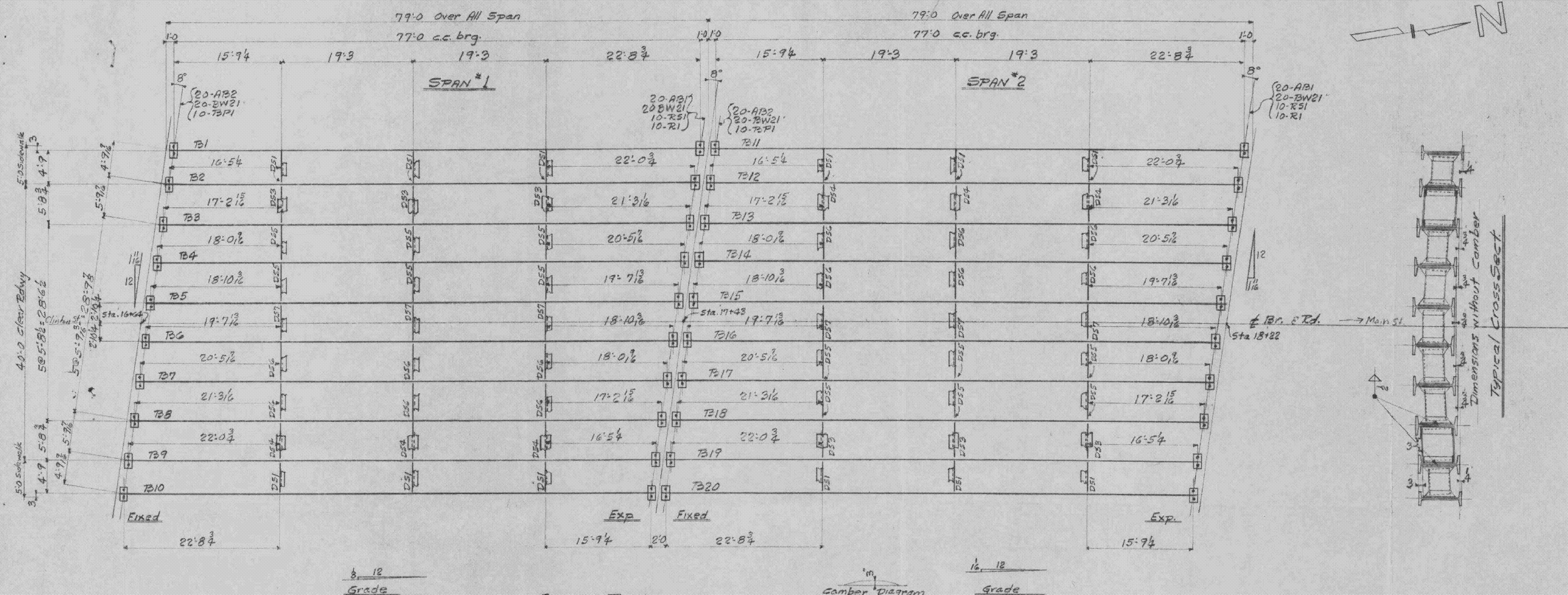
|                      |             |             |                |
|----------------------|-------------|-------------|----------------|
| Structure Excavation | 430 CY.     | Surveyed by |                |
| Concrete Class B     | 297 CY.     | Designed by | J.L.H. SN      |
| Reinforcing Steel    | 29,640 Lbs. | Drawn by    | J.L.H.         |
| Steel Superstructure | 1145 Lbs.   | Traced by   |                |
|                      |             | Checked by  | SN&HRD         |
|                      |             | Series      | U No. 123 (4)  |
|                      |             | Filed       |                |
|                      |             | Sheet       | 6 of 38 Sheets |

SPRINGFIELD  
BHF 016-2 (14)  
REFERENCE SHEET 1 OF 11  
SHEET 62 OF 72









ERECTION PLAN

|                |           |
|----------------|-----------|
| Stringers Ext. | B368x170  |
| Stringers Int. | B358x230  |
| SC Diaphragms  | SC18x42.7 |
| Bm Diaphragms  | B273x108  |

Dimensions on Plan are Horizontal

 Camber Diagram

NOTES

Holes, cuts, block, etc for other trades must be shown on this plan at time of approval otherwise work must be done at no expense to T&E Co. Dimensions on plan must be adhered to otherwise steel will not fit in case of error notify T&E Co. at once.

Members shall be erected with the marks in the same corresponding position as shown on plan.

Specs: Vt. State Hwy. Dept. Specs, customers  
Design Sh. 1, 2B, 2C, 4, 6 & 11 of 38.

Anchor Bolts furnished by BSCs set by others  
Shop Paint - One Coat Red Lead as per spec  
Exclude railings, field weld wire  
Field fitting vs bolts

Erection and field paint by others  
Welding shall conform to that of the American  
Welding Society

SPRINGFIELD  
BHF 016-2(14)  
REFERENCE SHEET 3 OF 1  
SHEET 64 OF 72

Cust. No. 4340  
Item 8

| List of Drawings |               |
|------------------|---------------|
| Sh. No.          | Description   |
| E1               | Erection Plan |
| 1                | Brg. Details  |
| 2                | Details       |
|                  |               |
|                  |               |
| M1               | Anchor Bolts  |
| M2               | Field Washer  |
|                  |               |
|                  |               |
| SR1              | Field Bolts   |
|                  |               |
|                  |               |

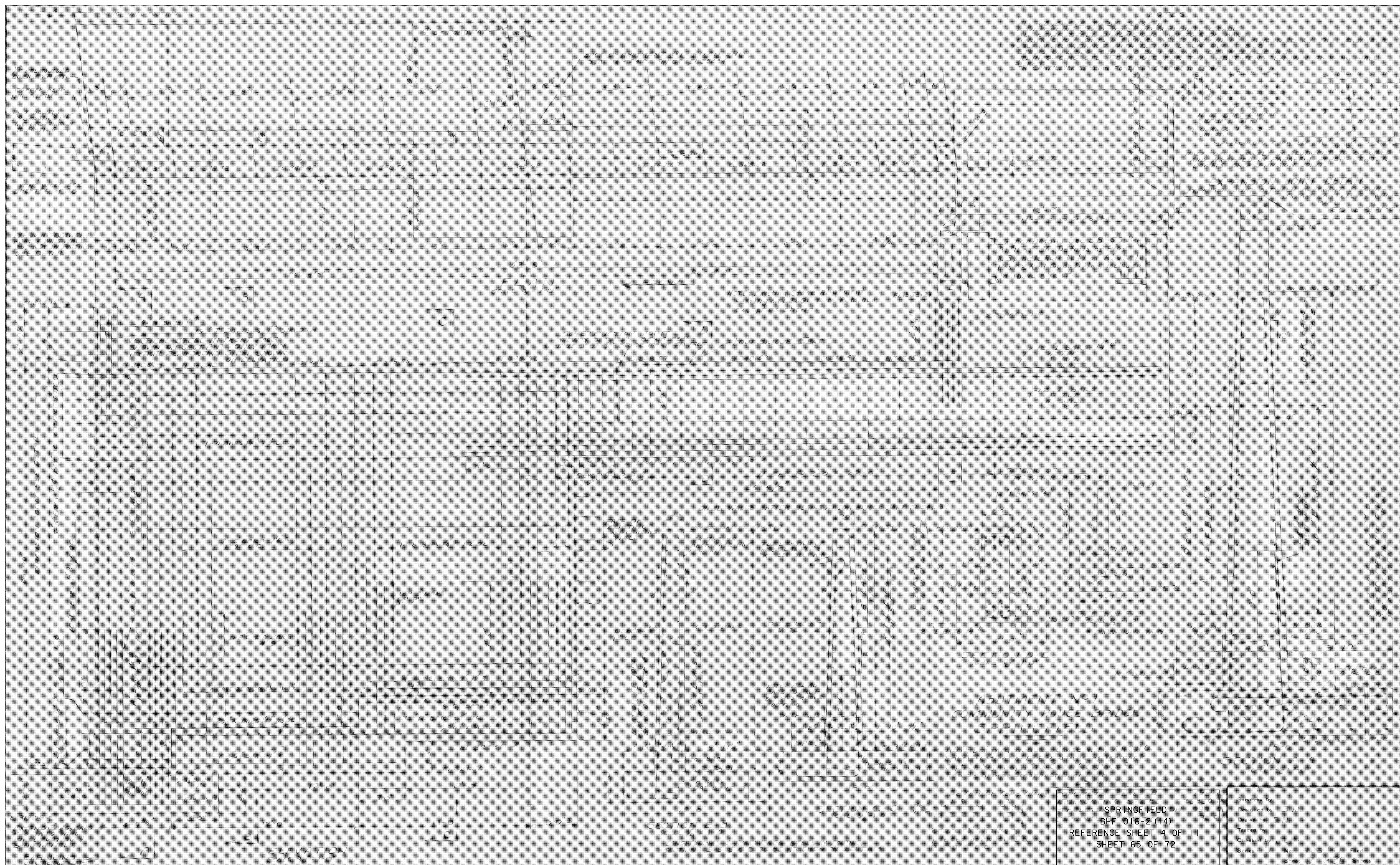
**RIVETS**  
**OPEN HOLES**  
**REAM**  
**MILLING**  
**PAINT**  
**WELDING**  
**SHOP CONTACT SURFACES**

Bridge over Black River Sta. 17+43  
ERECTION PLAN & ANCHOR BOLT SETTINGS

|            |                                                  |  |
|------------|--------------------------------------------------|--|
| TEMP.      | Vt State Hwy Dept. Community                     |  |
| SUPT.      | Houses Bldg. Springfield Vt.                     |  |
| LAYOUT     | Curl) Dan Miller Co Inc. Ludlow, Mass.           |  |
| FITTER     | <b>BETHELEM STEEL COMPANY</b>                    |  |
| SHOP INSP. | FABRICATED STEEL CONSTRUCTION                    |  |
| P.C. WK.   | BETHELEM DRAFTING ROOM <i>Beth</i> WORKS         |  |
| S. SMITH   | IN CHARGE <i>Hoover</i> MADE BY <i>#</i> 6-21-49 |  |
| MOB.       | CHECKED BY <i>Curl</i> 12/4/49 TRACED BY         |  |
| ERECT      | REVISED LAST ASSEM. MK.                          |  |
| O. INSP.   |                                                  |  |

SHOP NO. **CONTRACT 5P1652** SHEET **(E1)**



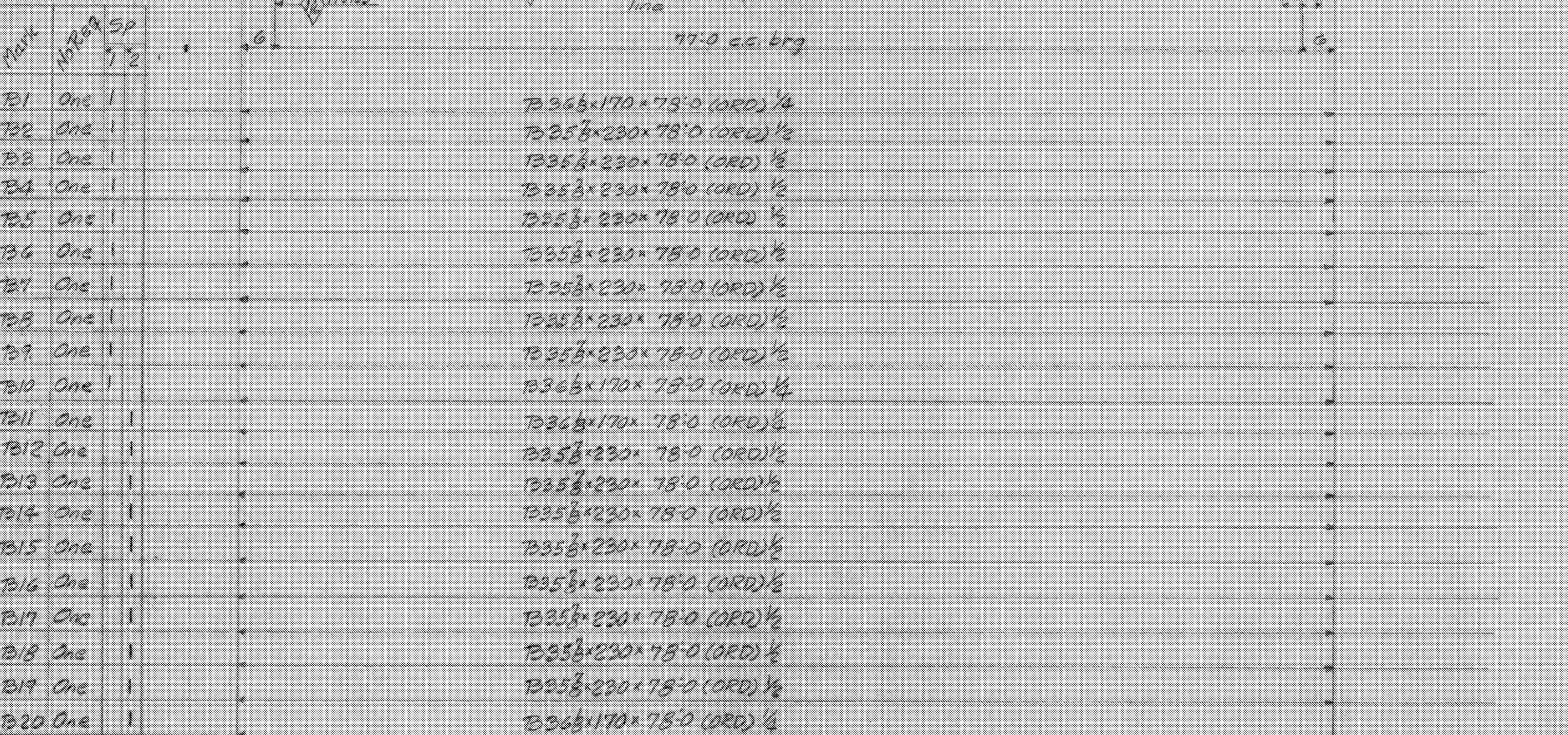




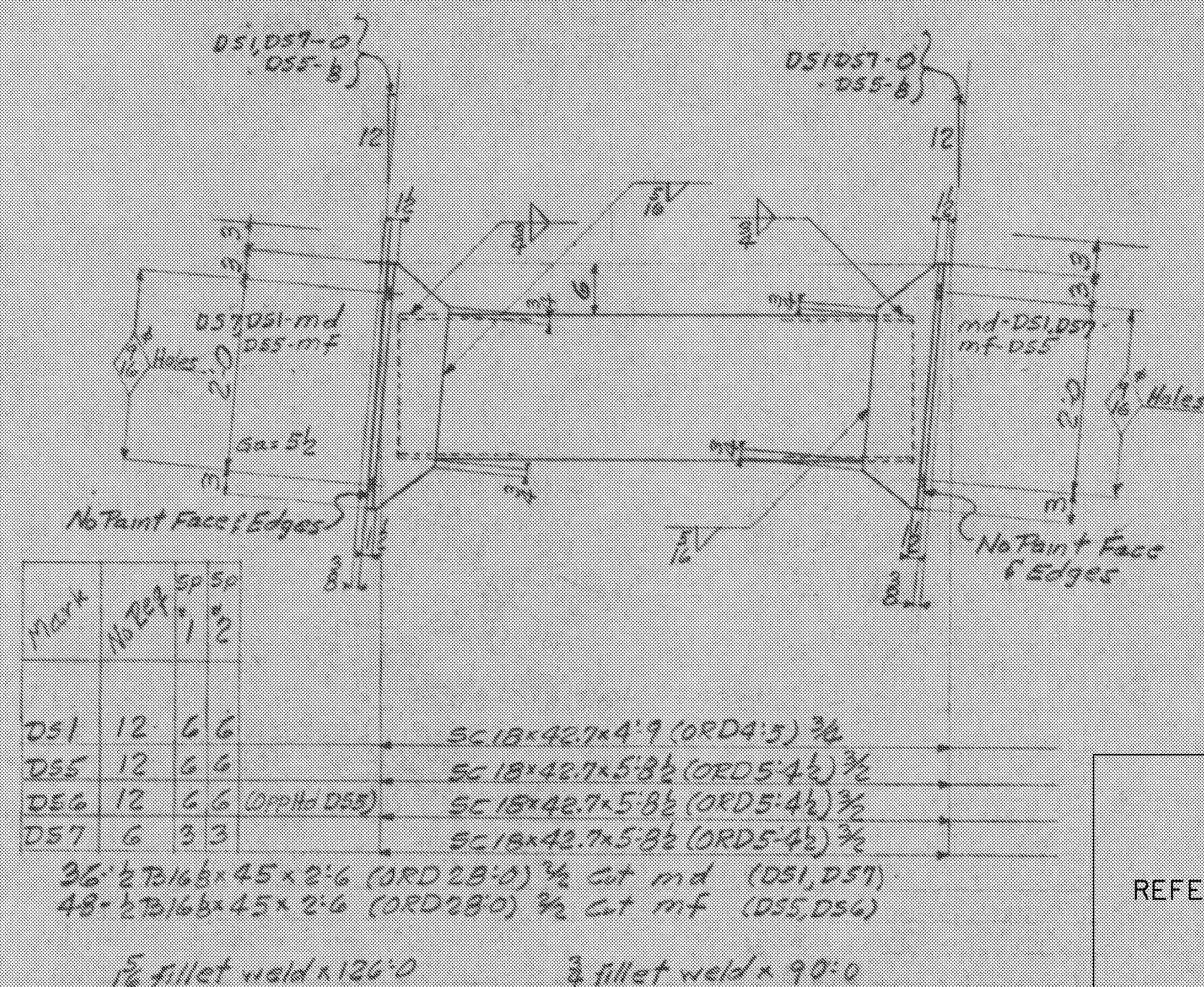




| Station | Angle      | Station | Angle      | Station | Angle      |
|---------|------------|---------|------------|---------|------------|
| B1      | 16° 01' 5" |         | 35° 31' 5" |         | 54° 61' 5" |
| B2      | 16° 81' 5" |         | 35° 11' 5" |         | 55° 21' 5" |
| B3      | 17° 6'     |         | 36° 9'     |         | 56° 0'     |
| B4      | 18° 3' 5"  |         | 37° 6' 5"  |         | 56° 7' 5"  |
| B5      | 19° 14'    |         | 38° 44'    |         | 57° 74'    |
| B6      | 19° 08'    |         | 39° 18'    |         | 58° 48'    |
| B7      | 20° 6' 5"  |         | 39° 11' 5" |         | 59° 21' 5" |
| B8      | 21° 6' 5"  |         | 40° 9' 5"  |         | 60° 0' 5"  |
| B9      | 22° 9' 5"  |         | 41° 6' 5"  |         | 60° 9' 5"  |
| B10     | 22° 11' 5" |         | 42° 21' 5" |         | 61° 51' 5" |
| B11     | 16° 01' 5" |         | 35° 31' 5" |         | 54° 61' 5" |
| B12     | 16° 81' 5" |         | 35° 11' 5" |         | 55° 21' 5" |
| B13     | 17° 6'     |         | 36° 9'     |         | 56° 0'     |
| B14     | 18° 3' 5"  |         | 37° 6' 5"  |         | 56° 7' 5"  |
| B15     | 19° 14'    |         | 38° 44'    |         | 57° 74'    |
| B16     | 19° 08'    |         | 39° 18'    |         | 58° 48'    |
| B17     | 20° 6' 5"  |         | 39° 11' 5" |         | 59° 21' 5" |
| B18     | 21° 6' 5"  |         | 40° 9' 5"  |         | 60° 0' 5"  |
| B19     | 22° 9' 5"  |         | 41° 6' 5"  |         | 60° 10' 5" |
| B20     | 22° 11' 5" |         | 42° 21' 5" |         | 61° 51' 5" |



Shop Note Diff. Wt Bns. 16# 7x1x1-5/8 (ORD) 1/2 ma <sup>B24, B39</sup><sub>B12, B19</sub> 16#s MA <sup>B24, B39</sup><sub>B12, B19</sub> } Detailed and Ordered on Sh #1.  
1/2 Fillet weld x 150' 8' 4# 7x1x1-1 (ORD) 1/4 mb <sup>B1, B11</sup><sub>B10, B20</sub> 4#s MB <sup>B1, B11</sup><sub>B10, B20</sub> } Do Not Duplicate



Br. Over Black River Sta. 17+43  
Details

RIVETS *None*  
OPEN HOLES *As Noted*  
REAM *None*  
MILLING *None*  
PAINT *One Coat Red Lead*  
*Unless Noted*  
WELDING *As Noted see E1*  
SHOP CONTACT SURFACES *No Paint*

TEMP.  
SHEET  
LAYOUT  
FITTER  
SHOP INSP.  
PL. WK.  
B. SMITH  
NICH.  
SHEET  
O. JONES

Vt State Hwy Dept. Community  
House Br. Springfield Vt.  
Gard. J. W. Miller Colins Ludlow, Mass.

**BETHELEM STEEL COMPANY**  
FABRICATED STEEL CONSTRUCTION

BETHELEM DRAFTING ROOM *Beth* WORKS  
IN CHARGE *Hoover* MADE BY *#6-22-49*  
CHECKED BY *CUL 4/10* TRACED BY  
REVISED \_\_\_\_\_ LAST ASSEM. MK.

SHOP NO. **CONTRACT** *CP1652* SHEET **(2)**



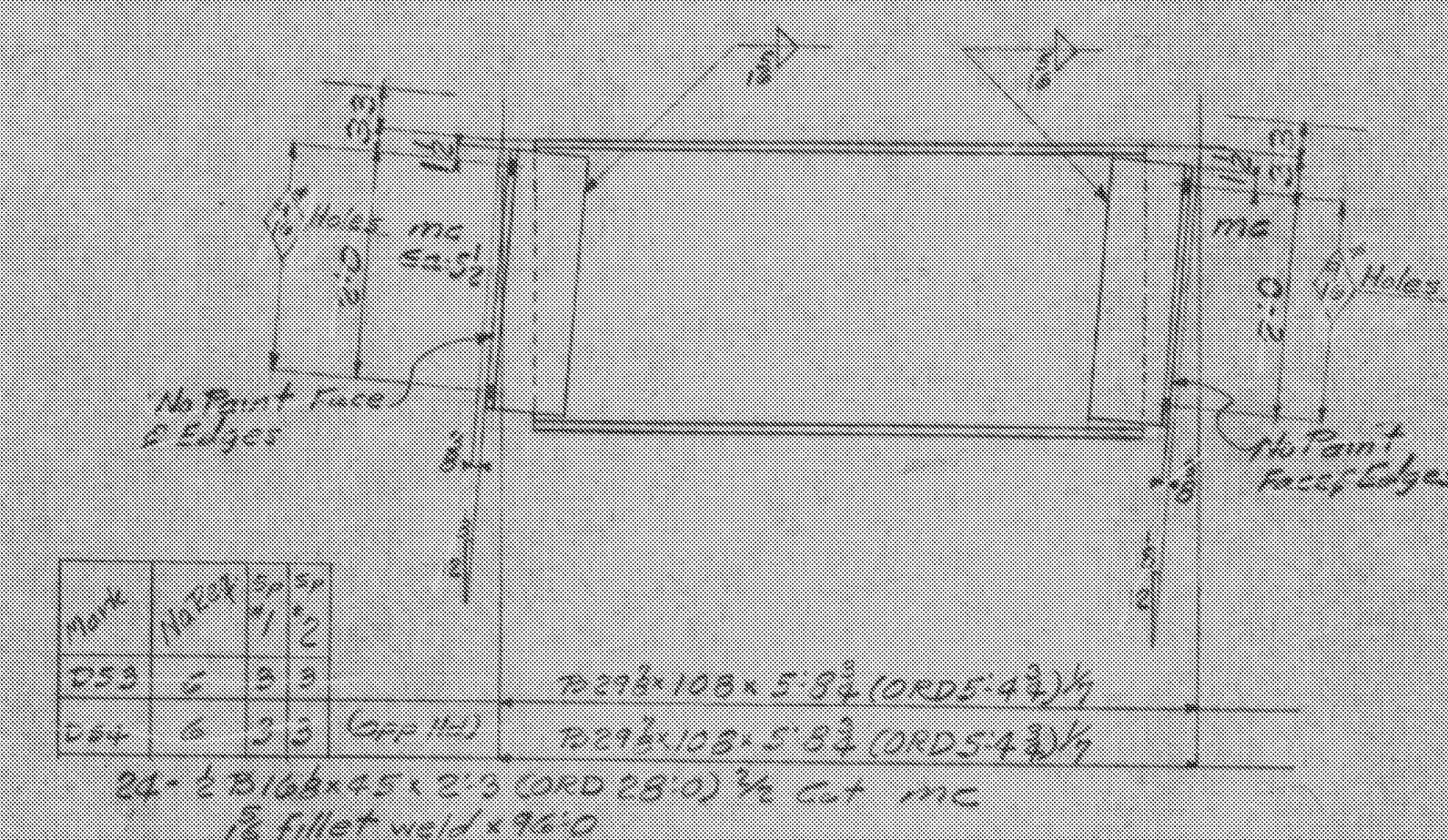




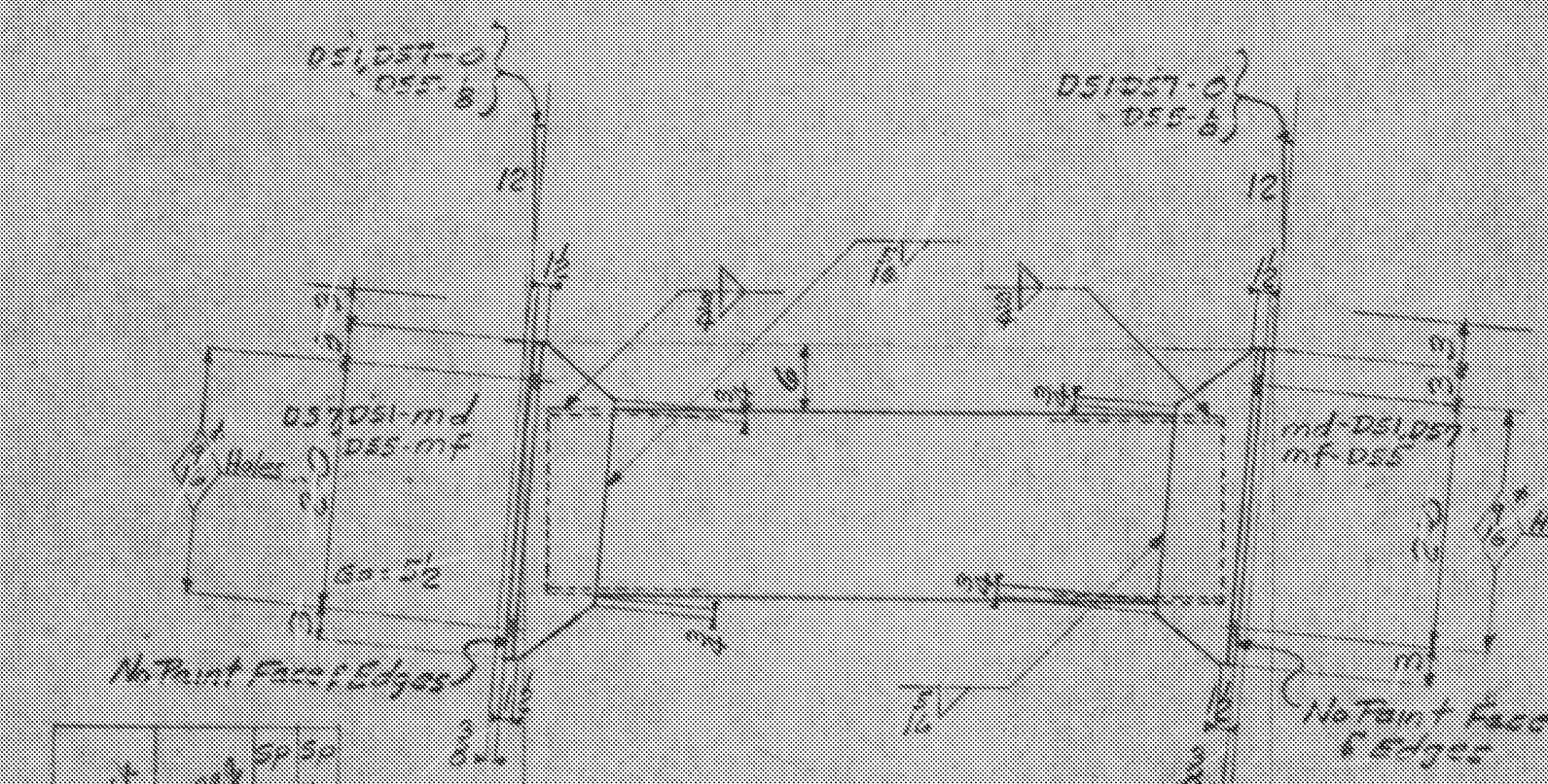




| Fed Road<br>Dist No | State | Proj No | Fiscal<br>Year |
|---------------------|-------|---------|----------------|
| 9                   | Vt.   | 123(4)  |                |



| Mark | No Rep | $\Sigma$      | $\Sigma$        |
|------|--------|---------------|-----------------|
|      |        | $\frac{1}{n}$ | $\frac{1}{n^2}$ |
| D53  | 5      | 3             | 3               |
| D54  | 5      | 3             | 3               |



| Mark | No Reg | Sp | So |
|------|--------|----|----|
|      |        | 1  | 2  |
| D51  | 12     | 6  | 6  |
| D55  | 12     | 6  | 6  |
| D56  | 12     | 6  | 6  |
| D57  | 6      | 3  | 3  |

SPRINGFIELD  
BHF 016-2 (14)  
REFERENCE SHEET 9 OF 11  
SHEET 70 OF 72

Br Over Black River Sta. 17+43  
Details

Cust. No 4340  
Item 8

RIVETS *None*  
OPEN HOLES *As Noted*  
REAM *None*  
MILLING *None*  
PAINT *One Coat Red*  
*Unless Noted*  
WELDING *As Noted see E*  
SHOP CONTACT SURFACES *No*

Shop Note  
Edges of the m.a.m.b  
curled from shear  
not permitted. Plans  
if necessary to insure  
flat plates

TEMP.  
SUPP.  
LAYOUT  
FITTER  
SNGP. INSP.  
PC. WK.  
S. SMITH  
MGR.  
DIRECT.  
O. INSP.

Vt State Hwy Dept. Community  
House Br. Springfield Vt  
Cust DW Miller Colos. Ludlow, Mass.

**BETHLEHEM STEEL COMPANY**  
FABRICATED STEEL CONSTRUCTION

BETHLEHEM DRAFTING ROOM *Both* WORKS

IN CHARGE *Hoover* MADE BY *# 622-49*  
CHECKED BY *C.W.L. 4/4/49* TRACED BY  
REVISED LAST ASSEM. MK.

SHOP NO. **CONTRACT** *CP1552* SHEET **(2)**

3300-1a-11, 46-85C

| Mark | No  | Box | Sp    |
|------|-----|-----|-------|
| B1   | One |     | 7 1/2 |
| B2   | One |     |       |
| B3   | One |     |       |
| B4   | One |     |       |
| B5   | One |     |       |
| B6   | One |     |       |
| B7   | One |     |       |
| B8   | One |     |       |
| B9   | One |     |       |
| B10  | One |     |       |
| B11  | One |     |       |
| B12  | One |     |       |
| B13  | One |     |       |
| B14  | One |     |       |
| B15  | One |     |       |
| B16  | One |     |       |
| B17  | One |     |       |
| B18  | One |     |       |
| B19  | One |     |       |
| B20  | One |     |       |

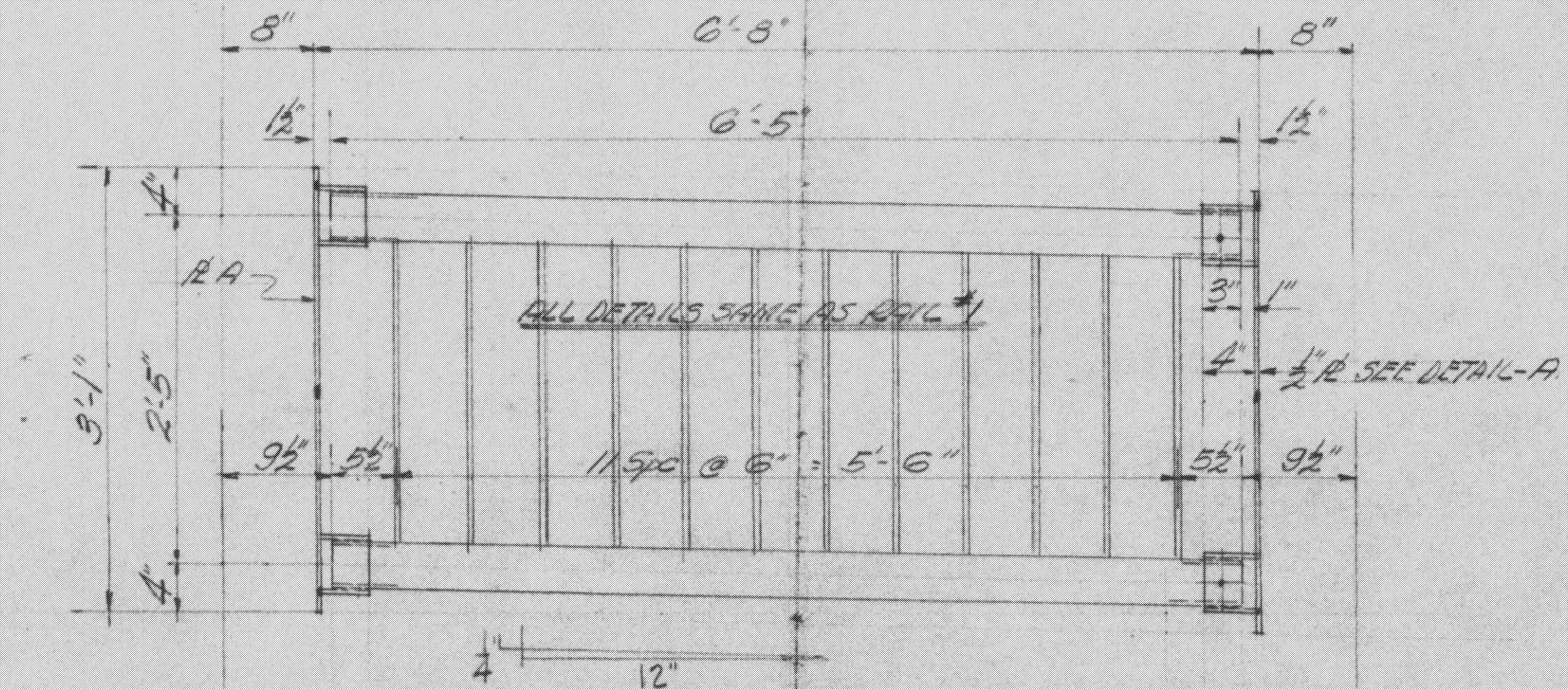
Shop Note Diff. Wt Bms. 16 lbs 7x11 1-5 1/2 (ORD) 4 1/2 ma {B3 h 139  
B3 h 1219 } Detailed and Ordered on S# 41.  
1/2 Fillet weld x 150-8' 4-7 lbs 7x11 1-1 (ORD) 4 1/4 mb {B1, B11  
B12, B20 } Do Not Duplicate  
4-1 lbs MB {B2 h 139  
B2 h 1220 }

OK 7/19/99  
PMB

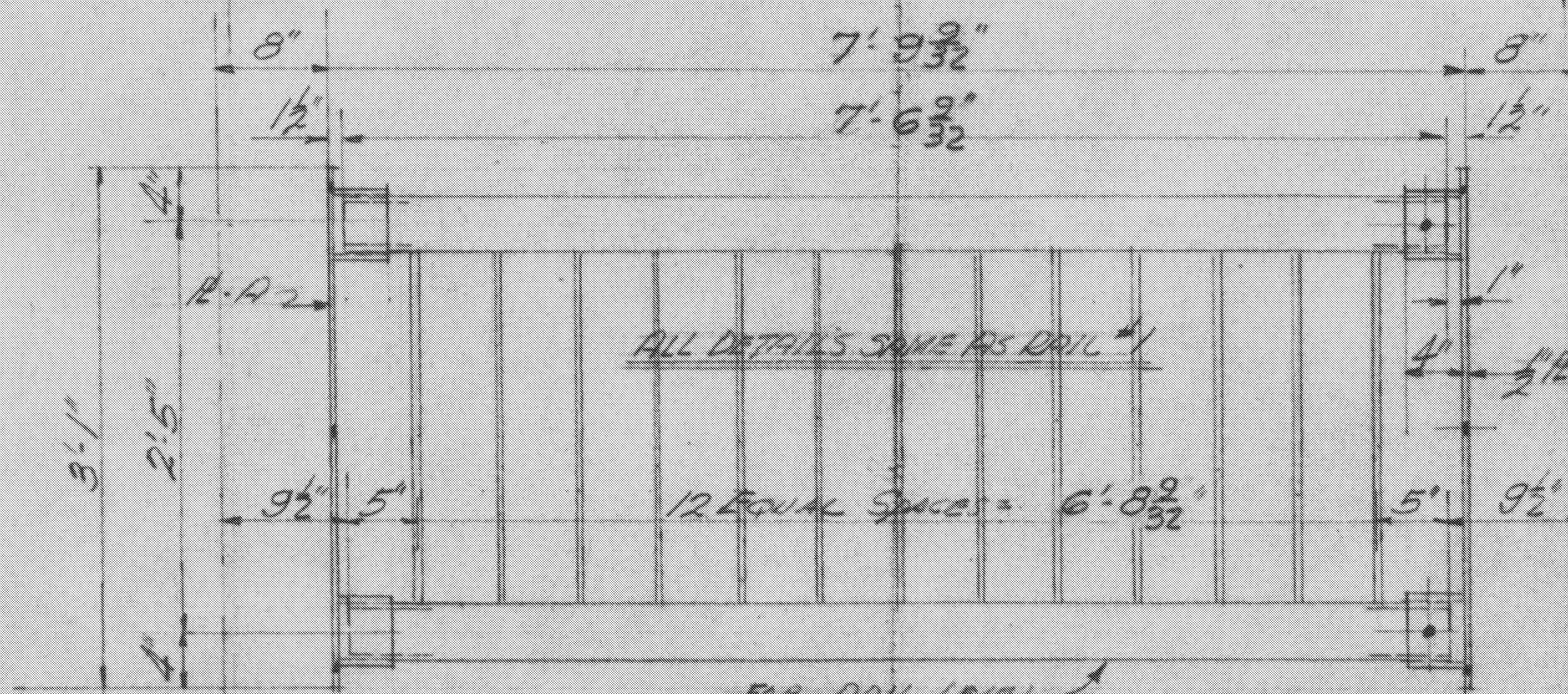








MK-T MAKE-2 AS SHOWN BOT & TOP RAIL 3 1/2" STD W.I. PIPE 8'-0"



MK-B MAKE-34 AS SHOWN BOT & TOP RAIL 3 1/2" STD W.I. PIPE 9'-1 9/32"

SPRINGFIELD  
BHF 016-2 (14)  
REFERENCE SHEET 11 OF 11  
SHEET 72 OF 72

APPROVED  
1/30/50 - R.H.B.  
(REV #1)

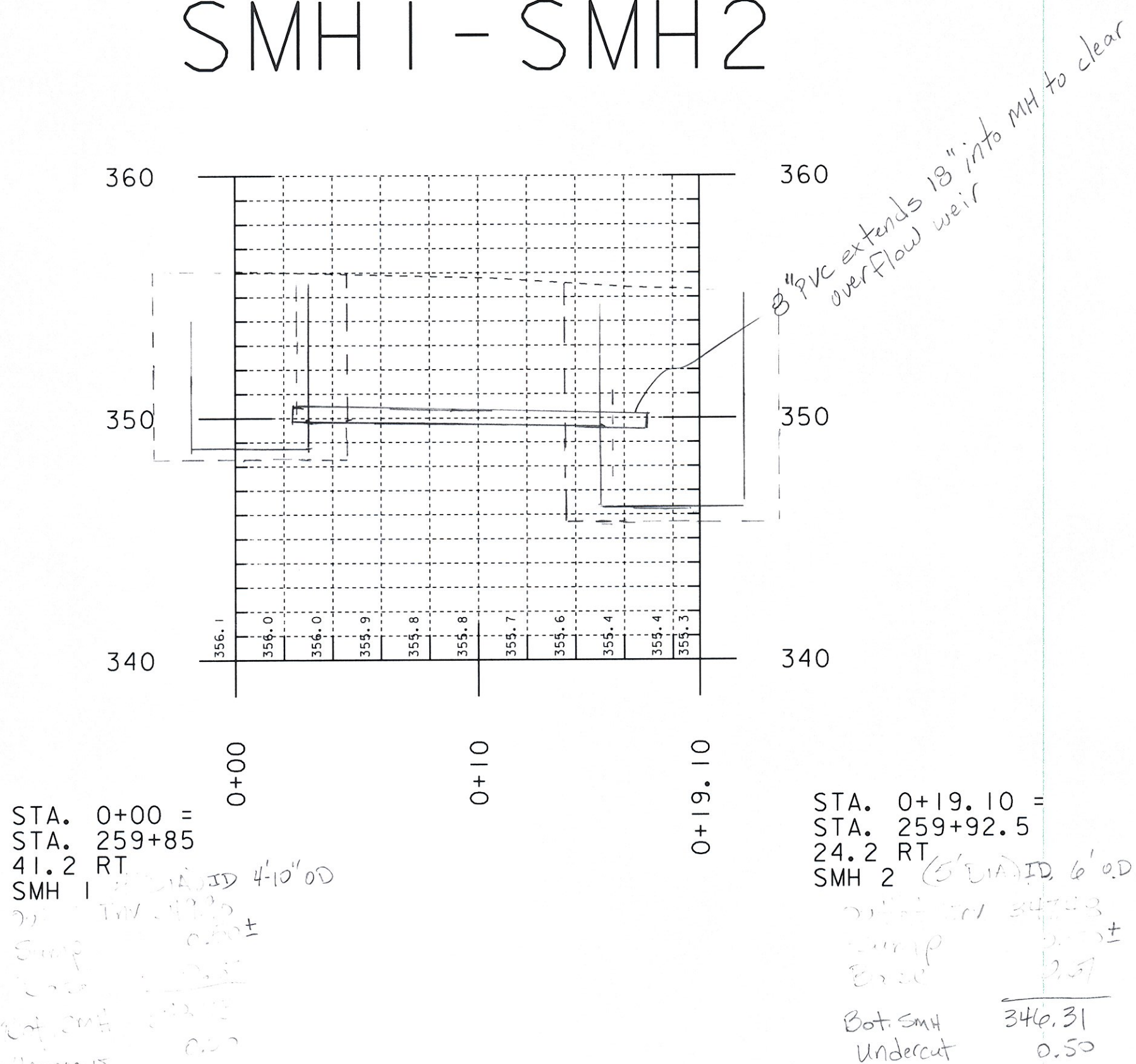
PITTSFIELD IRON WORKS  
& COAL SUPPLY  
158 SOUTH ST. PITTSFIELD, MASS.

DETAIL Dwg. No. 2798  
PIPE RAIL DETAIL  
BRIDGE OVER BLACK RIVER  
SPRINGFIELD VT.  
DEC 31, 1949 J.F.D. W.L.

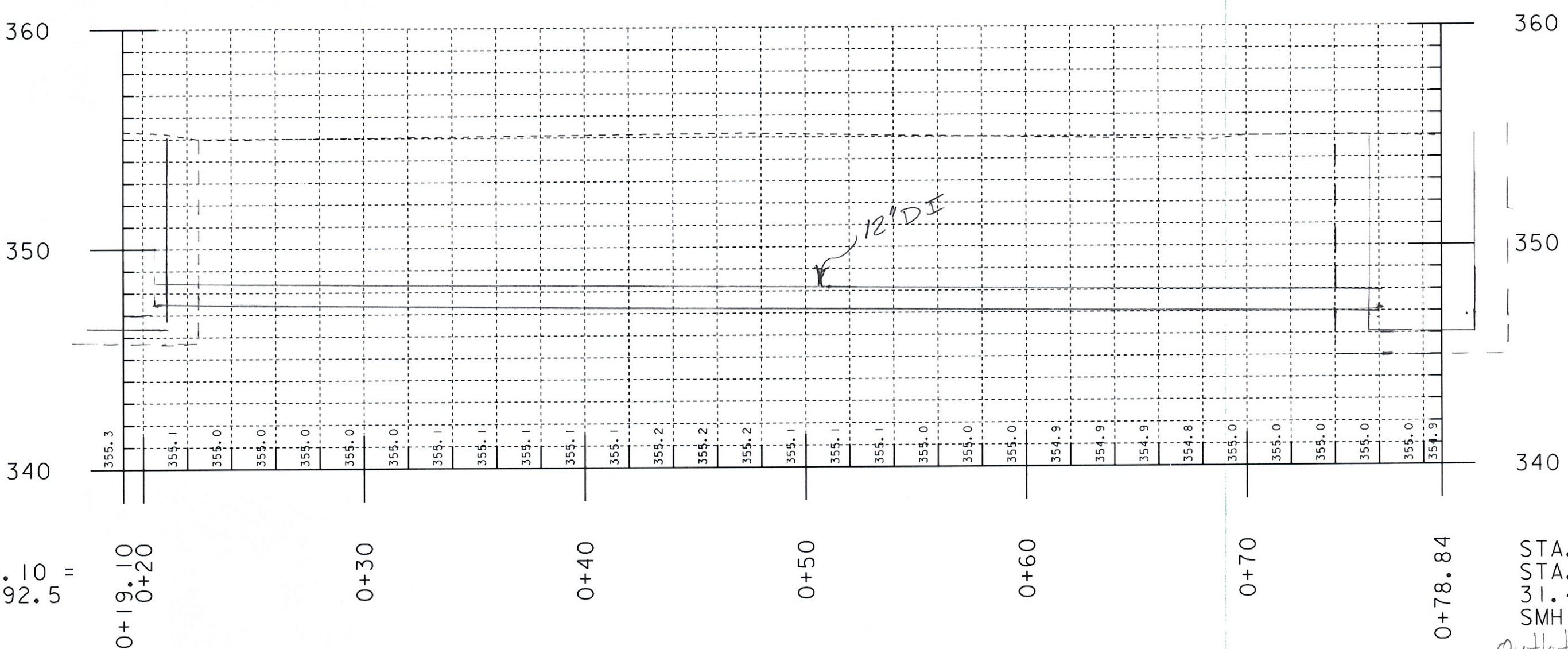
REVISION  
NO. 1. QD LENGTH & REQD  
PTB. 1/30/50 J.F.D.



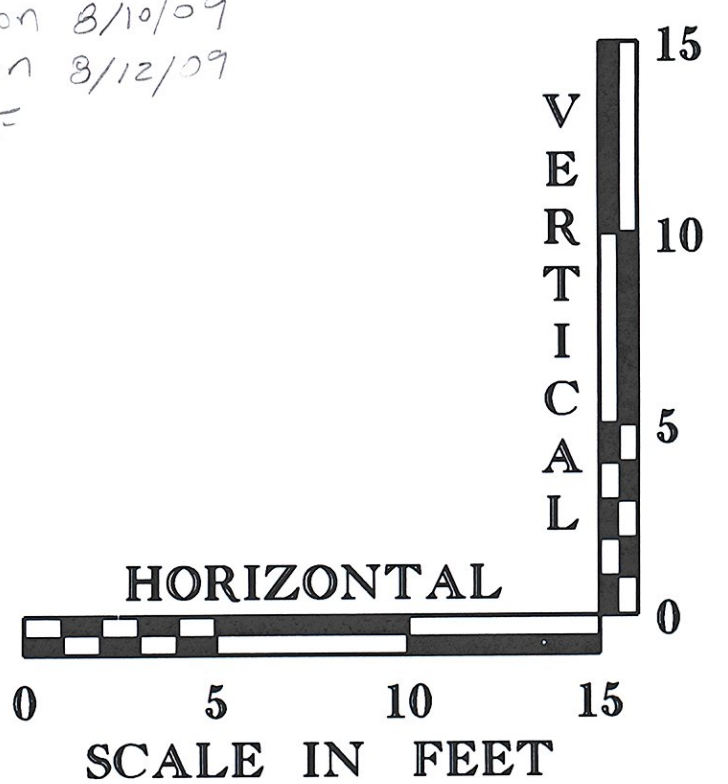
SMH 1 - SMH2



SMH 2 - SMH 3



12" DI SMH 3 to SMH 2  
1.5' stub in SMH 2 8/13/09  
18.0 on 8/7/09  
18.0 on 8/10/09  
18.0 on 8/12/09  
55.5 LF



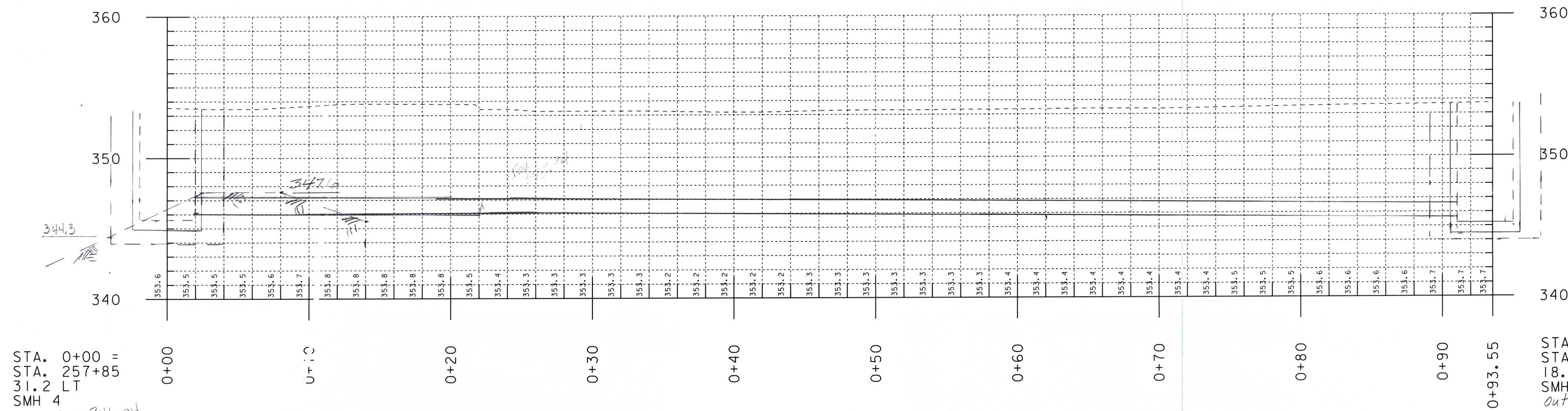
STA. 0+19.10 =  
STA. 259+92.5  
24.2 RT  
SMH 2  
Outlet Inv 347.18  
Sump 0.50  
Base 0.67  
Undercut 346.31  
345.8

STA. 0+78.84 =  
STA. 259+70  
31.4 LT  
SMH 3 (4' Dia)  
Outlet Inv 347.12  
Sump 0.50  
Base 0.67  
Undercut 345.95  
344.95  
343.8

|                                    |  |                        |  |
|------------------------------------|--|------------------------|--|
| PROJECT NAME: SPRINGFIELD          |  | PLOT DATE: 26-APR-2010 |  |
| PROJECT NUMBER: BHF 016-2(14)      |  | DRAWN BY: -----        |  |
| FILE NAME: ppms*/Section/-----.dgn |  | CHECKED BY: -----      |  |
| PROJECT LEADER: -----              |  | SHEET 1 OF 3           |  |
| DESIGNED BY: -----                 |  |                        |  |



# SMH4 - SMH5

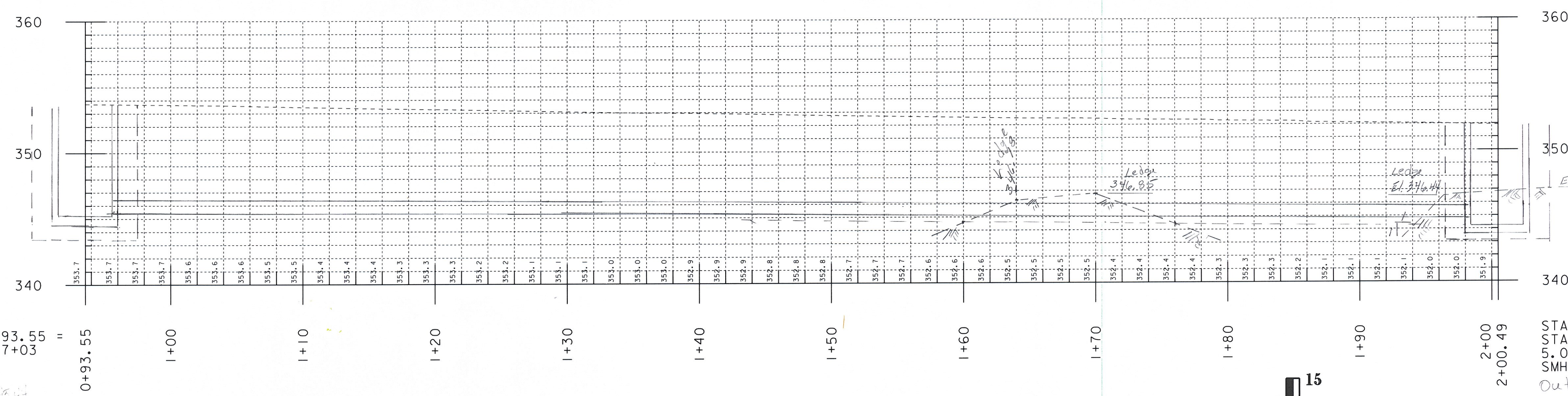


12" SDR P/C  
26' 7-28-09  
52' 7-29-09  
11' 8-5-09  
89'

STA. 0+00 =  
STA. 257+85  
18.1 LT  
SMH 4  
Inv. Out = 346.04  
Sump 0.50  
Base 0.67  
Undercut 1.00 1.50  
343.87 343.3

STA. 0+93.55 =  
STA. 257+03  
18.1 LT  
SMH 5  
Outlet Inv. 345.44  
Sump 0.50  
Base 0.67  
Undercut 0.50  
343.77

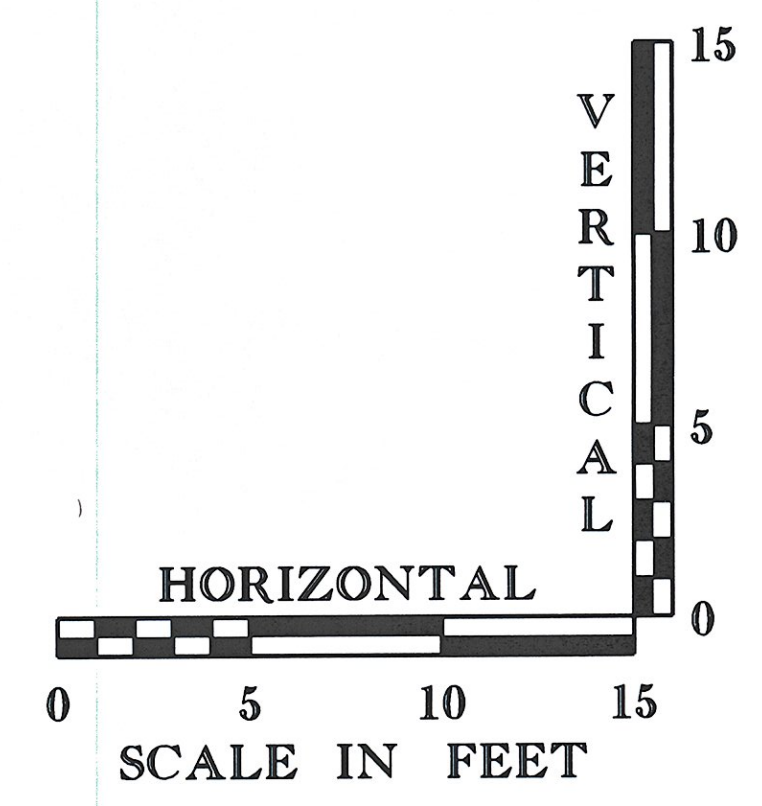
# SMH5 - SMH6



12" SDR P/C  
26' 7-28-09  
52' 7-28-09  
25' 7-27-09  
103

STA. 0+93.55 =  
STA. 257+03  
18.1 LT  
SMH 5  
Outlet 346.04

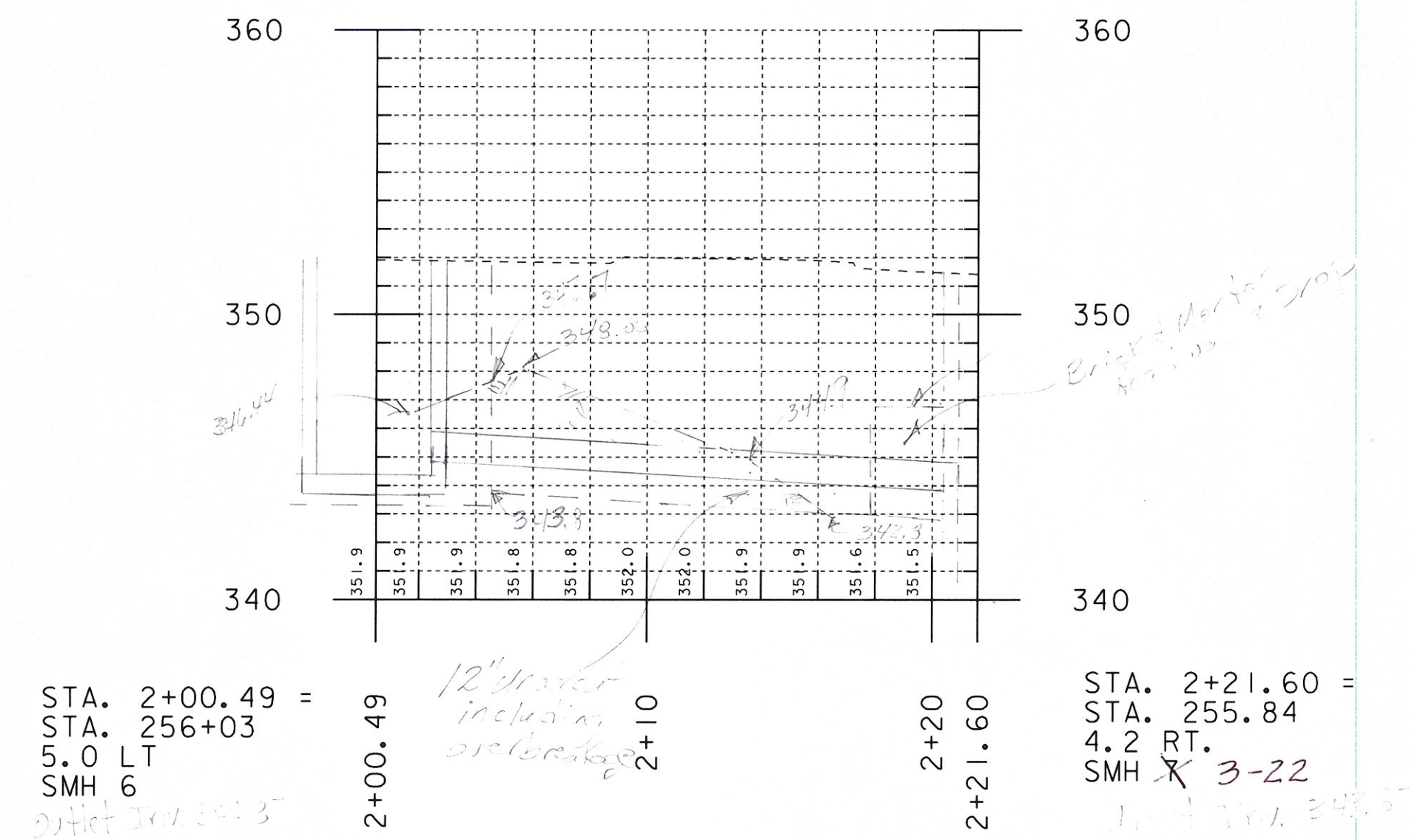
STA. 2+00.49 =  
STA. 256+03  
5.0 LT  
SMH 6  
Outlet Inv. 344.87  
Sump 0.50  
Base 0.67  
Undercut 0.50  
343.27



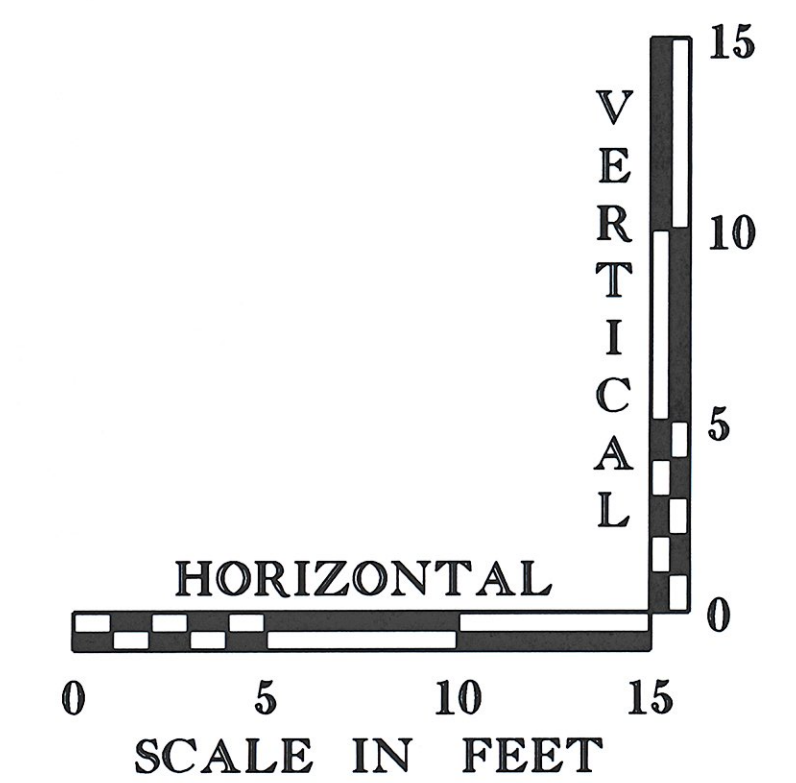
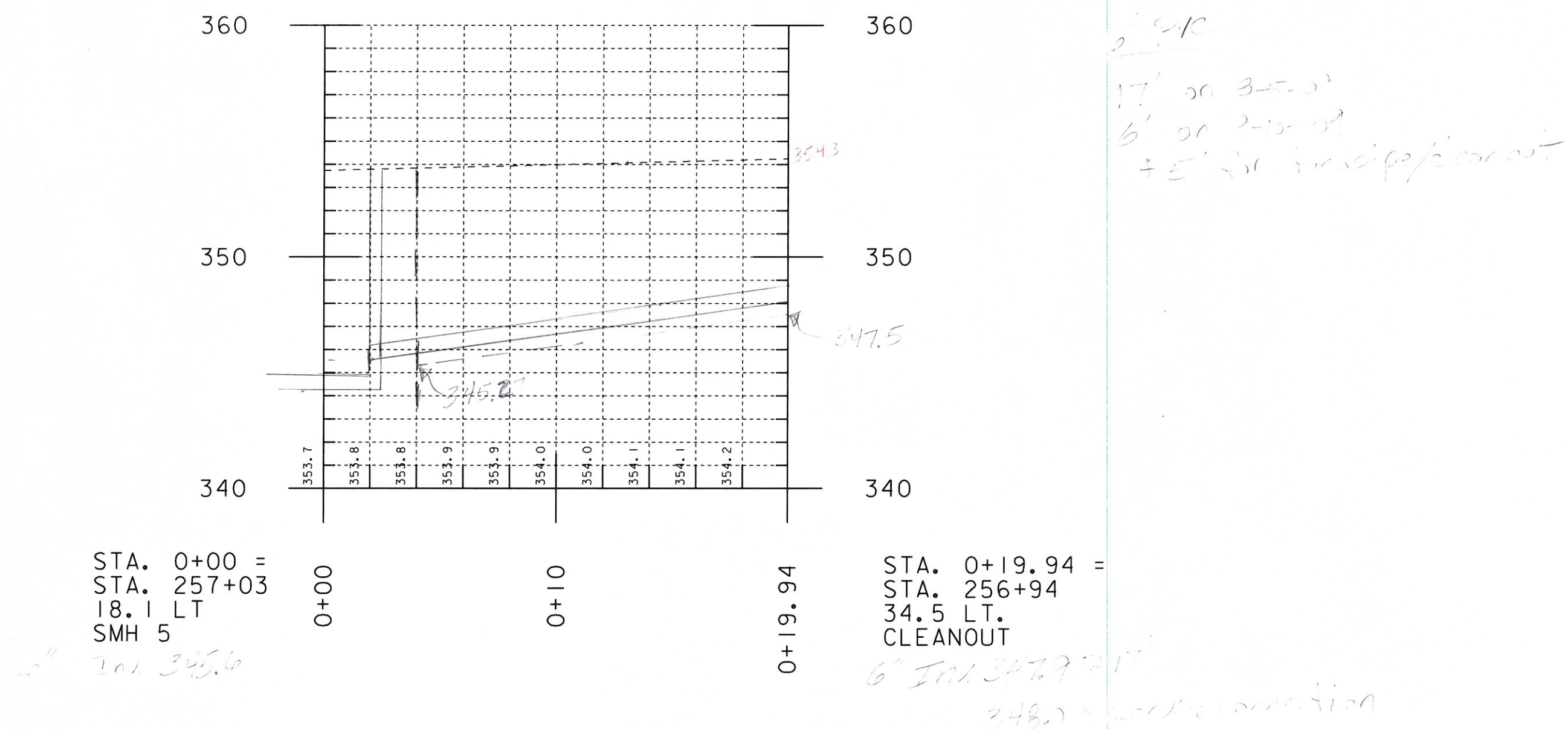
|                 |                        |
|-----------------|------------------------|
| PROJECT NAME:   | SPRINGFIELD            |
| PROJECT NUMBER: | BHF 016-2(14)          |
| FILE NAME:      | ppms*/Section/-----dgn |
| PROJECT LEADER: | -----                  |
| DESIGNED BY:    | -----                  |
| PLOT DATE:      | 26-APR-2010            |
| DRAWN BY:       | -----                  |
| CHECKED BY:     | -----                  |
| SHEET           | 2 OF 3                 |



# SMH6 - SMH ~~3-22~~ 3-22 (EXISTING)



# SMH5 - CLEANOUT



|                 |                         |             |             |
|-----------------|-------------------------|-------------|-------------|
| PROJECT NAME:   | SPRINGFIELD             | PLOT DATE:  | 26-APR-2010 |
| PROJECT NUMBER: | BHF 016-2(14)           | DRAWN BY:   | -----       |
| FILE NAME:      | ppms#/Section/-----,dgn | CHECKED BY: | -----       |
| PROJECT LEADER: | -----                   | SHEET       | 3 OF 3      |
| DESIGNED BY:    | -----                   |             |             |

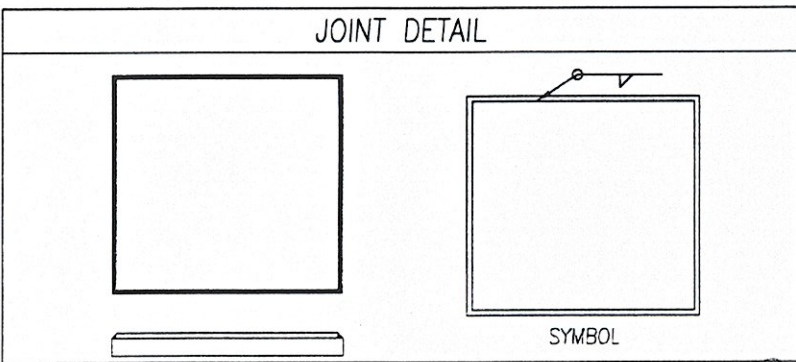


WELDING PROCEDURE SPECIFICATION ☒  
OR  
PROCEDURE QUALIFICATION RECORD ☒

Specification No.: 57948  
Customer: Cold River Bridge, LLC Customer P.O.#: P.O. #1010  
Base Metals:                      P-NO.: 8 Group NO.:            to P-NO.: 1 Group NO.: 1  
Material Specification Type & Grade: T-304 S.S. to Carbon Steel Backing Plate  
Welding Process: G.T.A.W. 1/2" dia. nozzle w/gas lens  
Manual or Machine: Manual  
Position of Welding: 1-F  
Filler Metal Specification: N/A  
Filler Metal Classification: N/A  
Shielding Gas: Argon 20-30 cfh  
Single or Multiple Pass: Single  
Single or Multiple Arc: Single  
Welding Current: Direct  
Polarity: Straight  
Root Treatment: Remove all oil, grease, scale etc. on weld preparation face and adjacent plate surface  
Preheat and Interpass Temp: N/A  
Post weld Heat Treatment: N/A

TRANS  
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JUN 26 2009  
RESUBMIT APPROVED  
BY DATE 6/23/09

| Filler Metal |      |        | Pass | Process  | Welding Current |         | Filllet<br>Size<br>Tape<br>Materials |
|--------------|------|--------|------|----------|-----------------|---------|--------------------------------------|
| Class        | Dia. | IF No. | No.  |          | Amperes         | Voltage |                                      |
| N/A          | N/A  |        | 1    | G.T.A.W. | 100-170         | 19-23   |                                      |
|              |      |        |      |          |                 |         |                                      |
|              |      |        |      |          |                 |         |                                      |



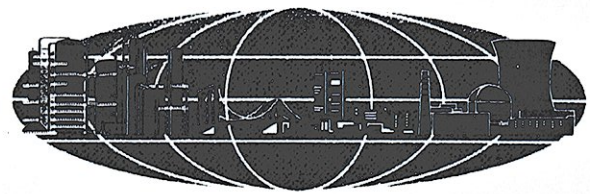
Manufacturer: Amscot Structural Products Authorized By: [Signature]  
Date: 6/23/09



**AMSCOT**

A World of Structural Bearings  
and Custom Fabricated Metal Components.

241 E. Blackwell Street  
Dover, NJ 07801



**AMSCOT STRUCTURAL PRODUCTS – PREFORMED FABRIC PAD TO PTFE  
BOND PROCEDURE**

**FACTORY BOND PROCEDURE:**

**Material preparation procedure as follows:**

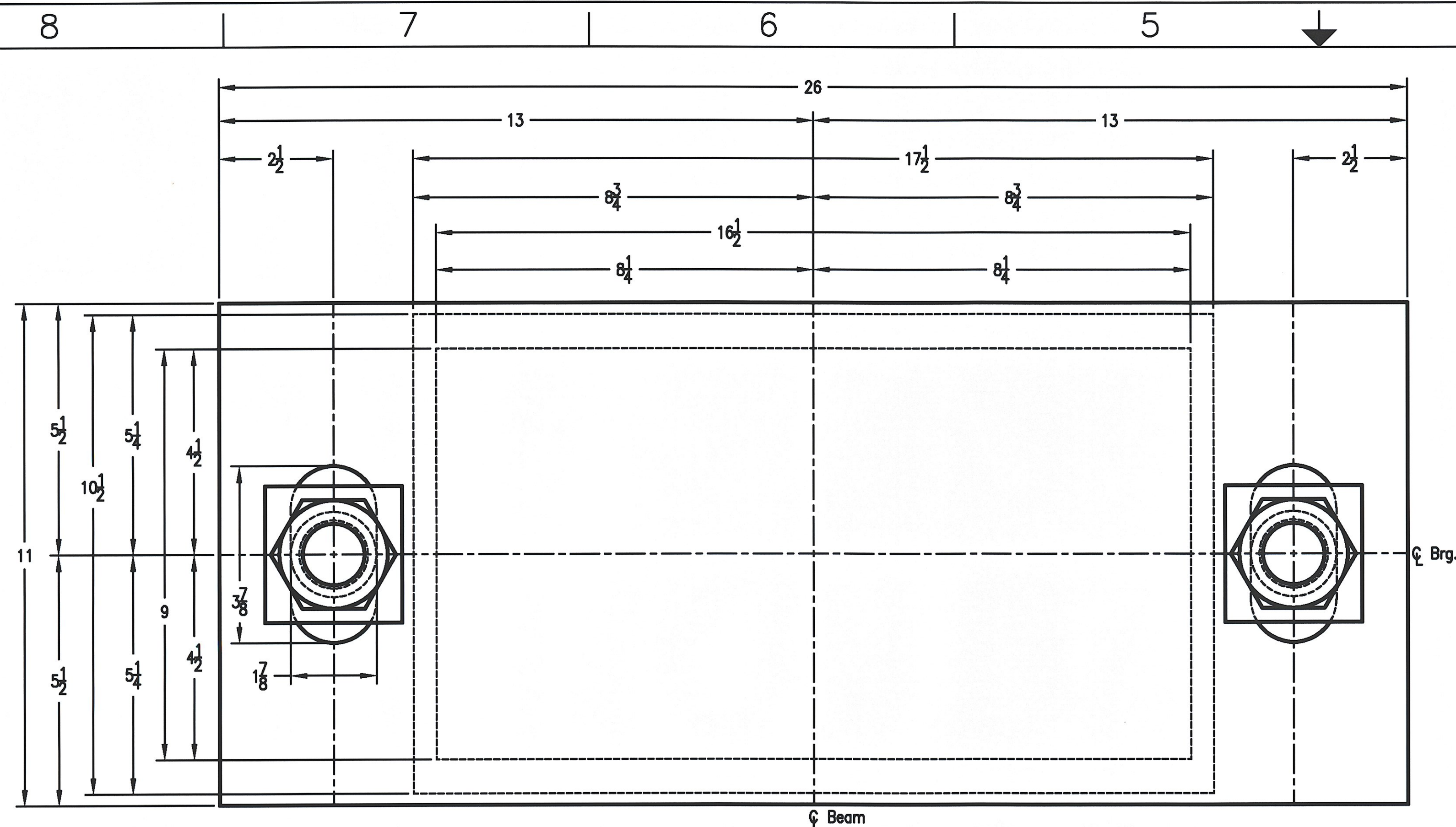
1. Preformed fabric reinforced elastomeric pad (90 ± 5 Shore A Durometer) bond surface to be roughened by scoring full surface area with wire brush.
2. Substrate sheet to be either 1/16" phenolic sheet and shall be prepped by abrading both surfaces or 18 gauge steel sheet and shall be prepped by sand blasting both surfaces to a SSPC-SP10 classification.
3. All foreign materials to be removed from PTFE sheet, Substrate sheet (18 gauge steel and or Phenolic sheet), and Fabric Pad bonding surfaces.
4. Two part epoxy bond adhesive material; Armstrong style no. A-271 parts A and B shall be thoroughly mixed together as per manufactures mix ratio.
5. Mixed epoxy shall be applied with trowel providing uniformity of epoxy on all bonding surface areas.
6. PTFE (Polytetrafluorethylene)-(virgin, not reprocessed) shall be placed etched face surface with the applied epoxy coating against prepared substrate sheet. Epoxy coated substrate sheet opposite face shall be placed against preformed fabric pad material.
7. The fabric pad with substrate & PTFE shall be placed into hydraulic heated press for a duration of 15-20 minutes @ 180° F to allow proper cure time of epoxy material. (Longer time periods required when material pad thickness exceeds 1" thick).
8. Preformed reinforced Bearing pad bonded to PTFE shall be allowed to cool for 60 minutes before handling.
9. Excess PTFE shall be removed from perimeter of pad. Pad shall be sanded smooth on all sides.
10. Finished Preformed fabric bearing pad w/PTFE to be inspected by Q/C personnel prior to packaging for shipment.

**Recommended storage procedures:** PTFE materials shall be kept covered from direct UV light exposure for any long periods of time.

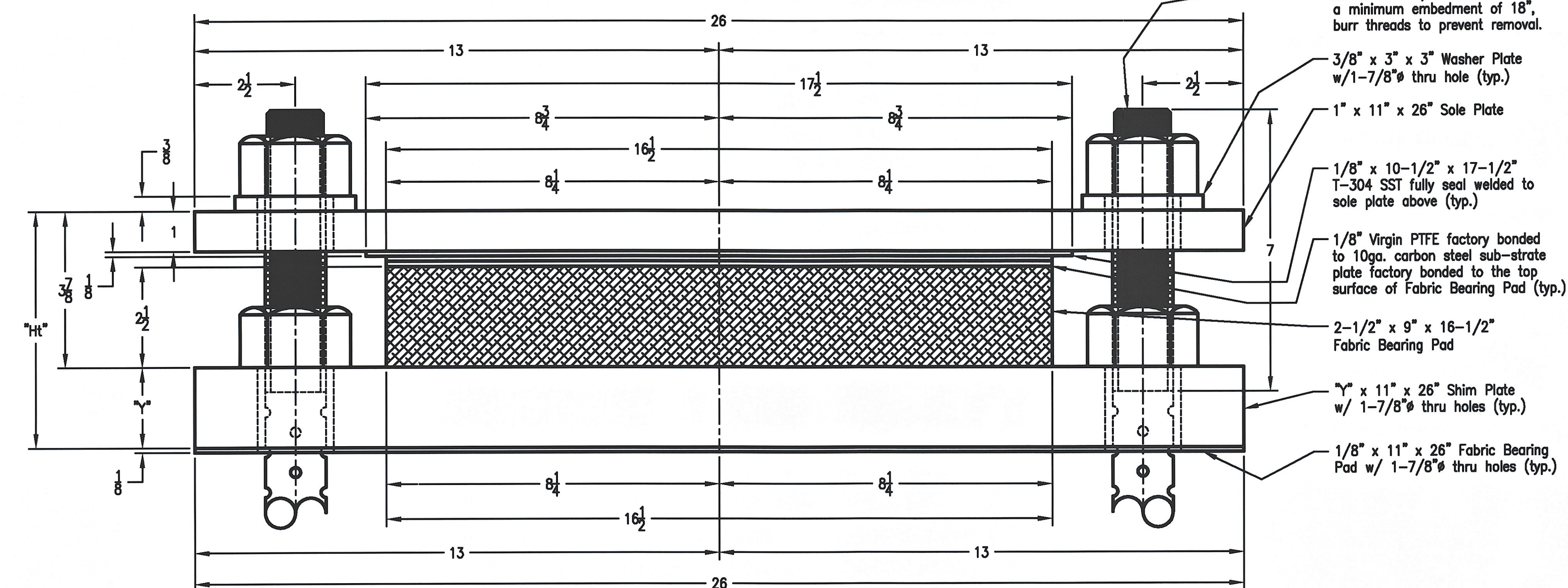
"The Quality of the Past, The Innovation of the Future."

241 E. Blackwell Street, Dover, NJ 07801 • Tel: 973-989-8800 Fax: 973-989-5651





Plan View Expansion Brg w/PTFE Surface @ Abutments



Elevation View Expansion Brg w/PTFE Surface @ Abutments

(Qty. Req'd. = 14 assy. Item No. #531.10)

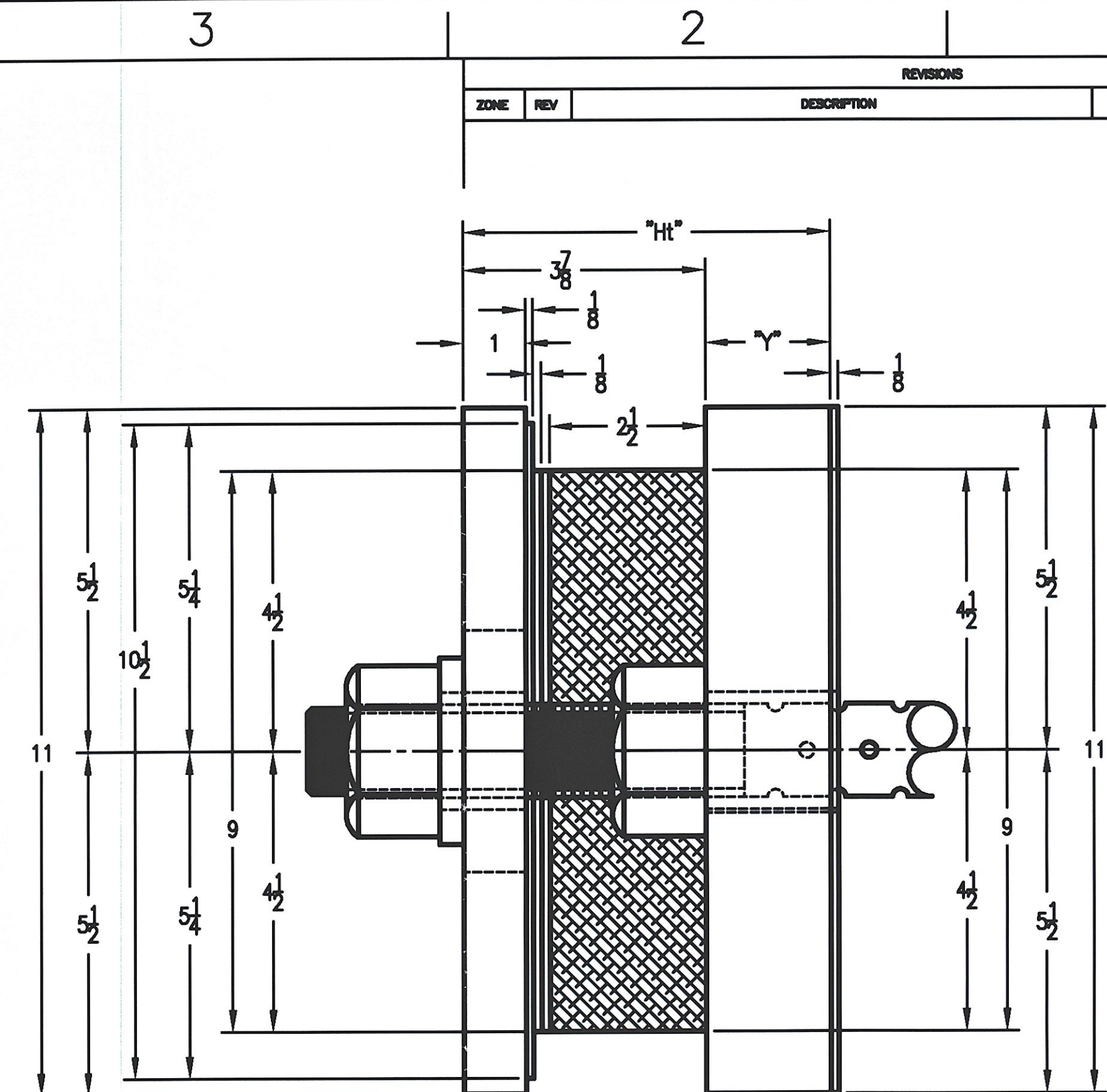
NOTES:

- BEARINGS TO BE MANUFACTURED ACCORDING TO AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1996 EDITION, 1996 WITH CURRENT INTERIMS (1997 & 1998, SECTION #14).
- THE BEARINGS ARE DESIGNED SO THAT THE SUPERSTRUCTURE MAY BE ERECTED WHEN THE AMBIENT AIR TEMPERATURE IS WITHIN THE RANGE OF 4 DEG. C. TO 32 DEG. C.
- ALL STEEL IN BEARINGS SHALL BE AASHTO M270 GRADE 36, U.S.A. EXCEPT ANCHOR BOLTS AND NUTS.

- STAINLESS STEEL SHALL BE AASHTO A240 TYPE 304 W/ 2B FINISH.
- ALL STEEL PRODUCED IN THE U.S.A.
- CONTACT PETER SOMOGYI, COORDINATOR.
- TOLERANCES: THICKNESS  $\pm 0.1/8$  PLAN  $\pm 0.1/8$

- MANUFACTURING FACILITY LOCATION: AMSCOT STRUCTURAL PRODUCTS INC. 241 EAST BLACKWELL STREET DOVER, NJ 07801
- ALL DIMENSIONS ARE IN INCHES.
- ALL BEARING DEVICES SHALL BE GALVANIZED AS PER STANDARD SPECIFICATIONS 506.15 AND 531.04(b), AS MODIFIED BY THE GENERAL SPECIAL PROVISIONS.

- ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.
- PRIOR TO GALVANIZING, ALL CORNERS AND EDGES OF STEEL PLATES, SHAPES, ETC. SHALL BE GROUNDED TO A 1/16" RADIUS (TYP.).
- THE SURFACE FINISH OF THE CONTACT (SLIDING) FACE OF THE STAINLESS STEEL SHALL HAVE 2B POLISHED FINISH. MIRROR FINISH OR LESS THAN 0.25 µm (10 MICRO INCHES) RMS (ROOT MEAN SQUARE).



Side View Expansion Brg w/PTFE Surface @ Abutments

ABUTMENT #1 SHIM PLATE TABLE

| GIRDER NO. | QTY. | DIM "Y" | DIM "H" |
|------------|------|---------|---------|
| #1         | 1    | 2-1/2"  | 6-3/8"  |
| #2         | 1    | 2"      | 5-7/8"  |
| #3 thru #7 | 5    | 2-1/2"  | 6-3/8"  |

ABUTMENT #2 SHIM PLATE TABLE

| GIRDER NO. | QTY. | DIM "Y" | DIM "H" |
|------------|------|---------|---------|
| #1         | 1    | 2"      | 5-7/8"  |
| #2         | 1    | 1-1/2"  | 5-3/8"  |
| #3 thru #7 | 5    | 2"      | 5-7/8"  |

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CHK'D BY: DRP OK'D BY: [Signature]  
JUN 26 2009  
RECEIVED [Signature] APPROVED AS NOTED  
DATE 7-13-09

VERMONT AGENCY OF TRANSPORTATION  
PROJECT NAME: SPRINGFIELD  
PROJECT NUMBER: BHF-016-2(14)

**AMSCOT**

STRUCTURAL PRODUCTS CORP. Job No. #3231

|                                                   |              |                |
|---------------------------------------------------|--------------|----------------|
| SCALE: N.T.S.                                     | APPRVD: R.F. | DRAWN BY: P.S. |
| DATE: 6/8/09                                      |              | REV.: 0        |
| PREFORMED FABRIC PADS W/PTFE & SST SLIDE SURFACES |              |                |
| FOR: COLD RIVER BRIDGE, LLC.                      |              |                |
| SHEET NO 1 of 2 DWG NO: CRB09A1R0.DWG             |              |                |







Casco Bay Steel Structures, Inc.

75 Spring Hill Road  
Saco, Maine 04072

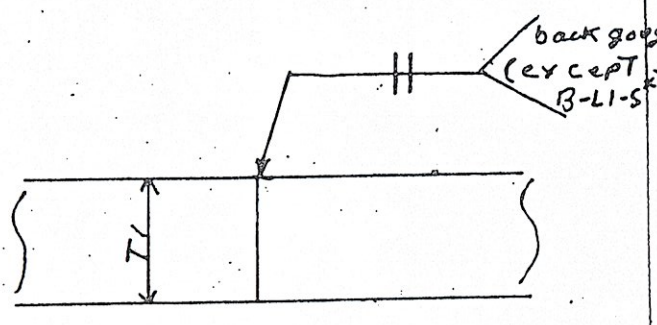
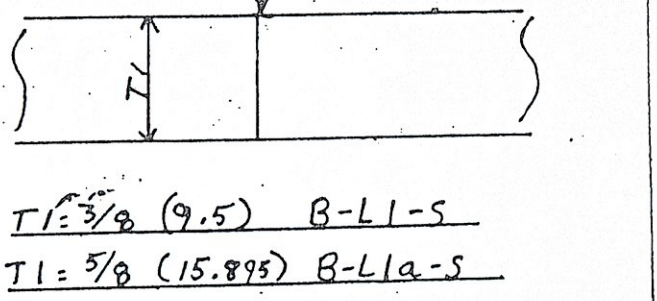
Phone: (207) 282-7360

Fax: (207) 282-1179

WELDING PROCEDURE SPECIFICATION

Material specification ASTM A209 Gr 36-50-50W (250-345-345W)  
Welding process Submerged Arc welding - AUTO (SAW)  
Manual or machine MACHINE  
Position of welding FLAT (15a.2)  
Filler metal specification AWS A5-17, AWS A5-23  
Filler metal classification E802-EXX18-Ni1 Lincoln  
Flux 960 Flux-Lincolnwell-LA-75 Electrode  
Shielding gas Ar Flow rate NA OK'D BY JWC  
Single or multiple pass both JUN 29 2009  
Single or multiple arc single  
Welding current Direct RESUBMIT APPROVED  
Polarity Reverse Electrode Positive BY Cue DATE 7-8-09  
Welding progression  
Root treatment MEET AWS SPECIFICATION  
Preheat and interpass temperature to 34(19) 50 (60), 34(19) 120(88) - 120(88)  
Postheat temperature NA  
Heat Input Min 41.65 Max 65.45 PAR # 1-59.5 ST OF VT ACOT  
SPRINGFIELD-BR #64 -  
PRG # BHF 016-204

WELDING PROCEDURE

| Pass no. | Electrode size | Welding current |       | Travel speed | AWS D1-5 Joint detail B-L1-S, B-L1a-S                                               |
|----------|----------------|-----------------|-------|--------------|-------------------------------------------------------------------------------------|
|          |                | Amperes         | Volts |              |                                                                                     |
|          | 5/32           | 605             | 29.5  | 18           |  |
|          |                | 544.5           | 27.4  | 15.3         |                                                                                     |
|          |                | 665.5           | 31.56 | 20.7         |                                                                                     |
|          | 3/9            | 605             | 29.5  | 457.2        |  |
|          |                | 544.5           | 27.4  | 388.6        |                                                                                     |
|          |                | 665.5           | 31.56 | 525.8        |                                                                                     |

\*Evidence of C.V.P. is req.

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 203 Contractor Casco Bay Steel  
Revision no. 1 Authorized By Paul C. Hordale  
Form III-2 Date 3/2/00



Casco Bay Steel Structures, Inc.

75 Spring Hill Road  
Saco, Maine 04072

Phone: (207) 282-7360

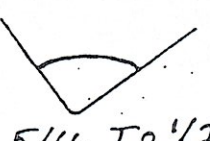
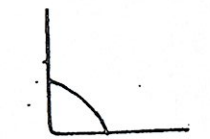
Fax: (207) 282-1179

WELDING PROCEDURE SPECIFICATION

Material specification ASTM A36 Gr 36-50-50w (250-345-345w)  
Welding process Submerged Arc Welding - Auto (SAW)  
Manual or machine Machine  
Position of welding Flat (1F), Horizontal (2F)  
Filler metal specification AWS A5.17, AWS A5.23  
Filler metal classification E8018-Ni1 Lincoln  
Flux 960 Flux - Lincoln Weld - LA-75 Electrode  
Shielding gas NA  
Single or multiple pass Both  
Single or multiple arc Single  
Welding current Direct  
Polarity Reverse Electrode Positive  
Welding progression  
Post treatment Meet AWS Specification  
Preheat and interpass temperature To 3/4 (19) 50 (100) 3/4 (19) 1 1/2 (68) 70 (160) 1 1/2 (68) To 2 1/2 (63.5) 150 (650)  
Postheat temperature NA  
Heat input Min 41.65 Max 65.45 PQR # 1-59.5  
ST OF VT 40T  
Springfield - Bk # 64  
Proj # SHF 016-2 (14)

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APPROVED  
DATE 7-8-09

WELDING PROCEDURE

| Pass no. | Electrode size                        | Welding current |       | Travel speed | Joint detail                                                                                                                                                                                                                               |
|----------|---------------------------------------|-----------------|-------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                                       | Amperes         | Volts |              |                                                                                                                                                                                                                                            |
| 5/32     | 605<br>544.5<br>To<br>665.5           | 29.5            | 27.4  | 18.5         | 1F<br><br>5/16 To 1/2<br>(8 To 12.7)                                                                                                                    |
|          |                                       | 27.4            | 27.4  | 15.3         |                                                                                                                                                                                                                                            |
|          |                                       | 31.56           | 31.56 | 20.7         |                                                                                                                                                                                                                                            |
| 3/8      | Metric<br>605<br>544.5<br>To<br>665.5 | 29.5            | 27.4  | 457.2        | 2F<br><br>1/4 To 5/16<br>(6 To 8)<br><br>3/8 To 5/8<br>(9.5 To 15.9) |
|          |                                       | 27.4            | 27.4  | 389.6        |                                                                                                                                                                                                                                            |
|          |                                       | 31.56           | 31.56 | 525.8        |                                                                                                                                                                                                                                            |

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 201  
Revision no. PAUL E. GOODALE EST 08/20/01  
Form III-2  
Contractor Casco Bay Steel  
Authorized By Paul E. Goodale  
Date 3/2/00



WELDING PROCEDURE SPECIFICATION

Material specification ASTM A709/A709M Grade-36(250), 50(345), 50W(345w)

Welding process Flux Cored Arc welding

Manual or machine Semi-Auto

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

Filler metal specification AWS-A5-29

Filler metal classification E81T-N11 - LINCOLN OUTERSHIELD 81W1-H

Flux NA

Shielding gas 75%AR/25%CO<sup>2</sup> Flow rate 35CFH +8.6 = -3.5

Single or multiple pass Single and Multiple

Single or multiple arc Single

Welding current Direct

Polarity Reverse Electrode Positive

Welding progression See Joint Detail

Root treatment Meet AWS Specification

Preheat and interpass temperature Preheat 34(19) to 34(19) To 1 1/2(3F) 70(20) 1 1/2(3F) To 2 1/2(63.5) 150(65)

Postheat temperature NA 2 1/2(63.5) 225(110)

Heat Input Min 28.6 Max 45.0 ST OF VT AOT

40.9 RQR #2 (11.0) (1.8KJ/in) Spring Field-Break 64

(1.6 KJ/in) (Metric) Post BHF 016-204

WELDING PROCEDURE

| Pass no.   | Electrode size | Welding current<br>Amperes                   | Volts                                       | Travel speed                                    | Joint detail                                                     |
|------------|----------------|----------------------------------------------|---------------------------------------------|-------------------------------------------------|------------------------------------------------------------------|
|            |                |                                              |                                             |                                                 | <u>AWS D1-5</u>                                                  |
|            |                |                                              |                                             |                                                 | <u>1F</u>                                                        |
| <u>AS</u>  | <u>1/16</u>    | <u>275</u><br><u>(247.5</u><br><u>302.5)</u> | <u>28.8</u><br><u>(26.8</u><br><u>30.8)</u> | <u>11.6</u><br><u>(10.4</u><br><u>12.8)</u>     | <div>RECEIVED<br/>JUN 29 2009<br/>APPROVED<br/>DATE 7/9/09</div> |
| <u>REG</u> | <u>1/6</u>     | <u>275</u><br><u>(247.5</u><br><u>302.5)</u> | <u>28.8</u><br><u>(26.8</u><br><u>30.8)</u> | <u>294.6</u><br><u>(264.2</u><br><u>325.12)</u> | <div>RECEIVED<br/>JUN 29 2009<br/>APPROVED<br/>DATE 7/9/09</div> |

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 101  
Revision no. \_\_\_\_\_  
Form III-2

Contractor Casco Bay Steel  
Authorized By Paul E. Woodale  
Date \_\_\_\_\_



Casco Bay Steel Structures, Inc.  
75 Spring Hill Road  
Saco, Maine 04072  
Phone: (207) 282-7360  
Fax: (207) 282-117

WELDING PROCEDURE SPECIFICATION

Material specification ASTM-A 709/A 709M Gr 36 (250) - A 50 (345) - A 50W (345)  
Welding process Submerged Arc welding  
Manual or machine Machine  
Position of welding Horizontal (2F)  
Filler metal specification AWS A5-23  
Filler metal classification E80T5-EM1K-Mil  
Flux Lincoln 760 with LA95 Elec.  
Shielding gas Ar Flow rate NA  
Single or multiple pass single  
Single or multiple arc single  
Welding current DC  
Polarity DCEN  
Welding progression see joint detail  
Root treatment blast clean - wire brush - free of loose scale & moisture  
Preheat and interpass temperature 24-50F, 3/4" to 1 1/2" 70F, 1 1/2" to 2 1/2" 150F over 2 1/2" 225  
Postheat temperature NA  
Heat Input Min 30.3 KJ/in Max 40.6 KJ/in PQR-FCM #9-43.3 KJ/in

ST OF VT AOT  
Springfield-Br<sup>64</sup>  
Reg<sup>th</sup> DHEC-104

WELDING PROCEDURE

| Pass no. | Electrode size | Welding current |       | Travel speed |
|----------|----------------|-----------------|-------|--------------|
|          |                | Amperes         | Volts |              |
| 3/32     | 293            | 32              | 131PM |              |
|          | 270            | 30              | 11    |              |
|          | TO             | TO              | TO    |              |
|          | 322            | 34              | 14    |              |

VT RANS  
RECEIVED  
OK'D BY \_\_\_\_\_ OK'D BY JUC  
JUN 29 2009  
RESUBMIT \_\_\_\_\_ APPROVED /  
BY one DATE 7/8/09

AWS  
QC 1  
PAUL COOPER  
8100201  
CWA

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of materials given in applicable A.W.S. codes or contract specifications

Procedure no. 250 Contractor Casco Bay Steel  
Revision no. \_\_\_\_\_ Authorized By Paul S. Goodab  
Form III-2 Date 12-6-06



Casco Bay Steel Structures, Inc.

75 Spring Hill Road  
Saco, Maine 04072

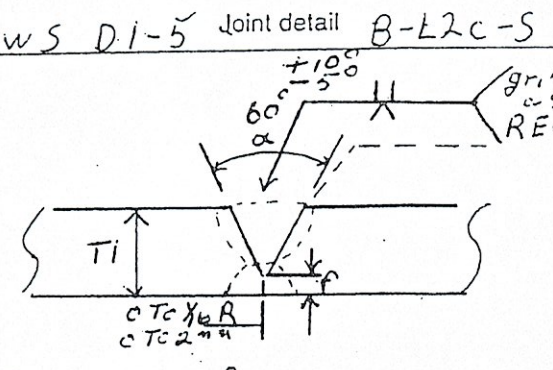
Phone: (207) 282-7360

Fax: (207) 282-1170

WELDING PROCEDURE SPECIFICATION

Material specification ASTM A709/A709M = Gr. 250 (A36) - 345 (A50) - 345W (A50W)  
Welding process Submerged Arc Welding - Semi-AUTO  
Manual or machine Machine  
Position of welding Flat (G)  
Filler metal specification AWS A5-17 - AWS A5-23  
Filler metal classification E802-ENiK-Ni1 Lincoln  
Flux 960 Lincoln Flux - Electrode, LA-95 Lincoln  
Shielding gas Ar Flow rate Ar  
Single or multiple pass Both  
Single or multiple arc Single Electrode Extension 1" to 2.5"  
Welding current Direct  
Polarity DC EP  
Welding progression  
Root treatment Back gauge - Grind to AWS specification  
Preheat and interpass temperature To 34 (19) 50 (60) 34 (19) To 1 1/2 (38) - 70 (205) 1 1/2 (38) To 2 1/2 (64) - 150 (65)  
Postheat temperature Ar over 2 1/2 (64) - 225 (110)  
Heat Input Min 50 KJ/in Max 79 KJ/in PQR #5 72 KJ/in, 28 KJ/in  
2 KJ/in 3 KJ/in ST OF VT ACT  
Spring Field - Br #6  
Proj # BHF C16-204

WELDING PROCEDURE

| Pass no.          | Electrode size | Welding current |       | Travel speed         | AWS D1-5 Joint detail                                                               |
|-------------------|----------------|-----------------|-------|----------------------|-------------------------------------------------------------------------------------|
|                   |                | Amperes         | Volts |                      |                                                                                     |
| AS<br><br>REQ     | 3/32           | 505             | 33    | 14 IPM<br>356 mm/min |  |
|                   |                | 454             | 31    | 14 IPM<br>356 mm/min |                                                                                     |
|                   |                | 70              | 70    | 14 IPM<br>356 mm/min |                                                                                     |
|                   |                | 556             | 35    | 14 IPM<br>356 mm/min |                                                                                     |
| V TRAWS RECEIVED  |                |                 |       |                      | APPROVED                                                                            |
| OK'D BY JAC       |                |                 |       |                      |                                                                                     |
| JUN 29 2009       |                |                 |       |                      |                                                                                     |
| BY CW DATE 7-9-09 |                |                 |       |                      |                                                                                     |

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 150

Contractor Casco Bay Steel

Revision no. \_\_\_\_\_

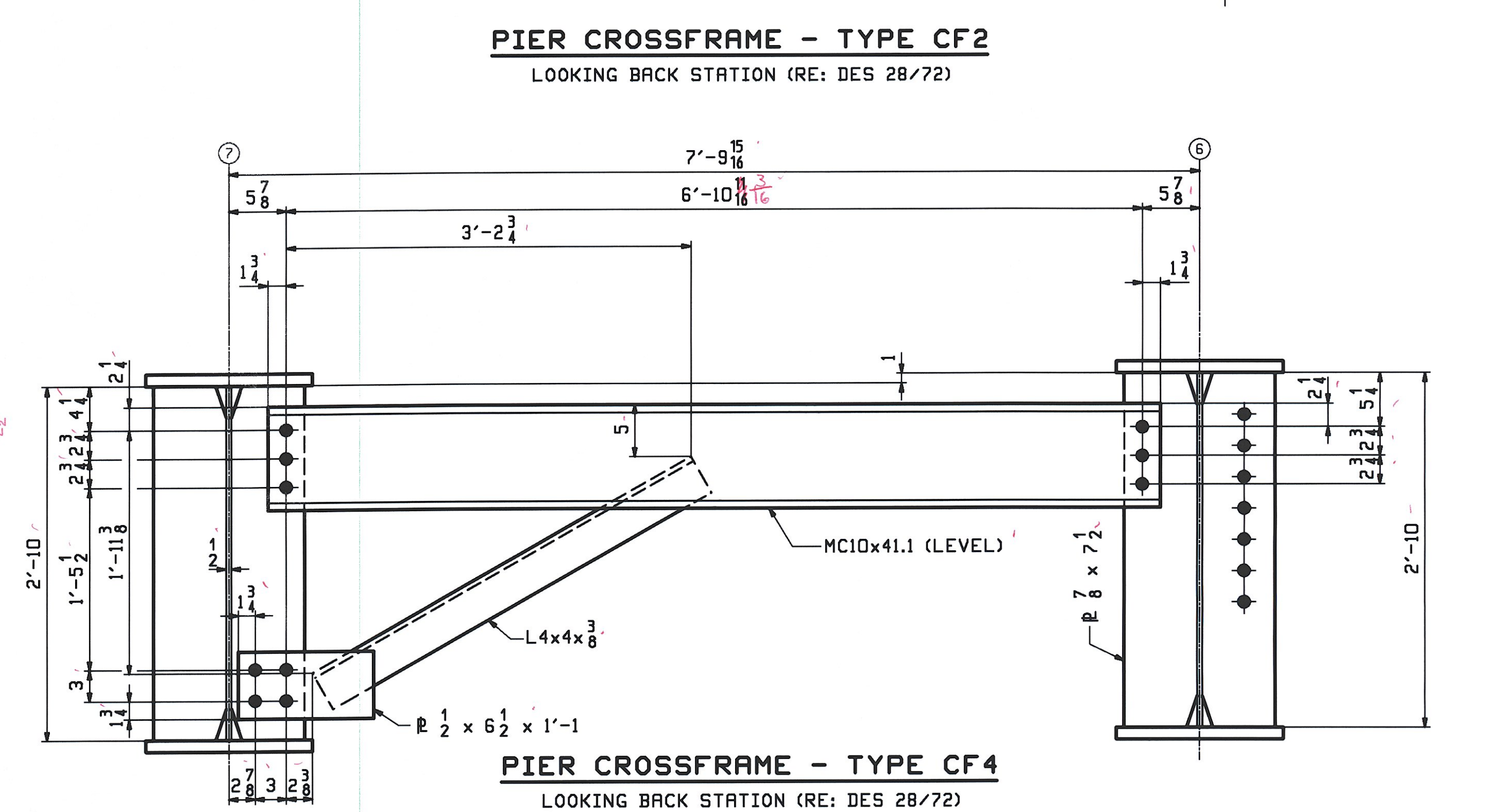
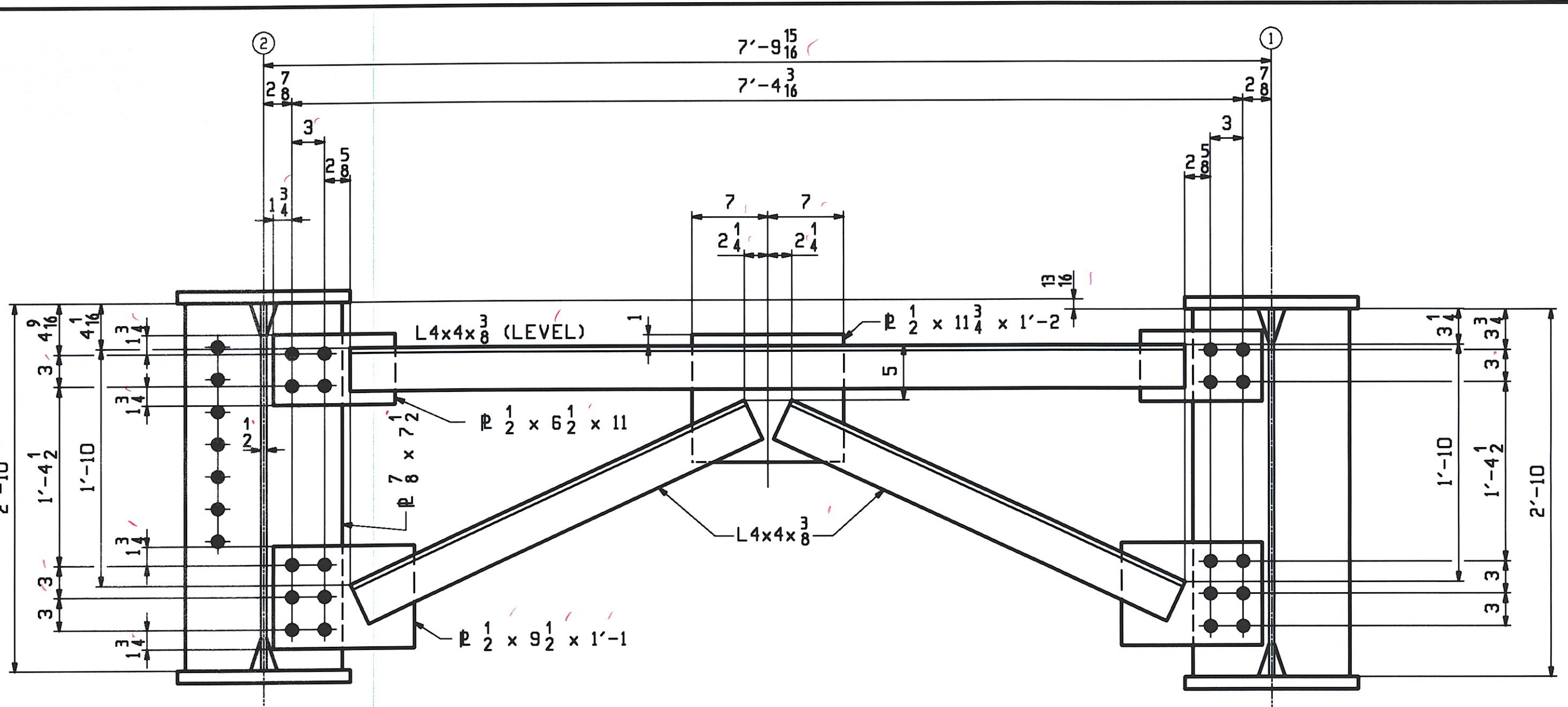
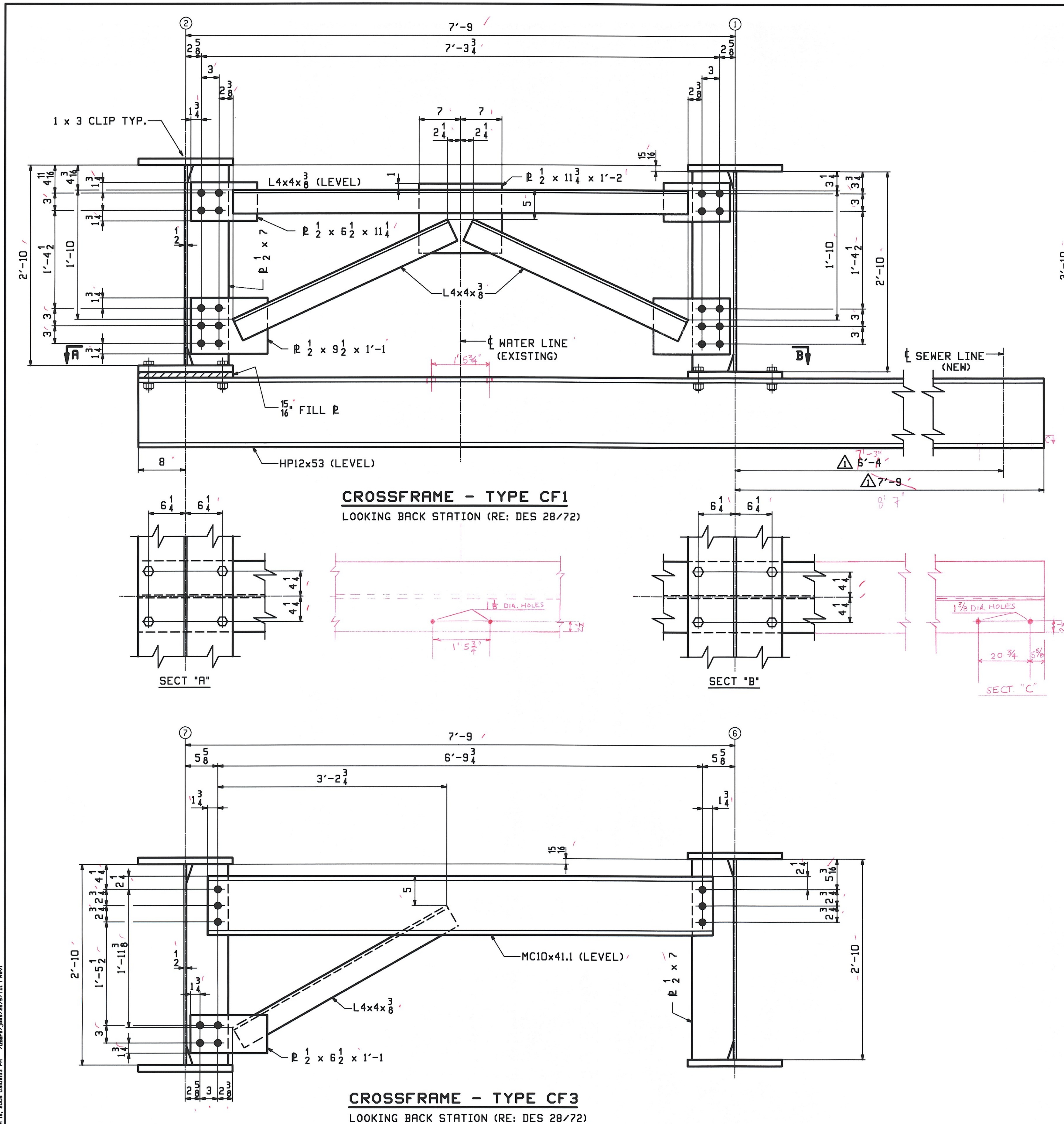
Authorized By Paul E. Goodale

Form III-2

Date 11-20-2002







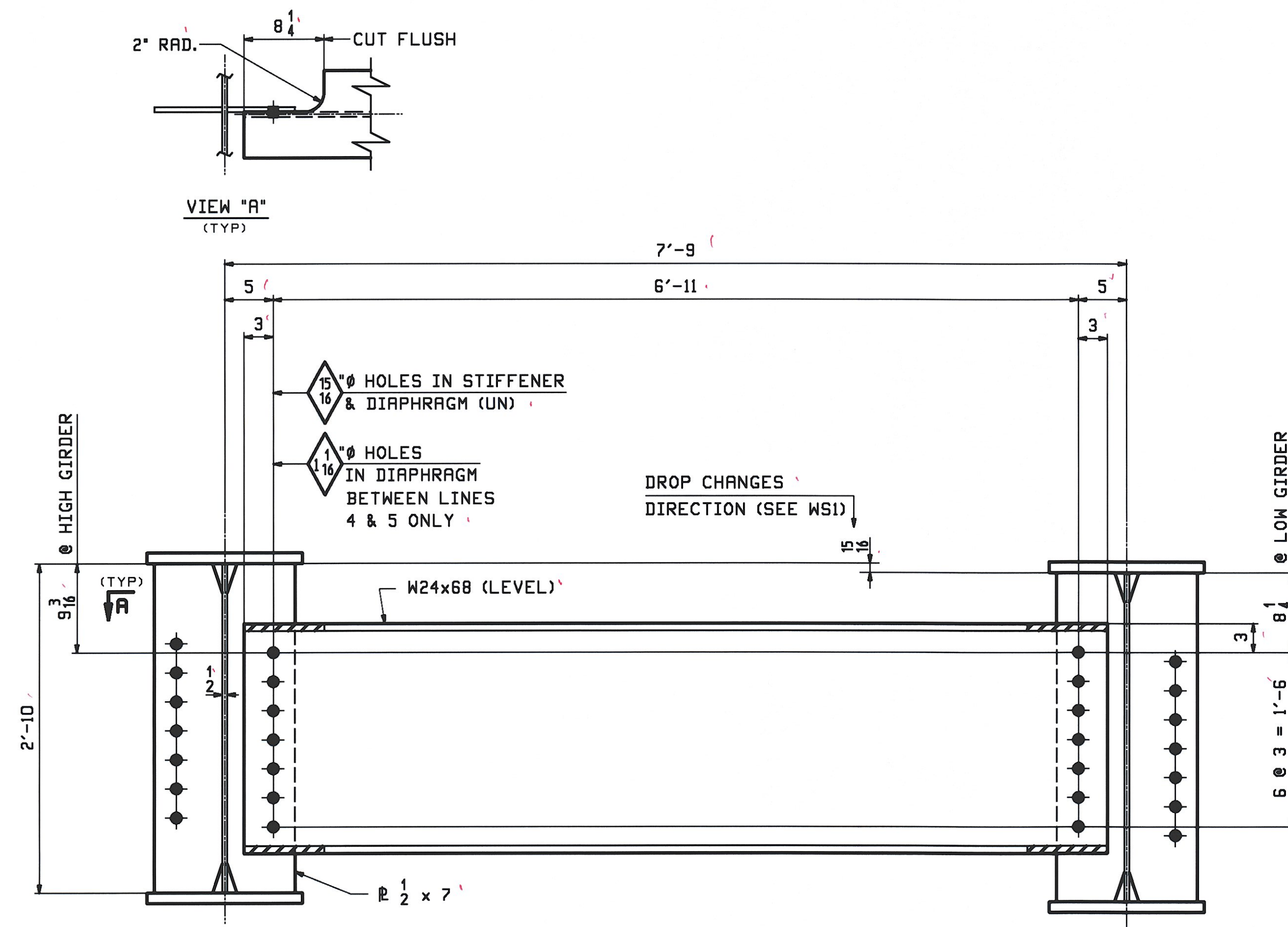
Rev. 1, Jan 18, 2009 03:58:33 PM /user/.../2879/TB1 Rev1

**\*\* NOTE \*\***  
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION AND CONNECTION SPACING. THIS DWG IS SUBMITTED FOR INFORMATION ONLY & IS NOT INTENDED FOR SHOP FABRICATION. DETAIL DWGS WILL SHOW ALL WELDING AND DIMENSIONS REQ'D FOR FABRICATION.

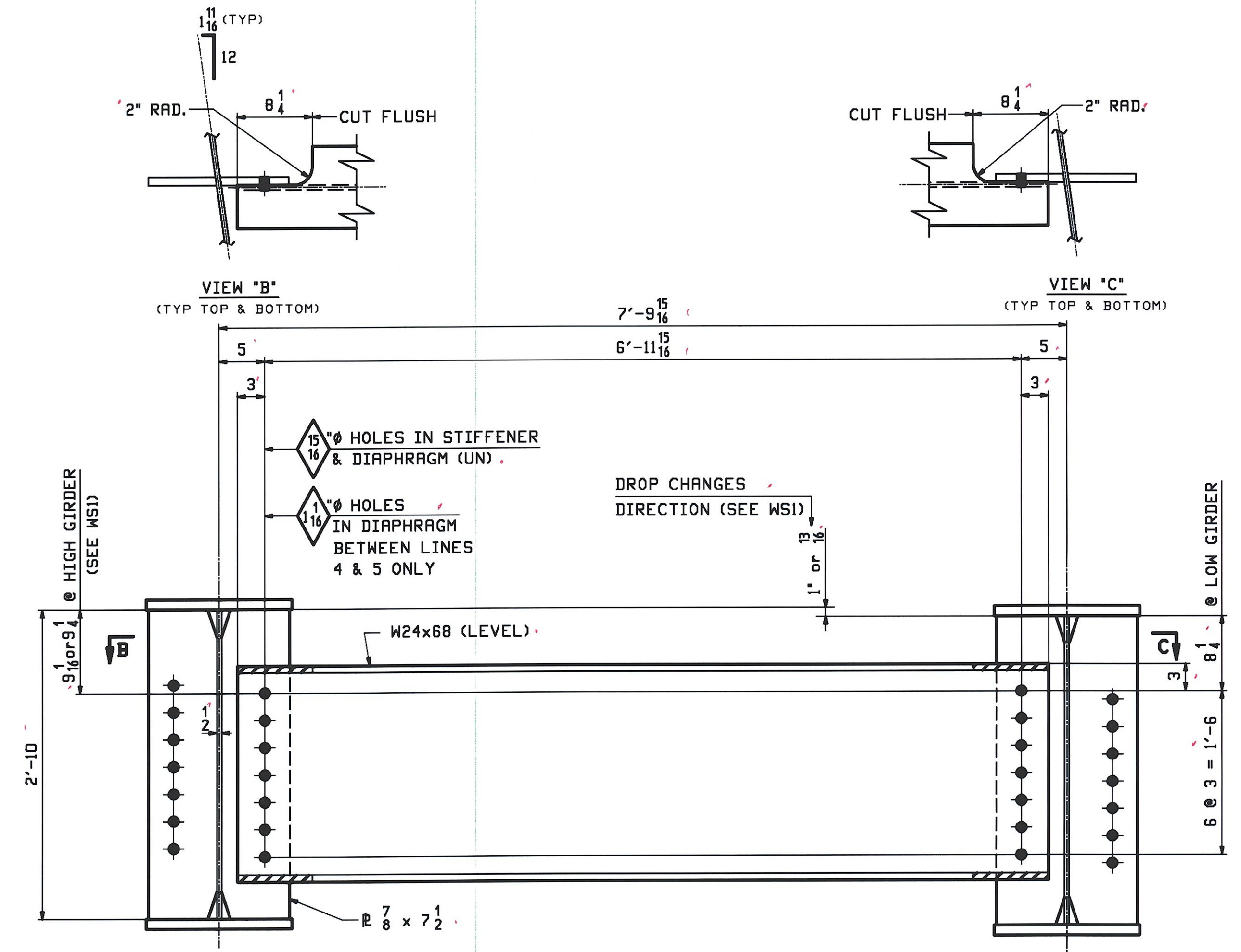
RECEIVED  
 CK'D BY: DEF, OK'D BY: WLF  
 JUN 24 2009  
 RESUBMIT: \_\_\_\_\_ APPROVED: AS NOTED  
 BY: DWE, DATE: 7/12/09

|                                                                                       |                                                                                      |                                                                                       |                                                                                       |                                  |                |                                                                                       |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------|----------------|---------------------------------------------------------------------------------------|
|  | 6/18                                                                                 | REV. SEWER LOC. & HP LENGTH                                                           | RLA                                                                                   | WJF                              |                |                                                                                       |
| 0                                                                                     |                                                                                      |  |                                                                                       |                                  |                |                                                                                       |
| REV.                                                                                  | DATE                                                                                 | REMARKS                                                                               | DWN                                                                                   | CHK                              | APVL           | SHOP                                                                                  |
| MATERIAL:                                                                             | M270-50W                                                                             | SURFACE PREP. & PAINT:<br>SEE GNI                                                     | HOLES:<br>15<br>16" Ø                                                                 | SHOP BOLTS:<br>7<br>8" Ø (FIELD) |                |                                                                                       |
| DESCRIPTION: LAYOUTS                                                                  |                                                                                      |                                                                                       |                                                                                       |                                  |                |                                                                                       |
| CASCO BAY STEEL STRUCTURES, INC.                                                      |                                                                                      |                                                                                       |                                                                                       |                                  |                |                                                                                       |
| 75 SPRING HILL ROAD                                                                   |                                                                                      |                                                                                       | SACO, MAINE 04072                                                                     |                                  |                |                                                                                       |
| PHONE (207) 282-7360                                                                  |                                                                                      |                                                                                       | FAX. (207) 282-1179                                                                   |                                  |                |                                                                                       |
|                                                                                       |                                                                                      |                                                                                       |  |                                  | TENSOR<br>2879 |                                                                                       |
| STRUCTURE:                                                                            | VT 11 OVER BLACK RIVER<br>BRIDGE NO. 64<br>SPRINGFIELD, VERMONT<br>COUNTY OF WINDSOR |                                                                                       |                                                                                       | DRAWN:                           | DATE:          |                                                                                       |
|                                                                                       |                                                                                      |                                                                                       |                                                                                       | WJF                              | 06/09          |                                                                                       |
| LOCATION:                                                                             | TOWN OF SPRINGFIELD                                                                  |                                                                                       |                                                                                       | CHKD:                            | DATE:          |                                                                                       |
|                                                                                       |                                                                                      |                                                                                       |                                                                                       | RLA                              | 06/15          |                                                                                       |
| LOCATION:                                                                             | TOWN OF SPRINGFIELD                                                                  |                                                                                       |                                                                                       | JOB NO.                          | DWG NO.        |                                                                                       |
| PROJ NO.                                                                              | BHF 018-2(14)                                                                        |                                                                                       |                                                                                       | 406-1                            | TD1            |                                                                                       |
| CUSTOMER:                                                                             | COLD RIVER BRIDGES, LLC                                                              |                                                                                       |                                                                                       |                                  | REV.           |  |





**DIAPHRAGM - TYPE D1**  
LOOKING BACK STATION @ DES 28A/72



**DIAPHRAGM - TYPE D2**  
LOOKING BACK STATION @ PIER 1 (RE: DES 28A/72)

RECEIVED  
OK'D BY DrP OK'D BY Cue  
JUN 24 2009  
RESUBMIT \_\_\_\_\_ APPROVED \_\_\_\_\_  
BY Cue DATE 7-13-09

**\*\* NOTE \*\***  
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION AND CONNECTION SPACING. THIS DWG IS SUBMITTED FOR INFORMATION ONLY & IS NOT INTENDED FOR SHOP FABRICATION. DETAIL DWGS WILL SHOW ALL WELDING AND DIMENSIONS REQ'D FOR FABRICATION.

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GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

- 1). ALL MATERIAL AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006 WITH LATEST REVISIONS AND THE AASHTO BRIDGE DESIGN SPECIFICATIONS DATED 2002, AND ITS LATEST REVISIONS.

MATERIAL SPECIFICATIONS

- 1). UNLESS OTHERWISE NOTED, ALL STEEL TO BE AASHTO M270M/M270, GRADE 50W. (UNPRINTED)
- 2). MATERIAL NOTED "CVN" OR "H2-3" ON DETAIL DRAWINGS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF VERMONT STANDARD SPECIFICATIONS SECTION 714.01.
- 3). HIGH STRENGTH BOLTS: AASHTO M164 7/8" DIAMETER TYPE 3 IN 15/16" DIAMETER HOLES, UNLESS NOTED OTHERWISE. BOLTS & NUTS SHALL BE ROTATIONAL CAPACITY TESTED. DO NOT MIX NUTS & BOLTS FROM DIFFERENT CONTAINERS UNLESS ALL BOLTS & NUTS HAVE THE SAME LOT NUMBER.

FABRICATION

- 1). ALL HOLES SHALL BE PUNCHED OR DRILLED FULL SIZE (UN).

WELDING

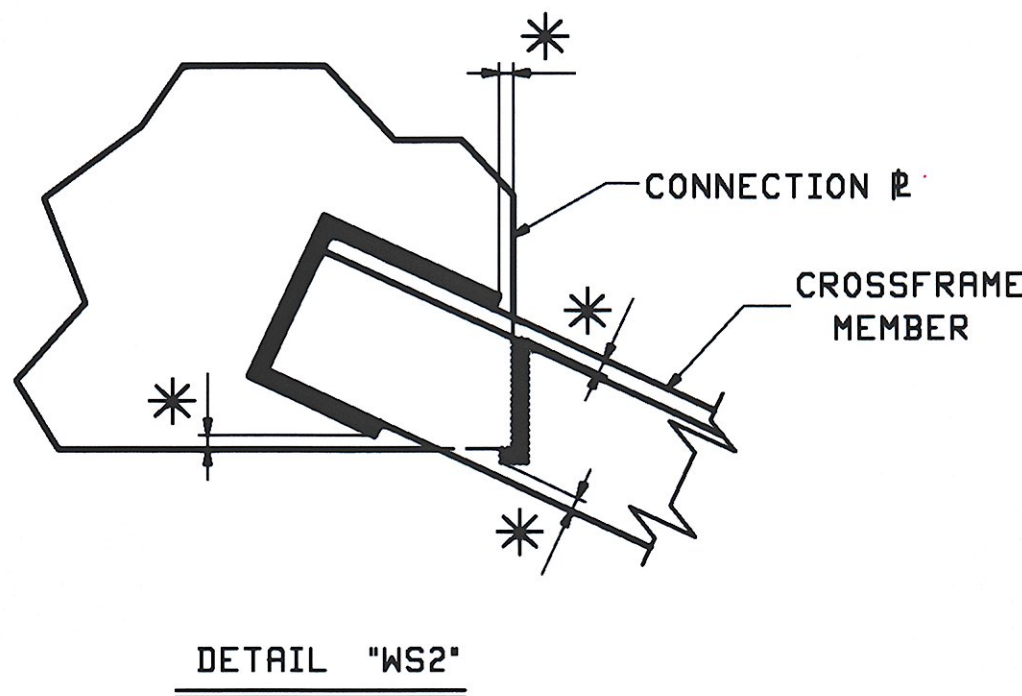
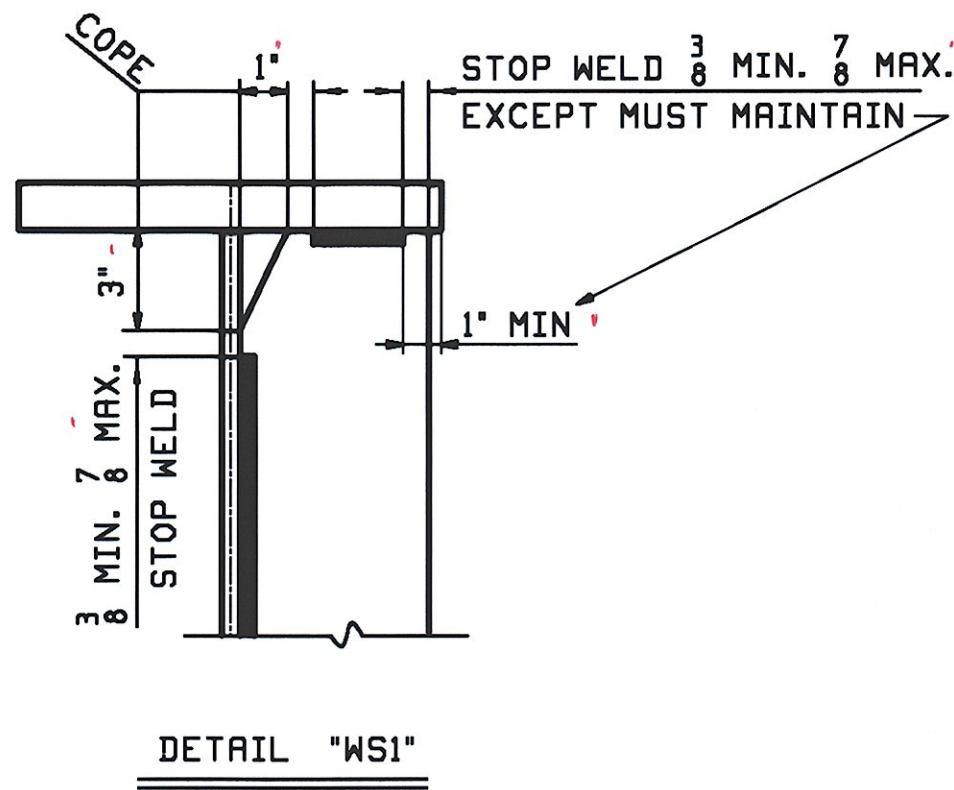
- 1). THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5-08 BRIDGE WELDING CODE AND IN ADDITION TO SPECIFICATIONS SHOWN ABOVE. ALL WELDING WILL BE DETAILED TO PRE-QUALIFIED JOINTS, UNLESS PROHIBITED BY THE DESIGNER.
- 2). WELDING OF MAIN LOAD CARRYING MEMBERS AND ATTACHMENTS SHALL BE PERFORMED USING THE AUTOMATIC SUBMERGED ARC & SHIELDED METAL ARC PROCESSES. ALL WELDS ARE CONTINUOUS U.N.
- 3). NON DESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATION.
- 4). SEE DETAIL "WS1" AND "WS2" ON THIS DRAWING FOR WELD TERMINATION DETAIL.

CLEANING & PAINTING:

- 1). ALL STEEL SHALL BE BLAST CLEANED AS PER SSPC-SP-10 PER SPEC. 506.14(a)
- 2). ALL STEEL SHALL BE UNPAINTED.
- 3). HP SEWER LINE SUPPORT SHALL BE HOT-DIP GALVANIZED PER ASTM A123.

FIELD CONNECTIONS

- 1). ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH STRENGTH AASHTO M164 BOLTS (UN), INSTALLED PER SECTION 506.19(c). SEE DWG E1 FOR FIELD BOLT SIZES.
- 2). BOLTS SHALL HAVE HEAVY HEX NUT, HEX HEAD, AND AT LEAST ONE FLAT WASHER EACH. WASHER TO BE PLACED UNDER TURNED ELEMENT.
- 3). PIECE MARKS WILL BE LOCATED AS SHOWN ON ERECTION DRAWINGS.



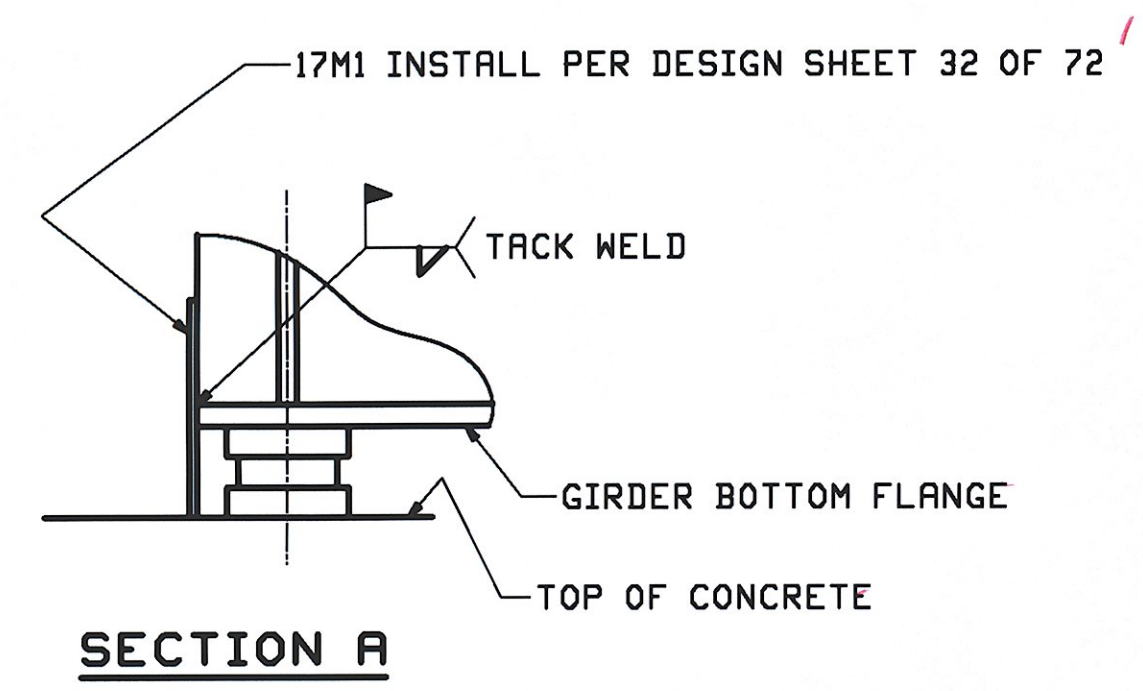
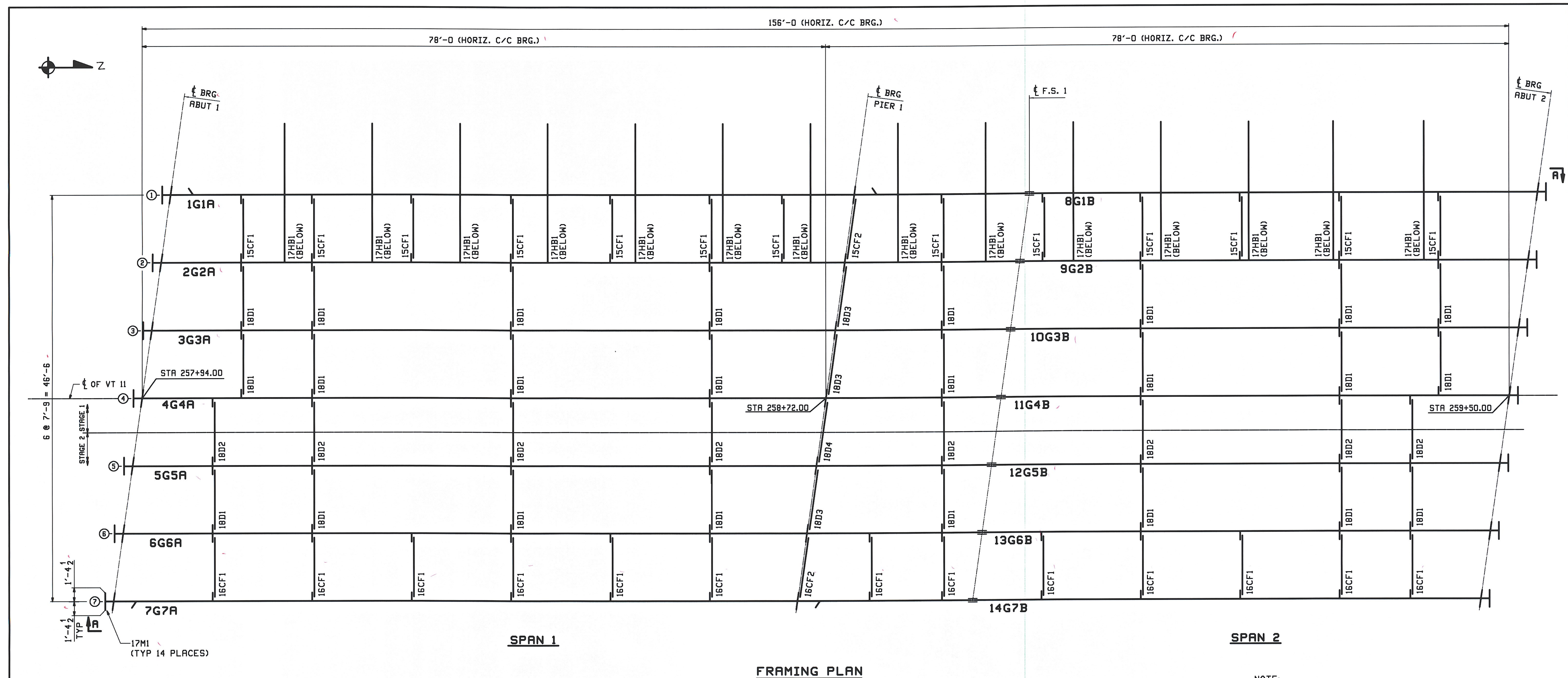
\* = STOP WELD 1/4 MIN. 1/2 MAX.

NOTE TO ENGINEER:  
THESE NOTES ARE NOT INTENDED TO BE ALL INCLUSIVE AND COMPLIANCE WITH RELEVANT SPECIFICATIONS REMAIN UNCHANGED.

RECEIVED  
CHK'D BY DRP OK'D BY CWC  
JUN 24 2009  
RESUBMIT \_\_\_\_\_ APPROVED \_\_\_\_\_  
BY awc DATE 7-3-09

|                                                                                                 |  |                        |  |                     |               |  |                                                                                            |             |      |
|-------------------------------------------------------------------------------------------------|--|------------------------|--|---------------------|---------------|--|--------------------------------------------------------------------------------------------|-------------|------|
|                                                                                                 |  |                        |  |                     |               |  |                                                                                            |             |      |
|                                                                                                 |  |                        |  |                     |               |  |                                                                                            |             |      |
| 0                                                                                               |  |                        |  |                     |               |  |                                                                                            |             |      |
| REV. DATE                                                                                       |  | REMARKS                |  |                     | DWN CHK       |  | APVL                                                                                       |             | SHOP |
| MATERIAL:                                                                                       |  | SURFACE PREP. & PAINT: |  |                     | HOLES:        |  |                                                                                            | SHOP BOLTS: |      |
| DESCRIPTION: GENERAL NOTES                                                                      |  |                        |  |                     |               |  |                                                                                            |             |      |
| CASCO BAY STEEL STRUCTURES, INC.                                                                |  |                        |  |                     |               |  |                                                                                            |             |      |
| 75 SPRING HILL ROAD                                                                             |  |                        |  | SACO, MAINE 04072   |               |  |                                                                                            |             |      |
| PHONE (207) 282-7360                                                                            |  |                        |  | FAX. (207) 282-1179 |               |  |                                                                                            |             |      |
|            |  |                        |  |                     |               |  |                                                                                            |             |      |
| STRUCTURE: VT 11 OVER BLACK RIVER<br>BRIDGE NO. 64<br>SPRINGFIELD, VERMONT<br>COUNTY OF WINDSOR |  |                        |  |                     | DRAWN:<br>WJF |  | DATE:<br>06/11                                                                             |             |      |
|                                                                                                 |  |                        |  |                     | CHKD:<br>RLA  |  | DATE:<br>06/16                                                                             |             |      |
| LOCATION: TOWN OF SPRINGFIELD                                                                   |  |                        |  |                     | JOB NO.       |  | DWG NO.                                                                                    |             |      |
| PROJ NO. BHF 016-2(14)                                                                          |  |                        |  |                     | 406-1         |  | GN1                                                                                        |             |      |
| CUSTOMER: COLD RIVER BRIDGES, LLC                                                               |  |                        |  |                     |               |  | REV.  |             |      |





NOTE:  
WORK THIS DRAWING WITH DRAWING E2.

|                                                                                                 |      |                         |  |                     |     |             |      |
|-------------------------------------------------------------------------------------------------|------|-------------------------|--|---------------------|-----|-------------|------|
|                                                                                                 |      |                         |  |                     |     |             |      |
|                                                                                                 |      |                         |  |                     |     |             |      |
| 0                                                                                               |      |                         |  |                     |     |             |      |
| REV.                                                                                            | DATE | REMARKS                 |  | DWN                 | CHK | APVL        | SHOP |
| MATERIAL:                                                                                       |      | SURFACE PREP. & PAINT:  |  | HOLES:              |     | SHOP BOLTS: |      |
| DESCRIPTION: FRAMING PLAN                                                                       |      |                         |  |                     |     |             |      |
| CASCO BAY STEEL STRUCTURES, INC.                                                                |      |                         |  |                     |     |             |      |
| 75 SPRING HILL ROAD                                                                             |      |                         |  | SACO, MAINE 04072   |     |             |      |
| PHONE (207) 282-7360                                                                            |      |                         |  | FAX. (207) 282-1179 |     |             |      |
| STRUCTURE: VT 11 OVER BLACK RIVER<br>BRIDGE NO. 64<br>SPRINGFIELD, VERMONT<br>COUNTY OF WINDSOR |      |                         |  | DRAWN:              |     | DATE:       |      |
|                                                                                                 |      |                         |  | WJF                 |     | 06/12       |      |
|                                                                                                 |      |                         |  | CHKD:               |     | DATE:       |      |
|                                                                                                 |      |                         |  | DO                  |     | 06/24       |      |
| LOCATION:                                                                                       |      | TOWN OF SPRINGFIELD     |  | JOB NO.             |     | DWG NO.     |      |
| PROJ NO.                                                                                        |      | BHF 016-2(14)           |  | 406-1               |     | E1          |      |
| CUSTOMER:                                                                                       |      | COLD RIVER BRIDGES, LLC |  | REV.                |     | A           |      |

RECEIVED  
CHK'D BY: DRP ON'D BY: CUC  
JUN 26 2009  
RESUBMIT APPROVED  
BY: auc DATE: 7-17-09



| FIELD BOLT LIST                                 |            |           |           |                  |      | A325 Type 3 BOLTS           |       |       |     |           | WASH CODES                   |                          |
|-------------------------------------------------|------------|-----------|-----------|------------------|------|-----------------------------|-------|-------|-----|-----------|------------------------------|--------------------------|
| LINE                                            | NO. REQ'D. | BOLT DIA. | BOLT LEN. | BOLTS # OF CONN. | GRIP | THICKNESS OF PCS. CONNECTED |       |       |     | WASH CODE | PIECES CONNECTED AND REMARKS |                          |
| 1                                               |            |           |           |                  |      |                             |       |       |     |           |                              | FIELD SPLICES            |
| 2                                               | 420        | 7/8       | 3 1/2     | 60               | 7    | 1 3/4                       | 5/8   | 1/2   | 5/8 |           | 1                            | WEB CONN PLATE           |
| 3                                               | 280        | 7/8       | 3 1/2     | 40               | 7    | 2 1/8                       | 1/2   | 1 1/8 | 1/2 |           | 1                            | TOP FLG CONN PLATE       |
| 4                                               | 280        | 7/8       | 3 1/2     | 40               | 7    | 2 1/8                       | 1/2   | 1 1/8 | 1/2 |           | 1                            | BTM FLG CONN PLATE       |
| 5                                               |            |           |           |                  |      |                             |       |       |     |           |                              |                          |
| 6                                               |            |           |           |                  |      |                             |       |       |     |           |                              | CROSSFRAME LN 1 - 2      |
| 7                                               | 104        | 7/8       | 2 1/2     | 4                | 26   | 1                           | 1/2   | 1/2   |     |           | 1                            | TOP GUSS TO CONN PLATE   |
| 8                                               | 156        | 7/8       | 2 1/2     | 6                | 26   | 1                           | 1/2   | 1/2   |     |           | 1                            | BTM GUSS TO CONN PLATE   |
| 9                                               |            |           |           |                  |      |                             |       |       |     |           |                              |                          |
| 10                                              |            |           |           |                  |      |                             |       |       |     |           |                              | CROSSFRAME LN 1 - 2 @ P1 |
| 11                                              | 8          | 7/8       | 2 3/4     | 4                | 2    | 1 3/8                       | 1/2   | 7/8   |     |           | 1                            | TOP GUSS TO CONN PLATE   |
| 12                                              | 12         | 7/8       | 2 3/4     | 6                | 2    | 1 3/8                       | 1/2   | 7/8   |     |           | 1                            | BTM GUSS TO CONN PLATE   |
| 13                                              |            |           |           |                  |      |                             |       |       |     |           |                              |                          |
| 14                                              |            |           |           |                  |      |                             |       |       |     |           |                              | CROSSFRAME LN 6 - 7      |
| 15                                              | 78         | 7/8       | 2 1/4     | 3                | 26   | 1 5/16                      | 13/16 | 1/2   |     |           | 1                            | TOP STRUT TO CONN PLATE  |
| 16                                              | 52         | 7/8       | 2 1/4     | 4                | 13   | 1                           | 1/2   | 1/2   |     |           | 1                            | BTM GUSS TO CONN PLATE   |
| 17                                              |            |           |           |                  |      |                             |       |       |     |           |                              |                          |
| 18                                              |            |           |           |                  |      |                             |       |       |     |           |                              | CROSSFRAME LN 6 - 7 @ P1 |
| 19                                              | 6          | 7/8       | 3         | 3                | 2    | 1 11/16                     | 13/16 | 7/8   |     |           | 1                            | TOP STRUT TO CONN PLATE  |
| 20                                              | 4          | 7/8       | 2 3/4     | 4                | 1    | 1 3/8                       | 1/2   | 7/8   |     |           | 1                            | BTM GUSS TO CONN PLATE   |
| 21                                              |            |           |           |                  |      |                             |       |       |     |           |                              |                          |
| 22                                              |            |           |           |                  |      |                             |       |       |     |           |                              | DIAPHRAGMS LN 4 - 5      |
| 23                                              | 112        | 7/8       | 2 1/2     | 7                | 16   | 15/16                       | 7/16  | 1/2   |     |           | 2                            | DIAPH TO CONN PLATE      |
| 24                                              |            |           |           |                  |      |                             |       |       |     |           |                              |                          |
| 25                                              |            |           |           |                  |      |                             |       |       |     |           |                              | DIAPHRAGMS LN 4 - 5 @ P1 |
| 26                                              | 14         | 7/8       | 2 3/4     | 7                | 2    | 1 5/16                      | 7/16  | 7/8   |     |           | 2                            | DIAPH TO CONN PLATE      |
| 27                                              |            |           |           |                  |      |                             |       |       |     |           |                              |                          |
| 28                                              |            |           |           |                  |      |                             |       |       |     |           |                              | DIAPHRAGMS               |
| 29                                              | 336        | 7/8       | 2 1/4     | 7                | 48   | 15/16                       | 7/16  | 1/2   |     |           | 1                            | DIAPH TO CONN PLATE      |
| 30                                              |            |           |           |                  |      |                             |       |       |     |           |                              |                          |
| 31                                              |            |           |           |                  |      |                             |       |       |     |           |                              | DIAPHRAGMS @ P1          |
| 32                                              | 42         | 7/8       | 2 3/4     | 7                | 6    | 1 5/16                      | 7/16  | 7/8   |     |           | 1                            | DIAPH TO CONN PLATE      |
| 33                                              |            |           |           |                  |      |                             |       |       |     |           |                              |                          |
| 1: 1 Hard Flat Washer<br>2: 2 Hard Flat Washers |            |           |           |                  |      |                             |       |       |     |           |                              |                          |

| FIELD BOLT SUMMARY |              |                                   | EXACT COUNT - NONE EXTRA |          |              |                   |
|--------------------|--------------|-----------------------------------|--------------------------|----------|--------------|-------------------|
| LINE               | NO. OF BOLTS | BOLT DIA.                         | TYPE                     | BOLT LEN | ACTUAL COUNT | REMARKS           |
| 1                  | 56           | 7/8                               | A325 Type 1              | 3        | 56           | GALVANIZED        |
| 2                  | 56           | 7/8                               | A325 Type 1              | 4        | 56           | GALVANIZED        |
| 3                  |              |                                   |                          |          |              |                   |
| 4                  | 224          | Hard Flat Washers for 7/8" Ø BOLT |                          |          |              | GALVANIZED (F436) |
| 5                  |              |                                   |                          |          |              |                   |
| 6                  |              |                                   |                          |          |              |                   |
| 7                  | 336          | 7/8                               | A325 Type 3              | 2 1/4    | 336          |                   |
| 8                  | 424          | 7/8                               |                          | 2 1/2    | 424          |                   |
| 9                  | 158          | 7/8                               |                          | 2 3/4    | 158          |                   |
| 10                 | 6            | 7/8                               |                          | 3        | 6            |                   |
| 11                 | 420          | 7/8                               |                          | 3 1/4    | 420          |                   |
| 12                 | 560          | 7/8                               | A325 Type 3              | 3 1/2    | 560          |                   |
| 13                 |              |                                   |                          |          |              |                   |
| 14                 | 2030         | Hard Flat Washers for 7/8" Ø BOLT |                          |          |              |                   |
| 15                 |              |                                   |                          |          |              |                   |
| 16                 |              |                                   |                          |          |              |                   |
| 17                 |              |                                   |                          |          |              |                   |

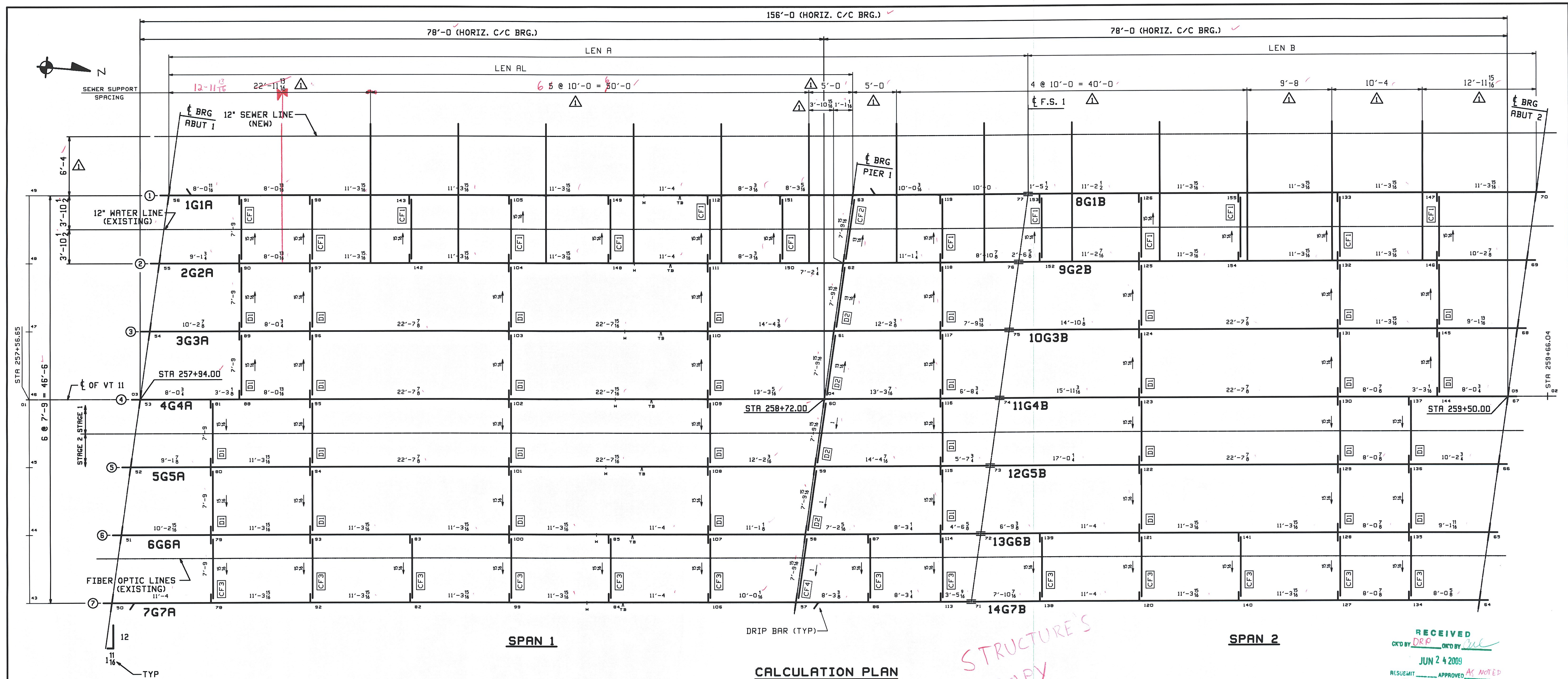
WORK THIS DRAWING WITH DRAWING E1.

| FIELD BOLT LIST        |              |              |              |                      |      | A325 Type 1 BOLTS (GALV)    |      |     |       |  |  |              |                              |
|------------------------|--------------|--------------|--------------|----------------------|------|-----------------------------|------|-----|-------|--|--|--------------|------------------------------|
| LINE                   | NO<br>REQ'D. | BOLT<br>DIA. | BOLT<br>LEN. | BOLTS<br>OF<br>CONN. | GRIP | THICKNESS OF PCS. CONNECTED |      |     |       |  |  | WASH<br>CODE | PIECES CONNECTED AND REMARKS |
| 34                     |              |              |              |                      |      |                             |      |     |       |  |  |              | HANGER BEAM                  |
| 35                     | 56           | 7/8          | 3            | 4                    | 14   | 9/16                        | 7/16 | 1/8 |       |  |  | 2            | BEAM TO GIRDER LN 1          |
| 36                     | 56           | 7/8          | 4            | 4                    | 14   | 2 1/2                       | 7/16 | 1/8 | 15/16 |  |  | 2            | BEAM TO GIRDER LN 2          |
| 37                     |              |              |              |                      |      |                             |      |     |       |  |  |              |                              |
| WASHER CODES           |              |              |              |                      |      |                             |      |     |       |  |  |              |                              |
| 2: 2 Hard Flat Washers |              |              |              |                      |      |                             |      |     |       |  |  |              |                              |

|                                   |      |                        |  |  |  |  |  |  |  |  |                     |        |         |             |      |  |  |  |  |  |  |  |
|-----------------------------------|------|------------------------|--|--|--|--|--|--|--|--|---------------------|--------|---------|-------------|------|--|--|--|--|--|--|--|
| 0                                 |      |                        |  |  |  |  |  |  |  |  |                     |        |         |             |      |  |  |  |  |  |  |  |
| REV.                              | DATE | REMARKS                |  |  |  |  |  |  |  |  |                     | DWN    | CHK     | APVL        | SHOP |  |  |  |  |  |  |  |
| MATERIAL:                         |      | SURFACE PREP. & PAINT: |  |  |  |  |  |  |  |  |                     | HOLES: |         | SHOP BOLTS: |      |  |  |  |  |  |  |  |
| DESCRIPTION: FIELD BOLTS          |      |                        |  |  |  |  |  |  |  |  |                     |        |         |             |      |  |  |  |  |  |  |  |
| CASCO BAY STEEL STRUCTURES, INC.  |      |                        |  |  |  |  |  |  |  |  |                     |        |         |             |      |  |  |  |  |  |  |  |
| 75 SPRING HILL ROAD               |      |                        |  |  |  |  |  |  |  |  | SACO, MAINE 04072   |        |         |             |      |  |  |  |  |  |  |  |
| PHONE (207) 282-7360              |      |                        |  |  |  |  |  |  |  |  | FAX. (207) 282-1179 |        |         |             |      |  |  |  |  |  |  |  |
| STRUCTURE: VT 11 OVER BLACK RIVER |      |                        |  |  |  |  |  |  |  |  | DRAWN:              |        | DATE:   |             |      |  |  |  |  |  |  |  |
| BRIDGE NO. 64                     |      |                        |  |  |  |  |  |  |  |  | WJF                 |        | 06/16   |             |      |  |  |  |  |  |  |  |
| SPRINGFIELD, VERMONT              |      |                        |  |  |  |  |  |  |  |  | CHKD:               |        | DATE:   |             |      |  |  |  |  |  |  |  |
| COUNTY OF WINDSOR                 |      |                        |  |  |  |  |  |  |  |  | DO                  |        | 06/24   |             |      |  |  |  |  |  |  |  |
| LOCATION: TOWN OF SPRINGFIELD     |      |                        |  |  |  |  |  |  |  |  | JOB NO.             |        | DWG NO. |             |      |  |  |  |  |  |  |  |
| PROJ NO. BHF 016-2(14)            |      |                        |  |  |  |  |  |  |  |  | 406-1               |        | E2      |             |      |  |  |  |  |  |  |  |
| CUSTOMER: COLD RIVER BRIDGES, LLC |      |                        |  |  |  |  |  |  |  |  |                     |        | REV.    |             |      |  |  |  |  |  |  |  |

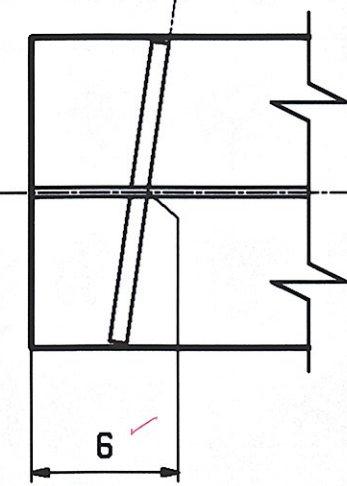
RECEIVED  
OK'D BY OK'D BY   
JUN 26 2009  
RESUBMIT APPROVED   
BY DATE 7.17.09





**ERECTOR NOTE:**  
WRENCH TIGHTEN DIAPHRAGM BOLTS BETWEEN GIRDER LINES 4 & 5.  
BOLTS TO BE FULLY TORQUED AFTER STAGE 2 CONCRETE HAS BEEN POURED.

FRONT FACE OF CURTAIN WALL



**TYPICAL ABUT. 1 DETAIL**  
(ABUT. 2 OPP. HAND)

| Line | DEVELOPED LENGTHS ALONG BOTTOM OF WEB |              |              | LONGIT. SLOPE |        |        |
|------|---------------------------------------|--------------|--------------|---------------|--------|--------|
|      | LEN AL                                | LEN A        | LEN B        | Abut 1        | Pier 1 | Abut 2 |
| 1    | 77'-11 13/16                          | 98'-0        | 57'-11 3/4   | .0077         | .0077  | .0077  |
| 2    | 77'-11 13/16                          | 97'-11 15/16 | 57'-11 3/4   | .0077         | .0077  | .0077  |
| 3    | 77'-11 13/16                          | 98'-0        | 57'-11 3/4   | .0077         | .0077  | .0077  |
| 4    | 77'-11 13/16                          | 98'-0        | 57'-11 3/4   | .0077         | .0077  | .0077  |
| 5    | 77'-11 13/16                          | 98'-0        | 57'-11 3/4   | .0077         | .0077  | .0077  |
| 6    | 77'-11 13/16                          | 98'-0        | 57'-11 13/16 | .0077         | .0077  | .0077  |
| 7    | 77'-11 13/16                          | 98'-0        | 57'-11 13/16 | .0077         | .0077  | .0077  |

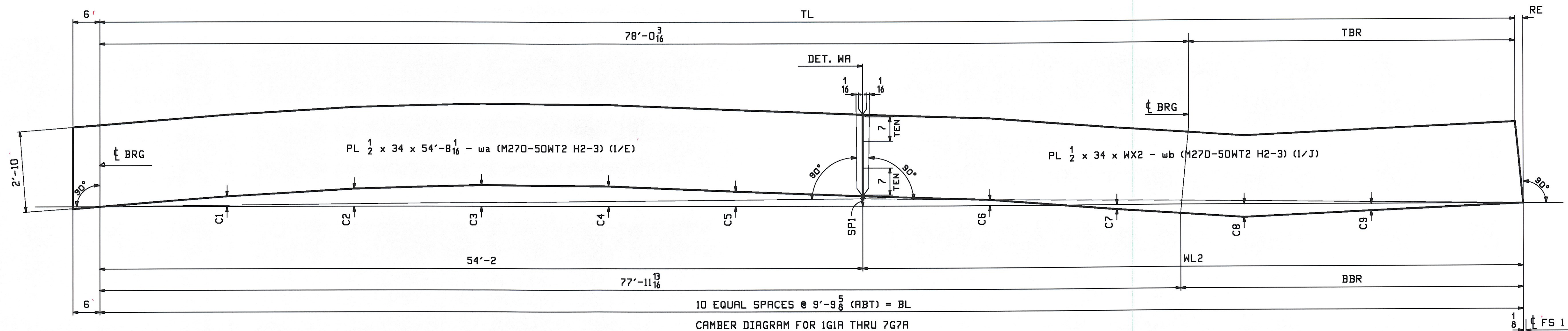
**\*\* NOTE \*\***  
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DWG IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION.

- NOTES:
1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG BOTTOM OF WEBS WITH CORRECTIONS MADE FOR DL CAMBER, V.C. & GRADE (UN).
  2. TRANSVERSE DIMENSIONS ARE IN A HORIZONTAL PLANE (UN).
  3. ARROW POINTS TOWARD LOW END OF MEMBER.
  4. ENDS OF GIRDERS & BRG STIFFENERS ARE VERTICAL AFTER DL ROTATION.
  5. CROSSFRAME STIFFENERS & FIELD SPLICES ARE NORMAL TO GRADE.
  6. BOTTOM POINT NUMBERS = TOP POINT NUMBERS + 200
  7. FOR LAYOUTS SEE "TD" SHEETS.

RECEIVED  
CHKD BY DRP OKD BY [Signature]  
JUN 24 2009  
RESUBMIT APPROVED AS NOTED  
BY [Signature] DATE 7-13-09

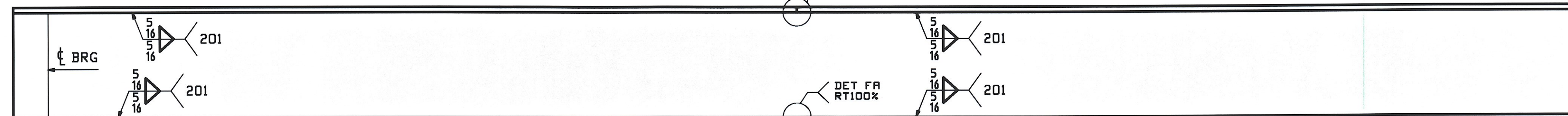
|                                                                                                 |                                                                                       |                                   |                     |                |         |                                                                                            |
|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|---------------------|----------------|---------|--------------------------------------------------------------------------------------------|
|            | 6/18                                                                                  | REVISED HANGER BEAM SPACING       | WJF                 | RLA            |         |                                                                                            |
| 0                                                                                               |  |                                   |                     |                |         |                                                                                            |
| REV. DATE                                                                                       | REMARKS                                                                               |                                   | DWN                 | CHK            | APVL    | SHOP                                                                                       |
| MATERIAL:<br>M270-S0W                                                                           |                                                                                       | SURFACE PREP. & PAINT:<br>SEE GNI |                     | HOLES:<br>NONE |         | SHOP BOLTS:<br>NONE                                                                        |
| DESCRIPTION: CALCULATION PLAN                                                                   |                                                                                       |                                   |                     |                |         |                                                                                            |
| CASCO BAY STEEL STRUCTURES, INC.                                                                |                                                                                       |                                   |                     |                |         |                                                                                            |
| 75 SPRING HILL ROAD                                                                             |                                                                                       |                                   | SACO, MAINE 04072   |                |         |                                                                                            |
| PHONE (207) 282-7360                                                                            |                                                                                       |                                   | FAX. (207) 282-1179 |                |         |                                                                                            |
| STRUCTURE: VT 11 OVER BLACK RIVER<br>BRIDGE NO. 64<br>SPRINGFIELD, VERMONT<br>COUNTY OF WINDSOR |                                                                                       |                                   |                     |                | DRAWN:  | DATE:                                                                                      |
|                                                                                                 |                                                                                       |                                   |                     |                | WJF     | 06/08                                                                                      |
|                                                                                                 |                                                                                       |                                   |                     |                | CHKD:   | DATE:                                                                                      |
|                                                                                                 |                                                                                       |                                   |                     |                | RLA     | 06/13                                                                                      |
| LOCATION: TOWN OF SPRINGFIELD                                                                   |                                                                                       |                                   |                     |                | JOB NO. | DWG NO.                                                                                    |
| PROJ NO. BHF 016-2(14)                                                                          |                                                                                       |                                   |                     |                | 406-1   | WS1                                                                                        |
| CUSTOMER: COLD RIVER BRIDGES, LLC                                                               |                                                                                       |                                   |                     |                |         | REV.  |





| MARK | TL                                   | BL                                   | RE                           | WL2                                 | WX2                                 | SP1                           | TBR                                 | BBR                                | C1                          | C2                          | C3                              | C4                              | C5                             | C6                          | C7                           | C8                            | C9                           |
|------|--------------------------------------|--------------------------------------|------------------------------|-------------------------------------|-------------------------------------|-------------------------------|-------------------------------------|------------------------------------|-----------------------------|-----------------------------|---------------------------------|---------------------------------|--------------------------------|-----------------------------|------------------------------|-------------------------------|------------------------------|
| 1G1A | 97'-11 <sup>11</sup> / <sub>16</sub> | 97'-11 <sup>7</sup> / <sub>8</sub>   | <sup>3</sup> / <sub>16</sub> | 43'-9 <sup>7</sup> / <sub>8</sub>   | 43'-9 <sup>15</sup> / <sub>16</sub> | <sup>7</sup> / <sub>8</sub>   | 19'-11 <sup>1</sup> / <sub>2</sub>  | 20'-0 <sup>1</sup> / <sub>16</sub> | <sup>7</sup> / <sub>8</sub> | <sup>1</sup> / <sub>2</sub> | 1 <sup>13</sup> / <sub>16</sub> | 1 <sup>11</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub>  | <sup>1</sup> / <sub>2</sub> | <sup>3</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | <sup>9</sup> / <sub>16</sub> |
| 2G2A | 97'-11 <sup>3</sup> / <sub>4</sub>   | 97'-11 <sup>13</sup> / <sub>16</sub> | <sup>1</sup> / <sub>16</sub> | 43'-9 <sup>13</sup> / <sub>16</sub> | 43'-9 <sup>7</sup> / <sub>8</sub>   | <sup>7</sup> / <sub>8</sub>   | 19'-11 <sup>9</sup> / <sub>16</sub> | 20'-0                              | <sup>7</sup> / <sub>8</sub> | <sup>1</sup> / <sub>2</sub> | 1 <sup>13</sup> / <sub>16</sub> | 1 <sup>11</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub>  | <sup>1</sup> / <sub>2</sub> | <sup>3</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | <sup>5</sup> / <sub>8</sub>  |
| 3G3A | 97'-11 <sup>3</sup> / <sub>4</sub>   | 97'-11 <sup>7</sup> / <sub>8</sub>   | <sup>1</sup> / <sub>8</sub>  | 43'-9 <sup>7</sup> / <sub>8</sub>   | 43'-9 <sup>15</sup> / <sub>16</sub> | <sup>13</sup> / <sub>16</sub> | 19'-11 <sup>9</sup> / <sub>16</sub> | 20'-0 <sup>1</sup> / <sub>16</sub> | <sup>7</sup> / <sub>8</sub> | <sup>1</sup> / <sub>2</sub> | 1 <sup>3</sup> / <sub>4</sub>   | 1 <sup>11</sup> / <sub>16</sub> | 1 <sup>3</sup> / <sub>16</sub> | <sup>1</sup> / <sub>2</sub> | <sup>7</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>8</sub> | <sup>5</sup> / <sub>8</sub>  |
| 4G4A | 97'-11 <sup>3</sup> / <sub>4</sub>   | 97'-11 <sup>7</sup> / <sub>8</sub>   | <sup>1</sup> / <sub>8</sub>  | 43'-9 <sup>7</sup> / <sub>8</sub>   | 43'-9 <sup>15</sup> / <sub>16</sub> | <sup>13</sup> / <sub>16</sub> | 19'-11 <sup>9</sup> / <sub>16</sub> | 20'-0 <sup>1</sup> / <sub>16</sub> | <sup>7</sup> / <sub>8</sub> | <sup>1</sup> / <sub>2</sub> | 1 <sup>3</sup> / <sub>4</sub>   | 1 <sup>11</sup> / <sub>16</sub> | 1 <sup>3</sup> / <sub>16</sub> | <sup>1</sup> / <sub>2</sub> | <sup>7</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>8</sub> | <sup>5</sup> / <sub>8</sub>  |
| 5G5A | 97'-11 <sup>3</sup> / <sub>4</sub>   | 97'-11 <sup>7</sup> / <sub>8</sub>   | <sup>1</sup> / <sub>8</sub>  | 43'-9 <sup>7</sup> / <sub>8</sub>   | 43'-9 <sup>15</sup> / <sub>16</sub> | <sup>7</sup> / <sub>8</sub>   | 19'-11 <sup>9</sup> / <sub>16</sub> | 20'-0 <sup>1</sup> / <sub>16</sub> | <sup>7</sup> / <sub>8</sub> | <sup>1</sup> / <sub>2</sub> | 1 <sup>3</sup> / <sub>4</sub>   | 1 <sup>11</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub>  | <sup>1</sup> / <sub>2</sub> | <sup>7</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>8</sub> | <sup>5</sup> / <sub>8</sub>  |
| 6G6A | 97'-11 <sup>11</sup> / <sub>16</sub> | 97'-11 <sup>7</sup> / <sub>8</sub>   | <sup>3</sup> / <sub>16</sub> | 43'-9 <sup>7</sup> / <sub>8</sub>   | 43'-9 <sup>15</sup> / <sub>16</sub> | <sup>7</sup> / <sub>8</sub>   | 19'-11 <sup>1</sup> / <sub>2</sub>  | 20'-0 <sup>1</sup> / <sub>16</sub> | <sup>7</sup> / <sub>8</sub> | <sup>1</sup> / <sub>2</sub> | 1 <sup>13</sup> / <sub>16</sub> | 1 <sup>11</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub>  | <sup>1</sup> / <sub>2</sub> | <sup>3</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | <sup>9</sup> / <sub>16</sub> |
| 7G7A | 97'-11 <sup>11</sup> / <sub>16</sub> | 97'-11 <sup>7</sup> / <sub>8</sub>   | <sup>3</sup> / <sub>16</sub> | 43'-9 <sup>7</sup> / <sub>8</sub>   | 43'-9 <sup>15</sup> / <sub>16</sub> | <sup>7</sup> / <sub>8</sub>   | 19'-11 <sup>1</sup> / <sub>2</sub>  | 20'-0 <sup>1</sup> / <sub>16</sub> | <sup>7</sup> / <sub>8</sub> | <sup>1</sup> / <sub>2</sub> | 1 <sup>13</sup> / <sub>16</sub> | 1 <sup>11</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub>  | <sup>1</sup> / <sub>2</sub> | <sup>3</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | <sup>9</sup> / <sub>16</sub> |

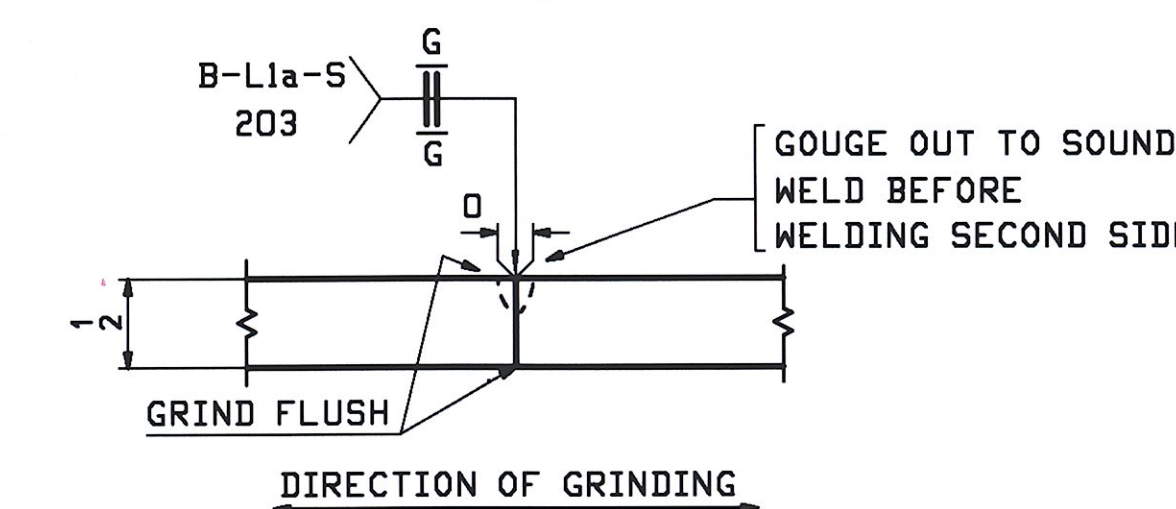
|      |                                                                            |                                                                                                          |
|------|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| 1G1A | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-8 - ta ( M270-50WT2 H2-3 ) 1/R | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 39'-9 <sup>11</sup> / <sub>16</sub> - tb ( M270-50WT2 H2-3 ) 1/C |
| 2G2A | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-8 - ta ( M270-50WT2 H2-3 ) 1/R | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 39'-9 <sup>3</sup> / <sub>4</sub> - tb ( M270-50WT2 H2-3 ) 1/C   |
| 3G3A | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-8 - ta ( M270-50WT2 H2-3 ) 1/R | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 39'-9 <sup>3</sup> / <sub>4</sub> - tb ( M270-50WT2 H2-3 ) 1/C   |
| 4G4A | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-8 - ta ( M270-50WT2 H2-3 ) 1/R | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 39'-9 <sup>3</sup> / <sub>4</sub> - tb ( M270-50WT2 H2-3 ) 1/C   |
| 5G5A | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-8 - ta ( M270-50WT2 H2-3 ) 1/R | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 39'-9 <sup>3</sup> / <sub>4</sub> - tb ( M270-50WT2 H2-3 ) 1/C   |
| 6G6A | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-8 - ta ( M270-50WT2 H2-3 ) 1/R | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 39'-9 <sup>11</sup> / <sub>16</sub> - tb ( M270-50WT2 H2-3 ) 1/C |
| 7G7A | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-8 - ta ( M270-50WT2 H2-3 ) 1/R | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 39'-9 <sup>11</sup> / <sub>16</sub> - tb ( M270-50WT2 H2-3 ) 1/C |



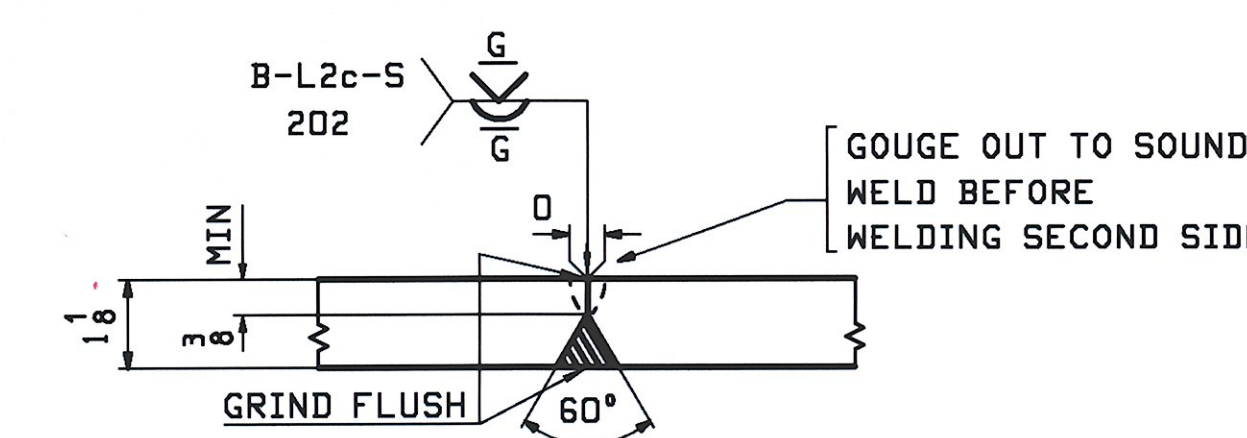
|      |                                                                            |                                                                                                          |
|------|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| 1G1A | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-8 - ba ( M270-50WT2 H2-3 ) 1/R | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 39'-9 <sup>7</sup> / <sub>8</sub> - bb ( M270-50WT2 H2-3 ) 1/C   |
| 2G2A | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-8 - ba ( M270-50WT2 H2-3 ) 1/R | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 39'-9 <sup>13</sup> / <sub>16</sub> - bb ( M270-50WT2 H2-3 ) 1/C |
| 3G3A | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-8 - ba ( M270-50WT2 H2-3 ) 1/R | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 39'-9 <sup>7</sup> / <sub>8</sub> - bb ( M270-50WT2 H2-3 ) 1/C   |
| 4G4A | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-8 - ba ( M270-50WT2 H2-3 ) 1/R | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 39'-9 <sup>7</sup> / <sub>8</sub> - bb ( M270-50WT2 H2-3 ) 1/C   |
| 5G5A | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-8 - ba ( M270-50WT2 H2-3 ) 1/R | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 39'-9 <sup>7</sup> / <sub>8</sub> - bb ( M270-50WT2 H2-3 ) 1/C   |
| 6G6A | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-8 - ba ( M270-50WT2 H2-3 ) 1/R | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 39'-9 <sup>7</sup> / <sub>8</sub> - bb ( M270-50WT2 H2-3 ) 1/C   |
| 7G7A | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-8 - ba ( M270-50WT2 H2-3 ) 1/R | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 39'-9 <sup>7</sup> / <sub>8</sub> - bb ( M270-50WT2 H2-3 ) 1/C   |

FLANGE DIAGRAM FOR 1G1A THRU 7G7A

RECEIVED  
 CND BY DRP OK'D BY CWC  
 JUN 24 2009  
 RESUBMIT APPROVED  
 BY CWC DATE 7-13-09



WEB PLATE SPLICE DETAIL "WA"

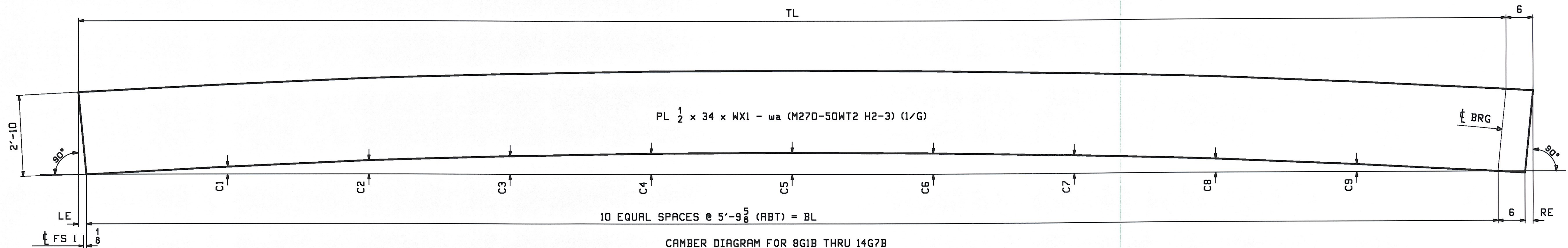


FLANGE PLATE SPLICE DETAIL "FA"

- NOTES:**
- FOR GENERAL NOTES SEE DWG GNI.
  - H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2

|                                          |      |                        |     |        |         |             |
|------------------------------------------|------|------------------------|-----|--------|---------|-------------|
| REV.                                     | DATE | REMARKS                | DWN | CHK    | APVL    | SHOP        |
| 0                                        |      |                        |     |        |         |             |
| MATERIAL:                                |      | SURFACE PREP. & PAINT: |     | HOLES: |         | SHOP BOLTS: |
| AS NOTED                                 |      | SEE GNI                |     | NONE   |         | NONE        |
| DESCRIPTION: CAMBER & FLANGE DIAGRAMS    |      |                        |     |        |         |             |
| CASCO BAY STEEL STRUCTURES, INC.         |      |                        |     |        |         |             |
| 75 SPRING HILL ROAD SACO, MAINE 04072    |      |                        |     |        |         |             |
| PHONE (207) 282-7360 FAX. (207) 282-1179 |      |                        |     |        |         |             |
| STRUCTURE: VT 11 OVER BLACK RIVER        |      |                        |     |        | DRAWN:  | DATE:       |
| BRIDGE NO. 64                            |      |                        |     |        | WJF     | 06/08       |
| SPRINGFIELD, VERMONT                     |      |                        |     |        | CHKD:   | DATE:       |
| COUNTY OF WINDSOR                        |      |                        |     |        | RLA     | 06/16       |
| LOCATION: TOWN OF SPRINGFIELD            |      |                        |     |        | JOB NO. | DWG NO.     |
| PROJ NO. BHF 016-2(14)                   |      |                        |     |        | 406-1   | C1          |
| CUSTOMER: COLD RIVER BRIDGES, LLC        |      |                        |     |        | REV.    | △           |





| MARK  | TL                                 | BL                                   | LE                             | RE                             | WX1                                | C1                             | C2                               | C3                            | C4                             | C5                            | C6                             | C7                            | C8                               | C9                             |
|-------|------------------------------------|--------------------------------------|--------------------------------|--------------------------------|------------------------------------|--------------------------------|----------------------------------|-------------------------------|--------------------------------|-------------------------------|--------------------------------|-------------------------------|----------------------------------|--------------------------------|
| 8G1B  | 58'-0 <sup>7</sup> / <sub>16</sub> | 57'-11 <sup>5</sup> / <sub>8</sub>   | 1 <sup>1</sup> / <sub>4</sub>  | 9 <sup>9</sup> / <sub>16</sub> | 58'-6 <sup>7</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>2</sub>  | 15 <sup>15</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub> | 1 <sup>7</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>2</sub> | 1 <sup>7</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub> | 15 <sup>15</sup> / <sub>16</sub> | 9 <sup>9</sup> / <sub>16</sub> |
| 9G2B  | 58'-0 <sup>3</sup> / <sub>8</sub>  | 57'-11 <sup>5</sup> / <sub>8</sub>   | 3 <sup>3</sup> / <sub>16</sub> | 9 <sup>9</sup> / <sub>16</sub> | 58'-6 <sup>3</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>2</sub>  | 15 <sup>15</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub> | 1 <sup>7</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>2</sub> | 1 <sup>7</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub> | 15 <sup>15</sup> / <sub>16</sub> | 9 <sup>9</sup> / <sub>16</sub> |
| 10G3B | 58'-0 <sup>3</sup> / <sub>8</sub>  | 57'-11 <sup>5</sup> / <sub>8</sub>   | 1 <sup>1</sup> / <sub>4</sub>  | 1 <sup>1</sup> / <sub>2</sub>  | 58'-6 <sup>3</sup> / <sub>8</sub>  | 9 <sup>9</sup> / <sub>16</sub> | 15 <sup>15</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub> | 1 <sup>7</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>2</sub> | 1 <sup>7</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub> | 15 <sup>15</sup> / <sub>16</sub> | 9 <sup>9</sup> / <sub>16</sub> |
| 11G4B | 58'-0 <sup>3</sup> / <sub>8</sub>  | 57'-11 <sup>5</sup> / <sub>8</sub>   | 1 <sup>1</sup> / <sub>4</sub>  | 1 <sup>1</sup> / <sub>2</sub>  | 58'-6 <sup>3</sup> / <sub>8</sub>  | 9 <sup>9</sup> / <sub>16</sub> | 15 <sup>15</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub> | 1 <sup>7</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>2</sub> | 1 <sup>7</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub> | 15 <sup>15</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>2</sub>  |
| 12G5B | 58'-0 <sup>3</sup> / <sub>8</sub>  | 57'-11 <sup>5</sup> / <sub>8</sub>   | 1 <sup>1</sup> / <sub>4</sub>  | 1 <sup>1</sup> / <sub>2</sub>  | 58'-6 <sup>3</sup> / <sub>8</sub>  | 9 <sup>9</sup> / <sub>16</sub> | 15 <sup>15</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub> | 1 <sup>7</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>2</sub> | 1 <sup>7</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub> | 15 <sup>15</sup> / <sub>16</sub> | 9 <sup>9</sup> / <sub>16</sub> |
| 13G6B | 58'-0 <sup>7</sup> / <sub>16</sub> | 57'-11 <sup>11</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub>  | 1 <sup>1</sup> / <sub>2</sub>  | 58'-6 <sup>7</sup> / <sub>16</sub> | 9 <sup>9</sup> / <sub>16</sub> | 15 <sup>15</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub> | 1 <sup>7</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>2</sub> | 1 <sup>7</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub> | 15 <sup>15</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>2</sub>  |
| 14G7B | 58'-0 <sup>7</sup> / <sub>16</sub> | 57'-11 <sup>11</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub>  | 1 <sup>1</sup> / <sub>2</sub>  | 58'-6 <sup>7</sup> / <sub>16</sub> | 9 <sup>9</sup> / <sub>16</sub> | 15 <sup>15</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub> | 1 <sup>7</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>2</sub> | 1 <sup>7</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>4</sub> | 15 <sup>15</sup> / <sub>16</sub> | 1 <sup>1</sup> / <sub>2</sub>  |

|       |                                                                                                         |
|-------|---------------------------------------------------------------------------------------------------------|
| 8G1B  | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-6 <sup>7</sup> / <sub>16</sub> - ta ( M270-50WT2 H2-3 ) 1/A |
| 9G2B  | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-6 <sup>3</sup> / <sub>8</sub> - ta ( M270-50WT2 H2-3 ) 1/A  |
| 10G3B | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-6 <sup>3</sup> / <sub>8</sub> - ta ( M270-50WT2 H2-3 ) 1/A  |
| 11G4B | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-6 <sup>3</sup> / <sub>8</sub> - ta ( M270-50WT2 H2-3 ) 1/A  |
| 12G5B | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-6 <sup>3</sup> / <sub>8</sub> - ta ( M270-50WT2 H2-3 ) 1/A  |
| 13G6B | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-6 <sup>7</sup> / <sub>16</sub> - ta ( M270-50WT2 H2-3 ) 1/A |
| 14G7B | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-6 <sup>7</sup> / <sub>16</sub> - ta ( M270-50WT2 H2-3 ) 1/A |

|       |                                |                                                                                                          |
|-------|--------------------------------|----------------------------------------------------------------------------------------------------------|
| 8G1B  | 1 <sup>1</sup> / <sub>4</sub>  | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-5 <sup>5</sup> / <sub>8</sub> - ba ( M270-50WT2 H2-3 ) 1/A   |
| 9G2B  | 3 <sup>3</sup> / <sub>16</sub> | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-5 <sup>5</sup> / <sub>8</sub> - ba ( M270-50WT2 H2-3 ) 1/A   |
| 10G3B | 1 <sup>1</sup> / <sub>4</sub>  | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-5 <sup>5</sup> / <sub>8</sub> - ba ( M270-50WT2 H2-3 ) 1/A   |
| 11G4B | 1 <sup>1</sup> / <sub>4</sub>  | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-5 <sup>5</sup> / <sub>8</sub> - ba ( M270-50WT2 H2-3 ) 1/A   |
| 12G5B | 1 <sup>1</sup> / <sub>4</sub>  | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-5 <sup>5</sup> / <sub>8</sub> - ba ( M270-50WT2 H2-3 ) 1/A   |
| 13G6B | 1 <sup>1</sup> / <sub>4</sub>  | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-5 <sup>11</sup> / <sub>16</sub> - ba ( M270-50WT2 H2-3 ) 1/A |
| 14G7B | 1 <sup>1</sup> / <sub>4</sub>  | PL 1 <sup>1</sup> / <sub>8</sub> x 16 x 58'-5 <sup>11</sup> / <sub>16</sub> - ba ( M270-50WT2 H2-3 ) 1/A |

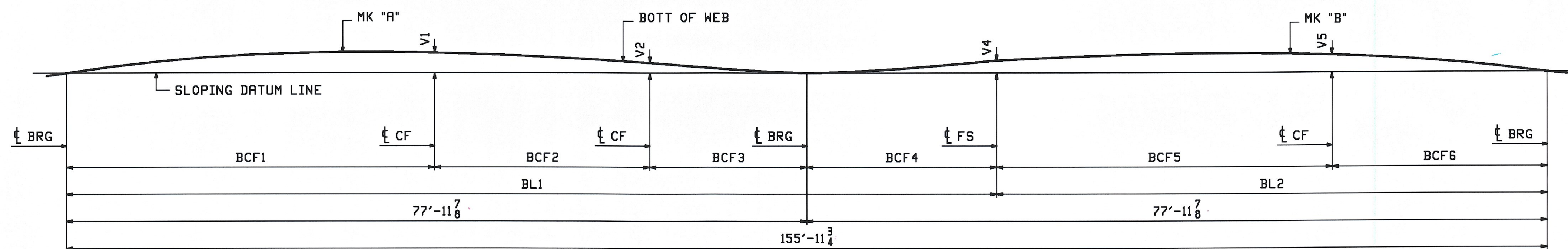
FLANGE DIAGRAM FOR 8G1B THRU 14G7B

RECEIVED  
CHKD BY DRP OK'D BY ave  
JUN 24 2009  
RESUBMIT \_\_\_\_\_ APPROVED \_\_\_\_\_  
BY ave DATE 7-13-09

- NOTES:
- FOR GENERAL NOTES SEE DWG GNI.
  - H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2

|                                                                                                                       |      |                        |                         |        |                      |             |
|-----------------------------------------------------------------------------------------------------------------------|------|------------------------|-------------------------|--------|----------------------|-------------|
| REV.                                                                                                                  | DATE | REMARKS                | DWN                     | CHK    | APVL                 | SHOP        |
| 0                                                                                                                     |      |                        |                         |        |                      |             |
| MATERIAL:                                                                                                             |      | SURFACE PREP. & PAINT: |                         | HOLES: |                      | SHOP BOLTS: |
| AS NOTED                                                                                                              |      | SEE GNI                |                         | NONE   |                      | NONE        |
| DESCRIPTION: CAMBER & FLANGE DIAGRAMS                                                                                 |      |                        |                         |        |                      |             |
| CASCO BAY STEEL STRUCTURES, INC.<br>75 SPRING HILL ROAD SACO, MAINE 04072<br>PHONE (207) 282-7360 FAX. (207) 282-1179 |      |                        |                         |        |                      |             |
| STRUCTURE: VT 11 OVER BLACK RIVER<br>BRIDGE NO. 64<br>SPRINGFIELD, VERMONT<br>COUNTY OF WINDSOR                       |      |                        | DRAWN: WJF<br>CHKD: RLA |        | DATE: 06/09<br>06/16 |             |
| LOCATION: TOWN OF SPRINGFIELD                                                                                         |      |                        | JOB NO.                 |        | DWG NO.              |             |
| PROJ NO. BHF 016-2(14)                                                                                                |      |                        | 406-1                   |        | C2                   |             |
| CUSTOMER: COLD RIVER BRIDGES, LLC                                                                                     |      |                        | REV.                    |        | △                    |             |





SHOP ASSEMBLY DIAGRAM

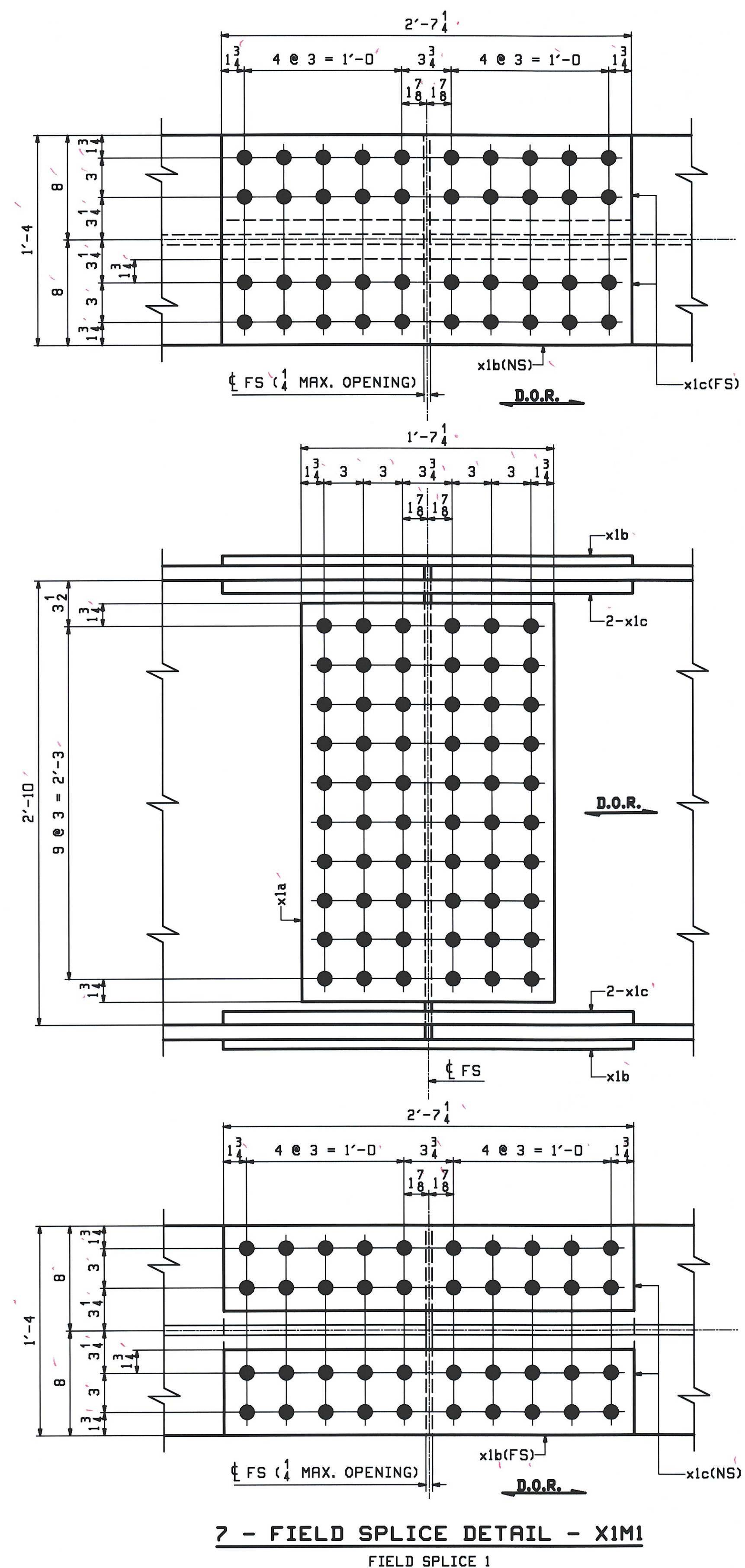
| LINE | BL1          | BL2          | V1      | V2       | V4      | V5        | BCF1        | BCF2        | BCF3       | BCF4       | BCF5       | BCF6        | "A"  | "B"   |
|------|--------------|--------------|---------|----------|---------|-----------|-------------|-------------|------------|------------|------------|-------------|------|-------|
| 1    | 98'-0        | 57'-11 3/4   | 2 1/4 ✓ | 1 1/8 ✓  | 1 3/8 ✓ | 1 15/16 ✓ | 38'-9 7/16  | 22'-7 15/16 | 16'-6 1/2  | 20'-0 1/8  | 35'-3 7/8  | 22'-7 7/8   | 1G1A | 8G1B  |
| 2    | 97'-11 15/16 | 57'-11 13/16 | 2 1/4 ✓ | 1 1/16 ✓ | 1 3/8 ✓ | 1 15/16 ✓ | 39'-10 1/2  | 22'-7 15/16 | 15'-5 7/16 | 20'-0 1/16 | 36'-5      | 21'-6 13/16 | 2G2A | 9G2B  |
| 3    | 97'-11 15/16 | 57'-11 13/16 | 2 1/4 ✓ | 1 ✓      | 1 3/8 ✓ | 1 7/8 ✓   | 40'-11 9/16 | 22'-7 15/16 | 14'-4 3/8  | 20'-0 1/16 | 37'-6 1/16 | 20'-5 3/4   | 3G3A | 10G3B |
| 4    | 98'-0        | 57'-11 3/4   | 2 3/16  | 7/8      | 1 3/8   | 1 13/16 ✓ | 42'-0 5/8   | 22'-7 15/16 | 13'-3 5/16 | 20'-0 1/8  | 38'-7 1/16 | 19'-4 11/16 | 4G4A | 11G4B |
| 5    | 98'-0        | 57'-11 3/4 ✓ | 2 3/16  | 13/16    | 1 3/8   | 1 3/4 ✓   | 43'-1 11/16 | 22'-7 15/16 | 12'-2 1/4  | 20'-0 1/8  | 39'-8 1/8  | 18'-3 5/8   | 5G5A | 12G5B |
| 6    | 98'-0 ✓      | 57'-11 3/4   | 2 1/8   | 3/4      | 1 3/8   | 1 11/16 ✓ | 44'-2 3/4   | 22'-7 15/16 | 11'-1 3/16 | 20'-0 1/8  | 40'-9 3/16 | 17'-2 9/16  | 6G6A | 13G6B |
| 7    | 98'-0        | 57'-11 3/4 ✓ | 2 1/8   | 5/8      | 1 3/8   | 1 5/8 ✓   | 45'-3 13/16 | 22'-7 15/16 | 10'-0 1/8  | 20'-0 1/8  | 41'-10 1/4 | 16'-1 1/2   | 7G7A | 14G7B |

NOTES  
FOR GENERAL NOTES SEE DWG GNI  
ALL DIMENSIONS GIVEN AT BOTT OF WEB

|                                                                                                 |  |                        |         |                                   |     |                            |      |
|-------------------------------------------------------------------------------------------------|--|------------------------|---------|-----------------------------------|-----|----------------------------|------|
| REV.                                                                                            |  | DATE                   | REMARKS | DWN                               | CHK | APVL                       | SHOP |
| MATERIAL:                                                                                       |  | SURFACE PREP. & PAINT: |         | HOLES:                            |     | SHOP BOLTS:                |      |
| DESCRIPTION: SHOP ASSEMBLY DIAGRAM                                                              |  |                        |         |                                   |     |                            |      |
| CASCO BAY STEEL STRUCTURES, INC.<br>75 SPRING HILL ROAD<br>PHONE (207) 282-7360                 |  |                        |         |                                   |     |                            |      |
| SACO, MAINE 04072<br>FAX. (207) 282-1179                                                        |  |                        |         |                                   |     |                            |      |
| STRUCTURE: VT 11 OVER BLACK RIVER<br>BRIDGE NO. 64<br>SPRINGFIELD, VERMONT<br>COUNTY OF WINDSOR |  |                        |         | DRAWN: WJF<br>CHKD: DO            |     | DATE: 06/16<br>DATE: 06/24 |      |
| LOCATION: TOWN OF SPRINGFIELD                                                                   |  |                        |         | JOB NO. 406-1                     |     | DWG NO. SA1                |      |
| PROJ NO. BHF 016-2(14)                                                                          |  |                        |         | CUSTOMER: COLD RIVER BRIDGES, LLC |     | REV. 1                     |      |

RECEIVED  
CHKD BY: DRP OK'D BY: [Signature]  
JUN 26 2009  
RESUBMIT APPROVED [Signature]  
BY: OWC DATE: 7.13.09



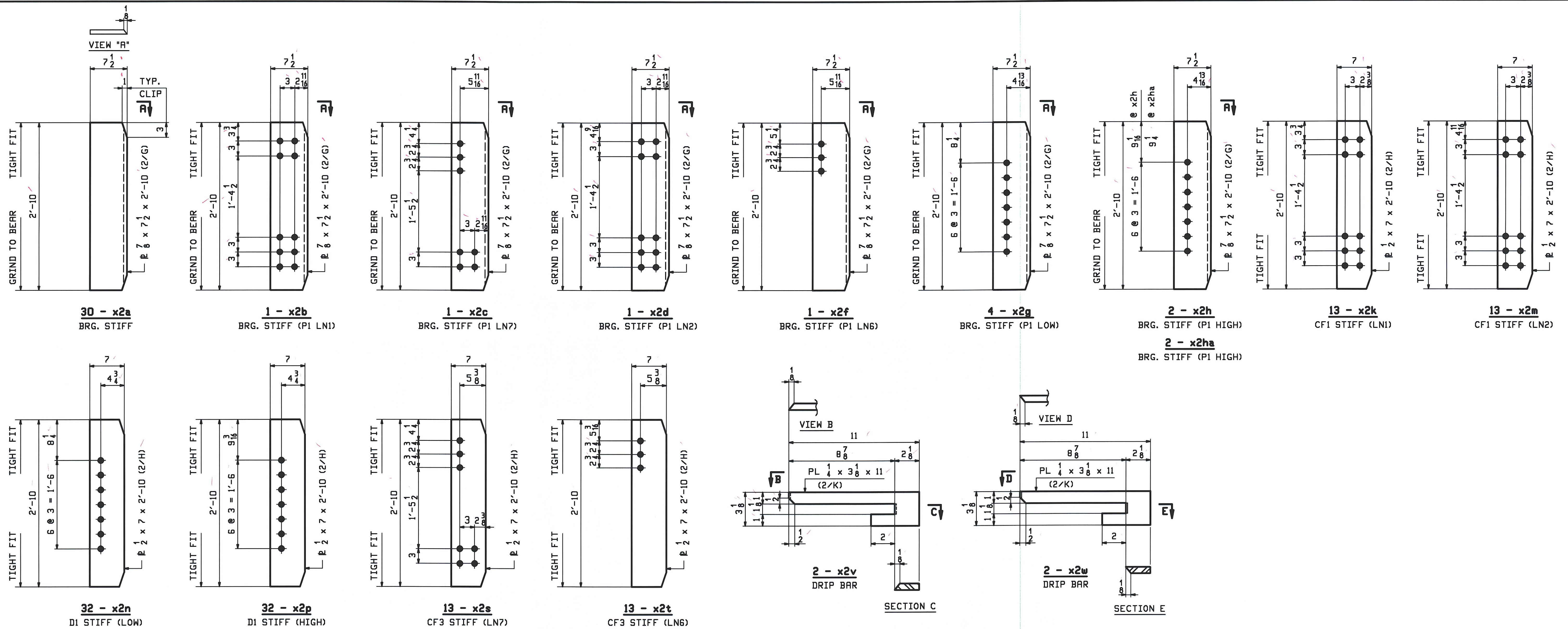
[illegible]

NOTES:

1. FOR GENERAL NOTES SEE DRAWING GNI.
2. HOLES IN SPlice PLATES ARE PRE-DRILLED.  
ENDS OF GIRDERS ARE DRILLED FROM SOLID  
USING SPlice PLATES AS A TEMPLATE.
3. D.O.R. DENOTES DIRECTION OF MILL ROLLING
4. H2-3 DENOTES CHARPY V-NOTCH TESTING REQUIRED.

| D                                                                                                                     |      |                                |  |  |  |                                       |  |                     |     |         |      |
|-----------------------------------------------------------------------------------------------------------------------|------|--------------------------------|--|--|--|---------------------------------------|--|---------------------|-----|---------|------|
| REV.                                                                                                                  | DATE | REMARKS                        |  |  |  |                                       |  | DWN                 | CHK | APVL    | SHOP |
| MATERIAL:<br>M270-SOWT2                                                                                               |      | SURFACE PREP. & PAINT:<br>NONE |  |  |  | HOLES:<br>$\frac{15}{16} \times \phi$ |  | SHOP BOLTS:<br>NONE |     |         |      |
| <b>DESCRIPTION:</b> GIRDER STANDARDS                                                                                  |      |                                |  |  |  |                                       |  |                     |     |         |      |
| CASCO BAY STEEL STRUCTURES, INC.<br>75 SPRING HILL ROAD SACO, MAINE 04072<br>PHONE (207) 282-7350 FAX. (207) 282-1179 |      |                                |  |  |  |                                       |  |                     |     |         |      |
| STRUCTURE: VT 11 OVER BLACK RIVER BRIDGE NO. 64<br>SPRINGFIELD, VERMONT COUNTY OF WINDSOR                             |      |                                |  |  |  |                                       |  | DRAWN:              |     | DATE:   |      |
|                                                                                                                       |      |                                |  |  |  |                                       |  | JWF                 |     | 06/10   |      |
|                                                                                                                       |      |                                |  |  |  |                                       |  | CHKD:               |     | DATE:   |      |
|                                                                                                                       |      |                                |  |  |  |                                       |  | DO                  |     | 06/22   |      |
| LOCATION: TOWN OF SPRINGFIELD                                                                                         |      |                                |  |  |  |                                       |  | JOB NO.             |     | DWG NO. |      |
| PROJ NO. BHF D16-2(14)                                                                                                |      |                                |  |  |  |                                       |  | 406-1               |     | X1      |      |
| CUSTOMER: COLD RIVER BRIDGES, LLC                                                                                     |      |                                |  |  |  |                                       |  |                     |     | REV.    |      |





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CHKD BY DE OK'D BY me  
JUN 26 2009  
RESUBMIT me APPROVED me  
BY me DATE 7-3-09

NOTES:  
FOR GENERAL NOTES SEE DRAWING GNI.

|                                          |      |                        |  |             |     |             |      |                                                                                       |  |
|------------------------------------------|------|------------------------|--|-------------|-----|-------------|------|---------------------------------------------------------------------------------------|--|
|                                          |      |                        |  |             |     |             |      |                                                                                       |  |
|                                          |      |                        |  |             |     |             |      |                                                                                       |  |
| 0                                        |      |                        |  |             |     |             |      |                                                                                       |  |
| REV.                                     | DATE | REMARKS                |  |             | DWN | CHK         | APVL | SHOP                                                                                  |  |
| MATERIAL:                                |      | SURFACE PREP. & PAINT: |  | HOLES:      |     | SHOP BOLTS: |      |                                                                                       |  |
| M270-50W                                 |      | SEE GNI                |  | 15<br>16" Ø |     | NONE        |      |                                                                                       |  |
| DESCRIPTION: GIRDER STANDARDS            |      |                        |  |             |     |             |      |                                                                                       |  |
| CASCO BAY STEEL STRUCTURES, INC.         |      |                        |  |             |     |             |      |  |  |
| 75 SPRING HILL ROAD SACO, MAINE 04072    |      |                        |  |             |     |             |      |                                                                                       |  |
| PHONE (207) 282-7360 FAX. (207) 282-1179 |      |                        |  |             |     |             |      |                                                                                       |  |
|                                          |      |                        |  |             |     |             |      |                                                                                       |  |
| STRUCTURE: VT 11 OVER BLACK RIVER        |      |                        |  | DRAWN:      |     | DATE:       |      |                                                                                       |  |
| BRIDGE NO. 64                            |      |                        |  | WJF         |     | 06/10       |      |                                                                                       |  |
| SPRINGFIELD, VERMONT                     |      |                        |  | CHKD:       |     | DATE:       |      |                                                                                       |  |
| COUNTY OF WINDSOR                        |      |                        |  | D0          |     | 06/22       |      |                                                                                       |  |
| LOCATION: TOWN OF SPRINGFIELD            |      |                        |  | JOB NO.     |     | DWG NO.     |      |                                                                                       |  |
| PROJ NO. BHF 016-2(14)                   |      |                        |  | 406-1       |     | X2          |      |                                                                                       |  |
| CUSTOMER: COLD RIVER BRIDGES, LLC        |      |                        |  |             |     | REV.        |      | △                                                                                     |  |









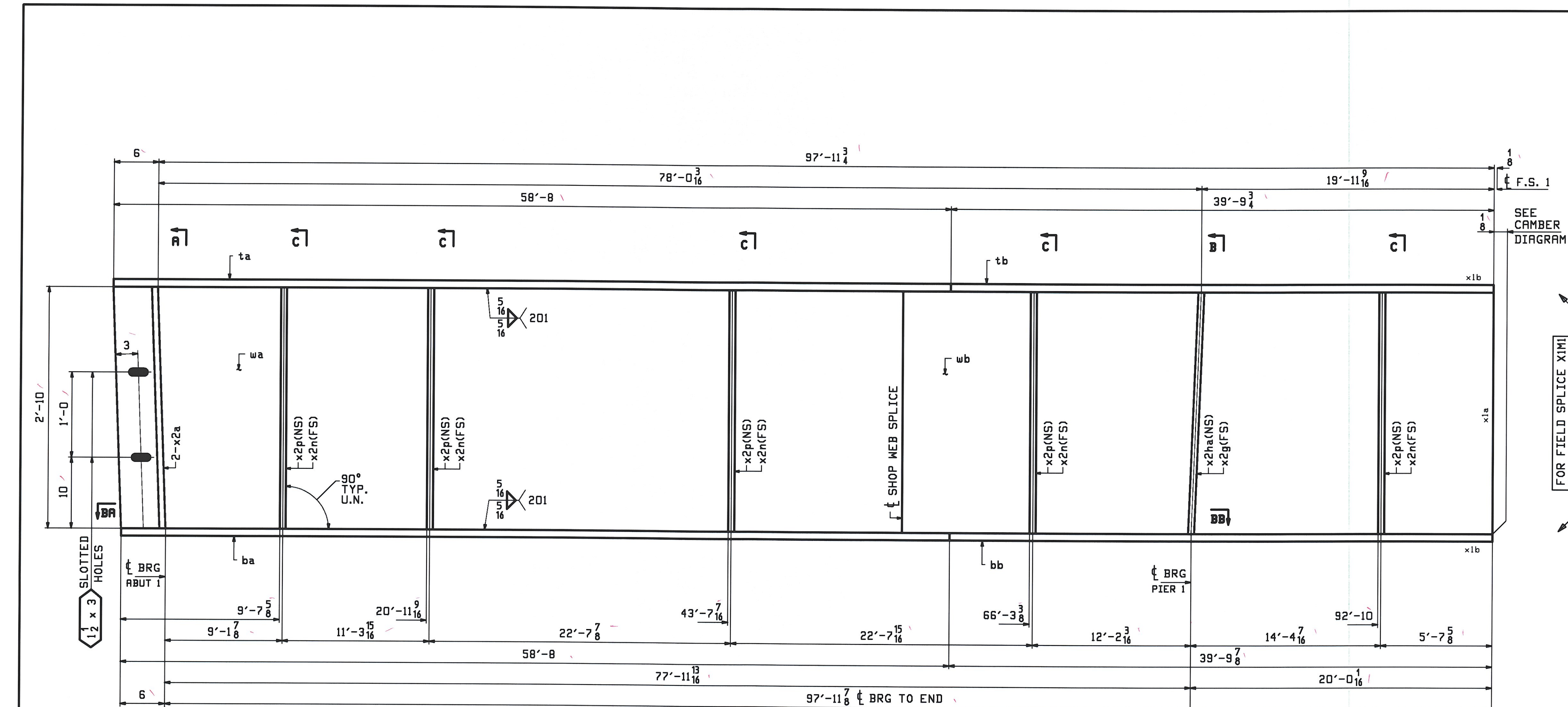








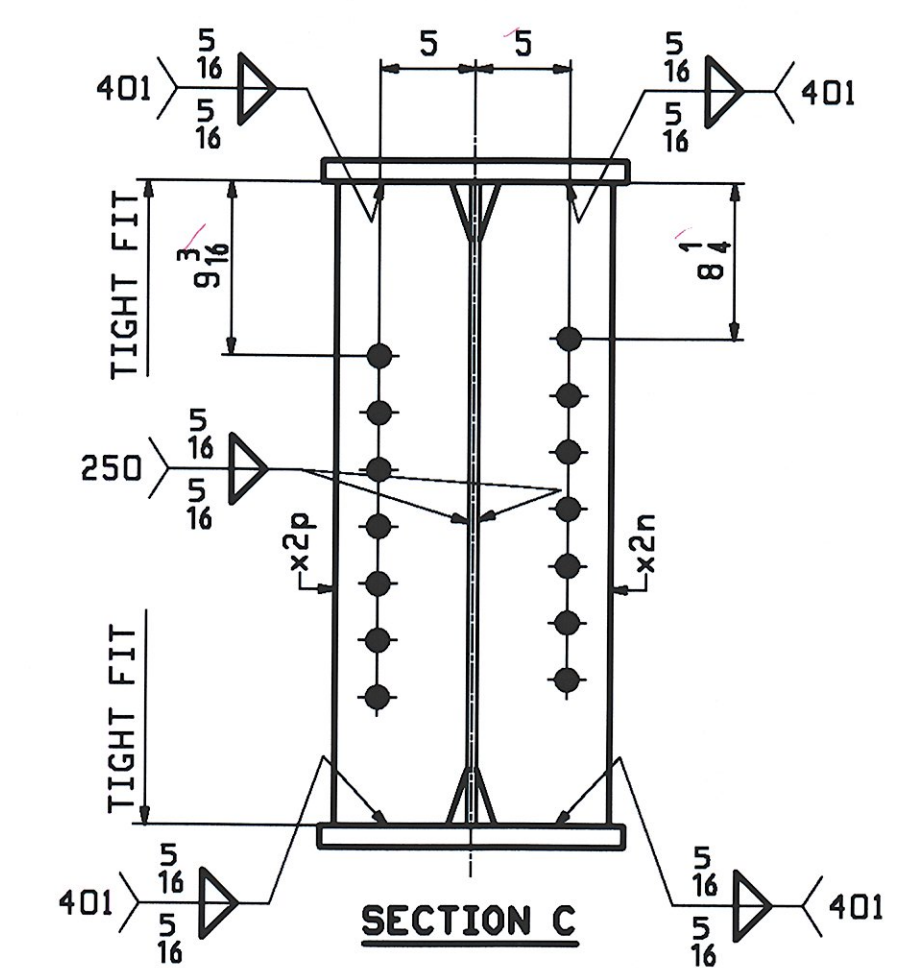
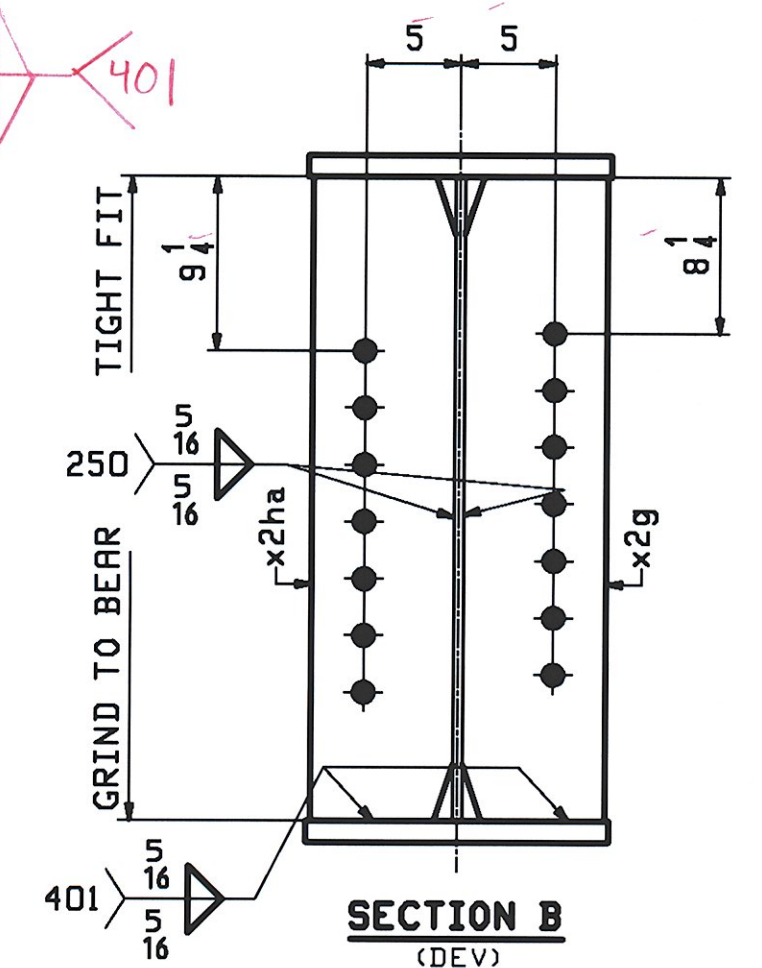
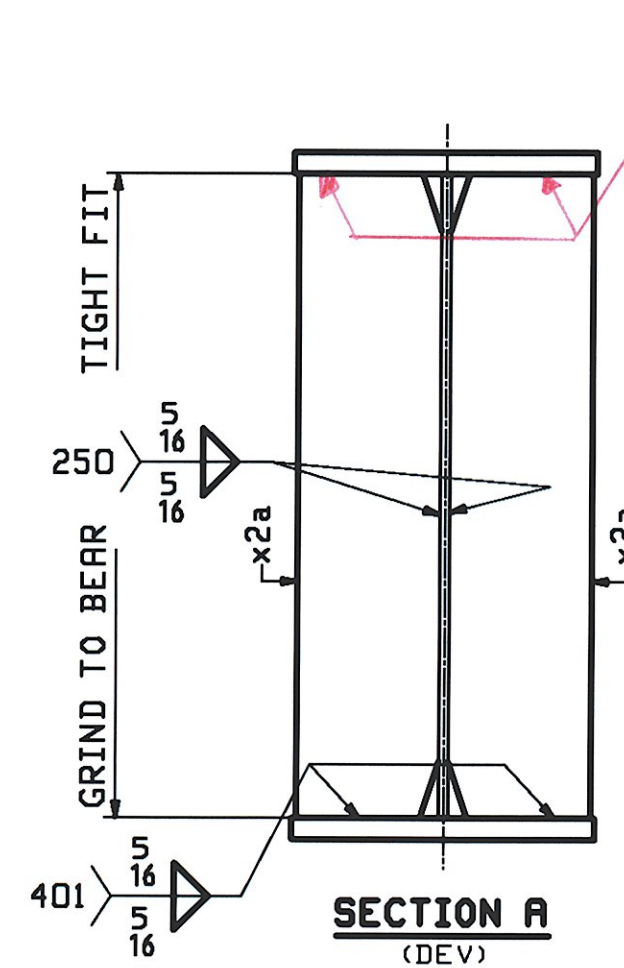
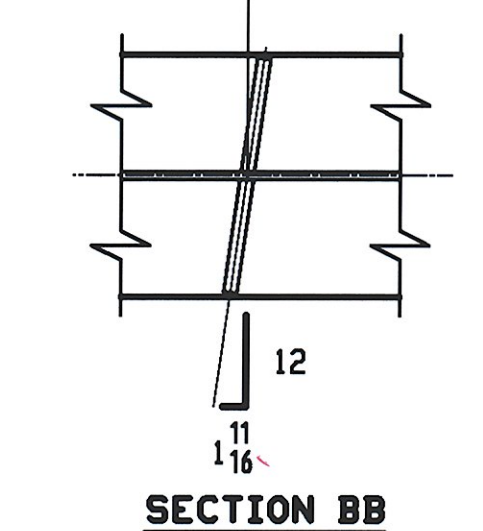
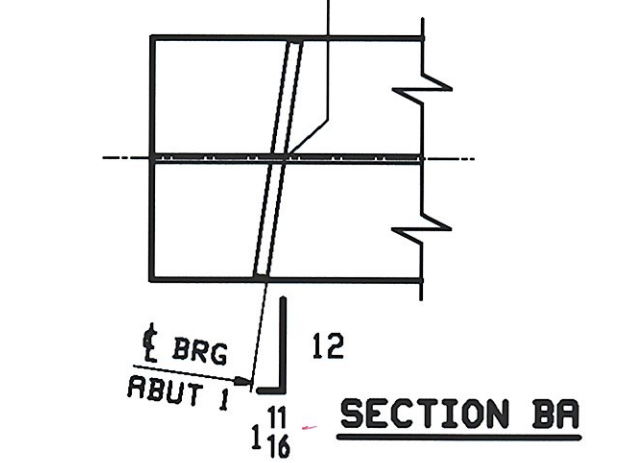
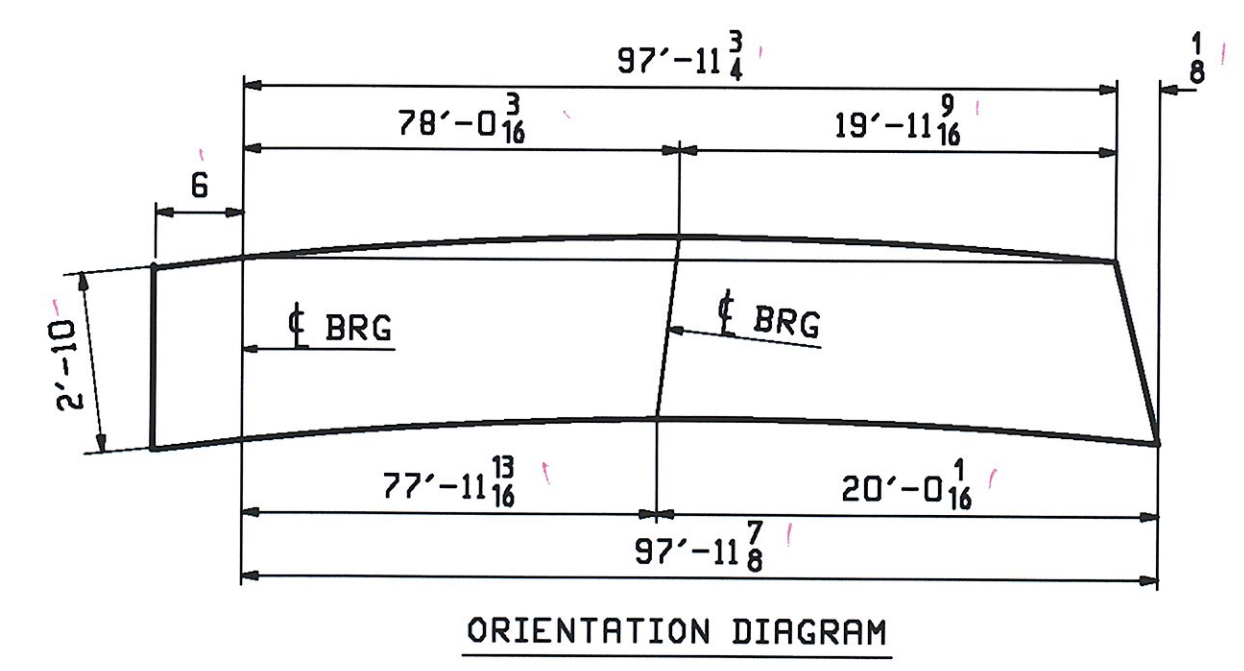




ONE - GIRDER - 5G5A  
FOR FIELD SPlice & STANDARD DETAILS SEE X SHEETS  
FOR CAMBER & FLANGE DIAGRAM SEE SHEET C1  
FOR GENERAL NOTES SEE SHEET GNI

FOR FIELD SPlice XIMI  
DETAILS SEE SHT X1

| ABM INFO |  | SHIP |  | BILL OF MATERIAL |  |     |    | JOB NO. |  | DRAWING NO. |  | REV.   |  |        |  |         |  |    |  |                   |  |
|----------|--|------|--|------------------|--|-----|----|---------|--|-------------|--|--------|--|--------|--|---------|--|----|--|-------------------|--|
| PAGE     |  | LINE |  | MARK             |  | QTY |    | MARK    |  | MATERIAL    |  | LENGTH |  | 406-1  |  | 5       |  |    |  |                   |  |
|          |  |      |  |                  |  |     |    |         |  |             |  | FT     |  | INCHES |  | REMARKS |  | NT |  | PROCUREMENT NOTES |  |
|          |  |      |  |                  |  |     |    |         |  |             |  |        |  |        |  |         |  |    |  |                   |  |
|          |  |      |  |                  |  |     |    |         |  |             |  |        |  |        |  |         |  |    |  |                   |  |
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JUN 26 2009  
RESUBMIT *AS NOTED*  
BY *CWC* DATE 7-13-09

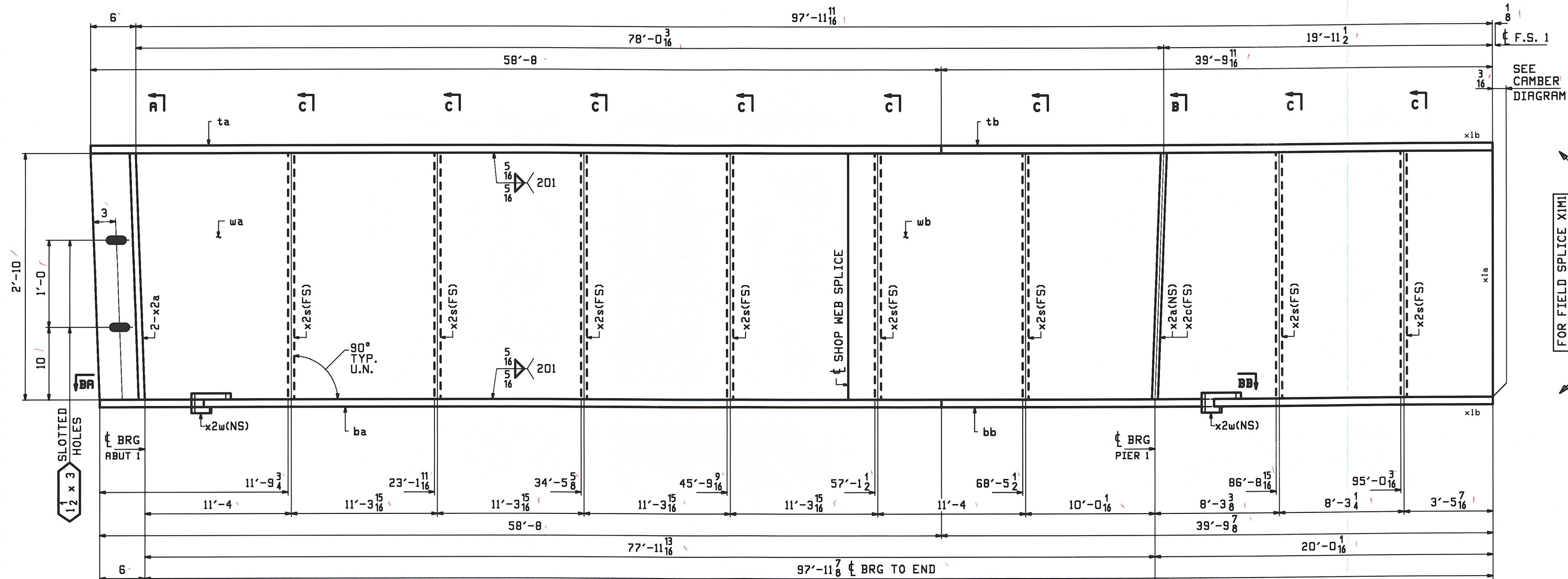
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| REV.                                                                                            | DATE | REMARKS                | DWN | CHK                    | APVL | SHOP                 |
| 0                                                                                               |      |                        |     |                        |      |                      |
| MATERIAL:                                                                                       |      | SURFACE PREP. & PRINT: |     | HOLES:                 |      | SHOP BOLTS:          |
| M270-50W (UN)                                                                                   |      | SEE GNI                |     | 5/16" Ø U.N.           |      | NONE                 |
| DESCRIPTION: GIRDER - 5G5A                                                                      |      |                        |     |                        |      |                      |
| CASCO BAY STEEL STRUCTURES, INC.<br>75 SPRING HILL ROAD<br>PHONE (207) 282-7360                 |      |                        |     |                        |      |                      |
| SACO, MAINE 04072<br>FAX. (207) 282-1179                                                        |      |                        |     |                        |      |                      |
| STRUCTURE: VT 11 OVER BLACK RIVER<br>BRIDGE NO. 64<br>SPRINGFIELD, VERMONT<br>COUNTY OF WINDSOR |      |                        |     | DRAWN: WJF<br>CHKD: D0 |      | DATE: 06/12<br>06/23 |
| LOCATION: TOWN OF SPRINGFIELD<br>PROJ NO. BHF 016-2(14)                                         |      |                        |     | JOB NO. 406-1          |      | DWG NO. 5            |
| CUSTOMER: COLD RIVER BRIDGES, LLC                                                               |      |                        |     | REV.                   |      | △                    |





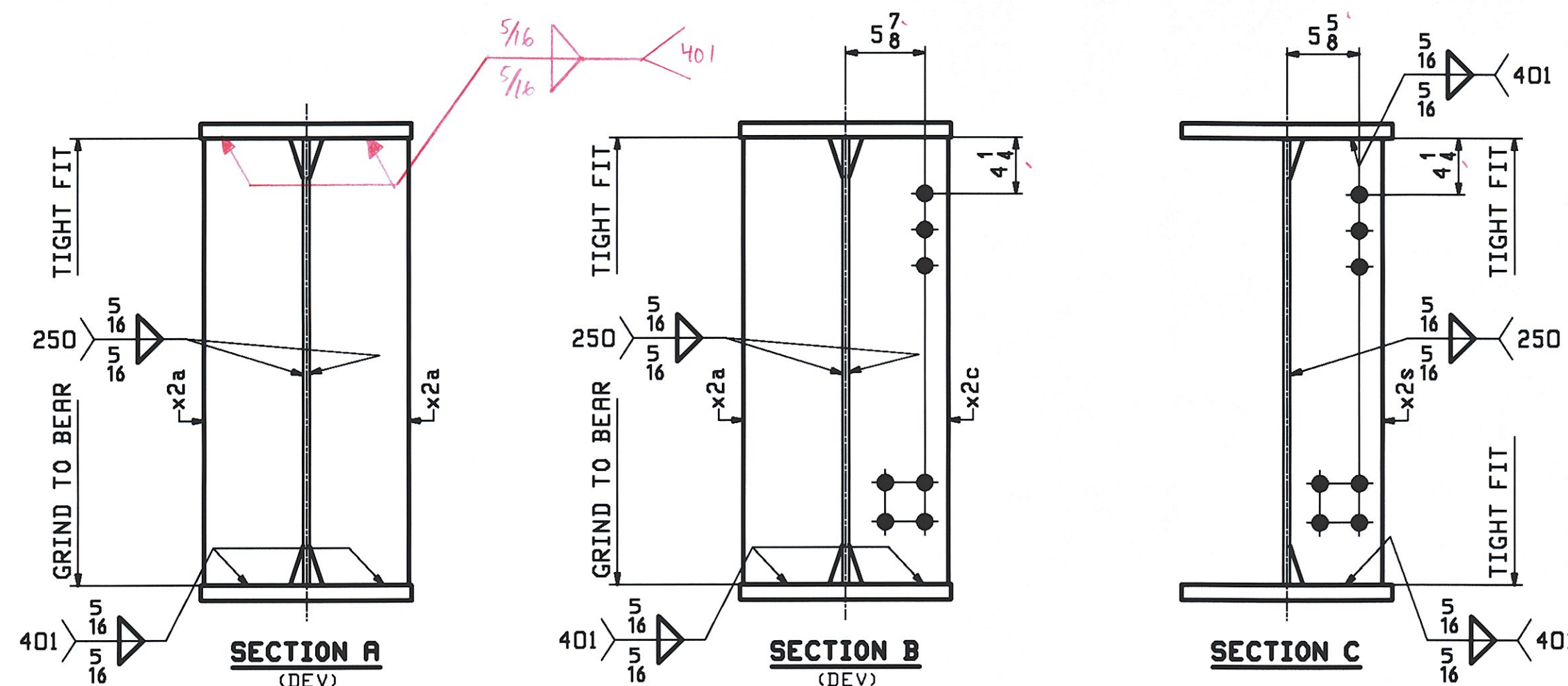
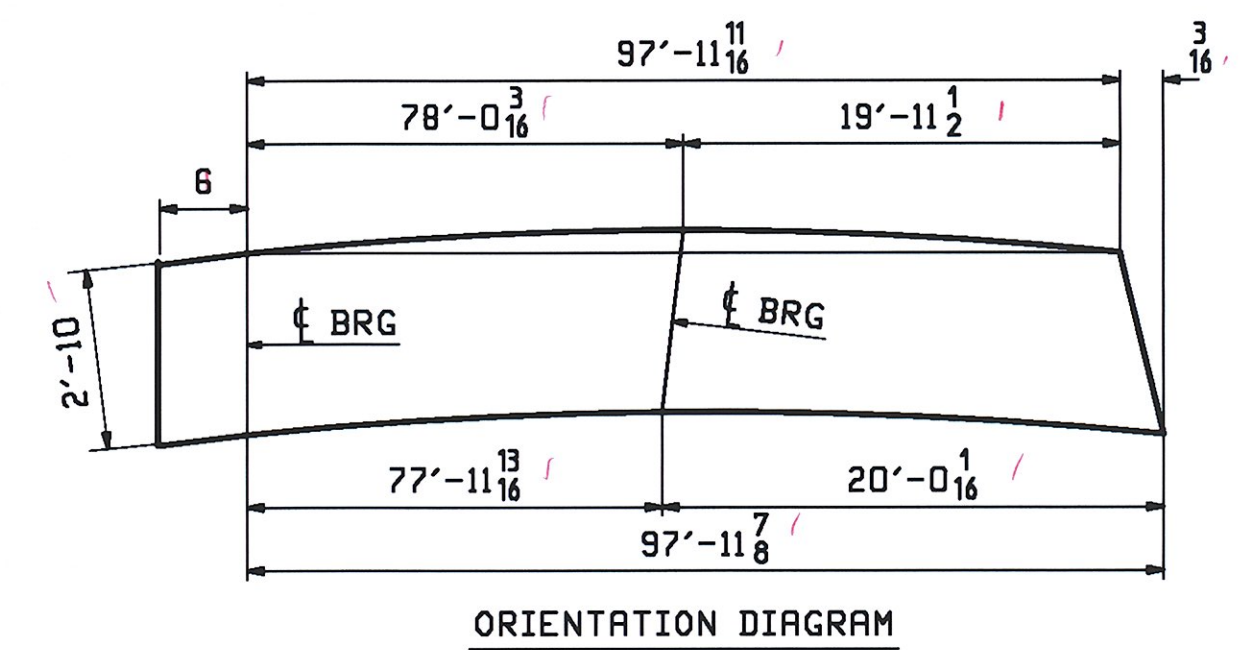
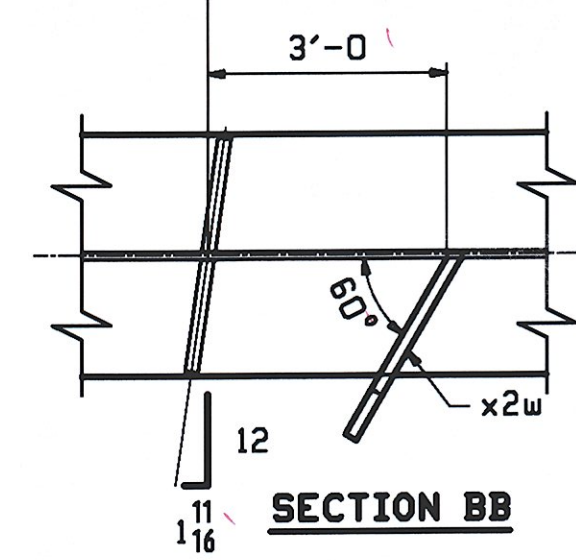
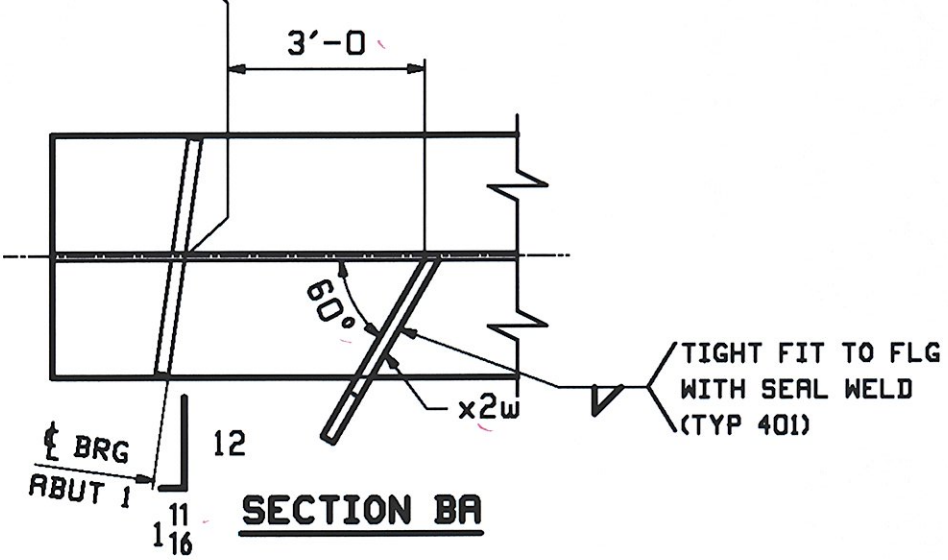


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### ONE - GIRDER - 7G7A

FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS  
FOR CAMBER & FLANGE DIAGRAM SEE SHEET C1  
FOR GENERAL NOTES SEE SHEET GNI



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JUN 26 2009  
REQUEST AS NOTED APPROVED AS NOTED  
BY awc DATE 7-13-09

| PAGE | LINE | MARK | QTY | MARK | MATERIAL       | LENGTH |         | REMARKS           | JOB NO. | DRAWING NO. | REV. |
|------|------|------|-----|------|----------------|--------|---------|-------------------|---------|-------------|------|
|      |      |      |     |      |                | FT     | INCHES  |                   |         |             |      |
|      |      | 7G7A | 1   |      | GIRDER         |        |         |                   | 406-1   | 7           |      |
|      |      |      |     |      |                |        |         |                   | 10290   |             |      |
| 1    | E    |      | 1   | wa   | PL 1/2 x 3/4   | 54     | 8 1/8   | M270-50WT2 (H2-3) |         |             |      |
| 1    | J    |      | 1   | wb   | PL 1/2 x 3/4   | 43     | 9 15/16 | M270-50WT2 (H2-3) |         |             |      |
| 1    | A    |      | 1   | ta   | PL 1/8 x 16    | 58     | 8       | M270-50WT2 (H2-3) |         |             |      |
| 1    | C    |      | 1   | tb   | PL 1/8 x 16    | 39     | 9 11/16 | M270-50WT2 (H2-3) |         |             |      |
| 1    | A    |      | 1   | ba   | PL 1/8 x 16    | 58     | 8       | M270-50WT2 (H2-3) |         |             |      |
| 1    | C    |      | 1   | bb   | PL 1/8 x 16    | 39     | 9 11/16 | M270-50WT2 (H2-3) |         |             |      |
| 2    | G    |      | 3   | x2a  | PL 7/8 x 7 1/2 | 2      | 10      | MIE BEV           |         |             |      |
| 2    | G    |      | 1   | x2c  | PL 7/8 x 7 1/2 | 2      | 10      | MIE BEV           |         |             |      |
| 2    | H    |      | 8   | x2s  | PL 1/2 x 7     | 2      | 10      |                   |         |             |      |
| 2    | K    |      | 2   | x2w  | PL 1/4 x 3/8   | 0      | 11      | DRIP BARS         |         |             |      |

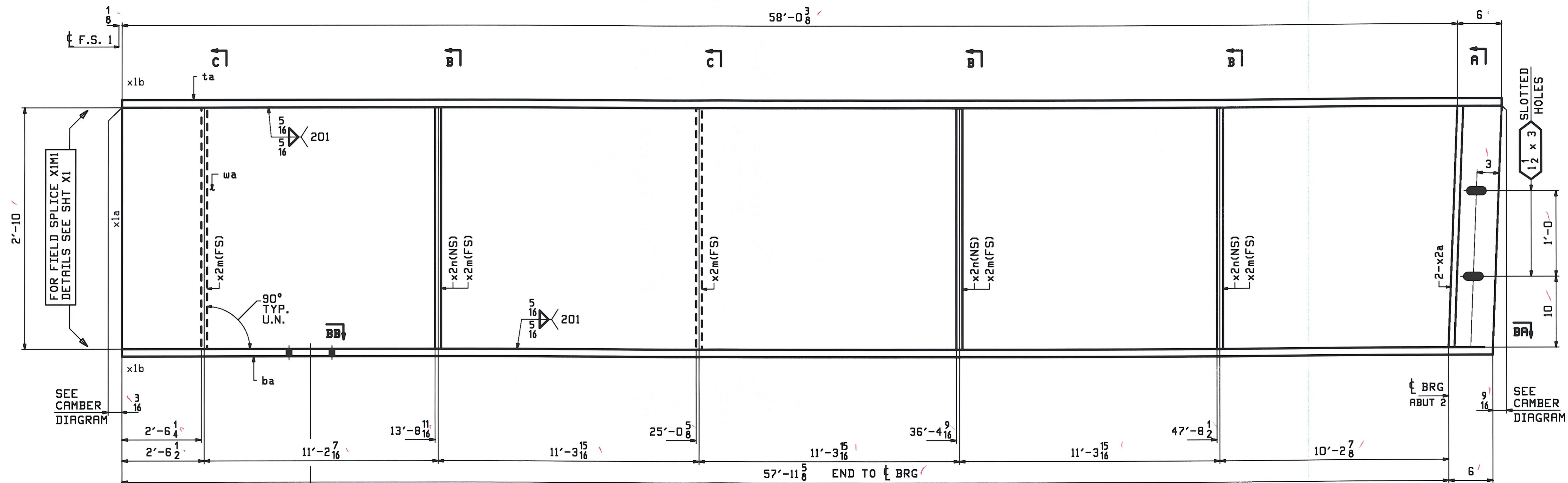
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|-------------------------------------------------------------------------------------------------|------|------------------------|--|---------------------|---------|-------------|---------|---------------------------------------------------------------------------------------|---|
|                                                                                                 |      |                        |  |                     |         |             |         |                                                                                       |   |
| 0                                                                                               |      |                        |  |                     |         |             |         |                                                                                       |   |
| REV.                                                                                            | DATE | REMARKS                |  |                     | DWN     | CHK         | APVL    | SHOP                                                                                  |   |
| MATERIAL:                                                                                       |      | SURFACE PREP. & PAINT: |  | HOLES:              |         | SHOP BOLTS: |         |                                                                                       |   |
| M270-50W (UN)                                                                                   |      | SEE GNI                |  | 15<br>16" Ø U.N.    |         | NONE        |         |                                                                                       |   |
| DESCRIPTION:                                                                                    |      | GIRDER - 7G7A          |  |                     |         |             |         |                                                                                       |   |
| CASCO BAY STEEL STRUCTURES, INC.                                                                |      |                        |  |                     |         |             |         |  |   |
| 75 SPRING HILL ROAD                                                                             |      |                        |  | SACO, MAINE 04072   |         |             |         |                                                                                       |   |
| PHONE (207) 282-7360                                                                            |      |                        |  | FAX. (207) 282-1179 |         |             |         |                                                                                       |   |
| STRUCTURE: VT 11 OVER BLACK RIVER<br>BRIDGE NO. 64<br>SPRINGFIELD, VERMONT<br>COUNTY OF WINDSOR |      |                        |  |                     | DRAWN:  |             | DATE:   |                                                                                       |   |
|                                                                                                 |      |                        |  |                     | WJF     |             | 06/12   |                                                                                       |   |
|                                                                                                 |      |                        |  |                     | CHKD:   |             | DATE:   |                                                                                       |   |
|                                                                                                 |      |                        |  |                     | DO      |             | 06/23   |                                                                                       |   |
| LOCATION: TOWN OF SPRINGFIELD                                                                   |      |                        |  |                     | JOB NO. |             | DWG NO. |                                                                                       |   |
| PROJ NO. BHF 016-2(14)                                                                          |      |                        |  |                     | 406-1   |             | 7       |                                                                                       |   |
| CUSTOMER: COLD RIVER BRIDGES, LLC                                                               |      |                        |  |                     |         |             | REV.    |                                                                                       | △ |





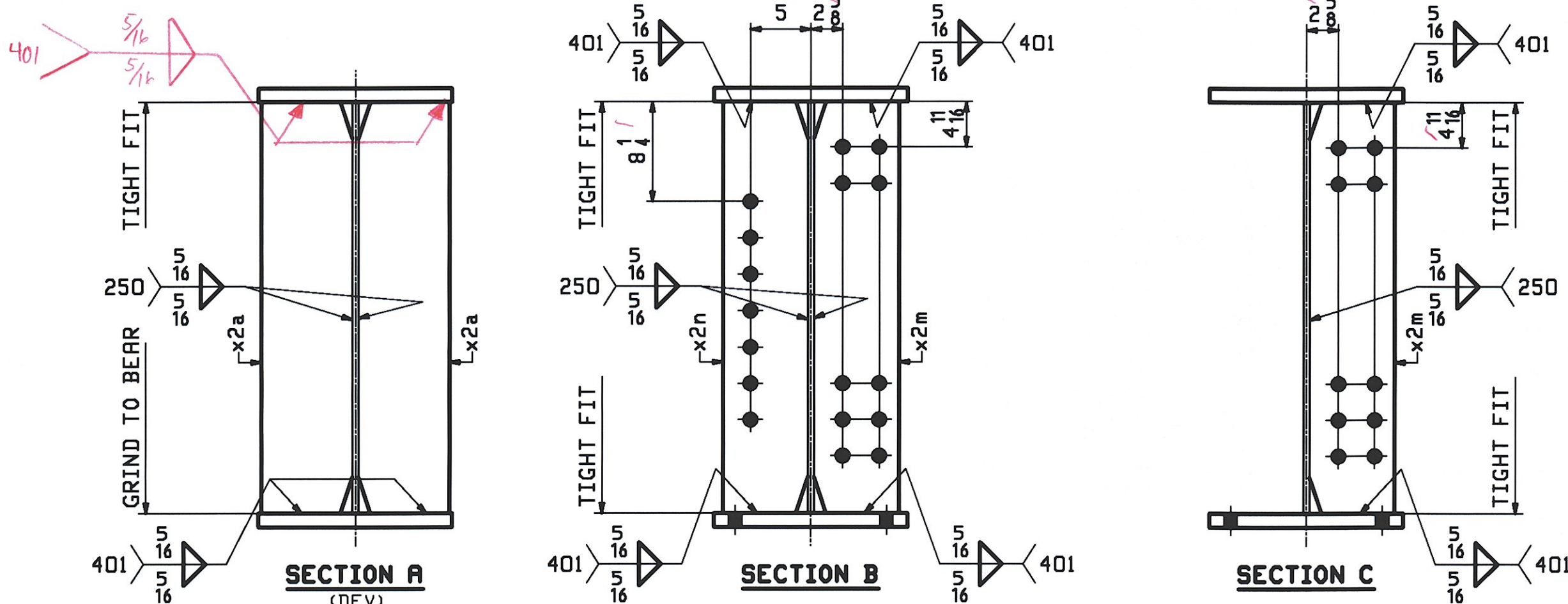
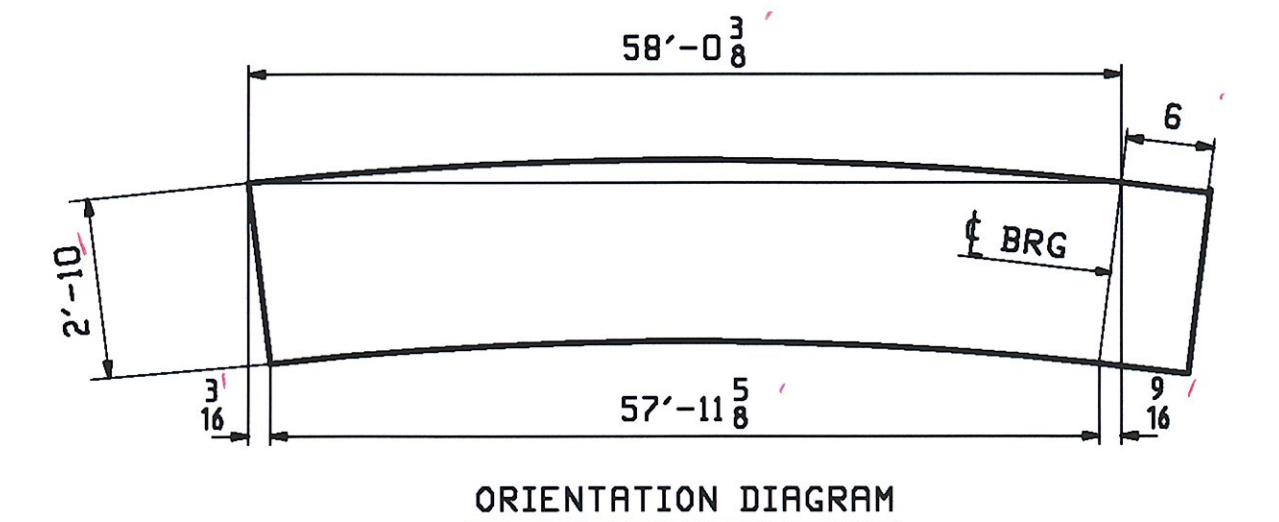
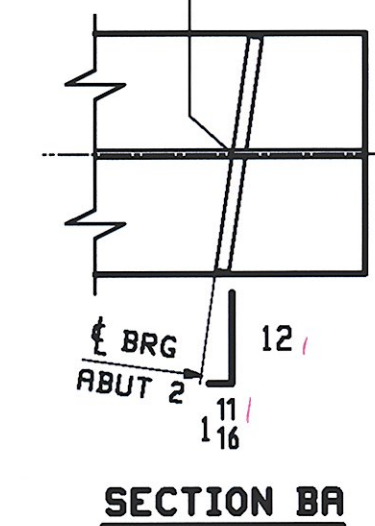
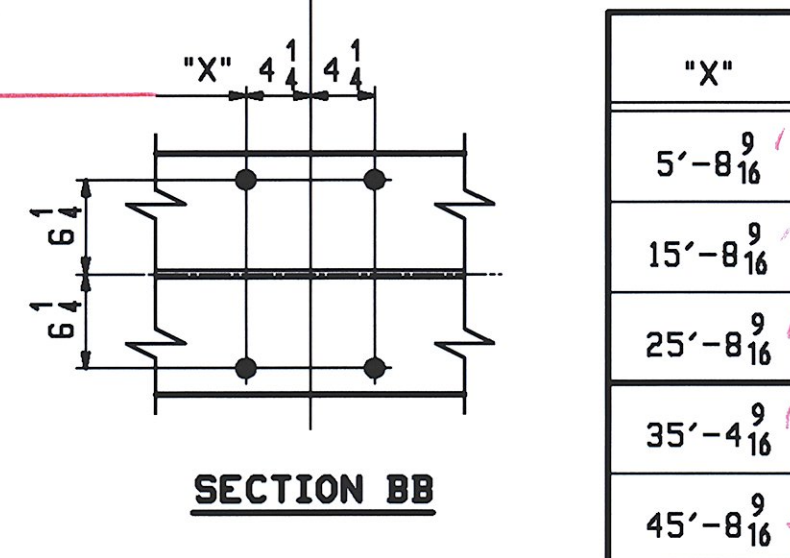


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### ONE - GIRDER - 9G2B

FOR FIELD SPLICE & STANDARD DETAILS SEE X SHEETS  
FOR CAMBER & FLANGE DIAGRAM SEE SHEET C2  
FOR GENERAL NOTES SEE SHEET GNI



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JUN 26 2009  
RESUBMIT APPROVED AS NOTED  
BY AWE DATE 7.13.09

| ABM INFO |      | SHIP |     | BILL OF MATERIAL |                | JOB NO.             |                   | DRAWING NO. |                      | REV. |
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|          |      |      |     |                  |                | 406-1               |                   | 9           |                      |      |
| PAGE     | LINE | MARK | QTY | MARK             | MATERIAL       | LENGTH<br>FT INCHES | REMARKS           | MT          | PROCUREMENT<br>NOTES |      |
|          |      | 9G2B | 1   |                  | GIRDER         |                     |                   | 10949       |                      |      |
| 1        | G    |      | 1   | wa               | PL 1/2 x 3/4   | 58 3/8              | M270-SOWT2 (H2-3) |             |                      |      |
| 1        | A    |      | 1   | ta               | PL 1/8 x 16    | 58 3/8              | M270-SOWT2 (H2-3) |             |                      |      |
| 1        | A    |      | 1   | ba               | PL 1/8 x 16    | 58 5/8              | M270-SOWT2 (H2-3) |             |                      |      |
| 2        | G    |      | 2   | x2a              | PL 7/8 x 7 1/2 | 2 10                | MIE BEV           |             |                      |      |
| 2        | H    |      | 5   | x2m              | PL 1/2 x 7     | 2 10                |                   |             |                      |      |
| 2        | H    |      | 3   | x2n              | PL 1/2 x 7     | 2 10                |                   |             |                      |      |

|                                   |      |                        |  |  |                                                                                                         |     |             |      |   |
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| REV.                              | DATE | REMARKS                |  |  | DWN                                                                                                     | CHK | APVL        | SHOP |   |
| MATERIAL:                         |      | SURFACE PREP. & PAINT: |  |  | HOLES:                                                                                                  |     | SHOP BOLTS: |      |   |
| M270-SOW (UN)                     |      | SEE GNI                |  |  | 15<br>16 Ø U.N.                                                                                         |     | NONE        |      |   |
| DESCRIPTION: GIRDER - 9G2B        |      |                        |  |  |                                                                                                         |     |             |      |   |
| CASCO BAY STEEL STRUCTURES, INC.  |      |                        |  |  |                                                                                                         |     |             |      |   |
| 75 SPRING HILL ROAD               |      |                        |  |  | SAGO, MAINE 04072                                                                                       |     |             |      |   |
| PHONE (207) 282-7360              |      |                        |  |  | FAX. (207) 282-1179                                                                                     |     |             |      |   |
|                                   |      |                        |  |  | <br>TENSOR<br>2879 |     |             |      |   |
| STRUCTURE: VT 11 OVER BLACK RIVER |      |                        |  |  | DRAWN:                                                                                                  |     | DATE:       |      |   |
| BRIDGE NO. 64                     |      |                        |  |  | WJF                                                                                                     |     | 06/12       |      |   |
| SPRINGFIELD, VERMONT              |      |                        |  |  | CHKD:                                                                                                   |     | DATE:       |      |   |
| COUNTY OF WINDSOR                 |      |                        |  |  | DO                                                                                                      |     | 06/23       |      |   |
| LOCATION: TOWN OF SPRINGFIELD     |      |                        |  |  | JOB NO.                                                                                                 |     | DWG NO.     |      |   |
| PROJ NO. BHF 016-2(14)            |      |                        |  |  | 406-1                                                                                                   |     | 9           |      |   |
| CUSTOMER: COLD RIVER BRIDGES, LLC |      |                        |  |  |                                                                                                         |     | REV.        |      | △ |





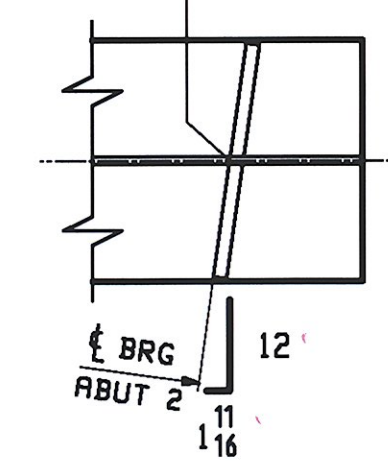












Technical drawing of a barrel vault roof structure. The drawing shows a perspective view of a barrel vault with a height of 2'-10" and a width of 58'-0 7/16". The vault is supported by a base with a width of 57'-11 11/16". The base is divided into two sections, each 1/2" wide. The vault is labeled "BRG" and has a height of 6".

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CK'D BY DRP OK'D BY cwc  
JUN 26 2009  
RESUBMIT \_\_\_\_\_ APPROVED AS NOTED  
BY cwc DATE 7-13-09

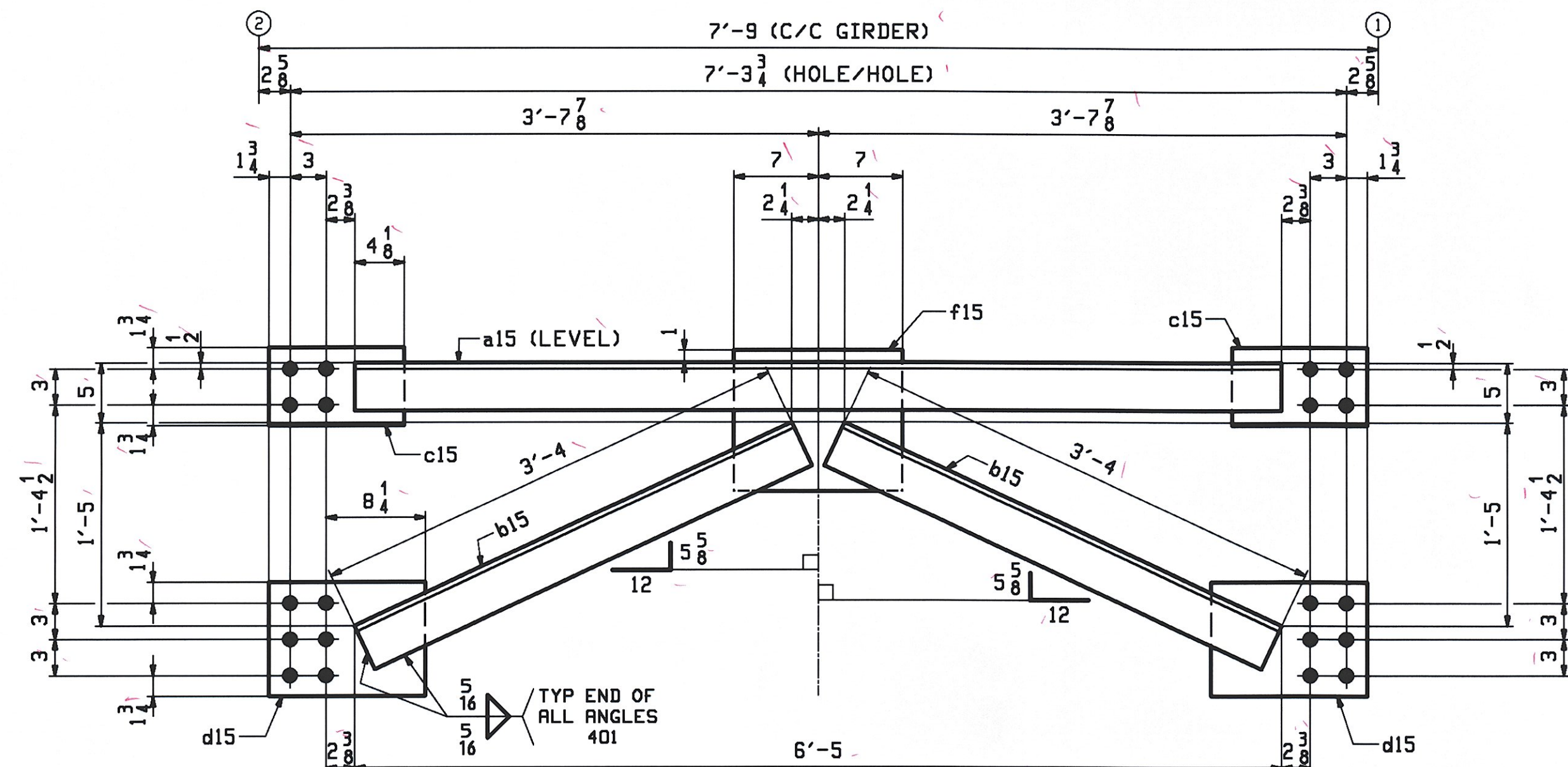
[illegible]

|                                                                                                 |      |                        |  |                     |     |             |      |                                                                                       |  |
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| 0                                                                                               |      |                        |  |                     |     |             |      |                                                                                       |  |
| REV.                                                                                            | DATE | REMARKS                |  |                     | DWN | CHK         | APVL | SHOP                                                                                  |  |
| MATERIAL:                                                                                       |      | SURFACE PREP. & PAINT: |  | HOLES:              |     | SHOP BOLTS: |      |                                                                                       |  |
| M270-50W (UN)                                                                                   |      | SEE GN1                |  | 15.<br>16 Ø U.N.    |     | NONE        |      |                                                                                       |  |
| DESIGNATION: GIRDER - 13G6B                                                                     |      |                        |  |                     |     |             |      |                                                                                       |  |
| CASCO BAY STEEL STRUCTURES, INC.                                                                |      |                        |  |                     |     |             |      |  |  |
| 75 SPRING HILL ROAD                                                                             |      |                        |  | SACO, MAINE 04072   |     |             |      |                                                                                       |  |
| PHONE (207) 282-7360                                                                            |      |                        |  | FAX. (207) 282-1179 |     |             |      |                                                                                       |  |
| STRUCTURE: VT 11 OVER BLACK RIVER<br>BRIDGE NO. 64<br>SPRINGFIELD, VERMONT<br>COUNTY OF WINDSOR |      |                        |  | DRAWN:              |     | DATE:       |      |                                                                                       |  |
|                                                                                                 |      |                        |  | WJF                 |     | 06/12       |      |                                                                                       |  |
|                                                                                                 |      |                        |  | CHKD:               |     | DATE:       |      |                                                                                       |  |
|                                                                                                 |      |                        |  | DO                  |     | 06/23       |      |                                                                                       |  |
| LOCATION: TOWN OF SPRINGFIELD                                                                   |      |                        |  | JOB NO.             |     | DWG NO.     |      |                                                                                       |  |
| PROJ NO. BHF 016-2(14)                                                                          |      |                        |  |                     |     | 13          |      |                                                                                       |  |
| CUSTOMER: COLD RIVER BRIDGES, LLC                                                               |      |                        |  | 406-1               |     | REV.        |      |  |  |

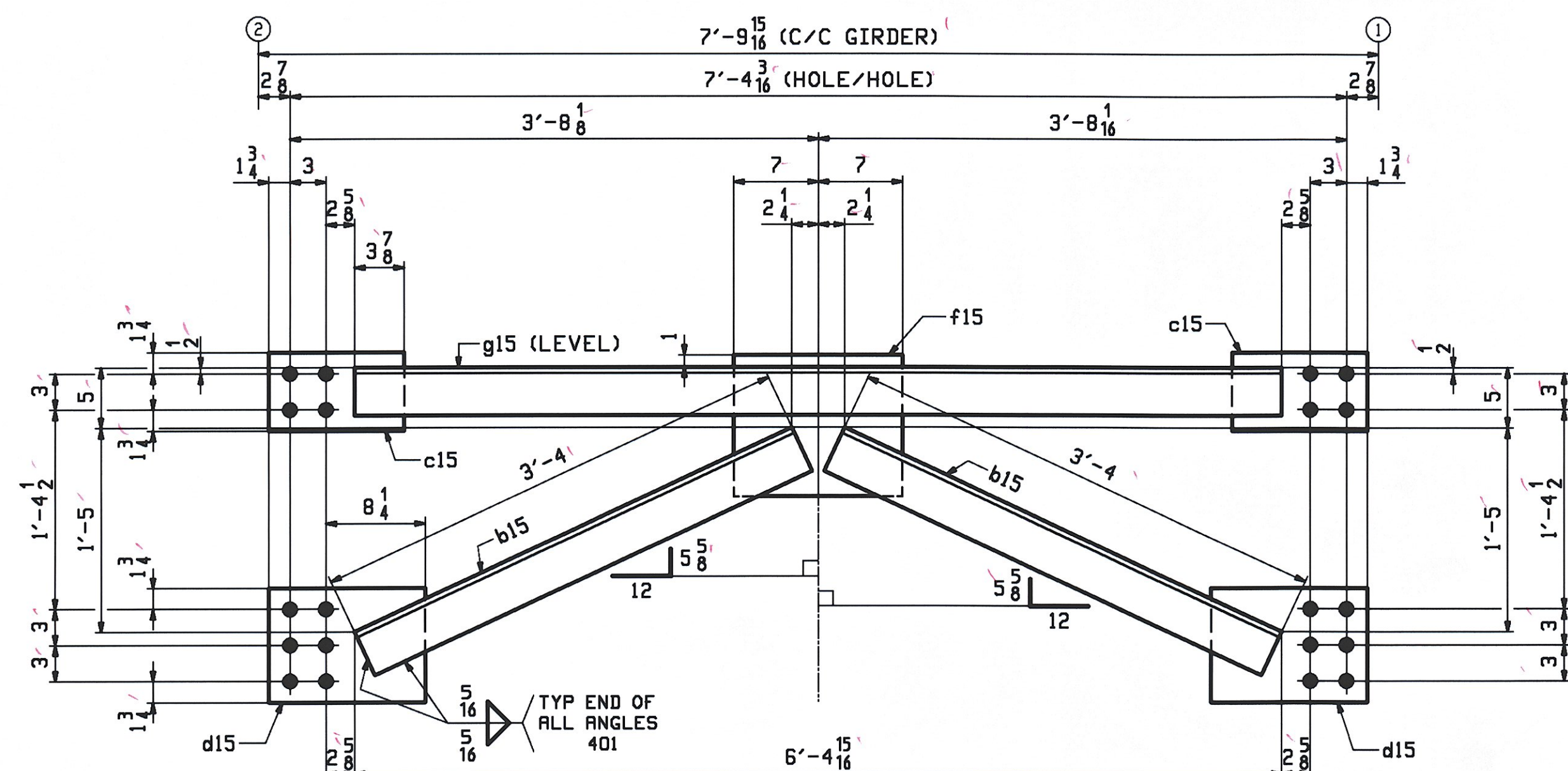








13 - CROSSFRAMES - 15CF1



ONE - CROSSFRAME - 15CF2

| ABM<br>INFO |      | SHIP  | BILL OF MATERIAL |      |                                                            |        |                               |         | JOB NO. |                      | DRAWING NO. |  | REV. |
|-------------|------|-------|------------------|------|------------------------------------------------------------|--------|-------------------------------|---------|---------|----------------------|-------------|--|------|
| PAGE        | LINE | MARK  | QTY              | MARK | MATERIAL                                                   | LENGTH |                               | REMARKS | WT      | PROCUREMENT<br>NOTES |             |  |      |
|             |      |       |                  |      |                                                            | FT     | INCHES                        |         |         |                      |             |  |      |
|             |      | 15CF1 | 13               |      | CROSSFRAME                                                 |        |                               |         |         | 206                  |             |  |      |
| 3           | B    |       | 13               | a15  | L 4x4x <sup>3</sup> <sub>8</sub>                           | 6      | 5                             |         |         |                      |             |  |      |
| 3           | C    |       | 26               | b15  | L 4x4x <sup>3</sup> <sub>8</sub>                           | 3      | 4                             |         |         |                      |             |  |      |
| 3           | D    |       | 26               | c15  | PL <sup>1</sup> <sub>2</sub> x6 <sup>1</sup> <sub>2</sub>  | 0      | 11 <sup>1</sup> <sub>4</sub>  |         |         |                      |             |  |      |
| 3           | E    |       | 26               | d15  | PL <sup>1</sup> <sub>2</sub> x9 <sup>1</sup> <sub>2</sub>  | 1      | 1                             |         |         |                      |             |  |      |
| 3           | F    |       | 13               | f15  | PL <sup>1</sup> <sub>2</sub> x11 <sup>3</sup> <sub>4</sub> | 1      | 2                             |         |         |                      |             |  |      |
|             |      | 15CF2 | 1                |      | CROSSFRAME                                                 |        |                               |         |         | 206                  |             |  |      |
| 3           | C    |       | 2                | b15  | L 4x4x <sup>3</sup> <sub>8</sub>                           | 3      | 4                             |         |         |                      |             |  |      |
| 3           | D    |       | 2                | c15  | PL <sup>1</sup> <sub>2</sub> x6 <sup>1</sup> <sub>2</sub>  | 0      | 11 <sup>1</sup> <sub>4</sub>  |         |         |                      |             |  |      |
| 3           | E    |       | 2                | d15  | PL <sup>1</sup> <sub>2</sub> x9 <sup>1</sup> <sub>2</sub>  | 1      | 1                             |         |         |                      |             |  |      |
| 3           | F    |       | 1                | f15  | PL <sup>1</sup> <sub>2</sub> x11 <sup>3</sup> <sub>4</sub> | 1      | 2                             |         |         |                      |             |  |      |
| 3           | B    |       | 1                | g15  | L 4x4x <sup>3</sup> <sub>8</sub>                           | 6      | 4 <sup>15</sup> <sub>16</sub> |         |         |                      |             |  |      |
|             |      |       |                  |      |                                                            |        |                               |         |         |                      |             |  |      |
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|             |      |       |                  |      |                                                            |        |                               |         |         |                      |             |  |      |
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NOTES:  
FOR GENERAL NOTES SEE DRAWING GN1.

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CHKD BY DRP OK'D BY ONE  
JUN 26 2009  
RESUBMIT \_\_\_\_\_ APPROVED \_\_\_\_\_  
BY ONE DATE 7.13.09



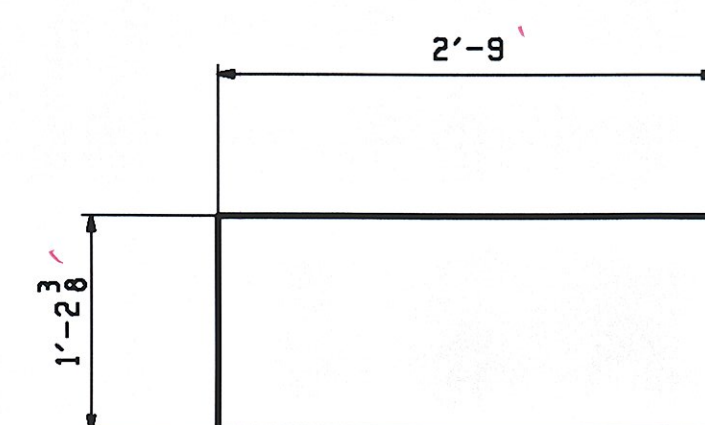
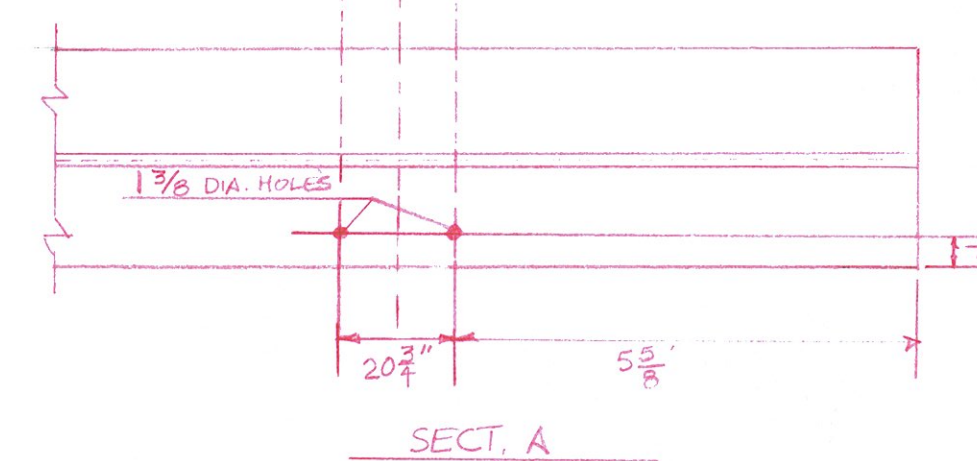
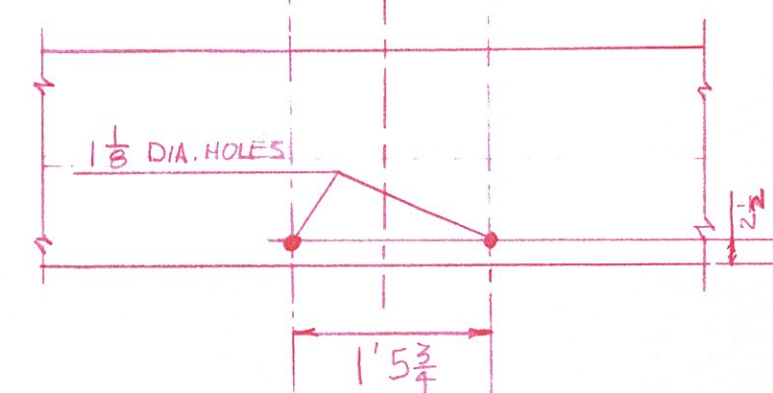
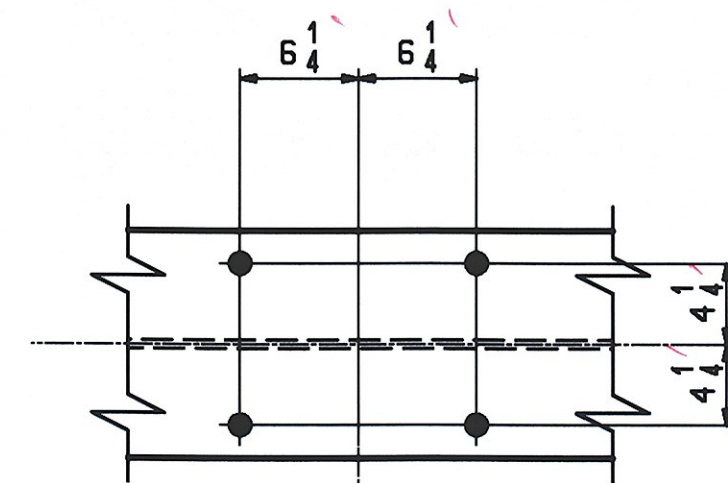


NOTES:  
FOR GENERAL NOTES SEE DRAWING GN1.

|                                                                                                 |      |                        |  |                     |  |             |     |                                                                                       |      |  |  |  |
|-------------------------------------------------------------------------------------------------|------|------------------------|--|---------------------|--|-------------|-----|---------------------------------------------------------------------------------------|------|--|--|--|
|                                                                                                 |      |                        |  |                     |  |             |     |                                                                                       |      |  |  |  |
| D                                                                                               |      |                        |  |                     |  |             |     |                                                                                       |      |  |  |  |
| REV.                                                                                            | DATE | REMARKS                |  |                     |  | DWN         | CHK | APVL                                                                                  | SHOP |  |  |  |
| MATERIAL:                                                                                       |      | SURFACE PREP. & PAINT: |  | HOLES:              |  | SHOP BOLTS: |     |                                                                                       |      |  |  |  |
| M270-50W (UN)                                                                                   |      | SEE GNI                |  | 15<br>16" Ø U.N.    |  | NONE        |     |                                                                                       |      |  |  |  |
| DESCRIPTION: CROSSFRAMES                                                                        |      |                        |  |                     |  |             |     |                                                                                       |      |  |  |  |
| CASCO BAY STEEL STRUCTURES, INC.                                                                |      |                        |  |                     |  |             |     |  |      |  |  |  |
| 75 SPRING HILL ROAD SACO, MAINE 04072                                                           |      |                        |  |                     |  |             |     |                                                                                       |      |  |  |  |
| PHONE (207) 282-7360                                                                            |      |                        |  | FAX. (207) 282-1179 |  |             |     |                                                                                       |      |  |  |  |
| STRUCTURE: VT 11 OVER BLACK RIVER<br>BRIDGE NO. 64<br>SPRINGFIELD, VERMONT<br>COUNTY OF WINDSOR |      |                        |  |                     |  | DRAWN:      |     | DATE:                                                                                 |      |  |  |  |
|                                                                                                 |      |                        |  |                     |  | JWF         |     | O6/15                                                                                 |      |  |  |  |
|                                                                                                 |      |                        |  |                     |  | CHKD:       |     | DATE:                                                                                 |      |  |  |  |
|                                                                                                 |      |                        |  |                     |  | DO          |     | O6/24                                                                                 |      |  |  |  |
| LOCATION: TOWN OF SPRINGFIELD                                                                   |      |                        |  |                     |  | JOB NO.     |     | DWG NO.                                                                               |      |  |  |  |
| PROJ NO. BHF 016-2(14)                                                                          |      |                        |  |                     |  | 406-1       |     | 16                                                                                    |      |  |  |  |
| CUSTOMER: COLD RIVER BRIDGES, LLC                                                               |      |                        |  |                     |  |             |     | REV. A                                                                                |      |  |  |  |

RECEIVED  
CK'D BY DRP CK'D BY ac  
JUN 26 2009  
RESUBMIT \_\_\_\_\_ APPROVED \_\_\_\_\_  
BY CWC DATE 7-13-09



[illegible]

RECEIVED  
C'D BY DRP C'D BY me  
JUN 26 2009  
RESUBMIT \_\_\_\_\_ APPROVED ✓AS NOTED  
BY CWC DATE 7-3-09



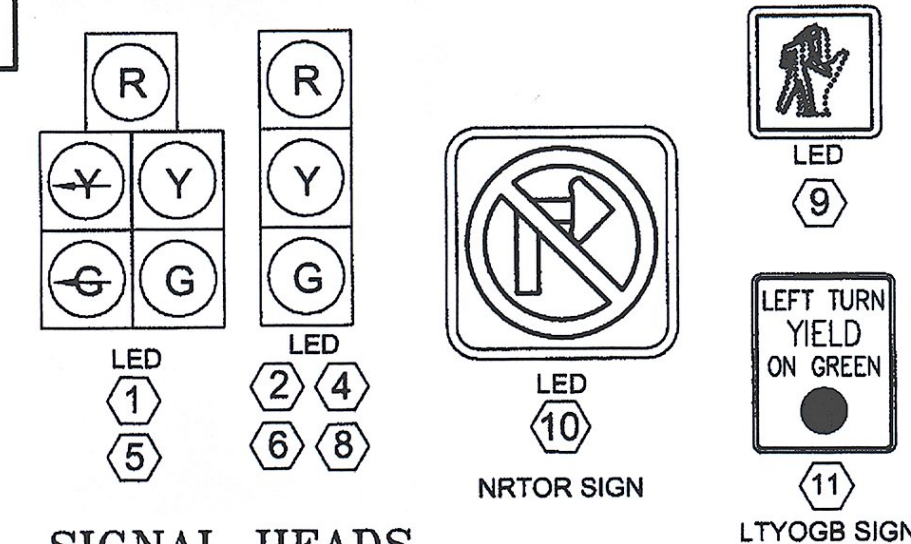
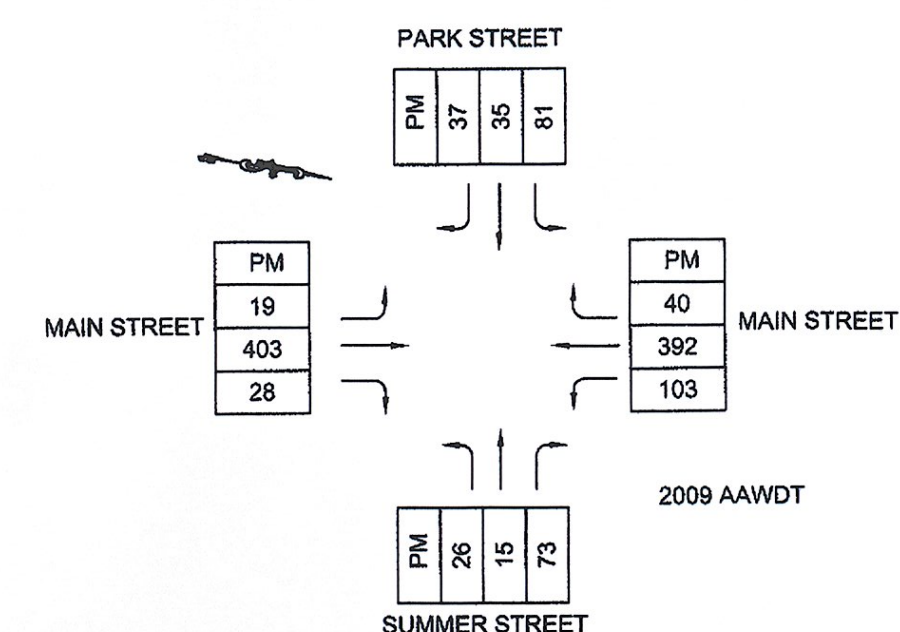
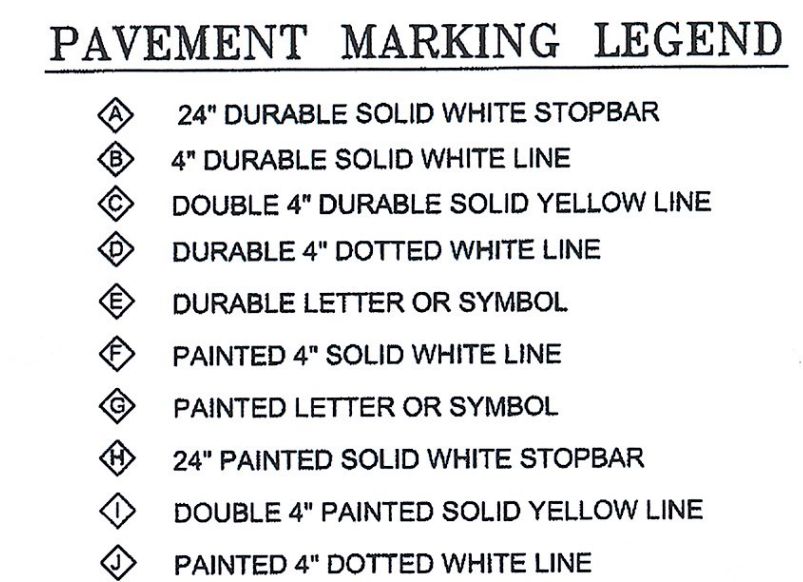
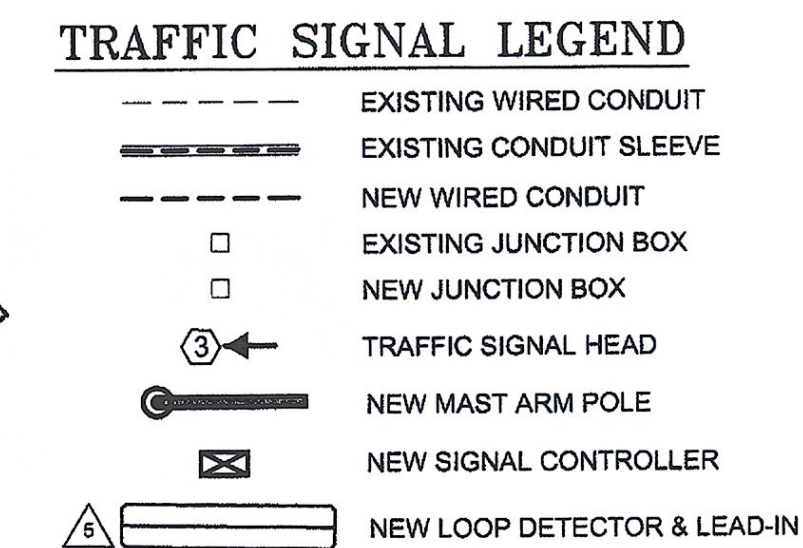
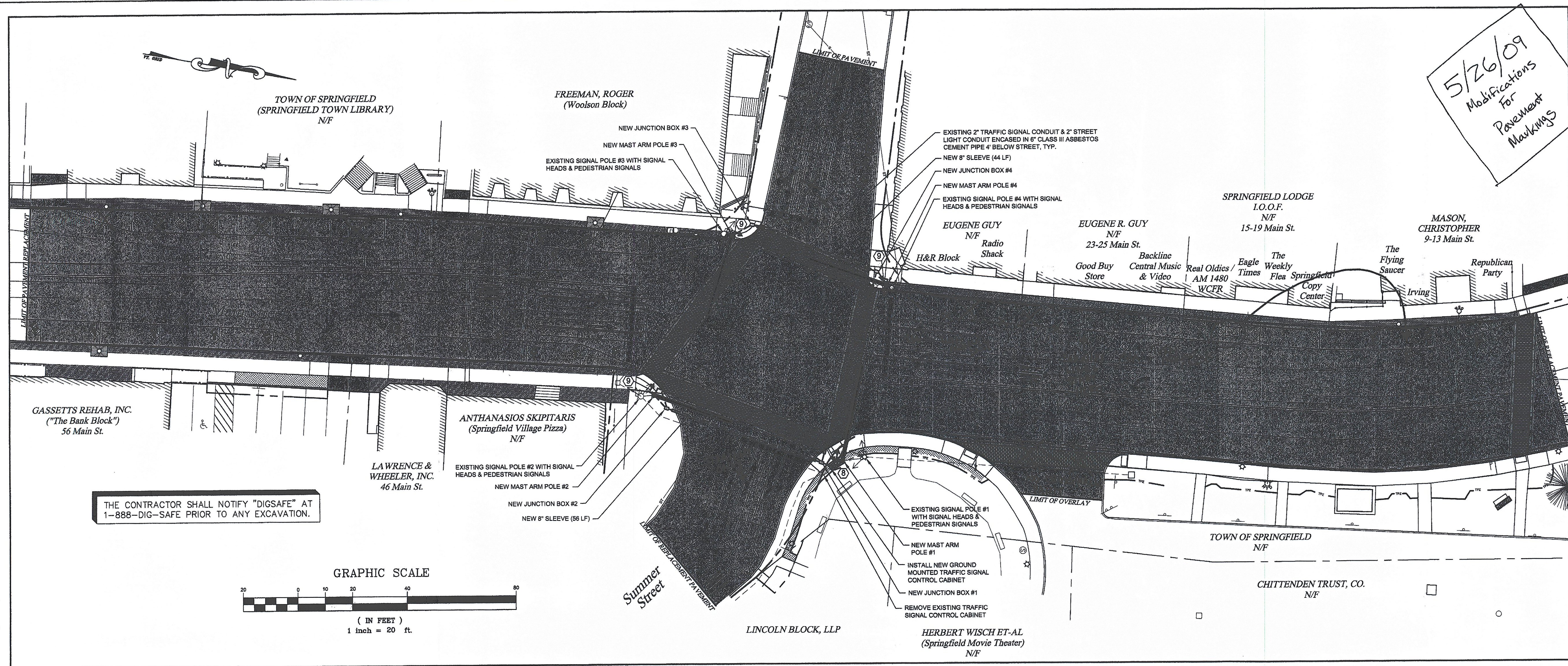


NOTES:  
FOR GENERAL NOTES SEE DRAWING GN1.

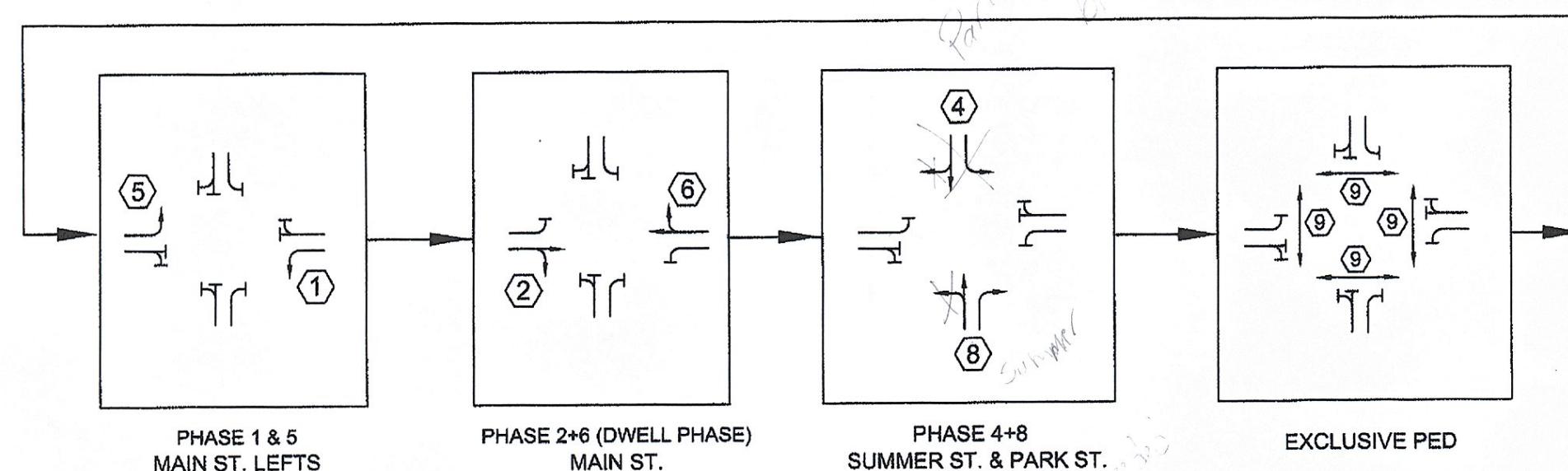
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CK'D BY DRP CK'D BY aw  
JUN 26 2009  
REQUESTED \_\_\_\_\_ APPROVED \_\_\_\_\_  
BY rwc DATE 7-13-09





- NOTES:**
- ALL DURABLE PAVEMENT MARKINGS SHALL BE THERMOPLASTIC WITH THE EXCEPTION OF THE STOP BARS WHICH SHALL BE 3M TAPE GLUED.
  - EXISTING LIGHTING AND TRAFFIC SIGNAL CONDUITS TO BE ABANDONED.
  - CONDUIT SLEEVES SHALL BE INSTALLED BY OPEN CUT AND SHALL BE SDR 35 PVC PIPE.
  - NEW TRAFFIC SIGNAL CONTROLLER SHALL BE CONFIGURED TO ALLOW DUAL-RING CONTROL (NEMA PHASING).



| PROGRAM CONTROLLER FOR NEMA<br>DUAL RING / FULLY ACTUATED<br>OPERATION | PHASE 1&5<br>MAIN ST. LEFTS | PHASE 2+6<br>MAIN ST. | PHASE 4+8<br>PARK ST./<br>SUMMER ST. | PHASE 9<br>EXCLUSIVE<br>PED. PHASE |
|------------------------------------------------------------------------|-----------------------------|-----------------------|--------------------------------------|------------------------------------|
| VEH. EXTENSION                                                         | 2                           | 2                     | 2                                    | -                                  |
| RT. TURN DELAY                                                         | -                           | -                     | 5                                    | -                                  |
| MIN. GREEN                                                             | 8                           | 8                     | 8                                    | -                                  |
| YELLOW CLEAR                                                           | 4                           | 4                     | 4                                    | 10 NRTOR                           |
| RED CLEAR                                                              | 2                           | 2                     | 2                                    | MAN (WALK) FLASHING HAND HAND      |
| MAX. GREEN                                                             | 10                          | 30                    | 12                                   | 4 15 2                             |
| FLASHING OPERATION (9:30 PM - 6:30 AM)                                 | ① + ⑤ → PY                  | ② + ⑥ FY              | ④ + ⑧ FR                             | BLANK                              |

FY = FLASHING YELLOW  
FR = FLASHING RED

| TRAFFIC SIGNAL CONDUIT SCHEDULE |                 |               |     |                             |  |
|---------------------------------|-----------------|---------------|-----|-----------------------------|--|
| FROM                            | TO              | WIRED CONDUIT |     | DESCRIPTION                 |  |
|                                 |                 | 1 1/2"        | 2"  |                             |  |
| CONTROLLER CABINET              | JUNCTION BOX #1 | 3'            | 3'  | SIGNAL WIRING & LOOP WIRING |  |
| CONTROLLER CABINET              | MAST ARM #1     |               | 3'  | SIGNAL WIRING               |  |
| CONTROLLER CABINET              | LOOP #1 & #6    | 12'           |     | LOOP WIRING                 |  |
| JUNCTION BOX #1                 | JUNCTION BOX #2 | 60'           | 60' | SIGNAL WIRING & LOOP WIRING |  |
| JUNCTION BOX #1                 | JUNCTION BOX #4 | 72'           | 72' | SIGNAL WIRING & LOOP WIRING |  |
| JUNCTION BOX #1                 | LOOP #8 & #8A   | 3'            |     | LOOP WIRING                 |  |
| JUNCTION BOX #2                 | MAST ARM #2     |               | 7'  | SIGNAL WIRING               |  |
| JUNCTION BOX #2                 | LOOP #2 & #5    | 9'            |     | LOOP WIRING                 |  |
| JUNCTION BOX #4                 | MAST ARM #4     |               | 6'  | SIGNAL WIRING               |  |
| JUNCTION BOX #4                 | JUNCTION BOX #4 | 48'           | 48' | SIGNAL WIRING & LOOP WIRING |  |
| JUNCTION BOX #3                 | MAST ARM #3     |               | 8'  | SIGNAL WIRING               |  |
| JUNCTION BOX #3                 | LOOP #4 & #4A   | 3'            |     | LOOP WIRING                 |  |

| LANE                | LOOP # | SIZE     | TYPE | # OF<br>TURNS | CALL<br>PHASE | MODE   | INDUCTANCE (uH) |       | RESISTANCE (ohms) |       | LEAKAGE<br>TO GROUND<br>(m-ohms) |
|---------------------|--------|----------|------|---------------|---------------|--------|-----------------|-------|-------------------|-------|----------------------------------|
|                     |        |          |      |               |               |        | CALC.           | MEAS. | CALC.             | MEAS. |                                  |
| MAIN ST. SB LT      | ①      | 6' x 40' | LONG | 2             | 1             | PRES.  | 350             |       | 0.70              |       |                                  |
| MAIN ST. NB         | ②      | 6' x 40' | LONG | 2             | 2             | PRES.  | 363             |       | 0.87              |       |                                  |
| PARK ST. EB TH/RT   | ③      | 6' x 40' | LONG | 2             | 4             | PRES.  | 373             |       | 1.00              |       |                                  |
| PARK ST. EB LT      | ④      | 6' x 40' | LONG | 2             | 4             | PRES.  | 375             |       | 1.04              |       |                                  |
| MAIN ST. NB LT      | ⑤      | 6' x 40' | LONG | 2             | 5             | PRES.  | 365             |       | 0.90              |       |                                  |
| MAIN ST. SB         | ⑥      | 6' x 40' | LONG | 2             | 6             | PRES.  | 352             |       | 0.73              |       |                                  |
| SUMMER ST. WB TH/LT | ⑦      | 6' x 40' | LONG | 2             | 8             | PRES.  | 347             |       | 0.67              |       |                                  |
| SUMMER ST. WB RT    | ⑧      | 6' x 40' | LONG | 2             | 8             | PRES.* | 344             |       | 0.63              |       |                                  |

\* DELAY ON RIGHT TURN LOOP

VEHICLE LOOP DETECTOR SCHEDULE

| DATE                                                                                                                   | REVISIONS                                                                          | BY                  |
|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------|
|                                                                                                                        | THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW: | # OF SHEETS         |
|                                                                                                                        | <input type="checkbox"/> SKETCH/CONCEPT                                            |                     |
|                                                                                                                        | <input type="checkbox"/> PRELIMINARY                                               |                     |
|                                                                                                                        | <input type="checkbox"/> FINAL 85% PLANS                                           |                     |
|                                                                                                                        | <input checked="" type="checkbox"/> CONTRACT PLANS (4-24-08)                       |                     |
| TOWN OF SPRINGFIELD, VERMONT<br>SPRINGFIELD TCSE 006<br>STP 016-2(15)                                                  |                                                                                    | Proj. no.<br>05015  |
| MAST ARM DESIGN<br>SIGNAL LAYOUT PLAN                                                                                  |                                                                                    | Survey<br>MG/JT/JMD |
| LAMOUREUX & DICKINSON<br>Consulting Engineers, Inc.<br>14 Morse Drive<br>Essex Junction, VT 05452<br>Tel: 802-878-4450 |                                                                                    | Design<br>JLC       |
|                                                                                                                        |                                                                                    | Drawn<br>JT/BH      |
|                                                                                                                        |                                                                                    | Checked<br>DLH/DJG  |
|                                                                                                                        |                                                                                    | Date<br>04/25/05    |
|                                                                                                                        |                                                                                    | Scale<br>1" = 20'   |
|                                                                                                                        |                                                                                    | Sheet, no.<br>15    |