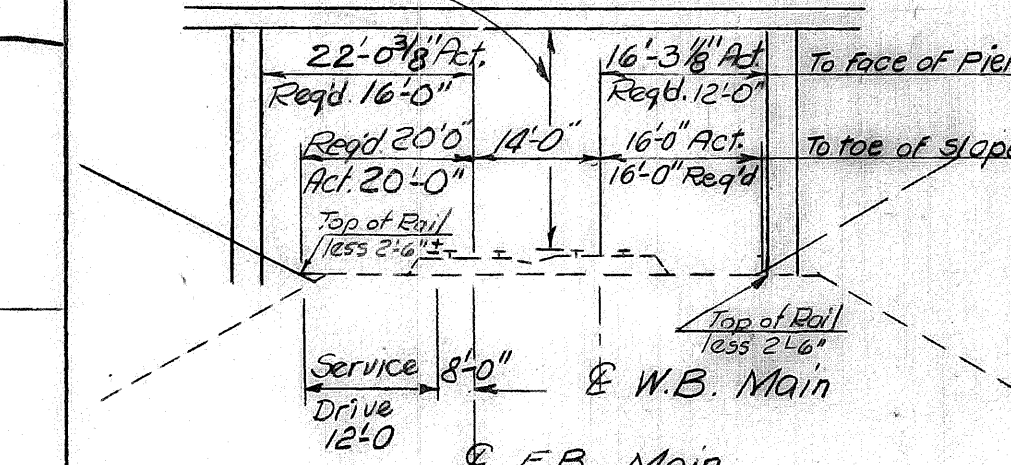


# ROSS COUNTY ROS-35-21.23

**PROPOSED BRIDGE DATA**  
 TYPE: Continuous Concrete Slab with Concrete Substructure Separate Structures.  
 SPANS: 44'-0" - 55'-0" - 44'-0"  
 ROADWAY: 40' HP Parapet Walls.  
 LOAD FREQUENCY: CF-400 (57)  
 SKEW: 1° 00' L.F. Left Bridge  
 4° 00' R.F. Right Bridge  
 WEARING SURFACE: 1" Monolithic Concrete.  
 APPROACH SLABS: AS-1-54, 25'-0" Long.  
 RAILING: Aluminum Rail and Supports and Concrete Parapets.  
 ALIGNMENT: Tangent.

**FOUNDATION SOUNDINGS**  
 Foundation design and foundation quantities are based on a study of rod soundings and soil-sampling soundings made at this site. This sounding information may be inspected in the office of the Bureau of Bridges in Columbus or in the Division Office, but the State does not guarantee the accuracy thereof.

Required Clearance = 23'-0"  
 Actual Critical Clearance-Point (1) = 23'-1 1/8"  
 Actual Critical Clearance-Point (2) = 23'-1 1/8"



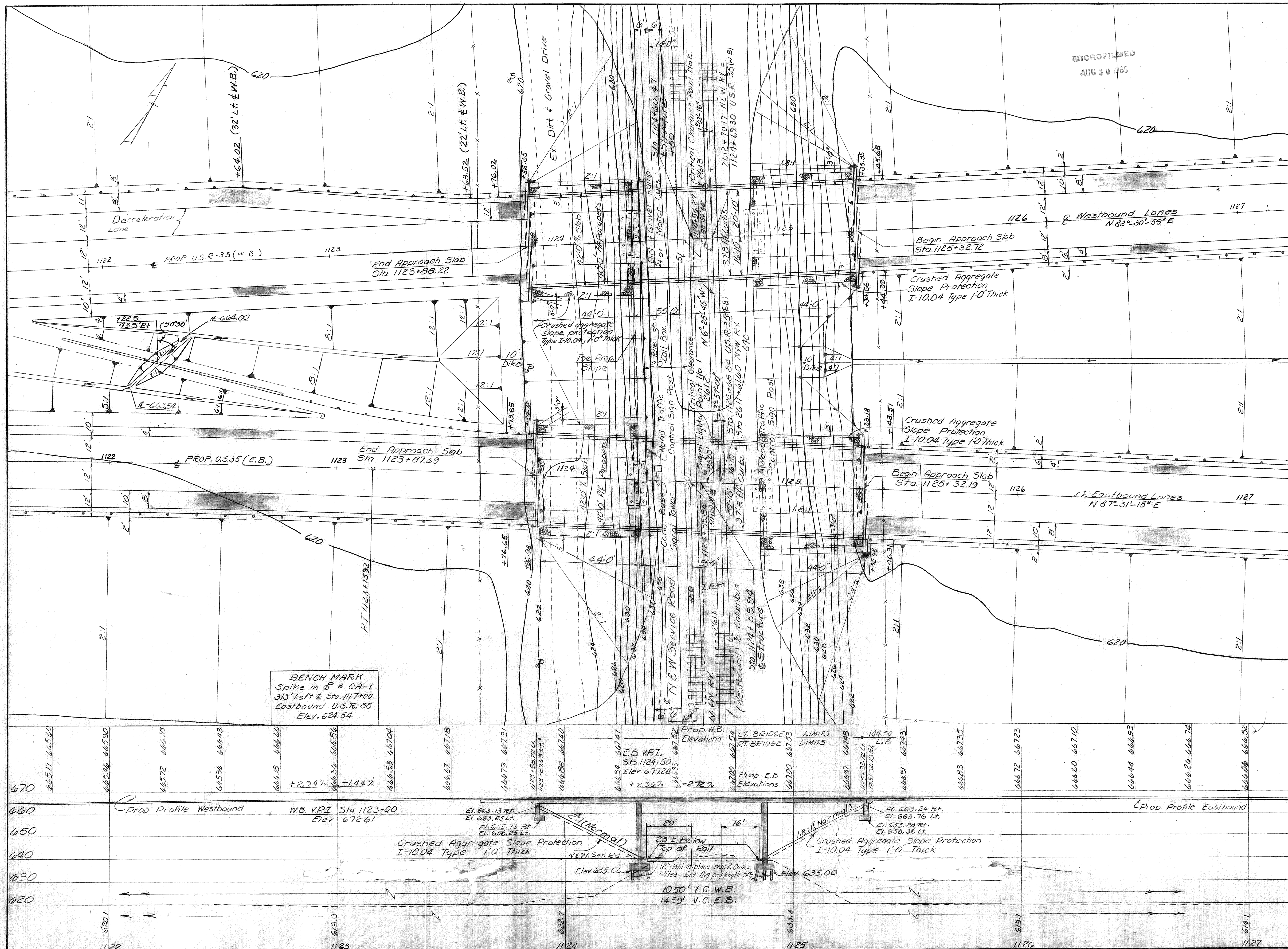
CLEARANCE DIAGRAM  
Normal to N. & W. Railway

ELMER S. BARRETT ASSOCIATES  
 Consulting Engineers  
 245-249 S. Paint Street Chillicothe, Ohio

## SITE PLAN

BRIDGE NO. ROS-35-2129 L & R  
 U.S. 35 OVER N. & W. RAILWAY  
 ROSS COUNTY, U.S.R. 35  
 STA 1123+87.69 TO STA 1125+32.19 E  
 STA 1123+88.22 L TO STA 1125+32.72 L

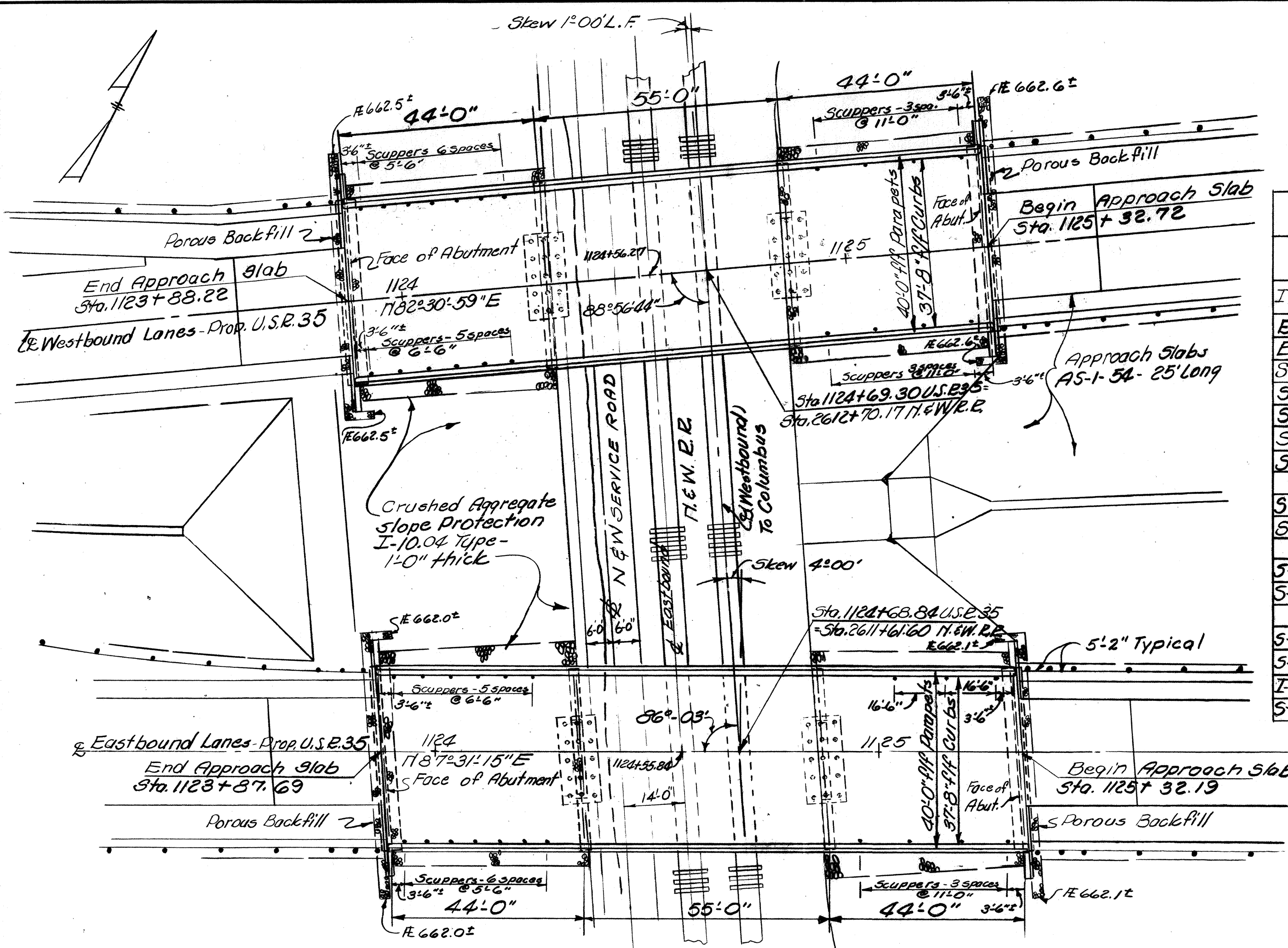
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|----------|-------|--------|---------|----------|---------|---------|
| FHS      | LLF   | D.S.   | WVC     |          | 3/18/63 |         |



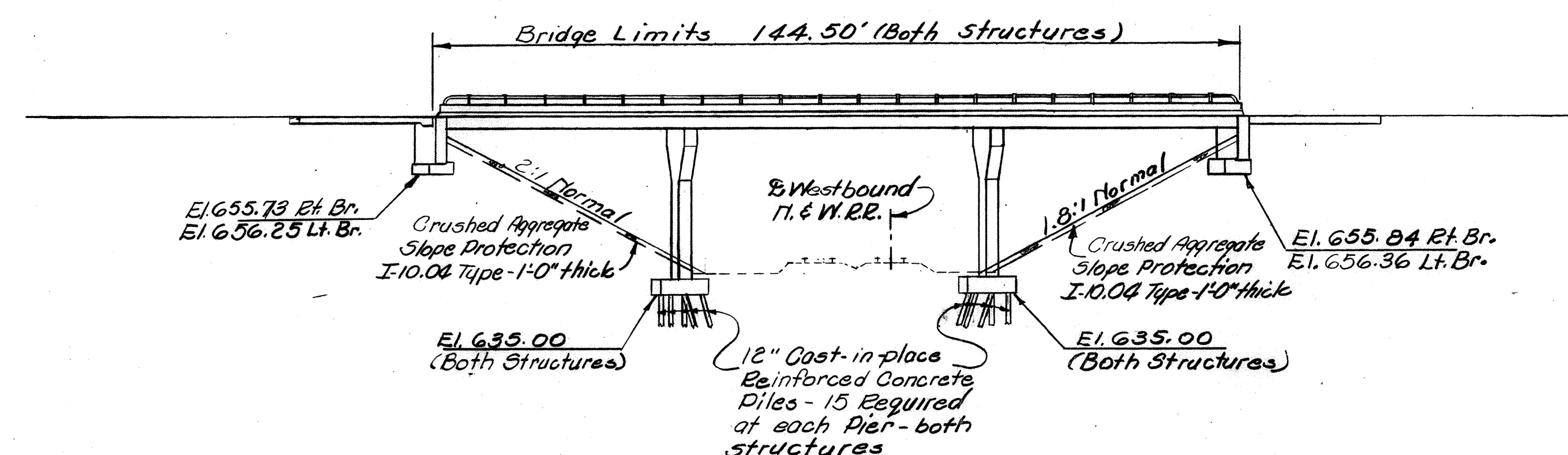
**BENCH MARK**  
 Spike in S # CA-1  
 313' Left & Sta. 1117+00  
 Eastbound U.S.R. 35  
 Elev. 624.54



ROSS COUNTY  
ROS-35-21.23

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GENERAL PLAN



GENERAL ELEVATION

# ESTIMATED QUANTITIES

| ITEM | QUANTITY | UNIT     | DESCRIPTION                                              | RIGHT BRIDGE |        |         |         |          | LEFT BRIDGE |        |         |         |          |
|------|----------|----------|----------------------------------------------------------|--------------|--------|---------|---------|----------|-------------|--------|---------|---------|----------|
|      |          |          |                                                          | ABUTS.       | PIERS  | SUPER   | GENERAL | AS BUILT | ABUTS.      | PIERS  | SUPER   | GENERAL | AS BUILT |
| E-2  | 567      | Cu.Yds.  | Unclassified Excavation                                  | 180          | 104    |         |         |          | 179         | 104    |         |         |          |
| E-2  | Lump Sum | Lump     | Cofferdams, cribs and sheeting                           |              | Lump   |         |         |          |             | Lump   |         |         |          |
| S-1  | 224      | Cu.Yds.  | Class "C" Concrete, Piers above Footings                 |              | 111    |         |         |          |             | 113    |         |         |          |
| S-1  | 110      | Cu.Yds.  | Class "E" Concrete, Abutments above Footings             | 55           |        |         |         |          | 55          |        |         |         |          |
| S-1  | 138      | Cu.Yds.  | Class "E" Concrete, Footings                             | 31           | 38     |         |         |          | 31          | 38     |         |         |          |
| S-1  | 964      | Cu.Yds.  | Class "C" Concrete, Superstructure                       |              |        | 482     |         |          |             |        | 482     |         |          |
| S-4  | 247,970  | Pounds   | Reinforcing Steel                                        | 3506         | 13,586 | 106,893 |         |          | 3506        | 13,586 | 106,893 |         |          |
| S-9  | 22       | Sq. Ft.  | 1/2" Preformed Expansion Joint Filler                    | 11           |        |         |         |          | 11          |        |         |         |          |
| S-11 | 575.34   | Lin. Ft. | Railing, Aluminum Rail and Supports and Concrete Parapet |              |        | 287.67  |         |          |             |        | 287.67  |         |          |
| S-16 | Lump Sum | Lump     | First Test Pile *                                        |              | Lump   |         |         |          |             | Lump   |         |         |          |
| S-18 | 3000     | Lin. Ft. | 12" Cast-in-place, Reinforced Concrete Piles             |              | 1,500  |         |         |          |             | 1,500  |         |         |          |
| S-29 | 41       | Each     | Scuppers, 4" cast or wrought iron pipe                   |              |        | 20      |         |          |             |        | 21      |         |          |
| S-29 | 36       | Cu.Yds.  | Porous Backfill                                          | 18           |        |         |         |          | 18          |        |         |         |          |
| S-10 | 1122     | Sq. Yds. | Crushed Aggregate Slope Protection                       | 561          |        |         |         |          | 561         |        |         |         |          |
| S-10 | 964      | Each     | Water Reducing, Set Retarding Admixture                  |              |        | 482     |         |          |             |        | 482     |         |          |

\* FIRST TEST PILE: Payment will be made for only one First Test Pile. It may be driven for either Right Bridge or Left Bridge.

## GENERAL NOTES

REFERENCE shall be made to Standard Drawings AS-1-54 revised 7-5-62 and AR-1-57 revised 4-2-62, and Supplemental Specification 5101 dated 7-12-62.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57, together with current revisions thereof.

FOUNDATION BEARING PRESSURE: Abutment footings are designed for a maximum bearing pressure of 2 tons per sq. ft.

PILES shall be driven to a minimum bearing capacity of 45 tons per pile for the Piers.

MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.

EMBANKMENT PROCEDURE: See Note on Sheet 15.

CONSTRUCTION CLEARANCE of 20 ft. vertically above the top of the railroad rails and 8 ft. horizontally from the center of tracks shall be maintained at all times.

ALIGNING RAILROAD TRACKS: After the Contractor has completed all excavation and backfill adjacent to the railroad tracks in compliance with Sec. E-2.04 and E-2.08 of the Construction and Material Specifications, subject to the Supervision of the Railroad Company, nothing in Sec. E-2.04, E-2.08 or G-8.07 of the Specifications shall be construed to hold the Contractor liable for aligning and resurfacing the railroad tracks.

SHEETING AND BRACING: Before construction is started, eight sets of prints showing details of the sheeting and bracing to be used for excavation adjacent to the railroad tracks shall be submitted to the Director for approval by the Department of Highways and by the Railroad Company.

RAILROAD AERIAL LINES will be relocated by the railroad. The Contractor shall use all precautions necessary to see that the lines are not disturbed during the construction stage and shall cooperate with the railroad in the relocation of these lines. The cost of the relocation shall be included in the railroad force account work.



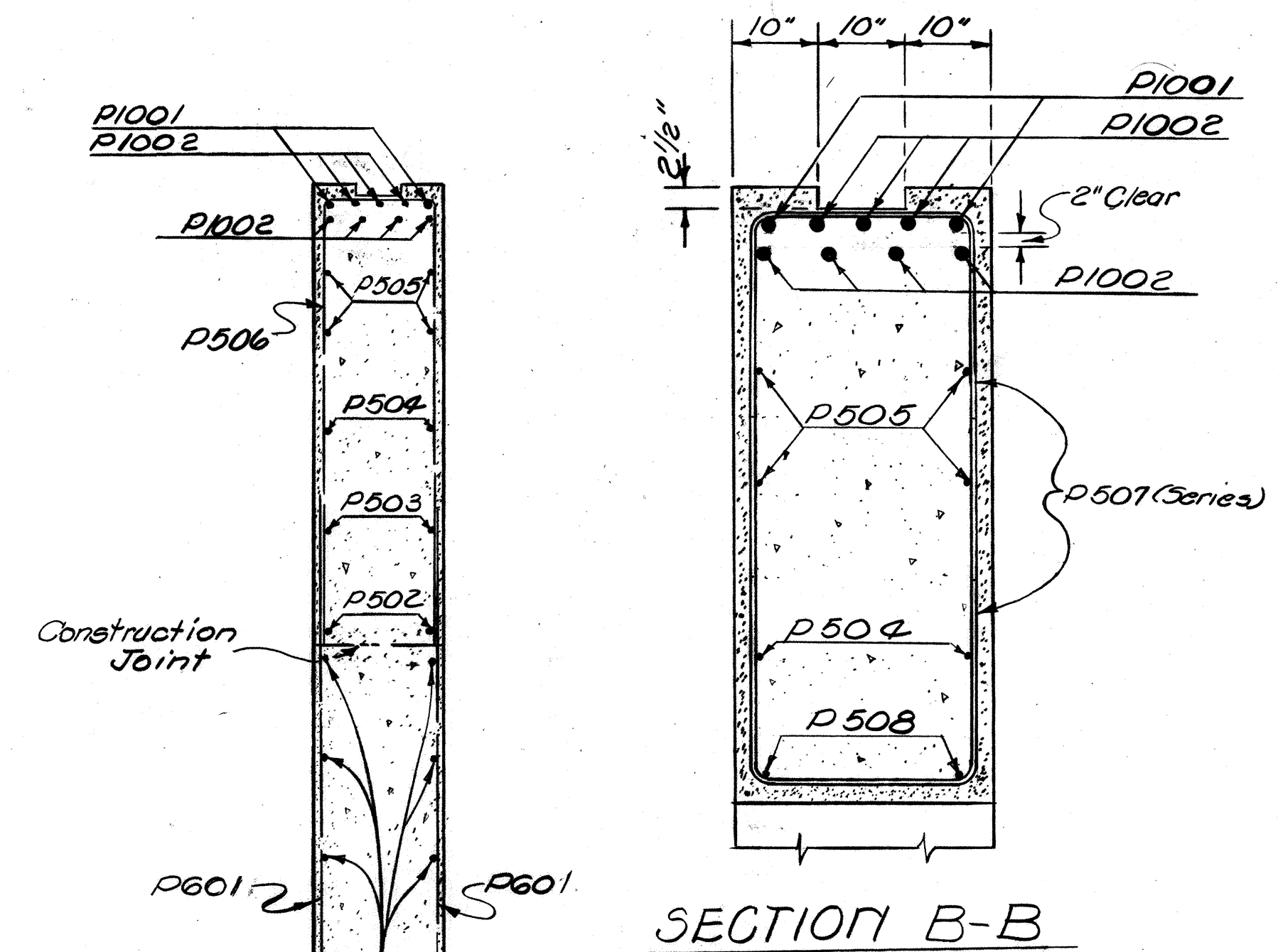
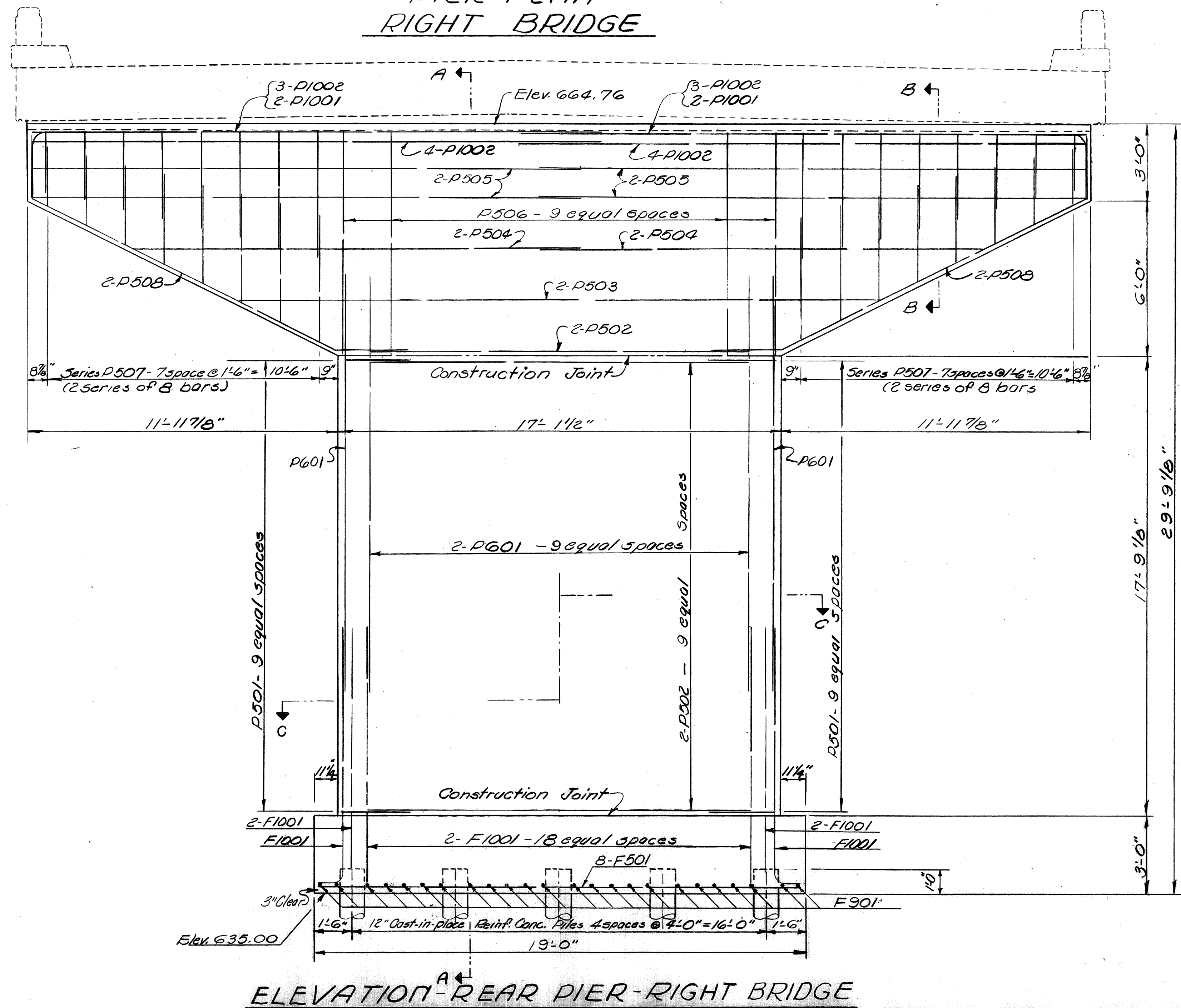
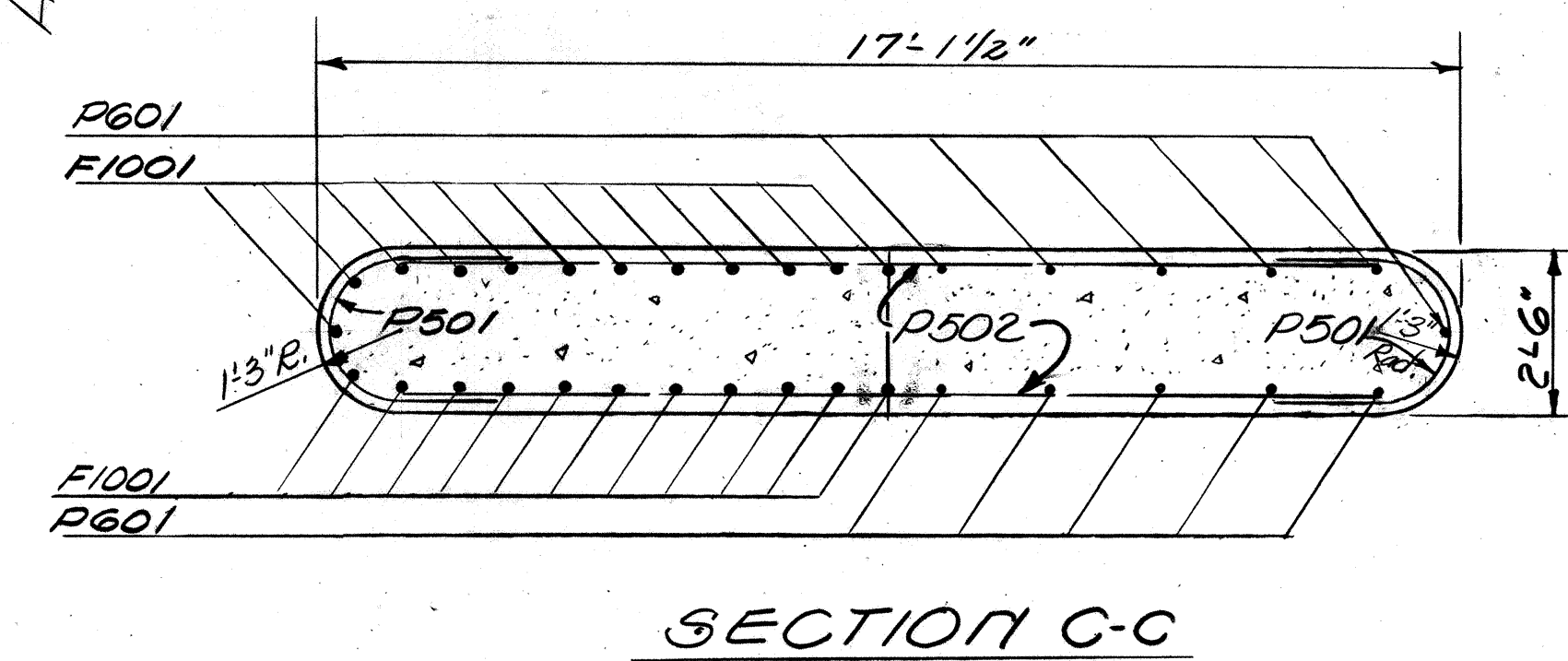
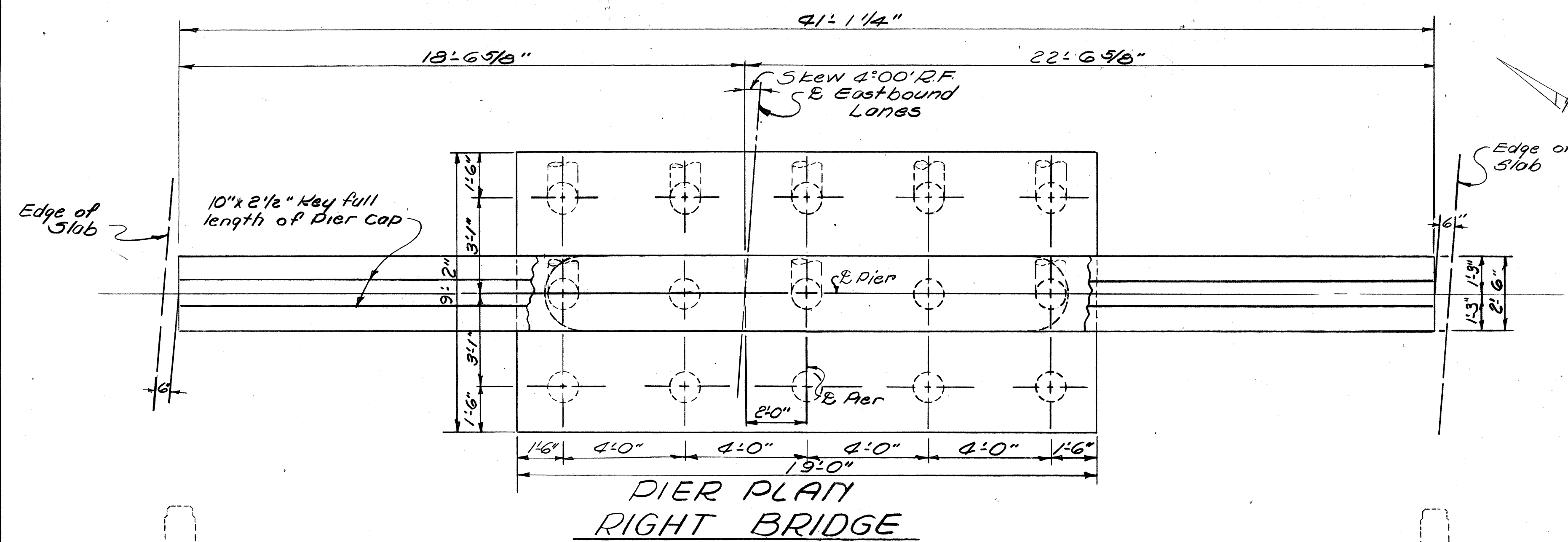








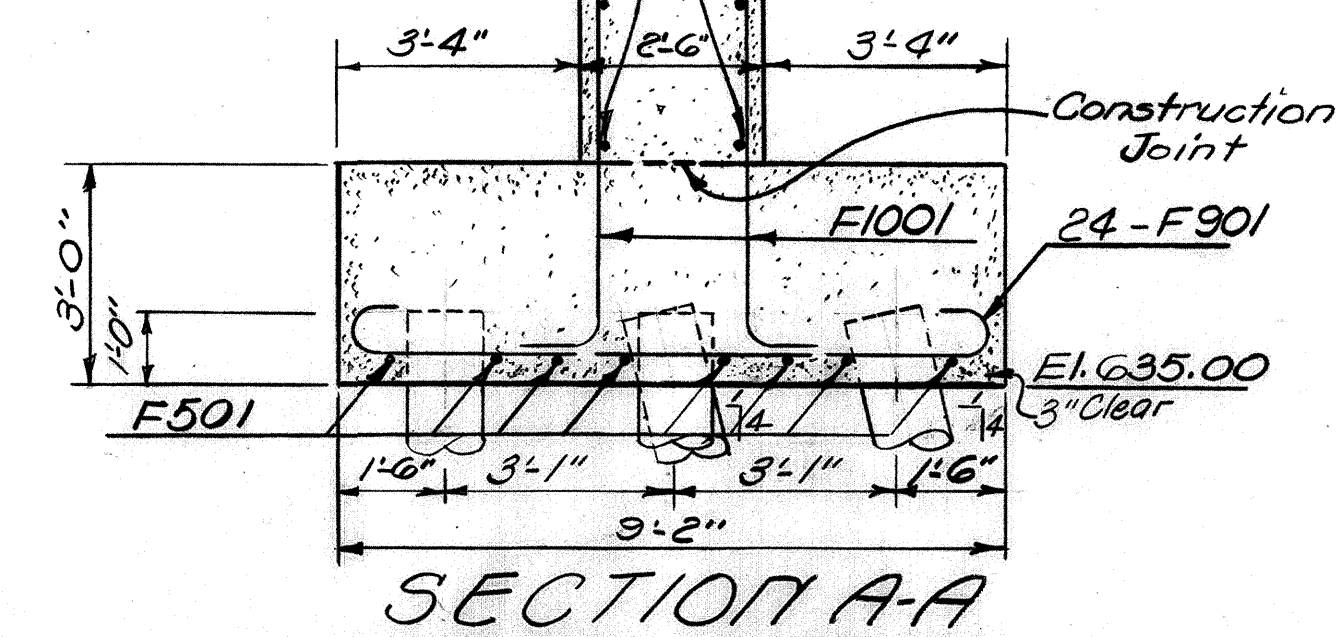
ROSS COUNTY  
ROS-35-21.23



-NOTES-

CONCRETE shall be Class "E".

PILES shall be 12" Cast-in-place, reinforced concrete piles.



ELMER S. BARRETT ASSOCIATES  
Consulting Engineers  
245-249 S. Paint Street  
Chillicothe, Ohio

PIER DETAILS

BRIDGE NO ROS-35-2129 L & R

U.S. 35 OVER N. & W. RAILWAY

ROSS COUNTY U.S. 35

STA. 1123+87.69 R TO STA. 1125+32.19 R

STA. 1123+08.22 L TO STA. 1125+32.72 L

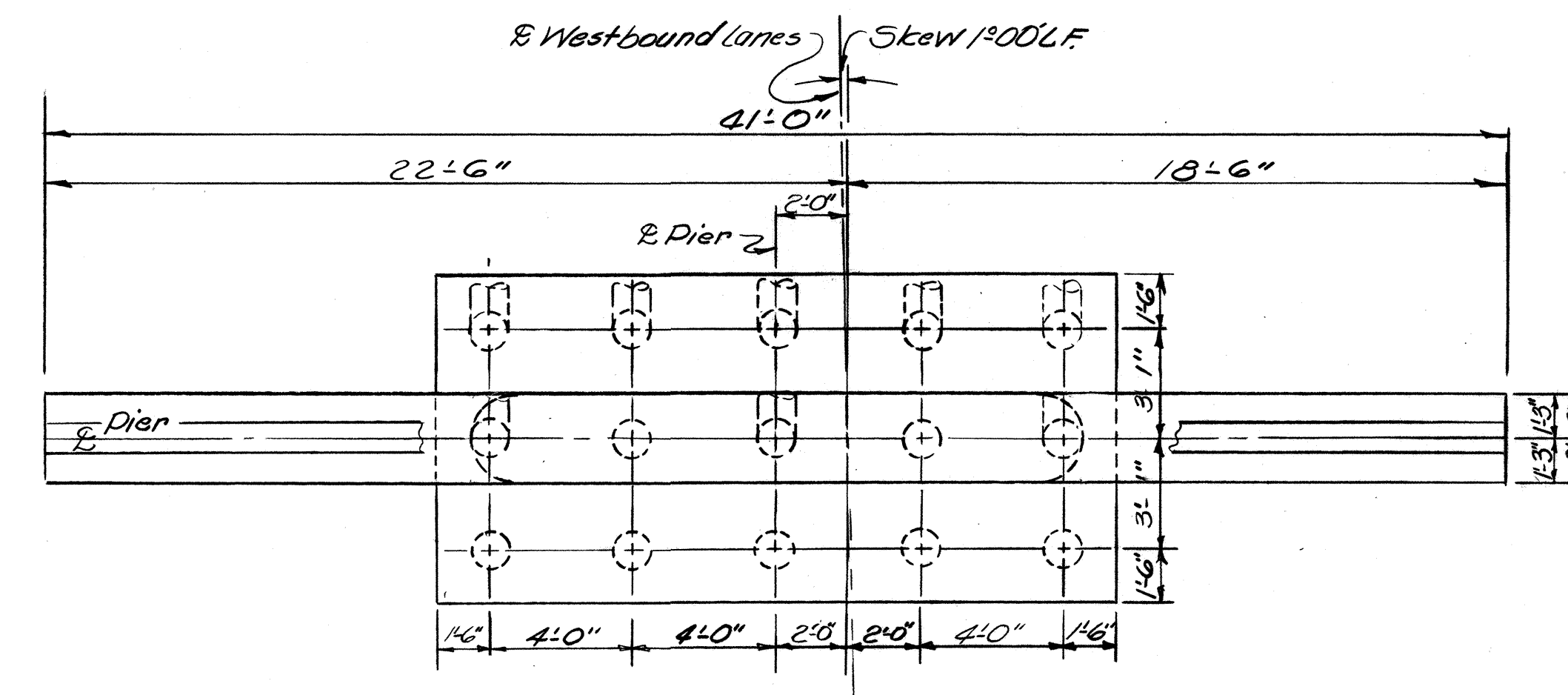
SCALE DATE

| DESIGNED | DRAWN  | TRACED | CHECKED | REVIEWED | DATE    | REVISED |
|----------|--------|--------|---------|----------|---------|---------|
| E.E.R.   | E.E.R. |        | D.S.    | N.K.     | 3/18/63 |         |



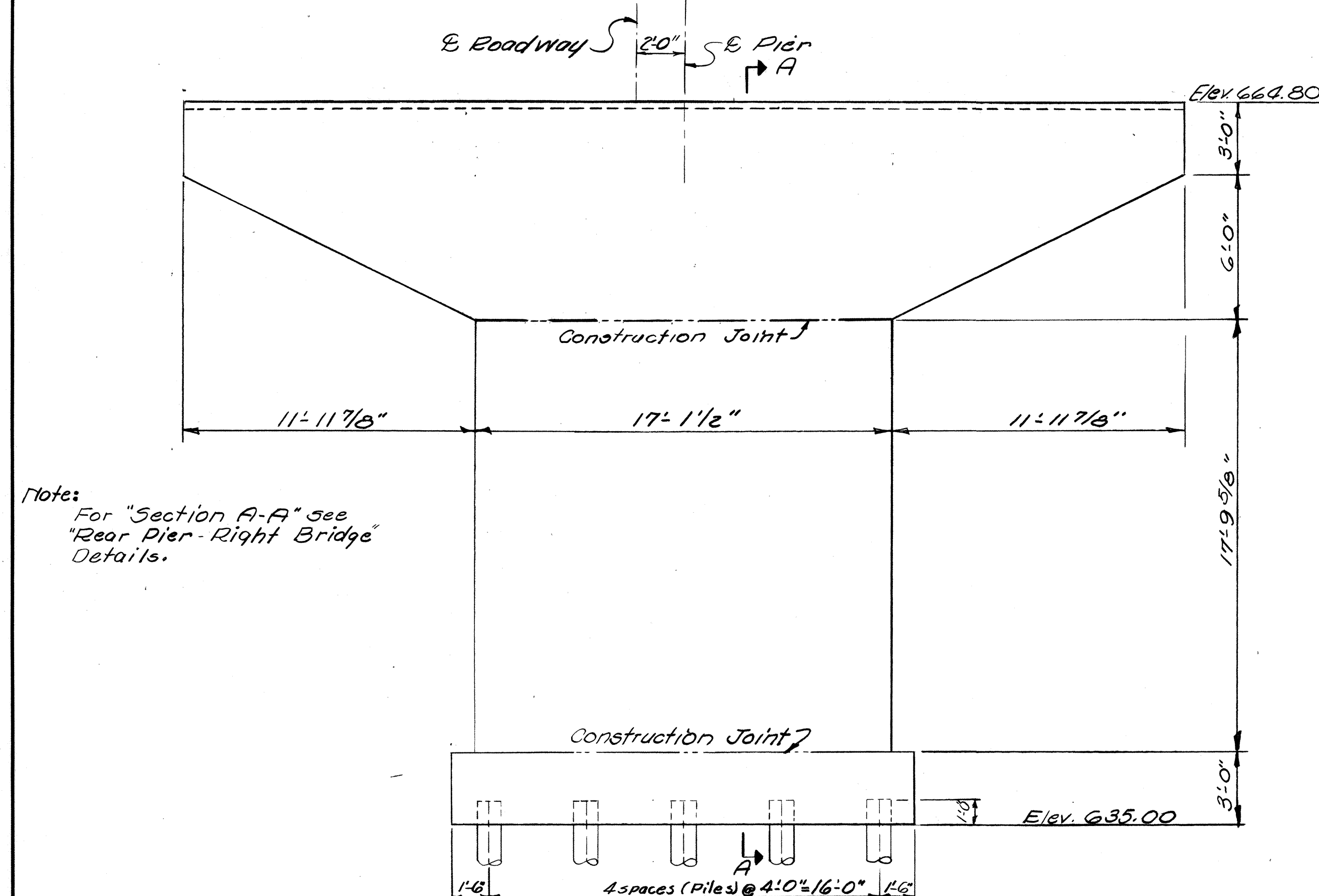
ROSS COUNTY  
ROS-35-21.23

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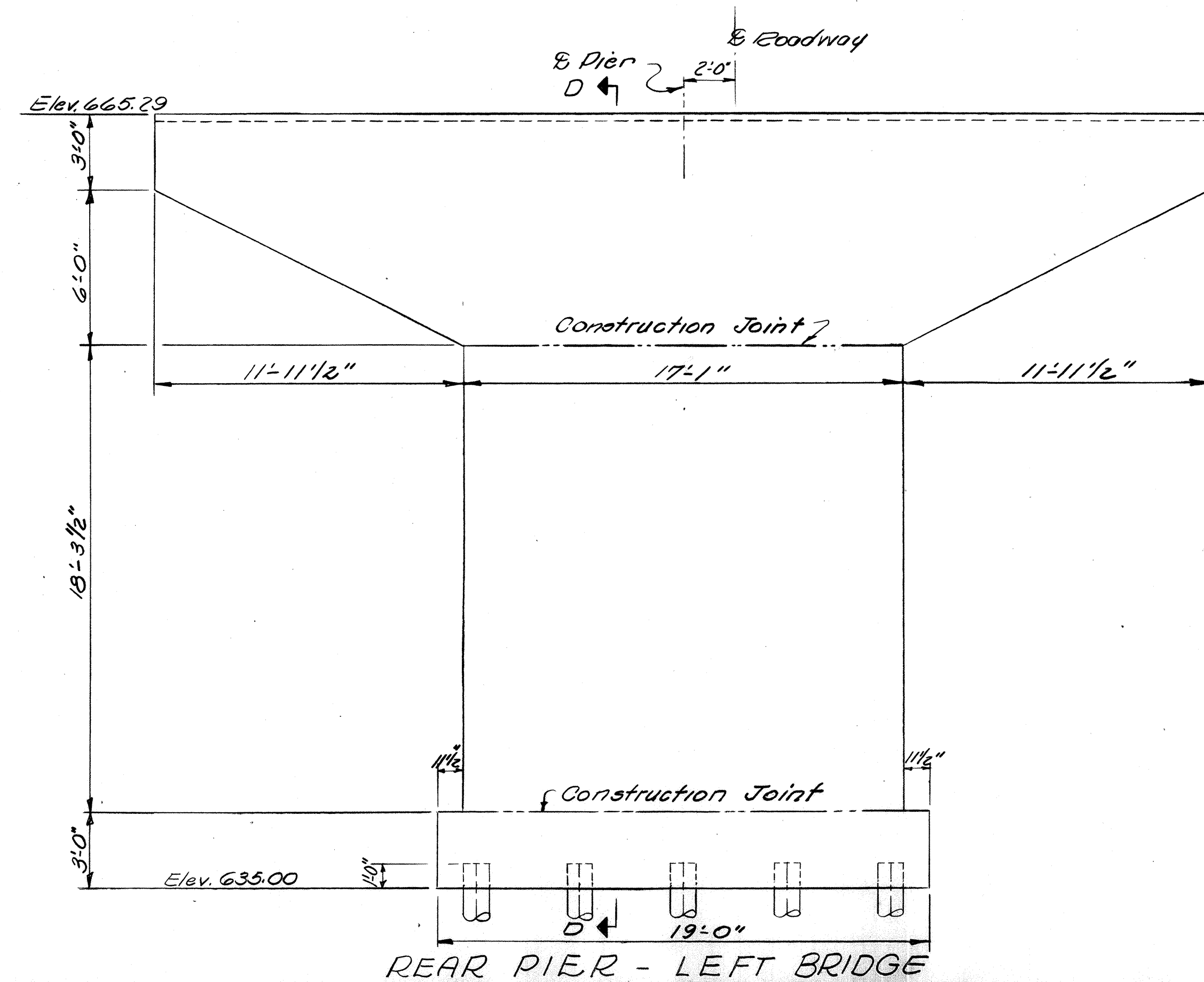


REAR PIER PLAN  
LEFT BRIDGE

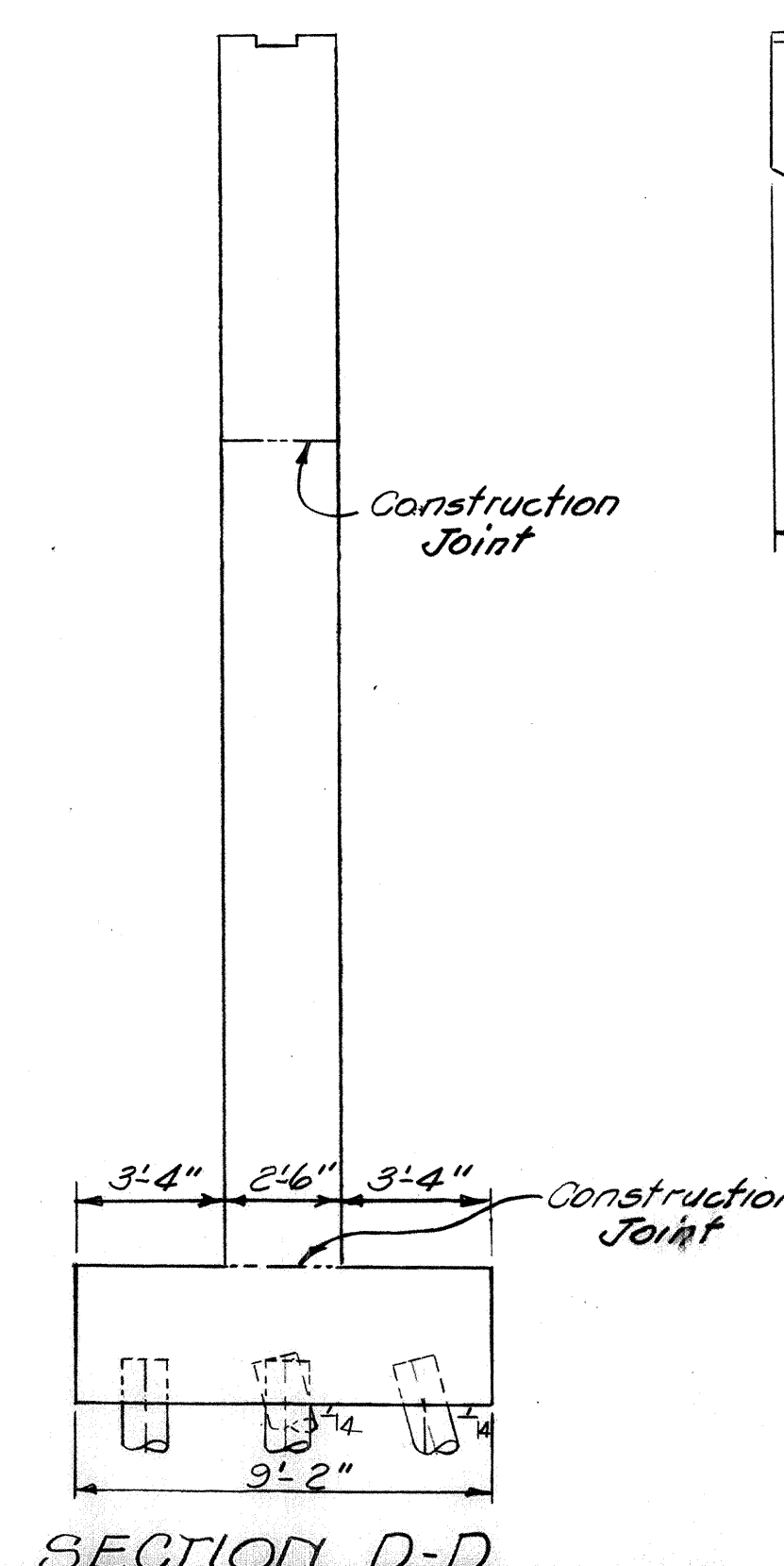
Note:  
All reinforcing steel, details and  
dimensions not shown are identical  
to Rear Pier-Right Bridge.



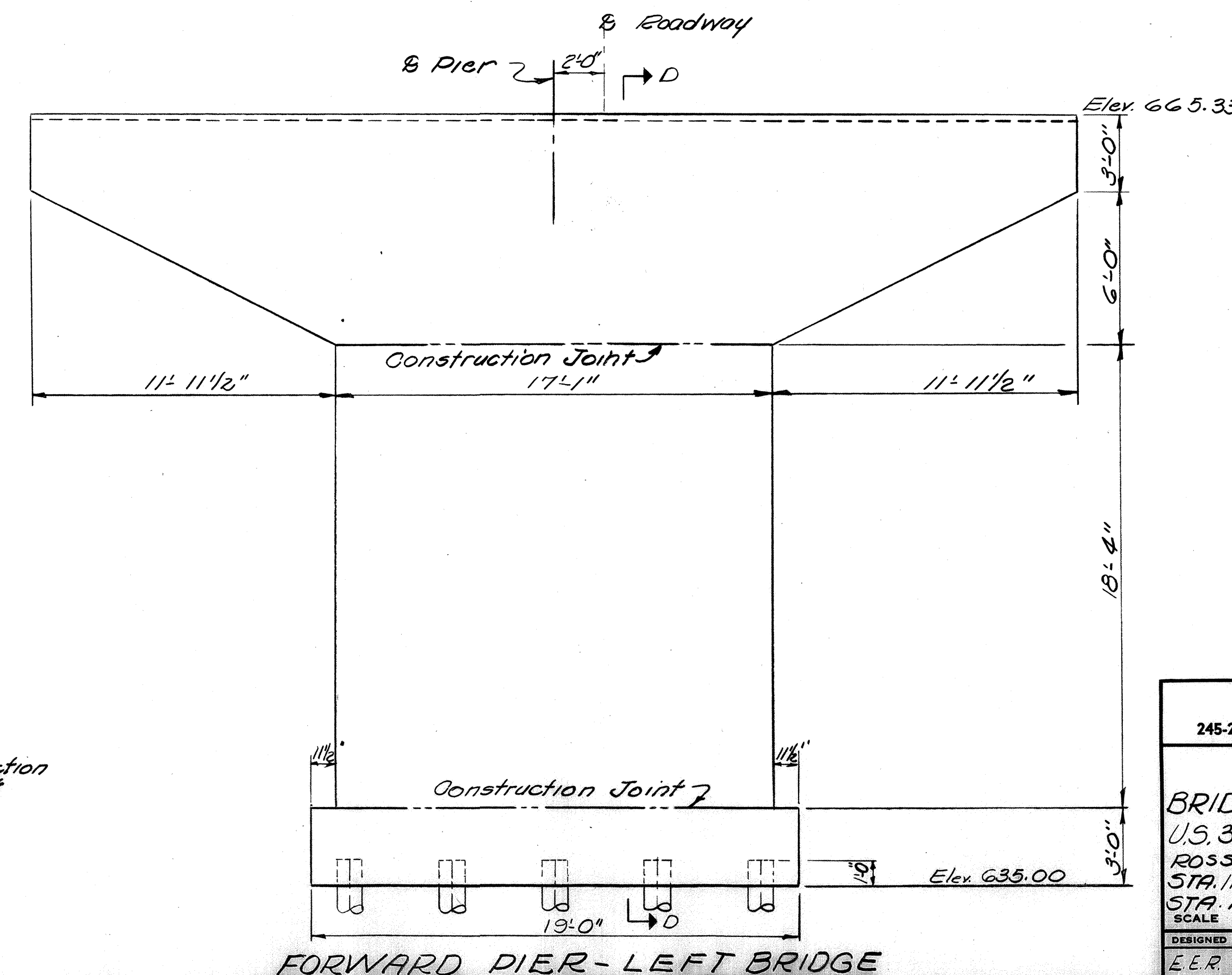
ELEVATION  
FORWARD PIER-RIGHT BRIDGE



REAR PIER-LEFT BRIDGE



SECTION D-D

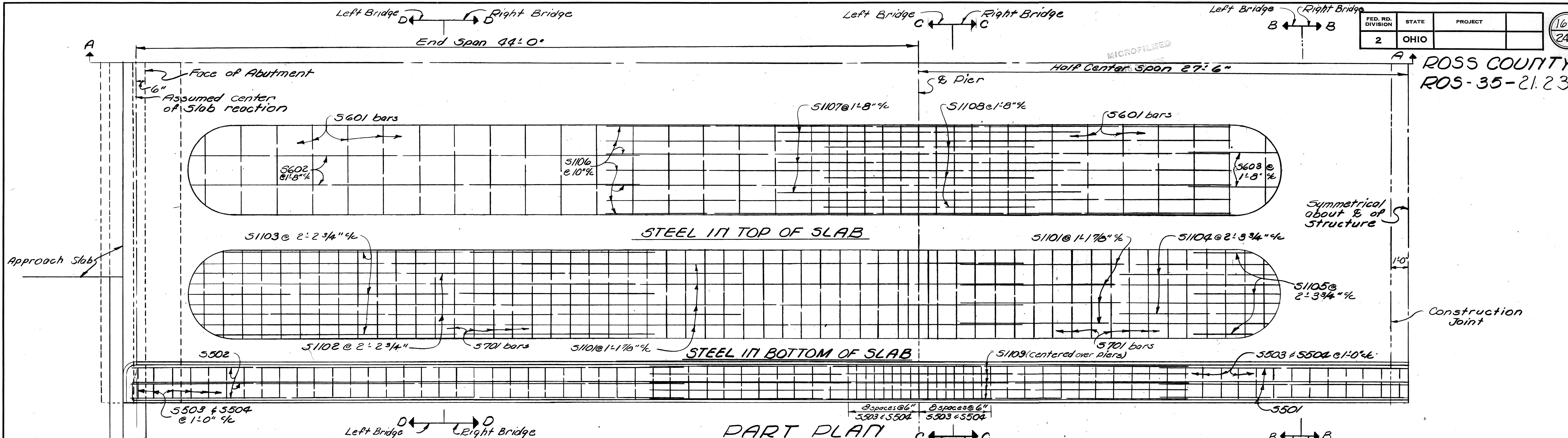


FORWARD PIER-LEFT BRIDGE

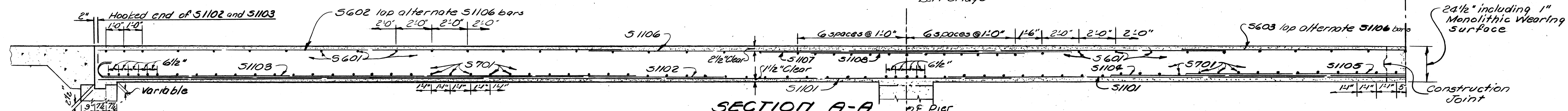
|                                                                                                  |        |        |         |          |         |
|--------------------------------------------------------------------------------------------------|--------|--------|---------|----------|---------|
| ELMER S. BARRETT ASSOCIATES<br>Consulting Engineers<br>245-249 S. Paint Street Chillicothe, Ohio |        |        |         |          |         |
| PIER DETAILS                                                                                     |        |        |         |          |         |
| BRIDGE NO ROS-35-2129 L. & R.                                                                    |        |        |         |          |         |
| U.S. 35 OVER N. & W. RAILWAY                                                                     |        |        |         |          |         |
| ROSS COUNTY U.S. R. 35                                                                           |        |        |         |          |         |
| STA. 1123+87.69 TO STA. 1125+32.19 R                                                             |        |        |         |          |         |
| STA. 1123+88.22 TO STA. 1125+32.72 L                                                             |        |        |         |          |         |
| SCALE DATE                                                                                       |        |        |         |          |         |
| DESIGNED                                                                                         | DRAWN  | TRACED | CHECKED | REVIEWED | DATE    |
| E.E.R.                                                                                           | E.E.P. |        | D.S.    | W.N.     | 3/18/63 |



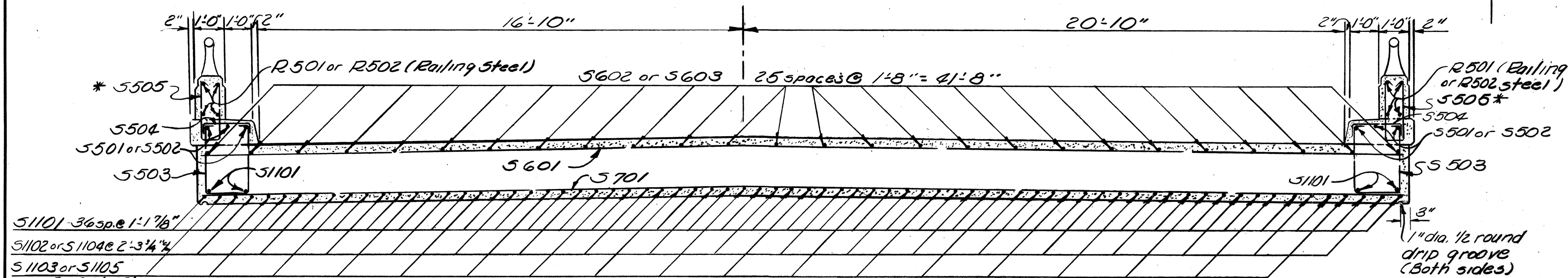
ROSS COUNTY  
ROS-35-21.23



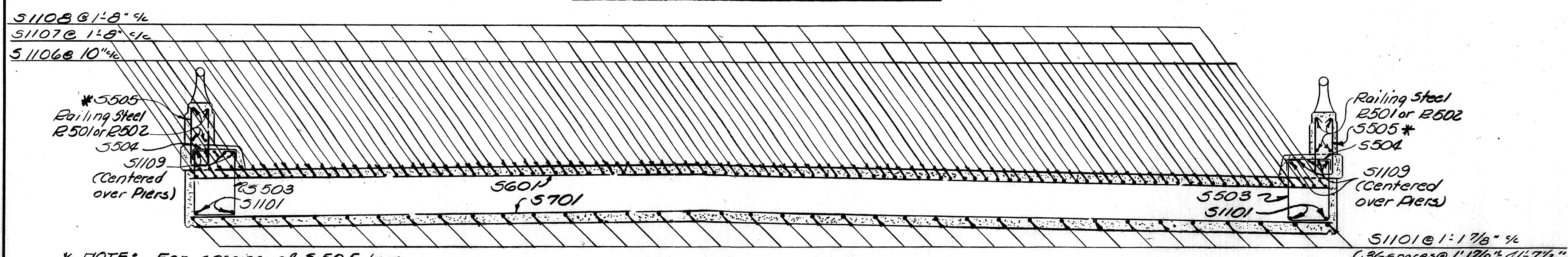
PART PLAN



SECTION A-A



SECTION B-B AND D-D



SECTION C-C

~NOTES~

FOR PLACEMENT OF S1106, S1107 and S1108 bars see next sheet.

FOR PARAPET JOINTS, Railing Post Spacing and Railing Steel see next sheet.

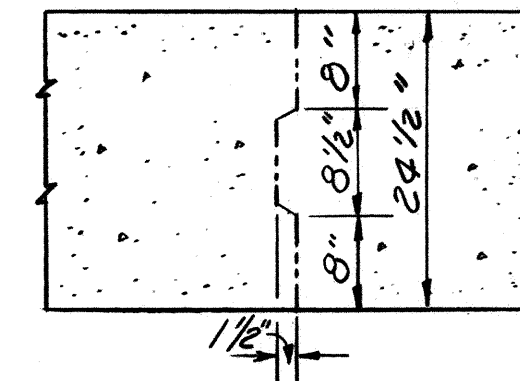
CONSTRUCTION JOINTS: One construction joint in the bridge slab may be placed 1'-0" off the transverse centerline of the middle span so that it will miss the transverse reinforcing steel. One longitudinal joint on the centerline of roadway will be permitted. A horizontal construction joint shall be placed between each curb and the top of the slab. A horizontal construction joint will also be placed between each parapet wall and the top of each curb.

CAMBER of 1/800 of the span shall be provided in each span, in addition to that required for conformance with the profile of the highway to allow for dead load deflection. This is the amount of camber required before falsework is released. To obtain this, proper allowance shall be made for the deflection of falsework members.

S601 AND S701 BARS may be furnished in one length as shown or in pairs of different lengths, lapped thirty diameters at the centerline of roadway or beyond a longitudinal construction joint at the centerline of roadway, at the option of the contractor. Determination of the quantity will be according to the number and length of bars as shown hereon.

CONCRETE Shall be Class "C"

See Next Sheet for "Additional Notes"



CONSTRUCTION JOINT DETAIL

\* NOTE: For spacing of S505 bars see "Elevation Railing & Parapet" on next sheet.

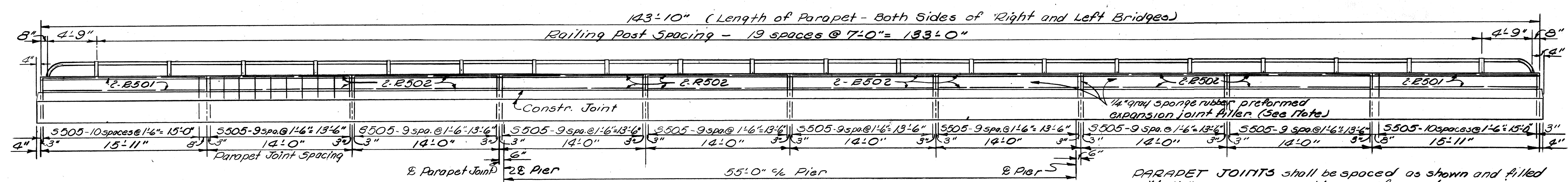
|                                    |        |        |                   |          |         |
|------------------------------------|--------|--------|-------------------|----------|---------|
| ELMER S. BARRETT ASSOCIATES        |        |        |                   |          |         |
| Consulting Engineers               |        |        |                   |          |         |
| 245-249 S. Paint Street            |        |        | Chillicothe, Ohio |          |         |
| SLAB REINFORCING DETAILS           |        |        |                   |          |         |
| BRIDGE NO ROS-35-2129 L&R          |        |        |                   |          |         |
| U.S. 35 OVER N. & W. RAILWAY       |        |        |                   |          |         |
| ROSS COUNTY                        |        |        |                   |          |         |
| STA. 1123+87.69 TO STA. 1125+32.19 |        |        |                   |          |         |
| STA. 1123+88.22 TO STA. 1125+32.72 |        |        |                   |          |         |
| SCALE DATE                         |        |        |                   |          |         |
| DESIGNED                           | DRAWN  | TRACED | CHECKED           | REVIEWED | DATE    |
| E.E.R.                             | D.J.M. |        | D.S.              | WV       | 3/18/63 |



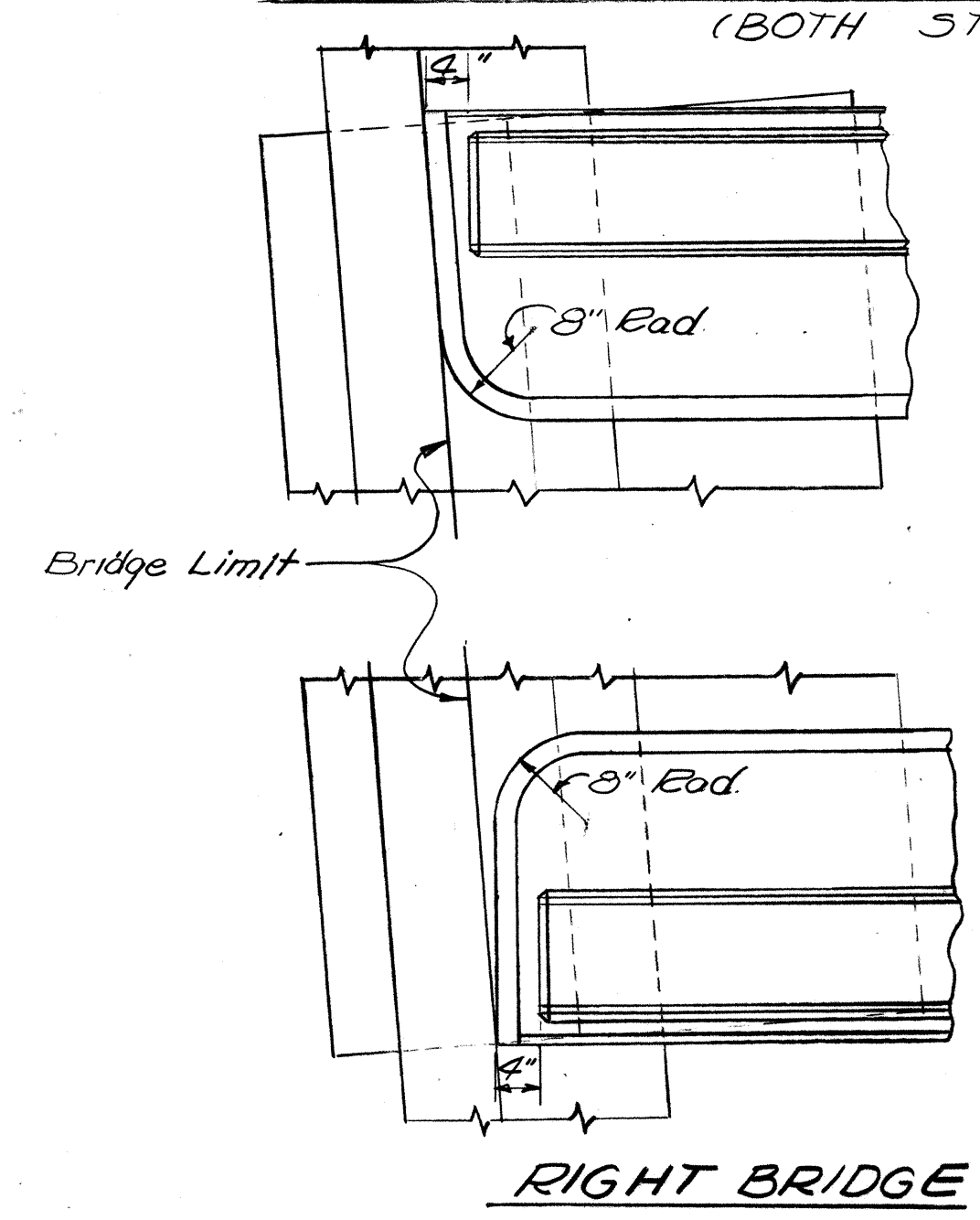
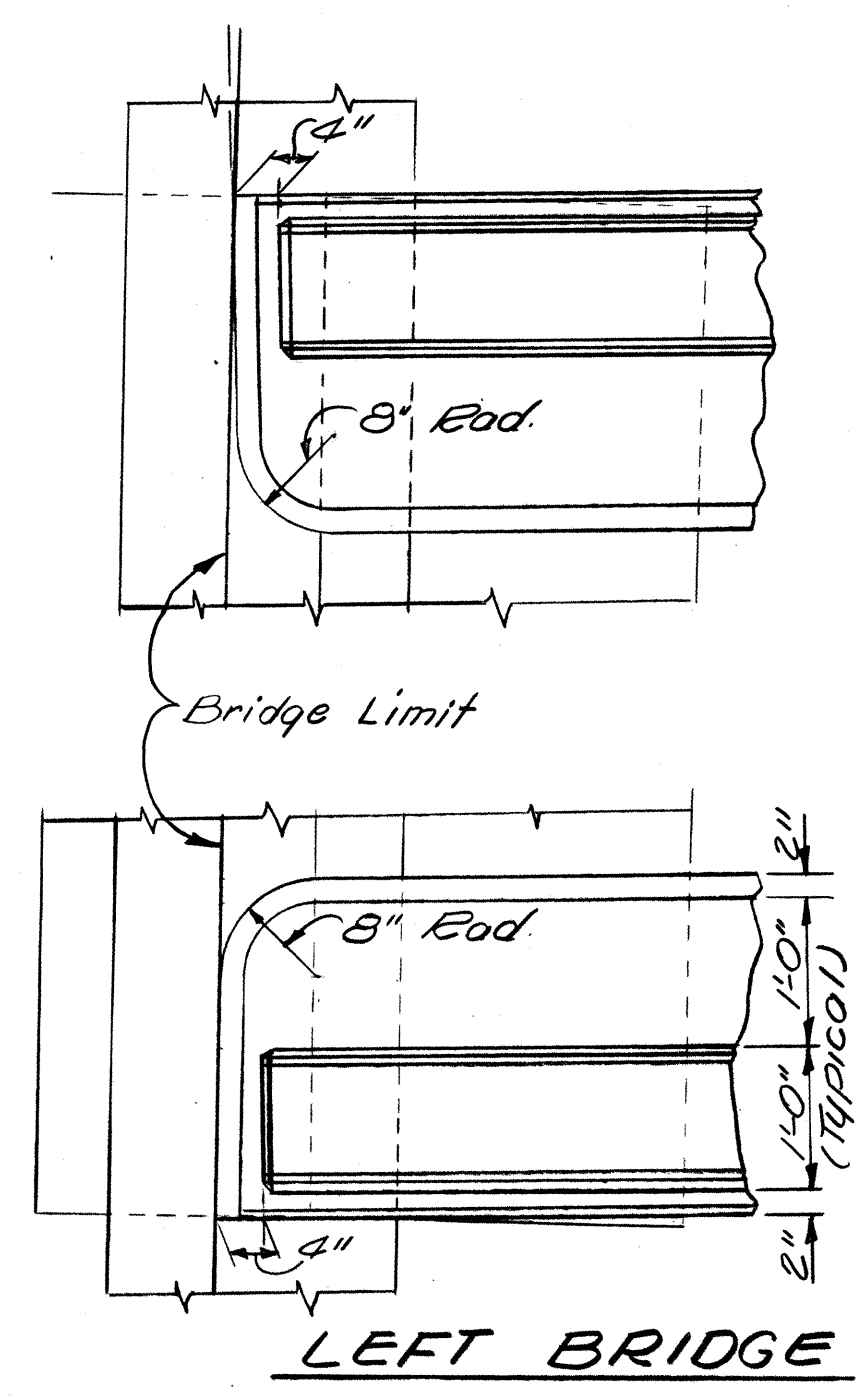
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| FED. RD. DIVISION | STATE | PROJECT | 170<br>240 |
|-------------------|-------|---------|------------|
| 2                 | OHIO  |         |            |

ROSS COUNTY  
ROS-35-21.23



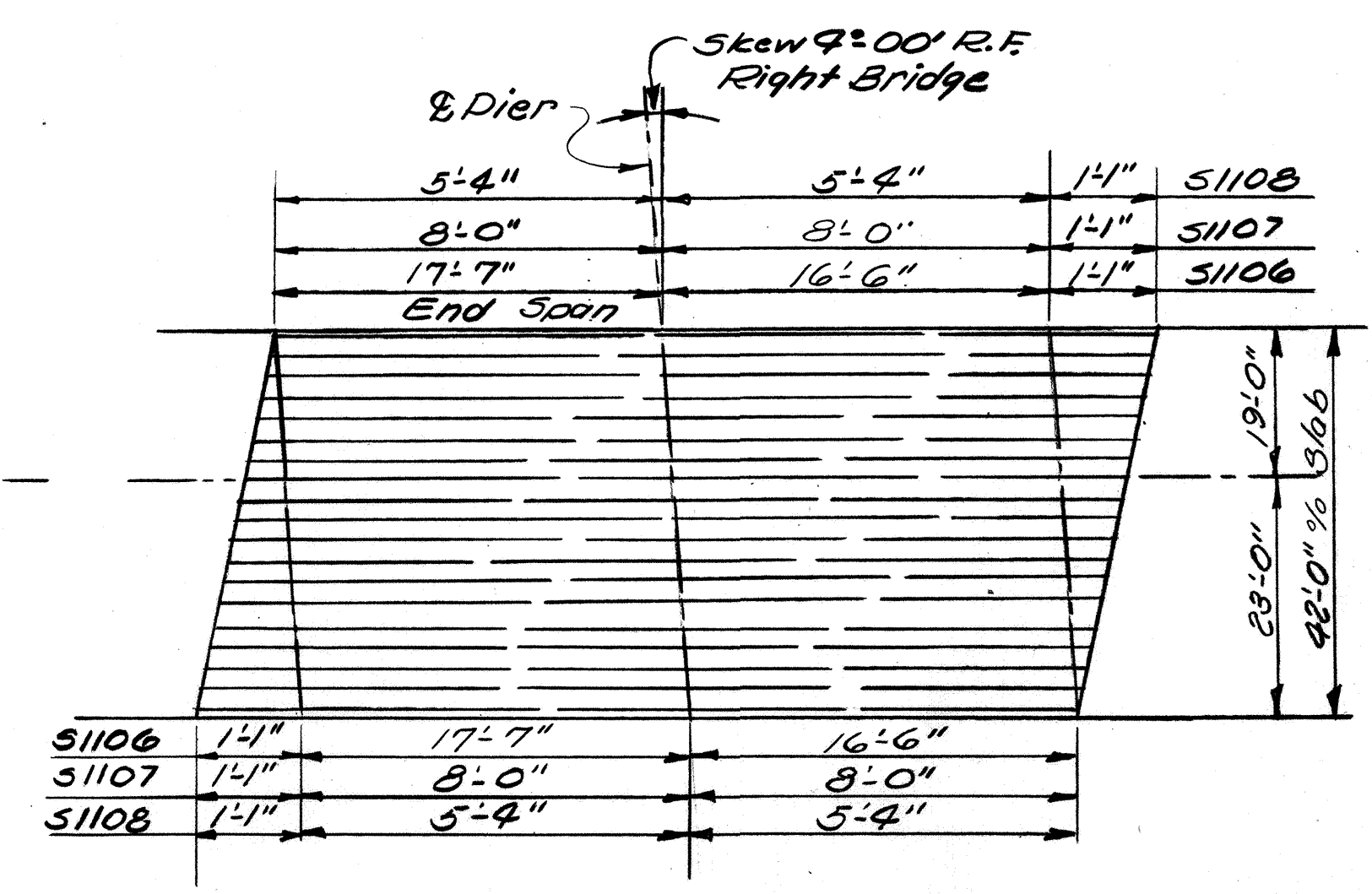
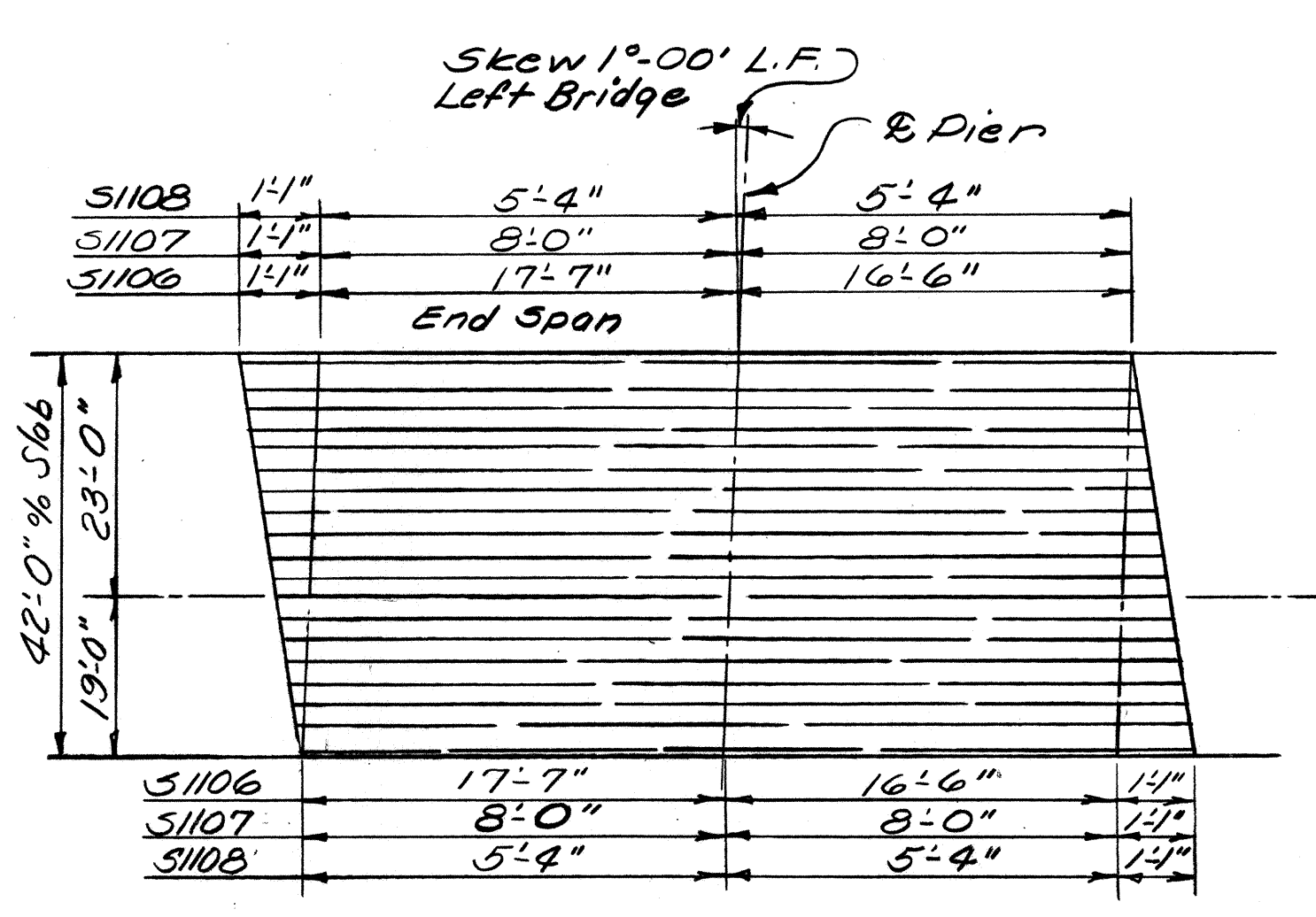
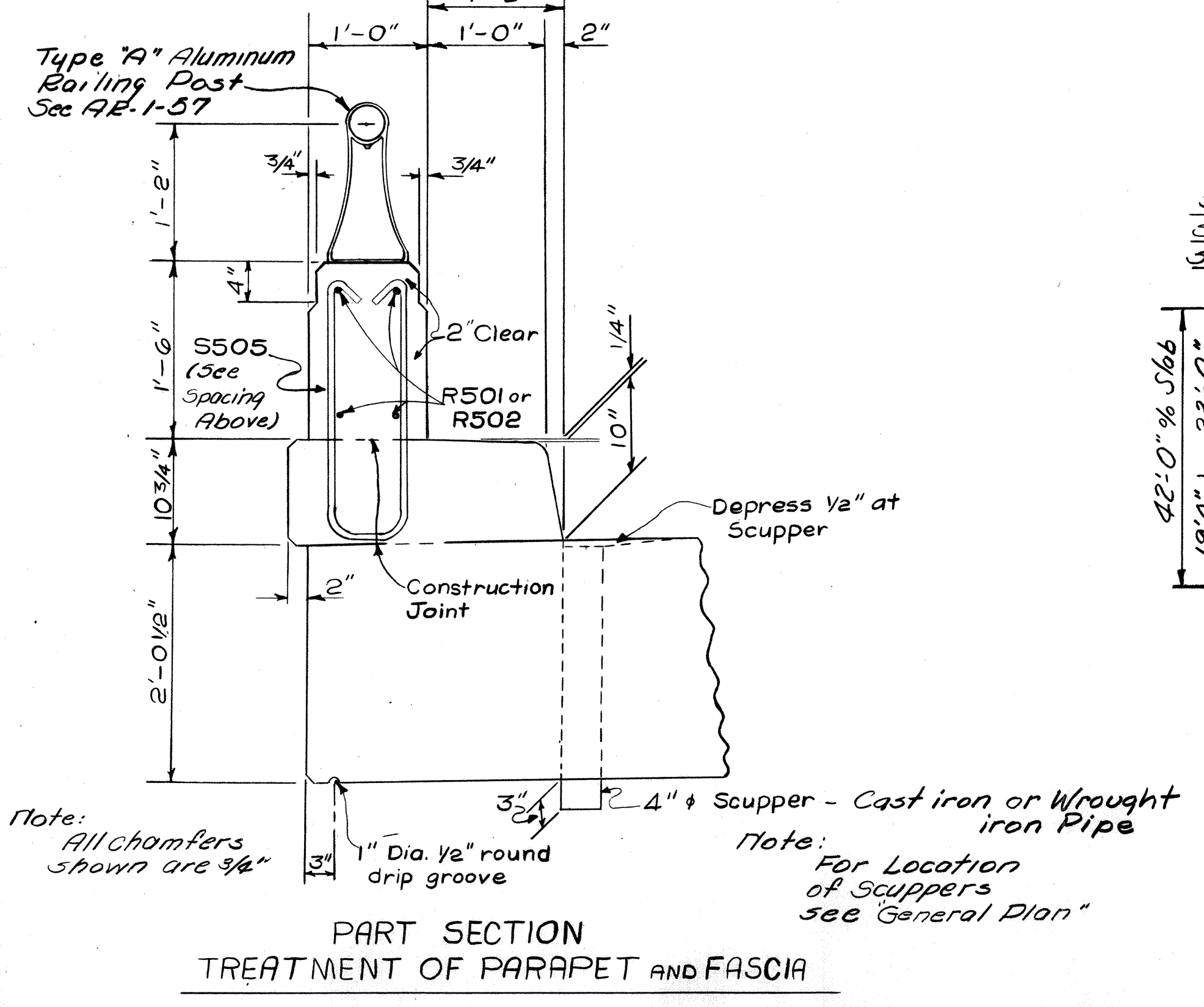
PARAPET JOINTS shall be spaced as shown and filled with 1/4" gray sponge rubber preformed expansion joint filler meeting the requirements of Section M-10.02, Type 1. Included with Item 5-14 for payment.



PARAPET AND CURB END DETAILS

- NOTES -

CURBS shall be placed after the shoring under the slab has been released sufficiently to permit the slab spans to attain full dead load deflection.



LEFT BRIDGE  
RIGHT BRIDGE  
PLACEMENT DIAGRAM FOR S1106, S1107 & S1108 BARS

|                                                                                                     |        |        |         |          |         |         |
|-----------------------------------------------------------------------------------------------------|--------|--------|---------|----------|---------|---------|
| ELMER S. BARRETT ASSOCIATES<br>Consulting Engineers<br>245-249 S. Paint Street<br>Chillicothe, Ohio |        |        |         |          |         |         |
| SUPERSTRUCTURE DETAILS                                                                              |        |        |         |          |         |         |
| BRIDGE NO. ROS-35-2129 L & R<br>U.S. 35 OVER N. & W. RAILWAY<br>ROSS COUNTY U.S.R. 35               |        |        |         |          |         |         |
| STA. 1123+87.69 B TO STA. 1125+32.19 B<br>STA. 1123+88.22 L TO STA. 1125+32.72 L                    |        |        |         |          |         |         |
| DESIGNED                                                                                            | DRAWN  | TRACED | CHECKED | REVIEWED | DATE    | REVISED |
| E.E.R.                                                                                              | P.J.M. |        | D.S.    | W.K.     | 3/18/63 |         |



## NOTES

RAILING STEEL in the parapet wall is included with Item 5-14 Railing for payment.

RAILING STEEL in the parapet wall is included with Item 5-14 Railing for payment.

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[illegible][illegible]

Hand-drawn technical drawing of a mechanical assembly with dimensions and part labels:

- Top Dimension:**  $22'-0'' \pm$
- Part P1001:** A horizontal component with a vertical extension on the right.
- Vertical Extension:**  $2'-8'' \%$
- Part P501:** A component with a semi-circular end.
  - Radius:  $1'-7''$
  - Label:  $1\frac{1}{2}'' \text{ Rad. Outside}$
- Increment:**  $4\frac{1}{2}'' \pm$
- Part P506:** A vertical component.
  - Width:  $2'-2'' \%$
  - Height:  $8'-8'' \%$
- Part P507:** A vertical component.
  - Width:  $2'-2'' \%$
  - Height:  $2'-9'' \pm$
  - Internal dimension:  $2'-4'' \pm \%$
  - Internal dimension:  $4'-11'' \pm$
- Part P508:** A diagonal component.
  - Angle:  $13'-2'' \%$
  - Labels: 1, 2
- Bottom Dimension:**  $10'-1'' \pm$
- Part F1001:** A horizontal component.
- Part F901:** A horizontal component with rounded ends.
  - Width:  $8'-8'' \%$

[illegible]

Technical drawings of reinforcement bars:

- Bar 5502:** A straight bar with a total length of  $34'-6'' \pm$ . It has a diameter of  $29'-8'' \frac{1}{4}$ . The drawing is labeled with dimensions 51102 and 51103.
- Bar 5503:** A U-shaped bar with a top horizontal leg of  $6''$  and a vertical leg of  $2'-2'' \frac{1}{4}$ . The bottom horizontal leg is  $1'-7'' \frac{1}{4}$ . The drawing is labeled with dimension 5503.
- Bar 5504:** A U-shaped bar with a top horizontal leg of  $1'-7'' \frac{1}{4}$  and a vertical leg of  $8''$ . The drawing is labeled with dimension 5504.
- Bar 5505:** A U-shaped bar with a top horizontal leg of  $1\frac{1}{2}''$  Clear and a vertical leg of  $2'-2'' \frac{1}{4}$ . The bottom horizontal leg is  $8'' \frac{1}{4}$ . The drawing is labeled with dimension 5505.

## RAILING STEEL

|      |     |        |   |
|------|-----|--------|---|
| R501 | 32  | 15'-7" | — |
| R502 | 128 | 13'-8" | — |

REPLACEMENT STEEL

|        |   |        |   |
|--------|---|--------|---|
| RE501  | 2 | 5'-7"  | — |
| RE601  | 1 | 5'-11" | — |
| RE701  | 2 | 6'-3"  | — |
| RE901  | 1 | 6'-10" | — |
| RE1001 | 1 | 7'-3"  | — |
| RE1101 | 9 | 7'-7"  | — |

REINFORCING STEEL LIST  
BRIDGE NO. ROS-35-2129 L. & R.  
USR 35 over N. & W. RAILWAY

| SCALE    |        |        | DATE    |          |         |          |
|----------|--------|--------|---------|----------|---------|----------|
| DESIGNED | DRAWN  | TRACED | CHECKED | REVIEWED | DATE    | REVISION |
| EER      | W.D.J. |        | D.S.    | WAC      | 3/18/63 |          |

| SCALE    |        |        | DATE    |          |         |          |
|----------|--------|--------|---------|----------|---------|----------|
| DESIGNED | DRAWN  | TRACED | CHECKED | REVIEWED | DATE    | REVISION |
| EER      | W.D.J. |        | D.S.    | WAC      | 3/18/63 |          |