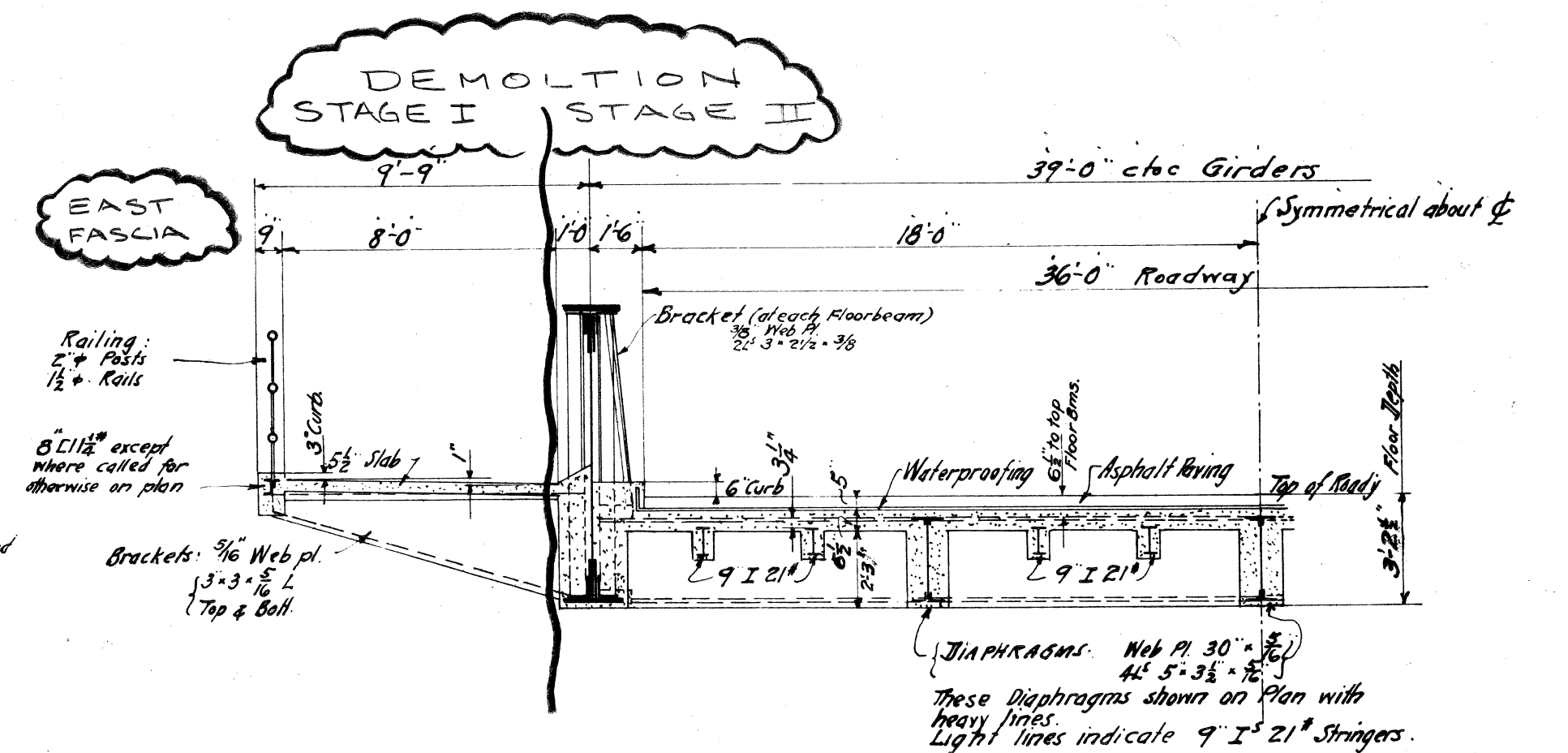
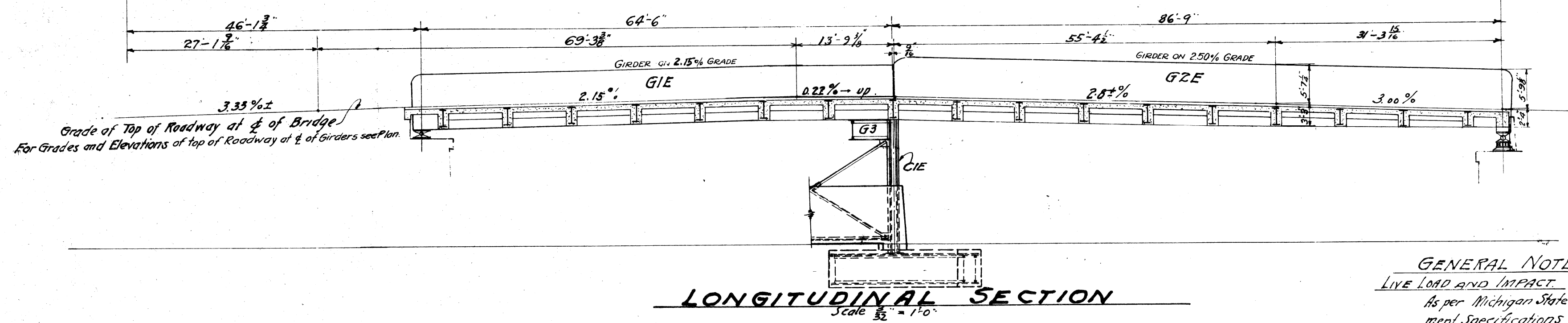
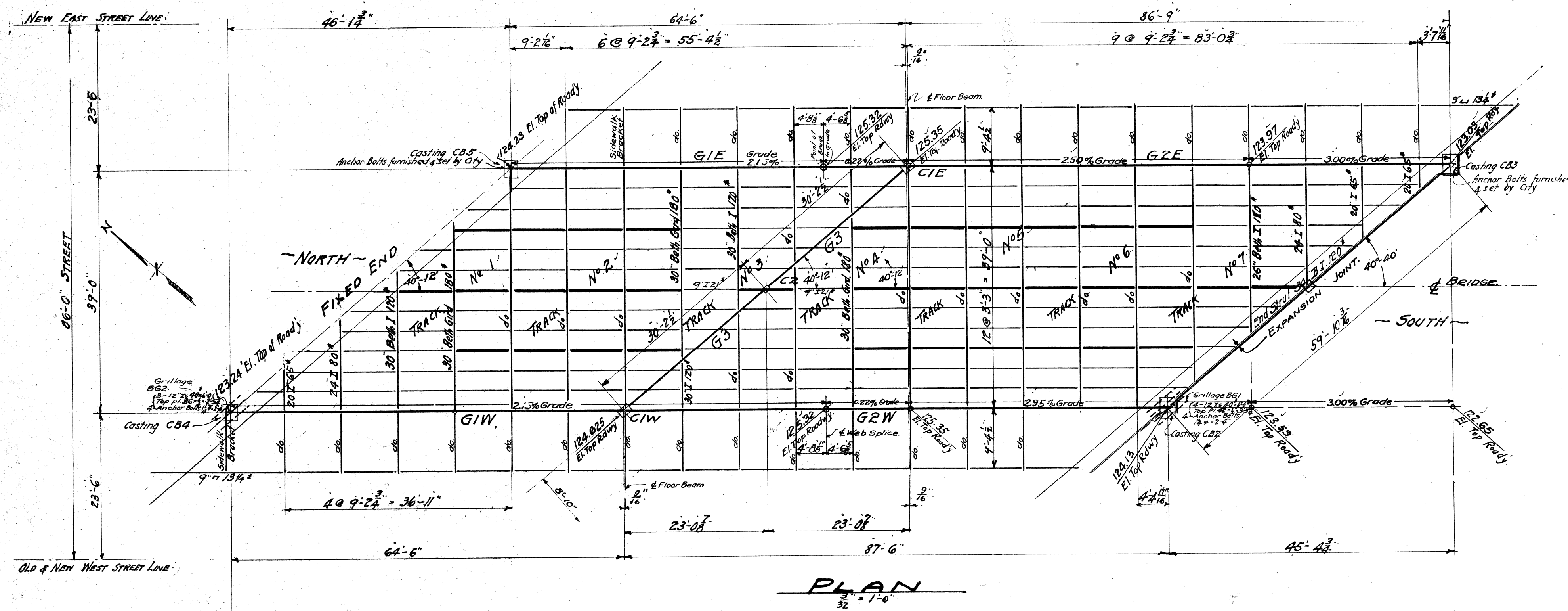




QUANTITY SHEET - E

| BRIDGE<br>ITEMS                             | AS PER PLANS |       |                           |                  |             |              |   |                        |                    |                        |                             |       |       |       | AS CONSTRUCTED |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|--------------|-------|---------------------------|------------------|-------------|--------------|---|------------------------|--------------------|------------------------|-----------------------------|-------|-------|-------|----------------|-------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|   | SHEET NO'S.  |       | S-106                     | S-117            | S-118       | S-122        | S-123                                     | S-136                  | S-138              | S-139                  | S-142                       | S-143 | S-144 | S-145 | SHEET NO'S.    |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   | TOTALS       | UNITS | General Plan of Structure | Abutment Details | Piling Plan | Pier Details | Structural Steel Framing Plan and Details | Superstructure Details | NAME PLATE DETAILS | EXPANSION JOINT DEVICE | Steel Reinforcement Details | "     | "     | "     | TOTALS         | UNITS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STRUCTURE EMBANKMENT (CIP)                  | 1125         | CY    | 1125                      |                  |             |              |   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UNCLASSIFIED FOUNDATION EXCAVATION          | 7465         | CY    |                           | 6600             |             | 865          |   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STRUCTURE BACKFILL (CIP)                    | 8000         | CY    | 8000                      |                  |             |              |   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ROCK DRILLING                               | 27           | L.F.  |                           |                  | 27          |              |   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| TEMPORARY STEEL SHEET PILING                | 1840         | SF    | 1840                      |                  |             |              |   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STEEL PILES, FURNISHED & DRIVEN (12")       | 7449         | L.F.  |                           |                  | 7449        |              |   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SPLICES, STEEL PILES (12")                  | 187          | EA    |                           |                  | 187         |              |   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STRUCTURAL LIGHTWEIGHT CONCRETE             | 51           | CY    |                           |                  |             |              | 51  |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SUBSTRUCTURE CONCRETE                       | 2863         | CY    |                           | 1989             |             | 874          |   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SUPERSTRUCTURE CONCRETE                     | 1237         | CY    |                           |                  |             |              | 1237                                      |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STEEL REINFORCEMENT                         | 329,745      | LBS   |                           |                  |             |              |   |                        |                    | 134419                 | 81678                       | 38520 | 75128 |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STEEL REINFORCEMENT, EPOXY COATED           | 93430        | LBS   |                           |                  |             |              |   |                        |                    |                        |                             | 30462 | 62968 |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LOW TEMPERATURE PROTECTION, SUBSTR. CONC.   | 2863         | CY    |                           | 1989             |             | 874          |   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LOW TEMPERATURE PROTECTION, SUPERSTR. CONC. | 1288         | CY    |                           |                  |             |              | 1288                                      |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PROTECTIVE TREATMENT FOR BRIDGE DECKS       | 26985        | SF    |                           |                  |             |              | 26985                                     |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2" PREFORMED NEOPRENE JOINT SEAL            | 160          | LF    |                           |                  |             |              | 160                                       |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| EXPANSION JOINT DEVICE, 2" MIN. TRAVEL      | 27           | LF    |                           |                  |             |              |   |                        | 27                 |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| EXPANSION JOINT DEVICE, 3" MIN. TRAVEL      | 266          | LF    |                           |                  |             |              |   |                        | 266                |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| EPOXY BONDING AGENT                         | 40           | SF    |                           |                  |             |              | 40  |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10" PIPE SLEEVE, PLACED                     | 2            | EA    |                           |                  |             |              | 2   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| EXPANSION JOINT DRAIN                       | 9            | EA    |                           | 9                |             |              |   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3" CONDUIT                                  | 188          | LF    |                           |                  |             |              | 188                                       |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4" CONDUIT                                  | 4144         | LF    |                           |                  |             |              | 4144                                      |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NAME PLATES                                 | 4            | EA    |                           |                  |             |              |   | 4                      |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FIELD PAINTING                              | 1            | L.S.  |                           |                  |             |              | 1   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STRUCTURAL STEEL FURN. & FAB. (AST2 ROLLED) | 755500       | LBS   |                           |                  |             |              | 755500                                    |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STRUCTURAL STEEL ERECTION (AST2 ROLLED)     | 755500       | LBS   |                           |                  |             |              | 755500                                    |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BUSHINGS                                    | 100          | EA    |                           |                  |             |              | 100                                       |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| JOINT WATERPROOFING                         | 1250         | SF    |                           | 1229             |             |              |   | 21                     |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BRIDGE RAILING - SOLID PARAPET TYPE         | 140          | LF    |                           | 140              |             |              |   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BRIDGE RAILING - SOLID PARAPET TYPE (MOD.)  | 497          | LF    |                           |                  |             |              | 497                                       |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 24" CLASS A COLVERT                         | 462          | LF    | 462                       |                  |             |              |   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8" CLASS A SEWER (TRENCH DETAIL B)          | 340          | LF    | 340                       |                  |             |              |   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SLOPE PAVING, CONCRETE                      | 1230         | SF    | 1230                      |                  |             |              |   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SLOPE PROTECTION HEADERS                    | 504          | LF    | 504                       |                  |             |              |   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FOUNDATION DRAINS 6"                        | 655          | LF    |                           | 655              |             |              |   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PEDESTRIAN FENCING STRUCTURES               | 3977         | SF    |                           |                  |             |              | 3977                                      |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| REMOVAL OF PORTIONS OF STRUCTURES           | 1            | L.S.  | 1                         |                  |             |              |   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FORM, FINISH & CURE SUPERSTRUCTURE CONCRETE | 1            | L.S.  |                           |                  |             |              | 1   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SHEAR DEVELOPERS                            | 1            | LS    |                           |                  |             |              | 1   |                        |                    |                        |                             |       |       |       |                |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



HALF CROSS-SECTION, DECK  
Scale: 1/2" = 1'-0"

TABLE OF OVERHEAD TRACK CLEARANCES

| TRACK NO | ELEVATION BOT. GIRDER |        | ELEVATION TOP OF RAIL |        | CLEARANCE Under West End Under East End |
|----------|-----------------------|--------|-----------------------|--------|---|
|          | WEST                  | EAST   | WEST                  | EAST   |   |
| 1        | 120.37                | 121.08 | 104.64                | 104.37 | 15.73 (15.33) 16.71 (15.66)             |
| 2        | 120.79                | 121.49 | 104.24                | 104.17 | 16.55 (16.58) 17.32 (16.52)             |
| 3        | 121.23                | 121.94 | 104.12                | 103.94 | 17.11 (17.10) 18.00 (17.14)             |
| 4        | 121.66                | 121.76 | 104.22                | 104.04 | 17.44 (17.17) 17.72 (17.25)             |
| 5        | 122.06                | 121.28 | 104.21                | 104.00 | 17.85 (17.08) 17.28 (17.17)             |
| 6        | 121.55                | 120.93 | 104.20                | 104.04 | 17.35 (16.85) 16.89 (16.92)             |
| 7        | 121.06                | 120.81 | 104.13                | 104.01 | 16.93 (16.56) 16.80 (16.79)             |

NOTE: Figures in parenthesis ( ) denote clearance under existing Trusses.

GIRDER SCHEDULE

| MARK | SPIN       | END SHEAR MOM. | EFF. DEPTH | MATERIAL IN EACH FLANGE            | WEB PL.  | GROSS AREA 78" FLG. | NET AREA 80" FLG. |
|------|------------|----------------|------------|------------------------------------|--|---------------------|-------------------|
| G1E  | 64'-6"     | 376000         | 4.63000    | 2-8-6-3/8 L<br>18-1/2"<br>18-3/8"  | 18" x 1/2"   | 87.7%               | 45.55"            |
| G1W  |            |                |            |                                    |  |                     | 39.60"            |
| G2E  | 86'-9"     | 493000         | 8.13       | 2-8-8-3/8 L<br>2-Side Fls. 14-3/8" | 1-21-8 GZC<br>1-21-8 GZV<br>2-21-8 GZC<br>2-21-8 GZV | 102.1/2"            | 83.88"            |
| G2W  | 87'-6"     |                |            |                                    |  |                     | 73.86"            |
| G3   | 30'-2 1/2" | 84000          | 7.600      | 2-6-4-3/8                          | 1-10 = 3/8   | 36-3/8"             | 20.62"            |
| G4   | 44'-3"     | 464000         | 1.3        | 4-12-8<br>4-12-8<br>4-12-8         | 30-3/8<br>21-0<br>15-0                               | 2-54-1/2"           | 126.5"            |
| G5   | 27'-0"     | 470000         | 4.45       | 4-12-8<br>4-12-8                   | 10-9<br>10-0   | 2-54-1/2"           | 85.65"            |

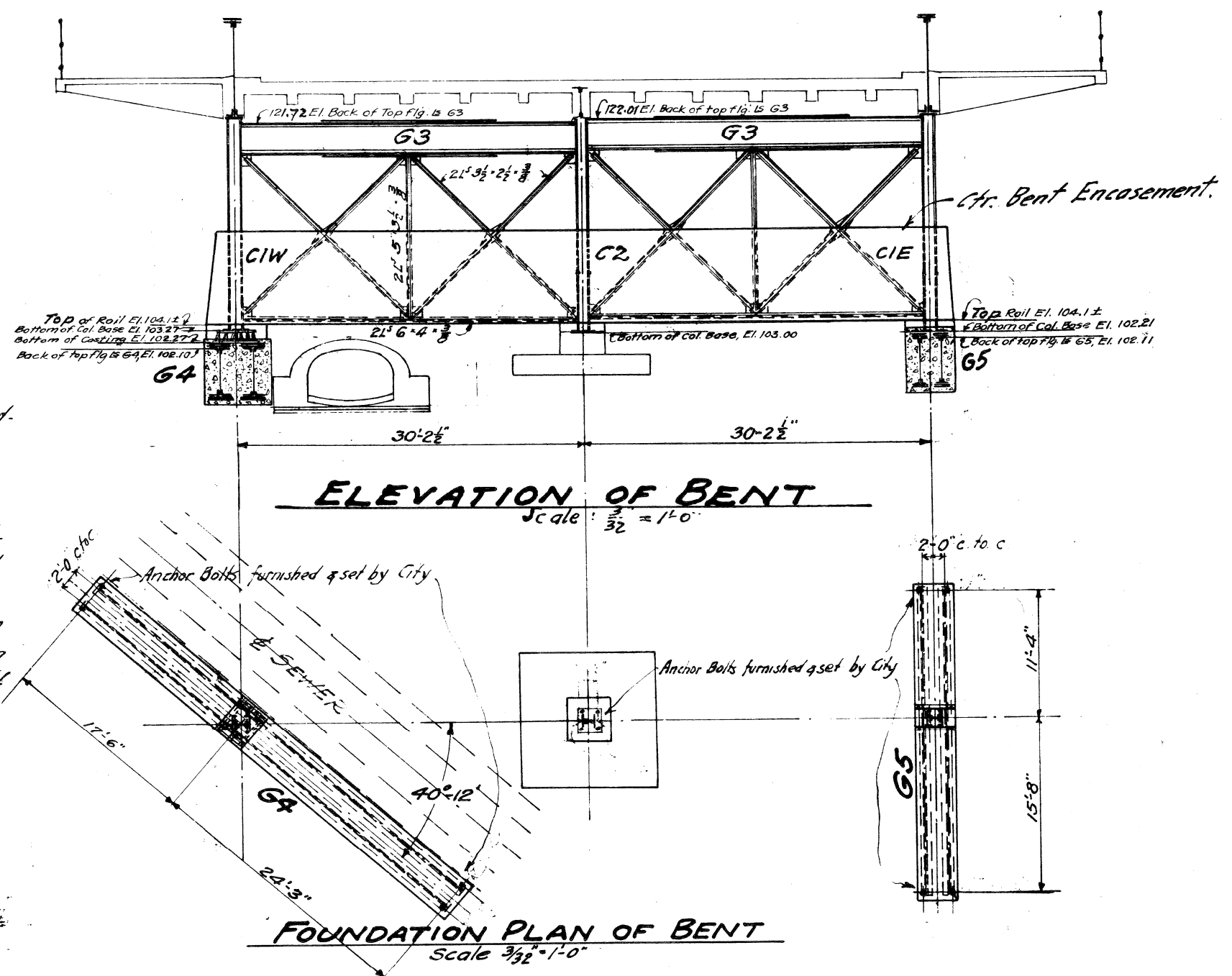
COLUMN SCHEDULE

| MARK | MAX. GROUP LENGTH | MAX. AXIAL LOAD | LOADING FOR MAX. ECCENTRICITY |          |         |          | COLUMN SECTION  | SKETCH | AREA   |
|------|-------------------|-----------------|-------------------------------|----------|---------|----------|---|--------|--------|
|      |                   |                 | G1                            | G2       | G3      | TOTAL    |   |        |        |
| G1   | 15'-3"            | 865,000*        | 200,000                       | 478,000* | 34,000* | 712,000* | 1-15" I 70<br>2-15" L 50<br>2-12" x 1/2 PL<br>4-5" x 3/4" |        | 83.01" |
| G2   | 15'-3"            | 170,000*        |                               |          |         |          | 1-12" x 1/2 PL<br>4-5" x 3/4" L 5                         |        | 22.00" |

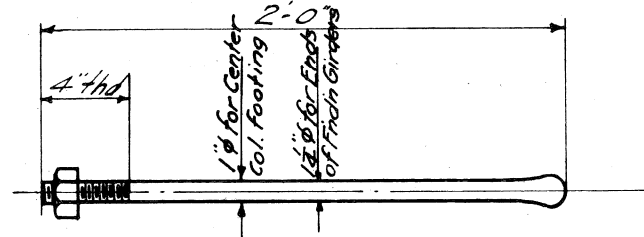
PAINTING:  
As per Specifications and Notes on Design Drawings. Steel in contact with concrete shall not be painted at all.

GENERAL NOTES

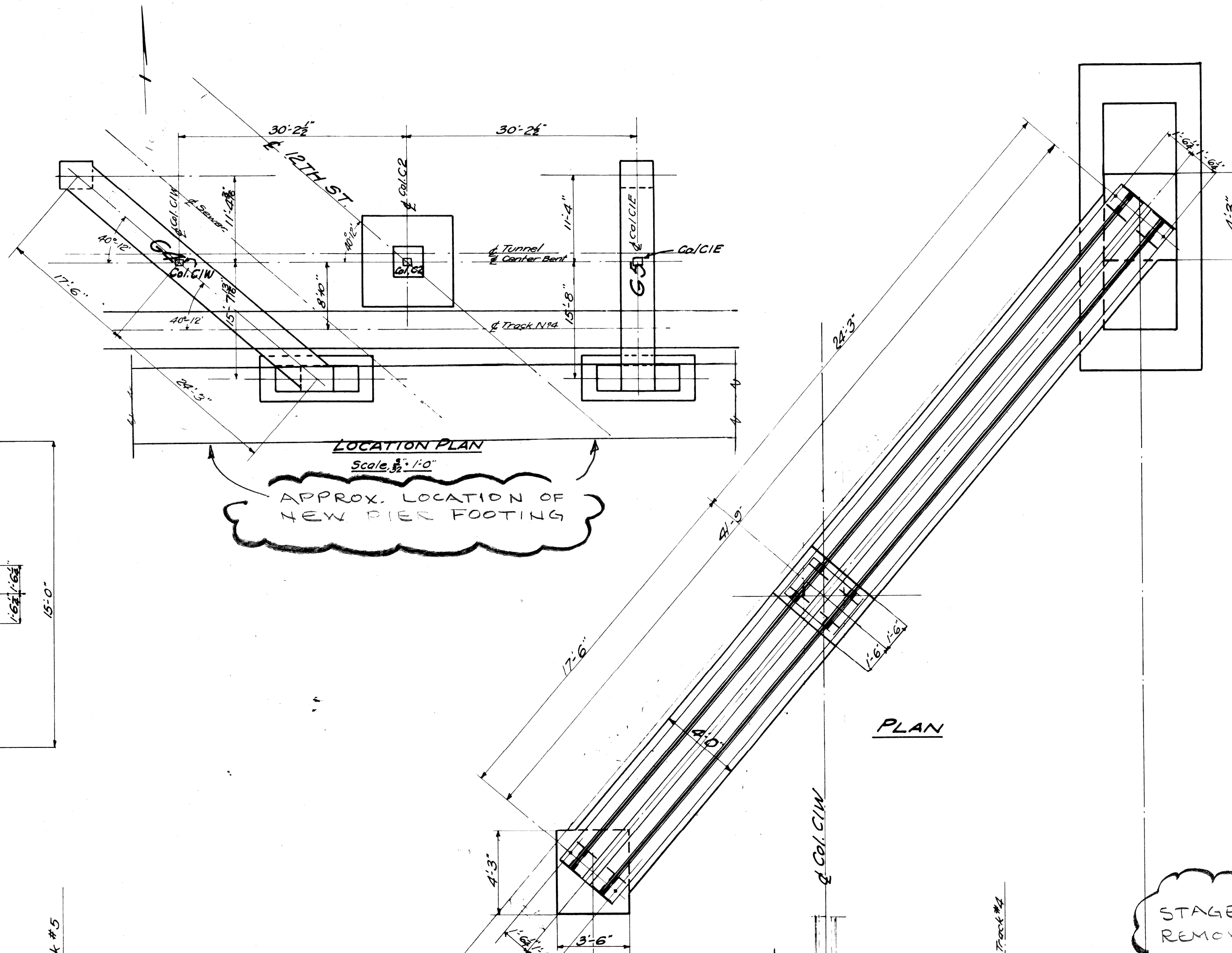
LIVE LOAD AND IMPACT:  
As per Michigan State Highway Department Specifications for Highway Bridges, 1920 Edition, except Floorbeams and Girders.  
Four Lines of 18 Ton Trucks on Roadway. The diaphragms were assumed to distribute the floorbeam loads by considering them continuous over two spans on either side of the floorbeam in question. An impact allowance of 18 1/2% was added to the moment and shear on the floorbeams. No impact, however, was added on the girders for a roadway loaded with four lines of trucks.  
Stringers and Slab:  
18 Ton Truck - 25% Impact.  
Sidewalk: 100 lbs' - No Impact.  
Columns: Four Lines of Trucks on roadway and 100 lbs' on sidewalks.  
Impact: 25% on roadway only.  
Foundations under Bent:  
Same as for Columns except no impact.  
MATERIALS, WORKMANSHIP AND DETAILS:  
As per Specifications and Design Drawings, Sheets Nos. 5.  
UNIT STRESSES:  
Tension: 16000 lbs' net sect.  
Comp.: 16000-70 lbs' gross  
Shear: 10000 lbs' gross  
Shop Rivets: 12000 lbs' shear 24000 lbs' bearing  
Field: 10000 lbs' shear 20000 lbs' bearing  
Bear: in Masonry: 8000 lbs'



|   |          |           |            |           |  |   |  |  |  |                         |  |
|---|----------|-----------|------------|-----------|--|---|--|--|--|-------------------------|--|
| REVISIONS LOCATED BY COORDINATES ON SHEET |          |           |            | APPROVED: |  | CITY OF DETROIT<br>CITY ENGINEERING DIVISION - EPMD |  | 12TH. ST. (ROSA PARKS BLVD.)<br>& LAFAYETTE ST. CROSSING CONRAIL |  | SHEET ___ OF ___ SHEETS |  |
| DESIGNED BY                               | DRAWN BY | TRACED BY | CHECKED BY |           |  |   |  | REFERENCE DRAWING OLD TWELFTH ST. BRIDGE                         |  | CONTRACT NO. 07110 A    |  |
|   |          |           |            |           |  |   |  | GENERAL PLAN - SUPERSTRUCTURE                                    |  | NO. SR-1                |  |
|   |          |           |            |           |  |   |  |  |  | DATE NOV 1970           |  |

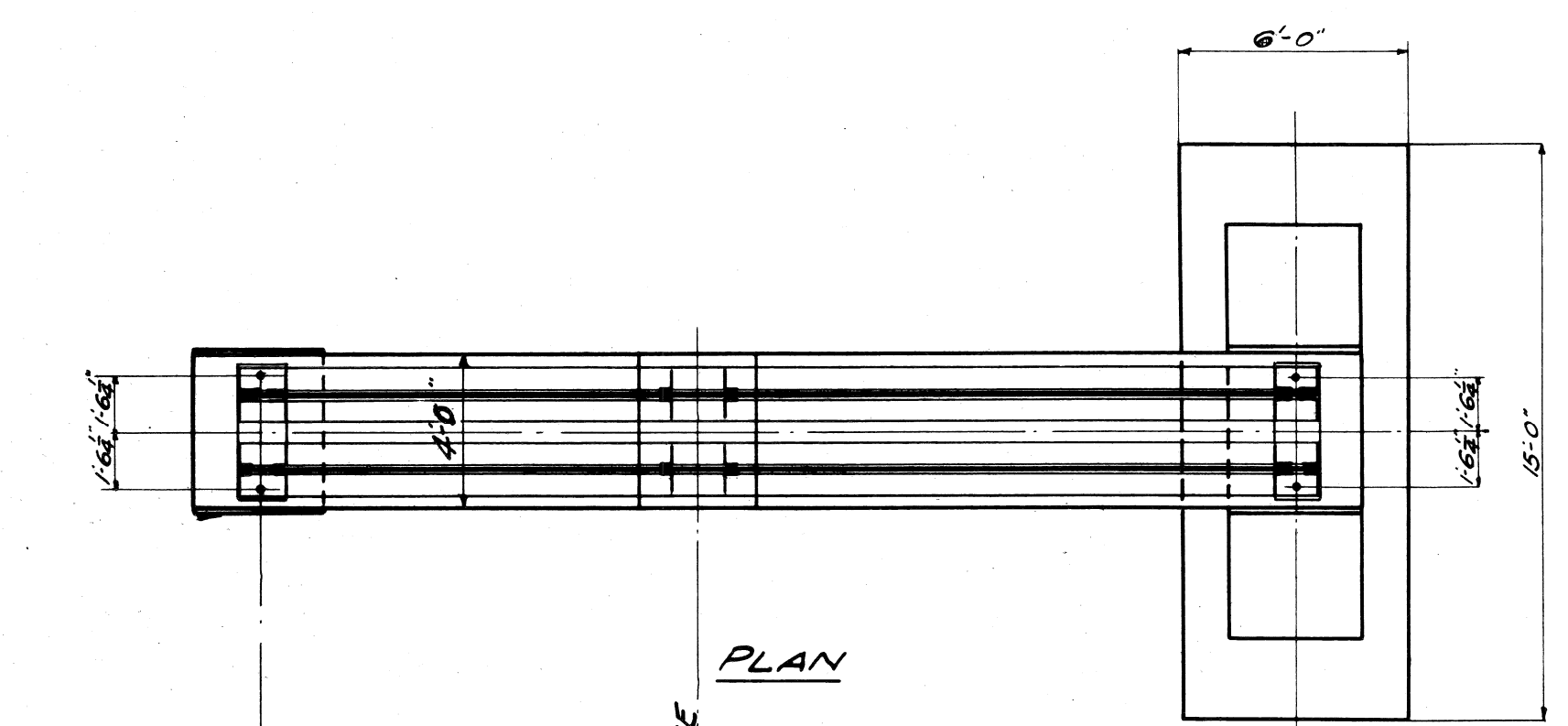


DETAIL OF ANCHOR BOLTS

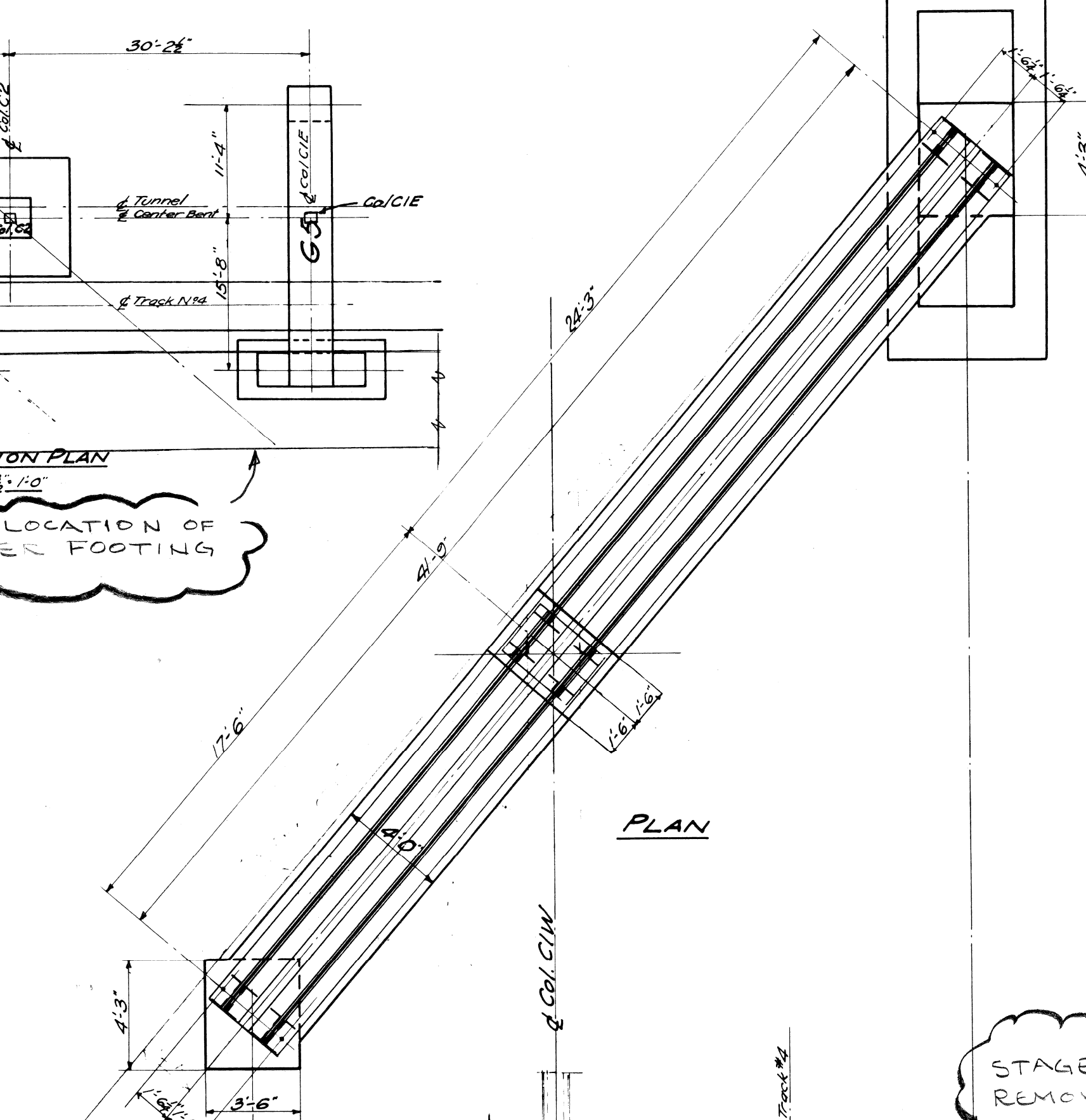


LOCATION PLAN

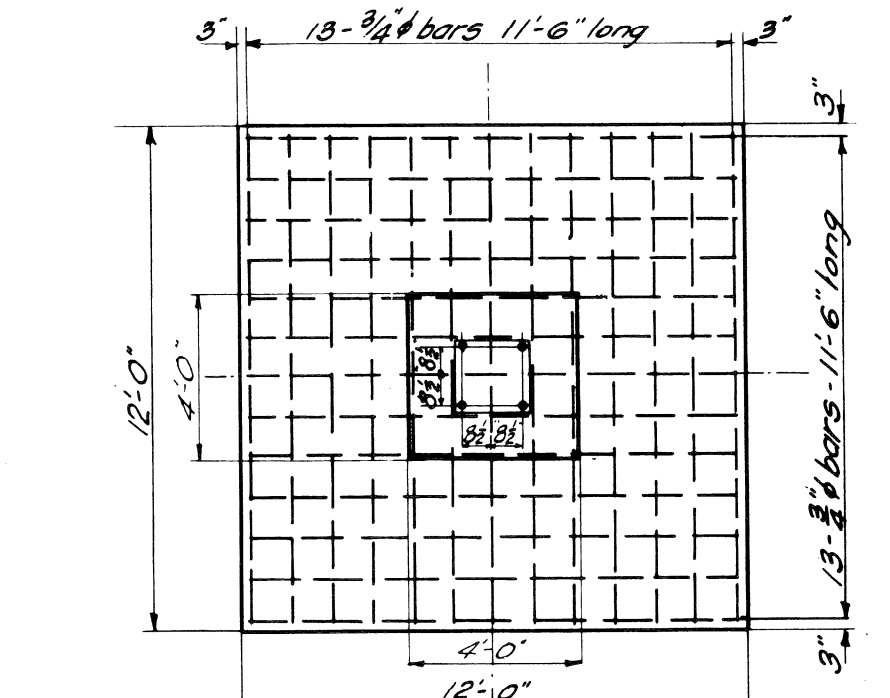
APPROX. LOCATION OF NEW PIER FOOTINGS



PLAN

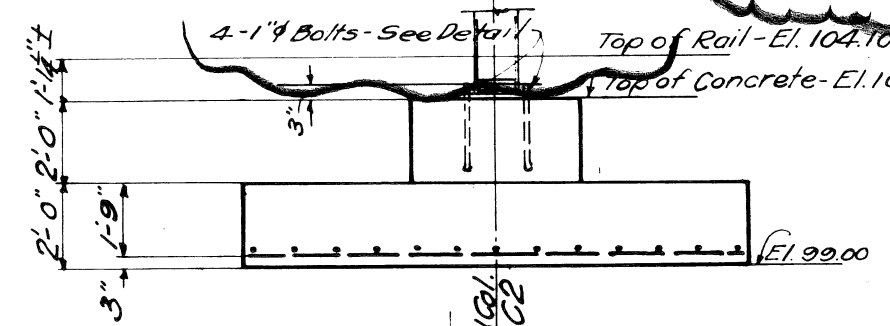


PLAN



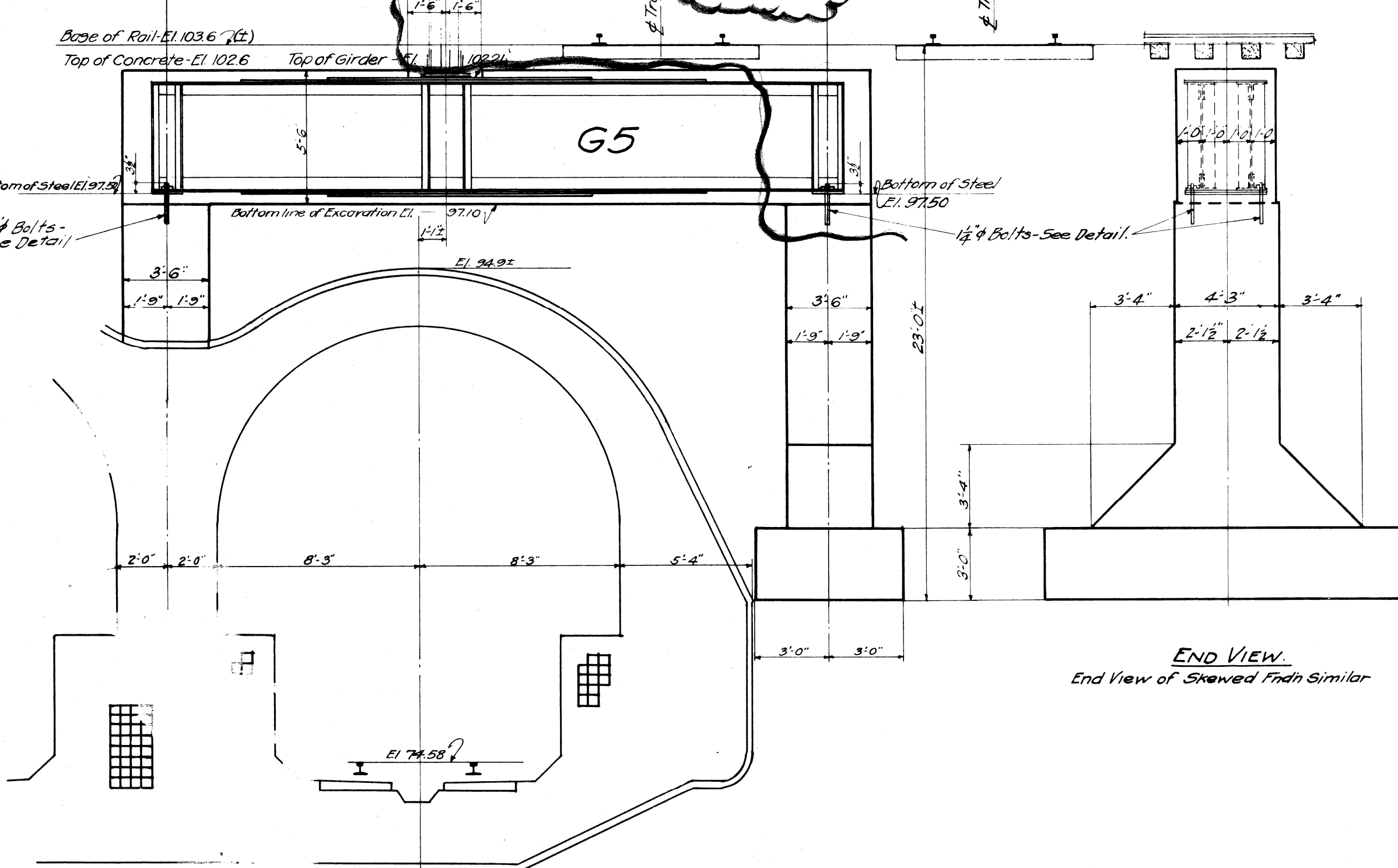
PLAN

STAGE II REMOVAL



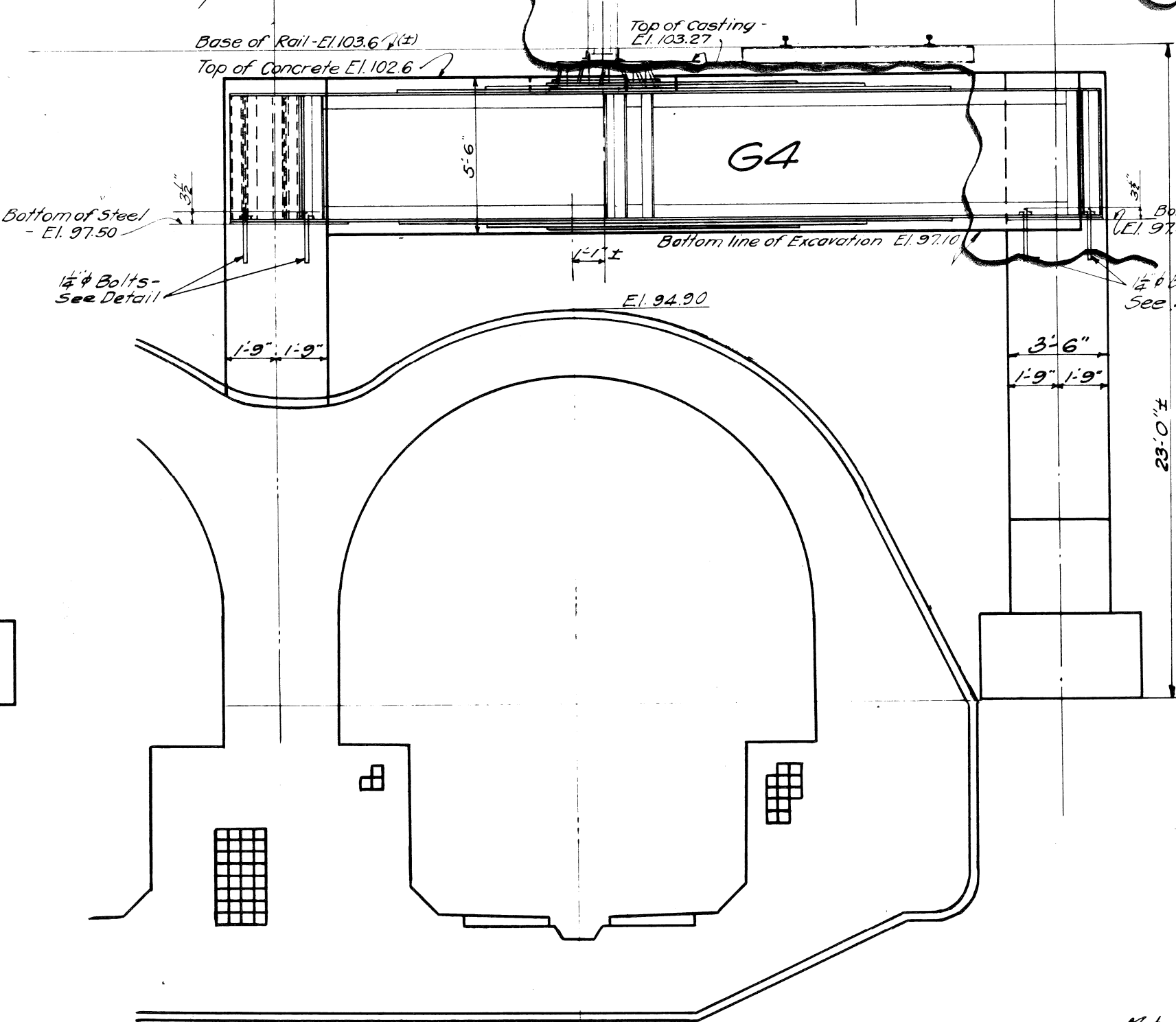
ELEVATION  
FOUNDATION FOR COLUMN C2

General Notes:  
Piers under ends of Girders G4 and G5 to be poured to El. 97.50 as shown. 1/2" anchor bolts and girders set in place and turned bolts (furnished by Steel Contractor) inserted in proper holes in 10" Flanges before concrete above El. 97.50 is placed. Concrete 1:2:4 mix.



ELEVATION

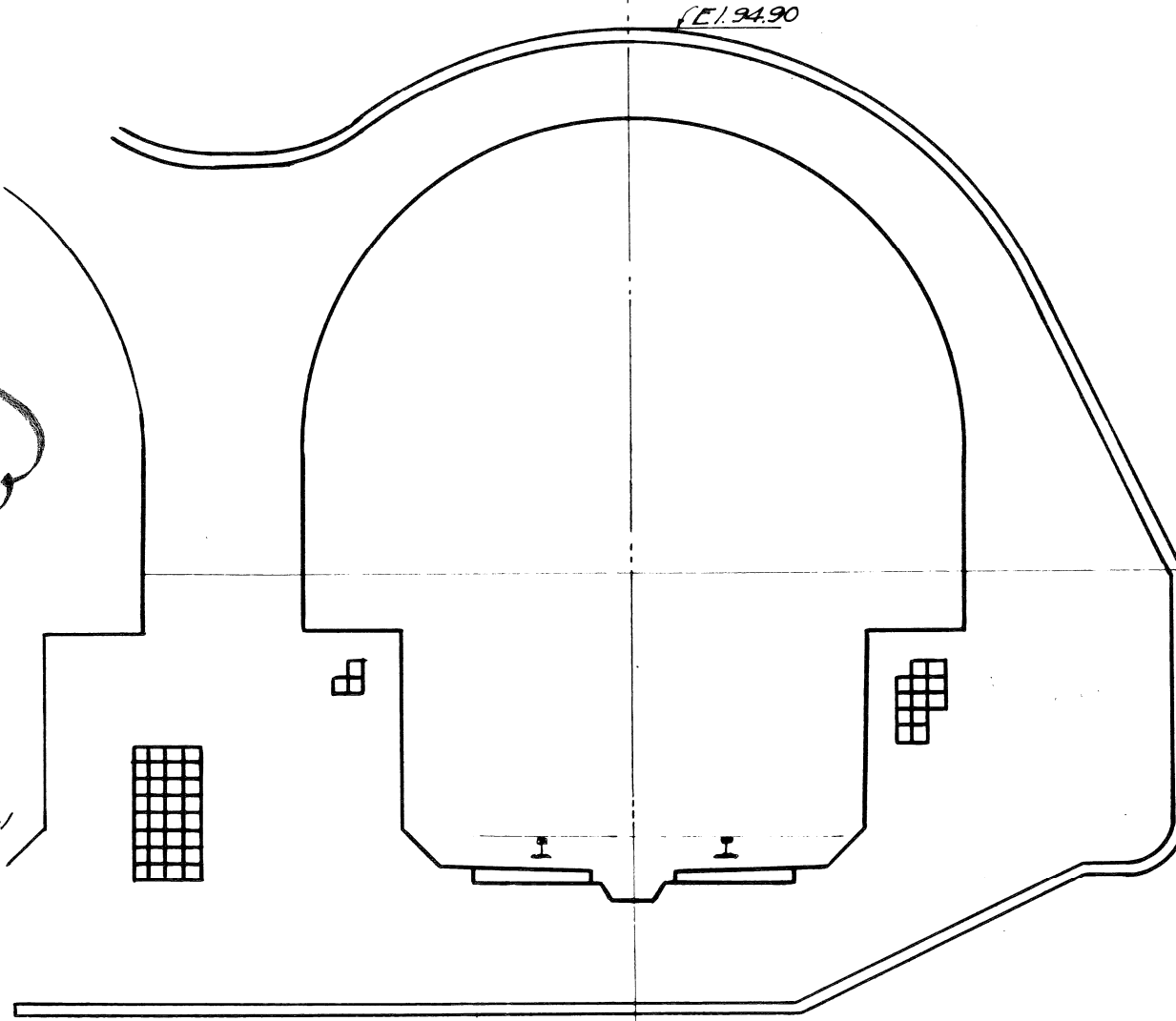
FOUNDATION FOR COLUMN C1E



ELEVATION

FOUNDATION FOR COLUMN C1W

STAGE II REMOVAL



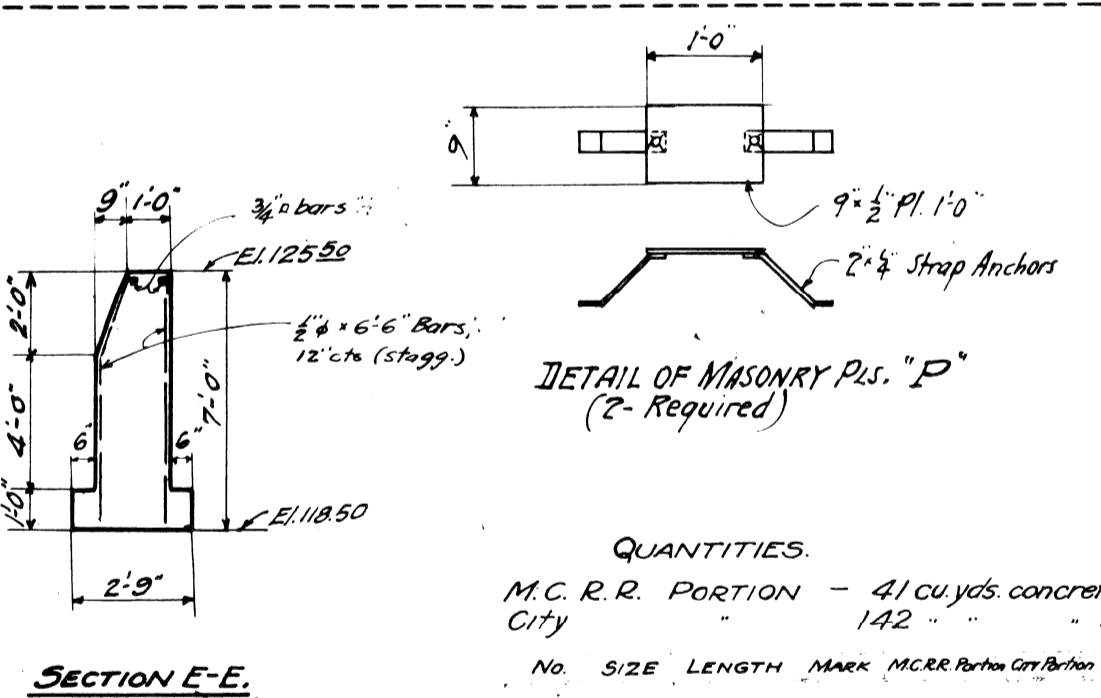
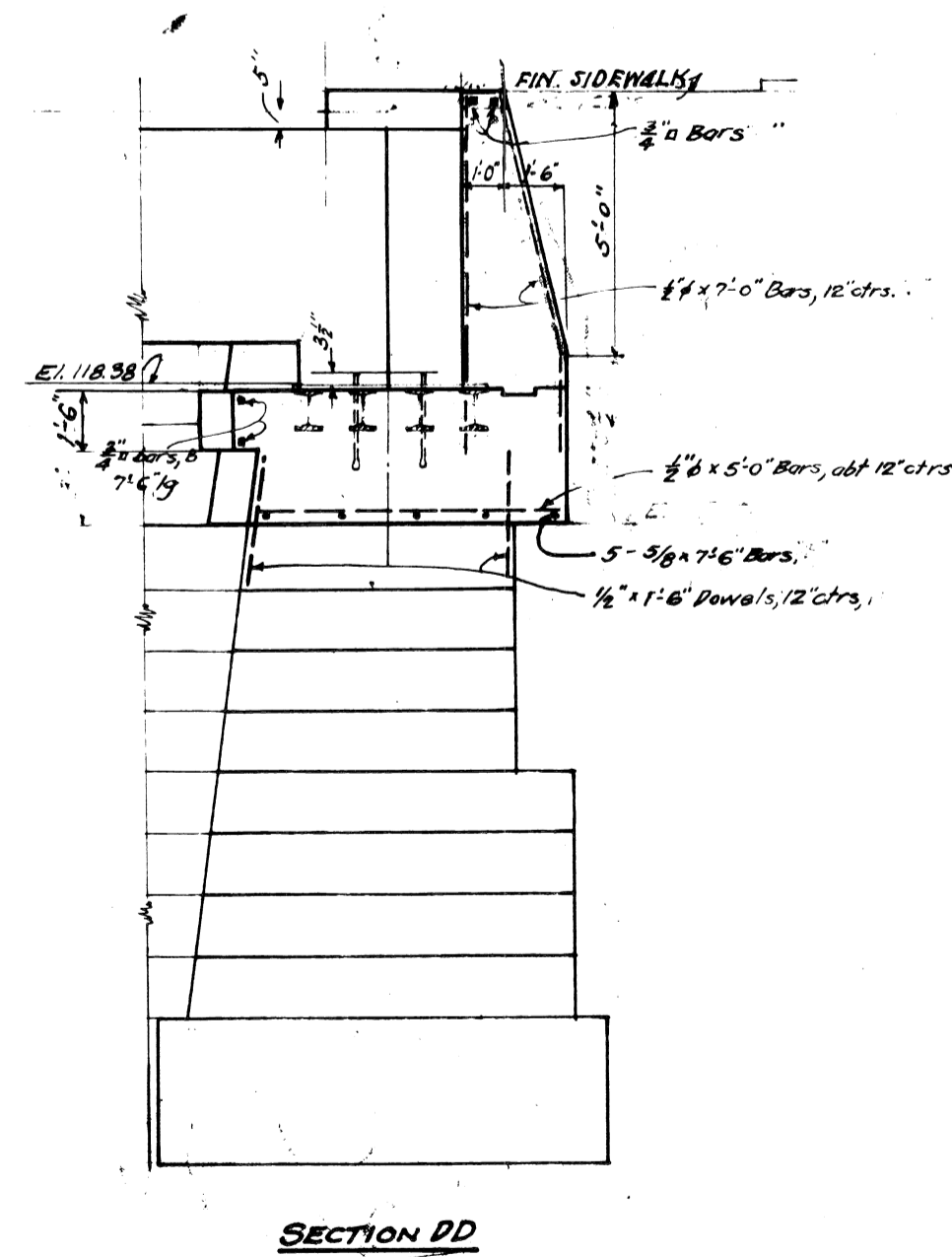
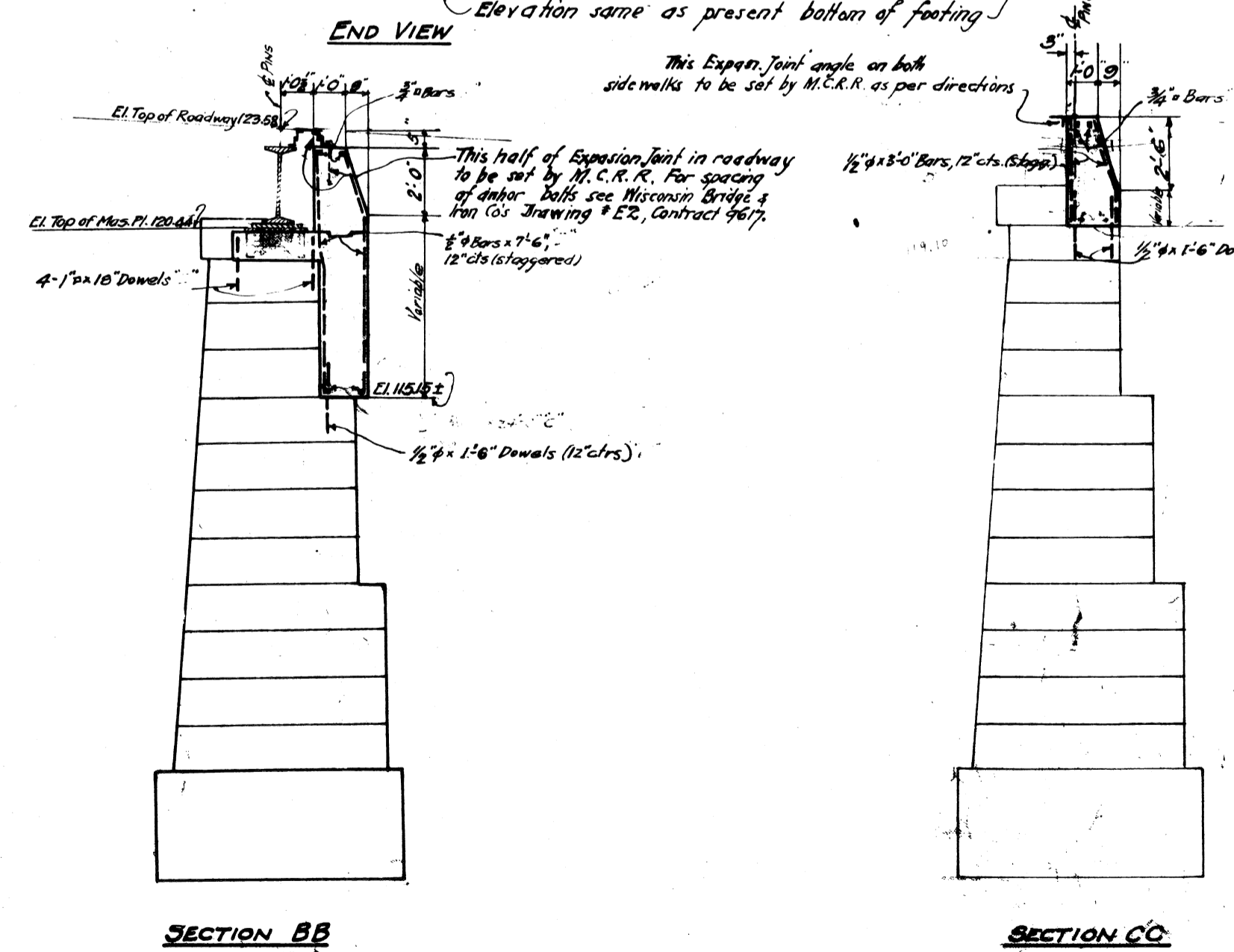
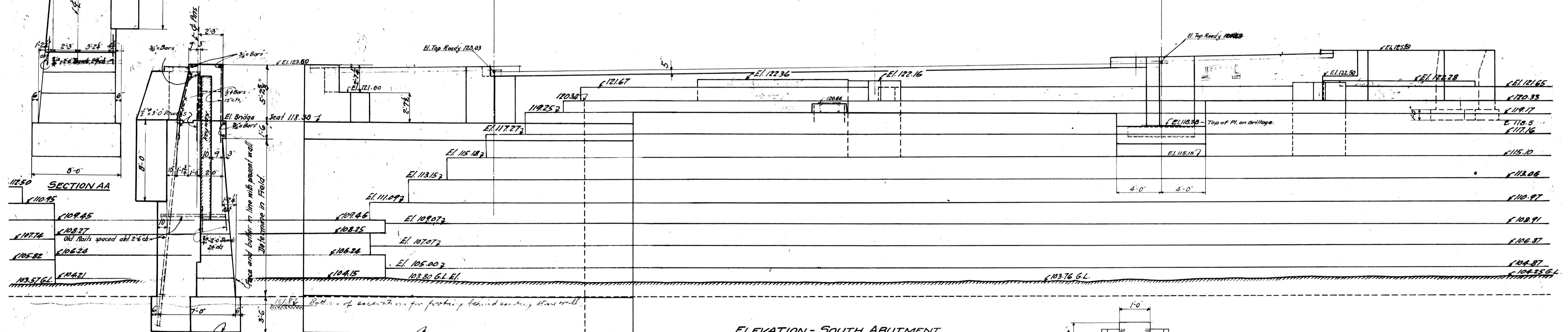
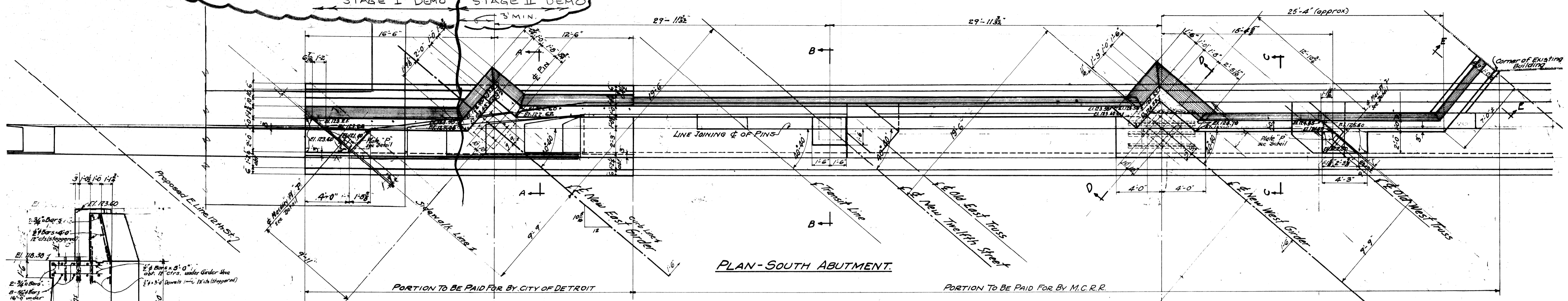
Material Required:  
110 Cu. Yds. (Net) - 1:2:4 Concrete  
45# Steel - 26-#4 Rods, 11'-6" long  
8-1/2" Anchor Bolts, 2'-0" long, hexnut, see detail.  
4-1/2"

|   |  |  |  |  |   |   |
|---|--|--|--|--|---|---|
| REVISIONS LOCATED BY COORDINATES ON SHEET<br>COORD      DESCRIPTION      DRN      CKD      APVD      DATE |  |  | REFERENCE DRAWINGS<br>DESIGNED BY<br>DRAWN BY<br>TRACED BY<br>CHECKED BY | APPROVED:<br>CITY OF DETROIT<br>CITY ENGINEERING DIVISION - EPMD | 12TH. ST. (ROSA PARKS BLVD.)<br>& LAFAYETTE ST. CROSSING CONRAIL<br>REFERENCE DRAWING OLD TWELFTH ST. BRIDGE<br>CONCRETE DETAILS-FOUNDATION CENTER BENT | SHEET _____ OF _____ SHEETS<br>CONTRACT NO. 07110A<br>NO. SR-2<br>DATE NOV 1979 |
|---|--|--|--|--|---|---|

XO 60



RR STA. 8+71.74 STAGE I CONST. STAGE II CONST.  
STAGE I DEMO STAGE II DEMO



QUANTITIES  
M.C.R.R. PORTION - 41 cu yds concrete  
City 142

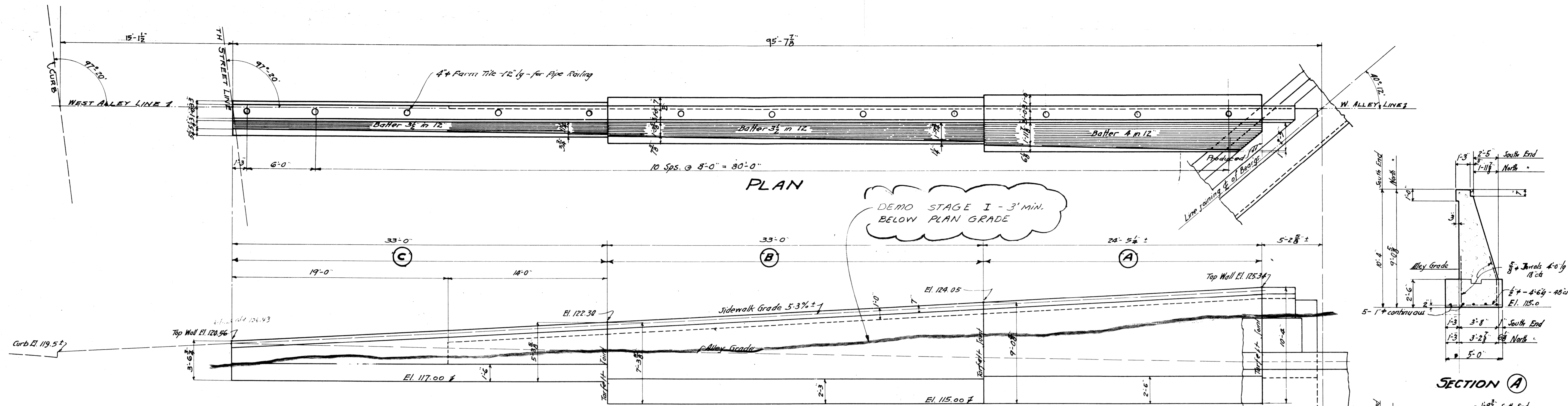
No. SIZE LENGTH MARK M.C.R.R. PORTION

For complete Reinforcing details and bar lists see sheet 7A

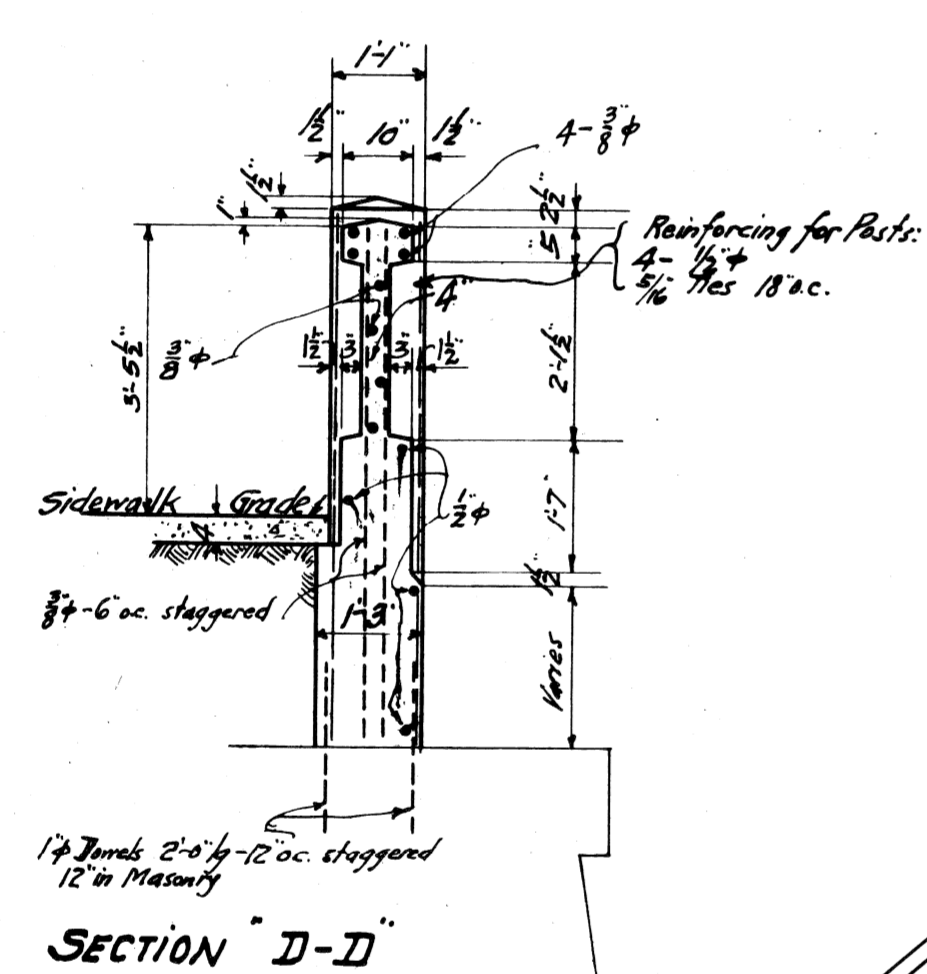
**GENERAL NOTES**  
Concrete Mix. 1 part cement, 2 parts sand, 4 parts crushed stone.  
Top corners of Backwall to have a continuous reinforcing of 3/4\"/>

|   |  |   |                                      |  |   |  |
|---|--|---|--------------------------------------|--|---|--|
| REVISIONS LOCATED BY COORDINATES ON SHEET<br>COOR'D DESCRIPTION DRN CK'D AP'VD DATE |  | REFERENCE DRAWINGS<br>DESIGNED BY<br>DRAWN BY<br>TRACED BY<br>CHECKED BY <b>RAK</b> | APPROVED:<br>_____<br>_____<br>_____ | CITY OF DETROIT<br>CITY ENGINEERING DIVISION - EPM D | 12TH. ST. (ROSA PARKS BLVD.)<br>& LAFAYETTE ST. CROSSING CONRAIL<br>REFERENCE DRAWING OLD TWELFTH ST. BRIDGE<br>CONCRETE DETAILS FOR SOUTH ABUTMENT | SHEET _____ OF _____ SHEETS<br>CONTRACT NO. 07110 A<br>NO. SR 4<br>DATE Nov 1979 |
|---|--|---|--------------------------------------|--|---|--|

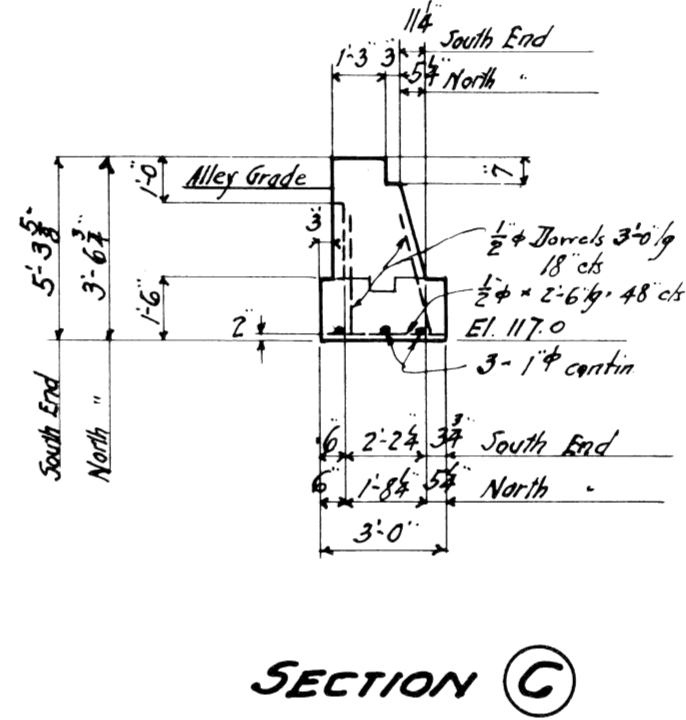
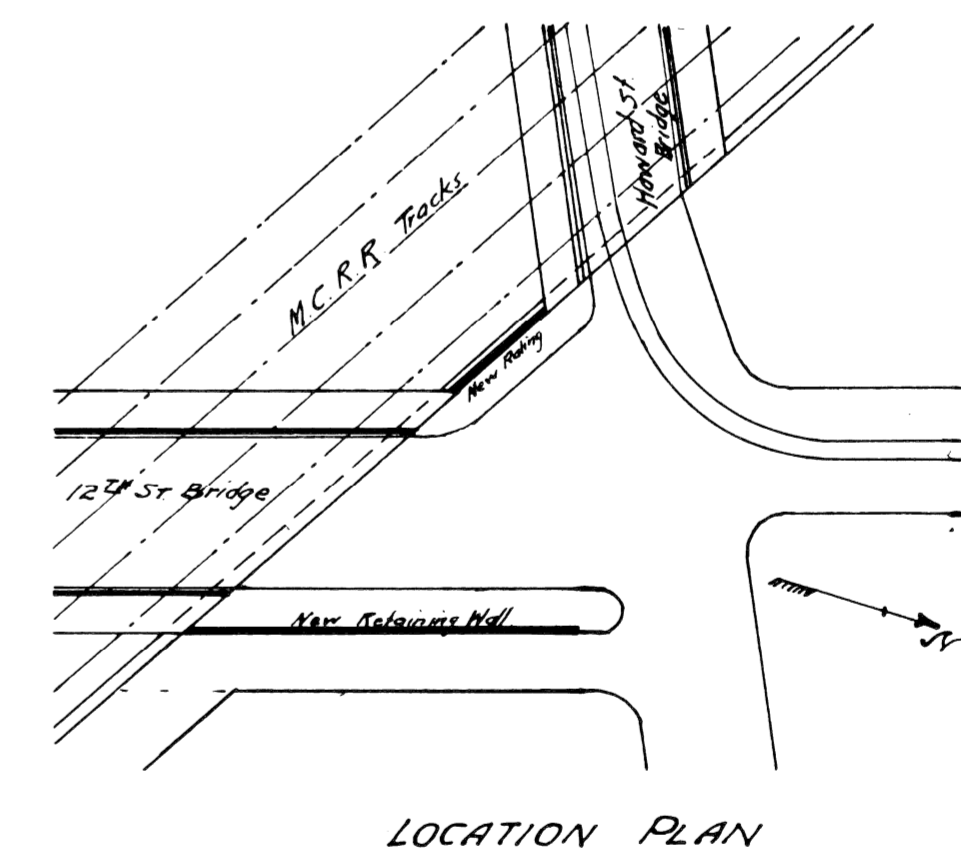
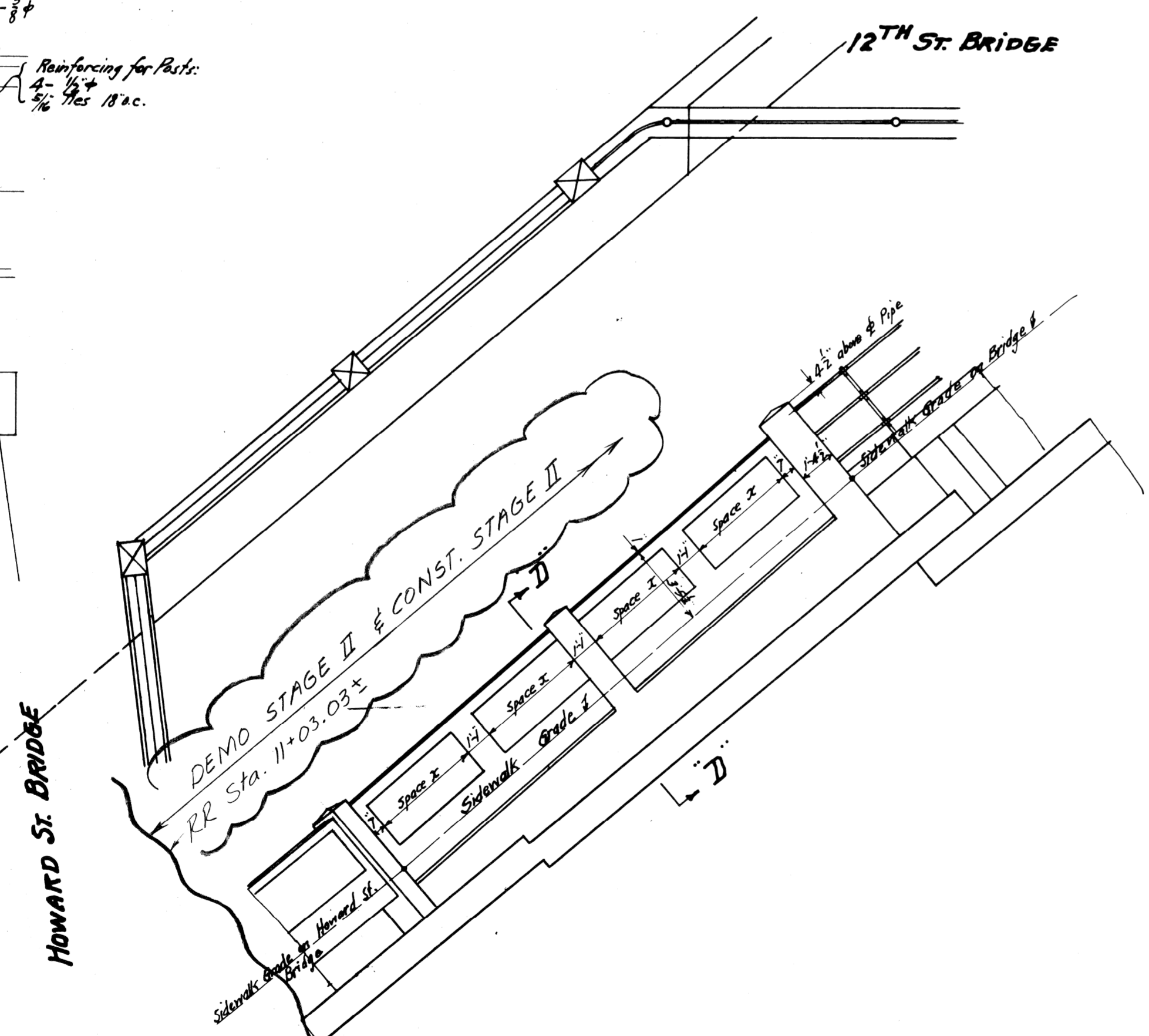
XO 60



REAR ELEVATION  
RETAINING WALL - EAST SIDEWALK



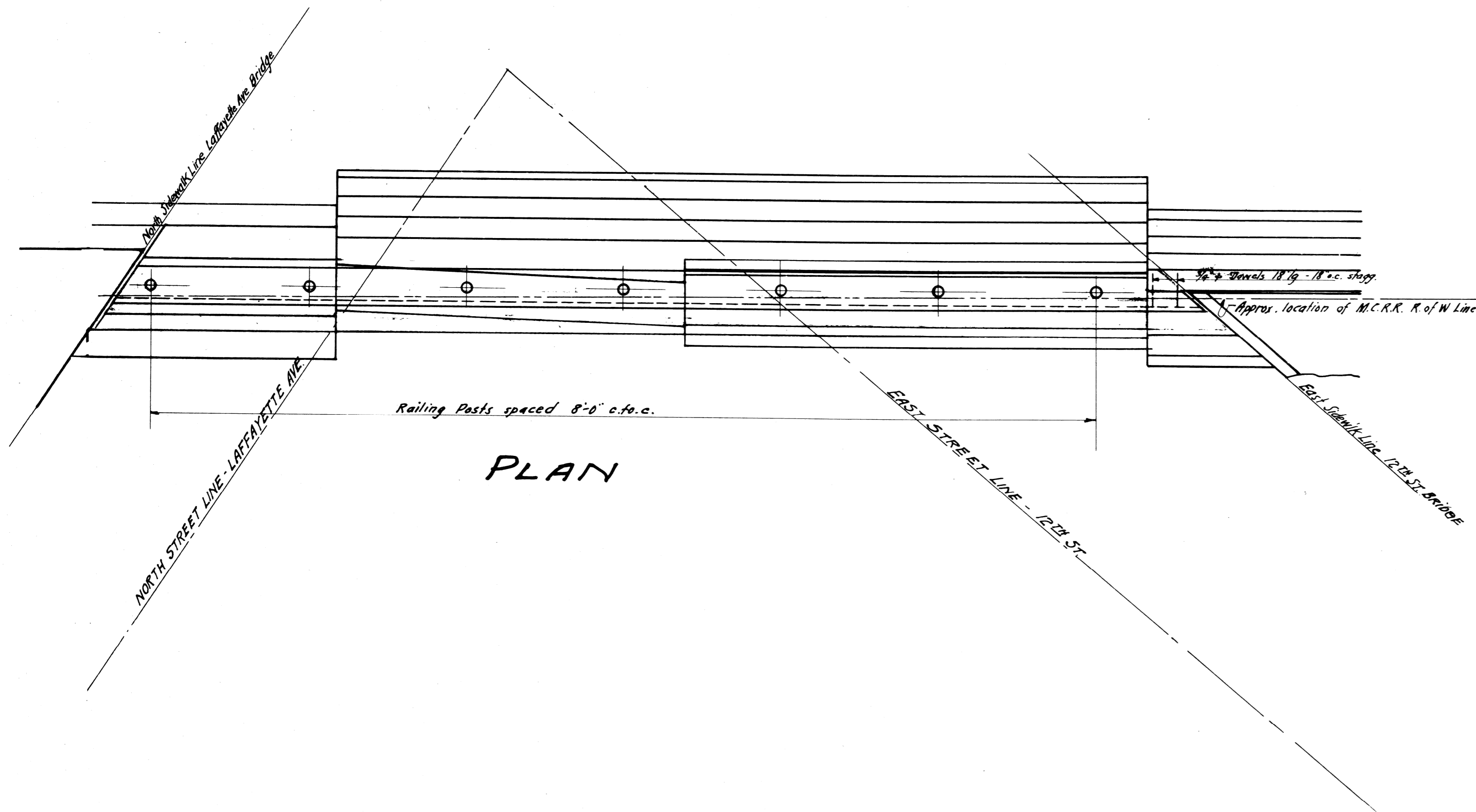
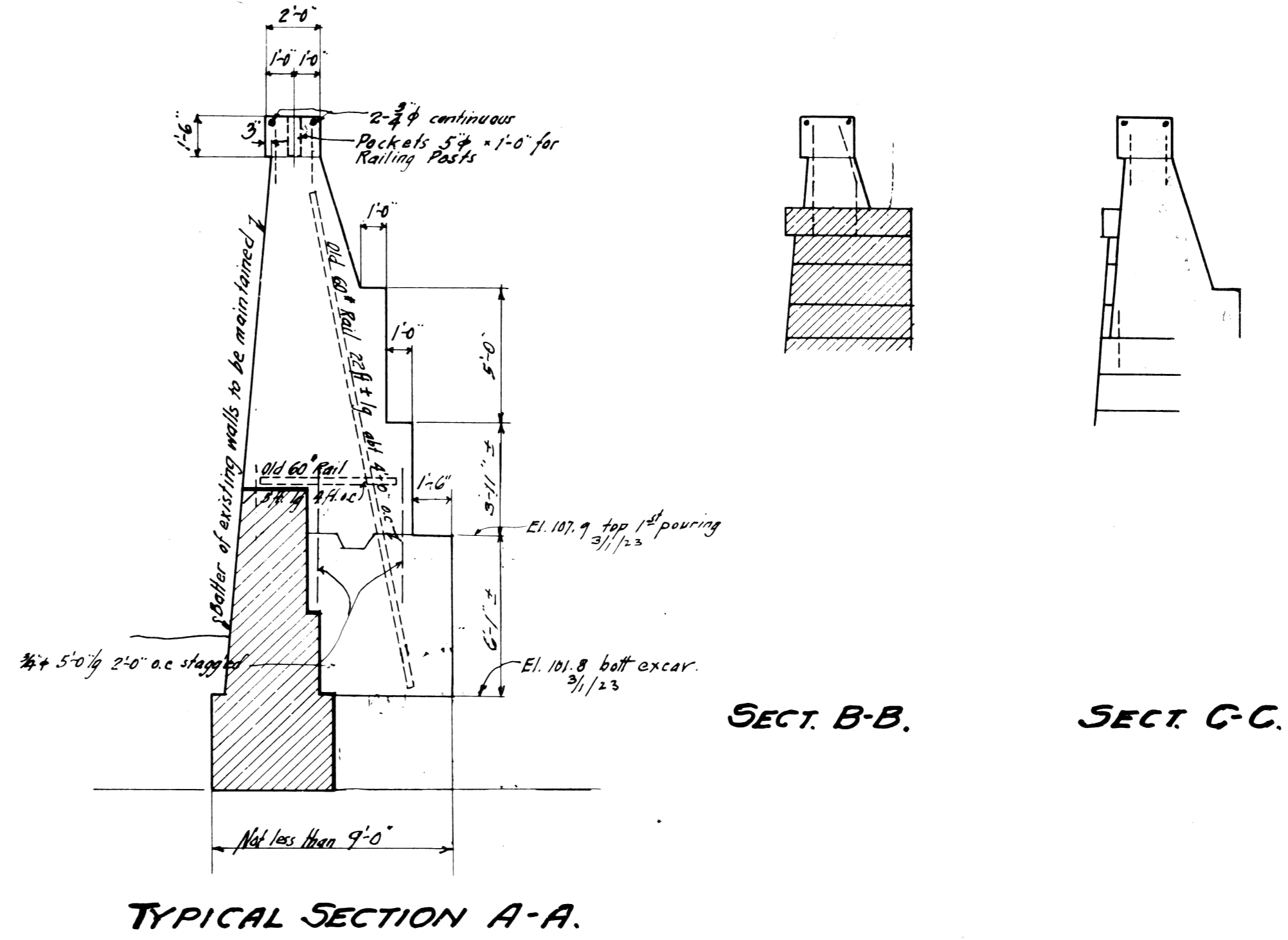
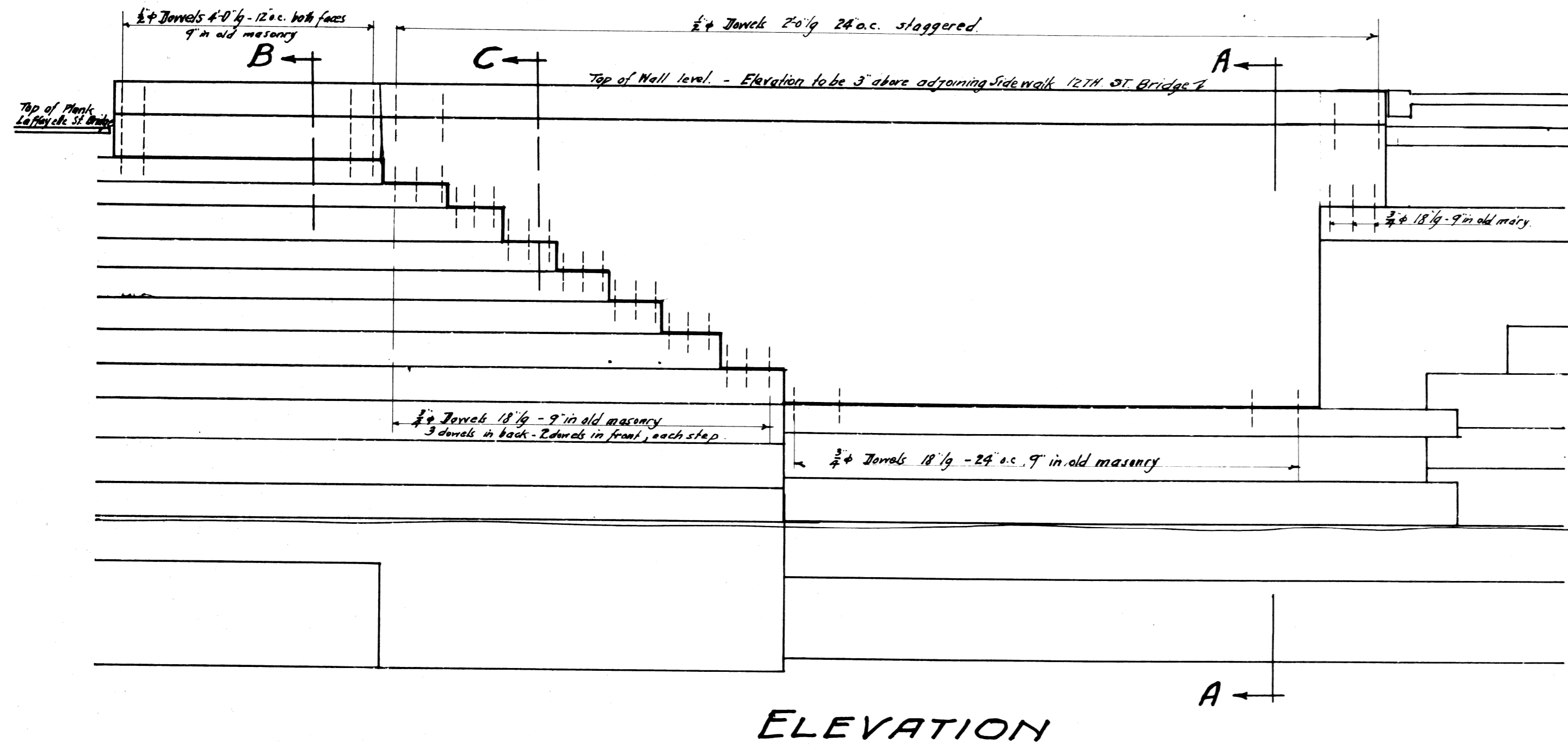
DETAIL OF RAILING OVER NORTH ABUTMENT.



SECTION C

SECTION B

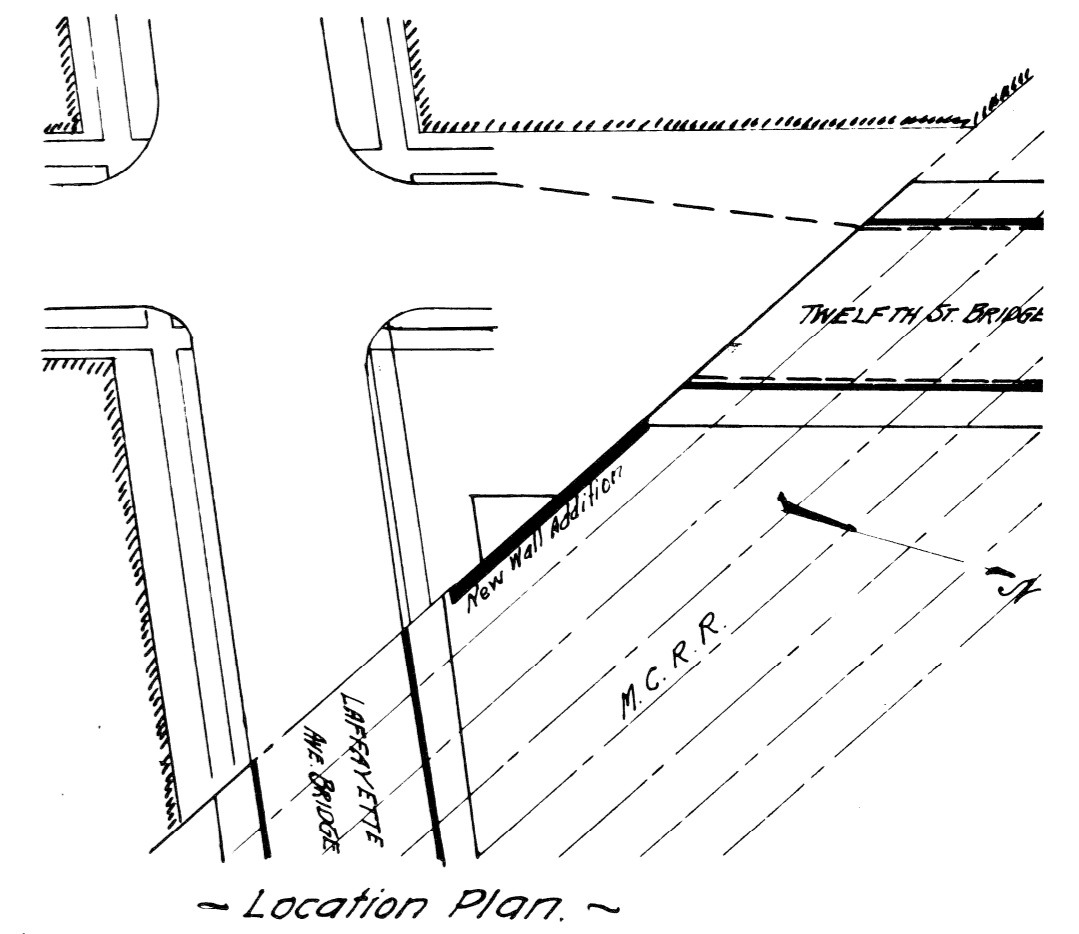
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|--|-------------|-----|------|-------|-------------|-----|------|------|------|--|--|--|--|--|--|--|--|--|--|
| <table border="1"> <tr> <td>COORD</td> <td>DESCRIPTION</td> <td>DRN</td> <td>CHKD</td> <td>APVD</td> <td>DATE</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table> |             |     |      | COORD | DESCRIPTION | DRN | CHKD | APVD | DATE |  |  |  |  |  |  | REFERENCE DRAWINGS<br>DESIGNED BY<br>DRAWN BY<br>TRACED BY<br>CHECKED BY: <i>RAK</i> | APPROVED:<br><br>CITY OF DETROIT<br>CITY ENGINEERING DIVISION - EPMD | 12TH ST. (ROSA PARKS BLVD.)<br>& LAFAYETTE ST. CROSSING CONRAIL<br>REFERENCE DRAWING OLD TWELFTH ST. BRIDGE<br>DETAILS OF RETAINING WALLS AT NORTH END OF BRIDGE | X060<br>SHEET ___ OF ___ SHEETS<br>CONTRACT NO. 07110 A<br>DATE NOV 1979 |
| COORD  | DESCRIPTION | DRN | CHKD | APVD  | DATE        |     |      |      |      |  |  |  |  |  |  |  |  |  |  |
|  |             |     |      |       |             |     |      |      |      |  |  |  |  |  |  |  |  |  |  |



**Mode of Procedure:**

Excavate behind existing retaining wall from east end of 12th Street Bridge abutment to north end of Lafayette Avenue Bridge abutment in order to disclose the condition and dimensions of this wall as there is no data available from which to obtain this information.

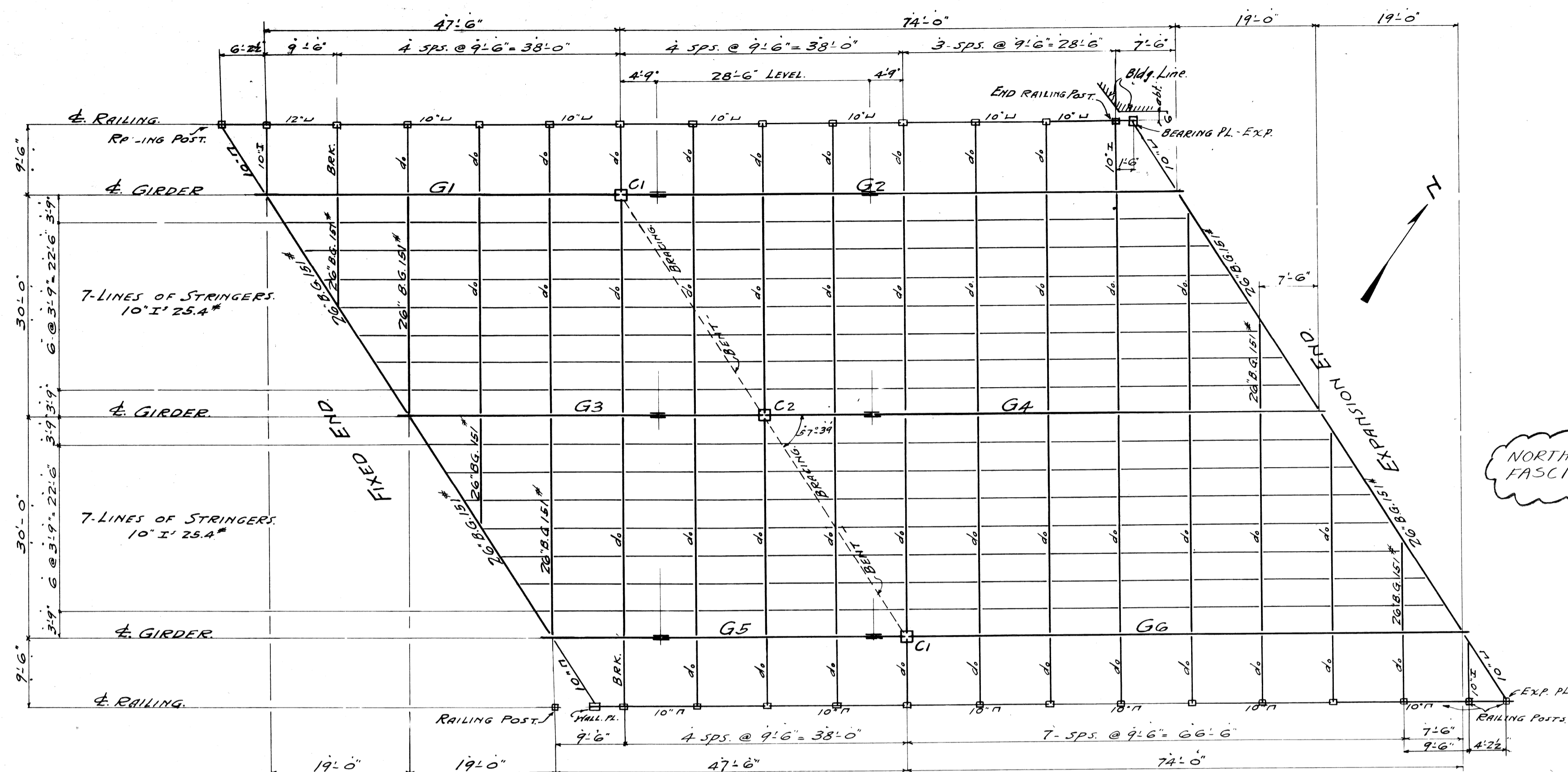
The section of the new wall shall be as shown on "Typical Section A-A" except where intercepted by existing masonry as indicated in section B-B and C-C.  
After the actual conditions are disclosed the Engineer will give further information as to the details of construction, etc. The face of the new wall shall follow closely the existing wall both in batter and alignment.



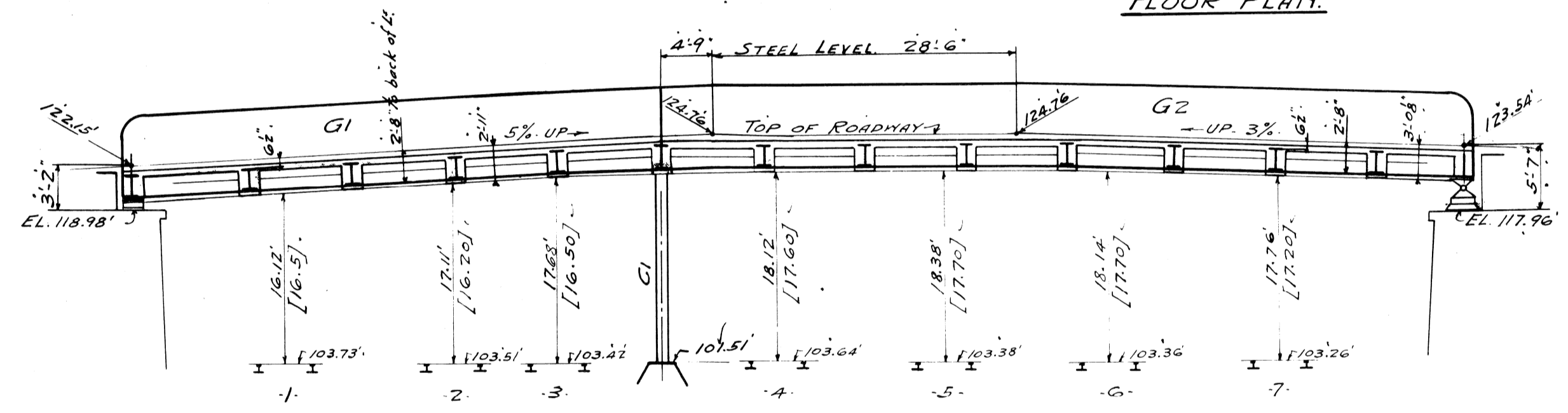
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|---|-------------|-----|-----|--------------------|-------------|-----------|---|---|-------------------------|
| REVISIONS LOCATED BY COORDINATES ON SHEET |             |     |     | REFERENCE DRAWINGS | DESIGNED BY | APPROVED: | <p align="center"><b>CITY OF DETROIT</b><br/>CITY ENGINEERING DIVISION - EPMD</p> | 12TH ST. (ROSA PARKS BLVD.) & LAFAYETTE ST. CROSSING CONRAIL                                  | SHEET ___ OF ___ SHEETS |
| COORD.                                    | DESCRIPTION | DRN | CKD | APVD               | DATE        |           |   | REFERENCE DRAWING OLD TWELFTH ST. BRIDGE<br>DETAILS OF RETAINING WALLS AT SOUTH END OF BRIDGE | CONTRACT NO. 07110 A    |
|   |             |     |     | TRACED BY          |             |           |   |   | NO. SR-6                |
|   |             |     |     | CHECKED BY         | RJK         |           |   |   | DATE NOV 1979           |

XO 60

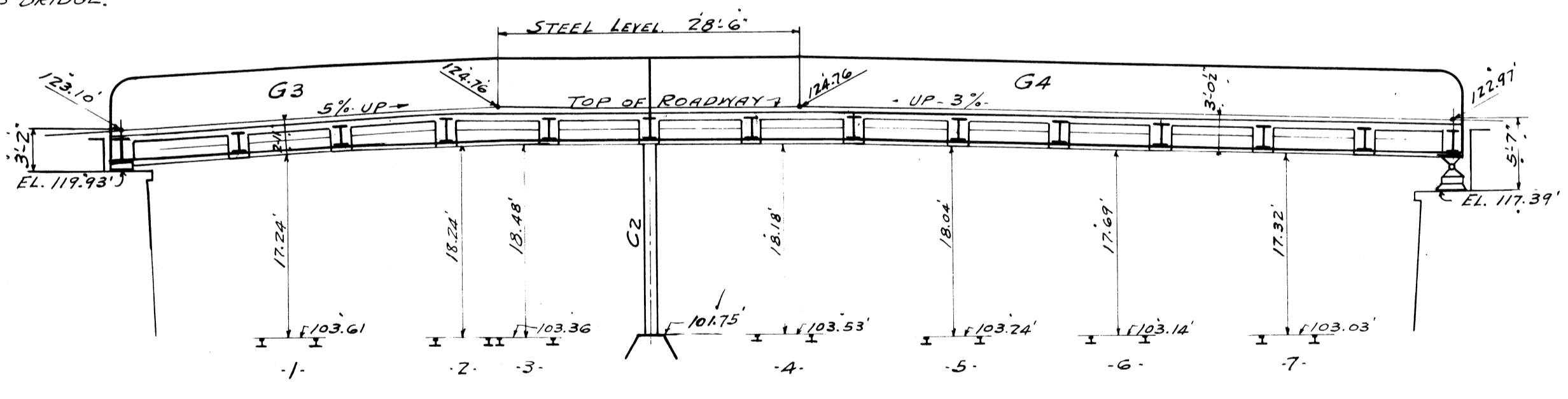




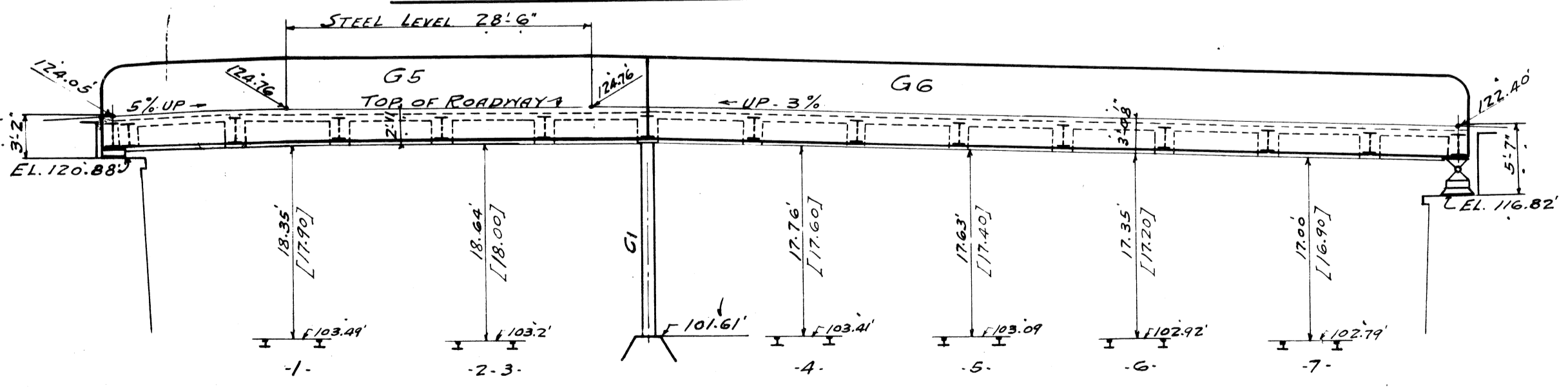
FLOOR PLAN



ELEVATION - NORTH GIRDERS - G1-G2



ELEVATION - CENTER GIRDERS - G3-G4



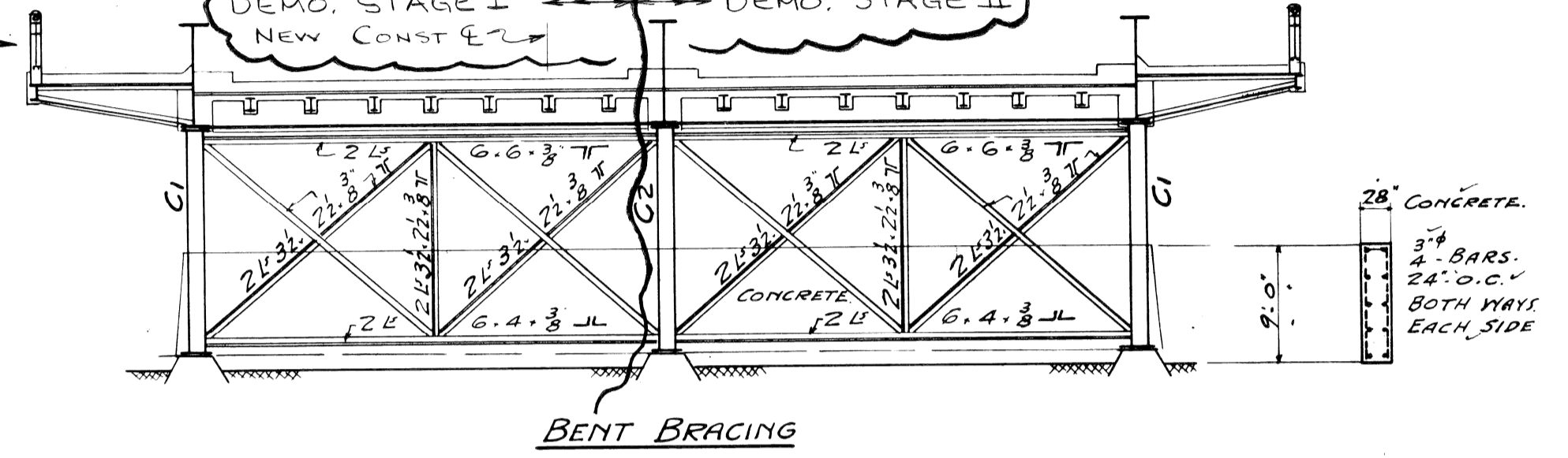
ELEVATION - SOUTH GIRDERS - G5-G6

| MARK | SPAN   | END SHEAR | MAX. MOM. | MATERIAL EACH FLANGE |           |               | WEB PL.      | GROSS AREA EACH FLG. | NET AREA. |             |
|------|--------|-----------|-----------|----------------------|-----------|---------------|--------------|----------------------|-----------|-------------|
|      |        |           |           | ANGLES               | SIDE PLS. | TOP COVER     |              |                      |           | BOTT. COVER |
| G1   | 47'-6" | 260,000   | 3,160,000 | 2-8.8-1/2            | —         | 1-21-1/2-F.L. | 1-21-1/2-33' | 90-1/2               | 31.60     | 28.10       |
| G2   | 74'-0" | 400,000   | 7,500,000 | 2-8.8-3/4            | 2-14-3/4  | 1-21-1/2-F.L. | 1-21-1/2-51' | 90-1/2               | 77.50     | 66.50       |
| G3   | 47'-6" | 310,000   | 3,800,000 | 2-8.8-3/4            | —         | 1-21-1/2-F.L. | 1-21-1/2-32' | 90-1/2               | 38.98     | 34.48       |
| G4   | 74'-0" | 500,000   | 9,350,000 | 2-8.8-3/4            | 2-14-3/4  | 1-21-1/2-F.L. | 1-21-1/2-55' | 90-1/2               | 95.88     | 81.88       |

NOTE:  
ALL INT. STIFFENERS  
G. 3/2-3/8 CRIMPED  
OVER FLG ANGLES  
EXCEPT AT FLOOR BR.  
AND BRACKET CONN.  
END STIFFENERS  
SPECIAL SEE OTHER  
PLANS.  
COVER PLATES  
SYMMETRICAL ABOVE  
CEN. LINE OF GIRDER

| MARK | UNSUP. LENGTH | MAX. TOTAL LOAD | BENDING   | SECTION   | SKETCH | AREA. |
|------|---------------|-----------------|-----------|---|--------|-------|
|      |               |                 |           |   |        |       |
| C2   | 17'-6"        | 815,000         | 1,620,000 | 2-15-1/2-50"<br>1-15-1/2-70"<br>2-12-1/2-PLS.<br>4-5-1/2-PLS. |        | 78.00 |

COLUMNS



BENT BRACING

GENERAL NOTES:

- LIVE LOAD AND IMPACT - AS PER MICHIGAN STATE HIGHWAY DEPARTMENT SPECIFICATIONS FOR HIGHWAY BRIDGES - 1920 EDITION.
- TWO LINES OF 18-TON TRUCKS AND ONE OF AUTOS - EACH ROADWAY.
- EQUIVALENT UNIFORM LOAD - ROADWAY - 150# D.L. - 250# D.L. - TOTAL = 400#
- SIDEWALK - 100# D.L. - 100# D.L. + BRACKET CON. COVER, RAILING, CONCRETE FASCIA GIRDER AND 16" GAS MAIN.
- IMPACT = 25% ADDED FOR FLOOR BEAMS AND STRINGERS.
- NO IMPACT FOR GIRDERS OR COLUMN LOADS.
- UNIT STRESSES - STEEL - TENSION - 16000# NET SEC.
- COMP. - 16000-70% GROSS.
- SHEAR - 10000# GROSS.
- CONCRETE -  $f_c = 16000 \#$
- $f_s = 600 \#$
- RIVETS - 3"
- SHOP RIVETS - 12000# SHEAR - BEARING - 24000#
- FIELD RIVETS - 10000# SHEAR - BEARING - 20000#
- BEARING ON MASONRY - 500#
- BEARING ON SOIL - 5000#

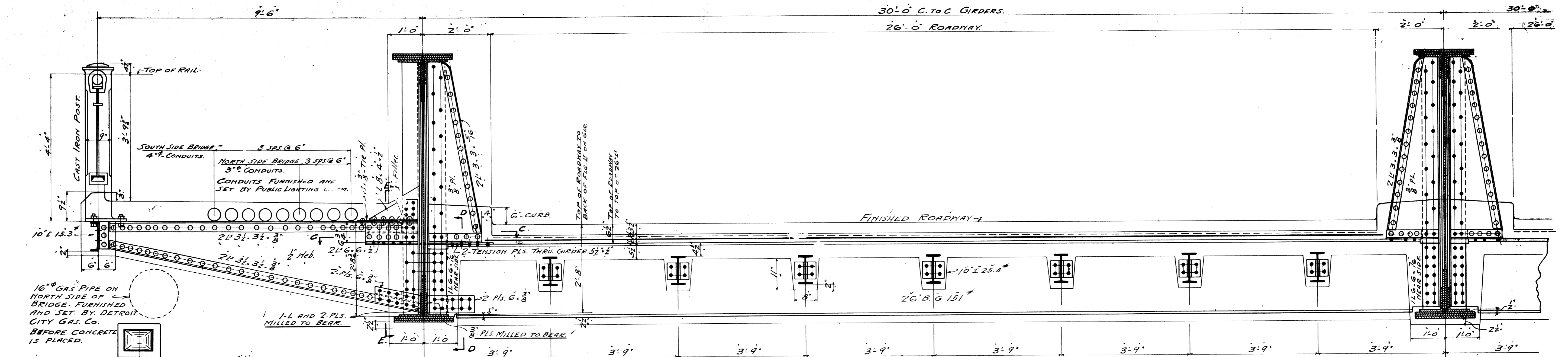
PAINT NOTE:

- THAT PORTION OF STEEL COVERED WITH CONCRETE NOT TO BE PAINTED.
- SHOP PAINT - 1-COAT OF RED LEAD
- FIELD PAINT - 2-COATS WHITE LEAD IN OIL - COLOR TO BE DETERMINED BY ENGINEER.
- STEEL DRAWINGS - 1-2-6-7
- CONCRETE DO - 3-4-5

NOTE:  
RED FIGURES IN BRACKETS DENOTE CLEARANCES UNDER OLD TRUSS BRIDGE.

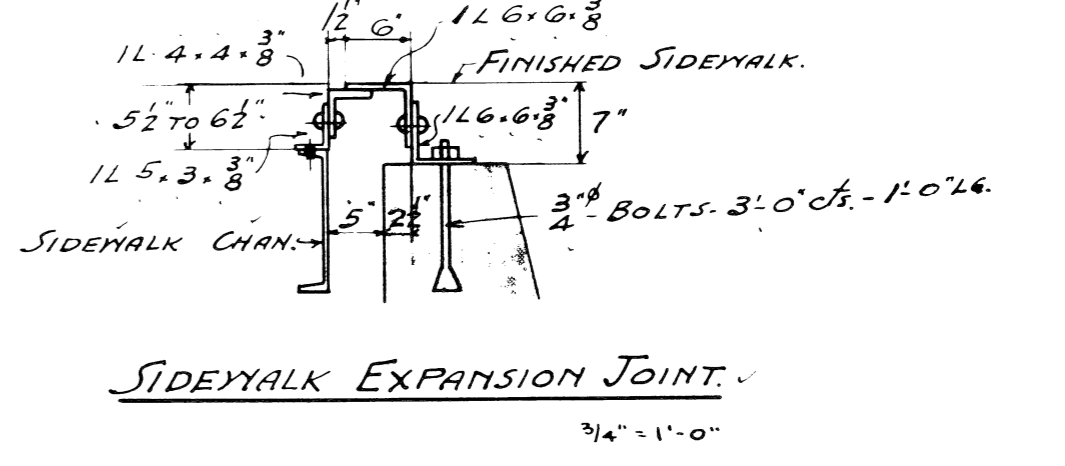
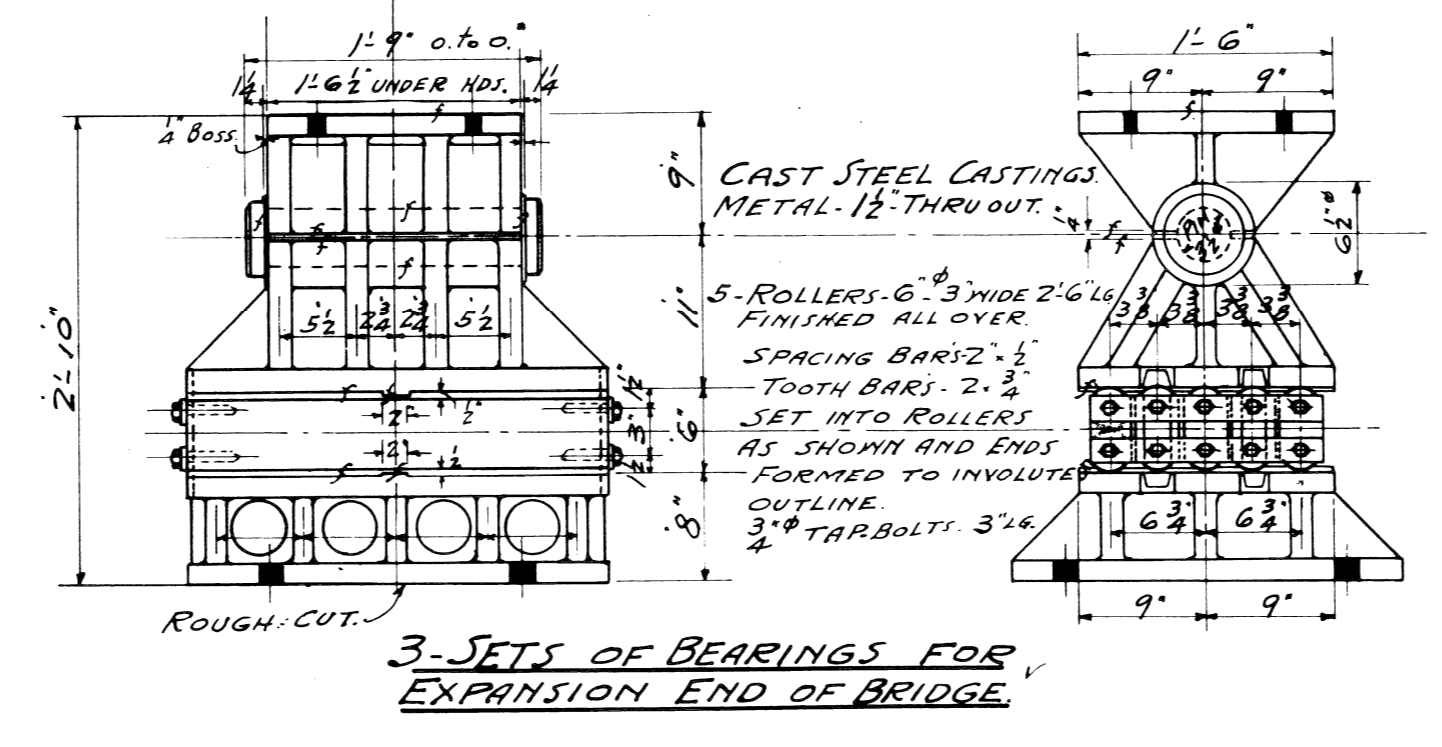
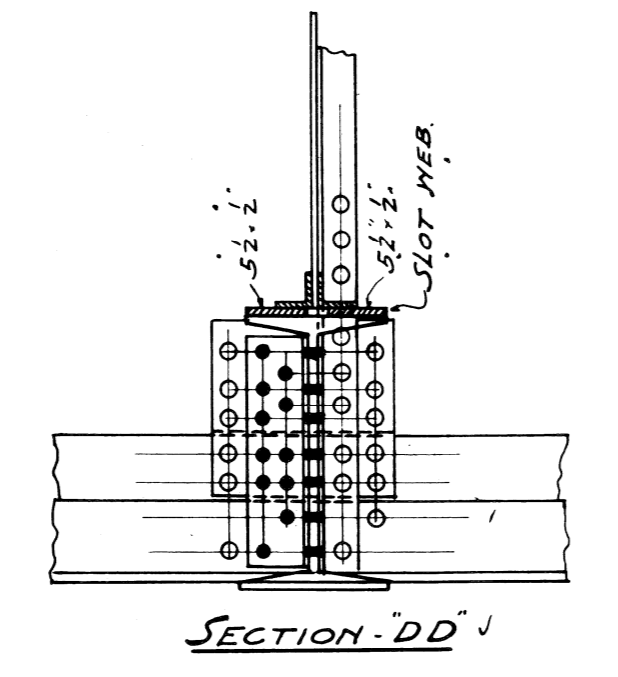
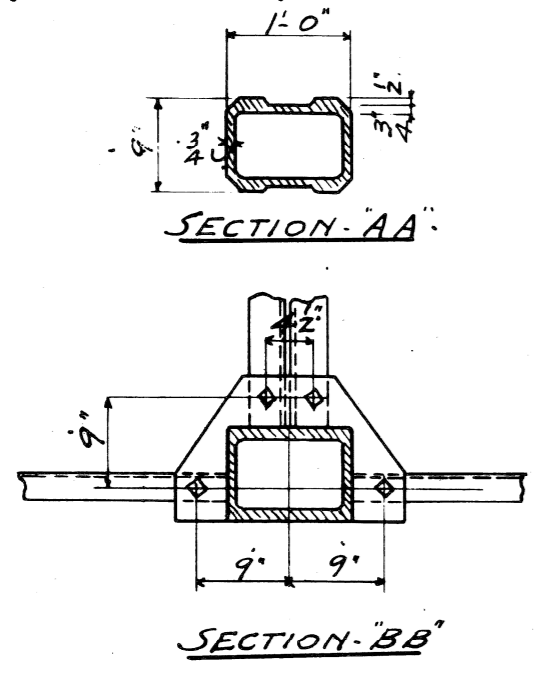
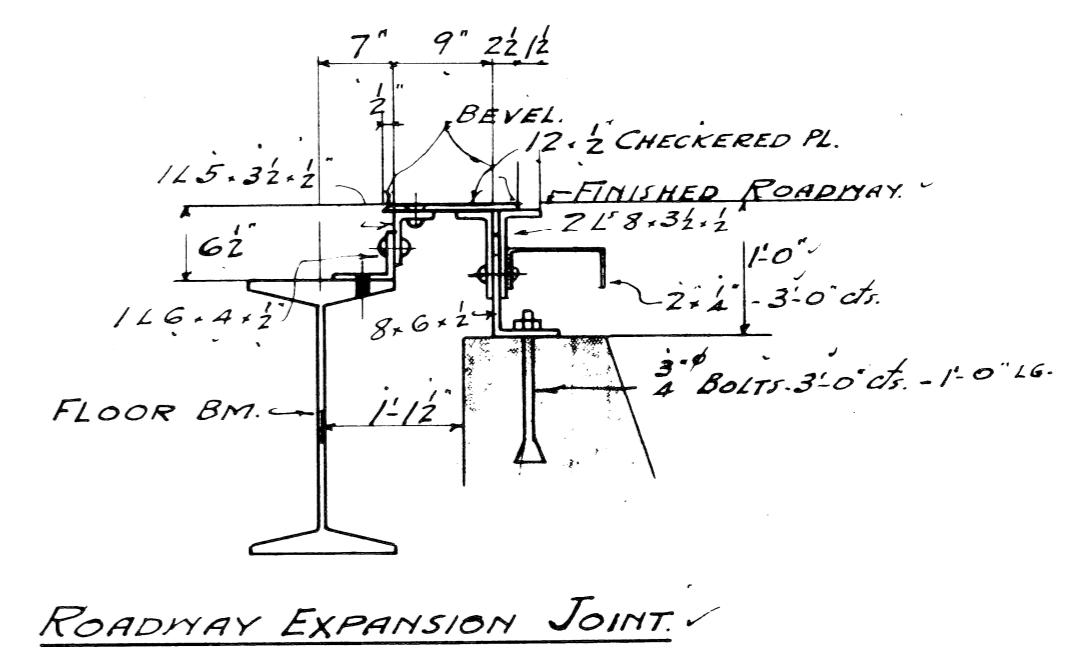
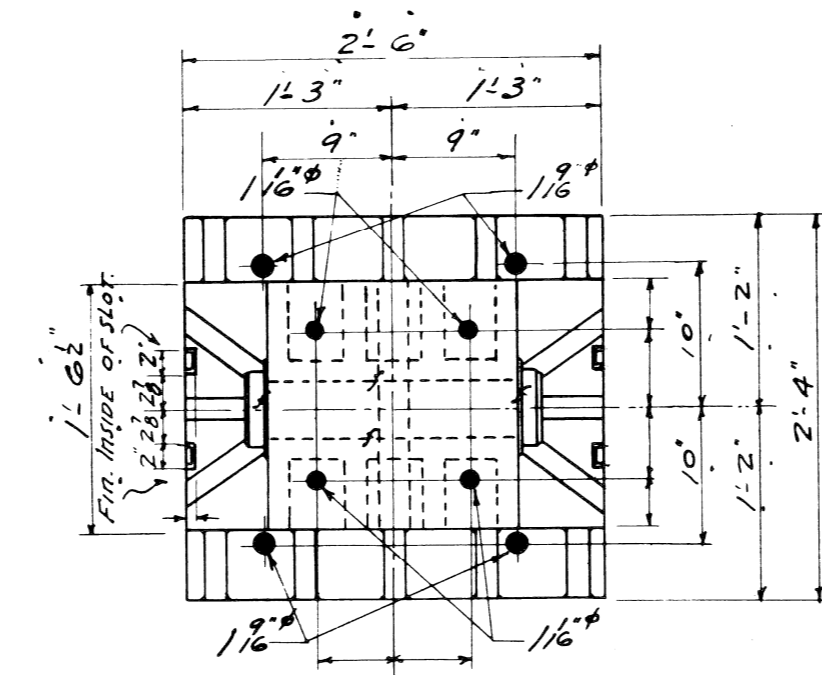
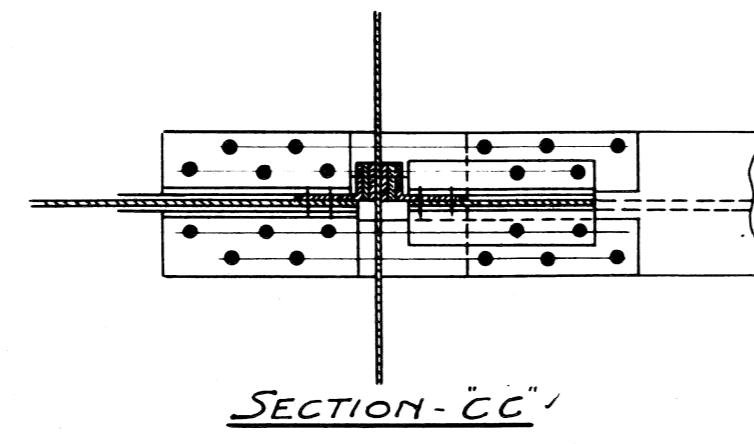
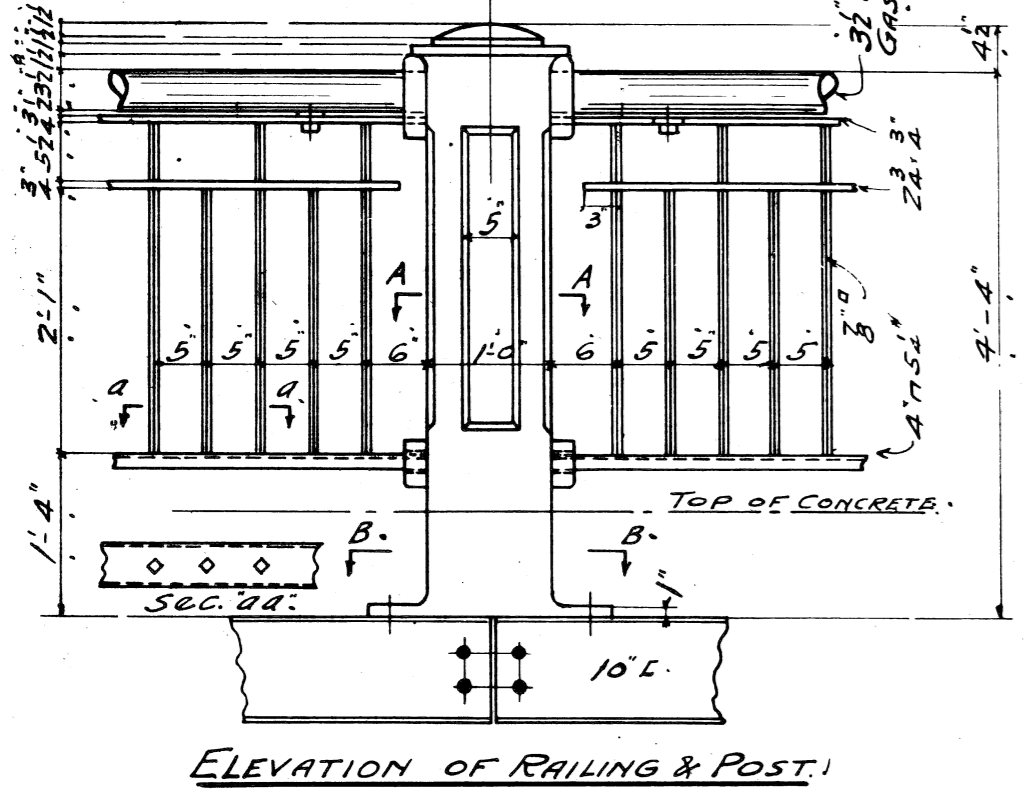
APPROVED *[Signature]* 1926  
CITY ENGINEER

|  |  |  |  |   |  |  |  |   |  |
|--|--|--|--|---|--|--|--|---|--|
| <p>DESIGNED BY</p> <p>DRAWN BY</p> <p>TRACED BY</p> <p>CHECKED BY <i>[Signature]</i></p> |  |  |  | <p>APPROVED:</p> <p>CITY OF DETROIT</p> <p>CITY ENGINEERING DIVISION - EPMD</p> |  | <p>12TH. ST. (ROSA PARKS BLVD.)</p> <p>&amp; LAFAYETTE ST. CROSSING CONRAIL</p> <p>REFERENCE DRAWING OLD LAFAYETTE BRIDGE</p> <p>GENERAL PLAN - STRUCTURAL STEEL</p> |  | <p>SHEET ___ OF ___ SHEETS</p> <p>CONTRACT NO. 07110 A</p> <p>NO. SR-7</p> <p>DATE NOV 1929</p> |  |
|--|--|--|--|---|--|--|--|---|--|

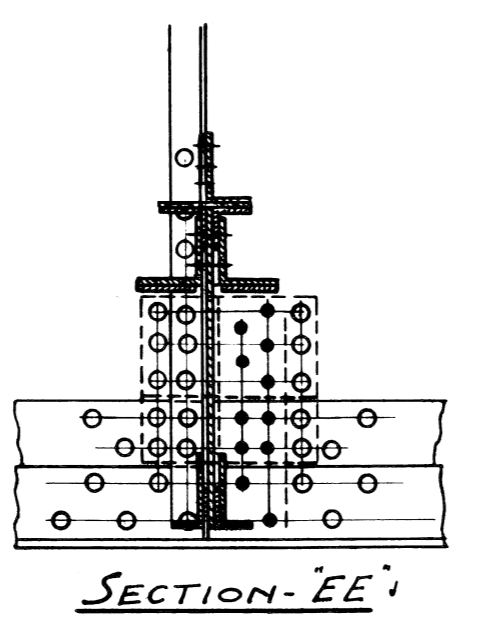
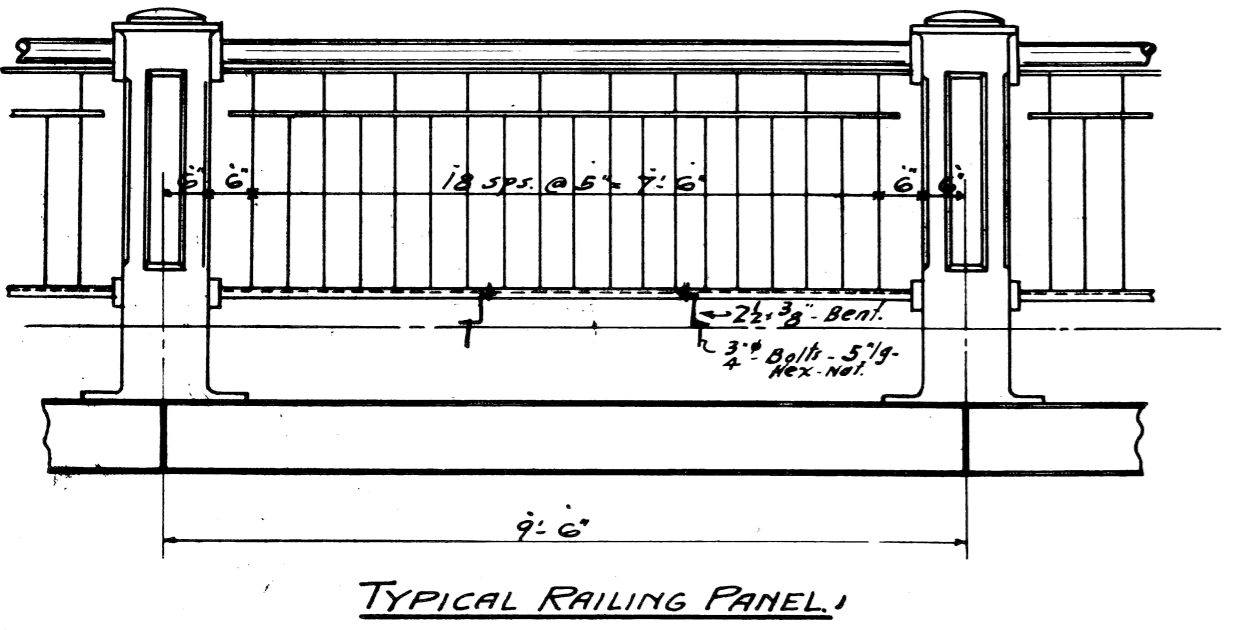


TYPICAL CROSS SECTION OF FLOOR

1/2 OF BRIDGE SYMMETRICAL ABOUT 1/2 EXCEPT FOR CONDUITS AND GAS PIPE CONNECTION.



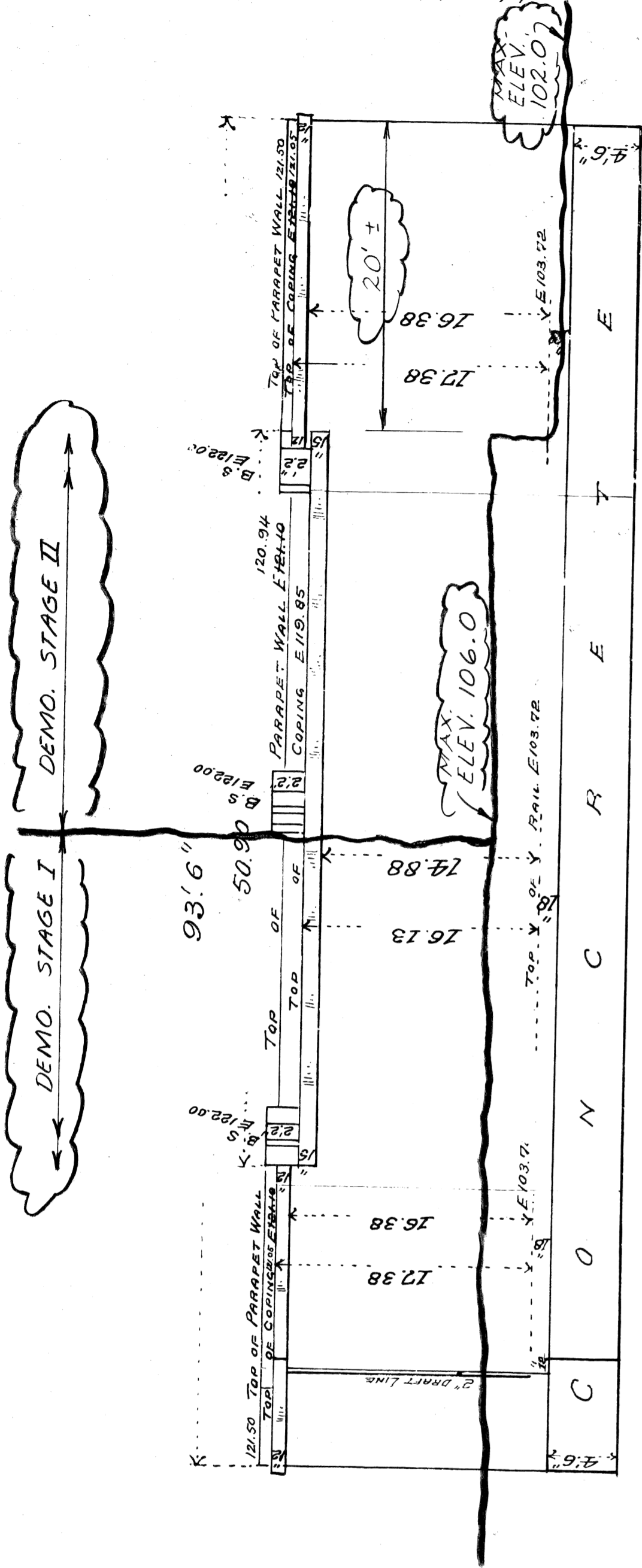
NOTE: FOR GENERAL NOTES SEE SHEET #1.



APPROVED COPY 21  
MAY 12 1926  
CITY ENGINEER

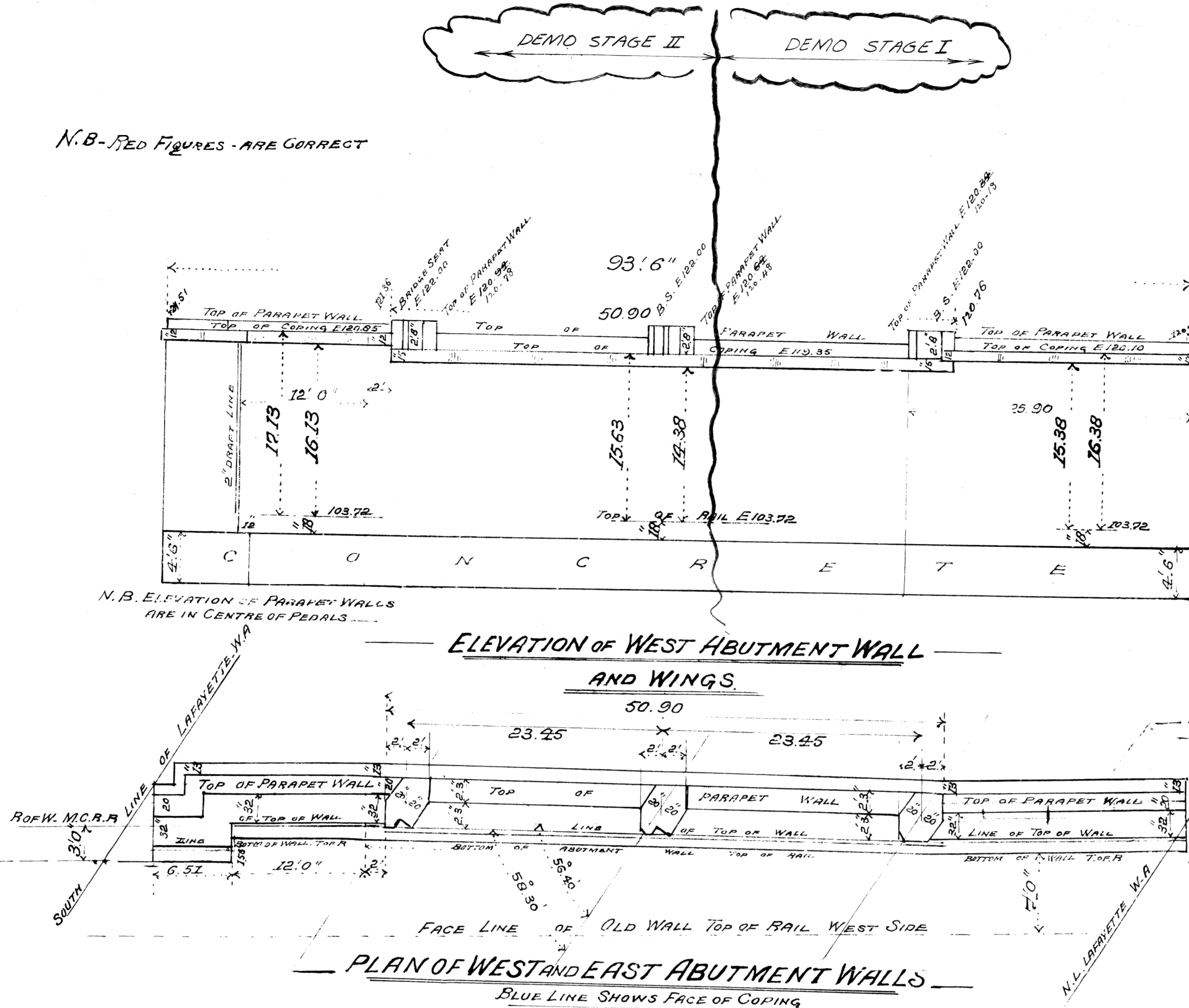
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| REFERENCE DRAWINGS                        |             | DESIGNED BY | APPROVED: | CITY OF DETROIT<br>CITY ENGINEERING DIVISION - EPMD | 12 TH. ST. (ROSA PARKS BLVD.)<br>& LAFAYETTE ST. CROSSING CONRAIL<br>REFERENCE DRAWING OLD LAFAYETTE BRIDGE<br>STRUCTURAL STEEL DETAILS | SHEET ___ OF ___ SHEETS |
| DRAWN BY                                  |             |             |           |   |   | CONTRACT NO. 07110 A    |
| TRACED BY                                 |             |             |           |   |   | NO. SR-8                |
| CHECKED BY                                |             | RAC         |           |   |   | DATE NOV 1970           |
| COORD                                     | DESCRIPTION | DRW         | CHK'D     | APVD  | DATE  |                         |
| REVISIONS LOCATED BY COORDINATES ON SHEET |             |             |           |   |   |                         |

1 B.P. 11/27/45

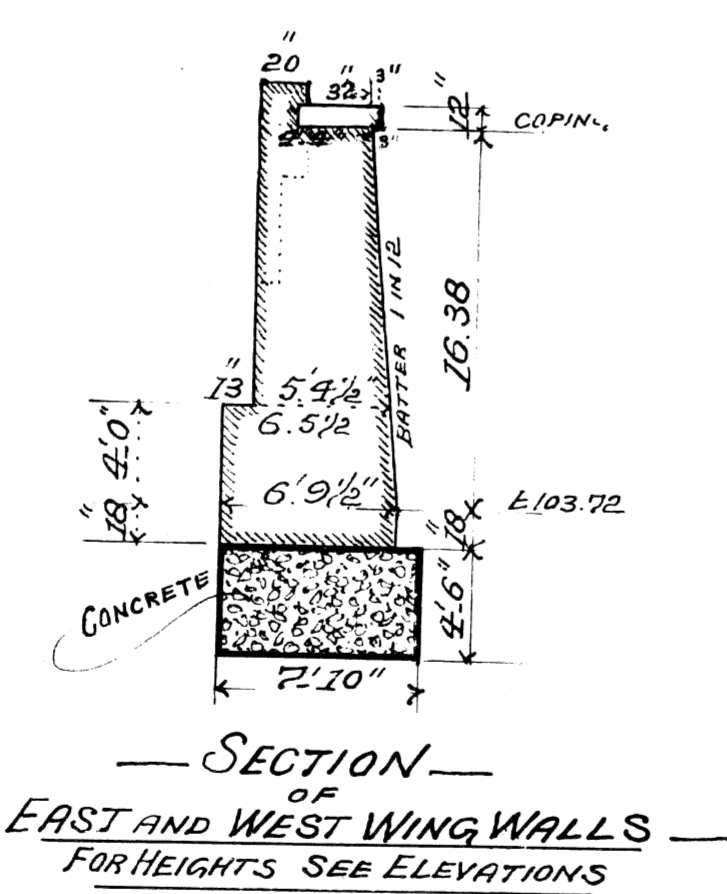


SCALE: ONE INCH = 8 FT

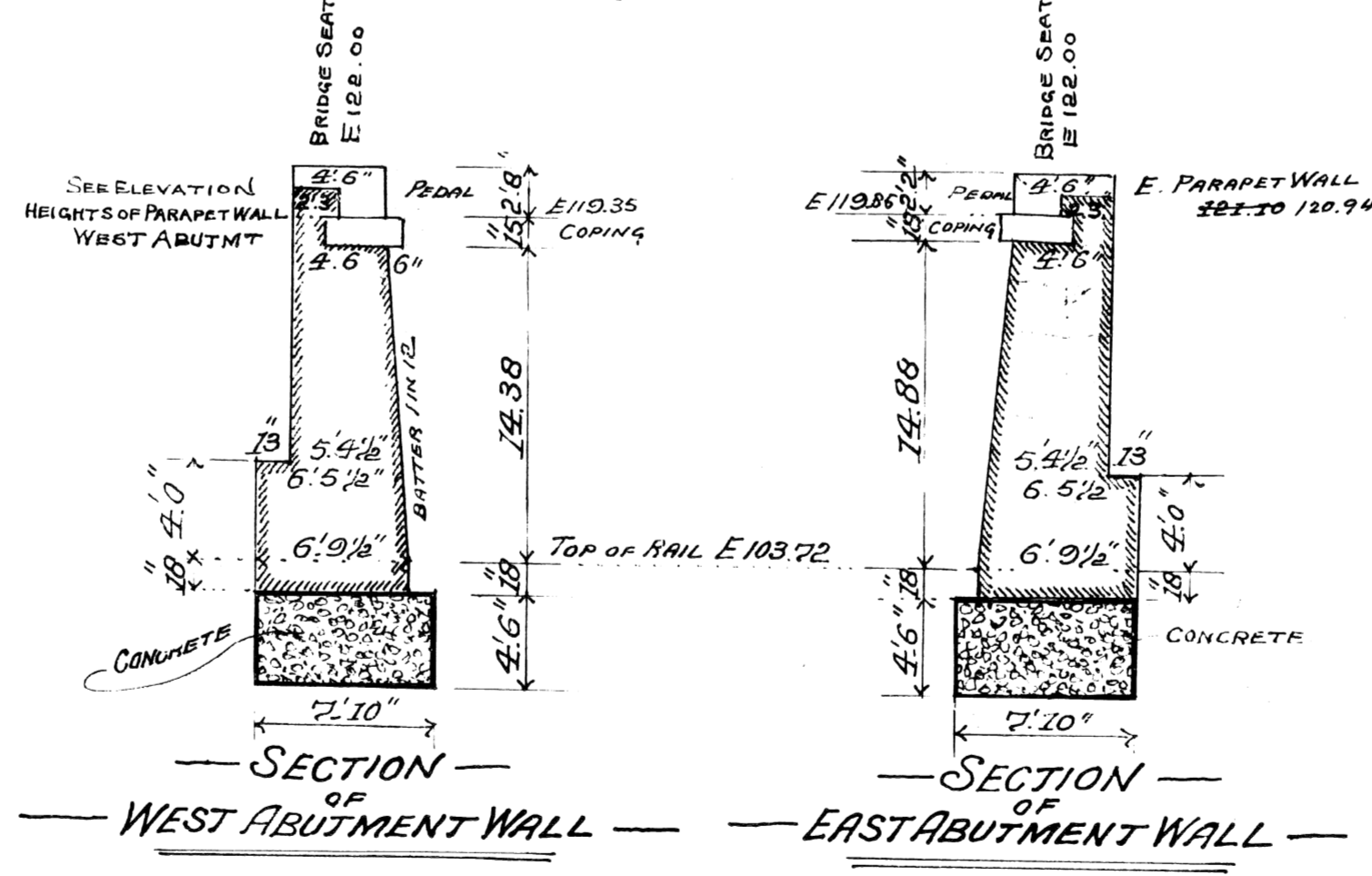
N.B. - RED FIGURES - ARE CORRECT



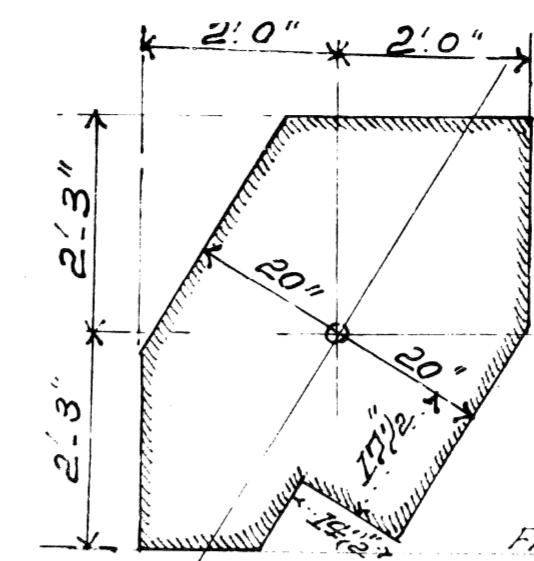
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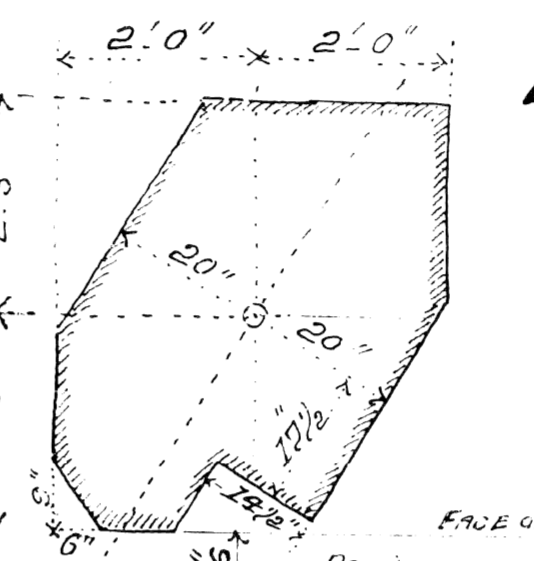
SECTION OF EAST AND WEST WING WALLS FOR HEIGHTS SEE ELEVATIONS



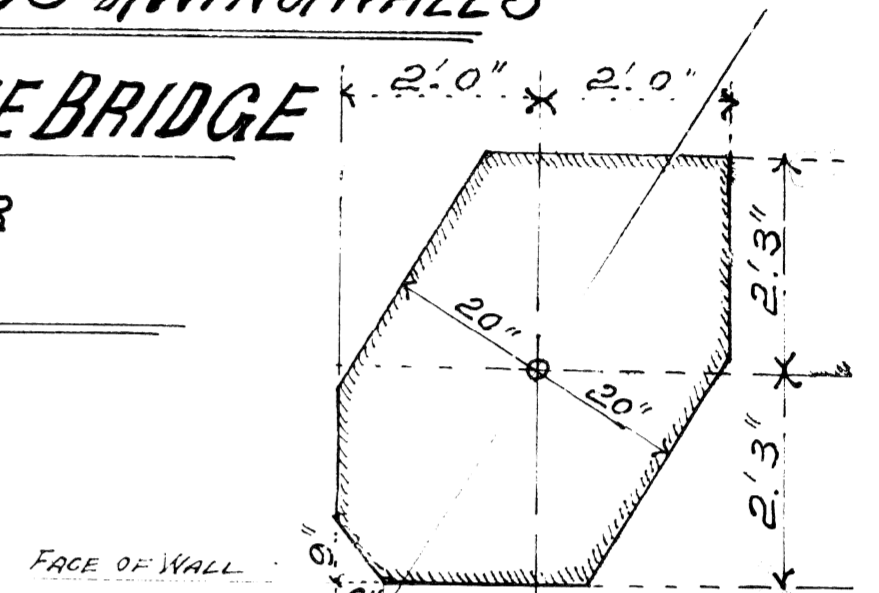
SECTION OF WEST ABUTMENT WALL - EAST ABUTMENT WALL



PLAN OF SW & NE PEDALS EAST AND WEST ABUTMENTS



PLAN OF CENTRE PEDALS EAST AND WEST ABUTMENTS



PLAN OF N.W. & S.E. PEDALS EAST AND WEST ABUTMENTS

**PLAN OF EAST AND WEST ABUTMENTS & WING WALLS**  
**LAFAYETTE AVE BRIDGE**  
 OVER  
**M.C.R.R**  
 DETROIT

LAFAYETTE

PLAN OF ABUTMENTS AND WING WALLS

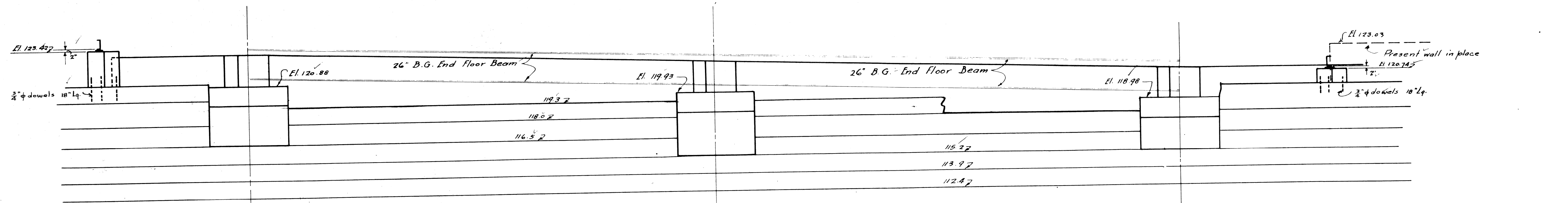
SCALE: 1" = 200 FT

File XO 61-19

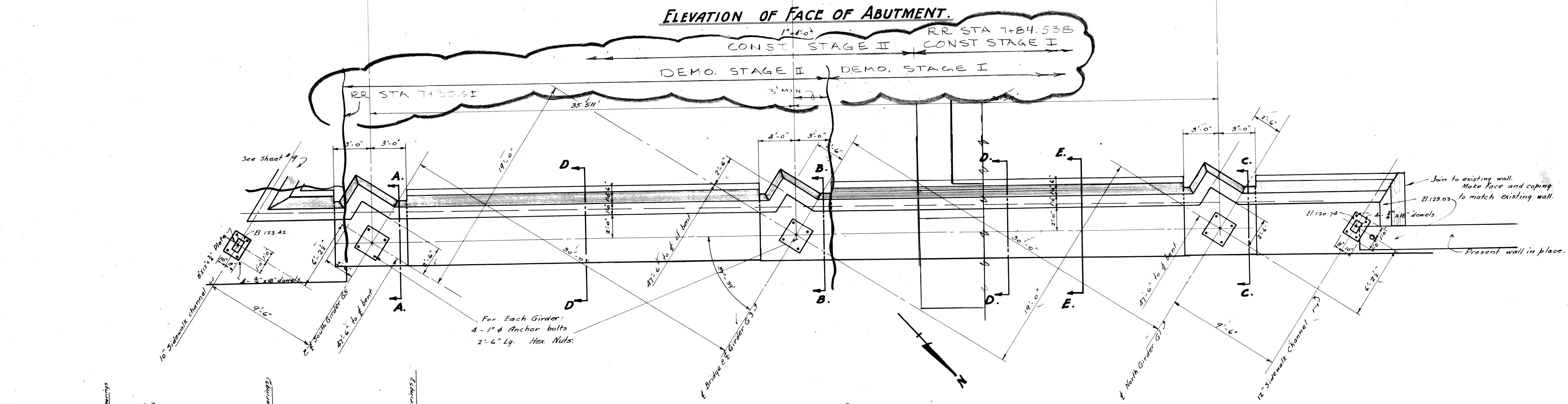
H.D. LUDDEN  
CITY ENGINEER - 1892

REVISIONS LOCATED BY COORDINATES ON SHEET

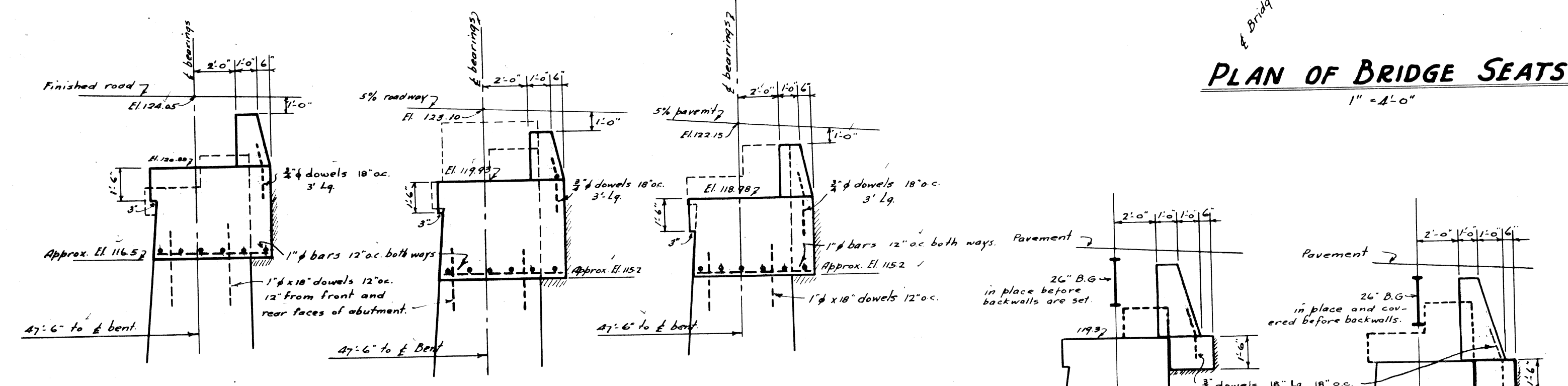
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| REFERENCE DRAWINGS |             |     | DESIGNED BY | APPROVED: |      |                      | CITY OF DETROIT<br>CITY ENGINEERING DIVISION - EPMD | 12TH. ST. (ROSA PARKS BLVD.)<br>& LAFAYETTE ST. CROSSING CONRAIL<br>REFERENCE DRAWING OLD LAFAYETTE BRIDGE<br>EAST & WEST ABUTMENTS AND WING WALLS | SHEET _____ OF _____ SHEETS |
| DRAWN BY           |             |     |             |           |      | CONTRACT NO. 07110 A |   |  |                             |
| TRACED BY          |             |     |             |           |      | NO. SR-9             |   |  |                             |
| CHECKED BY         |             |     | RAK         |           |      | DATE Nov 1979        |   |  |                             |
| COORD.             | DESCRIPTION | DRN | CKD         | APVD      | DATE |                      |   |  |                             |
| 1                  |             |     |             |           |      |                      |   |  |                             |
| 2                  |             |     |             |           |      |                      |   |  |                             |
| 3                  |             |     |             |           |      |                      |   |  |                             |
| 4                  |             |     |             |           |      |                      |   |  |                             |
| 5                  |             |     |             |           |      |                      |   |  |                             |
| 6                  |             |     |             |           |      |                      |   |  |                             |
| 7                  |             |     |             |           |      |                      |   |  |                             |
| 8                  |             |     |             |           |      |                      |   |  |                             |
| 9                  |             |     |             |           |      |                      |   |  |                             |
| 10                 |             |     |             |           |      |                      |   |  |                             |
| 11                 |             |     |             |           |      |                      |   |  |                             |



**ELEVATION OF FACE OF ABUTMENT.**



**PLAN OF BRIDGE SEATS.**



A-A. B-B. C-C. "D-D" "E-E"

**BRIDGE SEAT SECTIONS**

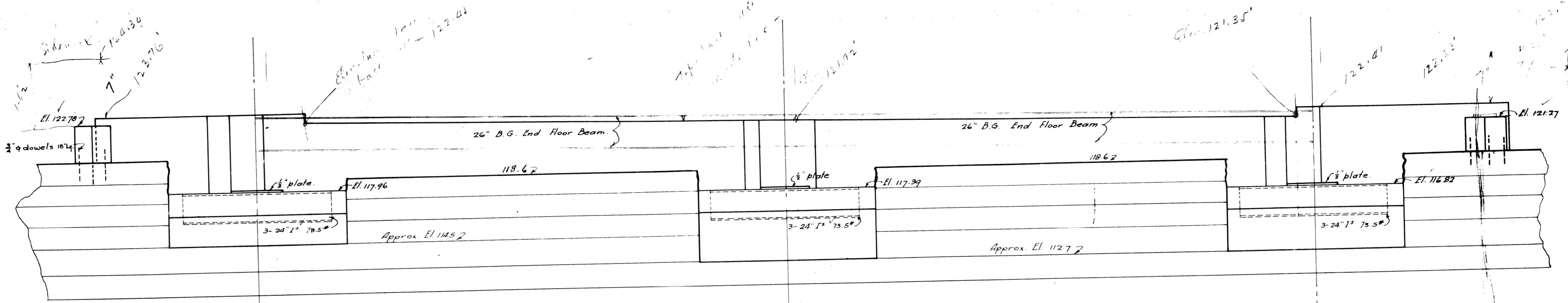
**THIS SHEET SUPERSEDES SHEET 4.**

NOTE:  
 General notes see sheet #1  
 All concrete mix 1:2:4.  
 Back of walls to have two brush coats asphaltic waterproofing.  
 Backwalls set parallel to  $\frac{1}{2}$  of Girder bearings after 26" I beams are in place.

Approved: \_\_\_\_\_ 1926  
 City Engineer

XO 61

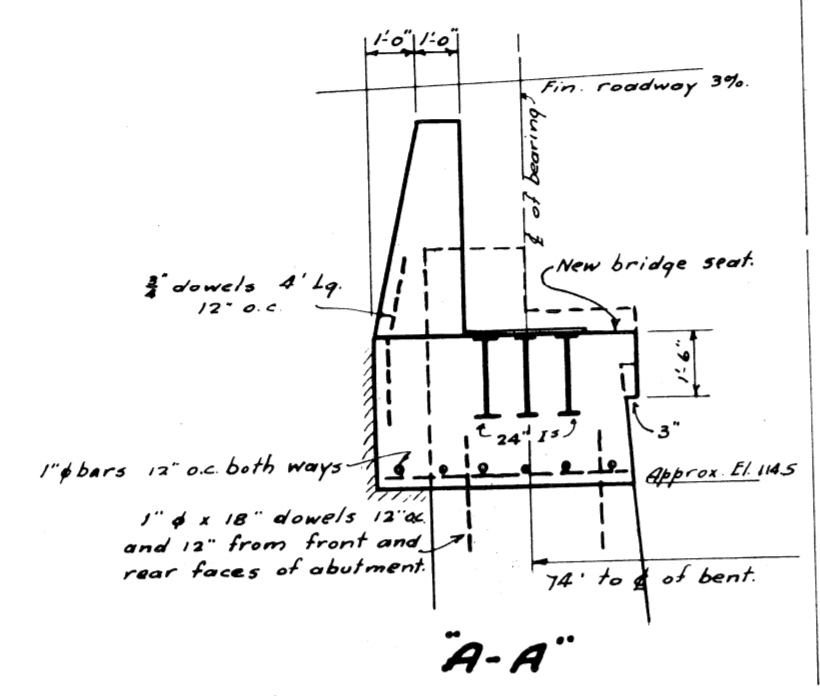
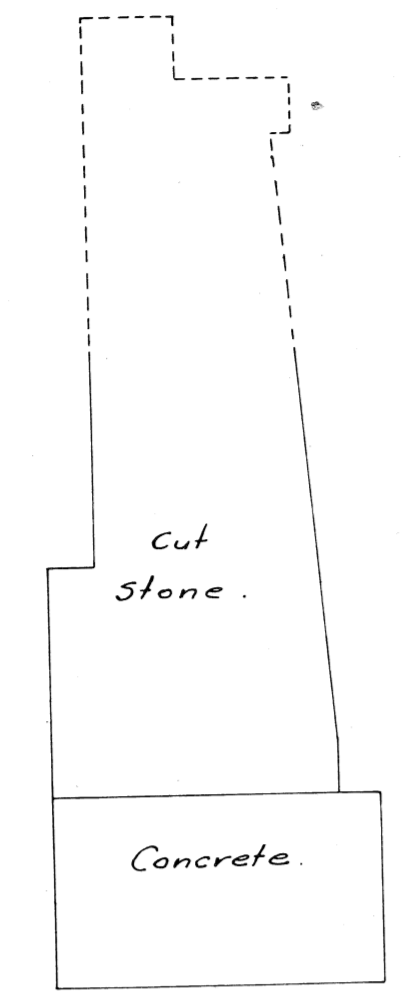
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|--|--------------------|--|--|--|
| CITY OF DETROIT<br>CITY ENGINEERING DIVISION - EPMD    |                    | 12TH. ST. (ROSA PARKS BLVD.)<br>& LAFAYETTE ST. CROSSING CONRAIL<br>REFERENCE DRAWING OLD LAFAYETTE BRIDGE<br>CHANGES TO WEST ABUTMENT |  | SHEET _____ OF _____ SHEETS<br>CONTRACT NO. 07110A<br>NO. SR-10<br>DATE NOV 1926 |
| DESIGNED BY<br>DRAWN BY<br>TRACED BY<br>CHECKED BY RAK | APPROVED:<br>_____ | REVISIONS LOCATED BY COORDINATES ON SHEET<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>11                                     |  |  |



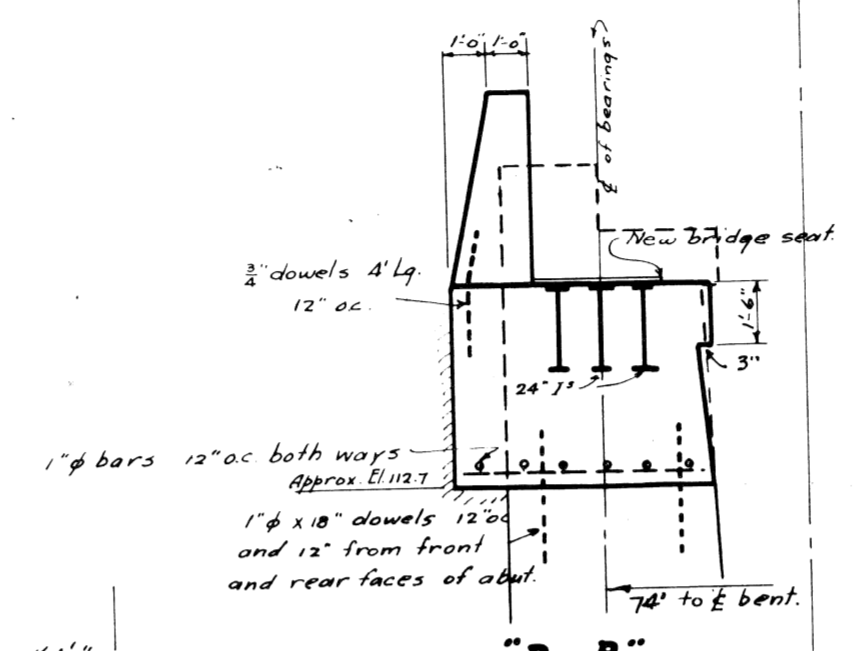
**ELEVATION OF BRIDGE SEATS.**

**MATERIAL IN EACH GRILLAGE:**  
 3 - 24" I<sup>n</sup> 75.5\* 10'-0" Lg.  
 4 lines of separators 12" I<sup>n</sup> 30\* 1'-9" Lg.  
 1 - 32"x 1/2"x 3/4" Plate on Top. C3k rivets  
 4 - 1/2" Anchorbolts - Hex. nuts - 3'-0" Lg.

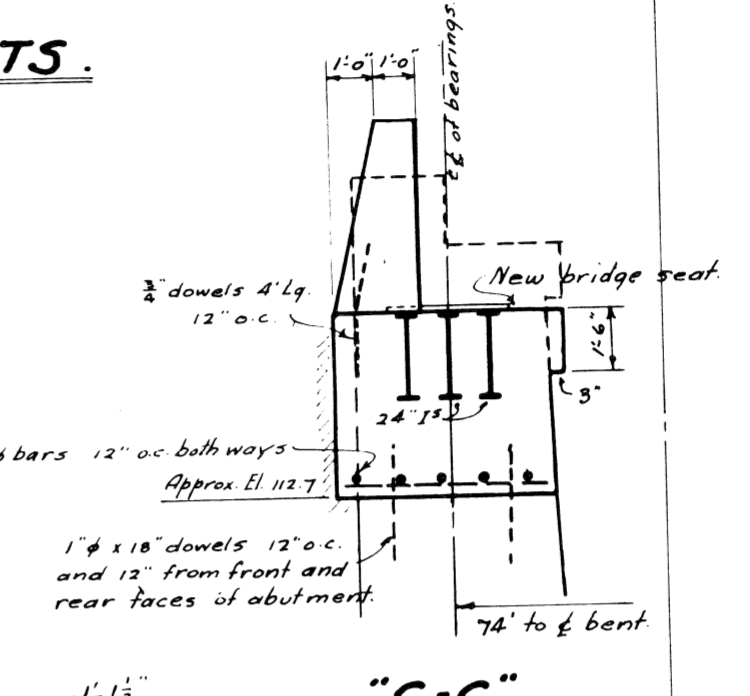
**TYPICAL WALL SECTION OF OLD ABUTMENT.**



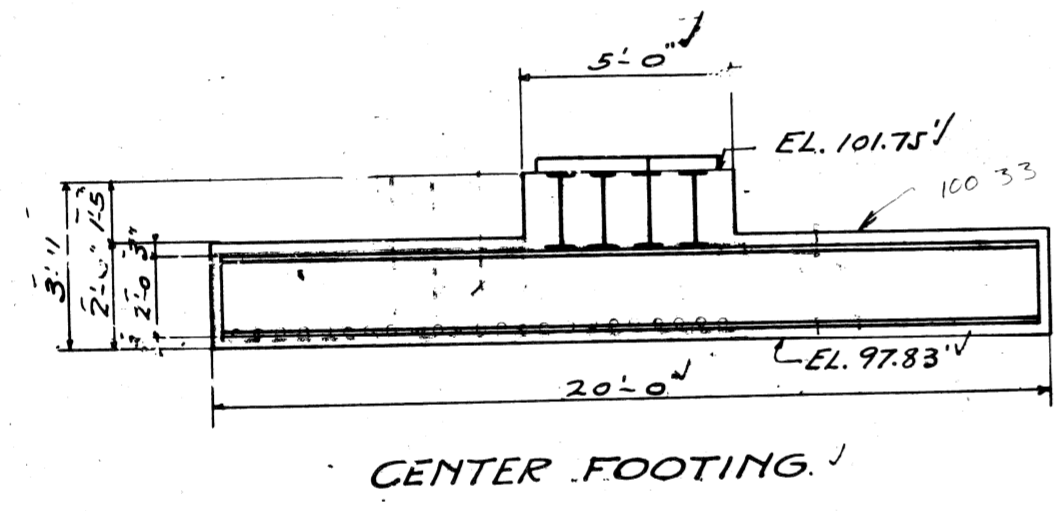
**A-A**



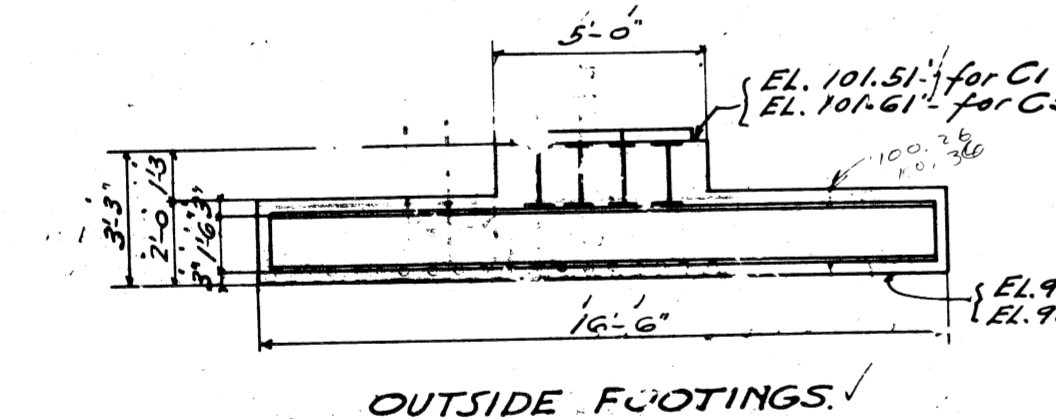
**B-B**



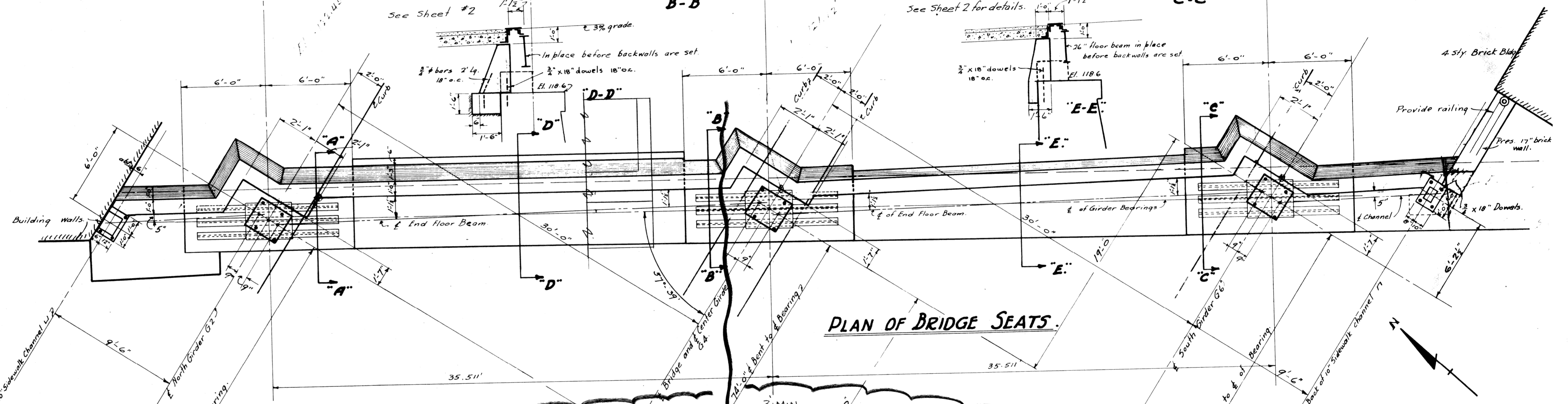
**C-C**



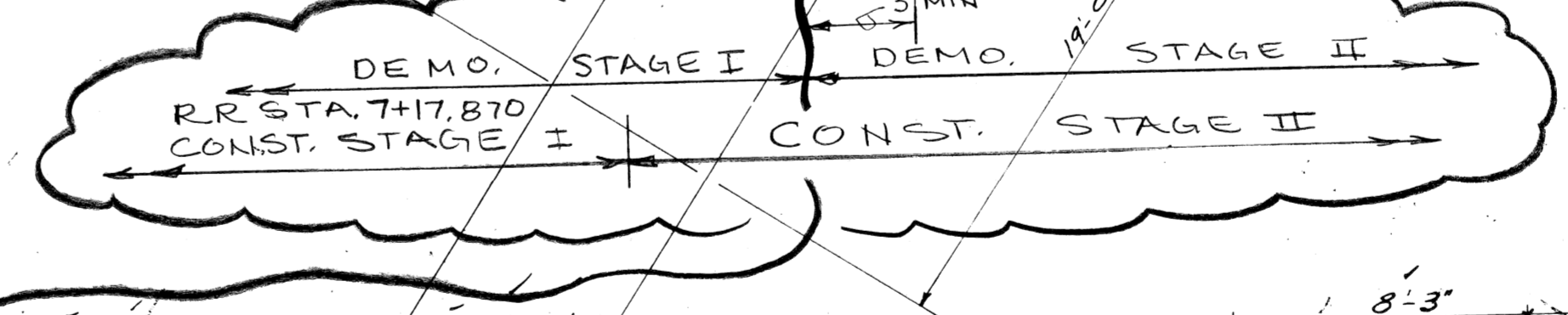
**CENTER FOOTING.**



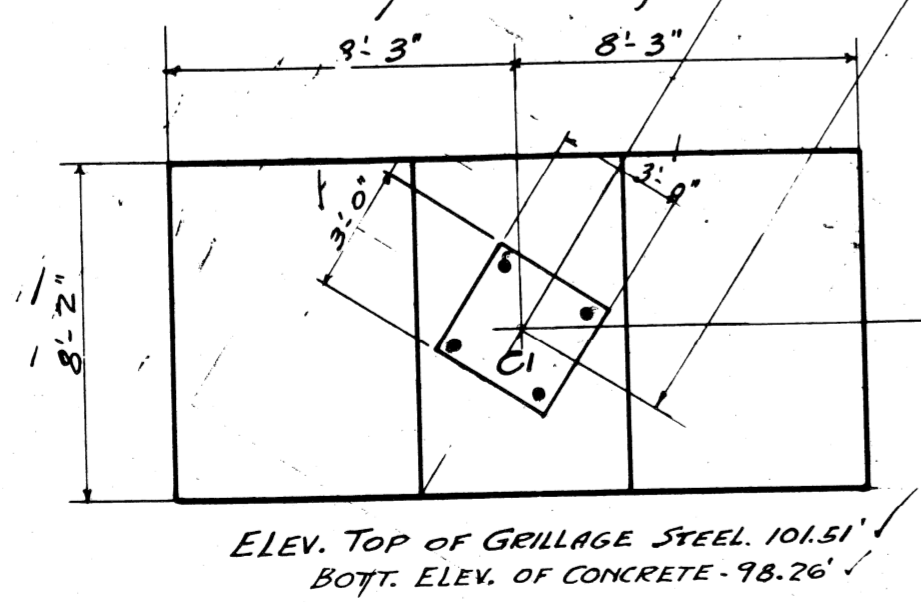
**OUTSIDE FOOTINGS.**



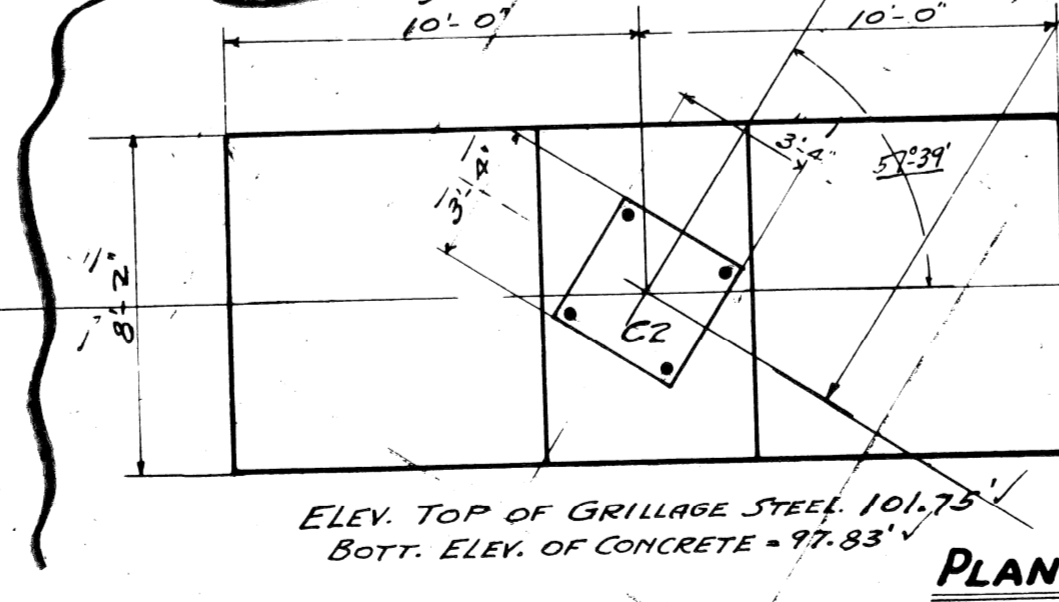
**PLAN OF BRIDGE SEATS.**



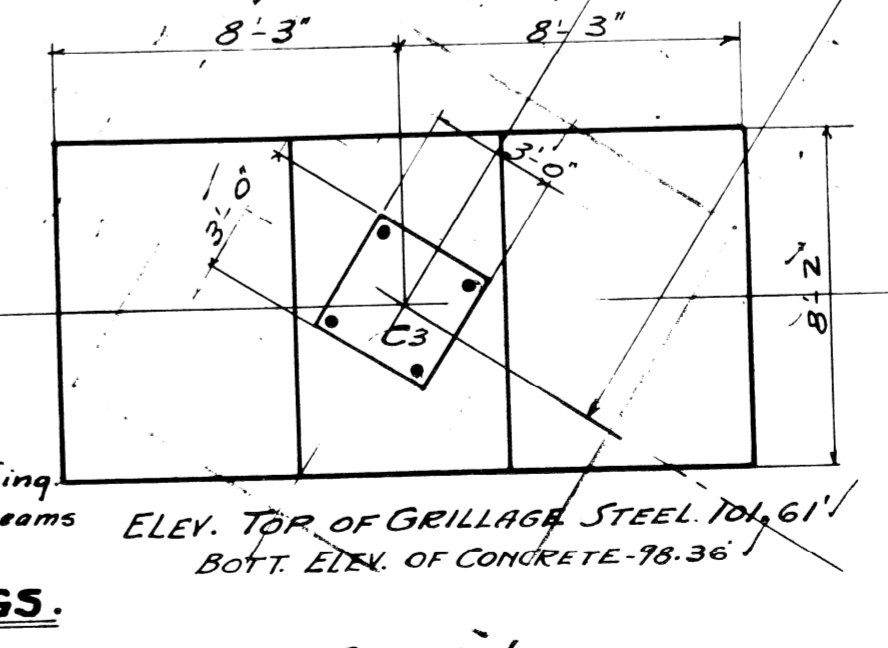
**PLAN OF CENTER BENT FOOTINGS.**



**ELEV. TOP OF GRILLAGE STEEL 101.51' BOT. ELEV. OF CONCRETE - 98.26'**



**ELEV. TOP OF GRILLAGE STEEL 101.75' BOT. ELEV. OF CONCRETE - 97.83'**



**ELEV. TOP OF GRILLAGE STEEL 101.61' BOT. ELEV. OF CONCRETE - 98.36'**

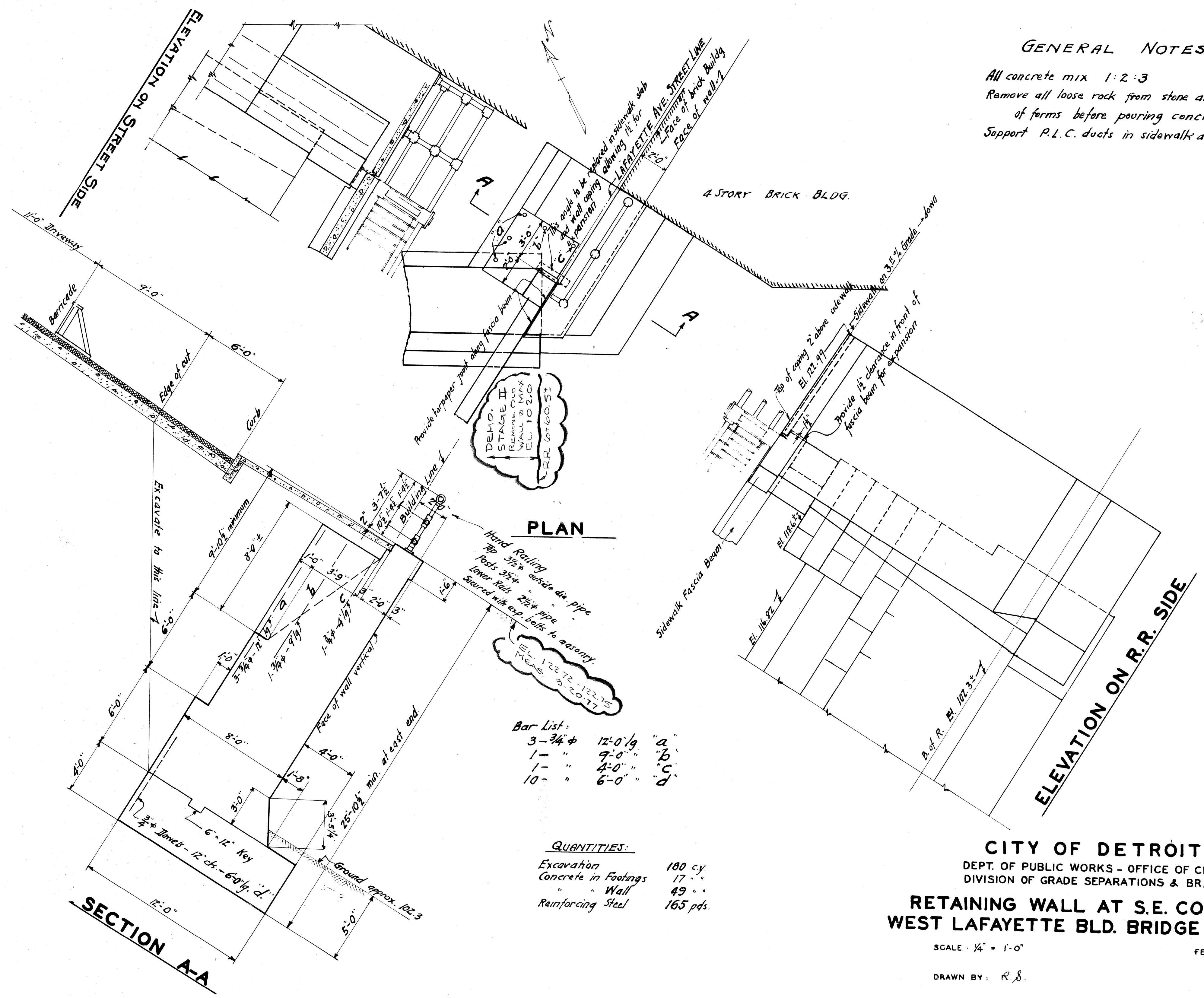
**General Notes See Sheet #1.**  
 All Concrete mix 1:2:4  
 Backs of walls to have two brush coats asphaltic waterproofing  
 Backwalls set parallel to end floor beams after beams are in place.

**THIS SHEET SUPERSEDES SHEET 5.**

Approved: \_\_\_\_\_ 1926 Scale 1"=4'-0"  
 City Engineer Dr. by H.T.J.  
 Cld by H.M.W.

XO61

|   |                             |   |  |   |
|---|-----------------------------|---|--|---|
| CITY OF DETROIT<br>CITY ENGINEERING DIVISION - EPMD           |                             | 12 TH. ST. (ROSA PARKS BLVD.)<br>& LAFAYETTE ST. CROSSING CONRAIL<br>REFERENCE DRAWING OLD LAFAYETTE BRIDGE<br>CHANGES TO EAST ABUTMENT-CENTER BENT FOOTING |  | SHEET _____ OF _____ SHEETS<br>CONTRACT NO. 07110 A<br>NO. SR-11<br>DATE NOV 1929 |
| DESIGNED BY<br>DRAWN BY<br>TRACED BY<br>CHECKED BY <b>RAK</b> | APPROVED:<br>_____<br>_____ | REVISIONS LOCATED BY COORDINATES ON SHEET<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>11  | REVISIONS LOCATED BY COORDINATES ON SHEET<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>11 |   |



**GENERAL NOTES**

All concrete mix 1:2:3  
 Remove all loose rock from stone abutment inside of forms before pouring concrete.  
 Support P.L.C. ducts in sidewalk area.

**Bar List:**

|                 |           |     |
|-----------------|-----------|-----|
| 3 - 3/4" $\phi$ | 12'-0" lg | "A" |
| 1 - "           | 9'-0" "   | "B" |
| 1 - "           | 4'-0" "   | "C" |
| 10 - "          | 6'-0" "   | "D" |

**QUANTITIES:**

|                      |          |
|----------------------|----------|
| Excavation           | 180 c.y. |
| Concrete in Footings | 17 "     |
| Wall                 | 49 "     |
| Reinforcing Steel    | 165 pds. |

**CITY OF DETROIT**  
 DEPT. OF PUBLIC WORKS - OFFICE OF CITY ENGR.  
 DIVISION OF GRADE SEPARATIONS & BRIDGES.  
**RETAINING WALL AT S.E. CORNER**  
**WEST LAFAYETTE BLD. BRIDGE-M.C.R.R.**  
(MAIN LINE)  
 SCALE: 1/4" = 1'-0"  
 FEB. 17, 1932.  
 DRAWN BY: R.S.

File X061-17

|   |  |   |  |  |   |
|---|--|---|--|--|---|
| REVISIONS LOCATED BY COORDINATES ON SHEET<br>1      2 |  | REFERENCE DRAWINGS<br>DESIGNED BY<br>DRAWN BY<br>TRACED BY<br>CHECKED BY <i>RAC</i> | APPROVED:<br><br>CITY OF DETROIT<br>CITY ENGINEERING DIVISION - EPMD | 12 TH. ST. (ROSA PARKS BLVD.)<br>& LAFAYETTE ST. CROSSING CONRAIL<br>REFERENCE DRAWING OLD LAFAYETTE BRIDGE<br>RETAINING WALL AT S.E. CORNER | X061<br>SHEET ____ OF ____ SHEETS<br>CONTRACT NO. 07110 A<br>NO. SR-12<br>DATE NOV 1979 |
|---|--|---|--|--|---|