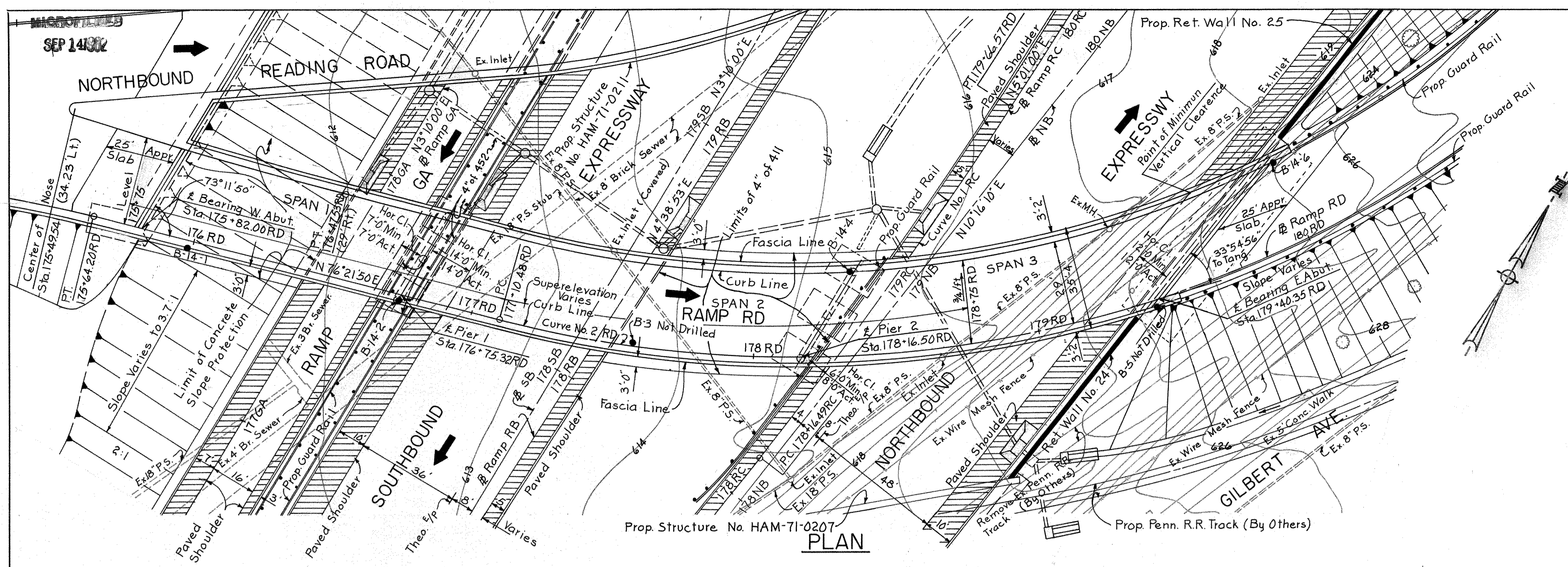


SEP 14 1982

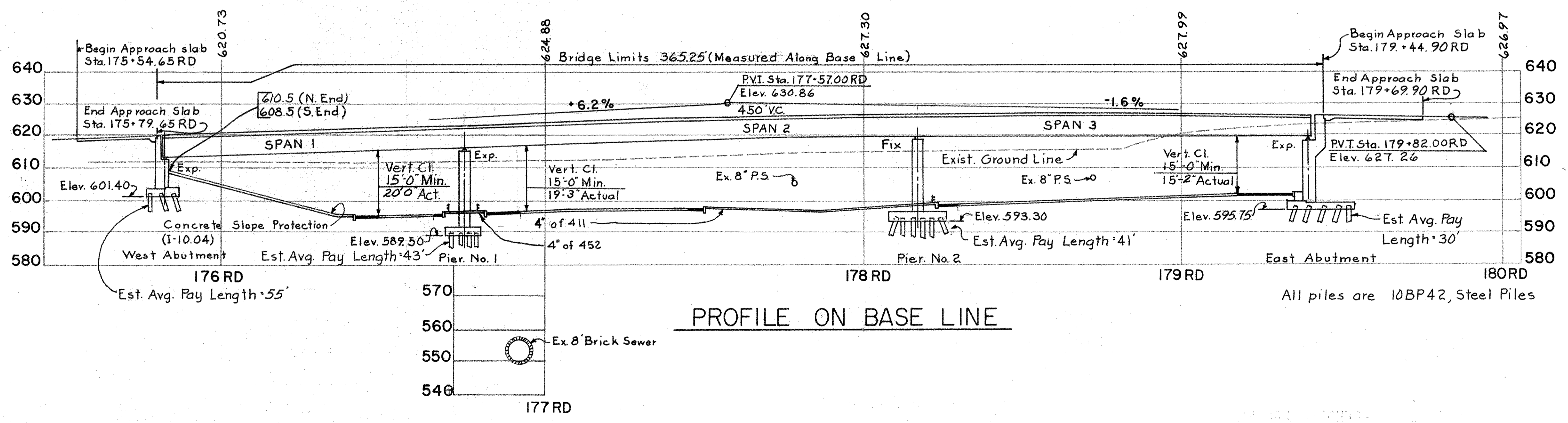
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
|---------------|-------|---------|-------------|
| 2             | OHIO  |         |             |

280  
460

HAMILTON COUNTY  
HAM-71-2.08



PLAN



PROFILE ON BASE LINE

**NOTES**  
 • Symbol denotes drill hole  
 For Test Boring Data, see sheet 10 of 23  
 For Bench Marks, see sheet 39  
 West Abutment, Pier 1 & Pier 2 are parallel

**CURVE DATA**  
**BASE LINE RAMP RD**  
 P.I. Sta. 180+19.27 RD  
 P.C. Sta. 177+10.48 RD  
 P.T. Sta. 182+39.55 RD  
 $\Delta = 74^{\circ}04'10''$   
 $D = 14^{\circ}00'00''$   
 $R = 409.26'$   
 $L = 529.07'$   
 $T = 308.79'$

**PROPOSED STRUCTURE**  
 TYPE: 3 Span Continuous Plate Girder with Reinforced Concrete Deck & Substructure  
 SPANS: 93.32, 141.18, 123.85 % brg. measured along  
 ROADWAY: 29'-0" w/ curbs  
 CURBS: 2'-0"  
 LOAD FREQUENCY: CF=2000(57) Adequate for AASHTO Alternate Loading  
 SKEW: As shown  
 WEARING SURFACE: 1" Monolithic concrete  
 APPROACH SLABS: AS-1-54 (25' Long)  
 ALIGNMENT: Tangent and 14°00'00" curve Left  
 SUPERELEVATION: Varies, See Plan

1986 Traffic Count ADT = 13,300  
 DHV = 1,420

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 CONSULTING ENGINEERS  
 CINCINNATI, OHIO

**SITE PLAN**  
**BRIDGE No. HAM-71-0209**  
 RAMP RD OVER I-75

H & E BRIDGE NO. 14

| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE     | REVISED |
|----------|-------|--------|---------|-------------------|---------|
| ALT.     | ALT.  | ALT.   | W.A.S.  | J.H.O.<br>8/14/85 |         |

SEP 14 1965

DESIGN NOTES:

Design Loading CF-2000 (57)  
Concrete Class C - Basic unit stress = 1333 psi.  
Concrete Class E - Basic unit stress = 1133 psi.  
Structural Steel - ASTM A36 - Basic unit stress = 20000 psi

Reinforcing Steel - ASTM A15, A16, A160 Deformed Intermediate or hard grade. Basic unit stress = 20,000 psi. Except spiral reinforcement may be plain, structural grade with basic unit stress of 18000 psi.

STEEL PILES: shall be driven with a hammer of not less than 11,000 ft.-lbs. per blow to firm contact with rock or shale. If the length of penetration is approximately equal to the depth of rock or shale according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Section 507.05 is not less than the following value for a pile hammer of the indicated energy rating: 65 tons per pile using an 11,000 ft. lb. hammer or 60 tons per pile using a 15,000 ft. lb. hammer for the abutment and piers.

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation.  
The design load of the abutments and piers is based on 35 tons per pile.

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

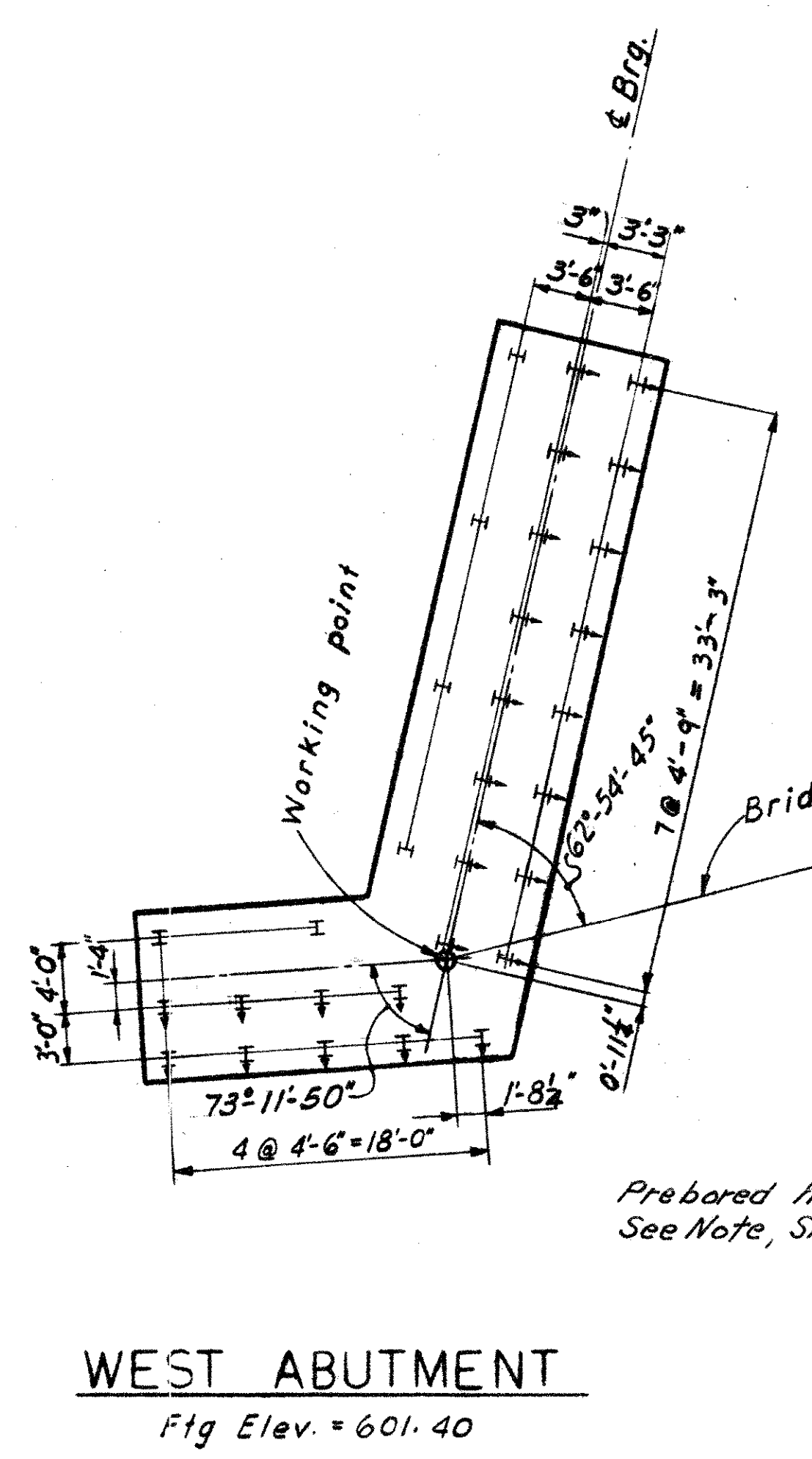
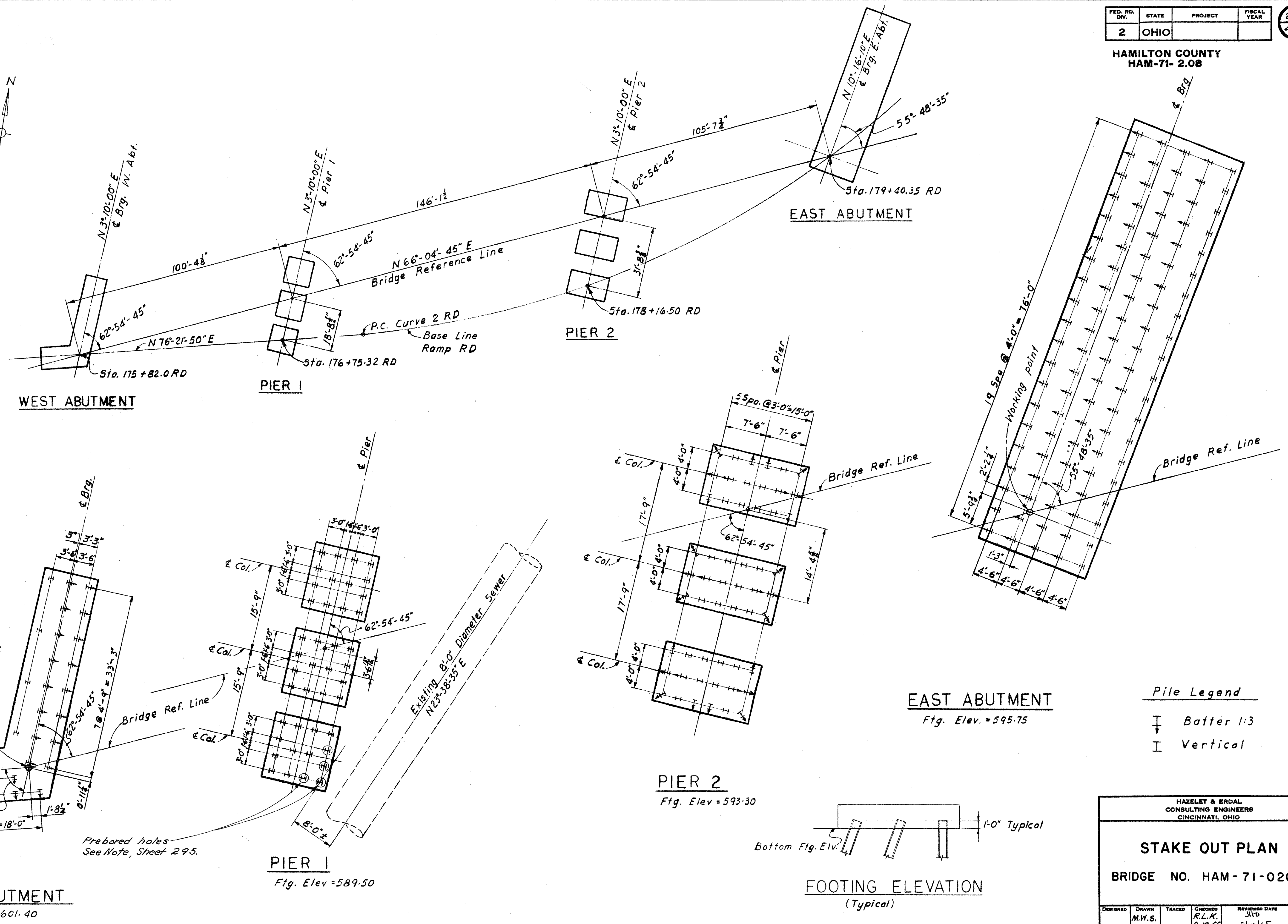
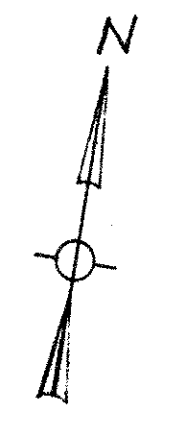
ADDITIONAL NOTES: For additional notes see Notes 1, 2, 3, 5, & 6, General Notes, Typical Drawing No. 426

| Item    | Total   | Unit     | Description   | Super Structure | East Abutment | West Abutment | Pier 1 | Pier 2 | General |
|---------|---------|----------|---|-----------------|---------------|---------------|--------|--------|---------|
| 503     | Lump    | Sum      | Cofferdams, Cribbs & Sheeting   |                 |               |               |        |        | Lump    |
| 503     | 1855    | Cu.Yds.  | Unclassified Excavation   |                 | 1360          | 230           | 95     | 170    |         |
| 511     | 464     | Cu.Yds.  | Class "C" Concrete, Superstructure  | 464.0           |               |               |        |        |         |
| 511     | 104     | Cu.Yds.  | Class "C" Concrete, Piers above Footings  |                 |               |               | 50.6   | 53.4   |         |
| 511     | 333     | Cu.Yds.  | Class "E" Concrete, Abutments above Footings  |                 | 249.0         | 84.0          |        |        |         |
| 511     | 414     | Cu.Yds.  | Class "E" Concrete, Footings  |                 | 208.0         | 62.0          | 56.0   | 88.0   |         |
| 512     | 57      | Lin. Ft. | Premolded Sealing Strip   |                 | 57            |               |        |        |         |
| 509     | 217,633 | Lbs.     | Reinforcing Steel   | 126,464         | 37,548        | 7,429         | 19,183 | 27,009 |         |
| 513     | 720000  | Lbs.     | Structural Steel  | 720000          |               |               |        |        |         |
| 514     | 720000  | Lbs.     | Field Painting of Structural Steel  | 720000          |               |               |        |        |         |
| 516     | 20      | Sq. Ft.  | 1" Preformed Expansion Joint Filler   |                 |               | 20            |        |        |         |
| 517     | 780     | Lin. Ft. | Railing Type 1  | 739             | 18            | 23            |        |        |         |
| Special | 170     | Lin. Ft. | Prebored holes  |                 |               |               | 170    |        |         |
| 505*    | Lump    | Sum      | First Test Pile   |                 |               |               |        |        | Lump    |
| 507     | 8725    | Lin. Ft. | Steel Piles, 10 BP 42   |                 | 3000          | 1705          | 1806   | 2214   |         |
| 625     |         |          | Electric Lighting System (See Sheet No. 178 & 179)  |                 |               |               |        |        |         |
| 518     | 200     | Cu.Yds.  | Porous Backfill   |                 | 145           | 55            |        |        |         |
| 518     | Lump    | Sum      | Drain Inlets, Including Supports and Horizontal Collector System                          |                 |               |               |        |        | Lump    |
| 518     | 55      | Lin. Ft. | 8" Standard Pipe Downspout, Wrought Iron or Hot-dip Galvanized Steel (Including Specials) |                 |               |               | 29     | 26     |         |
| 518     | 18      | Lin. Ft. | 8" Perforated C.M.P. 70706, including specials, bituminous coated per 70704               |                 | 18            |               |        |        |         |
| 518     | 133     | Lin. Ft. | 8" Perforated C.M.P. 70706, bituminous coated per 70704 (including specials and sand)     |                 | 82            | 51            |        |        |         |
| 518     | 80      | Lin. Ft. | 8" Non-perforated C.M.P. 70706, bituminous coated per 70704 (including specials)          |                 | 57            | 23            |        |        |         |
| 808     | 464     | Each     | Water-reducing, Set-retarding Admixture   | 464             |               |               |        |        |         |
| 601     | 285     | Sq.Yds.  | Concrete Slope Protection   |                 |               | 285           |        |        |         |
| Special | 1681    | Sq.Yds.  | Concrete Surface Treatment  | 1624.7          | 15.5          | 8.1           | 15.5   | 17.2   |         |

\* See Note Sheet No. 295

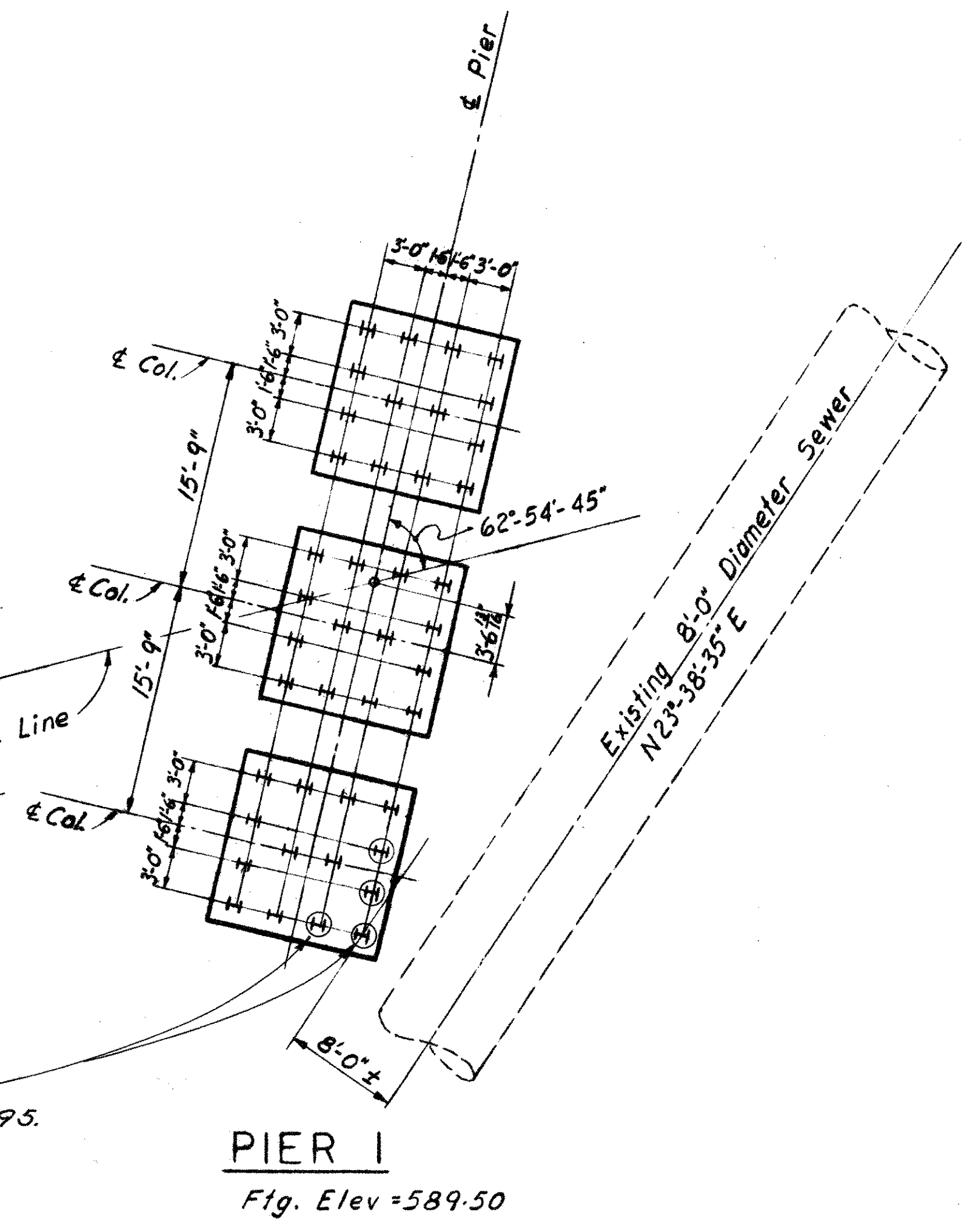
|   |        |        |         |                |         |
|---|--------|--------|---------|----------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |        |        |         |                |         |
| <b>ESTIMATED QUANTITIES &amp; NOTES</b>                     |        |        |         |                |         |
| BRIDGE NO. HAM - 71 - 0209                                  |        |        |         |                |         |
| DESIGNED  | DRAWN  | TRACED | CHECKED | REVIEWED DATE  | REVISED |
|   | M.W.S. |        | 8-12-65 | JHO<br>8/14/65 |         |

SEP 14 1962

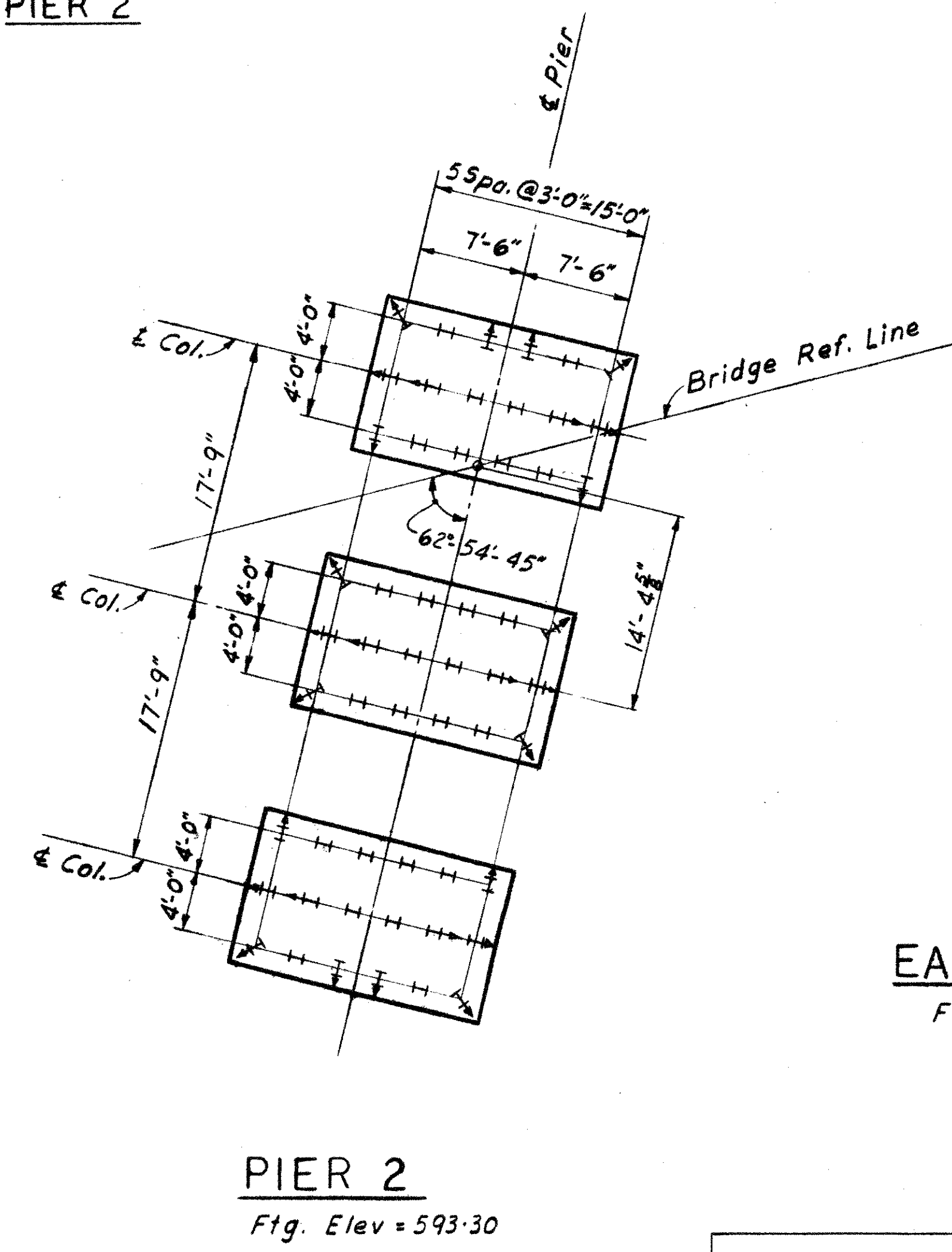


**WEST ABUTMENT**  
Ftg Elev. = 601.40

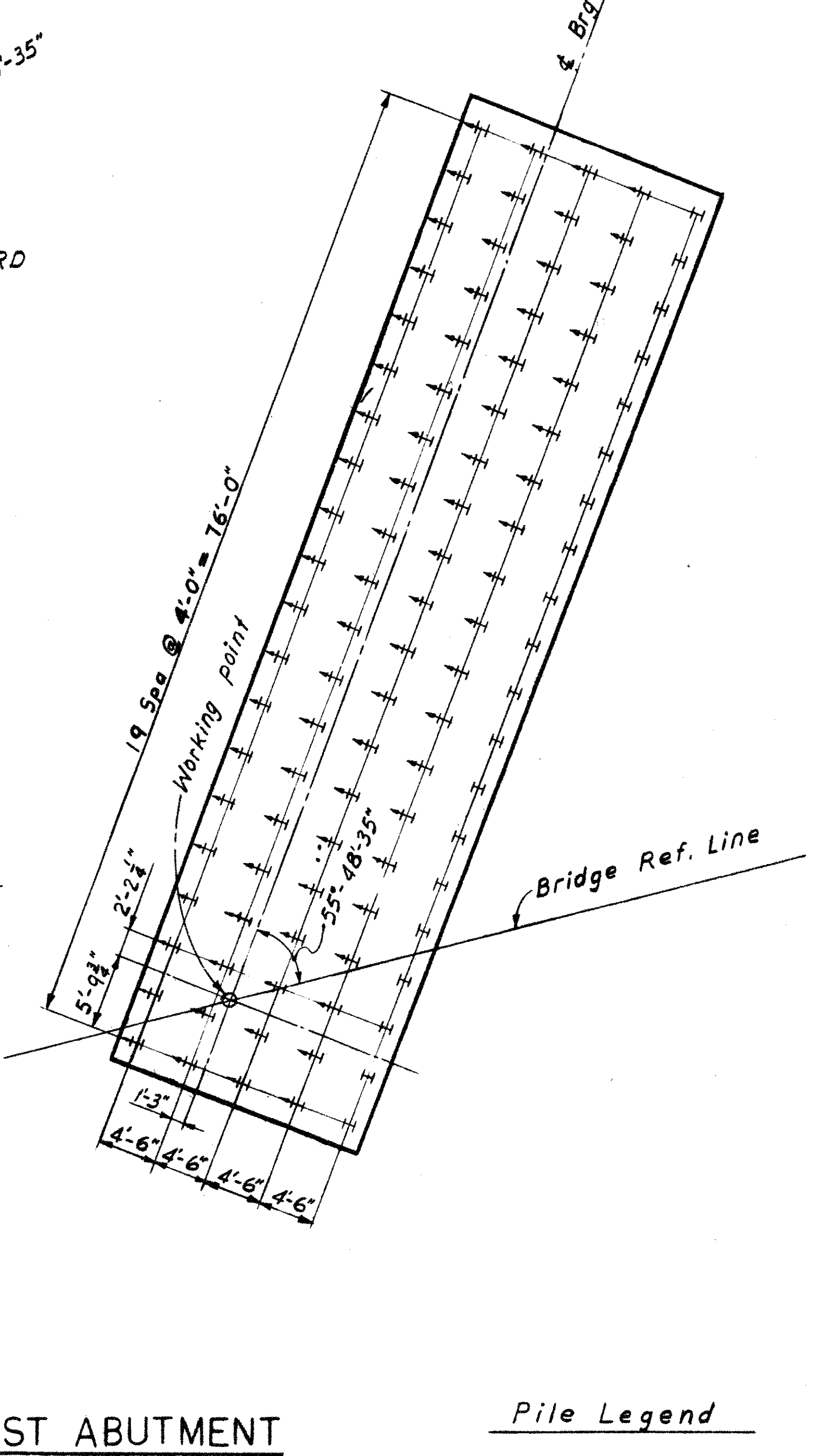
Prebored holes  
See Note, Sheet 295.



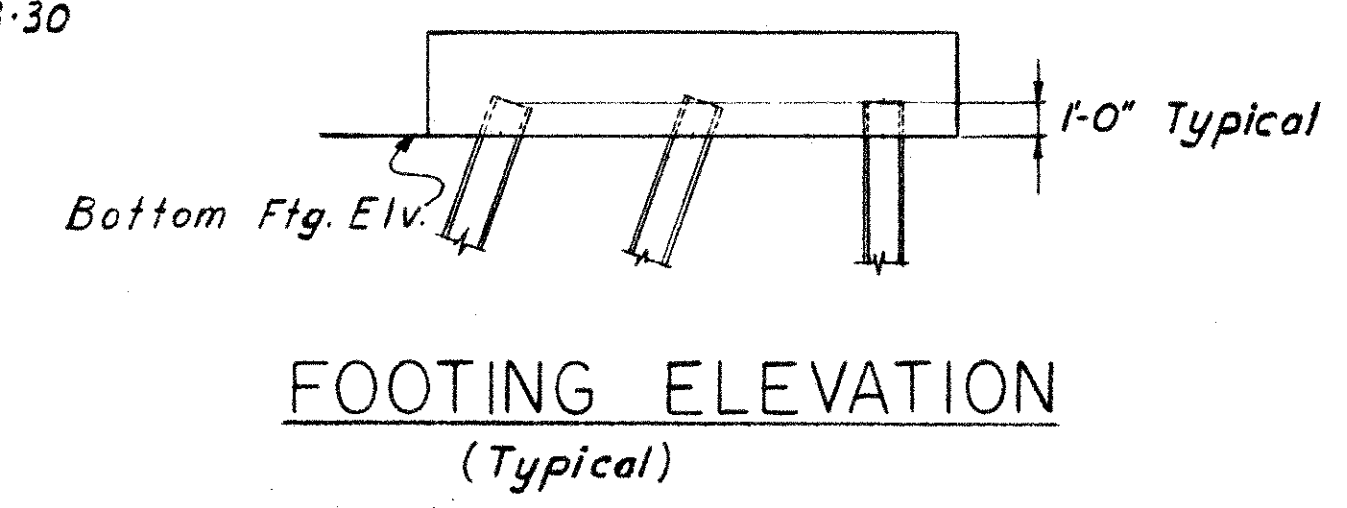
**PIER 1**  
Ftg. Elev = 589.50



**PIER 2**  
Ftg. Elev = 593.30



**EAST ABUTMENT**  
Ftg. Elev. = 595.75



**FOOTING ELEVATION**  
(Typical)

**Pile Legend**

- ⌋ Batter 1:3
- ⌋ Vertical

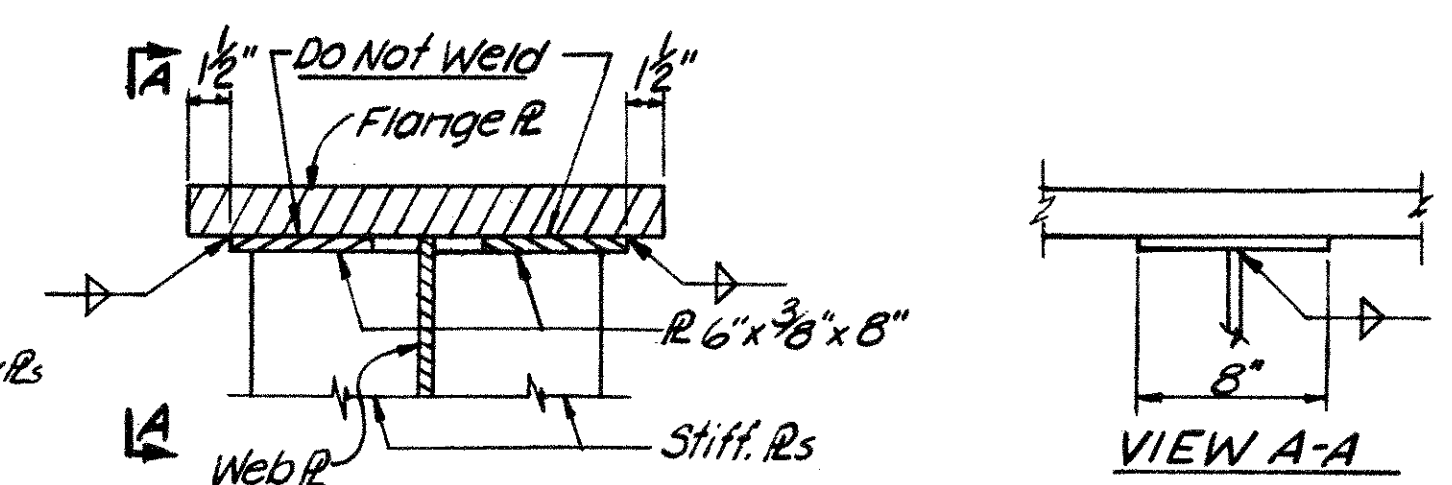
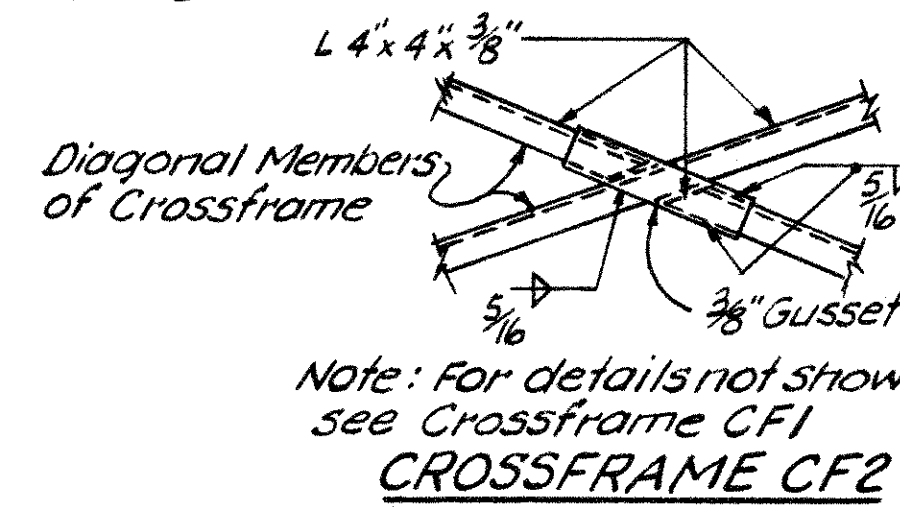
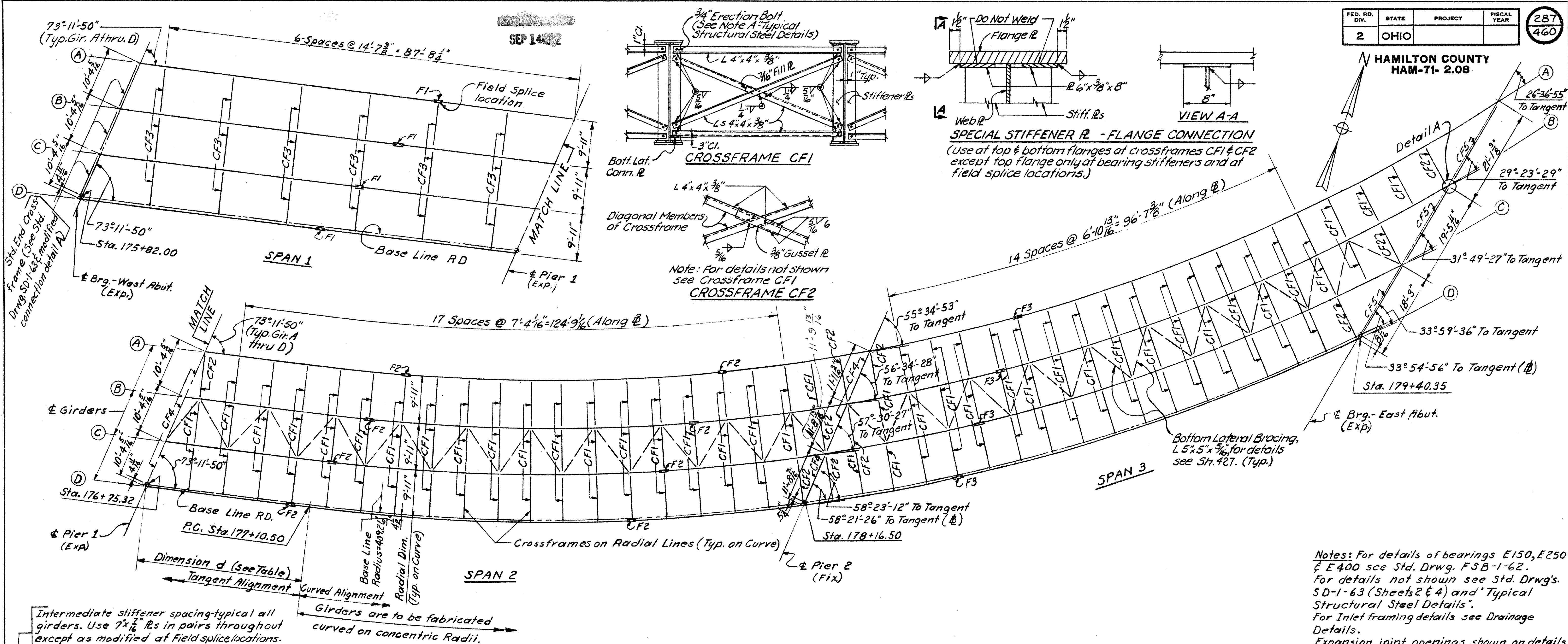
|  |       |        |         |               |                |
|--|-------|--------|---------|---------------|----------------|
| HAZLET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |       |        |         |               |                |
| <b>STAKE OUT PLAN</b>                                      |       |        |         |               |                |
| BRIDGE NO. HAM-71-0209                                     |       |        |         |               |                |
| DESIGNED   | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISION       |
| M.W.S.   |       |        | R.L.K.  | 8-12-65       | 310<br>8/14/65 |











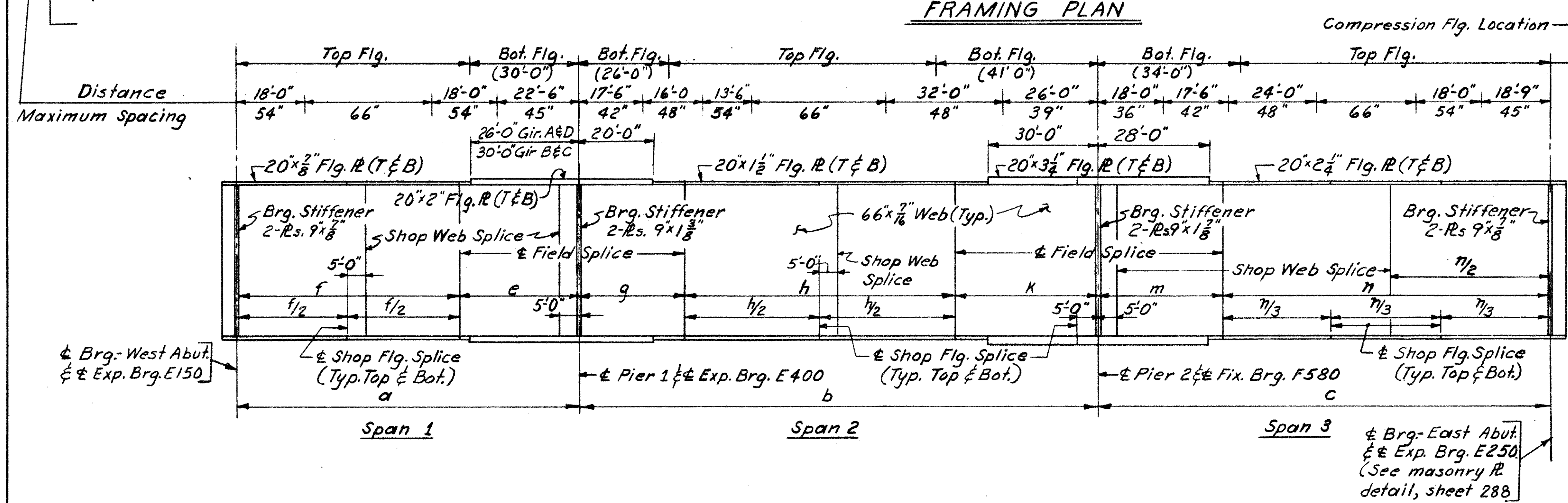
Notes: For details of bearings E150, E250 & E400 see Std. Drwg. FSB-1-62. For details not shown see Std. Drwg's. SD-1-63 (Sheets 2 & 4) and 'Typical Structural Steel Details'. For Inlet framing details see Drainage Details.

Expansion joint openings shown on details are for normal temp. of 70°F. On horizontally curved girders, the deviation from the indicated alignment shall not exceed the allowance set by formula in Section 513.05 of the Standard Specifications.

CF3 (Span 1) same as typical intermediate crossframe shown on Sh. No. 427

**Erection Note**  
Girders to be plumb and in correct horizontal position before crossframes and bracing are welded. Complete all welding before placing concrete deck.

| Girder Dimension | A            | B           | C           | D           |
|------------------|--------------|-------------|-------------|-------------|
| a                | 93'-3 3/8"   | 93'-3 7/8"  | 93'-3 7/8"  | 93'-3 7/8"  |
| b                | 143'-0 7/8"  | 142'-4 3/8" | 141'-8 3/4" | 141'-1 3/4" |
| c                | 144'-11 3/4" | 136'-7 5/8" | 129'-7 3/4" | 123'-7 5/8" |
| d                | 26'-3 5/8"   | 29'-3 1/2"  | 32'-3 1/2"  | 35'-3 3/8"  |
| e                | 29'-3 1/4"   | 33'-7"      | 37'-10 3/4" | 42'-2 1/2"  |
| f                | 64'-0 5/8"   | 59'-8 7/8"  | 55'-5 5/8"  | 51'-1 3/8"  |
| g                | 42'-8 1/2"   | 39'-1 5/8"  | 35'-2 5/8"  | 30'-11 3/8" |
| h                | 68'-1 1/2"   | 69'-10 3/4" | 71'-8"      | 73'-5 5/8"  |
| K                | 32'-3 3/8"   | 33'-4"      | 34'-10 5/8" | 36'-9 1/4"  |
| m                | 31'-11 1/2"  | 32'-11 7/8" | 33'-7"      | 33'-9 1/2"  |
| n                | 113'-0 1/4"  | 103'-7 3/4" | 96'-0 3/4"  | 89'-10 1/8" |



**STRUCTURAL STEEL DETAILS**

BRIDGE NO. HAM-71-0209

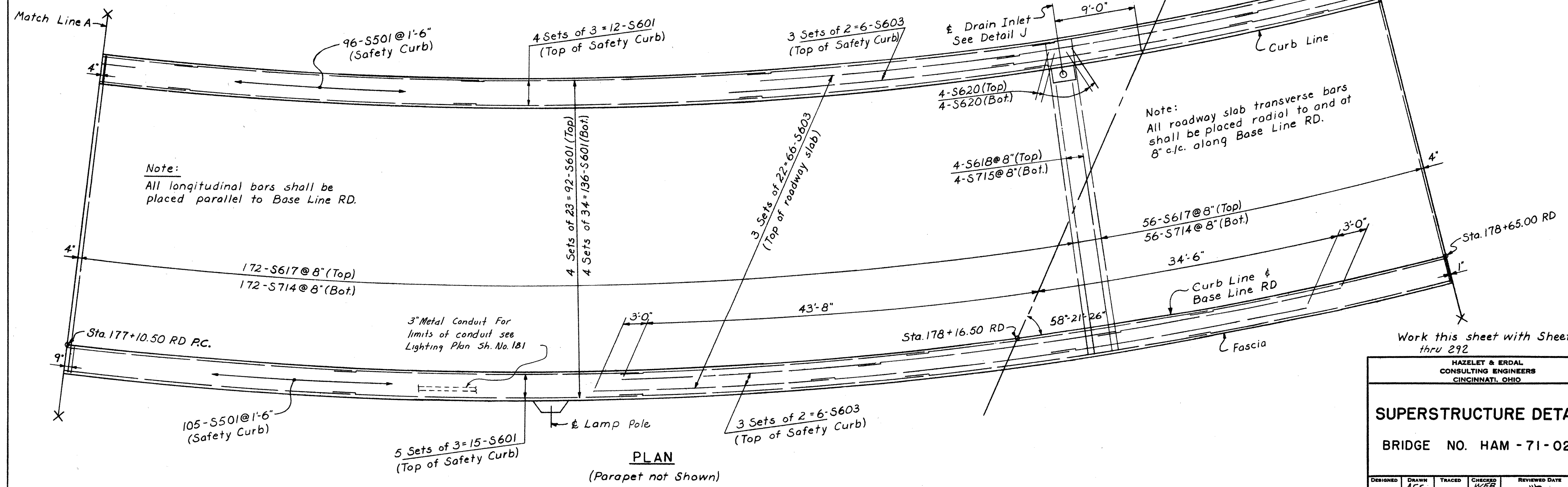
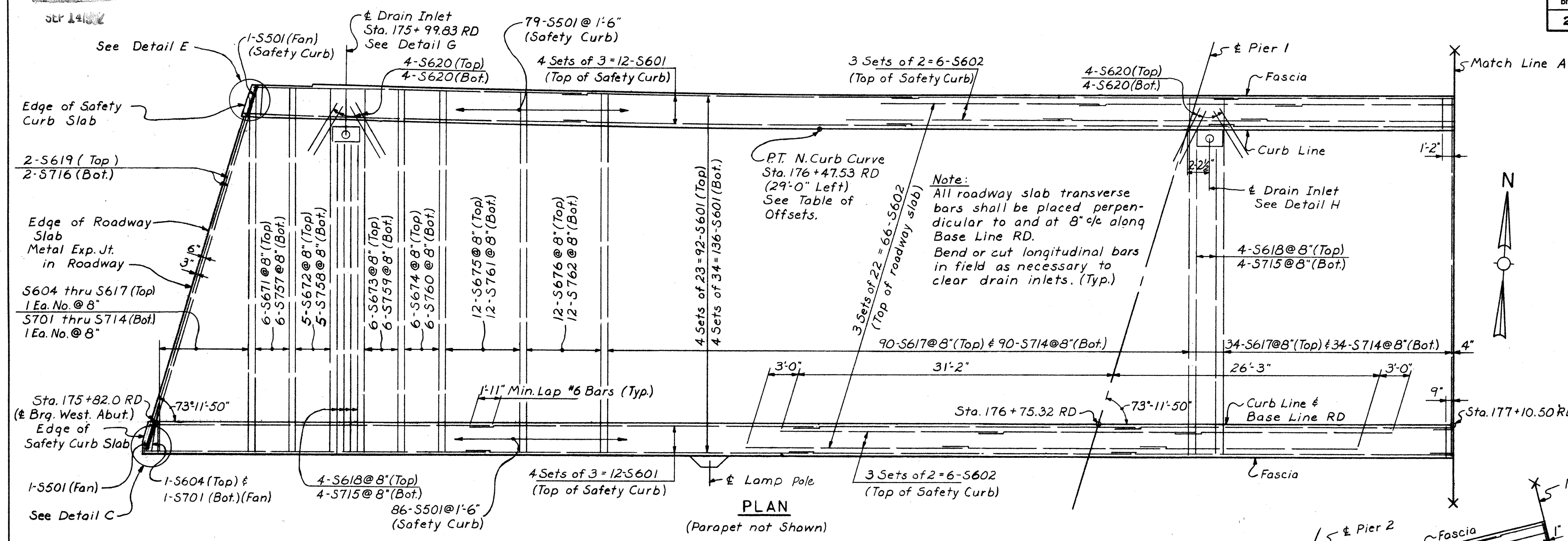
|          |        |        |         |               |         |
|----------|--------|--------|---------|---------------|---------|
| DESIGNED | DRAWN  | TRACED | CHECKED | REVIEWED DATE | REVISED |
| WJZ      | H.W.T. |        | W.L.Z.  | 8-12-65       | 8-12-65 |





HAMILTON COUNTY  
HAM-71-2.08

| Table of Offsets |                   |
|------------------|-------------------|
| Sta.             | Offset to N. Curb |
| 176+00           | 29'-8 1/4"        |
| 176+10           | 29'-5 1/8"        |
| 176+20           | 29'-2 3/4"        |
| 176+30           | 29'-1 1/8"        |
| 176+40           | 29'-0 1/4"        |

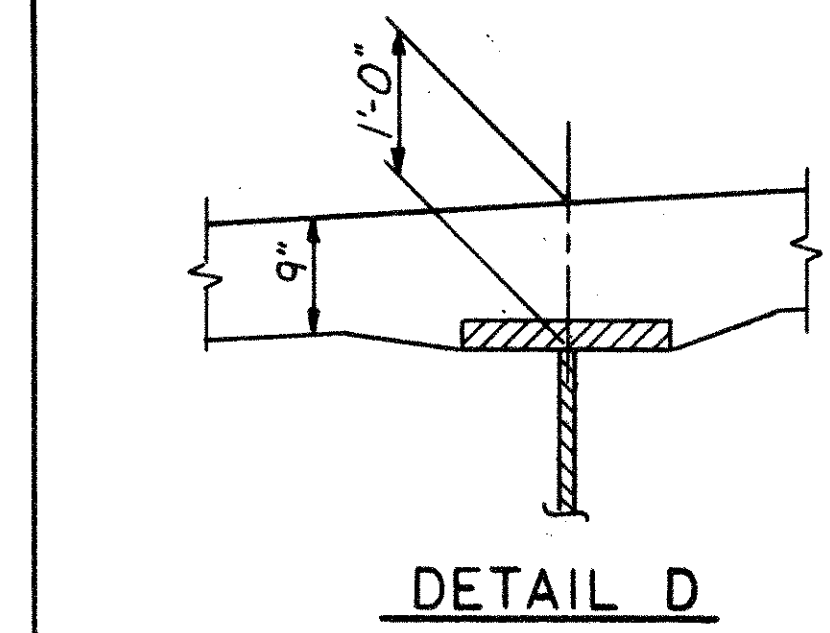
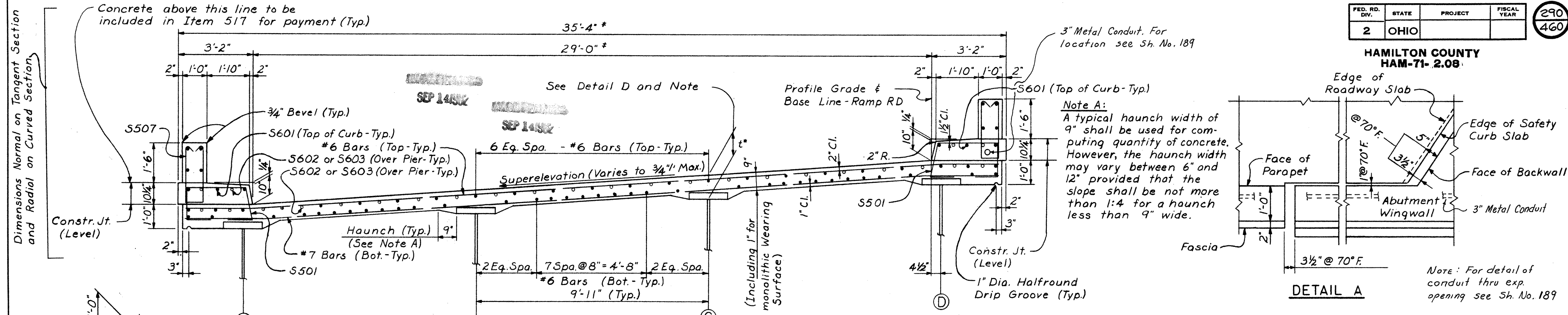


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CINCINNATI, OHIO

**SUPERSTRUCTURE DETAILS**  
BRIDGE NO. HAM-71-0209

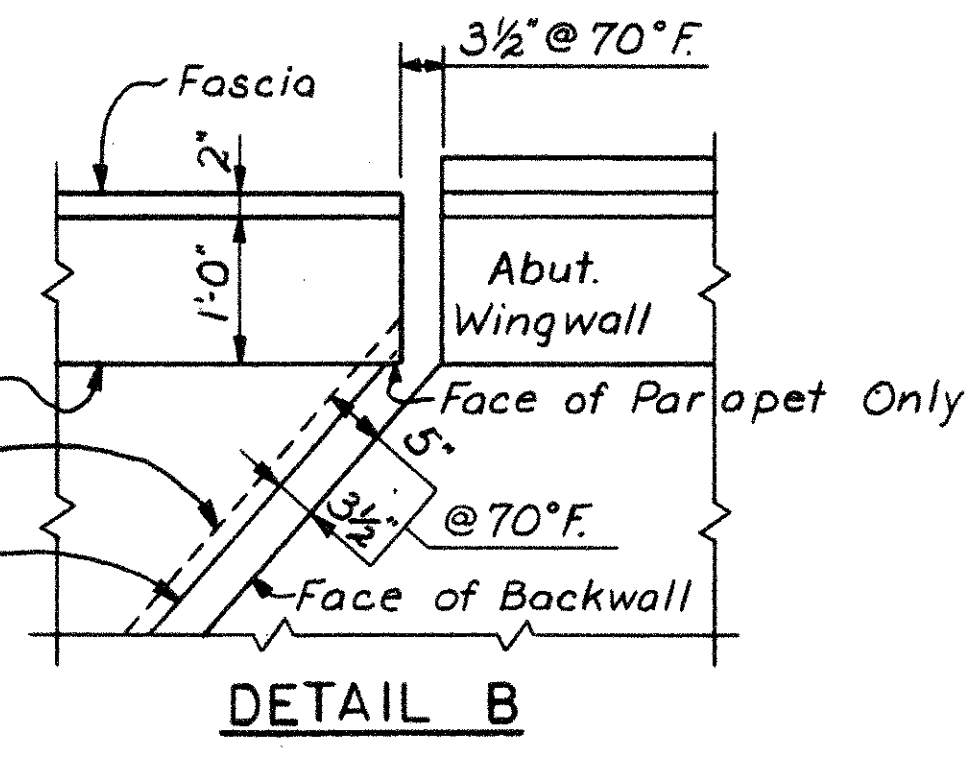
|          |       |        |         |               |          |
|----------|-------|--------|---------|---------------|----------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISION |
|          | AFS   |        | WFB     | JRB           |          |
|          |       |        | 8-12-65 | 8/14/65       |          |

**HAMILTON COUNTY  
HAM-71-2.08**

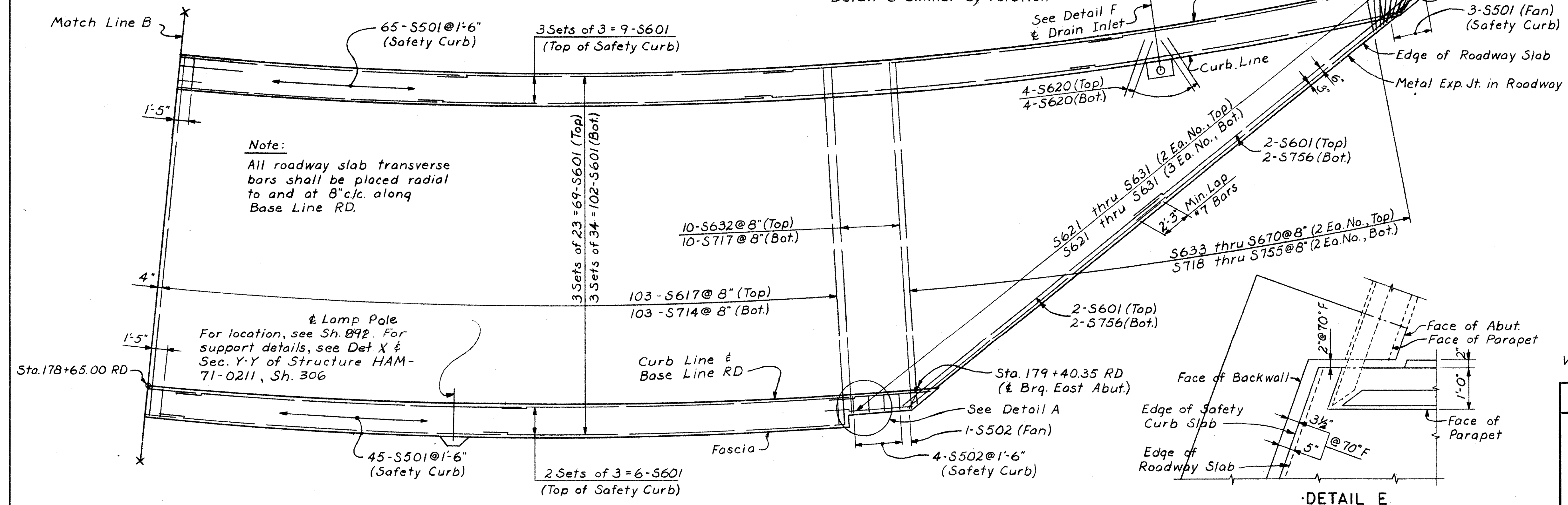


\* This is the nominal dimension. The quantity of deck concrete to be paid for, shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for the volume of encased steel plates as per Sec. 511.19 of the Construction and Material Specification.

Note: Slab thickness includes 1" monolithic wearing surface.



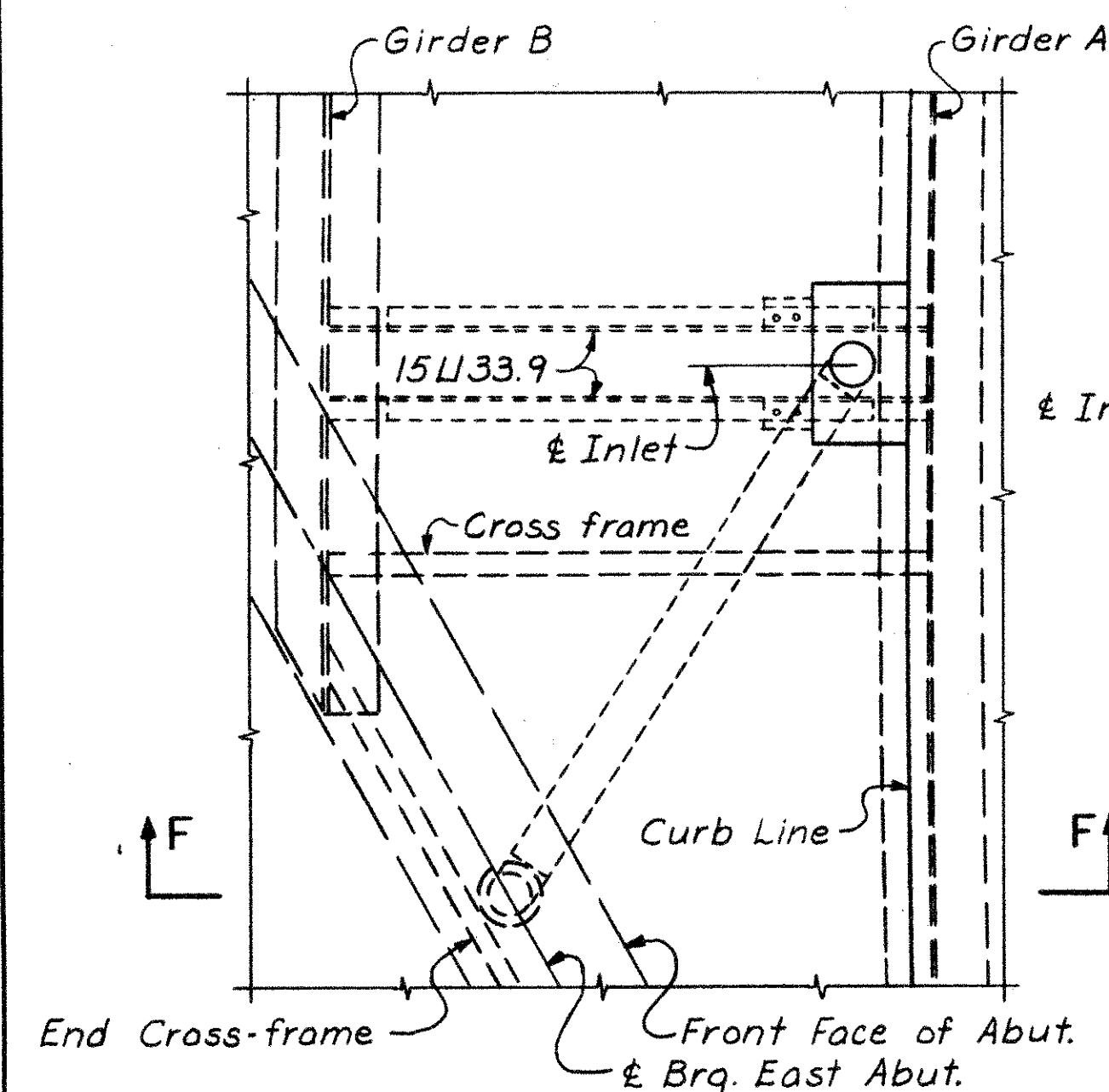
Detail C similar by rotation



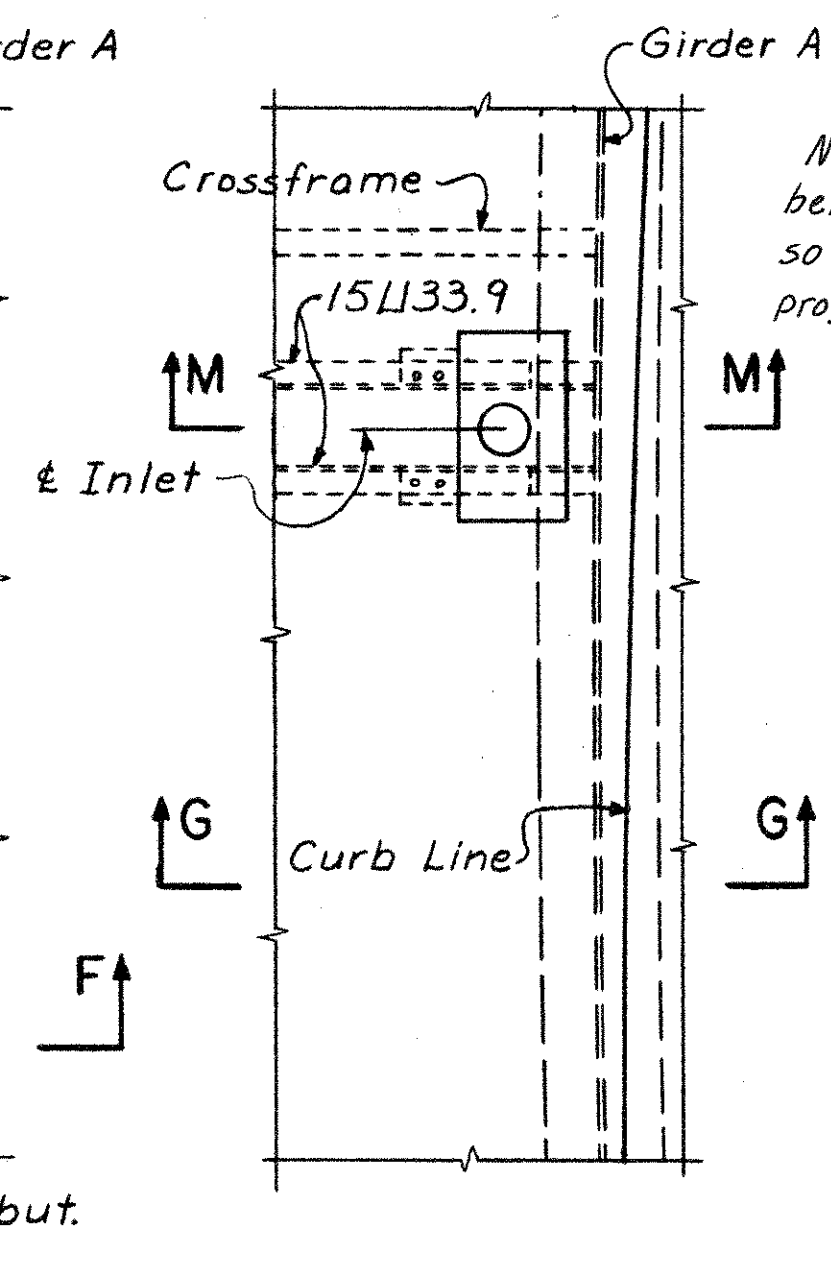
**Notes:**  
 For Drainage Details, see Sheet 292  
 For Lighting Details, see Sheet 189  
 For Railing Details and spacing of bars in parapet, see Sheet 291  
 For Exp. Joint Details, see Sheet 288  
 Work this sheet with Sheets 289 & 291

|   |       |        |         |                |         |
|---|-------|--------|---------|----------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |       |        |         |                |         |
| <b>SUPERSTRUCTURE DETAILS</b>                               |       |        |         |                |         |
| BRIDGE NO. HAM-71-0209                                      |       |        |         |                |         |
| DESIGNED  | DRAWN | TRACED | CHECKED | REVIEWED DATE  | REVISED |
| AFS   | WFB   |        | WFB     | JHJ<br>8/1+165 |         |



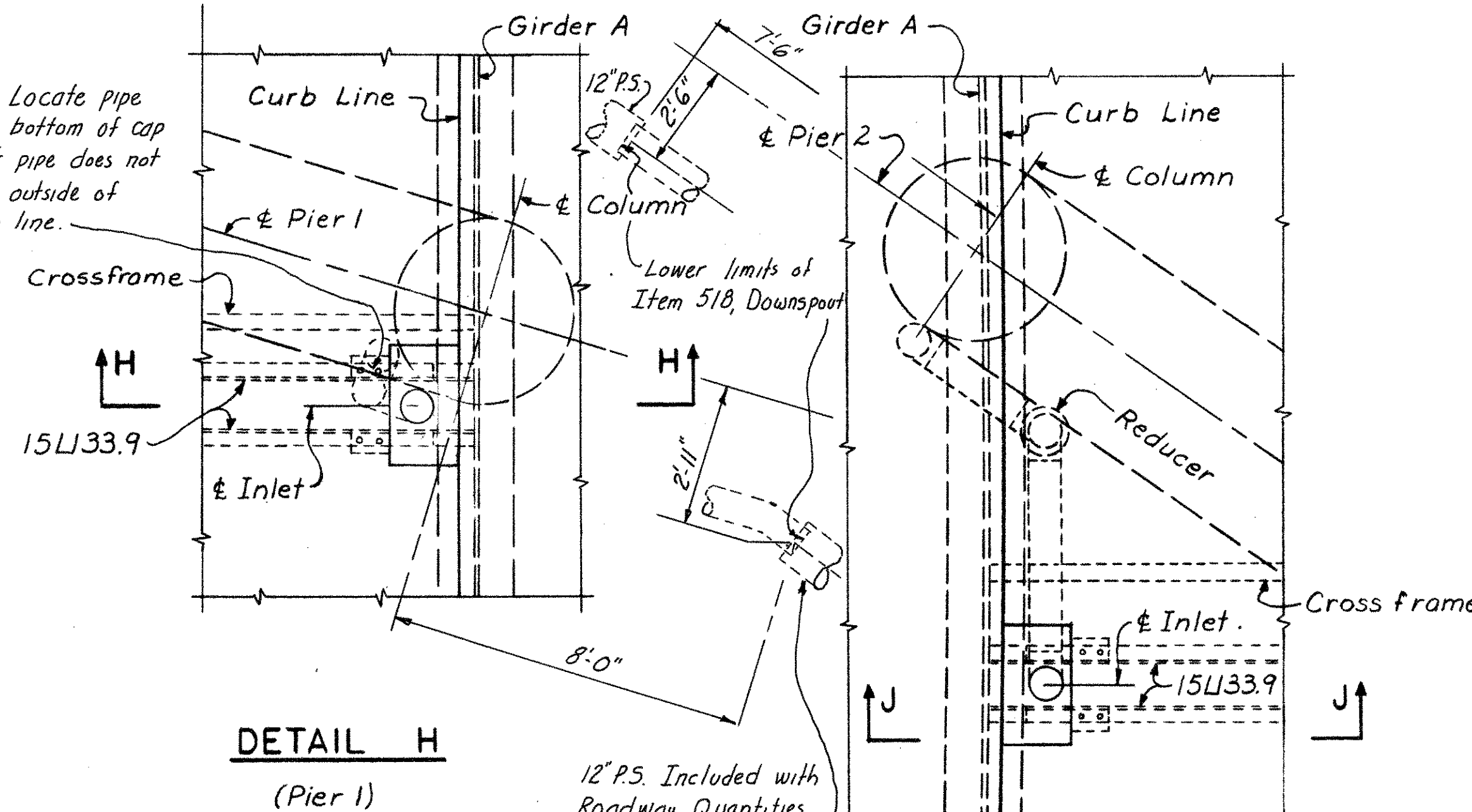


**DETAIL F**  
(East Abutment)



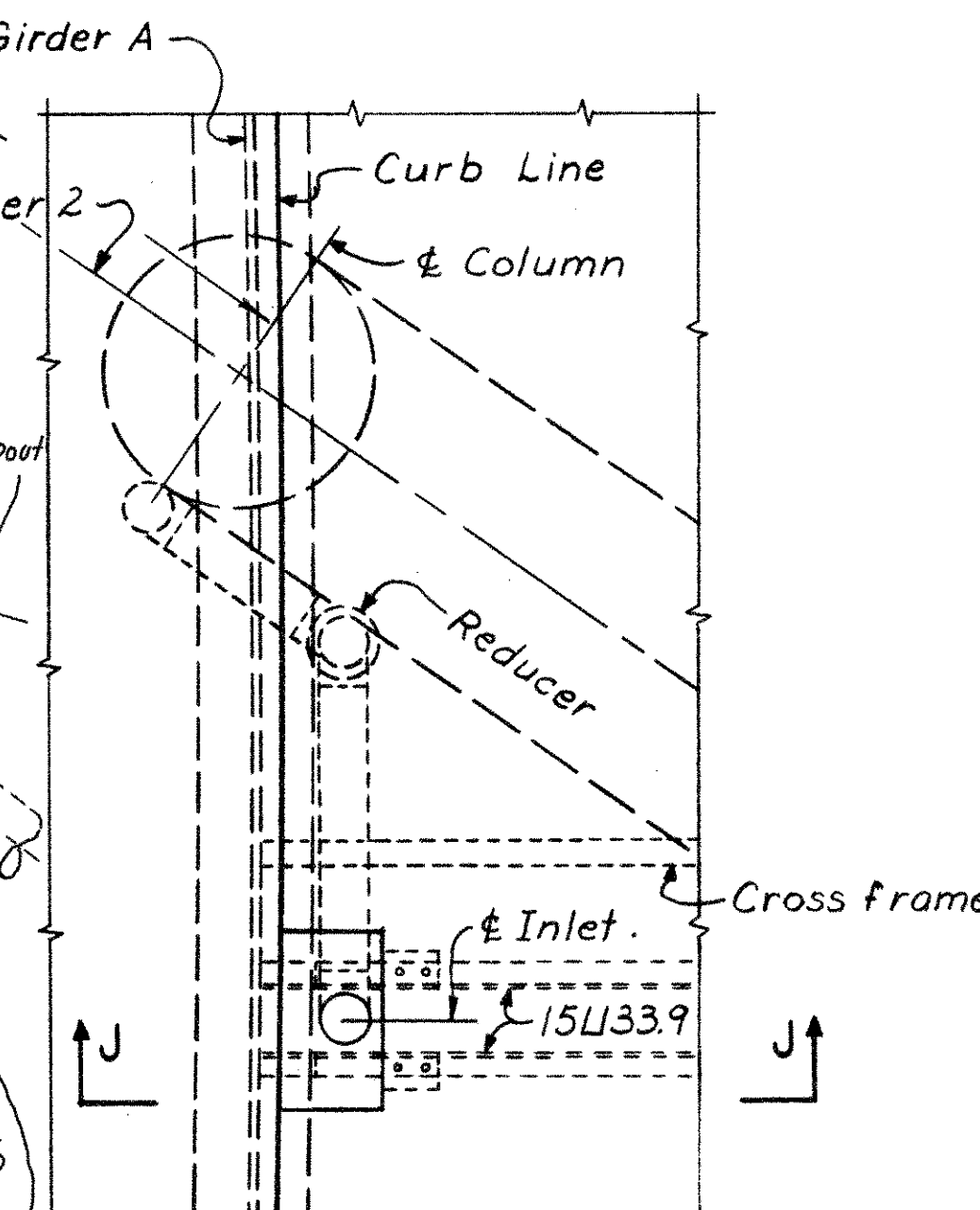
**DETAIL G**  
(West Abutment)

Note: Locate pipe below bottom of cap so that pipe does not project outside of cap line.

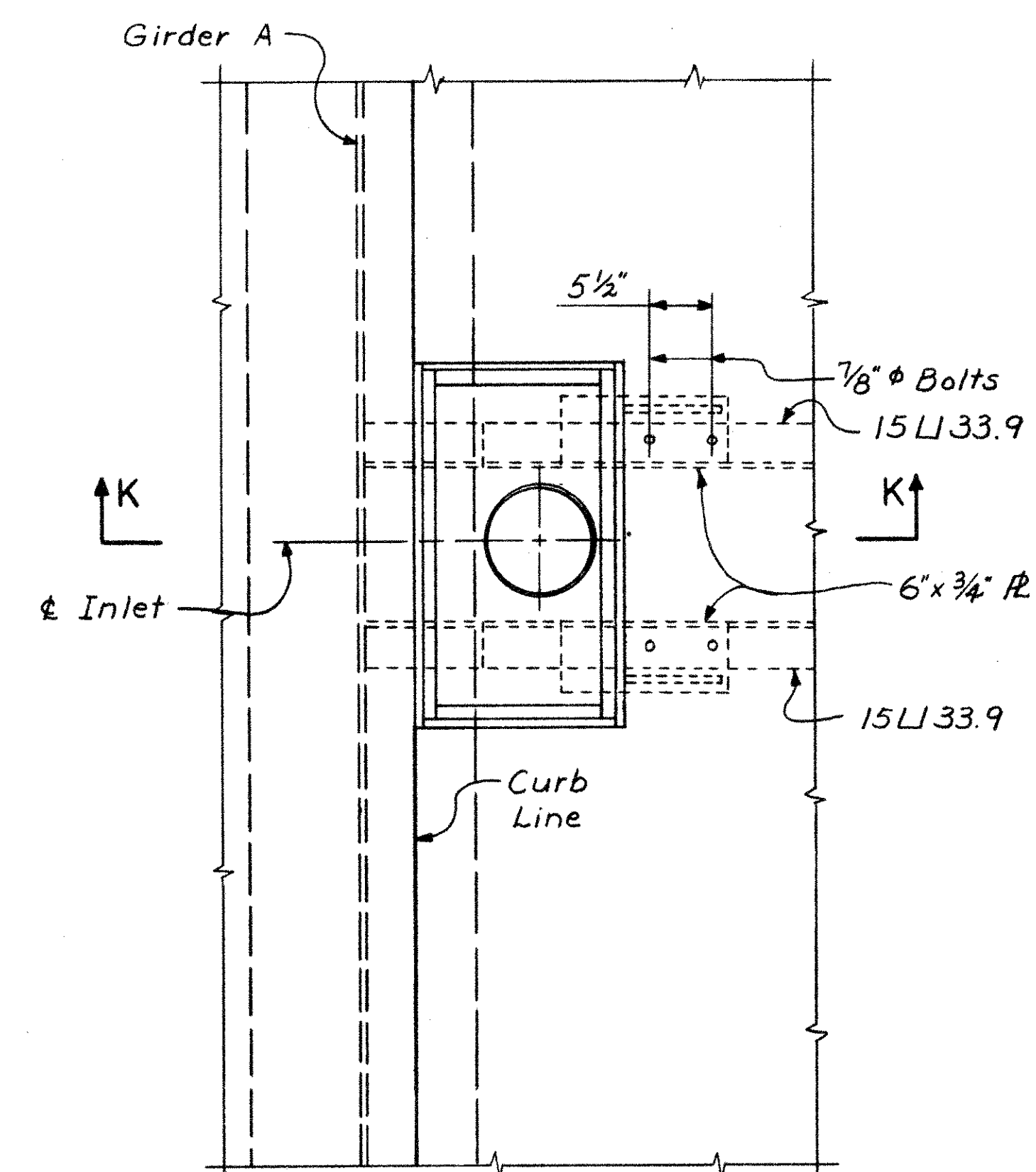


**DETAIL H**  
(Pier 1)

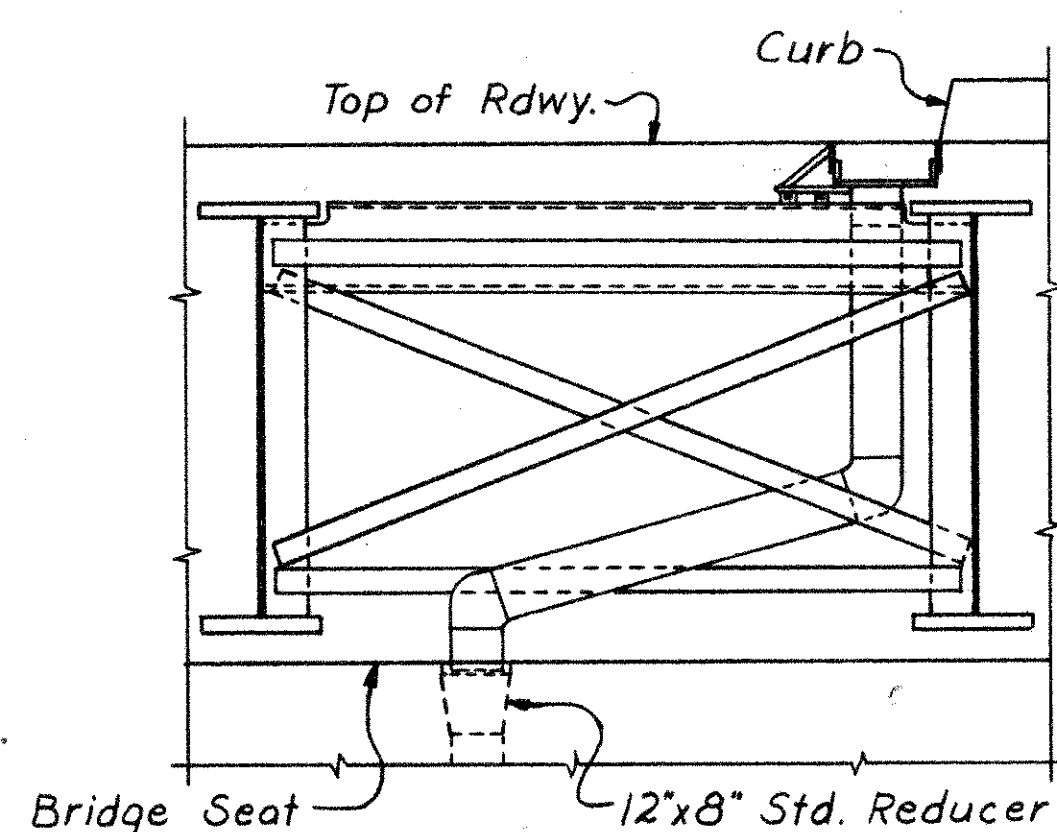
12\" P.S. Included with Roadway Quantities for payment.



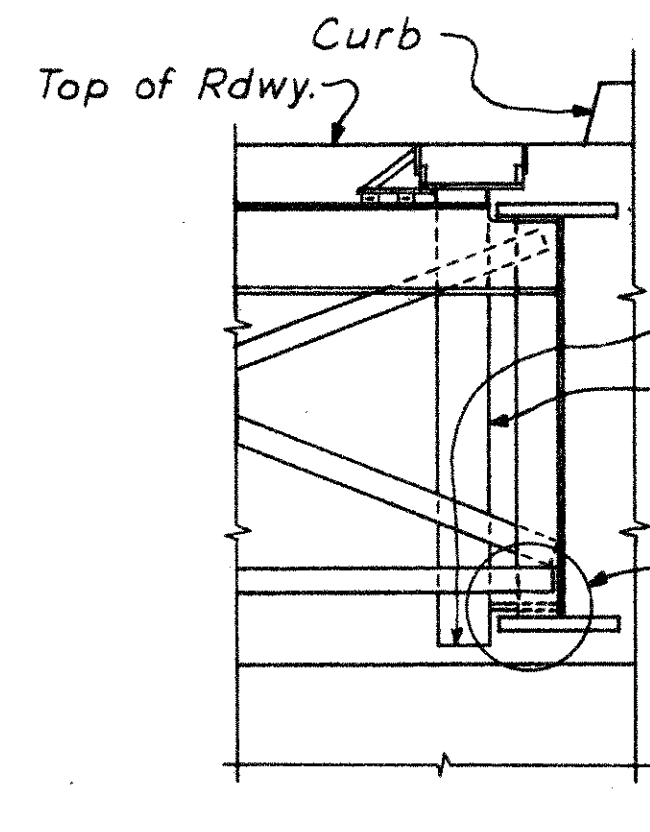
**DETAIL J**  
(Pier 2)



**TYPICAL DRAIN INLET SUPPORT DETAILS**



**SECTION F-F**

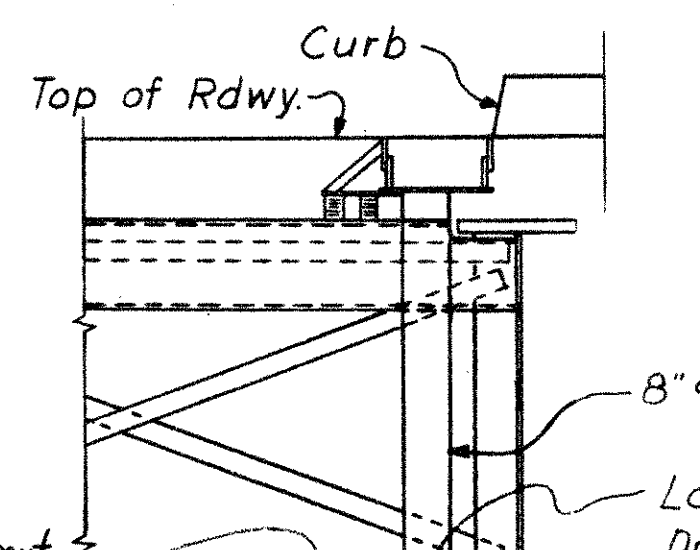


**SECTION G-G**

Lower limits of Item 518, Drain Inlets  
8\"/>

For connection details, see Detail L

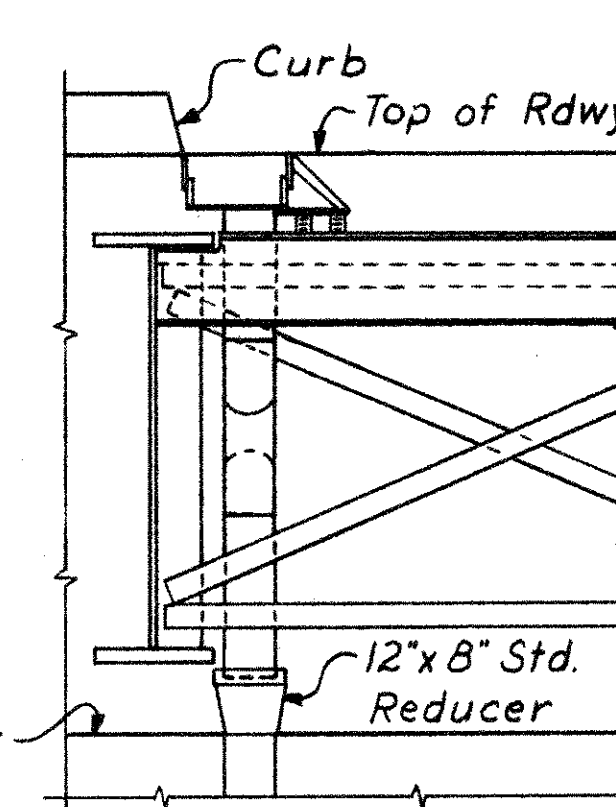
Upper limits of Item 518, Downspout (Typ.)



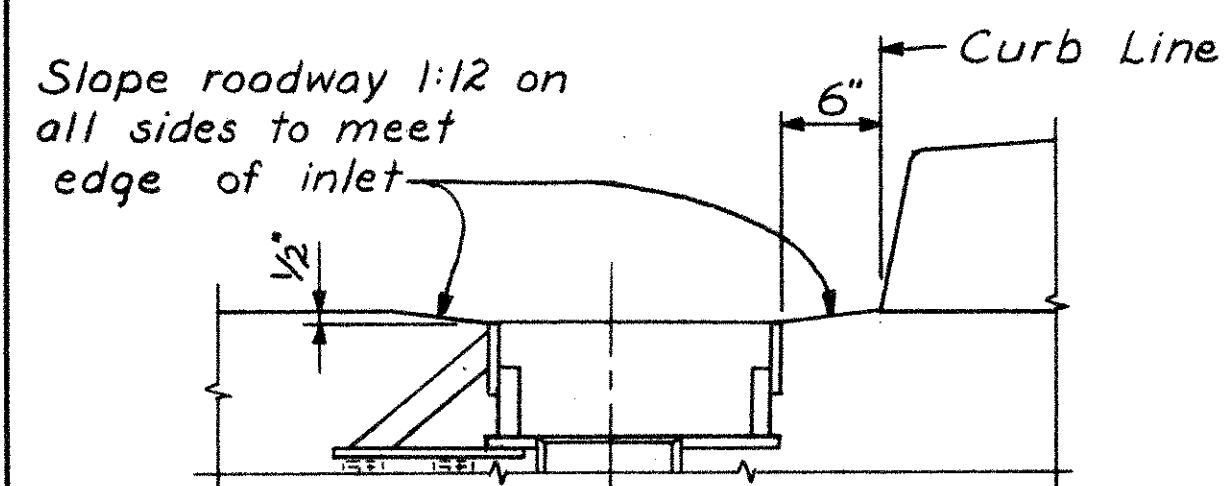
**SECTION H-H**

Lower limits of Item 518, Drain Inlets, see Note A Sh. No. 429 (Typ.)

Top of Pier

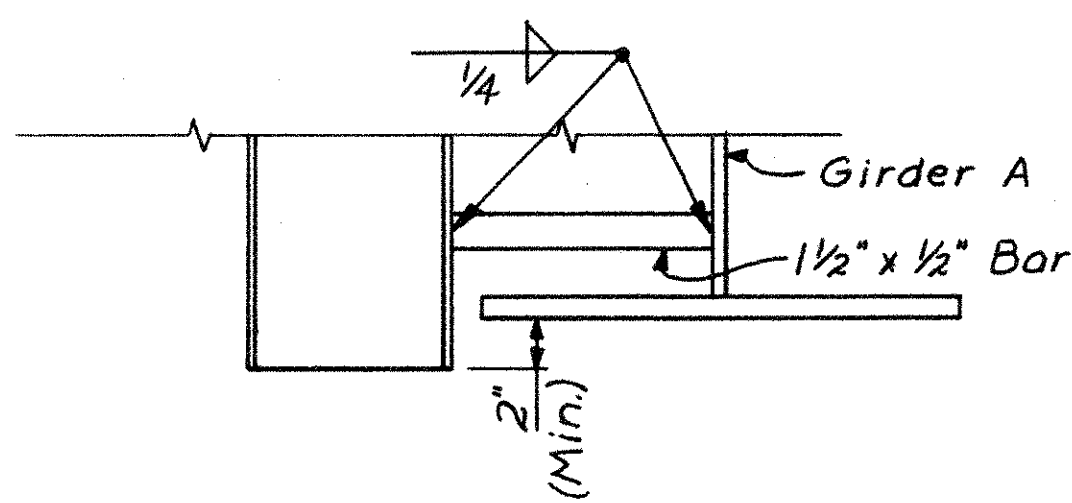


**SECTION J-J**



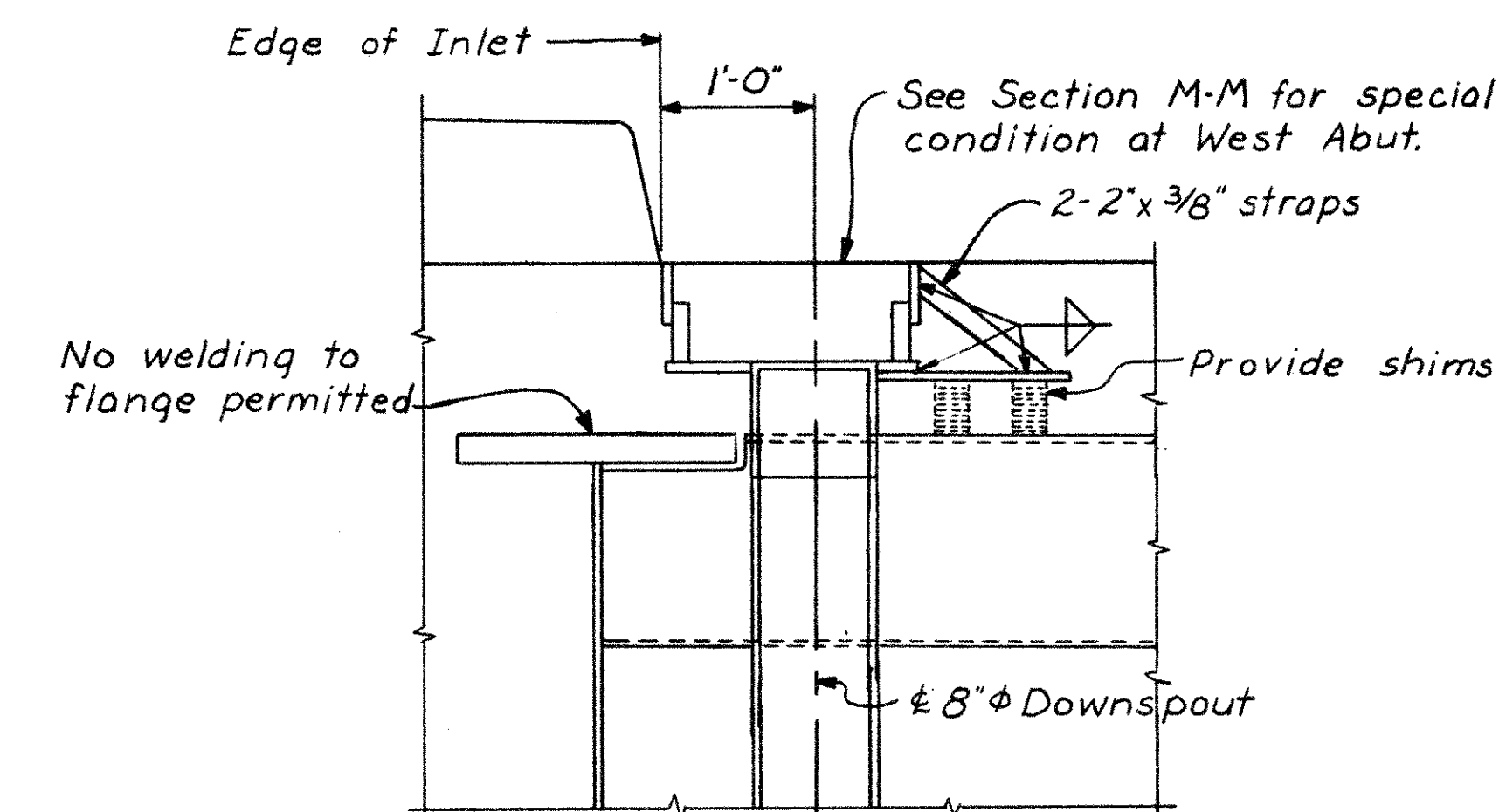
**SECTION M-M**

(West Abutment only)  
(For support details, see "Typical Drain Inlet Support Details")



**DETAIL L**

Notes:  
For details not shown, see Typical Drainage Details, Sh. No 429.  
8\"/>



**SECTION K-K**

Work this sheet with Sheets 288 & 289

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CINCINNATI, OHIO

**DRAINAGE DETAILS**

BRIDGE NO. HAM-71-0209

|                 |              |        |                           |                                 |         |
|-----------------|--------------|--------|---------------------------|---------------------------------|---------|
| DESIGNED<br>AFS | DRAWN<br>AFS | TRACED | CHECKED<br>WFB<br>8-12-65 | REVIEWED DATE<br>JHO<br>8/14/65 | REVISED |
|-----------------|--------------|--------|---------------------------|---------------------------------|---------|

SUPERSTRUCTURE

| Mark | Type | No. Reqd | Length | Weight | Mark | Type   | No. Reqd | Length  | Weight |   |
|------|------|----------|--------|--------|------|--------|----------|---------|--------|---|
| S501 | 21   | 481      | 6'-8"  | 3,344  | S652 | Str.   | 2        | 18'-3"  | 55     |   |
| S502 | 21   | 5        | 4'-10" | 25     | S653 | ↑      | 2        | 12'-6"  | 37     |   |
| S503 | 4    | 6        | 9'-9"  | 61     | S654 | ↑      | 2        | 11'-9"  | 35     |   |
| S507 | 14   | 523      | 5'-5"  | 2955   | S655 | ↑      | 2        | 11'-0"  | 33     |   |
| S601 | Str. | 697      | 34'-0" | 35,594 | S656 | ↑      | 2        | 14'-10" | 45     |   |
| S602 | ↑    | 78       | 21'-5" | 2,509  | S657 | ↑      | 2        | 14'-1"  | 42     |   |
| S603 | ↑    | 78       | 28'-4" | 3,319  | S658 | ↑      | 2        | 13'-4"  | 40     |   |
| S604 | ↑    | 2        | 5'-0"  | 15     | S659 | ↑      | 2        | 12'-7"  | 38     |   |
| S605 | ↑    | 1        | 7'-0"  | 11     | S660 | ↑      | 2        | 11'-10" | 35     |   |
| S606 | ↑    | 1        | 9'-3"  | 14     | S661 | ↑      | 2        | 11'-1"  | 33     |   |
| S607 | ↑    | 1        | 11'-6" | 17     | S662 | ↑      | 2        | 10'-4"  | 31     |   |
| S608 | ↑    | 1        | 13'-9" | 21     | S663 | ↑      | 2        | 9'-7"   | 29     |   |
| S609 | ↑    | 1        | 16'-0" | 24     | S664 | ↑      | 2        | 8'-10"  | 27     |   |
| S610 | ↑    | 1        | 18'-0" | 27     | S665 | ↑      | 2        | 8'-1"   | 24     |   |
| S611 | ↑    | 1        | 20'-3" | 30     | S666 | ↑      | 2        | 7'-4"   | 22     |   |
| S612 | ↑    | 1        | 22'-6" | 34     | S667 | ↑      | 2        | 6'-7"   | 20     |   |
| S613 | ↑    | 1        | 24'-9" | 37     | S668 | ↑      | 2        | 5'-10"  | 17     |   |
| S614 | ↑    | 1        | 27'-0" | 41     | S669 | ↑      | 2        | 5'-0"   | 15     |   |
| S615 | ↑    | 1        | 29'-0" | 44     | S670 | ↑      | 2        | 4'-3"   | 13     |   |
| S616 | ↑    | 1        | 31'-6" | 47     | S671 | ↑      | 6        | 35'-6"  | 320    |   |
| S617 | 503  | 34'-8"   | 26,191 | S672   | ↑    | 5      | 35'-4"   | 265     |        |   |
| S618 | 12   | 30'-0"   | 541    | S673   | ↑    | 6      | 35'-3"   | 318     |        |   |
| S619 | 2    | 36'-3"   | 109    | S674   | ↑    | 6      | 35'-1"   | 316     |        |   |
| S620 | 32   | 5'-6"    | 264    | S675   | ↑    | 12     | 34'-11"  | 629     |        |   |
| S621 | 5    | 8'-0"    | 60     | S676   | Str. | 12     | 34'-10"  | 628     |        |   |
| S622 | 5    | 10'-0"   | 75     |        |      |        |          |         |        |   |
| S623 | 5    | 12'-8"   | 94     |        |      |        |          |         |        |   |
| S624 | 5    | 15'-0"   | 113    | S701   | Str. | 2      | 5'-0"    | 20      |        |   |
| S625 | 5    | 17'-6"   | 131    | S702   | ↑    | 1      | 7'-0"    | 14      |        |   |
| S626 | 5    | 20'-0"   | 150    | S703   | ↑    | 1      | 9'-3"    | 19      |        |   |
| S627 | 5    | 22'-6"   | 169    | S704   | ↑    | 1      | 11'-6"   | 24      |        |   |
| S628 | 5    | 25'-0"   | 188    | S705   | ↑    | 1      | 13'-9"   | 28      |        |   |
| S629 | 5    | 27'-6"   | 207    | S706   | ↑    | 1      | 16'-0"   | 33      |        |   |
| S630 | 5    | 30'-0"   | 225    | S707   | ↑    | 1      | 18'-0"   | 37      |        |   |
| S631 | 5    | 32'-6"   | 244    | S708   | ↑    | 1      | 20'-3"   | 41      |        |   |
| S632 | 10   | 33'-7"   | 504    | S709   | ↑    | 1      | 22'-6"   | 46      |        |   |
| S633 | 2    | 32'-6"   | 97     | S710   | ↑    | 1      | 24'-9"   | 51      |        |   |
| S634 | 2    | 31'-9"   | 95     | S711   | ↑    | 1      | 27'-0"   | 55      |        |   |
| S635 | 2    | 31'-0"   | 93     | S712   | ↑    | 1      | 29'-0"   | 59      |        |   |
| S636 | 2    | 30'-3"   | 91     | S713   | ↑    | 1      | 31'-6"   | 64      |        |   |
| S637 | 2    | 29'-6"   | 89     | S714   | 503  | 34'-8" | 35,642   | *       |        |   |
| S638 | 2    | 28'-9"   | 86     | S715   | 12   | 30'-0" | 736      | *       |        |   |
| S639 | 2    | 28'-0"   | 84     | S716   | 2    | 36'-3" | 148      | *       |        |   |
| S640 | 2    | 27'-3"   | 82     | S717   | 10   | 33'-7" | 686      | *       |        |   |
| S641 | 2    | 26'-6"   | 80     | S718   | 2    | 32'-6" | 133      | *       |        |   |
| S642 | 2    | 25'-9"   | 77     | S719   | 2    | 31'-9" | 130      | *       |        |   |
| S643 | 2    | 25'-0"   | 75     | S720   | 2    | 31'-0" | 127      | *       |        |   |
| S644 | 2    | 24'-3"   | 73     | S721   | 2    | 30'-3" | 124      | *       |        |   |
| S645 | 2    | 23'-6"   | 71     | S722   | 2    | 29'-6" | 121      | *       |        |   |
| S646 | 2    | 22'-9"   | 68     | S723   | 2    | 28'-9" | 118      | *       |        |   |
| S647 | 2    | 22'-0"   | 66     | S724   | 2    | 28'-0" | 114      | *       |        |   |
| S648 | 2    | 21'-3"   | 64     | S725   | 2    | 27'-3" | 111      | *       |        |   |
| S649 | 2    | 20'-6"   | 62     | S726   | 2    | 26'-6" | 108      | *       |        |   |
| S650 | 2    | 19'-9"   | 59     | S727   | 2    | 25'-9" | 105      | *       |        |   |
| S651 | Str. | 2        | 19'-0" | 57     | S728 | Str.   | 2        | 25'-0"  | 102    | * |

WEST ABUTMENT

| Mark | Type | No. Reqd | Length  | Weight |
|------|------|----------|---------|--------|
| S729 | Str. | 2        | 21'-3"  | 99     |
| S730 | ↑    | 2        | 23'-6"  | 98     |
| S731 | ↑    | 2        | 22'-9"  | 93     |
| S732 | ↑    | 2        | 22'-0"  | 90     |
| S733 | ↑    | 2        | 21'-3"  | 87     |
| S734 | ↑    | 2        | 20'-6"  | 84     |
| S735 | ↑    | 2        | 19'-9"  | 81     |
| S736 | ↑    | 2        | 19'-0"  | 78     |
| S737 | ↑    | 2        | 18'-3"  | 75     |
| S738 | ↑    | 2        | 12'-6"  | 51     |
| S739 | ↑    | 2        | 11'-9"  | 48     |
| S740 | ↑    | 2        | 11'-0"  | 45     |
| S741 | ↑    | 2        | 14'-10" | 61     |
| S742 | ↑    | 2        | 14'-1"  | 58     |
| S743 | ↑    | 2        | 13'-4"  | 55     |
| S744 | ↑    | 2        | 12'-7"  | 51     |
| S745 | ↑    | 2        | 11'-10" | 48     |
| S746 | ↑    | 2        | 11'-1"  | 45     |
| S747 | ↑    | 2        | 10'-4"  | 42     |
| S748 | ↑    | 2        | 9'-7"   | 39     |
| S749 | ↑    | 2        | 8'-10"  | 36     |
| S750 | ↑    | 2        | 8'-1"   | 33     |
| S751 | ↑    | 2        | 7'-4"   | 30     |
| S752 | ↑    | 2        | 6'-7"   | 27     |
| S753 | ↑    | 2        | 5'-10"  | 24     |
| S754 | ↑    | 2        | 5'-0"   | 20     |
| S755 | ↑    | 2        | 4'-3"   | 17     |
| S756 | ↑    | 4        | 34'-2"  | 279    |
| S757 | ↑    | 6        | 35'-6"  | 435    |
| S758 | ↑    | 5        | 35'-4"  | 361    |
| S759 | ↑    | 6        | 35'-3"  | 432    |
| S760 | ↑    | 6        | 35'-1"  | 430    |
| S761 | ↑    | 12       | 34'-11" | 856    |
| S762 | Str. | 12       | 34'-10" | 854    |
| S763 | 58   | 6        | 12'-6"  | 153    |
| S764 | 49   | 6        | 7'-1"   | 87     |
| S765 | 61   | 6        | 8'-0"   | 98     |
| H531 | Str. | 4        | 11'-5"  | *      |
| H532 | ↑    | 2        | 12'-5"  | *      |
| H533 | ↑    | 6        | 12'-8"  | *      |
| H534 | ↑    | 4        | 13'-1"  | *      |
| H535 | ↑    | 28       | 14'-10" | *      |
| H536 | ↑    | 36       | 15'-0"  | *      |
| H537 | ↑    | 36       | 15'-4"  | *      |
| H538 | ↑    | 36       | 15'-6"  | *      |
| H539 | ↑    | 40       | 15'-8"  | *      |
| H560 | 58   | 6        | 8'-0"   | *      |

EAST ABUTMENT

| Mark | Type | No. Reqd | Length  | Weight |
|------|------|----------|---------|--------|
| A501 | ↑    | 39       | 7'-2"   | 292    |
| A503 | Str. | 26       | 11'-0"  | 297    |
| A504 | ↑    | 25       | 12'-5"  | 324    |
| A505 | Str. | 13       | 38'-0"  | 515    |
| A506 | ↑    | 9        | 38'-3"  | 359    |
| A507 | ↑    | 12       | 16'-8"  | 209    |
| A508 | ↑    | 12       | 10'-0"  | 125    |
| A509 | Str. | 4        | 5'-6"   | 23     |
| A510 | ↑    | 1        | 8'-7"   | 9      |
| A511 | ↑    | 1        | 9'-9"   | 11     |
| A512 | ↑    | 1        | 10'-11" | 12     |
| A513 | ↑    | 1        | 11'-11" | 13     |
| A514 | ↑    | 1        | 13'-1"  | 14     |
| A515 | ↑    | 1        | 14'-3"  | 15     |
| A516 | Str. | 2        | 6'-7"   | 14     |
| A517 | ↑    | 2        | 6'-8"   | 14     |
| A518 | ↑    | 2        | 6'-9"   | 14     |
| A519 | ↑    | 2        | 6'-10"  | 15     |
| A520 | ↑    | 2        | 6'-11"  | 15     |
| A521 | ↑    | 2        | 7'-0"   | 15     |
| A522 | ↑    | 2        | 7'-1"   | 15     |
| A523 | ↑    | 2        | 7'-2"   | 15     |
| A524 | ↑    | 2        | 7'-3"   | 15     |
| A525 | ↑    | 2        | 7'-4"   | 15     |
| A526 | ↑    | 2        | 20'-0"  | 42     |
| A527 | Str. | 8        | 22'-9"  | 190    |
| A528 | 2    | 4        | 6'-8"   | 28     |
| A529 | 30   | 16       | 9'-6"   | 158    |
| A530 | 14   | 16       | 5'-10"  | 97     |
| A531 | Str. | 2        | 8'-9"   | 18     |
| A532 | 17   | 5        | 7'-2"   | 37     |
| A533 | Str. | 4        | 9'-6"   | 40     |
| A534 | Str. | 3        | 3'-1"   | 10     |
| A535 | Str. | 2        | 15'-10" | 33     |
| A601 | 44   | 53       | 10'-2"  | 809    |
| A602 | Str. | 25       | 9'-6"   | 357    |
| A603 | Str. | 11       | 39'-0"  | 644    |
| A604 | 7    | 33       | 20'-5"  | 1012   |
| A605 | Str. | 12       | 20'-6"  | 369    |
| A606 | Str. | 19       | 7'-0"   | 200    |
| A607 | 20   | 4        | 5'-9"   | 35     |
| A608 | 20   | 6        | 7'-9"   | 70     |
| A609 | Str. | 8        | 9'-8"   | 116    |
| A801 | 18   | 19       | 7'-0"   | 355    |
| A802 | Str. | 9        | 6'-3"   | 150    |
| A803 | Str. | 10       | 11'-0"  | 294    |
| H551 | Str. | 4        | 7'-7"   | *      |
| H552 | Str. | 4        | 9'-3"   | *      |

PIER 1

| Mark  | Type | No. Reqd | Length  | Weight |
|-------|------|----------|---------|--------|
| P401  | 64   | 3        | 19'-7"  | 2256   |
| P501  | ↑    | 152      | 8'-8"   | 1374   |
| P502  | ↑    | 8        | 6'-5"   | 54     |
| P503  | ↑    | 2        | 6'-2"   | 13     |
| P504  | ↑    | 2        | 5'-9"   | 12     |
| P505  | Str. | 2        | 30'-8"  | 64     |
| P506  | 6    | 6        | 9'-10"  | 62     |
| P801  | 43   | 42       | 13'-8"  | 1533   |
| P901  | 43   | 42       | 14'-0"  | 1999   |
| P1001 | 18   | 72       | 7'-2"   | 2220   |
| P1002 | Str. | 72       | 22'-7"  | 6997   |
| P1003 | 43   | 2        | 35'-4"  | 304    |
| P1004 | 43   | 2        | 36'-10" | 317    |
| P1005 | 43   | 3        | 37'-4"  | 482    |
| P1006 | Str. | 4        | 16'-0"  | 275    |
| P1007 | ↑    | 2        | 37'-11" | 326    |
| P1008 | ↑    | 5        | 41'-7"  | 895    |

PIER 2

| Mark  | Type | No. Reqd | Length  | Weight |
|-------|------|----------|---------|--------|
| P450  | 64   | 1        | 15'-10" | 629    |
| P451  | 64   | 1        | 16'-8"  | 676    |
| P452  | 64   | 1        | 17'-2"  | 701    |
| P550  | ↑    | 220      | 9'-0"   | 2065   |
| P551  | ↑    | 6        | 6'-5"   | 40     |
| P552  | ↑    | 2        | 5'-10"  | 13     |
| P553  | ↑    | 2        | 4'-5"   | 9      |
| P554  | Str. | 4        | 34'-6"  | 144    |
| P555  | 6    | 8        | 9'-10"  | 82     |
| P650  | 43   | 66       | 11'-10" | 1173   |
| P1150 | 43   | 42       | 20'-8"  | 4612   |
| P1151 | 18   | 84       | 8'-2"   | 3645   |
| P1152 | Str. | 28       | 19'-9"  | 2938   |
| P1153 | Str. | 28       | 20'-6"  | 3050   |
| P1154 | Str. | 28       | 21'-3"  | 3161   |
| P1155 | ↑    | 6        | 45'-9"  | 1452   |
| P1156 | ↑    | 2        | 41'-11" | 445    |
| P1157 | 43   | 8        | 40'-8"  | 1728   |
| P1158 | Str. | 4        | 21'-0"  | 446    |

Mark a b

|       |         |        |
|-------|---------|--------|
| A501  | 3'-5"   | 2'-0"  |
| A510  | 1'-8"   | 3'-7"  |
| A511  | ↑       | 4'-2"  |
| A512  | ↑       | 4'-9"  |
| A513  | ↑       | 5'-3"  |
| A514  | ↑       | 5'-10" |
| A515  | 1'-8"   | 6'-5"  |
| A563  | 3'-3"   | 2'-0"  |
| A564  | 2'-1"   | 2'-0"  |
| A566  | 2'-6"   | 2'-0"  |
| A573  | 1'-1"   | 1'-7"  |
| A577  | 1'-1"   | 3'-0"  |
| P501  | 3'-1"   | 2'-11" |
| P502  | 3'-8"   | 1'-6"  |
| P503  | 3'-5"   | 1'-6"  |
| P504  | 3'-0"   | 1'-6"  |
| P550  | 2'-11"  | 3'-2"  |
| P551  | 3'-8"   | 1'-6"  |
| P552  | 3'-1"   | 1'-6"  |
| P553  | 1'-8"   | 1'-6"  |
| P1007 | 30'-6"  | 4'-0"  |
| P1008 | 34'-2"  | 4'-0"  |
| P1155 | 37'-9"  | 4'-4"  |
| P1156 | 33'-11" | 4'-4"  |

Mark a b

|       |       |           |
|-------|-------|-----------|
| A504  | 1'-7" | 11'-0"    |
| A565  | 2'-0" | 3'-6 1/2" |
| A571  | 2'-3" | 4'-6 1/2" |
| A574  | 3'-0" | 3'-9 1/2" |
| A575  | 3'-0" | 3'-6 1/2" |
| A579  | 4'-5" | 4'-6"     |
| A801  | 5'-3" | 2'-0"     |
| A1051 | 1'-6" | 7'-3 1/2" |
| P1001 | 1'-0" | 6'-6"     |
| P1151 | 1'-0" | 7'-6"     |

Mark a

|       |        |
|-------|--------|
| P650  | 10'-6" |
| P801  | 11'-6" |
| P901  | 11'-6" |
| P1003 | 32'-6" |
| P1004 | 34'-0" |
| P1005 | 34'-6" |
| P1150 | 17'-6" |
| P1157 | 37'-6" |

Type 18

Mark a b

|      |       |       |
|------|-------|-------|
| S507 | 0'-8" | 2'-1" |
| A530 | 0'-8" | 2'-3" |
| A576 | 0'-8" | 4'-0" |

Type 43

Mark a

|      |        |
|------|--------|
| A601 | 9'-6"  |
| A952 | 20'-6" |

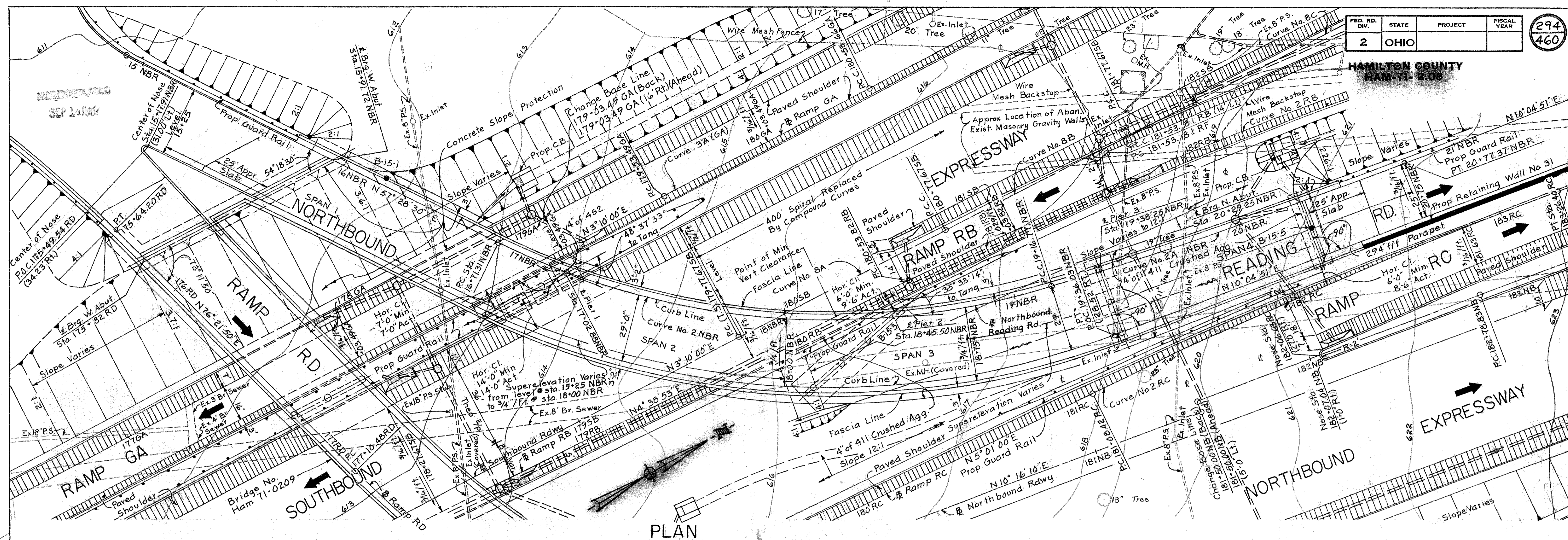
Type 14

Type 44

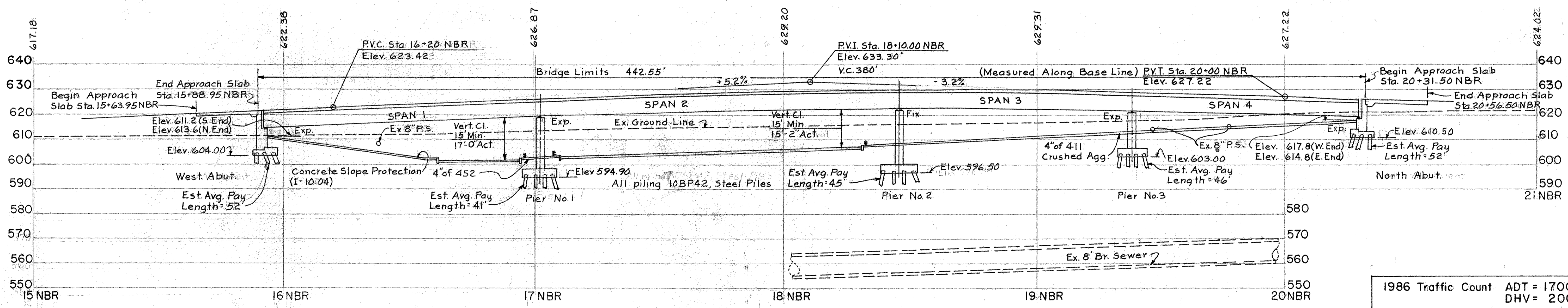
Mark a Pitch No of Turns

|      |       |        |    |
|------|-------|--------|----|
| P401 | 3'-7" | 2 1/2" | 92 |
| P450 | 3'-7" | 2 1/2" | 77 |
| P    |       |        |    |

HAMILTON COUNTY  
HAM-71-2.08



PLAN



PROFILE ON BASE LINE

CURVE DATA

|  |   |
|--|---|
| CURVE No. 2 NBR<br>P.I. = Sta. 18+00.51 NBR<br>Δ = 44° 10' 56"<br>D = 18° 00'<br>R = 318.31'<br>L = 245.46'<br>T = 129.20' | CURVE No. 2A NBR<br>P.I. Sta. 19+97.09 NBR<br>Δ = 3° 12' 43"<br>D = 2° 00'<br>R = 2864.79'<br>L = 160.60'<br>T = 80.32' |
|--|---|

PROPOSED STRUCTURE

Type: Continuous Steel Plate Girders with reinforced concrete Deck and Substructure.  
Spans: 111.16'; 142.62'; 92.75'; 91.00'; % brg. measured along R Roadway: Varies 25' to 29' f/f curbs with 2'-0" safety curbs  
Loading: Frequency CF = 2000 (57)  
Wearing Surface: 1" Monolithic concrete  
Approach Slabs: As-1-54 (25' long)  
Alignment Varies: See Plan  
Superelevation: Varies, See Plan

GENERAL NOTES

Pier 3 and N. Abutment are parallel  
● Symbol denotes Test Borings  
For Test Boring Data See Sheet 11 of 23  
For Bench Marks, See Sheet 39

1986 Traffic Count ADT = 1700  
DHV = 200

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

SITE PLAN  
BRIDGE No. HAM-71-0211  
NORTHBOUND READING ROAD OVER  
SOUTHBOUND (I-71)

|          |       |        |         |               |         |
|----------|-------|--------|---------|---------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
| A.L.T.   | ALT.  | H.A.G. | Jito    | 8/11/65       |         |

**HAMILTON COUNTY  
HAM-71- 2.08**

SEP 14 1965

**DESIGN NOTES:**

Design Loading CF = 2000 (57).  
Concrete Class C - Basic unit stress = 1333 psi.  
Concrete Class E - Basic unit stress = 1133 psi.  
Structural Steel - ASTM A36 - Basic unit stress = 20,000 psi

Reinforcing Steel - ASTM A15, A16, A160 Deformed Intermediate or Hard grade. Basic unit stress = 20,000 psi.  
Except spiral reinforcement may be plain, structural grade with basic unit stress = 18,000 psi.

**STEEL PILES:** See Note on Sh. No. 281, Bridge No. HAM-71-0209.

**FIRST TEST PILE:** Item 505 in the Estimated Quantities for Bridge No. HAM-71-0209 may be driven at either Bridge No. HAM-71-0209 or HAM-71-0211. Payment will be made for only one First Test Pile.

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

**ADDITIONAL NOTES:** For additional notes see Notes 1, 2, 3, 5, & 6 General Notes, Typ. Drwg. # 426

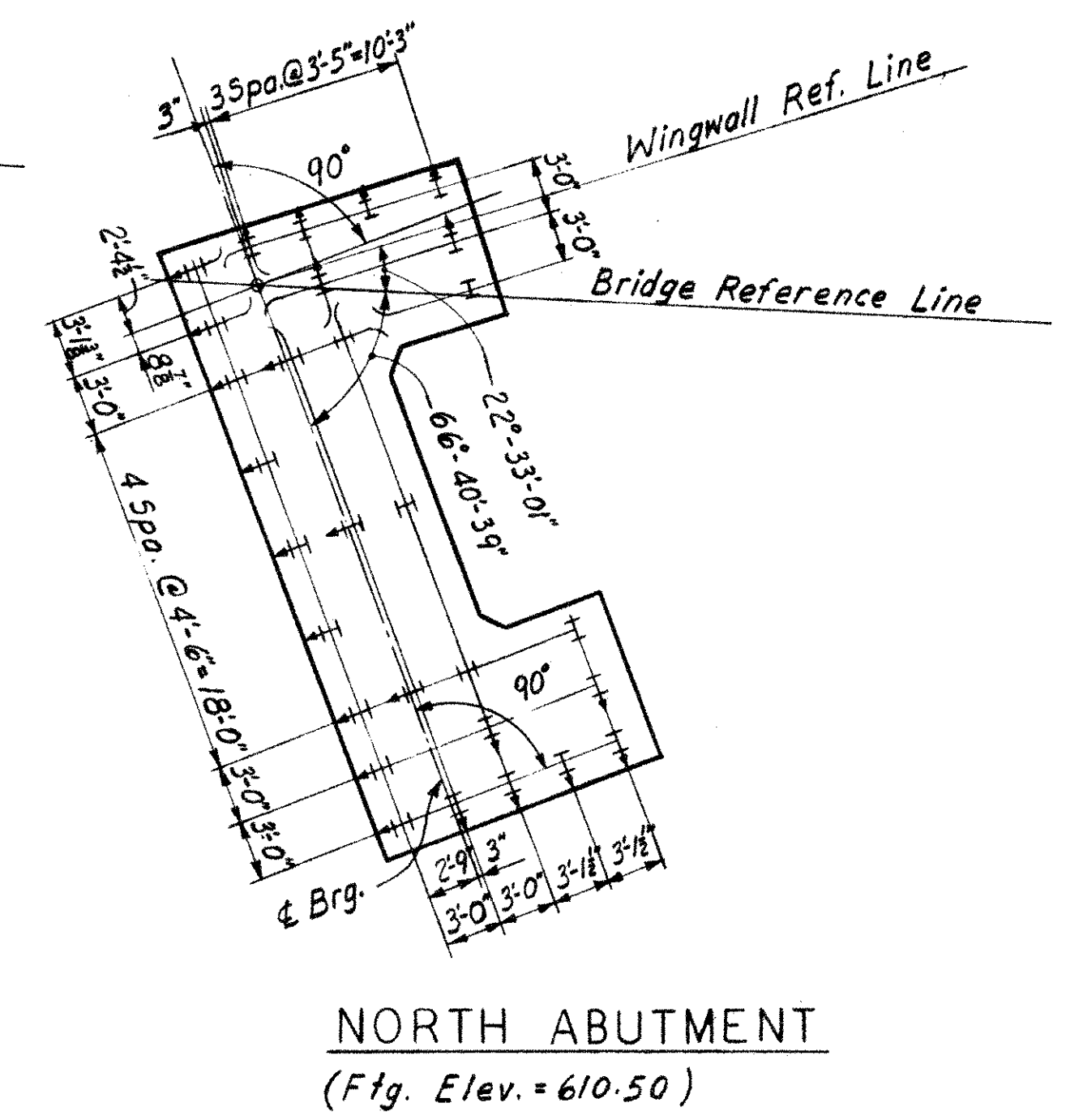
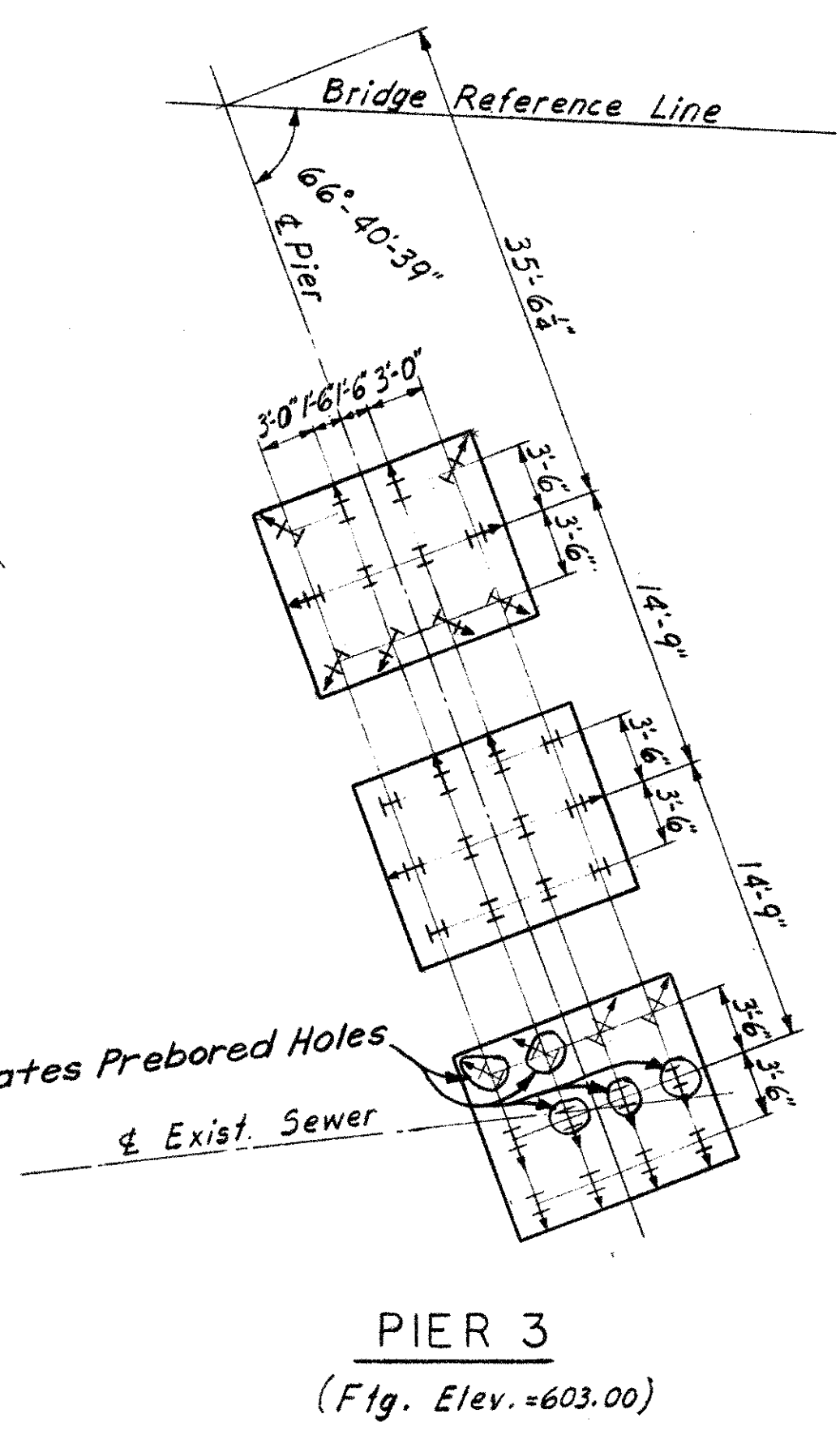
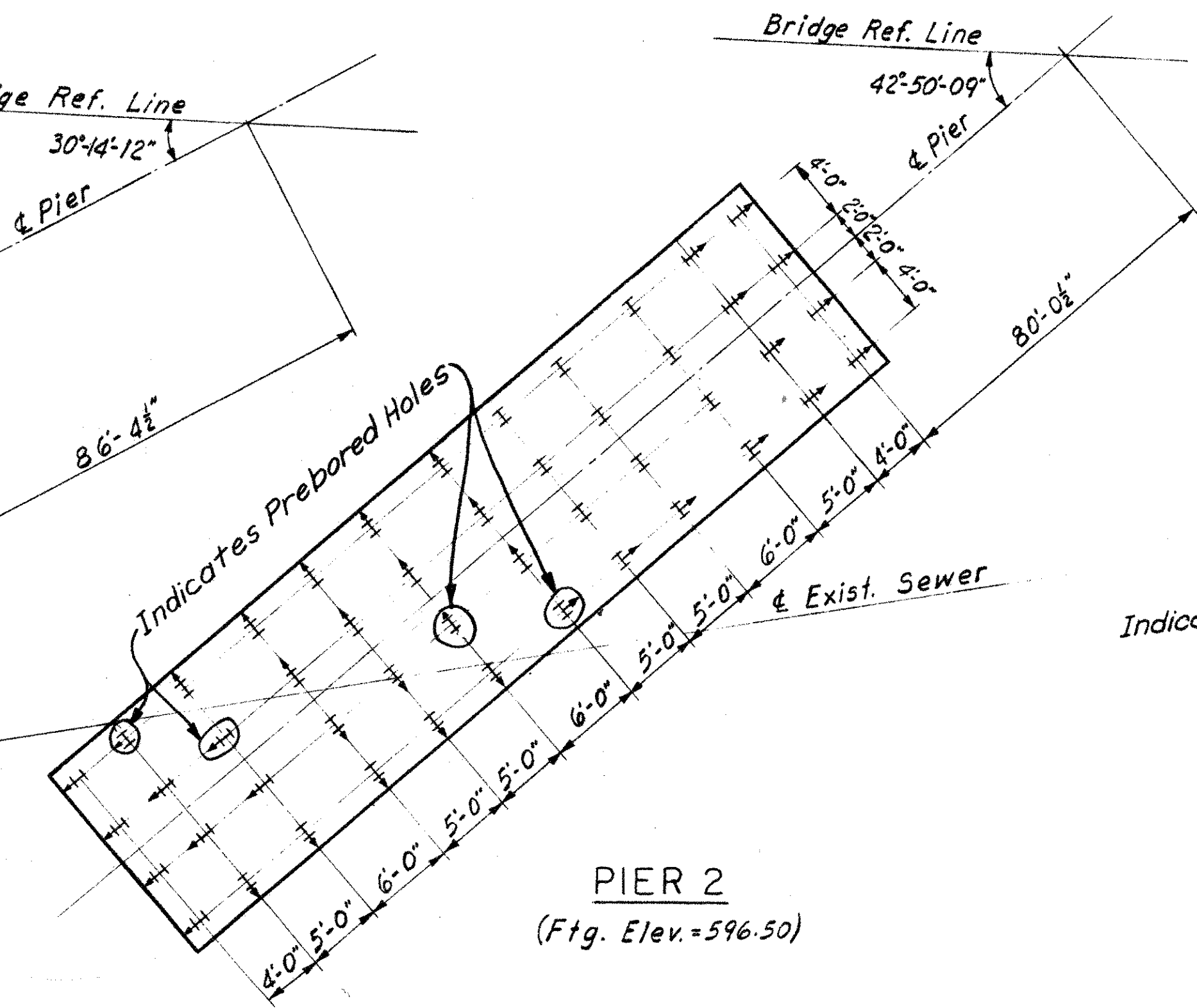
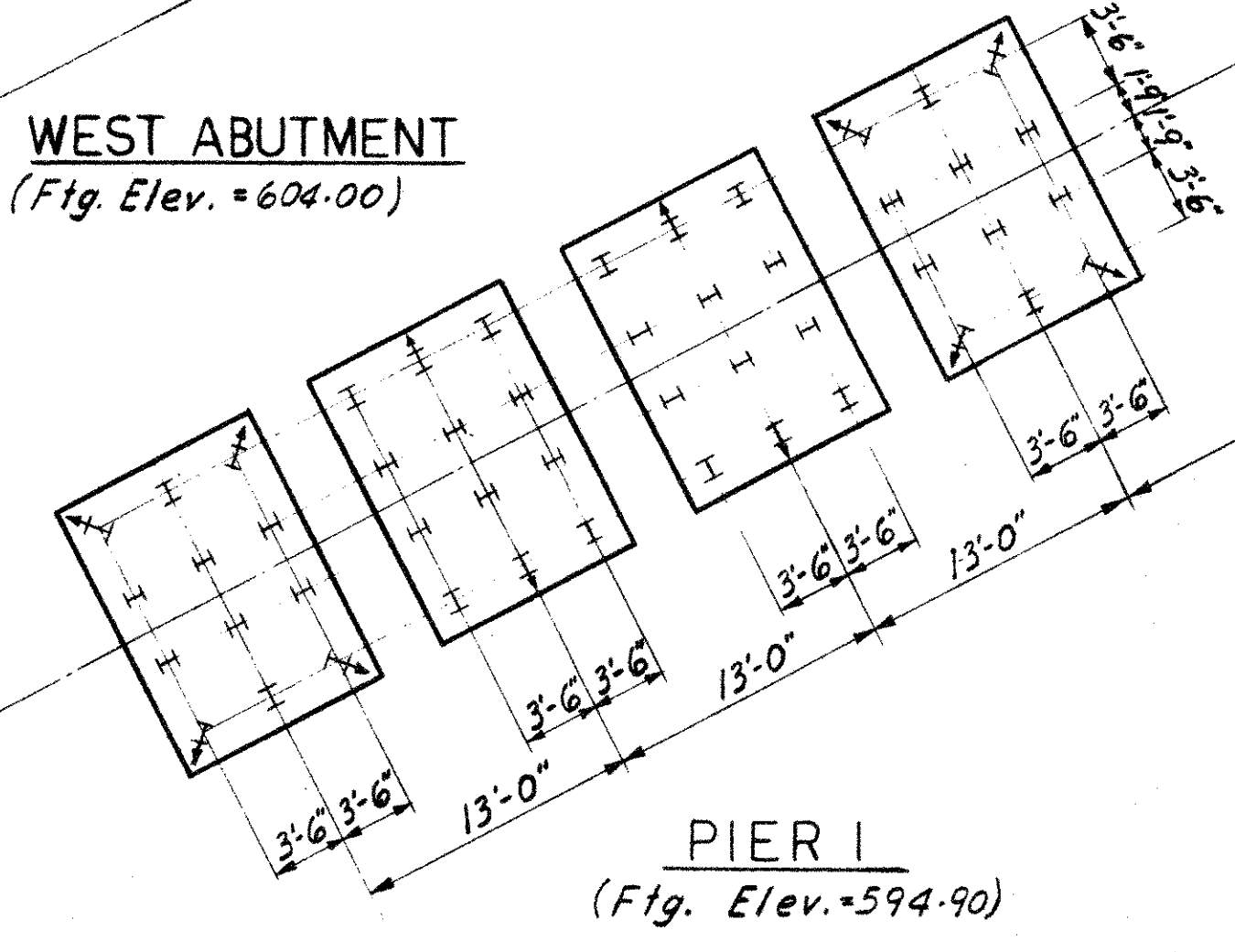
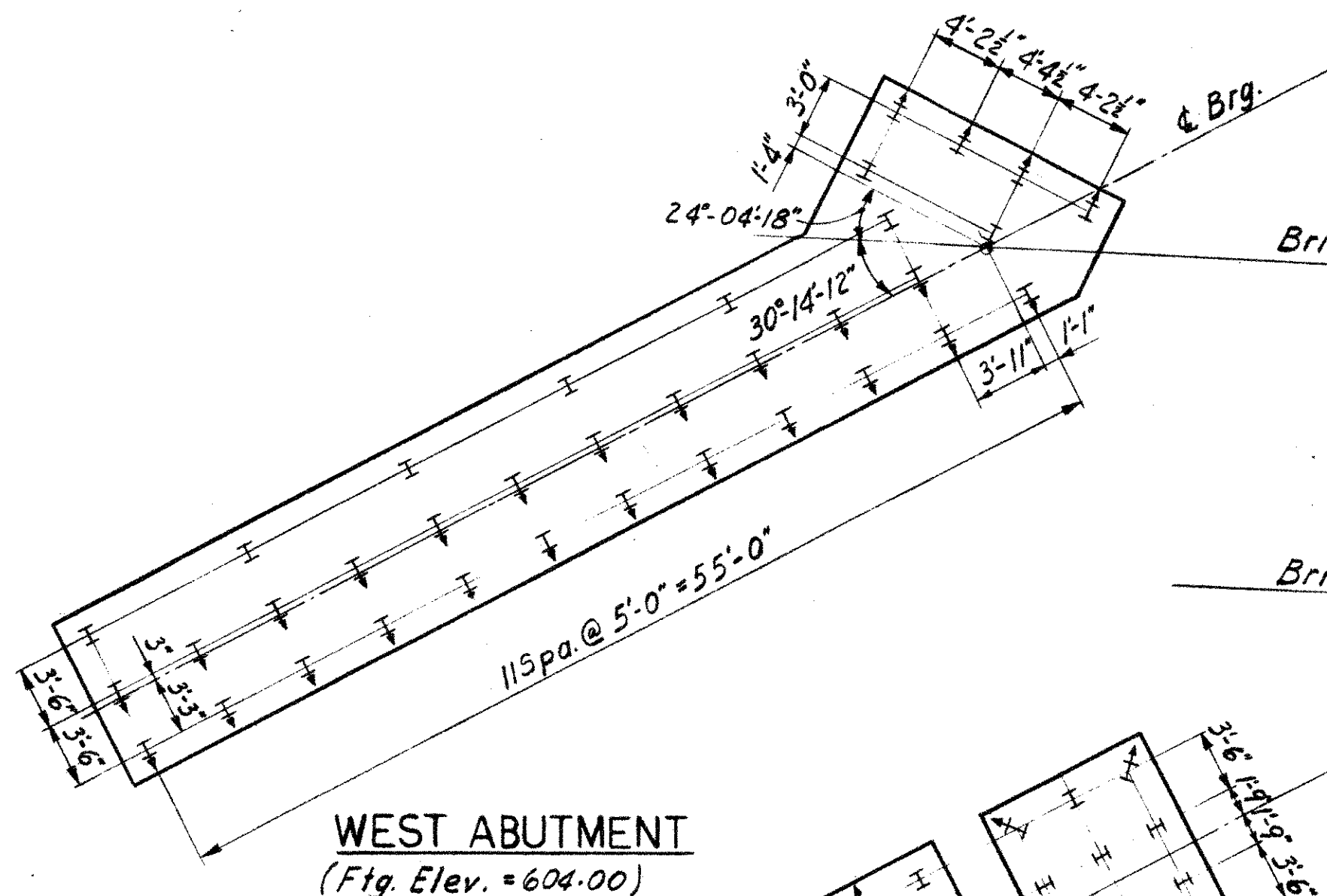
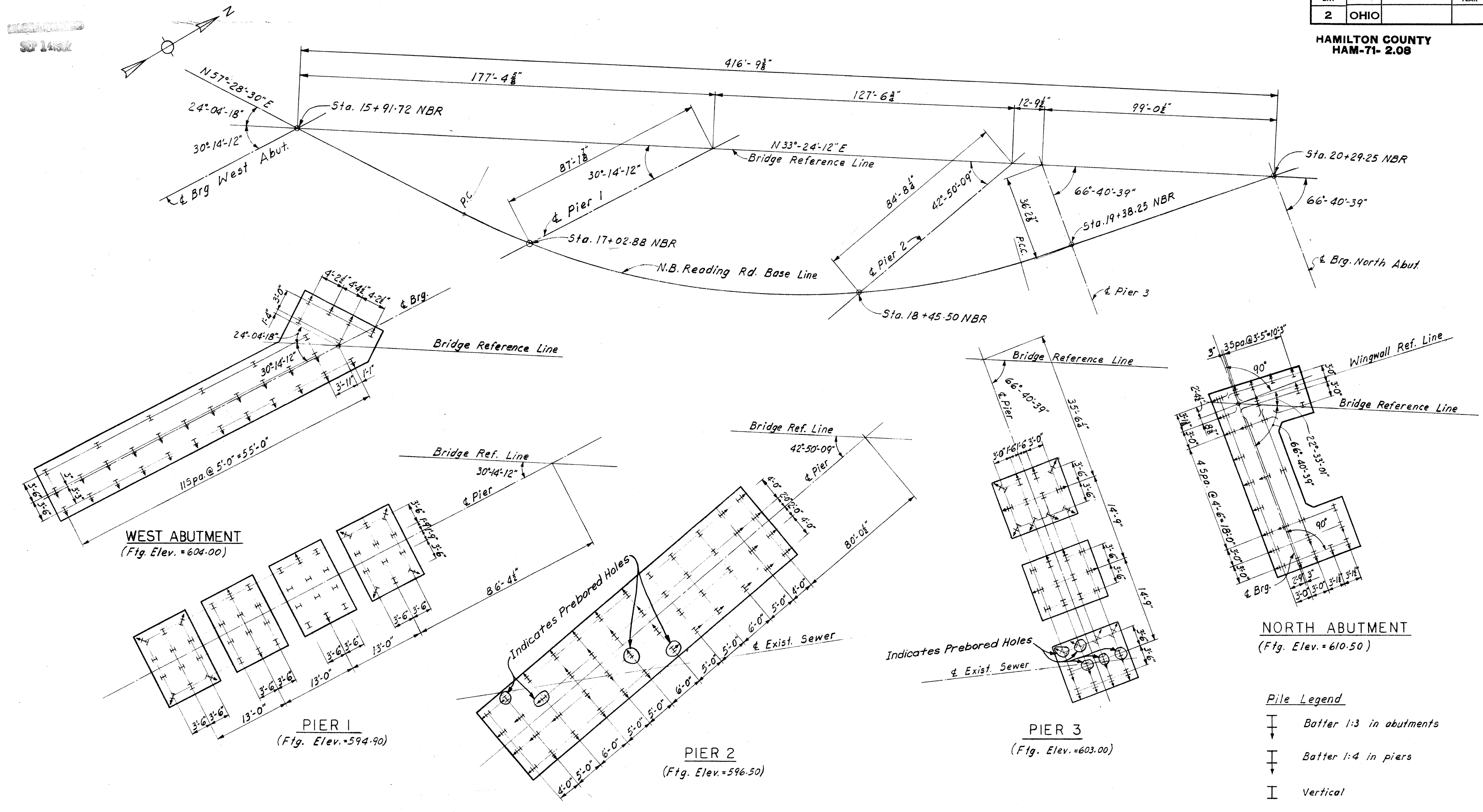
**PREBORED HOLES:** Where directed by the Engineer, piles at Piers No. 2 & 3 as indicated on the footing plan Sheet No. 296 adjacent to the existing 8' Brick Sewer, shall be started in 12" minimum diameter prebored holes to a minimum depth of 1'-0" below the bottom of sewer. Payment shall include the preboring of the hole and also filling of the hole with sand conforming to Sec. 703.03, in the contract unit price per linear foot bid for "Item Special." The contractor shall verify the line and grade of the existing 8' Brick Sewer before starting any prebored holes.

| Item    | Total   | Unit     | Description   | Super Structure | North Abutment | West Abutment | Pier 1 | Pier 2 | Pier 3 | General |
|---------|---------|----------|---|-----------------|----------------|---------------|--------|--------|--------|---------|
| 503     | Lump    | Sum      | Cofferdam, Cribs & Sheeting   |                 |                |               |        |        |        | Lump    |
| 503     | 1250    | Cu.Yds.  | Unclassified Excavation   |                 | 160            | 225           | 220    | 455    | 190    |         |
| 511     | 630     | Cu.Yds.  | Class "C" Concrete, Superstructure  | 630             |                |               |        |        |        |         |
| 511     | 169     | Cu.Yds.  | Class "C" Concrete, Piers above Footings  |                 |                |               | 71.6   | 66.2   | 31.2   |         |
| 511     | 148     | Cu.Yds.  | Class "E" Concrete, Abutments above Footings  |                 | 55.3           | 92.7          |        |        |        |         |
| 511     | 348     | Cu.Yds.  | Class "E" Concrete, Footings  |                 | 44.8           | 71.8          | 70.0   | 114.8  | 46.6   |         |
| 512     | 10      | Sq.Yds.  | Type "B" Waterproofing  |                 |                | 10            |        |        |        |         |
| 509     | 240,558 | Lbs.     | Reinforcing Steel   | 150,121         | 6590           | 8514          | 25704  | 35,236 | 14393  |         |
| 513     | 760,000 | Lbs.     | Structural Steel  | 760,000         |                |               |        |        |        |         |
| 514     | 760,000 | Lbs.     | Field Painting of Structural Steel  | 760,000         |                |               |        |        |        |         |
| 516     | 40      | Sq. Ft.  | 1/2" Preformed Expansion Joint Filler   |                 | 16             | 24            |        |        |        |         |
| 517     | 987     | Lin. Ft. | Railing Type "I"  | 922             | 28             | 37            |        |        |        |         |
| 507     | 8920    | Lin. Ft. | Steel Piles, 10 BP 42   |                 | 1508           | 1820          | 1968   | 1968   | 1656   |         |
| 625     |         |          | Electric Lighting System (See Sh. No. 178 & 179)  |                 |                |               |        |        |        |         |
| 518     | 100     | Cu.Yds.  | Porous Backfill   |                 | 40             | 60            |        |        |        |         |
| 518     | Lump    | Sum      | Drain Inlets, Including Supports and Horizontal Collector System                          |                 |                |               |        |        |        | Lump    |
| 518     | 62      | Lin. Ft. | 8" Standard Pipe Downspout, Wrought Iron or Hot-Dip Galvanized Steel (Including Specials) |                 | 12             |               | 29     |        | 21     |         |
| 518     | 95      | Lin. Ft. | 8" Perforated C.M.P. 707.06, bituminous coated per 707.04. (including specials and sand)  |                 | 41             | 54            |        |        |        |         |
| 518     | 4       | Lin. Ft. | 12" Reinforced Concrete Sewer Pipe [Sec. 706.02 Class II]                                 |                 | 4              |               |        |        |        |         |
| 518     | 68      | Lin. Ft. | 8" Non-perforated C.M.P. 707.06, bituminous coated per 707.06 (including specials)        |                 | 40             | 28            |        |        |        |         |
| 808     | 630     | Each     | Water-reducing, Set-retarding Admixture   | 630             |                |               |        |        |        |         |
| 601     | 330     | Sq.Yds.  | Concrete Slope Protection   |                 |                | 330           |        |        |        |         |
| Special | 394     | Lin. Ft. | Prebored Holes  |                 |                |               |        | 164    | 230    |         |
| Special | 2061    | Sq.Yds.  | Concrete Surface Treatment  | 1989.8          | 6.4            | 9.1           | 18.7   | 22.7   | 14.3   |         |

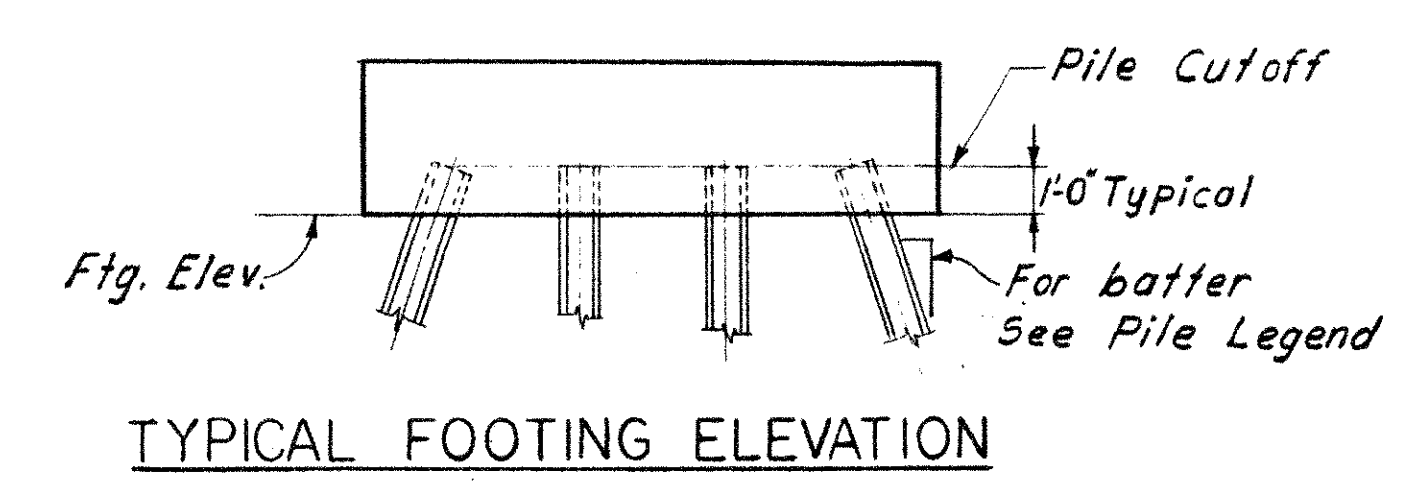
|   |       |        |               |                |          |
|---|-------|--------|---------------|----------------|----------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |       |        |               |                |          |
| <b>ESTIMATED QUANTITIES &amp; NOTES</b>                     |       |        |               |                |          |
| BRIDGE NO. HAM - 71 - 0211                                  |       |        |               |                |          |
| DESIGNED  | DRAWN | TRACED | CHECKED       | REVIEWED DATE  | REVISION |
|   | MWS   |        | DIA<br>8/2/65 | JHS<br>8/11/65 |          |



HAMILTON COUNTY  
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- Pile Legend**
- Batter 1:3 in abutments
  - Batter 1:4 in piers
  - Vertical

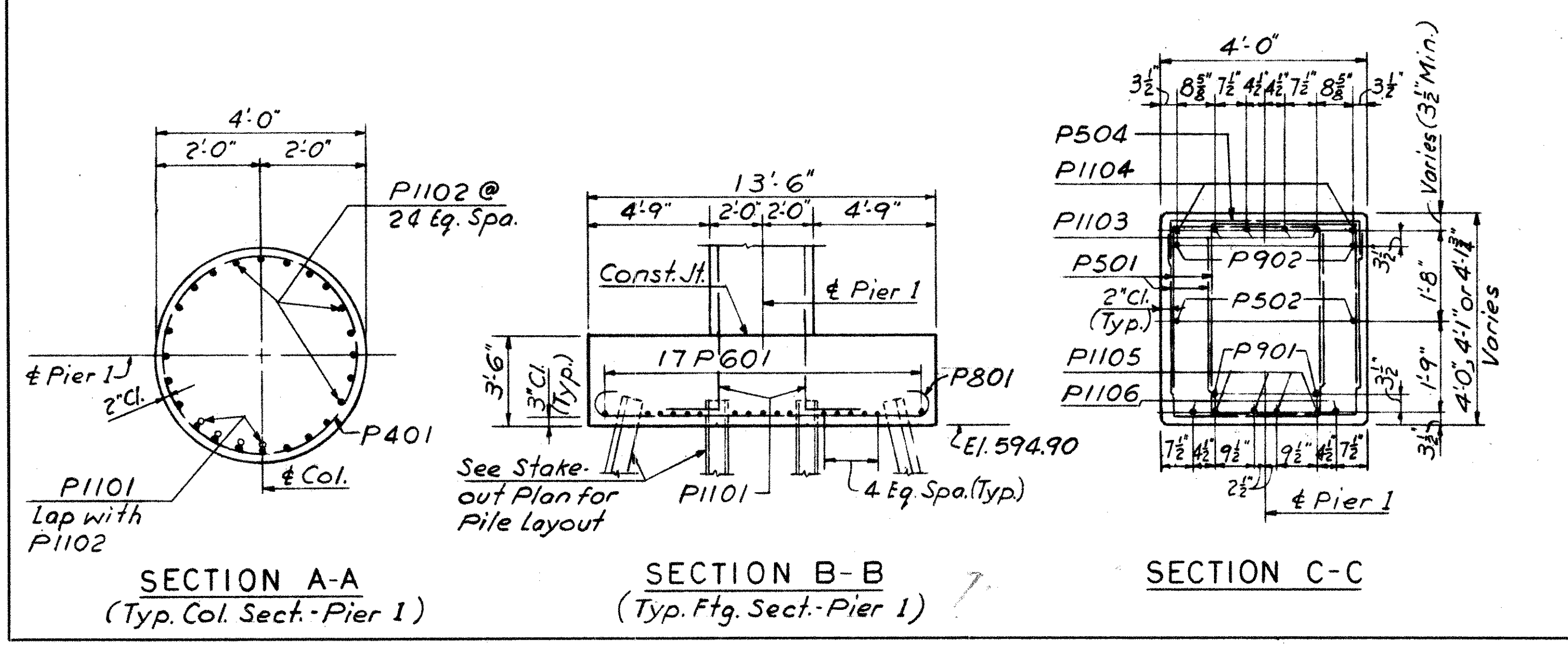
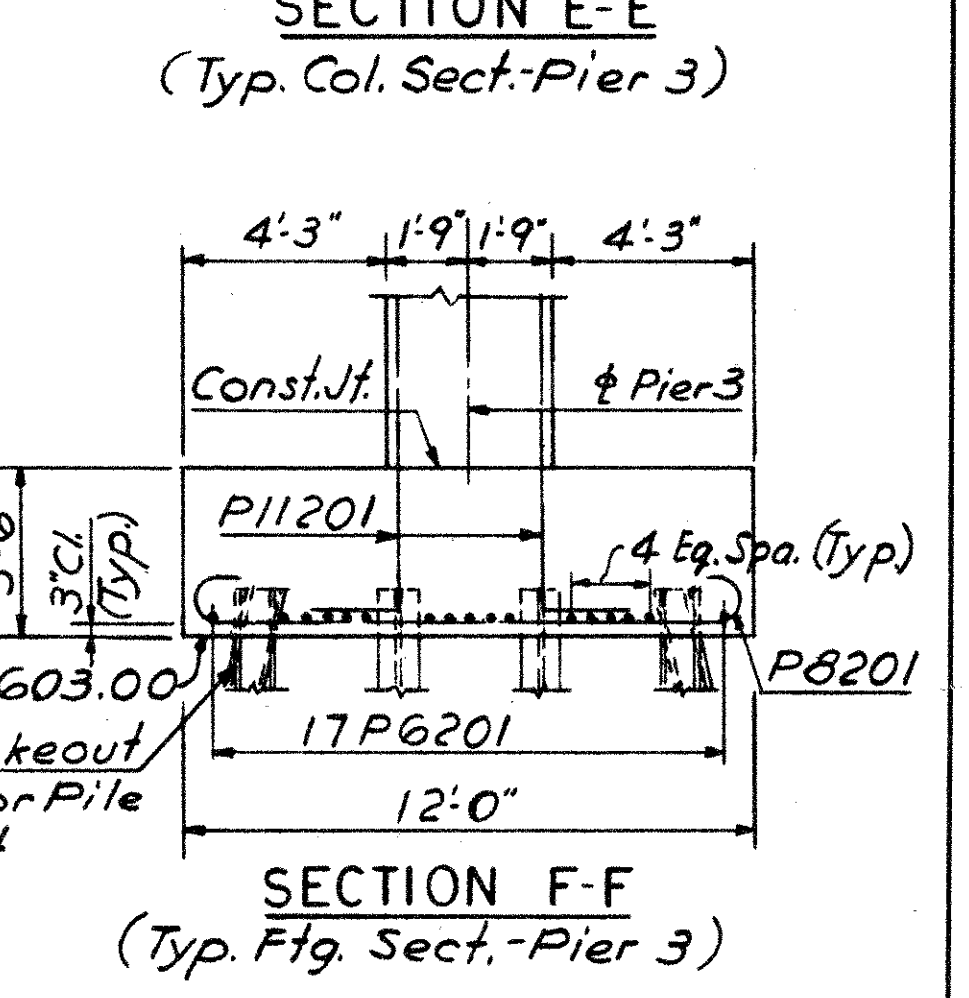
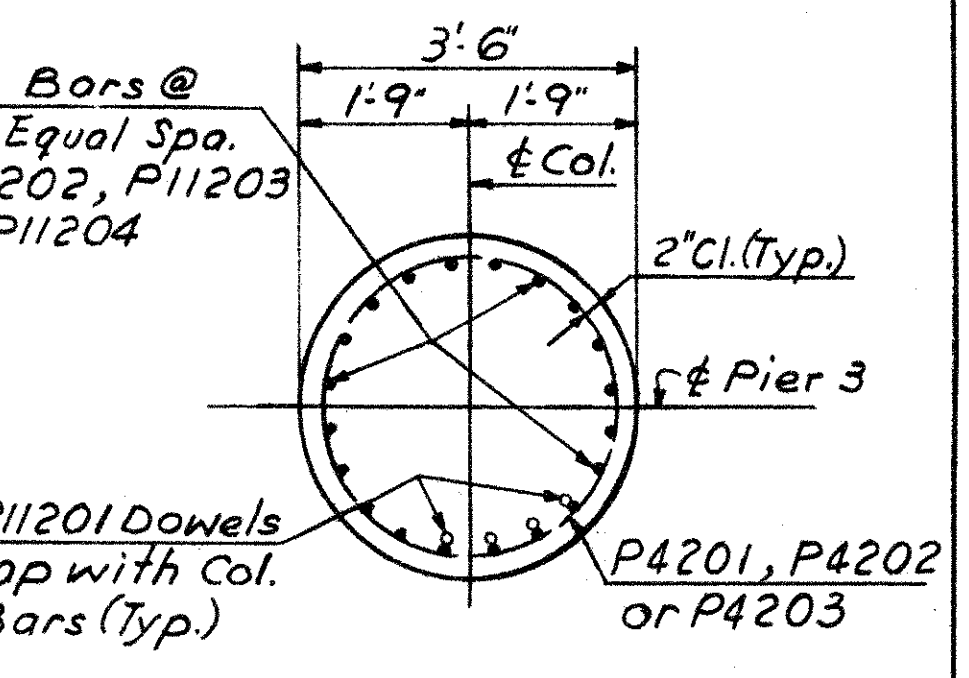
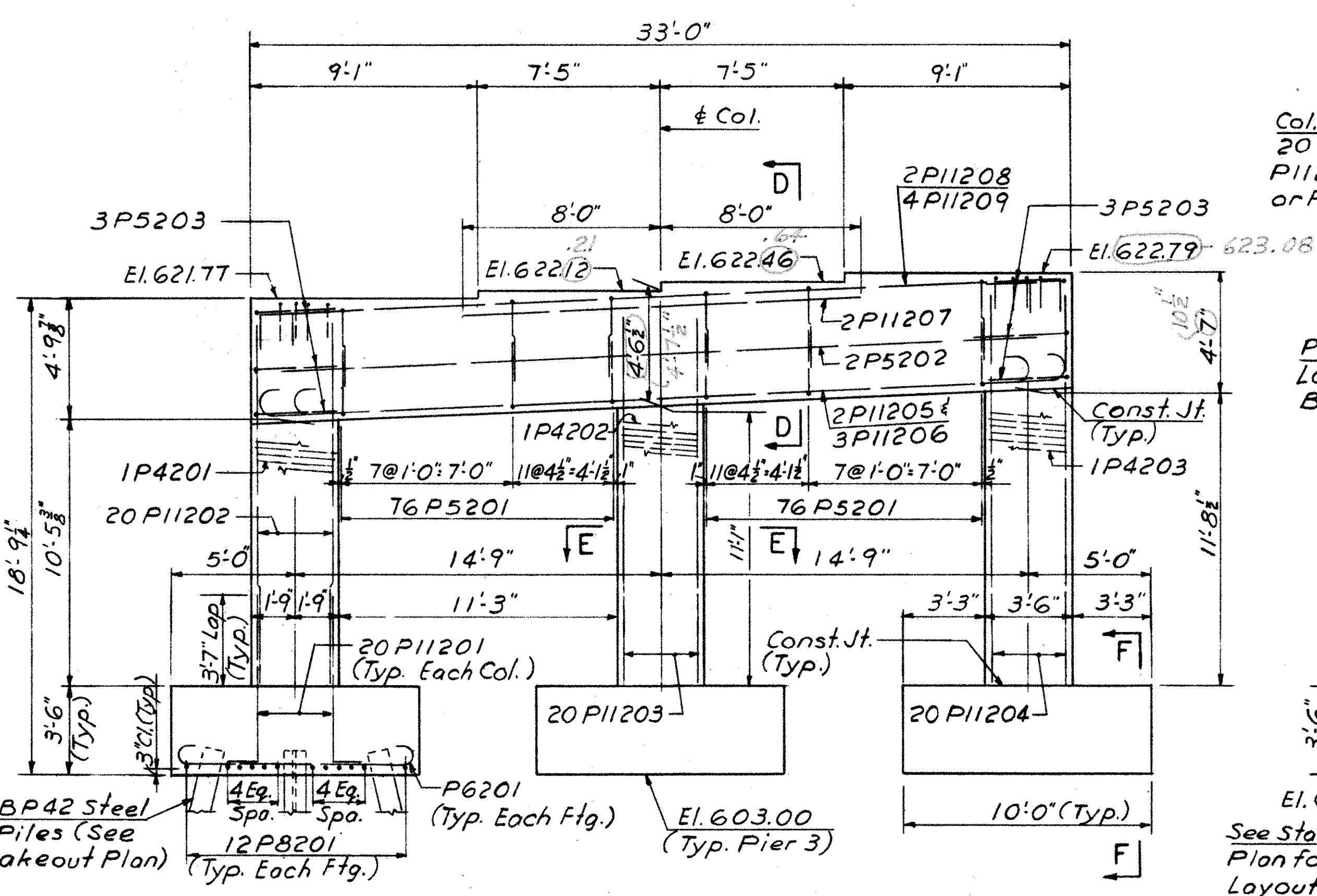
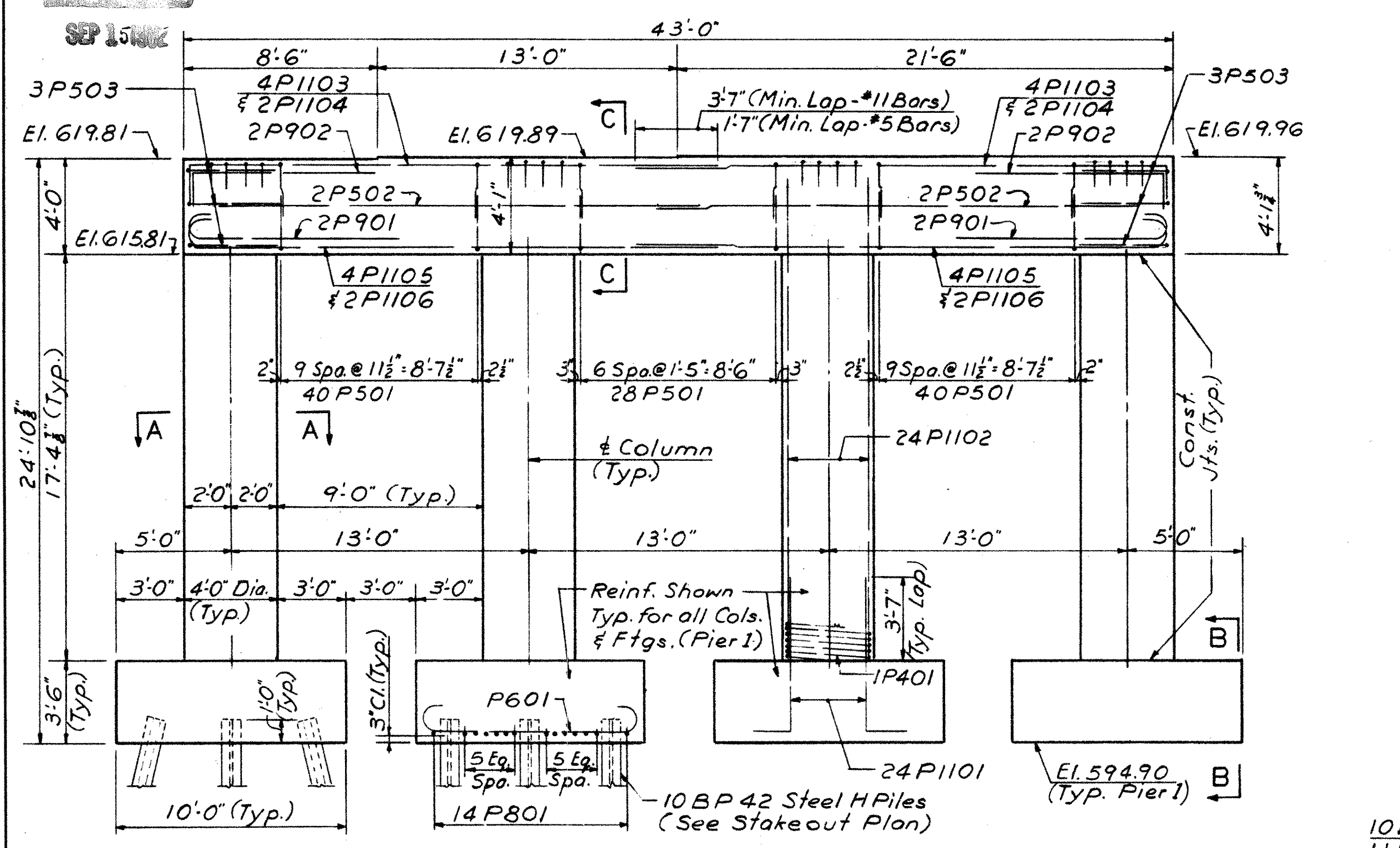
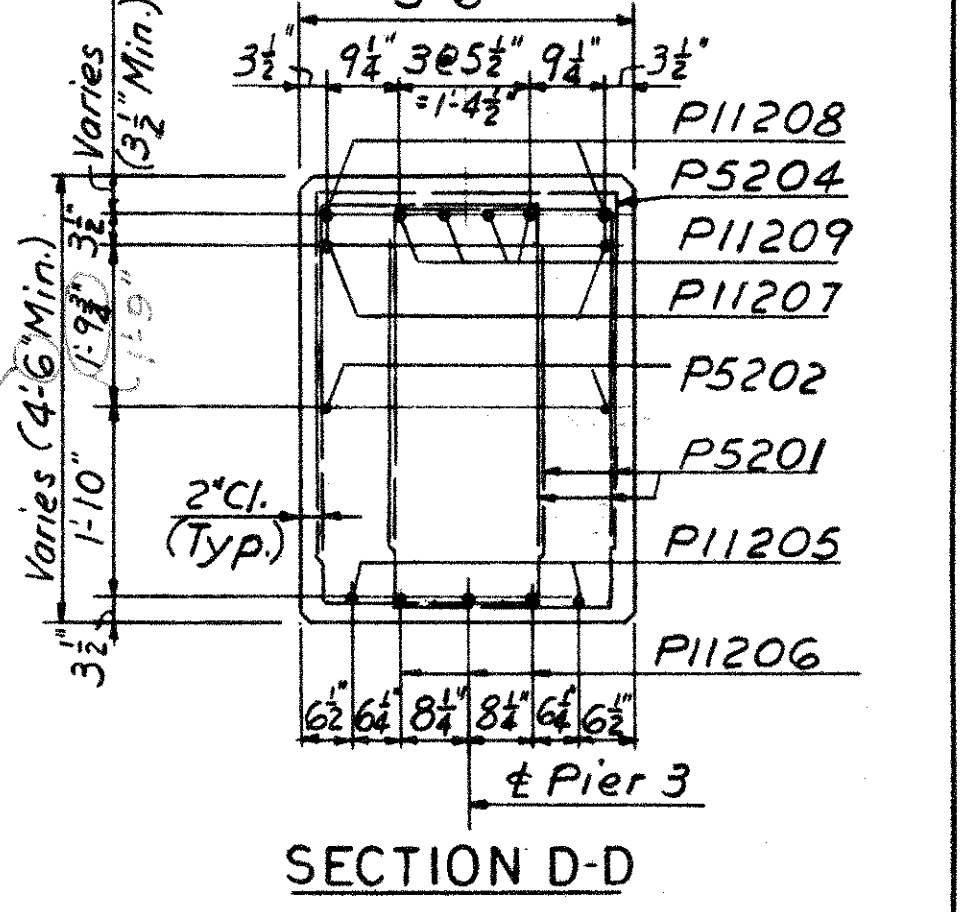
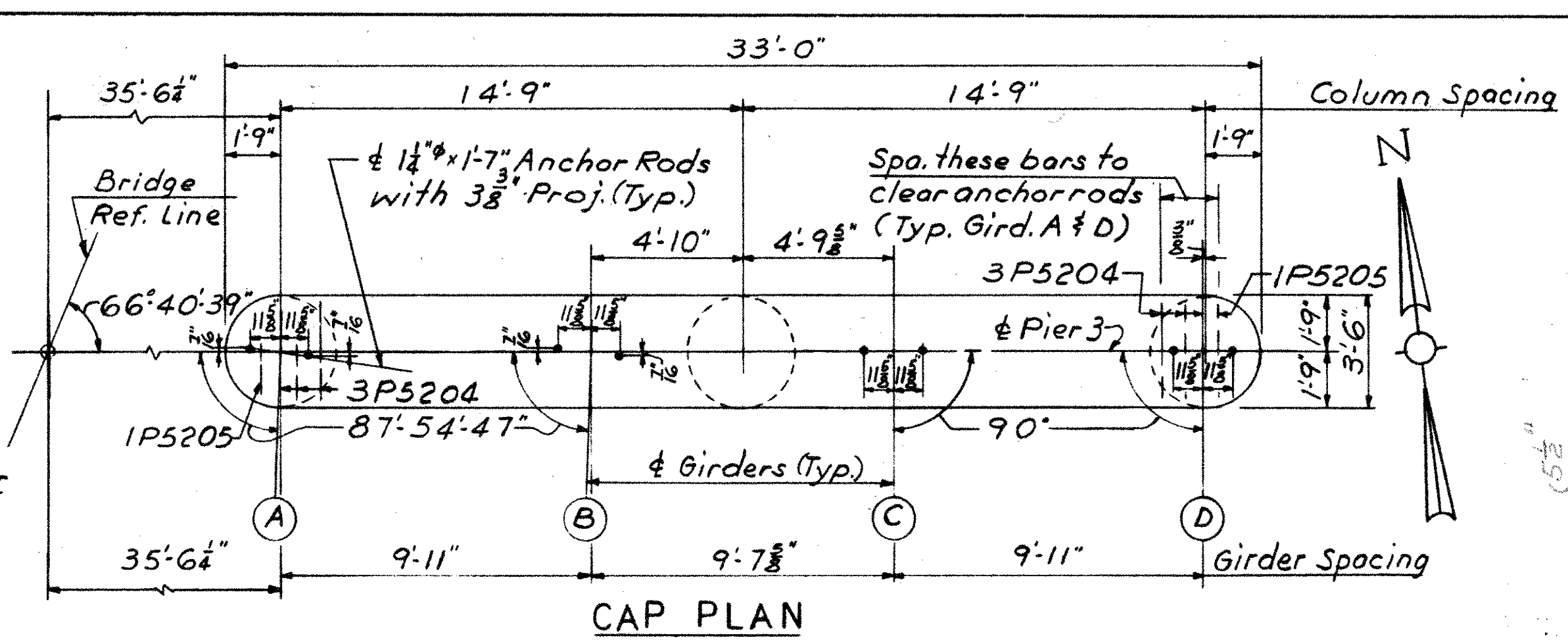
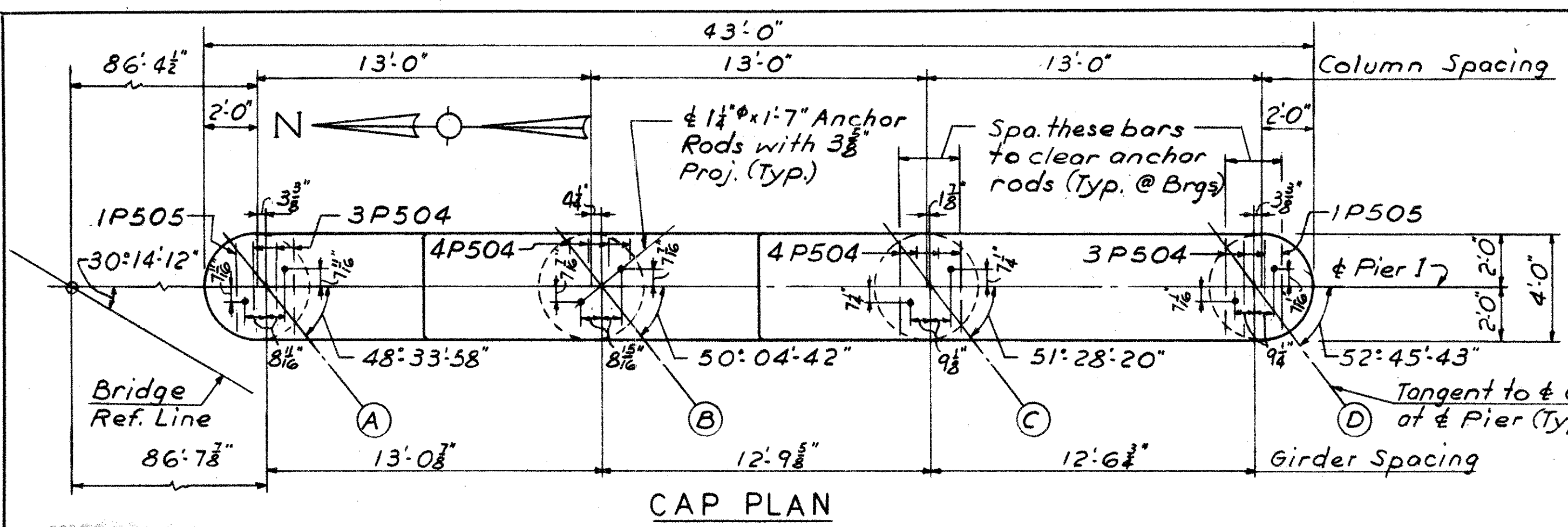


|   |        |        |         |                |
|---|--------|--------|---------|----------------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |        |        |         |                |
| <b>STAKE OUT PLAN</b>                                       |        |        |         |                |
| BRIDGE NO. HAM - 71-0211                                    |        |        |         |                |
| DESIGNED  | DRAWN  | TRACED | CHECKED | REVIEWED DATE  |
|   | M.V.S. |        | R.L.K.  | JWO<br>8-12-65 |





HAMILTON COUNTY  
HAM-71- 2.08



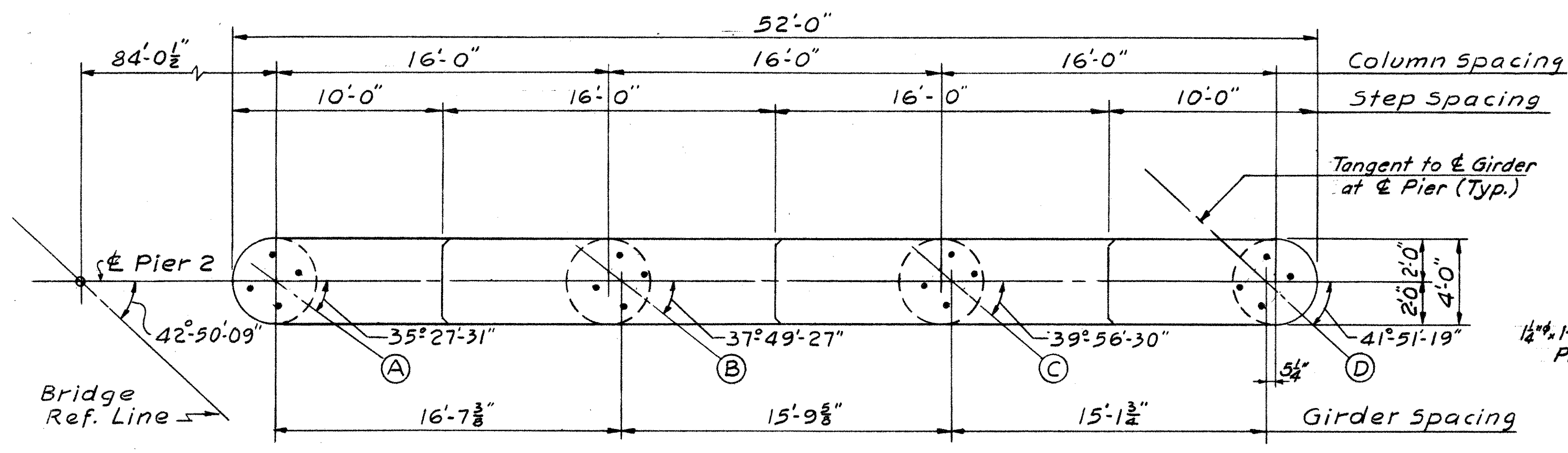
For location of 2" galv. metal conduit in Pier #1 see Sheet #189

Notes:  
Special care shall be taken in placing reinforcing steel in the vicinity of bridge seat so as to avoid interference with the drilling of anchor rod holes. Concrete in footing shall be Class "E" and concrete in columns and cap shall be Class "C".

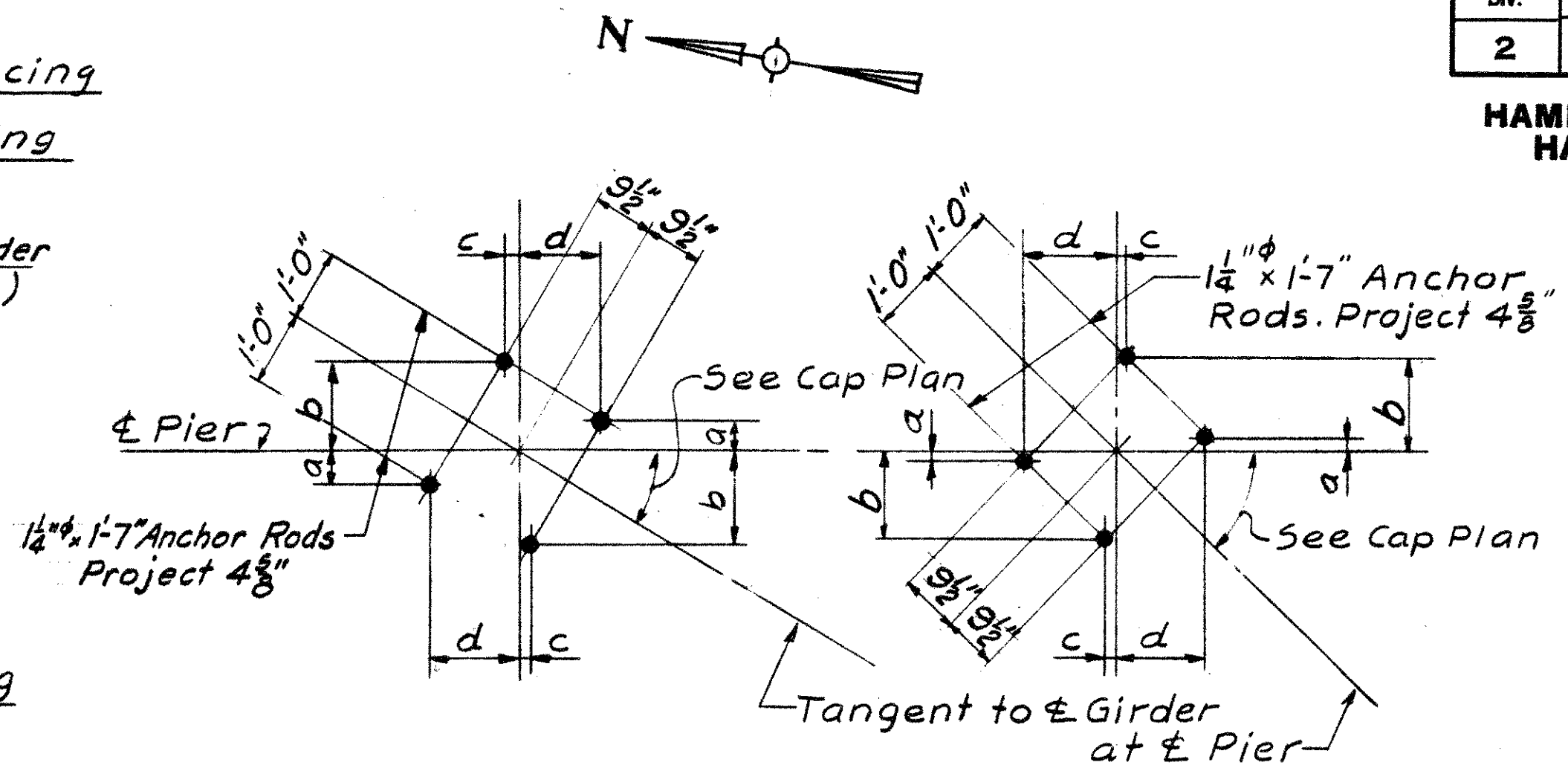
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CONSULTING ENGINEERS  
CINCINNATI, OHIO

**PIERS 1 & 3**  
BRIDGE NO. HAM - 71 - 0211

|          |       |        |         |                   |         |
|----------|-------|--------|---------|-------------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE     | REVISED |
| S.U.     | B.U.  |        | M.J.Z.  | J.H.O.<br>8-12-65 | 8-15-66 |



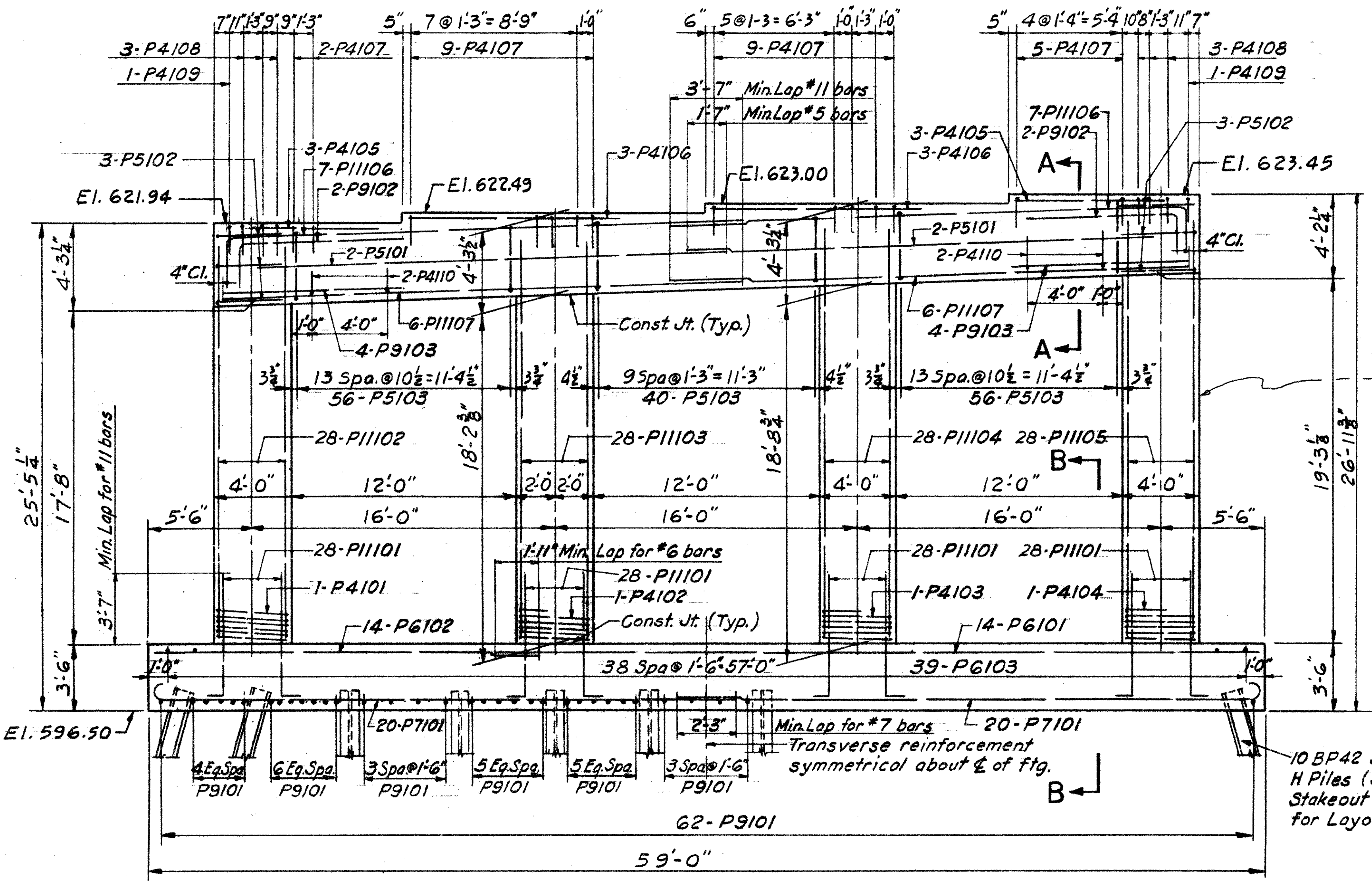
CAP PLAN



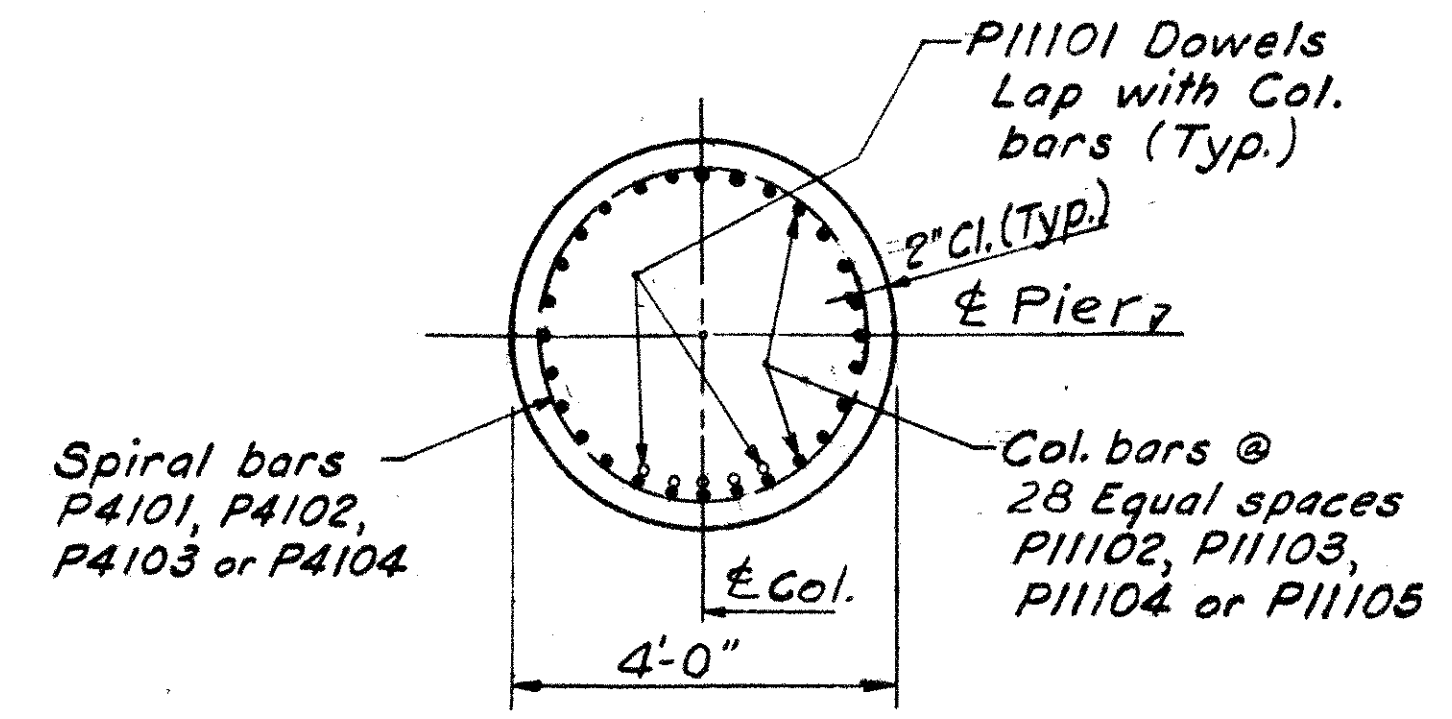
GIRDERS A & B GIRDERS C & D

ANCHOR ROD PLAN

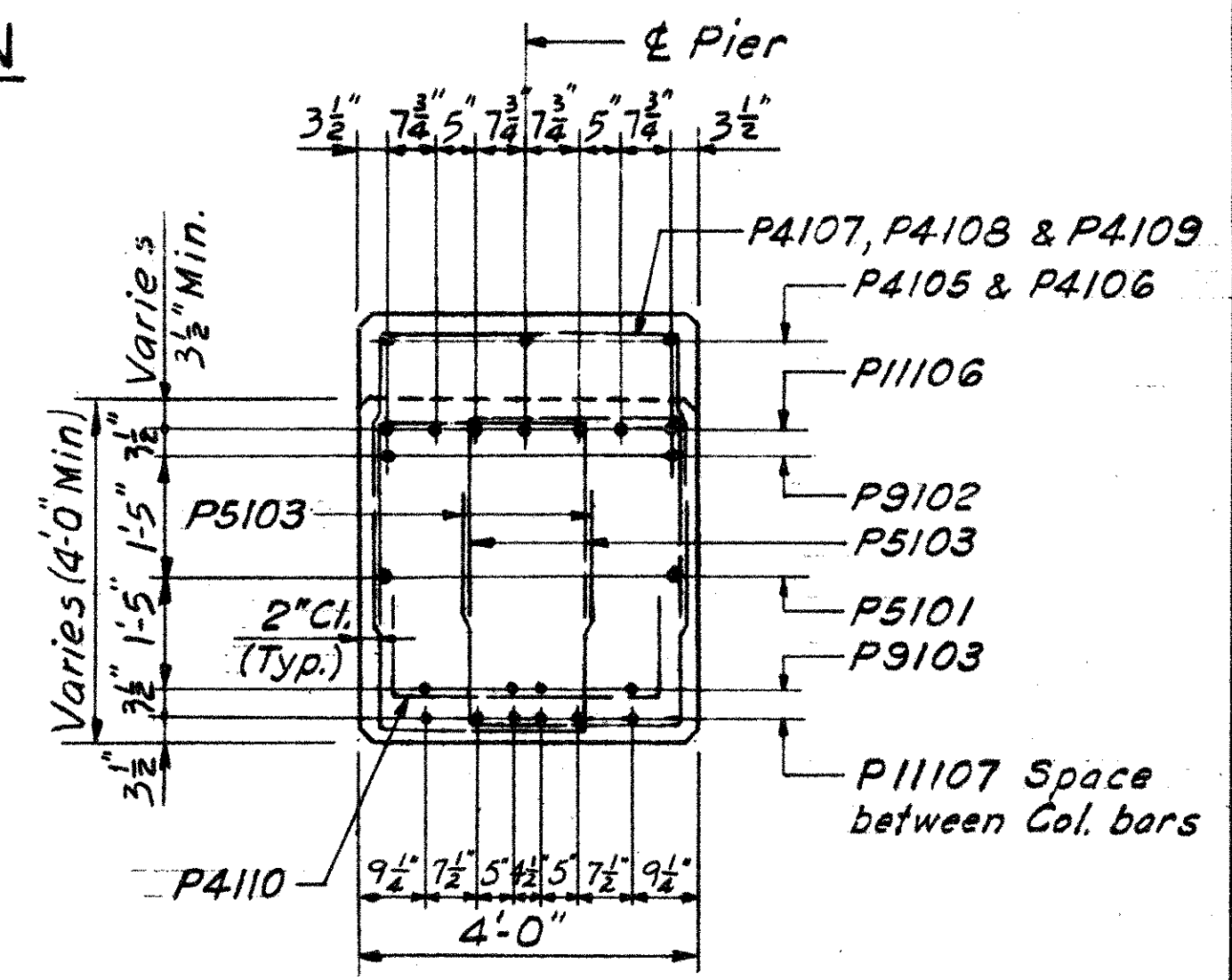
| ANCHOR ROD PLAN DIMENSIONS |        |           |         |            |
|----------------------------|--------|-----------|---------|------------|
| Girder                     | a      | b         | c       | d          |
| A                          | 4 1/4" | 1-3 5/16" | 3 1/4"  | 1-2 11/16" |
| B                          | 3 5/8" | 1-3 5/16" | 1 1/8"  | 1-2 3/8"   |
| C                          | 3 3/8" | 1-3 5/16" | 7/8"    | 1-3"       |
| D                          | 2 5/8" | 1-3 5/16" | 1 5/16" | 1-3 1/4"   |



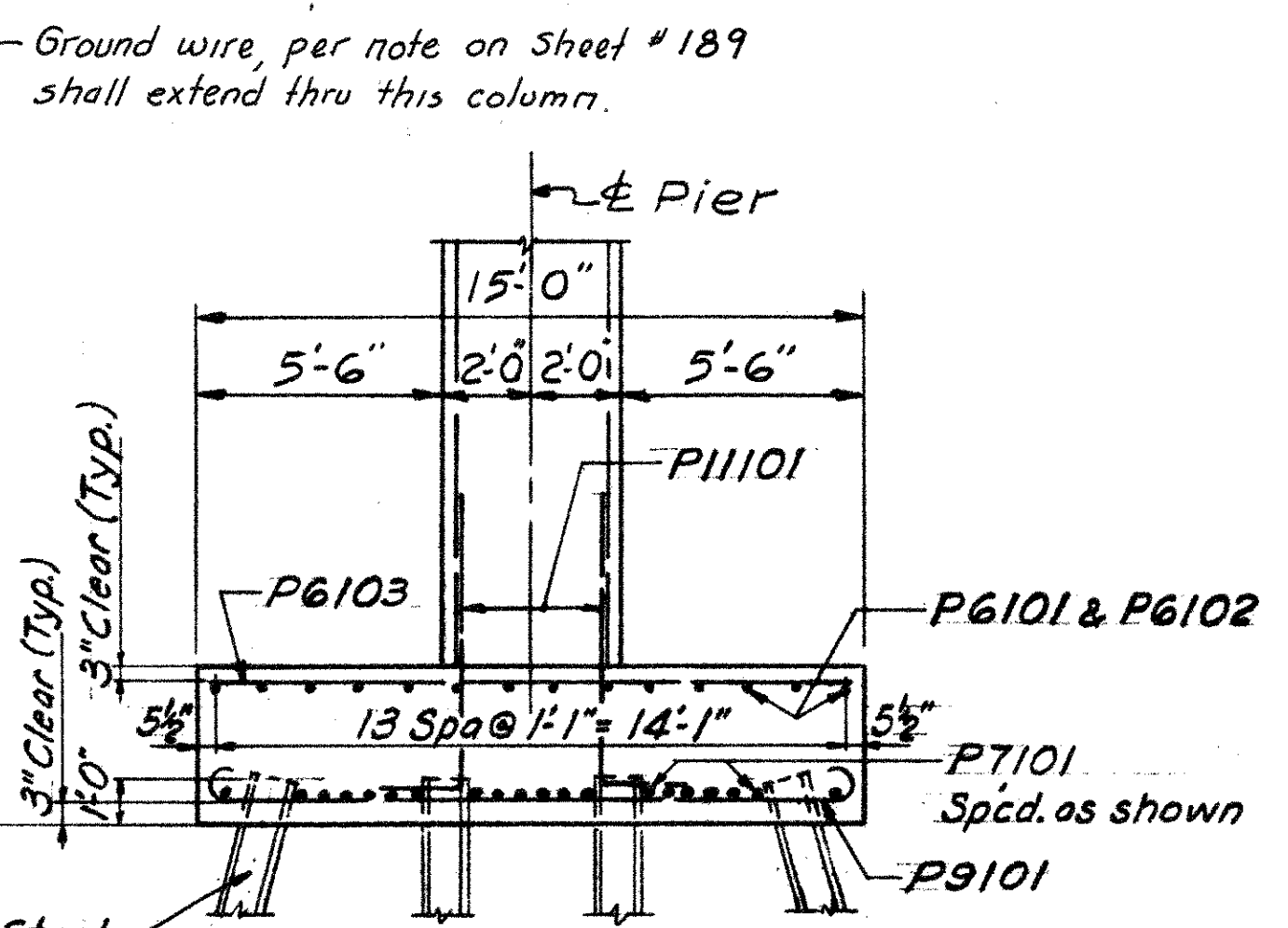
ELEVATION



TYPICAL COLUMN SECTION



SECTION A-A



SECTION B-B

**Notes:**  
Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the drilling of anchor rod holes.  
Concrete in footing shall be Class "E" and concrete in columns and cap shall be Class "C".

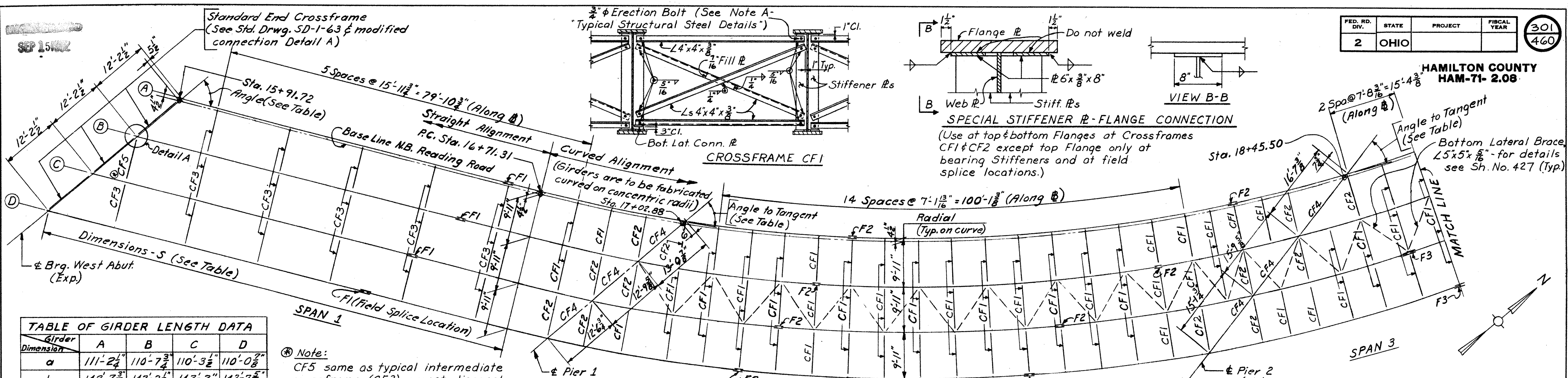
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CINCINNATI, OHIO

**PIER 2**  
BRIDGE NO. HAM - 71-0211

|          |       |        |                   |                |          |
|----------|-------|--------|-------------------|----------------|----------|
| DESIGNED | DRAWN | TRACED | CHECKED           | REVIEWED DATE  | REVIEWED |
| RLK      | RLK   |        | W.J.Z.<br>8-18-65 | Jtk<br>8/11/65 |          |

SEP 15 1962

HAMILTON COUNTY  
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**TABLE OF GIRDER LENGTH DATA**

| Girder Dimension | A           | B           | C           | D           |
|------------------|-------------|-------------|-------------|-------------|
| a                | 111'-2 1/4" | 110'-7 3/4" | 110'-3 1/2" | 110'-0 5/8" |
| b                | 142'-7 1/2" | 142'-2 5/8" | 142'-3"     | 142'-7 5/8" |
| c                | 92'-1 1/2"  | 108'-4 3/4" | 124'-0 5/8" | 139'-2 3/8" |
| d                | 91'-0 5/8"  | 91'-0 5/8"  | 90'-11 3/8" | 90'-11 3/8" |
| e                | 71'-10 3/8" | 71'-0 1/4"  | 70'-1 1/8"  | 69'-3 1/2"  |
| f                | 39'-3 3/8"  | 39'-7 1/2"  | 40'-1 3/8"  | 40'-9 3/8"  |
| g                | 35'-8 1/2"  | 38'-0 3/8"  | 39'-10 3/8" | 41'-0 1/2"  |
| h                | 82'-0 5/8"  | 73'-8"      | 60'-8 3/8"  | 62'-5 7/8"  |
| k                | 24'-11"     | 30'-5 5/8"  | 41'-8"      | 39'-1 1/4"  |
| m                | 38'-3 3/8"  | 45'-1 1/8"  | 34'-6 1/2"  | 55'-6 3/8"  |
| n                | 53'-9 3/8"  | 63'-2 3/8"  | 65'-2 3/8"  | 50'-4 1/4"  |
| p                |             |             | 24'-3 1/2"  | 33'-3 1/2"  |
| q                | 26'-6"      | 26'-6"      | 26'-6"      | 26'-6"      |
| r                | 64'-6 3/8"  | 64'-6 3/8"  | 64'-5 3/8"  | 64'-5 3/8"  |
| s                | 79'-3 3/8"  | 86'-5 3/8"  | 93'-6 3/8"  | 100'-8 1/4" |

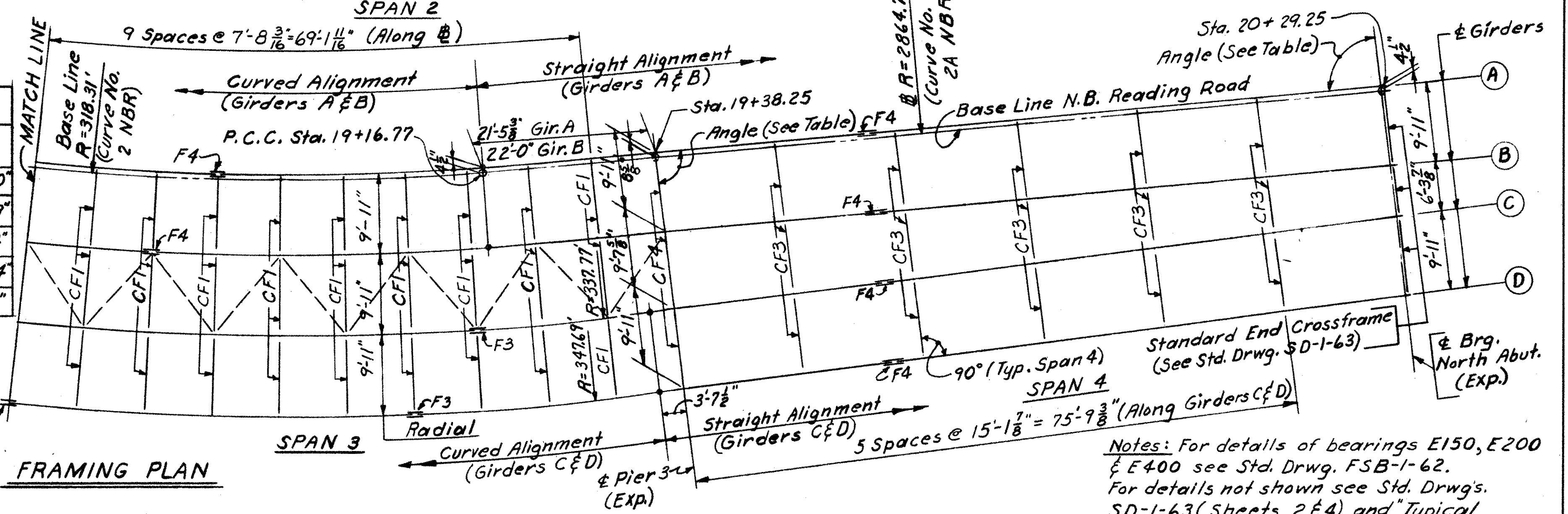
Note: CF5 same as typical intermediate crossframe (CF3) except diagonal angles framed as detailed for CF2

**TABLE OF GIRDER ANGLES**

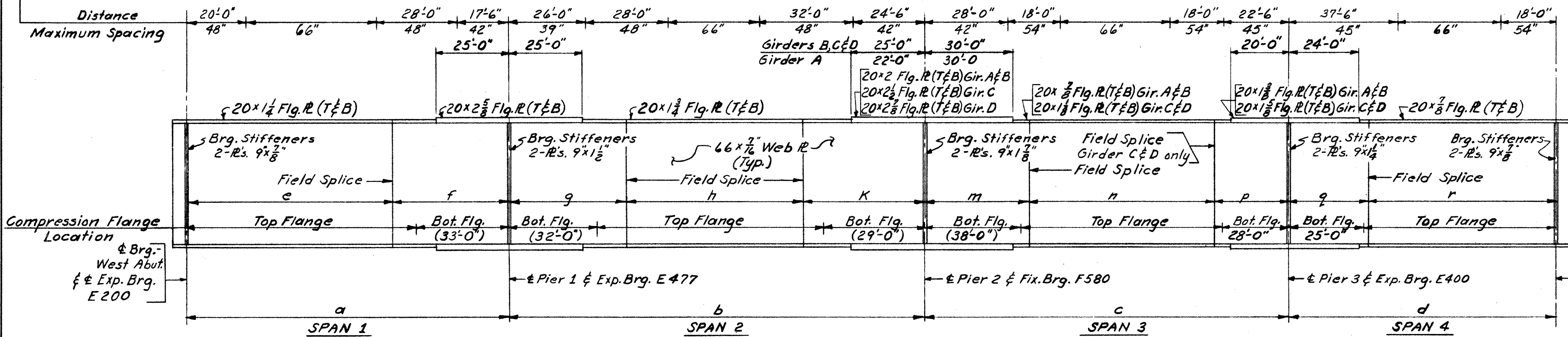
| Acute Angle - See Framing Plan | Girder A    | Girder B    | Girder C    | Girder D    | Base Line   |
|--------------------------------|-------------|-------------|-------------|-------------|-------------|
| West Abut.                     | 54°-18'-30" | 54°-18'-30" | 54°-18'-30" | 54°-18'-30" | 54°-18'-30" |
| Pier 1                         | 48°-33'-58" | 50°-04'-42" | 51°-28'-20" | 52°-45'-43" | 48°-37'-29" |
| Pier 2                         | 35°-27'-31" | 37°-49'-27" | 39°-56'-30" | 41°-51'-19" | 35°-33'-14" |
| Pier 3                         | 87°-54'-47" | 87°-54'-47" | 90°-00'-00" | 90°-00'-00" | 87°-13'-04" |
| North Abut.                    | 87°-54'-47" | 87°-54'-47" | 90°-00'-00" | 90°-00'-00" | 89°-02'-16" |

Erection Note: Girders to be plumb and in correct horizontal position before crossframes and bracing are welded. Complete all welding before placing concrete deck.

Intermediate stiffener spacing - typical all girders. Use 7x 1/2 R.s. in pairs throughout except as modified at Field splice locations.



Notes: For details of bearings E150, E200 & E400 see Std. Drwg. FSB-1-62. For details not shown see Std. Drwg. SD-1-63 (Sheets 2 & 4) and "Typical Structural Steel Details". For Inlet framing details see Drainage Details. Expansion joint openings shown on details are for normal temp. of 70°F. On horizontally curved girders, the deviation from the indicated alignment shall not exceed the allowance set by formula in Section 513.05 of the Standard Specifications. CF3 (spans 1 & 4) same as typical intermediate crossframe shown on Sh. No. 427



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CINCINNATI, OHIO

**STRUCTURAL STEEL DETAILS**  
BRIDGE NO. HAM - 71-0211

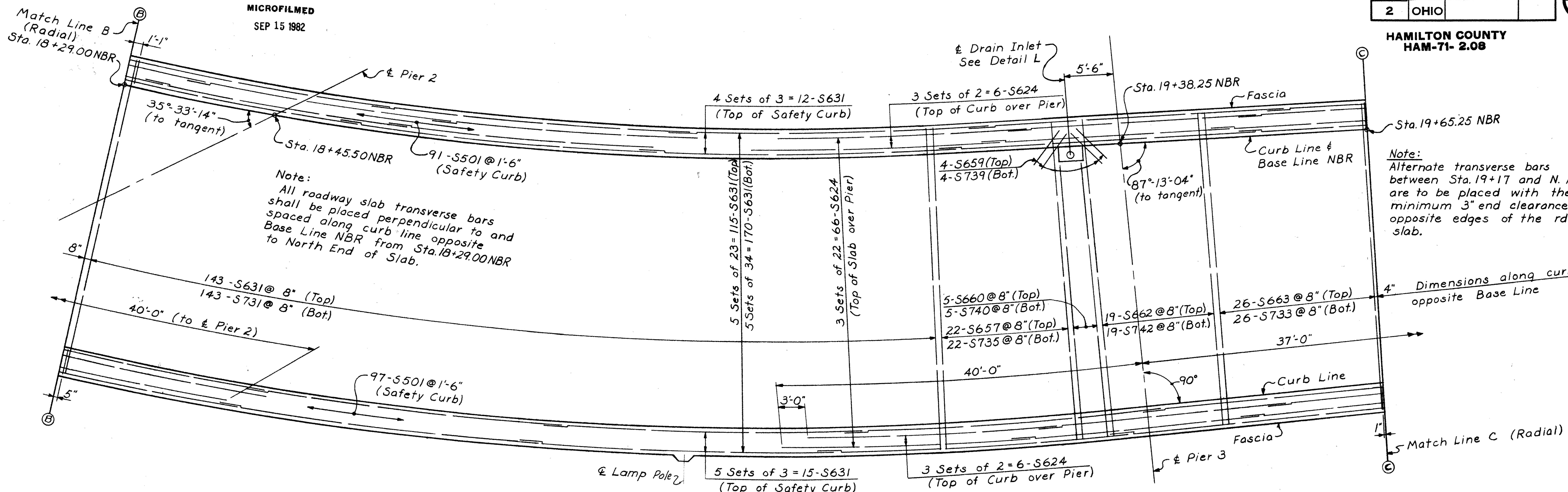
|          |        |        |         |               |
|----------|--------|--------|---------|---------------|
| DESIGNED | DRAWN  | TRACED | CHECKED | REVIEWED DATE |
| W.J.Z.   | H.W.T. |        | W.J.Z.  | 8-12-62       |







**HAMILTON COUNTY  
HAM-71- 2.08**

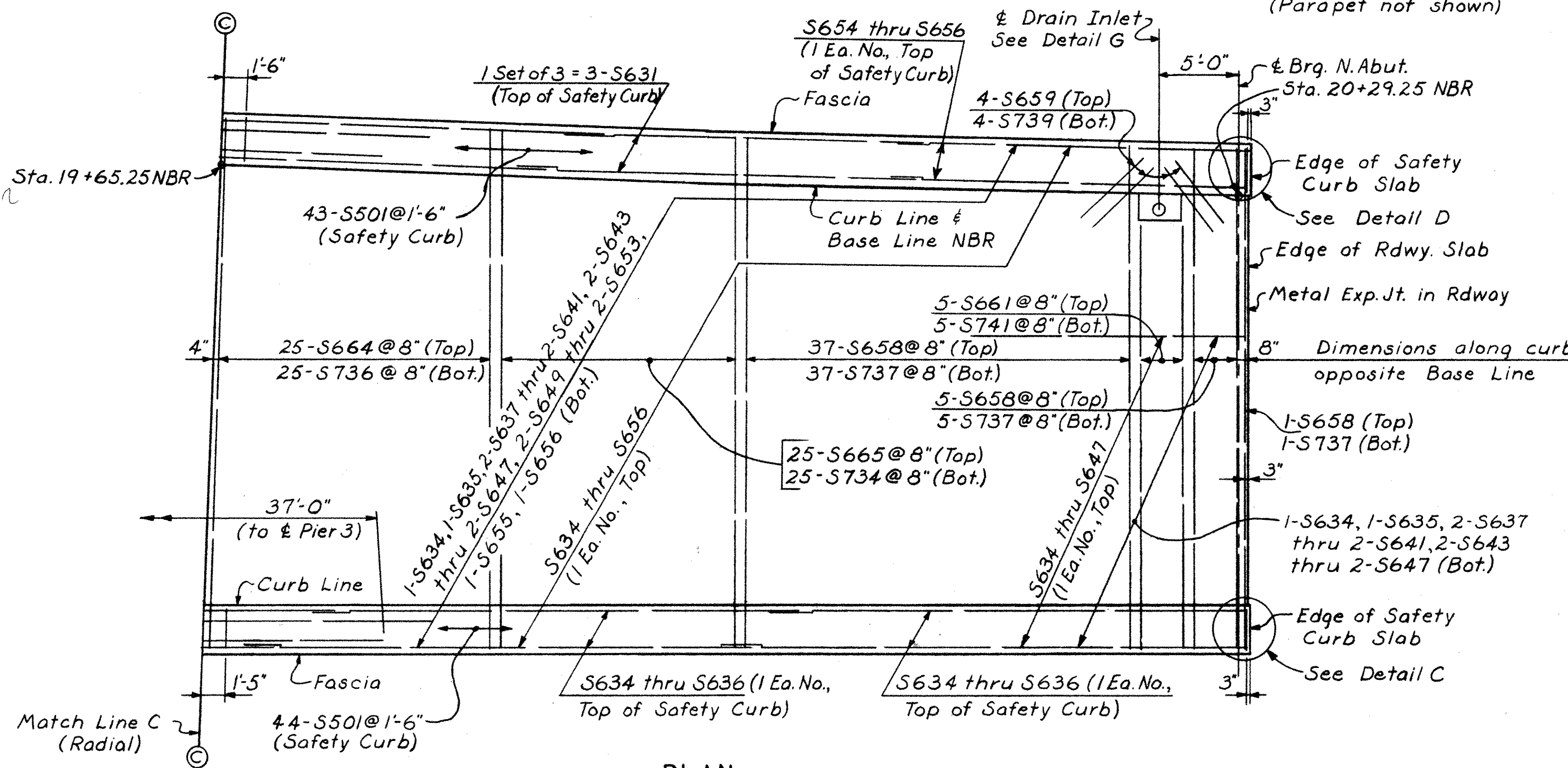


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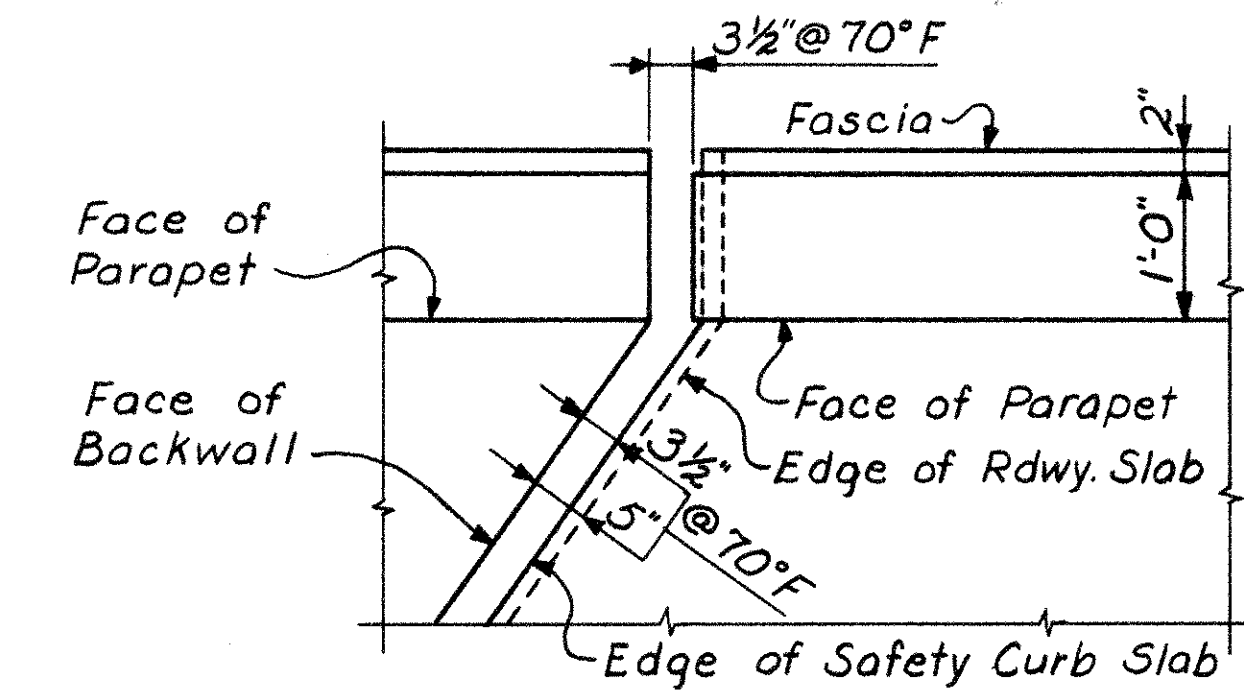
Note:  
All roadway slab transverse bars shall be placed perpendicular to and spaced along curb line opposite Base Line NBR from Sta. 18+29.00NBR to North End of Slab.

Note:  
Alternate transverse bars between Sta. 19+17 and N. Abut. are to be placed with the minimum 3" end clearance at opposite edges of the rdwy. slab.

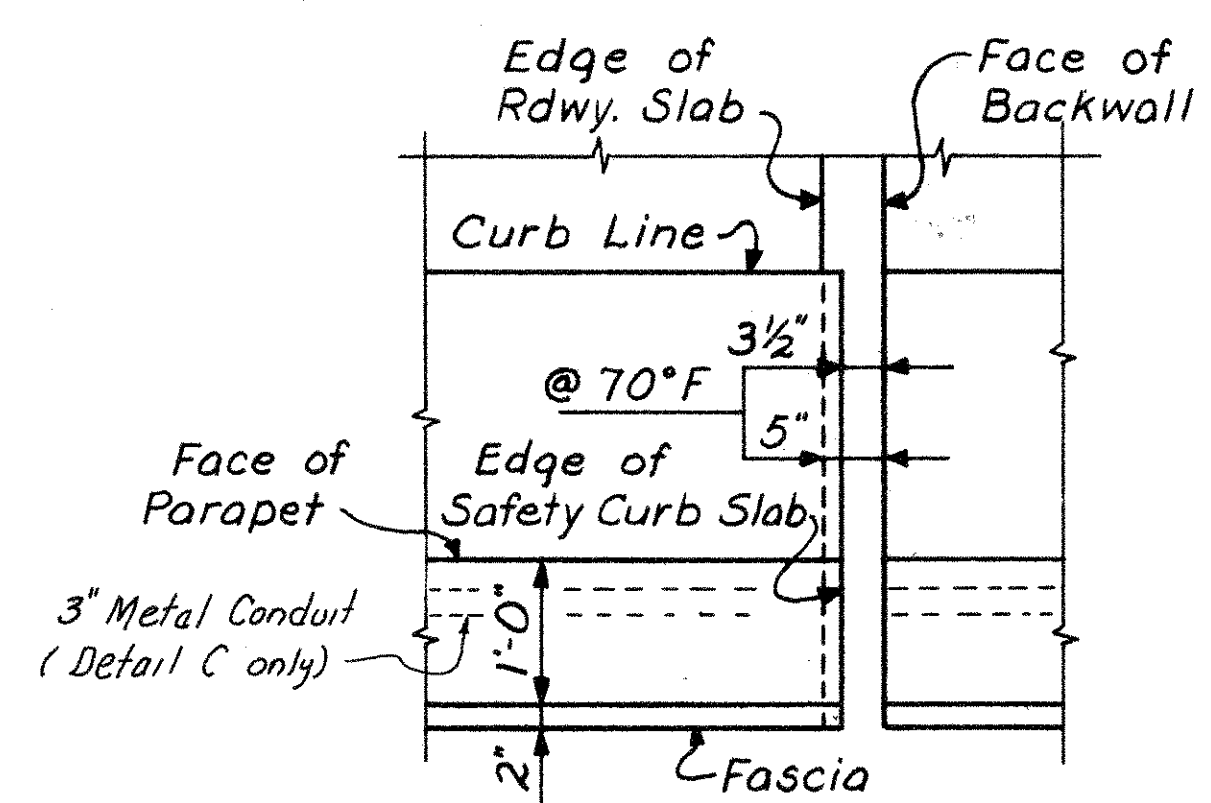
**PLAN**  
(Parapet not shown)



**PLAN**  
(Parapet not shown)



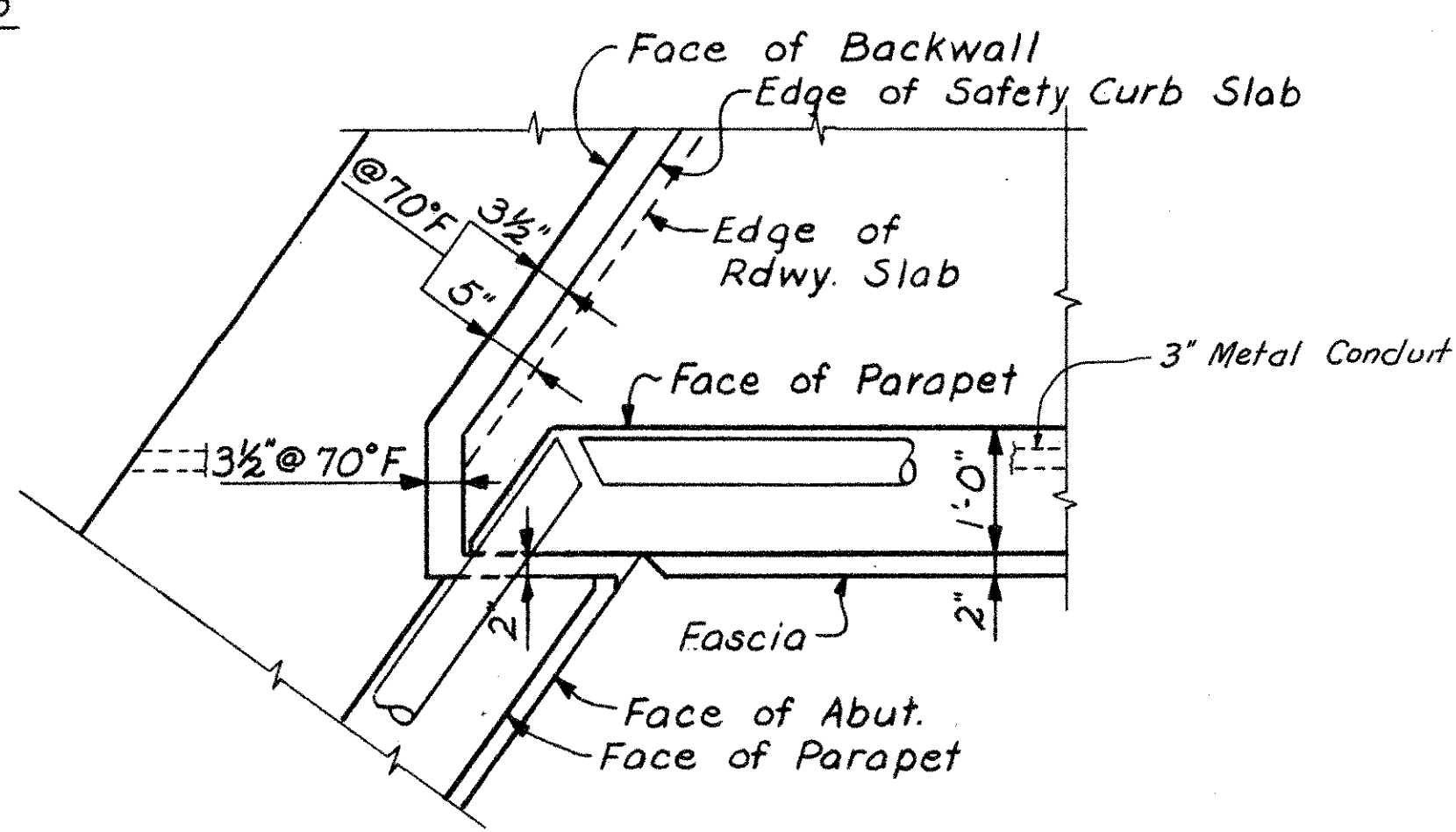
**DETAIL B**



**DETAIL C**

(Detail D similar, but opp. hand)

NOTE: For detail of conduit thru exp. opening See Sh. No. 189



**DETAIL A**

Work this sheet with Sheets 303 & 305

|   |              |        |                           |                                |         |
|---|--------------|--------|---------------------------|--------------------------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |              |        |                           |                                |         |
| <b>SUPERSTRUCTURE DETAILS</b>                               |              |        |                           |                                |         |
| BRIDGE NO. HAM - 71-0211                                    |              |        |                           |                                |         |
| DESIGNED<br>AFS   | DRAWN<br>AFS | TRACED | CHECKED<br>WFB<br>8-18-65 | REVIEWED DATE<br>JH<br>8/11/65 | REVISED |

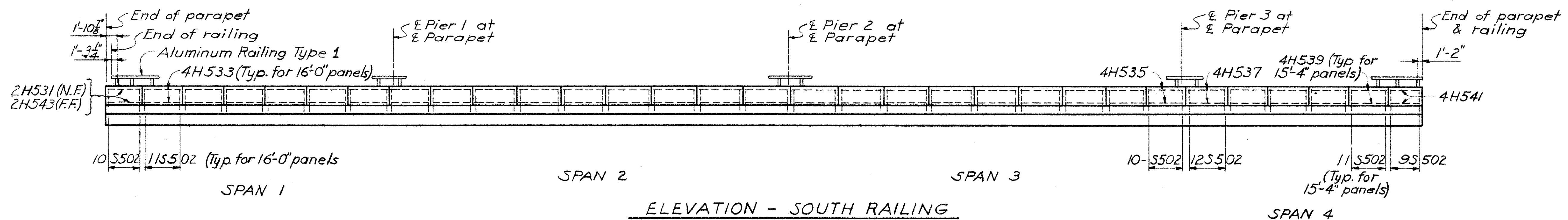
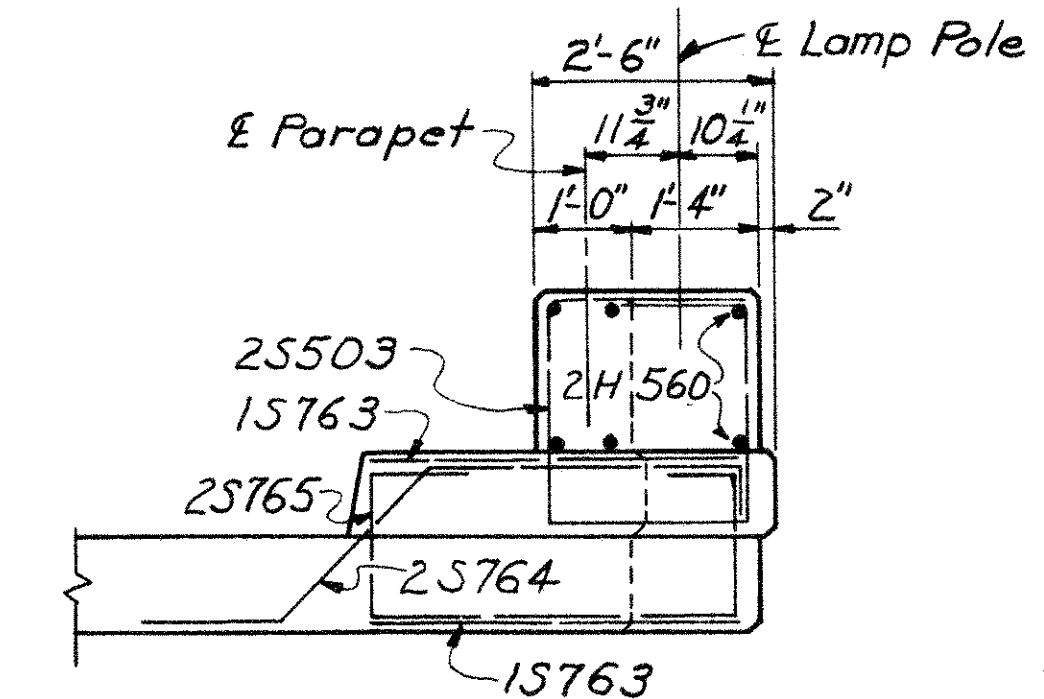
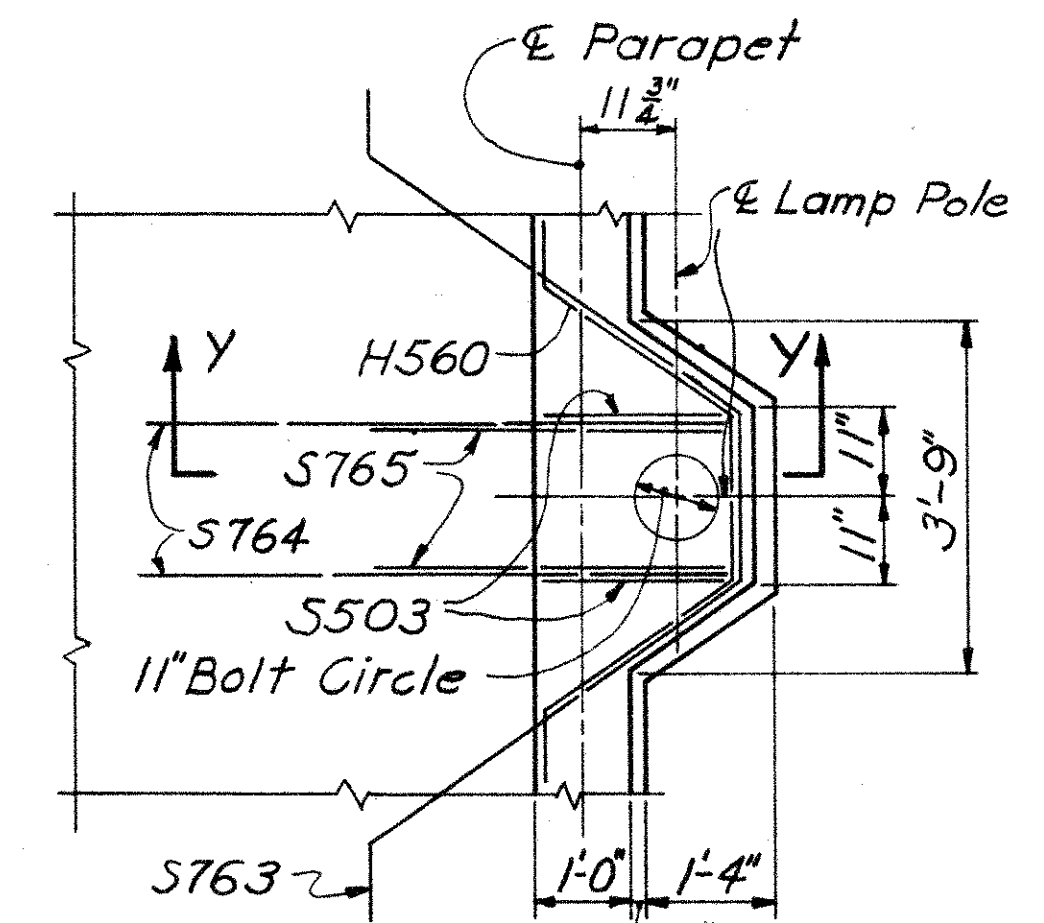
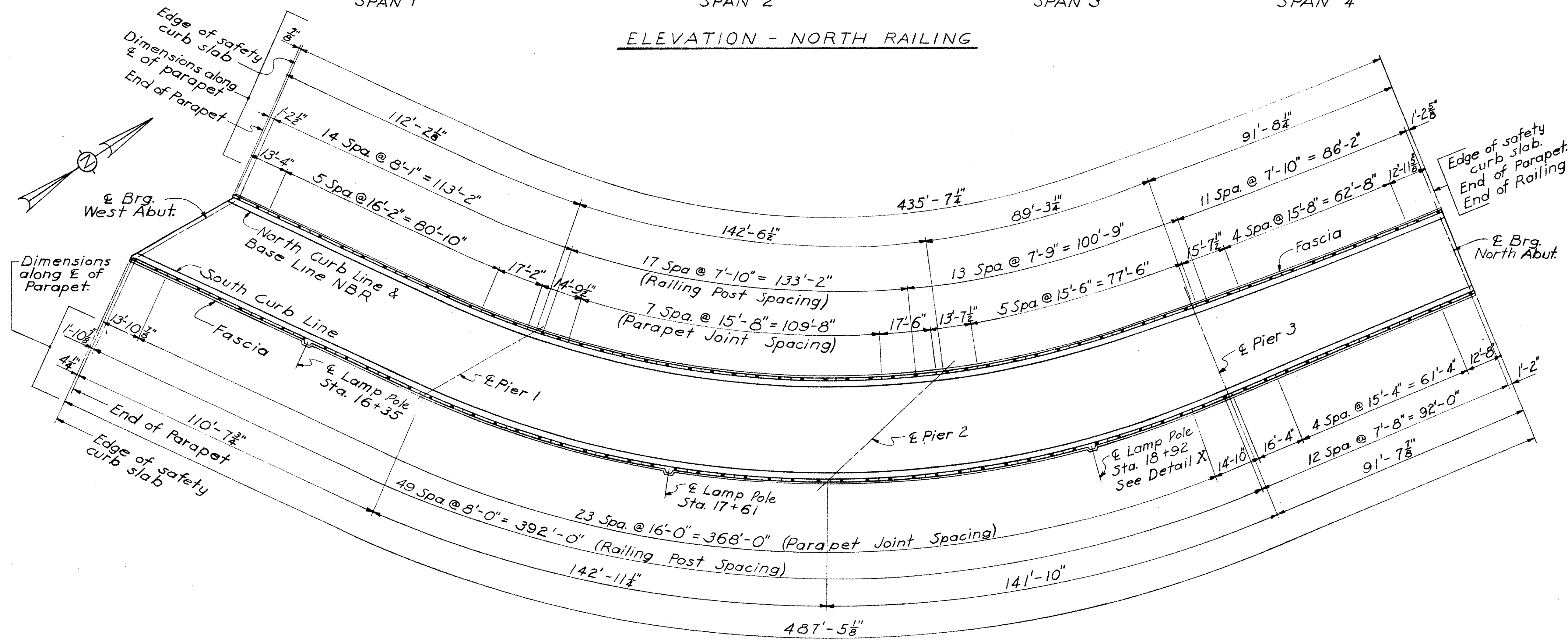
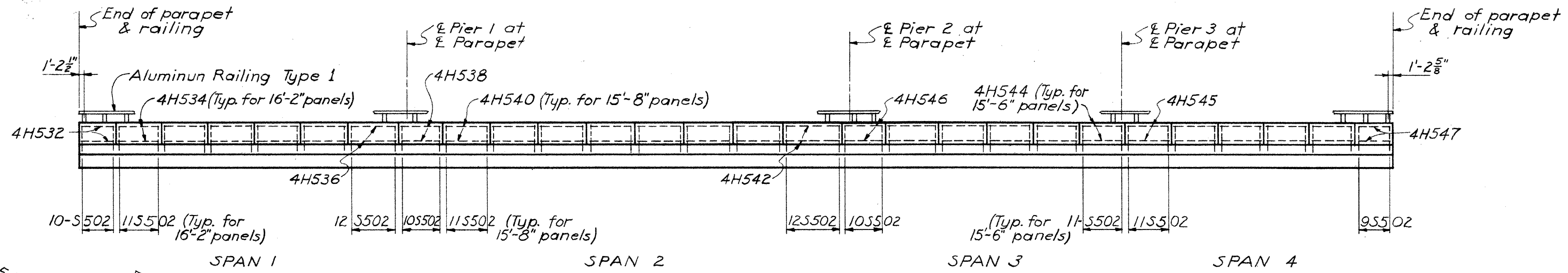


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| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
|---------------|-------|---------|-------------|
| 2             | OHIO  |         |             |

306  
460

HAMILTON COUNTY  
HAM-71-2.08



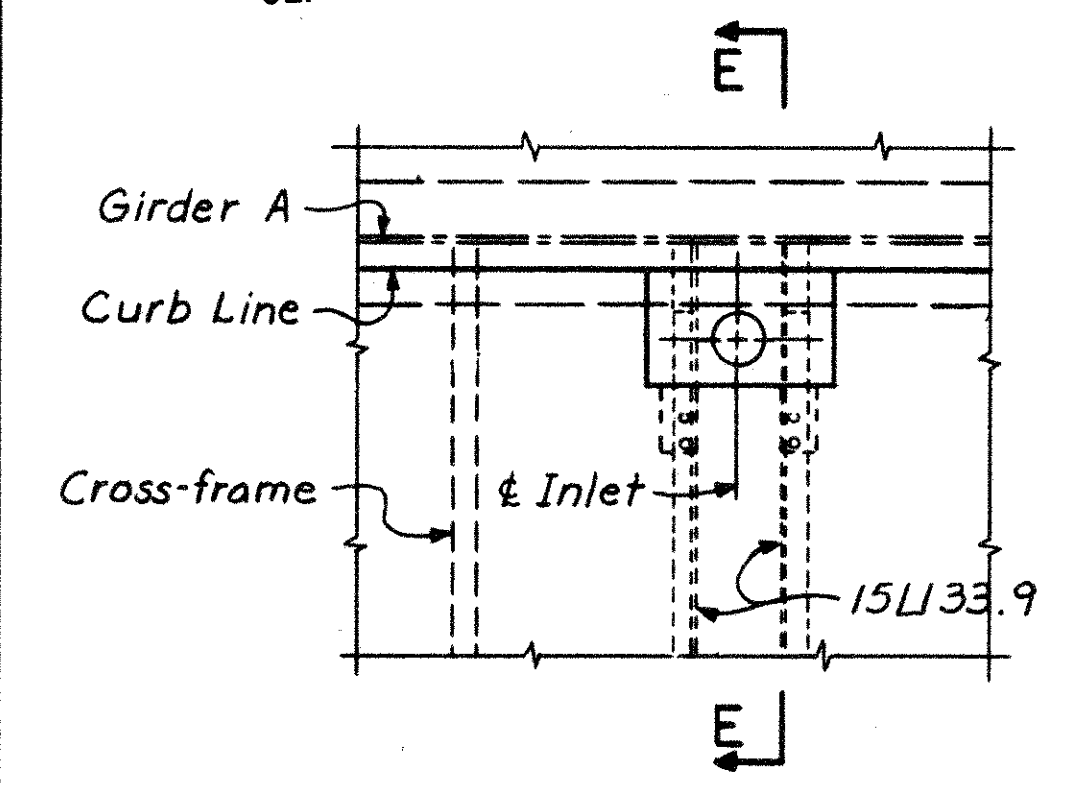
NOTES:  
For railing and parapet details not shown, see Std. Drwg. BR-1-65.

Aluminum railing shall be bent to the curvature of the & of parapet.

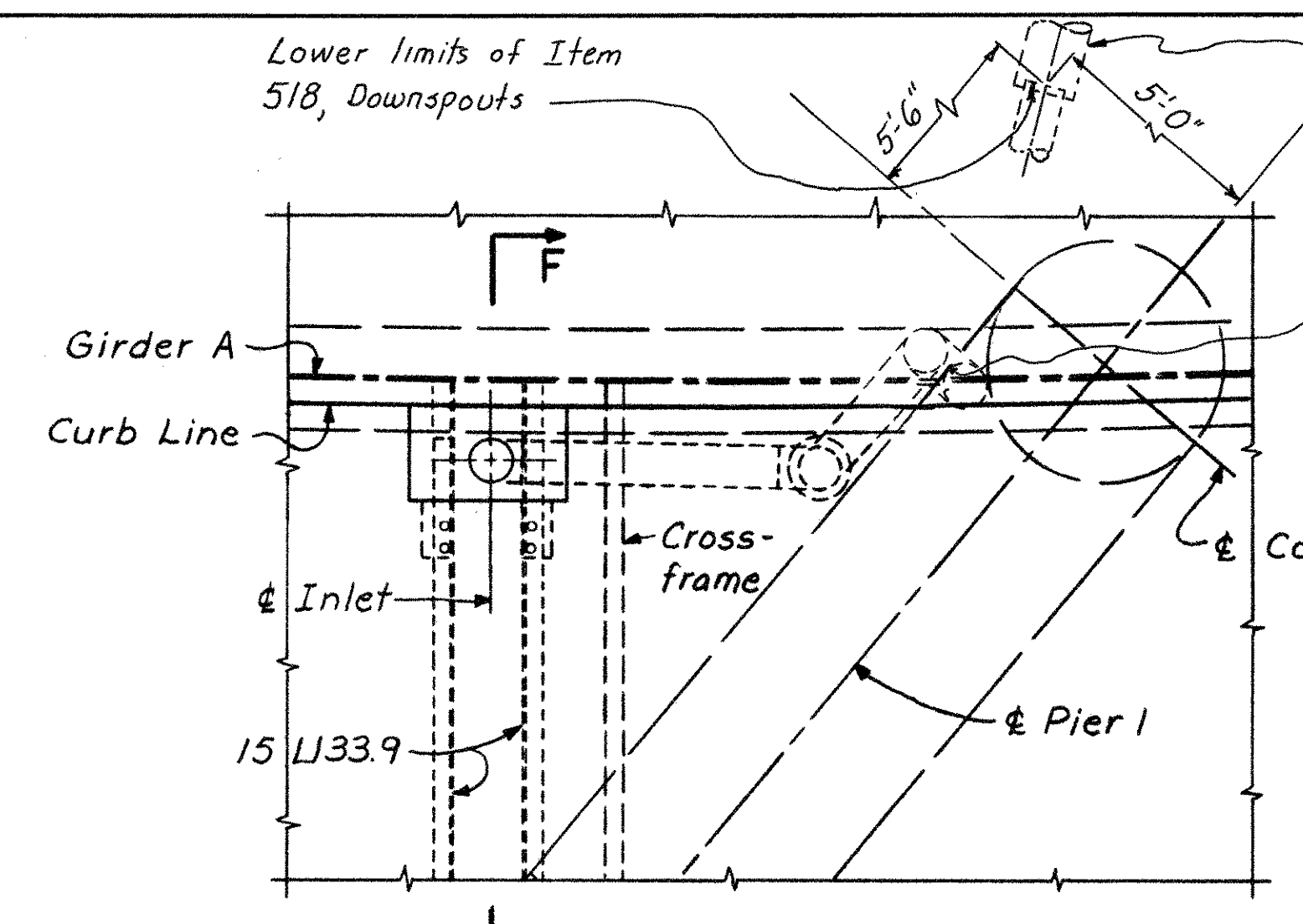
Work this sheet with sheets 303 & 304

|   |       |        |                |                |         |
|---|-------|--------|----------------|----------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |       |        |                |                |         |
| <b>RAILING DETAILS</b>                                      |       |        |                |                |         |
| BRIDGE NO. HAM-71-0211                                      |       |        |                |                |         |
| DESIGNED  | DRAWN | TRACED | CHECKED        | REVIEWED DATE  | REVISED |
|   | DLO   |        | WFB<br>8-12-65 | JWO<br>8/11/65 |         |

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SEP 15 1982



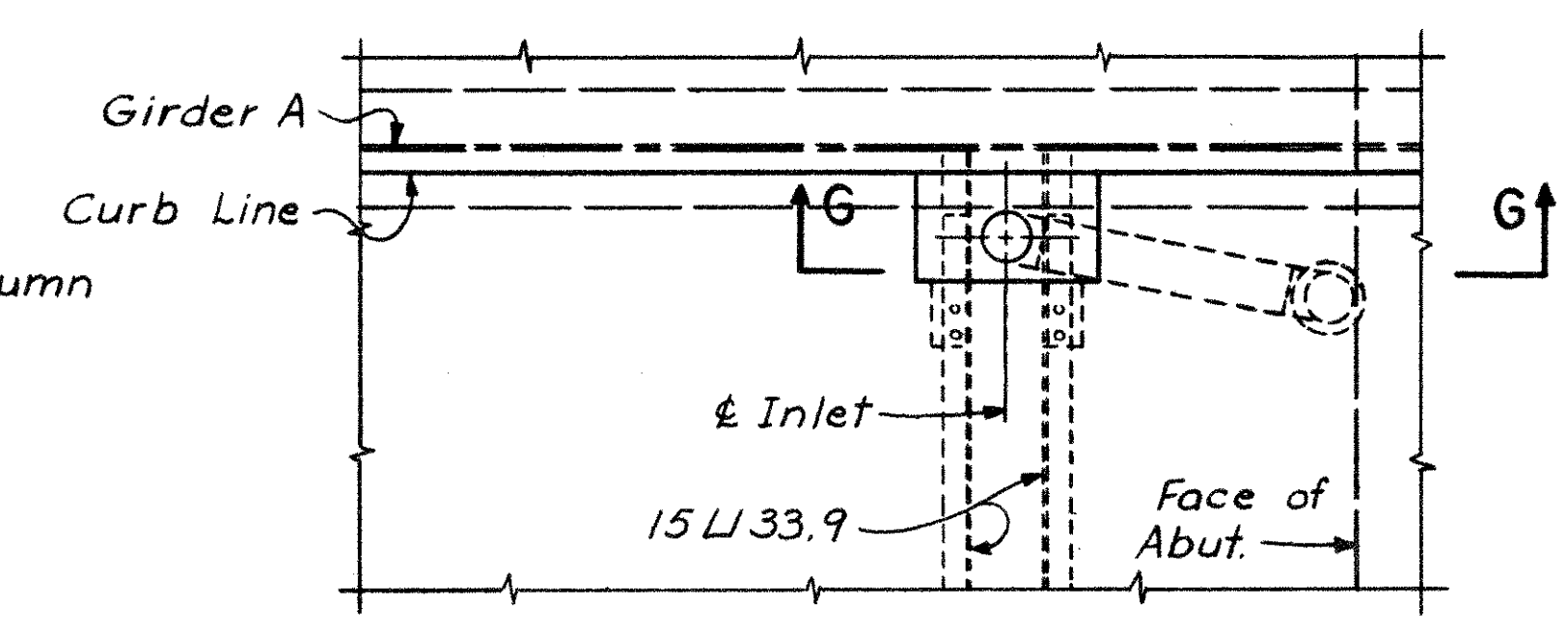
**DETAIL E**  
(West Abutment)



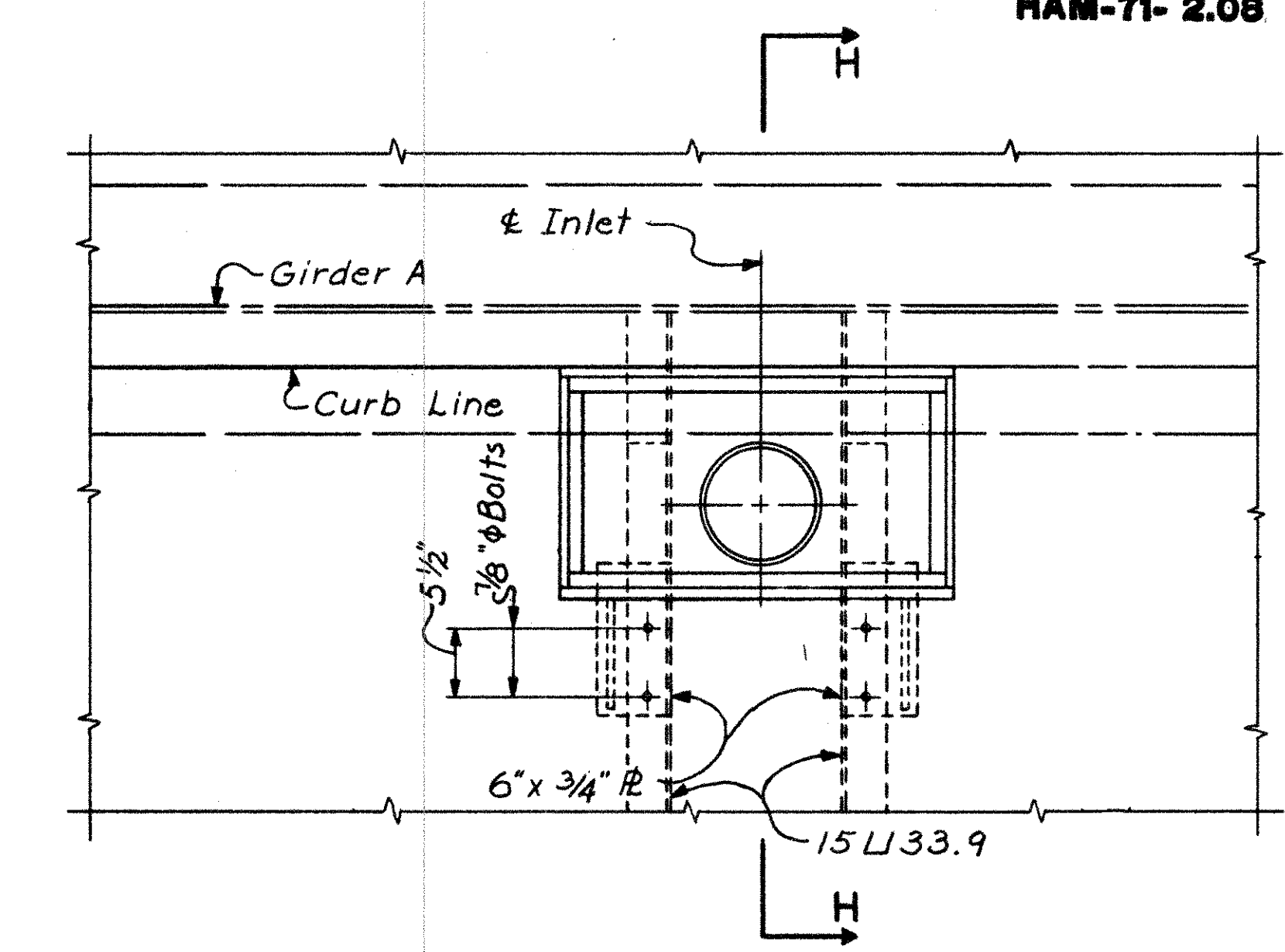
**DETAIL F**  
(Pier 1)

12" P.S. Included in Roadway  
Quantities for payment

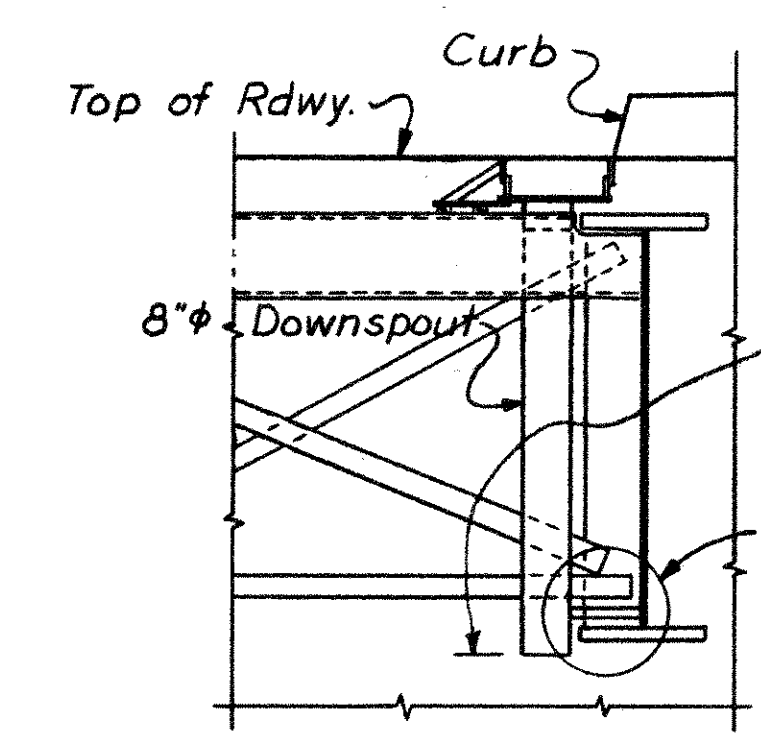
NOTE: Locate pipe below bottom of cap  
so that pipe does not project outside  
of cap line.



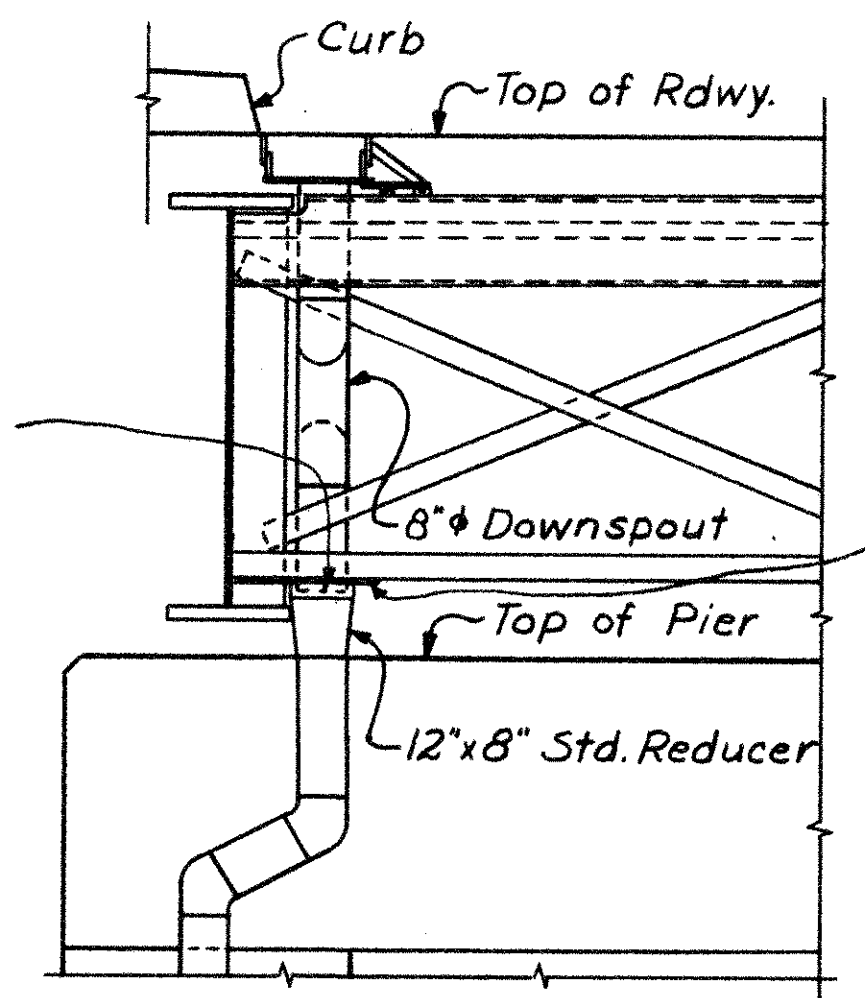
**DETAIL G**  
(North Abutment)



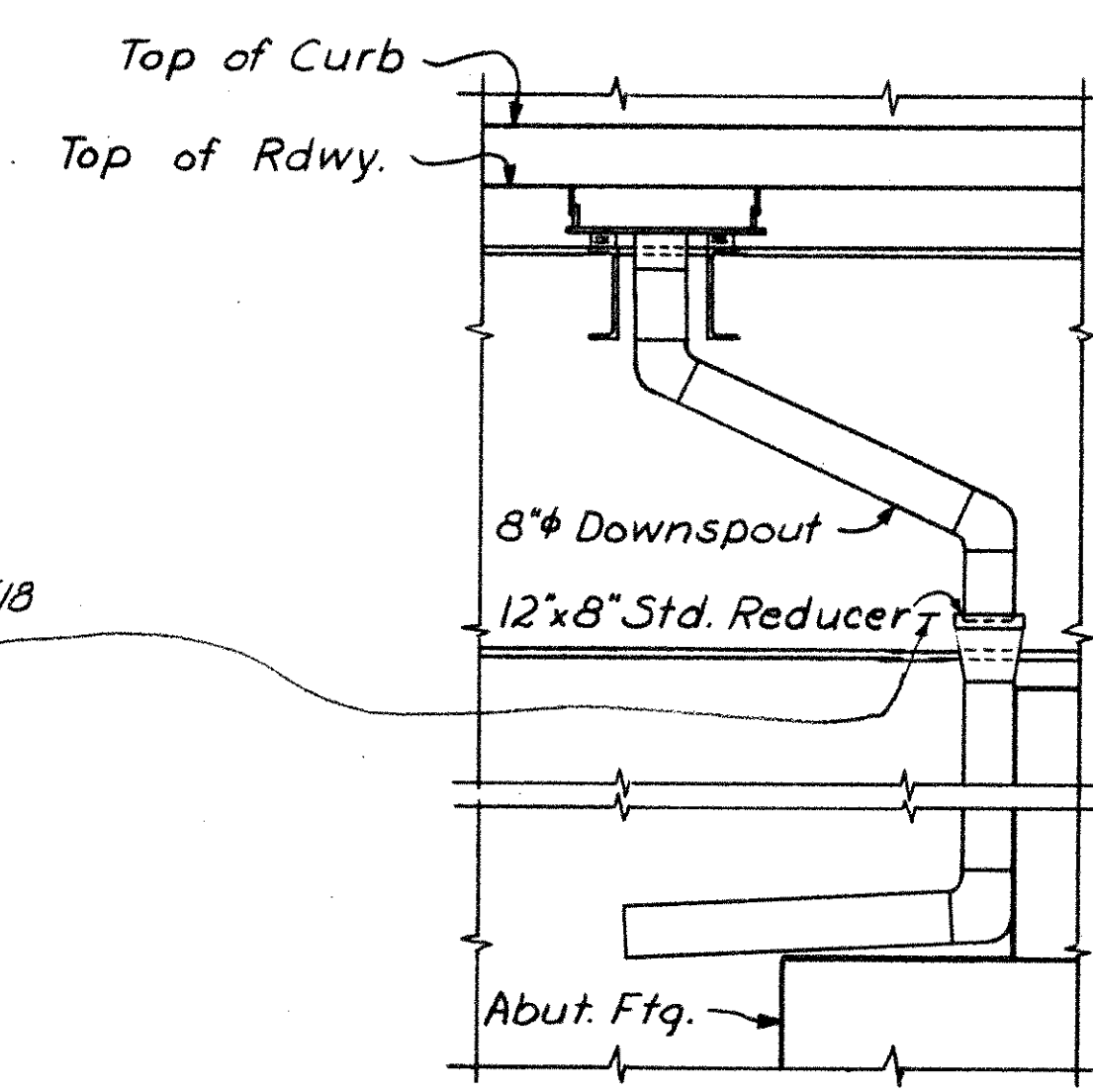
**TYPICAL DRAIN INLET SUPPORT DETAILS**



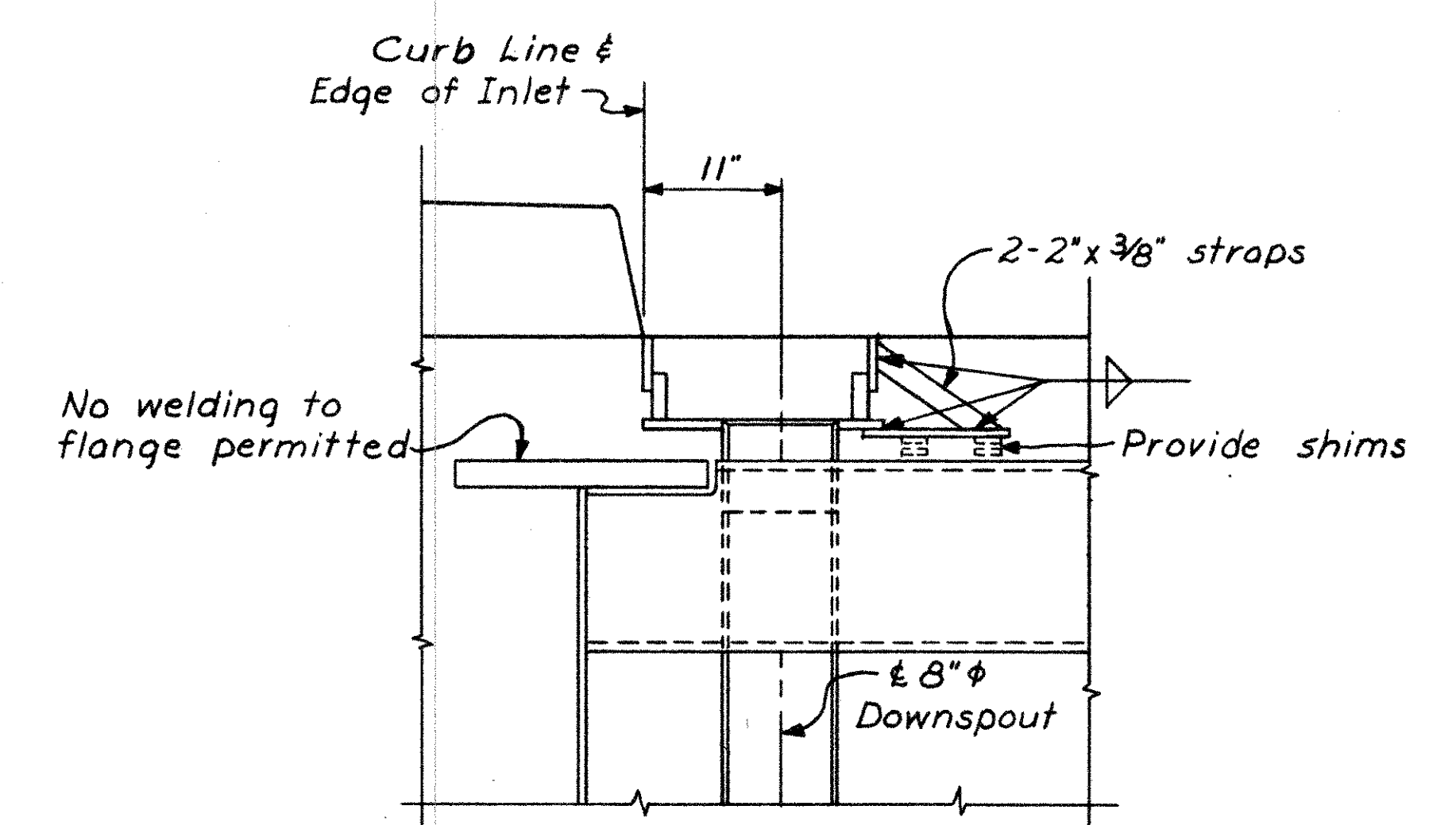
**SECTION E-E**



**SECTION F-F**

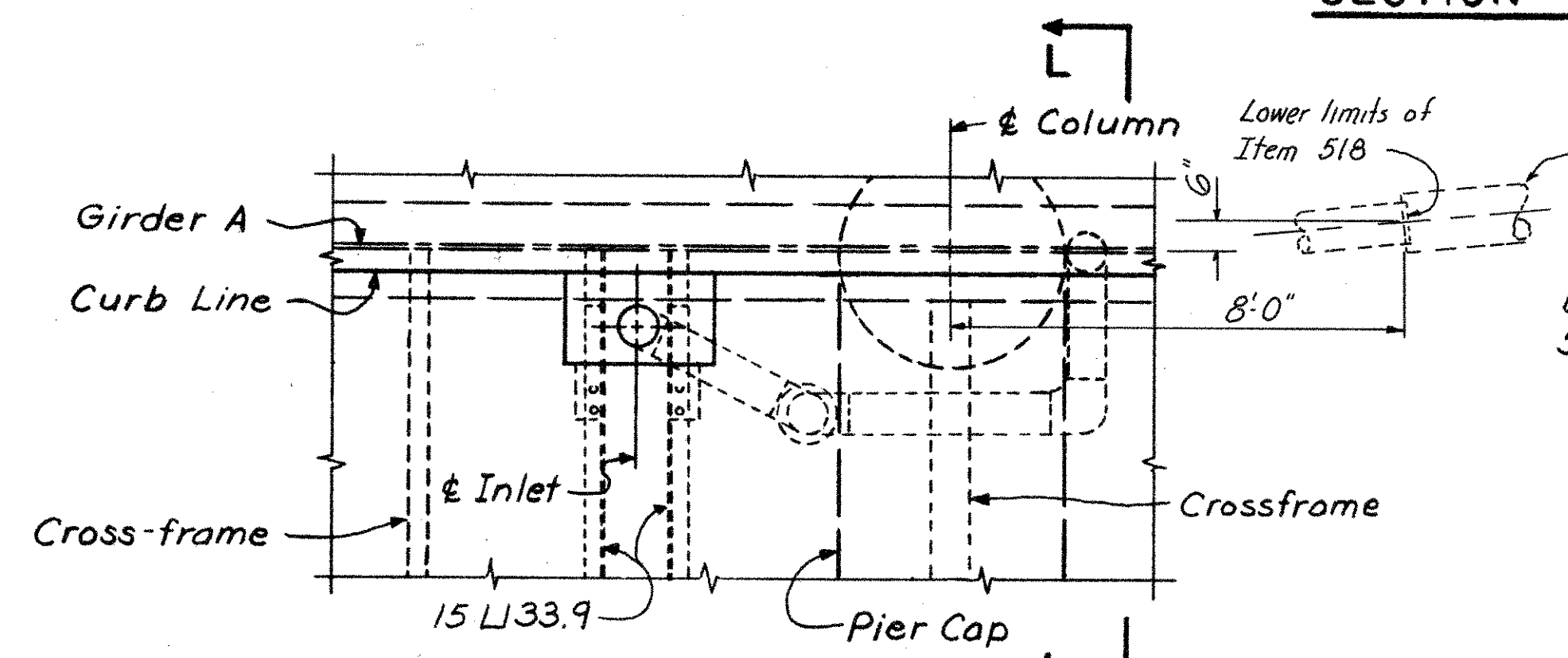


**SECTION G-G**

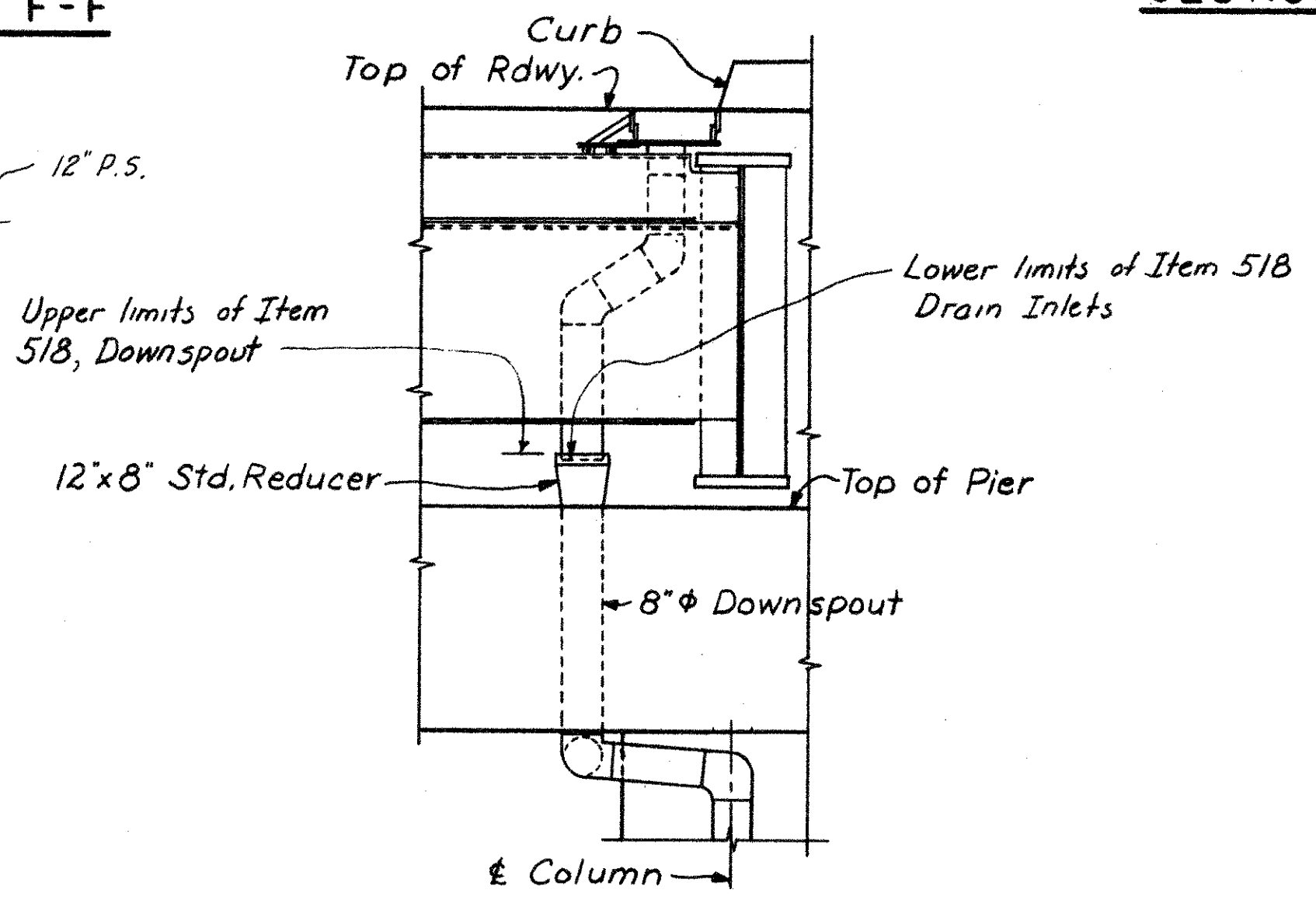


**SECTION H-H**

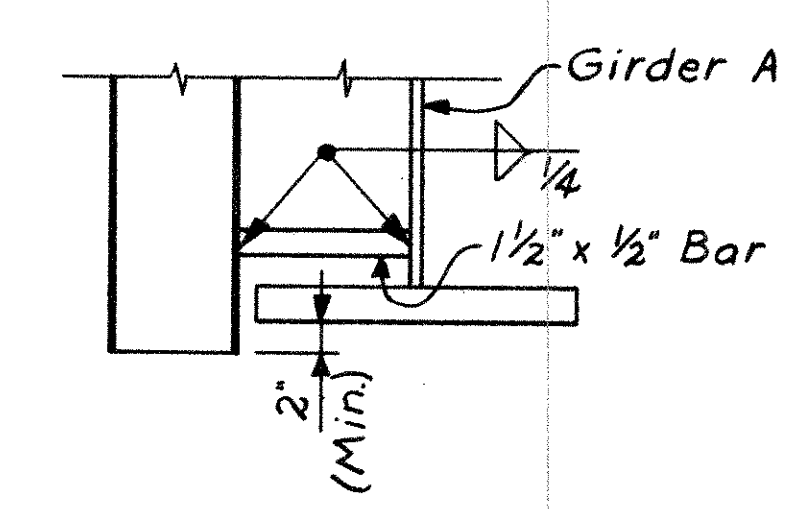
Notes:  
For details not shown, see "Typical  
Drainage Details."  
8" dia. wrought iron or galvanized  
steel pipe.



**DETAIL L**  
(Pier 3)



**SECTION L-L**



**DETAIL J**

Work this sheet with Sheets 303 & 304

|   |              |        |                           |                                 |         |
|---|--------------|--------|---------------------------|---------------------------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |              |        |                           |                                 |         |
| <b>DRAINAGE DETAILS</b>                                     |              |        |                           |                                 |         |
| BRIDGE NO. HAM - 71-0211                                    |              |        |                           |                                 |         |
| DESIGNED<br>AFS   | DRAWN<br>AFS | TRACED | CHECKED<br>WFB<br>8-12-65 | REVIEWED DATE<br>JHW<br>8/11/65 | REVISED |

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HAMILTON COUNTY  
HAM-71-208

| SUPERSTRUCTURE |      |          |         |        |
|----------------|------|----------|---------|--------|
| Mark           | Type | No. Reqd | Length  | Weight |
| S501           | 21   | 617      | 6'-8"   | 4290   |
| S502           | 14   | 643      | 5'-4"   | 3577   |
| S503           | 4    | 6        | 9'-2"   | 57     |
| S601           | Str. | 1        | 6'-5"   | 10     |
| S602           | 1    | 1        | 7'-4"   | 11     |
| S603           | 1    | 1        | 8'-3"   | 12     |
| S604           | 1    | 1        | 9'-2"   | 14     |
| S605           | 1    | 1        | 10'-1"  | 15     |
| S606           | 1    | 1        | 11'-0"  | 17     |
| S607           | 1    | 1        | 11'-11" | 18     |
| S608           | 1    | 1        | 12'-10" | 19     |
| S609           | 1    | 1        | 13'-9"  | 21     |
| S610           | 1    | 1        | 14'-8"  | 22     |
| S611           | 1    | 1        | 15'-6"  | 23     |
| S612           | 1    | 1        | 16'-5"  | 25     |
| S613           | 1    | 1        | 17'-4"  | 26     |
| S614           | 1    | 1        | 18'-3"  | 27     |
| S615           | 1    | 1        | 19'-2"  | 29     |
| S616           | 1    | 1        | 20'-1"  | 30     |
| S617           | 1    | 1        | 21'-0"  | 32     |
| S618           | 1    | 1        | 21'-11" | 33     |
| S619           | 1    | 1        | 22'-10" | 34     |
| S620           | 1    | 1        | 23'-9"  | 36     |
| S621           | 1    | 1        | 24'-8"  | 37     |
| S622           | 1    | 1        | 25'-7"  | 38     |
| S623           | 1    | 1        | 26'-5"  | 40     |
| S624           | 79   | 274      | 32'-4"  | 3243   |
| S625           | 1    | 1        | 28'-3"  | 42     |
| S626           | 79   | 292      | 34'-1"  | 3461   |
| S627           | 1    | 1        | 30'-1"  | 45     |
| S628           | 1    | 1        | 31'-0"  | 47     |
| S629           | 1    | 1        | 31'-11" | 48     |
| S630           | 1    | 1        | 32'-10" | 49     |
| S631           | 1333 | 34'-6"   | 69075   |        |
| S632           | 6    | 30'-0"   | 360     |        |
| S633           | 70   | 25'-8"   | 3007    |        |
| S634           | 6    | 34'-3"   | 309     |        |
| S635           | 6    | 33'-0"   | 297     |        |
| S636           | 4    | 31'-9"   | 191     |        |
| S637           | 6    | 30'-5"   | 275     |        |
| S638           | 6    | 29'-3"   | 264     |        |
| S639           | 6    | 28'-0"   | 252     |        |
| S640           | 6    | 26'-9"   | 241     |        |
| S641           | 6    | 25'-6"   | 230     |        |
| S642           | 2    | 24'-3"   | 73      |        |
| S643           | 10   | 23'-0"   | 345     |        |
| S644           | 6    | 21'-9"   | 196     |        |
| S645           | 6    | 20'-6"   | 185     |        |
| S646           | 6    | 19'-0"   | 171     |        |
| S647           | 6    | 17'-9"   | 160     |        |
| S648           | 1    | 34'-0"   | 51      |        |
| S649           | 3    | 31'-8"   | 142     |        |
| S650           | 3    | 29'-0"   | 131     |        |
| S651           | 3    | 26'-6"   | 119     |        |
| S652           | 3    | 24'-0"   | 108     |        |
| S653           | 3    | 21'-6"   | 97      |        |
| S654           | 2    | 19'-0"   | 57      |        |
| S655           | 3    | 17'-0"   | 77      |        |
| S656           | 3    | 15'-0"   | 68      |        |
| S657           | 22   | 34'-3"   | 1132    |        |
| S658           | 43   | 31'-0"   | 2002    |        |
| S659           | 22   | 5'-6"    | 182     |        |
| S660           | 5    | 29'-6"   | 222     |        |
| S661           | 5    | 26'-6"   | 199     |        |
| S662           | 19   | 33'-6"   | 956     |        |
| S663           | 26   | 32'-9"   | 1279    |        |
| S664           | 25   | 32'-2"   | 1208    |        |
| S665           | Str. | 25       | 31'-8"  | 1189   |

Note: The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap. The "No. of Turns" shown is the "Length" divided by the pitch, plus 3 turns (total number of closed coils).

| WEST ABUTMENT |      |          |         |        |
|---------------|------|----------|---------|--------|
| Mark          | Type | No. Reqd | Length  | Weight |
| A501          | 1    | 42       | 7'-2"   | 314    |
| A502          | Str. | 19       | 9'-9"   | 193    |
| A503          | Str. | 11       | 10'-4"  | 119    |
| A504          | 18   | 19       | 11'-3"  | 223    |
| A505          | 18   | 11       | 11'-10" | 136    |
| A506          | Str. | 15       | 14'-0"  | 219    |
| A507          | 1    | 16       | 13'-10" | 231    |
| A508          | 26   | 23'-0"   | 624     |        |
| A509          | 2    | 17'-6"   | 37      |        |
| A510          | Str. | 18       | 22'-0"  | 413    |
| A511          | 14   | 25       | 5'-10"  | 152    |
| A512          | Str. | 9        | 9'-8"   | 91     |
| A513          | 12   | 10'-9"   | 135     |        |
| A514          | 2    | 9'-0"    | 19      |        |
| A515          | 2    | 12'-0"   | 25      |        |
| A516          | Str. | 8        | 16'-0"  | 134    |
| A517          | 30   | 11       | 9'-6"   | 109    |
| A519          | Str. | 7        | 9'-6"   | 69     |
| A520          | 2    | 7'-5"    | 15      |        |
| A521          | 2    | 7'-4"    | 15      |        |
| A522          | 2    | 7'-3"    | 15      |        |
| A523          | 2    | 7'-2"    | 15      |        |
| A524          | 2    | 7'-1"    | 15      |        |
| A525          | 2    | 7'-0"    | 15      |        |
| A526          | 2    | 6'-0"    | 13      |        |
| A527          | 2    | 5'-2"    | 11      |        |
| A528          | 2    | 4'-4"    | 9       |        |
| A529          | 2    | 3'-7"    | 7       |        |
| A530          | 2    | 3'-6"    | 7       |        |
| A531          | 2    | 8'-9"    | 18      |        |
| A532          | Str. | 7        | 5'-7"   | 41     |
| A533          | 1    | 5        | 6'-8"   | 35     |
| A535          | 18   | 2        | 10'-11" | 23     |
| A536          | 19   | 6        | 3'-11"  | 25     |
| A537          | 59   | 6        | 7'-0"   | 44     |
| A601          | 44   | 58       | 10'-2"  | 886    |
| A602          | Str. | 39       | 9'-6"   | 557    |
| A603          | Str. | 22       | 30'-6"  | 1008   |
| A604          | 19   | 10       | 7'-0"   | 105    |
| A605          | 19   | 9        | 10'-9"  | 145    |
| A606          | 7    | 39       | 20'-5"  | 1196   |
| A607          | 44   | 4        | 10'-8"  | 64     |
| A608          | 44   | 7        | 6'-2"   | 65     |
| A609          | Str. | 9        | 15'-5"  | 208    |
| A610          | Str. | 7        | 10'-0"  | 105    |
| A611          | Str. | 7        | 5'-6"   | 58     |
| A612          | 20   | 11       | 4'-11"  | 81     |
| A801          | 18   | 11       | 7'-4"   | 215    |
| A802          | Str. | 8        | 10'-9"  | 172    |
| A803          | Str. | 5        | 6'-3"   | 83     |
| H501          | Str. | 4        | 16'-9"  |        |
| H502          | 4    | 2        | 3'-11"  |        |
| H503          | Str. | 4        | 16'-11" |        |
| H504          | 66   | 3        | 4'-2"   |        |
| H505          | 67   | 2        | 5'-4"   |        |

Types 21, 30, 49, 58 & 67

| NORTH ABUTMENT |      |          |         |        |
|----------------|------|----------|---------|--------|
| Mark           | Type | No. Reqd | Length  | Weight |
| A550           | Str. | 20       | 30'-8"  | 640    |
| A551           | Str. | 21       | 8'-4"   | 183    |
| A552           | 18   | 15       | 9'-6"   | 149    |
| A553           | Str. | 11       | 8'-6"   | 98     |
| A554           | 7    | 7        | 15'-7"  | 114    |
| A555           | 7    | 7        | 14'-9"  | 108    |
| A556           | Str. | 6        | 32'-6"  | 203    |
| A557           | 18   | 10       | 13'-1"  | 136    |
| A558           | Str. | 9        | 7'-6"   | 70     |
| A559           | 14   | 7        | 7'-2"   | 105    |
| A560           | 2    | 4'-0"    | 8       |        |
| A561           | 2    | 4'-8"    | 10      |        |
| A562           | 2    | 5'-4"    | 11      |        |
| A563           | 2    | 6'-0"    | 13      |        |
| A564           | Str. | 2        | 6'-8"   | 14     |
| A565           | 14   | 19       | 5'-10"  | 115    |
| A566           | 30   | 19       | 9'-6"   | 188    |
| A567           | Str. | 8        | 5'-6"   | 46     |
| A568           | 1    | 10       | 6'-8"   | 70     |
| A569           | Str. | 8        | 17'-8"  | 147    |
| A570           | 10   | 8'-0"    | 83      |        |
| A571           | 14   | 9'-8"    | 141     |        |
| A572           | 9    | 8'-1"    | 76      |        |
| A573           | 2    | 10'-0"   | 21      |        |
| A574           | 2    | 13'-5"   | 28      |        |
| A575           | 2    | 16'-10"  | 35      |        |
| A576           | Str. | 2        | 8'-9"   | 18     |
| A577           | 1    | 37       | 7'-2"   | 277    |
| A650           | 7    | 23       | 22'-0"  | 760    |
| A651           | Str. | 2        | 9'-0"   | 27     |
| A652           | Str. | 4        | 9'-10"  | 59     |
| A653           | 62   | 8        | 10'-9"  | 129    |
| A654           | 62   | 10       | 13'-6"  | 203    |
| A655           | 44   | 9        | 16'-3"  | 220    |
| A656           | 44   | 18       | 9'-2"   | 248    |
| A657           | Str. | 35       | 8'-6"   | 447    |
| A658           | Str. | 6        | 32'-8"  | 293    |
| A659           | 44   | 9        | 15'-5"  | 208    |
| A750           | 18   | 13       | 12'-10" | 341    |
| A751           | Str. | 10       | 7'-1"   | 145    |
| A752           | 18   | 13       | 13'-6"  | 359    |
| A753           | Str. | 4        | 5'-4"   | 44     |
| H550           | Str. | 4        | 17'-8"  |        |
| H551           | Str. | 4        | 9'-8"   |        |
| H504           | 66   | 3        | 4'-2"   |        |
| H505           | 67   | 2        | 5'-4"   |        |

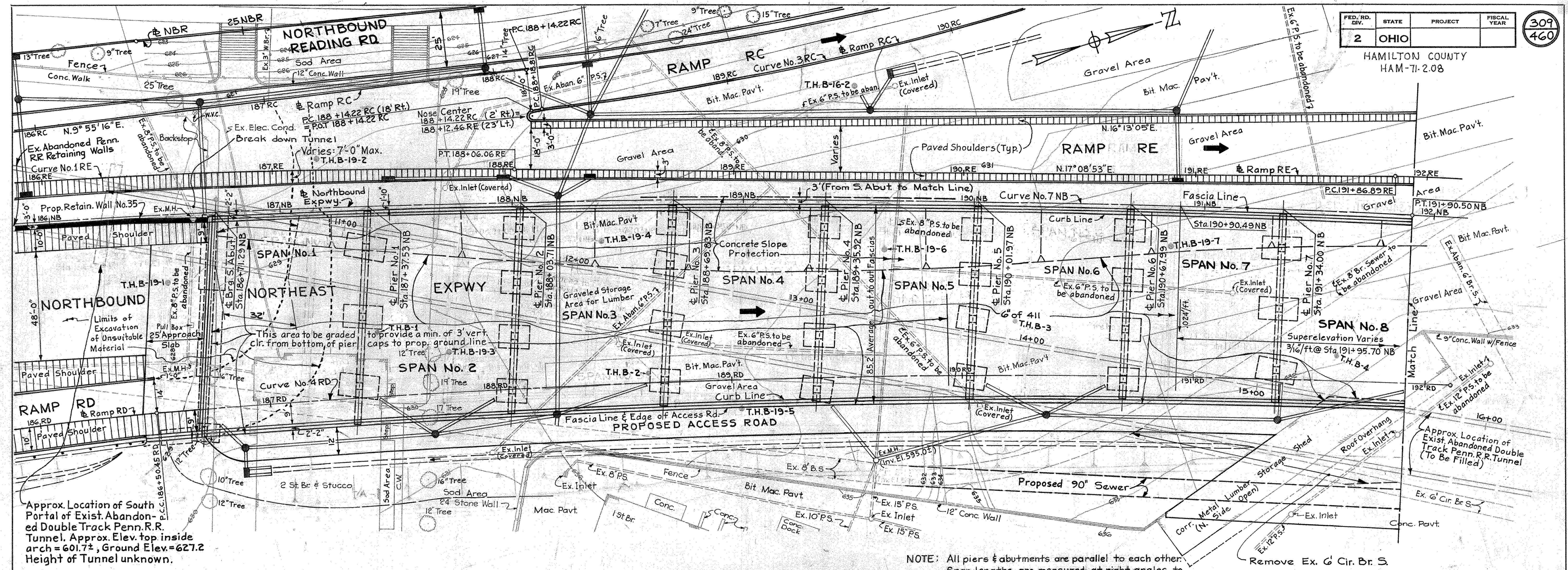
Types 19, 20 & 62

| PIER 1 |      |          |         |        |
|--------|------|----------|---------|--------|
| Mark   | Type | No. Reqd | Length  | Weight |
| P401   | 64   | 4        | 17'-5"  | 2838   |
| P501   | 1    | 108      | 8'-0"   | 901    |
| P502   | Str. | 4        | 20'-4"  | 85     |
| P503   | 6    | 6        | 8'-10"  | 55     |
| P504   | 1    | 14       | 6'-5"   | 94     |
| P505   | 1    | 2        | 5'-7"   | 12     |
| P601   | 43   | 68       | 10'-10" | 1106   |
| P801   | 43   | 56       | 15'-2"  | 2268   |
| P901   | 44   | 4        | 10'-0"  | 136    |
| P902   | 18   | 4        | 11'-4"  | 154    |
| P1101  | 18   | 96       | 8'-5"   | 4293   |
| P1102  | Str. | 96       | 20'-9"  | 10584  |
| P1103  | 18   | 8        | 26'-3"  | 1116   |
| P1104  | 14   | 4        | 24'-9"  | 526    |
| P1105  | 44   | 8        | 24'-7"  | 1045   |
| P1106  | 44   | 4        | 23'-4"  | 491    |
| P6101  | Str. | 14       | 40'-0"  | 841    |
| P6102  | Str. | 14       | 20'-8"  | 431    |
| P6103  | Str. | 39       | 14'-6"  | 849    |
| P7101  | 44   | 40       | 31'-4"  | 2562   |
| P9101  | 43   | 62       | 17'-0"  | 3584   |
| P9102  | 18   | 4        | 11'-6"  | 156    |
| P9103  | Str. | 8        | 10'-0"  | 272    |
| P11101 | 18   | 112      | 7'-8"   | 4562   |
| P11102 | Str. | 28       | 21'-3"  | 3161   |
| P11103 | Str. | 28       | 21'-10" | 3248   |
| P11104 | Str. | 28       | 22'-4"  | 3322   |
| P11105 | Str. | 28       | 22'-10" | 3397   |
| P11106 | 18   | 14       | 30'-8"  | 2281   |
| P11107 | Str. | 12       | 27'-6"  | 1753   |

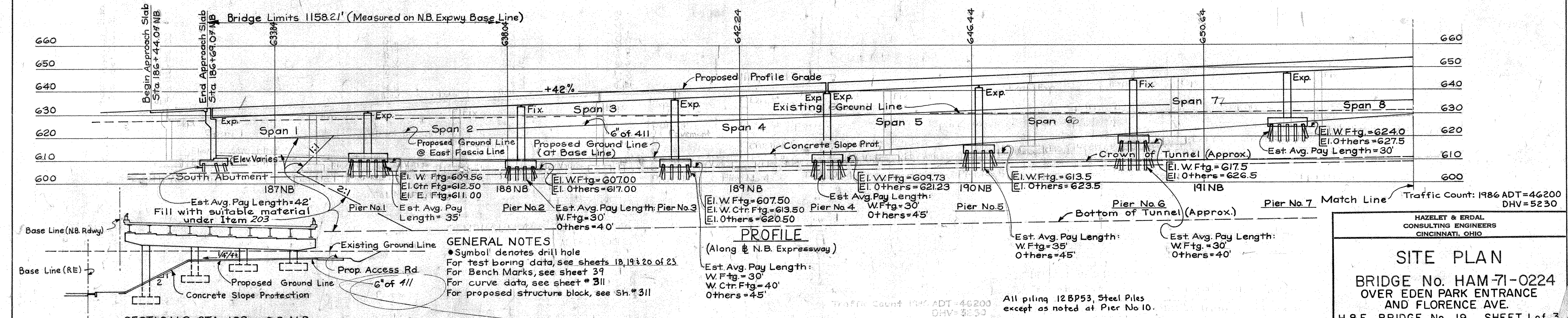
Types 14, 43, 44, 59 & 66

| PIER 2 |      |          |         |        |
|--------|------|----------|---------|--------|
| Mark   | Type | No. Reqd | Length  | Weight |
| P4101  | 64   | 1        | 17'-8"  | 717    |
| P4102  | 64   | 1        | 18'-2"  | 741    |
| P4103  | 64   | 1        | 18'-8"  | 758    |
| P4104  | 64   | 1        | 19'-3"  | 781    |
| P4105  | Str. | 6        | 7'-9"   | 31     |
| P4106  | Str. | 6        | 11'-6"  | 46     |
| P4107  | 1    | 25       | 6'-6"   | 109    |
| P4108  | 1    | 6        | 6'-1"   | 24     |
| P4109  | 1    | 2        | 4'-11"  | 7      |
| P4110  | 1    | 4        | 5'-6"   | 15     |
| P5101  | Str. | 4        | 24'-7"  | 103    |
| P5102  | 6    | 6        | 9'-4"   | 58     |
| P5103  | 1    | 152      | 9'-0"   | 1427   |
| P6101  | Str. | 14       | 40'-0"  | 841    |
| P6102  | Str. | 14       | 20'-8"  | 431    |
| P6103  | Str. | 39       | 14'-6"  | 849    |
| P7101  | 44   | 40       | 31'-4"  | 2562   |
| P9101  | 43   | 62       | 17'-0"  | 3584   |
| P9102  | 18   | 4        | 11'-6"  | 156    |
| P9103  | Str. | 8        | 10'-0"  | 272    |
| P11101 | 18   | 112      | 7'-8"   | 4562   |
| P11102 | Str. | 28       | 21'-3"  | 3161   |
| P11103 | Str. | 28       | 21'-10" | 3248   |
| P11104 | Str. | 28       | 22'-4"  | 3322   |
| P11105 | Str. | 28       | 22'-10" | 3397   |
| P11106 | 18   | 14       | 30'-8"  | 2281   |
| P11107 | Str. | 12       | 27'-6"  | 1753   |

Types 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444,



MICROFILMED  
SEP 15 1982



SECTION @ STA. 189 + 00 N.B.  
(Looking North)

HAZELT & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**SITE PLAN**  
BRIDGE No. HAM-71-0224  
OVER EDEN PARK ENTRANCE  
AND FLORENCE AVE.  
H & E BRIDGE No. 19 SHEET 1 of 3

|          |       |        |         |                |         |
|----------|-------|--------|---------|----------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE  | REVISED |
| CTM      |       |        | N.A.G.  | JHO<br>8/16/65 |         |

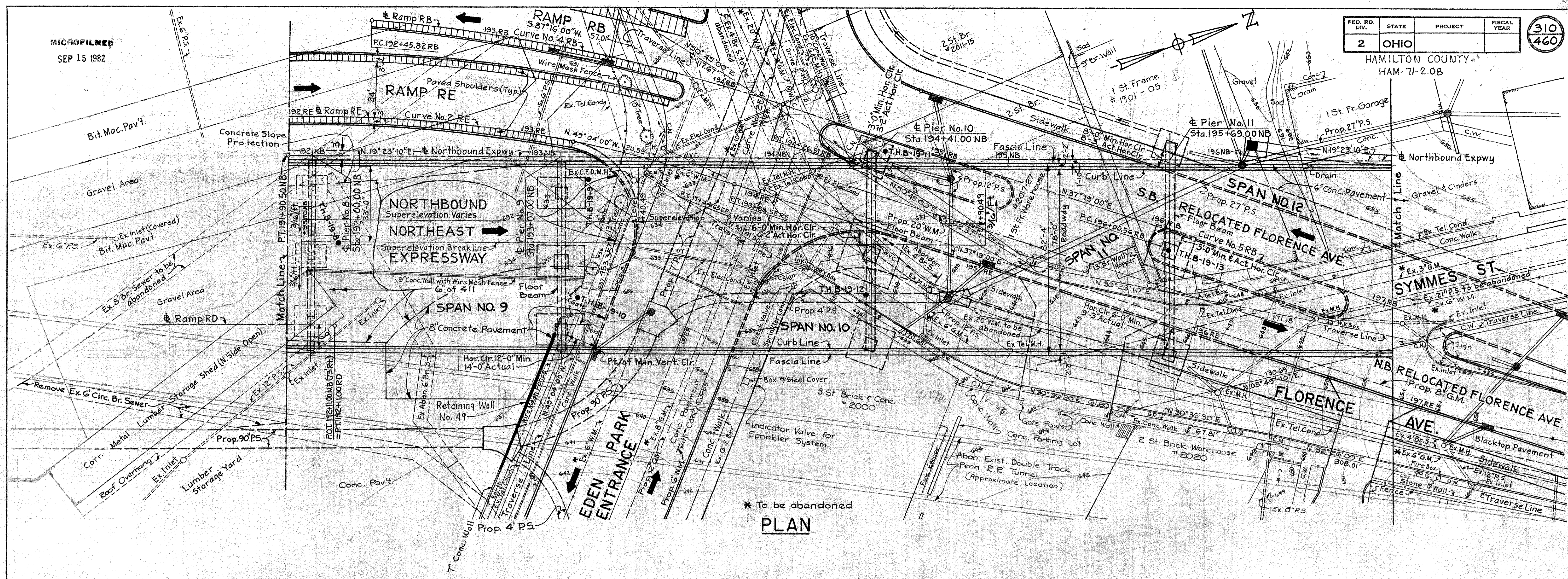
Approx. Location of South Portal of Exist. Abandoned Double Track Penn. R.R. Tunnel. Approx. Elev. top inside arch = 601.7', Ground Elev. = 627.2 Height of Tunnel unknown.

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SEP 15 1982

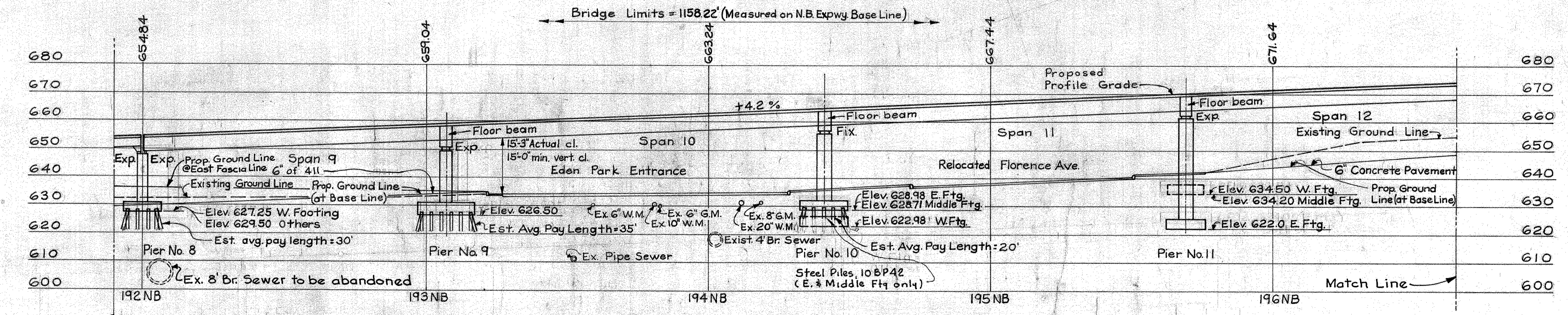
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
|---------------|-------|---------|-------------|
| 2             | OHIO  |         |             |

HAMILTON COUNTY  
HAM-71-2.08

310  
460



\* To be abandoned  
**PLAN**

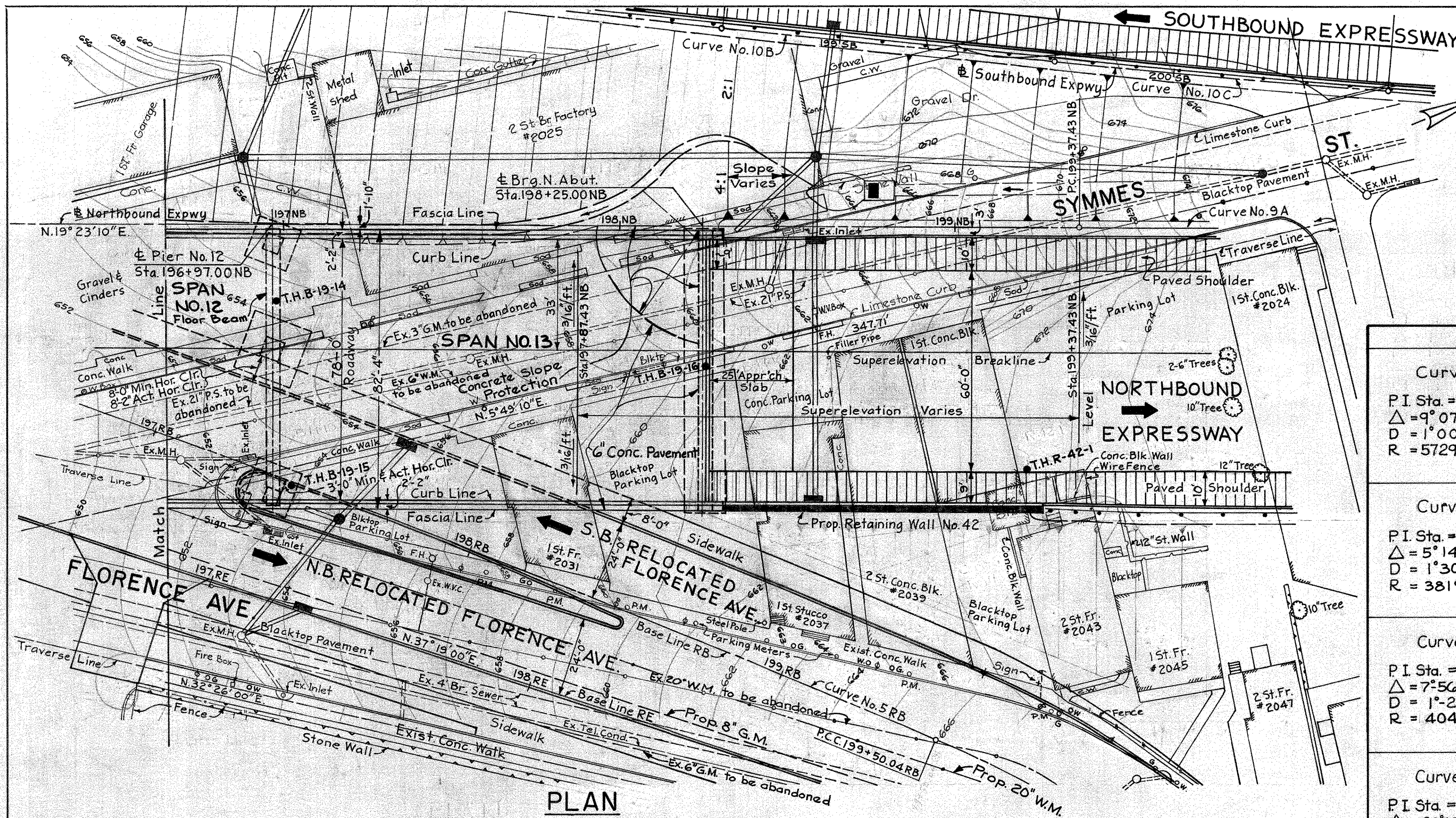


**PROFILE**  
(Along N.B. Expressway)

|          |       |        |         |                 |         |
|----------|-------|--------|---------|-----------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE   | REVISED |
| C.T.M.   |       |        | A.J.    | 3/10<br>3/11/65 |         |

**HAZELT & ERDAL**  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**SITE PLAN**  
BRIDGE No. HAM-71-0224  
OVER EDEN PARK ENTRANCE  
AND FLORENCE AVE.  
H & E BRIDGE No. 19 SHEET 2 of 3



MICROFILMED  
SEP 15 1982

| CURVE DATA   |  |
|--|--|
| <b>Curve No. 7NB</b><br>P.I. Sta. = 187+35.63 NB<br>$\Delta = 9^{\circ}07'00''$ L = 911.67'<br>$D = 1^{\circ}00'00''$ T = 456.80'<br>R = 5729.58'  | <b>Curve No. 4RB</b><br>P.I. Sta. = 193+36.59 RB<br>$\Delta = 13^{\circ}33'07''$ L = 180.69'<br>$D = 7^{\circ}30'00''$ T = 90.77'<br>R = 763.94'   |
| <b>Curve No. 5RB</b><br>P.I. Sta. = 197+75.42 RB<br>$\Delta = 5^{\circ}14'32''$ L = 349.48'<br>$D = 1^{\circ}30'00''$ T = 174.86'<br>R = 3819.72'  | <b>Curve No. 3RC</b><br>P.I. Sta. = 189+75.07 RC<br>$\Delta = 14^{\circ}45'46''$ L = 310.80'<br>$D = 4^{\circ}45'00''$ T = 156.26'<br>R = 1206.23' |
| <b>Curve No. 4RD</b><br>P.I. Sta. = 189+31.17 RD<br>$\Delta = 7^{\circ}56'28''$ L = 560.55'<br>$D = 1^{\circ}25'00''$ T = 280.72'<br>R = 4044.41'  | <b>Curve No. 1RE</b><br>P.I. Sta. = 185+99.85 RE<br>$\Delta = 7^{\circ}13'37''$ L = 412.97'<br>$D = 1^{\circ}45'00''$ T = 206.76'<br>R = 3274.05'  |
| <b>Curve No. 2RE</b><br>P.I. Sta. = 192+88.79 RE<br>$\Delta = 20^{\circ}10'07''$ L = 201.69'<br>$D = 10^{\circ}00'00''$ T = 101.90'<br>R = 572.96' | <b>Curve No. 2EP</b><br>P.I. Sta. = 15+41.95 EP<br>$\Delta = 6^{\circ}3'24'22''$ L = 456.63'<br>$D = 13^{\circ}40'00''$ T = 253.93'<br>R = 419.24' |

**PROPOSED STRUCTURE**

Type: Continuous steel beams (Spans 1 through 8) and continuous plate girders (Spans 9 through 13) with reinforced concrete deck and substructure.

Spans: 66'-0" (Spans 1 through 8) 107'-0" (Span 9) 134'-0" (Span 10) 128'-0" (Spans 11 through 13)

Roadway: Varies, see plan; 80 min f/4 parapet

Skew: 0° (measured from forward tangent)

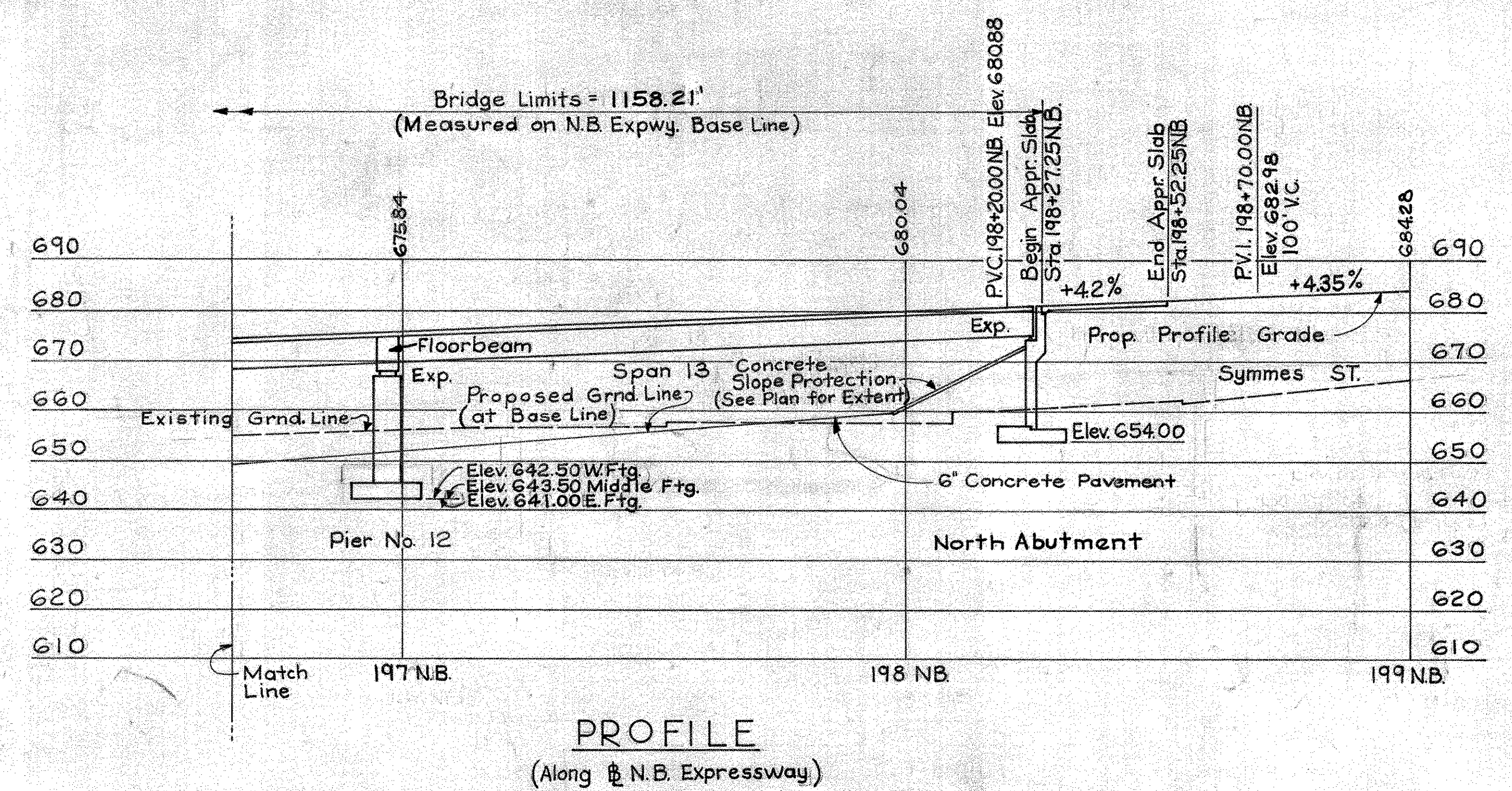
Load Frequency: CF=2000(57) Adequate for A.A.S.H.O. alternate loading.

Wearing Surface: 1" Monolithic Concrete

Approach Slab: AS-1-54 (25'-0" Long)

Alignment: See plan.

Superelevation: Varies, see plan.



**PROFILE**  
(Along N.B. Expressway.)

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**SITE PLAN**

BRIDGE No. HAM-71-0224  
OVER EDEN PARK ENTRANCE  
AND FLORENCE AVE.

H & E BRIDGE No. 19 SHEET 3 of 3

|          |       |        |         |               |         |
|----------|-------|--------|---------|---------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
| C.T.M.   |       |        | H.A.G.  | 8/14/65       |         |



MICROFILMED  
SEP 15 1982

## GENERAL NOTES

HAMILTON COUNTY  
HAM-71- 2.08

| ESTIMATED QUANTITIES |           |          |   |            |             |             |         |         |
|----------------------|-----------|----------|---|------------|-------------|-------------|---------|---------|
| ITEM                 | TOTAL     | UNIT     | DESCRIPTION   | SUPER-STR. | SOUTH ABUT. | NORTH ABUT. | PIERS   | GENERAL |
| 503                  | Lump      | Sum      | Cofferdams, Cribs & Sheeting  |            |             |             |         | Lump    |
| 503                  | 3085      | Cu. Yds. | Unclassified Excavation   |            | 60.4        | 287.6       | 2737.0  |         |
| 503                  | 126       | Cu. Yds. | Rock (or Shale) Excavation  |            |             | 13.8        | 112.2   |         |
| 504                  | 277       | Sq. Ft.  | Steel Sheet Piling Left in Place (Minimum Section Modulus of 70 in <sup>3</sup> per foot of Wall) |            | 277         |             |         |         |
| 511                  | 3174      | Cu. Yds. | Class C Concrete, Superstructure  | 3174       |             |             |         |         |
| 511                  | 897       | Cu. Yds. | Class C Concrete, Piers above Footings  |            |             |             | 897.0   |         |
| 511                  | 363       | Cu. Yds. | Class E Concrete, Abutments above Footings  |            | 174.1       | 188.9       |         |         |
| 511                  | 1280      | Cu. Yds. | Class E Concrete, Footings  |            | 94.3        | 107.1       | 1078.6  |         |
| 512                  | 91        | Lin. Ft. | Premolded Sealing Strip   |            | 45          | 46          |         |         |
| 509                  | 1,298,769 | Lbs.     | Reinforcing Steel   | 885,534    | 20,421      | 28,171      | 364,643 |         |
| 513                  | 4,000,000 | Lbs.     | Structural Steel  | 4,000,000  |             |             |         |         |
| 514                  | 4,000,000 | Lbs.     | Field Painting of Structural Steel  | 4,000,000  |             |             |         |         |
| 516                  | 23        | Sq. Ft.  | 1" Preformed Expansion Joint Filler   |            | 23          |             |         |         |
| 517                  | 2350      | Lin. Ft. | Railing Type 1  | 2304       | 32          | 14          |         |         |
| 505                  | Lump      | Sum      | First Test Pile   |            |             |             |         | Lump    |
| 506                  | Lump      | Sum      | First Pile Test Load  |            |             |             |         | Lump    |
| 506                  | 1         | Each     | Subsequent Pile Test Load   |            |             |             |         | 1       |
| 507                  | 16,646    | Lin. Ft. | Steel Piles, 12BP53   |            | 2172        |             | 14,474  |         |
| 507                  | 1469      | Lin. Ft. | Steel Piles, 10BP42   |            |             |             | 1469    |         |
| 625                  |           |          | Electric Lighting System (See Sheet No. 178 & 179)  |            |             |             |         |         |
| 518                  | 255       | Cu. Yds. | Porous Backfill   |            | 125         | 130         |         |         |
| 518                  | Lump      | Sum      | Drain Inlets, Including Supports & Horizontal Collector System                                    |            |             |             |         | Lump    |
| 518                  | 466       | Lin. Ft. | 8" Standard Pipe Downspout, Wrought Iron or Hot-Dipped Galvanized Steel (Including Specials)      |            | 19          |             | 447     |         |
| 518                  | 4         | Lin. Ft. | 12" Reinforced Concrete Sewer Pipe (Sec. 706.02 Class II)   |            | 4           |             |         |         |
| 518                  | 114       | Lin. Ft. | 8" Perforated cmp. 707.06, bituminous coated per 707.04 (including specials)                      |            | 66          | 48          |         |         |
| 518                  | 197       | Lin. Ft. | 8" Perforated cmp. 707.06, bituminous coated per 707.04 (including specials & sand)               |            | 117         | 80          |         |         |
| 808                  | 3174      | Each     | Water-Reducing, Set-Retarding Admixture   | 3174       |             |             |         |         |
| 601                  | 1780      | Sq. Yds. | Concrete Slope Protection   |            |             |             |         | 1780    |
| Special              | 11714     | Sq. Yds. | Concrete Surface Treatment  | 11,371.6   | 20.6        | 18.1        | 313.7   |         |

**REFERENCE:** Shall be made to Standard Drawing RB-1-55, "Revised 2-2-59" and SD-2-64 dated 11-25-64.

**MACHINE FINISH:** At the Contractor's option the concrete deck may be finished with a finishing machine.

**STEEL PILES:** Piles shall be driven with a hammer of not less than 11,000 ft. lbs. per blow to firm contact with rock. If the length of penetration is approximately equal to the depth to rock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. 507.05 is not less than the following values for a pile hammer of the indicated energy rating.

- 55 Tons per pile for South Abutment and Piers 1 thru 9 using an 11,000 ft. lb. hammer.
- 50 Tons per pile for South Abutment and Piers 1 thru 9 using a 15,000 ft. lb. hammer.
- 50 Tons per pile for the East and Center Footings for Pier 10 using an 11,000 ft. lb. hammer.
- 45 Tons per pile for the East and Center Footings for Pier 10 using a 15,000 ft. lb. hammer.

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 40 tons per pile for the South Abutment and Piers 1 thru 9 and 35 tons per pile for the East and Center Footings for Pier 10.

**FOUNDATION BEARING PRESSURE:** West Footing of Pier 10 and the footings of Piers 11, 12 and the North Abutment are designed for a maximum bearing pressure of 5 tons per sq. ft.

**PILE TEST LOAD:** Shall be in accordance with Item 506 except that the maximum load required shall be 120 tons for 40 ton piles and 105 tons for 35 ton piles.

**FIRST PILE TEST LOAD:** Shall be applied if and where directed by the Engineer.

**FOOTINGS:** for the west footing of Pier 10 and Piers 11, 12 and North Abutment shall extend a minimum of 3' into undisturbed rock or to the elevations shown on the plans, whichever is lower.

**ADDITIONAL NOTES:** For additional notes see Notes 1 thru 6, General Notes, Typical Drawing No. 426.

- Design Loading - CF 2000 (57)
- Concrete Class C - basic unit stress 1,333 p. s. i.
- Concrete Class E - basic unit stress 1,133 p. s. i.
- Structural Steel - ASTM A36 - basic unit stress 20,000 p. s. i.

Reinforcing Steel - ASTM A15, A16, A160, Deformed Intermediate or Hard Grade. Basic unit stress 20,000 p. s. i.

**EXCAVATION OF UNSUITABLE MATERIALS:** After the unsuitable materials have been removed to elevation 580.0, at the South Abutment as shown on the Site Plan, the Engineer shall make a careful inspection to ascertain that all unsuitable materials have been removed to a stable subsoil. If necessary, the excavation limits shall be extended to remove additional unstable materials and be replaced with materials meeting the requirements of Section 203 of the Specifications.

| ESTIMATED QUANTITIES |        |          |  |        |        |        |        |        |        |        |        |        |         |         |         |
|----------------------|--------|----------|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|
| ITEM                 | TOTAL  | UNIT     | DESCRIPTION  | PIER-1 | PIER-2 | PIER-3 | PIER-4 | PIER-5 | PIER-6 | PIER-7 | PIER-8 | PIER-9 | PIER-10 | PIER-11 | PIER-12 |
| 503                  | 2737.0 | Cu. Yds. | Unclassified Excavation  | 221.7  | 184.6  | 235.7  | 232.0  | 219.7  | 179.5  | 135.1  | 112.9  | 339.1  | 401.9   | 314.7   | 160.1   |
| 503                  | 112.2  | Cu. Yds. | Rock (or Shale) Excavation   |        |        |        |        |        |        |        |        |        | 4.3     | 41.8    | 66.1    |
| 511                  | 897.0  | Cu. Yds. | Class C Concrete, Piers above Footings   | 83.7   | 76.1   | 78.5   | 77.2   | 75.9   | 73.9   | 76.8   | 72.8   | 53.8   | 78.4    | 85.2    | 64.7    |
| 511                  | 1078.6 | Cu. Yds. | Class E Concrete, Footings   | 75.4   | 69.9   | 69.8   | 69.9   | 69.8   | 69.9   | 75.4   | 64.6   | 138.2  | 173.1   | 101.3   | 101.3   |
| 518                  | 447    | Lin. Ft. | 8" Standard Pipe Downspout, Wrought Iron or Hot-Dipped Galvanized Steel (Including Specials) | 36     | 26     | 28     | 24     | 29     | 27     | 35     | 34     | 27     | 69      | 59      | 53      |

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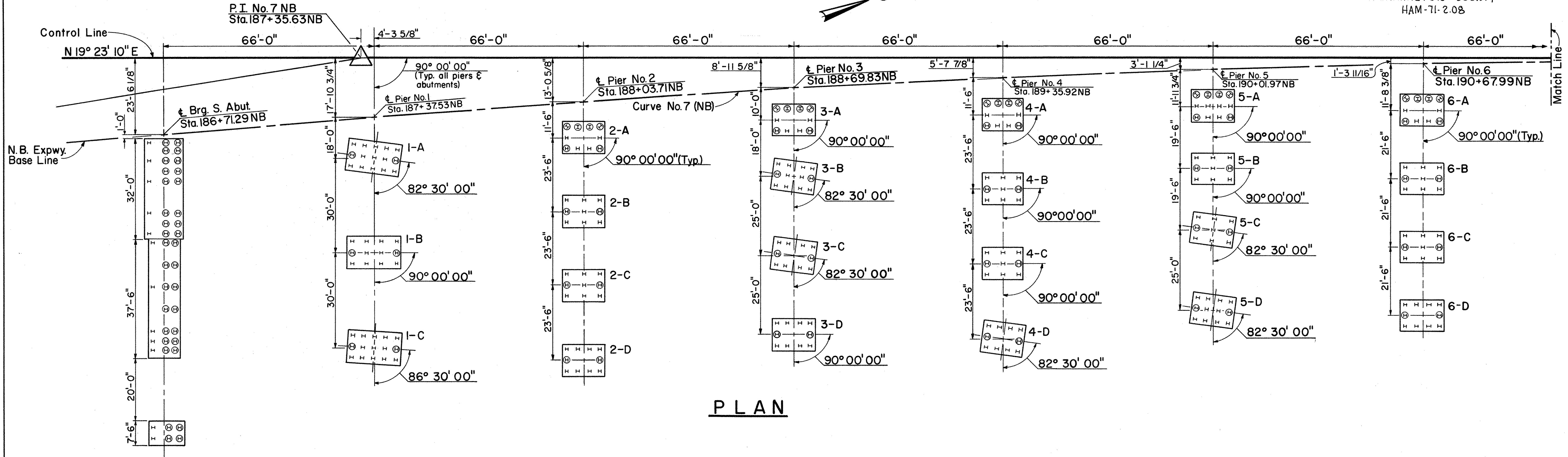
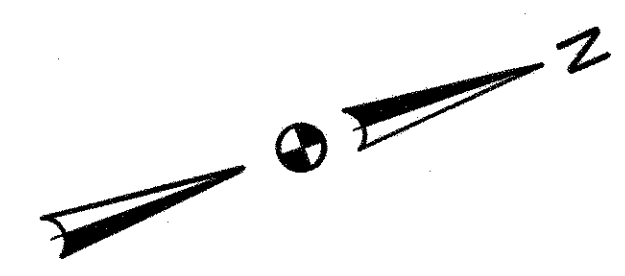
**ESTIMATED QUANTITIES AND GENERAL NOTES**  
BRIDGE No. HAM-71-0224

H&E BRIDGE No. 19

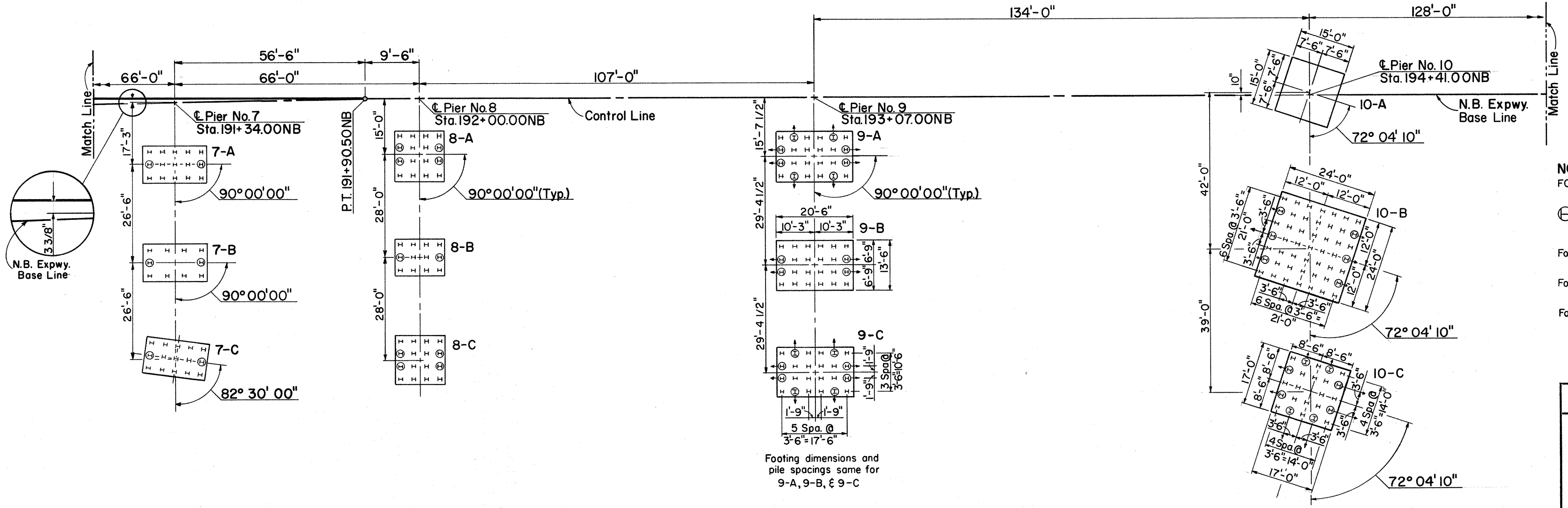
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| DESIGNED | DRAWN  | TRACED | CHECKED           | REVIEWED DATE     | REVISION |
|          | B.J.M. |        | J.H.O.<br>7/24/65 | N.A.S.<br>8-30-65 |          |

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HAM-71-2.08



**PLAN**



**PLAN**

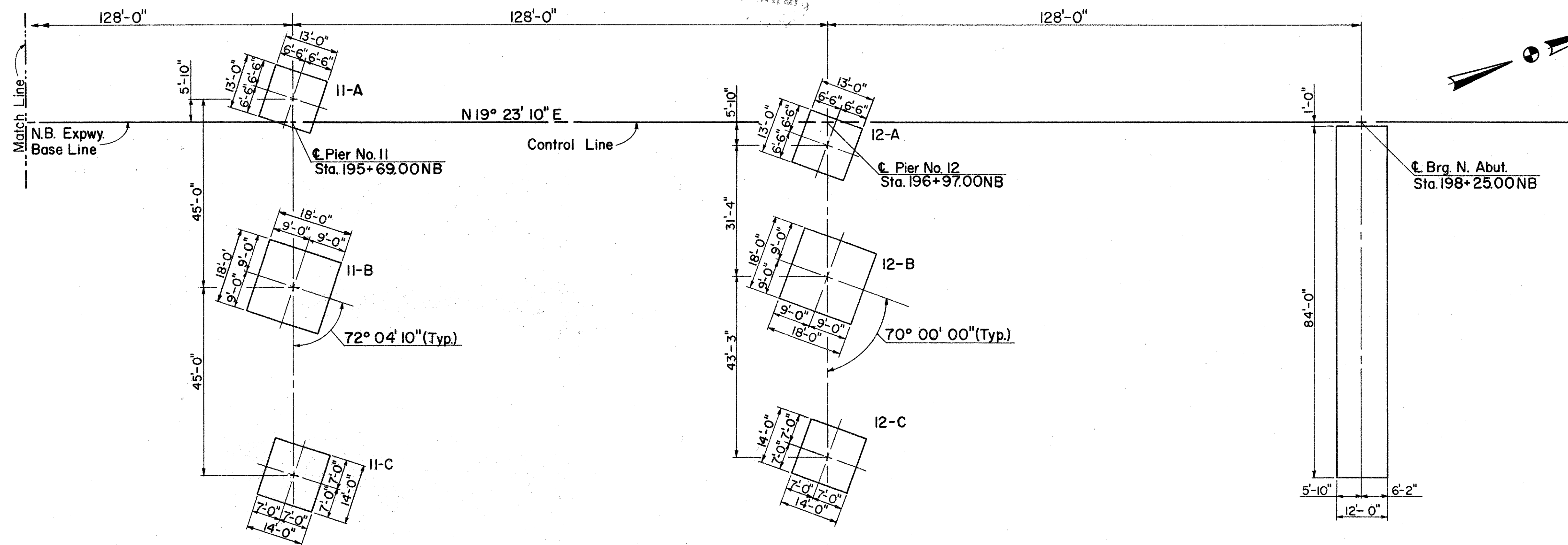
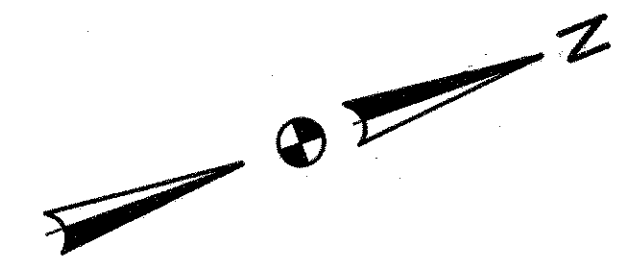
**NOTES:**  
FOR FOOTING DIMENSIONS AND PILE SPACINGS NOT SHOWN SEE SH. No. 314  
⊕ Indicates battered piles and direction of batter. For exact direction see detail drawing. Batter is 3:12 for Pier footings and 4:12 for Abutments.  
For pile bearing capacity see General Notes, Sheet No. 312  
For bottom of footing elevations and direction of pile flanges see abutment and pier details.  
For alignment and witness plan see Sh. No. 37 & 38

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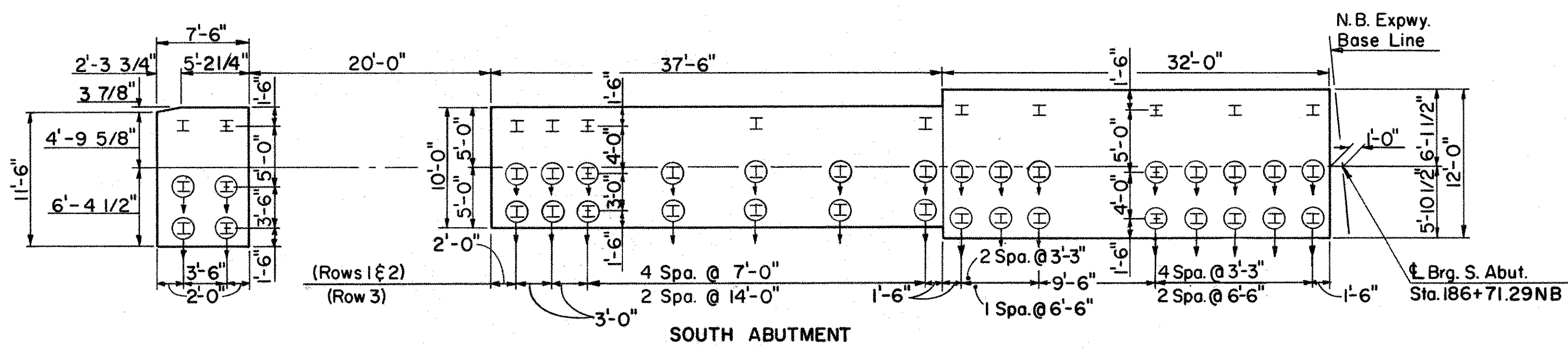
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BRIDGE No. HAM-71-0224

H&E BRIDGE No. 19

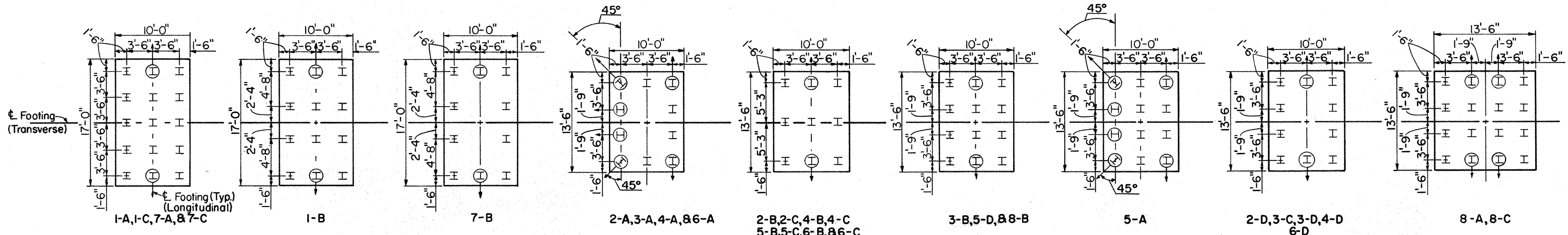
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| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE     | REVISION |
|          | MJE   |        | MKK     | H.A.E.<br>8-30-65 |          |



**PLAN**



**SOUTH ABUTMENT**



**PIER FOOTINGS**

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**STAKE OUT DIAGRAM**  
BRIDGE No. HAM-71-0224

H&E BRIDGE No.19

|          |       |        |         |                   |         |
|----------|-------|--------|---------|-------------------|---------|
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|          | MJE   |        | MKK     | H.A.Z.<br>8-30-65 |         |

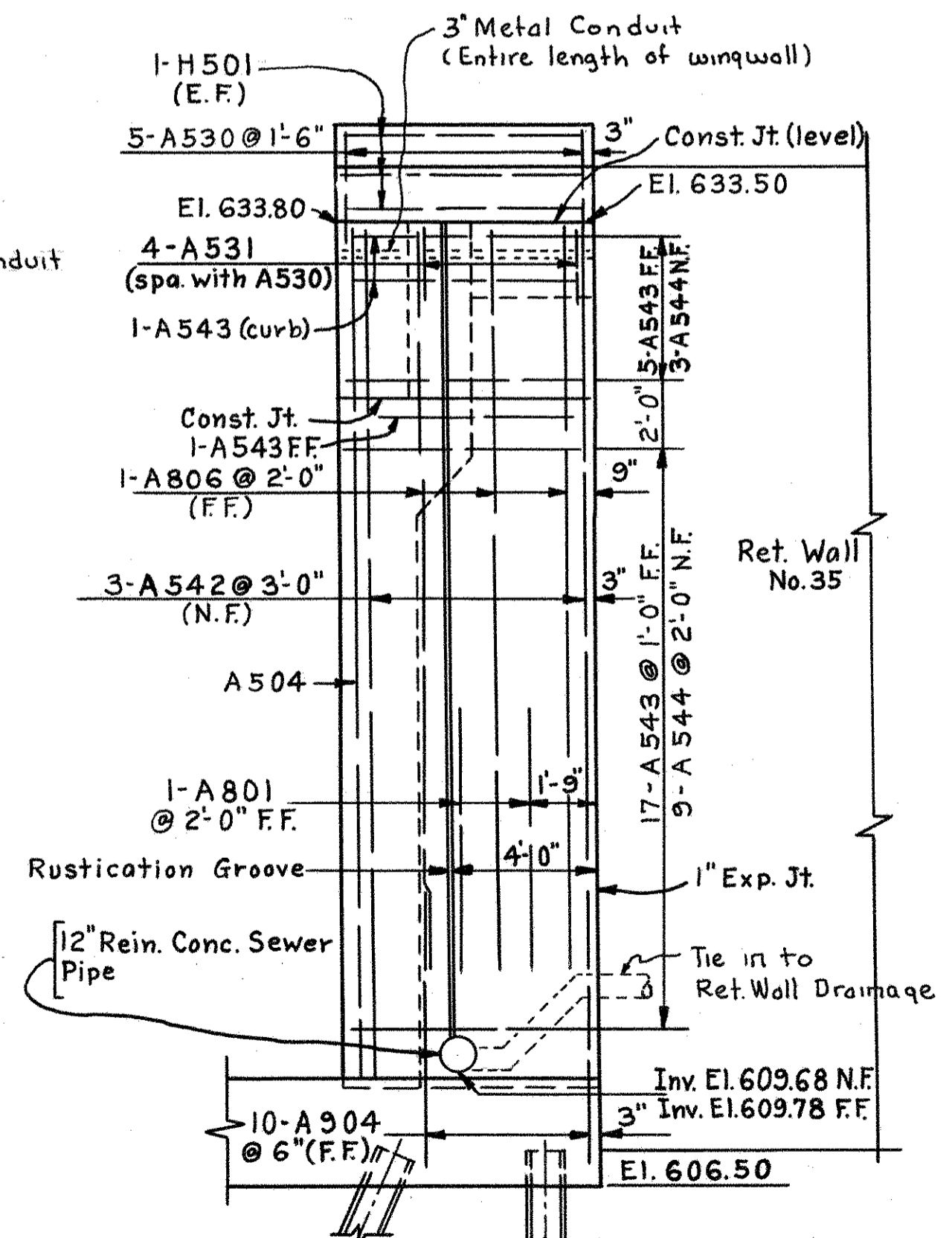
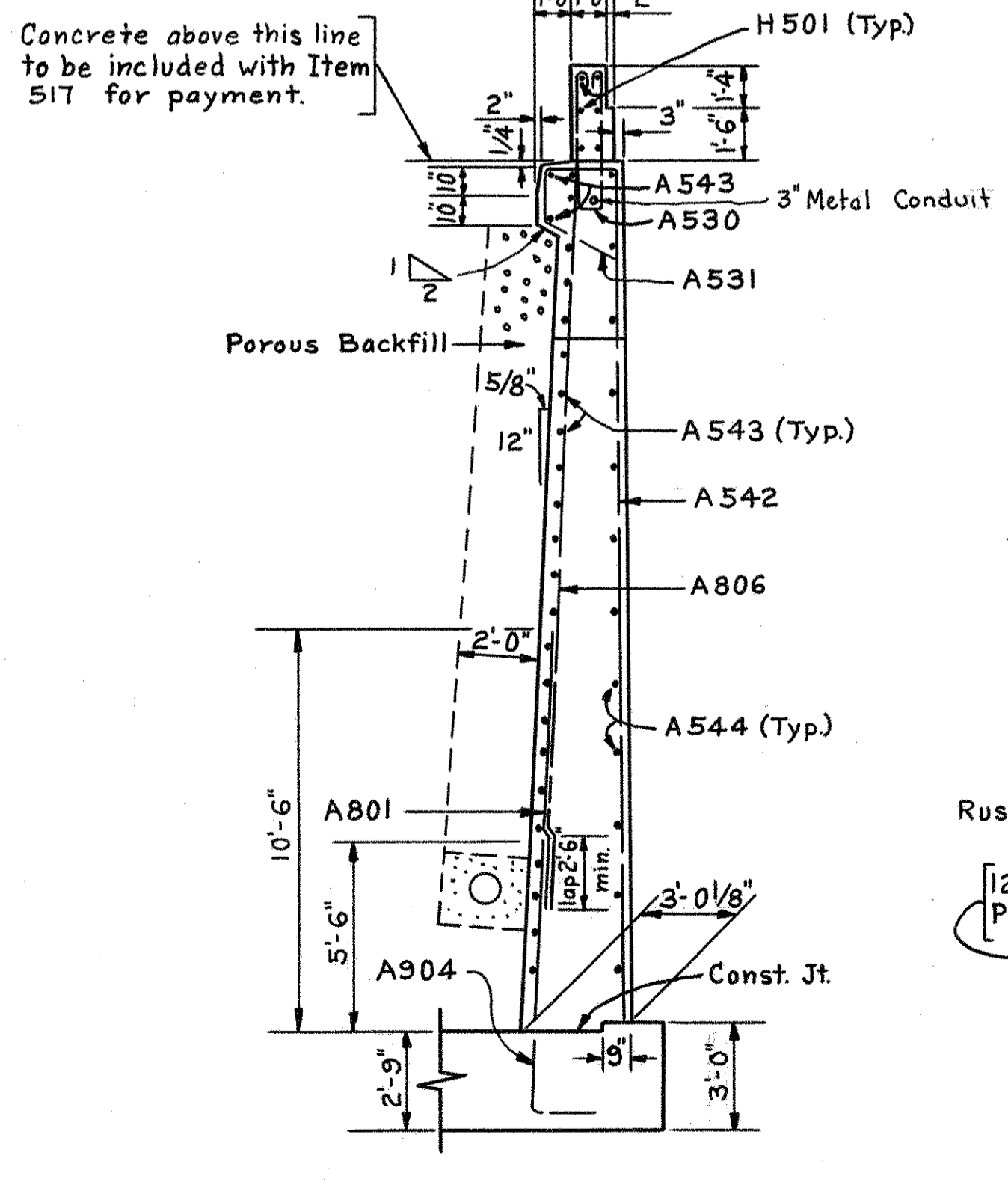
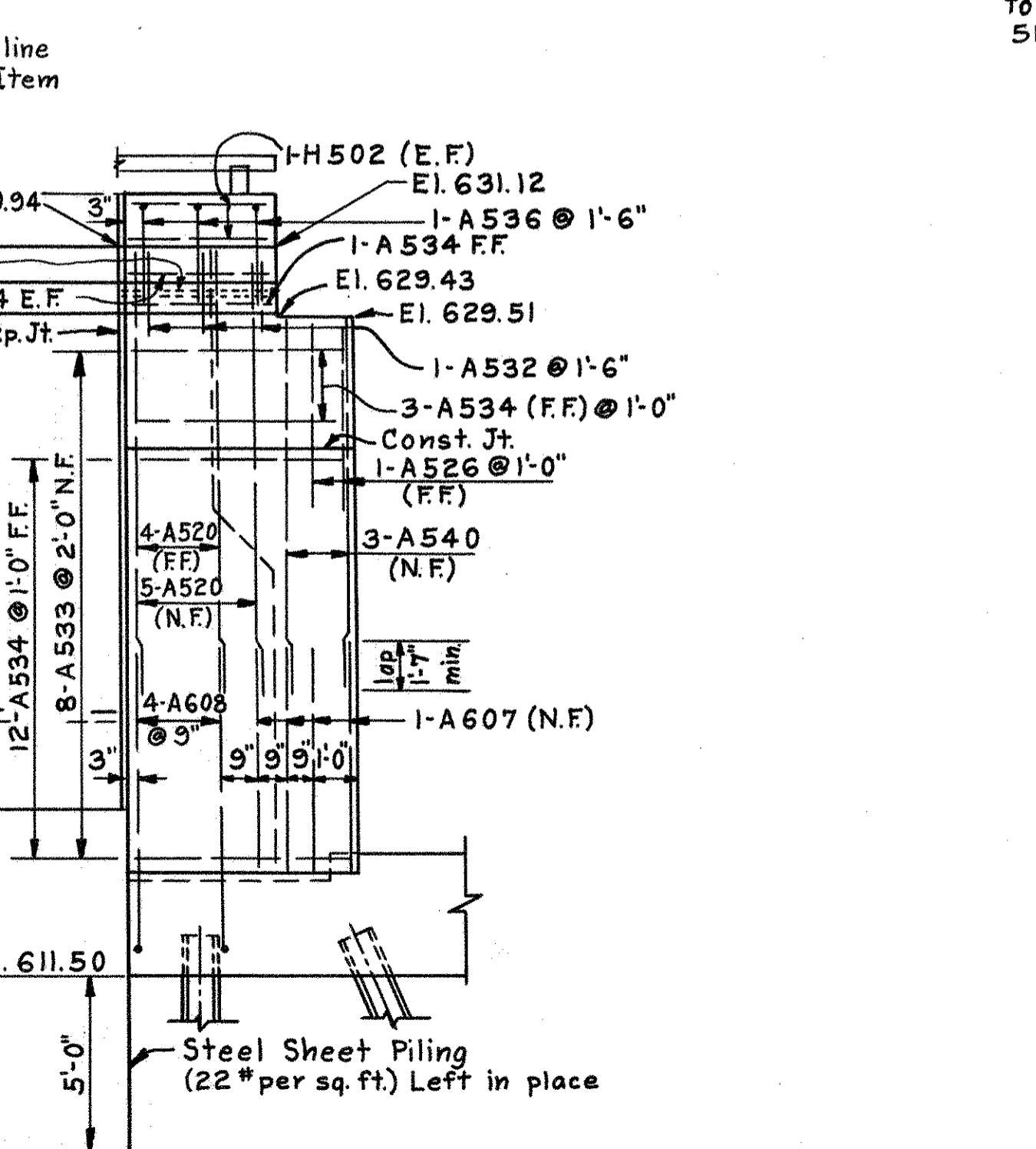
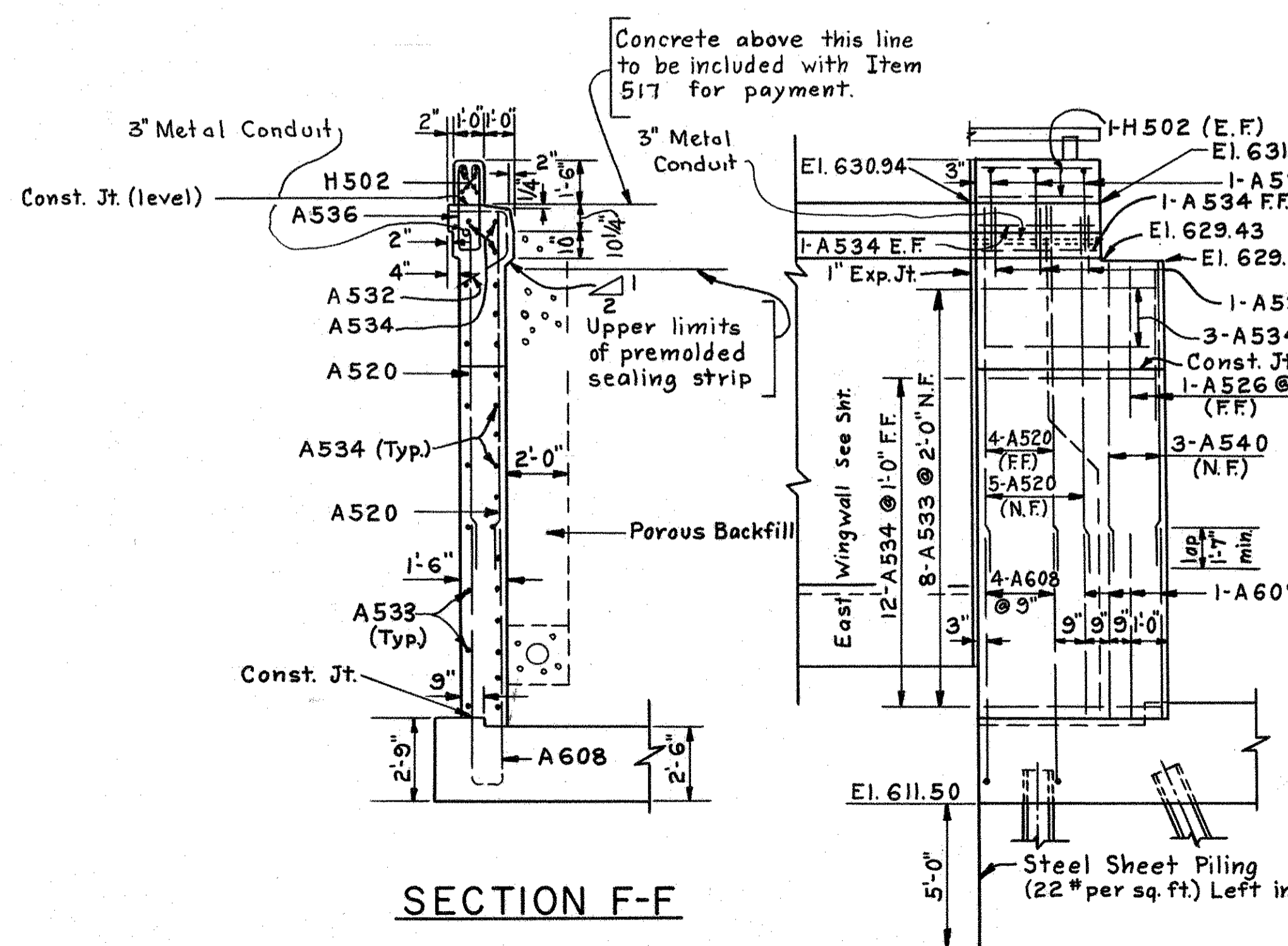
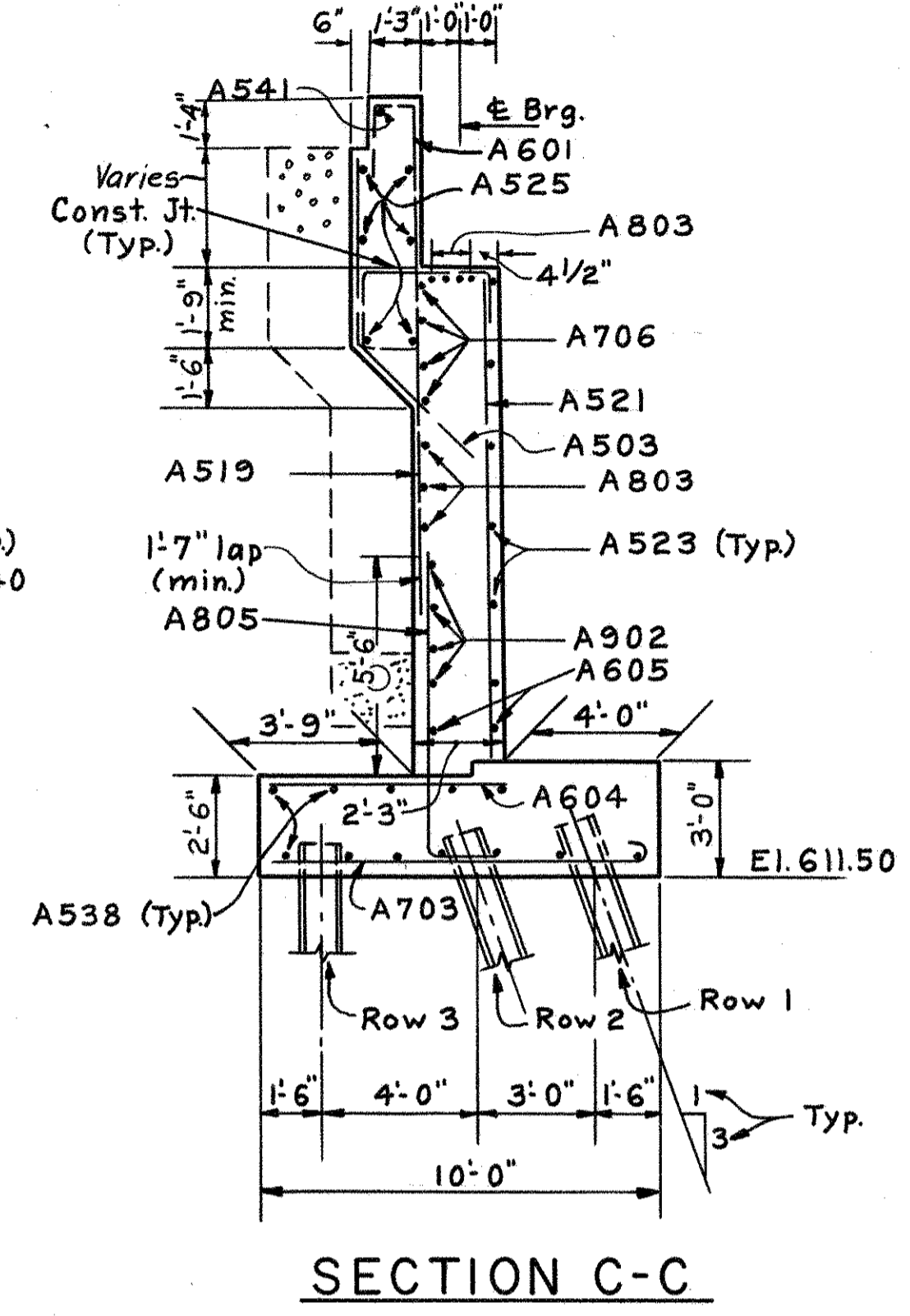
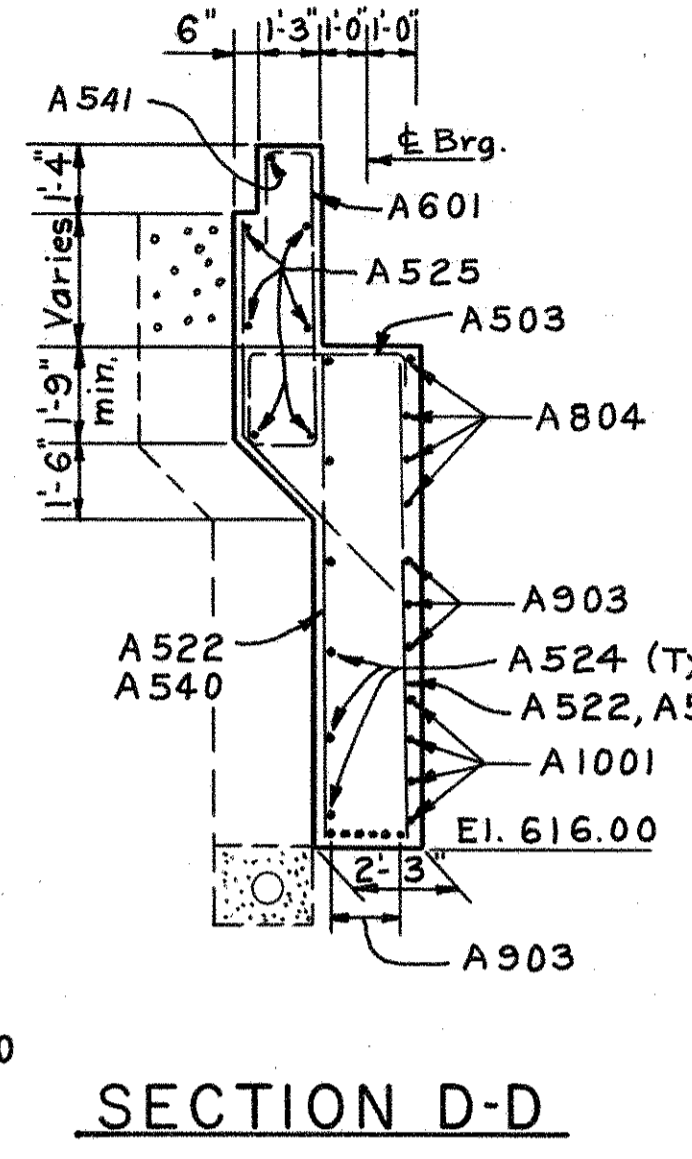
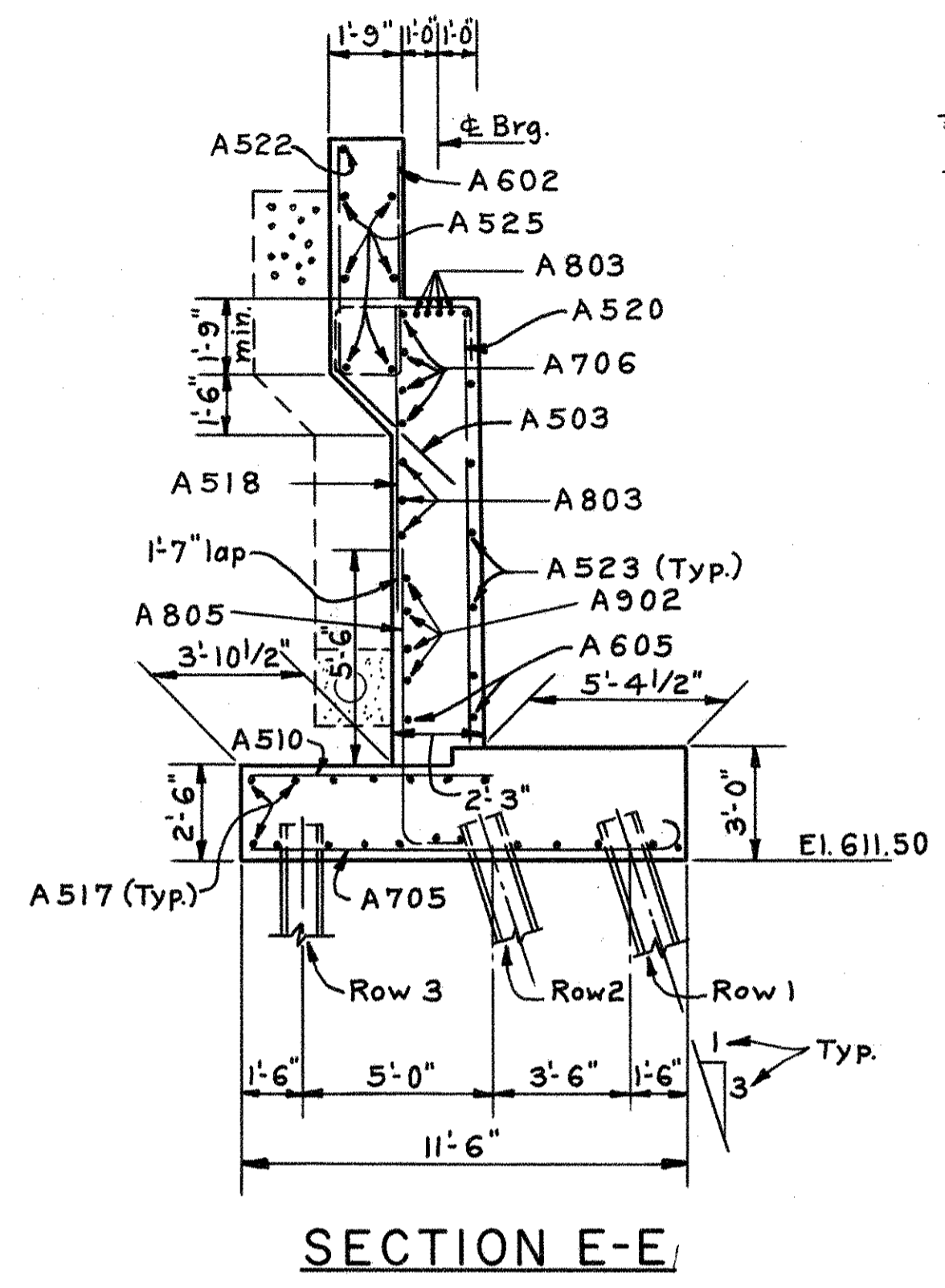
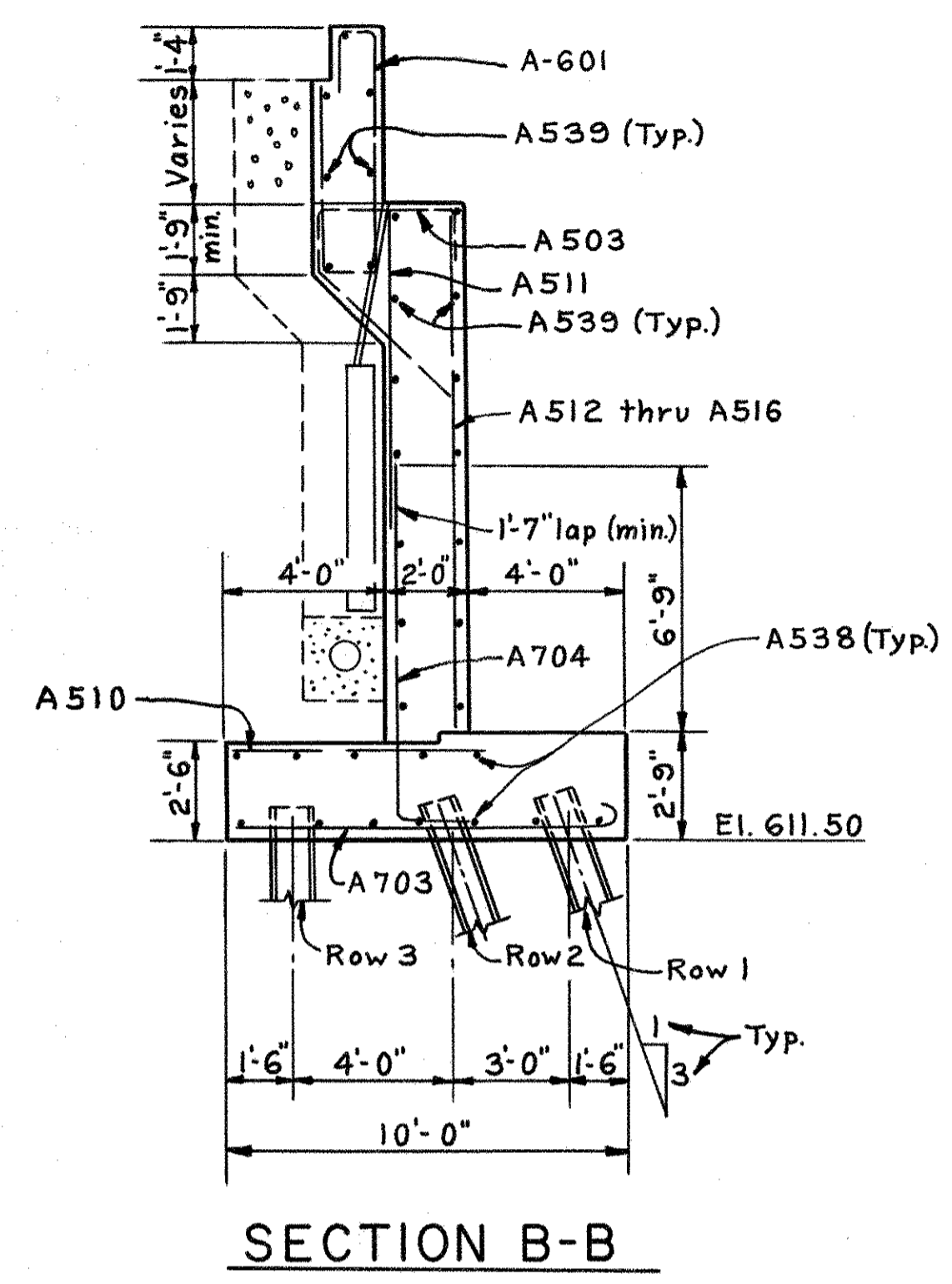
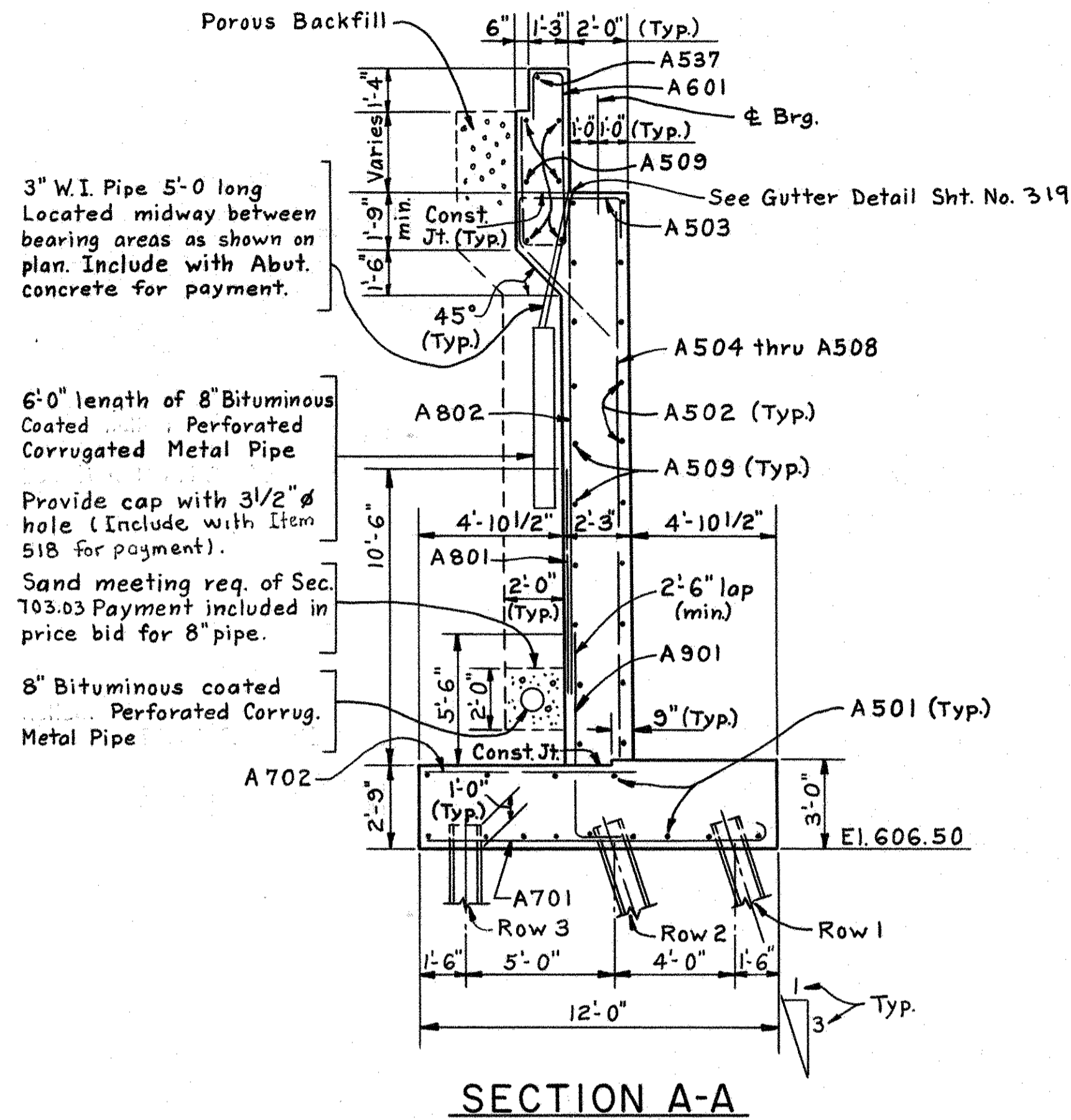


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| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
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| 2             | OHIO  |         |             |

316  
460

HAMILTON COUNTY  
HAM-71-2.08



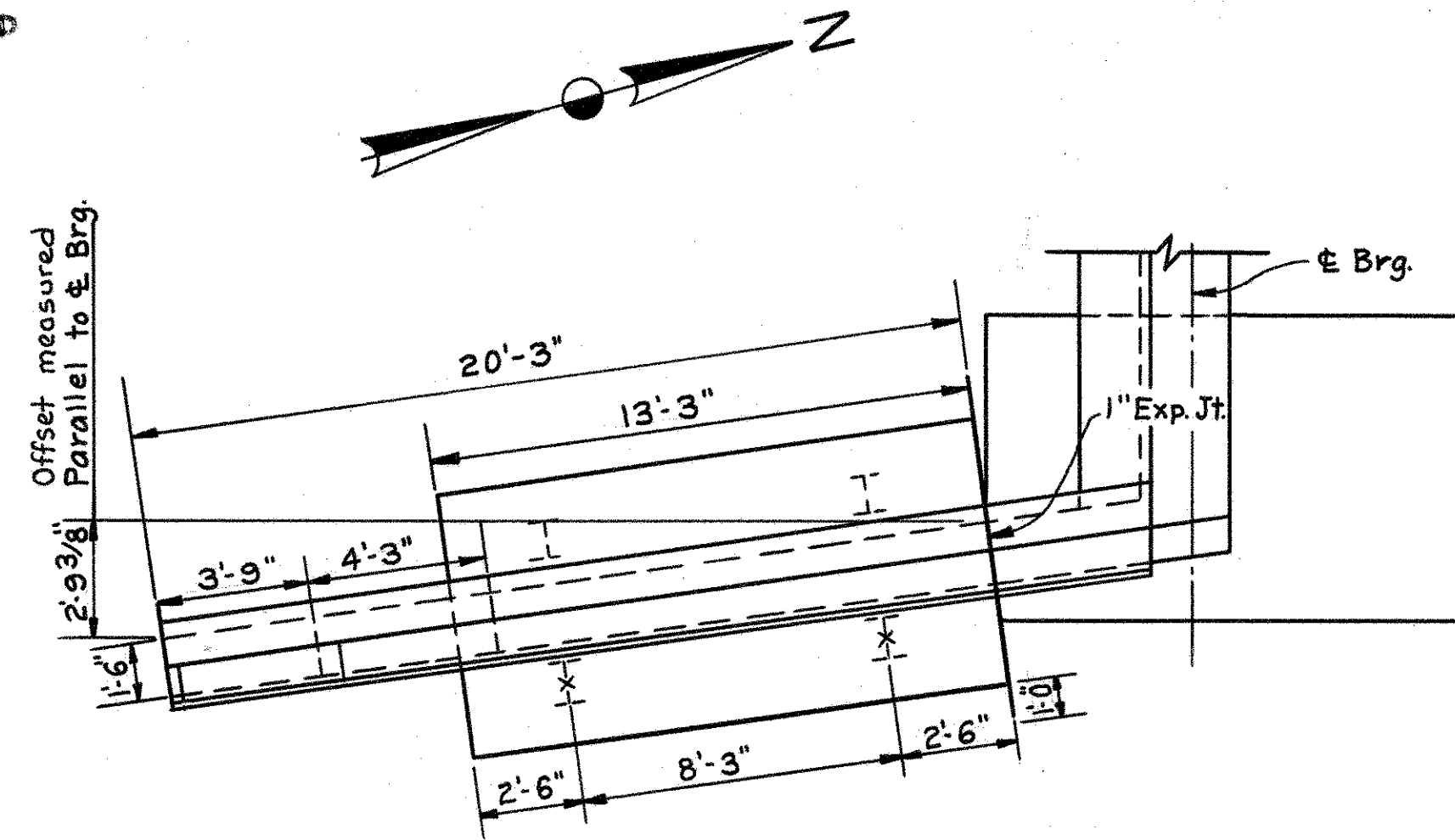
Work this sheet with sheets 315 & 317

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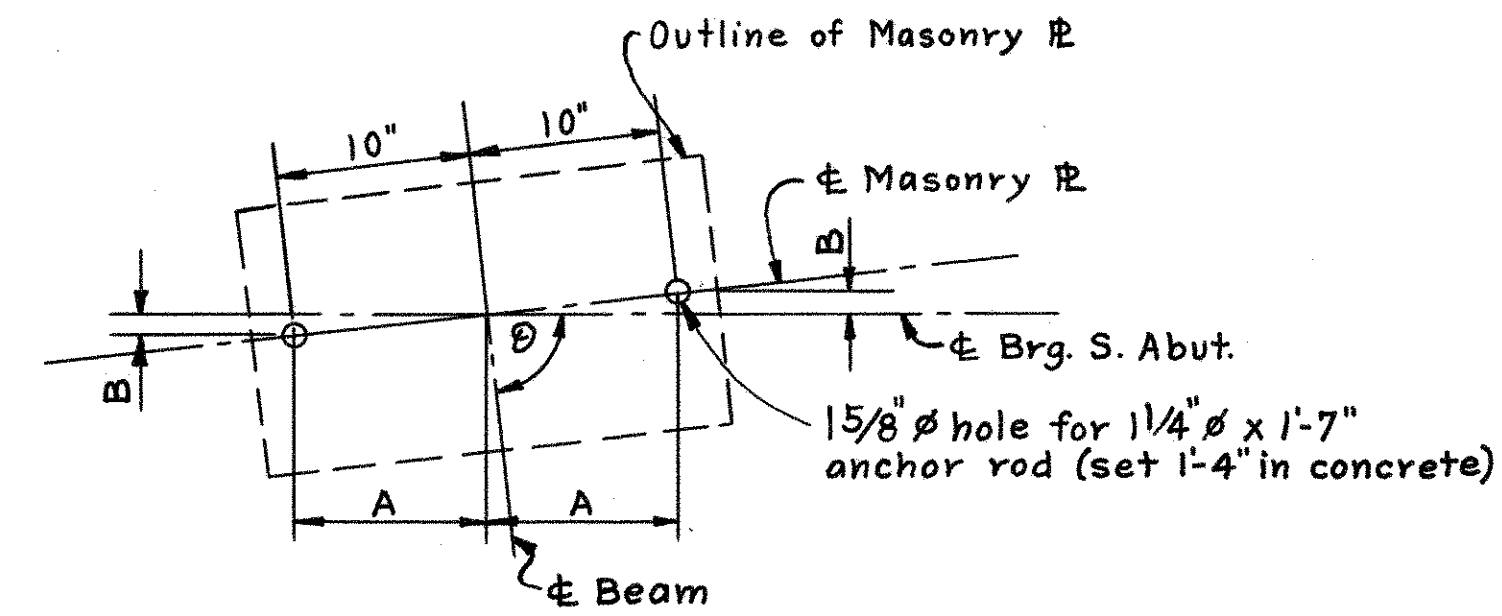
**SOUTH ABUTMENT**  
BRIDGE NO. HAM-71-0224

H&E BRIDGE NO. 19

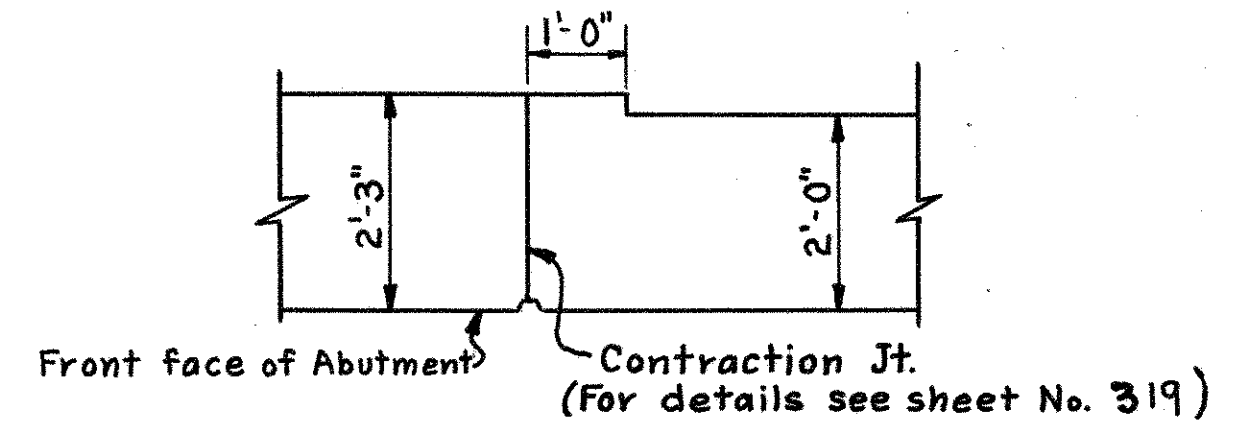
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PLAN

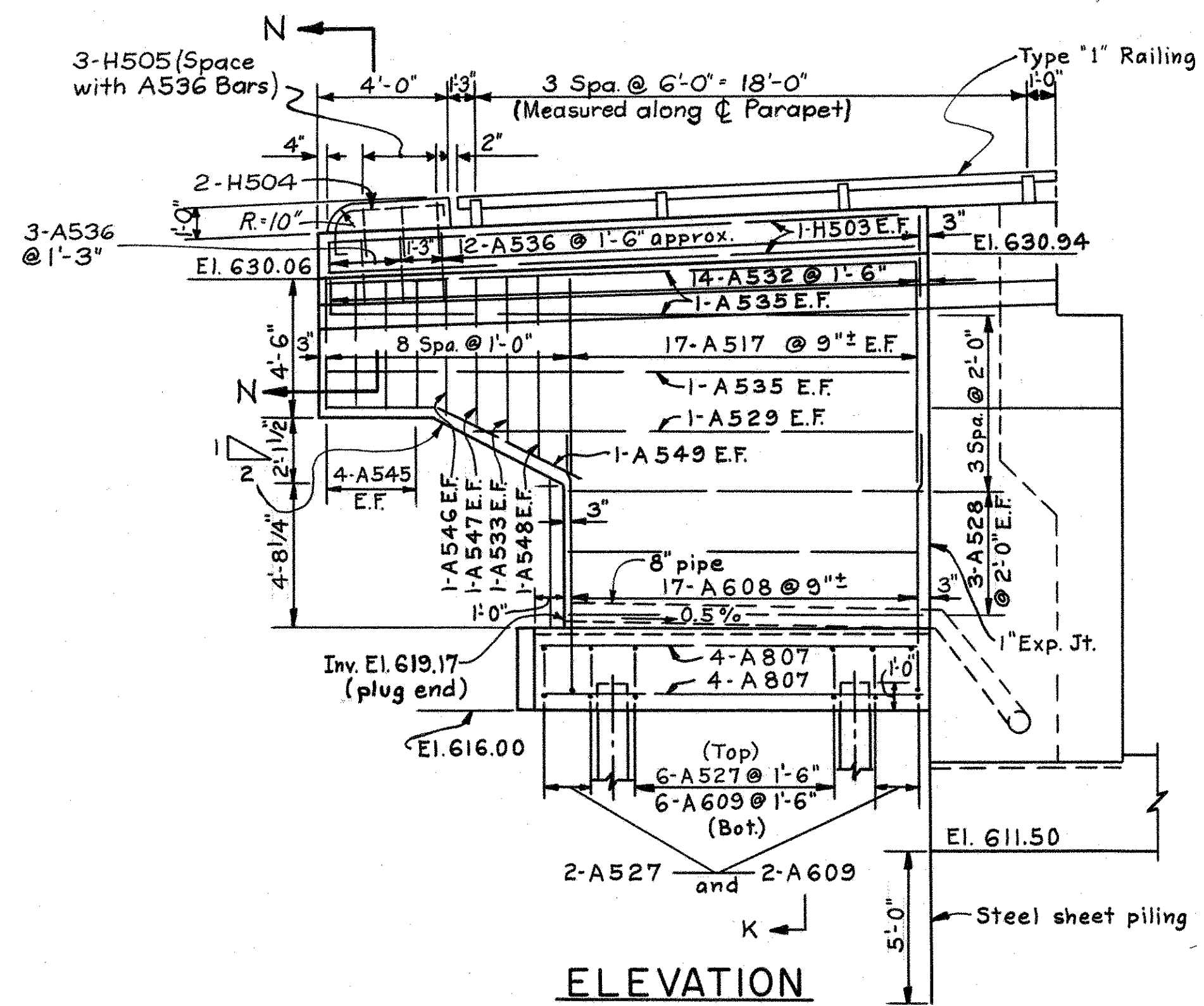


ANCHOR ROD DETAIL



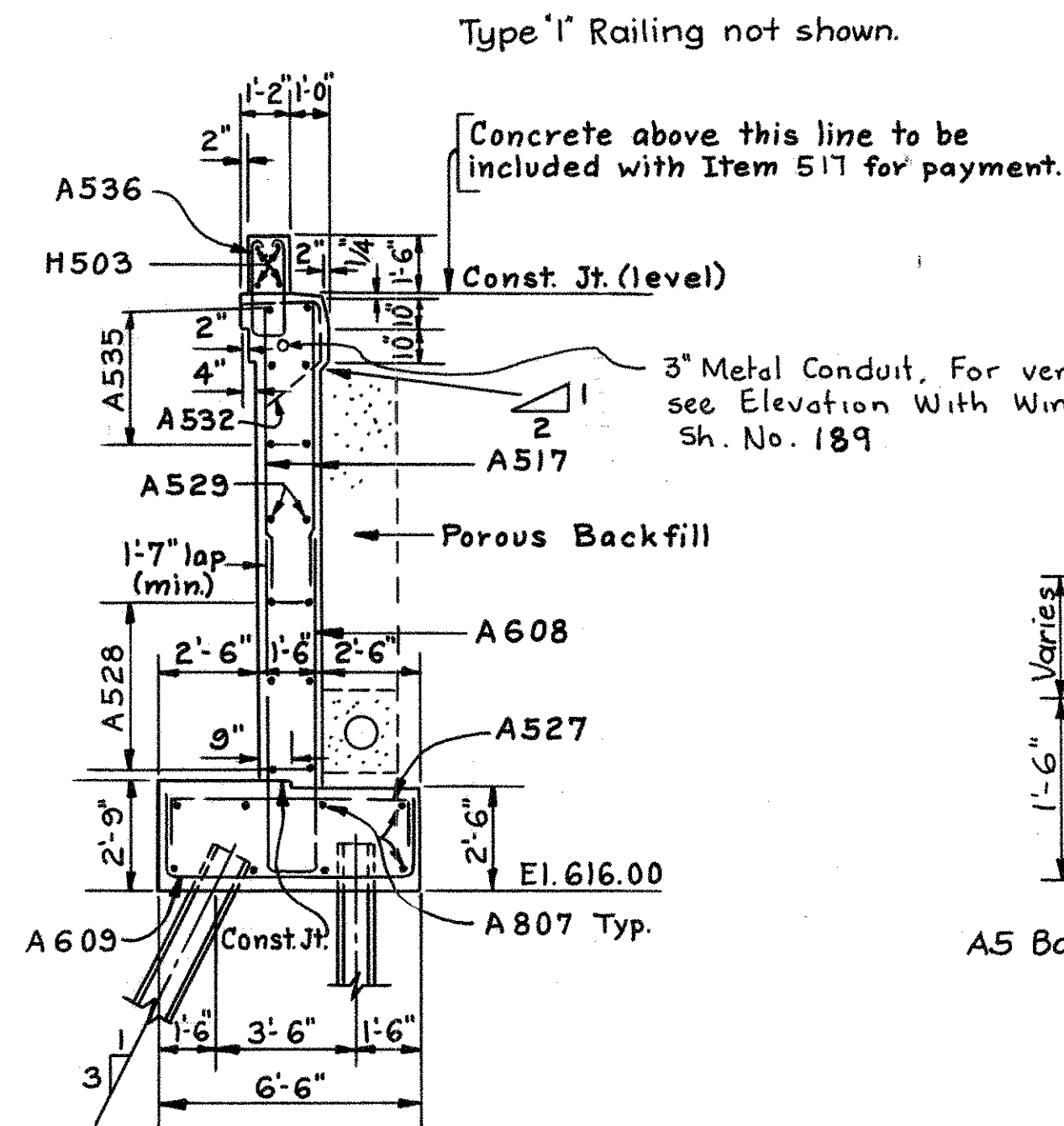
SECTION L-L

SECTION M-M  
(Opposite hand)

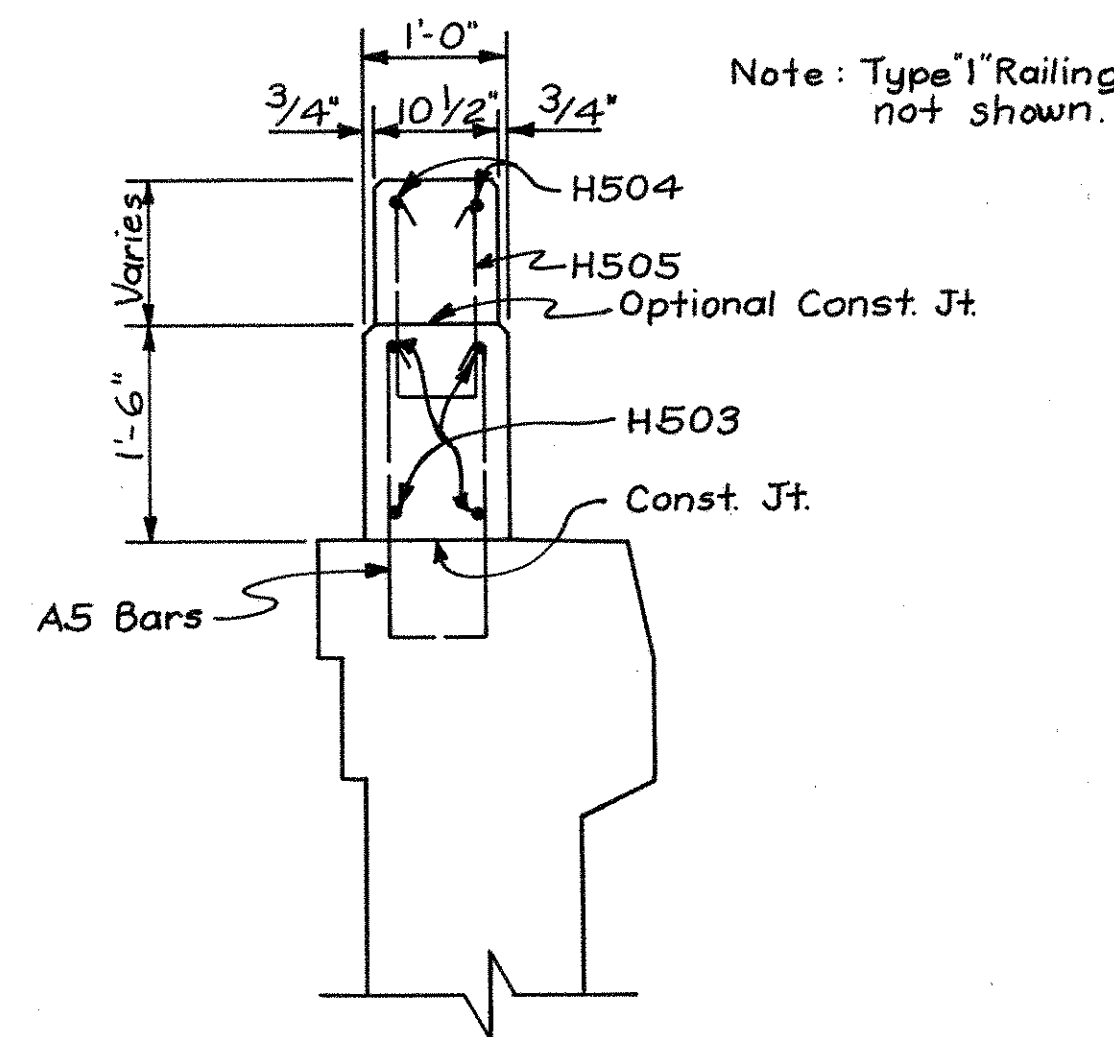


ELEVATION

EAST WINGWALL



SECTION K-K



SECTION N-N

| Beam     | Angle $\theta$ | DIMENSIONS |          |
|----------|----------------|------------|----------|
|          |                | A          | B        |
| A thru H | 85°24'35"      | 9 15/16"   | 13 1/16" |
| J        | 84°51'04"      | 9 15/16"   | 7 7/8"   |
| K        | 84°17'37"      | 9 15/16"   | 1"       |
| L        | 83°44'14"      | 9 15/16"   | 1 1/16"  |
| M        | 83°10'55"      | 9 15/16"   | 3/16"    |

Work this sheet with sheets 315 & 316

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SOUTH ABUTMENT  
BRIDGE NO. HAM. 71-0224

H&E BRIDGE NO. 19

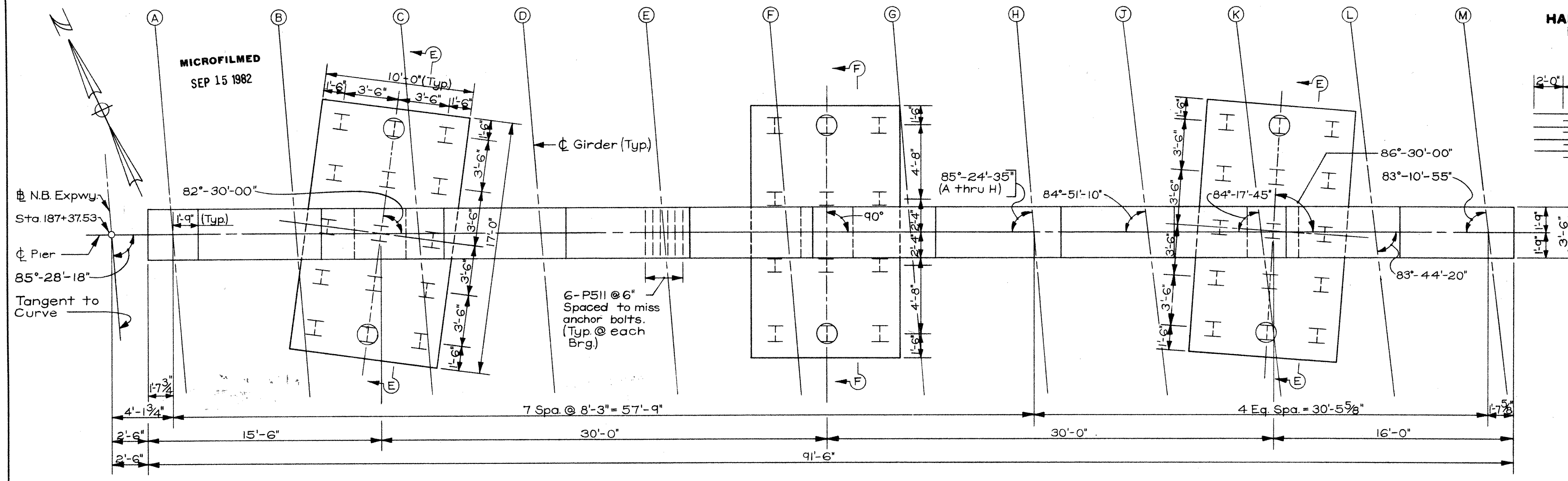
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|----------|-------|--------|---------|-------------------|---------|
| DML      | DML   | RS     | WL      | H.A.Z.<br>8-30-65 |         |





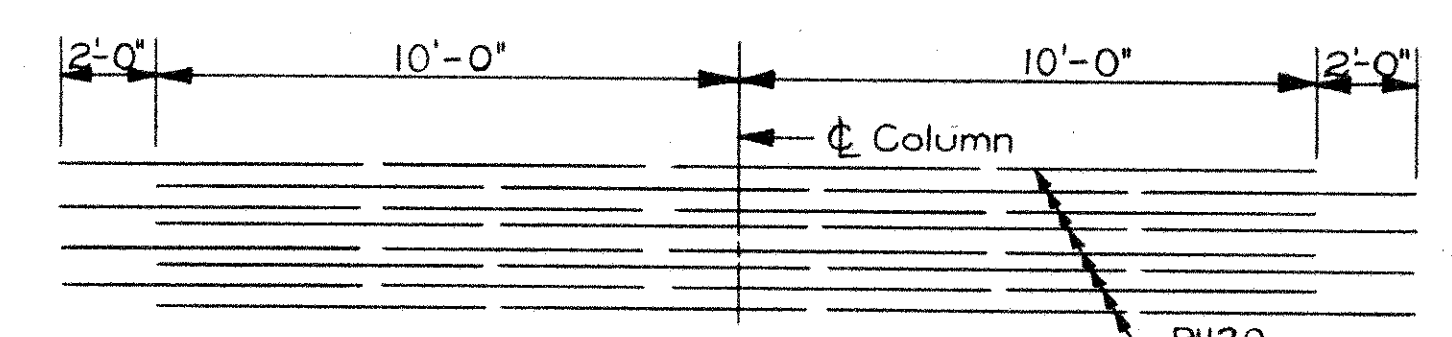


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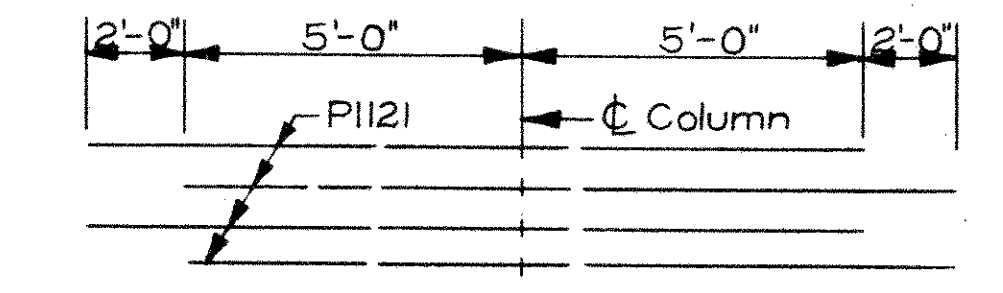


⊙ Denotes battered piles  
⊕ Columns normal to ⊕ Pier.

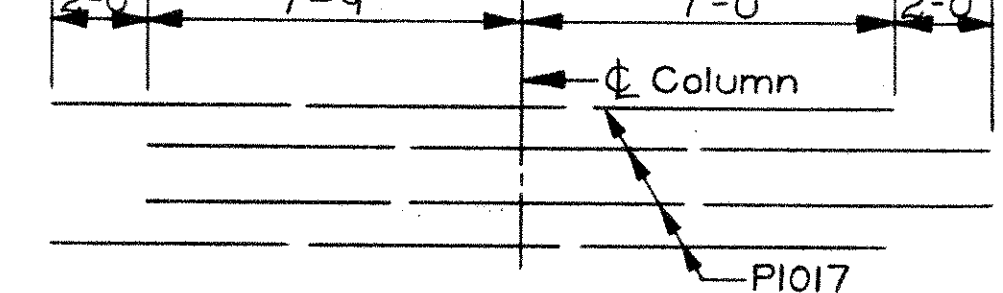
PLAN



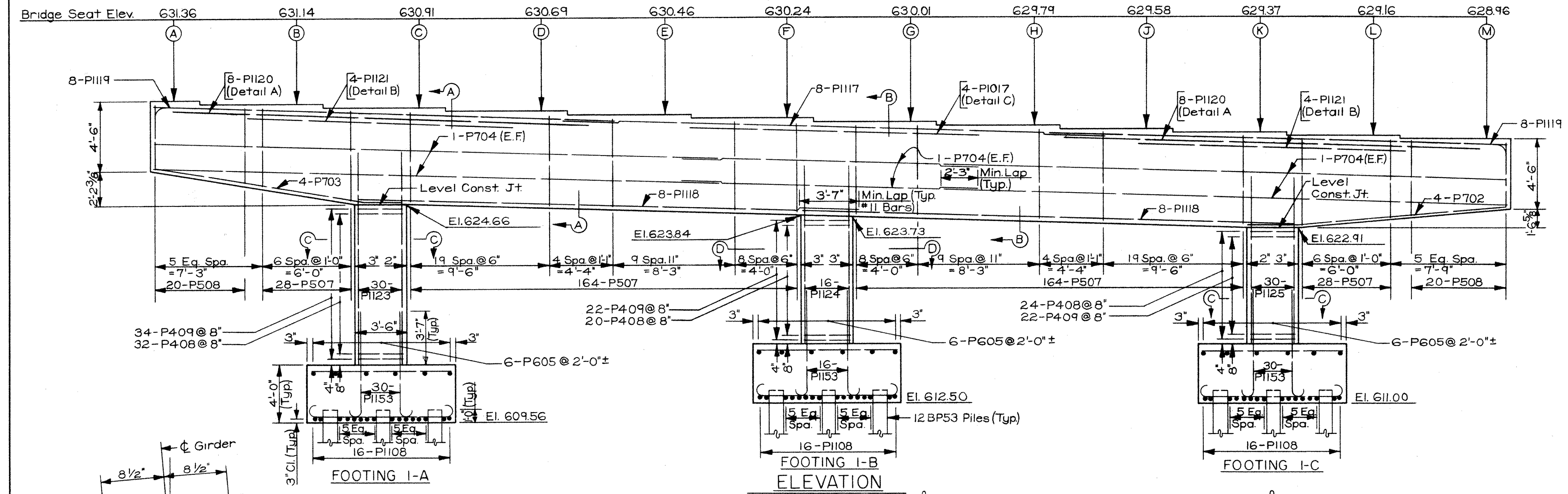
DETAIL A



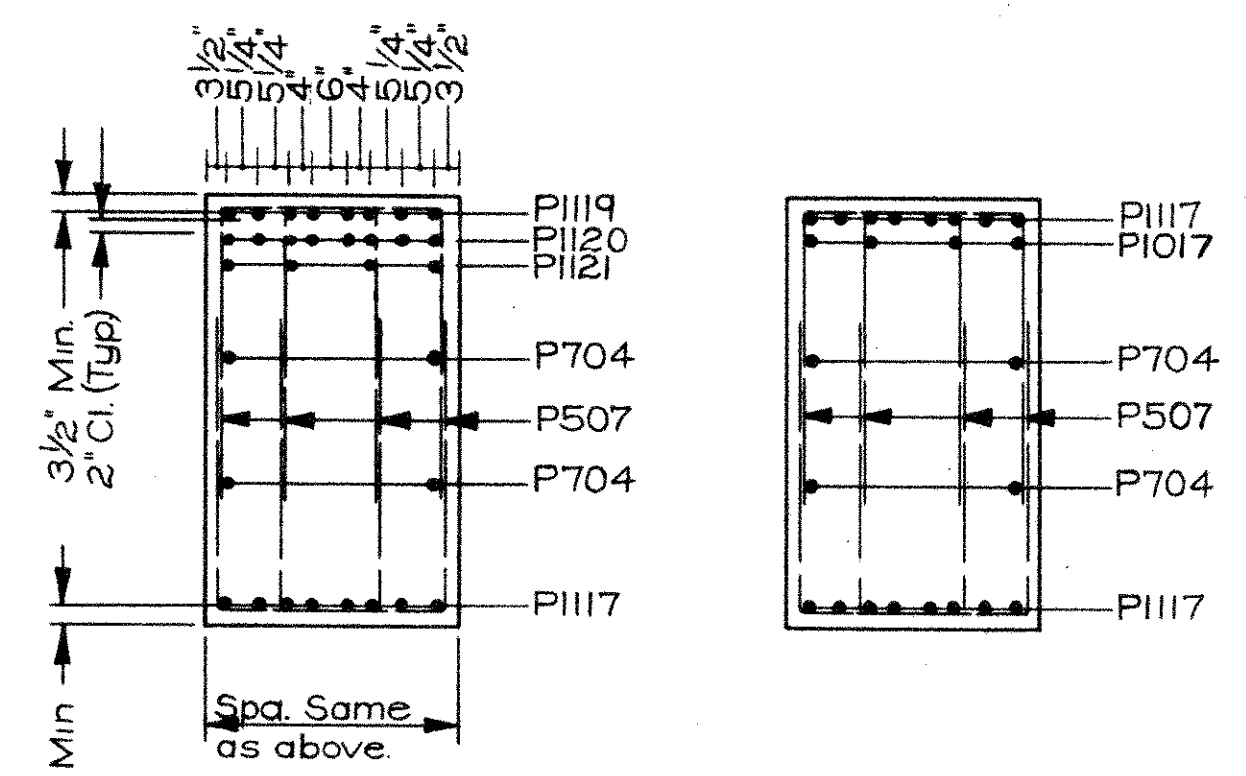
DETAIL B



DETAIL C



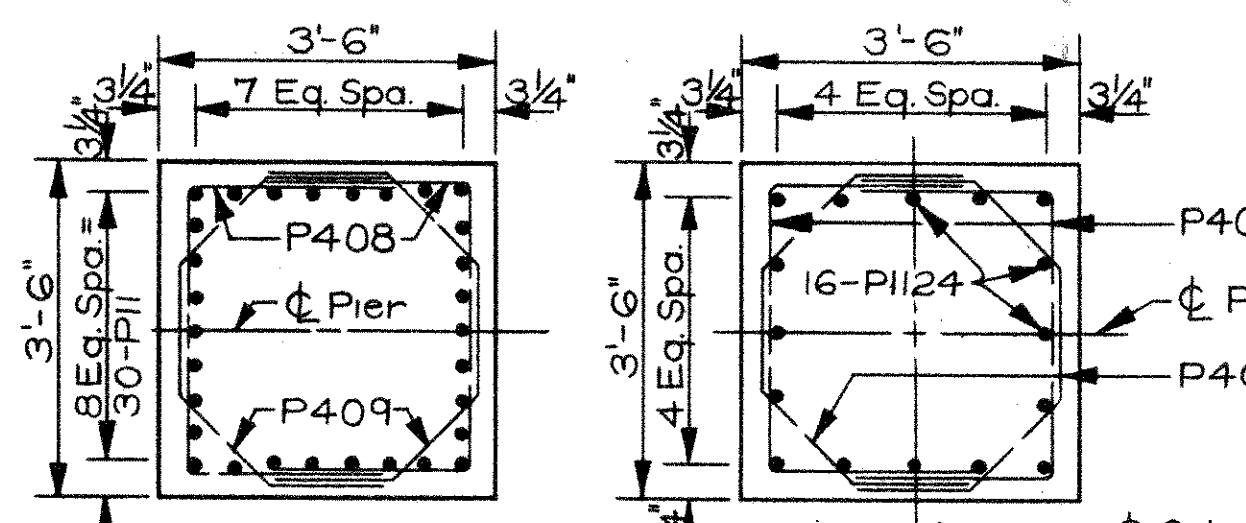
FOOTING I-B ELEVATION



SECTION A-A

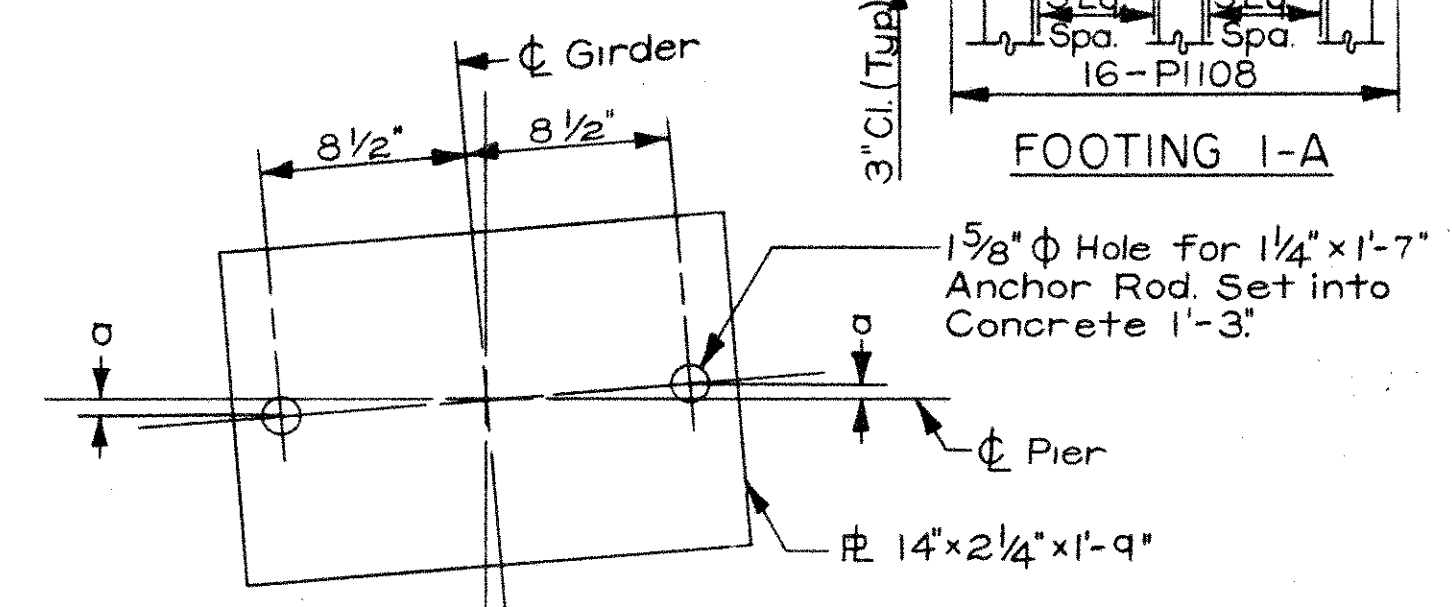
SECTION B-B

(For location of reinforcing see Section A-A)



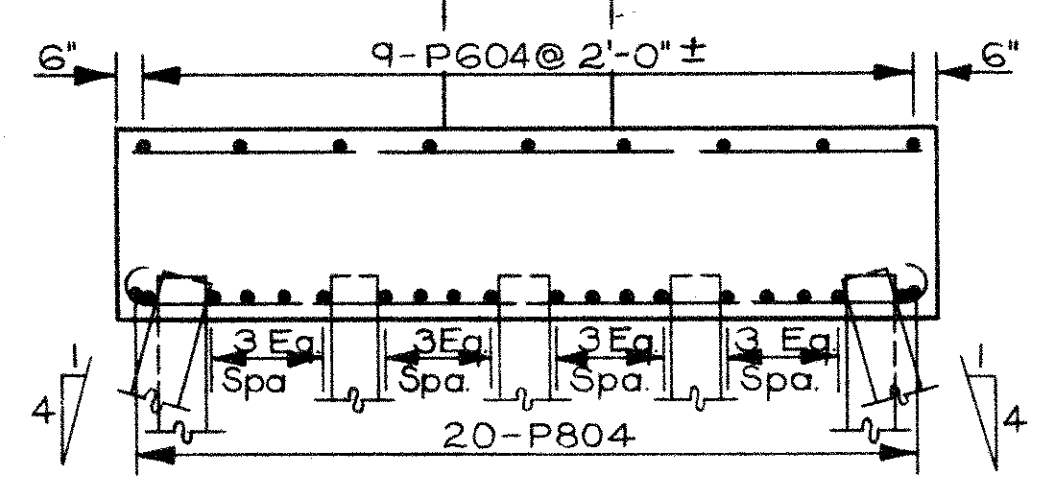
SECTION C-C

SECTION D-D

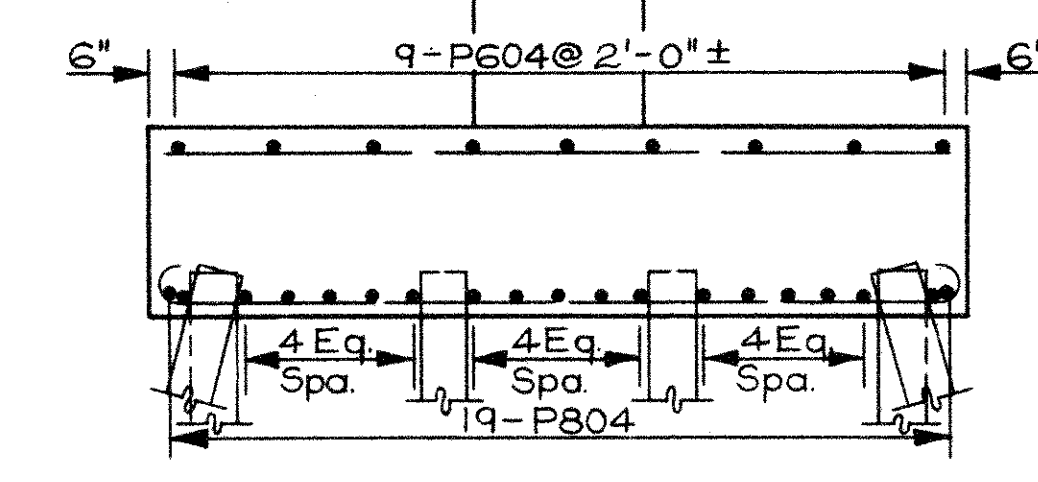


ANCHOR ROD LAYOUT

| GIRDER   | a       |
|----------|---------|
| A thru H | 1 1/16" |
| J        | 3/4"    |
| K        | 7/8"    |
| L        | 1 1/16" |
| M        | 1"      |



SECTION E-E



SECTION F-F

Note: Maximum design pile load = 40 tons per pile. Special care shall be taken in placing steel in the top of the pier cap so that it will not interfere with the drilling of anchor rod holes.

For general notes see Sh. No. 312

Work this sheet with Sheet Nos. 313 & 314

HAZELET & ERDAL  
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CINCINNATI, OHIO

PIER NO. 1  
BRIDGE NO. HAM. 71 0224

H&E BRIDGE NO. 19

|          |       |        |         |               |         |
|----------|-------|--------|---------|---------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
| AN       | ⊕     |        | NeN     | 11.2.65       |         |

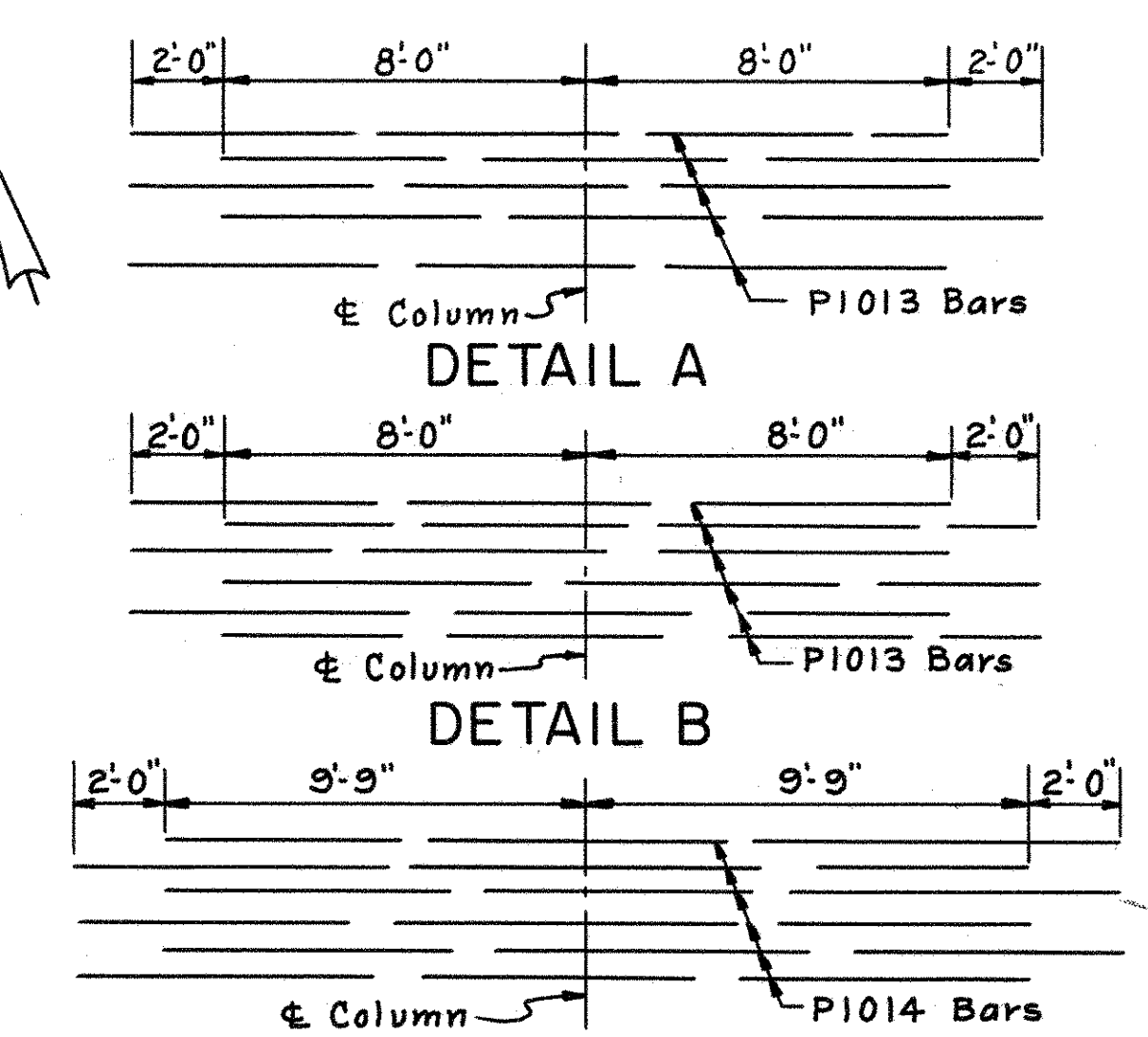
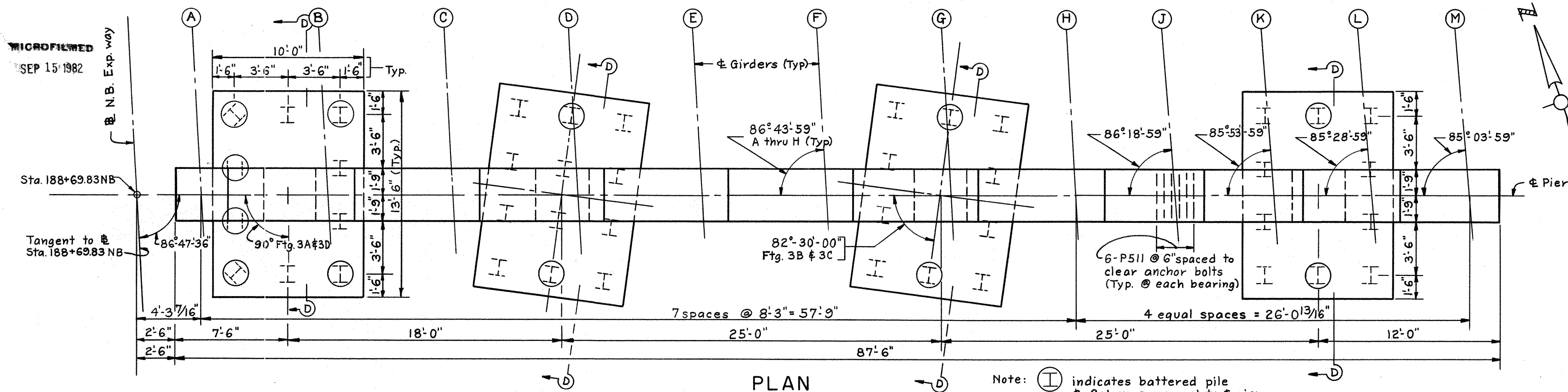


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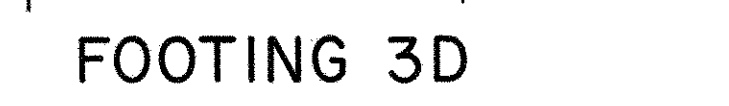
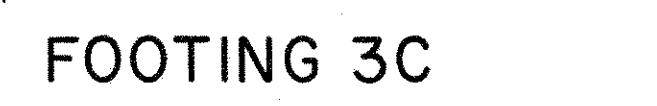
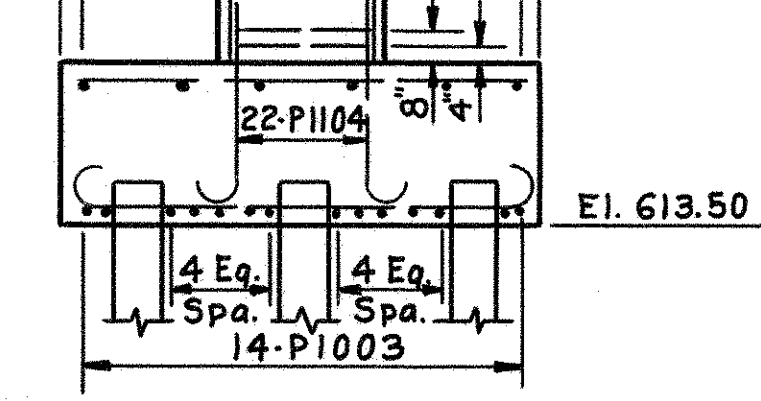
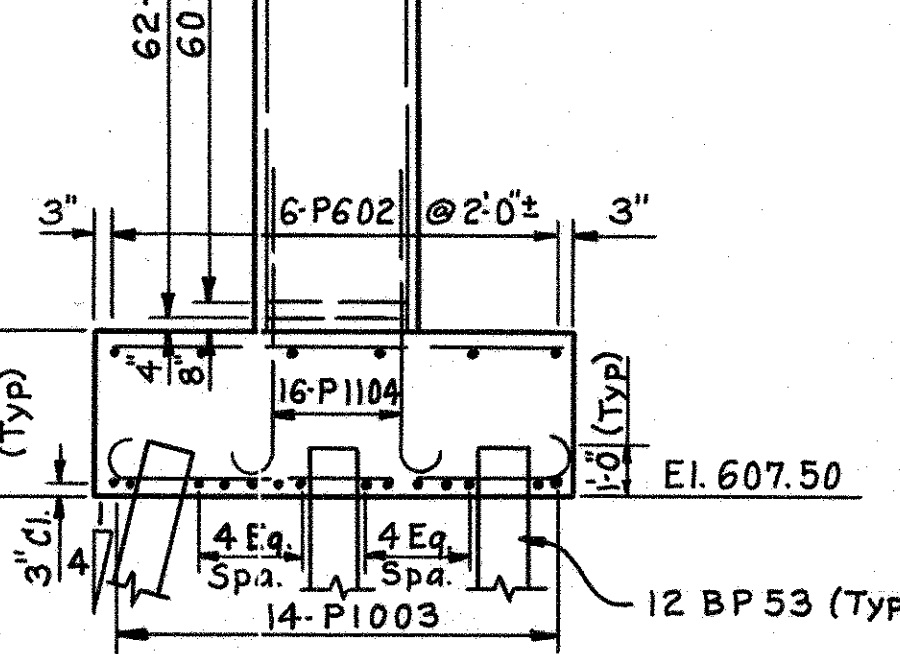
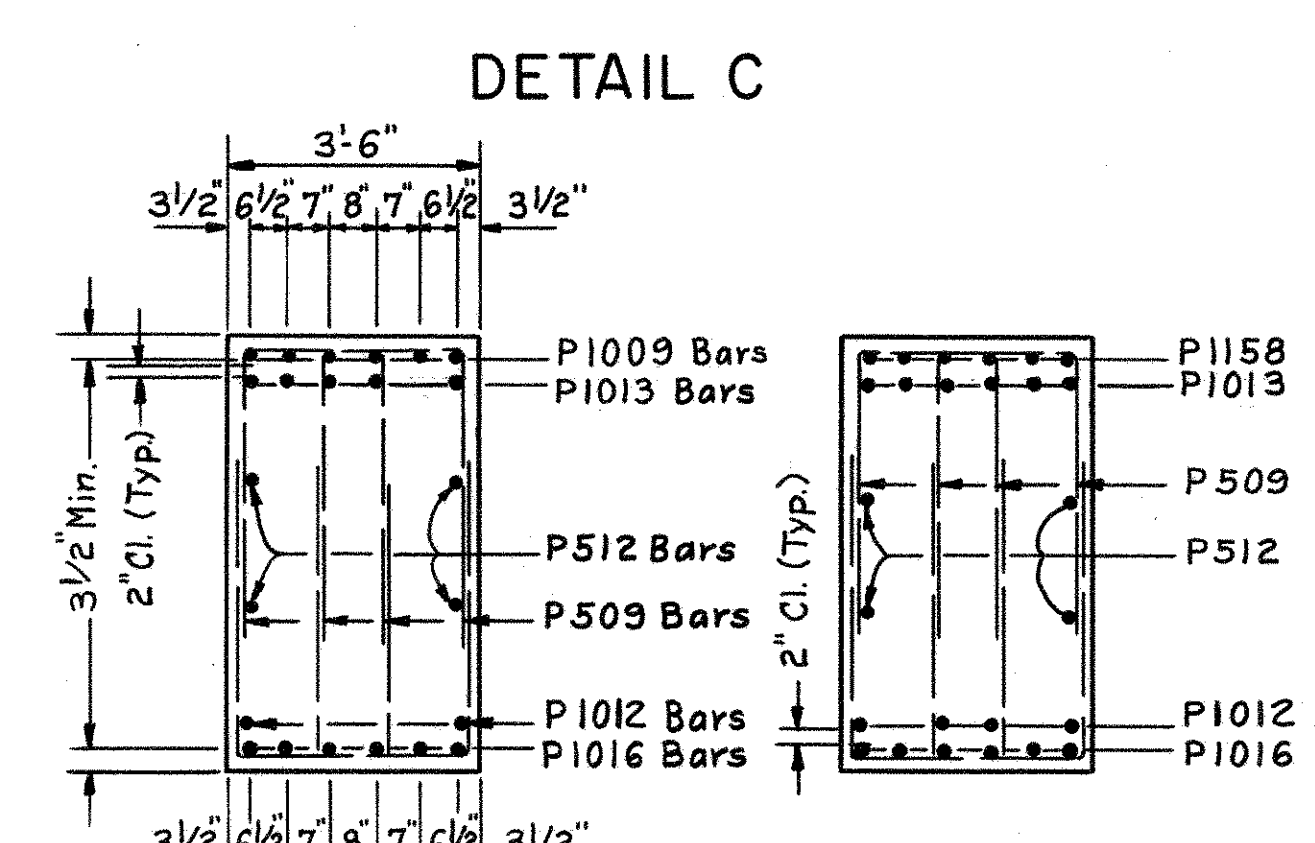
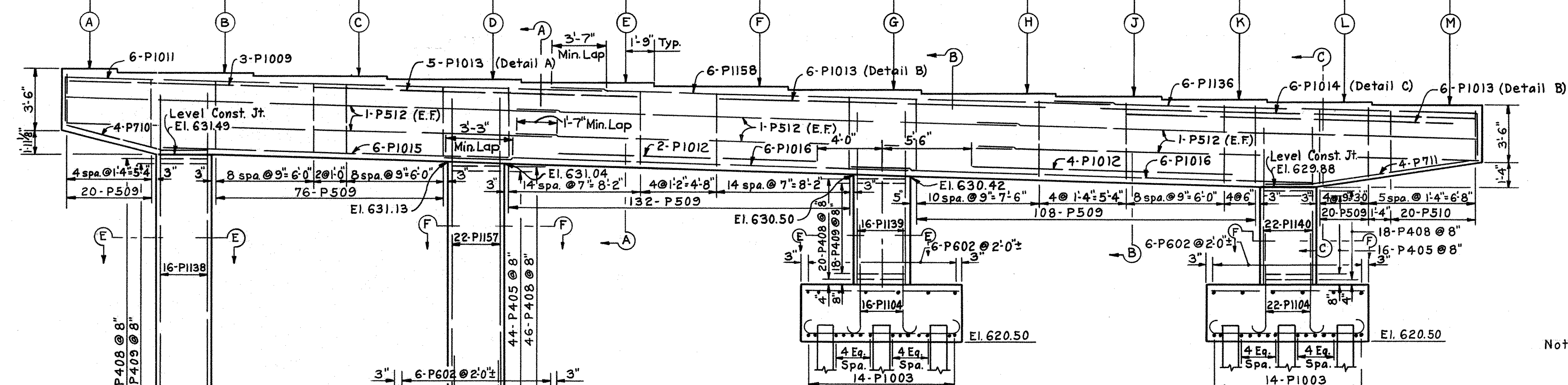
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460

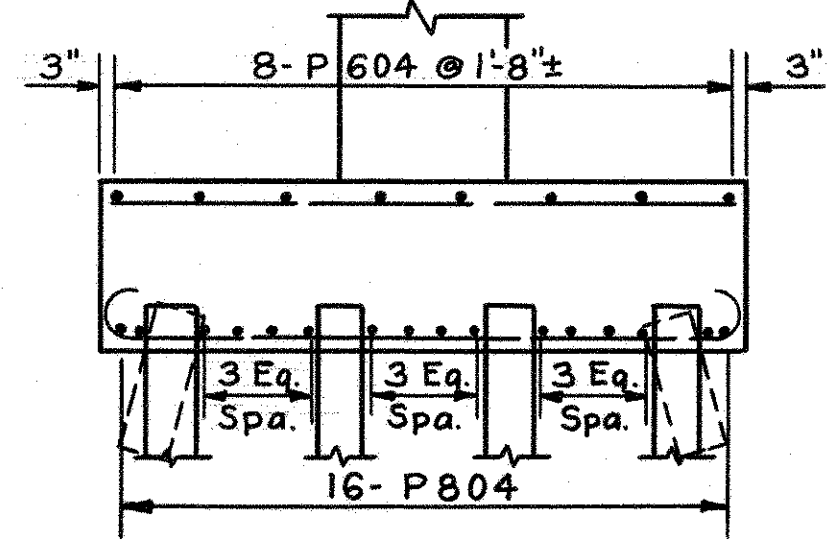
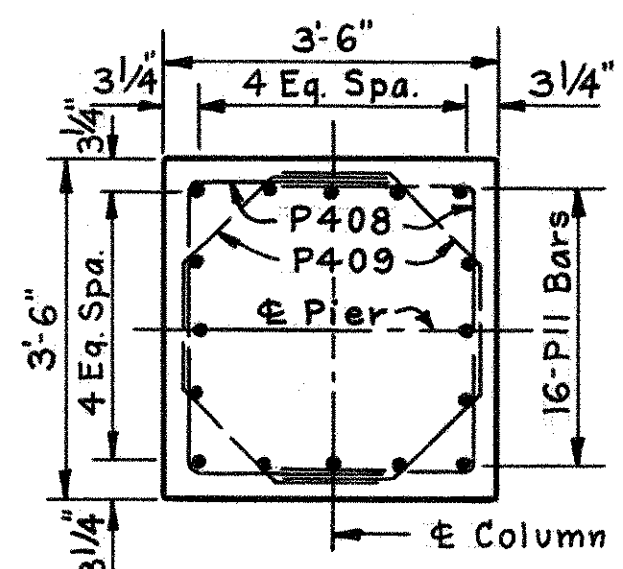
HAMILTON COUNTY  
HAM-71-2.08



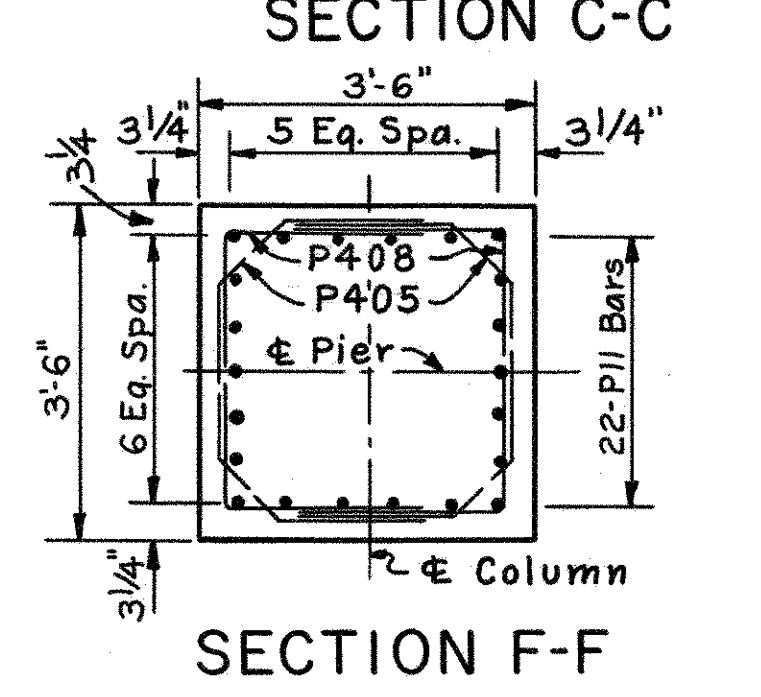
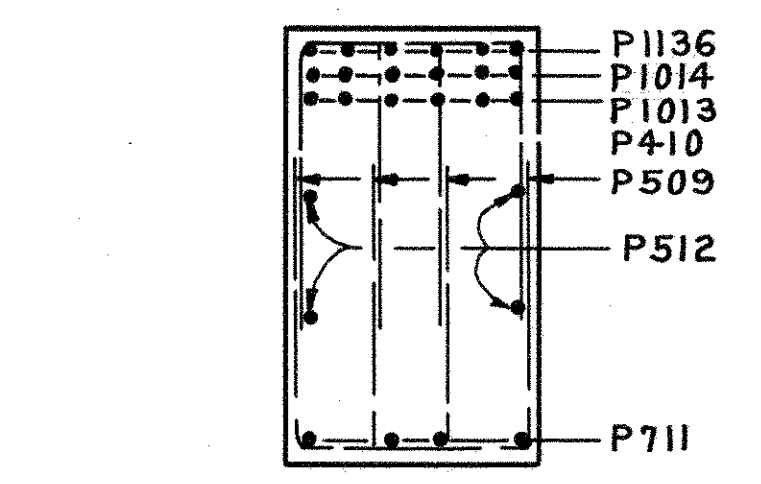
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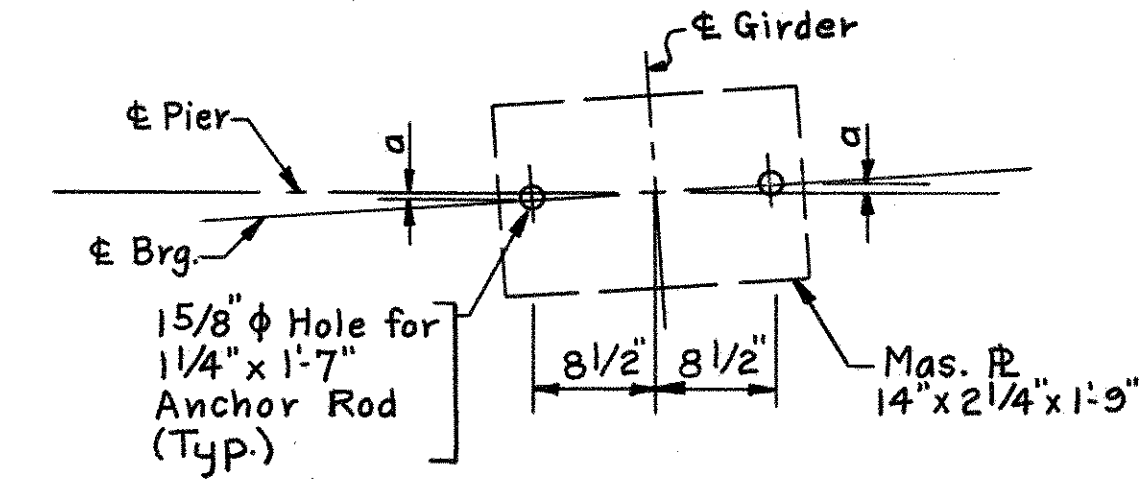
ELEVATION



Note:  
For General Notes see sheet 312  
Care should be taken when placing steel in top of pier cap to avoid interference with anchor bolts.  
Maximum design pile load = 40 Tons/pile



| Girder   | a       |
|----------|---------|
| A thru H | 1/2"    |
| J        | 9/16"   |
| K        | 5/8"    |
| L        | 1 1/16" |
| M        | 3/4"    |



Work this sheet with sheet Nos. 313 & 314

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CONSULTING ENGINEERS  
CINCINNATI, OHIO

PIER NO. 3  
BRIDGE NO. HAM-71-0224

H&E BRIDGE NO. 19

|          |       |        |         |               |         |
|----------|-------|--------|---------|---------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
| AN       | AN    | R.S.   | N&N     | 8-30-65       |         |







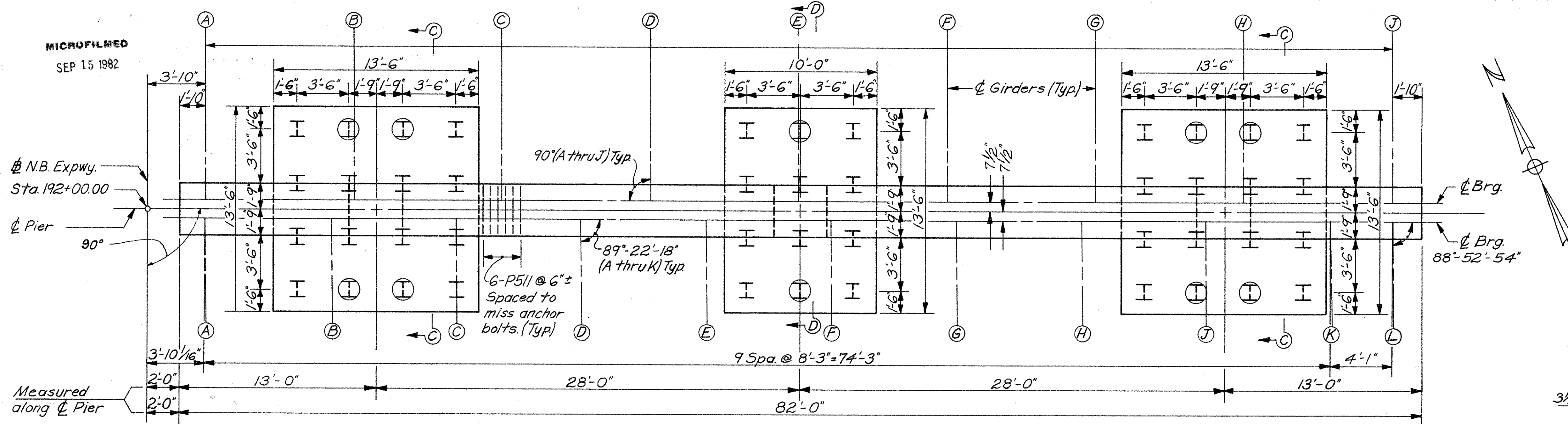


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| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
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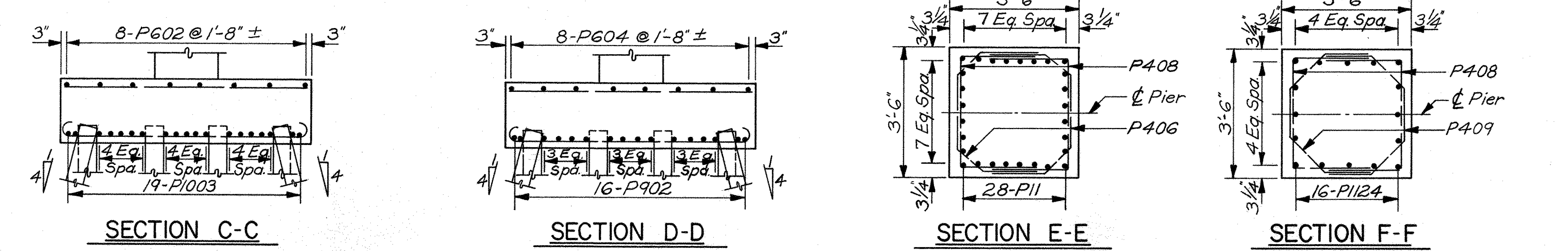
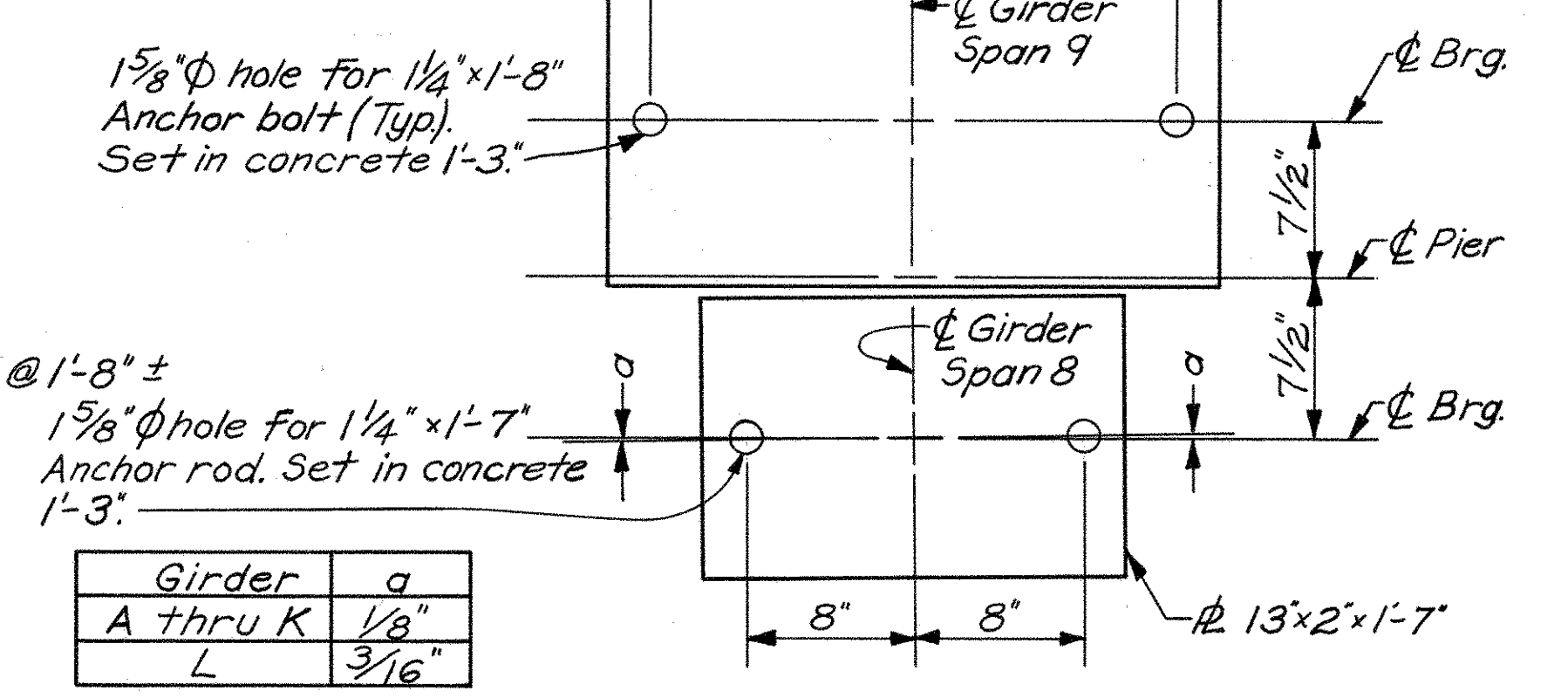
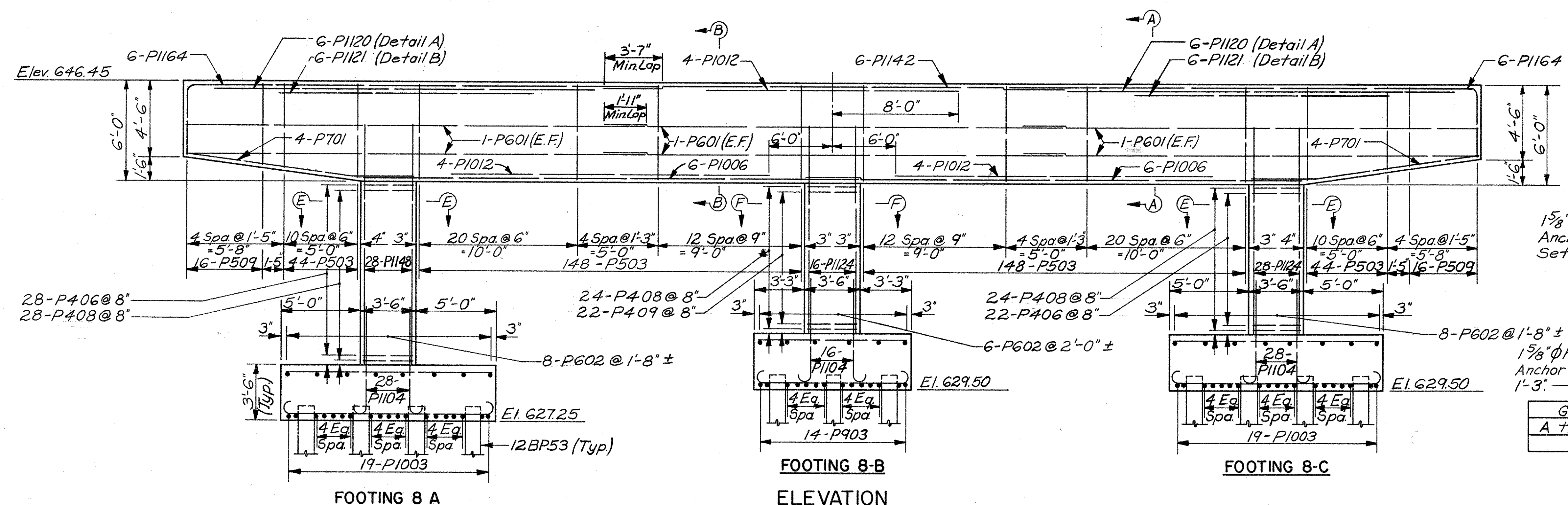
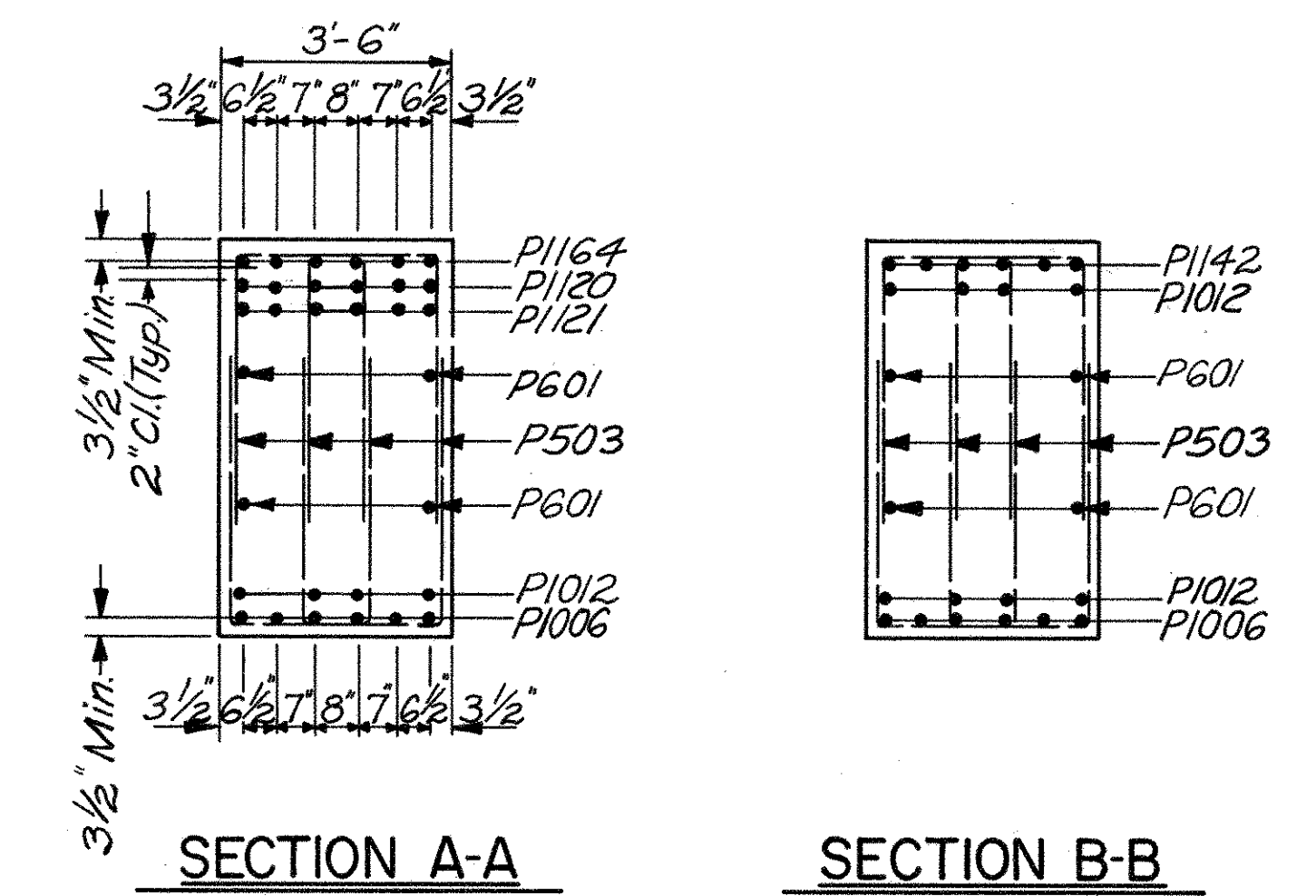
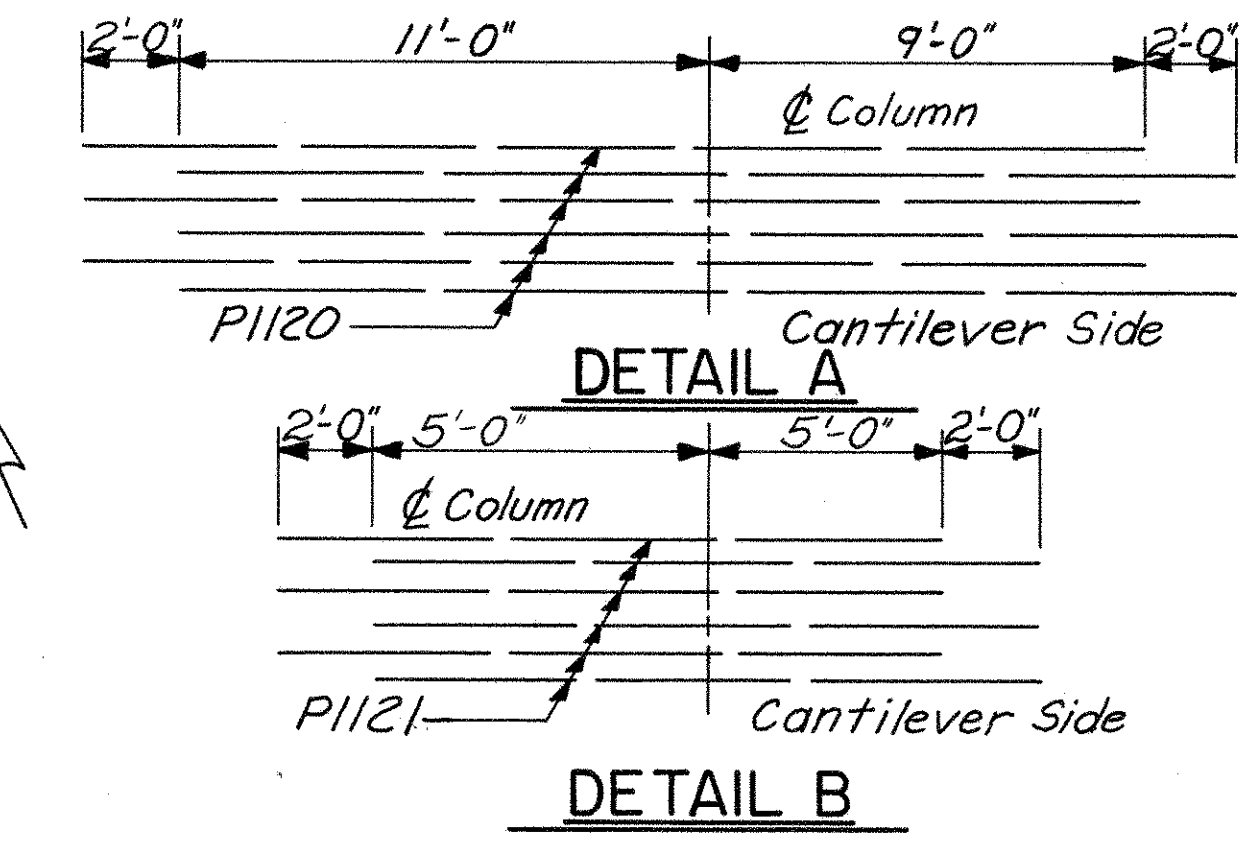
327  
460

HAMILTON COUNTY  
HAM-71-2.08



Ⓢ Denotes battered pile

**PLAN**



Note: For General Notes see Sh. No. 312  
Special care shall be taken in placing steel in the top of the pier cap so that it will not interfere with the drilling of anchor bolt holes.  
Maximum design pile load = 40 tons per pile.

Work this sheet with Sheet 313 & 314

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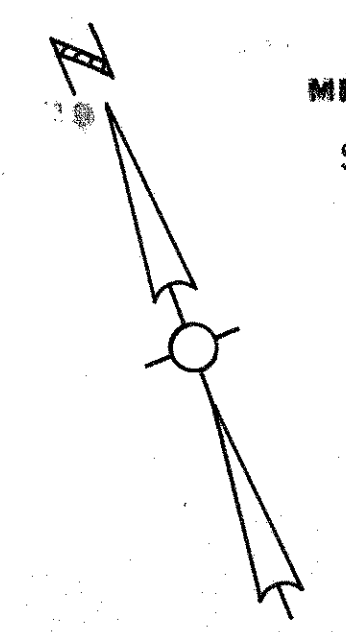
**PIER NO. 8**  
BRIDGE NO. HAM-71-0224

H&E BRIDGE NO. 19

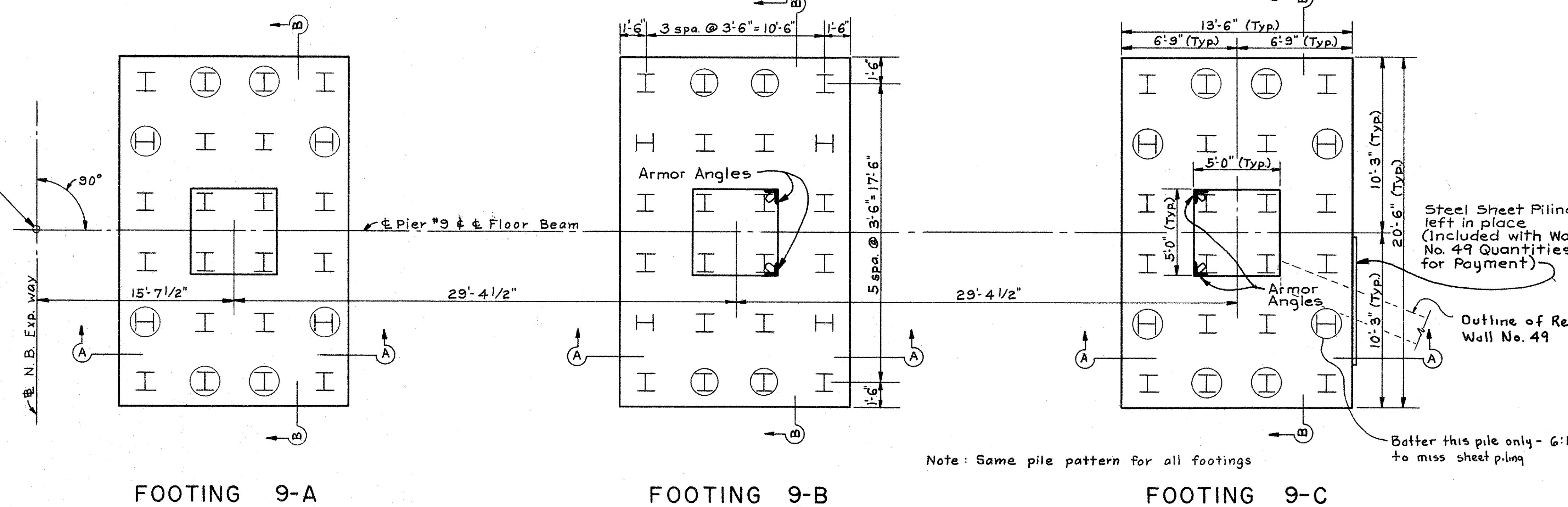
|          |       |        |         |               |         |
|----------|-------|--------|---------|---------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
| AN       | ⊕     | ⊕      | NeN     | 11-17-65      |         |



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SEP 15 1982



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FOOTING 9-A

FOOTING 9-B

FOOTING 9-C

PLAN

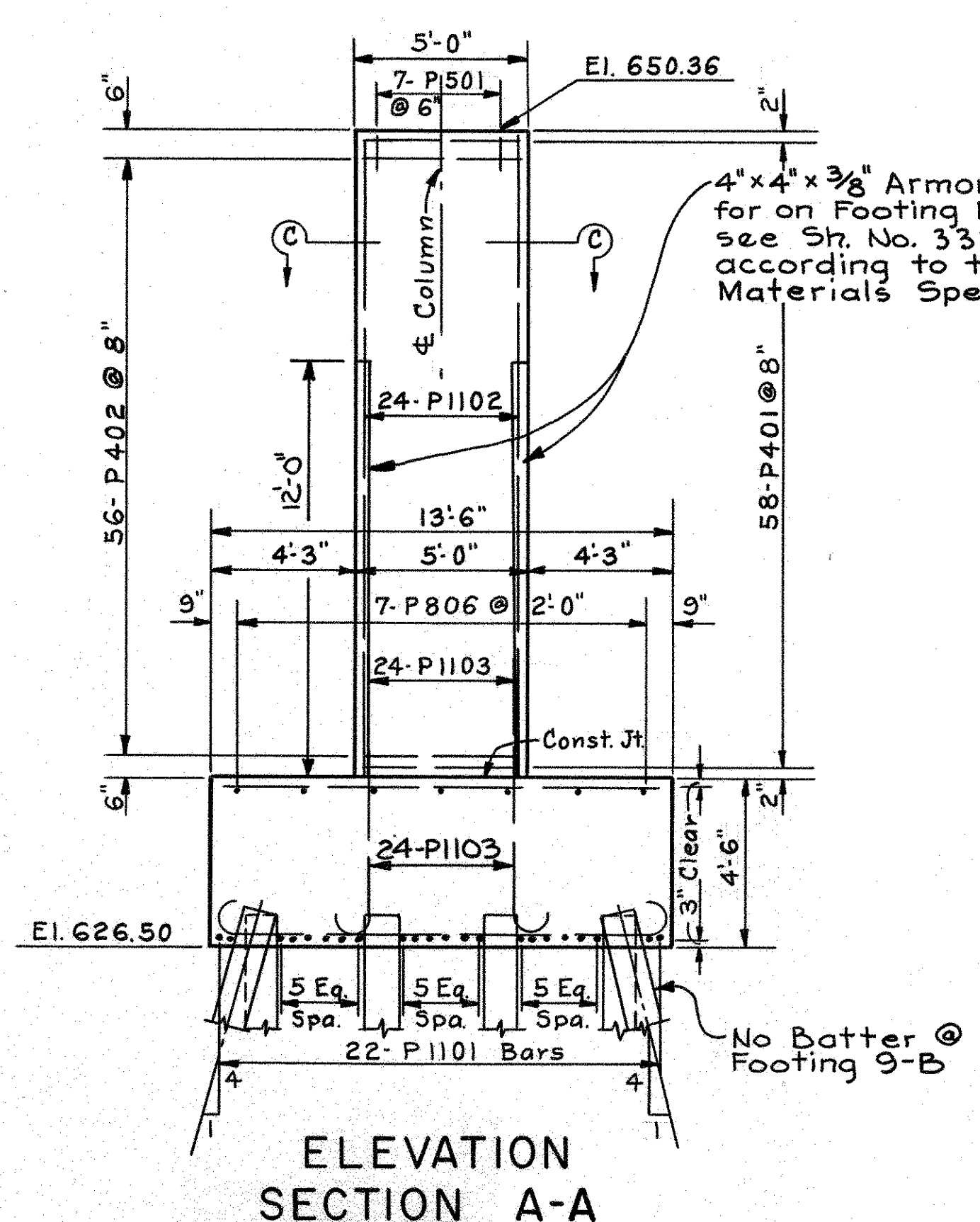
Note: Same pile pattern for all footings

Steel Sheet Piling left in place (Included with Wall No. 49 Quantities for Payment)

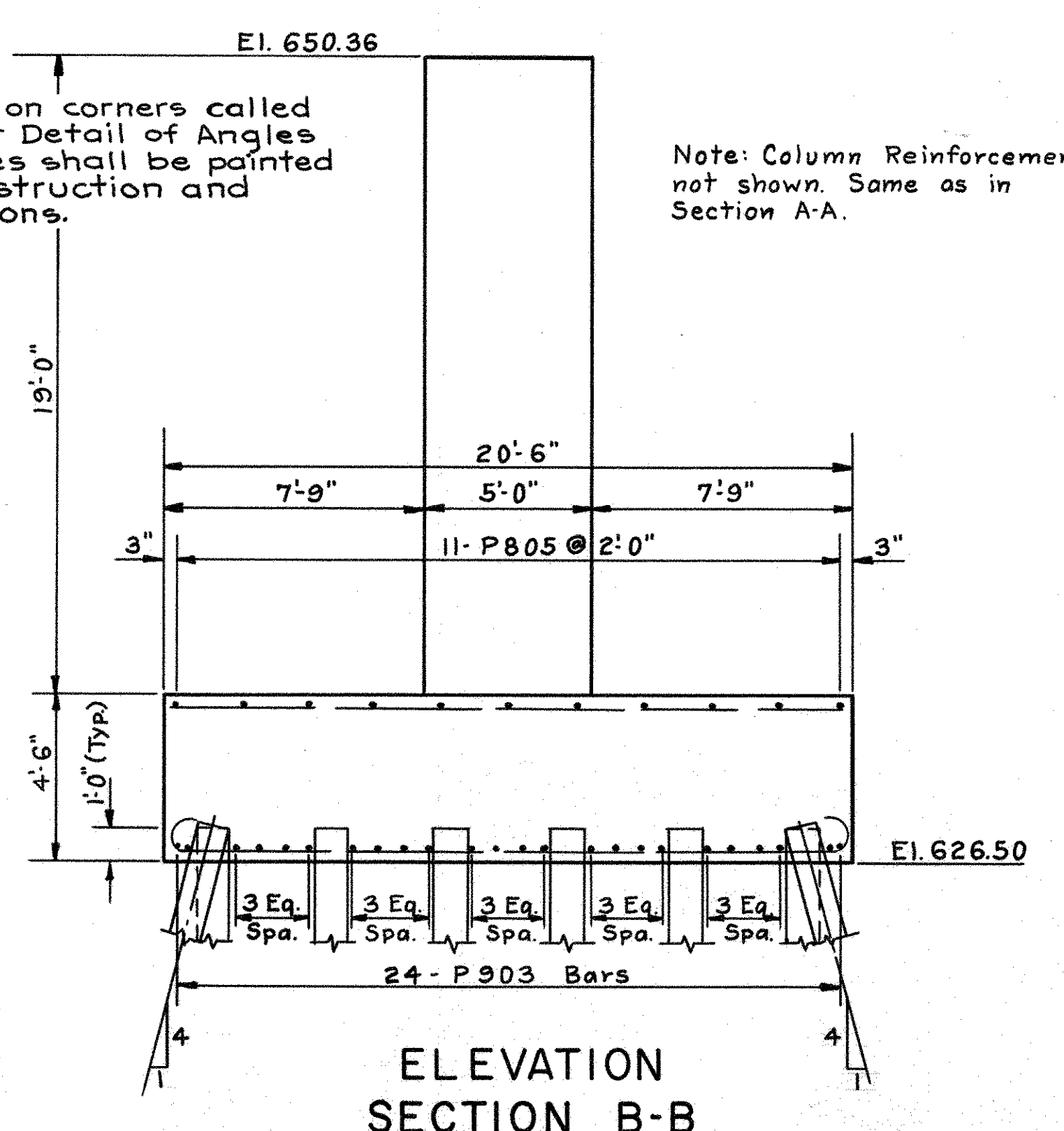
Outline of Ret. Wall No. 49

Batter this pile only - 6:1 to miss sheet piling

General Notes:  
⊕ denotes battered pile.  
All reinforcing steel shall have 2" clearance minimum except as shown.  
All piles shall be 12BP53 Steel Piles.  
For other General Notes see sheet No. 312  
Maximum design pile load = 40 Tons/pile.



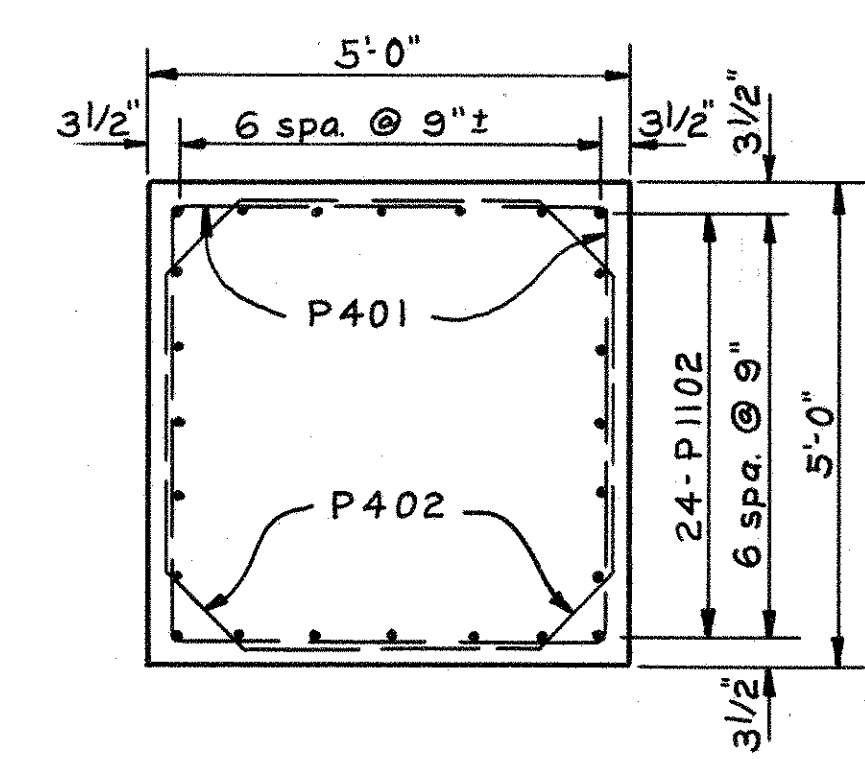
ELEVATION SECTION A-A



ELEVATION SECTION B-B

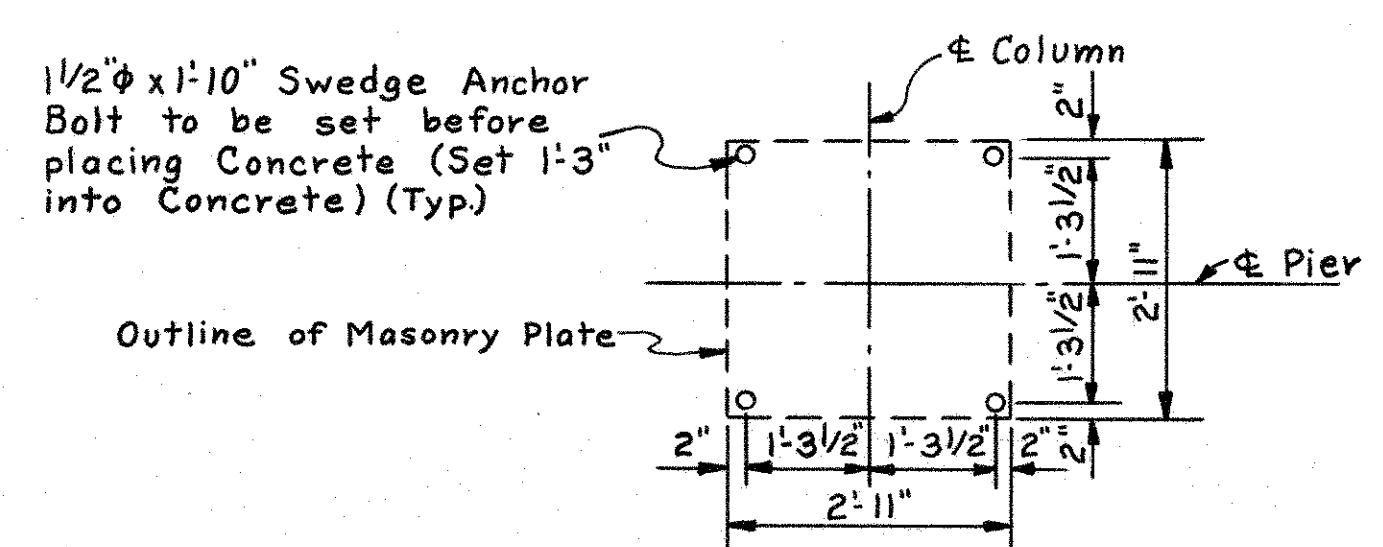
4" x 4" x 3/8" Armor Angles on corners called for on Footing Plan. For Detail of Angles see Sh. No. 338. Angles shall be painted according to the Construction and Materials Specifications.

Note: Column Reinforcement not shown. Same as in Section A-A.



SECTION C-C

Note: Armor Angles not shown in Section C-C (See Plan for Locations)



ANCHOR BOLT DETAIL

Work this sheet with sheet Nos. 313 & 314

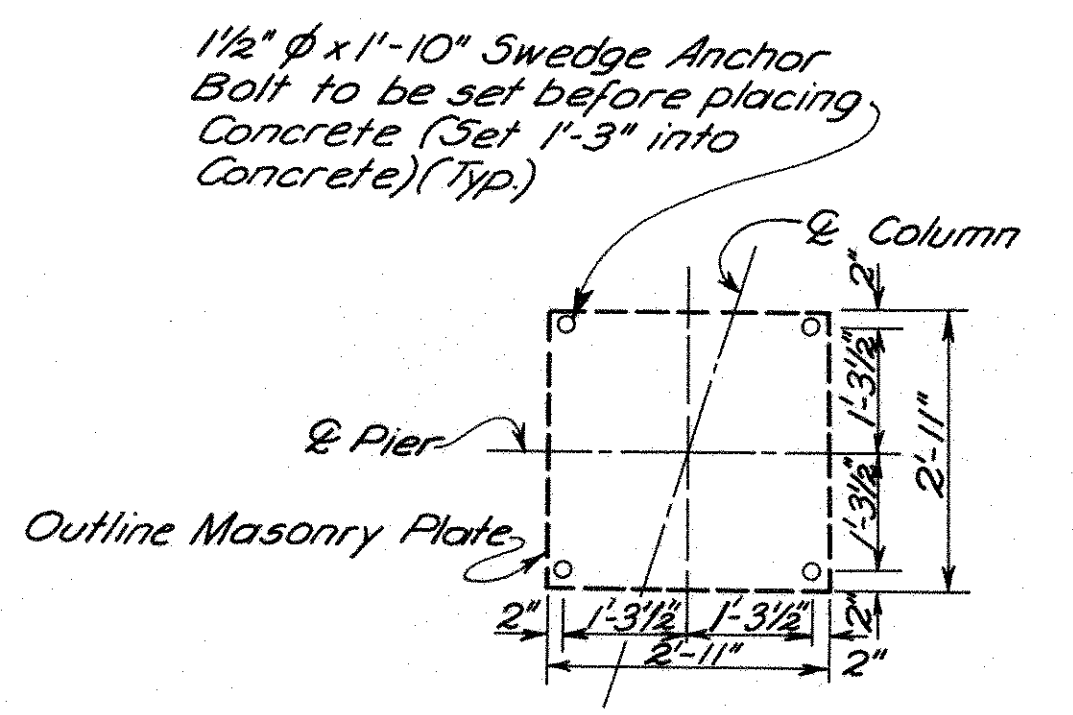
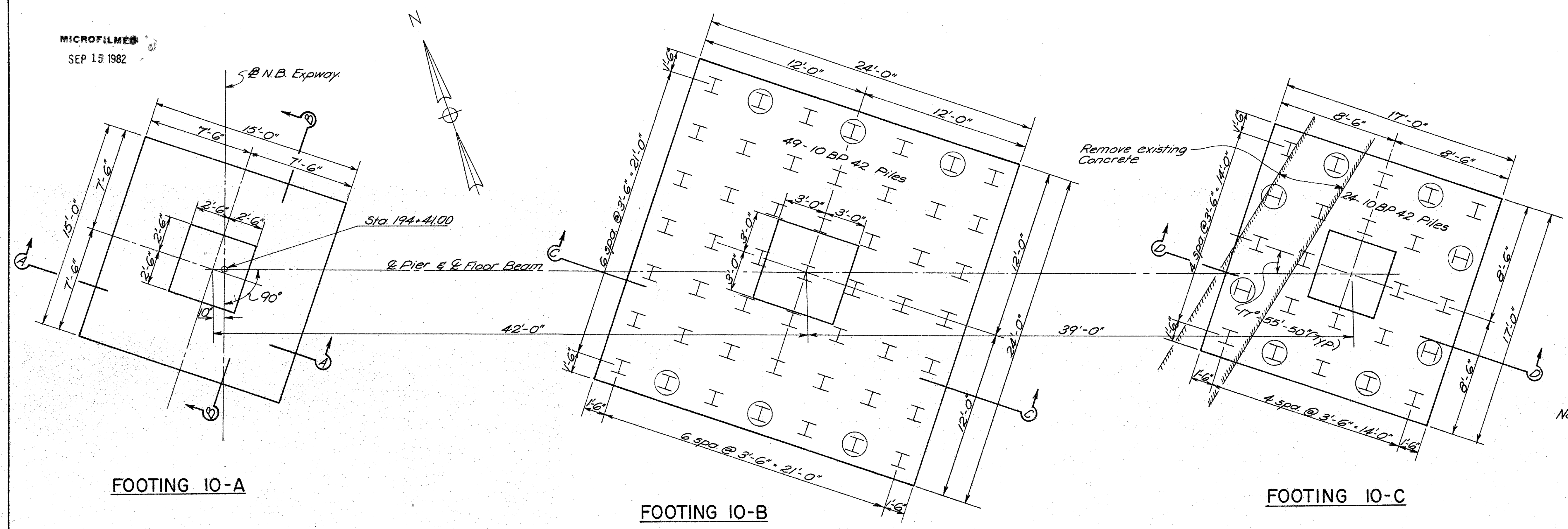
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|---|-------|--------|---------|-------------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |       |        |         |                   |         |
| <b>PIER NO. 9</b>   |       |        |         |                   |         |
| BRIDGE NO. HAM-71-0224                                      |       |        |         |                   |         |
| H&E BRIDGE NO. 19   |       |        |         |                   |         |
| DESIGNED  | DRAWN | TRACED | CHECKED | REVIEWED DATE     | REVISED |
| AN  | A.N.  | R.S.   | NeN     | H.A.S.<br>8-30-68 |         |

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| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

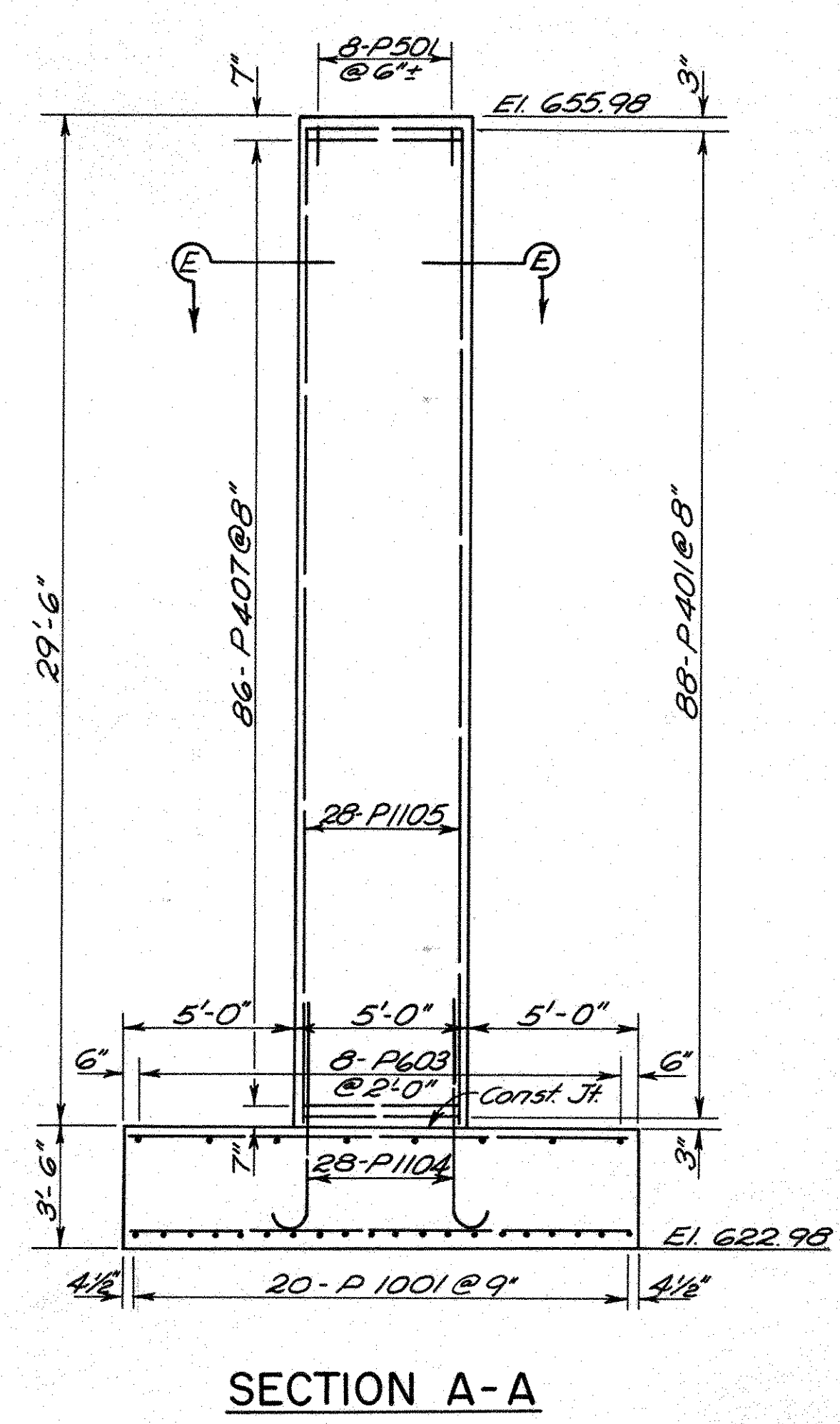
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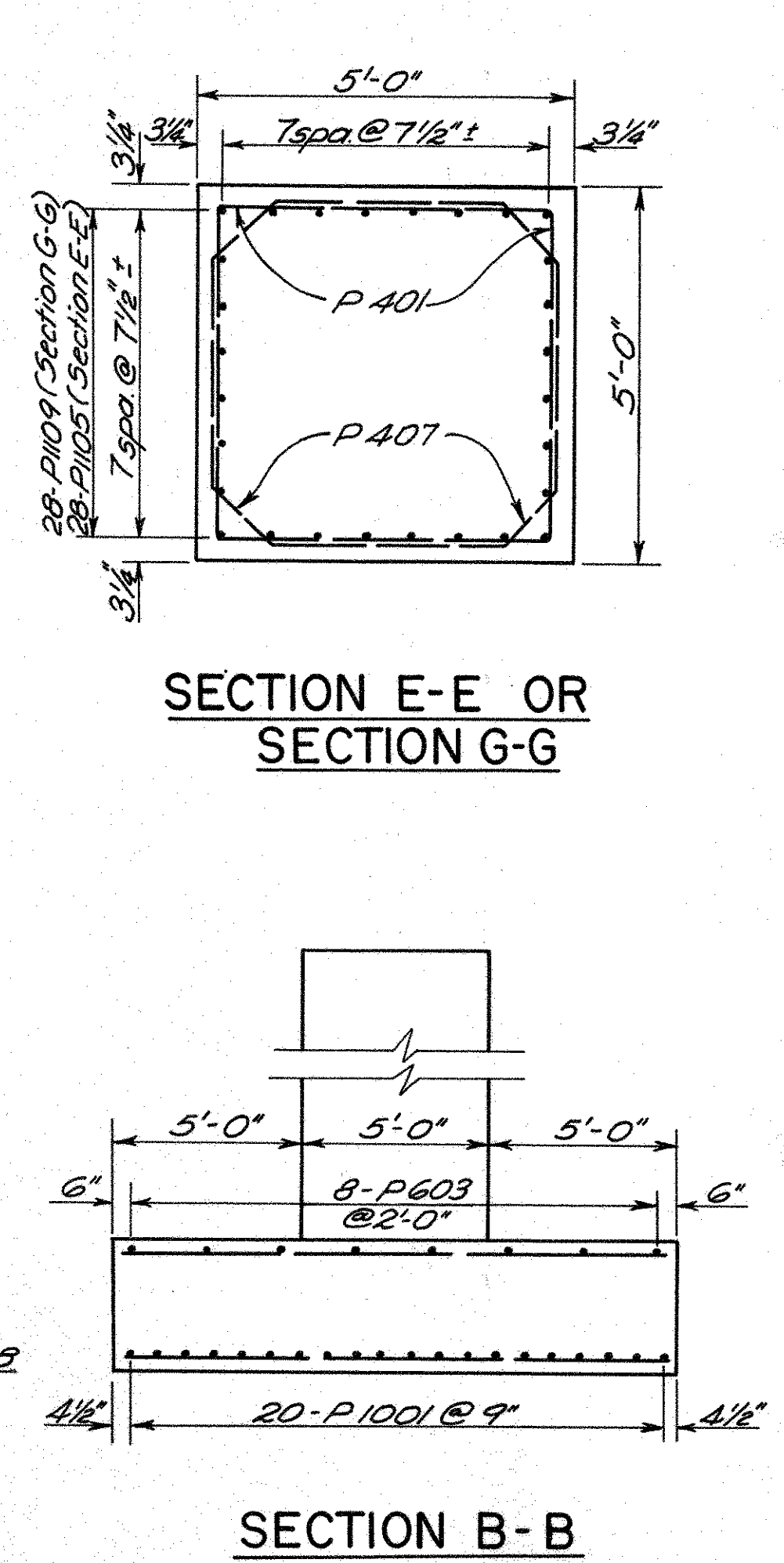


**ANCHOR BOLT DETAIL  
EAST AND WEST COLUMN**

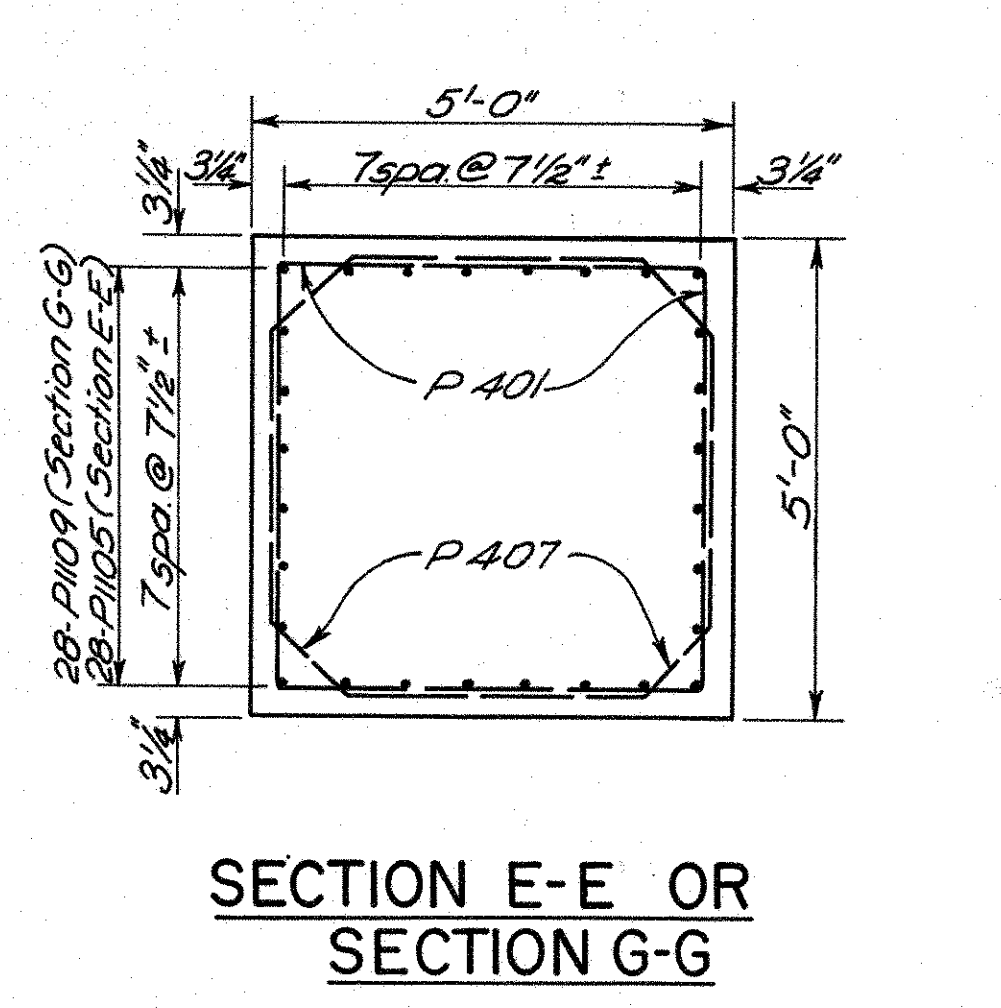
Note: For General Notes see sheet No. 312  
Maximum design pile load = 35 Tons/pile  
For footing without piles the maximum soil pressure = 5 tons/Sq. Ft.  
The removal of the existing concrete wall and footing as shown, will be included in Item 503, "Unclassified Excavation" for payment.



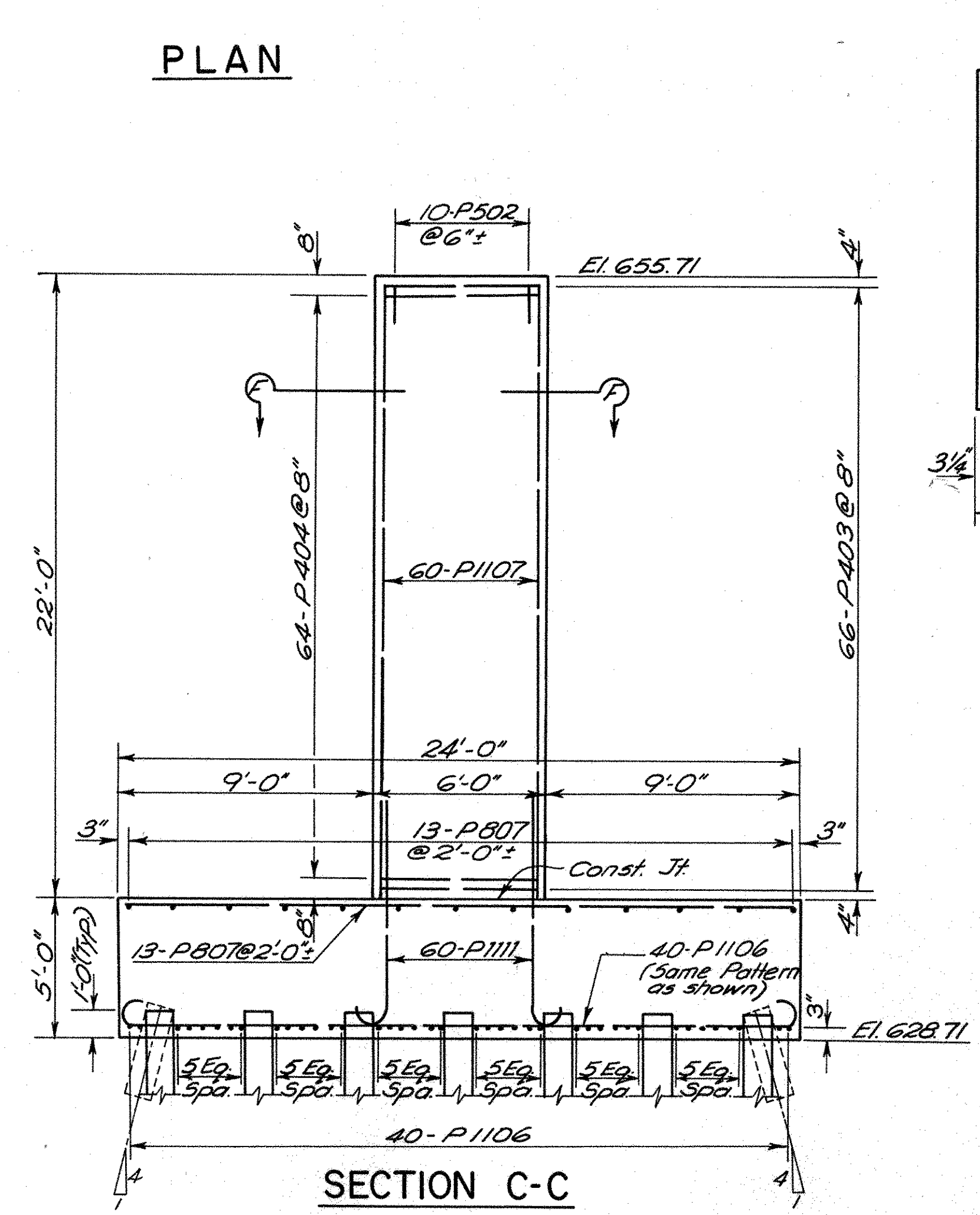
**SECTION A-A**



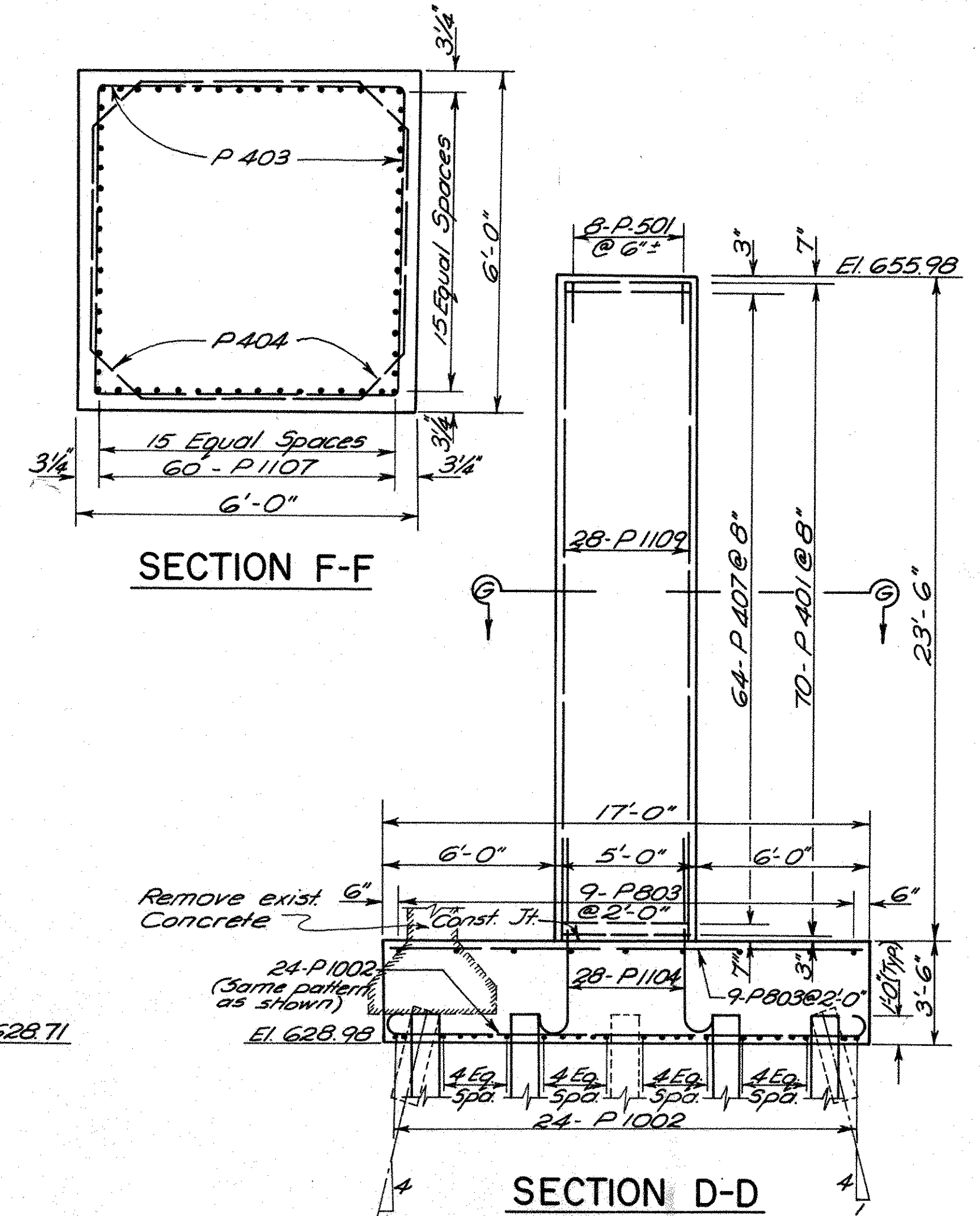
**SECTION B-B**



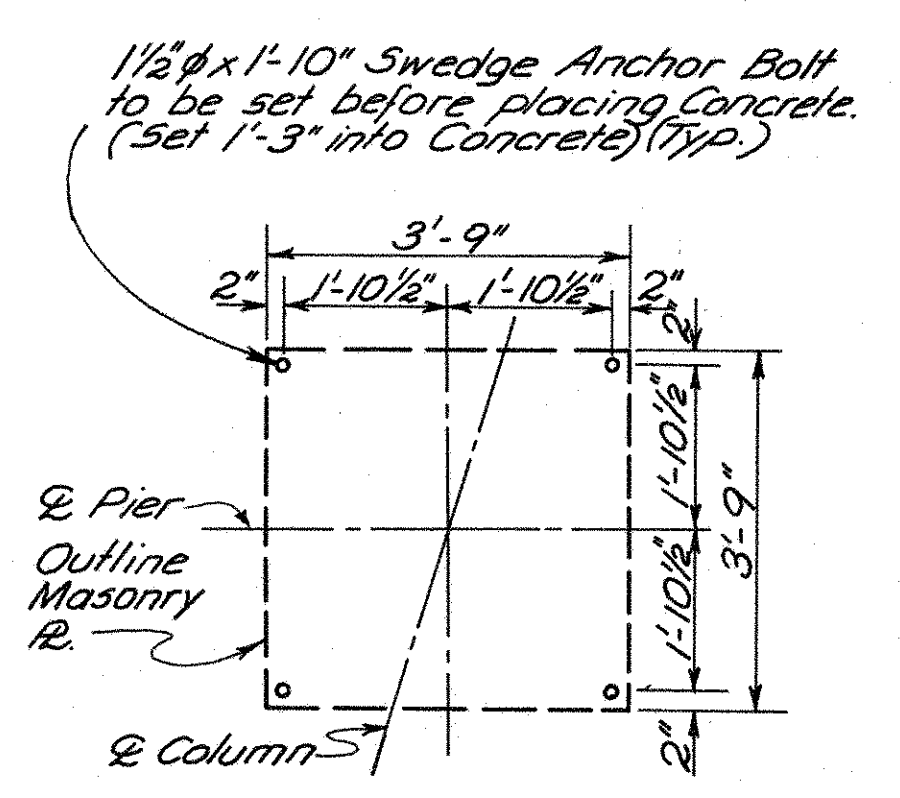
**SECTION E-E OR  
SECTION G-G**



**PLAN**



**SECTION F-F**



**ANCHOR BOLT DETAIL  
MIDDLE COLUMN**

Work this sheet with Sh. Nos. 313 & 314

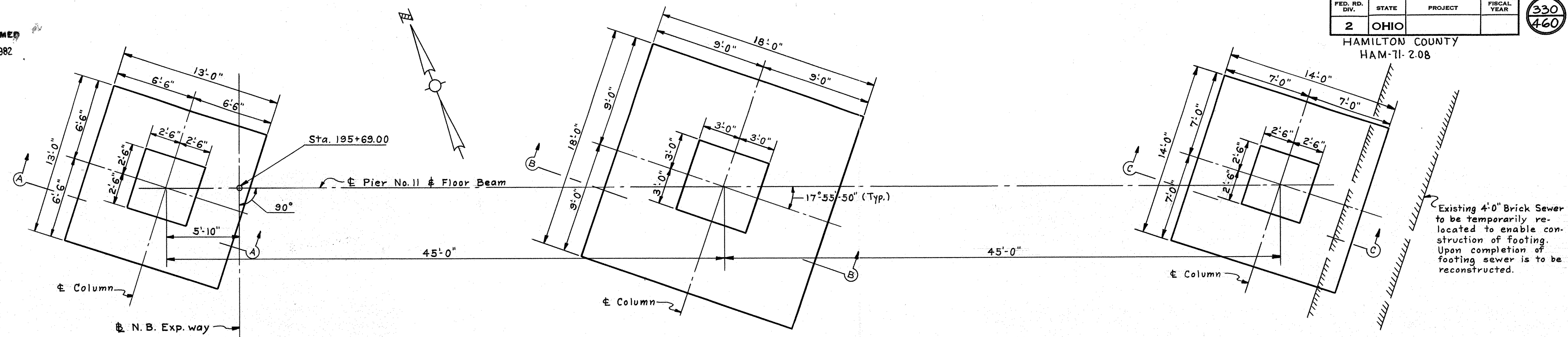
|  |       |        |         |               |         |
|--|-------|--------|---------|---------------|---------|
| HAZLET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |       |        |         |               |         |
| PIER NO. 10  |       |        |         |               |         |
| BRIDGE NO. HAM-71-0224                                     |       |        |         |               |         |
| H & E BRIDGE NO. 19  |       |        |         |               |         |
| DESIGNED   | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
| AN   | A.N.  | B.Sch. | Ne-N    | 11-7-65       |         |

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|               |       |         |             |
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| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

HAMILTON COUNTY  
HAM-71-2.08

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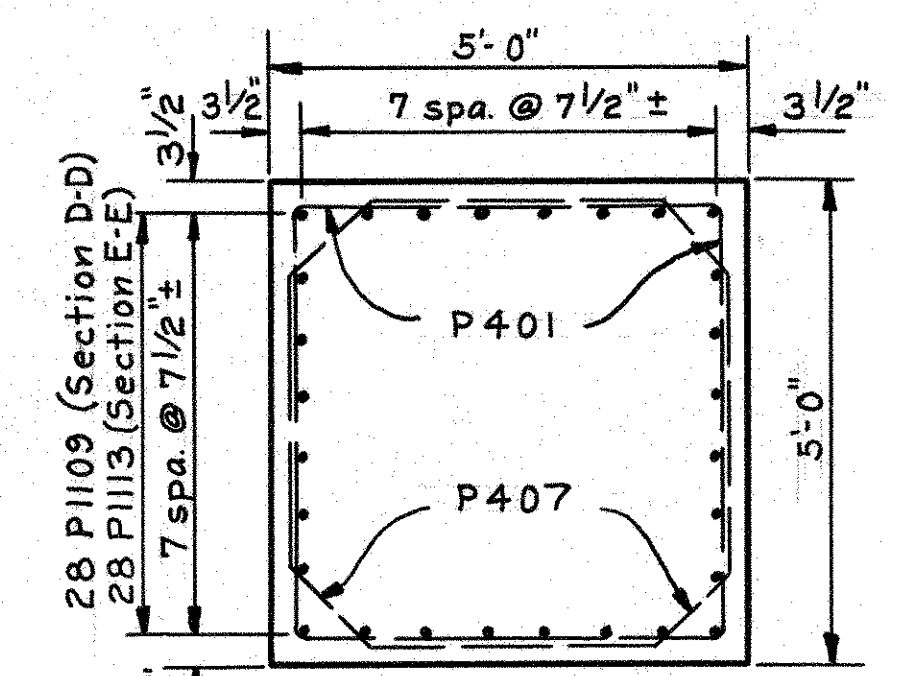


FOOTING II-A

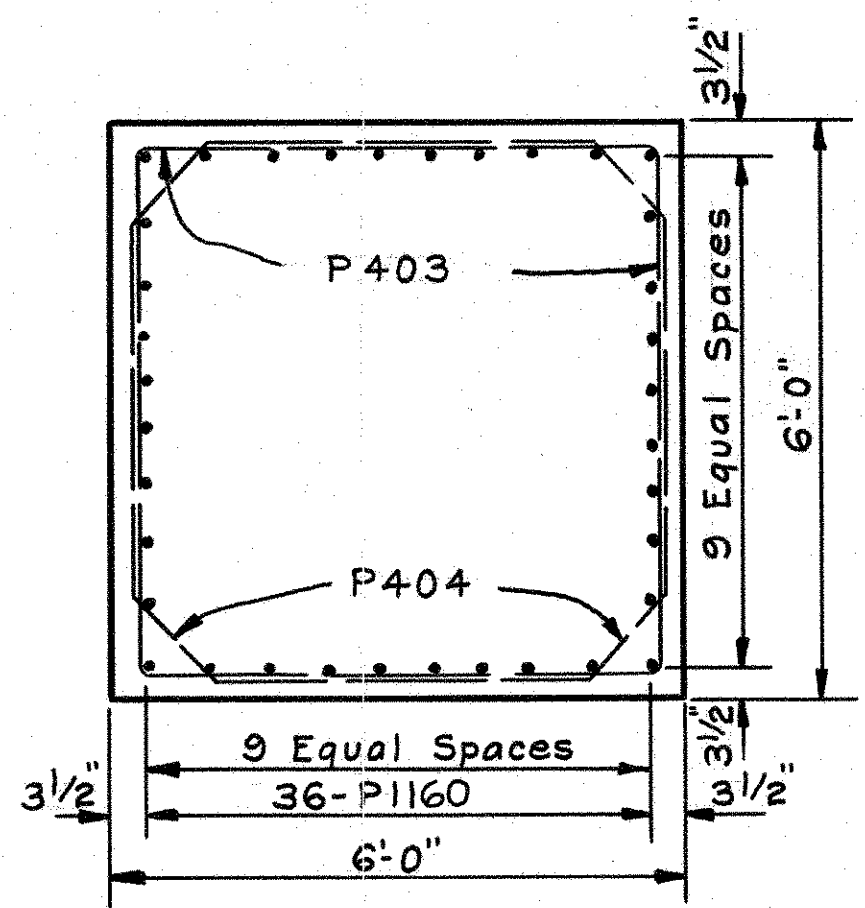
FOOTING II-B

FOOTING II-C

PLAN

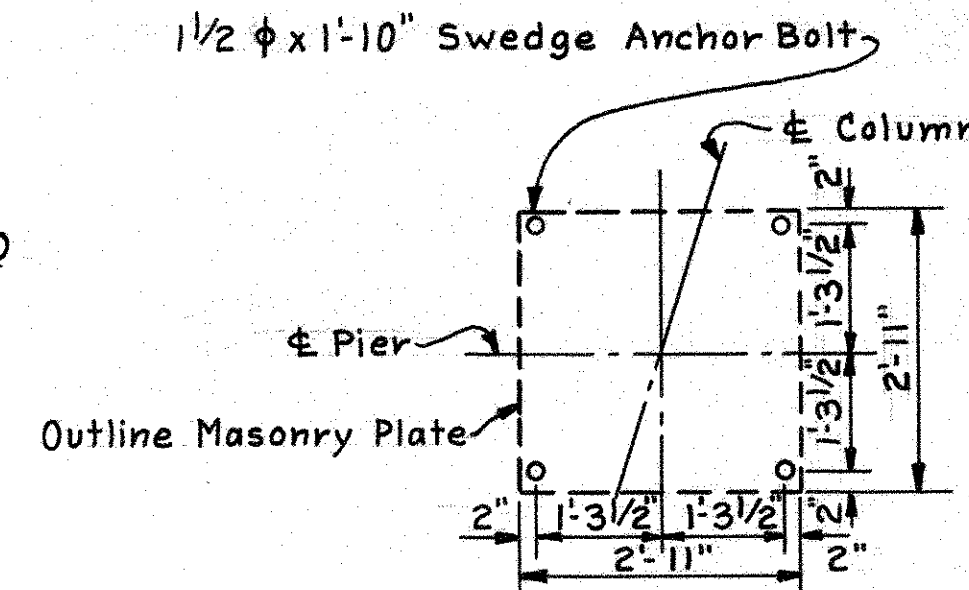


SECTION D-D OR E-E

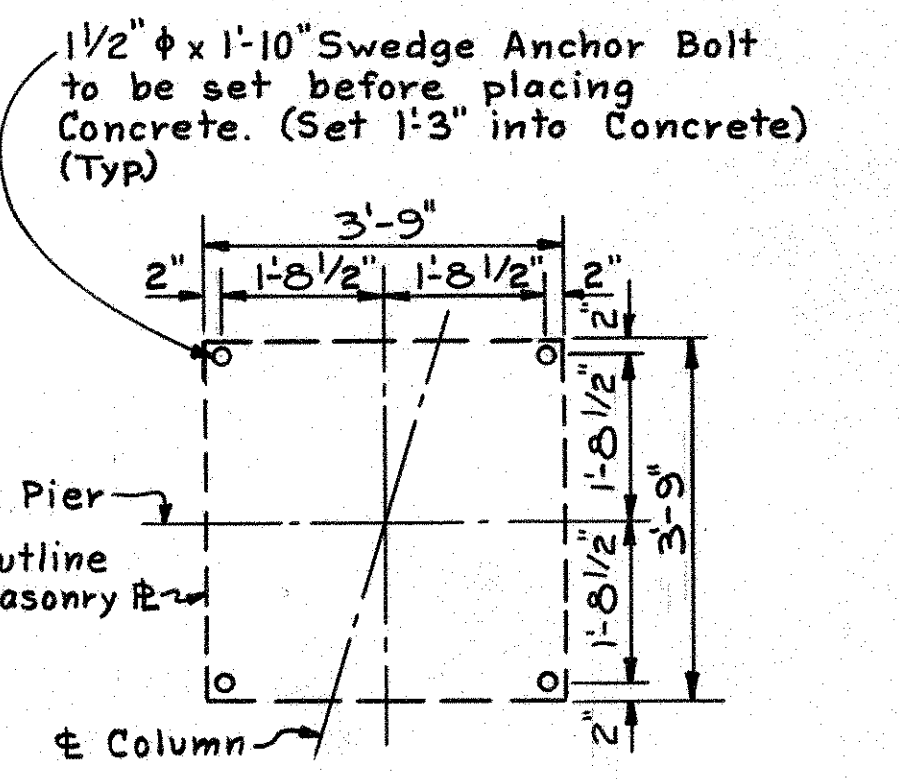


SECTION F-F

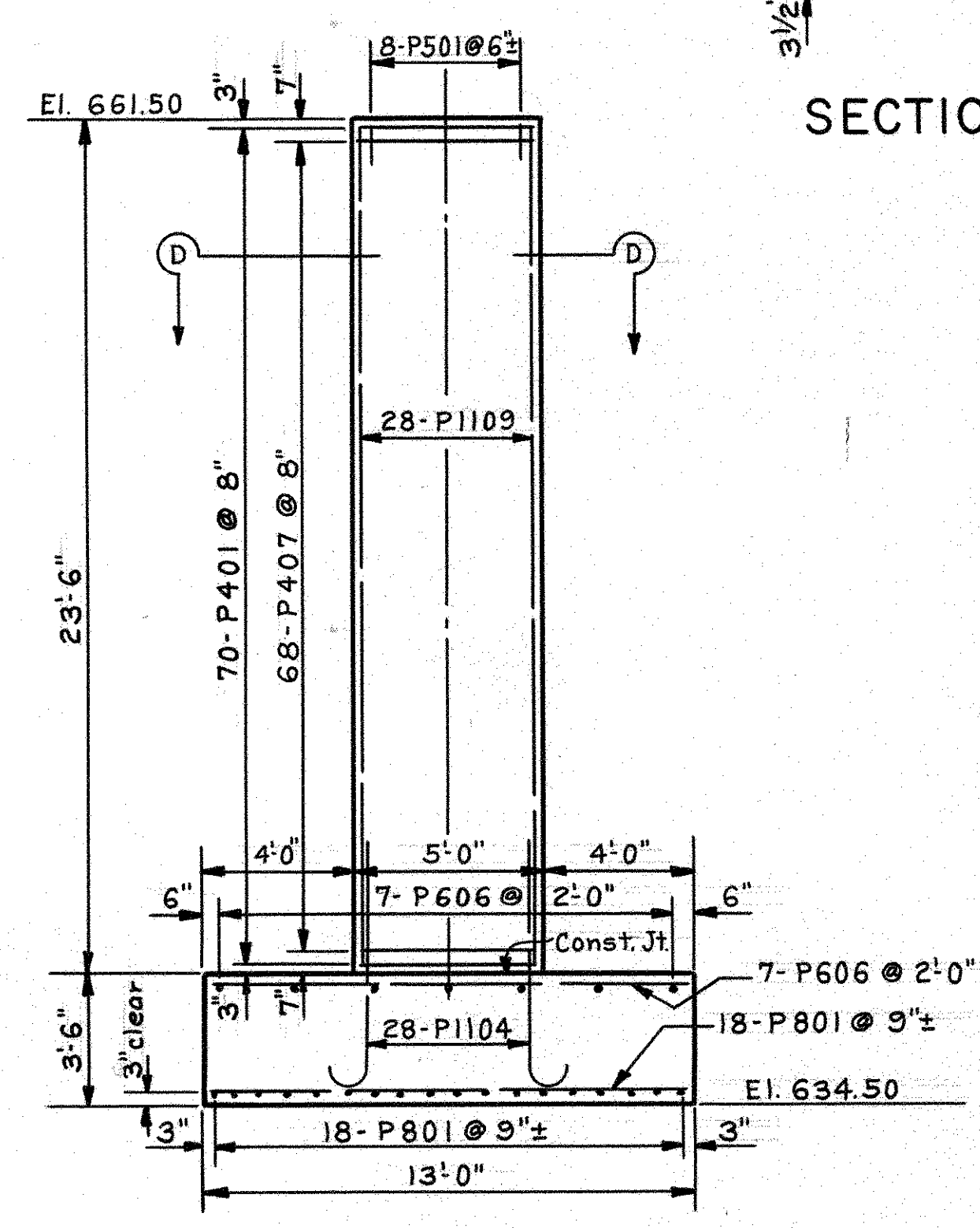
Note:  
For General Notes see sheet 312  
Maximum soil pressure - 5 tons/ft.  
Removal and reconstruction of existing section of 4'-0" Brick Sewer to be included and paid for under Item 603 48" Pipe



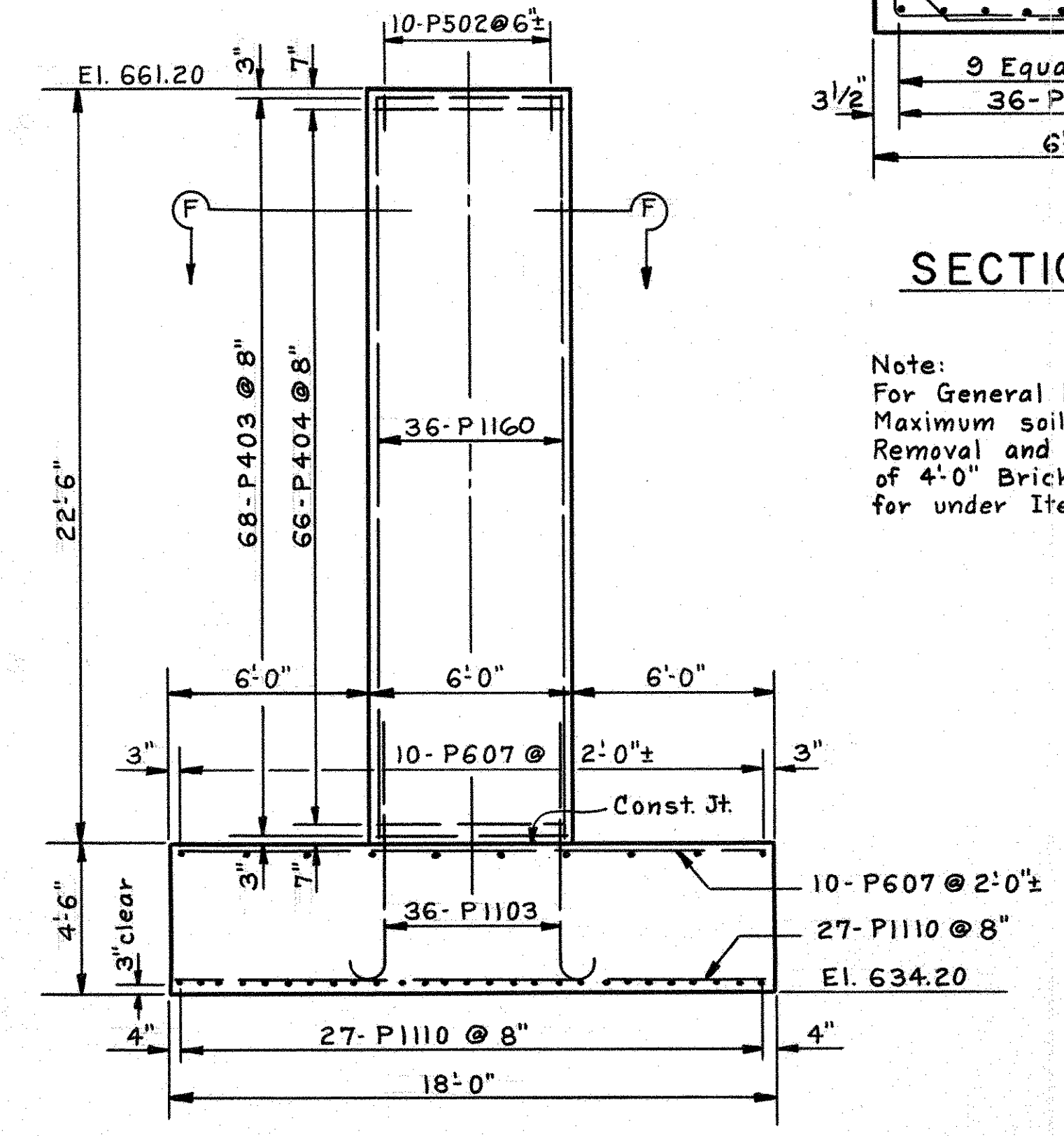
ANCHOR BOLT DETAIL  
EAST AND WEST COLUMN



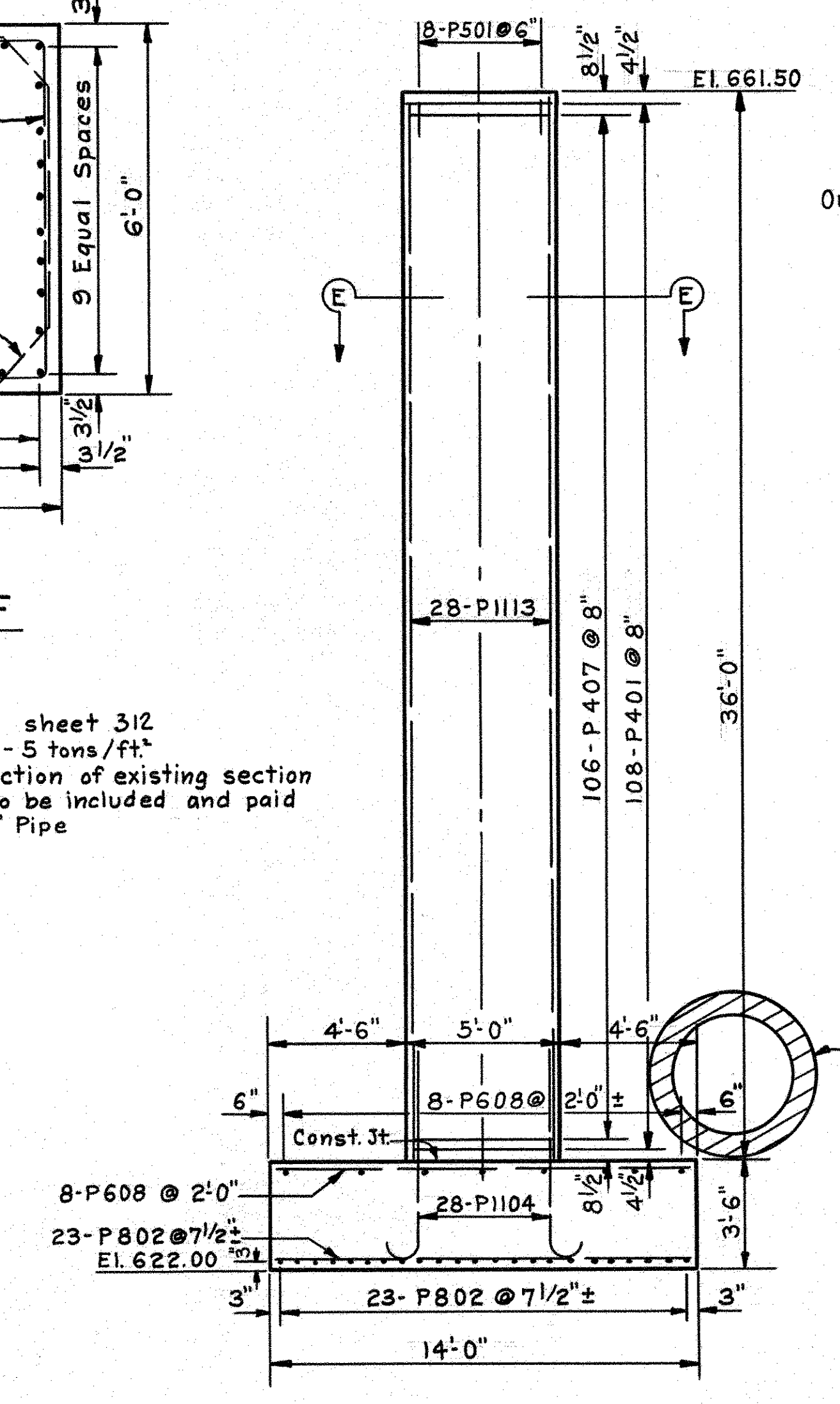
ANCHOR BOLT DETAIL  
MIDDLE COLUMN



SECTION A-A



SECTION B-B



SECTION C-C

Work this sheet with Sh. Nos. 313 & 314

HAZLET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

PIER NO. 11  
BRIDGE NO. HAM-71-0224

H&E BRIDGE NO. 19

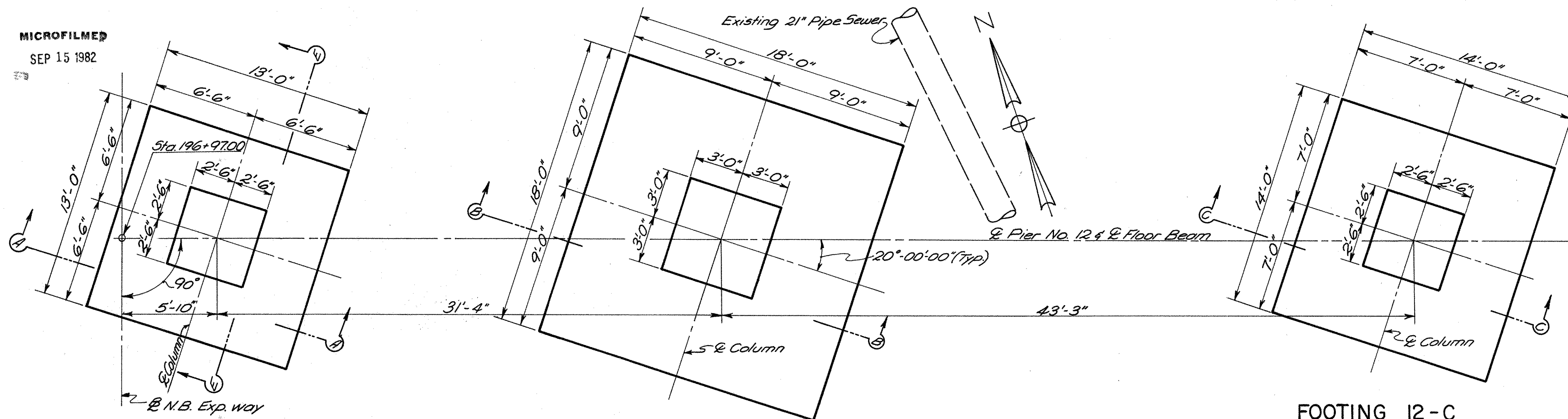
|          |       |        |         |                   |         |
|----------|-------|--------|---------|-------------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE     | REVISED |
| AN       | AN.   | R.S.   | NE      | H.A.S.<br>8-30-65 |         |

MICROFILMED  
SEP 15 1982

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|---------------|-------|---------|-------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
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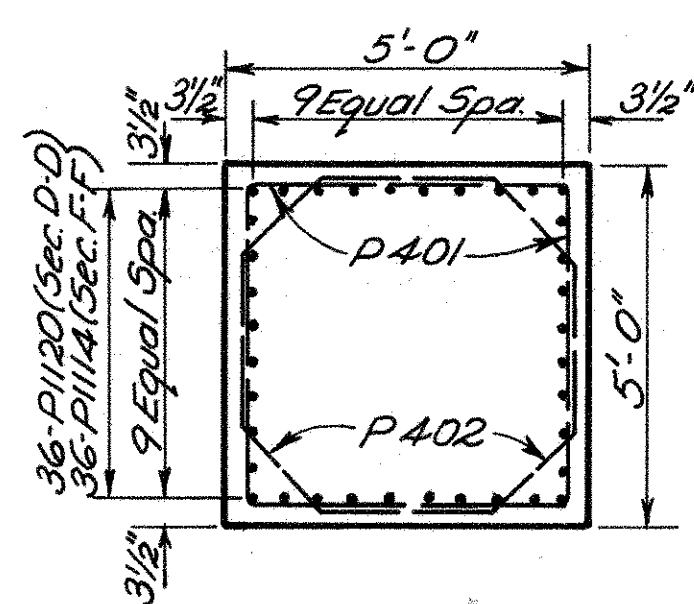


FOOTING 12 - A

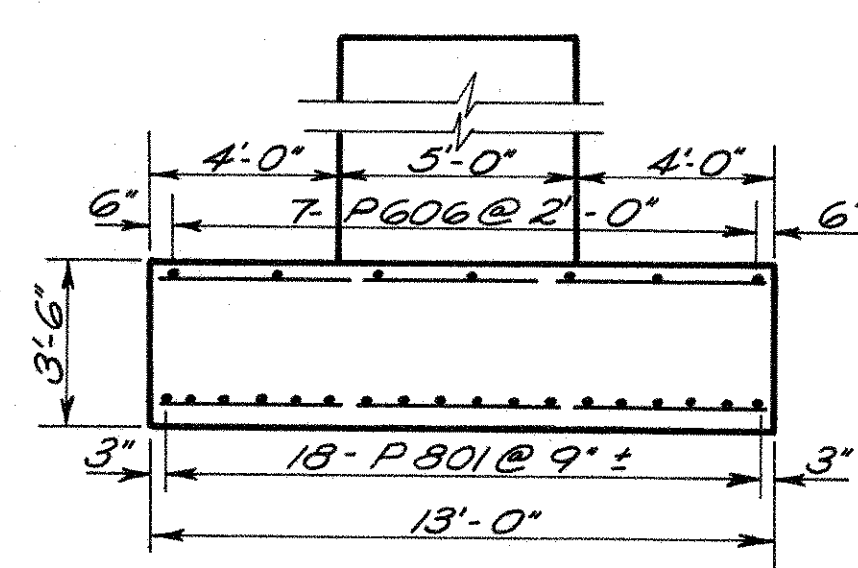
FOOTING 12 - B

FOOTING 12 - C

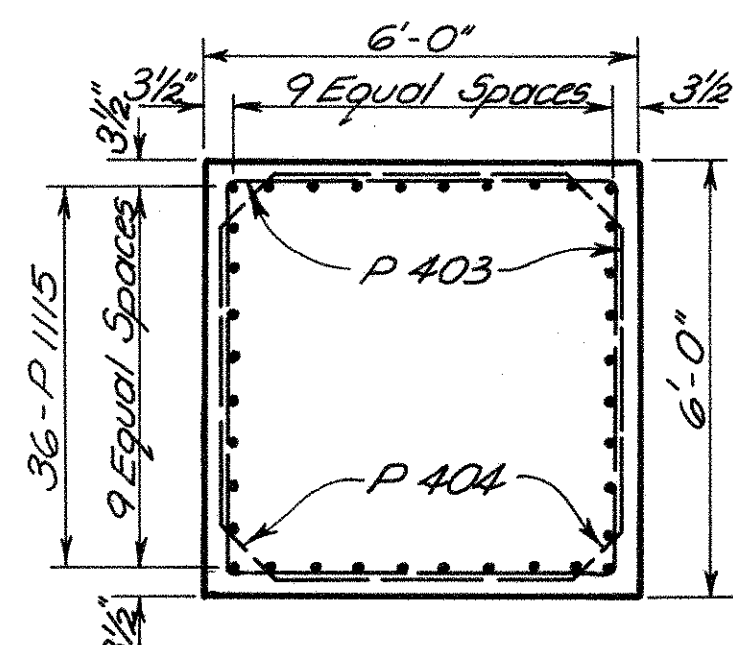
PLAN



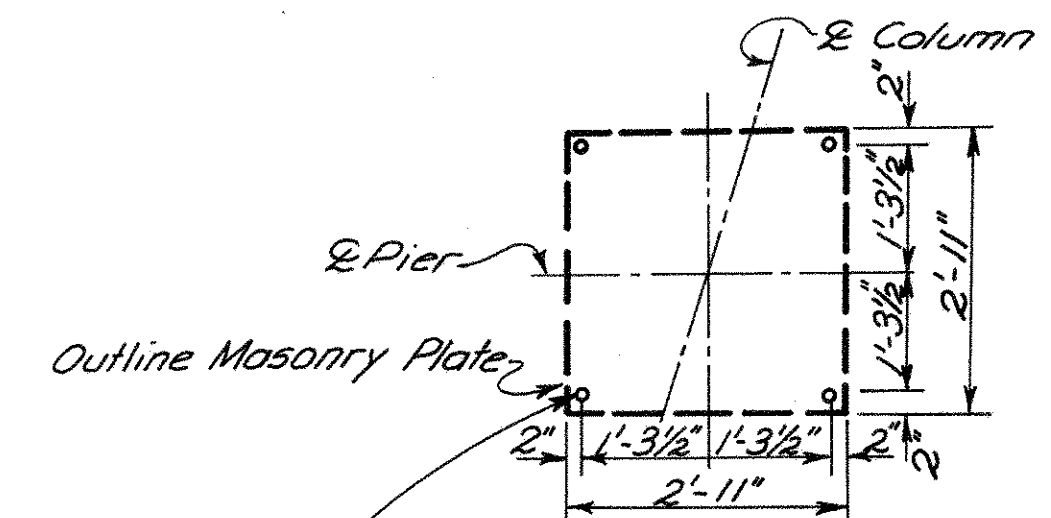
SECTION F-F & D-D



SECTION E-E

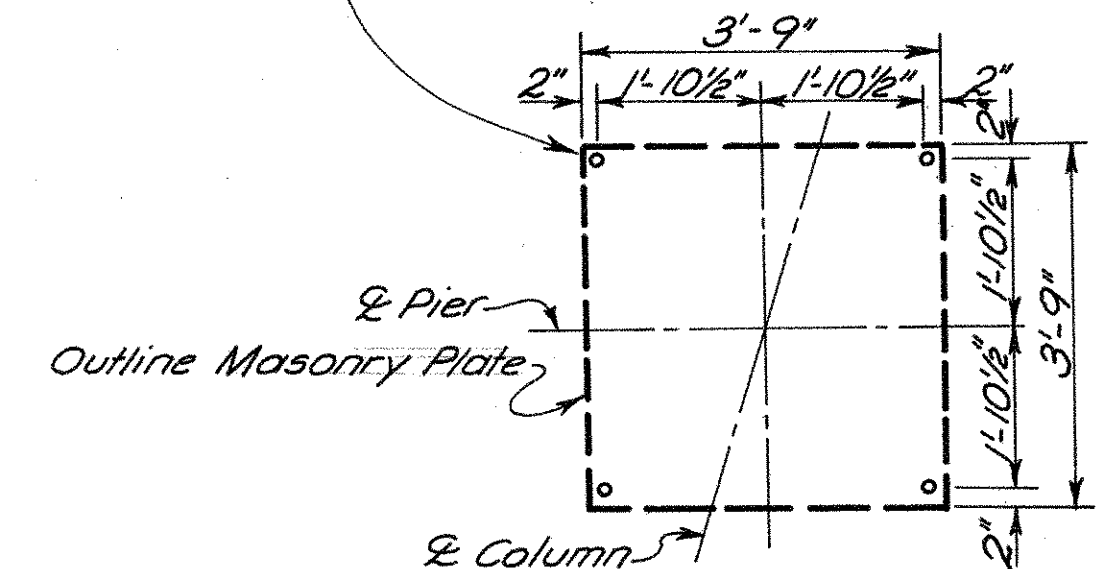


SECTION G-G



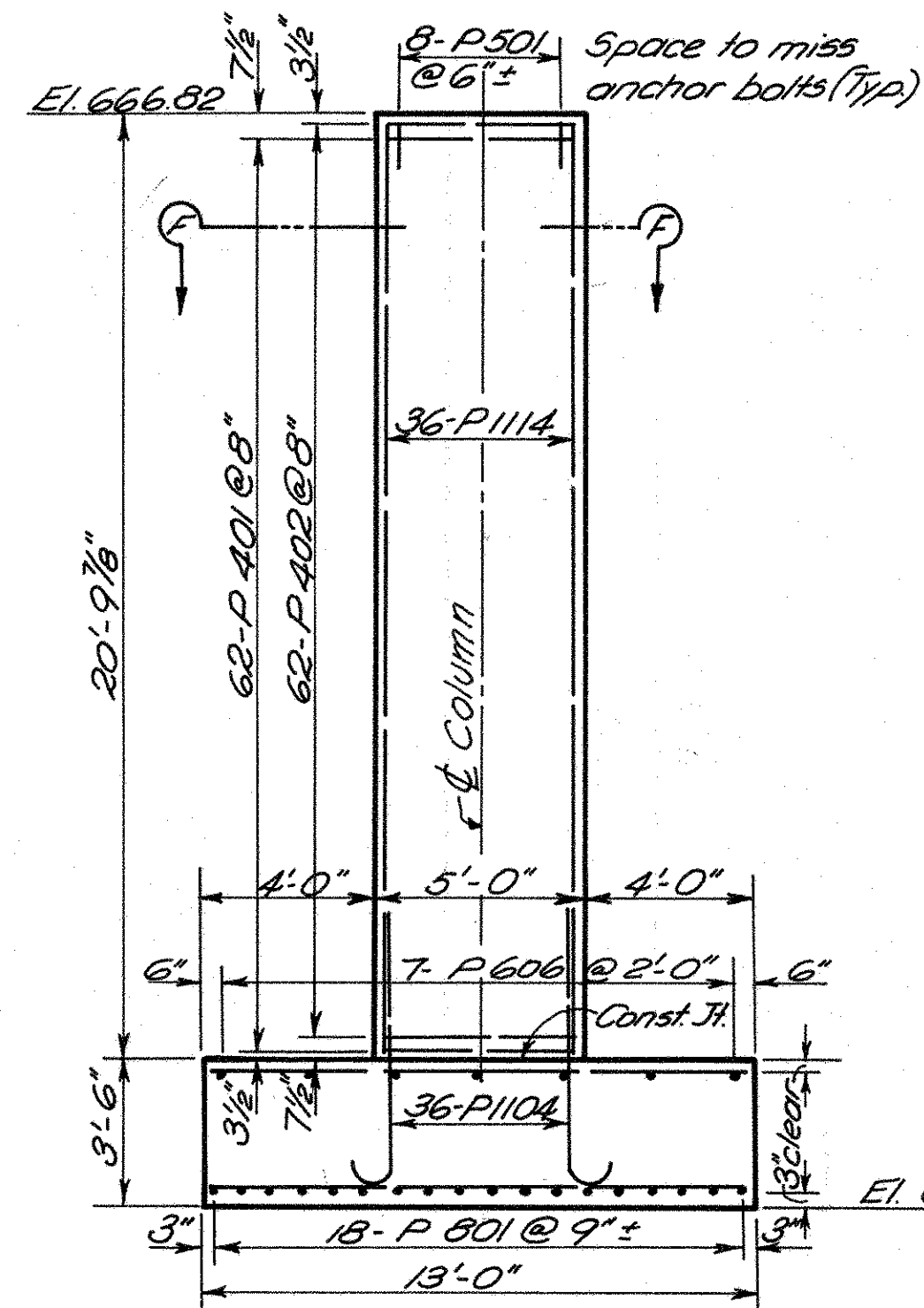
ANCHOR BOLT DETAIL  
EAST AND WEST COLUMNS

1 1/2"  $\phi$  x 1'-10" Swedge Anchor Bolt  
to be set before placing concrete  
(Set 1'-3" into concrete) (Typ)

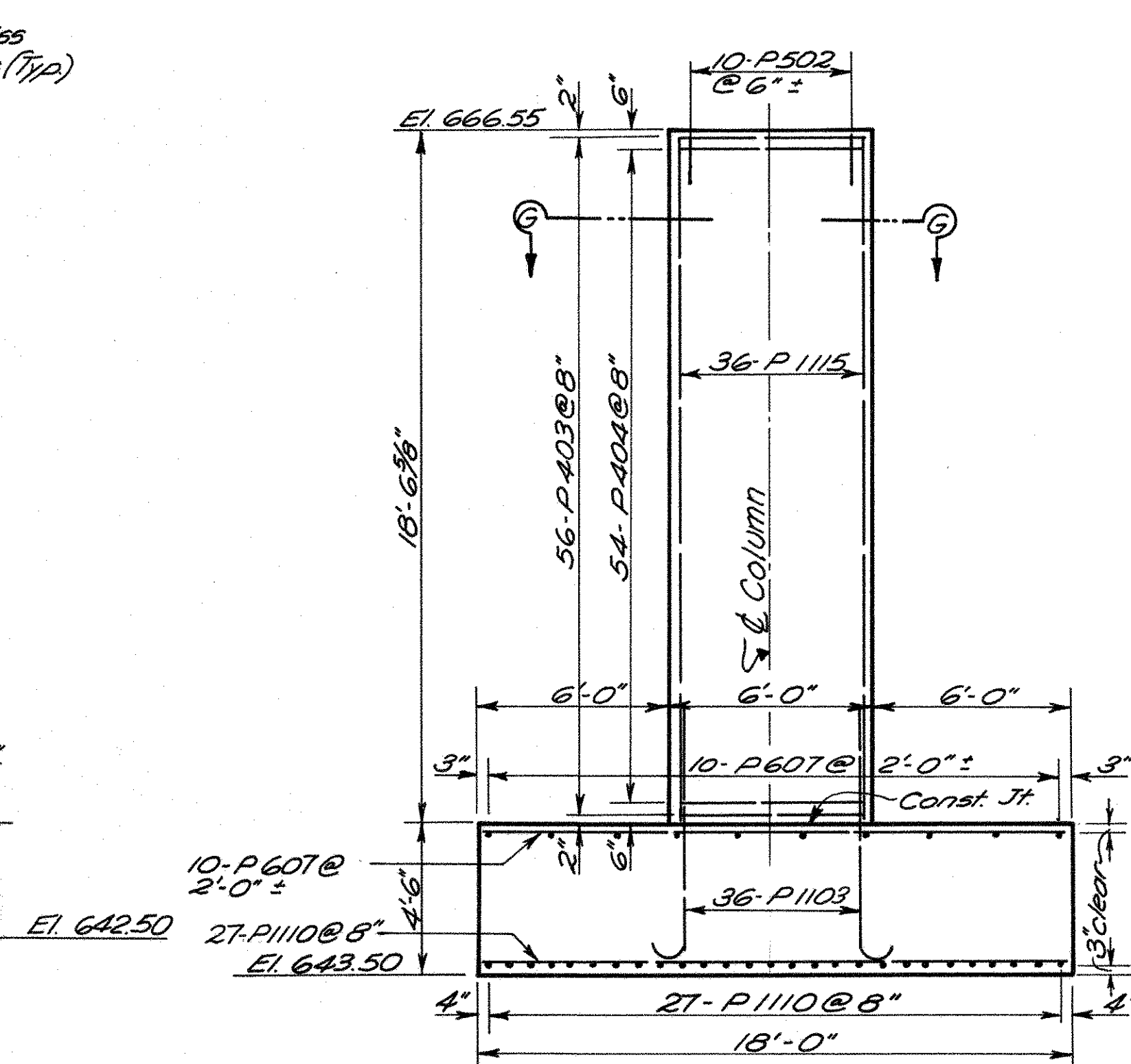


ANCHOR BOLT DETAIL  
MIDDLE COLUMN

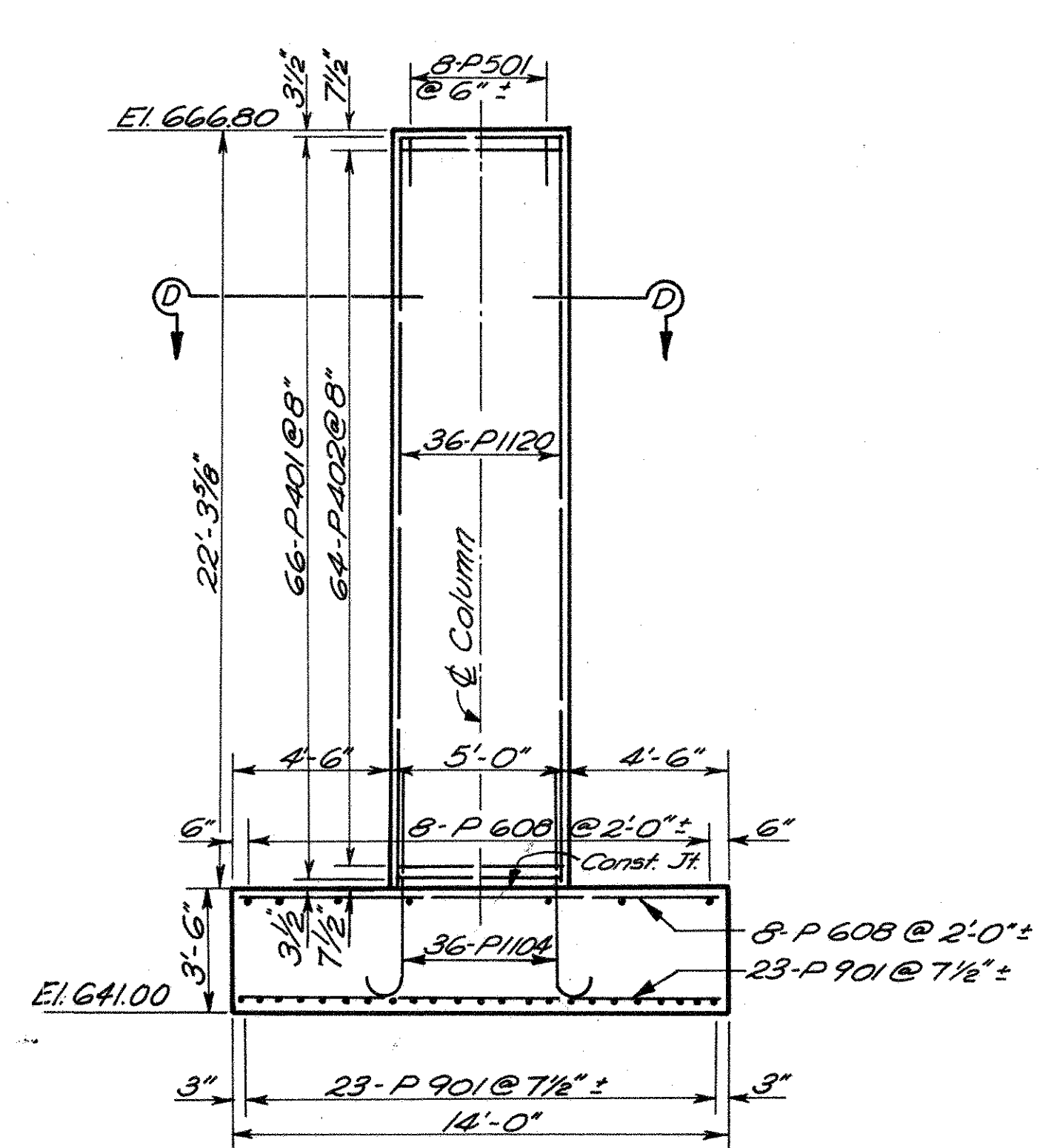
NOTE:  
For General Notes see sheet No. 312  
Maximum design soil pressure = 5 tons/ft<sup>2</sup>  
Extreme caution must be exercised when  
excavating for Footing 12-B, because of  
existing 21" Sewer in vicinity. (See Plan)



SECTION A-A



SECTION B-B



SECTION C-C

Work this sheet with Sh. No. 313 & 314

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

PIER NO. 12

BRIDGE NO. HAM-71-0224

H&E BRIDGE NO. 19

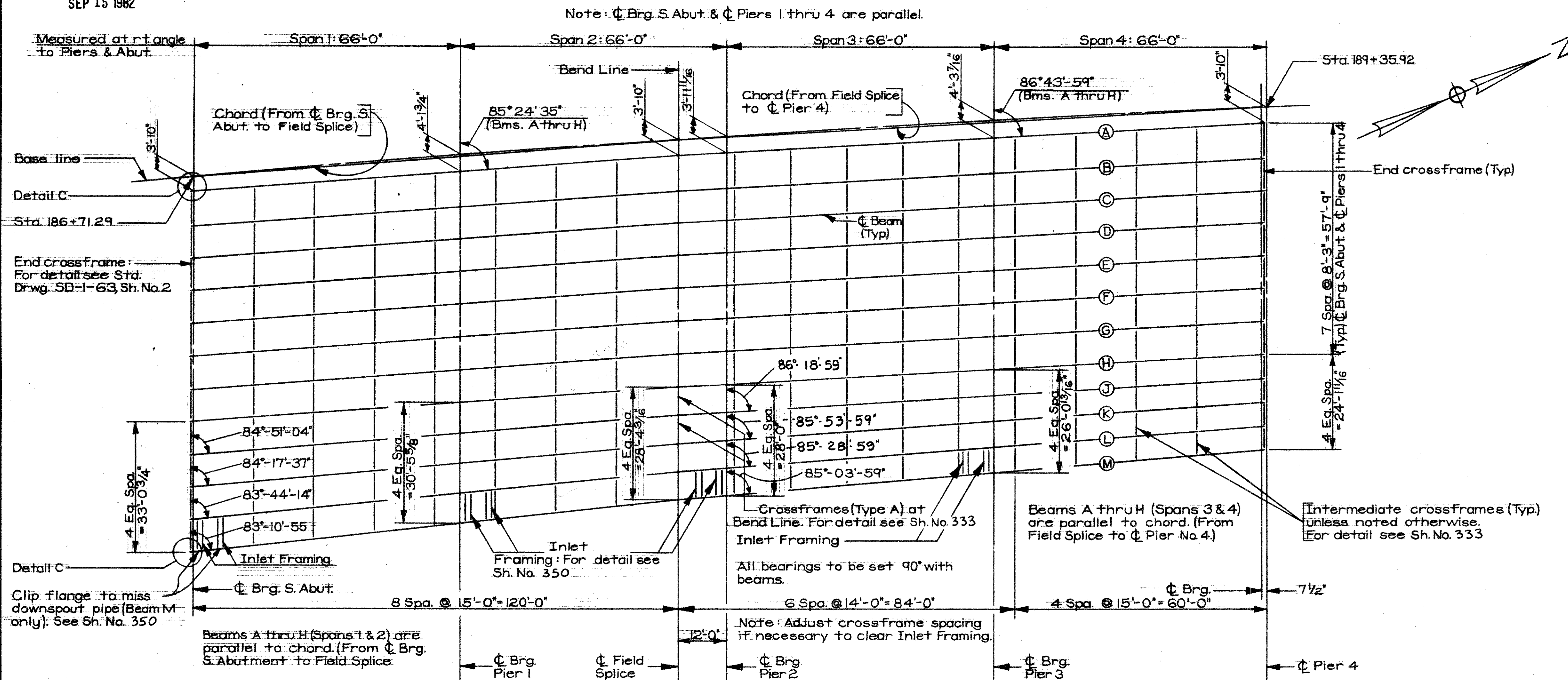
|          |       |        |         |               |         |
|----------|-------|--------|---------|---------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
| AN.      | A.N.  | B.Sch. | N.E.N.  | 8-30-65       |         |

MICROFILMED  
SEP 15 1982

| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
|---------------|-------|---------|-------------|
| 2             | OHIO  |         |             |

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HAMILTON COUNTY  
HAM-71-2.08

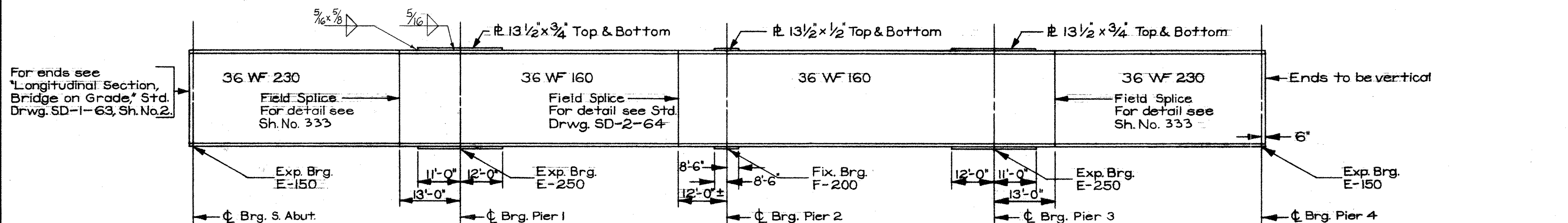


FRAMING PLAN

| LOCATION         |     | DEFLECTION AND CAMBER |       |          |       |       |       |      |      |
|------------------|-----|-----------------------|-------|----------|-------|-------|-------|------|------|
|                  |     | BEAM                  |       |          |       |       |       |      |      |
|                  |     | A                     | B     | C thru F | G     | H     | J & K | L    | M    |
| Center of Span 1 | WS  | 1/8                   | 1/8   | 1/8      | 1/8   | 1/8   | 1/8   | 1/8  | 1/8  |
|                  | RDL | 9/16                  | 7/16  | 7/16     | 7/16  | 7/16  | 7/16  | 7/16 | 7/16 |
|                  | ST  | -1/16                 | 1/16  | 0        | 0     | 0     | 0     | 0    | 0    |
|                  | SUM | 11/16                 | 9/16  | 9/16     | 9/16  | 9/16  | 9/16  | 9/16 | 9/16 |
| Center of Span 2 | WS  | 1/16                  | 1/16  | 1/16     | 1/16  | 1/16  | 1/16  | 1/16 | 1/16 |
|                  | RDL | 1/4                   | 1/4   | 1/4      | 1/4   | 1/4   | 1/4   | 1/4  | 1/4  |
|                  | ST  | 0                     | 0     | 0        | 0     | 0     | 0     | 0    | 0    |
|                  | SUM | 5/16                  | 5/16  | 5/16     | 5/16  | 5/16  | 5/16  | 5/16 | 5/16 |
| Center of Span 3 | WS  | 1/16                  | 1/16  | 1/16     | 1/16  | 1/16  | 1/16  | 1/16 | 1/16 |
|                  | RDL | 1/4                   | 3/16  | 3/16     | 3/16  | 3/16  | 3/16  | 3/16 | 3/16 |
|                  | ST  | 0                     | 0     | 0        | 0     | 0     | 0     | 0    | 0    |
|                  | SUM | 5/16                  | 1/4   | 1/4      | 1/4   | 1/4   | 1/4   | 1/4  | 1/4  |
| Center of Span 4 | WS  | 1/8                   | 1/8   | 1/8      | 1/8   | 1/8   | 1/8   | 1/8  | 1/8  |
|                  | RDL | 9/16                  | 7/16  | 7/16     | 7/16  | 7/16  | 3/8   | 5/16 | 3/8  |
|                  | ST  | 1/8                   | 1/8   | 1/8      | 1/8   | 1/8   | 1/8   | 1/8  | 1/8  |
|                  | SUM | 13/16                 | 11/16 | 11/16    | 11/16 | 11/16 | 5/8   | 9/16 | 5/8  |

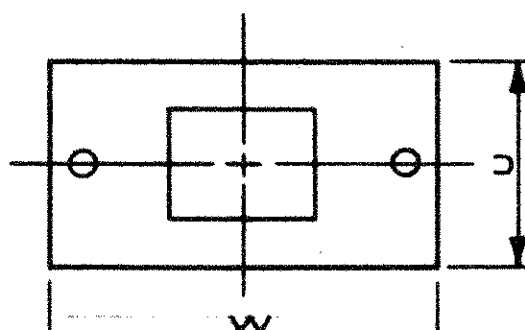
| LOCATION         |     | DEFLECTION AND CAMBER |       |       |       |       |       |       |       |       |       |       |
|------------------|-----|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                  |     | BEAM                  |       |       |       |       |       |       |       |       |       |       |
|                  |     | A                     | B     | C     | D     | E     | F     | G     | H     | J     | K     | L     |
| Center of Span 5 | WS  | 1/8                   | 1/8   | 1/8   | 1/8   | 1/8   | 1/8   | 1/8   | 1/8   | 1/8   | 1/8   | 1/8   |
|                  | RDL | 9/16                  | 7/16  | 7/16  | 7/16  | 7/16  | 7/16  | 7/16  | 7/16  | 7/16  | 3/8   | 3/8   |
|                  | ST  | -3/16                 | -3/16 | -3/16 | -3/16 | -3/16 | -3/16 | -3/16 | -3/16 | -3/16 | -3/16 | -3/16 |
|                  | SUM | 1/2                   | 3/8   | 3/8   | 3/8   | 3/8   | 3/8   | 3/8   | 3/8   | 3/8   | 3/8   | 5/16  |
| Center of Span 6 | WS  | 1/16                  | 1/16  | 1/16  | 1/16  | 1/16  | 1/16  | 1/16  | 1/16  | 1/16  | 1/16  | 1/16  |
|                  | RDL | 1/4                   | 3/16  | 3/16  | 3/16  | 3/16  | 3/16  | 3/16  | 3/16  | 3/16  | 3/16  | 1/8   |
|                  | ST  | 1/16                  | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
|                  | SUM | 3/8                   | 1/4   | 1/4   | 1/4   | 1/4   | 1/4   | 1/4   | 1/4   | 1/4   | 1/4   | 3/16  |
| Center of Span 7 | WS  | 1/16                  | 1/16  | 1/16  | 1/16  | 1/16  | 1/16  | 1/16  | 1/16  | 1/16  | 1/16  | 1/16  |
|                  | RDL | 1/4                   | 3/16  | 3/16  | 3/16  | 3/16  | 3/16  | 3/16  | 3/16  | 3/16  | 1/8   | 1/8   |
|                  | ST  | 0                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
|                  | SUM | 5/16                  | 1/4   | 1/4   | 1/4   | 1/4   | 1/4   | 1/4   | 1/4   | 1/4   | 3/16  | 3/16  |
| Center of Span 8 | WS  | 1/8                   | 1/8   | 1/8   | 1/8   | 1/8   | 1/8   | 1/8   | 1/8   | 1/8   | 1/8   | 1/8   |
|                  | RDL | 9/16                  | 7/16  | 7/16  | 7/16  | 7/16  | 7/16  | 7/16  | 7/16  | 7/16  | 5/16  | 5/16  |
|                  | ST  | 3/16                  | 3/16  | 3/16  | 3/16  | 3/16  | 3/16  | 3/16  | 3/16  | 3/16  | 3/16  | 3/16  |
|                  | SUM | 7/8                   | 3/4   | 3/4   | 3/4   | 3/4   | 3/4   | 3/4   | 3/4   | 3/4   | 5/8   | 5/8   |

- Sign denotes sag in top of slab.  
WS denotes Deflection due to weight of steel.  
RDL denotes Deflection due to remaining dead load.  
ST denotes Super-elevation transition.  
SUM denotes sum of Deflection and Super-elevation transition.  
Camber beams equal to sum of Deflection and Super-elevation transition.

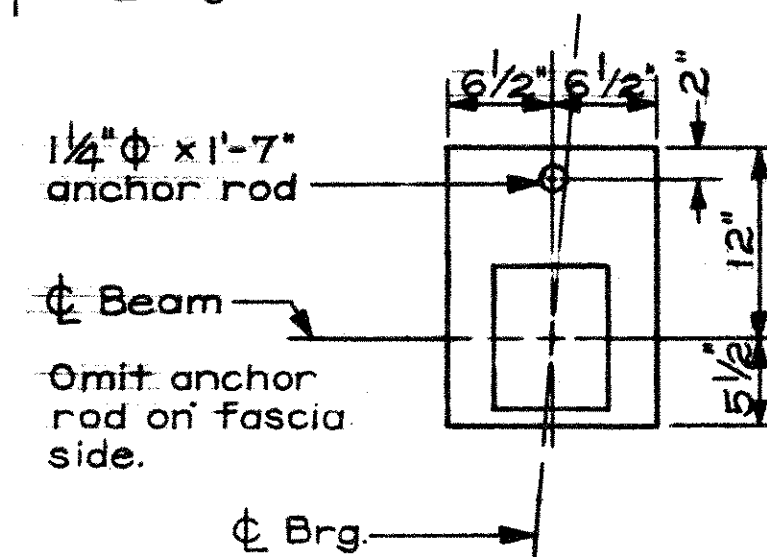


BEAM ELEVATION

| Bearing | u  | w  |
|---------|----|----|
| E-150   | 13 | 24 |
| E-250   | 14 | 21 |



(Mas. plate sizes for E-150 & E-250)



DETAIL C

(Mas. plate detail for Beams A & M)

| Beams        | TABLE E |       |       |       |                               |       |                        |       |
|--------------|---------|-------|-------|-------|-------------------------------|-------|------------------------|-------|
|              | E-250   |       | F-200 |       | E-150 except Pier #4, Span #5 |       | E-150 Pier #4, Span #5 |       |
|              | V       | Y     | C     | K     | V                             | Y     | V                      | Y     |
| A thru H & L | 2 3/4   | 5 3/8 | 3 1/4 | 8 1/8 | 2 1/4                         | 4 5/8 | 2 7/8                  | 5 1/4 |
| J            | 2 3/4   | 5 3/8 | 3 1/4 | 8 1/8 | 2 1/4                         | 4 5/8 | 2 1/4                  | 4 5/8 |
| K            | 2 3/4   | 5 3/8 | 3 1/4 | 8 1/8 | 2 1/4                         | 4 5/8 | 3 3/8                  | 5 3/4 |

Work this drawing with Std. Drwg. SD-1-63, Sh. No. 2.  
For exp. dam details see Sh. No. 339.  
For bearing details for Units 1 & 2 see Std. Drwg. FSB-1-62 except for modifications shown on Details C & D and Table E.  
Beveled Sole plates shall be provided for all FSB-1-62 bearings.

For details not shown see Standard Drawing FSB-1-62.

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS  
UNIT I  
BRIDGE No. HAM.-71-0224  
H&E BRIDGE NO. 19

| DESIGNED | DRAWN | TRACED | CHECKED        | REVIEWED DATE    | REVISED |
|----------|-------|--------|----------------|------------------|---------|
| GLW      | ⊕     |        | Jhs<br>4/30/65 | N.A.?<br>8-30-65 |         |

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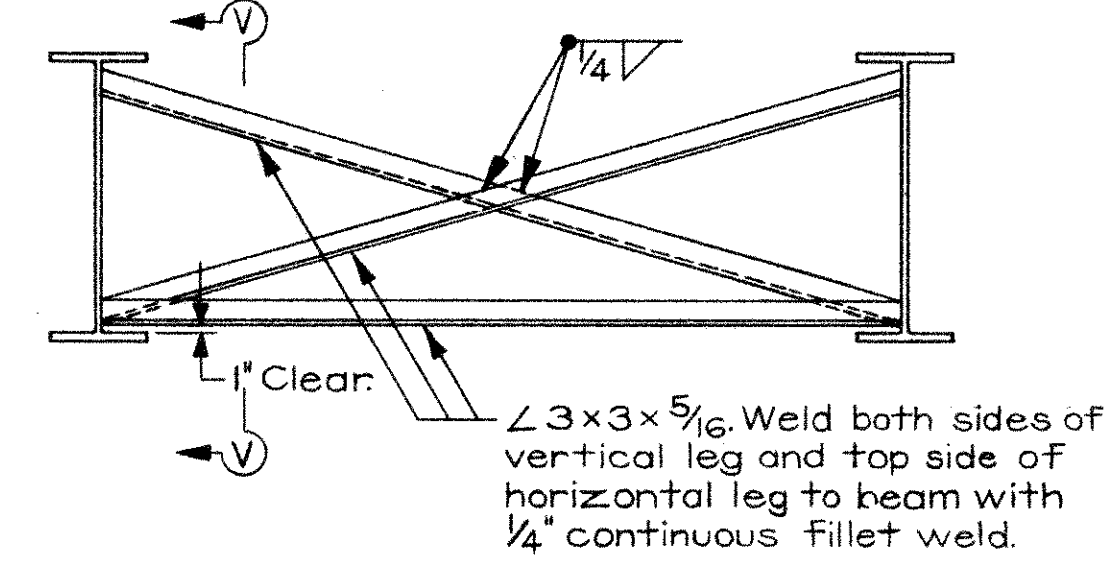
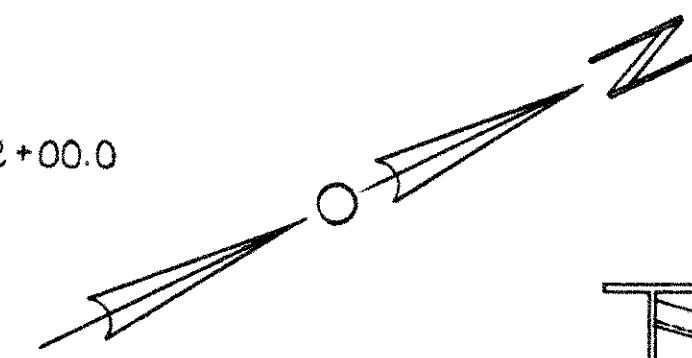
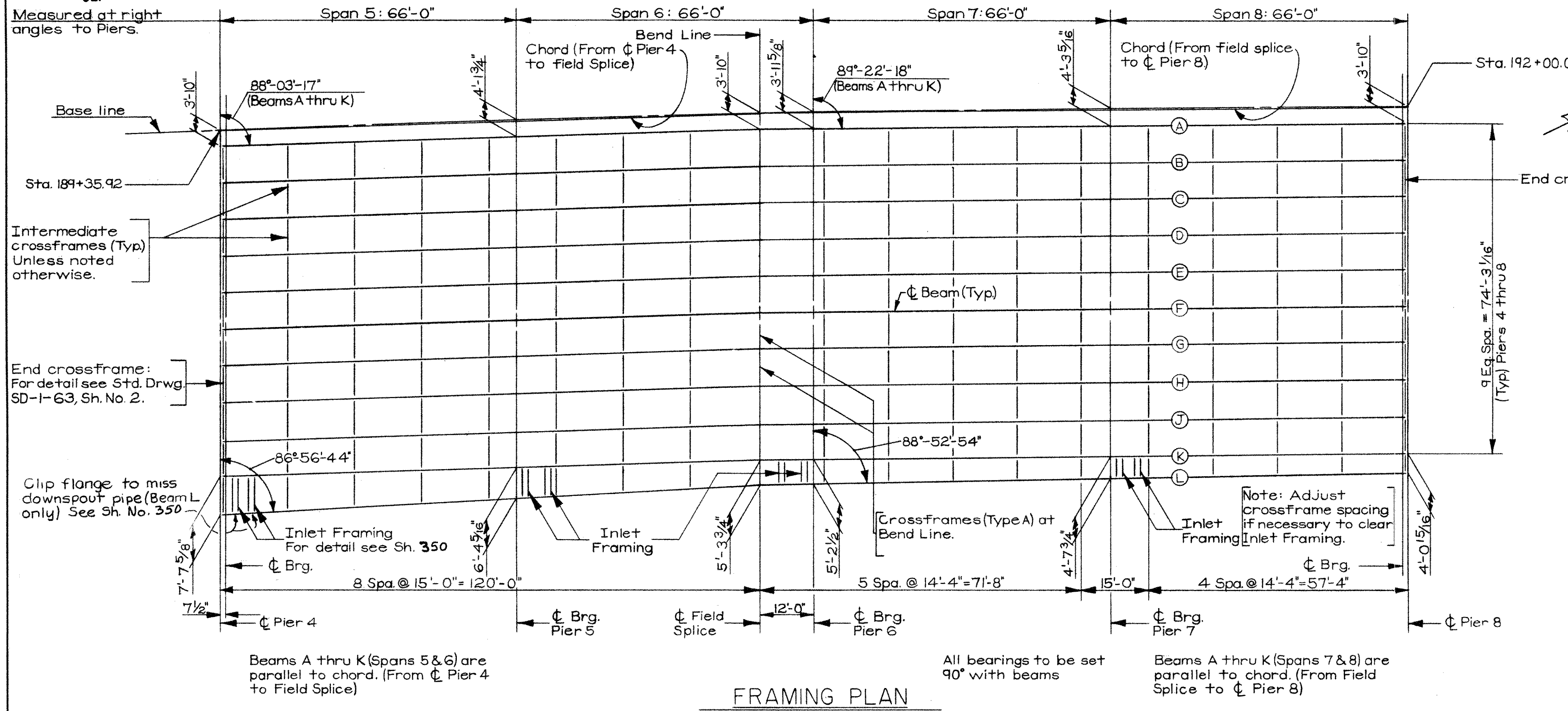
Measured at right angles to Piers.

Note: Piers 4,5,6,7, & 8 are parallel.

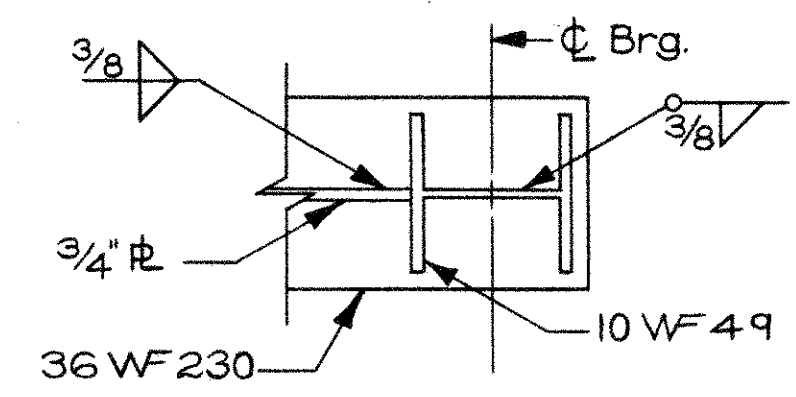
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
|---------------|-------|---------|-------------|
| 2             | OHIO  |         |             |

333  
460

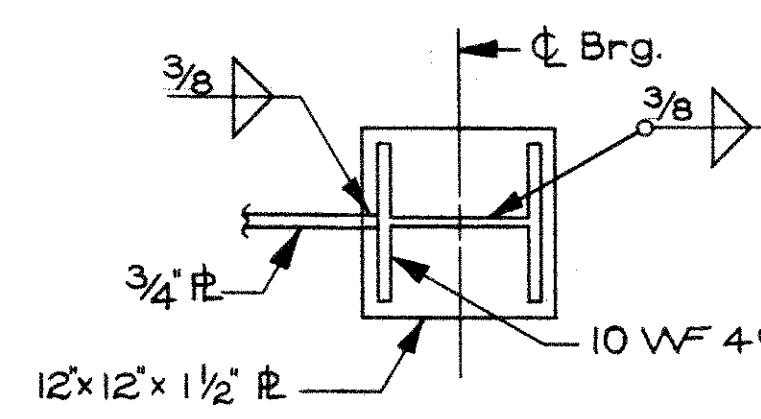
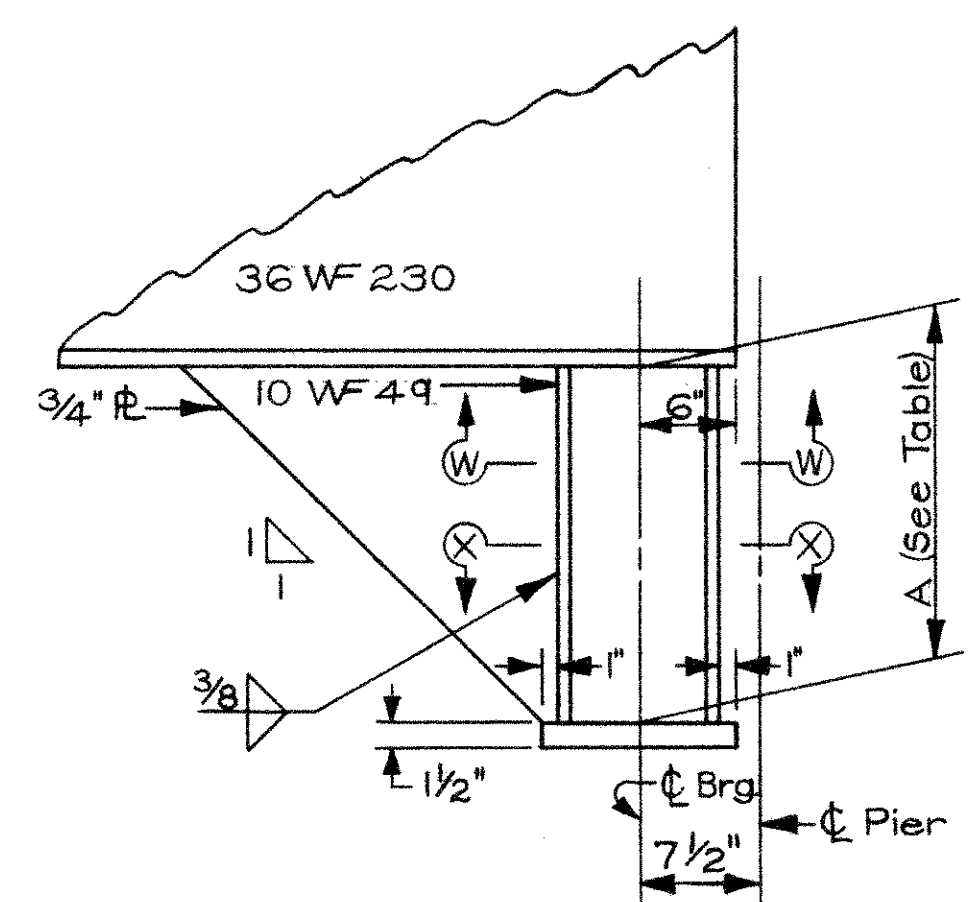
HAMILTON COUNTY  
HAM-71- 2.08



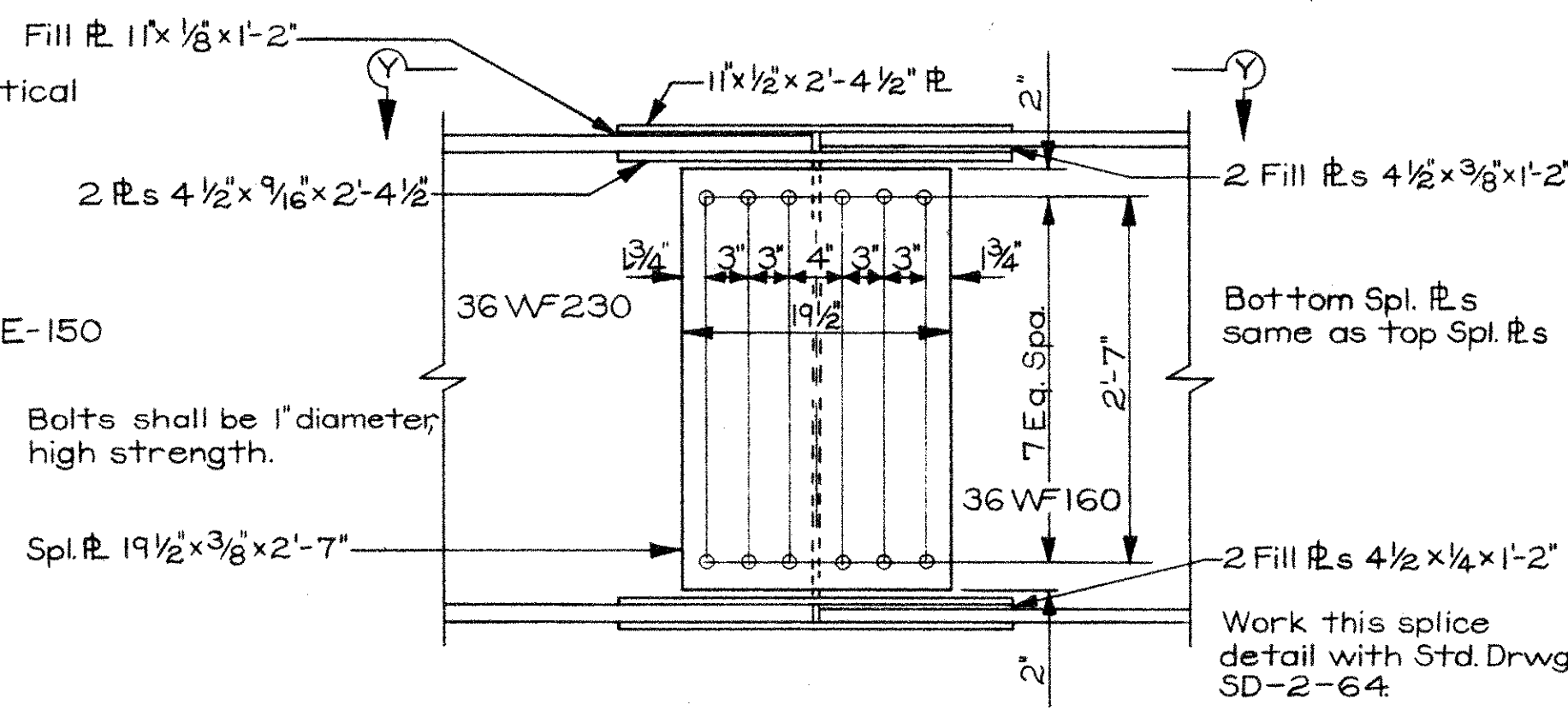
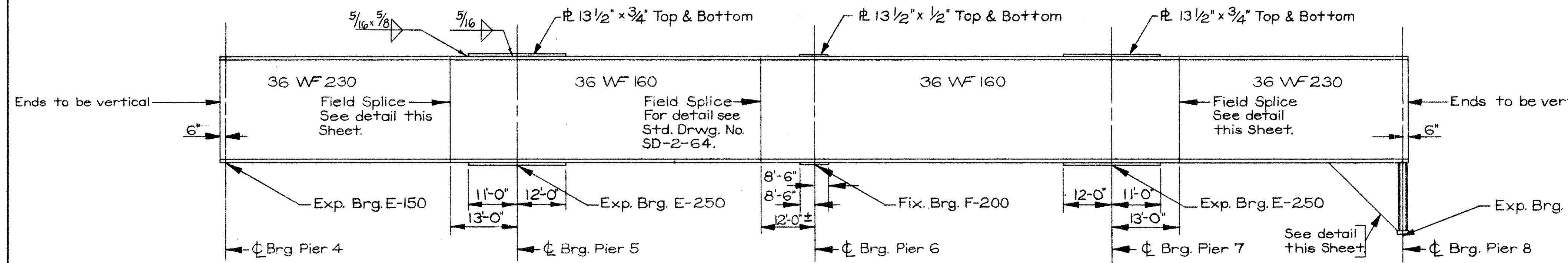
TYPICAL INTERMEDIATE CROSSFRAMES FOR ROLLED BEAMS (Except Crossframes Type A)



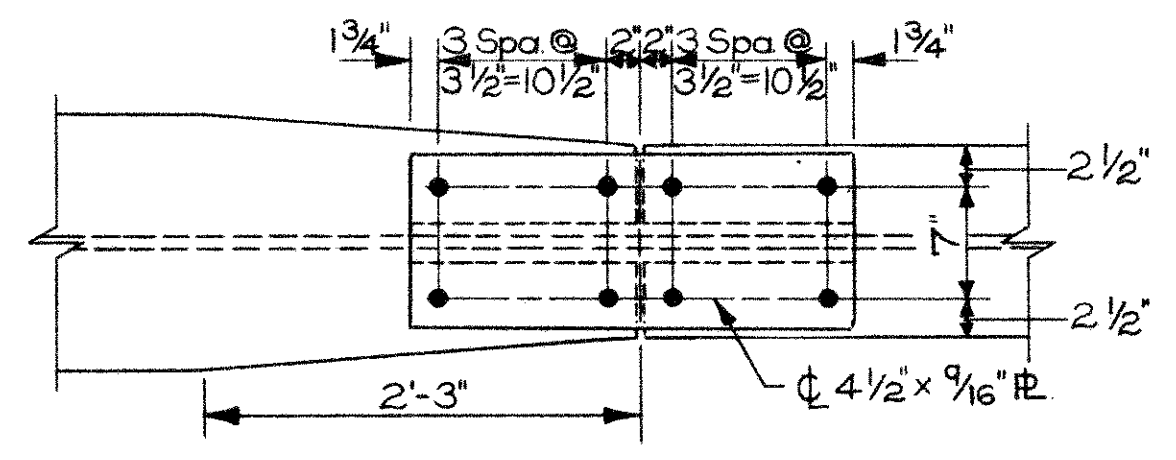
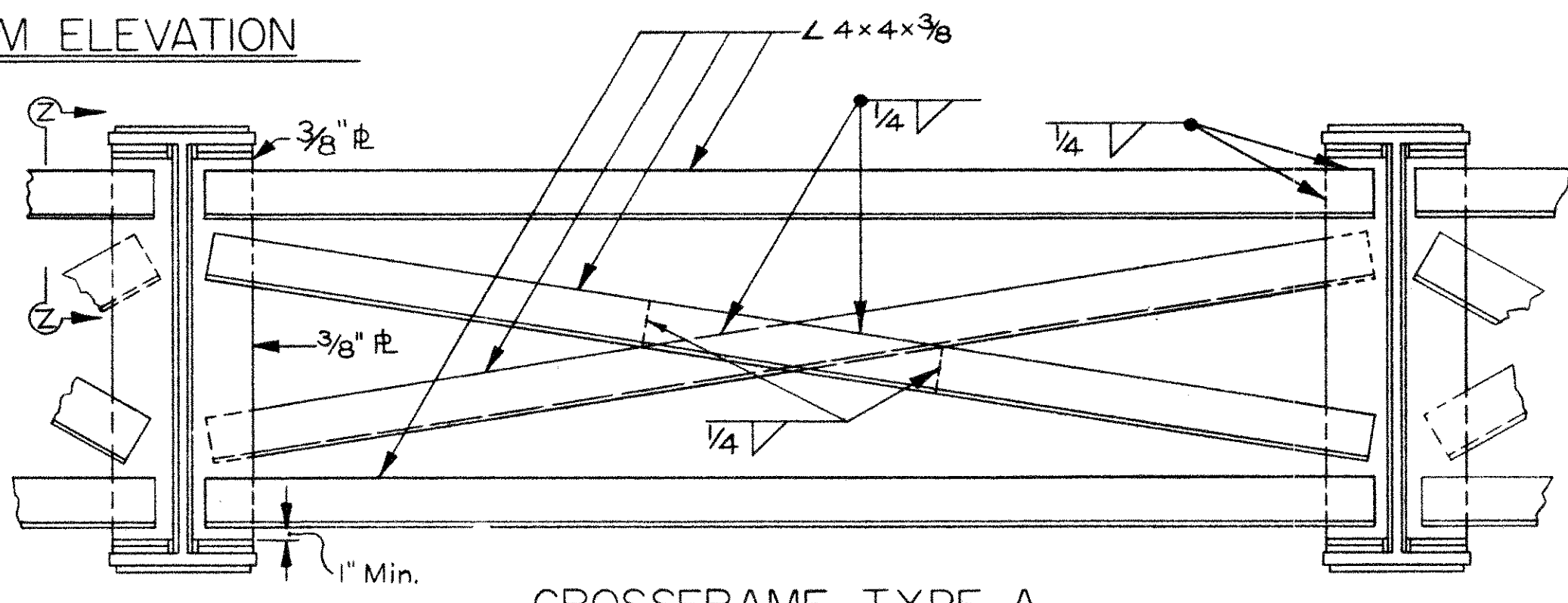
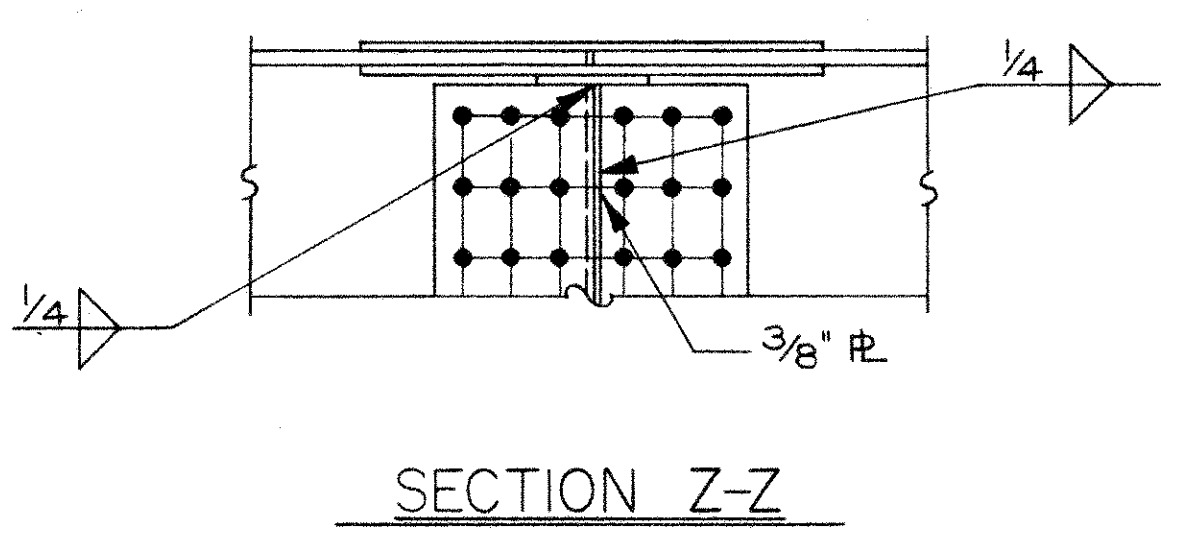
SECTION W-W



SECTION X-X



| BEAM | A          |
|------|------------|
| A    | 4'-3 1/8"  |
| B    | 4'-1 5/8"  |
| C    | 4'-0 1/8"  |
| D    | 3'-10 5/8" |
| E    | 3'-9 1/8"  |
| F    | 3'-7 5/8"  |
| G    | 3'-6 1/8"  |
| H    | 3'-4 1/2"  |
| J    | 3'-3"      |
| K    | 3'-1 3/8"  |
| L    | 3'-0 3/4"  |

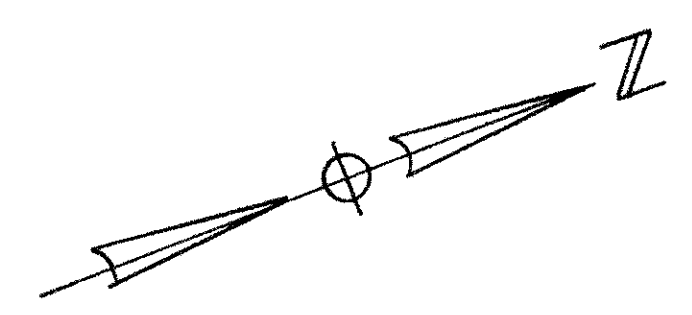


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CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS  
UNIT 2  
BRIDGE No. HAM-71-0224  
H&E BRIDGE NO. 19

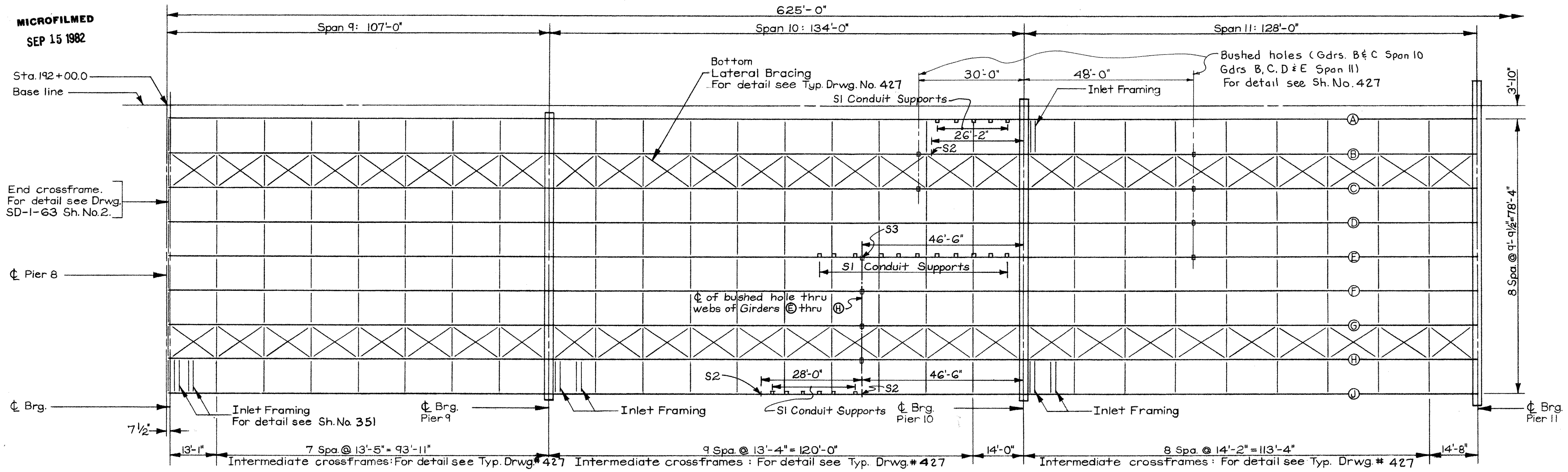
| DESIGNED | DRAWN | TRACED | CHECKED        | REVIEWED DATE     | REVIEWED |
|----------|-------|--------|----------------|-------------------|----------|
| GLW      | ⊕     |        | JH0<br>4/30/65 | H.A.E.<br>8-30-65 |          |

**HAMILTON COUNTY  
HAM-71-2.08**

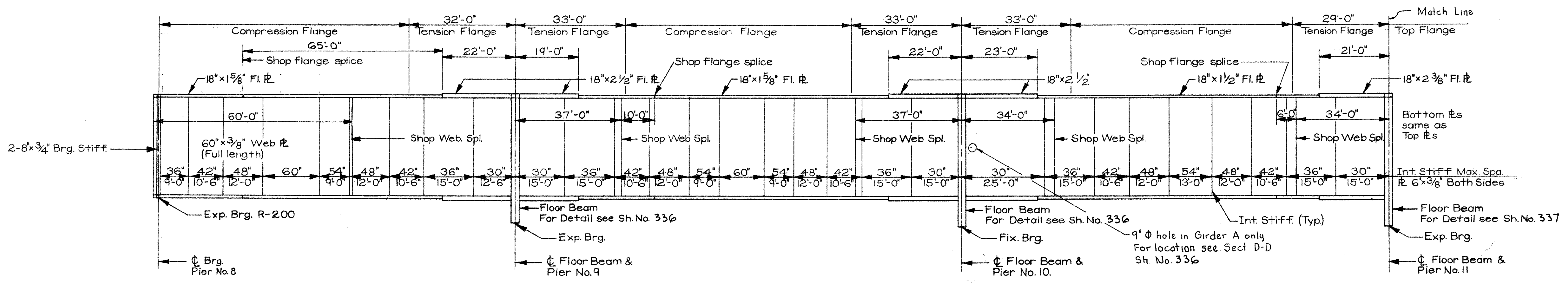


Note:  
For Beam Clamp Details see Sh. 220  
For Details of Conduit and Junction Box Supports see Sh. 220  
Conduit and Junction Box Supports must be fastened to the stiffeners or web on the east side of Girder A and on the west side of Girders B, E, and J  
Required: Conduit Support Type S1=22  
Junction Box Support Type S2=3  
Junction Box Support Type S3=1  
Beam Clamp Type C1=4  
See Sheet 220 for details of Detector Hanger Bars.

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**FRAMING PLAN**

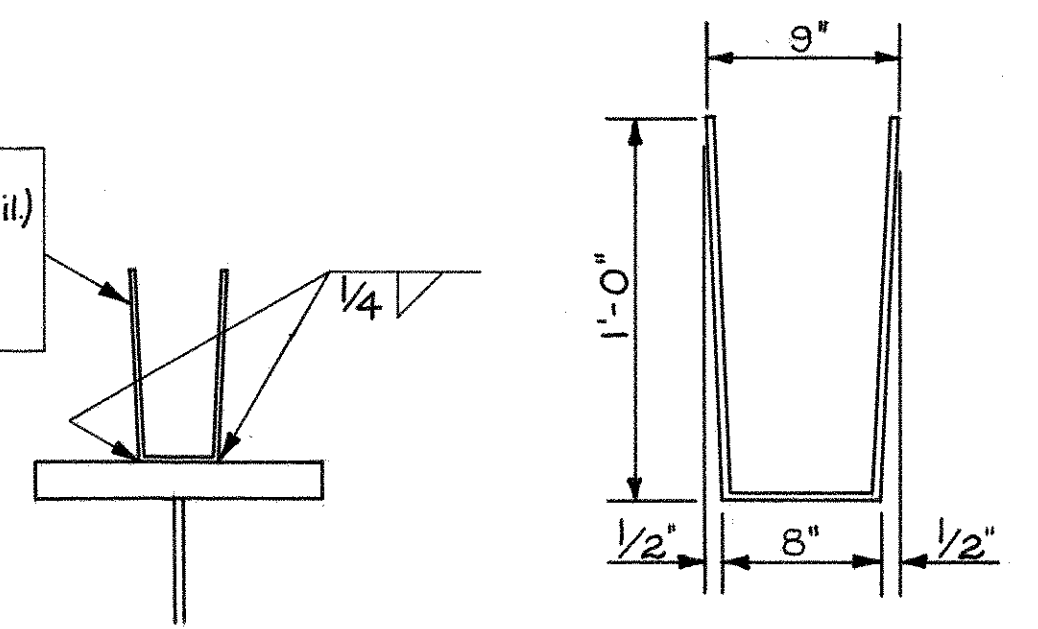


**GIRDER ELEVATION**

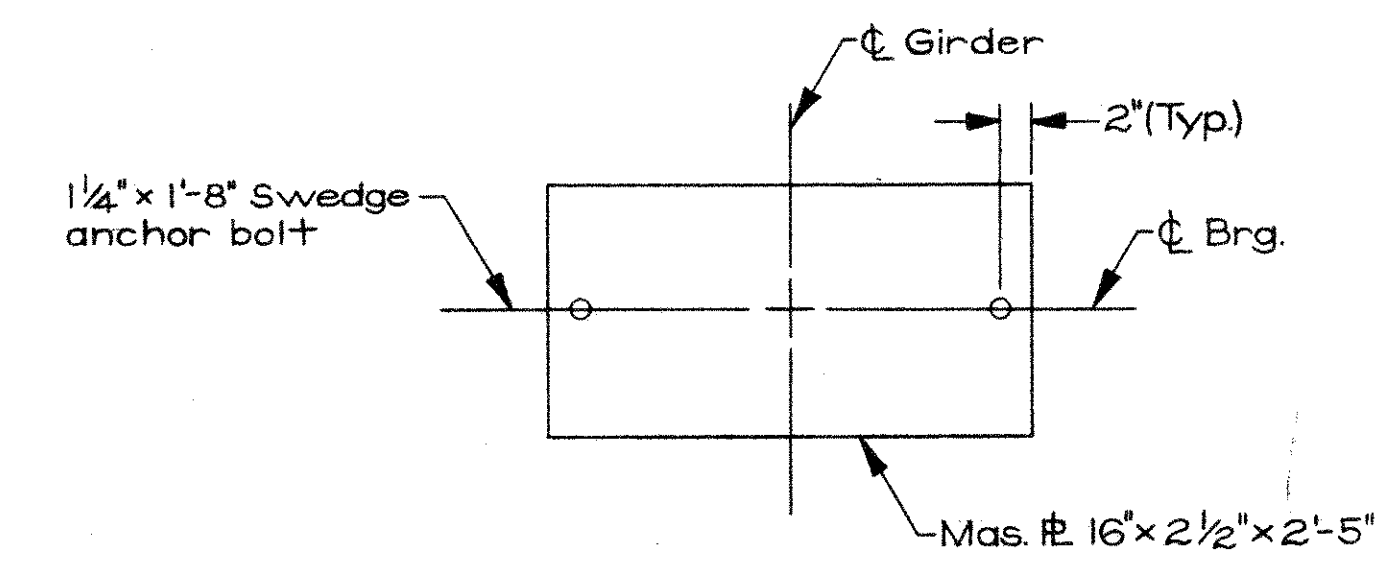
For bearing detail R-200 see Std. Drwg. RB-1-55 except masonry plates modified as shown on Detail A.  
For detail of roadway end dam at Pier No. 8 see Sh. No. 339  
For bearing details at piers 9, 10, & 11 see Sh. No. 335  
For Deflection and Camber Diagram see Sh. No. 338

| NUMBER OF ANCHOR BARS REQUIRED |        |         |         |         |         |
|--------------------------------|--------|---------|---------|---------|---------|
| GIRDERS                        | SPAN 9 | SPAN 10 | SPAN 11 | SPAN 12 | SPAN 13 |
| A                              | 18     | 22      | 0       | 0       | 0       |
| B                              | 18     | 22      | 21      | 21      | 21      |
| C                              | 18     | 22      | 21      | 21      | 21      |
| D                              | 18     | 22      | 21      | 21      | 21      |
| E                              | 18     | 22      | 21      | 21      | 21      |
| F                              | 18     | 22      | 21      | 21      | 21      |

1" x 1/4" Anchor Bars  
Spa. @ 6'-0" (see detail)  
(Included with Item 513 for payment)  
(Total 555. See box.)



**ANCHOR BAR DETAIL**



**DETAIL A**

Work this Sheet with Typ. Drawing No. 427

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CINCINNATI, OHIO

**STRUCTURAL STEEL DETAILS**  
UNIT 3  
BRIDGE No. HAM.-71-0224  
H&E BRIDGE NO. 19

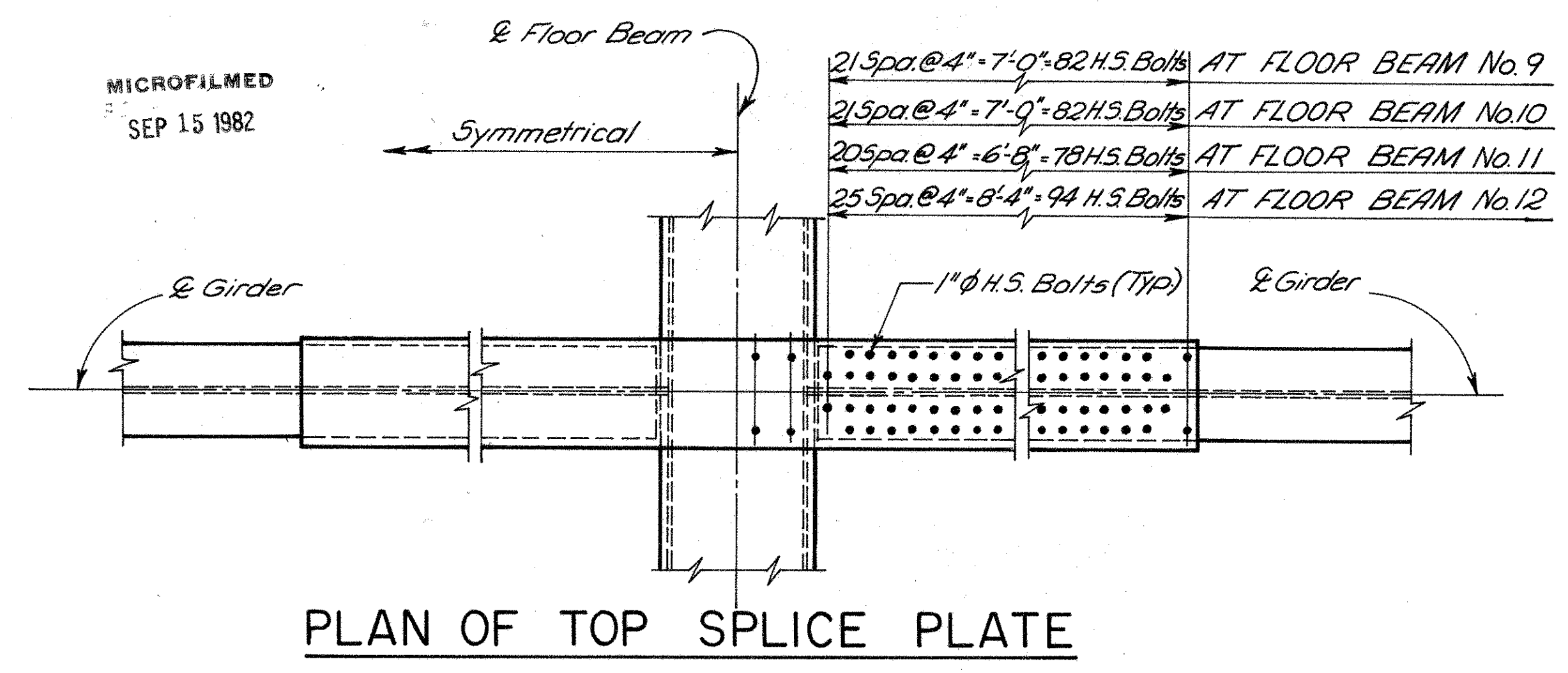
|          |       |        |                |                   |         |
|----------|-------|--------|----------------|-------------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED        | REVIEWED DATE     | REVISED |
| MKK      | ⊕     |        | JHO<br>4/30/65 | N.H.P.<br>8-30-65 |         |



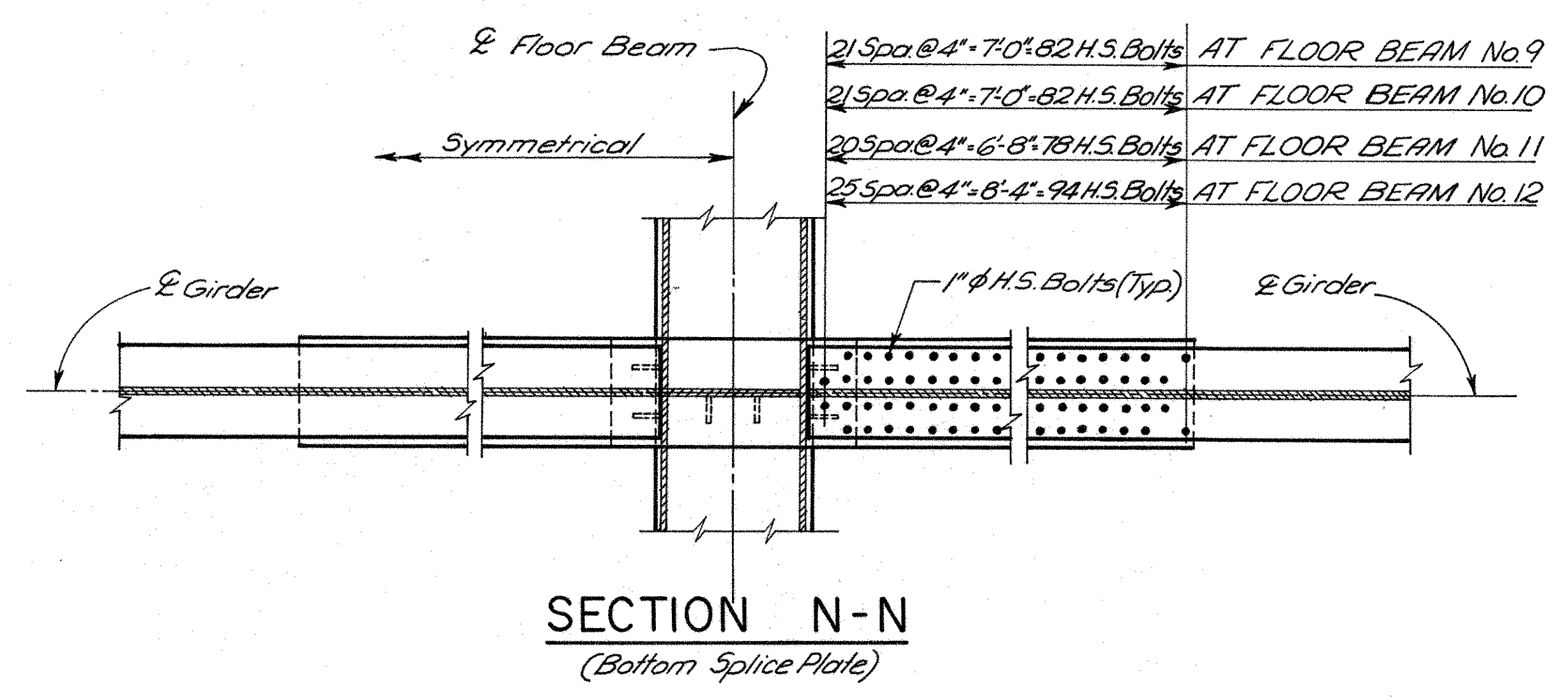




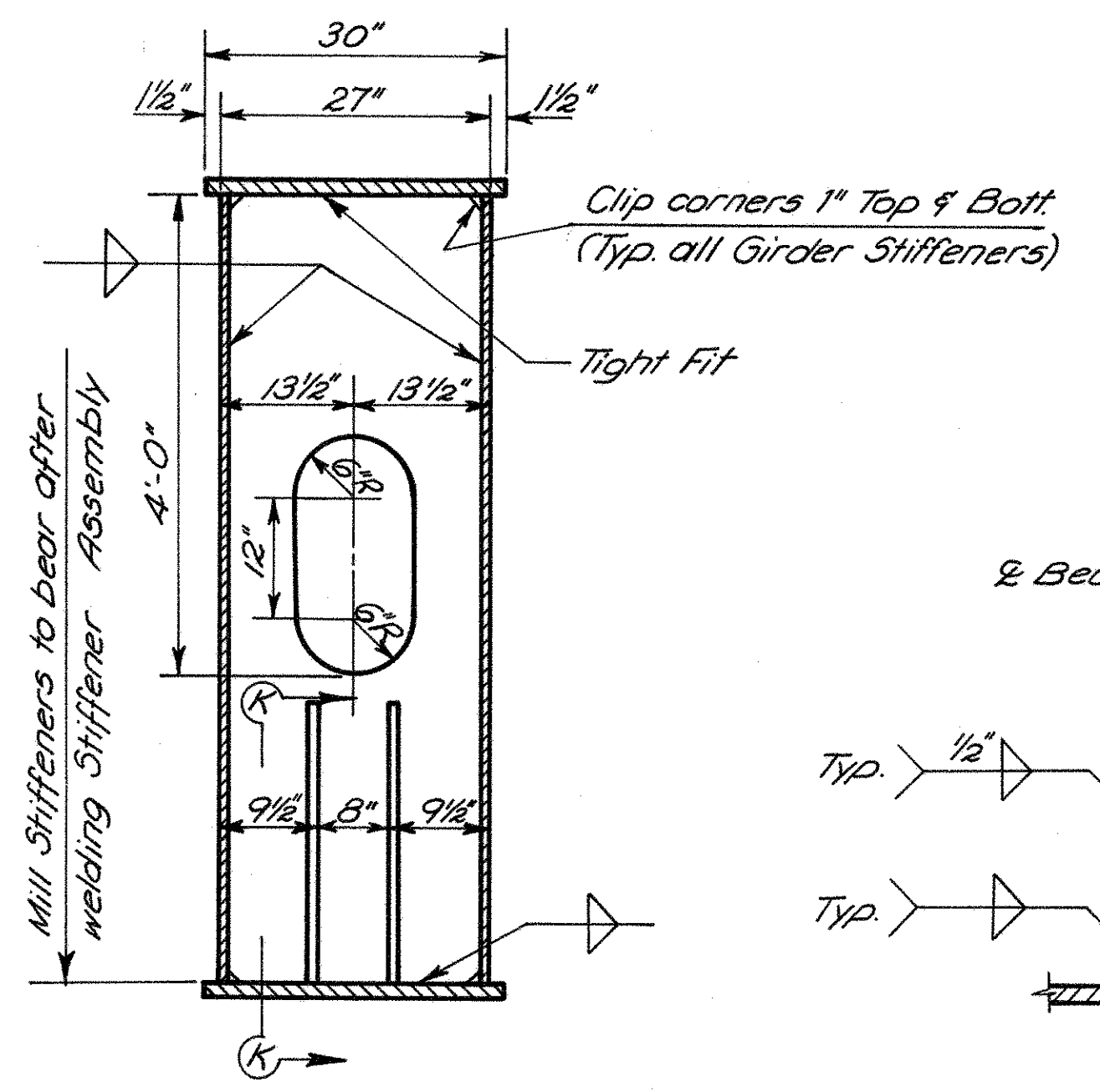




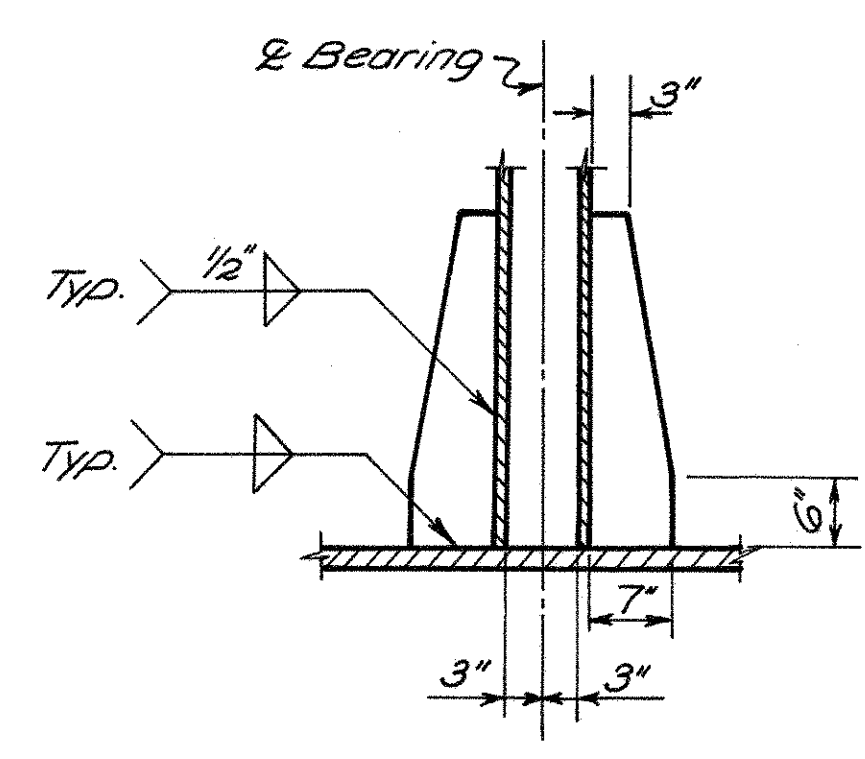
PLAN OF TOP SPLICE PLATE



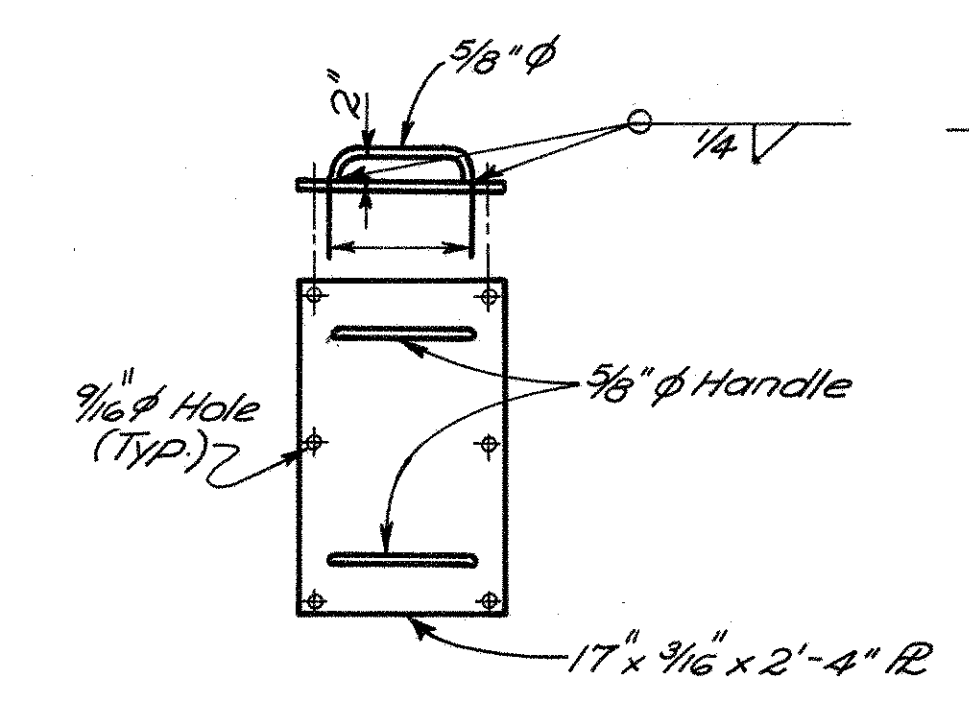
SECTION N-N  
(Bottom Splice Plate)



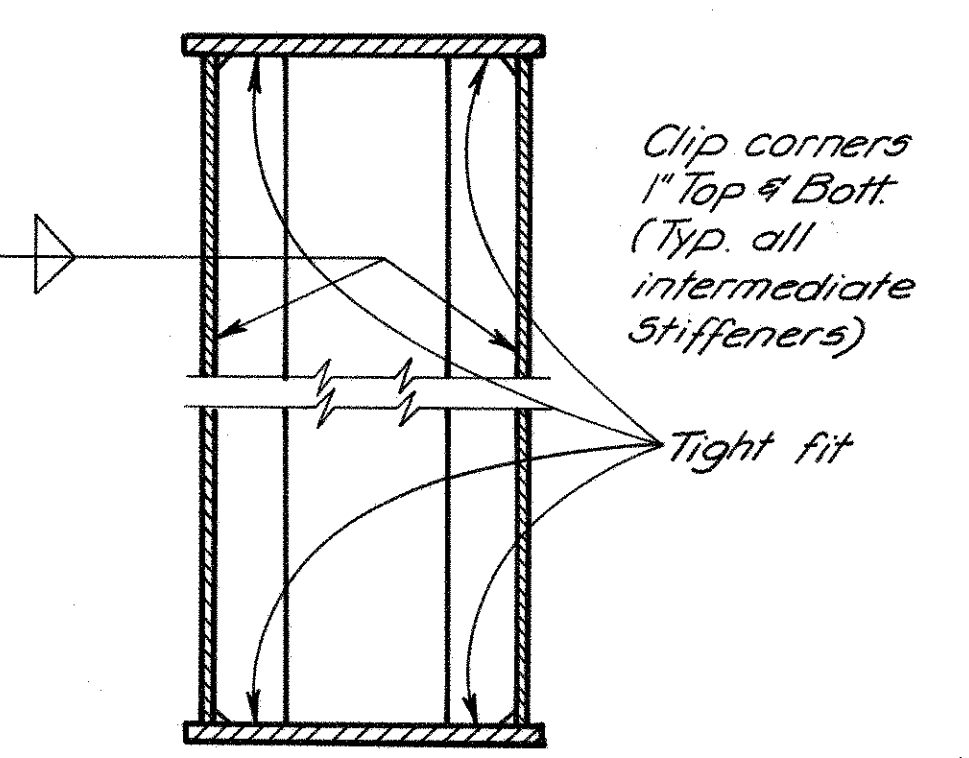
SECTION J-J



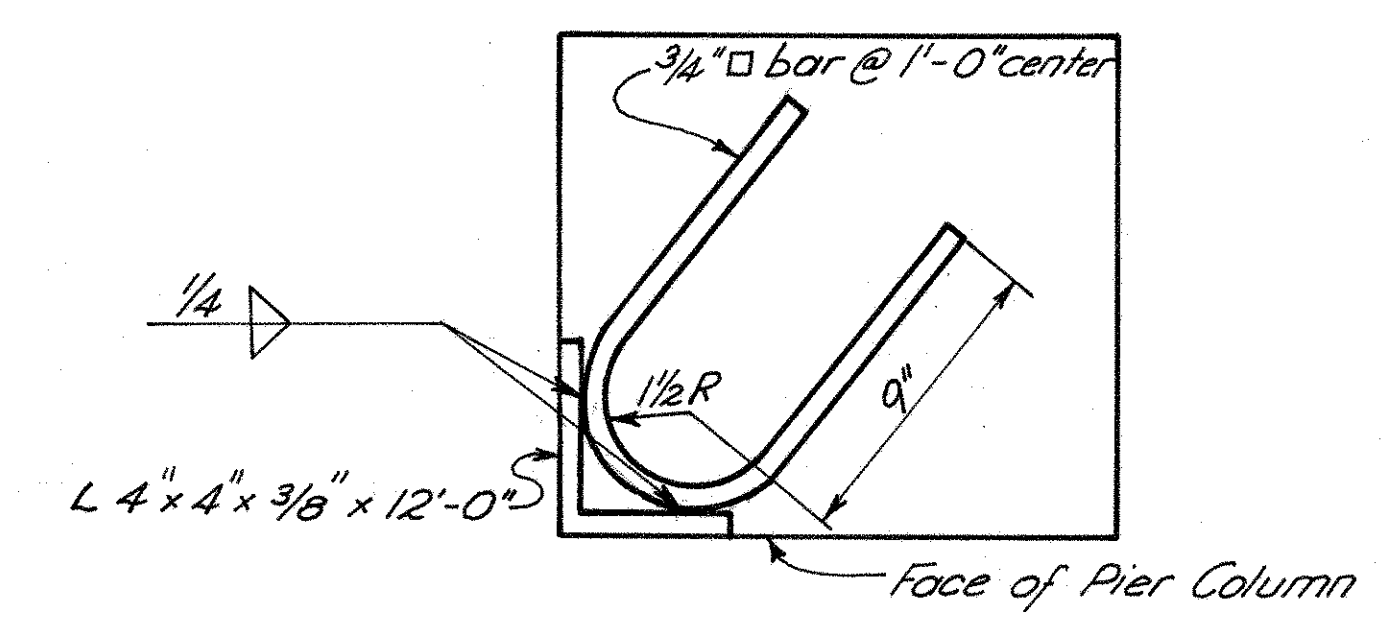
SECTION K-K



COVER PLATE  
(For Access Hole)



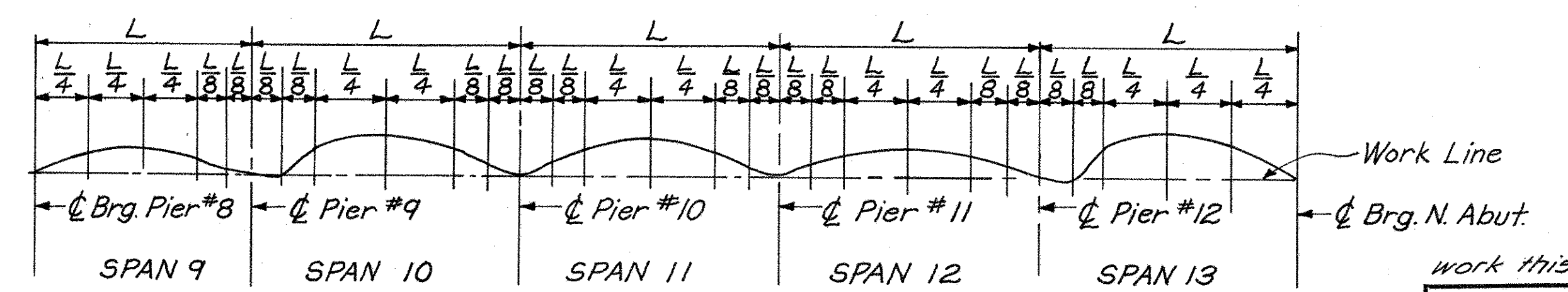
SECTION AA-AA  
(Typ. all intermediate Stiffeners)



DETAIL OF ARMOR ANGLES

FOR PIER NO. 9  
(Included with Item 513 for pavement)  
(4 Required)

| GIRDER   |  | DEFLECTION AND CAMBER |        |        |         |        |        |         |        |       |         |        |       |         |        |       |
|----------|--|-----------------------|--------|--------|---------|--------|--------|---------|--------|-------|---------|--------|-------|---------|--------|-------|
|          |  | Span 9                |        |        | Span 10 |        |        | Span 11 |        |       | Span 12 |        |       | Span 13 |        |       |
|          |  | 1/4                   | 1/2    | 3/4    | 1/8     | 1/4    | 3/8    | 1/8     | 1/4    | 3/8   | 1/8     | 1/4    | 3/8   | 1/8     | 1/4    | 3/8   |
| A & J    | Deflection due to weight of steel      | 3/8                   | 9/16   | 3/8    | 1       | 1 1/8  | 1      | 1 1/8   | 1 3/8  | 1 1/2 | 1 1/8   | 1 1/4  | 1 1/8 | 1 1/8   | 1 1/4  | 1 1/8 |
|          | Deflection due to remaining dead load  | 1/2                   | 9/16   | 1/4    | 5/16    | 5/8    | 5/16   | 1/4     | 9/16   | 3/8   | 1/8     | 1/4    | 1/16  | 9/16    | 1 1/16 | 7/8   |
|          | Adjustment required for vertical curve | 0                     | 0      | 0      | 0       | 0      | 0      | 0       | 0      | 0     | 0       | 0      | 0     | 0       | 0      | 0     |
|          | Required shop Camber                   | 7/8                   | 1 1/8  | 5/8    | 1/4     | -1/16  | 1 5/16 | 2       | 1 5/16 | 9/16  | 5/8     | 1 1/16 | 1 3/4 | 1 3/8   | 1 1/2  | 3/4   |
| B thru H | Deflection due to weight of steel      | 3/8                   | 9/16   | 3/8    | 1       | 1 3/8  | 1      | 1 3/8   | 1 3/8  | 1 3/8 | 1 3/8   | 1 1/4  | 1 3/8 | 1 3/8   | 1 1/4  | 1 3/8 |
|          | Deflection due to remaining dead load  | 9/16                  | 1 1/16 | 5/16   | 3/8     | 1 1/16 | 3/8    | 5/16    | 1 1/16 | 3/8   | 1/8     | 5/16   | 1/16  | 1 1/16  | 1 1/4  | 1     |
|          | Adjustment required for vertical curve | 0                     | 0      | 0      | 0       | 0      | 0      | 0       | 0      | 0     | 0       | 0      | 0     | 0       | 0      | 0     |
|          | Required shop Camber                   | 1 5/16                | 1 1/4  | 1 1/16 | 1/4     | -1/16  | 1 3/8  | 2 1/16  | 1 3/8  | 9/16  | 5/8     | 1 1/8  | 1 7/8 | 1 3/8   | 1 1/2  | 3/4   |



CAMBER DIAGRAM

Camber girders by cutting webs to a smooth curve. (To ordinates indicated in box)  
Minus sign in table indicates camber ordinates measured below chord. No sign indicates camber ordinates measured above chord.

work this sheet with sheet No. 336 & 337

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**STRUCTURAL STEEL DETAILS**  
BRIDGE NO. HAM.-71-0224

H & E BRIDGE NO. 19

|          |         |        |         |               |         |
|----------|---------|--------|---------|---------------|---------|
| DESIGNED | DRAWN   | TRACED | CHECKED | REVIEWED DATE | REVISED |
| H. A. S. | B. Sch. | JHO    | H.A.S.  | 8-30-65       |         |

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SEP 15 1982

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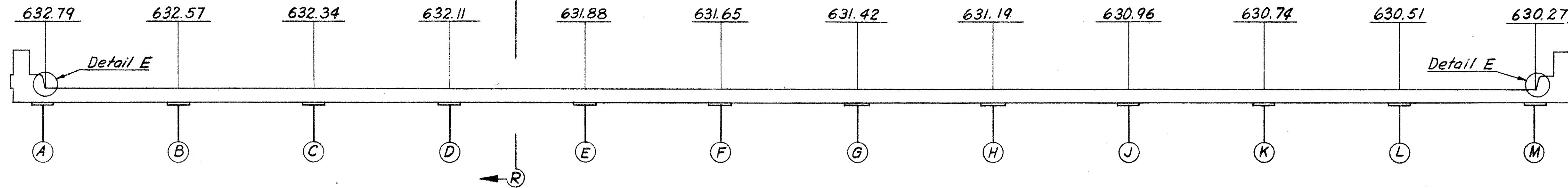
For Section see Sect. A-A  
Standard Drawing  
SD-1-63 Sheet No. 2

| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
|---------------|-------|---------|-------------|
| 2             | OHIO  |         |             |

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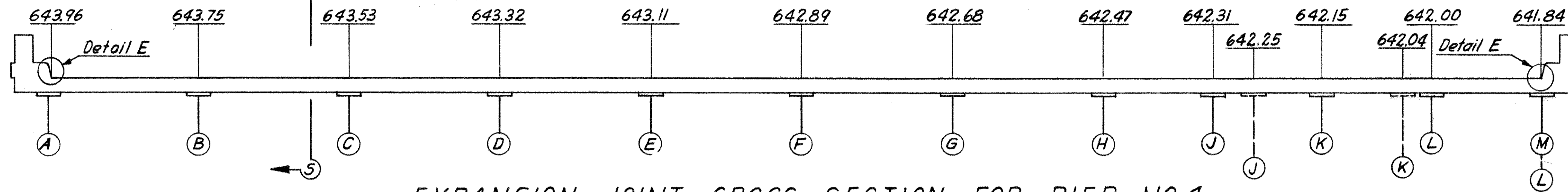
HAMILTON COUNTY  
HAM-71- 2.08

N.B. Base Line



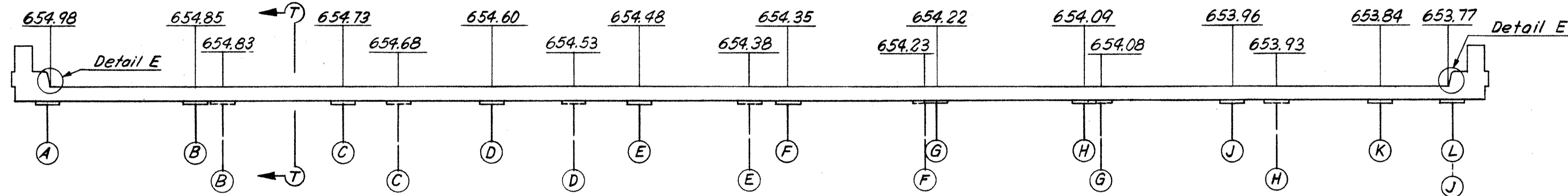
EXPANSION JOINT CROSS SECTION FOR SOUTH ABUTMENT

N.B. Base Line



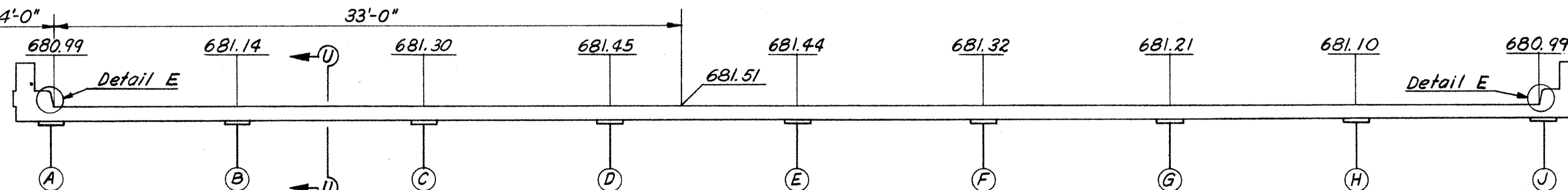
EXPANSION JOINT CROSS SECTION FOR PIER NO. 4

N.B. Base Line



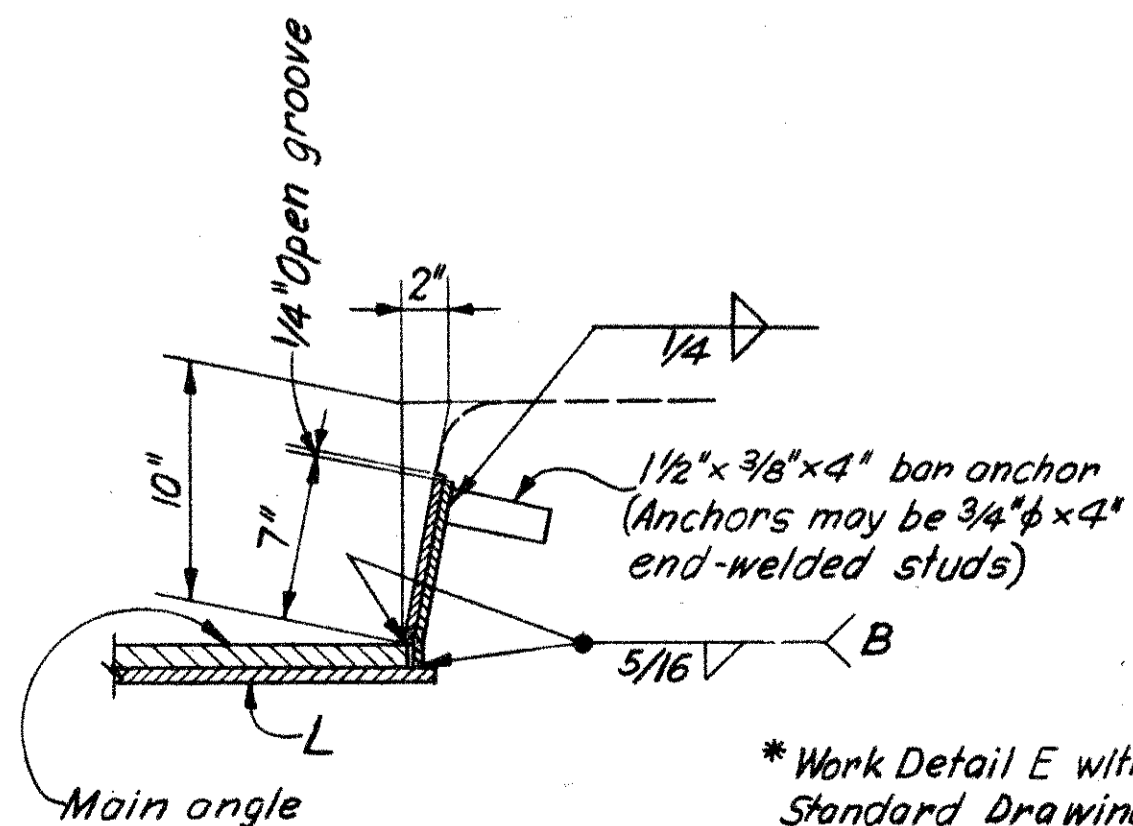
EXPANSION JOINT CROSS SECTION FOR PIER NO. 8

N.B. Base Line



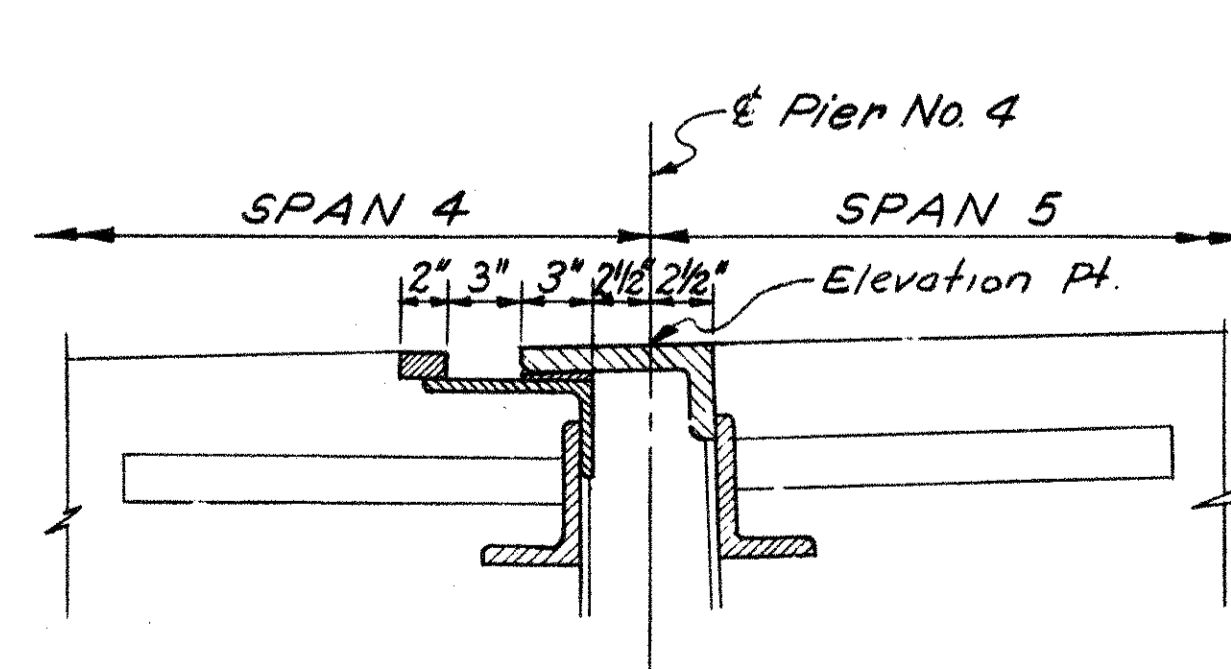
EXPANSION JOINT CROSS SECTION FOR NORTH ABUTMENT

NOTES Elevations at North Abutment and South Abutment are given at Front Face of Backwall.  
Elevations at Pier No. 4 and Pier No. 8 are given at E Piers.

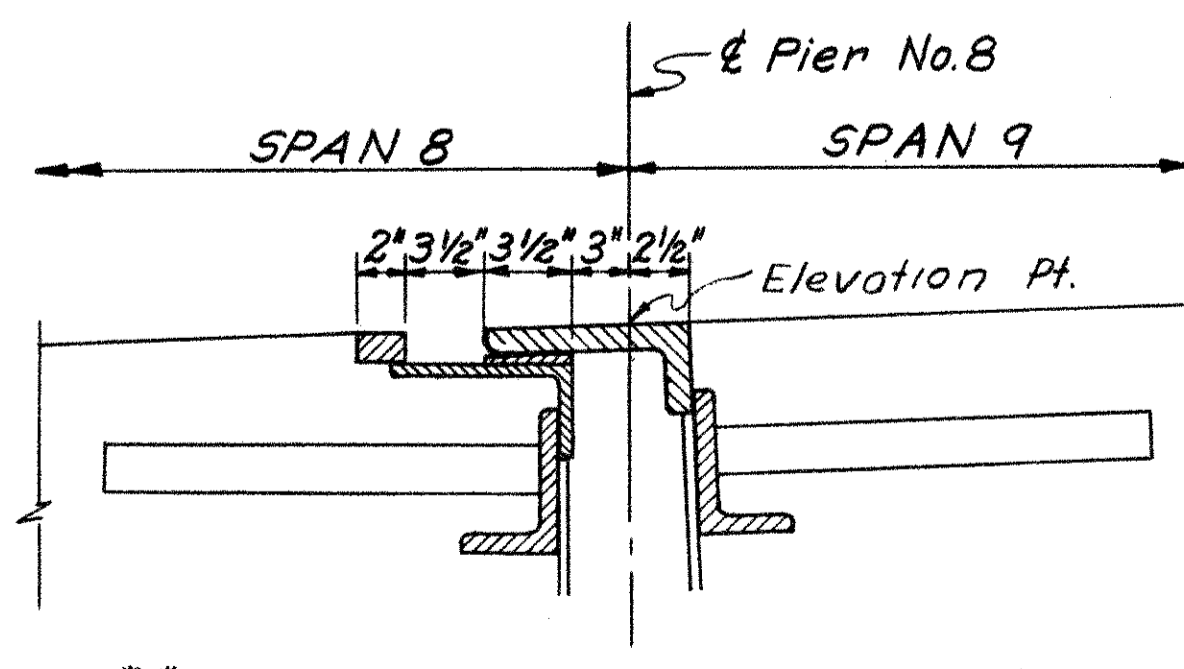


DETAIL E\*

\*Work Detail E with "Curb Plate Details" Standard Drawing SD-1-63 Sht. No. 4

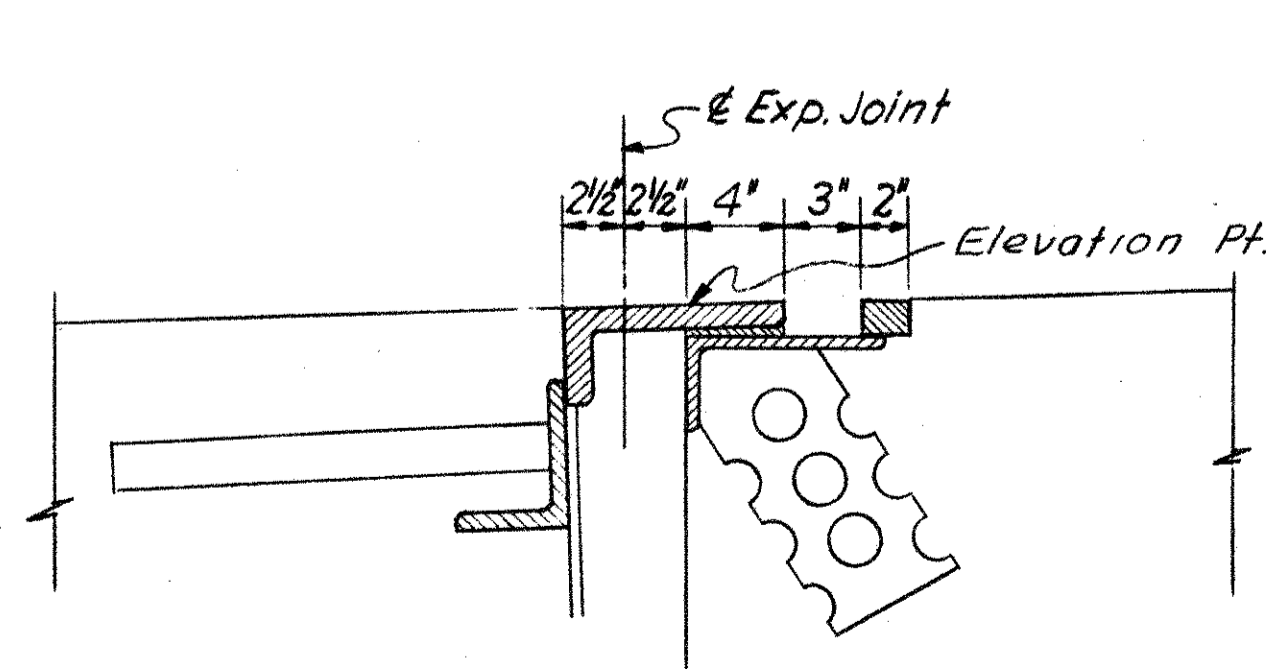


SECTION S-S\*\*



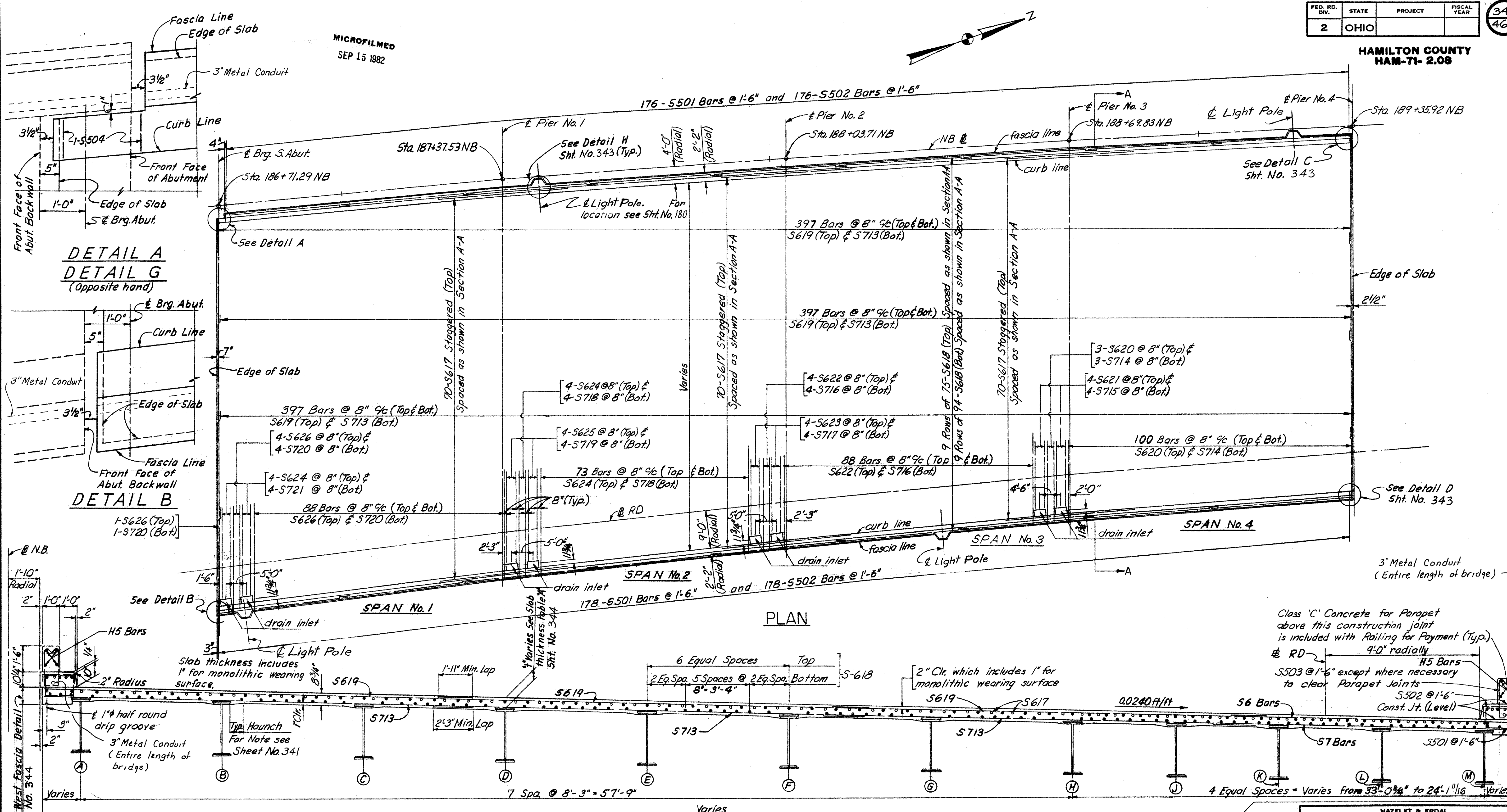
SECTION T-T\*\*

\*\*Work Sections S-S, T-T and U-U with "Section A-A" Standard Drawing SD-1-63 Sht. No. 2

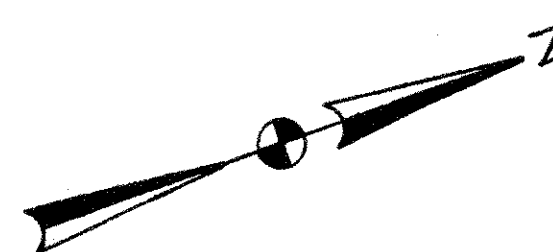


SECTION U-U\*\*

|   |         |        |         |               |          |
|---|---------|--------|---------|---------------|----------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |         |        |         |               |          |
| STRUCTURAL STEEL DETAILS                                    |         |        |         |               |          |
| BRIDGE NO. HAM.-71-0224                                     |         |        |         |               |          |
| H&E BRIDGE NO. 19   |         |        |         |               |          |
| DESIGNED  | DRAWN   | TRACED | CHECKED | REVIEWED DATE | REVISION |
|   | HAS     |        | JHO     | 8-30-65       |          |
|   | 4-29-68 |        | 4/30/68 |               |          |



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PLAN

SECTION A-A  
(Spans 1 thru 4)

DIAGRAM SHOWING STAGGER OF S617 OVER PIERS 1, 2 & 3

Note: Deck Slab Depth: The distance shown from top of deck slab to top of steel beam is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.

- NOTES:**
- For drainage details see Sht. No. 350
  - For lighting details see Sht. No. 189 & 346
  - For railing details and spacing of bars in parapet see Sht. No. 346
  - For end finish detail see Sht. No. 339
  - Transverse bars shall be placed parallel to & of piers

Class 'C' Concrete for Parapet above this construction joint is included with Railing for Payment (Typ.)

& RD 9'-0" radially

H5 Bars S503 @ 1'-6" except where necessary to clear Parapet Joints

S502 @ 1'-6" Const. Jt. (Level)

|  |         |        |         |               |          |
|--|---------|--------|---------|---------------|----------|
| HAZLET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |         |        |         |               |          |
| SUPERSTRUCTURE DETAILS                                     |         |        |         |               |          |
| BRIDGE NO. HAM.-71-0224                                    |         |        |         |               |          |
| H&E BRIDGE NO. 19  |         |        |         |               |          |
| DESIGNED   | DRAWN   | TRACED | CHECKED | REVIEWED DATE | REVIEWED |
|  | C.W.P.  |        | W.L.    | 8/11/65       |          |
|  | 4-14-65 |        | 4-23-65 | 8-30-65       |          |

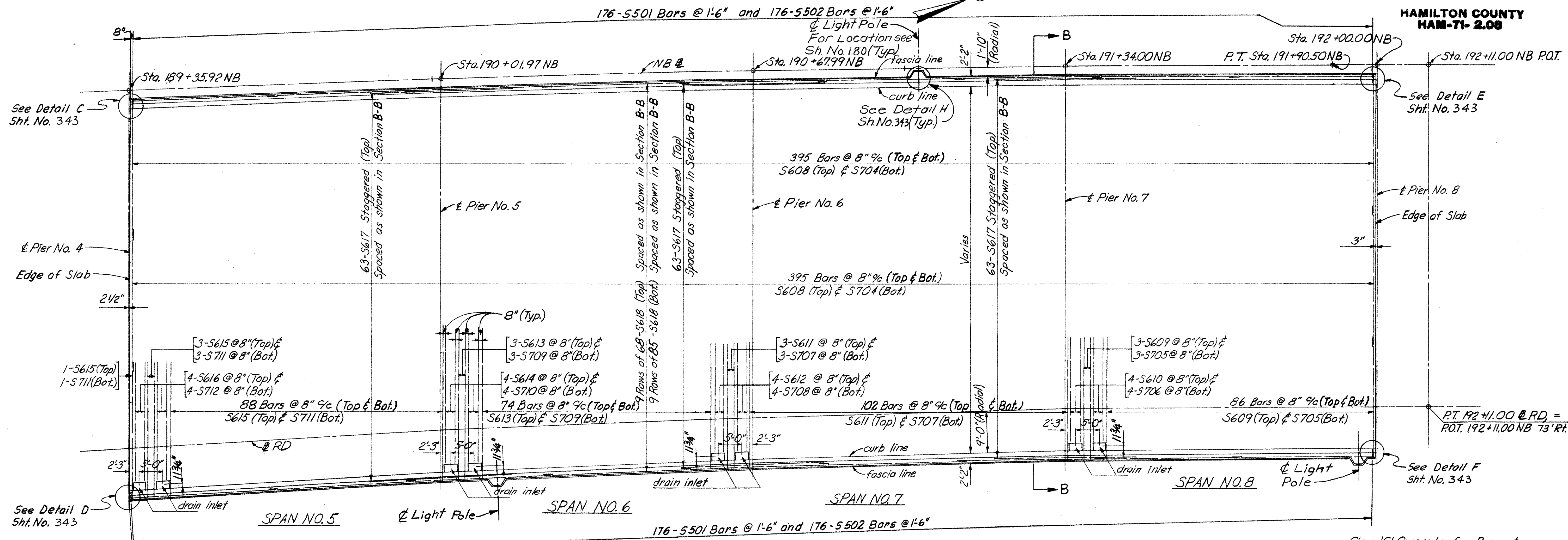
Work this Sheet with Sht. No. 341 & 344

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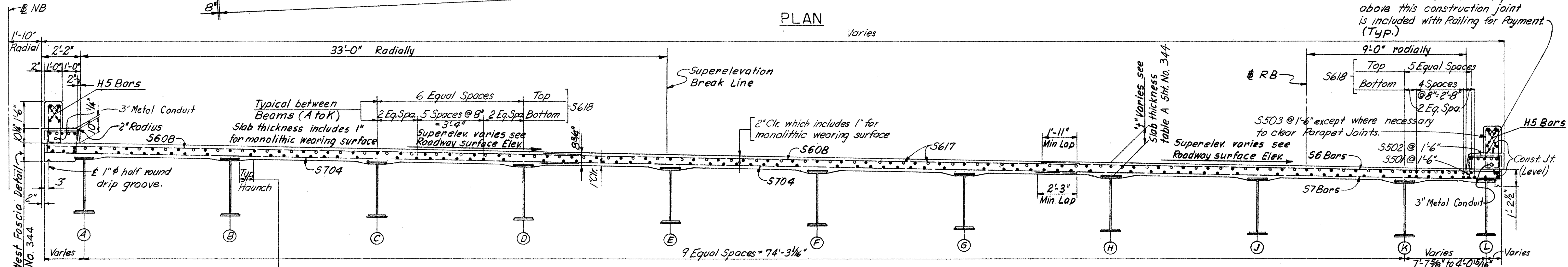
|               |       |         |             |
|---------------|-------|---------|-------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

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PLAN



SECTION B-B  
(Spans 5 thru 8)

A typical haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" & 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width

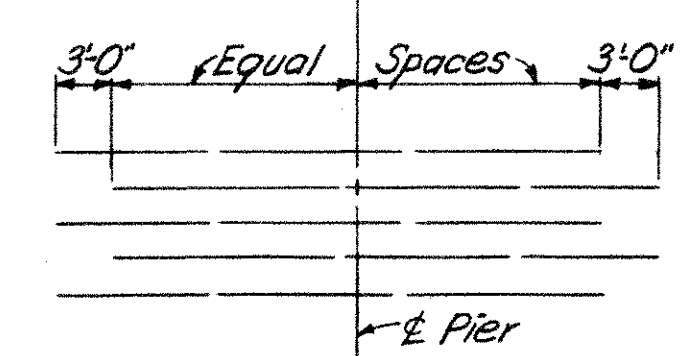


DIAGRAM SHOWING STAGGER OF S617 OVER PIER 5, 6 & 7

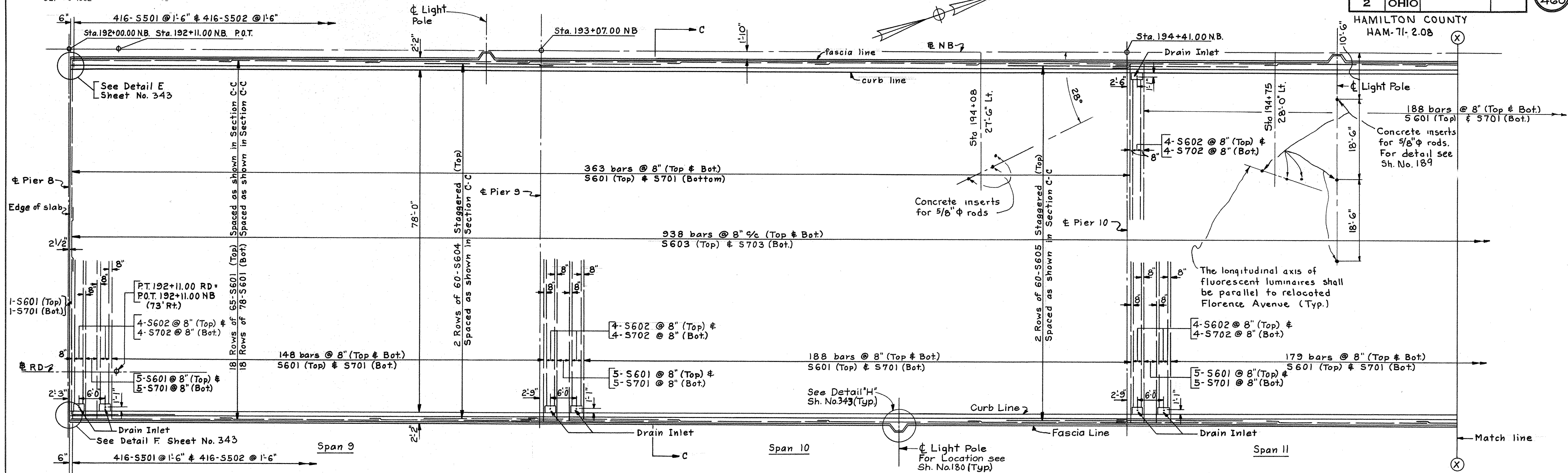
Class 'C' Concrete for Parapet above this construction joint is included with Railing for Payment (Typ.)

Work this sheet with Sht. No. 341 & 344

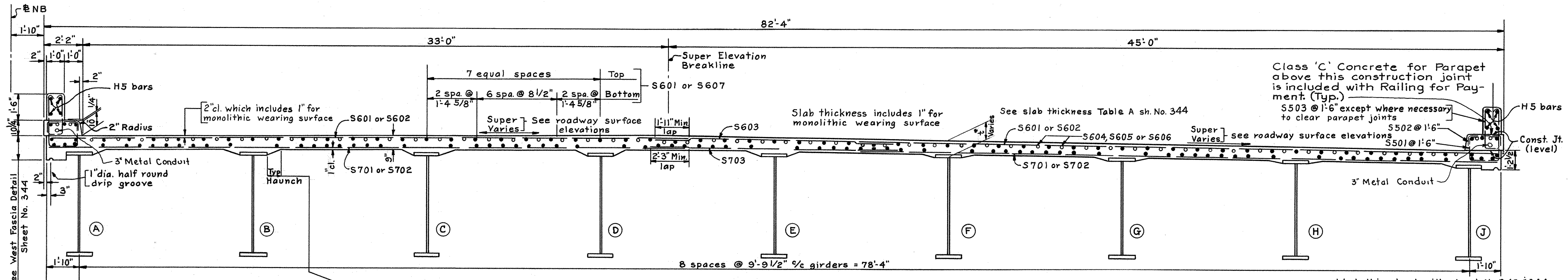
HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**SUPERSTRUCTURE DETAILS**  
BRIDGE NO. HAM.-71-0224  
H&E BRIDGE NO. 19

|          |        |        |         |               |          |
|----------|--------|--------|---------|---------------|----------|
| DESIGNED | DRAWN  | TRACED | CHECKED | REVIEWED DATE | REVIEWED |
|          | C.W.R. |        | W.L.    | 8-30-65       |          |
|          | 4-9-65 |        | 4-23-65 |               |          |



PLAN



SECTION C-C  
(Spans 9 thru 13)

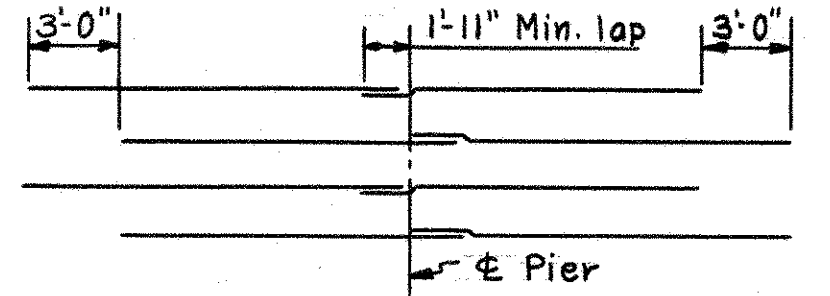


DIAGRAM SHOWING STAGGER OF  
S604 & S605 OVER PIER 9 & 10

\*The quantity of deck concrete to be paid for shall be based upon the slab thicknesses as shown in Table A, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber as indicated on the structural steel drawing.  
Deduction shall be made for volume of encased steel plates as per Sec. 511.19 of the Construction and Material Specifications.

A typical haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.

Work this sheet with sheet No. 343 & 344

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

SUPERSTRUCTURE DETAILS  
BRIDGE NO. HAM-71-0224

H & E BRIDGE NO. 19

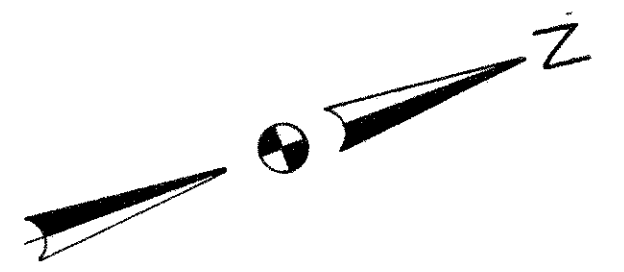
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|----------|-------|--------|---------|----------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED | DATE    |
| A.N.     | R.S.  |        | W.L.    | H.A.     | 8-30-65 |







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|               |       |         |             |
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| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
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HAM-71-2.08

|                      |  |       |       |       |       |   |       |       |   |       |       |   |       |       |   |       |       |                                     |       |       |   |       |       |                                     |        |  |  |  |  |
|----------------------|--|-------|-------|-------|-------|---|-------|-------|---|-------|-------|---|-------|-------|---|-------|-------|-------------------------------------|-------|-------|---|-------|-------|-------------------------------------|--------|--|--|--|--|
|                      | ± Brg. S. Abut.<br>Sta. 186+71.29 N.B.<br>187 N.B. |       |       |       |       | ± Pier No. 1<br>Sta. 187+37.53 N.B.<br>188 N.B. |       |       | ± Pier No. 2<br>Sta. 188+03.71 N.B.<br>189 N.B. |       |       | ± Pier No. 3<br>Sta. 188+69.83 N.B.<br>189 N.B. |       |       | ± Pier No. 4<br>Sta. 189+35.92 N.B.<br>190 N.B. |       |       | ± Pier No. 5<br>Sta. 190+01.97 N.B. |       |       | ± Pier No. 6<br>Sta. 190+67.99 N.B.<br>191 N.B. |       |       | ± Pier No. 7<br>Sta. 191+34.00 N.B. |        |  | ± Pier No. 8<br>Sta. 192+00.00<br>192 N.B. |  |  |
| N.B. Expwy Base Line | 631.95   | 33.00 | 34.05 | 35.10 | 36.15 | 37.20   | 38.25 | 39.30 | 40.35   | 41.40 | 42.45 | 43.50   | 44.55 | 45.60 | 46.65   | 47.70 | 48.75 | 49.79                               | 50.83 | 51.86 | 52.90   | 53.94 | 54.98 | 56.00                               | 657.03 |  |  |  |  |
| Curb Line            | 631.74   | 32.79 | 33.84 | 34.89 | 35.94 | 36.99   | 38.04 | 39.09 | 40.14   | 41.19 | 42.24 | 43.29   | 44.34 | 45.39 | 46.44   | 47.49 | 48.54 | 49.59                               | 50.64 | 51.69 | 52.74   | 53.79 | 54.84 | 55.89                               | 656.94 |  |  |  |  |
|                      | 631.45   | 32.50 | 33.55 | 34.60 | 35.65 | 36.70   | 37.75 | 38.80 | 39.85   | 40.90 | 41.95 | 43.00   | 44.05 | 45.10 | 46.15   | 47.20 | 48.26 | 49.32                               | 50.39 | 51.46 | 52.52   | 53.59 | 54.66 | 55.74                               | 656.83 |  |  |  |  |
|                      | 631.16   | 32.21 | 33.26 | 34.31 | 35.36 | 36.41   | 37.46 | 38.51 | 39.56   | 40.61 | 41.66 | 42.71   | 43.76 | 44.81 | 45.86   | 46.91 | 47.98 | 49.06                               | 50.14 | 51.22 | 52.31   | 53.39 | 54.48 | 55.59                               | 656.71 |  |  |  |  |
|                      | 630.87   | 31.92 | 32.97 | 33.02 | 35.07 | 36.12   | 37.17 | 38.22 | 39.27   | 40.32 | 41.37 | 42.42   | 43.47 | 44.52 | 45.57   | 46.62 | 47.69 | 48.79                               | 49.89 | 50.99 | 52.09   | 53.19 | 54.29 | 55.40                               | 656.52 |  |  |  |  |
|                      | 630.59   | 31.64 | 32.69 | 33.74 | 34.79 | 35.84   | 36.89 | 37.94 | 38.99   | 40.04 | 41.09 | 42.14   | 43.19 | 44.24 | 45.29   | 46.34 | 47.41 | 48.53                               | 49.64 | 50.76 | 51.87   | 52.99 | 54.10 | 55.22                               | 656.33 |  |  |  |  |
|                      | 630.30   | 31.35 | 32.40 | 33.45 | 34.50 | 35.55   | 36.60 | 37.65 | 38.70   | 39.75 | 40.80 | 41.85   | 42.90 | 43.95 | 45.00   | 46.05 | 47.13 | 48.26                               | 49.39 | 50.52 | 51.65   | 52.78 | 53.91 | 55.03                               | 656.14 |  |  |  |  |
|                      | 630.01   | 31.06 | 32.11 | 33.16 | 34.21 | 35.26   | 36.31 | 37.36 | 38.41   | 39.46 | 40.51 | 41.54   | 42.60 | 43.67 | 44.73   | 45.79 | 46.88 | 48.04                               | 49.19 | 50.34 | 51.48   | 52.64 | 53.77 | 54.89                               | 656.00 |  |  |  |  |
|                      | 629.78   | 30.85 | 31.93 | 32.00 | 34.07 | 35.14   | 36.21 | 37.28 | 38.35   | 39.41 | 40.48 |   |       |       |   |       |       |                                     |       |       |   |       |       |                                     |        |  |  |  |  |

|                      |   |       |       |       |       |       |   |       |       |       |       |       |  |       |       |       |       |       |  |       |       |       |       |       |  |  |
|----------------------|---|-------|-------|-------|-------|-------|---|-------|-------|-------|-------|-------|--|-------|-------|-------|-------|-------|--|-------|-------|-------|-------|-------|--|--|
|                      | ± Pier No. 9<br>Sta. 193+07.00 N.B.<br>194 N.B. |       |       |       |       |       | ± Pier No. 10<br>Sta. 194+41.00 N.B.<br>Curb Line |       |       |       |       |       | ± Pier No. 11<br>Sta. 195+69.00 N.B.<br>196 N.B. |       |       |       |       |       | ± Pier No. 12<br>Sta. 196+97.00 N.B.<br>197 N.B. |       |       |       |       |       | ± Brg. N. Abut.<br>Sta. 198+25.00 N.B. |  |
| N.B. Expwy Base Line | 658.05  | 59.08 | 60.10 | 61.13 | 62.16 | 63.18 | 64.21   | 65.24 | 66.26 | 67.30 | 68.35 | 69.40 | 70.45  | 71.50 | 72.55 | 73.60 | 74.65 | 75.70 | 76.75  | 77.80 | 78.85 | 79.90 | 80.95 | 82.01 |  |  |
| Curb Line            | 657.99  | 59.04 | 60.09 | 61.14 | 62.19 | 63.24 | 64.29   | 65.34 | 66.39 | 67.44 | 68.49 | 69.54 | 70.59  | 71.64 | 72.69 | 73.74 | 74.79 | 75.84 | 76.89  | 77.94 | 78.99 | 80.04 | 81.09 | 82.15 |  |  |
|                      | 657.90  | 58.99 | 60.07 | 61.15 | 62.24 | 63.32 | 64.40   | 65.48 | 66.56 | 67.63 | 68.68 | 69.63 | 70.78  | 71.83 | 72.88 | 73.93 | 74.98 | 76.03 | 77.08  | 78.13 | 79.18 | 80.23 | 81.28 | 82.33 |  |  |
|                      | 657.82  | 58.93 | 60.05 | 61.16 | 62.28 | 63.39 | 64.50   | 65.61 | 66.73 | 67.81 | 68.86 | 69.91 | 70.96  | 72.01 | 73.06 | 74.11 | 75.16 | 76.21 | 77.26  | 78.31 | 79.36 | 80.41 | 81.46 | 82.52 |  |  |
|                      | 657.63  | 58.74 | 59.86 | 60.97 | 62.09 | 63.20 | 64.31   | 65.42 | 66.54 | 67.62 | 68.67 | 69.72 | 70.77  | 72.82 | 73.87 | 74.92 | 75.97 | 76.02 | 77.07  | 78.12 | 79.17 | 80.24 | 81.32 | 82.41 |  |  |
|                      | 657.45  | 58.56 | 59.67 | 60.79 | 61.90 | 63.01 | 64.13   | 65.24 | 66.35 | 67.44 | 68.49 | 69.54 | 70.59  | 71.64 | 72.69 | 73.74 | 74.79 | 75.84 | 76.89  | 77.94 | 78.99 | 80.07 | 81.19 | 82.30 |  |  |
|                      | 657.26  | 58.37 | 59.49 | 60.60 | 61.71 | 62.83 | 63.94   | 65.05 | 66.16 | 67.25 | 68.30 | 69.35 | 70.40  | 71.45 | 72.50 | 73.55 | 74.60 | 75.65 | 76.70  | 77.75 | 78.80 | 79.90 | 81.05 | 82.19 |  |  |
|                      | 657.12  | 58.23 | 59.35 | 60.46 | 61.57 | 62.69 | 63.80   | 64.91 | 66.02 | 67.11 | 68.16 | 69.21 | 70.26  | 71.31 | 72.36 | 73.41 | 74.46 | 75.51 | 76.56  | 77.61 | 78.66 | 79.77 | 80.95 | 82.11 |  |  |

ROADWAY SURFACE ELEVATIONS

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

SUPERSTRUCTURE DETAILS

BRIDGE No. HAM-71-0224

H&E BRIDGE NO. 19

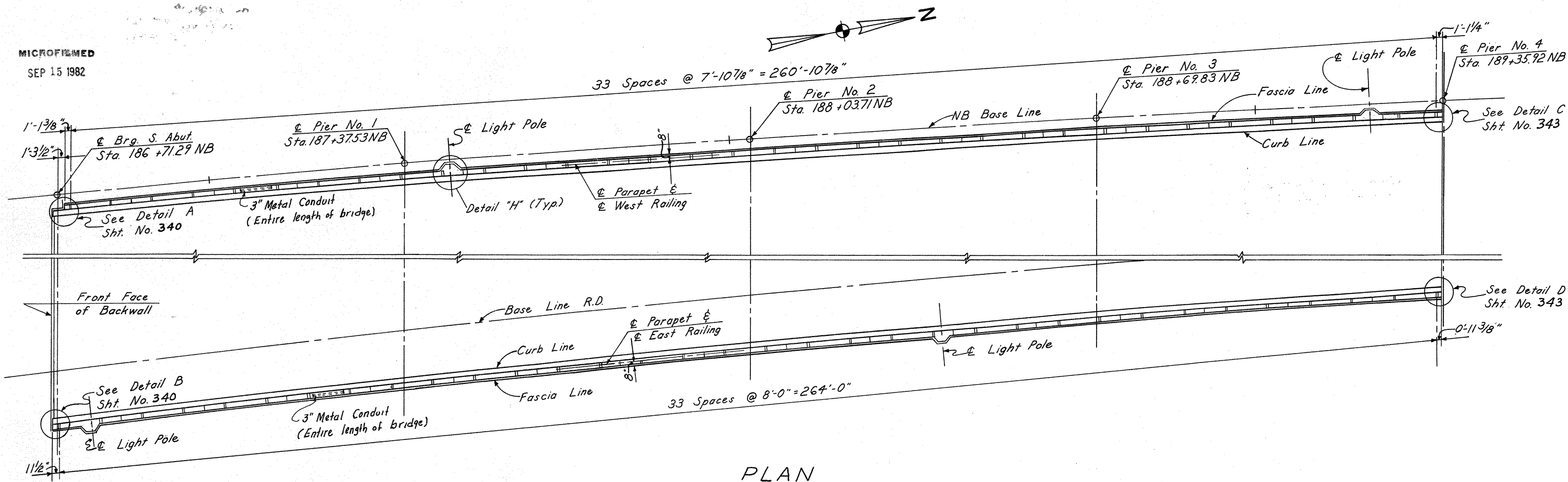
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|----------|-------|--------|---------|---------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
|          | MJE   |        | MKK     | 8-30-65       |         |

MICROFILMED  
SEP 15 1982

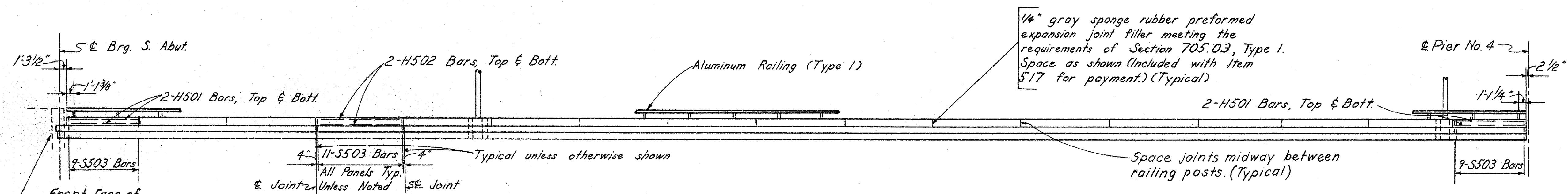
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
|---------------|-------|---------|-------------|
| 2             | OHIO  |         |             |

346  
460

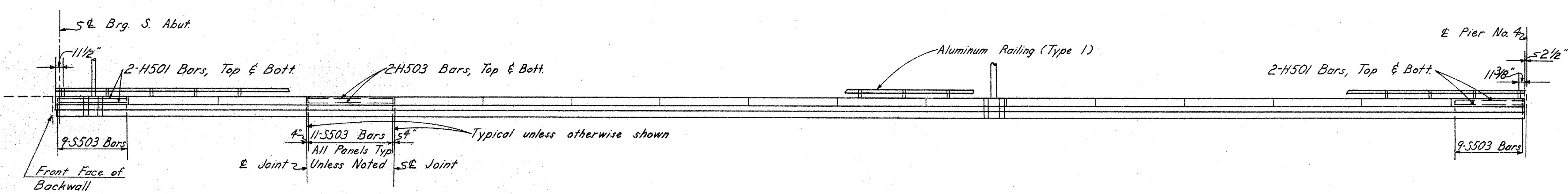
HAMILTON COUNTY  
HAM-71-0224



PLAN



ELEVATION WEST RAILING  
(Looking West)



ELEVATION EAST RAILING  
(Looking West)

Notes:  
The location of reinforcing steel and railing posts is measured along the Parapet.  
For conduit expansion Detail at Abut's, see Sht. No. 189.  
For typical lighting details see Sht. No. 189.  
Work this drawing with lighting plan Sht. No. 180 which shows locations of conduits, hand holds, and light poles.  
For "detail H" see Sht. No. 343.  
For Railing details see Standard Drawing BR-1-65.

Work this sheet with sheet No. 347, 348 & 349

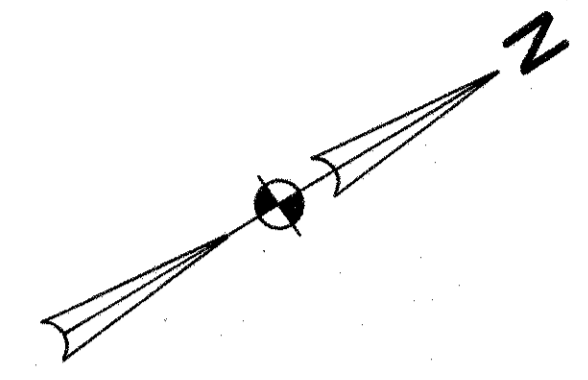
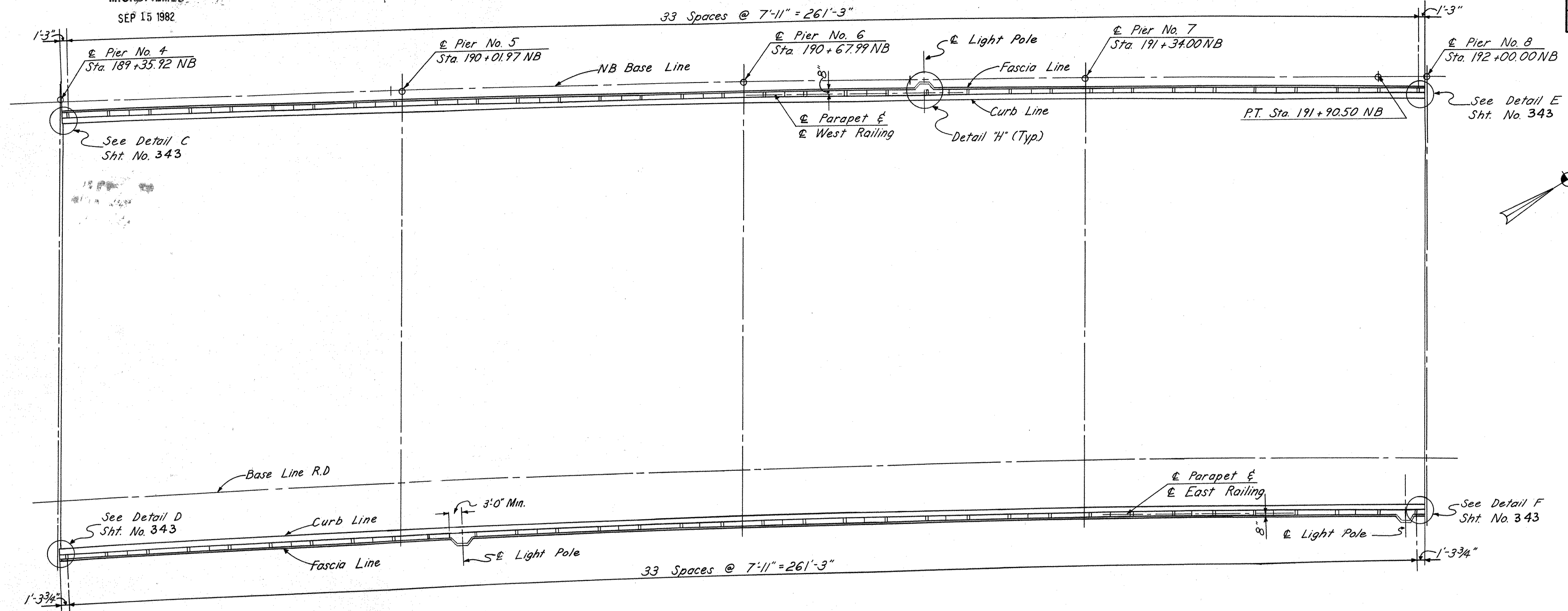
|   |       |        |         |               |          |
|---|-------|--------|---------|---------------|----------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |       |        |         |               |          |
| <b>RAILING &amp; LIGHTING</b>                               |       |        |         |               |          |
| BRIDGE NO. HAM-71-0224                                      |       |        |         |               |          |
| H&E BRIDGE NO. 19   |       |        |         |               |          |
| DESIGNED  | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISION |
|   | R. H. |        | 7-20-65 | 8-30-65       |          |

MICROFILMED  
SEP 15 1982

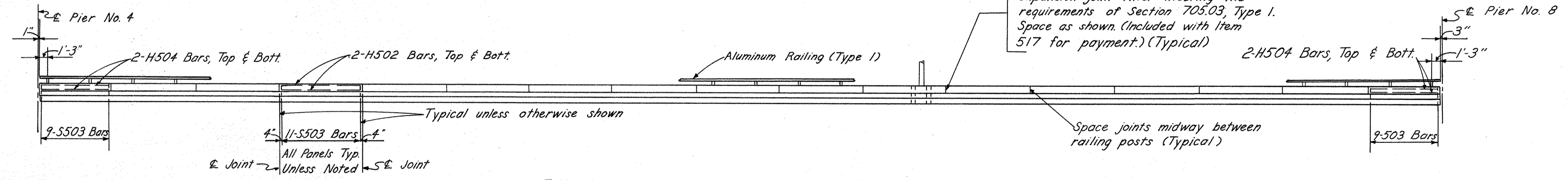
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|---------------|-------|---------|-------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

347  
460

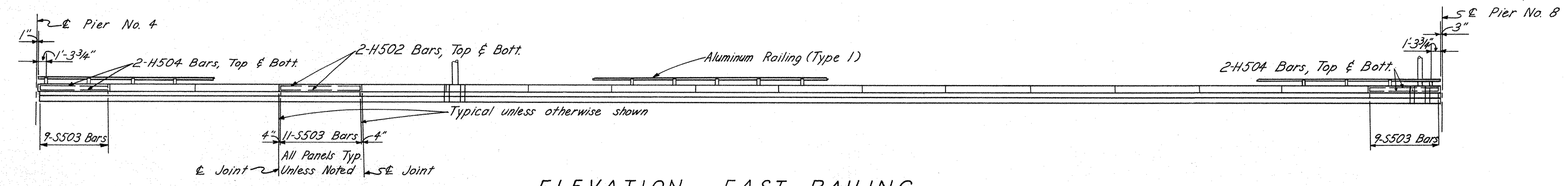
HAMILTON COUNTY  
HAM-71-0224



PLAN



ELEVATION WEST RAILING  
(Looking West)



ELEVATION EAST RAILING  
(Looking West)

For notes see Sht. No. 346

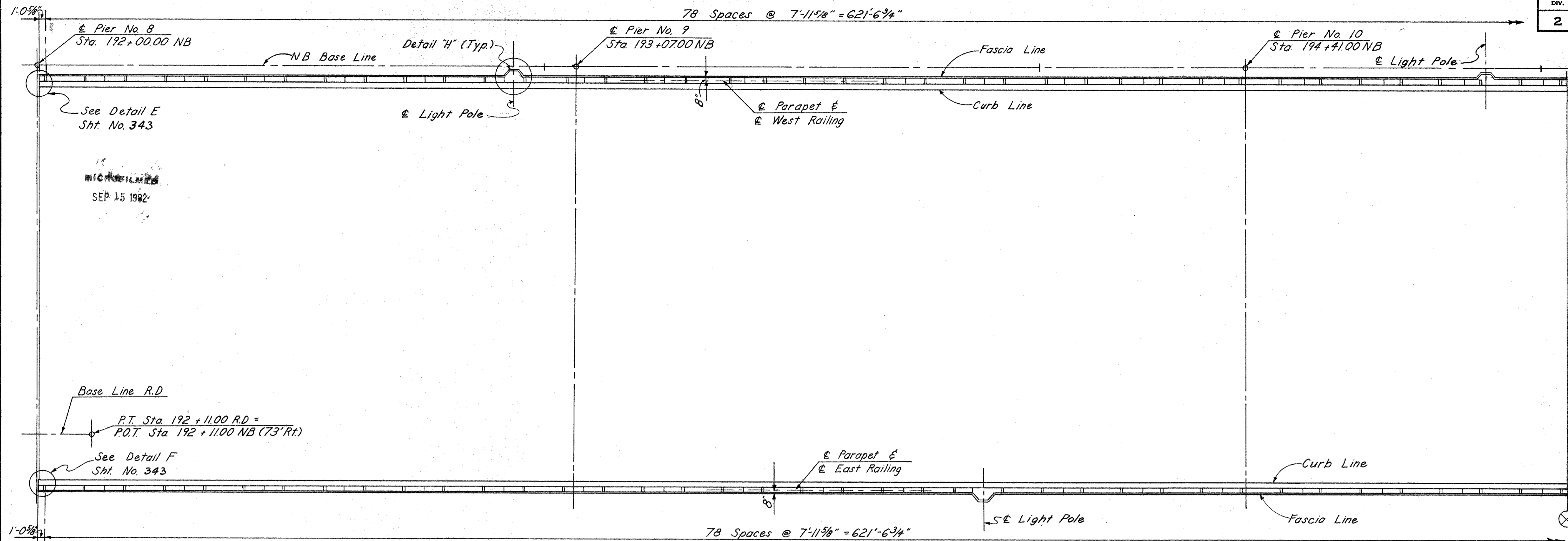
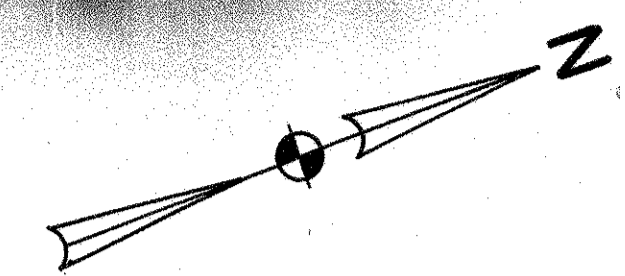
Work this Sheet with Sht. No. 346, 348 & 349

|   |       |        |         |               |         |
|---|-------|--------|---------|---------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |       |        |         |               |         |
| <b>RAILING &amp; LIGHTING</b>                               |       |        |         |               |         |
| BRIDGE NO. HAM-71-0224                                      |       |        |         |               |         |
| H&E BRIDGE NO. 19   |       |        |         |               |         |
| DESIGNED  | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
|   | R. H. |        | W. J.   | 7-20-65       | 8-30-65 |

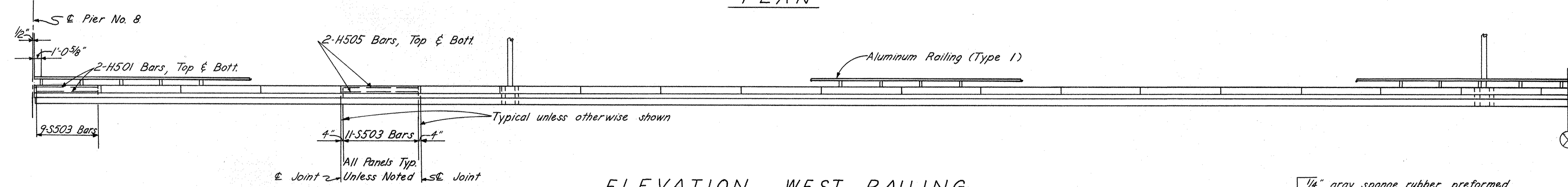
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| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

348  
460

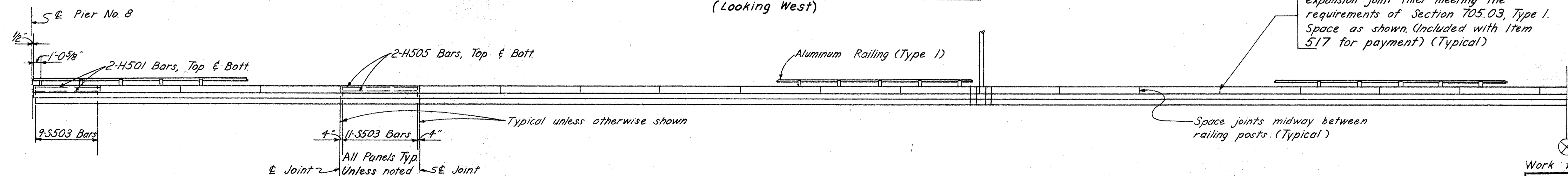
HAMILTON COUNTY  
HAM-71-0224



PLAN



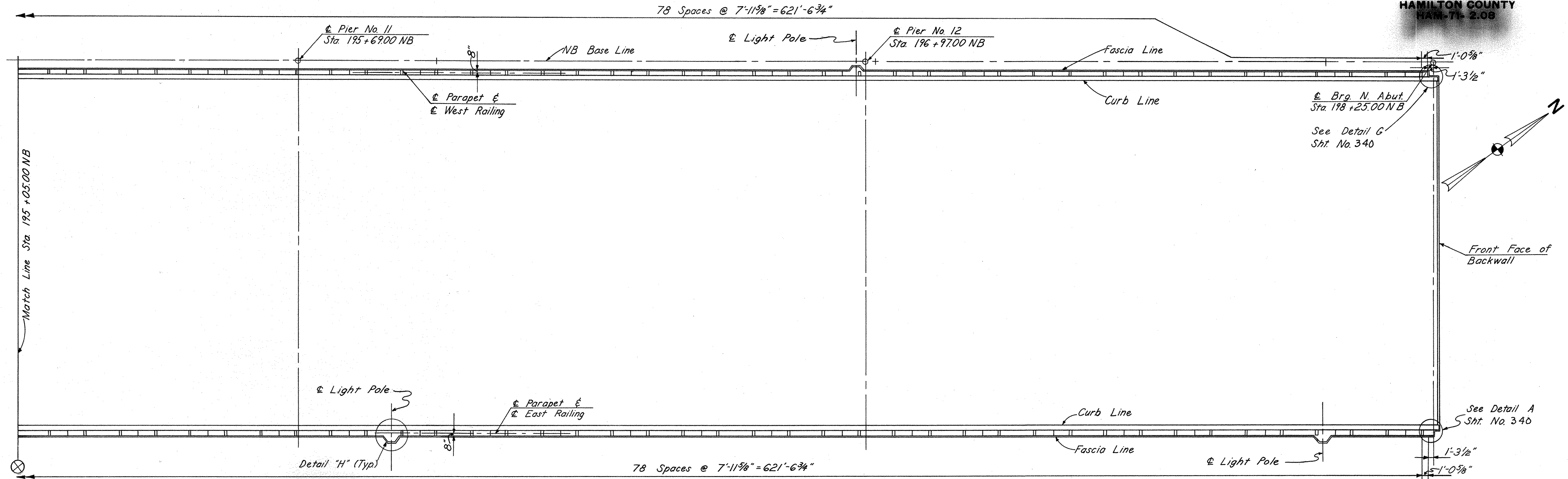
ELEVATION WEST RAILING  
(Looking West)



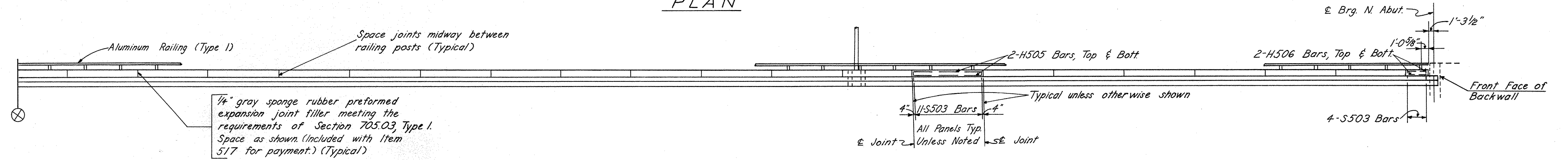
ELEVATION EAST RAILING  
(Looking West)

Work this sheet with Sht No. 346, 347 & 349

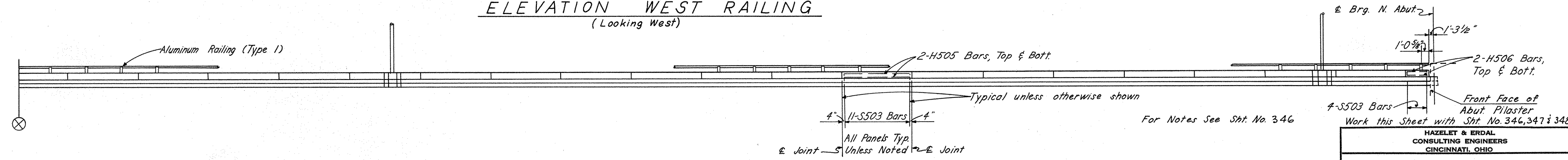
|   |       |        |         |               |         |
|---|-------|--------|---------|---------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |       |        |         |               |         |
| <b>RAILING &amp; LIGHTING</b>                               |       |        |         |               |         |
| BRIDGE NO. HAM-71-0224                                      |       |        |         |               |         |
| H&E BRIDGE NO. 19   |       |        |         |               |         |
| DESIGNED  | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
|   | R. H. |        | 7-20-65 | 8-30-65       |         |



PLAN



ELEVATION WEST RAILING  
(Looking West)



ELEVATION EAST RAILING  
(Looking West)

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**RAILING & LIGHTING**  
BRIDGE NO. HAM-71-0224

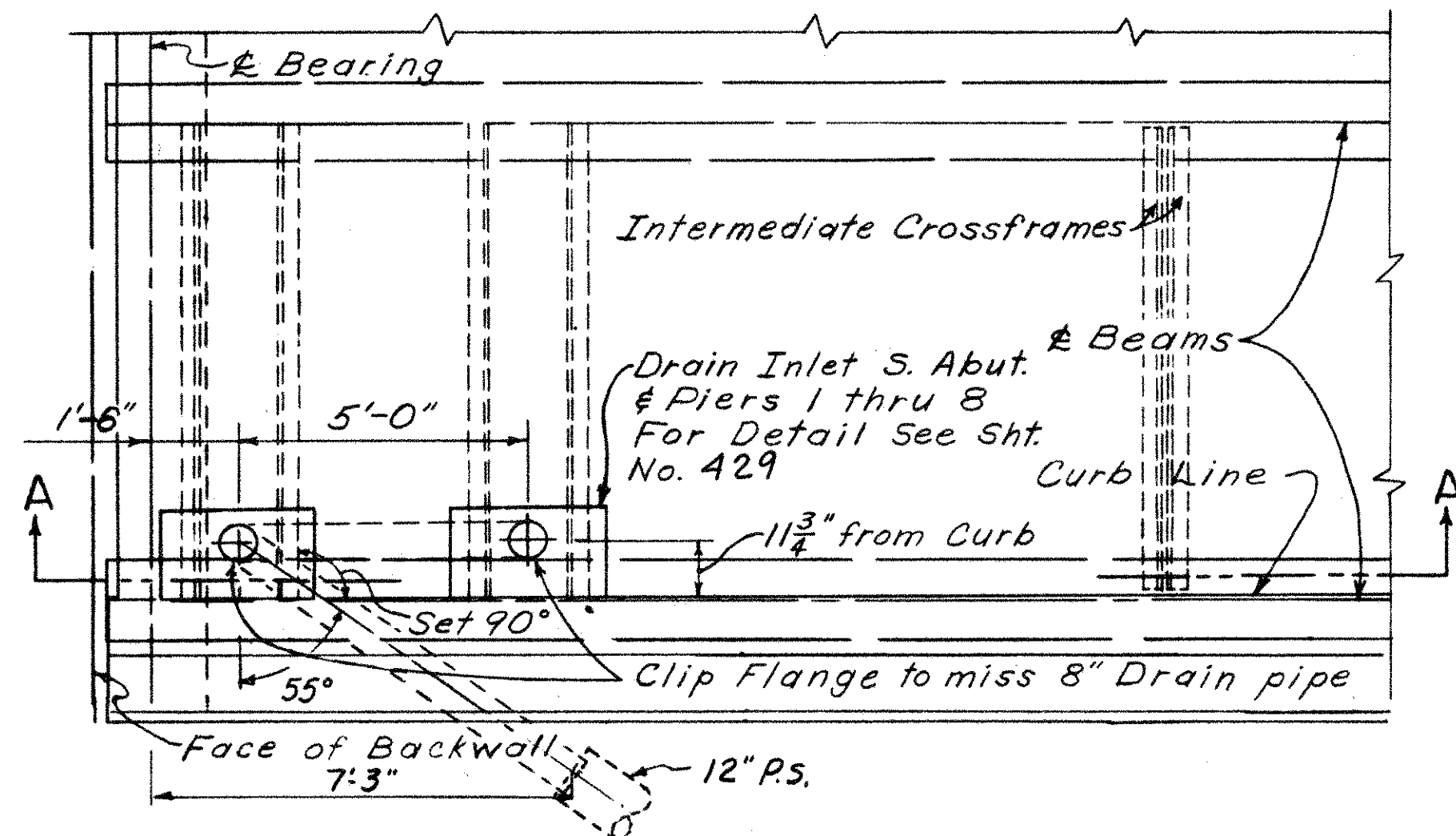
H&E BRIDGE NO. 19

|          |       |        |         |               |         |
|----------|-------|--------|---------|---------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
|          | R. H. |        | 7-20-65 | 8-30-65       |         |

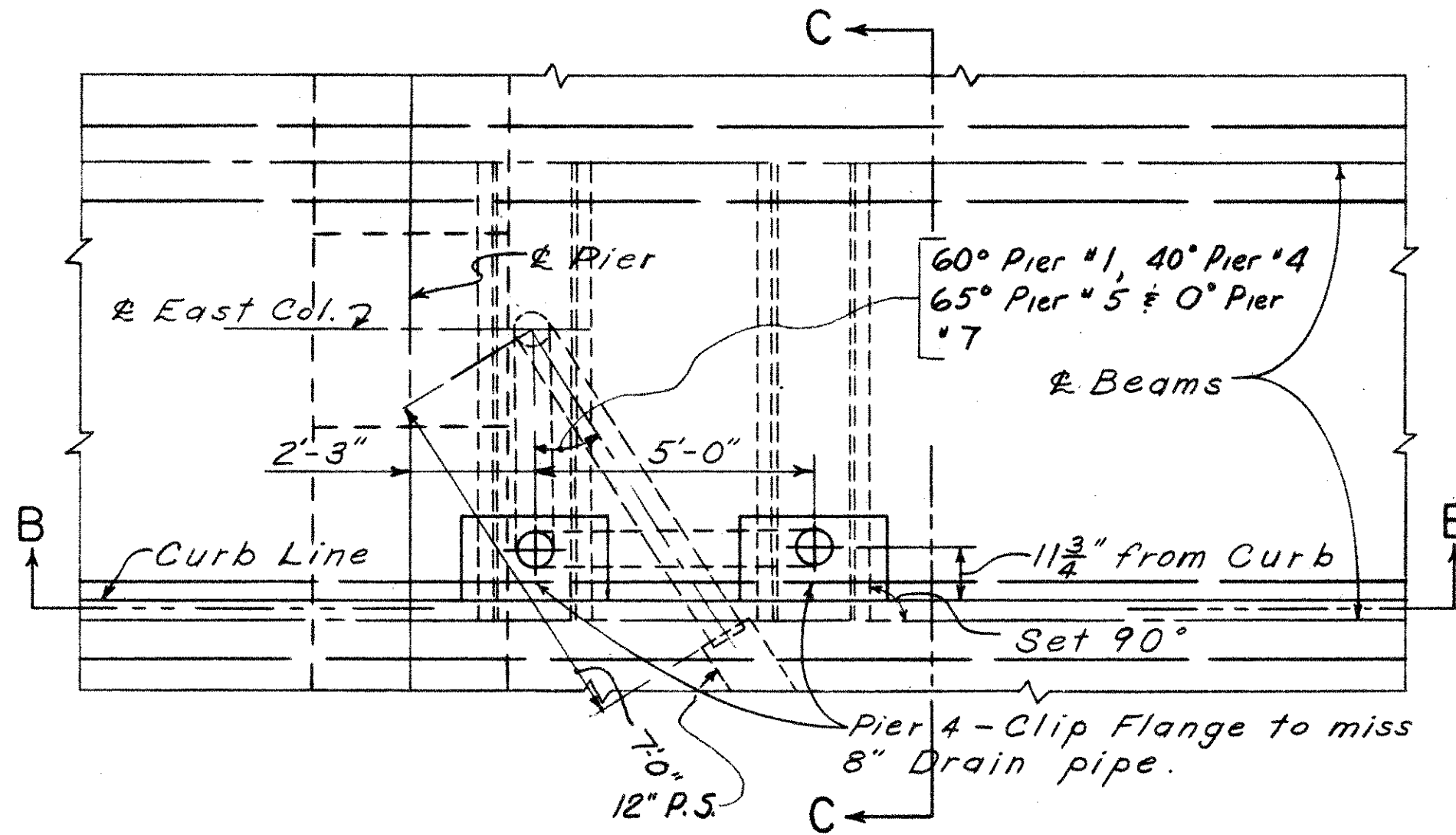
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SEP 15 1982

|               |       |         |             |
|---------------|-------|---------|-------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

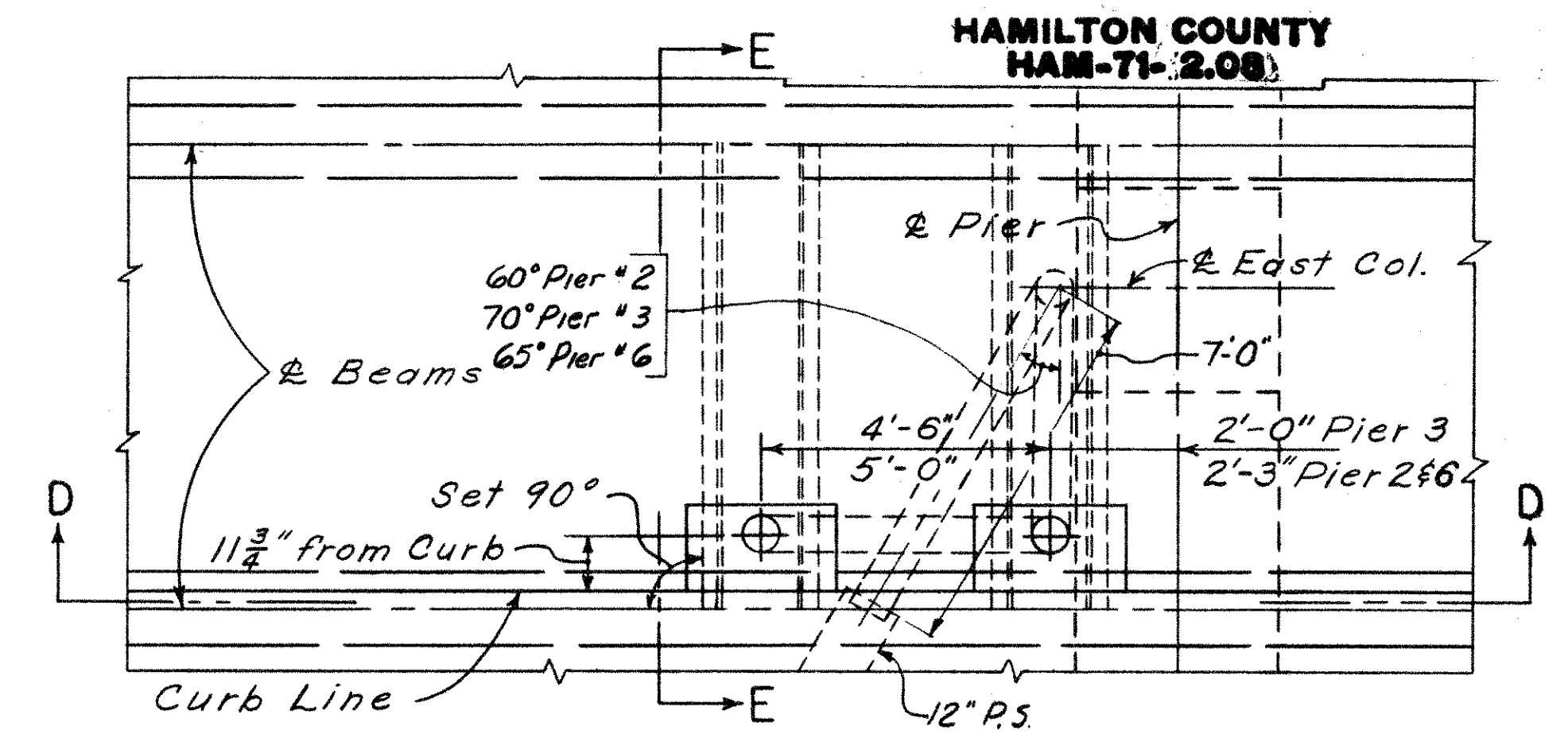
350  
460



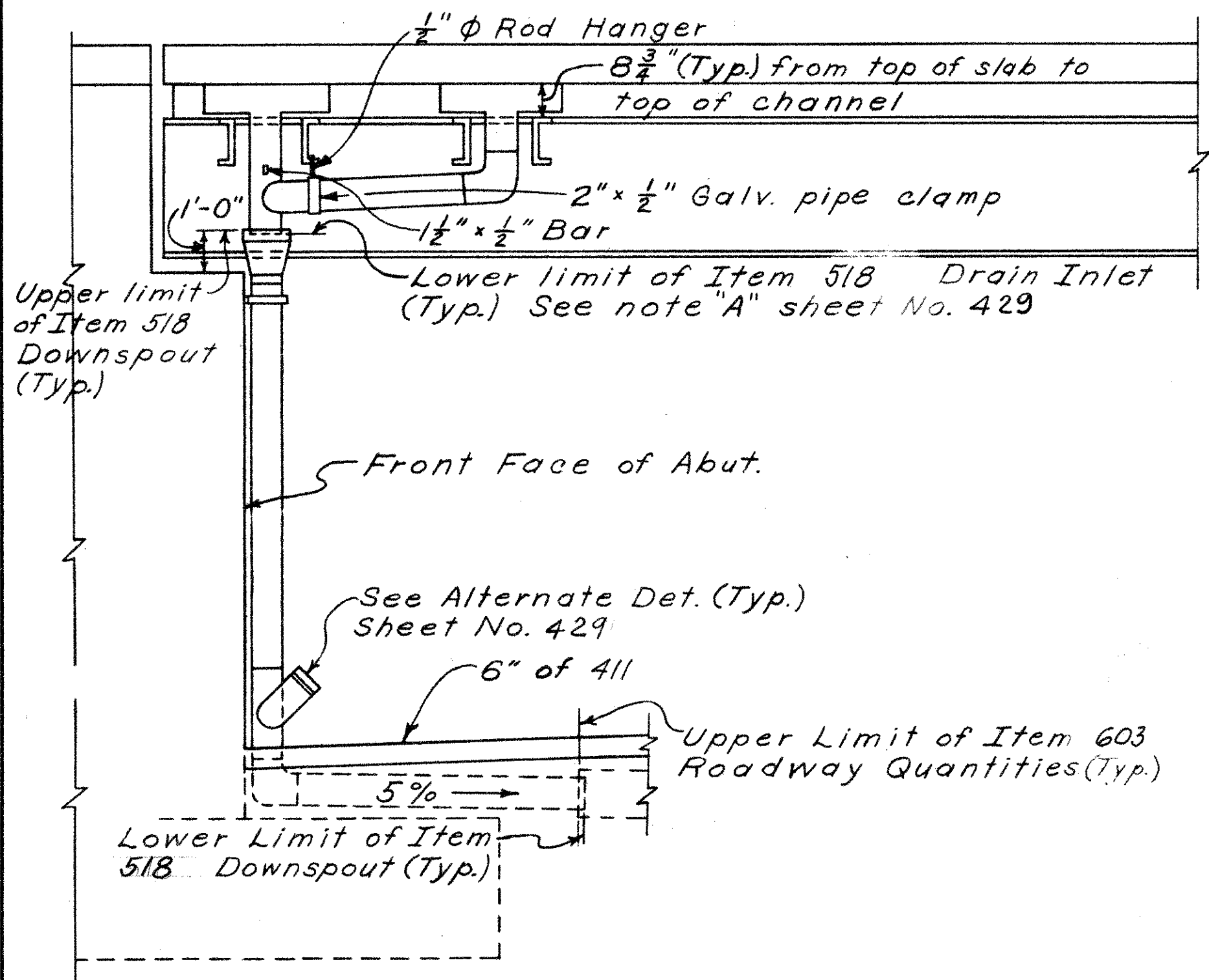
PLAN FOR DRAIN INLET AT SOUTH ABUT.



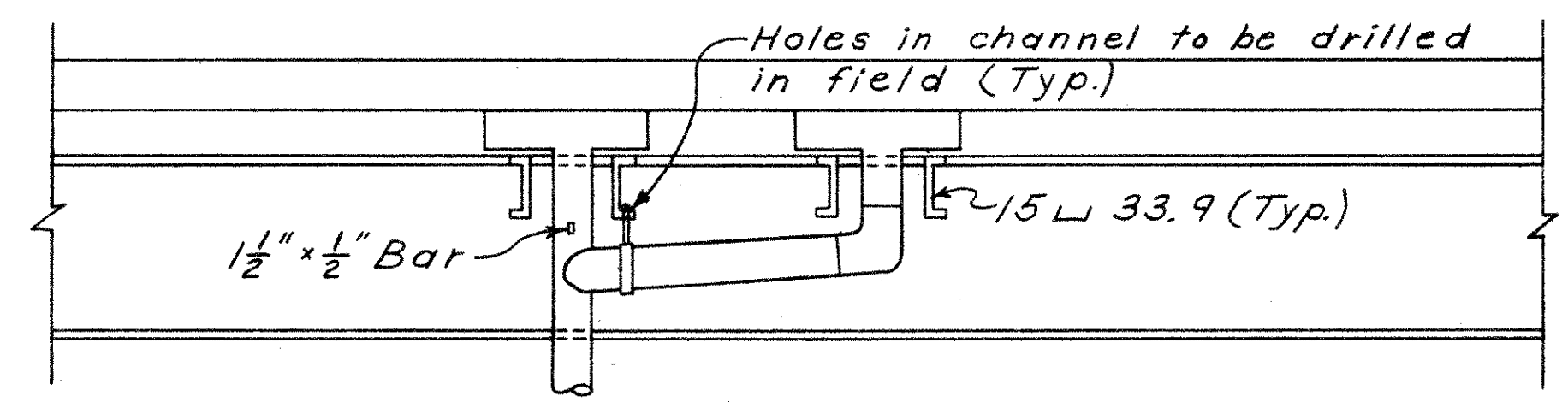
PLAN FOR DRAIN INLET AT PIER 1, 4, 5 & 7



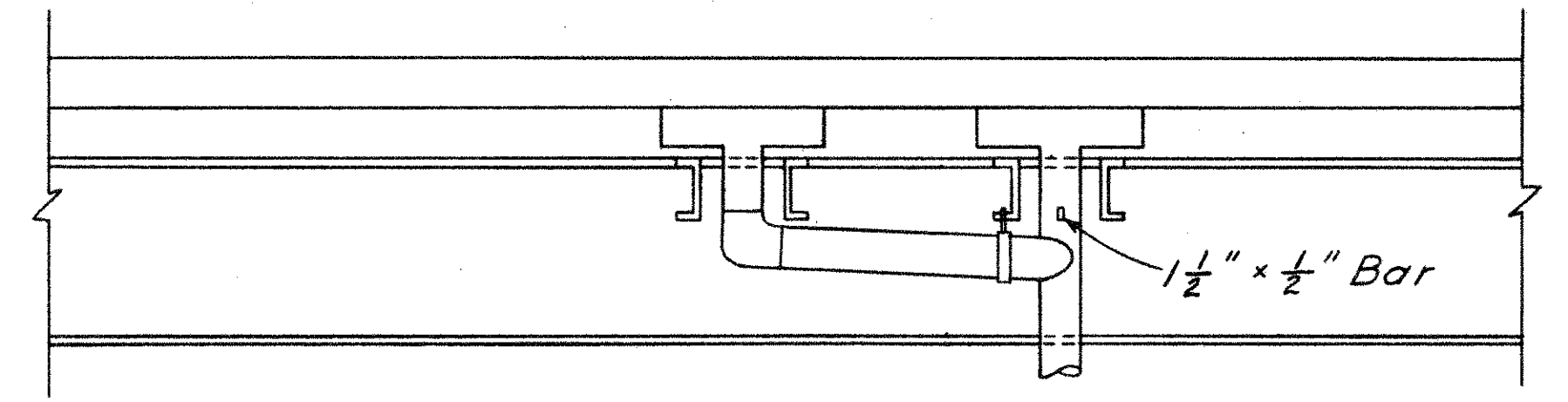
PLAN FOR DRAIN INLET AT PIER 2, 3 & 6



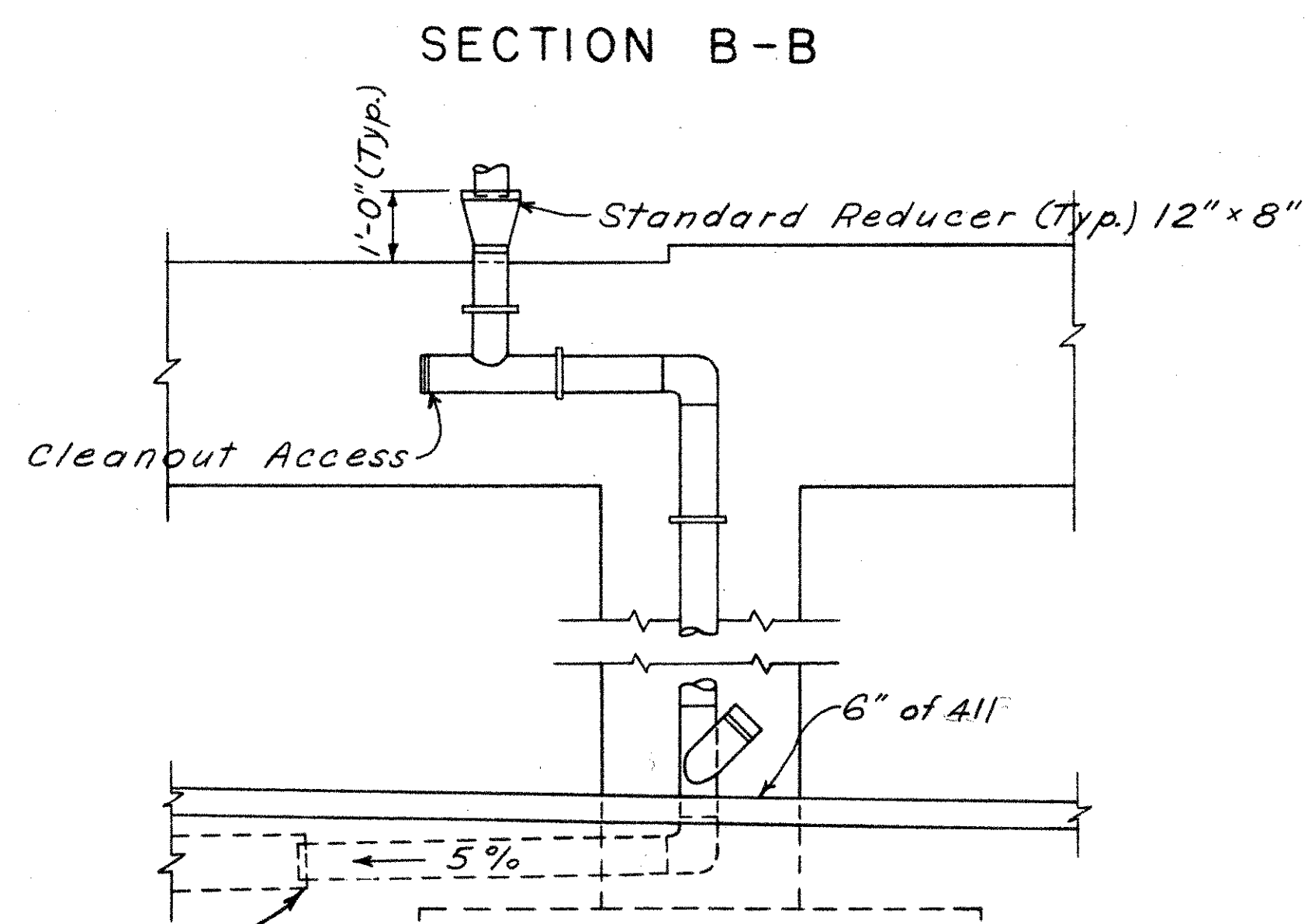
SECTION A-A



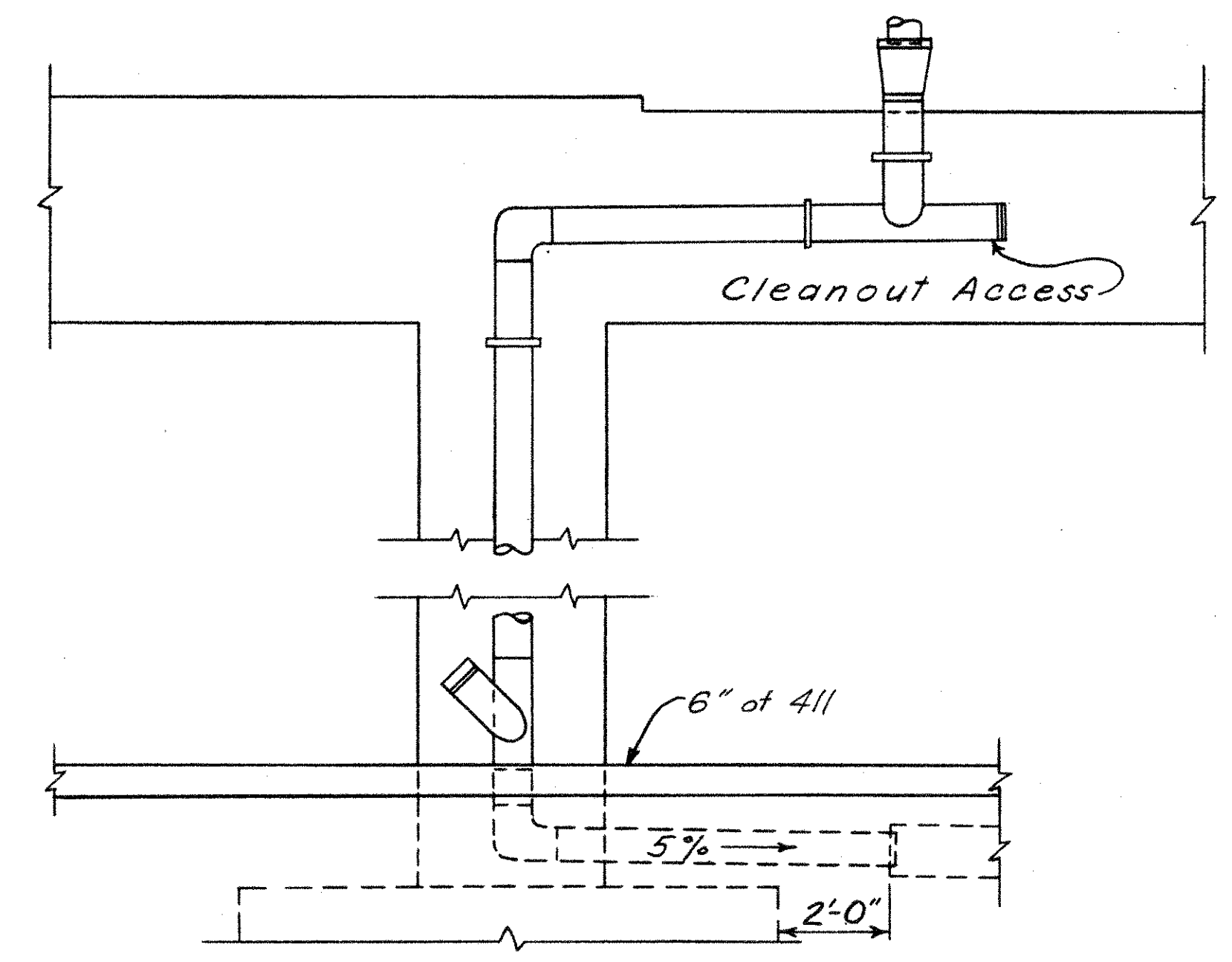
SECTION B-B



SECTION D-D



SECTION C-C



SECTION E-E

NOTE:  
Total depth of inlet frame box at S. Abut. & Piers No. 1 through 7 equals 7 1/2" 8" pipe throughout  
Work this drawing with typical drawing sheet #429 "Drainage Details"

For elevation see Roadway Drainage Drawing Sheet #91892 (Typ.)

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**DRAINAGE DETAILS**  
BRIDGE No. HAM.-71-0224

H & E BRIDGE No. 19

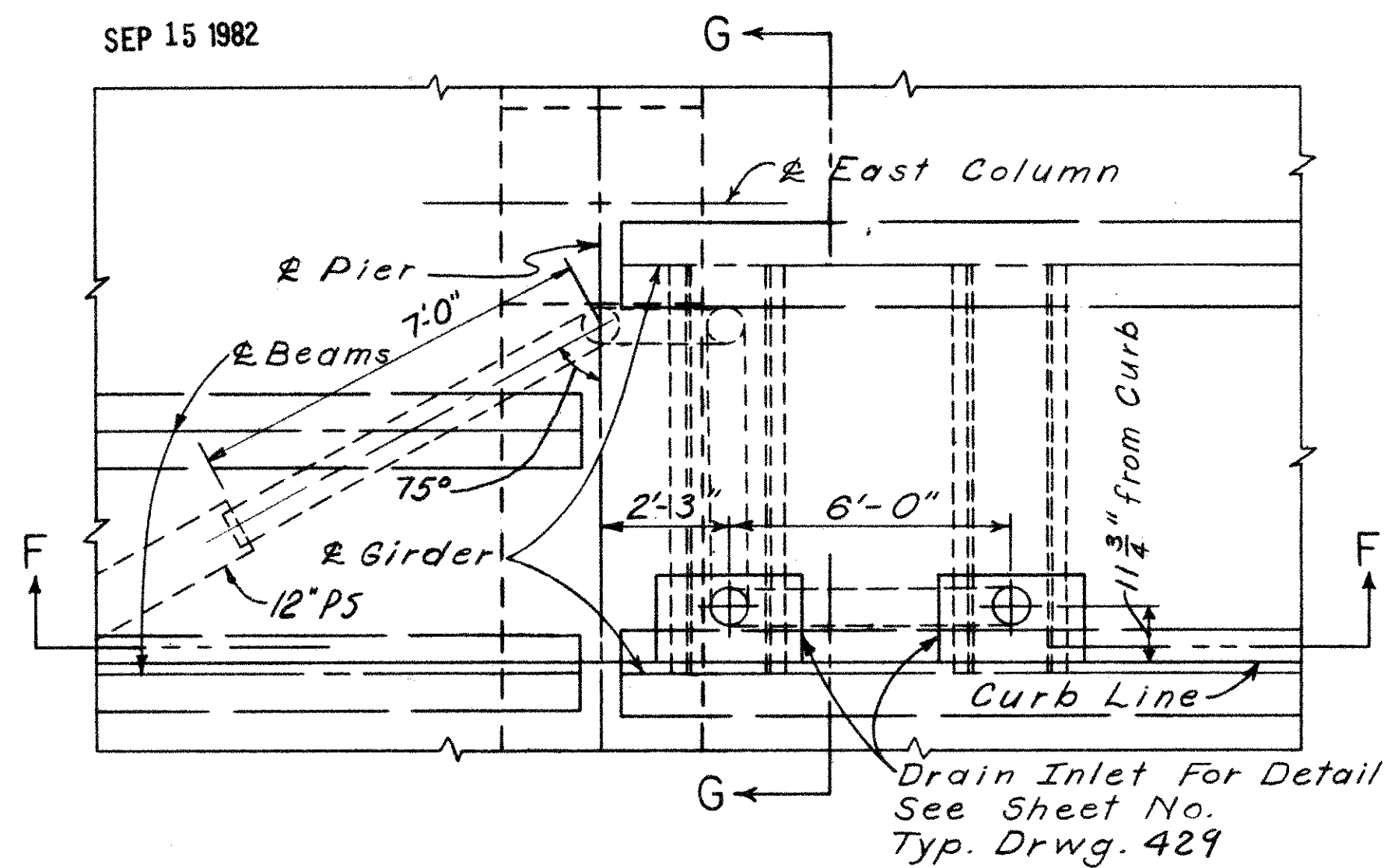
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|----------|--------|--------|---------|---------------|---------|
| DESIGNED | DRAWN  | TRACED | CHECKED | REVIEWED DATE | REVISED |
|          | CKB    |        | JWB     | 11.1.65       |         |
|          | 4-7-65 |        | 4/30/65 | 8-30-65       |         |

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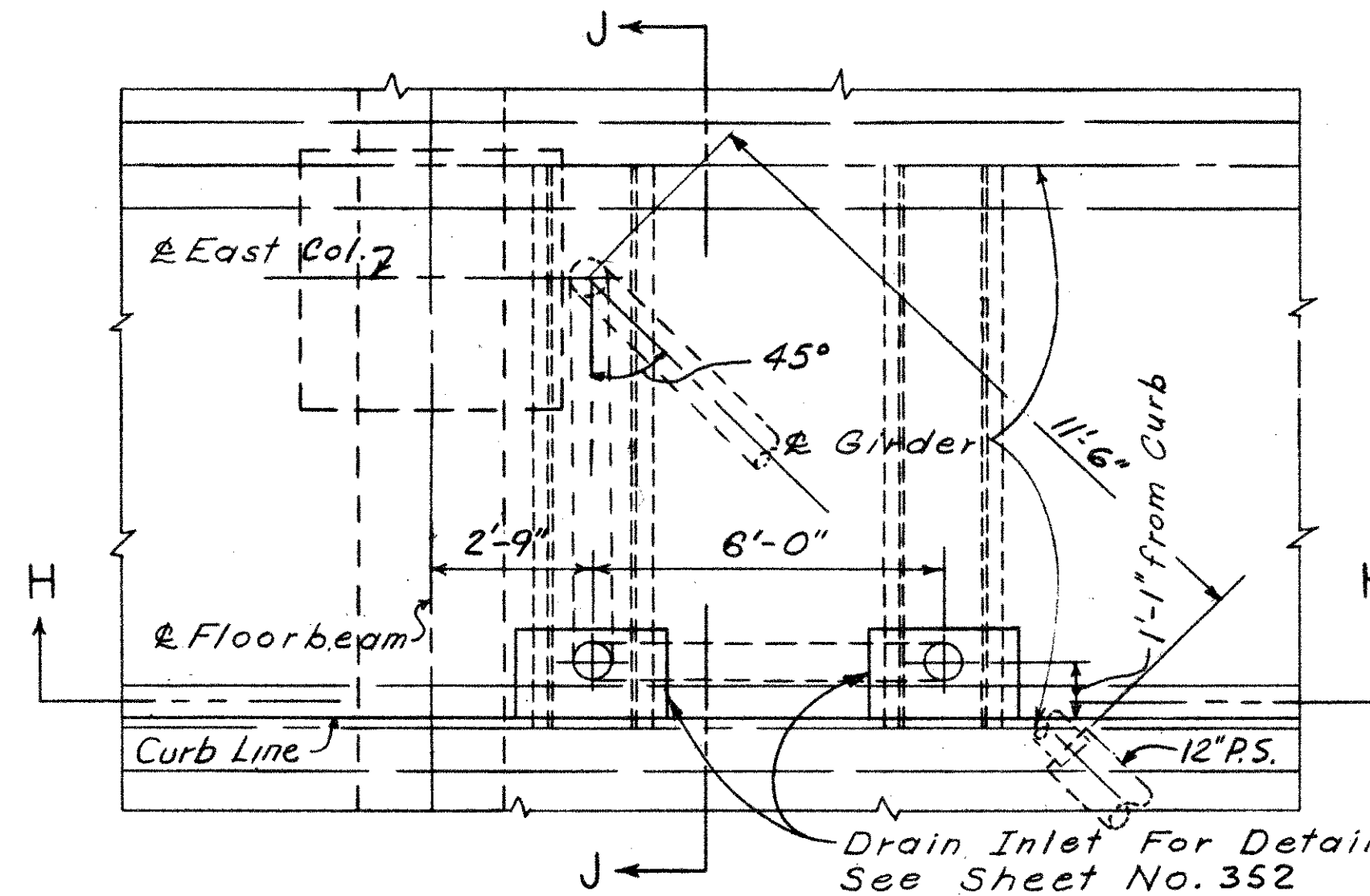
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|---------------|-------|---------|-------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

351  
460

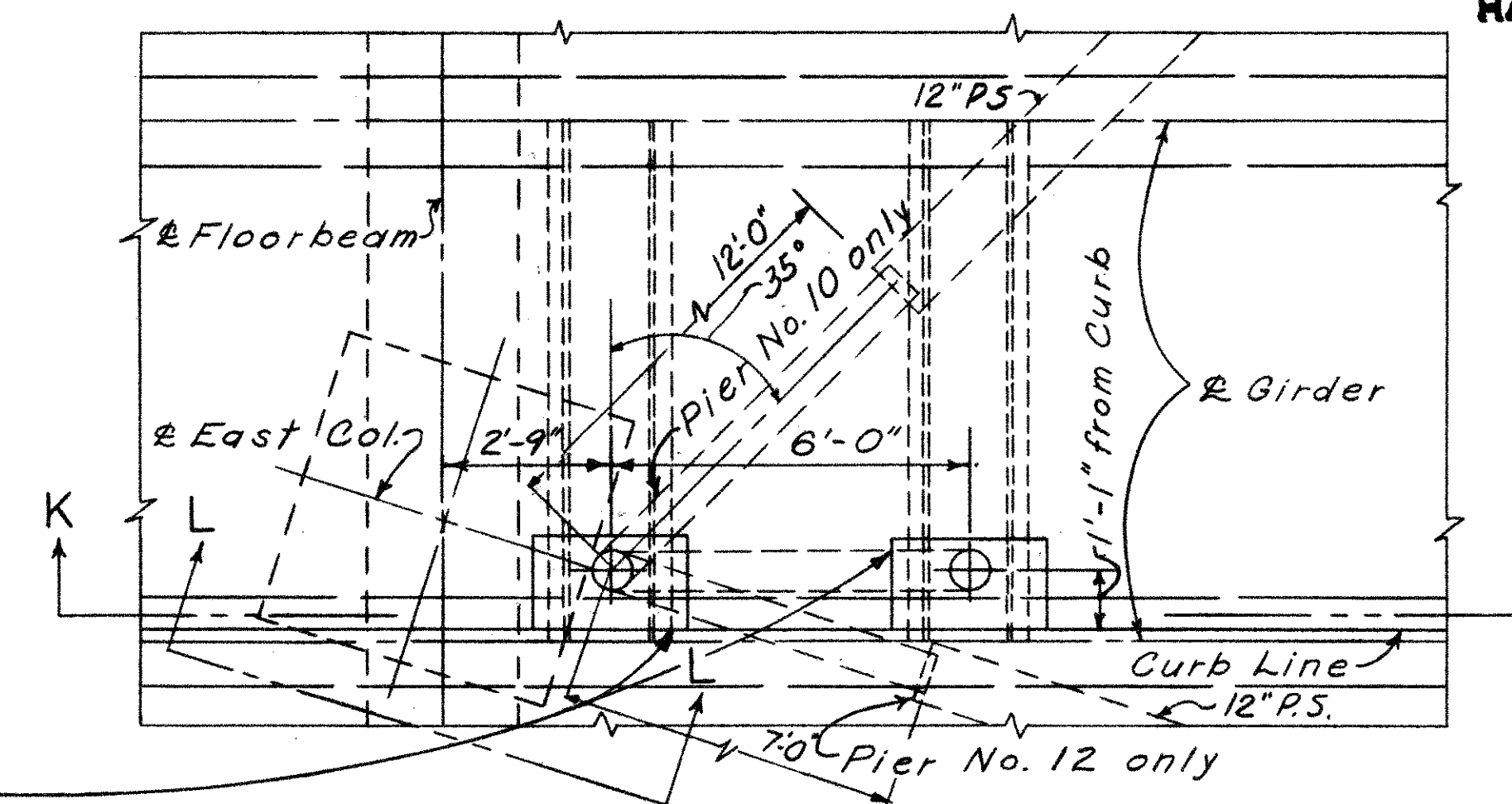
HAMILTON COUNTY  
HAM-71-2.08



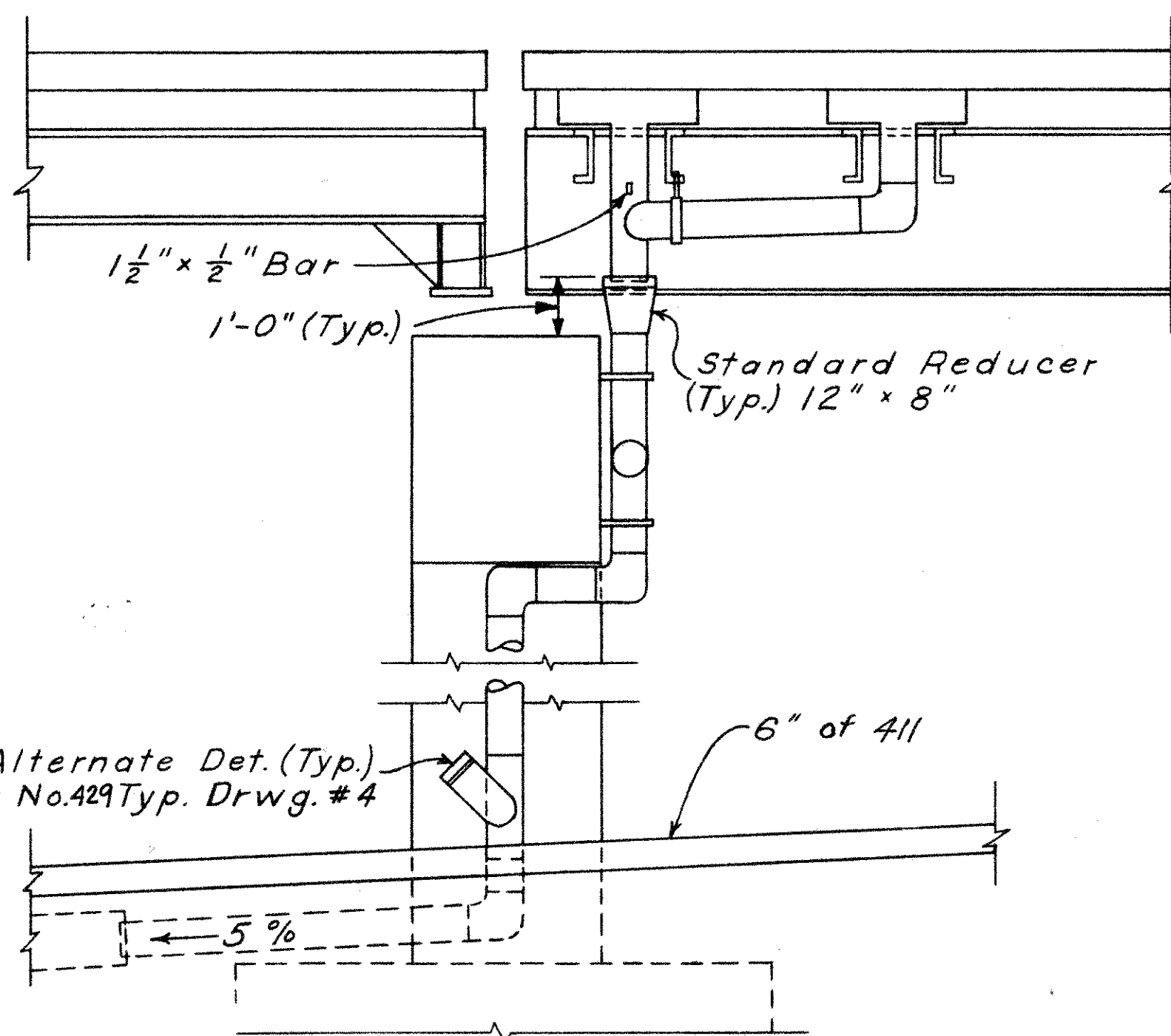
PLAN FOR DRAIN INLET AT  
PIER 8



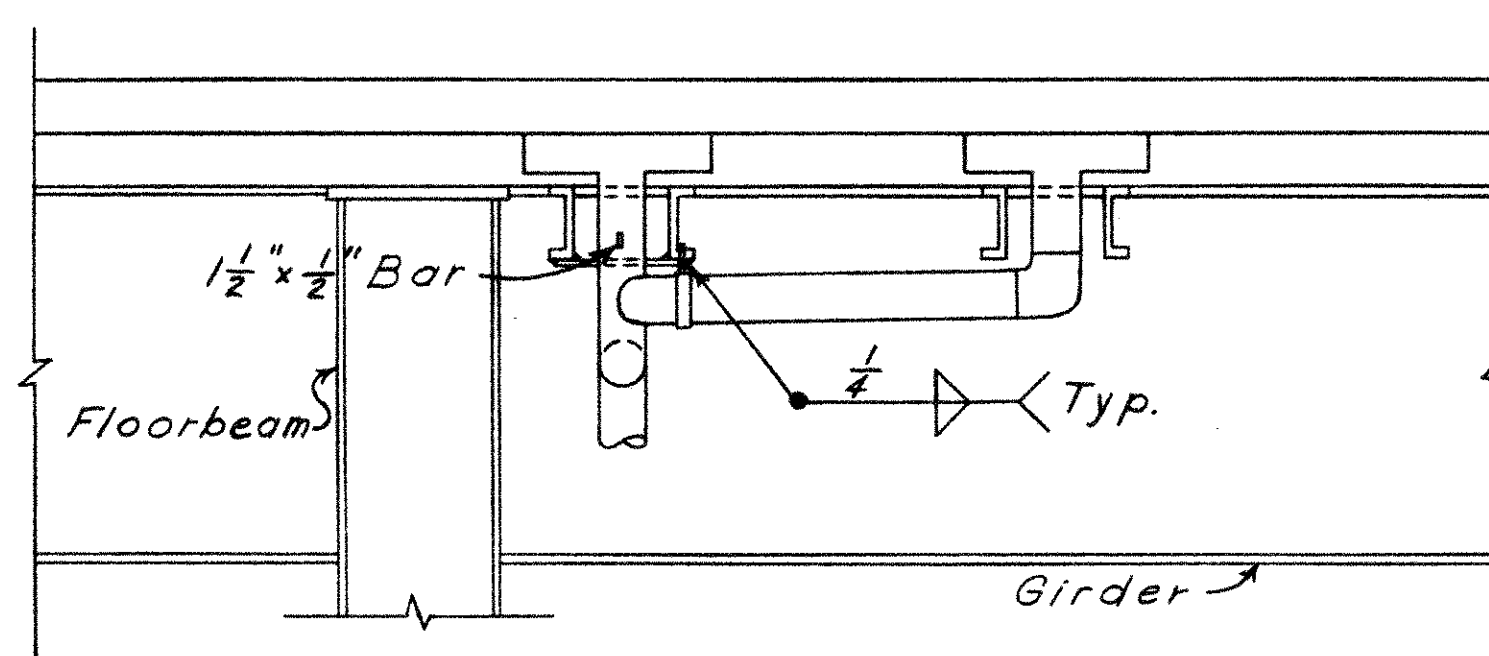
PLAN FOR DRAIN INLET AT  
PIER 9



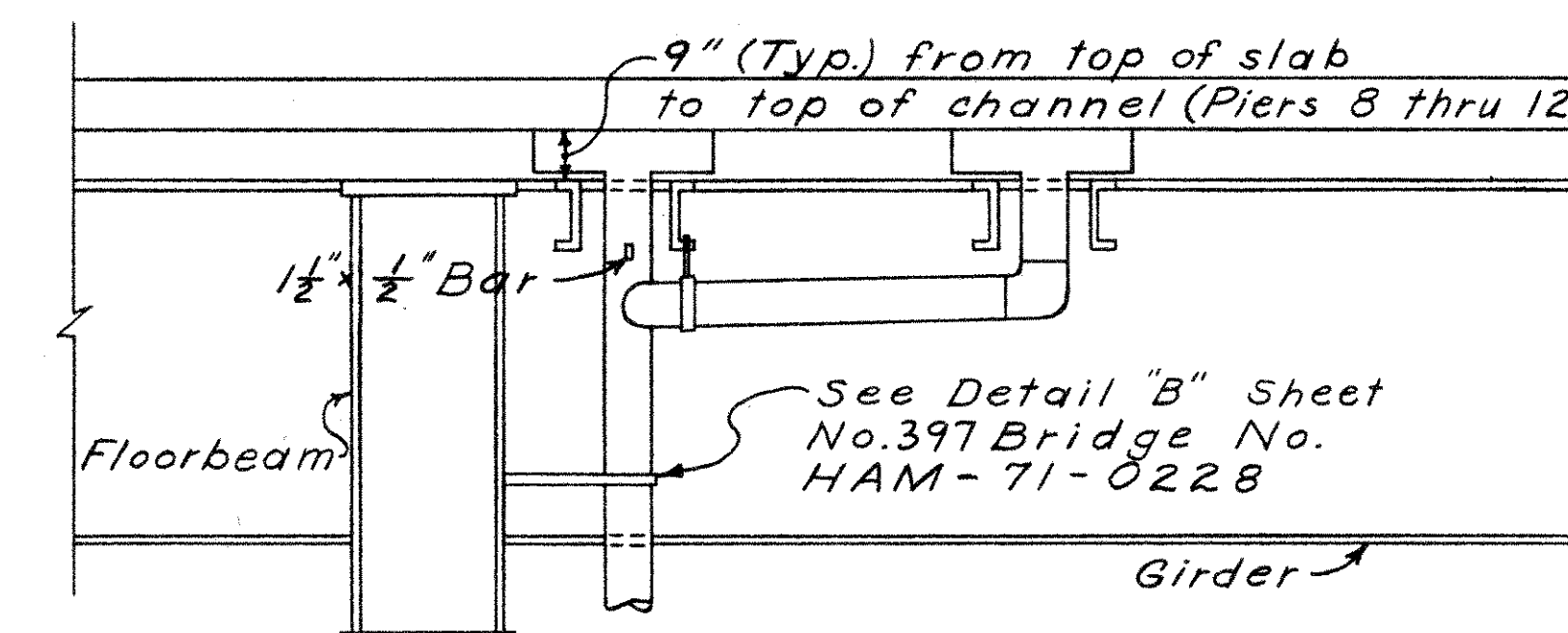
PLAN FOR DRAIN INLET AT  
EAST SIDE OF PIER 10 & 12



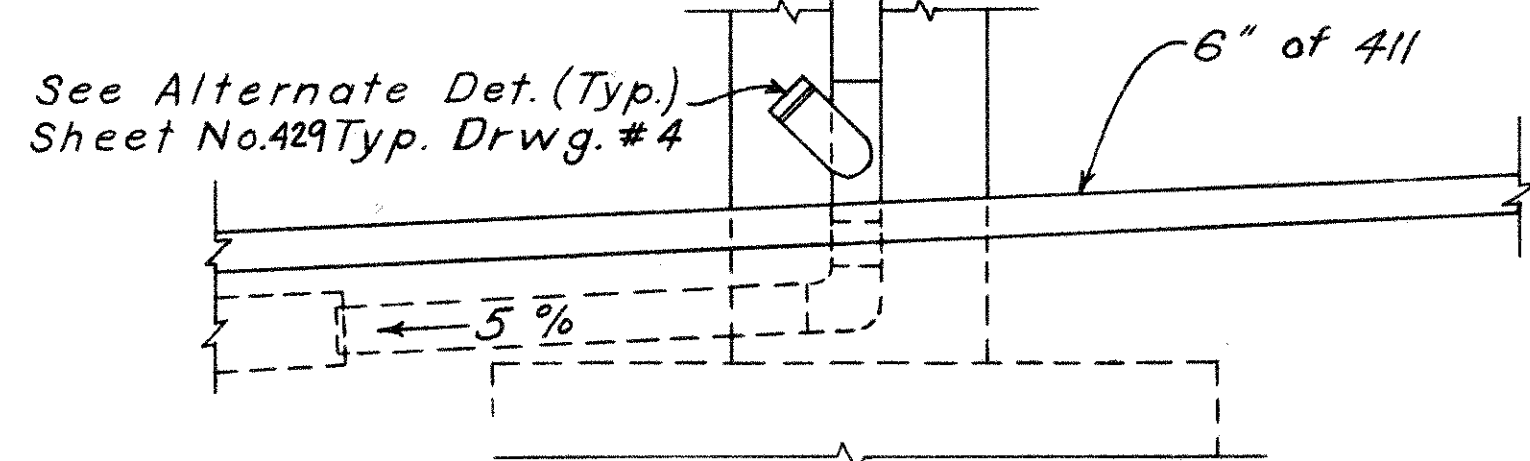
SECTION F-F



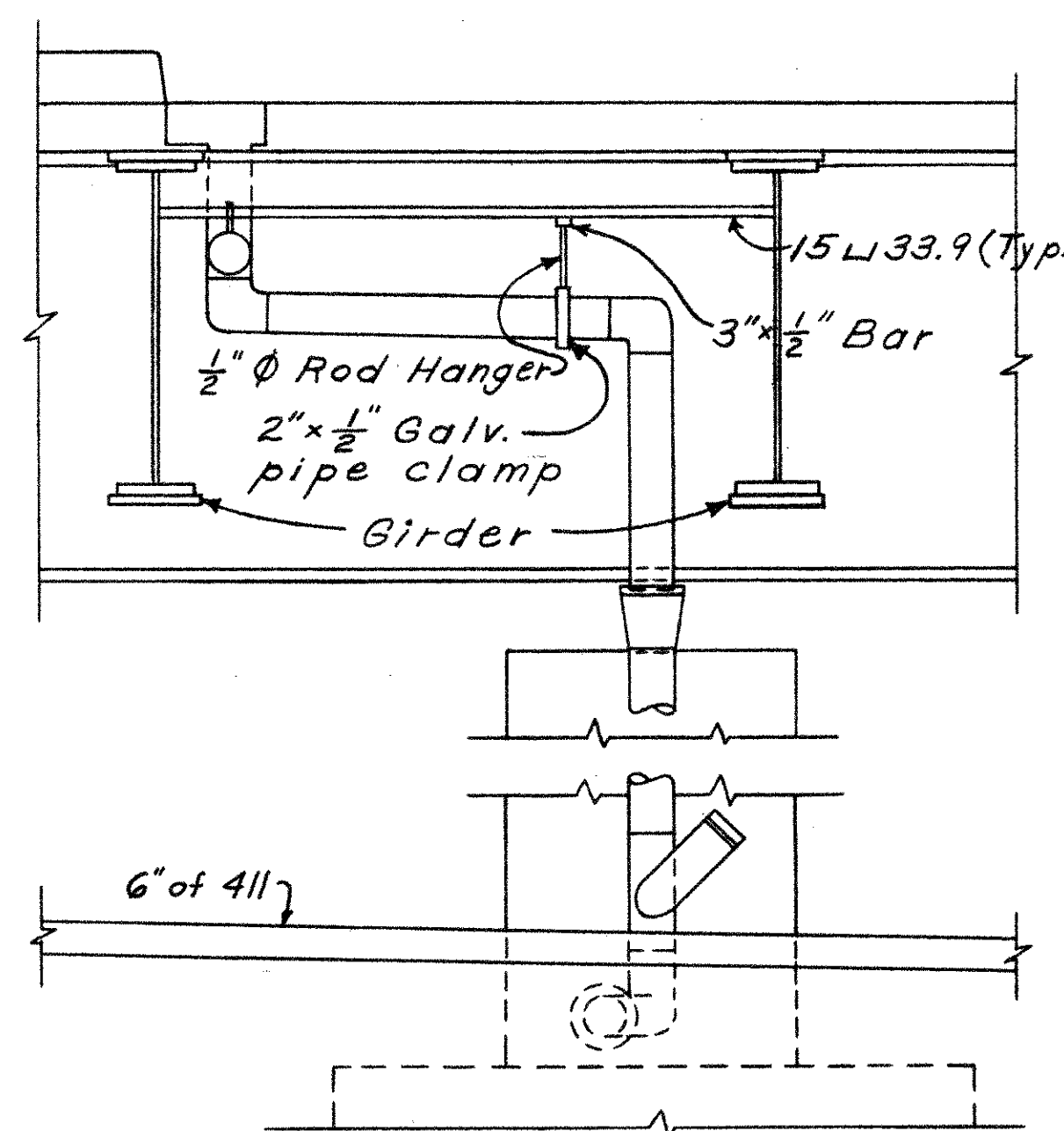
SECTION H-H



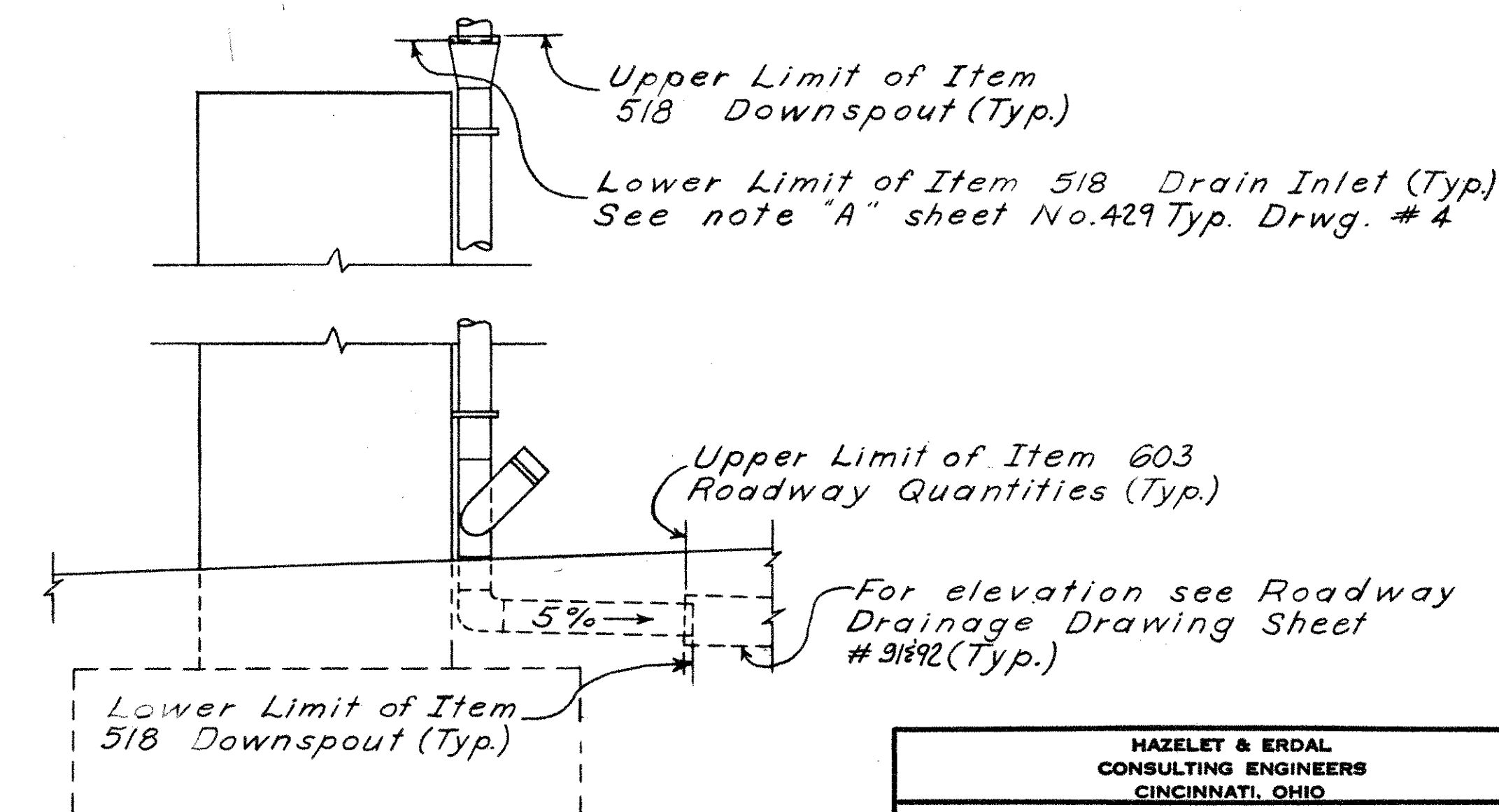
SECTION K-K



SECTION G-G



SECTION J-J



SECTION L-L

NOTE:  
8" pipe throughout.  
Total depth of inlet frame box at Piers 8, 9, 10 and 12 equals 7 1/2".  
Work this drawing with typical drawing sheet # 429 "Drainage Details."

|   |       |        |         |               |         |
|---|-------|--------|---------|---------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |       |        |         |               |         |
| DRAINAGE DETAILS  |       |        |         |               |         |
| BRIDGE No. HAM.-71-0224                                     |       |        |         |               |         |
| H&E BRIDGE No. 19   |       |        |         |               |         |
| DESIGNED  | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
| CKB   | CKB   | JHO    | 4/30/65 | 8-30-65       |         |

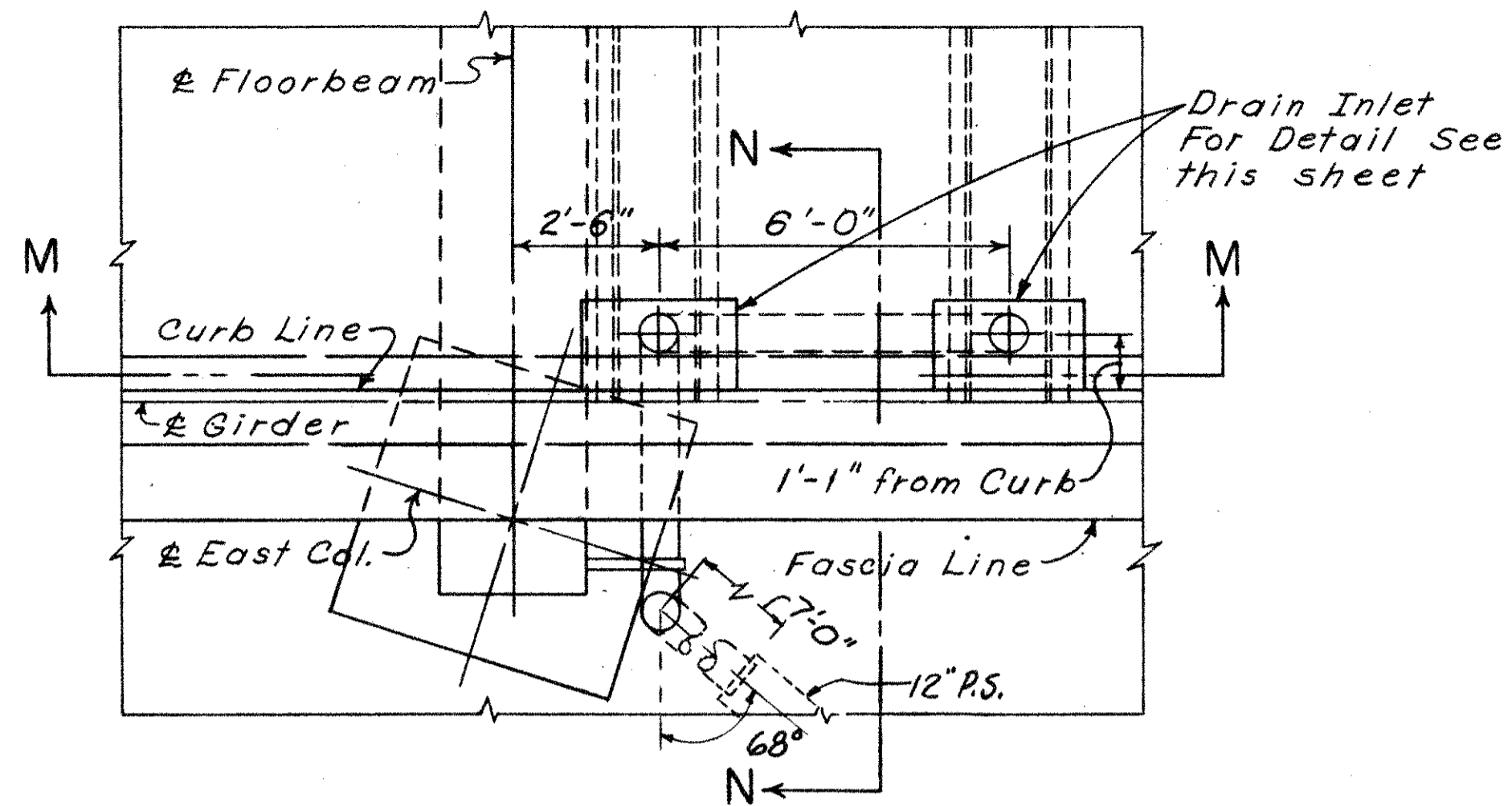


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SEP 15 1982

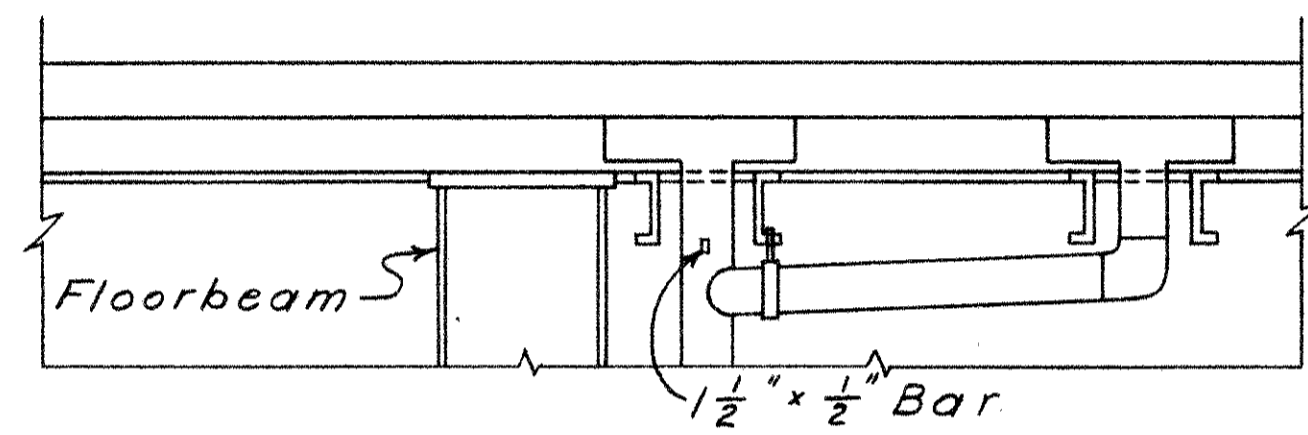
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| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

352  
460

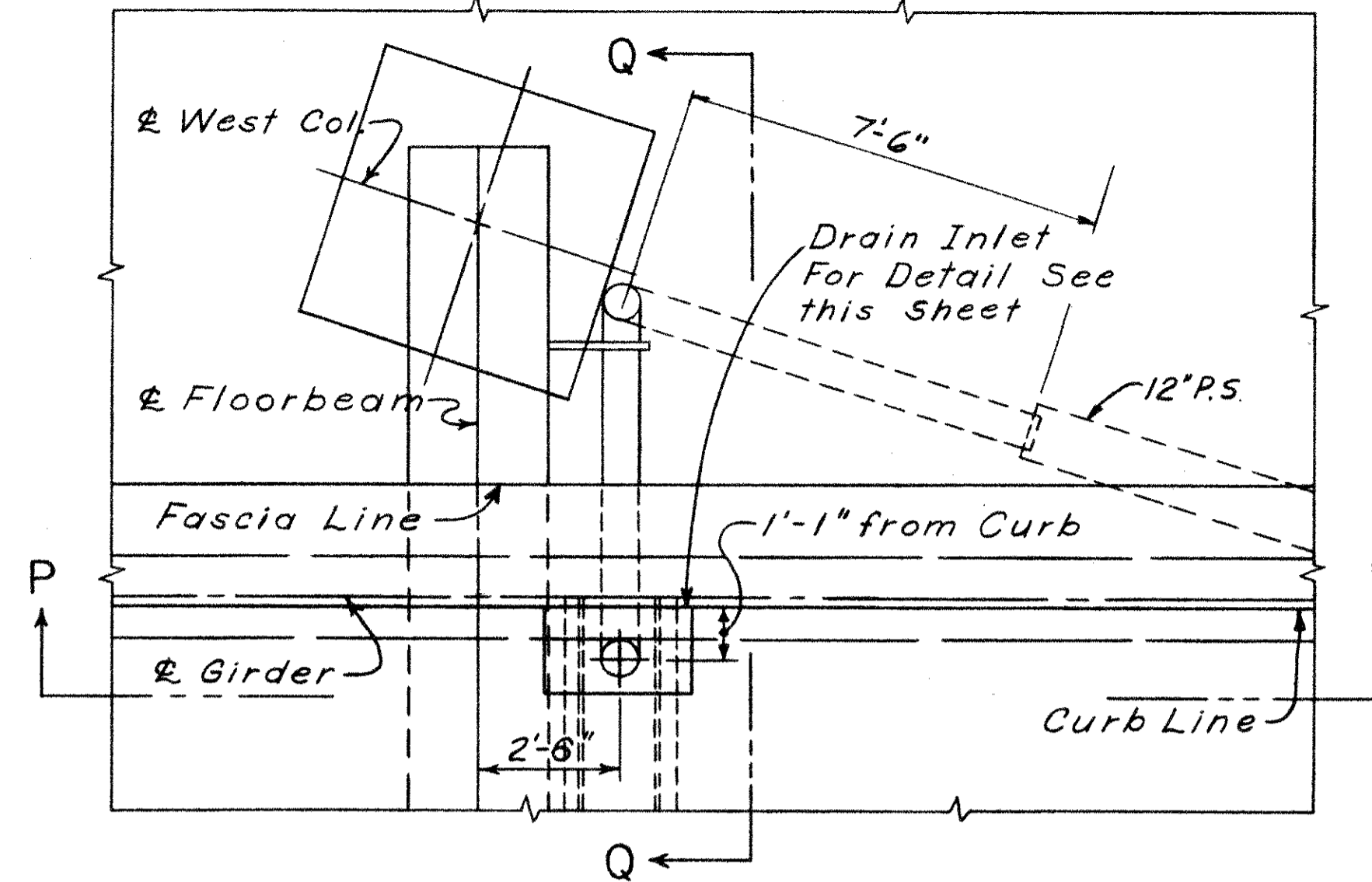
HAMILTON COUNTY  
HAM-71-2.08



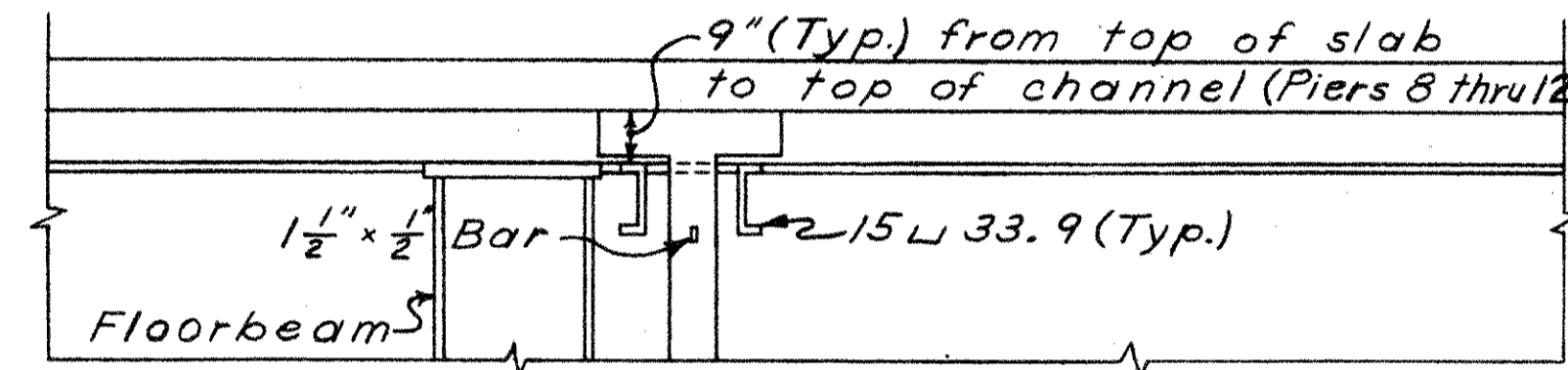
PLAN FOR DRAIN INLET AT EAST SIDE OF PIER II



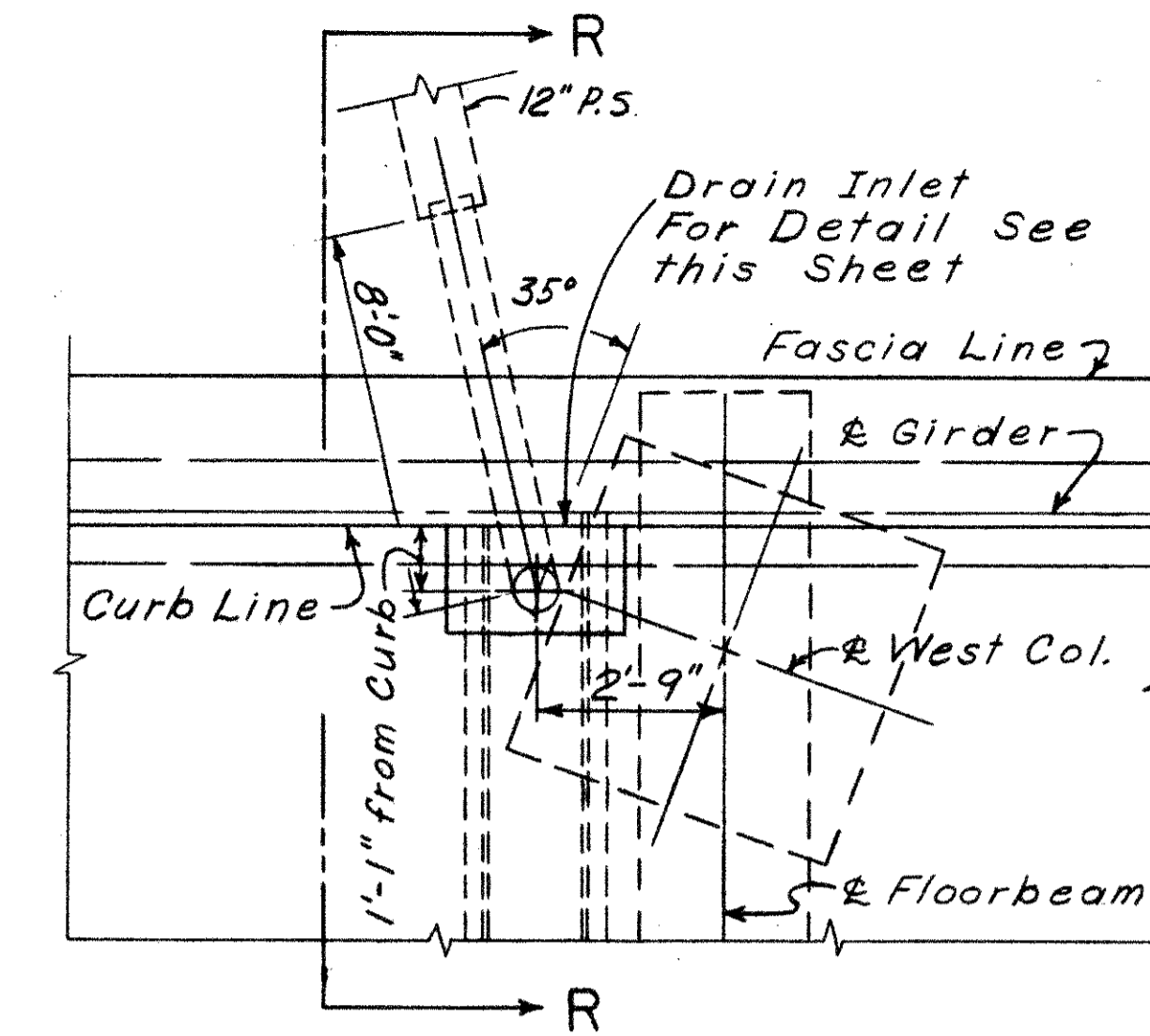
SECTION M-M



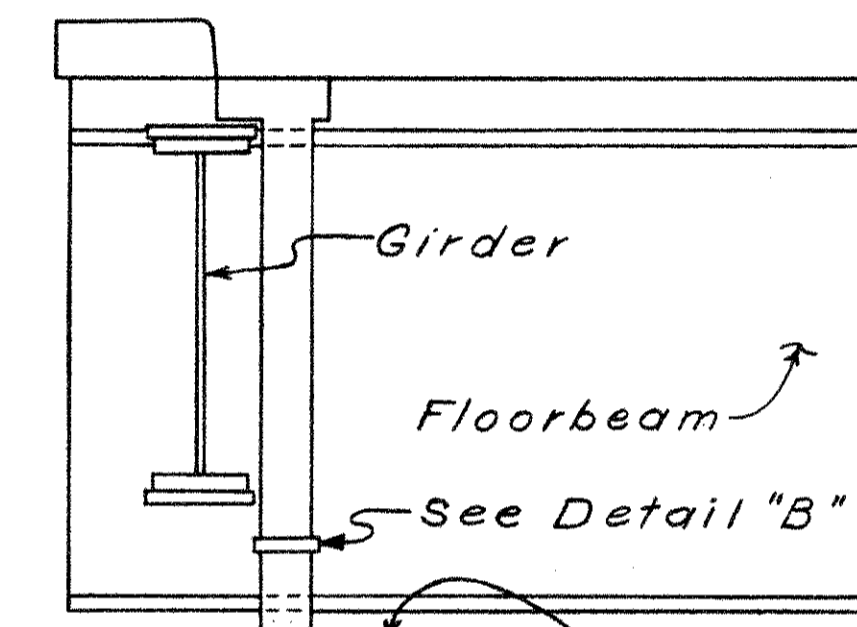
PLAN FOR DRAIN INLET AT WEST SIDE OF PIER 10 & 11



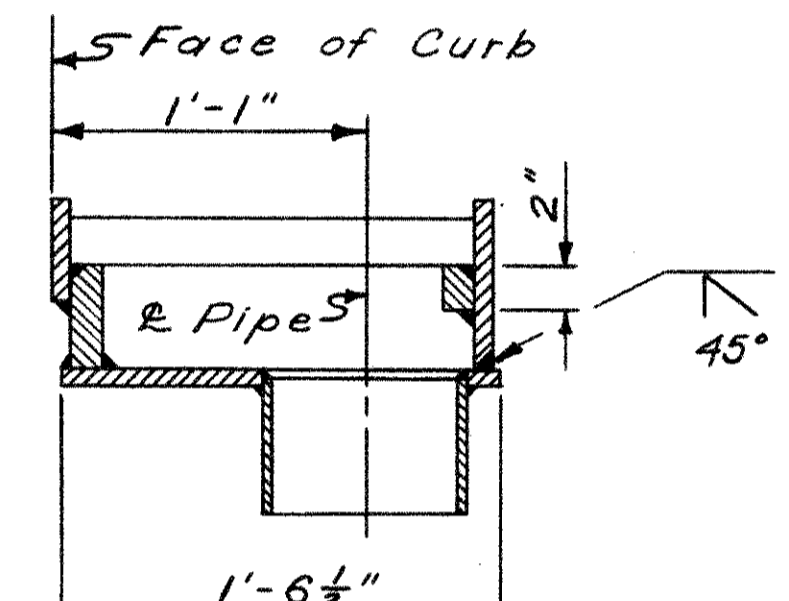
SECTION P-P



PLAN FOR DRAIN INLET AT WEST SIDE OF PIER 12

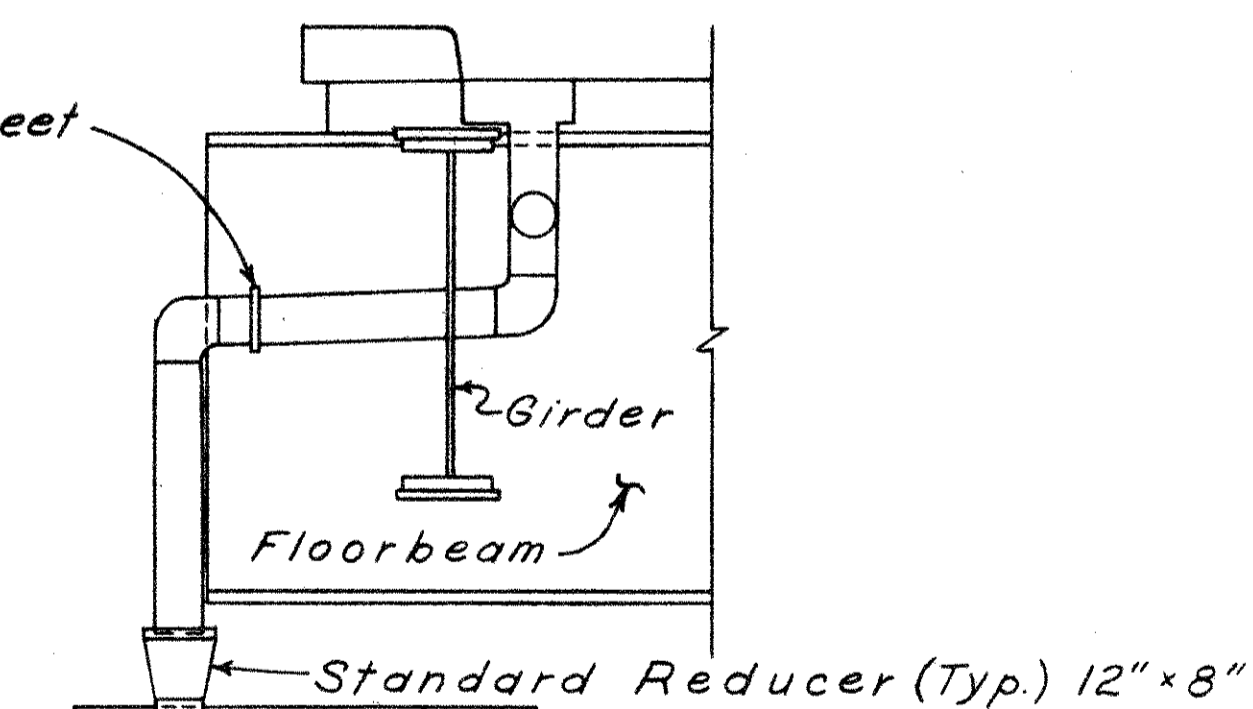


SECTION R-R



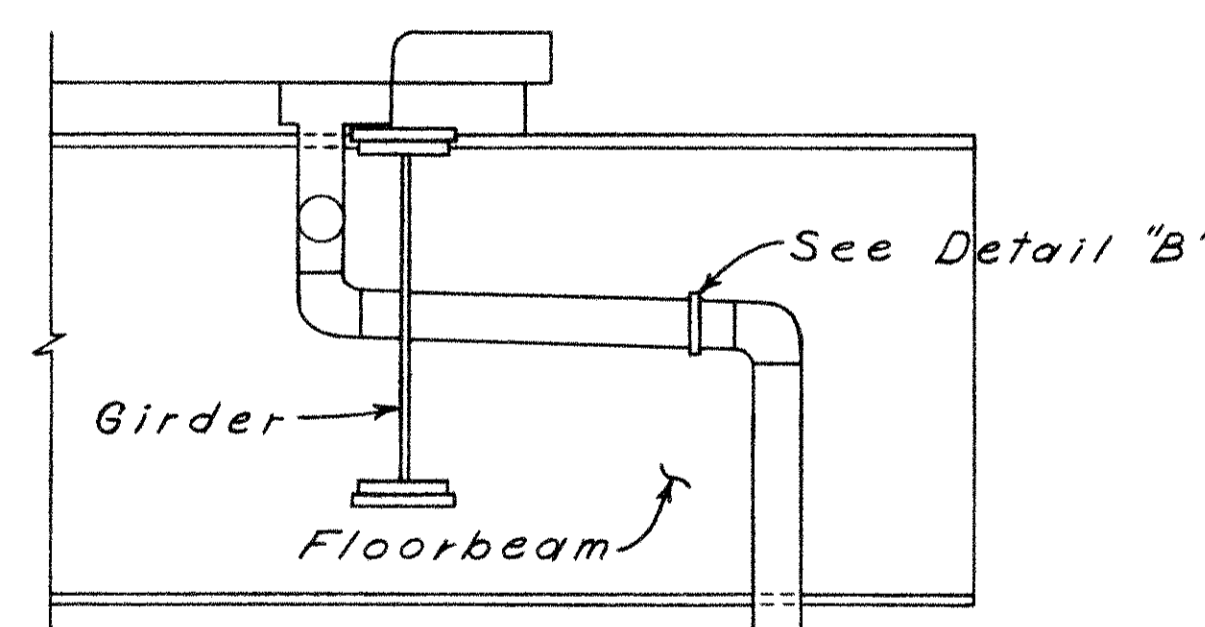
SPECIAL DRAIN INLET BOX AT PIERS 9, 10, 11 & 12  
(For dimensions not shown See Sheet No. 429 Typ. Drwg. # 4)

See Detail "B" Sheet No. 397 Bridge No. HAM-71-0228 (Typ. at Floorbeam)



SECTION N-N

See Alternate Det. (Typ.) Sheet No. Typ. Drwg. # 429



SECTION Q-Q

For elevation see Roadway Drainage Drwg. Sheet # 9112 (Typ.)

Upper Limit of Item 518 Downspout (Typ.)

Lower Limit of Item 518 Downspout (Typ.)

Lower Limit of Item 518 Drain Inlet (Typ.) See Note "A" Sheet No. 429 Typ. Drwg. # 4

Upper Limit of Item 603 Roadway Quantities (Typ.)

NOTE:  
Total depth of inlet frame box at Piers No. 10, 11 and 12 equals 7 3/4".  
8" pipe throughout  
Work this drawing with typical drawing sheet # 429 "Drainage Details."

|   |         |        |         |               |         |
|---|---------|--------|---------|---------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |         |        |         |               |         |
| DRAINAGE DETAILS  |         |        |         |               |         |
| BRIDGE No. HAM-71-0224                                      |         |        |         |               |         |
| H & E BRIDGE No. 19   |         |        |         |               |         |
| DESIGNED  | DRAWN   | TRACED | CHECKED | REVIEWED DATE | REVISED |
| CKB   | 4-15-65 |        | JHO     | 8-30-65       |         |

HAMILTON COUNTY  
MICROFILMED HAM-71-208  
SEP 15 1982

### SUPERSTRUCTURE

| Mark | Type | No.  | Length  | Weight  |
|------|------|------|---------|---------|
| S501 | 61   | 1538 | 4'-11"  | 7887    |
| S502 | 1    | 1538 | 2'-6"   | 4010    |
| S503 | 14   | 1594 | 5'-7"   | 8282    |
| S504 | 4    | 6    | 3'-8"   | 23      |
| S505 | 4    | 26   | 9'-8"   | 262     |
| S601 | Str. | 4398 | 36'-0"  | 237,809 |
| S602 | Str. | 52   | 32'-6"  | 2,538   |
| S603 | Str. | 938  | 13'-10" | 19,488  |
| S604 | Str. | 120  | 28'-2"  | 5,077   |
| S605 | Str. | 120  | 30'-6"  | 5,497   |
| S606 | Str. | 240  | 29'-10" | 10,753  |
| S607 | Str. | 143  | 13'-6"  | 2,900   |
| S608 | Str. | 790  | 30'-0"  | 35,596  |
| S609 | Str. | 89   | 26'-5"  | 3,531   |
| S610 | Str. | 8    | 23'-8"  | 284     |
| S611 | Str. | 105  | 27'-2"  | 4,284   |
| S612 | Str. | 8    | 24'-5"  | 293     |
| S613 | Str. | 77   | 28'-6"  | 3,296   |
| S614 | Str. | 8    | 25'-6"  | 306     |
| S615 | Str. | 92   | 29'-8"  | 4,099   |
| S616 | Str. | 8    | 26'-11" | 323     |
| S617 | Str. | 399  | 29'-9"  | 17,829  |
| S618 | Str. | 2898 | 31'-2"  | 135,658 |
| S619 | Str. | 1191 | 25'-0"  | 44,721  |
| S620 | Str. | 103  | 18'-7"  | 2,875   |
| S621 | Str. | 8    | 15'-6"  | 186     |
| S622 | Str. | 92   | 20'-4"  | 2,810   |
| S623 | Str. | 8    | 17'-7"  | 211     |
| S624 | Str. | 85   | 22'-8"  | 2,894   |
| S625 | Str. | 8    | 19'-11" | 239     |
| S626 | Str. | 93   | 25'-5"  | 3,550   |
| S701 | Str. | 1824 | 36'-0"  | 134,217 |
| S702 | Str. | 52   | 32'-6"  | 3,455   |
| S703 | Str. | 938  | 14'-6"  | 27,800  |
| S704 | Str. | 790  | 30'-0"  | 48,443  |
| S705 | Str. | 89   | 27'-11" | 4,927   |
| S706 | Str. | 8    | 24'-4"  | 398     |
| S707 | Str. | 105  | 27'-10" | 5,974   |
| S708 | Str. | 8    | 25'-11" | 410     |
| S709 | Str. | 77   | 29'-2"  | 4,591   |
| S710 | Str. | 8    | 26'-2"  | 428     |
| S711 | Str. | 92   | 30'-4"  | 5,705   |
| S712 | Str. | 8    | 27'-7"  | 451     |
| S713 | Str. | 1191 | 25'-0"  | 60,860  |
| S714 | Str. | 103  | 19'-7"  | 4,123   |
| S715 | Str. | 8    | 16'-6"  | 270     |
| S716 | Str. | 92   | 21'-4"  | 4,012   |
| S717 | Str. | 8    | 18'-7"  | 304     |
| S718 | Str. | 77   | 23'-8"  | 3,725   |
| S719 | Str. | 8    | 20'-11" | 342     |
| S720 | Str. | 93   | 26'-5"  | 5,022   |
| S721 | Str. | 8    | 22'-11" | 375     |
| S722 | Str. | 58   | 10'-4"  | 549     |
| S723 | Str. | 49   | 6'-2"   | 328     |
| S724 | Str. | 61   | 5'-11"  | 314     |
| H501 | Str. | 24   | 12'-8"  | *       |
| H502 | Str. | 180  | 15'-6"  | *       |
| H503 | Str. | 60   | 15'-8"  | *       |
| H504 | Str. | 16   | 12'-10" | *       |
| H505 | Str. | 304  | 15'-7"  | *       |
| H506 | Str. | 8    | 4'-9"   | *       |
| H507 | Str. | 26   | 7'-7"   | *       |

SUPERSTRUCTURE WEIGHT=885,534

### NORTH ABUTMENT

| Mark  | Type | No. | Length  | Weight  |       |
|-------|------|-----|---------|---------|-------|
| A501  | Str. | 45  | 28'-11" | 1,357   |       |
| A502  | Str. | 94  | 11'-0"  | 1,078   |       |
| A503  | Str. | 30  | 16'-3"  | 508     |       |
| A504  | Str. | 28  | 29'-1"  | 849     |       |
| A505  | Str. | 28  | 27'-10" | 813     |       |
| A506  | Str. | 29  | 23'-8"  | 716     |       |
| A507  | Str. | 2   | 19'-0"  | 40      |       |
| A508  | Str. | 2   | 10'-0"  | 21      |       |
| A509  | Str. | 80  | 6'-10"  | 570     |       |
| A510  | Str. | 8   | 24'-7"  | 205     |       |
| A511  | Str. | 10  | 8'-7"   | 90      |       |
| A512  | Str. | 3   | 5'-5"   | 45      |       |
| A513  | Str. | 8   | 8'-3"   | 69      |       |
| A601  | Str. | 1   | 20      | 19'-3"  | 578   |
| A602  | Str. | 7   | 9       | 20'-6"  | 277   |
| A603  | Str. | 7   | 9       | 20'-8"  | 279   |
| A604  | Str. | 4   | 10'-0"  | 60      |       |
| A605  | Str. | 7   | 22      | 20'-9"  | 686   |
| A606  | Str. | 7   | 12      | 20'-11" | 377   |
| A607  | Str. | 7   | 9       | 20'-7"  | 278   |
| A801  | Str. | 57  | 11'-6"  | 1,750   |       |
| A802  | Str. | 196 | 7'-1"   | 3,707   |       |
| A1001 | Str. | 18  | 83      | 8'-8"   | 3095  |
| A1002 | Str. | 18  | 79      | 12'-5"  | 4,220 |
| A1003 | Str. | 43  | 16'-5"  | 3,038   |       |
| A1004 | Str. | 44  | 10'-6"  | 1,987   |       |
| A1005 | Str. | 18  | 12      | 8'-5"   | 435   |
| A1006 | Str. | 18  | 8       | 12'-2"  | 418   |
| A1007 | Str. | 8   | 18'-2"  | 625     |       |
| H501  | Str. | 6   | 6'-10"  | *       |       |

NORTH ABUTMENT WEIGHT=28,171

### SOUTH ABUTMENT

| Mark | Type | No. | Length  | Weight |
|------|------|-----|---------|--------|
| A501 | Str. | 13  | 31'-6"  | 427    |
| A502 | Str. | 10  | 31'-1"  | 324    |
| A503 | Str. | 116 | 11'-0"  | 1,331  |
| A504 | Str. | 2   | 19'-1"  | 40     |
| A505 | Str. | 3   | 18'-10" | 59     |
| A506 | Str. | 2   | 18'-7"  | 39     |
| A507 | Str. | 3   | 18'-4"  | 57     |
| A508 | Str. | 2   | 18'-2"  | 38     |
| A509 | Str. | 16  | 30'-0"  | 501    |
| A510 | Str. | 42  | 6'-0"   | 263    |
| A511 | Str. | 17  | 8'-3"   | 146    |
| A512 | Str. | 2   | 13'-5"  | 28     |
| A513 | Str. | 3   | 13'-2"  | 41     |
| A514 | Str. | 3   | 12'-11" | 40     |
| A515 | Str. | 2   | 12'-8"  | 26     |
| A516 | Str. | 2   | 12'-6"  | 26     |
| A517 | Str. | 53  | 7'-0"   | 387    |
| A518 | Str. | 6   | 8'-1"   | 37     |
| A519 | Str. | 6   | 8'-9"   | 55     |
| A520 | Str. | 14  | 11'-6"  | 168    |
| A521 | Str. | 5   | 12'-2"  | 63     |
| A522 | Str. | 8   | 10'-3"  | 86     |
| A523 | Str. | 12  | 10'-6"  | 131    |

### SOUTH ABUTMENT

| Mark  | Type | No. | Length  | Weight  |       |
|-------|------|-----|---------|---------|-------|
| A524  | Str. | 6   | 18'-0"  | 113     |       |
| A525  | Str. | 6   | 31'-0"  | 194     |       |
| A526  | Str. | 2   | 4'-8"   | 10      |       |
| A527  | Str. | 10  | 8'-11"  | 93      |       |
| A528  | Str. | 6   | 11'-11" | 75      |       |
| A529  | Str. | 2   | 15'-0"  | 31      |       |
| A530  | Str. | 5   | 8'-7"   | 43      |       |
| A531  | Str. | 3   | 4'-5"   | 22      |       |
| A532  | Str. | 17  | 4'-11"  | 87      |       |
| A533  | Str. | 10  | 5'-8"   | 59      |       |
| A534  | Str. | 18  | 3'-8"   | 69      |       |
| A535  | Str. | 6   | 19'-11" | 125     |       |
| A536  | Str. | 14  | 5'-7"   | 105     |       |
| A537  | Str. | 1   | 21'-0"  | 22      |       |
| A538  | Str. | 12  | 37'-0"  | 463     |       |
| A539  | Str. | 21  | 31'-8"  | 694     |       |
| A540  | Str. | 13  | 10'-11" | 137     |       |
| A541  | Str. | 1   | 22'-4"  | 23      |       |
| A542  | Str. | 3   | 23'-10" | 76      |       |
| A543  | Str. | 25  | 5'-0"   | 130     |       |
| A544  | Str. | 12  | 6'-10"  | 86      |       |
| A545  | Str. | 8   | 4'-2"   | 35      |       |
| A546  | Str. | 2   | 4'-7"   | 10      |       |
| A547  | Str. | 2   | 5'-2"   | 11      |       |
| A548  | Str. | 2   | 6'-3"   | 13      |       |
| A549  | Str. | 20  | 2       | 9'-2"   | 19    |
| A601  | Str. | 7   | 74      | 13'-7"  | 1,509 |
| A602  | Str. | 1   | 19      | 12'-5"  | 354   |
| A603  | Str. | 2   | 11'-3"  | 34      |       |
| A604  | Str. | 7   | 6'-0"   | 63      |       |
| A605  | Str. | 4   | 6'-2"   | 37      |       |
| A606  | Str. | 2   | 10'-10" | 33      |       |
| A607  | Str. | 6   | 6'-8"   | 60      |       |
| A608  | Str. | 1   | 21      | 18'-10" | 594   |
| A609  | Str. | 1   | 10      | 9'-8"   | 145   |
| A701  | Str. | 61  | 12'-4"  | 1,538   |       |
| A702  | Str. | 32  | 7'-0"   | 438     |       |
| A703  | Str. | 50  | 10'-4"  | 1,056   |       |
| A704  | Str. | 33  | 11'-4"  | 765     |       |
| A705  | Str. | 16  | 11'-10" | 387     |       |
| A706  | Str. | 8   | 10'-6"  | 172     |       |
| A801  | Str. | 16  | 7'-6"   | 320     |       |
| A802  | Str. | 15  | 16'-3"  | 651     |       |
| A803  | Str. | 14  | 10'-6"  | 393     |       |
| A804  | Str. | 4   | 18'-0"  | 192     |       |
| A805  | Str. | 22  | 10'-0"  | 587     |       |
| A806  | Str. | 3   | 21'-4"  | 171     |       |
| A807  | Str. | 8   | 12'-9"  | 272     |       |
| A901  | Str. | 18  | 57      | 10'-7"  | 2,051 |
| A902  | Str. | 8   | 10'-6"  | 286     |       |
| A903  | Str. | 9   | 18'-0"  | 537     |       |
| A904  | Str. | 19  | 10      | 10'-7"  | 360   |
| A1001 | Str. | 4   | 18'-0"  | 310     |       |
| H501  | Str. | 6   | 6'-10"  | *       |       |
| H502  | Str. | 4   | 3'-8"   | *       |       |
| H503  | Str. | 4   | 19'-11" | *       |       |
| H504  | Str. | 2   | 5'-4"   | *       |       |
| H505  | Str. | 66  | 3       | 4'-2"   | *     |

SOUTH ABUTMENT WEIGHT=20,421

### PIERS

| Mark  | Type | No. | Length  | Weight  |        |
|-------|------|-----|---------|---------|--------|
| P401  | Str. | 1   | 638     | 10'-4"  | 4,403  |
| P402  | Str. | 26  | 294     | 9'-6"   | 1,866  |
| P403  | Str. | 1   | 190     | 12'-6"  | 1,587  |
| P404  | Str. | 26  | 184     | 11'-10" | 1,454  |
| P405  | Str. | 26  | 226     | 6'-10"  | 1,032  |
| P406  | Str. | 26  | 116     | 6'-6"   | 504    |
| P407  | Str. | 26  | 324     | 9'-9"   | 2,110  |
| P408  | Str. | 1   | 442     | 7'-6"   | 4,719  |
| P409  | Str. | 26  | 560     | 6'-9"   | 2,525  |
| P501  | Str. | 1   | 69      | 6'-6"   | 468    |
| P502  | Str. | 1   | 30      | 7'-6"   | 235    |
| P503  | Str. | 1   | 784     | 9'-1"   | 7,427  |
| P504  | Str. | 12  | 30'-9"  | 385     |        |
| P505  | Str. | 1   | 684     | 8'-4"   | 5,945  |
| P506  | Str. | 1   | 44      | 7'-8"   | 352    |
| P507  | Str. | 1   | 384     | 9'-7"   | 3,838  |
| P508  | Str. | 1   | 40      | 8'-7"   | 358    |
| P509  | Str. | 1   | 1088    | 8'-1"   | 8,173  |
| P510  | Str. | 1   | 56      | 7'-1"   | 414    |
| P511  | Str. | 1   | 588     | 4'-11"  | 3,015  |
| P512  | Str. | 24  | 30'-1"  | 753     |        |
| P513  | Str. | 24  | 29'-0"  | 726     |        |
| P601  | Str. | 24  | 28'-9"  | 1,036   |        |
| P602  | Str. | 158 | 13'-0"  | 3,085   |        |
| P603  | Str. | 16  | 14'-6"  | 348     |        |
| P604  | Str. | 222 | 9'-6"   | 3,168   |        |
| P605  | Str. | 36  | 16'-6"  | 892     |        |
| P606  | Str. | 28  | 12'-6"  | 526     |        |
| P607  | Str. | 40  | 17'-6"  | 1,051   |        |
| P608  | Str. | 32  | 13'-6"  | 649     |        |
| P701  | Str. | 20  | 8       | 13'-4"  | 218    |
| P702  | Str. | 20  | 4       | 16'-4"  | 134    |
| P703  | Str. | 20  | 4       | 16'-0"  | 131    |
| P704  | Str. | 12  | 31'-11" | 783     |        |
| P705  | Str. | 20  | 4       | 15'-1"  | 123    |
| P706  | Str. | 20  | 4       | 10'-0"  | 82     |
| P707  | Str. | 20  | 4       | 15'-2"  | 124    |
| P708  | Str. | 20  | 16      | 9'-11"  | 324    |
| P709  | Str. | 20  | 4       | 9'-5"   | 77     |
| P710  | Str. | 20  | 4       | 8'-1"   | 66     |
| P711  | Str. | 20  | 4       | 12'-4"  | 101    |
| P712  | Str. | 20  | 4       | 6'-6"   | 53     |
| P713  | Str. | 20  | 4       | 10'-11" | 89     |
| P801  | Str. | 72  | 12'-6"  | 2,403   |        |
| P802  | Str. | 46  | 13'-6"  | 1,639   |        |
| P803  | Str. | 18  | 16'-6"  | 793     |        |
| P804  | Str. | 43  | 422     | 11'-8"  | 13,145 |
| P805  | Str. | 33  | 13'-0"  | 1,145   |        |
| P806  | Str. | 21  | 20'-0"  | 1,121   |        |
| P807  | Str. | 26  | 23'-6"  | 1,632   |        |
| P901  | Str. | 46  | 13'-6"  | 2,111   |        |
| P902  | Str. | 43  | 16      | 12'-0"  | 652    |
| P903  | Str. | 43  | 86      | 15'-6"  | 4,532  |
| P1001 | Str. | 40  | 14'-6"  | 2,496   |        |
| P1002 | Str. | 43  | 48      | 19'-4"  | 3,993  |
| P1003 | Str. | 43  | 356     | 15'-10" | 24,254 |
| P1004 | Str. | 16  | 13'-0"  | 895     |        |
| P1005 | Str. | 4   | 19'-0"  | 327     |        |
| P1006 | Str. | 12  | 31'-3"  | 1,614   |        |
| P1007 | Str. | 6   | 28'-7"  | 738     |        |
| P1008 | Str. | 44  | 16      | 8'-5"   | 580    |
| P1009 | Str. | 3   | 14'-0"  | 181     |        |
| P1010 | Str. | 12  | 27'-0"  | 1,394   |        |
| P1011 | Str. | 6   | 42'-4"  | 1,093   |        |
| P1012 | Str. | 24  | 16'-0"  | 1,652   |        |
| P1013 | Str. | 17  | 18'-0"  | 1,317   |        |
| P1014 | Str. | 6   | 21'-6"  | 555     |        |
| P1015 | Str. | 6   | 21'-3"  | 549     |        |
| P1016 | Str. | 12  | 28'-3"  | 1,459   |        |
| P1017 | Str. | 4   | 16'-9"  | 288     |        |
| P1018 | Str. | 12  | 22'-9"  | 1,174   |        |
| P1101 | Str. | 43  | 66      | 23'-2"  | 8,124  |
| P1102 | Str. | 72  | 19'-1"  | 7,300   |        |
| P1103 | Str. | 44  | 144     | 9'-4"   | 7,141  |
| P1104 | Str. | 44  | 644     | 8'-4"   | 28,515 |
| P1105 | Str. | 28  | 29'-3"  | 4,351   |        |
| P1106 | Str. | 43  | 80      | 26'-8"  | 11,334 |
| P1107 | Str. | 60  | 60      | 21'-9"  | 6,933  |
| P1108 | Str. | 43  | 94      | 19'-8"  | 4,822  |
| P1109 | Str. | 56  | 23'-3"  | 6,918   |        |

### SUPERSTRUCTURE

| Mark  | a         | b          | c         | d          | e         | f      | g      | h         | i         |
|-------|-----------|------------|-----------|------------|-----------|--------|--------|-----------|-----------|
| S501  | 0'-7 1/2" | 1'-4"      | 1'-6"     |            |           |        |        |           |           |
| S502  | 1'-6"     | 0'-7 1/2"  |           |            |           |        |        |           |           |
| S503  | 0'-8"     | 2'-2"      |           |            |           |        |        |           |           |
| S504  | 1'-4"     | 0'-6"      | 0'-6"     | 1'-4"      | 0'-6"     |        |        |           |           |
| S505  | 2'-2"     | 1'-10"     | 1'-10"    | 2'-2"      | 2'-1"     |        |        |           |           |
|       |           |            |           |            |           |        |        |           |           |
|       |           |            |           |            |           |        |        |           |           |
| S722  | 1'-8"     | 1'-11 1/2" | 3'-4 1/2" | 1'-11 1/2" | 1'-1 1/2" | 2'-9"  | 2'-9"  | 3'-4 1/2" | 1'-1 1/2" |
| S723  | 2'-5"     | 1'-10 1/2" | 1'-3 3/4" | 1'-4"      | 0'-6"     | 1'-9"  |        |           |           |
| S724  | 0'-5"     | 1'-4"      | 2'-11"    |            |           |        |        |           |           |
|       |           |            |           |            |           |        |        |           |           |
|       |           |            |           |            |           |        |        |           |           |
| *H507 | 1'-8"     | 1'-4 1/2"  | 2'-4 1/2" | 1'-4 1/2"  | 0'-9"     | 1'-11" | 1'-11" | 2'-4 1/2" | 0'-9"     |

### SOUTH ABUTMENT

| Mark | a         | b      | c          | d     | e          | f     |
|------|-----------|--------|------------|-------|------------|-------|
| A503 | 3'-5"     | 4'-10" | 1'-5"      | 3'-5" | 3'-5"      | 1'-7" |
| A527 | 6'-0"     | 1'-7"  |            |       |            |       |
| A530 | 0'-8"     | 3'-8"  |            |       |            |       |
| A531 | 1'-6"     | 1'-11" | 2'-13 1/4" |       | 0'-11 1/2" |       |
| A532 | 1'-6"     | 1'-8"  | 1'-11"     |       | 0'-11 3/8" |       |
| A536 | 0'-8"     | 2'-2"  |            |       |            |       |
| A549 | 2'-6"     | 3'-8"  | 5'-8"      | 5'-1" |            |       |
|      |           |        |            |       |            |       |
| A601 | 0'-11"    | 5'-8"  | 1'-11"     | 1'-5" | 4'-4"      |       |
| A602 | 1'-5"     | 5'-8"  |            |       |            |       |
| A608 | 1'-2"     | 9'-0"  |            |       |            |       |
| A609 | 6'-0"     | 2'-0"  |            |       |            |       |
|      |           |        |            |       |            |       |
| A701 | 11'-6"    |        |            |       |            |       |
| A703 | 9'-6"     |        |            |       |            |       |
| A704 | 2'-3"     | 9'-3"  |            |       |            |       |
| A705 | 11'-0"    |        |            |       |            |       |
|      |           |        |            |       |            |       |
| A805 | 2'-6"     | 7'-9"  |            |       |            |       |
|      |           |        |            |       |            |       |
| A901 | 2'-10"    | 8'-0"  |            |       |            |       |
| A904 | 2'-9 7/8" | 2'-10" | 0'-2"      | 8'-0" |            |       |

### PIERS

| Mark  | a       | b      | c       | d      | e |
|-------|---------|--------|---------|--------|---|
| P501  | 4'-9"   | 1'-0"  |         |        |   |
| P502  | 5'-9"   | 1'-0"  |         |        |   |
| P503  | 2'-0"   | 3'-8"  |         |        |   |
| P505  | 2'-3"   | 3'-2"  |         |        |   |
| P506  | 2'-3"   | 2'-10" |         |        |   |
| P507  | 2'-4"   | 3'-9"  |         |        |   |
| P508  | 2'-4"   | 3'-3"  |         |        |   |
| P509  | 2'-0"   | 3'-2"  |         |        |   |
| P510  | 2'-0"   | 2'-8"  |         |        |   |
| P511  | 3'-2"   | 1'-0"  |         |        |   |
|       |         |        |         |        |   |
| P701  | 1'-6"   | 2'-3"  | 11'-1"  | 11'-0" |   |
| P702  | 1'-6"   | 2'-3"  | 14'-1"  | 14'-0" |   |
| P703  | 2'-2"   | 2'-3"  | 13'-9"  | 13'-7" |   |
| P705  | 1'-5"   | 2'-3"  | 12'-10" | 12'-9" |   |
| P706  | 1'-6"   | 2'-3"  | 7'-9"   | 7'-7"  |   |
| P707  | 1'-10"  | 2'-3"  | 12'-11" | 12'-9" |   |
| P708  | 1'-11"  | 2'-3"  | 7'-8"   | 7'-6"  |   |
| P709  | 1'-6"   | 2'-3"  | 7'-2"   | 7'-0"  |   |
| P710  | 1'-11"  | 2'-3"  | 5'-10"  | 5'-6"  |   |
| P711  | 1'-4"   | 2'-3"  | 10'-1"  | 10'-0" |   |
| P712  | 1'-6"   | 2'-3"  | 4'-3"   | 4'-0"  |   |
| P713  | 1'-6"   | 2'-3"  | 8'-8"   | 8'-6"  |   |
|       |         |        |         |        |   |
| P804  | 9'-6"   |        |         |        |   |
|       |         |        |         |        |   |
| P902  | 9'-6"   |        |         |        |   |
| P903  | 13'-0"  |        |         |        |   |
|       |         |        |         |        |   |
| P1002 | 16'-6"  |        |         |        |   |
| P1003 | 13'-0"  |        |         |        |   |
| P1008 | 7'-0"   |        |         |        |   |
| P1011 | 39'-8"  | 3'-0"  |         |        |   |
|       |         |        |         |        |   |
| P1101 | 20'-0"  |        |         |        |   |
| P1103 | 7'-9"   |        |         |        |   |
| P1104 | 6'-9"   |        |         |        |   |
| P1106 | 23'-6"  |        |         |        |   |
| P1108 | 16'-6"  |        |         |        |   |
| P1111 | 8'-3"   |        |         |        |   |
| P1119 | 31'-0"  | 3'-7"  |         |        |   |
| P1122 | 23'-4"  | 3'-0"  |         |        |   |
| P1126 | 23'-0"  | 3'-0"  |         |        |   |
| P1136 | 26'-2"  | 3'-0"  |         |        |   |
| P1144 | 23'-6"  | 3'-0"  |         |        |   |
| P1145 | 25'-0"  | 3'-0"  |         |        |   |
| P1151 | 21'-11" | 3'-0"  |         |        |   |
| P1153 | 7'-4"   |        |         |        |   |
| P1154 | 21'-3"  | 3'-0"  |         |        |   |
| P1164 | 29'-8"  | 3'-10" |         |        |   |

### REPLACEMENT BARS

| Mark   | Length | Shape | No. |
|--------|--------|-------|-----|
| RE401  | 5'-3"  | Str.  | 1   |
| RE501  | 5'-7"  | Str.  | 4   |
| RE601  | 5'-11" | Str.  | 29  |
| RE701  | 6'-3"  | Str.  | 17  |
| RE801  | 6'-6"  | Str.  | 2   |
| RE901  | 6'-10" | Str.  | 1   |
| RE1001 | 7'-3"  | Str.  | 3   |
| RE1101 | 7'-7"  | Str.  | 12  |

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| Mark  | a     | b     | c         | d         | e         | f         | g         |
|-------|-------|-------|-----------|-----------|-----------|-----------|-----------|
| *H504 | 0'-6" | 0'-9" | 0'-7 5/8" | 0'-2 3/8" | 0'-7 1/2" | 2'-8 1/2" | 0'-7 3/8" |
| *H505 | 0'-8" | 1'-6" | 0'-6 1/2" | 0'-0 3/4" |           |           |           |

### NORTH ABUTMENT

| Mark  | a      | b      | c          | d     | e          | f     |
|-------|--------|--------|------------|-------|------------|-------|
| A502  | 3'-5"  | 4'-10" | 1'-5"      | 3'-5" | 3'-5"      | 1'-7" |
| A511  | 0'-8"  | 3'-8"  |            |       |            |       |
| A512  | 1'-6"  | 1'-11" | 2'-13 1/4" |       | 0'-11 1/2" |       |
|       |        |        |            |       |            |       |
|       |        |        |            |       |            |       |
| A601  | 1'-5"  | 9'-1"  |            |       |            |       |
| A602  | 0'-11" | 9'-1"  | 1'-11"     | 1'-5" | 7'-10"     |       |
| A603  | 0'-11" | 9'-3"  | 1'-11"     | 1'-5" | 7'-10"     |       |
| A605  | 0'-11" | 9'-4"  | 1'-11"     | 1'-5" | 7'-10"     |       |
| A606  | 0'-11" | 9'-6"  | 1'-11"     | 1'-5" | 7'-10"     |       |
| A607  | 0'-11" | 9'-2"  | 1'-11"     | 1'-5" | 7'-10"     |       |
|       |        |        |            |       |            |       |
|       |        |        |            |       |            |       |
| A1001 | 3'-3"  | 5'-9"  |            |       |            |       |
| A1002 | 3'-3"  | 9'-6"  |            |       |            |       |
| A1005 | 3'-0"  | 5'-9"  |            |       |            |       |
| A1006 | 3'-0"  | 9'-6"  |            |       |            |       |

### PIERS

| Mark | a     | b      | c         | d     | e          |
|------|-------|--------|-----------|-------|------------|
| P401 | 4'-8" | 2'-11" |           |       |            |
| P402 | 1'-1" | 3'-0"  | 0'-9 1/2" | 2'-2" | 0'-9 1/2"  |
| P403 | 5'-8" | 3'-6"  |           |       |            |
| P404 | 1'-2" | 4'-0"  | 0'-10"    | 2'-9" | 0'-10"     |
| P405 | 1'-2" | 1'-4"  | 0'-11"    | 1'-7" | 0'-8 1/2"  |
| P406 | 1'-4" | 1'-4"  | 0'-11"    | 1'-3" | 0'-11"     |
| P407 | 1'-0" | 3'-3"  | 0'-8 1/2" | 2'-3" | 0'-8 1/2"  |
| P408 | 3'-2" | 2'-3"  |           |       |            |
| P409 | 1'-2" | 1'-7"  | 0'-9 1/2" | 1'-5" | 0'-10 1/2" |

For Bar Bending Schedule see sheet No. 430

\* Note:  
Reinforcing bars marked "H" are included in  
Item 517 (Railings) for payment.

Work this sheet with sheet No. 353

|   |       |        |         |               |         |
|---|-------|--------|---------|---------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |       |        |         |               |         |
| <b>STEEL REINFORCEMENT LIST</b>                             |       |        |         |               |         |
| BRIDGE NO. HAM-71-0224                                      |       |        |         |               |         |
| H&E BRIDGE NO. 19   |       |        |         |               |         |
| DESIGNED  | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
|   | R. H. |        | Y. L.   | 7-20-65       | 8-30-65 |

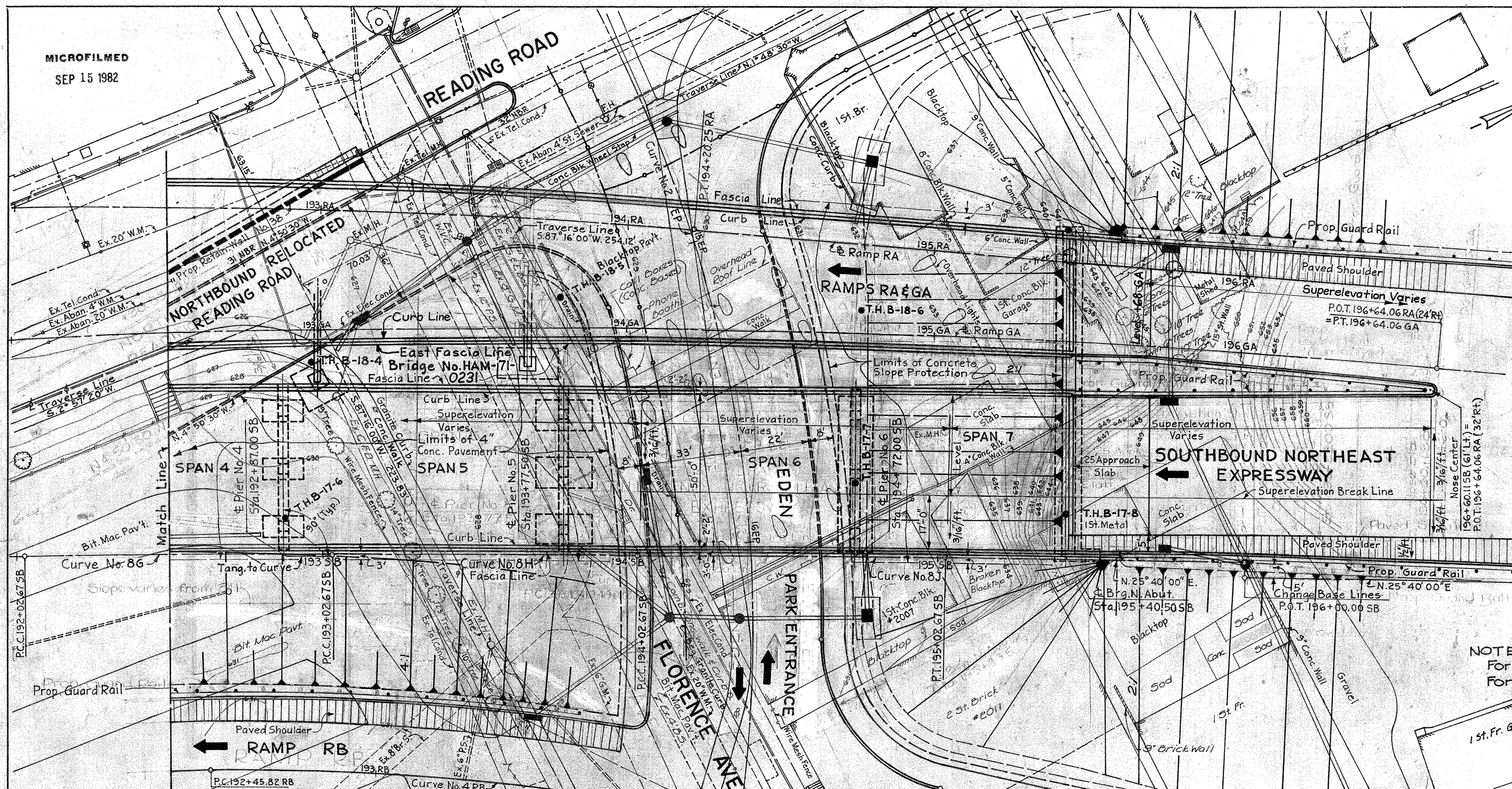


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SEP 15 1982

|               |       |         |             |
|---------------|-------|---------|-------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

HAMILTON COUNTY  
HAM-71-2.08

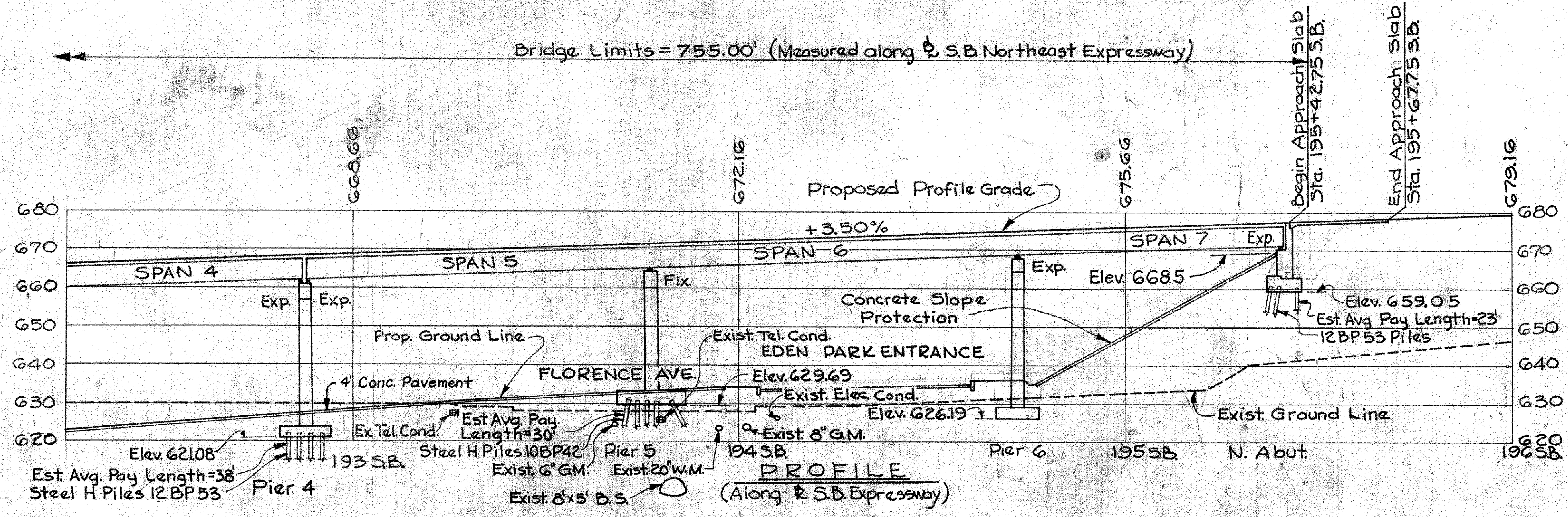
356  
460



| CURVE DATA  |  |   |
|---|--|---|
| Note: Curves 8F to 8J Inclusive Are a Series of Compound Circular Arcs Replacing a 400 ft. Spiral to a 2°00' Circular Curve at P.C.C. 191+02.675 B. |  |   |
| SOUTHBOUND EXPRESSWAY   |  |   |
| <b>CURVE No. 8E</b>   | <b>CURVE No. 8F</b>  | <b>CURVE No. 8G</b>   |
| PI Sta.=187+42.12 S.B.<br>Δ = 14° 30' 00"<br>D = 2° 00' 00"<br>R = 2,864.79'<br>L = 725.00'<br>T = 364.45'  | PI Sta.=191+52.675 B.<br>Δ = 1° 50' 06"<br>D = 1° 50' 06"<br>R = 3,122.39'<br>L = 100.00'<br>T = 50.00'  | PI Sta.=192+52.675 B.<br>Δ = 1° 09' 48"<br>D = 1° 09' 48"<br>R = 4,925.14'<br>L = 100.00'<br>T = 50.00' |
| <b>CURVE No. 8H</b>   | <b>CURVE No. 8J</b>  |   |
| PI Sta.=193+52.675 B.<br>Δ = 0° 50' 08"<br>D = 0° 50' 08"<br>R = 6,857.21'<br>L = 100.00'<br>T = 50.00'   | PI Sta.=194+52.675 B.<br>Δ = 0° 09' 58"<br>D = 0° 09' 58"<br>R = 34,492.45'<br>L = 100.00'<br>T = 50.00' |   |

NOTE:  
For General Notes see sheet No. 355  
For Table of Span Lengths see sheet No. 355

PLAN



PROFILE  
(Along S.B. Expressway)

HAZELT & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**SITE PLAN**

BRIDGE No. HAM-71-0226  
OVER RAMP RF, NORTHBOUND READING RD  
and EDEN PARK ENTRANCE

H & E BRIDGE No. 17 SHEET 2 of 2

|          |       |        |         |                |         |
|----------|-------|--------|---------|----------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE  | REVISED |
|          | WPK   | M.D.C. | H.A.B.  | JHO<br>8/14/65 |         |

### ESTIMATED QUANTITIES

| ITEM    | TOTAL     | UNIT     | DESCRIPTION   | SLAB UNIT-1 | SLAB UNIT-2 | SOUTH ABUT. | NORTH ABUT. | PIER-1 | PIER-2 | PIER-3 | PIER-4 | PIER-5 | PIER-6 | GENERAL |
|---------|-----------|----------|---|-------------|-------------|-------------|-------------|--------|--------|--------|--------|--------|--------|---------|
| 503     | Lump      | Sum      | Cofferdams Cribs and Sheeting   |             |             |             |             |        |        |        |        |        |        | Lump    |
| 503     | 1,578     | Cu. Yds  | Unclassified Excavation   |             |             |             | 286         |        | 578    | 449    | 135    |        |        | 130     |
| 503     | 17        | Cu. Yds  | Rock (or Shale) Excavation  |             |             |             |             |        | 8      | 4      |        |        |        | 5       |
| 504     | 1,214     | Sq. Ft.  | Steel Sheet Piling Left in Place (Min. Sect. Modulus of 7 in <sup>3</sup> per foot of wall) |             |             |             | 305         |        | 615    | 294    |        |        |        |         |
| 511     | 1,374     | Cu. Yds  | Class "C" Concrete, Superstructure  | 934         | 4400        |             |             |        |        |        |        |        |        |         |
| 511     | 533       | Cu. Yds  | Class "C" Concrete, Piers above Footings  |             |             |             |             | 25.7   | 155.5  | 126.9  | 78.4   | 68.8   |        | 78.1    |
| 511     | 183       | Cu. Yds  | Class "E" Concrete, Abutments above Footings  |             |             | 87.1        | 95.9        |        |        |        |        |        |        |         |
| 511     | 622       | Cu. Yds  | Class "E" Concrete, Footings  |             |             | 61.2        | 75.0        | 76.8   | 143.8  | 101.3  | 30.3   | 70.0   |        | 63.6    |
| 512     | 28        | Lin. Ft. | Premolded Sealing Strip   |             |             | 13          | 15          |        |        |        |        |        |        |         |
| 509     | 583,434   | Lbs.     | Reinforcing Steel   | 246,236     | 122,825     | 8,569       | 9,654       | 13,151 | 55,234 | 42,223 | 19,741 | 34,838 |        | 30,963  |
| 513     | 1,725,000 | Lbs.     | Structural Steel  | 1,323,000   | 402,000     |             |             |        |        |        |        |        |        |         |
| 514     | 1,725,000 | Lbs.     | Field Painting of Structural Steel  | 1,323,000   | 402,000     |             |             |        |        |        |        |        |        |         |
| 517     | 1,583     | Lin. Ft. | Railing Type "I"  | 1,000       | 508.9       | 13.0        | 22.1        |        | 23.0   | 16.0   |        |        |        |         |
| 505     | Lump      | Sum      | First Test Pile   |             |             |             |             |        |        |        |        |        |        | Lump    |
| 506     | Lump      | Sum      | First Pile Test Load  |             |             |             |             |        |        |        |        |        |        | Lump    |
| 506     | 1         | Each     | Subsequent Pile Test Load   |             |             |             |             |        |        |        |        |        |        |         |
| 507     | 2,805     | Lin. Ft. | Steel Piles, 10BP42   |             |             | 525         |             | 930    |        |        |        | 1,350  |        |         |
| 507     | 2,096     | Lin. Ft. | Steel Piles, 12BP53   |             |             |             | 598         |        |        | 700    | 798    |        |        |         |
| 625     |           |          | Electric Lighting System (See Sheet No. 178 & 179)  |             |             |             |             |        |        |        |        |        |        |         |
| 518     | 103       | Cu. Yds  | Porous Backfill   |             |             | 58          | 45          |        |        |        |        |        |        |         |
| 518     | 62        | Lin. Ft. | 6" Helical Perforated Corrugated Metal Pipe (Sec. 707.06) (Including Specials)              |             |             |             | 62          |        |        |        |        |        |        |         |
| 518     | Lump      | Sum      | Drain Inlets, Including Supports and Horizontal Collector System                            |             |             |             |             |        |        |        |        |        |        | Lump    |
| 518     | 297       | Lin. Ft. | 8" Standard Pipe Downspout, Wrought Iron or Hot-dip Galvanized Steel, Including Specials    |             |             |             |             | 35     | 58     | 48     | 54     | 51     | 51     |         |
| 518     | 83        | Lin. Ft. | 6" Helical Nonperforated Corrugated Metal Pipe (Sec. 707.06)                                |             |             |             | 83          |        |        |        |        |        |        |         |
| 518     | 22        | Lin. Ft. | 8" perforated c.m.p. 707.06, bituminous coated per 707.04 (including specials)              |             |             |             | 22          |        |        |        |        |        |        |         |
| 518     | 15        | Lin. Ft. | 8" non perforated c.m.p. 707.06, bituminous coated per 707.04 (including specials)          |             |             |             | 15          |        |        |        |        |        |        |         |
| 518     | 62        | Lin. Ft. | 8" perforated c.m.p. 707.06, bituminous coated per 707.04 (including specials)              |             |             |             | 62          |        |        |        |        |        |        |         |
| 518     | 4         | Lin. Ft. | 12" Reinforced Concrete Sewer Pipe (Sec. 706.02 Class II)                                   |             |             |             | 4           |        |        |        |        |        |        |         |
| 808     | 1,374     | Each     | Water-Reducing, Set-Retarding Admixture   | 934         | 440         |             |             |        |        |        |        |        |        |         |
| 601     | 455       | Sq. Yds  | Concrete Slope Protection   |             |             |             | 455         |        |        |        |        |        |        |         |
| Special | 4997      | Sq. Yds  | Concrete Surface Treatment  | 4893.1      |             | 11.7        | 12.7        | 5.7    | 5.7    | 5.7    | 20.8   | 20.8   | 20.8   |         |

## GENERAL NOTES

**MICROFILMED**

SEP 15 1982

**REFERENCE:** shall be made to Standard Drawing GR-6 Revised 6-1-65.

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

**STEEL PILES:** piles shall be driven with a hammer of not less than 11,000 ft. lbs. per blow to firm contact with shale. If the length of penetration is approximately equal to the estimated average pay length according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. 507-05 is not less than the following value for a pile hammer of the indicated energy rating.

- 50 tons per pile for south abutment using an 11,000 ft. lb. hammer.
- 45 tons per pile for south abutment using a 15,000 ft. lb. hammer.
- 50 tons per pile for piers No. 1 & 5 using an 11,000 ft. lb. hammer.
- 45 tons per pile for piers No. 1 & 5 using a 15,000 ft. lb. hammer.
- 55 tons per pile for north abutment & pier No. 3E using an 11,000 ft. lb. hammer.
- 50 tons per pile for north abutment & pier No. 3E using a 15,000 ft. lb. hammer.
- 60 tons per pile for pier No. 4 using an 11,000 ft. lb. hammer.
- 55 tons per pile for pier No. 4 using a 15,000 ft. lb. hammer.

If the energy rating of the hammer is between the rating as shown above, the required formula capacity shall be determined by interpolation. The design load is 35 tons per pile for the south abutment and piers No. 1 & 5, 40 tons per pile for pier No. 3E and north abutment and 45 tons per pile for pier No. 4.

**PILE TEST LOAD:** shall be according to Item 506 except that the maximum load required shall be three times the design load.

**FIRST PILE TEST LOAD:** shall be applied if and where directed by the Engineer.

**EXCAVATION QUANTITY:** This includes the removal of fill material required for construction of the north abutment.

**ADDITIONAL NOTES:** for additional notes see Notes 1, 2, 3, 5, & 6, General Notes, Typical Drawing No. 426

**DESIGN DATA:**

- Design Loading - CF 2000 (57)
- Concrete Class C - basic unit stress 1,333 p. s. i.
- Concrete Class E - basic unit stress 1,133 p. s. i.
- Structural Steel - ASTM A36 - basic unit stress 20,000 p. s. i.

Reinforcing Steel - ASTM A15, A16, A160, Deformed Intermediate or Hard Grade. Basic unit stress 20,000 p. s. i.

**FOUNDATION BEARING PRESSURE:** footing on shale are designed for the following maximum bearing pressures <sup>3</sup>tons/sq. ft. Pier 2  
" Pier 3 (west footing)  
" Pier 6

**PIERS 2,3(west footing), &6:** shall extend a minimum of 3" into undisturbed rock or to the elevation shown, whichever is lower.

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

### ESTIMATED QUANTITIES AND GENERAL NOTES

BRIDGE No. HAM-71-0226

H&E BRIDGE No.17

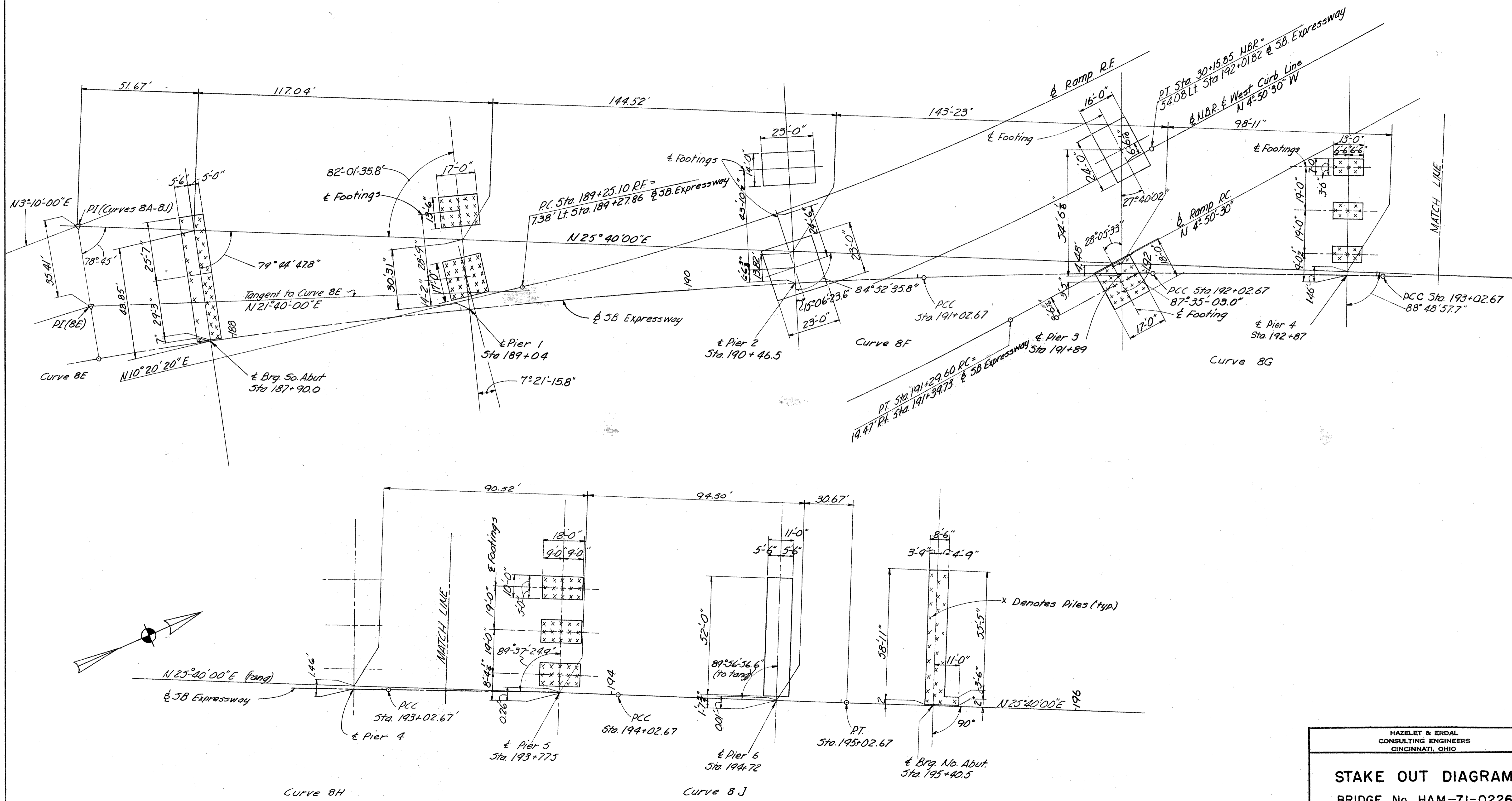
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|----------|--------|--------|---------|---------------|---------|
| DESIGNED | DRAWN  | TRACED | CHECKED | REVIEWED DATE | REVISED |
|          | R.M.F. |        | E.M.B.  | 3/15/65       | 3-15-66 |

MICROFILMED  
SEP 15 1982

|               |       |         |             |
|---------------|-------|---------|-------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

358  
460

HAMILTON COUNTY  
HAM-71-2.08



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CONSULTING ENGINEERS  
CINCINNATI, OHIO

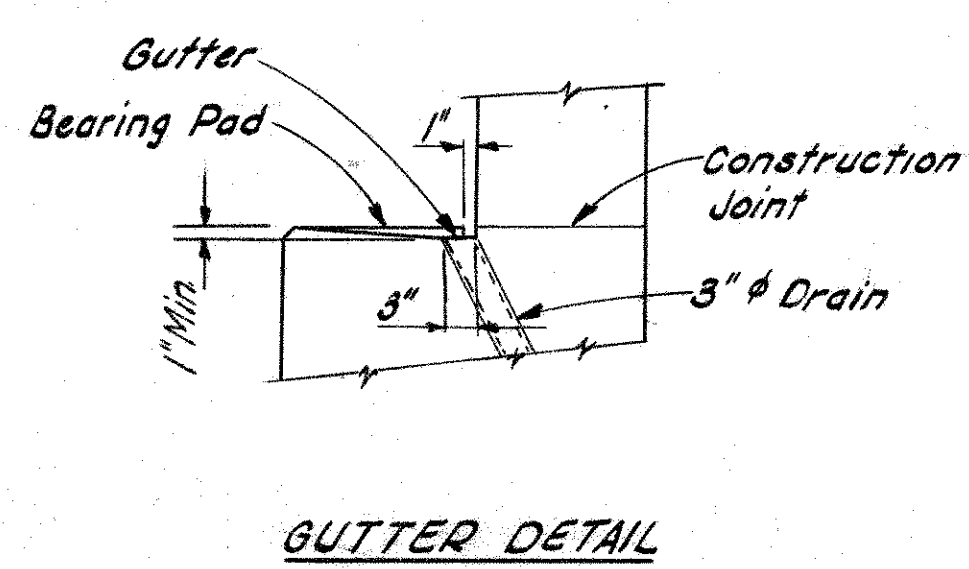
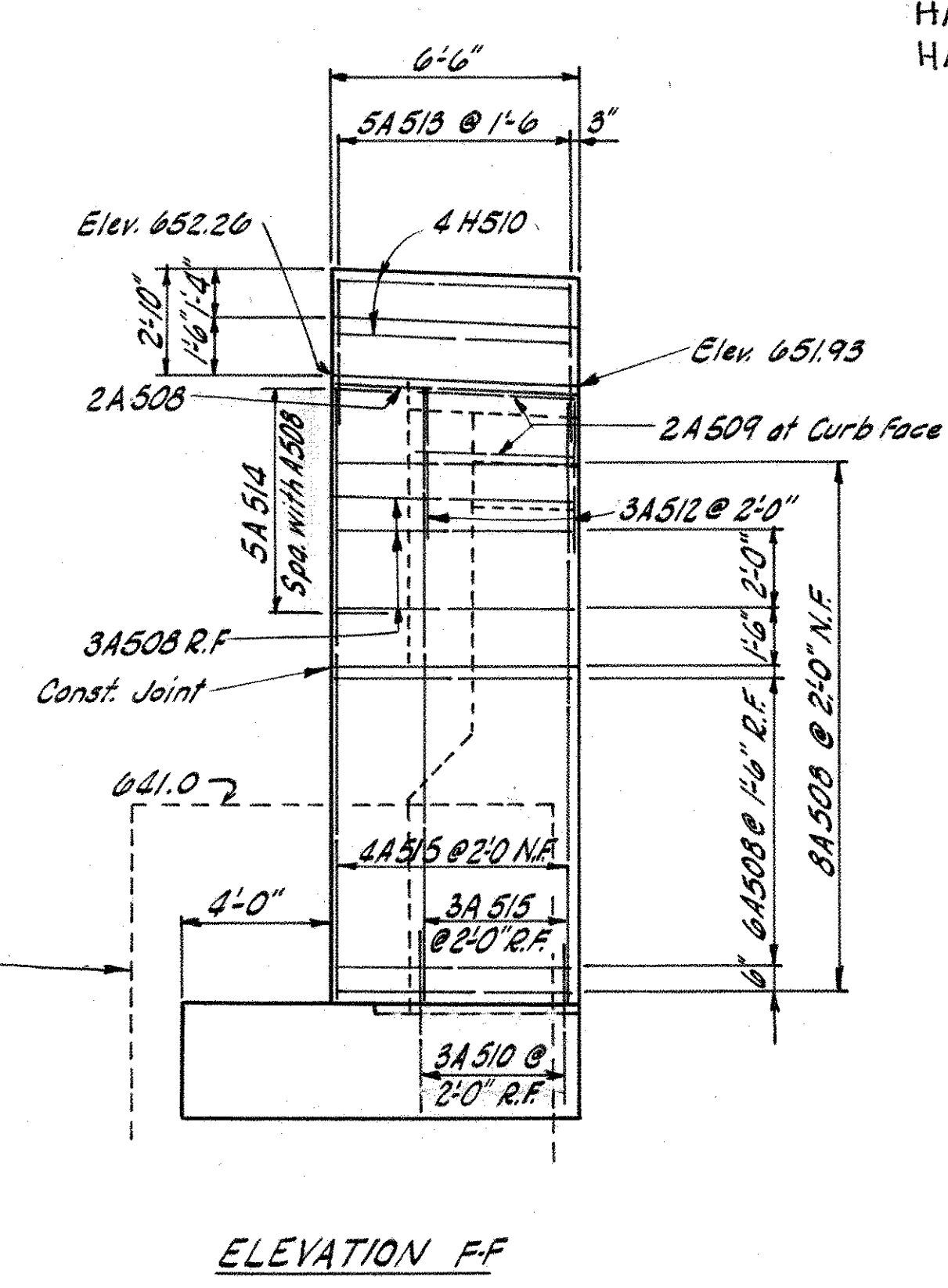
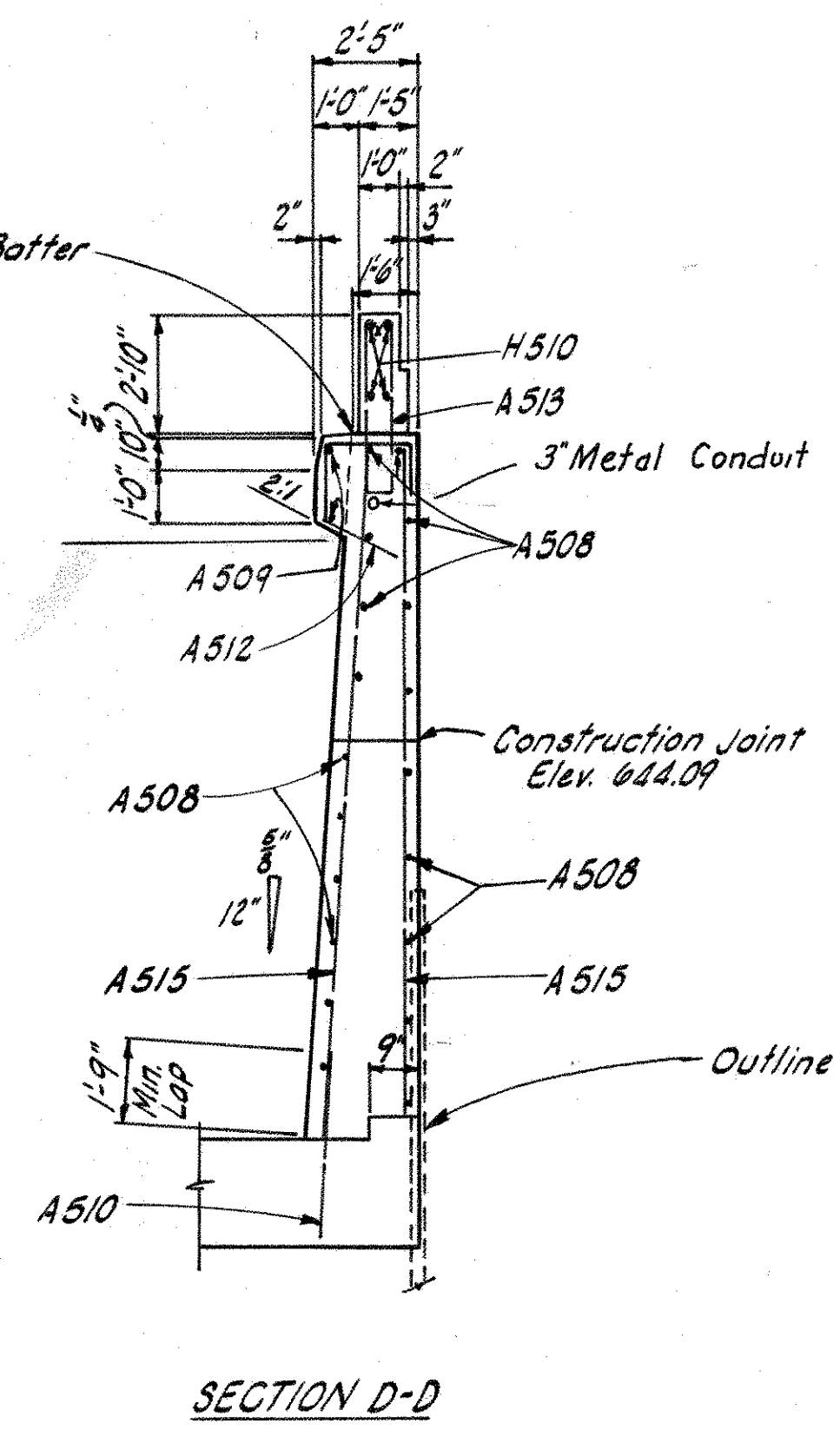
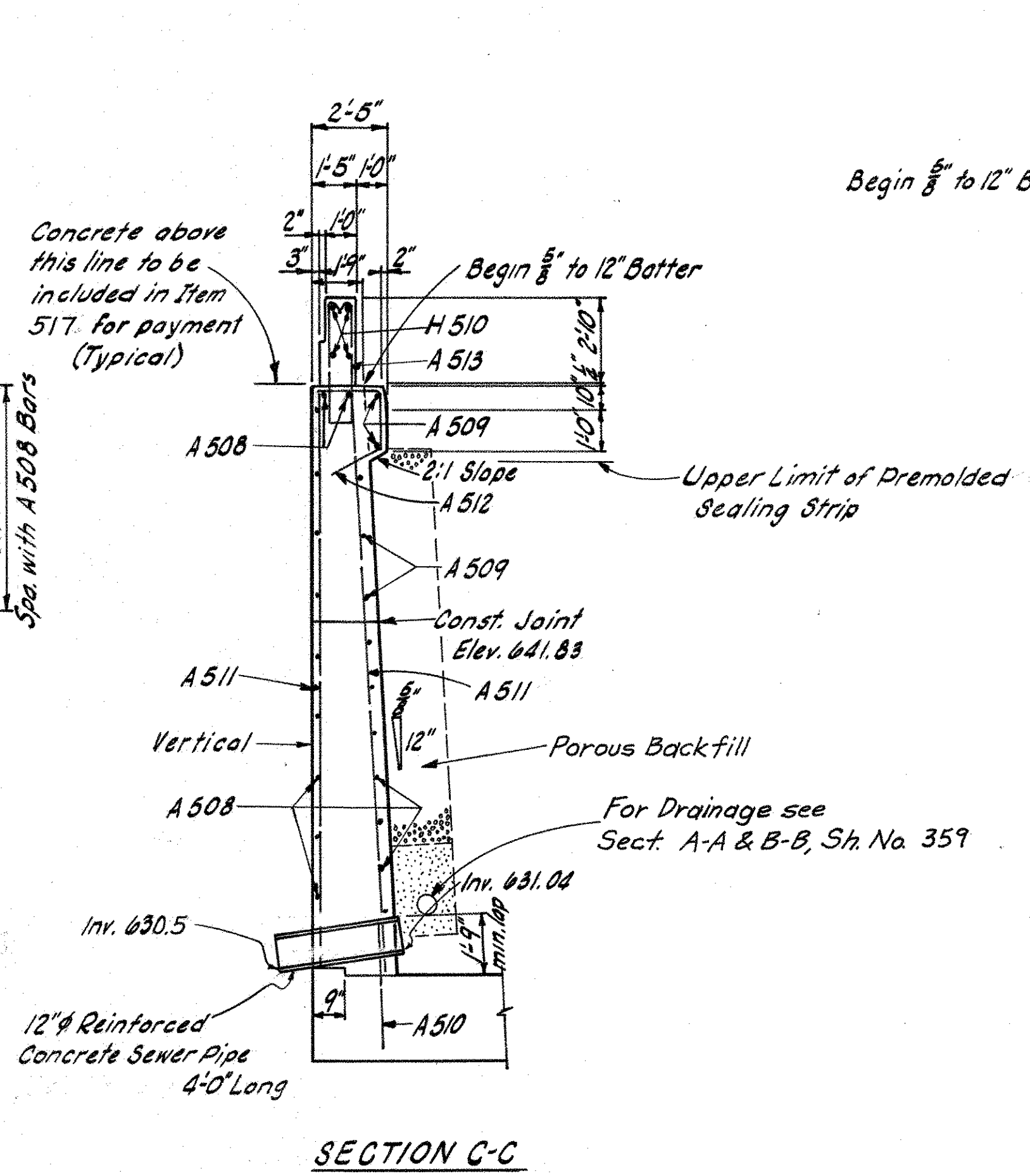
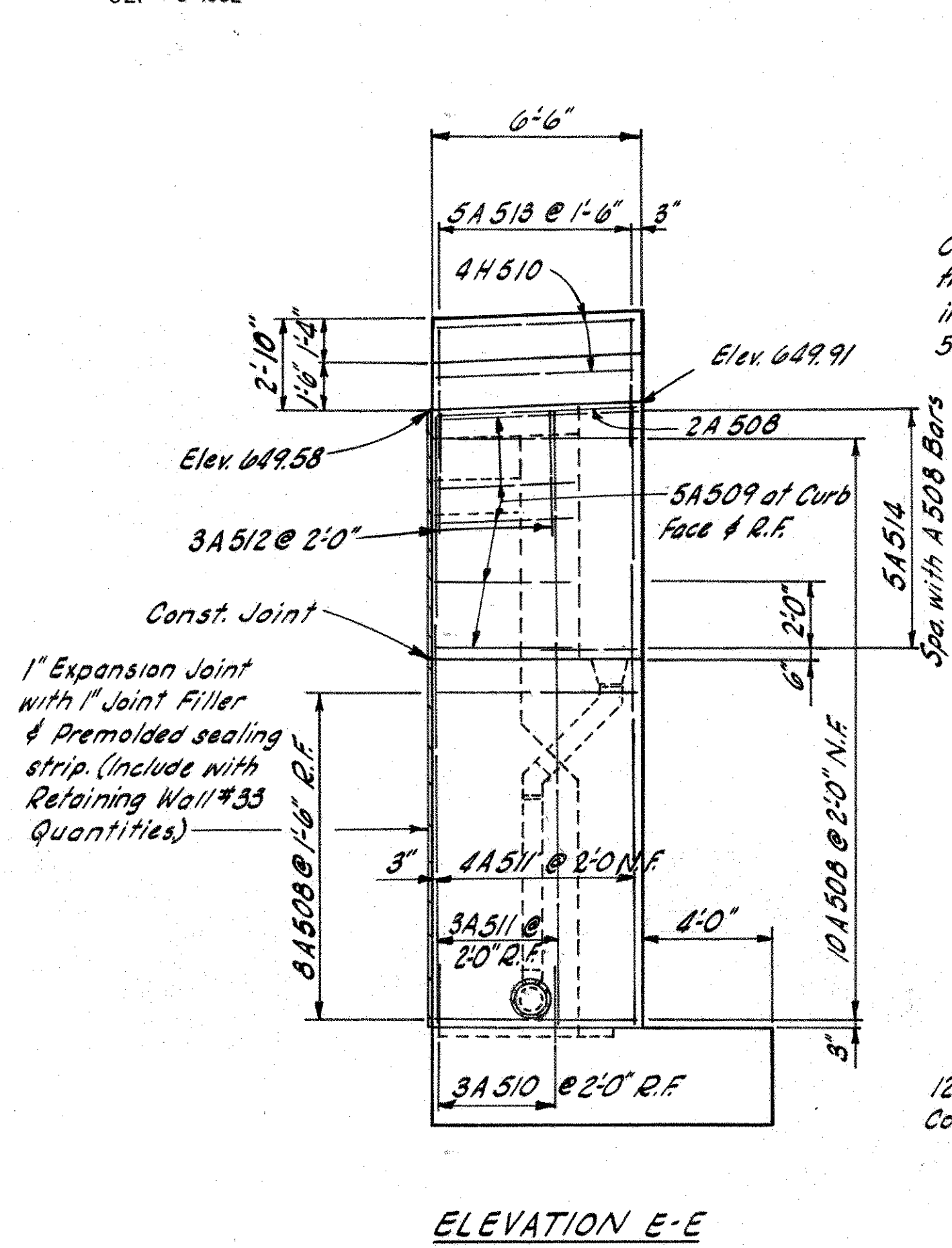
**STAKE OUT DIAGRAM**  
BRIDGE No. HAM-71-0226

H&E BRIDGE N° 17

|          |       |        |         |                |         |
|----------|-------|--------|---------|----------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE  | REVISED |
|          | RBS   | NJE    | ELW     | Jlt<br>8/11/85 |         |



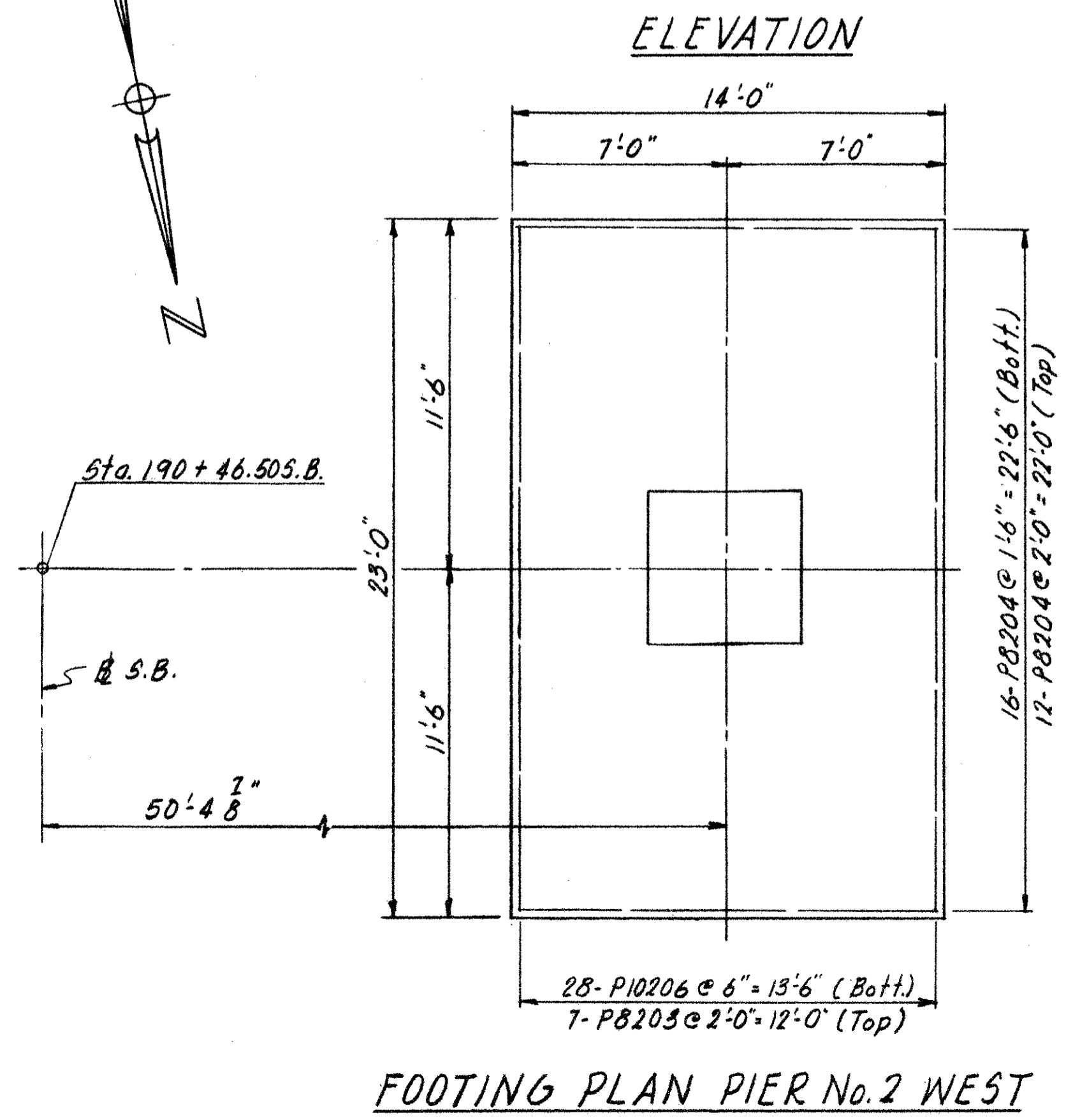
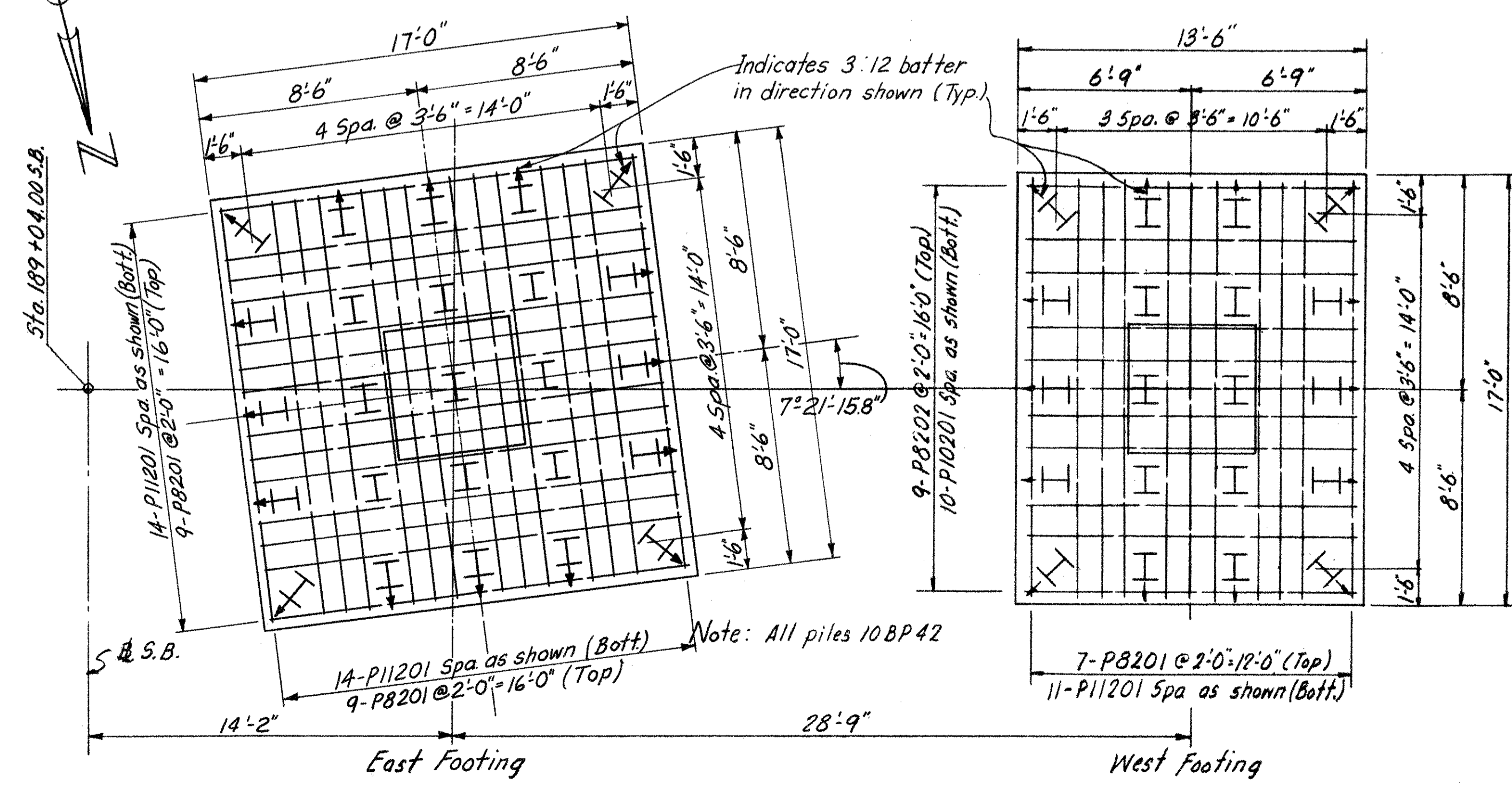
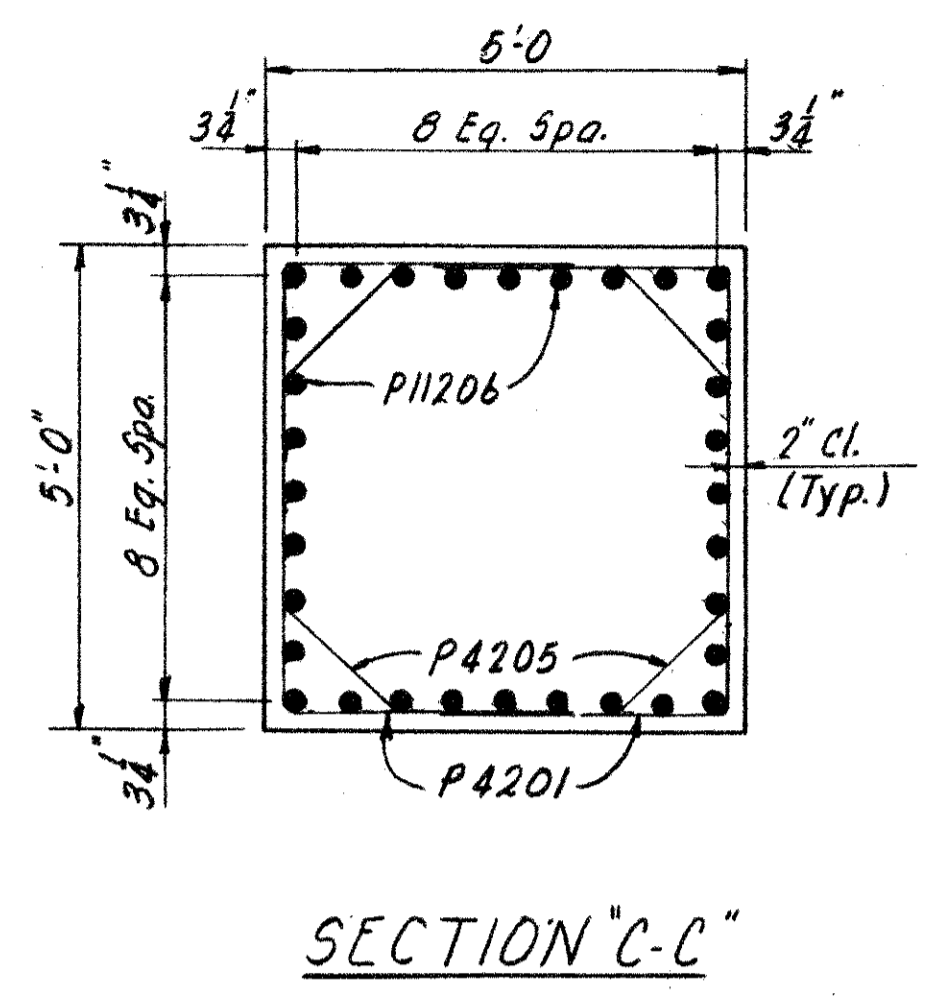
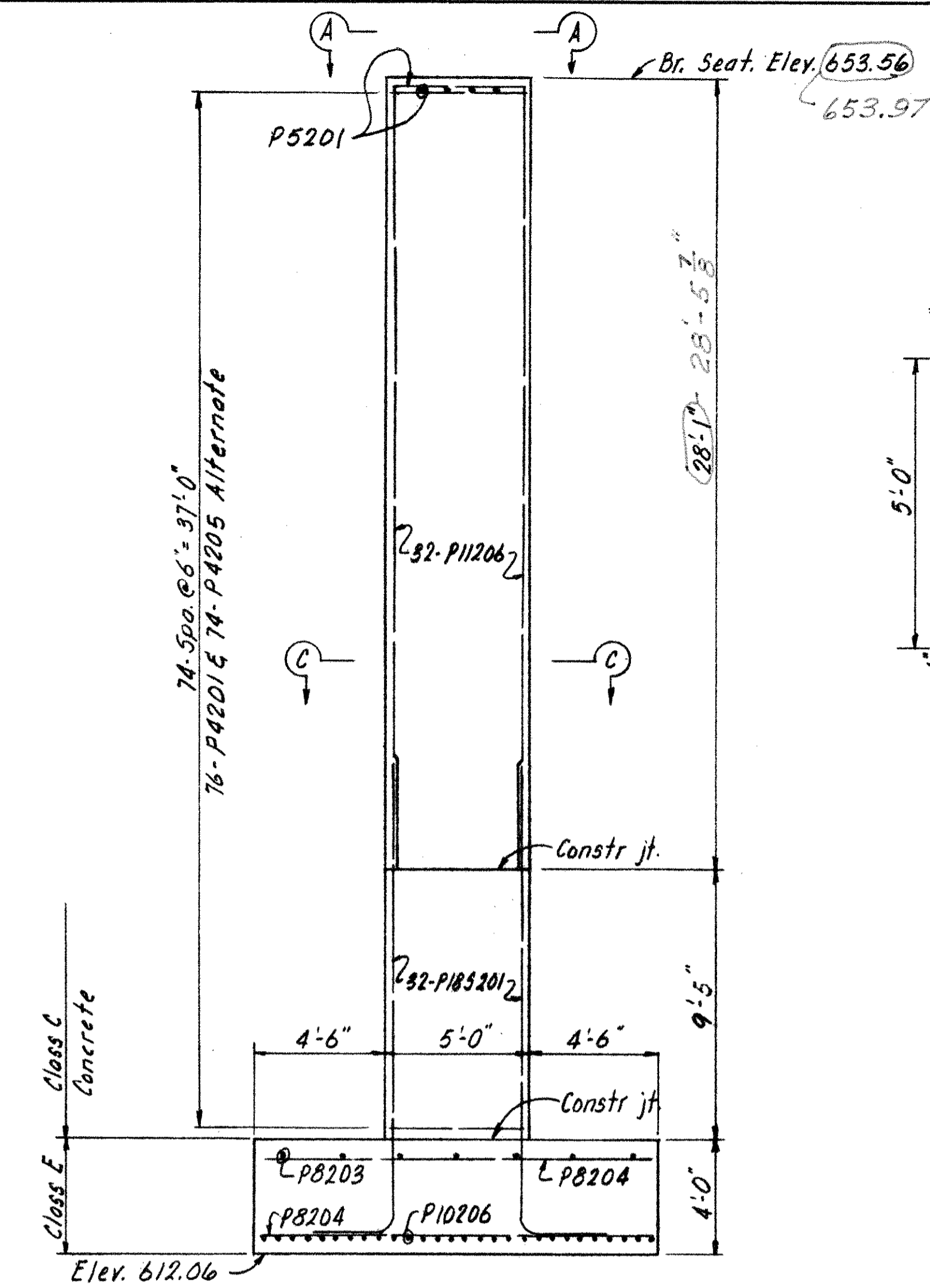
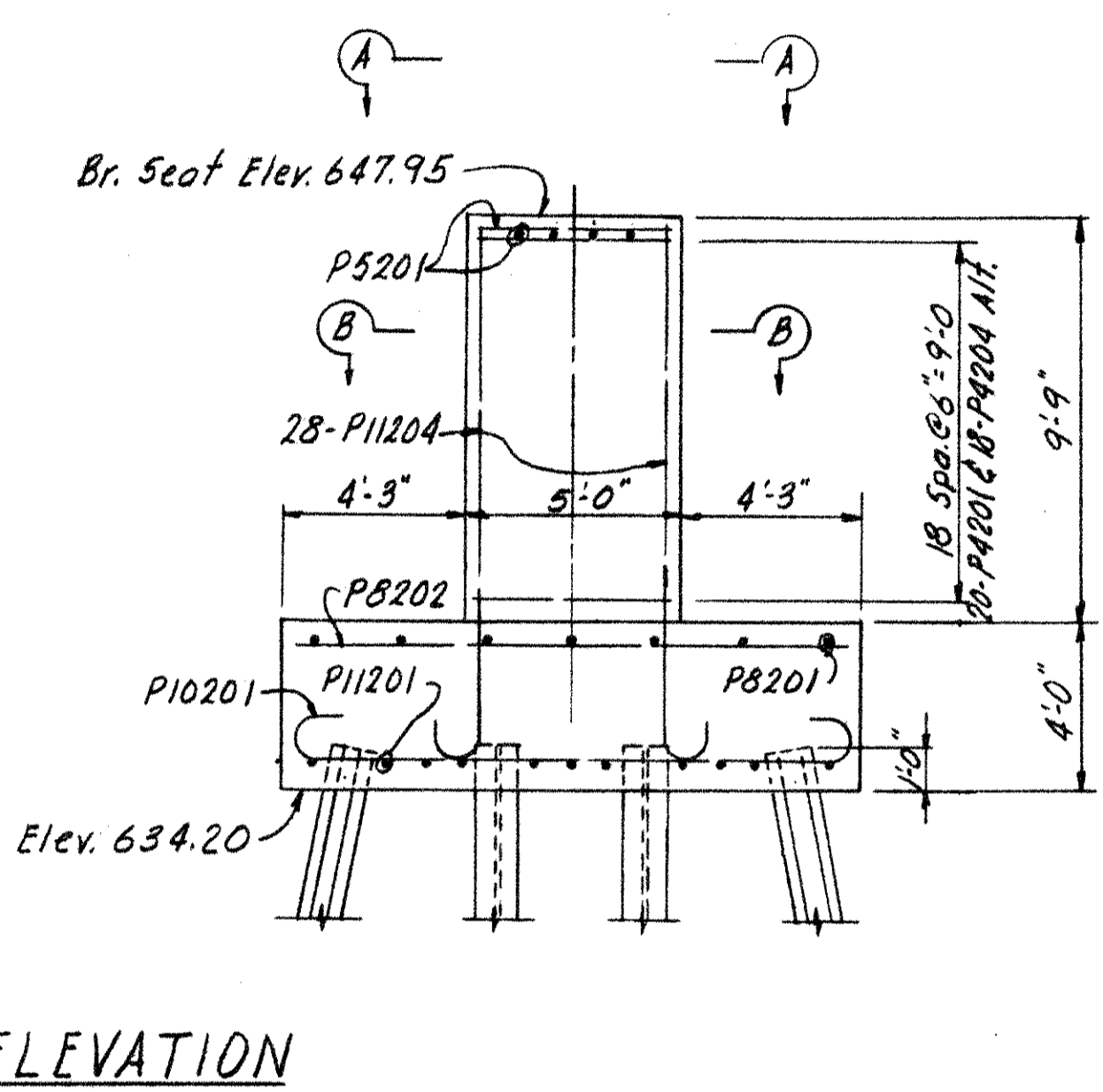
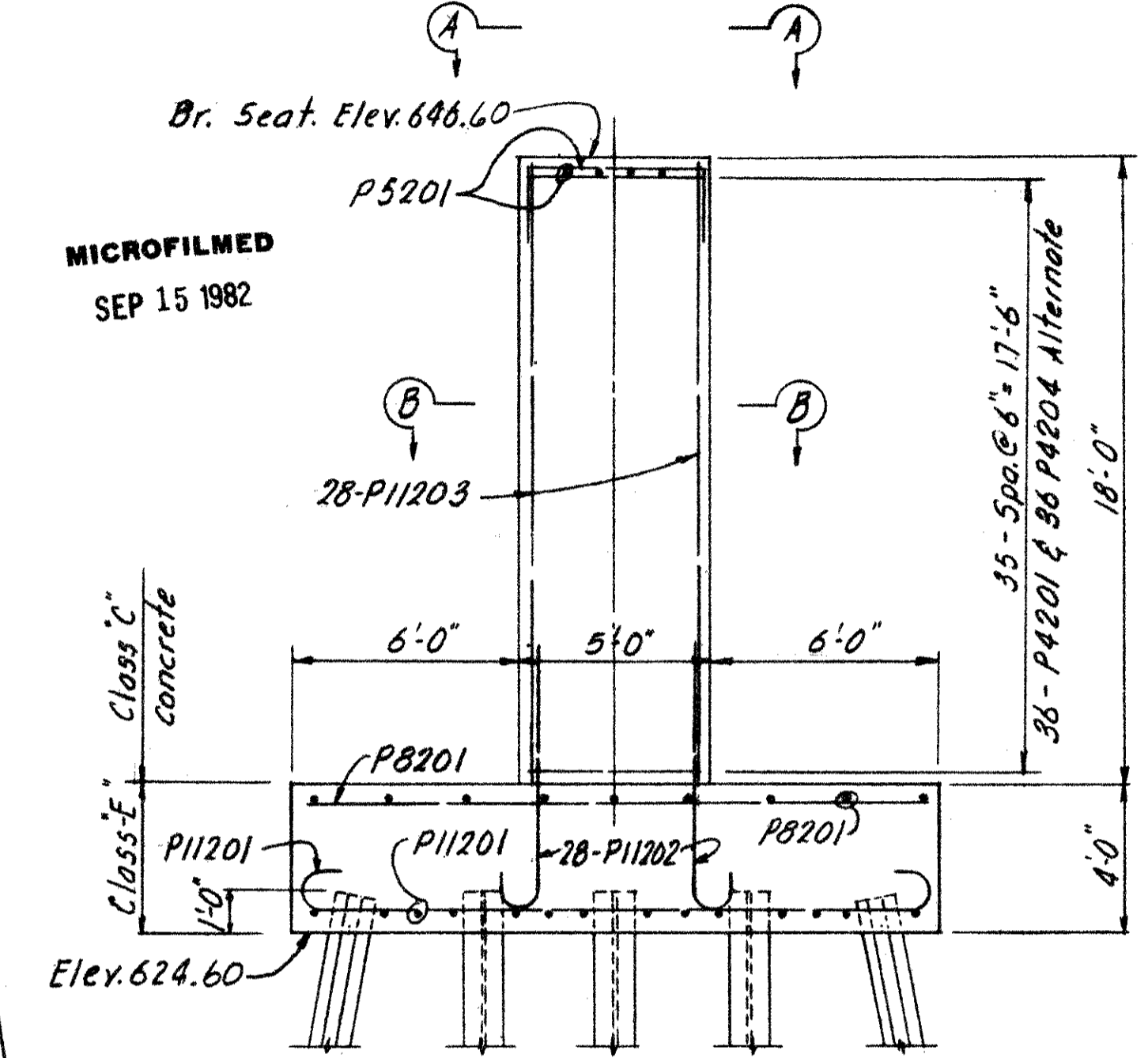
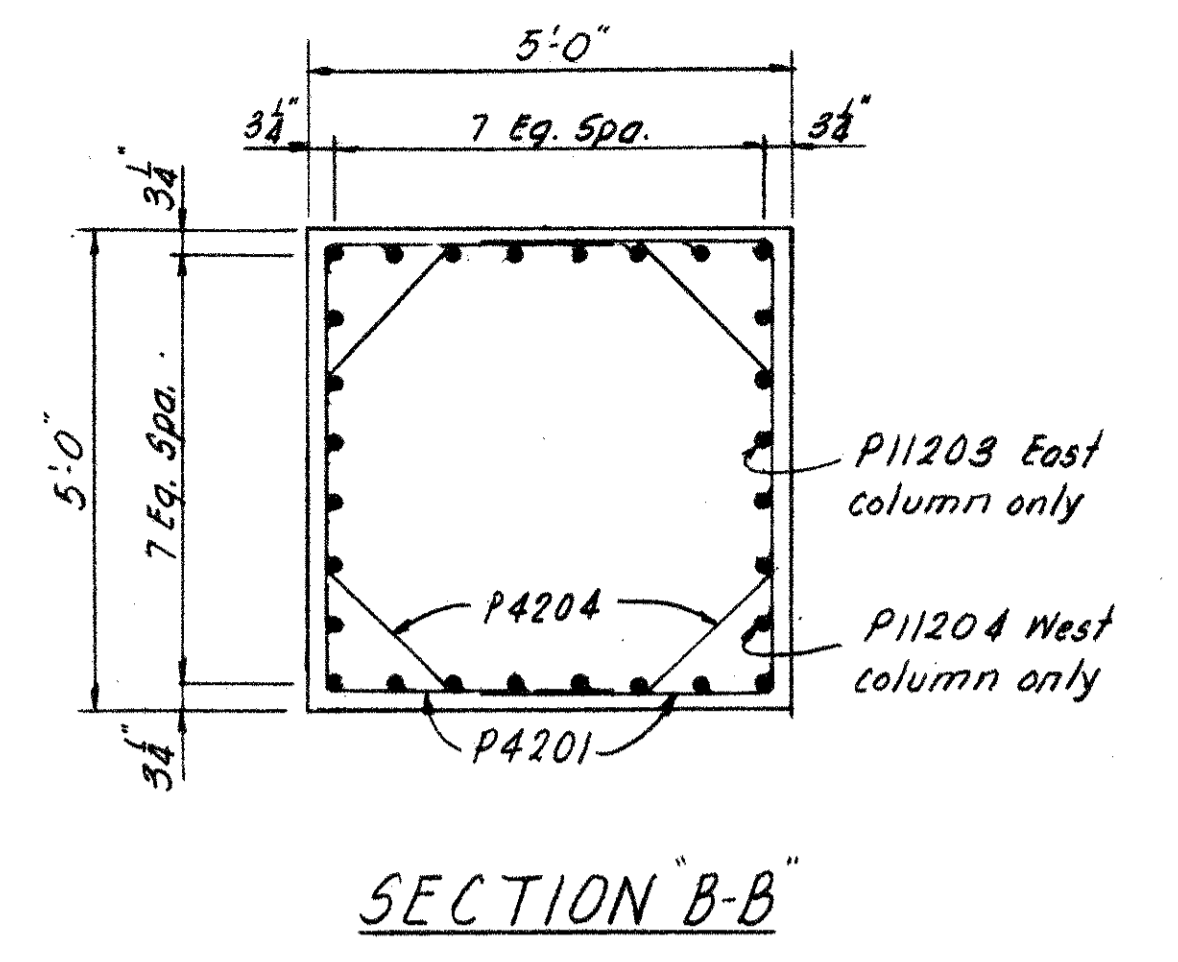
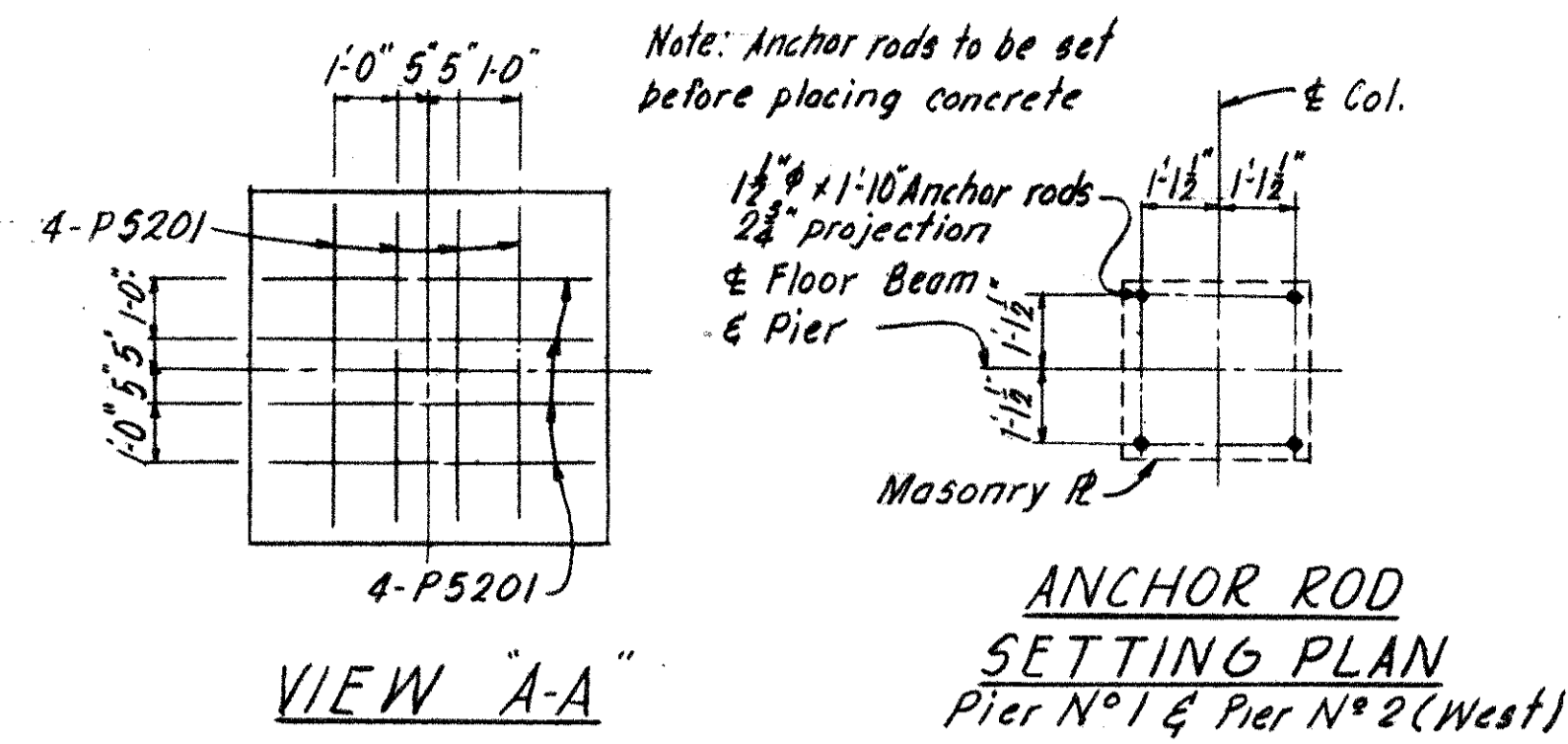




|   |              |                                 |                |                                |         |
|---|--------------|---------------------------------|----------------|--------------------------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |              |                                 |                |                                |         |
| SOUTH ABUTMENT<br>BRIDGE No. HAM-71-0226                    |              |                                 |                |                                |         |
| H&E BRIDGE No.17  |              |                                 |                |                                |         |
| DESIGNED<br>RBS   | DRAWN<br>RBS | TRACED<br>R.L. M.F.F.<br>R.M.B. | CHECKED<br>CRK | REVIEWED DATE<br>JH<br>8/14/65 | REVISED |



HAMILTON COUNTY  
HAM-71- 2.08



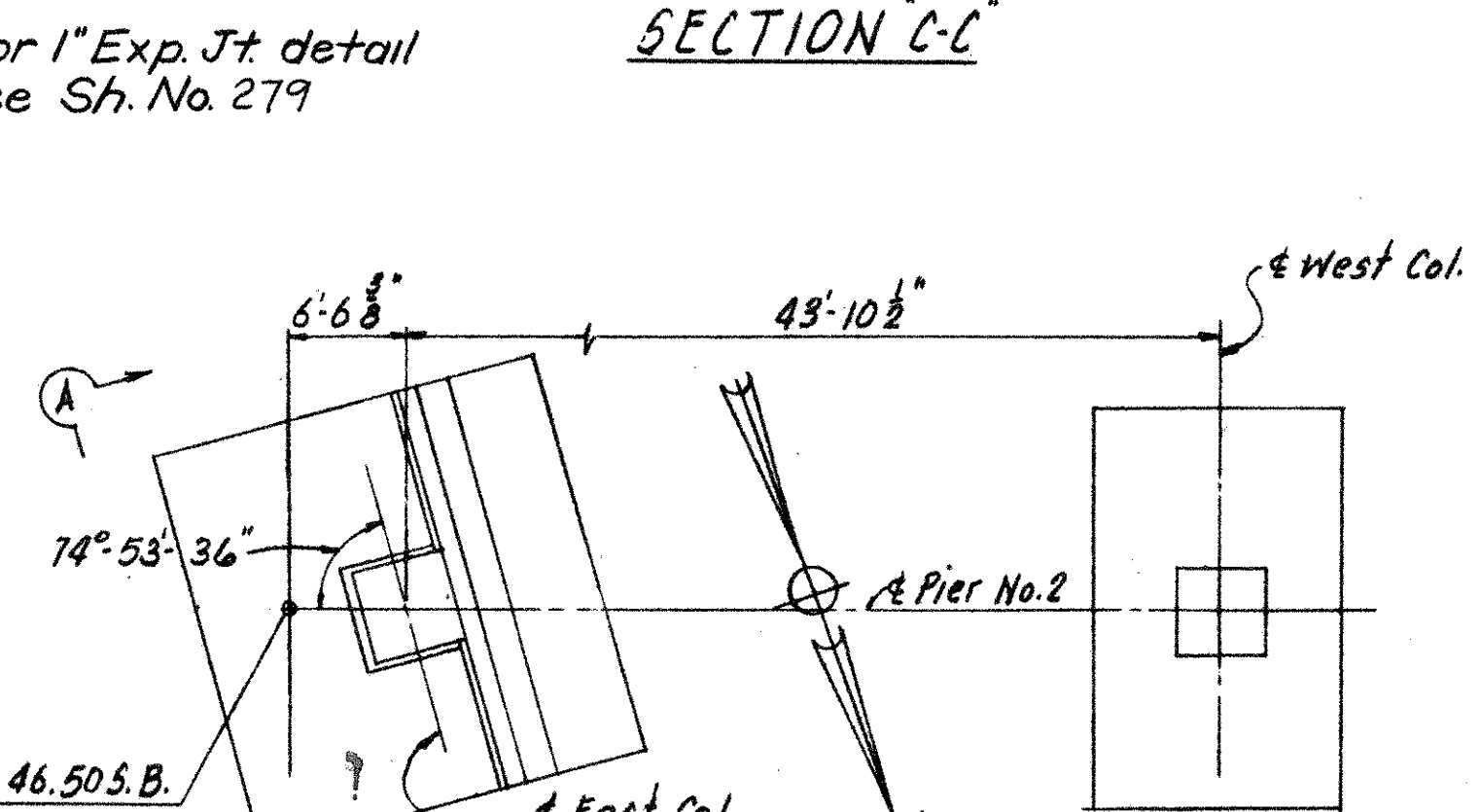
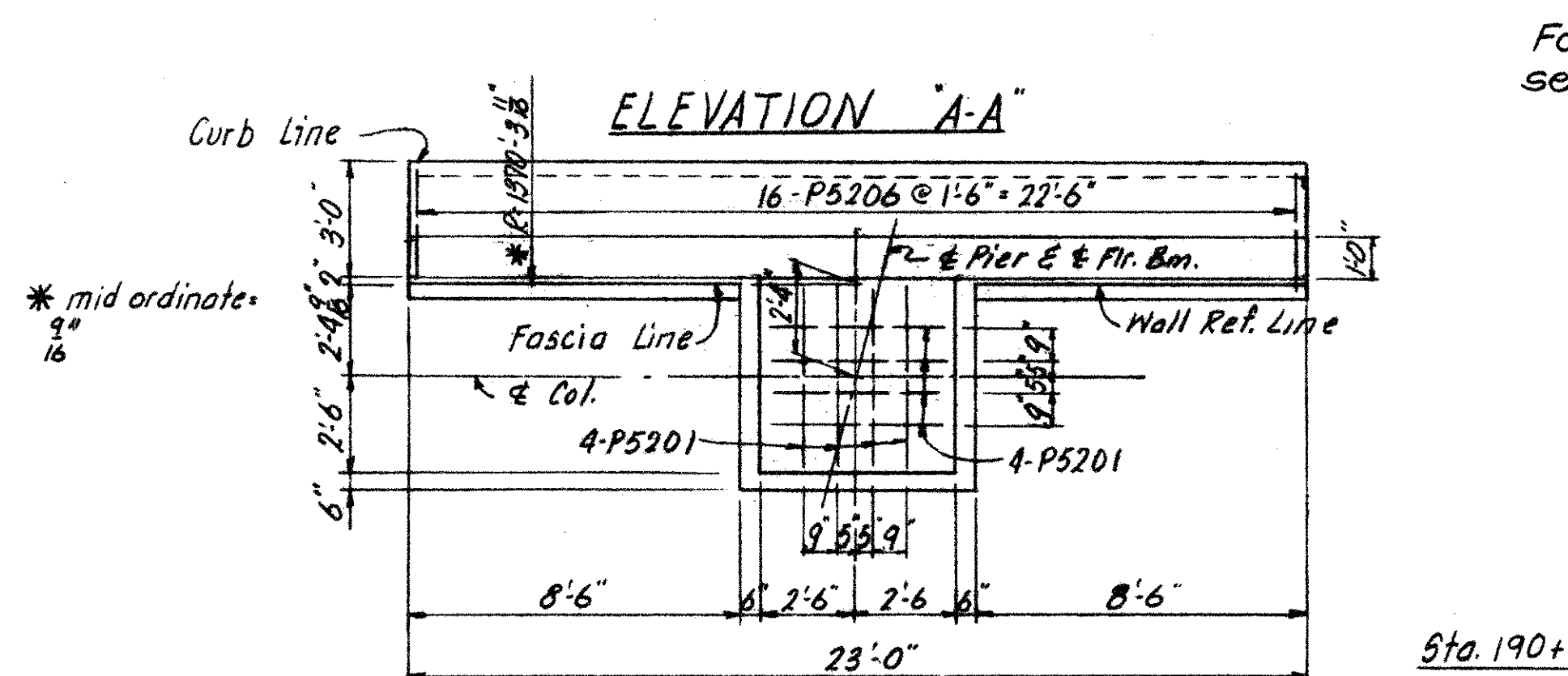
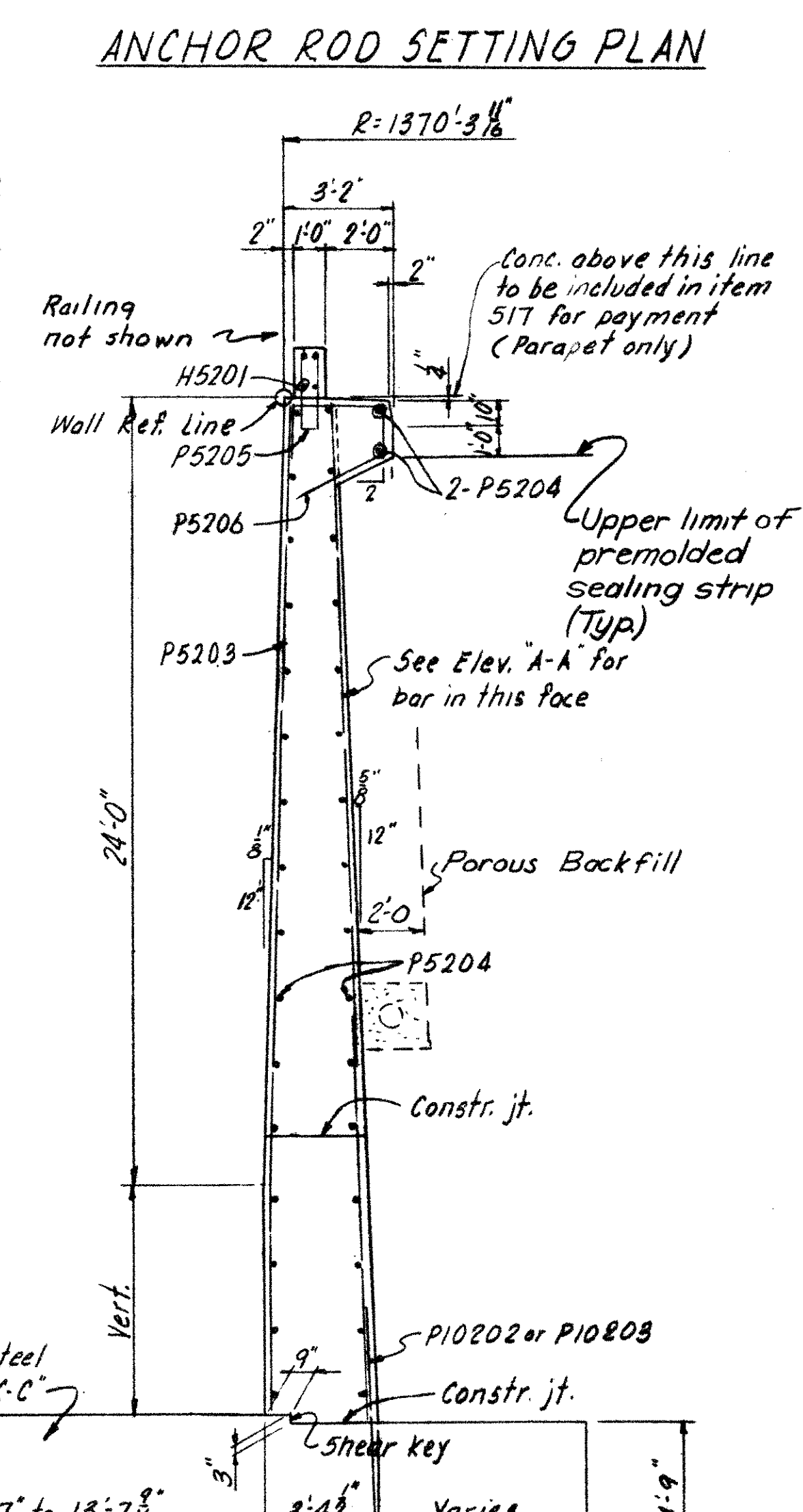
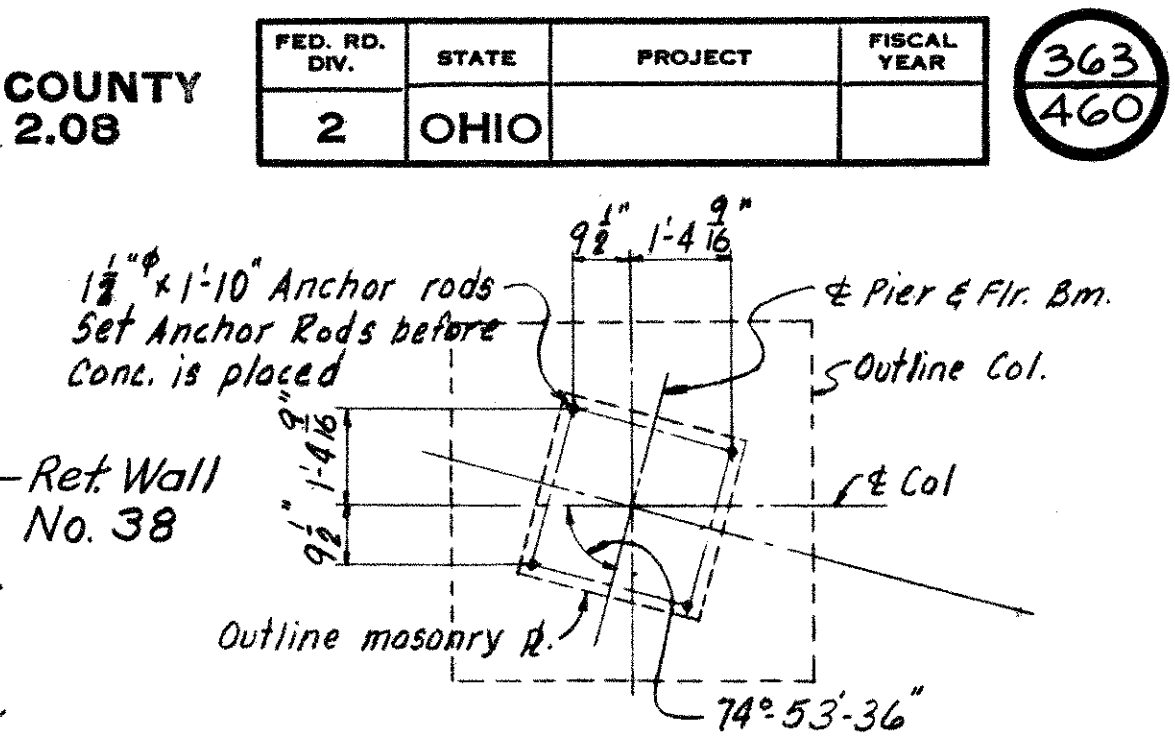
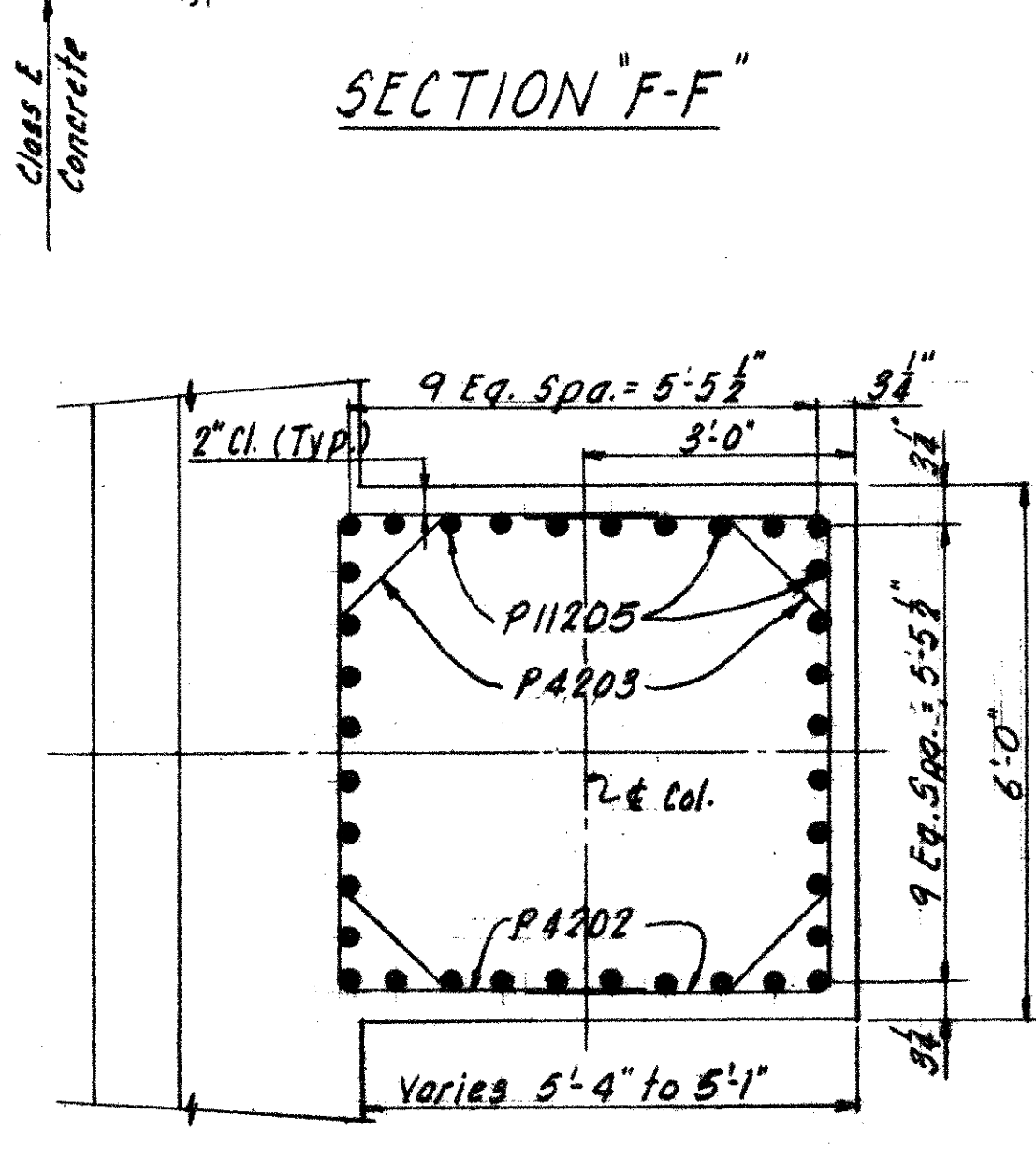
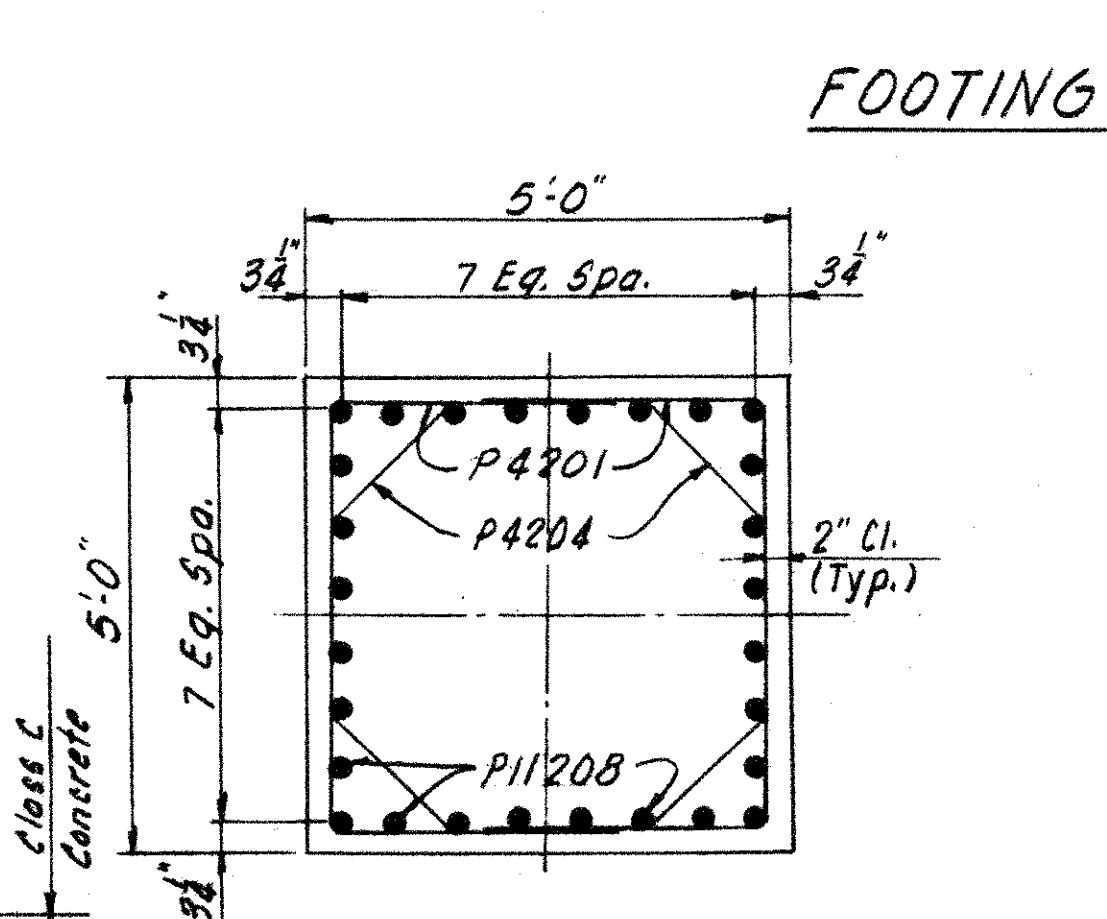
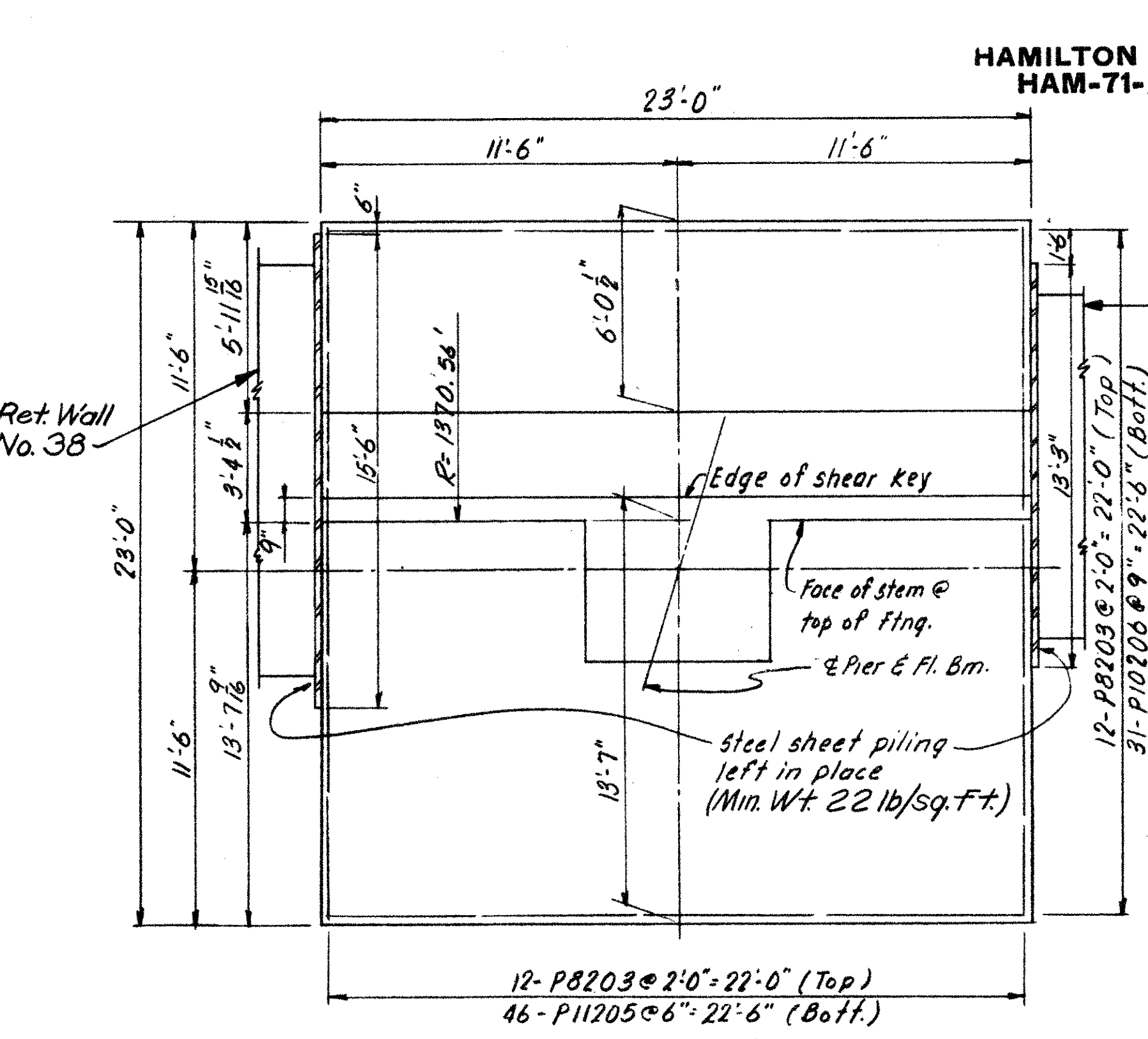
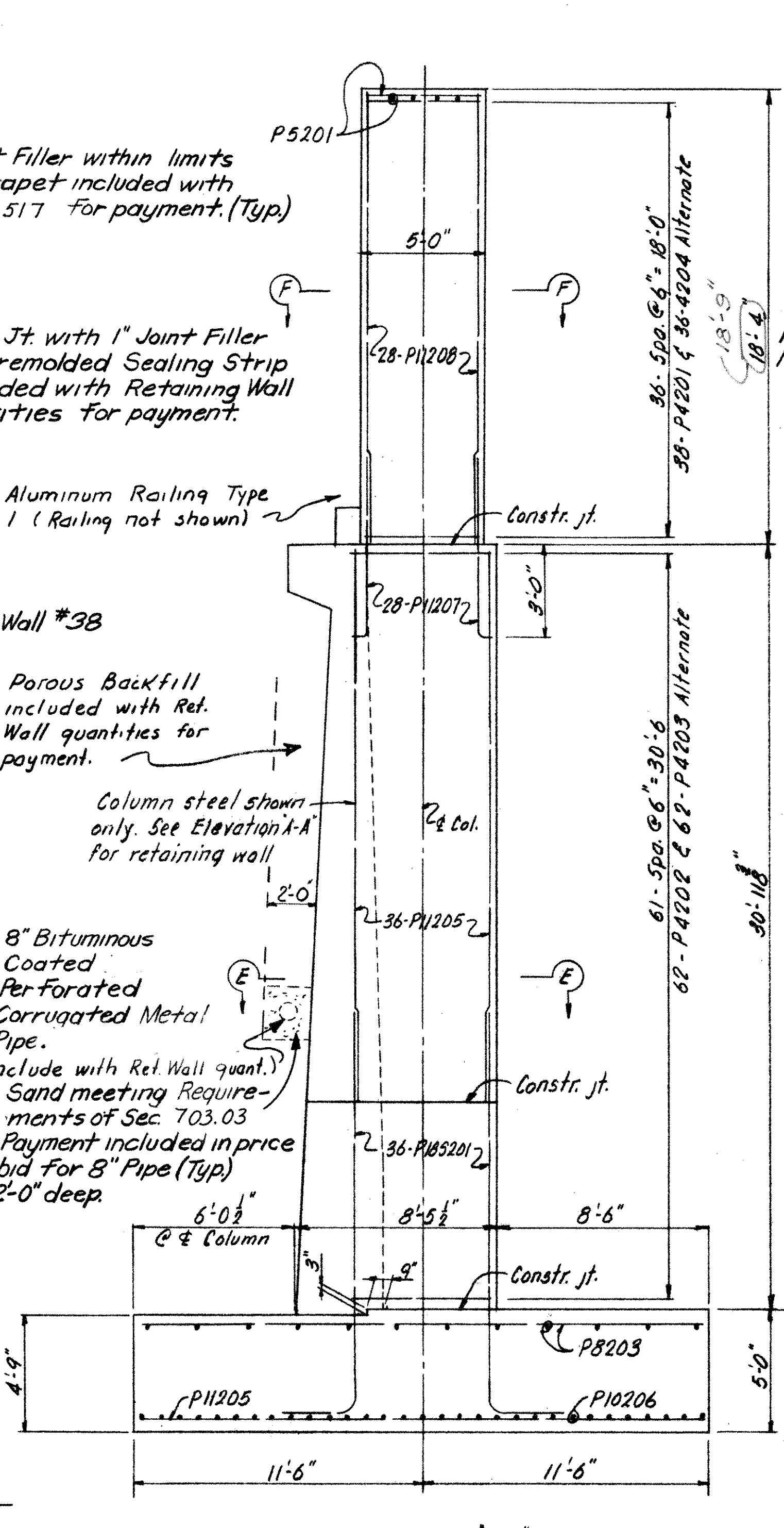
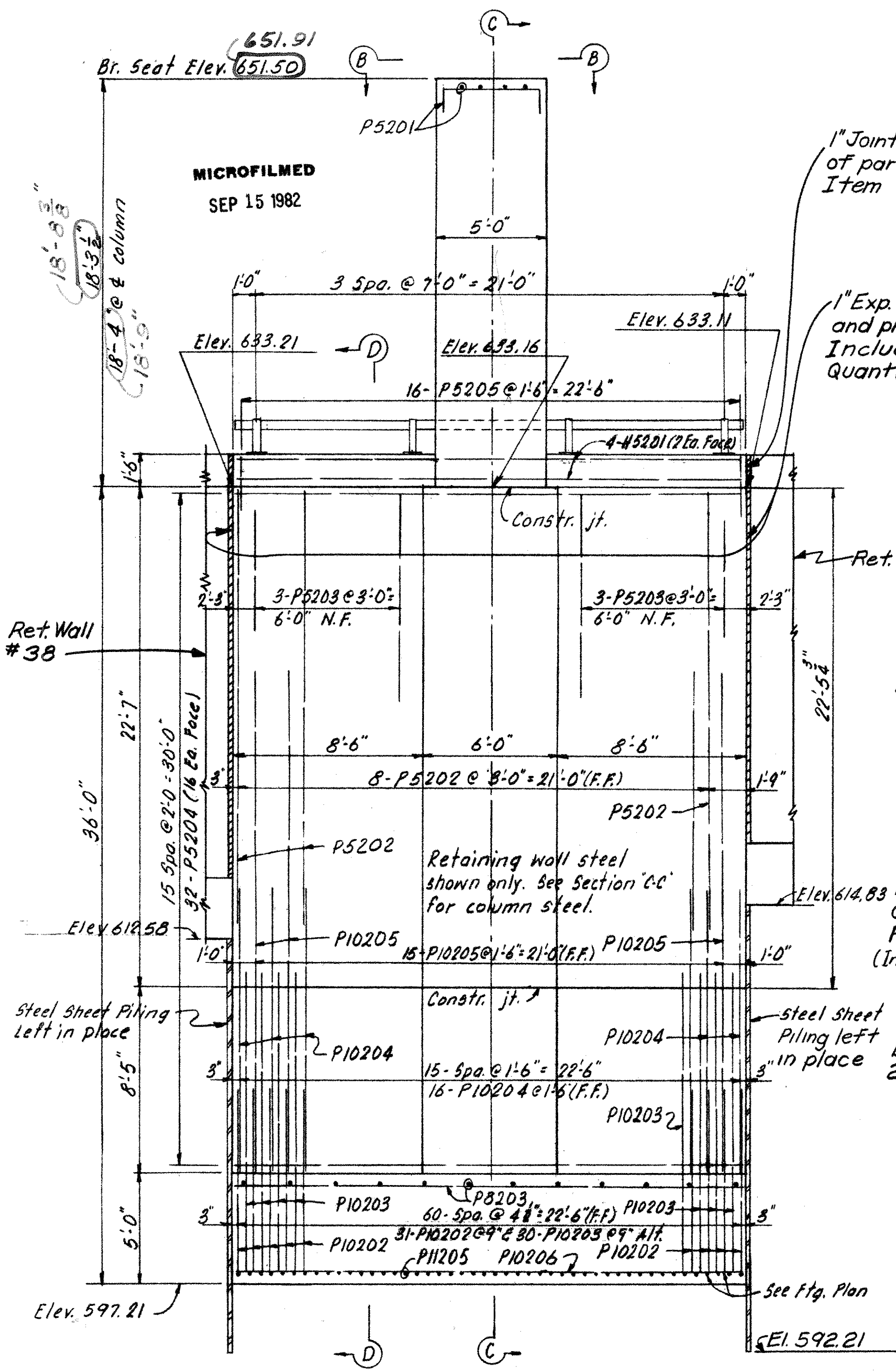
Note:  
All Piles 10BP42  
For connection of downspouts to piers  
See Bht. N° 380 & 381

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

PIER NO. 1 & PIER NO. 2 (WEST)  
BRIDGE No. HAM-71-0226

H&E BRIDGE No. 17

|          |          |        |         |                 |         |
|----------|----------|--------|---------|-----------------|---------|
| DESIGNED | DRAWN    | TRACED | CHECKED | REVIEWED DATE   | REVISED |
| C.R.K.   | R.L.M.F. |        | CRK     | J.Ho<br>8/14/65 | 3-15-66 |



Notes:  
For details of west column see Sht. No. 362  
N.F. indicates near face  
P.F. " " for " " each " each "  
For connection of downspouts to piers see Sht. No. 380 & 381

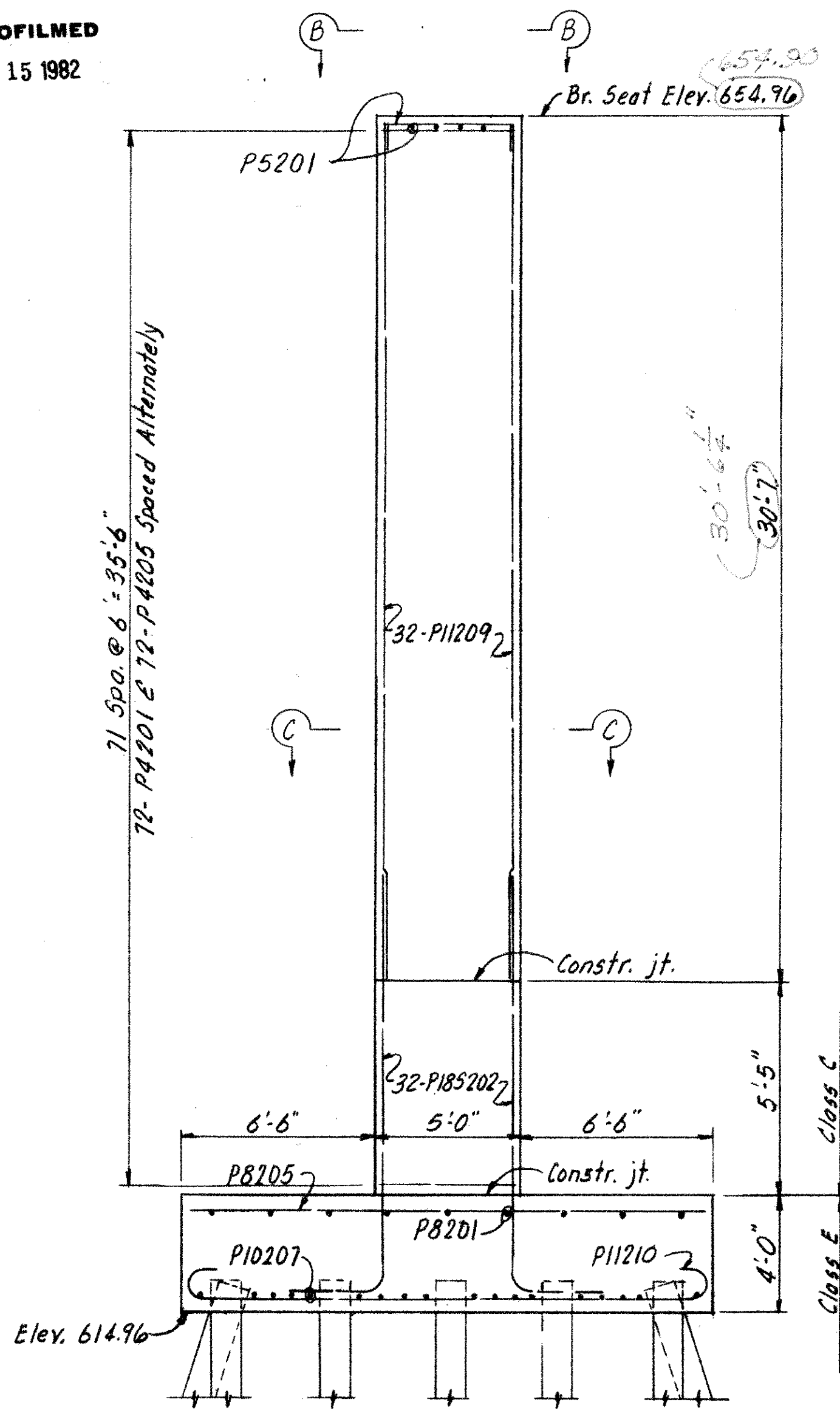
HAZLET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**PIER NO. 2 (EAST)**  
BRIDGE No. HAM-71-0226

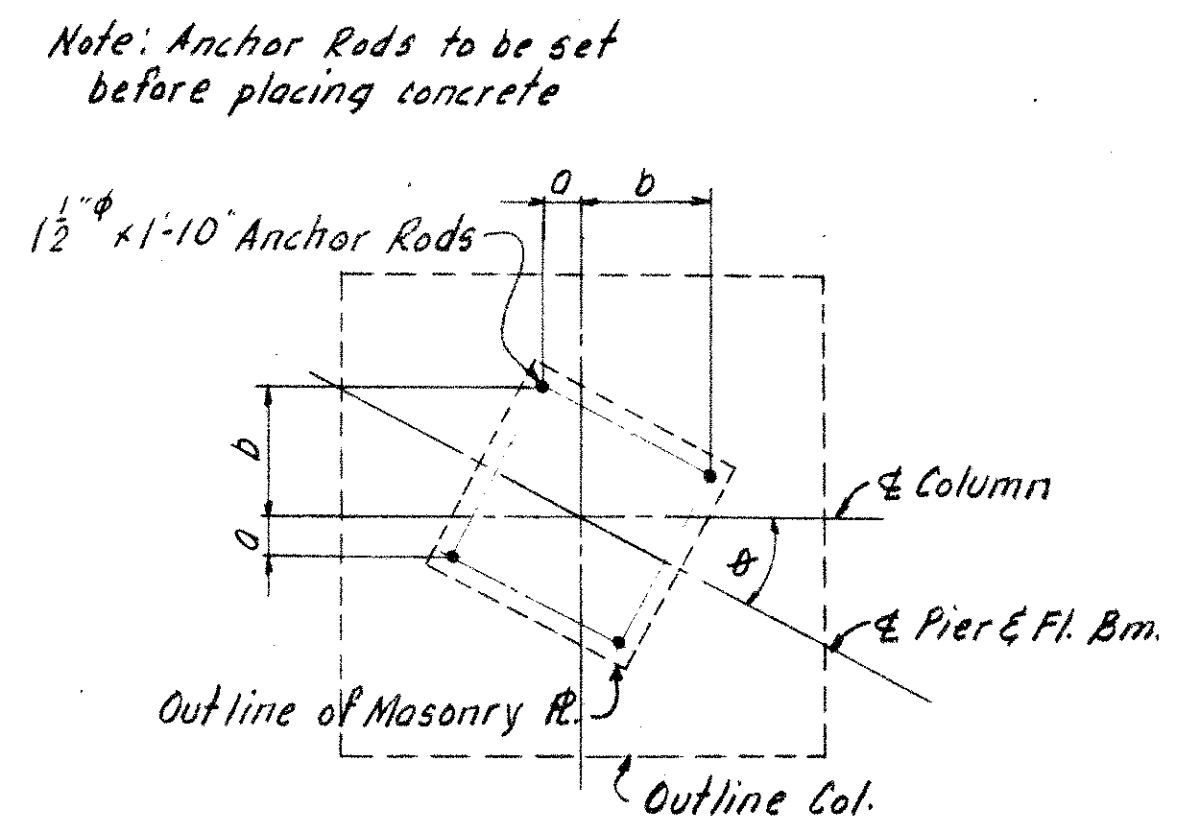
H & E BRIDGE No. 17

| DESIGNED | DRAWN  | TRACED | CHECKED | REVISION DATE  | REVISION |
|----------|--------|--------|---------|----------------|----------|
| CRK      | RLM:EF |        | CRK     | J40<br>8/14/65 | 3-75-66  |

HAMILTON COUNTY  
HAM-71-2.08

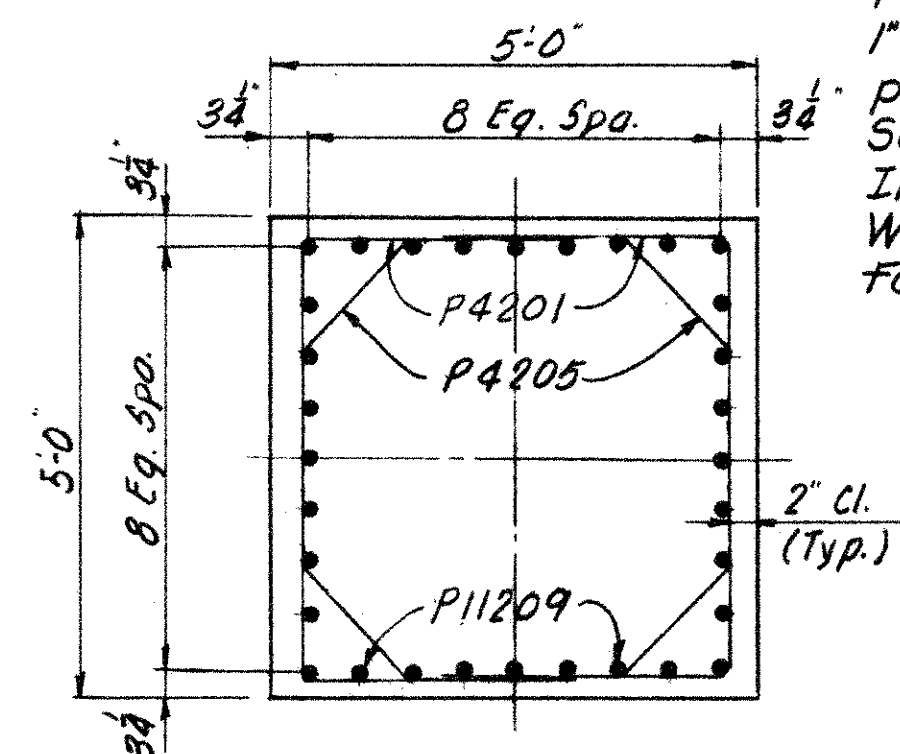


ELEVATION A-A

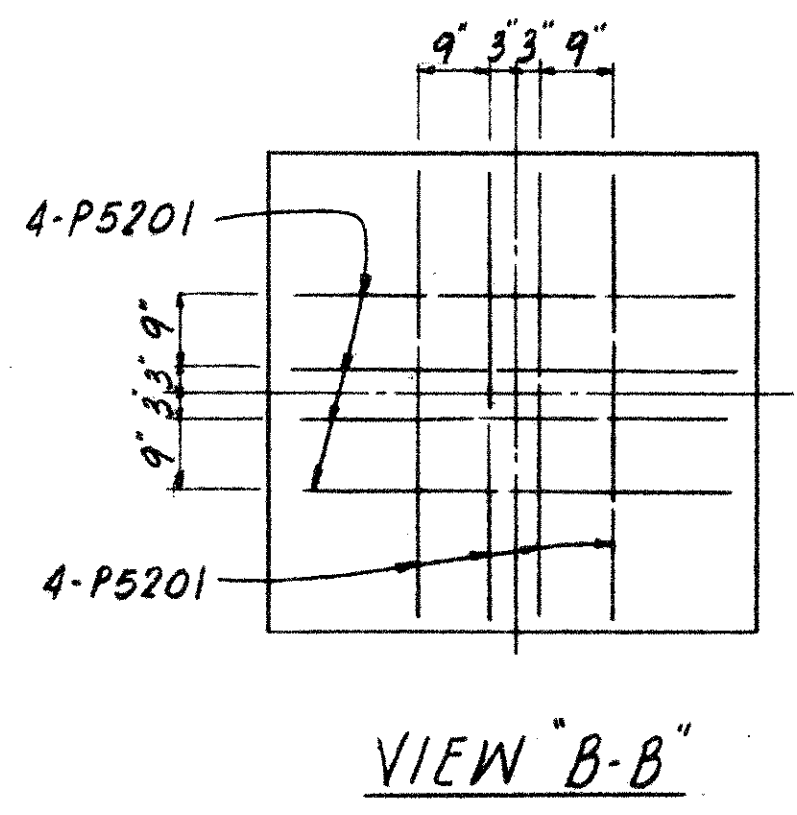


| Column | a       | b        | Angle $\phi$ |
|--------|---------|----------|--------------|
| East   | 4 1/16" | 1-4 1/4" | 28° 05' 33"  |
| West   | 5 1/16" | 1-6 1/4" | 27° 40' 02"  |

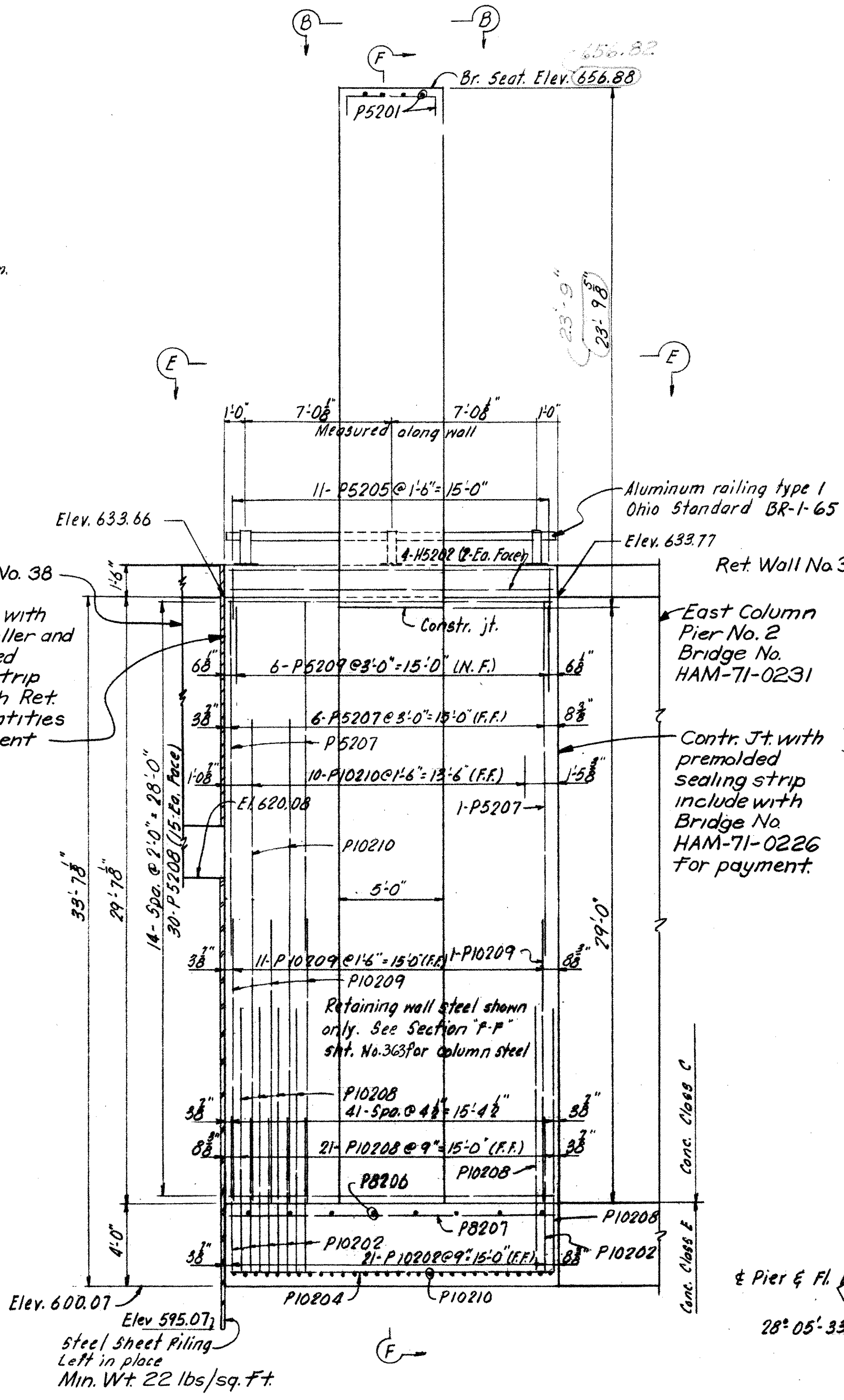
ANCHOR ROD SETTING PLAN



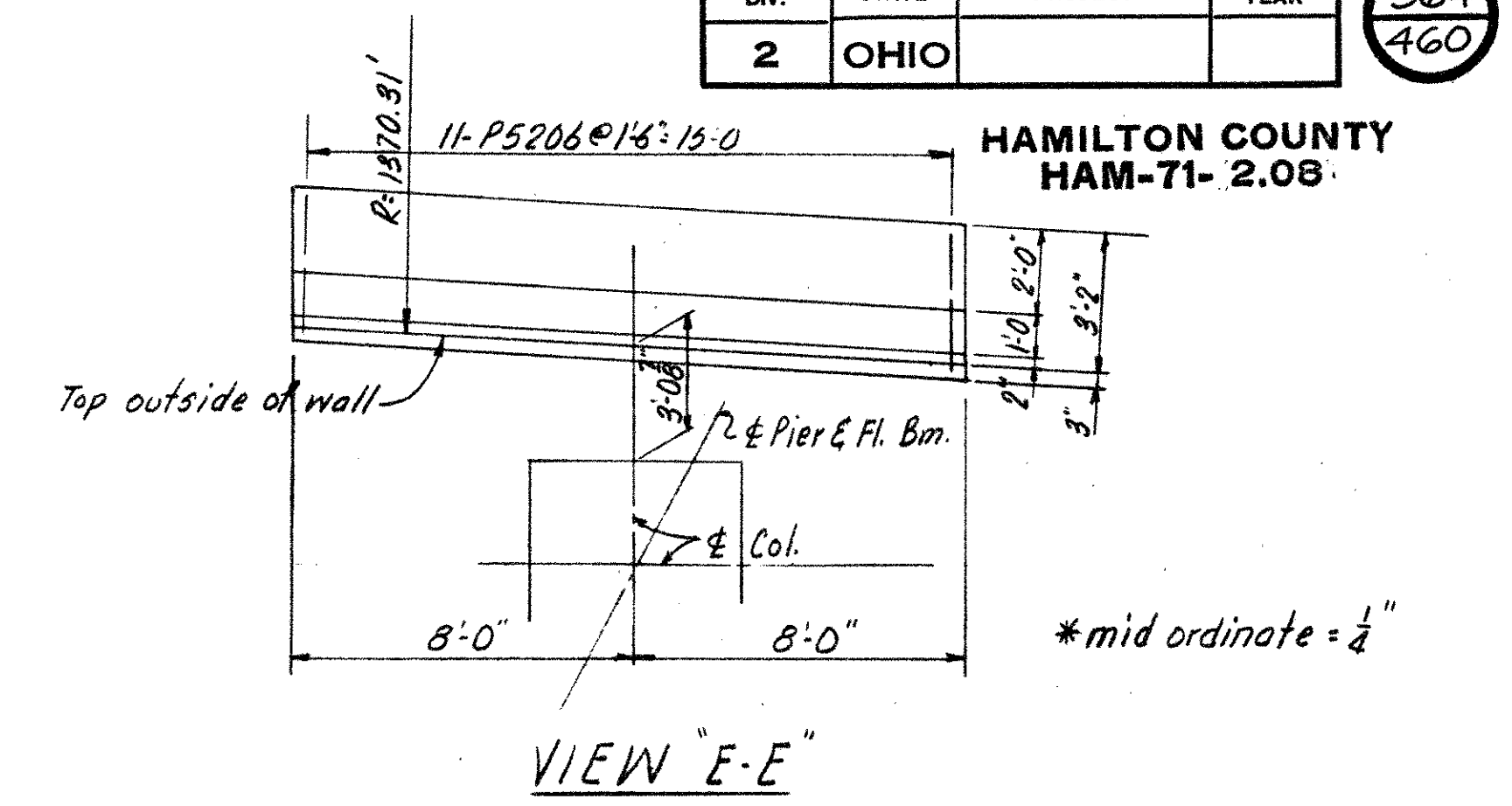
SECTION C-C



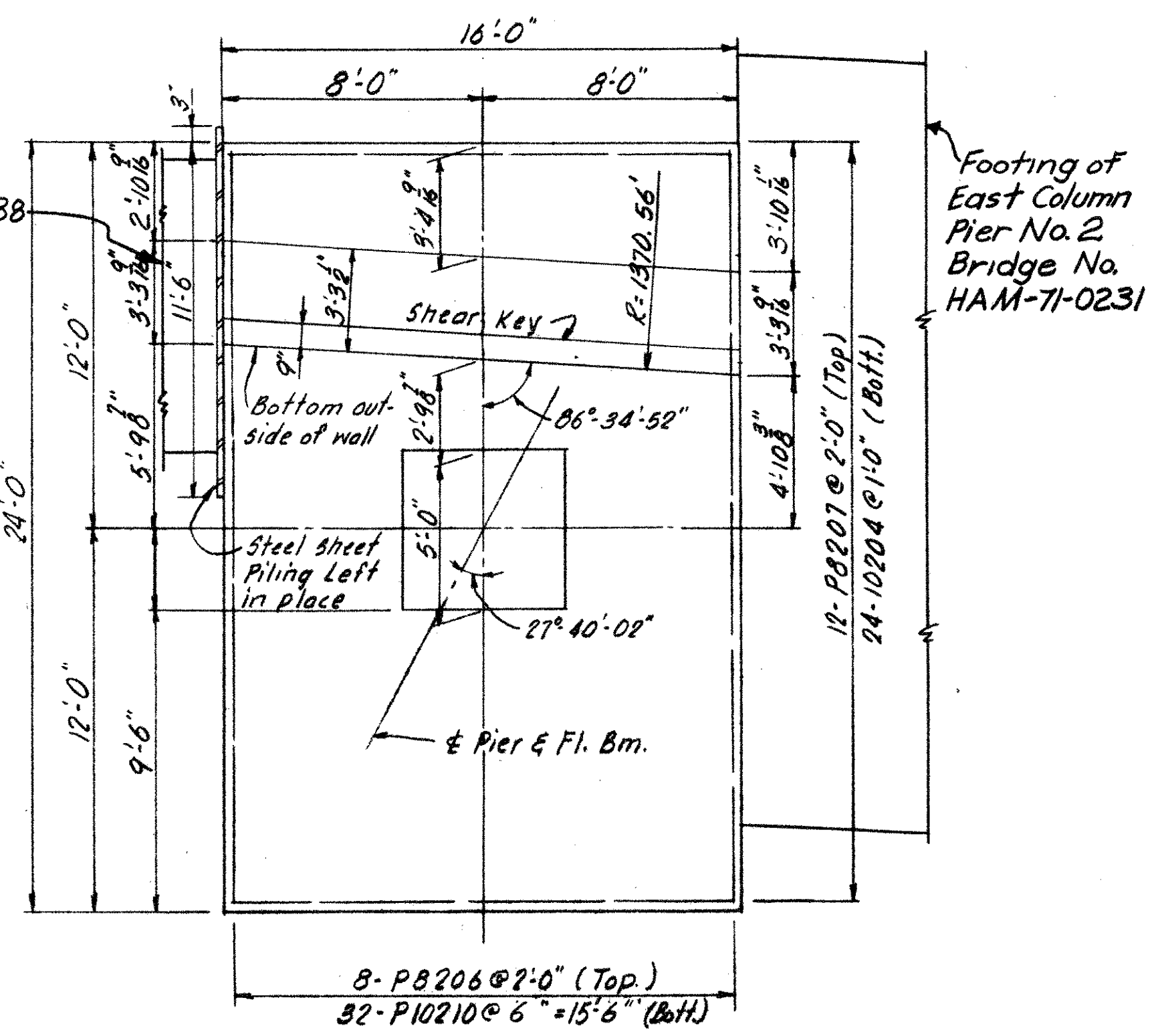
VIEW B-B



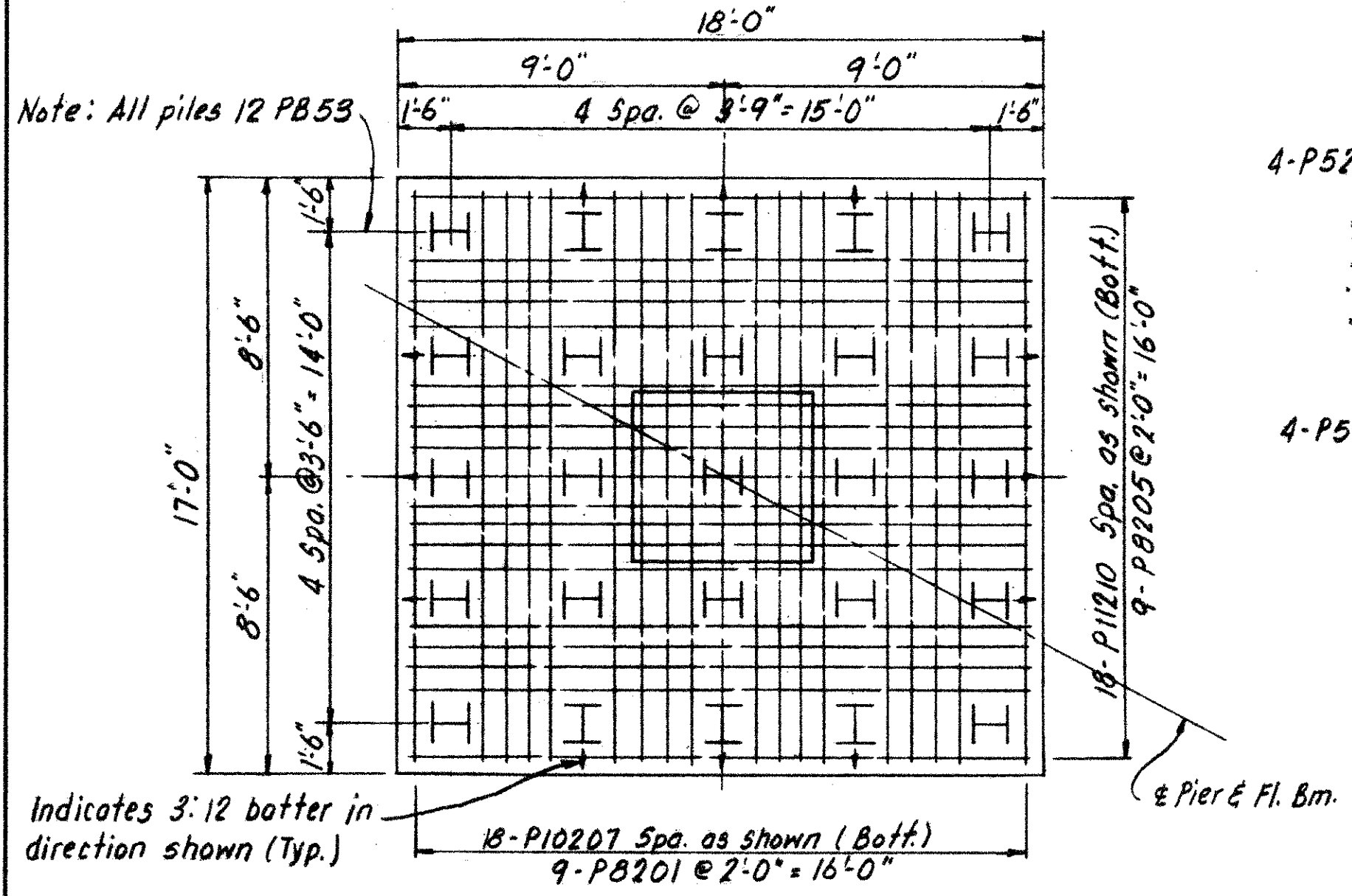
ELEVATION D-D  
(West Col.)



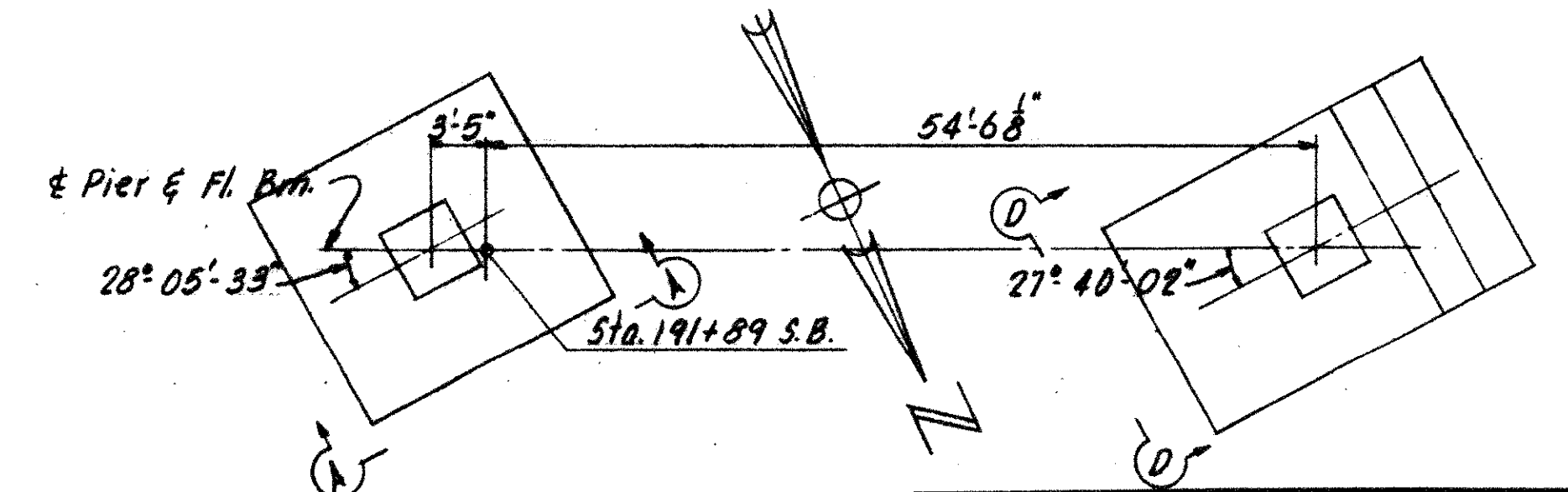
VIEW E-E



FOOTING PLAN  
(West Col.)



FOOTING PLAN  
(East Col.)



PLAN

For Contraction Jt detail see Sh. No. 279  
For 1" Exp. Jt detail see Sh. No. 279

Note:  
All Piles 12 PB53  
For connection of down spouts to piers see Sht. No. 380 & 381  
For Sections F-F & G-G of west column see sht. No. 365  
N.F. indicates near face  
F.F. " for "  
E.F. " Each "

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

PIER NO. 3  
BRIDGE No. HAM-71-0226

H&E BRIDGE No. 17

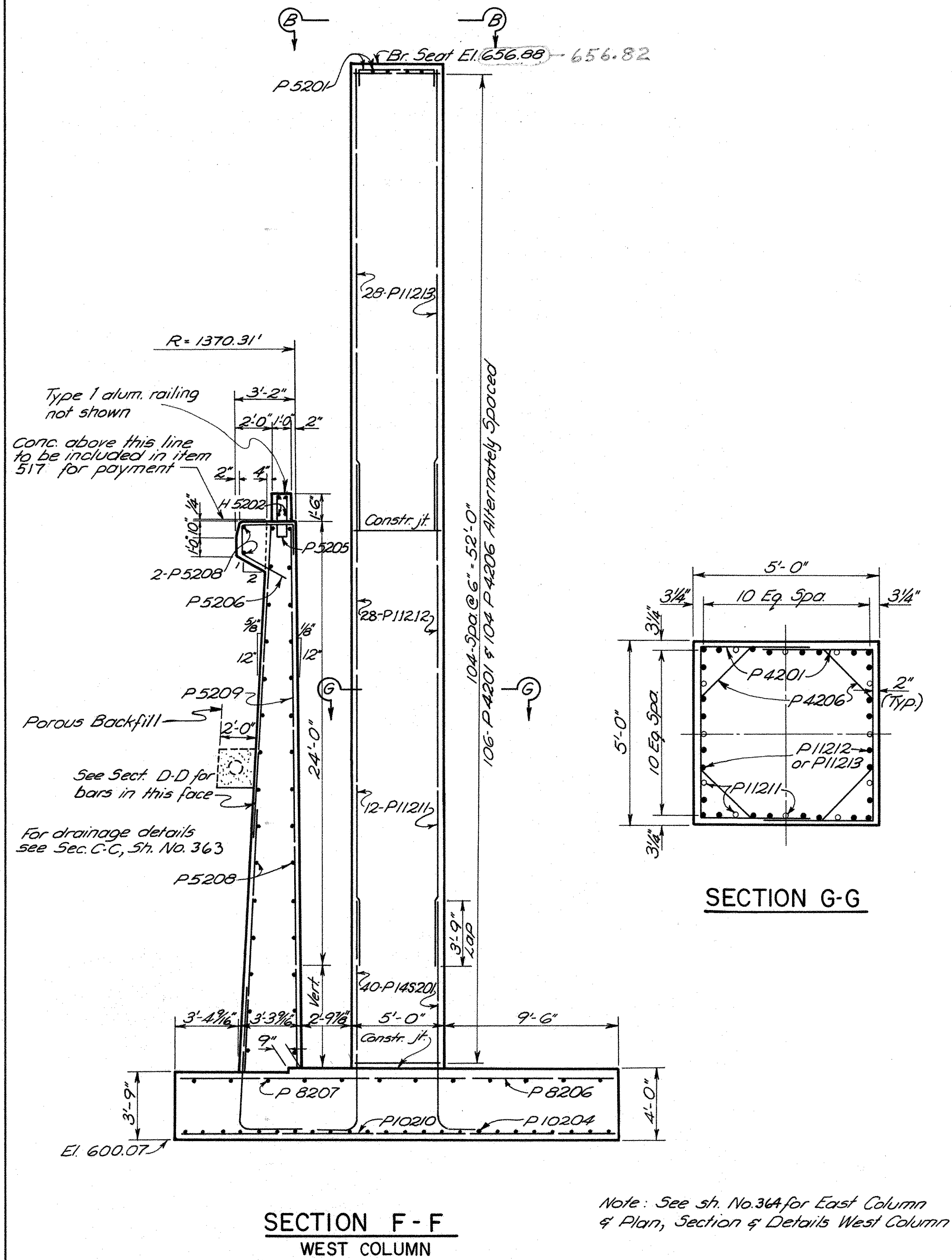
|          |          |        |         |                 |         |
|----------|----------|--------|---------|-----------------|---------|
| DESIGNED | DRAWN    | TRACED | CHECKED | REVIEWED DATE   | REVISED |
| CRK      | R.L.M.F. |        | CRK     | 1/10<br>8/11/65 |         |

MICROFILMED  
SEP 15 1982

| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
|---------------|-------|---------|-------------|
| 2             | OHIO  |         |             |

365  
460

HAMILTON COUNTY  
HAM-71-2.08



Note: See sh. No. 364 for East Column  
& Plan, Section & Details West Column

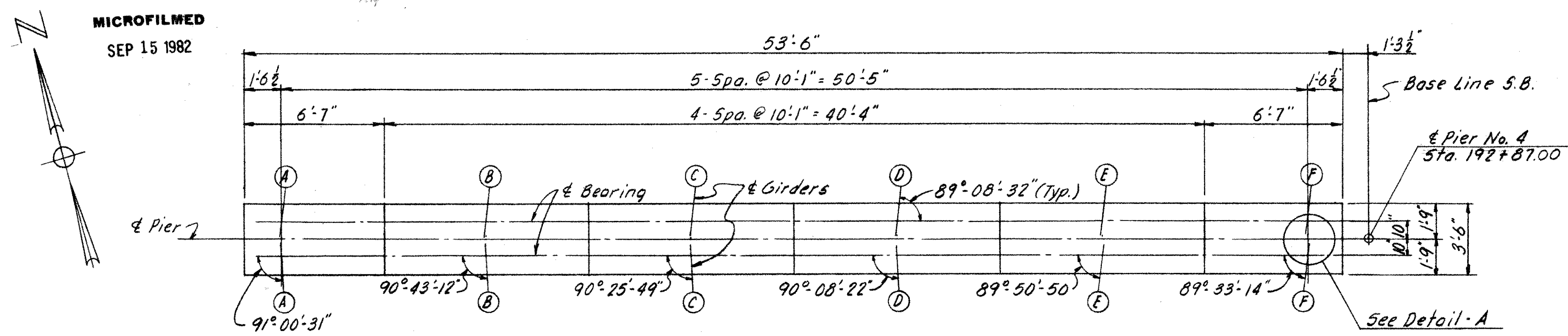
|   |       |        |         |                |         |
|---|-------|--------|---------|----------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |       |        |         |                |         |
| PIER NO. 3  |       |        |         |                |         |
| BRIDGE NO. HAM-71-0226                                      |       |        |         |                |         |
| H & E BRIDGE NO. 17   |       |        |         |                |         |
| DESIGNED  | DRAWN | TRACED | CHECKED | REVIEWED DATE  | REVISED |
| C.R.K.  | R.MCF | B.Sch. | C.R.K.  | Jtk<br>8/14/65 | 3-75-65 |

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SEP 15 1982

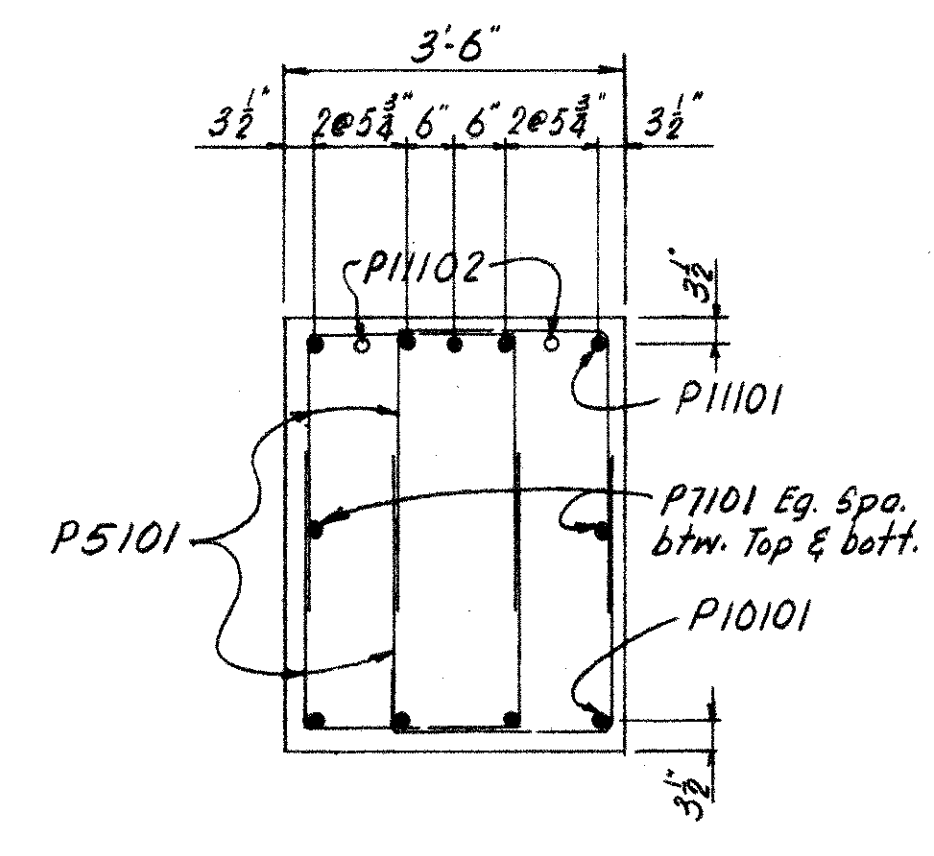
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
|---------------|-------|---------|-------------|
| 2             | OHIO  |         |             |

366  
460

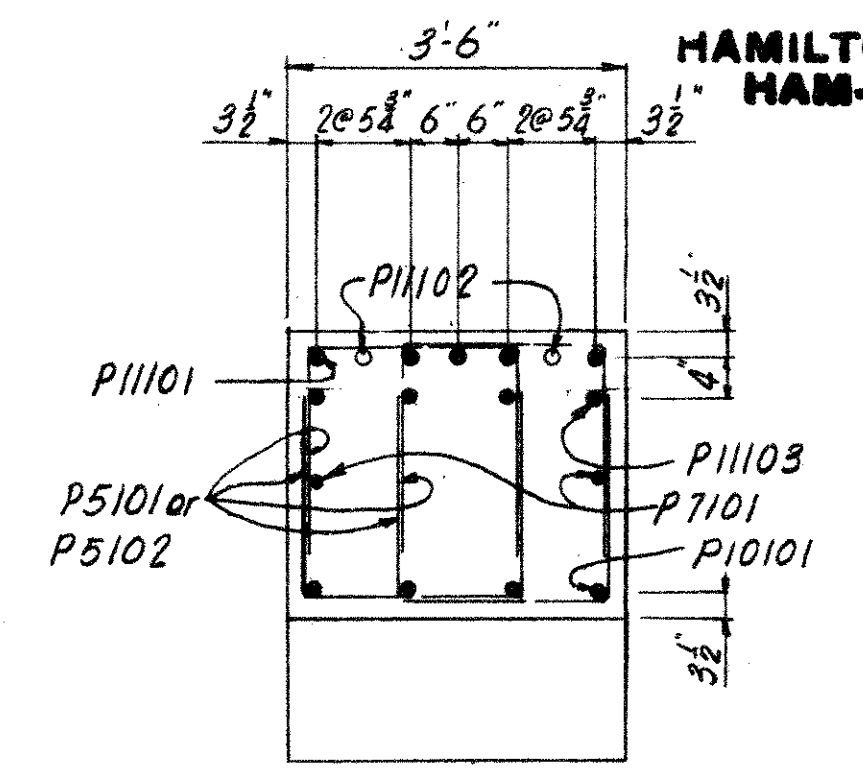
HAMILTON COUNTY  
HAM-71-2.08



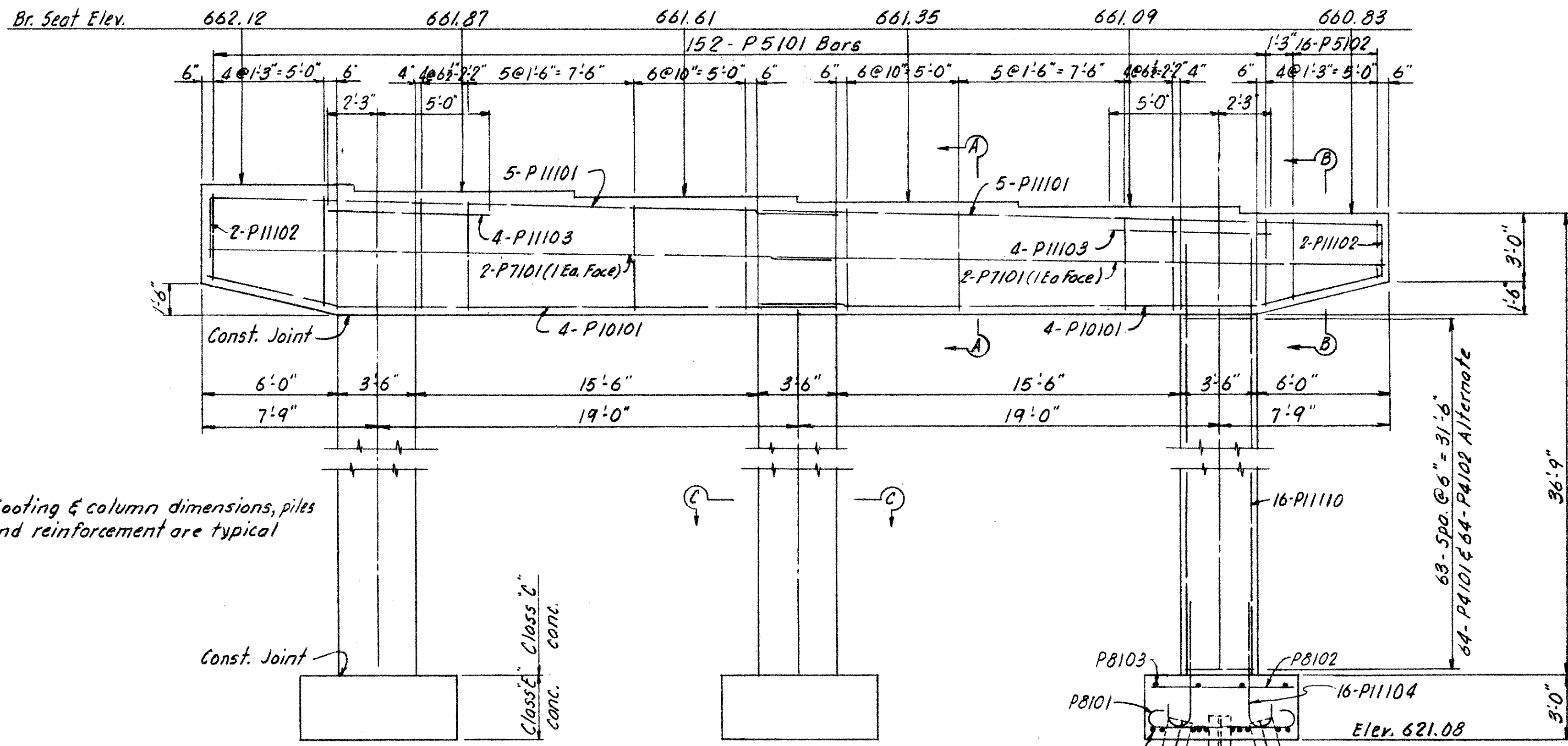
CAP PLAN



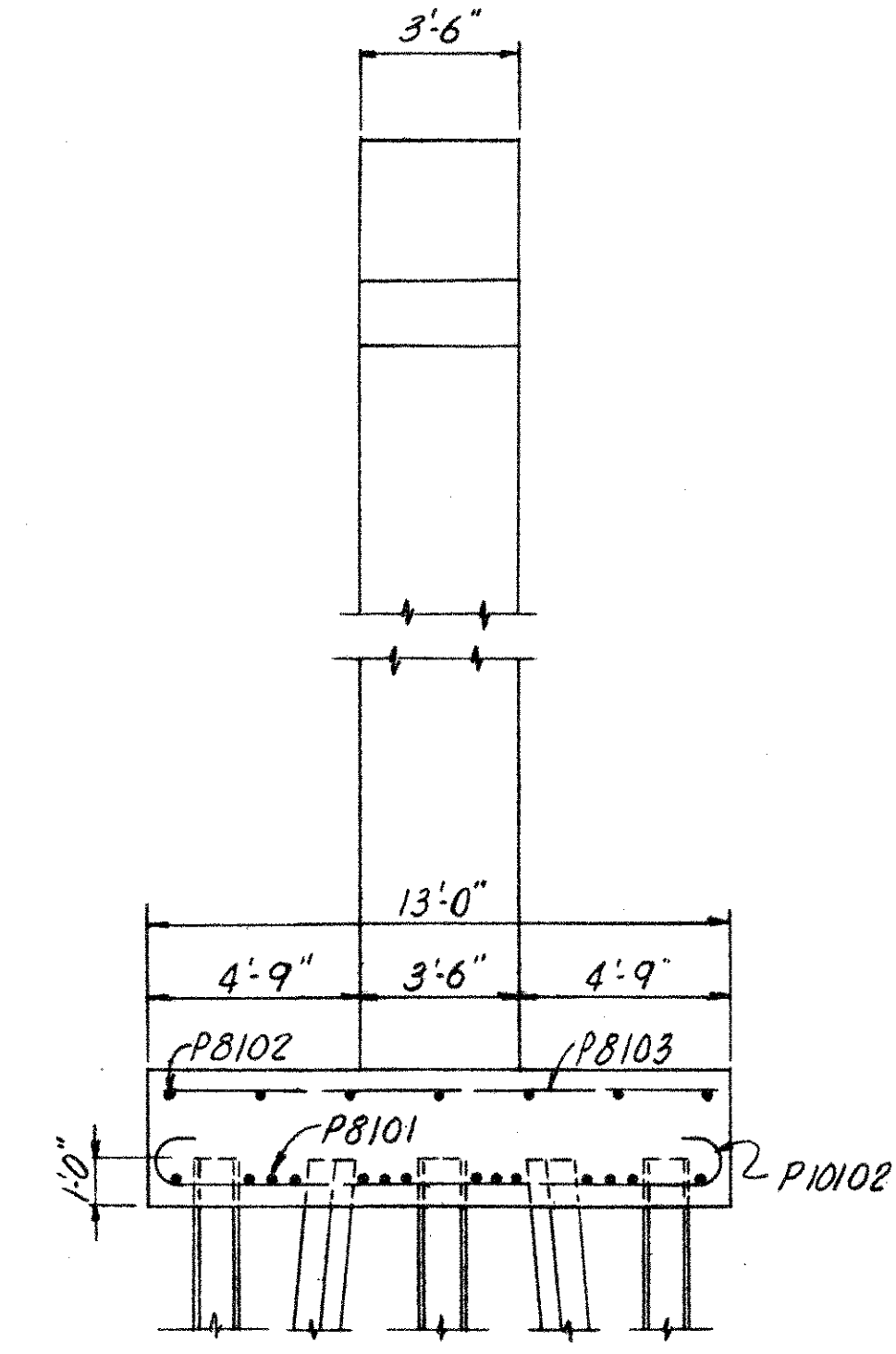
SECTION AA



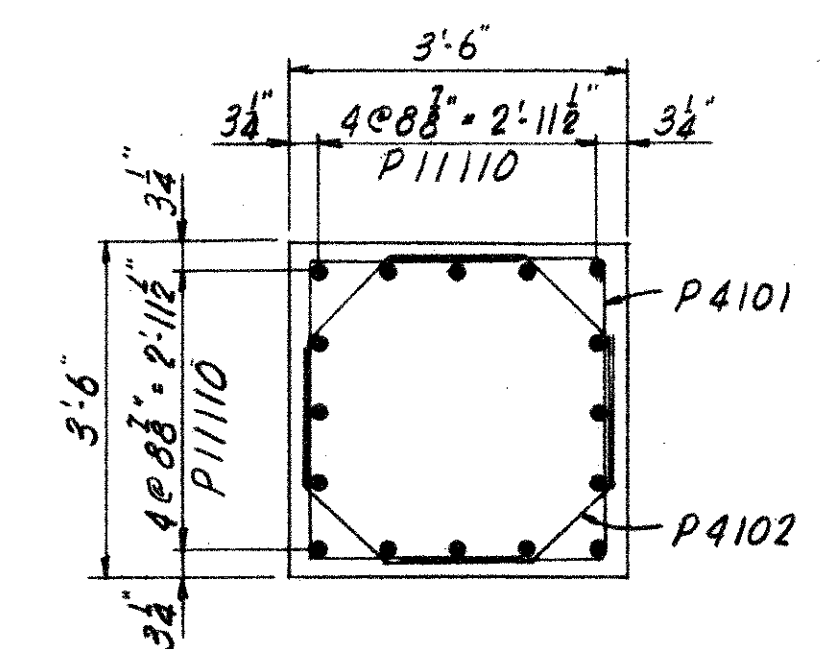
SECTION B-B



ELEVATION

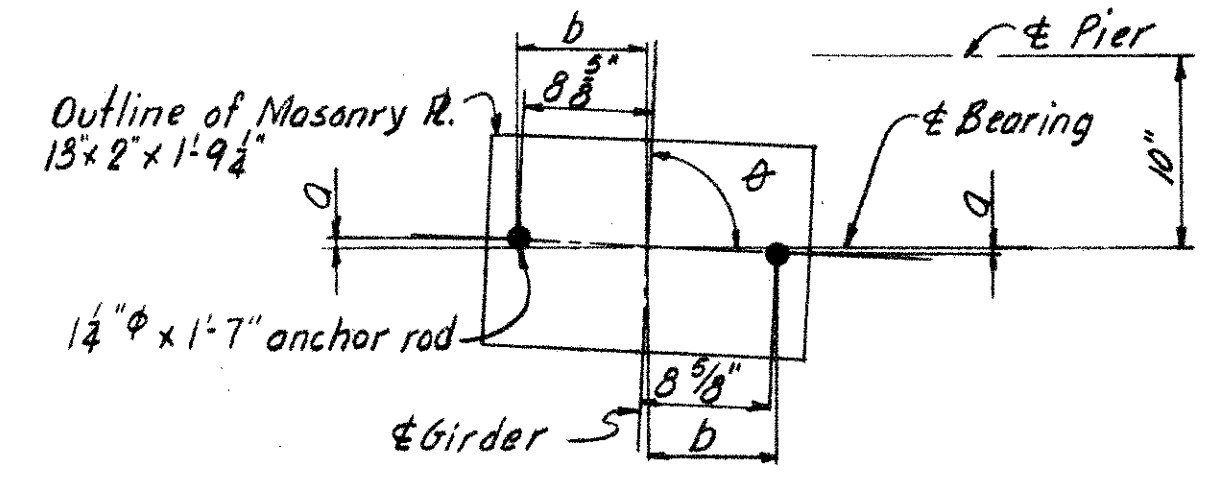


END ELEVATION

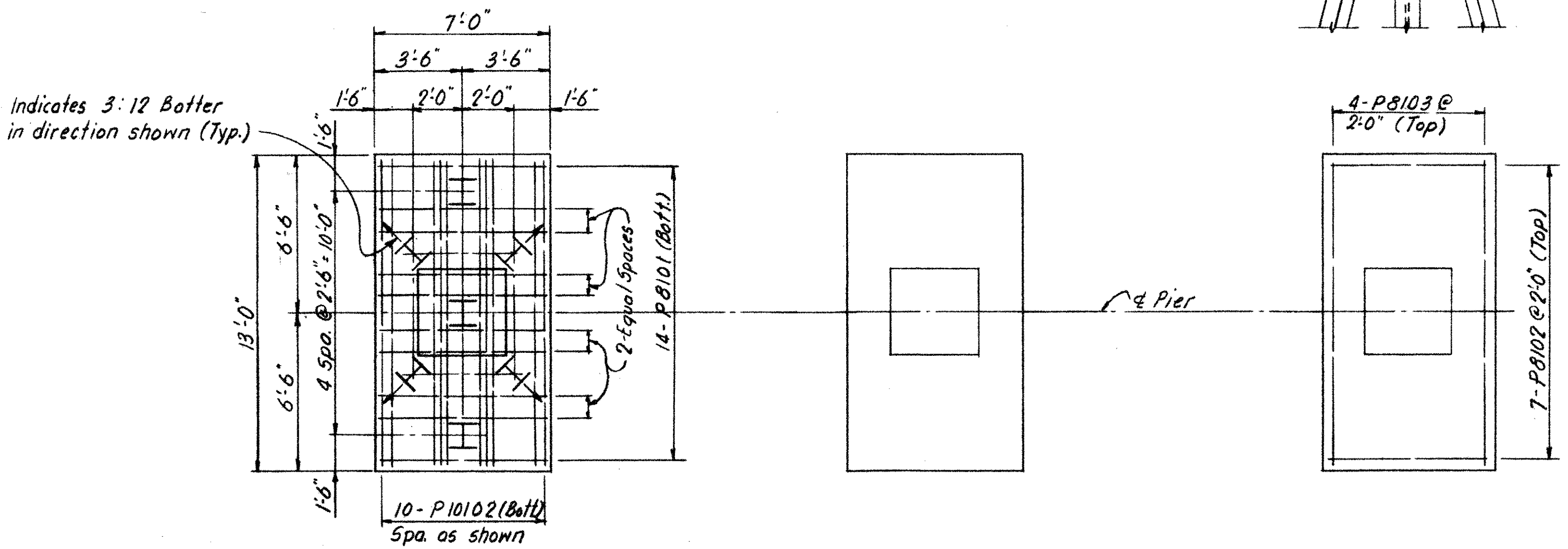


SECTION C-C

Footing & column dimensions, piles and reinforcement are typical



DETAIL-A



FOOTING PLAN

Notes:  
All piles shall be steel H 12BP53

Special care shall be taken in placing reinforcing steel in the cap so that it will not interfere with the drilling of Anchor Rod holes.  
For connection of downspouts to piers, see sheet No. 380 & 381

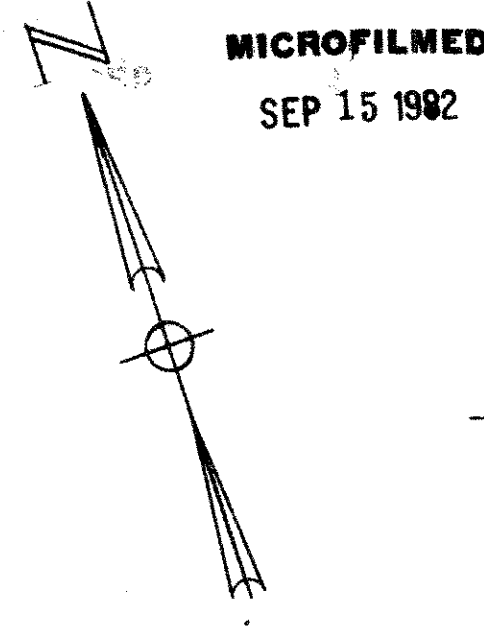
| Beam          | Angle $\theta$ | a     | b      |
|---------------|----------------|-------|--------|
| Span 5 (Typ.) | 89°-08'-32"    | 1/8"  | 8 3/8" |
| Span 4 (A)    | 91°-00'-31"    | 1/8"  | 8 3/8" |
| " (B)         | 90°-43'-12"    | 1/8"  | 8 3/8" |
| " (C)         | 90°-25'-49"    | 1/16" | 8 3/8" |
| " (D)         | 90°-08'-22"    | 0     | 8 3/8" |
| " (E)         | 89°-50'-50"    | 0     | 8 3/8" |
| " (F)         | 89°-33'-14"    | 1/16" | 8 3/8" |

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

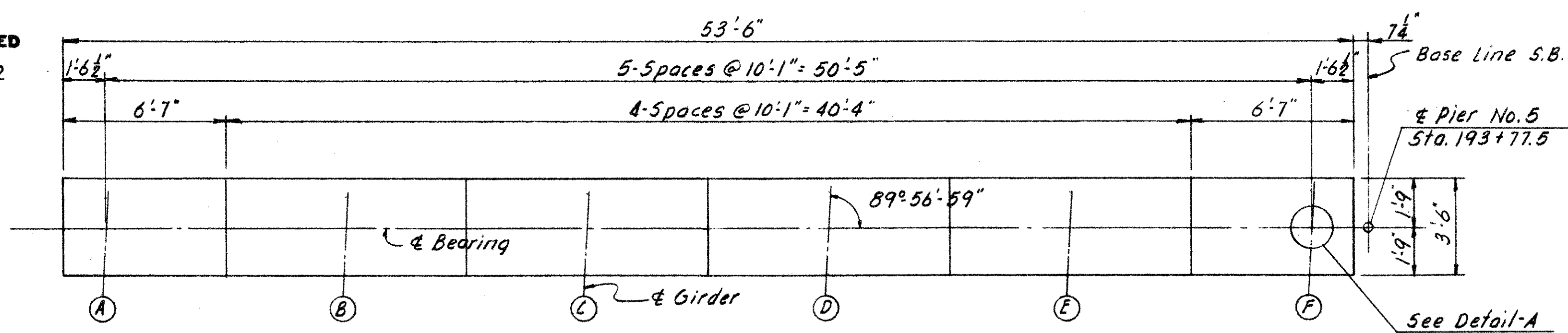
**PIER NO. 4**  
BRIDGE No. HAM-71-0226

H&E BRIDGE No. 17

| DESIGNED | DRAWN     | TRACED | CHECKED | REVIEWED DATE  | REVISED |
|----------|-----------|--------|---------|----------------|---------|
| E. L. W. | R. L. MEF |        | CRK     | JHc<br>8/14/65 |         |

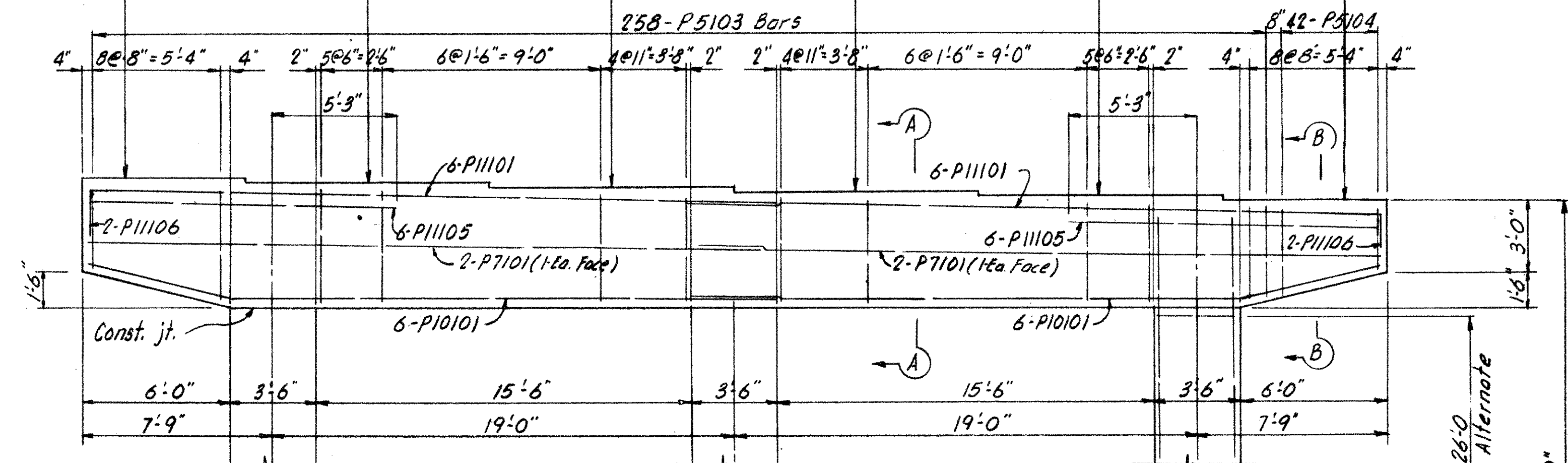


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SEP 15 1982



CAP PLAN

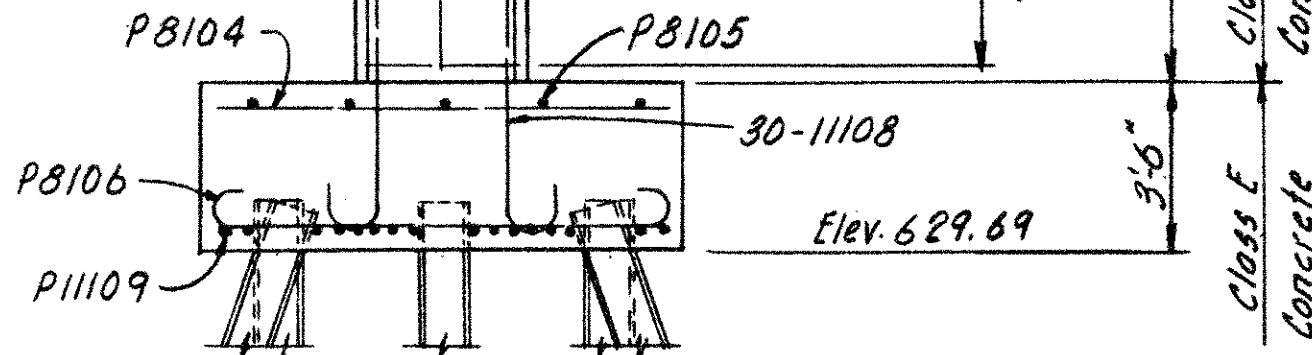
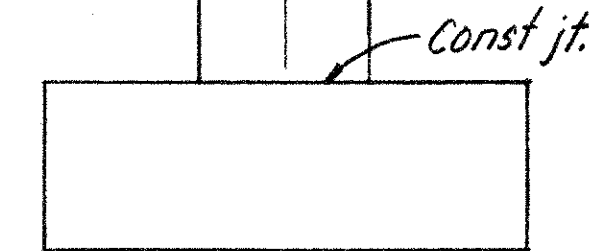
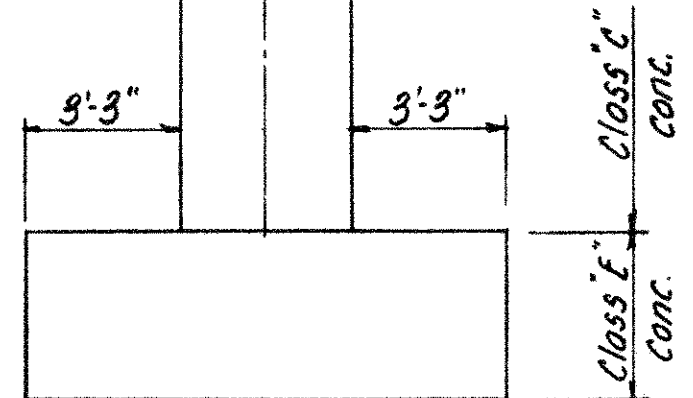
Br. Seat Elev. 664.84 664.66 664.49 664.30 664.12 663.96



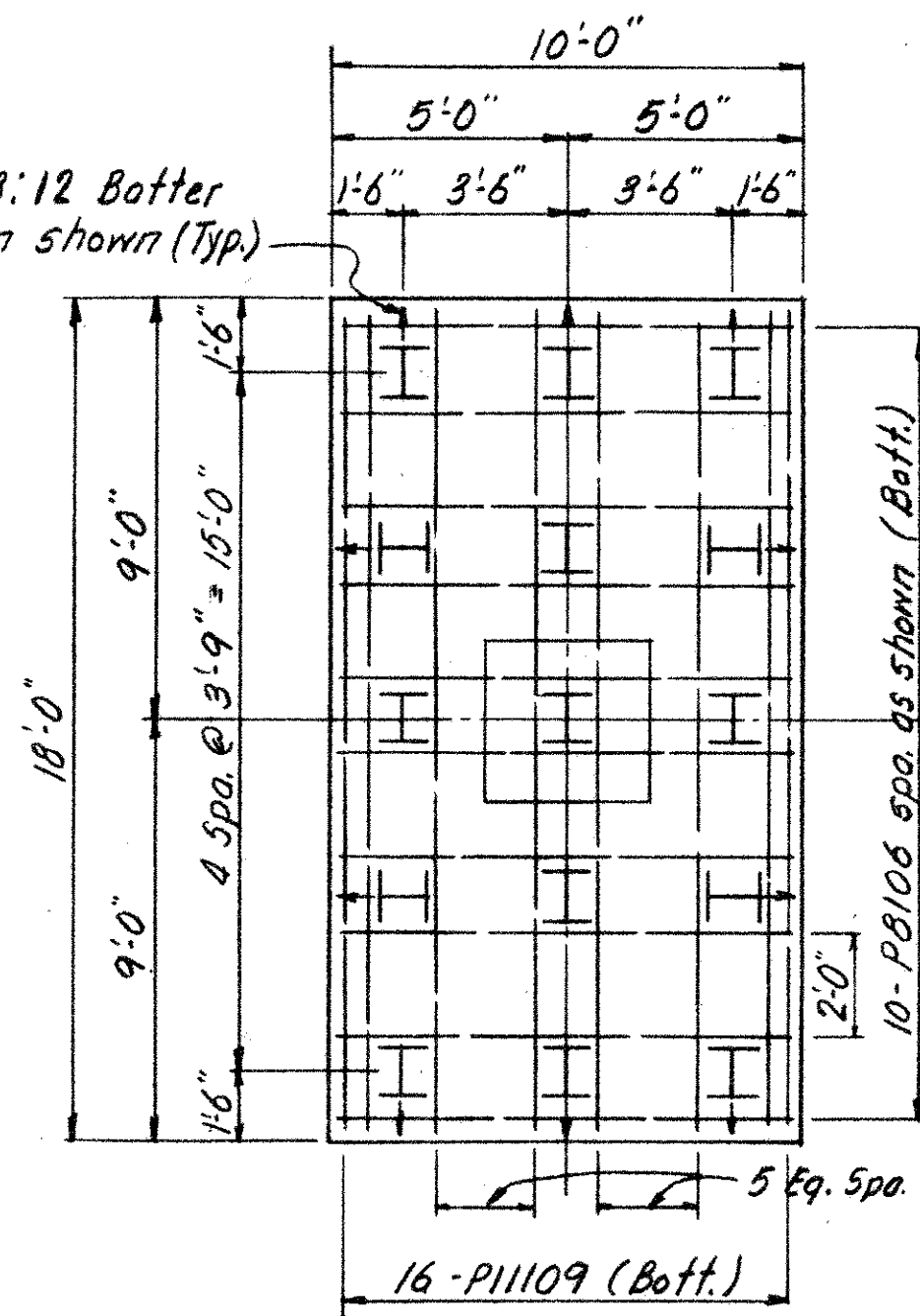
ELEVATION

Footing & Column dimensions piles and reinforcement are typical

Ground wire, per note on Sheet # 189 shall extend thru this column.

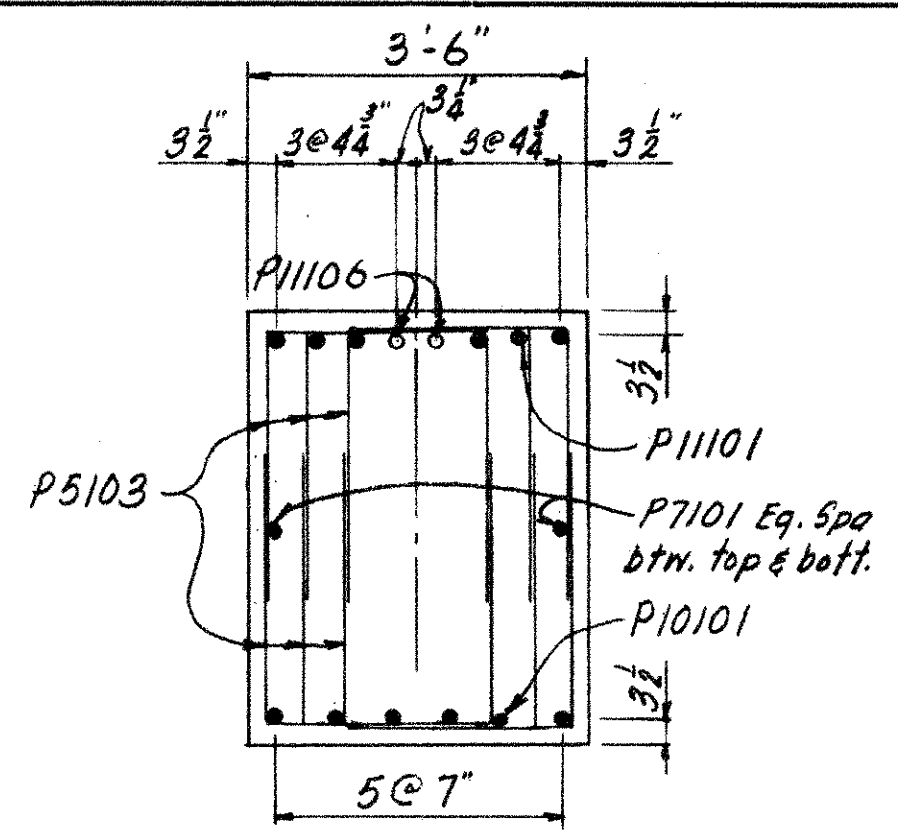
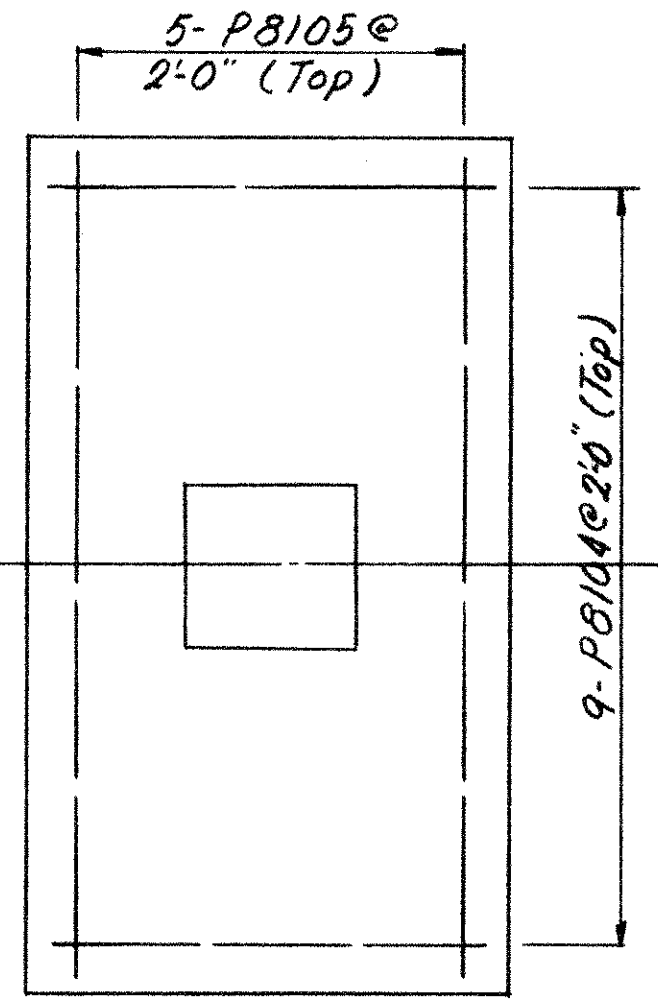


Class C Concrete  
Class E Concrete

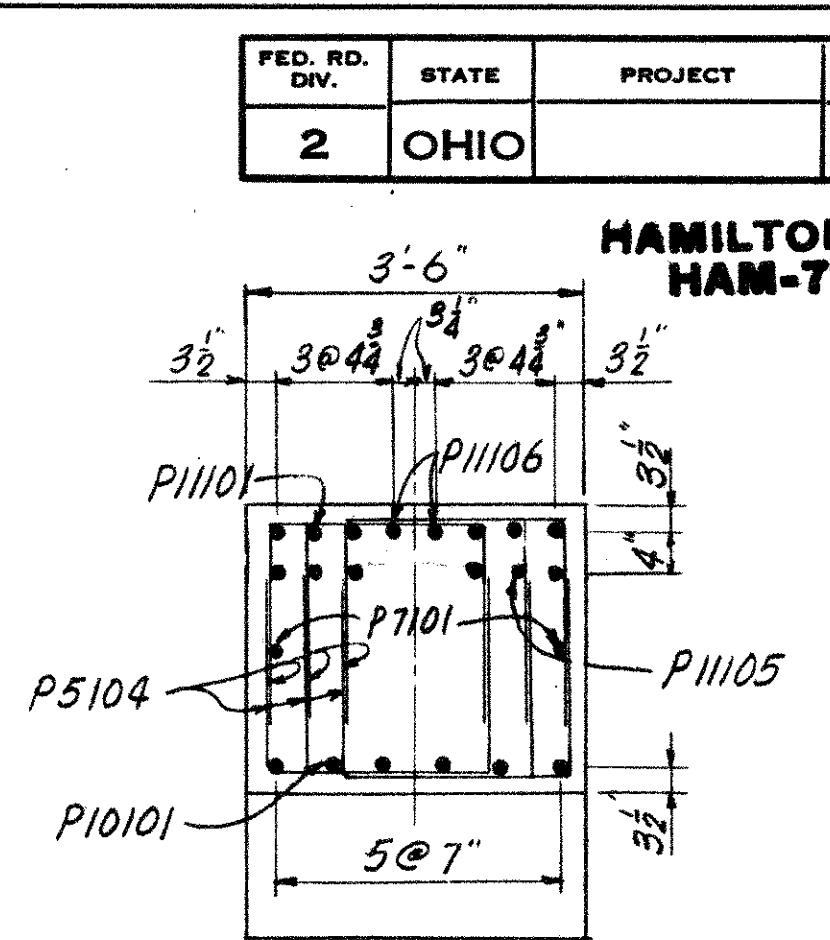


FOOTING PLAN

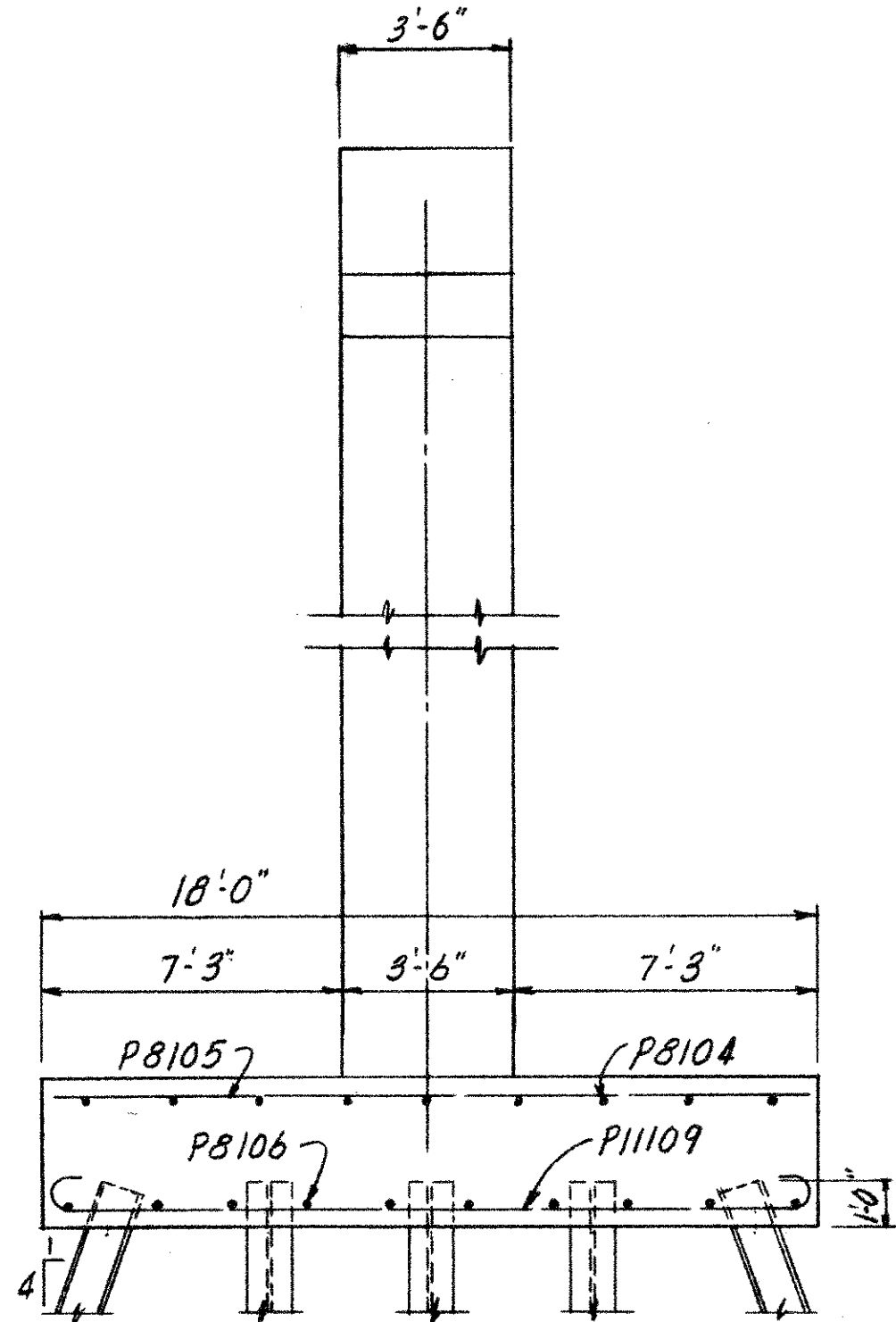
Indicates 3:12 Batter in direction shown (Typ.)



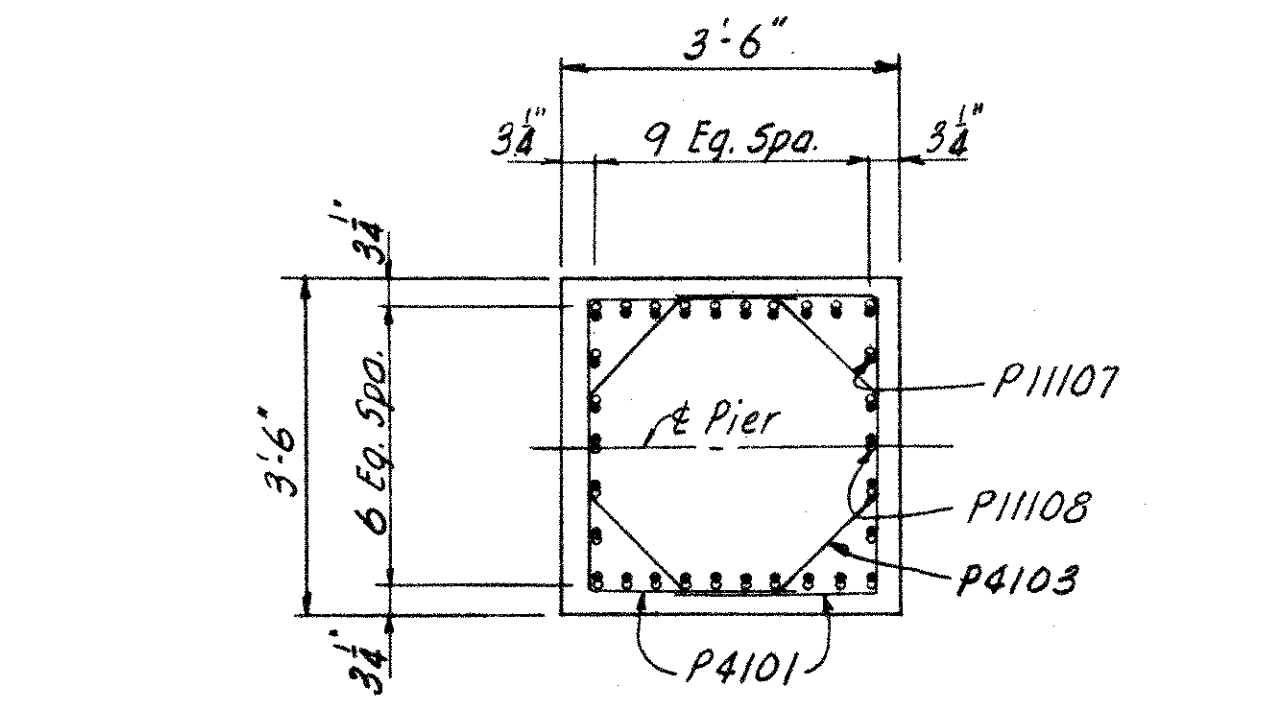
SECTION A-A



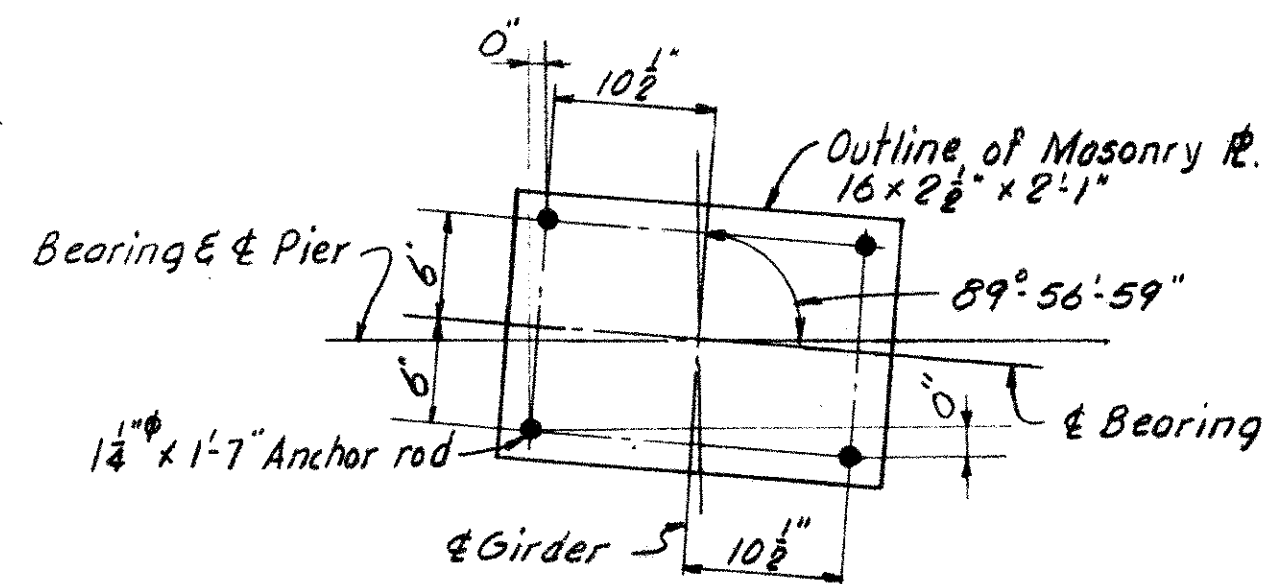
SECTION B-B



END ELEVATION



SECTION C-C



DETAIL-A

Notes:  
All piles shall be steel H 10 BP 42  
Special core shall be taken in placing reinforcing steel in the cap so that it will not interfere with the drilling of the Anchor rod hole.  
For connections of downspouts to piers, see sht No. 380 & 381

| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
|---------------|-------|---------|-------------|
| 2             | OHIO  |         |             |

HAMILTON COUNTY  
HAM-71-2.08

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CINCINNATI, OHIO

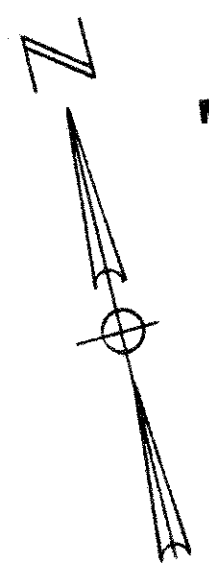
PIER NO. 5  
BRIDGE No. HAM-71-0226

H&E BRIDGE No. 17

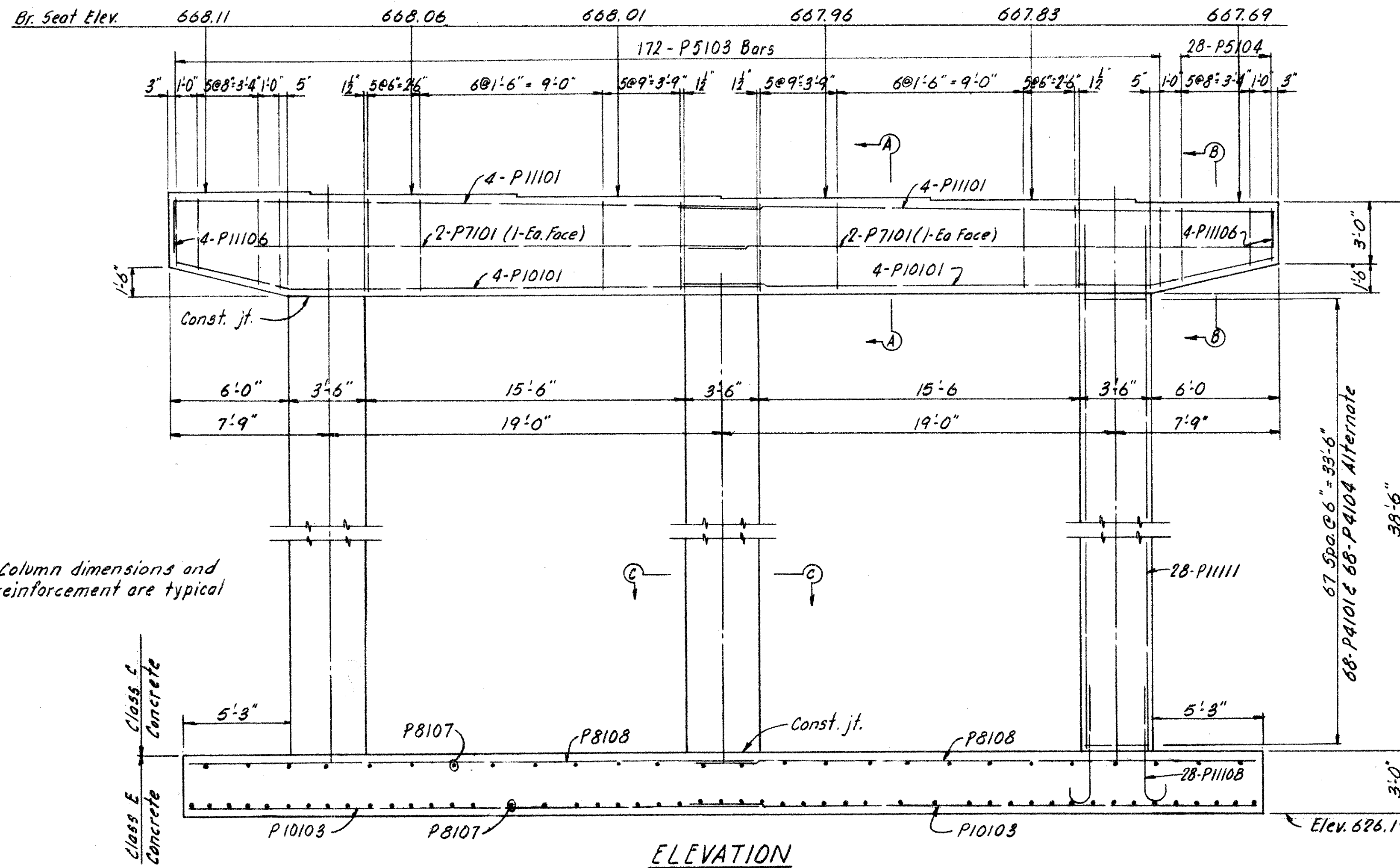
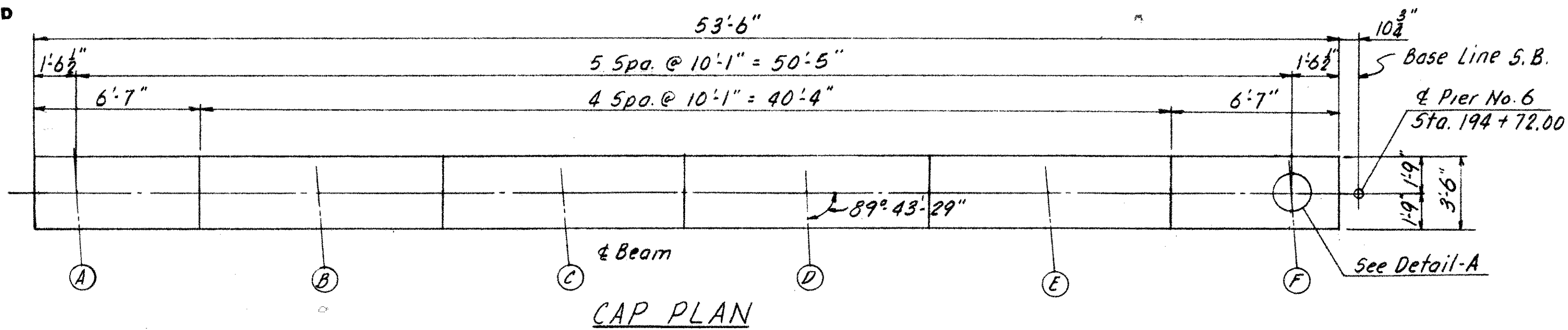
| DESIGNED | DRAWN    | TRACED | CHECKED | REVIEWED DATE   | REVISED |
|----------|----------|--------|---------|-----------------|---------|
| E.I.W.   | R.L.M.F. |        | CRK     | J.Ho<br>8/11/65 |         |

367  
460



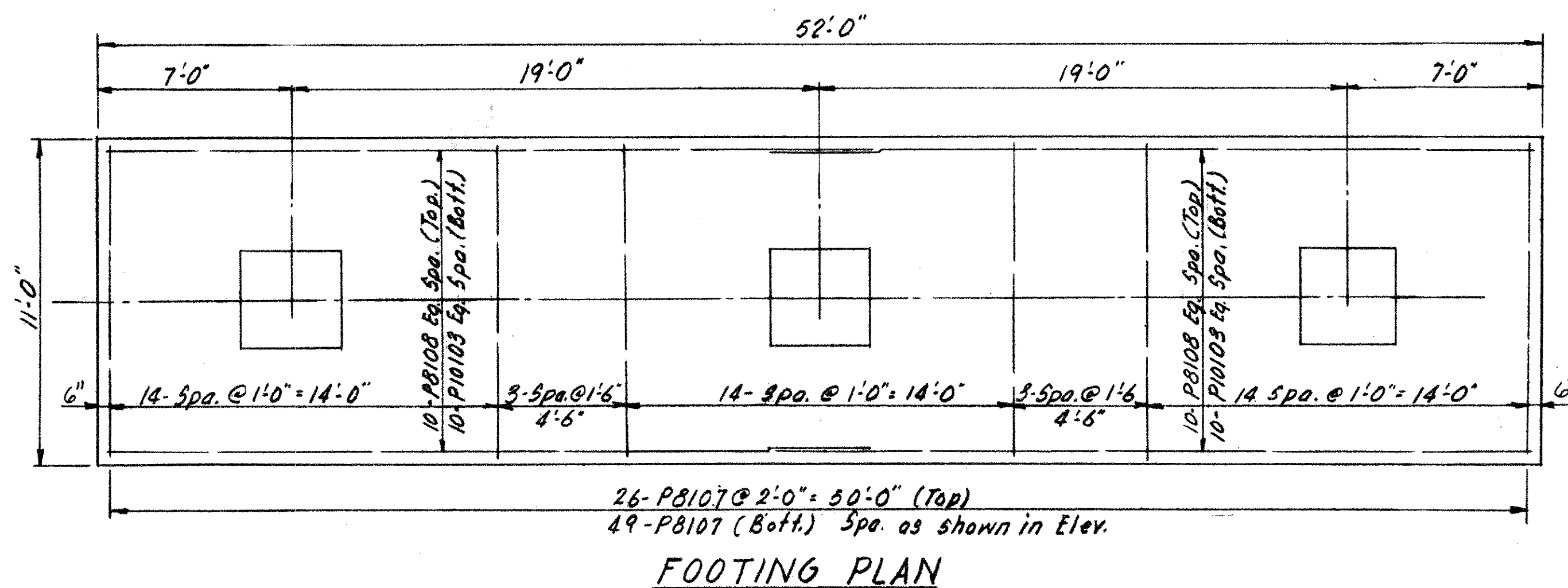


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SEP 15 1982

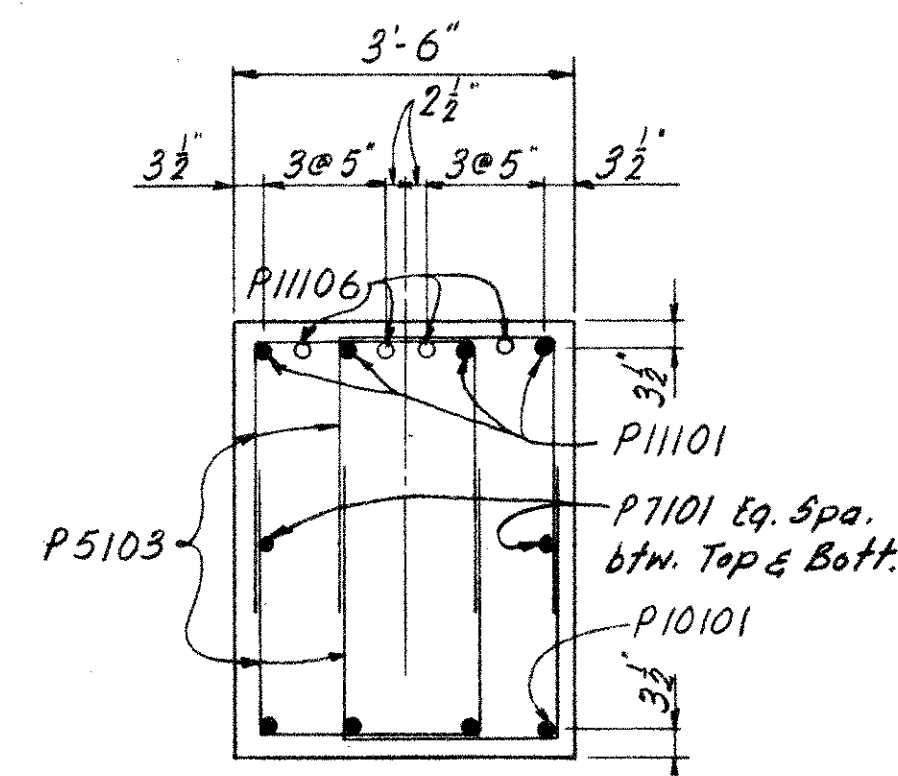


Column dimensions and reinforcement are typical

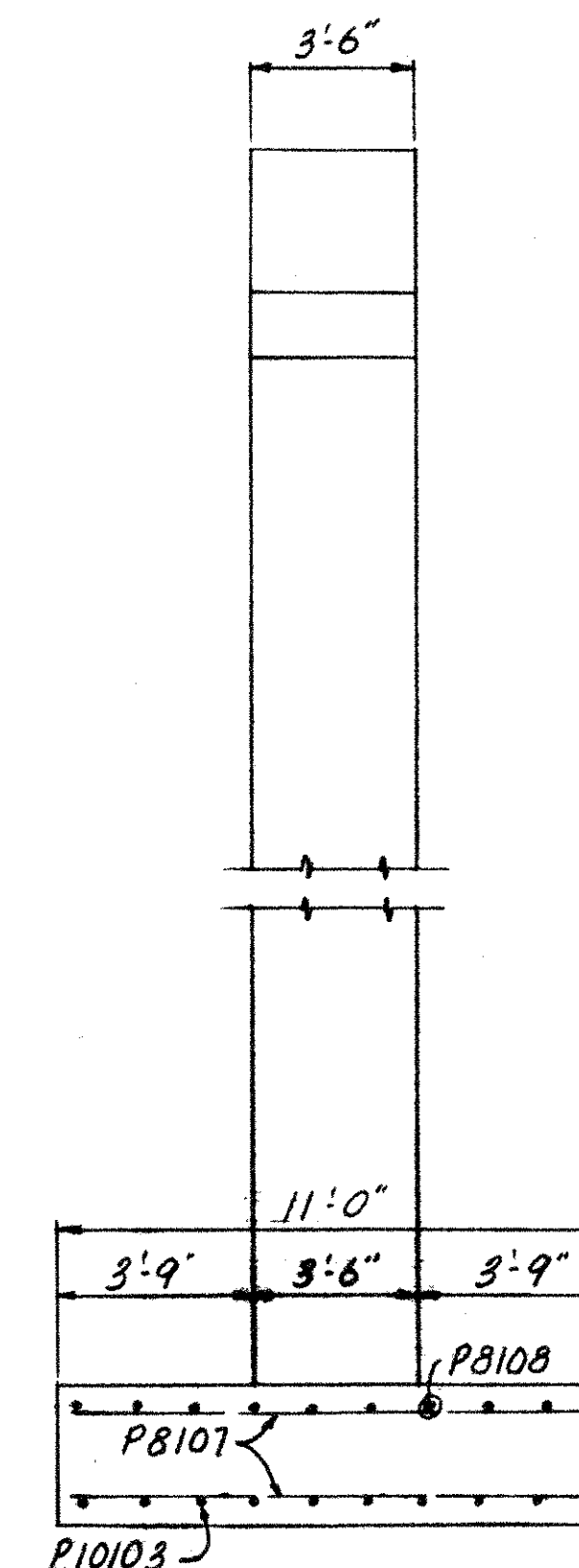
ELEVATION



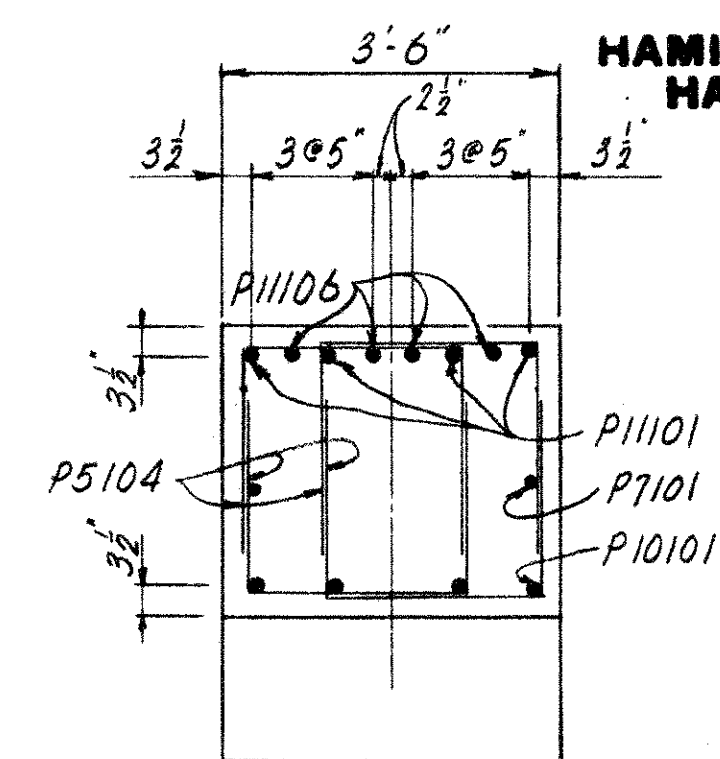
FOOTING PLAN



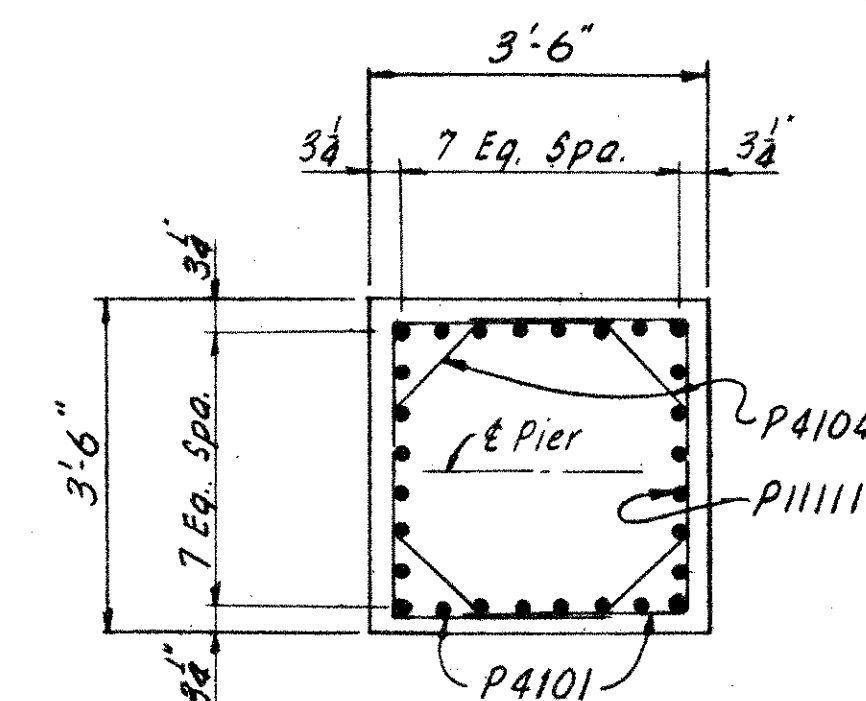
SECTION A-A



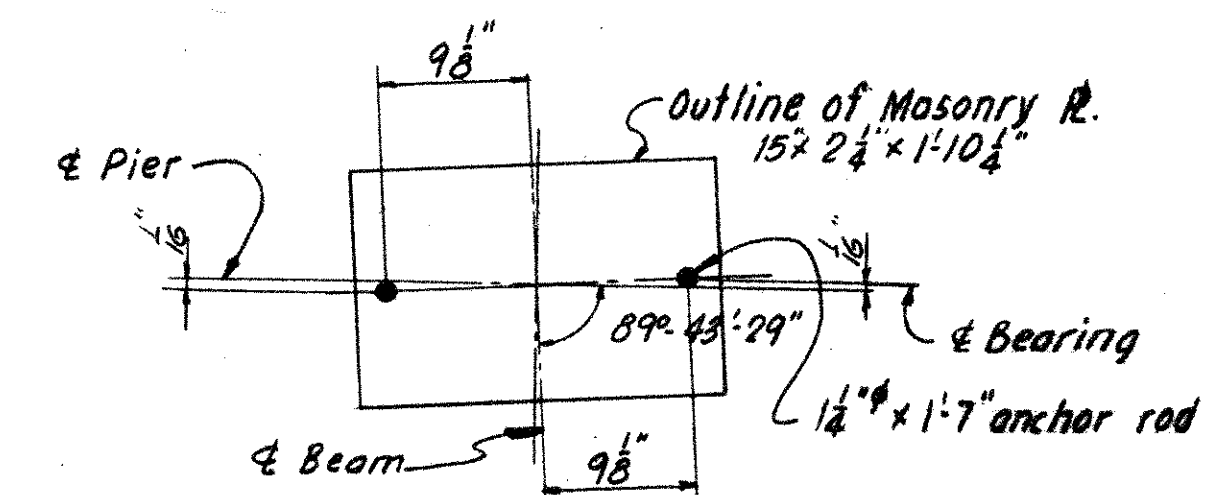
END ELEVATION



SECTION B-B



SECTION C-C



DETAIL-A

| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
|---------------|-------|---------|-------------|
| 2             | OHIO  |         |             |

368  
460

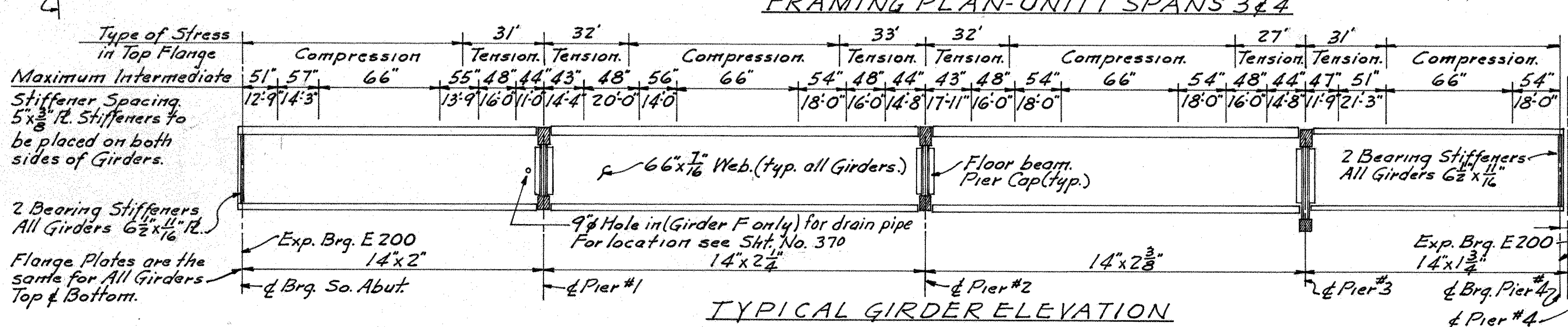
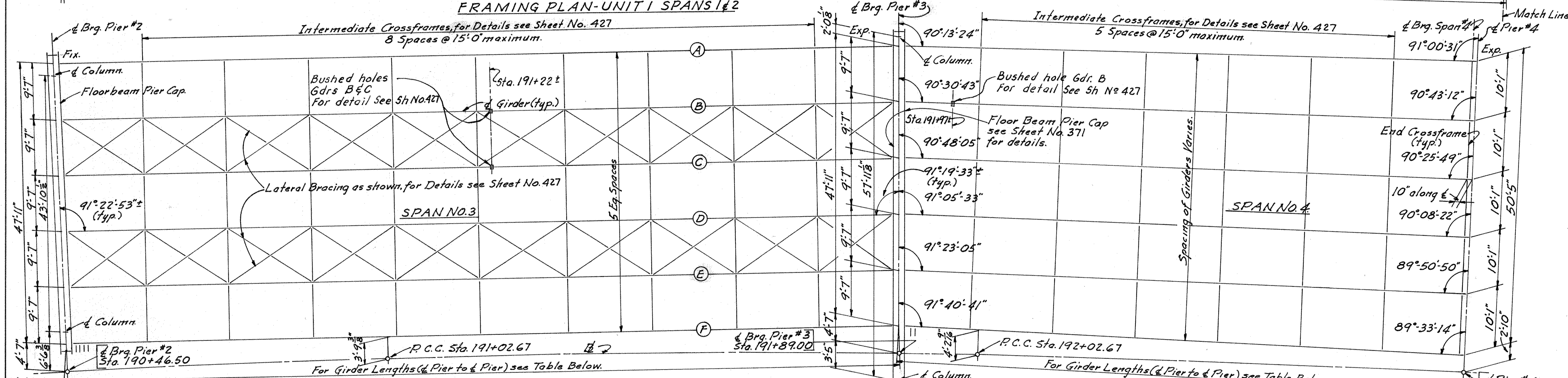
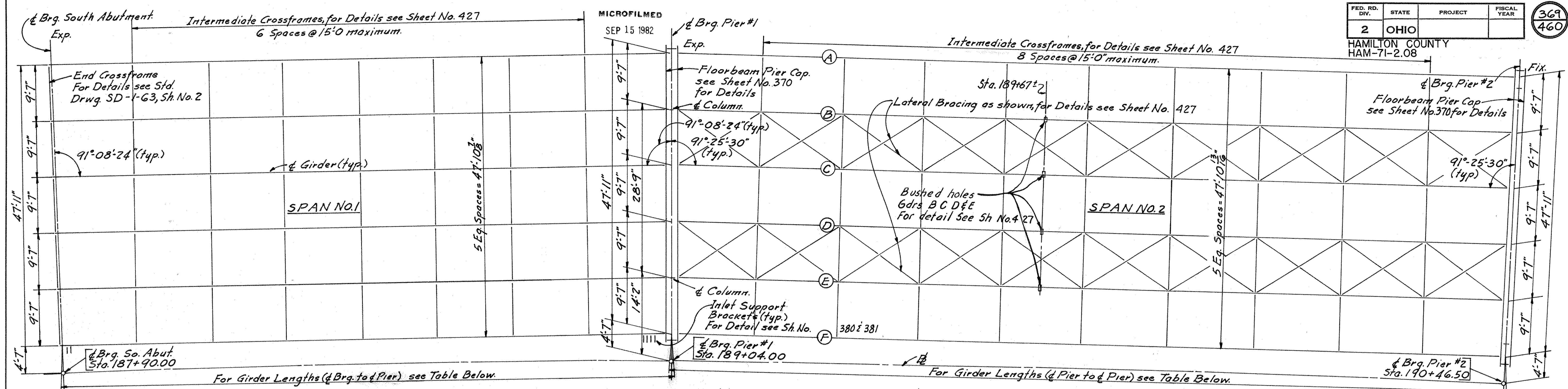
HAMILTON COUNTY  
HAM-71-2.0B

Notes:

Special care shall be taken in placing the reinforcing steel so that it will not interfere with the drilling of the anchor rod holes.

For connections of downspouts to piers, see sht. No. 380 & 381

| HAZELT & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |          |        |         |                 |         |
|--|----------|--------|---------|-----------------|---------|
| PIER NO. 6<br>BRIDGE No. HAM-71-0226                       |          |        |         |                 |         |
| H&E BRIDGE No. 17  |          |        |         |                 |         |
| DESIGNED   | DRAWN    | TRACED | CHECKED | REVIEWED DATE   | REVISED |
| E.L.W.   | R.L.M.F. |        | CRK     | 3/10<br>8/11/65 |         |



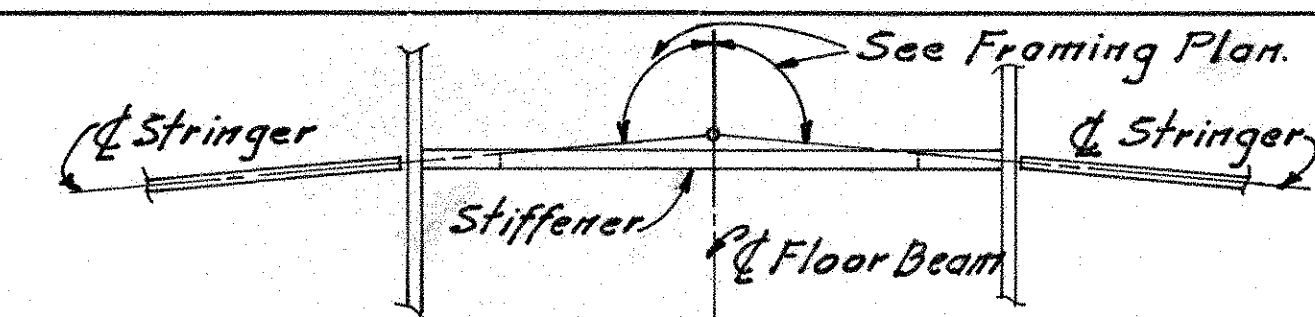
| Girder | Span 1       | Span 2       | Span 3       | Span 4       |
|--------|--------------|--------------|--------------|--------------|
| A      | 116'-1"      | 145'-1 7/8"  | 144'-11 5/8" | 99'-1 11/16" |
| B      | 115'-8 3/8"  | 144'-7 1/16" | 144'-6 3/8"  | 98'-11 1/8"  |
| C      | 115'-3 3/8"  | 144'-1 1/16" | 144'-0 3/4"  | 98'-8 9/16"  |
| D      | 114'-11 1/2" | 143'-8"      | 143'-7 1/8"  | 98'-6 1/16"  |
| E      | 114'-6 1/16" | 143'-2 1/4"  | 143'-1 3/8"  | 98'-3 1/16"  |
| F      | 114'-2 1/8"  | 142'-8 9/16" | 142'-8 1/16" | 98'-1 1/8"   |

For Typical Structural Steel Details see Sheet No. 427  
 For Bearing Details see Ohio Standard Dwg. No. F5B-1-62 and Sh. No. 373  
 For Table of Deflections & Camber see Sheet No. 371  
 For Drainage Details see Sheet No. 380 & 381

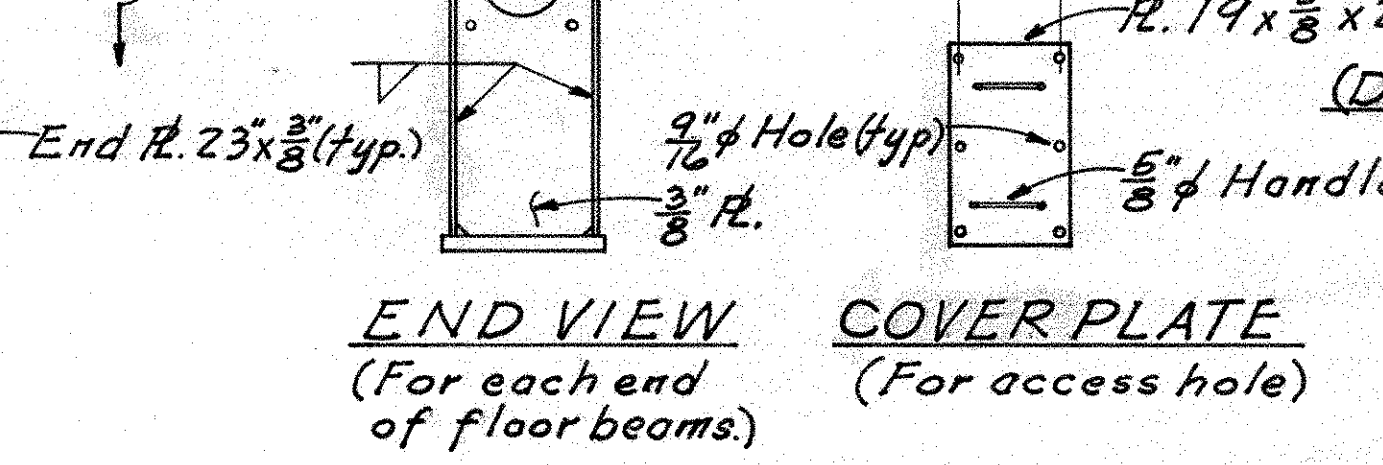
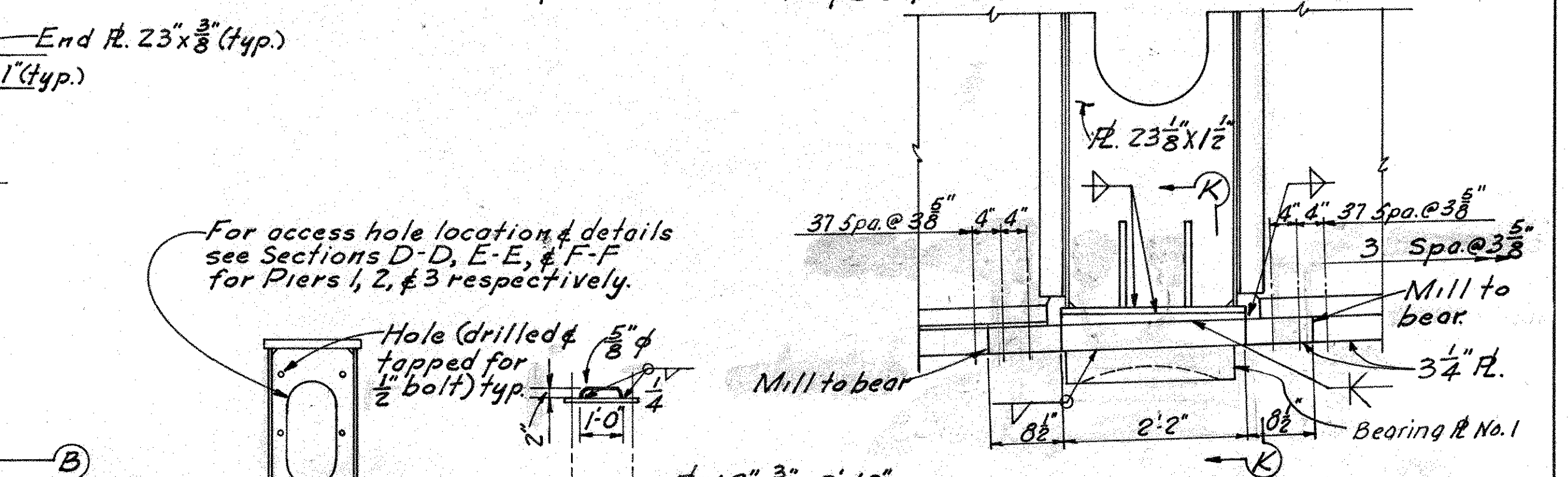
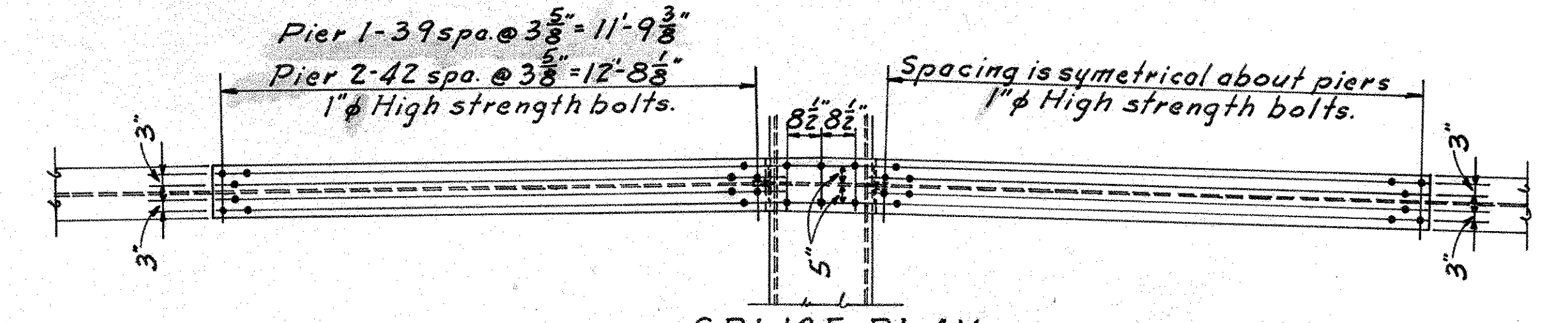
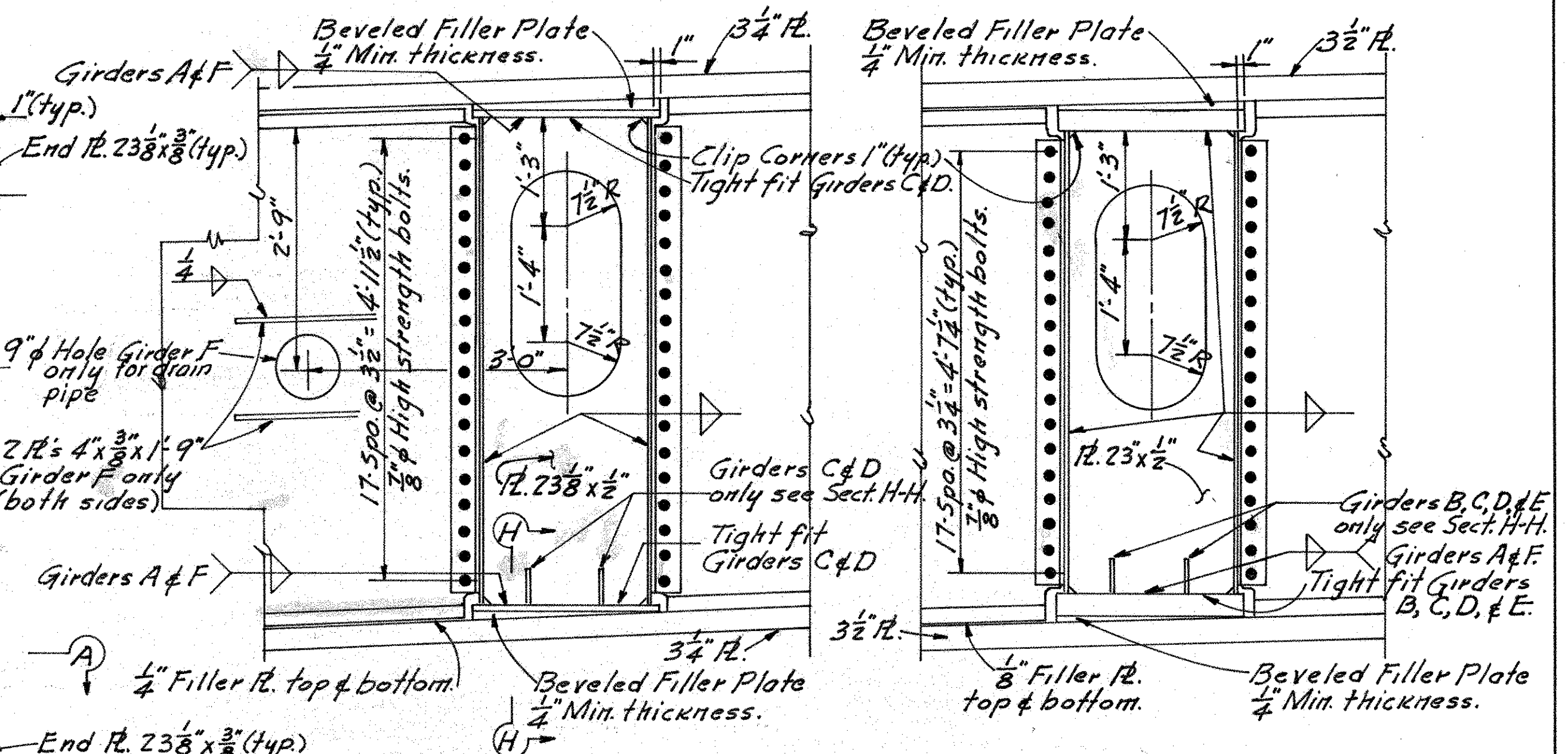
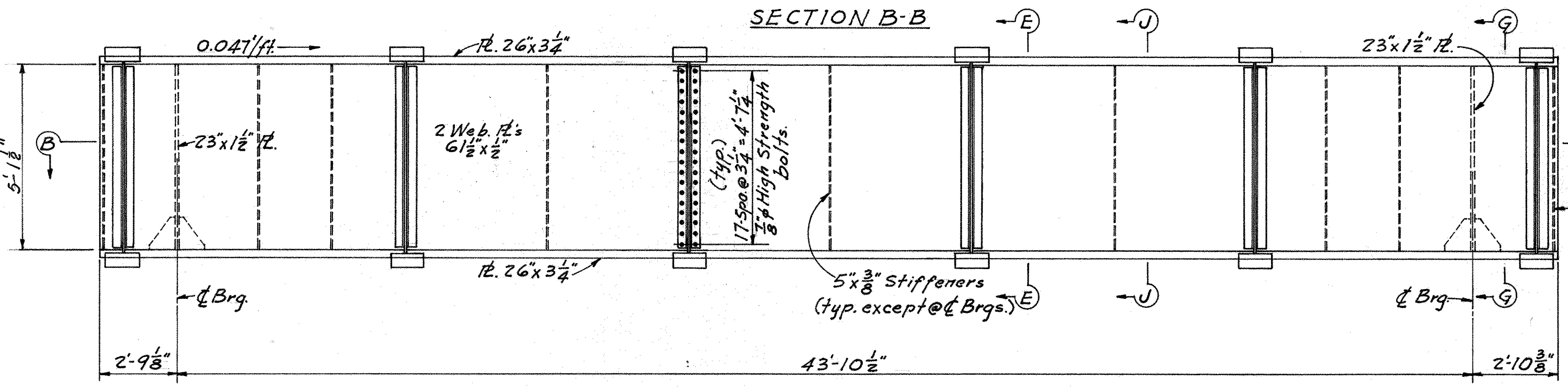
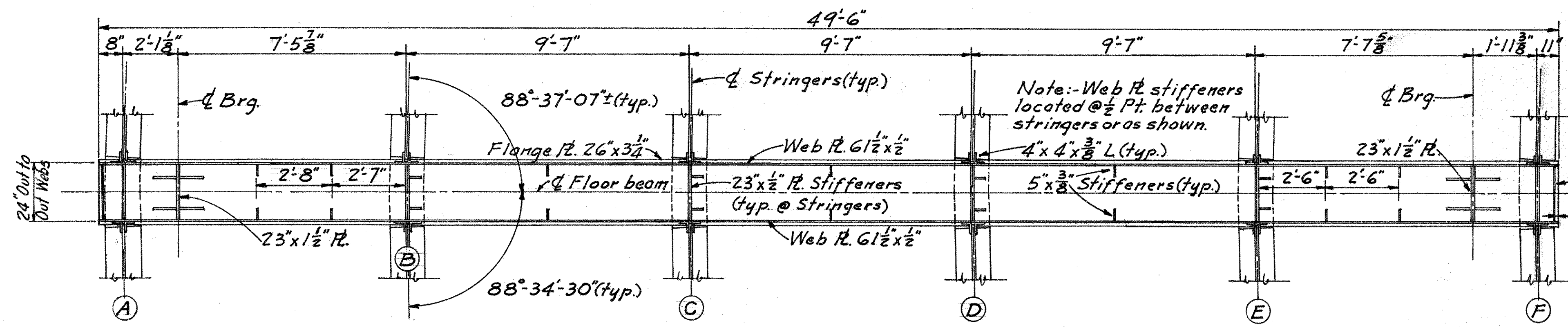
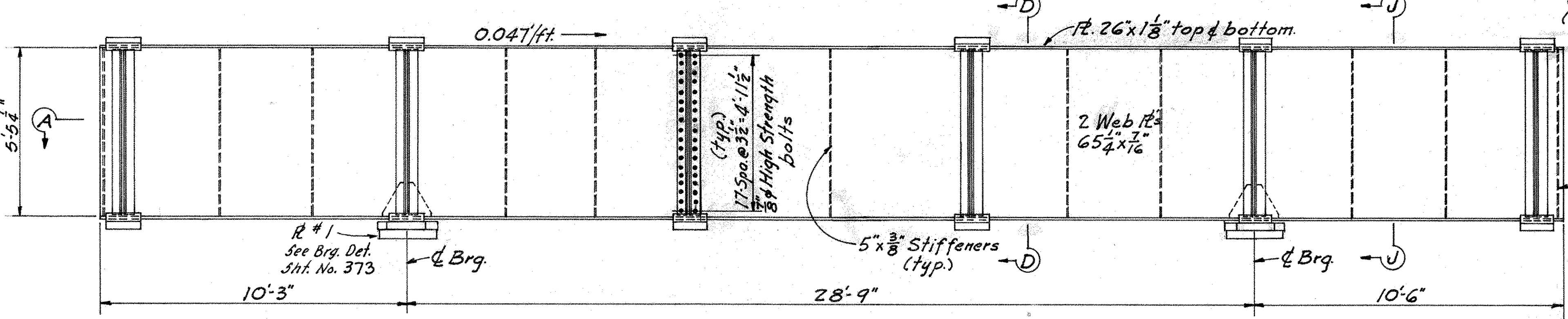
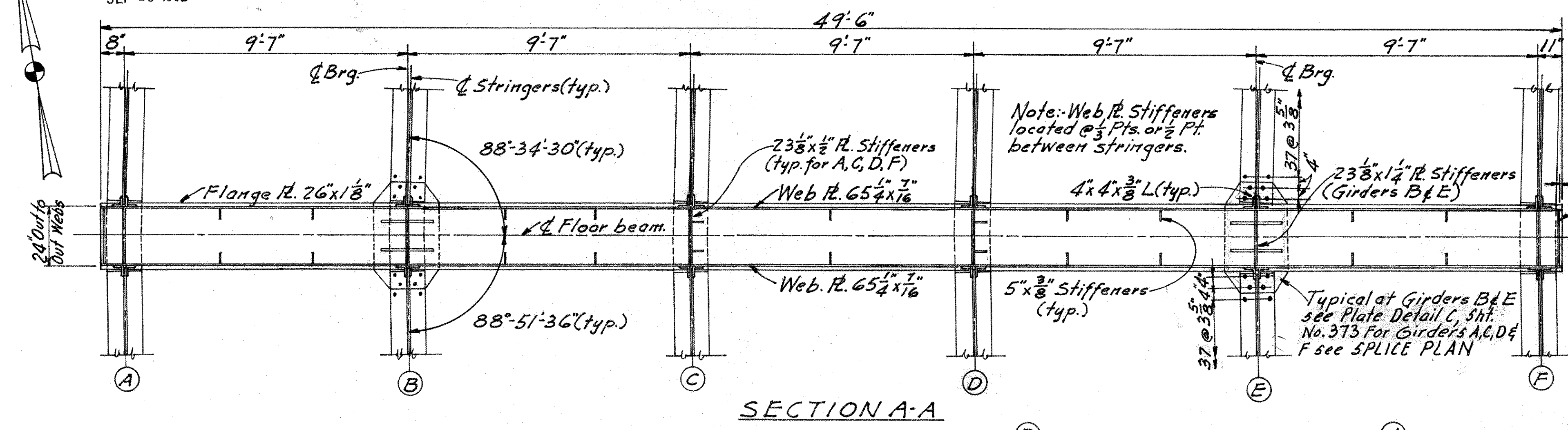
HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**STRUCTURAL STEEL DETAILS**  
UNIT NO. 1  
BRIDGE No. HAM-71-0226  
H&E BRIDGE No. 17

|          |       |        |         |               |         |
|----------|-------|--------|---------|---------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
| CRK      | RBS   | L.M.H. | ELW     | JH<br>8/11/65 |         |



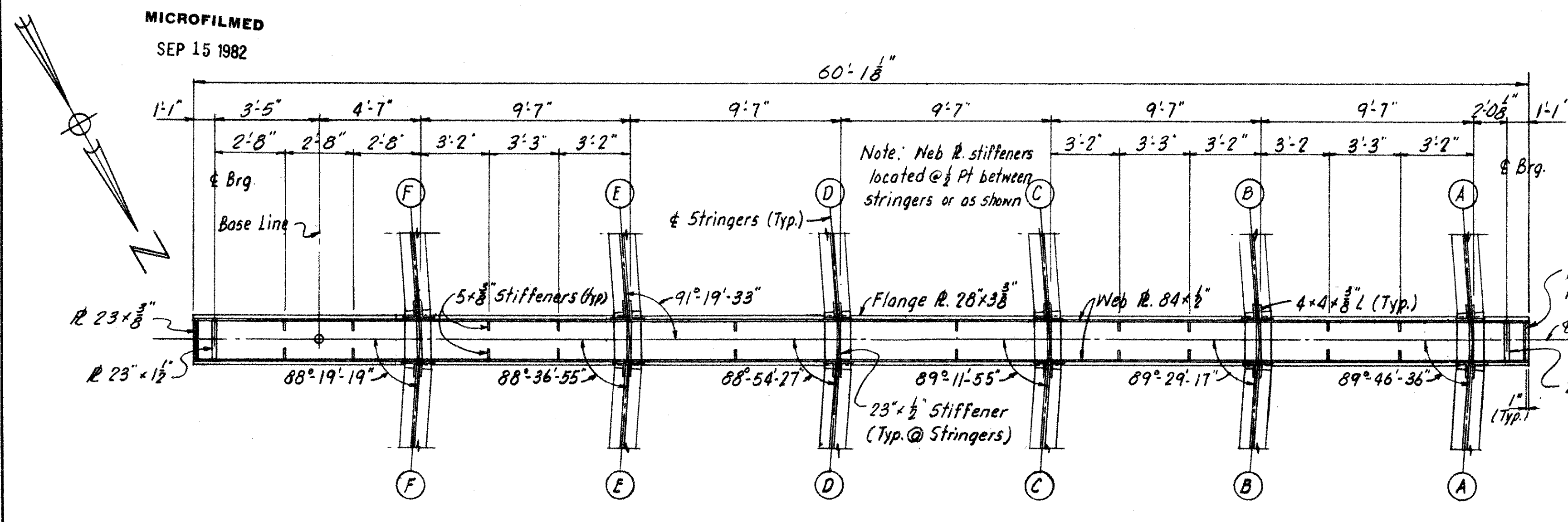
TYPICAL STIFFENER LOCATION-ALL STRINGERS



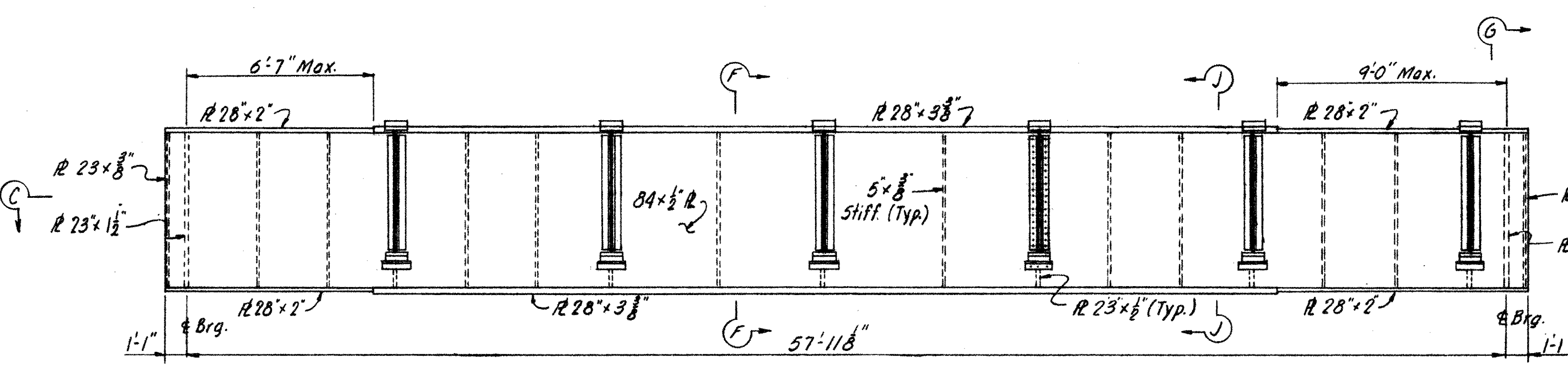
For Sections G-G, H-H, J-J, & K-K. See Sheet No. 371  
For Fillet Weld Sizes See "Table of Fillet Weld Sizes," Sheet No. 427

STRUCTURAL STEEL DETAILS  
UNIT NO. 1  
BRIDGE No. HAM-71-0226  
H&E BRIDGE No. 17

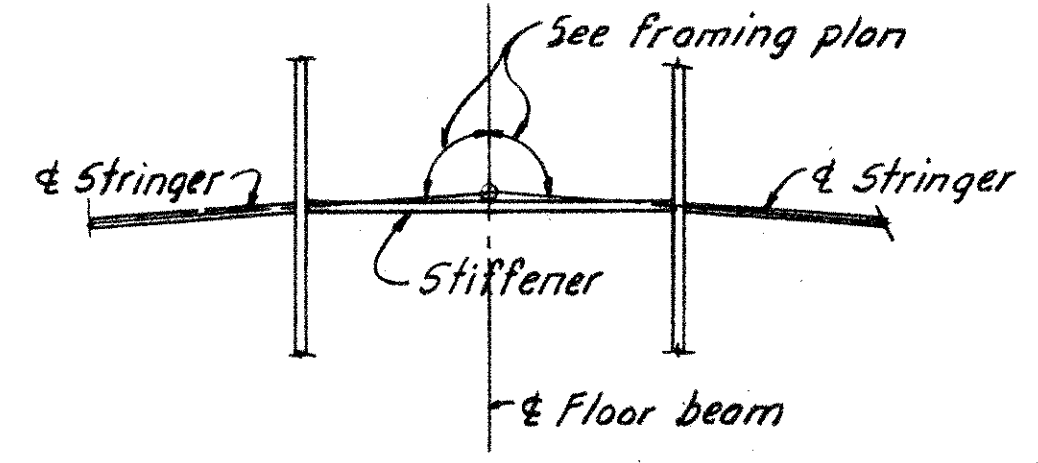
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|----------|-------|--------|---------|-----------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE   | REVISED |
| CRK      | RBS   | LMH    | ELW     | Jito<br>8/17/65 |         |



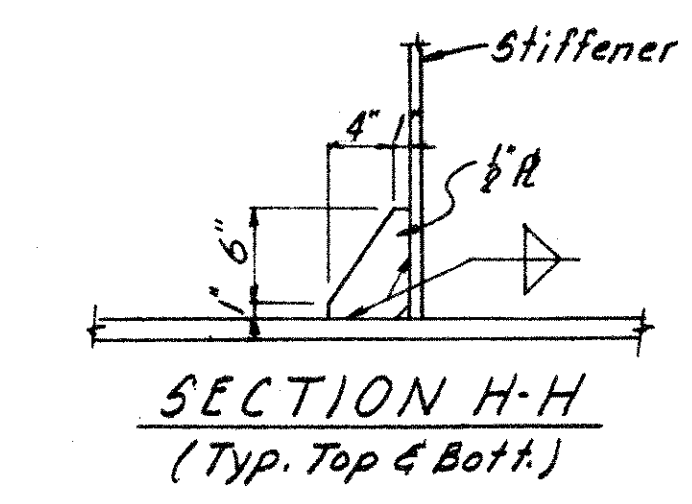
SECTION C-C-PIER N° 3



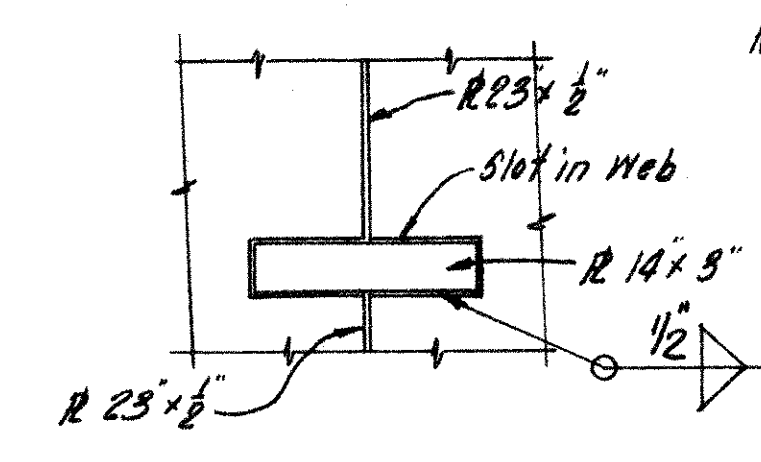
ELEVATION



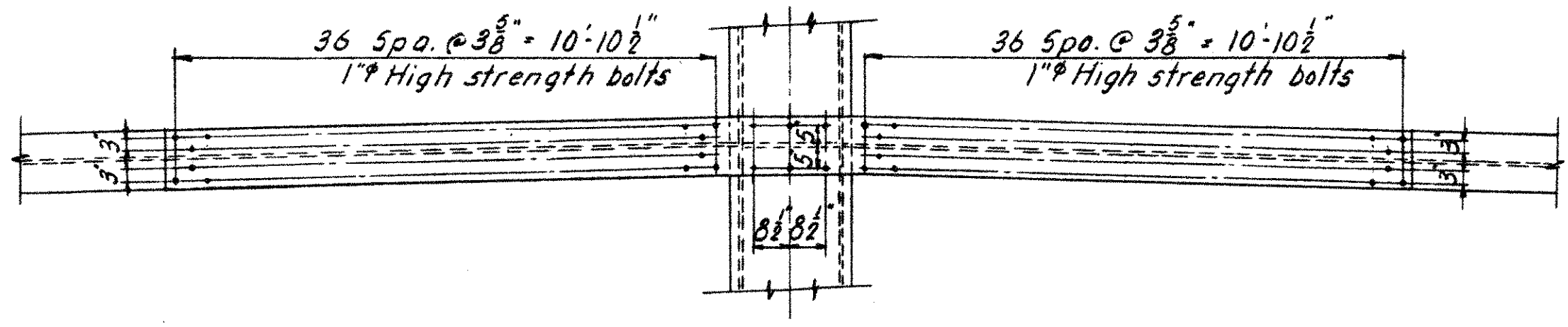
TYPICAL STIFFENER LOCATION



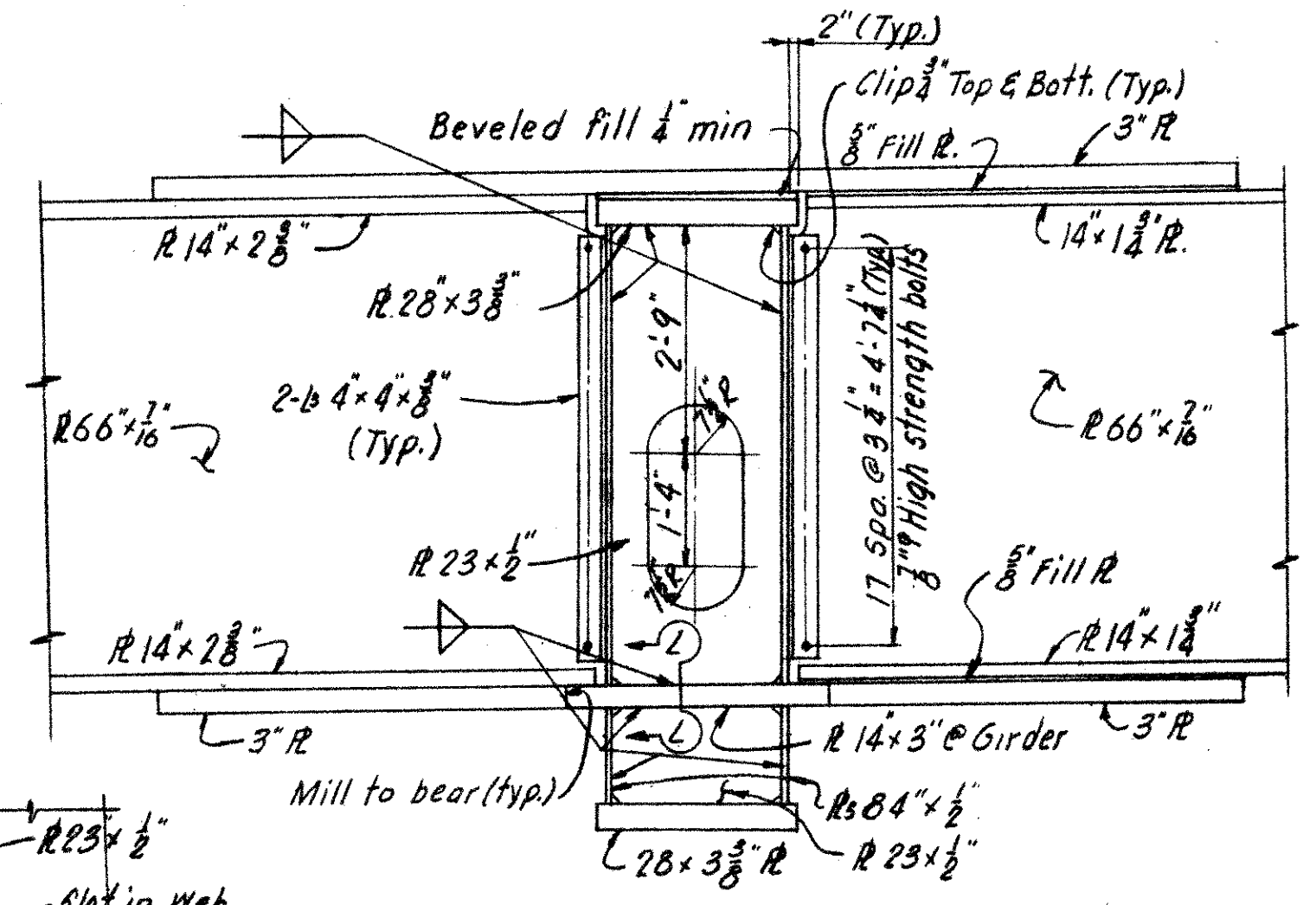
SECTION H-H  
(Typ. Top & Bott.)



SECTION L-L

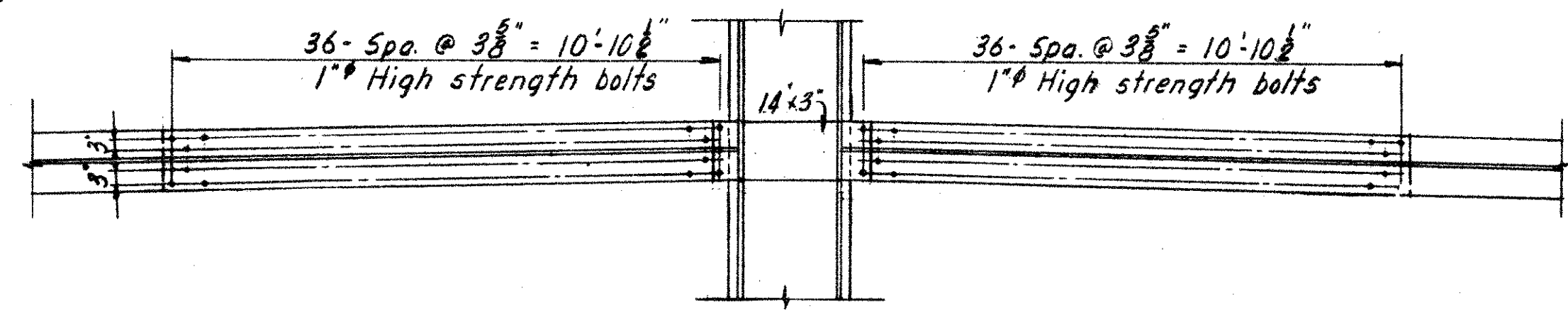


TOP SPLICE PLAN-PIER-3



SECTION F-F

Note: Milled ends of compression splice on bottom flanges of girders shall be brought to full bearing against milled ends of pier girder brackets before bolts are tightened

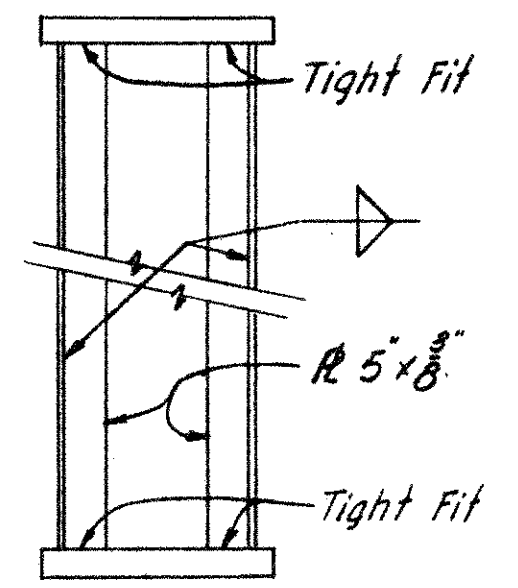


BOTTOM SPLICE PLAN-PIER 3

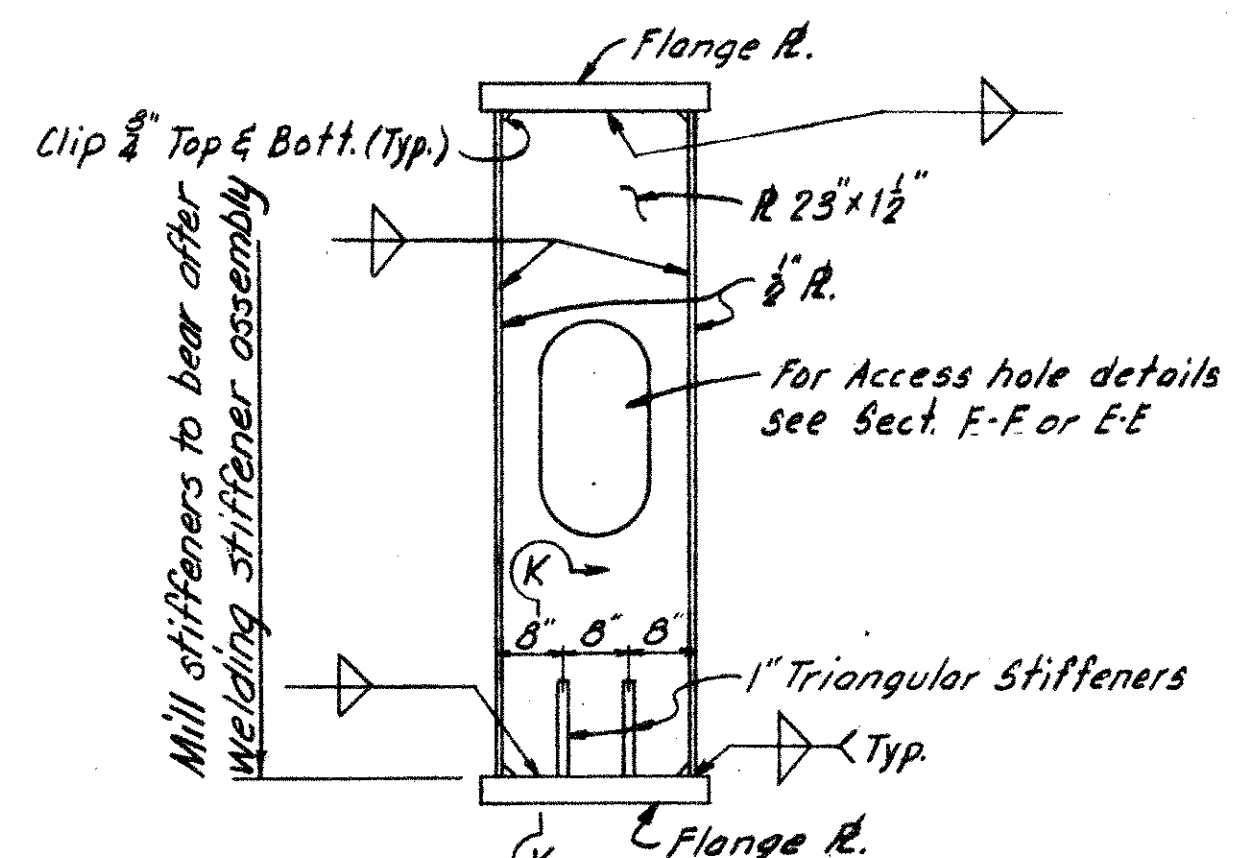
For end view of floor beam see Sht. N° 370  
For fillet weld sizes see TABLE OF FILLET WELD SIZE Sht. N° 427

Notes:  
Convexity includes variations due to vertical curvature, superelevation and horizontal curvature.  
Girder web plates shall be cut to a parabolic crown.  
Pier N° 1 has no meaningful deflections.

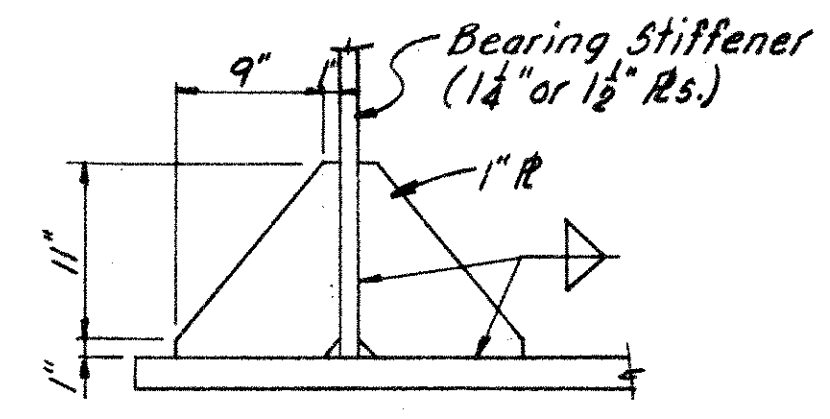
| Beam                                  | Span 1 |       | Span 2 |       | Span 3 |       | Span 4 |       | Pier 2 |       | Pier 3 |     |
|---------------------------------------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-----|
|                                       | A      | B     | C      | D     | E      | F     | G      | H     | I      | J     | K      | L   |
| Deflection due to weight of steel     | 1/2    | 1/6   | 1/2    | 1/6   | 1/8    | 1/6   | 1/8    | 1/6   | 1/8    | 1/6   | 1/8    | 1/6 |
| Deflection due to remaining dead load | 11/16  | 7/8   | 3/8    | 3/8   | 3/4    | 3/8   | 1/2    | 1/6   | 9/16   | 7/8   | 3/8    | 1/4 |
| Convexity required for vertical curve | 7/8    | 1/16  | 7/8    | 1/8   | 1/4    | 7/16  | -3/4   | -1/4  | -1/6   | -1/6  | -      | -   |
| Sum of deflections & convexity        | 2 1/2  | 2 3/8 | 1 3/4  | 2 1/8 | 3 3/8  | 1 3/8 | 1 1/2  | 1 1/8 | 1 1/2  | 1 1/8 | 1/8    | 1/2 |
| Required Camber                       | 2 3/4  | 3 1/8 | 2      | 2     | 2      | 2     | 2      | 2     | 2      | 2     | 2      | 2   |



SECTION J-J  
(Typ. all intermediate stiffeners)



SECTION G-G  
(Showing Bearing Stiffener)



SECTION K-K

HAZELET & ERDAL  
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CINCINNATI, OHIO

**STRUCTURAL STEEL DETAILS**  
UNIT NO. 1  
BRIDGE No. HAM-71-0226  
H&E BRIDGE No. 17

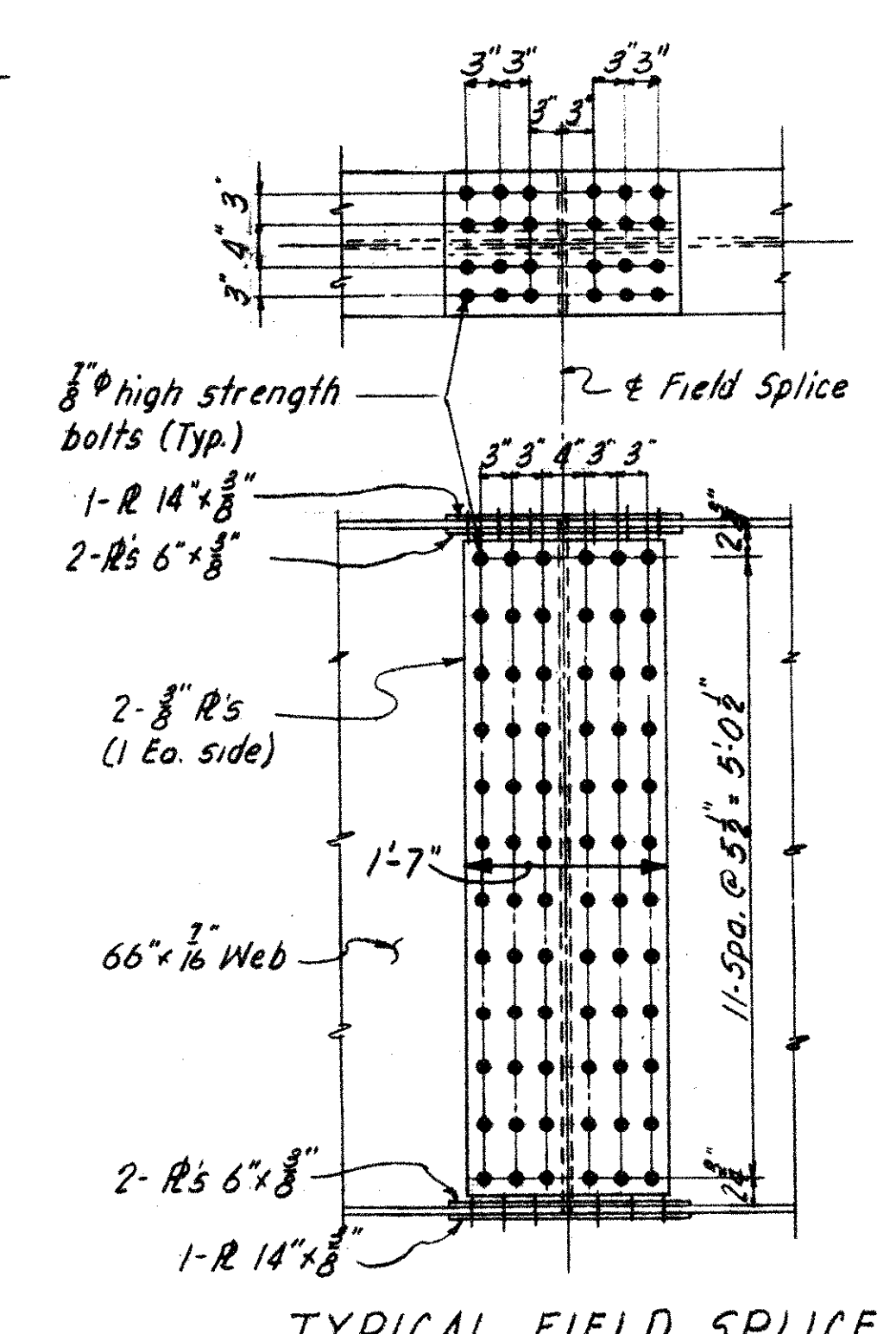
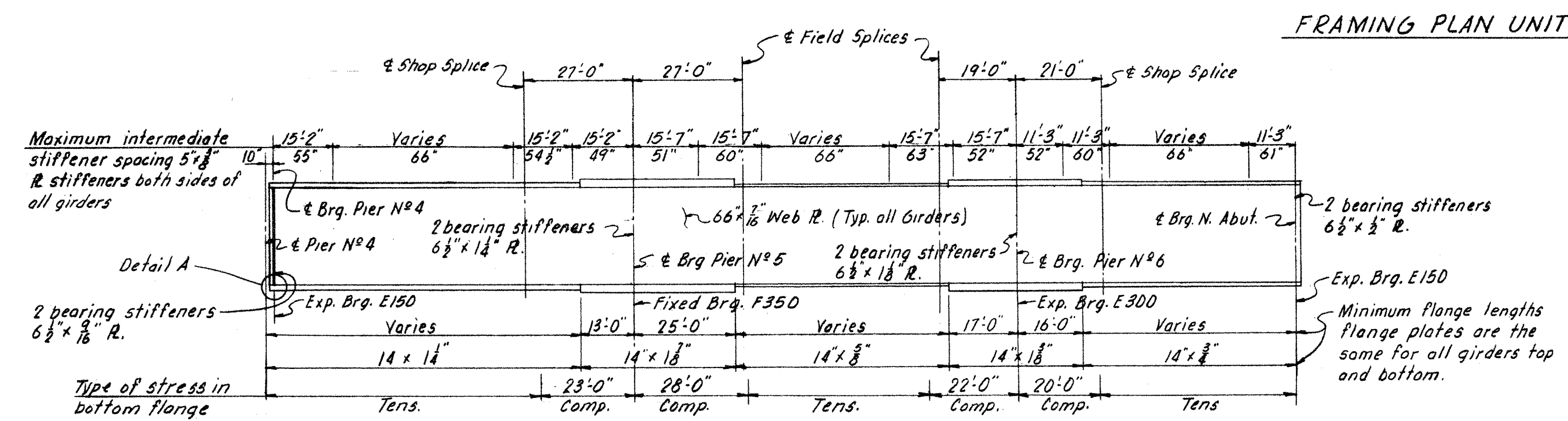
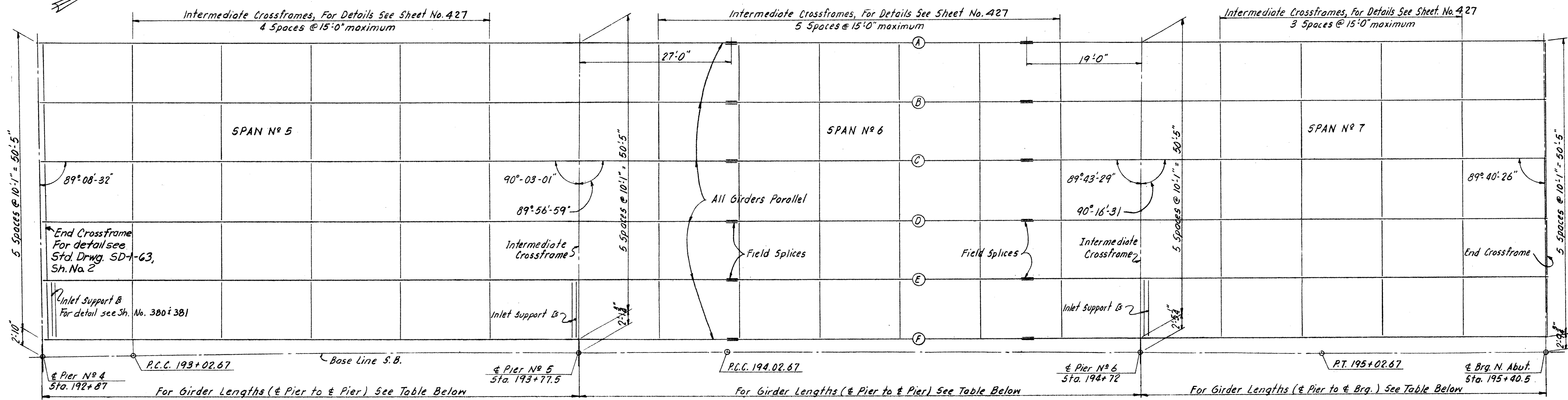
|          |          |        |         |               |         |
|----------|----------|--------|---------|---------------|---------|
| DESIGNED | DRAWN    | TRACED | CHECKED | REVIEWED DATE | REVISED |
| CRK      | R.L.M.F. |        | ELW     | JH<br>8/11/65 |         |

MICROFILMED  
SEP 15 1982

|               |       |         |             |
|---------------|-------|---------|-------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

372  
460

HAMILTON COUNTY  
HAM-71- 2.08



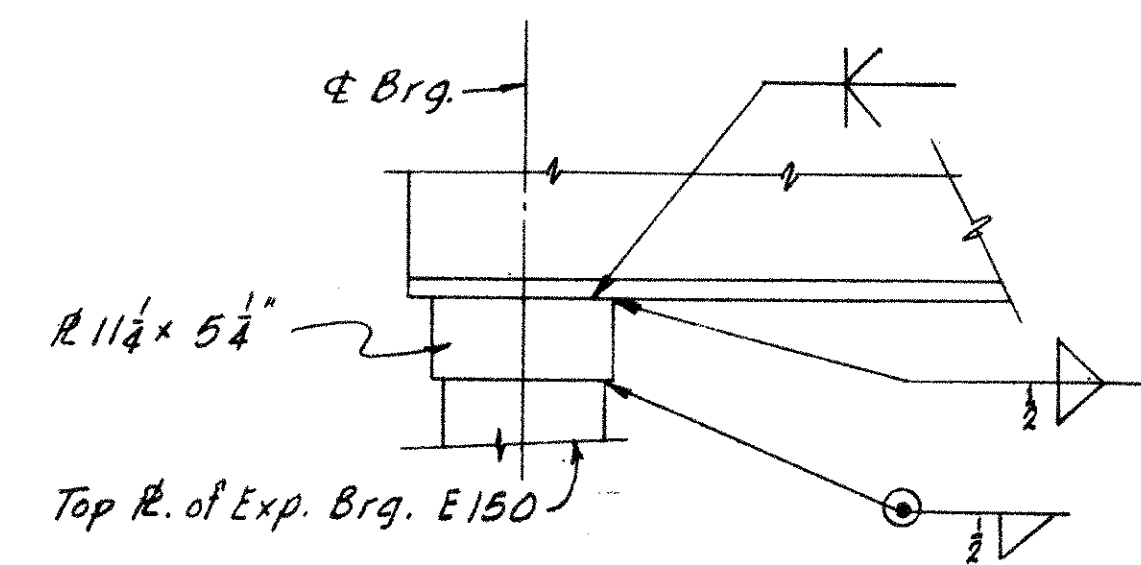
Notes:  
For bearing details see Ohio Standard Drwg. N° F5B-1-62  
For typical structural steel details see sht N° 427  
For drainage details see sht. N° 380 & 381

DEFLECTION and CAMBER \*

| Beam                                  | Span 5 |      |      | Span 6 |      |      | Span 7 |      |      |
|---------------------------------------|--------|------|------|--------|------|------|--------|------|------|
|                                       | 1/4    | 1/2  | 3/4  | 1/4    | 1/2  | 3/4  | 1/4    | 1/2  | 3/4  |
| Deflection due to weight of steel     | 1/16   | 1/8  | 1/16 | -      | 1/16 | -    | -      | 1/16 | 1/16 |
| Deflection due to remaining dead load | 1/16   | 9/16 | 1/4  | 1/16   | 3/16 | 1/16 | 1/8    | 1/4  | 1/4  |
| Convexity required for vertical curve | -      | -    | -    | -      | -    | -    | -      | -    | -    |
| Sum of deflections and convexity      | 1/2    | 1/16 | 5/16 | 1/16   | 1/4  | 1/16 | 1/8    | 5/16 | 5/16 |
| Required camber                       | 3/4    |      |      | 1/4    |      |      | 3/8    |      |      |

TABLE of GIRDER LENGTH

| Girder | Span 5       | Span 6      | Span 7      |
|--------|--------------|-------------|-------------|
| A      | 91'-3"       | 94'-9 7/16" | 68'-6 7/16" |
| B      | 91'-1 5/16"  | 94'-8 7/8"  | 68'-6 7/16" |
| C      | 90'-11 9/16" | 94'-8 1/4"  | 68'-6 5/16" |
| D      | 90'-9 7/8"   | 94'-7 9/16" | 68'-6 3/16" |
| E      | 90'-8 1/8"   | 94'-6 7/8"  | 68'-6 1/8"  |
| F      | 90'-6 7/16"  | 94'-6 3/16" | 68'-6"      |



\* See notes on sht. N° 371

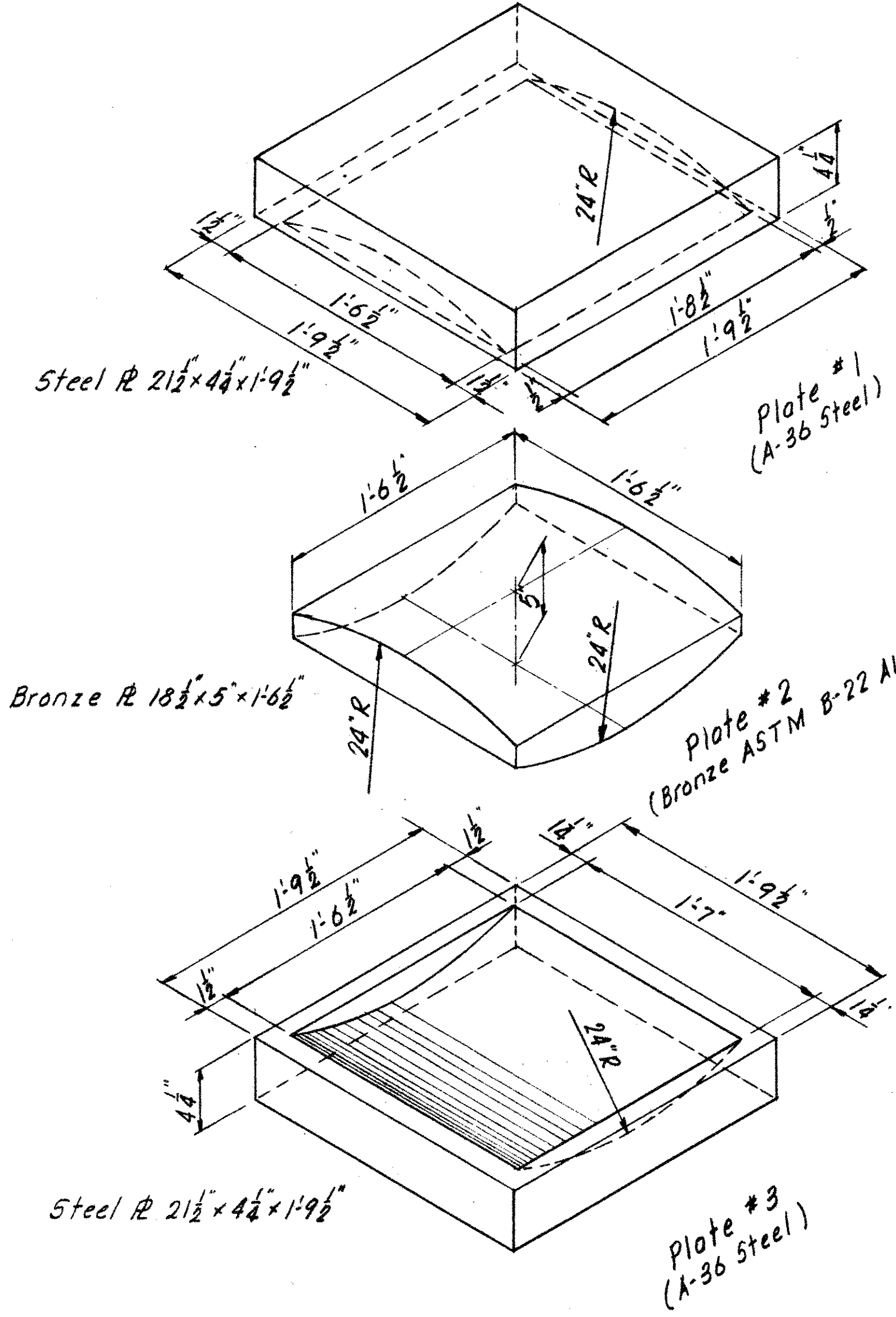
HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**STRUCTURAL STEEL DETAILS**  
**UNIT NO. 2**  
BRIDGE No. HAM-71-0226  
H&E BRIDGE No. 17

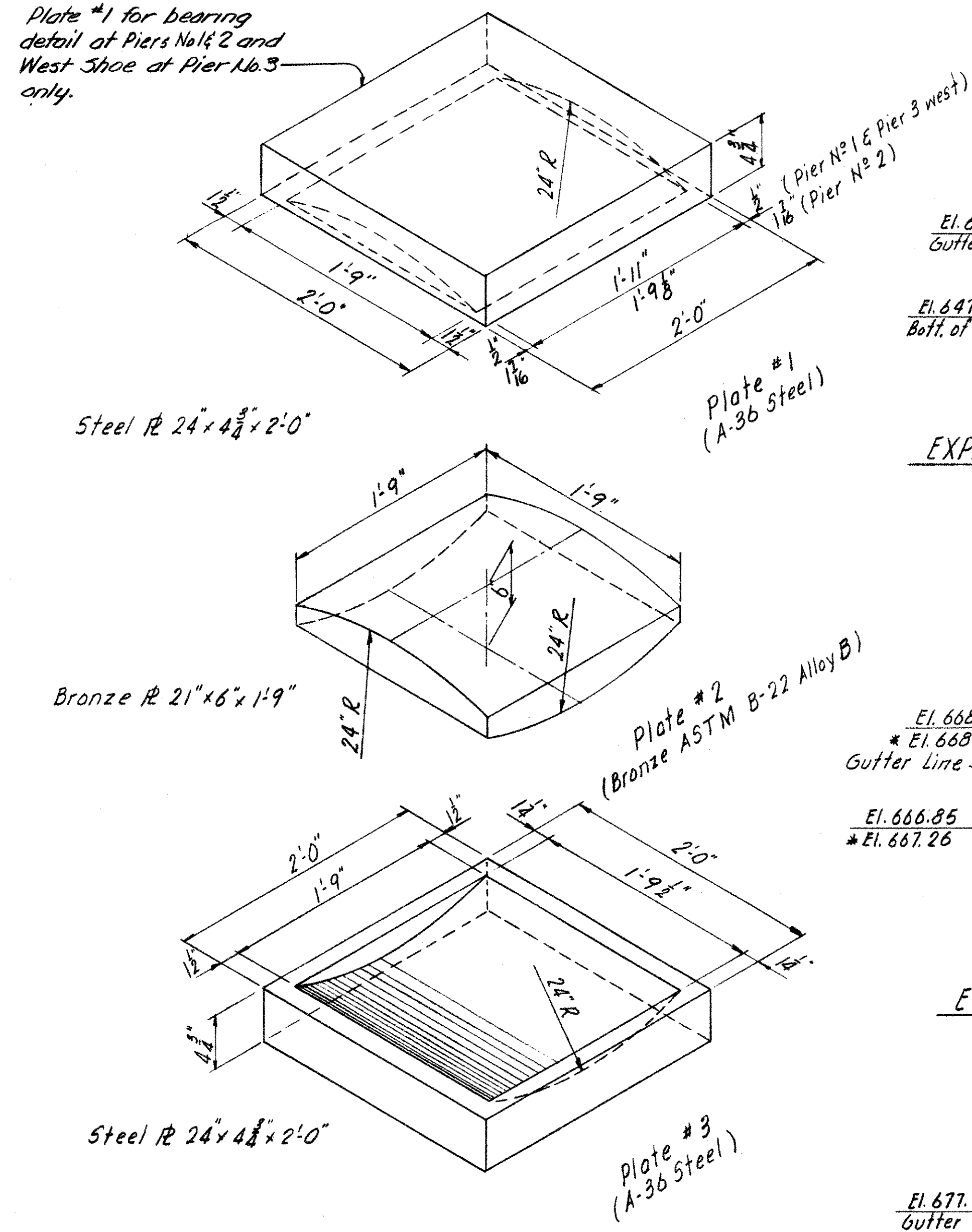
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|----------|----------|--------|---------|----------------|---------|
| DESIGNED | DRAWN    | TRACED | CHECKED | REVIEWED DATE  | REVISED |
| JWH      | R.L.M.F. |        | ELW     | JHO<br>8/11/65 |         |

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SEP 15 1982

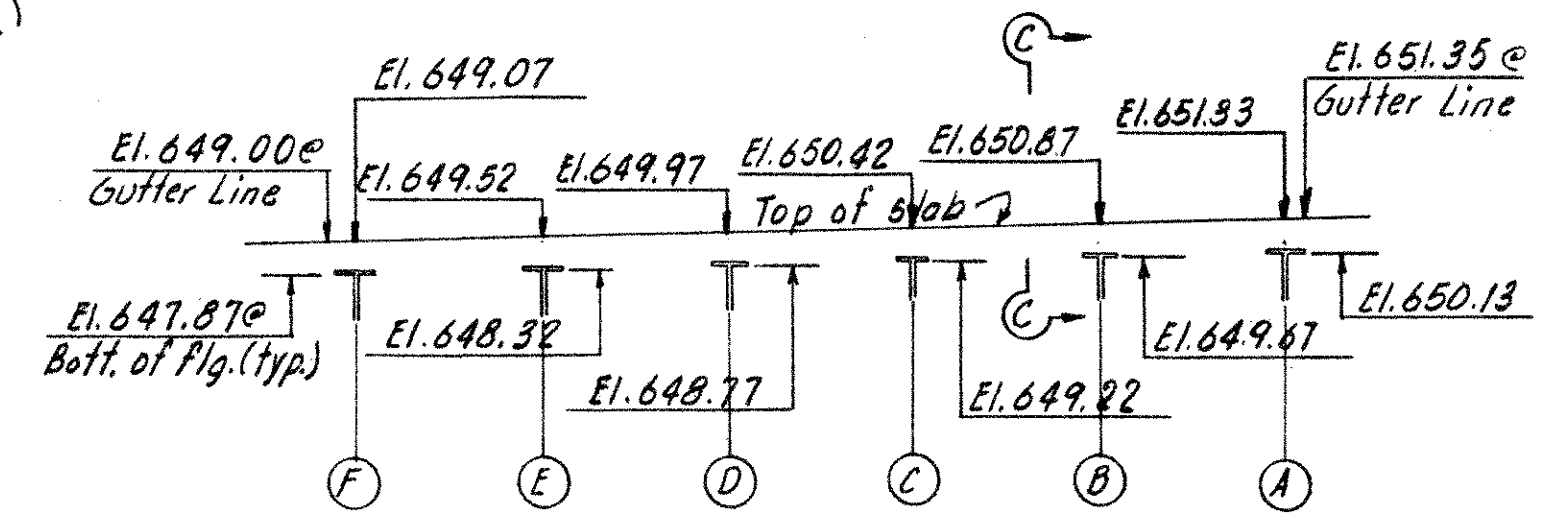
HAMILTON COUNTY  
HAM-71-2.08



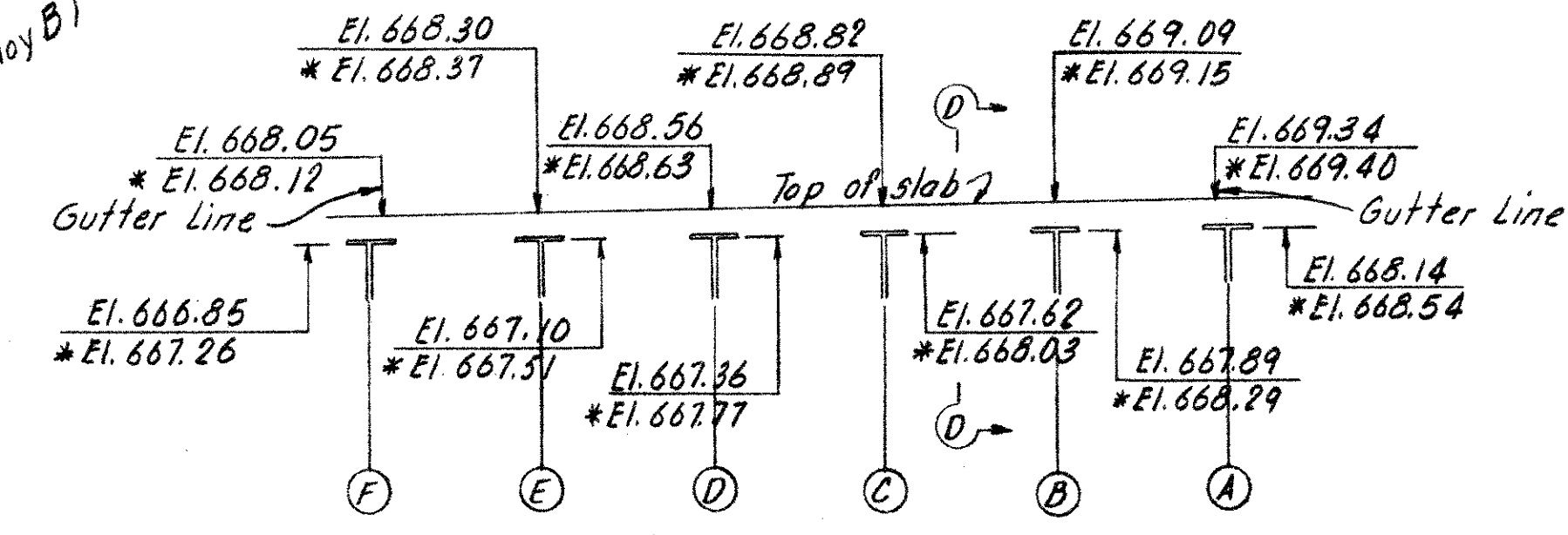
**BEARING DETAIL-A**  
For Pier N<sup>o</sup> 3 (East Shoe)



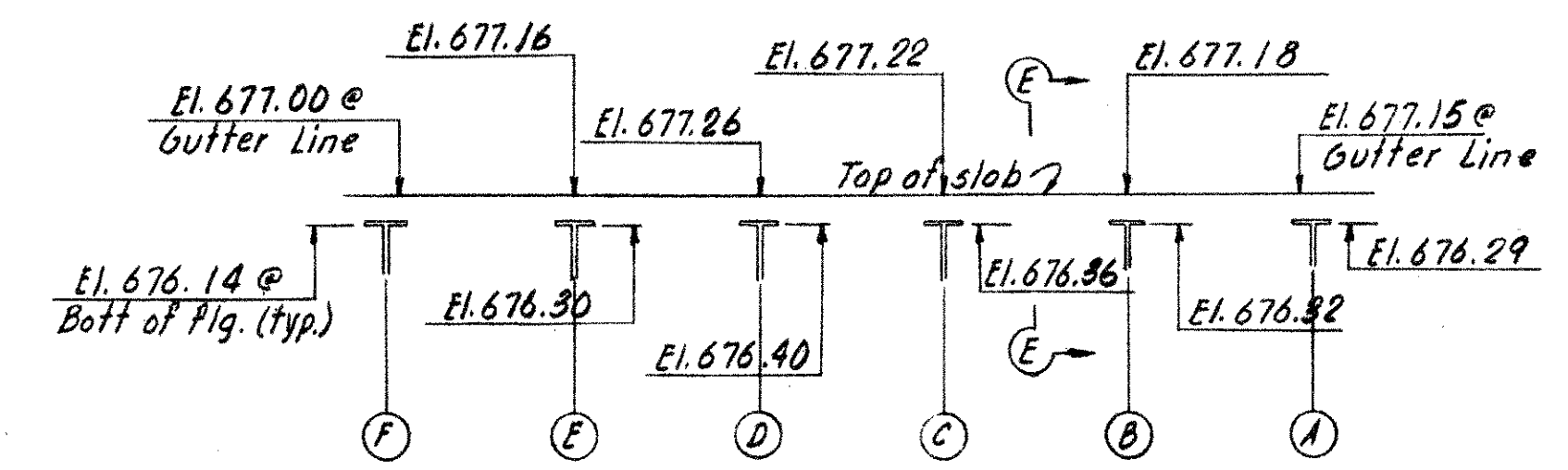
**BEARING DETAIL-B**  
For Pier N<sup>o</sup> 1 (both Shoes)  
For Pier N<sup>o</sup> 2 (both Shoes)  
For Pier N<sup>o</sup> 3 (West Shoe)



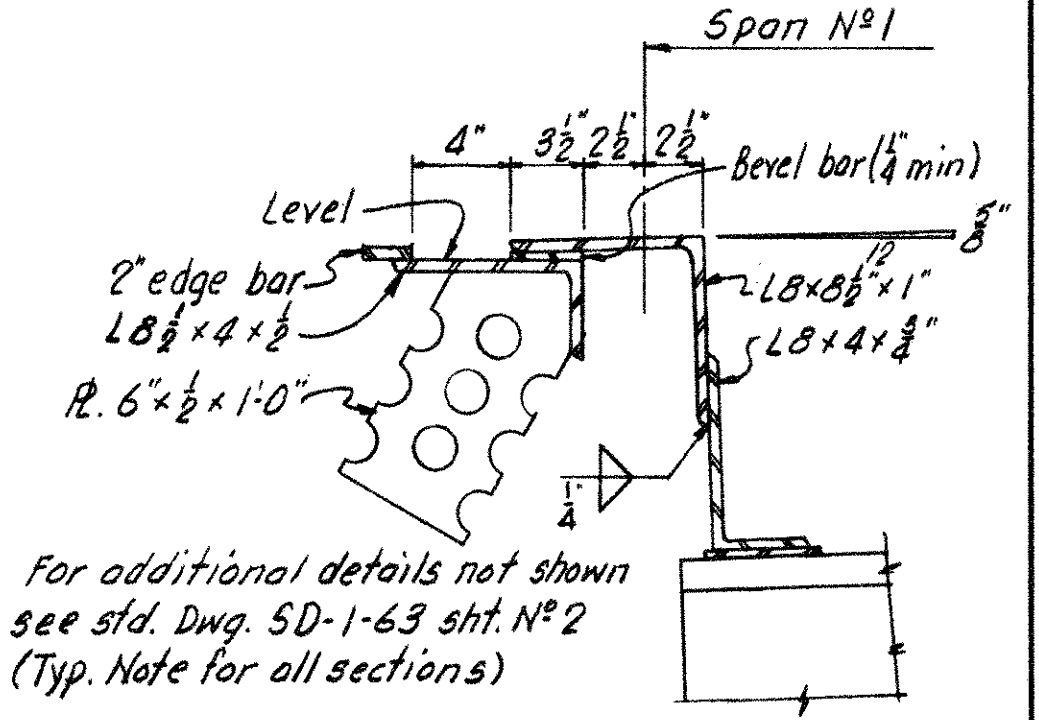
**EXPANSION JOINT CROSS SECTION AT SOUTH ABUTMENT**  
Elevations given are at the intersection of the  $\epsilon$  beam or gutter line &  $\epsilon$  bearing for Abutment



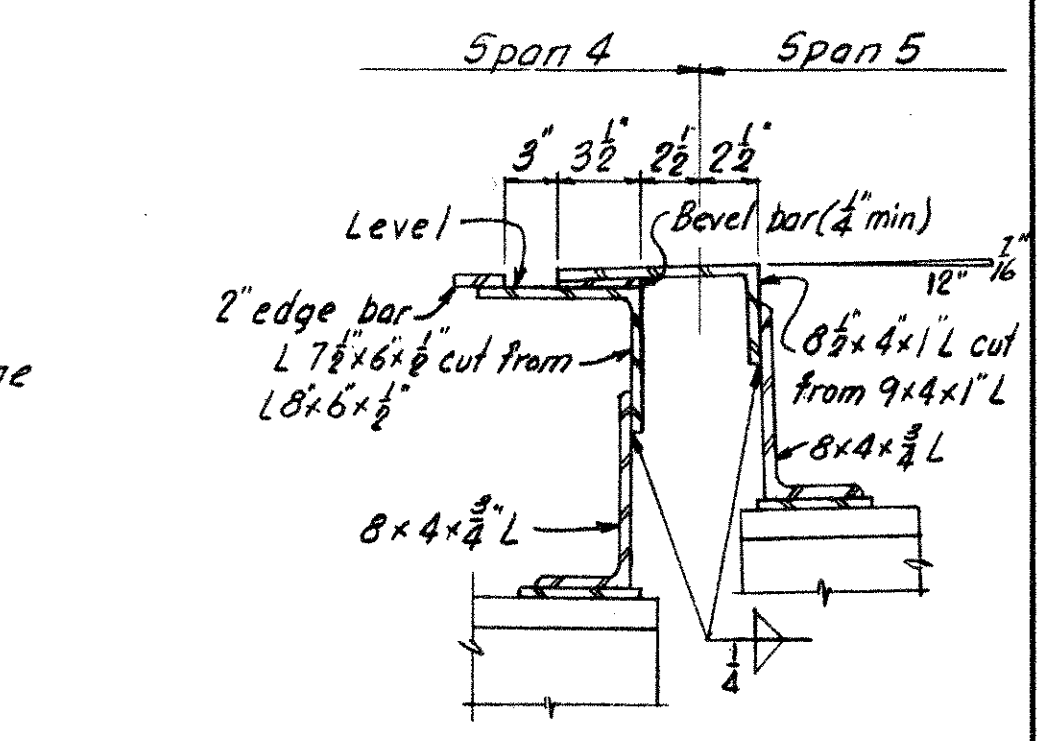
**EXPANSION JOINT CROSS SECTION AT PIER N<sup>o</sup> 4**  
Elevations given at top of slab are at the intersection of  $\epsilon$  beam or gutter line & bearing. Elevations given at the bott. of beam flanges are at the intersection of the  $\epsilon$  beam &  $\epsilon$  bearing.



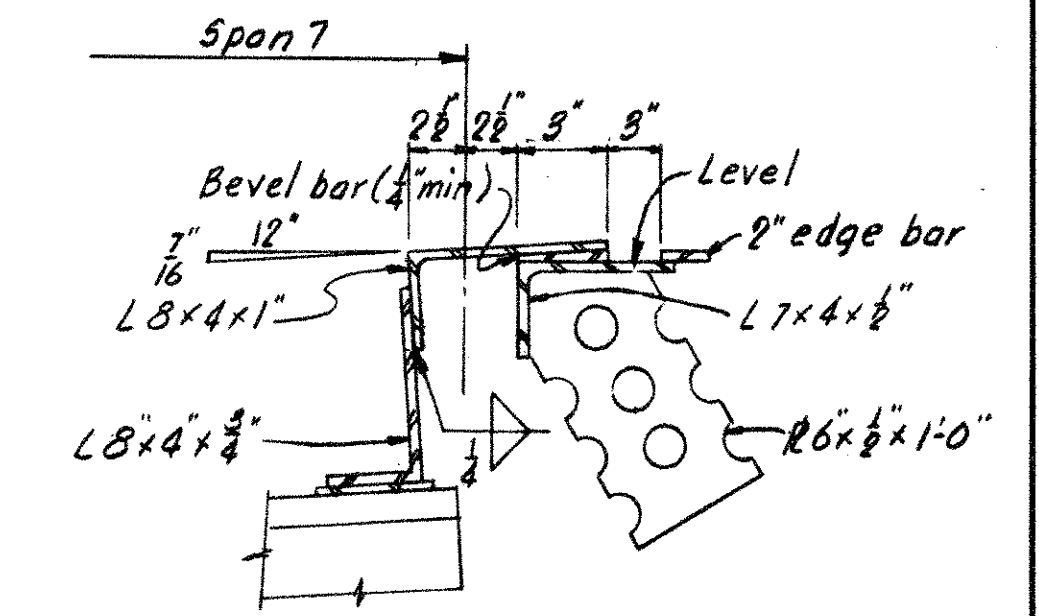
**EXPANSION JOINT CROSS SECTION AT NORTH ABUTMENT**  
Elevations given are at the intersection of the  $\epsilon$  beam or gutter line &  $\epsilon$  bearing for Abutment



**SECTION C-C**

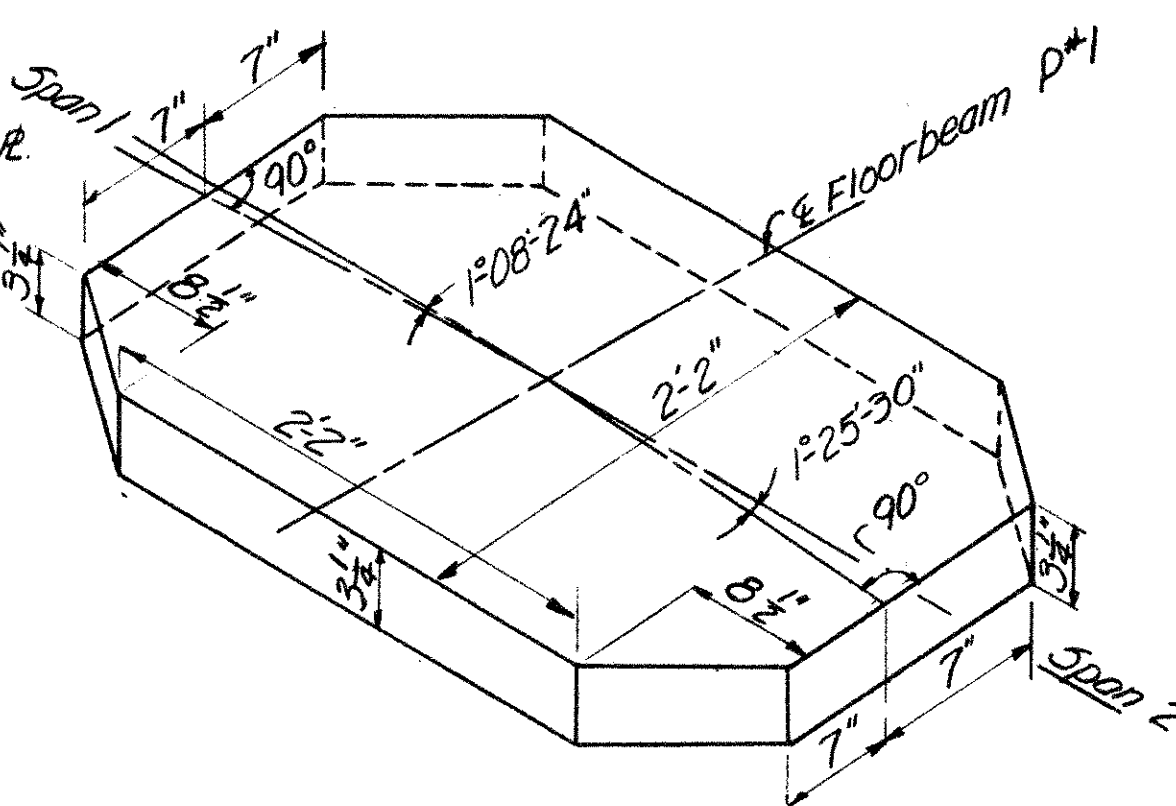
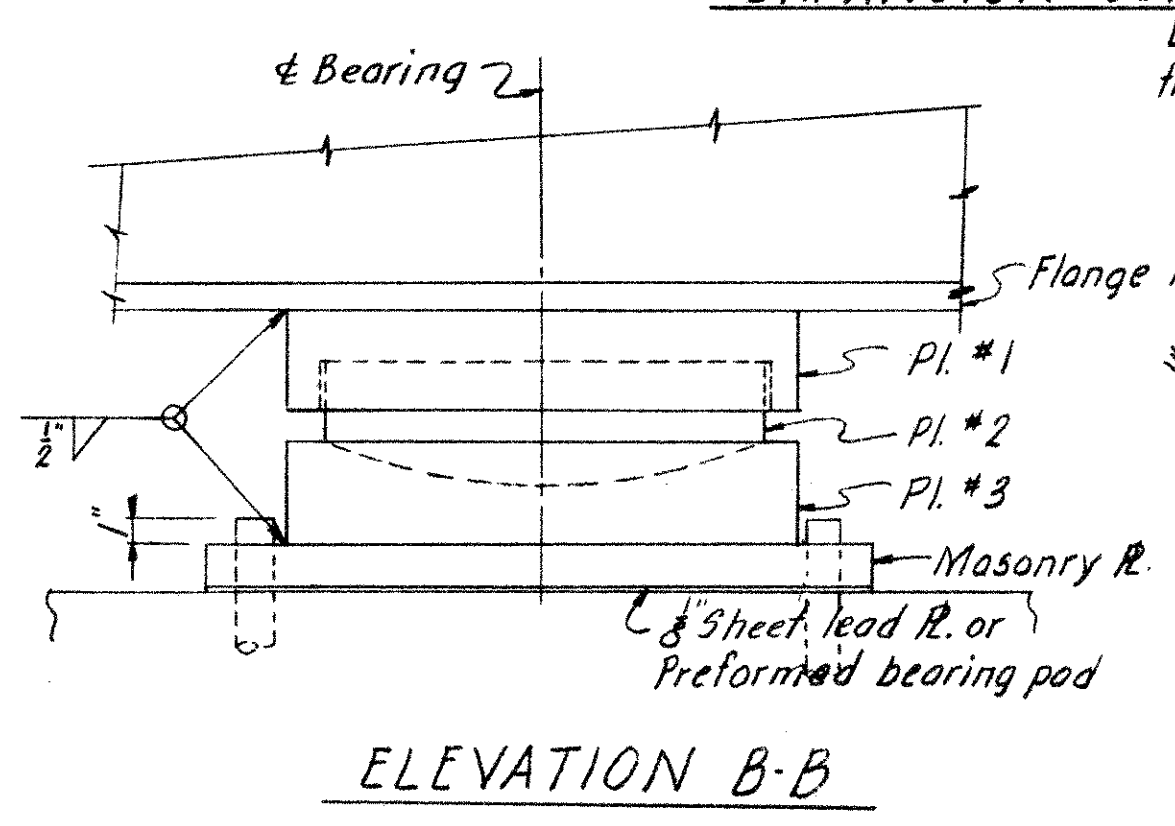
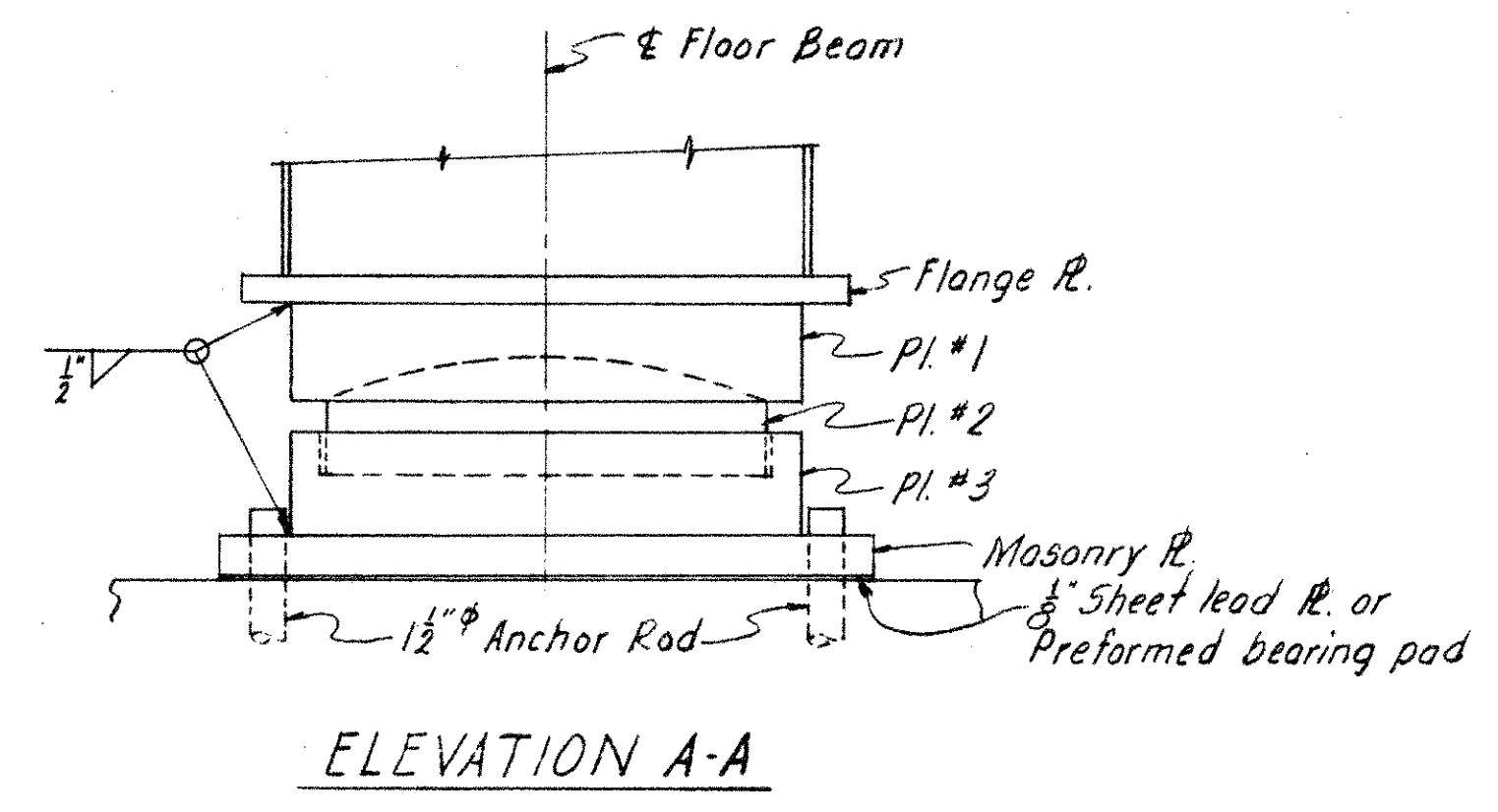
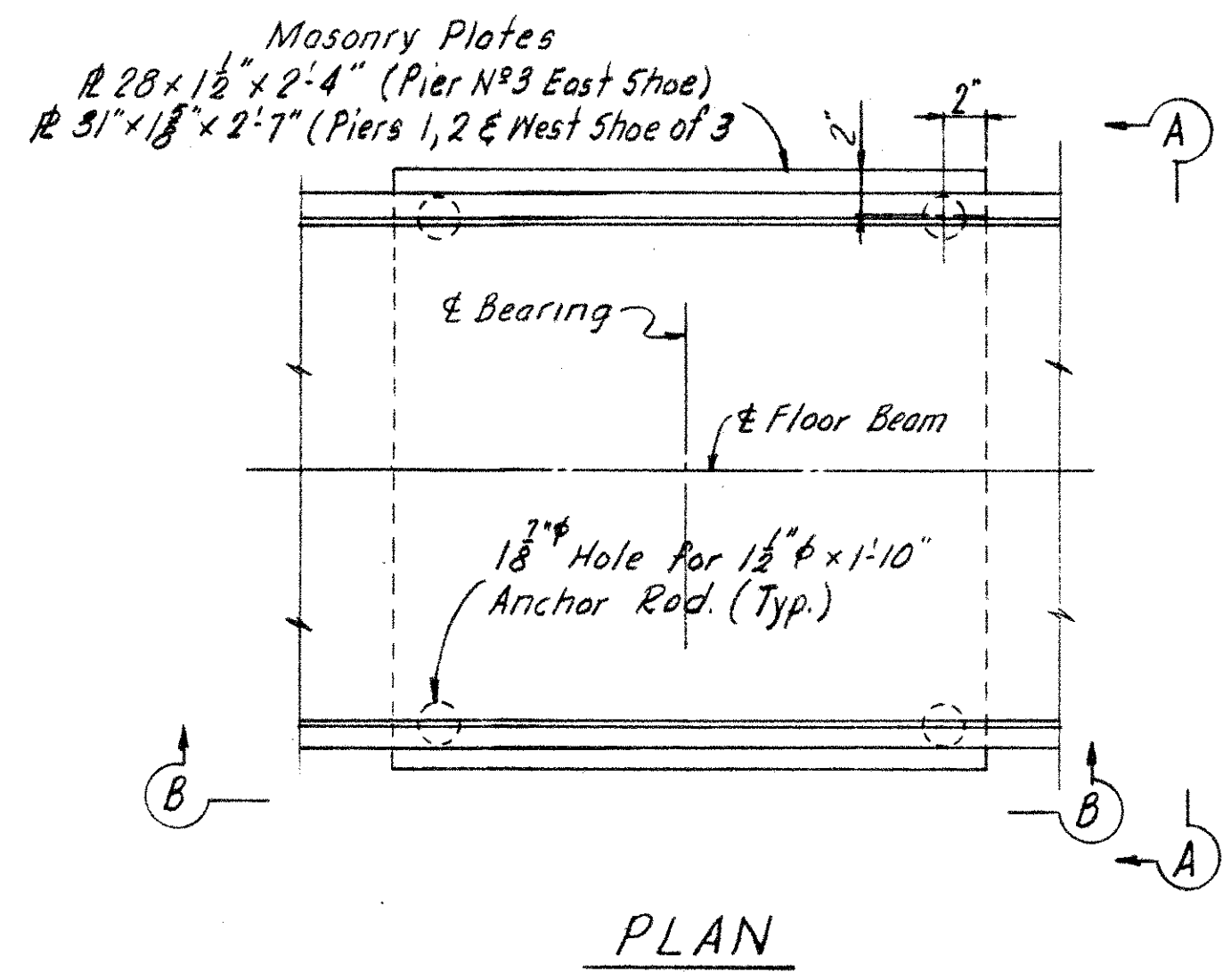


**SECTION D-D**



**SECTION E-E**

For curb plate detail see Detail E Sh. No 339  
Bridge No HAM-71-0224



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**STRUCTURAL STEEL DETAILS**  
BRIDGE No. HAM-71-0226

H&E BRIDGE No. 17

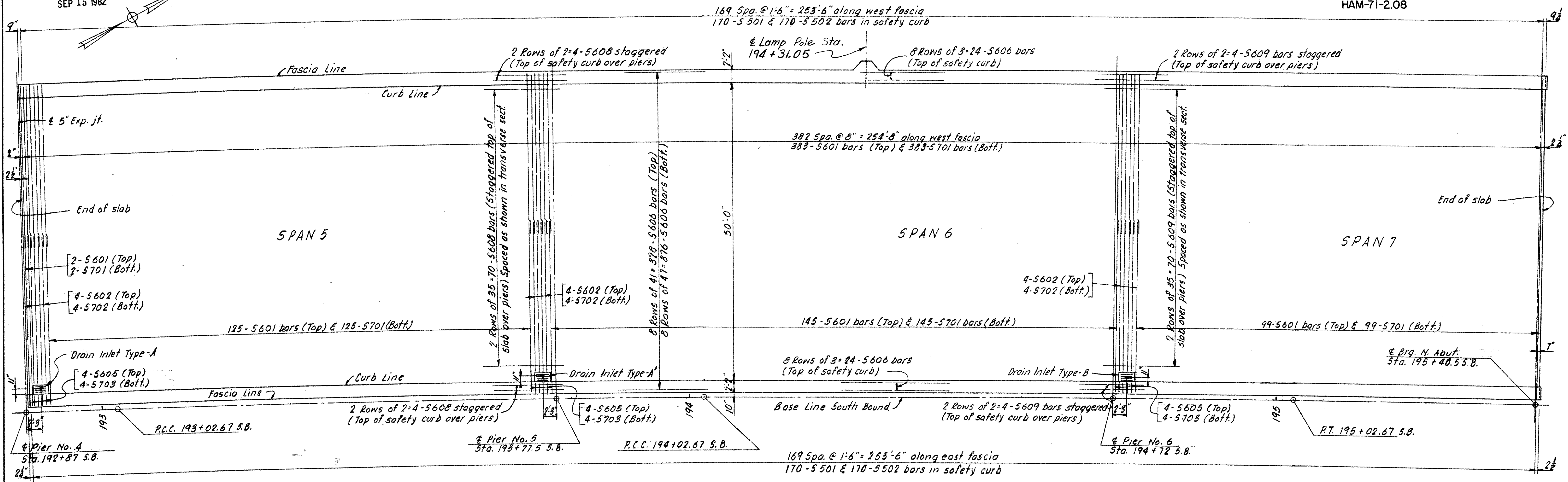
|          |          |        |         |                |          |
|----------|----------|--------|---------|----------------|----------|
| DESIGNED | DRAWN    | TRACED | CHECKED | REVIEWED DATE  | REVISION |
| CRK      | R.L.M.F. |        | ELW     | Jth<br>8/11/65 |          |







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SEP 15 1982



PLAN UNIT 2  
(Parapet not shown)

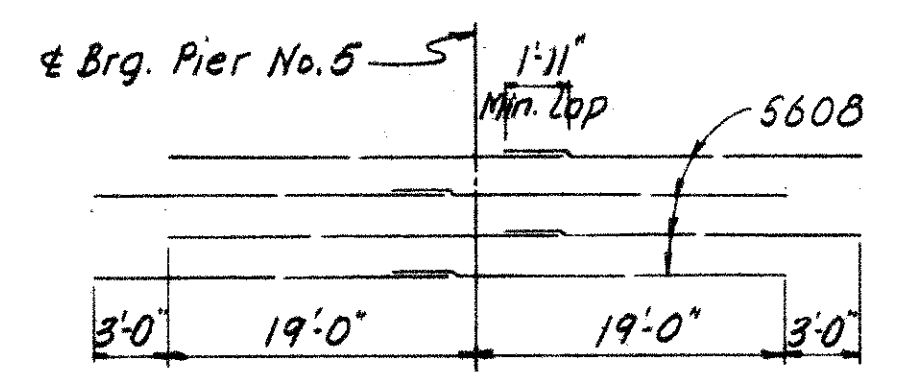


DIAGRAM SHOWING STAGGER & SPLICES  
OF 5608 BARS OVER PIER NO. 5

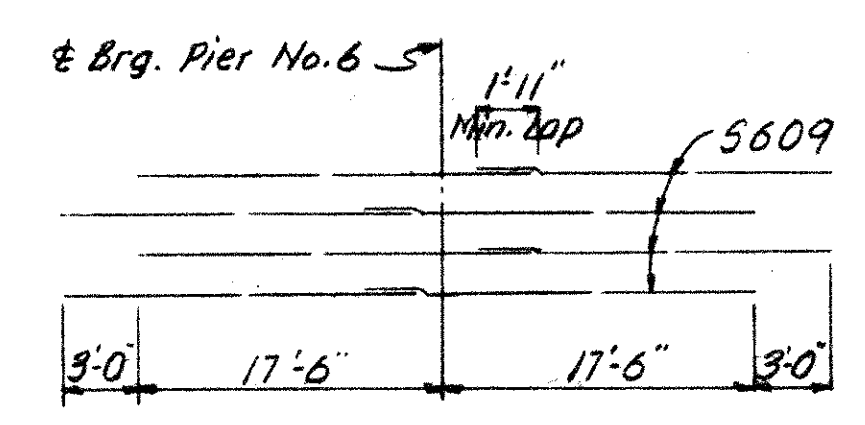
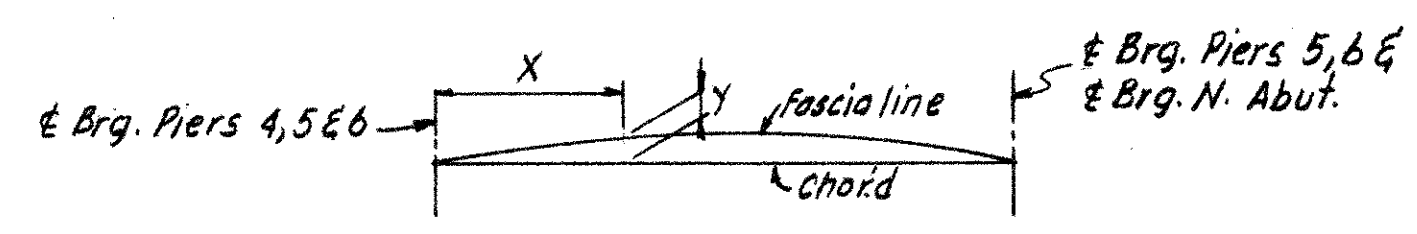


DIAGRAM SHOWING STAGGER & SPLICES  
OF 5609 BARS OVER PIER NO. 6



UNIT 2 CHORD OFFSETS

| Span 5      |             |        |        | Span 6      |             |      |      | Span 7      |             |      |      |
|-------------|-------------|--------|--------|-------------|-------------|------|------|-------------|-------------|------|------|
| East Fascia | West Fascia | X      | Y      | East Fascia | West Fascia | X    | Y    | East Fascia | West Fascia | X    | Y    |
| 9'-1"       | 9'-2"       | 2"     | 3/8"   | 9'-5"       | 9'-6"       | 1/4" | 1/4" | 6'-10"      | 6'-10"      | 0"   | 0"   |
| 18'-1"      | 18'-3"      | 1"     | 1/8"   | 18'-11"     | 19'-0"      | 1/2" | 1/2" | 13'-8"      | 13'-9"      | 0"   | 0"   |
| 27'-2"      | 27'-5"      | 1 3/8" | 1 1/2" | 28'-4"      | 28'-5"      | 1/2" | 1/2" | 20'-7"      | 20'-7"      | 1/8" | 1/8" |
| 36'-2"      | 36'-6"      | 1 3/8" | 1 3/4" | 37'-10"     | 37'-11"     | 3/8" | 3/8" | 27'-5"      | 27'-5"      | 1/8" | 1/8" |
| 45'-3"      | 45'-8"      | 1 3/8" | 1 3/8" | 47'-3"      | 47'-5"      | 3/8" | 3/8" | 34'-3"      | 34'-3"      | 1/8" | 1/8" |
| 54'-4"      | 54'-9"      | 1 3/8" | 1 3/4" | 56'-8"      | 56'-11"     | 1/2" | 1/2" | 41'-1"      | 41'-2"      | 1/8" | 1/8" |
| 63'-4"      | 63'-11"     | 1 3/8" | 1 1/2" | 66'-2"      | 66'-4"      | 1/2" | 1/2" | 47'-1"      | 48'-0"      | 0"   | 0"   |
| 72'-5"      | 73'-0"      | 1 3/8" | 1 3/8" | 75'-7"      | 75'-10"     | 3/8" | 3/8" | 54'-10"     | 54'-10"     | 0"   | 0"   |
| 81'-6"      | 82'-2"      | 3/8"   | 3/8"   | 85'-0"      | 85'-4"      | 1/8" | 1/8" | 61'-8"      | 61'-8"      | 0"   | 0"   |

UNIT 2 CHORD LENGTHS

| Span No. | East Fascia | West Fascia |
|----------|-------------|-------------|
| 5        | 90'-6 3/8"  | 91'-3 3/8"  |
| 6        | 94'-6 1/8"  | 94'-9 3/4"  |
| 7        | 68'-6"      | 68'-6 3/8"  |

Notes:

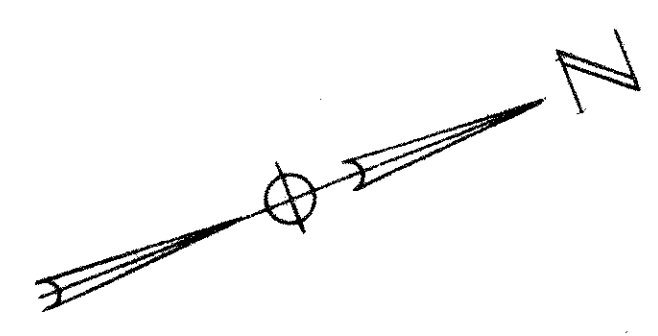
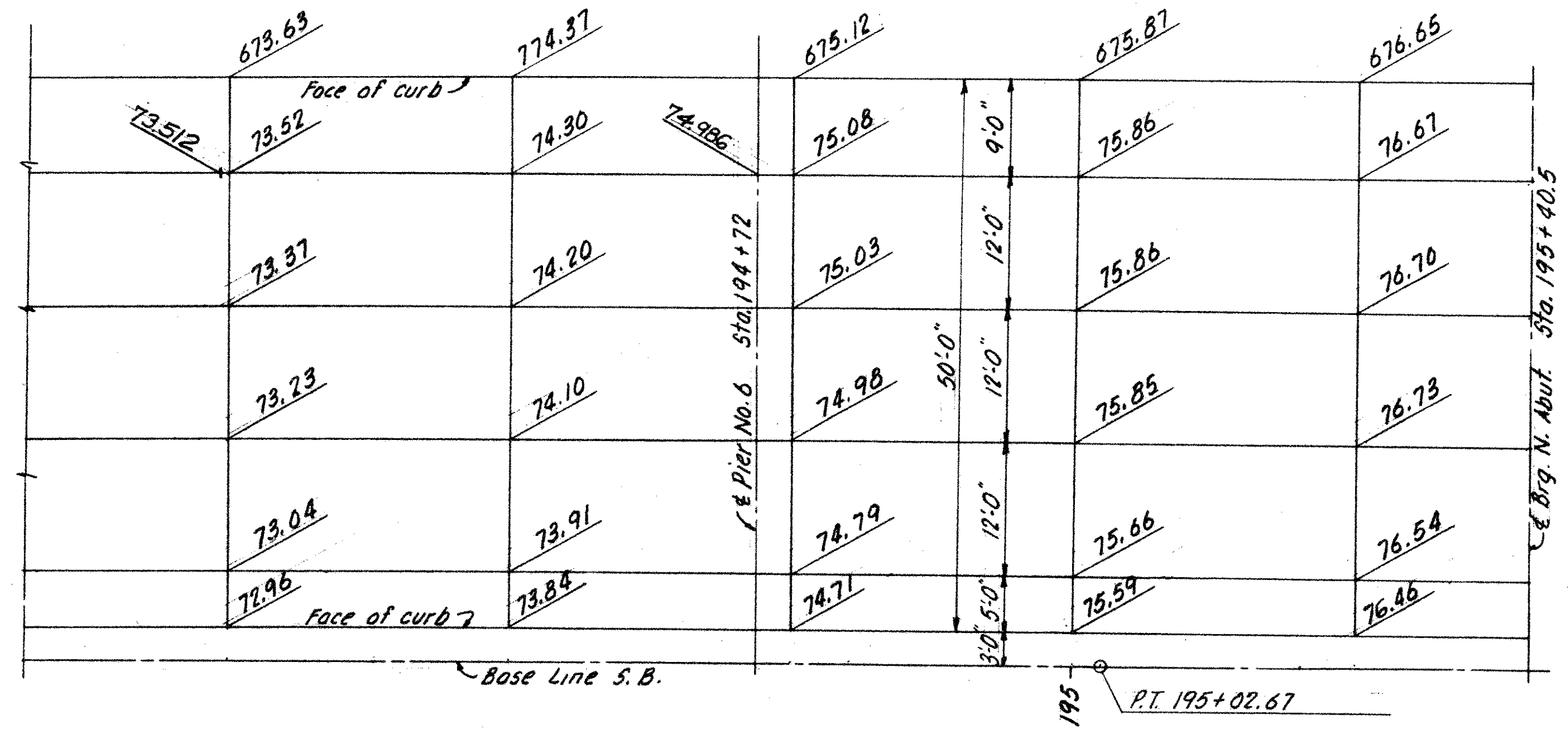
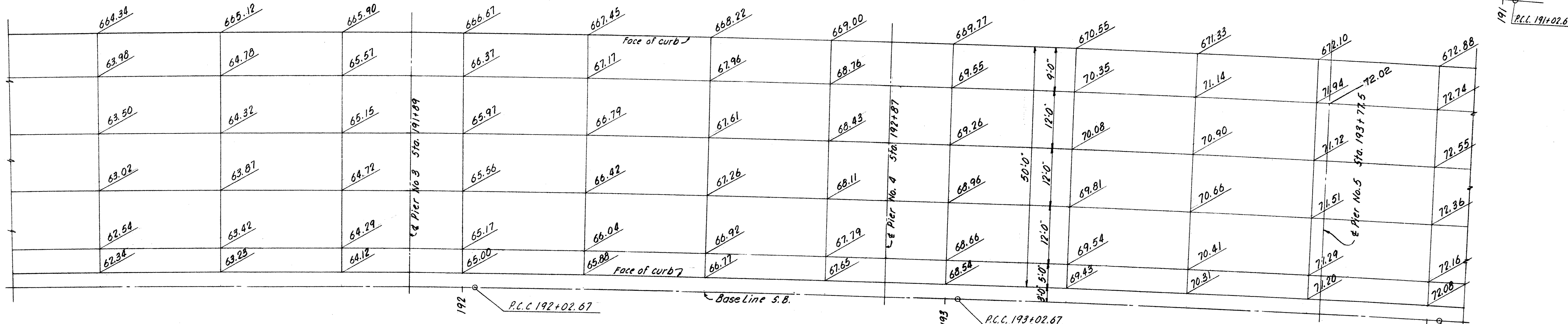
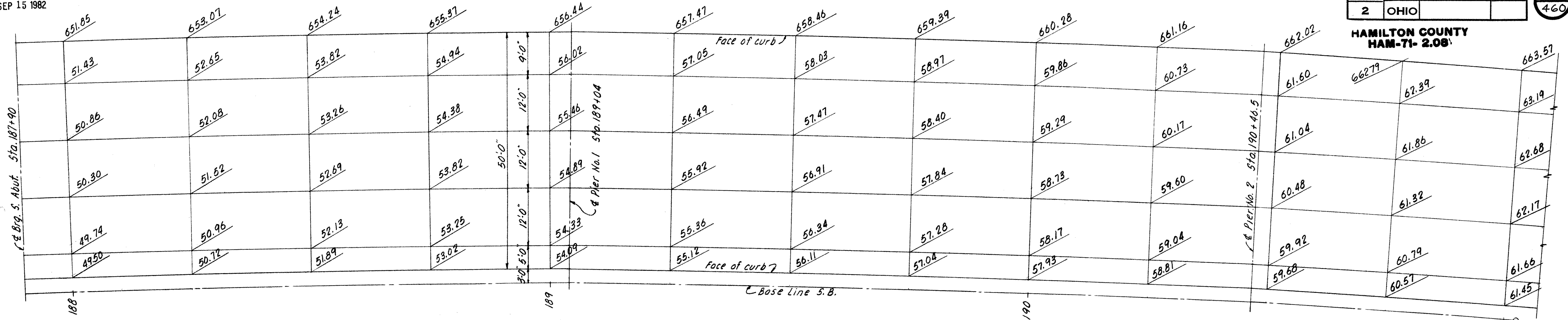
- Transverse reinforcing bars are to be placed radially and spaced at 8" measured along west fascia line
- Longitudinal bars are placed parallel to the curvature of the roadway.
- Field bend or cut longitudinal bars where necessary to miss inlet.
- For end finish details see Sht. No. 373
- For drainage details see Sht. No. 380 & 381
- For Lighting details see Sht. No. 189, 378 & 379
- For railing details and spacing of bars in parapet see Sht. No. 379

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CINCINNATI, OHIO

**SUPERSTRUCTURE DETAILS**  
UNIT NO. 2  
BRIDGE No. HAM-71-0226  
H & E BRIDGE No. 17

|          |          |        |         |               |         |
|----------|----------|--------|---------|---------------|---------|
| DESIGNED | DRAWN    | TRACED | CHECKED | REVIEWED DATE | REVISED |
| CRK      | R.L.M.F. |        | ELW     | JH<br>8/16/85 |         |

HAMILTON COUNTY  
HAM-71-2.08



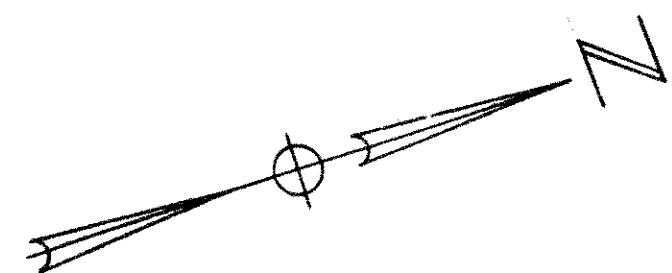
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CONSULTING ENGINEERS  
CINCINNATI, OHIO

**ROADWAY SURFACE ELEV.**  
BRIDGE No. HAM-71-0226

H&E BRIDGE No. 17

|          |          |        |         |                 |          |
|----------|----------|--------|---------|-----------------|----------|
| DESIGNED | DRAWN    | TRACED | CHECKED | REVIEWED DATE   | REVISION |
|          | P.L.M.F. |        | ELW     | Jito<br>8/1+165 |          |

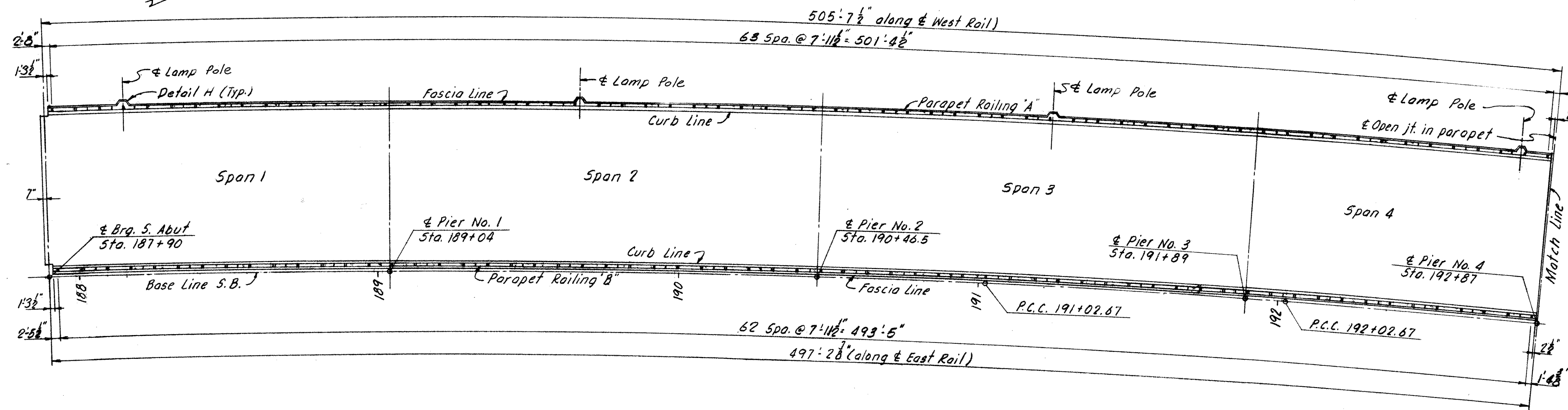
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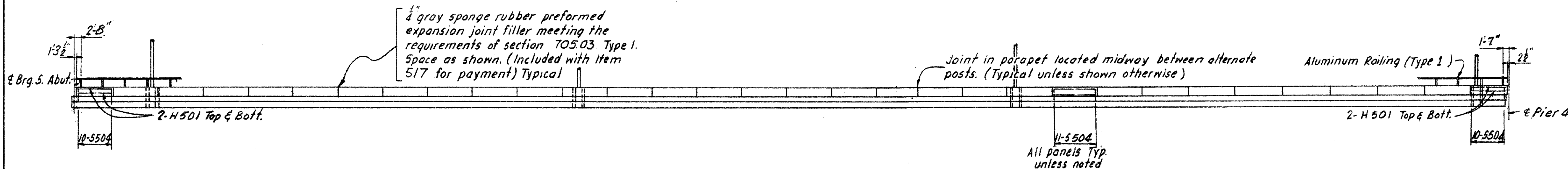
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| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

378  
460

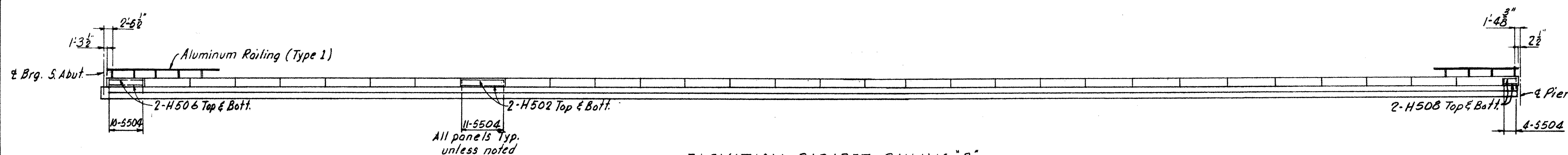
HAMILTON COUNTY  
HAM-71-2.08



PLAN  
Unit No. 1



ELEVATION PARAPET RAILING "A"  
(Looking West)



ELEVATION PARAPET RAILING "B"  
(Looking West)

Notes:

Railing Post spaces are measured along & Parapet.  
For Railing Details see Standard Drwg. BR-1-65.  
For typical lighting details see sht. No. 189  
For conduit expansion detail at abutments see sht. No. 189  
Work this sht. with Lighting Plan sht. No. 180 which shows location of conduits, hand holes & lamp Pole  
For Detail "H" see sht. No. 343 Bridge No. HAM-71-0224 for similar detail.

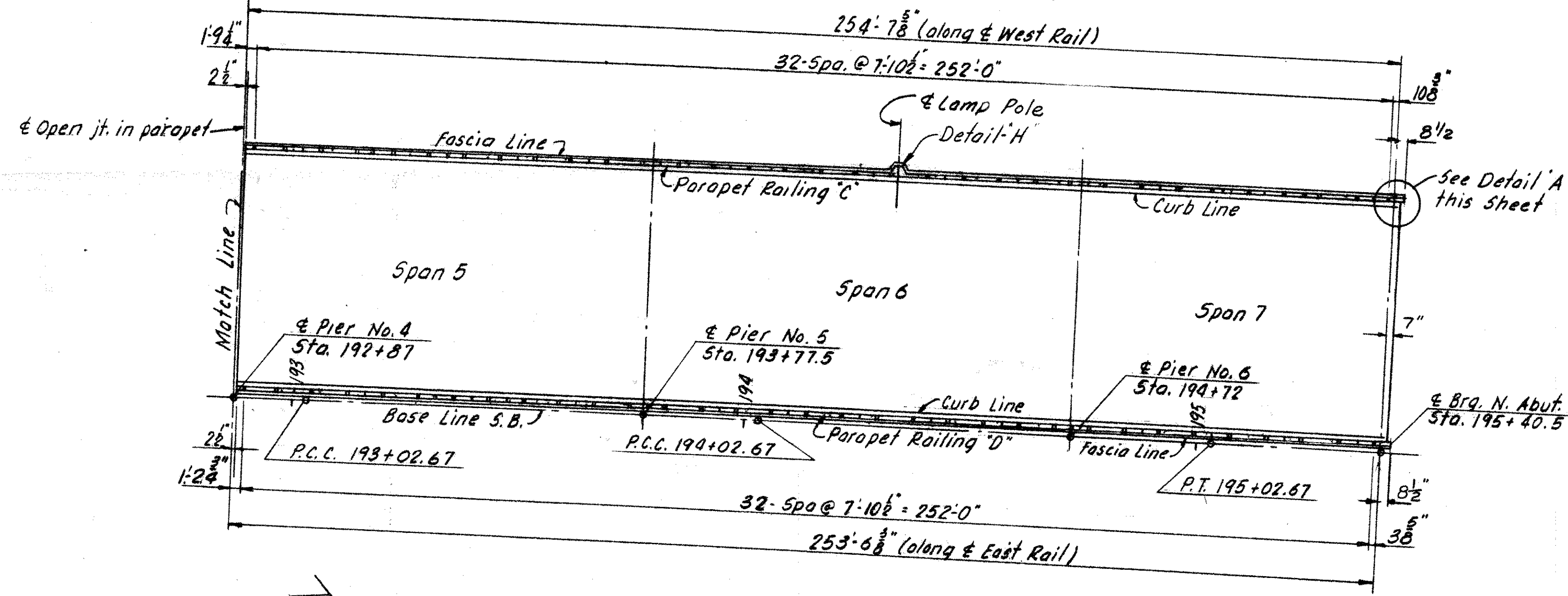
|   |            |        |         |                |         |
|---|------------|--------|---------|----------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO                             |            |        |         |                |         |
| RAILING & LIGHTING DETAILS<br>UNIT NO. 1<br>BRIDGE No. HAM-71-0226<br>H&E BRIDGE No. 17 |            |        |         |                |         |
| DESIGNED  | DRAWN      | TRACED | CHECKED | REVIEWED DATE  | REVISED |
|   | R.L.N.F.F. |        | ELW     | JH0<br>8/11/65 |         |

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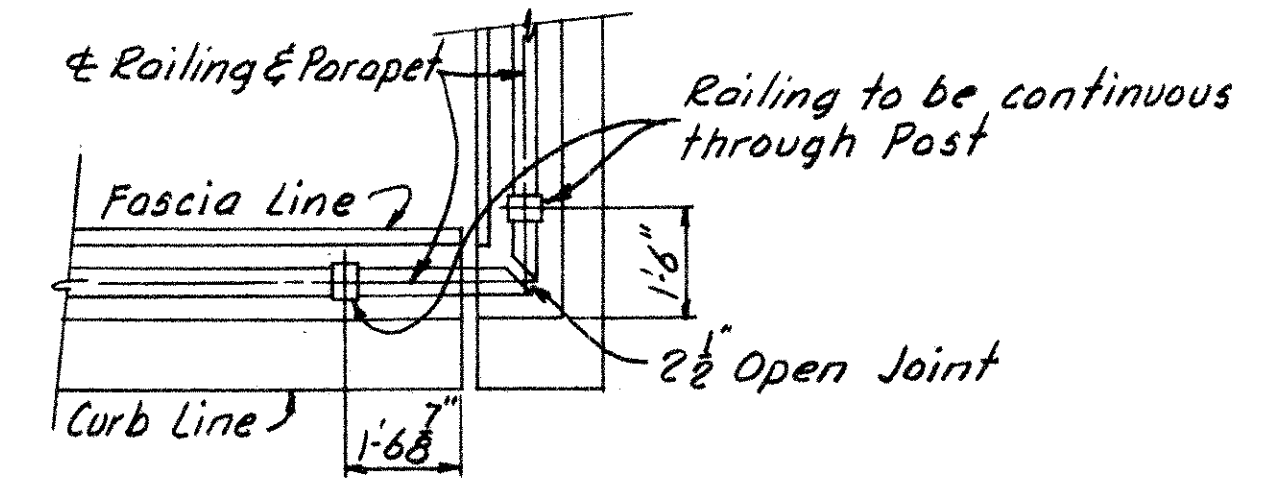
|               |       |         |             |
|---------------|-------|---------|-------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

379  
460

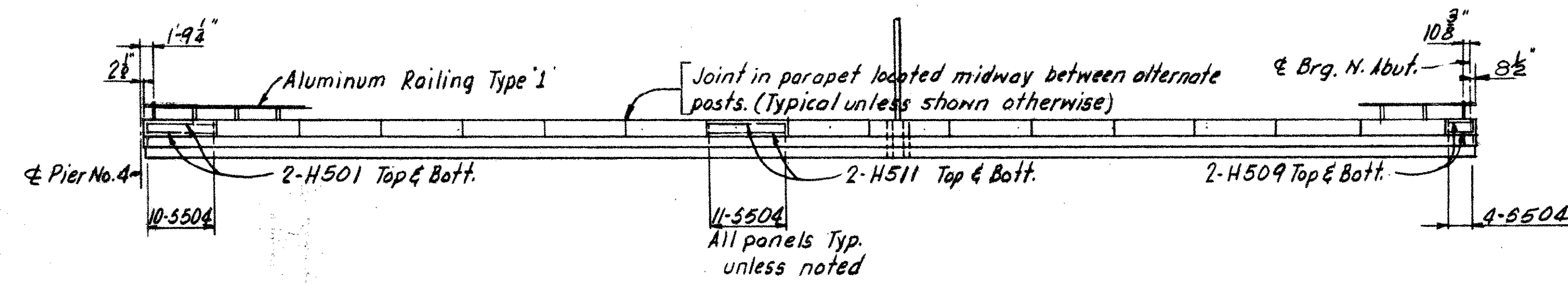
HAMILTON COUNTY  
HAM-71-2.08



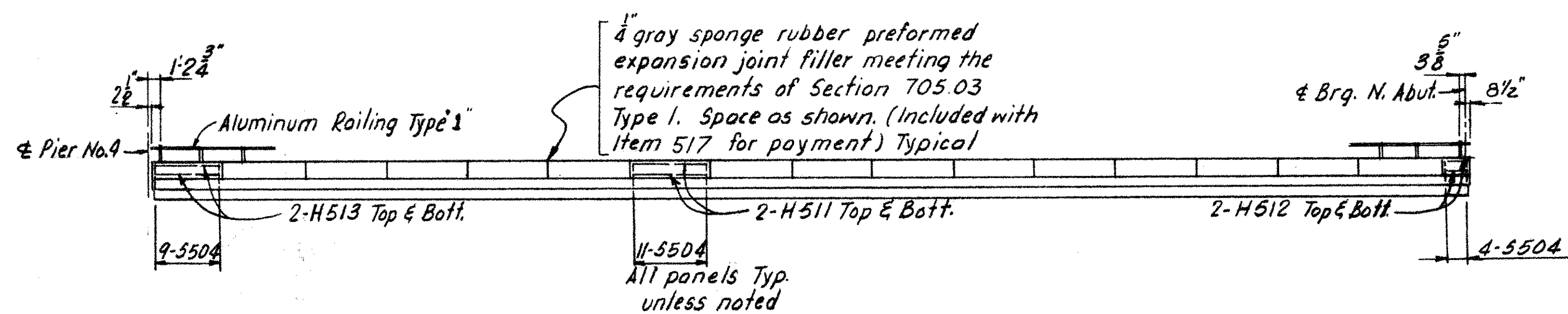
PLAN  
Unit No. 2



DETAIL-A



ELEVATION PARAPET RAILING "C"  
(Looking West)



ELEVATION PARAPET RAILING "D"  
(Looking West)

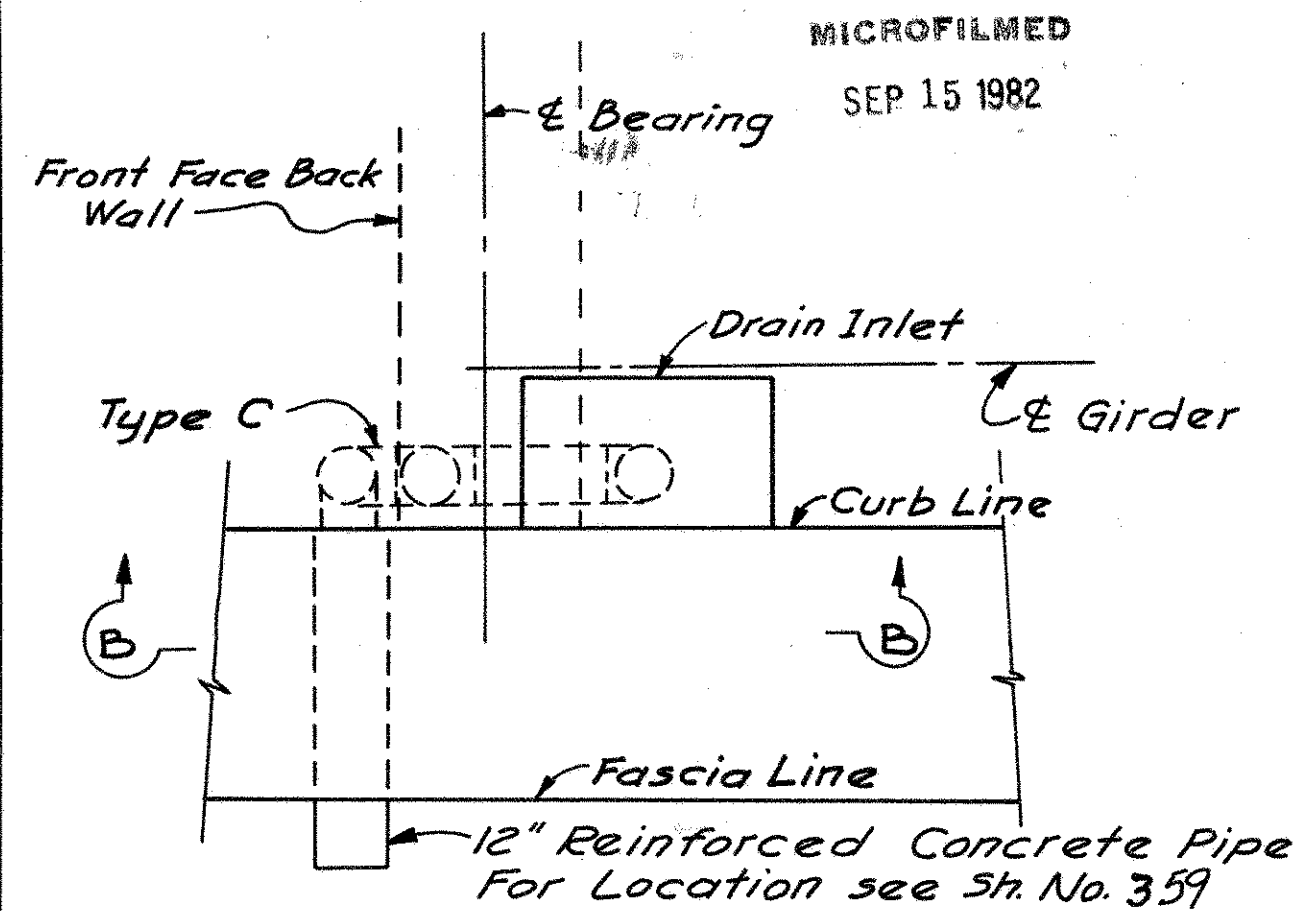
|   |          |        |         |                |         |
|---|----------|--------|---------|----------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO                             |          |        |         |                |         |
| RAILING & LIGHTING DETAILS<br>UNIT NO. 2<br>BRIDGE No. HAM-71-0226<br>H&E BRIDGE No. 17 |          |        |         |                |         |
| DESIGNED  | DRAWN    | TRACED | CHECKED | REVIEWED DATE  | REVISED |
|   | R.L.M.F. |        | ELW     | JWS<br>8/17/85 |         |

MICROFILMED  
SEP 15 1982

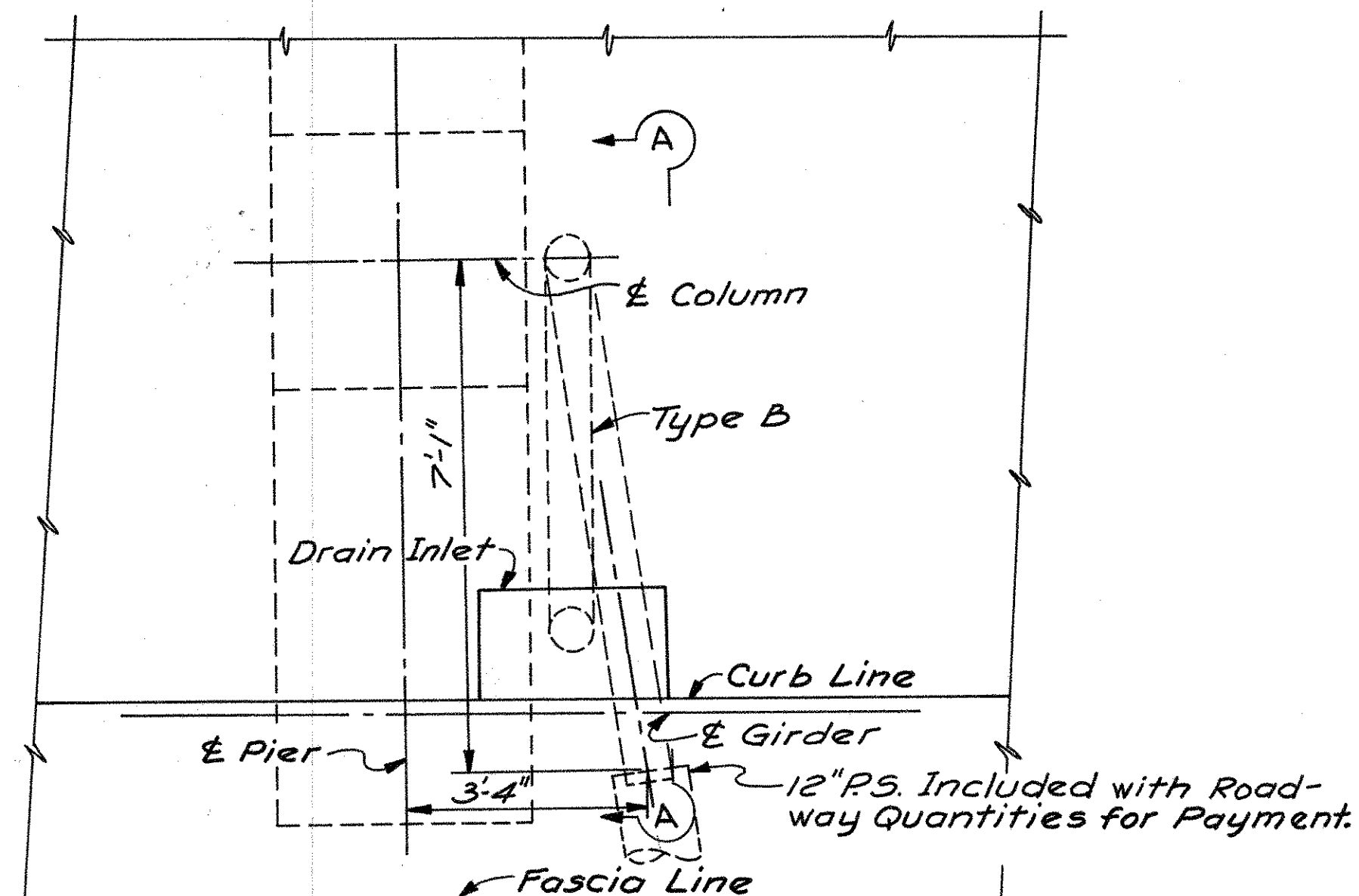
|               |       |         |             |
|---------------|-------|---------|-------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

380  
460

HAMILTON COUNTY  
HAM-71-2.08

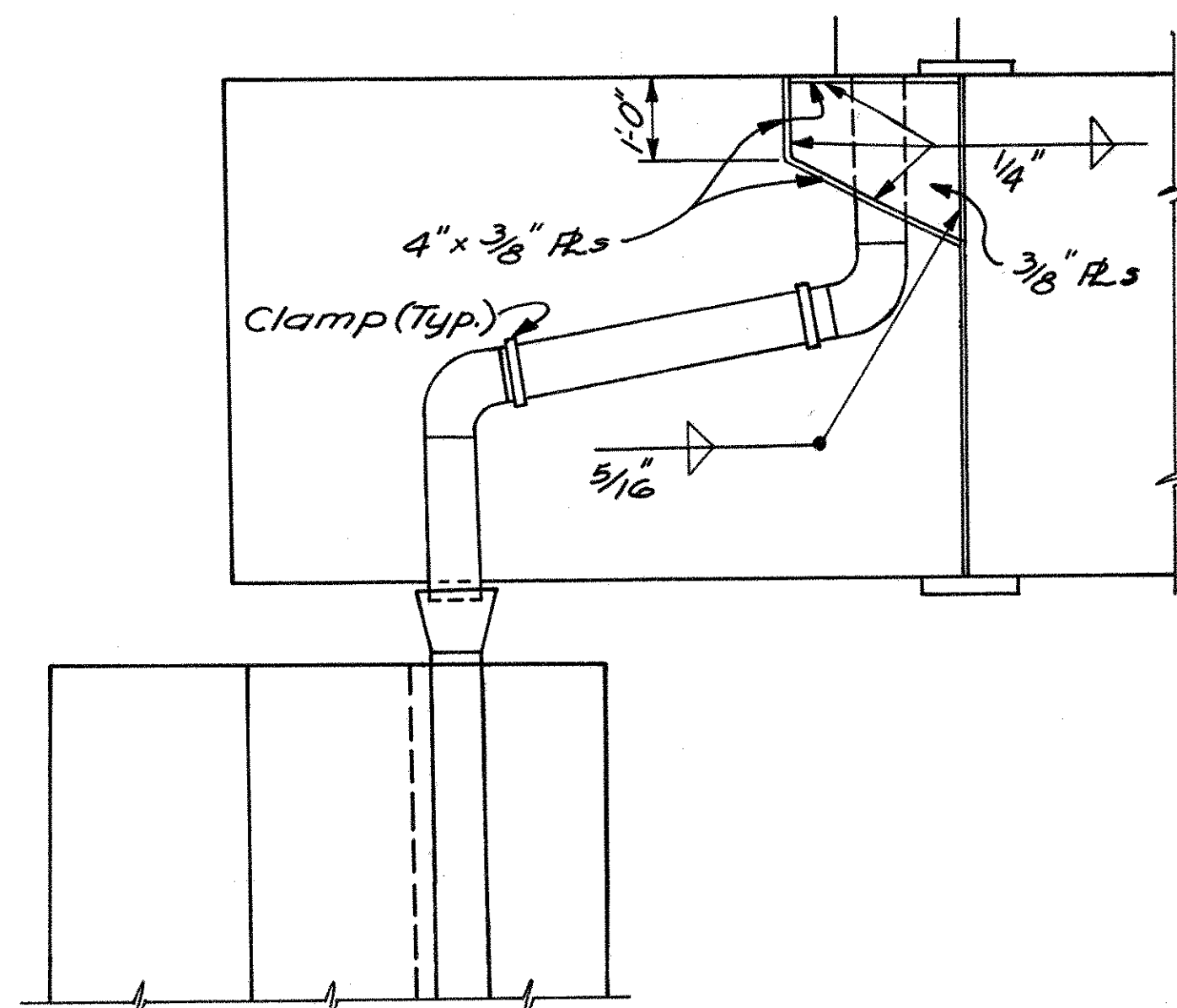


PLAN FOR TYPE C

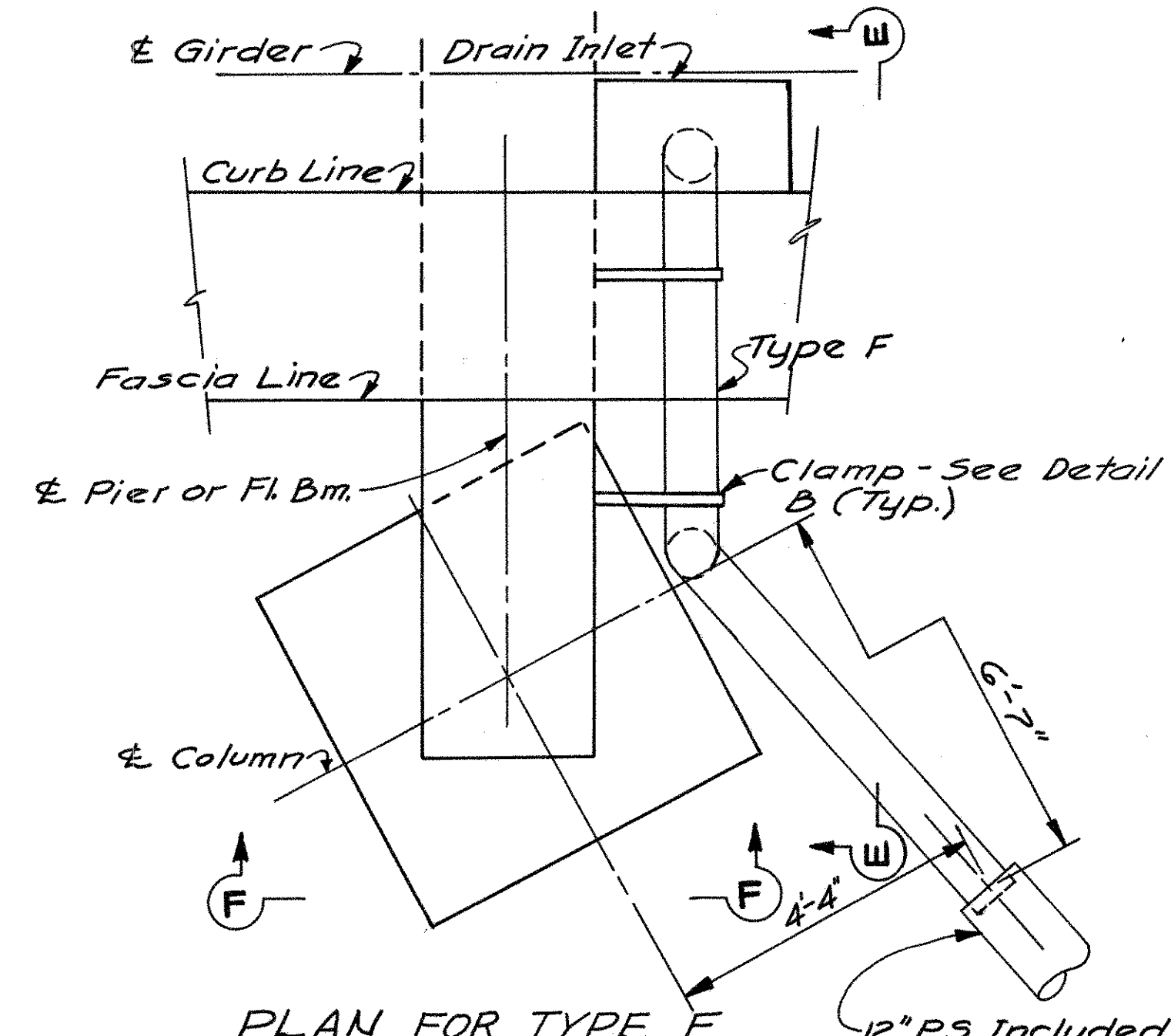


PLAN FOR TYPE B

Note: for Section A-A see "Typical Drainage Detail" Sheet 429

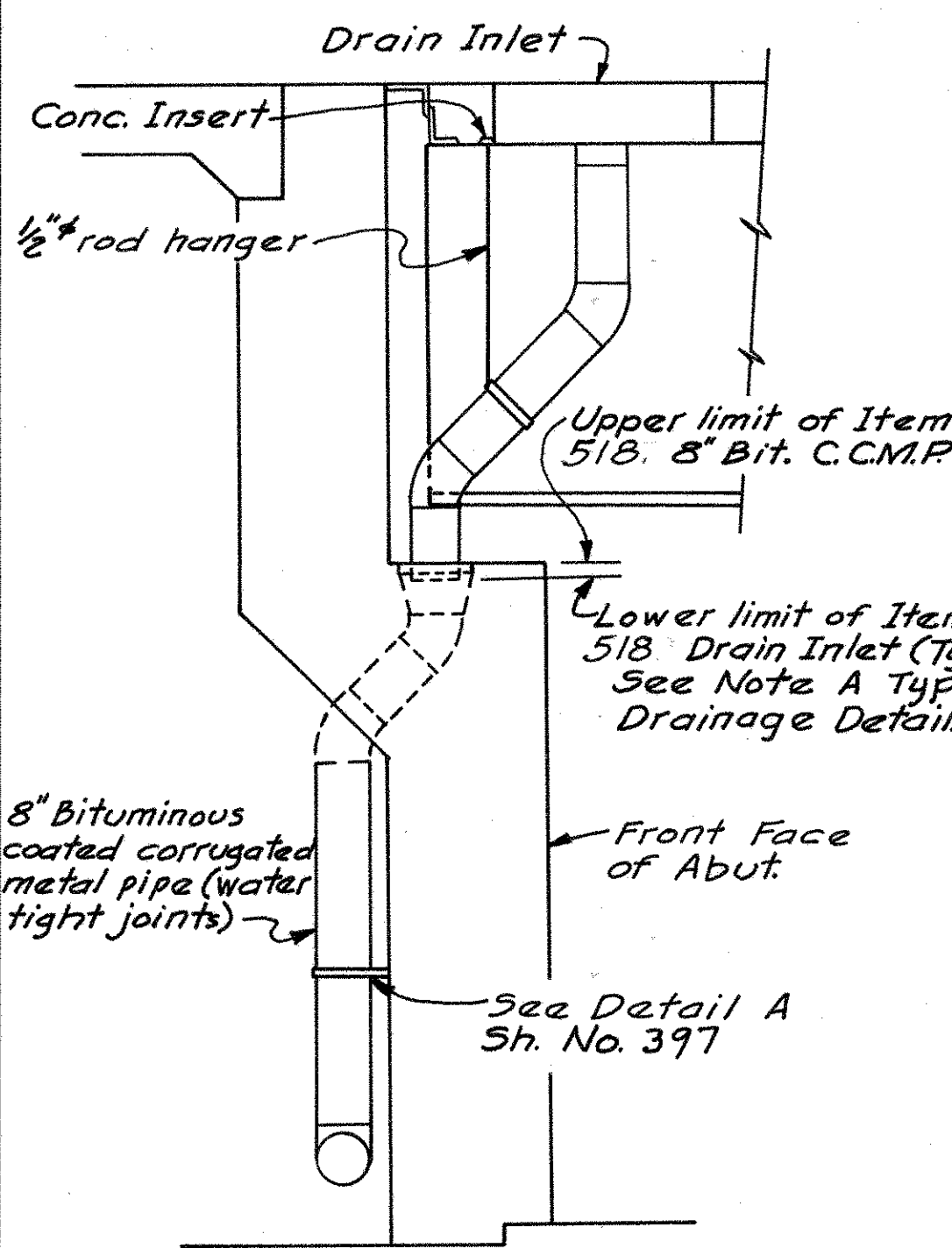


SECTION E-E

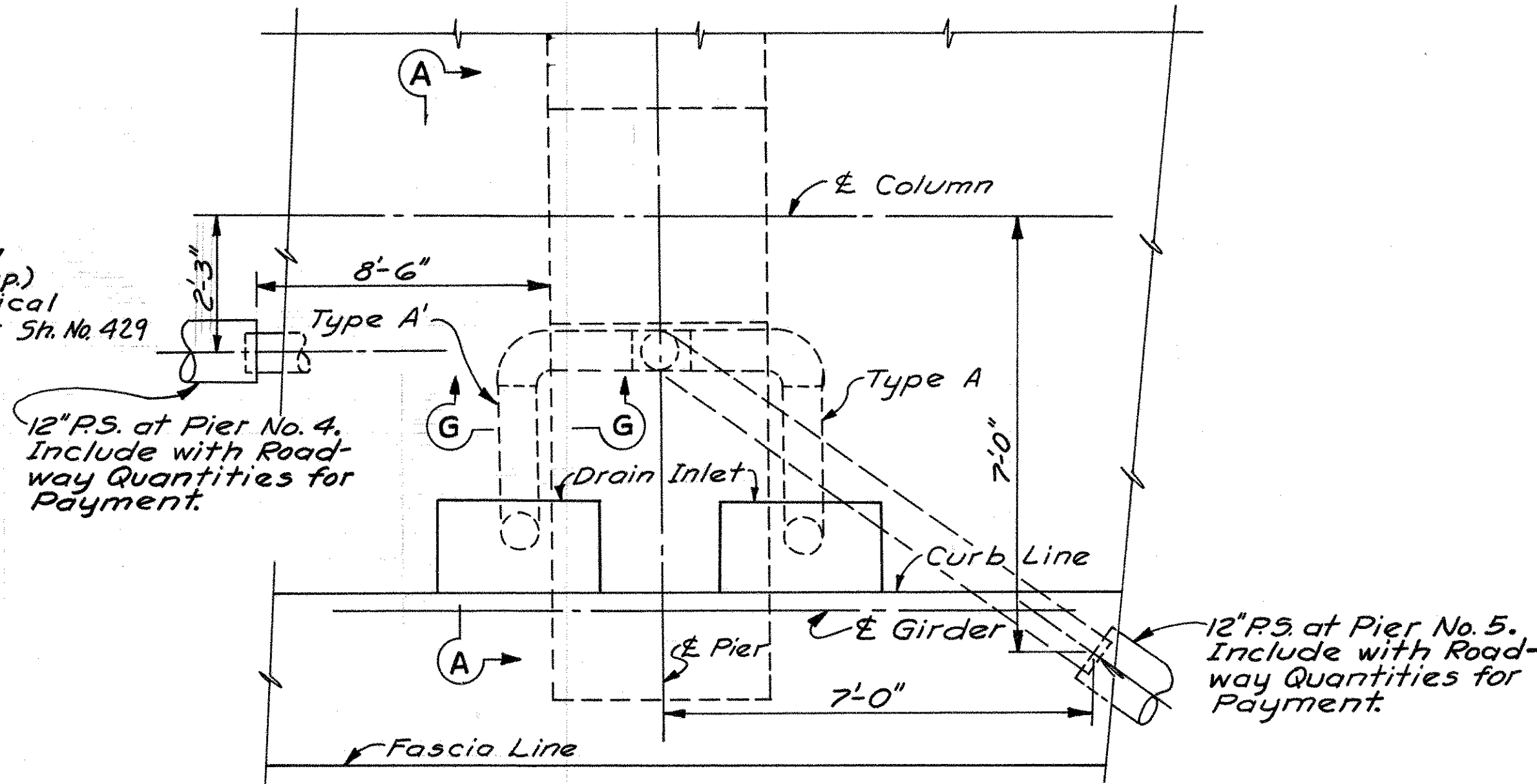


PLAN FOR TYPE F

12" RS Included with Roadway Quantities for Payment.

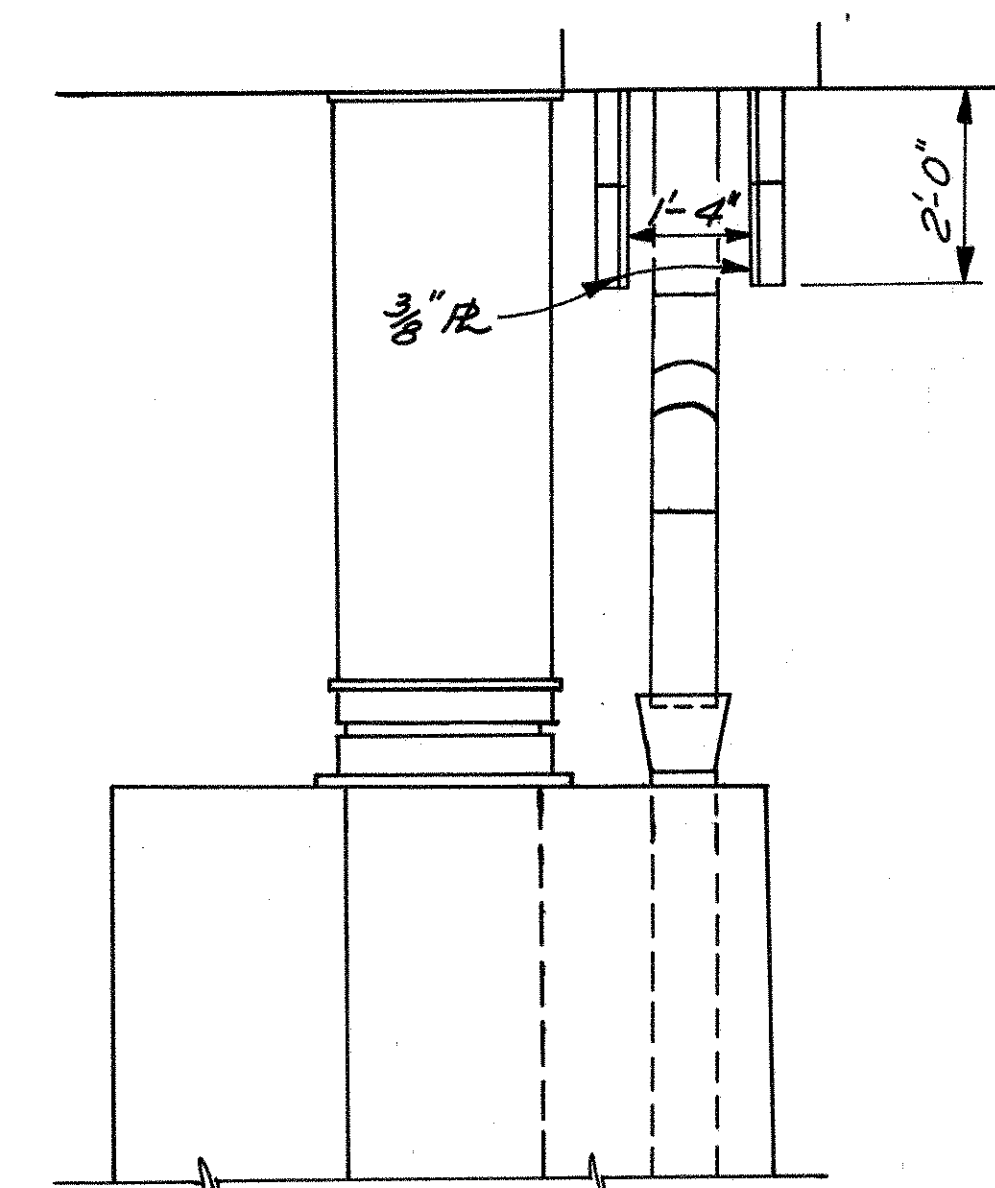


SECTION B-B

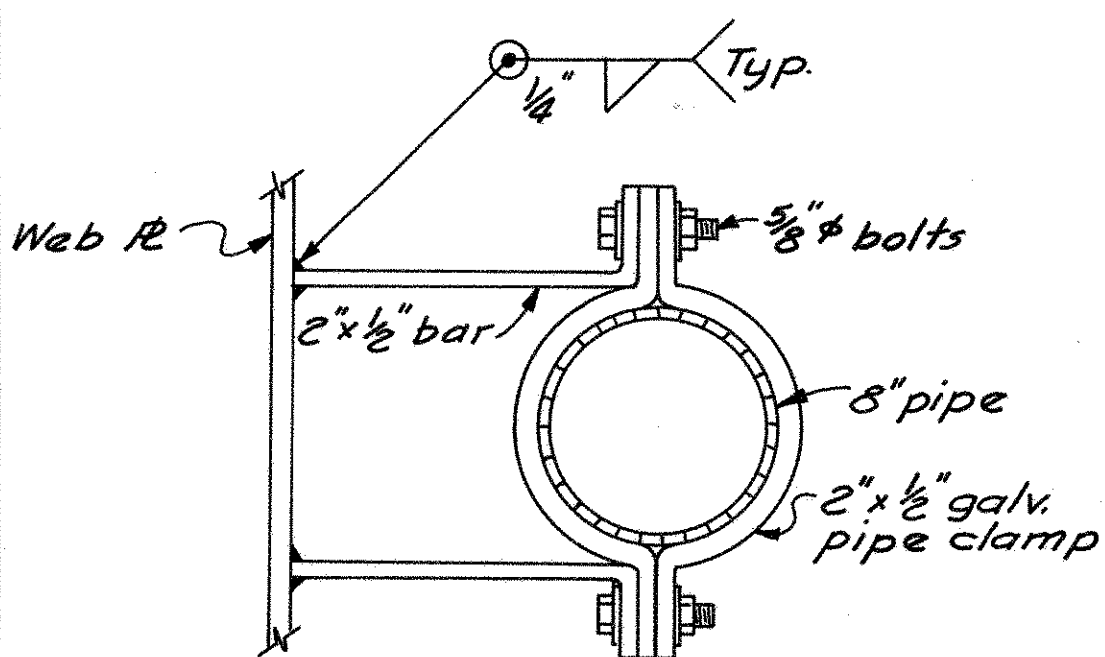


PLAN FOR TYPE A or A'

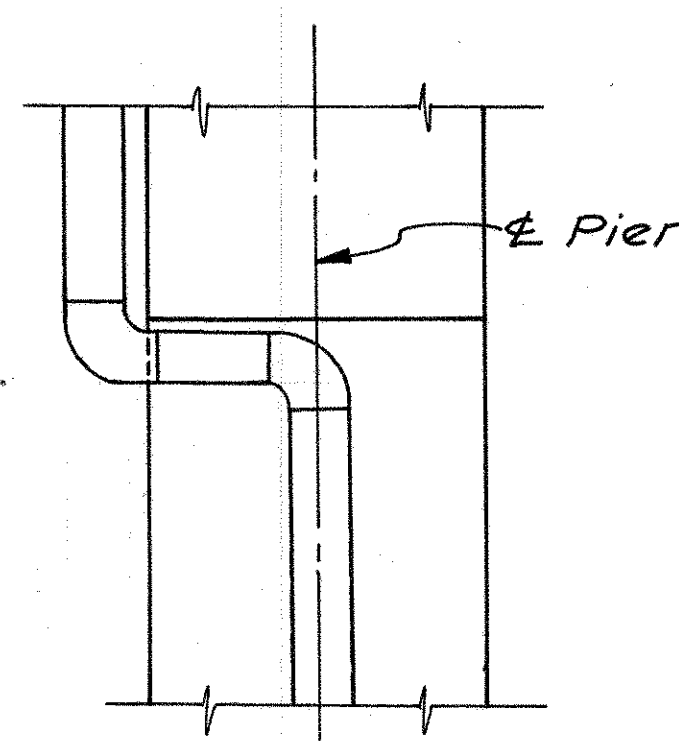
12" RS at Pier No. 5. Include with Roadway Quantities for Payment.



SECTION F-F



DETAIL B



SECTION G-G  
Shown for Type A'  
Type A Opposite Hand

Note:  
For Limits of Pay Items & notes see  
"Typical Drainage Details" Sheet 429  
All pipes 8" φ with 12"x8" Std. Reducers

Work this Sheet with Sheet No. 381

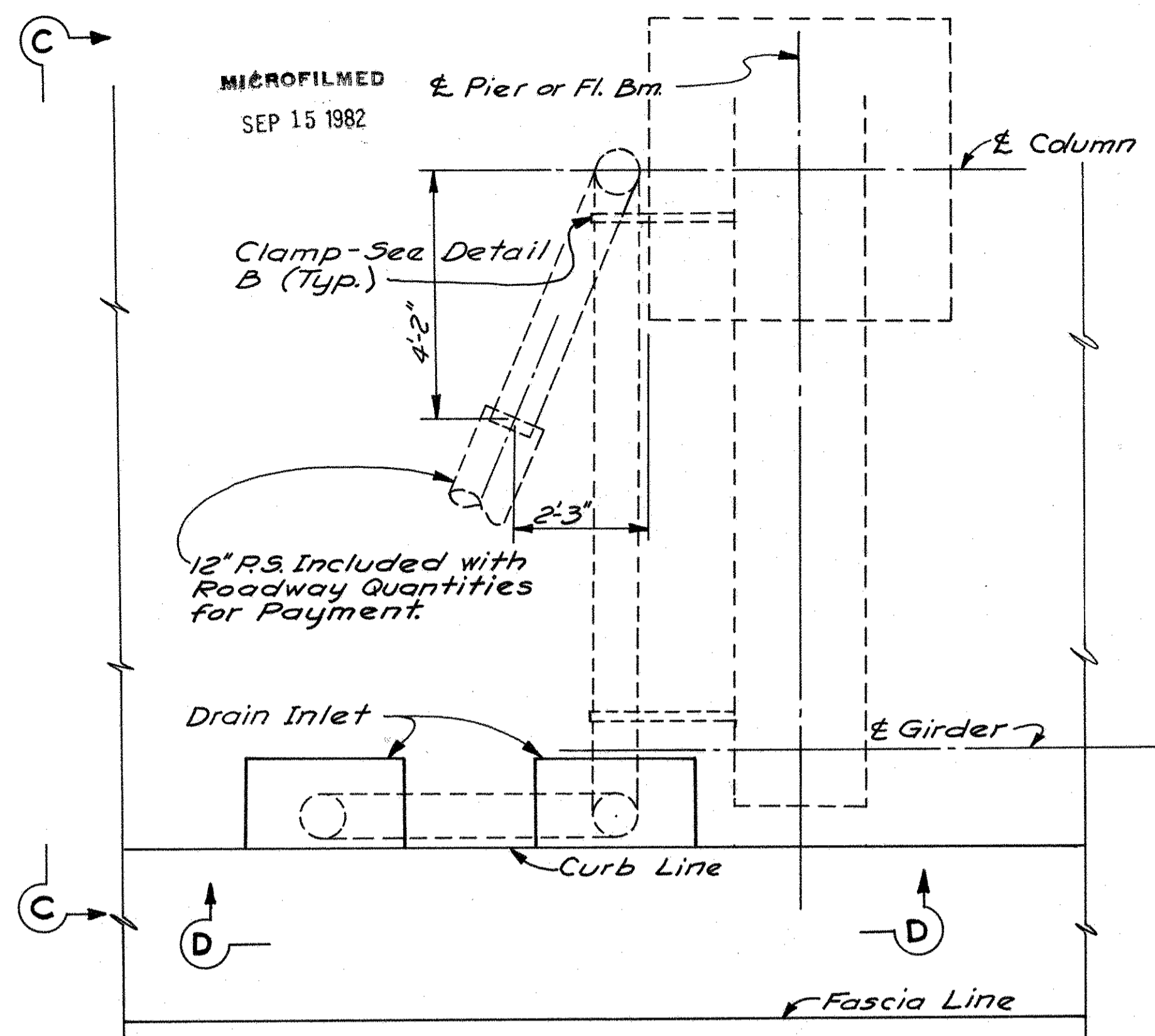
HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

DRAINAGE DETAILS  
BRIDGE No. HAM-71-0226

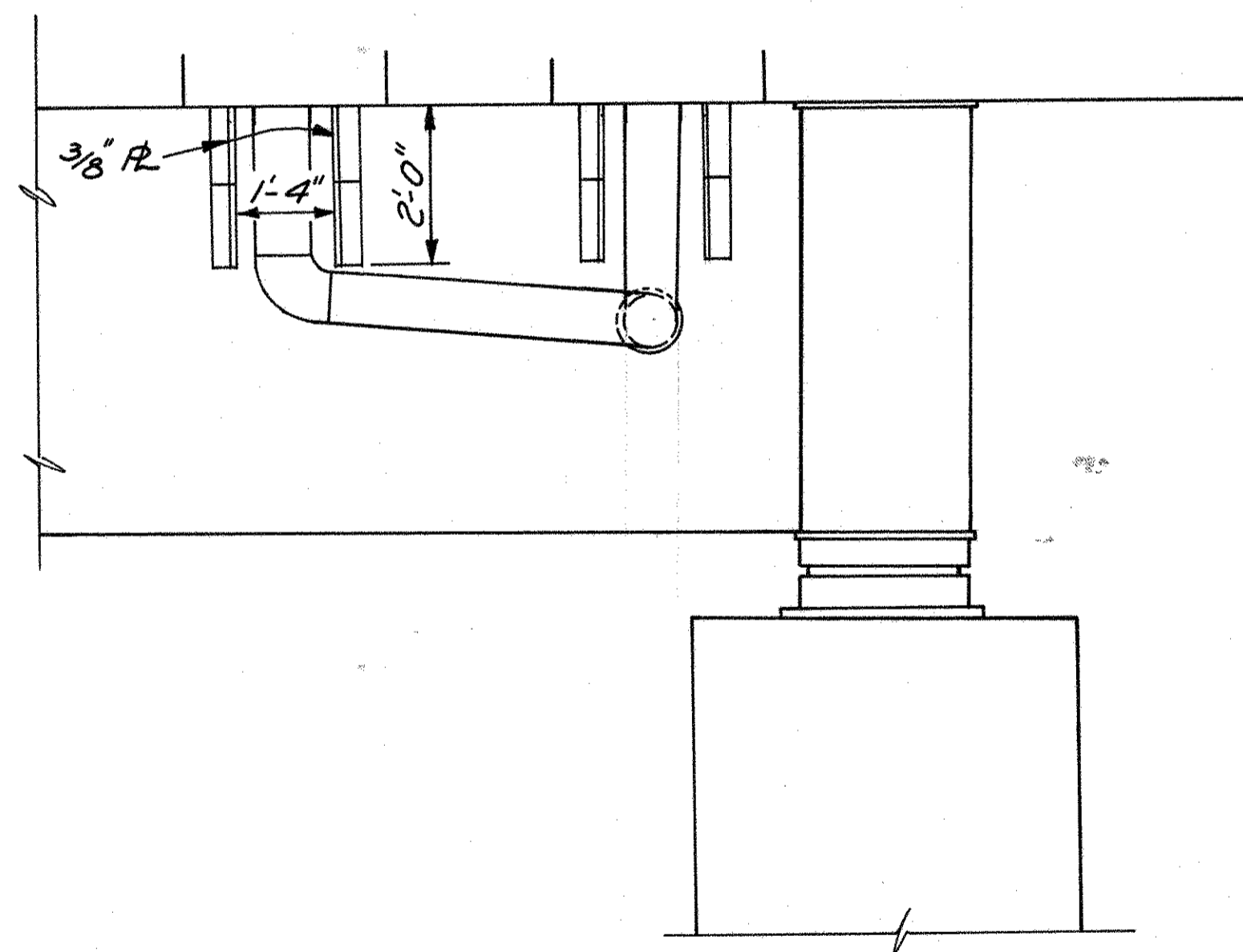
H&E BRIDGE No. 17

|          |       |        |         |               |         |
|----------|-------|--------|---------|---------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
|          | RLM/F | JDC    | ELW     | 5/10/65       |         |

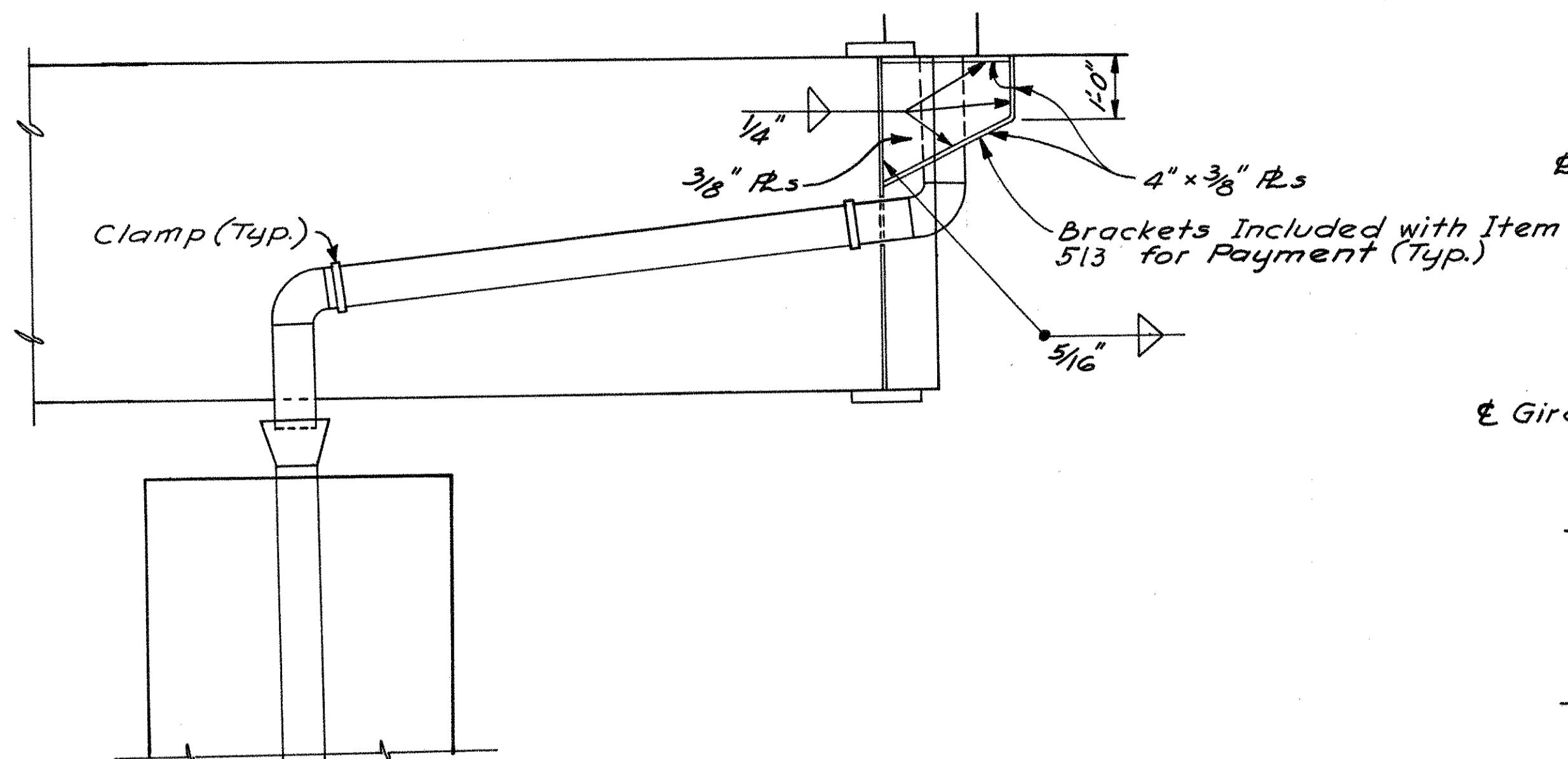
HAMILTON COUNTY  
HAM-71-2.08



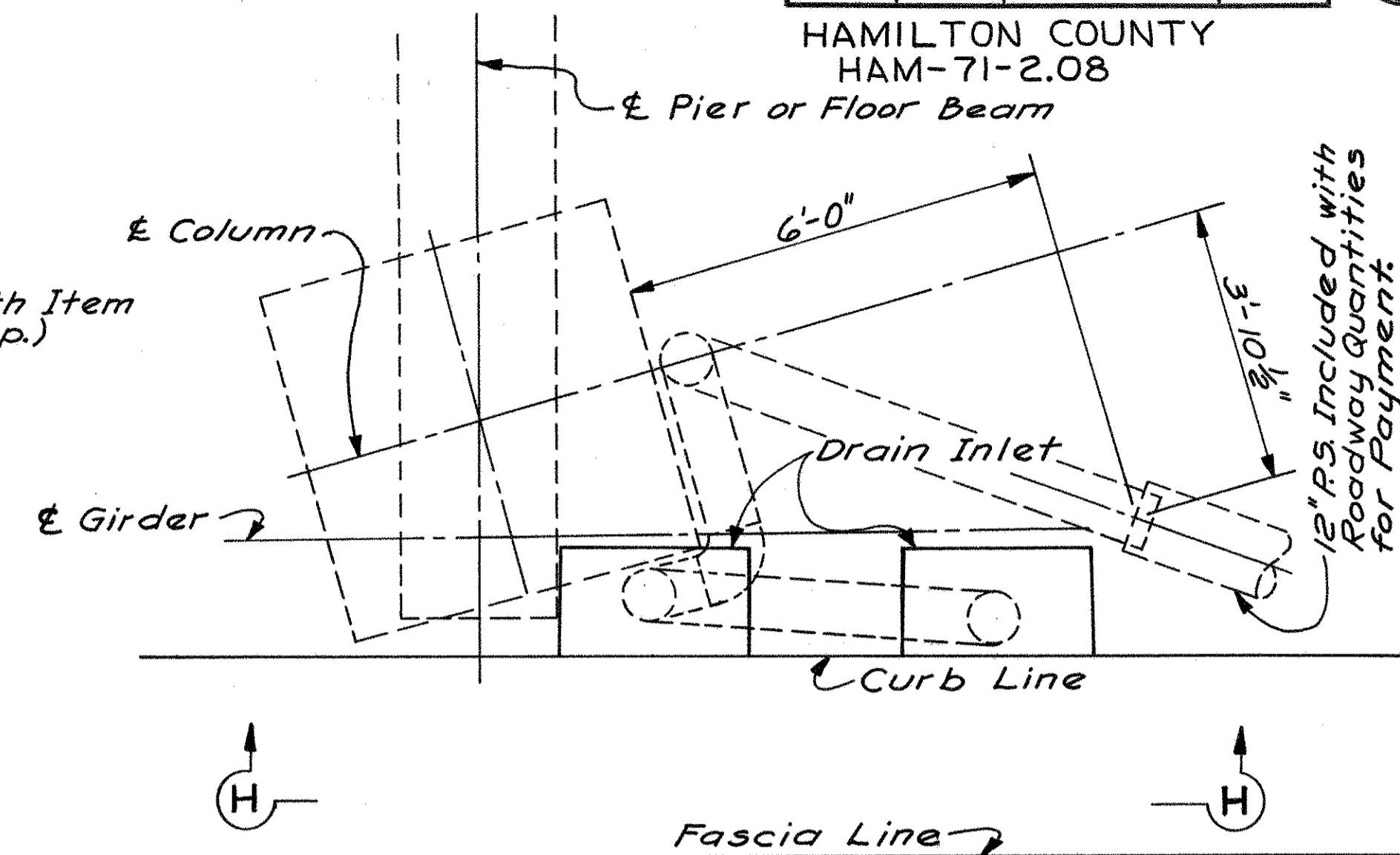
PLAN FOR TYPE D



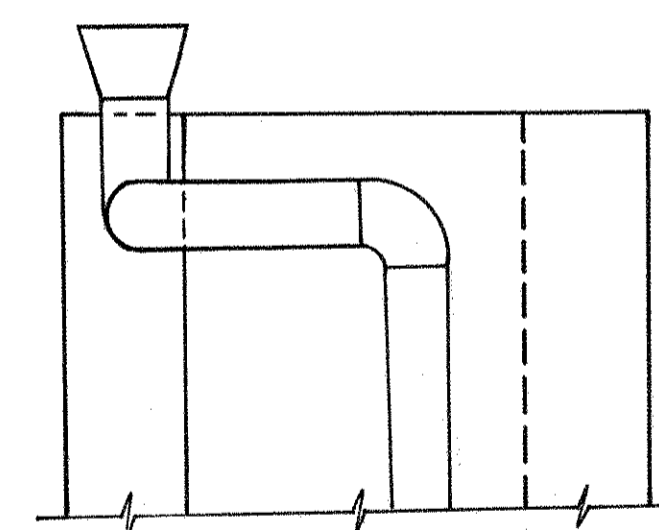
SECTION D-D



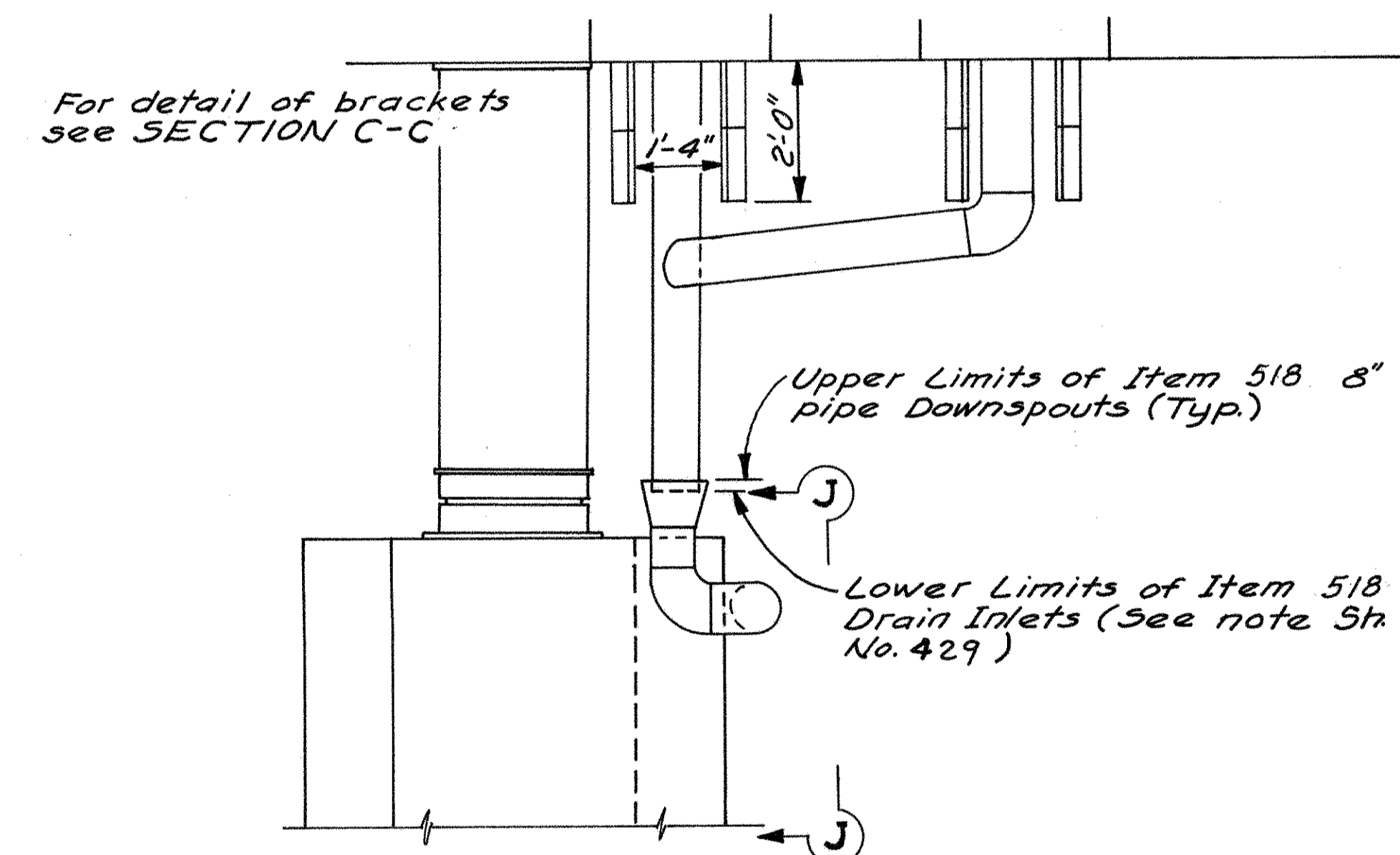
SECTION C-C



PLAN FOR TYPE E



SECTION J-J



SECTION H-H

Work this Sheet with Sheet No. 380

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

DRAINAGE DETAILS  
BRIDGE No. HAM-71-0226

H&E BRIDGE No. 17

|          |        |        |         |               |         |
|----------|--------|--------|---------|---------------|---------|
| DESIGNED | DRAWN  | TRACED | CHECKED | REVIEWED DATE | REVISED |
|          | RLM:FE | JDC.   | ELW     | JH<br>8/14/65 |         |

HAMILTON COUNTY  
HAM-71-208

| SUPERSTRUCTURE |         |      |        |        |       |         |
|----------------|---------|------|--------|--------|-------|---------|
| Mark           | Length  | Type | Number |        | Total | Weight  |
|                |         |      | Unit-1 | Unit-2 |       |         |
| 5501           | 2'-8"   | 1    | 668    | 340    | 1008  | 2,629   |
| 5502           | 4'-9"   | 61   | 668    | 340    | 1008  | 4,993   |
| 5503           | 2'-1"   | 1    | 6      | -      | 6     | 13      |
| 5504           | 5'-7"   | 14   | 694    | 357    | 1051  | 6,120   |
| 5505           | 9'-8"   | 4    | 8      | 2      | 10    | 102     |
|                |         |      |        |        |       |         |
| 5601           | 27'-10" | Str. | 1494   | 754    | 2248  | 93,979  |
| 5602           | 24'-0"  | 1    | 24     | 12     | 36    | 1,298   |
| 5603           | 30'-6"  | 1    | 78     | -      | 78    | 3,573   |
| 5604           | 33'-8"  | 1    | 1504   | -      | 1504  | 75,677  |
| 5605           | 1'-10"  | 1    | 22     | 12     | 34    | 93      |
| 5606           | 33'-9"  | 1    | 78     | 736    | 814   | 41,264  |
| 5607           | 28'-8"  | 1    | 78     | -      | 78    | 3,339   |
| 5608           | 22'-0"  | 1    | -      | 78     | 78    | 2,577   |
| 5609           | 20'-6"  | Str. | -      | 78     | 78    | 2,402   |
|                |         |      |        |        |       |         |
| 5701           | 28'-0"  | Str. | 1494   | 754    | 2248  | 128,658 |
| 5702           | 24'-2"  | Str. | 24     | 12     | 36    | 1,779   |
| 5703           | 1'-10"  | Str. | 22     | 12     | 34    | 127     |
| 5722           | 9'-4"   | 58   | 8      | 2      | 10    | 191     |
| 5723           | 6'-2"   | 49   | 8      | 2      | 10    | 126     |
| 5724           | 5'-11"  | 61   | 8      | 2      | 10    | 121     |
|                |         |      |        |        |       |         |
| H501           | 13'-0"  | Str. | 8      | 4      | 12    | -       |
| H502           | 15'-7"  | Str. | 240    | -      | 240   | -       |
| H506           | 12'-9"  | Str. | 4      | -      | 4     | -       |
| H507           | 7'-7"   | 58   | 8      | 2      | 10    | -       |
| H508           | 4'-10"  | Str. | 4      | -      | 4     | -       |
| H509           | 5'-2"   | 1    | -      | 4      | 4     | -       |
| H511           | 15'-5"  | 1    | -      | 120    | 120   | -       |
| H512           | 4'-7"   | 1    | -      | 4      | 4     | -       |
| H513           | 12'-7"  | Str. | -      | 4      | 4     | -       |
|                |         |      | Unit-1 | Unit-2 | Total | 389,061 |

| SOUTH ABUTMENT |         |      |           |        |       |
|----------------|---------|------|-----------|--------|-------|
| Mark           | Length  | Type | Total     | Weight |       |
| A501           | 28'-11" | Str. | 36        | 1,086  |       |
| A502           | 25'-3"  | Str. | 32        | 843    |       |
| A503           | 6'-2"   | 1    | 46        | 296    |       |
| A504           | 11'-0"  | Str. | 9         | 103    |       |
| A505           | 19'-3"  | 1    | 1         | 20     |       |
| A506           | 7'-6"   | 1    | 8         | 63     |       |
| A507           | 16'-7"  | 1    | 1         | 17     |       |
| A508           | 6'-2"   | 1    | 39        | 251    |       |
| A509           | 4'-2"   | 1    | 7         | 30     |       |
| A510           | 4'-0"   | 1    | 6         | 25     |       |
| A511           | 18'-10" | Str. | 7         | 137    |       |
| A512           | 6'-6"   | 15   | 6         | 41     |       |
| A513           | 8'-8"   | 14   | 10        | 90     |       |
| A514           | 6'-10"  | 1    | 10        | 71     |       |
| A515           | 16'-3"  | Str. | 7         | 119    |       |
|                |         |      |           |        |       |
| A601           | 8'-6"   | Str. | 43        | 549    |       |
| A602           | 20'-8"  | 7    | 36        | 1,118  |       |
| A603           | 23'-5"  | 4    | 2         | 70     |       |
| A604           | 21'-9"  | 4    | 14        | 457    |       |
| A605           | 5'-6"   | 20   | 26        | 215    |       |
|                |         |      |           |        |       |
| A701           | 10'-10" | 44   | 46        | 1,018  |       |
| A702           | 16'-10" | 18   | 4         | 138    |       |
| A703           | 15'-11" | 18   | 10        | 325    |       |
| A704           | 13'-3"  | 18   | 13        | 352    |       |
| A705           | 10'-9"  | 18   | 27        | 593    |       |
| A706           | 12'-3"  | 18   | 6         | 150    |       |
| A707           | 12'-8"  | 18   | 6         | 155    |       |
| A708           | 9'-8"   | 18   | 12        | 237    |       |
|                |         |      |           |        |       |
| H510           | 6'-2"   | Str. | 8         | -      |       |
|                |         |      | So. Abut. | Total  | 8,569 |

| NORTH ABUTMENT |        |      |           |        |       |
|----------------|--------|------|-----------|--------|-------|
| Mark           | Length | Type | Total     | Weight |       |
| A551           | 6'-4"  | 1    | 47        | 310    |       |
| A552           | 27'-5" | Str. | 19        | 543    |       |
| A553           | 29'-8" | Str. | 19        | 588    |       |
| A554           | 11'-8" | 18   | 29        | 353    |       |
| A555           | 5'-7"  | 14   | 17        | 99     |       |
| A556           | 12'-6" | 35   | 13        | 169    |       |
| A557           | 7'-5"  | Str. | 26        | 201    |       |
| A558           | 7'-0"  | Str. | 2         | 15     |       |
| A559           | 11'-2" | 1    | 54        | 629    |       |
| A560           | 6'-2"  | Str. | 2         | 11     |       |
| A561           | 7'-0"  | 1    | 3         | 22     |       |
| A562           | 6'-9"  | Str. | 6         | 42     |       |
| A563           | 11'-3" | 1    | 2         | 23     |       |
| A564           | 10'-8" | 1    | 8         | 89     |       |
| A565           | 14'-8" | 2    | 31        | 237    |       |
| A566           | 16'-6" | 2    | 34        | 269    |       |
| A567           | 4'-2"  | 1    | 2         | 9      |       |
| A568           | 16'-8" | Str. | 4         | 70     |       |
| A569           | 4'-6"  | 1    | 34        | 160    |       |
| A570           | 9'-0"  | 62   | 8         | 75     |       |
| A571           | 6'-0"  | Str. | 2         | 13     |       |
| A572           | 3'-5"  | Str. | 2         | 7      |       |
|                |        |      |           |        |       |
| A851           | 30'-6" | Str. | 24        | 1,954  |       |
| A852           | 14'-3" | Str. | 6         | 228    |       |
|                |        |      |           |        |       |
| H503           | 16'-8" | Str. | 4         | -      |       |
| H504           | 5'-4"  | 67   | 2         | -      |       |
| H505           | 4'-2"  | 66   | 3         | -      |       |
| H514           | 4'-9"  | Str. | 4         | -      |       |
|                |        |      | No. Abut. | Total  | 9,654 |

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| PIERS No 1, 2 & 3 |         |      |                         |     |     |       |         |  |  |  |
|-------------------|---------|------|-------------------------|-----|-----|-------|---------|--|--|--|
| Mark              | Length  | Type | Number                  |     |     | Total | Weight  |  |  |  |
|                   |         |      | 1                       | 2   | 3   |       |         |  |  |  |
| P4201             | 10'-6"  | 1    | 56                      | 114 | 178 | 348   | 2,441   |  |  |  |
| P4202             | 12'-6"  | 1    | -                       | 62  | -   | 62    | 518     |  |  |  |
| P4203             | 11'-2"  | 26   | -                       | 62  | -   | 62    | 463     |  |  |  |
| P4204             | 9'-0"   | 26   | 54                      | 36  | -   | 90    | 541     |  |  |  |
| P4205             | 8'-11"  | 26   | -                       | 74  | 72  | 146   | 870     |  |  |  |
| P4206             | 9'-1"   | 26   | -                       | -   | 104 | 104   | 631     |  |  |  |
|                   |         |      |                         |     |     |       |         |  |  |  |
| P5201             | 7'-6"   | 1    | 16                      | 16  | 16  | 48    | 375     |  |  |  |
| P5202             | 17'-0"  | Str. | -                       | 8   | -   | 8     | 142     |  |  |  |
| P5203             | 30'-9"  | Str. | -                       | 6   | -   | 6     | 192     |  |  |  |
| P5204             | 22'-6"  | Str. | -                       | 34  | -   | 34    | 798     |  |  |  |
| P5205             | 5'-7"   | 14   | -                       | 16  | 11  | 27    | 157     |  |  |  |
| P5206             | 8'-5"   | 15   | -                       | 16  | 11  | 27    | 237     |  |  |  |
| P5207             | 17'-3"  | Str. | -                       | -   | 6   | 6     | 108     |  |  |  |
| P5208             | 15'-8"  | Str. | -                       | -   | 32  | 32    | 523     |  |  |  |
| P5209             | 29'-5"  | Str. | -                       | -   | 6   | 6     | 184     |  |  |  |
|                   |         |      |                         |     |     |       |         |  |  |  |
| P8201             | 16'-6"  | Str. | 25                      | -   | 9   | 34    | 1,497   |  |  |  |
| P8202             | 13'-0"  | 1    | 9                       | -   | -   | 9     | 312     |  |  |  |
| P8203             | 22'-6"  | 1    | -                       | 31  | -   | 31    | 1,862   |  |  |  |
| P8204             | 13'-6"  | 1    | -                       | 28  | -   | 28    | 1,009   |  |  |  |
| P8205             | 17'-6"  | 1    | -                       | -   | 9   | 9     | 421     |  |  |  |
| P8206             | 23'-6"  | 1    | -                       | -   | 8   | 8     | 502     |  |  |  |
| P8207             | 15'-6"  | Str. | -                       | -   | 12  | 12    | 497     |  |  |  |
|                   |         |      |                         |     |     |       |         |  |  |  |
| P10201            | 15'-10" | 43   | 10                      | -   | -   | 10    | 681     |  |  |  |
| P10202            | 11'-0"  | 19   | -                       | 31  | 21  | 52    | 2,461   |  |  |  |
| P10203            | 16'-8"  | 19   | -                       | 30  | -   | 30    | 2,152   |  |  |  |
| P10204            | 15'-5"  | Str. | -                       | 16  | 24  | 40    | 2,654   |  |  |  |
| P10205            | 25'-2"  | Str. | -                       | 15  | -   | 15    | 1,625   |  |  |  |
| P10206            | 22'-6"  | Str. | -                       | 59  | -   | 59    | 5,712   |  |  |  |
| P10207            | 19'-4"  | 43   | -                       | -   | 18  | 18    | 1,497   |  |  |  |
| P10208            | 16'-2"  | 19   | -                       | -   | 21  | 21    | 1,461   |  |  |  |
| P10209            | 13'-11" | Str. | -                       | -   | 11  | 11    | 659     |  |  |  |
| P10210            | 23'-8"  | Str. | -                       | -   | 42  | 42    | 4,278   |  |  |  |
|                   |         |      |                         |     |     |       |         |  |  |  |
| P11201            | 19'-6"  | 43   | 39                      | -   | -   | 39    | 4,041   |  |  |  |
| P11202            | 9'-0"   | 44   | 28                      | -   | -   | 28    | 1,339   |  |  |  |
| P11203            | 17'-9"  | Str. | 28                      | -   | -   | 28    | 2,641   |  |  |  |
| P11204            | 14'-9"  | 44   | 28                      | -   | -   | 28    | 2,194   |  |  |  |
| P11205            | 22'-4"  | Str. | -                       | 82  | -   | 82    | 9,728   |  |  |  |
| P11206            | 27'-11" | Str. | -                       | 32  | -   | 32    | 4,747   |  |  |  |
| P11207            | 8'-2"   | 18   | -                       | 28  | -   | 28    | 1,215   |  |  |  |
| P11208            | 78'-1"  | Str. | -                       | 28  | -   | 28    | 2,690   |  |  |  |
| P11209            | 30'-5"  | Str. | -                       | -   | 32  | 32    | 5,172   |  |  |  |
| P11210            | 20'-8"  | 43   | -                       | -   | 18  | 18    | 1,977   |  |  |  |
| P11211            | 9'-7"   | Str. | -                       | -   | 12  | 12    | 611     |  |  |  |
| P11212            | 27'-6"  | Str. | -                       | -   | 28  | 28    | 4,091   |  |  |  |
| P11213            | 23'-7"  | Str. | -                       | -   | 28  | 28    | 3,507   |  |  |  |
|                   |         |      |                         |     |     |       |         |  |  |  |
| P143201           | 14'-8"  | 33   | -                       | -   | 40  | 40    | 4,489   |  |  |  |
|                   |         |      |                         |     |     |       |         |  |  |  |
| P183201           | 19'-6"  | 33   | -                       | 68  | -   | 68    | 18,034  |  |  |  |
| P183202           | 15'-4"  | 33   | -                       | -   | 32  | 32    | 6,672   |  |  |  |
|                   |         |      |                         |     |     |       |         |  |  |  |
| H5201             | 22'-8"  | Str. | -                       | 4   | -   | 4     | -       |  |  |  |
| H5202             | 15'-8"  | Str. | -                       | -   | 4   | 4     | -       |  |  |  |
|                   |         |      | Piers No 1, 2 & 3 Total |     |     |       | 110,608 |  |  |  |

| PIERS No 4, 5 & 6       |         |      |        |     |     |       |        |  |  |  |
|-------------------------|---------|------|--------|-----|-----|-------|--------|--|--|--|
| Mark                    | Length  | Type | Number |     |     | Total | Weight |  |  |  |
|                         |         |      | 4      | 5   | 6   |       |        |  |  |  |
| P4101                   | 7'-6"   | 1    | 192    | 162 | 204 | 558   | 2,796  |  |  |  |
| P4102                   | 5'-10"  | 26   | 192    | -   | -   | 192   | 748    |  |  |  |
| P4103                   | 6'-4"   | 26   | -      | 156 | -   | 156   | 660    |  |  |  |
| P4104                   | 6'-8"   | 26   | -      | -   | 204 | 204   | 909    |  |  |  |
|                         |         |      |        |     |     |       |        |  |  |  |
| P5101                   | 7'-5"   | 1    | 152    | -   | -   | 152   | 1,176  |  |  |  |
| P5102                   | 6'-11"  | 1    | 16     | -   | -   | 16    | 115    |  |  |  |
| P5103                   | 7'-7"   | 1    | -      | 258 | 172 | 430   | 3,400  |  |  |  |
| P5104                   | 7'-1"   | 1    | -      | 42  | 28  | 70    | 517    |  |  |  |
|                         |         |      |        |     |     |       |        |  |  |  |
| P7101                   | 27'-8"  | Str. | 4      | 4   | 4   | 12    | 678    |  |  |  |
|                         |         |      |        |     |     |       |        |  |  |  |
| P8101                   | 8'-8"   | 43   | 42     | -   | -   | 42    | 972    |  |  |  |
| P8102                   | 6'-6"   | Str. | 21     | -   | -   | 21    | 364    |  |  |  |
| P8103                   | 12'-6"  | Str. | 12     | -   | -   | 12    | 401    |  |  |  |
| P8104                   | 9'-6"   | Str. | -      | 27  | -   | 27    | 685    |  |  |  |
| P8105                   | 17'-6"  | Str. | -      | 15  | -   | 15    | 701    |  |  |  |
| P8106                   | 11'-8"  | 43   | -      | 30  | -   | 30    | 935    |  |  |  |
| P8107                   | 10'-6"  | Str. | -      | -   | 75  | 75    | 2,103  |  |  |  |
| P8108                   | 27'-0"  | Str. | -      | -   | 20  | 20    | 1,442  |  |  |  |
|                         |         |      |        |     |     |       |        |  |  |  |
| P10101                  | 28'-5"  | 20   | 8      | 12  | 8   | 28    | 3,423  |  |  |  |
| P10102                  | 15'-4"  | 43   | 30     | -   | -   | 30    | 198    |  |  |  |
| P10103                  | 27'-6"  | Str. | -      | -   | 20  | 20    | 237    |  |  |  |
|                         |         |      |        |     |     |       |        |  |  |  |
| P11101                  | 30'-10" | 18   | 10     | 12  | 8   | 30    | 4,914  |  |  |  |
| P11102                  | 15'-6"  | 18   | 4      | -   | -   | 4     | 329    |  |  |  |
| P11103                  | 7'-3"   | Str. | 8      | -   | -   | 8     | 308    |  |  |  |
| P11104                  | 7'-11"  | 44   | 48     | -   | -   | 48    | 2,020  |  |  |  |
| P11105                  | 12'-9"  | Str. | -      | 12  | -   | 12    | 813    |  |  |  |
| P11106                  | 15'-11" | 18   | -      | 4   | 8   | 12    | 1,015  |  |  |  |
| P11107                  | 30'-6"  | Str. | -      | 90  | -   | 90    | 14,584 |  |  |  |
| P11108                  | 8'-5"   | 44   | -      | 90  | 84  | 174   | 7,784  |  |  |  |
| P11109                  | 20'-8"  | 43   | -      | 48  | -   | 48    | 5,271  |  |  |  |
| P11110                  | 34'-6"  | Str. | 48     | -   | -   | 48    | 9,308  |  |  |  |
| P11111                  | 37'-6"  | Str. | -      | -   | 84  | 84    | 16,736 |  |  |  |
|                         |         |      |        |     |     |       |        |  |  |  |
| Piers No 4, 5 & 6 Total |         |      |        |     |     |       | 85,542 |  |  |  |

| BENT BAR SCHEDULE |      |       |           |           |           |       |        |        |           |       |
|-------------------|------|-------|-----------|-----------|-----------|-------|--------|--------|-----------|-------|
| Mark              | Type | a     | b         | c         | d         | e     | f      | g      | h         | i     |
| 5722              | 58   | 1'-5" | 1'-5"     | 3'-3"     | 1'-8"     | 0'-9" | 2'-9"  | 2'-9"  | 3'-3"     | 0'-9" |
| 5723              | 49   | 2'-5" | 1'-0 1/2" | 1'-3 1/2" | 1'-4"     | 0'-6" | 1'-9"  | -      | -         | -     |
| 5724              | 61   | 0'-5" | 1'-4"     | 2'-11"    | -         | -     | -      | -      | -         | -     |
| H507              | 58   | 1'-8" | 1'-9 1/2" | 2'-4 1/2" | 1'-4 1/2" | 0'-9" | 1'-11" | 1'-11" | 2'-4 1/2" | 0'-9" |

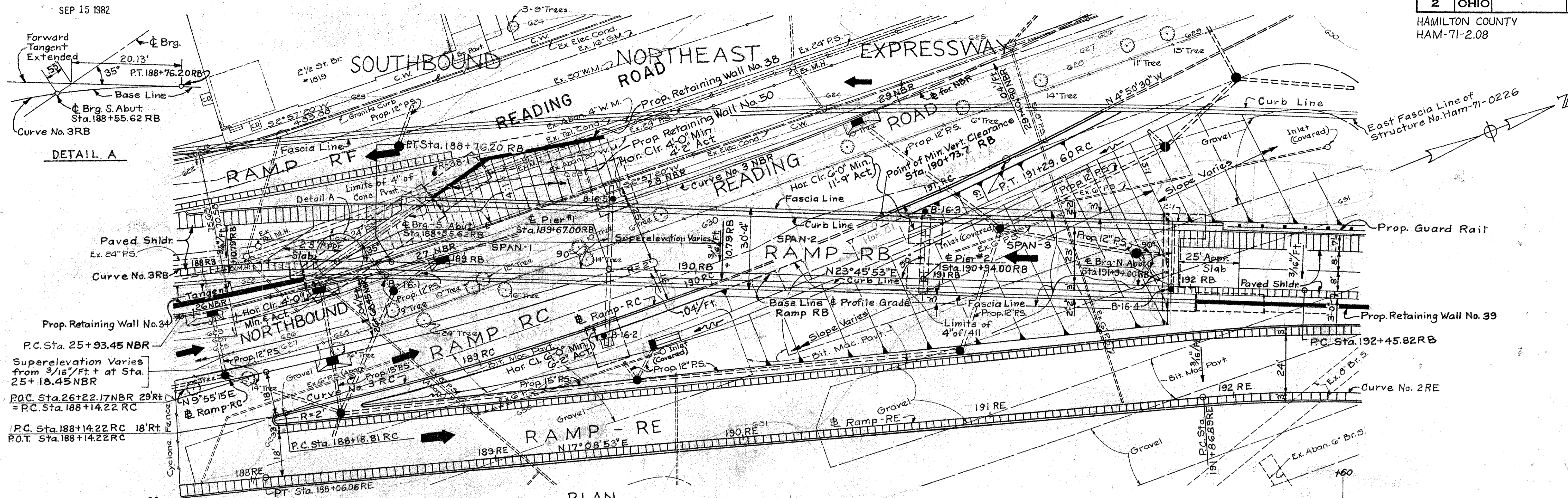
| REPLACEMENT BARS |        |      |    |
|------------------|--------|------|----|
| Mark             | Length | Type | Nº |
| RE401            | 5'-3"  | Str. | 1  |
| RE501            | 5'-7"  | 1    | 2  |
| RE601            | 5'-11" | 1    | 12 |
| RE701            | 6'-3"  | 1    | 7  |
| RE801            | 6'-6"  | 1    | 1  |
| RE1001           | 7'-3"  | 1    | 2  |
| RE1101           | 7'-7"  | 1    | 6  |
| RE14301          | 8'-    |      |    |

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| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
|---------------|-------|---------|-------------|
| 2             | OHIO  |         |             |

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460

HAMILTON COUNTY  
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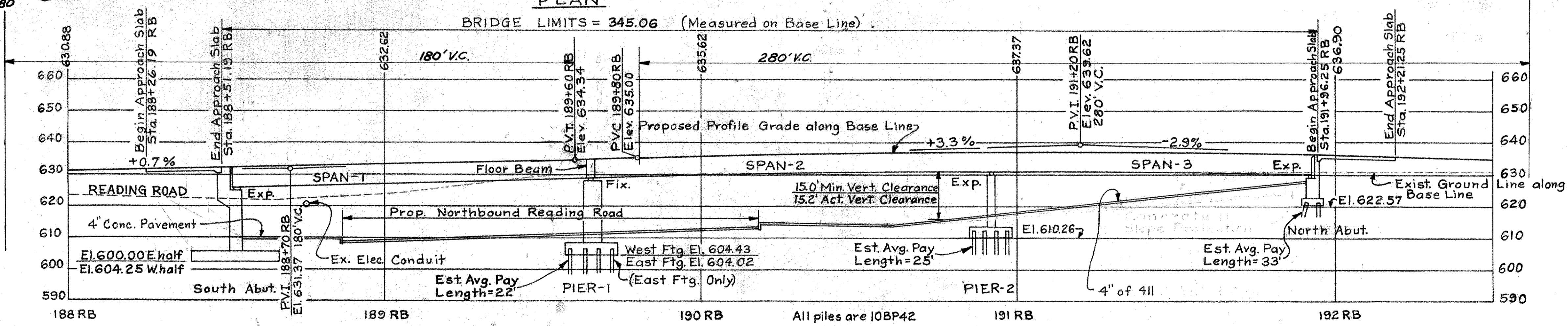
**CURVE DATA**

Curve No. 3RB  
PI = 188+11.00 RB  
Δ = 11°-07'-12"  
D = 8°-30'  
R = 674.07  
L = 130.82  
T = 65.62

**CURVE DATA**

Curve No. 2RE

**PROFILE**



**PROPOSED STRUCTURE**

TYPE: Continuous Steel Plate girder with reinforced concrete deck and substructure.  
Span: 111'-4 1/2", 127'-0", 100'-0" c. to c. bearings.  
Roadway: 26'-0" f/f curbs with 1'-0" curbs (28'-0" f/f parapets)  
Skew: 0° (Piers 1 & 2 & N. Abut.), 55° S. Abut.  
(Measured from forward tangent.)  
Load frequency: CF = 2000 (57) Adequate for AASHTO alternate loading.  
Wearing Surface: 1" Monolithic Concrete  
Approach Slabs: AS-1-54 (25'-0" long)  
Alignment: Varies, see Plan  
Superelevation: Varies, see Plan

**GENERAL NOTES**

Span lengths are measured along Base Line  
● Symbol denotes drill hole  
For test boring data, see Sheet 15 of 23  
For Bench Marks, see Sheet 39

Traffic Count: 1986 A.D.T. 6500  
D.H.V. 780

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**SITE PLAN**

BRIDGE No. HAM-71-0228  
RAMP RB OVER NORTHBOUND  
READING ROAD

H & E BRIDGE No. 16

| DESIGNED | DRAWN  | TRACED | CHECKED | REVIEWED DATE | REVISED |
|----------|--------|--------|---------|---------------|---------|
| M.K.K.   | J.D.C. |        |         | 4/10/65       |         |



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SEP 15 1982

ESTIMATED QUANTITIES

| ITEM    | TOTAL   | UNIT     | DESCRIPTION   | SUPER STRUC-TURE | NORTH ABUT-MENT | SOUTH ABUT-MENT | PIER 1 | PIER 2 | GENERAL |
|---------|---------|----------|---|------------------|-----------------|-----------------|--------|--------|---------|
| 503     | Lump    | Sum      | Cofferdams, Cribbs and Sheeting   |                  |                 |                 |        |        | Lump    |
| 503     | 1029    | Cu. Yds. | Unclassified Excavation   |                  | 146             | 615             | 184    | 84     |         |
| 504     | 166     | Sq. Ft.  | Steel Sheet Piling Left in Place (Minimum Section Modulus of 7 in. <sup>3</sup> per Foot of Wall) |                  |                 | 166             |        |        |         |
| 511     | 350     | Cu. Yds. | Class "C" Concrete, Superstructure  | 350              |                 |                 |        |        |         |
| 511     | 58      | Cu. Yds. | Class "C" Concrete, Piers above Footings  |                  |                 |                 | 31     | 27     |         |
| 511     | 152     | Cu. Yds. | Class "C" Concrete, Abutment above Footing  |                  |                 | 152             |        |        |         |
| 511     | 50      | Cu. Yds. | Class "E" Concrete, Abutment above Footing  |                  | 50              |                 |        |        |         |
| 511     | 248     | Cu. Yds. | Class "E" Concrete, Footings  |                  | 44.3            | 97.3            | 71.3   | 35.1   |         |
| 512     | 24      | Lin. Ft. | Premolded Sealing Strip   |                  |                 | 24              |        |        |         |
| 509     | 147,820 | Lbs.     | Reinforcing Steel   | 91,924           | 6592            | 24,521          | 14,770 | 10,013 |         |
| 513     | 480,000 | Lbs.     | Structural Steel  | 480,000          |                 |                 |        |        |         |
| 514     | 480,000 | Lbs.     | Field Painting of Structural Steel  | 480,000          |                 |                 |        |        |         |
| 517     | 694     | Lin. Ft. | Railing Type "I"  | 645              | 30              | 19              |        |        |         |
| 505     | Lump    | Sum      | First Test Pile   |                  |                 |                 |        |        | Lump    |
| 507     | 1766    | Lin. Ft. | Steel Piles, 10BP42   |                  | 726             |                 | 440    | 600    |         |
| 625     |         |          | Electric Lighting System (See Sheet No. 178 & 179)  |                  |                 |                 |        |        |         |
| 518     | 134     | Cu. Yds. | Porous Backfill   |                  | 32              | 102             |        |        |         |
| 518     | 16      | Lin. Ft. | 12" Reinforced Concrete Sewer Pipe (Sec. 706.02 class II)   |                  | 9               | 7               |        |        |         |
| 518     | Lump    | Sum      | Drain Inlets, Including Supports and Horizontal Collector System                                  |                  |                 |                 |        |        | Lump    |
| 518     | 41      | Lin. Ft. | 6" Standard Pipe Downspout, Wrought Iron or Hot-Dipped Galvanized Steel. (Including Specials)     |                  | 11              |                 | 30     |        |         |
| 518     | 18      | Lin. Ft. | 8" Perforated C.M.P. 707.06, bituminous coated per 707.04 (Including Specials)                    |                  |                 | 18              |        |        |         |
| 518     | 31      | Lin. Ft. | 8" Non-perforated C.M.P. 707.06, bituminous coated per 707.04 (Including Specials)                |                  |                 | 31              |        |        |         |
| 518     | 106     | Lin. Ft. | 8" Perforated C.M.P. 707.06, bituminous coated per 707.04 (Including Specials and Sand)           |                  | 41              | 65              |        |        |         |
| 808     | 350     | Each     | Water-Reducing, Set-retarding Admixture   | 350              |                 |                 |        |        |         |
| Special | 1277    | Sq. Yds. | Concrete Surface Treatment  | 1243.0           | 6.1             | 11.6            | 4.6    | 11.7   |         |

GENERAL NOTES

REFERENCE shall be made to Standard Drawing RB-1-55, Revised 2-2-59 and GR-6, Rev. 6-1-65.

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

PILES shall be driven with a hammer of not less than 11,000 ft. lbs. per blow to firm contact with limestone. If the length of penetration is approximately equal to the depth of limestone according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. 507.05 is not less than the following value for a pile hammer of the indicated energy rating:

- 50 Tons per pile for East Footing, Pier No. 1 using an 11,000 ft. lb. hammer.
- 45 Tons per pile for East Footing, Pier No. 1 using a 15,000 ft. lb. hammer.
- 50 Tons per pile for Pier No. 2 using an 11,000 ft. lb. hammer.
- 45 Tons per pile for Pier No. 2 using a 15,000 ft. lb. hammer.
- 50 Tons per pile for North Abutment using an 11,000 ft. lb. hammer.
- 45 Tons per pile for North Abutment using a 15,000 ft. lb. hammer.

If the energy rating of the hammer is between the rating as shown above, the required formula capacity shall be determined by interpolation. The design load is 35 Tons per pile.

FOUNDATION BEARING PRESSURE: The South Abutment footing and the west footing of Pier No. 1 are designed for a maximum bearing pressure of three tons per sq. ft.

ADDITIONAL NOTES: For additional notes see Notes 1 thru 6, General Notes Sheet No. 426

- Design Loading CF = 2000 (57)
- Concrete Class C - basic unit stress 1333 psi
- Concrete Class E - basic unit stress 1133 psi
- Structural Steel - ASTM A36 - basic unit stress 20,000 psi.

- Reinforcing Steel - ASTM A15, A16, A160. Deformed Intermediate or Hard Grade. Basic unit stress 20,000 psi.

|   |       |        |          |               |          |
|---|-------|--------|----------|---------------|----------|
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| ESTIMATED QUANTITIES<br>AND GENERAL NOTES                   |       |        |          |               |          |
| BRIDGE No. HAM-71-0228                                      |       |        |          |               |          |
| H&E BRIDGE No 16  |       |        |          |               |          |
| DESIGNED  | DRAWN | TRACED | CHECKED  | REVIEWED DATE | REVISION |
|   | CIB   |        | JHO      | N.A.Z.        |          |
|   |       |        | 11/16/65 | 8-30-65       |          |

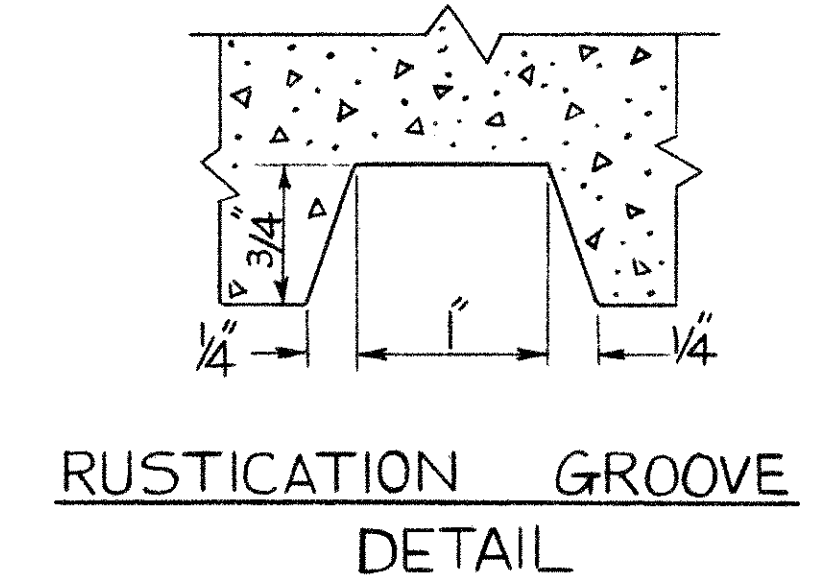
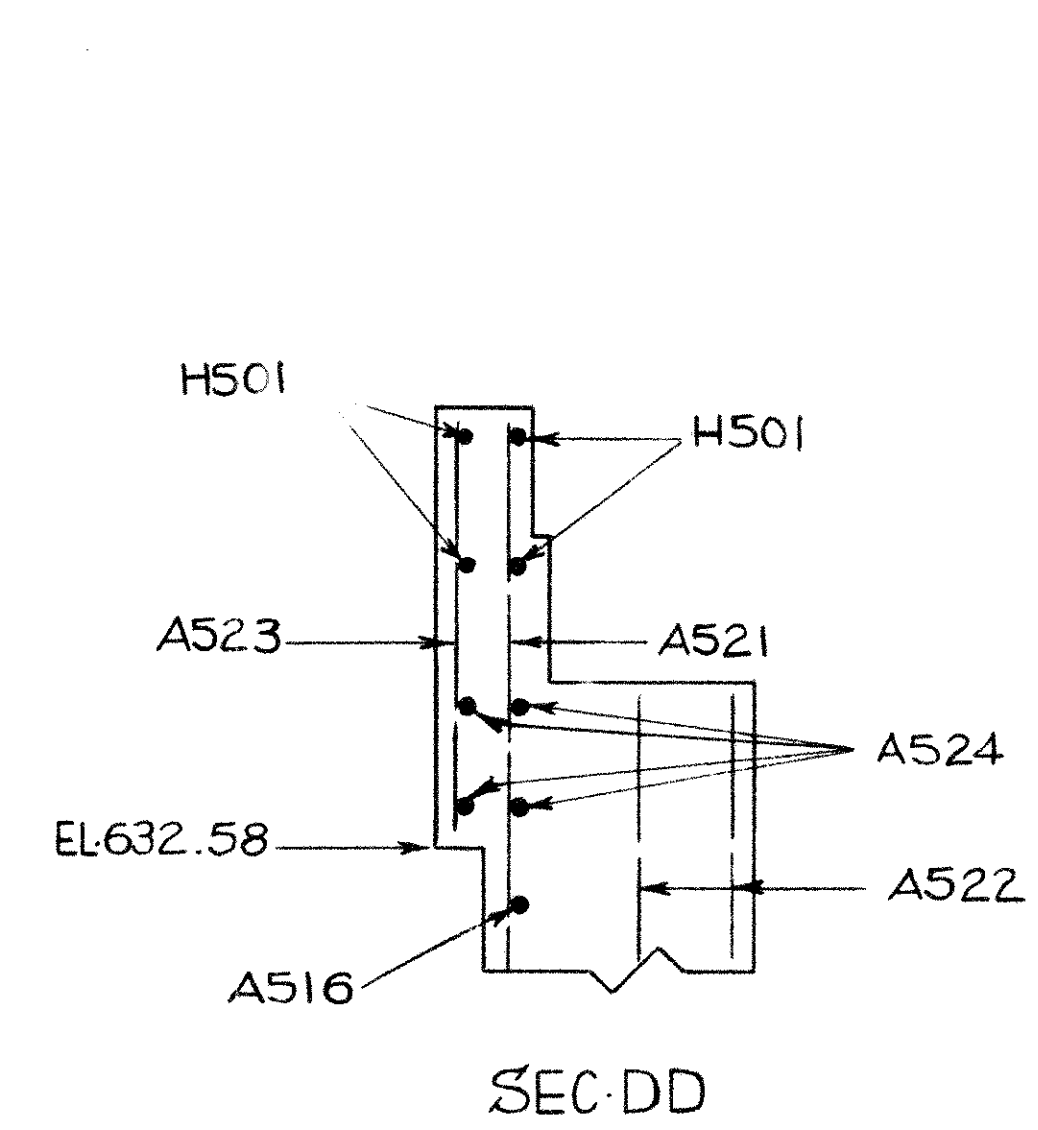
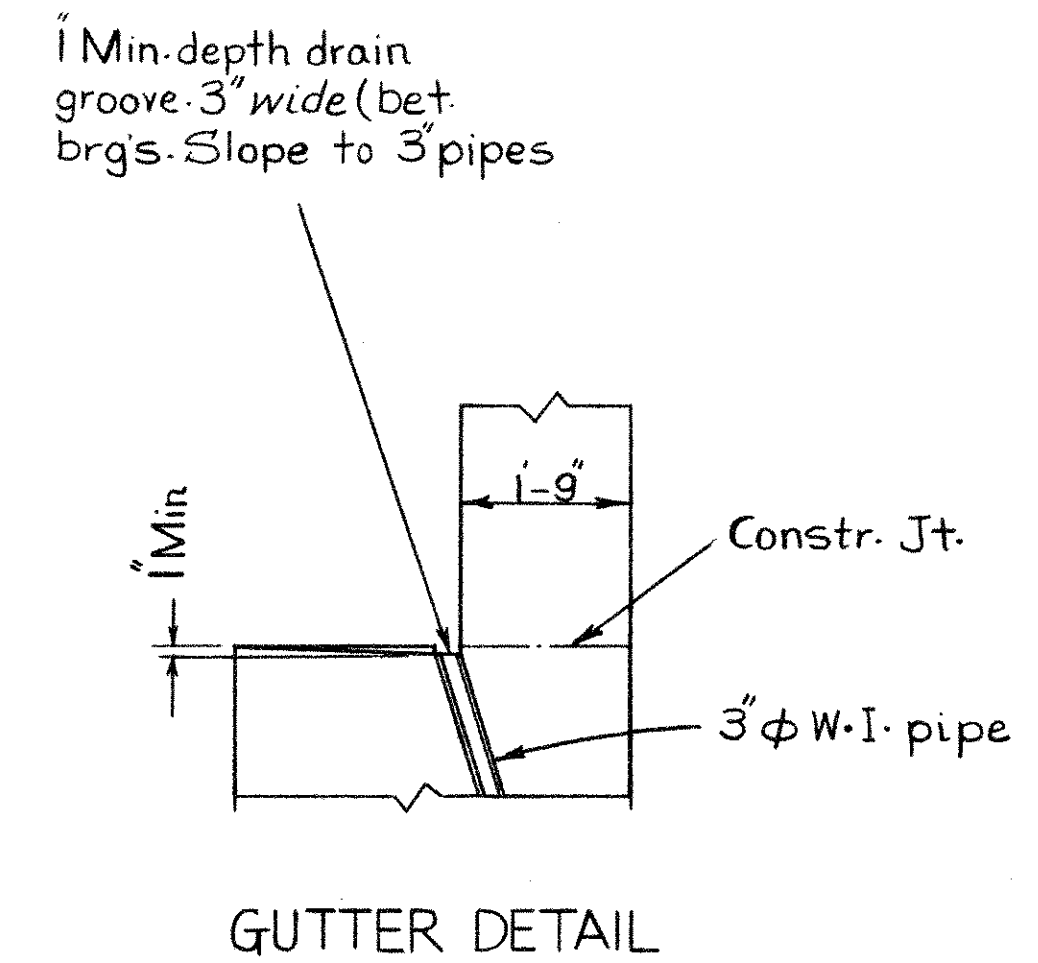
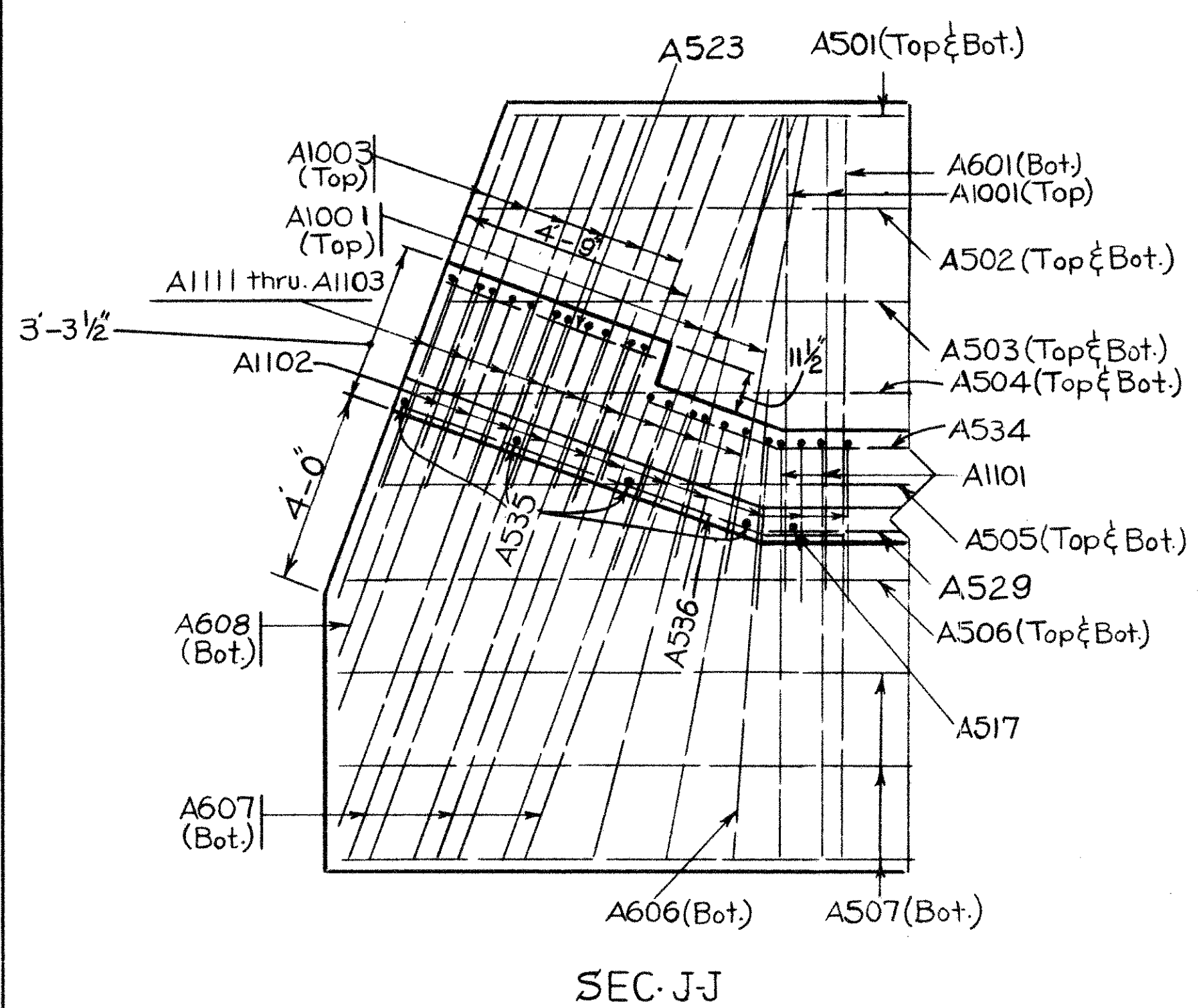


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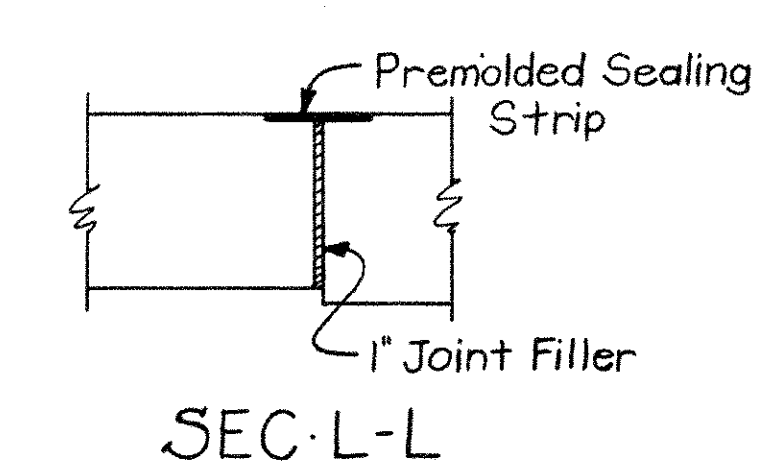
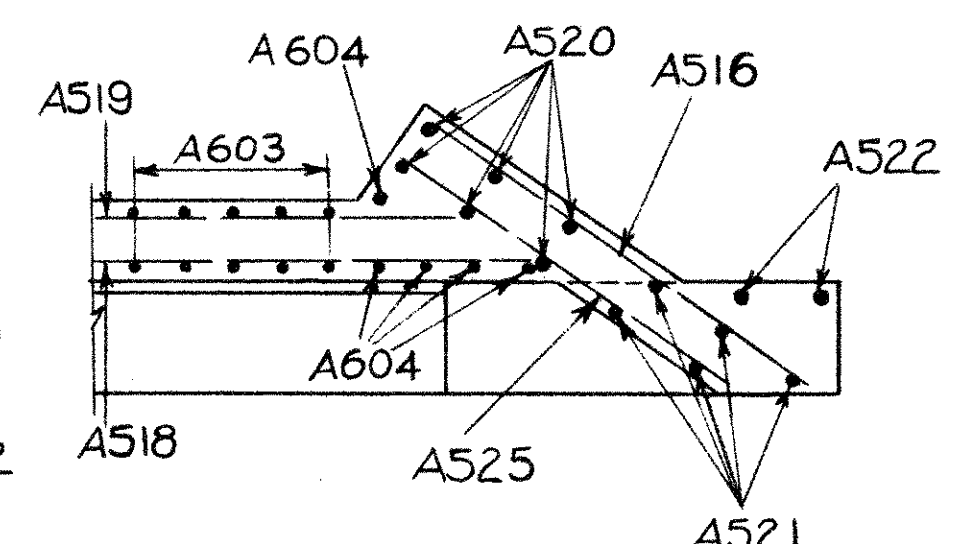
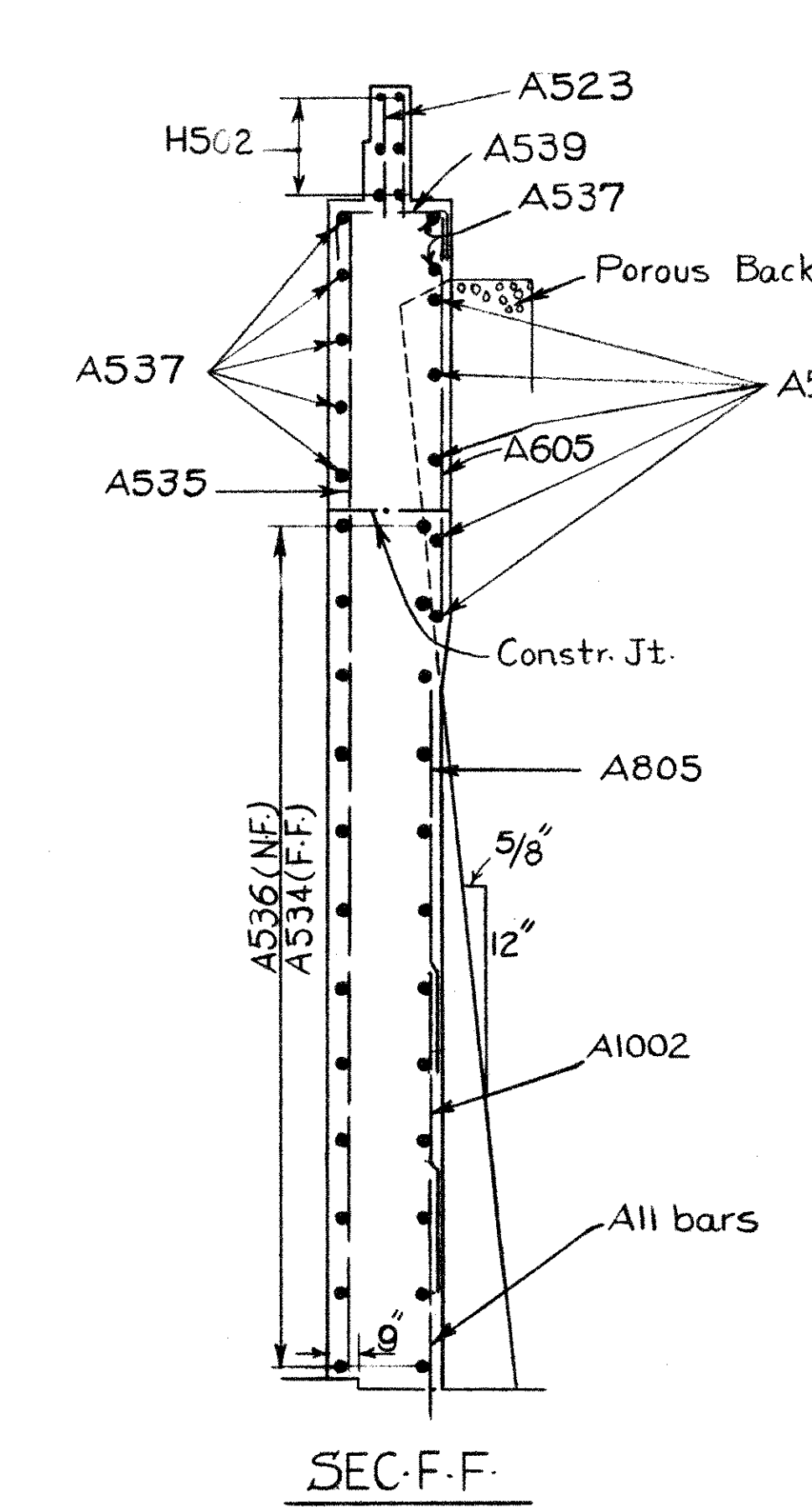
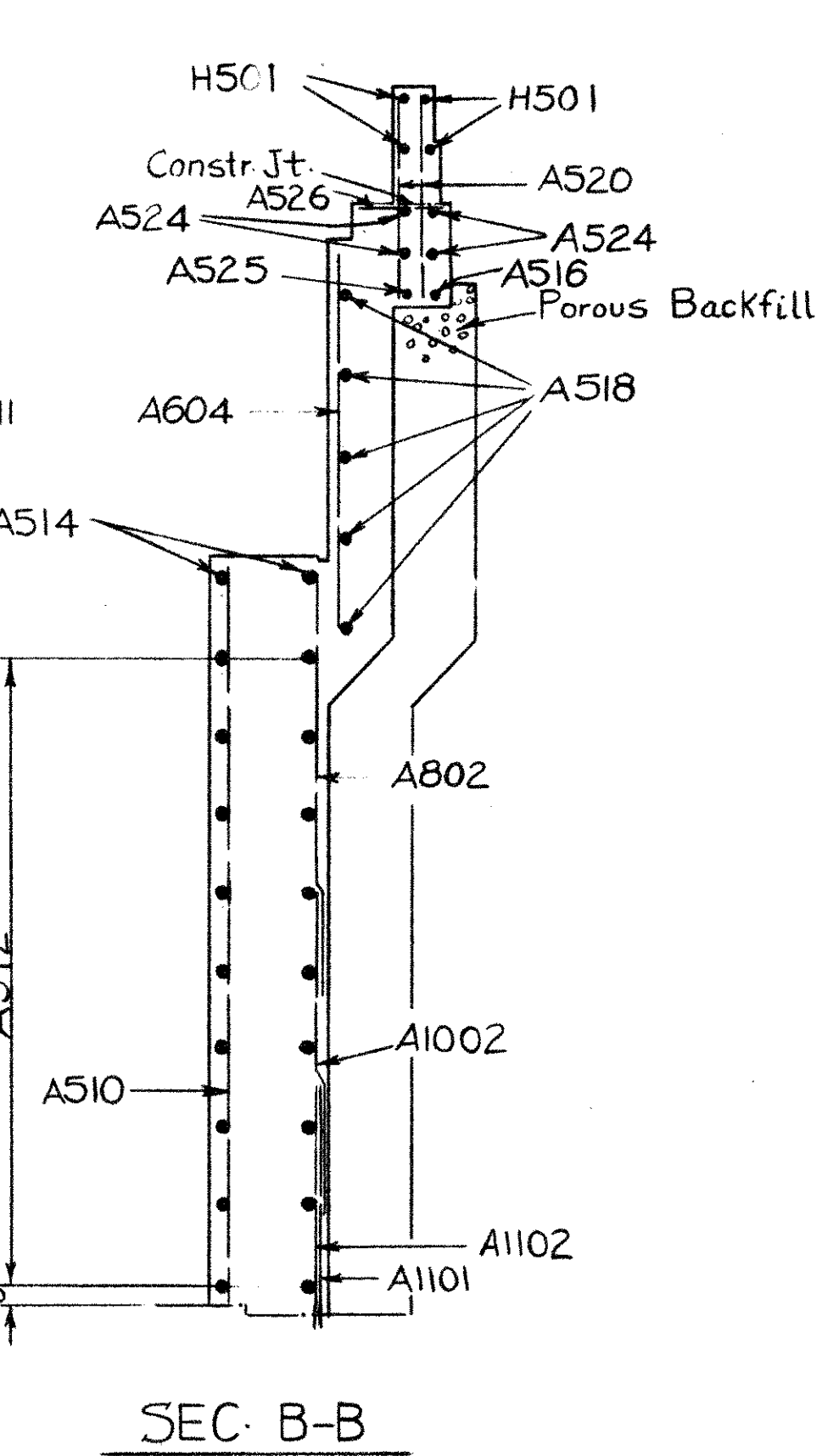
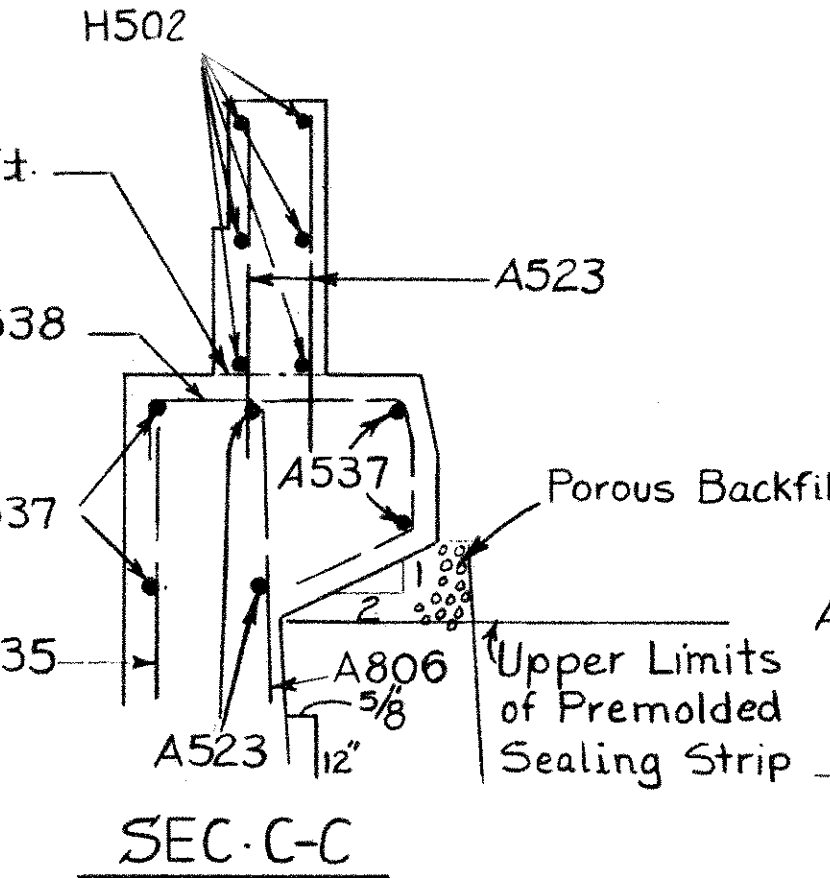
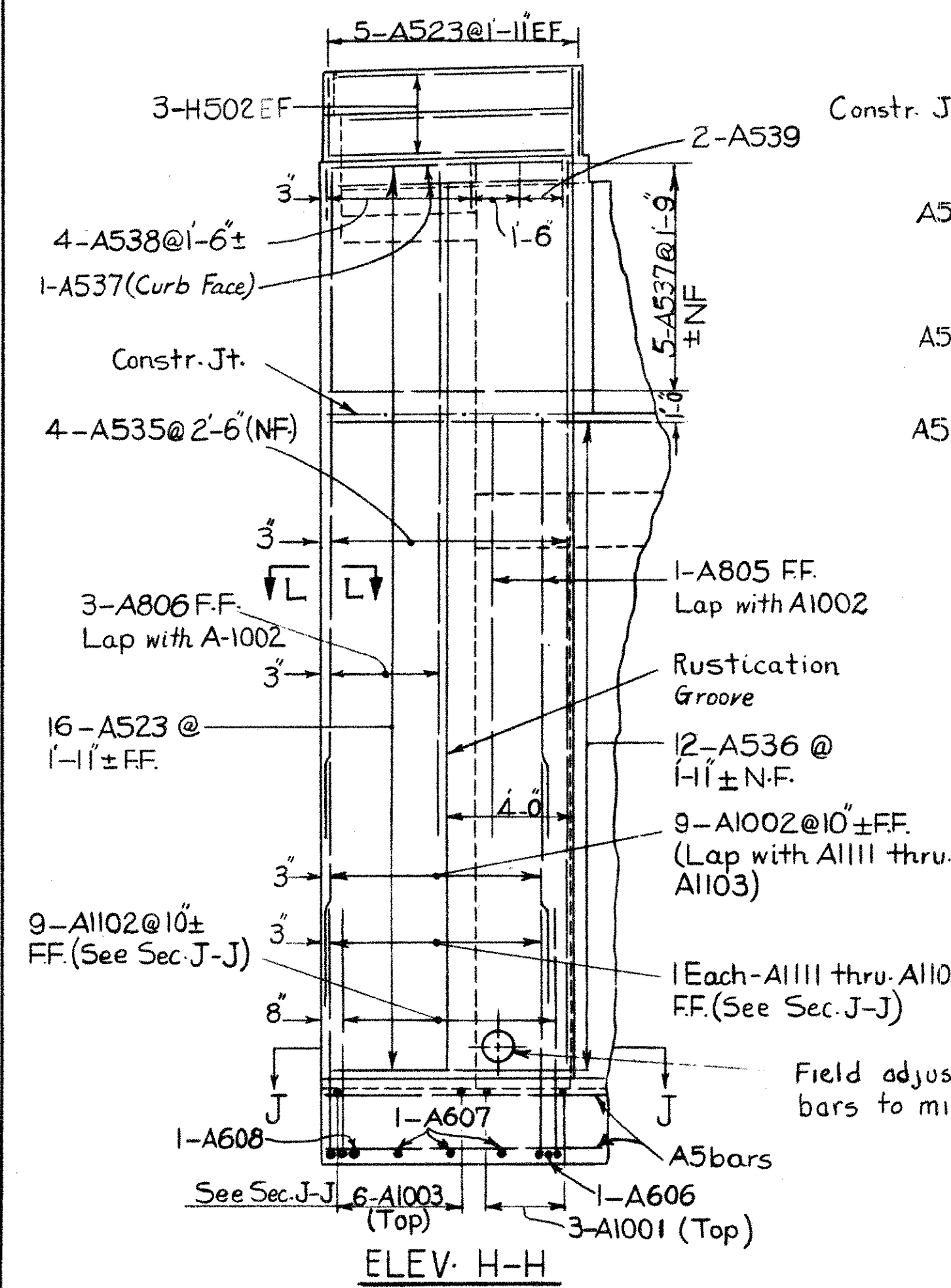
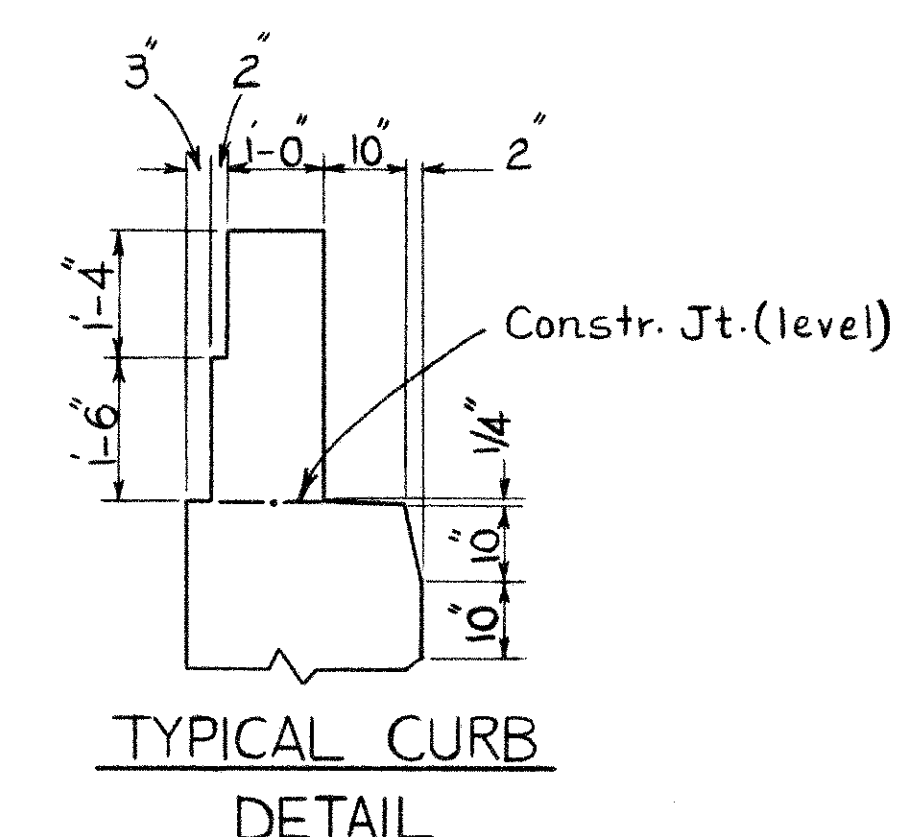
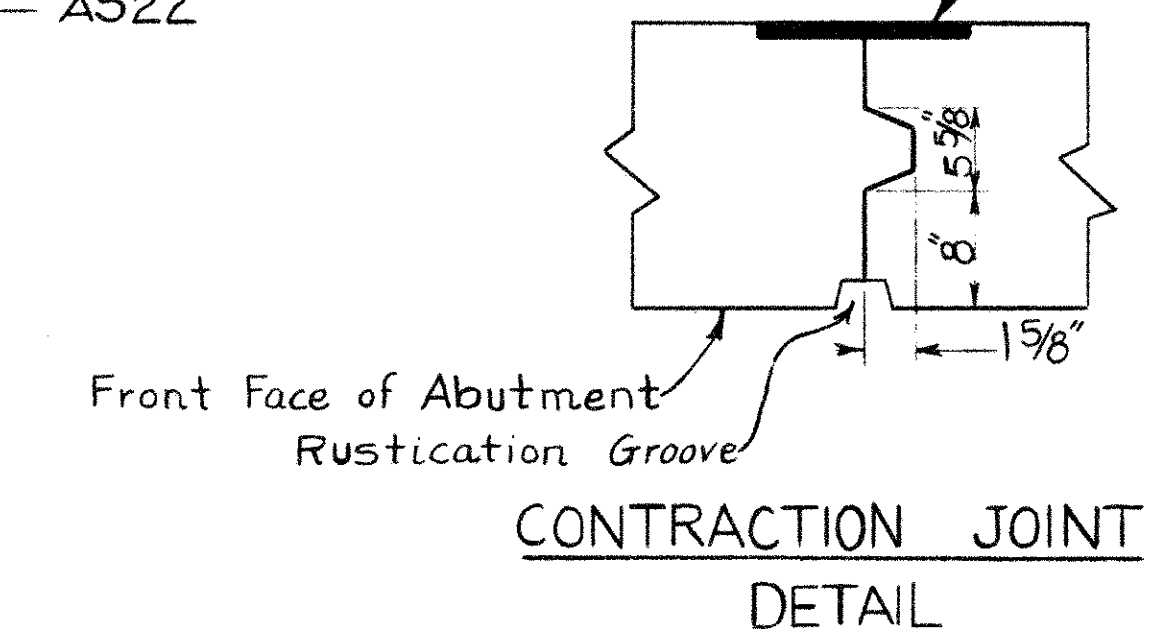
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
|---------------|-------|---------|-------------|
| 2             | OHIO  |         |             |

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HAMILTON COUNTY  
HAM-71-2.08



Premolded Sealing Strip in 1 3/4 x 3/4 Recess (Extends from EL. 631.0 to EL. 606.75)



Work this sheet with sh. 385

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**SOUTH ABUTMENT**  
BRIDGE No. HAM-71-0228

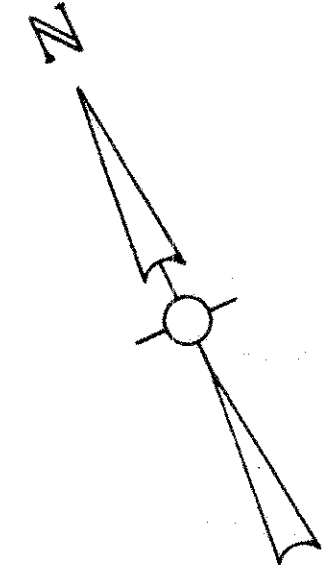
H&E BRIDGE No. 16

| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
|----------|-------|--------|---------|---------------|---------|
| F.N.     | F.N.  |        | W.L.    | 8-30-65       |         |





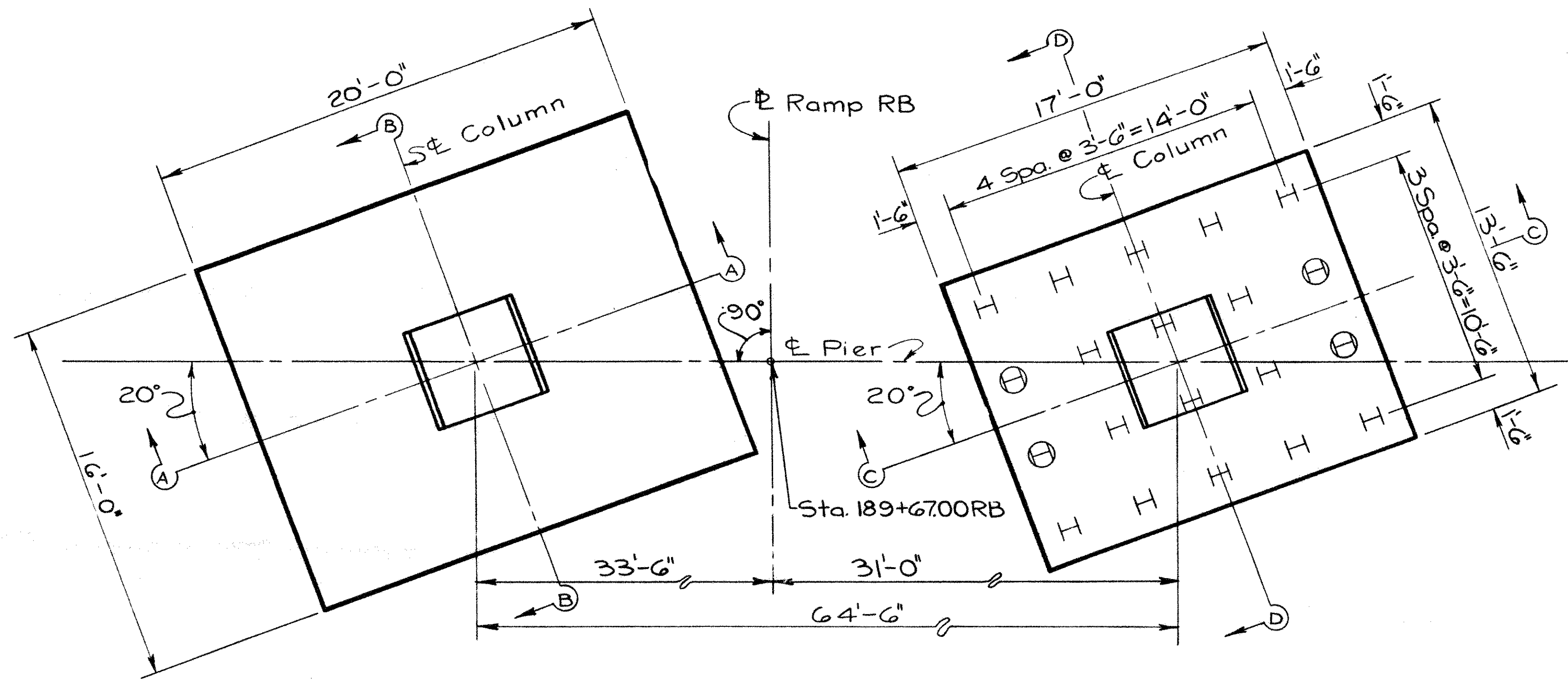
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| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
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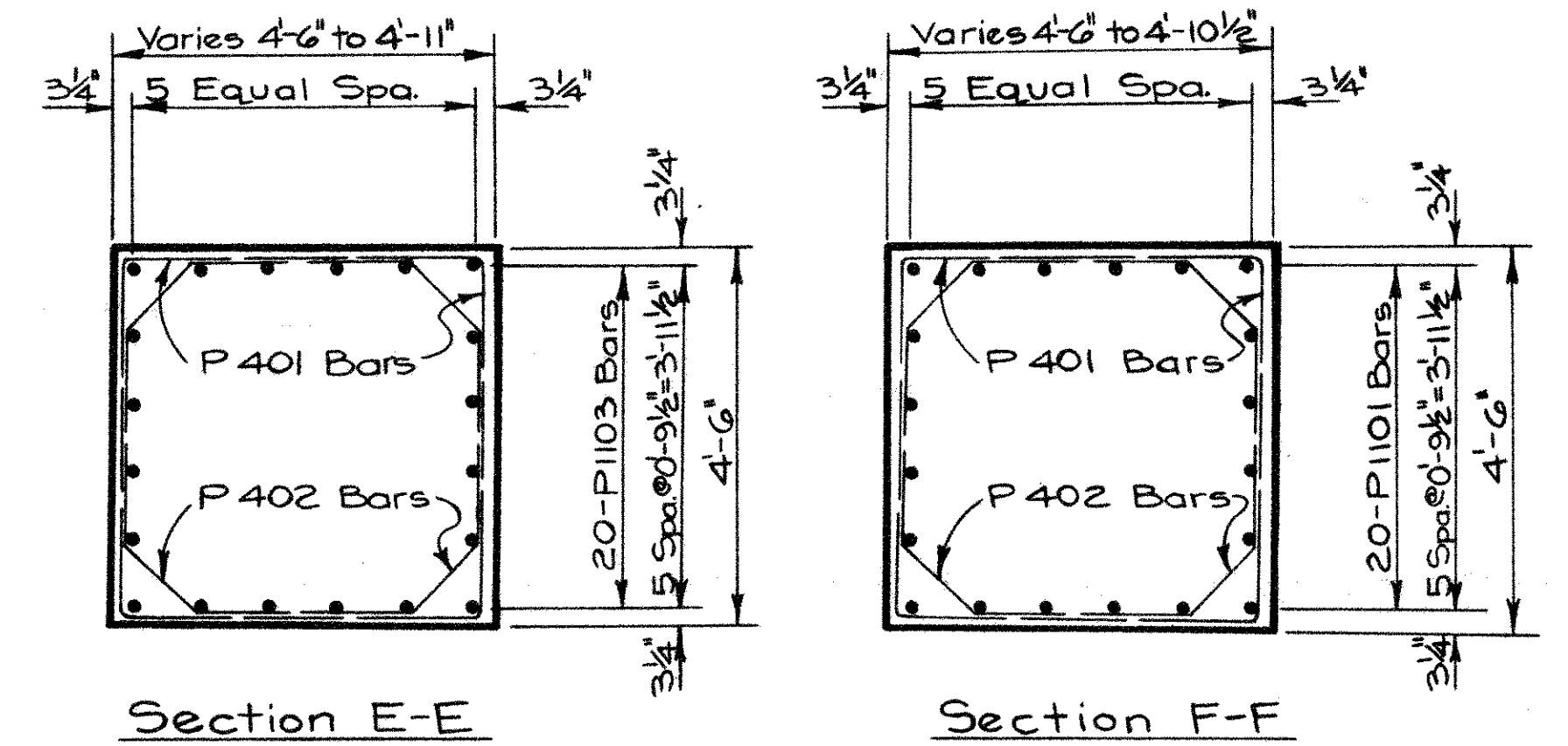
HAMILTON COUNTY  
HAM-71-2.08



PLAN OF WEST FOOTING

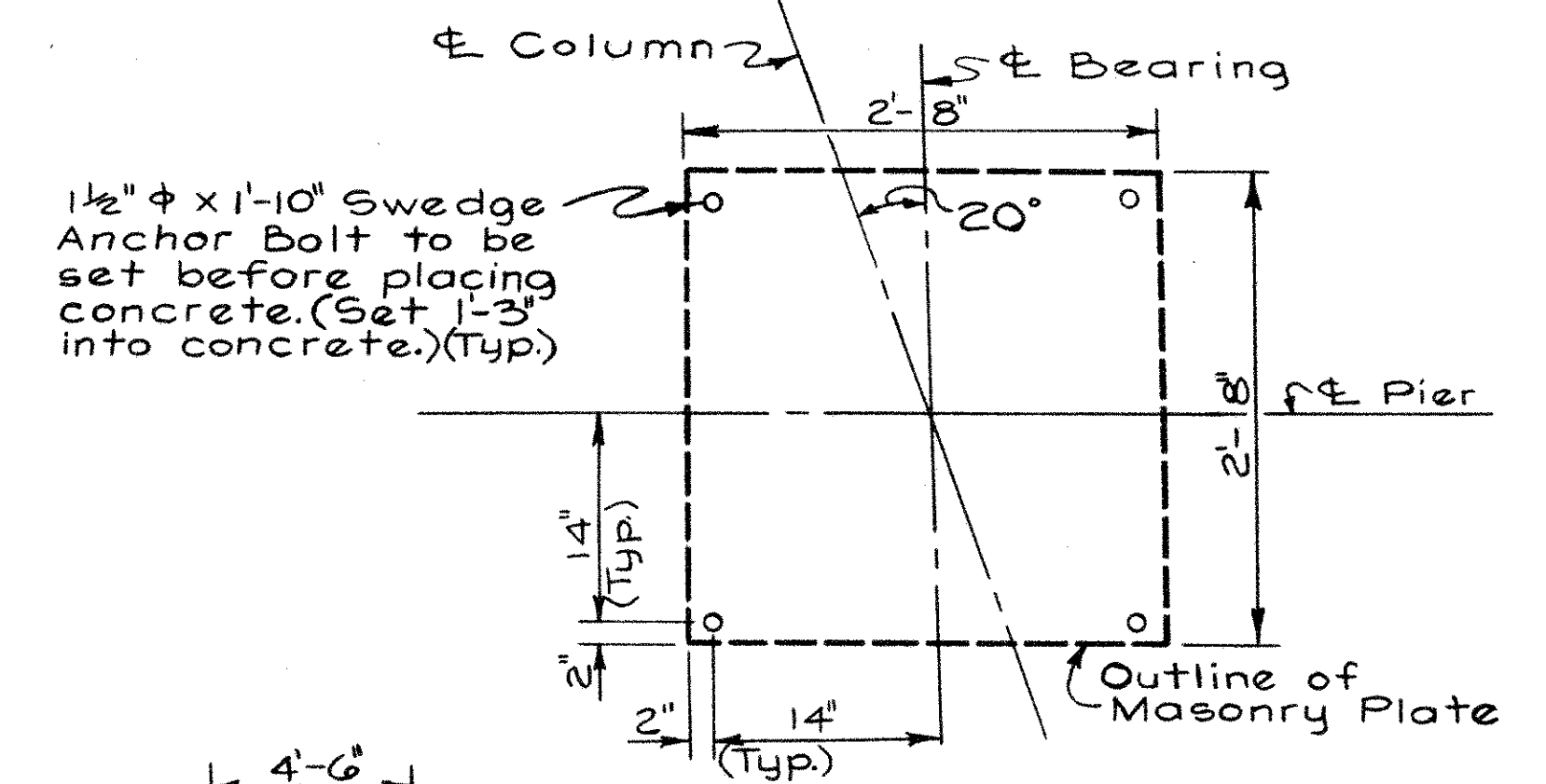
PLAN OF EAST FOOTING  
10 BP 42 Piles

PLAN



Section E-E

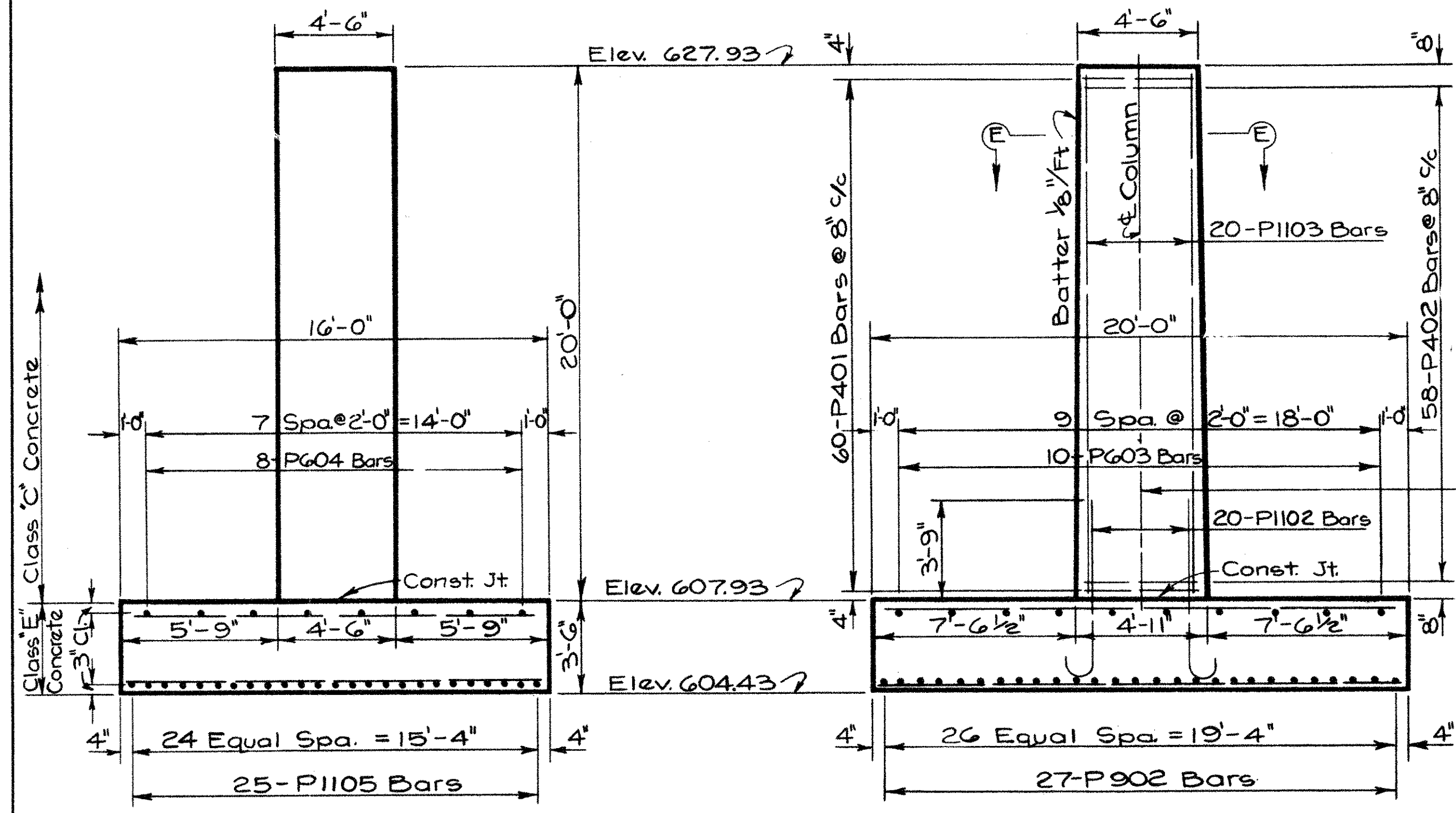
Section F-F



Anchor Bolt Detail

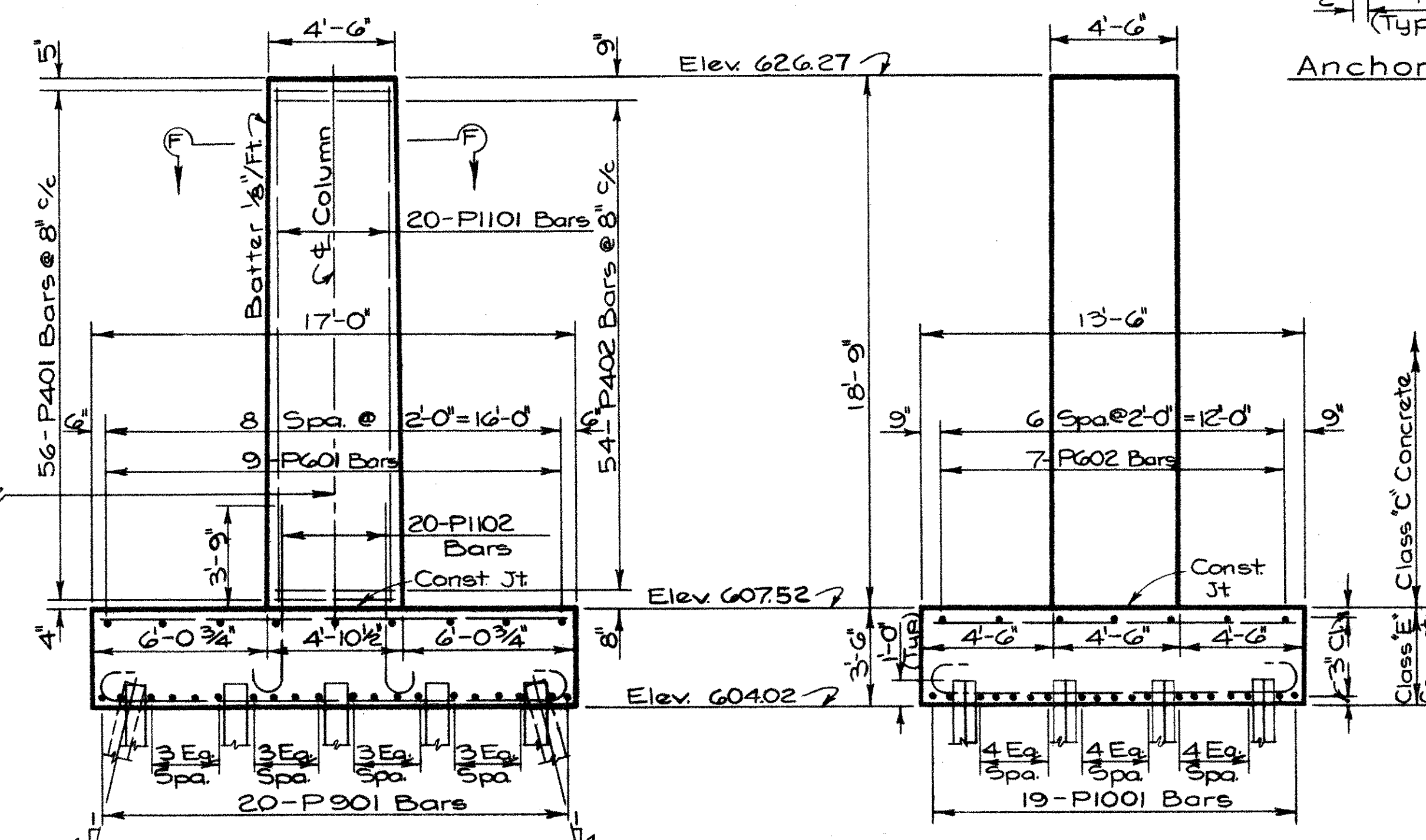
**GENERAL NOTES**  
⊕ denotes battered pile.  
All reinforcing steel shall be 2" clear from face of concrete except as shown.

Special care shall be taken in placing reinforcing steel in top of footing of Pier No. 1 so as to avoid interference with the drilling of anchor bolt holes for anchoring guard rail posts to footing as shown on Standard Drawing GR-6



END VIEW OF WEST COLUMN  
(Section B-B)

ELEVATION OF WEST COLUMN  
(Section A-A)



ELEVATION OF EAST COLUMN  
(Section C-C)

END VIEW OF EAST COLUMN  
(Section D-D)

ELEVATION

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CINCINNATI, OHIO

PIER NO. 1  
BRIDGE No. HAM-71-0228

H&E BRIDGE No. 16

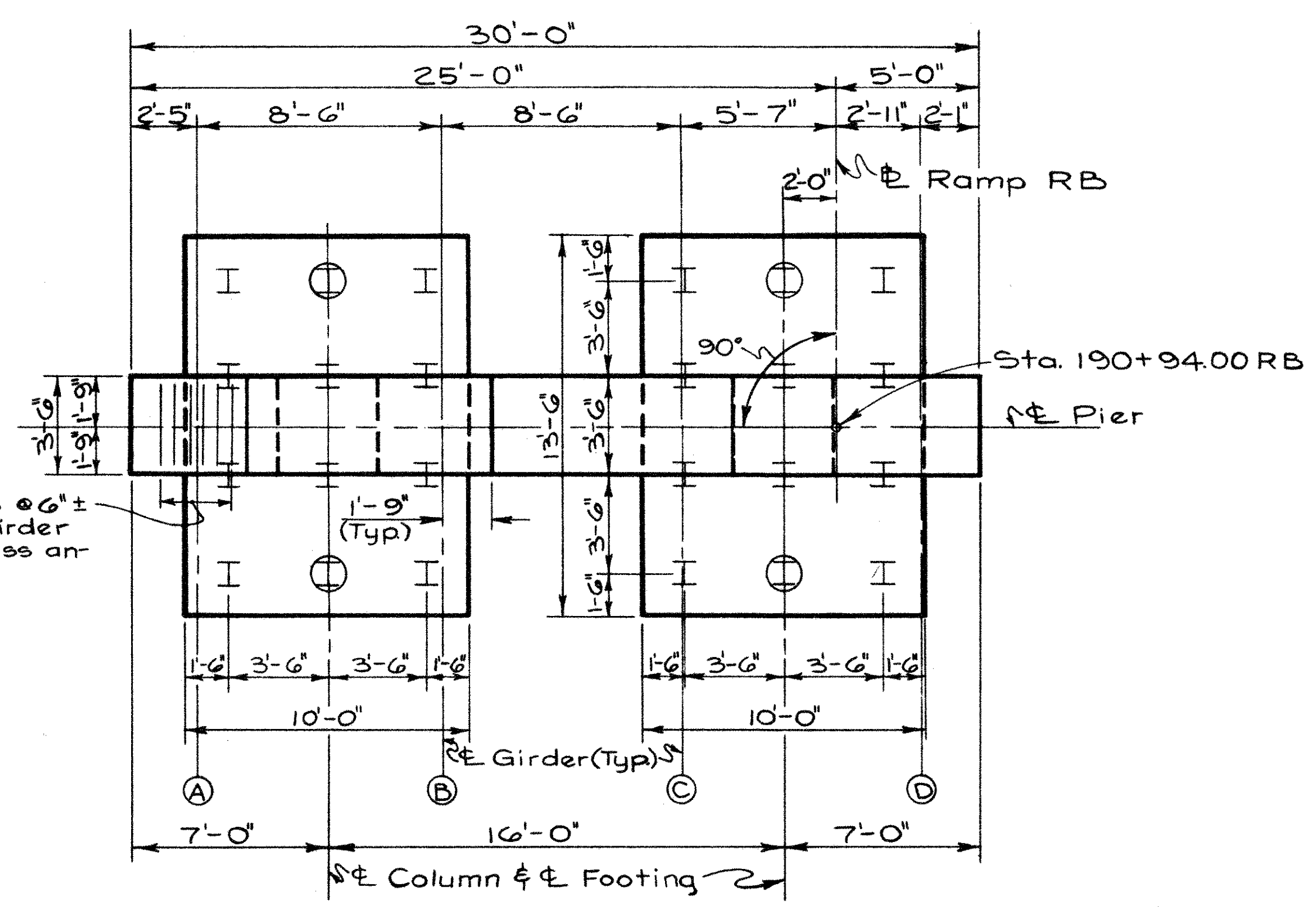
| DESIGNED | DRAWN          | TRACED | CHECKED        | REVIEWED DATE     | REVIEWED |
|----------|----------------|--------|----------------|-------------------|----------|
| W.L.     | JDC<br>12-9-64 |        | JH6<br>11/8/65 | N.A.Z.<br>8-30-65 |          |

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SEP 15 1982

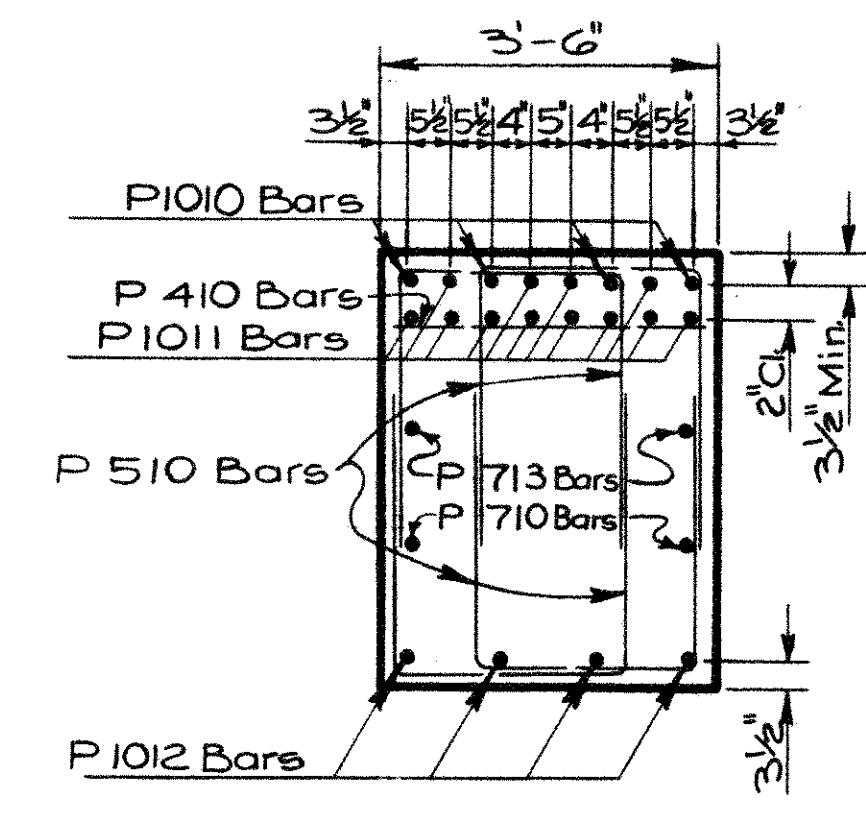
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|---------------|-------|---------|-------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

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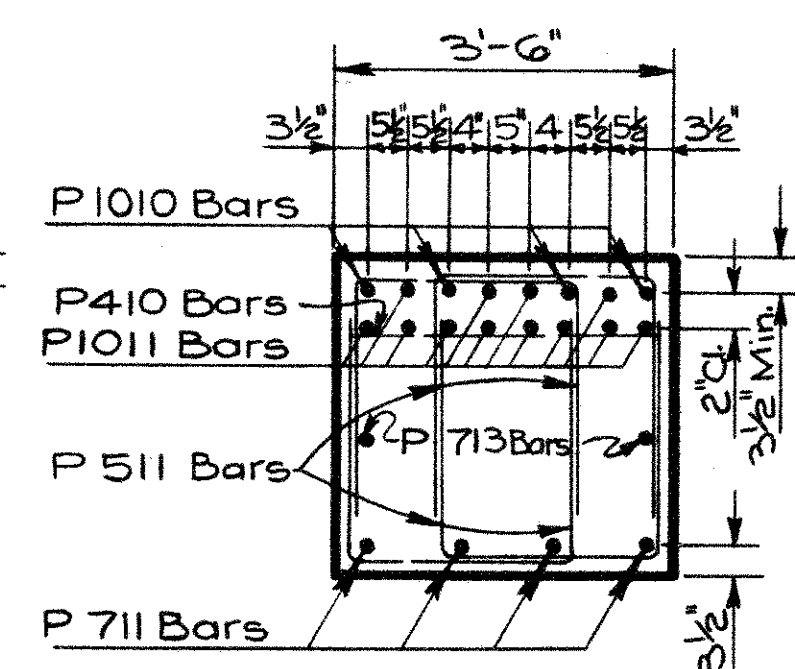
HAMILTON COUNTY  
HAM-71-2.08



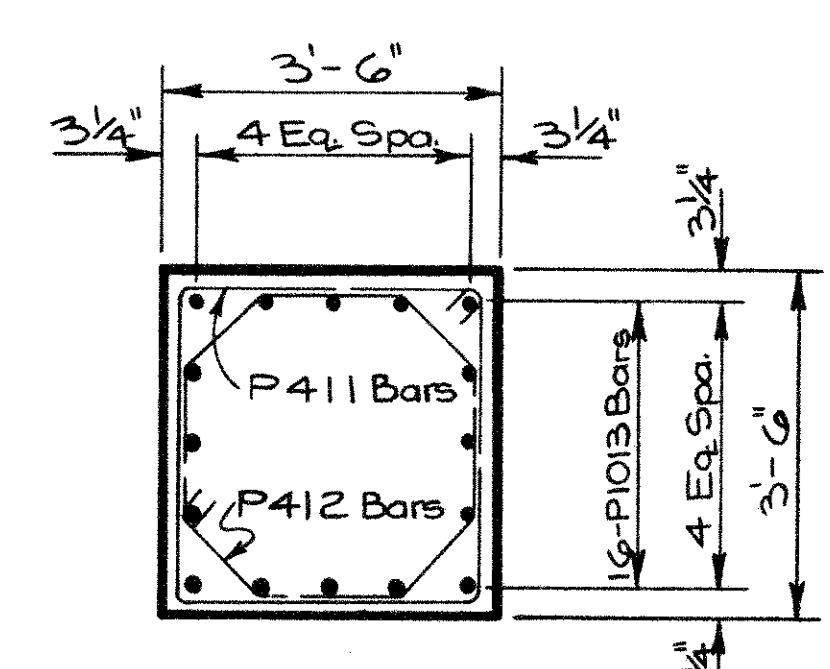
PLAN  
10 BP 42 Piles



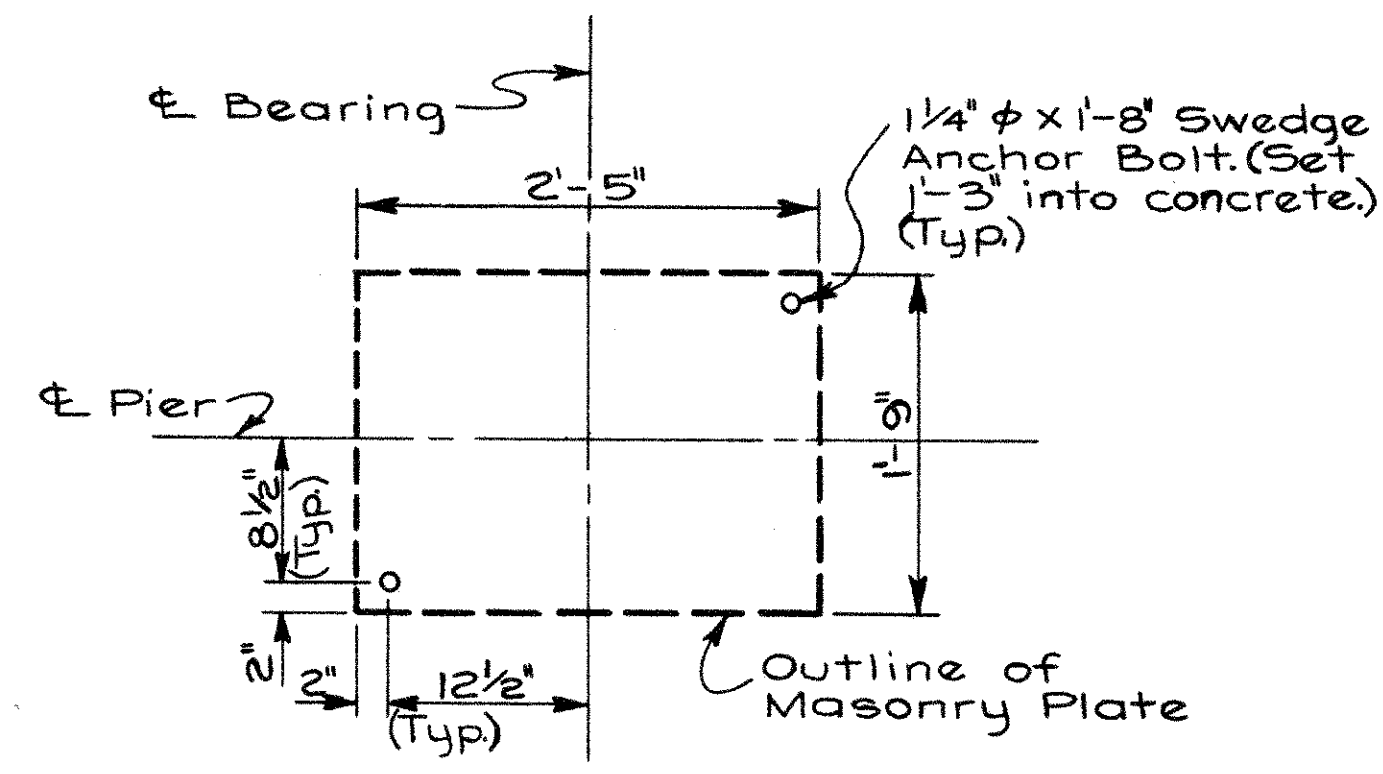
Section A-A



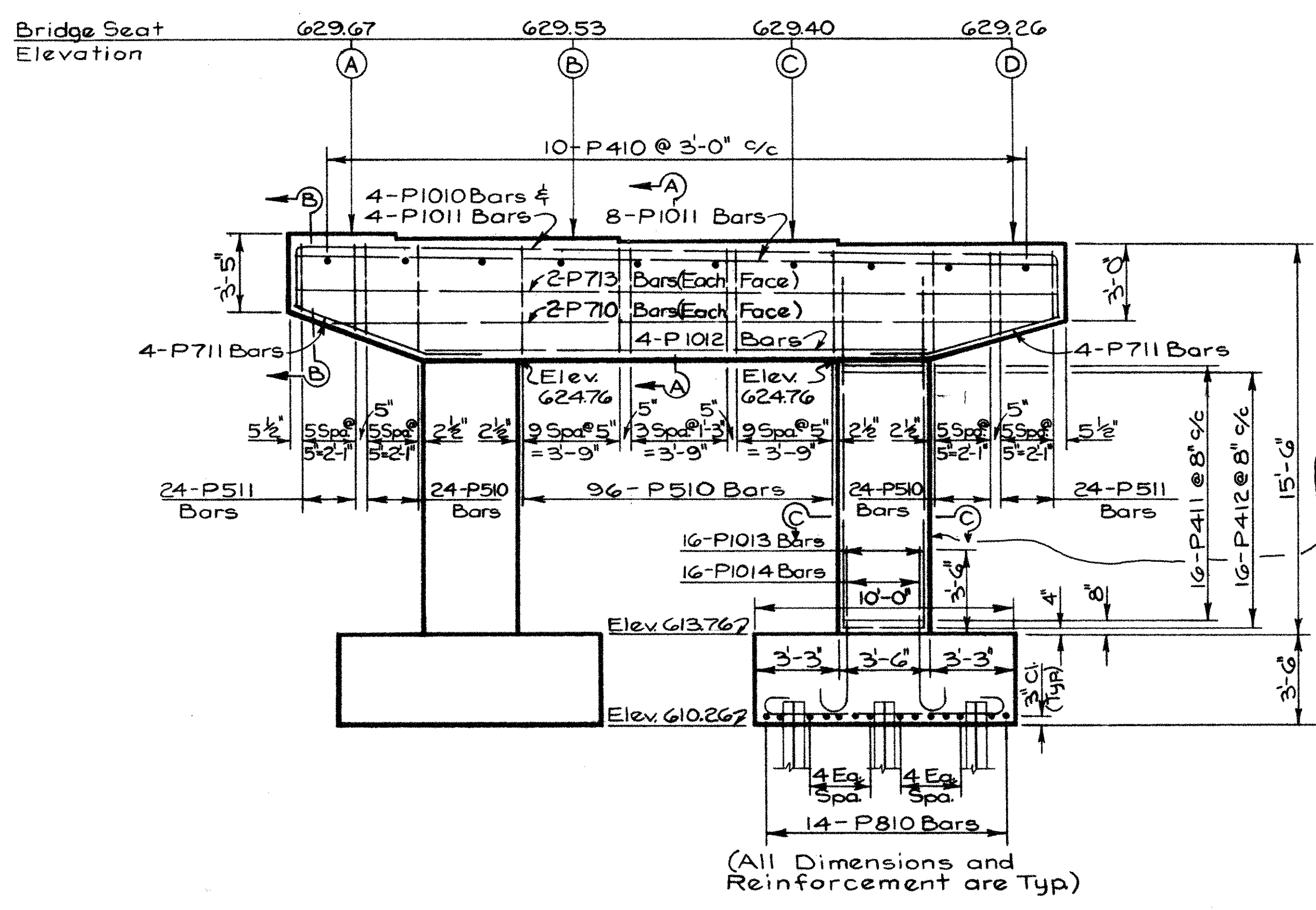
Section B-B



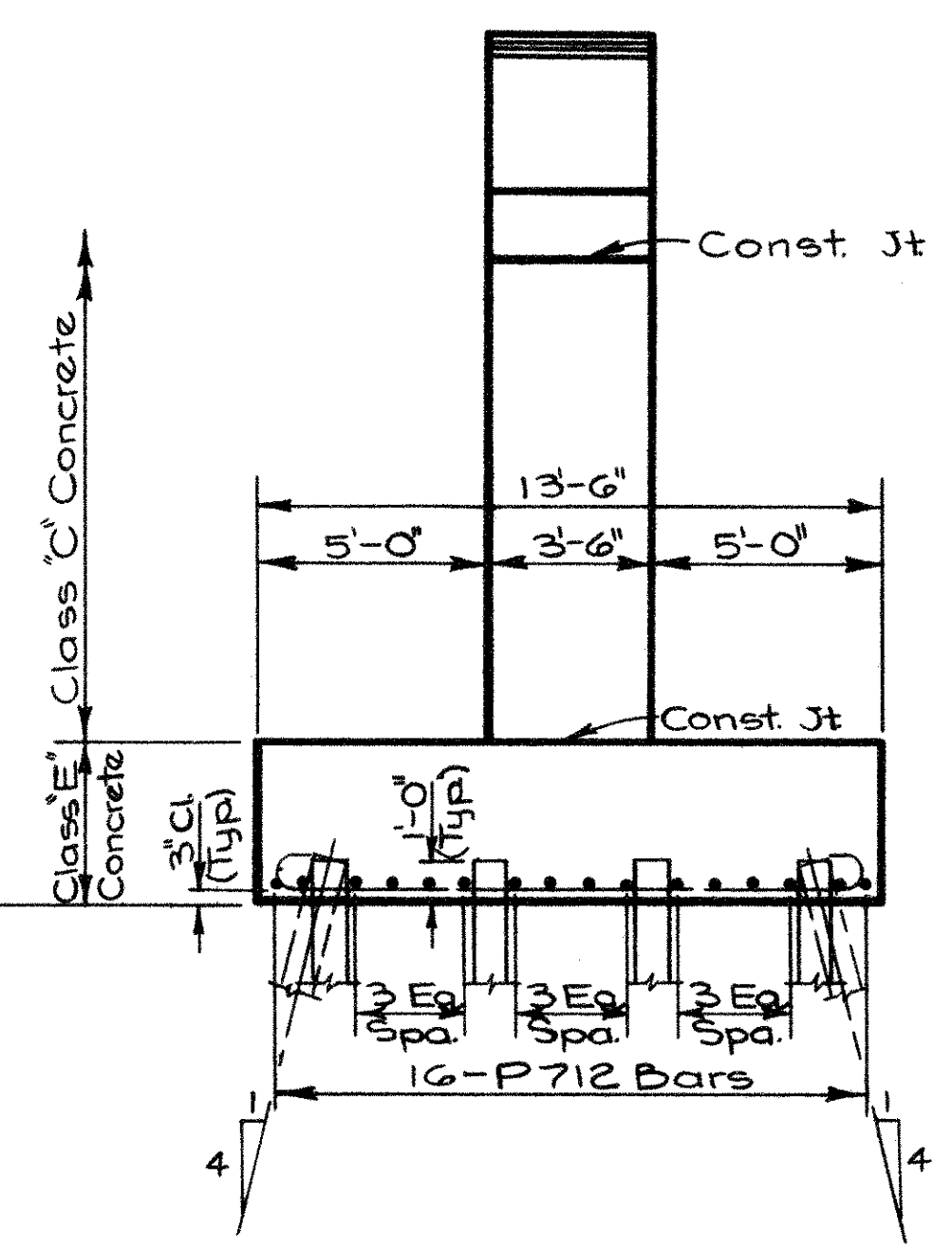
Section C-C



Anchor Bolt Detail



ELEVATION



END VIEW

NOTES  
For General Notes see Sheet No. 389  
Special care shall be taken in placing reinforcing steel in the pier cap so that it will not interfere with the drilling of anchor bolt holes.

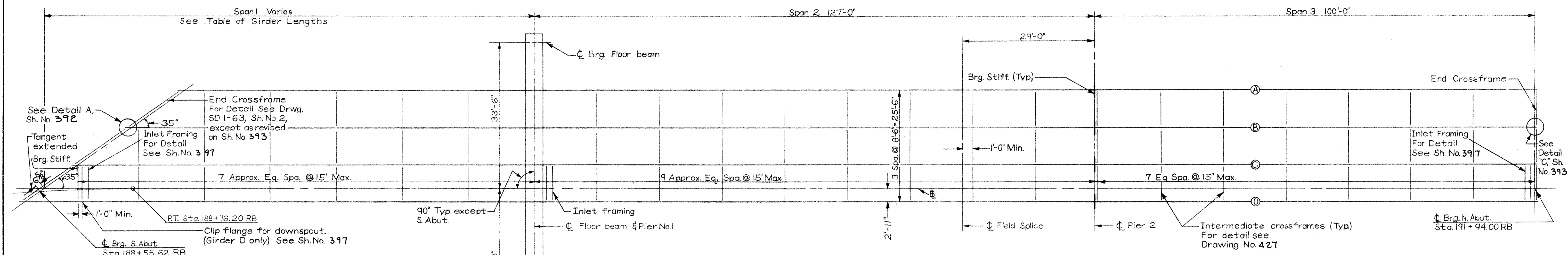
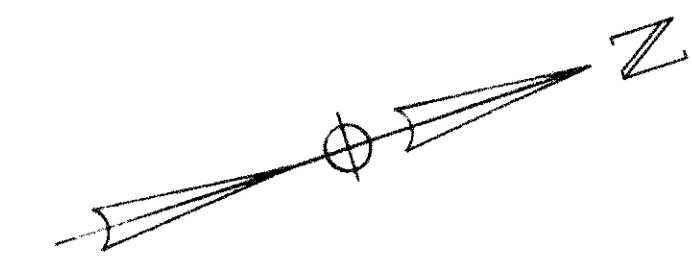
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PIER NO. 2  
BRIDGE No. HAM-71-0228

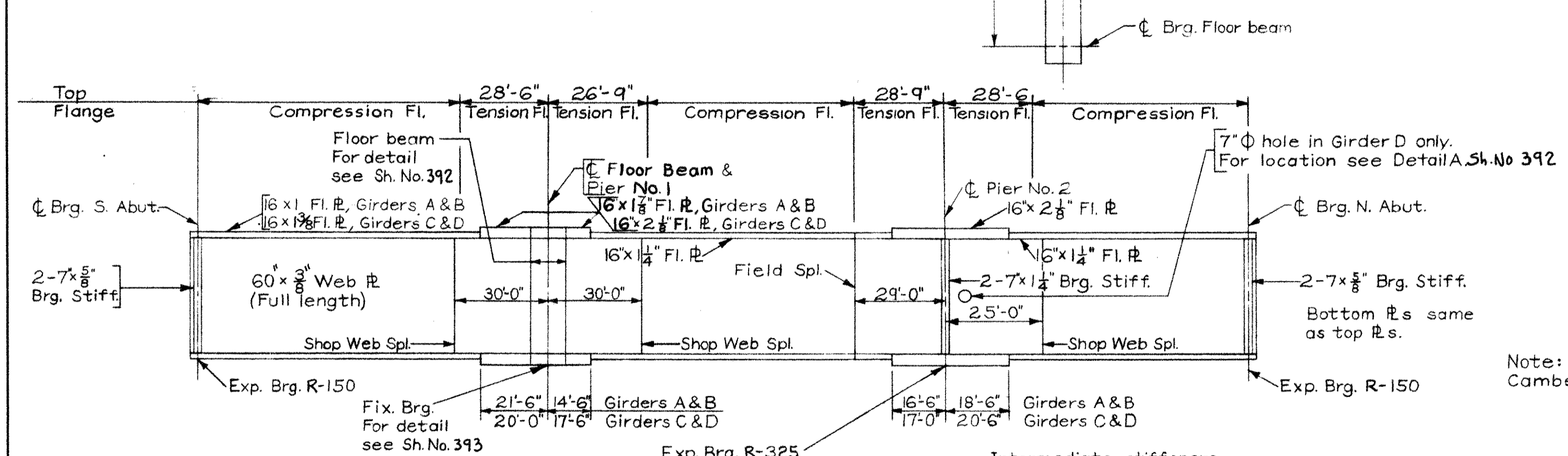
H&E BRIDGE No. 16

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| DESIGNED | DRAWN    | TRACED | CHECKED | REVIEWED DATE | REVISED |
| W.L.     | J.D.C.   |        | J.H.O.  | 7.1.85        |         |
|          | 12-18-64 |        | 1/8/65  | 8-30-65       |         |

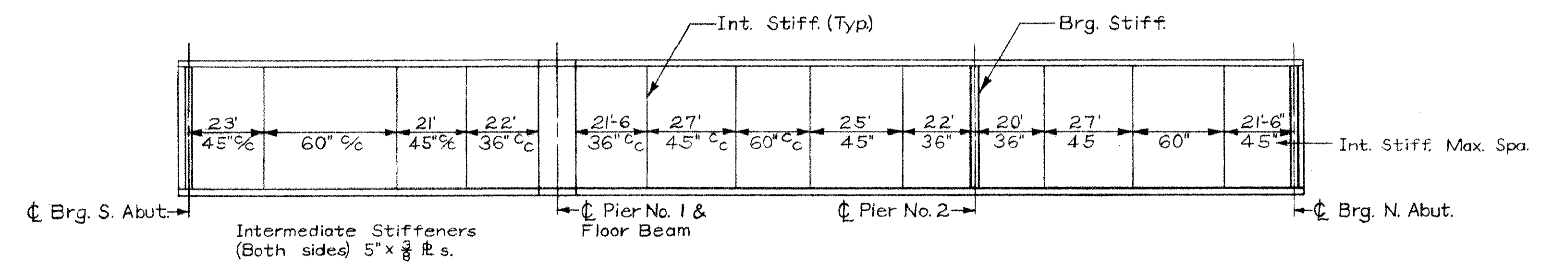
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FRAMING PLAN



GIRDER ELEVATION



INTERMEDIATE STIFFENER SPACING

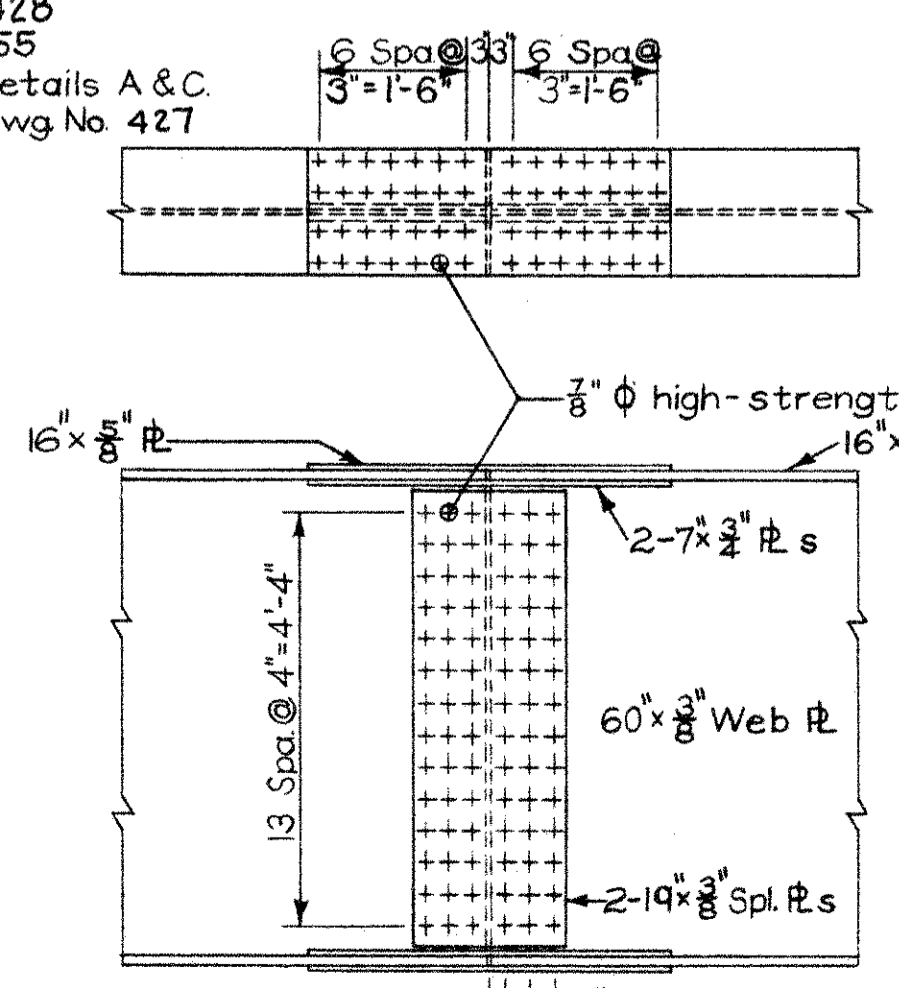
For bearing detail (R-325) see Drwg. No. 428  
For bearing detail (R-150) see Drwg. No. RB-1-55  
except masonry plates modified as shown on details A & C.  
For typical plate girder elevation see Typ. Drwg. No. 427  
For detail of roadway end dam see Sh. No. 395

For treatment of ends of bridge see  
Drawing No. SD-1-63, Sh. No. 2, "Longitudinal  
Section."

Note: Girder Length measured from  
to Brg S. Abut. to Pier No. 1.

| Girder | Span 1        |
|--------|---------------|
| A      | 78'-8 1/8"    |
| B      | 90'-9 13/16"  |
| C      | 102'-11 7/16" |
| D      | 115'-1 3/8"   |

TABLE OF  
GIRDER LENGTHS

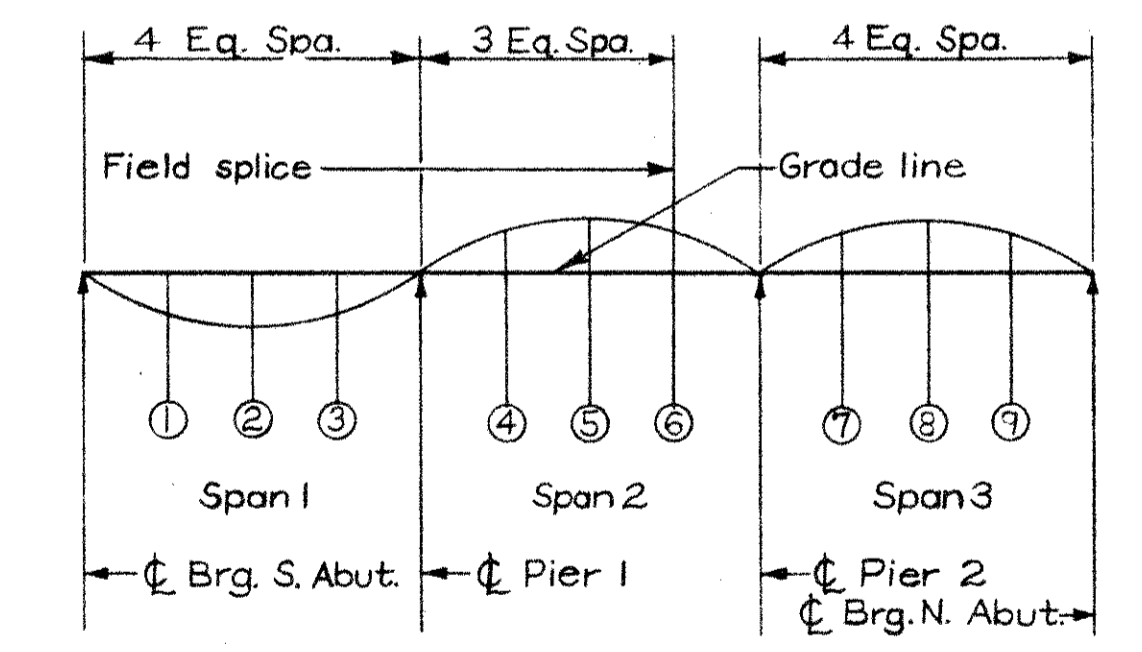


FIELD SPLICE

Note: Contact surface of  
splice shall be free  
of all oil or paint  
Note: Bottom flange splice  
material same as top  
flange splice material.

Note:  
Camber girders by cutting webs to a smooth curve.

| Girder |  | LOCATION |        |        |         |         |        |         |        |         | Girder |  | LOCATION |         |        |         |        |        |       |        |        |
|--------|--|----------|--------|--------|---------|---------|--------|---------|--------|---------|--------|--|----------|---------|--------|---------|--------|--------|-------|--------|--------|
|        |  | ①        | ②      | ③      | ④       | ⑤       | ⑥      | ⑦       | ⑧      | ⑨       |        |  | ①        | ②       | ③      | ④       | ⑤      | ⑥      | ⑦     | ⑧      | ⑨      |
| A      | Deflection due to weight of steel.                       | 1/8      | 3/16   | 1/8    | 7/16    | 9/16    | 5/16   | 0       | 1/16   | 1/16    | C      | Deflection due to weight of steel.                       | 5/16     | 1/2     | 5/16   | 7/16    | 9/16   | 5/16   | 0     | 1/16   | 1/16   |
|        | Deflection due to remaining dead load                    | 1/8      | 1/8    | 0      | 11/16   | 1/8     | 5/8    | 3/16    | 1/2    | 1/2     |        | Deflection due to remaining dead load                    | 1/2      | 9/16    | 1/4    | 3/8     | 11/16  | 3/8    | 1/4   | 9/16   | 1/2    |
|        | Convexity required for vertical curve and superelevation | -1       | -1/4   | -1     | 2 1/2   | 3 3/4   | 3      | 2 1/2   | 3 3/8  | 2 1/2   |        | Convexity required for vertical curve and superelevation | -1 5/8   | -2 1/4  | -5/8   | 3/2     | 4 3/4  | 3 1/2  | 2 1/2 | 3 3/8  | 2 1/2  |
|        | Sum of deflection and convexity                          | -7/8     | -1/8   | -1     | 3 3/16  | 4 7/8   | 3 5/8  | 2 1/16  | 3 7/8  | 2 7/8   |        | Sum of deflection and convexity                          | -1 1/8   | -1 1/16 | -3/8   | 3 7/8   | 5 7/16 | 3 7/8  | 2 3/4 | 3 5/16 | 3      |
|        | Required camber  | 3/4      | 15/16  | 7/8    | 3 5/8   | 5 7/16  | 3 5/16 | 2 1/16  | 3 5/16 | 3 1/16  |        | Required camber  | 13/16    | 1 3/16  | 1 1/16 | 4 5/16  | 6      | 4 3/8  | 2 3/4 | 4      | 3 1/16 |
| B      | Deflection due to weight of steel.                       | 1/4      | 5/16   | 1/4    | 7/16    | 9/16    | 5/16   | 0       | 1/16   | 1/16    | D      | Deflection due to weight of steel.                       | 1/2      | 3/4     | 1/2    | 7/16    | 9/16   | 5/16   | 0     | 1/16   | 1/16   |
|        | Deflection due to remaining dead load                    | 5/16     | 3/8    | 1/8    | 3/8     | 11/16   | 3/8    | 3/16    | 1/2    | 3/8     |        | Deflection due to remaining dead load                    | 15/16    | 1 1/8   | 9/16   | 1/4     | 9/16   | 5/16   | 1/4   | 5/8    | 1/2    |
|        | Convexity required for vertical curve and superelevation | -1/4     | -3/4   | -1/4   | 3       | 4 1/4   | 3 3/8  | 2 1/2   | 3 3/8  | 2 1/2   |        | Convexity required for vertical curve and superelevation | -2       | -2 3/4  | -2/8   | 4       | 5 1/4  | 3 3/4  | 2 1/2 | 3 3/8  | 2 1/2  |
|        | Sum of deflection and convexity                          | -15/16   | -1 3/8 | -1 1/8 | 3 3/8   | 4 15/16 | 3 3/4  | 2 11/16 | 3 7/8  | 2 7/8   |        | Sum of deflection and convexity                          | 1 1/16   | 1 5/8   | 1 9/16 | 4 1/4   | 5 3/16 | 4 1/16 | 2 3/4 | 4      | 3      |
|        | Required camber  | 11/16    | 1 1/16 | 7/8    | 3 13/16 | 5 1/2   | 4 1/16 | 2 11/16 | 3 5/16 | 2 15/16 |        | Required camber  | 9/16     | 7/8     | 1 1/16 | 4 11/16 | 6 3/8  | 4 3/8  | 2 3/4 | 4 1/16 | 3 1/16 |



CAMBER DIAGRAM

Note: Minus sign in table indicates camber ordinates measured below chord. No sign indicates camber ordinates measured above chord.

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS  
BRIDGE No. HAM-71-0228

H&E BRIDGE No. 16

| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
|----------|-------|--------|---------|---------------|---------|
| W.L.     | CIB   |        | JHO     | 11/12         |         |
|          |       |        | 11/16   | 8-30-65       |         |







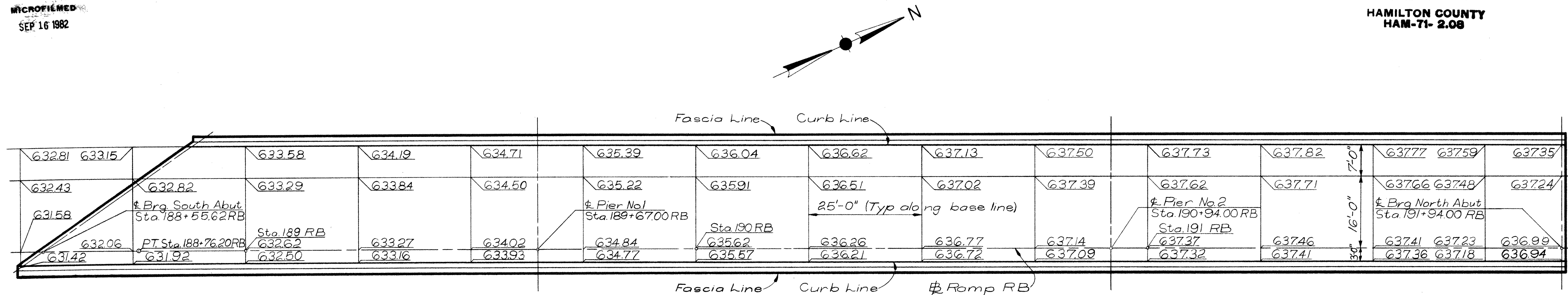


MICROFILMED  
SEP 16 1982

| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
|---------------|-------|---------|-------------|
| 2             | OHIO  |         |             |

395  
460

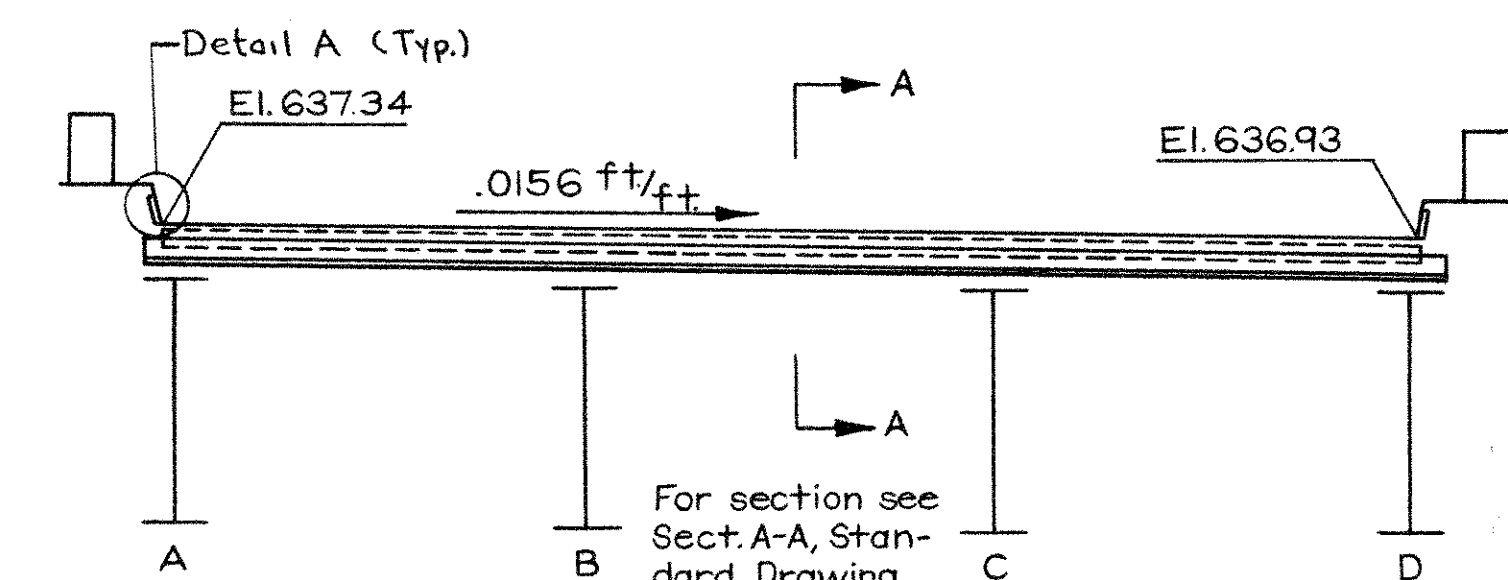
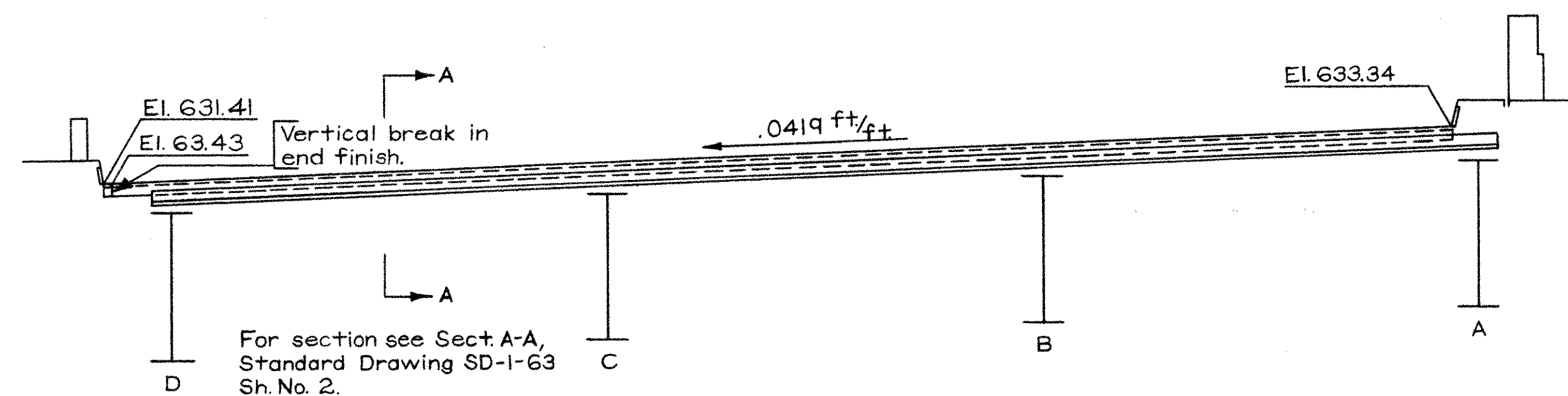
HAMILTON COUNTY  
HAM-71-2.08



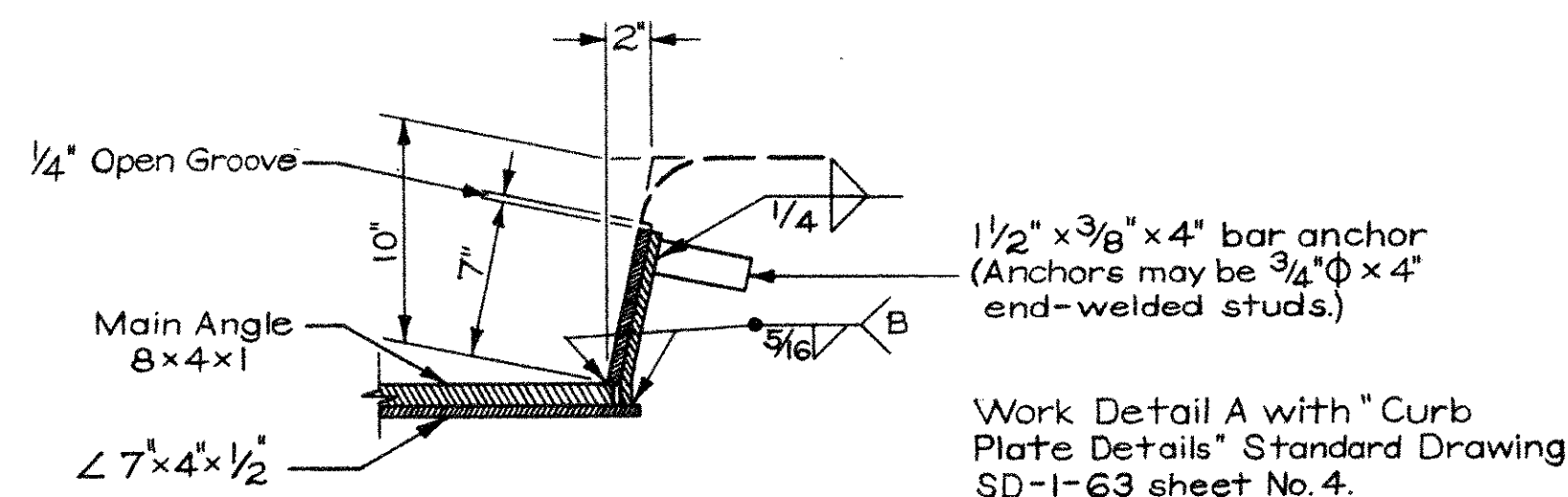
SLAB THICKNESS "t"

| Girder Location | A      | B      | C      | D      |
|-----------------|--------|--------|--------|--------|
| Span No. 1      |        |        |        |        |
| 1/4             | 10 3/4 | 12 1/4 | 11 3/8 | 14     |
| 1/2             | 11 1/2 | 12 1/2 | 12     | 13 7/8 |
| 3/4             | 12 7/8 | 12 7/8 | 12 1/2 | 13 3/4 |
| Span No. 2      |        |        |        |        |
| 1/4             | 13 1/2 | 13 1/2 | 13 1/2 | 13 1/2 |
| 1/2             | 13 1/2 | 13 1/2 | 13 1/2 | 13 1/2 |
| 3/4             | 13 1/2 | 13 1/2 | 13 1/2 | 13 1/2 |
| Span No. 3      |        |        |        |        |
| 1/4             | 13 1/2 | 13 1/2 | 13 1/2 | 13 1/2 |
| 1/2             | 13 1/2 | 13 1/2 | 13 1/2 | 13 1/2 |
| 3/4             | 13 1/2 | 13 1/2 | 13 1/2 | 13 1/2 |

Note: "t" is measured from top of slab to bottom of girder flange plate along  $\phi$  girder as shown on Sheet No. 394. "t" values shall be adjusted as required if actual camber varies from values shown on Sheet No. 391.



Note: Elevations given are at front face of backwall, (Back of 7' x 4' x 1/2 L)



HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

SUPERSTRUCTURE DETAILS

BRIDGE No. HAM-71-0228

H&E BRIDGE No. 16

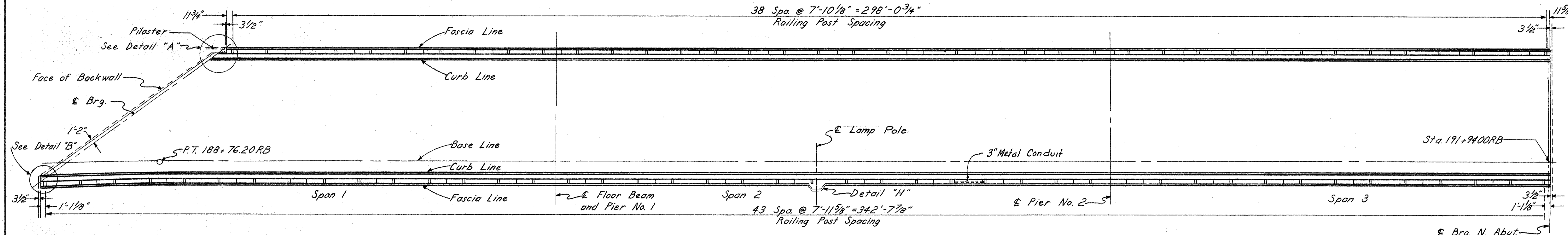
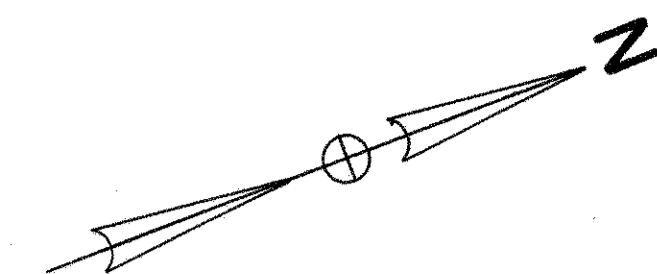
| DESIGNED | DRAWN  | TRACED | CHECKED  | REVIEWED DATE | REVISED |
|----------|--------|--------|----------|---------------|---------|
| M.J.E.   | J.H.W. |        | J.H.W.   | 11/13/65      |         |
| 12/18/64 |        |        | 12/18/64 | 8-30-65       |         |

MICROFILMED  
SEP 16 1982

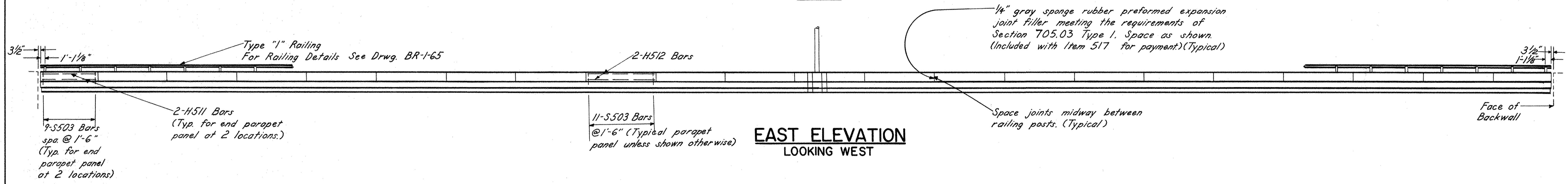
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|---------------|-------|---------|-------------|
| 2             | OHIO  |         |             |

396  
460

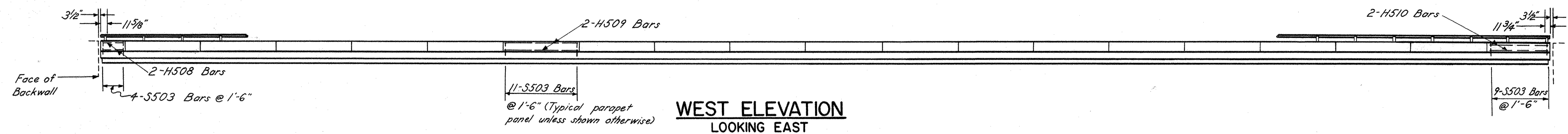
HAMILTON COUNTY  
HAM-71-2.08



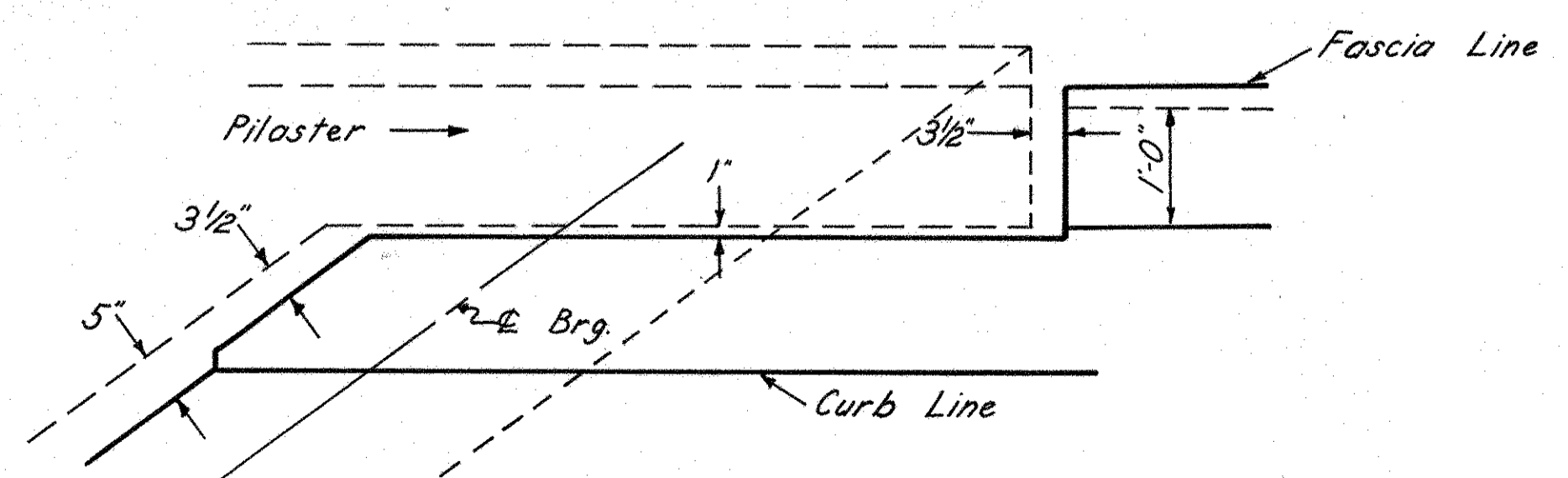
PLAN



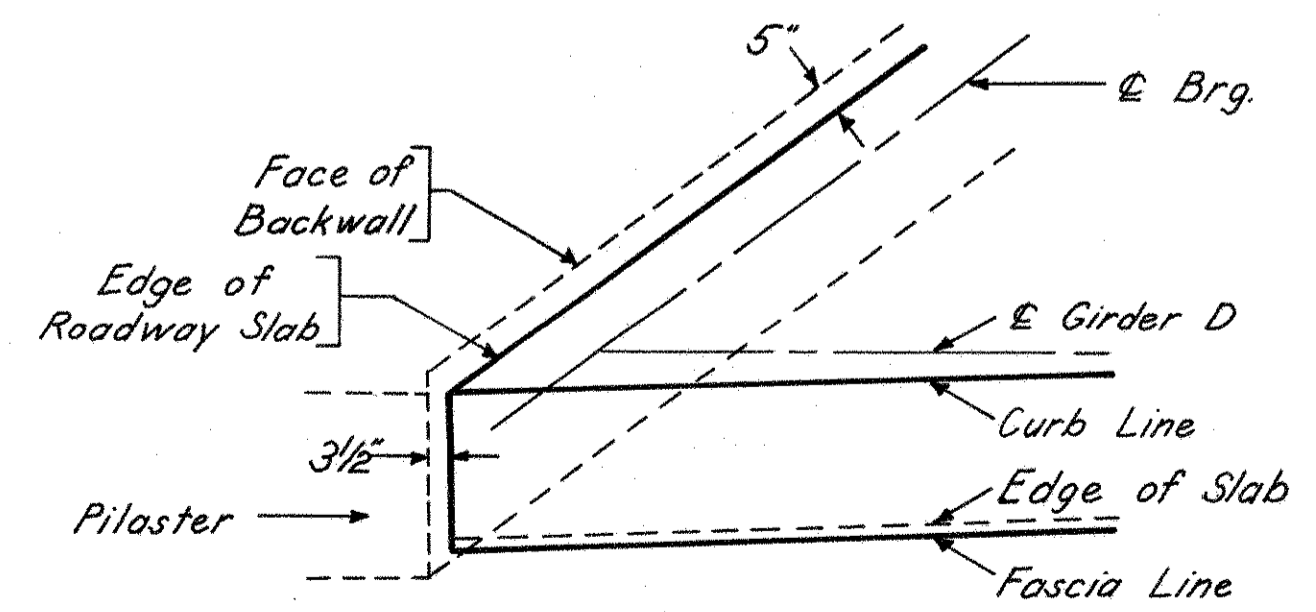
EAST ELEVATION  
LOOKING WEST



WEST ELEVATION  
LOOKING EAST



DETAIL A



DETAIL B

**Notes:**  
The location of reinforcing steel and railing posts is measured along the parapet.  
For conduit expansion detail at Abutments see sheet No. 189.  
For typical lighting details see sheet No. 189.  
Work this drawing with lighting plan sheet No. 180, which shows location of conduits, hand holds, and lamp poles.  
For Detail "H" see sheet No. 343.

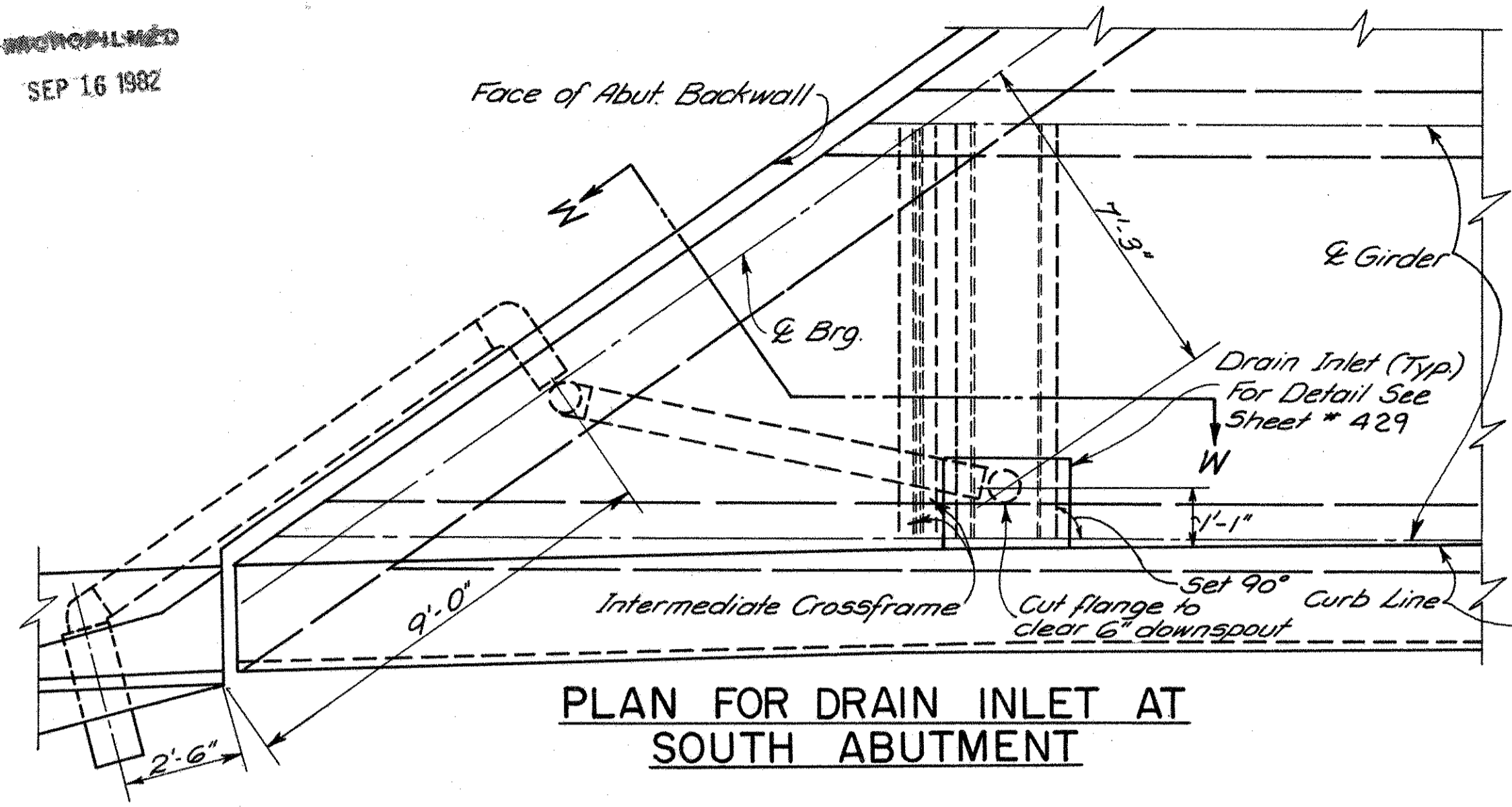
|   |       |        |         |                    |          |
|---|-------|--------|---------|--------------------|----------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |       |        |         |                    |          |
| <b>RAILING &amp; LIGHTING</b>                               |       |        |         |                    |          |
| BRIDGE NO. HAM-71-0228                                      |       |        |         |                    |          |
| H&E BRIDGE No. 16   |       |        |         |                    |          |
| DESIGNED  | DRAWN | TRACED | CHECKED | REVIEWED DATE      | REVIEWED |
|   | CIB   | R.H.   | JHO     | 11/1/82<br>8-30-65 |          |

SEP 16 1982

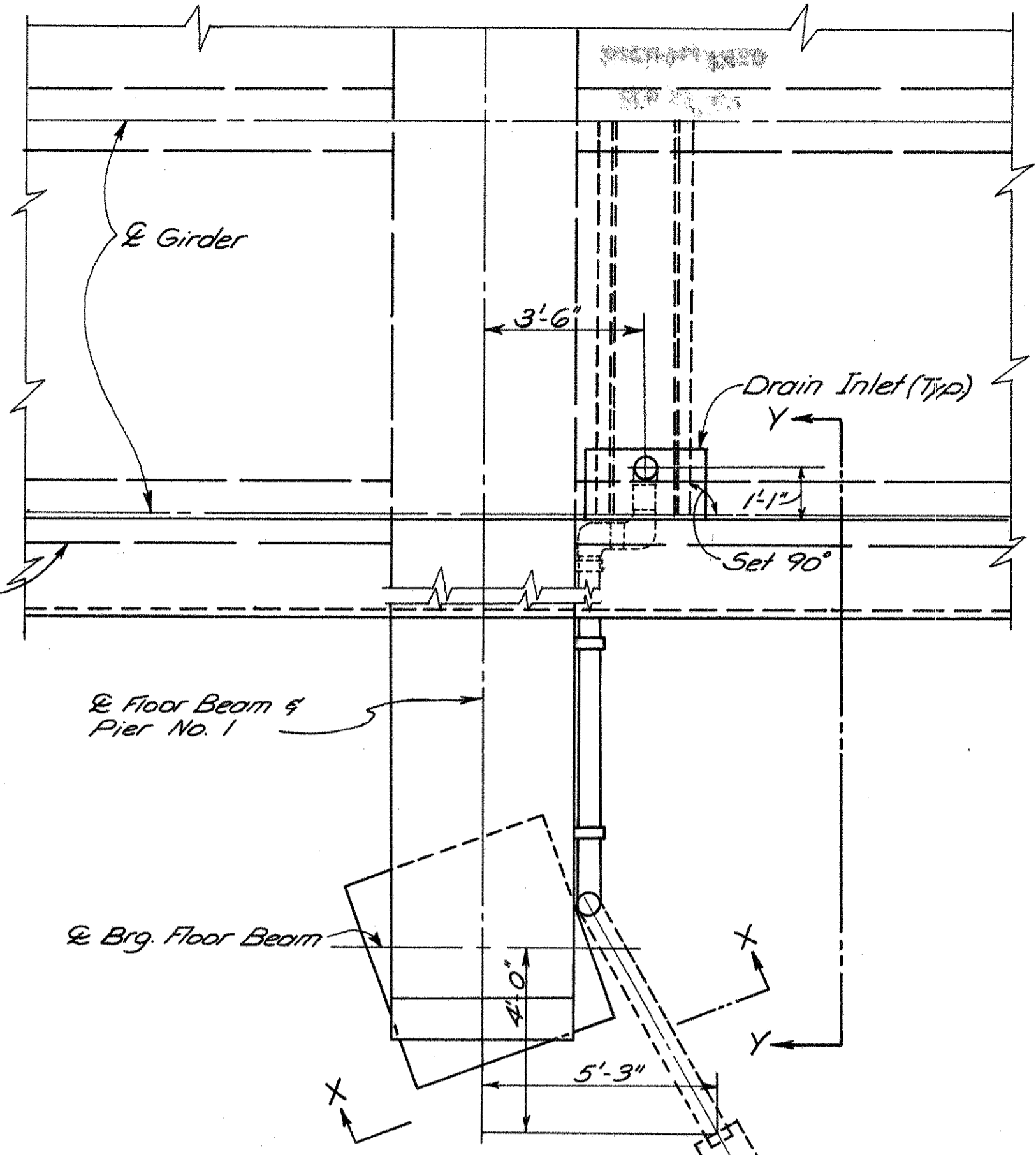
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|---------------|-------|---------|-------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

397  
460

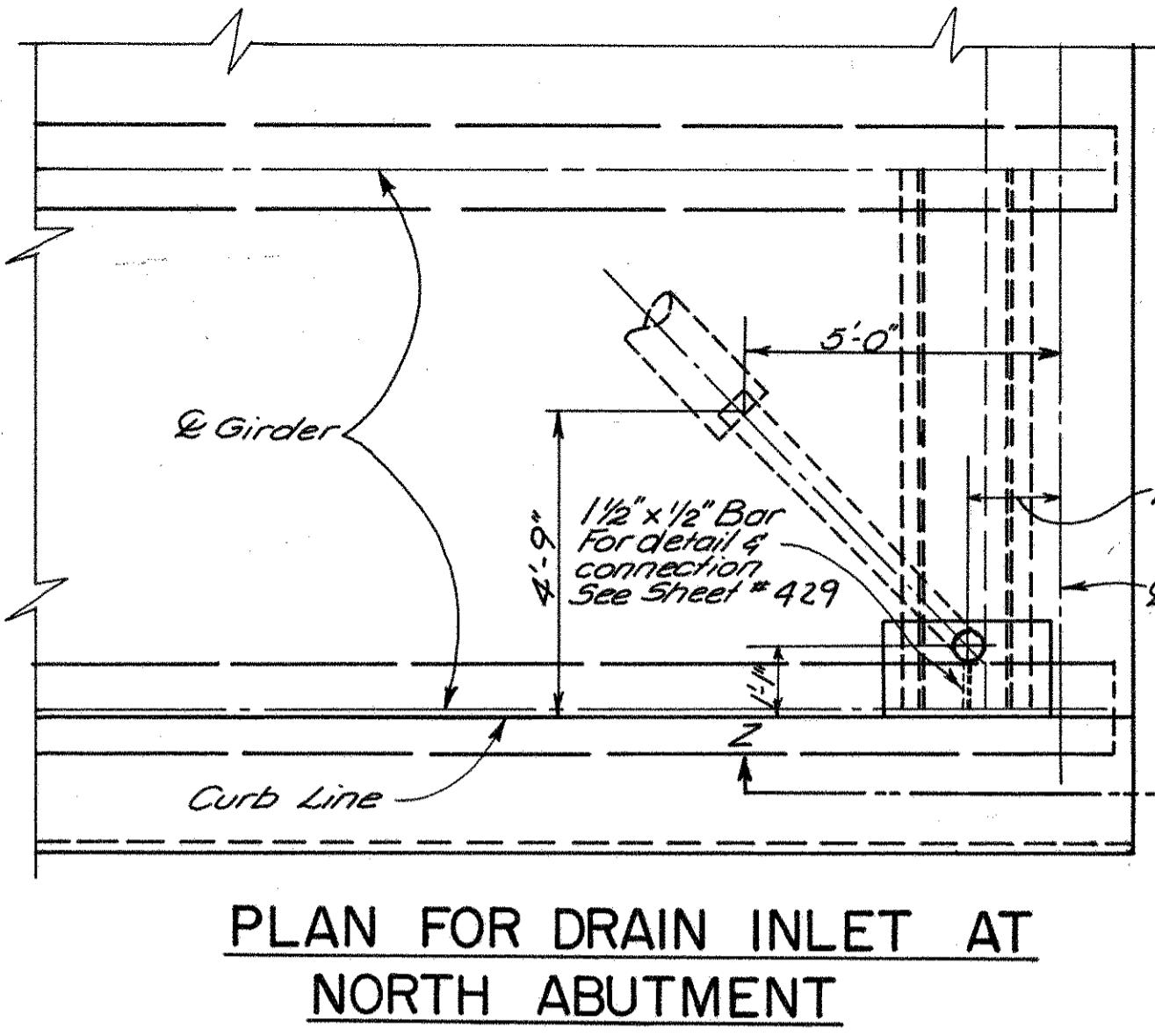
HAMILTON COUNTY  
HAM-71-2.08



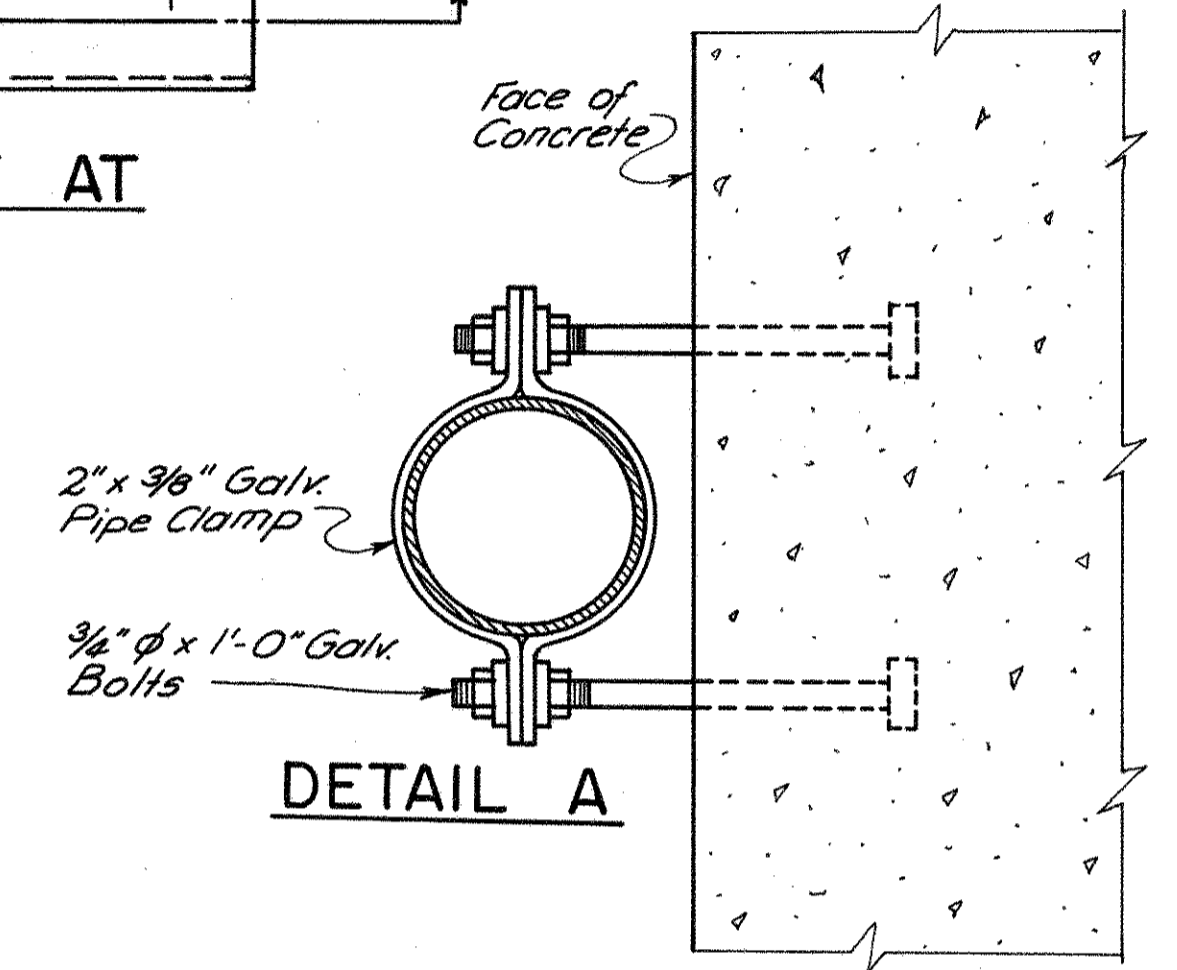
PLAN FOR DRAIN INLET AT SOUTH ABUTMENT



PLAN FOR DRAIN INLET AT PIER No. 1

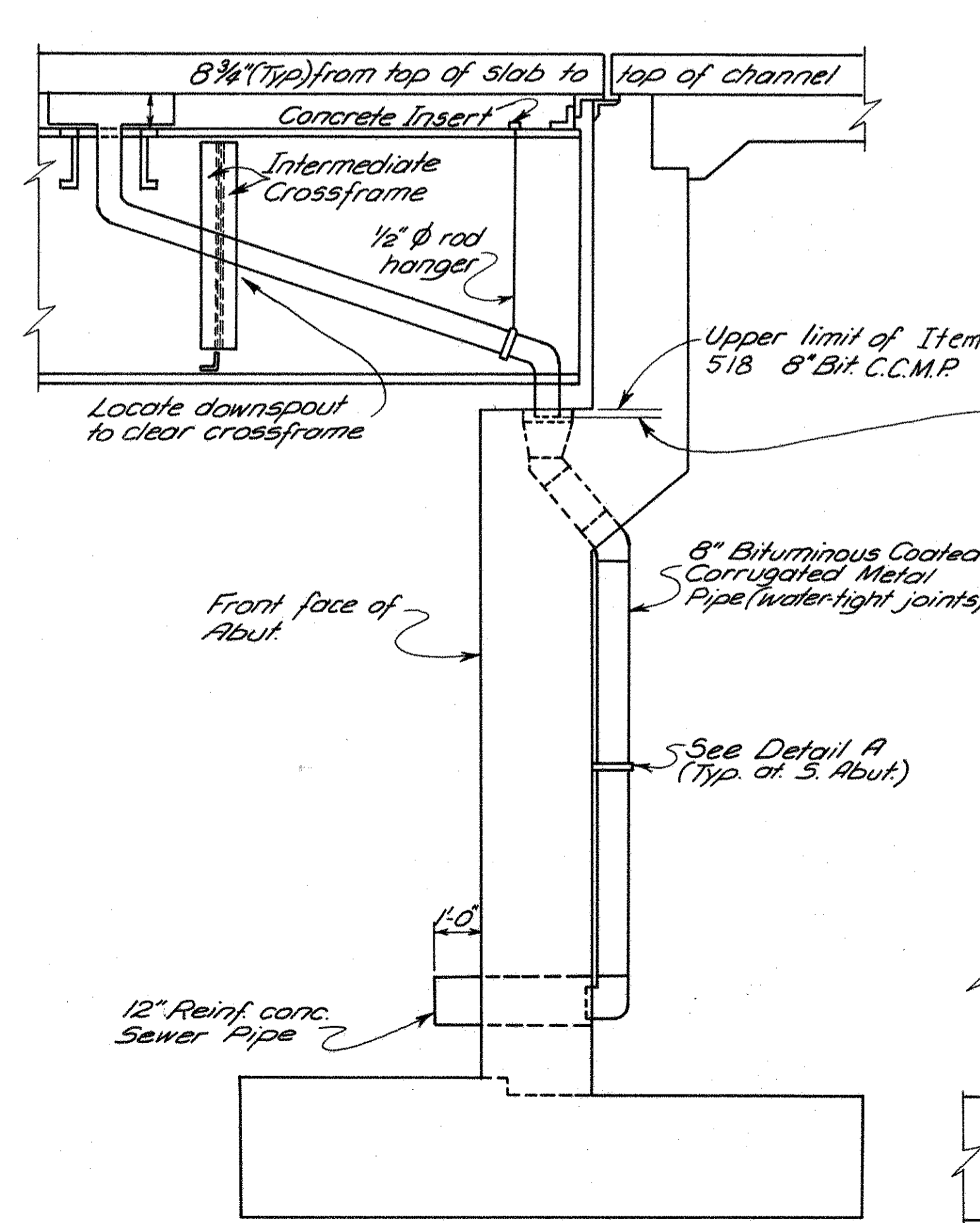


PLAN FOR DRAIN INLET AT NORTH ABUTMENT

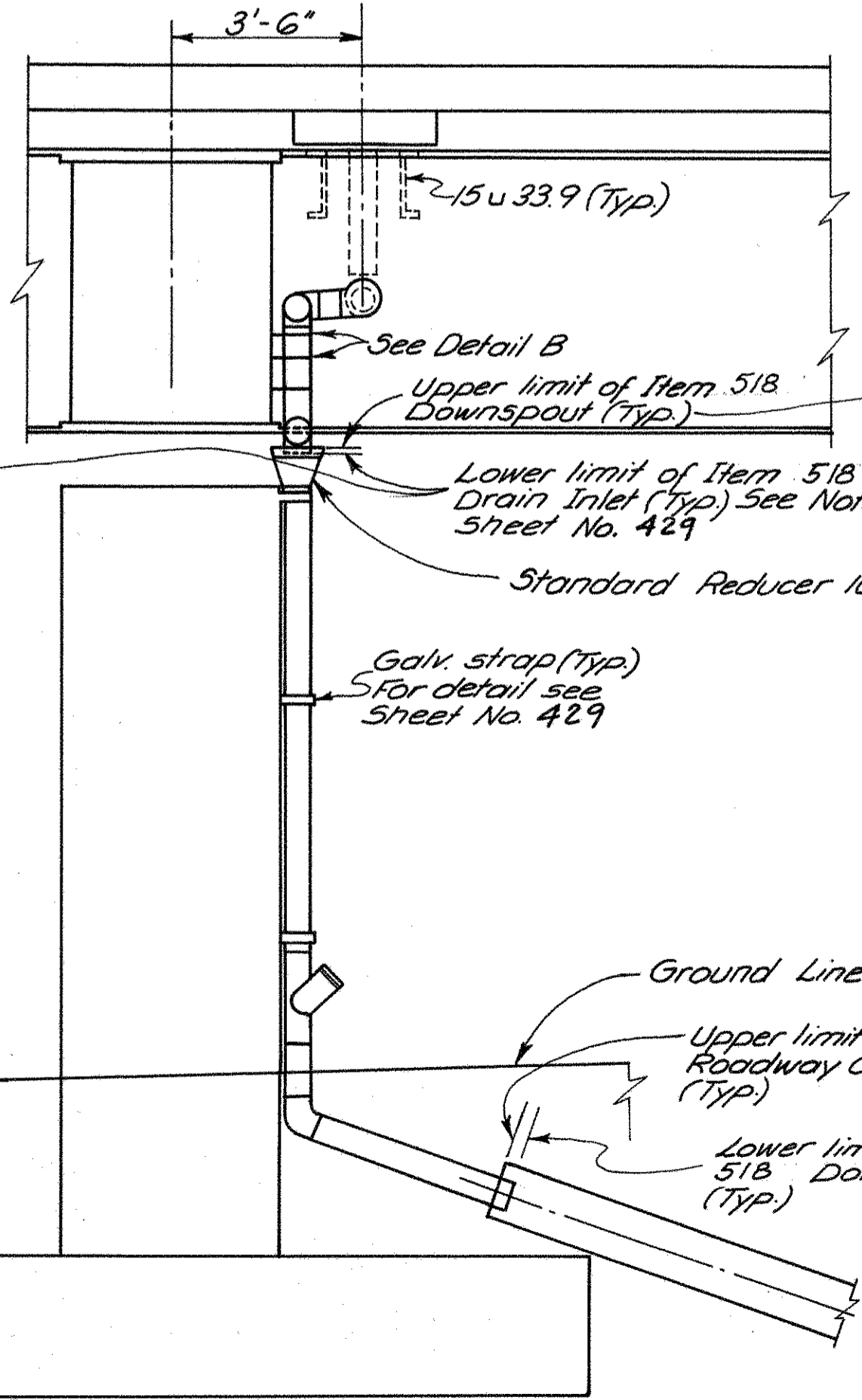


DETAIL A

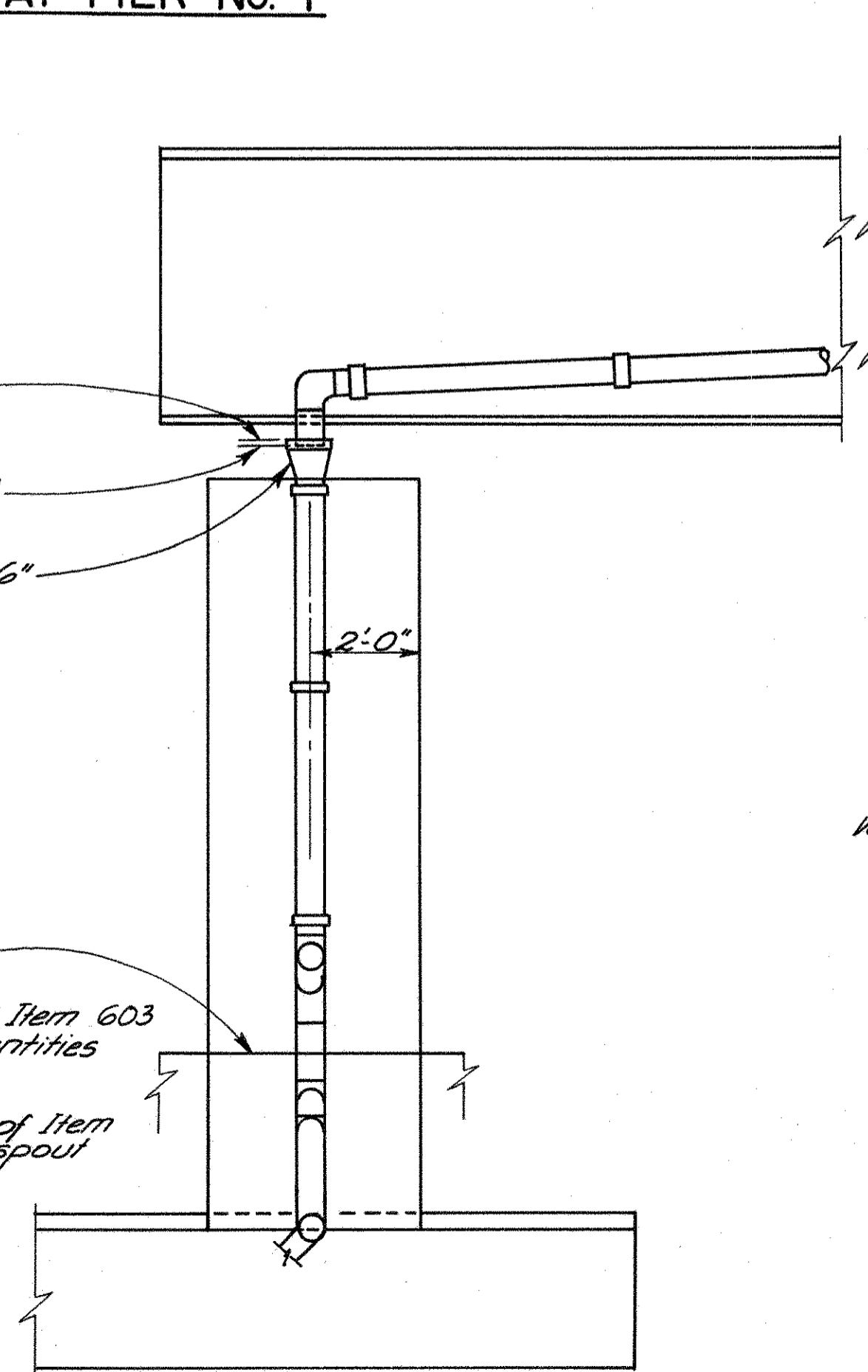
Note: Total depth of inlet frame box at South Abut., North Abut. & Pier No. 1 equals 7 1/2"



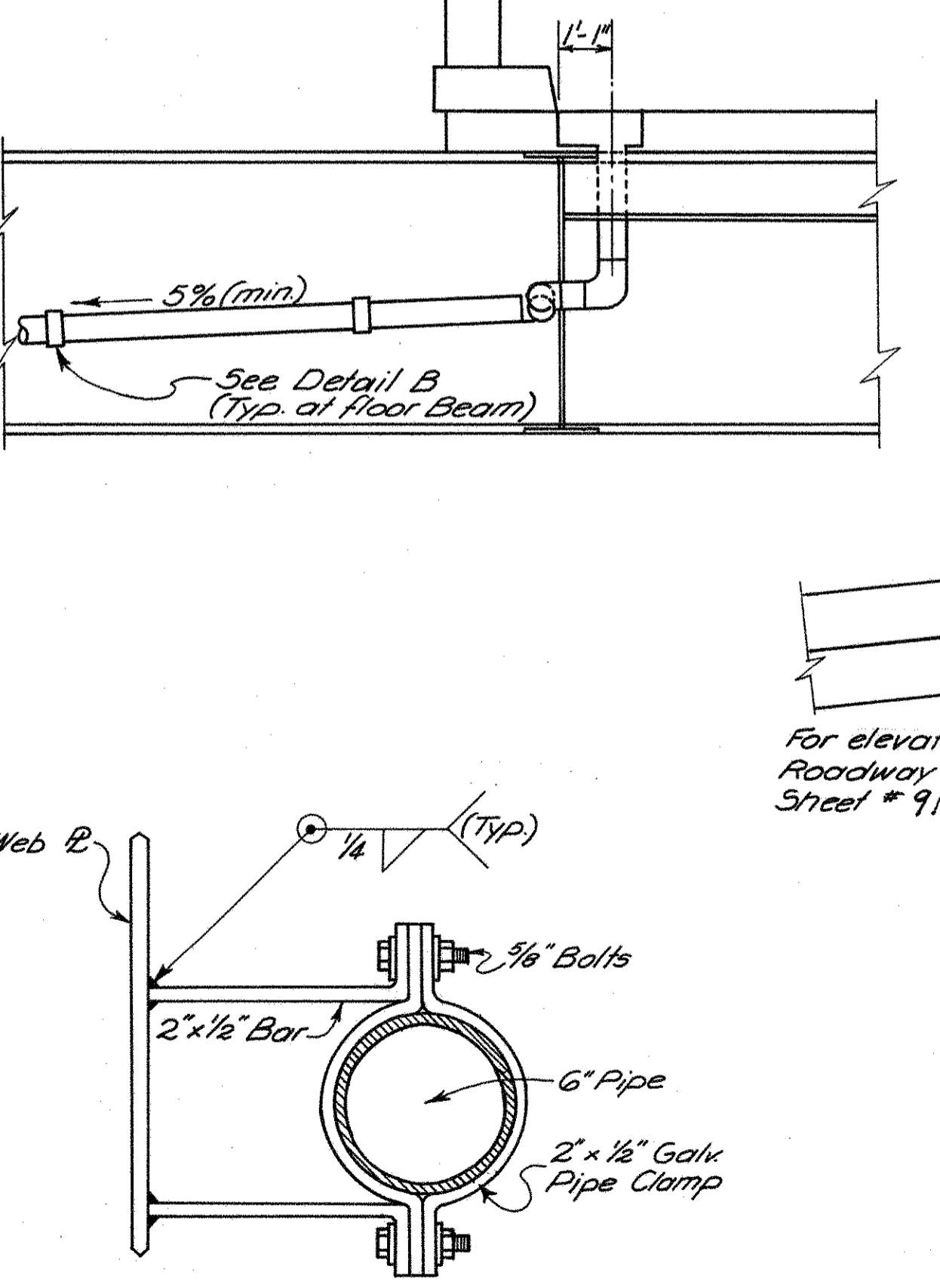
SECTION W-W



SECTION X-X

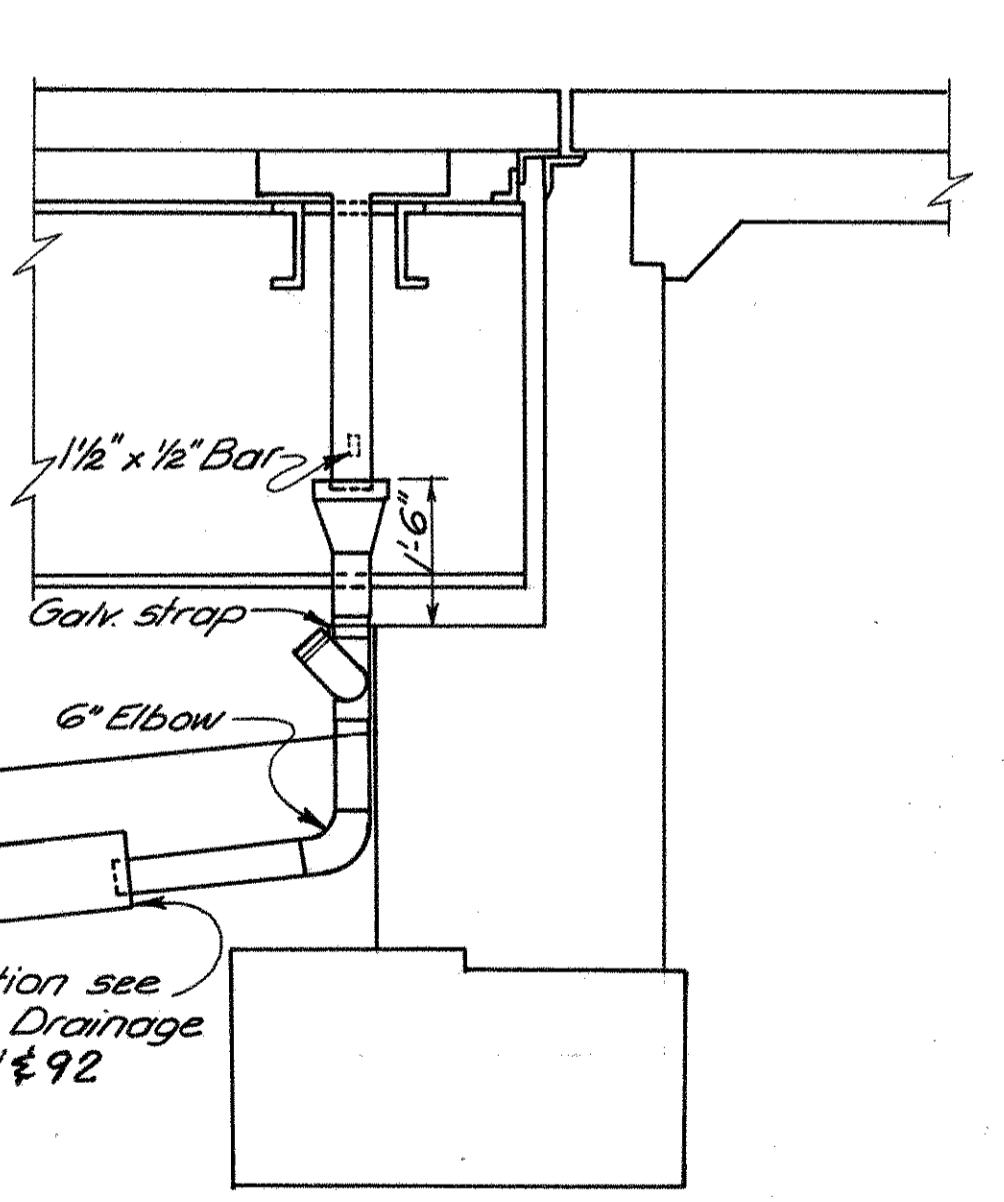


SECTION Y-Y



DETAIL B

Note: All pipe to 6" Standard unless noted otherwise. Work this drawing with standard drawing sheet 429 Typical Drainage Details



SECTION Z-Z

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**DRAINAGE DETAILS**  
BRIDGE No. HAM-71-0228

H & E BRIDGE NO. 16

|          |        |        |         |               |         |
|----------|--------|--------|---------|---------------|---------|
| DESIGNED | DRAWN  | TRACED | CHECKED | REVIEWED DATE | REVISED |
|          | M.J.E. | B.Sch. | J.H.O.  | 11-1-82       |         |

8-30-65

HAMILTON COUNTY  
HAM-71-2.08

| SUPERSTRUCTURE |      |     |         |        |
|----------------|------|-----|---------|--------|
| Mark           | Type | No. | Length  | Weight |
| S501           | 61   | 432 | 4'-11"  | 2215   |
| S502           | 1    | 432 | 2'-6"   | 1126   |
| S503           | 14   | 449 | 5'-7"   | 2615   |
| S504           | 4    | 3   | 3'-8"   | 11     |
| S505           | 4    | 2   | 9'-8"   | 20     |
|                |      |     |         |        |
| S6001          | Str. | 562 | 33'-2"  | 29,996 |
| S6002          | 88   |     | 29'-5"  | 3,888  |
| S6003          | 442  |     | 29'-9"  | 19,751 |
| S6004          | 8    |     | 26'-2"  | 314    |
| S6005          | 9    |     | 5'-0"   | 45     |
| S6006          | 0    |     | 28'-8"  | 388    |
| S6007          | 1    |     | 28'-3"  | 42     |
| S6008          | 1    |     | 27'-9"  | 42     |
| S6009          | 1    |     | 27'-4"  | 41     |
| S6010          | 1    |     | 26'-10" | 40     |
| S6011          | 1    |     | 26'-4"  | 39     |
| S6012          | 1    |     | 25'-11" | 39     |
| S6013          | 1    |     | 25'-5"  | 38     |
| S6014          | 1    |     | 25'-0"  | 38     |
| S6015          | 1    |     | 24'-6"  | 37     |
| S6016          | 1    |     | 24'-1"  | 36     |
| S6017          | 1    |     | 23'-7"  | 35     |
| S6018          | 1    |     | 23'-1"  | 35     |
| S6019          | 1    |     | 22'-8"  | 34     |
| S6020          | 1    |     | 22'-2"  | 33     |
| S6021          | 1    |     | 21'-8"  | 33     |
| S6022          | 1    |     | 21'-3"  | 32     |
| S6023          | 1    |     | 20'-9"  | 31     |
| S6024          | 1    |     | 20'-4"  | 30     |
| S6025          | 1    |     | 19'-10" | 30     |
| S6026          | 1    |     | 19'-4"  | 29     |
| S6027          | 1    |     | 18'-11" | 29     |
| S6028          | 1    |     | 18'-5"  | 28     |
| S6029          | 1    |     | 18'-0"  | 27     |
| S6030          | 1    |     | 17'-6"  | 26     |
| S6031          | 1    |     | 17'-0"  | 25     |
| S6032          | 1    |     | 16'-6"  | 25     |
| S6033          | 1    |     | 16'-1"  | 24     |
| S6034          | 1    |     | 15'-8"  | 24     |
| S6035          | 1    |     | 15'-2"  | 23     |
| S6036          | 1    |     | 14'-8"  | 22     |
| S6037          | 1    |     | 14'-3"  | 21     |
| S6038          | 1    |     | 13'-9"  | 21     |
| S6039          | 1    |     | 9'-11"  | 15     |
| S6040          | 1    |     | 9'-6"   | 14     |
| S6041          | 1    |     | 9'-0"   | 14     |
| S6042          | 1    |     | 8'-6"   | 13     |
| S6043          | 1    |     | 11'-5"  | 17     |
| S6044          | 1    |     | 10'-11" | 16     |
| S6045          | 1    |     | 10'-6"  | 16     |
| S6046          | 1    |     | 10'-0"  | 15     |
| S6047          | 1    |     | 9'-7"   | 14     |
| S6048          | 1    |     | 9'-2"   | 14     |
| S6049          | 1    |     | 8'-8"   | 13     |
| S6050          | 1    |     | 8'-3"   | 12     |
| S6051          | 1    |     | 7'-10"  | 12     |
| S6052          | 1    |     | 7'-4"   | 11     |
| S6053          | 1    |     | 6'-11"  | 10     |
| S6054          | 1    |     | 6'-6"   | 10     |
| S6055          | 1    |     | 6'-0"   | 9      |
| S6056          | 1    |     | 5'-7"   | 8      |
| S6057          | 1    |     | 5'-2"   | 8      |
| S6058          | 1    |     | 4'-8"   | 7      |
| S6059          | 1    |     | 4'-3"   | 6      |
| S6060          | 1    |     | 3'-9"   | 6      |
| S6061          | 1    |     | 3'-4"   | 5      |
| S6062          | 4    |     | 3'-0"   | 18     |
| S6063          | 3    |     | 20'-5"  | 92     |
| S6064          | 5    |     | 25'-5"  | 191    |
| S6065          | 28   |     | 18'-0"  | 757    |
| S6066          | 1    |     | 10'-2"  | 15     |
| S6067          | 1    |     | 12'-2"  | 18     |
| S6068          | 1    |     | 14'-2"  | 21     |
| S6069          | Str. | 1   | 16'-2"  | 24     |

| SUPERSTRUCTURE |      |     |         |        |
|----------------|------|-----|---------|--------|
| Mark           | Type | No. | Length  | Weight |
| S6070          | Str. | 1   | 18'-2"  | 27     |
| S6071          | 1    |     | 20'-2"  | 30     |
| S6072          | 1    |     | 22'-2"  | 33     |
| S6073          | 1    |     | 24'-2"  | 36     |
| S6074          | 1    |     | 26'-2"  | 39     |
| S6075          | 1    |     | 28'-2"  | 42     |
| S6076          | 1    |     | 30'-2"  | 45     |
| S6077          | 1    |     | 32'-2"  | 48     |
| S6078          | 1    |     | 19'-1"  | 29     |
| S6079          | 1    |     | 21'-1"  | 32     |
| S6080          | 1    |     | 23'-1"  | 35     |
| S6081          | 1    |     | 25'-1"  | 38     |
| S6082          | 1    |     | 27'-1"  | 41     |
| S6083          | 1    |     | 29'-1"  | 44     |
| S6084          | 1    |     | 31'-1"  | 47     |
| S6085          | 1    |     | 11'-10" | 18     |
| S6086          | 1    |     | 13'-10" | 21     |
| S6087          | 1    |     | 14'-9"  | 22     |
| S6088          | 1    |     | 15'-9"  | 24     |
| S6089          | 1    |     | 16'-8"  | 25     |
| S6090          | 1    |     | 17'-8"  | 27     |
| S6091          | 1    |     | 18'-7"  | 28     |
| S6092          | 1    |     | 20'-5"  | 31     |
| S6093          | 1    |     | 24'-0"  | 36     |
| S6094          | 1    |     | 25'-10" | 39     |
| S6095          | 1    |     | 26'-9"  | 40     |
| S6096          | 1    |     | 27'-9"  | 42     |
| S6097          | 1    |     | 28'-8"  | 43     |
| S6098          | 1    |     | 29'-8"  | 45     |
| S6099          | 1    |     | 30'-7"  | 46     |
| S6100          | 1    |     | 32'-3"  | 48     |
| S6101          | 1    |     | 20'-11" | 31     |
| S6102          | 1    |     | 22'-9"  | 34     |
| S6103          | 1    |     | 23'-8"  | 35     |
| S6104          | 1    |     | 24'-8"  | 37     |
| S6105          | 1    |     | 25'-7"  | 38     |
| S6106          | 1    |     | 26'-7"  | 40     |
| S6107          | 1    |     | 27'-6"  | 41     |
| S6108          | Str. | 1   | 29'-4"  | 44     |
|                |      |     |         |        |
| S701           | Str. | 442 | 29'-9"  | 28,878 |
| S702           | 8    |     | 26'-2"  | 428    |
| S703           | 6    |     | 5'-0"   | 61     |
| S704           | 9    |     | 28'-8"  | 527    |
| S705           | 1    |     | 28'-3"  | 58     |
| S706           | 1    |     | 27'-9"  | 57     |
| S707           | 1    |     | 27'-4"  | 56     |
| S708           | 1    |     | 26'-10" | 55     |
| S709           | 1    |     | 26'-4"  | 54     |
| S710           | 1    |     | 25'-11" | 53     |
| S711           | 1    |     | 25'-5"  | 52     |
| S712           | 1    |     | 25'-0"  | 51     |
| S713           | 1    |     | 24'-6"  | 50     |
| S714           | 1    |     | 24'-1"  | 49     |
| S715           | 1    |     | 23'-7"  | 48     |
| S716           | 1    |     | 23'-1"  | 47     |
| S717           | 1    |     | 22'-8"  | 46     |
| S718           | 1    |     | 22'-2"  | 45     |
| S719           | 1    |     | 21'-8"  | 44     |
| S720           | 1    |     | 21'-3"  | 43     |
| S721           | Str. | 1   | 20'-9"  | 42     |
| S722           | 58   | 2   | 10'-4"  | 42     |
| S723           | 49   | 2   | 6'-2"   | 25     |
| S724           | 61   | 2   | 5'-11"  | 24     |
| S725           | Str. | 1   | 18'-11" | 39     |
| S726           | 1    |     | 18'-5"  | 38     |
| S727           | 1    |     | 18'-0"  | 37     |
| S728           | 1    |     | 17'-6"  | 36     |
| S729           | 1    |     | 17'-0"  | 35     |
| S730           | 1    |     | 16'-6"  | 34     |
| S731           | 1    |     | 16'-1"  | 33     |
| S732           | 1    |     | 15'-8"  | 32     |
| S733           | 1    |     | 15'-2"  | 31     |
| S734           | 1    |     | 14'-8"  | 30     |
| S735           | 1    |     | 14'-3"  | 29     |
| S736           | Str. | 1   | 13'-9"  | 28     |

| SUPERSTRUCTURE               |      |     |         |        |
|------------------------------|------|-----|---------|--------|
| Mark                         | Type | No. | Length  | Weight |
| S737                         | Str. | 1   | 9'-11"  | 20     |
| S738                         | 1    |     | 9'-6"   | 19     |
| S739                         | 1    |     | 9'-0"   | 18     |
| S740                         | 1    |     | 8'-6"   | 17     |
| S741                         | 1    |     | 11'-5"  | 23     |
| S742                         | 1    |     | 10'-11" | 22     |
| S743                         | 1    |     | 10'-6"  | 21     |
| S744                         | 1    |     | 10'-0"  | 20     |
| S745                         | 1    |     | 9'-7"   | 20     |
| S746                         | 1    |     | 9'-2"   | 19     |
| S747                         | 1    |     | 8'-8"   | 18     |
| S748                         | 1    |     | 8'-3"   | 17     |
| S749                         | 1    |     | 7'-10"  | 16     |
| S750                         | 1    |     | 7'-4"   | 15     |
| S751                         | 1    |     | 6'-11"  | 14     |
| S752                         | 1    |     | 6'-6"   | 13     |
| S753                         | 1    |     | 6'-0"   | 12     |
| S754                         | 1    |     | 5'-7"   | 11     |
| S755                         | 1    |     | 5'-2"   | 10     |
| S756                         | 1    |     | 4'-8"   | 10     |
| S757                         | 1    |     | 4'-3"   | 9      |
| S758                         | 1    |     | 3'-9"   | 8      |
| S759                         | 1    |     | 3'-4"   | 7      |
| S760                         | 4    |     | 3'-0"   | 25     |
| S761                         | 1    |     | 20'-4"  | 42     |
| S762                         | 1    |     | 19'-10" | 41     |
| S763                         | Str. | 1   | 19'-4"  | 40     |
|                              |      |     |         |        |
| H507                         | 58   | 2   | 8'-1"   | *      |
| H508                         | Str. | 4   | 4'-7"   | *      |
| H509                         | Str. | 72  | 15'-4"  | *      |
| H510                         | Str. | 4   | 12'-5"  | *      |
| H511                         | Str. | 8   | 12'-9"  | *      |
| H512                         | Str. | 80  | 15'-7"  | *      |
|                              |      |     |         |        |
| Total Super. = 91,924 Pounds |      |     |         |        |

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| SUPERSTRUCTURE |           |            |           |           |       |        |        |           |       |
|----------------|-----------|------------|-----------|-----------|-------|--------|--------|-----------|-------|
| Mark           | a         | b          | c         | d         | e     | f      | g      | h         | i     |
| S501           | 0'-7 1/2" | 1'-4"      | 1'-6"     |           |       |        |        |           |       |
| S502           | 1'-6"     | 0'-7 1/2"  |           |           |       |        |        |           |       |
| S503           | 0'-8"     | 2'-2"      |           |           |       |        |        |           |       |
| S504           | 1'-4"     | 0'-6"      | 0'-6"     | 1'-4"     | 0'-6" |        |        |           |       |
| S505           | 2'-2"     | 1'-10"     | 1'-10"    | 2'-2"     | 2'-4" |        |        |           |       |
|                |           |            |           |           |       |        |        |           |       |
| S722           | 1'-8"     | 2'-6"      | 3'-9"     | 2'-6"     | 0'-9" | 2'-9"  | 2'-9"  | 3'-9"     | 0'-9" |
| S723           | 2'-5"     | 1'-10 1/2" | 1'-3 3/4" | 1'-4"     | 0'-6" | 1'-9"  |        |           |       |
| S724           | 0'-5"     | 1'-4"      | 2'-11"    |           |       |        |        |           |       |
| *H507          | 1'-8"     | 1'-9 1/2"  | 2'-7 1/2" | 1'-9 1/2" | 0'-9" | 1'-11" | 1'-11" | 2'-7 1/2" | 0'-9" |

| PIER NO. 1                   |      |     |        |        |
|------------------------------|------|-----|--------|--------|
| Mark                         | Type | No. | Length | Weight |
| P401                         | 1    | 116 | 9'-10" | 762    |
| P402                         | 26   | 112 | 9'-0"  | 673    |
|                              |      |     |        |        |
| P601                         | Str. | 9   | 13'-0" | 176    |
| P602                         | Str. | 7   | 16'-6" | 173    |
| P603                         | Str. | 10  | 15'-6" | 233    |
| P604                         | Str. | 8   | 19'-6" | 234    |
|                              |      |     |        |        |
| P901                         | 43   | 20  | 15'-6" | 1054   |
| P902                         | Str. | 27  | 15'-6" | 1423   |
|                              |      |     |        |        |
| P1001                        | 43   | 19  | 19'-4" | 1581   |
|                              |      |     |        |        |
| P1101                        | Str. | 20  | 18'-5" | 1857   |
| P1102                        | 44   | 40  | 8'-7"  | 1824   |
| P1103                        | Str. | 20  | 19'-8" | 2090   |
| P1104                        | Str. | 25  | 19'-6" | 2590   |
|                              |      |     |        |        |
| Total Pier 1 = 14,770 Pounds |      |     |        |        |

| PIER NO. 1 |        |        |        |       |        |
|------------|--------|--------|--------|-------|--------|
| Mark       | a      | b      | c      | d     | e      |
| P401       | 4'-2"  | 2'-11" |        |       |        |
| P402       | 1'-2"  | 2'-6"  | 0'-10" | 2'-1" | 0'-10" |
|            |        |        |        |       |        |
| P901       | 13'-0" |        |        |       |        |
|            |        |        |        |       |        |
| P1001      | 16'-2" |        |        |       |        |
|            |        |        |        |       |        |
| P1102      | 7'-0"  |        |        |       |        |

| PIER NO. 2                   |      |     |        |        |
|------------------------------|------|-----|--------|--------|
| Mark                         | Type | No. | Length | Weight |
| P410                         | 1    | 10  | 5'-0"  | 33     |
| P411                         | 35   | 32  | 13'-1" | 280    |
| P412                         | 38   | 32  | 11'-9" | 251    |
|                              |      |     |        |        |
| P510                         | 1    | 144 | 7'-11" | 1189   |
| P511                         | 1    | 48  | 7'-1"  | 355    |
| P512                         | 1    | 24  | 6'-0"  | 150    |
|                              |      |     |        |        |
| P710                         | Str. | 2   | 27'-0" | 110    |
| P711                         | 20   | 8   | 7'-9"  | 127    |
| P712                         | 43   | 32  | 11'-2" | 730    |
| P713                         | Str. | 2   | 29'-8" | 121    |
|                              |      |     |        |        |
| P810                         | 43   | 28  | 15'-2" | 1134   |
|                              |      |     |        |        |
| P1010                        | 1    | 4   | 34'-1" | 587    |
| P1011                        | Str. | 12  | 29'-8" | 1532   |
| P1012                        | Str. | 4   | 19'-0" | 327    |
| P1013                        | Str. | 32  | 14'-3" | 1962   |
| P1014                        | 44   | 32  | 8'-2"  | 1125   |
|                              |      |     |        |        |
| Total Pier 2 = 10,013 Pounds |      |     |        |        |

NOTE:  
Work this sheet with sheet 399

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

REINFORCING STEEL LIST  
BRIDGE NO. HAM-71-0228  
(SHEET NO. 1 OF 2)  
H & E BRIDGE NO. 16

| DESIGNED | DRAWN | TRACED | CHECKED        | REVIEWED DATE      | REVISED |
|----------|-------|--------|----------------|--------------------|---------|
|          | TLZ   |        | JHO<br>11/1/65 | 11/1/65<br>8-30-65 |         |

HAMILTON COUNTY  
HAM-TI-2.08

MICROFILMED  
SEP 16 1982

| NORTH ABUTMENT |      |     |         |        |
|----------------|------|-----|---------|--------|
| Mark           | Type | No. | Length  | Weight |
| A551           | 1B   | 3   | 8'-6"   | 27     |
| A552           | 1    | 22  | 8'-3"   | 189    |
| A553           | 1B   | 6   | 8'-5"   | 53     |
| A554           | 1B   | 6   | 8'-3"   | 52     |
| A555           | 1B   | 7   | 8'-1"   | 59     |
| A556           | 1    | 17  | 10'-11" | 194    |
| A557           | STR. | 17  | 29'-4"  | 520    |
| A558           | 1    | 46  | 6'-4"   | 304    |
| A559           | STR. | 12  | 5'-10"  | 73     |
| A560           | 20   | 2   | 10'-2"  | 21     |
| A561           | STR. | 3   | 13'-8"  | 43     |
| A562           | STR. | 10  | 8'-0"   | 83     |
| A563           | STR. | 38  | 8'-2"   | 324    |
| A564           | STR. | 2   | 3'-10"  | 8      |
| A565           | STR. | 2   | 4'-4"   | 9      |
| A566           | STR. | 2   | 4'-10"  | 10     |
| A567           | STR. | 2   | 5'-5"   | 11     |
| A568           | STR. | 2   | 5'-11"  | 12     |
| A569           | STR. | 2   | 6'-5"   | 13     |
| A570           | STR. | 2   | 6'-11"  | 14     |
| A571           | STR. | 2   | 7'-6"   | 16     |
| A572           | STR. | 6   | 6'-0"   | 38     |
| A573           | STR. | 10  | 3'-5"   | 57     |
| A574           | STR. | 1   | 9'-10"  | 10     |
| A575           | STR. | 1   | 11'-10" | 12     |
| A576           | STR. | 1   | 15'-8"  | 16     |
| A577           | STR. | 1   | 13'-8"  | 14     |
| A578           | STR. | 5   | 19'-8"  | 103    |
| A579           | STR. | 1   | 17'-8"  | 18     |
| A580           | STR. | 1   | 8'-8"   | 9      |
| A581           | STR. | 1   | 4'-8"   | 5      |
| A582           | 50   | 14  | 9'-5"   | 137    |
| A583           | STR. | 3   | 11'-8"  | 37     |
| A584           | STR. | 8   | 7'-8"   | 64     |
| A585           | STR. | 8   | 9'-8"   | 81     |
| A586           | 32   | 22  | 5'-11"  | 136    |
| A587           | STR. | 1   | 20'-0"  | 21     |
|                |      |     |         |        |
| A651           | 8    | 3   | 14'-6"  | 65     |
| A652           | 8    | 6   | 14'-5"  | 130    |
| A653           | 8    | 6   | 14'-3"  | 128    |
| A654           | 8    | 7   | 14'-1"  | 148    |
| A655           | 1    | 4   | 10'-0"  | 60     |
| A656           | 1    | 17  | 12'-8"  | 323    |
| A657           | 7    | 16  | 20'-2"  | 485    |
| A658           | STR. | 2   | 9'-9"   | 29     |
| A659           | 1    | 12  | 18'-11" | 341    |
| A660           | 1    | 11  | 17'-10" | 295    |
| A661           | STR. | 11  | 8'-9"   | 145    |
| A662           | 1    | 8   | 17'-0"  | 204    |
| A663           | STR. | 11  | 8'-4"   | 138    |
|                |      |     |         |        |
| A851           | STR. | 8   | 35'-6"  | 758    |
| A852           | STR. | 2   | 13'-6"  | 72     |
| A853           | STR. | 5   | 9'-0"   | 120    |
| A854           | 50   | 4   | 7'-4"   | 78     |
| A855           | STR. | 6   | 12'-0"  | 192    |
| A856           | STR. | 2   | 16'-6"  | 88     |
|                |      |     |         |        |
| H503           | STR. | 4   | 19'-8"  | *      |
| H504           | 67   | 2   | 5'-4"   | *      |
| H505           | 66   | 3   | 4'-2"   | *      |
| H506           | STR. | 4   | 9'-8"   | *      |

Total N.Abut. = 6,592 Pounds

\*Note: Reinforcing bars marked H are included in Item 517 (Railing) for payment.

| SOUTH ABUTMENT |      |     |         |        |
|----------------|------|-----|---------|--------|
| Mark           | Type | No. | Length  | Weight |
| A501           | STR. | 2   | 28'-10" | 60     |
| A502           | STR. | 2   | 29'-6"  | 62     |
| A503           | STR. | 2   | 30'-3"  | 63     |
| A504           | STR. | 2   | 30'-11" | 64     |
| A505           | STR. | 2   | 31'-8"  | 66     |
| A506           | STR. | 2   | 32'-4"  | 67     |
| A507           | STR. | 3   | 32'-5"  | 101    |
| A508           | STR. | 15  | 30'-2"  | 472    |
| A509           | STR. | 3   | 17'-9"  | 56     |
| A510           | STR. | 5   | 18'-4"  | 96     |
| A511           | STR. | 4   | 19'-1"  | 80     |
| A512           | STR. | 18  | 30'-4"  | 569    |
| A513           | STR. | 4   | 7'-9"   | 32     |
| A514           | STR. | 2   | 22'-7"  | 47     |
| A515           | 1    | 51  | 6'-8"   | 355    |
| A516           | STR. | 2   | 9'-3"   | 19     |
| A517           | STR. | 6   | 21'-2"  | 132    |
| A518           | STR. | 5   | 24'-5"  | 127    |
| A519           | STR. | 5   | 22'-1"  | 115    |
| A520           | STR. | 6   | 5'-0"   | 31     |
| A521           | STR. | 5   | 10'-9"  | 56     |
| A522           | STR. | 2   | 7'-11"  | 17     |
| A523           | STR. | 28  | 4'-3"   | 124    |
| A524           | STR. | 4   | 10'-2"  | 42     |
| A525           | STR. | 1   | 8'-2"   | 9      |
| A526           | 20   | 1   | 6'-1"   | 6      |
| A527           | STR. | 2   | 6'-8"   | 14     |
| A528           | STR. | 3   | 22'-0"  | 69     |
| A529           | STR. | 12  | 23'-9"  | 297    |
| A530           | STR. | 1   | 13'-3"  | 14     |
| A531           | STR. | 1   | 5'-8"   | 6      |
| A532           | STR. | 5   | 25'-7"  | 133    |
| A533           | STR. | 5   | 23'-5"  | 122    |
| A534           | 20   | 12  | 26'-8"  | 334    |
| A535           | STR. | 4   | 29'-2"  | 122    |
| A536           | 20   | 12  | 9'-7"   | 120    |
| A537           | STR. | 7   | 7'-8"   | 56     |
| A538           | 15   | 4   | 5'-3"   | 22     |
| A539           | 1    | 2   | 4'-7"   | 10     |
|                |      |     |         |        |
| A601           | STR. | 32  | 15'-6"  | 745    |
| A602           | 7    | 31  | 21'-1"  | 882    |
| A603           | 1    | 13  | 19'-11" | 389    |
| A604           | STR. | 5   | 9'-2"   | 69     |
| A605           | STR. | 3   | 9'-5"   | 42     |
| A606           | STR. | 1   | 9'-10"  | 15     |
| A607           | STR. | 3   | 16'-6"  | 74     |
| A608           | STR. | 1   | 12'-3"  | 18     |
|                |      |     |         |        |
| A801           | STR. | 5   | 10'-0"  | 134    |
| A802           | STR. | 9   | 10'-7"  | 254    |
| A803           | STR. | 5   | 11'-4"  | 151    |
| A804           | STR. | 5   | 14'-3"  | 190    |
| A805           | STR. | 12  | 13'-5"  | 430    |
| A806           | STR. | 3   | 21'-5"  | 172    |
|                |      |     |         |        |
| A1001          | STR. | 69  | 9'-9"   | 2895   |
| A1002          | STR. | 75  | 8'-0"   | 2582   |
| A1003          | STR. | 6   | 8'-3"   | 213    |

| SOUTH ABUTMENT                |      |     |         |        |
|-------------------------------|------|-----|---------|--------|
| Mark                          | Type | No. | Length  | Weight |
| A1101                         | 1B   | 66  | 16'-5"  | 5257   |
| A1102                         | 1B   | 73  | 11'-3"  | 4363   |
| A1103                         | 1B   | 1   | 16'-9"  | 89     |
| A1104                         | 1B   | 1   | 17'-3"  | 92     |
| A1105                         | 1B   | 1   | 17'-10" | 95     |
| A1106                         | 1B   | 1   | 19'-1"  | 101    |
| A1107                         | 1B   | 1   | 19'-4"  | 103    |
| A1108                         | 1B   | 1   | 19'-8"  | 105    |
| A1109                         | 1B   | 1   | 19'-5"  | 103    |
| A1110                         | 1B   | 1   | 17'-2"  | 91     |
| A1111                         | 1B   | 1   | 15'-0"  | 80     |
|                               |      |     |         |        |
| H501                          | STR. | 4   | 10'-2"  | *      |
| H502                          | STR. | 6   | 7'-8"   | *      |
|                               |      |     |         |        |
| Total S.Abut. = 24,521 Pounds |      |     |         |        |

| SOUTH ABUTMENT |        |           |        |        |       |       |
|----------------|--------|-----------|--------|--------|-------|-------|
| Mark           | a      | b         | c      | d      | e     | f     |
| A515           | 3'-9"  | 1'-7"     | 3'-0"  | 3'-1"  |       |       |
| A526           | 1'-0"  | 2'-5 1/2" | 3'-0"  | 23'-8" |       |       |
| A534           | 1'-0"  | 2'-10"    | 3'-0"  | 7'-10" |       |       |
| A536           | 0'-7"  | 1'-8"     | 1'-9"  | 2'-4"  | 1'-8" | 0'-6" |
| A538           | 1'-8"  | 1'-10"    | 1'-6"  |        |       |       |
| A539           | 1'-8"  | 1'-7"     |        |        |       |       |
|                |        |           |        |        |       |       |
| A602           | 0'-11" | 9'-5"     | 1'-11" | 1'-5"  | 8'-1" |       |
| A603           | 1'-5"  | 9'-5"     |        |        |       |       |
|                |        |           |        |        |       |       |
| A1101          | 8'-9"  | 8'-0"     |        |        |       |       |
| A1102          | 3'-7"  | 8'-0"     |        |        |       |       |
| A1103          | 9'-1"  | 8'-0"     |        |        |       |       |
| A1104          | 9'-7"  | 8'-0"     |        |        |       |       |
| A1105          | 10'-2" | 8'-0"     |        |        |       |       |
| A1106          | 11'-5" | 8'-0"     |        |        |       |       |
| A1107          | 11'-8" | 8'-0"     |        |        |       |       |
| A1108          | 12'-0" | 8'-0"     |        |        |       |       |
| A1109          | 11'-9" | 8'-0"     |        |        |       |       |
| A1110          | 9'-6"  | 8'-0"     |        |        |       |       |
| A1111          | 7'-4"  | 8'-0"     |        |        |       |       |

| PIER NO. 2 |           |       |       |       |       |       |       |
|------------|-----------|-------|-------|-------|-------|-------|-------|
| Mark       | a         | b     | c     | d     | e     | f     | g     |
| P410       | 3'-2"     | 1'-0" |       |       |       |       |       |
| P411       | 3'-2"     | 3'-2" |       |       |       |       |       |
| P412       | 0'-9"     | 1'-8" | 0'-9" | 1'-1" | 0'-9" | 1'-8" | 0'-9" |
|            |           |       |       |       |       |       |       |
| P510       | 2'-2"     | 3'-0" |       |       |       |       |       |
| P511       | 2'-2"     | 2'-7" |       |       |       |       |       |
| P512       | 3'-2"     | 1'-6" |       |       |       |       |       |
|            |           |       |       |       |       |       |       |
| P711       | 0'-7 1/2" | 2'-2" | 2'-3" | 5'-6" |       |       |       |
| P712       | 9'-6"     |       |       |       |       |       |       |
|            |           |       |       |       |       |       |       |
| P810       | 13'-0"    |       |       |       |       |       |       |
|            |           |       |       |       |       |       |       |
| P1010      | 29'-8"    | 2'-6" |       |       |       |       |       |
| P1014      | 6'-9"     |       |       |       |       |       |       |

| NORTH ABUTMENT |           |        |           |           |           |           |           |
|----------------|-----------|--------|-----------|-----------|-----------|-----------|-----------|
| Mark           | a         | b      | c         | d         | e         | f         | g         |
| A551           | 1'-7"     | 7'-0"  |           |           |           |           |           |
| A552           | 5'-4"     | 1'-7"  |           |           |           |           |           |
| A553           | 1'-7"     | 6'-11" |           |           |           |           |           |
| A554           | 1'-7"     | 6'-9"  |           |           |           |           |           |
| A555           | 1'-7"     | 6'-7"  |           |           |           |           |           |
| A556           | 8'-0"     | 1'-7"  |           |           |           |           |           |
| A558           | 3'-5"     | 1'-7"  |           |           |           |           |           |
| A560           | 0'-8 1/2" | 1'-5"  | 1'-7"     | 8'-7"     |           |           |           |
| A582           | 4'-5"     | 1'-7"  | 6'-3"     | 1'-7"     |           |           |           |
| A586           | 0'-8"     | 2'-2"  |           |           |           |           |           |
|                |           |        |           |           |           |           |           |
| A651           | 2'-6"     | 5'-4"  | 7'-0"     |           |           |           |           |
| A652           | 2'-6"     | 5'-4"  | 6'-11"    |           |           |           |           |
| A653           | 2'-6"     | 5'-4"  | 6'-9"     |           |           |           |           |
| A654           | 2'-6"     | 5'-4"  | 6'-7"     |           |           |           |           |
| A655           | 3'-4"     | 2'-6"  |           |           |           |           |           |
| A656           | 8'-0"     | 2'-6"  |           |           |           |           |           |
| A657           | 0'-11"    | 8'-11" | 1'-11"    | 1'-5"     | 7'-7"     |           |           |
| A659           | 1'-5"     | 8'-11" |           |           |           |           |           |
| A660           | 1'-2"     | 8'-6"  |           |           |           |           |           |
| A662           | 1'-2"     | 8'-1"  |           |           |           |           |           |
|                |           |        |           |           |           |           |           |
| A854           | 1'-8"     | 2'-6"  | 2'-4"     | 2'-6"     |           |           |           |
| *H504          | 0'-6"     | 0'-9"  | 0'-7 1/2" | 0'-2 3/8" | 0'-7 1/2" | 2'-8 1/2" | 0'-7 1/2" |
| *H505          | 0'-8"     | 1'-6"  | 0'-6 1/2" | 0'-0 3/4" |           |           |           |

| REPLACEMENT BARS |      |     |        |
|------------------|------|-----|--------|
| Mark             | Type | No. | Length |
| RE401            | STR. | 1   | 5'-3"  |
| RE501            | STR. | 1   | 5'-7"  |
| RE601            | STR. | 4   | 5'-11" |
| RE701            | STR. | 2   | 6'-3"  |
| RE801            | STR. | 1   | 6'-6"  |
| RE901            | STR. | 1   | 6'-10" |
| RE1001           | STR. | 1   | 7'-3"  |
| RE1101           | STR. | 1   | 7'-7"  |

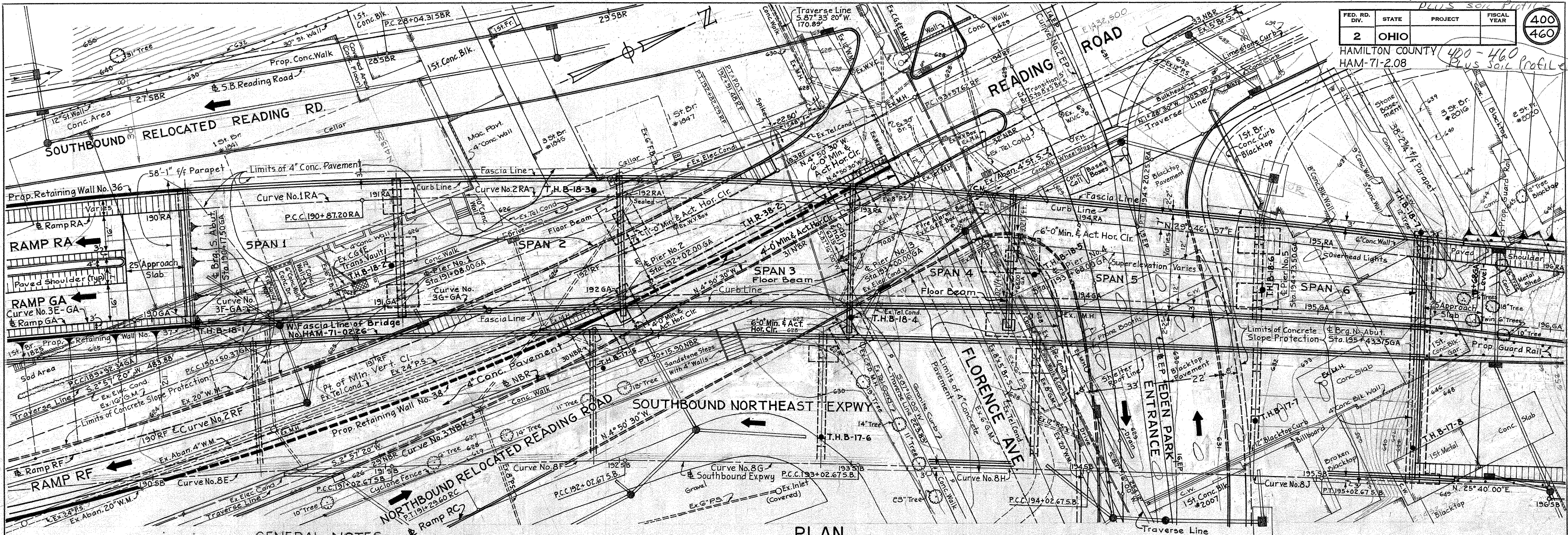
Note:  
Work this sheet with  
Sheet No. 398.  
For Bar Bending Schedule see  
sheet No. 430.

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

REINFORCING STEEL LIST  
BRIDGE NO. HAM-71-0228  
(SHEET NO. 2 OF 2)  
H&E BRIDGE NO. 16

|          |       |        |                 |                   |         |
|----------|-------|--------|-----------------|-------------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED         | REVIEWED DATE     | REVISED |
|          | TLZ   |        | J110<br>11/1/65 | H.A.E.<br>8-20-65 |         |



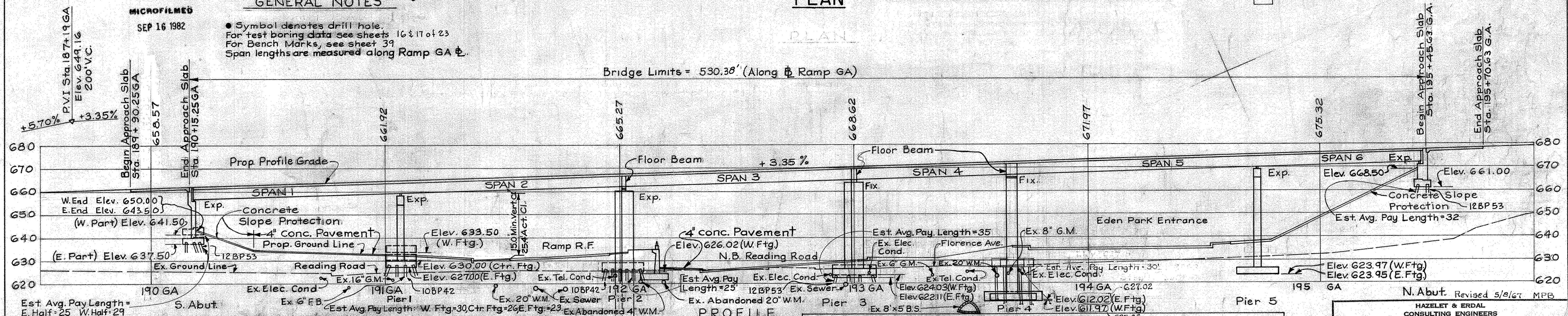


**GENERAL NOTES**

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 SEP 16 1982

- Symbol denotes drill hole. For test boring data see sheets 16 & 17 of 23
- For Bench Marks, see sheet 39
- Span lengths are measured along Ramp GA

Bridge Limits = 530.38' (Along Ramp GA)



**CURVE DATA**

| RAMP GA                  |                          | RAMP RA                  |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Curve No. 3E             | Curve No. 3F             | Curve No. 3G             | Curve No. 1RA            | Curve No. 2RA            |
| P.I. Sta. = 186+76.54 GA | P.I. Sta. = 190+21.35 GA | P.I. Sta. = 193+57.95 GA | P.I. Sta. = 189+32.68 RA | P.I. Sta. = 192+54.02 RA |
| Δ = 12°20'22"            | Δ = 0°34'49"             | Δ = 9°41'47"             | Δ = 5°55'38"             | Δ = 8°19'34"             |
| D = 1°56'46"             | D = 1°00'00"             | D = 1°54'48"             | D = 2°30'00"             | D = 2°30'00"             |
| R = 2,944.12'            | R = 5,729.58'            | R = 3,626.32'            | R = 2,990.12'            | R = 2,291.83'            |
| L = 634.06'              | L = 58.03'               | L = 613.70'              | L = 309.33'              | L = 333.05'              |
| T = 318.26'              | T = 29.01'               | T = 307.58'              | T = 154.80'              | T = 166.82'              |

**PROPOSED STRUCTURE**

Type: Continuous Steel Plate Girders with reinforced Concrete Deck and Substructure.  
 Spans: 90'-6", 94'-0", 98'-0", 68'-0", 105'-6", 69'-10 1/2% bearings  
 Roadway: Varies (see Plan) With 1'-0" Curbs.  
 Skew: Pier No. 3 is radial; the center of other Piers and Abutments center of Brg. are parallel to center of Pier No. 3.  
 Loading Frequency: C.F. = 2000 (57) Adequate for AASHTO alternate loading.  
 Wearing Surface: 1" Monolithic Concrete.  
 Approach Slabs: AS-1-54 (25'-0" Long).  
 Alignment: Varies; see Plan.  
 Super-elevation: Varies; see Plan.

Traffic Count 1986 A.D.T. = 22,300  
 D.H.V. = 2,680

**SITE PLAN**

**BRIDGE No. HAM-71-02**  
 RAMP GA and RA OVER RAMP RF, N. BOUND READING RD. and EDEN PARK H & E BRIDGE No. 18

HAZLET & ERDAL  
 CONSULTING ENGINEERS  
 CINCINNATI, OHIO

DESIGNED: WDK  
 DRAWN: H.A. J.  
 TRACED: H.A. J.  
 CHECKED: H.A. J.  
 REVIEWED DATE: 8/1/65

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SEP 16 1982

ESTIMATED QUANTITIES

| ITEM    | TOTAL   | UNIT    | DESCRIPTION  | SUPER STR. | NORTH ABUT. | SOUTH ABUT. | PIER 1 | PIER 2 | PIER 3 | PIER 4           | PIER 5 | GENERAL |
|---------|---------|---------|--|------------|-------------|-------------|--------|--------|--------|------------------|--------|---------|
| 503     | Lump    | Sum     | Cofferdams, Cribs and Sheeting   |            |             |             |        |        |        |                  |        | Lump    |
| 503     | 1565    | Cu.Yds. | Unclassified Excavation  |            | 145         | 333         |        | 442    | 93     | 13<br>(402)      | 150    |         |
| 504     | 363     | Sq.Ft.  | Steel Sheet Piling Left in Place (Min. Sec. Mod. of 7 in <sup>3</sup> per ft. of wall)   |            |             | 99          |        | 264    |        |                  |        |         |
| 511     | 893     | Cu.Yds. | Class "C" Concrete, Superstructure   | 893        |             |             |        |        |        |                  |        |         |
| 511     | 403     | Cu.Yds. | Class "C" Concrete, Piers above Footings   |            |             |             | 59.0   | 119.2  | 73.2   | 188.4            | 63.2   |         |
| 511     | 162     | Cu.Yds. | Class "E" Concrete, Abutments above Footings   |            | 66.8        | 95.2        |        |        |        |                  |        |         |
| 511     | 434     | Cu.Yds. | Class "E" Concrete, Footings   |            | 39.9        | 55.9        | 44.9   | 97.9   | 77.2   | 77.9             | 40.3   |         |
| 512     | 40      | Lin.Ft. | Premolded Sealing Strip  |            | 26          | 14          |        |        |        |                  |        |         |
| 509     | 40560   | Lbs.    | Reinforcing Steel  | 269916     | 6692        | 10402       | 19068  | 34671  | 20128  | 23173<br>(30559) | 19124  |         |
| 513     | 1085000 | Lbs.    | Structural Steel   | 1085000    |             |             |        |        |        |                  |        |         |
| 514     | 1085000 | Lbs.    | Field Painting of Structural Steel   | 1085000    |             |             |        |        |        |                  |        |         |
| 516     | 34      | Sq.Ft.  | 1" Preformed Expansion Joint Filler  |            | 34          |             |        |        |        |                  |        |         |
| 517     | 1123    | Lin.Ft. | Railing Type 1   | 1051.5     | 25.0        | 11.5        |        | 16.0   | 19.0   |                  |        |         |
| 505     | Lump    | Sum     | First Test Pile  |            |             |             |        |        |        |                  |        | Lump    |
| 507     | 1640    | Lin.Ft. | Steel Piles, 10 BP42   |            |             |             | 878    | 762    |        |                  |        |         |
| 507     | 2653    | Lin.Ft. | Steel Piles, 12 BP53   |            | 563         | 810         |        |        | 1280   |                  |        |         |
| 625     |         |         | Electric Lighting System (See Sh. No. 178 & 179)   |            |             |             |        |        |        |                  |        |         |
| 518     | 108     | Cu.Yds. | Porous Backfill  |            | 45          | 63          |        |        |        |                  |        |         |
| 518     | 53      | Lin.Ft. | 6" Helical Perforated Corrugated Metal Pipe [Section 707.06] (Including Specials)        |            | 53          |             |        |        |        |                  |        |         |
| 518     | 50      | Lin.Ft. | 6" Helical Non-Perforated Corrugated Metal Pipe [Sec. 707.06]                            |            | 50          |             |        |        |        |                  |        |         |
| 518     | 21      | Lin.Ft. | 8" Perforated CMP 70706, bituminous coated per 707.04 (Including Specials)               |            |             | 21          |        |        |        |                  |        |         |
| 518     | 11      | Lin.Ft. | 8" Non-perforated CMP 70706, bituminous coated per 707.04 (Including Specials)           |            |             | 11          |        |        |        |                  |        |         |
| 518     | 61      | Lin.Ft. | 8" Perforated CMP 70706, bituminous coated per 707.04 (Including Specials & Sand)        |            |             | 61          |        |        |        |                  |        |         |
| 518     | 3       | Lin.Ft. | 12" Reinforced Concrete Sewer Pipe [Sec. 706.02 Class II]                                |            |             | 3           |        |        |        |                  |        |         |
| 518     | Lump    | Sum     | Drain Inlets, Including Supports & Horizontal Collector System                           |            |             |             |        |        |        |                  |        | Lump    |
| 518     | 270     | Lin.Ft. | 8" Standard Pipe Downspout, Wrought Iron or Hot-dip Galvanized Steel, Including Specials |            |             |             | 44     | 59     | 59     | 57               | 51     |         |
| 601     | 521     | Sq.Yds. | Concrete Slope Protection  |            | 412         | 109         |        |        |        |                  |        |         |
| Special | 3412    | Sq.Yds. | Concrete Surface Treatment   | 3331.9     | 10.2        | 12.9        | 23.1   | 5.6    | 5.6    | 5.6              | 17.1   |         |
| 808     | 893     | Each    | Water-Reducing, Set-Retarding Admixture  | 893        |             |             |        |        |        |                  |        |         |

GENERAL NOTES

REFERENCE: shall be made to Standard Drawing GR-6, Rev. 6-1-65, and RB-1-55, Revised 2-2-59.

|               |       |         |             |
|---------------|-------|---------|-------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

401  
460

HAMILTON COUNTY  
HAM-71-208

GENERAL NOTES (CONT'D)

FOUNDATION BEARING PRESSURE: Footings on shale are designed for the following maximum bearing pressures;

- \* Pier 2 (East Footing) - 4.1 Tons per square foot
- \* Pier 4 - 3.9 Tons per square foot
- \* Pier 5 - 3.5 Tons per square foot.
- \* 3 Tons per square foot plus 100 lbs. per foot of depth allowable for overburden.

PIER FOOTINGS: Footings for Pier 2 (east footing), Pier 4 and Pier 5 shall extend a minimum of 3' into undisturbed rock or to the elevation shown, whichever is lower.

MACHINE FINISH: At the contractors option the concrete deck may be finished with a finishing machine.

STEEL PILES: Piles shall be driven with a hammer of not less than 11,000 ft. lbs. per blow to firm contact with shale. If the length of penetration is approximately equal to the estimated average pay length according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Section 507.05 is not less than the following value for a pile hammer of the indicated energy rating.  
 55 tons per pile for south abutment & Pier 3 using an 11,000 ft.-lb. hammer  
 50 tons per pile for south abutment & Pier 3 using a 15,000 ft.-lb. hammer  
 50 tons per pile for Pier 1 & Pier 2 (West Ftg.) using an 11,000 ft.-lb. hammer  
 45 tons per pile for Pier 1 & Pier 2 (West Ftg.) using a 15,000 ft.-lb. hammer  
 55 tons per pile for north abutment using an 11,000 ft.-lb. hammer  
 50 tons per pile for north abutment using an 11,000 ft.-lb. hammer  
 If the energy rating of the hammer is between the rating as shown above, the required formula capacity shall be determined by interpolation. The design load is 40 tons per pile for south abutment, Pier 3 and north abutment, 35 tons per pile for Pier 1 and Pier 2 (West Footing).

EXCAVATION QUANTITY includes the removal of fill material required for construction of the North Abutment.

ADDITIONAL NOTES: For additional notes see Notes 1, 2, 3, 4, 5, & 6, General Notes, Typ. Drwg. # 426  
 Design Loading - CF 2000 (57)  
 Concrete Class C - basic unit stress 1,333 p.s.i.  
 Concrete Class E - basic unit stress 1,133 p.s.i.  
 Structural Steel - ASTM A36 - basic unit stress 20,000 p.s.i.

Reinforcing Steel - ASTM A15, A16, A160, Deformed Intermediate or Hard Grade. Basic unit stress 20,000 p.s.i.

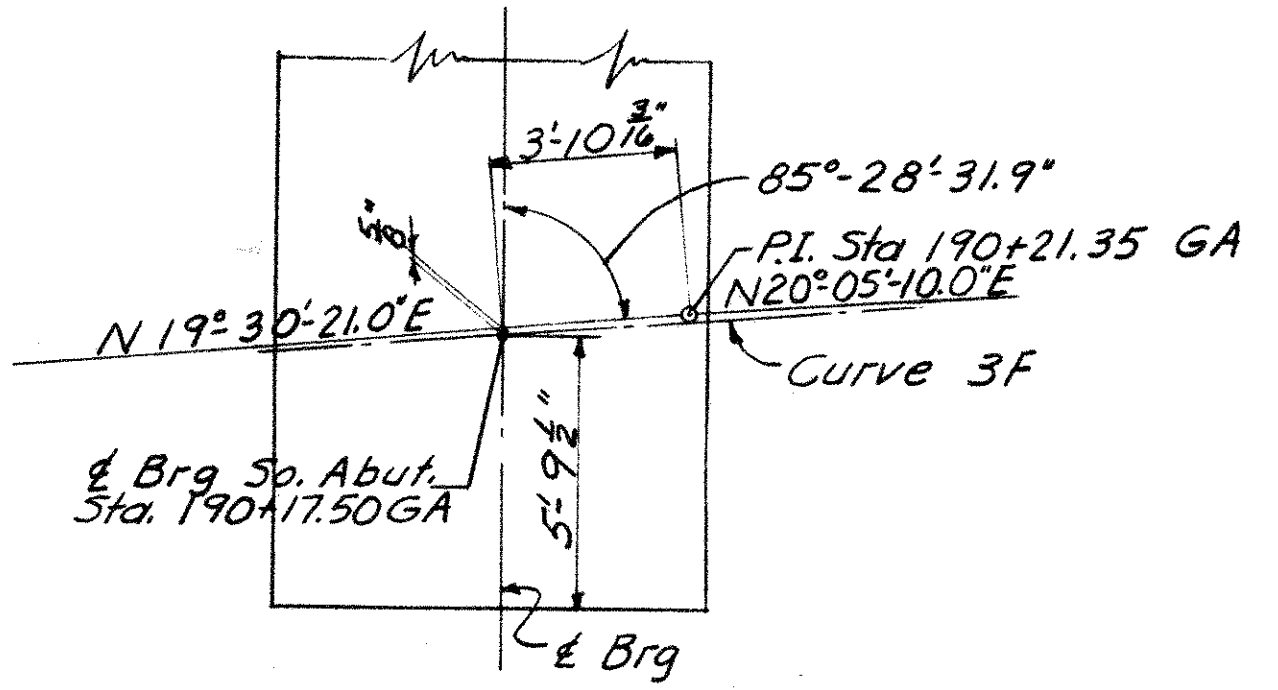
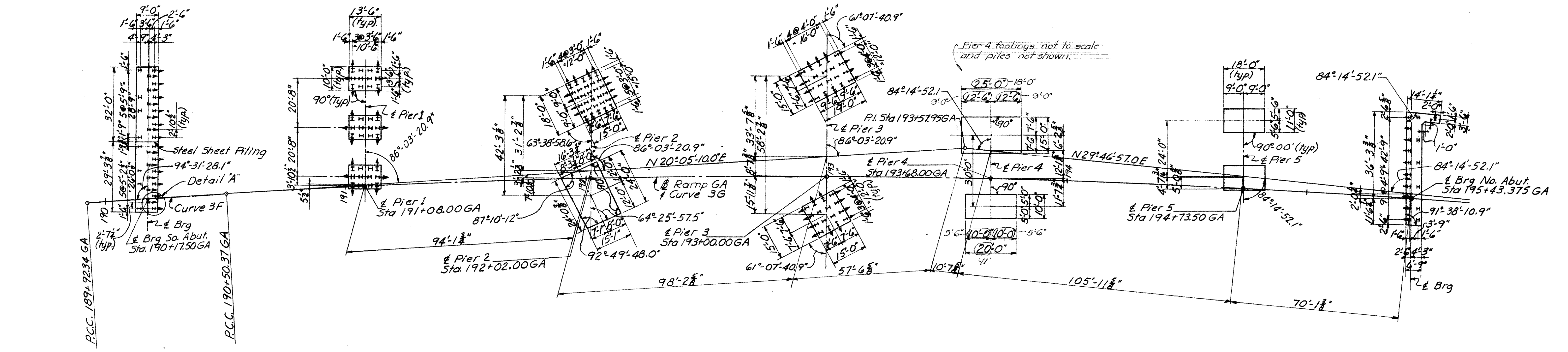
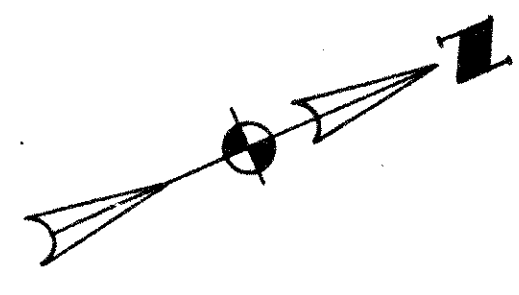
This sheet revised and supplemented by sheet 409 A 5/8/67 MPB

|   |         |        |         |                 |          |
|---|---------|--------|---------|-----------------|----------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO         |         |        |         |                 |          |
| ESTIMATED QUANTITIES<br>AND GENERAL NOTES<br>BRIDGE No. HAM-71-0231 |         |        |         |                 |          |
| H & E BRIDGE No. 18   |         |        |         |                 |          |
| DESIGNED  | DRAWN   | TRACED | CHECKED | REVIEWED DATE   | REVISION |
|   | RLR     |        | CLC     | 3/10<br>8/14/65 |          |
|   | 2-16-65 |        |         |                 |          |

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SEP 16 1982

|               |       |         |              |
|---------------|-------|---------|--------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR  |
| 2             | OHIO  |         | 4.02<br>4.60 |

HAMILTON COUNTY  
HAM-71-2.08



DETAIL 'A'

**Notes**  
 For Pile Bearing Capacity See General Notes, Sheet N<sup>o</sup> 401.  
 For Bottom of Footing Elevations See Abutment and Pier Details.  
 For Alignment and Witness Plan See Sheet N<sup>o</sup> 37 & 38.  
 For Direction of Pile Flanges and Pile Batter See Pier and Abutment Details.  
 For Estimated Pile Lengths See Site Plan.

*This sheet revised and supplemented by sheet 409A, 5/18/67, MPB*

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**STAKE-OUT DIAGRAM**  
BRIDGE No. HAM-71-0231

H&E BRIDGE No. 18

|          |       |        |                |                |         |
|----------|-------|--------|----------------|----------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED        | REVIEWED DATE  | REVISED |
|          | CLC   |        | RLR<br>3-12-65 | JHO<br>8/11/65 |         |

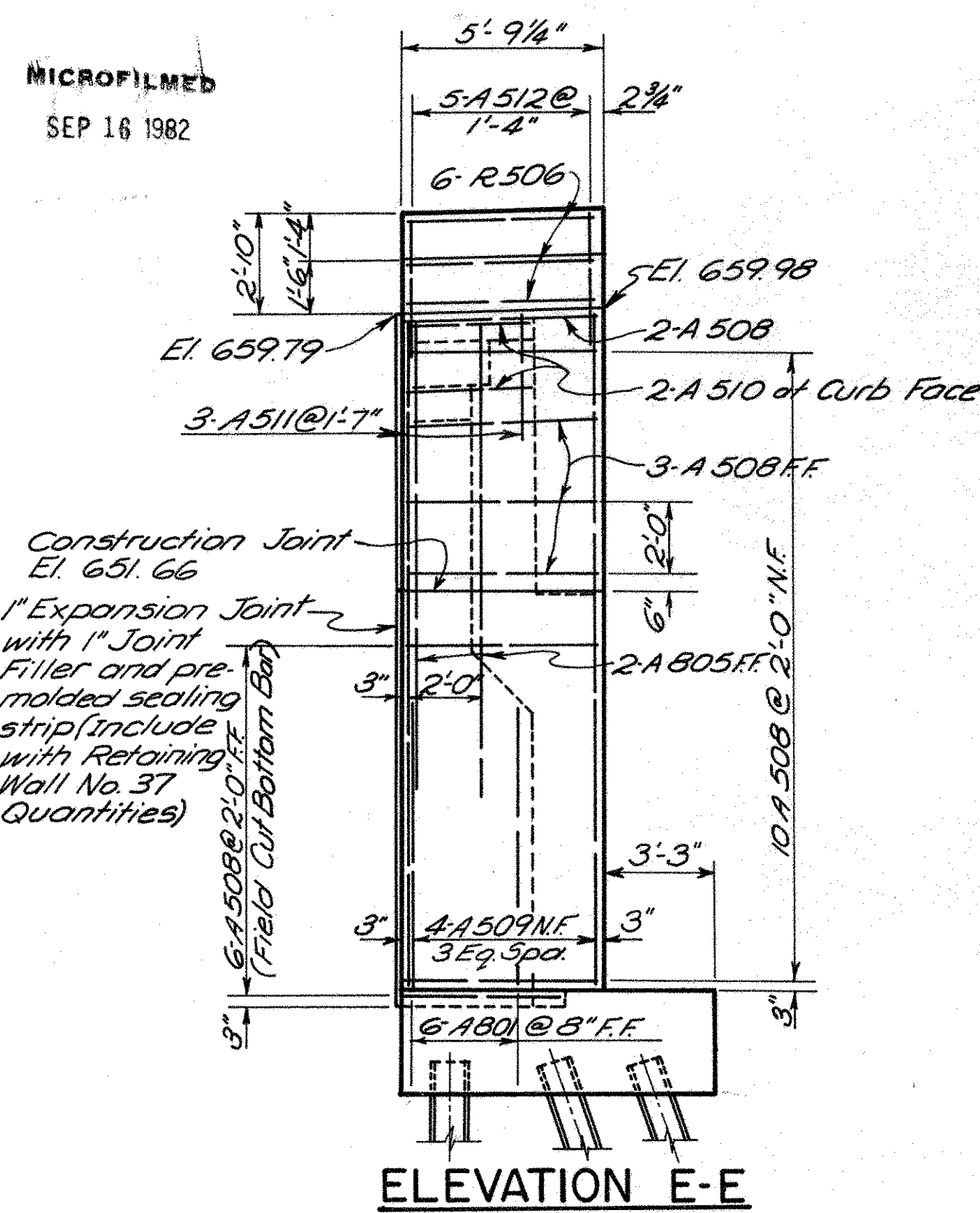


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SEP 16 1982

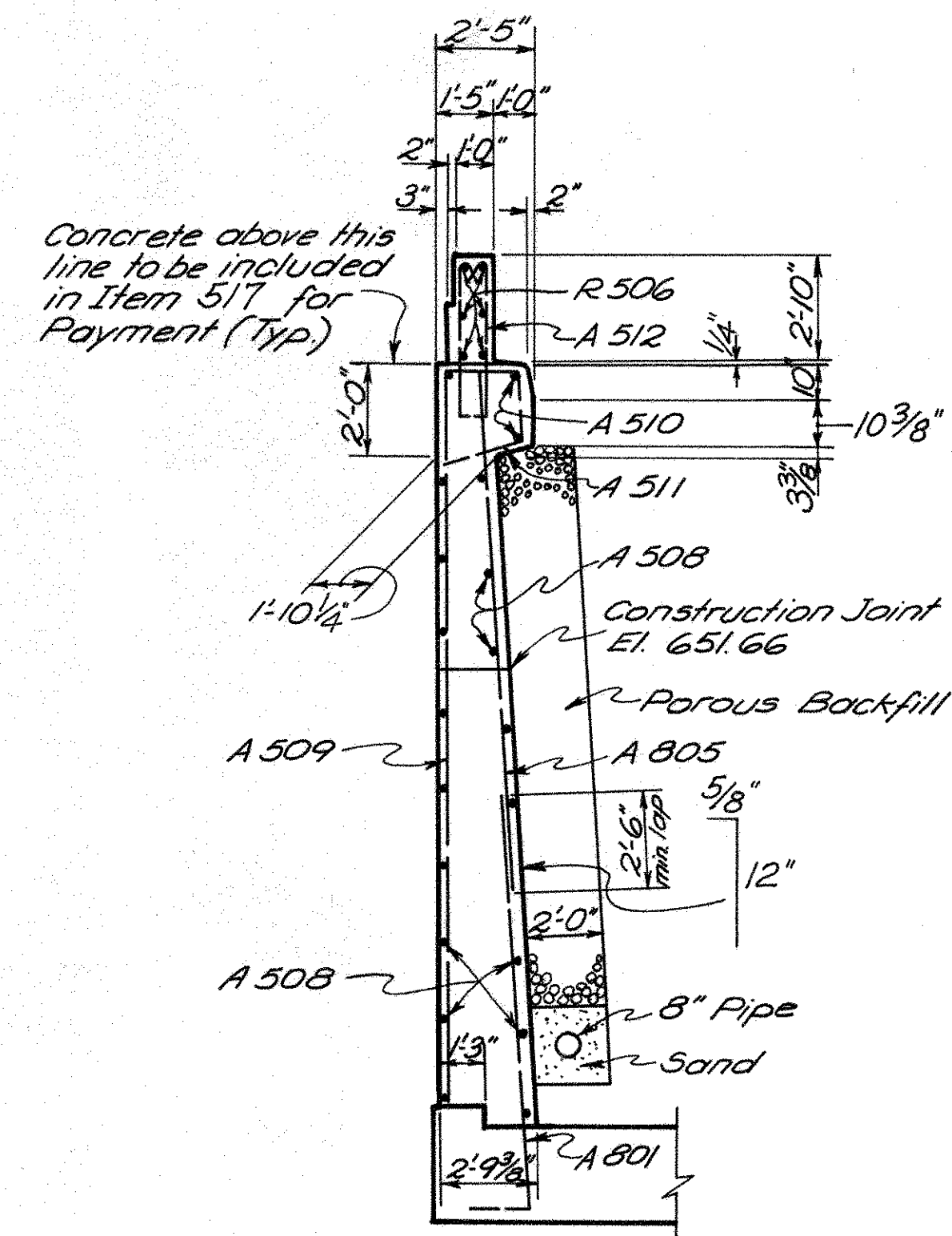
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
|---------------|-------|---------|-------------|
| 2             | OHIO  |         |             |

404  
460

HAMILTON COUNTY  
HAM-71- 2.08

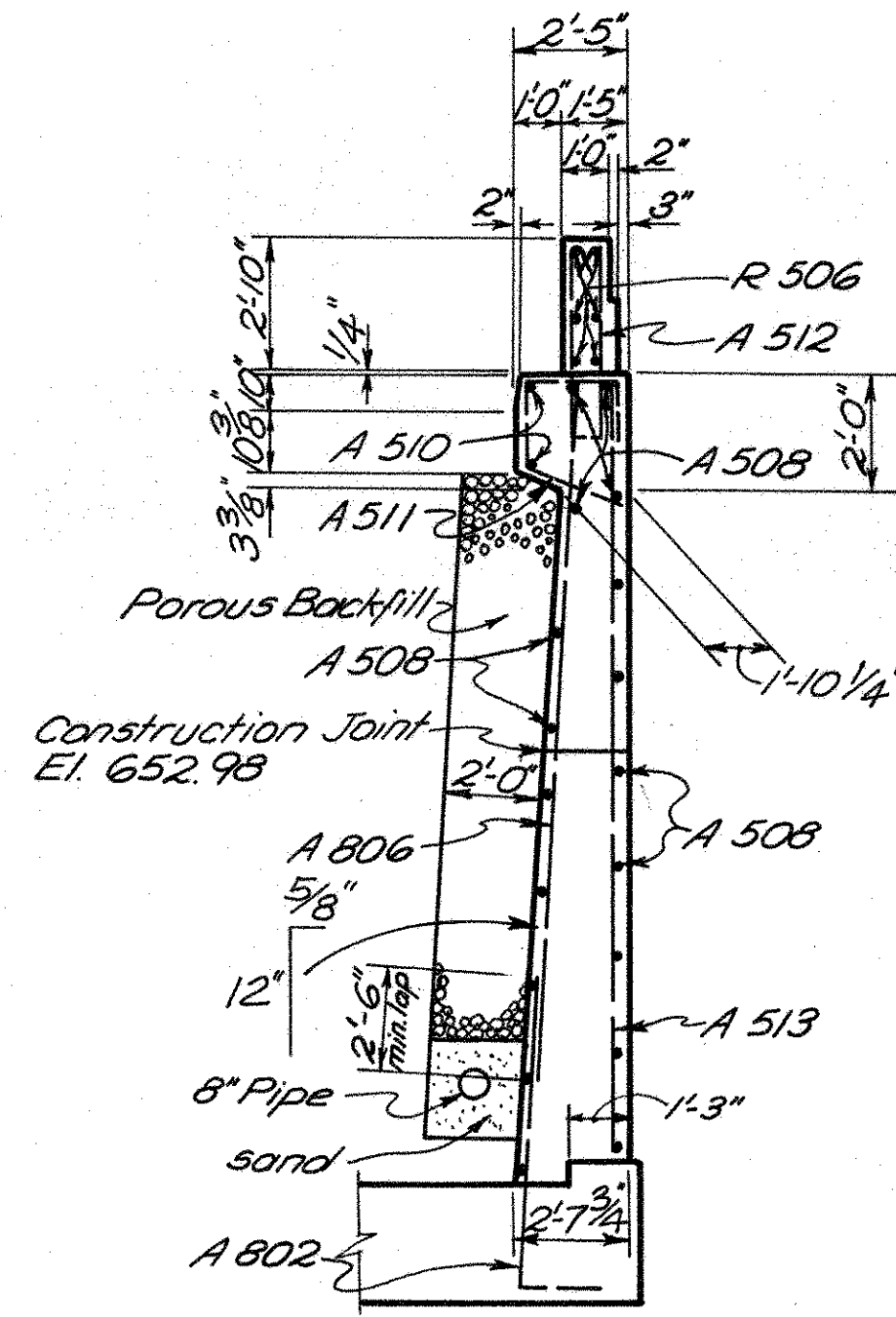


ELEVATION E-E

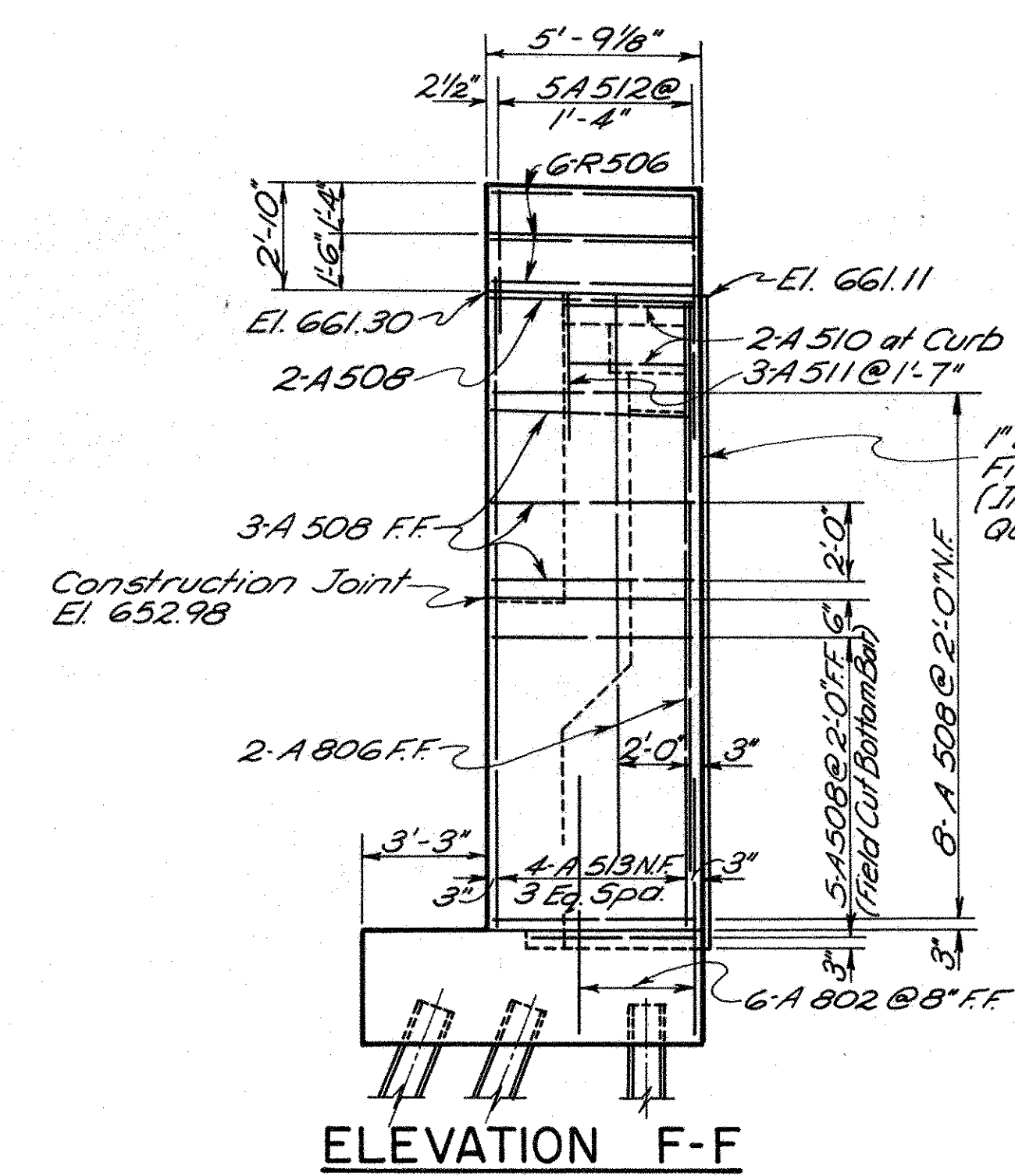


SECTION C-C

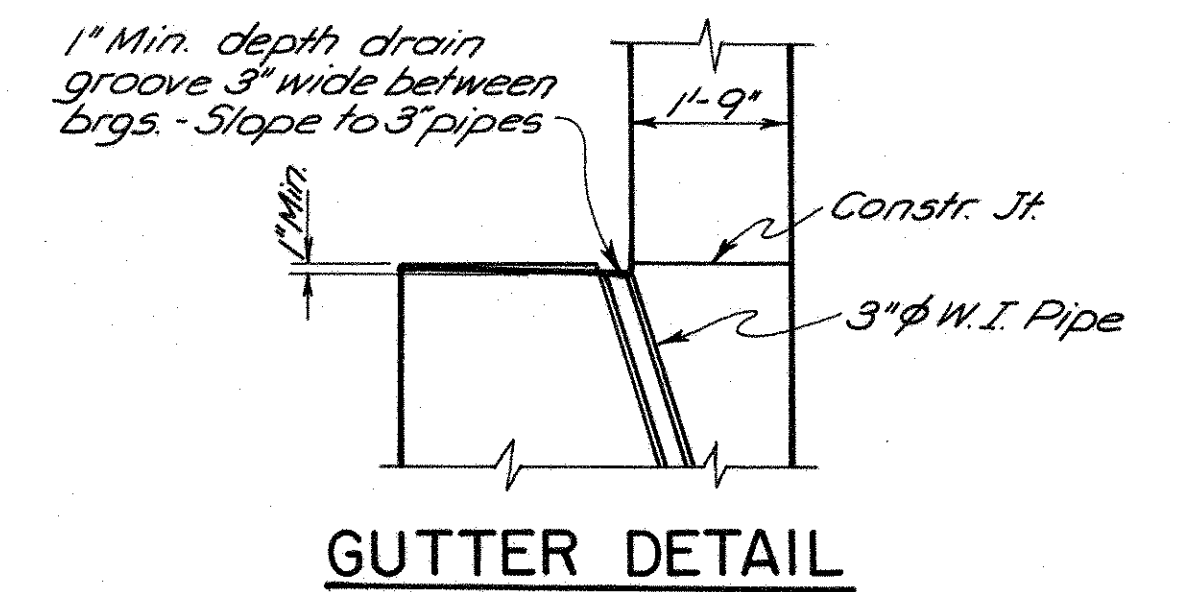
**NOTE:**  
Porous Backfill, 2 ft. thick, full length of Abutment and wings shall extend up to the underside of the approach slab or to the finished ground surface.



SECTION D-D



ELEVATION F-F



GUTTER DETAIL

Work this Sheet with Sheet No. 403

|   |          |         |          |               |         |
|---|----------|---------|----------|---------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |          |         |          |               |         |
| <b>SOUTH ABUTMENT</b>                                       |          |         |          |               |         |
| <b>BRIDGE NO. HAM-71-0231</b>                               |          |         |          |               |         |
| <b>H &amp; E BRIDGE NO. 18</b>                              |          |         |          |               |         |
| DESIGNED  | DRAWN    | TRACED  | CHECKED  | REVIEWED DATE | REVISED |
| CLC   | C. L. C. | B. Sch. | O. A. F. | JH<br>8/11/65 |         |

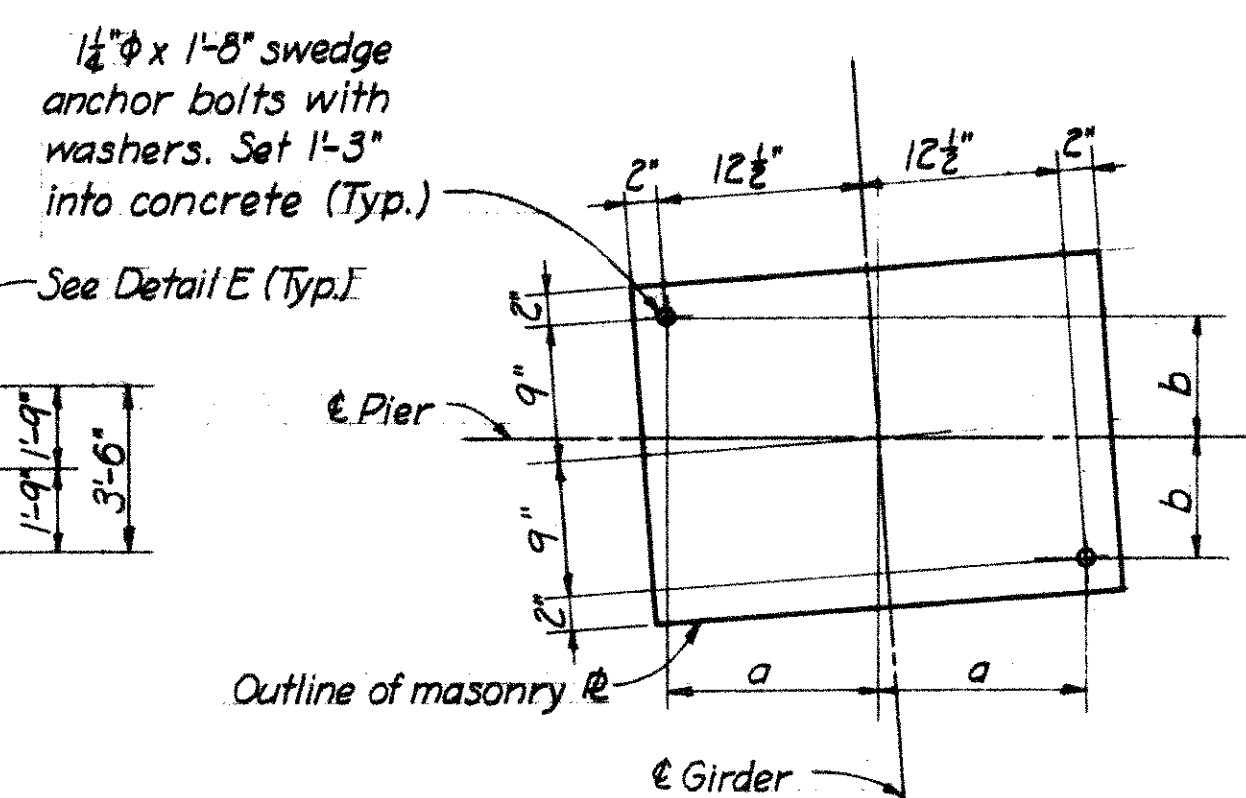
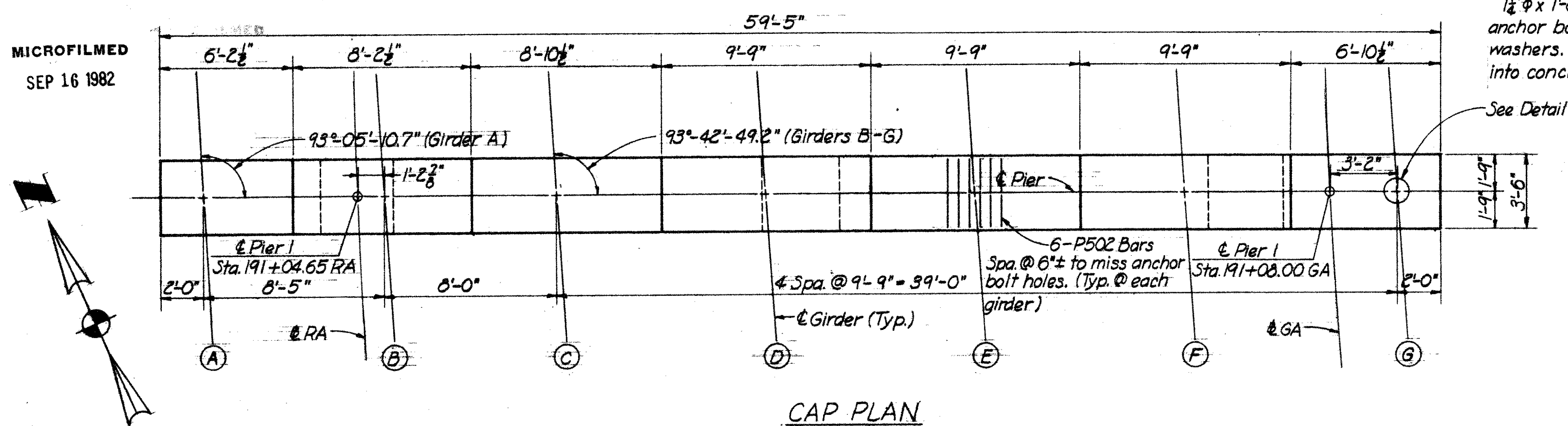


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SEP 16 1982

HAMILTON COUNTY  
HAM-71- 2.08

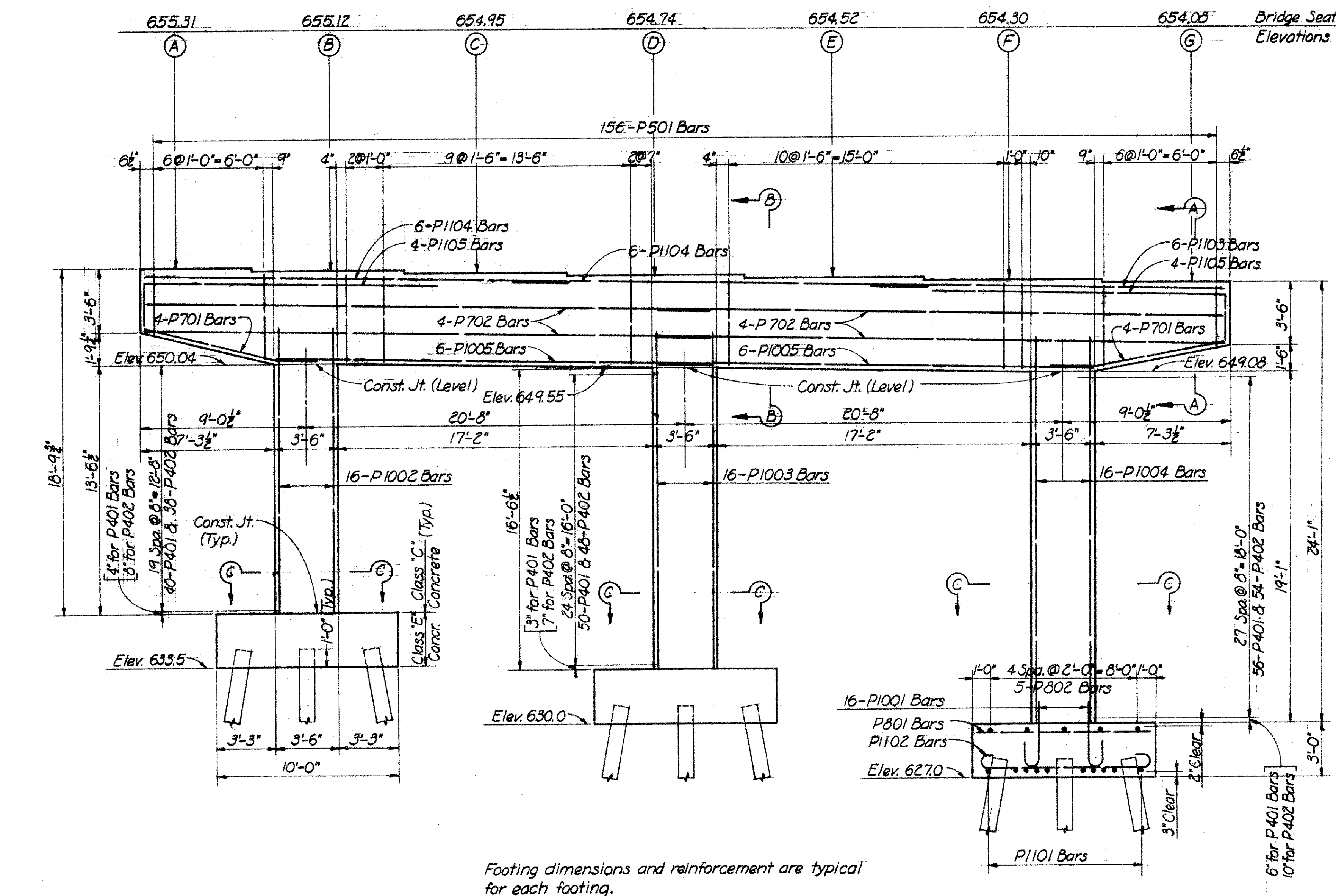
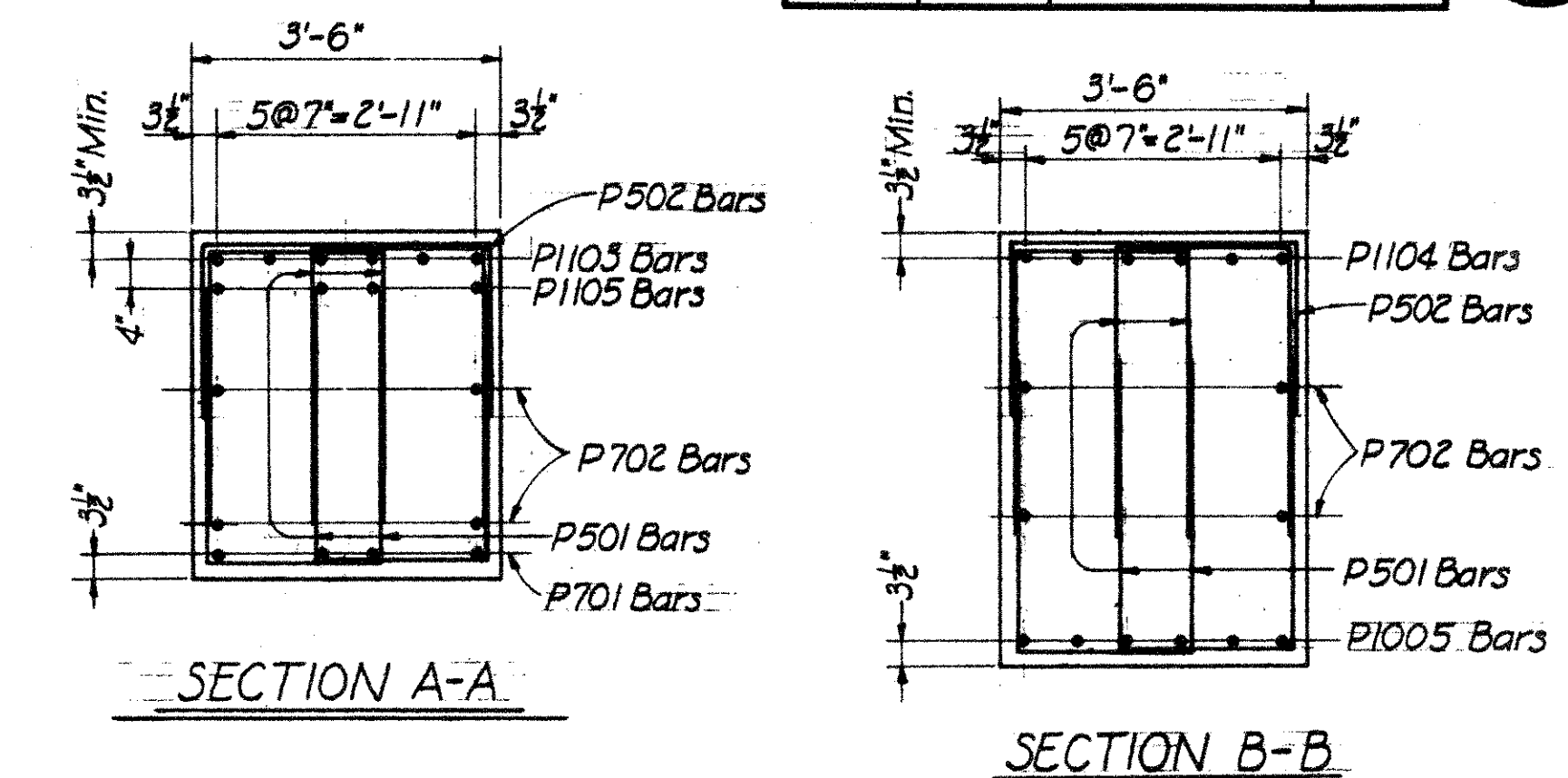
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
|---------------|-------|---------|-------------|
| 2             | OHIO  |         |             |

40G  
460



| Girder | Dimensions |        |
|--------|------------|--------|
|        | a          | b      |
| A      | 13"        | 8 1/2" |
| B-G    | 13 1/4"    | 8 1/8" |

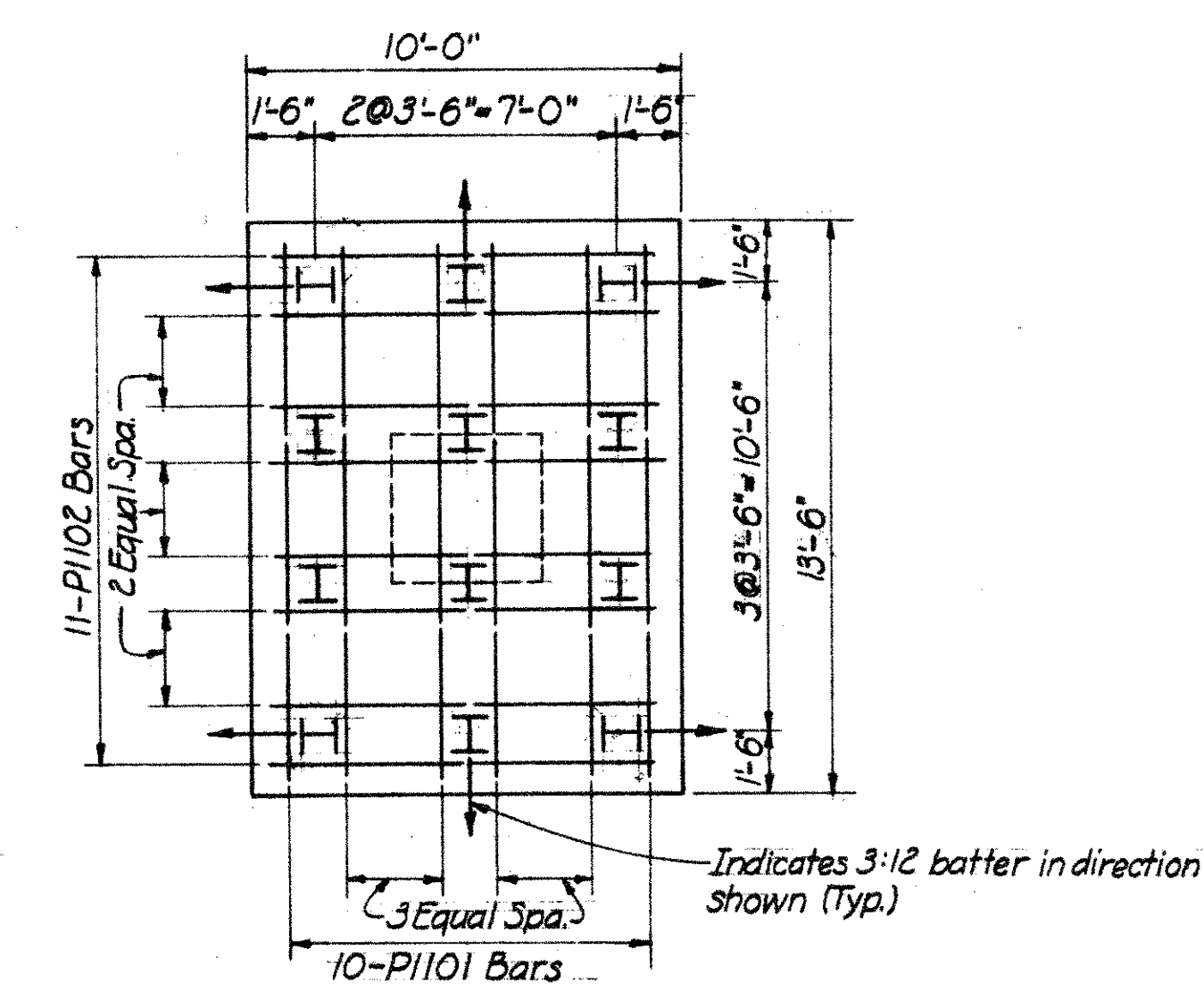
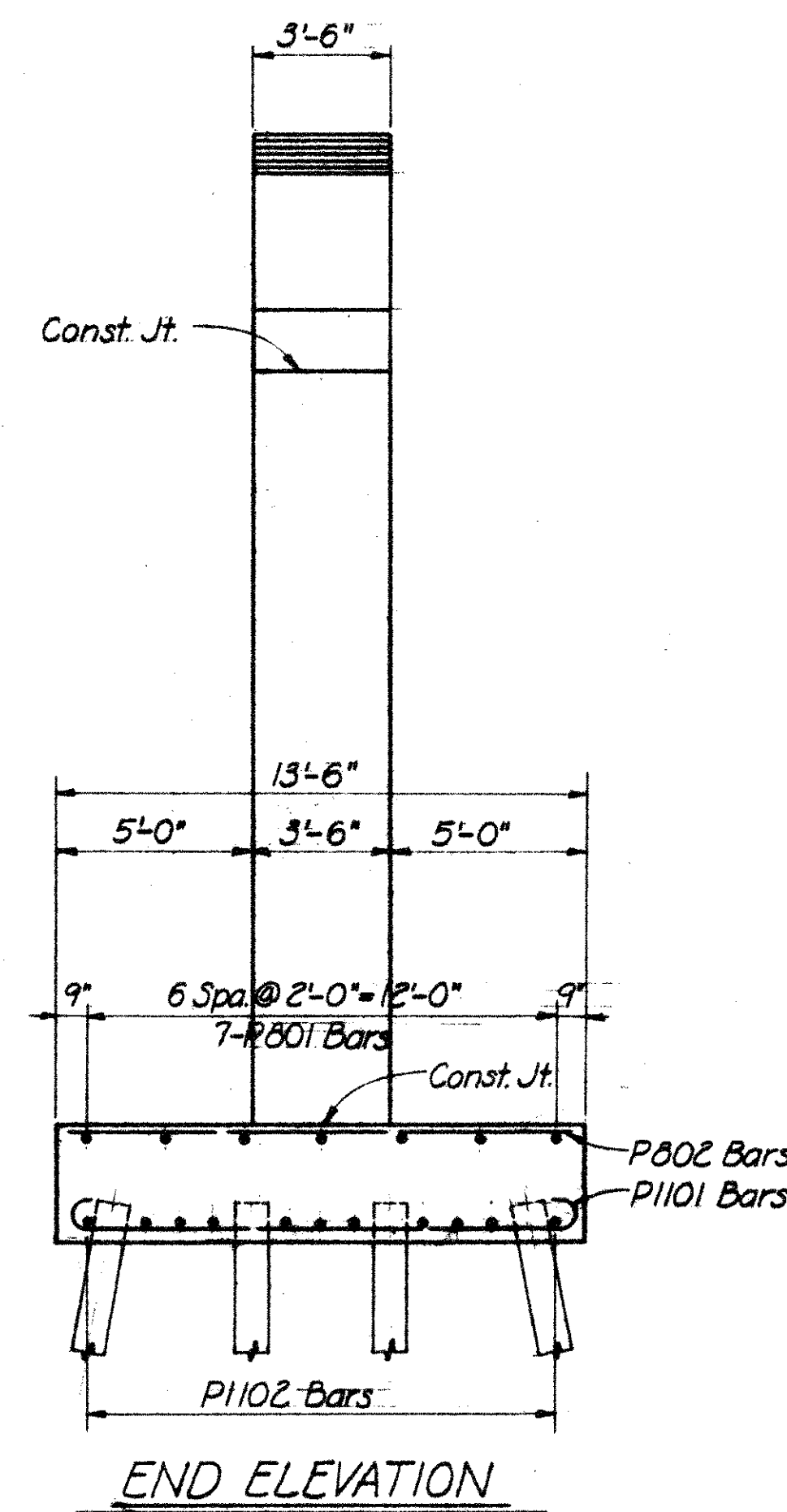
**DETAIL E**



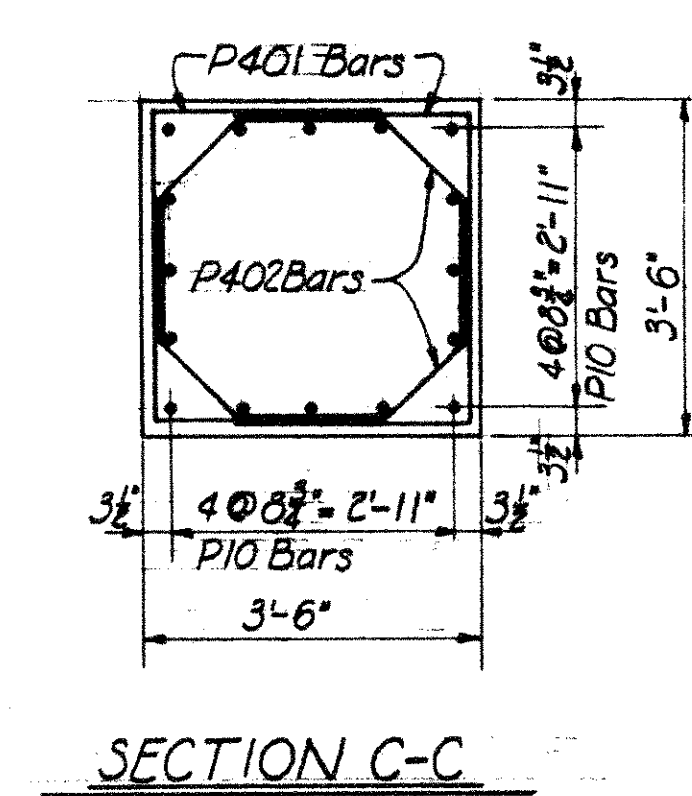
Footing dimensions and reinforcement are typical for each footing.

**NOTE:**  
All piles shall be steel H10BP42.  
For connection of downspouts to piers, see sheet No. 424

Special care shall be taken to place steel in the pier cap so that it will not interfere with the drilling of anchor bolt holes.



**FOOTING PLAN**  
(Bottom reinforcement shown)



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CONSULTING ENGINEERS  
CINCINNATI, OHIO

**PIER 1**  
BRIDGE No. HAM-71-0231

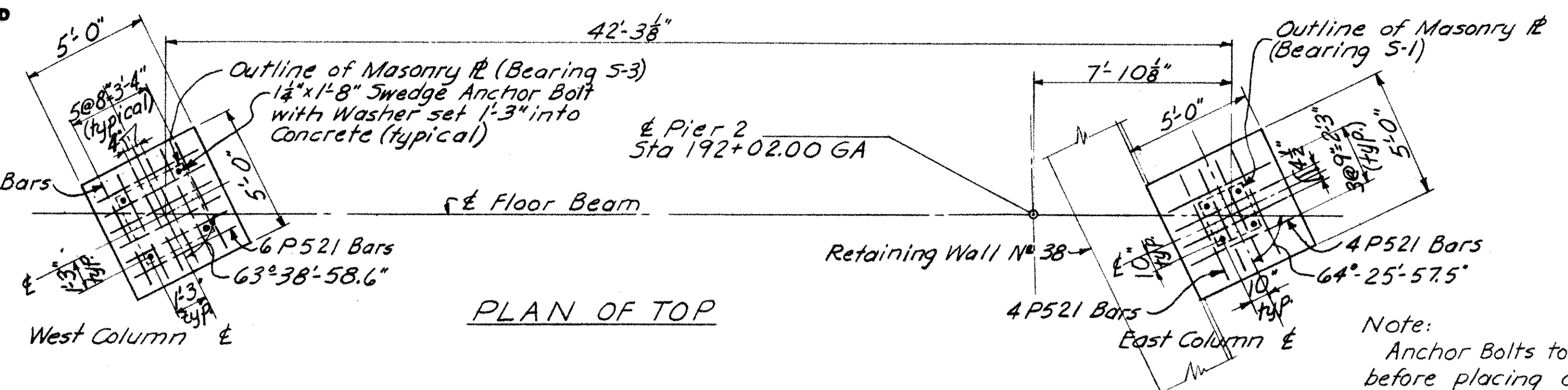
H & E BRIDGE No. 18

| DESIGNED | DRAWN  | TRACED | CHECKED | REVIEWED DATE | REVISED |
|----------|--------|--------|---------|---------------|---------|
| R.M.E.   | R.M.E. |        | Bloet   | JH0<br>8/1/65 |         |

**HAMILTON COUNTY  
HAM-71-2.03**

Ramp RF  
Sta. 191+96.87  
Sta. 192+12.42

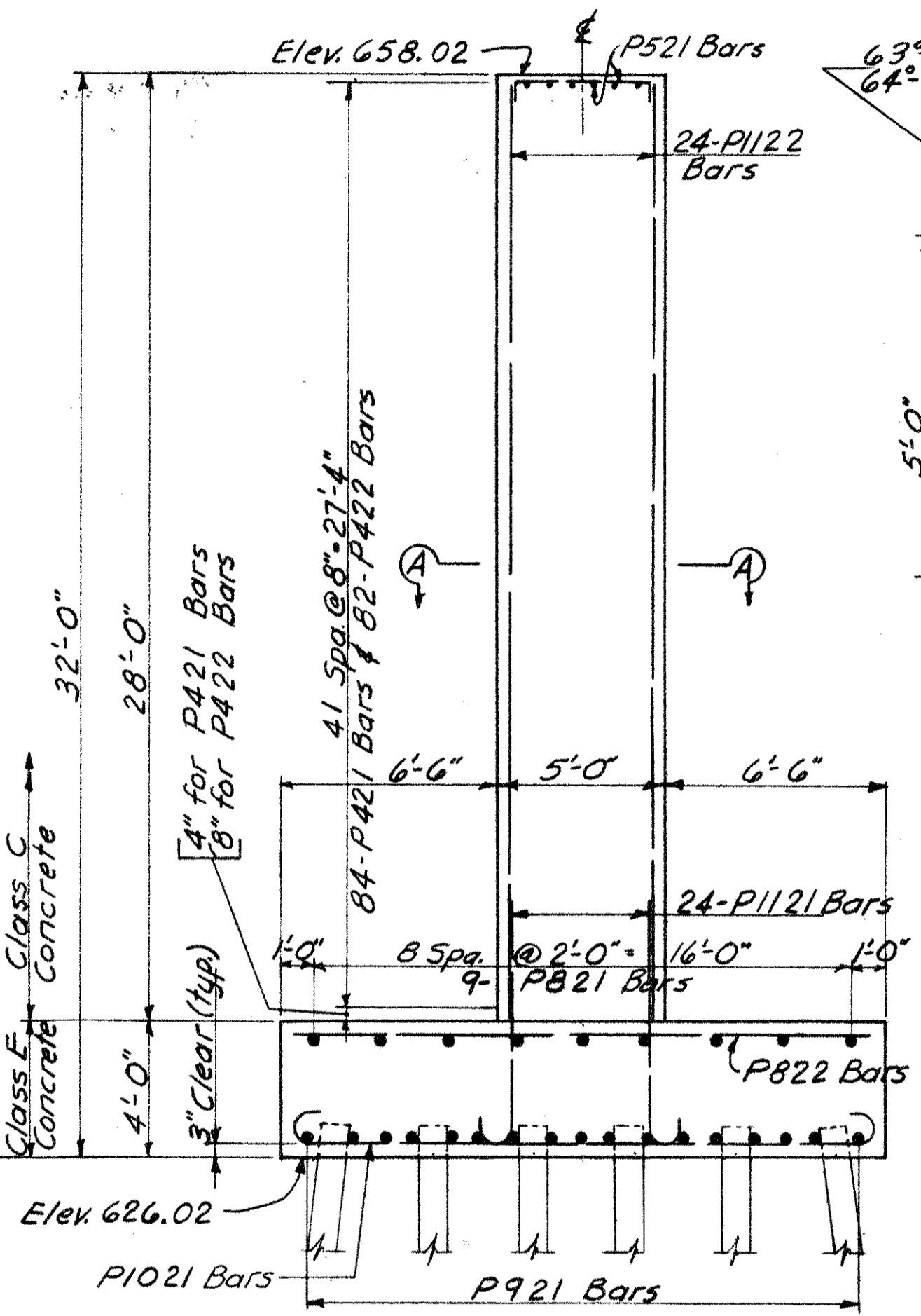
MICROFILMED  
SEP 16 1982



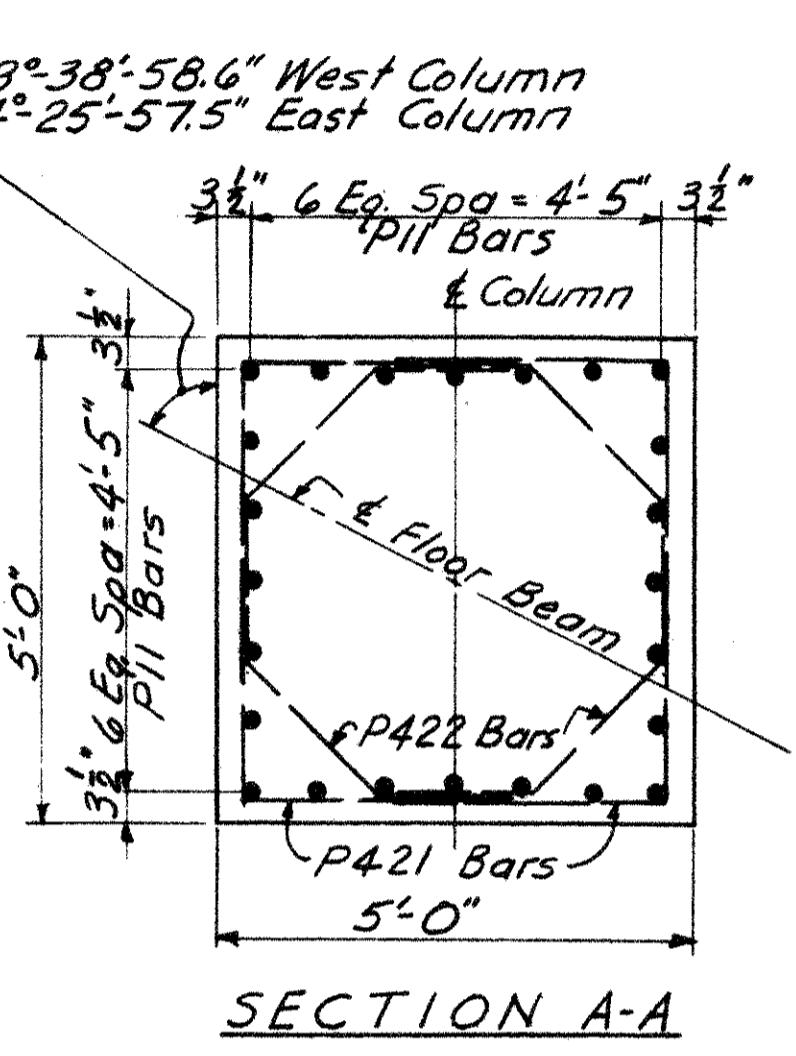
PLAN OF TOP

Note:  
Anchor Bolts to be set before placing concrete. For Connection of downspouts to columns see Sheet No. 424

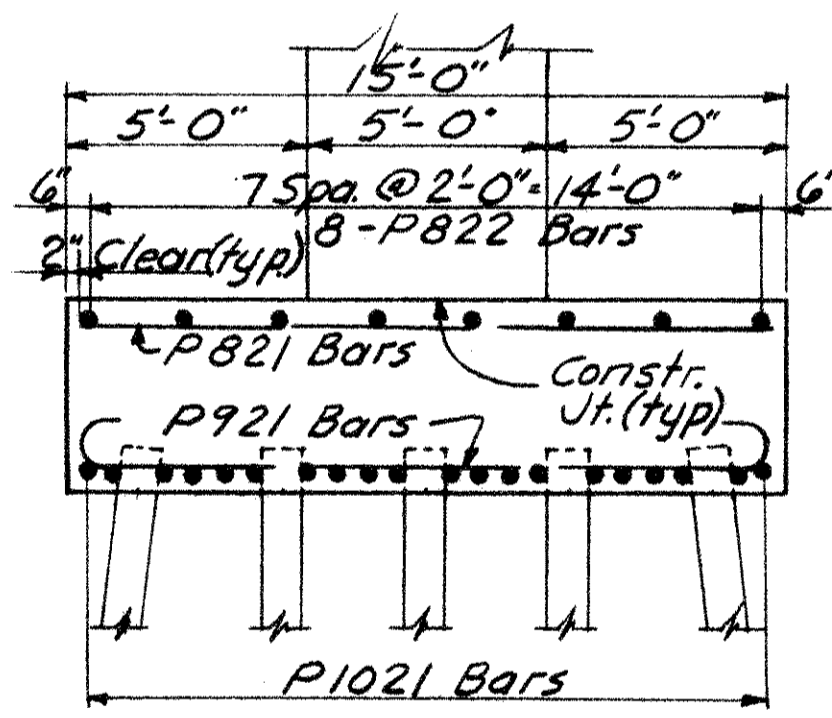
\* 1" Exp. Jt. with 1" Jt. Filler and Premolded Sealing Strip included with Ret. Wall Quantities for payment.



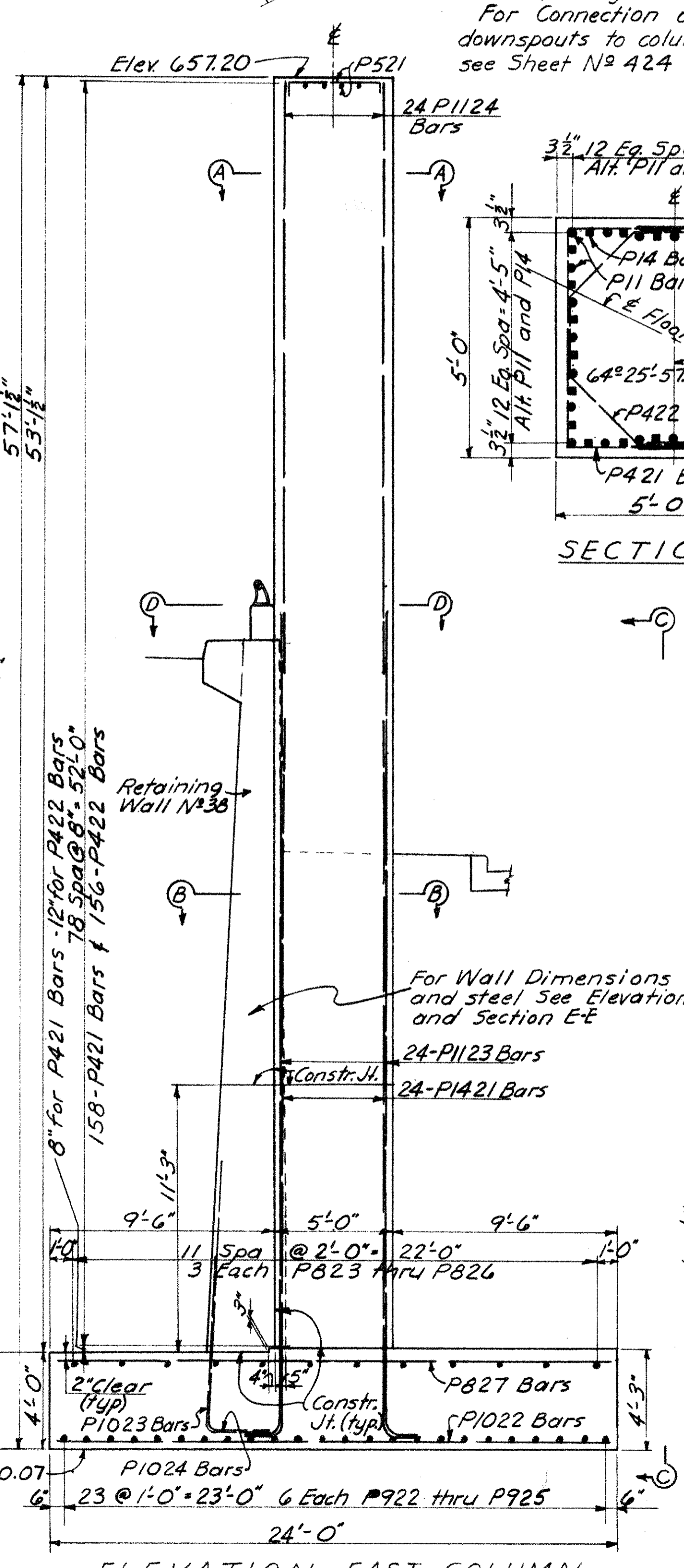
ELEVATION - WEST COLUMN



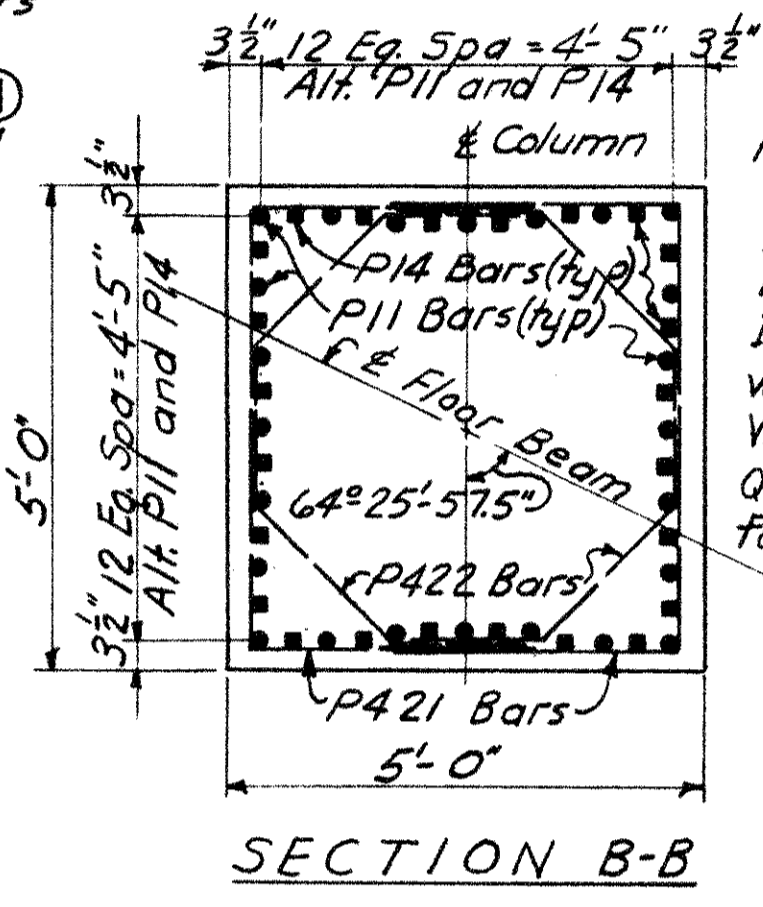
SECTION A-A



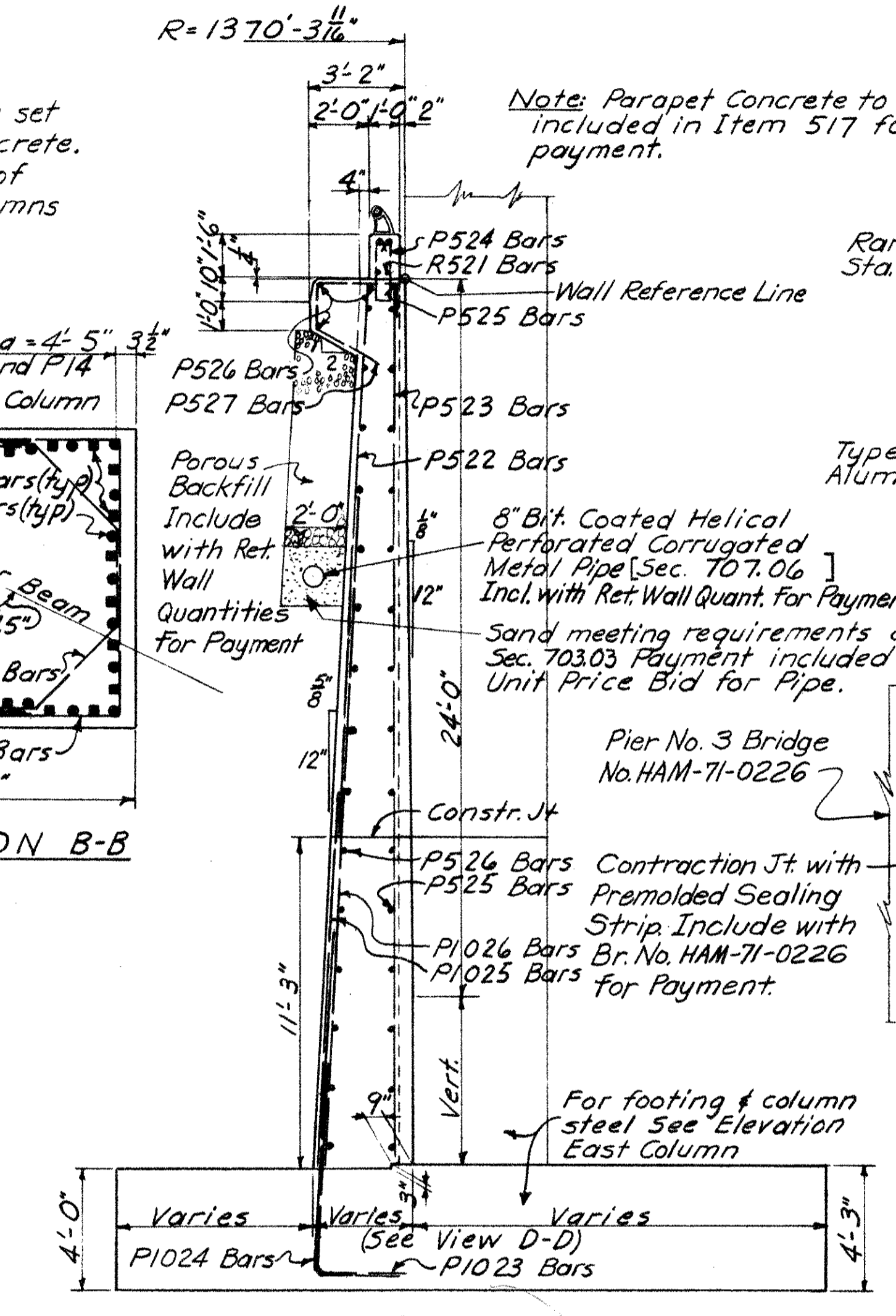
END ELEVATION WEST COLUMN



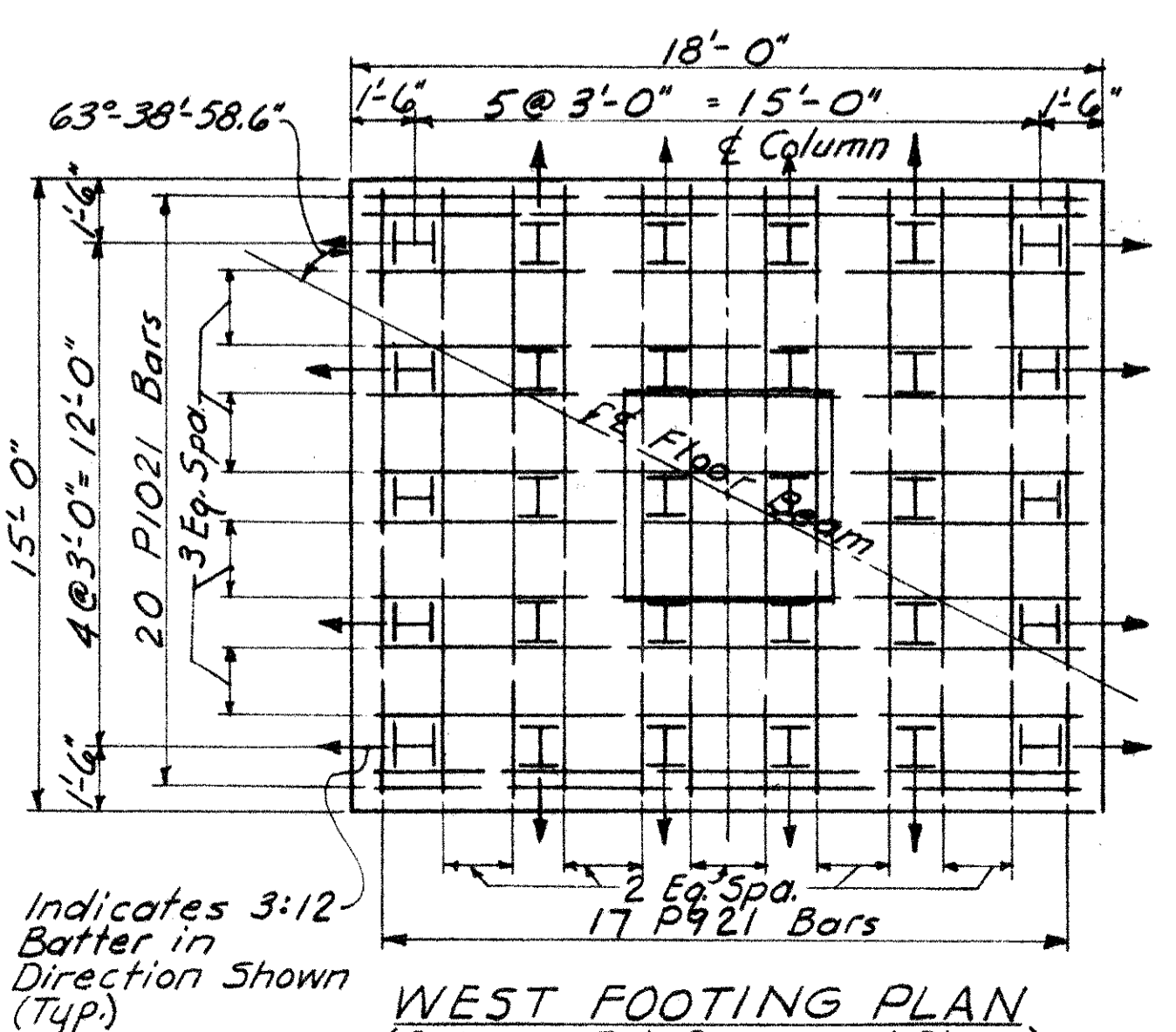
ELEVATION - EAST COLUMN



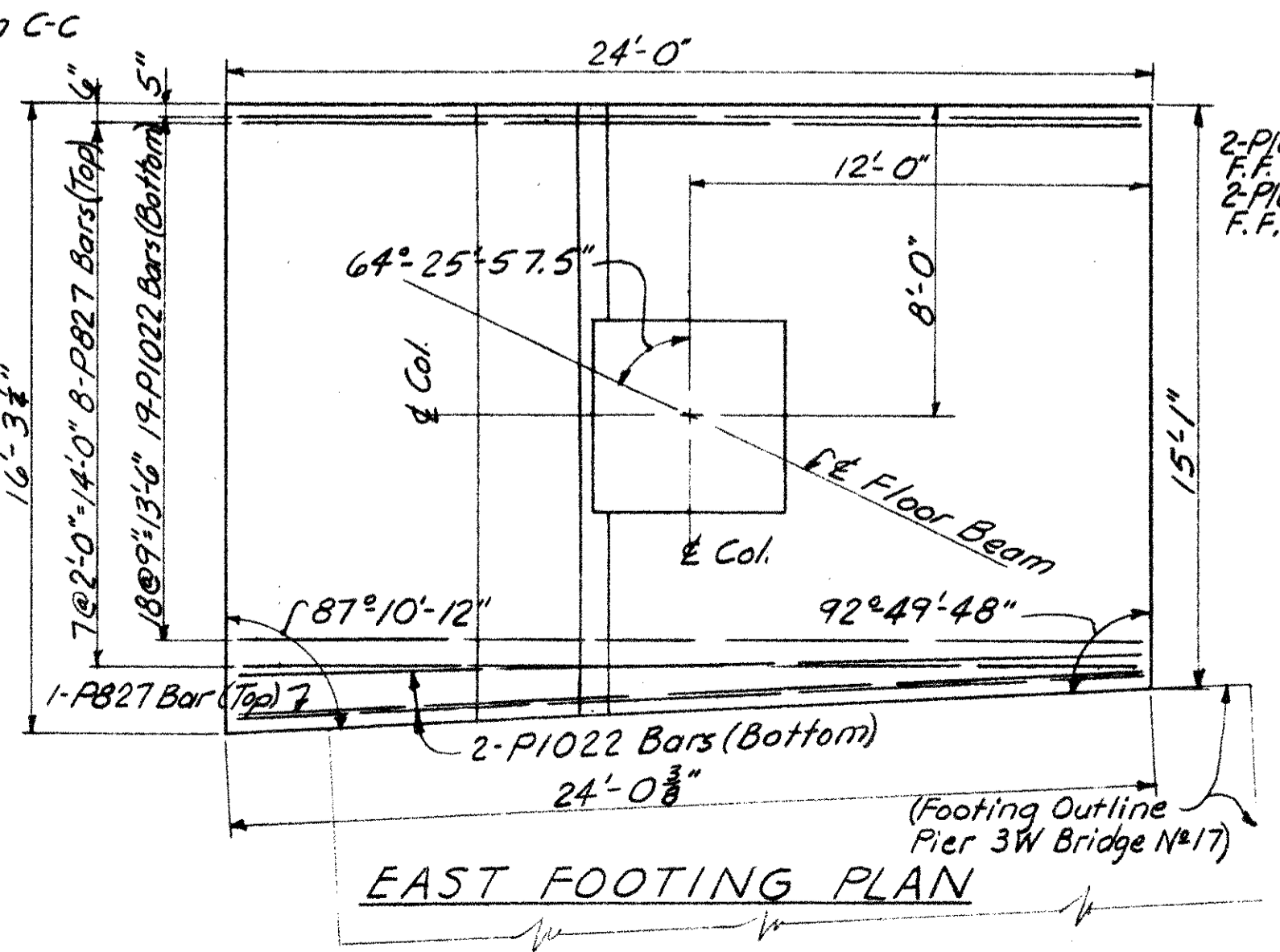
SECTION B-B



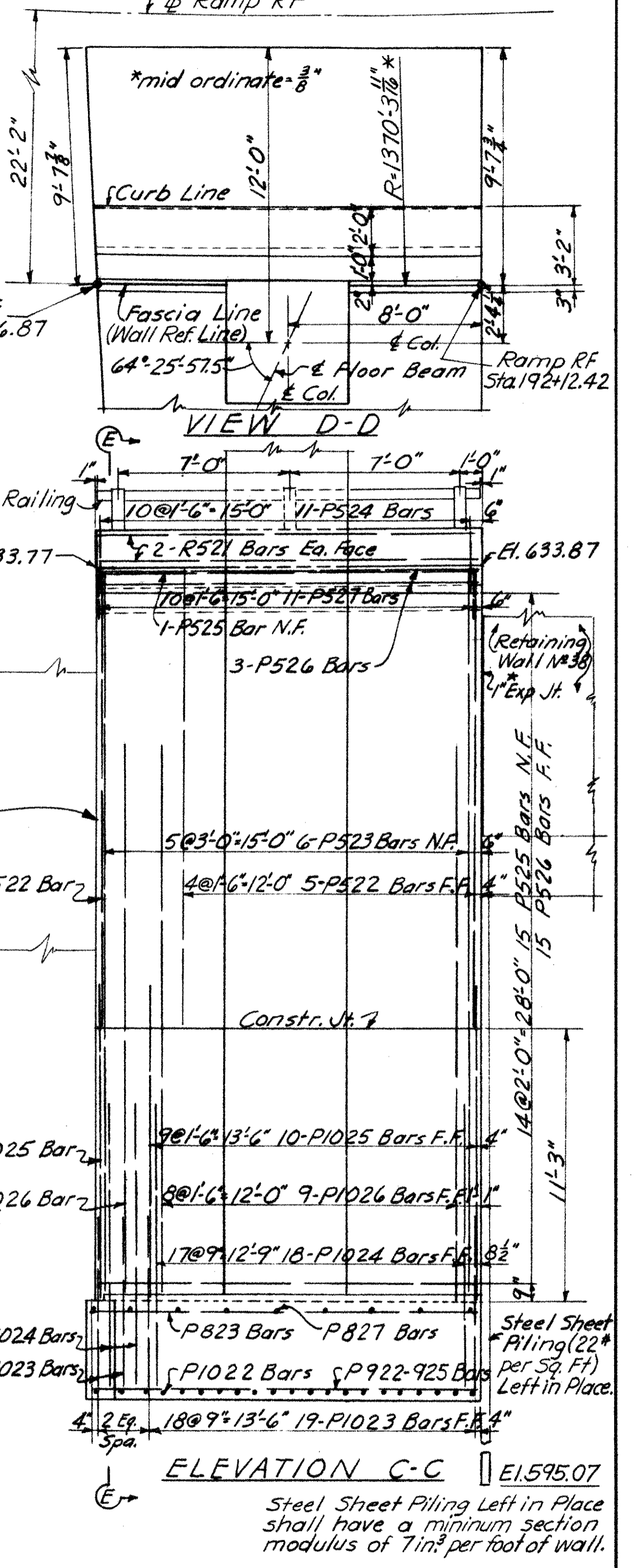
SECTION E-E



WEST FOOTING PLAN (Bottom Reinforcement Shown)



EAST FOOTING PLAN



ELEVATION C-C  
Steel Sheet Piling Left in Place shall have a minimum section modulus of 7 in<sup>3</sup> per foot of wall.

All Piles shall be Steel H10BP42.

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CINCINNATI, OHIO

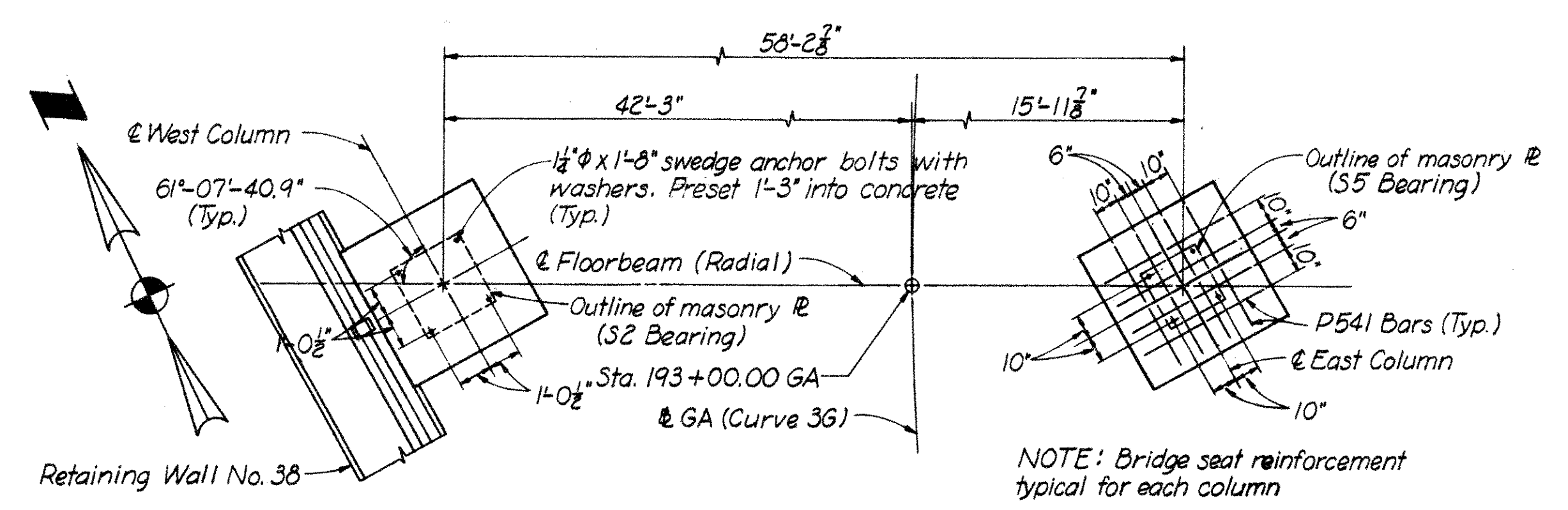
**PIER 2  
BRIDGE No. HAM-71-0231**

H&E BRIDGE No. 18

|          |         |        |         |               |          |
|----------|---------|--------|---------|---------------|----------|
| DESIGNED | DRAWN   | TRACED | CHECKED | REVIEWED DATE | REVISION |
| PME      | CLC     |        | PNE     | JHO           |          |
|          | 2-18-65 |        | 4-15-65 | 8/14/65       |          |

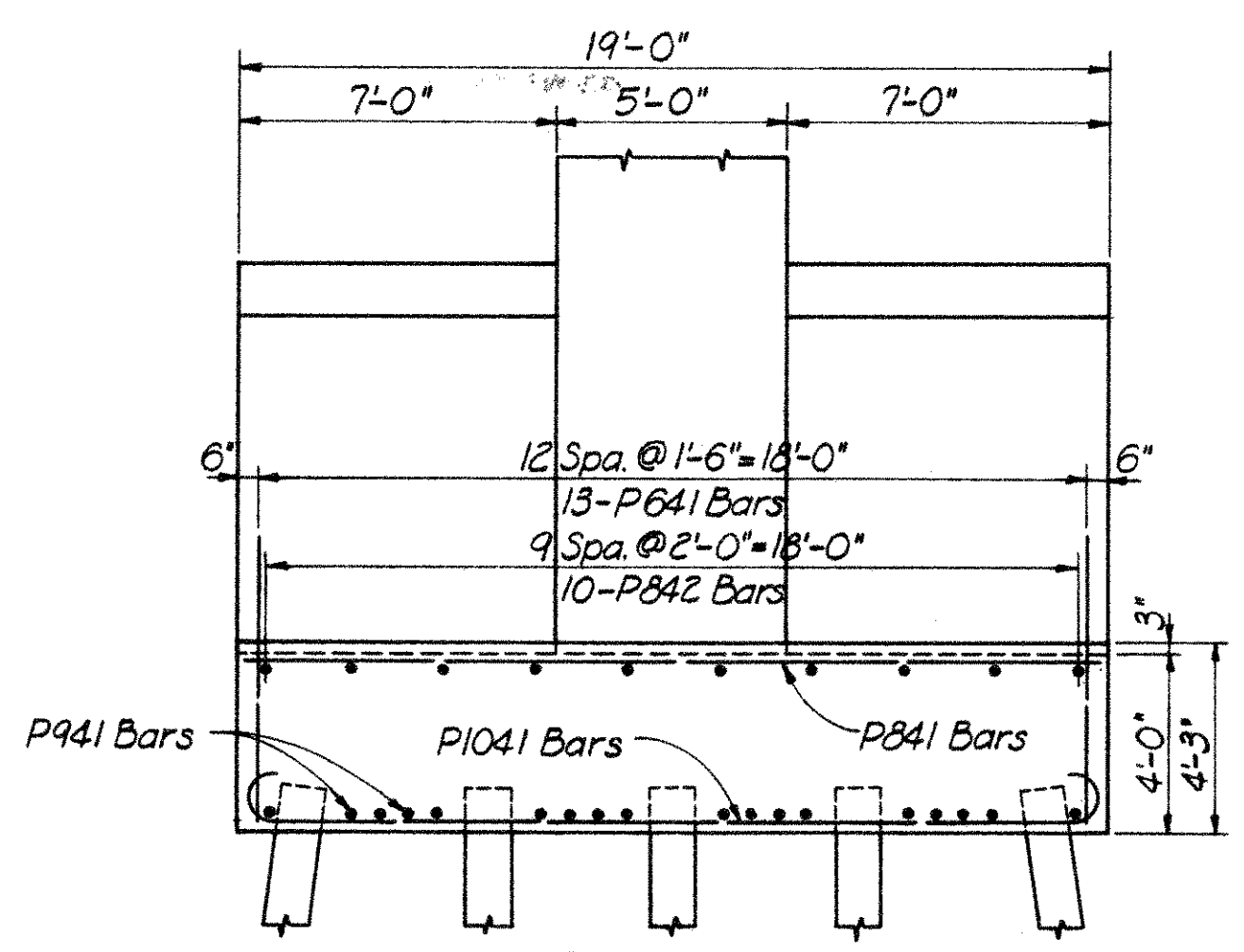


**HAMILTON COUNTY  
HAM-71-2.08**

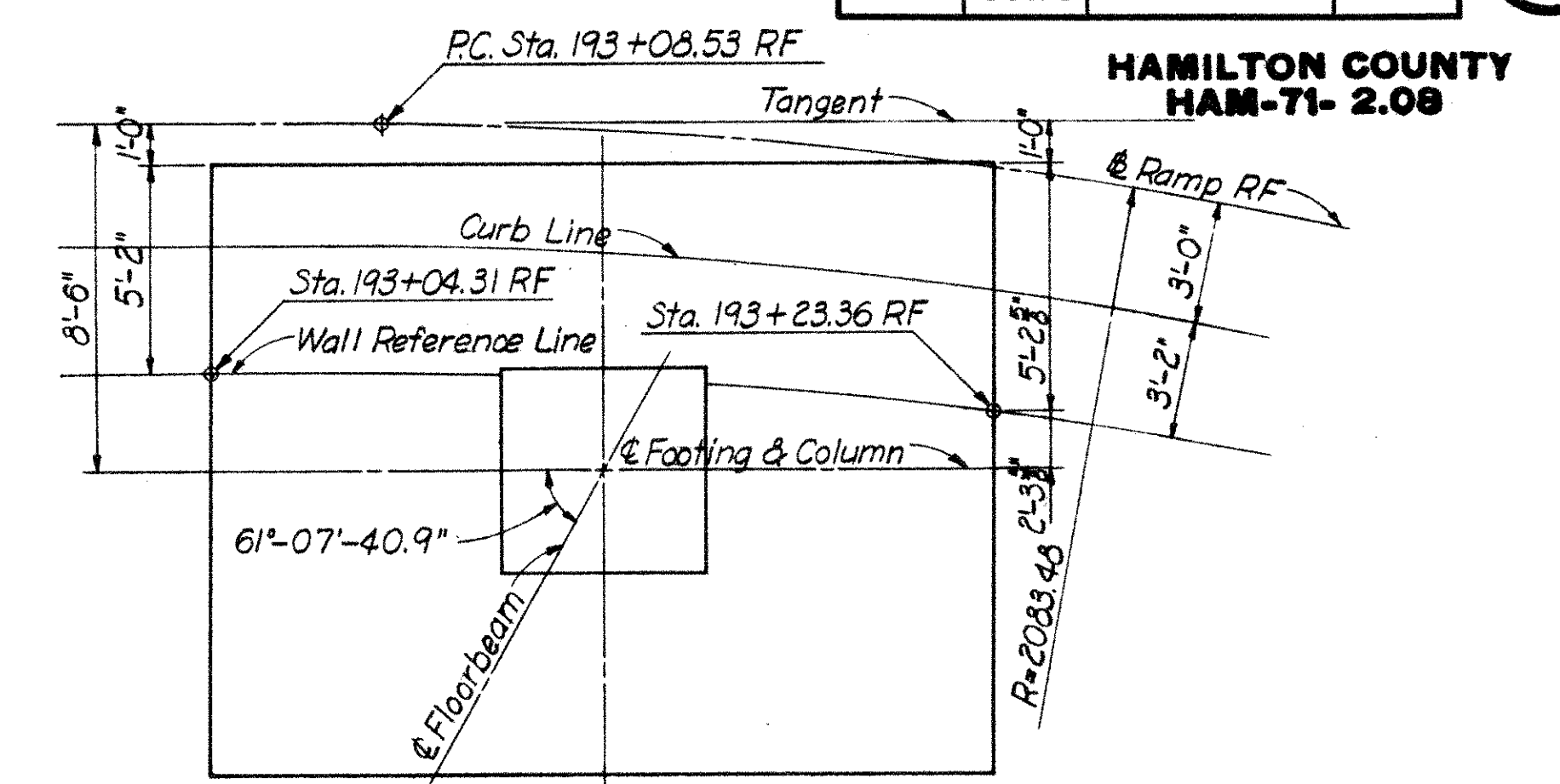


**PLAN OF TOP**

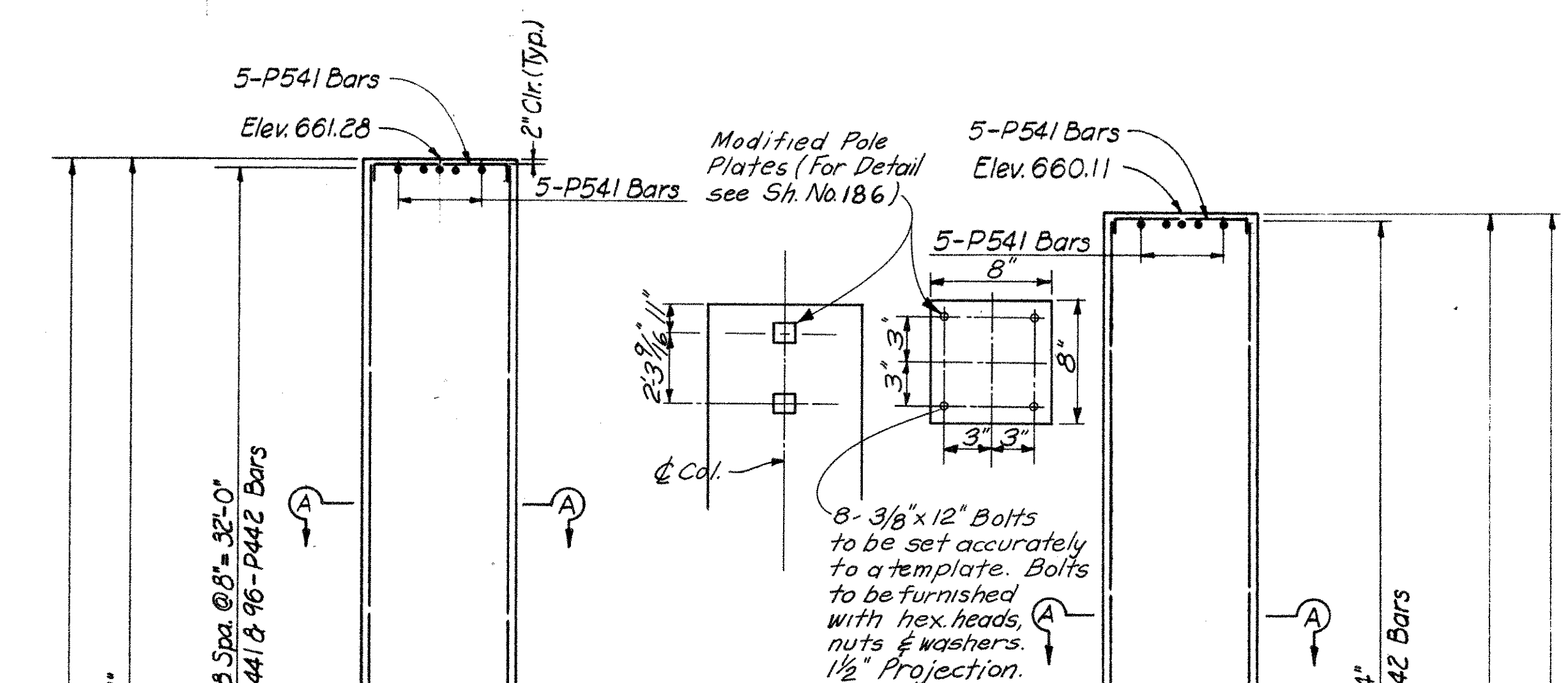
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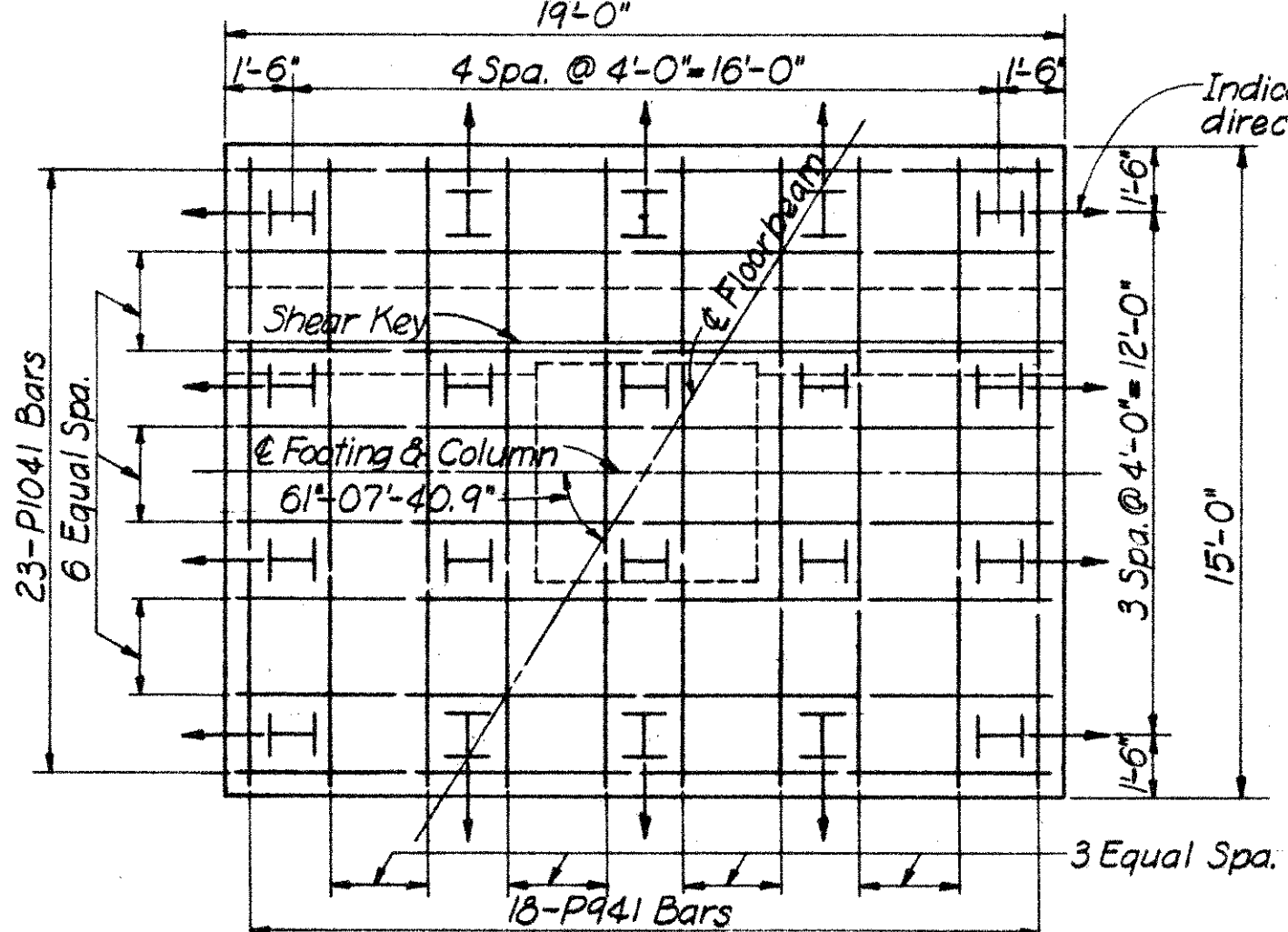
**END ELEV. & FOOTING PLAN, WEST COLUMN**  
Bottom reinforcement shown in Footing Plan



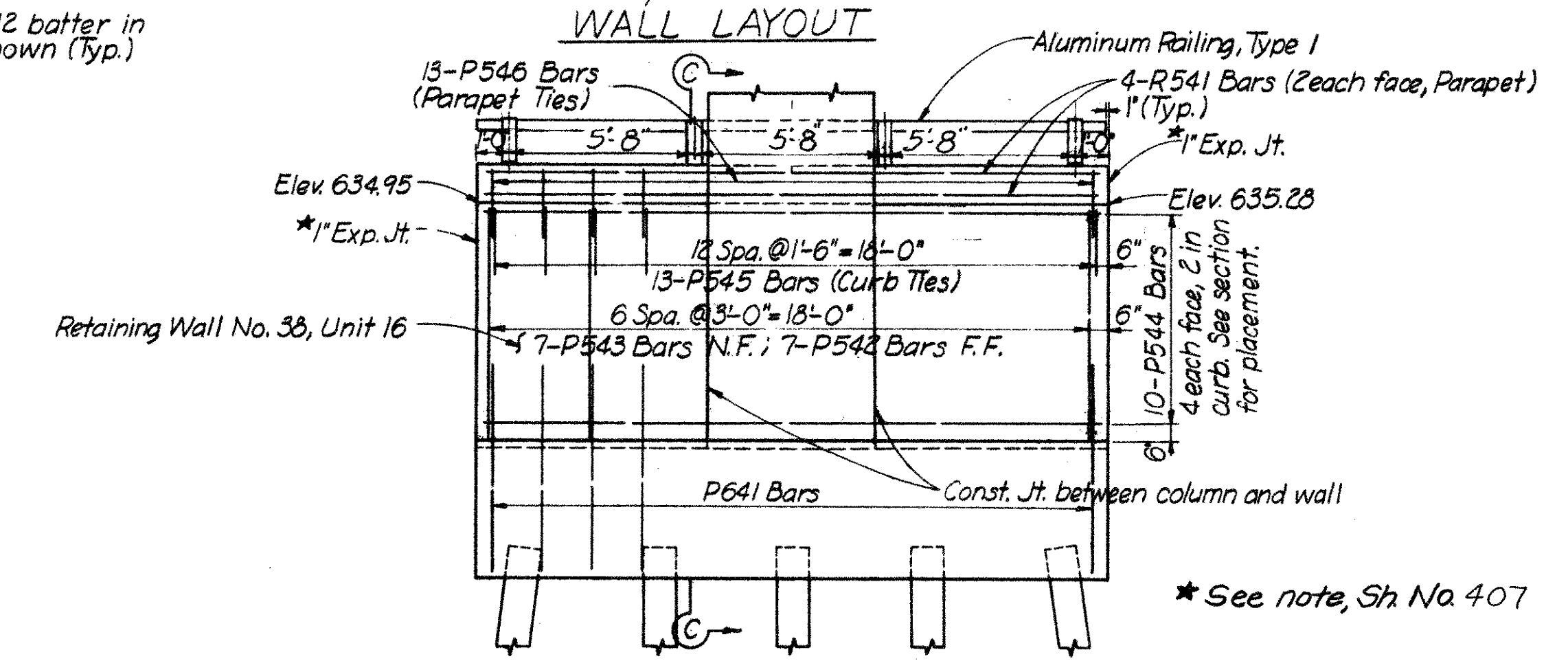
**WALL LAYOUT**



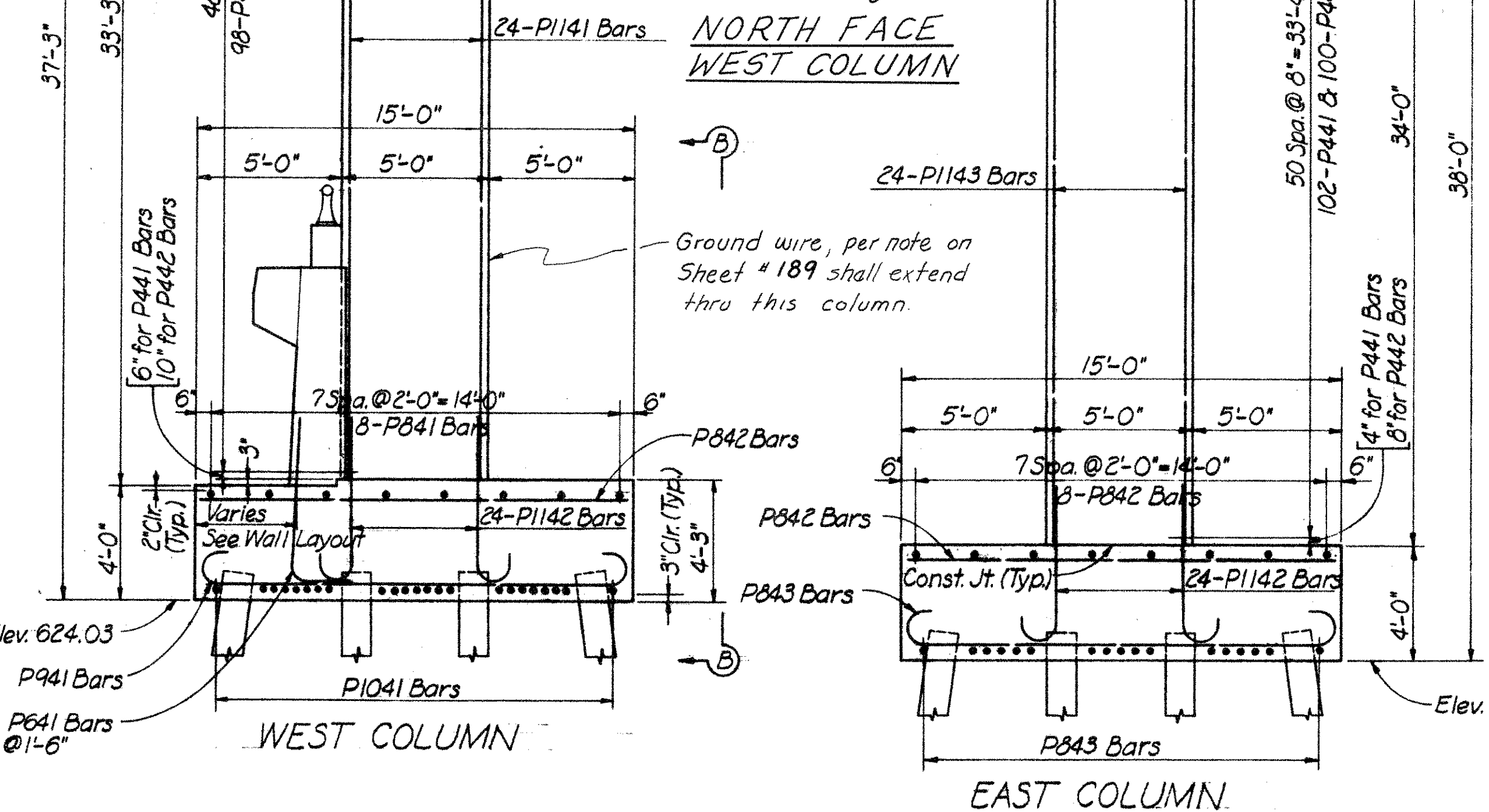
**NORTH FACE  
WEST COLUMN**



**END ELEV. & FOOTING PLAN, EAST COLUMN**  
Bottom reinforcement shown in Footing Plan

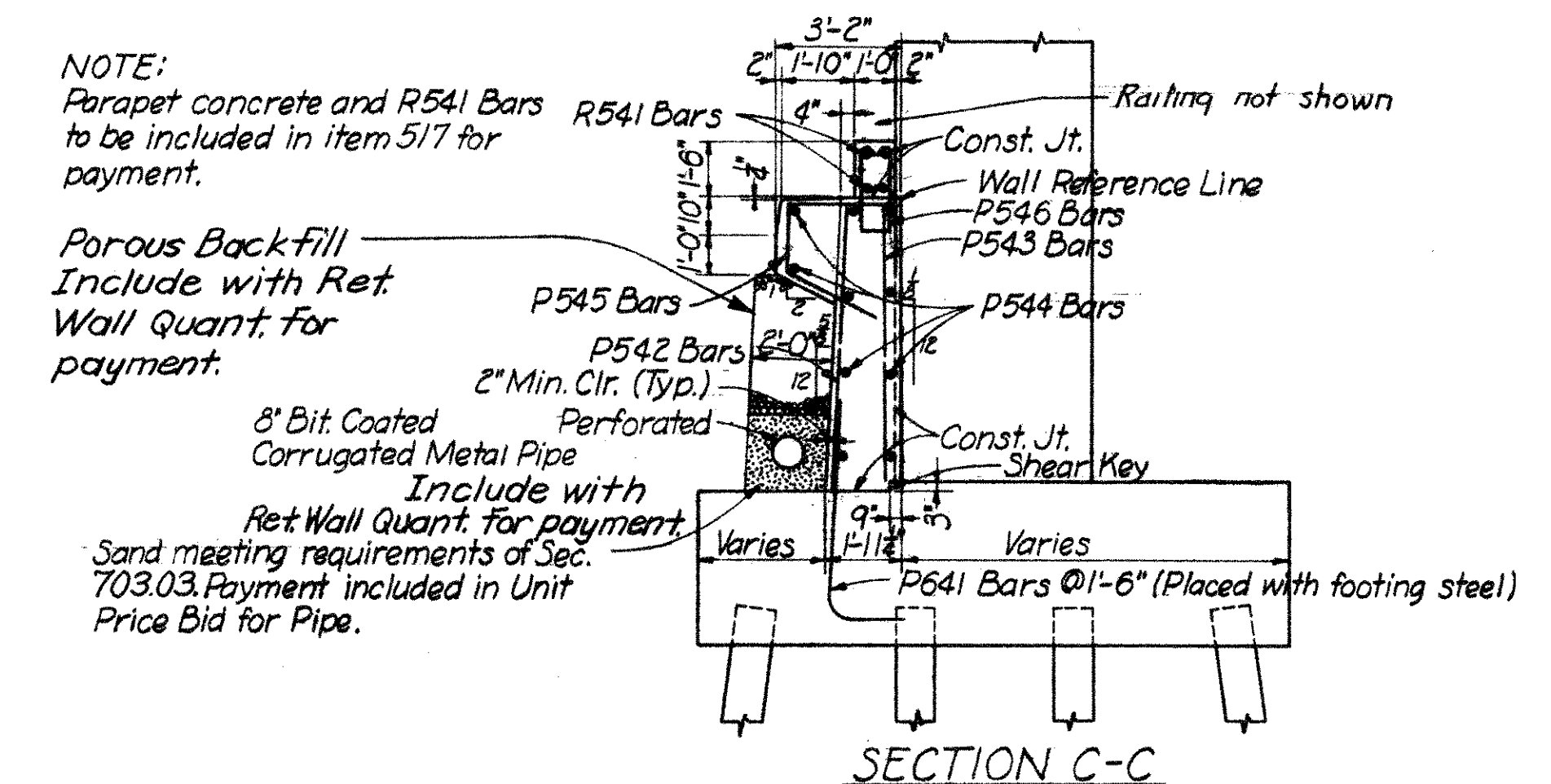


**ELEVATION B-B**



**ELEVATION**

NOTE:  
All piles shall be steel H12BP53.  
For connection of downspouts to piers, see sheet No. 424  
Class "E" concrete to be used in footings and retaining wall  
stem. Class "C" concrete to be used in columns.

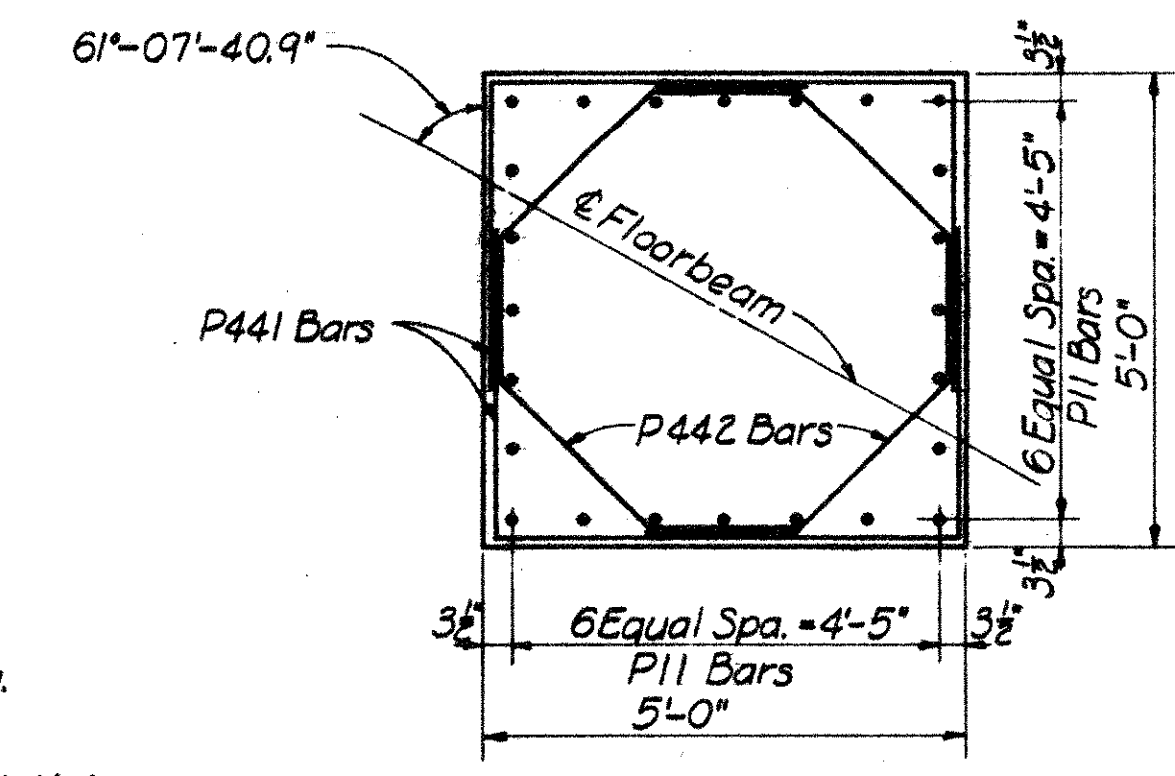


**SECTION C-C**

NOTE:  
Parapet concrete and R541 Bars to be included in item 517 for payment.

Porous Back-fill Include with Ret. Wall Quant. for payment.

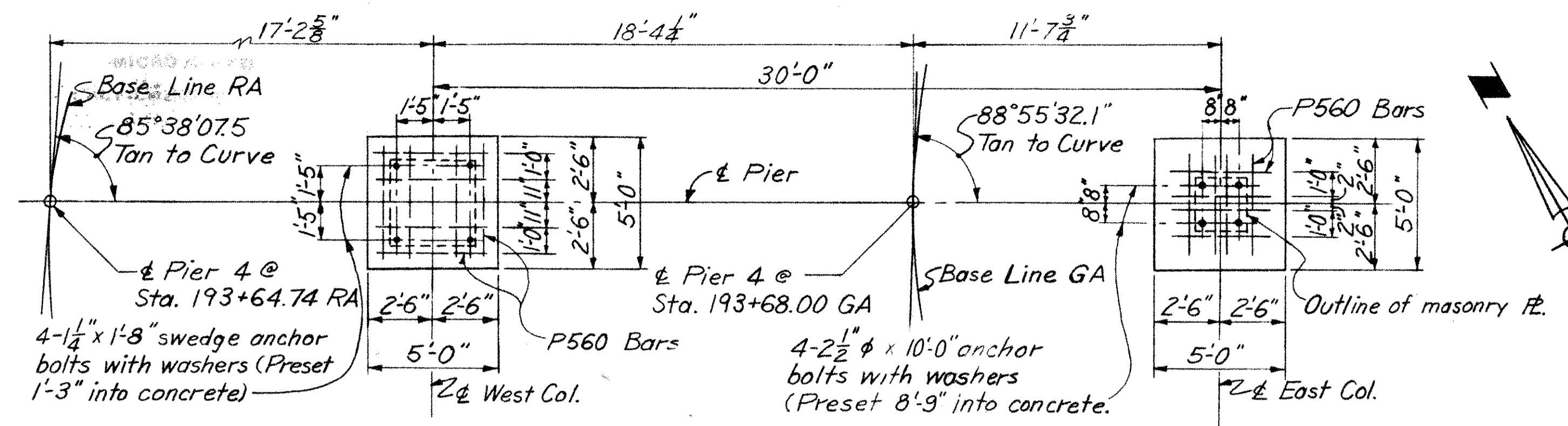
8" Bit Coated Corrugated Metal Pipe Include with Ret. Wall Quant. for payment. Sand meeting requirements of Sec. 703.03. Payment included in Unit Price Bid for Pipe.



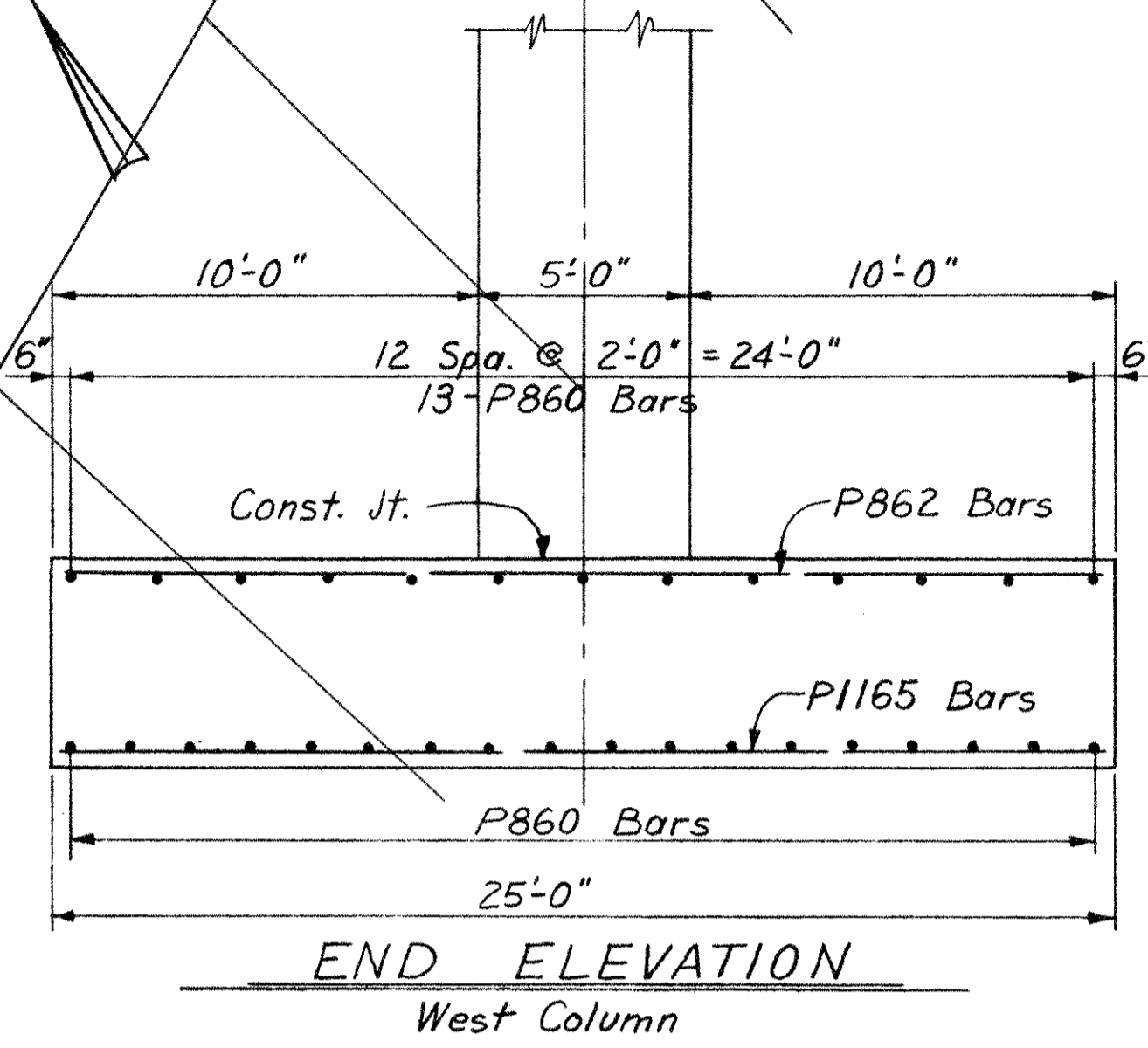
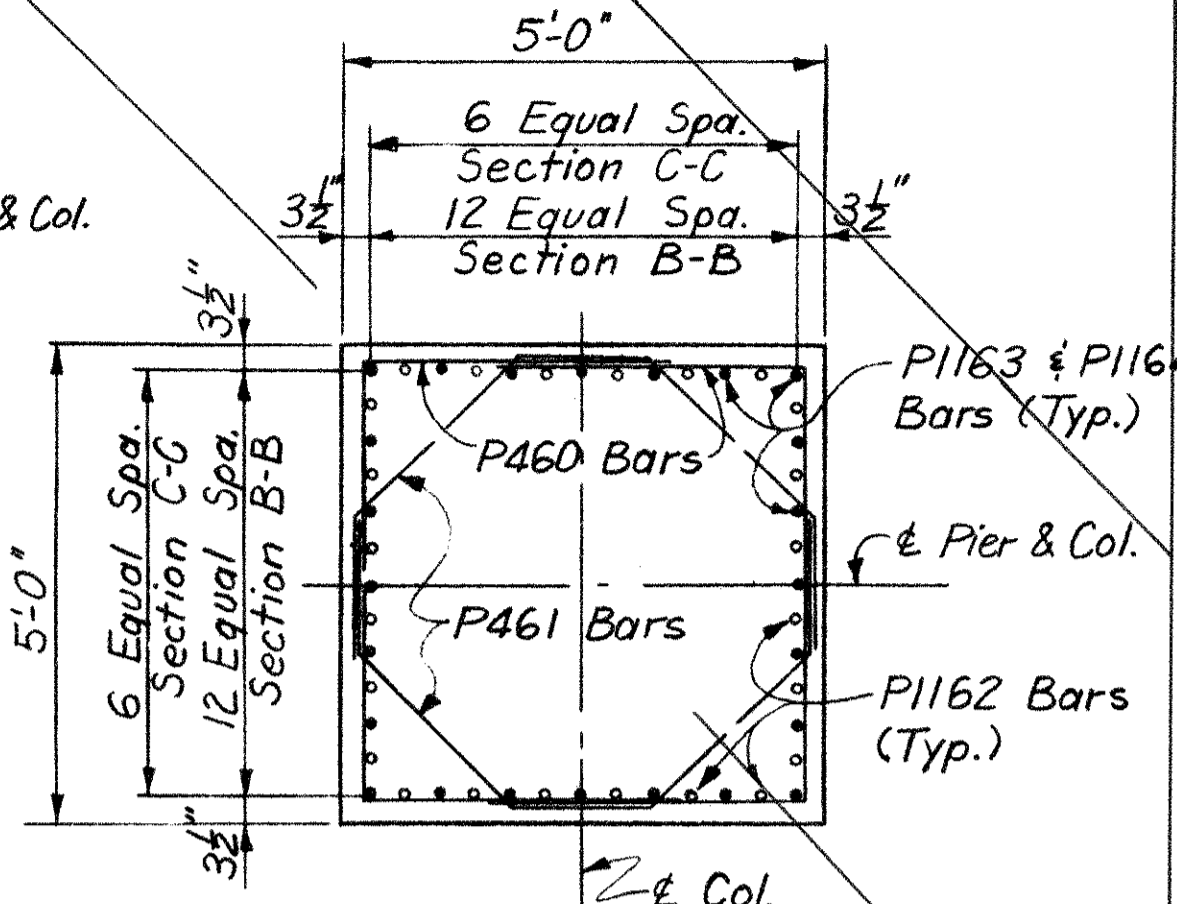
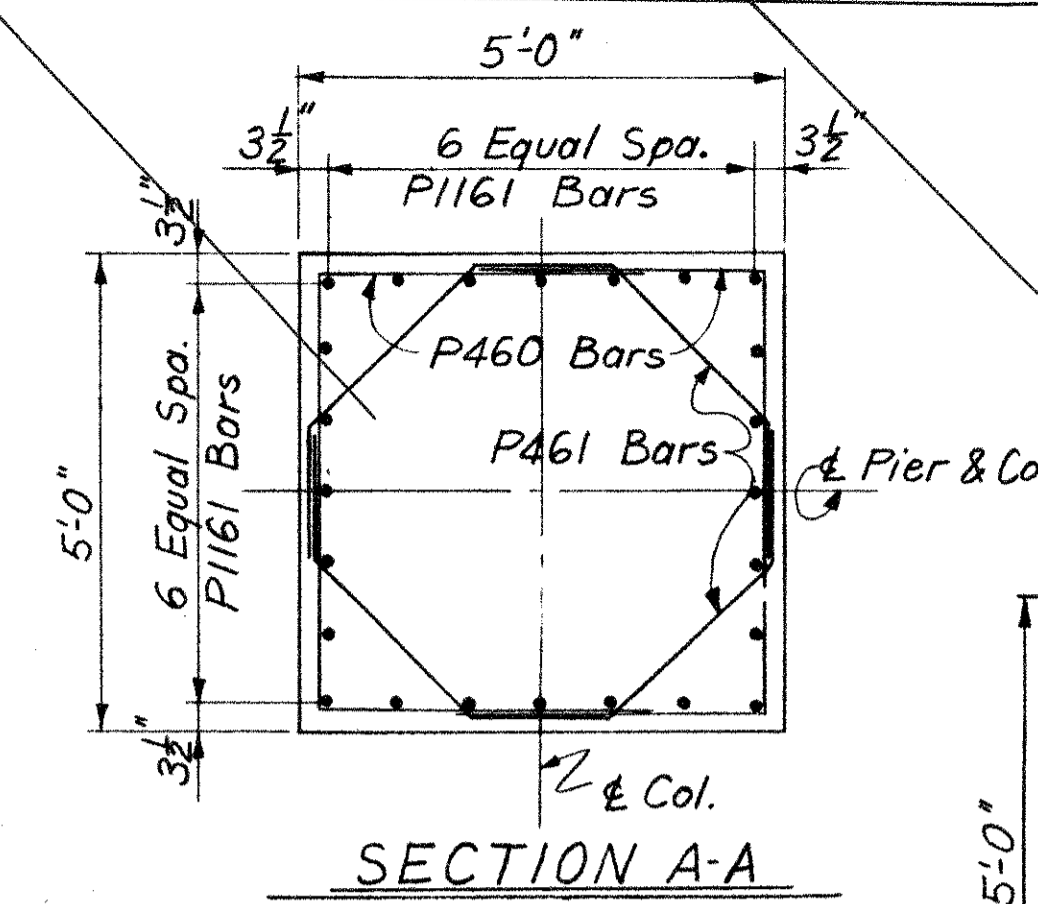
**SECTION A-A**

|   |              |        |                  |                                 |          |
|---|--------------|--------|------------------|---------------------------------|----------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |              |        |                  |                                 |          |
| <b>PIER 3<br/>BRIDGE No. HAM-71-0231</b>                    |              |        |                  |                                 |          |
| <b>H &amp; E BRIDGE No. 18</b>                              |              |        |                  |                                 |          |
| DESIGNED<br>PME   | DRAWN<br>PME | TRACED | CHECKED<br>Bluel | REVIEWED DATE<br>Jho<br>8/11/65 | REVIEWED |

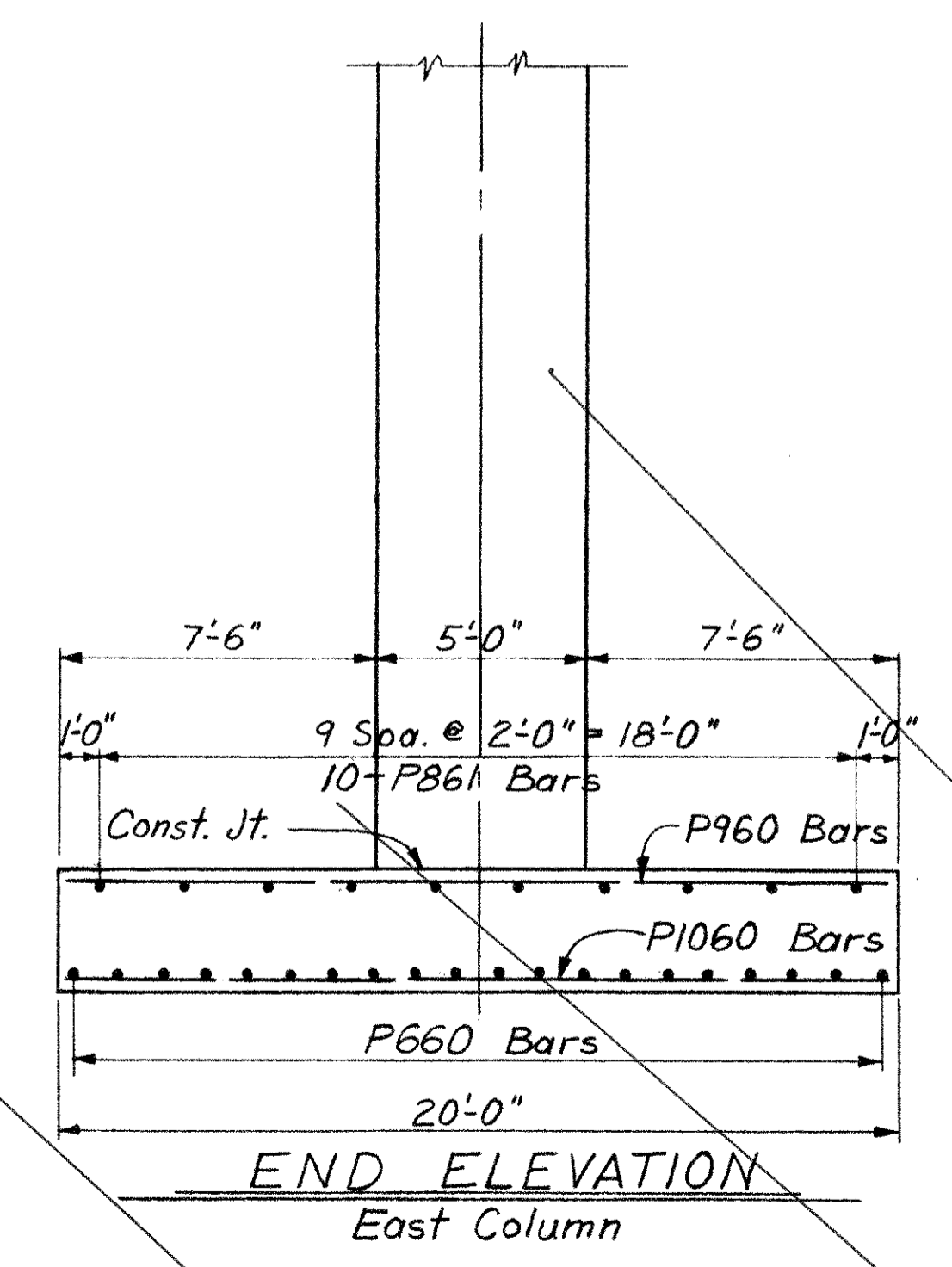
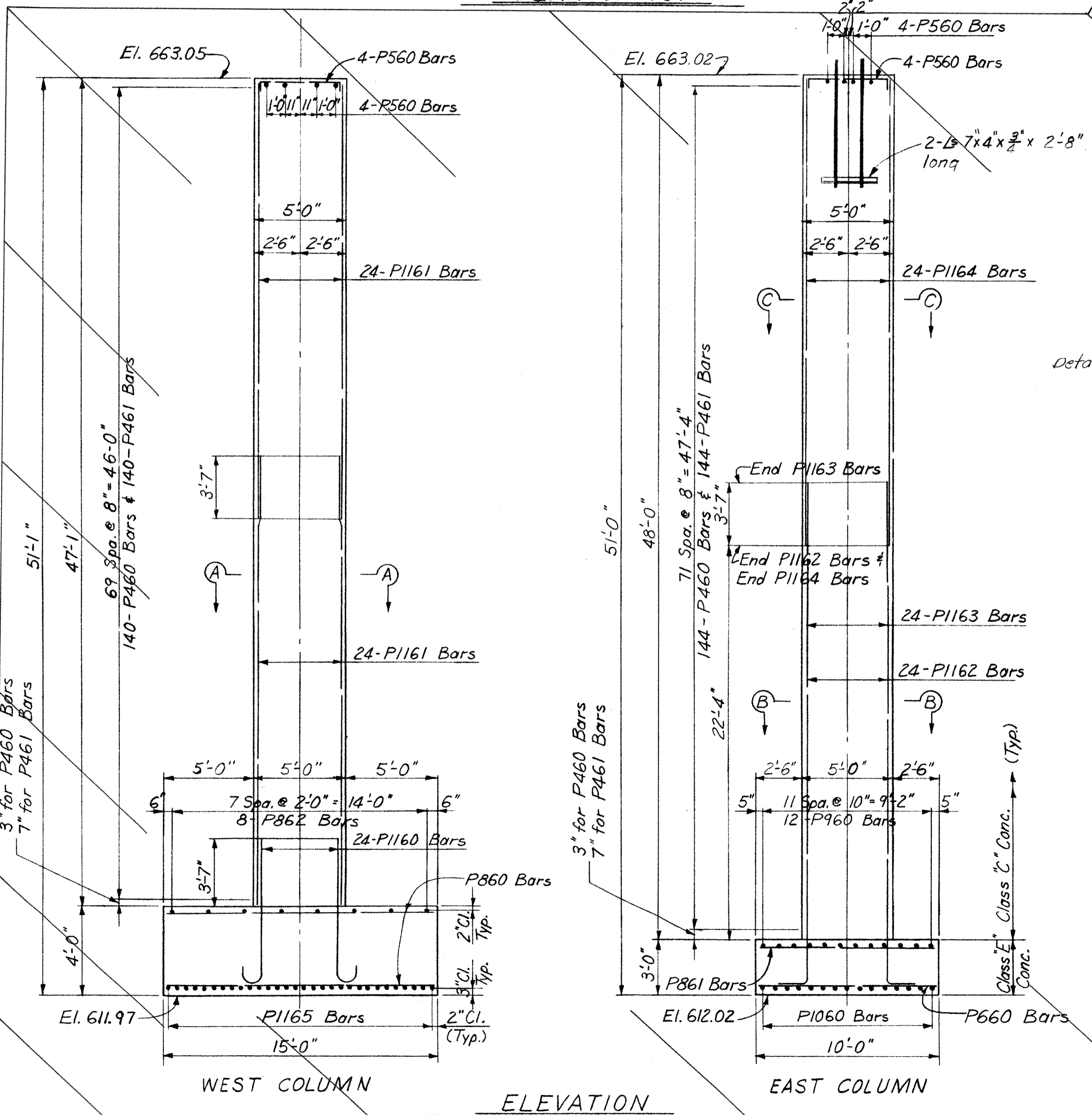
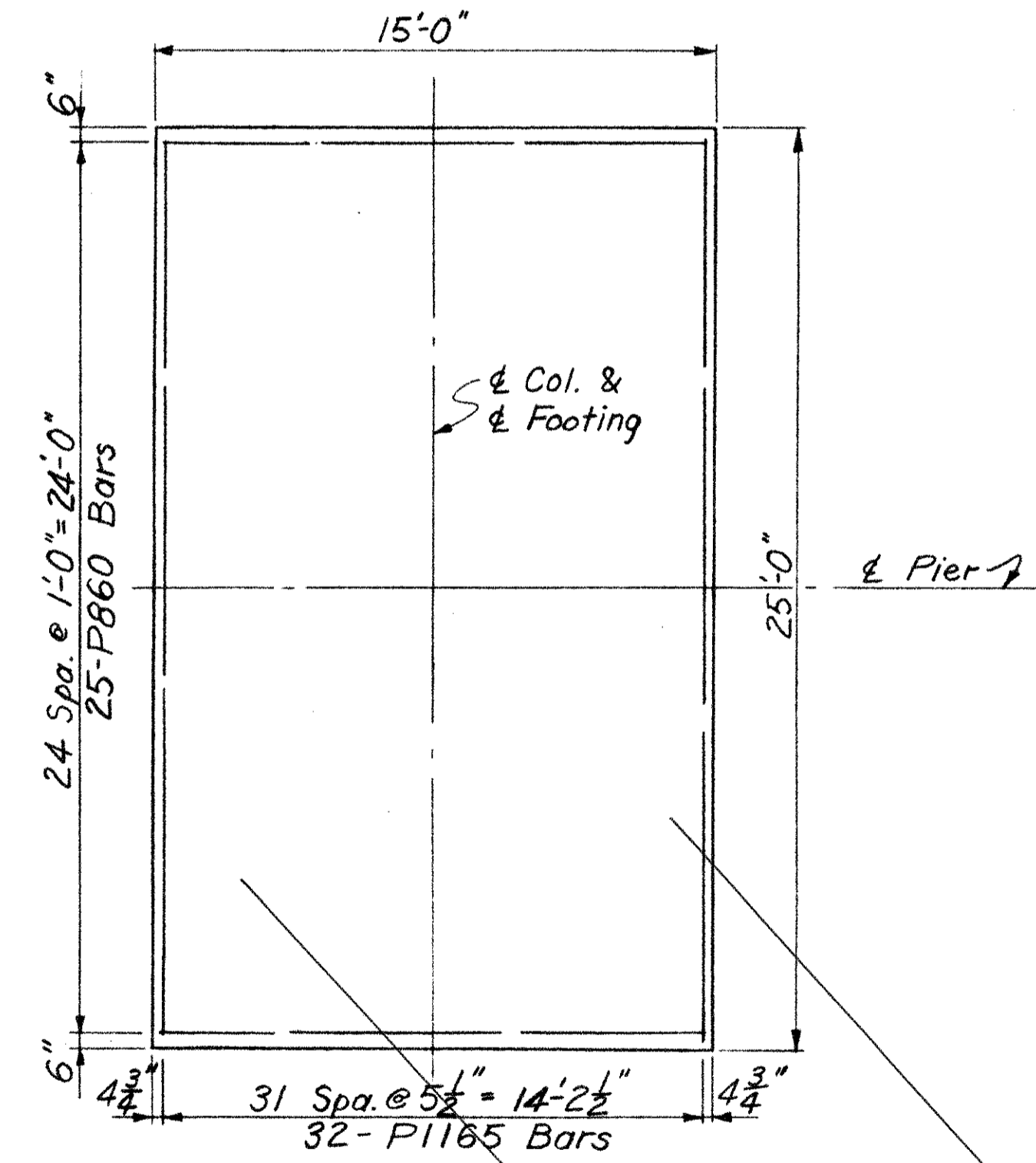
HAMILTON COUNTY  
HAM-71-2.08



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Details within hatched area are void.



NOTES:  
For connection of downspout to Pier, see Sh. # 424

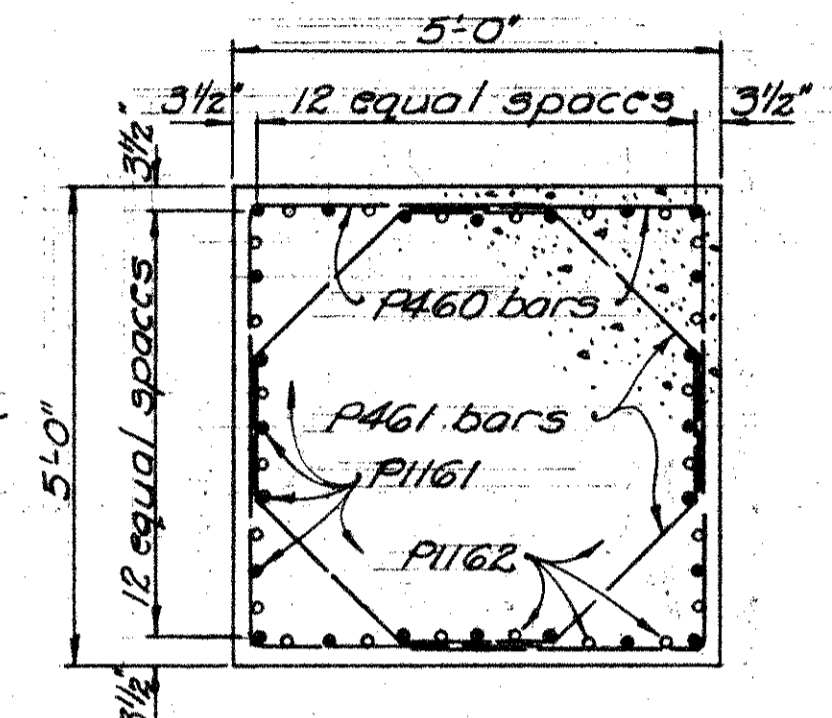
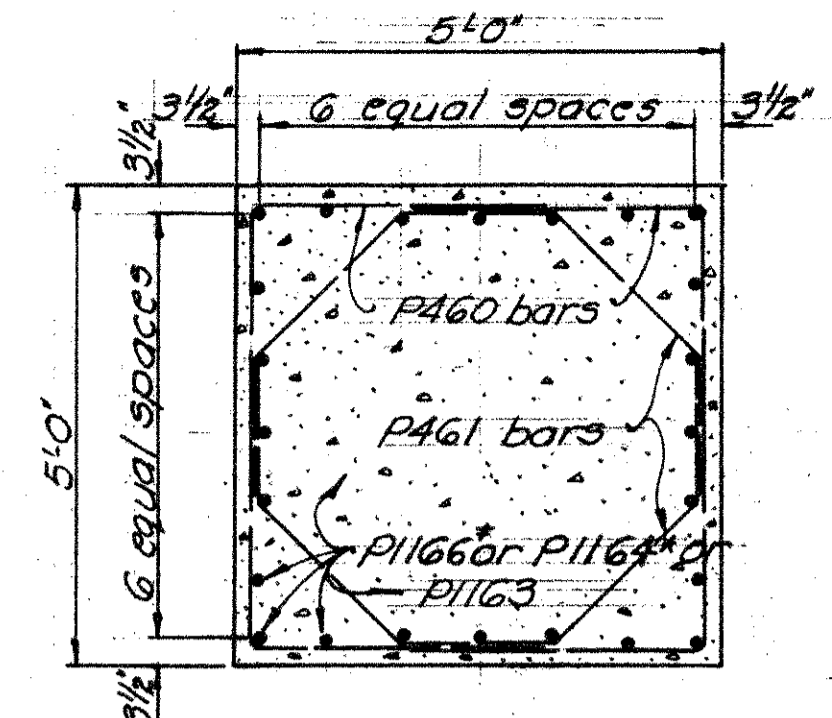
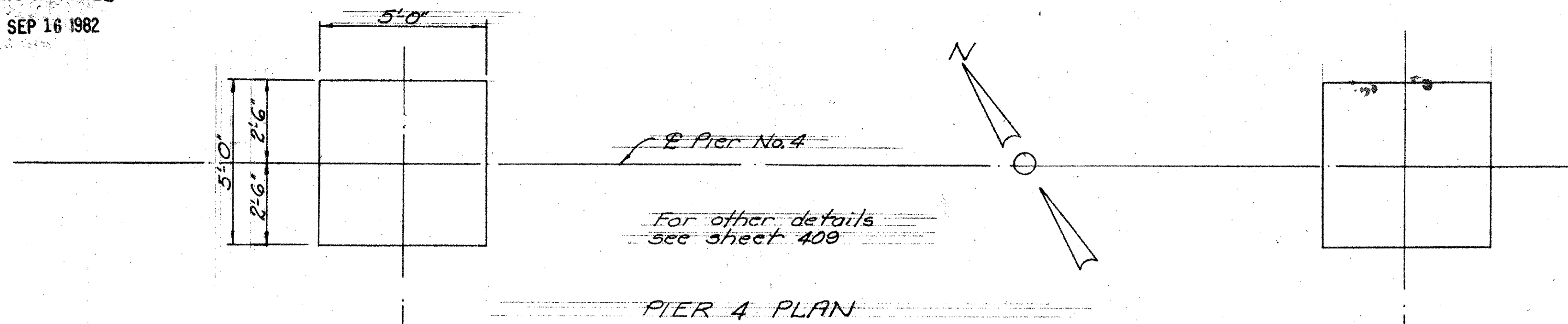
This sheet revised and supplemented by sheet 409A 5/8/67 MPB

HAZLET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

PIER 4  
BRIDGE No. HAM-71-0231

H & E BRIDGE No. 18

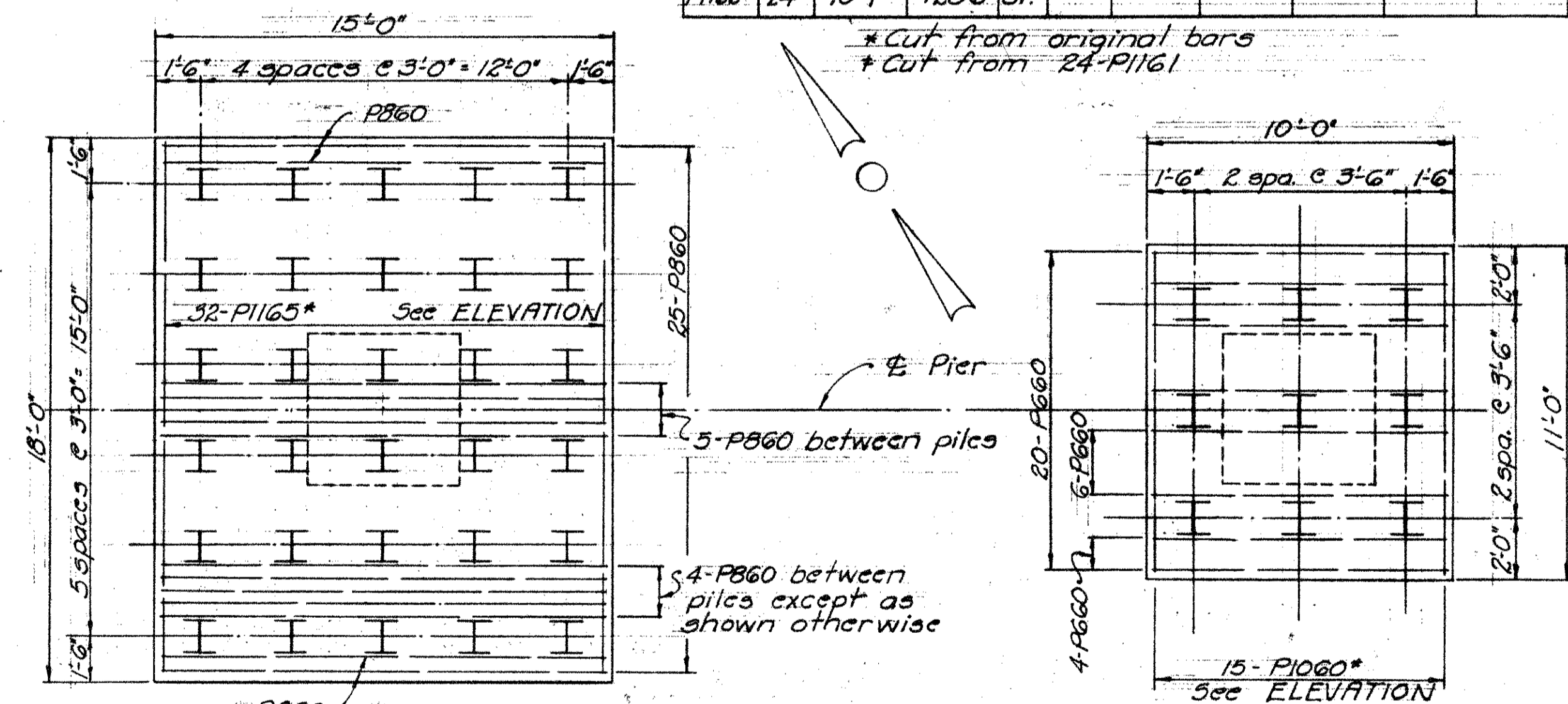
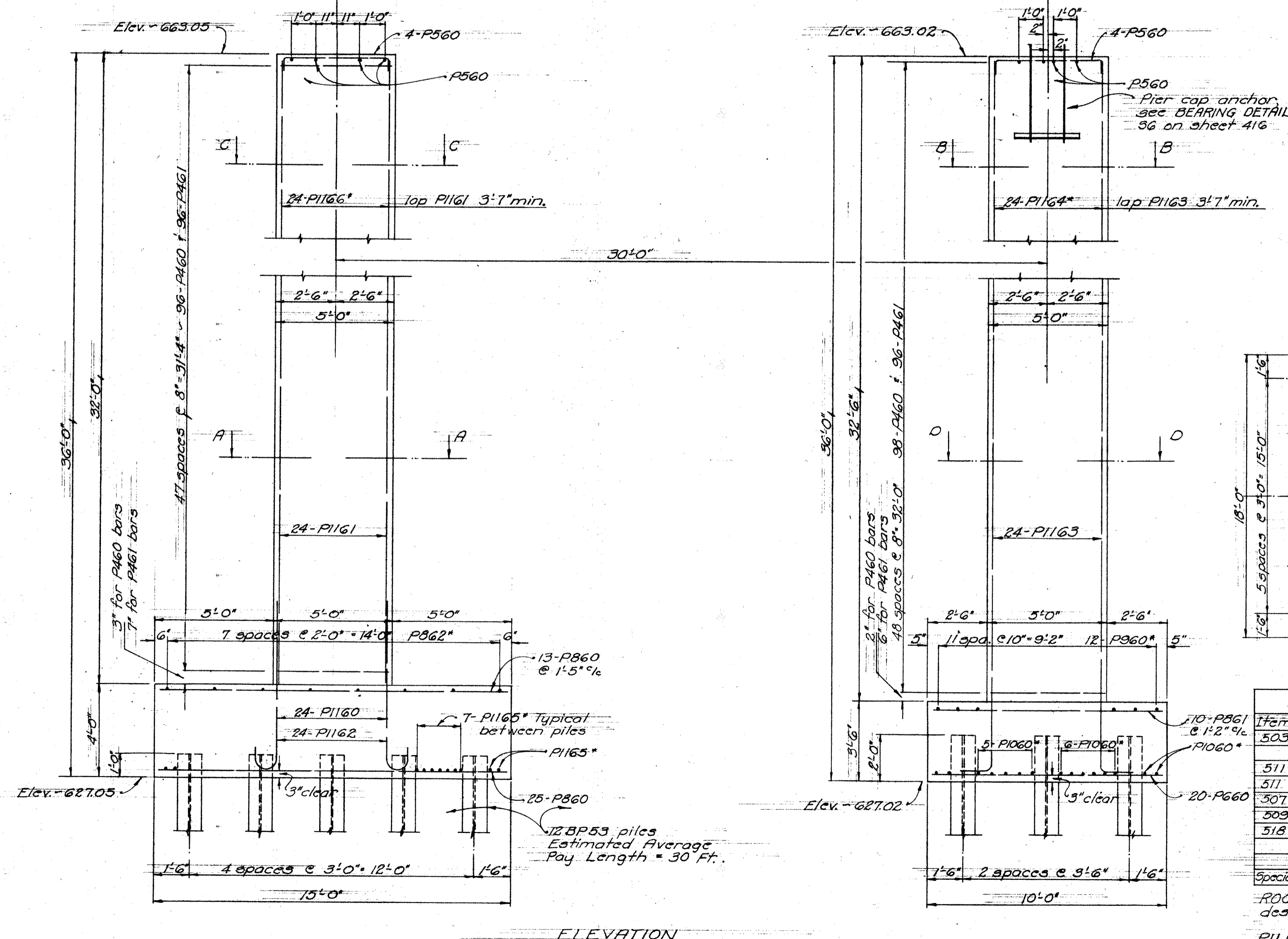
|          |       |        |         |                           |         |
|----------|-------|--------|---------|---------------------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE             | REVISED |
| PME      | OAF   |        | PME     | JHO<br>4-15-65<br>8/14/65 |         |



Refer to sheet 430

| REINFORCING STEEL LIST |        |        |      |      |                   |       |        |       |       |
|------------------------|--------|--------|------|------|-------------------|-------|--------|-------|-------|
| Mark No.               | Length | Weight | Sha  | Type | BENT BAR SCHEDULE |       |        |       |       |
|                        |        |        |      |      | a                 | b     | c      | d     | e     |
| P460                   | 194    | 10'-6" | 1361 | Bt.  | 1                 | 4'-8" | 3'-0"  |       |       |
| P461                   | 192    | 8'-9"  | 1122 | Bt.  | 26                | 2'-3" | 1'-7"  | 1'-5" | 1'-7" |
| P560                   | 16     | 5'-4"  | 89   | Bt.  | 1                 | 4'-7" | 0'-6"  |       |       |
| P660                   | 20     | 9'-8"  | 290  | St.  |                   |       |        |       |       |
| P860                   | 38     | 14'-8" | 1488 | St.  |                   |       |        |       |       |
| P861                   | 10     | 9'-8"  | 258  | St.  |                   |       |        |       |       |
| P862*                  | 8      | 17'-6" | 374  | St.  |                   |       |        |       |       |
| P960*                  | 12     | 10'-6" | 428  | St.  |                   |       |        |       |       |
| P1060*                 | 15     | 10'-6" | 678  | St.  |                   |       |        |       |       |
| P1160                  | 24     | 9'-0"  | 1148 | Bt.  | 44                | 7'-5" |        |       |       |
| P1161                  | 24     | 25'-3" | 3220 | St.  |                   |       |        |       |       |
| P1162                  | 24     | 26'-1" | 3326 | Bt.  | 18                | 1'-5" | 25'-0" |       |       |
| P1163                  | 24     | 29'-8" | 3783 | Bt.  | 18                | 1'-5" | 28'-7" |       |       |
| P1164*                 | 24     | 10'-4" | 1318 | St.  |                   |       |        |       |       |
| P1165*                 | 32     | 17'-8" | 3004 | St.  |                   |       |        |       |       |
| P1166*                 | 24     | 10'-1" | 1286 | St.  |                   |       |        |       |       |

\* Cut from original bars  
\* Cut from 24-P1161



| ESTIMATED QUANTITIES |        |          |   |        |
|----------------------|--------|----------|---|--------|
| Item                 | Total  | Unit     | Description   | Pier 4 |
| 503                  | 18     | Cu. Yds. | Unclassified Excavation   | 18     |
| 511                  | 60     | Cu. Yds. | Class C Concrete, Piers above Footings  | 60     |
| 511                  | 54     | Cu. Yds. | Class E Concrete, Footings  | 54     |
| 507                  | 1170   | Lin. Ft. | Steel Piles 12 BP53   |        |
| 509                  | 23,173 | Lbs.     | Reinforcing Steel   | 23,173 |
| 518                  | 57     | Lin. Ft. | 8" Standard Pipe Downspouts, Wrought Iron or Hot Dip Galvanized Steel, Including Supports | 57     |
| Special              | 5.6    | Sq. Yds. | Concrete Surface Treatment  | 5.6    |

PROCEDURE: In order to eliminate excessive uplift on the east column during construction, this design requires that deck concrete shall be placed full width.

This sheet supplements sheets 401, 409 and 425, 402 May 5, 1967.

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
DIVISION OF DESIGN AND CONSTRUCTION  
BUREAU OF BRIDGES

PIER NO 4 REVISED  
BRIDGE NO HAM-71-0231

H/E BRIDGE NO 18

|          |       |        |         |          |        |         |
|----------|-------|--------|---------|----------|--------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED | DATE   | REVISED |
| MPB      | MPB   |        | MPB     |          | 5/3/67 |         |

ROCK SURFACE was lower than anticipated for original design therefore this revision was necessary.

PILES shall be driven to firm contact with rock as noted on sheet 401 for the piles of Pier No. 3. Design load is 40 tons per pile.

ELEVATION

FOOTING PLAN (Showing bottom reinforcing)

PIER 4 PLAN

SECTION B-B, C-C and D-D

SECTION A-A

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|               |       |         |             |
|---------------|-------|---------|-------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

410  
460

HAMILTON COUNTY  
HAM-71-2.09

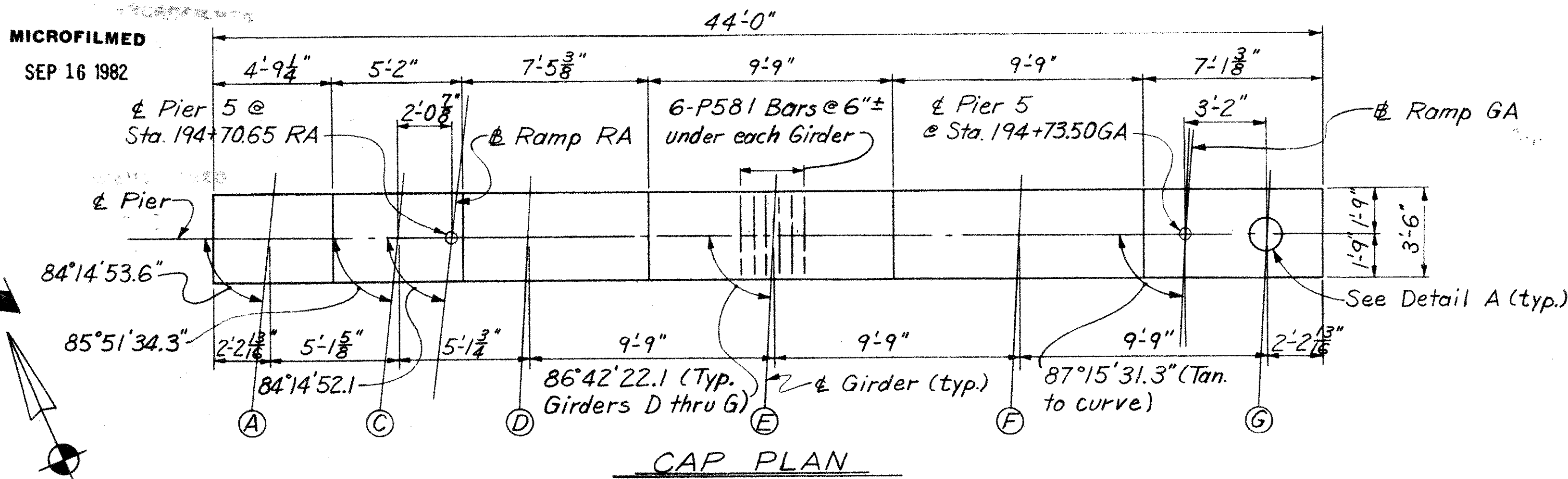
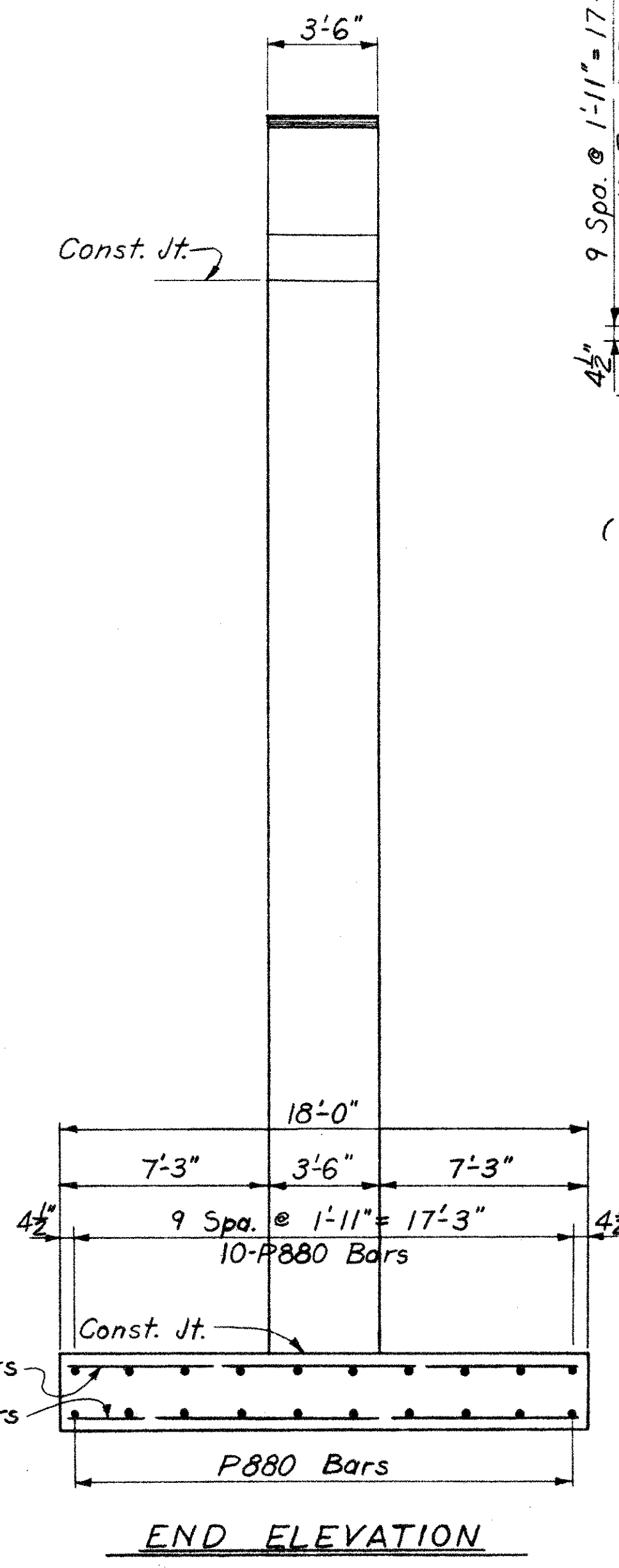
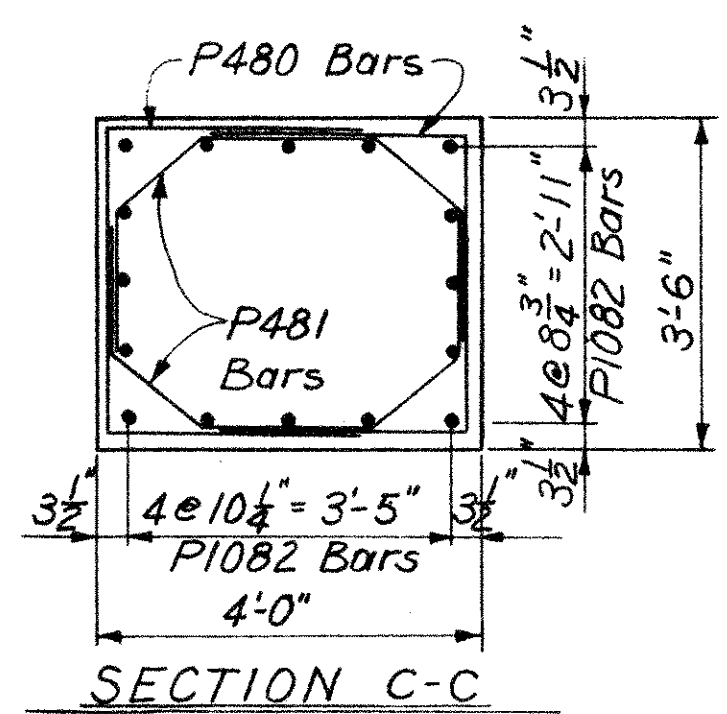
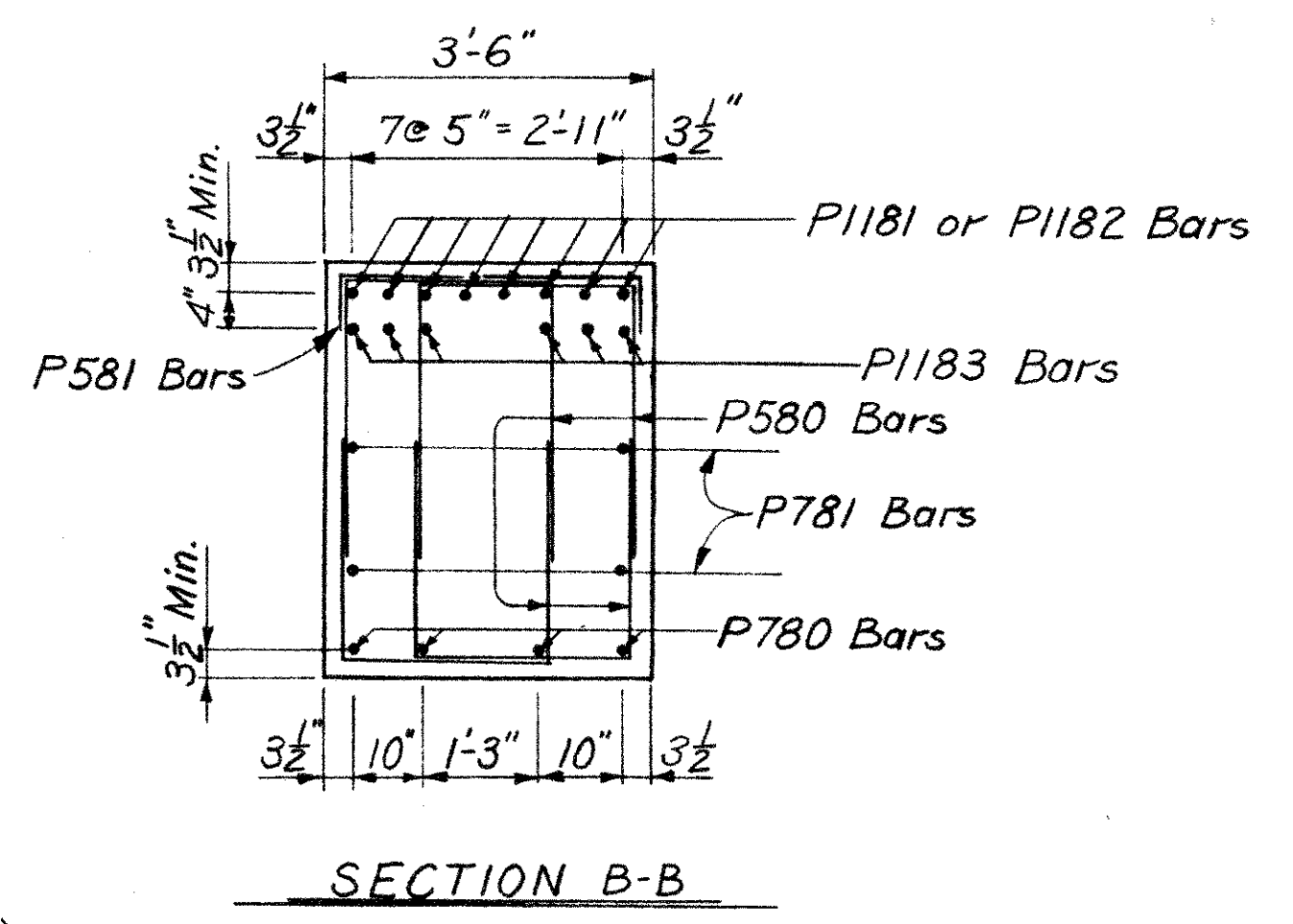
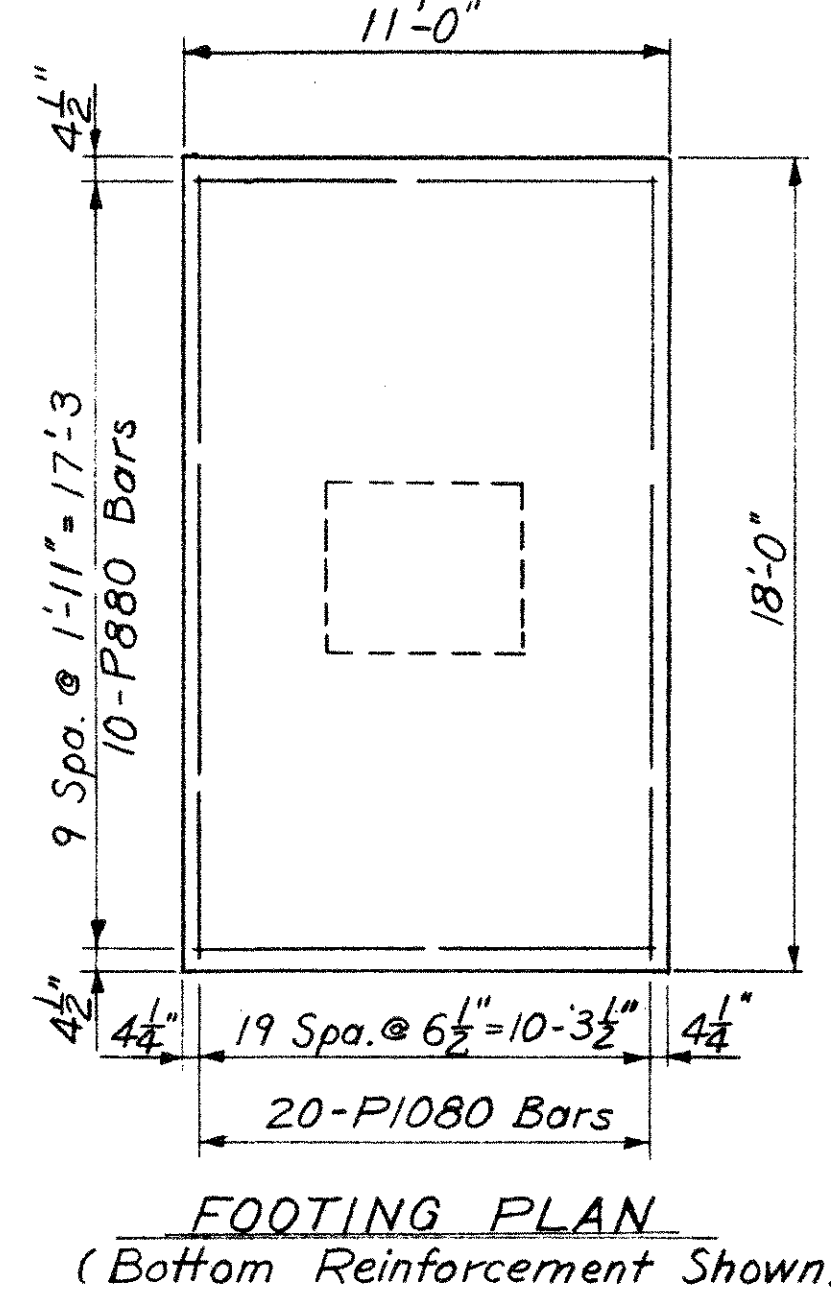
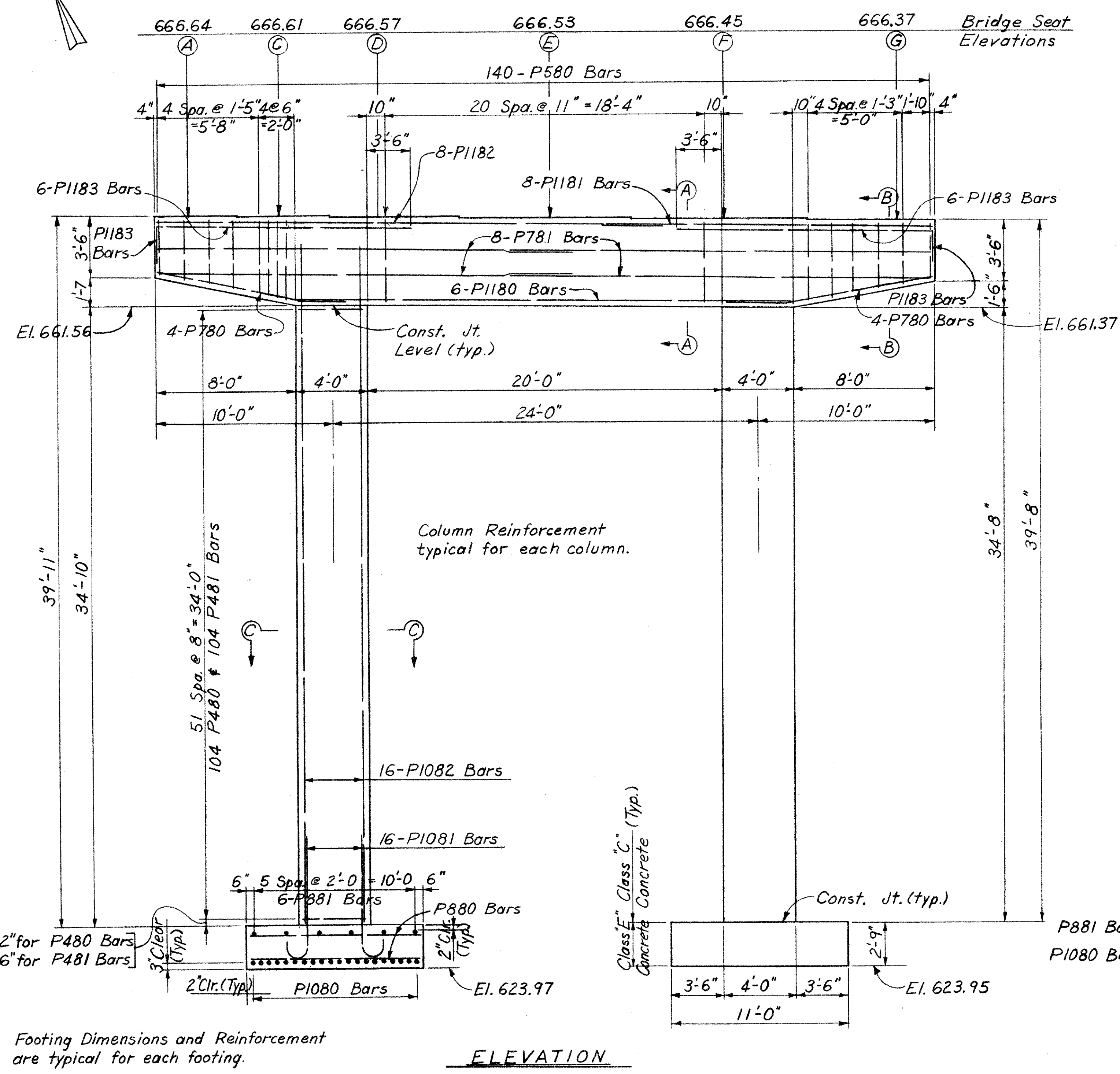
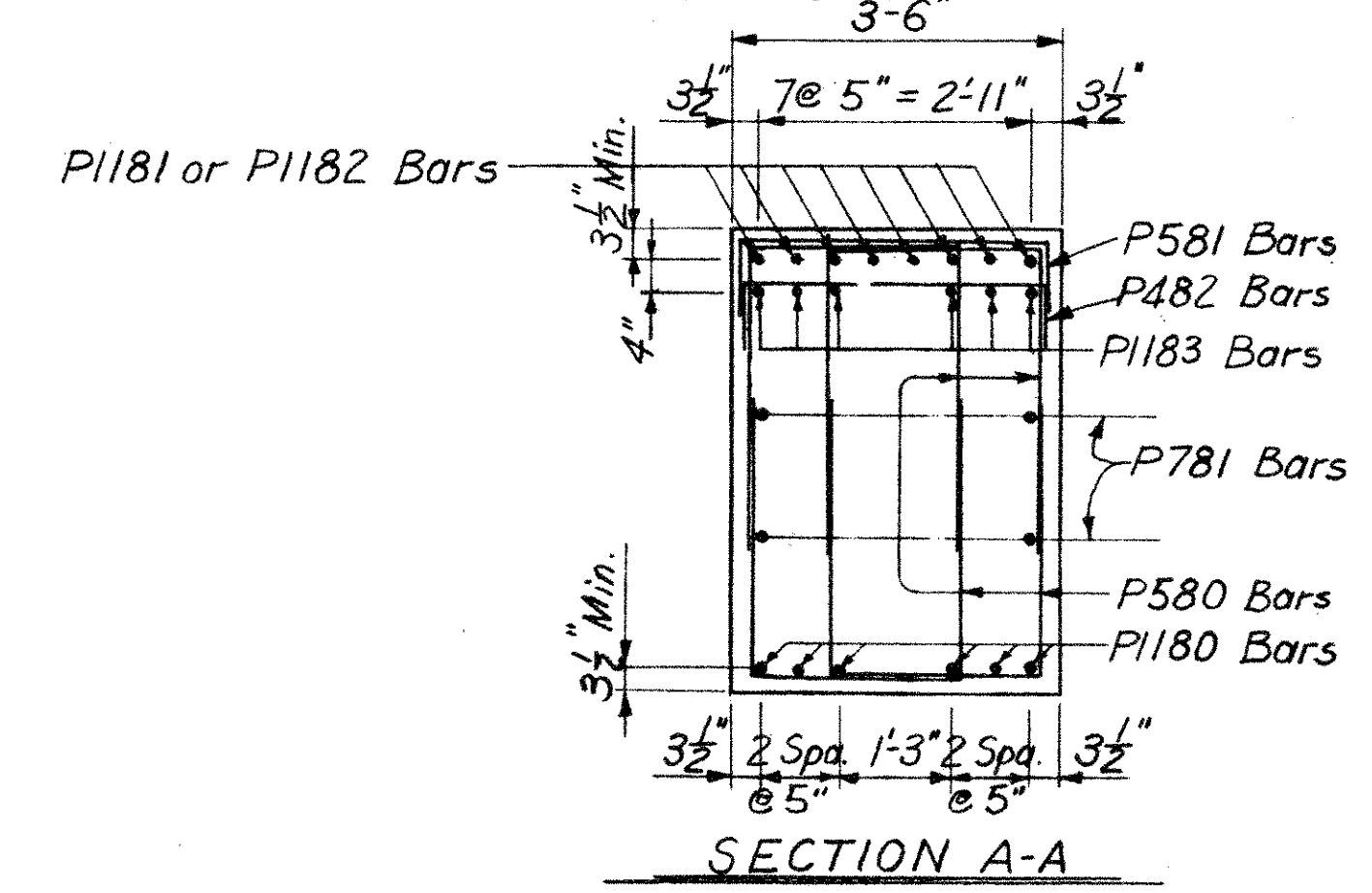
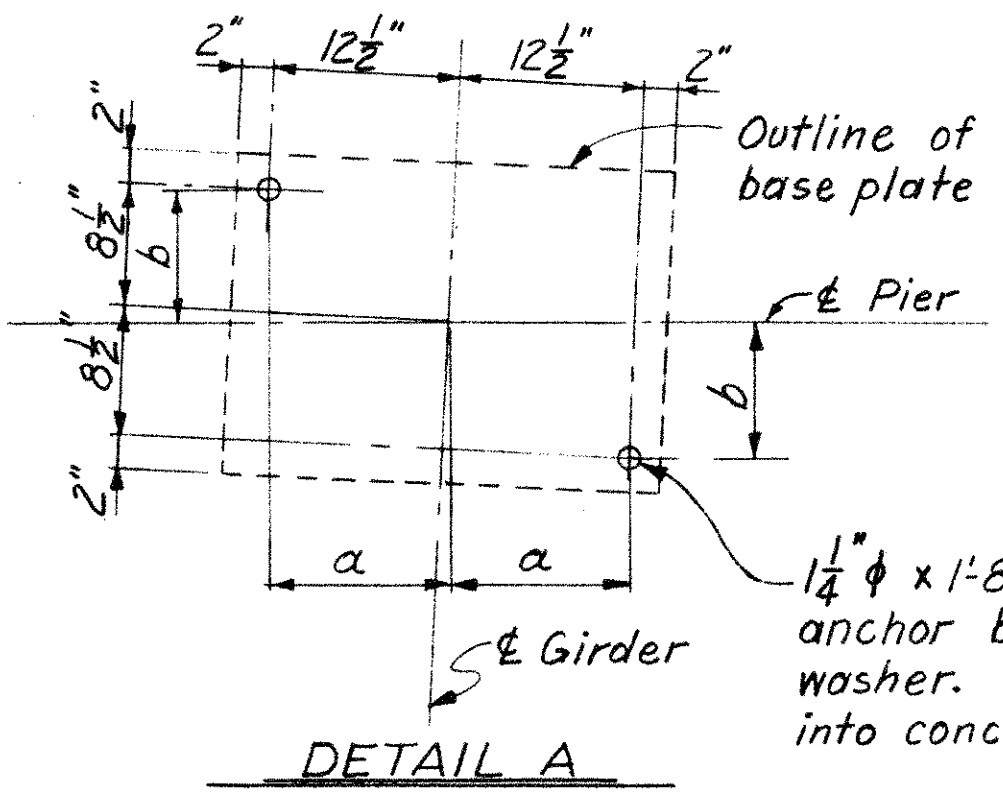


TABLE OF DIMENSIONS

| Girder | Dimensions |         |
|--------|------------|---------|
|        | a          | b       |
| A      | 11 3/8"    | 9 3/4"  |
| C      | 11 1/8"    | 9 3/8"  |
| D      | 12"        | 9 3/16" |
| E      | "          | "       |
| F      | "          | "       |
| G      | 12"        | 9 3/16" |



Note:  
For connection of downspouts to Pier, see Sht. No. 424.  
Special care shall be taken in placing steel in the cap so that it will not interfere with the drilling of anchor bolt holes.

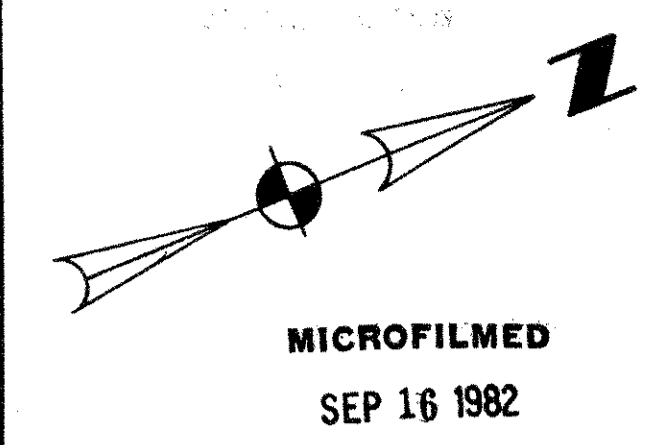
HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

PIER 5  
BRIDGE No. HAM-71-0231

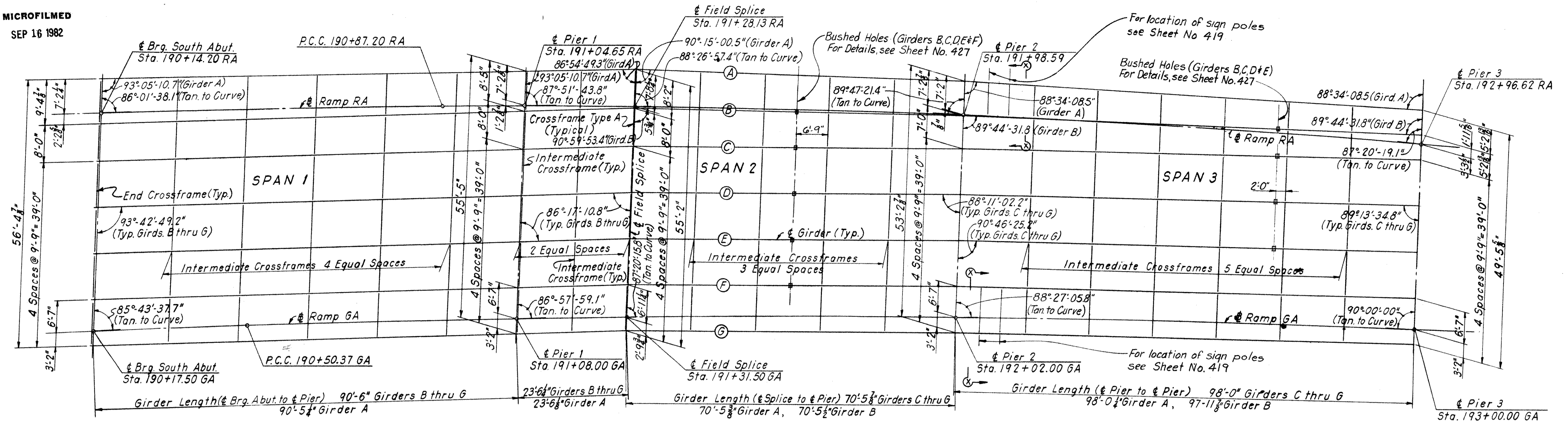
H&E BRIDGE No. 18

|          |       |        |         |                |         |
|----------|-------|--------|---------|----------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE  | REVISED |
| PME      | OAF   |        | PME     | JHO<br>8/11/65 |         |

Footing Dimensions and Reinforcement are typical for each footing.



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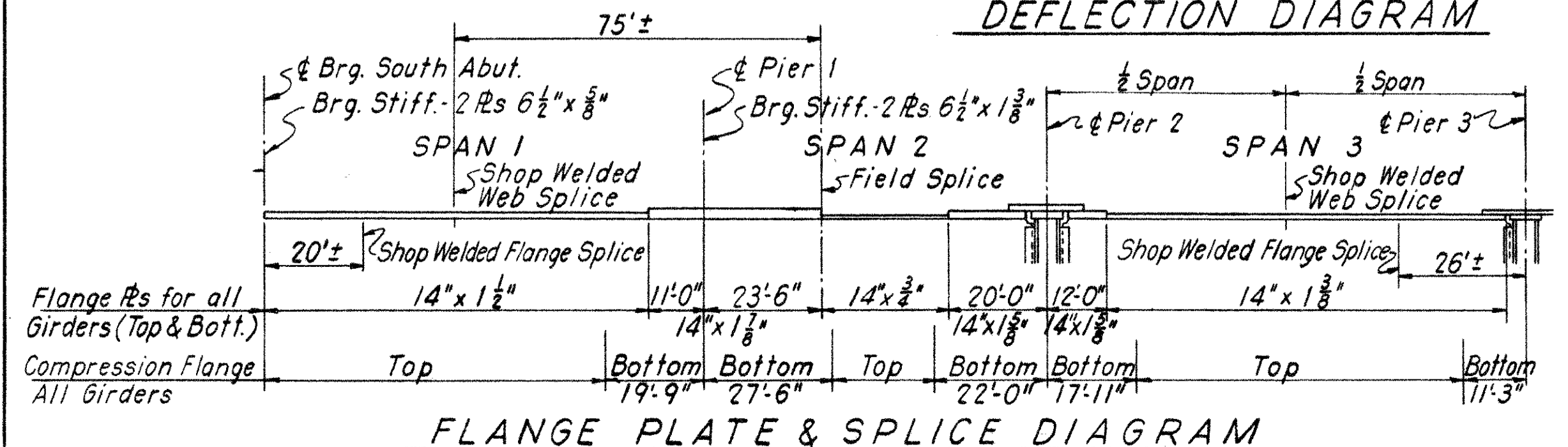
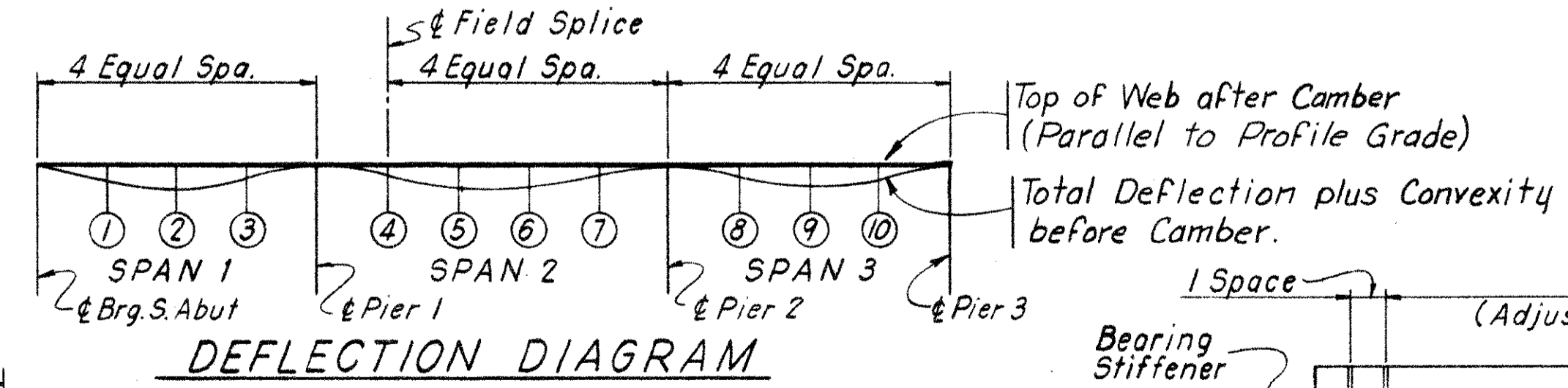


PART FRAMING PLAN  
(Spans 1 thru 3)

| Girder                                | DEFLECTION AND CAMBER |       |       |   |       |       |       |       |       |      |       |       |       |       |       |       |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |       |       |       |       |       |   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |       |       |   |       |       |   |       |       |   |       |       |   |
|---------------------------------------|-----------------------|-------|-------|---|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|---|-------|-------|---|-------|-------|---|-------|-------|---|
|                                       | A                     |       |       |   |       |       |       |       |       |      | B     |       |       |       |       |       |       |      |       |       | C     |       |       |       |       |       |       |       |       |       | D     |       |       |       |       |       |       |      |       |       | E     |       |       |   |       |       |       |       |       |       | F     |       |       |       |       |       |       |       |       |       | G     |       |       |       |       |       |       |      |       |       |   |       |       |   |       |       |   |       |       |   |
| Span                                  | 1                     | 2     | 3     | 4 | 5     | 6     | 7     | 8     | 9     | 10   | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8    | 9     | 10    | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8    | 9     | 10    | 1     | 2     | 3     | 4 | 5     | 6     | 7     | 8     | 9     | 10    | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8    | 9     | 10    |   |       |       |   |       |       |   |       |       |   |
| Location                              | 1                     | 2     | 3     | 4 | 5     | 6     | 7     | 8     | 9     | 10   | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8    | 9     | 10    | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8    | 9     | 10    | 1     | 2     | 3     | 4 | 5     | 6     | 7     | 8     | 9     | 10    | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8    | 9     | 10    |   |       |       |   |       |       |   |       |       |   |
| Deflection due to weight of steel     | 1/8"                  | 1/8"  | 1/16" | 0 | 1/8"  | 1/8"  | 1/16" | 1/4"  | 3/8"  | 1/4" | 1/8"  | 1/8"  | 1/16" | 0     | 1/8"  | 1/8"  | 1/16" | 1/4" | 3/8"  | 1/4"  | 1/8"  | 1/8"  | 1/16" | 0     | 1/8"  | 1/8"  | 1/16" | 1/4"  | 3/8"  | 1/4"  | 1/8"  | 1/8"  | 1/16" | 0     | 1/8"  | 1/8"  | 1/16" | 1/4" | 3/8"  | 1/4"  | 1/8"  | 1/8"  | 1/16" | 0 | 1/8"  | 1/8"  | 1/16" | 1/4"  | 3/8"  | 1/4"  | 1/8"  | 1/8"  | 1/16" | 0     | 1/8"  | 1/8"  | 1/16" | 1/4"  | 3/8"  | 1/4"  | 1/8"  | 1/8"  | 1/16" | 0     | 1/8"  | 1/8"  | 1/16" | 1/4" | 3/8"  | 1/4"  |   |       |       |   |       |       |   |       |       |   |
| Deflection due to remaining dead load | 3/8"                  | 7/16" | 1/4"  | 0 | 1/8"  | 1/16" | 0     | 3/16" | 3/8"  | 1/4" | 1/16" | 1/16" | 0     | 3/16" | 3/8"  | 1/4"  | 3/8"  | 1/2" | 1/4"  | 0     | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 0    | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 0 | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 0    | 1/16" | 1/16" | 0 | 1/16" | 1/16" | 0 | 1/16" | 1/16" | 0 | 1/16" | 1/16" | 0 |
| Convexity (See note below)            | 1/16"                 | 0     | 0     | 0 | 0     | 0     | 0     | 0     | 0     | 0    | 1/16" | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 1/16" | 0    | 1/16" | 1/16" | 1/16" | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 1/16" | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 1/16" | 0    | 1/16" | 1/16" | 1/16" | 1/16" | 1/16" | 0 | 1/16" | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 1/16" | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 1/16" | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 1/16" | 0    | 1/16" | 1/16" |   |       |       |   |       |       |   |       |       |   |
| Required Shop Camber                  | 9/16"                 | 9/16" | 5/16" | 0 | 3/16" | 1/16" | 3/8"  | 1/16" | 7/16" | 1/2" | 1/16" | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 1/16" | 0    | 1/16" | 1/16" | 1/16" | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 1/16" | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 1/16" | 0    | 1/16" | 1/16" | 1/16" | 1/16" | 1/16" | 0 | 1/16" | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 1/16" | 1/16" | 1/16" | 0     | 1/16" | 1/16" | 1/16" | 0     | 1/16" | 1/16" |       |       |       |       |       |       |       |      |       |       |   |       |       |   |       |       |   |       |       |   |

NOTE:  
For General Notes see Sheet No. 401 & Typical Drawing No. 427  
For Girder Elevation see Typical Drawing No. 427  
For Crossframe Details see Sheet 2 of Standard Drawing SD-1-63, Typical Drawing No. 427 & Sheet No. 417  
See Typical Drawing No. 427 for Intermediate Stiffener Details.  
Crossframes shall be spaced to divide spans in equal spaces as indicated on Framing Plan.  
For Section X-X see Sheet No. 412

NOTE:  
Camber girders by cutting webs to a smooth curve.  
Convexity includes variations due to superelevation, horizontal and vertical curvature.



| Span   | Intermediate Stiffeners (6" x 3/8" R) |             |             |             |             |
|--------|---------------------------------------|-------------|-------------|-------------|-------------|
|        | 1 Space                               | 2 Spaces    | 3 Spaces    | 4 Spaces    | 5 Spaces    |
| SPAN 1 | 42" Spacing                           | 55" Spacing | 57" Spacing | 44" Spacing | 37" Spacing |
| SPAN 2 | 39" Spacing                           | 49" Spacing | 62" Spacing | 49" Spacing | 39" Spacing |
| SPAN 3 | 39" Spacing                           | 46" Spacing | 62" Spacing | 48" Spacing | 39" Spacing |

MAXIMUM INTERMEDIATE STIFFENER SPACING  
(See Flange Plate and Splice Diagram for compression flange location)

Work this Sheet with Sheets No. 412 thru 417

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**STRUCTURAL STEEL DETAILS**  
BRIDGE No. HAM-71-0231

H & E BRIDGE No. 18

|          |         |        |         |               |         |
|----------|---------|--------|---------|---------------|---------|
| DESIGNED | DRAWN   | TRACED | CHECKED | REVIEWED DATE | REVISED |
| OAF      | RLR     |        | OAF     | JHO           |         |
|          | 12/1/64 |        | 4-19-65 | 8/11/65       |         |



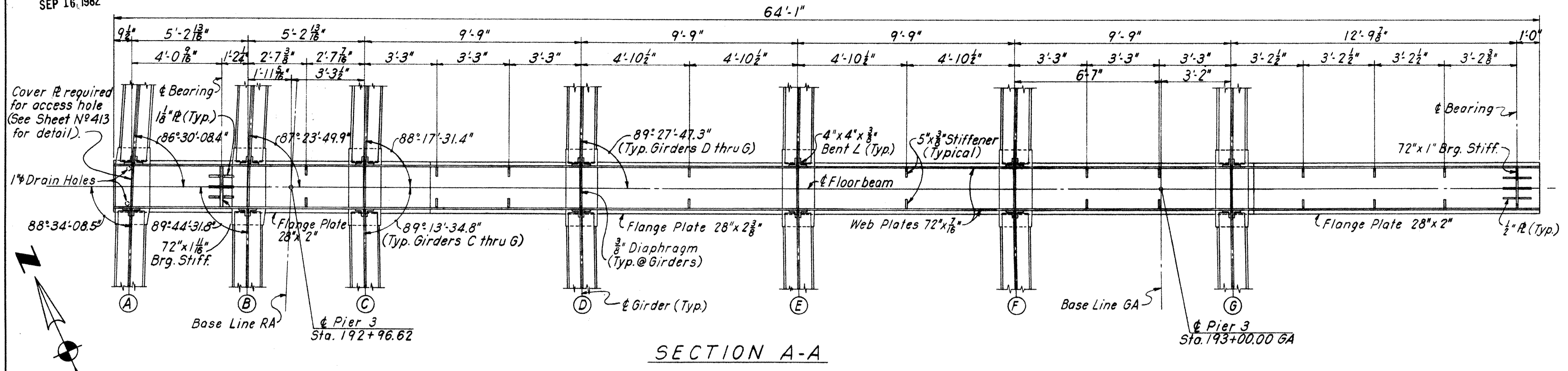


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SEP 16, 1982

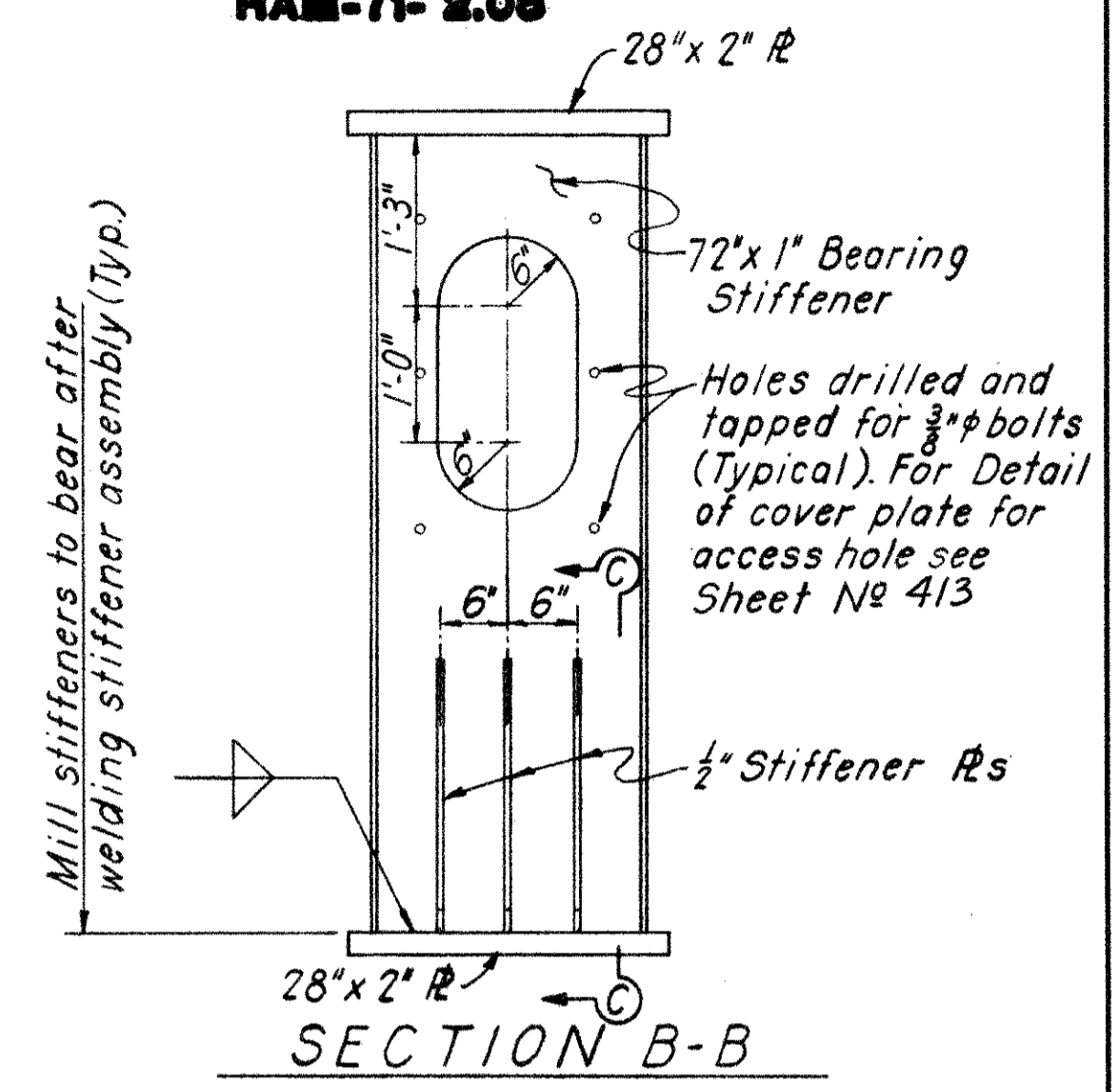
|               |       |         |             |
|---------------|-------|---------|-------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

414  
460

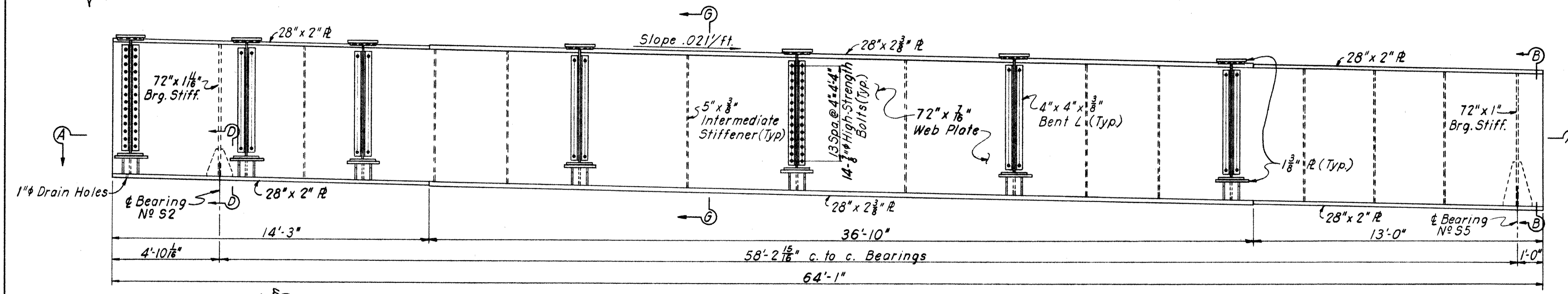
HAMILTON COUNTY  
HAM-71-2.08



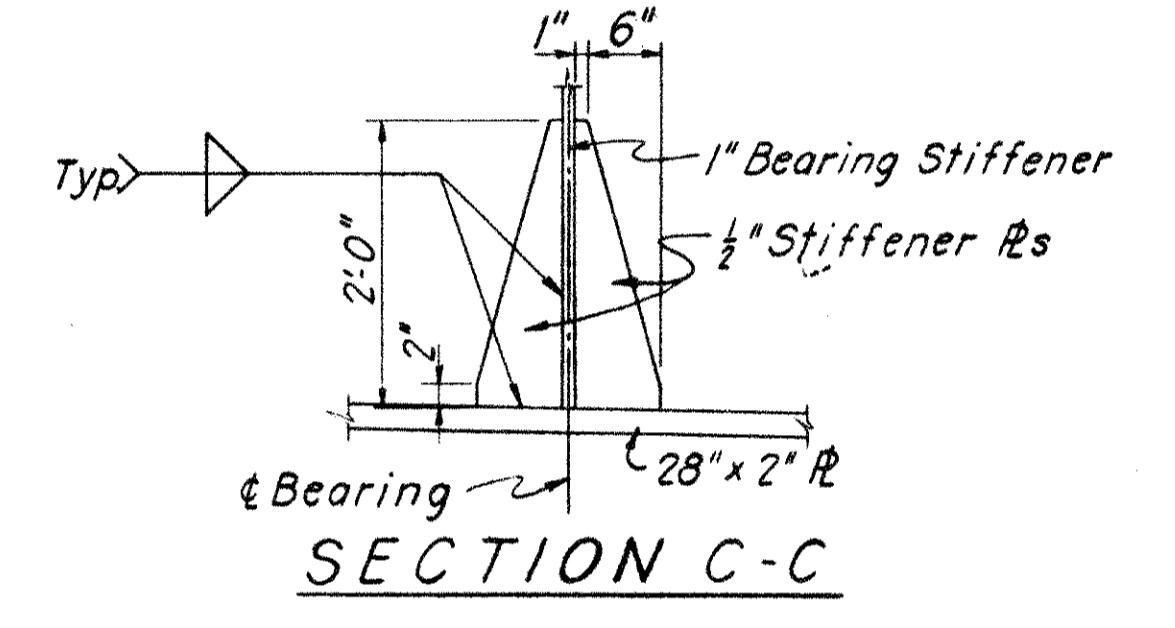
SECTION A-A



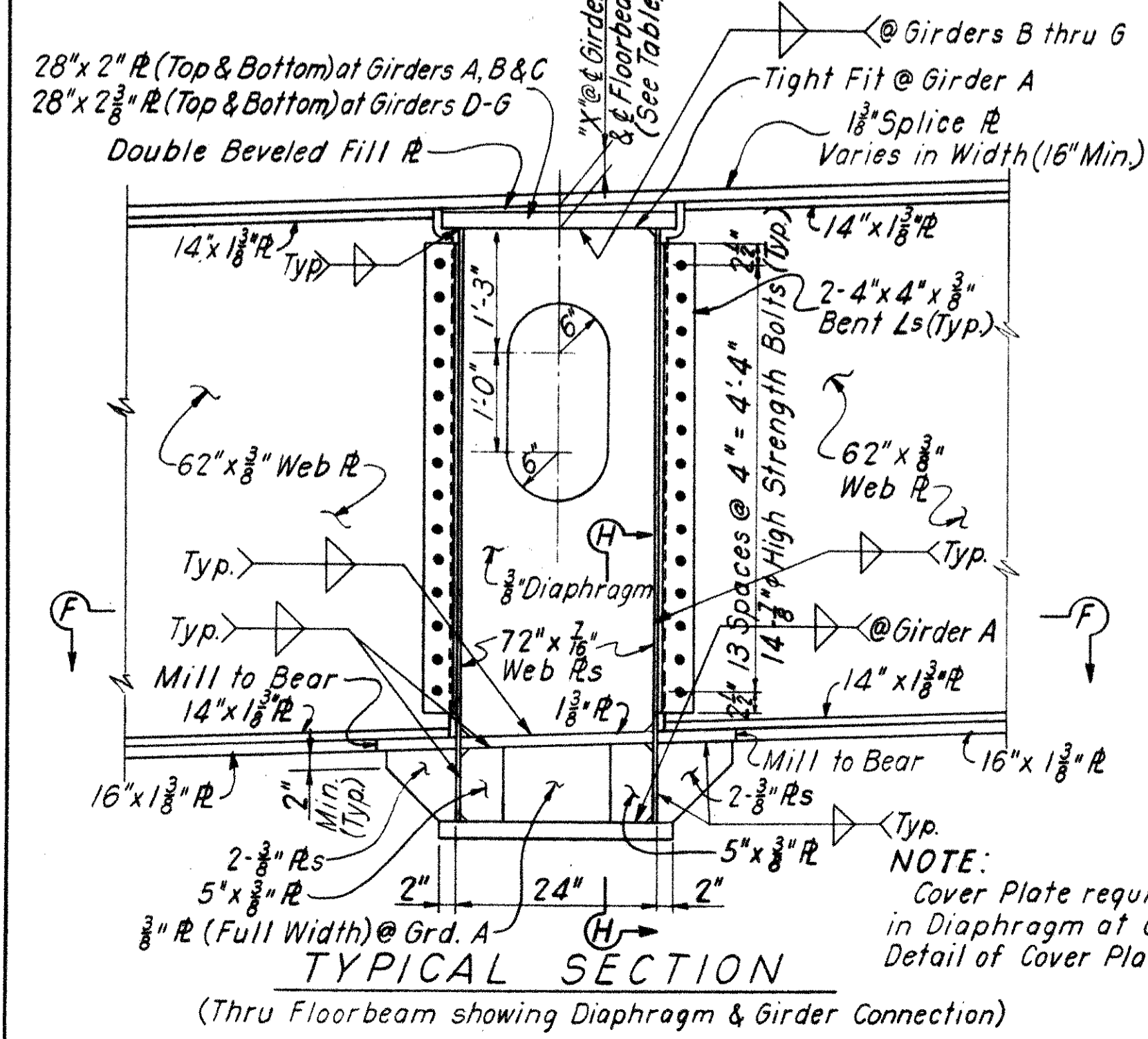
SECTION B-B



ELEVATION  
FLOORBEAM AT PIER 3



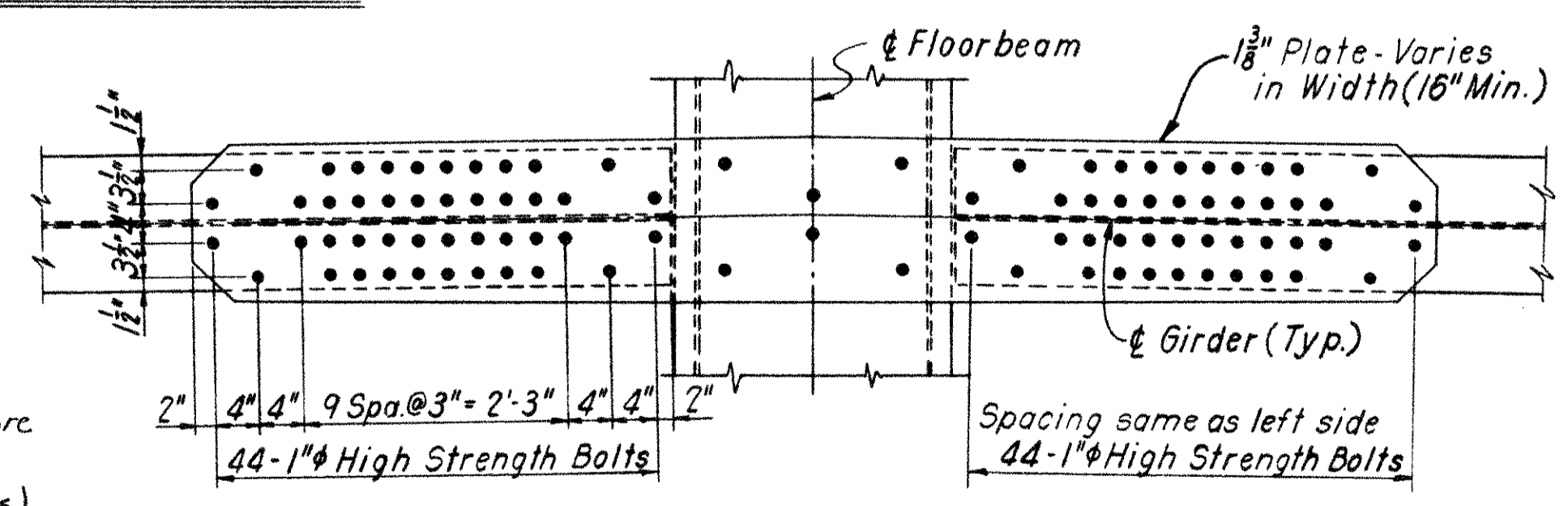
SECTION C-C



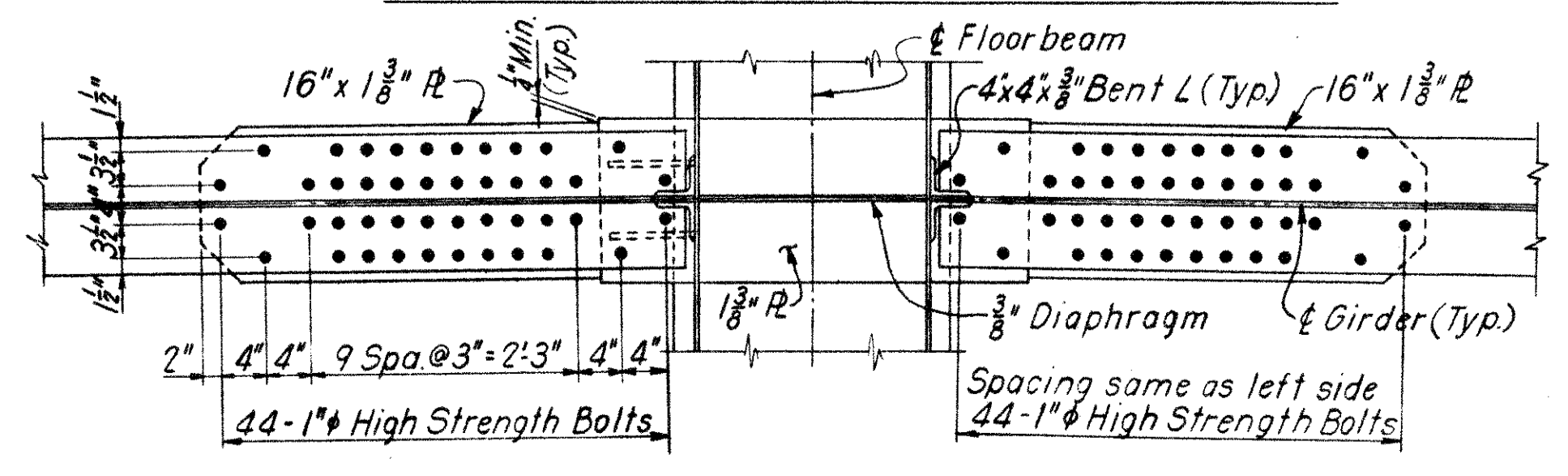
TYPICAL SECTION

| Girder | Dimension "x" |
|--------|---------------|
| A      | 3 3/8"        |
| B      | 3 1/2"        |
| C      | 3 3/8"        |
| D      | 3 1/8"        |
| E      | 3 1/2"        |
| F      | 3 1/8"        |
| G      | 3 1/2"        |

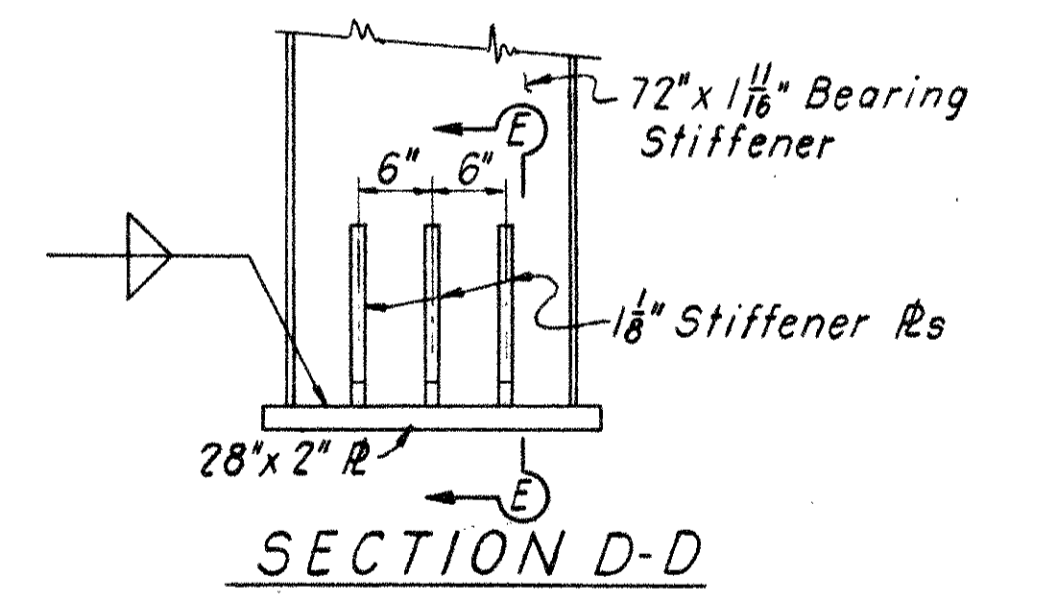
Note: Milled ends of compression splice on bottom flanges of girders shall be brought to full bearing against milled ends of pier girder brackets before bolts are tightened (Typ at all floorbeams)



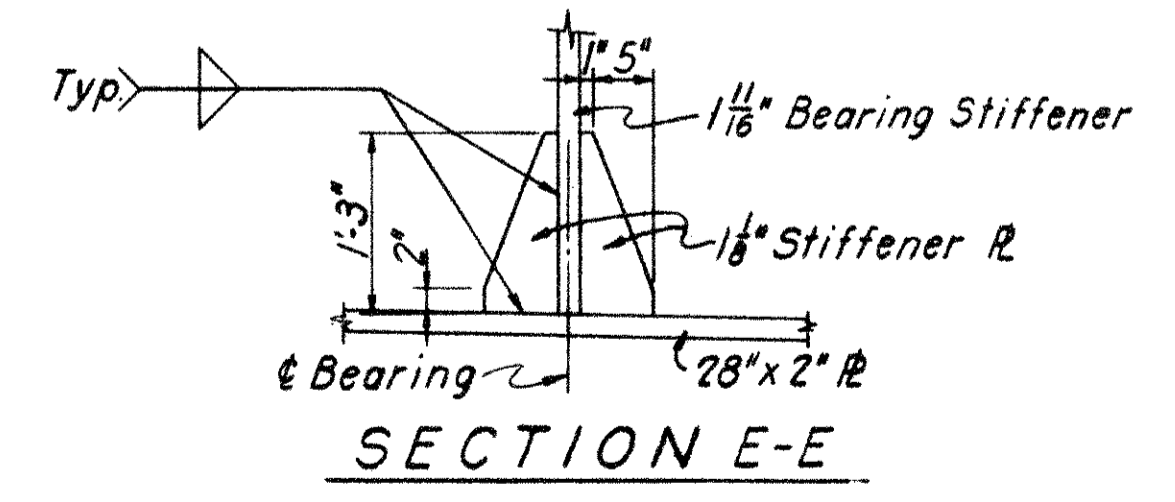
PLAN OF TOP SPLICE PLATE



SECTION F-F



SECTION D-D



SECTION E-E

NOTES:  
For fillet weld sizes see "TABLE OF FILLET WELD SIZES" on Typical Drawing No 427  
For Bearing Details see Sheet No 416  
For Section G-G & Section H-H see Sheet No 413

Work this Sheet with Sheets No 411 thru 413 & 415 thru 417

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS  
BRIDGE No. HAM-71-0231

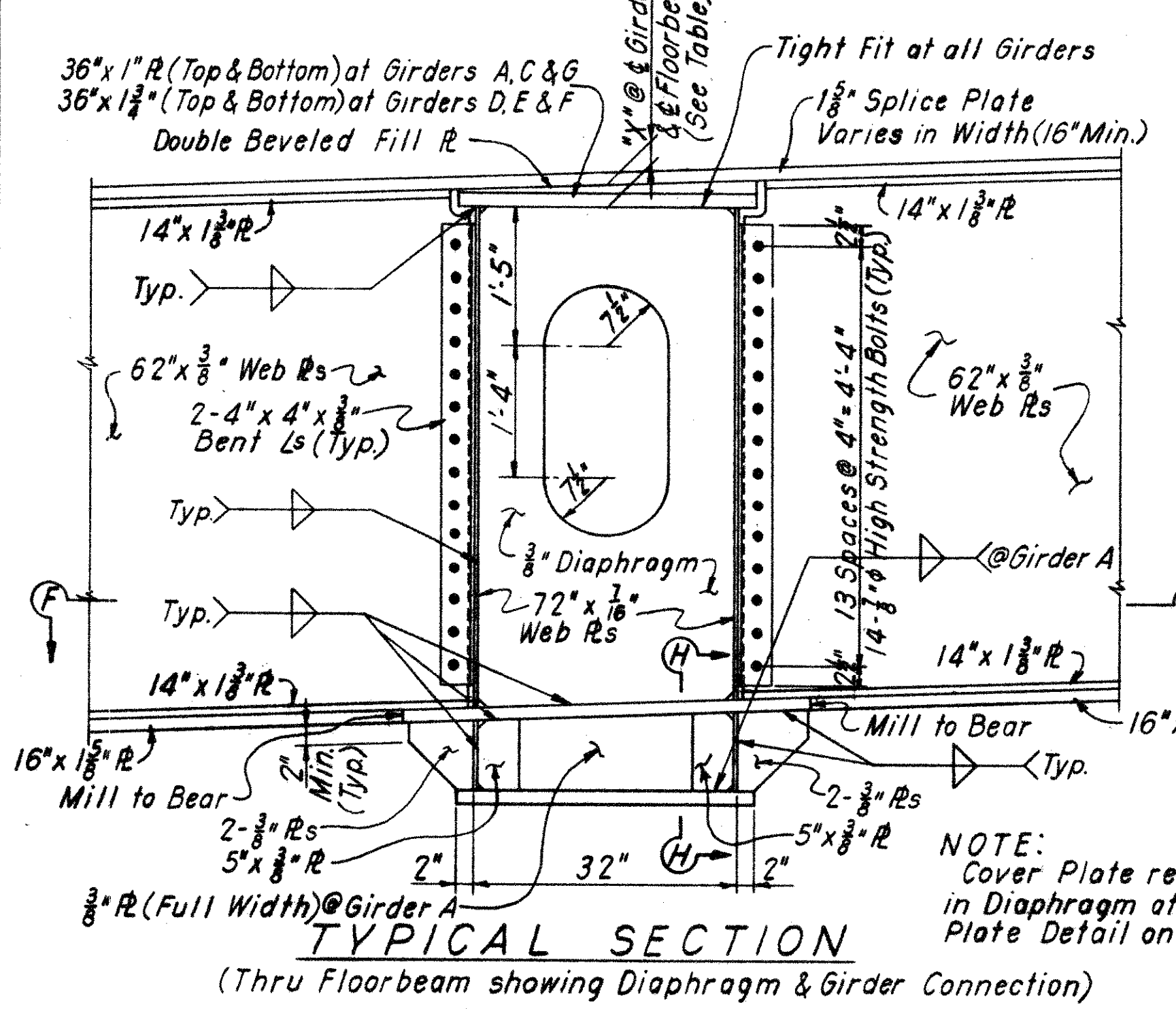
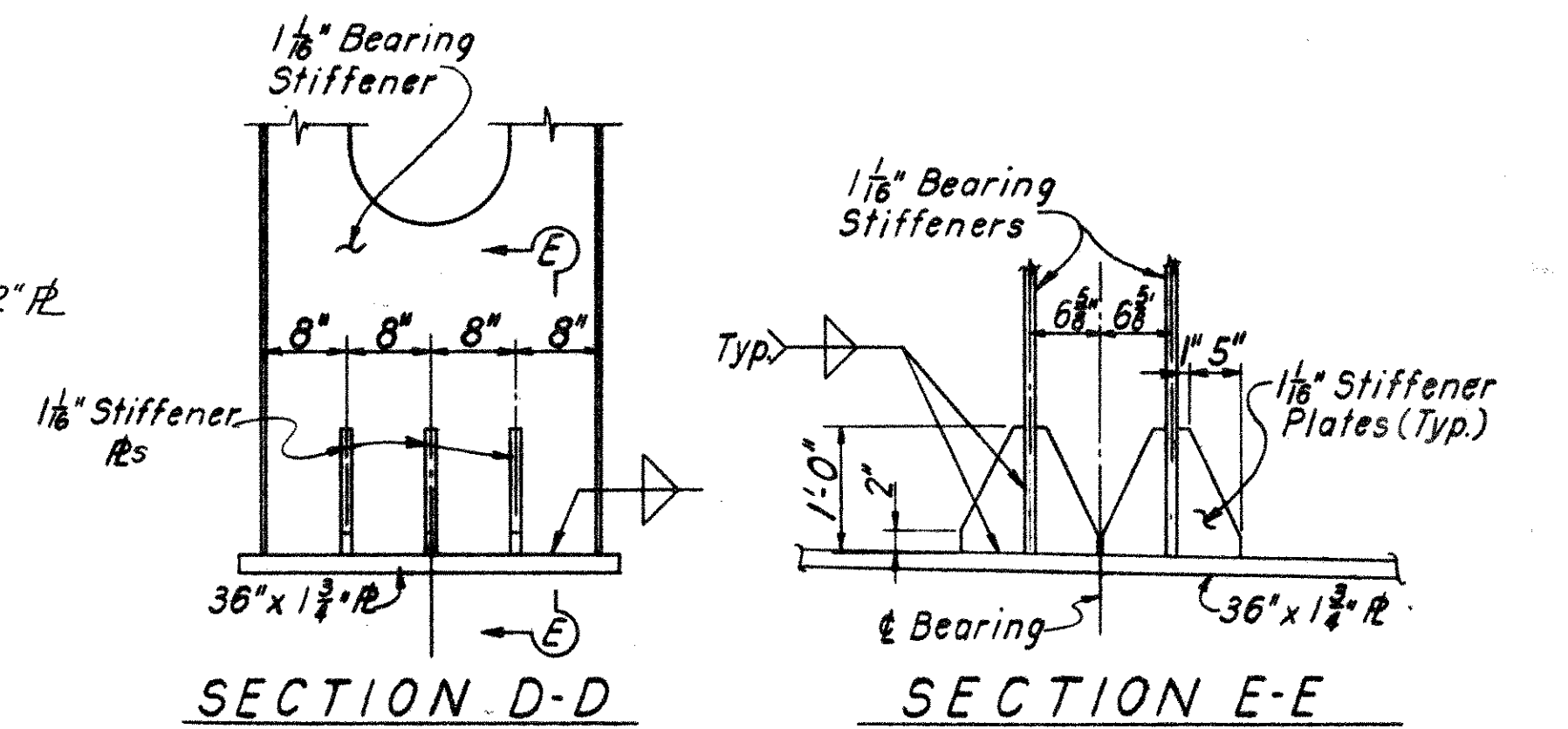
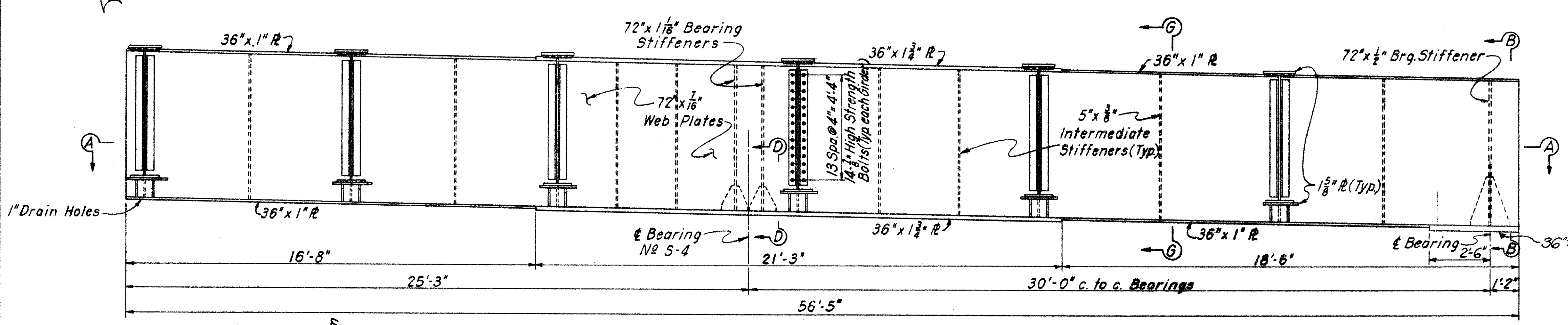
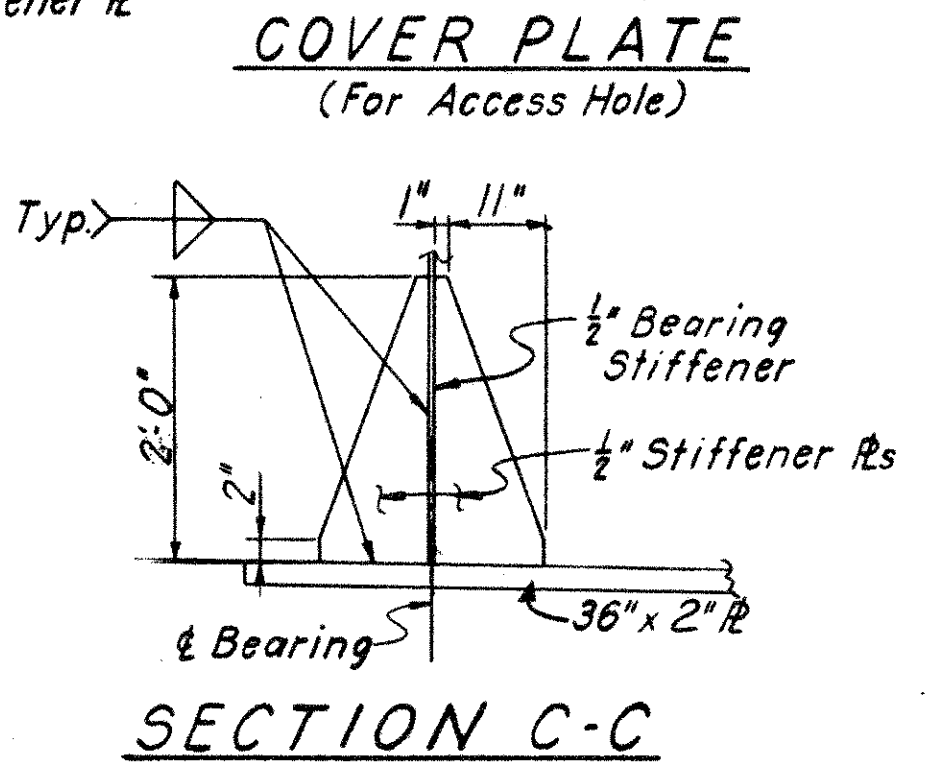
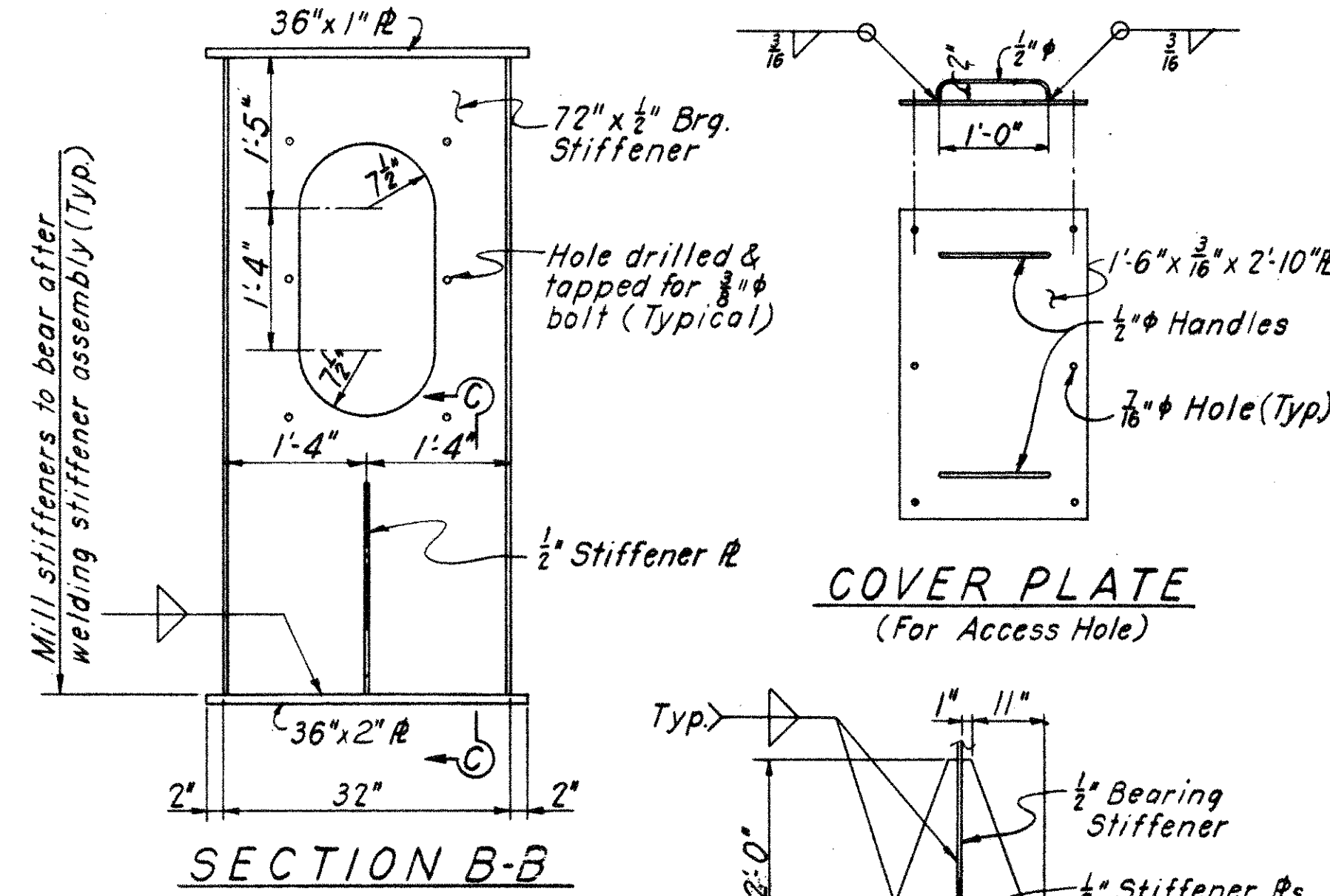
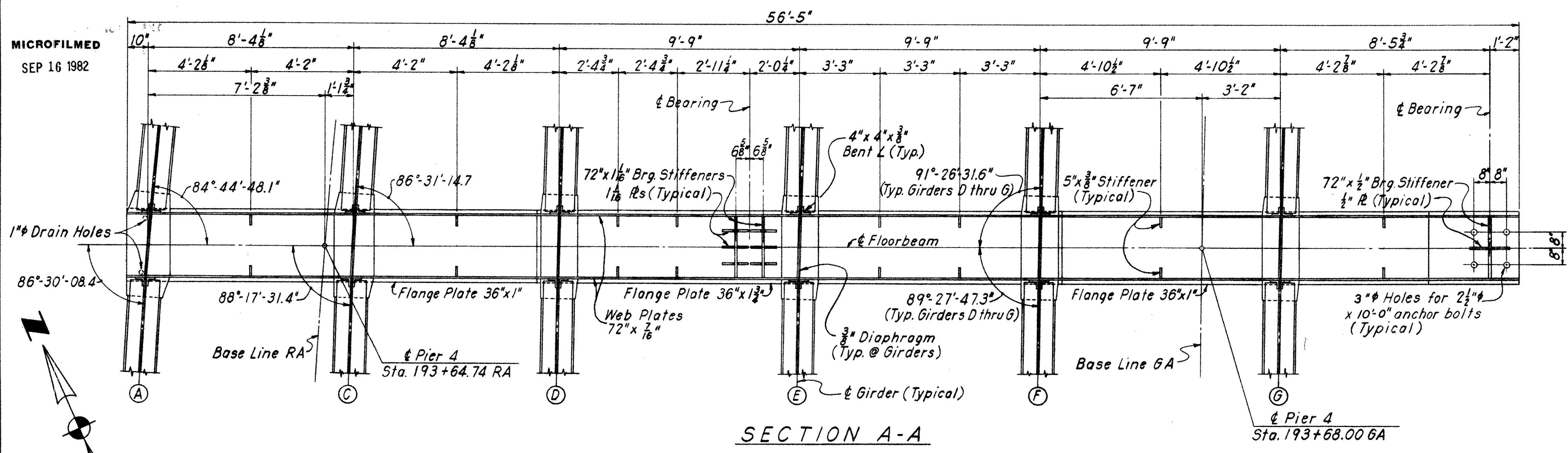
H & E BRIDGE No. 18

|          |       |        |         |               |         |
|----------|-------|--------|---------|---------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
| OAF      | RLR   |        | OAF     | 8/18/65       |         |

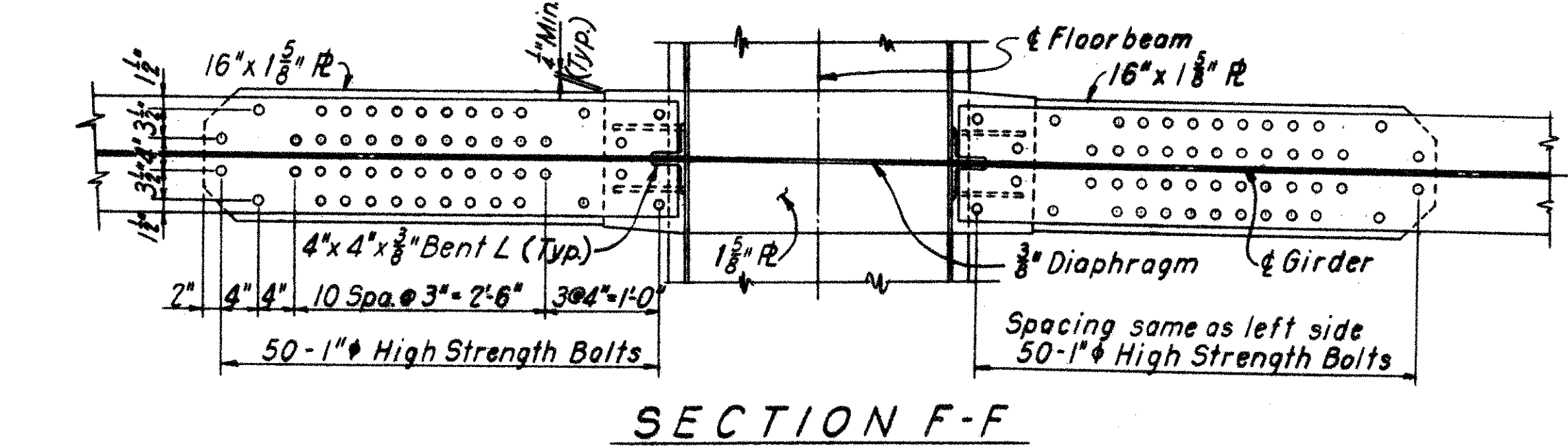
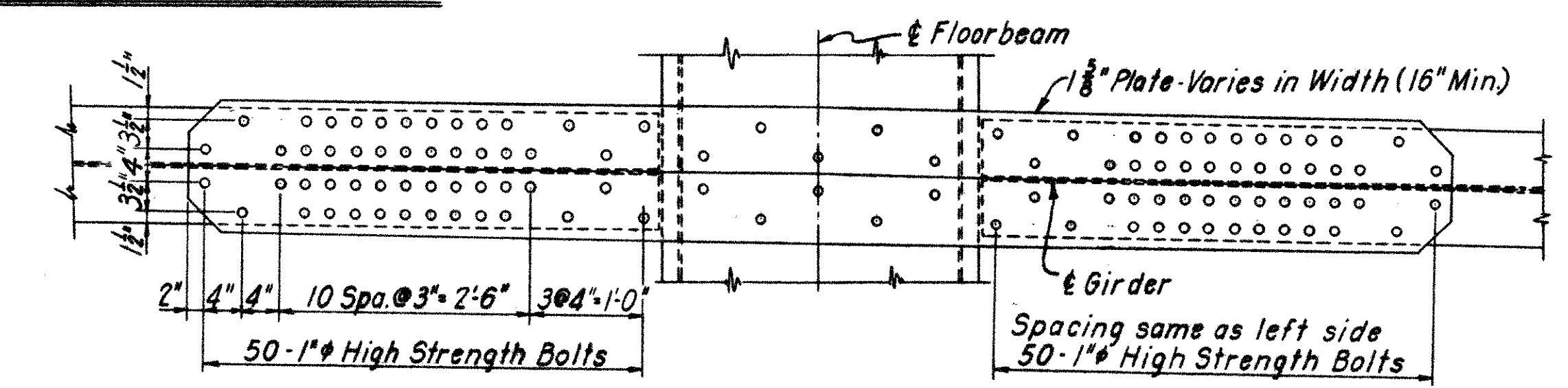


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SEP 16 1982

HAMILTON COUNTY  
HAM-71-2.08



| Girder | Dimension 'X' |
|--------|---------------|
| A      | 3 3/8"        |
| C      | 3 1/2"        |
| D      | 2 1/8"        |
| E      | 2 1/2"        |
| F      | 2 1/4"        |
| G      | 2 1/4"        |



**NOTE**  
For fillet weld sizes see "TABLE OF FILLET WELD SIZES" on Typical Drawing No 427  
For Bearing Details see Sheet No 416  
For Section G-G & Section H-H see Sheet No 413

Work this Sheet with Sheet No 411 thru 414, 416 & 417

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**STRUCTURAL STEEL DETAILS**  
BRIDGE No. HAM-71-0231

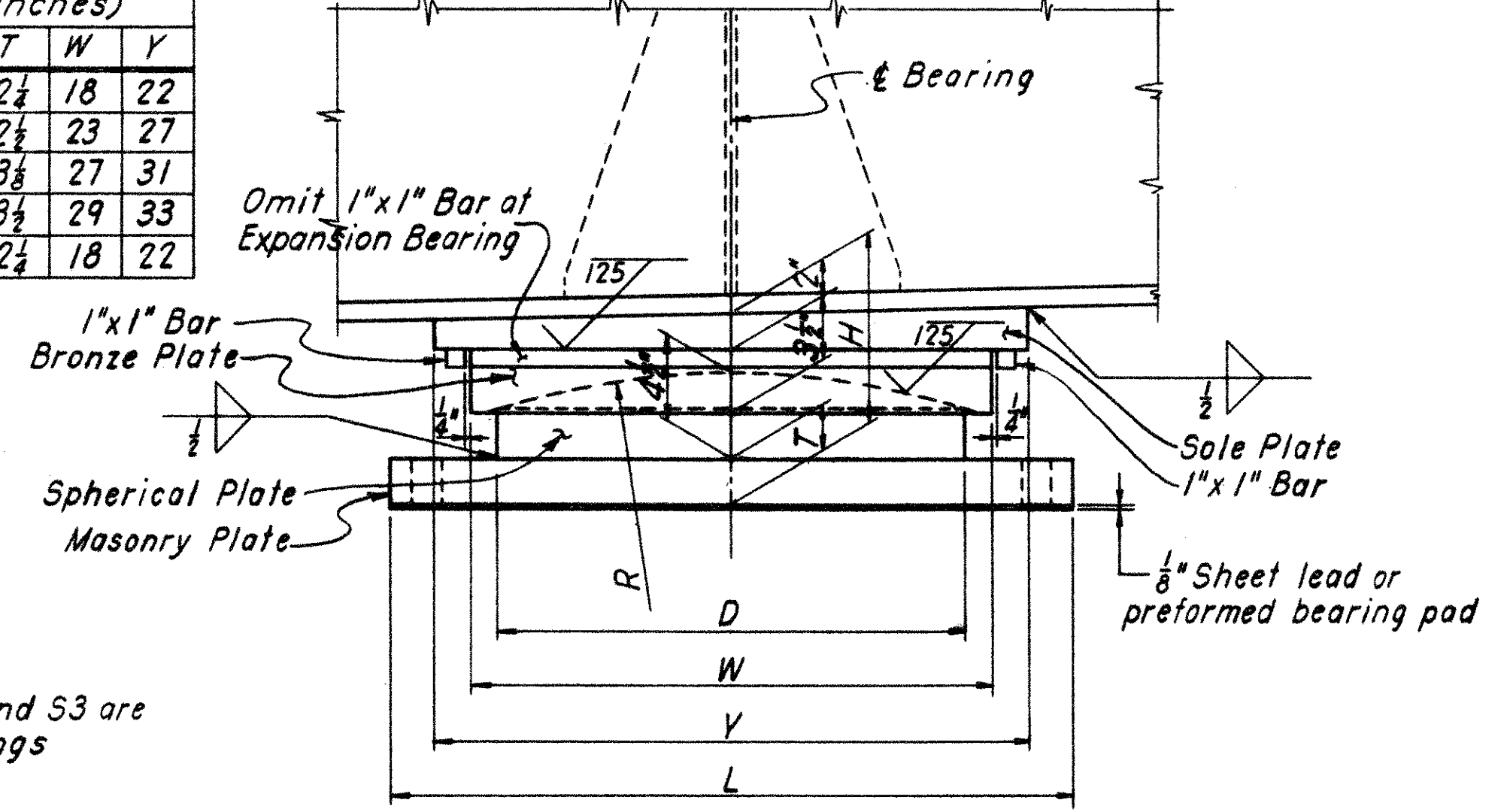
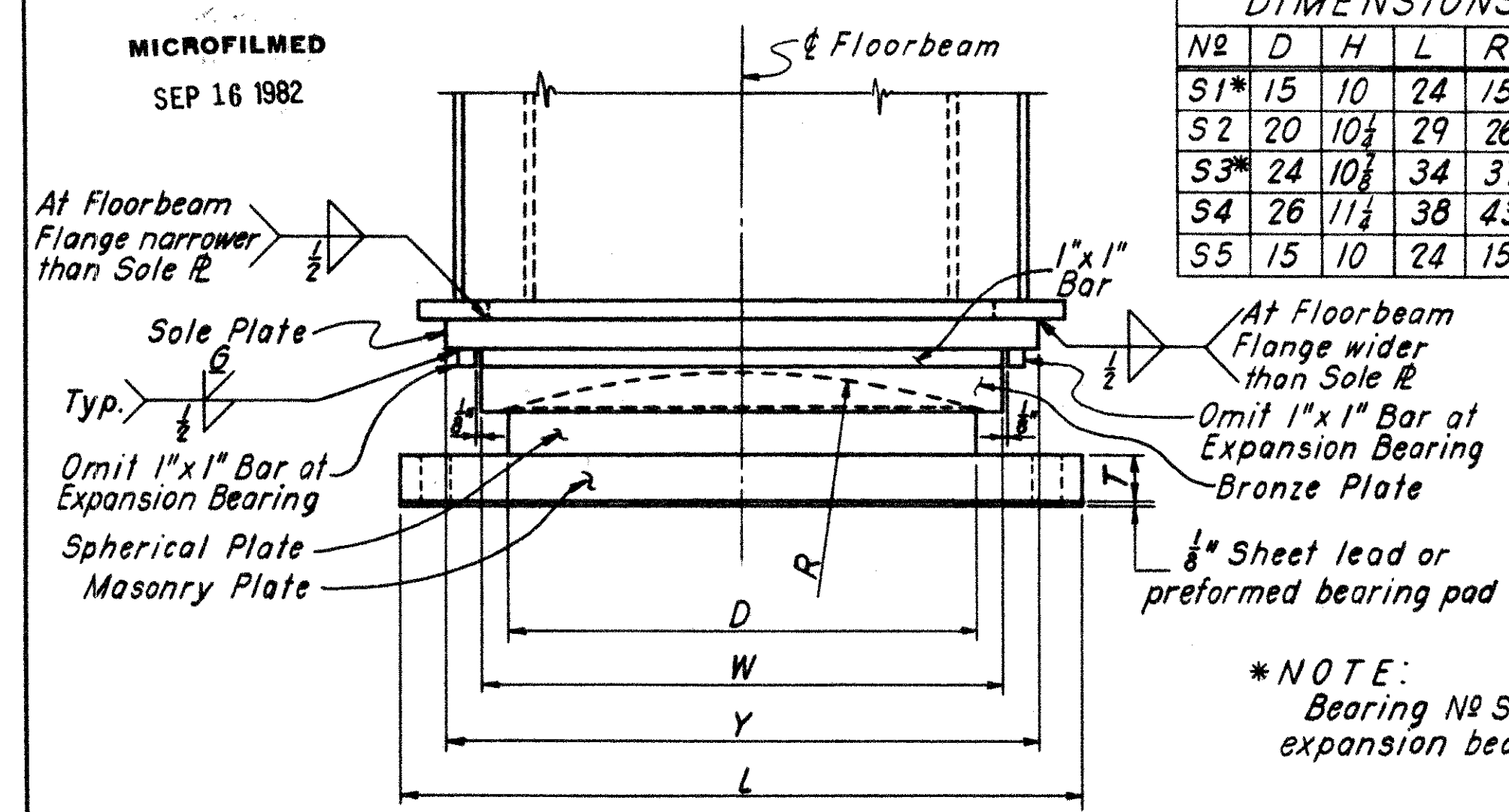
H & E BRIDGE No. 18

|                 |                         |        |                           |                                |         |
|-----------------|-------------------------|--------|---------------------------|--------------------------------|---------|
| DESIGNED<br>OAF | DRAWN<br>RLR<br>1-25-65 | TRACED | CHECKED<br>OAF<br>4-19-65 | REVIEWED DATE<br>JHO<br>8-1-65 | REVISED |
|-----------------|-------------------------|--------|---------------------------|--------------------------------|---------|

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SEP 16 1982

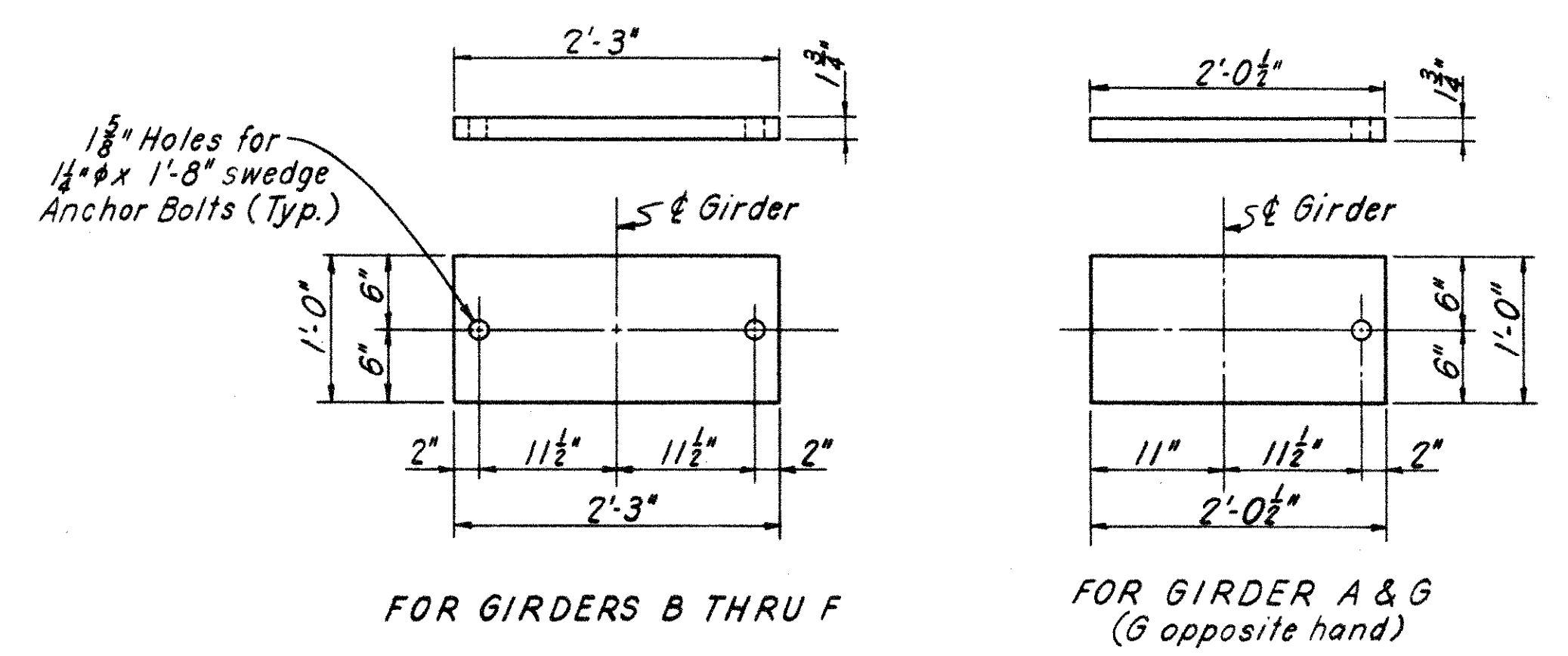
DIMENSIONS (Inches)

| Nº  | D  | H      | L  | R  | T     | W  | Y  |
|-----|----|--------|----|----|-------|----|----|
| S1* | 15 | 10     | 24 | 15 | 2 1/2 | 18 | 22 |
| S2  | 20 | 10 1/2 | 29 | 26 | 2 1/2 | 23 | 27 |
| S3* | 24 | 10 1/2 | 34 | 37 | 3 1/2 | 27 | 31 |
| S4  | 26 | 11 1/2 | 38 | 43 | 3 1/2 | 29 | 33 |
| S5  | 15 | 10     | 24 | 15 | 2 1/2 | 18 | 22 |



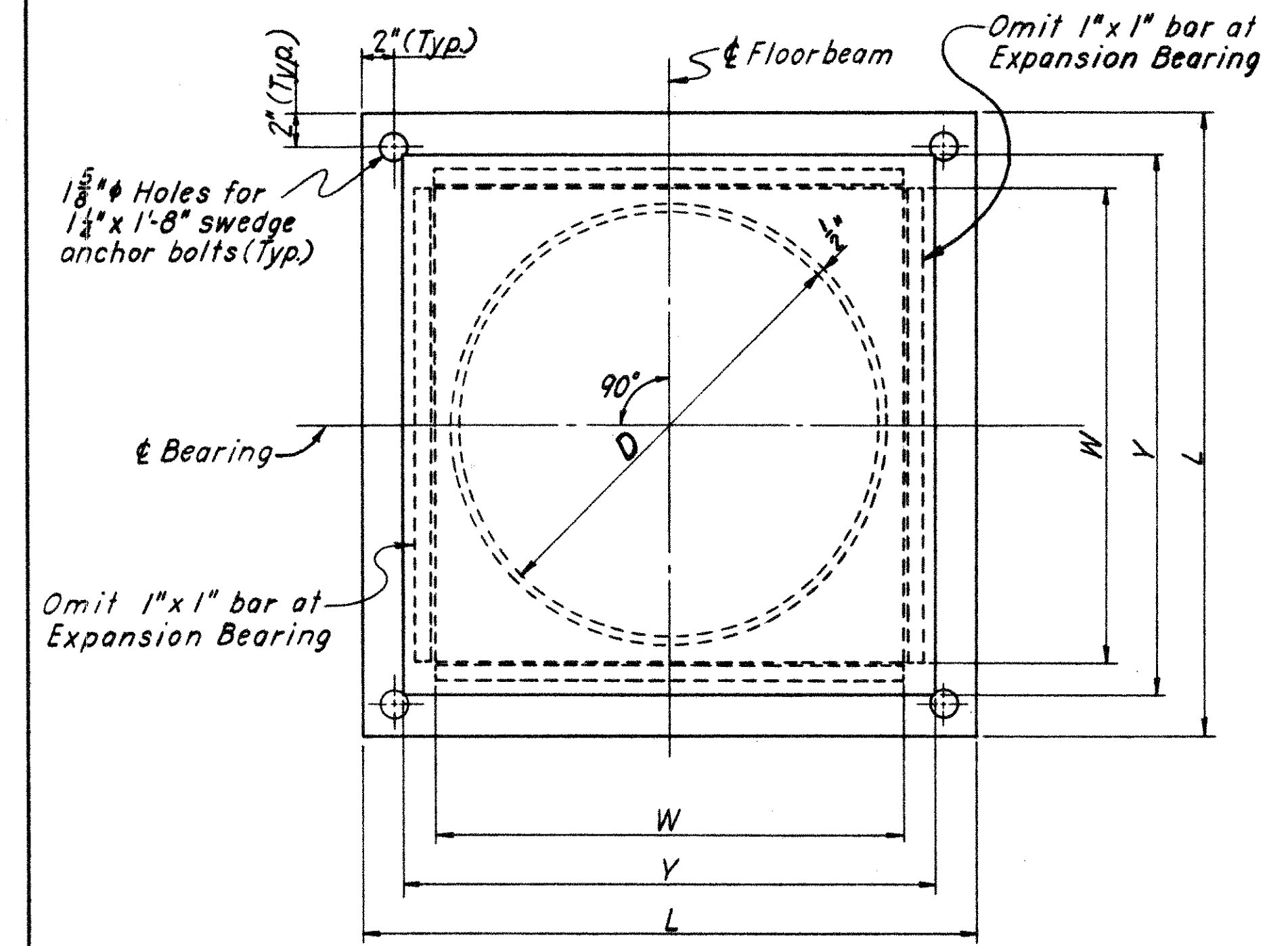
\*NOTE:  
Bearing Nº S1 and S3 are expansion bearings

**SPHERICAL BEARING DETAILS S1 THRU S5**  
(Shown for fixed bearings. Omit bar as noted above for expansion bearing)



**SPECIAL MASONRY PLATES**  
FOR R150 AT SOUTH ABUTMENT

NOTE:  
For Anchor Bolt Setting Details see Abutment Details.

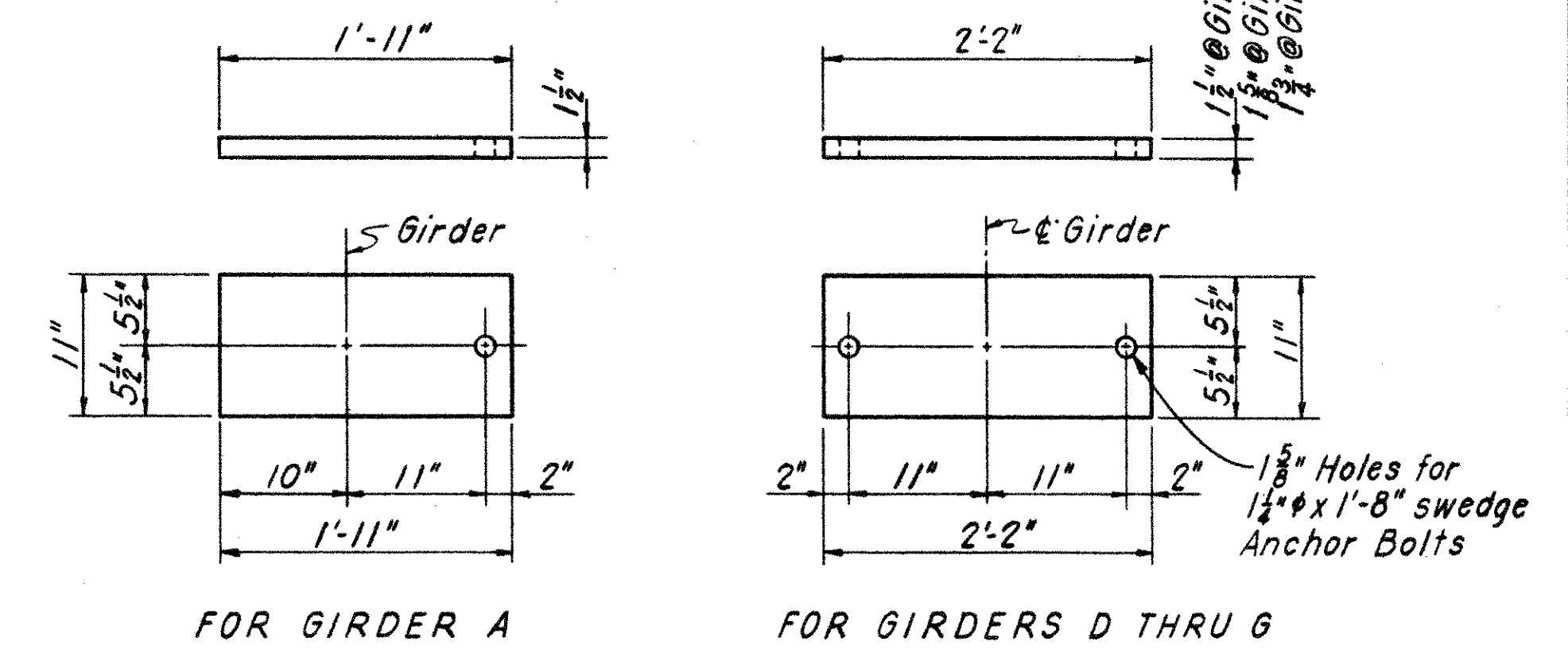


**PLAN OF SPHERICAL BEARING**  
(Shown for fixed bearings. Omit bar as noted above for expansion bearing)

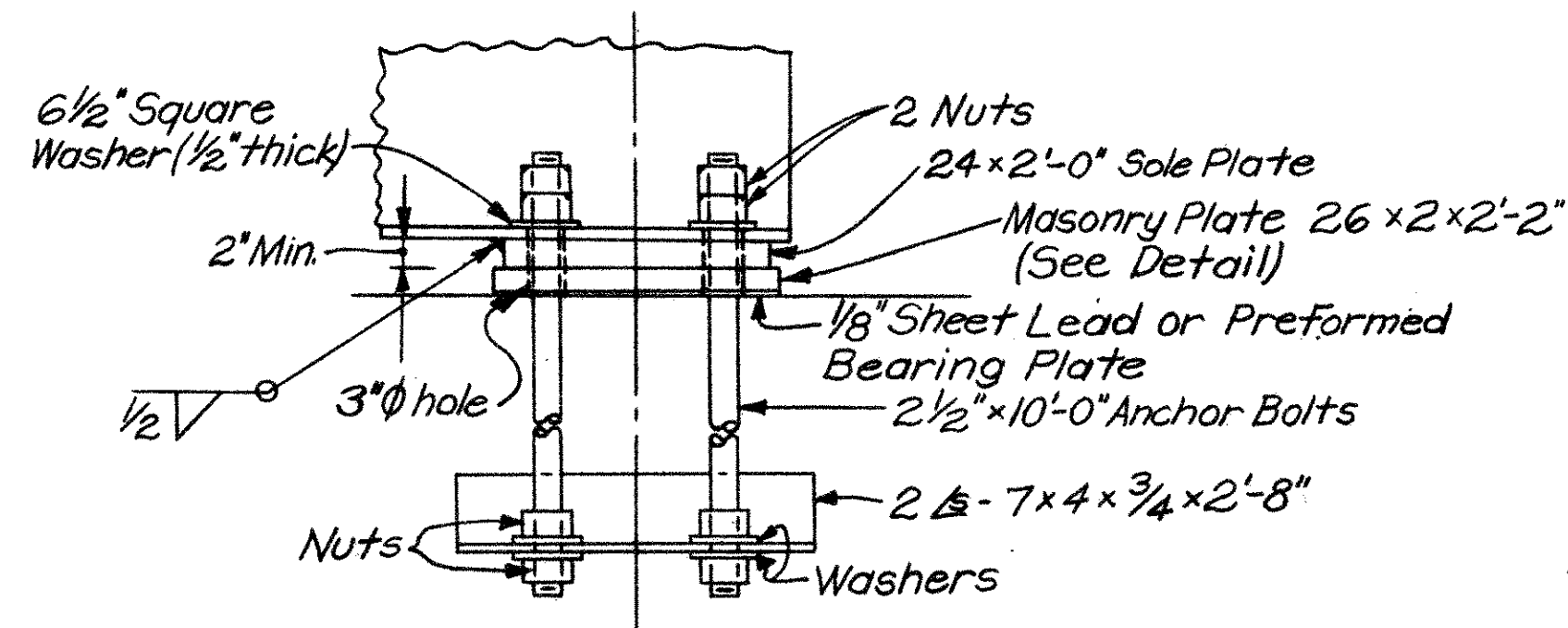
NOTE:  
For specification for self-lubricating bronze bearing plates see Standard Drawing FSB-1-62. Bearings Nº S2, S4 & S5 are fixed bearings. For bearing detail R-325 see Typ. Drwg. No. 428. For bearing detail R-150 and R-125 see Std. Drwg. RB-1-55 except masonry plates modified as shown on detail this sheet.

**TABLE OF BEARINGS**

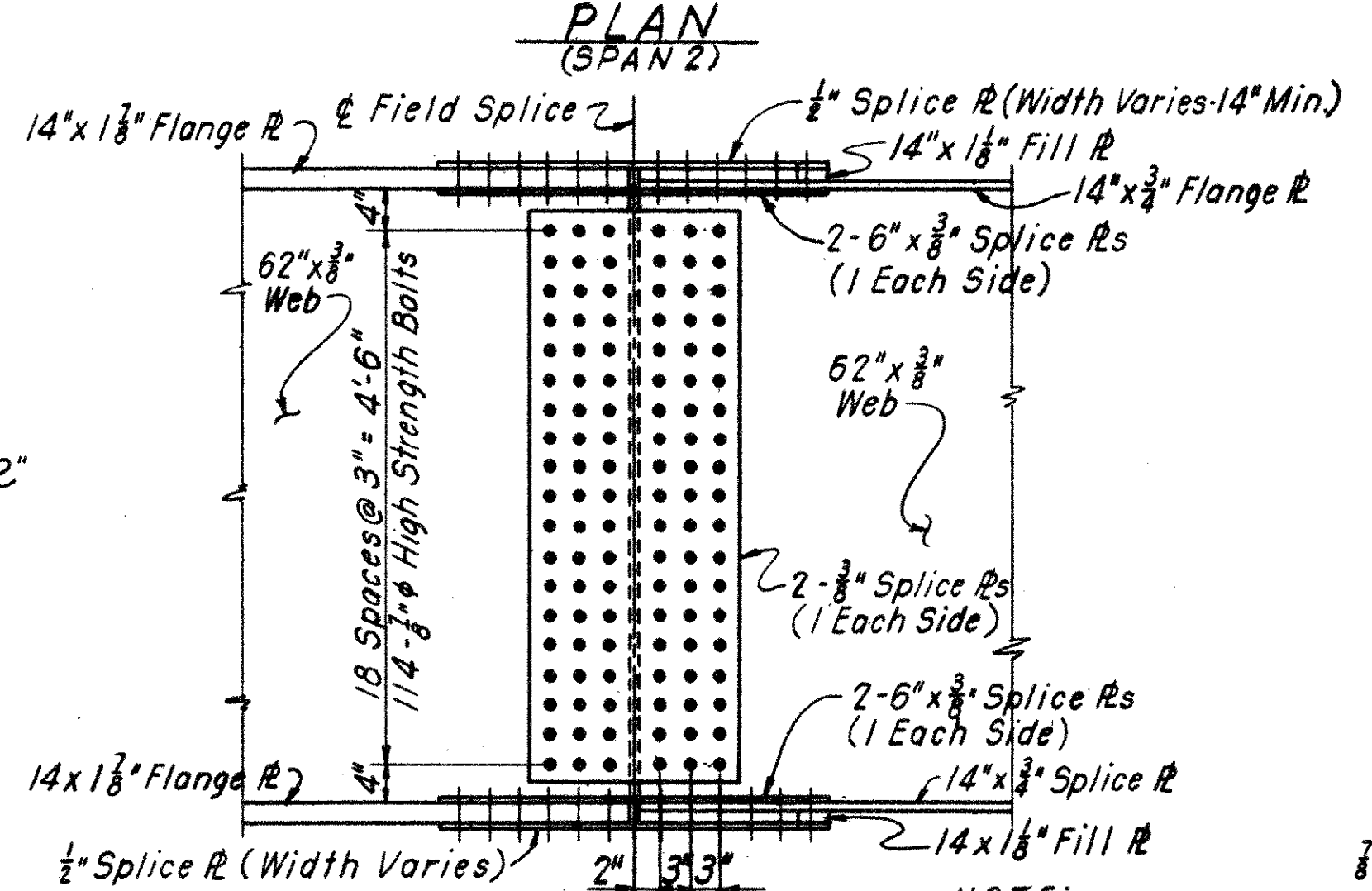
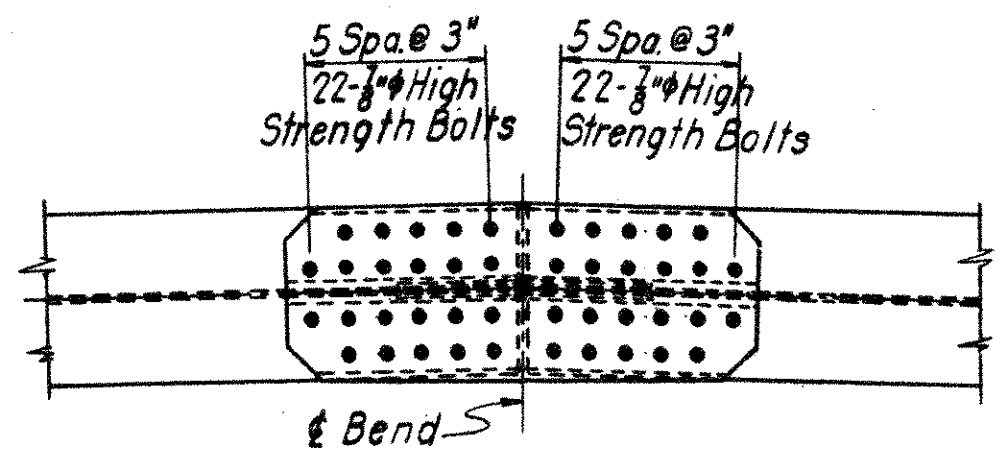
| LOCATION | TYPE                         |
|----------|------------------------------|
| S. Abut. | R150 with special Masonry Rs |
| Pier 1   | R325                         |
| Pier 2   | S3 (West) and S1 (East)      |
| Pier 3   | S2 (West) and S5 (East)      |
| Pier 4   | S4 (West) and S6 (East)      |
| Pier 5   | R325                         |
| N. Abut. | R125 with special Masonry Rs |



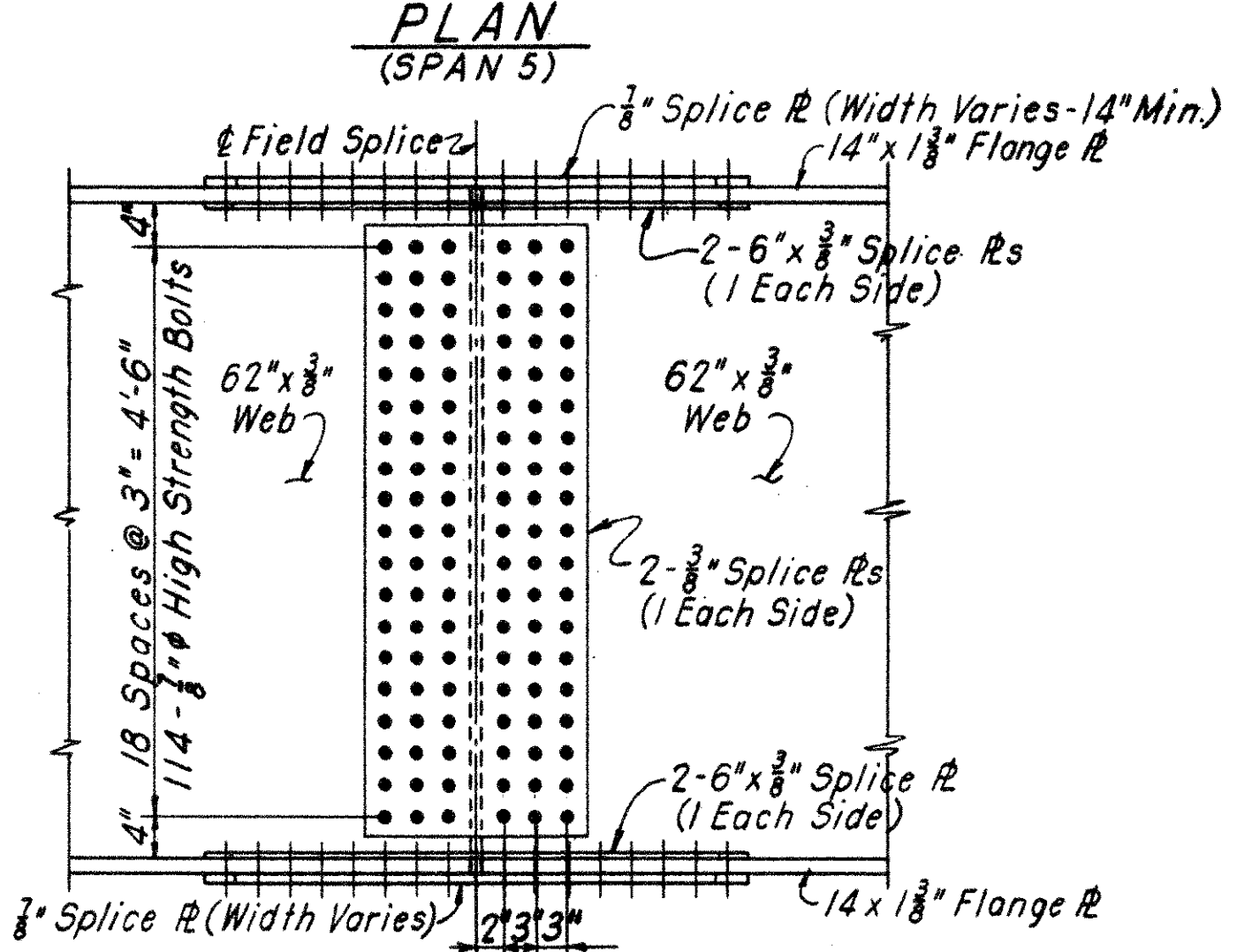
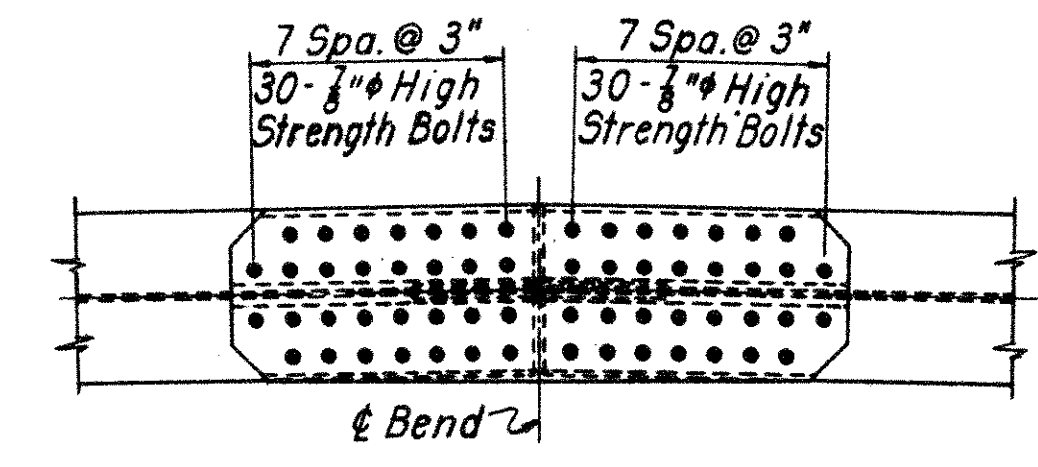
**SPECIAL MASONRY PLATES**  
FOR R125 AT NORTH ABUTMENT



**BEARING DETAIL S6**



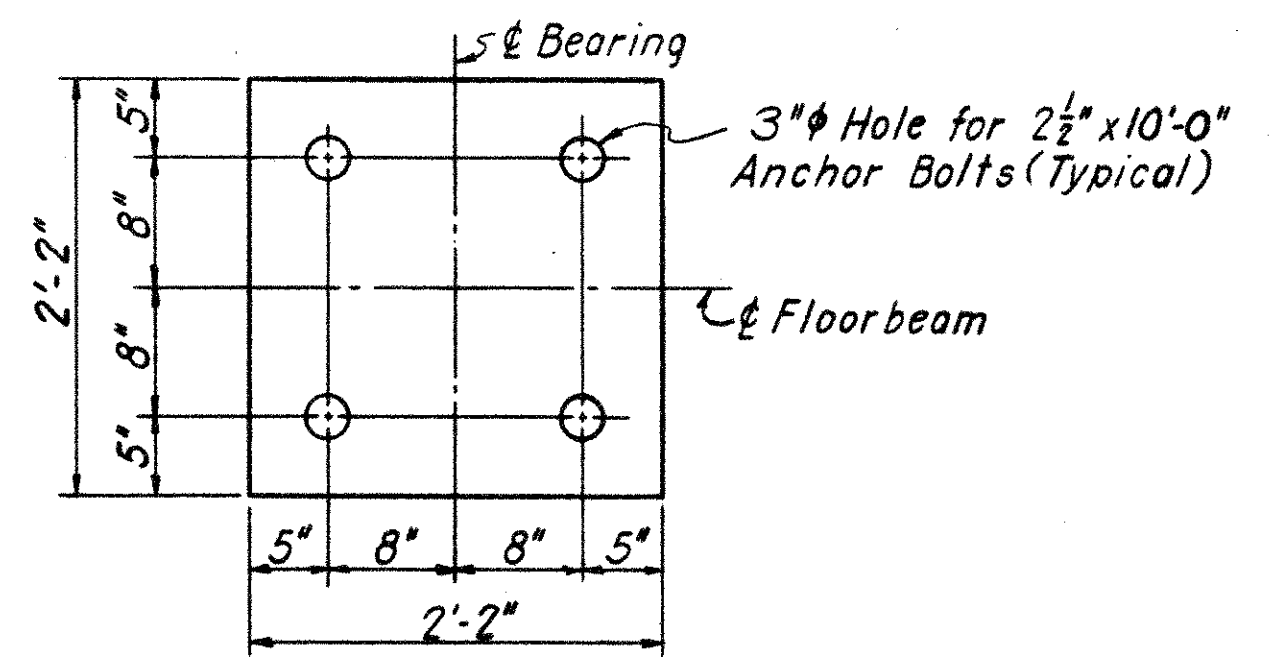
**ELEVATION (SPAN 2)**



**ELEVATION (SPAN 5)**

**FIELD SPLICE DETAILS**

NOTE:  
Bottom Flange Splice Plates same as Top Flange Splice Plates



**MASONRY PLATE**  
FOR EAST BEARING AT PIER 4

Work this Sheet with Sheets Nº 411 thru 415 & 417

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CONSULTING ENGINEERS  
CINCINNATI, OHIO

**STRUCTURAL STEEL DETAILS**  
BRIDGE No. HAM-71-0231

H & E BRIDGE No. 18

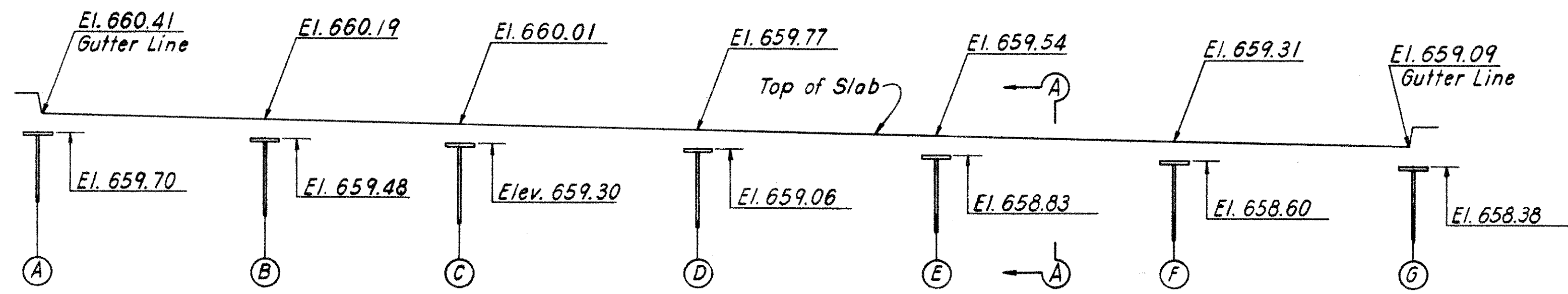
|          |       |        |         |               |         |
|----------|-------|--------|---------|---------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
| OAF      | RLR   |        | OAF     | JWO<br>8/1/65 |         |

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SEP 16 1982

|               |       |         |             |
|---------------|-------|---------|-------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

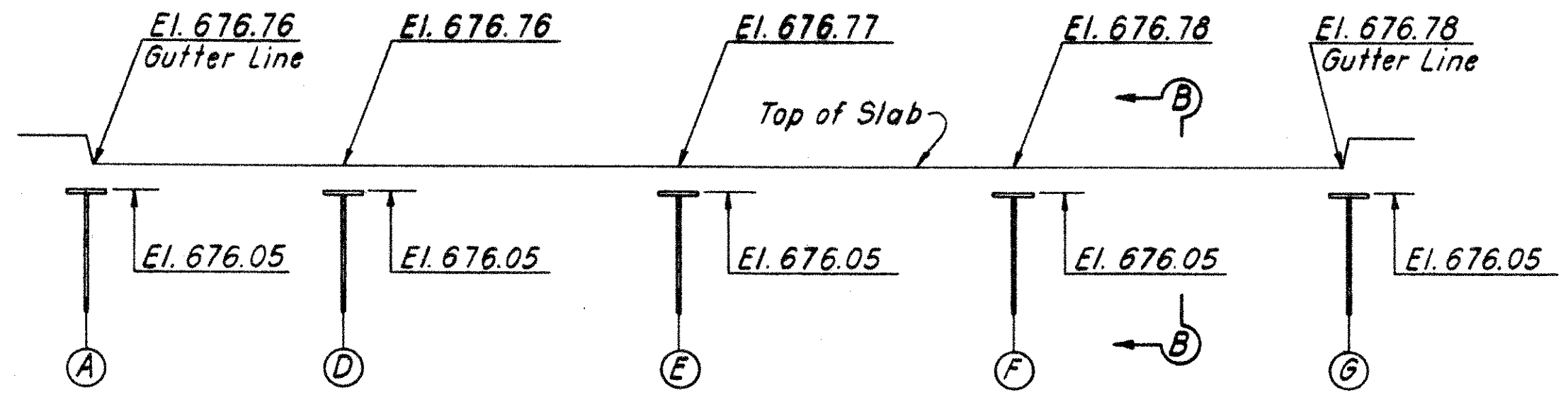
417  
460

HAMILTON COUNTY  
HAM-71-2.08



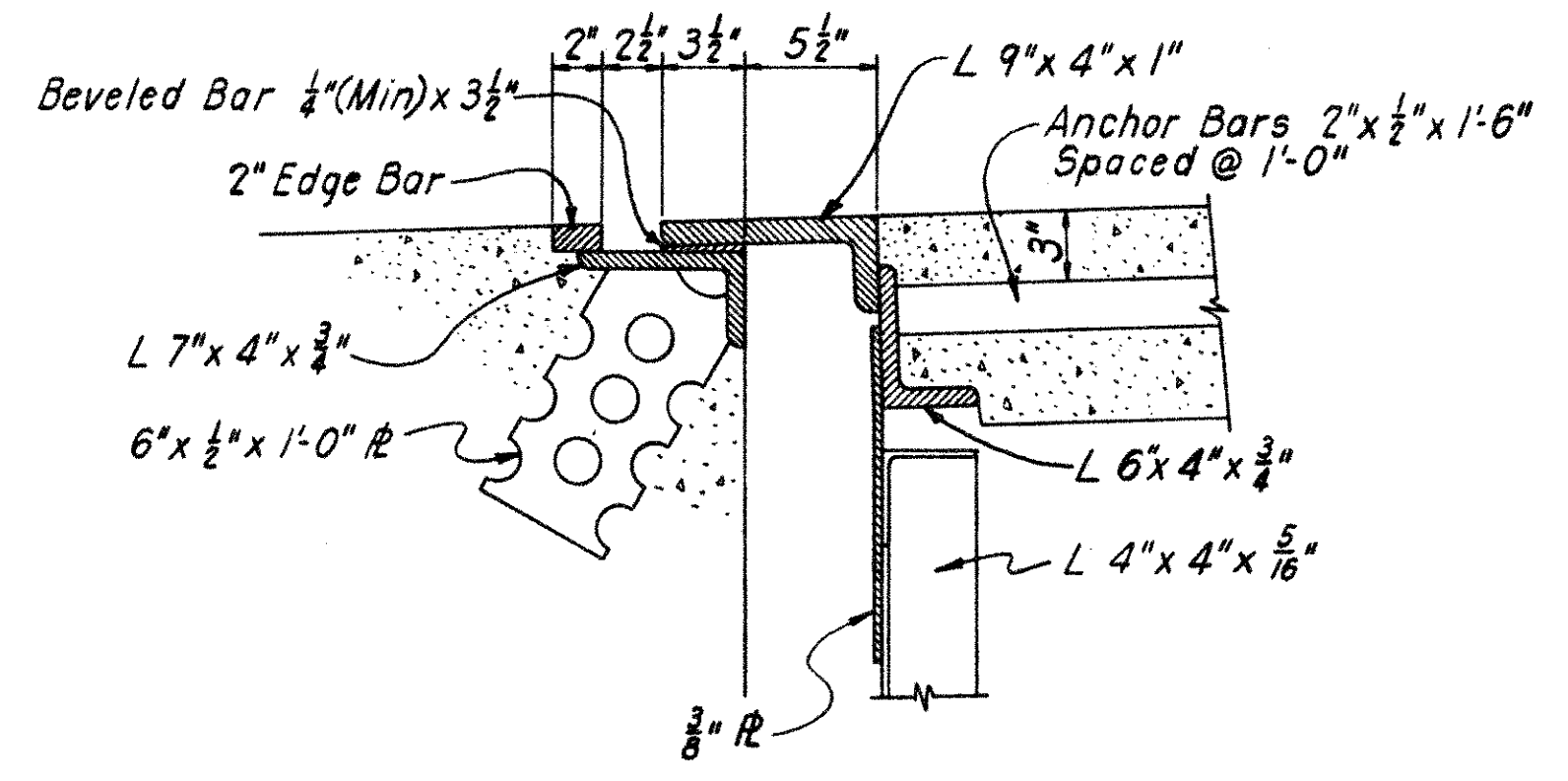
**END DAM CROSS SECTION AT SOUTH ABUTMENT**

Elevations given are at the intersection of the  $\epsilon$  of Stringer or Gutter Line and the  $\epsilon$  Bearing of South Abutment at top of slab.

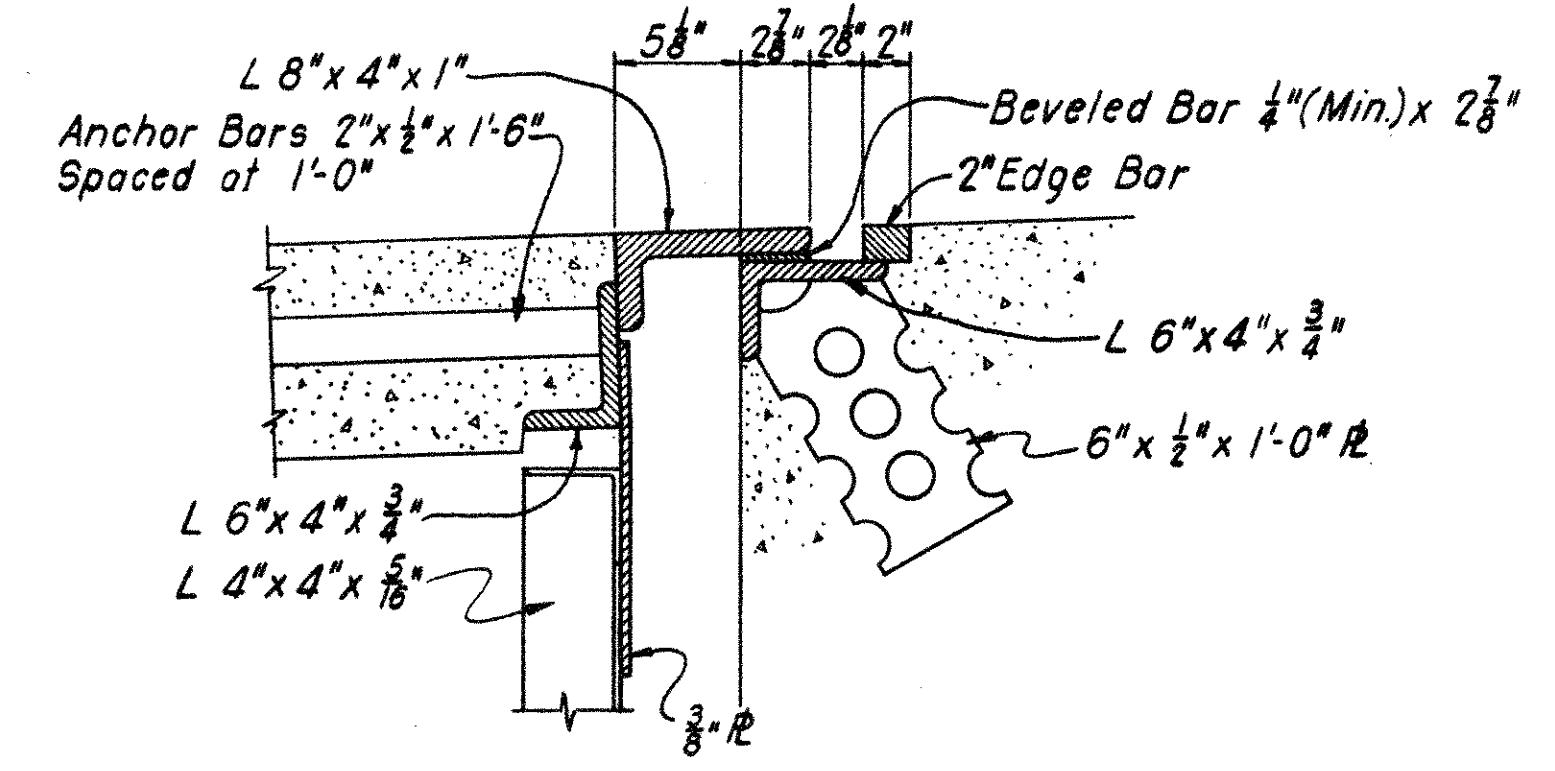


**END DAM CROSS SECTION AT NORTH ABUTMENT**

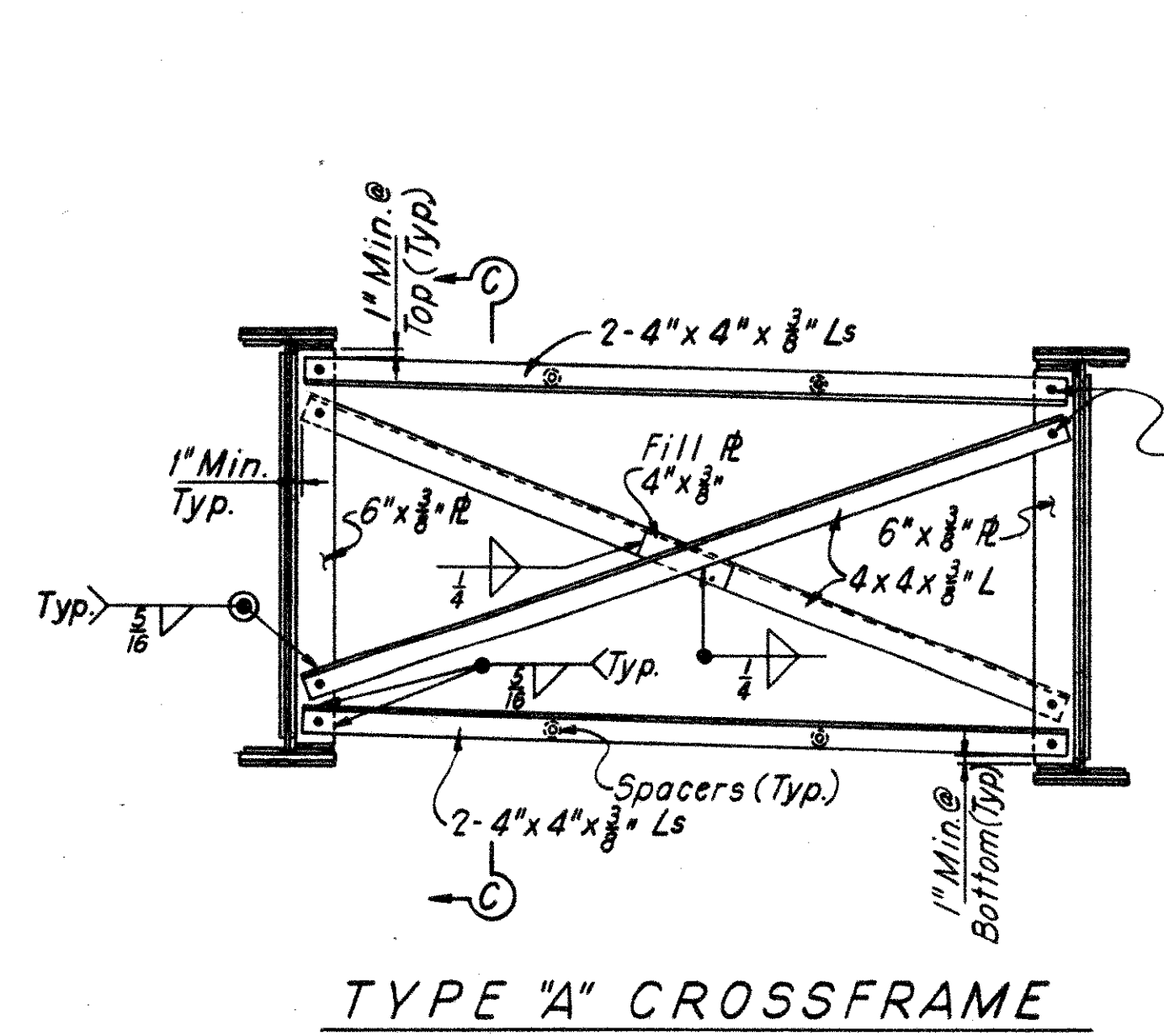
Elevations given are at the intersection of the  $\epsilon$  of Stringer or Gutter Line and the  $\epsilon$  Bearing of North Abutment at top of slab.



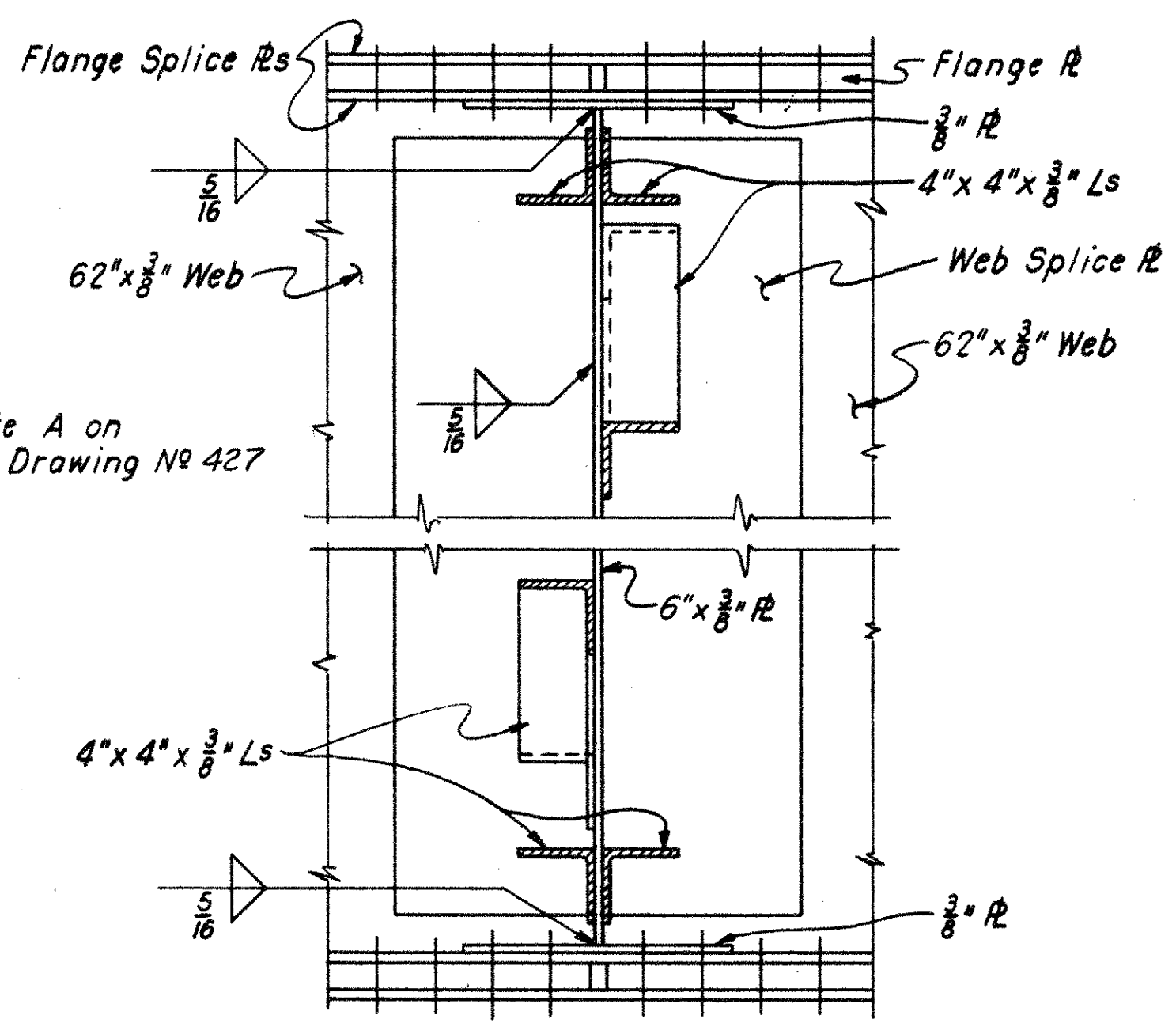
**SECTION A-A**



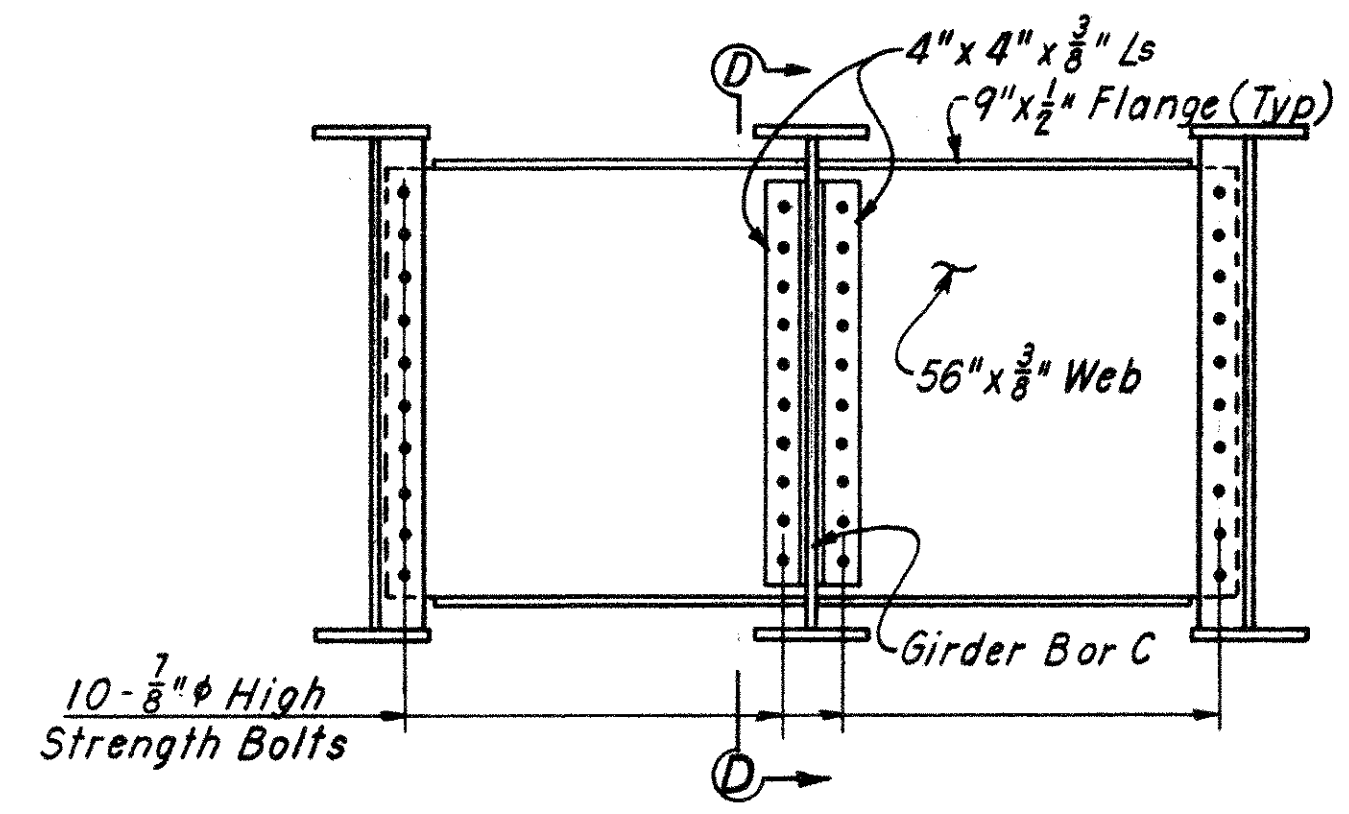
**SECTION B-B**



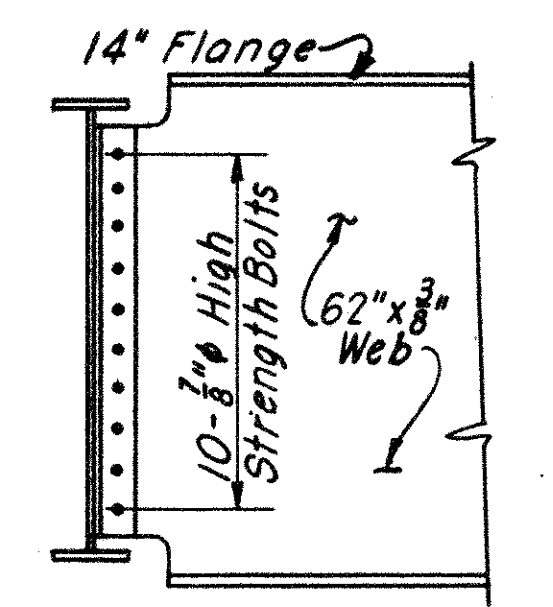
**TYPE 'A' CROSSFRAME**



**SECTION C-C**



**SPECIAL CROSSFRAME**



**SECTION D-D**

NOTE:  
See Standard Drawing SD-1-63 Sheet N92 for End Dam Details not shown and for End Crossframe Details.  
See Detail E Sh. No. 339 Bridge No. HAM-71-0224 for Curb Plate Details.

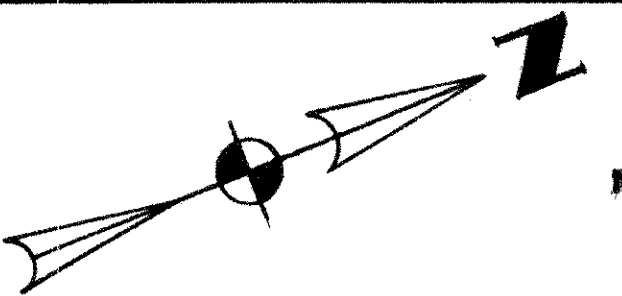
Work this Sheet with Sheets N9 411 thru 416

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CINCINNATI, OHIO

**STRUCTURAL STEEL DETAILS**  
BRIDGE No. HAM-71-0231

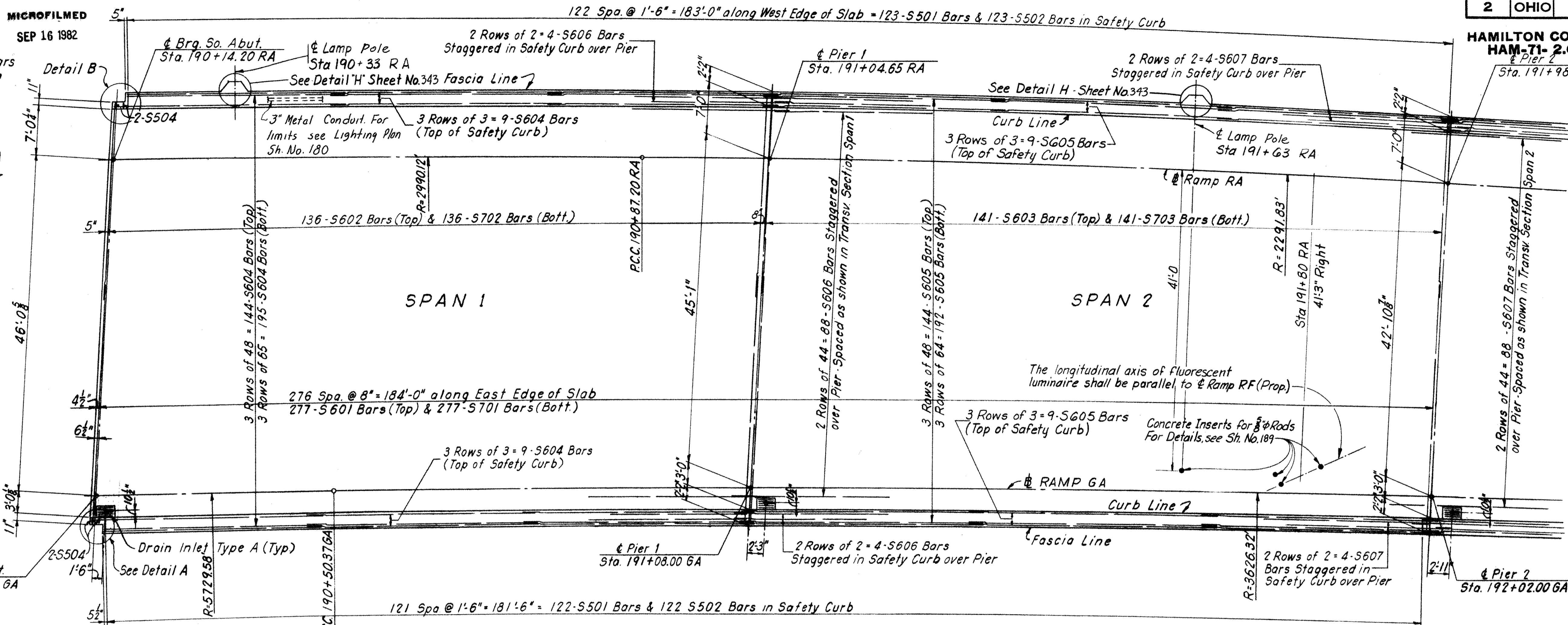
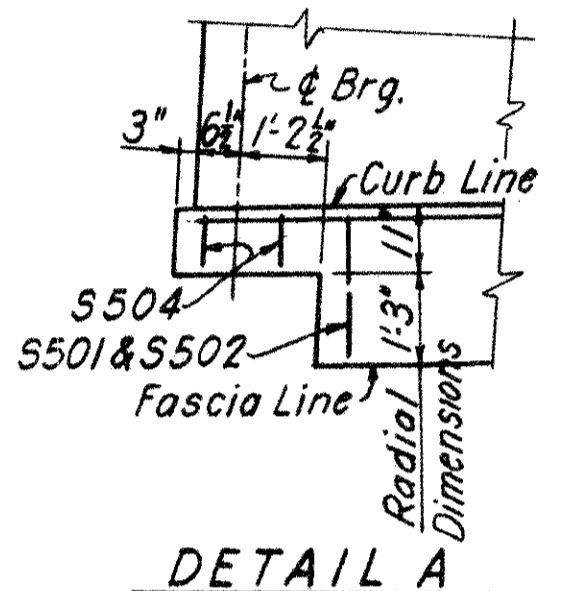
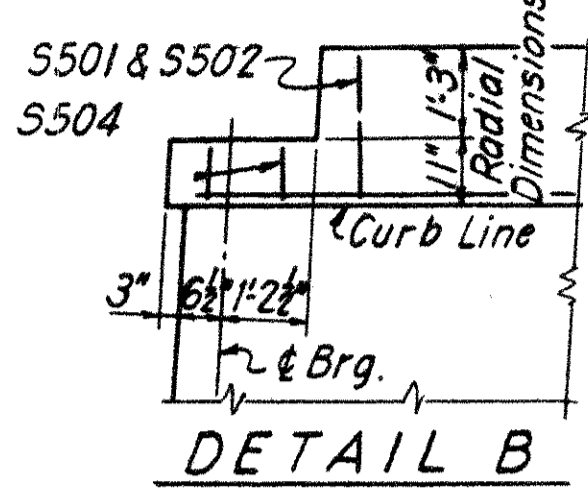
H & E BRIDGE No. 18

|          |        |        |         |               |         |
|----------|--------|--------|---------|---------------|---------|
| DESIGNED | DRAWN  | TRACED | CHECKED | REVIEWED DATE | REVISED |
|          | RLR    |        | OAF     | Jtk           |         |
|          | 2-2-65 |        | 4-65    | 8/17/65       |         |

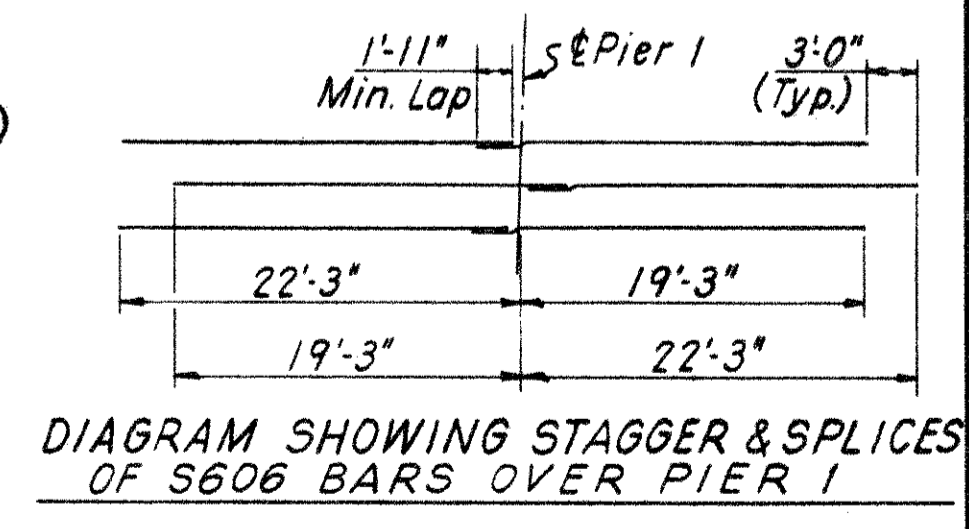
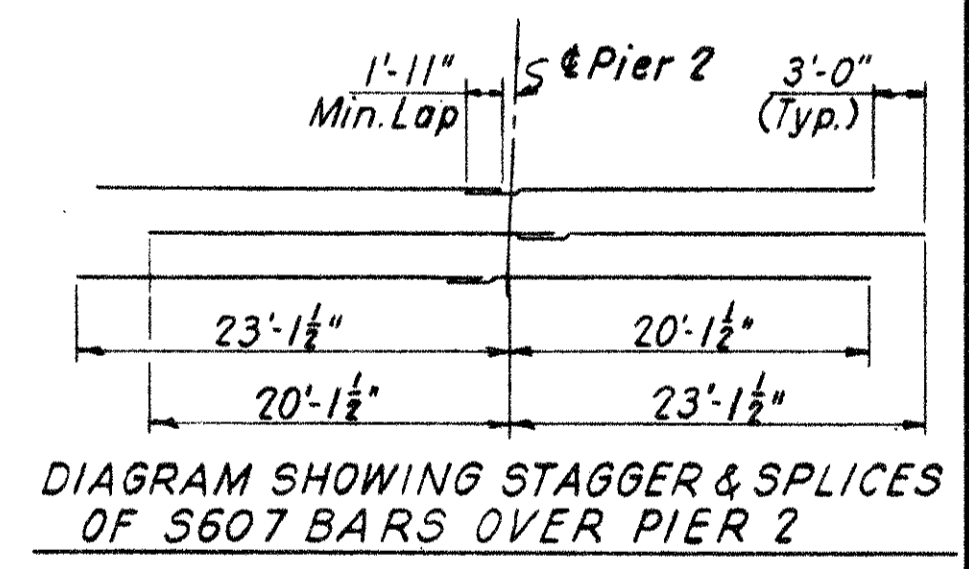
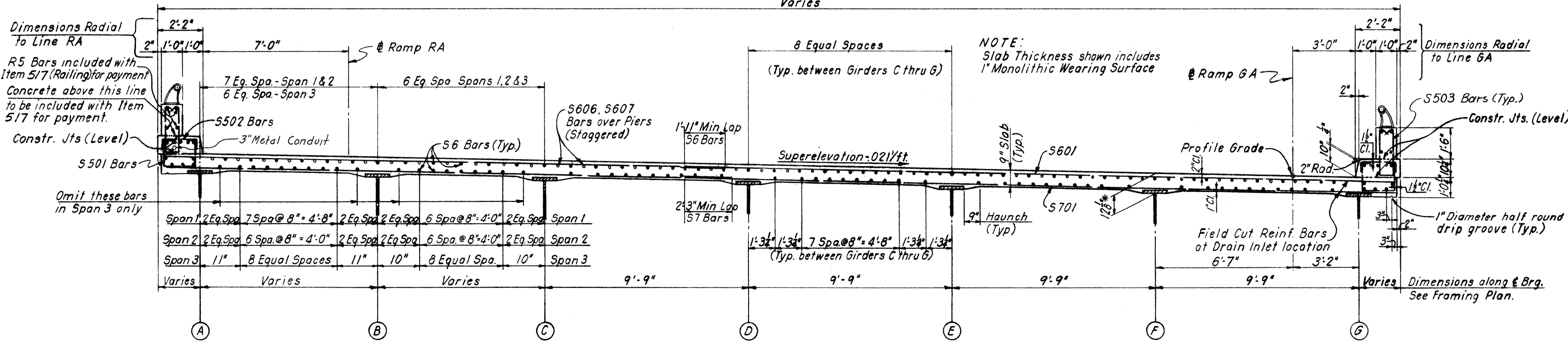


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NOTE: Transverse Reinf. Bars are to be placed parallel to piers and spaced at 8" measured along East Edge of Slab



DECK SLAB HAUNCH: The haunch in the superelevated deck slab adjacent to the top of steel girders, which is shown as 9" wide, may vary from this dimension between the limits of 6" and 12" on the low side and between 9" and 12" on the high side. Except on the high side, the maximum slope shall not exceed 3" per foot. Payment for deck slab concrete shall be based on the 9" width.



For drainage details see Sh. No. 424  
For lighting details see Sh. No. 189f 423

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SUPERSTRUCTURE DETAILS  
BRIDGE No. HAM-71-0231

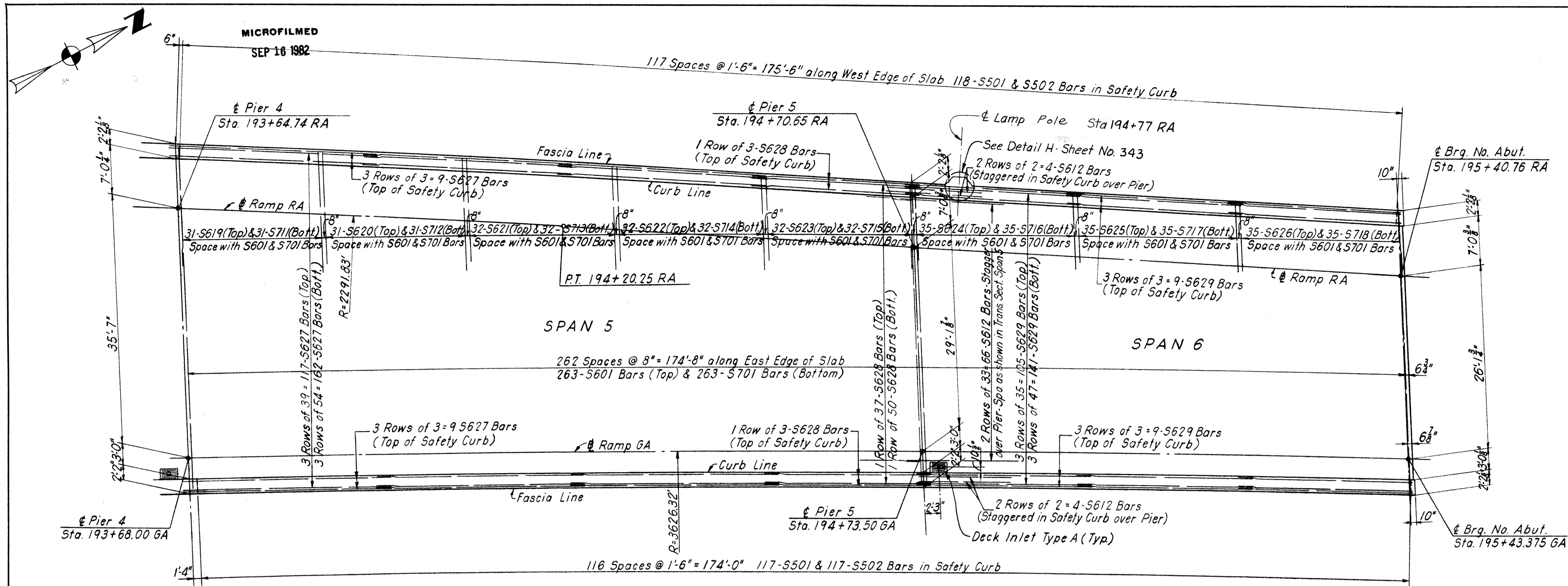
H & E BRIDGE No. 18

|          |       |        |         |               |         |
|----------|-------|--------|---------|---------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
|          | RLR   |        | JHK     | 8/17/65       |         |

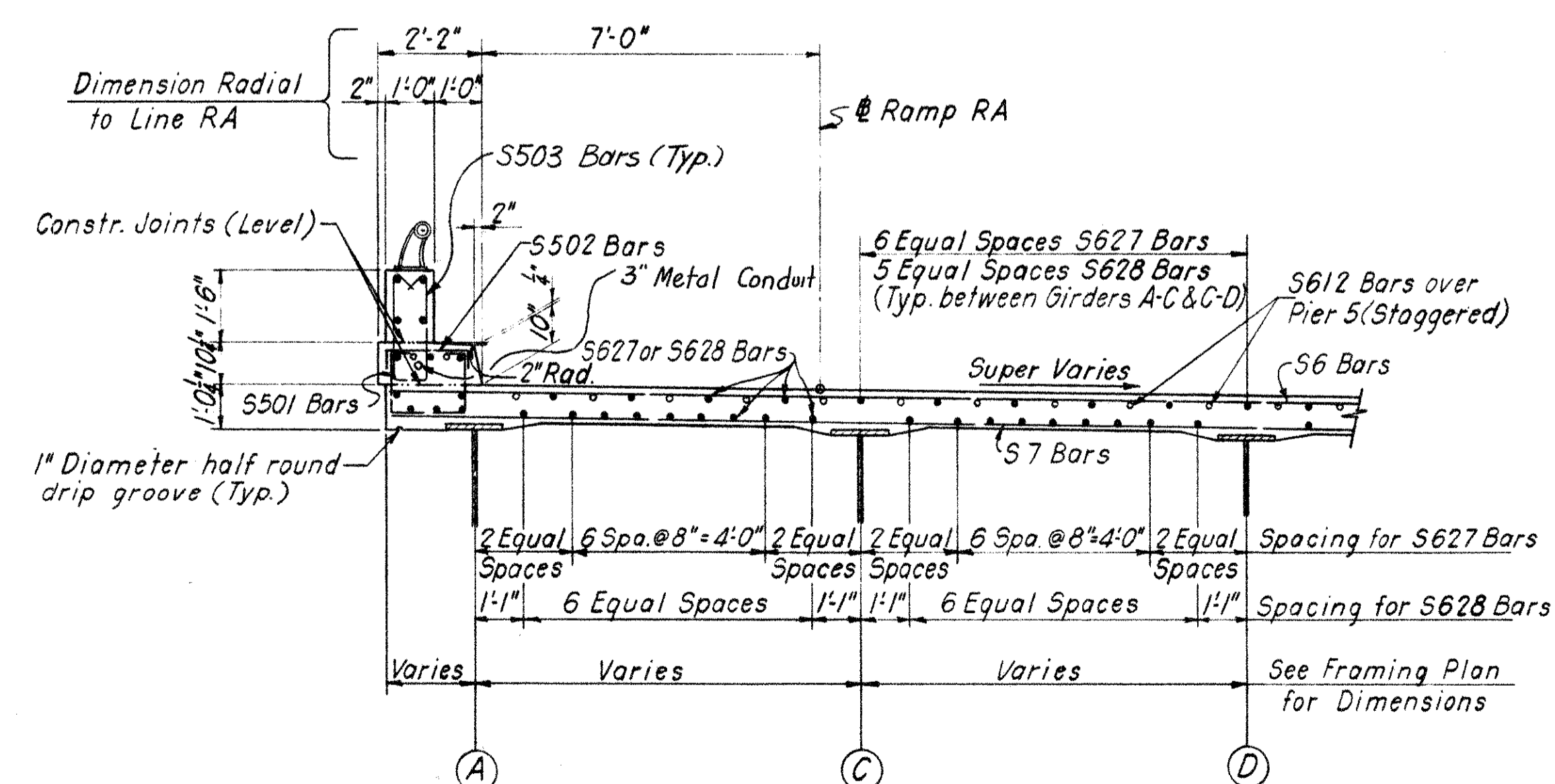
\* This is a nominal dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per Sec. 511.19 of the Construction and Material Specifications.

• Indicates Bars in Section  
• Indicates Bars over Piers





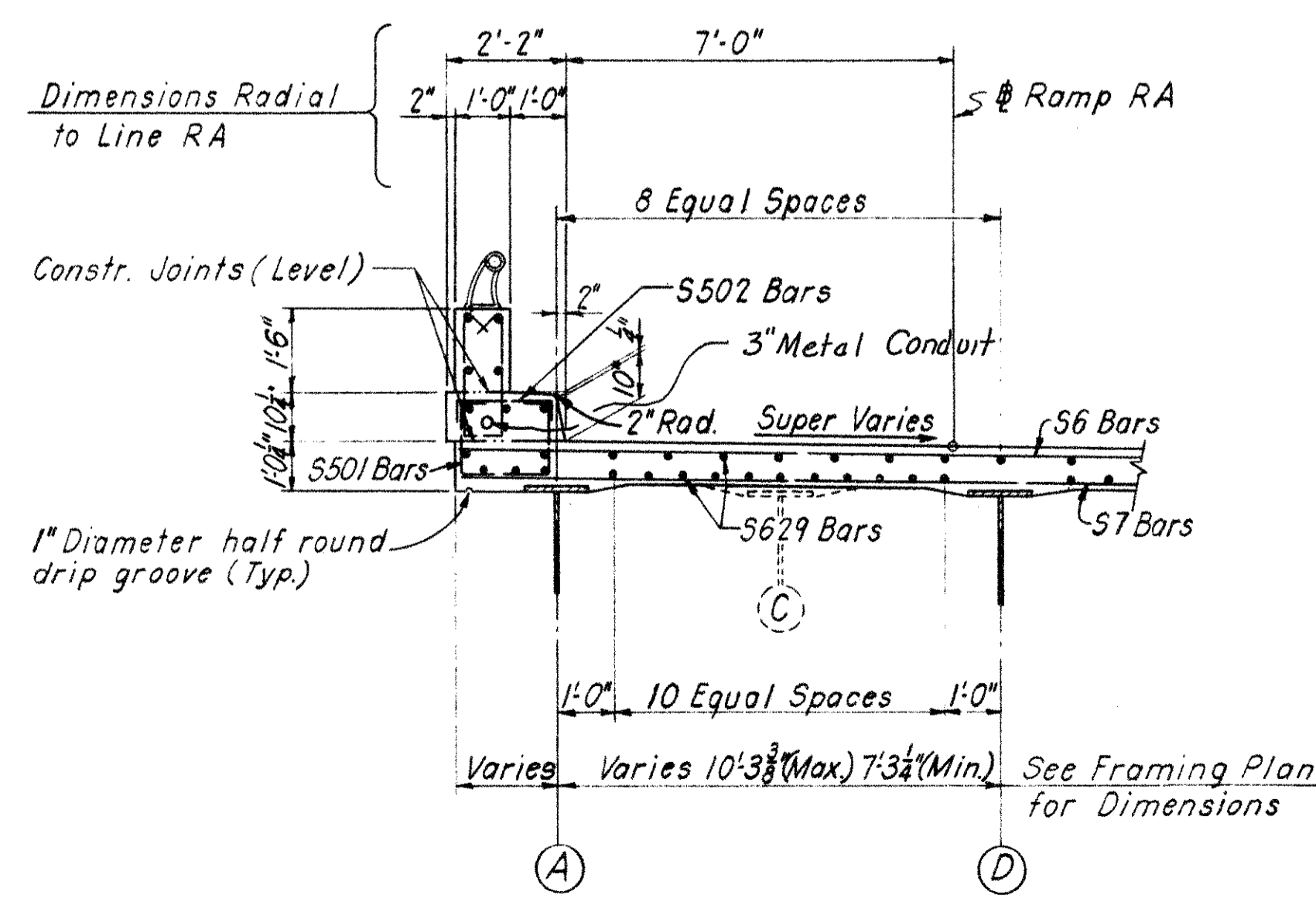
PART PLAN - SPANS 5 & 6



- Indicates Bars in Section
- Indicates Bars over Pier 5

PART SECTION - SPAN 5

NOTE:  
For detail of reinforcing between Girders D thru G and other details & dimensions not shown see Transverse Section Span 4



NOTE:  
For detail of reinforcing between Girders D thru G and other details and dimensions not shown see Transverse Section Span 4.

PART SECTION - SPAN 6

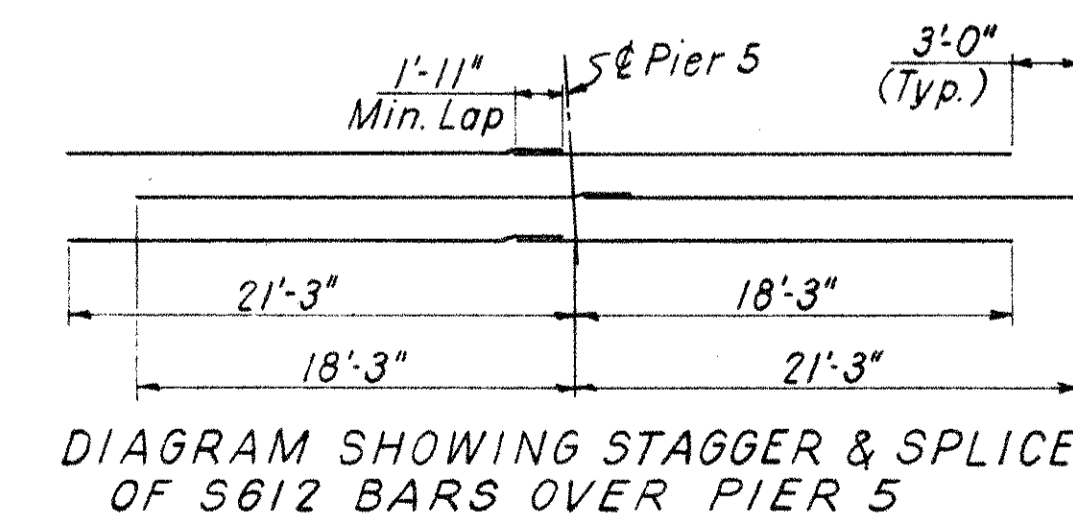


DIAGRAM SHOWING STAGGER & SPLICES OF S612 BARS OVER PIER 5

HAZELET & ERDAL  
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CINCINNATI, OHIO

SUPERSTRUCTURE DETAILS  
BRIDGE No. HAM-71-0231

H & E BRIDGE No.18

| DESIGNED | DRAWN    | TRACED | CHECKED | REVIEWED DATE | REVISED |
|----------|----------|--------|---------|---------------|---------|
|          | RLR      |        | BWK     | JAO           |         |
|          | 11-23-64 |        | 4-6-65  | 8/11/65       |         |

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|---------------|-------|---------|-------------|
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421  
460

HAMILTON COUNTY  
HAM-71-2.08

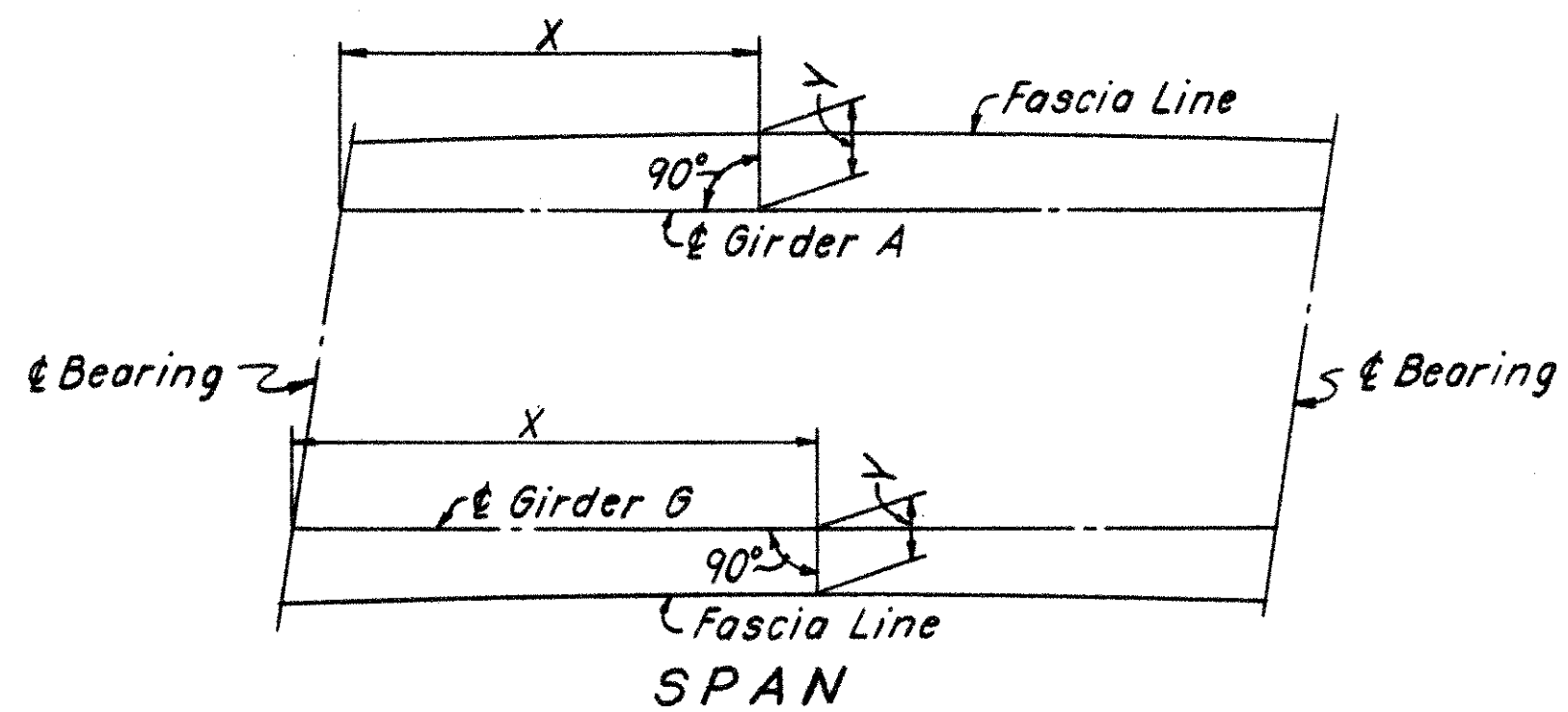


TABLE OF OFFSETS - G GIRDER TO FASCIA LINE

| SPAN 1      |           | SPAN 2      |            | SPAN 3      |            | SPAN 4      |            | SPAN 5      |           | SPAN 6      |            |
|-------------|-----------|-------------|------------|-------------|------------|-------------|------------|-------------|-----------|-------------|------------|
| Girder A    | Girder G  | Girder A    | Girder G   | Girder A    | Girder G   | Girder A    | Girder G   | Girder A    | Girder G  | Girder A    | Girder G   |
| Dist. X     | Dist. Y   | Dist. X     | Dist. Y    | Dist. X     | Dist. Y    | Dist. X     | Dist. Y    | Dist. X     | Dist. Y   | Dist. X     | Dist. Y    |
| 0           | 2'-0"     | 0           | 2'-0"      | 11'-9"      | 1'-9 1/2"  | 11'-9 1/2"  | 2'-2"      | 8'-2"       | 2'-1 1/2" | 8'-2"       | 1'-10 1/2" |
| 11'-3 1/2"  | 2'-1 1/2" | 11'-3 1/2"  | 1'-11 1/2" | 23'-6 1/2"  | 1'-5 1/2"  | 23'-6 1/2"  | 2'-4 1/2"  | 16'-4"      | 2'-3 1/2" | 16'-4"      | 1'-9 1/2"  |
| 22'-7 1/2"  | 2'-3"     | 22'-7 1/2"  | 1'-11 1/2" | 32'-3 1/2"  | 1'-8"      | 32'-4"      | 2'-2 1/2"  | 24'-6"      | 2'-4 1/2" | 24'-6"      | 1'-9"      |
| 33'-10 1/2" | 2'-3 1/2" | 33'-11 1/2" | 1'-11 1/2" | 41'-1 1/2"  | 1'-9 1/2"  | 41'-1 1/2"  | 2'-1 1/2"  | 32'-8"      | 2'-5 1/2" | 32'-8"      | 1'-8 1/2"  |
| 45'-2 1/2"  | 2'-4 1/2" | 45'-3"      | 1'-11 1/2" | 49'-11"     | 1'-11 1/2" | 49'-11 1/2" | 2'-0 1/2"  | 40'-10"     | 2'-6 1/2" | 40'-10"     | 1'-8 1/2"  |
| 56'-6 1/2"  | 2'-3 1/2" | 56'-6 1/2"  | 1'-10 1/2" | 58'-8 1/2"  | 2'-0 1/2"  | 58'-9 1/2"  | 2'-0 1/2"  | 49'-0"      | 2'-6 1/2" | 49'-0"      | 1'-8"      |
| 67'-9 1/2"  | 2'-3 1/2" | 67'-10 1/2" | 1'-10 1/2" | 67'-6 1/2"  | 2'-0 1/2"  | 67'-7"      | 1'-11 1/2" | 57'-2"      | 2'-6 1/2" | 57'-2"      | 1'-8 1/2"  |
| 79'-1 1/2"  | 2'-1 1/2" | 79'-2 1/2"  | 1'-11 1/2" | 76'-4"      | 2'-0 1/2"  | 76'-4 1/2"  | 1'-11 1/2" | 65'-4"      | 2'-5 1/2" | 65'-4"      | 1'-8 1/2"  |
| 90'-5 1/2"  | 2'-0"     | 90'-6"      | 2'-0"      | 85'-1 1/2"  | 2'-0 1/2"  | 85'-2 1/2"  | 1'-11 1/2" | 73'-6"      | 2'-4 1/2" | 73'-6"      | 1'-9"      |
| —           | —         | —           | —          | 93'-11 1/2" | 2'-0"      | 94'-0 1/2"  | 2'-0"      | 81'-8"      | 2'-3 1/2" | 81'-8"      | 1'-9 1/2"  |
| —           | —         | —           | —          | —           | —          | —           | —          | 89'-10 1/2" | 2'-1 1/2" | 89'-10 1/2" | 1'-10 1/2" |
| —           | —         | —           | —          | —           | —          | —           | —          | 98'-0 1/2"  | 2'-0"     | 98'-0 1/2"  | 2'-0"      |

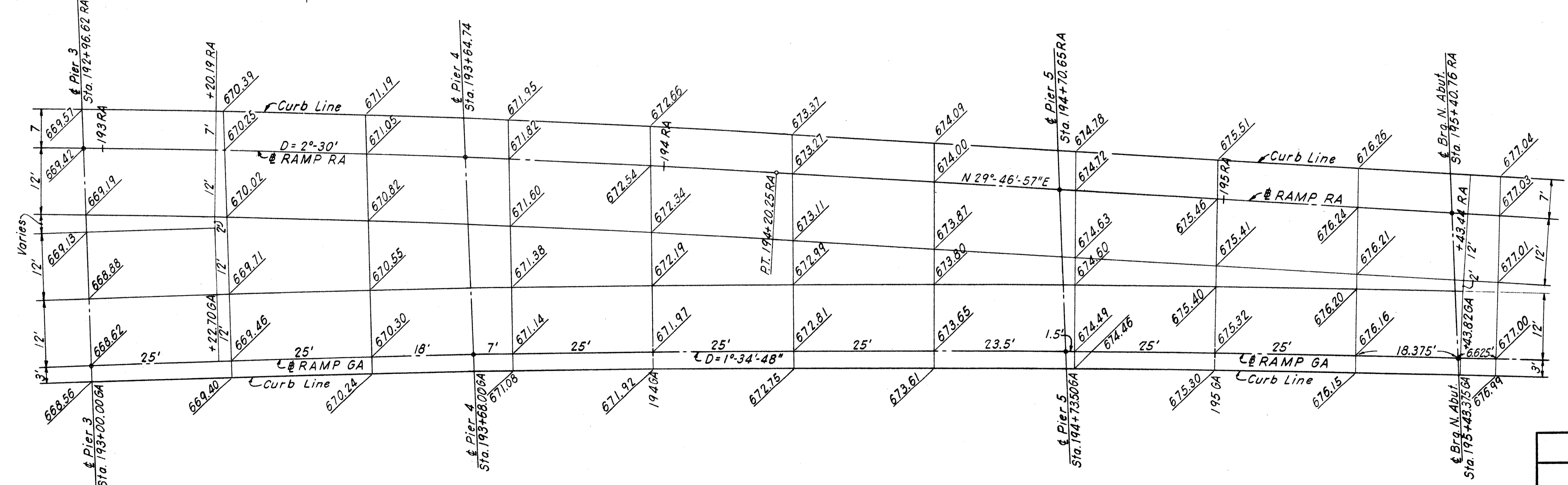
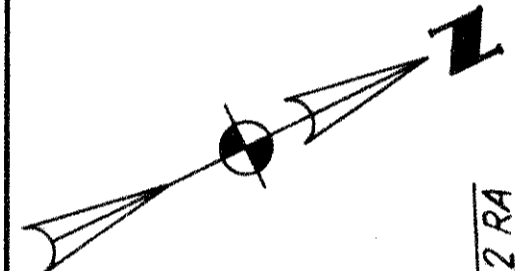
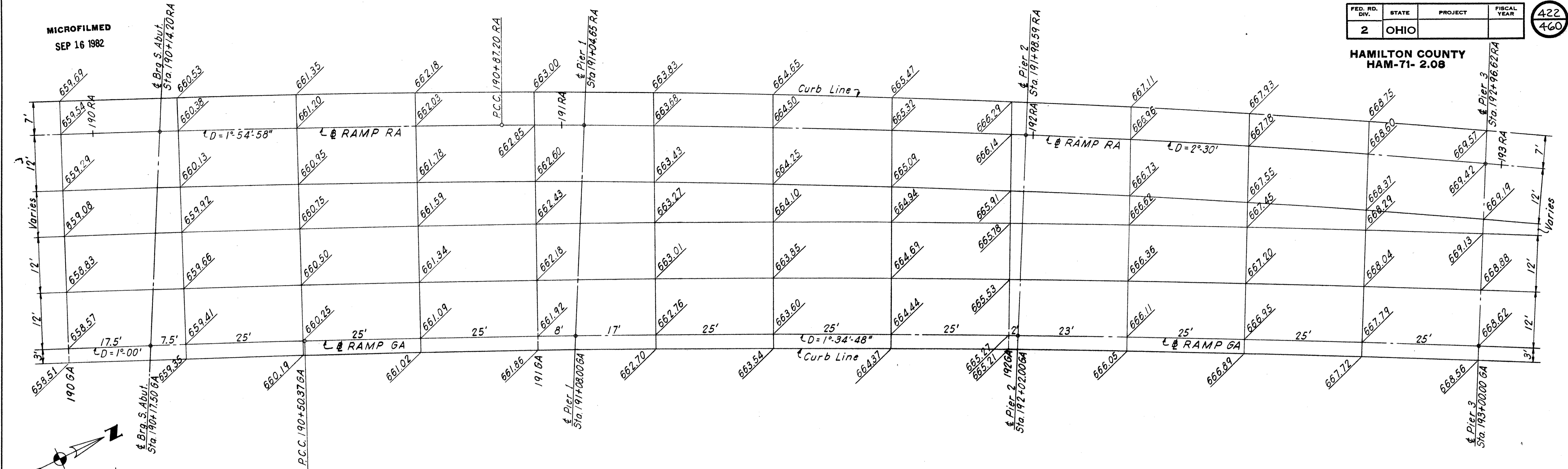
HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

SUPERSTRUCTURE DETAILS  
BRIDGE No. HAM-71-0231

H & E BRIDGE No. 18

| DESIGNED | DRAWN  | TRACED | CHECKED | REVIEWED DATE | REVISED |
|----------|--------|--------|---------|---------------|---------|
|          | RLR    |        | Block   | JHO           |         |
|          | 2-3-65 |        | 4-12-65 | 8-14-65       |         |

HAMILTON COUNTY  
HAM-71- 2.08



HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

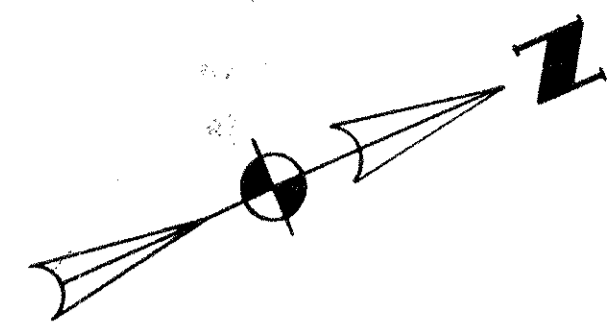
**ROADWAY SURFACE ELEVATIONS**  
BRIDGE No. HAM-71-0231

H & E BRIDGE No. 18

|          |       |        |         |                |          |
|----------|-------|--------|---------|----------------|----------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE  | REVISION |
|          | RLR   |        | CLC     | JHO<br>8-14-65 |          |

MICROFILMED  
SEP 16 1982



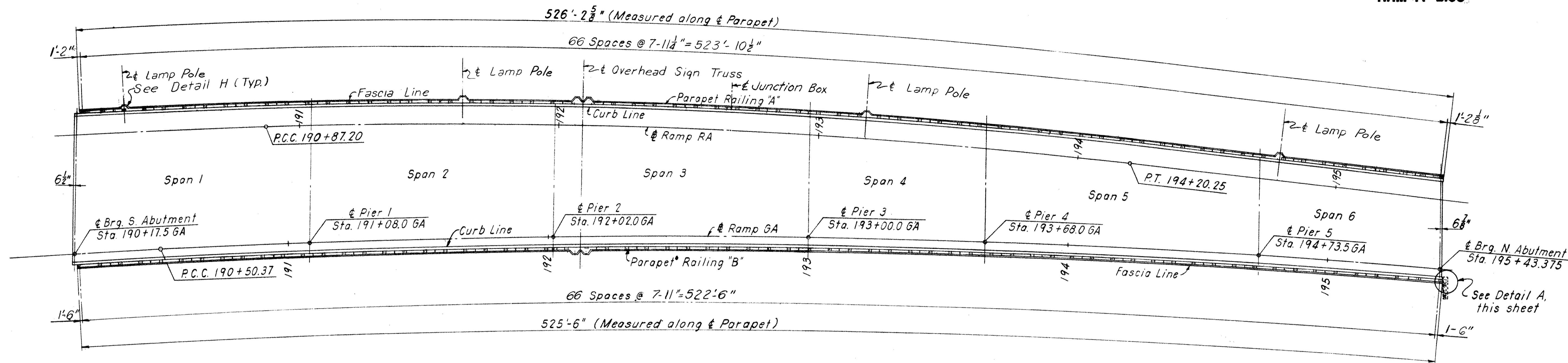


MICROFILMED  
SEP 16 1982

|               |       |         |             |
|---------------|-------|---------|-------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

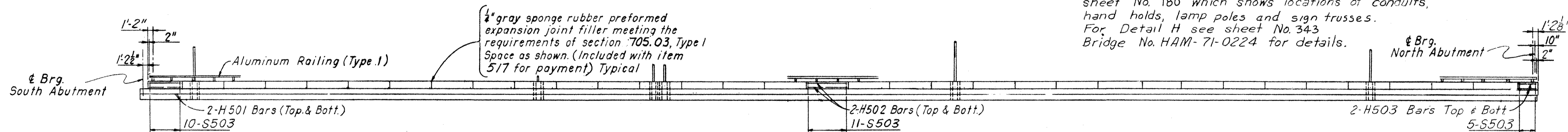
423  
460

HAMILTON COUNTY  
HAM-71- 2.08

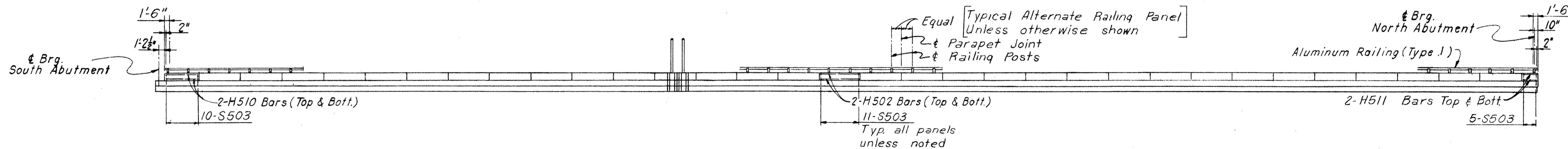


PLAN

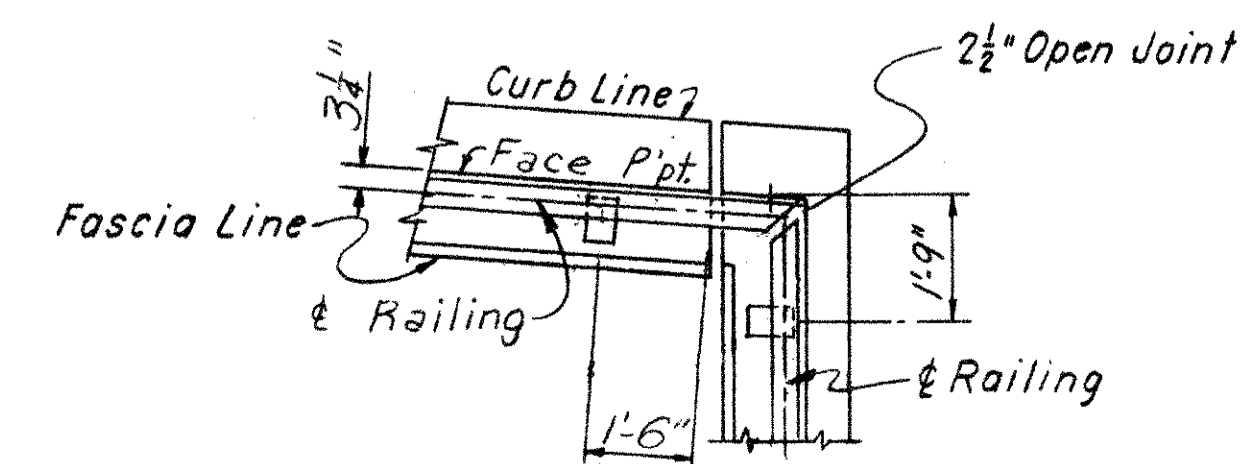
Notes:  
Railing post spaces are measured along ¶ parapet.  
For Railing details see Standard Drawing BR-1-65  
For typical lighting details see sheet No. 189  
For conduit expansion detail at abutments see sheet No. 189  
Work this drawing with Lighting and Signing Plans sheet No. 180 which shows locations of conduits, hand holds, lamp poles and sign trusses.  
For Detail H see sheet No. 343  
Bridge No. HAM-71-0224 for details.



ELEVATION PARAPET RAILING "A"  
(Looking West)



ELEVATION PARAPET RAILING "B"  
(Looking West)



DETAIL "A"

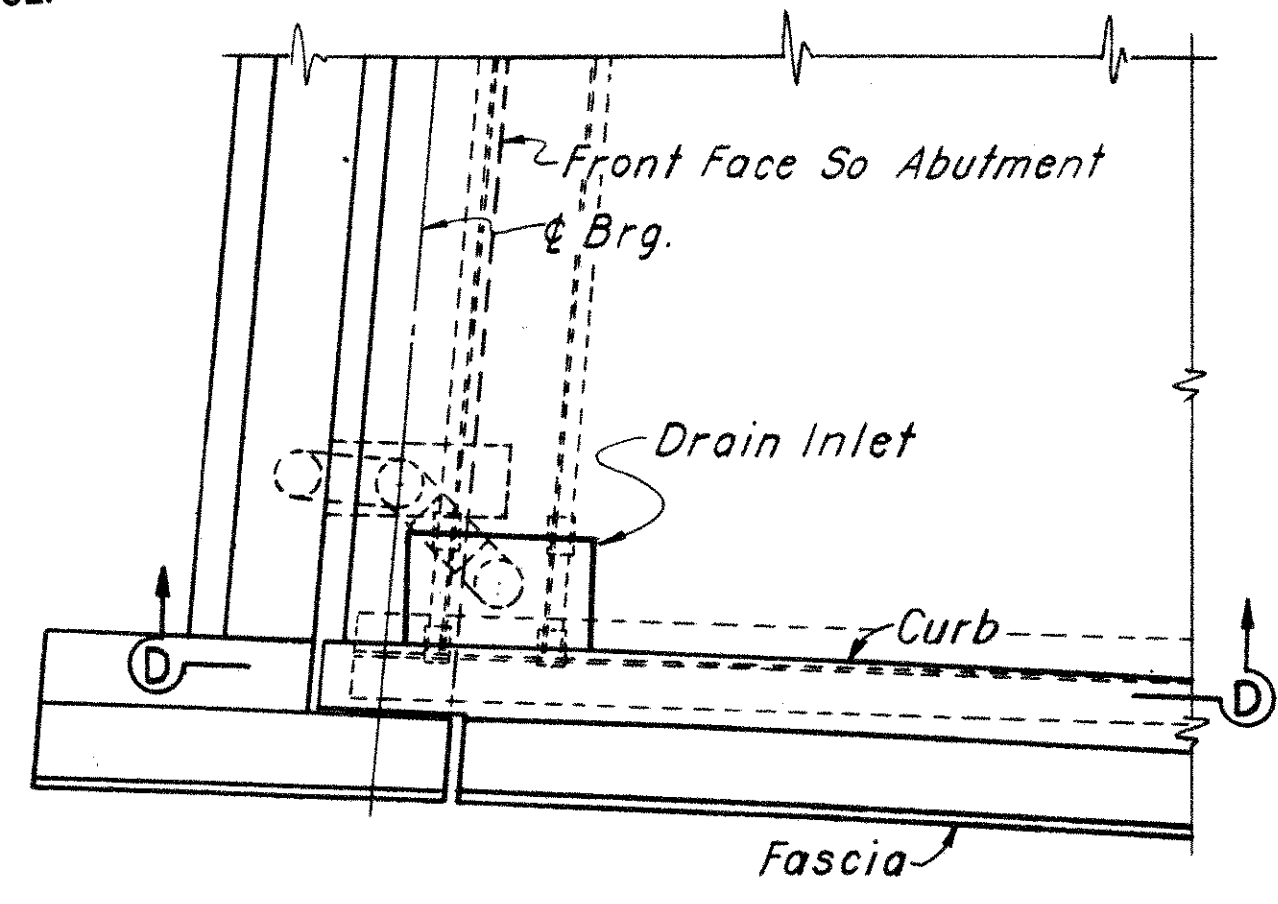
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|---|----------|--------|---------|----------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |          |        |         |                |         |
| <b>RAILING DETAILS</b><br>BRIDGE No. HAM-71-0231            |          |        |         |                |         |
| H & E BRIDGE No. 18   |          |        |         |                |         |
| DESIGNED  | DRAWN    | TRACED | CHECKED | REVIEWED DATE  | REVISED |
|   | RLR      |        | Blck    | JRO<br>4-12-65 |         |
|   | 12-30-64 |        | 4-12-65 | 8/1/65         |         |

MICROFILMED  
SEP 16 1982

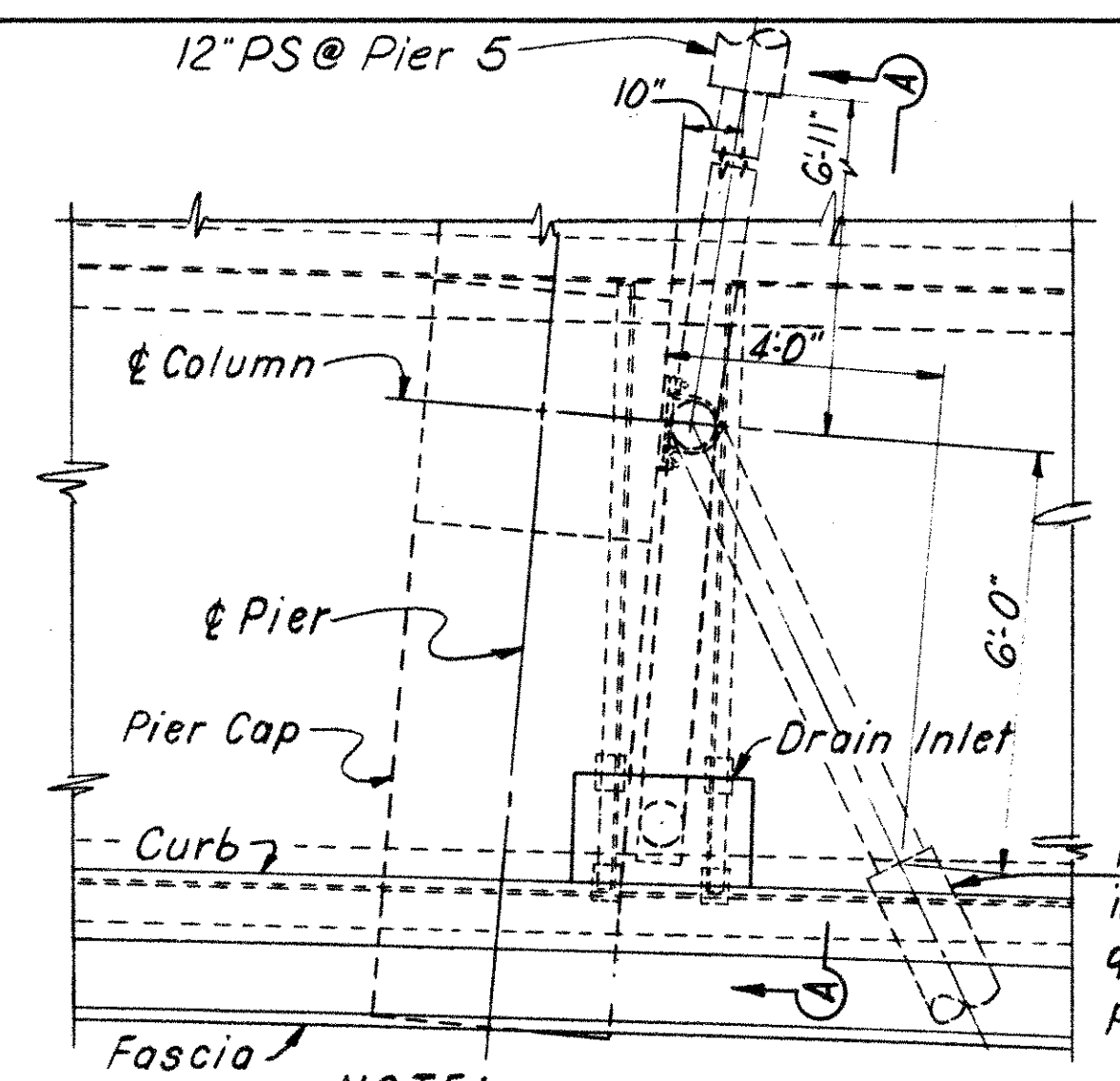
HAMILTON COUNTY  
HAM-71-2.08

|               |       |         |             |
|---------------|-------|---------|-------------|
| FED. RD. DIV. | STATE | PROJECT | FISCAL YEAR |
| 2             | OHIO  |         |             |

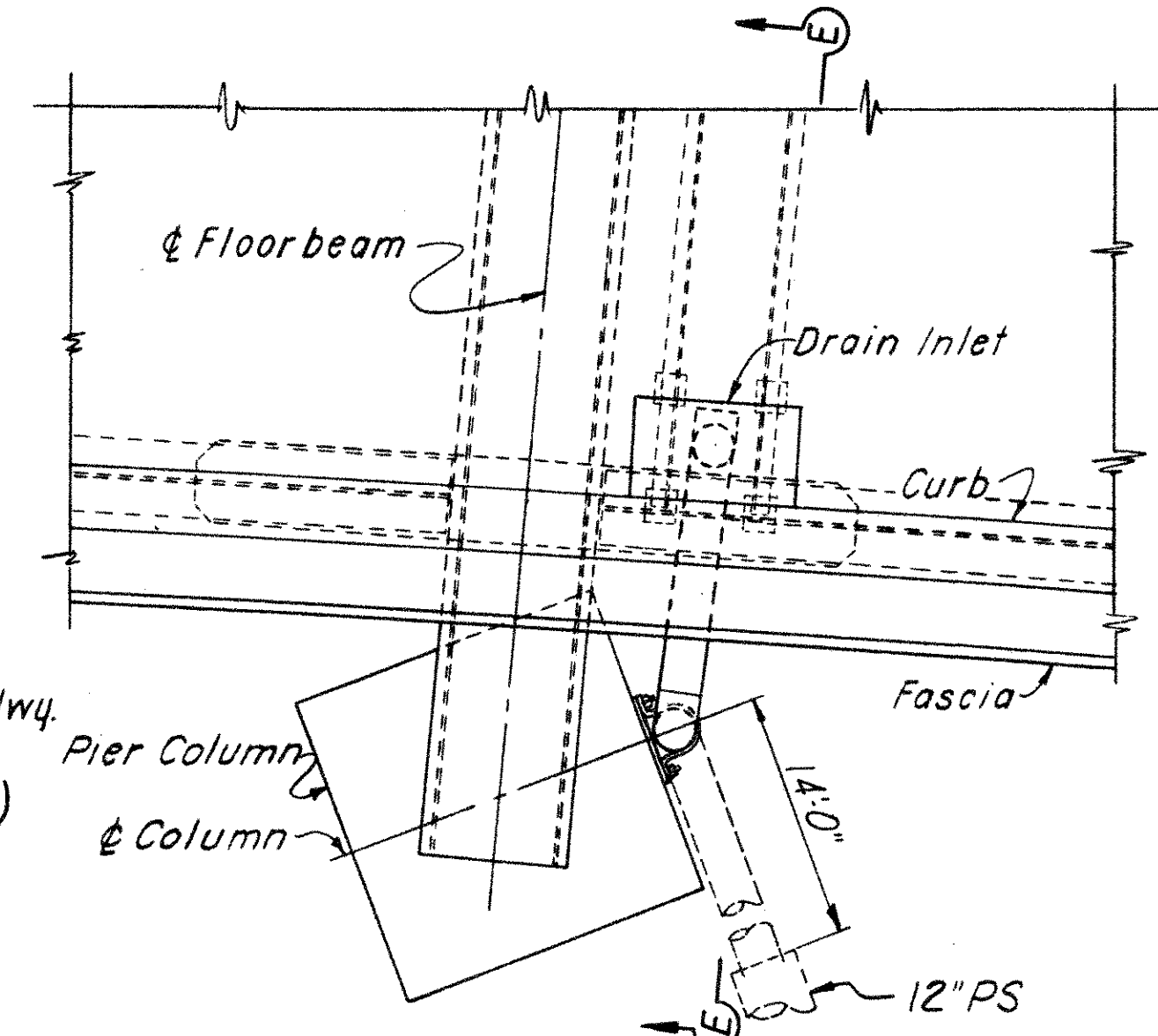
424  
460



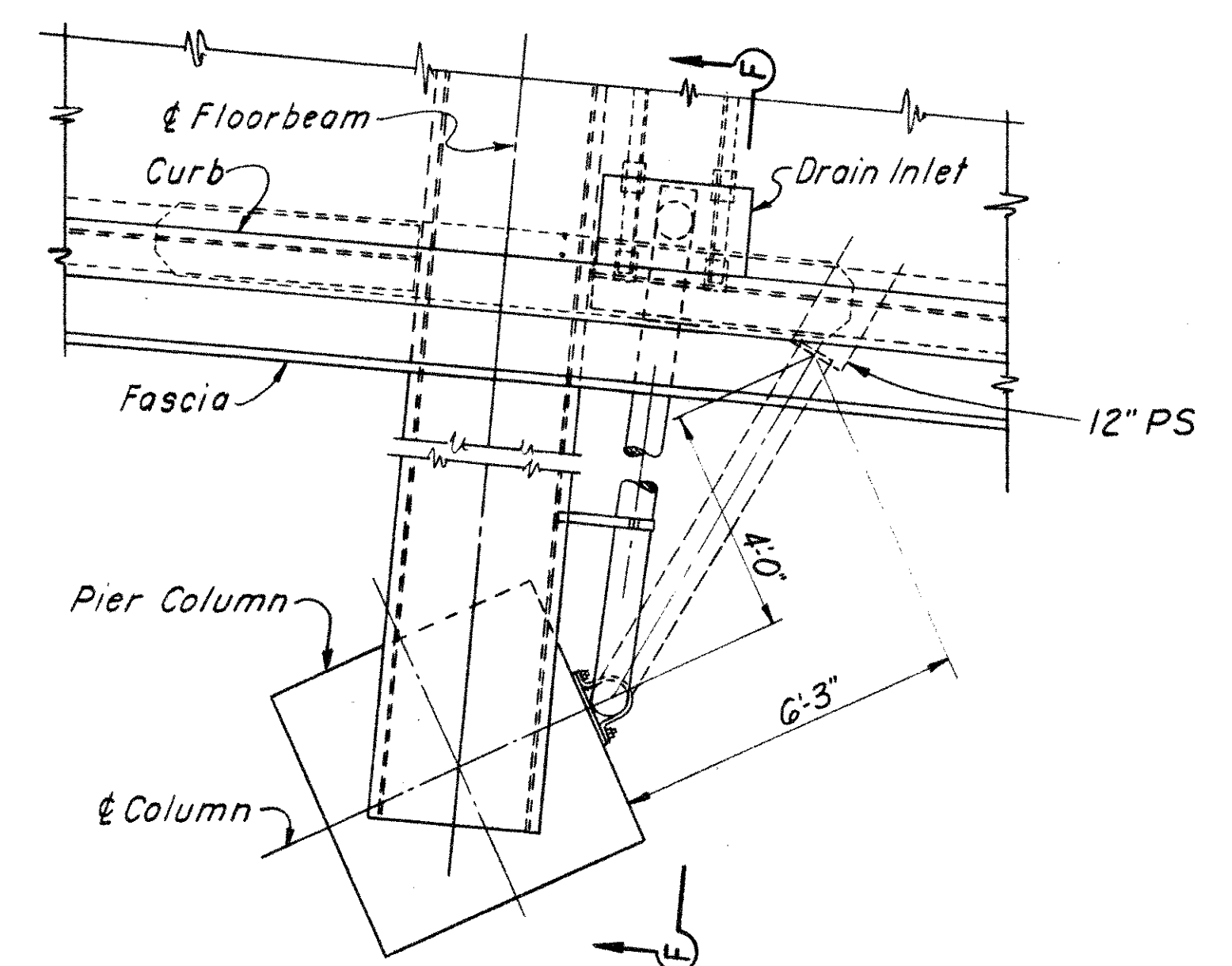
PLAN OF DRAIN INLET AT SOUTH ABUTMENT



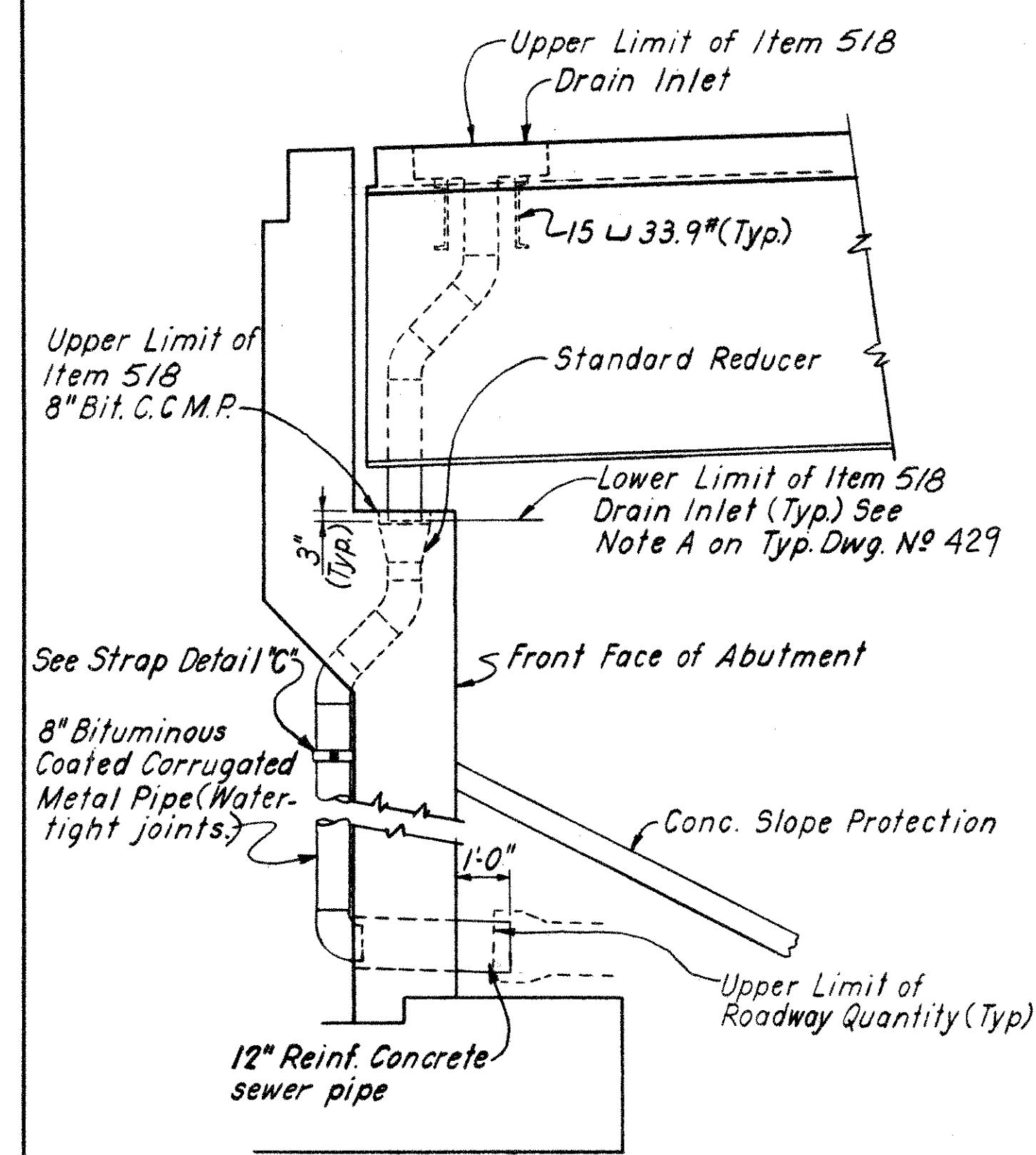
PLAN OF DRAIN INLET AT PIER 1  
PIER 5 SIMILAR



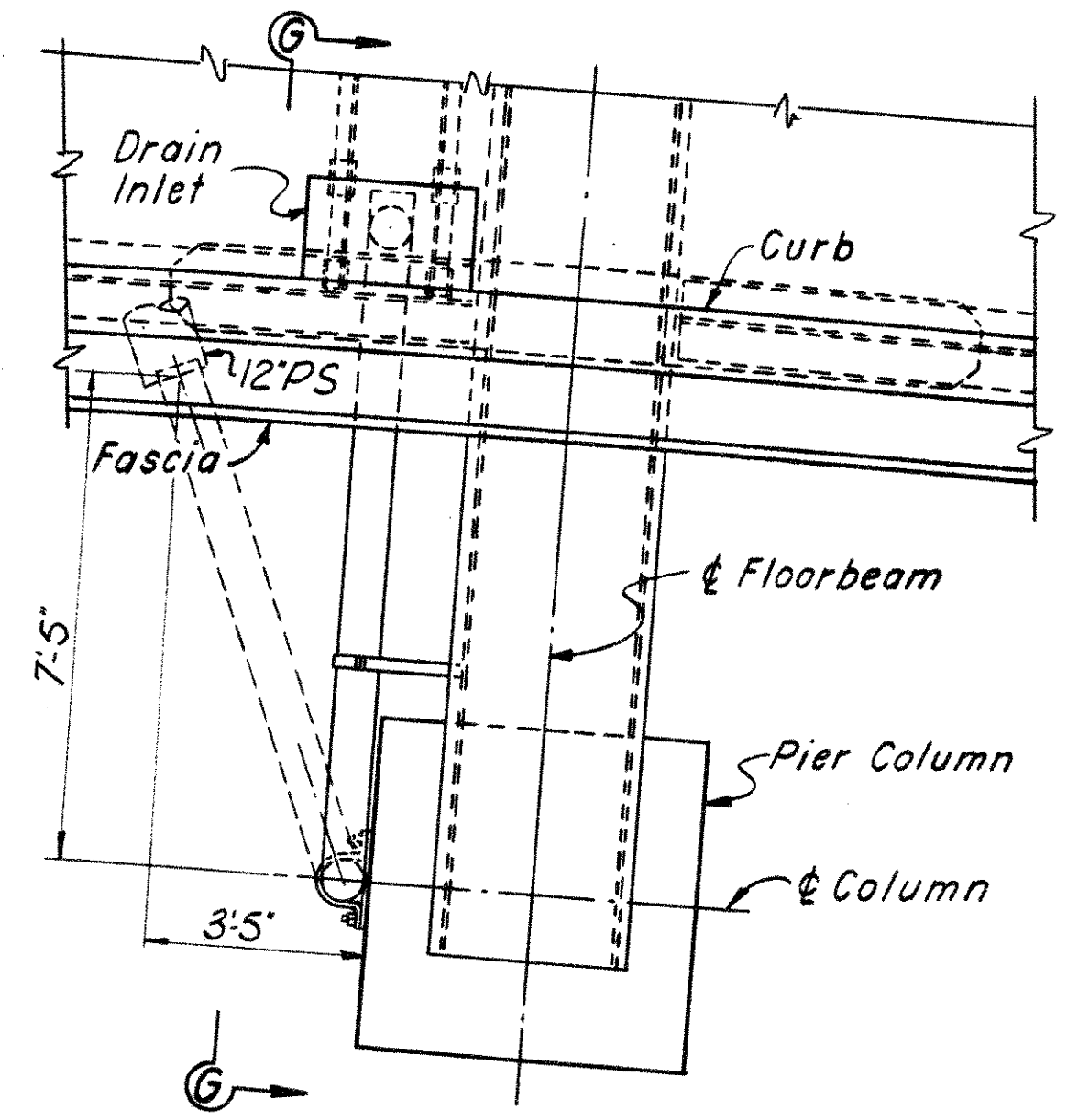
PLAN OF DRAIN INLET AT PIER 2



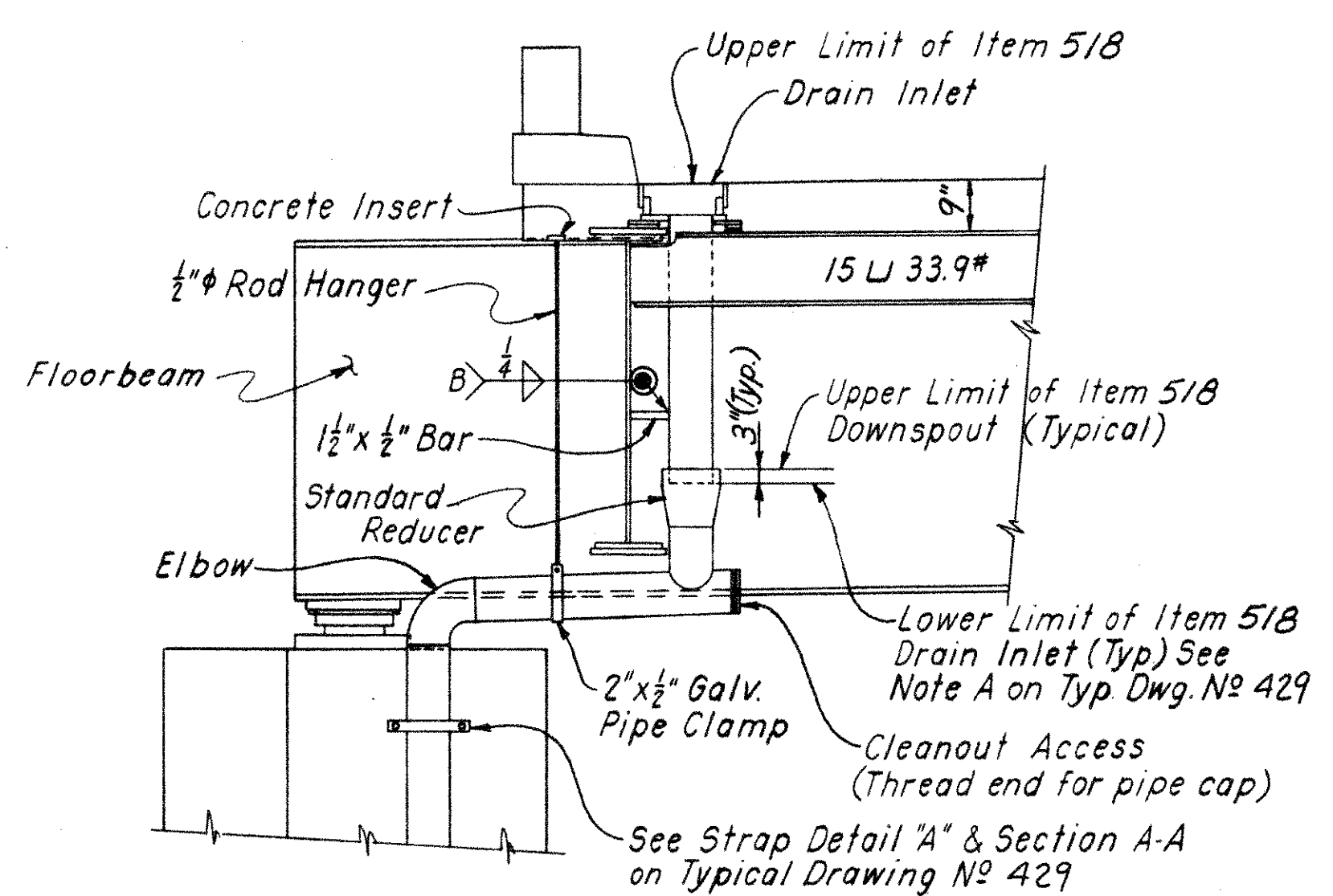
PLAN OF DRAIN INLET AT PIER 3



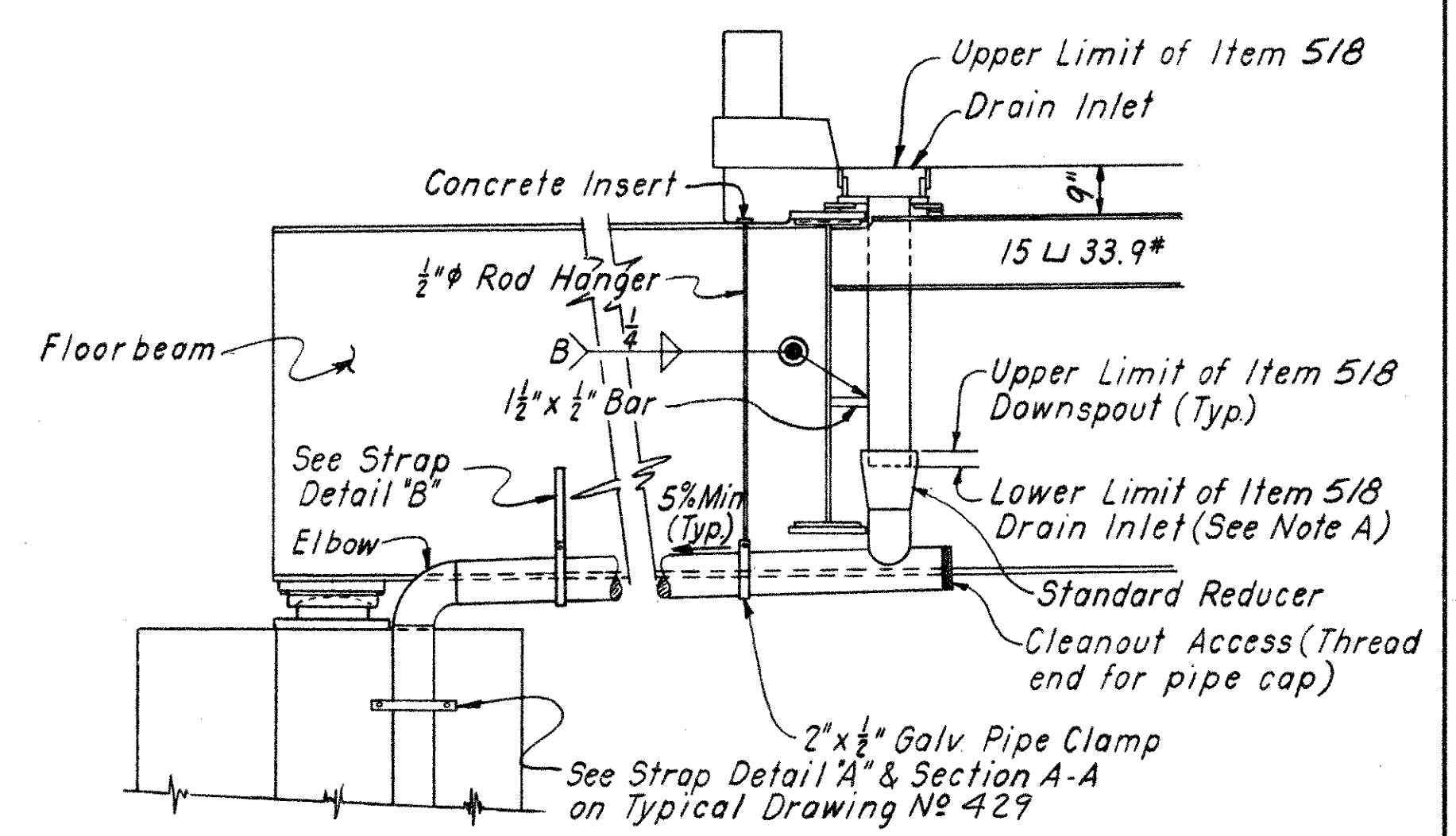
SECTION D-D



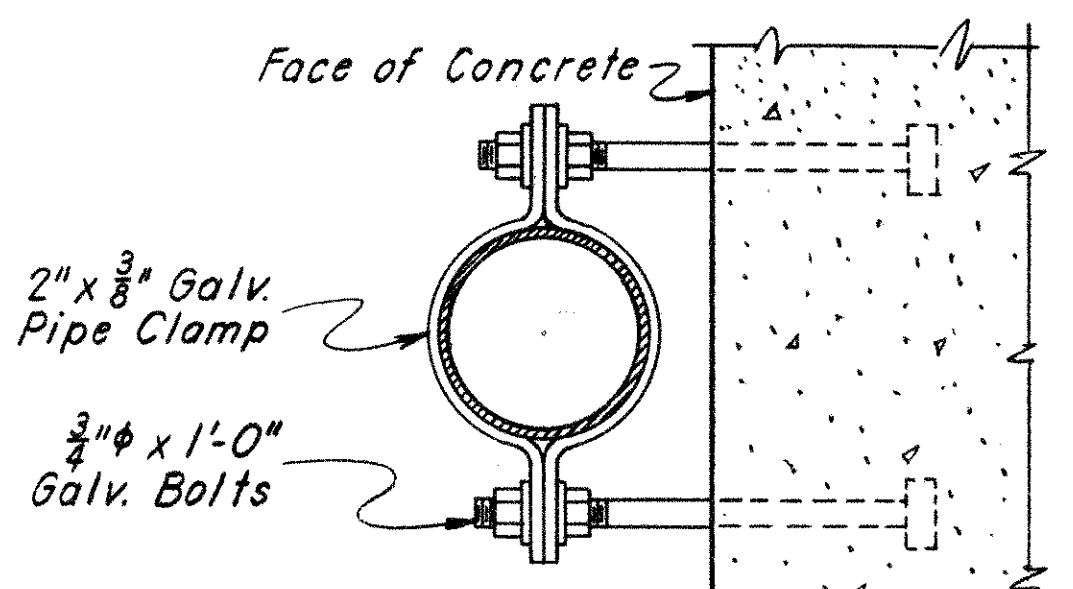
PLAN OF DRAIN INLET AT PIER 4



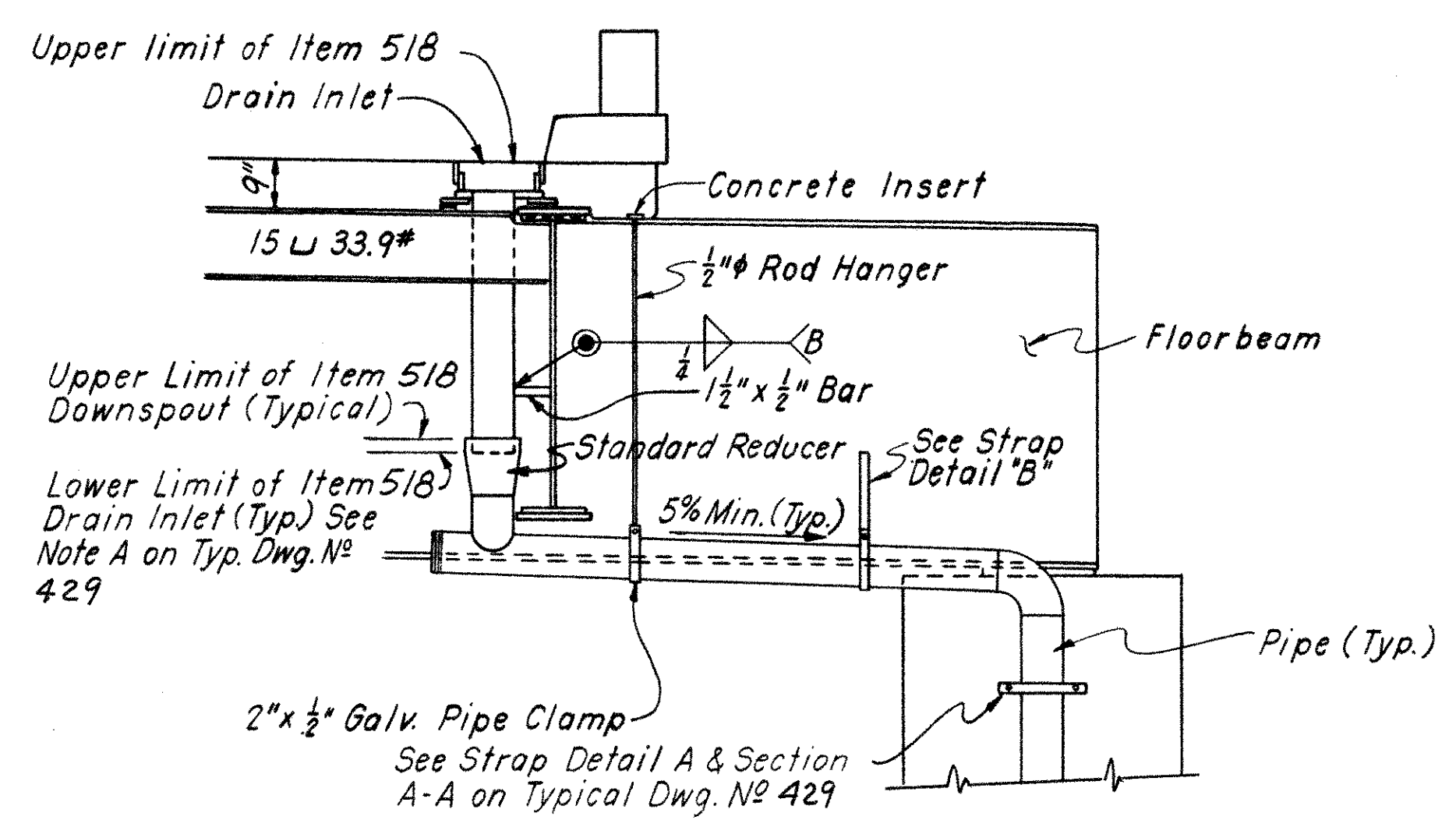
SECTION E-E



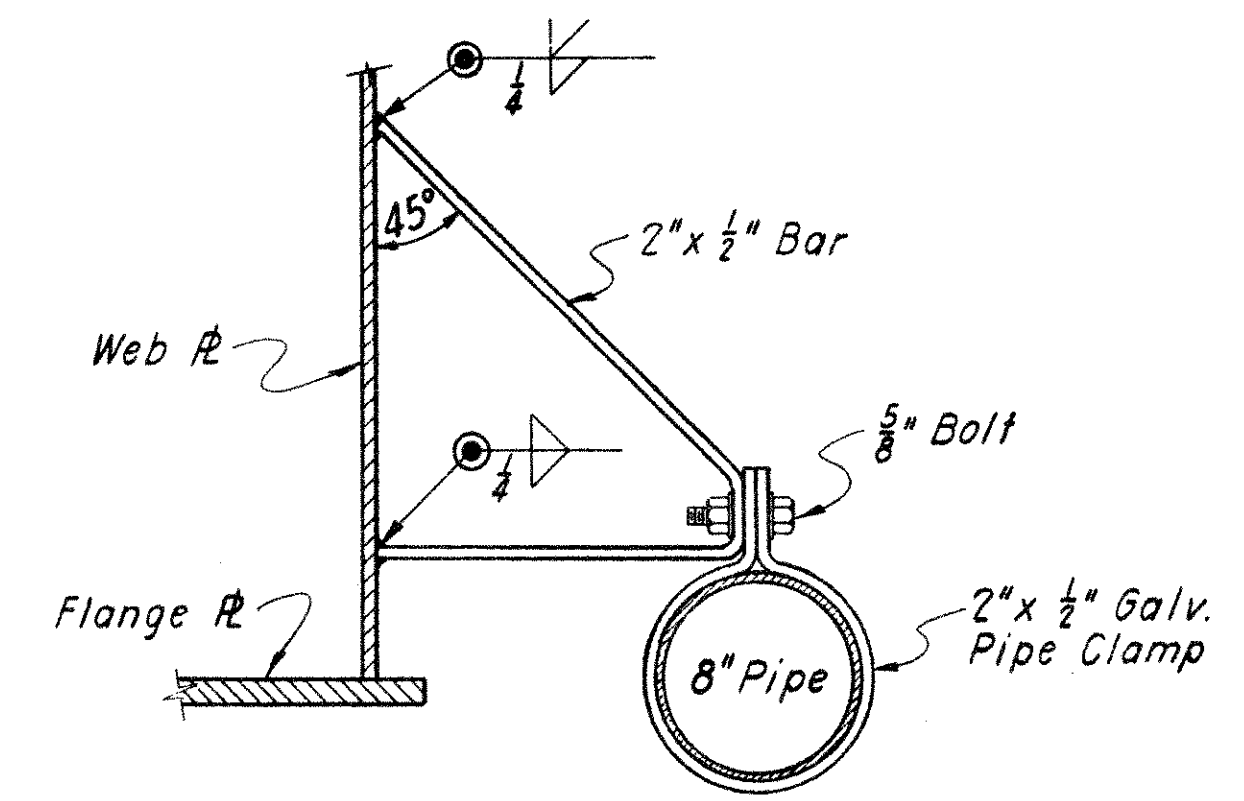
SECTION F-F



STRAP DETAIL "C"



SECTION G-G



DETAIL "B"  
(Typical pipe support hanger to be used at floorbeams)

NOTE:  
For Details not shown see Typical Drawing No 429  
All pipe to be 8" Standard Pipe unless noted otherwise.  
All reducers to be 12x8 Standard Reducers.

|   |        |        |         |               |         |
|---|--------|--------|---------|---------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |        |        |         |               |         |
| DRAINAGE DETAILS<br>BRIDGE No. HAM-71-0231                  |        |        |         |               |         |
| H & E BRIDGE No. 18   |        |        |         |               |         |
| DESIGNED  | DRAWN  | TRACED | CHECKED | REVIEWED DATE | REVISED |
|   | RLR    |        | DAF     | JLG           |         |
|   | 2-9-65 |        | 4-19-65 | 8/1/65        |         |

HAMILTON COUNTY  
HAM-71- 2.08

| SUPERSTRUCTURE |         |      |         |        |  |
|----------------|---------|------|---------|--------|--|
| MARK           | LENGTH  | TYPE | TOTAL   | WEIGHT |  |
| S501           | 4'-11"  | 61   | 702     | 3600   |  |
| S502           | 2'-6"   | 1    | 702     | 1830   |  |
| S503           | 5'-7"   | 14   | 736     | 4286   |  |
| S504           | 3'-0"   | 1    | 4       | 13     |  |
| S505           | 9'-8"   | 4    | 16      | 161    |  |
| S601           | 34'-0"  | Str. | 789     | 40293  |  |
| S602           | 27'-8"  | Str. | 136     | 5652   |  |
| S603           | 26'-8"  | Str. | 141     | 5648   |  |
| S604           | 31'-11" | Str. | 357     | 17114  |  |
| S605           | 33'-4"  | Str. | 354     | 17724  |  |
| S606           | 21'-9"  | Str. | 96      | 3136   |  |
| S607           | 22'-7"  | Str. | 96      | 3256   |  |
| S608           | 24'-6"  | Str. | 37      | 1362   |  |
| S609           | 23'-7"  | Str. | 37      | 1311   |  |
| S610           | 22'-8"  | Str. | 37      | 1260   |  |
| S611           | 21'-8"  | Str. | 36      | 1172   |  |
| S612           | 20'-8"  | Str. | 108     | 3352   |  |
| S613           | 19'-6"  | Str. | 34      | 996    |  |
| S614           | 18'-4"  | Str. | 34      | 936    |  |
| S615           | 26'-6"  | Str. | 468     | 18628  |  |
| S616           | 24'-9"  | Str. | 318     | 11821  |  |
| S617           | 19'-8"  | Str. | 94      | 2777   |  |
| S618           | 20'-6"  | Str. | 86      | 2648   |  |
| S619           | 17'-2"  | Str. | 31      | 799    |  |
| S620           | 15'-11" | Str. | 31      | 741    |  |
| S621           | 14'-8"  | Str. | 32      | 705    |  |
| S622           | 13'-5"  | Str. | 32      | 645    |  |
| S623           | 12'-1"  | Str. | 32      | 581    |  |
| S624           | 10'-9"  | Str. | 35      | 565    |  |
| S625           | 9'-9"   | Str. | 35      | 513    |  |
| S626           | 8'-9"   | Str. | 35      | 460    |  |
| S627           | 30'-0"  | Str. | 297     | 13383  |  |
| S628           | 23'-10" | Str. | 93      | 3329   |  |
| S629           | 25'-1"  | Str. | 264     | 9946   |  |
| S701           | 34'-0"  | Str. | 789     | 54832  |  |
| S702           | 28'-0"  | Str. | 136     | 7784   |  |
| S703           | 27'-0"  | Str. | 141     | 7782   |  |
| S704           | 24'-10" | Str. | 37      | 1818   |  |
| S705           | 23'-11" | Str. | 37      | 1809   |  |
| S706           | 23'-0"  | Str. | 37      | 1739   |  |
| S707           | 22'-0"  | Str. | 36      | 1619   |  |
| S708           | 21'-0"  | Str. | 34      | 1459   |  |
| S709           | 19'-10" | Str. | 34      | 1378   |  |
| S710           | 18'-8"  | Str. | 34      | 1297   |  |
| S711           | 17'-6"  | Str. | 31      | 1109   |  |
| S712           | 16'-3"  | Str. | 31      | 1030   |  |
| S713           | 15'-0"  | Str. | 32      | 981    |  |
| S714           | 13'-9"  | Str. | 32      | 899    |  |
| S715           | 12'-5"  | Str. | 32      | 812    |  |
| S716           | 11'-1"  | Str. | 35      | 793    |  |
| S717           | 10'-1"  | Str. | 35      | 721    |  |
| S718           | 9'-1"   | Str. | 35      | 650    |  |
| S722           | 9'-4"   | 58   | 16      | 305    |  |
| S723           | 6'-2"   | 49   | 16      | 202    |  |
| S724           | 5'-11"  | 61   | 16      | 194    |  |
| H501           | 12'-9"  | Str. | 4       | **     |  |
| H502           | 15'-6"  | Str. | 256     | **     |  |
| H503           | 4'-10"  | Str. | 4       | **     |  |
| H507           | 8'-1"   | 58   | 16      | **     |  |
| H510           | 13'-1"  | Str. | 4       | **     |  |
| H511           | 5'-2"   | Str. | 4       | **     |  |
| TOTAL WEIGHT   |         |      | 269,916 |        |  |

| SOUTH ABUTMENT |         |      |        |        |  |
|----------------|---------|------|--------|--------|--|
| MARK           | LENGTH  | TYPE | TOTAL  | WEIGHT |  |
| A501           | 28'-6"  | Str. | 25     | 743    |  |
| A502           | 31'-6"  | Str. | 21     | 690    |  |
| A503           | 11'-0"  | Str. | 9      | 103    |  |
| A504           | 7'-8"   | Str. | 10     | 80     |  |
| A505           | 19'-4"  | Str. | 1      | 20     |  |
| A506           | 16'-7"  | Str. | 1      | 17     |  |
| A507           | 5'-8"   | 1    | 67     | 396    |  |
| A508           | 5'-5"   | Str. | 39     | 220    |  |
| A509           | 19'-1"  | Str. | 4      | 80     |  |
| A510           | 3'-5"   | Str. | 4      | 14     |  |
| A511           | 6'-4"   | 15   | 6      | 40     |  |
| A512           | 9'-7"   | 14   | 10     | 100    |  |
| A513           | 16'-5"  | Str. | 4      | 68     |  |
| A514           | 7'-6"   | Str. | 42     | 329    |  |
| A601           | 8'-3"   | 20   | 56     | 694    |  |
| A602           | 20'-4"  | 7    | 46     | 1405   |  |
| A603           | 10'-0"  | Str. | 2      | 30     |  |
| A604           | 21'-11" | 4    | 10     | 329    |  |
| A701           | 9'-4"   | 44   | 44     | 839    |  |
| A801           | 11'-9"  | 19   | 6      | 188    |  |
| A802           | 7'-9"   | 19   | 6      | 124    |  |
| A803           | 28'-10" | Str. | 11     | 847    |  |
| A804           | 31'-7"  | Str. | 11     | 928    |  |
| A805           | 13'-10" | Str. | 2      | 74     |  |
| A806           | 15'-2"  | Str. | 2      | 81     |  |
| A1001          | 11'-5"  | 18   | 11     | 540    |  |
| A1002          | 7'-9"   | 18   | 10     | 333    |  |
| A1003          | 11'-9"  | 18   | 9      | 455    |  |
| A1004          | 14'-9"  | 18   | 10     | 635    |  |
| H506           | 5'-5"   | Str. | 12     | **     |  |
| TOTAL WEIGHT   |         |      | 10,402 |        |  |
| NORTH ABUTMENT |         |      |        |        |  |
| MARK           | LENGTH  | TYPE | TOTAL  | WEIGHT |  |
| A551           | 22'-11" | Str. | 19     | 454    |  |
| A552           | 22'-7"  | Str. | 19     | 448    |  |
| A553           | 5'-8"   | 1    | 55     | 325    |  |
| A554           | 8'-11"  | 18   | 30     | 279    |  |
| A555           | 8'-0"   | Str. | 2      | 17     |  |
| A556           | 5'-7"   | 14   | 18     | 105    |  |
| A557           | 12'-0"  | 35   | 7      | 88     |  |
| A558           | 10'-0"  | Str. | 4      | 42     |  |
| A559           | 11'-2"  | Str. | 8      | 93     |  |
| A560           | 9'-2"   | Str. | 2      | 19     |  |
| A561           | 3'-7"   | Str. | 10     | 37     |  |
| A562           | 4'-3"   | 1    | 18     | 80     |  |
| A563           | 11'-0"  | Str. | 2      | 23     |  |
| A564           | 14'-0"  | Str. | 2      | 29     |  |
| A565           | 17'-2"  | Str. | 8      | 143    |  |
| A566           | 6'-10"  | Str. | 2      | 14     |  |
| A567           | 6'-2"   | Str. | 2      | 13     |  |
| A568           | 5'-7"   | Str. | 2      | 12     |  |
| A569           | 5'-0"   | Str. | 2      | 10     |  |
| A570           | 4'-4"   | Str. | 2      | 9      |  |
| A571           | 3'-8"   | Str. | 2      | 8      |  |
| A572           | 8'-11"  | Str. | 2      | 19     |  |
| A573           | 11'-0"  | 1    | 31     | 356    |  |
| A574           | 8'-5"   | 62   | 6      | 53     |  |
| A575           | 11'-3"  | Str. | 3      | 35     |  |
| A651           | 20'-11" | 7    | 30     | 943    |  |
| A652           | 8'-11"  | 18   | 30     | 402    |  |
| A653           | 20'-6"  | 1    | 8      | 246    |  |
| A654           | 9'-7"   | 1    | 31     | 446    |  |
| A655           | 3'-7"   | 1    | 8      | 43     |  |
| A656           | 33'-2"  | 1    | 11     | 548    |  |
| A657           | 21'-6"  | 4    | 8      | 129    |  |
| A851           | 24'-11" | Str. | 16     | 1064   |  |
| A852           | 10'-0"  | Str. | 6      | 160    |  |
| H504           | 7'-0"   | Str. | 4      | **     |  |
| H505           | 17'-2"  | Str. | 4      | **     |  |
| H508           | 5'-4"   | 67   | 2      | **     |  |
| H509           | 4'-2"   | 66   | 3      | **     |  |
| TOTAL WEIGHT   |         |      | 6,692  |        |  |

| PIER 1       |         |      |        |        |  |
|--------------|---------|------|--------|--------|--|
| MARK         | LENGTH  | TYPE | TOTAL  | WEIGHT |  |
| P401         | 7'-4"   | 1    | 146    | 715    |  |
| P402         | 6'-6"   | 26   | 140    | 608    |  |
| P501         | 7'-9"   | 1    | 156    | 1261   |  |
| P502         | 4'-11"  | 1    | 42     | 215    |  |
| P701         | 9'-6"   | 20   | 8      | 155    |  |
| P702         | 30'-8"  | Str. | 8      | 501    |  |
| P801         | 9'-8"   | Str. | 21     | 542    |  |
| P802         | 13'-2"  | Str. | 15     | 527    |  |
| P1001        | 7'-5"   | 44   | 48     | 1532   |  |
| P1002        | 16'-9"  | Str. | 16     | 1153   |  |
| P1003        | 19'-9"  | Str. | 16     | 1360   |  |
| P1004        | 22'-4"  | Str. | 16     | 1538   |  |
| P1005        | 24'-0"  | Str. | 12     | 1239   |  |
| P1101        | 16'-4"  | 43   | 30     | 2603   |  |
| P1102        | 12'-10" | 43   | 33     | 2250   |  |
| P1103        | 20'-0"  | Str. | 6      | 638    |  |
| P1104        | 23'-2"  | Str. | 12     | 1477   |  |
| P1105        | 17'-9"  | 18   | 8      | 754    |  |
| TOTAL WEIGHT |         |      | 19,068 |        |  |

| PIER 2       |         |      |        |        |  |
|--------------|---------|------|--------|--------|--|
| MARK         | LENGTH  | TYPE | TOTAL  | WEIGHT |  |
| P421         | 10'-6"  | 1    | 242    | 1697   |  |
| P422         | 8'-9"   | 26   | 238    | 1398   |  |
| P521         | 5'-5"   | 1    | 20     | 113    |  |
| P522         | 18'-3"  | Str. | 6      | 114    |  |
| P523         | 29'-3"  | Str. | 6      | 183    |  |
| P524         | 5'-7"   | 14   | 11     | 64     |  |
| P525         | 15'-4"  | Str. | 16     | 256    |  |
| P526         | 15'-6"  | Str. | 18     | 291    |  |
| P527         | 7'-6"   | 15   | 11     | 86     |  |
| P821         | 14'-8"  | Str. | 9      | 352    |  |
| P822         | 17'-8"  | Str. | 8      | 377    |  |
| P823         | 15'-5"  | Str. | 3      | 123    |  |
| P824         | 15'-2"  | Str. | 3      | 121    |  |
| P825         | 14'-11" | Str. | 3      | 119    |  |
| P826         | 14'-8"  | Str. | 3      | 117    |  |
| P827         | 23'-8"  | Str. | 9      | 569    |  |
| P921         | 17'-2"  | 43   | 17     | 992    |  |
| P922         | 15'-6"  | Str. | 6      | 316    |  |
| P923         | 15'-3"  | Str. | 6      | 311    |  |
| P924         | 15'-0"  | Str. | 6      | 306    |  |
| P925         | 14'-9"  | Str. | 6      | 301    |  |
| P1021        | 20'-6"  | 43   | 20     | 1764   |  |
| P1022        | 23'-6"  | Str. | 21     | 2124   |  |
| P1023        | 10'-0"  | 19   | 21     | 904    |  |
| P1024        | 15'-2"  | 19   | 20     | 1305   |  |
| P1025        | 14'-6"  | Str. | 11     | 686    |  |
| P1026        | 22'-7"  | Str. | 10     | 972    |  |
| P1121        | 9'-2"   | 44   | 24     | 1169   |  |
| P1122        | 27'-8"  | Str. | 24     | 3528   |  |
| P1123        | 38'-10" | 18   | 24     | 4952   |  |
| P1124        | 24'-9"  | Str. | 24     | 3155   |  |
| P1421        | 32'-2"  | 33   | 24     | 5906   |  |
| H521         | 15'-6"  | Str. | 4      | **     |  |
| TOTAL WEIGHT |         |      | 34,671 |        |  |

| PIER 3       |         |      |        |        |  |
|--------------|---------|------|--------|--------|--|
| MARK         | LENGTH  | TYPE | TOTAL  | WEIGHT |  |
| P441         | 10'-6"  | 1    | 200    | 1403   |  |
| P442         | 8'-9"   | 26   | 196    | 1146   |  |
| P541         | 5'-5"   | 1    | 20     | 113    |  |
| P542         | 6'-9"   | Str. | 7      | 49     |  |
| P543         | 6'-8"   | Str. | 7      | 47     |  |
| P544         | 18'-6"  | Str. | 10     | 193    |  |
| P545         | 7'-2"   | 15   | 13     | 97     |  |
| P546         | 5'-7"   | 14   | 13     | 76     |  |
| P641         | 7'-7"   | 19   | 13     | 148    |  |
| P841         | 18'-8"  | Str. | 8      | 399    |  |
| P842         | 14'-8"  | Str. | 26     | 1018   |  |
| P843         | 16'-8"  | 43   | 34     | 1513   |  |
| P941         | 17'-0"  | 43   | 18     | 1040   |  |
| P1041        | 21'-4"  | 43   | 23     | 2111   |  |
| P1141        | 32'-10" | Str. | 24     | 4187   |  |
| P1142        | 8'-11"  | 44   | 46     | 2274   |  |
| P1143        | 33'-10" | Str. | 24     | 4314   |  |
| H541         | 18'-6"  | Str. | 4      | **     |  |
| TOTAL WEIGHT |         |      | 20,228 |        |  |

| PIER 4       |         |      |        |        |  |
|--------------|---------|------|--------|--------|--|
| MARK         | LENGTH  | TYPE | TOTAL  | WEIGHT |  |
| P460         | 10'-6"  | 1    | 284    | 1992   |  |
| P461         | 8'-9"   | 26   | 284    | 1660   |  |
| P560         | 5'-4"   | 1    | 16     | 89     |  |
| P660         | 9'-8"   | Str. | 20     | 290    |  |
| P860         | 14'-8"  | Str. | 38     | 1488   |  |
| P861         | 9'-8"   | Str. | 10     | 258    |  |
| P862         | 24'-8"  | Str. | 8      | 527    |  |
| P960         | 19'-8"  | Str. | 12     | 802    |  |
| P1060        | 19'-8"  | Str. | 15     | 1269   |  |
| P1160        | 9'-0"   | 44   | 24     | 1148   |  |
| P1161        | 25'-3"  | Str. | 48     | 6439   |  |
| P1162        | 26'-1"  | 18   | 24     | 3326   |  |
| P1163        | 29'-8"  | 18   | 24     | 3783   |  |
| P1464        | 25'-10" | Str. | 24     | 3294   |  |
| P1465        | 24'-8"  | Str. | 32     | 4194   |  |
| TOTAL WEIGHT |         |      | 30,559 |        |  |

| PIER 5       |        |      |        |        |  |
|--------------|--------|------|--------|--------|--|
| MARK         | LENGTH | TYPE | TOTAL  | WEIGHT |  |
| P480         | 8'-2"  | 1    | 208    | 1135   |  |
| P481         | 7'-0"  | 26   | 208    | 973    |  |
| P580         | 8'-5"  | 1    | 140    | 1229   |  |
| P581         | 4'-11" | 1    | 36     | 185    |  |
| P780         | 10'-2" | 20   | 8      | 166    |  |
| P781         | 23'-0" | Str. | 8      | 376    |  |
| P880         | 10'-8" | Str. | 40     | 1139   |  |
| P881         | 17'-8" | Str. | 12     | 566    |  |
| P1080        | 17'-8" | Str. | 40     | 3041   |  |
| P1081        | 7'-5"  | 44   | 32     | 1021   |  |
| P1082        | 38'-4" | Str. | 32     | 5278   |  |
| P1180        | 28'-0" | Str. | 6      | 893    |  |
| P1181        | 18'-7" | Str. | 8      | 790    |  |
| P1182        | 28'-6" | Str. | 8      | 1211   |  |
| P1183        | 17'-7" | 18   | 12     | 1121   |  |
| TOTAL WEIGHT |        |      | 19,124 |        |  |

| REPLACEMENT BAR LIST |        |      |       |  |
|----------------------|--------|------|-------|--|
| Mark                 | Length | Type | Total |  |
| RE401                | 5'-3"  | Str. | 1     |  |
| RE501                | 5'-7"  | Str. | 1     |  |
| RE601                |        |      |       |  |

# GENERAL NOTES

|                   |       |         |  |
|-------------------|-------|---------|--|
| FED. RD. DIVISION | STATE | PROJECT |  |
| 2                 | OHIO  |         |  |



HAMILTON COUNTY  
HAM-71- 2.08

**Note 1**

REFERENCE shall be made to Standard Drawings BR-1-65 dated 2-1-65 Sheet No. 1, FSB-1-62 "Revised 1-15-63", SD-1-63 dated 11-12-63 Sheet Nos. 2 and 4, Supplemental Specification No. 811 dated 3-29-65, and Supplemental Specification No. 808 dated 7-14-65.

The first application shall not be made before 28 days after curing is completed. During this 28-day period, no other chemicals, such as de-icing agents, shall be applied to the concrete, which will receive the surface treatment. The surfaces to receive the treatment shall be clean and dry, and if necessary shall be cleaned by brooming or with air. The surrounding air temperature and concrete temperature shall be maintained at a minimum of 50 degrees during the application and following until both coats have completely dried.

**Note 2**

**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.

During the application and until the surfaces are completely dry, pedestrian and vehicular traffic, material and equipment shall not be permitted on the treated surfaces. Care shall be exercised during and after the application to keep the area clear of sparks or flames due to the extremely low flash point of the mixture.

**Note 3**

**PILES:** Since the structures of this project are to be constructed in a metropolitan area where there are numerous areas in which buildings have been dismantled and the existing basements filled with boulders, gravel, bricks, and other random debris, the Contractor shall use augering, spudding or whatever means are necessary to permit the piles to be driven without damaging them whenever the above conditions are encountered.

The quantity of "Concrete Surface Treatment" to be paid for shall be the number of square yards of surface treated as indicated above. The yardage of surface treatment measured as provided above shall be paid for at the contract unit price per square yard for "Item Special - Concrete Surface Treatment" which price and payment shall constitute full payment for furnishing, preparing and applying all materials, and for labor, equipment, tools and incidentals necessary to complete this item.

**Note 4**

**POROUS BACKFILL** (where called for in the plans) shall be 2 ft. thick and shall extend up to the underside of the approach slab or sidewalk unless otherwise noted.

**Note 5**

**UTILITY LINES:** All labor and expense involved in relocating (installing) the affected utility lines shall be borne by the owners. The Contractor and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

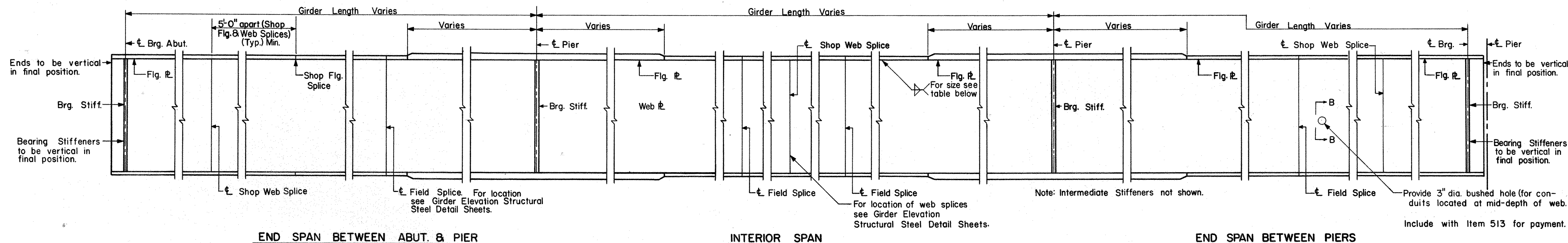
**Note 6**

**CONCRETE SURFACE TREATMENT:** The top, roadway side and end surfaces of all concrete parapets and end posts, the top surface and face of all concrete curbs on the structure, the top surface of the concrete deck and the top surface of bridge seats on the abutments and piers shall be treated in the following manner.

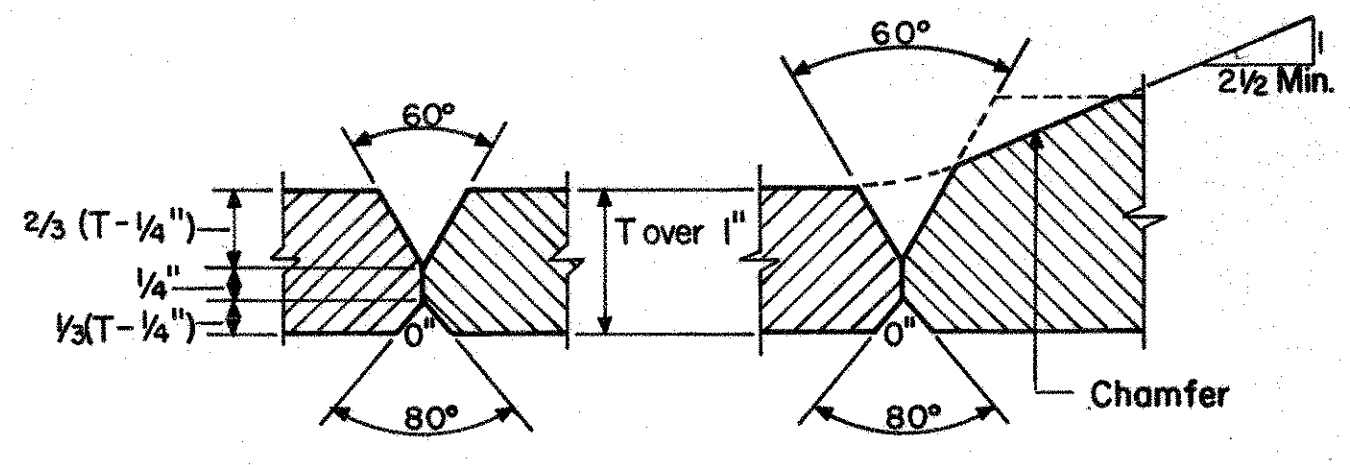
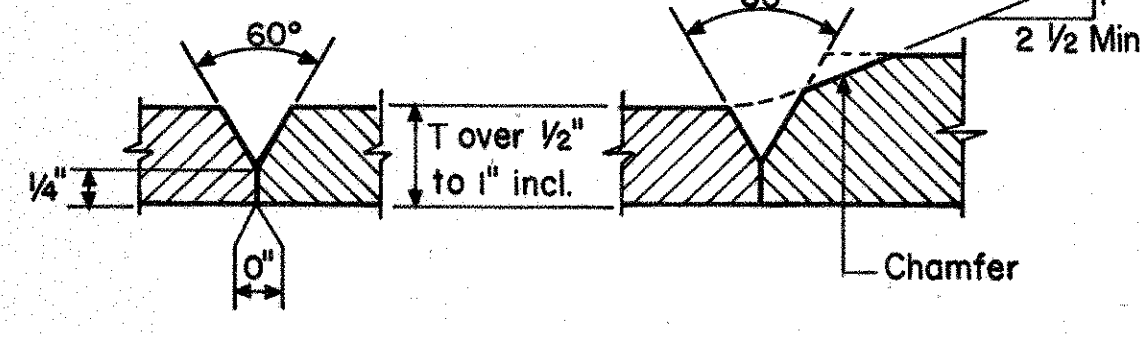
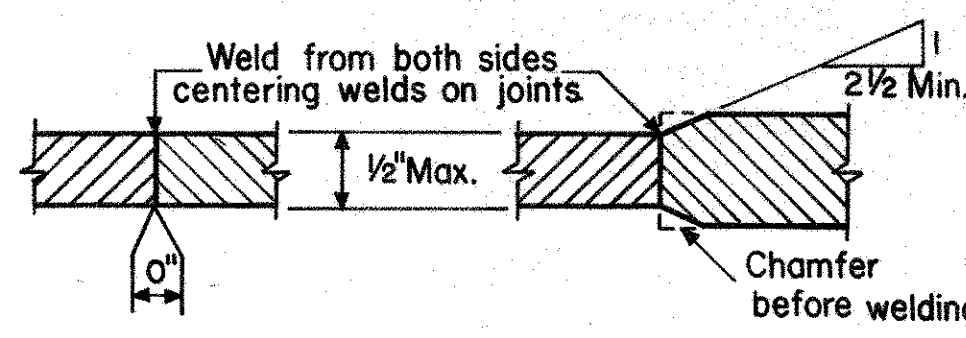
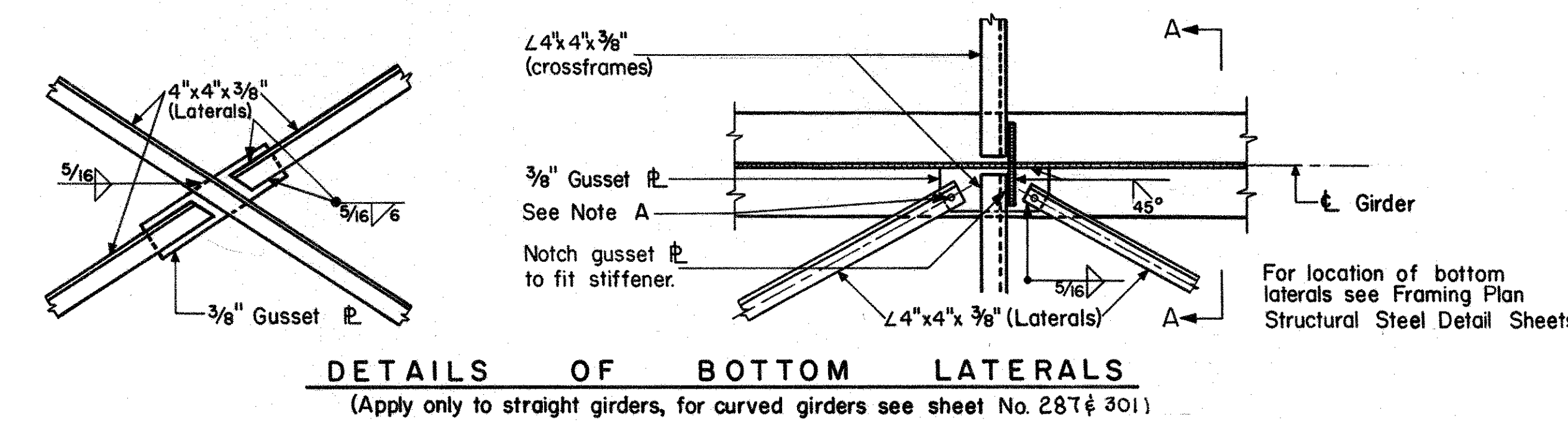
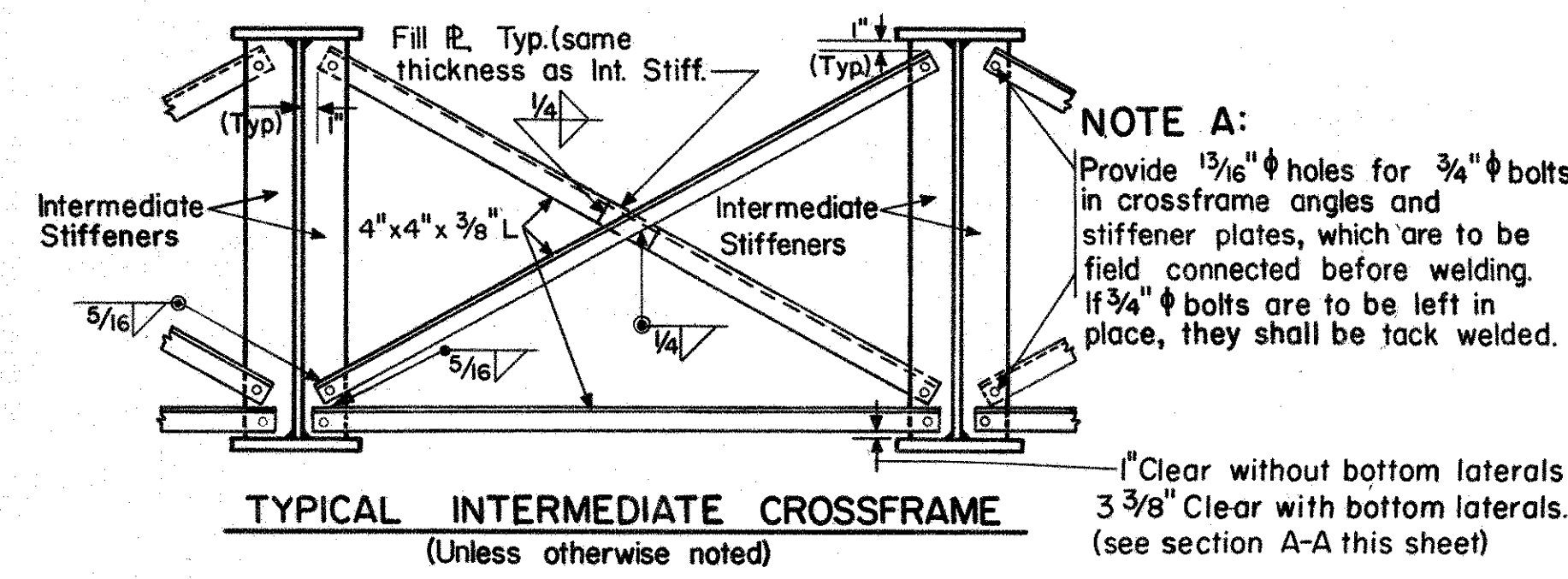
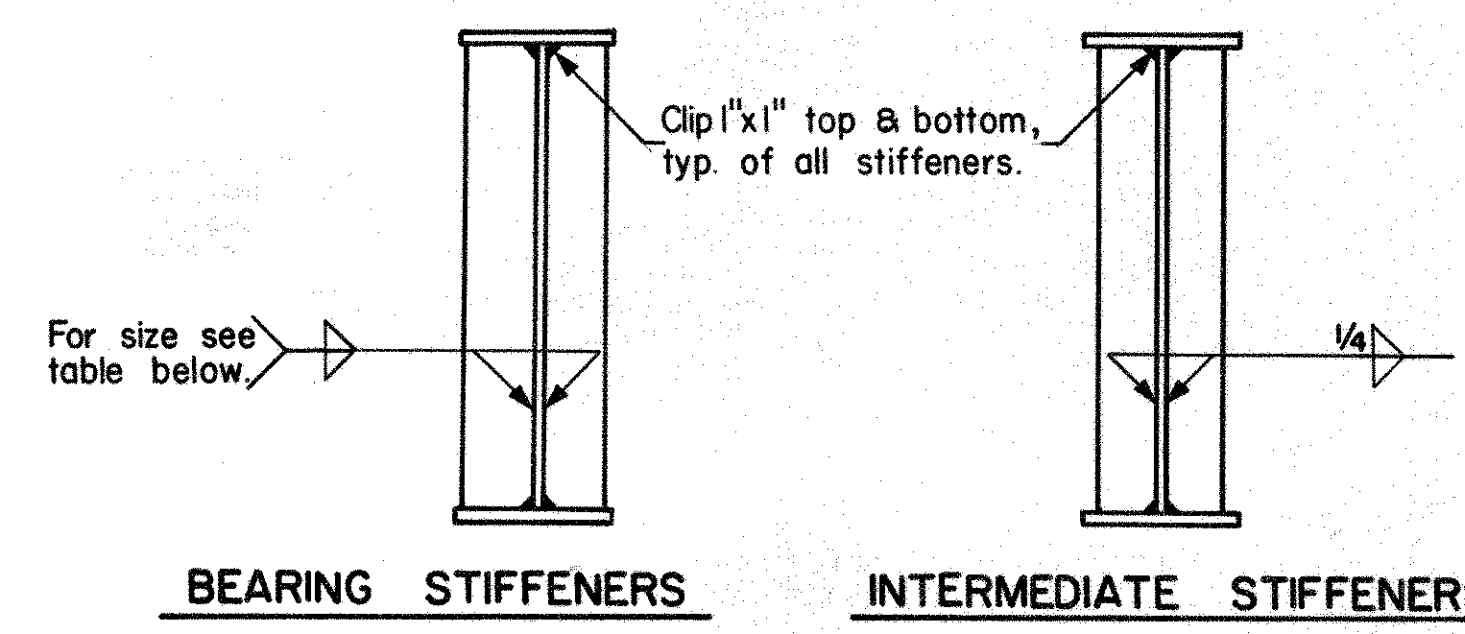
A mixture consisting of 50 percent boiled linseed oil meeting specification Section 708.02 and 50 percent mineral spirits meeting specification Section 708.04 shall be applied by spraying as a fine mist at a uniform rate in such a manner as to provide a continuous film on the surface. The mixture shall be applied in two separate coats. During the application, the material shall be agitated to secure a uniform mixture.

The first coat shall be applied at a rate of .025 gallons per square yard. After the first coat has completely dried, a second coat shall be applied at a rate of .015 gallons per square yard.

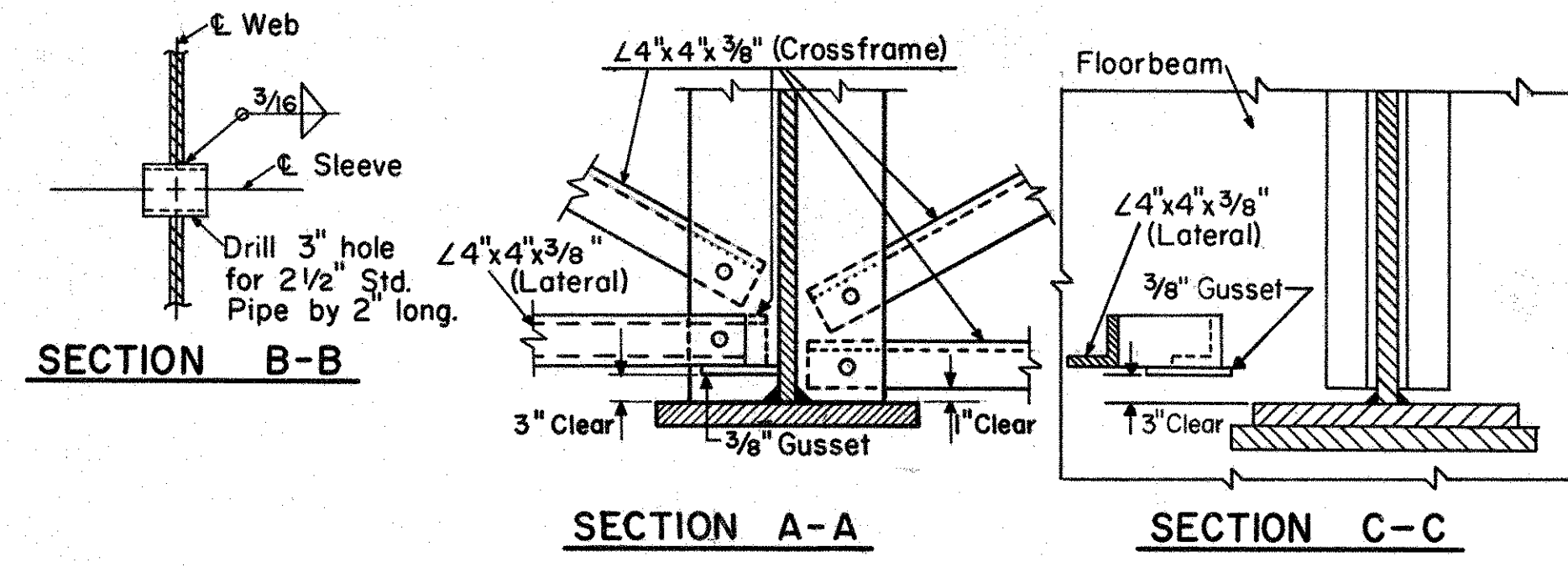
|   |        |        |         |                   |         |
|---|--------|--------|---------|-------------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |        |        |         |                   |         |
| GENERAL NOTES   |        |        |         |                   |         |
| DESIGNED  | DRAWN  | TRACED | CHECKED | REVIEWED DATE     | REVISED |
|   | M.J.E. | M.L.   | J.H.O.  | N.A.Z.<br>8-30-65 |         |



**TYPICAL PLATE GIRDER ELEVATIONS**

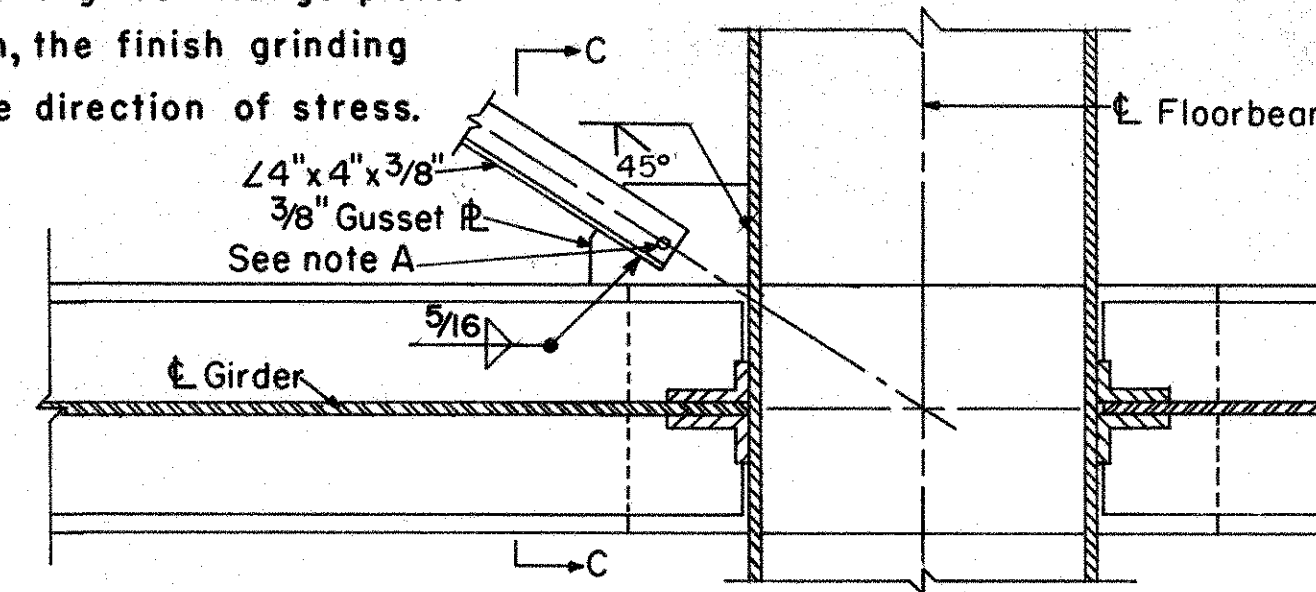


**JOINT PREPARATION FOR SUBMERGED ARC WELDMENTS**



All of the above full penetration welds shall be back-gouged and welded after welding far side.

Butt welds on beam and girder flange plates shall be ground flush, the finish grinding being parallel to the direction of stress.



| Plate Thickness       | Fillet Weld Size |
|-----------------------|------------------|
| Up to 3/4"            | 1/4"             |
| Over 3/4" to 1 1/2"   | 5/16"            |
| Over 1 1/2" to 2 1/4" | 3/8"             |
| Over 2 1/4" to 6"     | 1/2"             |

Plate Thickness refers to the thickness of the thicker part joined.

NOTES:  
For examination of welds for all plate girder spans see Supplemental Specification No. 811.

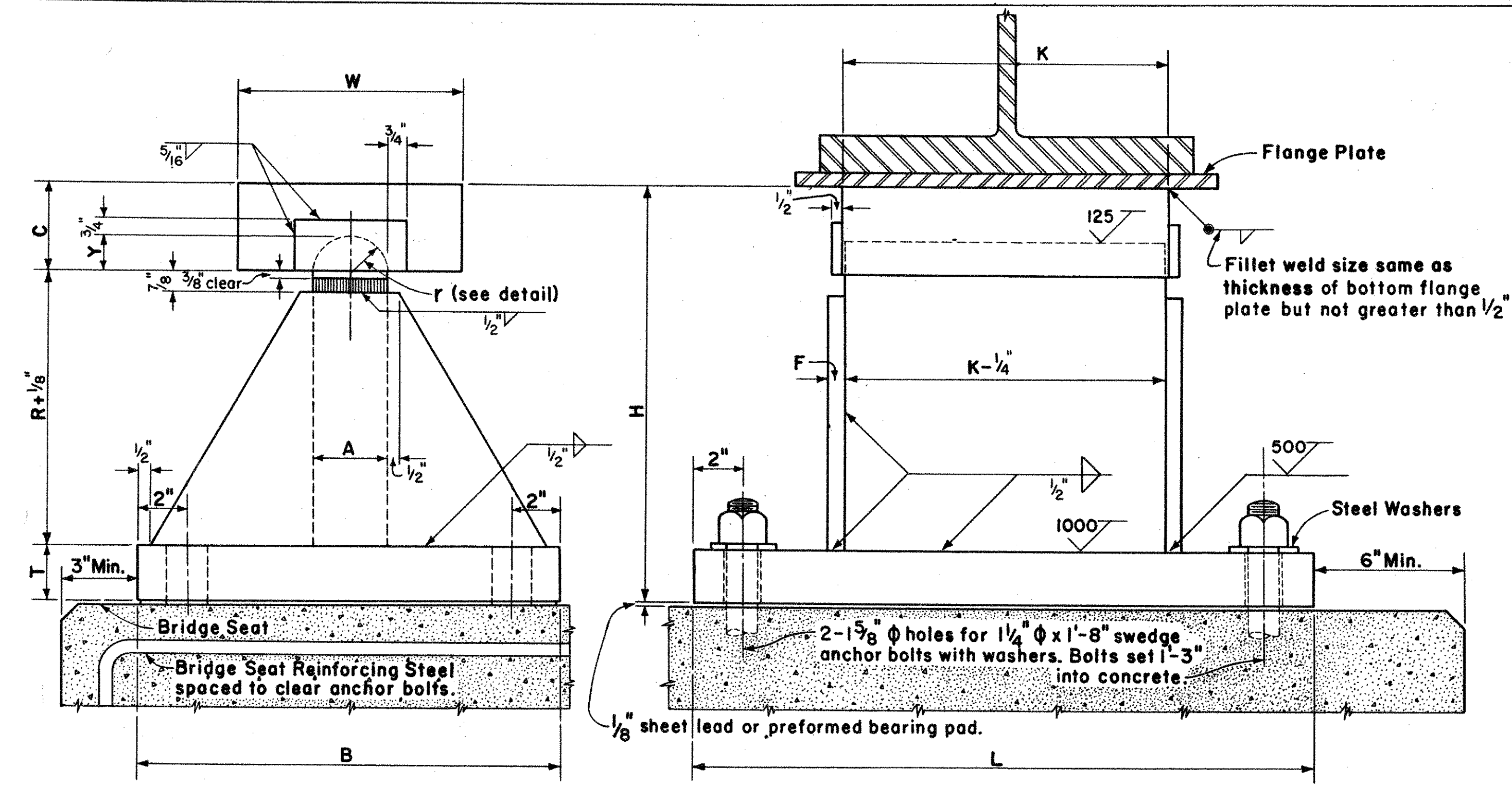
The contractor shall submit to the Director, for approval, 3 prints showing erection procedure for the plate girders.

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CINCINNATI, OHIO

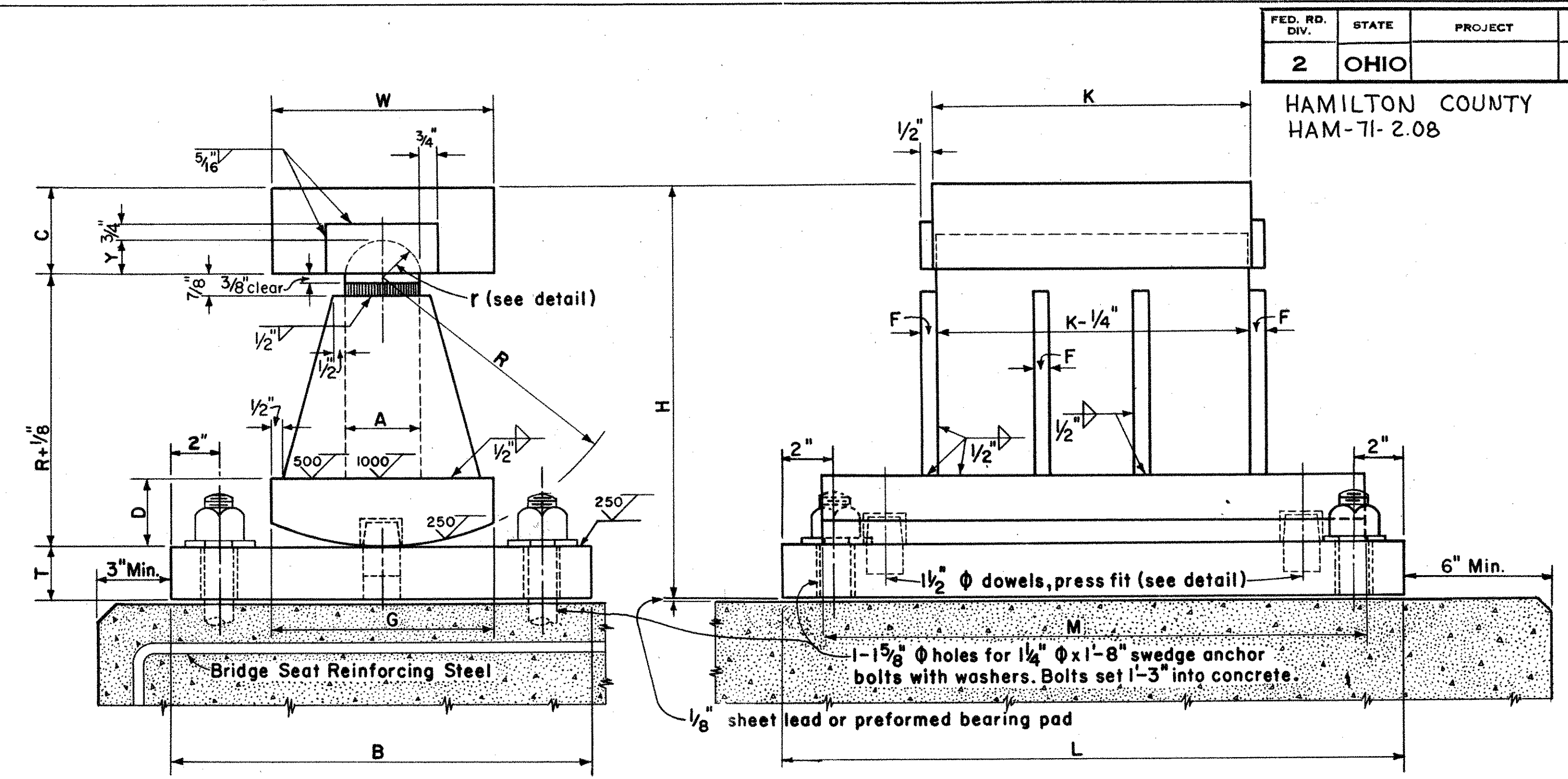
**TYPICAL STRUCTURAL STEEL DETAILS**

|          |        |        |         |               |         |
|----------|--------|--------|---------|---------------|---------|
| DESIGNED | DRAWN  | TRACED | CHECKED | REVIEWED DATE | REVISED |
|          | M.J.E. |        | J.H.O.  | 8-30-65       |         |

HAMILTON COUNTY  
HAM-71-2.08

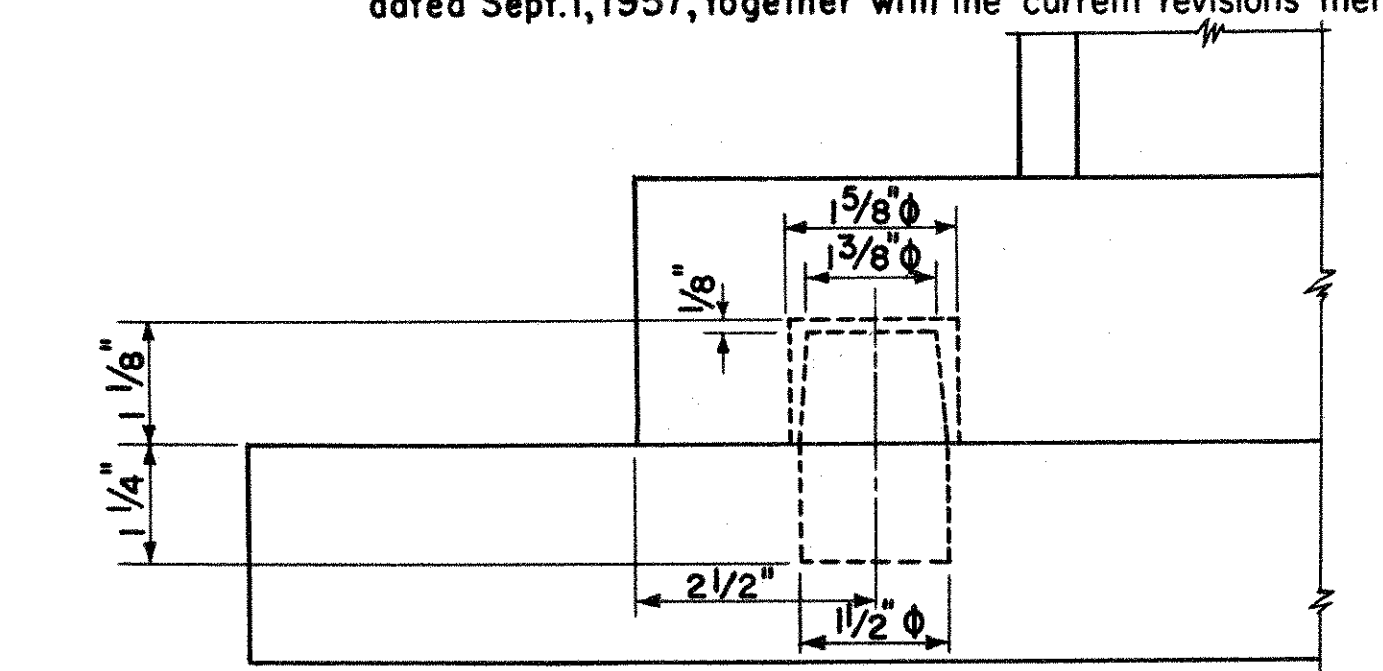


**STRUCTURAL STEEL BOLSTER**  
See Table below for additional dimensions.



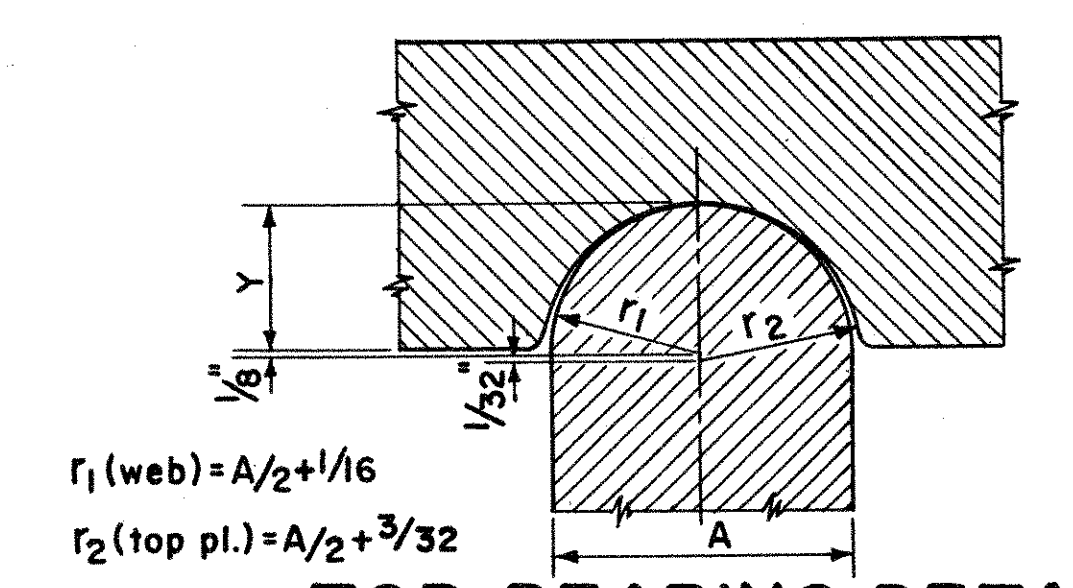
**STRUCTURAL STEEL ROCKER**  
See Table below for additional dimensions.

Design Specifications: This drawing conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated Sept. 1, 1957, together with the current revisions thereof.



**DOWEL DETAIL**

| BOLSTER No. | ROCKER No. | A     | B  | C     | D     | F   | G      | H      | K  | L  | M  | R      | T     | W | Y       |
|-------------|------------|-------|----|-------|-------|-----|--------|--------|----|----|----|--------|-------|---|---------|
| B-225       | R-225      | 3     | 17 | 3 1/2 | 2 3/4 | 5/8 | 9      | 16 7/8 | 13 | 25 | 22 | 11     | 2 1/4 | 9 | 1 7/16  |
| B-250       | R-250      | 3 1/2 | 18 | 3 1/2 | 2 3/4 | 3/4 | 10     | 17 5/8 | 13 | 26 | 23 | 11 1/2 | 2 1/2 | 9 | 1 11/16 |
| B-275       | R-275      | 3 1/2 | 20 | 3 1/2 | 3 1/4 | 3/4 | 12     | 18 3/8 | 14 | 27 | 24 | 12     | 2 3/4 | 9 | 1 11/16 |
| B-300       | R-300      | 3 1/2 | 20 | 3 1/2 | 3 1/4 | 3/4 | 12     | 19 1/8 | 14 | 28 | 25 | 12 1/2 | 3     | 9 | 1 11/16 |
| B-325       | R-325      | 4     | 21 | 4     | 3 1/2 | 3/4 | 13     | 20 3/8 | 15 | 29 | 26 | 13     | 3 1/4 | 9 | 1 15/16 |
| B-350       | R-350      | 4     | 22 | 4     | 3 1/2 | 3/4 | 14     | 21 1/8 | 15 | 30 | 27 | 13 1/2 | 3 1/2 | 9 | 1 15/16 |
| B-375       | R-375      | 4     | 23 | 4 1/2 | 3 3/4 | 7/8 | 14     | 22 3/8 | 16 | 31 | 28 | 14     | 3 3/4 | 9 | 1 15/16 |
| B-400       | R-400      | 4 1/2 | 24 | 4 1/2 | 4     | 7/8 | 14 1/2 | 23 1/8 | 17 | 33 | 30 | 14 1/2 | 4     | 9 | 2 3/16  |
| B-425       | R-425      | 4 1/2 | 25 | 4 1/2 | 4     | 7/8 | 15     | 23 5/8 | 17 | 34 | 31 | 15     | 4     | 9 | 2 3/16  |
| B-450       | R-450      | 4 1/2 | 25 | 4 1/2 | 4 1/4 | 1   | 15 1/2 | 24 1/8 | 18 | 35 | 32 | 15 1/2 | 4     | 9 | 2 3/16  |
| B-475       | R-475      | 4 1/2 | 26 | 5     | 4 1/2 | 1   | 16     | 25 3/8 | 18 | 36 | 33 | 16     | 4 1/4 | 9 | 2 3/16  |
| B-500       | R-500      | 5     | 27 | 5     | 4 1/2 | 1   | 16     | 25 7/8 | 19 | 37 | 34 | 16 1/2 | 4 1/2 | 9 | 2 7/16  |



$r_1(\text{web}) = A/2 + 1/16$   
 $r_2(\text{top pl.}) = A/2 + 3/32$

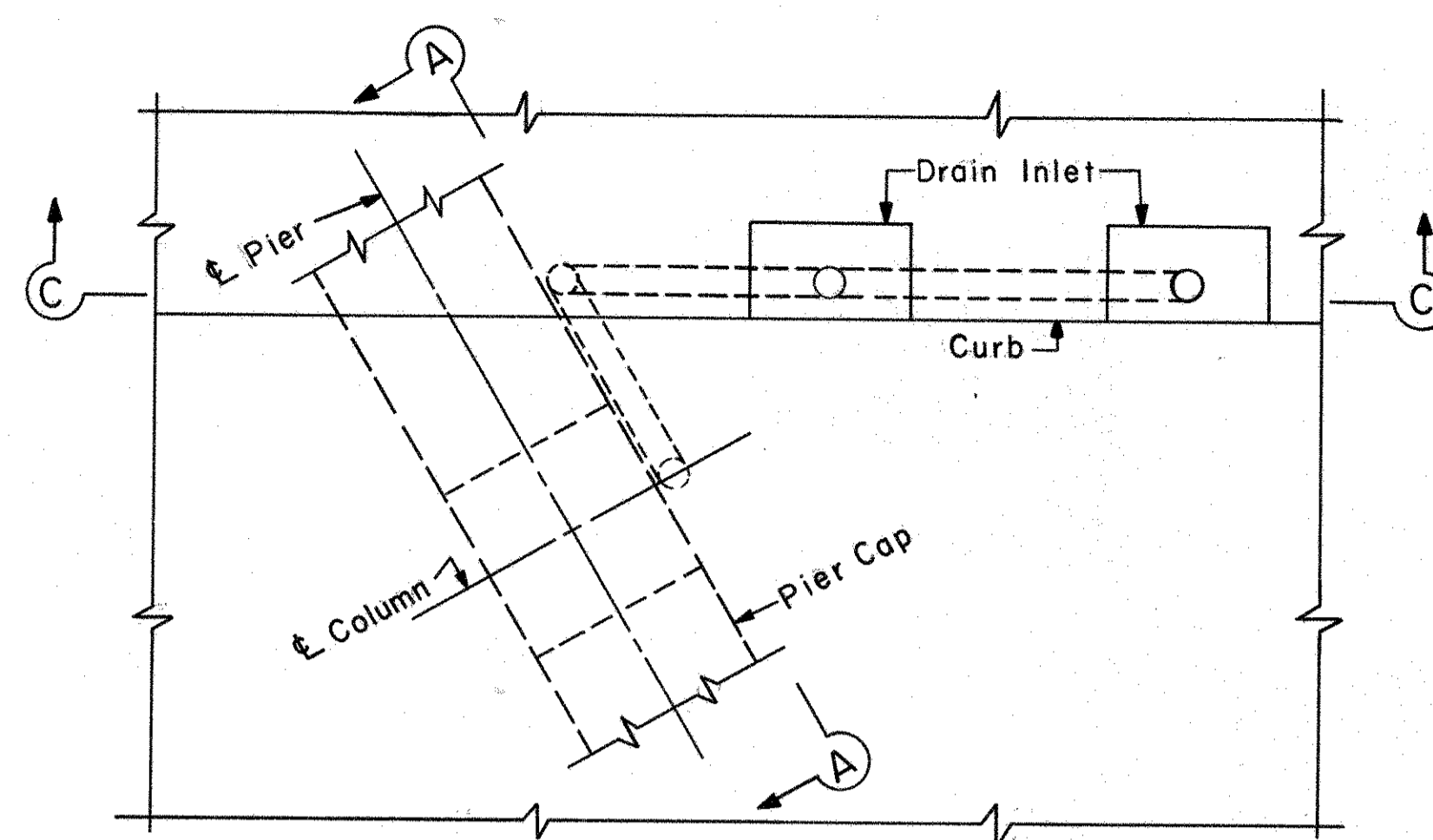
**TOP BEARING DETAIL**

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CINCINNATI, OHIO

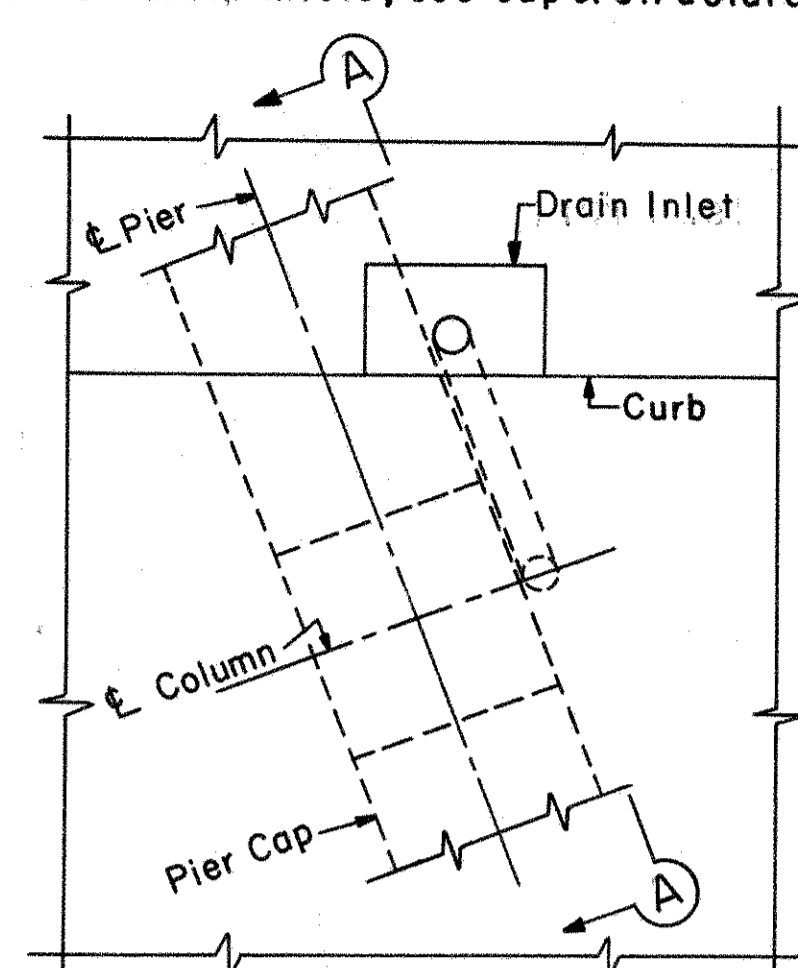
**ROCKERS AND BOLSTERS**

|          |       |        |         |               |         |
|----------|-------|--------|---------|---------------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
|          |       |        | JHO     | 8-30-65       |         |

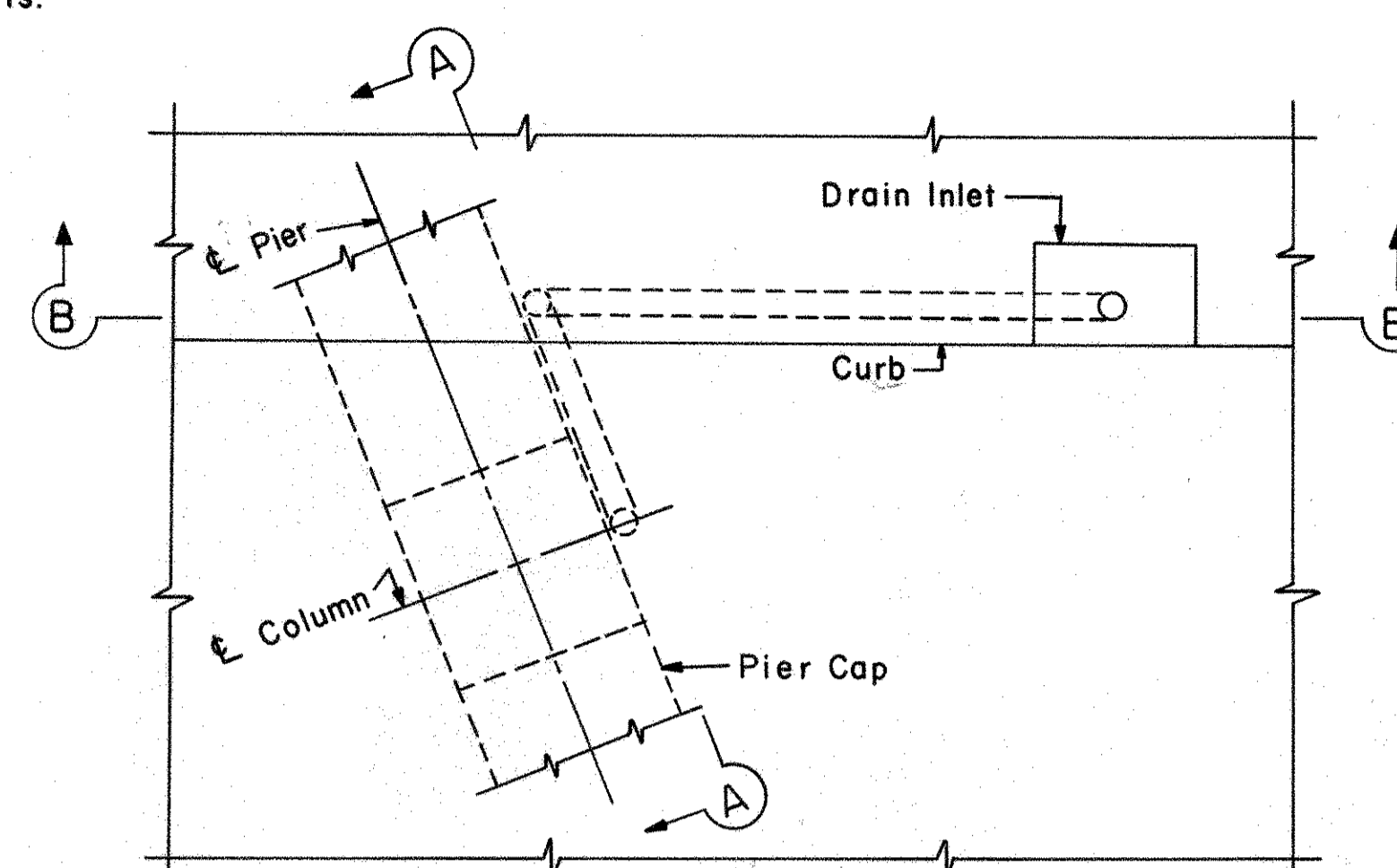
For location of drain inlets, see superstructure details.



PLAN

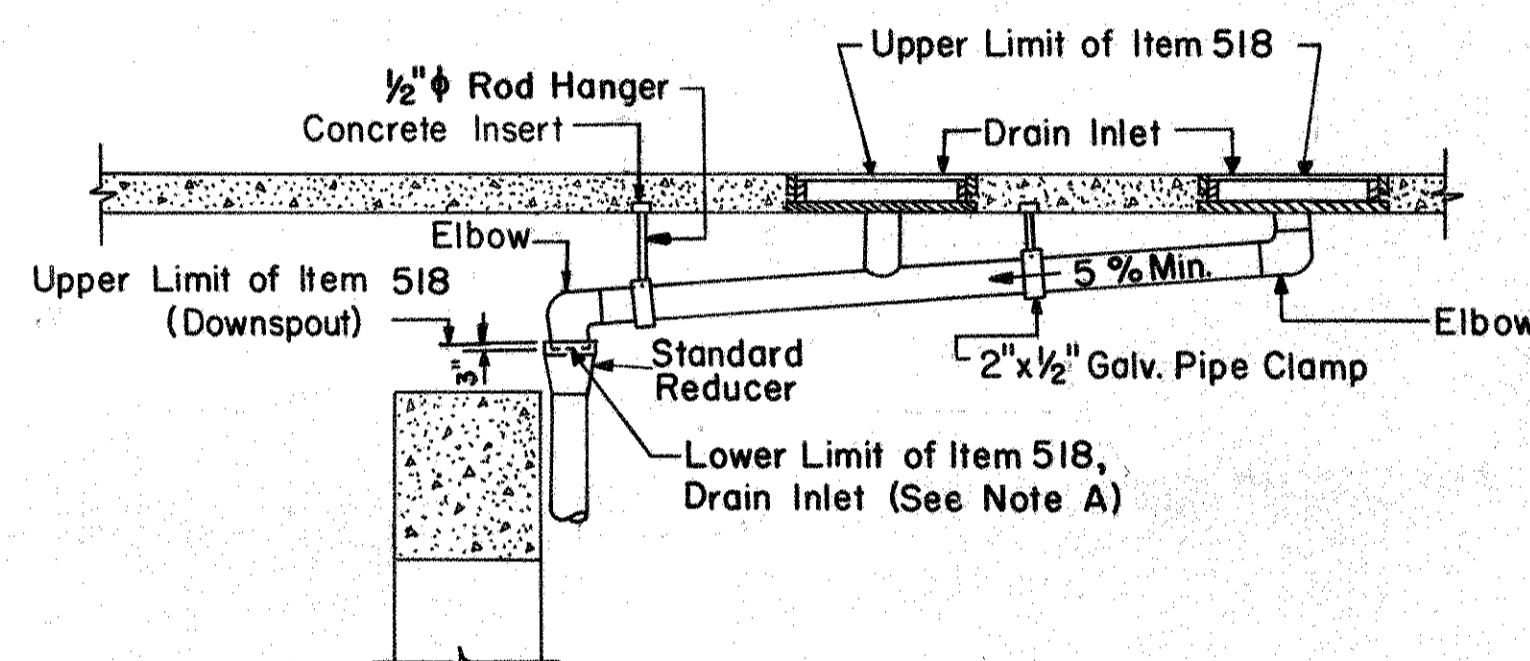


PLAN



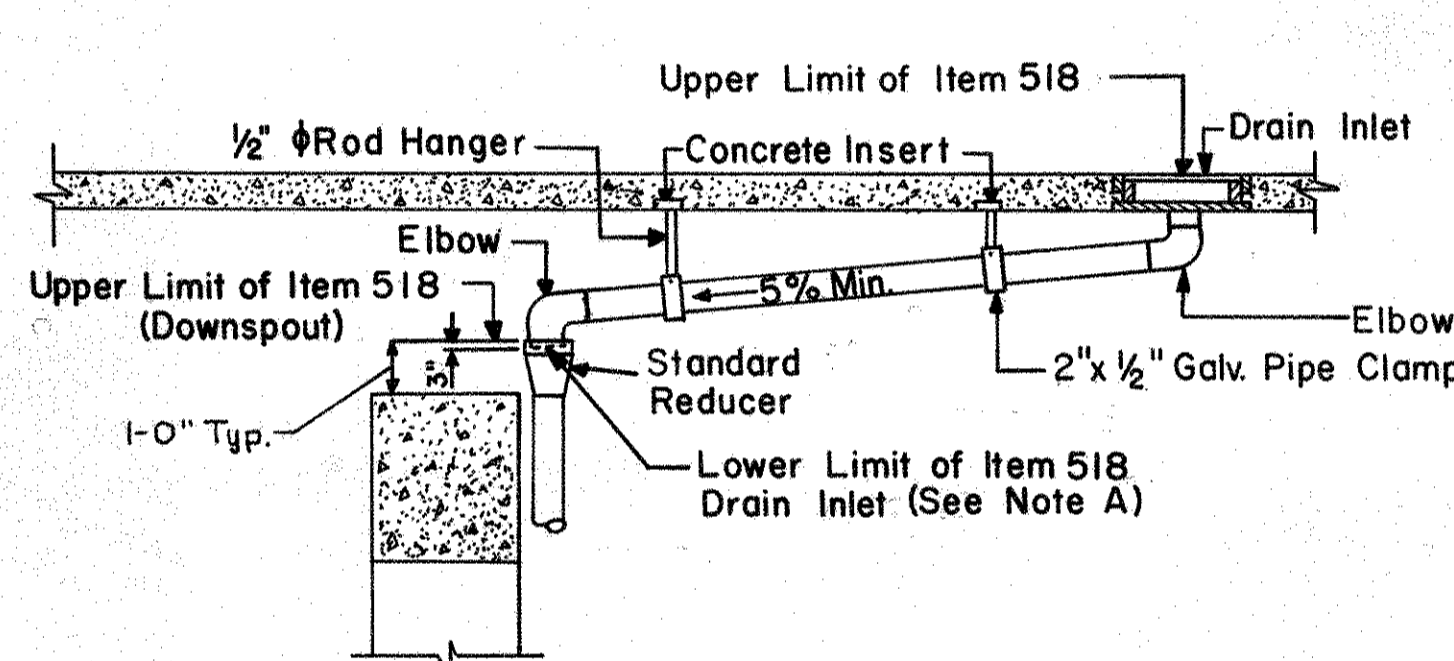
PLAN

Note: Type of Plan to be used depends upon location of inlet with respect to pier.

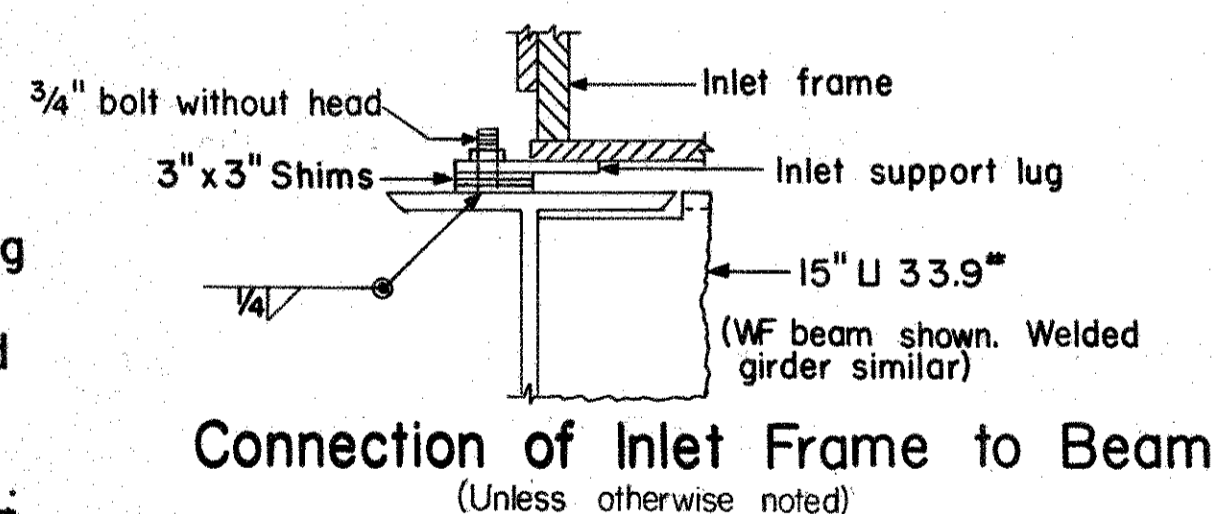


SECTION C-C

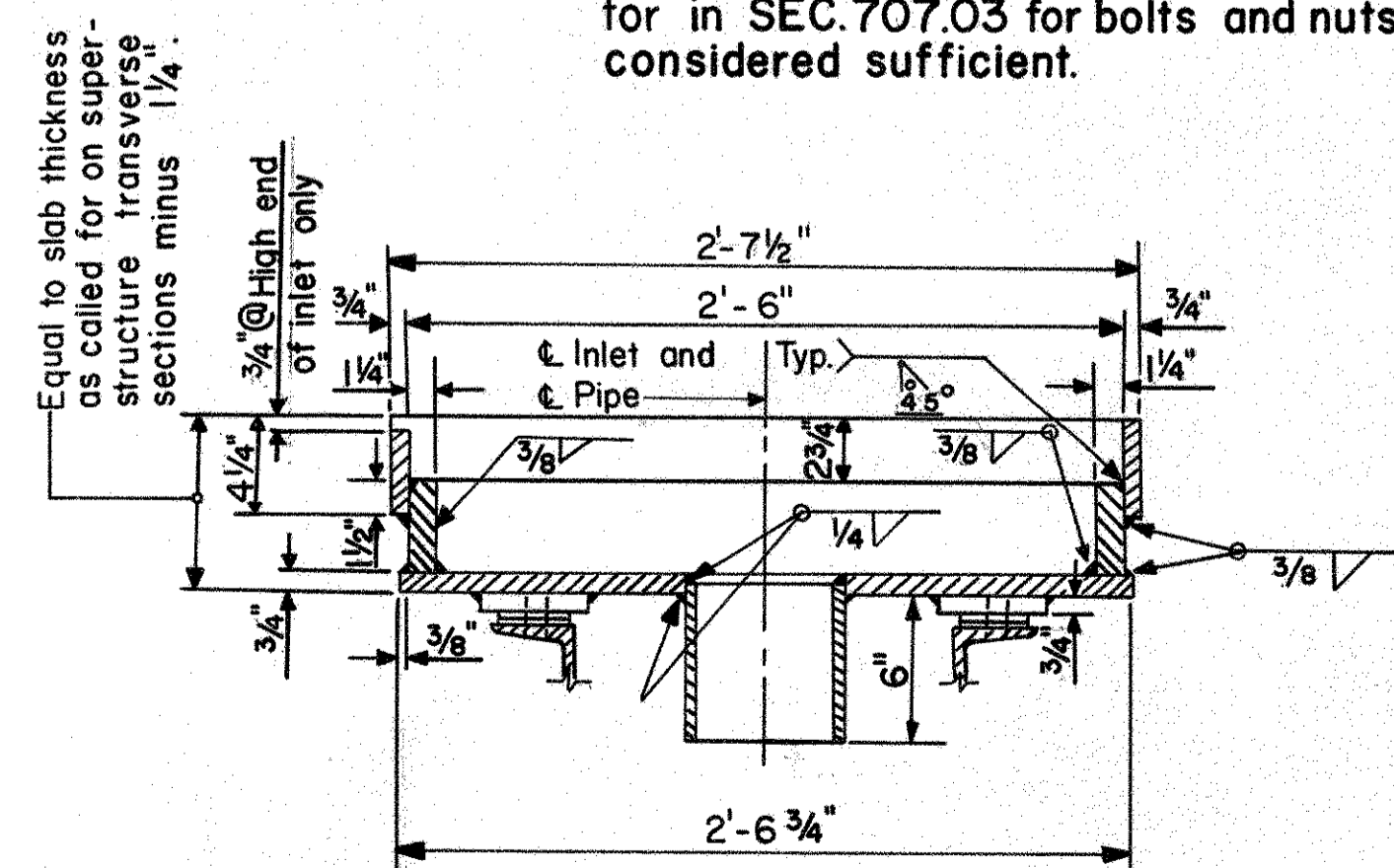
NOTE: Downspouts shall be 6" or 8" standard wrought iron pipe or hot-dipped galvanized steel pipe. (For size see superstructure) Joints shall be made by welding or by the use of a clamp type coupling with a ring gasket. All welding shall be done before galvanizing. Straps or clamps for attaching downspouts shall be wrought iron or hot-dipped galvanized steel. On bolts, galvanizing as called for in SEC.707.03 for bolts and nuts will be considered sufficient.



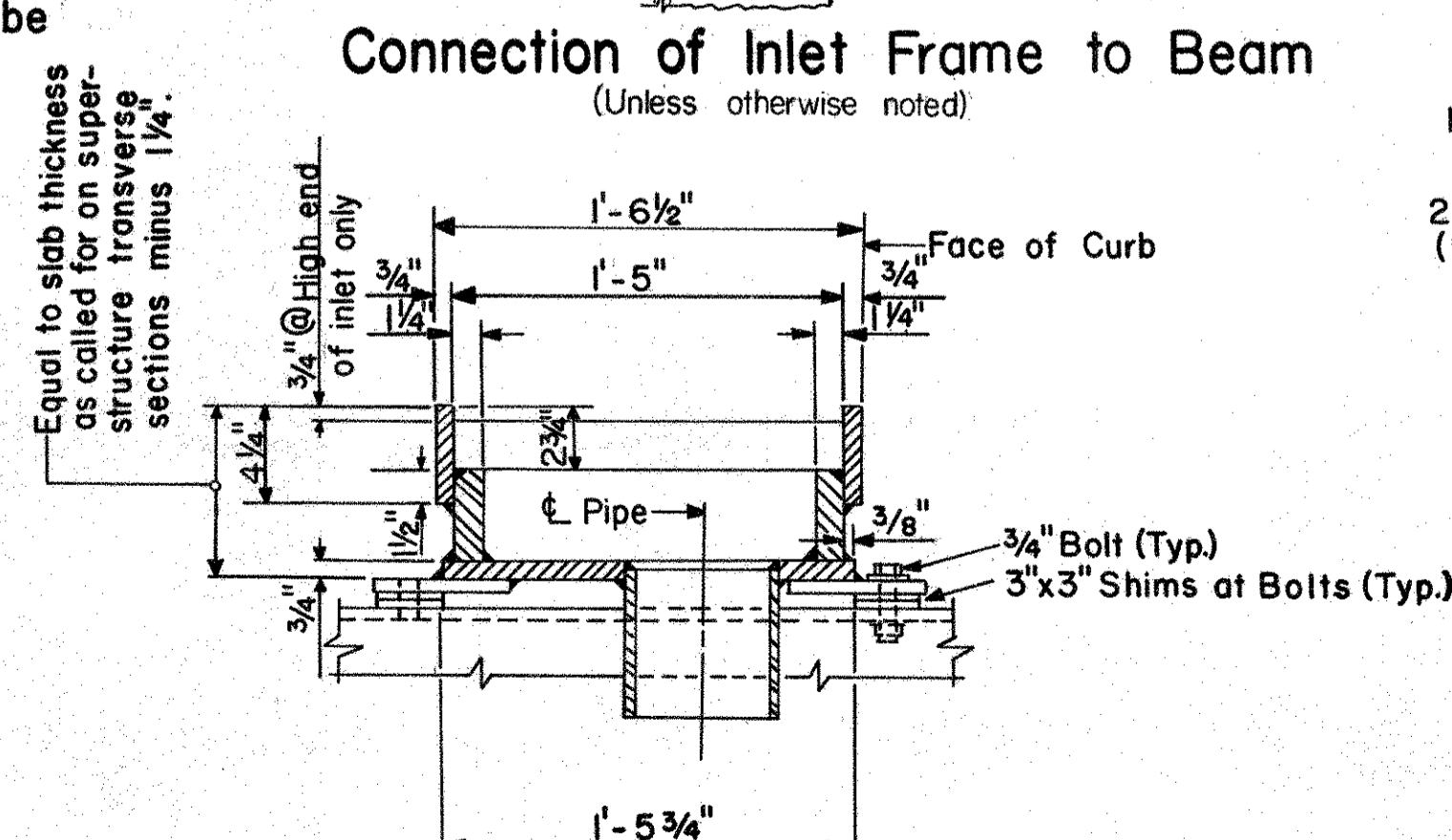
SECTION B-B



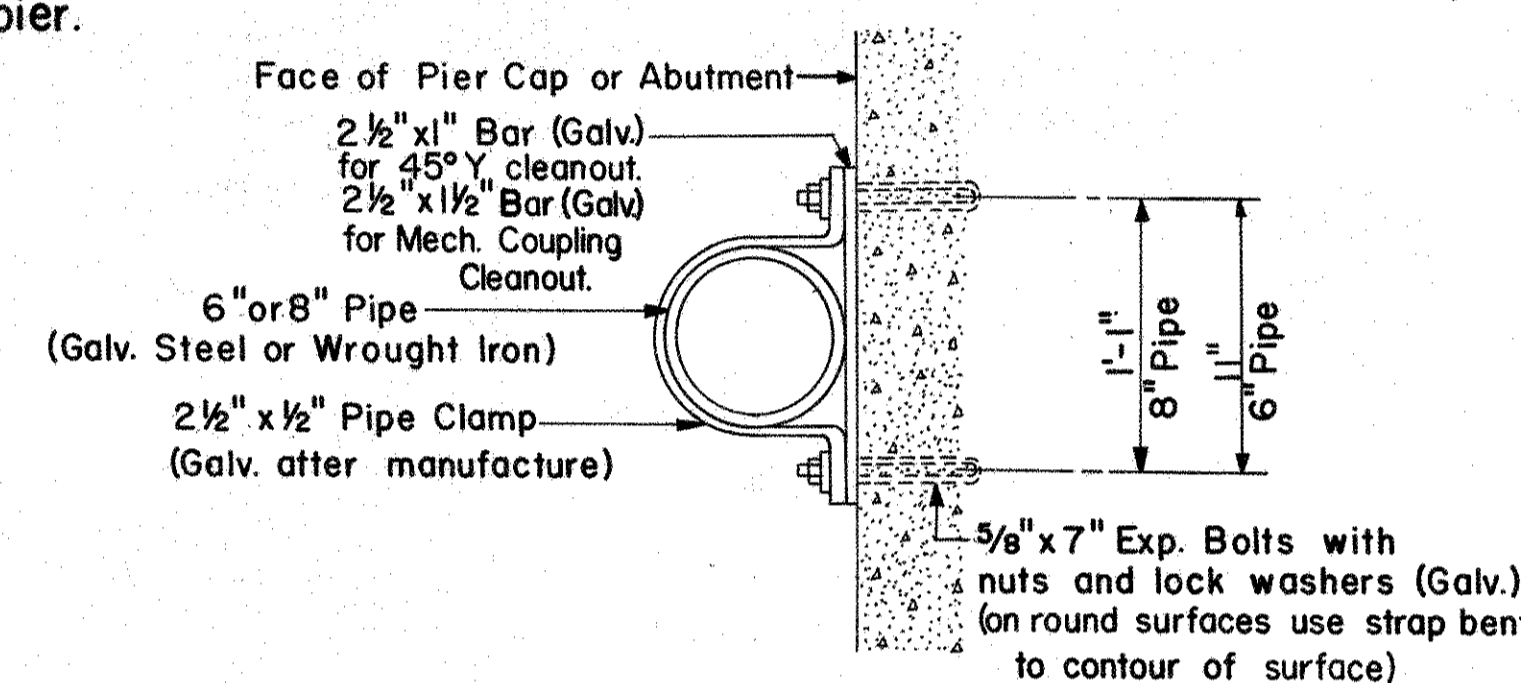
Connection of Inlet Frame to Beam  
(Unless otherwise noted)



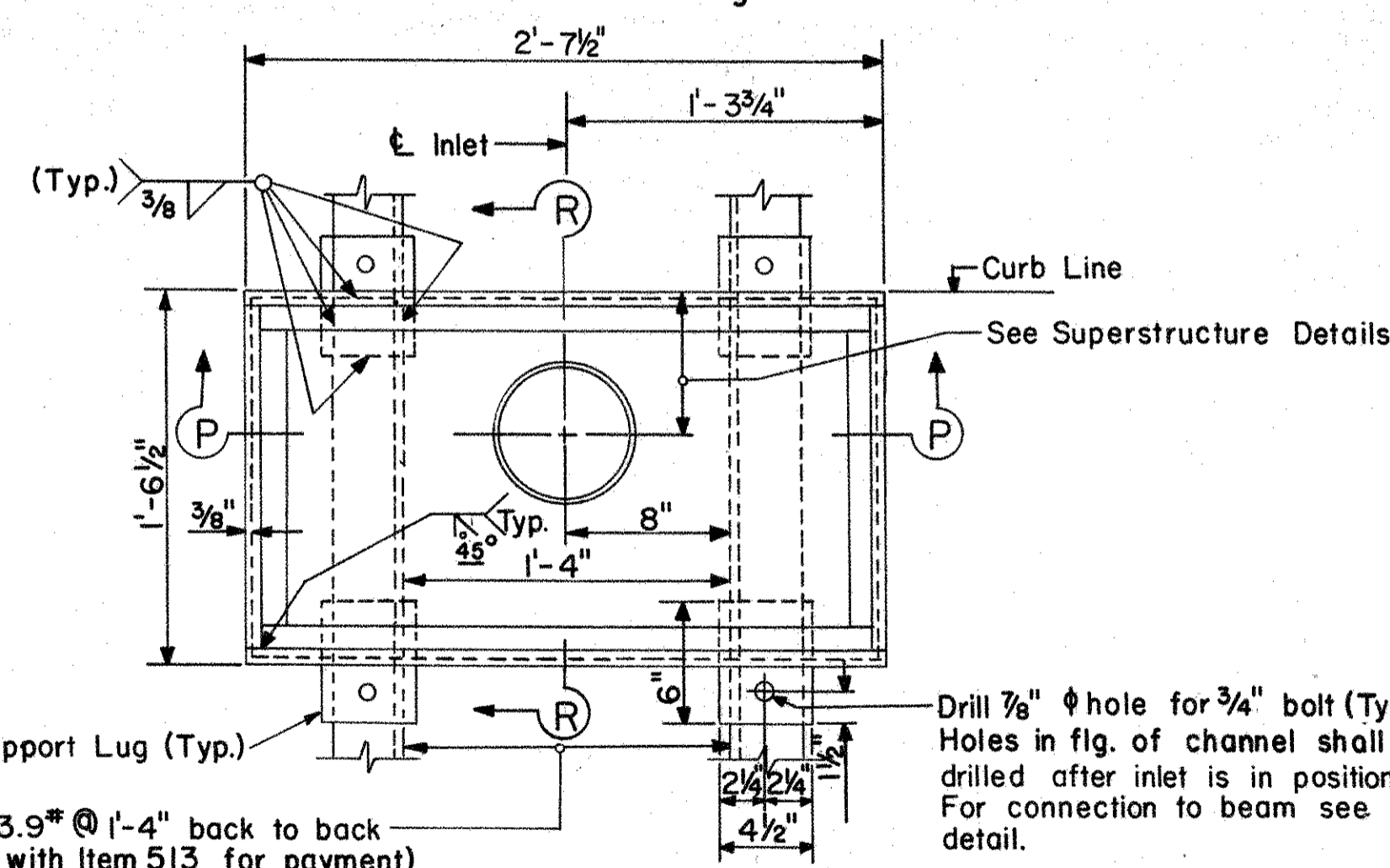
SECTION P-P



SECTION R-R



STRAP DETAIL "A"  
For mounting on flat surface.



INLET FRAME

NOTES:-  
For location of inlets, see superstructure details.

Inlet grating castings shall meet the requirements of Sec.711.12 of the Material Specifications of the State of Ohio. Gratings and inlets shall be fitted to each other without rattling by grinding grating casting as necessary.

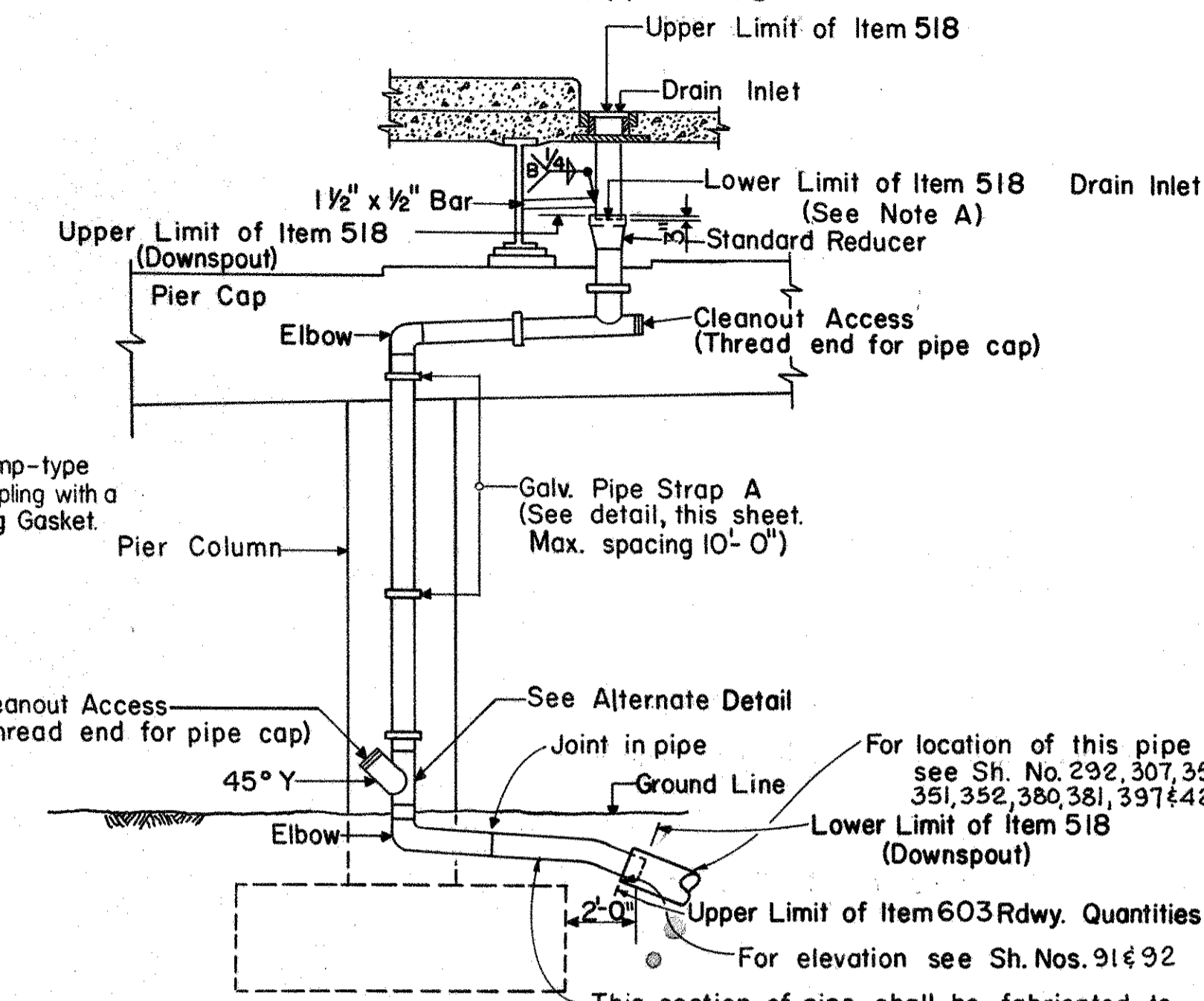
Inlet frame to be welded structural steel plates and standard steel pipe, galvanized after fabrication

Weld channels to beam with 5/16 inch continuous fillet weld. Weld to beam webs only.

Space lugs on inlets to permit bolting to supporting channels and beams.

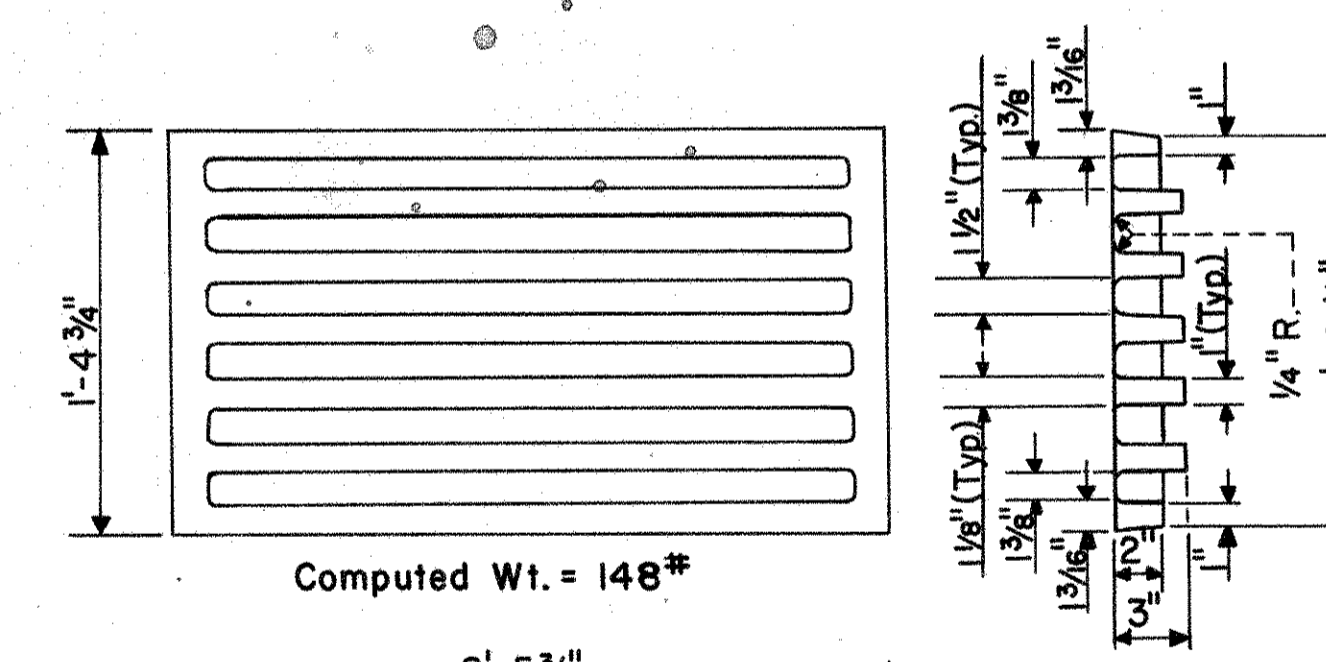
Where drain inlet is located adjacent to beams without cover plates, cope channels so top of channel is flush with top of beams.

Where drain inlet is located adjacent to beams with cover plates, cope channels so that the distance top of channel to top of slab is equal to the minimum slab thickness as called for on the superstructure transverse sections.



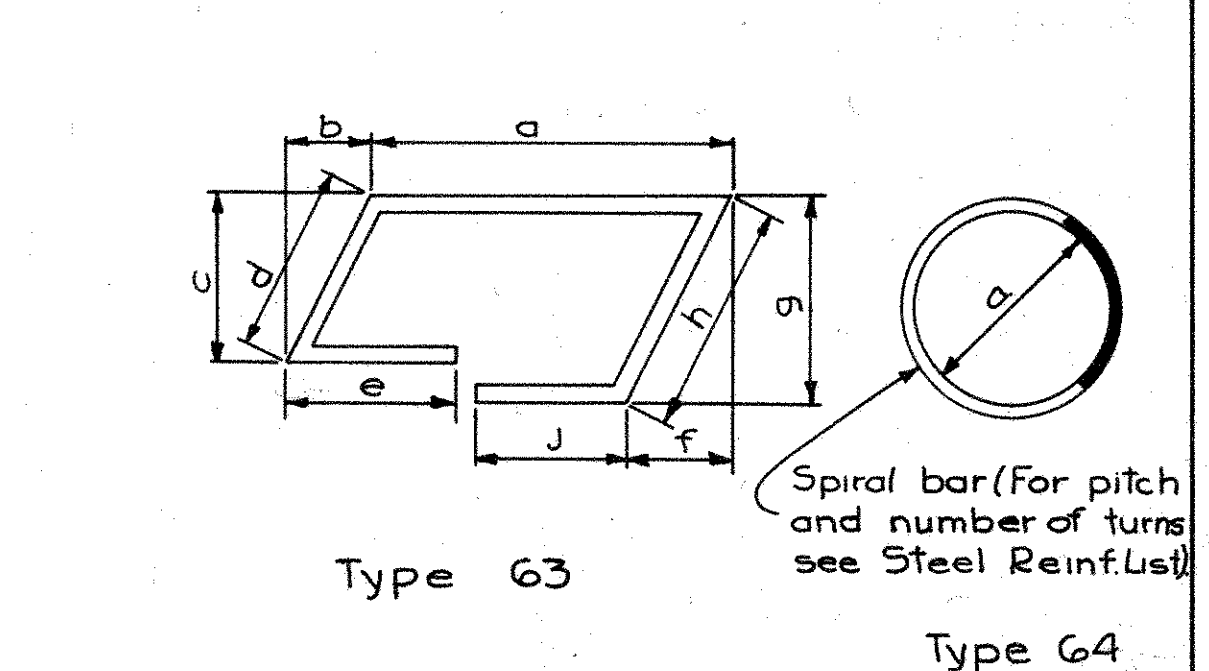
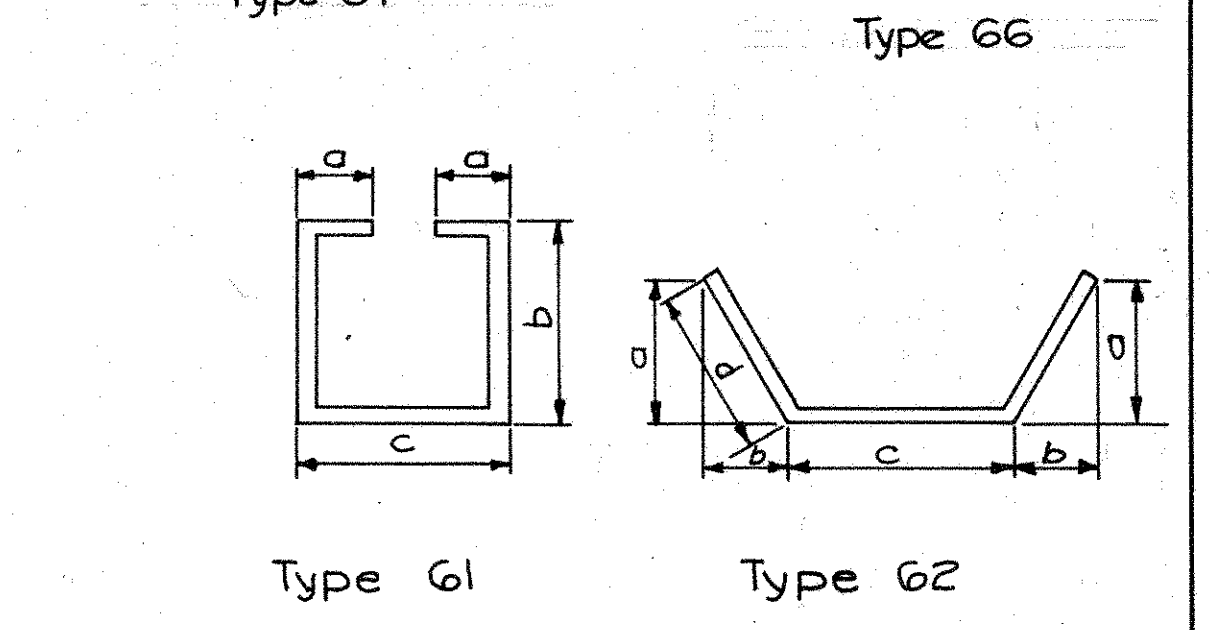
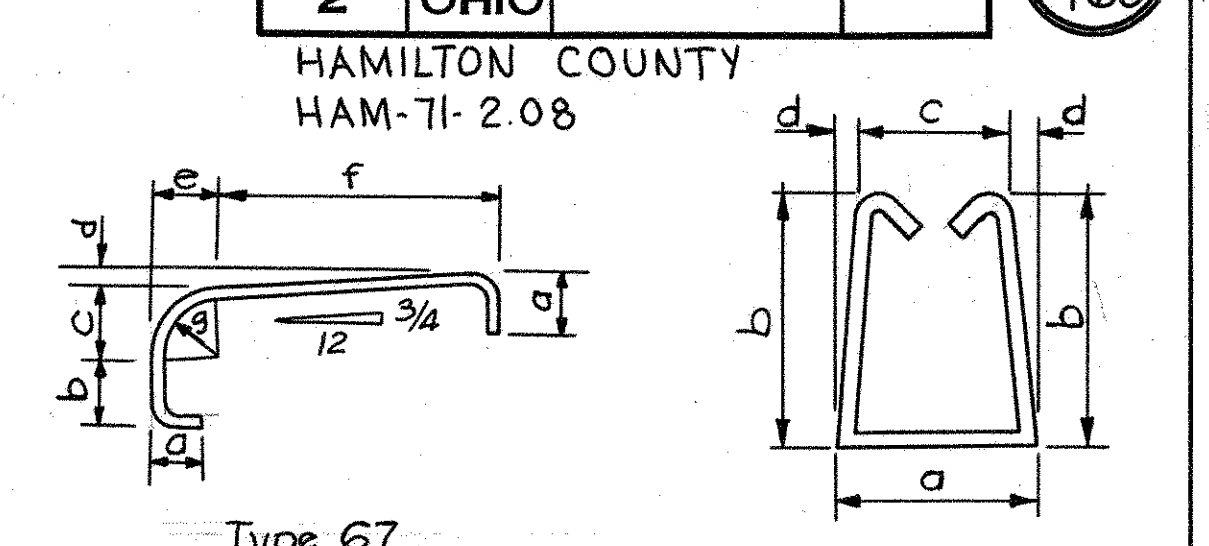
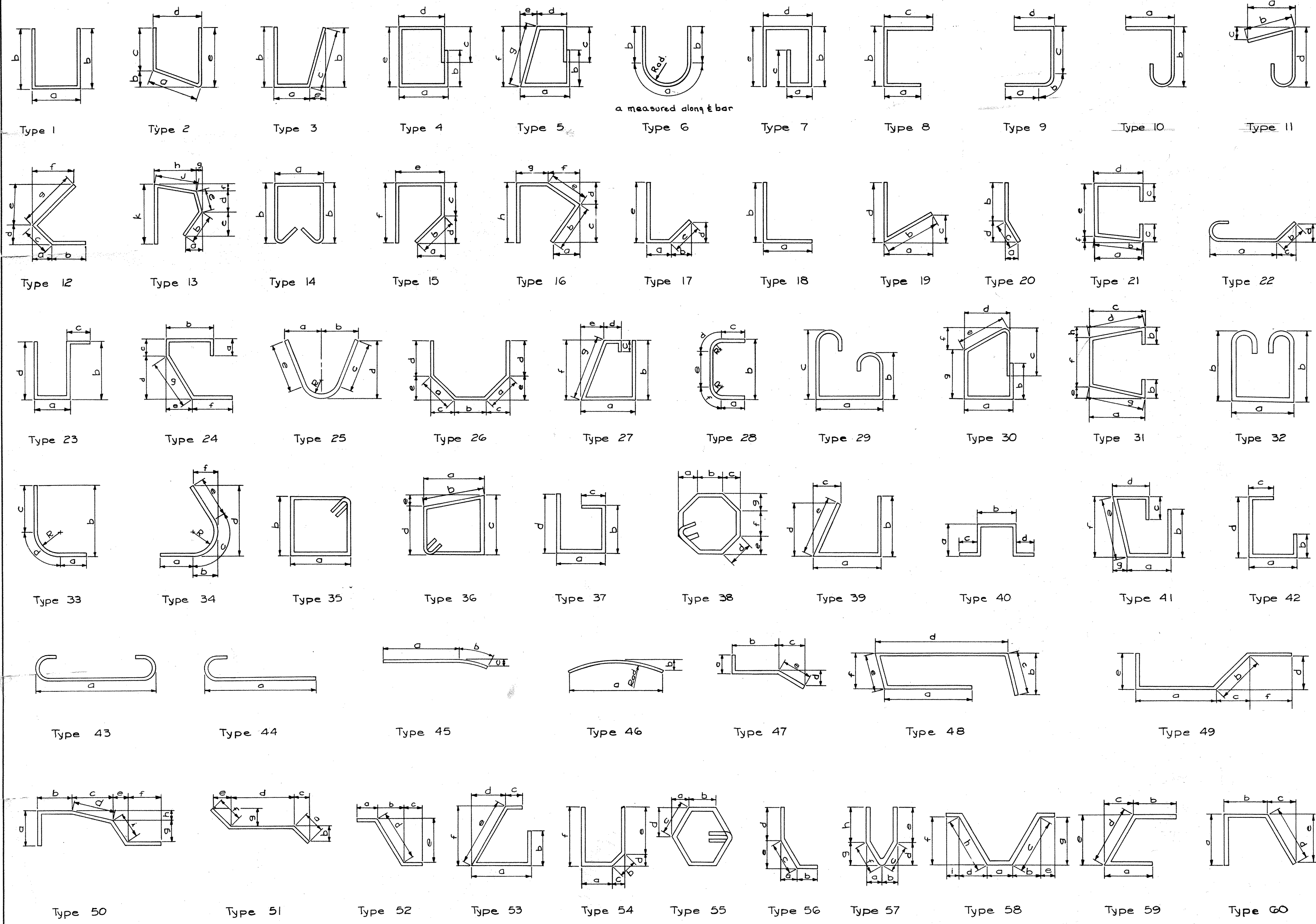
SECTION A-A

NOTE A:  
"Drain inlet including Supports and Horizontal Collector System" shall include inlet grating, inlet frame, lugs, concrete insert, 1/2 inch rod hanger, 2 inch x 1/2 inch galvanized pipe clamp, and standard wrought iron or galvanized steel pipe for payment, Item 518.



INLET GRATING  
(City of Cincinnati Acc. No. 49012)

|   |          |          |         |               |         |
|---|----------|----------|---------|---------------|---------|
| HAZELET & ERDAL<br>CONSULTING ENGINEERS<br>CINCINNATI, OHIO |          |          |         |               |         |
| TYPICAL<br>DRAINAGE DETAILS                                 |          |          |         |               |         |
| DESIGNED  | DRAWN    | TRACED   | CHECKED | REVIEWED DATE | REVISED |
|   | M. J. E. | J. H. O. |         | 11.1.5        |         |
|   |          |          |         | 8-30-65       |         |



NOTES

Bars shall be carefully shaped to the pertinent dimensions shown in table Standard Bends Sheet 165 of the State of Ohio Construction and Material Specifications, unless otherwise indicated above.

Bar size is indicated in the bar mark. The first digit in bar mark beginning with numbers 4 thru 9 indicate the bar size. The first two digits in bar marks beginning with numbers 10 or 11 indicate the bar size.

Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 509. 1/2 closed coils shall be provided at the ends of each spiral unit.

Four (or three) steel channel tee or angle spacers, weighing approximately 0.68 lbs. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lbs. per lin. ft. will be paid for as reinforcing and is included in the tabulated quantity of spiral bars.

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CONSULTING ENGINEERS  
CINCINNATI, OHIO

**BAR BENDING SCHEDULE**

|          |        |        |                  |               |         |
|----------|--------|--------|------------------|---------------|---------|
| DESIGNED | DRAWN  | TRACED | CHECKED          | REVIEWED DATE | REVISED |
|          | M.C.P. |        | J.H.O.<br>2/2/65 | 3-30-65       |         |