

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| 6                   | ARK.  |                    |             | 7         | 7            |

Thornton-Hampton Calh. Co. Ark. # 274

STATE OF ARKANSAS  
STATE HIGHWAY DEPARTMENT

PLAN OF PROPOSED BRIDGES  
ON  
STATE HIGHWAY  
THORNTON-HAMPTON  
CALHOUN COUNTY R115S3  
EMERGENCY FINANCIAL F.A.P. NO.

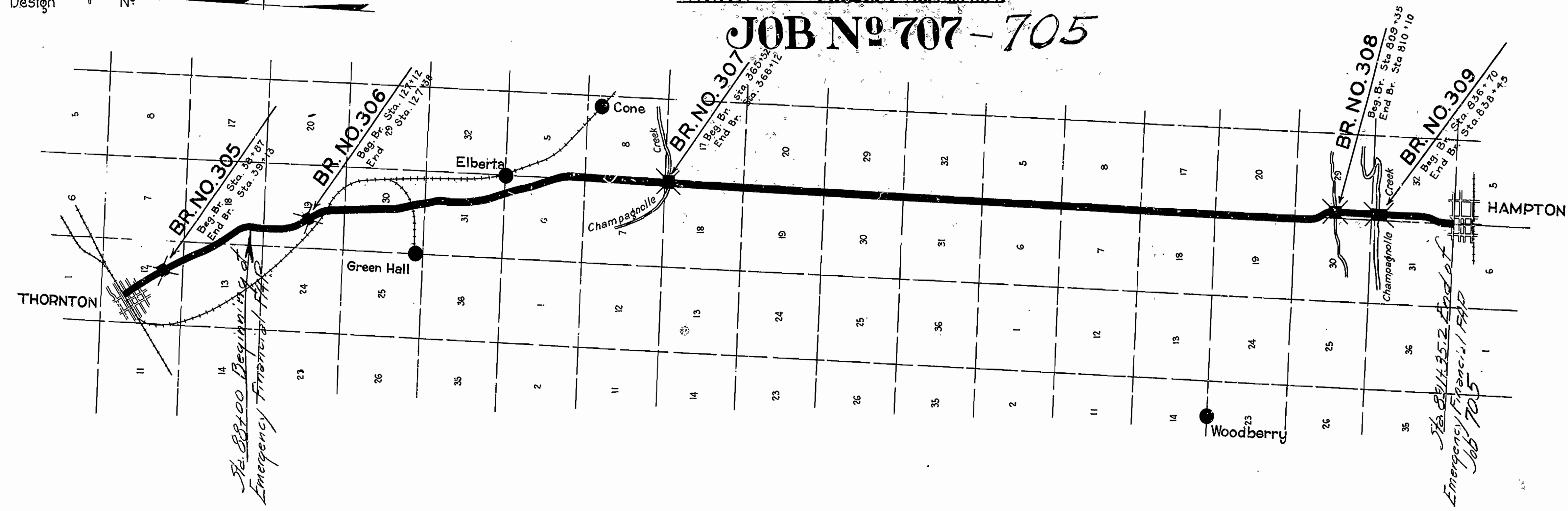
INDEX OF SHEETS

| Drawg. No. | Sheet No. | Title                         |
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| No. 274    | No. 1     | Title Sheet                   |
| No. 275    | No. 2     | Layout Bridge No. 305 & 306   |
| No. 276    | No. 3     | Design " " "                  |
| No. 277    | No. 4     | Layout " " "                  |
| No. 278    | No. 5     | Design " " Standard Abutment  |
| No. 91     | No. 6     | Design " " 60 Ft. Steel Span  |
| No. 279    | No. 7     | Layout " " "                  |
| No. 280    | No. 8     | Design " " 25 Ft. Girder Span |
| No. 281    | No. 9     | Layout " " "                  |
| No. 282    | No. 10    | Design " " "                  |

Bridge QUANTITIES

|                         |                |
|-------------------------|----------------|
| Class 'A' Concrete      | 653.32 Cu.Yds. |
| Class 'S' Concrete      | 361.18 Cu.Yds. |
| Reinforcing Steel       | 130,895 Lbs.   |
| Structural Steel        | 43,100 Lbs.    |
| Concrete Handrail       | 628 Lin.Ft.    |
| Untr. timber Piling     | 3,982 Lin.Ft.  |
| Structural Excav. (Wet) | 1,048 Cu.Yds.  |
| Structural Excav. (Dry) | 994 Cu.Yds.    |

JOB NO. 707-705



LAYOUT

Scale:  
GROSS LENGTH OF PROJECT 365 FT. OR 0.069 MILES  
NET LENGTH OF PROJECT 365 FT. OR 0.069 MILES

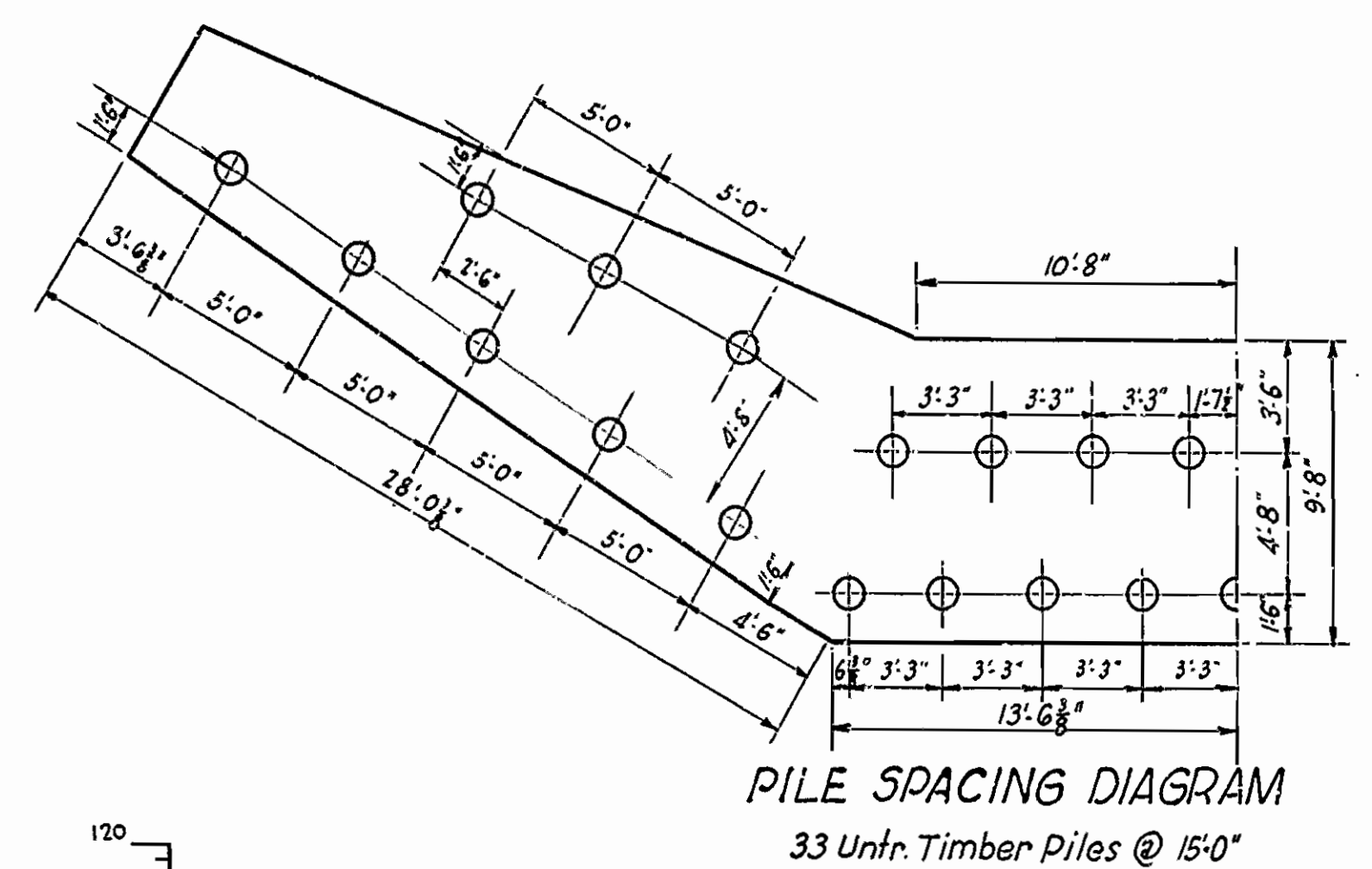
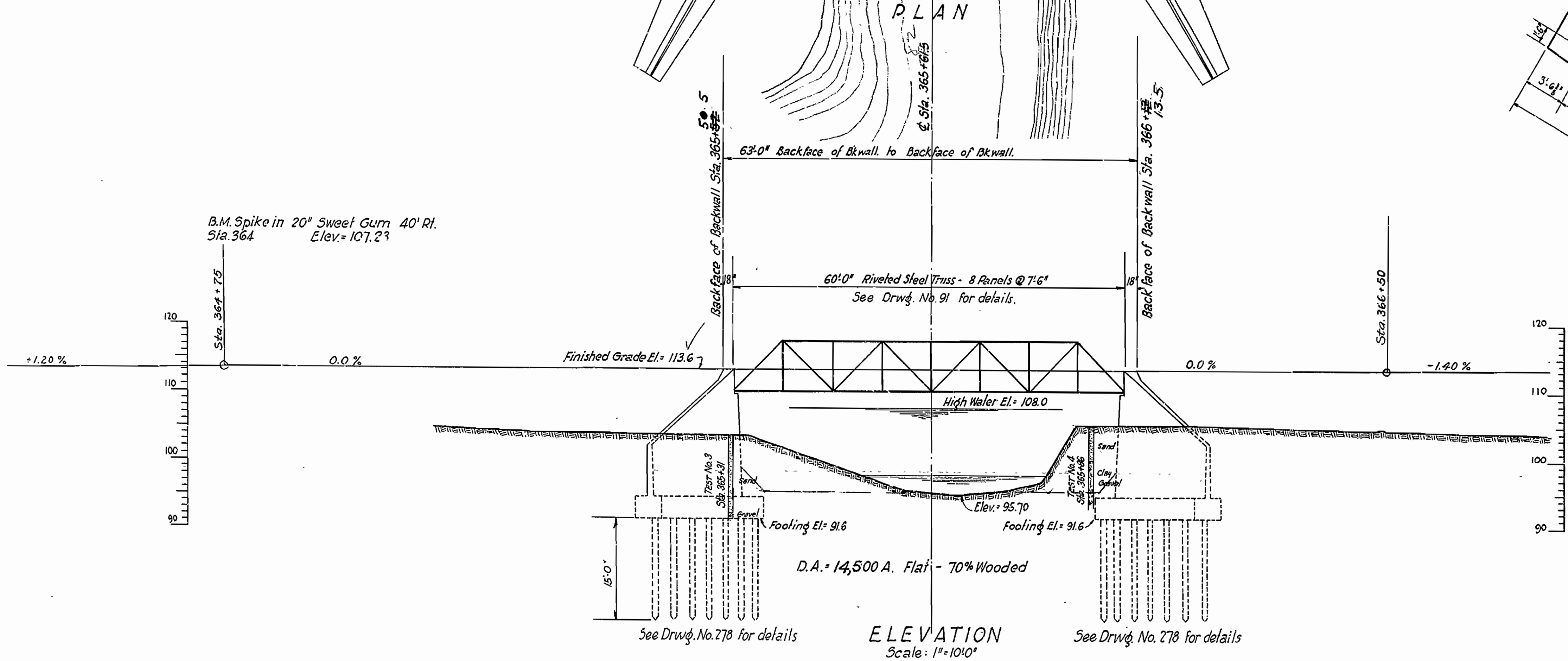
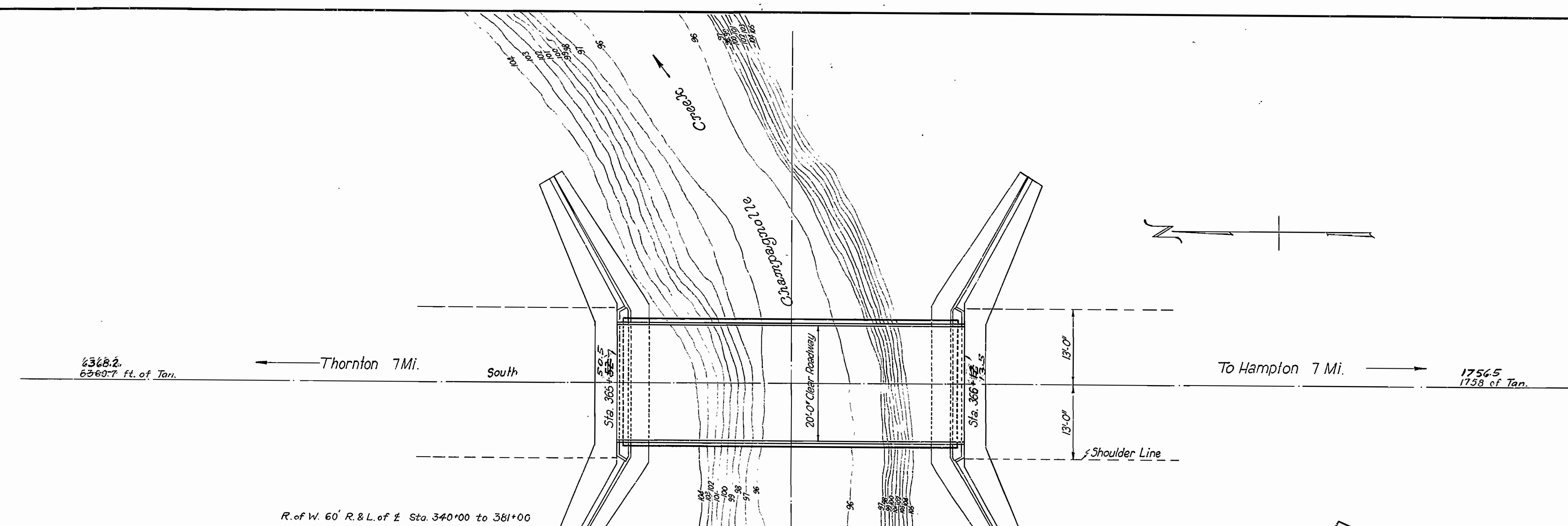
APPROVED BY  
BRIDGE ENGINEER

Revised Stations 5-14-32  
E.F.A.P. No. \_\_\_\_\_  
Sheet No. \_\_\_\_\_

APPROVED  
COMMISSIONER, STATE LANDS, HIGHWAYS AND IMPROVEMENTS  
APPROVED  
STATE HIGHWAY ENGINEER  
RECOMMENDED FOR APPROVAL  
DISTRICT ENGINEER - U. S. BUREAU OF PUBLIC ROADS  
RECOMMENDED FOR APPROVAL  
CHIEF ENGINEER - U. S. BUREAU OF PUBLIC ROADS  
APPROVED  
DIRECTOR - U. S. BUREAU OF PUBLIC ROADS

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| 6                   | ARK.  |                    |             |           |              |

BR-3 LAYOUT OF STEEL BRIDGE



| SUMMARY OF QUANTITIES |                             |               |
|-----------------------|-----------------------------|---------------|
| ITEM NO.              | DESCRIPTION                 | QUANTITY      |
| 54                    | Class "A" Concrete          | 285.60 Cu.Yds |
| 54                    | Class "S" Concrete          | 39.3 Cu.Yds   |
| 55                    | Reinforcing Steel           | 27,796 lbs.   |
| 56                    | Structural Steel            | 43,100 lbs.   |
| 13                    | Structural Excavation (Wet) | 420 Cu.Yds.   |
| 13                    | " " (Dry)                   | 430 Cu.Yds.   |
| 66                    | Untr. timber piling         | 990 L.F.      |

**BRIDGE No.3**  
**LAYOUT OF STEEL BRIDGE**  
 STA. 365+50.5 TO STA. 366+12.5  
 ON THORNTON-HAMPTON ROAD  
 CALHOUN CO. STATE HWY. No. 116  
**ARKANSAS HIGHWAY DEPARTMENT**  
 LITTLE ROCK, JULY 1927  
 BR. FILE No. 307 DRWG. No. 277

NOTE: Pile lengths shown are for estimating quantities only.  
 Actual lengths to be used are to be determined in the field.  
 Bearing capacity = 15 Tons

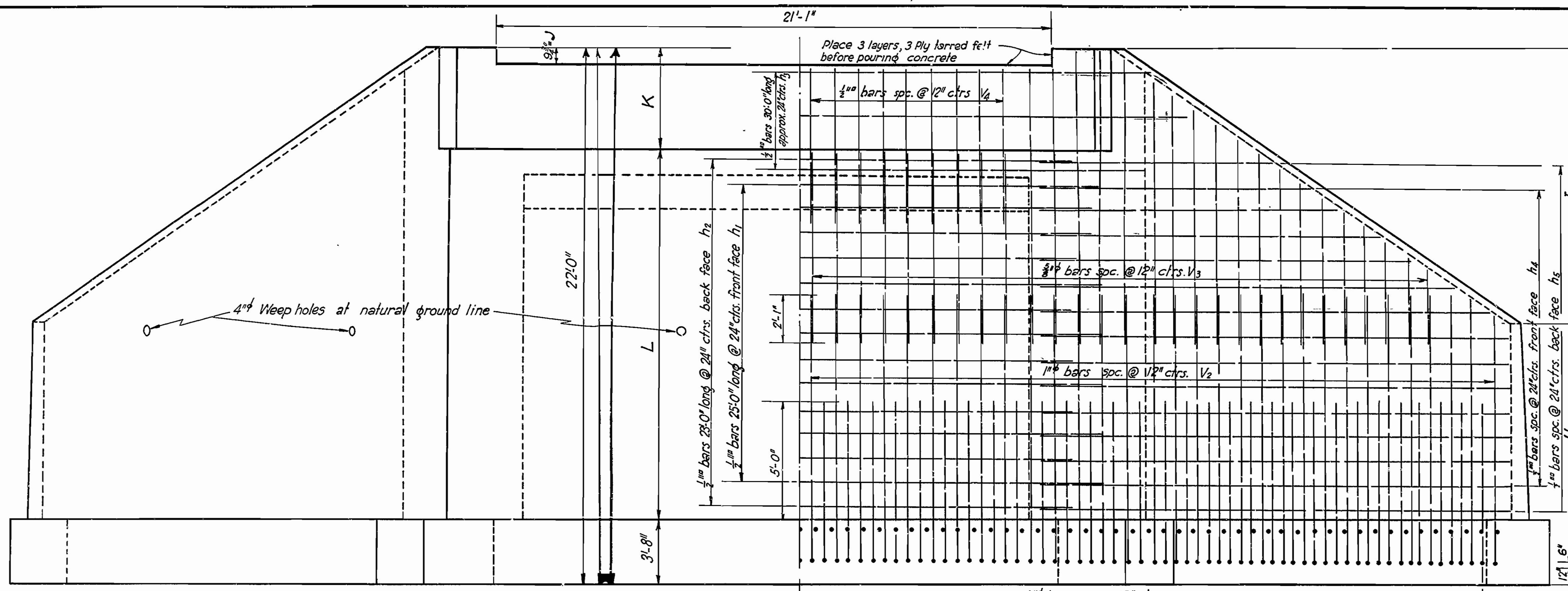
Revised Sheet Nos. 5-11-32  
 Sta. & E.A.P. No.

*M.B. Gowan*  
 BRIDGE ENGINEER



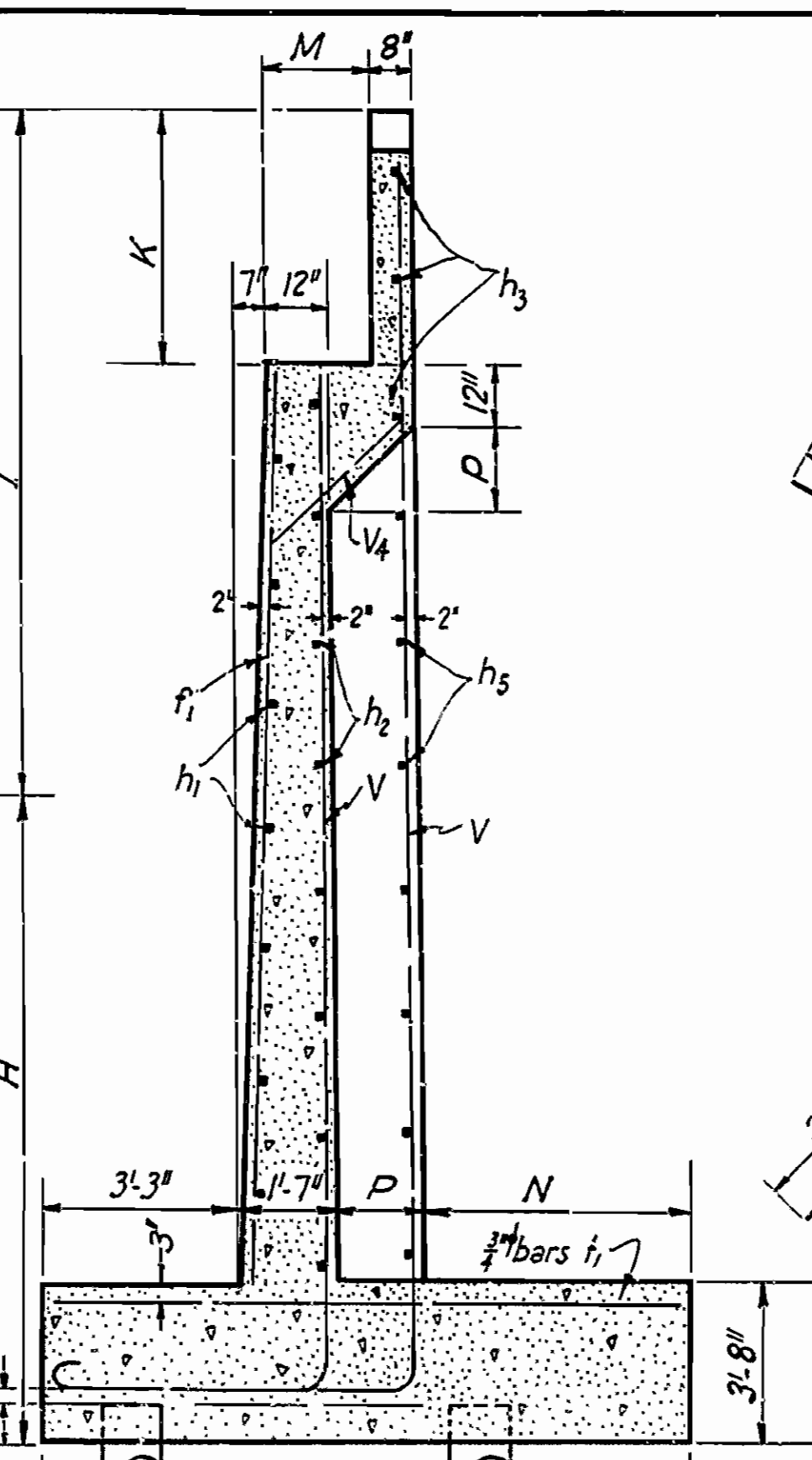
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| 6                   | ARK.  |                    |             | 5         | 11           |

22' STD. ABUT. TRUSS SPAN 20' ROADWAY D.F. 278

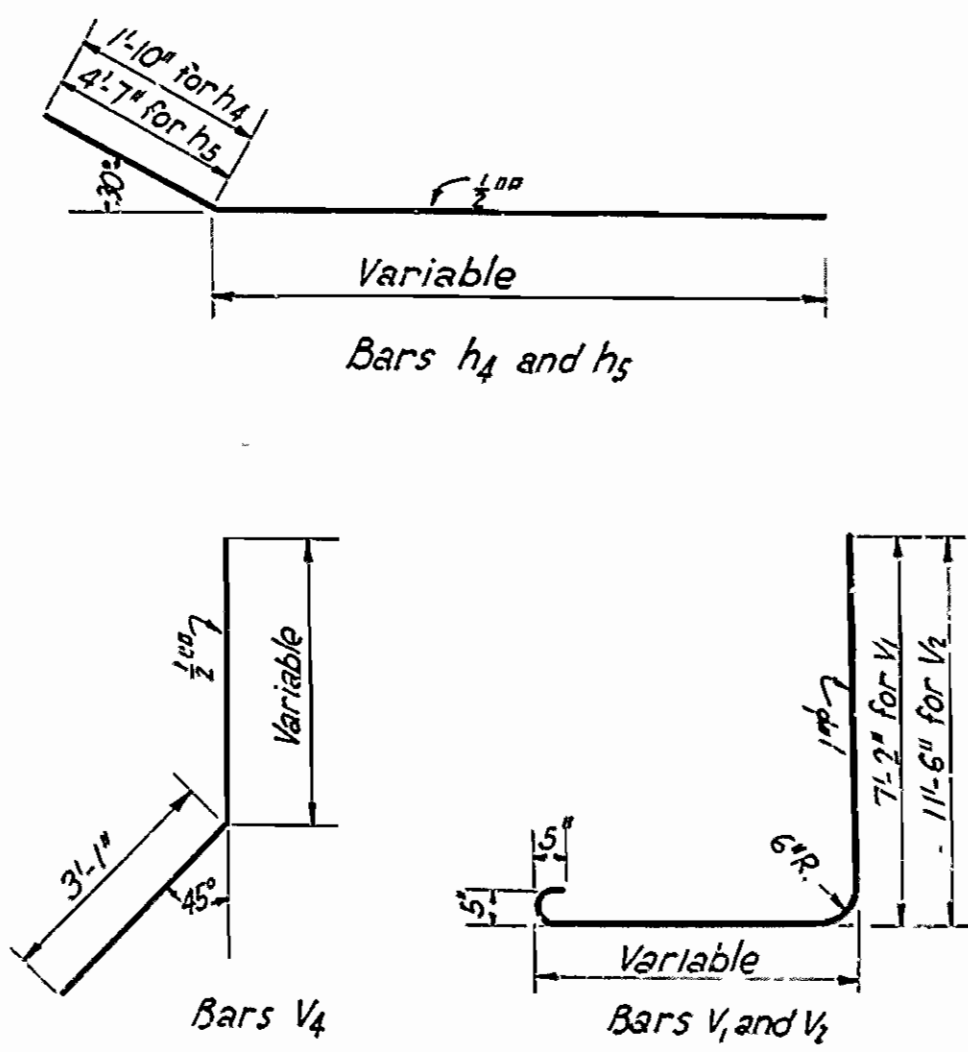


HALF ELEVATION SHOWING DIMENSIONS

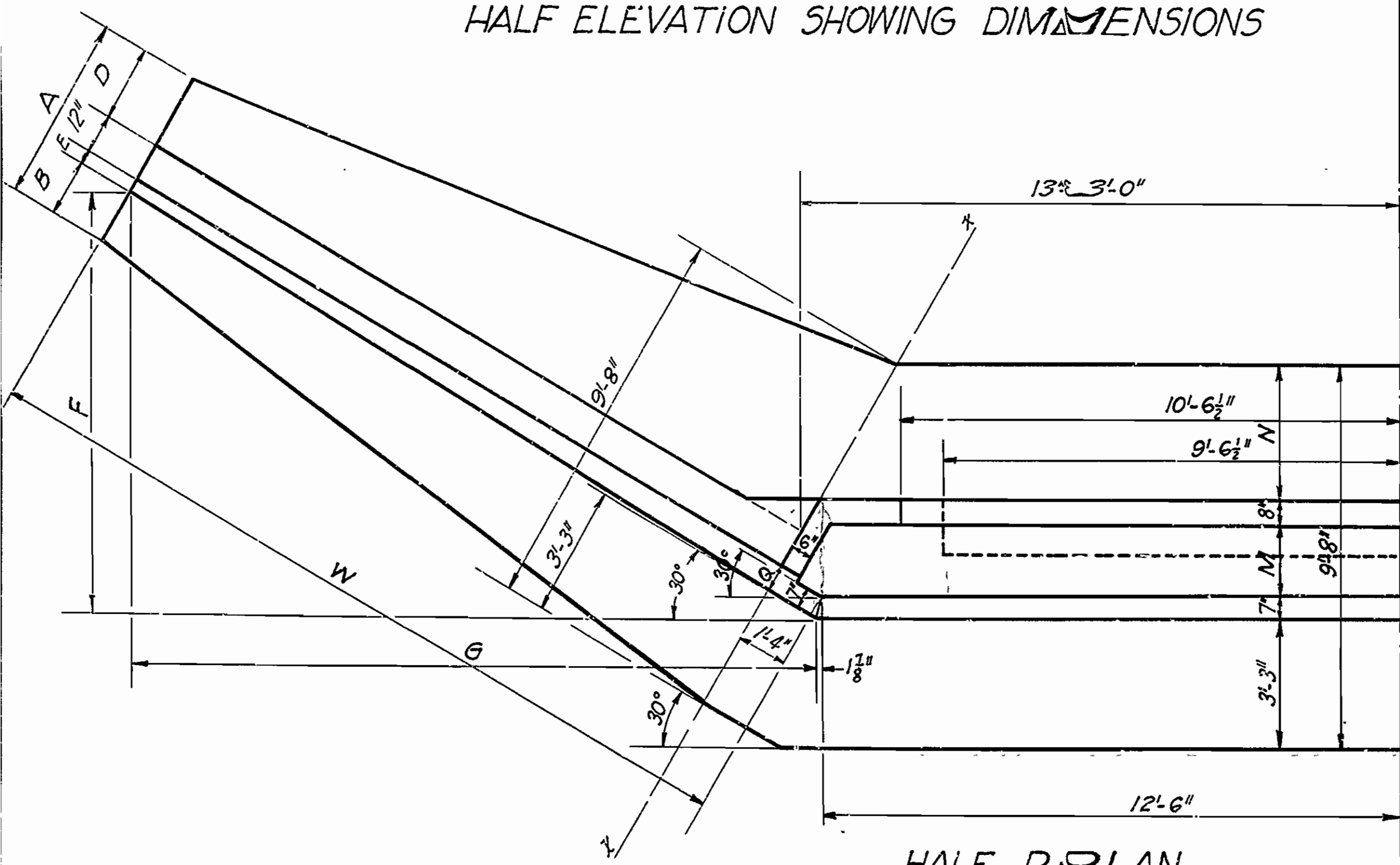
HALF ELEVATION SHOWING REINFORCING



SECTION ON  $\phi$   
See Layout Sheet for Pile Spacing.

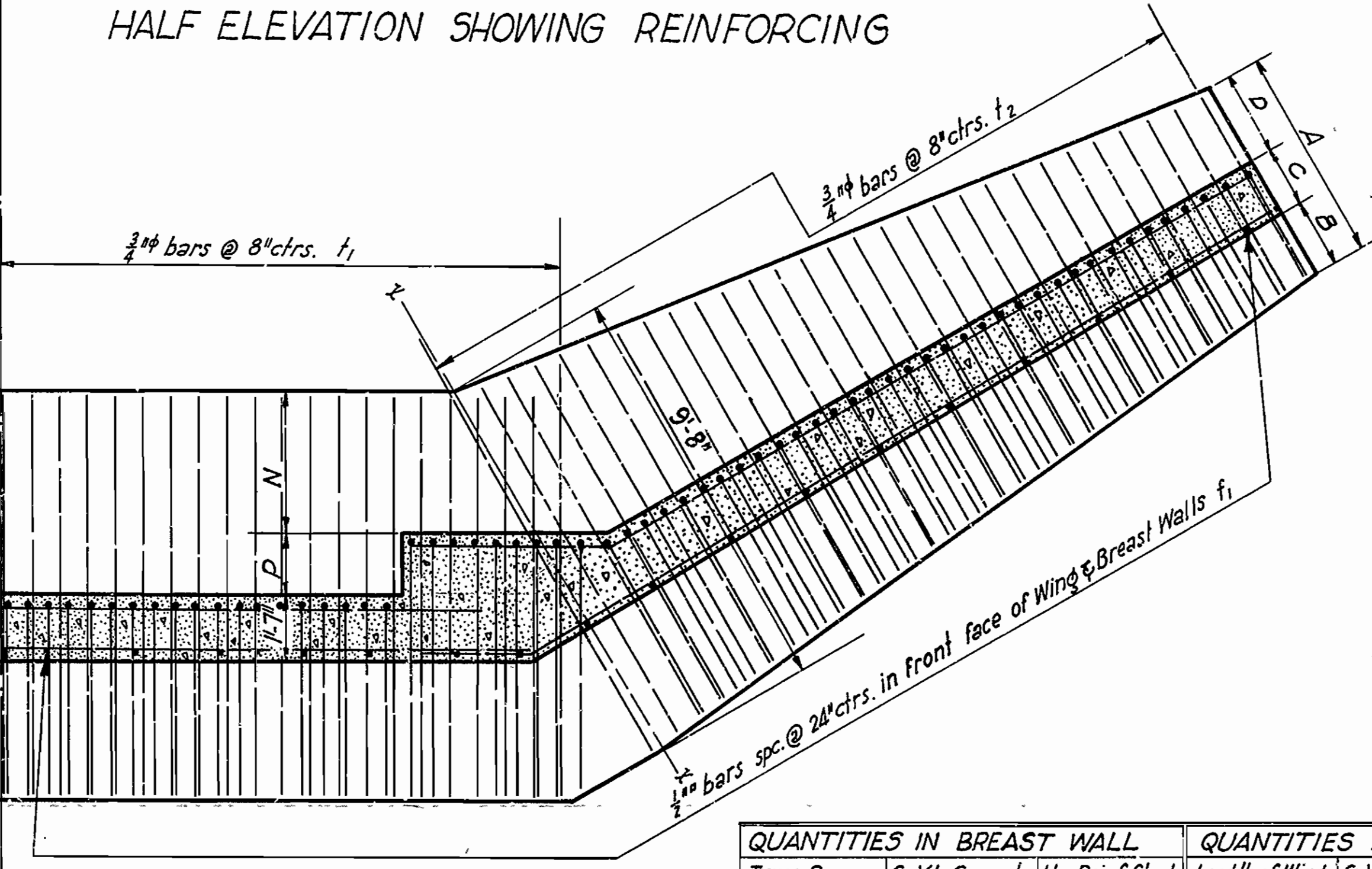


BENDING DIAGRAMS

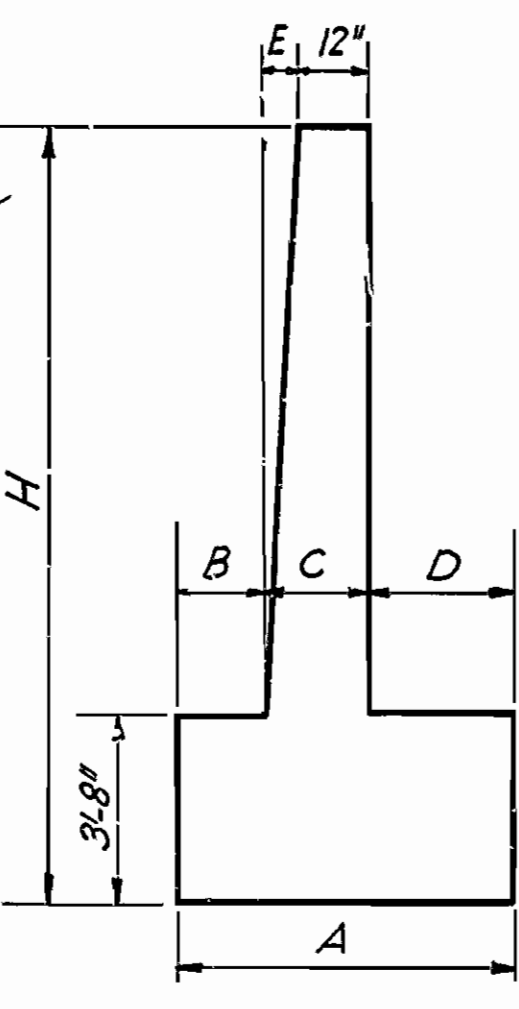


HALF PLAN

See Layout Sheet for Spacing of Piling.



HALF SECTION AT FOOTING



END OF WING

WING DIMENSIONS

| Length of Wing W | A     | B     | C         | D          | E  | F      | G          | H      | I      |
|------------------|-------|-------|-----------|------------|----|--------|------------|--------|--------|
| 27'-0"           | 4'-9" | 1'-7" | 1'-3 1/2" | 1'-10 1/2" | 3' | 13'-6" | 23'-4 1/2" | 10'-9" | 11'-3" |

BRIDGE SEAT AND BREAST WALL DIMENSIONS

| Truss Span     | J      | K         | L          | M     | N     | P     | Q  |
|----------------|--------|-----------|------------|-------|-------|-------|----|
| 20'-0" Roadway |        |           |            |       |       |       |    |
| 60' Truss      | 9 1/2" | 3'-7 1/2" | 14'-8 1/2" | 1'-8" | 3'-6" | 1'-4" | 9" |

| Truss Span | QUANTITIES IN BREAST WALL |                   | QUANTITIES IN WING WALL (one) |                                     |
|------------|---------------------------|-------------------|-------------------------------|-------------------------------------|
|            | Cu. Yds. Concrete         | Lbs. Reinf. Steel | Length of Wing                | Cu. Yds. Concrete Lbs. Reinf. Steel |
| 60 ft.     | 61.26                     | 3450              | 27'-0"                        | 35.19 3529                          |

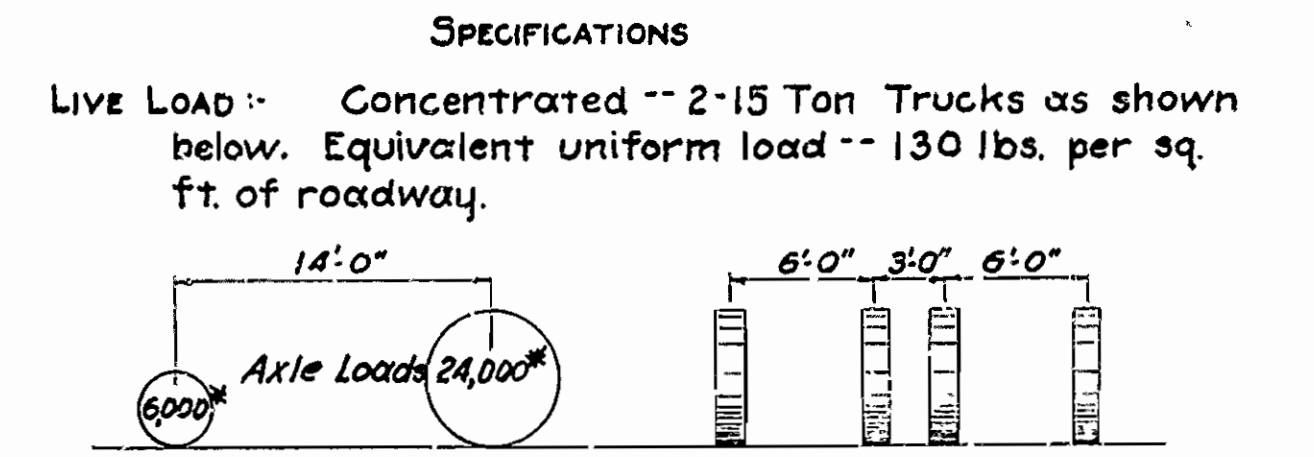
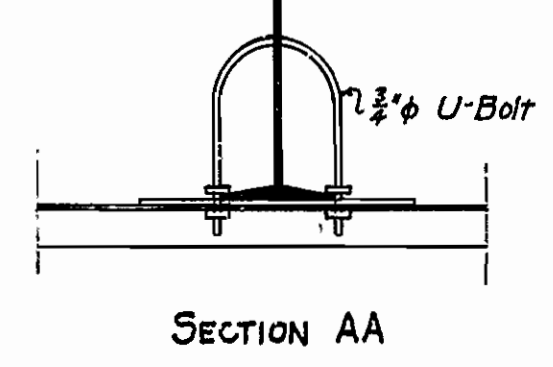
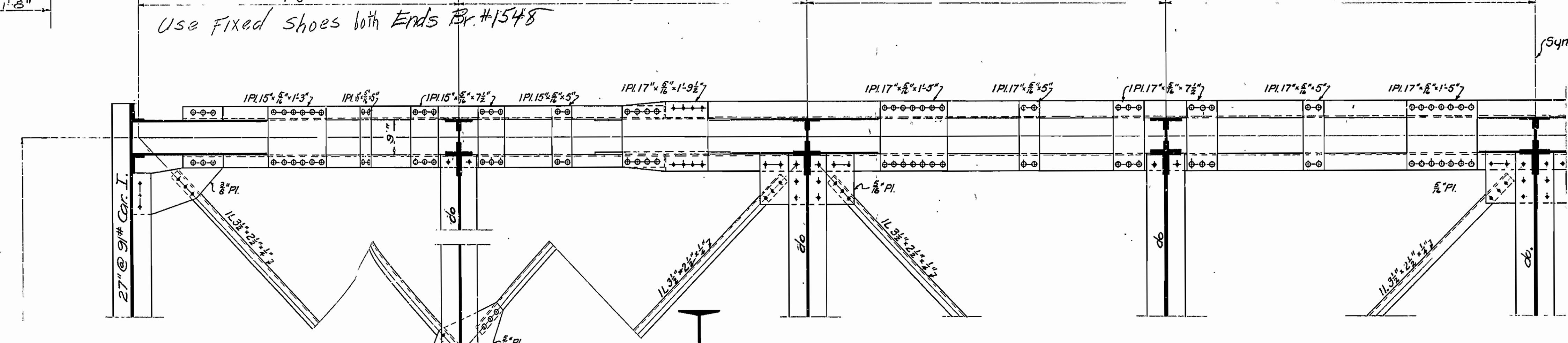
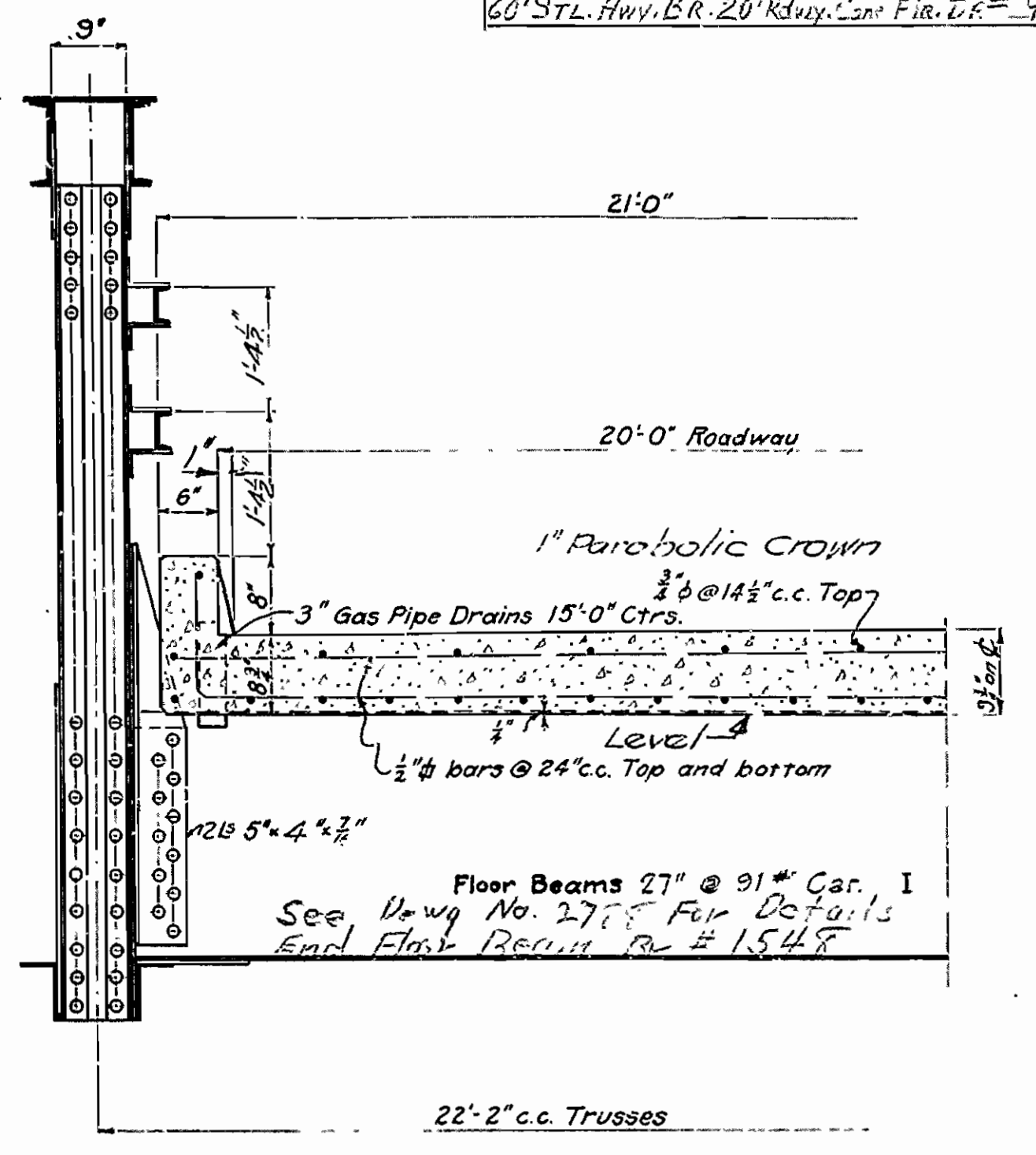
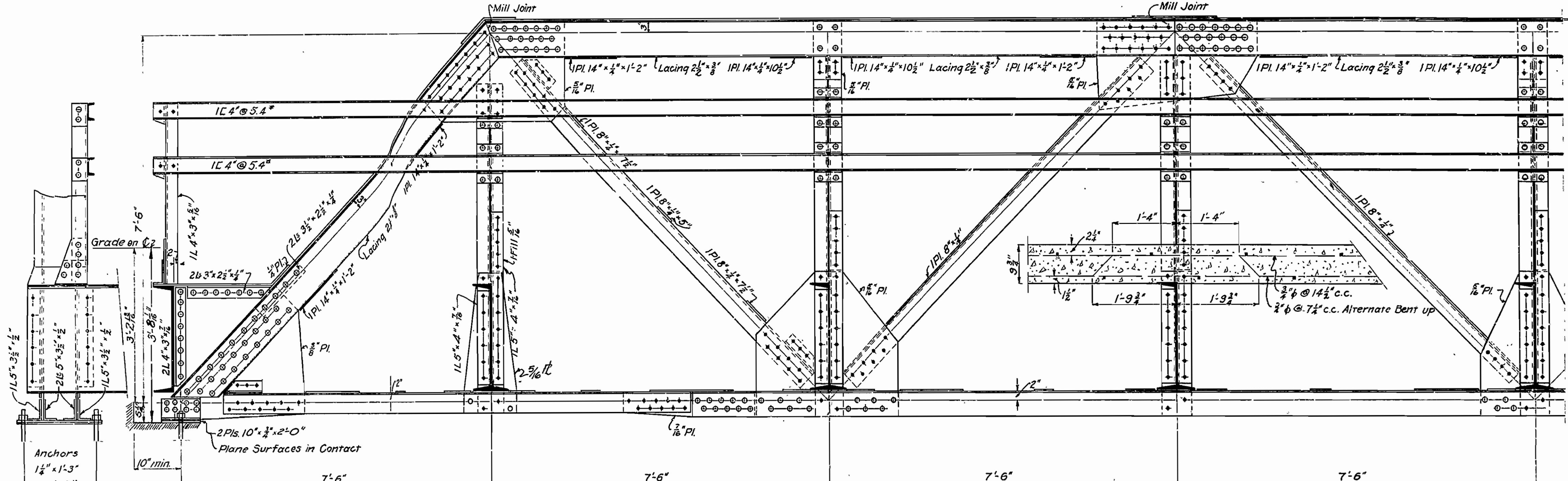
For quantities in each abutment add quantities in breast wall to quantities in two wings.  
For above estimate the division of wing and breast walls is assumed to be along line x-x.

SPECIFICATIONS: Arkansas Highway Department.  
CONCRETE: Class A 1:2:4 Mix. Max. Agg. 1 1/2".  
CHAMFER: All exposed edges - 3/4".  
REINFORCING STEEL: To be of deformed bars, structural or intermediate grade. Square twisted bars not to be considered deformed. Bars to be securely wired in place before concrete is poured.

22'-0" STANDARD ABUTMENT  
TRUSS SPANS 20'-0" ROADWAY  
ARKANSAS HIGHWAY DEPARTMENT  
LITTLE ROCK, ARK.  
JUNE 30, 1927

APPROVED BY: \_\_\_\_\_  
CHAIRMAN STATE HIGHWAY COMMISSION.  
APPROVED BY: \_\_\_\_\_  
STATE HIGHWAY ENGINEER.  
RECOMMENDED FOR APPROVAL BY: *M.B. Graves*  
STATE HIGHWAY BRIDGE ENGINEER.





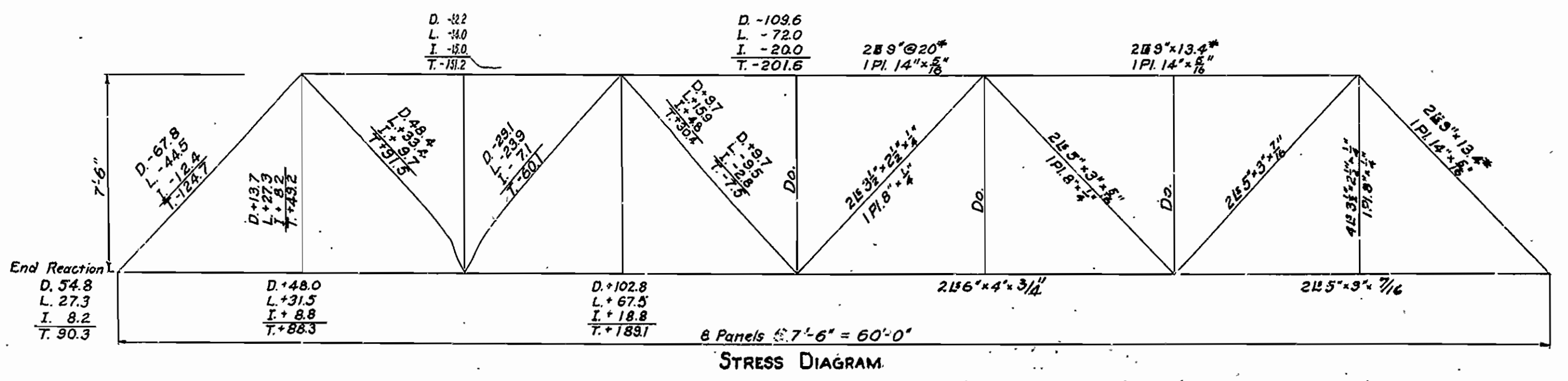
**FLOOR BEAMS**

|                   |                                       |                  |
|-------------------|---------------------------------------|------------------|
| D.L.M.            | $\frac{1}{8} \times 25,920 \times 22$ | = 71,300         |
| L.L.M.            | $22,350 \times 10.25$                 | = 157,080        |
| IMPACT            | 30% of L.L.                           | = 47,124         |
| <b>TOTAL MOM.</b> |                                       | <b>= 275,404</b> |

$\frac{275,404 \times 12}{16000} = 206.5$  Sec. Modulus required  
 Use: 27" Car. I @ 91" Sec. Modulus 233.3

**ESTIMATED QUANTITIES**

|                               |        |
|-------------------------------|--------|
| STRUCTURAL STEEL - LBS.       | 43,100 |
| REINFORCING STEEL - LBS.      | 6,992  |
| CONCRETE - Cu. yds. Class "S" | 393    |



Note:--- This drawing is general only. Shop drawings must be made in compliance with the specifications submitted and approved by the engineer before fabrication is begun.

DESIGNED BY: R.C.G.  
 DRAWN BY: R.E.D.  
 CHECKED BY: R.E.D.  
 DATE: JUNE 3, 1927  
 REVISIONS: 2-23-27

Approved Gen. Rev. 7-8-30  
 R.E.D.

**STANDARD PLAN**  
**60 FT. STEEL HIGHWAY BRIDGE**  
**20 FT. ROADWAY - CONCRETE FLOOR**  
**ARKANSAS HIGHWAY DEPARTMENT**  
**LITTLE ROCK, ARK.**

APPROVED: \_\_\_\_\_  
 CHAIRMAN, ARKANSAS STATE HIGHWAY COMMISSION.

APPROVED: \_\_\_\_\_  
 STATE HIGHWAY ENGINEER

RECOMMENDED FOR APPROVAL: \_\_\_\_\_  
 STATE HIGHWAY BRIDGE ENGINEER