

BOARD OF WAYNE COUNTY ROAD COMMISSIONERS

DETROIT, MICHIGAN

PHILIP J. NEUDECK

AL BARBOUR

WILLIAM E. KREGER

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PLANS OF PROPOSED BRIDGE FIVE MILE ROAD OVER ROUGE RIVER (EAST OF TELEGRAPH ROAD) WAYNE COUNTY JOB NO.320

CITY OF DETROIT
WAYNE COUNTY

GENERAL NOTE

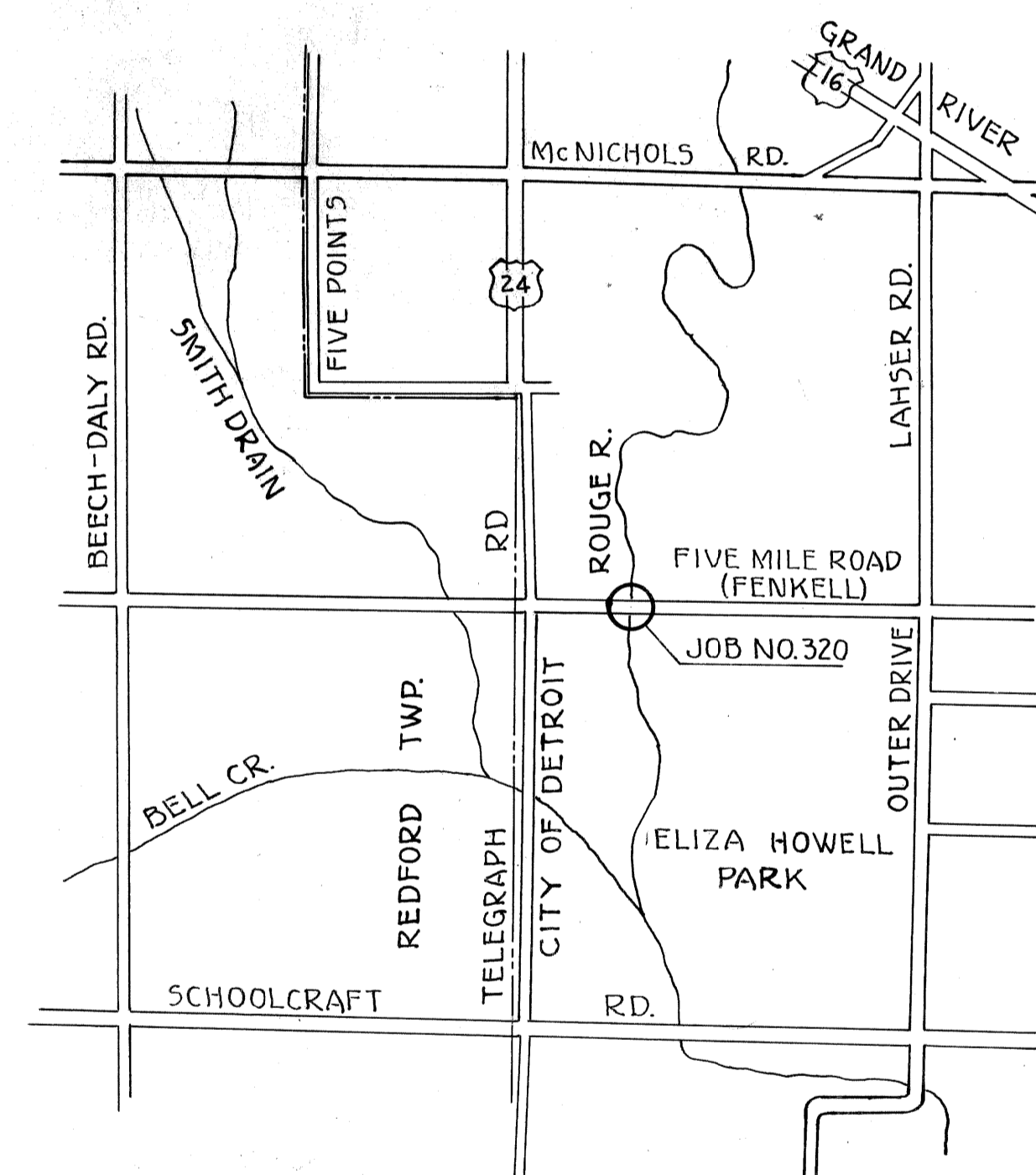
Except where otherwise indicated on these Plans or in the Proposal and Supplemental Specification contained therein all material and workmanship shall be in accordance with the Board of County Road Commissioners of the County of Wayne's General Specifications for the Construction of Roads, Bridges and other Structures, 1951 Edition.

The Design of this Structure is based on the A.A.S.H.O. Standard Specifications for Highway Bridges H20-S16-44 and Special Military Loading.

The character of all materials and the extent thereof as shown by borings has been obtained by methods and from sources believed to be reliable. The exactness of this information is however in no case guaranteed. Boring reports are on file in the office of the Wayne County Road Commission, 7th Floor City-County Building, Detroit, Michigan, and are available for inspection.

The Contractor shall contact the Utility Companies regarding their facilities prior to starting work.

All exposed concrete corners shown square on the plans shall be bevelled with $\frac{3}{4}$ triangular mouldings except as otherwise noted.

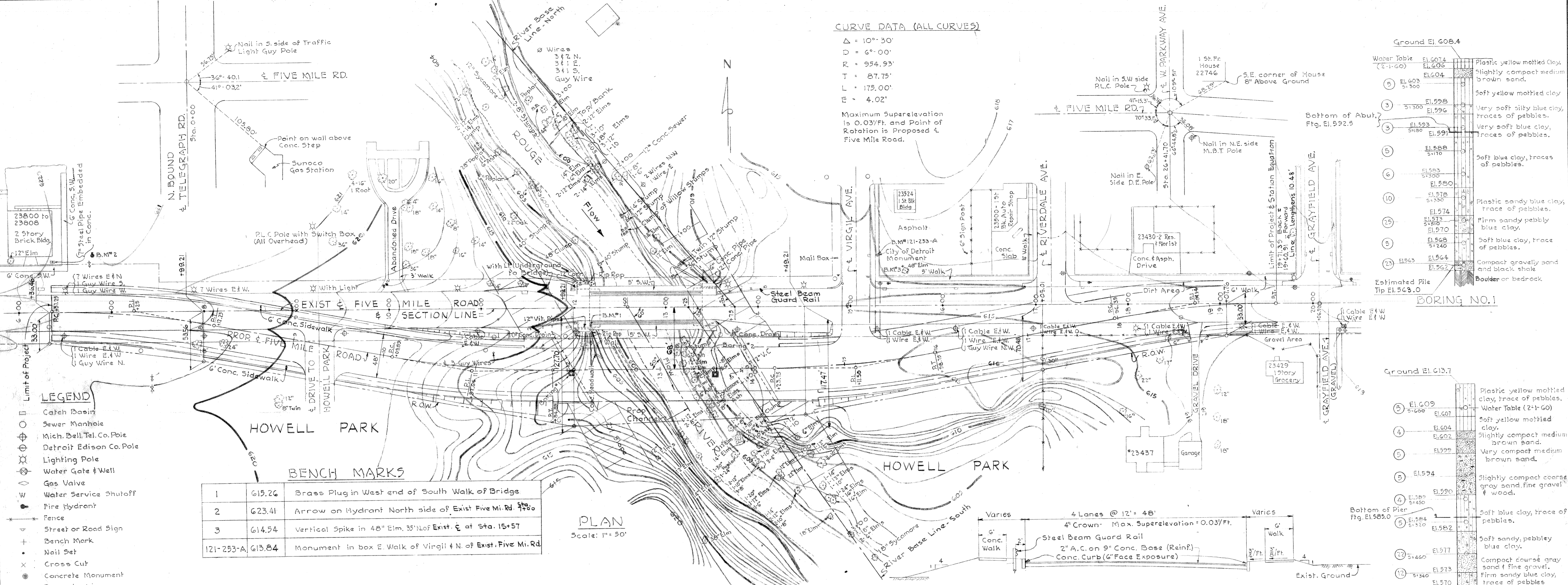


APPROVED

COUNTY HIGHWAY ENGINEER

TITLE SHEET
FIVE MILE ROAD OVER ROUGE RIVER

COUNTY JOB
320
SHEET NO.
1



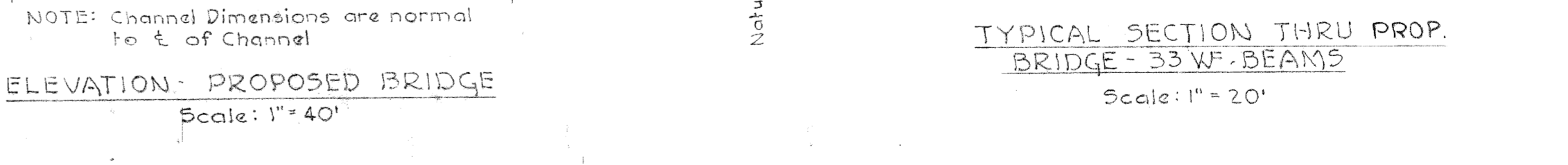
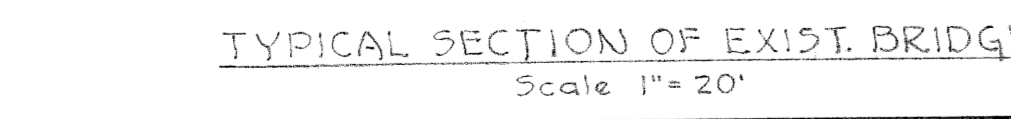
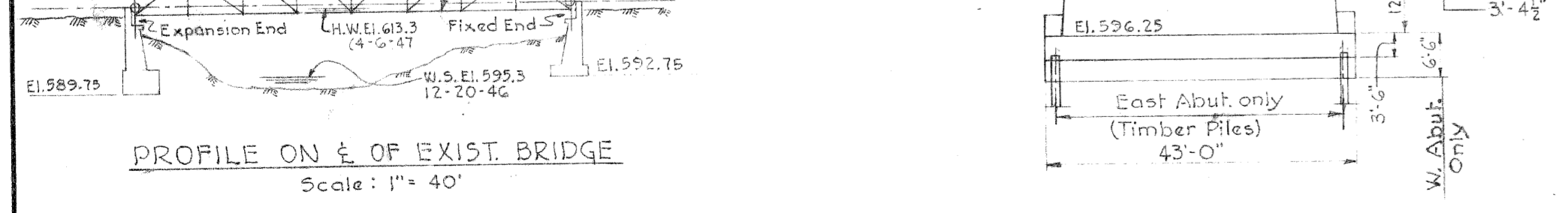
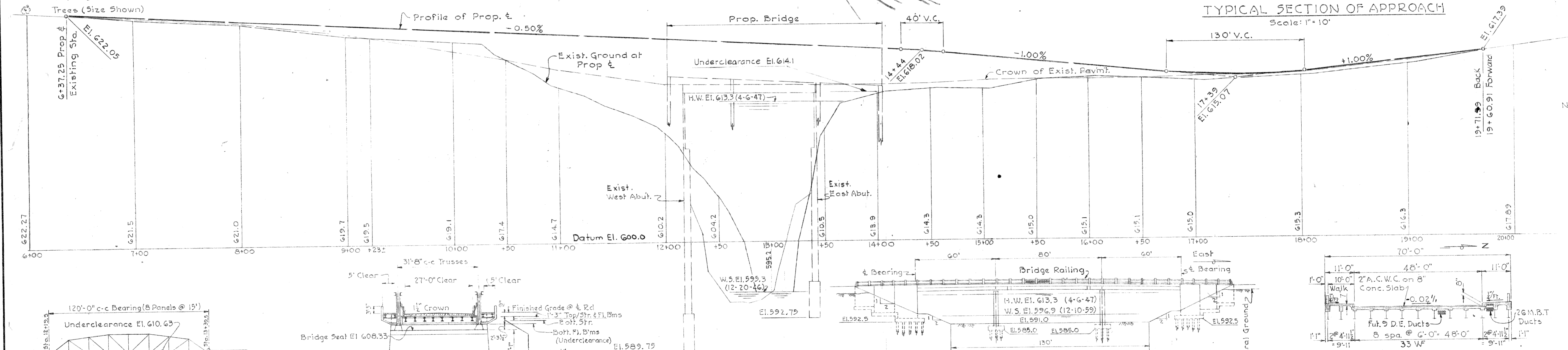
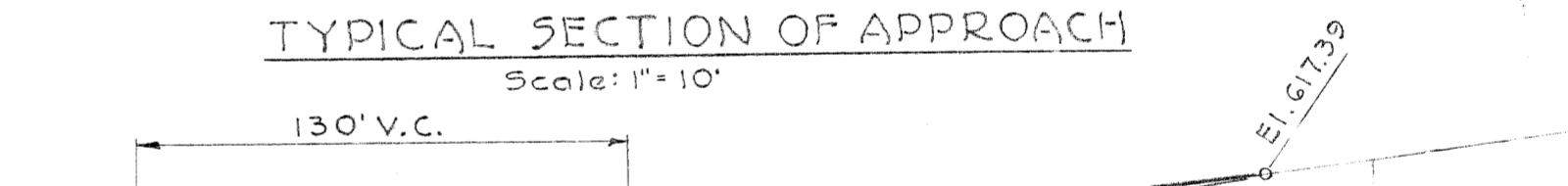
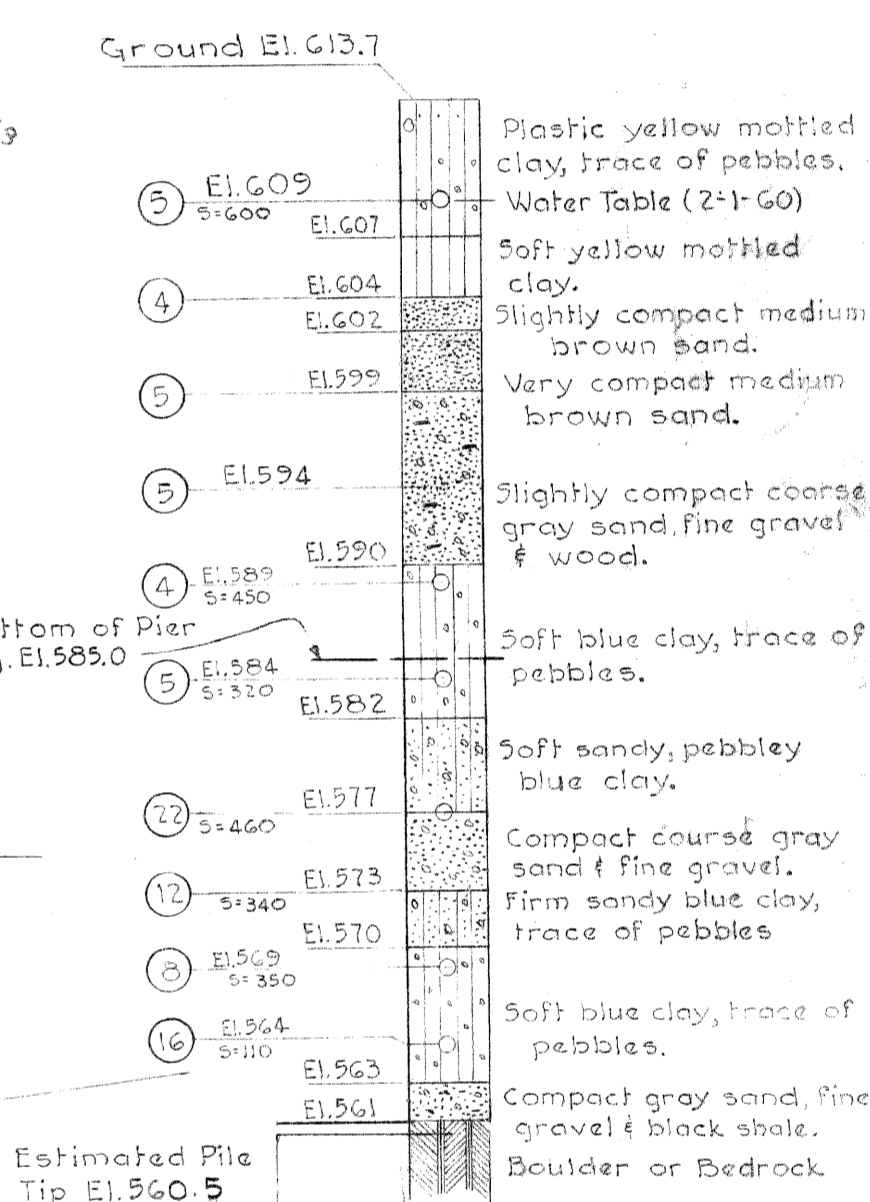
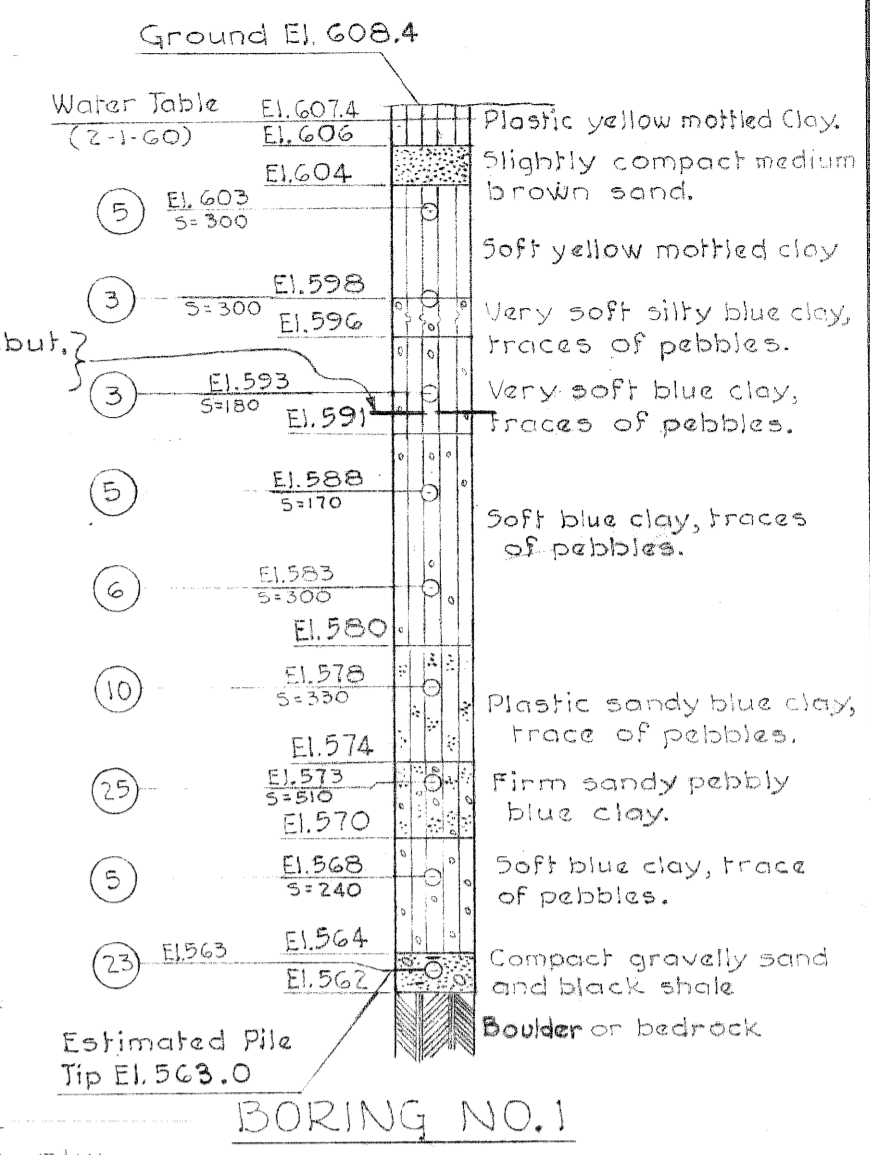
CURVE DATA (ALL CURVES)
 $\Delta = 10^\circ 30'$
 $D = 6^\circ 00'$
 $R = 954.93'$
 $L = 87.75'$
 $T = 175.00'$
 $E = 4.02'$
 Maximum Superelevation is 0.03/Ft. and Point of Rotation is Proposed $\frac{1}{2}$ Five Mile Road.

LEGEND
 Catch Basin
 Sewer Manhole
 Mich. Bell, Tel. Co. Pole
 Detroit Edison Co. Pole
 Lighting Pole
 Water Gate & Well
 Gas Valve
 W Water Service Shutoff
 Fire Hydrant
 Fence
 Street or Road Sign
 Bench Mark
 Nail Set
 Cross Cut
 Concrete Monument
 Property Line
 Trees (Size Shown)

BENCH MARKS

| | | |
|---|-------------------|---|
| 1 | 615.26 | Brass Plug in West end of South Walk of Bridge |
| 2 | 623.41 | Arrow on Hydrant North side of Exist Five Mi. Rd. |
| 3 | 614.54 | Vertical Spike in 48" Elm. 35' N. of Exist. $\frac{1}{2}$ at Sta. 15+57 |
| | 121-253-A, 613.84 | Monument in box E Walk of Virgil & N. of Exist. Five Mi. Rd. |

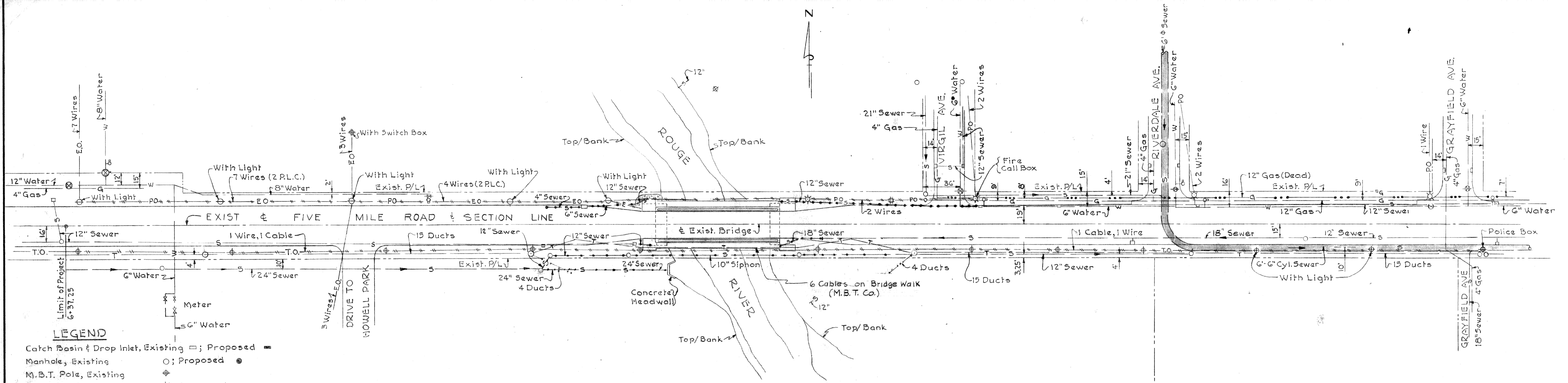
PLAN
 Scale: 1" = 50'



NOTES: Penetration - Circled numbers indicate number of blows required to drive soil sampler one foot, using 140-pound weight falling 30 inches.
 (S) numbers indicate Transverse Shearing Resistance in Lbs. per Sq. Ft. Shear values shown have been determined from samples at the W.C.R.C. Laboratory, Wayne Yd. using the 'Mousel' method.

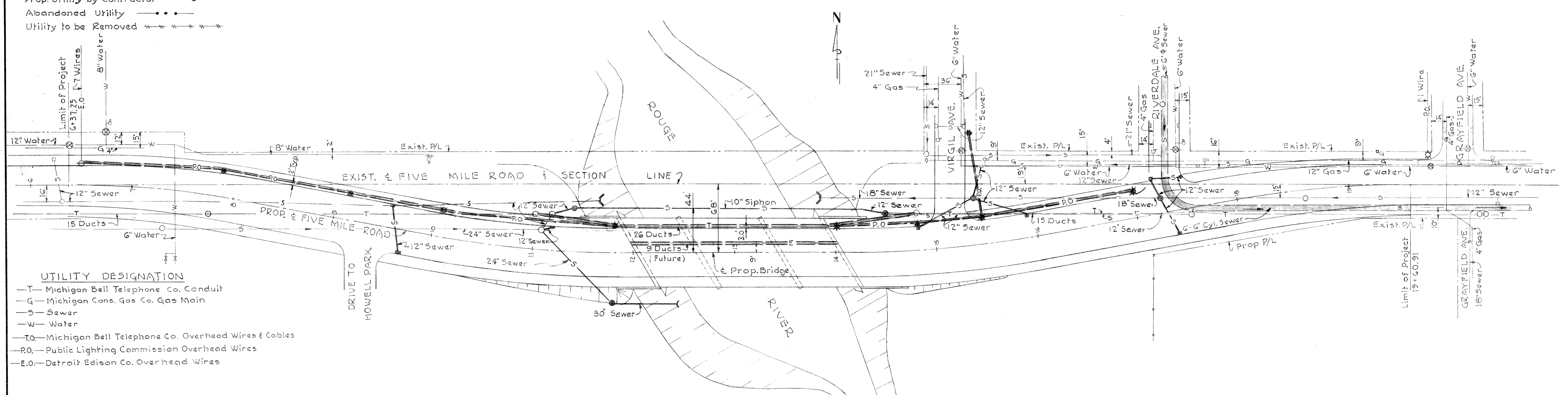
GENERAL NOTES
 Specifications: Board of Wayne County Road Commissioners, 1951 Edition
 General Specifications for the Construction of Roads, Bridges, and Other Highway Structures and Supplementary Specifications for Job # 320 Design R.A.S.H.O. 197. Loading: H20-516-44 and Special Military Loading.
 Datum: Elevations shown are based on Old Wayne County Precise Datum. (U.S.L.S.)
 Survey Notes: Field Books Nos 353 & 408

| <p>REVISIONS</p> <table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td>1</td> <td>2-2-60</td> <td>Revised (Redrawn)</td> </tr> <tr> <td>2</td> <td>2-2-60</td> <td>Added Prop. Profile and Revised Typical Section</td> </tr> <tr> <td>3</td> <td>2-2-60</td> <td>Revised Bridge Elevation</td> </tr> <tr> <td>4</td> <td>2-2-60</td> <td>Detail Rev. 12-10-59</td> </tr> <tr> <td>5</td> <td>2-2-60</td> <td>Detail Rev. 12-10-59</td> </tr> </table> | NO. | DATE | DESCRIPTION | 1 | 2-2-60 | Revised (Redrawn) | 2 | 2-2-60 | Added Prop. Profile and Revised Typical Section | 3 | 2-2-60 | Revised Bridge Elevation | 4 | 2-2-60 | Detail Rev. 12-10-59 | 5 | 2-2-60 | Detail Rev. 12-10-59 | <p>SQUAD LEADER: L. M. Ewee</p> <p>DRAWN BY: [Signature]</p> <p>CHECKED BY: [Signature]</p> <p>TRACED BY: [Signature]</p> <p>CORRECT: [Signature]</p> <p>ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS</p> | <p>APPROVED</p> <p>DATE: 2-2-60</p> <p>DATE: []</p> <p>DATE: []</p> <p>ENGINEER OF STRUCTURES AND EXPRESSWAYS</p> <p>APPROVED</p> | <p align="center">BOARD OF WAYNE COUNTY ROAD COMMISSIONERS DETROIT, MICHIGAN WILLIAM E. KREGER AL BARBOUR</p> | <p align="center">FIVE MILE ROAD OVER ROUGE RIVER LOCATION PLAN</p> | <table border="1"> <tr> <td>STATE PROJECT</td> <td align="center">320</td> </tr> <tr> <td>COUNTY JOB</td> <td align="center">320</td> </tr> <tr> <td>ISSUE NO. <u>5</u></td> <td align="center">SHEET NO. 4</td> </tr> <tr> <td>DATE <u>10-17-62</u></td> <td></td> </tr> </table> | STATE PROJECT | 320 | COUNTY JOB | 320 | ISSUE NO. <u>5</u> | SHEET NO. 4 | DATE <u>10-17-62</u> | |
|--|--------------------|---|-------------|---|--------|-------------------|---|--------|---|---|--------|--------------------------|---|--------|----------------------|---|--------|----------------------|--|---|---|--|---|---------------|------------|------------|------------|--------------------|--------------------|----------------------|--|
| NO. | DATE | DESCRIPTION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2-2-60 | Revised (Redrawn) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 2-2-60 | Added Prop. Profile and Revised Typical Section | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 2-2-60 | Revised Bridge Elevation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 2-2-60 | Detail Rev. 12-10-59 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 2-2-60 | Detail Rev. 12-10-59 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| STATE PROJECT | 320 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| COUNTY JOB | 320 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ISSUE NO. <u>5</u> | SHEET NO. 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DATE <u>10-17-62</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



EXISTING UTILITIES
Scale: 1"=30'

- LEGEND**
- Catch Basin & Drop Inlet, Existing □; Proposed ■
 - Manhole, Existing ○; Proposed ●
 - M.B.T. Pole, Existing ⊕; Proposed ⊕
 - P.L.C. Lighting Pole, Existing ✕; Proposed ✕
 - Water Gate & Well, Existing ⊕
 - Water Gate & Box, Existing ⊕
 - Fire Hydrant, Existing ⊕
 - P.L.C. Pole, No Light, Existing ⊕; Proposed ⊕
 - D.E. Pole, Existing ⊕
 - M.C.G.Co Gas Valve, Existing ⊕
 - Concrete Headwall, Existing ⌋; Proposed ⌋
- Existing Utility to Remain ———
- Prop. Utility By Others ———
- Existing Utility to be Abandoned - - - - -
- Prop. Utility by Contractor ———
- Abandoned Utility - - - - -
- Utility to be Removed - - - - -



PROPOSED UTILITIES
Scale: 1"=30'

- UTILITY DESIGNATION**
- T—Michigan Bell Telephone Co. Conduit
 - G—Michigan Cons. Gas Co. Gas Main
 - S—Sewer
 - W—Water
 - T.O.—Michigan Bell Telephone Co. Overhead Wires & Cables
 - P.O.—Public Lighting Commission Overhead Wires
 - E.O.—Detroit Edison Co. Overhead Wires

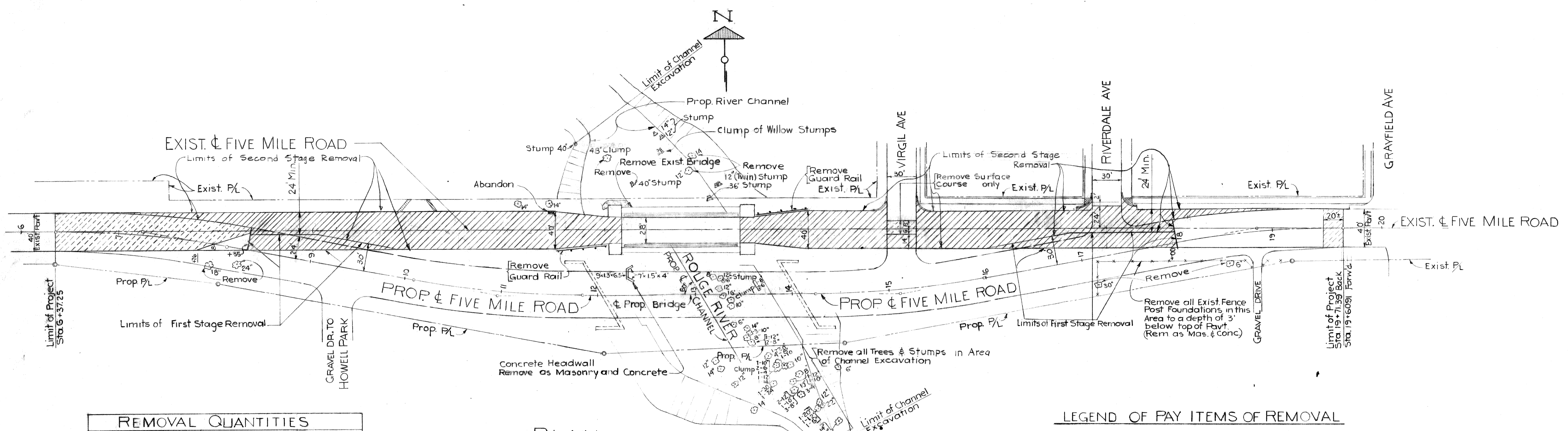
| | | |
|------------|--------|--|
| STATE FILE | BRIDGE | |
| | ROAD | |

| REVISIONS | | SQUAD LEADER | | APPROVED | |
|--------------------|---------------------|--------------|--|----------|--|
| ② Detail Revisions | 9-17-60 B.C.V. 30' | L.M.E. Elwce | | | |
| ① Detail Rev. | 12-29-60 | | | | |
| ③ | 11-15-60 2749 | | | | |
| ④ | Chgd. 50' P.A. to 5 | | | | |
| ⑤ | 3-26-61 P.E. | | | | |
| ⑥ | L.C.A. Gars. | | | | |

WAYNE COUNTY ROAD COMMISSIONERS
DETROIT, MICHIGAN
WILLIAM E. KREGER

FIVE MILE ROAD OVER ROUGE RIVER UTILITY PLAN

| | |
|---------------|-------------|
| STATE PROJECT | COUNTY JOB |
| ISSUE NO. 2 | SHEET NO. 5 |
| DATE 10-17-62 | |

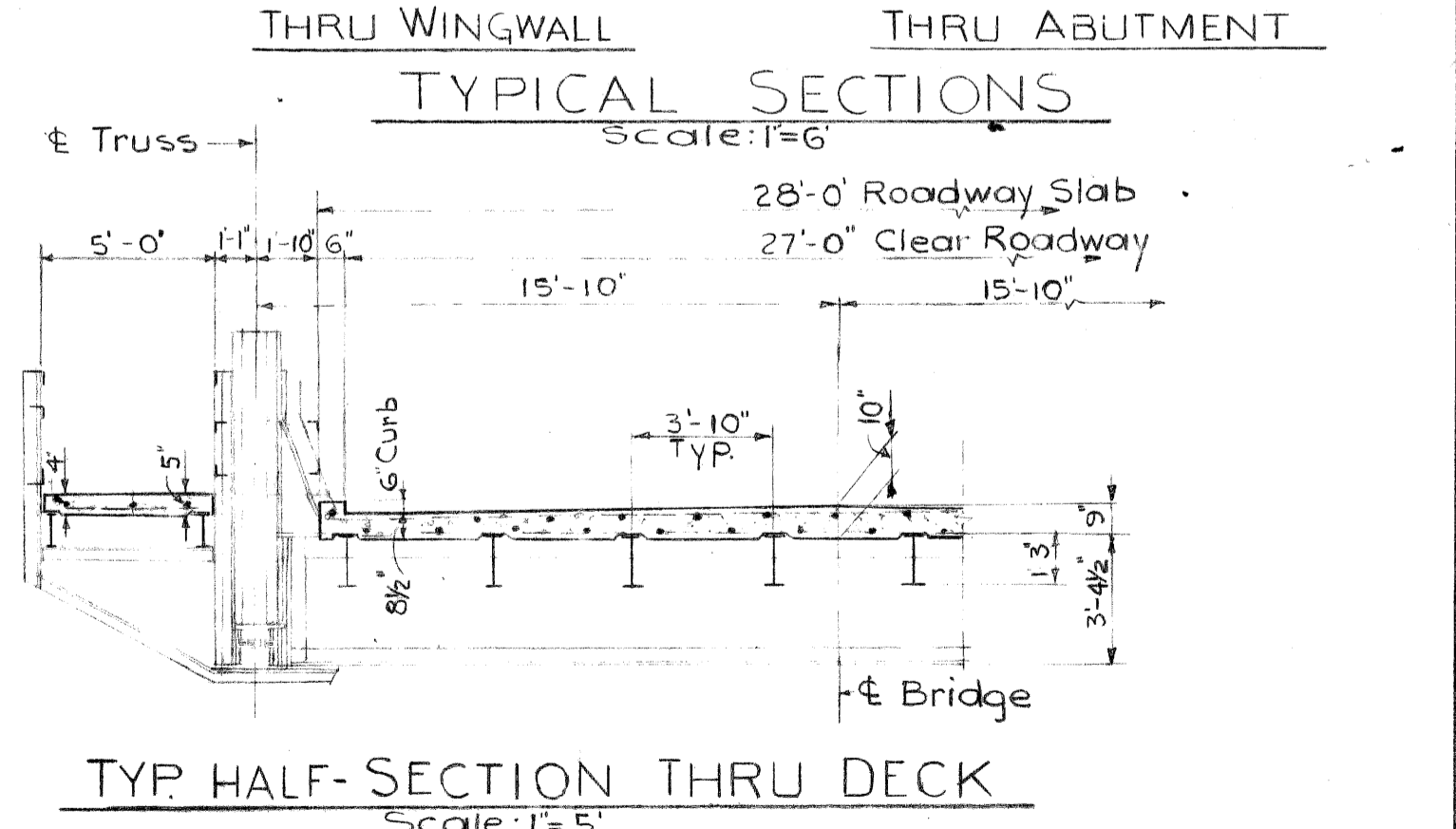
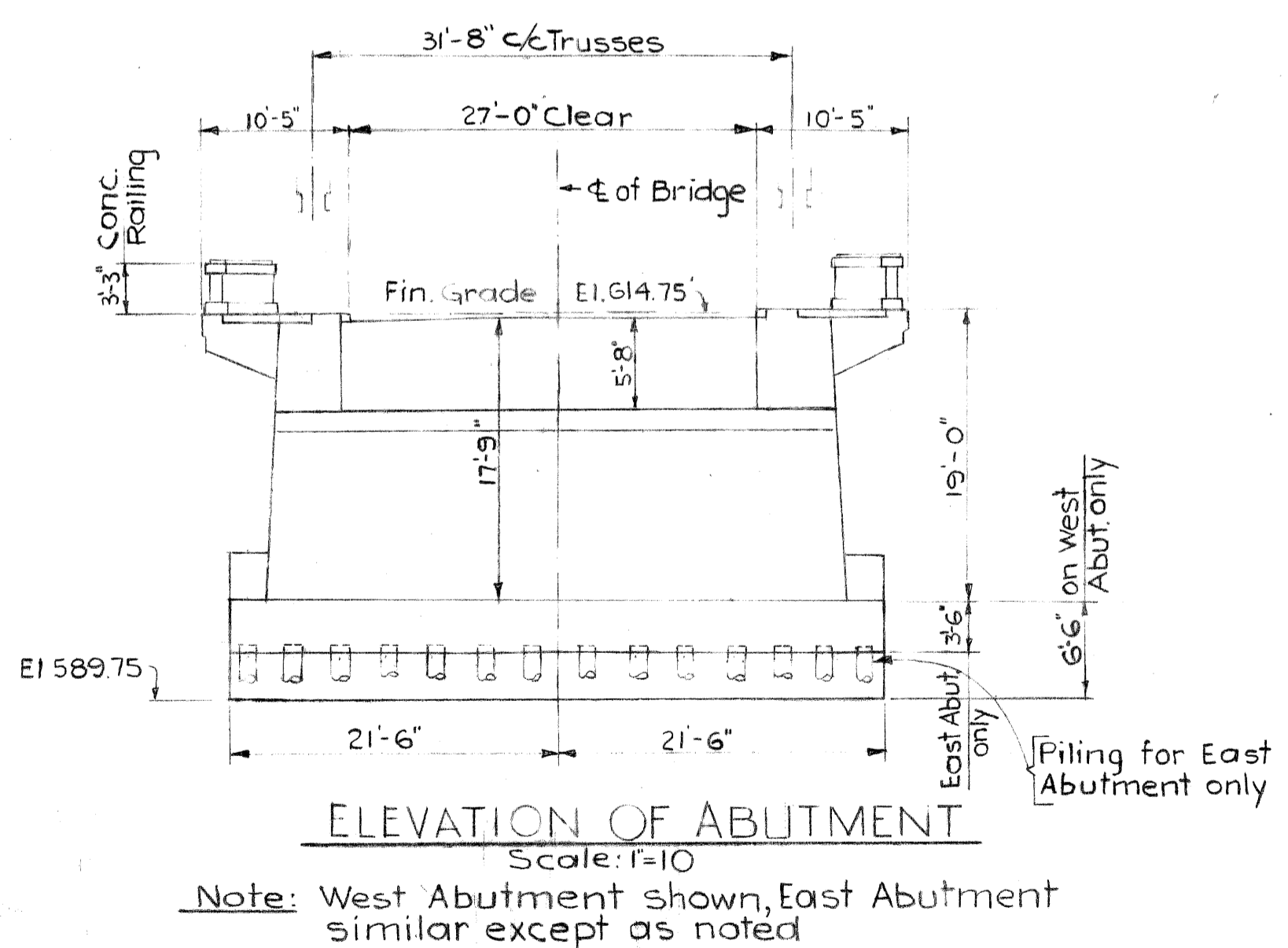
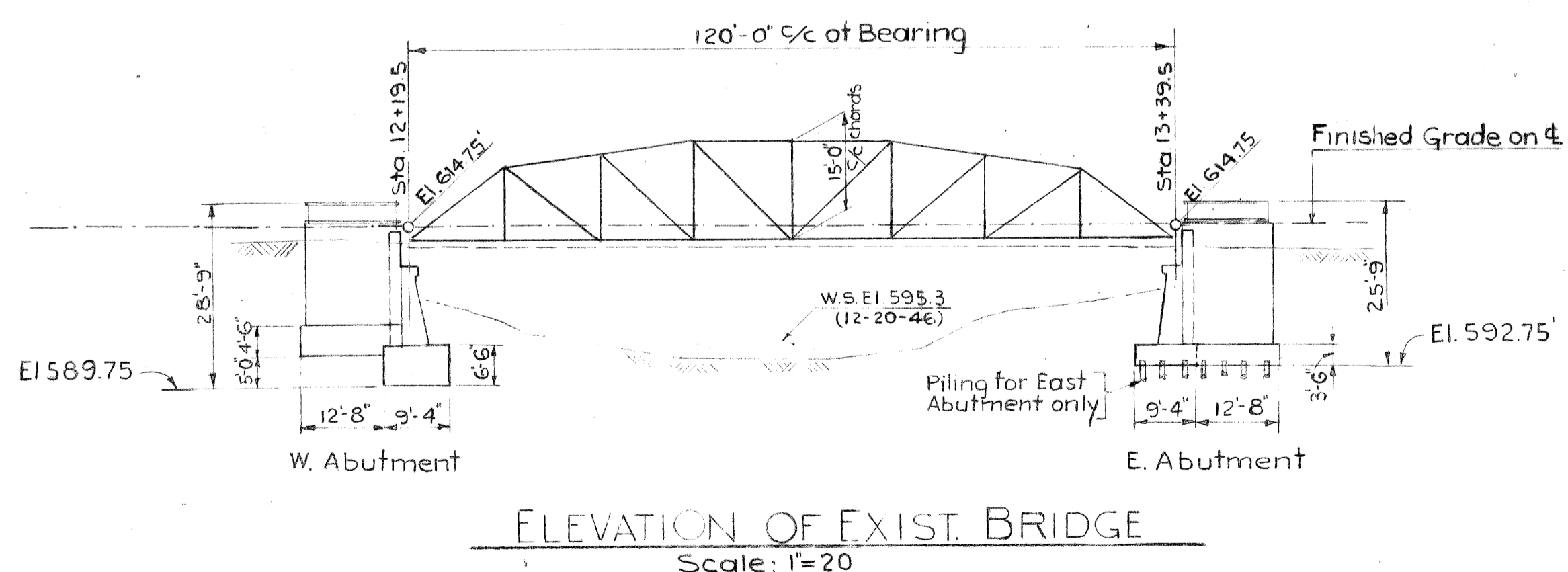
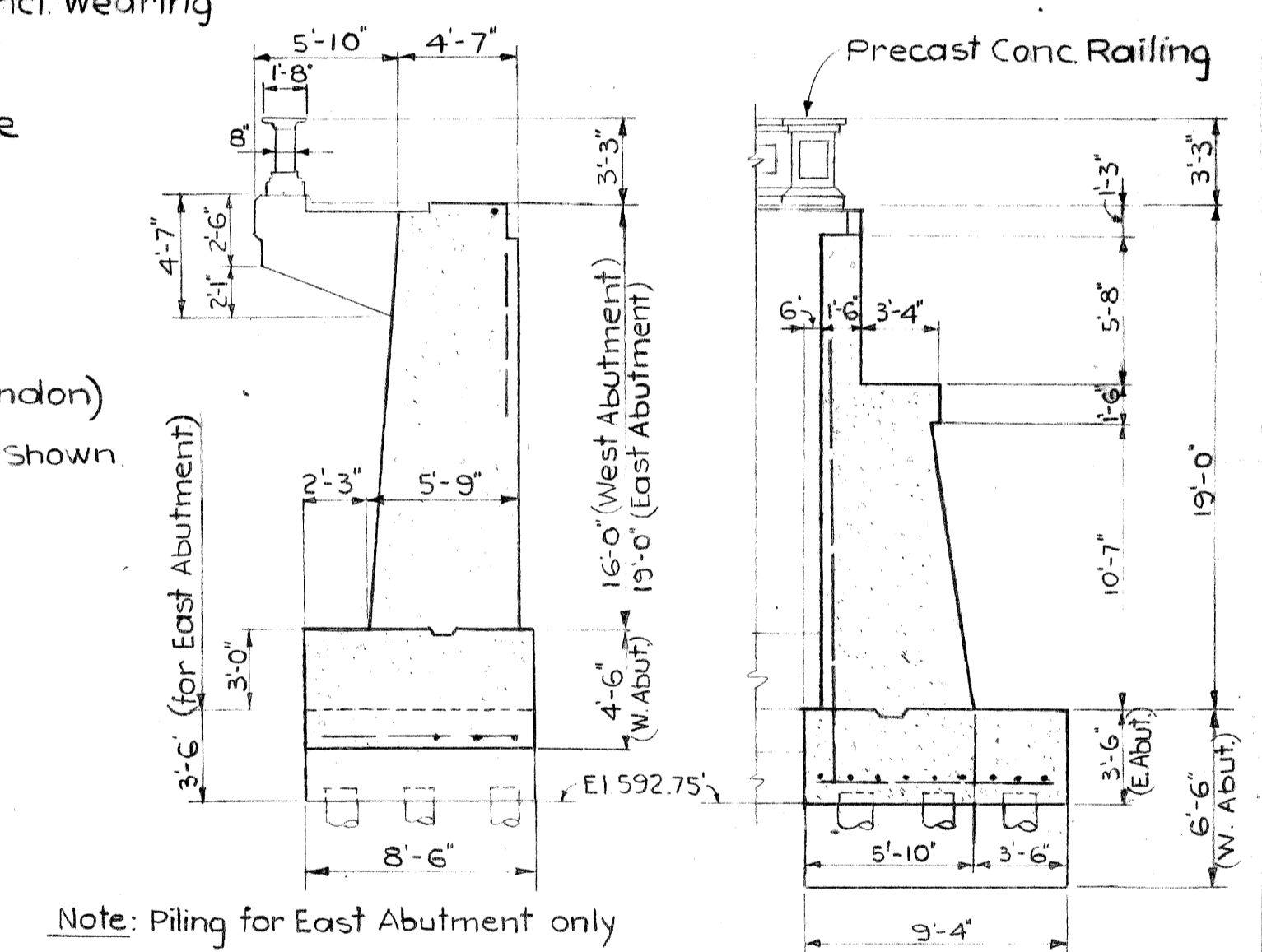


| REMOVAL QUANTITIES | |
|-----------------------------------|-------------|
| Removing Trees, 8" to 12" Dia. | 39 Each |
| Removing Trees, 13" to 24" Dia. | 13 Each |
| Removing Trees, 25" to 36" Dia. | 2 Each |
| Removing Trees, 37" Dia or larger | 1 Each |
| Removing Old Pavement | 3740 Sq.Yds |
| Removing Asphalt Surface | 840 Sq.Yds |
| Removing Sidewalk | 16 Sq.Yds |
| Removing Masonry and Concrete | 7 Cu.Yds |
| Abandoning Drop Inlets | 1 Each |
| Removing Existing Bridge | Lump Sum |
| Removing Stumps | 9 Each |

PLAN
Scale: 1"=50'
Note: For Limits of Channel Excavation See Digging Plan Sh.15
Removal of Guard Rail is included in Removing Existing Bridge

LEGEND OF PAY ITEMS OF REMOVAL

- Old Pavement (Incl. Wearing Course & Curb)
- Surface Course
- Sidewalk
- Drop Inlet (Abandon)
- Tree (Remove) Size Shown.



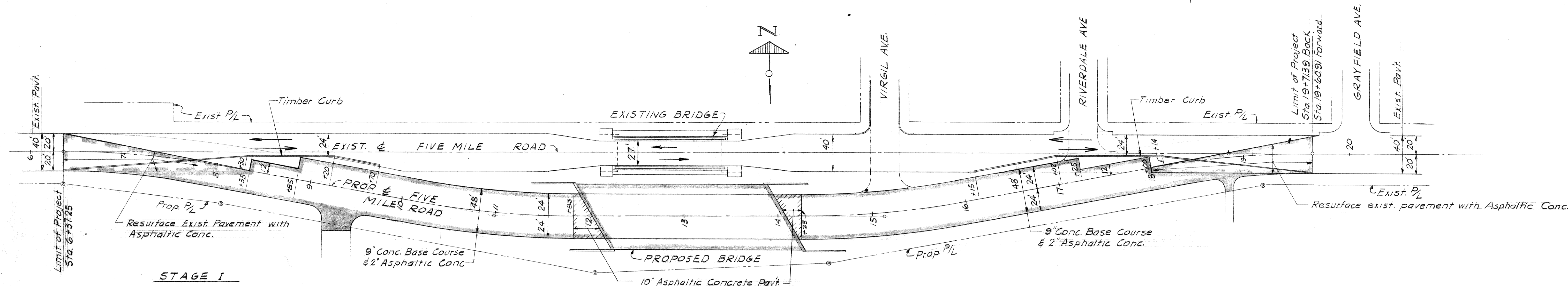
NOTES ON REMOVAL OF EXIST. BRIDGE
Remove Entire Bridge
Cut-off Timber Piles - East Abut at E1590.0 (incl. to Bridge Removal)
Concrete in Substructure = 604 C.Y.
Structural Steel = 330,000 Lbs
Concrete in Deck = 123 C.Y.
Precast conc. Railing = 65 L.F.
Guard Rail = 98 L.F.

| REVISIONS | SQUAD LEADER | APPROVED |
|-----------|---------------------|---------------------------|
| | L. M. E. Iwee | |
| | DRAWN BY S. Juzenas | CHECKED BY B. Chmielewski |
| | DATE 9-17-1960 | DATE |
| | TRACED BY | CHECKED BY |
| | CORRECT | APPROVED |

| ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS | COUNTY HIGHWAY ENGINEER |
|--|-------------------------|
| | |

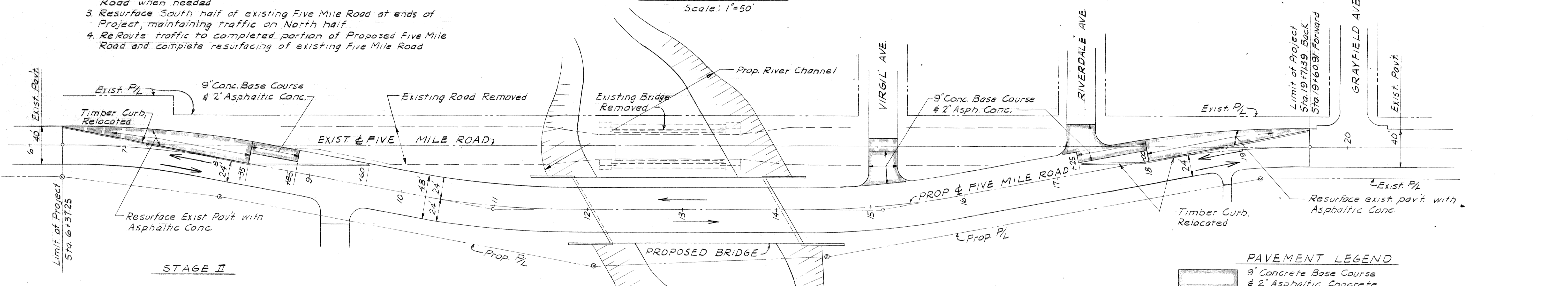
WAYNE COUNTY ROAD COMMISSIONERS
BOARD OF
DETROIT, MICHIGAN
PHILIP J. NEUDECK
WILLIAM E. KREGER
AL BARBOUR

| STATE PROJECT | COUNTY JOB |
|---------------|------------|
| | 320 |
| ISSUE NO. | SHEET NO. |
| 1 | 6 |
| DATE | |
| 10-17-62 | |



PLAN - STAGE I
Scale: 1"=50'

- STAGE I**
1. Construct Utilities and Proposed Bridge
 2. Construct portions of Proposed Five Mile Road Pavement as shown. Traffic to be moved to North 24' of existing Five Mile Road when needed
 3. Resurface South half of existing Five Mile Road at ends of Project, maintaining traffic on North half
 4. ReRoute traffic to completed portion of Proposed Five Mile Road and complete resurfacing of existing Five Mile Road



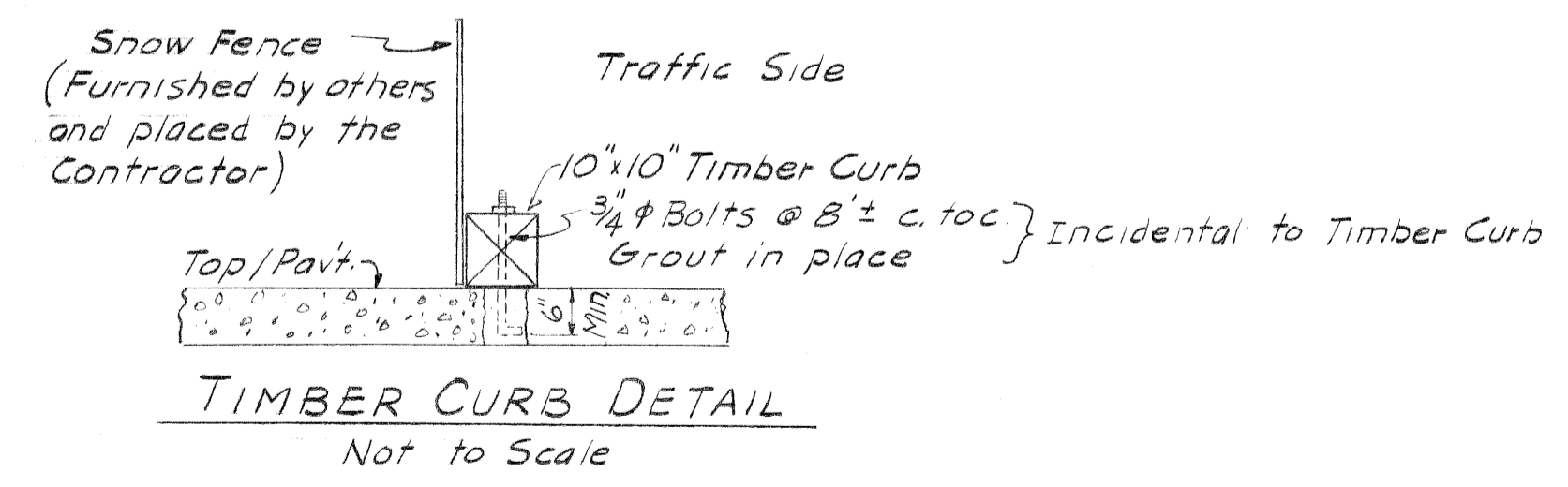
PLAN - STAGE II
Scale: 1"=50'

- STAGE II**
1. Complete proposed pavement, connections to Virgil and Riverdale Ave. and resurfacing of ends of Project.
 2. Reroute traffic to normal usage.
 3. Complete Project.

PAVEMENT LEGEND

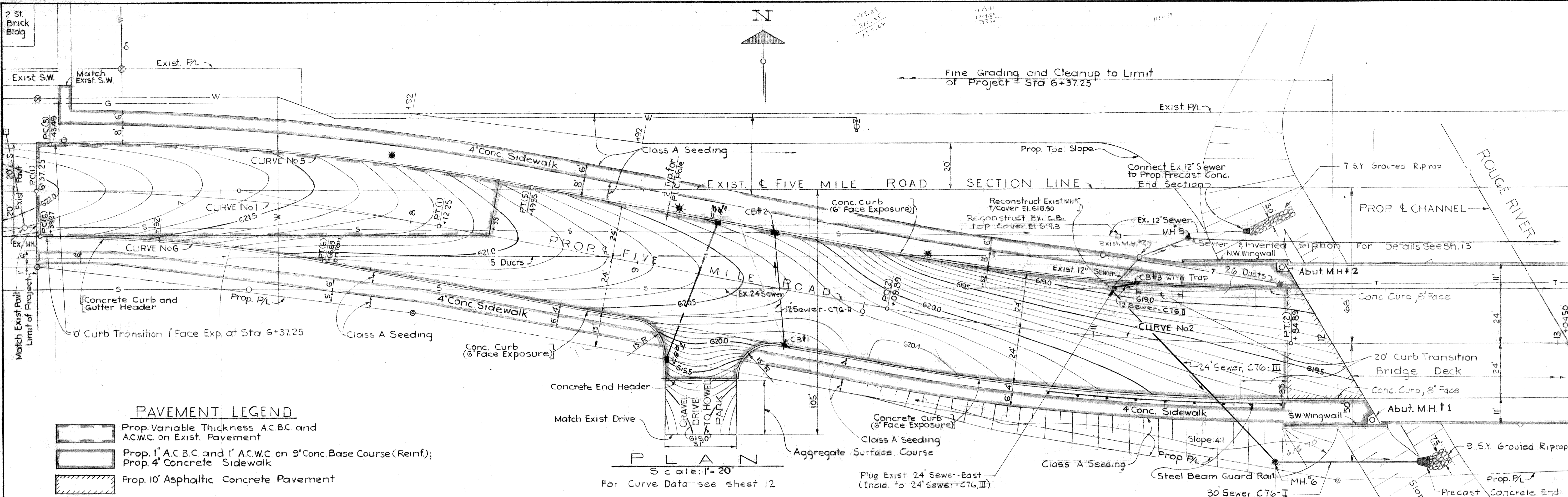
| | |
|--|---|
| | 9" Concrete Base Course & 2" Asphaltic Concrete |
| | Asphaltic Concrete on existing pavement, variable thickness |
| | 10" Asphaltic Concrete Pavement |

Note: For Quantities see sheet 11.



Work this sheet with sheets 8 thru 12

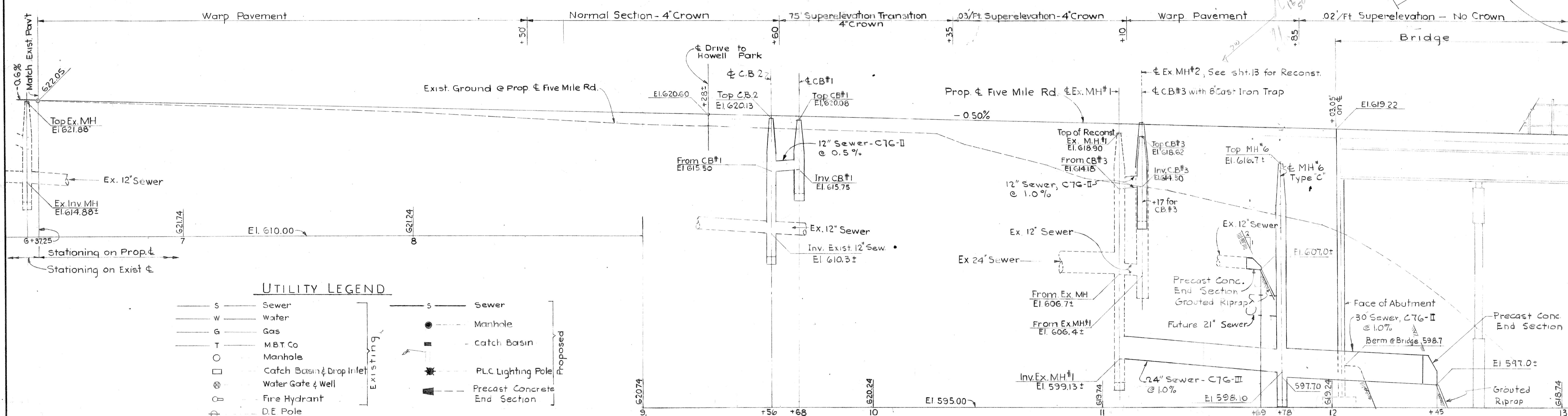
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|--|--|---|--------------|----------|--|--------------|--|--|----------------------|----------------------|------------|-------------|------|-------------|-------------|---------------|--|--|--|---|--|
| <table border="1"> <tr> <td>STATE FILE</td> <td>BRIDGE</td> <td></td> </tr> <tr> <td></td> <td>ROAD</td> <td></td> </tr> </table> | | STATE FILE | BRIDGE | | | ROAD | | <table border="1"> <tr> <td>STATE PROJECT</td> <td>COUNTY JOB</td> </tr> <tr> <td></td> <td>320</td> </tr> <tr> <td>ISSUE NO. 1</td> <td>SHEET NO. 7</td> </tr> <tr> <td>DATE 10-17-62</td> <td></td> </tr> </table> | | STATE PROJECT | COUNTY JOB | | 320 | ISSUE NO. 1 | SHEET NO. 7 | DATE 10-17-62 | | | | | |
| STATE FILE | BRIDGE | | | | | | | | | | | | | | | | | | | | |
| | ROAD | | | | | | | | | | | | | | | | | | | | |
| STATE PROJECT | COUNTY JOB | | | | | | | | | | | | | | | | | | | | |
| | 320 | | | | | | | | | | | | | | | | | | | | |
| ISSUE NO. 1 | SHEET NO. 7 | | | | | | | | | | | | | | | | | | | | |
| DATE 10-17-62 | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr> <td>REVISIONS</td> <td>SQUAD LEADER</td> <td>APPROVED</td> </tr> <tr> <td></td> <td>L. McElwaine</td> <td></td> </tr> <tr> <td></td> <td>DRAWN BY O.J. VOYLES</td> <td>CHECKED BY B. CHYMIS</td> </tr> <tr> <td></td> <td>DATE 6-9-62</td> <td>DATE</td> </tr> <tr> <td></td> <td>CORRECTED</td> <td>APPROVED</td> </tr> <tr> <td></td> <td>ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS</td> <td>ENGINEER OF STRUCTURES AND EXPRESSWAYS</td> </tr> </table> | | REVISIONS | SQUAD LEADER | APPROVED | | L. McElwaine | | | DRAWN BY O.J. VOYLES | CHECKED BY B. CHYMIS | | DATE 6-9-62 | DATE | | CORRECTED | APPROVED | | ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS | ENGINEER OF STRUCTURES AND EXPRESSWAYS | <p align="center">WAYNE COUNTY ROAD COMMISSIONERS</p> <p align="center">BOARD OF DETROIT, MICHIGAN</p> <p align="center">WILLIAM E. KREGER</p> | |
| REVISIONS | SQUAD LEADER | APPROVED | | | | | | | | | | | | | | | | | | | |
| | L. McElwaine | | | | | | | | | | | | | | | | | | | | |
| | DRAWN BY O.J. VOYLES | CHECKED BY B. CHYMIS | | | | | | | | | | | | | | | | | | | |
| | DATE 6-9-62 | DATE | | | | | | | | | | | | | | | | | | | |
| | CORRECTED | APPROVED | | | | | | | | | | | | | | | | | | | |
| | ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS | ENGINEER OF STRUCTURES AND EXPRESSWAYS | | | | | | | | | | | | | | | | | | | |
| | | <p align="center">FIVE MILE ROAD OVER ROUGE RIVER CONSTRUCTION PROGRAM</p> | | | | | | | | | | | | | | | | | | | |



PAVEMENT LEGEND

- Prop. Variable Thickness ACBC and ACWC on Exist. Pavement
- Prop. 1" A.C.B.C and 1" ACWC on 9" Conc. Base Course (Reinf.); Prop. 4" Concrete Sidewalk
- Prop. 10" Asphaltic Concrete Pavement

Scale: 1" = 20'
For Curve Data see sheet 12



UTILITY LEGEND

- | | | | |
|---|--------------------------|---|------------------------------|
| S | Sewer | S | Sewer |
| W | Water | ● | Manhole |
| G | Gas | □ | Catch Basin |
| T | MBT Co | ■ | PLC Lighting Pole |
| ○ | Manhole | ▣ | Precast Concrete End Section |
| □ | Catch Basin & Drop Inlet | | |
| ⊗ | Water Gate & Well | | |
| ⊕ | Fire Hydrant | | |
| ⊙ | D.E. Pole | | |

PROFILE
Scales: Hor: 1" = 20'
Vert: 1" = 4'

Note: For General Notes, Structure List and Quantities See Sh. 11
For Alignment Ties and Joint Plan See Sh. 12

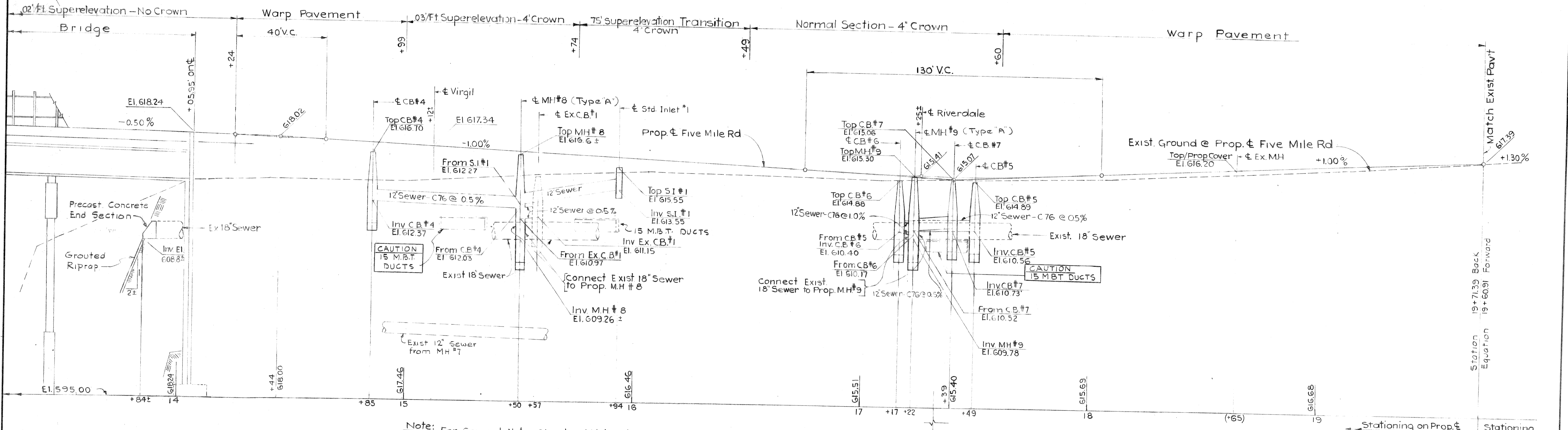
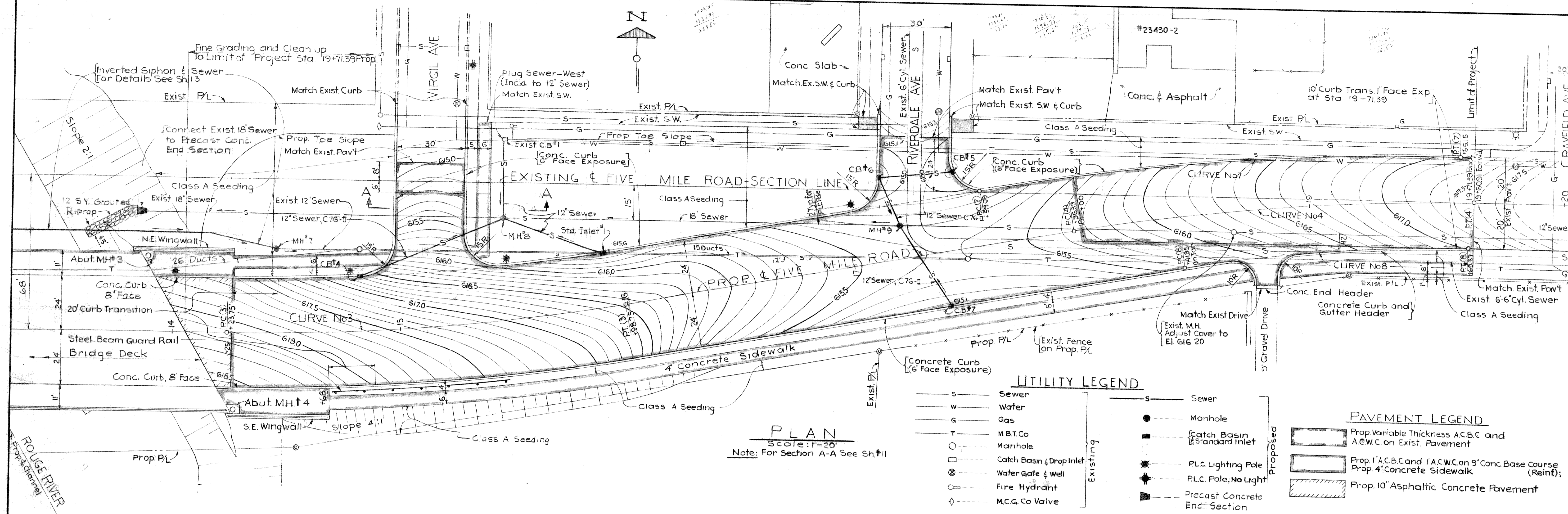
| REVISIONS | | SQUAD LEADER | | APPROVED | |
|--|--|-----------------------------------|-----------|--|--|
| | | L. McElwee | | | |
| | | CHECKED BY | DATE | ENGINEER OF STRUCTURES AND EXPRESSWAYS | |
| | | S. Juzenos | 7-22-1960 | APPROVED | |
| | | TRACED BY | | | |
| | | CHECKED BY | | | |
| | | CORRECT | | | |
| ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS | | COUNTRY HIGHWAY DISTRICT ENGINEER | | | |

WAYNE COUNTY ROAD COMMISSIONERS
BOARD OF
DETROIT, MICHIGAN

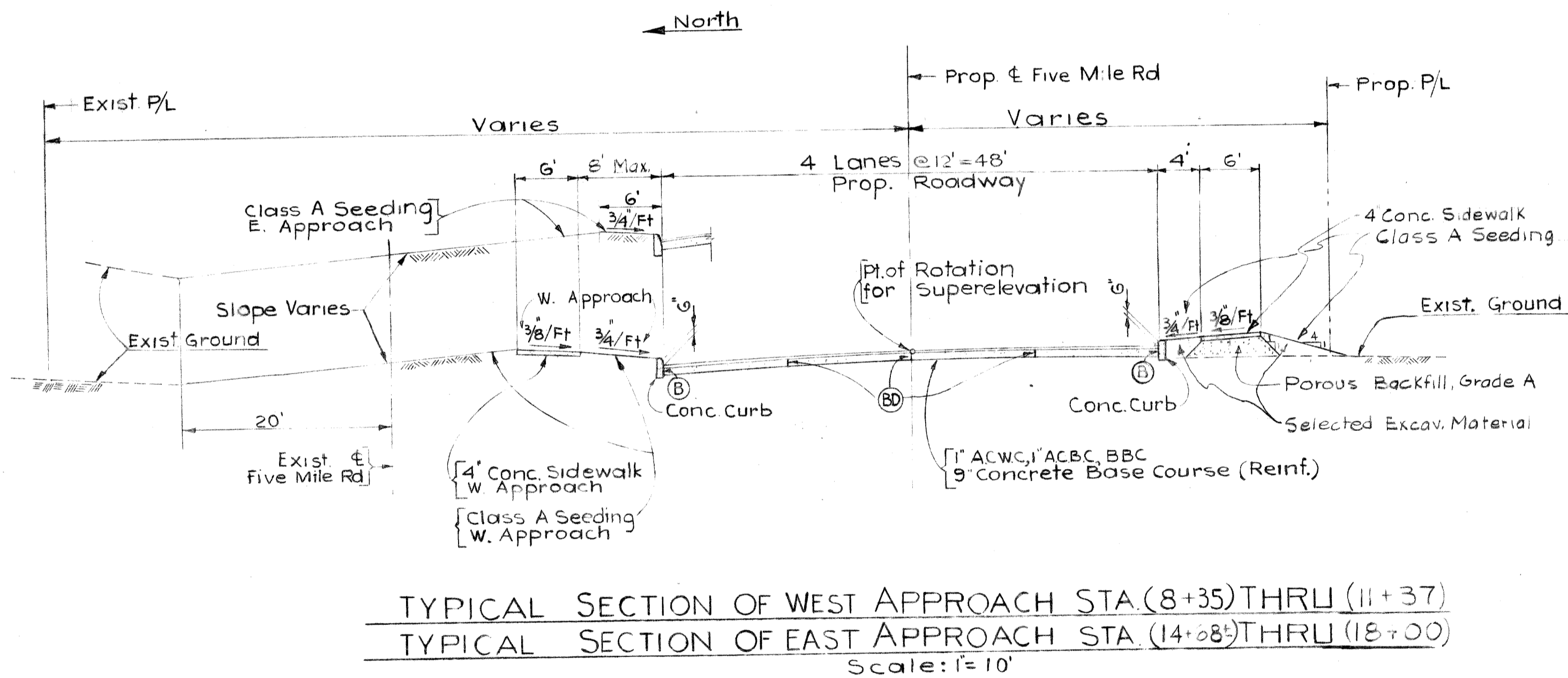
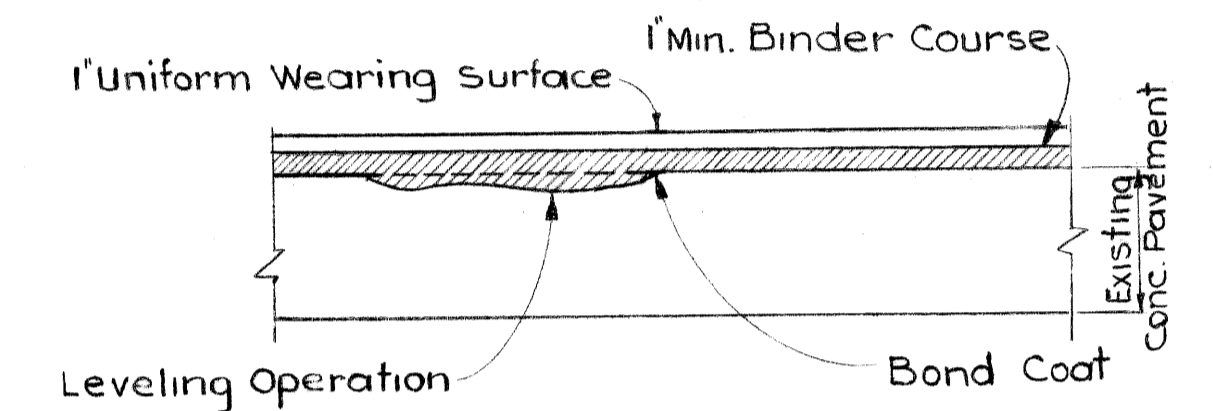
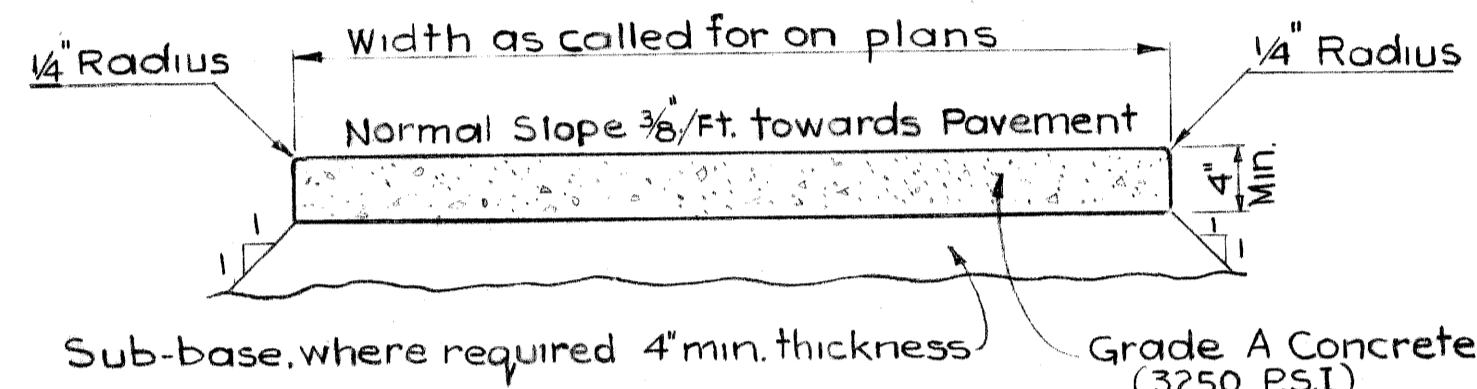
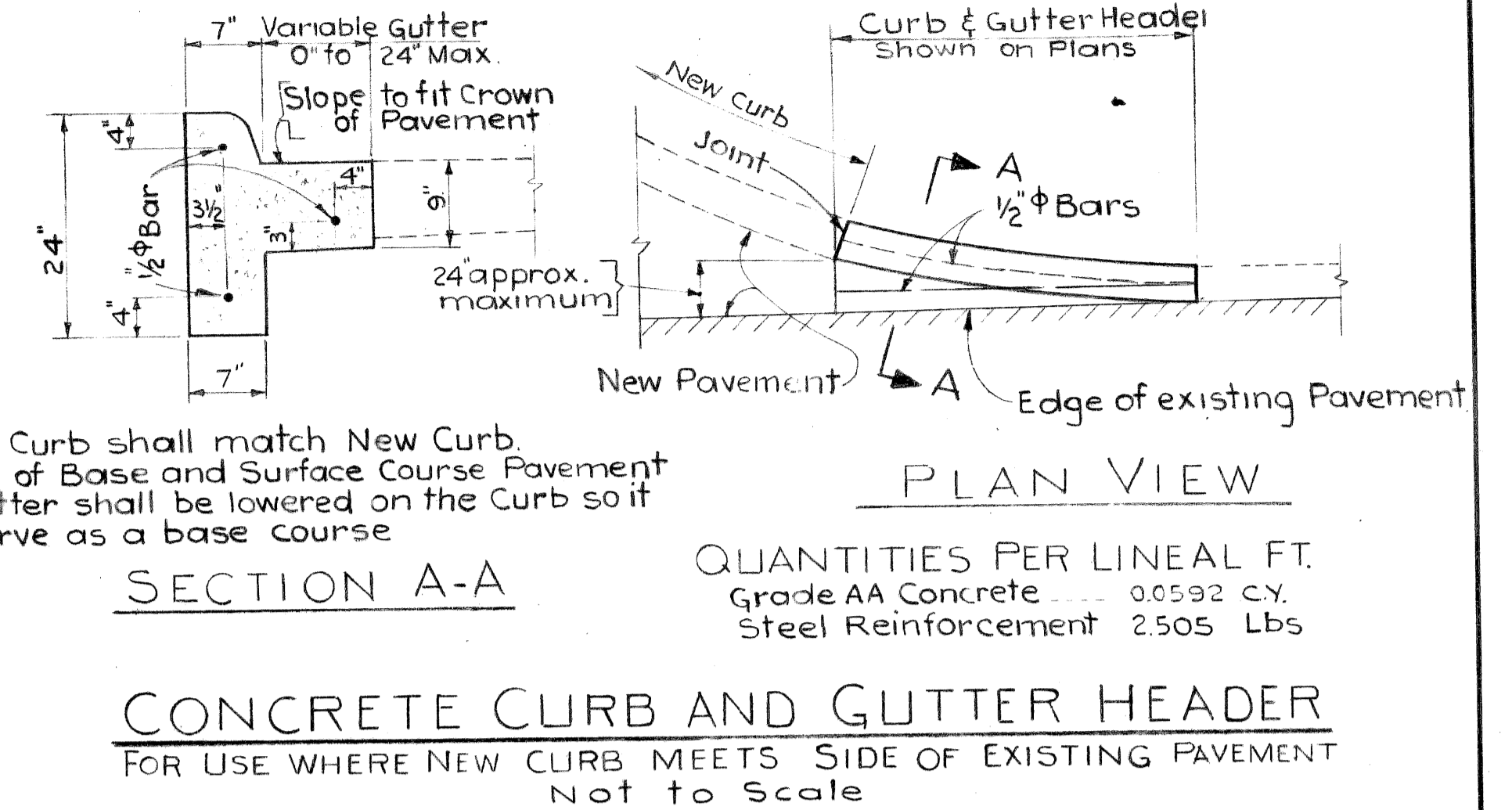
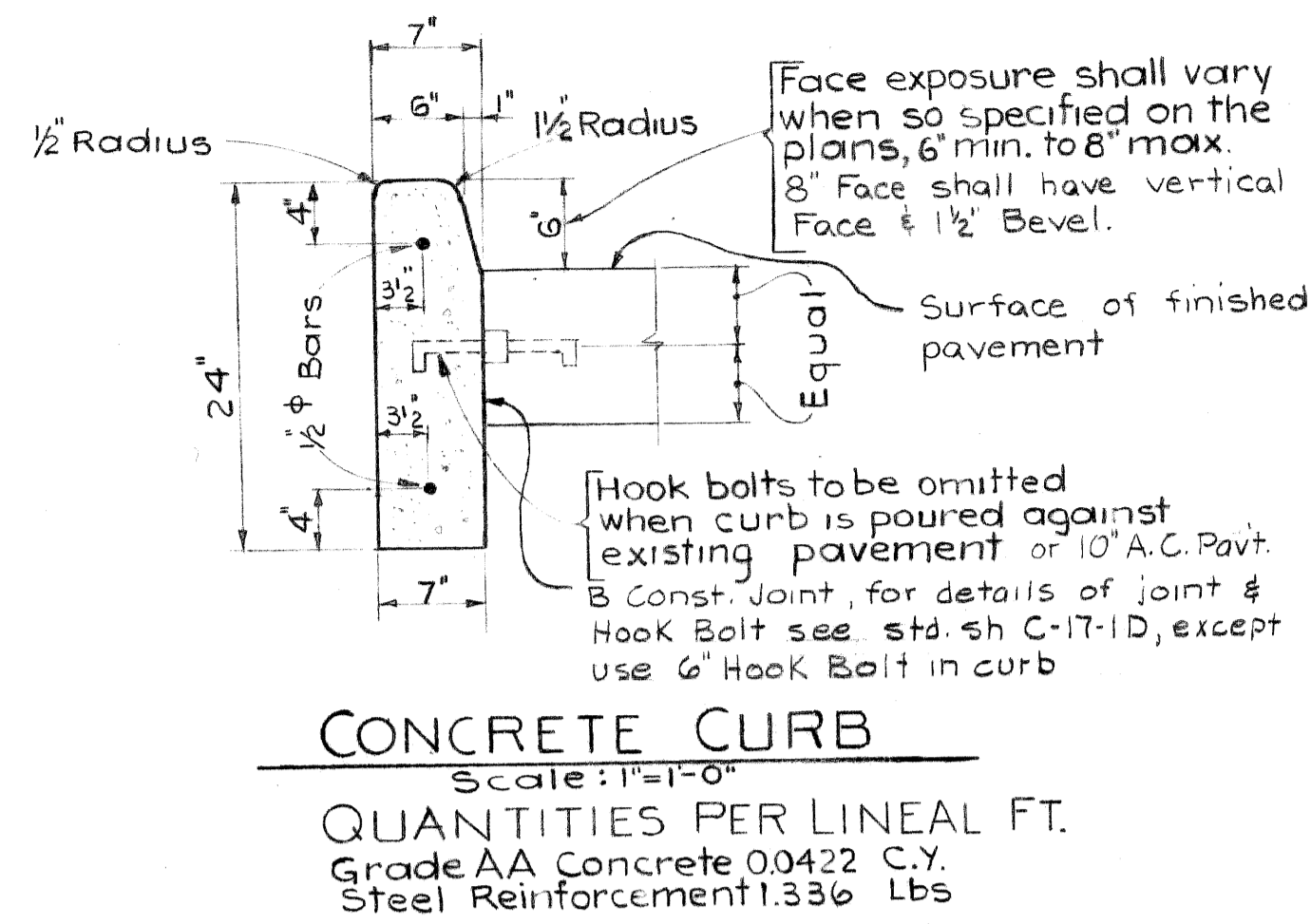
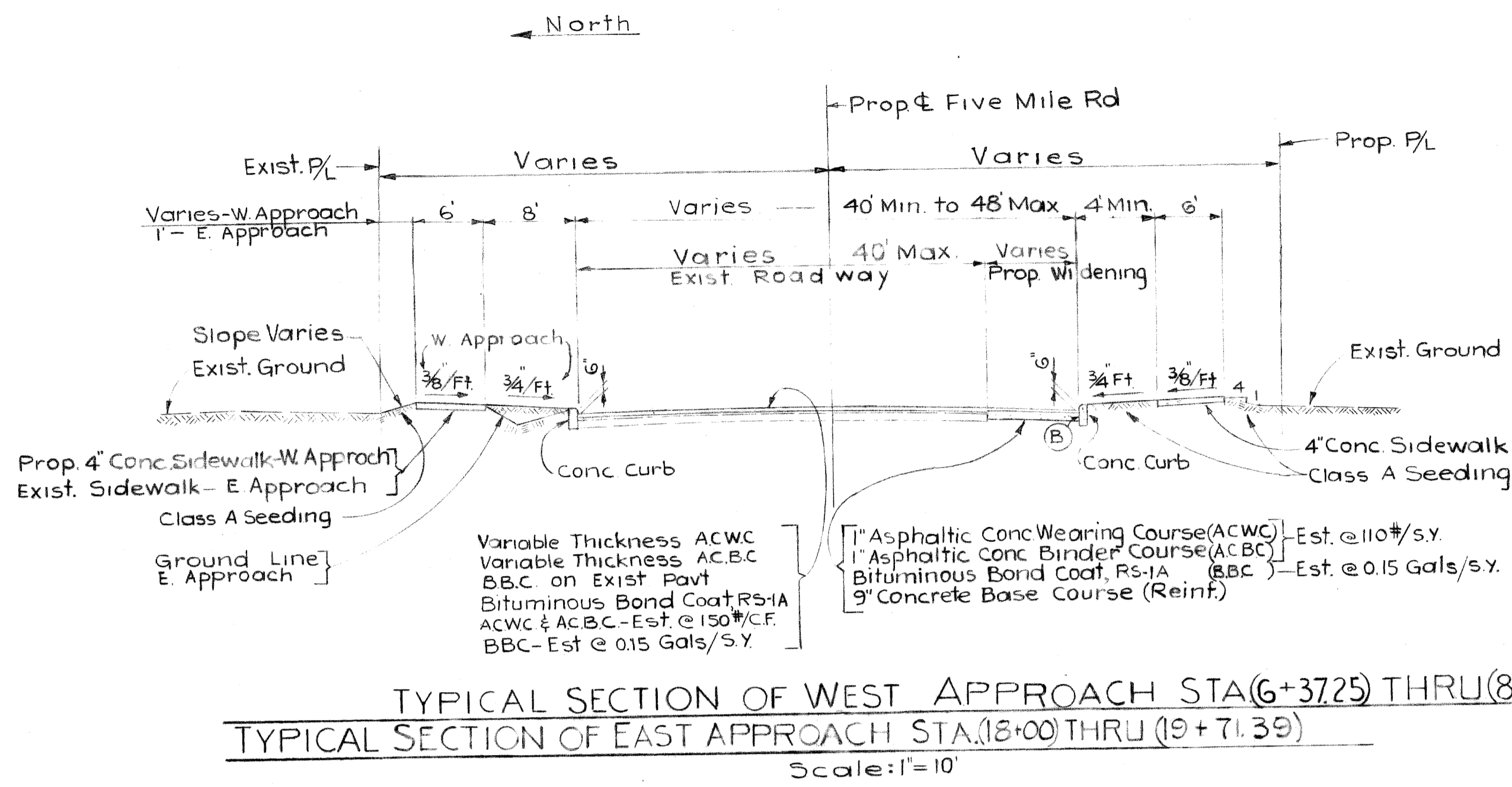
PHILIP J. NEUDECK
WILLIAM E. KREGER
AL BARRON

| | | |
|---------------|--------|-------------|
| STATE PROJECT | BRIDGE | COUNTY JOB |
| | ROAD | |
| | | |
| ISSUE NO. 1 | | SHEET NO. 8 |
| DATE 10-17-62 | | |

Work this Sheet with Sh. 9, 10, 11 & 12

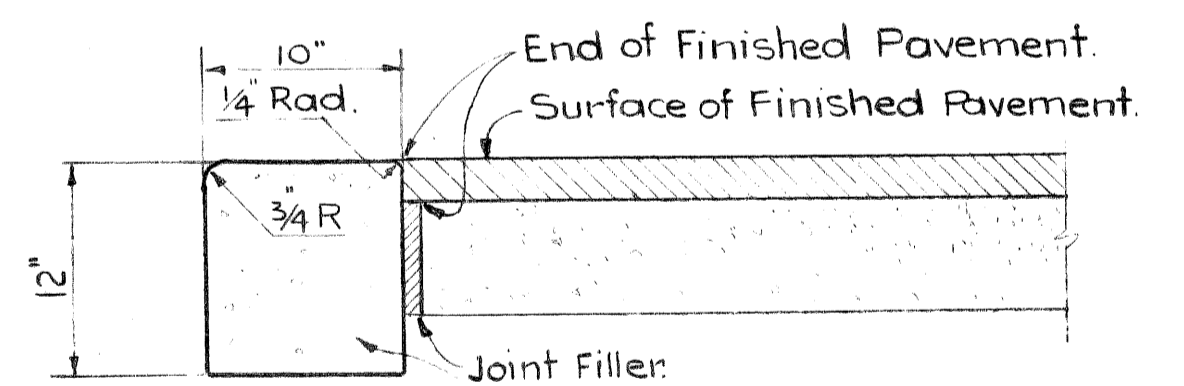
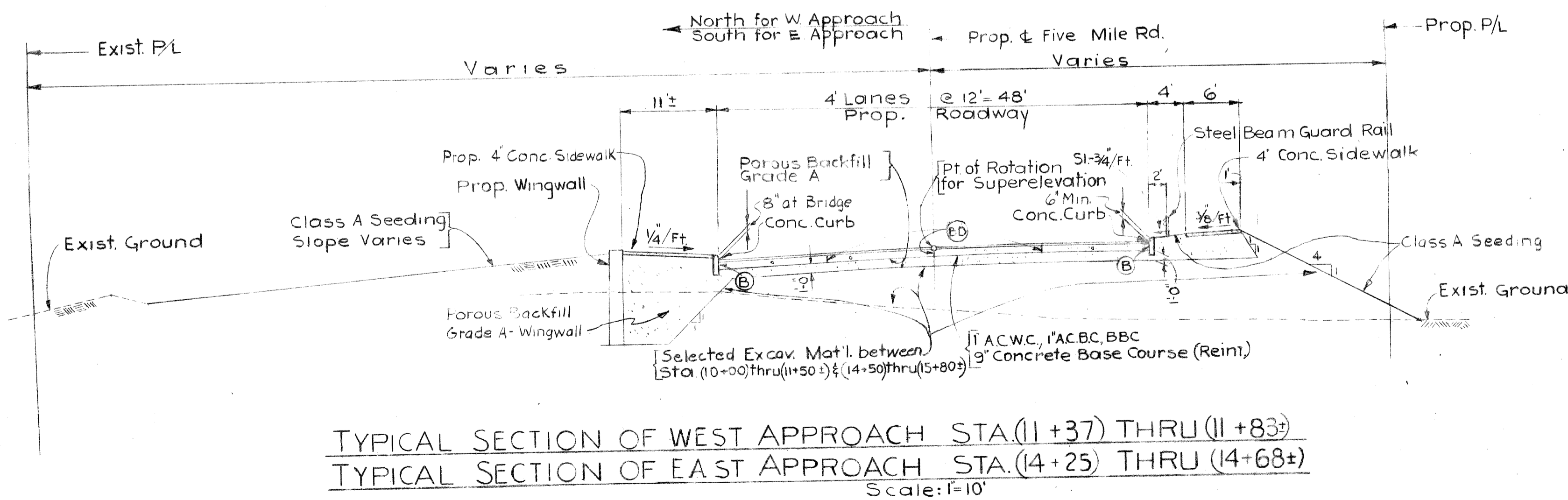


| | | | |
|---|--|--|--|
| REVISIONS 1. L.M. Etwes DRAWN BY: S. J. J. J. CHECKED BY: B. C. H. H. DATE: 7-23-1960 TRACED BY: B. C. H. H. DATE: 7-23-1960 CORRECT: B. C. H. H. | | APPROVED ENGINEER OF STRUCTURES AND EXPRESSWAYS APPROVED: [Signature] COUNTY HIGHWAY ENGINEER | |
| STATE FILE BRIDGE: [] ROAD: [] | | WAYNE COUNTY BOARD OF ROAD COMMISSIONERS DETROIT, MICHIGAN WILLIAM E. KREGER AL BARENS | |
| Work this Sheet with Shts 7, 8, 10, 11 & 12 | | FIVE MILE ROAD OVER ROUGE RIVER PAVING & DRAINAGE - PLAN & PROFILE STATE PROJECT: 320 COUNTY JOB: 320 SHEET NO.: 9 ISSUE NO.: 1 DATE: 10-17-62 | |



CONCRETE SIDEWALK
 Scale: 1"=0"

ASPHALTIC CONCRETE SURFACE
 Scale: 1"=0"



CONCRETE END HEADER
 Not to Scale
 QUANTITIES PER LINEAL FT.
 Grade AA Concrete 0.0308 C.Y.

GENERAL NOTES

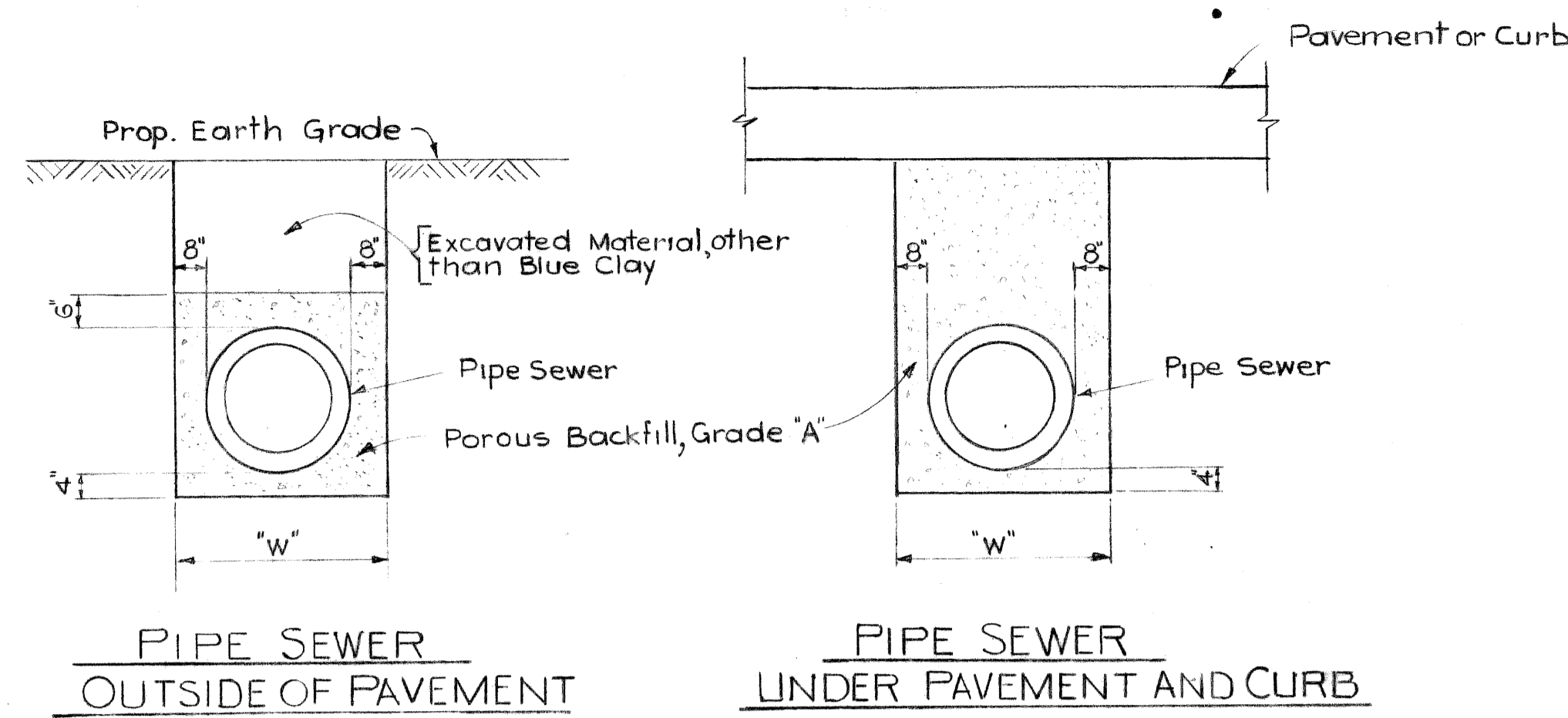
- All Materials and workmanship shall be in accordance with current Board of Wayne County, Road Commissioners General Specifications.
 - Expansion joints in Curbs and Curb and gutter, consisting of 1" preformed filler conforming to A.A.S.H.O. Designation M59 shall be placed in line with all the expansion joints in the abutting pavement.
 - In Addition to the Expansion joints, 1/8" steel divider plates shall be used to form joints in line with all transverse joints in the abutting pavement.
 - Where no expansion joints are to be placed in the abutting pavement, curb expansion joints shall be placed at 100' intervals and 1/8" cut joints shall be placed to divide the structure into uniform sections, not more than 50' in length.
 - On short radius curves and at intersections, curb shall be constructed in 6' sections and 1/2" preformed joint filler conforming to the requirements of A.A.S.H.O. Specifications M-33, placed at each joint.
 - All structures will be paid for according to the General Specifications except:
 - Curb and gutter transitions and Curb endings will be paid for as lineal feet of the detail of adjacent structure of the larger unit volume.
 - Hook bolts shall be considered as part of the construction of the adjacent structure.
- Work this sheet with sheets 7, 8, 9, 11 & 12

| | | | | |
|------------|--------|---------------|---------------|------------|
| STATE FILE | BRIDGE | | STATE PROJECT | COUNTY JOB |
| | ROAD | | | 320 |
| | | ISSUE NO. 1 | SHEET NO. 10 | |
| | | DATE 10-17-62 | | |

BOARD OF
WAYNE COUNTY ROAD COMMISSIONERS
 DETROIT, MICHIGAN

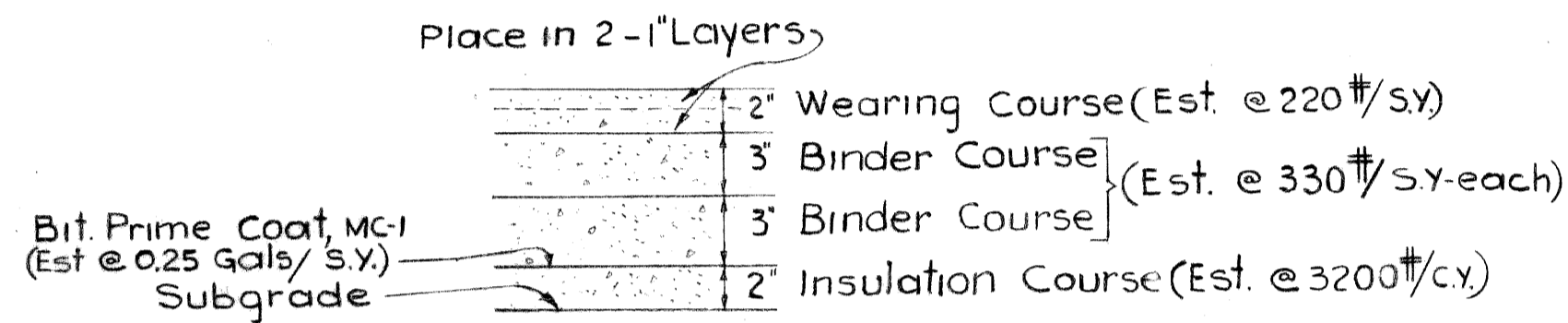
**FIVE MILE ROAD
 OVER ROUGE RIVER
 PAVING & DRAINAGE
 TYPICAL SECTIONS & DETAILS**

| | | |
|-----------|--|--|
| REVISIONS | SQUAD LEADER L. McEwee | APPROVED |
| | DRAWN BY S. Juzenas | CHECKED BY B. Chmielewski |
| | TRACED BY | DATE 8-23-1960 |
| | CORRECT | ENGINEER OF STRUCTURES AND EXPRESSWAYS |
| | | APPROVED |
| | ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS | |

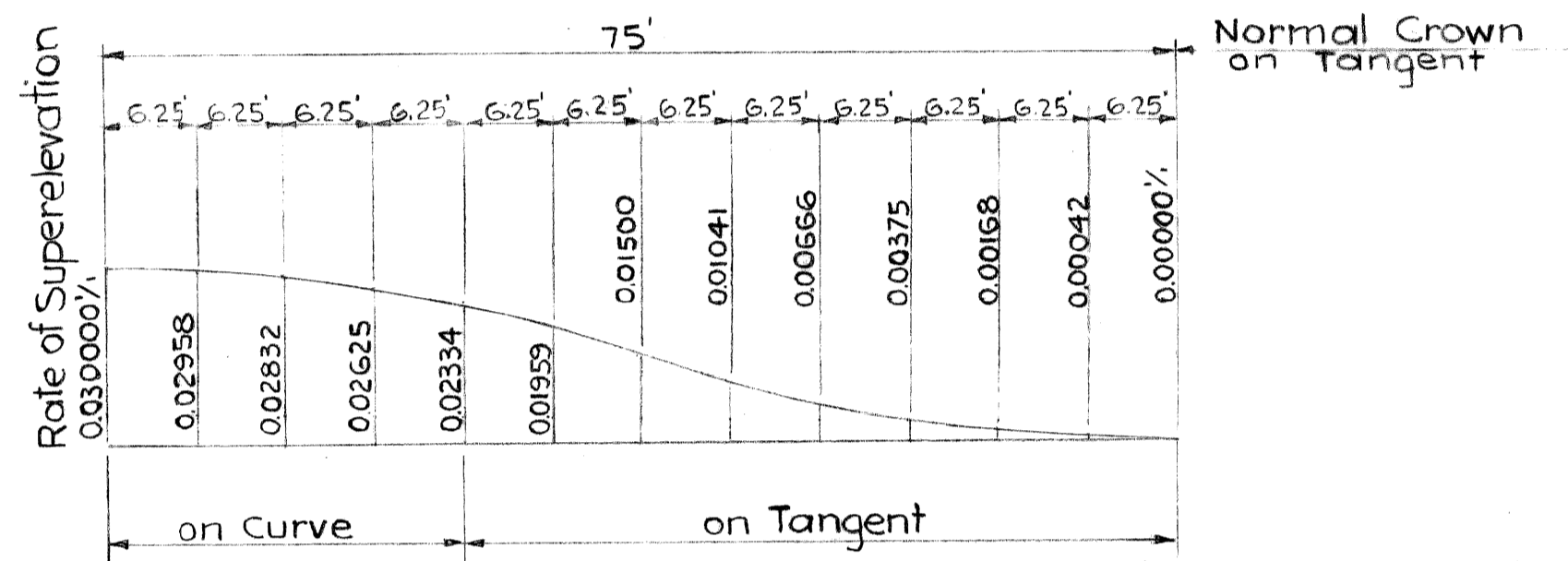


TYPICAL TRENCH SECTIONS FOR SEWERS

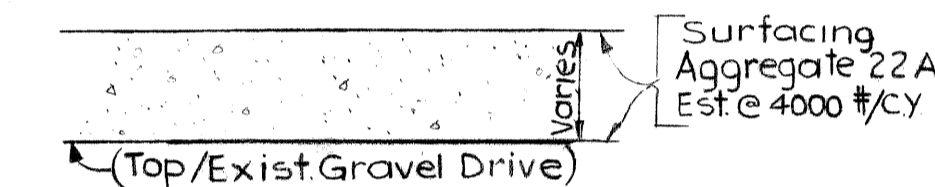
"W" shall not exceed the dimensions shown, except that a width of less than 36" will not be required
Scale: 1"=2'



DETAIL OF 10" A.C. PAVEMENT
Scale: 1/2"=1'



DETAIL OF 75' SUPERELEVATION TRANSITION
Not to Scale



DETAIL OF AGGREGATE SURFACE COURSE
Not to Scale

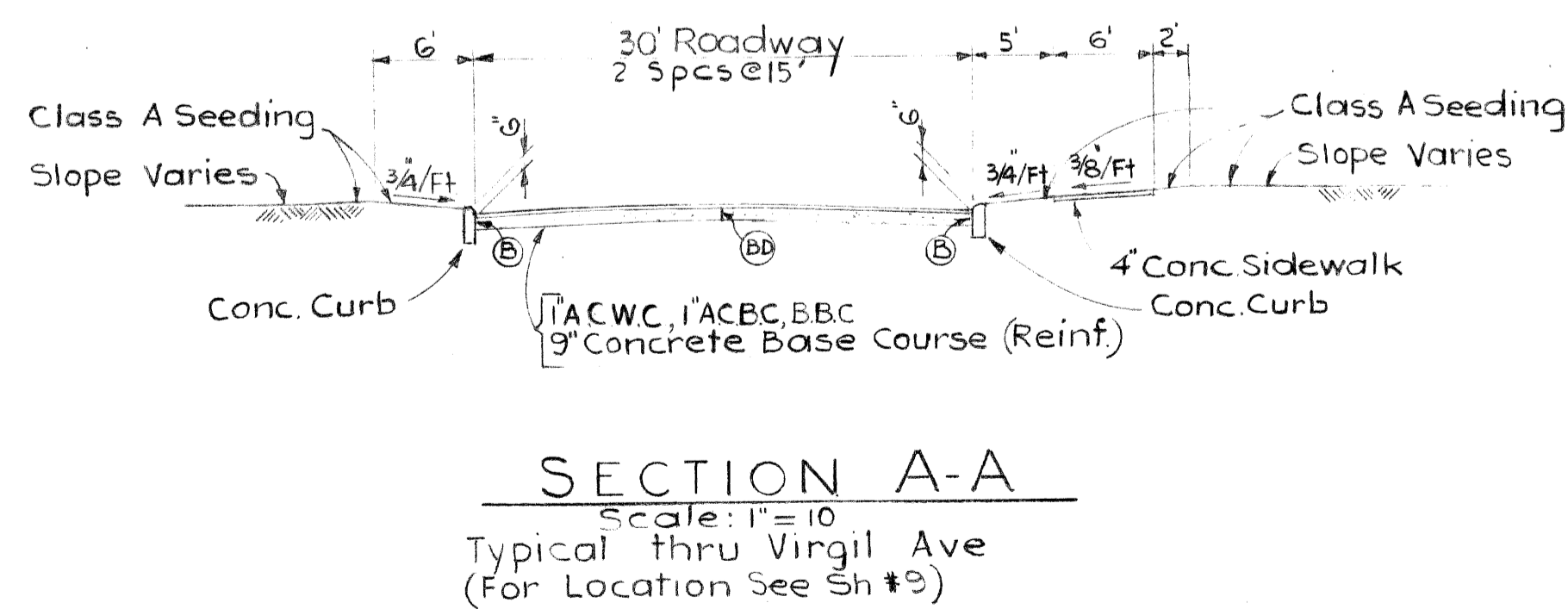
| ITEM | SHEET No | | | TOTAL |
|---|----------|------|------|----------------|
| | 7 | 8 | 9 | |
| Earth Excavation | | 150 | 160 | 310 Cu Yds |
| 12" Dia. Sewer, 7' Deep or less with Earth Backfill | | | 80 | 80 Lin. Ft. |
| 12" Dia. Sewer (C76-II), 7' Deep or less with Porous Backfill | | 58 | 165 | 223 Lin. Ft. |
| 24" Dia. Sewer (C76-III), 10.1 to 16' Deep with Porous Backfill | | 101 | | 101 Lin. Ft. |
| 30" Dia. Sewer (C76-II), 10.1 to 16' Deep with Earth Backfill | | 61 | | 61 Lin. Ft. |
| Precast Concrete End Section - 12" Sewer | | 1 | | 1 Each |
| Precast Concrete End Section - 18" Sewer | | | 1 | 1 Each |
| Precast Concrete End Section - 30" Sewer | | 1 | | 1 Each |
| Manholes 'A' with Earth Backfill | | | 1 | 1 Each |
| Manholes 'A' with Porous Backfill | | | 1 | 1 Each |
| Std. Catch Basins 'A', Cover 'D' with Porous Backfill | | 3 | 4 | 7 Each |
| Std. Inlets, Cover 'D' with Porous Backfill | | | 1 | 1 Each |
| Adjusting Covers | | | 1 | 1 Each |
| Fine Grading and Cleanup | | 5.6 | 5.7 | 11.3 Stas. |
| 9" Concrete Base Course | | 2126 | 2352 | 4478 Sq. Yds. |
| Pavement Reinforcement | | 2126 | 2352 | 4478 Sq. Yds. |
| Concrete Curb | | 1080 | 1217 | 2297 Lin. Ft. |
| Concrete Curb and Gutter Header | | 55 | 58 | 113 Lin. Ft. |
| Manholes 'C' with Earth Backfill | | | 1 | 1 Each |
| Insulation Course | | 10 | 9 | 19 Tons |
| Bituminous Bond Coat, RS-1A | | 430 | 460 | 890 Gals. |
| Bituminous Prime Coat, MC-1 | | 27 | 26 | 53 Gals. |
| Asphaltic Concrete Binder Course | | 237 | 244 | 481 Tons |
| Asphaltic Concrete Wearing Course | | 171 | 181 | 352 Tons |
| Aggregate Surface Course | | 11 | | 11 Tons |
| 4" Concrete Sidewalk | | 6952 | 4650 | 11,602 Sq. Ft. |
| Timber Curb, 10" x 10" - Install and Remove | | 705 | | 705 Lin. Ft. |
| Timber Curb, 10" x 10" - Relocate | | 580 | | 580 Lin. Ft. |
| Steel Beam Guard Rail | | | 1035 | 182 Lin. Ft. |
| Reconstructing Catch Basins | | | 1 | 1 Each |
| Class A Seeding | | 0.6 | 0.5 | 1.1 Acres |
| Mulching | | 0.6 | 0.5 | 1.1 Acres |
| Grouted Riprap | | 16 | 12 | 28 Sq. Yds. |
| Porous Backfill, Grade A (Compacted in Place) | | 850 | 600 | 1450 Cu Yds. |
| Reconstructing Manholes | | | 1 | 1 Each |
| 8" Cast Iron Traps | | | 1 | 1 Each |

GENERAL NOTES

Elevations on solid contour lines are top of finished wearing course. Elevations on dashed contour lines are top of Existing Pavement. Excavation limit for utility structures shall be vertical planes 1'-2" outside of the footing outline. All utility structures are to be adjusted to finished grade but only when indicated on the plans by a note "Adjust Cover" will the adjustment be a pay item. The adjustment of all other covers is incidental to other work under this contract. Exact construction limits of Concrete, Base Course, Wearing Course, Curb and Sidewalk to be determined by the Engineer. The finished elevation of sidewalk where it abuts Curb shall be 1/2" above the curb top. Low areas under pavements, curbs and sidewalks shall be filled with Porous Backfill, Grade A Backfill and thoroughly compacted by the controlled density method to form the subgrade. See sheets 17, 19 & 20 for details and Quantities for Abutment Manholes # 1-4 and for drainage behind Abutments. Detail Cross Sections of the entire project are available as a guide and aid in construction and can be obtained from the project engineer when the work begins. For Details of Drainage Structures see Std. Plan C-17-1A. For Details of Pavement Joints and Reinforcement see Std. Plan C-17-1D. For Details of Precast Concrete End Sections see Sh. 13A.

| STRUCTURE LIST SH. No 8 | | | | | |
|-------------------------|----------------|-------------|--------------|------------------------|--------------------|
| DRAINAGE STRUCTURE | ELEV. OF COVER | INLET ELEV. | OUTLET ELEV. | TOP OF COVER TO INVERT | REMARKS |
| Ex. MH #1 | 618.90 | - | 599.13 | 19.77 | |
| do. | - | 606.72 | 606.72 | 12.22 | From Ex. MH |
| do. | - | 614.18 | - | 4.72 | From C.B.#3 |
| MH #5 | - | - | - | - | Siphon see sht. 13 |
| MH #6 | 616.7 | 598.10 | 597.70 | 19.0 | Outlet to River |
| C.B.#1 | 620.08 | - | 615.75 | 4.33 | |
| C.B.#2 | 620.13 | 610.30 | 610.30 | 9.83 | From Ex. MH |
| | - | 615.47 | - | 4.69 | From C.B.#1 |
| C.B.#3 | 618.62 | - | 614.30 | 4.32 | 8" C.I. Trap |
| Abut. MH #1 | - | - | 596.05 | - | See Details |
| Abut. MH #2 | - | - | 596.05 | - | on Sh. 20 |

| STRUCTURE LIST SH. No 9 | | | | | |
|-------------------------|----------------|-------------|--------------|------------------------|--------------------|
| DRAINAGE STRUCTURE | ELEV. OF COVER | INLET ELEV. | OUTLET ELEV. | TOP OF COVER TO INVERT | REMARKS |
| MH #7 | - | - | - | - | Siphon see sht. 13 |
| MH #8 | 616.62 | 609.26 | 609.26 | 7.34 | From Ex. 18" Sewer |
| | - | 612.03 | - | 4.57 | From C.B.#4 |
| | - | 610.97 | - | 5.63 | From Ex. C.B.#1 |
| | - | 612.27 | - | 4.33 | From S.I.#1 |
| MH #9 | 615.30 | 609.78 | 609.78 | 5.52 | From Ex. 18" Sewer |
| | - | 610.17 | - | 5.13 | From C.B.#6 |
| | - | 610.52 | - | 4.78 | From C.B.#7 |
| Ex. MH | 616.20 | 610.21 | 610.21 | 5.99 | Adjust Cover |
| Ex. C.B.#1 | 614.75 | - | 611.15 | 3.60 | |
| C.B.#4 | 616.70 | - | 612.37 | 4.33 | |
| C.B.#5 | 614.89 | - | 610.56 | 4.33 | |
| C.B.#6 | 614.88 | 610.40 | 610.40 | 4.48 | From C.B.#5 |
| C.B.#7 | 615.06 | - | 610.73 | 4.33 | |
| S. Inlet #1 | 615.55 | - | 613.55 | 2.00 | |
| Abut. MH #3 | - | - | 596.05 | - | See Details |
| Abut. MH #4 | - | - | 596.05 | - | on Sh. 20 |



SECTION A-A
Scale: 1"=10'
Typical thru Virgil Ave
(For Location See Sh #9)

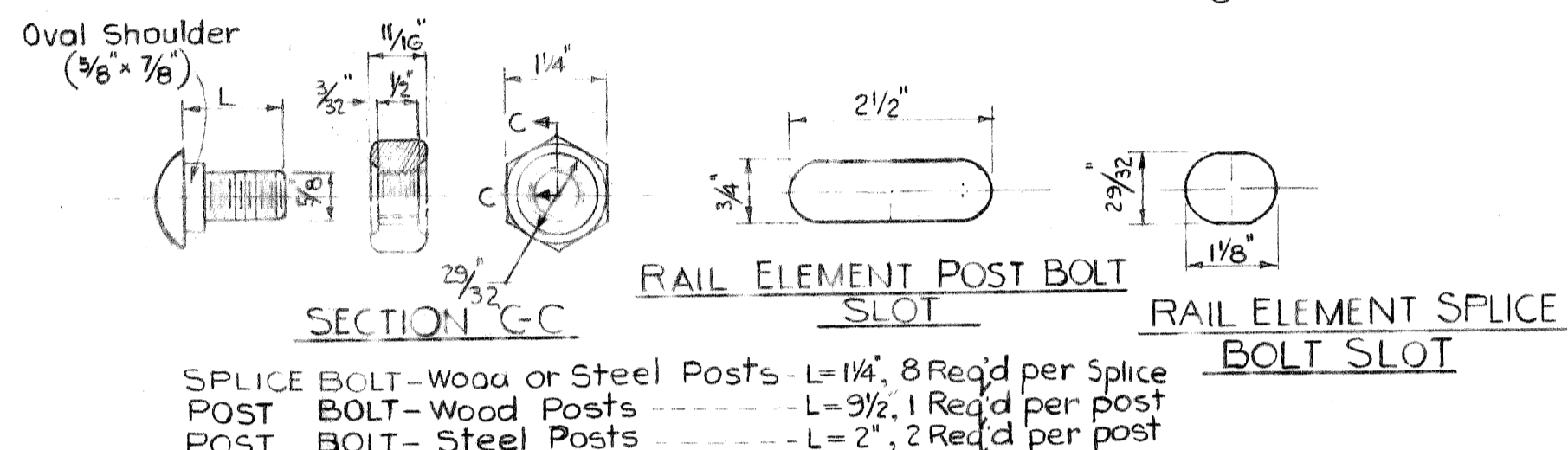
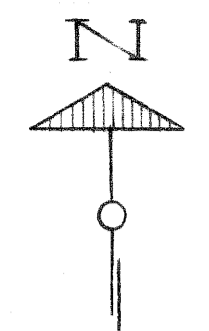
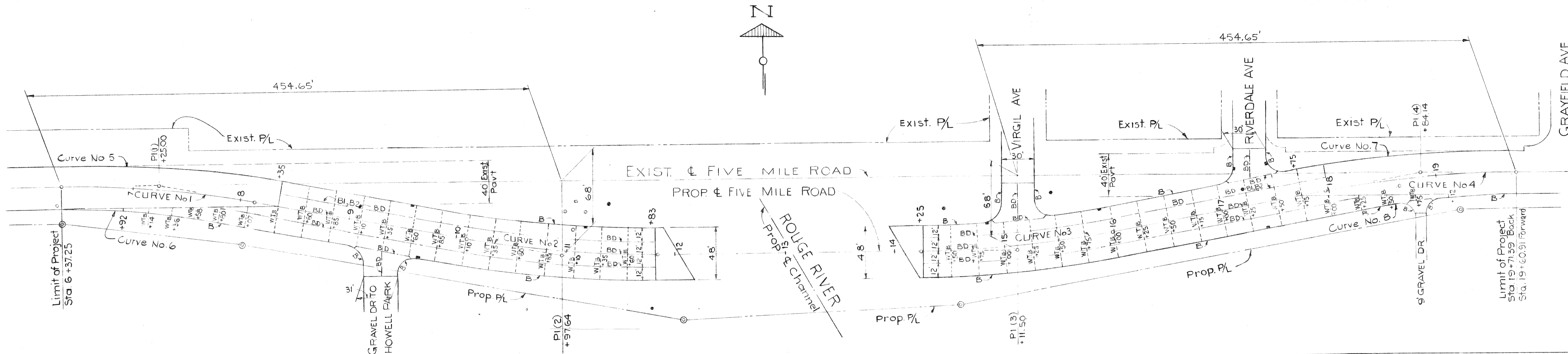
Work this Sheet with Shs 7, 8, 9, 10 & 12

| | | | |
|---|--------|------------------------------|---------------------|
| STATE FILE | BRIDGE | STATE PROJECT | COUNTY JOB |
| | ROAD | | |
| FIVE MILE ROAD OVER ROUGE RIVER PAVING & DRAINAGE - DETAILS | | ISSUE NO. 1 DATE 10-17-62 | 320 SHEET NO. 11 |

BOARD OF WAYNE COUNTY ROAD COMMISSIONERS
DETROIT, MICHIGAN
WILLIAM E. KREGER

| | | |
|-----------|--|--|
| REVISIONS | SQUAD LEADER L. MEEIwee | APPROVED |
| | DRAWN BY S. JUZENOS CHECKED BY b. Chmielinski DATE 8-18-1960 | ENGINEER OF STRUCTURES AND EXPRESSWAYS |
| | CORRECT | APPROVED |
| | ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS | COUNTY HIGHWAY BUREAU ENGINEER |

2008

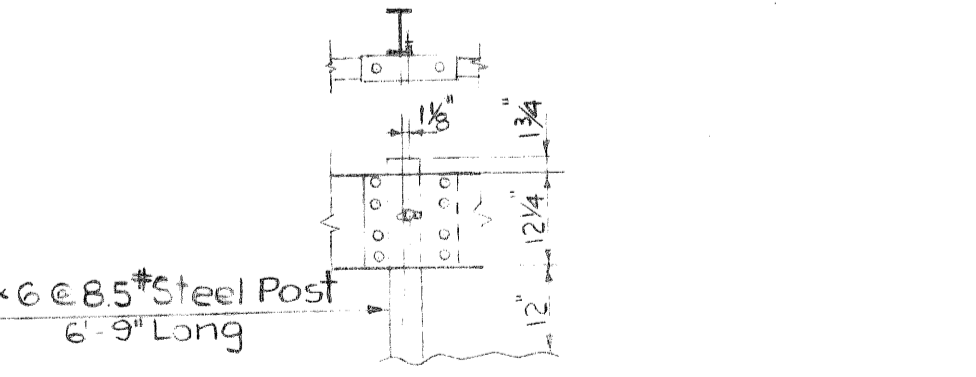
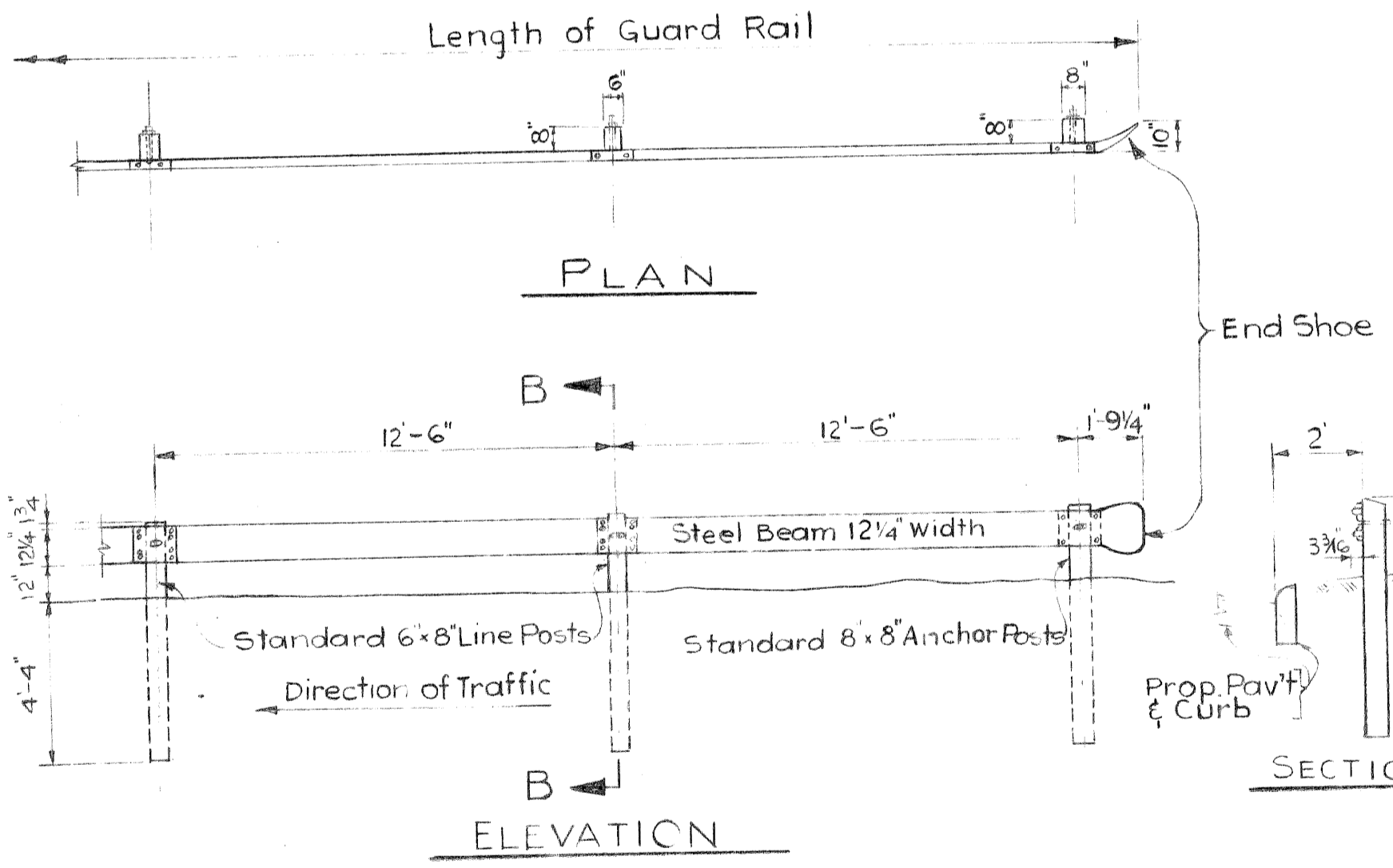


DETAIL SHOWING BUTTON HEAD, OVAL (5/8 x 7/8) SHOULDER BOLT & NUT
Not to Scale

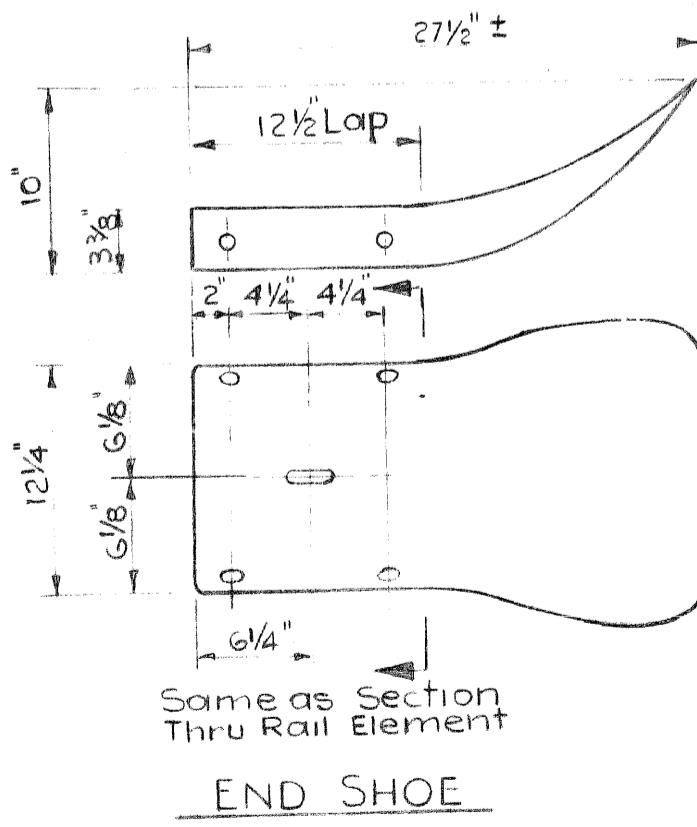
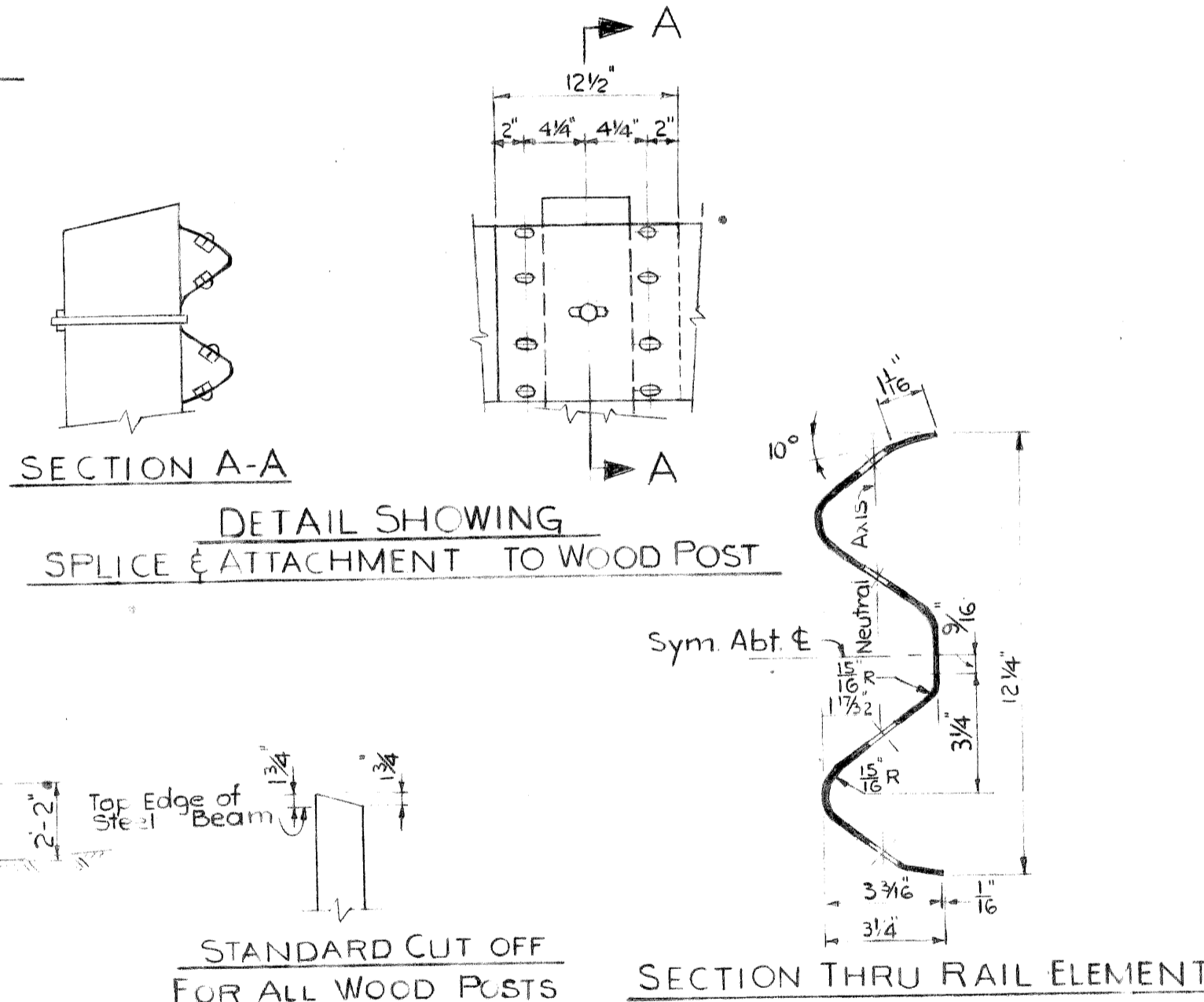
PLAN
Scale: 1" = 50'

- JOINT LEGEND**
For Details See Std. Plan Sh. C-11-D
- WTb Transverse Plane of Weakness Joint for Base Course
 - B Longitudinal Bulkhead Construction Joint
 - D Longitudinal Lane Tie Joint
 - BD Optional B or D Joint
 - B1, B2 Longitudinal Bulkhead Construction Joint build in two stages

| CURVE DATA | | | | | | | | | | |
|-----------------|---------|--------|---------|--------|---------|------|---------------------|---------------------|-----------|--------|
| CURVE | Δ | D | R | T | L | E | 25' ARC Defl. Angle | 50' ARC Defl. Angle | Chord | |
| No. 1, 2, 3 & 4 | 10°-30' | 5°-00' | 954.93 | 87.75 | 175.00' | 4.02 | 0°-45'00" | 25.00' | 1°-30'00" | 49.99' |
| No. 5 & 7 | 10°-30' | 5°-00' | 1145.92 | 105.30 | 210.00' | 4.63 | 0°-47'30" | 25.00' | 1°-15'00" | 50.00' |
| No. 6 & 8 | 10°-30' | 8°-30' | 674.07 | 61.94 | 123.53' | 2.64 | 1°-07'45" | 25.00' | 2°-07'30" | 49.99' |

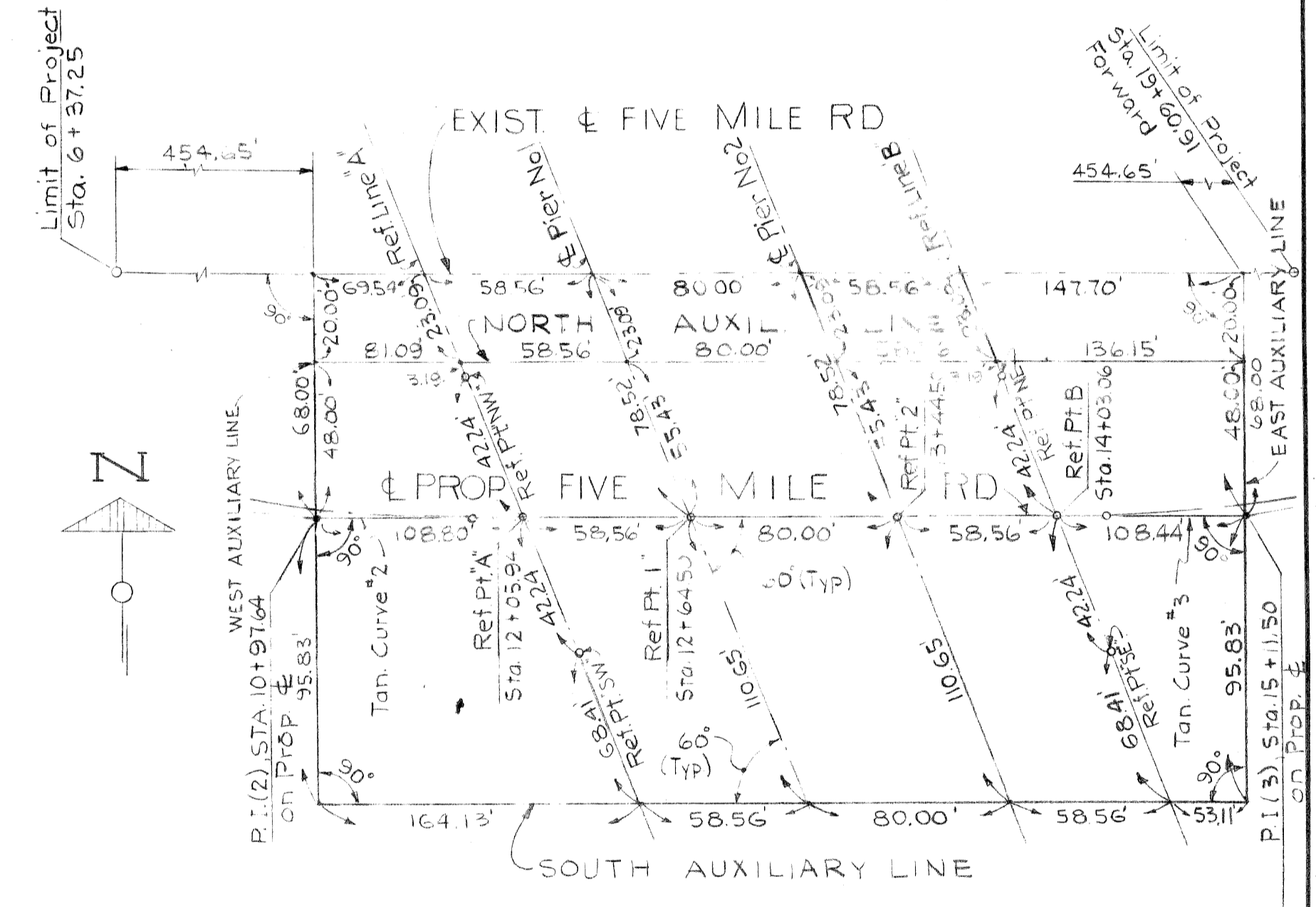


STEEL BEAM GUARD RAIL



NOTES FOR STEEL BEAM GUARD RAIL

Materials and workmanship shall be in accordance with the M. S. H. D. Standard Specification (1960 Edition), except as otherwise shown or specified.
 All Wood Posts shall conform to dimensions shown and shall be of Douglas Fir, Long Leaf Pine, Short Leaf Pine, White Oak, Red Oak, Beech, White Ash, Western Hemlock, Sugar Maple or other approved wood. Steel posts of length and weight shown may be substituted.
 Rail Elements shall be lapped in the direction of traffic.
 Bolts shall be cut off not to exceed 1/2 from the nut on back side of post.
 Bolting pattern for splice joints may be optional to conform to tensile strength requirements for assembled rail.
 The rail element and end shoe shall be 12 gauge, and shall be galvanized.

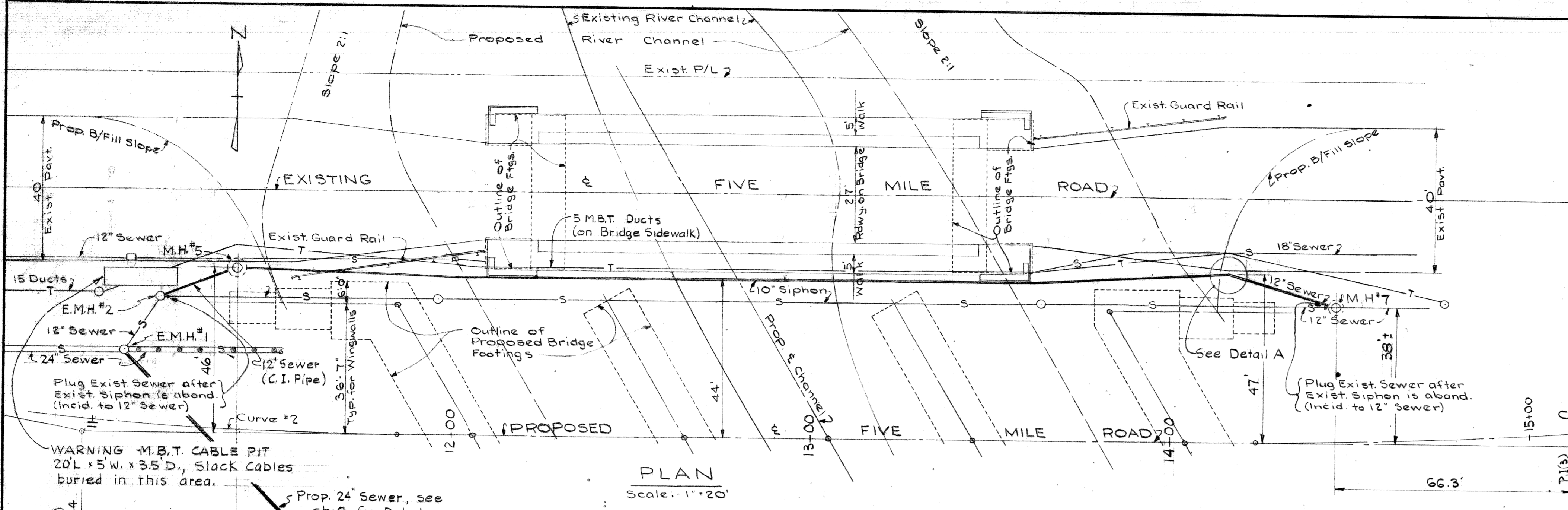


BRIDGE CONTROL DIAGRAM
Not to Scale

| REVISIONS | SQUAD LEADER | APPROVED |
|-----------|------------------------|--|
| | L. M. E. Iwce | |
| | CHECKED BY: S. J. ENDS | ENGINEER OF STRUCTURES AND EXPRESSWAYS |
| | DATE: 8-30-1960 | APPROVED |
| | CORRECT | |

BOARD OF
WAYNE COUNTY ROAD COMMISSIONERS
DETROIT, MICHIGAN
WILLIAM E. KREGER

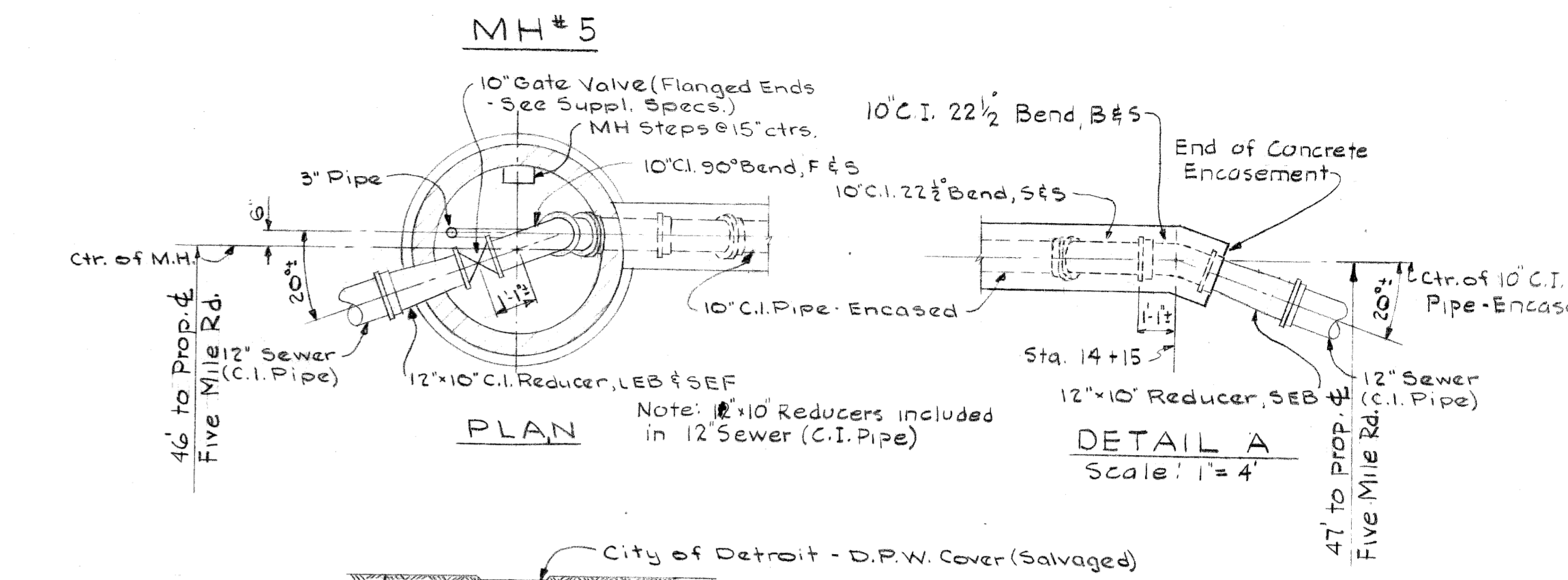
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| STATE PROJECT | | 320 |
| COUNTY JOB | | 320 |
| ISSUE NO. 1 | SHEET NO. 12 | |
| DATE 10-17-62 | | |



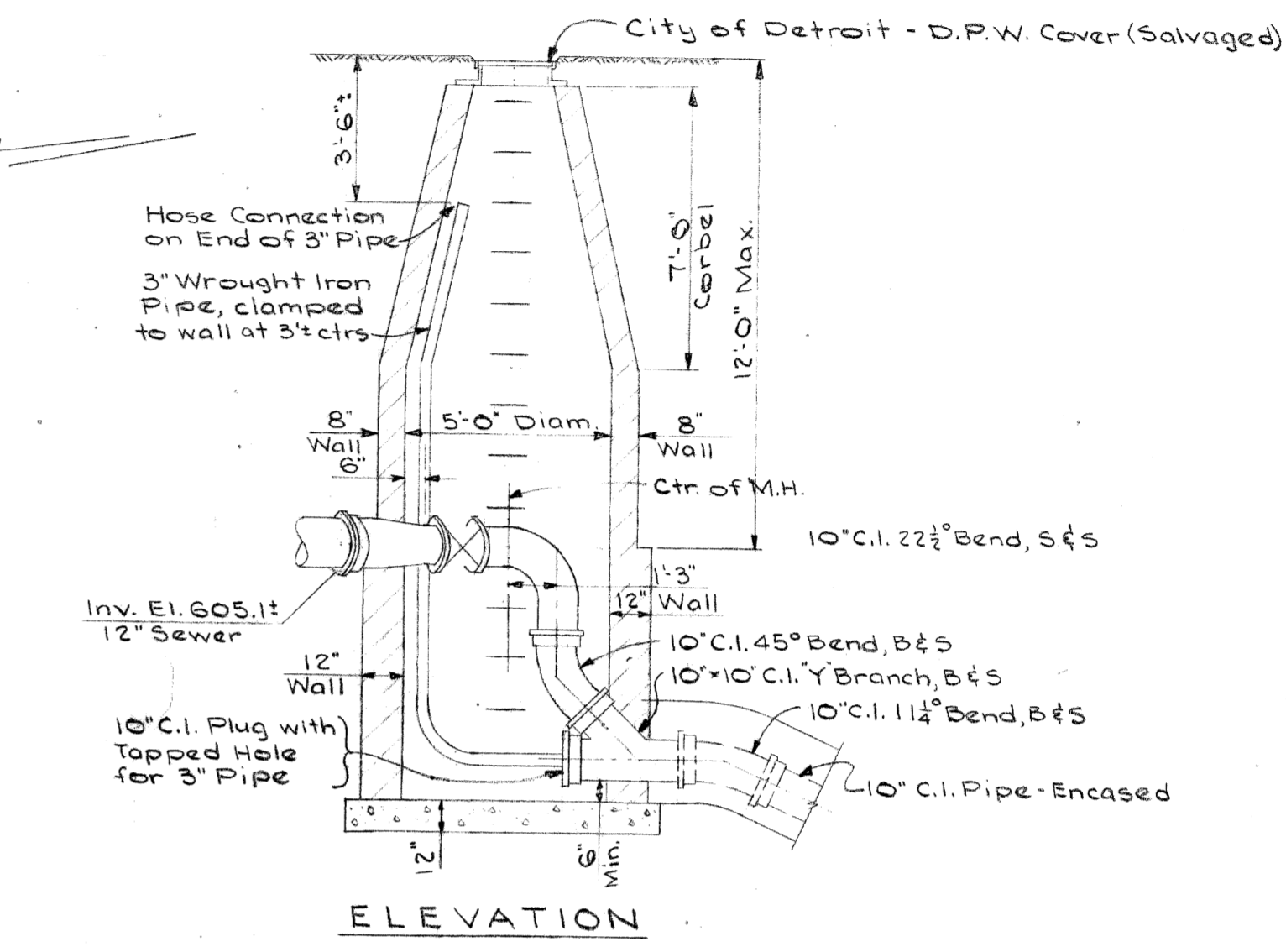
PLAN
Scale: 1"=20'

LEGEND FOR PLAN

- S — Existing Sewer
- T — Existing MBT Ducts
- Existing Manhole
- Existing Catch Basin
- Proposed Sewer
- Proposed Manhole
- Sewer to be Abandoned

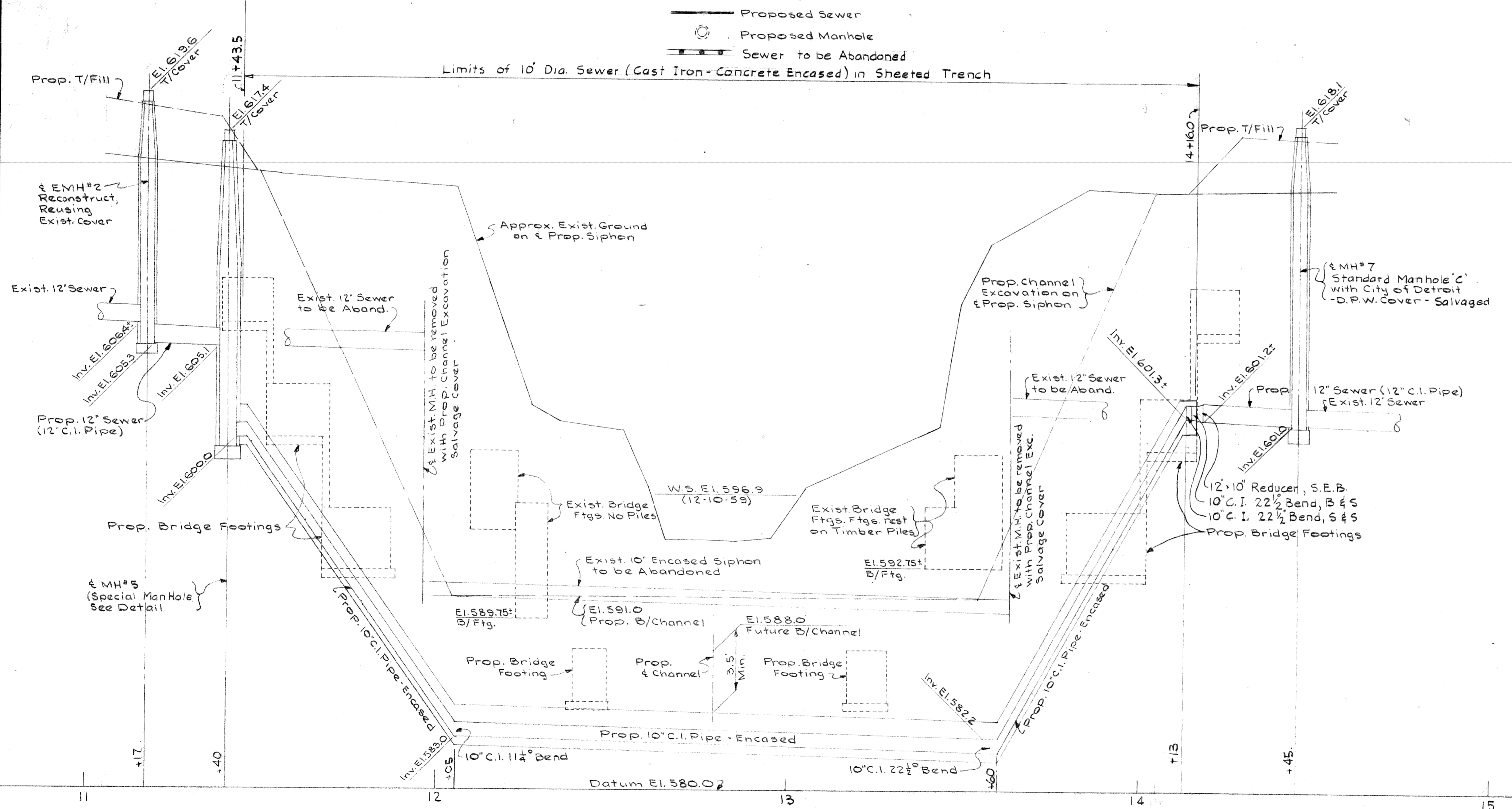


DETAIL A
Scale: 1"=4'

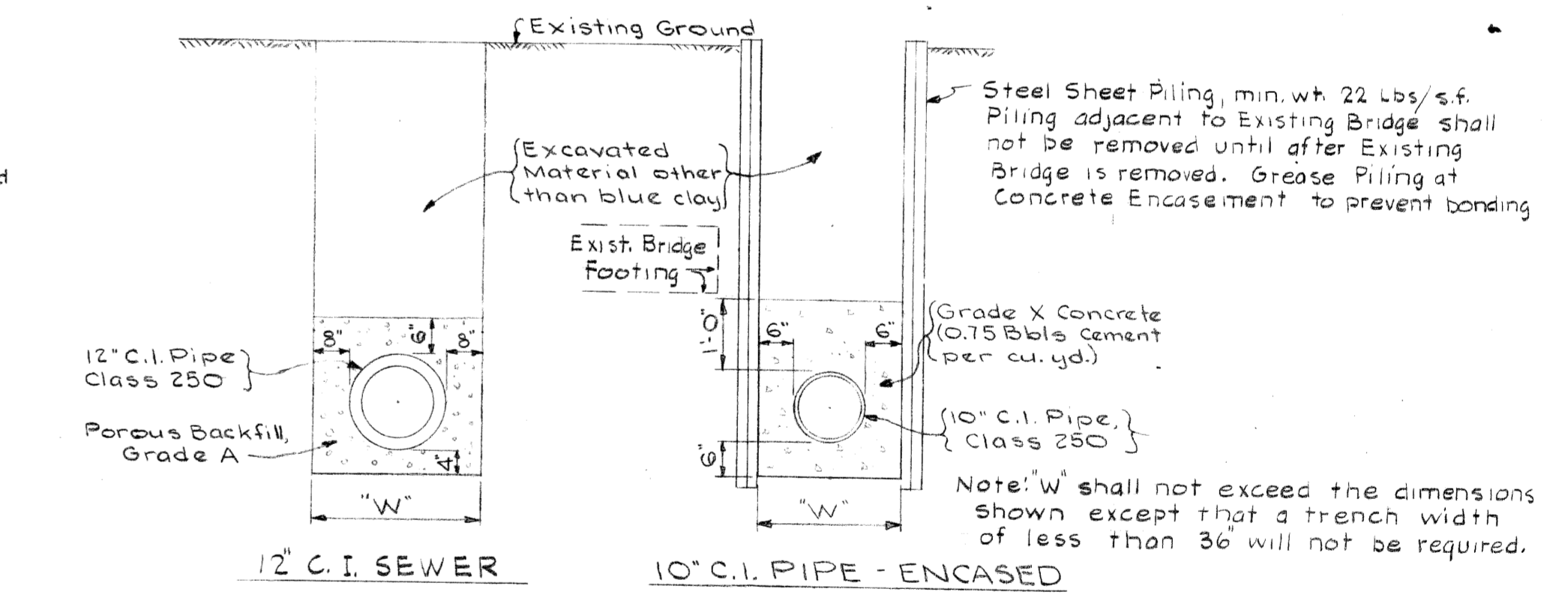


DETAILS OF SPECIAL MANHOLE & GATE VALVE

For Details not shown, See Detail of Manhole C on sh. C-17-1A
Scale: 1"=4'



PROFILE
Stations on Prop. & Five Mile Rd
Scale: 1"=20' Horz.
Scale: 1"=4' Vert.



TYPICAL TRENCH SECTIONS
Not to Scale

NOTES
Existing sewers and siphon between EMH#2 and MH#7 shall not be abandoned until after the Proposed Sewers and Siphon are constructed.
All Pipe and Fittings in Special Manhole are incidental to Special Manhole & 10' Gate Valve. For Details of Standard MH, C See Sh. C-17-1A.
Cast Iron Fittings, Grade X Concrete Encasement and Steel Sheet Piling for Sheeted Trenches are incidental to 10" Pipe Sewer (Cast Iron).
Portions of South Walk of Existing Bridge may be removed to facilitate construction of Siphon, as directed by the Engineer.
The Contractor may construct the 10" C.I. Siphon in another manner if it meets the approval of the Engineer.

QUANTITIES

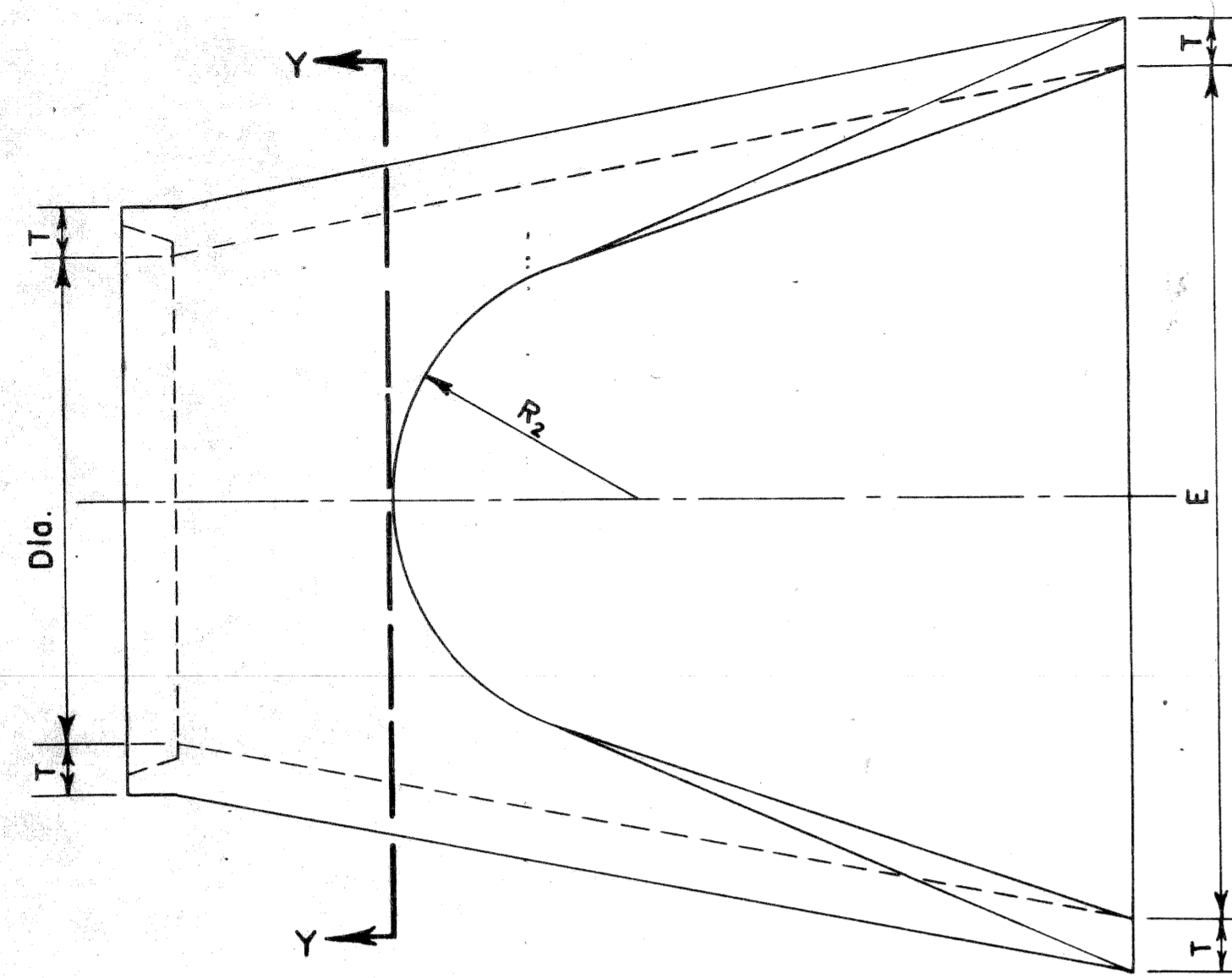
| | | |
|---|-----|----------|
| 12" Dia. Sewer (Cast Iron), 10.1 to 16' Deep with Earth Backfill | 51 | Lin. Ft. |
| Manhole C (Salvaged Cover) with Earth Backfill | 1 | Each |
| Reconstructing Manholes | 1 | Each |
| 10' Siphon Sewer (Cast Iron - Concrete Encased) in Sheeted Trench with Earth Backfill | 278 | Lin. Ft. |
| Special Manhole and 10' Gate Valve with Earth Backfill | 1 | Each |

Contractor shall exercise due caution during construction of Proposed Bridge and removal of Existing Bridge, to prevent damage to Proposed Siphon.

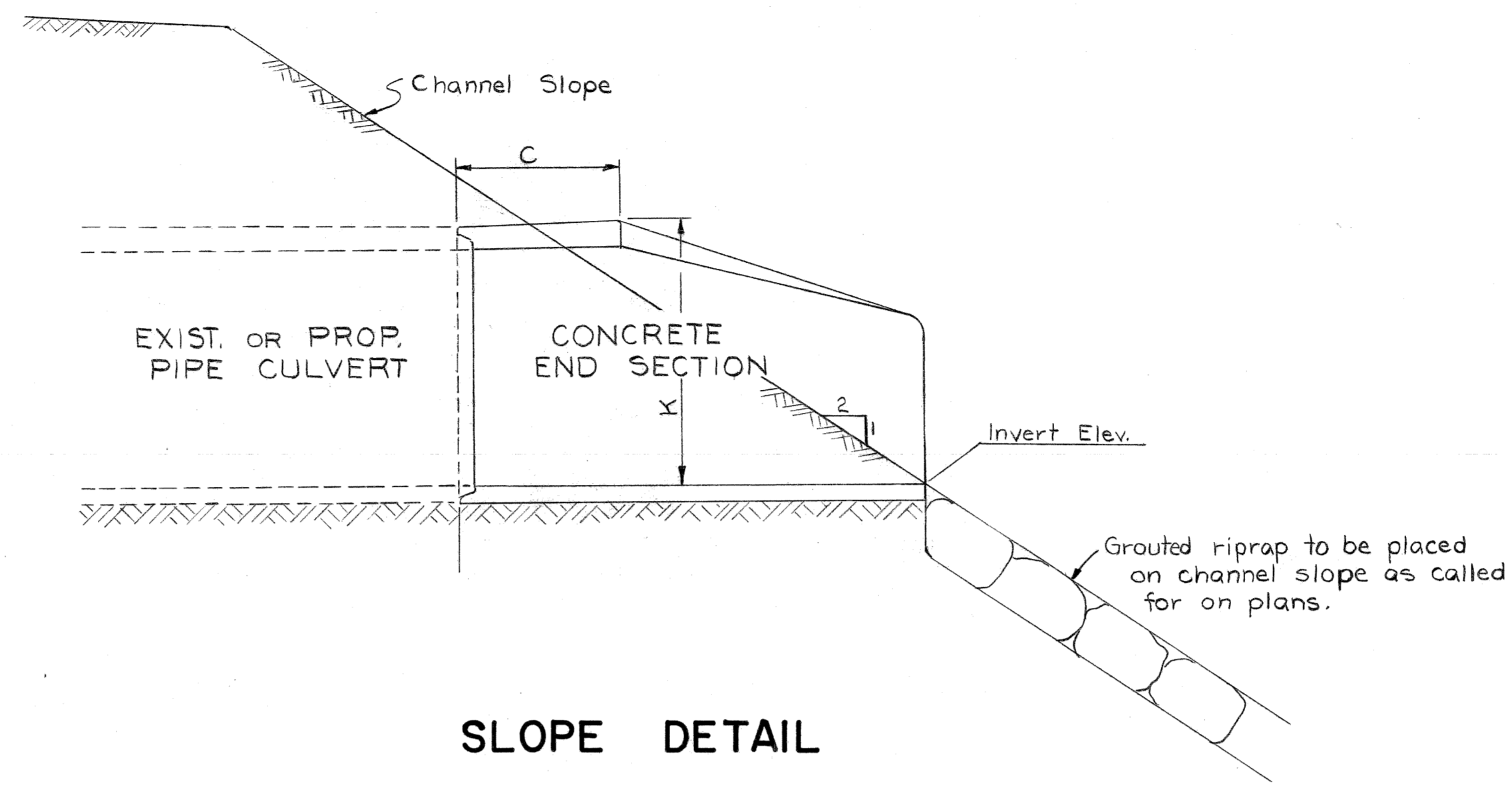
| | | |
|---|--|--|
| REVISIONS | SQUAD LEADER L. MEINER | APPROVED |
| 2. DPW Revisions 8-19-60 P.E.V.B.C. Chgd. Sh. P.D-7 to 13 3-30-61 P.E. | DRAWN BY P. P. STEIN | ENGINEER OF STRUCTURES AND EXPRESSWAYS |
| | CHECKED BY B. CHMIELINSKI | APPROVED |
| | TRACED BY | |
| | CORRECT | |
| | ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS | |

BOARD OF
WAYNE COUNTY ROAD COMMISSIONERS
DETROIT, MICHIGAN
WILLIAM E. KREGER

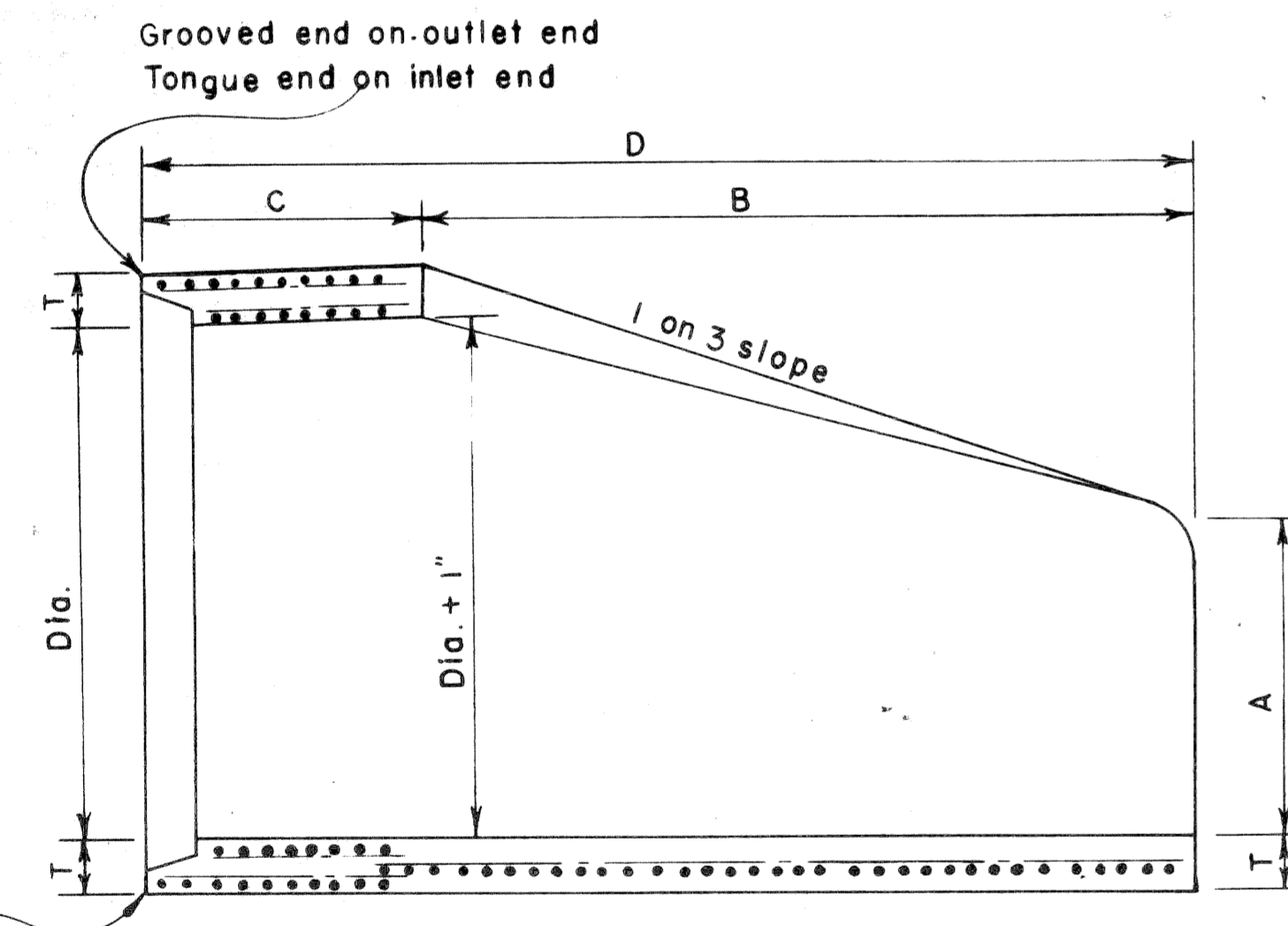
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|------------|--------|------|----------------------|------------|
| STATE FILE | BRIDGE | ROAD | STATE PROJECT | COUNTY JOB |
| | | | | 320 |
| | | | ISSUE NO. <u>2</u> | SHEET NO. |
| | | | DATE <u>10-17-62</u> | 13 |



PLAN VIEW

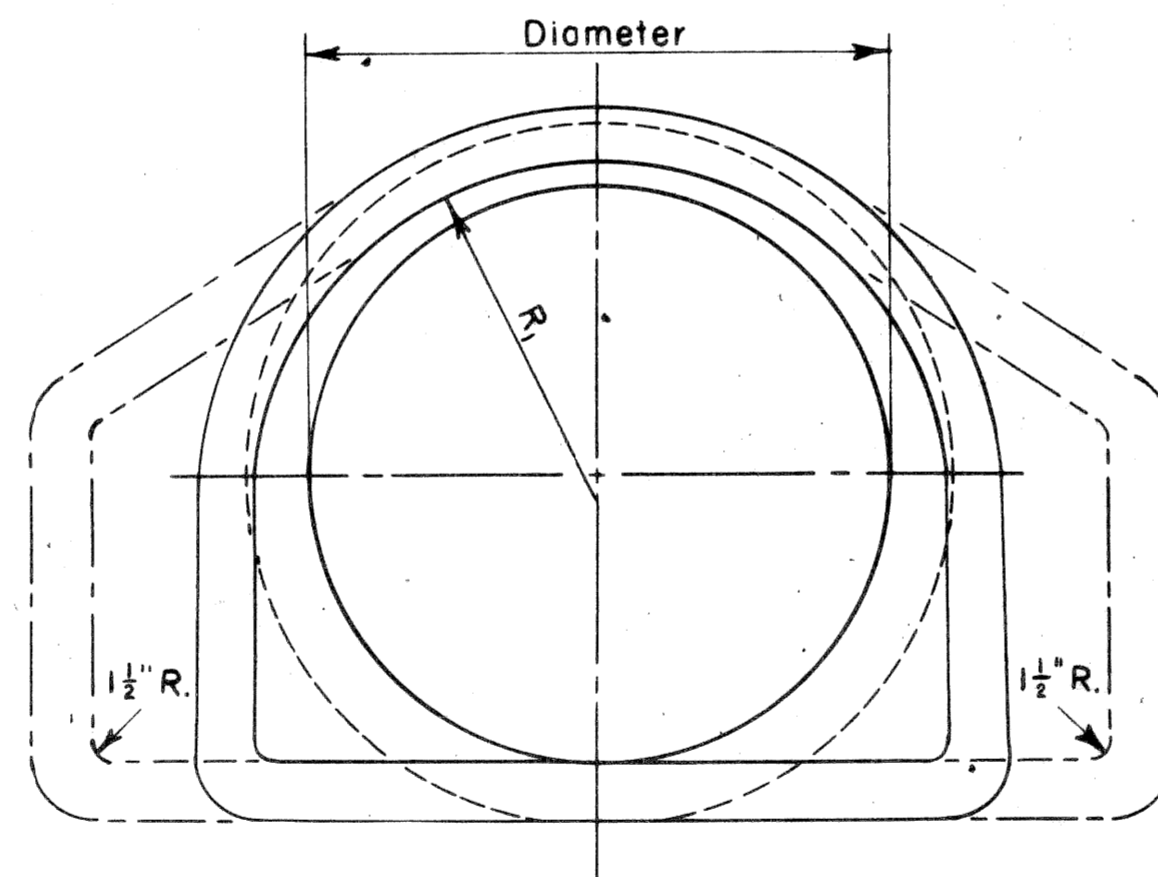


SLOPE DETAIL



LONGITUDINAL SECTION

Groove (or tongue) to be the same as on Standard Reinforced Concrete Pipe ASTM Designation C76



SECTION Y-Y

| DIMENSIONS | | | | | | | | | | APPRX WEIGHT | GRAUTED RIPRAP |
|------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|------------------------------------|-------|------|----------------------------------|----------------|--------------|----------------|
| DIA | T | A | B | C | D | E | K | R ₁ | R ₂ | LBS. | SQ.YD. |
| 12" | 2" | 7" | 2'-0" | 4'-0 ⁷ / ₈ " | 6'-0 ⁷ / ₈ " | 2'-0" | 1.3' | 10 ¹ / ₈ " | 9" | 800 | 4 |
| 15" | 2 ¹ / ₄ " | 9 ¹ / ₂ " | 2'-3" | 3'-10" | 6'-1" | 2'-6" | 1.5' | 12 ¹ / ₂ " | 11" | 1100 | 5 |
| 18" | 2 ¹ / ₂ " | 1'-0 ¹ / ₂ " | 2'-3" | 3'-10" | 6'-1" | 3'-0" | 1.8' | 15 ¹ / ₂ " | 12" | 1300 | 6 |
| 24" | 3" | 1'-1 ¹ / ₂ " | 3'-7 ¹ / ₂ " | 2'-6" | 6'-1 ¹ / ₂ " | 4'-0" | 2.3' | 16 ³ / ₈ " | 14" | 1800 | 7 |
| 30" | 3 ¹ / ₂ " | 1'-4 ¹ / ₂ " | 4'-6" | 1'-7 ¹ / ₄ " | 6'-1 ¹ / ₄ " | 5'-0" | 2.9' | 18 ⁵ / ₈ " | 15" | 2400 | 8 |
| 36" | 4" | 1'-8" | 5'-3" | 2'-10 ³ / ₄ " | 8'-1 ³ / ₄ " | 6'-0" | 3.4' | 24 ⁵ / ₈ " | 20" | 4200 | 9 |
| 42" | 4 ¹ / ₂ " | 2'-2 ¹ / ₂ " | 5'-3" | 2'-11" | 8'-2" | 6'-6" | 4.0' | 27 ¹ / ₂ " | 22" | 5600 | 10 |

Concrete in these end sections shall be the same grade and strength as specified for reinforced concrete pipe, A.S.T.M. designation C76 CLASS II.

Reinforcement in the "C" section shall be the same as specified for reinforced concrete, A.S.T.M. designation C76, CLASS II for the size of connecting pipe.

Reinforcement in the "B" section shall have a cross-sectional area equal to that of one layer of steel in the "C" section.

The end of the pipe culvert shall be placed in the concrete end section so that the flow lines are flush. The joint shall be completely filled with mortar.

Precast concrete end sections will be paid for at the contract unit price each, which price shall include concrete and steel reinforcement but shall not include grouted riprap. Grouted riprap will be paid for at the contract unit price per square yard.

| | | |
|------------|--------|--|
| STATE FILE | BRIDGE | |
| | ROAD | |

| | | |
|-----------|--|------------------------------------|
| REVISIONS | SQUAD LEADER <i>L. McElwee</i> | APPROVED |
| | DRAWN BY <i>R. LEYON</i> | CHECKED BY <i>[Signature]</i> |
| | TRACED BY | DATE 7-3-62 |
| | CORRECT | DATE |
| | ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS | ENGINEER OF BRIDGES AND STRUCTURES |
| | | APPROVED |
| | | ENGINEER OF HIGHWAY ENGINEERING |

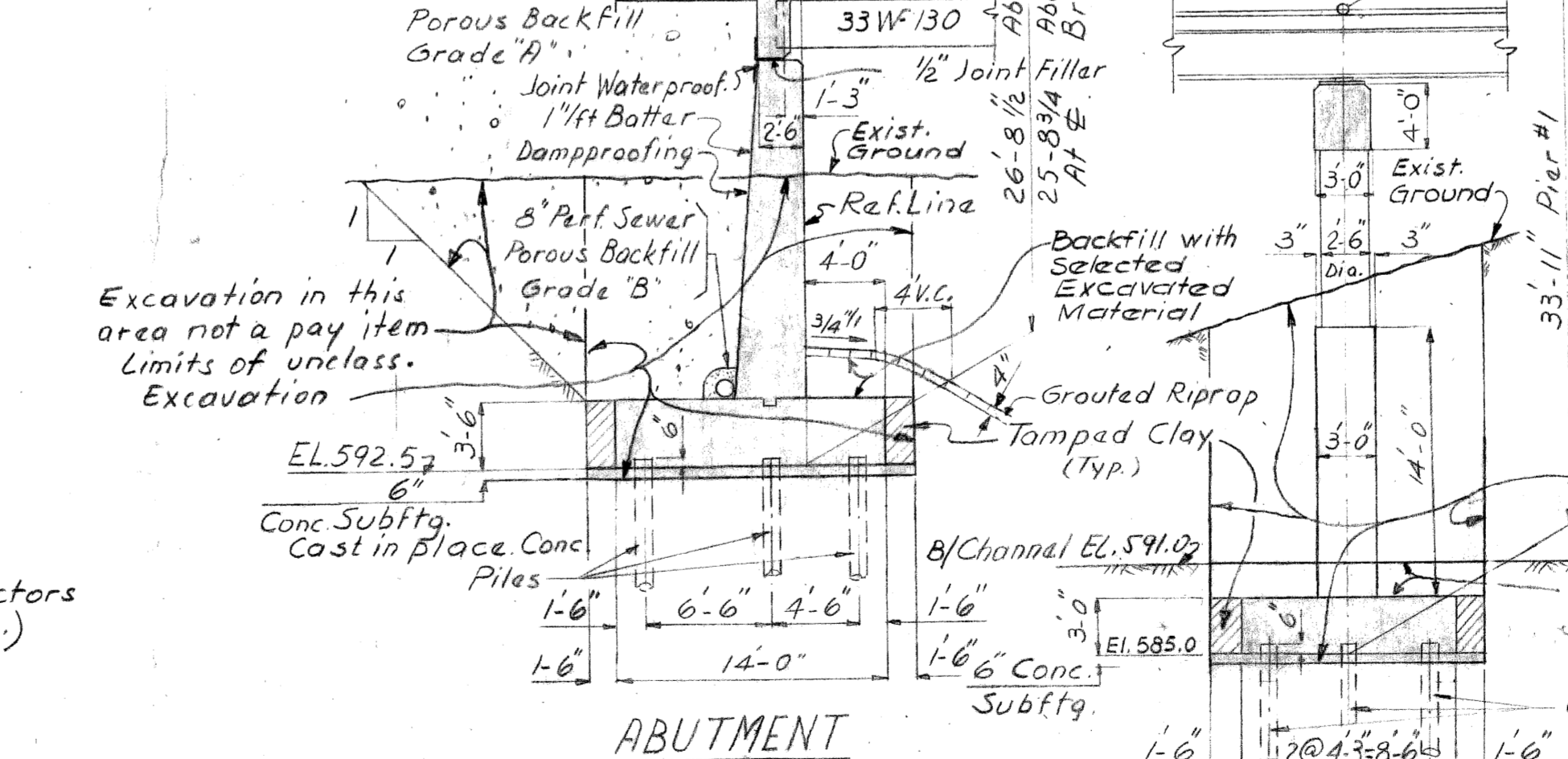
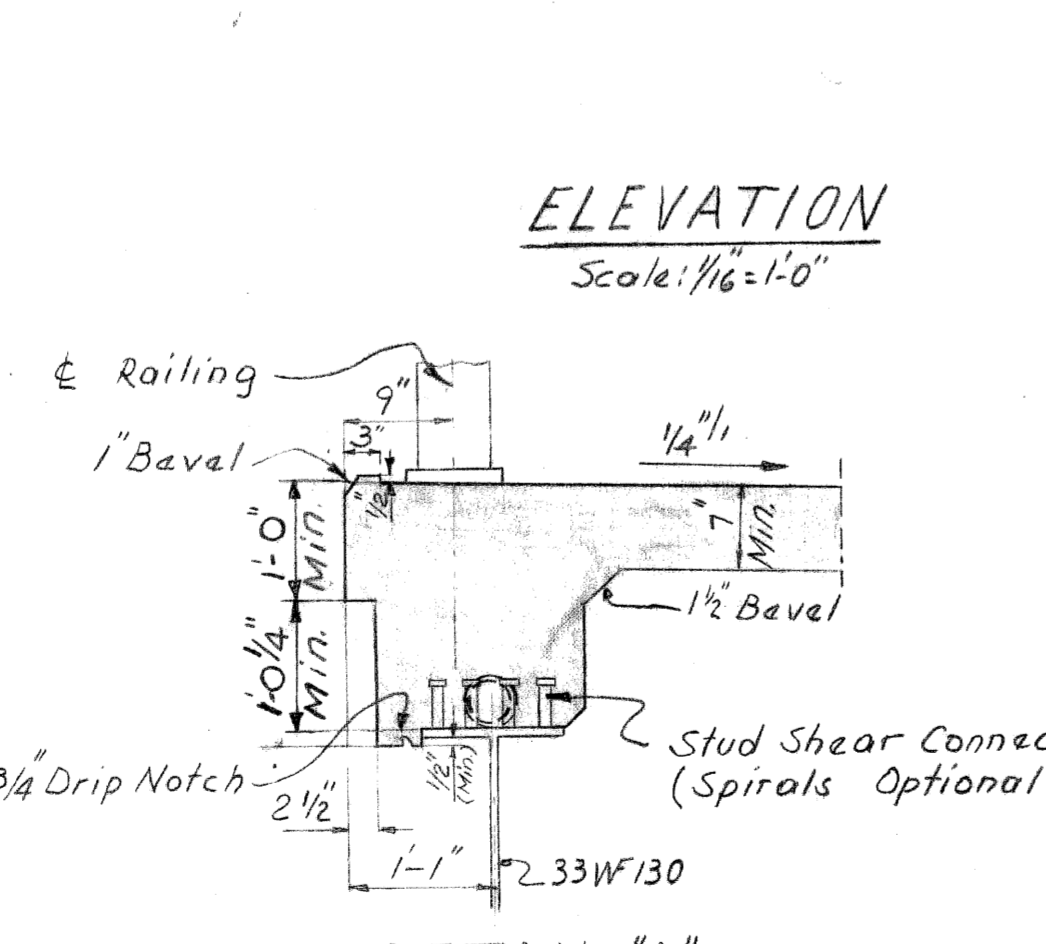
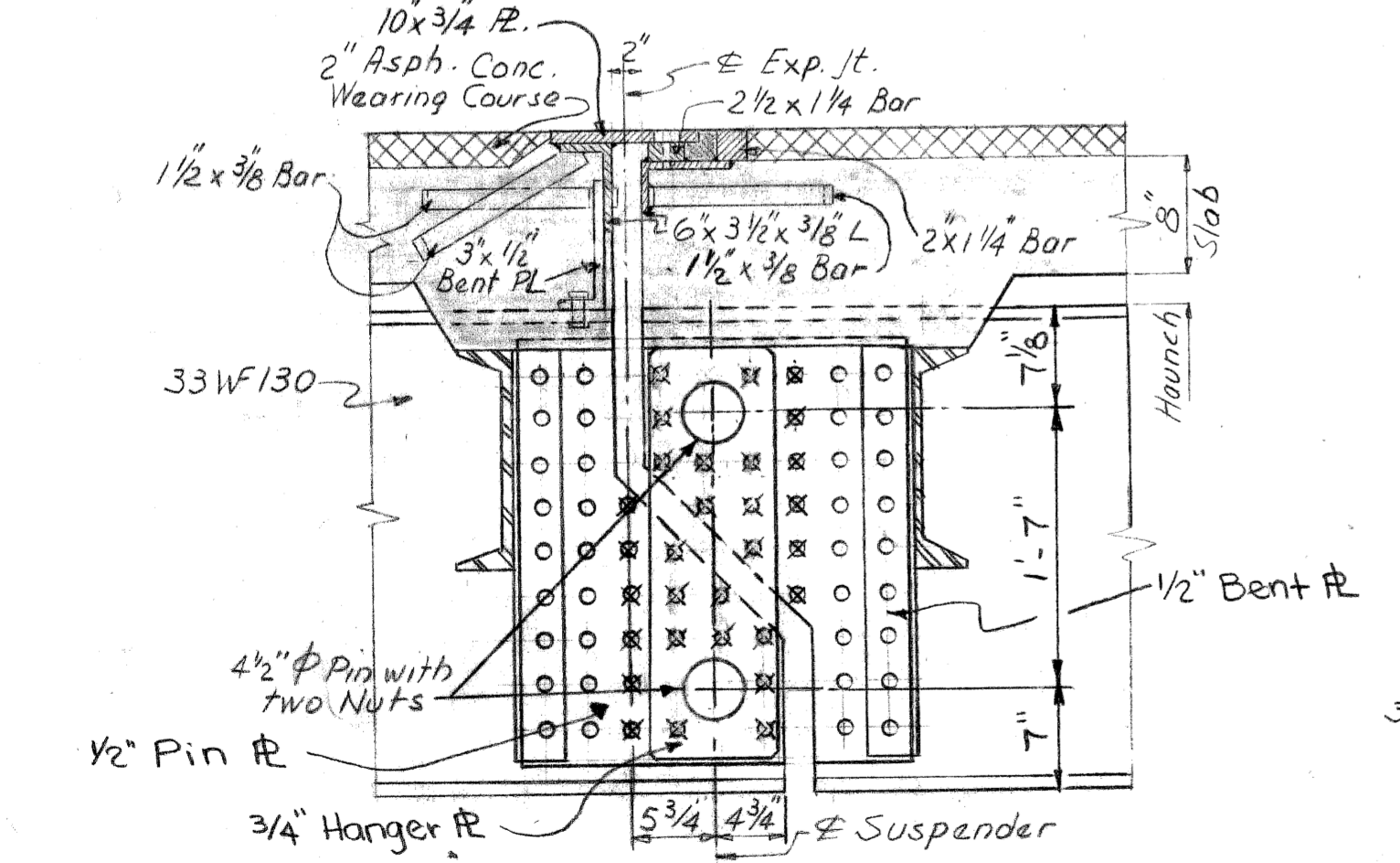
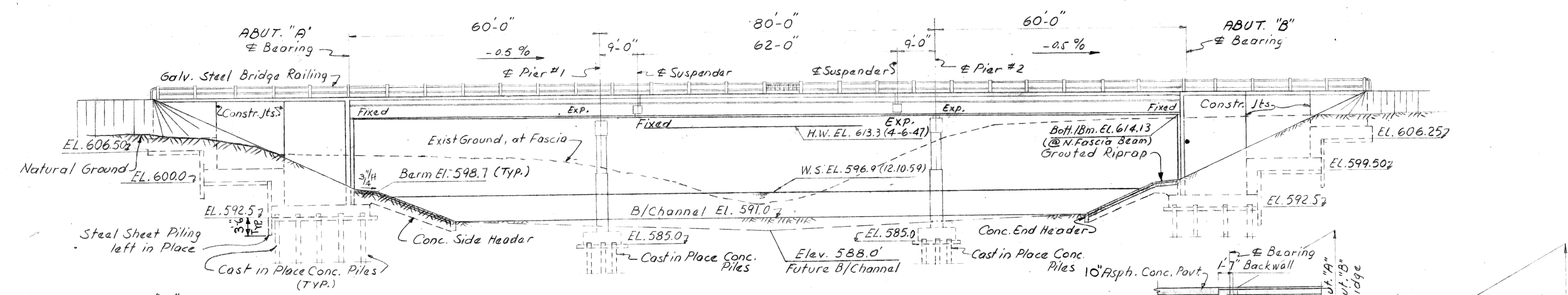
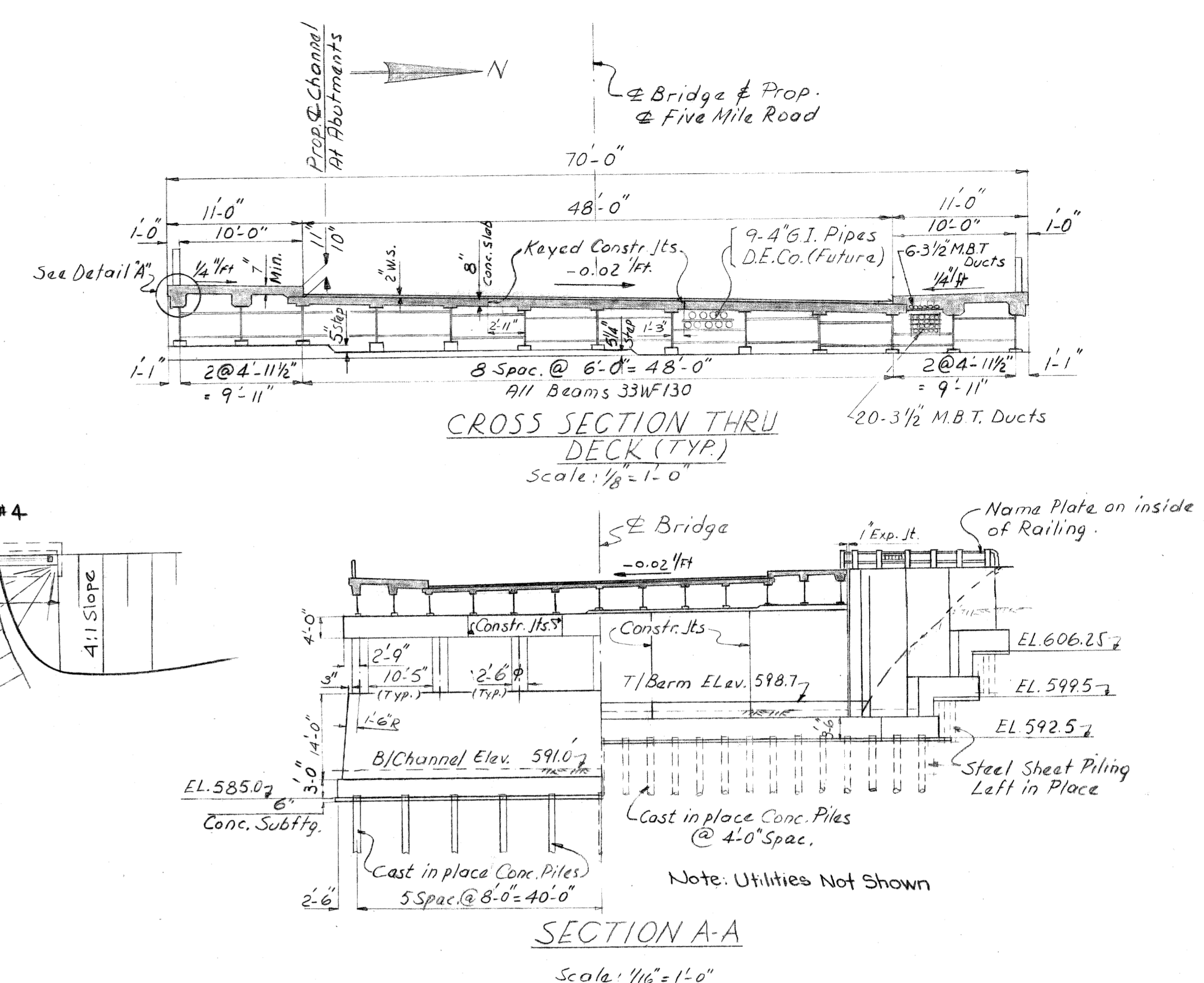
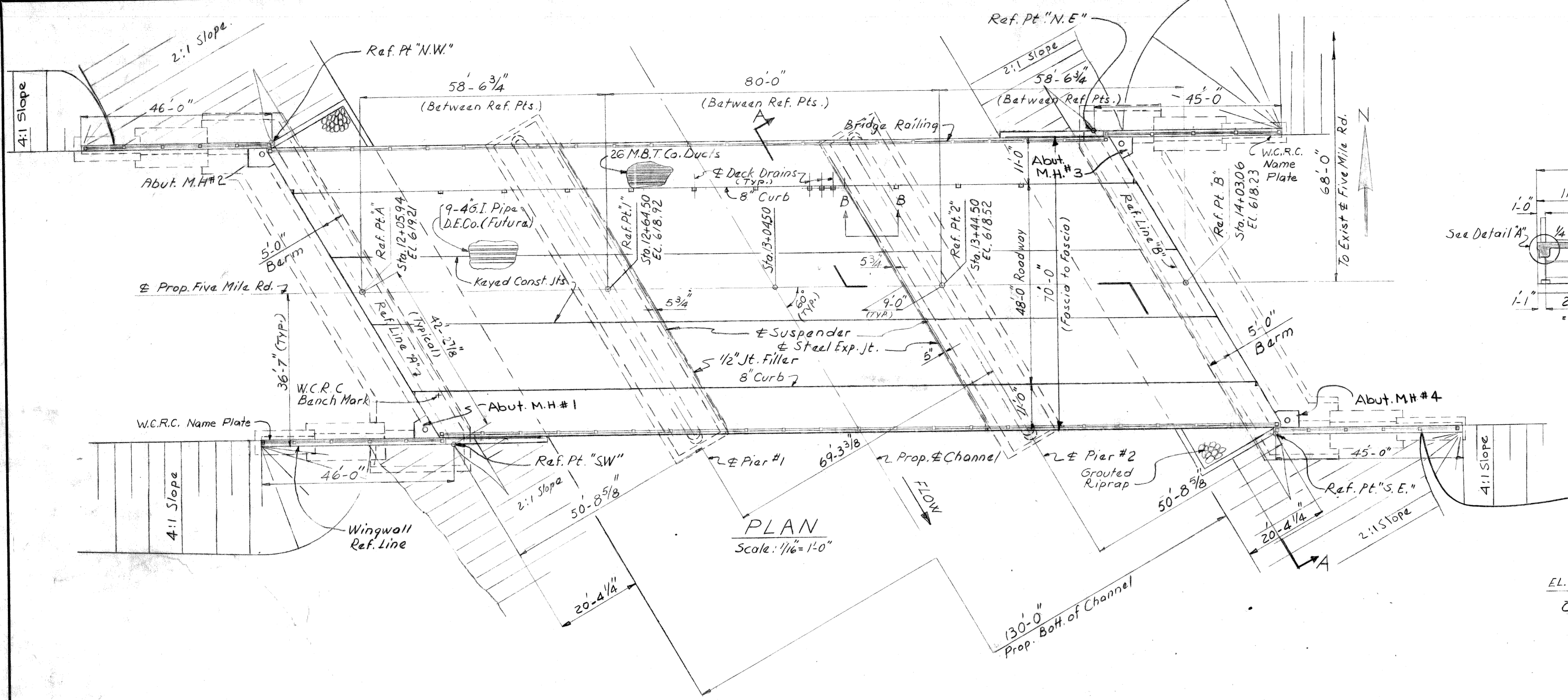
BOARD OF
WAYNE COUNTY ROAD COMMISSIONERS
DETROIT, MICHIGAN
WILLIAM E. KREGER
AL BARBOUR

FIVE MILE ROAD
OVER ROUGE RIVER
PRECAST CONC. END SECT. FOR SEWER

STATE PROJECT
COUNTY JOB
320

ISSUE NO. 1
DATE 10-17-62

SHEET NO.
13A



GENERAL NOTES

Specifications:
Board of Wayne County Road Commissioners,
1951 General Specifications for the
Construction of Roads, Bridges and other
Structures and Supplementary Specifications
for Job #320
Design: A.A.S.H.O. 1957 Edition
Loading: H20-S16-44 and Special Military
Loading.
Deflection: Live Load plus impact.
Simple Span: Not more than 1/1000 of the Span Length.
Cantilever Arm: Not more than 1/300 of the Cantilever Arm.
Concrete: Grade A (6 B Gravel or 6 B Slag)
Piles: Cast in Place Concrete Piles 40 ton
Capacity.

**SPECIAL MILITARY
LOADING**
Axle loads shown
Wheel spaced @ 6'-0" ctrs
(For one Lane)

| | D.L. (Max.) | D.L.+L1 (Max.) | D.L. (Avg) | D.L.+L1 (Avg) |
|--------|----------------|-------------------|---------------|------------------|
| Abutms | 33.3 | 39.9 | 33.0 | 35.1 |
| Piers | 32.8 | 38.1 | 32.8 | 38.1 |

PILE LOADS (tons)

WINGWALLS
Scale: 1/8"=1'-0"

TYPICAL SECTIONS

| REVISIONS | SQUAD LEADER | APPROVED |
|--|--|--|
| 2) Check Rev 3-10-61 W.E.K. - SLC Chgd. sh. P.D. 3 to 14. 3-30-61 P.E. L.C.G. Rev. Revisions T.162 L.O. - SLC | L. M. E. Iwee CHECKED BY L. OENGIN TRACED BY MELISSA DATE 4-2-60 | APPROVED ENGINEER OF STRUCTURES AND EXPRESSWAYS APPROVED |

**BOARD OF
WAYNE COUNTY ROAD COMMISSIONERS**
DETROIT, MICHIGAN

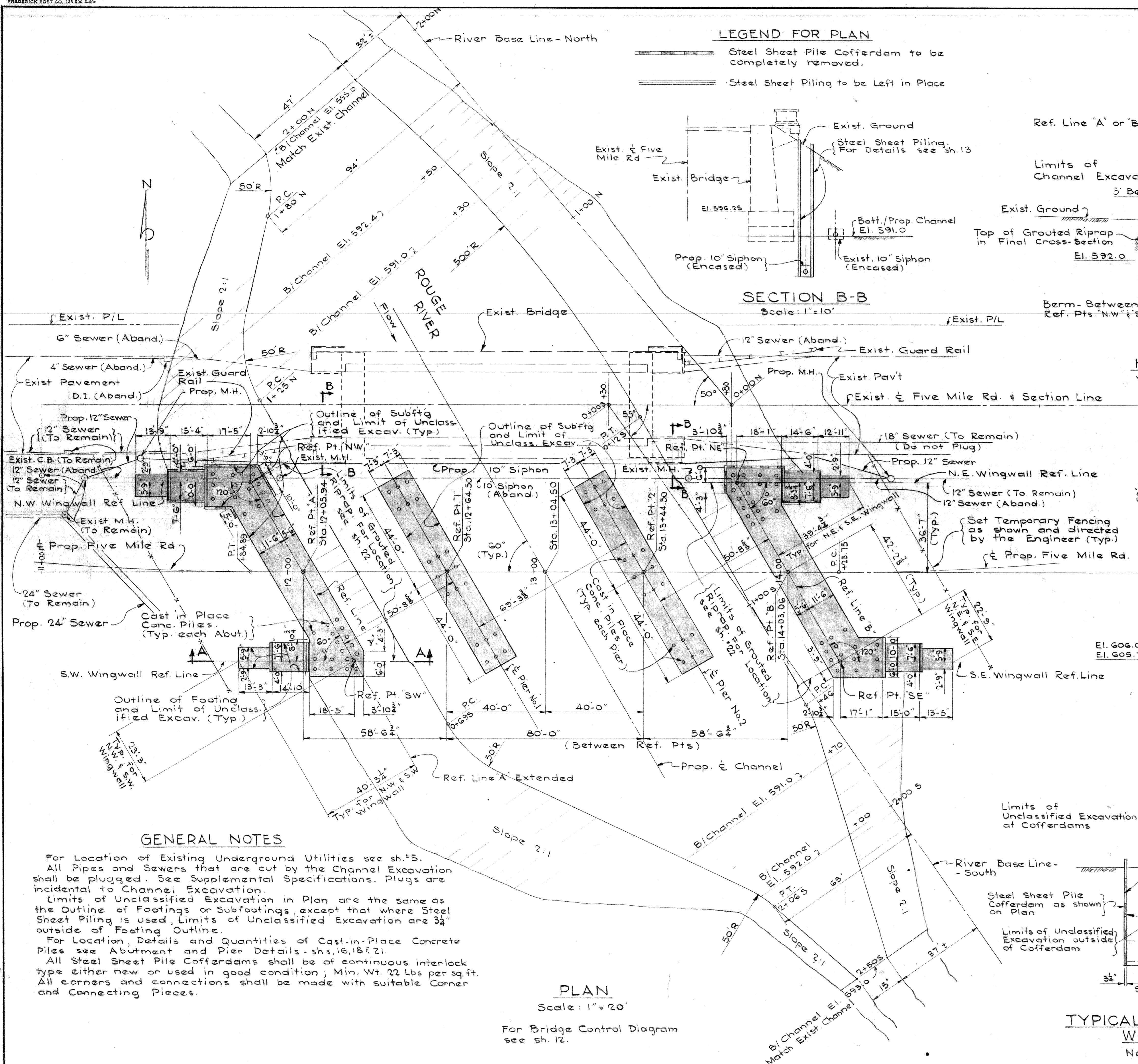
WILLIAM E. KREGER
AL BARBOUR

**FIVE MILE ROAD
OVER ROUGE RIVER
GENERAL PLAN OF STRUCTURE**

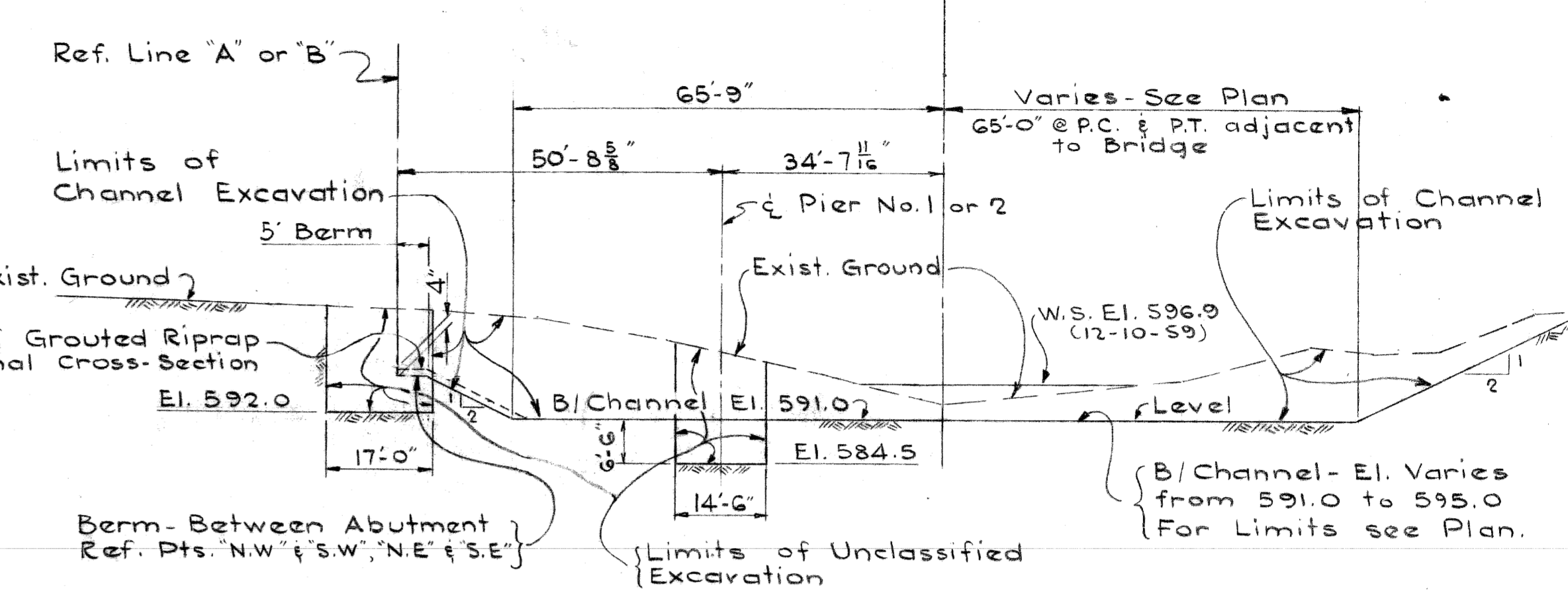
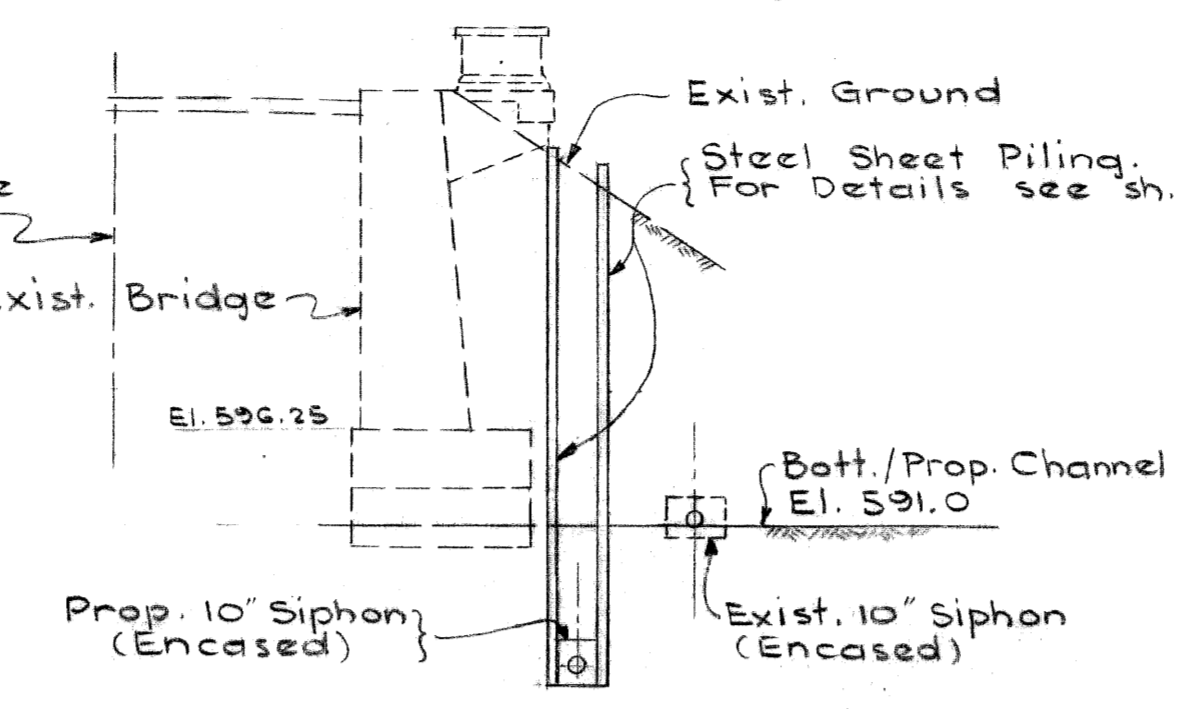
| | |
|---------------|--------------|
| STATE PROJECT | COUNTY JOB |
| ISSUE NO. 2 | 320 |
| DATE 10-17-62 | SHEET NO. 14 |

LEGEND FOR PLAN

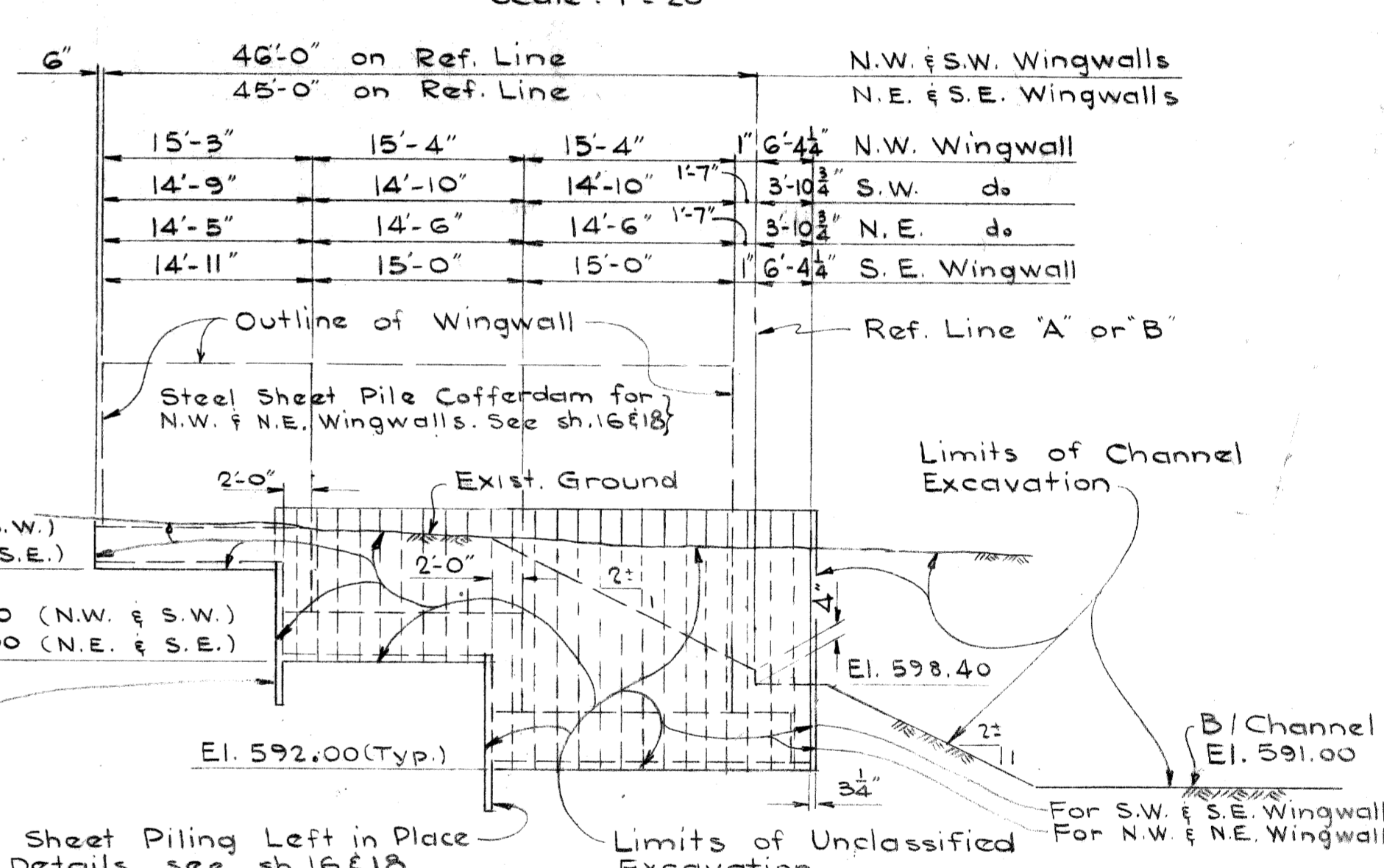
- Steel Sheet Pile Cofferdam to be completely removed.
- Steel Sheet Piling to be Left in Place



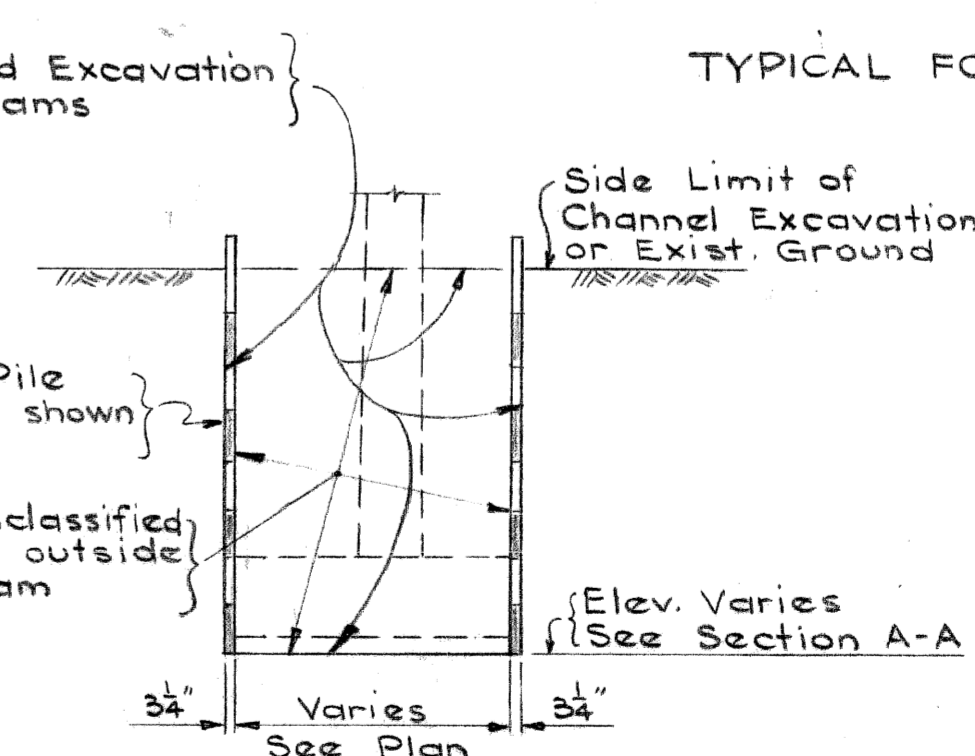
SECTION B-B
Scale: 1"=10'



TYPICAL SECTION THRU PROP. CHANNEL
NORMAL TO PROP. CHANNEL
Half Sections within Limits of P.C. & P.T. adjacent to Bridge are symmetrical about Prop. Channel.
Scale: 1"=20'



SECTION A-A
TYPICAL FOR ALL WINGWALLS EXCEPT AS SHOWN
Scale: 1"=10'



TYPICAL SECTION THRU WINGWALLS
Not to Scale

ESTIMATED QUANTITIES

| | |
|-----------------------------|----------------|
| Channel Excavation | 22,500 Cu.Yds. |
| Unclassified Excavation | 5,060 Cu.Yds. |
| Abutment A | 1450 Cu.Yds. |
| Abutment B | 1730 " |
| Pier No. 1 | 830 " |
| Pier No. 2 | 1050 Cu.Yds. |
| Temporary Fencing | 29 Lin. Rods |
| Steel Sheet Pile Cofferdams | Lump Sum |

GENERAL NOTES

For Location of Existing Underground Utilities see sh.#5.
All Pipes and Sewers that are cut by the Channel Excavation shall be plugged. See Supplemental Specifications. Plugs are incidental to Channel Excavation.
Limits of Unclassified Excavation in Plan are the same as the Outline of Footings or Subfootings, except that where Steel Sheet Piling is used, Limits of Unclassified Excavation are 3/4" outside of Footing Outline.
For Location, Details and Quantities of Cast-in-Place Concrete Piles see Abutment and Pier Details - shs. 16, 18 & 21.
All Steel Sheet Pile Cofferdams shall be of continuous interlock type either new or used in good condition; Min. Wt. 22 Lbs per sq.ft. All corners and connections shall be made with suitable Corner and Connecting Pieces.

PLAN
Scale: 1"=20'

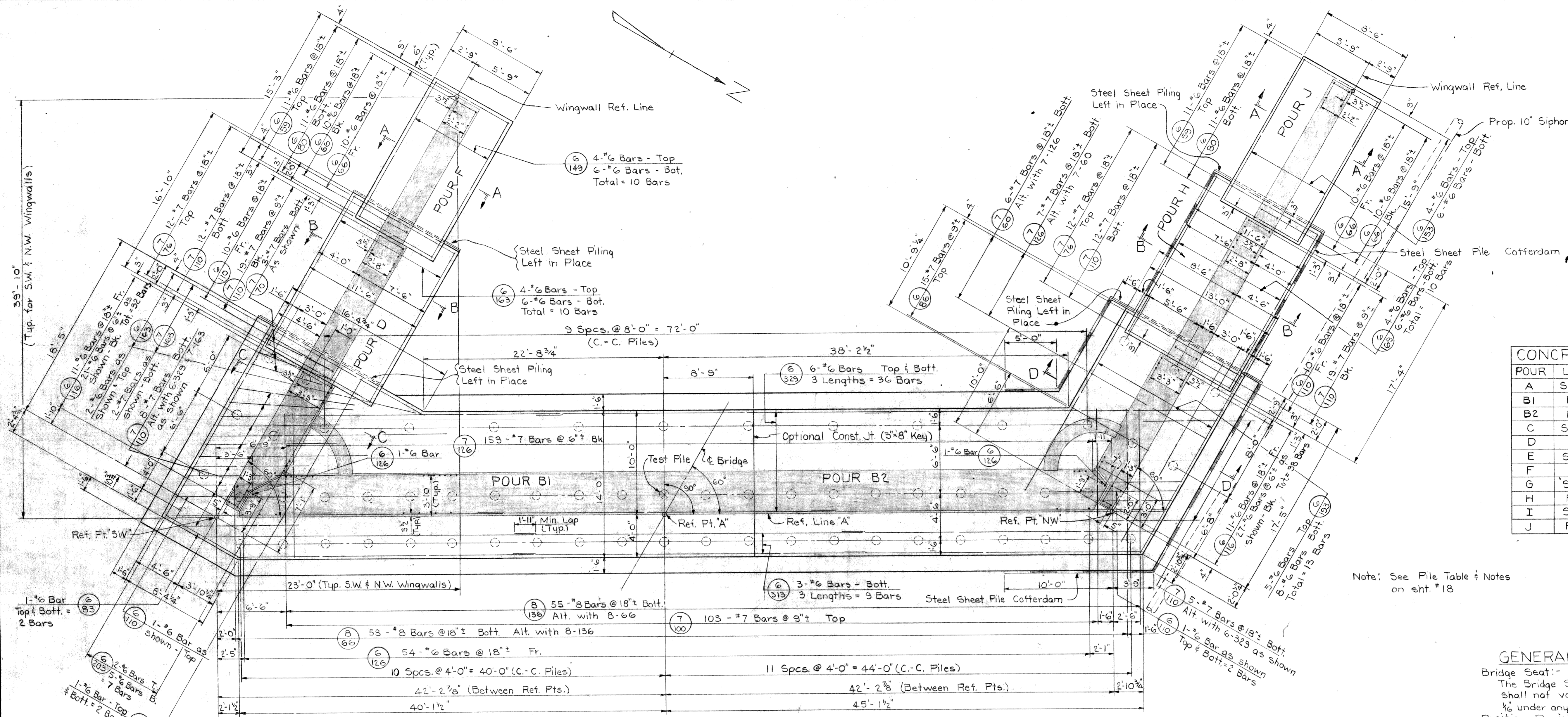
For Bridge Control Diagram see sh. 12.

| REVISIONS | SQUAD LEADER | APPROVED |
|-----------|--|-------------------------|
| | L. M. E. Iwee | |
| | Checked by S. Compton | DATE 7-14-60 |
| | Checked by S. Compton | DATE |
| | CORRECT | APPROVED |
| | ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS | COUNTY HIGHWAY ENGINEER |

BOARD OF WAYNE COUNTY ROAD COMMISSIONERS
DETROIT, MICHIGAN

PHILIP J. NEUDECK WILLIAM E. KREGER AL BARBOUR

| | |
|---|------------|
| STATE PROJECT | COUNTY JOB |
| BRIDGE | 320 |
| ROAD | SHEET NO. |
| FIVE MILE ROAD OVER ROUGE RIVER DIGGING PLAN | |
| ISSUE NO. 1 | 15 |
| DATE 10-17-62 | |



| BILL OF REINFORCING BARS | | | | |
|--------------------------|------|--------|-----|----------|
| MARK | SIZE | LENGTH | NO. | REMARKS |
| 8-136 | #8 | 13'-6" | 55 | Straight |
| 8-66 | #8 | 6'-6" | 58 | Straight |
| 7-163 | #7 | 16'-3" | 2 | Straight |
| 7-126 | " | 12'-6" | 160 | " |
| 7-110 | " | 11'-0" | 75 | " |
| 7-100 | " | 10'-0" | 103 | " |
| 7-76 | " | 7'-6" | 24 | " |
| 7-70 | " | 7'-0" | 3 | " |
| 7-60 | #7 | 6'-0" | 6 | Straight |
| 6-329 | #6 | 32'-9" | 36 | Straight |
| 6-313 | " | 31'-3" | 9 | " |
| 6-203 | " | 20'-3" | 7 | " |
| 6-196 | " | 19'-6" | 2 | " |
| 6-193 | " | 19'-3" | 13 | " |
| 6-169 | " | 16'-9" | 10 | " |
| 6-163 | " | 16'-3" | 12 | " |
| 6-153 | " | 15'-3" | 10 | " |
| 6-149 | " | 14'-9" | 10 | " |
| 6-126 | " | 12'-6" | 56 | " |
| 6-116 | " | 11'-6" | 70 | " |
| 6-110 | " | 11'-0" | 23 | " |
| 6-103 | " | 10'-3" | 24 | " |
| 6-89 | " | 8'-9" | 24 | " |
| 6-86 | " | 8'-6" | 15 | " |
| 6-83 | " | 8'-3" | 2 | " |
| 6-80 | " | 8'-0" | 22 | " |
| 6-66 | " | 6'-6" | 40 | " |
| 6-59 | #6 | 5'-9" | 22 | Straight |

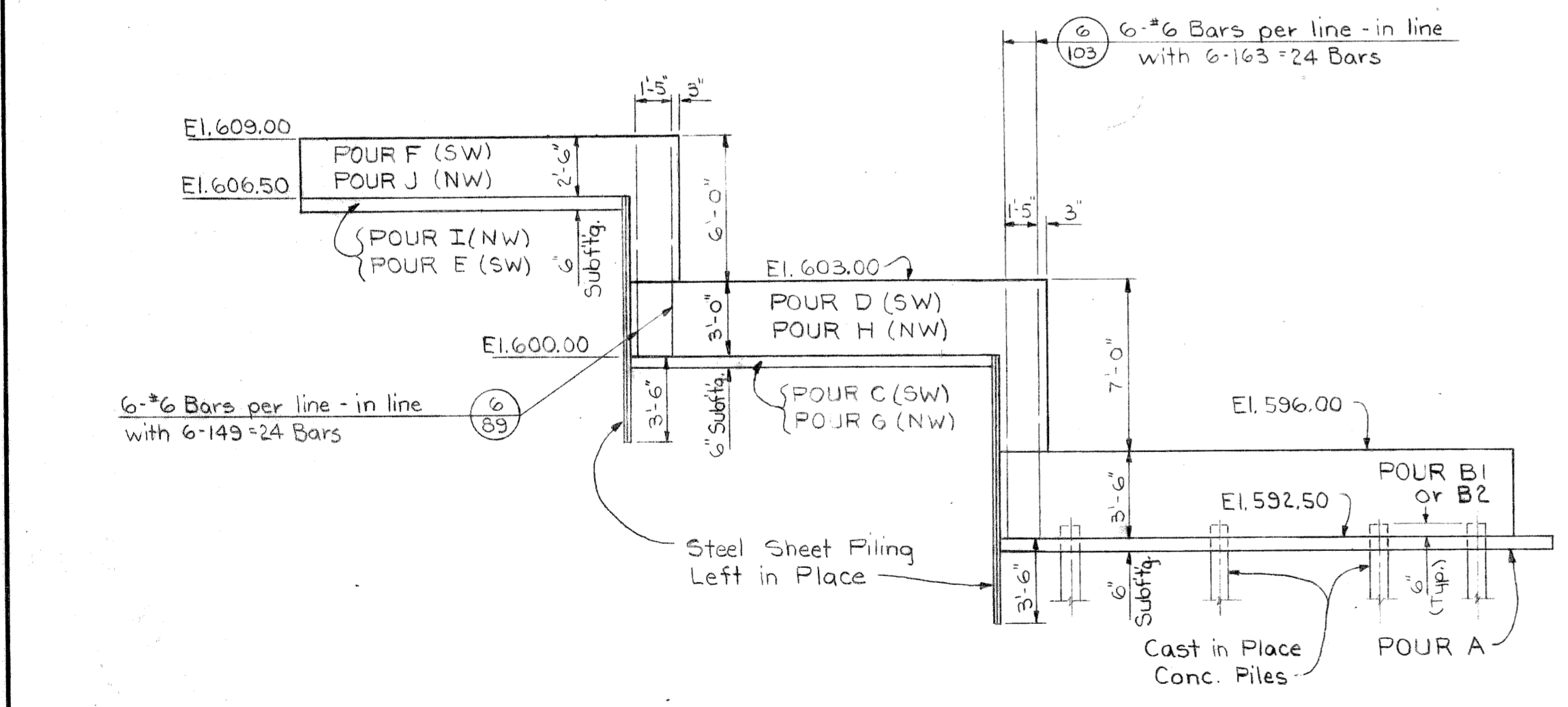
| CONCRETE POURS | | |
|----------------|------------|----------|
| POUR | LOCATION | CU. YDS. |
| A | Subfooting | 33.5 |
| B1 | Footing | 106.7 |
| B2 | Footing | 85.7 |
| C | Subfooting | 3.2 |
| D | Footing | 25.7 |
| E | Subfooting | 2.0 |
| F | Footing | 14.5 |
| G | Subfooting | 3.3 |
| H | Footing | 26.4 |
| I | Subfooting | 2.1 |
| J | Footing | 14.9 |

Note: See Pile Table & Notes on sht. #18

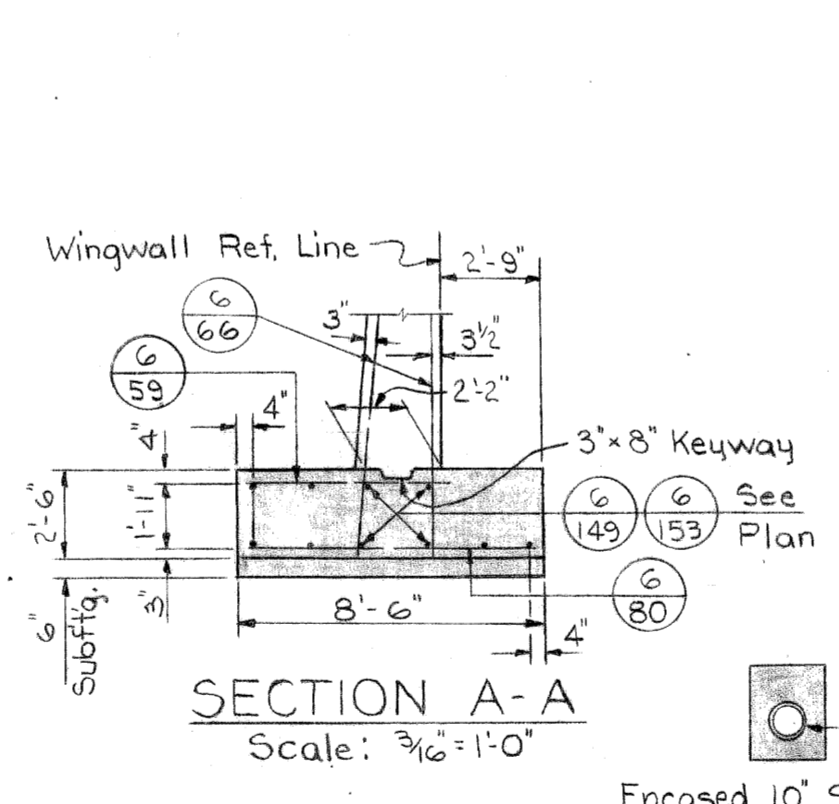
PLAN Scale: 3/16" = 1'-0"

GENERAL NOTES FOR REINFORCED CONCRETE

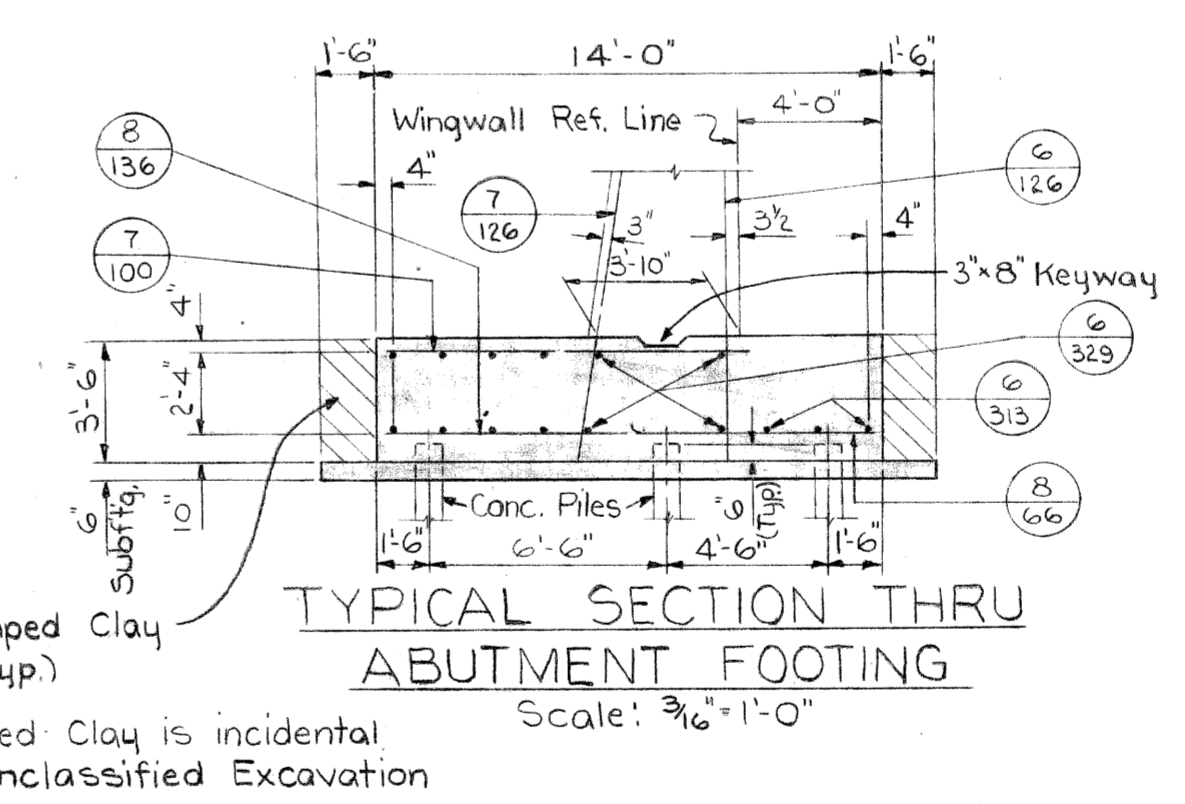
- Bridge Seat: - The Bridge Seat shall be finished in a true plane at the elevation shown and shall not vary more than 1/8" under a ten foot straight edge or more than 1/2" under any bearing.
- Position Dowels: - Position Dowels shall be set accurately to template.
- Steel Reinforcement: - Bends for all bars shall be made around pin diameters as recommended by the Concrete Reinforcing Steel Institute.
- Perforated Underdrain: - All bends in Perf. Underdrain to be made with Pipe fittings.
- Joint Waterproofing and Dampproofing: - Joint Waterproofing and Dampproofing shall extend from top of footing to upper limit shown, outside of Manholes.
- Concrete Quantities: - Concrete quantities are computed on the basis of an outline 3/4" outside normal outline, where the concrete is poured against the steel sheet piling. No additional allowance in concrete quantities will be made regardless of the steel sheet piling used.



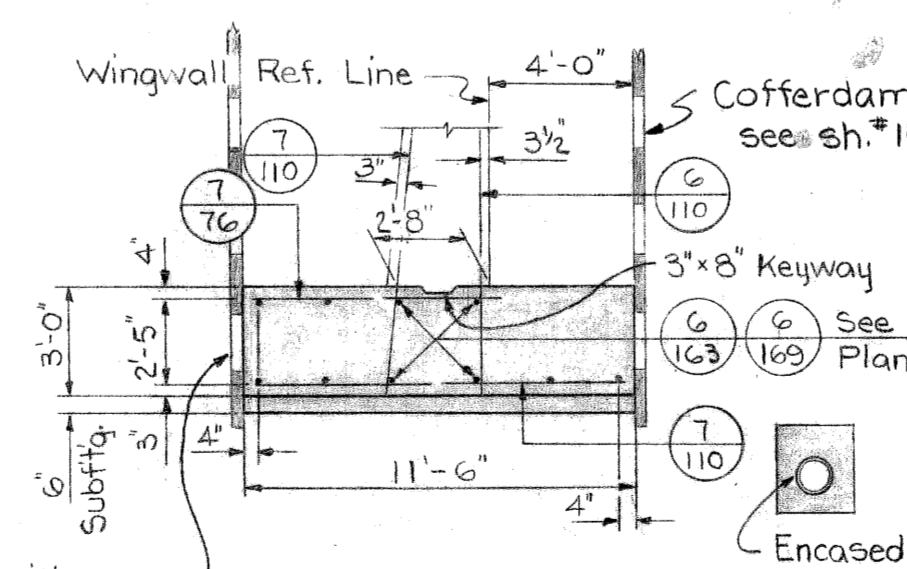
ELEVATION OF S.W. WINGWALL ALONG WINGWALL REF. LINE N.W. WINGWALL - OPP. HAND Scale: 3/16" = 1'-0"



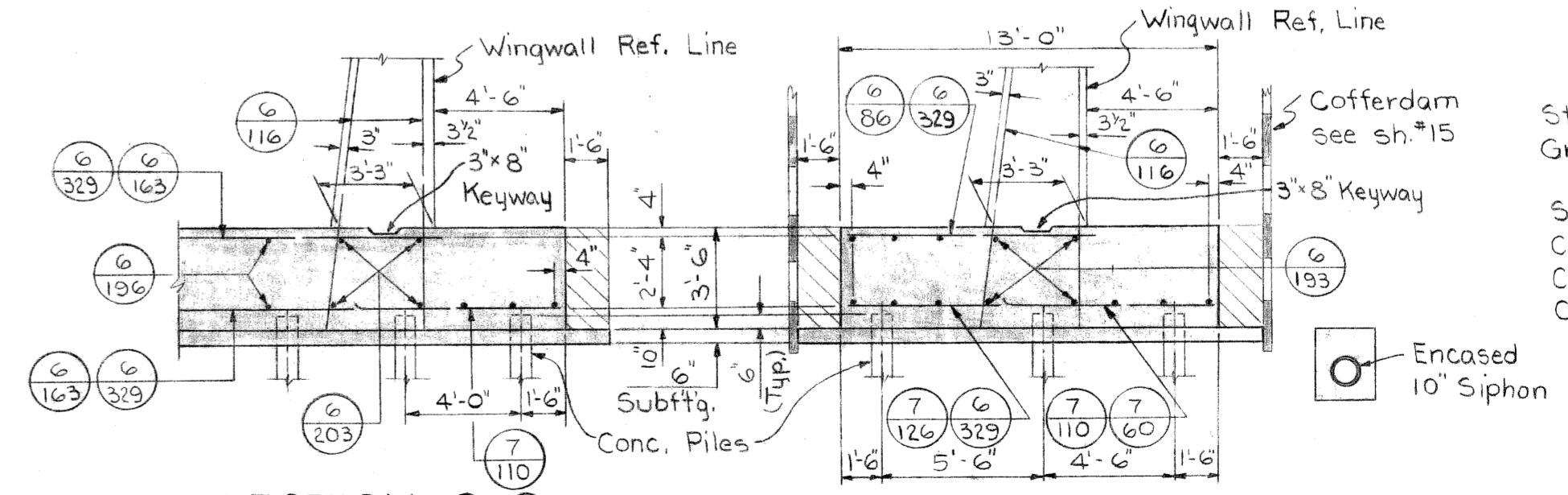
SECTION A-A Scale: 3/16" = 1'-0"



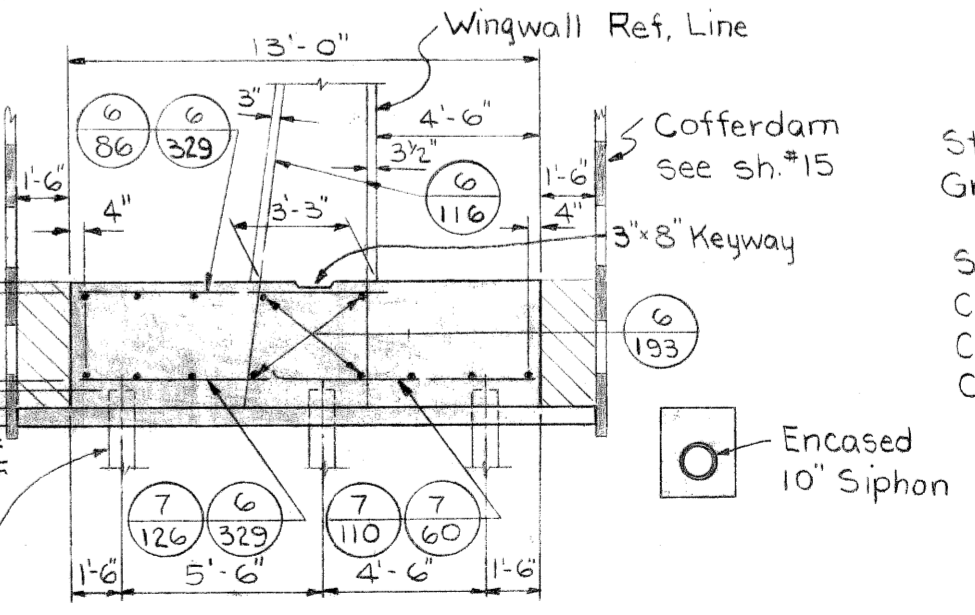
TYPICAL SECTION THRU ABUTMENT FOOTING Scale: 3/16" = 1'-0"



SECTION B-B Scale: 3/16" = 1'-0"



SECTION C-C Scale: 3/16" = 1'-0"



SECTION D-D Scale: 3/16" = 1'-0"

QUANTITIES

- Steel Sheet Piling Left in Place - 656 S.F.
- Grade A (6B Gravel or 6B Slag) Concrete - 318 C.Y.
- Substructure - 1964 Q. Lbs.
- Steel Reinforcement - 2117 L.F.
- Cast-in-Place Conc. Piles - Driven - 1925 L.F.
- Cut-off - Cast-in-Place Conc. Piles - 64 Each

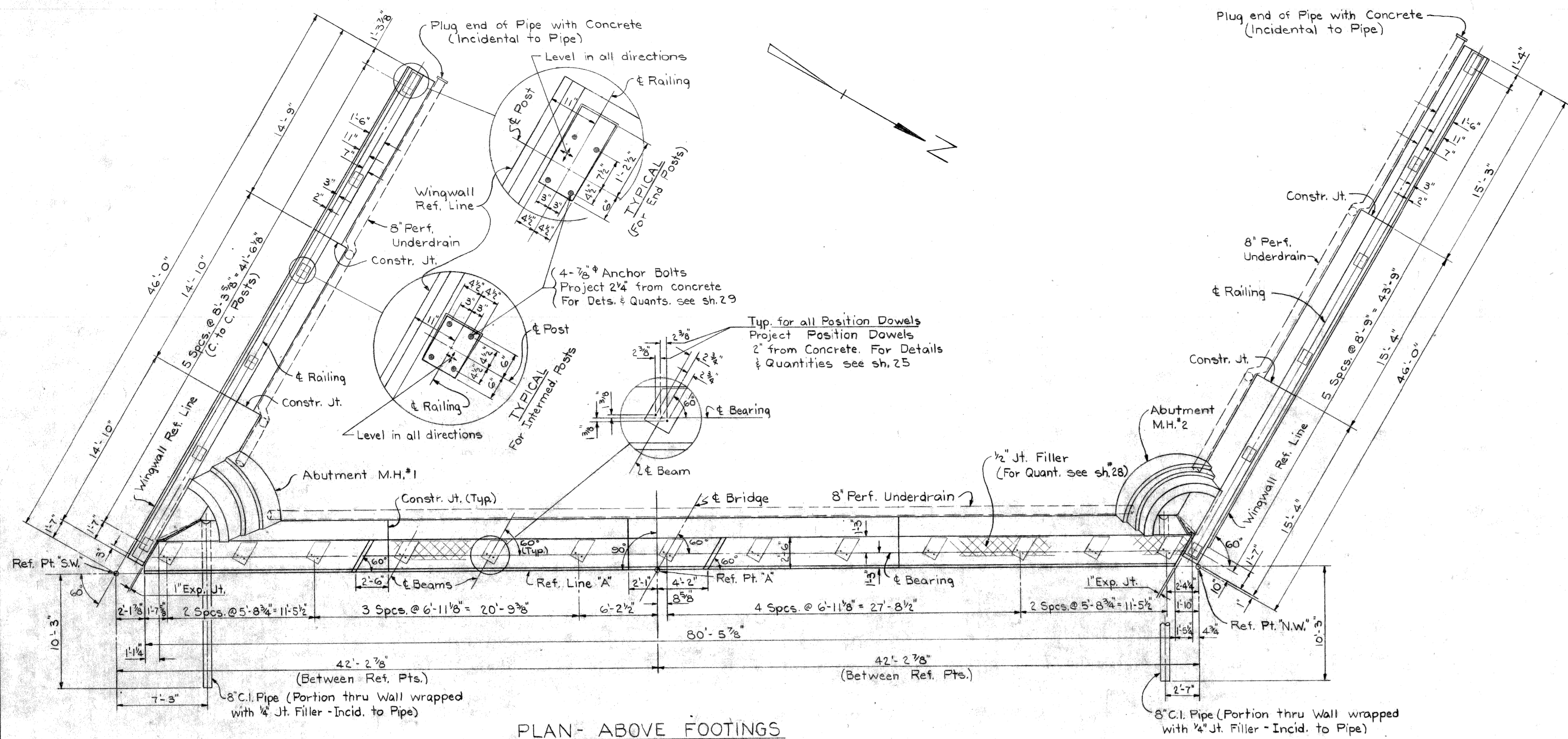
Work this sheet with shts. 17 & 20.

| REVISIONS | | SQUAD LEADER | | APPROVED | |
|-----------|--|--------------|--|----------|--|
| | | L. McElwee | | | |
| | | | | | |

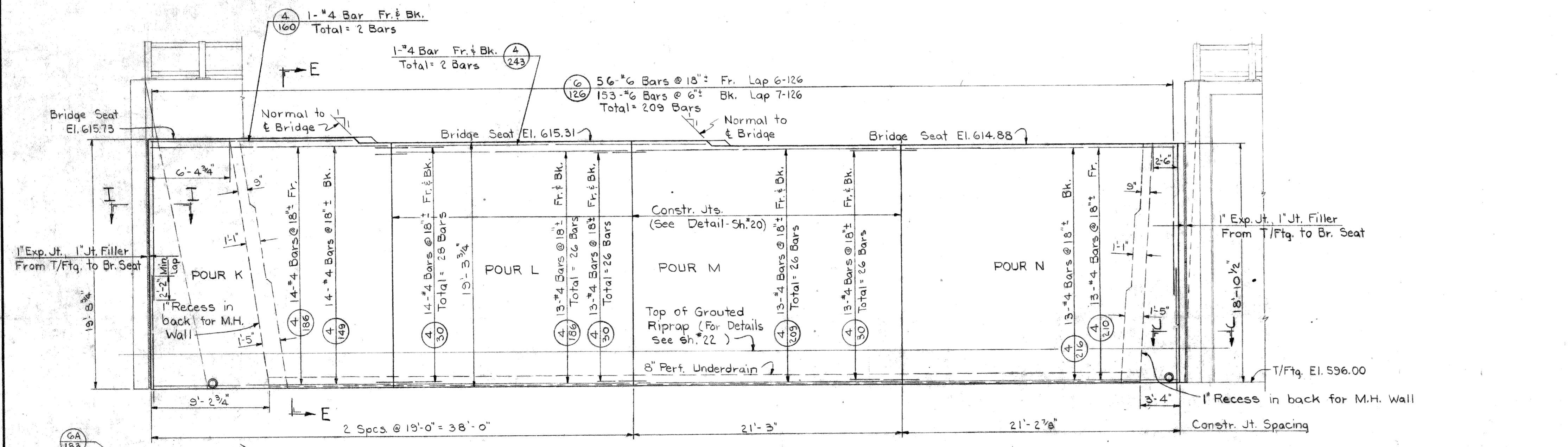
BOARD OF WAYNE COUNTY ROAD COMMISSIONERS
 DETROIT, MICHIGAN
 WILLIAM E. KREGER
 AL BARBOUR

| | | | |
|---------------|--|--------------|--|
| STATE PROJECT | | COUNTY JOB | |
| ROAD | | 320 | |
| ISSUE NO. 1 | | SHEET NO. 16 | |
| DATE 10-17-62 | | | |

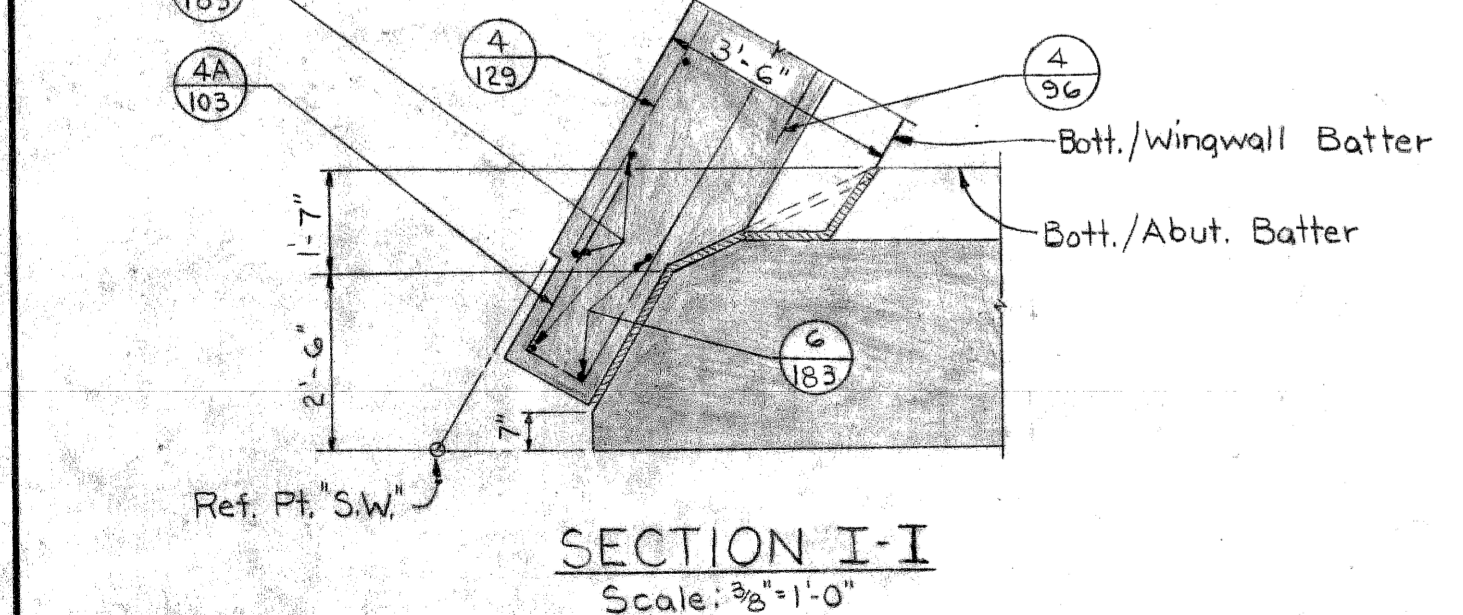
L.C.G. Rev. & S.L.C.



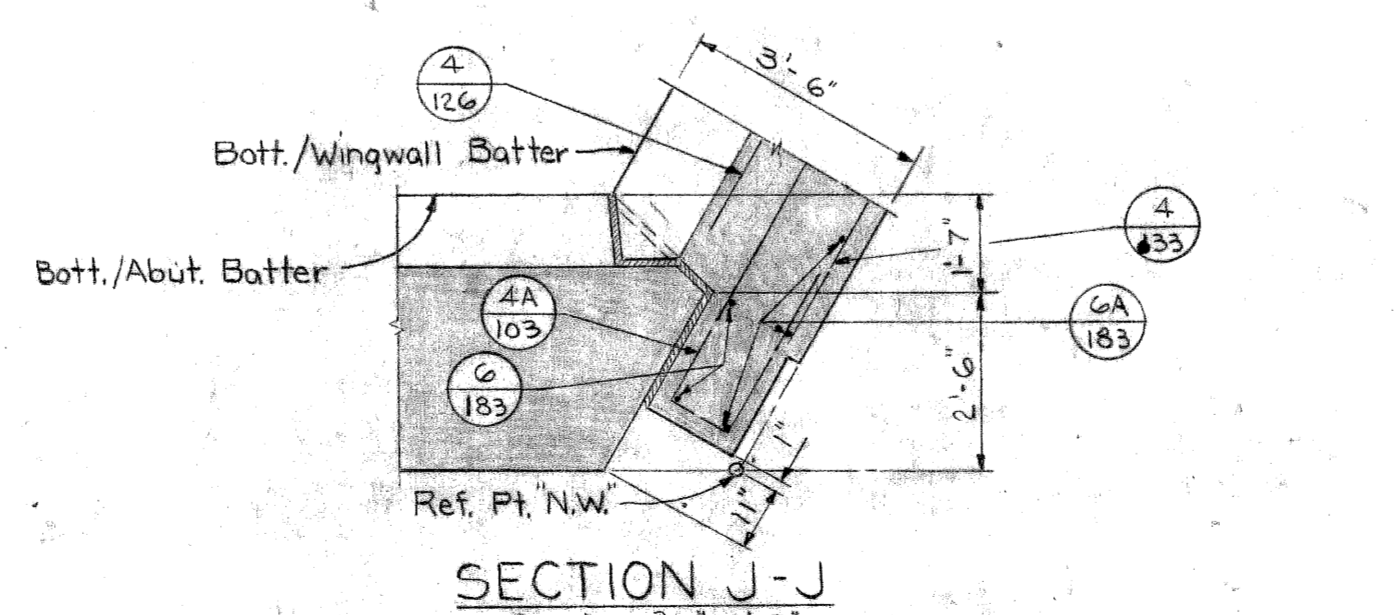
PLAN - ABOVE FOOTINGS
Scale: 3/8"=1'-0"



ELEVATION
Scale: 3/8"=1'-0"

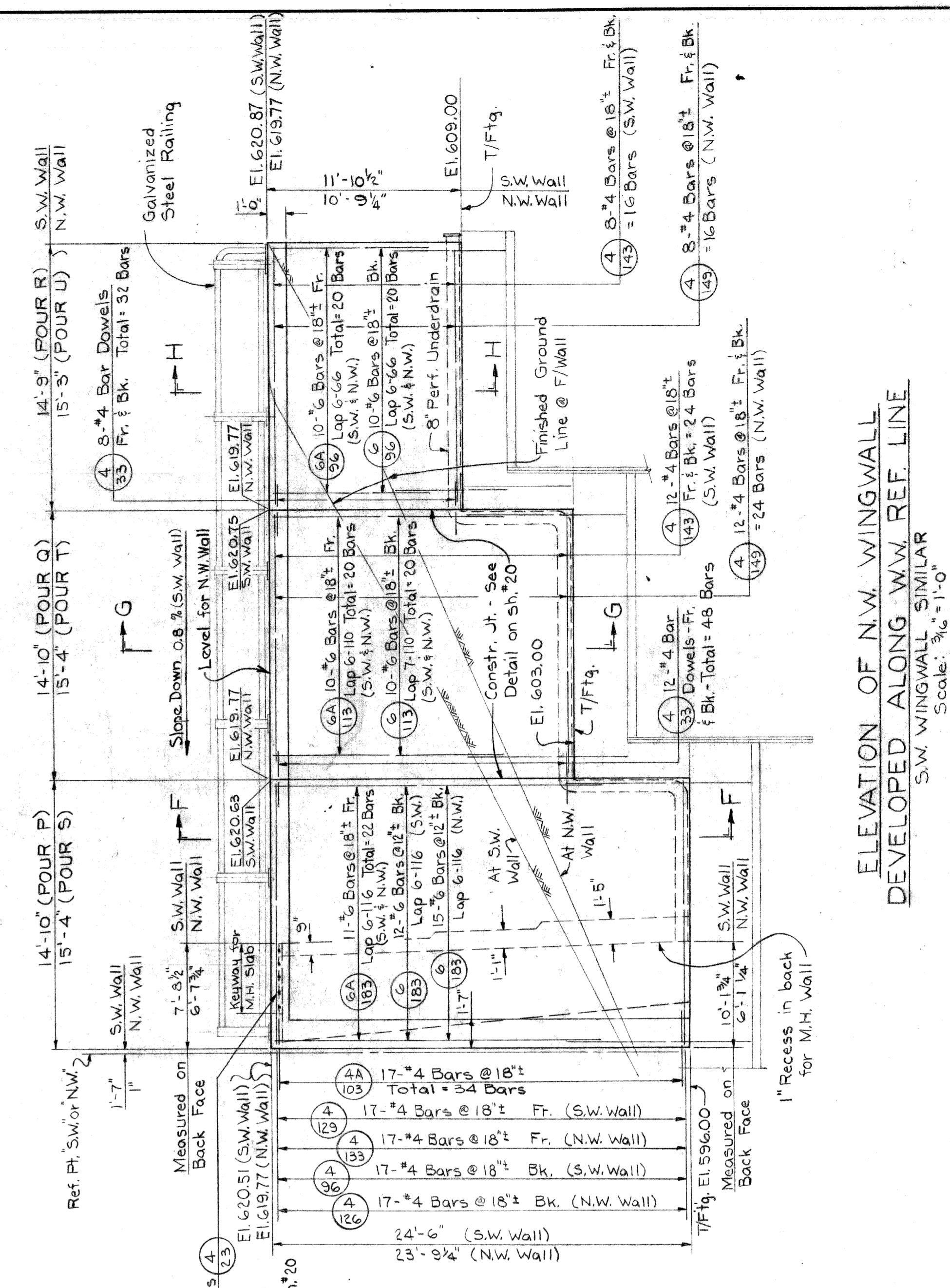


SECTION I-I
Scale: 3/8"=1'-0"



SECTION J-J
Scale: 3/8"=1'-0"

Note: For General Notes on Reinforced Concrete see sh.#16
For Sections E-E, F-F, G-G & H-H see sh.#20



ELEVATION OF N.W. WINGWALL
DEVELOPED ALONG W.W. REF. LINE
Scale: 3/8"=1'-0"

| MARK | SIZE | LENGTH | NO. | REMARKS |
|--------|------|--------|-----|----------|
| 6-183 | #6 | 18'-3" | 27 | Straight |
| 6-126 | " | 12'-6" | 209 | " |
| 6-113 | " | 11'-3" | 20 | " |
| 6-96 | " | 9'-6" | 20 | Straight |
| 6A-183 | " | 18'-3" | 22 | Bent |
| 6A-113 | " | 11'-3" | 20 | " |
| 6A-96 | #6 | 9'-6" | 20 | Bent |
| 4-243 | #4 | 24'-3" | 2 | Straight |
| 4-216 | " | 21'-6" | 19 | " |
| 4-210 | " | 21'-0" | 19 | " |
| 4-209 | " | 20'-9" | 26 | " |
| 4-186 | " | 18'-6" | 40 | " |
| 4-160 | " | 16'-0" | 2 | " |
| 4-149 | " | 14'-9" | 54 | " |
| 4-143 | " | 14'-3" | 40 | " |
| 4-133 | " | 13'-3" | 17 | " |
| 4-129 | " | 12'-9" | 17 | " |
| 4-126 | " | 12'-6" | 17 | " |
| 4-96 | " | 9'-6" | 17 | " |
| 4-93 | " | 9'-3" | 80 | " |
| 4-30 | " | 3'-0" | 80 | " |
| 4-23 | " | 2'-3" | 10 | Straight |
| 4A-103 | #4 | 10'-3" | 34 | Bent |

| POUR | LOCATION | CU. YDS. |
|------|------------|----------|
| K | Abut. Stem | 43.0 |
| L | " | 44.8 |
| M | " | 49.5 |
| N | Abut. Stem | 50.5 |
| P | W.W. Stem | 29.6 |
| Q | " | 21.3 |
| T | " | 12.4 |
| U | W.W. Stem | 20.8 |

| QUANTITIES | |
|---|-----------|
| Grade A (68 Gravel or 65 Slag) Conc. - Substructure | 315 C.Y. |
| Steel Reinforcement | 9830 lbs. |
| 1" Joint Filler | 150 S.F. |
| Dampproofing | 2440 S.F. |
| Joint Waterproofing | 190 S.F. |
| 8" Perforated Pipe Drains | 169 L.F. |
| Porous Backfill Grade A (C.I.P.) | 1180 C.Y. |
| Porous Backfill Grade B (C.I.P.) | 14 C.Y. |
| 8" Cast Iron Pipe | 29 L.F. |
| Rubbed Surface Finish | 2410 S.F. |

Work this sheet with sh.#16 & 20.

Note: For Details of Bent Bars see sh.#20

| REVISIONS | SQUAD LEADER | APPROVED |
|-----------|--|--|
| | <i>L. M. Elmer</i> | |
| | DRAWN BY <i>R. LEYON</i> | ENGINEER OF STRUCTURES AND EXPRESSWAYS |
| | CHECKED BY <i>S. Compton</i> | DATE <i>8-24-60</i> |
| | TRACED BY | CHECKED BY |
| | CORRECT | APPROVED |
| | ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS | COUNTY HIGHWAY ENGINEER |

BOARD OF
WAYNE COUNTY ROAD COMMISSIONERS
DETROIT, MICHIGAN

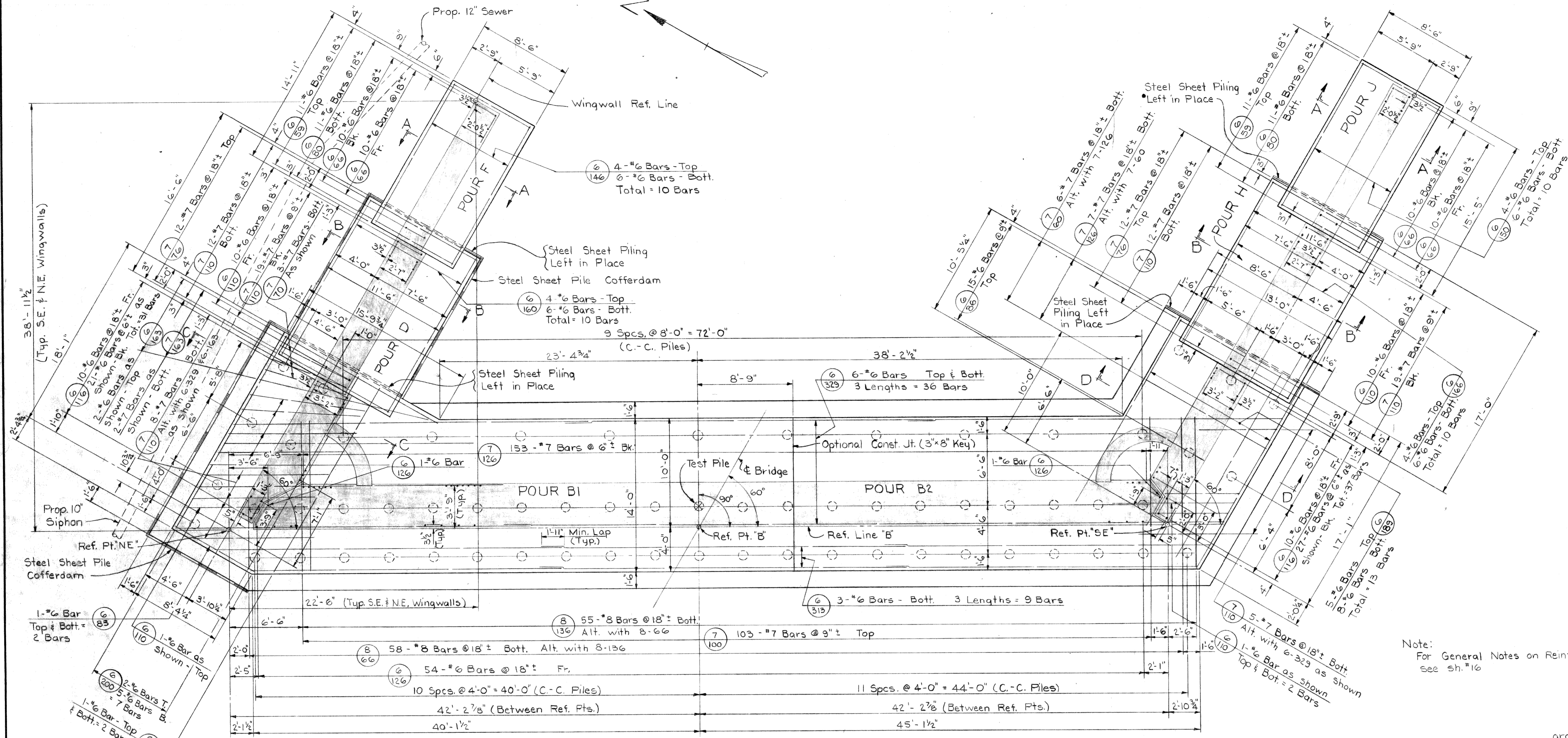
WILLIAM E. KREGER
AL BARBOUR

**FIVE MILE ROAD
OVER ROUGE RIVER
ABUTMENT A - ABOVE FOOTINGS.**

STATE PROJECT COUNTY JOB
320

ISSUE NO. **1** SHEET NO. **17**
DATE **10-17-62**

L.C.B.



| MARK | SIZE | LENGTH | NO. | REMARKS |
|-------|------------|--------|------|----------|
| 8-136 | #8 | 13'-6" | 55 | Straight |
| 8-66 | #8 | 6'-6" | 58 | Straight |
| 7-163 | #7 | 16'-3" | 2 | Straight |
| 7-126 | " | 12'-6" | 160 | " |
| 7-110 | " | 11'-0" | 75 | " |
| 7-100 | " | 10'-0" | 103 | " |
| 7-76 | " | 7'-6" | 24 | " |
| 7-70 | " | 7'-0" | 3 | " |
| 7-60 | #7 | 6'-0" | 6 | Straight |
| 6-329 | #6 | 32'-9" | 36 | Straight |
| 6-313 | " | 31'-3" | 9 | " |
| 6-200 | " | 20'-0" | 7 | " |
| 6-193 | " | 19'-3" | 2 | " |
| 6-189 | " | 18'-9" | 13 | " |
| 6-166 | " | 16'-6" | 10 | " |
| 6-163 | " | 16'-3" | 2 | " |
| 6-160 | " | 16'-0" | 10 | " |
| 6-150 | " | 15'-0" | 10 | " |
| 6-146 | " | 14'-6" | 10 | " |
| 6-126 | " | 12'-6" | 56 | " |
| 6-116 | " | 11'-6" | 68 | " |
| B1 | Footing | | 98.3 | |
| B2 | Footing | | 93.2 | |
| C | Subfooting | | 3.2 | |
| D | Footing | | 26.0 | |
| E | Subfooting | | 2.0 | |
| F | Footing | | 14.4 | |
| G | Subfooting | | 3.2 | |
| H | Footing | | 25.5 | |
| I | Subfooting | | 2.1 | |
| J | Footing | | 14.8 | |

| POUR | LOCATION | CU. YDS. |
|------|------------|----------|
| A | Subfooting | 33.3 |
| B1 | Footing | 98.3 |
| B2 | Footing | 93.2 |
| C | Subfooting | 3.2 |
| D | Footing | 26.0 |
| E | Subfooting | 2.0 |
| F | Footing | 14.4 |
| G | Subfooting | 3.2 |
| H | Footing | 25.5 |
| I | Subfooting | 2.1 |
| J | Footing | 14.8 |

| PILE TABLE | | | | | | |
|------------|----------------|-------------------------|----------------------------|-------------------------|-------|--------|
| LOCATION | CUT-OFF NUMBER | ESTIMATED CUT-OFF ELEV. | ESTIMATED FURNISHED LENGTH | ESTIMATED DRIVEN LENGTH | | |
| | | EACH | TOTAL | EACH | TOTAL | |
| ABUT. A | 593.00 | 63 | 33.0 | 2079.0 | 30.0 | 1890.0 |
| ABUT. B | 593.00 | 63 | 33.0 | 2079.0 | 30.0 | 1890.0 |
| TEST PILES | 593.00 | 2 | 38.0 | 76.0 | 35.0 | 70.0 |

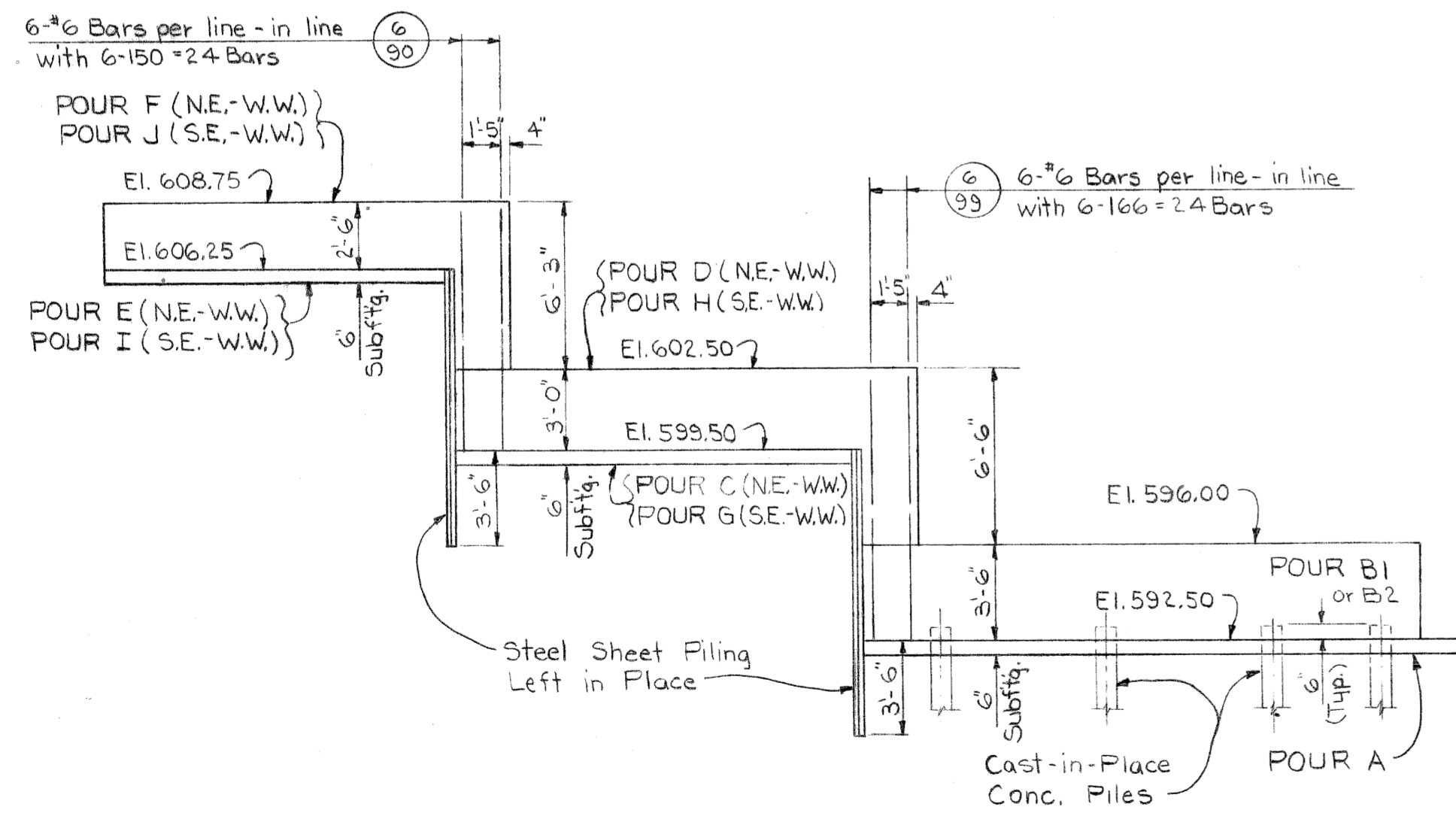
GENERAL NOTES - PILING

All piles shall be driven to a minimum bearing capacity of 40 tons. Pile shells for Cast-in-Place Concrete Piles shall be of #7 U.S. Standard Gauge, 12" min. O.D., and may be steel pipe or spiral welded type or fluted pipe as manufactured by the Union Metal Manufacturing Co. or approved equal. Pile shells for Cast-in-Place Concrete Piles driven with a removable core may be used on this project and they shall have a nominal diameter of 12". Pile points shall be pressed steel or cast steel of the slip-on or butt weld type, and shall be in accordance with the manufacturers recommendations and subject to approval by the engineer. Points shall be attached to piles with 3/8" continuous welds. 3/4" steel plates with diameters 1/2" larger than the pile shells and attached to the piles with 3/8" continuous fillet welds for their full perimeter may be substituted for pile points on seamless or spiral welded shells.

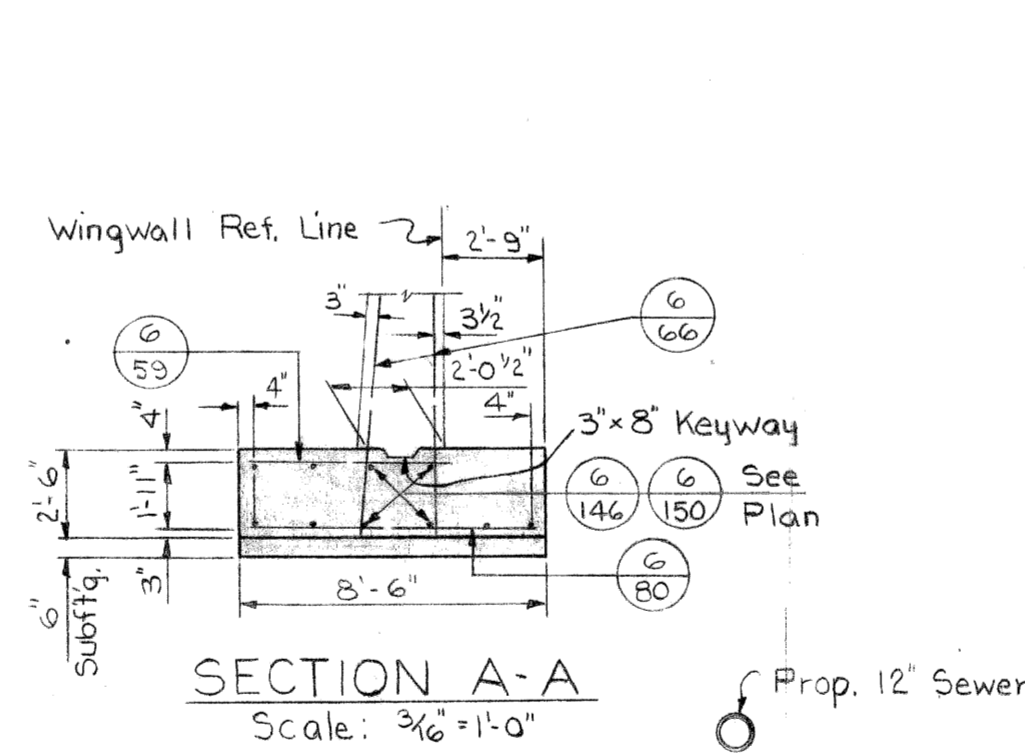
QUANTITIES

Steel Sheet Piling Left in Place 642 S.F.
 Grade A (6B Gravel or 6B S1a) Concrete 316 C.Y.
 Substructure 19570 Lbs.
 Cast-in-Place Concrete Piles - Furnished 217 L.F.
 Cast-in-Place Concrete Piles - Driven 1923 L.F.
 Cut-off Cast-in-Place Concrete Piles 64 Ea.

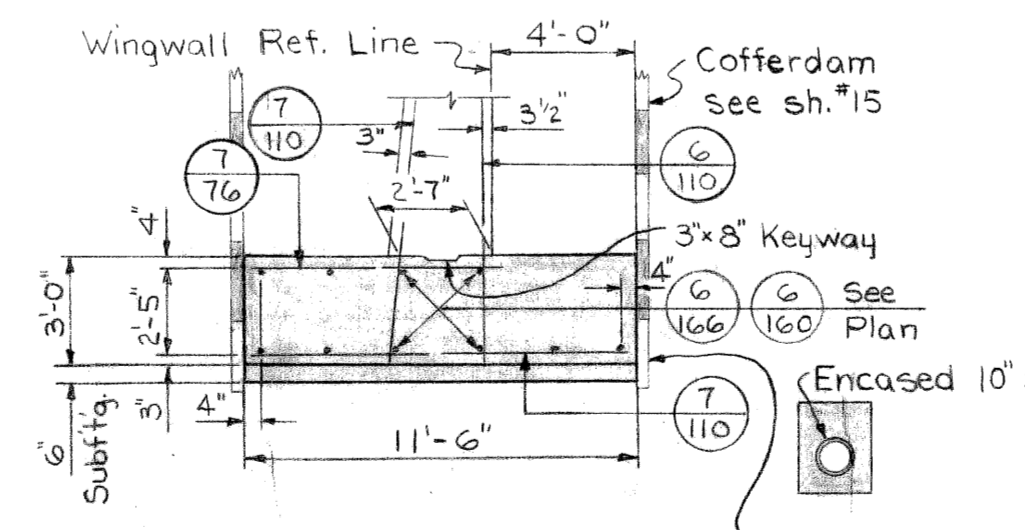
PLAN Scale: 3/16" = 1'-0"



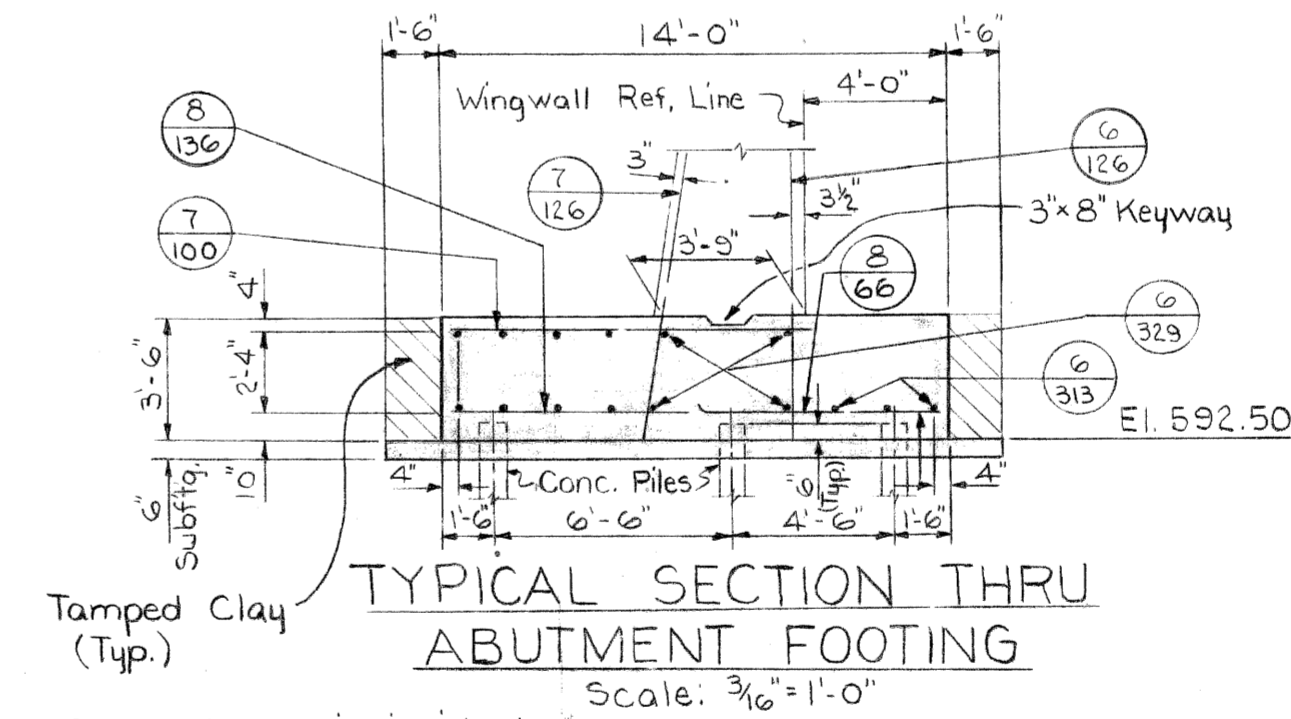
ELEVATION OF NE WINGWALL ALONG WINGWALL REF. LINE S.E. WINGWALL - OPP. HAND Scale: 3/16" = 1'-0"



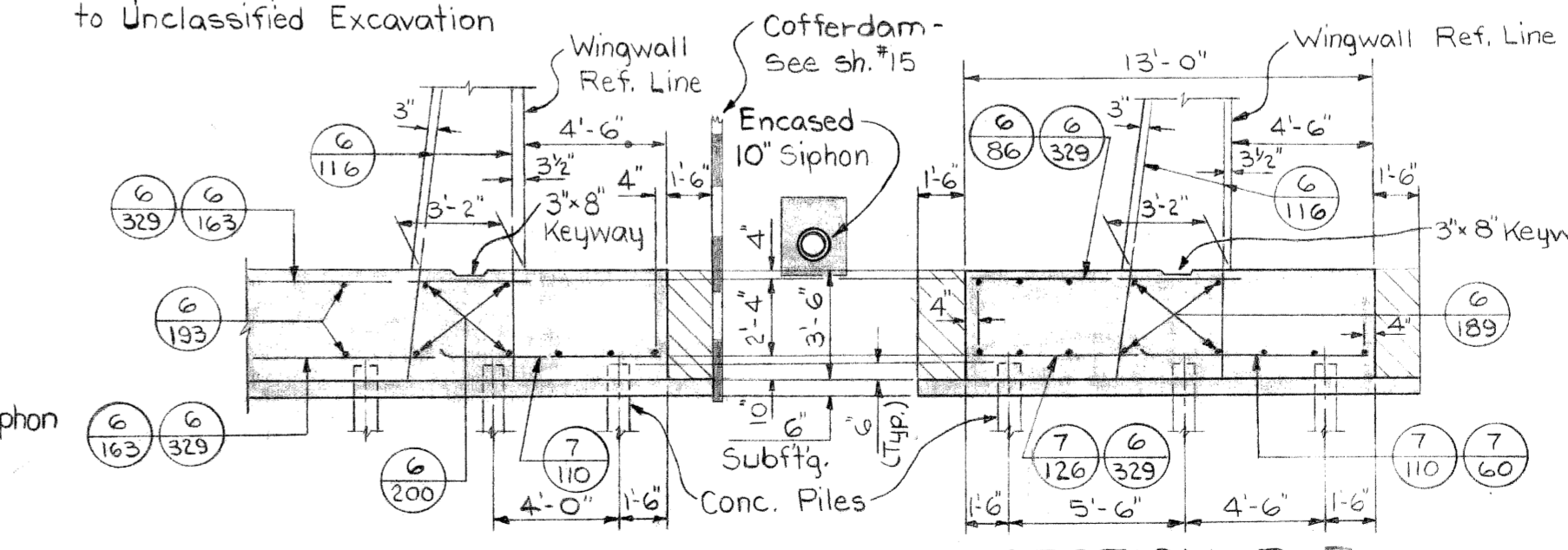
SECTION A-A Scale: 3/16" = 1'-0"



SECTION B-B Scale: 3/16" = 1'-0"



TYPICAL SECTION THRU ABUTMENT FOOTING Scale: 3/16" = 1'-0"



SECTION C-C Scale: 3/16" = 1'-0"

SECTION D-D Scale: 3/16" = 1'-0"

Note: Cofferdam & Siphon @ North Wingwalls only.

Work this sheet with sheets 19 & 20.

| STATE FILE | BRIDGE | ROAD | STATE PROJECT | COUNTY JOB |
|------------|--------|------|---------------|--------------|
| | | | | 320 |
| | | | ISSUE No. 1 | SHEET NO. 18 |
| | | | DATE 10-17-62 | |

WAYNE COUNTY BOARD OF ROAD COMMISSIONERS DETROIT, MICHIGAN

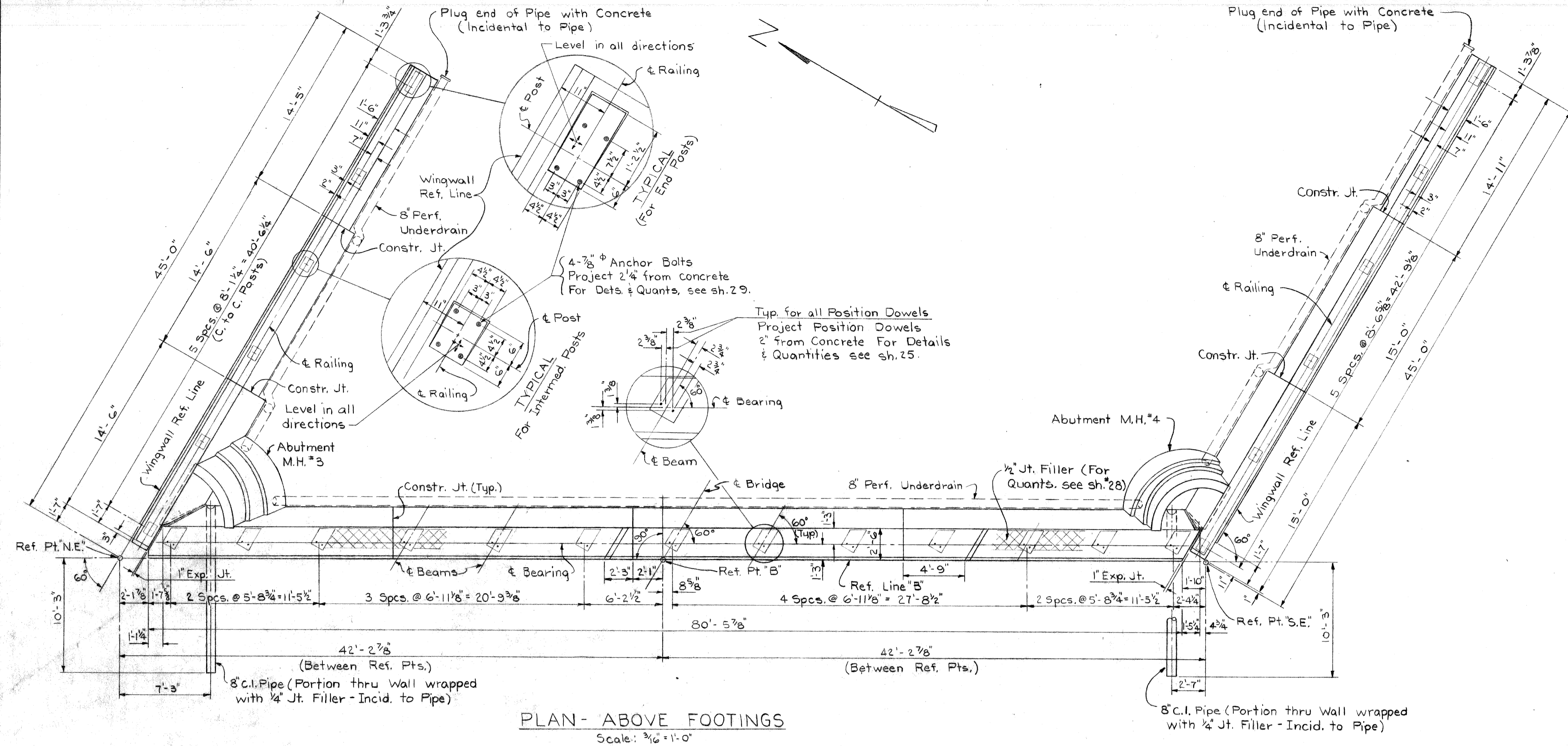
FIVE MILE ROAD OVER ROUGE RIVER ABUTMENT B - FOOTING

| REVISIONS | SQUAD LEADER | APPROVED |
|-----------|--|--|
| | L. McElwee | |
| | DESIGNED BY R. LEYON | ENGINEER OF STRUCTURES AND EXPRESSWAYS |
| | CHECKED BY S. COMPTON | APPROVED |
| | DATE 9-6-60 | |
| | CORRECT | |
| | ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS | COUNTY HIGHWAY ENGINEER |

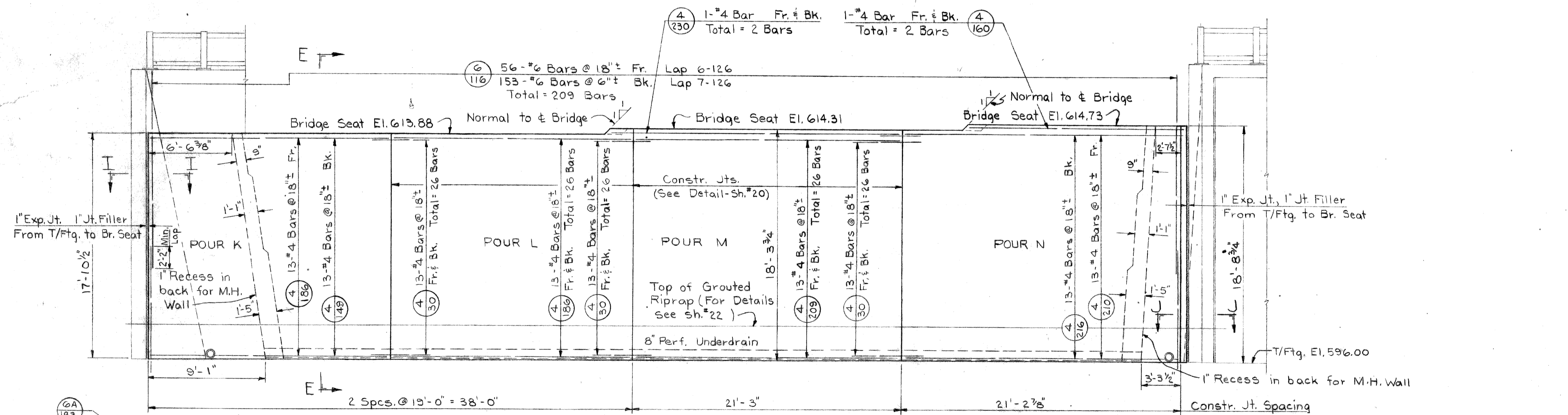
PHILIP J. NEUDECK

WILLIAM E. KREGER

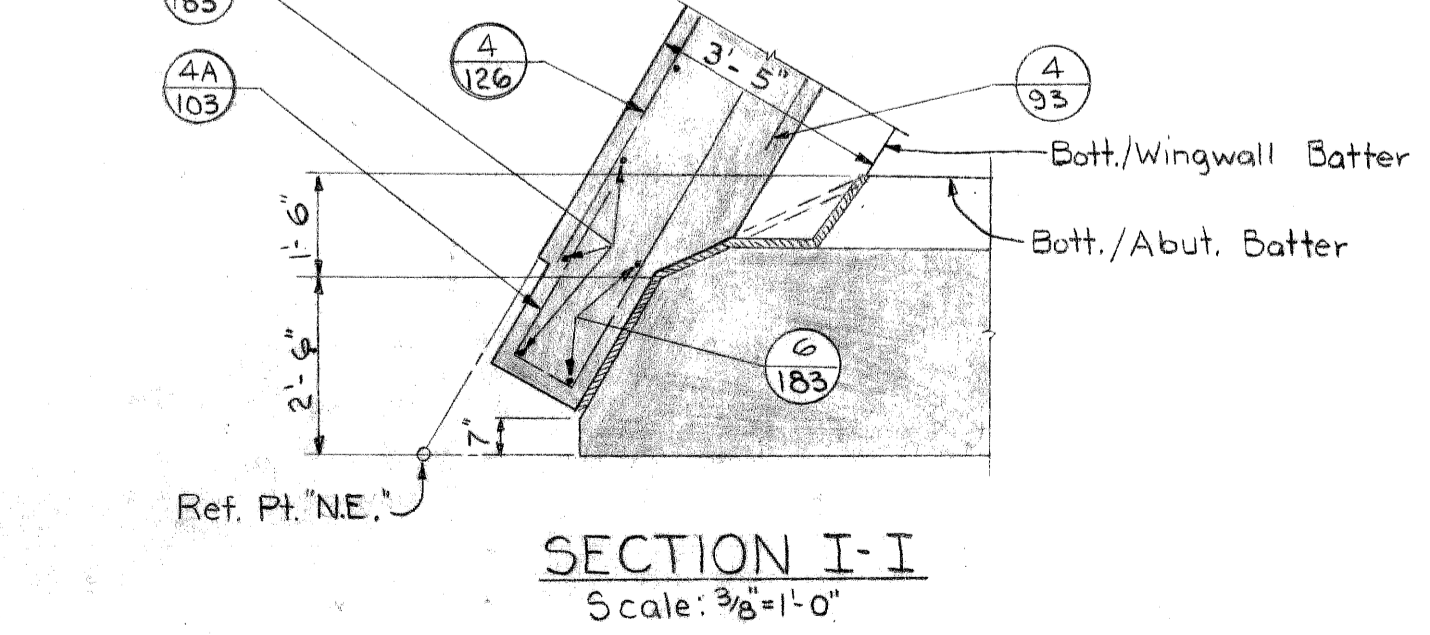
AL BARBOUR



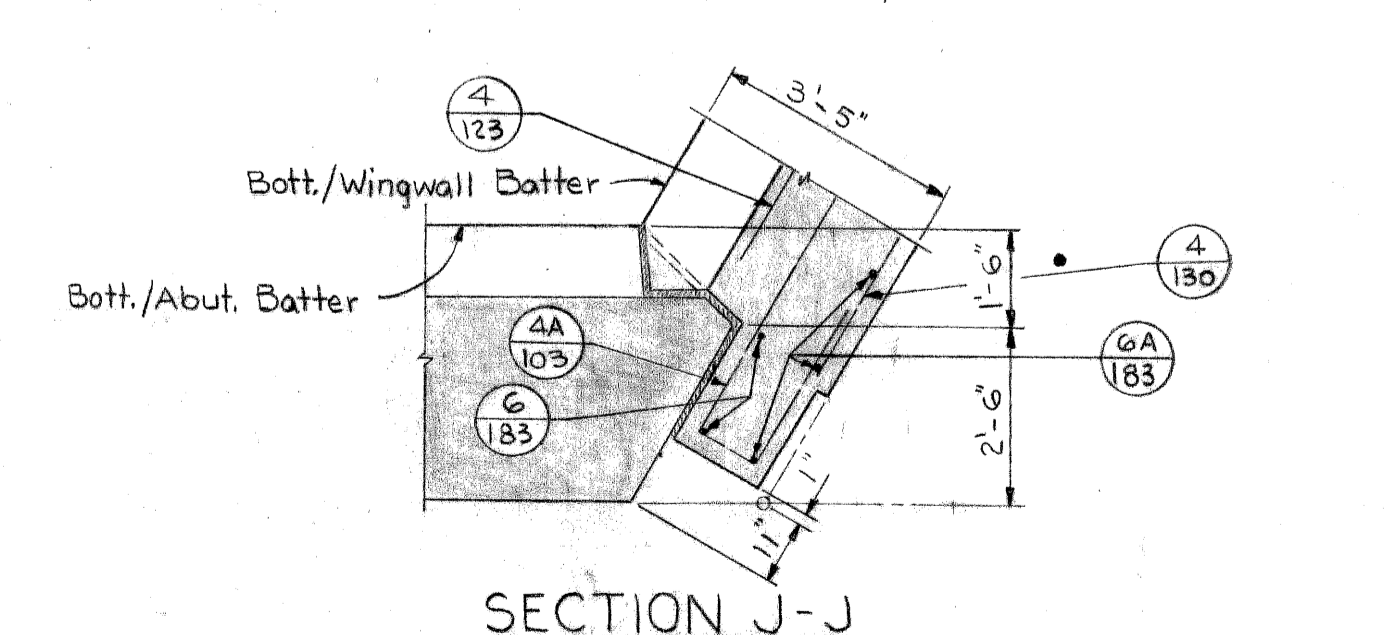
PLAN - ABOVE FOOTINGS
Scale: 3/16"=1'-0"



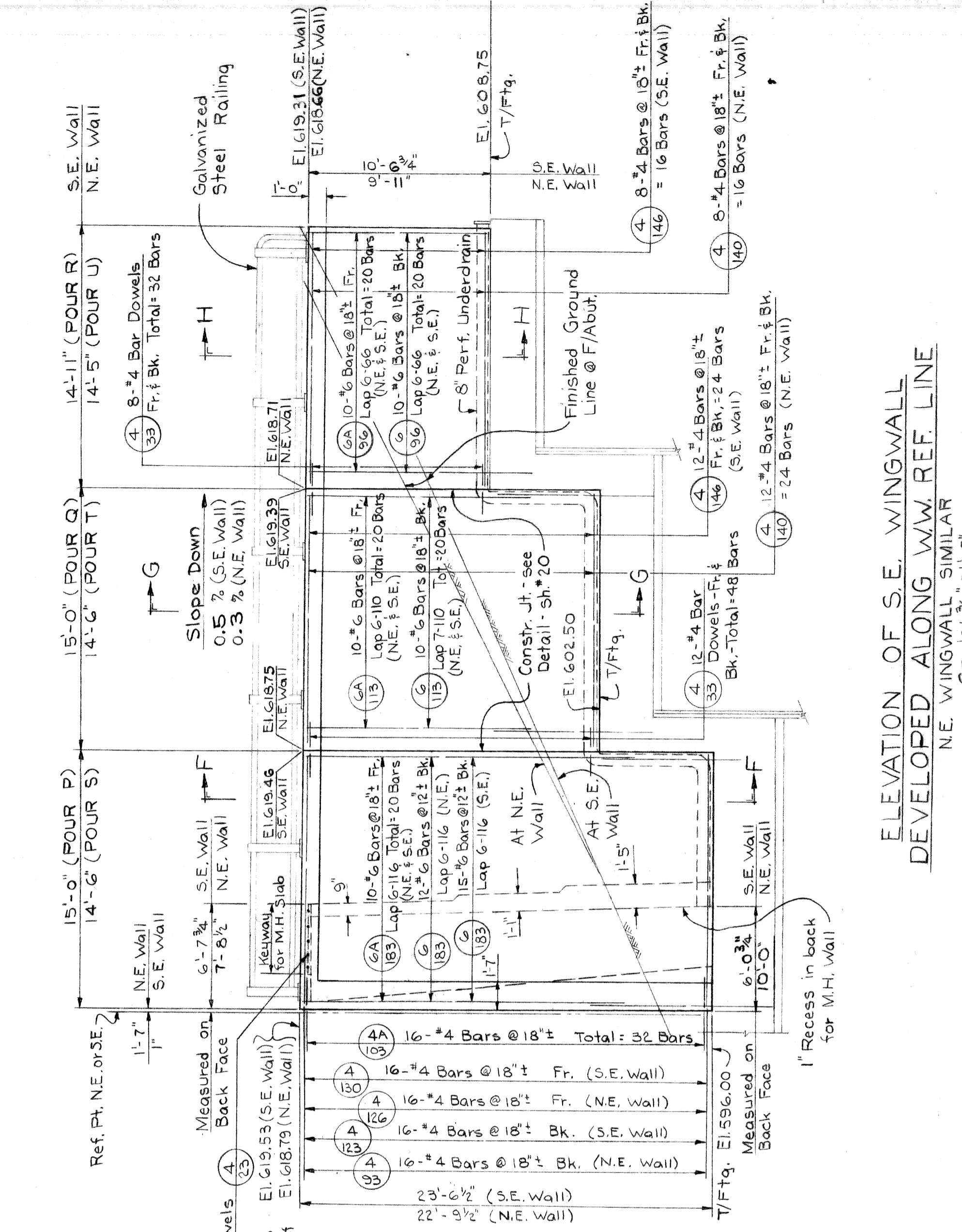
ELEVATION
Scale: 3/16"=1'-0"



SECTION I-I
Scale: 3/16"=1'-0"



SECTION J-J
Scale: 3/16"=1'-0"



ELEVATION OF S.E. WINGWALL
DEVELOPED ALONG W.W. REF. LINE
Scale: 3/16"=1'-0"

| MARK | SIZE | LENGTH | NO. | REMARKS |
|--------|------|--------|-----|----------|
| 6-183 | #6 | 18'-3" | 27 | Straight |
| 6-116 | " | 11'-6" | 209 | " |
| 6-113 | " | 11'-3" | 20 | " |
| 6-96 | " | 9'-6" | 20 | Straight |
| 6A-183 | #6 | 18'-3" | 20 | Bent |
| 6A-113 | " | 11'-3" | 20 | " |
| 6A-96 | " | 9'-6" | 20 | Bent |
| 4-290 | #4 | 23'-0" | 2 | Straight |
| 4-216 | " | 21'-6" | 13 | " |
| 4-210 | " | 21'-0" | 13 | " |
| 4-209 | " | 20'-9" | 26 | " |
| 4-186 | " | 18'-6" | 89 | " |
| 4-160 | " | 16'-0" | 2 | " |
| 4-149 | " | 14'-9" | 13 | " |
| 4-146 | " | 14'-6" | 40 | " |
| 4-140 | " | 14'-0" | 40 | " |
| 4-130 | " | 13'-0" | 16 | " |
| 4-126 | " | 12'-6" | 16 | " |
| 4-123 | " | 12'-3" | 16 | " |
| 4-93 | " | 9'-3" | 16 | " |
| 4-33 | " | 3'-3" | 80 | " |
| 4-30 | " | 3'-0" | 78 | " |
| 4-23 | " | 2'-3" | 10 | Straight |
| 4A-103 | #4 | 10'-3" | 32 | Bent |

| POUR | LOCATION | CU. YDS. |
|------|------------|----------|
| K | Abut. Stem | 38.7 |
| L | " | 41.0 |
| M | " | 46.8 |
| N | Abut. Stem | 49.4 |
| O | W.W. Stem | 29.9 |
| P | " | 20.2 |
| Q | " | 10.9 |
| T | " | 26.5 |
| U | W.W. Stem | 18.7 |

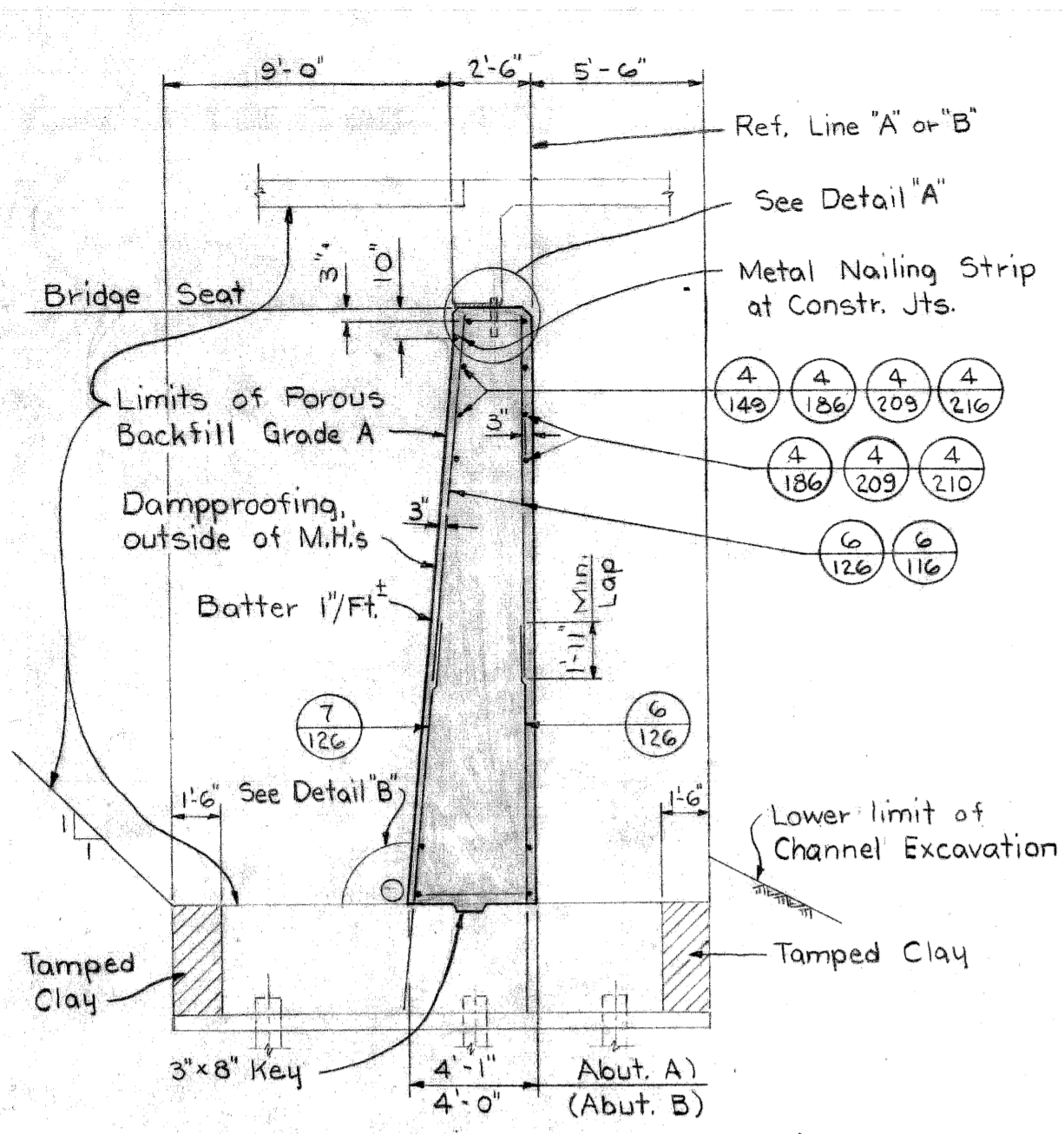
| QUANTITIES | |
|--------------------------------------|-----------------------|
| Grade A (68 Gravel or 88 Slag) Conc. | Substructure 292 C.Y. |
| Steel Reinforcement | 9370 Lbs. |
| 1" Joint Filler | 140 S.F. |
| Dampproofing | 2290 S.F. |
| Joint Waterproofing | 180 S.F. |
| 8" Perforated Pipe Drains | 167 L.F. |
| Porous Backfill Grade A (C.I.P.) | 110 C.Y. |
| Porous Backfill Grade B (C.I.P.) | 14 C.Y. |
| 8" Cast Iron Pipe | 29 L.F. |
| Rubbed Surface Finish | 2340 S.F. |

Note:
For Details of Bent Bars see sh.#20
For General Notes on Reinforcing Concrete see sh.#16
For Sections E-E, F-F, G-G & H-H see sh.#20

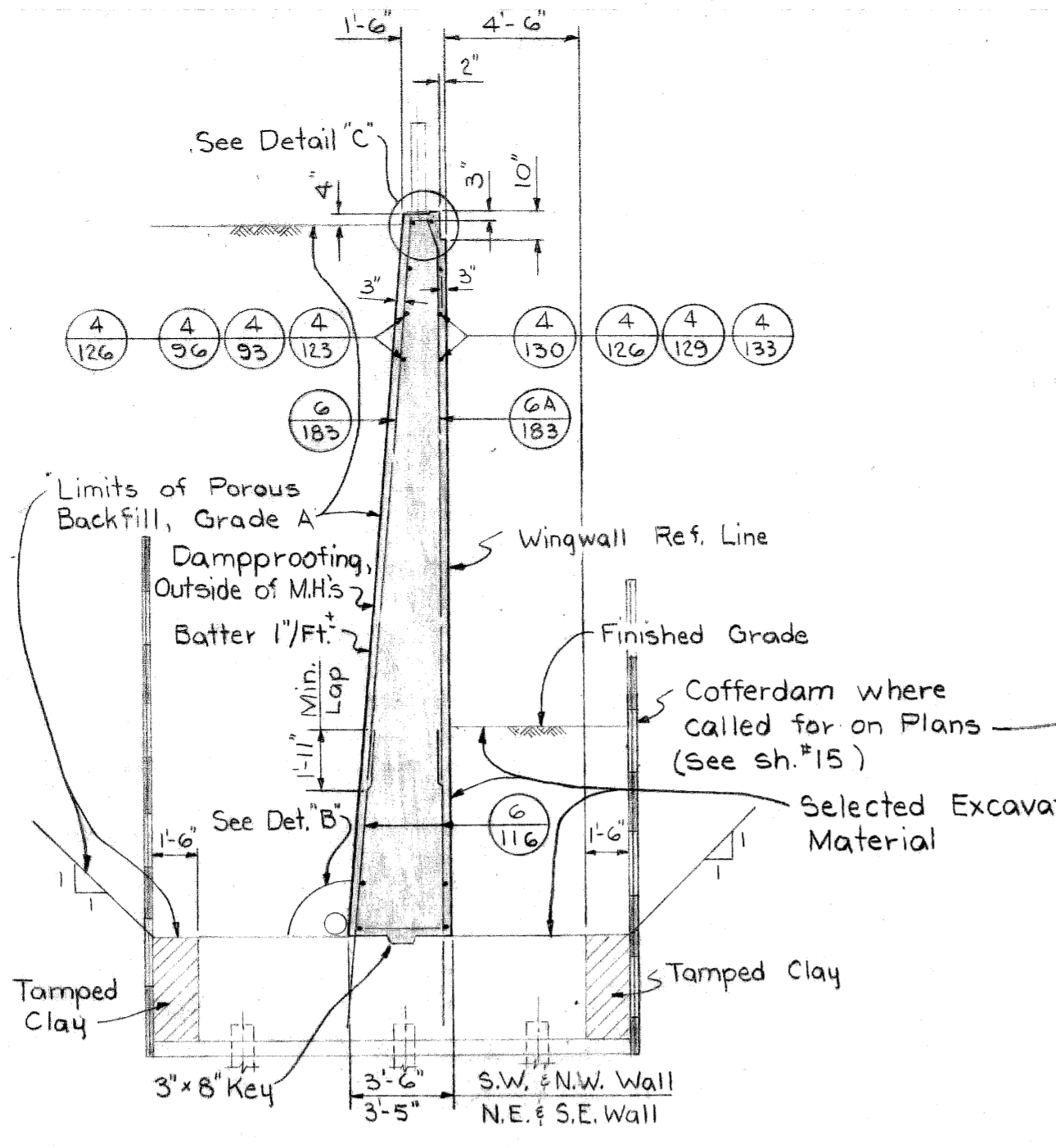
| REVISIONS | DESIGNED BY | CHECKED BY | DATE |
|-----------|-------------|------------|---------|
| | L. McElwee | | 9-14-60 |
| | | | |
| | | | |

WAYNE COUNTY BOARD OF ROAD COMMISSIONERS
DETROIT, MICHIGAN
WILLIAM E. KREGER
AL BARBOUR

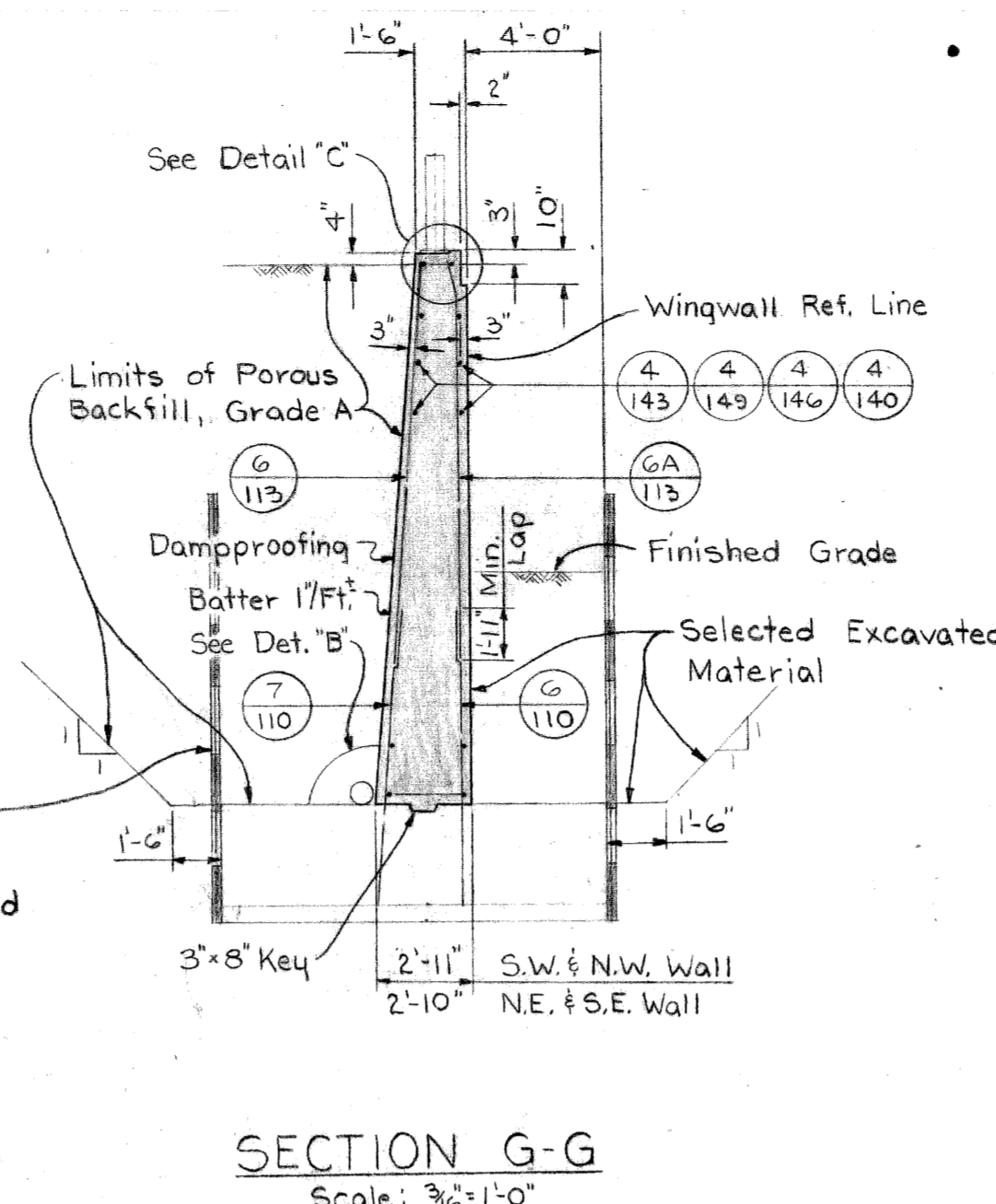
| STATE PROJECT | COUNTY JOB |
|---------------|------------|
| | 320 |
| ISSUE NO. | SHEET NO. |
| 1 | 19 |



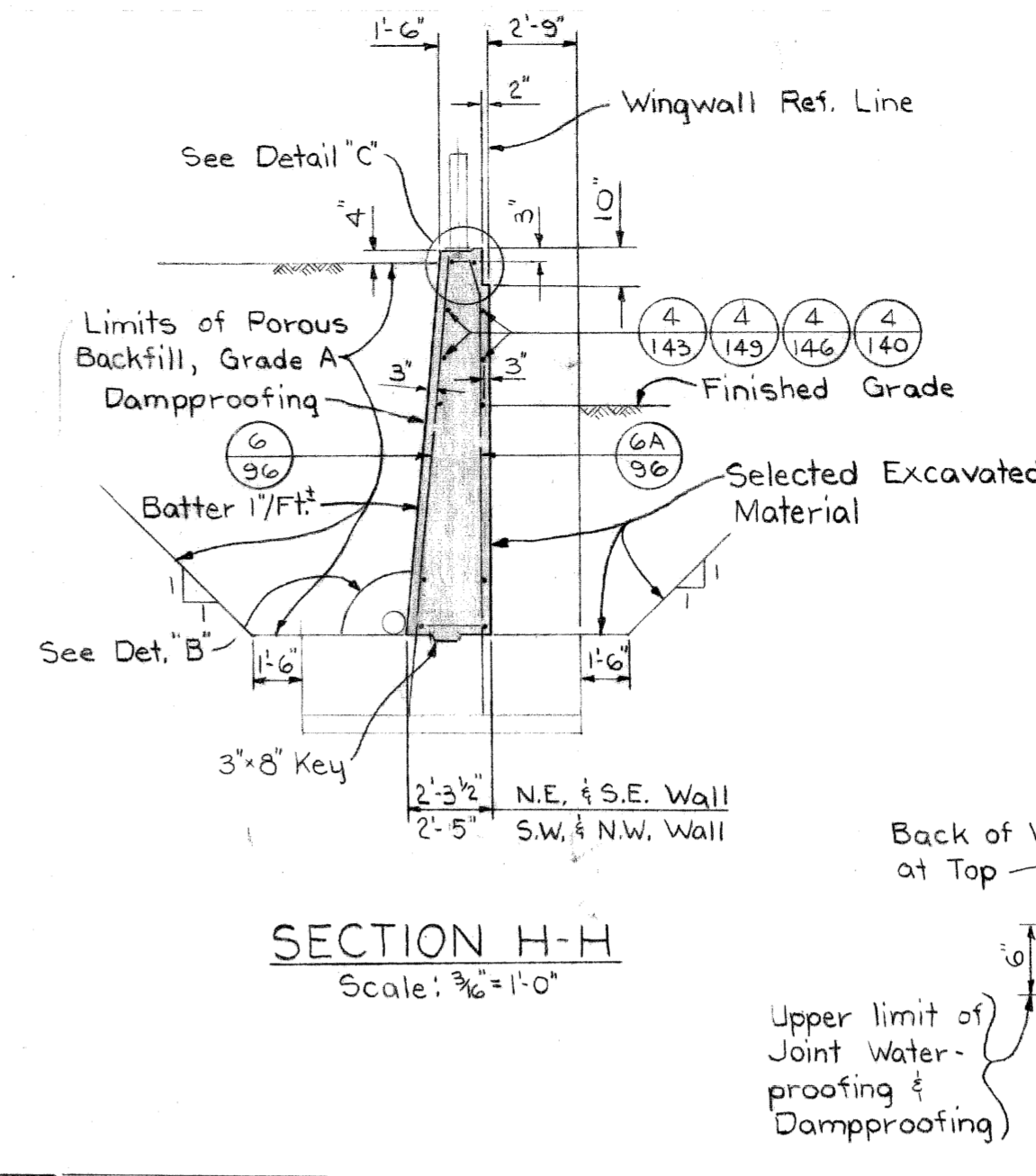
SECTION E-E
Scale: 3/8"=1'-0"



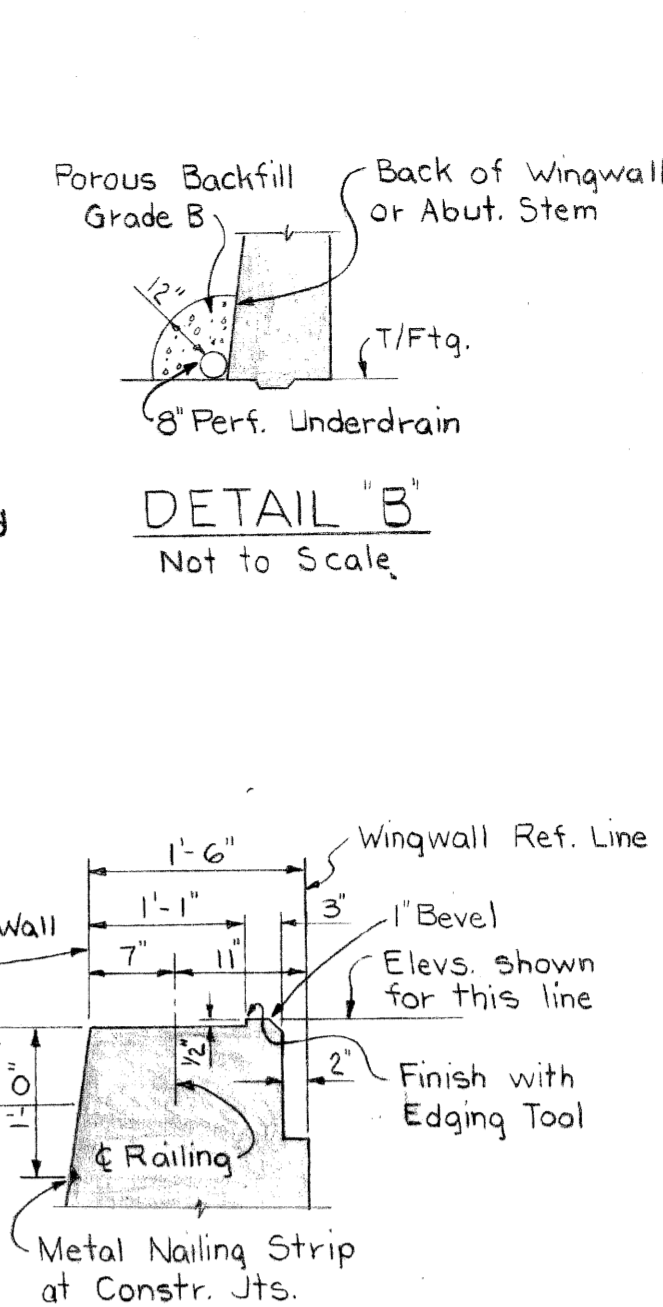
SECTION F-F
Scale: 3/8"=1'-0"



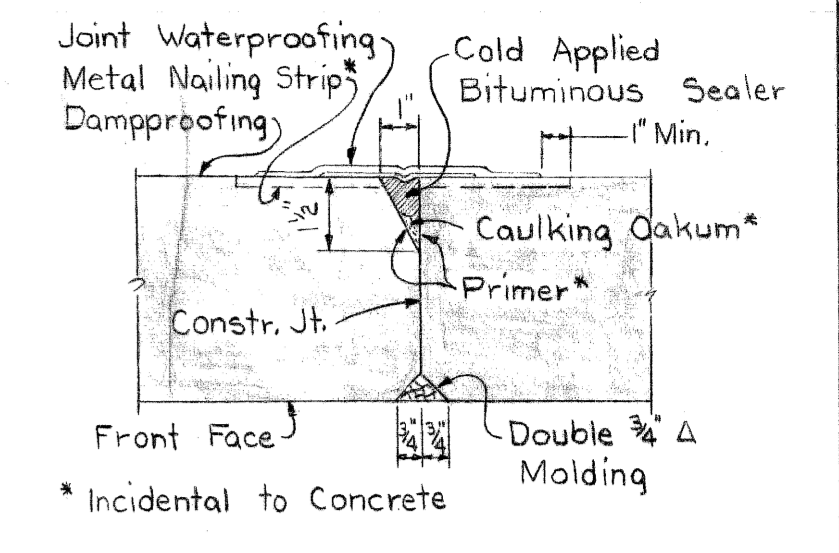
SECTION G-G
Scale: 3/8"=1'-0"



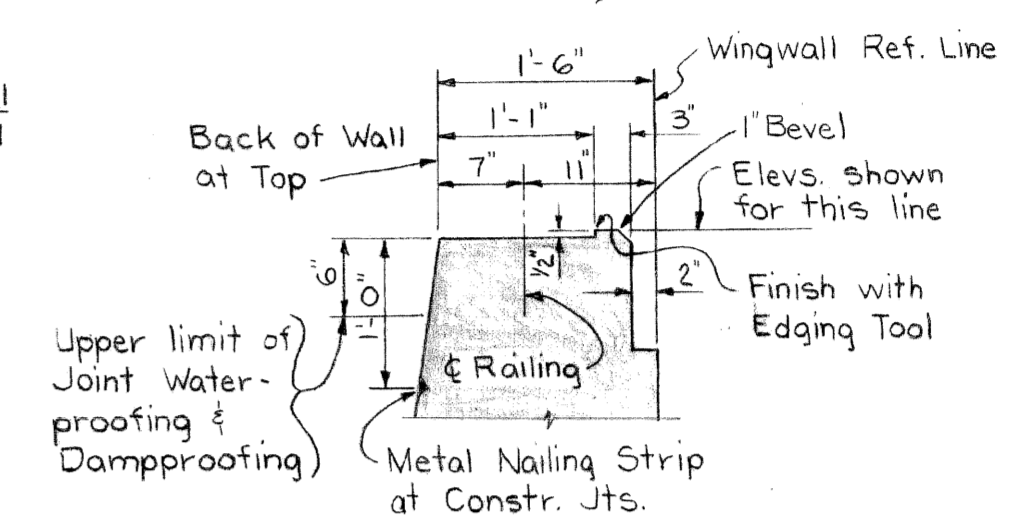
SECTION H-H
Scale: 3/8"=1'-0"



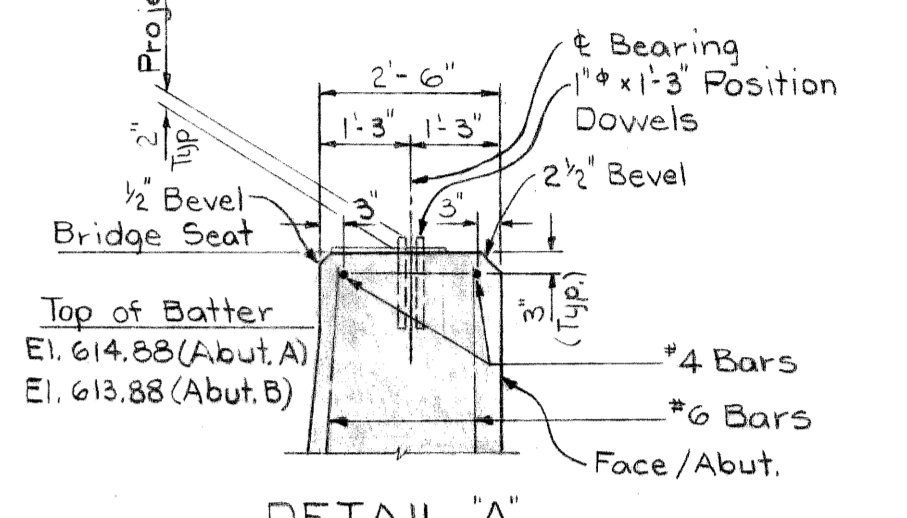
DETAIL B
Not to Scale



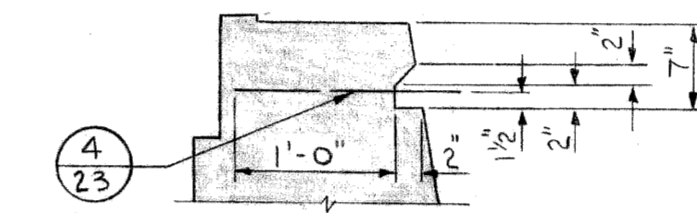
DETAIL OF VERTICAL CONSTRUCTION JOINT
Not to Scale



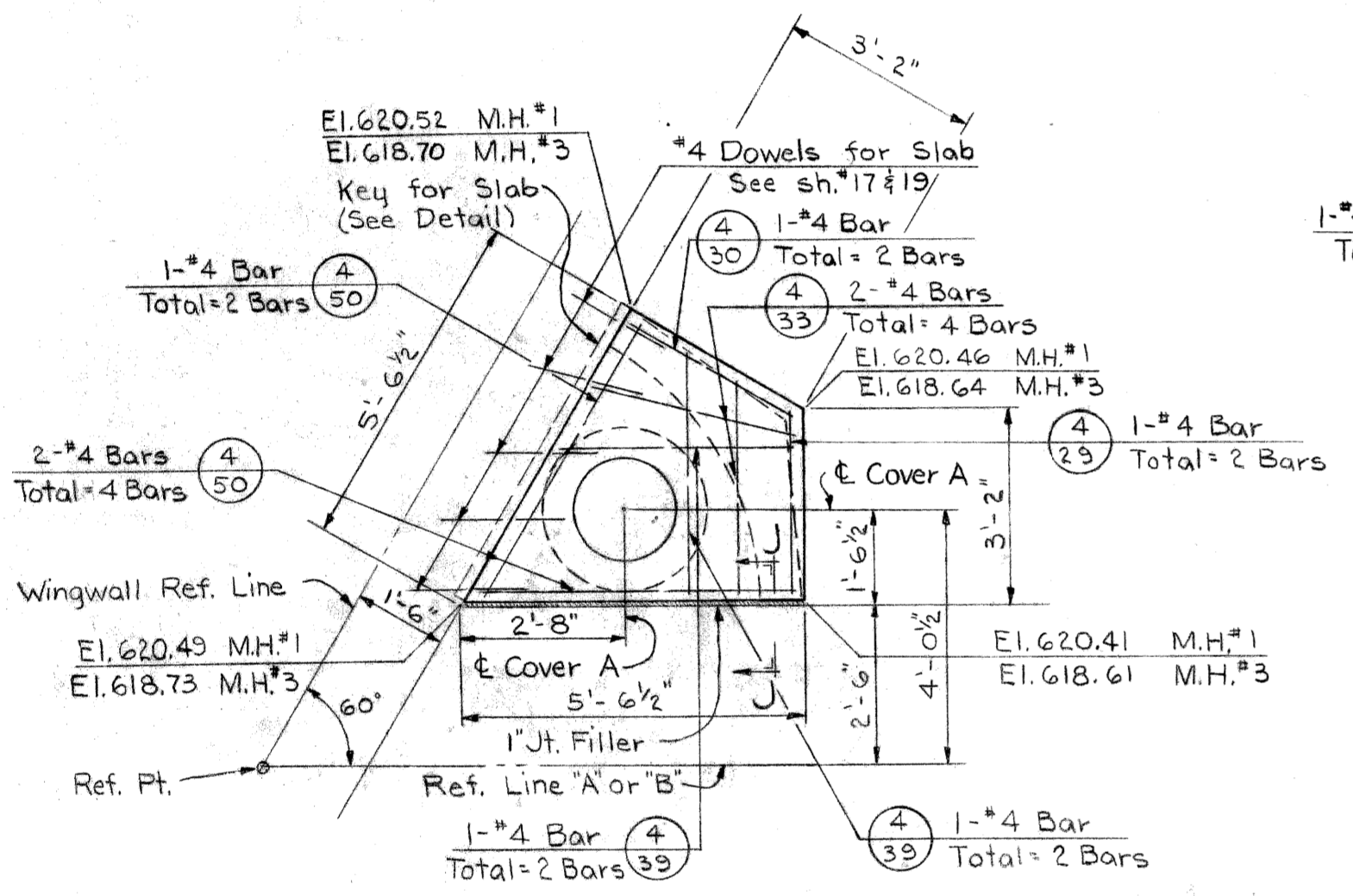
DETAIL C
Scale: 3/4"=1'-0"



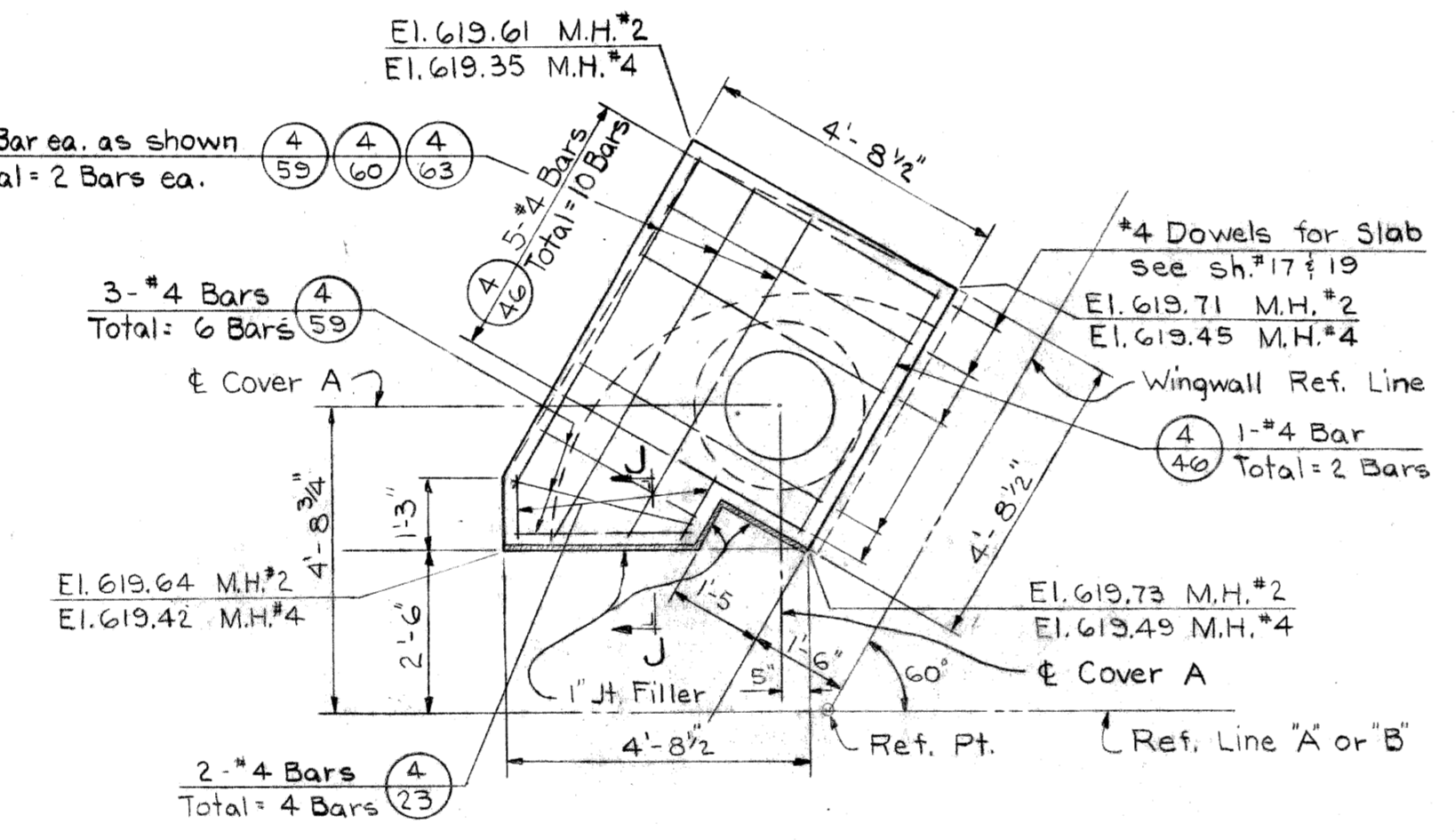
DETAIL A
Scale: 3/8"=1'-0"



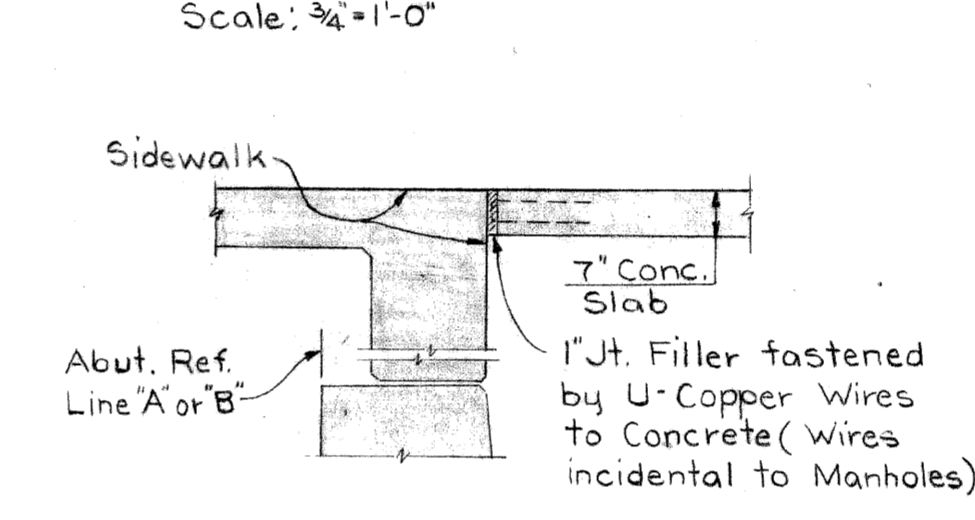
DETAIL OF KEYWAY FOR M.H. SLAB
Scale: 3/8"=1'-0"



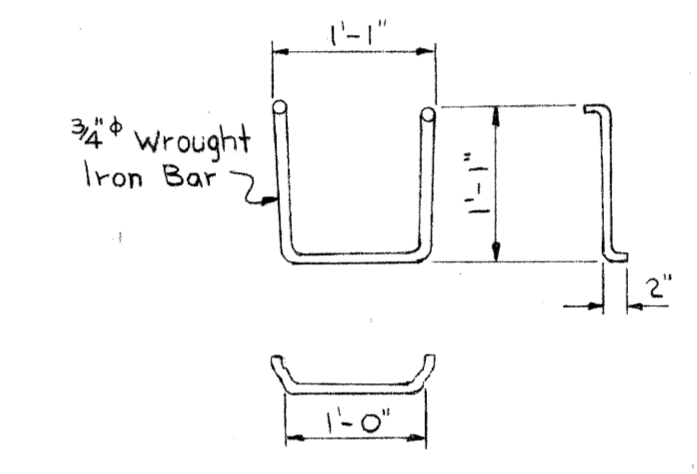
PLAN OF MANHOLE SLAB #1
Elevations shown are for Top of Slab
Scale: 3/8"=1'-0"



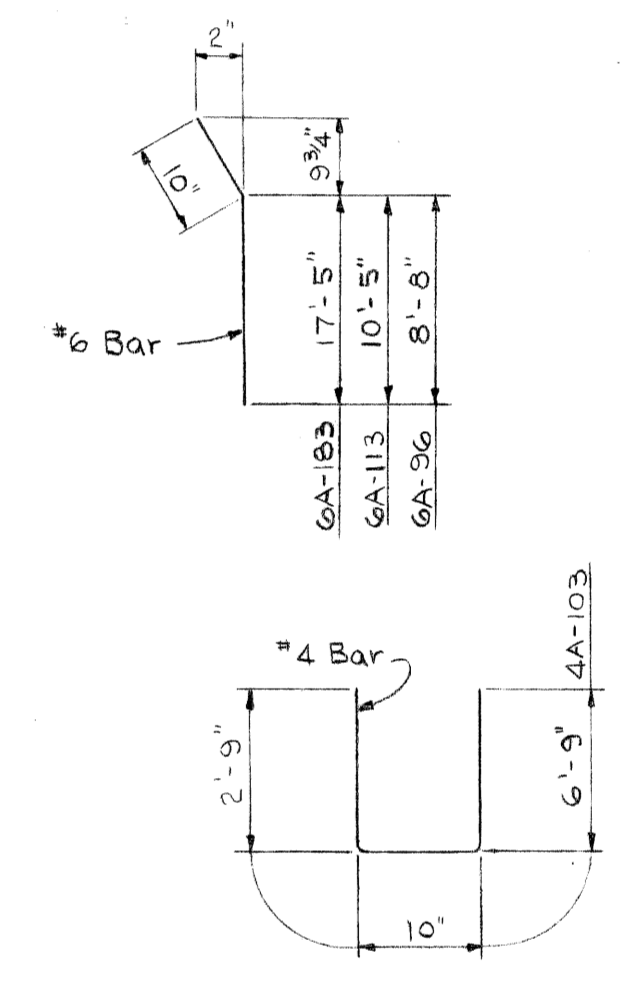
PLAN OF MANHOLE SLAB #2
Elevations shown are for Top of Slab
Scale: 3/8"=1'-0"



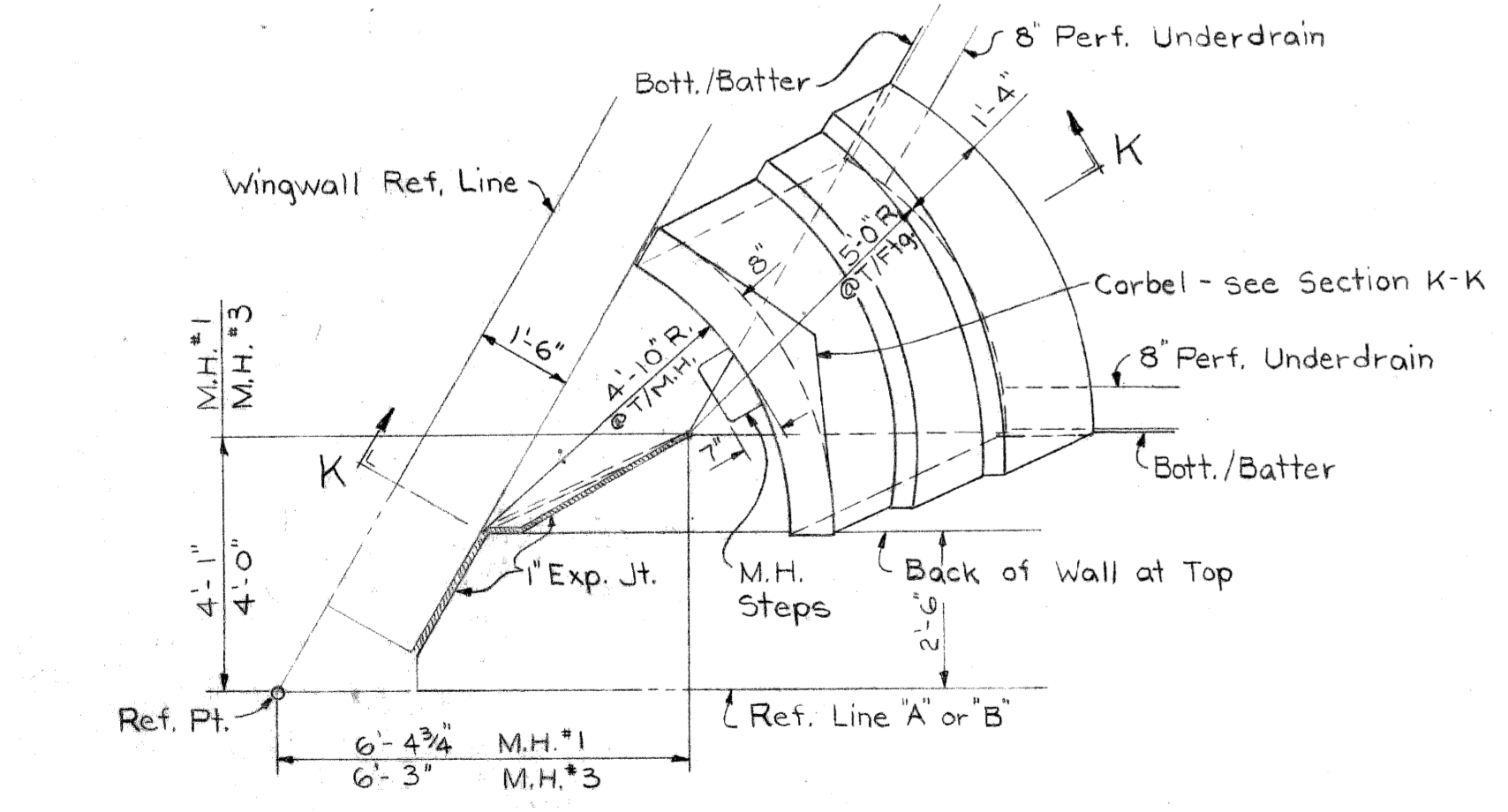
SECTION J-J
Scale: 3/8"=1'-0"



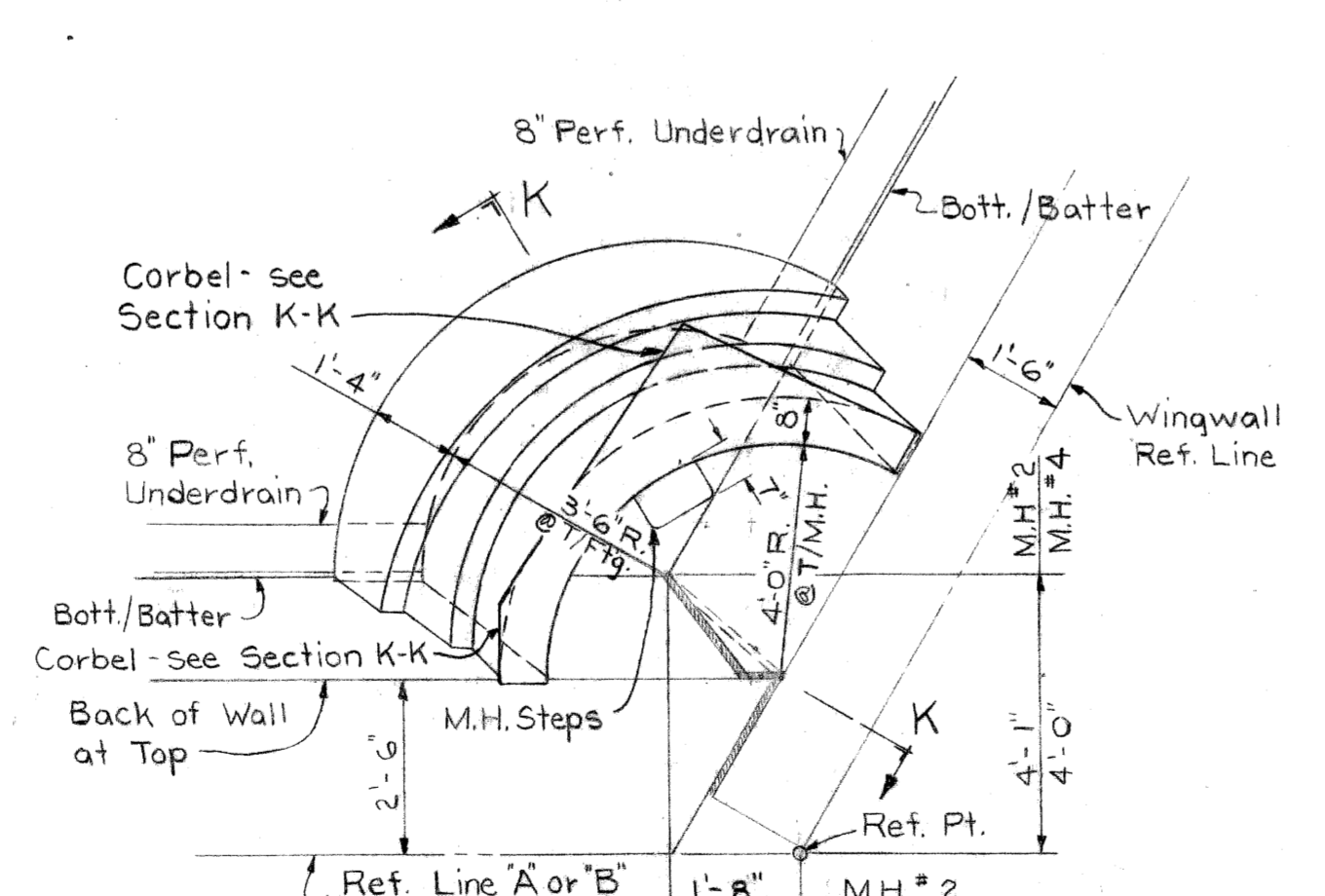
DETAIL OF MANHOLE STEP
Scale: 3/8"=1'-0"



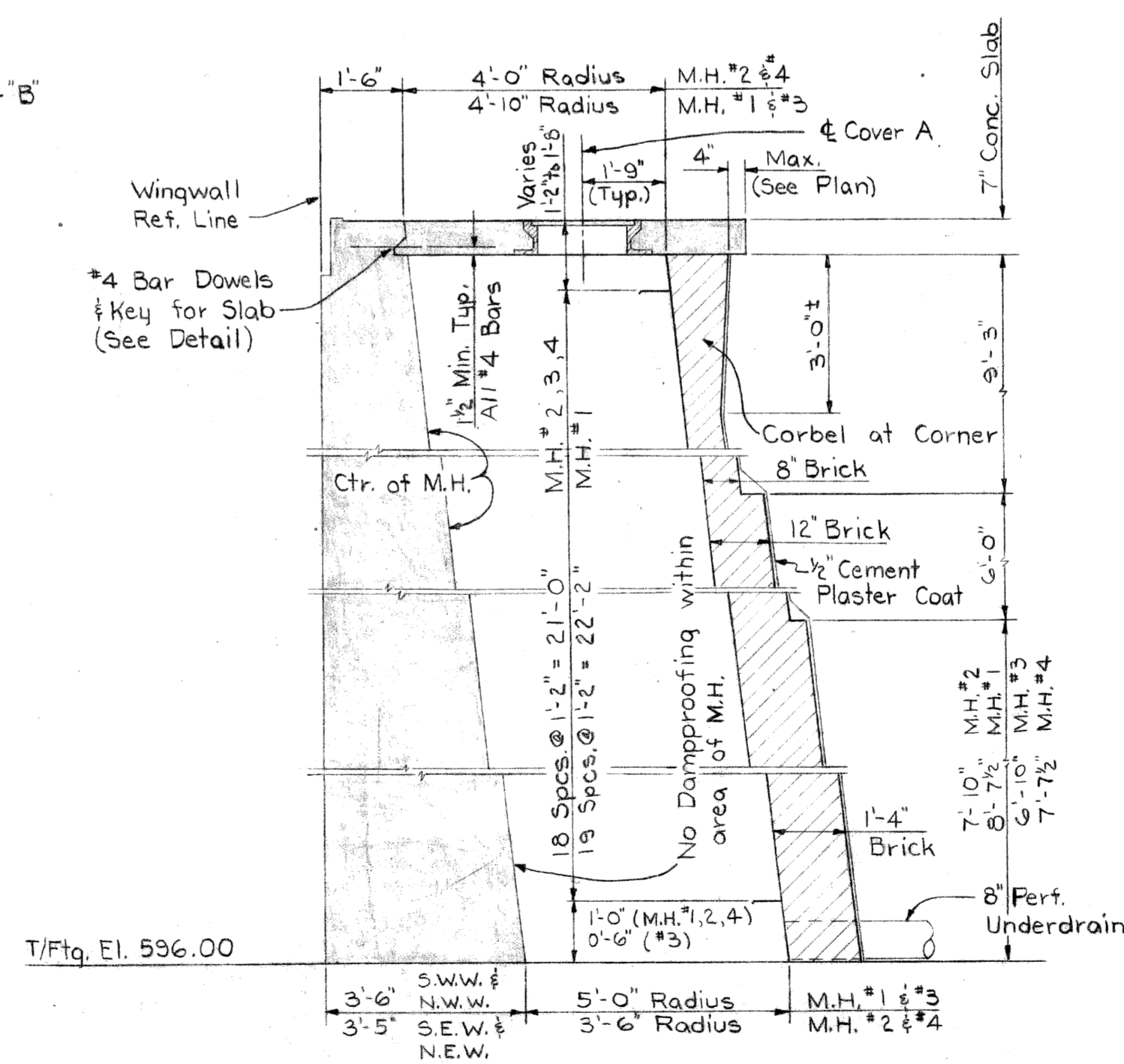
REINFORCEMENT DETAILS
Not to Scale
Note: All dimensions shown are out to out of Bar



PLAN OF MANHOLE #1 WITH SLAB REMOVED
Scale: 3/8"=1'-0"



PLAN OF MANHOLE #2 WITH SLAB REMOVED
Scale: 3/8"=1'-0"



SECTION K-K
Scale: 3/8"=1'-0"

| BILL OF REINFORCING BARS FOR M.H. SLABS | | | | |
|---|------|--------|-----|----------|
| MARK | SIZE | LENGTH | NO. | REMARKS |
| 4-63 | #4 | 6'-3" | 2 | Straight |
| 4-60 | " | 6'-0" | 2 | " |
| 4-59 | " | 5'-9" | 8 | " |
| 4-50 | " | 5'-0" | 6 | " |
| 4-46 | " | 4'-6" | 12 | " |
| 4-39 | " | 3'-9" | 4 | " |
| 4-33 | " | 3'-3" | 4 | " |
| 4-30 | " | 3'-0" | 2 | " |
| 4-29 | " | 2'-9" | 2 | " |
| 4-23 | #4 | 2'-3" | 4 | Straight |

Note: Reinforcing Bars, Manhole Steps, Concrete, Cement and Standard Manhole Cover A are included in item "Abutment Manholes".

QUANTITIES
Abutment Manholes 4 Ea.
1" Joint Filler 13.5 F.

Work this sheet with shts. 17 & 19

| REVISIONS | | SQUAD LEADER | | APPROVED | |
|-----------|--|--------------|------------|----------|--|
| | | L.M. Elwee | | | |
| | | R. LEYON | S. Compton | | |
| | | | | | |
| | | | | | |
| | | | | | |

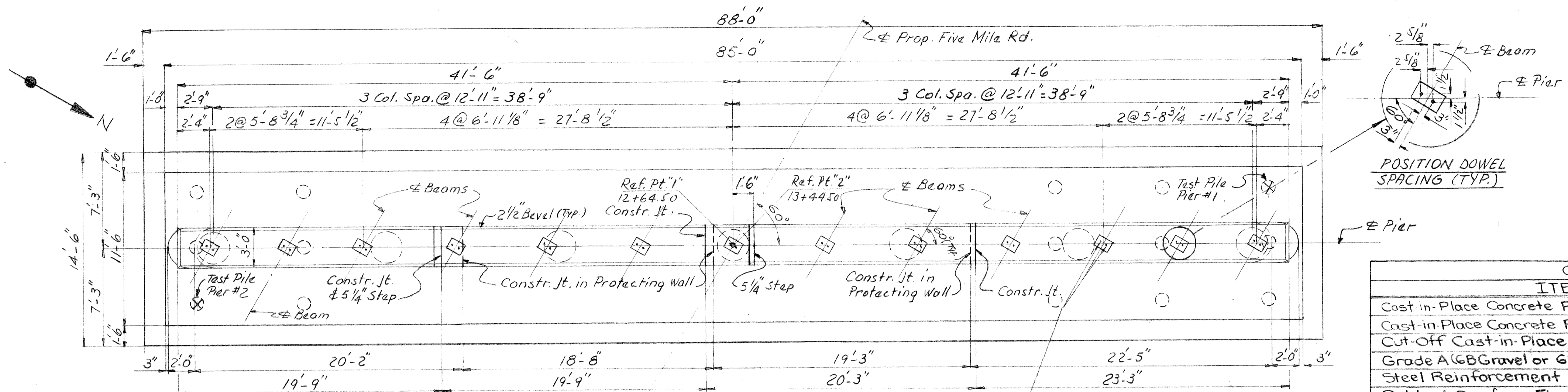
BOARD OF
WAYNE COUNTY ROAD COMMISSIONERS
DETROIT, MICHIGAN
WILLIAM E. KREGER
AL BARBOUR

FIVE MILE ROAD OVER ROUGE RIVER ABUTMENT DETAILS & MANHOLES
STATE PROJECT COUNTY JOB
320
ISSUE NO. SHEET NO.
DATE 10-17-62 20

| BILL OF REINFORCING BARS | | | | | |
|--------------------------|------|--------|--------|---------|----------|
| MARK | SIZE | LENGTH | NUMBER | REMARKS | |
| 10-119 | #10 | 11'-9" | 56 | - | Straight |
| 10-116 | #10 | 11'-6" | - | 56 | " |
| 10-66 | #10 | 6'-6" | 56 | 56 | " |
| 8-286 | #8 | 28'-0" | 6 | 6 | " |
| 8-270 | " | 27'-0" | 6 | 6 | " |
| 8-266 | " | 26'-6" | 7 | 7 | " |
| 8-223 | " | 22'-3" | 3 | 3 | " |
| 8-190 | " | 19'-0" | 3 | 3 | " |
| 8-180 | " | 18'-0" | 12 | 12 | " |
| 8-170 | " | 17'-0" | 7 | 7 | Straight |
| 8A-259 | " | 25'-9" | 8 | 8 | Bent |
| 8A-253 | #8 | 25'-3" | 8 | 8 | Bent |
| 6-296 | #6 | 29'-6" | 48 | 48 | Straight |
| 6-229 | " | 22'-9" | 8 | 8 | " |
| 6-139 | " | 22'-3" | 8 | 8 | " |
| 6-139 | " | 13'-9" | 116 | 116 | " |
| 6-110 | " | 11'-0" | 170 | 170 | " |
| 6-53 | " | 5'-3" | 116 | 116 | Straight |
| 6A-120 | " | 12'-0" | 10 | 10 | Bent |
| 6A-100 | #6 | 10'-0" | 10 | 10 | Bent |
| 4-206 | #4 | 20'-6" | 40 | 40 | Straight |
| 4-200 | " | 20'-0" | 40 | 40 | Straight |
| 4A-210 | " | 21'-0" | 90 | 90 | Bent |
| 4A-63 | " | 6'-3" | 11 | 11 | " |
| 4A-53 | #4 | 5'-3" | 12 | 12 | Bent |
| 2A-76 | #2 | 7'-6" | 63 | 63 | Bent |

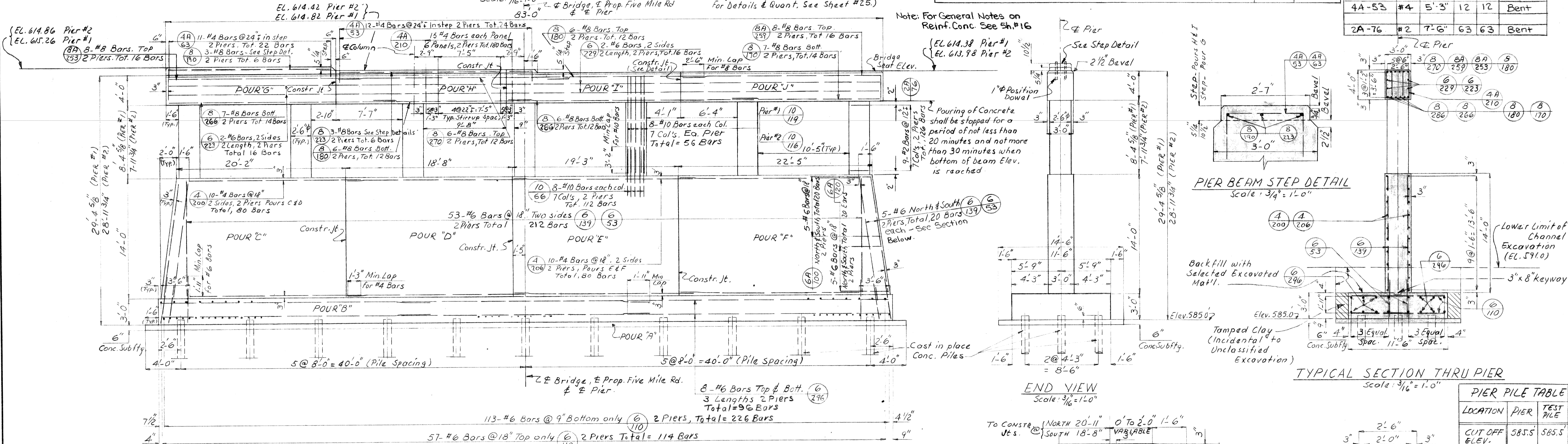
| CONCRETE POURS | | | |
|----------------|--------------|---------|---------|
| POUR | LOCATION | Pier #1 | Pier #2 |
| A | Sub-Footing | 23.6 | 23.6 |
| B | Footing | 108.6 | 108.6 |
| C | Wall | 32.4 | 32.4 |
| D | Wall | 29.1 | 29.1 |
| E | Wall | 30.0 | 30.0 |
| F | Wall | 35.9 | 35.9 |
| G | Bms & Cols. | 13.5 | 13.3 |
| H | " | 11.1 | 11.1 |
| I | " | 12.2 | 12.0 |
| J | Bms. & Cols. | 13.4 | 13.2 |

| QUANTITIES | | | |
|--|---------|---------|------------|
| ITEMS | PIER #1 | PIER #2 | TOTAL |
| Cast-in-Place Concrete Piles - Furnished | 929 | 929 | 1858 L.F. |
| Cast-in-Place Concrete Piles - Driven | 830 | 830 | 1660 L.F. |
| Cut-Off Cast-in-Place Concrete Piles | 33 | 33 | 66 Ea. |
| Grade A (6B Gravel or 6B Slag) Concrete - Substructure | 309.8 | 309.2 | 619 C.Y. |
| Steel Reinforcement | 19,725 | 19,665 | 39,390 Lbs |
| Rubbed Surface Finish | 2550 | 2530 | 5080 S.F. |

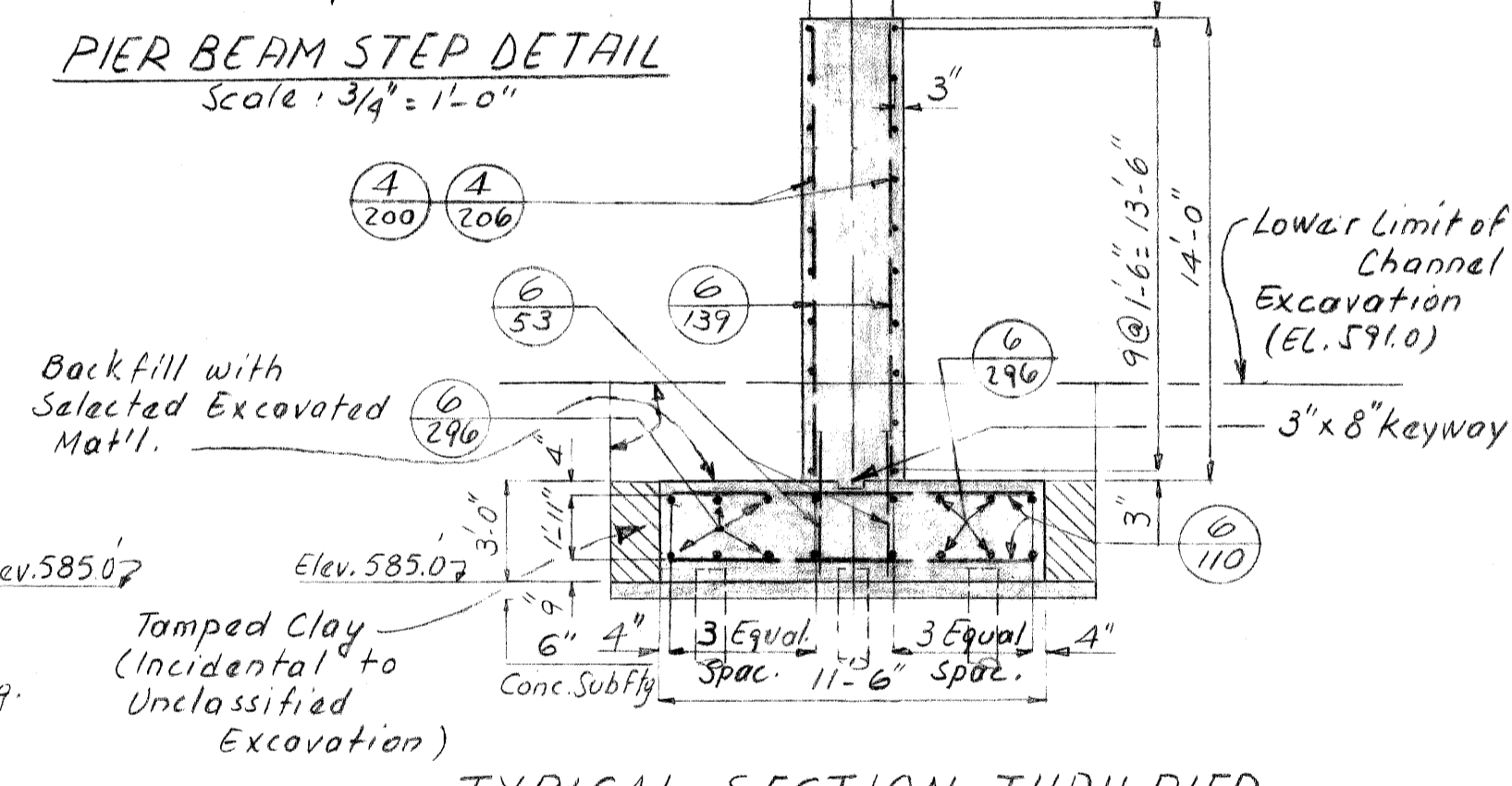


PLAN Scale: 3/16" = 1'-0"
 Project Position Dowels 4" from Conc. for Details & Quant. See Sheet #25.

Note: For General Notes on Reinf. Conc. See Sh. #16

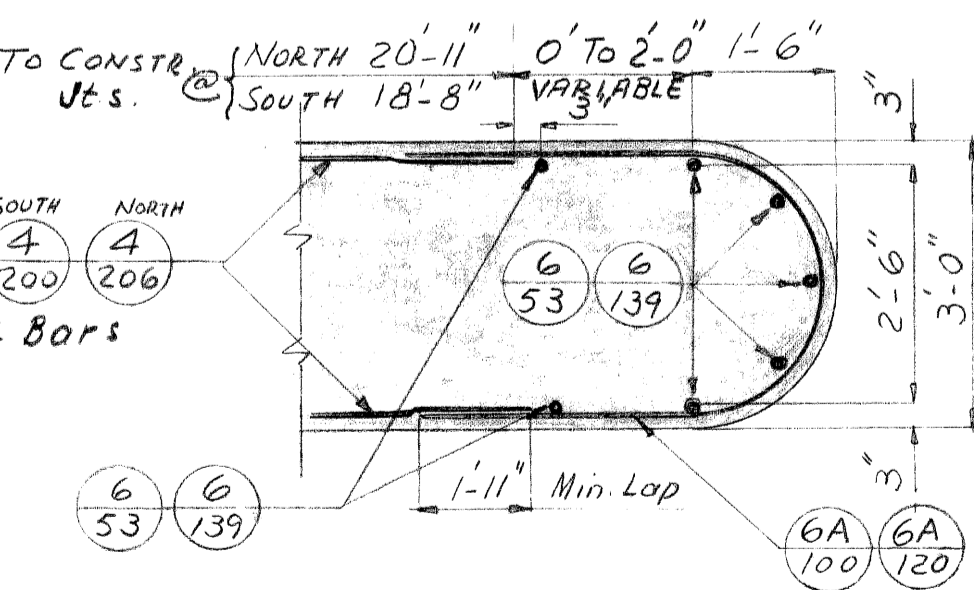


ELEVATION Scale: 3/16" = 1'-0"

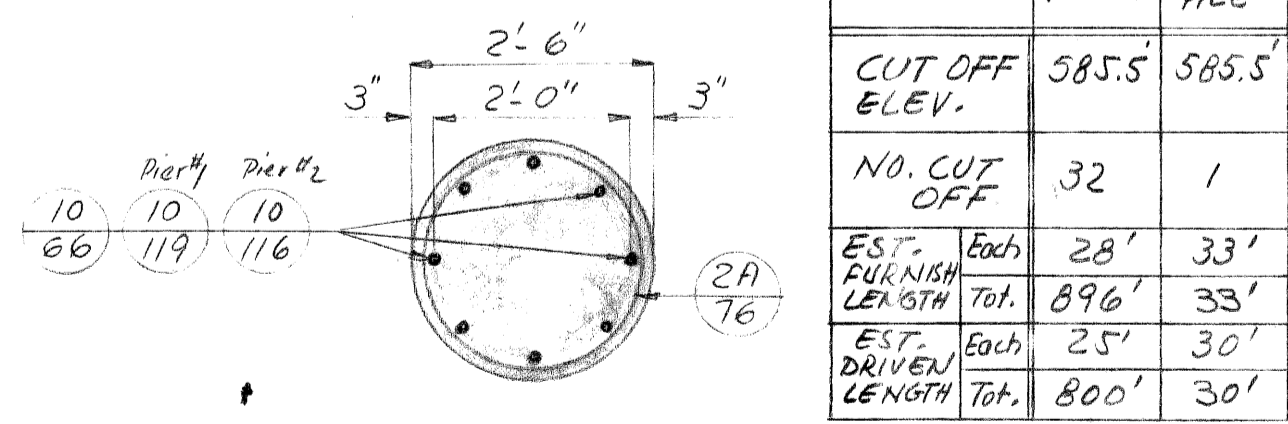


PIER BEAM STEP DETAIL Scale: 3/4" = 1'-0"

END VIEW Scale: 3/16" = 1'-0"



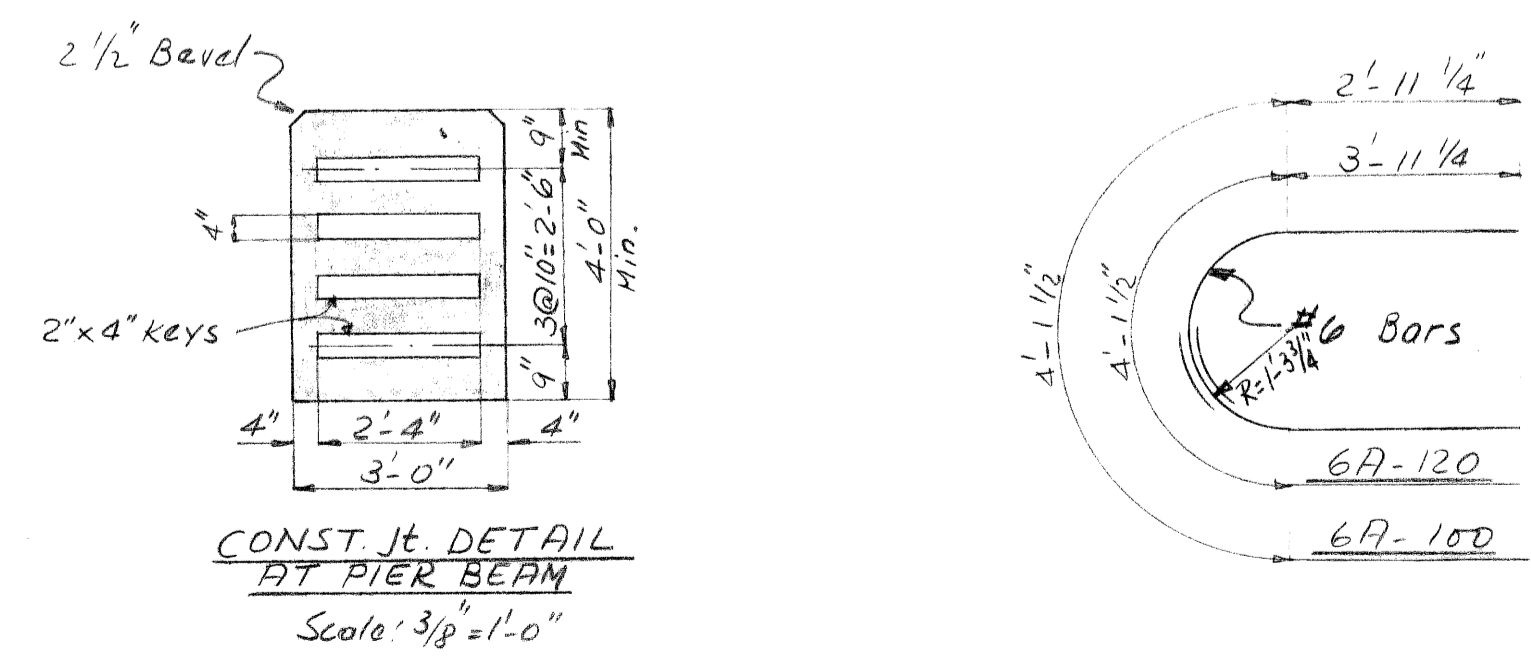
TYPICAL END SECTION AT PROTECTING WALL Scale: 1/2" = 1'-0"



TYPICAL SECTION THRU COLUMNS Scale: 1/2" = 1'-0"

| PIER PILE TABLE | | | |
|--------------------|-------|-----------|--|
| LOCATION | PIER | TEST PILE | |
| CUT OFF ELEV. | 585.5 | 585.5 | |
| NO. CUT OFF | 32 | 1 | |
| EST. PILE LENGTH | 28' | 33' | |
| EST. PILE LENGTH | 896' | 33' | |
| EST. DRIVEN LENGTH | 25' | 30' | |
| EST. DRIVEN LENGTH | 800' | 30' | |

Amount shown is for one Pier only.



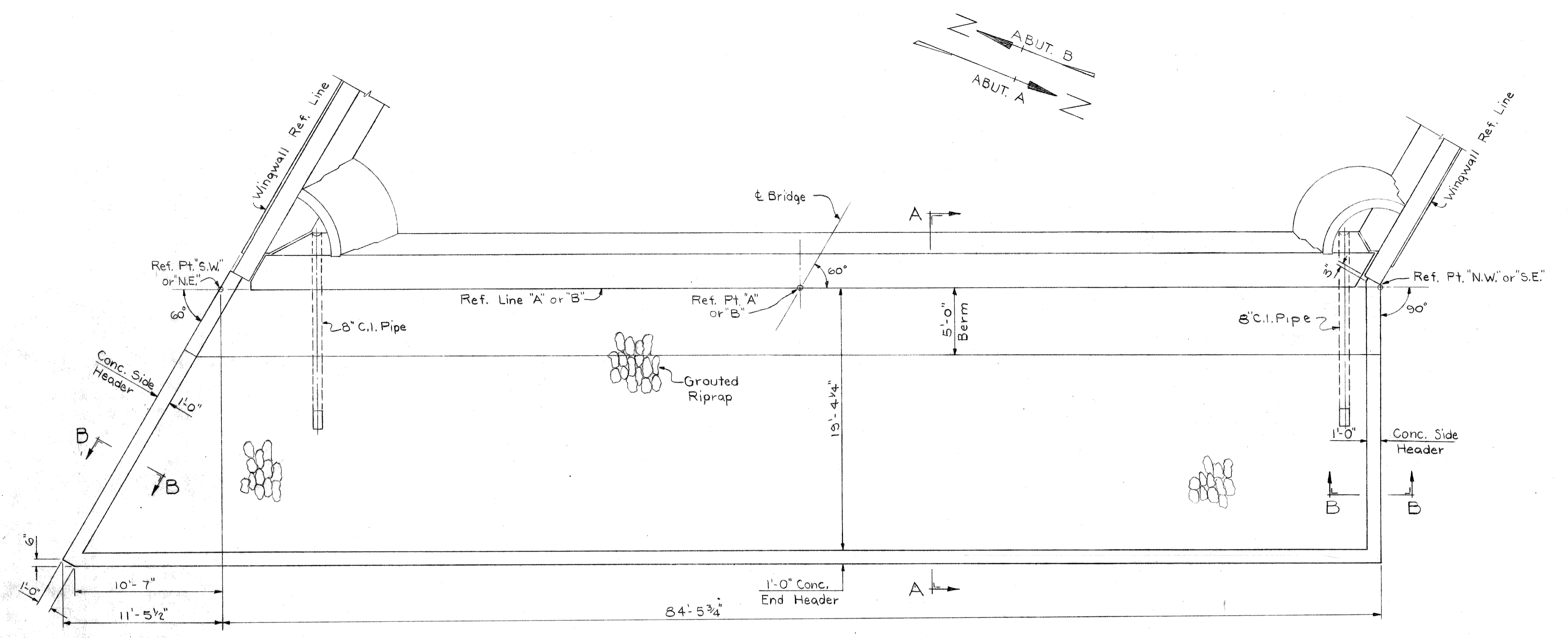
CONST. JT. DETAIL AT PIER BEAM Scale: 3/8" = 1'-0"

REINFORCEMENT DETAILS NOT IN SCALE ALL DIMENSIONS ARE SHOWN OUT TO OUT

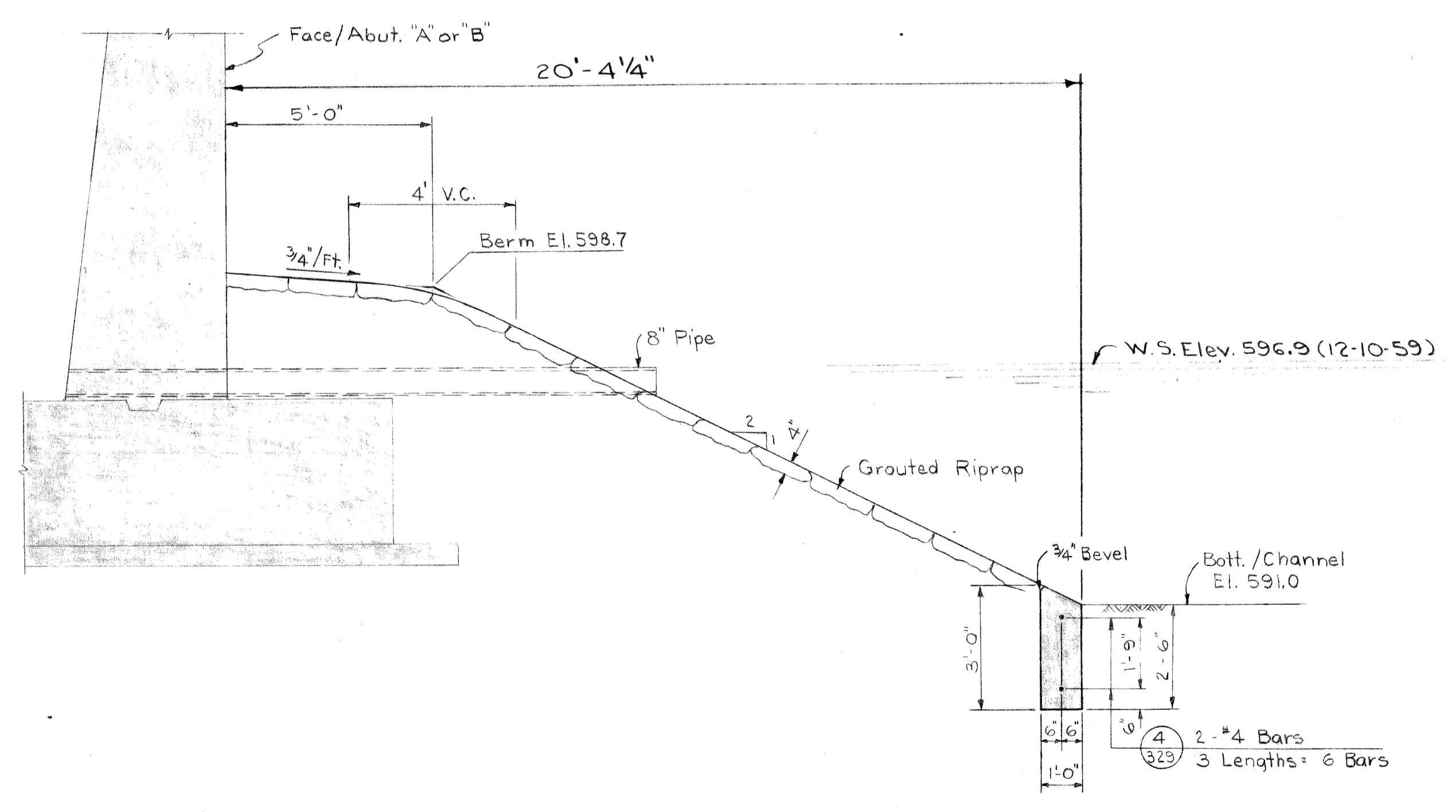
| REVISIONS | SQUAD LEADER | APPROVED |
|-----------|-----------------------|--|
| | L. M. E. Iwee | |
| | DRAWN BY OZENGIN | ENGINEER OF STRUCTURES AND EXPRESSWAYS |
| | CHECKED BY S. COMPTON | APPROVED |
| | DATE 7.18.60 | |
| | CORRECT | |

BOARD OF WAYNE COUNTY ROAD COMMISSIONERS
 DETROIT, MICHIGAN
 WILLIAM E. KREGER

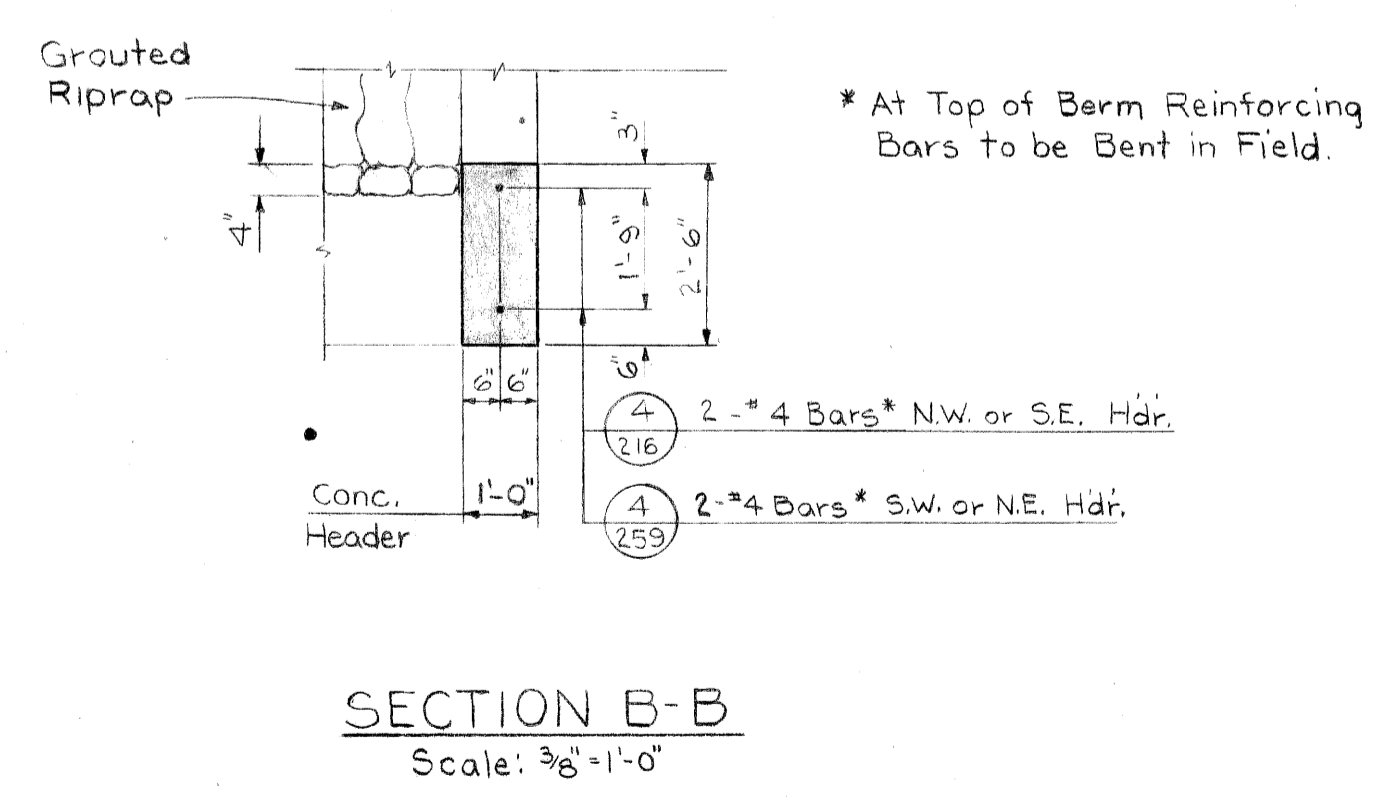
FIVE MILE ROAD OVER ROUGE RIVER PIERS
 STATE PROJECT 320
 COUNTY JOB 320
 SHEET NO. 21
 DATE 10-17-62



PLAN
Scale: 3/16" = 1'-0"



SECTION A-A
Scale: 3/8" = 1'-0"



SECTION B-B
Scale: 3/8" = 1'-0"

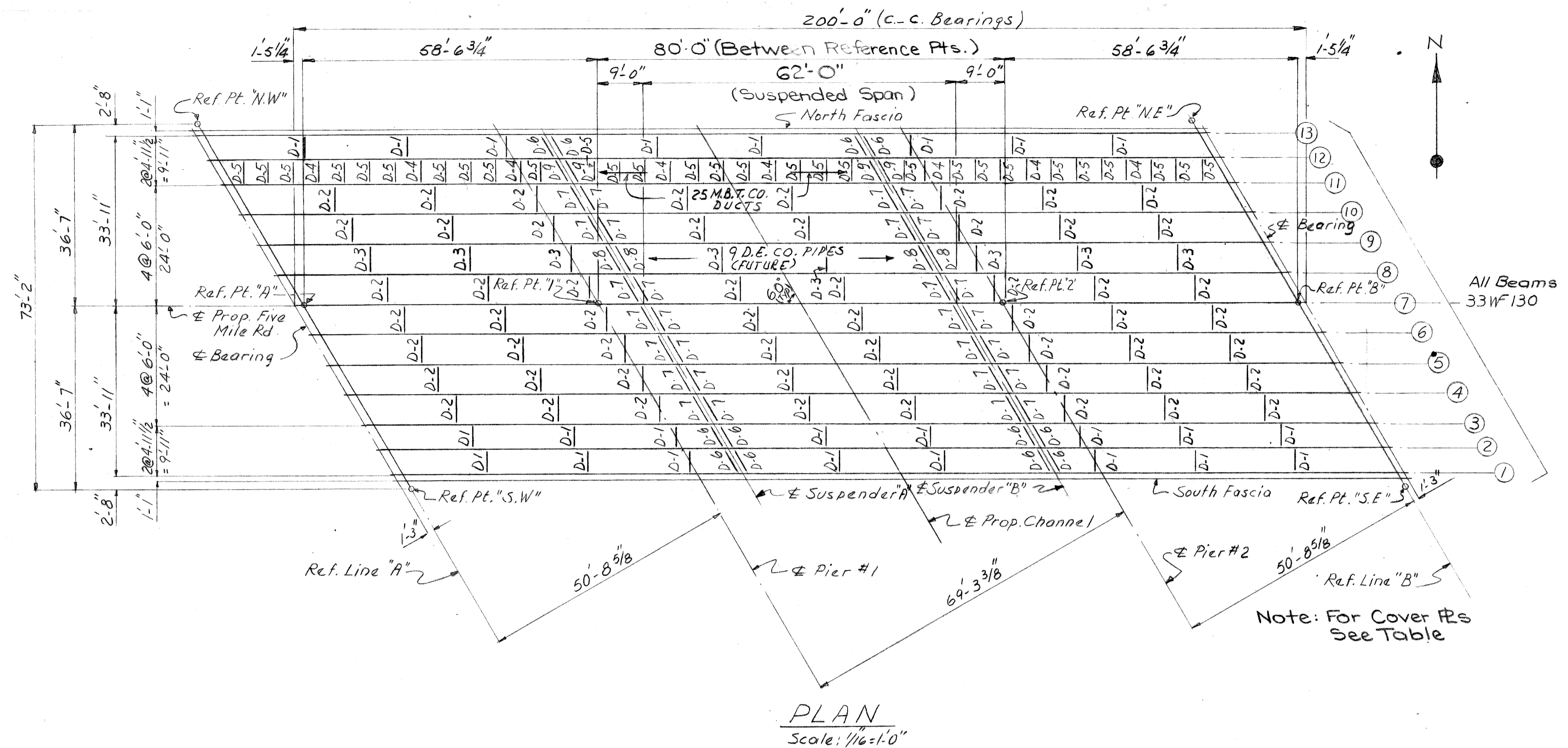
Note:
Concrete Header and Reinforcement
are incidental to Grouted Riprap.

| BILL OF REINFORCING BARS | | | | |
|--------------------------|------|--------|-----|----------|
| MARK | SIZE | LENGTH | NO. | REMARKS |
| 4-329 | #4 | 32'-9" | 12 | Straight |
| 4-259 | #4 | 25'-9" | 4 | " |
| 4-216 | #4 | 21'-6" | 4 | Straight |
| | | | | |

NOTES
For "General Notes" see sh.#16
For Location of 8" C.I. Pipe
See sh.#17 & 19

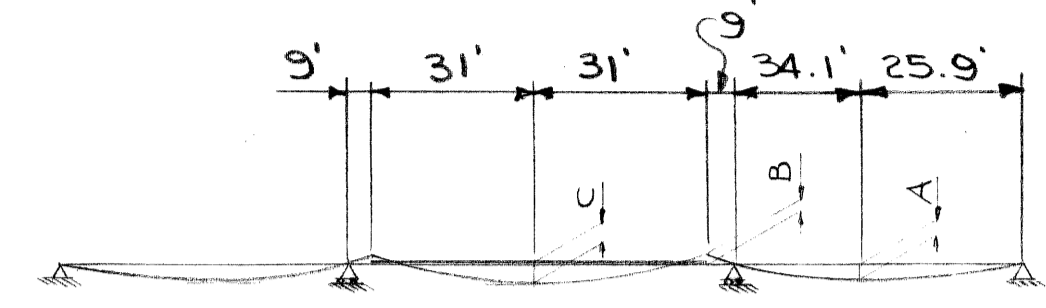
ESTIMATED QUANTITIES
Grouted Riprap 410 Sq. Yds.

| | | | | | |
|-----------|--|---|---|--|--|
| REVISIONS | SQUAD LEADER <i>L. M. Elwee</i> DRAWN BY R. LEYON CHECKED BY S. COMPTON CORRECT ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS DATE 1-24-61 | APPROVED ENGINEER OF STRUCTURES AND EXPRESSWAYS APPROVED COUNTY HIGHWAY ENGINEER | BOARD OF WAYNE COUNTY ROAD COMMISSIONERS DETROIT, MICHIGAN PHILIP J. NEUDECK WILLIAM E. KREGER AL BARBOUR | STATE PROJECT FIVE MILE ROAD OVER ROUGE RIVER GROUTED RIPRAP ISSUE NO. 1 DATE 10-17-62 | COUNTY JOB 320 SHEET NO. 22 |
|-----------|--|---|---|--|--|



COVER PLATE TABLE

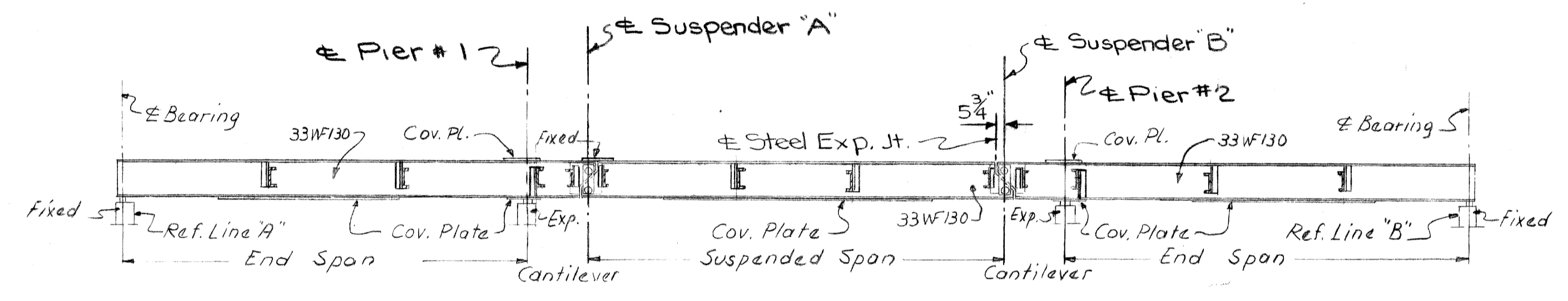
| Beam No. | 4,5,6,7,10 | 8,9 | 3 | 11 | 1,2,12,13 |
|------------|---------------|---------------|---------------|---------------|-----------|
| Suspended | 12x3/4 (Bot.) | 12x7/8 (Bot.) | 12x3/4 (Bot.) | 12x3/4 (Bot.) | --- |
| Contilever | 12x3/8 (T#B) | 12x3/8 (T#B) | 12x3/8 (T#B) | 12x3/8 (T#B) | --- |
| End | 12x3/8 (Bot.) | 12x3/8 (Bot.) | 12x3/8 (Bot.) | 12x3/8 (Bot.) | --- |



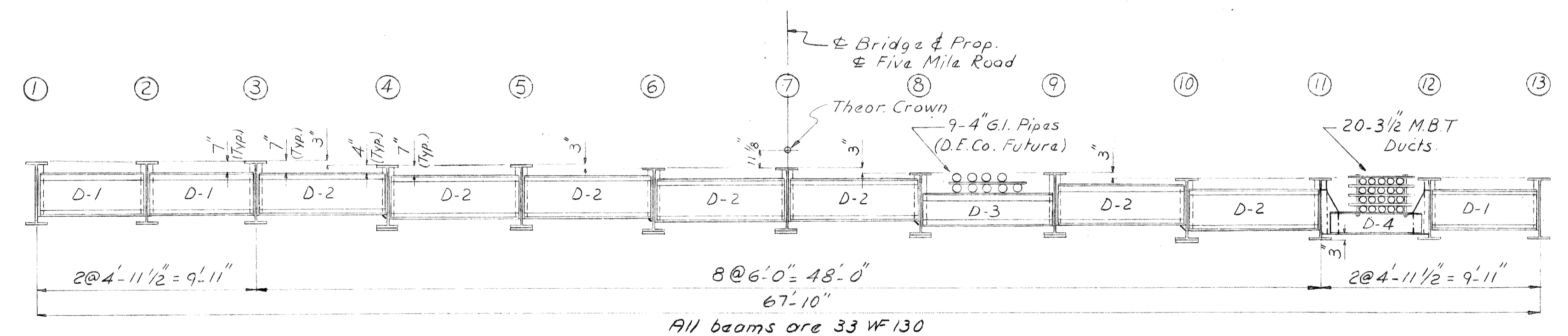
| Beam No. | 1#13 | 2 | 3 | 4-7 | 8&9 | 11 | 12 |
|----------|------|------|-----|-----|-----|------|------|
| A Steel | .11 | .11 | .10 | .10 | .10 | .10 | .11 |
| A Deck | .46 | .50 | .44 | .48 | .53 | .53 | .65 |
| B Steel | .02 | .02 | .02 | .02 | .02 | .02 | .02 |
| B Deck | .08 | .09 | .07 | .08 | .09 | .08 | .13 |
| C Steel | .25 | .25 | .20 | .20 | .19 | .20 | .20 |
| C Deck | 1.02 | 1.12 | .88 | .95 | .98 | 1.07 | 1.18 |

DEAD LOAD DEFLECTIONS (INCHES)

Deflections shown are net deflections after complete beam is erected and after concrete has been poured in all three spans.



ELEVATION OF TYPICAL INTERIOR BEAM
 Scale: 1/16" = 1'-0"



TYPICAL SECTION THRU DECK OF SUSPENDED SPAN
 Scale 1/4" = 1'-0"

QUANTITIES CHARGEABLE TO DETROIT EDISON CO.

| | |
|---|----------|
| Structural Steel - Fabrication and Erection | 630 Lbs. |
| 5" Pipe Sleeves - Placed | 54. Ea. |

GENERAL NOTES

DESIGN
 A.A.S.H.O. Standard Specifications for Highway Bridges - 1957 Edition H20-S16-44 and Special Military Loading. (See Sketch)

LIVE LOAD + IMPACT DEFLECTION
 Simple Span - Not more than 1/1000 of the Span Length.
 Contilever Arm - Not more than 1/300 of the Contilever Arm.

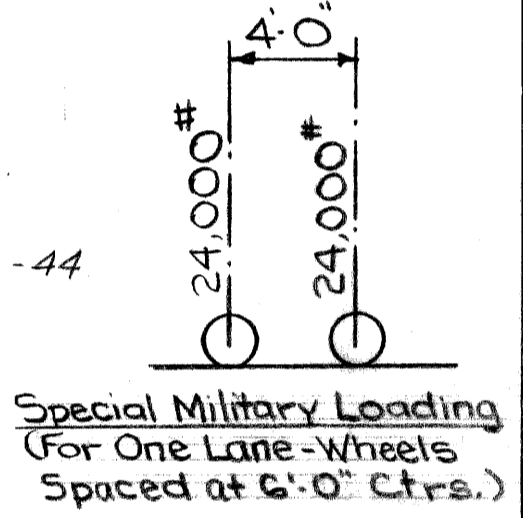
FABRICATION AND ERECTION
 Board of Wayne County Road Commissioners General Specification for the Construction of Roads Bridges and other Structures - 1951 Edition.

RIVETS OR HIGH STRENGTH STEEL BOLTS - 3/4" Φ OPEN HOLES - 13/16" Φ Unless otherwise noted.

SHOP CONNECTIONS
 Cover Plates and Pin plates shall be riveted. Diaphragms and Connection angles may be welded, riveted or bolted with high strength bolts.

FIELD CONNECTIONS
 Interior diaphragms shall be welded, riveted or bolted with high strength bolts, End diaphragms shall be riveted or bolted with high strength bolts.
 Sole Plates shall be welded.

SHOP PAINT
 In accordance with General Specifications except top surfaces of top flanges of beams shall receive one coat of boiled linseed oil only. The top surface of Masonry Plates and bottom surface of sole plates shall be coated in accordance with the requirements for "Machine finished surfaces". Metal Expansion joints shall not be painted except as noted on plans. Top surface of End Diaphragms shall not be painted.



WELDS - 1/4" Continuous Fillet, unless otherwise noted.

FIELD PAINT

- 1st Coat - No. 2A Brown oil Paint
- 2nd Coat - No. 5 Aluminum Paint

BRONZE PLATES - Shall conform to ASTM specification B100, Alloy No. 1

PAY WEIGHT

Structural Steel shall be measured by the computed weight in pounds of all metal in the finished structure, deducting for cuts and copes.

CAMBER

No Camber required on beams. Beams with mill curvature shall be fabricated with convex flange up.

QUANTITIES

| | |
|---|-------------|
| Structural Steel - A.S.T.M. A-7 | 424,810 Lbs |
| Bronze Plates | 890 Lbs |
| Structural Steel - Fabrication and Erection | 425,700 Lbs |
| Shear Developers | Lump Sum |

Work this sheet with 24 & 25

| | | |
|------------|--------|--|
| STATE FILE | BRIDGE | |
| | ROAD | |

REVISIONS

| | | |
|-----|-------------|------|
| NO. | DESCRIPTION | DATE |
| | | |

APPROVED

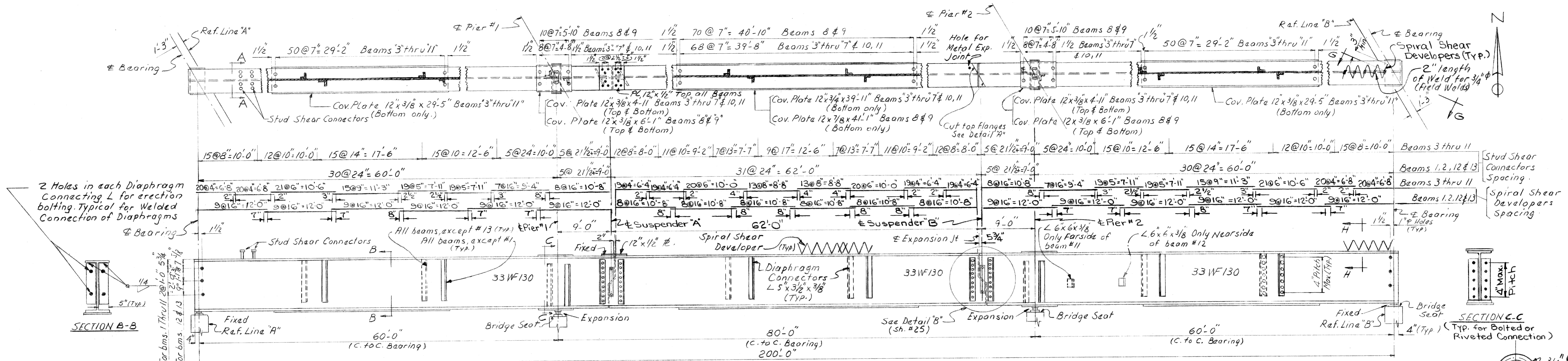
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|--|---------|
| ENGINEER OF STRUCTURES AND EXPRESSWAYS | DATE |
| | 5-31-60 |

WAYNE COUNTY ROAD COMMISSIONERS
 BOARD OF
 DETROIT, MICHIGAN
 WILLIAM E. KREGER

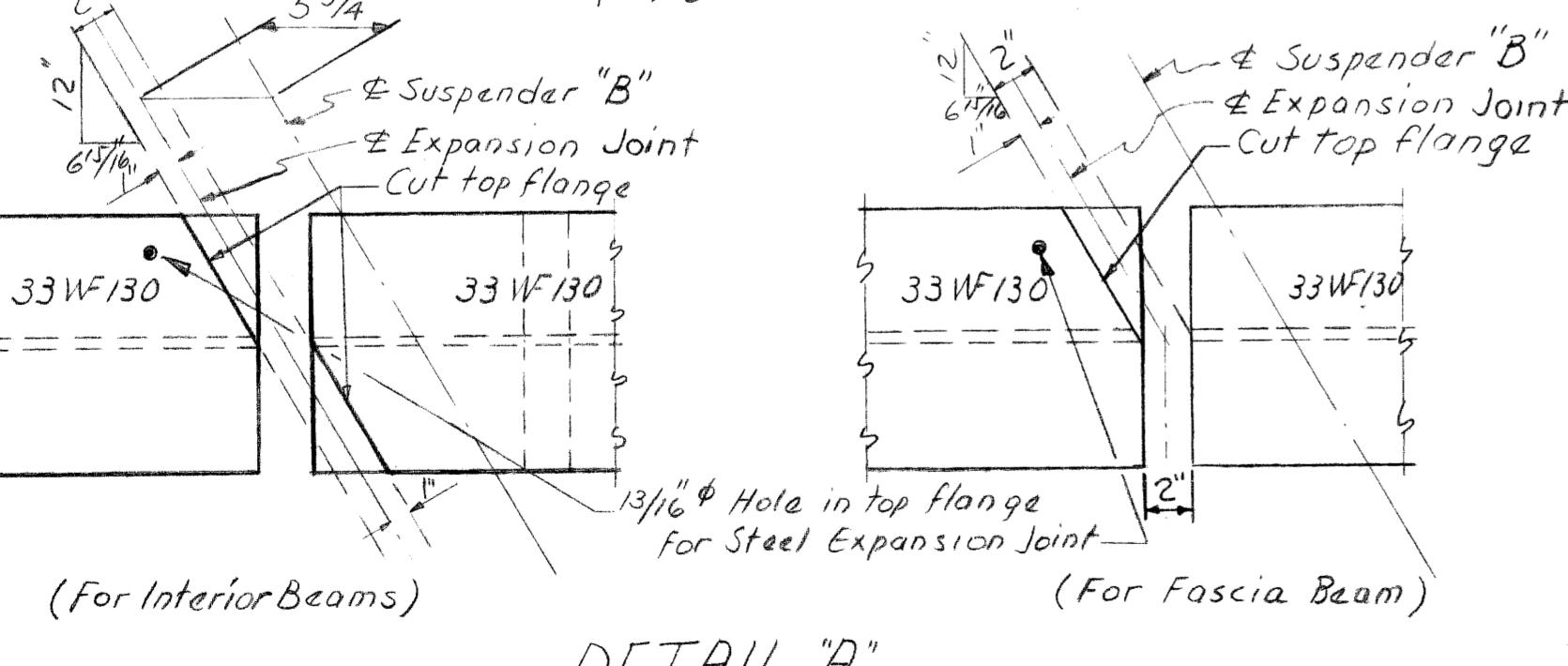
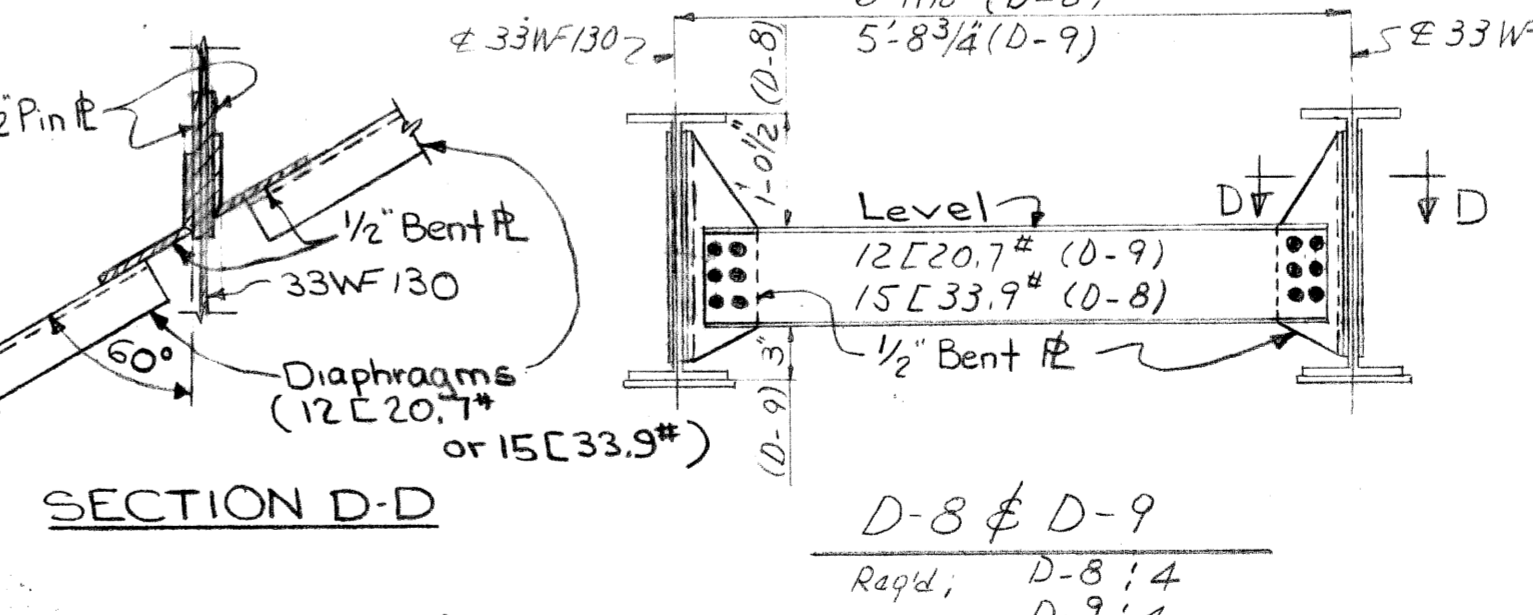
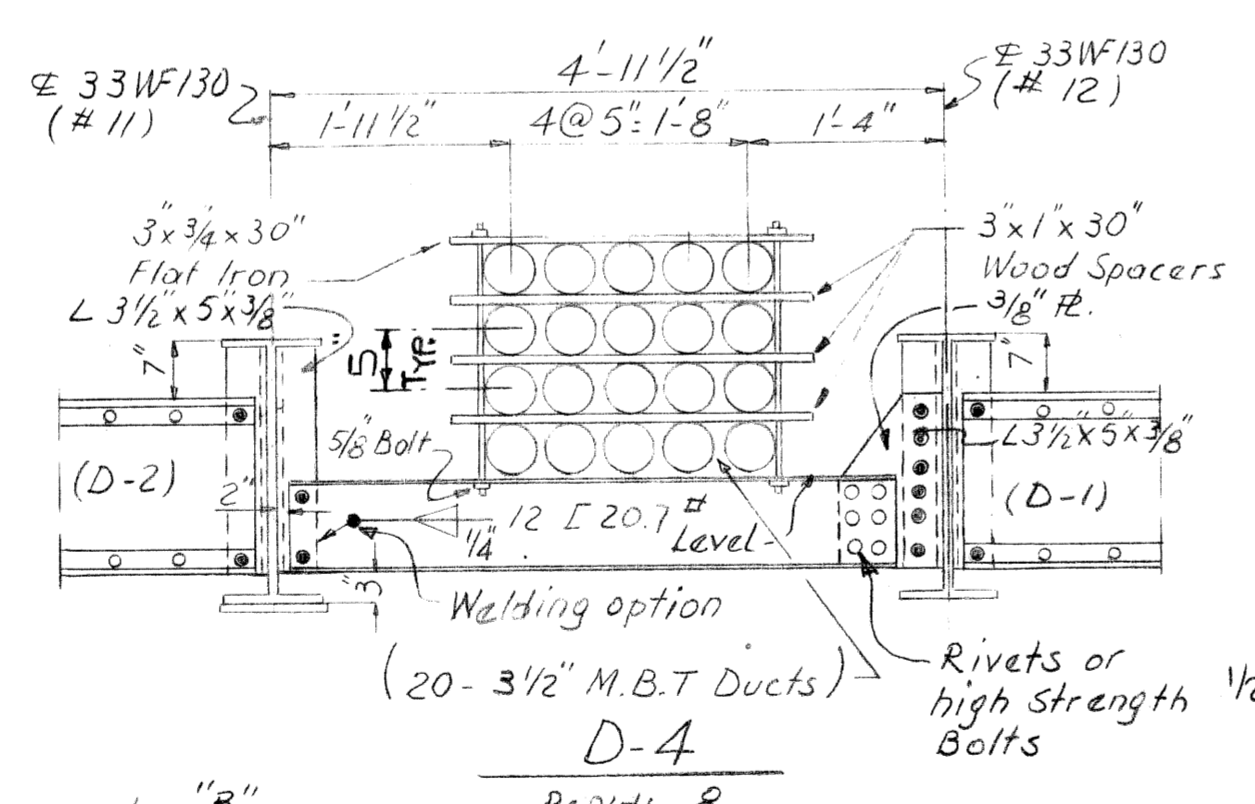
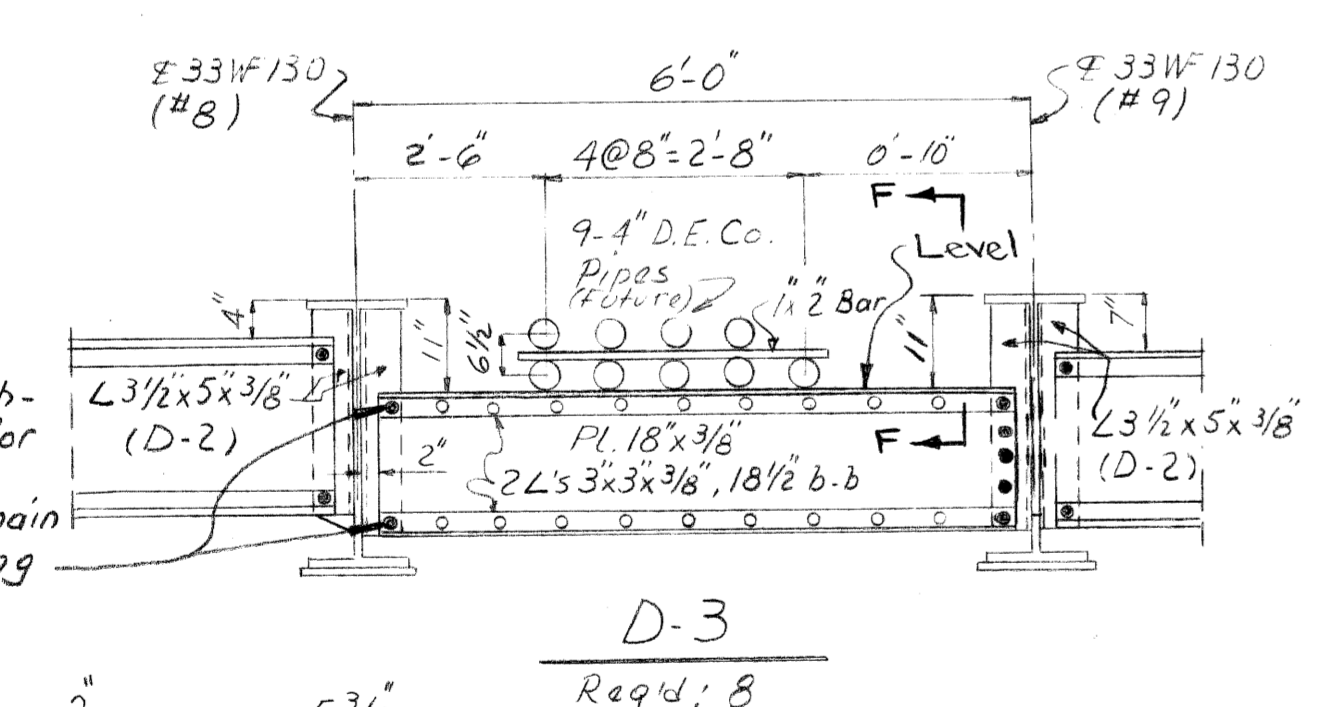
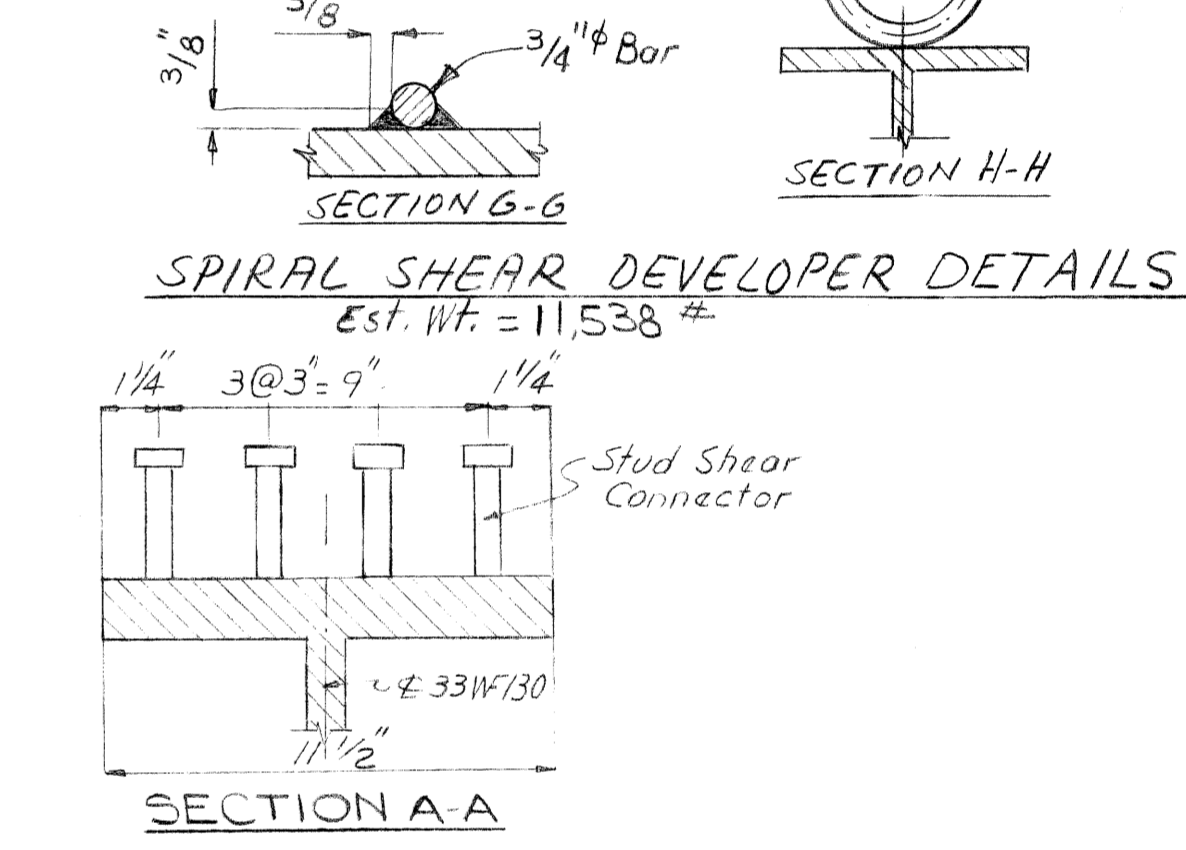
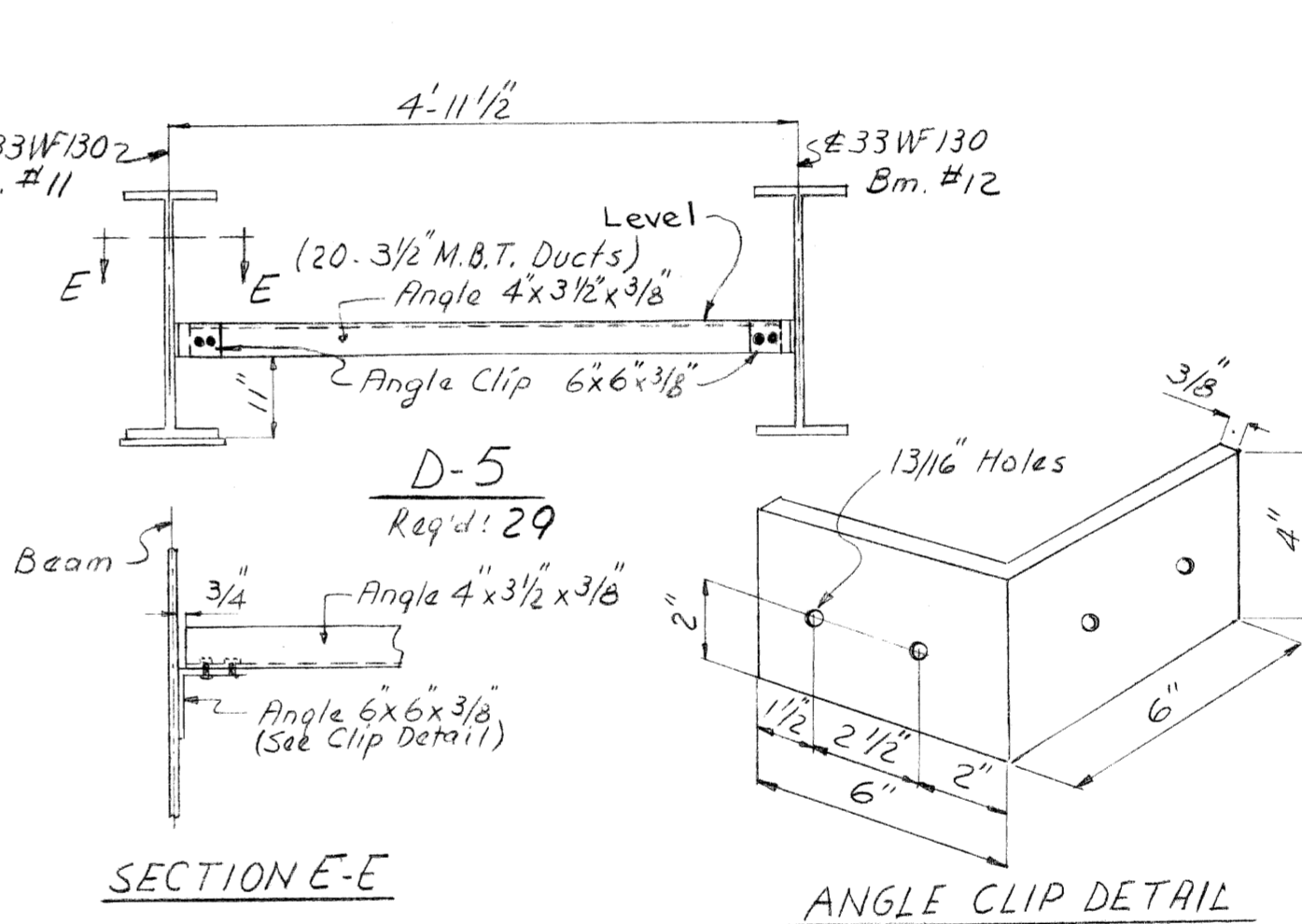
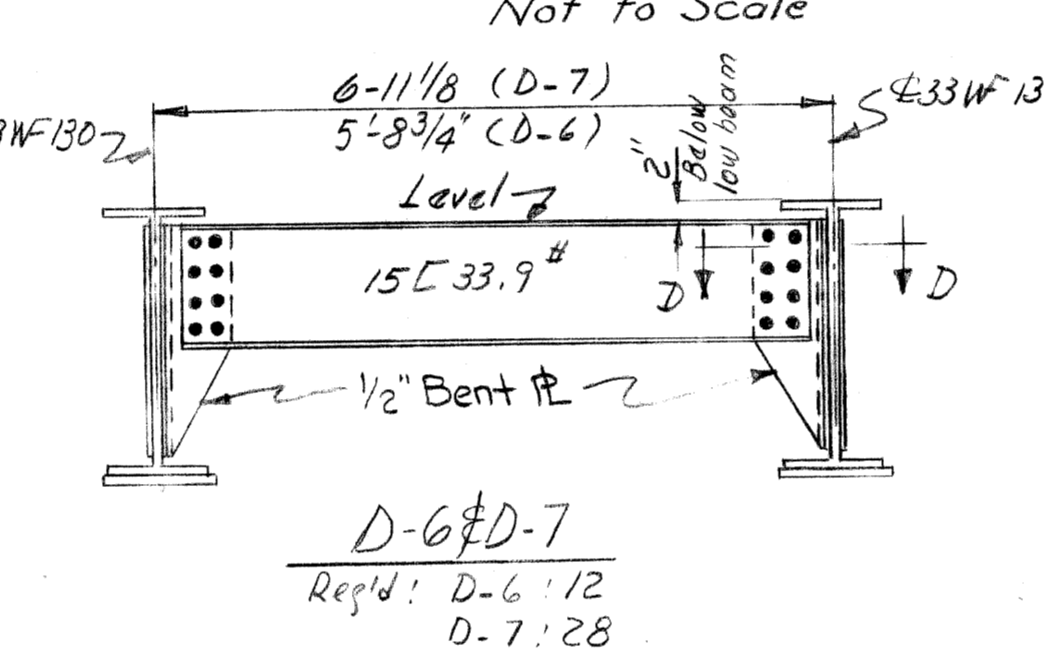
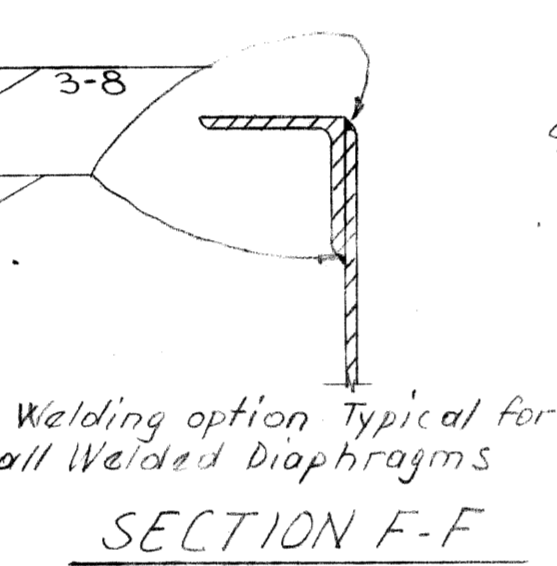
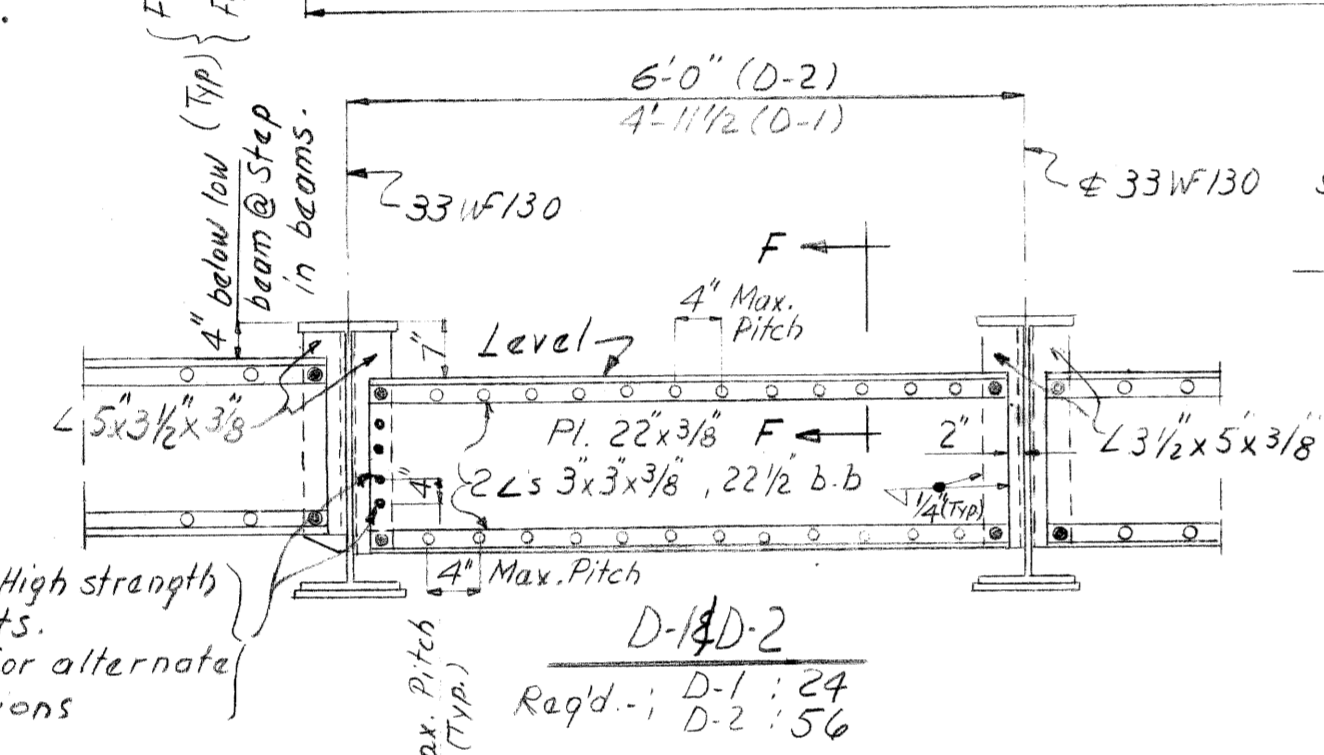
FIVE MILE ROAD OVER ROUGE RIVER
 GENERAL PLAN - STRUCTURAL STEEL

| | |
|---------------|------------|
| STATE PROJECT | COUNTY JOB |
| | 320 |
| ISSUE NO. | SHEET NO. |
| 1 | 23 |
| DATE 10-17-62 | |

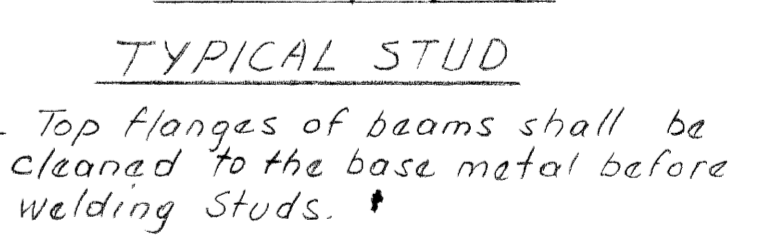
208



DETAILS OF BEAMS
 Not to Scale



DIAPHRAGM DETAILS
 Not to Scale



STUD SHEAR CONNECTOR DETAILS
 Required: 4" - 4080 Ea.
 5" - 1632 Ea.
 6" - 3264 Ea.

NOTE: Stud Shear Connectors shall be Nelson granular flux-filled studs (or approved equal) and shall be automatically end welded to beams on centers as indicated. Weld base of studs shall be at least 3/4" diameter. All stud welds shall be made in accordance with recommendations of the Nelson Stud Welding Division, Lorain, Ohio, or approved equal.

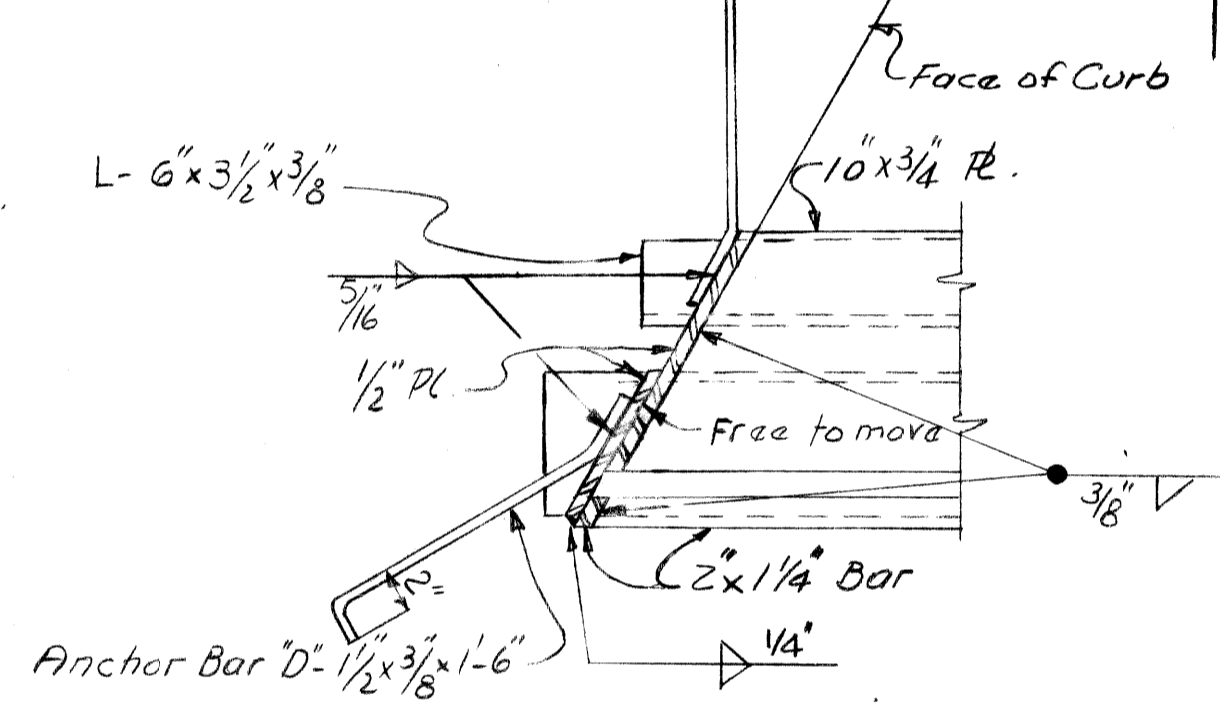
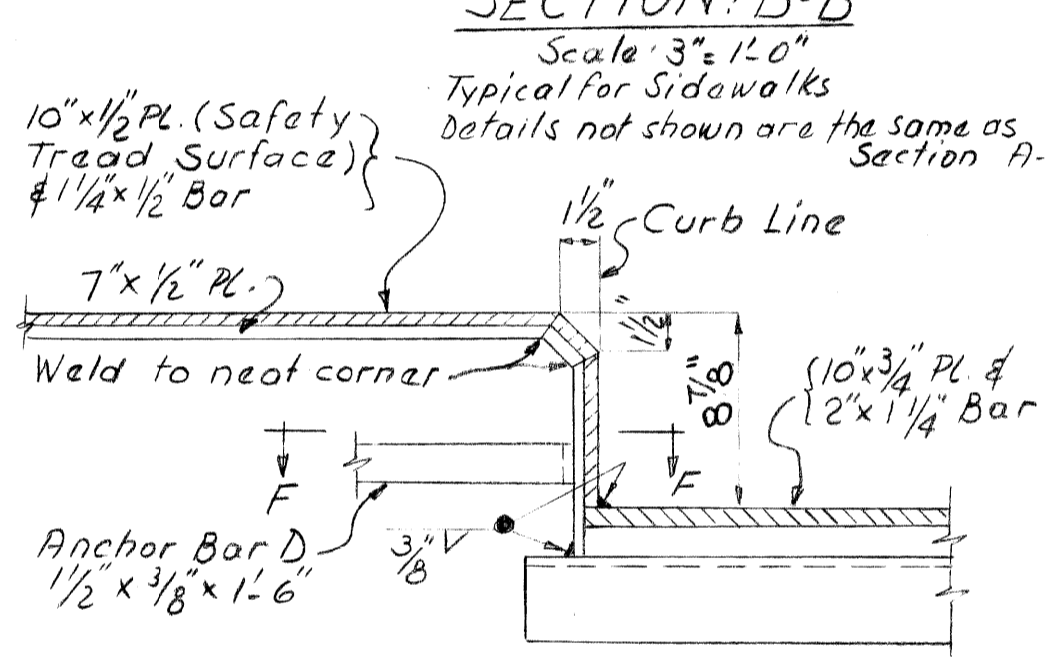
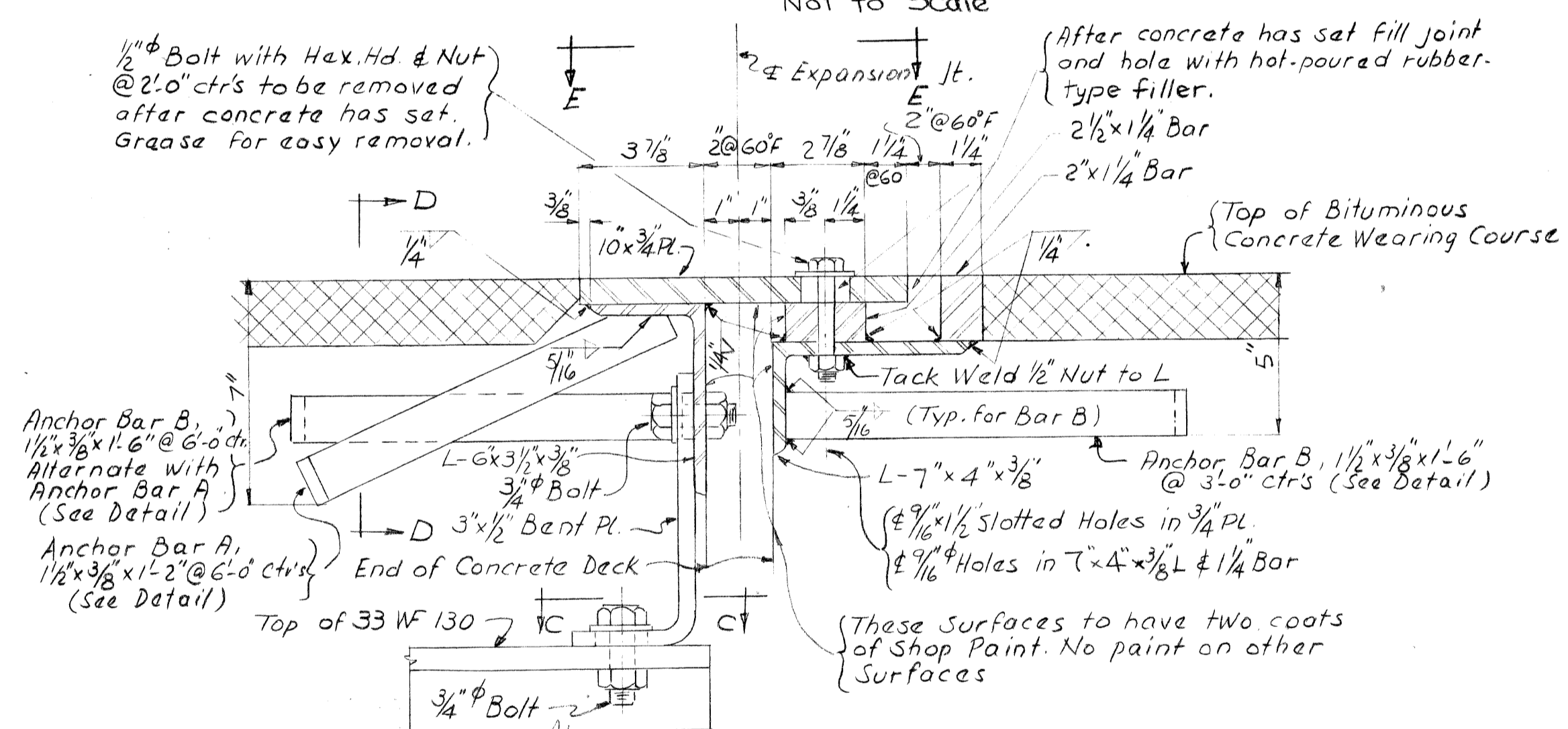
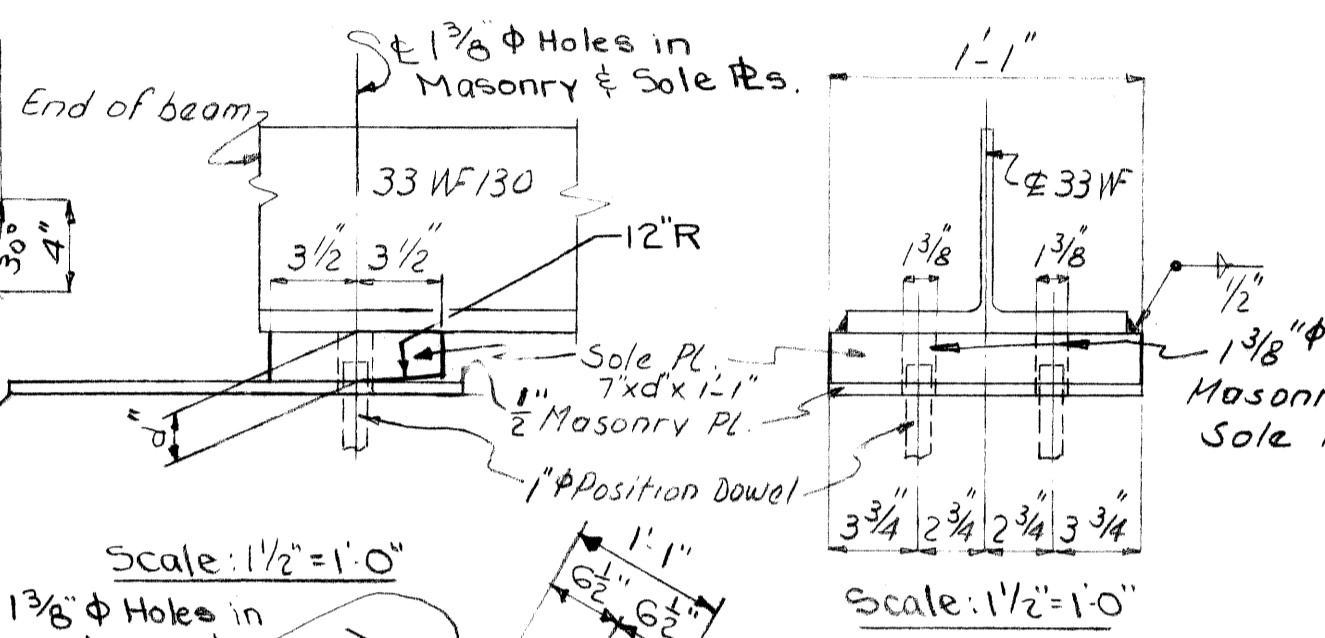
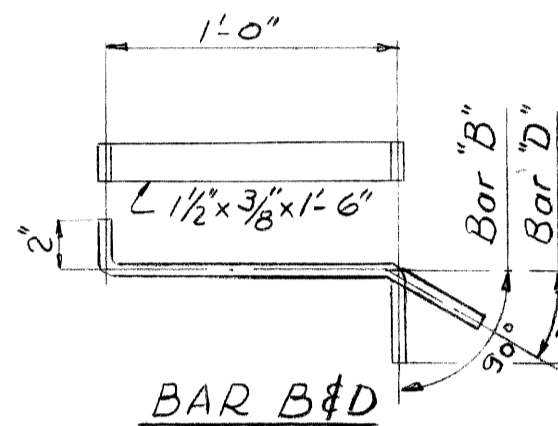
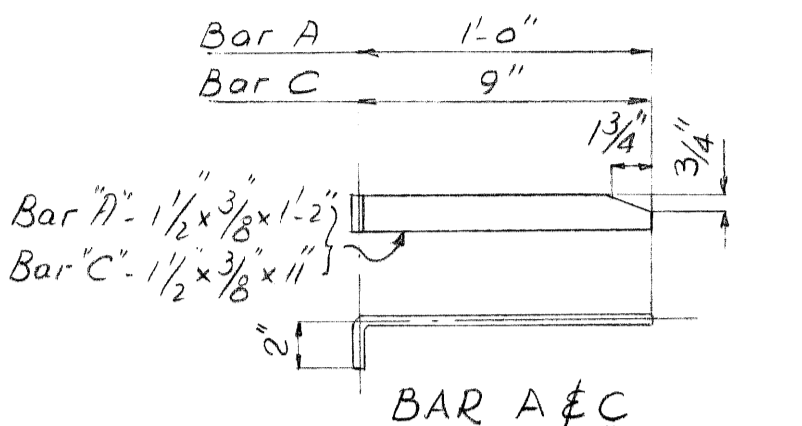
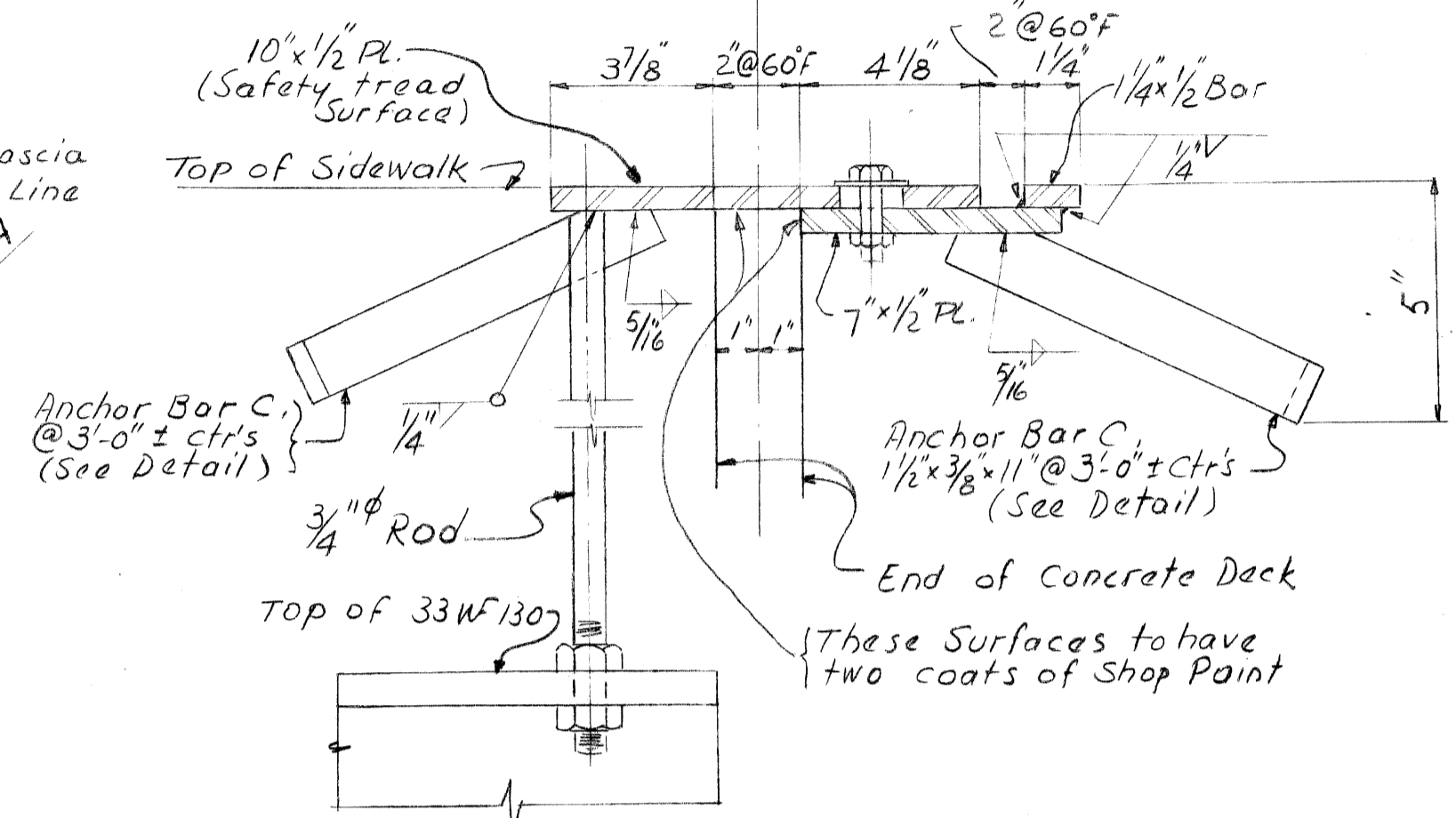
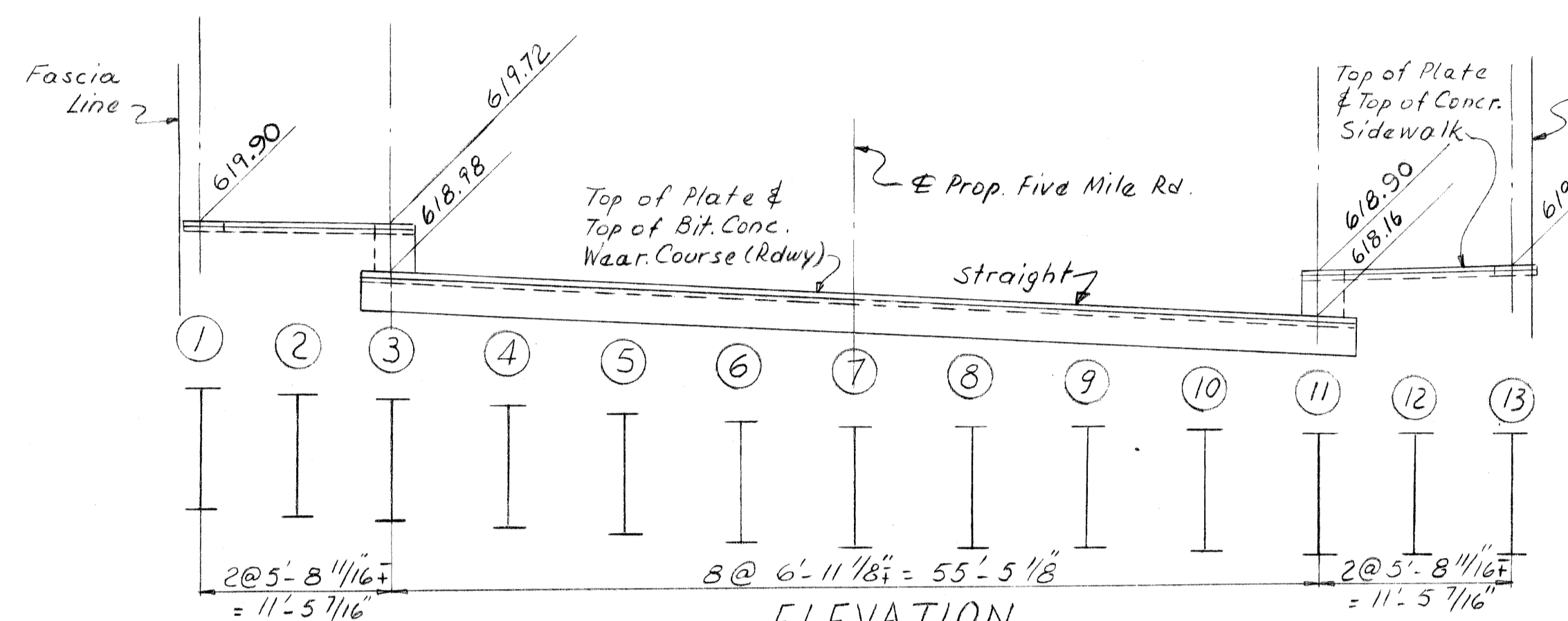
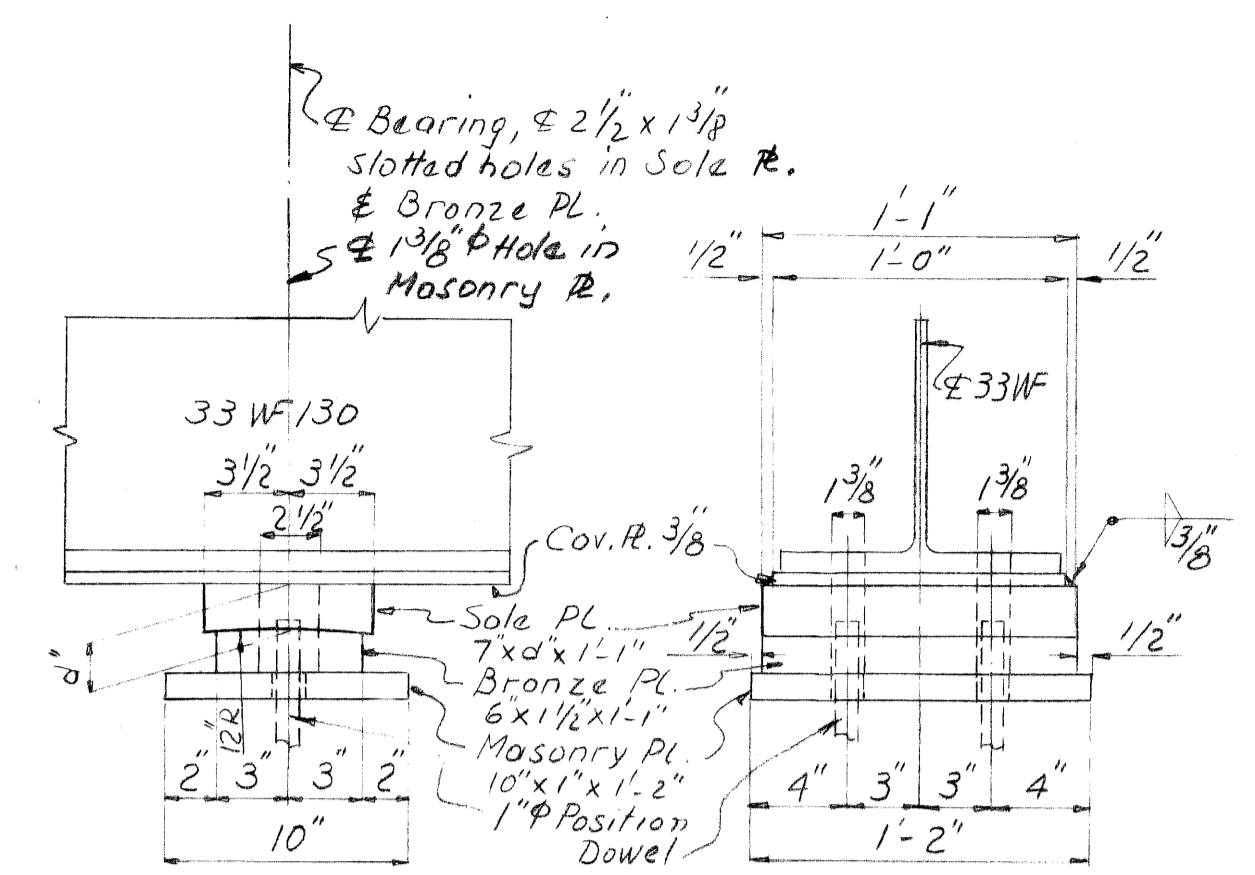
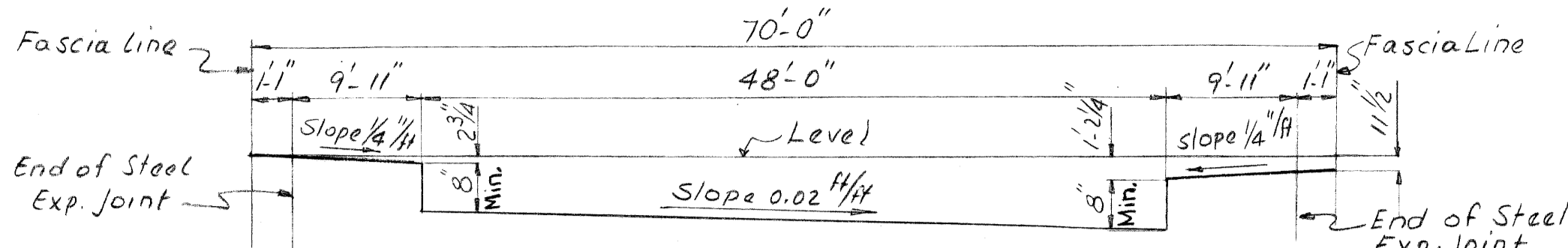
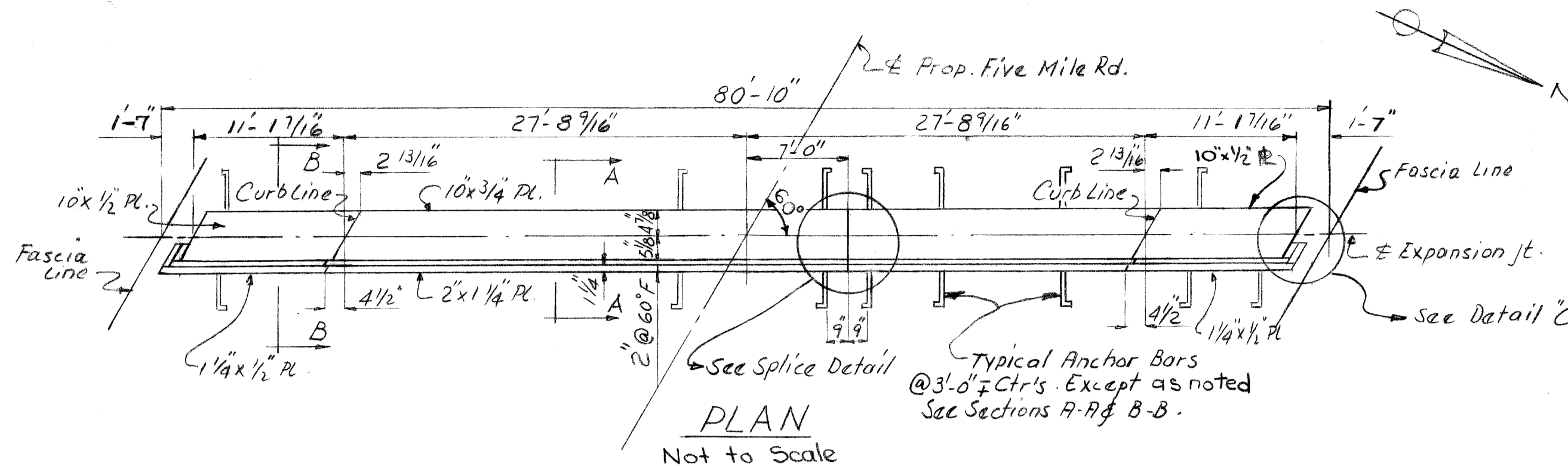
Work this sheet with 23 & 25

| | |
|---------------|------------|
| STATE PROJECT | COUNTY JOB |
| BRIDGE | 320 |
| ROAD | |
| ISSUE NO. | SHEET NO. |
| DATE 10-17-67 | 24 |

BOARD OF
WAYNE COUNTY ROAD COMMISSIONERS
 DETROIT, MICHIGAN
 WILLIAM E. KREGER
 AL BARBOUR

FIVE MILE ROAD OVER ROUGE RIVER
STRUCTURAL STEEL DETAILS

| | | |
|-----------|--------------|--|
| REVISIONS | SQUAD LEADER | APPROVED |
| | L. McElwee | |
| | DRAWN BY | ENGINEER OF STRUCTURES AND EXPRESSWAYS |
| | CHECKED BY | APPROVED |
| | DATE | |
| | 6/16/60 | |
| | DATE | |
| | | |
| | | |



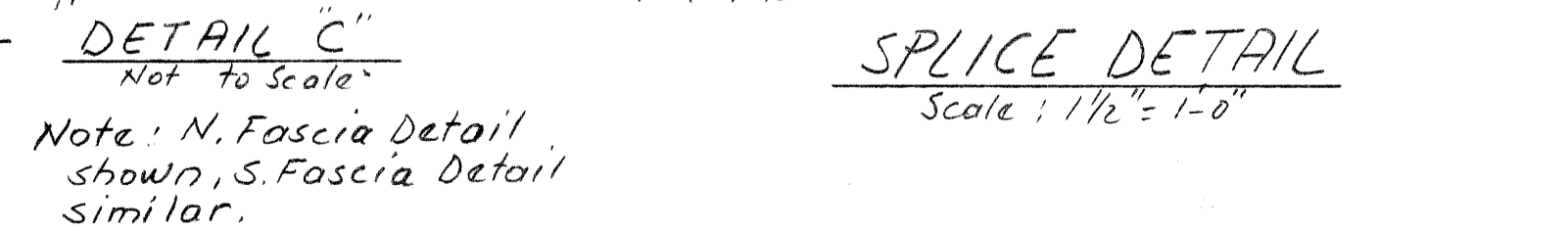
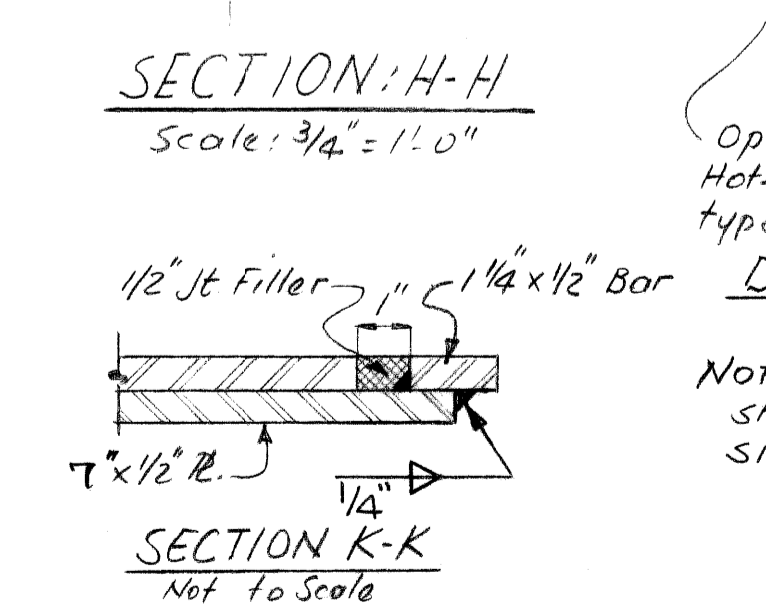
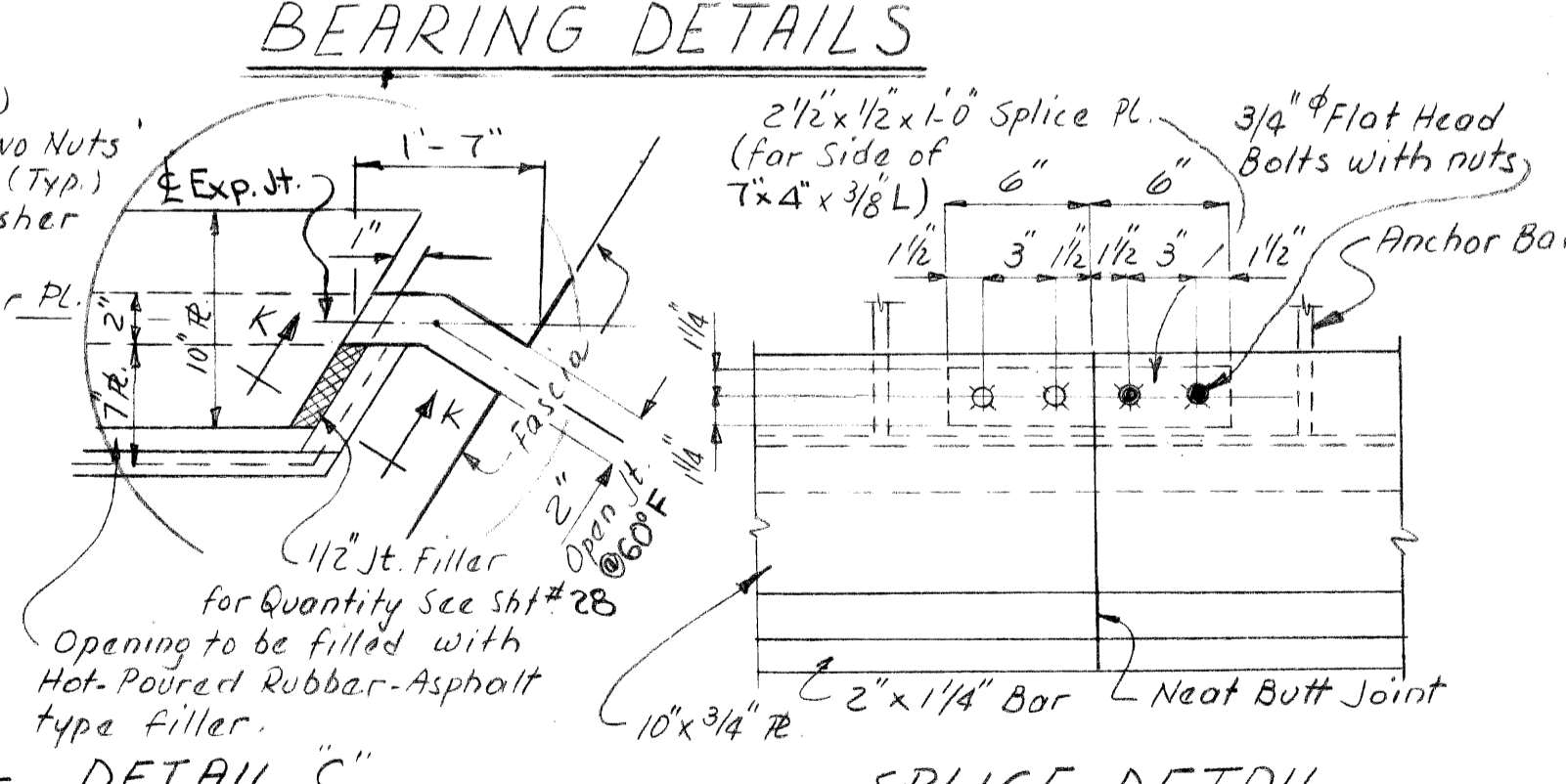
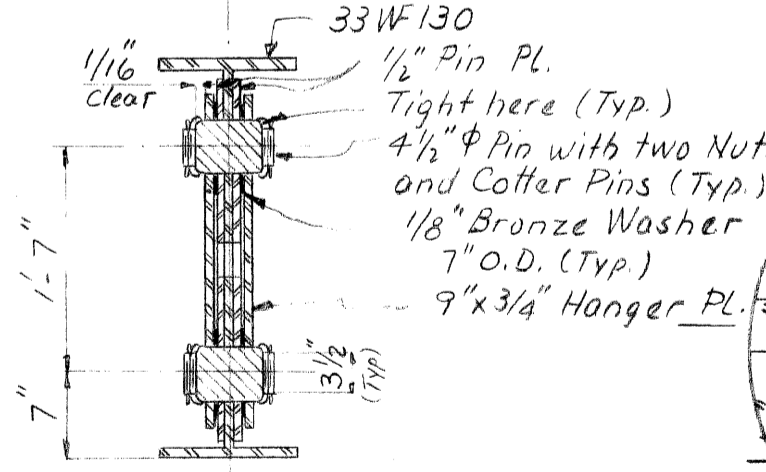
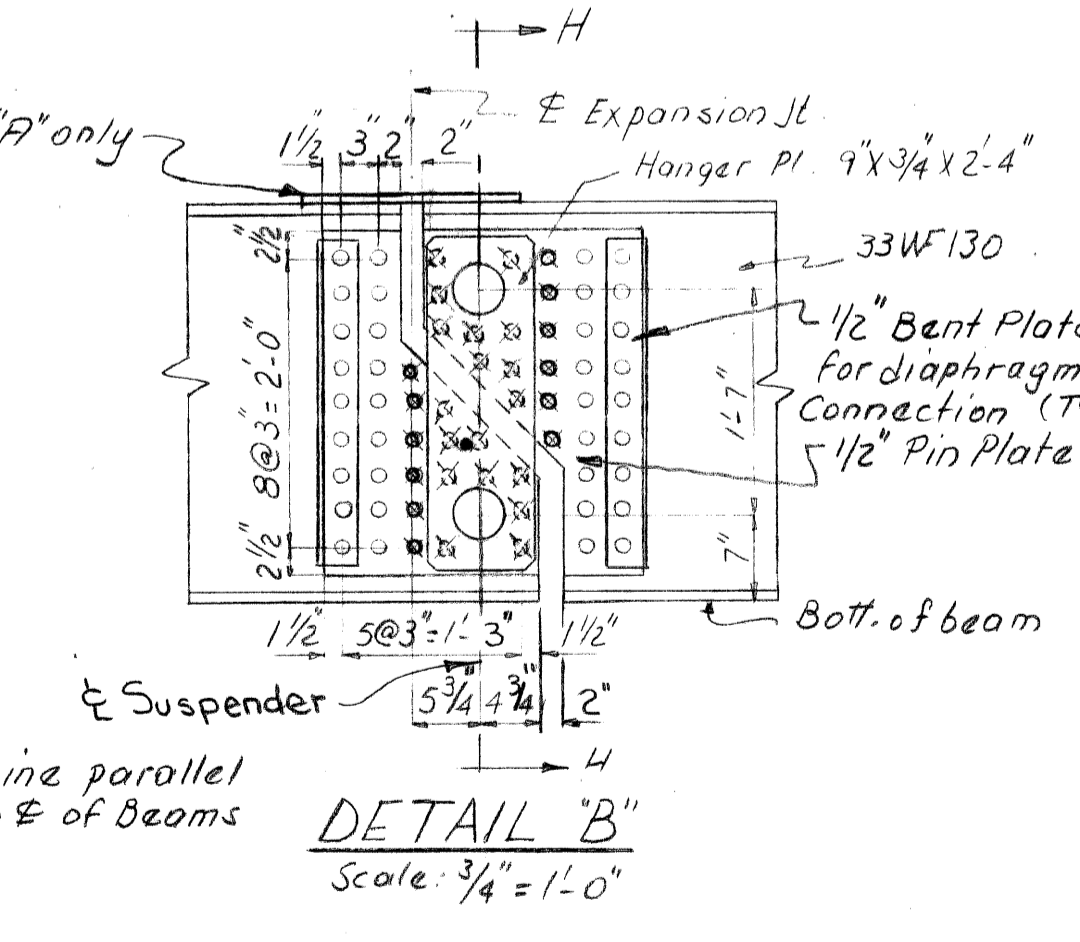
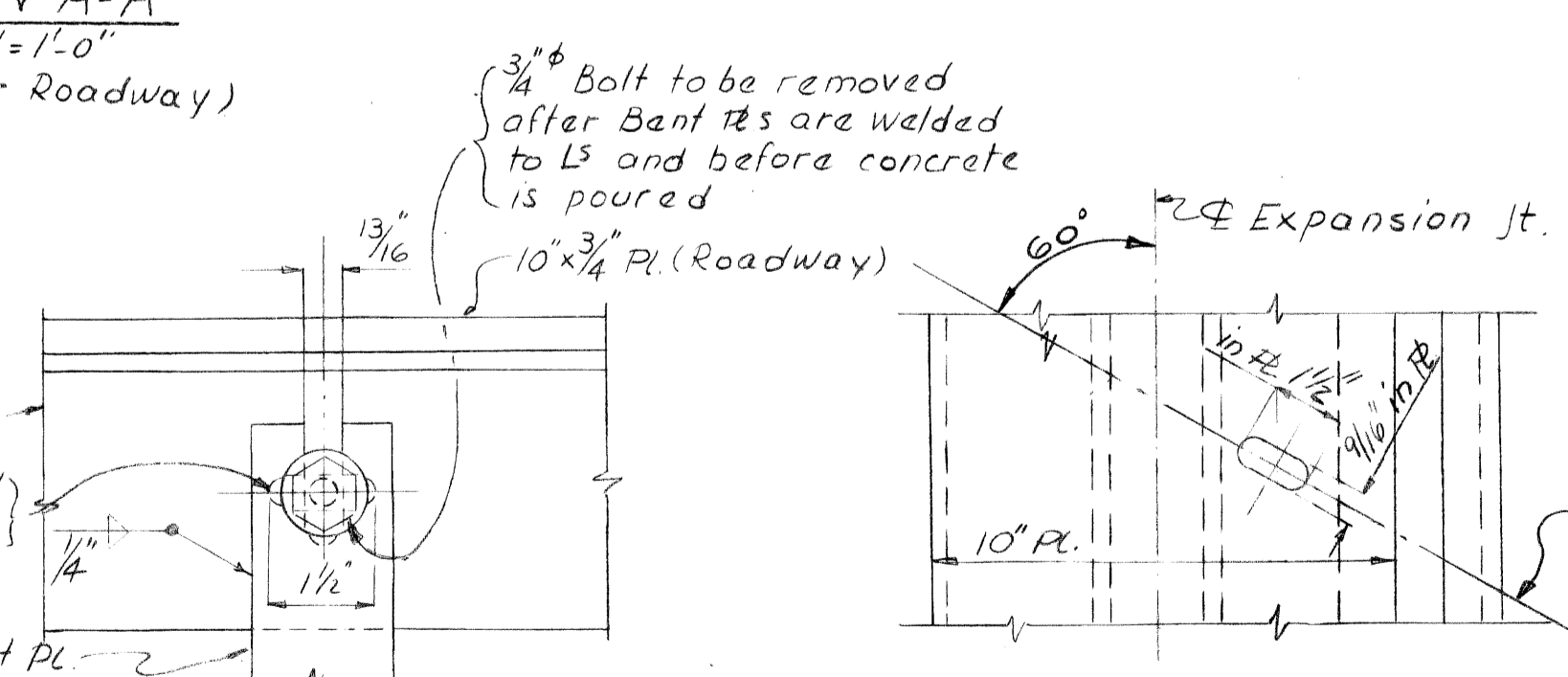
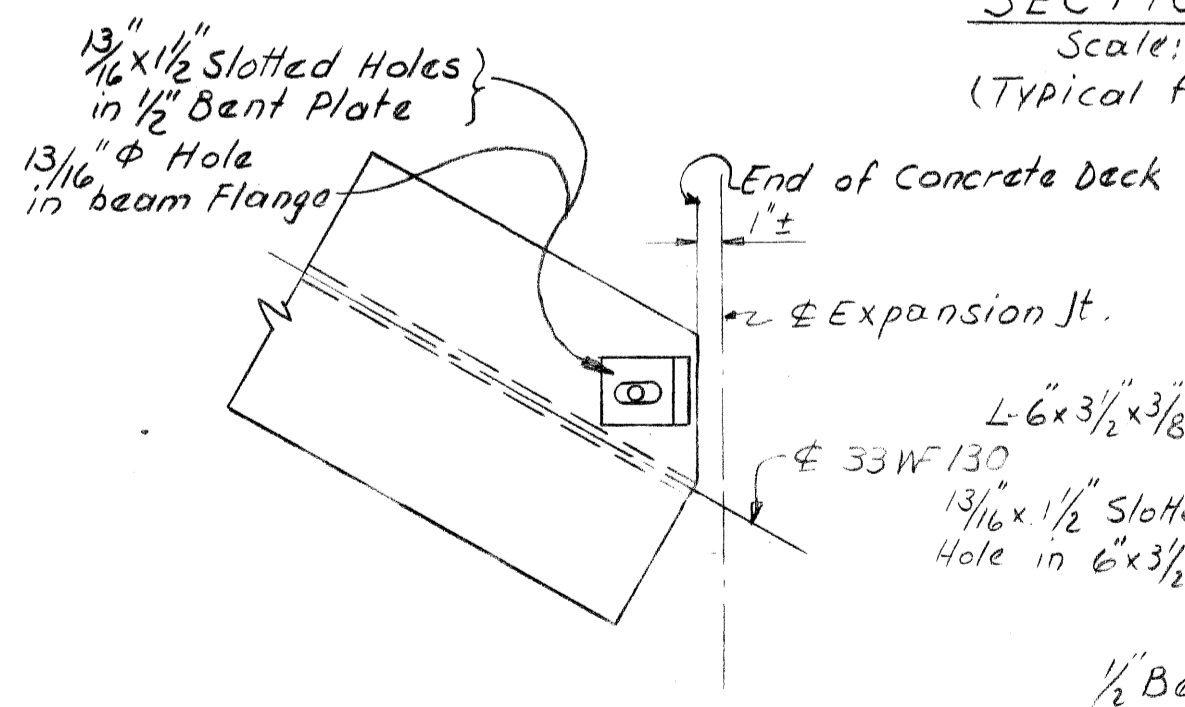
SOLE PLATE THICKNESSES (CD)

| Beam No | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---------------|-------|-------|-------|-------|---|-------|-------|-------|---|-------|-------|-------|-------|
| At the Abut's | 2 3/8 | 2 3/8 | 4 7/8 | 4 3/4 | 2 | 2 1/8 | 4 1/4 | 4 3/4 | 2 | 2 1/8 | 2 3/8 | 2 1/4 | 2 1/4 |
| At the Piers | 2 | 2 1/8 | 4 1/4 | 4 3/4 | 2 | 2 1/8 | 4 1/4 | 4 3/4 | 2 | 2 1/8 | 2 3/8 | 2 1/4 | 2 1/4 |

POSITION DWEL

| Position | At Abut. | At Piers |
|----------|----------|----------|
| Beam No | 1-3 | 4-13 |

For Location See Shts. #17 & #19
Bridge Seat 7



EXPANSION JOINT DETAILS

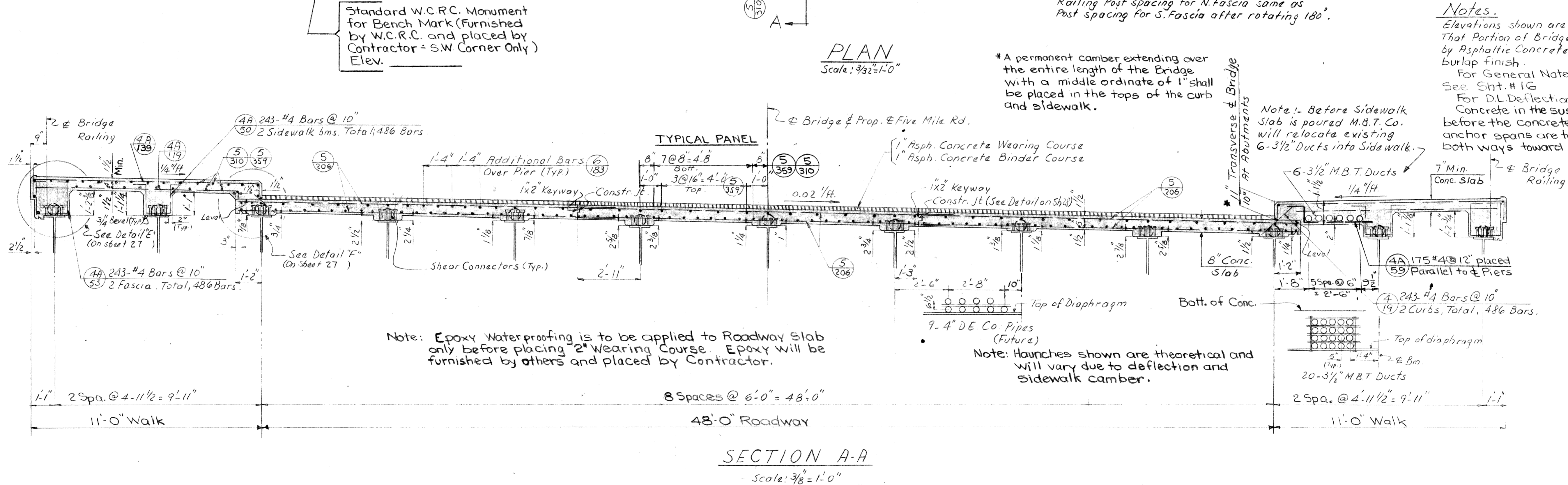
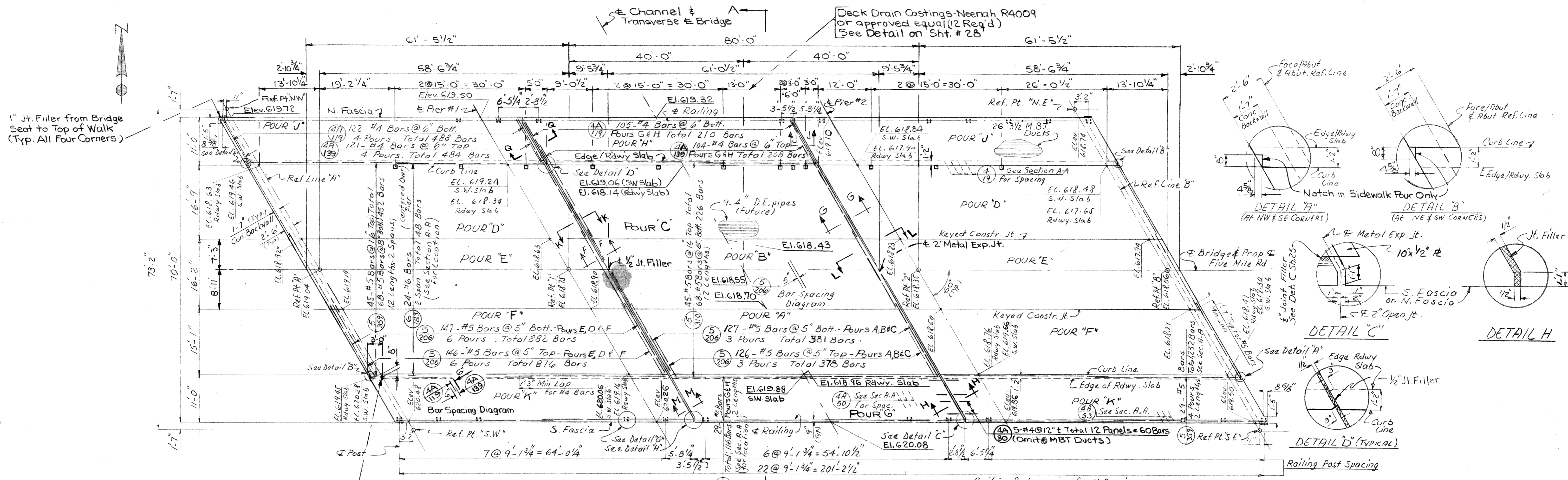
Work this sheet with 23 & 24

| STATE FILE | BRIDGE ROAD | STATE PROJECT | COUNTY JOB |
|------------|-------------|---------------|------------|
| | | | 320 |

| REVISIONS | SQUAD LEADER | APPROVED |
|-----------|--|--|
| | L. McElwee | |
| | DRAWN BY L. O. EXAMIN | ENGINEER OF STRUCTURES AND EXPRESSWAYS |
| | CHECKED BY S. COMPTON | APPROVED |
| | DATE 6-22-60 | |
| | CORRECT | |
| | ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS | ENGINEER OF STRUCTURES AND EXPRESSWAYS |

WAYNE COUNTY ROAD COMMISSIONERS
BOARD OF
DETROIT, MICHIGAN
WILLIAM E. KREGER
AL BARBOUR

FIVE MILE ROAD OVER ROUGE RIVER STRUCTURAL STEEL EXPANSION JOINT & BEARING DETAILS
STATE PROJECT
COUNTY JOB
320
ISSUE NO. 1
DATE 10-17-62
SHEET NO. 25



Notes:

- Elevations shown are for the top of Conc Slabs. That Portion of Bridge Deck which is to be covered by Asphaltic Concrete shall be given a rough burlap finish.
- For General Notes on Reinforced Concrete See Sht. # 16
- For DL Deflection Table See Sht. # 23
- Concrete in the suspended span is to be poured before the concrete in the anchor spans. Then, anchor spans are to be poured from the center both ways toward the supports or suspenders.

| | | | | |
|------------|--------|------|----------------|--------------|
| STATE FILE | BRIDGE | ROAD | STATE PROJECT | COUNTY JOB |
| | | | | 320 |
| | | | ISSUE NO. 1 | SHEET NO. 26 |
| | | | DATE: 10-17-62 | |

| | | |
|-----------|--|--|
| REVISIONS | SQUAD LEADER | APPROVED |
| | L. M. E. Wee | |
| | CHECKED BY | DATE |
| | L. OZENGIN | 7.1.60 |
| | CHECKED BY | DATE |
| | S. Compton | |
| | CORRECT | APPROVED |
| | | |
| | ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS | ENGINEER OF STRUCTURES AND EXPRESSWAYS |

BOARD OF WAYNE COUNTY ROAD COMMISSIONERS

DETROIT, MICHIGAN

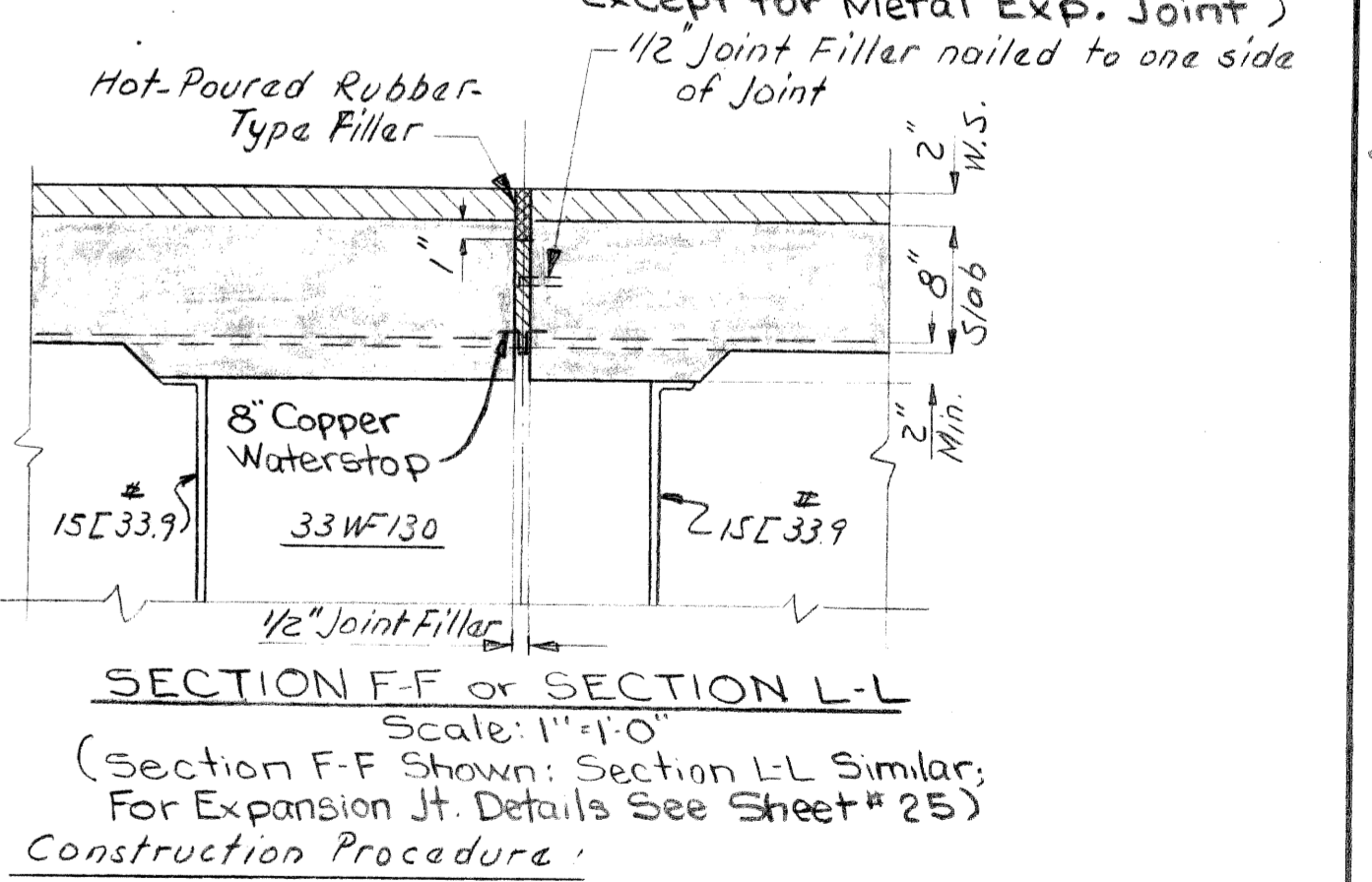
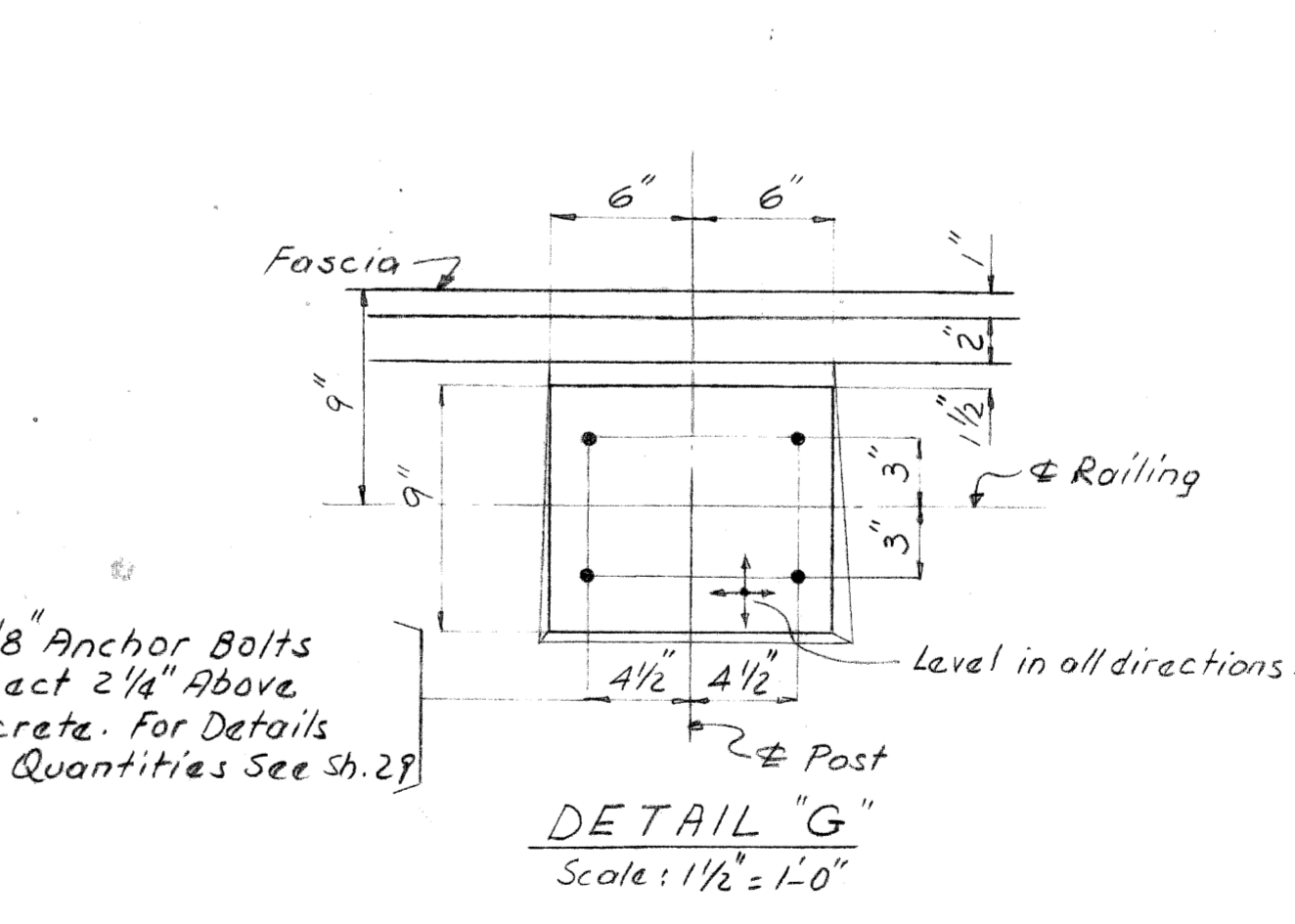
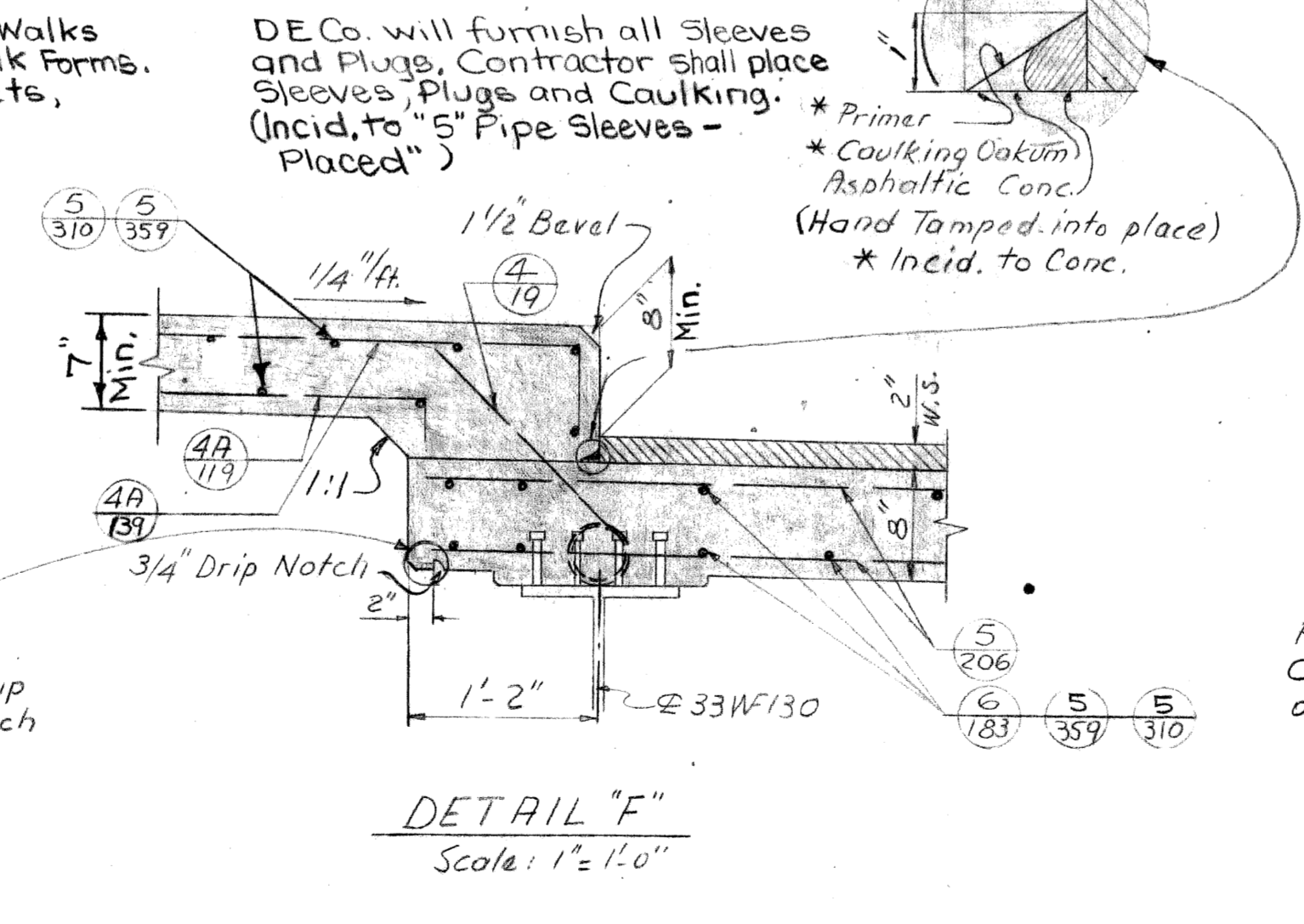
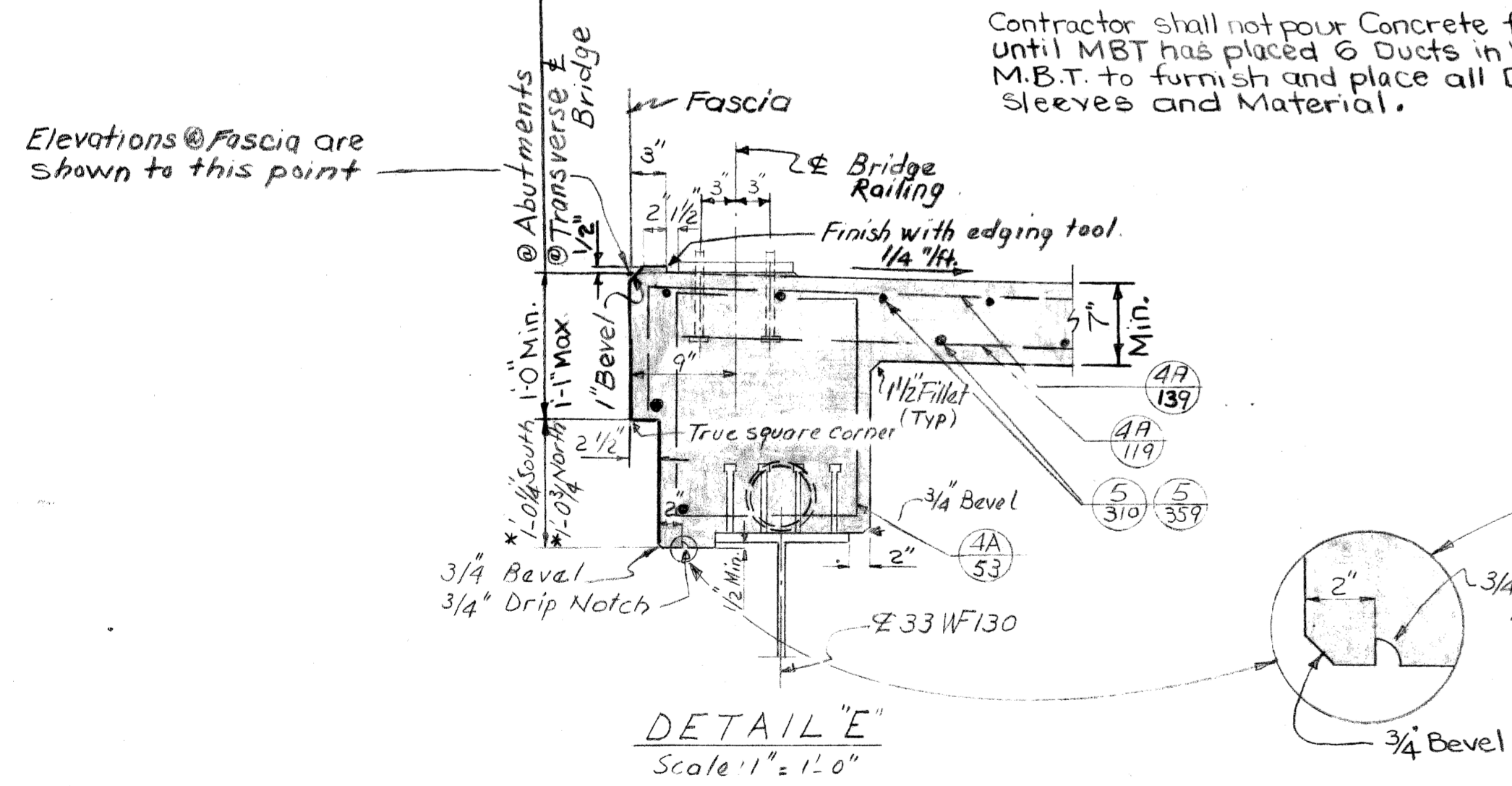
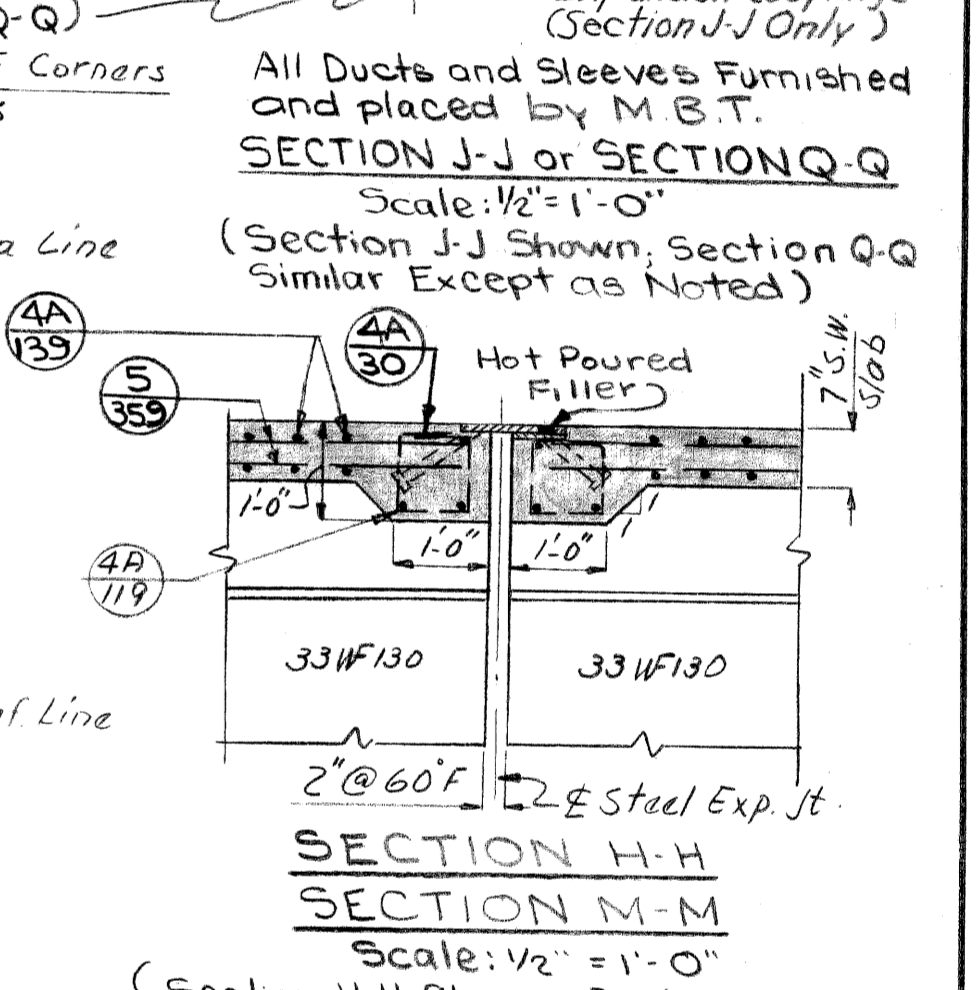
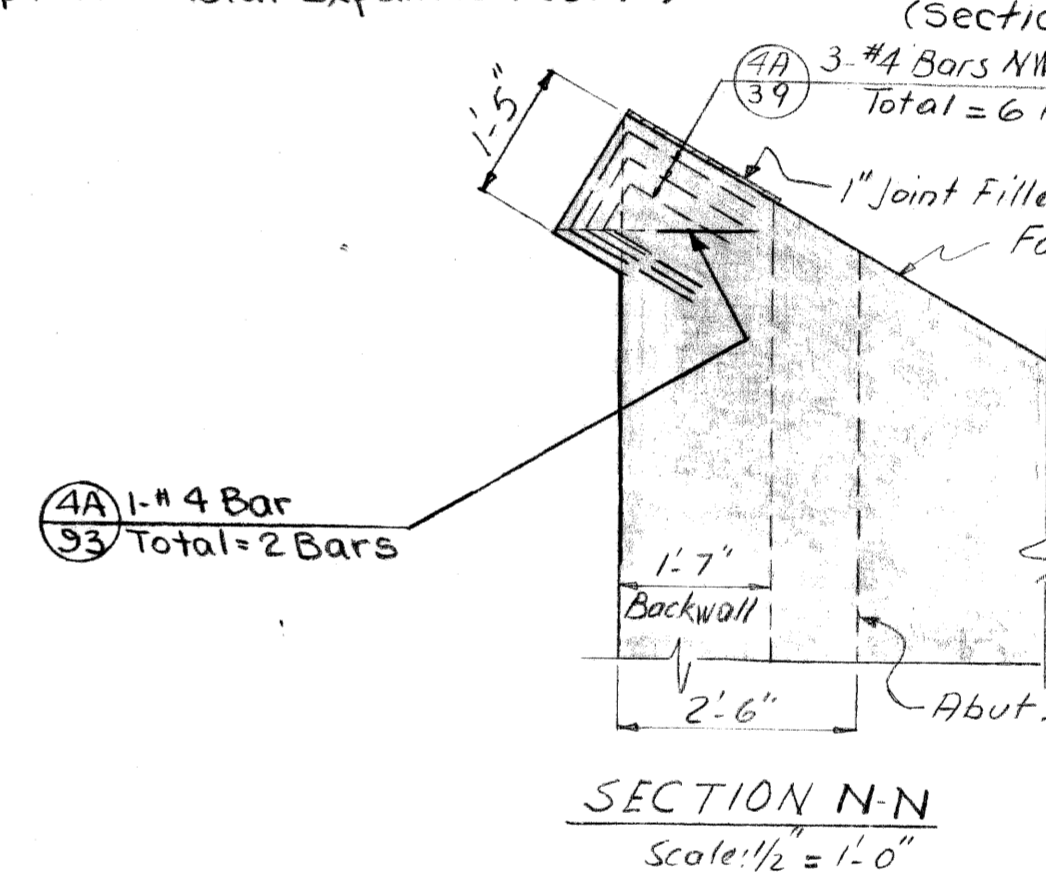
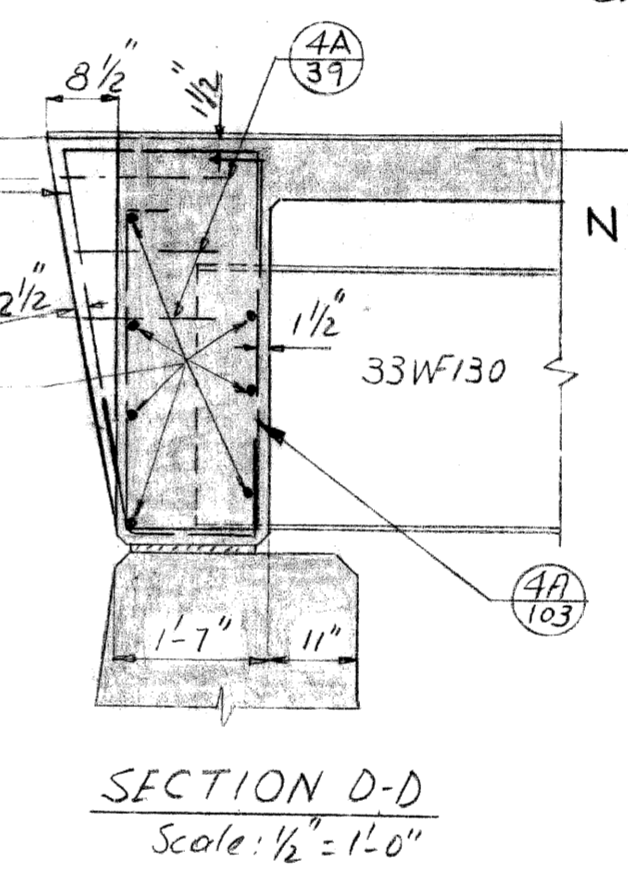
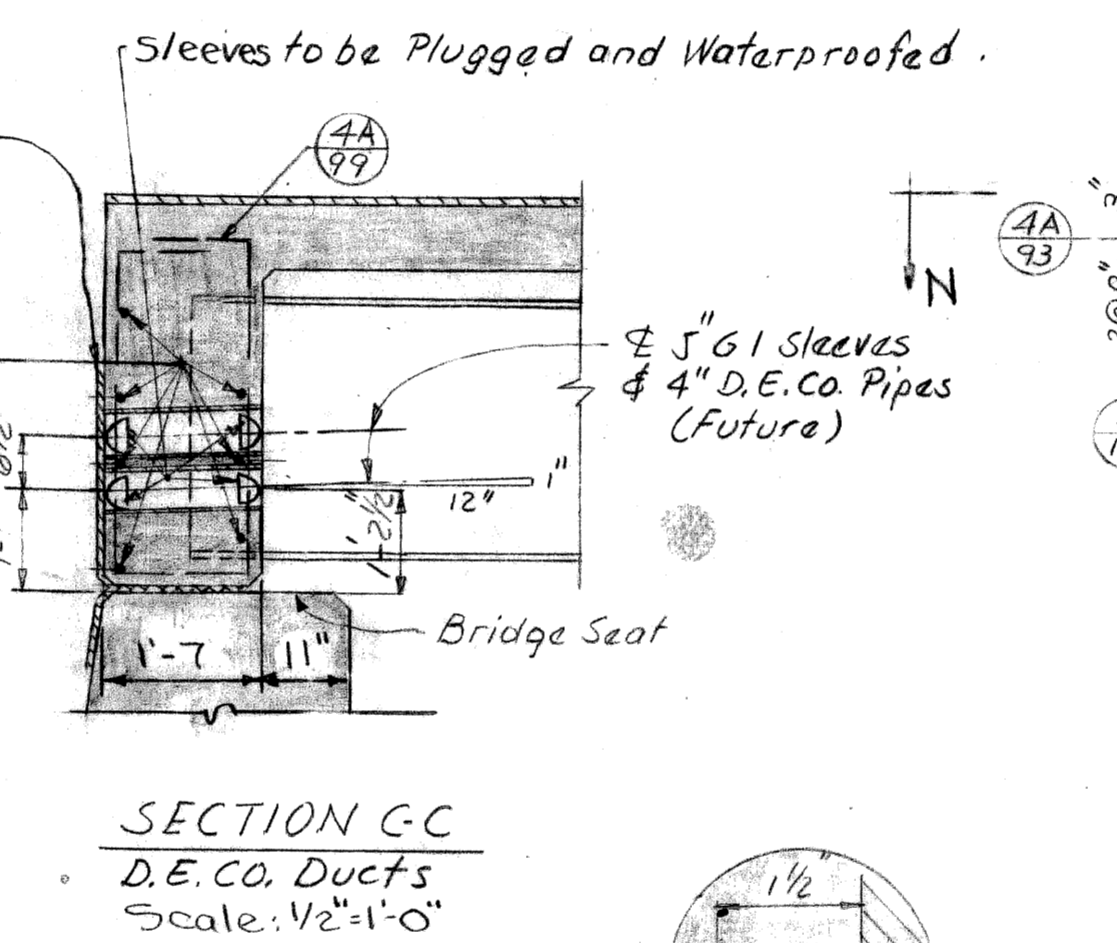
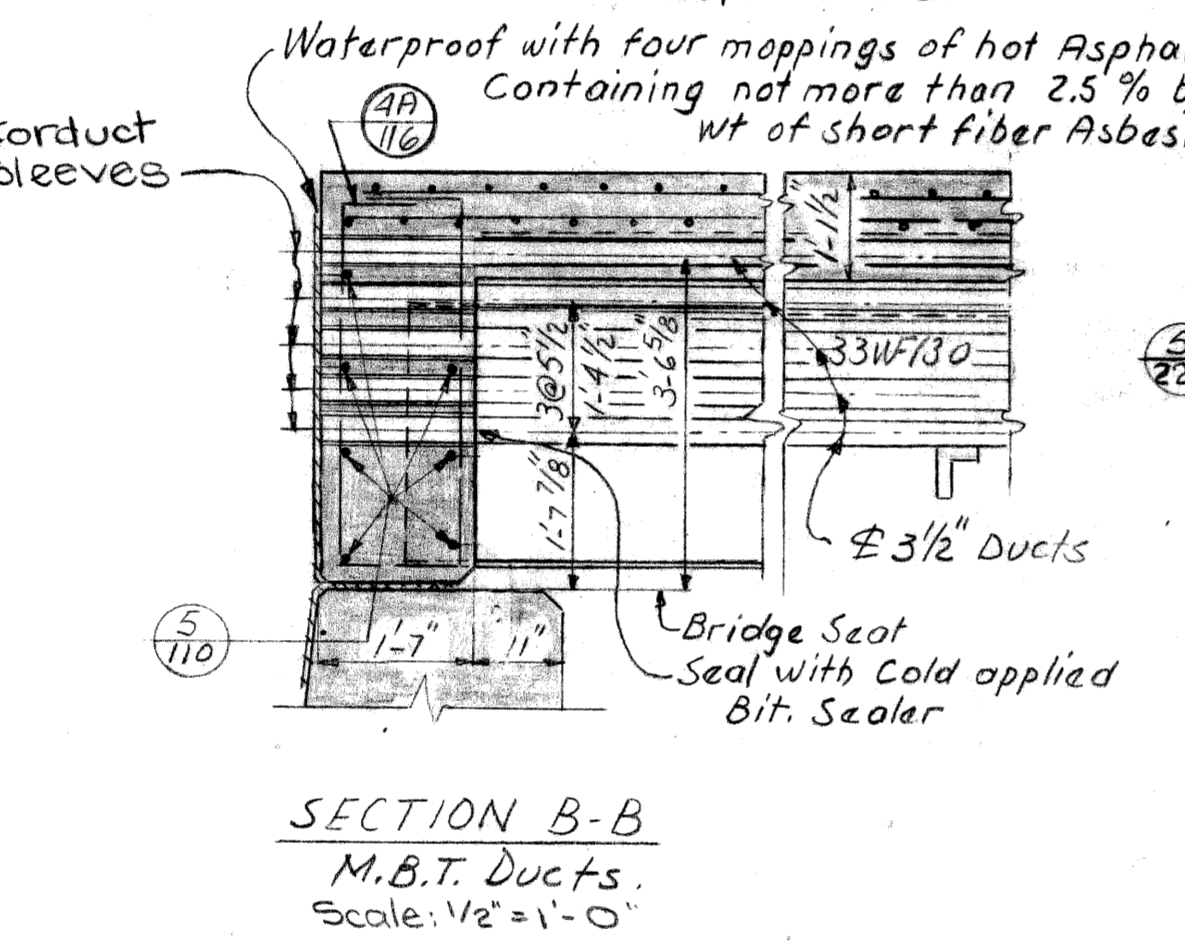
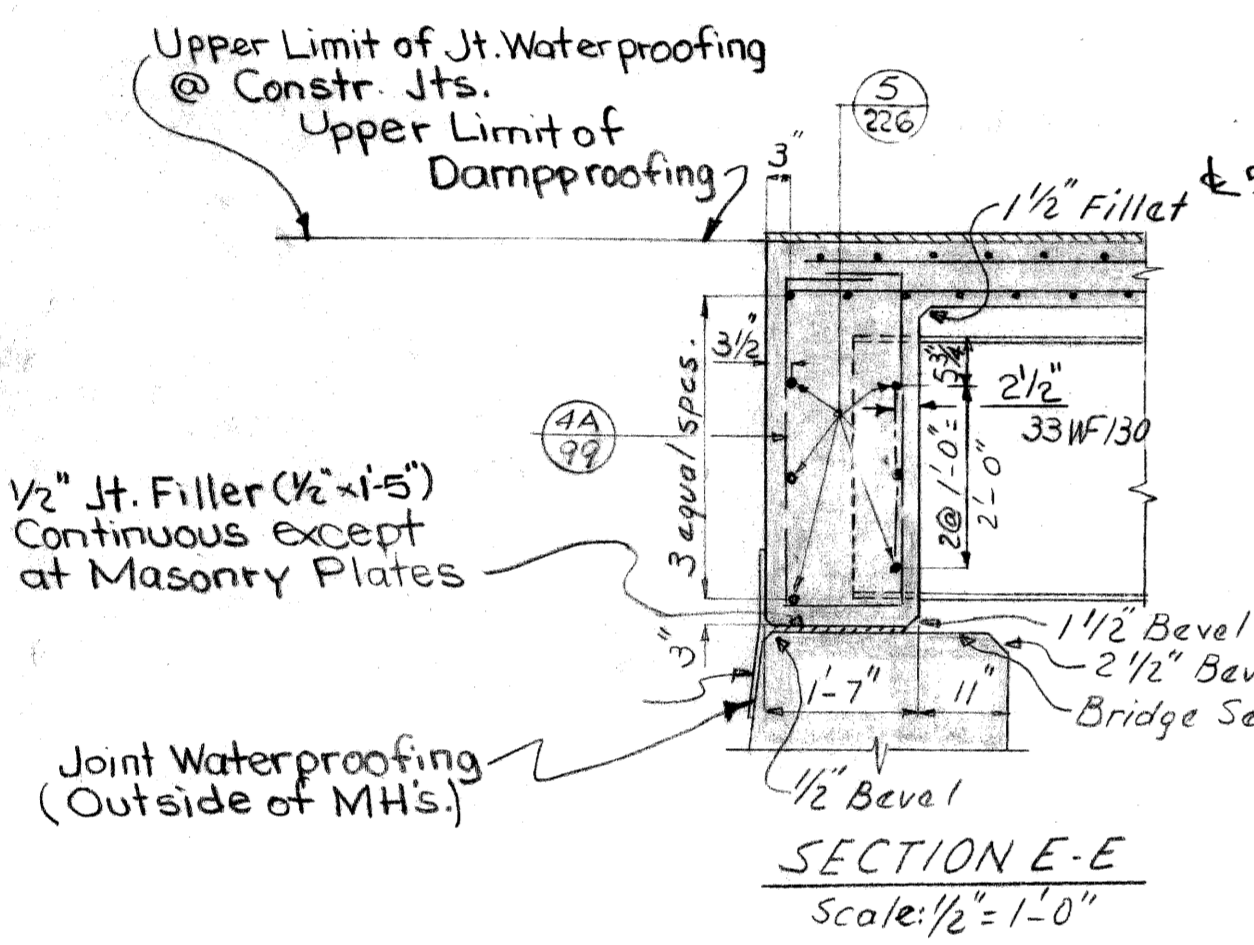
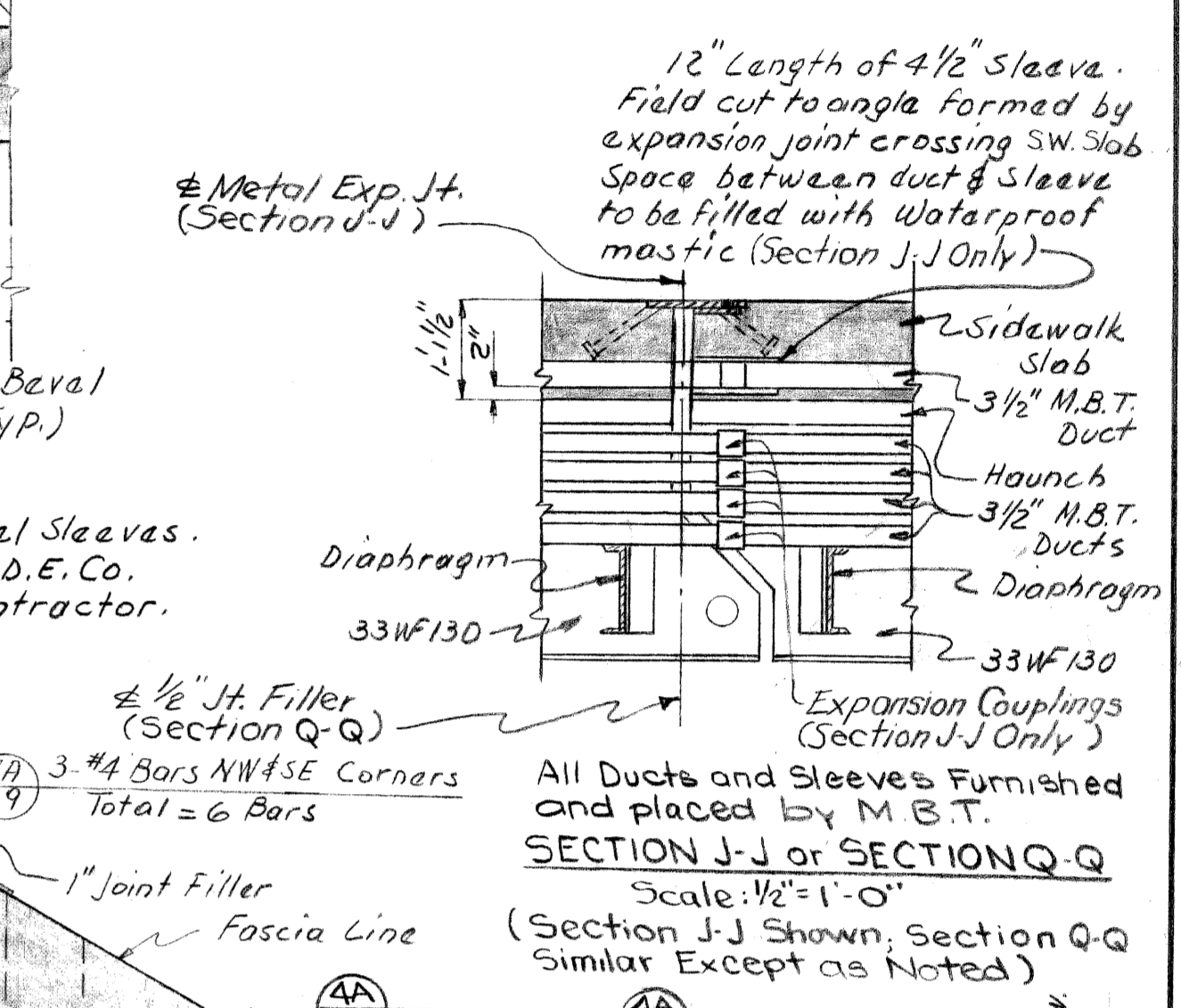
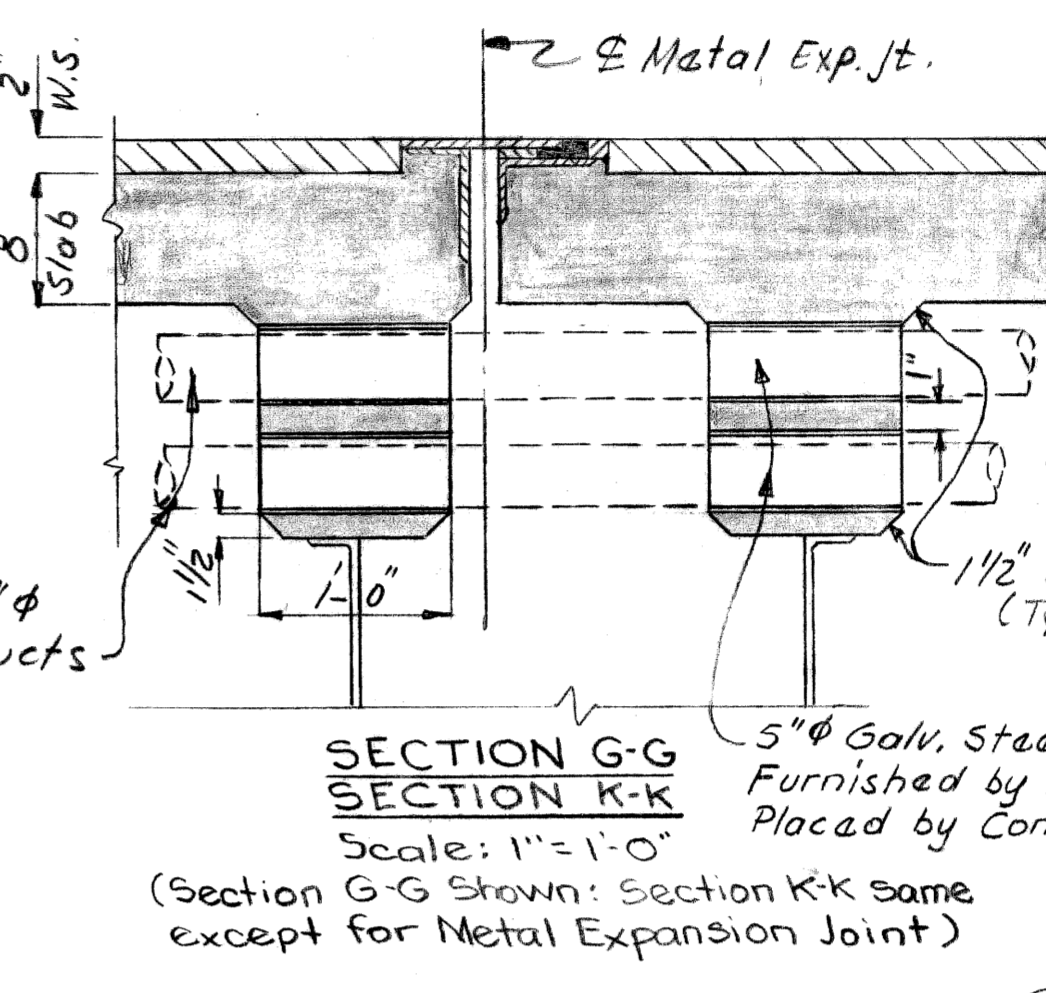
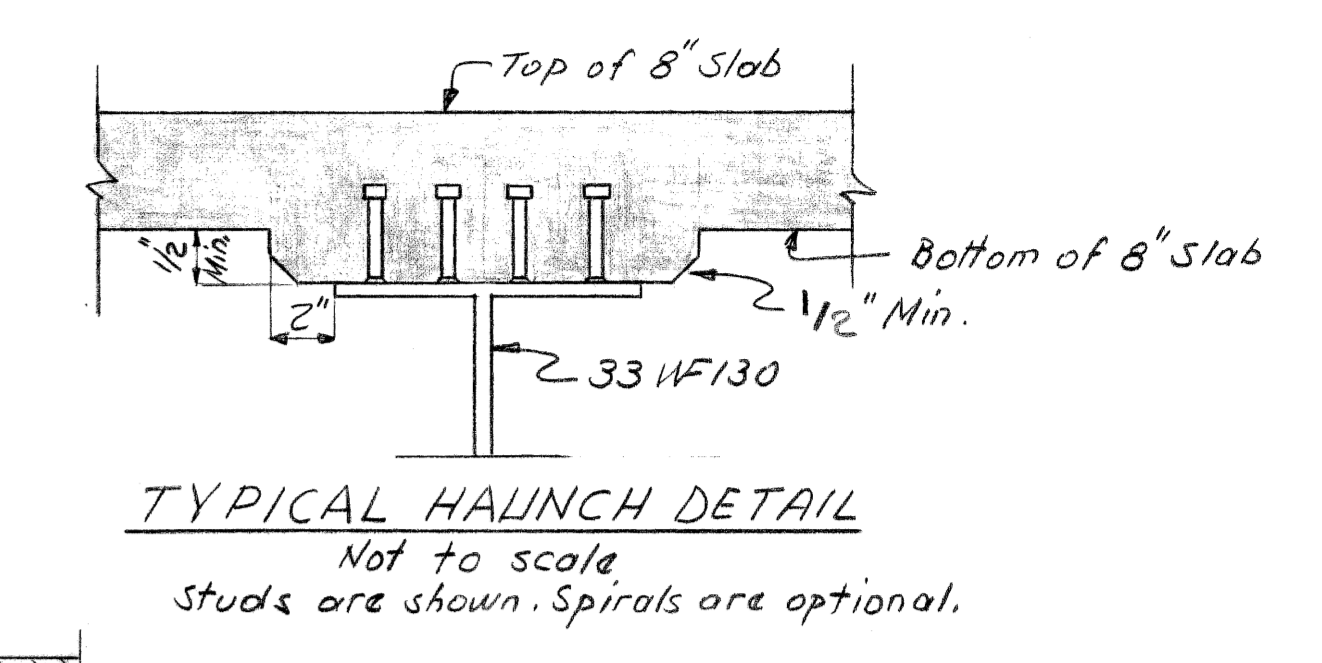
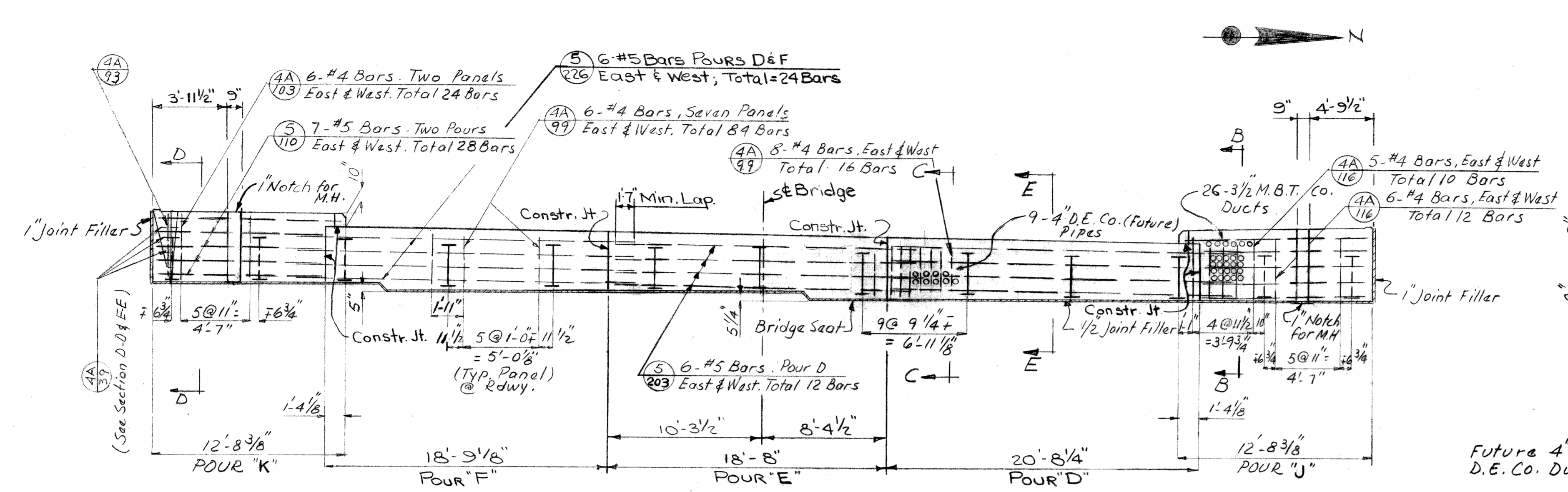
WILLIAM E. KREGER

AL BARBOUR

FIVE MILE ROAD OVER ROUGE RIVER CONCRETE DECK

PLC 4-3" ducts N.S. 33

Work this sheet with 27 & 28



1. Fill joint to top of deck slab with Hot-Poured Filler
2. Place Sand over Hot-Poured Filler
3. Place Bituminous Conc. Wearing Surface
4. Saw and Remove Bit Conc. over the Joint
5. Fill remainder of joint with Hot-Poured Filler

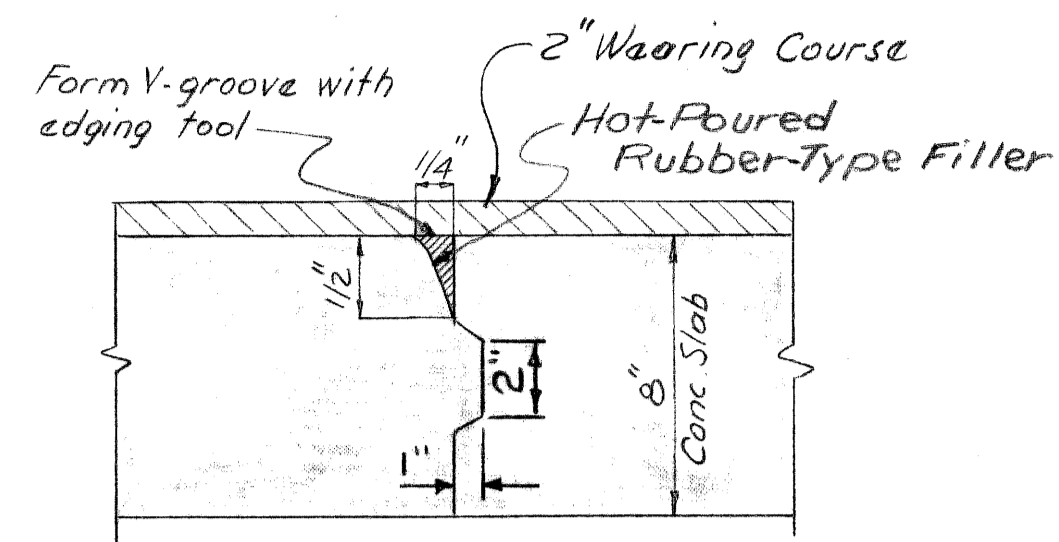
| REVISIONS | | SQUAD LEADER | | APPROVED | |
|-----------|--|--|--|--|--|
| | | L. MEEIwee | | | |
| | | DRAWN BY L. G. DENNIS | | ENGINEER OF STRUCTURES AND EXPRESSWAYS | |
| | | CHECKED BY J. M. COMPTON | | APPROVED | |
| | | DATE 7.1.60 | | COUNTY HIGHWAY ENGINEER | |
| | | CORRECT | | | |
| | | ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS | | | |

WAYNE COUNTY BOARD OF ROAD COMMISSIONERS
DETROIT, MICHIGAN

WILLIAM E. KREGER
AL BARBOUR

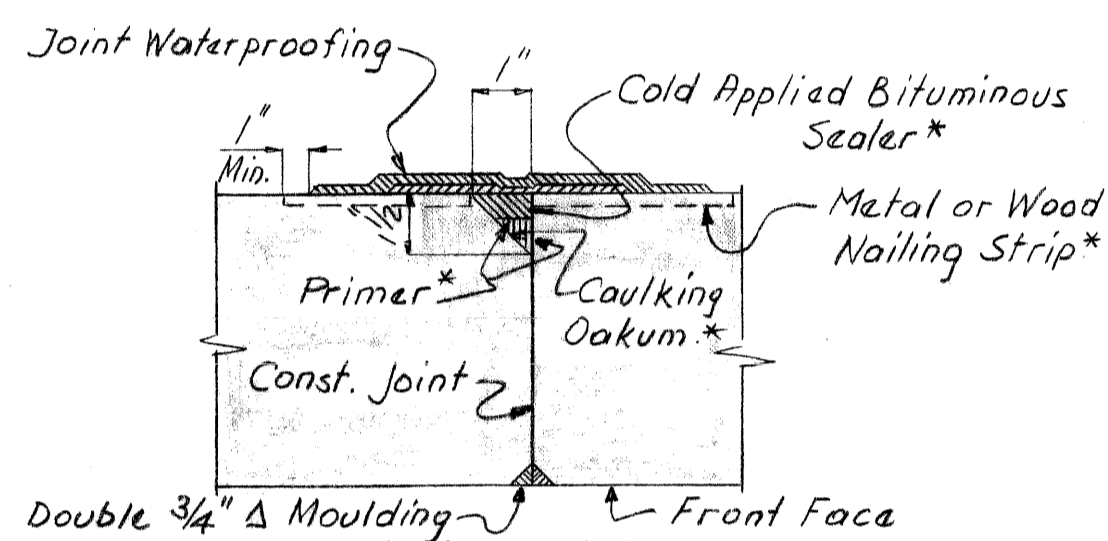
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|------------|--|-------------|--|---------------|--|--------------|--|
| STATE FILE | | BRIDGE ROAD | | STATE PROJECT | | COUNTY JOB | |
| | | | | | | 320 | |
| | | | | ISSUE NO. 1 | | SHEET NO. 27 | |
| | | | | DATE 10-17-62 | | | |

Work this sheet with 26 & 28



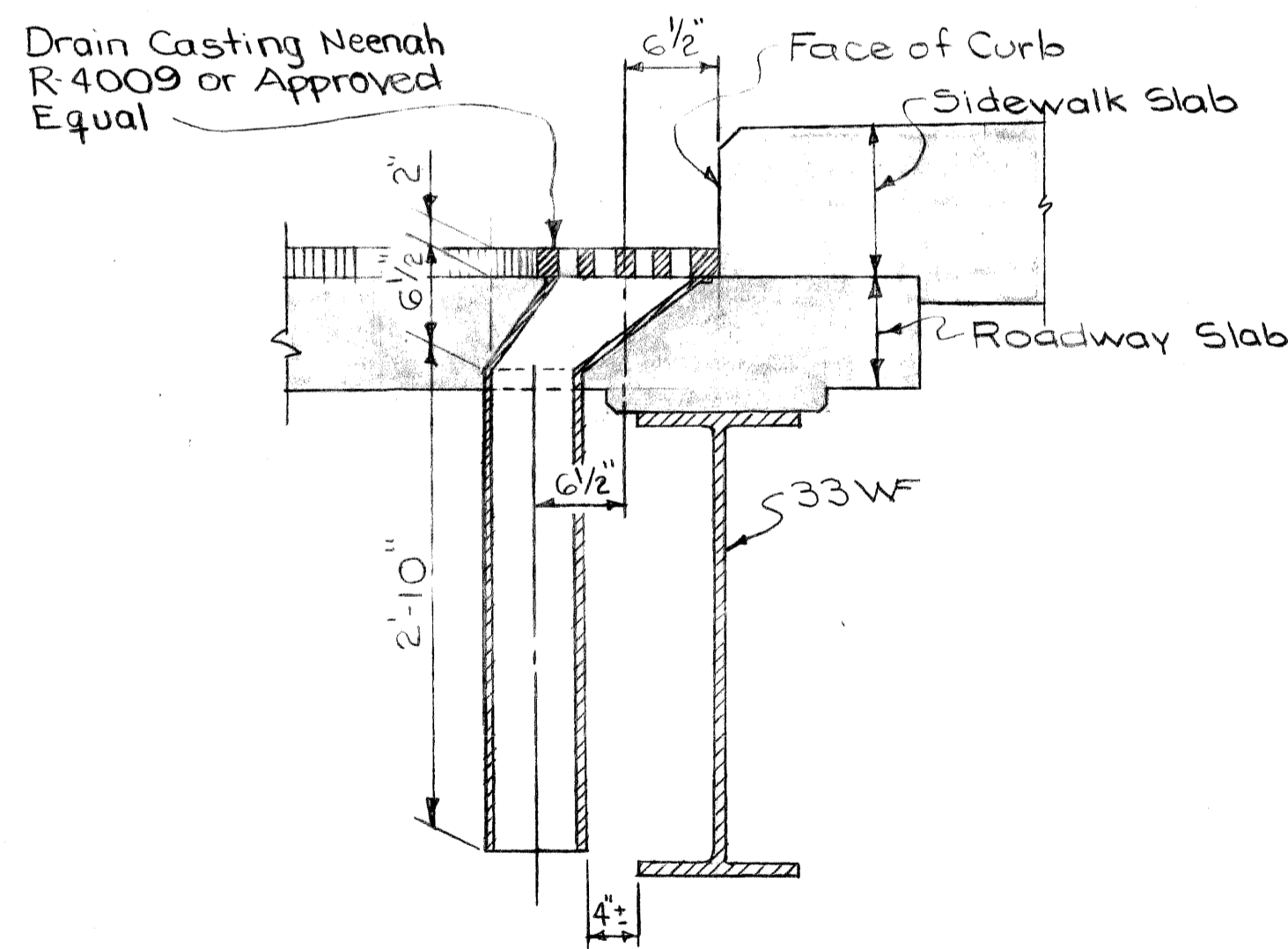
DETAIL OF LONGITUDINAL CONSTRUCTION JOINT

Not to Scale
 Note: - The filler material shall be covered with sand, or limasfont chips just prior to placing the wearing course.



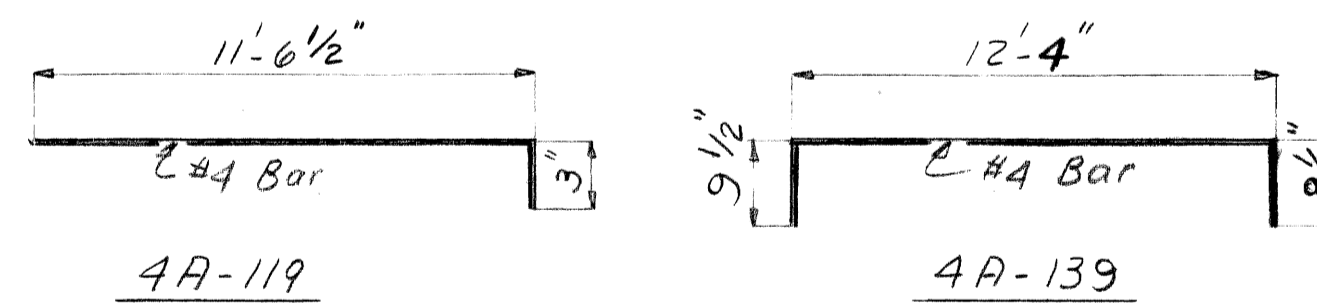
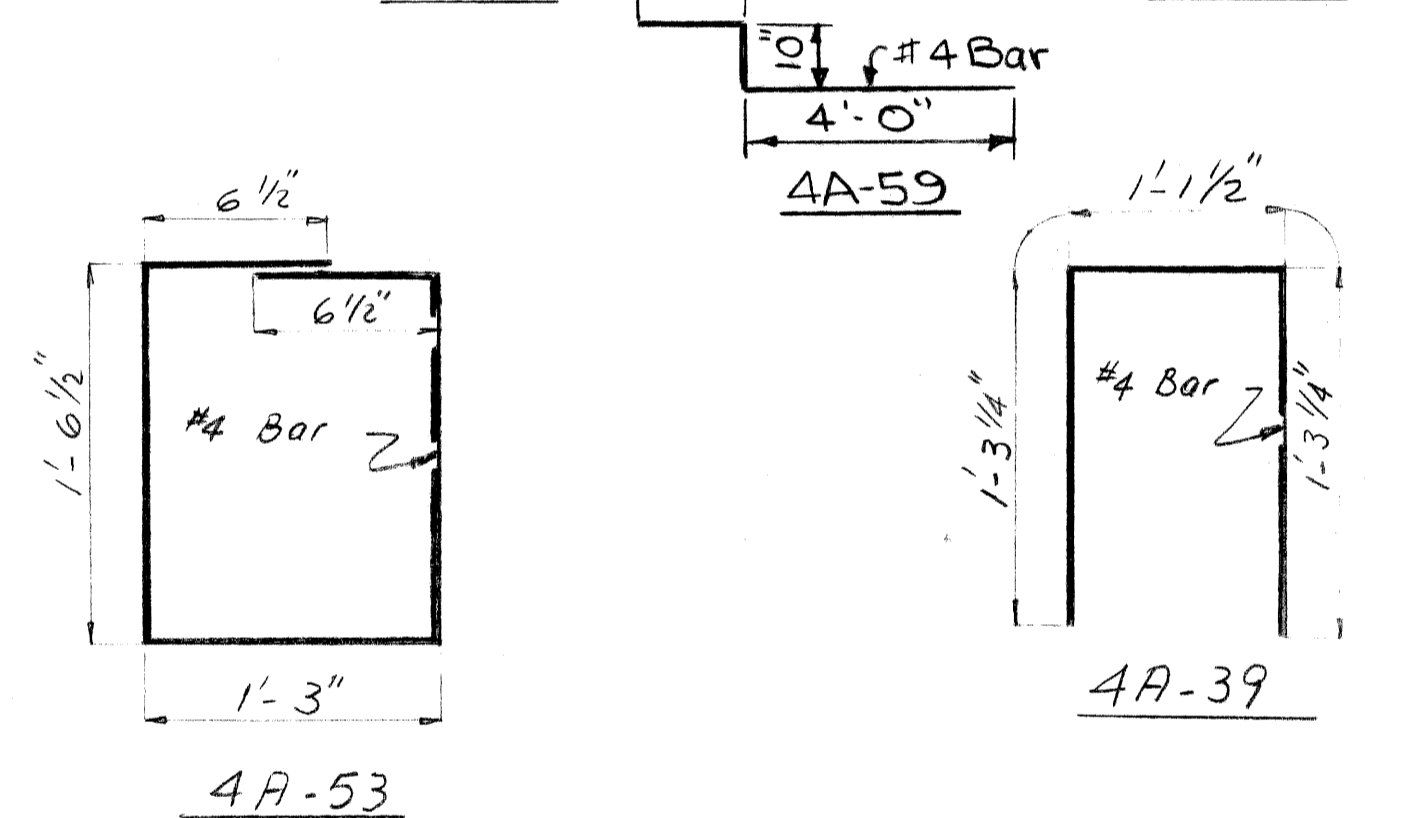
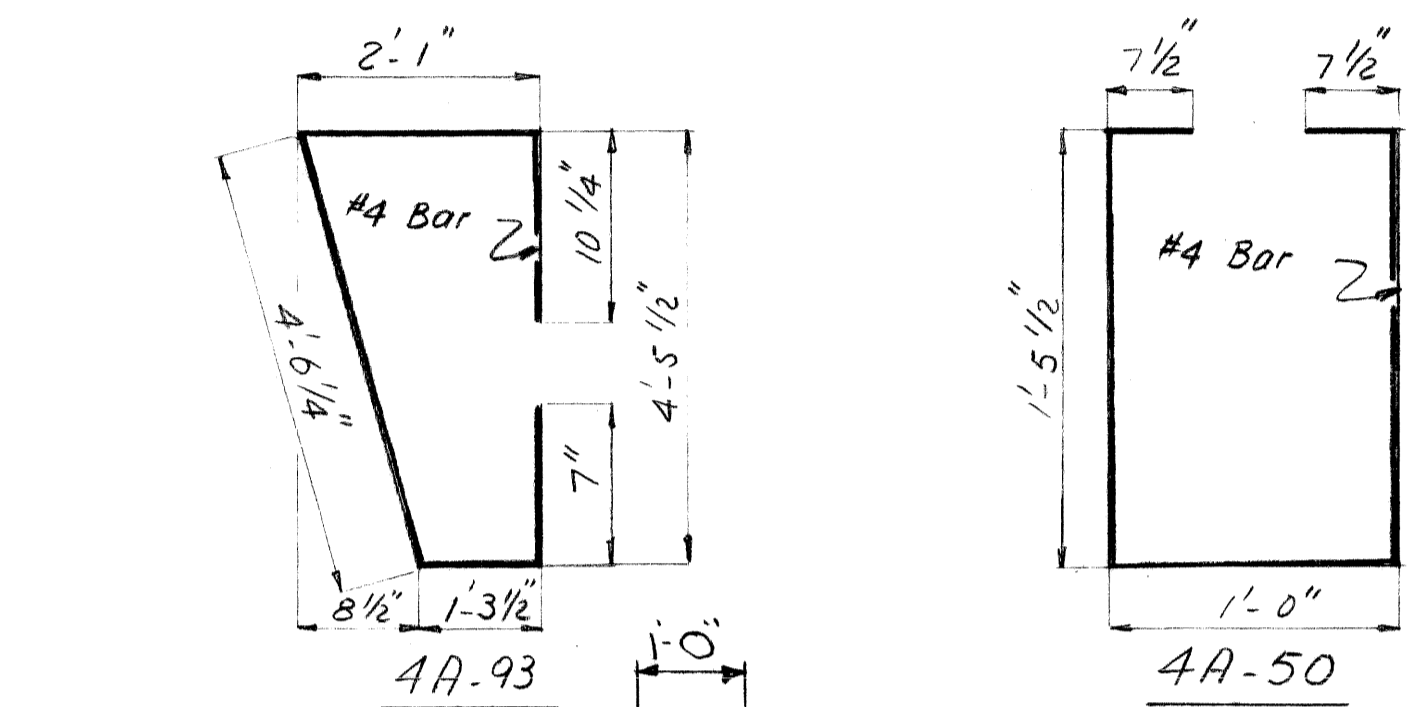
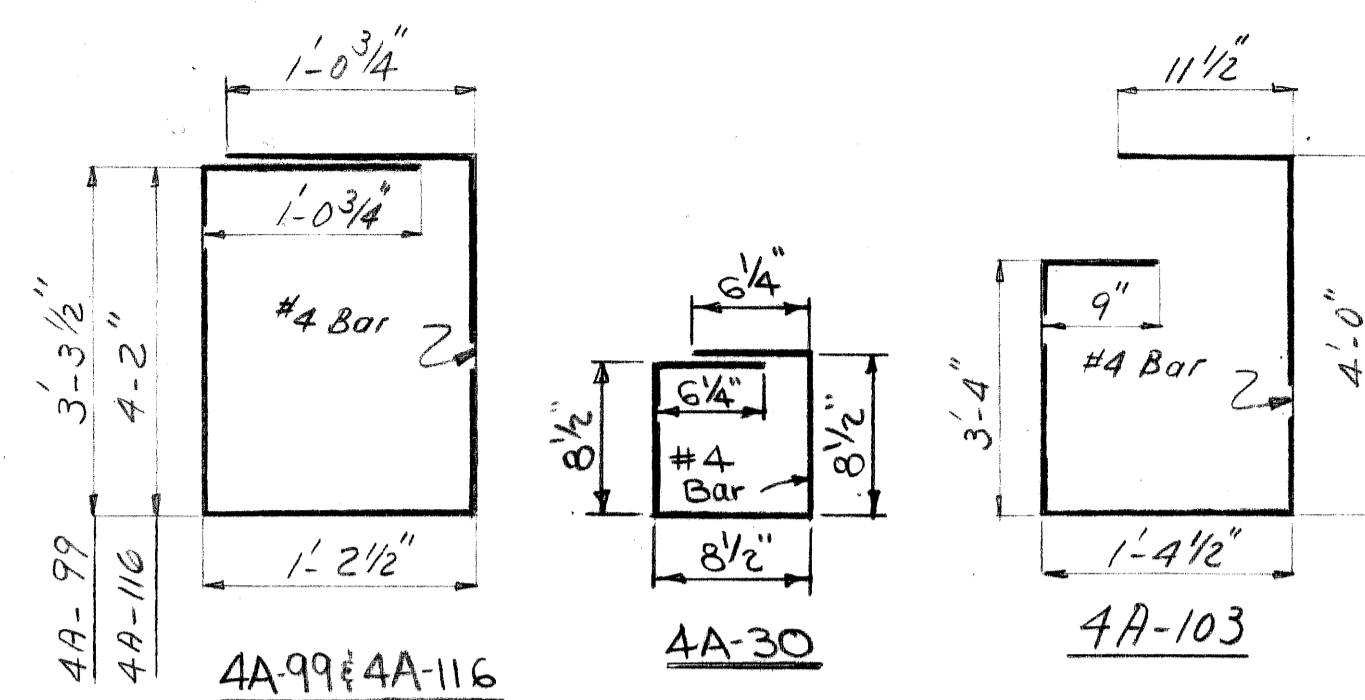
DETAIL OF VERTICAL CONSTRUCTION JOINT

Not to Scale
 Note: - Place nailing strip 1'-0" from top of joint.



DRAIN CASTING DETAIL

Scale: 1"=1'-0"
 1/2" Req'd



REINFORCEMENT DETAILS

All Dimensions shown are out to out of bars.

CONCRETE POURS

| POUR | LOCATION | CU. YDS. |
|------|----------|----------|
| A | Roadway | 26.0 |
| B | do | 26.3 |
| C | do | 29.0 |
| D | do | 2@ 37.3 |
| E | do | 2@ 34.1 |
| F | Roadway | 2@ 33.7 |
| G | Sidewalk | 24.4 |
| H | do | 27.1 |
| J | do | 2@ 33.3 |
| K | Sidewalk | 2@ 30.2 |

BILL OF REINFORCING BARS

| MARK | SIZE | LENGTH | No. | REMARKS |
|--------|------|--------|------|----------|
| 6-183 | #6 | 18'-3" | 48 | Straight |
| 5-359 | #5 | 35'-9" | 684 | Straight |
| 5-310 | " | 31'-0" | 342 | " |
| 5-226 | " | 22'-6" | 24 | " |
| 5-206 | " | 20'-6" | 2517 | " |
| 5-203 | " | 20'-3" | 12 | " |
| 5-110 | #5 | 11'-0" | 28 | Straight |
| 4-19 | #4 | 1'-9" | 486 | Straight |
| 4A-139 | #4 | 13'-9" | 692 | Bent |
| 4A-119 | " | 11'-9" | 698 | " |
| 4A-116 | " | 11'-6" | 22 | " |
| 4A-103 | " | 10'-3" | 24 | " |
| 4A-99 | " | 9'-9" | 100 | " |
| 4A-93 | " | 9'-3" | 2 | " |
| 4A-59 | " | 5'-9" | 175 | " |
| 4A-53 | " | 5'-3" | 486 | " |
| 4A-50 | " | 5'-0" | 486 | " |
| 4A-39 | " | 3'-9" | 6 | " |
| 4A-30 | #4 | 3'-0" | 60 | Bent |

QUANTITIES

| | |
|--|-------------|
| Grade A (6B Gravel or 6B Slag) Concrete - Superstructure | 470 C.Y. |
| Epoxy Waterproofing | 105 Gals |
| Steel Reinforcement | 110,370 Lbs |
| Dampproofing | 630 S.F. |
| Joint Waterproofing | 280 S.F. |
| 1" Joint Filler | 35 S.F. |
| 1/2" Joint Filler | 260 S.F. |
| Hot-Poured Rubber-Type Filler | 620 L.F. |
| 5" Pipe Sleeves - Placed | 54 Ea. |
| Deck Drain Castings | 12 Ea. |
| Rubbed Surface Finish | 950 S.F. |
| Asphaltic Concrete Binder Course | 60 Tons |
| Asphaltic Concrete Wearing Course | 60 Tons |
| Bituminous Bond Coat, RS-1A | 160 Gals. |

| | | |
|------------|--------|--|
| STATE FILE | BRIDGE | |
| | ROAD | |

Work this sheet with 26 & 27

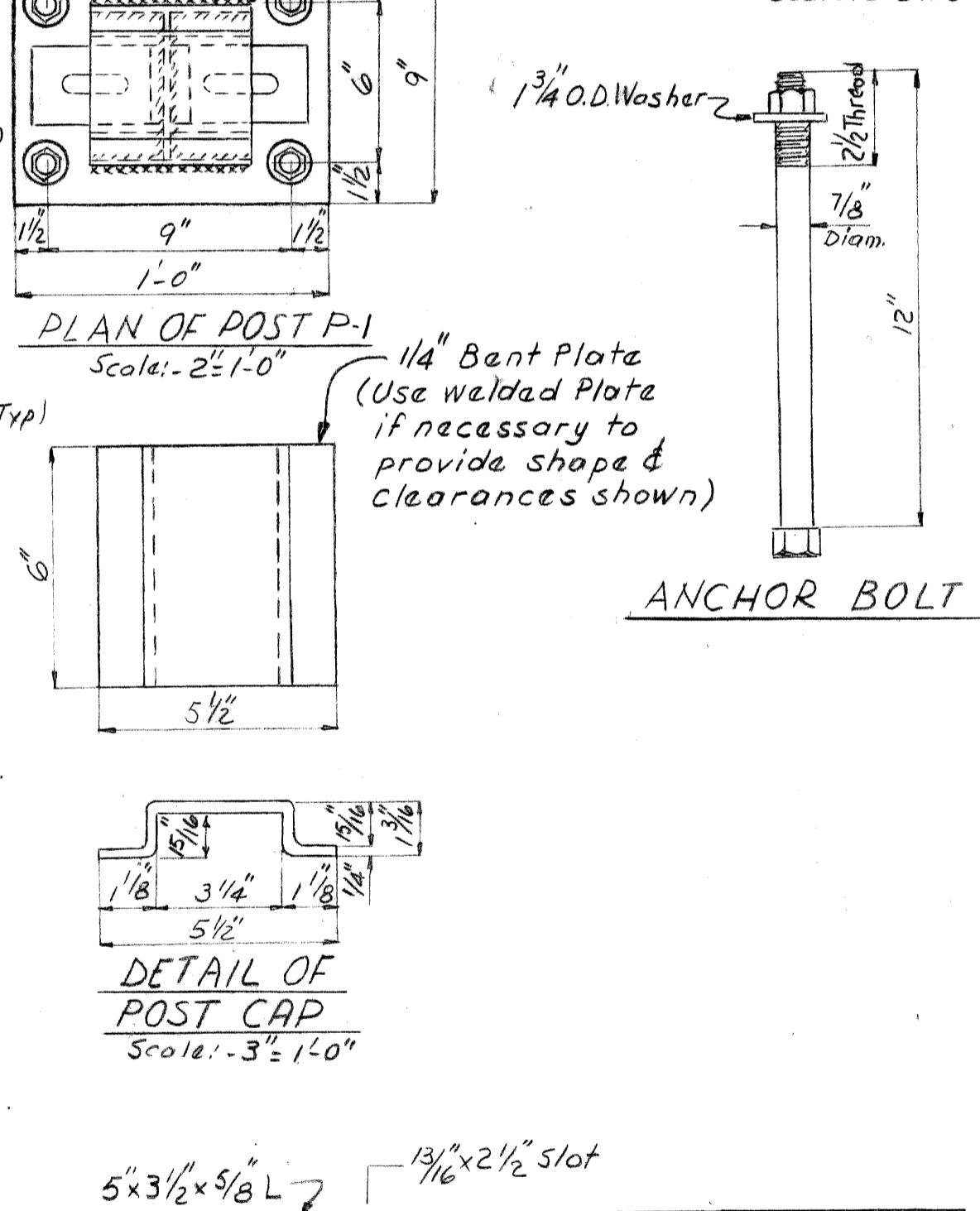
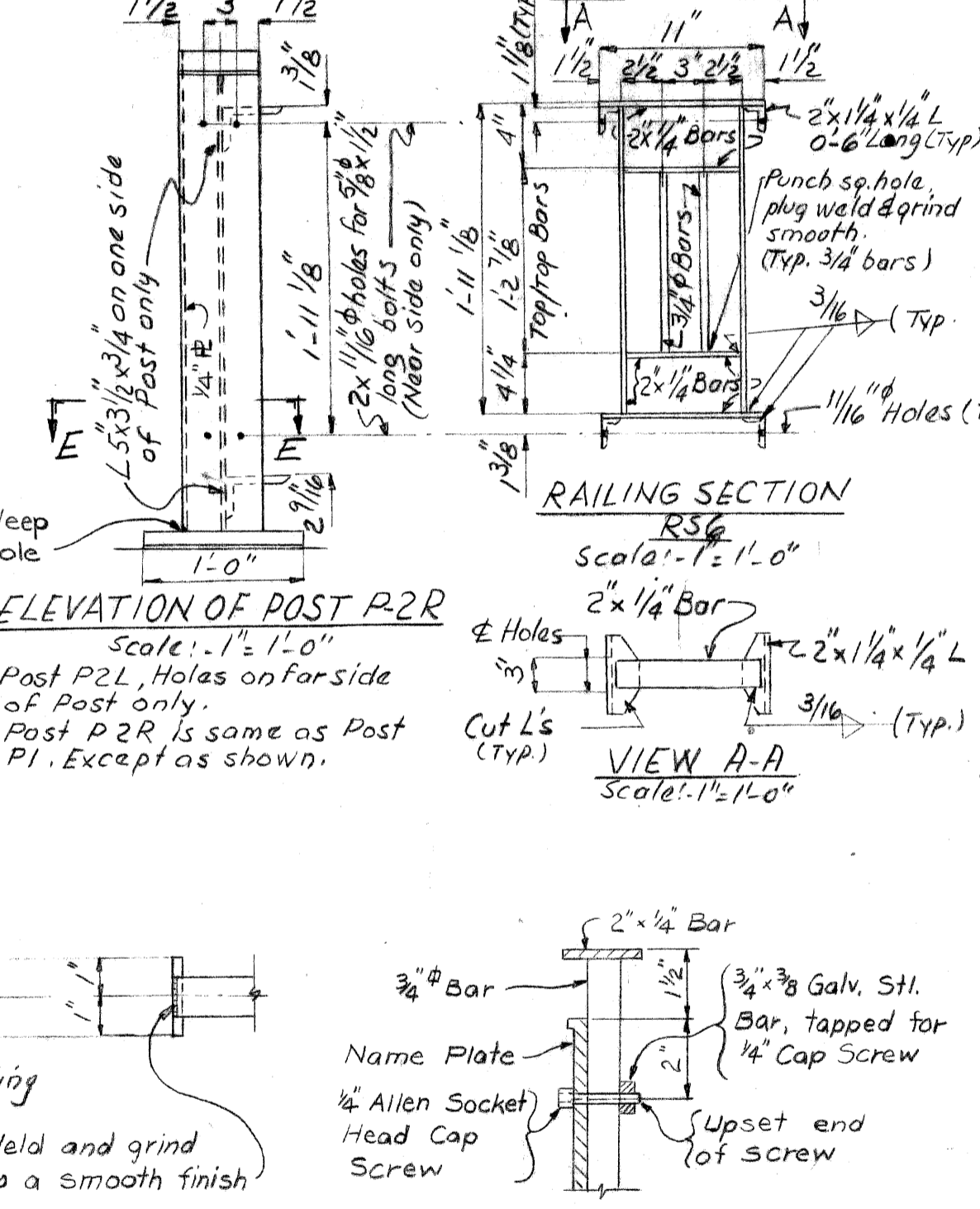
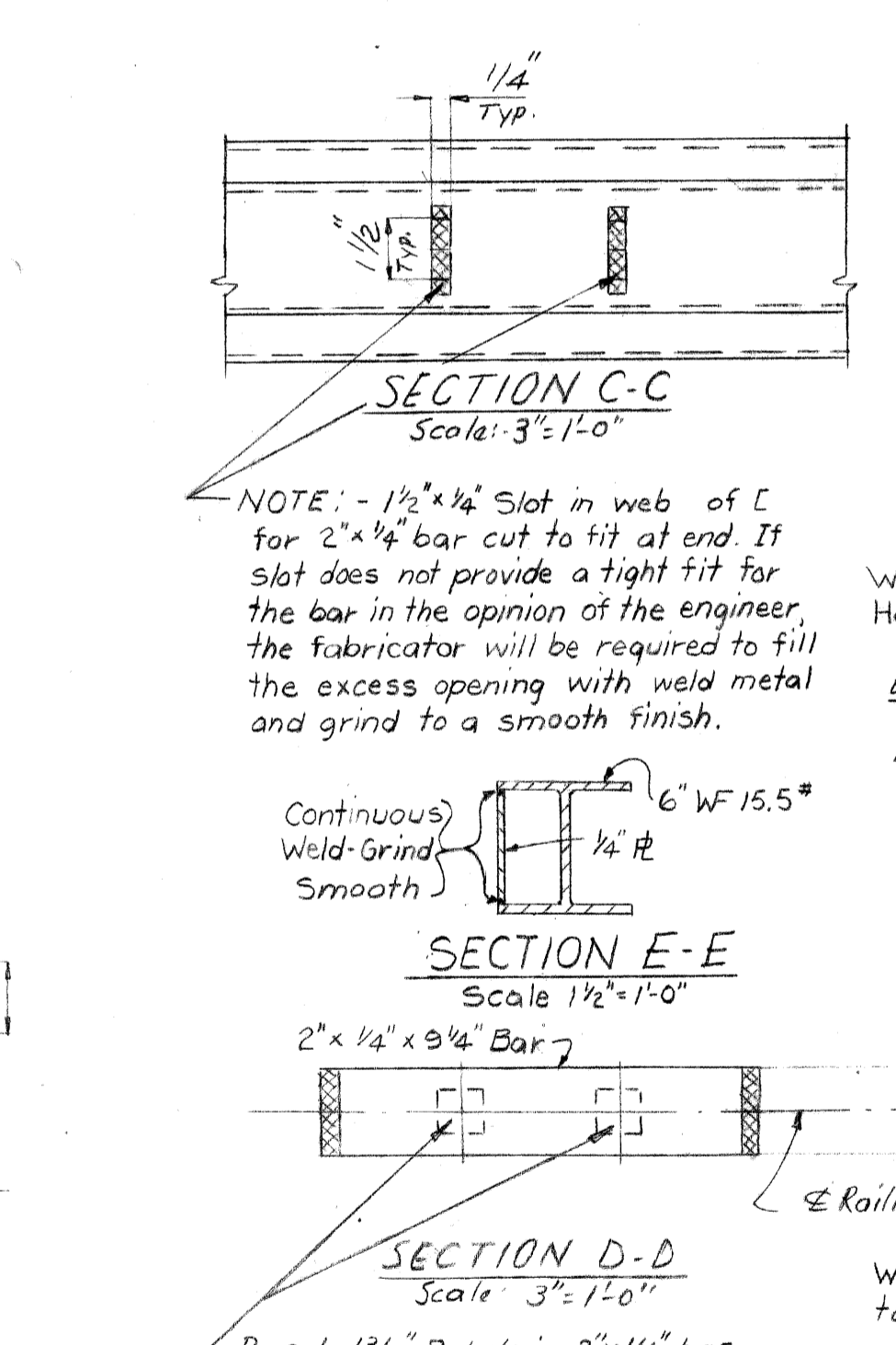
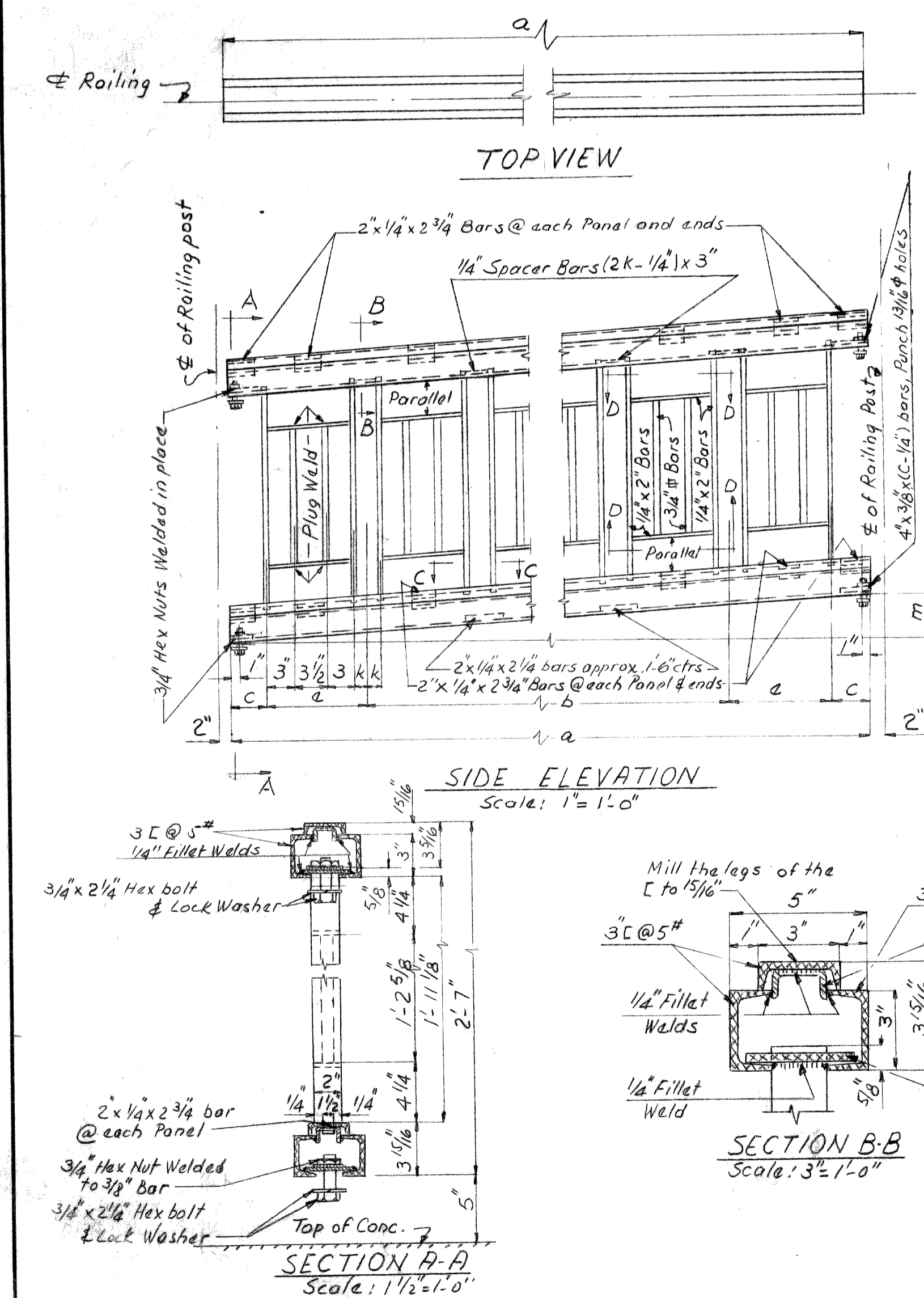
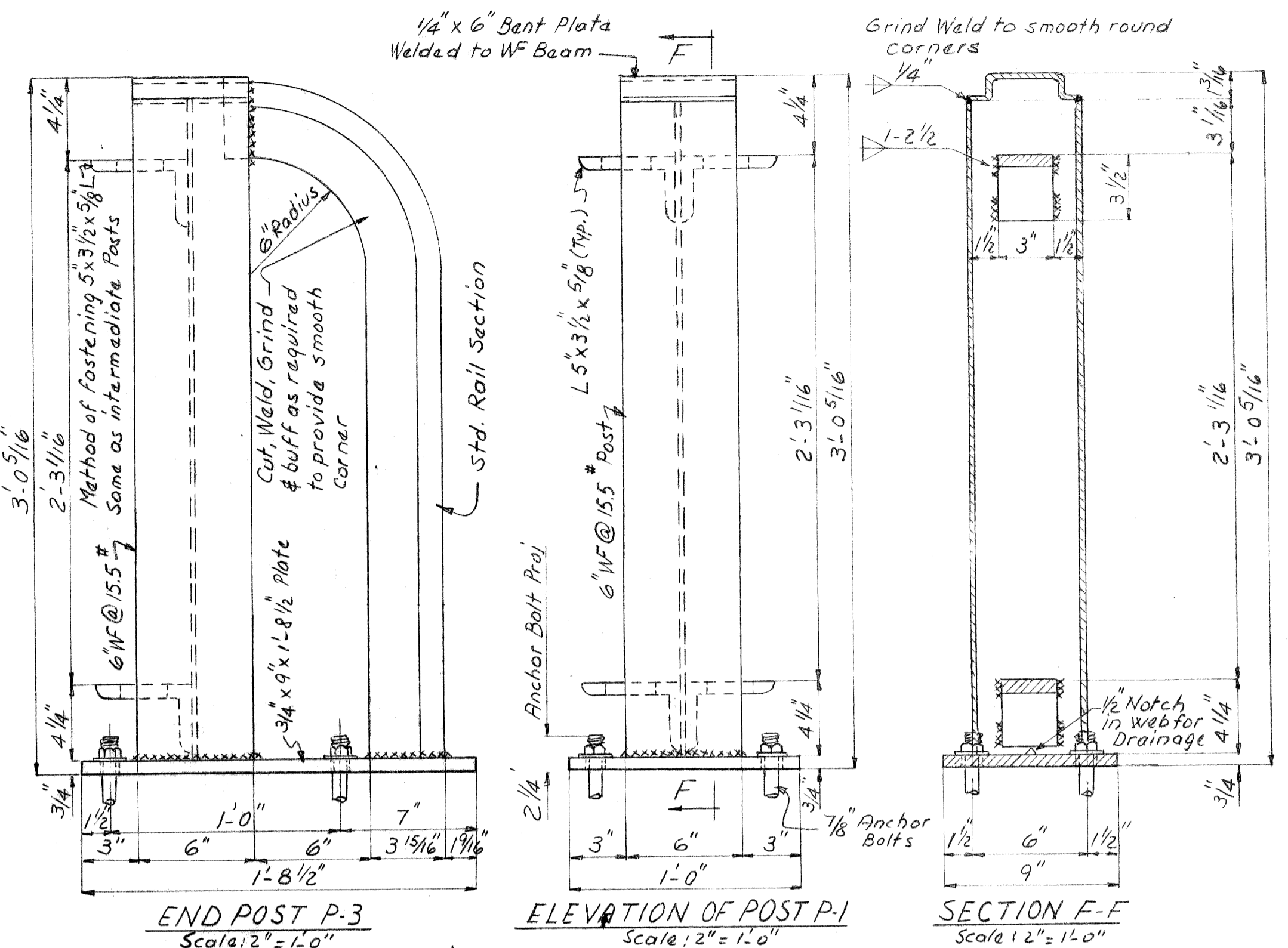
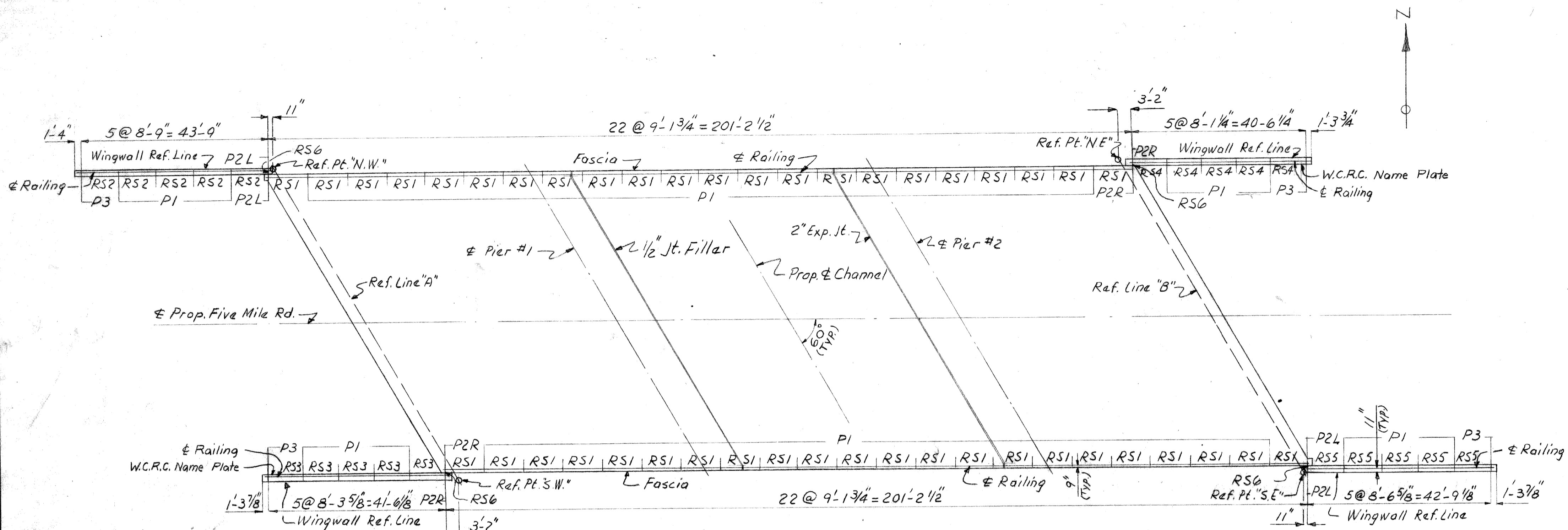
WAYNE COUNTY BOARD OF COMMISSIONERS
 DETROIT, MICHIGAN

FIVE MILE ROAD OVER ROUGE RIVER CONCRETE DECK - DETAILS

| | |
|---------------|------------|
| STATE PROJECT | COUNTY JOB |
| | 320 |
| ISSUE NO. 1 | SHEET NO. |
| DATE 10-17-62 | 28 |

| | | |
|-----------|--|--|
| REVISIONS | SQUAD LEADER L. M. EITWE | APPROVED |
| | CHECKED BY S. COMPTON | ENGINEER OF STRUCTURES AND EXPRESSWAYS |
| | DATE 7-12-60 | APPROVED |
| | CORRECT | |
| | ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS | COUNTY HIGHWAY ENGINEER |

WILLIAM E. KREGER AL BARBOUR



BILL OF MATERIAL - RAILING

| MARK | NO. | DESCRIPTIONS & REMARKS |
|------|-----|----------------------------------|
| RS1 | 44 | Railing Section |
| RS2 | 5 | " |
| RS3 | 5 | " |
| RS4 | 5 | " |
| RS5 | 5 | " |
| RS6 | 4 | Railing Section |
| P1 | 58 | Railing Post - Intermediate Post |
| P2 | 8 | " - Corner Post |
| P3 | 4 | Railing Post - End Post |
| | 280 | Anchor bolt, Nut & Washer |
| | 32 | Bolt & Nut - 3/8" x 1 1/2" Long. |

DIMENSIONS OF RAILING SECTIONS

| SECTION | a | b (PANELS) | c | e | k | m |
|---------|------------|-----------------------------|--------|---------|--------|------|
| RS1 | 8'-9 3/4" | 6 @ 1'-0 1/2" = 6'-3 3/4" | 11" | 1 1/2" | | |
| RS2 | 8'-5" | 6 @ 0'-11 3/4" = 5'-10 1/2" | 4 1/2" | 10 5/8" | 1 1/4" | 0 |
| RS3 | 7'-11 1/8" | 5 @ 1'-0 3/4" = 5'-3 3/4" | 4 1/2" | 11 1/8" | 1 1/8" | 7/8" |
| RS4 | 7'-9 1/4" | 5 @ 1'-0 1/4" = 5'-2 1/2" | 4 3/4" | 11" | 1 1/4" | 1/4" |
| RS5 | 8'-2 9/8" | 5 @ 1'-1 1/8" = 5'-6 1/8" | 4 1/4" | 11 3/8" | 1 1/8" | 1/2" |

GENERAL NOTES

Materials:
Furnishing and Fabrication shall be in accordance with Board of Wayne County Road Commissioners General Specification. Material for railing sections shall be Structural Steel. After fabrication is complete, the entire railing, including Railing Posts, Clips, Bolts, Nuts and Washers, shall be Hot-Dipped Galvanized in accordance with ASTM designation: A123.

Anchor bolts, nuts and washers shall be galvanized steel.

General:
Vertical elements of railing to be built in true vertical lines.

QUANTITY
Galvanized Steel Bridge Railing - Fabrication & Erection - 580.9 L.F.

REVISIONS

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |

APPROVED

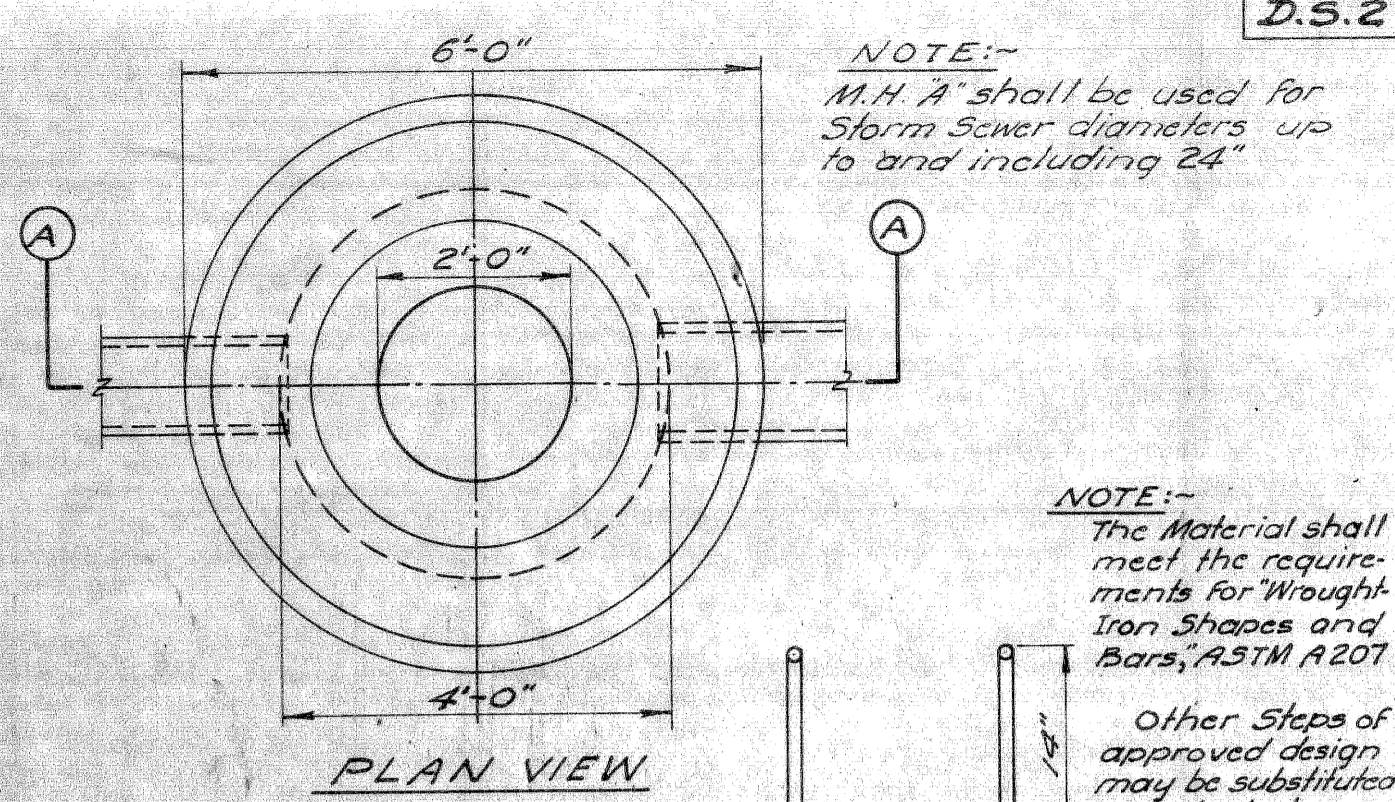
BY: L. M. E. Iwee
DATE: 8-7-60
ENGINEER OF STRUCTURES AND EXPRESSWAYS

BOARD OF WAYNE COUNTY ROAD COMMISSIONERS
DETROIT, MICHIGAN

WILLIAM E. KREGER
AL BARBOUR

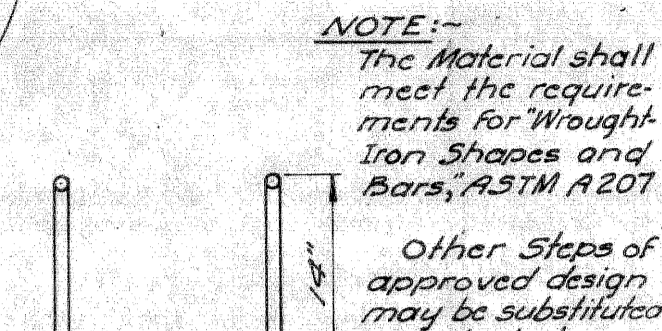
FIVE MILE ROAD OVER ROUGE RIVER RAILING DETAILS

| STATE PROJECT | COUNTY JOB |
|---------------|------------|
| | 320 |
| ISSUE NO. | SHEET NO. |
| 1 | 29 |
| DATE | |
| 10-17-62 | |



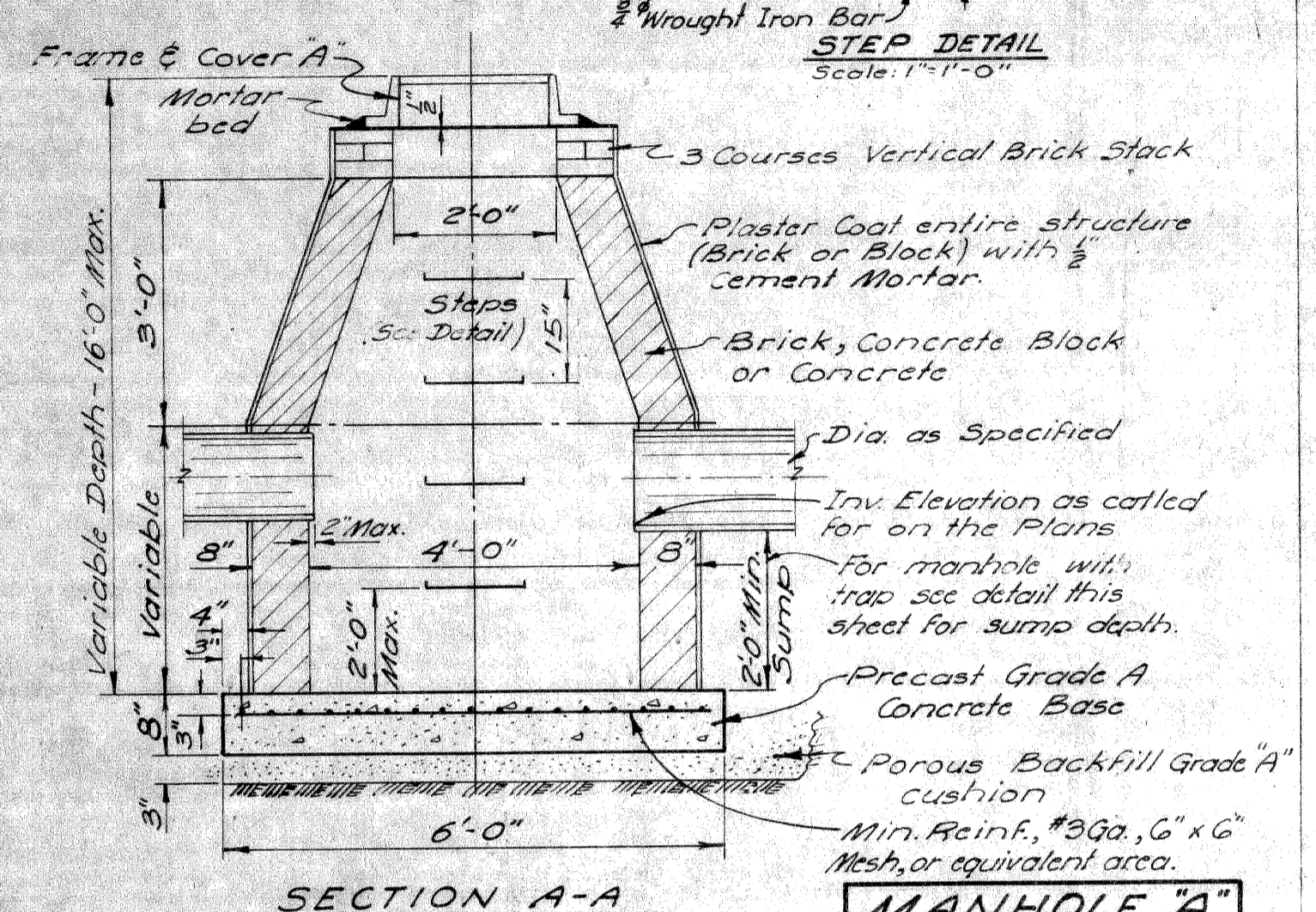
D.S.2

NOTE:-
M.H. A shall be used for Storm Sewer diameters up to and including 24"

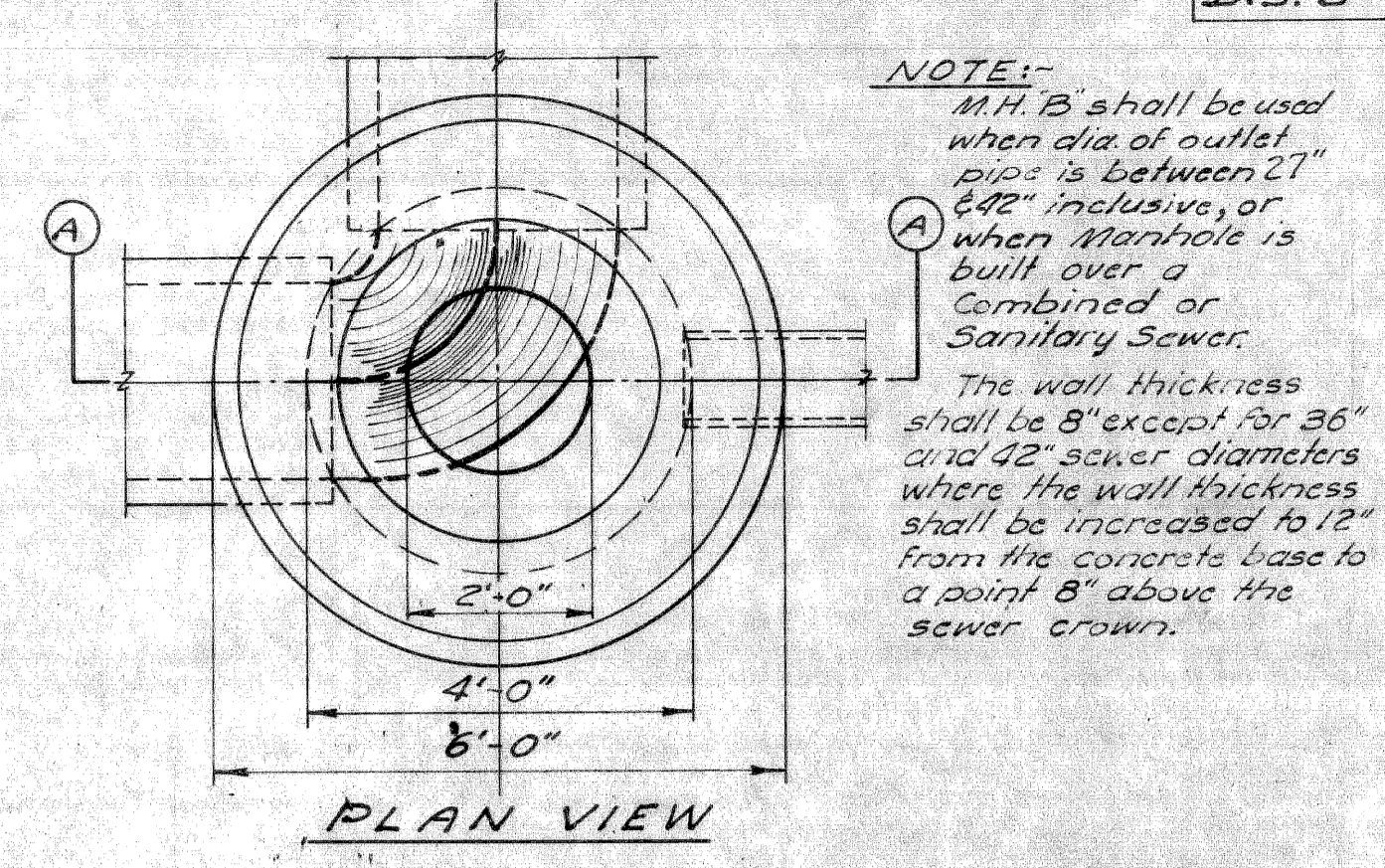


NOTE:-
The Material shall meet the requirements for Wrought Iron Shapes and Bars, ASTM A207

Other Steps of approved design may be substituted for that shown

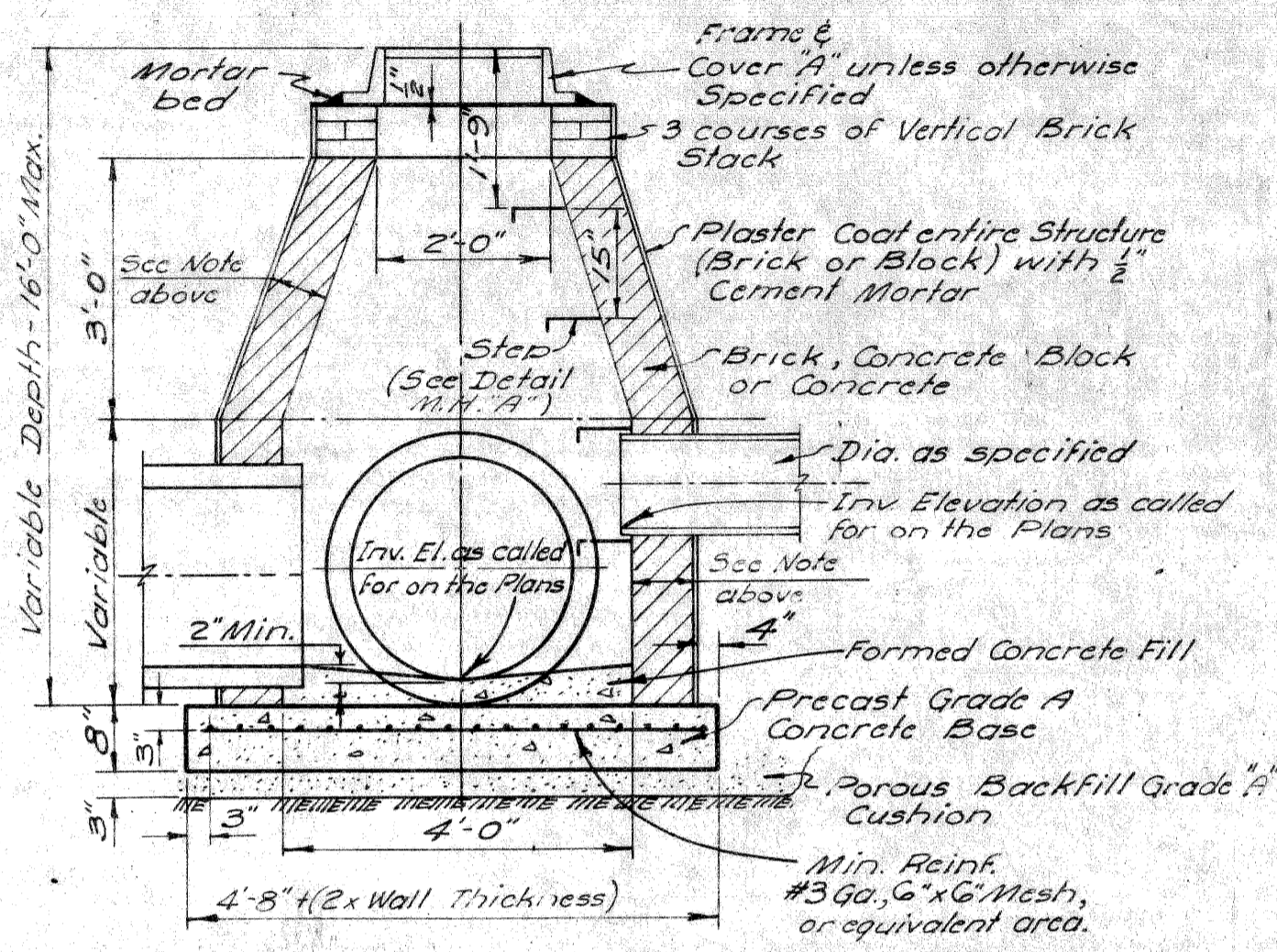


SECTION A-A
MANHOLE "A"

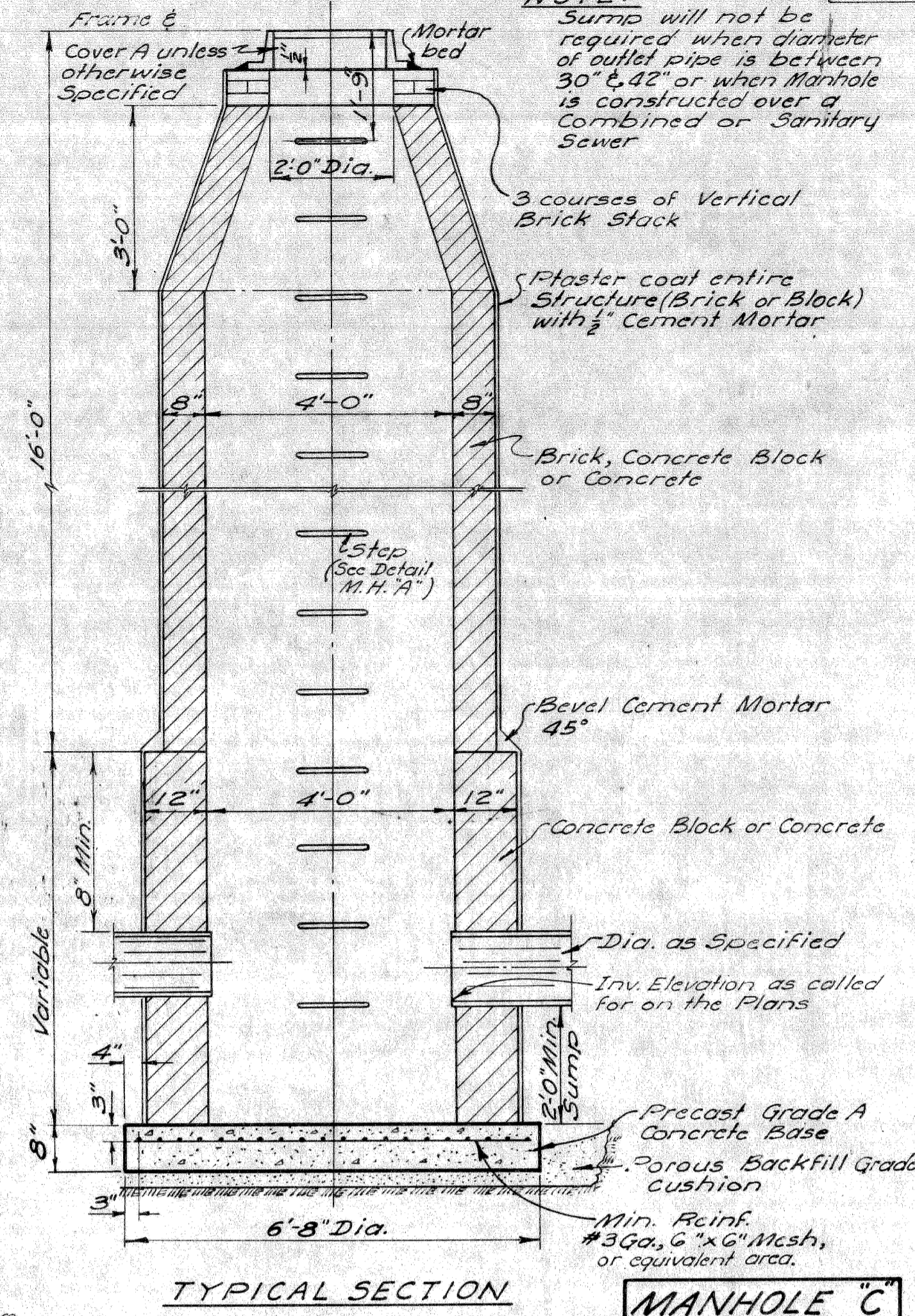


D.S.3

NOTE:-
M.H. B shall be used when dia. of outlet pipe is between 27" and 42" inclusive, or when Manhole is built over a Combined or Sanitary Sewer.
The wall thickness shall be 8" except for 26" and 42" sewer diameters where the wall thickness shall be increased to 12" from the concrete base to a point 8" above the sewer crown.



SECTION A-A
MANHOLE "B"

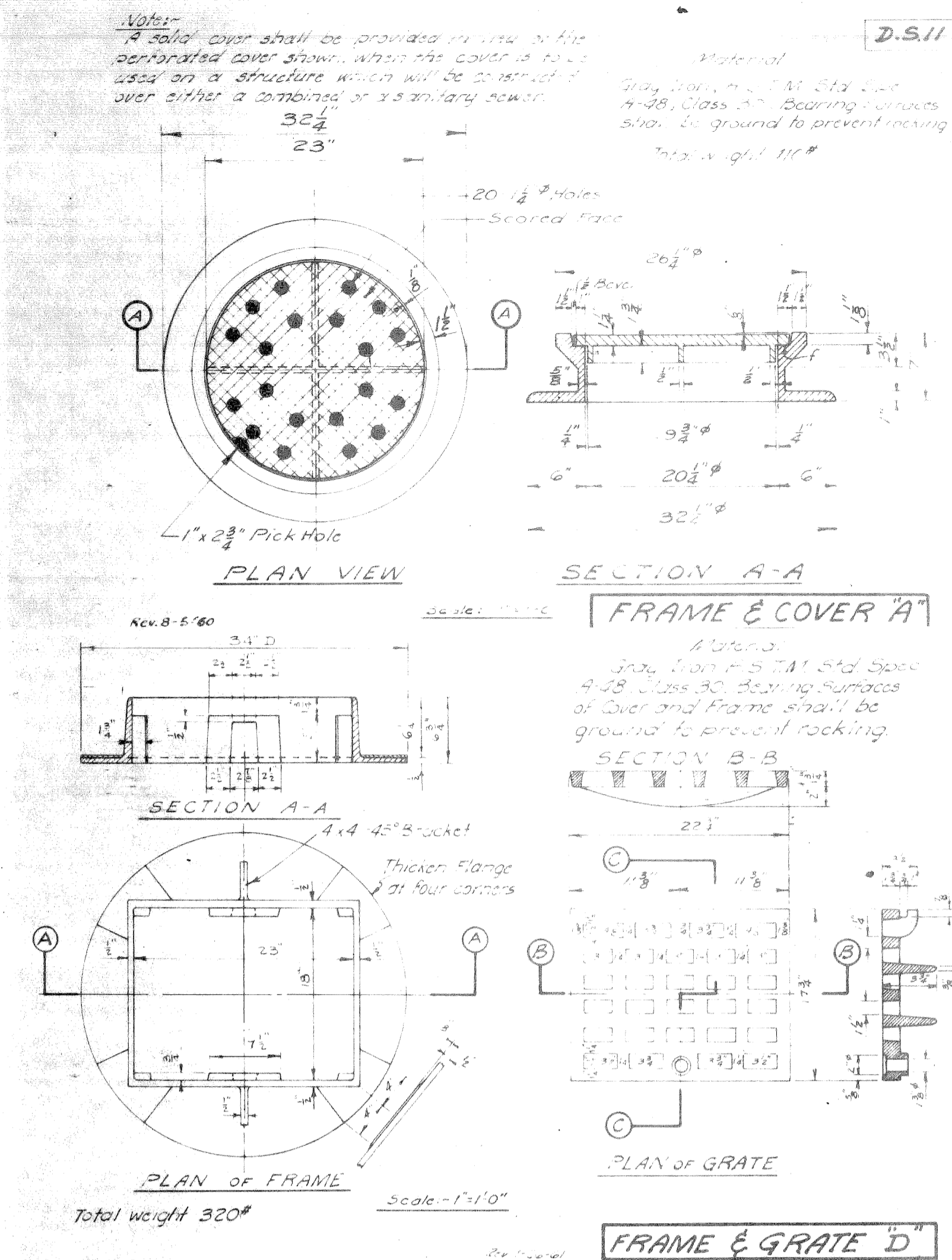


D.S.4

NOTE:-
Sump will not be required when diameter of outlet pipe is between 30" & 42" or when Manhole is constructed over a combined or Sanitary Sewer

Frame & Cover A unless otherwise Specified
Mortar bed
3 courses of Vertical Brick Stack
Plaster coat entire Structure (Brick or Block) with 1/2" Cement Mortar
Brick, Concrete Block or Concrete
Step (See Detail M.H. A)
Bevel Cement Mortar 45°
Concrete Block or Concrete
Dia. as Specified
Inv. Elevation as called for on the Plans
Precast Grade A Concrete Base
Porous Backfill Grade A cushion
Min. Reinf. #3Ga, 6" x 6" Mesh, or equivalent area.

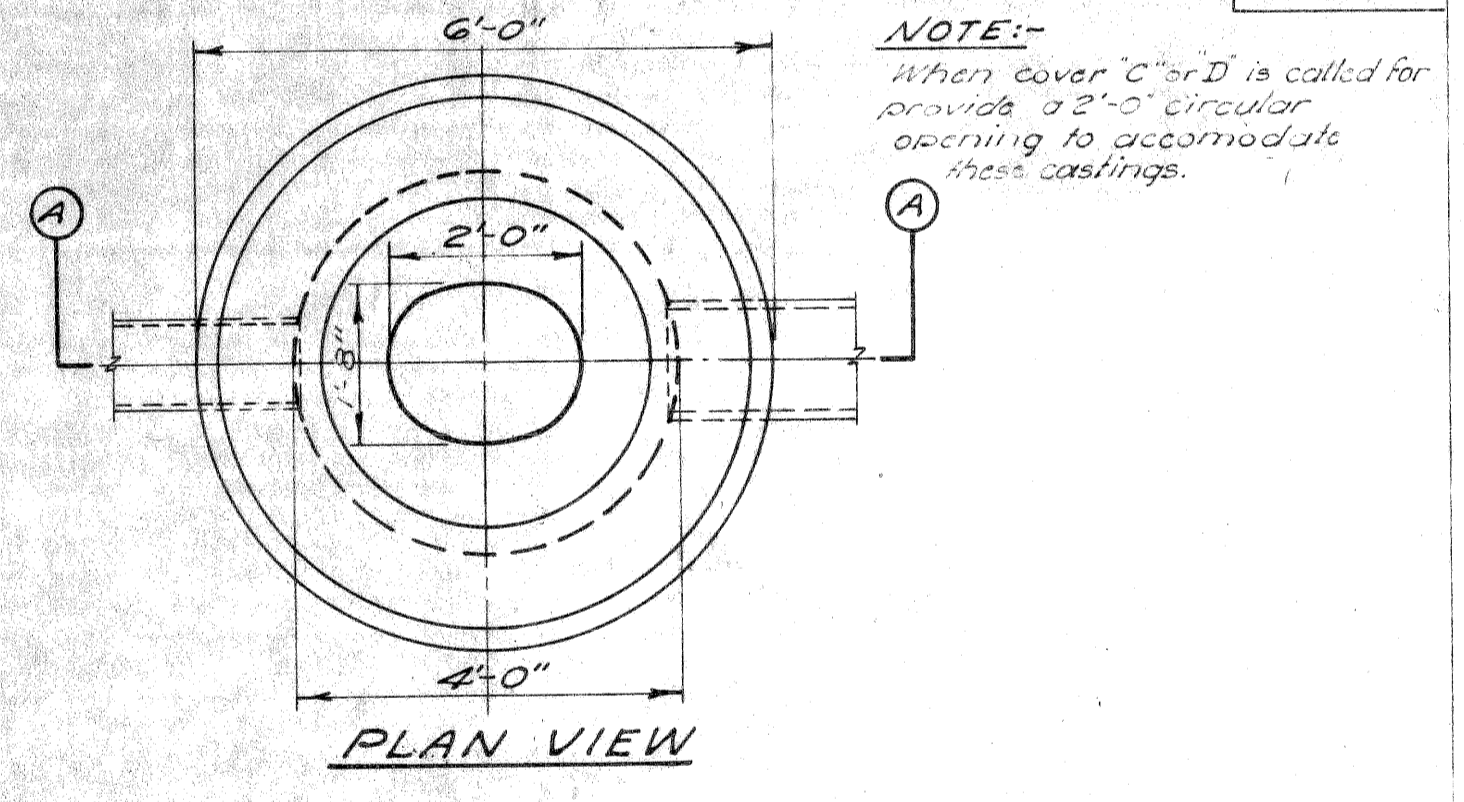
TYPICAL SECTION
MANHOLE "C"



D.S.11

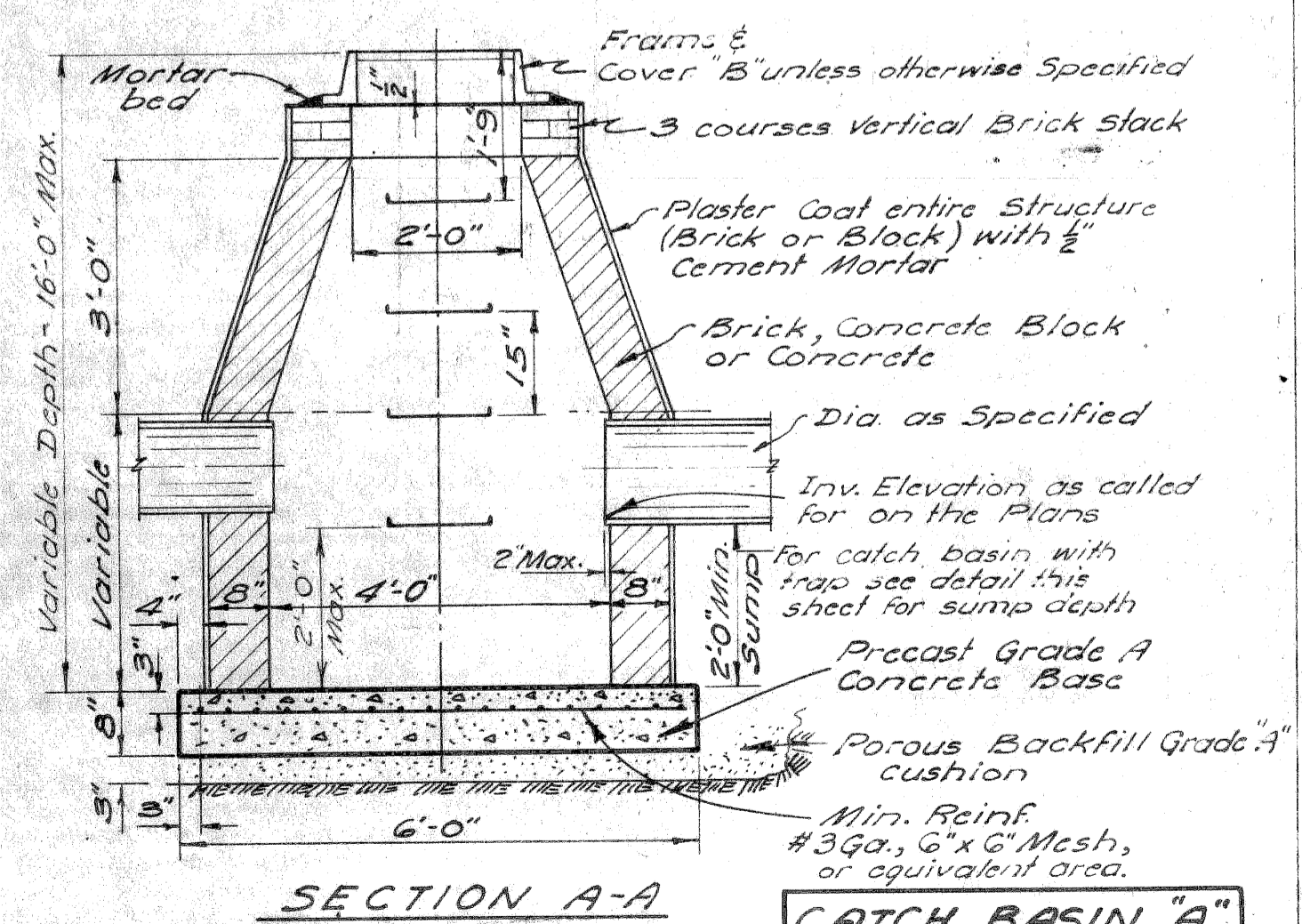
NOTE:-
A solid cover shall be provided in lieu of the perforated cover shown, when the cover is to be used on a structure which will be constructed over either a combined or sanitary sewer.

PLAN VIEW
SECTION A-A
FRAME & COVER "A"
SECTION B-B
SECTION A-A
PLAN OF FRAME
PLAN OF GRATE
FRAME & GRATE "D"

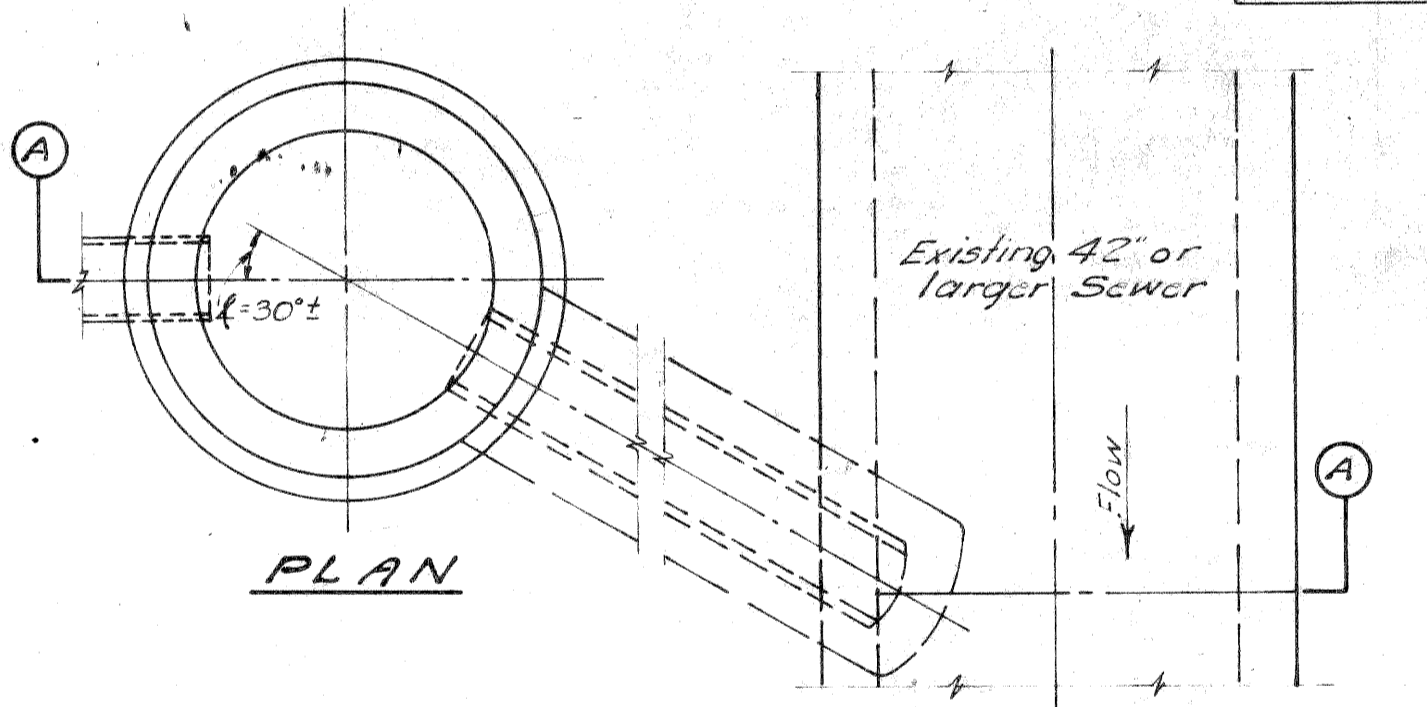


D.S.6

NOTE:-
When cover "C" or "D" is called for provide a 2'-0" circular opening to accommodate these castings.

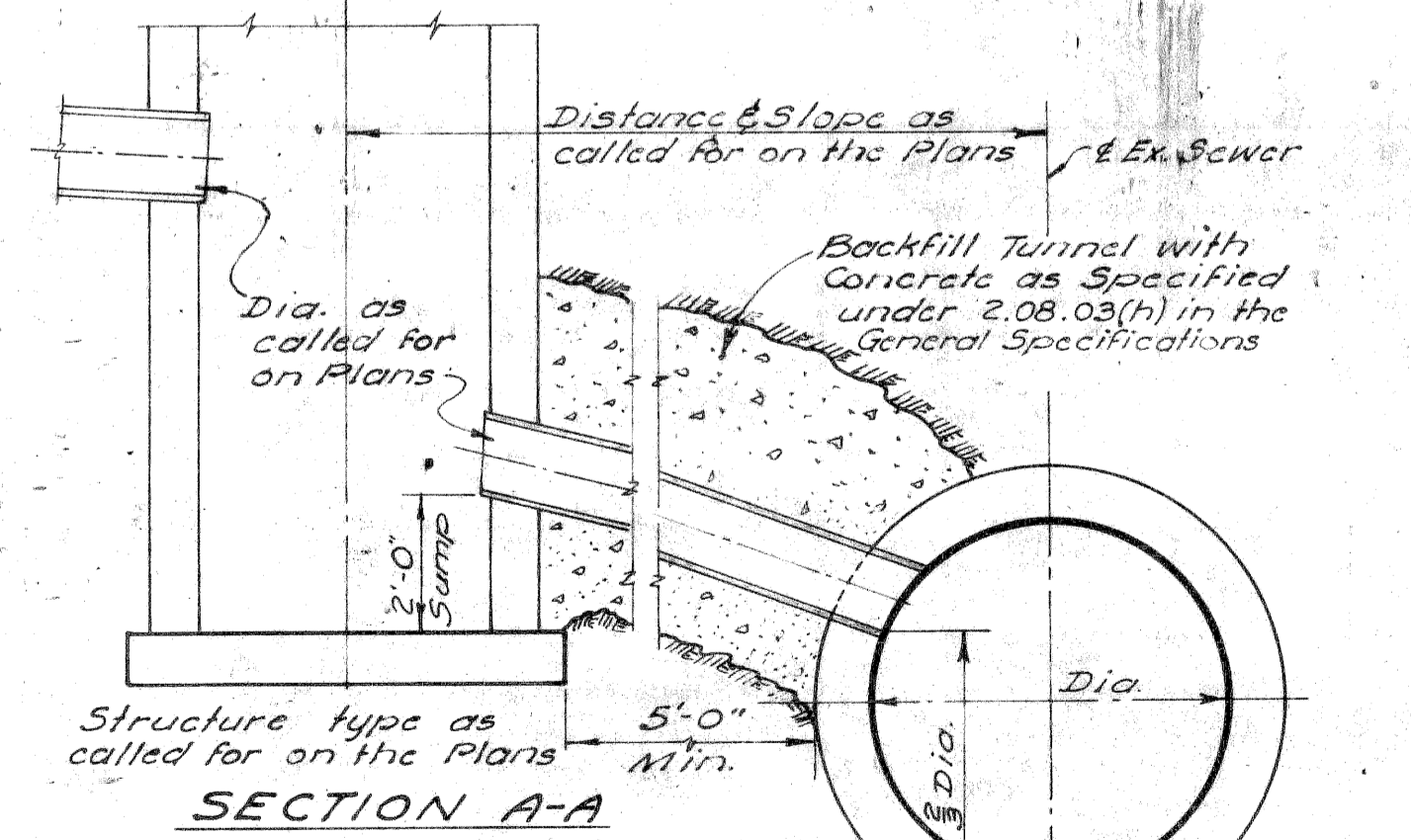


SECTION A-A
CATCH BASIN "A"



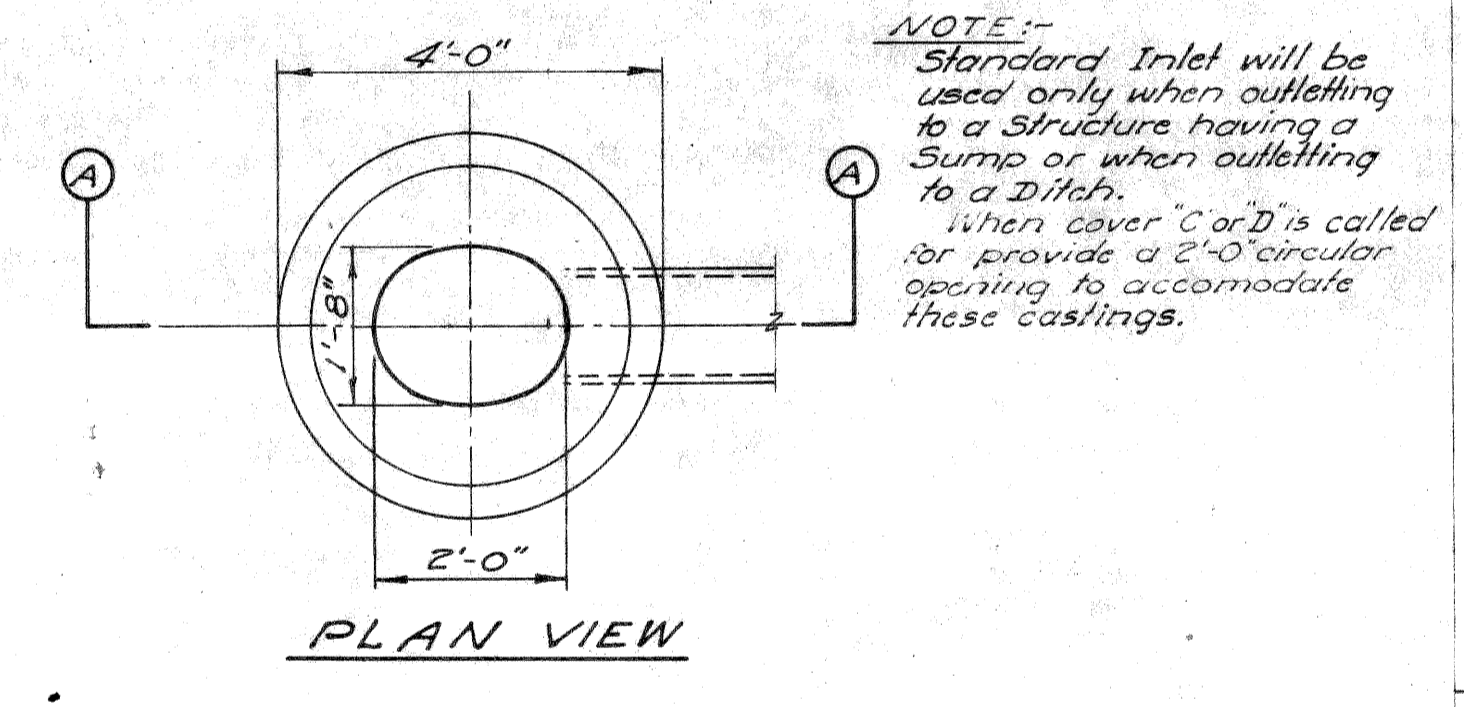
D.S.7

NOTE:-
Standard Inlet will be used only when outfalling to a structure having a Sump or when outfalling to a Ditch.
When cover "C" or "D" is called for provide a 2'-0" circular opening to accommodate these castings.



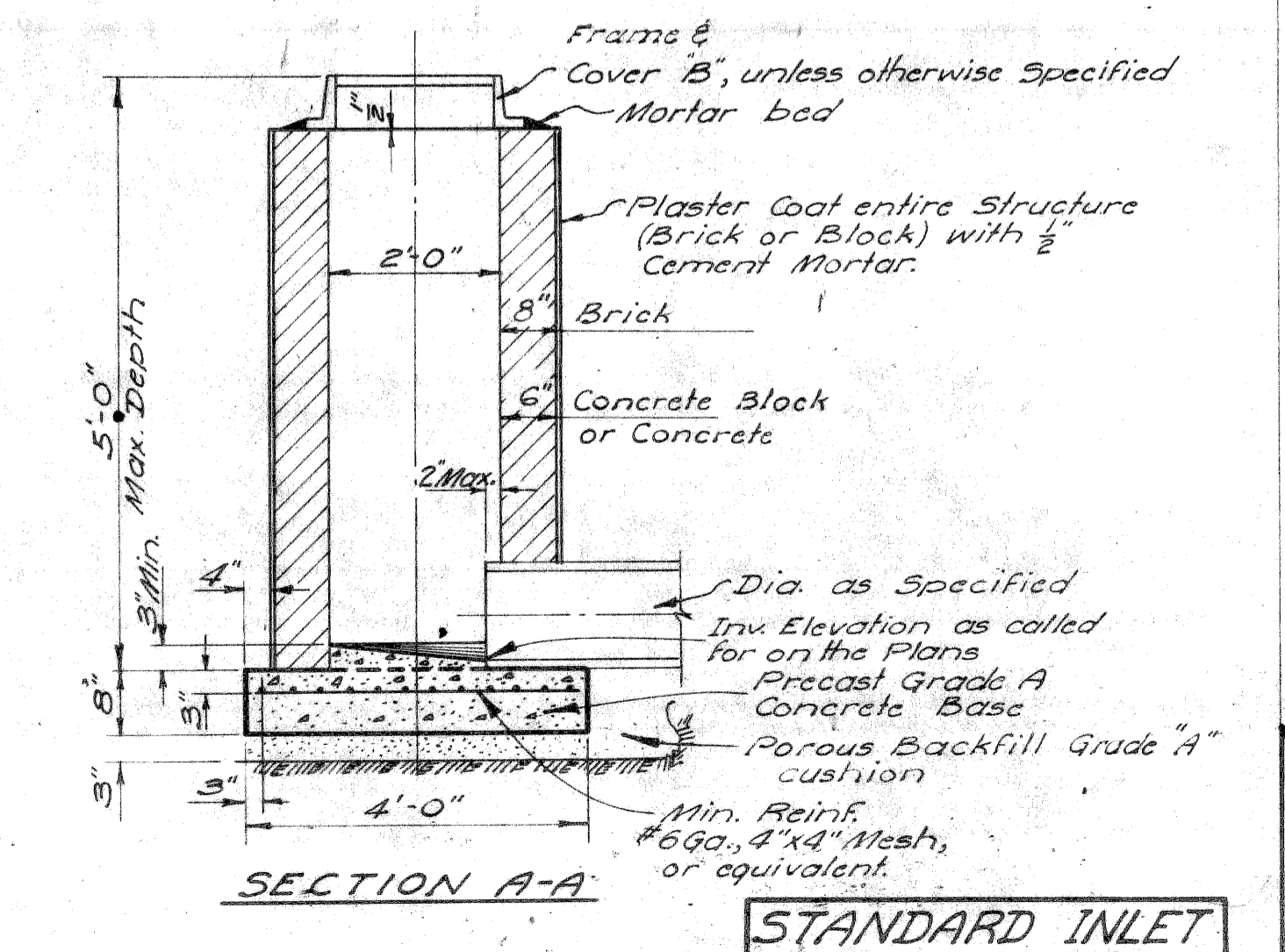
SECTION A-A
TYPICAL CONNECTION TO EXISTING SEWERS 42" AND LARGER

NOTE:-
Backfilling Tunnel with Concrete as Specified, will be considered incidental to the Sewer

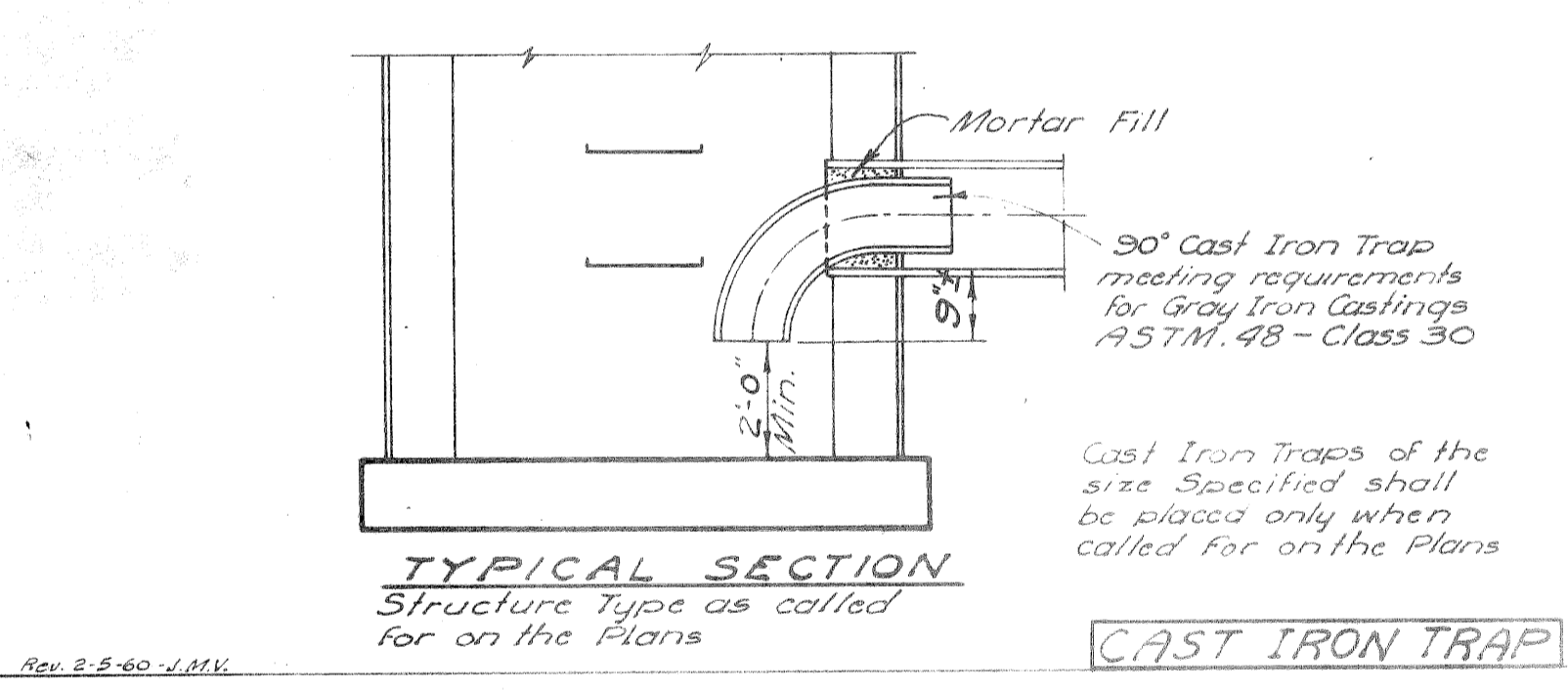


D.S.8

NOTE:-
Standard Inlet will be used only when outfalling to a structure having a Sump or when outfalling to a Ditch.
When cover "C" or "D" is called for provide a 2'-0" circular opening to accommodate these castings.



SECTION A-A
STANDARD INLET

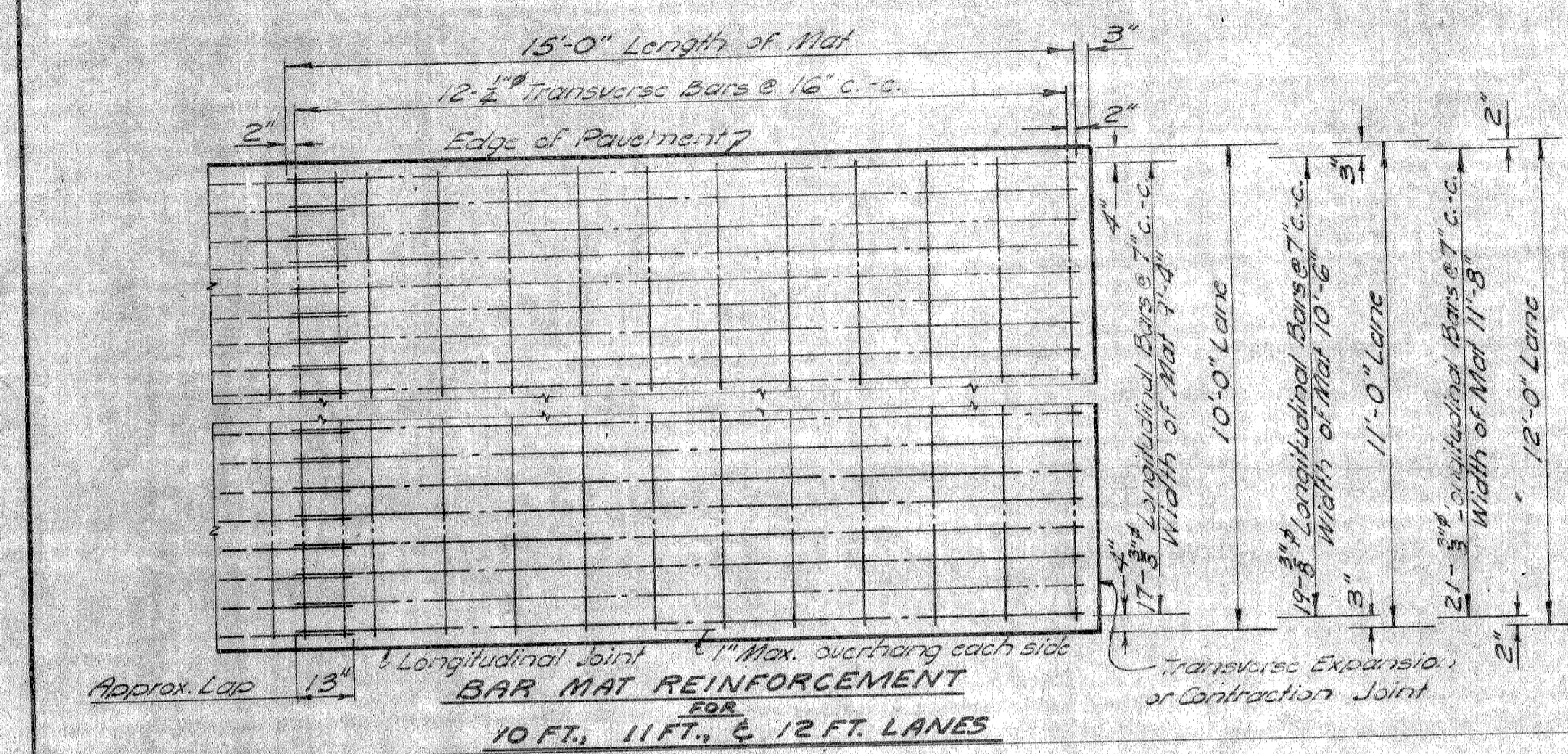
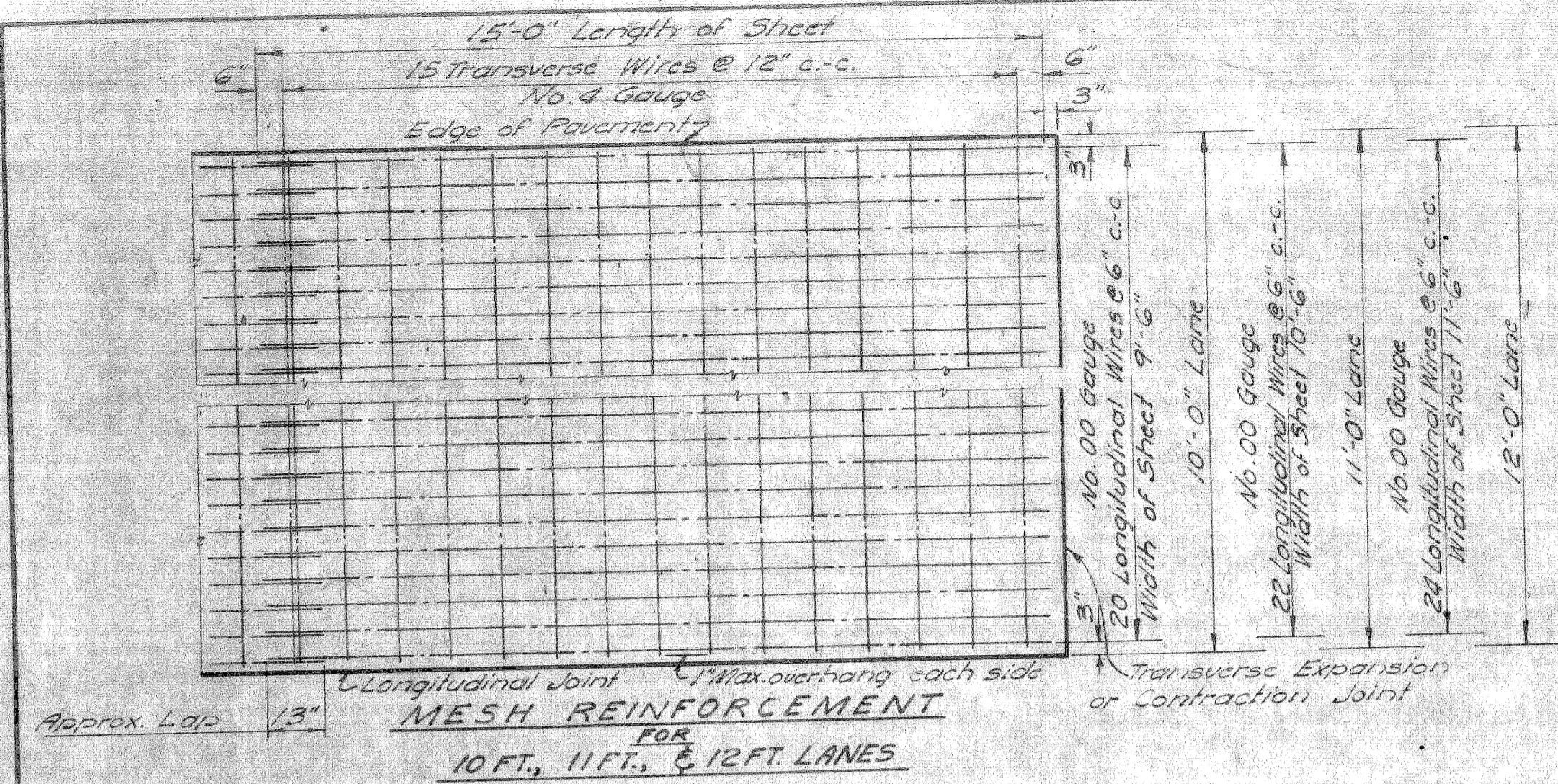


D.S.1

TYPICAL SECTION
CAST IRON TRAP

GENERAL NOTES
All Materials and Workmanship shall be in accordance with the current General Specifications for Construction of Roads, Bridges and other Highway Structures of the Board of Wayne County Road Commissioners. The Contractor may construct Manholes with Precast Reinforced Concrete units in lieu of the Materials Specified, provided the following conditions are satisfied:
1. Maximum diameter of Sewer Outlet in any precast unit shall be 18"
2. No openings shall be made in precast units which would leave less than 24" of undisturbed precast pipe or would remove more than 25% of the circumference along any horizontal plane.
3. Structures for Sewers larger than 18" or those not meeting the opening requirements shall be built of Block or Brick up to a minimum of 8" above the top of Sewer, with precast units being used above this point. Where the precast units rest on the Block of Brick, the groove in the precast unit will be filled with mortar.
4. Openings for the Outlet Sewer shall be precast with a diameter of 3 inches larger than the outside diameter of the Outlet Pipe. All other openings shall be made in the field after Manhole has been constructed.
All vertical holes in Concrete Block Structures shall be completely filled with mortar. Vertical joints shall be "buttered".
The first pipe length entering or leaving any structure shall be temporarily supported by suitable means until the structure is completed and backfilled.
A Poured Grade A Concrete Base, without Steel Reinforcement, may be substituted for a Precast Base when approved by the Engineer. Porous Backfill cushion will not be required under the Poured Base, unless the Contractor has excavated below the required elevation, of which time the Engineer will decide as to the merits of increasing the thickness of the Concrete Base or the use of a Porous Backfill cushion.

| | | | | | |
|--|-----------------------------|----------------|----------------------------|--------------------|----------------|
| BOARD OF WAYNE COUNTY ROAD COMMISSIONERS DETROIT 26, MICHIGAN | | SCALE 1"=1'-0" | | DRAINAGE STANDARDS | |
| WILLIAM E. KREGER CHAIRMAN | AL BARBOUR VICE-CHAIRMAN | DATE 11-23-59 | DESIGNED BY J.M.V. | APPROVED BY R.A.T. | REG. PRO. ENG. |
| PHILIP J. NEUDECK COMMISSIONER | | | ENGINEER OF HIGHWAY DESIGN | | REG. PRO. ENG. |
| | | | APPROVED BY R.A.T. | | REG. PRO. ENG. |



Mesh reinforcement shall conform to the requirements of the current Specifications for Welded Steel Wire Fabric for Concrete Reinforcement A.S.T.M. Designation A185, and shall be fabricated as shown, except that a tolerance of one inch is permitted in the length of overhang of longitudinal wires.

Bar Mat reinforcement shall conform to the requirements of the current Specifications for Fabricated Steel Bar or Rod Mats for Concrete Reinforcement A.S.T.M. Designation A184, and shall be fabricated as shown. All intersections shall be clipped. Only Hard Grade Billet Steel, Hard Grade Axle Steel, or Rail Steel shall be used.

The pavement reinforcement shall be shipped and delivered to the work in flat sheets or mats.

The reinforcement shall be placed 3 inches below the surface of the finished pavement.

Size of wires are based on U.S. Steel Wire Gauge and Weights for Mesh Reinforcement are according to the Wire Reinforcement Institute Tables.

When the width of pavement slab varies from that shown, the reinforcement requirements shall be the same as shown hereon, except that split sheets or mats may be used to conform to the particular pavement configuration. Side laps shall be not less than the spacing of the longitudinal wires or bars.

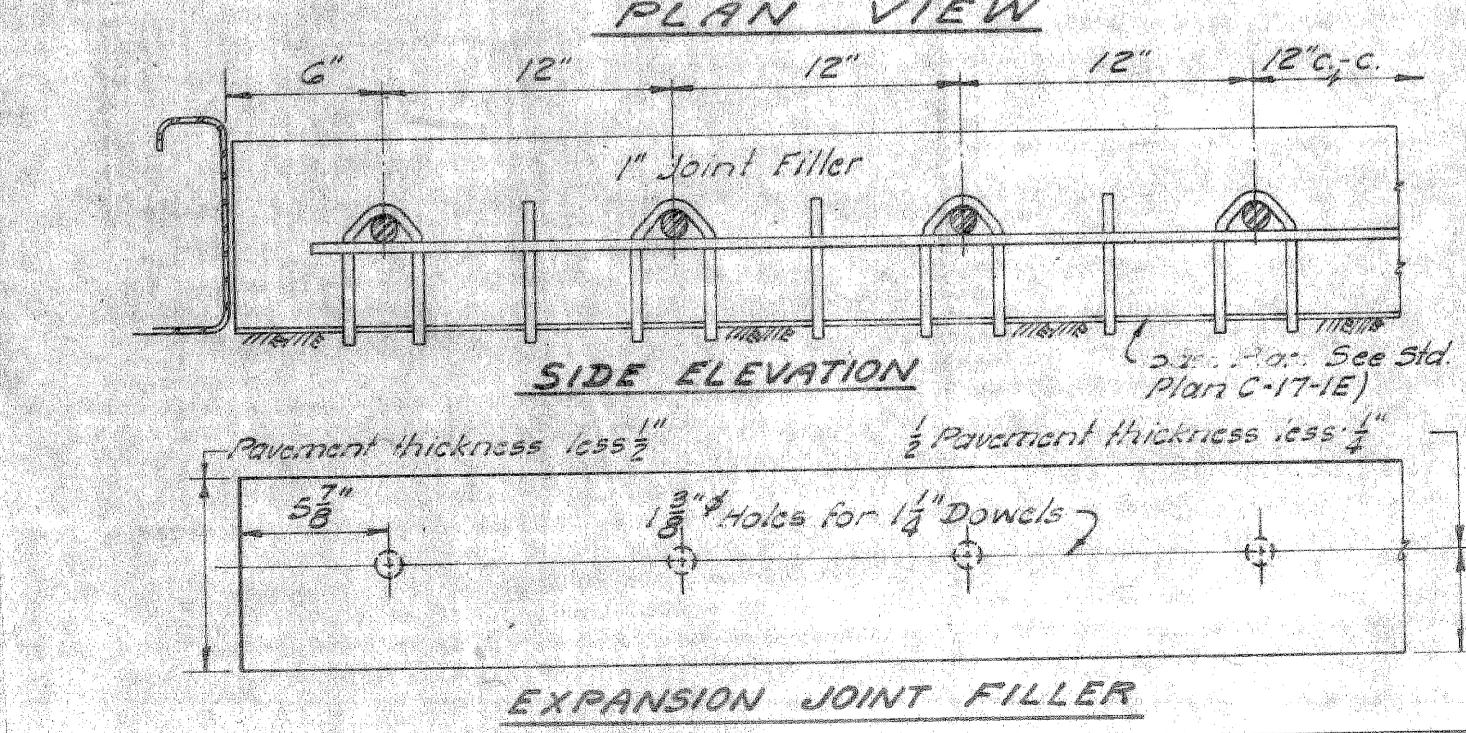
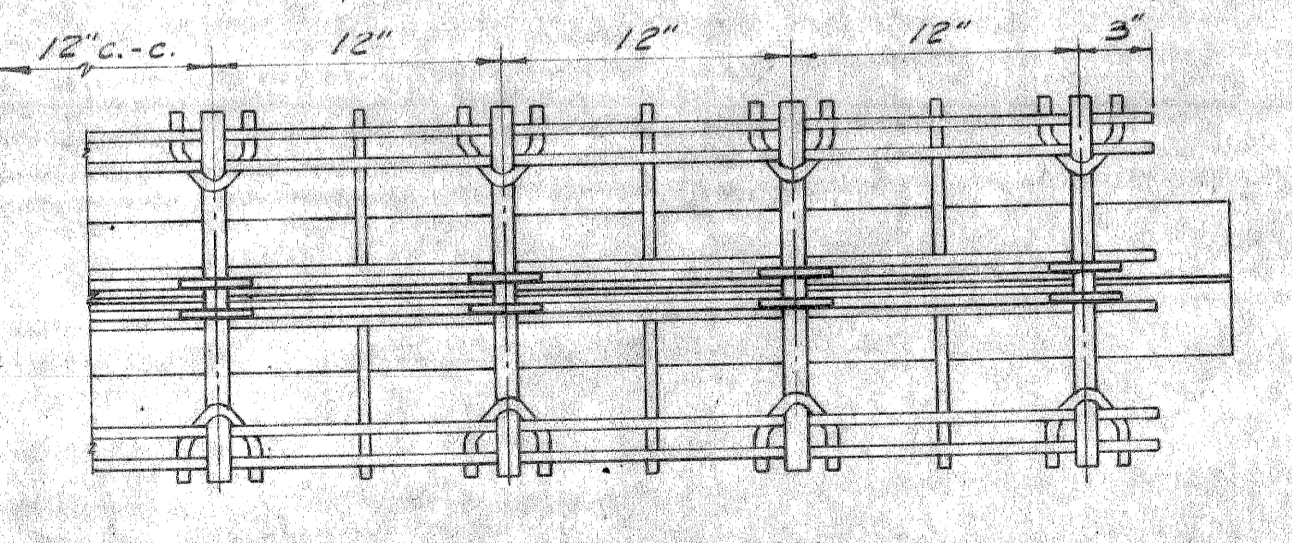
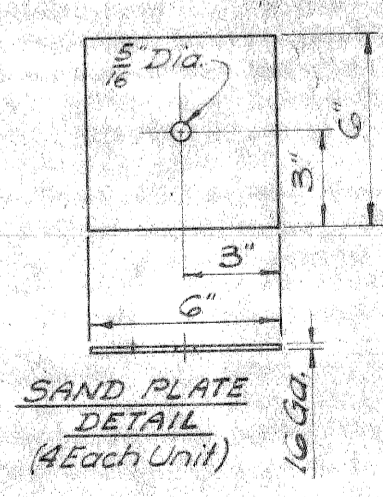
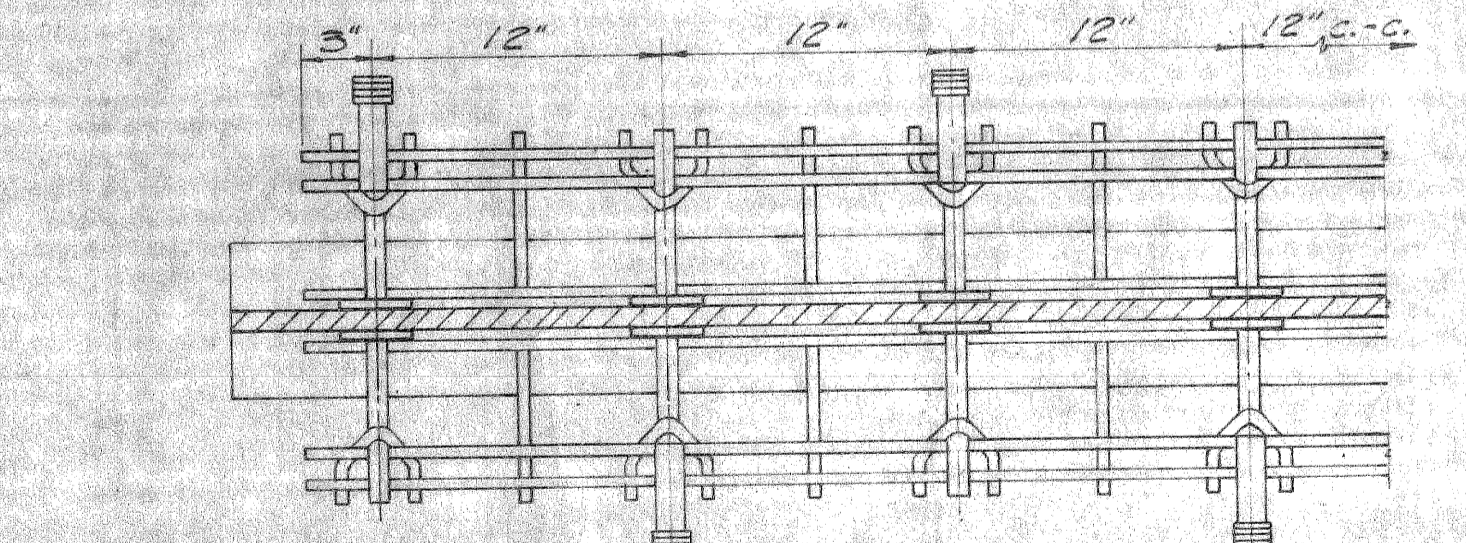
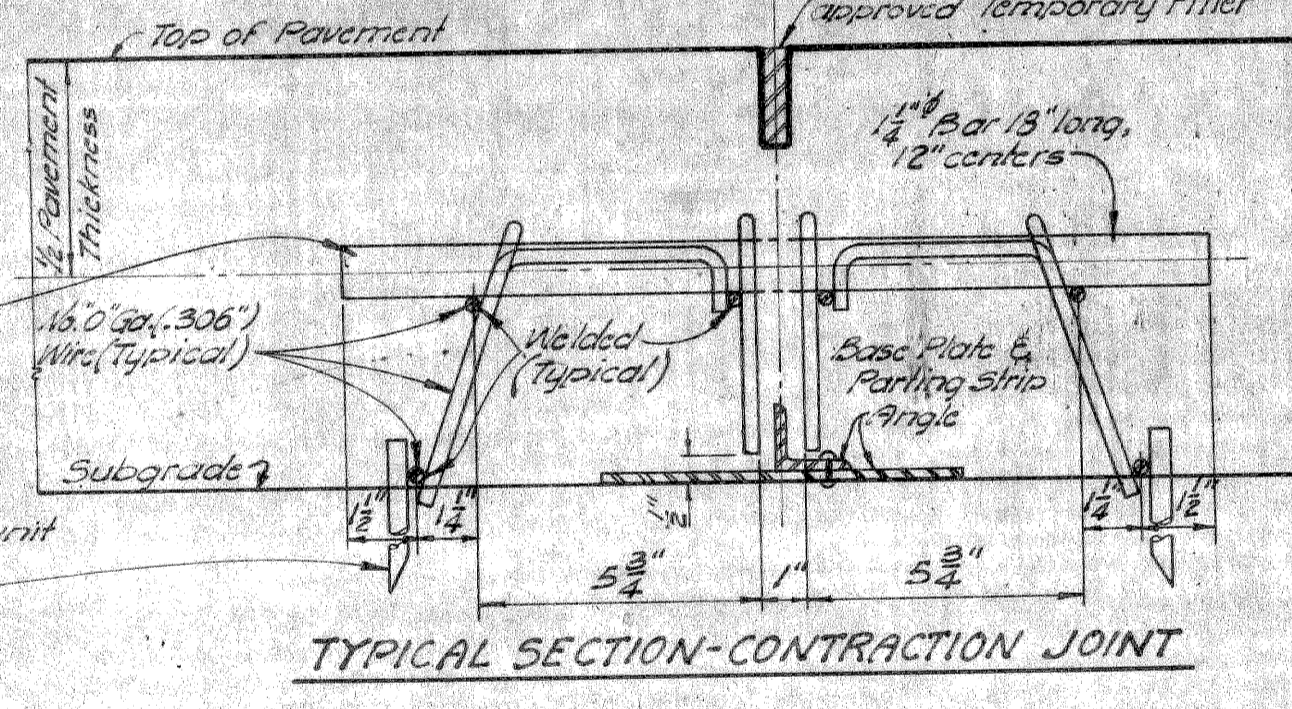
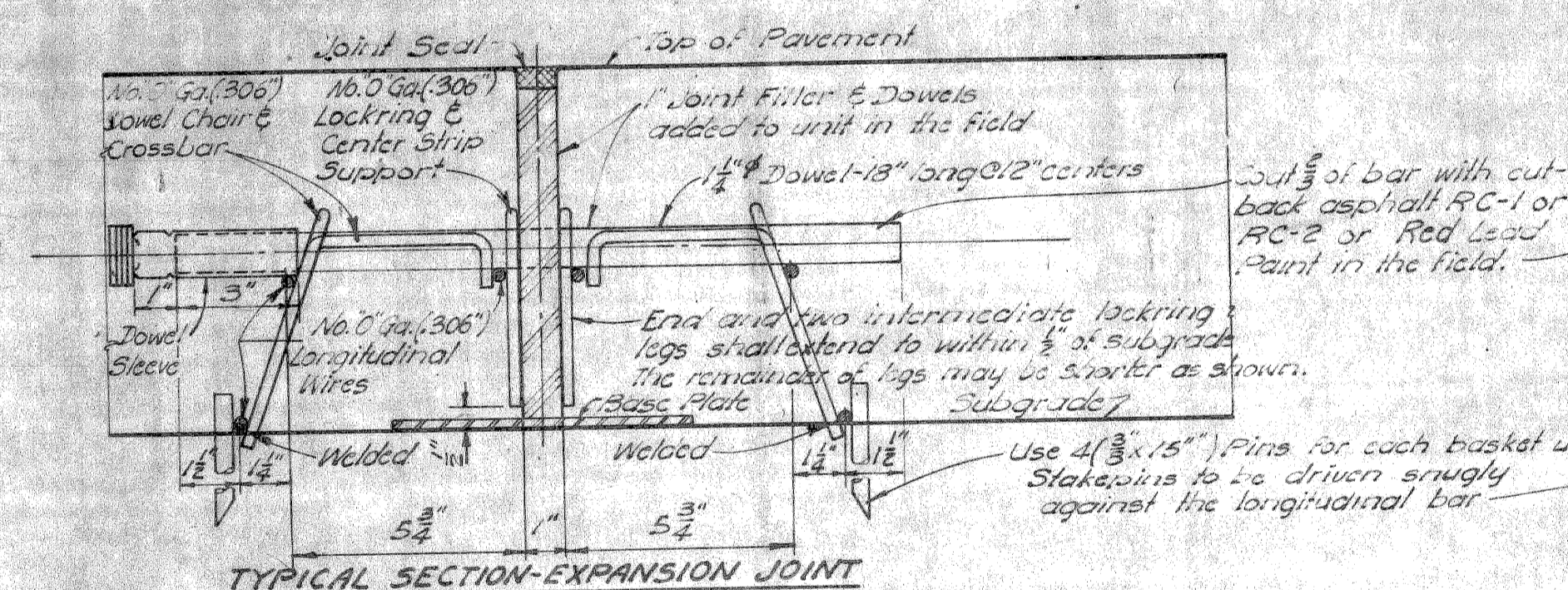
Adjacent sheets or mats shall be fastened to each other and to the dowel bar baskets in at least two places in each pavement lane.

On widening projects where the pavement slab is less than 6 feet in width, 1/2" longitudinal reinforcing bars may be substituted for Standard Reinforcement, provided the bars are spaced not more than 18" center to center, with the first bar not more than 3" from the edges of the widened slab. Bars shall be lapped a minimum of 12".

COMPUTED WEIGHTS OF REINFORCEMENT

| Type of Reinf. | Average weight per 100 Sq. Ft. of Pavt. (Lbs.) | Average weight per Sq. Yd. of Pavt. (Lbs.) | Weight per Std. Sheet (Lbs.) |
|----------------|--|--|------------------------------|
| Mesh | 75.9 | 6.8 | 107.3 |
| Bar Mat | 81.3 | 7.3 | 114.9 |

PAVEMENT REINFORCEMENT



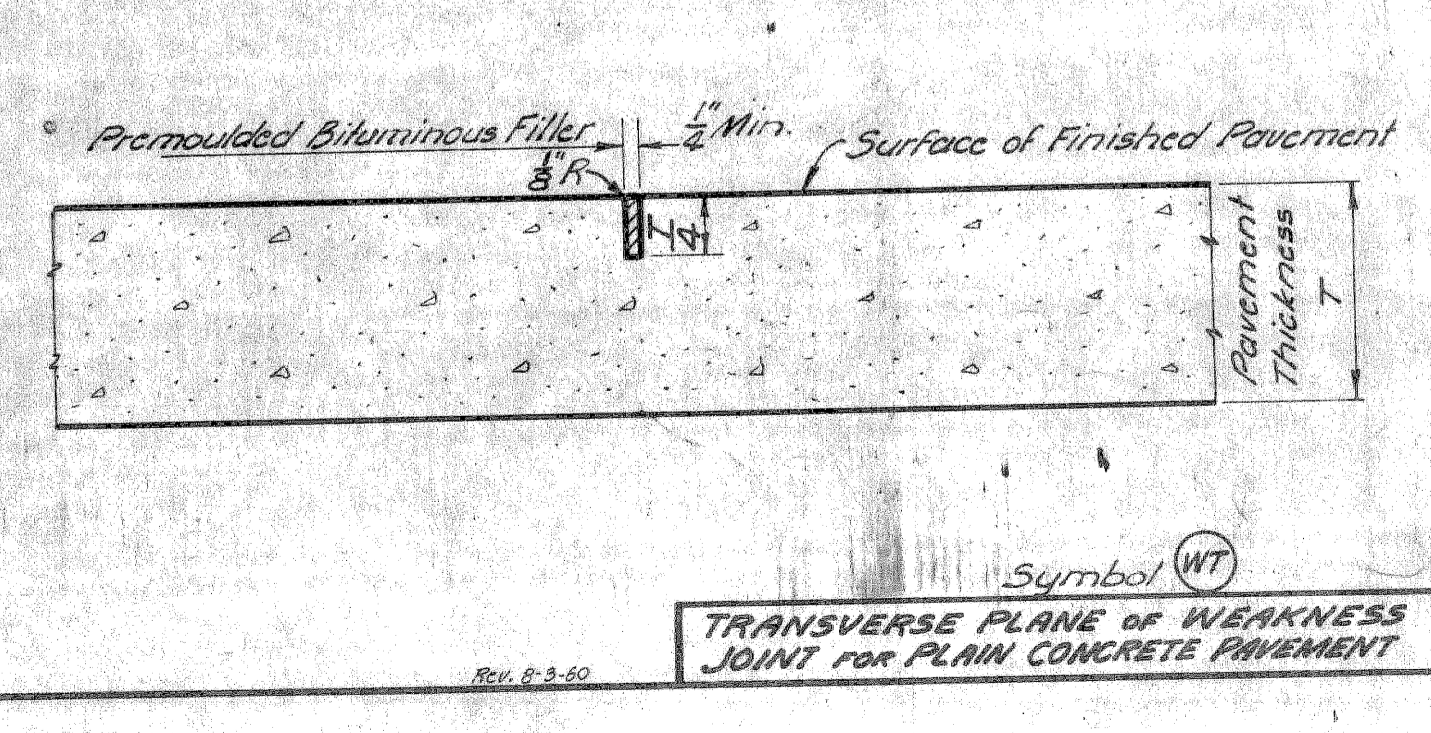
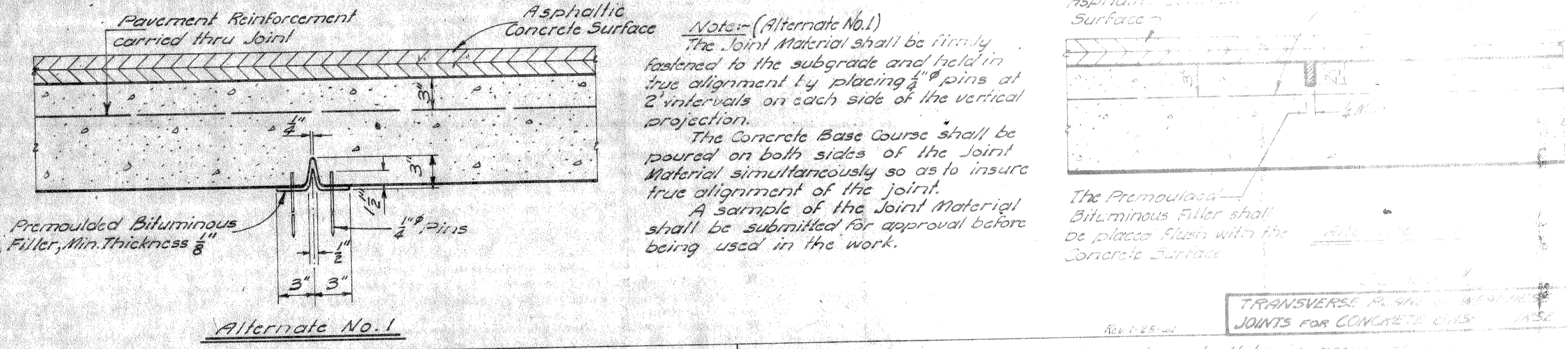
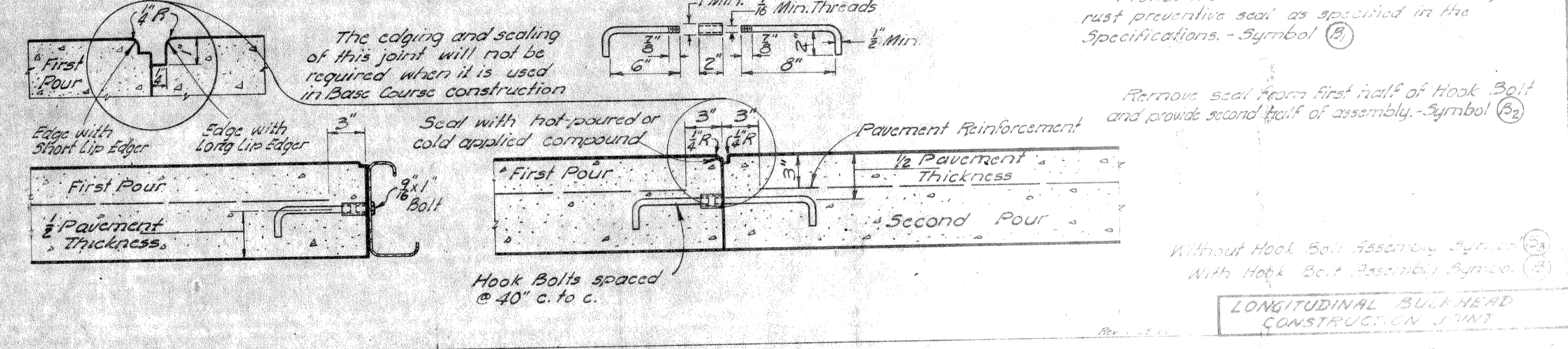
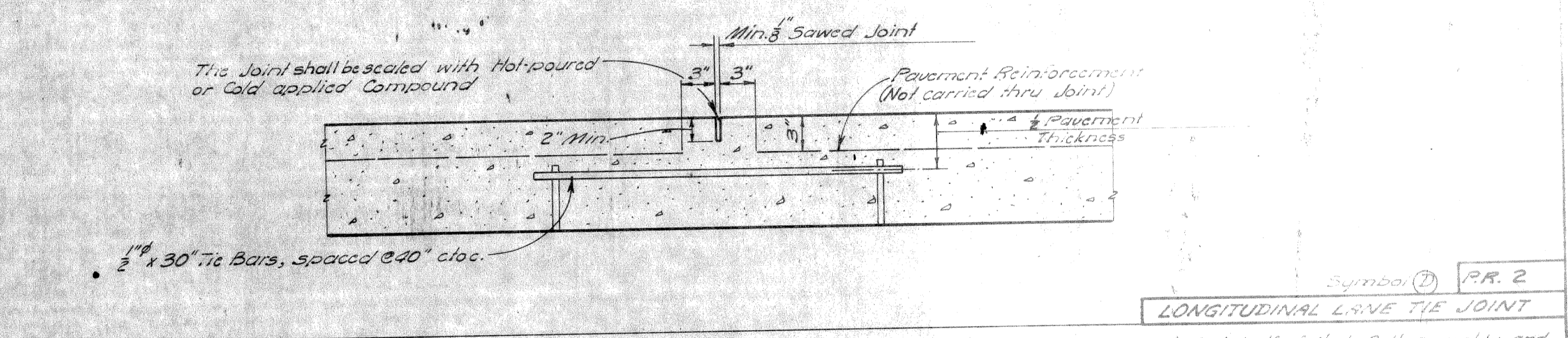
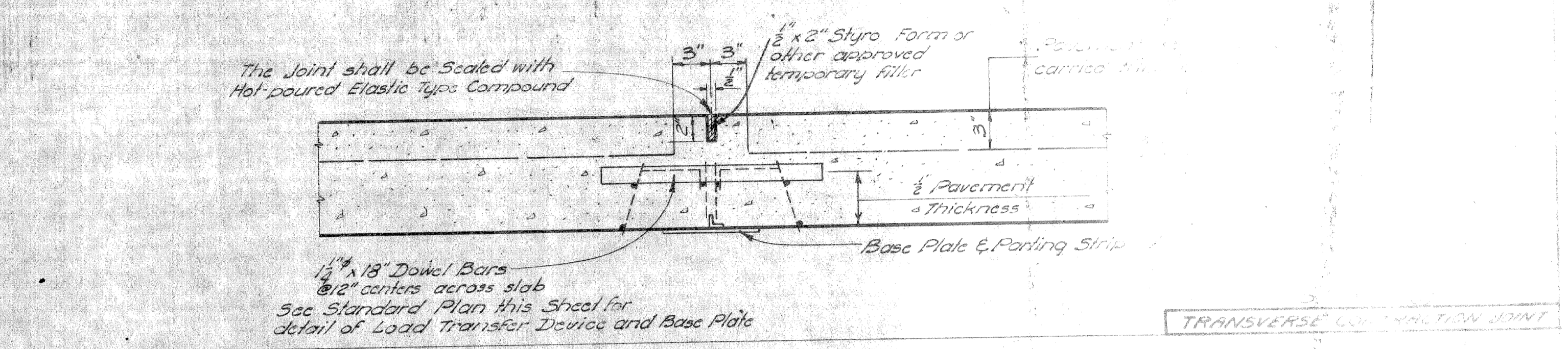
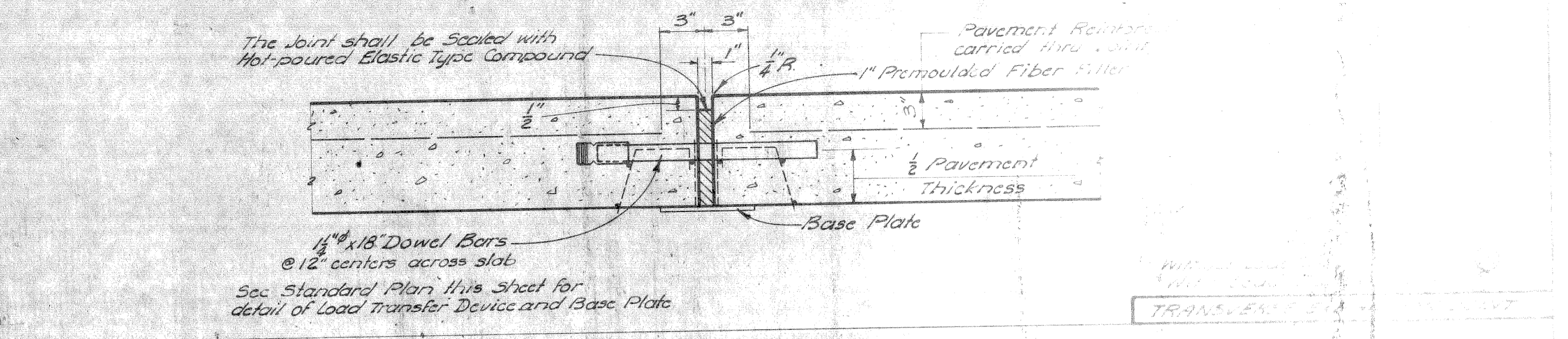
GENERAL NOTES

All wire used in the basket shall be cold drawn steel wire of the gauge shown.

When directed by the Engineer, sand plates shall be placed under each corner of each basket unit.

This standard shows the minimum requirements for dowel bar assemblies. Other devices for holding the dowel bars in position will be permitted if approved by the Engineer.

LOAD TRANSFER DEVICES AT TRANSVERSE JOINTS



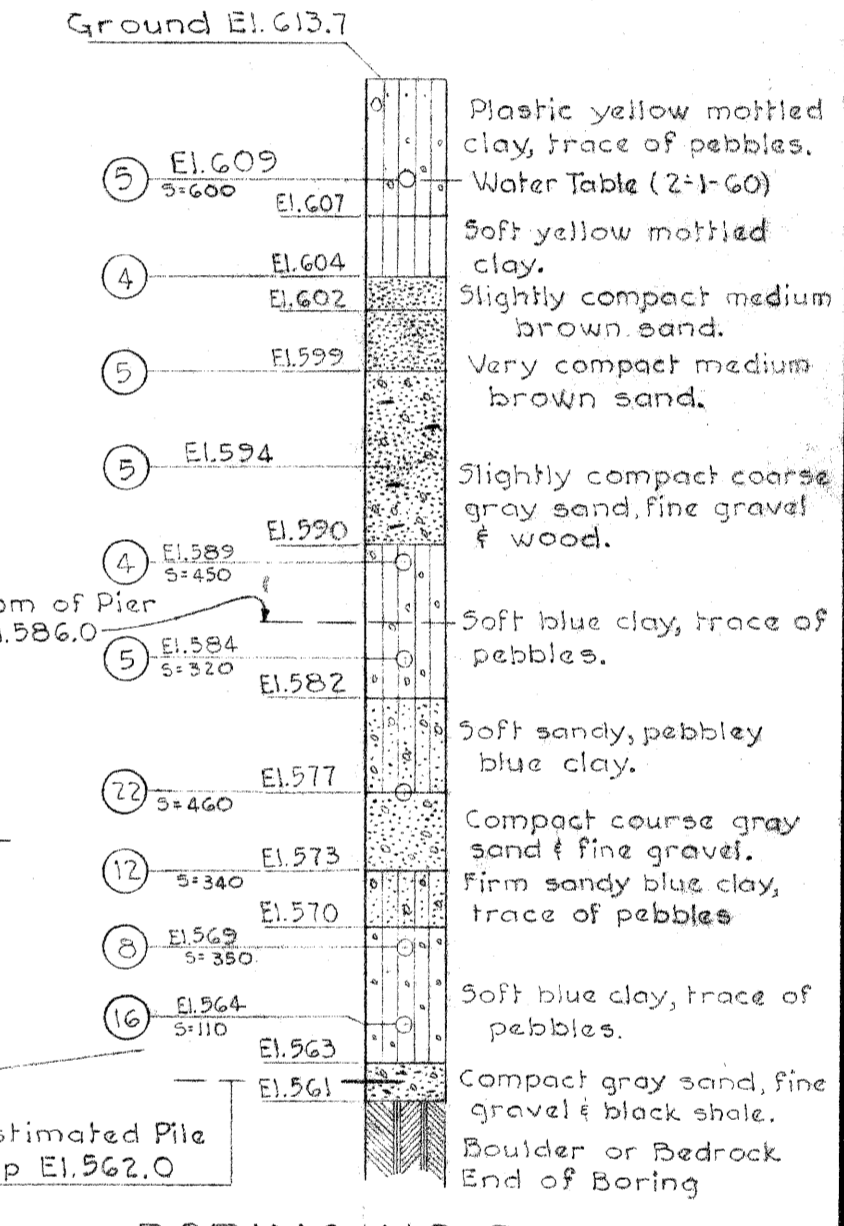
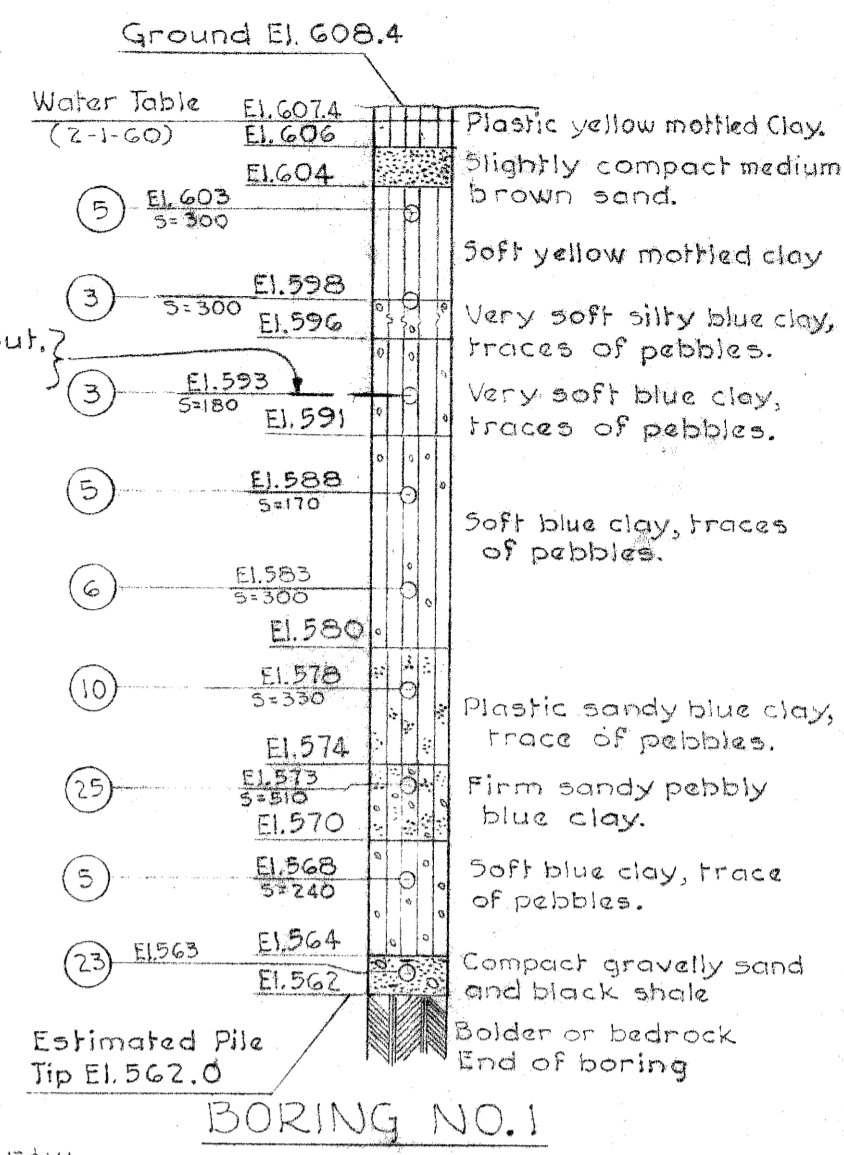
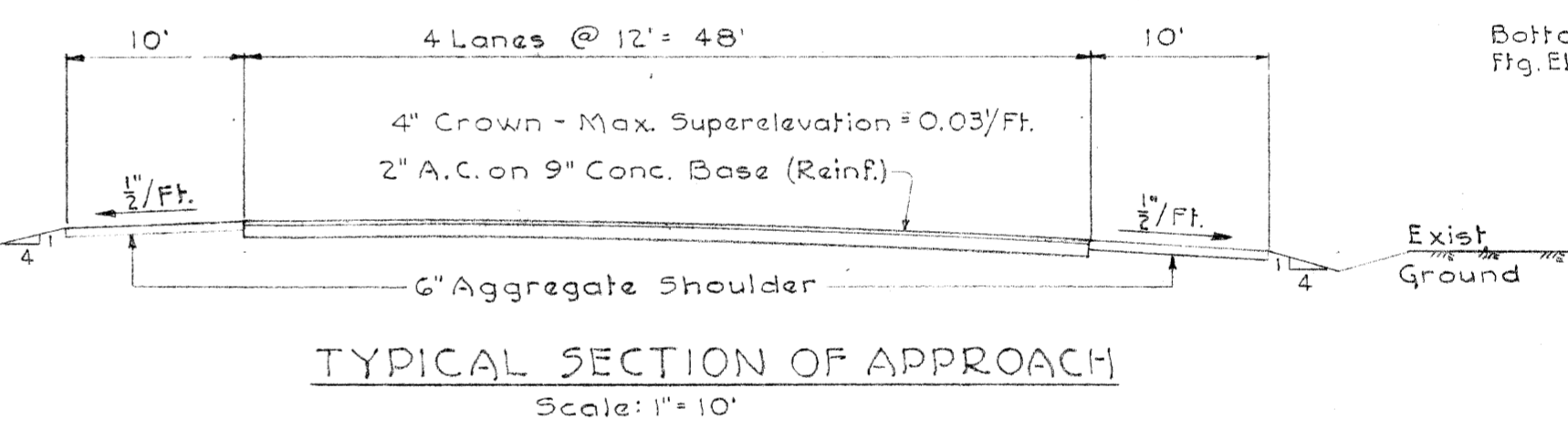
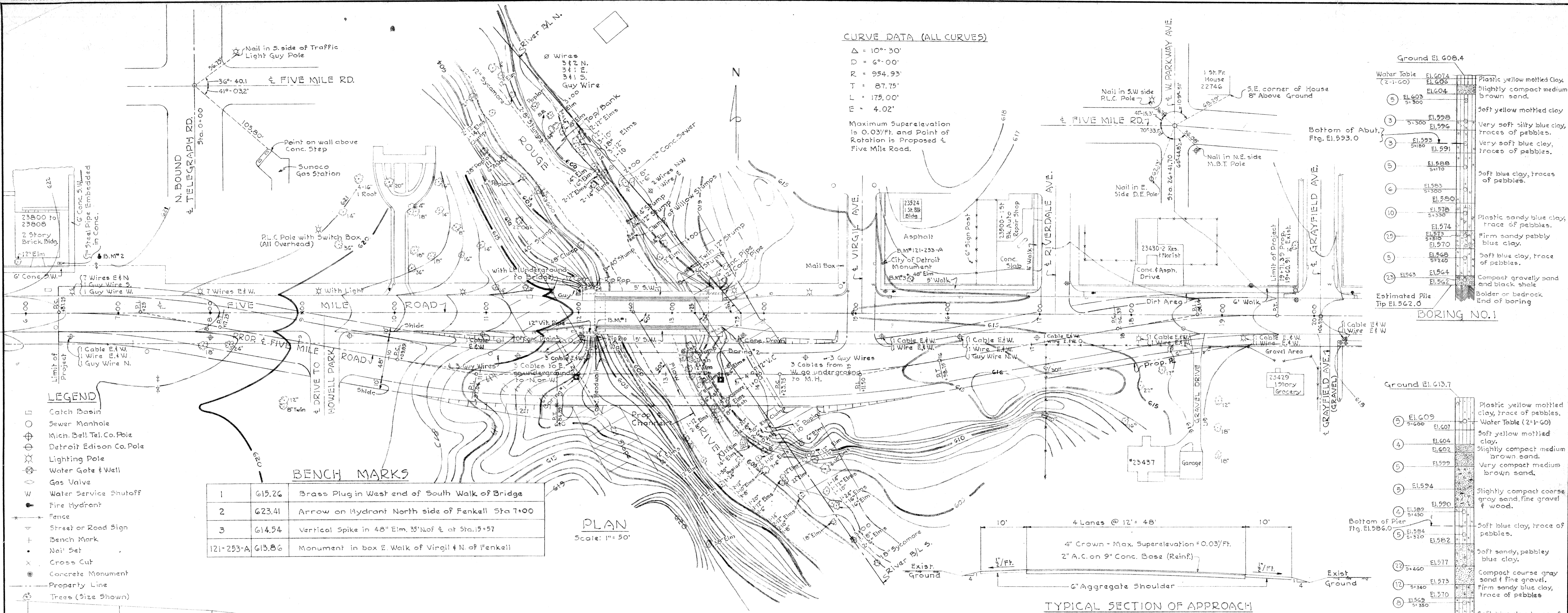
Note: All materials and workmanship shall be in accordance with the current General Specifications for construction of bridges and other highway structures of the Board of Ways & County.

| | | |
|---|--|--|
| BOARD OF WAYNE COUNTY ROAD COMMISSIONERS DETROIT 26, MICHIGAN WILLIAM E. KREGER, Chairman PHILIP J. NEUDECK, Vice-Chairman | SCALE AS NOTED DATE 8-25-60 DRAWN BY CHECKED BY R. T. | PRIMARY PLAN STANDARD PROJECT APPROVED ENGINEER APPROVED CHIEF ENGINEER |
|---|--|--|

CURVE DATA (ALL CURVES)

Δ = 10° 30'
 D = 6° 00'
 R = 954.93'
 T = 87.75'
 L = 175.00'
 E = 4.02'

Maximum Superelevation is 0.03/Ft. and Point of Rotation is Proposed 4 Five Mile Road.

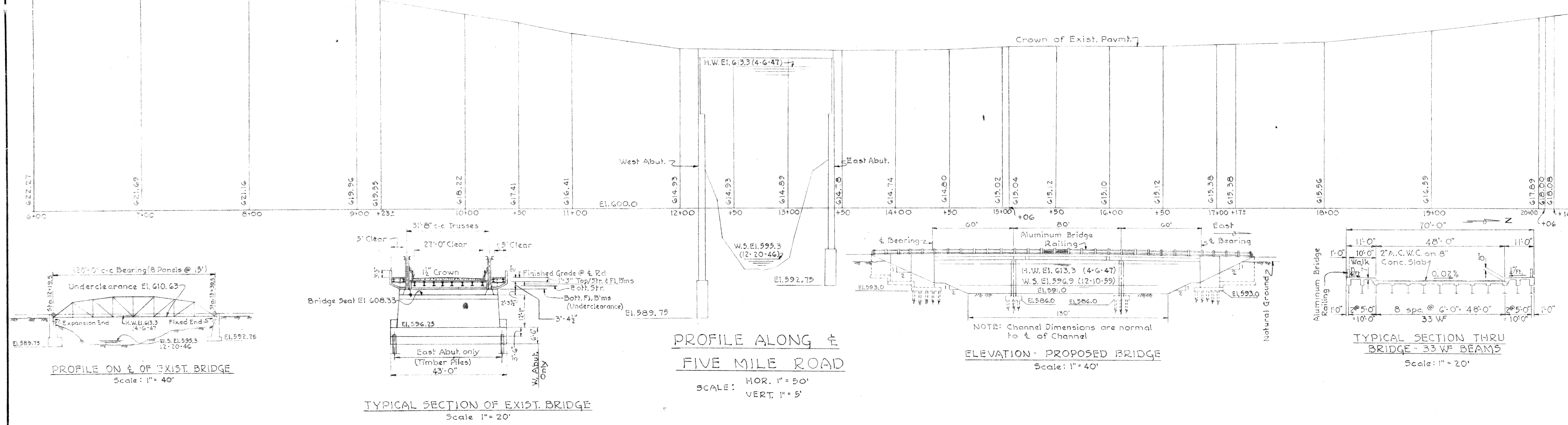


NOTES: Penetration - Circled numbers indicate number of blows required to drive soil sampler one foot using 140 pound weight falling 30 inches. Where Penetration is not shown, sampler was hand driven.

(5) numbers indicate Transverse Shearing Resistance in lbs. per sq. ft. Shear values shown have been determined from samples at the W.C.R.C. Laboratory, Wayne Yd. using the "House" method.

GENERAL NOTES

Specifications: Board of Wayne County Road Commissioners, Wayne County, 1951.
 General Specifications for the Construction of Roads, Bridges, and Other Highway Structures and Supplementary Specifications for Job # 320 Design-AASHO 1957 Loading: H20-516-44 and Special Military Loading.
 Datum: Elevations shown are based on Wayne County Precise Datum.
 Survey Notes: Field Books Nos 353 & 408



| | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|
| REVISIONS Revised & Redrawn 2-18-60 Revised Bridge Elevation 2-18-60 Revised Stationing 2-18-60 | | SQUAD LEADER DRAWN BY CHECKED BY CORRECT | | APPROVED ENGINEER OF STRUCTURES AND EXPRESSWAYS APPROVED C111EP ENGINEER | | BOARD OF WAYNE COUNTY ROAD COMMISSIONERS DETROIT, MICHIGAN MICHAEL J. O'BRIEN WILLIAM E. KREGER CHARLES L. WILSON | | FIVE MILE ROAD OVER ROUGE RIVER (E. OF TELEGRAPH) LOCATION PLAN STATE PROJECT 320 COUNTY JOB 320 ISSUE NO. 3 DATE 2-18-60 SHEET NO. P-1 | |
|---|--|--|--|--|--|--|--|--|--|

B.M. #25 Elev 630.75
Nail in 36" Maple
29' L Sta 237+52

B.M. #26 Elev 622.33
Top of N.E. Cor of N.E. Wing
Sta 249+98

B.M. #27 Elev 622.10
Spik in N.E. Cor of Store
39' L Sta 263+10

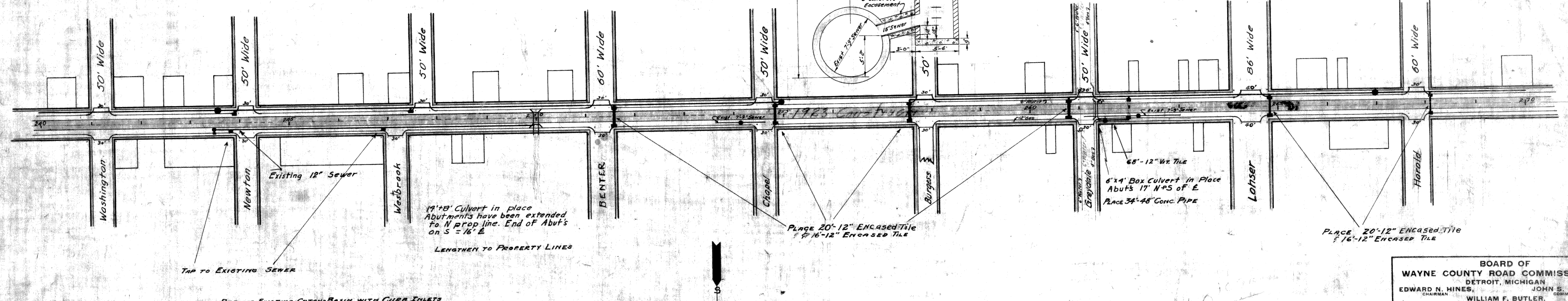
B.M. #29 Elev 632.09
Nail in 24" Maple
39' L Sta 271+75

DETAIL PROPOSED CONSTRUCTION STA 261+50
Scale 1"=6"

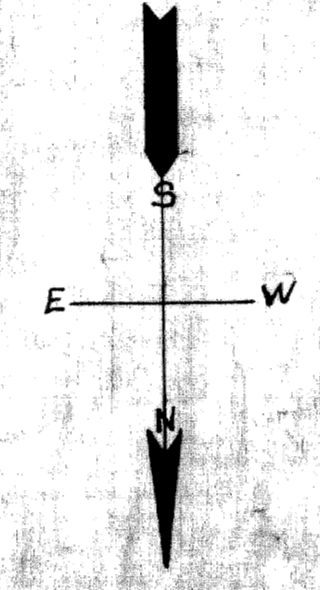
NOTE
Connect existing
Wayne County 18" storm
Sewer to this Manhole
Manhole shall be
plastered on outside
with mortar, 2"±
thickness

| | |
|--------------------------|--------|
| DATE | 7/2/20 |
| BY | |
| APPROVED | |
| PLAN | |
| NO. | |
| NOTE BOOK | |
| PT. OF WAY CHECKED | |
| STRUCTURE NOTING CHECKED | |

| | |
|--------------------------|--|
| DATE | |
| BY | |
| APPROVED | |
| PROFILE | |
| NO. | |
| NOTE BOOK | |
| GRADES CHECKED | |
| STRUCTURE NOTING CHECKED | |



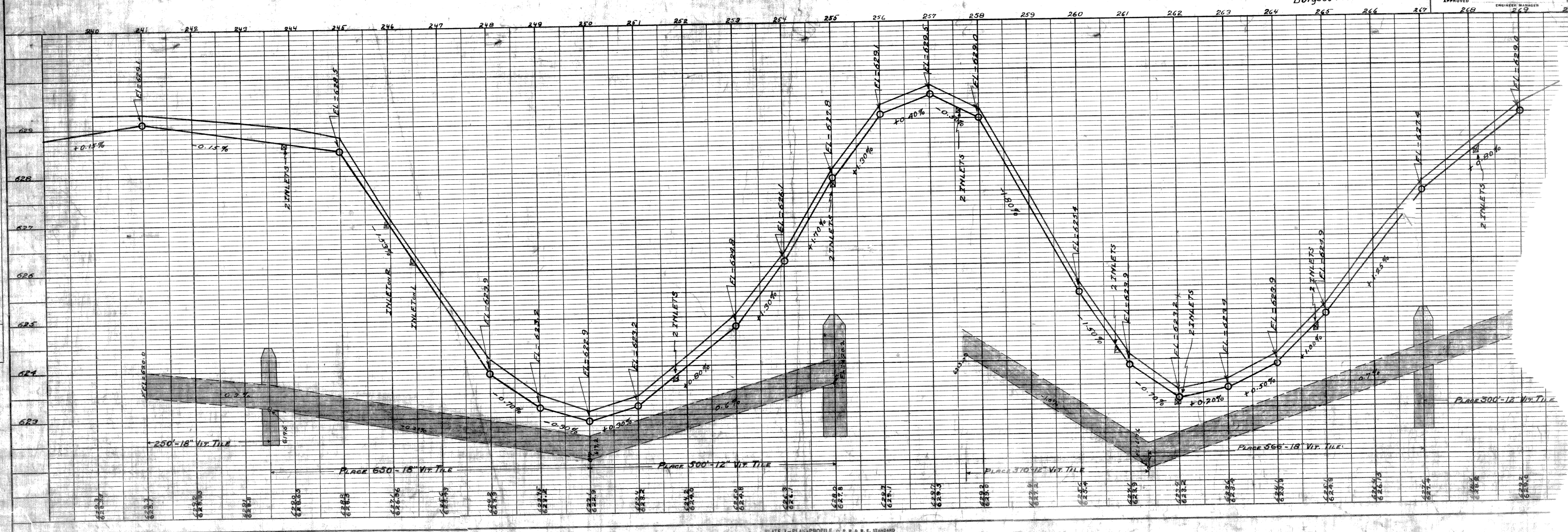
SCALE
1"=100' HORIZONTAL
1"=1' VERTICAL



BOARD OF
WAYNE COUNTY ROAD COMMISSIONERS
DETROIT, MICHIGAN
EDWARD N. HINES, CHAIRMAN
JOHN S. HAGGERTY, COMMISSIONER
WILLIAM F. BUTLER, COMMISSIONER

PLAN AND PROFILE
FIVE MILE Rd.
WIDENING
ROAD-MILE:

| | | | |
|----------|-----------------|----------------|------------|
| DRAWN BY | SCALE | DATE | 1/21/20 |
| CORRECT | ROAD ENGINEER | REG. CIV. ENG. | CHECKED BY |
| APPROVED | ENGINEER NUMBER | REG. CIV. ENG. | FILE NO. |

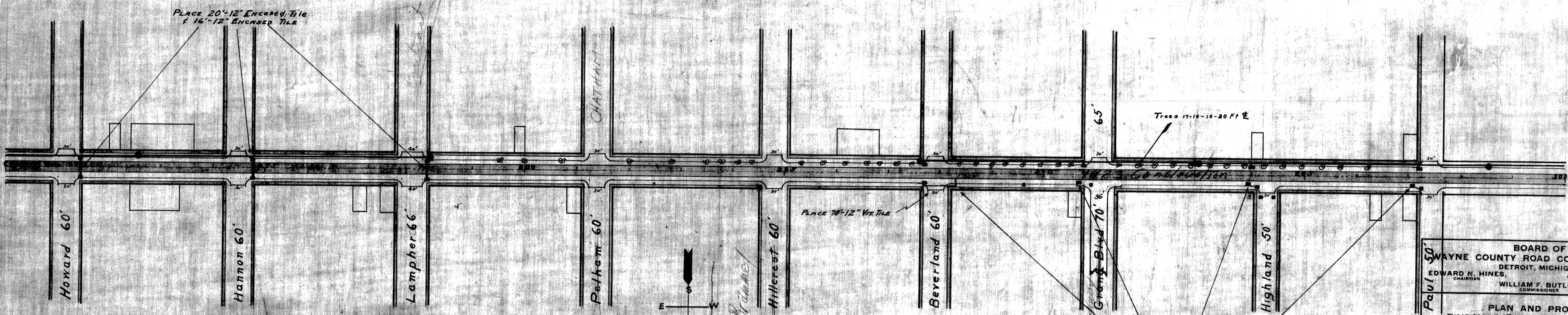


BM# 29 nail in maple
35' L Sta 271+73
Elev 632.09

BM# 30 N. Bolt on Hydrant Rim
26' R Sta 287+65
Elev 633.47

BM# 32 SPIKE IN 24" Elm
50' L Sta 300+35
Elev 611.35

| | |
|------|----------|
| DATE | 1/21/26 |
| BY | M. M. M. |
| PLAN | ROAD |
| NO. | |



SCALE
1"=100' HORIZONTAL
1"=5' VERTICAL

REPLACE EXISTING CATCH-BASINS WITH CURB INLETS

REMOVE TREES IN PLACE

TAP TO EXISTING SEWER

West Parkway print. 9/13/20

BOARD OF WAYNE COUNTY ROAD COMMISSIONERS
DETROIT, MICHIGAN
EDWARD N. HINES, CHAIRMAN
JOHN S. HAGGERTY, COMMISSIONER
WILLIAM F. BUTLER, COMMISSIONER

PLAN AND PROFILE
FIVEMILE Rd.
WIDENING

ROAD-MILE: 298 299 300

SCALE: 1/2"=100'
DATE: 1/21/26
DRAWN BY: [blank]
CORRECT: [blank]
APPROVED: [blank]

| | |
|---------|----------|
| DATE | 1/21/26 |
| BY | M. M. M. |
| PROFILE | SEWER |
| NO. | |

