

# EMERGENCY OPERATIONS FLOODWALL STRUCTURES

Updated 18 February 2000

These instructions do not apply to this .pdf file - included as Table of Content Only

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## INNER HARBOR NAVIGATIONAL CANAL EAST LEVEE FLOODWALL AND LEVEE NORTH OF FLORIDA AVENUE

Chalmette Area Plan  
HURRICANE PROTECTION FLOODWALL AND LEVEE  
Orleans Parish, Louisiana  
File Number H-4-27147; Spec Number DACW29-82-B-0033  
Structures Branch Stick File Number 52

| SHEET # | DRAWING TITLE                         |
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| 0       | TITLE SHEET                           |
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PLANS FOR  
LAKE PONTCHARTRAIN, LA.  
AND VICINITY  
HURRICANE PROTECTION  
ORLEANS PARISH, LA.

**FLOODWALL AND LEVEE**  
**I. H. N. C. EAST - NORTH OF FLORIDA AVE.**

*Safety is a Part  
of Your Contract*



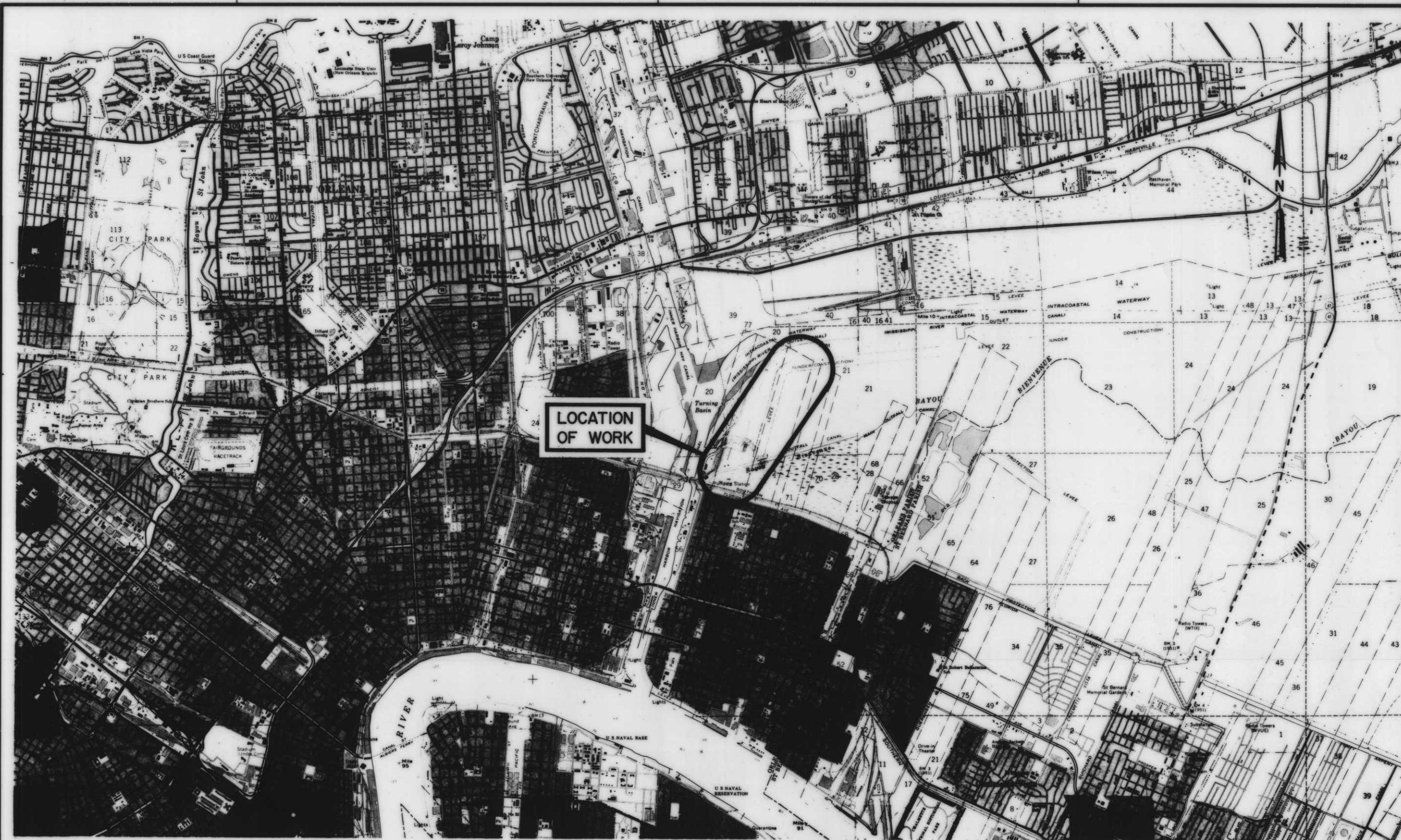
**United States Army  
Corps of Engineers**

*... Serving the Army  
... Serving the Nation*

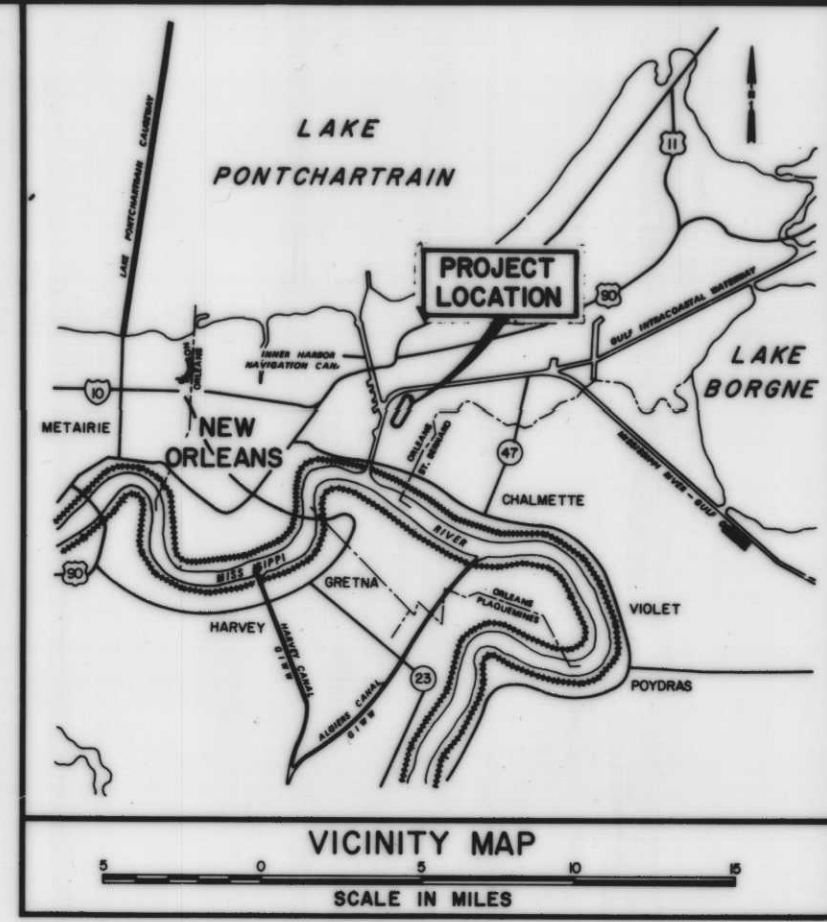
**New Orleans District**

1982





VICINITY MAP  
SCALE IN MILES



| BENCH MARK DESCRIPTION         |  |                    |
|--------------------------------|--|--------------------|
| DESIGNATION                    | DESCRIPTION  | ELEVATION N.G.V.D. |
| R 189<br>A-CSS BM<br>DISK      | At New Orleans, near the intersection of Florida Avenue and Jourdan Avenue, at the New Orleans Sewage and Water Board pumping station No. 5, set vertically in the south concrete wall of foundation used for hoist (8 feet high and set on piling driven 80 feet deep) with track on top of wall, 101 feet west of the northwest corner of the pump house, 203 feet north of the center line of Florida Avenue, 123 feet west of bench mark 5 (NDSWB) described and 2 feet above the level of the ground. | 5.610              |
| S(NDSWB)<br>A 2 inch<br>Square | At New Orleans, near the intersection of Florida Avenue and Jourdan Avenue, at the New Orleans Sewage and Water Board pumping station No. 5, 28 feet east of the northeast corner of pumping station, 129 feet east of bench mark R 189 described, a 2 inch square at the northeast corner of large doorway at the north side of pump house and about level with the ground.   | 7.621              |

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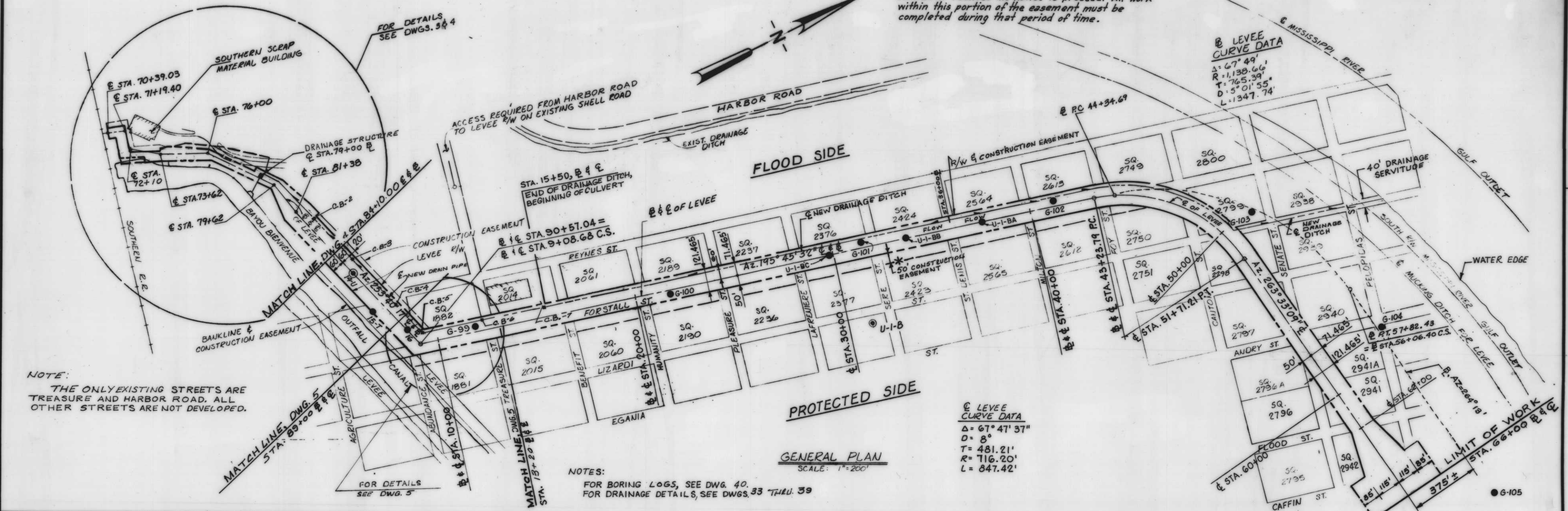


| REVISION  | DATE           | DESCRIPTION  | BY                |
|---|----------------|--|-------------------|
| U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA. |                |  |                   |
| SUBMITTED:<br><i>[Signature]</i>  |                | LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL<br>AND LEVEE |                   |
| APPROVED:<br><i>[Signature]</i>   |                | I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA.   |                   |
| APPROVED:<br><i>[Signature]</i>   |                | LOCATION MAP, VICINITY MAP, AND INDEX  |                   |
| DESIGNED:<br>J.A.R.   | DRAWN:<br>B.W. | CHECKED:<br>J.A.R.   | DATE:<br>JAN 1962 |
| SCALE:<br>AS SHOWN  |                | FILE NO.<br>H-4-27147  |                   |
| SPEC. NO.<br>DACW29-62-B-0033   |                | Dwg. 1 of 44   |                   |

AS CONSTRUCTED



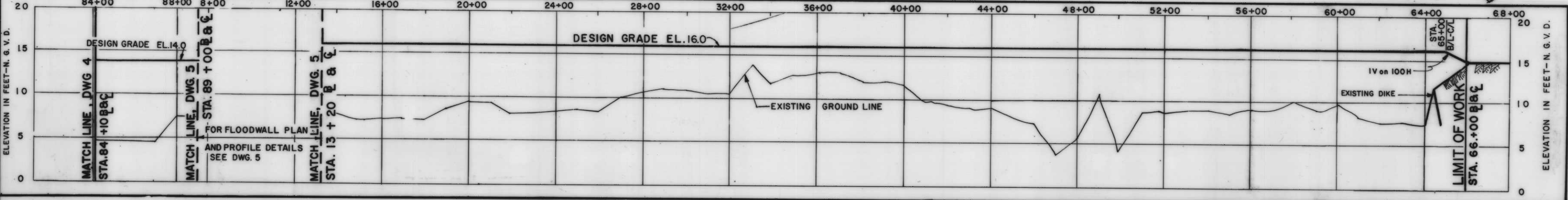
\* The 50 ft. width shown for construction easement in this reach will remain valid for 1 year after the contractor receives the notice to proceed. All work within this portion of the easement must be completed during that period of time.



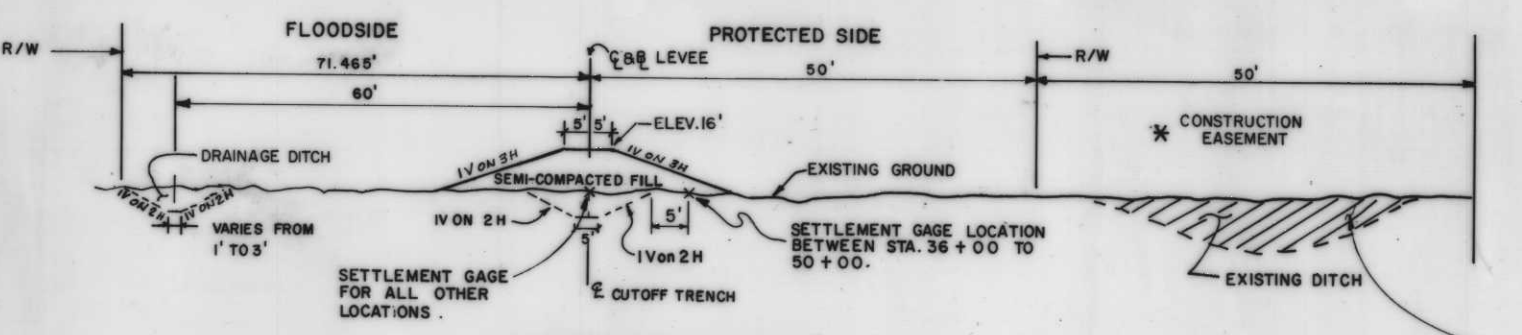
NOTE:  
THE ONLY EXISTING STREETS ARE TREASURE AND HARBOR ROAD. ALL OTHER STREETS ARE NOT DEVELOPED.

NOTES:  
FOR BORING LOGS, SEE DWG. 40.  
FOR DRAINAGE DETAILS, SEE DWGS. 33 THRU 39

LEVEE CURVE DATA  
Δ = 67° 41' 37"  
D = 8'  
T = 481.21'  
R = 716.20'  
L = 847.42'



PROFILE  
SCALE: HORIZ. 1" = 200'  
VERT. 1" = 5'



LEVEE DESIGN SECTION  
STA. 11+31.47 B/L TO 65+00  
NOT TO SCALE

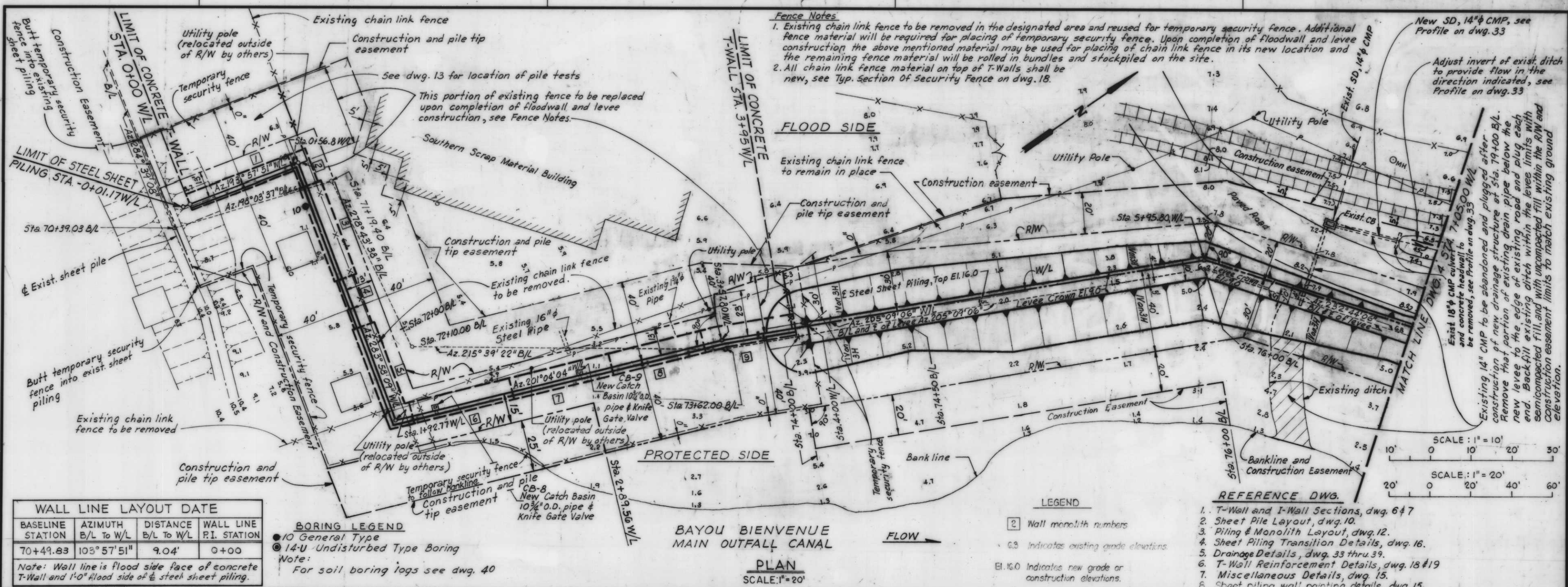
- NOTES:
- CUT-OFF TRENCH SHALL EXTEND TO A DEPTH OF 5 FT. BETWEEN STA. 36+00 TO STA. 50+00
  - FOR DRAINAGE DITCH LIMITS, SEE GENERAL PLAN.
  - FOR DRAINAGE PROFILE, SEE DWG. 34
  - LIMITS OF EXISTING DITCH GOES FROM STA. 9+08.68 B/L AND C/L TO STA. 50+00 C/L.
  - THE EXISTING DITCH SHALL BE FILLED PRIOR TO CONSTRUCTION OF THE ADJACENT LEVEE EMBANKMENT.
  - FOR SETTLEMENT GAGE SPECIFICATIONS, SEE DWG. 7.
  - FOR LEVEE DESIGN SECTION BETWEEN B/L STA. 81+22.00 TO 90+17.06 B/L, SEE DWG. 7.

The existing ditch shall be filled before the levee embankment is built. The excavated material obtained from the cut-off trench and the drainage ditch shall be placed in the existing ditch (within the construction easement limits only) as uncompacted fill. At the location where the existing ditch crosses the levee embankment limits, the ditch shall be filled with suitable, semi-compacted material. If additional material is needed to completely fill the existing ditch it must be hauled.



| REVISION   | DATE      | DESCRIPTION | BY        |
|--|-----------|-------------|-----------|
| U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.  |           |             |           |
| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>IHN.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA.<br>LEVEE-PLAN AND PROFILE |           |             |           |
| DESIGNED   | DRAWN     | CHECKED     | DATE      |
| L.E.D.   | T.J.C.    | R.P.L.      | JAN. 1982 |
| SCALE  | FILE NO.  |             |           |
| AS SHOWN   | H-4 27147 |             |           |
| APPROVED   | SPEC. NO. |             |           |
| DACW29-82-B-0033   | 2         | 44          |           |





**Fence Notes**  
 1. Existing chain link fence to be removed in the designated area and reused for temporary security fence. Additional fence material will be required for placing of temporary security fence. Upon completion of floodwall and levee construction the above mentioned material may be used for placing of chain link fence in its new location and the remaining fence material will be rolled in bundles and stockpiled on the site.  
 2. All chain link fence material on top of T-Walls shall be new, see Typ. Section Of Security Fence on dwg. 18.

New SD, 14" CMP, see Profile on dwg. 33  
 Adjust invert of exist. ditch to provide flow in the direction indicated, see Profile on dwg. 33

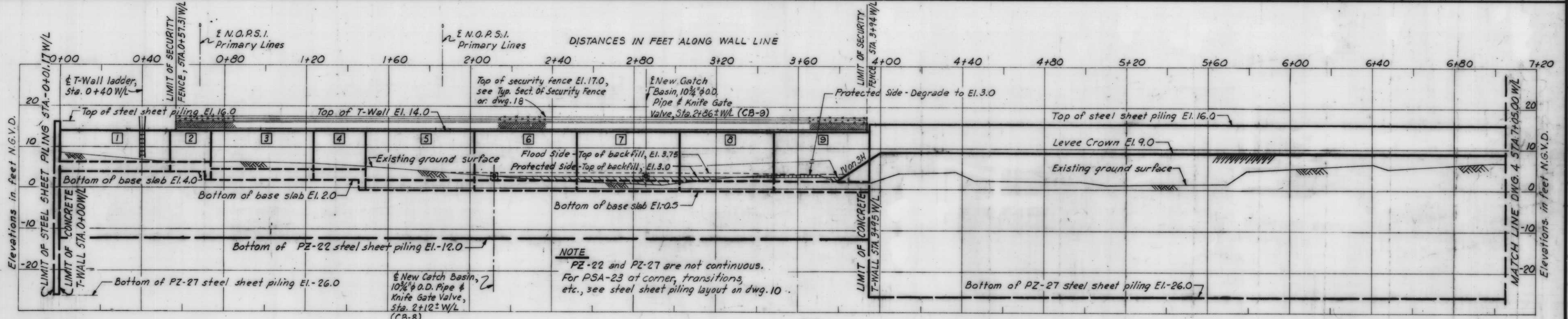
| WALL LINE LAYOUT DATE |                    |                     |                        |
|-----------------------|--------------------|---------------------|------------------------|
| BASILINE STATION      | AZIMUTH B/L TO W/L | DISTANCE B/L TO W/L | WALL LINE P.I. STATION |
| 70+49.83              | 103° 57' 51"       | 9.04'               | 0+00                   |

Note: Wall line is flood side face of concrete T-Wall and 1'-0" flood side of steel sheet piling.

**BORING LEGEND**  
 ● 10 General Type  
 ○ 14-U Undisturbed Type Boring  
 Note: For soil boring logs see dwg. 40

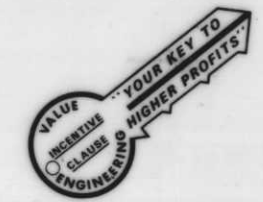
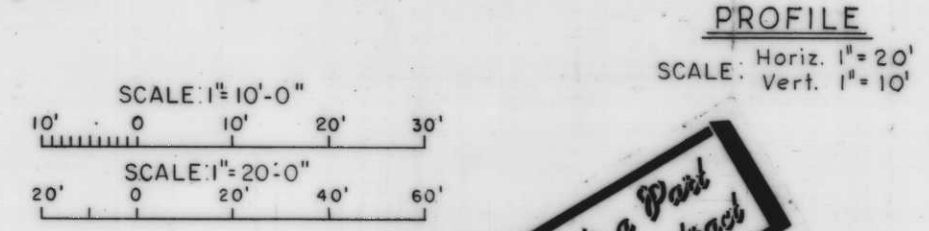
**LEGEND**  
 ② Wall monolith numbers  
 6.3 Indicates existing grade elevations  
 El. 16.0 Indicates new grade or construction elevations.

- REFERENCE DWG.**
1. T-Wall and I-Wall Sections, dwg. 6 & 7
  2. Sheet Pile Layout, dwg. 10
  3. Piling & Monolith Layout, dwg. 12
  4. Sheet Piling Transition Details, dwg. 16
  5. Drainage Details, dwg. 33 thru 39
  6. T-Wall Reinforcement Details, dwg. 18 & 19
  7. Miscellaneous Details, dwg. 15
  8. Sheet piling wall pointing details, dwg. 15



**NOTE**  
 PZ-22 and PZ-27 are not continuous. For PSA-23 at corner, transitions, etc., see steel sheet piling layout on dwg. 10

Note: For general notes, see dwg. 5.



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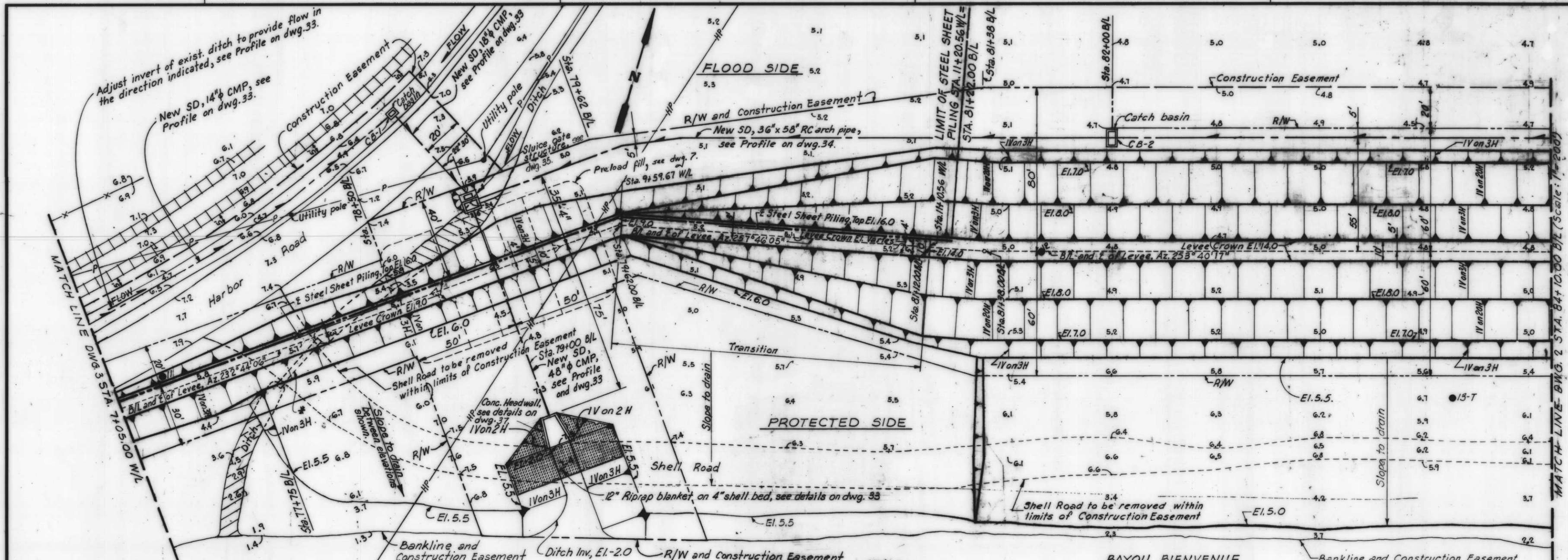
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS  
 CORPS OF ENGINEERS  
 NEW ORLEANS, LA.

LAKE PONTCHARTRAIN LOUISIANA AND VICINITY  
 CHALMETTE AREA PLAN  
 HURRICANE PROTECTION FLOODWALL AND LEVEE  
 I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE  
 ORLEANS PARISH, LA.  
**PLAN AND PROFILE**

|                        |               |                 |                 |                            |                    |
|------------------------|---------------|-----------------|-----------------|----------------------------|--------------------|
| DESIGNED: R.J.G.       | DRAWN: G.P.T. | CHECKED: J.G.B. | DATE: JAN. 1962 | AS SHOWN                   | FILE NO. H-4-27147 |
| SUBMITTED: [Signature] |               |                 |                 | SPEC. NO. DACW29-82-B-0033 | DWG. 3 OF 44       |

AS CONSTRUCTED



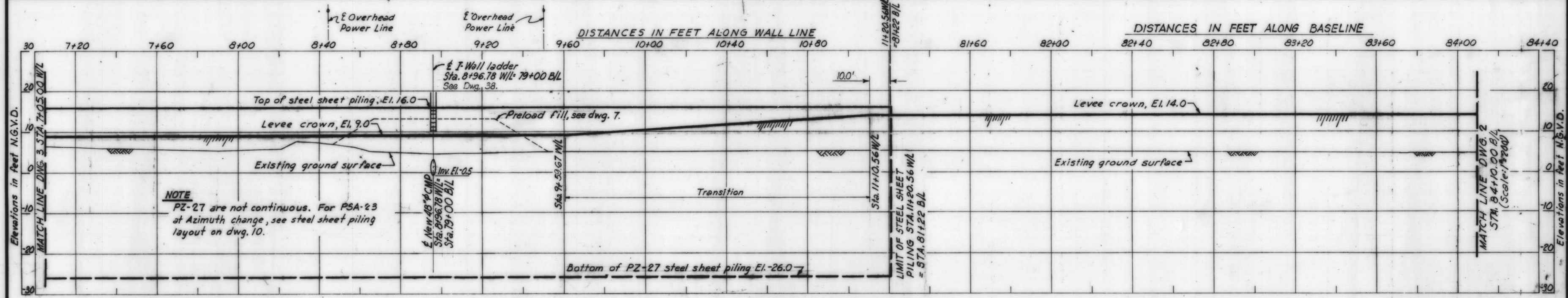


**PLAN**  
SCALE: 1" = 20'

**Note:**  
For boring Legend, see dwg. 3.  
For drainage details, see dwgs. 33 thru 39.  
For Legend, see dwg. 3.

**BAYOU BIENVENUE  
MAIN OUTFALL CANAL**

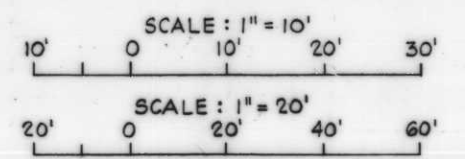
**FLOW** →



- REFERENCE DRAWINGS**
1. I-Wall and Levee Sections, dwgs. 6 & 7.
  2. Sheet Piling Layout, dwg. 10.
  3. Piling & Monolith Layout, dwg. 12.
  4. Sheet Piling Transition Details, dwg. 16.
  5. Sheet Piling Wall Painting Details, dwg. 15.
  6. Miscellaneous Details, dwg. 15.
  7. Boring Logs, dwg. 40.
  8. Drainage Details, dwgs. 33 thru 39.

**PROFILE**  
SCALE: Horiz. 1" = 20'  
Vert. 1" = 10'

For General Notes, see dwg. 5.



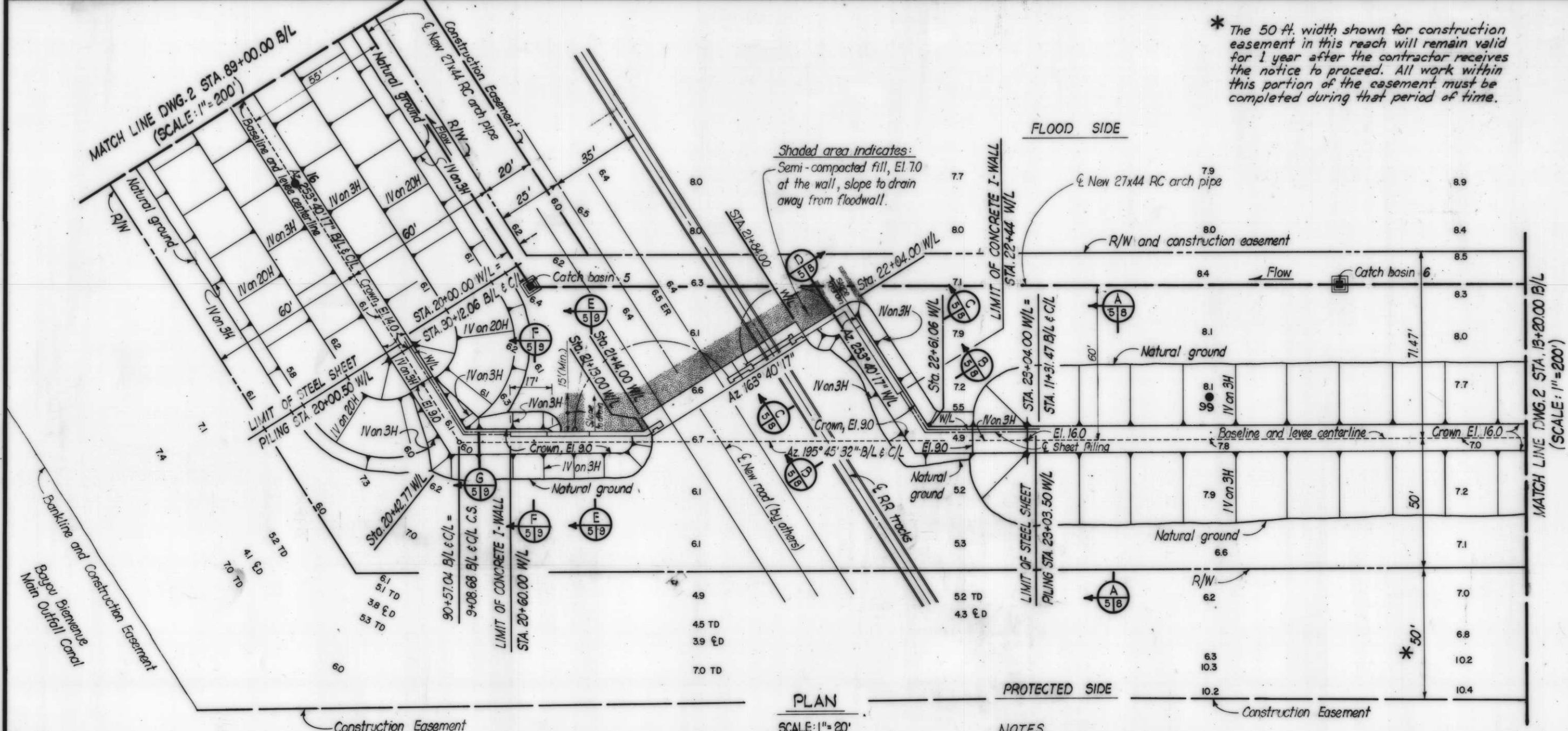
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS  
CORPS OF ENGINEERS  
NEW ORLEANS, LA.

LAKE PONTCHARTRAIN LOUISIANA AND VICINITY  
CHALMETTE AREA PLAN  
HURRICANE PROTECTION FLOODWALL AND LEVEE  
I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE  
ORLEANS PARISH, LA.

**PLAN AND PROFILE**

|                               |                    |                      |                    |                    |                       |
|-------------------------------|--------------------|----------------------|--------------------|--------------------|-----------------------|
| DESIGNED:<br>R. J. Gr.        | DRAWN:<br>G. P. T. | CHECKED:<br>J. G. B. | DATE:<br>JAN. 1962 | SCALE:<br>AS SHOWN | FILE NO.<br>H-4-27147 |
| SPEC. NO.<br>DACW29-82-B-0033 |                    |                      | DWS. 4 OF 44       |                    |                       |





**GENERAL NOTES**

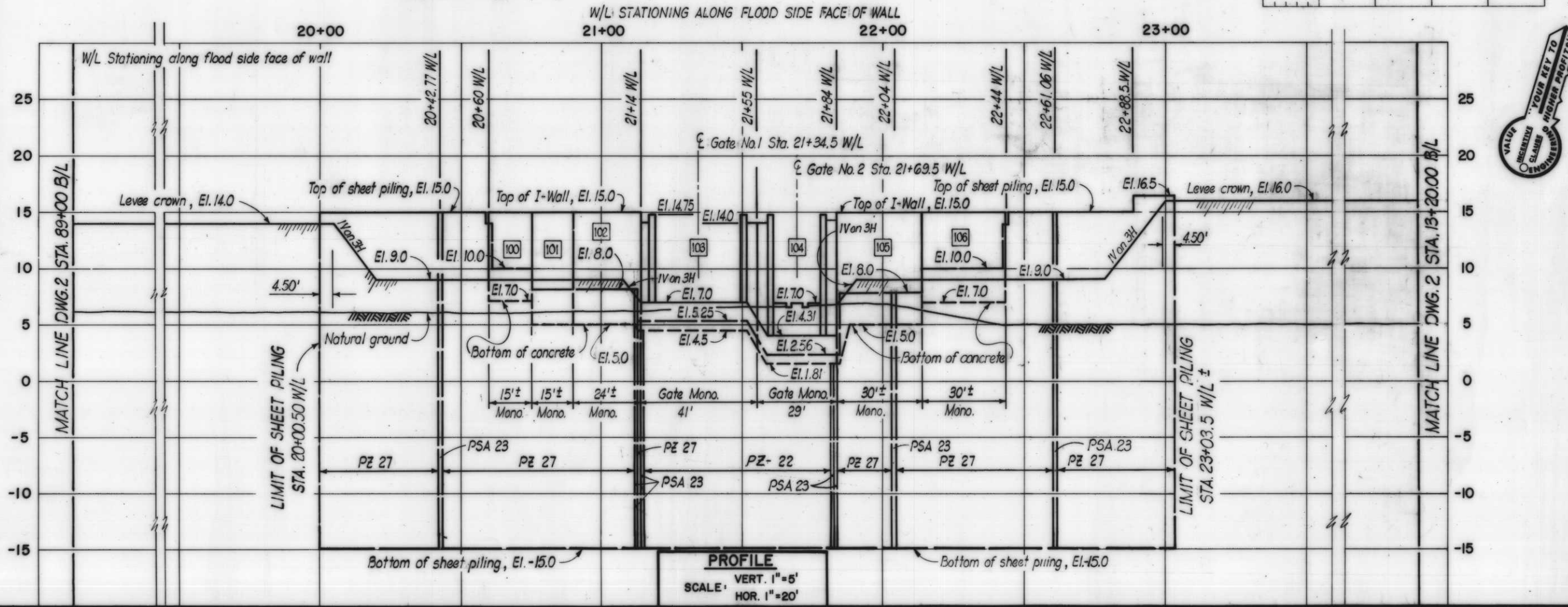
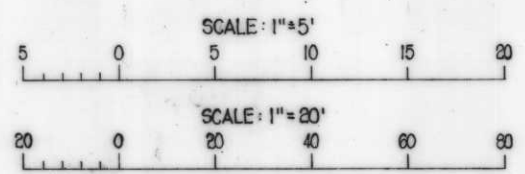
- ALL AZIMUTHS ARE TURNED IN A CLOCKWISE DIRECTION FROM 0° (DUE SOUTH).
  - ELEVATIONS ARE IN FEET AND REFER TO NATIONAL GEODETIC VERTICAL DATUM (N.G.V.D.) FORMERLY M.S.L.
  - DIMENSIONS AND/OR ELEVATIONS MARKED THUS (±) ARE APPROXIMATE, CONTRACTOR SHALL VERIFY ACTUAL DIMENSIONS IN THE FIELD.
  - DIMENSIONS AND/OR ELEVATIONS MARKED THUS (N.T.S.) ARE NOT SHOWN TO SCALE.
  - DRAWINGS ARE GENERALLY TO SCALE, BUT SHOULD NOT BE SCALED. N.T.S. IS SHOWN ONLY WHERE DRAWING IS OBVIOUSLY OUT OF SCALE.
  - BENCH MARKS AND BASE LINES WILL BE ESTABLISHED AT THE SITE BY THE GOVERNMENT.
- STEEL NOTES:**
- ALL STRUCTURAL STEEL SHALL BE ASTM A36, UNLESS OTHERWISE NOTED.
  - TO PREVENT CORROSION BY MOISTURE BETWEEN STEEL SURFACES IN CONTACT, ALL SUCH CONTACTS SHALL BE SEALED WATERTIGHT BY RUNNING A CONTINUOUS 1/8" FILLET WELD ALONG ALL EDGES OF THE CONTACT.
  - ALL WELDING SHALL BE ELECTRIC WELDING. WORKMANSHIP AND TECHNIQUE, WHERE APPLICABLE, SHALL CONFORM TO THE AMERICAN WELDING SOCIETY SPECIFICATIONS, AWS D1.1-REV.-1-76 STRUCTURAL WELDING CODE.
  - WELDING SYMBOLS SHOWN ARE THOSE ADOPTED BY THE AMERICAN WELDING SOCIETY AND INDICATE ONLY SIZE AND TYPE OF WELDS REQUIRED. DETAILED INFORMATION SHALL BE SHOWN ON THE SHOP DRAWINGS AND SUBMITTED BY THE CONTRACTOR FOR APPROVAL.
  - DIMENSIONS SHOWN OR CALLED FOR ARE FINAL DIMENSIONS; ALLOWANCES MUST BE MADE FOR MACHINING.
  - ITEMS MARKED C.R.S. SHALL BE CORROSION RESISTANT STEEL (STAINLESS STEEL), SEE SPECIFICATIONS.
- CONCRETE NOTES:**
- F<sub>c</sub> = 3000 PSI, F<sub>y</sub> = 40,000 PSI
  - ALL UNFORMED SURFACES SHALL BE GIVEN A FLOAT FINISH, UNLESS OTHERWISE SPECIFIED.
  - ALL EXTERIOR FORMED SURFACES NOT COVERED BY BACKFILL SHALL BE CLASS "A" FINISH AND SURFACES COVERED BY BACKFILL SHALL BE CLASS "D" FINISH UNLESS OTHERWISE NOTED.
  - REINFORCING TIE SPACING IN COLUMNS SHALL BE REDUCED WHERE NECESSARY TO MISS 1 3/4" RECESSES FOR GATE LATCHES.
  - UNLESS OTHERWISE NOTED, ALL I-WALL MONOLITHS SHALL BE 30 FEET ±. SEE DRAWING 14 FOR TYPICAL I-WALL JOINT DETAIL.
  - CONSTRUCTION JOINTS SHALL BE PROVIDED WHERE SHOWN. WHERE NOT SHOWN, CONSTRUCTION JOINTS SHALL BE PLACED AT LOCATIONS LEAST LIKELY TO IMPAIR THE INTEGRITY OF THE CONCRETE STRUCTURE. CONSTRUCTION JOINT LOCATIONS SHALL BE APPROVED BY THE CONTRACTING OFFICER.
  - UNLESS OTHERWISE NOTED, PROVIDE 3/4" CHAMFER AT ALL EXPOSED JOINTS, EDGES, EXTERNAL CORNERS, VERTICAL EXPANSION JOINTS, AND HORIZONTAL CONSTRUCTION JOINTS.
  - ALL PRIMARY REINFORCEMENT SHALL HAVE A MINIMUM COVER OF 2 1/2" UNLESS OTHERWISE NOTED. THE COVER FOR SECONDARY REINFORCEMENT MAY BE REDUCED FROM THE ABOVE BY THE DIAMETER OF THE BAR.
  - ALL HOOKS, BENDS, SPACING AND SUPPORTS OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI-318) AND "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI-318)" IN EFFECT AT THE TIME OF FABRICATION.
  - REINFORCING BAR DESIGNATION NUMBERS CONFORM TO THE CURRENT NUMBERING SYSTEM OF THE CONCRETE REINFORCING STEEL INSTITUTE.
  - ALL REINFORCING SHALL BE LAPPED OR EMBEDDED ACCORDING TO THE FOLLOWING TABLES, UNLESS OTHERWISE NOTED.

**LEGEND**

EI. 16.0 Indicates new grade or construction elevation  
 6.3 Indicates existing grade elevations  
 101 Wall monolith number  
 16 General type boring

**NOTES**

For I-Wall Reinforcement, see dwg. 19.  
 For drainage details, see dwgs. 33 thru 39.  
 For sheet piling layout, see dwg. 11.  
 For pile test plan, see dwg. 13.



| BAR SIZE NO. | MINIMUM LAP LENGTH INCHES |            | BAR SIZE NO. | MINIMUM LAP LENGTH INCHES |            |
|--------------|---------------------------|------------|--------------|---------------------------|------------|
|              | TOP BARS                  | OTHER BARS |              | TOP BARS                  | OTHER BARS |
| 3            | 12                        | 12         | 8            | 45                        | 30         |
| 4            | 14                        | 14         | 9            | 55                        | 35         |
| 5            | 16                        | 16         | 10           | 65                        | 40         |
| 6            | 18                        | 18         | 11           | 75                        | 45         |
| 7            | 20                        | 20         | 12           | 85                        | 50         |

| BAR SIZE NO. | MINIMUM EMBEDMENT LENGTH, INCHES |            | BAR SIZE NO. | MINIMUM EMBEDMENT LENGTH, INCHES |            |
|--------------|----------------------------------|------------|--------------|----------------------------------|------------|
|              | TOP BARS                         | OTHER BARS |              | TOP BARS                         | OTHER BARS |
| 3            | 6                                | 6          | 8            | 27                               | 18         |
| 4            | 7                                | 7          | 9            | 32                               | 21         |
| 5            | 8                                | 8          | 10           | 37                               | 24         |
| 6            | 9                                | 9          | 11           | 42                               | 27         |
| 7            | 10                               | 10         | 12           | 47                               | 30         |

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U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS  
 CORPS OF ENGINEERS  
 NEW ORLEANS, LA.

LAKE PONCHARTRAIN LOUISIANA AND VICINITY  
 CHALMETTE AREA PLAN  
**HURRICANE PROTECTION FLOODWALL AND LEVEE**  
 I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE  
 ORLEANS PARISH, LA.

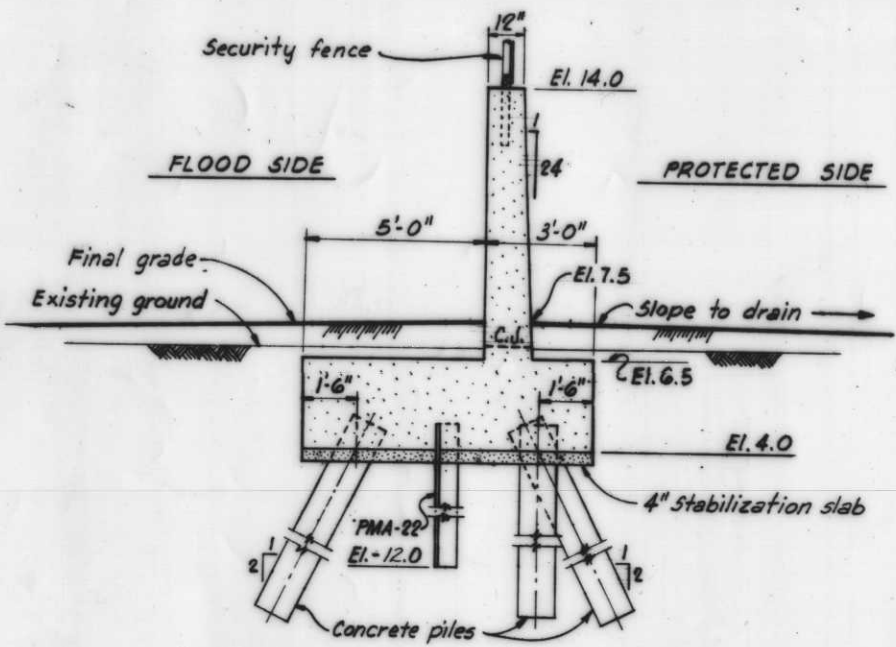
**PLAN AND PROFILE**

DESIGNED: J.A.R. DRAWN: B.W. CHECKED: J.A.R. DATE: JAN. 1962 SCALE: AS SHOWN FILE NO: H-4-27147

ISS. NO. DACW29-62-B-0033 SHEET 5 OF 44

AS CONSTRUCTED

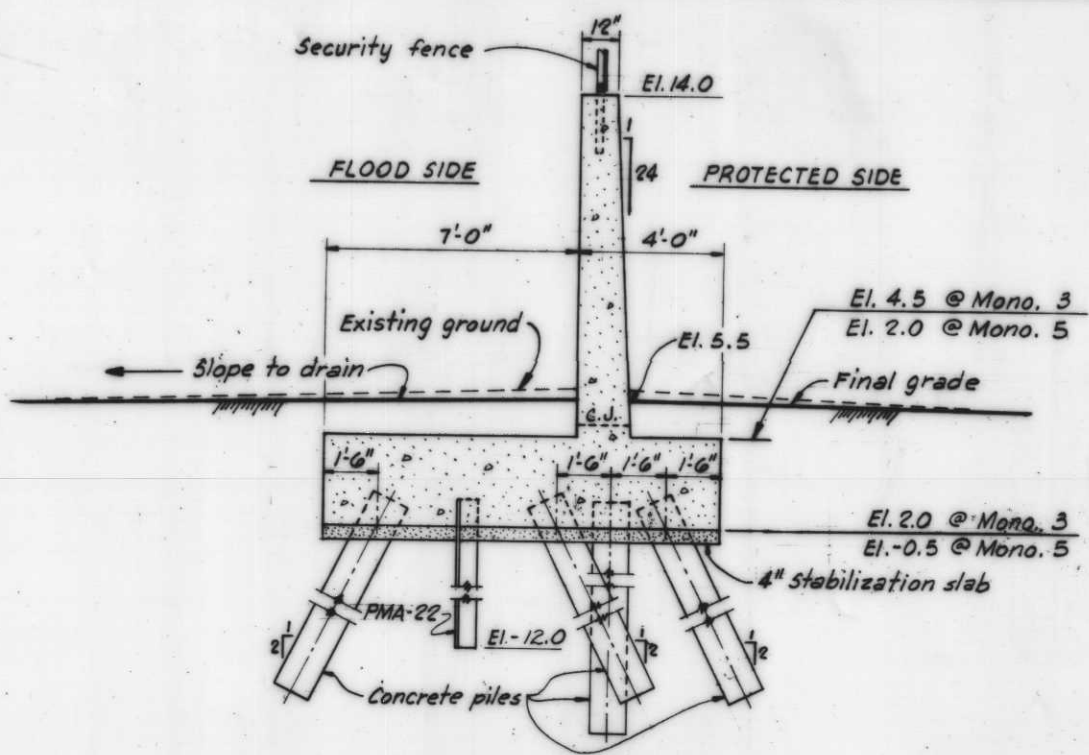




MONOLITHS  
1 AND 2

STATIONS  
0+00 W/L TO 0+73 W/L

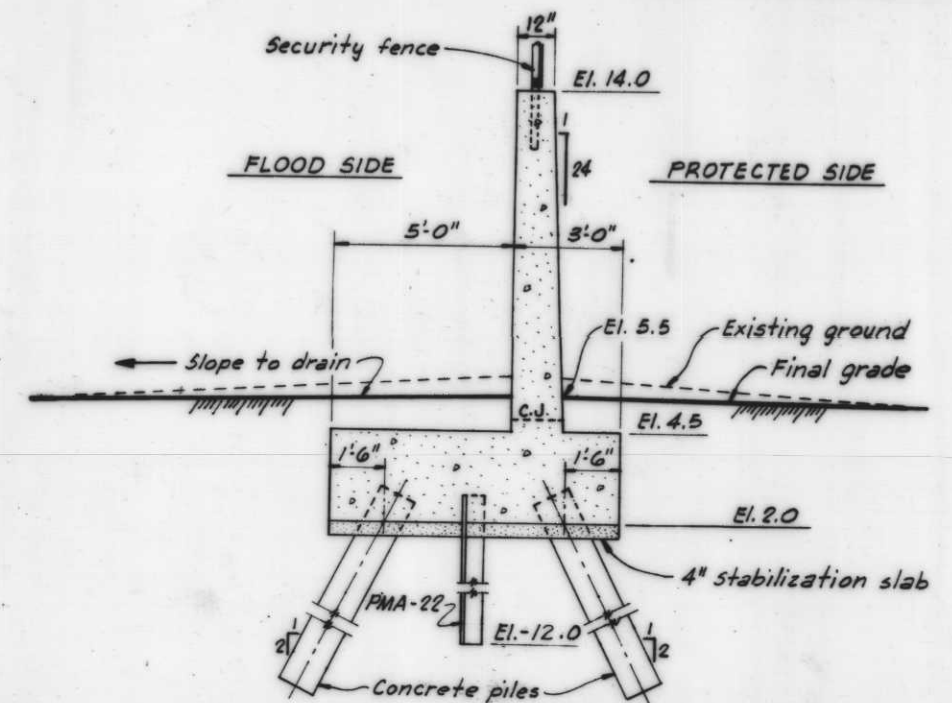
T-TYPE WALL  
Scale: 3/8" = 1'-0"



MONOLITHS  
3  
5

STATIONS  
0+73 W/L TO 1+23 W/L  
1+48 W/L TO 2+01 W/L

T-TYPE WALL  
Scale: 3/8" = 1'-0"

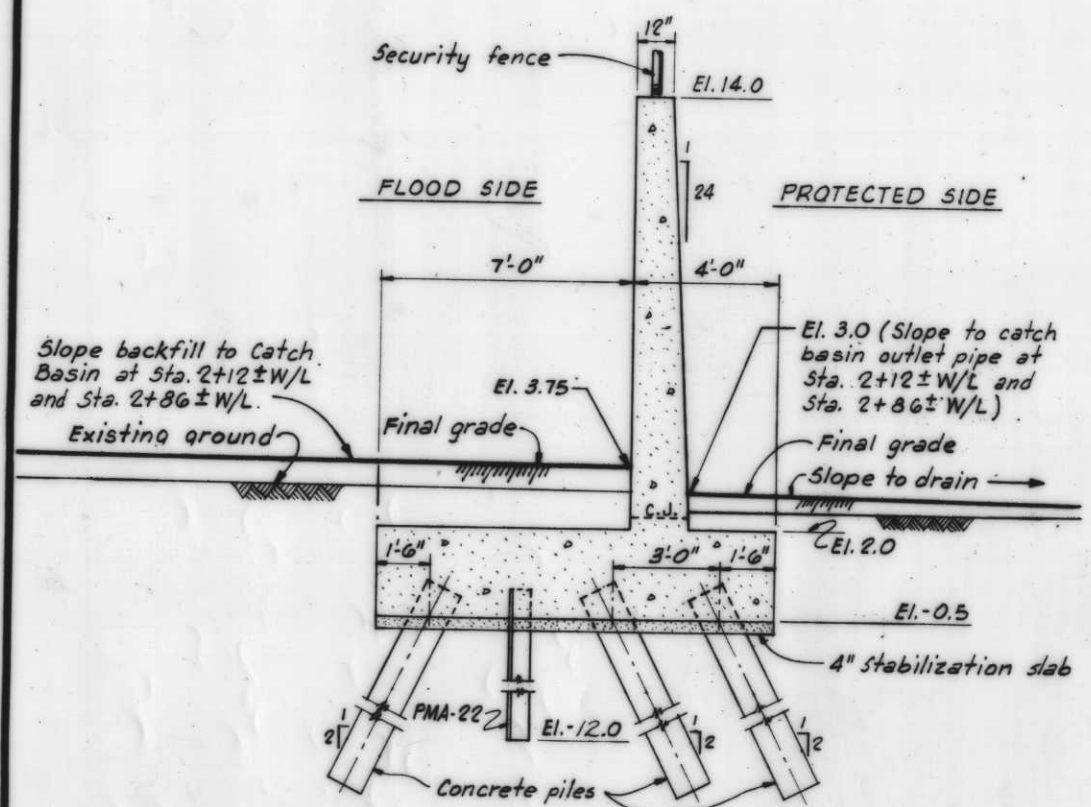


MONOLITH  
4

STATIONS  
1+23 W/L TO 1+48 W/L

T-TYPE WALL  
Scale: 3/8" = 1'-0"

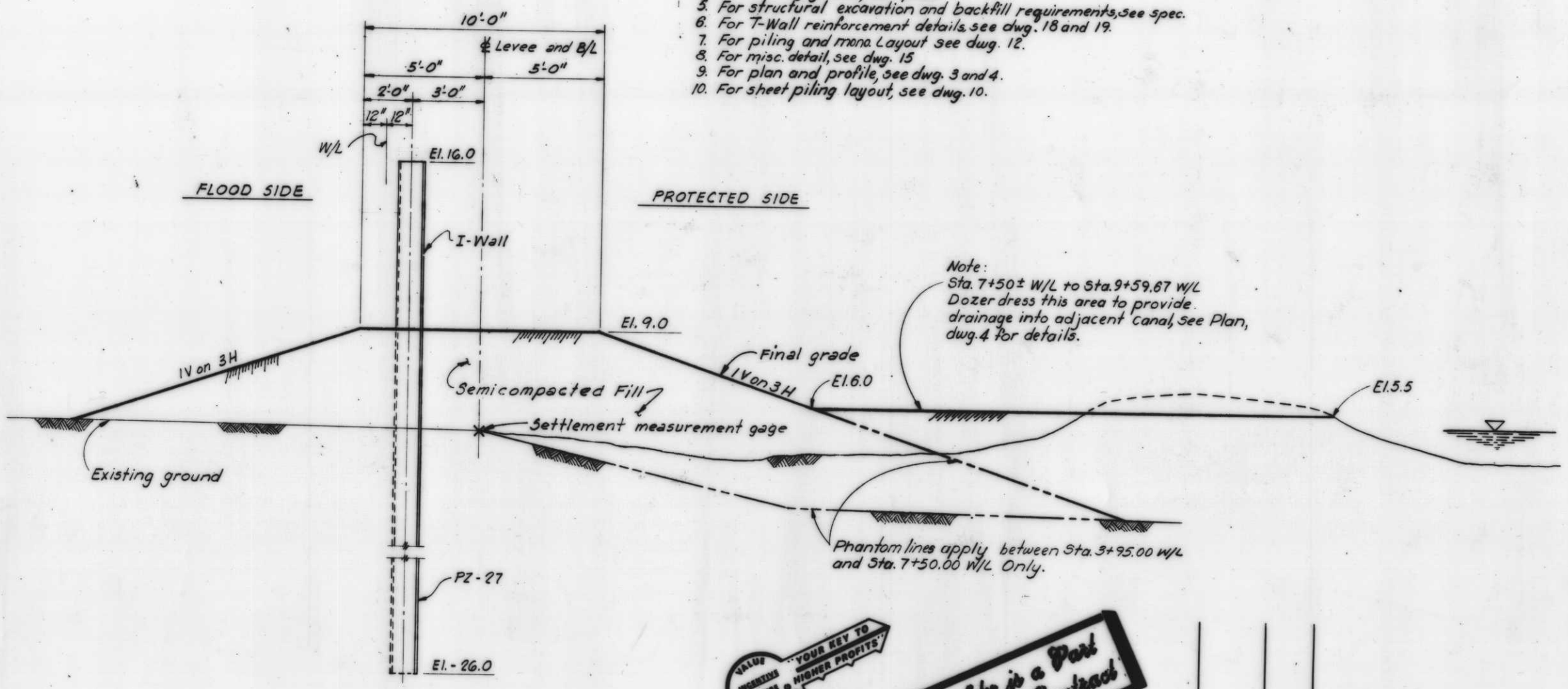
- Notes:
1. All holes in sheet piling for reinforcing shall not exceed 2" dia.
  2. For general notes, see dwg. 5.
  3. For settlement measurement gage note, see dwg. 7.
  4. For existing grades, see plan.
  5. For structural excavation and backfill requirements, see spec.
  6. For T-Wall reinforcement details, see dwg. 18 and 19.
  7. For piling and mono layout, see dwg. 12.
  8. For misc. detail, see dwg. 15.
  9. For plan and profile, see dwg. 3 and 4.
  10. For sheet piling layout, see dwg. 10.



MONOLITHS  
6-9

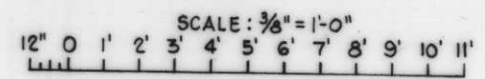
STATIONS  
2+01 W/L TO 3+95 W/L

T-TYPE WALL  
Scale: 3/8" = 1'-0"



STATIONS  
3+95.00 W/L TO 9+59.67 W/L

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

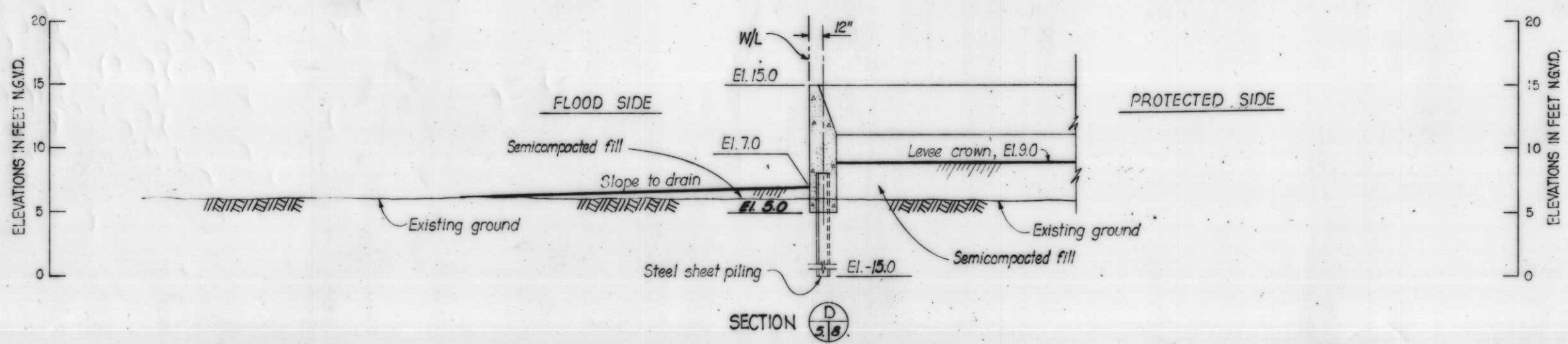
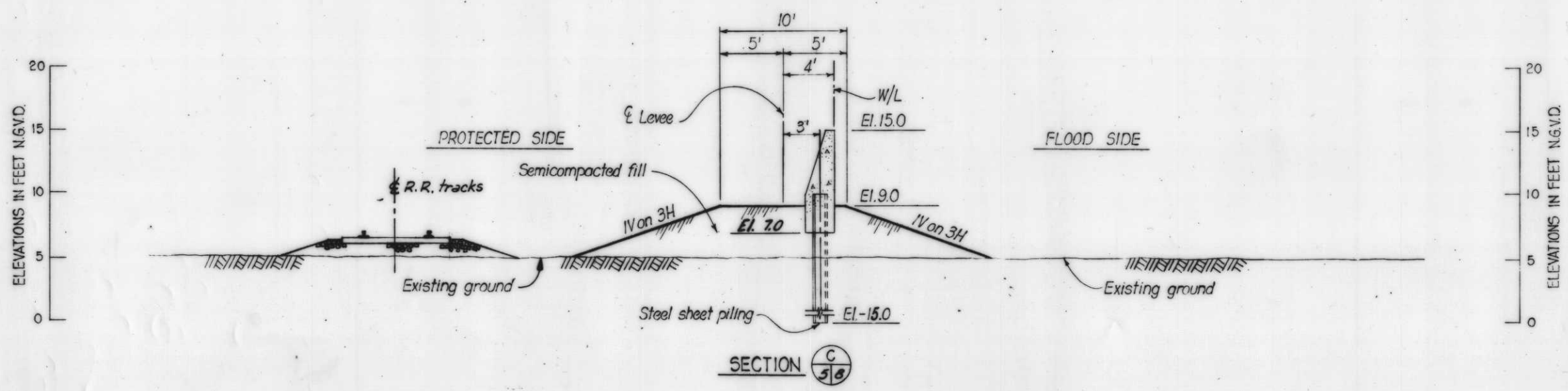
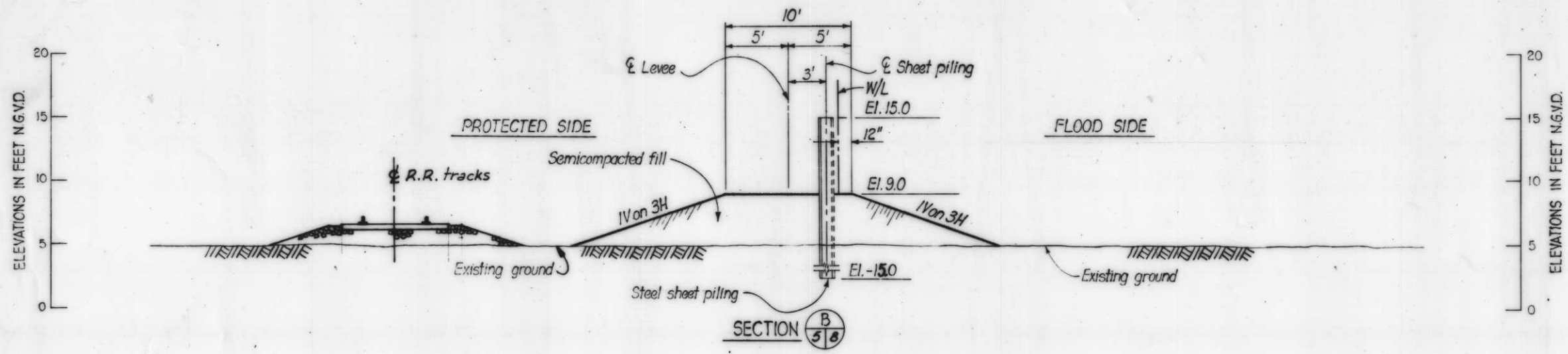
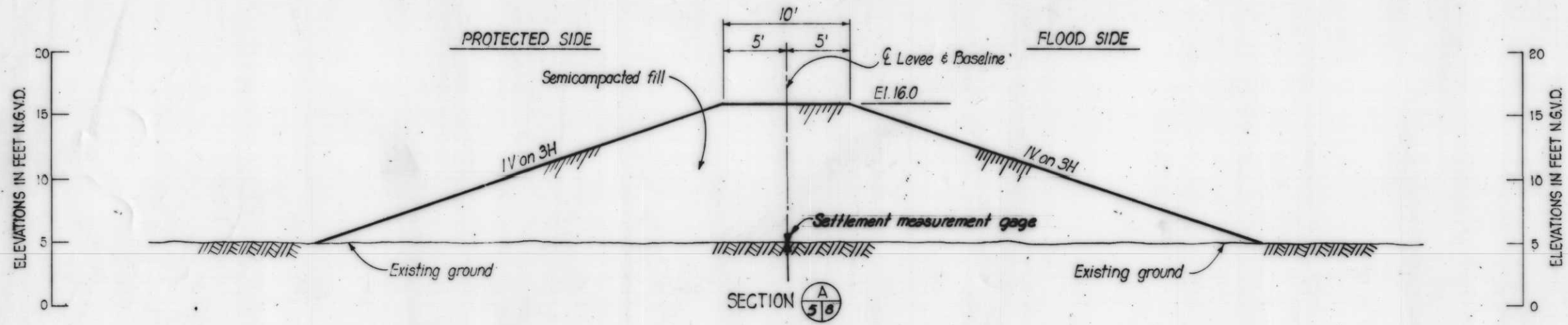


| REVISION   | DATE   | DESCRIPTION | BY        |
|--|--------|-------------|-----------|
| U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.   |        |             |           |
| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA.<br>T-WALL AND I-WALL SECTIONS |        |             |           |
| DESIGNED   | DRAWN  | CHECKED     | DATE      |
| R.J.G.   | H.J.H. | J.G.B.      | JAN. 1982 |
| SCALE: AS SHOWN  |        |             | FILE NO.  |
| DACW29-82-B-0033   |        |             | H-4-27147 |
| SHEET NO. 6  |        |             | 44        |

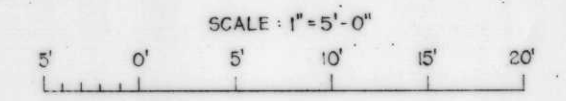




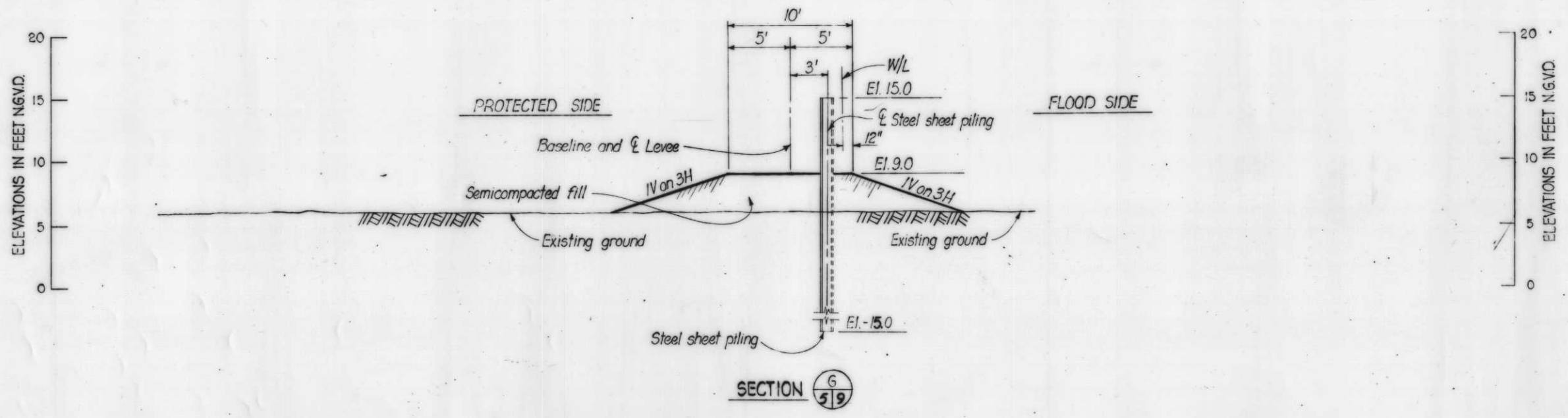
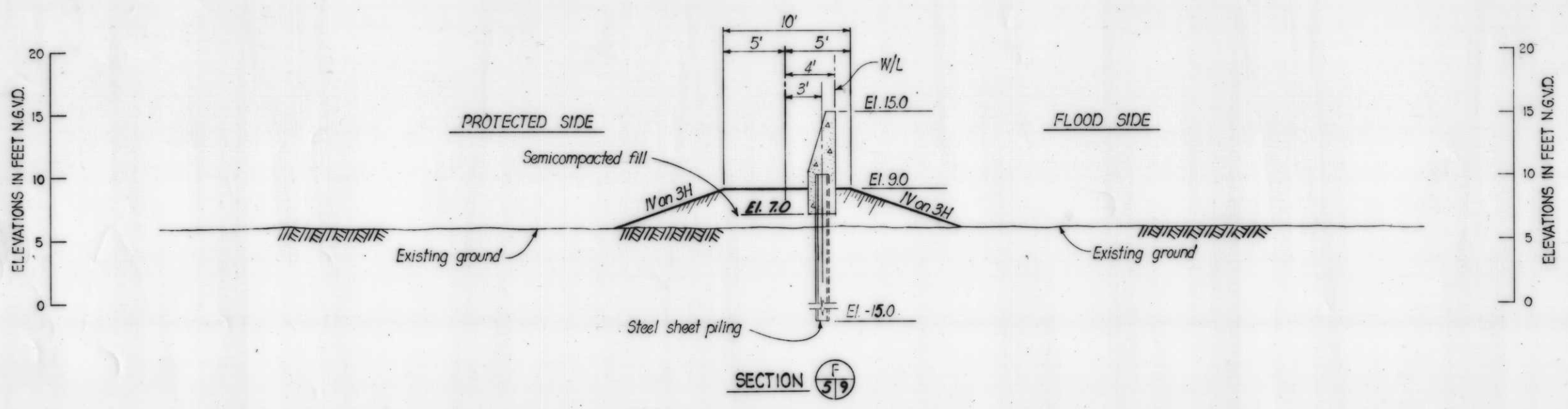
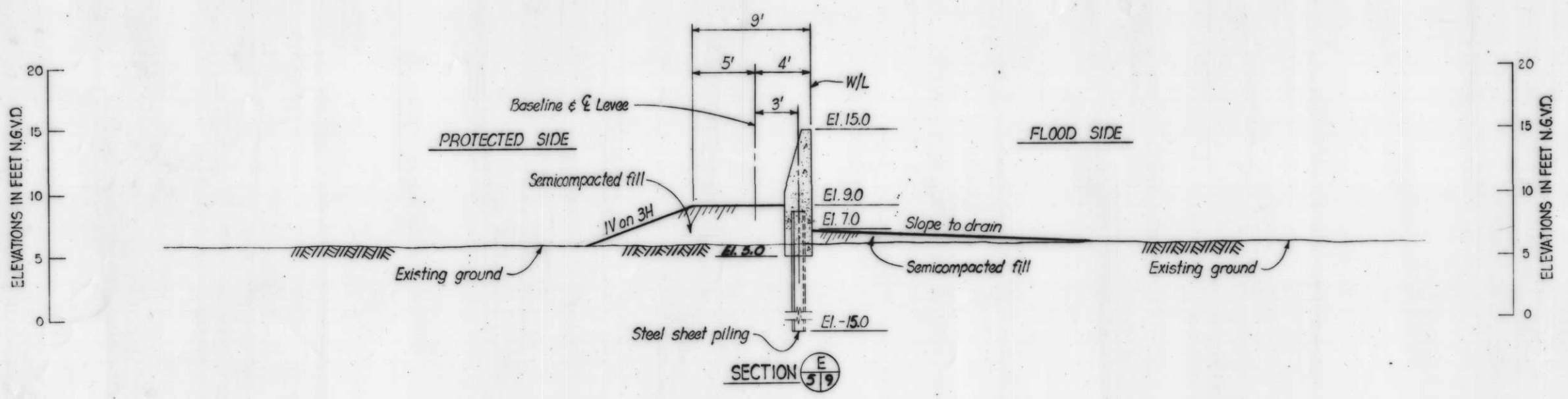




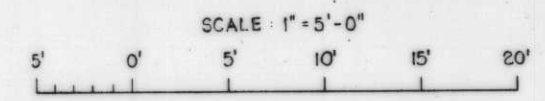
**NOTES:**  
 1. For existing grades, see Plan, *dwg. 5.*  
 2. For structural excavation and backfill requirements, see specifications.



|  |      |        |           |                  |           |
|--|------|--------|-----------|------------------|-----------|
| U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.   |      |        |           |                  |           |
| LAKE FORTCHAMPAGNE LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE - NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA. |      |        |           |                  |           |
| <b>I-WALL AND LEVEE SECTIONS</b>   |      |        |           |                  |           |
| J.A.R.   | B.H. | J.A.R. | JAN. 1968 | NO. 00000        | H-4-27147 |
|  |      |        |           | PACKED 82-3-0033 | 8 - 44    |

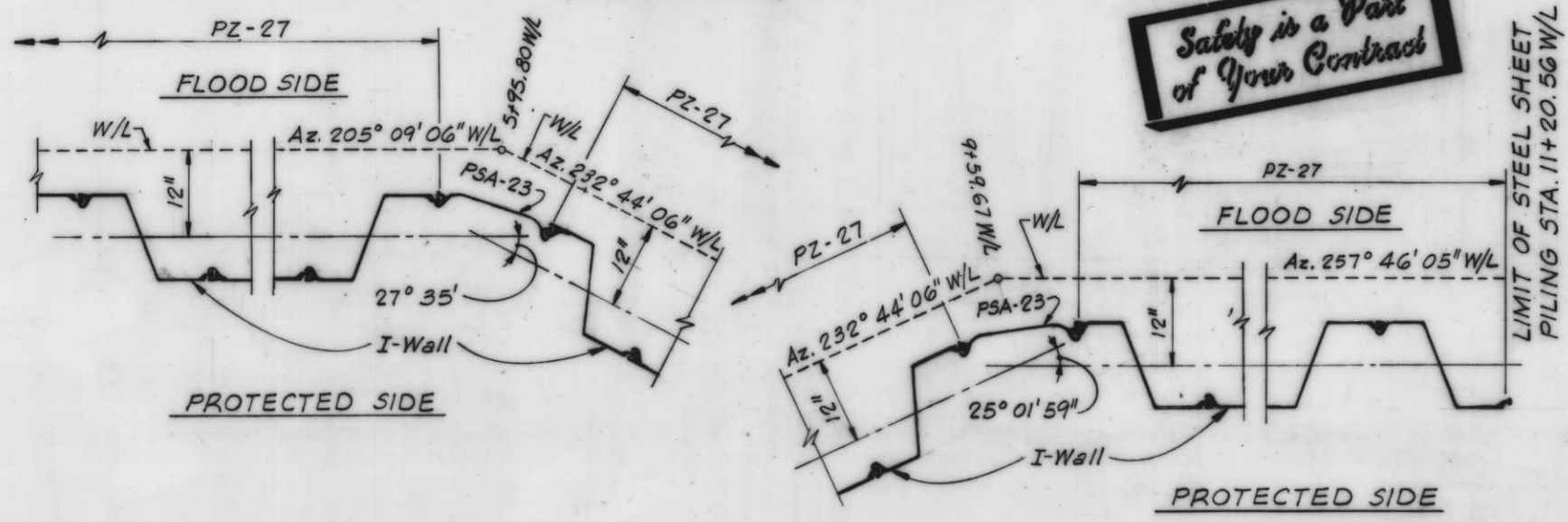
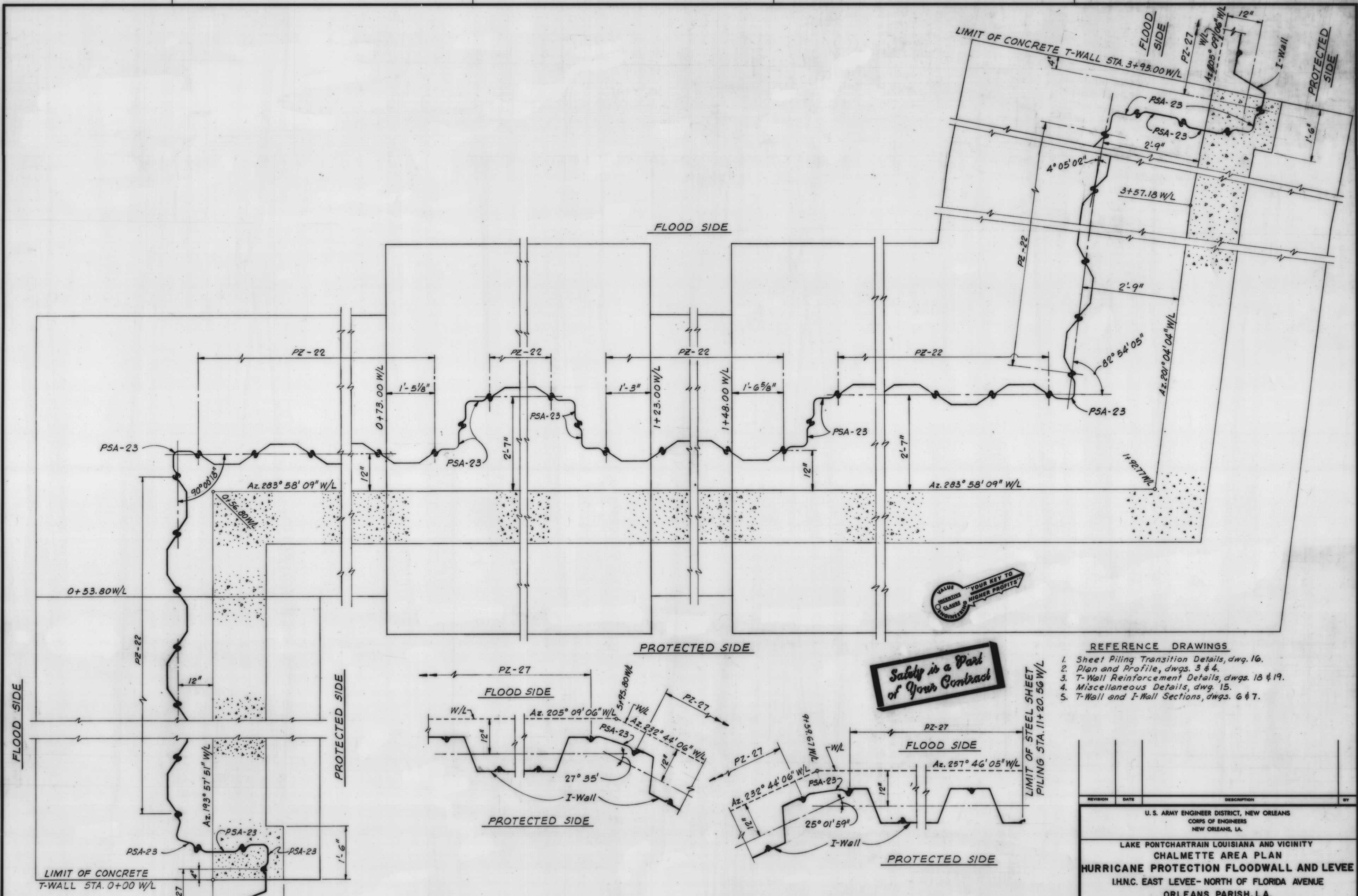


NOTES:  
 1. For existing grades, see Plan, dwg. 5.  
 2. For structural excavation and backfill requirements, see specifications.



|  |          |            |           |             |           |
|--|----------|------------|-----------|-------------|-----------|
| U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>OFFICE OF ENGINEER<br>NEW ORLEANS, LA.  |          |            |           |             |           |
| LAKE PORTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA. |          |            |           |             |           |
| <b>I-WALL AND LEVEE SECTIONS</b>   |          |            |           |             |           |
| DESIGNED BY  | DRAWN BY | CHECKED BY | DATE      | PROJECT NO. | FIG. NO.  |
| JAR  | B.W.     | JAR        | JAN. 1962 | 44-00000    | H-4-27147 |
| APPROVED BY  |          |            |           | DATE        | FIG. NO.  |
| [Signature]  |          |            |           |             | 2 - 44    |





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- REFERENCE DRAWINGS**
1. Sheet Piling Transition Details, dwg. 16.
  2. Plan and Profile, dwgs. 3 & 4.
  3. T-Wall Reinforcement Details, dwgs. 18 & 19.
  4. Miscellaneous Details, dwg. 15.
  5. T-Wall and I-Wall Sections, dwgs. 6 & 7.

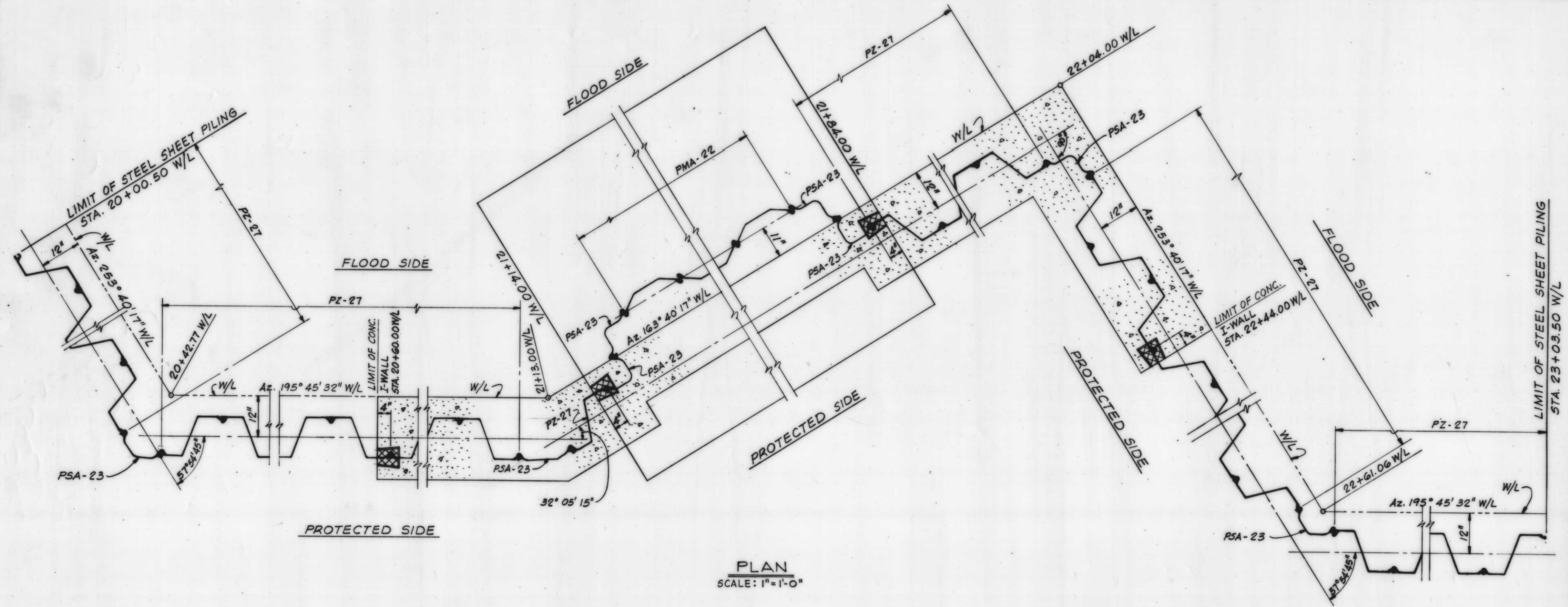
LIMIT OF STEEL SHEET PILING STA. -0+01.17 W/L

**PLAN**  
Scale: 1"=1'-0"  
12" 0 1' 2' 3'

- NOTES:**
1. All holes in sheet piling for reinforcing shall not exceed 2" dia.
  2. For General Notes, see dwg. 5

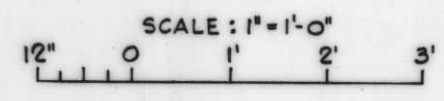
| REVISION  | DATE          | DESCRIPTION     | BY                 |
|---|---------------|-----------------|--------------------|
| U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.  |               |                 |                    |
| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA.<br>SHEET PILING LAYOUT |               |                 |                    |
| DESIGNED: R.J.Gr.   | DRAWN: G.P.T. | CHECKED: J.G.B. | DATE: JAN. 1962    |
| SCALE: AS SHOWN   |               |                 | FILE NO. H-4-27147 |
| SPEC. NO. DACW29-82-B-0033  |               |                 | CHG. 10 - 44       |
| AS CONSTRUCTED  |               |                 |                    |





PLAN  
SCALE: 1" = 1'-0"

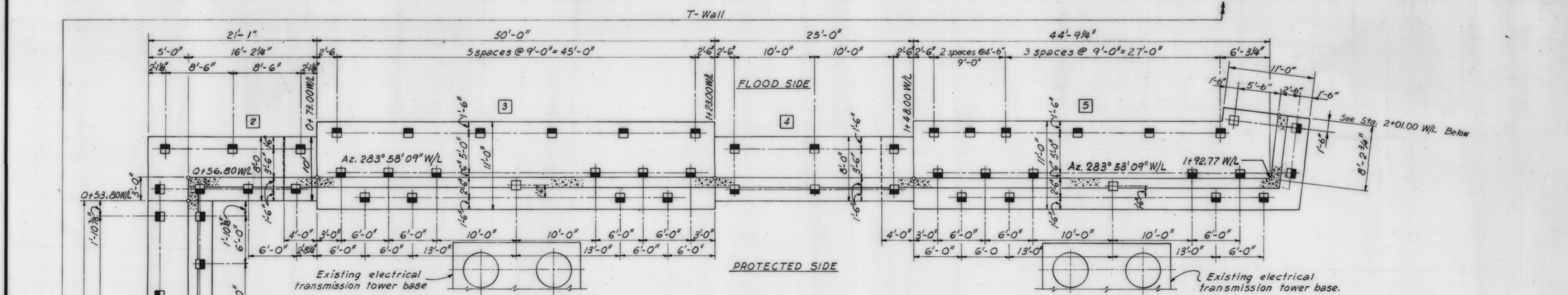
- REFERENCE DRAWINGS
1. Sheet Piling Transition Details, dwg. 17.
  2. Plan and Profile, dwg. 5.
  3. I-Wall Section, dwg. 19.
  4. Gate Monolith, dwgs. 20 & 22.



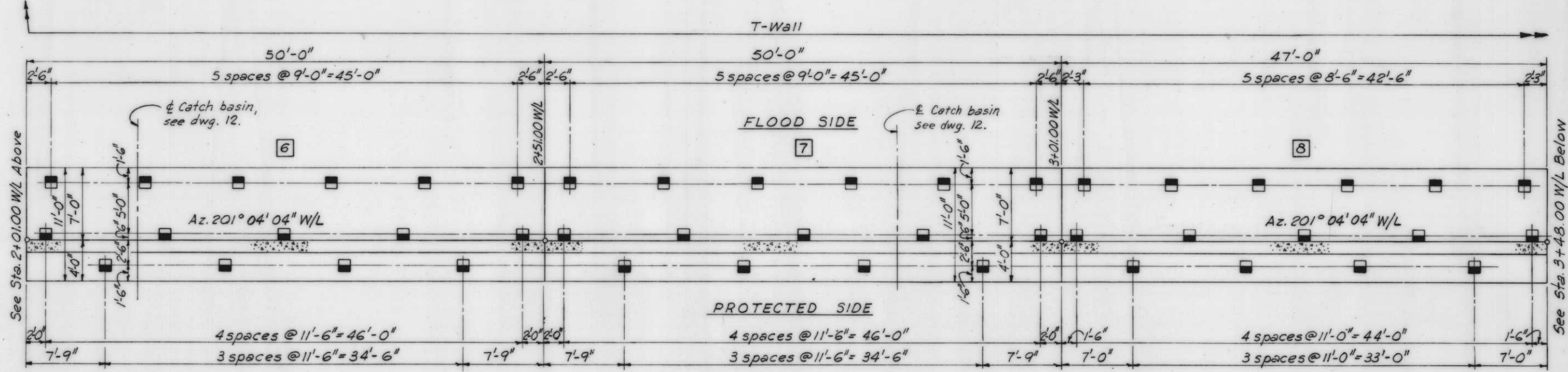
- NOTES
1. All holes in sheet piling for reinforcing shall not exceed 2"  $\phi$ .
  2. For General Notes, see dwg. 5.

|   |                       |  |                   |
|---|-----------------------|--|-------------------|
| REVISION  | DATE                  | DESCRIPTION                            | BY                |
| U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.   |                       |  |                   |
| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA.<br>SHEET PILING LAYOUT |                       |  |                   |
| DESIGNED<br>J.A.R.  | DRAWN<br>M.J.H.       | CHECKED<br>J.A.R.                      | DATE<br>JAN. 1962 |
| SCALE<br>AS SHOWN   | FILE NO.<br>H-4-27147 | SHEET NO.<br>DACW29-62-B-0033 11 of 44 |                   |

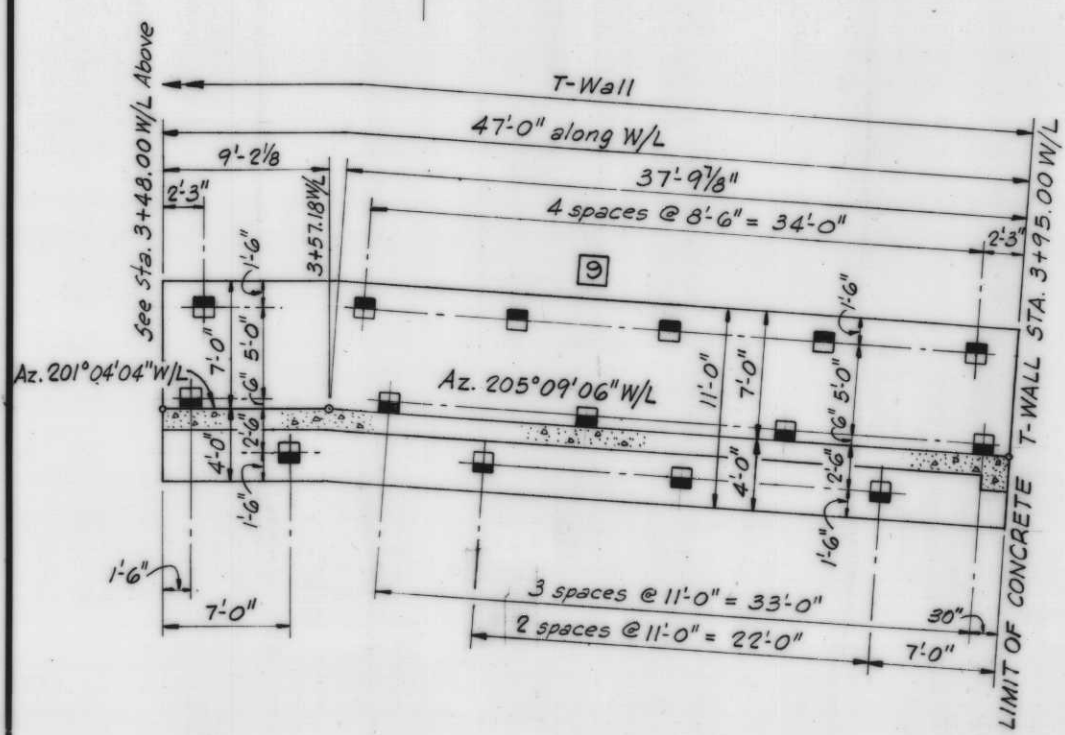




PLAN  
Scale: 3/16" = 1'-0"



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



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

REFERENCE DRAWINGS

- Miscellaneous Details, dwg. 15.
- Plan and Profile, dwg. 3 & 4
- T-Wall and I-Wall Sections, dwg. 6.
- I-Wall and Levee Sections, dwg. 7.
- Prestressed Concrete Pile Detail, dwg. 13.

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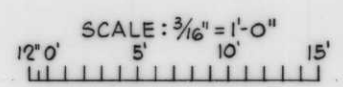
LEGEND

- 14" x 14" Prestressed concrete batter piles, shaded side indicates direction of batter.
- 14" x 14" Prestressed concrete vertical piles.

NOTES:

- For General Notes, see dwg. 5.
- For Pile batters see Concrete Pile Schedule.
- Ⓜ Denotes monolith number.
- For pile layout on gate monoliths 105 and 106, see dwgs. 20 & 22.

**THIS PLAN ACCOMPANIES MODIFICATION P0001 TO CONTRACT NUMBER DACW29-82-C-0246**



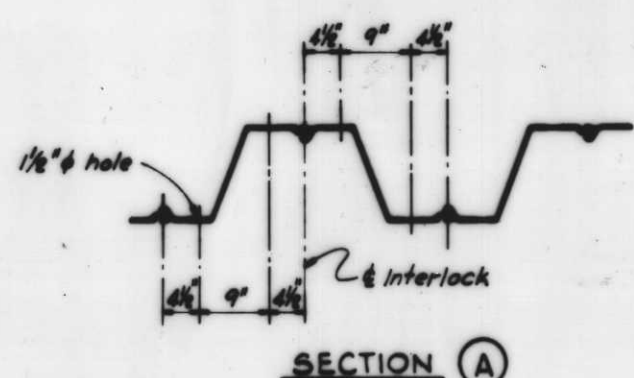
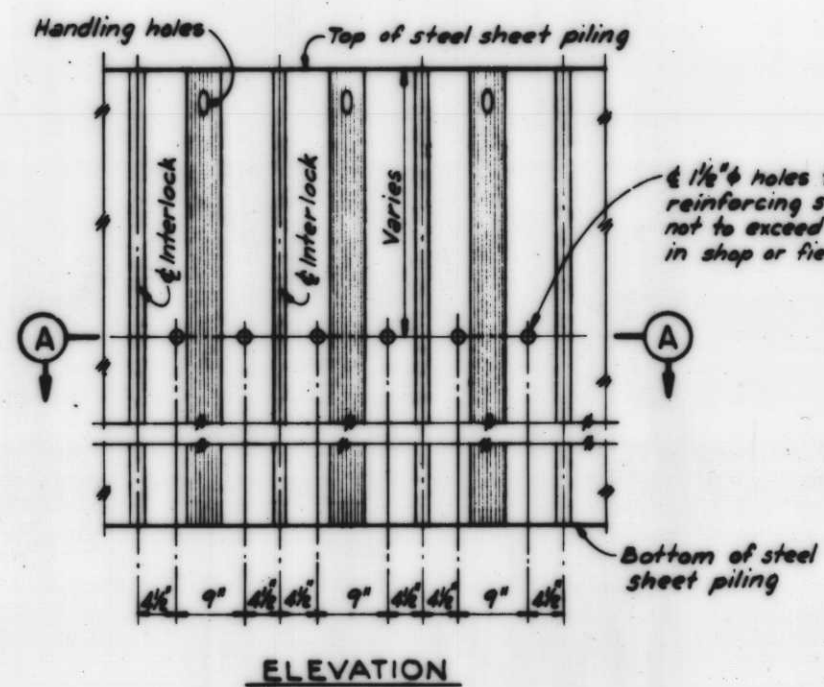
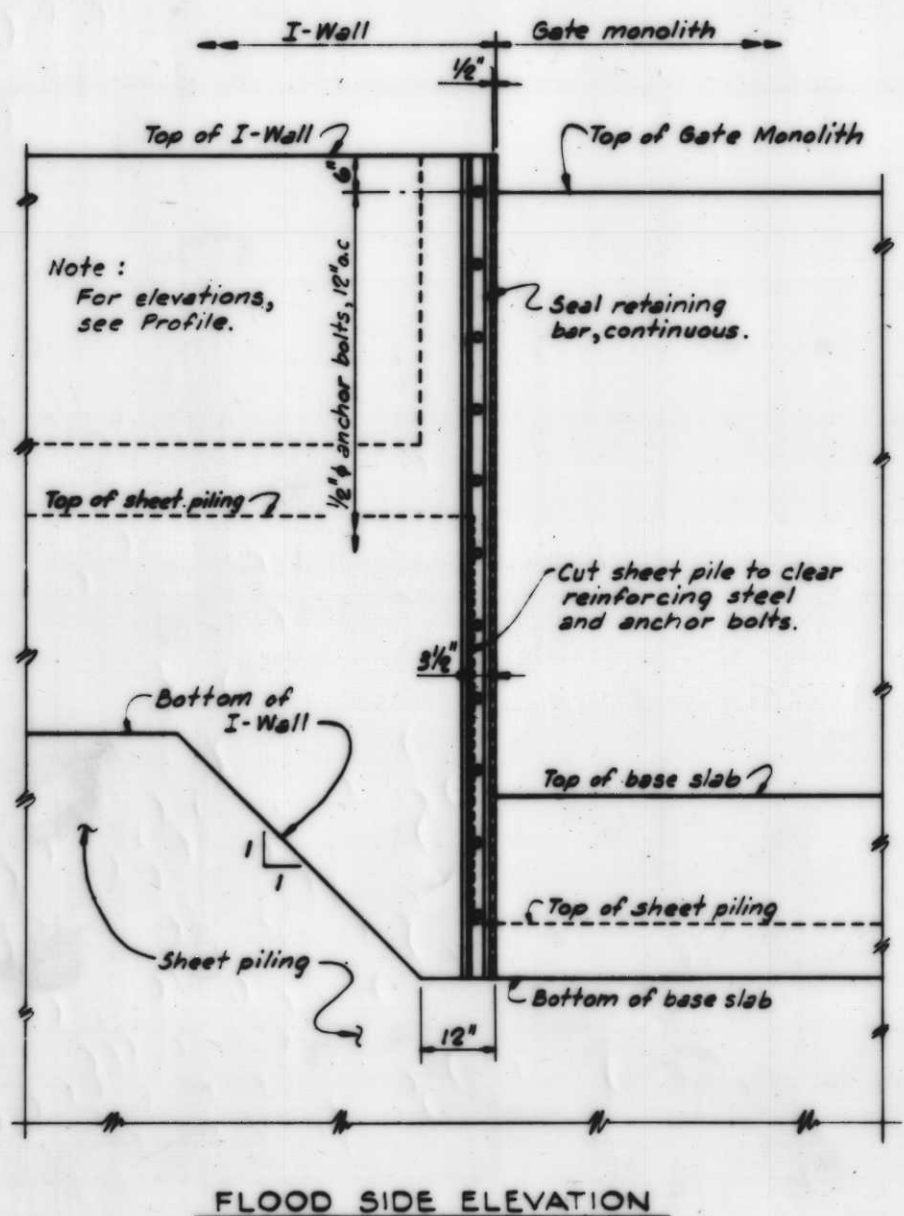
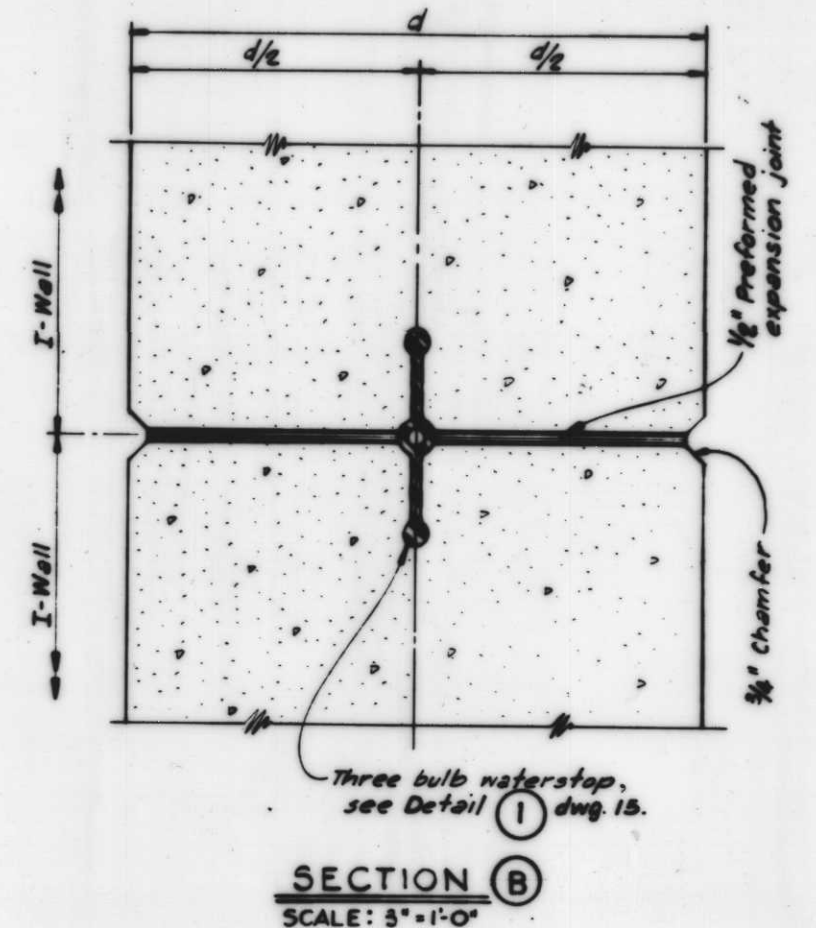
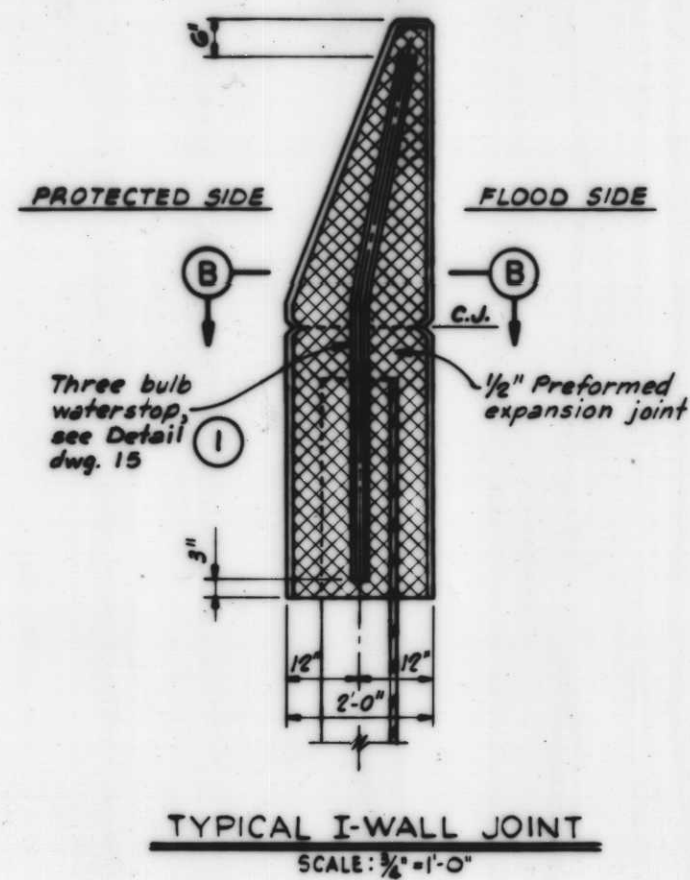
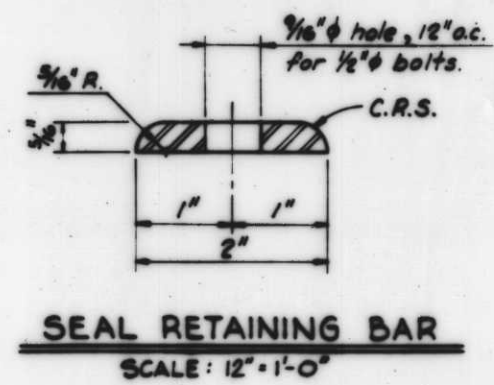
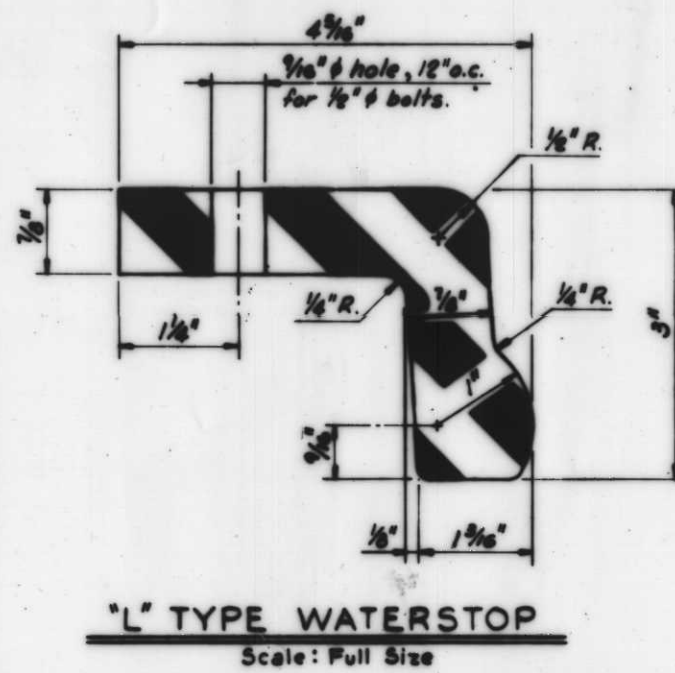
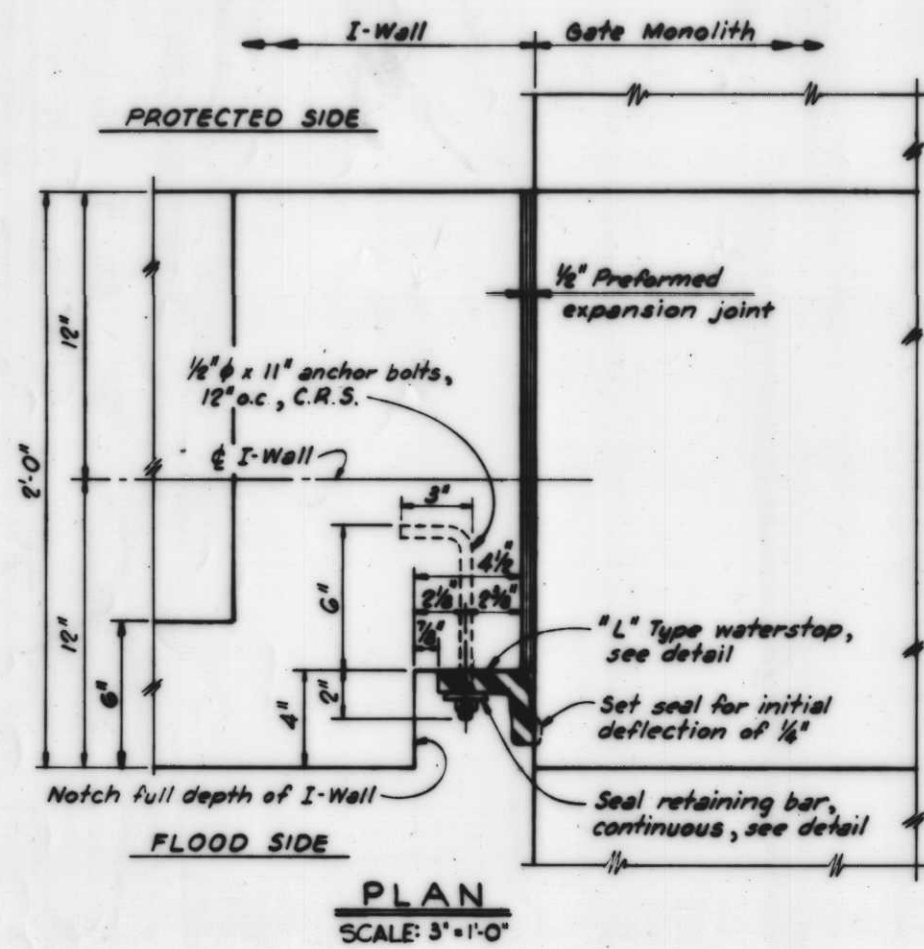
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| REVISION   | DATE   | DESCRIPTION                         | BY        |
| 4-6-82   |        | Revise note on Pile Batters Mod. #1 | L.T.      |
| U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.   |        |                                     |           |
| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA.<br>PILING AND MONOLITH LAYOUT |        |                                     |           |
| DESIGNED:  | DRAWN: | CHECKED:                            | DATE:     |
| R.J.Gr.  | G.P.T. | J.G.B.                              | JAN. 1982 |
| SCALE:   |        |                                     | FILE NO.  |
| AS SHOWN   |        |                                     | H-4-27147 |
| SPEC. NO.  |        | DWS. 12 OF 44                       |           |
| DACW29-82-B-0033   |        |                                     |           |

AS CONSTRUCTED

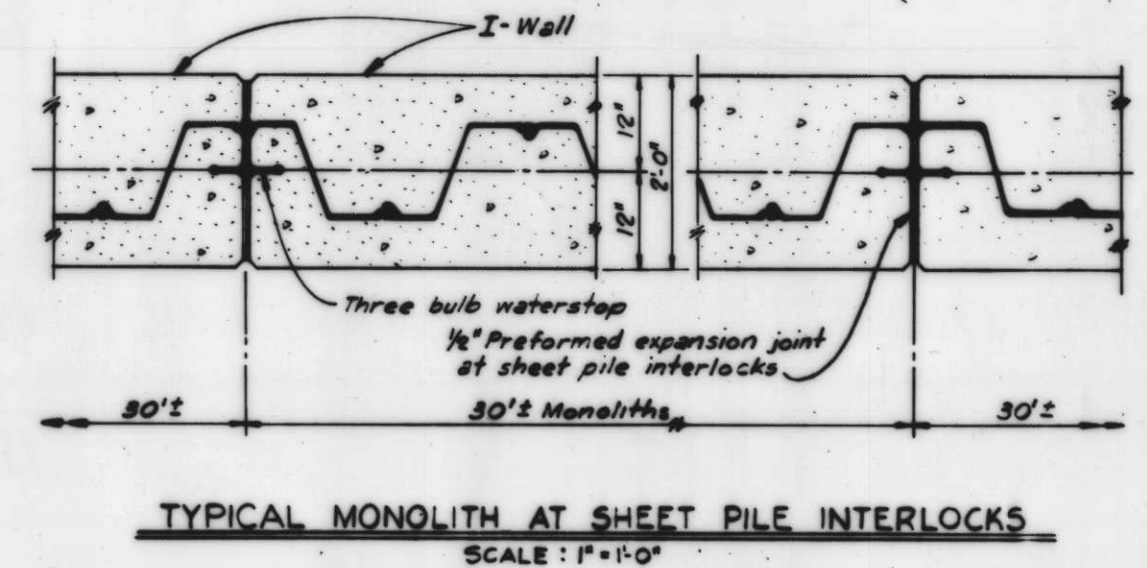






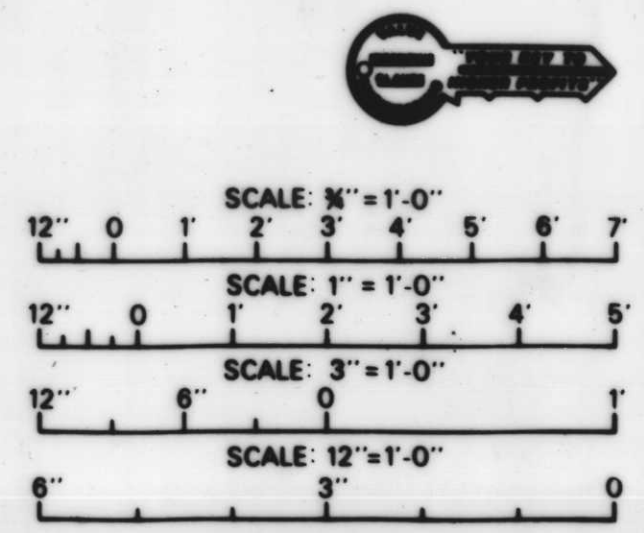


Note:  
I-Wall monoliths shall be 30'± unless otherwise indicated on the profile. Each monolith shall end at center of nearest sheet pile interlock.



TYPICAL JOINT BETWEEN I-WALL AND GATE MONOLITH  
SCALE: 1/4" = 1'-0"

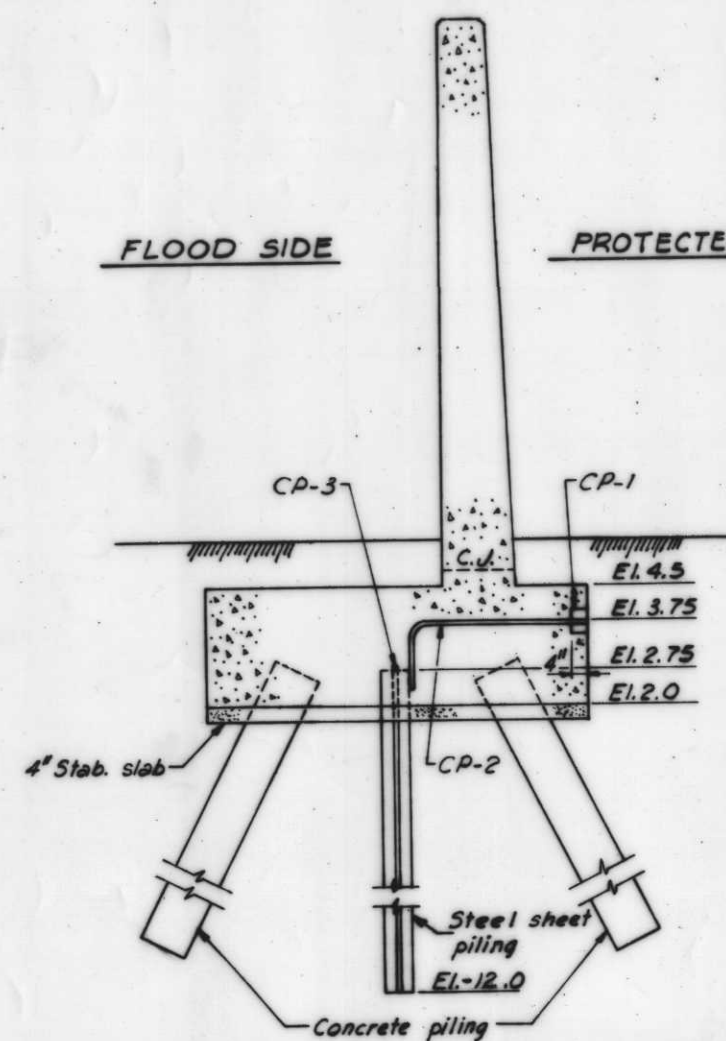
DETAIL OF PRECUT HOLES IN PZ-27 SHEET PILING  
SCALE: 1" = 1'-0"



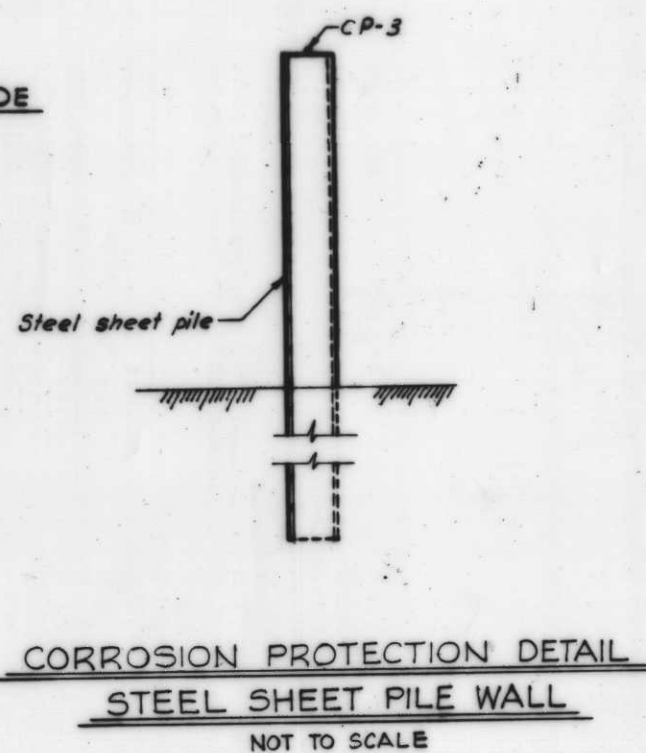
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|  |        |        |           |              |                    |
|--|--------|--------|-----------|--------------|--------------------|
| U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.   |        |        |           |              |                    |
| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA. |        |        |           |              |                    |
| <b>TYPICAL WALL JOINTS</b>   |        |        |           |              |                    |
| J.A.R.   | B.H.D. | J.A.R. | JAN. 1962 | GROUP NO. 08 | FILE NO. H-4-27147 |
| DRAWN BY: [Signature]  |        |        |           | DATE: 14     | 44                 |

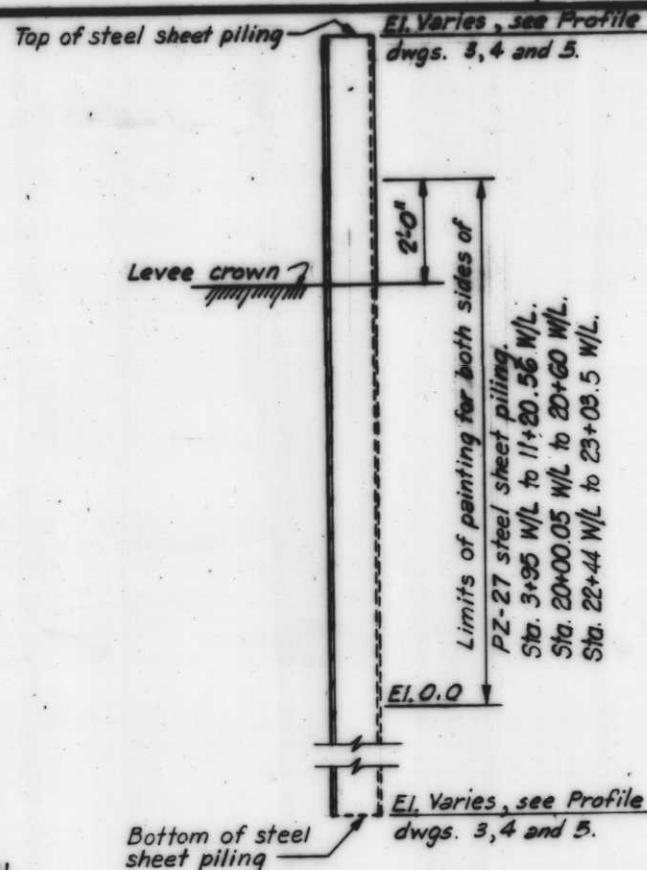




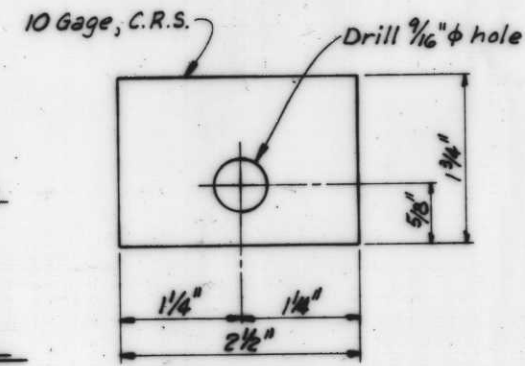
**CORROSION PROTECTION DETAIL T-TYPE WALL**  
Scale: 1/2" = 1'-0"



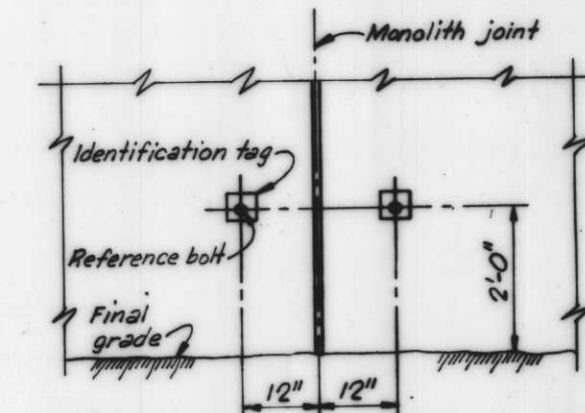
**CORROSION PROTECTION DETAIL STEEL SHEET PILE WALL**  
NOT TO SCALE



**PAINTING DETAIL STEEL SHEET PILE WALL**  
Scale: 1/2" = 1'-0"



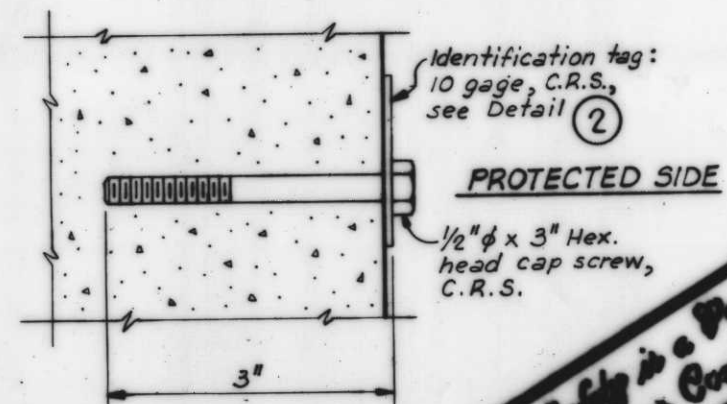
**DETAIL 2 IDENTIFICATION TAG**  
Scale: 12" = 1'-0"



**TYPICAL ELEVATION OF SETTLEMENT REFERENCE MARKER**  
NOT TO SCALE



**DETAIL 1 THREE BULB WATERSTOP**  
Scale: 12" = 1'-0"

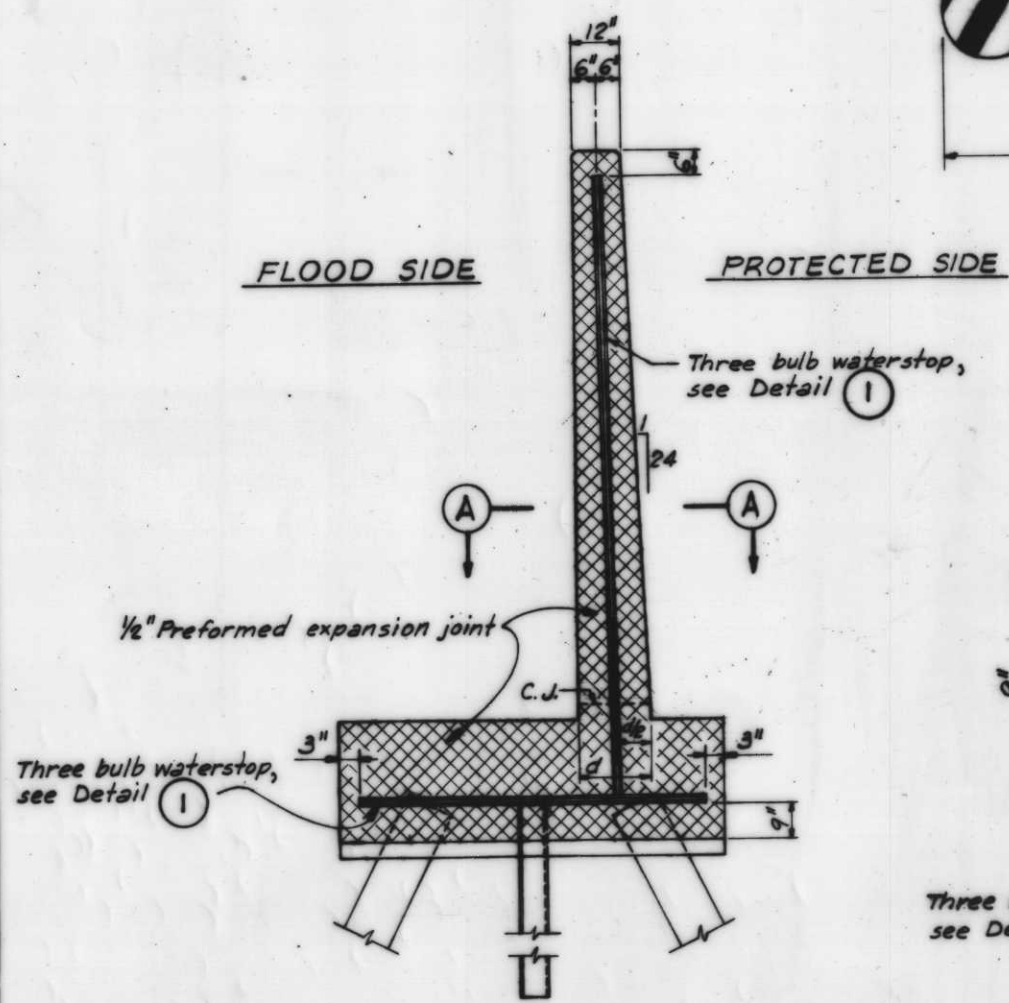


**REFERENCE BOLT**  
NOT TO SCALE

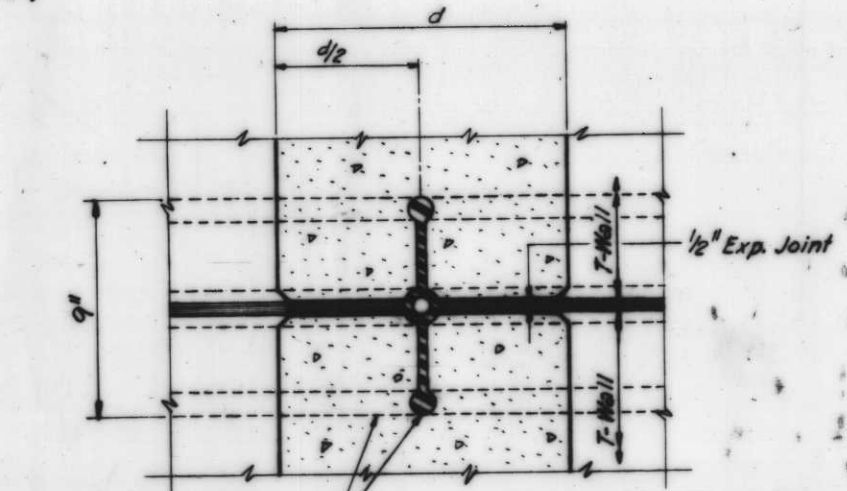
**Safety is a Part of Your Contract**

| SETTLEMENT REFERENCE MARKER SCHEDULE |               |
|--------------------------------------|---------------|
| S.R.M. NO.                           | W/L STATION * |
| 1                                    | 0+01.00       |
| 2                                    | 3+94.00       |
| 3                                    | 20+61.00      |
| 4                                    | 21+13.00      |
| 5                                    | 21+15.00      |
| 6                                    | 21+83.00      |
| 7                                    | 21+85.00      |
| 8                                    | 22+45.00      |

\* Monolith joints fall at steel sheet pile interlocks. W/L stations are approximate. Locate reference bolts at nearest W/L station to those shown.



**TYPICAL T-WALL JOINT**  
Scale: 3/4" = 1'-0"



**SECTION A**  
Scale: 3" = 1'-0"



- LEGEND**
- CP-1 6" std. iron body trapscrew ferrule w/ brass plug and countersunk nut. The ferrule will be located at Sta. 1+40+11.2.
  - CP-2 #6 reinf. bar welded to sheet pile and terminated in the ferrule within 1/2" of the cover.
  - CP-3 #6 reinforcing bar to be welded to the top of each steel sheet pile. #6 reinforcing bar shall not extend across the monolith joint. Install flexible jumper at all T-Wall and I-Wall joints and at all transitions from T-Wall or I-Wall to steel sheet piling. Jumpers shall be insulated No. 1/0 AWG Copper, type USE, insulated with a minimum of 95 mils of cross linked polyethylene in a 3" loop. Jumpers shall be welded as specified to adjacent steel piles 12" below the bottom of base slab for T-Wall joints, 3" below bottom of concrete caps for I-Wall joints and at transitions from T-Wall or I-Wall to steel sheet piling. Welded connections shall be coated with splicing epoxy to obtain moisture proof joint. See specifications.

- REFERENCE DRAWINGS**
- T-Wall and I-Wall Sections, dwgs. 6 & 7.
  - Sheet Piling Layout, dwg. 10.
  - Sheet Piling Transition Details, dwg. 16.
  - T-Wall Reinforcement Details, dwgs. 18 & 19.

- NOTES:**
- For General Notes, see dwg. 5.
  - All holes cut in steel sheet piling for reinforcing steel shall not exceed 2" φ. All holes cut through steel sheet piling shall miss interlocks.



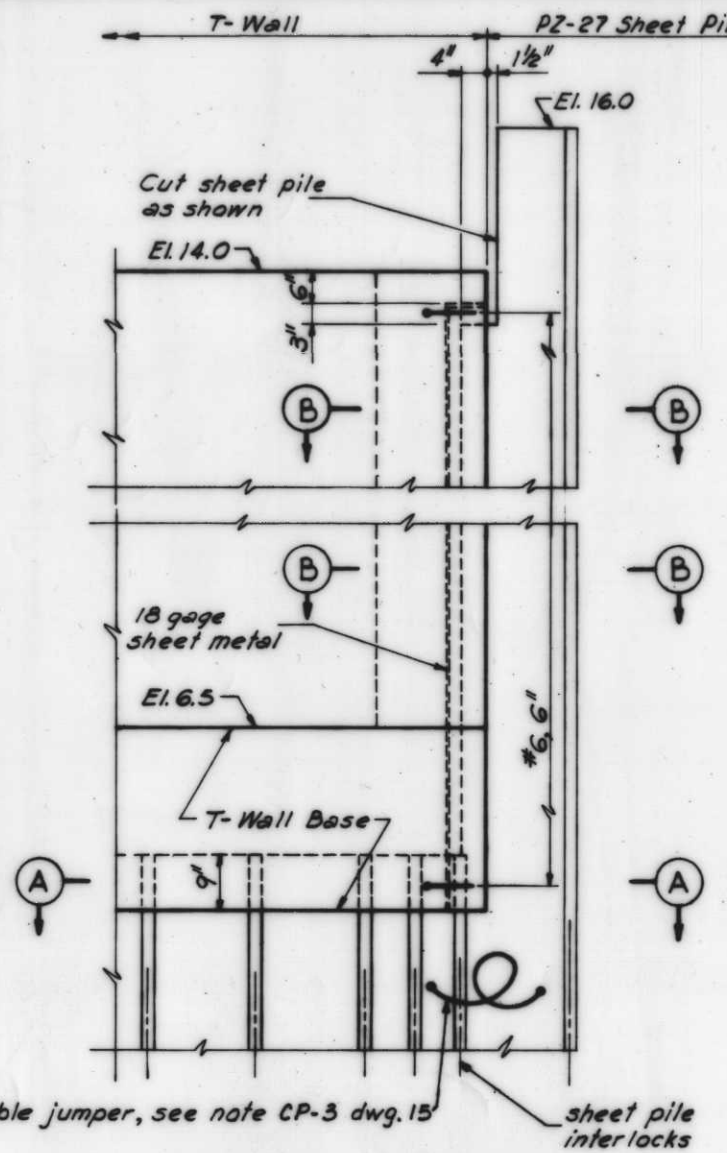
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS  
CORPS OF ENGINEERS  
NEW ORLEANS, LA.

LAKE PONTCHARTRAIN LOUISIANA AND VICINITY  
CHALMETTE AREA PLAN  
HURRICANE PROTECTION FLOODWALL AND LEVEE  
I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE  
ORLEANS PARISH, LA.

**MISCELLANEOUS DETAILS**

|               |        |         |                  |             |           |
|---------------|--------|---------|------------------|-------------|-----------|
| DESIGNED      | DRAWN  | CHECKED | DATE             | SCALE       | FILE NO.  |
| J.G.B.        | G.R.T. | R.J.Gr. | JAN. 1962        | AS SHOWN    | H-4-27147 |
| APPROVED      |        |         | SPEC. NO.        | DRAWING NO. |           |
| Robert L. ... |        |         | DACW29-82-B-0033 | 15 - 44     |           |

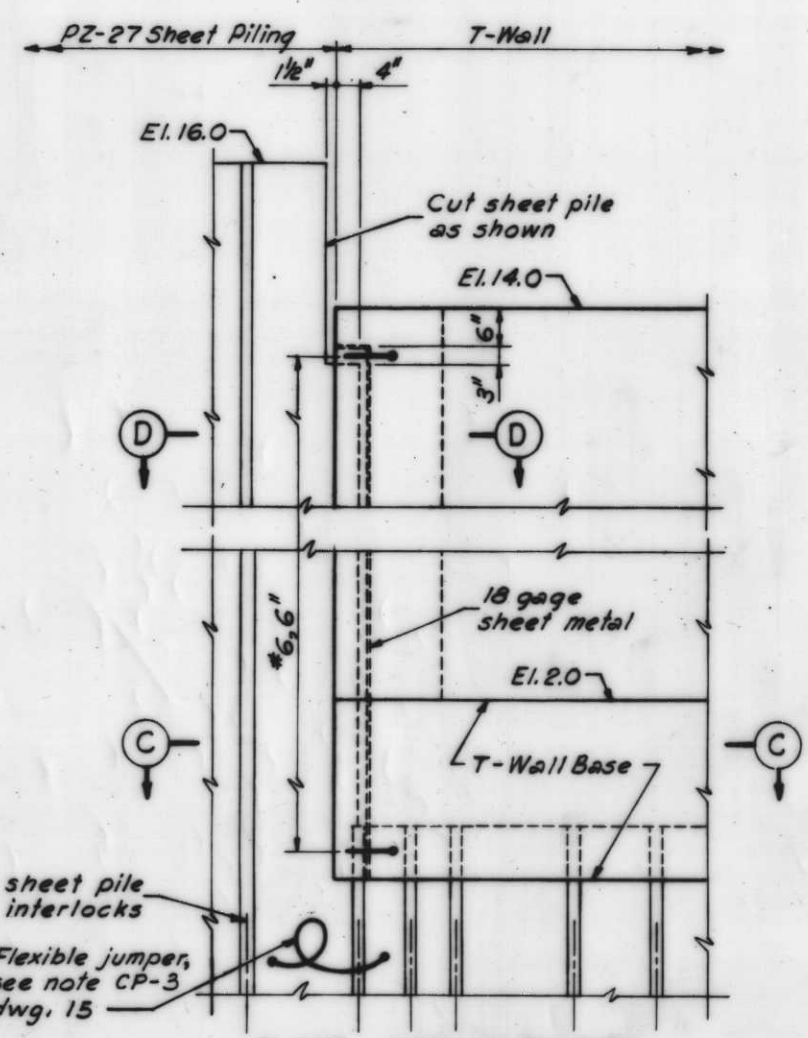




FLOOD SIDE ELEVATION  
STA. 0+00 W/L

DETAIL OF TRANSITION FROM T-WALL TO STEEL SHEET PILING

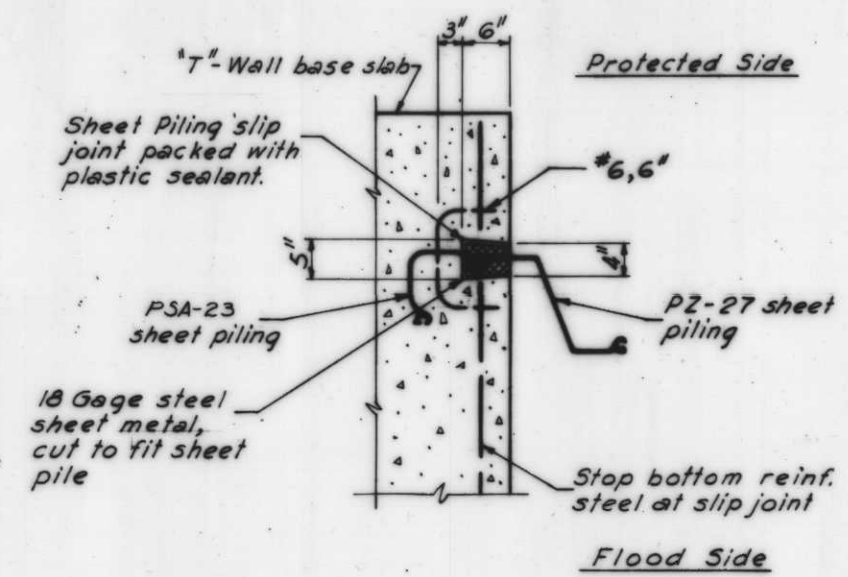
SHEET PILING  
Scale: 3/4" = 1'-0"



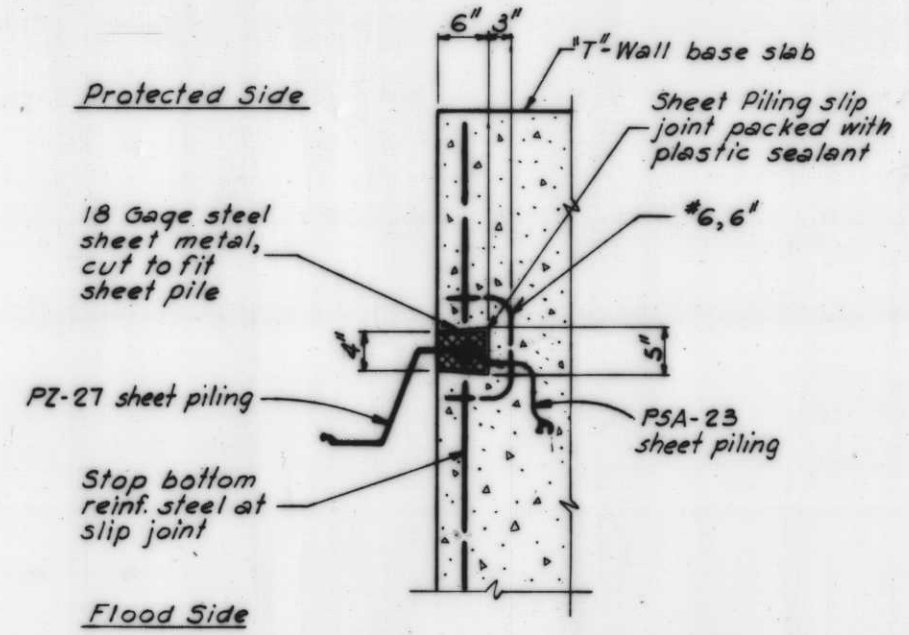
FLOOD SIDE ELEVATION  
STA. 3+95 W/L

DETAIL OF TRANSITION FROM T-WALL TO STEEL SHEET PILING

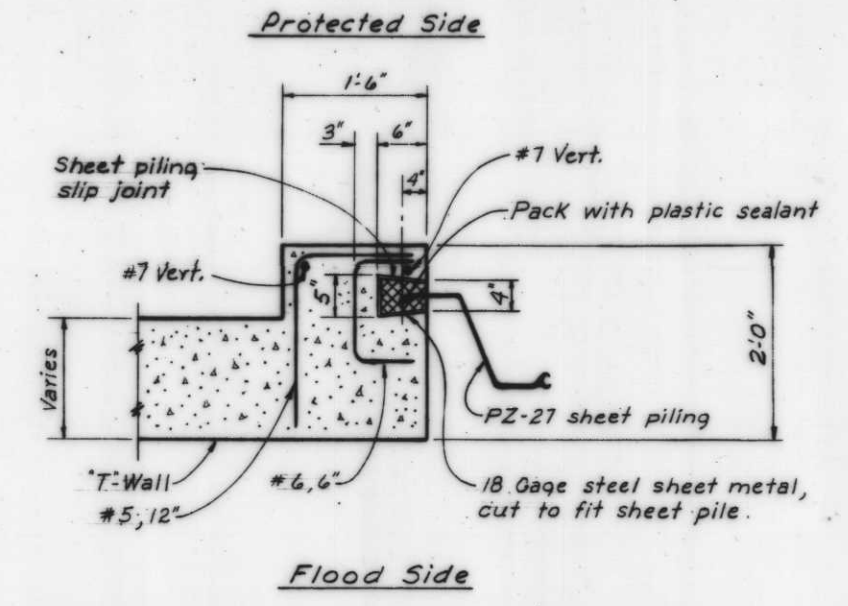
Scale: 3/4" = 1'-0"



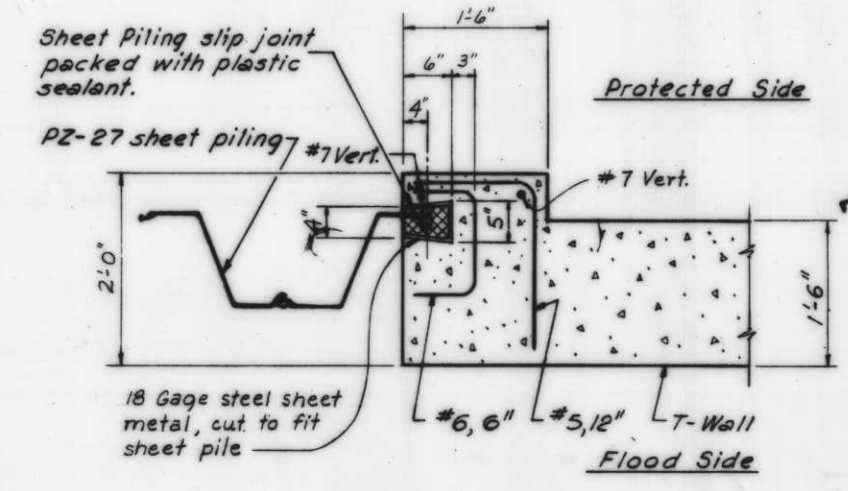
SECTION A  
Scale: 1" = 1'-0"



SECTION C  
Scale: 1" = 1'-0"



SECTION B  
Scale: 1" = 1'-0"

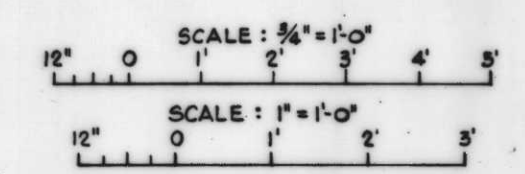


SECTION D  
Scale: 1" = 1'-0"



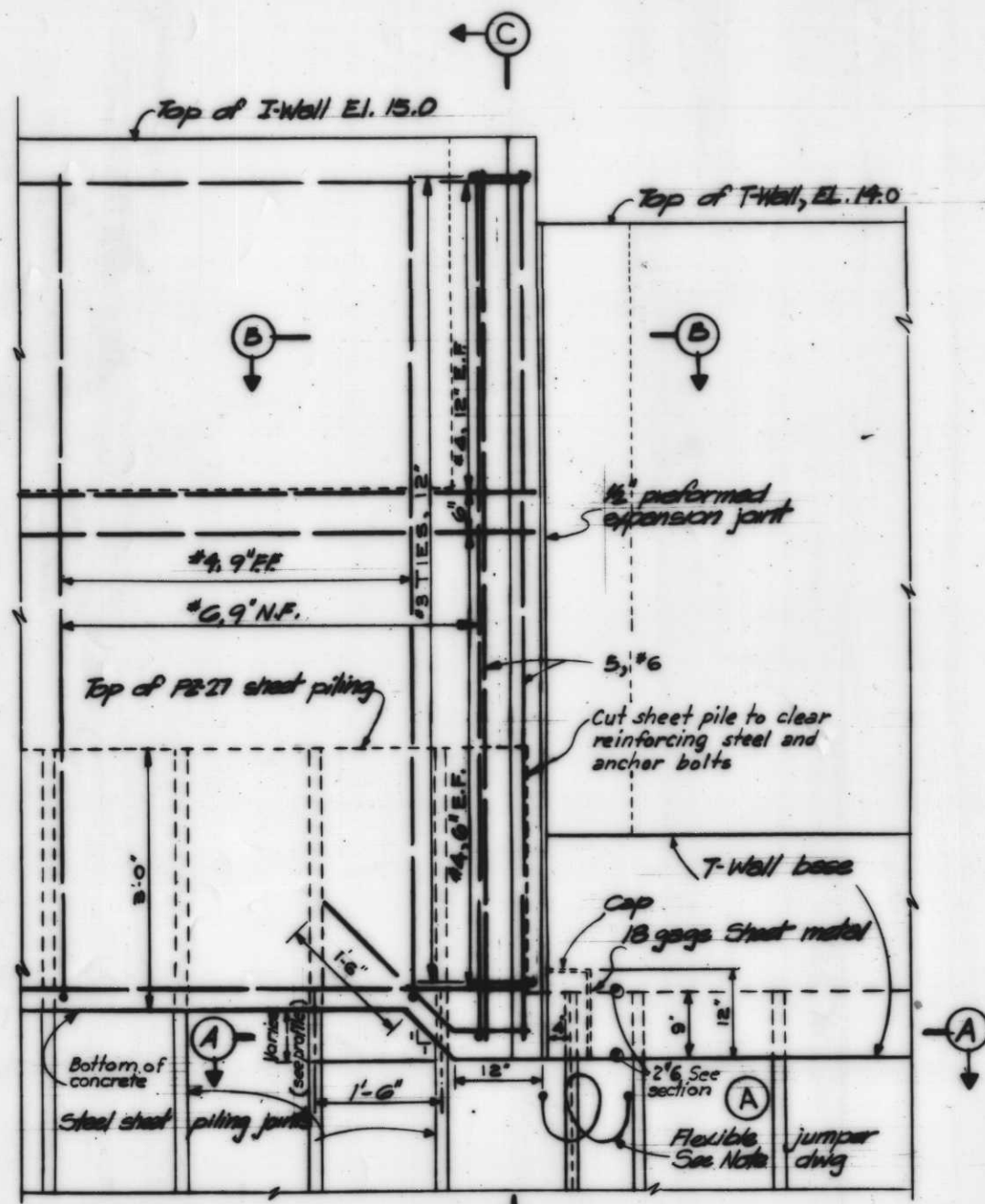
NOTE:  
1. For General Notes, see dwg. 5.

- REFERENCE DRAWINGS
1. Sheet Piling Layout, dwg. 10.
  2. Plan and Profile, dwg. 3 & 4.
  3. T-Wall and I-Wall Sections, dwgs. 6 & 7.
  4. Piling and Monolith Layout, dwg. 12.
  5. Miscellaneous Details, dwg. 15.

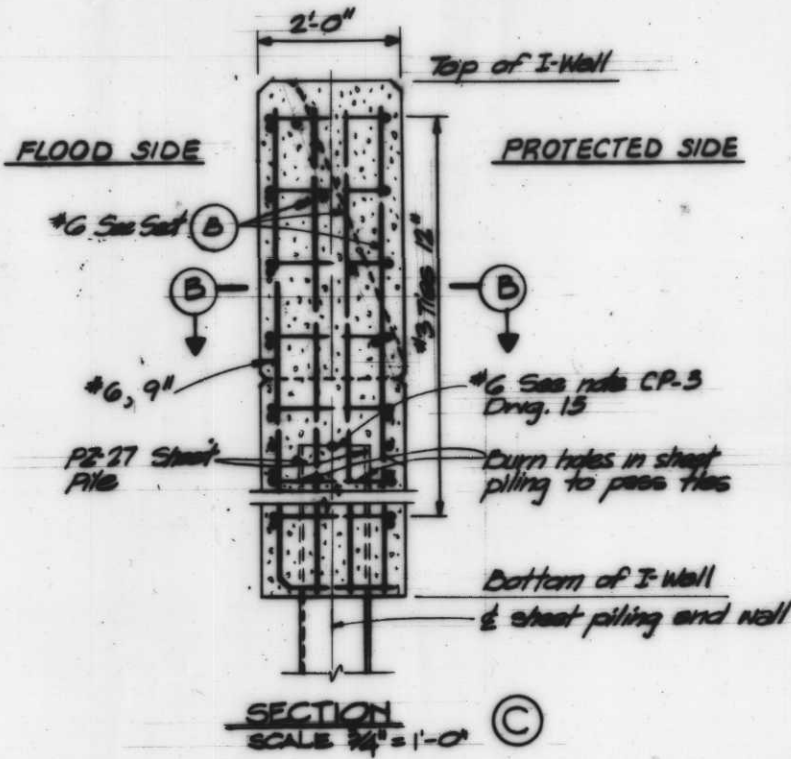


|   |        |            |             |               |           |
|---|--------|------------|-------------|---------------|-----------|
| REVISION  |        | DATE       | DESCRIPTION |               | BY        |
| U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.  |        |            |             |               |           |
| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA.<br>TYPICAL JOINT DETAILS |        |            |             |               |           |
| DESIGNED:   | DRAWN: | CHECKED:   | DATE:       | SCALE:        | FILE NO.: |
| R.J.Gr.   | G.R.T. | J.G.B.     | JAN. 1968   | AS SHOWN      | H-4-27147 |
| DRAWN BY:   |        | DATE:      |             | SCALE:        |           |
| Robert J. Granger   |        | JAN. 1968  |             | 1/4" = 1'-0"  |           |
| PROJECT NO.:  |        | SHEET NO.: |             | TOTAL SHEETS: |           |
| DACW29-62-B-0033  |        | 16         |             | 44            |           |

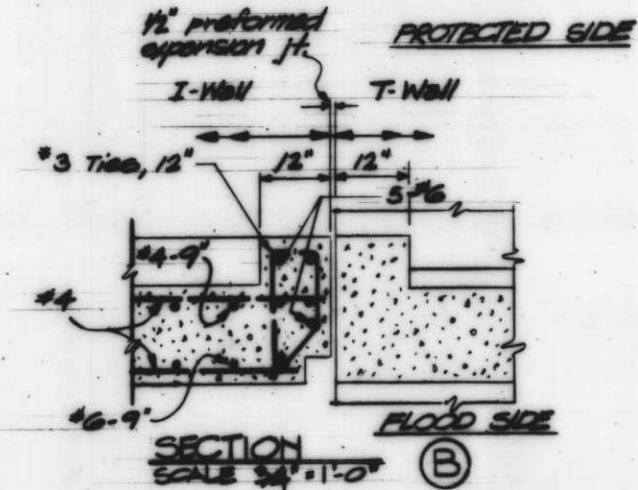




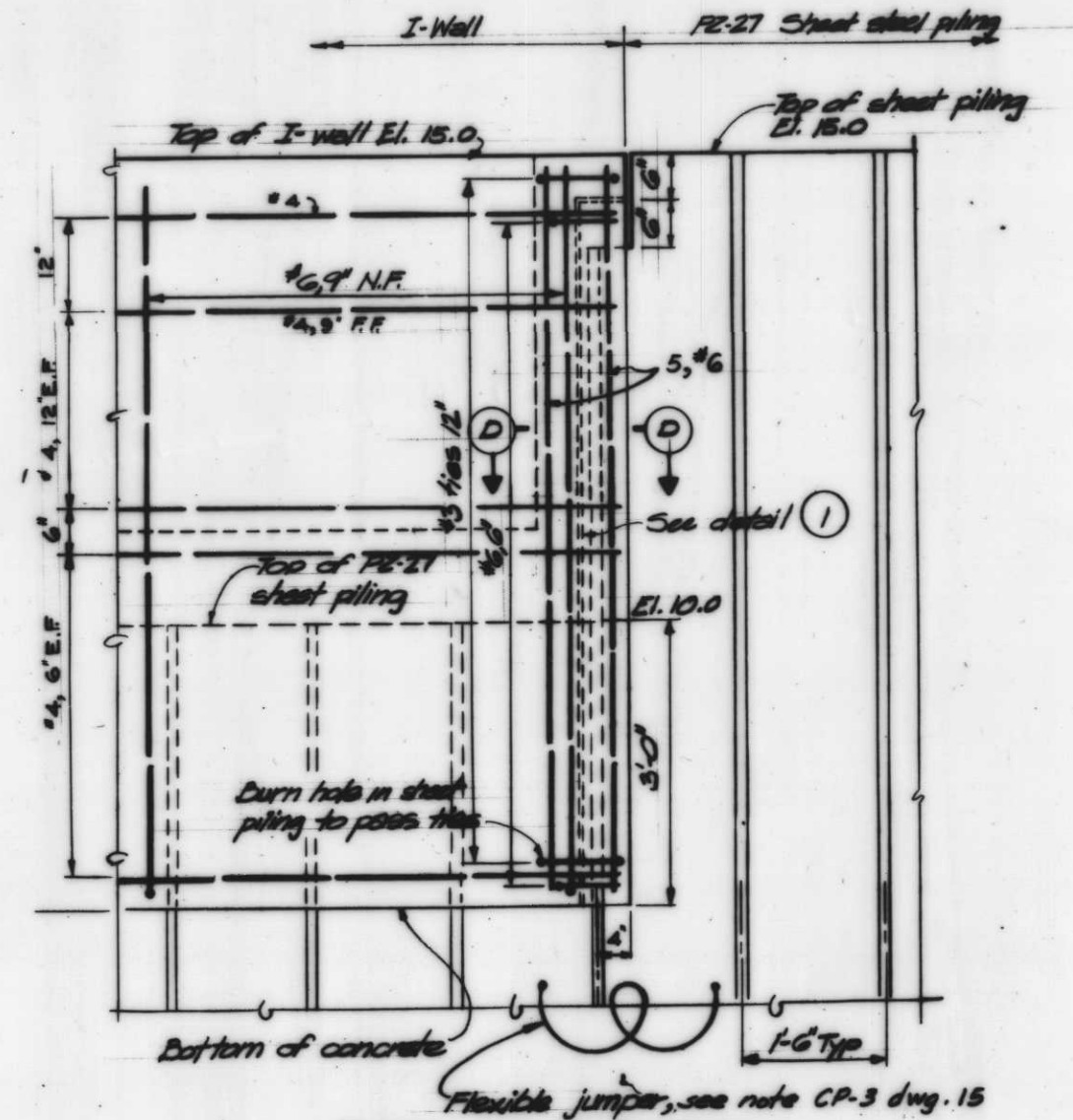
FLOOD SIDE ELEVATION  
DETAILS OF TRANSITION  
FROM I-WALL TO T-WALL  
SCALE 1"=1'-0"



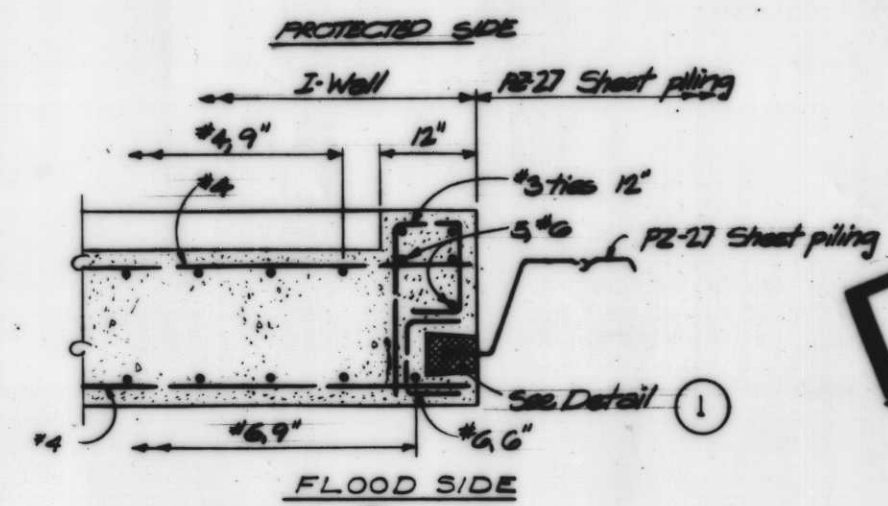
SECTION C  
SCALE 3/4"=1'-0"



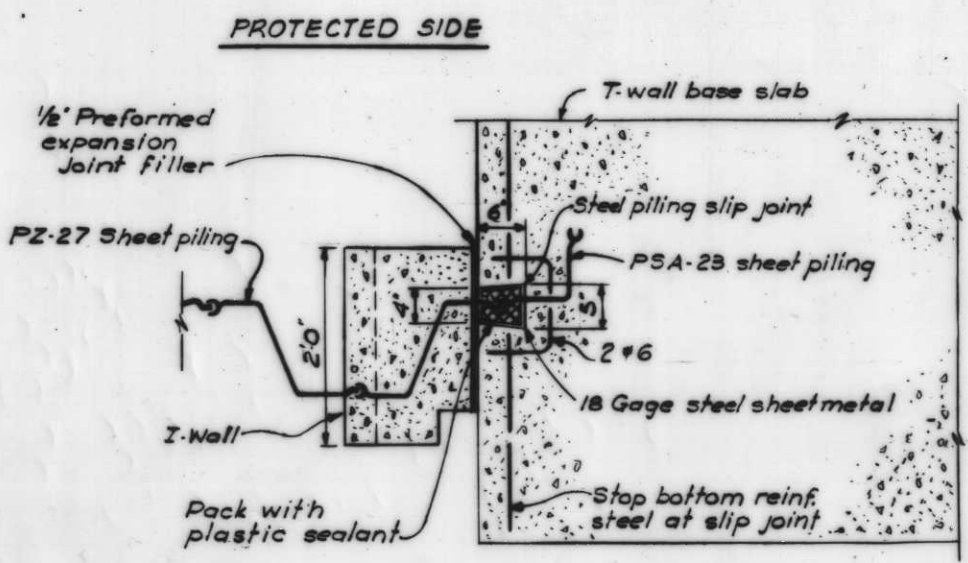
SECTION B  
SCALE 3/4\"/>



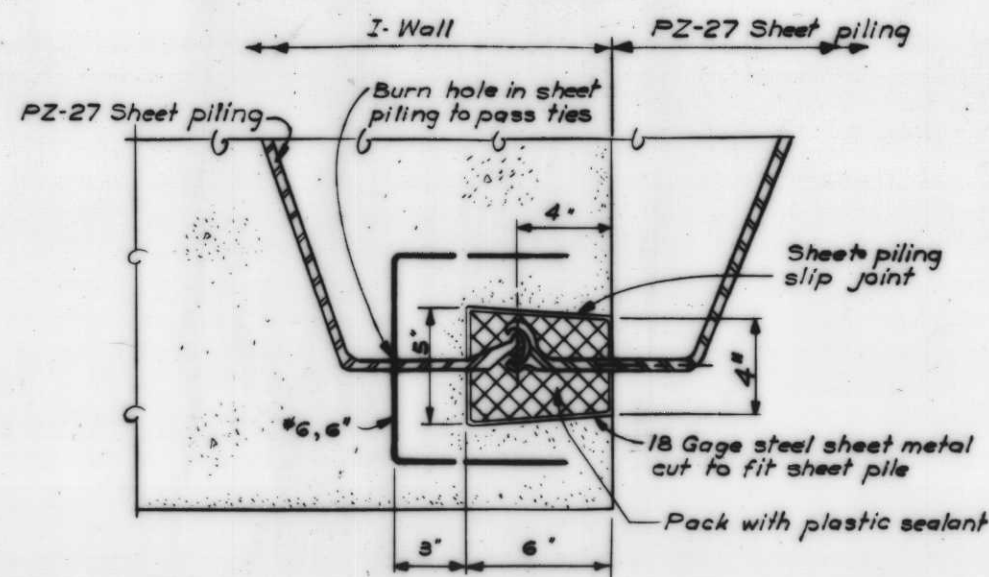
FLOOD SIDE ELEVATION  
DETAILS OF TRANSITION FROM I-WALL TO STEEL SHEET PILING  
SCALE 1"=1'-0"



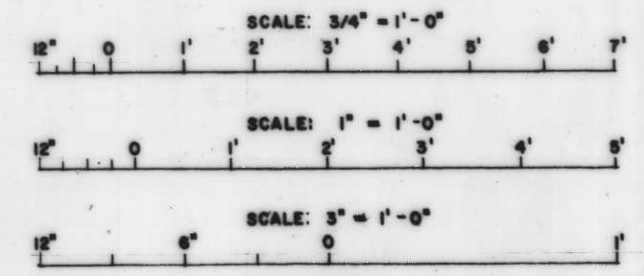
SECTION D  
SCALE: 1"=1'-0"



SECTION A  
SCALE: 1"=1'-0"

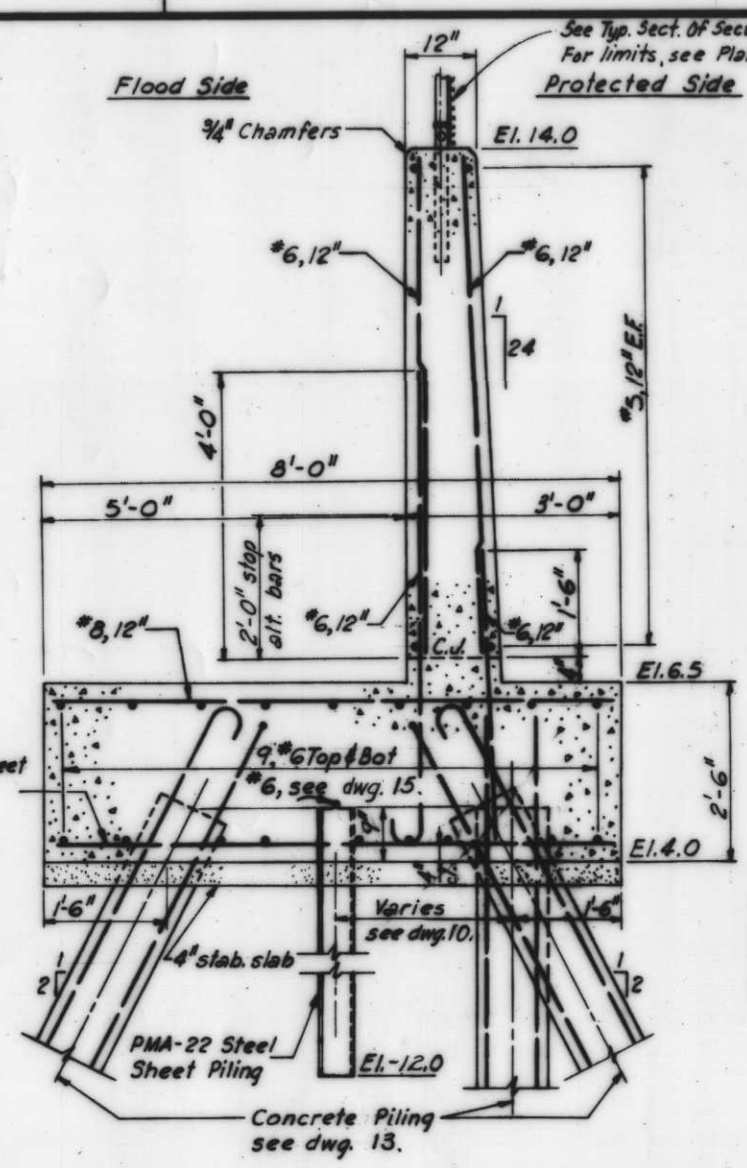


DETAIL 1  
SCALE: 3/4"=1'-0"

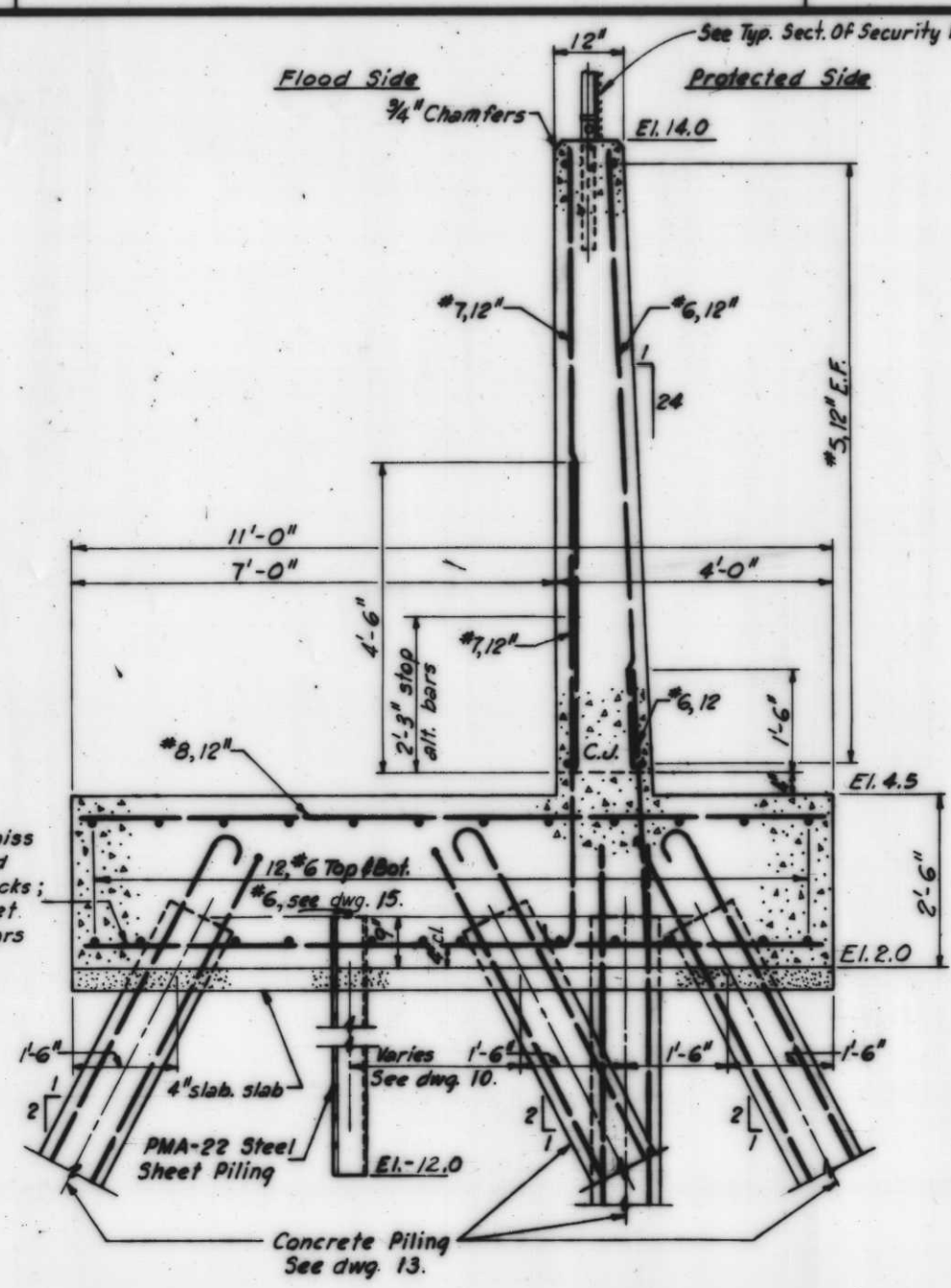


| REVISION   | DATE      | DESCRIPTION      | BY        |
|--|-----------|------------------|-----------|
| U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.<br><br>LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA. |           |                  |           |
| <b>TYPICAL JOINT DETAILS</b>   |           |                  |           |
| DESIGNED BY  | DRAWN BY  | CHECKED BY       | DATE      |
| J.A.R.   | W.B.      | J.A.R.           | JAN. 1982 |
| SCALE  | FILE NO.  |                  |           |
| AS SHOWN   | H-4-27147 |                  |           |
| W. C. BONE & ASSOCIATES, INC.<br>CONSULTING ENGINEERS  |           | PROJECT NO.      | SHEET NO. |
|  |           | DACW29-82-B-0033 | 17 of 44  |

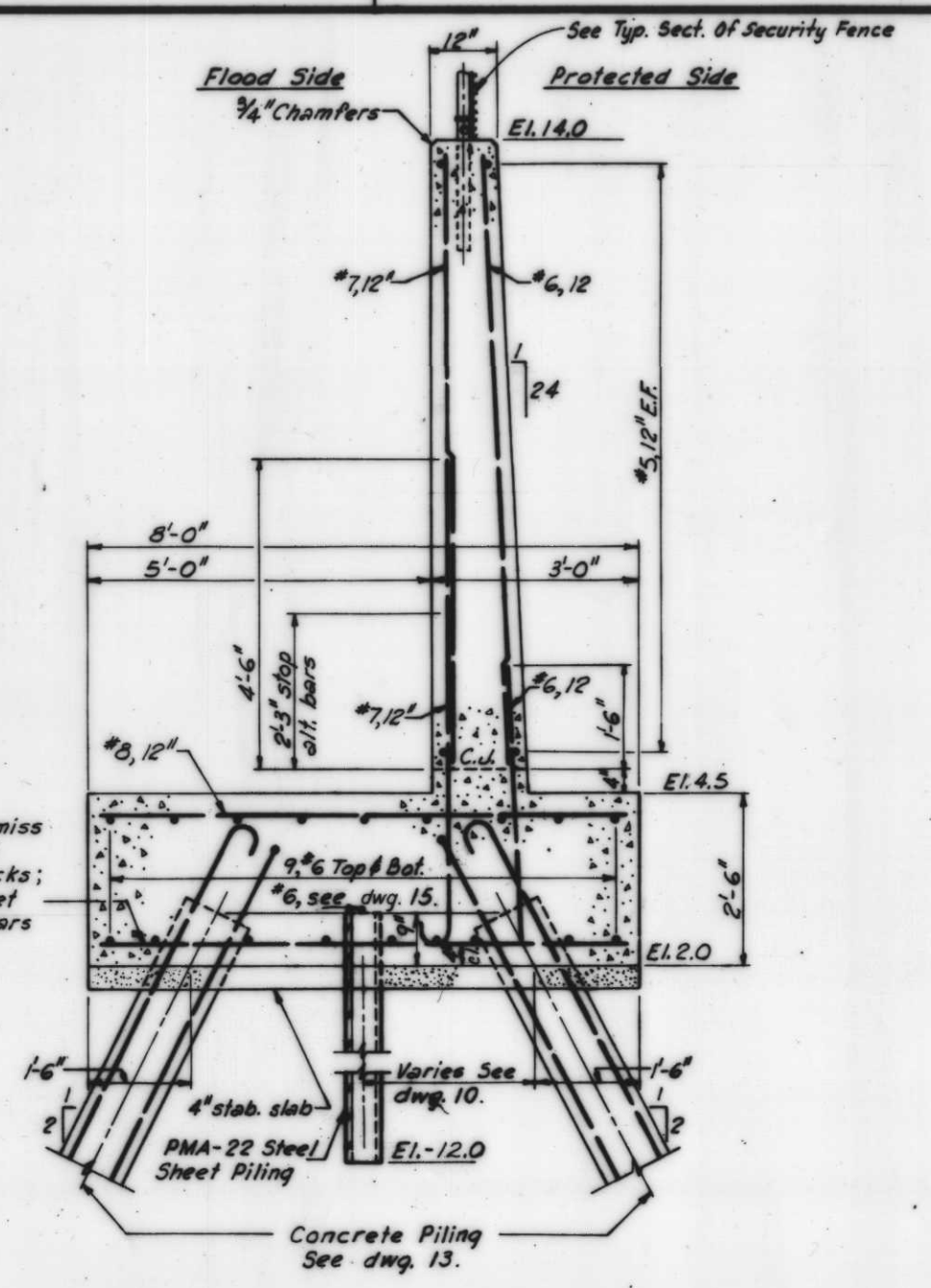




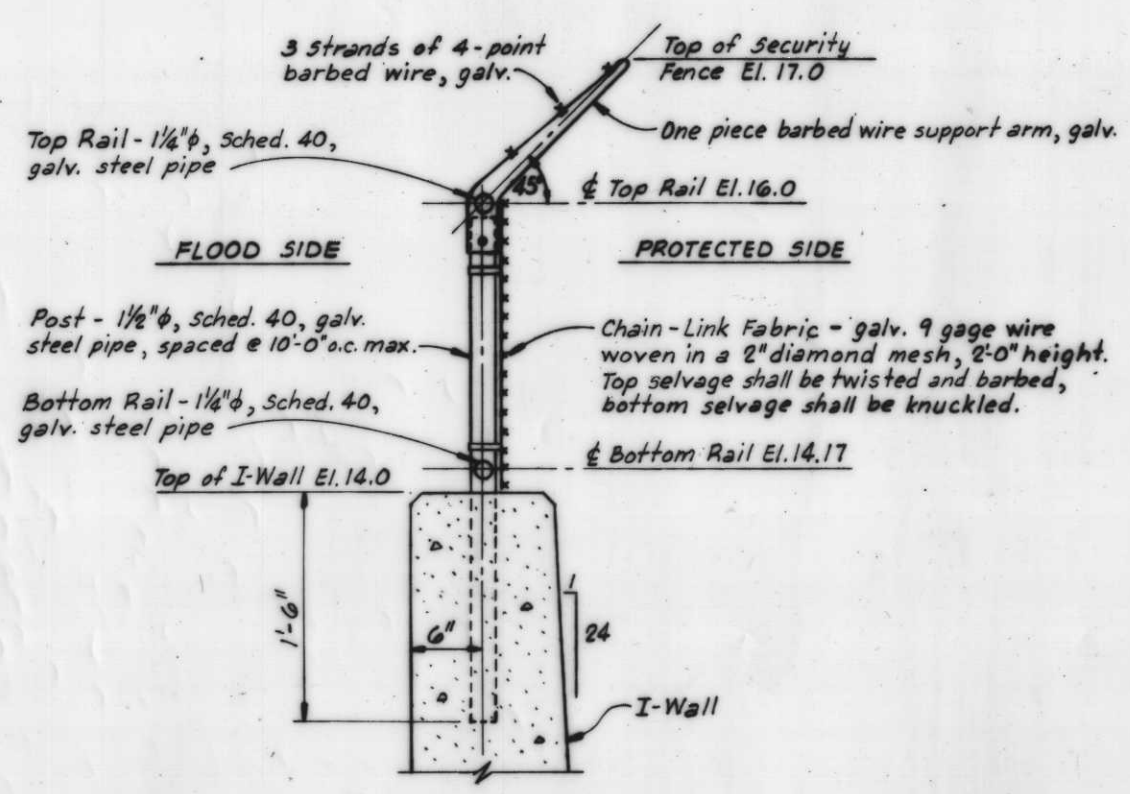
MONOLITH 1 AND 2  
STATION 0+00 W/L TO 0+73 W/L  
**TYPICAL T-WALL SECTION**  
Scale: 3/4" = 1'-0"



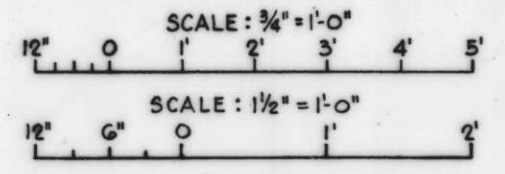
MONOLITH 3  
STATION 0+73 W/L TO 1+23 W/L  
**TYPICAL T-WALL SECTION**  
Scale: 3/4" = 1'-0"



MONOLITH 4  
STATION 1+23 W/L TO 1+48 W/L  
**TYPICAL T-WALL SECTION**  
Scale: 3/4" = 1'-0"



**TYPICAL SECTION OF SECURITY FENCE**  
Scale: 1 1/2" = 1'-0"



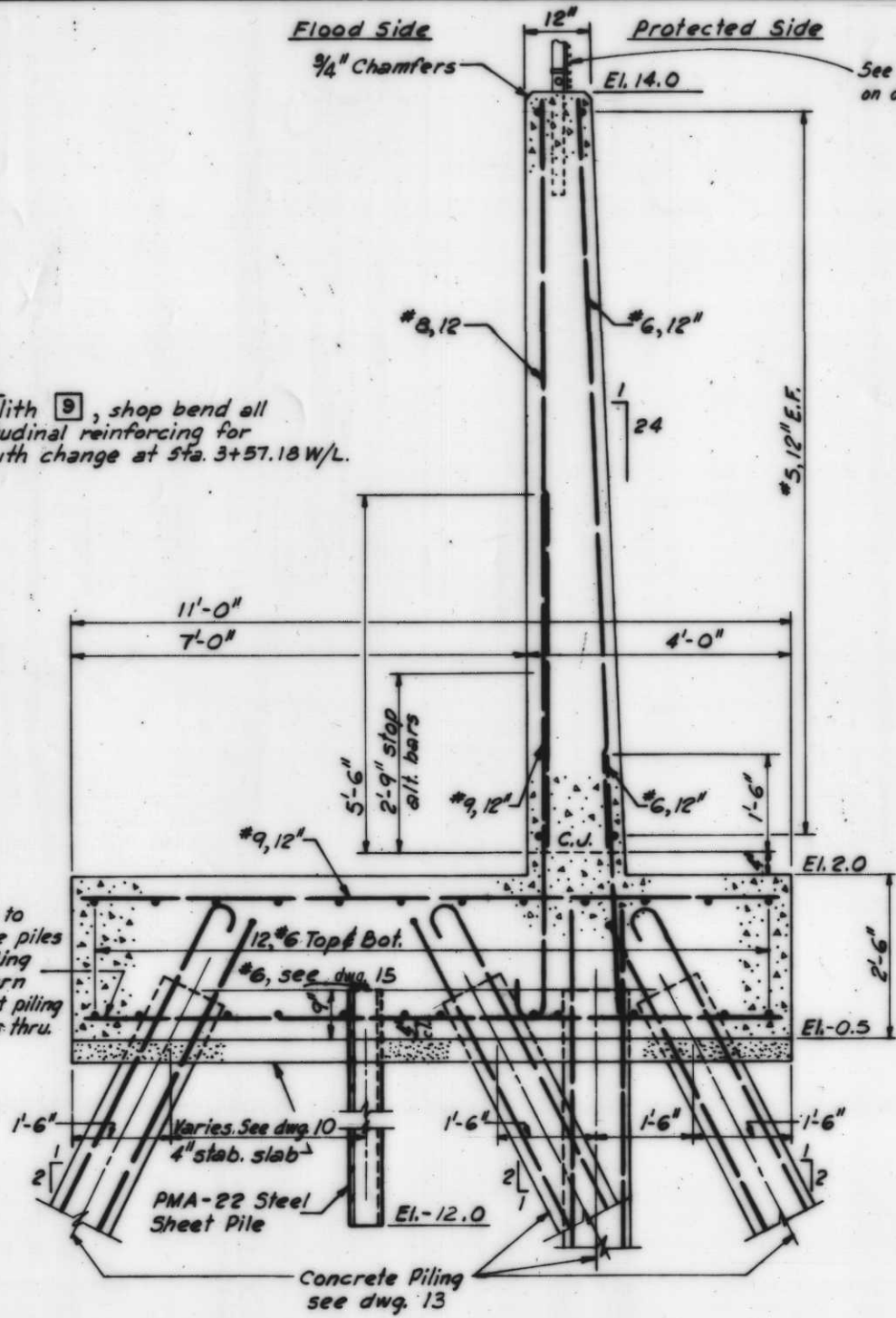
- NOTES:**
- For General Notes, see dwg. 5.
  - All holes in sheet piling for reinforcing shall not exceed 2 inches.
- REFERENCE DRAWINGS**
- T-Wall and I-Wall Sections, dwg. 6.
  - Piling and Monolith Layout, dwg. 12.
  - Plan and Profile, dwg. 3.
  - Miscellaneous Details, dwg. 15.
  - T-Wall Reinforcement Details, dwg. 19.
  - Sheet Piling Layout, dwg. 10.

| REVISION   | DATE             | DESCRIPTION                  | BY                 |
|--|------------------|------------------------------|--------------------|
| U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.  |                  |                              |                    |
| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA. |                  |                              |                    |
| <b>T-WALL REINFORCEMENT DETAILS</b>  |                  |                              |                    |
| DESIGNED:<br>R.J.Gr.   | DRAWN:<br>G.R.T. | CHECKED:<br>J.G.B.           | DATE:<br>JAN. 1962 |
| SCALE:<br>AS SHOWN   |                  | FILE NO.<br><b>H-4-27147</b> |                    |
| SPEC. NO.<br>DACW29-62-B-0033  |                  | SHEET NO.<br>18 - 44         |                    |

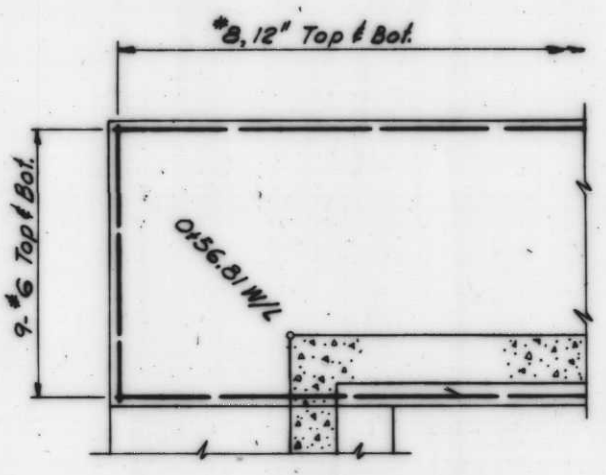


**NOTE**  
 Monolith 9, shop bend all longitudinal reinforcing for Azimuth change at Sta. 3+57.18 W/L.

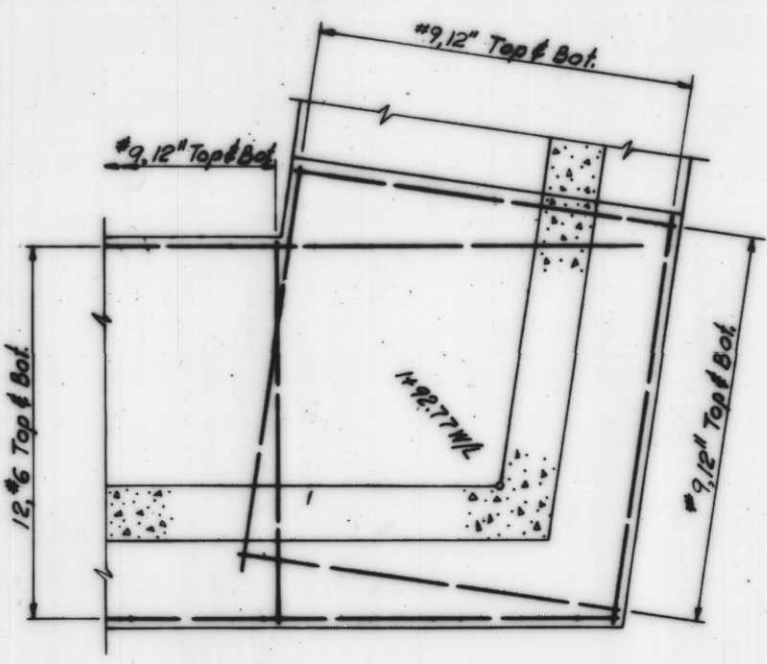
Flood Side  
 Protected Side  
 1/4" Chamfers  
 EL. 14.0  
 See Typ. Sect. of Security Fence, on dwg. 18.



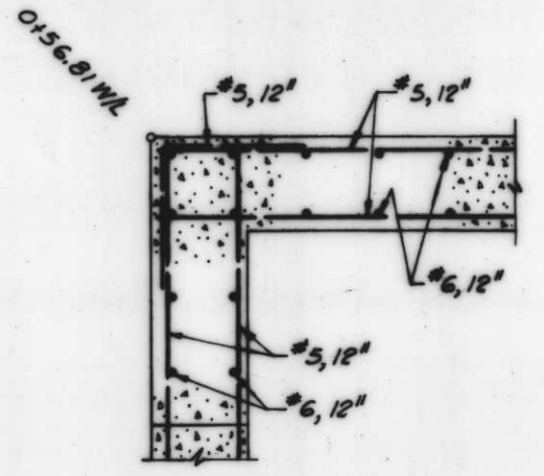
MONOLITH 5 THRU 9  
 STATION 1+48 W/L TO 3+95 W/L  
**TYPICAL T-WALL SECTION**  
 Scale: 3/4" = 1'-0"



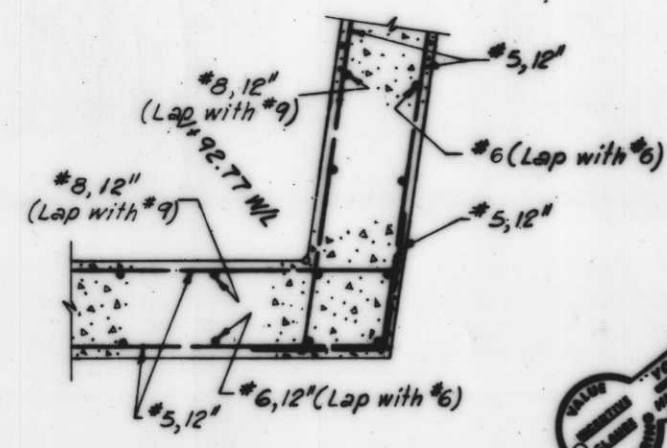
**BASE SLAB REINFORCING STEEL DETAILS @ STA. 0+56.81 W/L**  
 Scale: 3/8" = 1'-0"



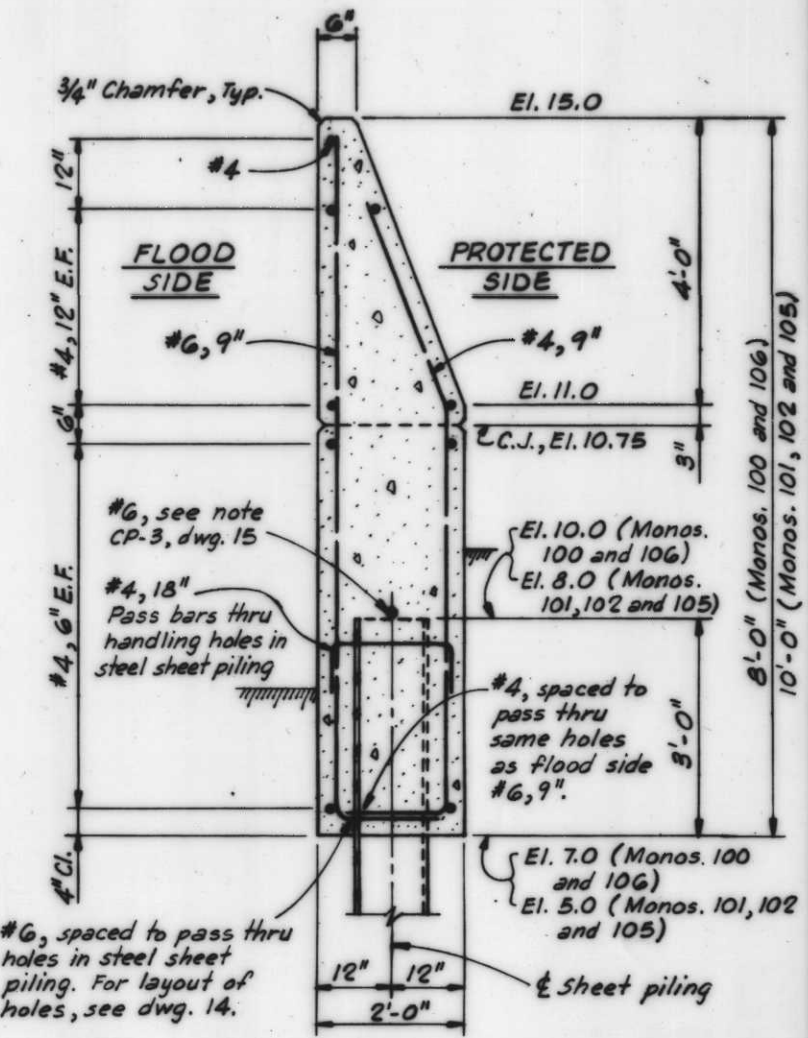
**BASE SLAB REINFORCING STEEL DETAILS @ STA. 1+92.77 W/L**  
 Scale: 3/8" = 1'-0"



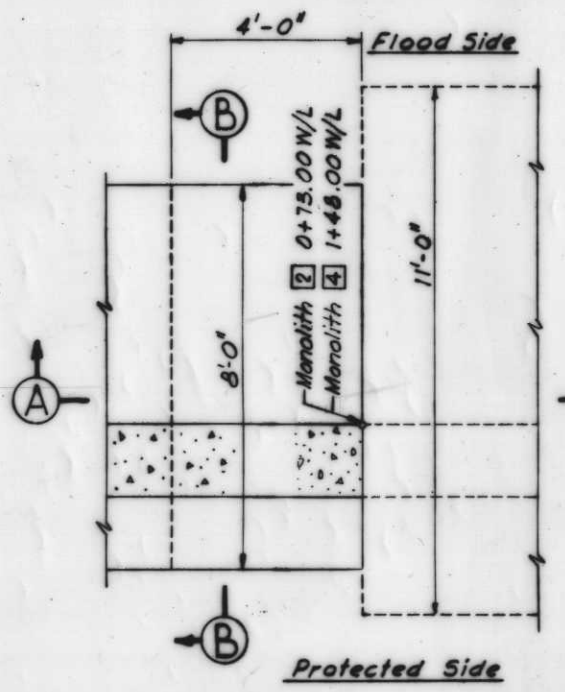
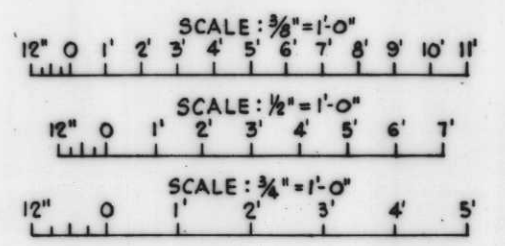
**WALL REINFORCING STEEL DETAILS @ STA. 0+56.81 W/L**  
 Scale: 3/4" = 1'-0"



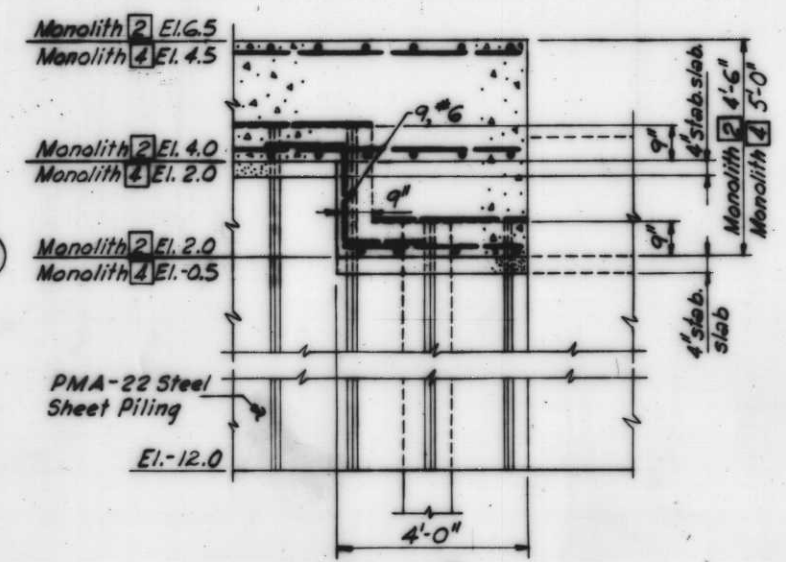
**WALL REINFORCING STEEL DETAILS @ STA. 1+92.77 W/L**  
 Scale: 3/4" = 1'-0"



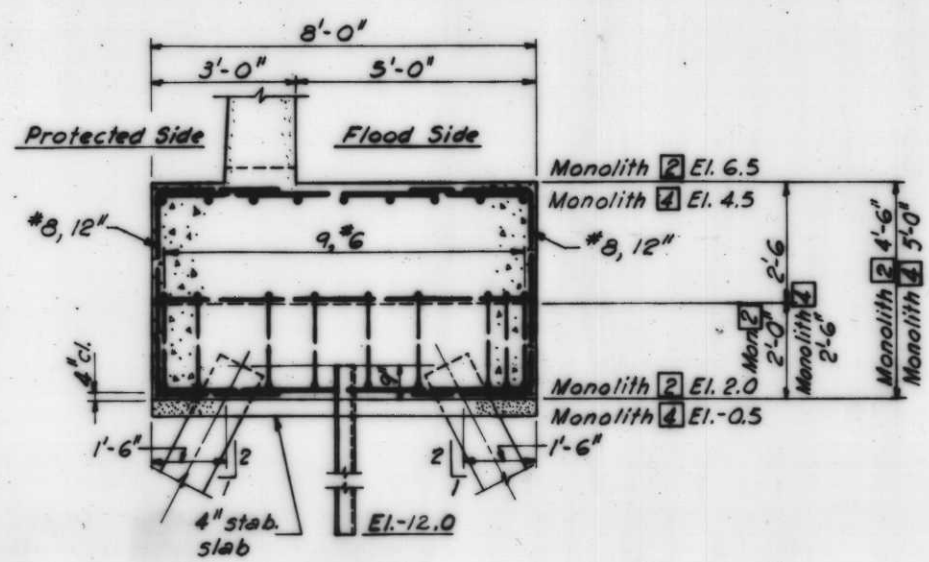
MONOLITHS 100 101 102 105 AND 106  
**TYPICAL I-WALL SECTION**  
 Scale: 3/4" = 1'-0"



**PLAN**  
 Scale: 1/2" = 1'-0"



**SECTION A**  
 Scale: 1/2" = 1'-0"



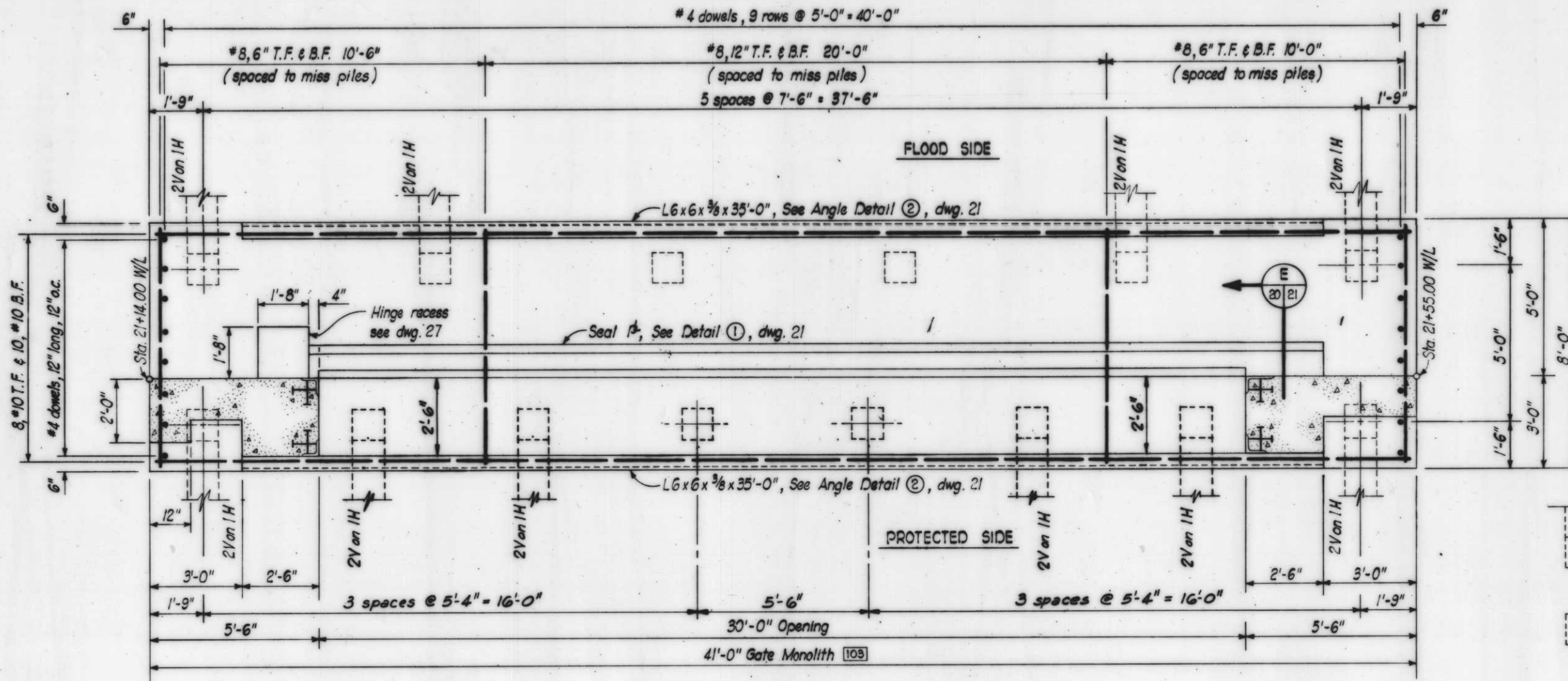
**SECTION B**  
 Scale: 1/2" = 1'-0"

- REFERENCE DRAWINGS**
1. Plan and Profile, dwg. 3.
  2. T-Wall and I-Wall Sections, dwg. 6.
  3. Piling and Monolith Layout, dwg. 12.
  4. Sheet Piling Layout, dwg. 10.
  5. T-Wall Reinforcement Details, dwg. 18.
  6. Catch Basin Details, dwg. 39.

**NOTES:**  
 1. For General Notes, see dwg. 5.  
 2. All holes in sheet piling for reinforcing shall not exceed 2".

| REVISION   | DATE          | DESCRIPTION     | BY                 |
|--|---------------|-----------------|--------------------|
| U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.  |               |                 |                    |
| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE- NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, L.A. |               |                 |                    |
| <b>T-WALL AND I-WALL REINFORCEMENT DETAILS</b>   |               |                 |                    |
| DESIGNED: R.J.G.   | DRAWN: G.P.T. | CHECKED: J.G.B. | DATE: JAN. 1962    |
| SCALE: AS SHOWN  |               |                 | FILE NO. H-4-27147 |
| SPEC. NO. DACW29-62-B-0033   |               |                 | DATE: 19 44        |



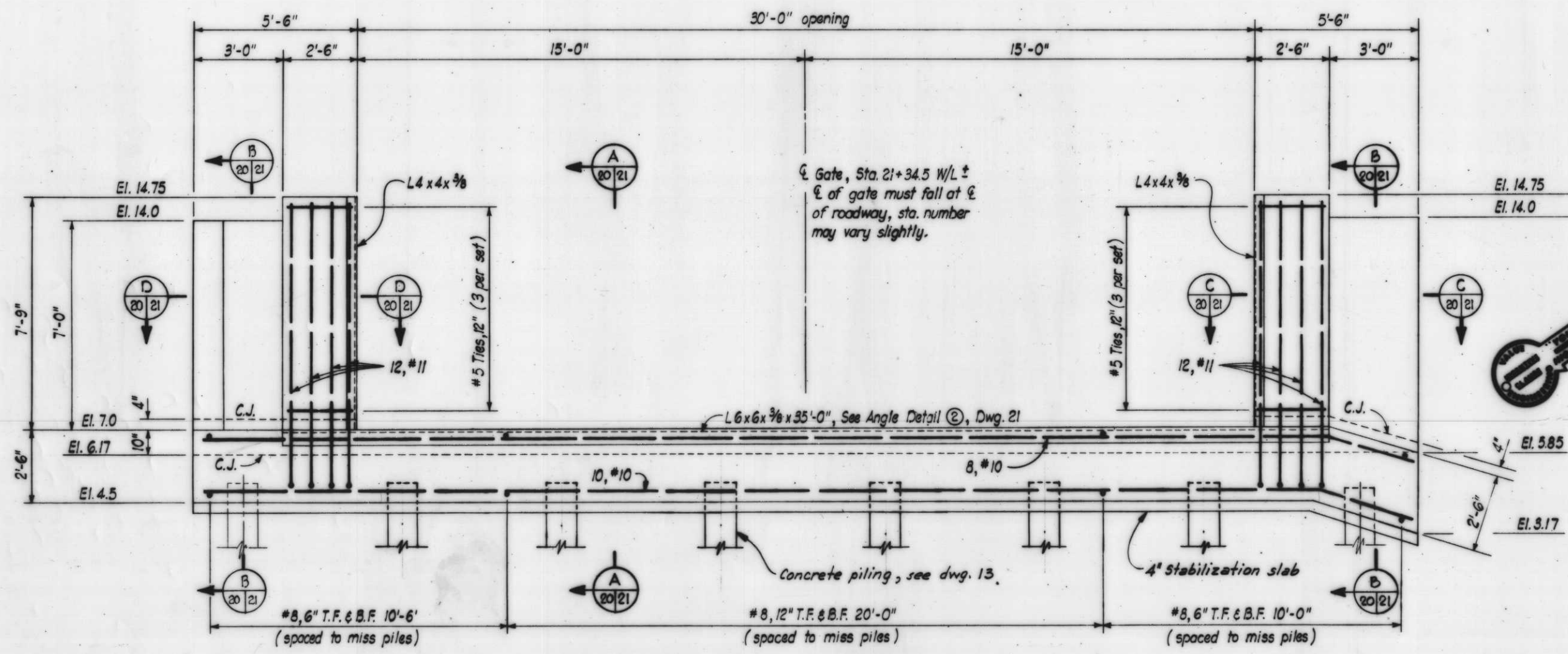


PLAN AT ELEVATION 7.5

Indicates direction of batter  
14" x 14" Prestressed concrete batter  
piles; batter slope, see plan.

14" x 14" Prestressed concrete vertical piles.

**NOTES:**  
 For general notes, see dwg. 5  
 For gate details, see dwgs. 23 & 24  
 For latching details, see dwgs. 30 & 31  
 All holes cut in steel sheet piling for reinforcing  
 steel shall not exceed 2"  $\phi$ .  
 All holes cut through steel sheet piling  
 shall miss interlocks.  
 For details of transition from gate monolith to  
 I-Wall, see dwg. 17.



PROTECTED SIDE ELEVATION

**Safety is a Part of Your Contract**

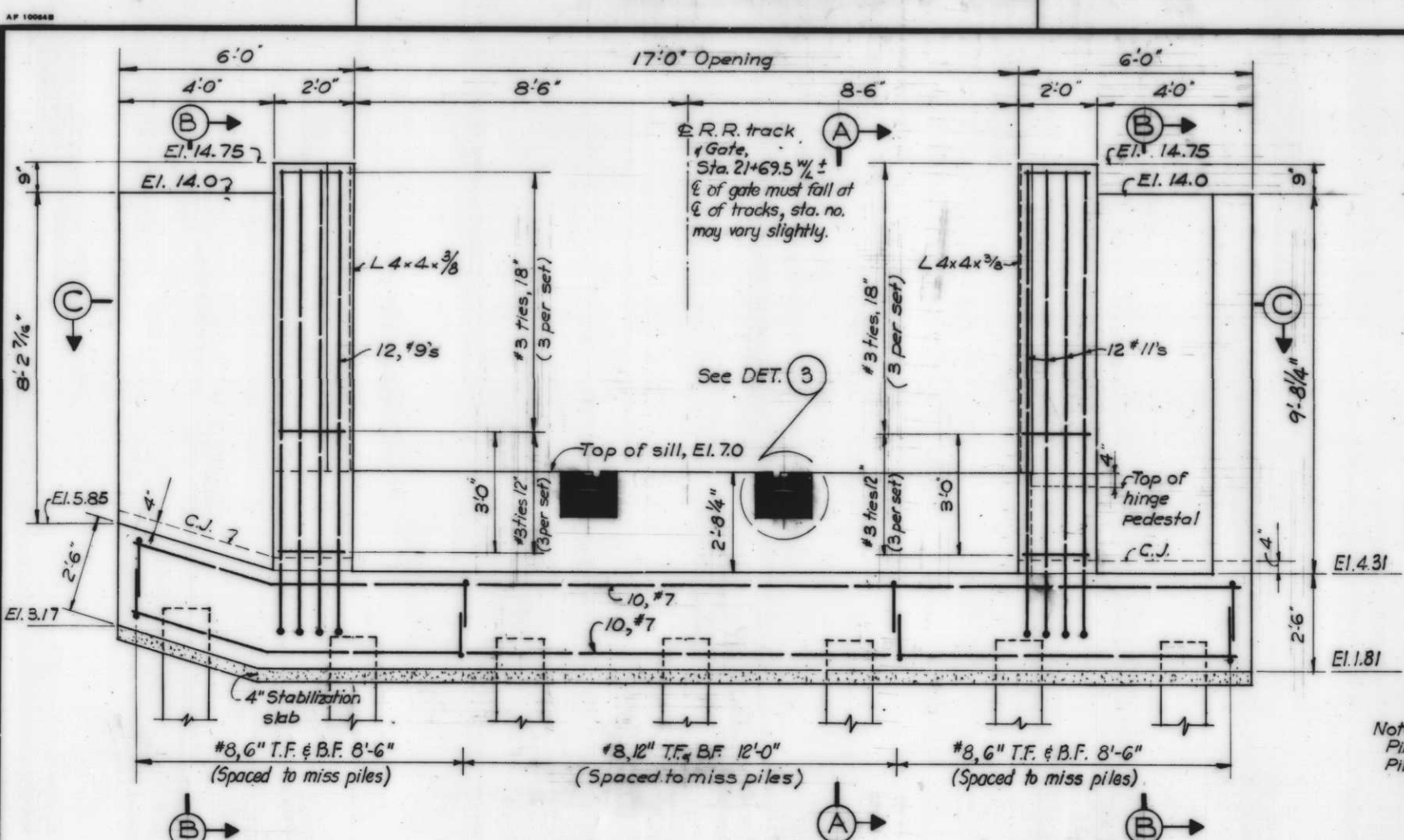
SCALE: 1/2" = 1'-0"  
 12" 0' 1' 2' 3' 4' 5'

| REVISION  | DATE      | DESCRIPTION | BY        |
|---|-----------|-------------|-----------|
| U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.<br>LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA.<br><b>GATE I MONOLITH</b> |           |             |           |
| DESIGNED  | DRAWN     | CHECKED     | DATE      |
| J.A.R.  | B.W.      | J.A.R.      | JAN. 1962 |
| SCALE   | FILE NO.  |             |           |
| DACW29-82-B-0033  | H-4-27147 |             |           |
| SHEET NO.   |           | 20 - 44     |           |

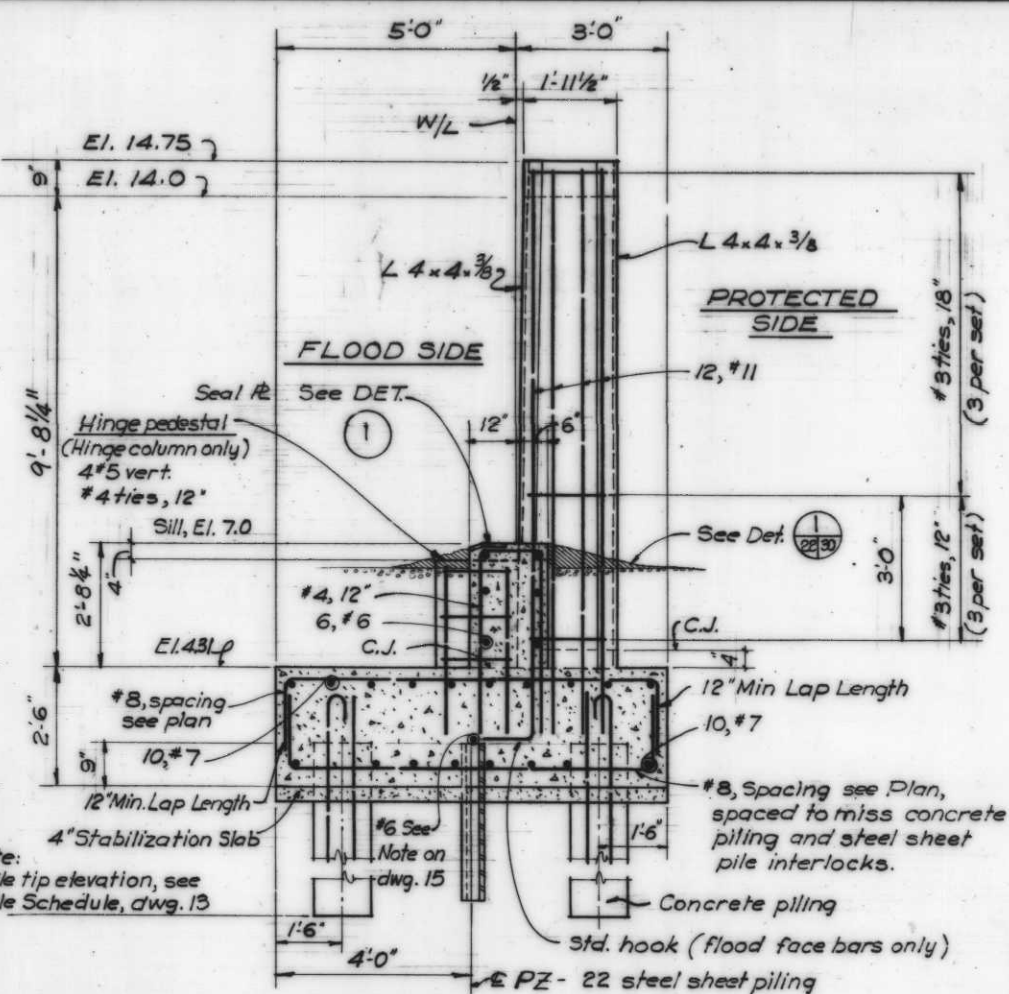




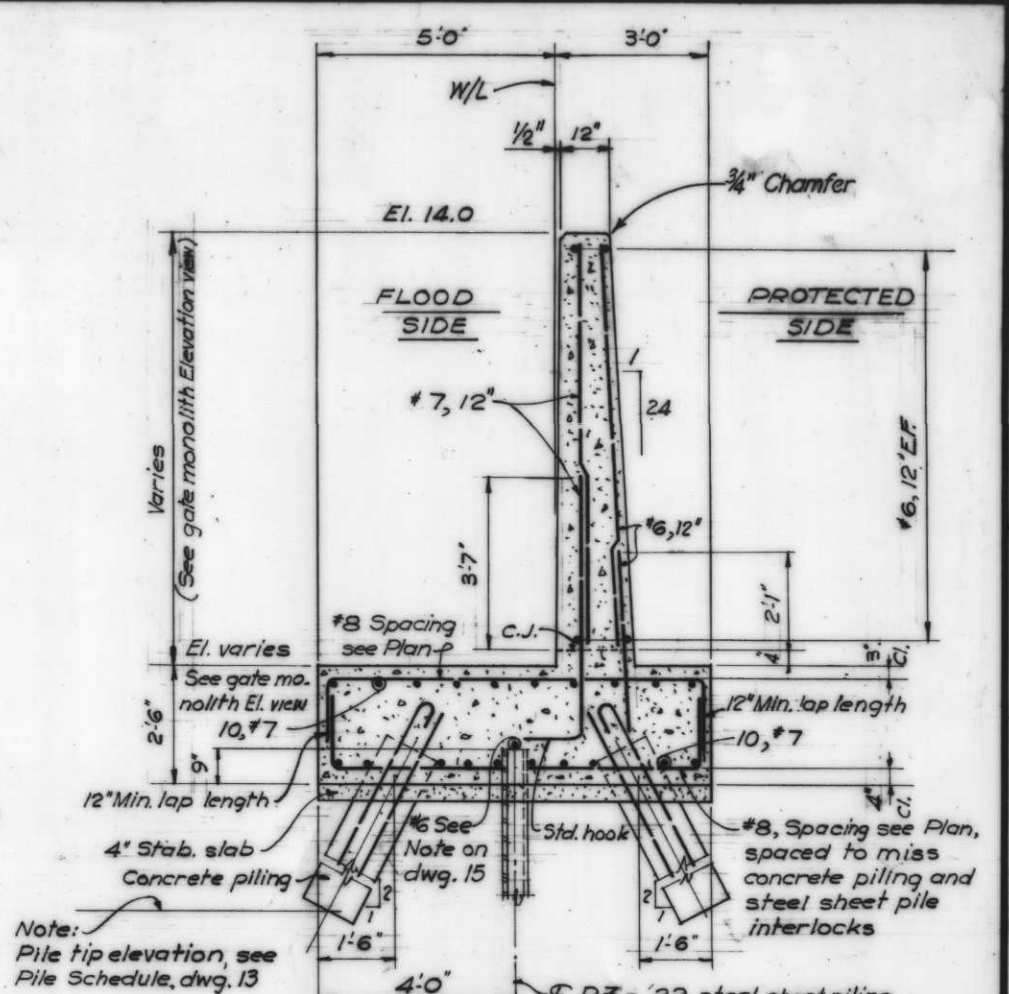




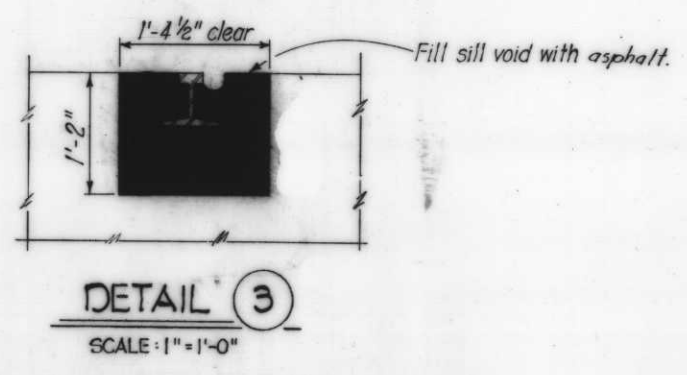
**PROTECTED SIDE ELEVATION**  
SCALE: 1/2" = 1'-0"



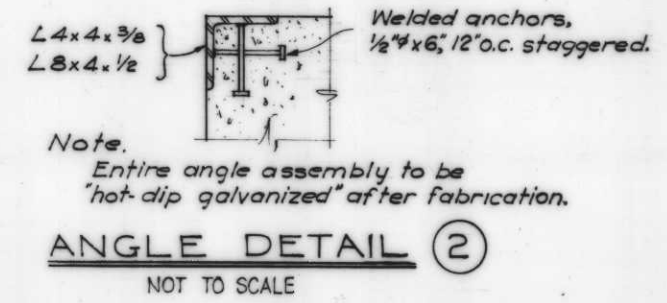
**SECTION A**  
SCALE: 1/2" = 1'-0"



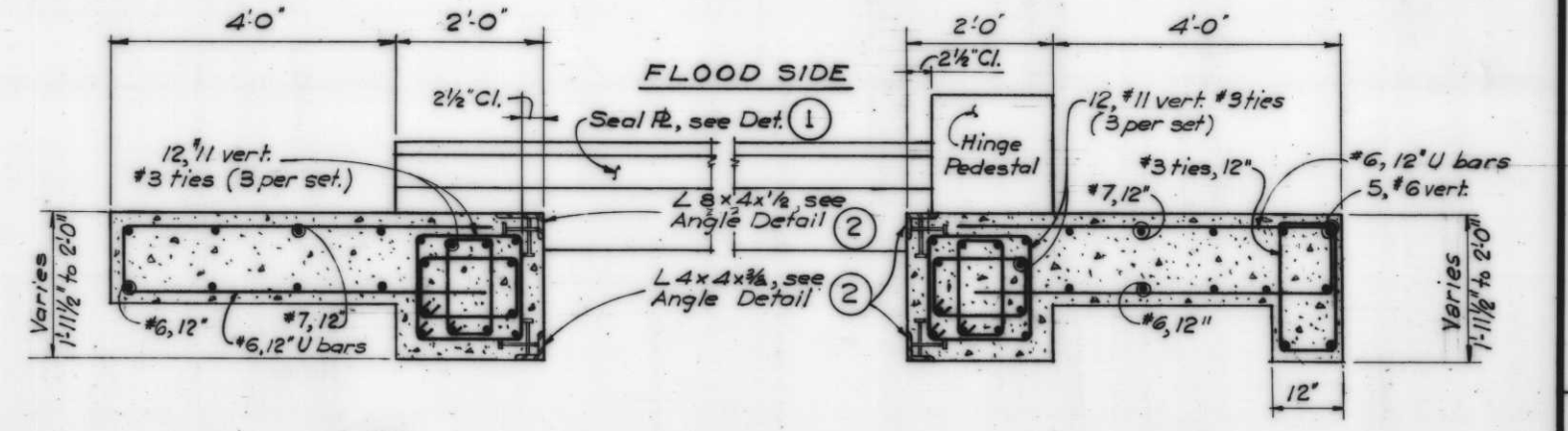
**SECTION B**  
SCALE: 1/2" = 1'-0"



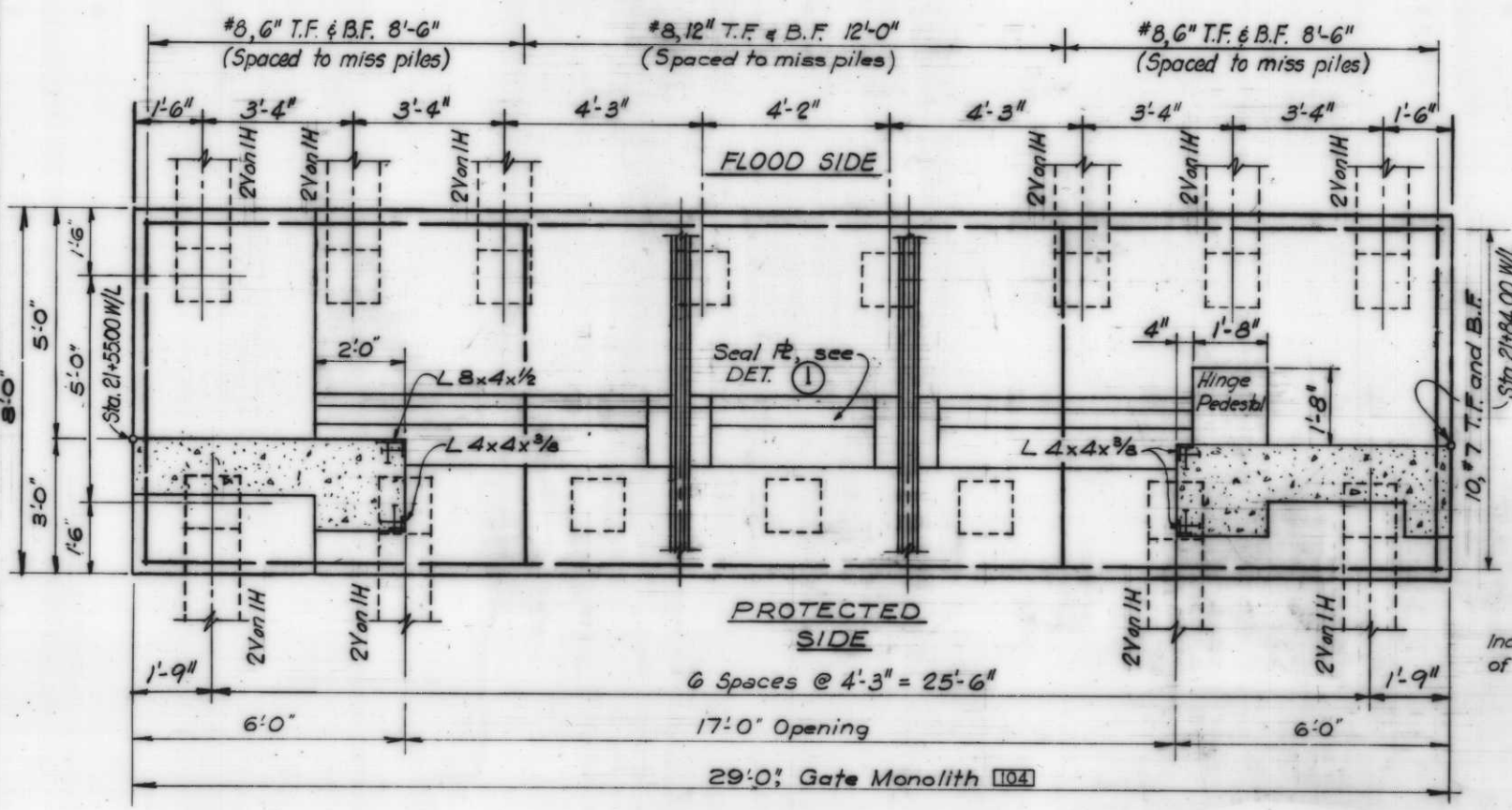
**DETAIL 3**  
SCALE: 1" = 1'-0"



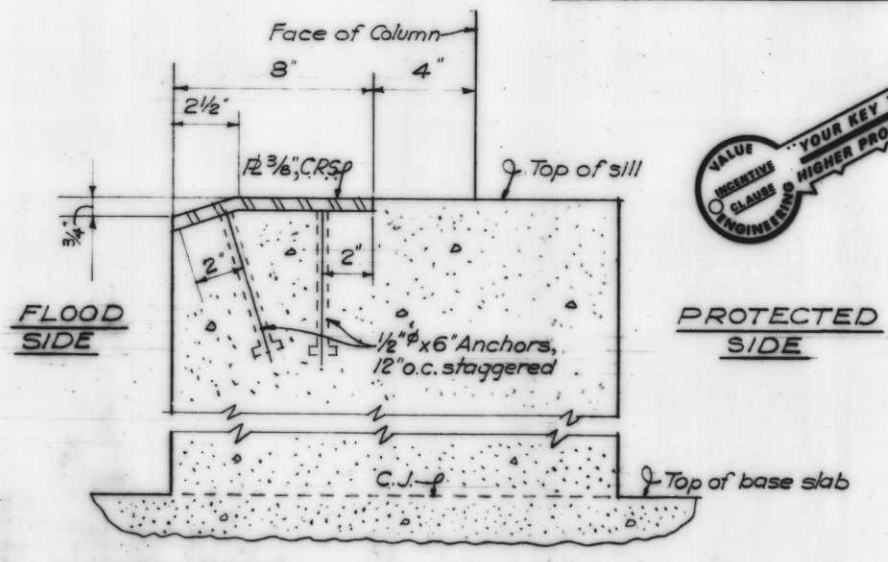
**ANGLE DETAIL 2**  
NOT TO SCALE



**SECTION C**  
SCALE: 3/4" = 1'-0"



**PLAN AT SILL ELEV.**  
SCALE: 1/2" = 1'-0"



**SWING GATE SEAL PLATE - DET. 1**  
SCALE: 3" = 1'-0"

**LEGEND**

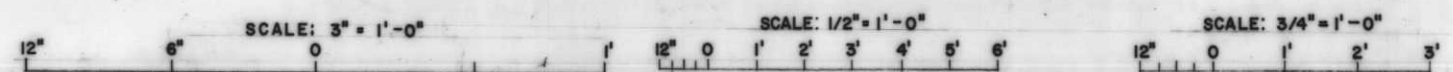
- 14x14" prestressed concrete batter piles; batter slope, see PLAN.
- 14x14" prestressed concrete vertical piles.

**Notes:**  
For general notes, see dwg. 5  
For gate details, see dwgs. 25 & 26.  
For latching details, see dwgs. 30 & 31.  
For details of transition gate monolith to T-Wall, see dwg. 17.  
All holes cut in steel sheet piling for reinforcing steel shall not exceed 2". All holes cut thru steel sheet piling shall miss interlocks.  
For sheet piling layout, see dwg. 11.

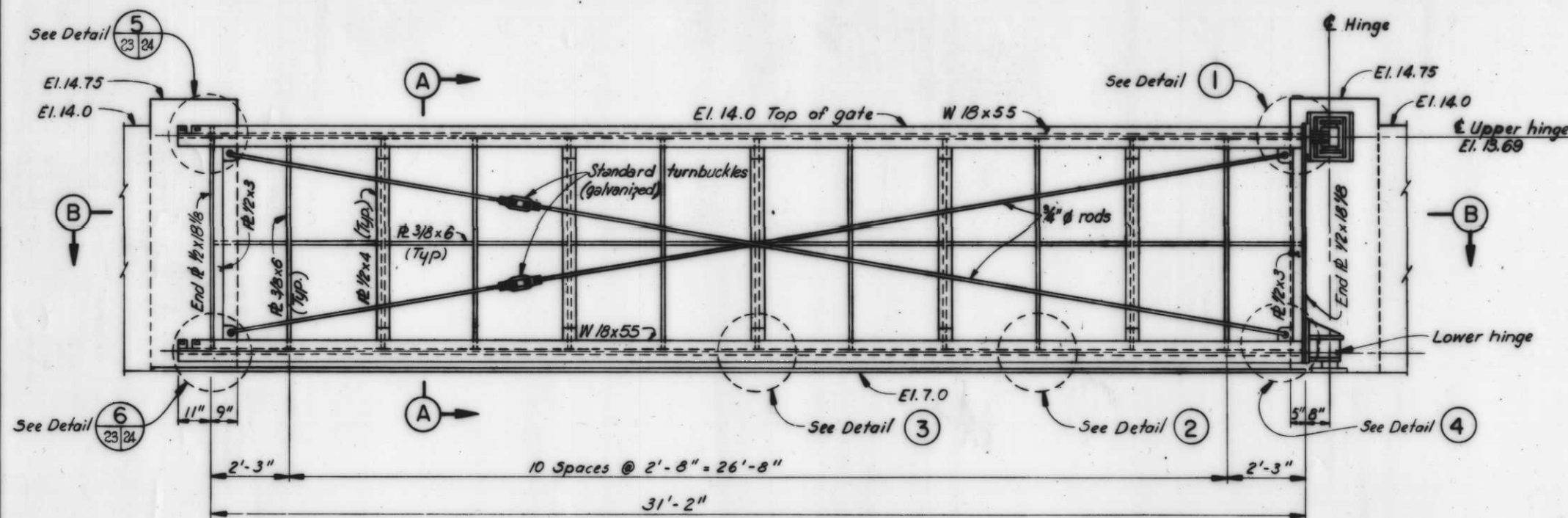


| REVISION   | DATE             | DESCRIPTION | BY             |
|--|------------------|-------------|----------------|
| U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.   |                  |             |                |
| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA. |                  |             |                |
| <b>GATE 2 MONOLITH</b>   |                  |             |                |
| DESIGNED   | DRAWN            | CHECKED     | DATE           |
| J.A.R.   | W.B.             | J.A.R.      | JAN. 1982      |
| SCALE:   | AS SHOWN         | FILE NO.    | H-4-27147      |
| ISSUED BY  | DATE             | NO.         | 22 OF 44       |
| Carl M. ...  | DACW29-82-B-0033 |             | AS CONSTRUCTED |

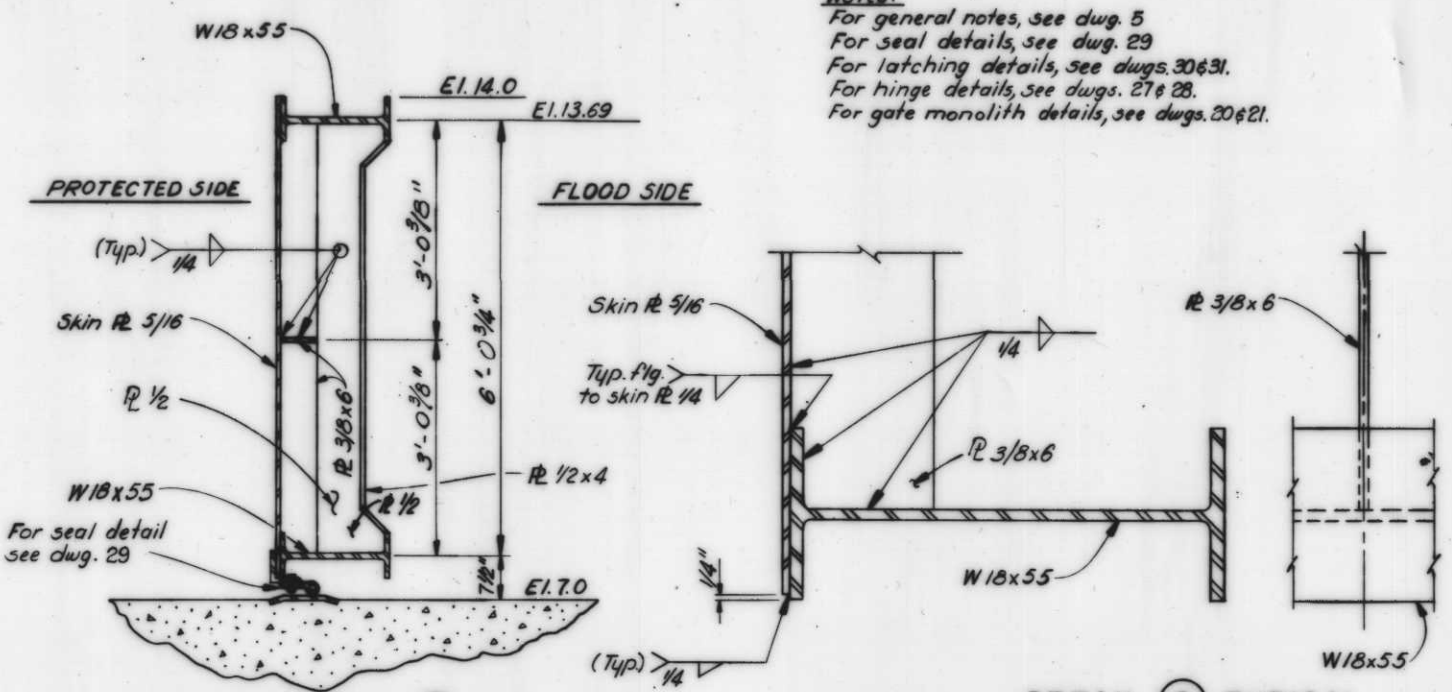
W. C. BONIE & ASSOCIATES, INC.  
CONSULTING ENGINEERS





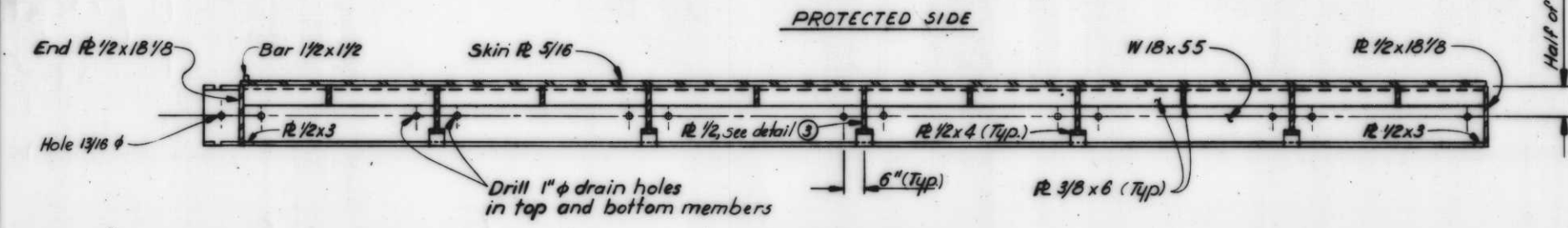


**FLOOD SIDE ELEVATION**  
SCALE: 1/2" = 1'-0"

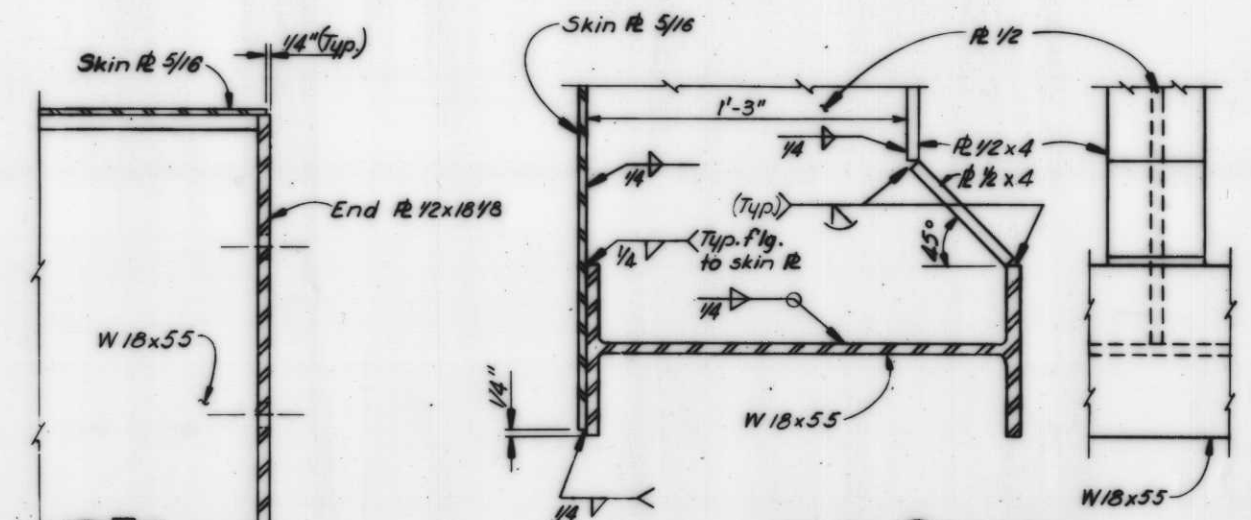


**SECTION A**  
SCALE: 3/4" = 1'-0"

**DETAIL 2 TYPICAL**  
SCALE: 3" = 1'-0"



**SECTION B**  
SCALE: 1/2" = 1'-0"

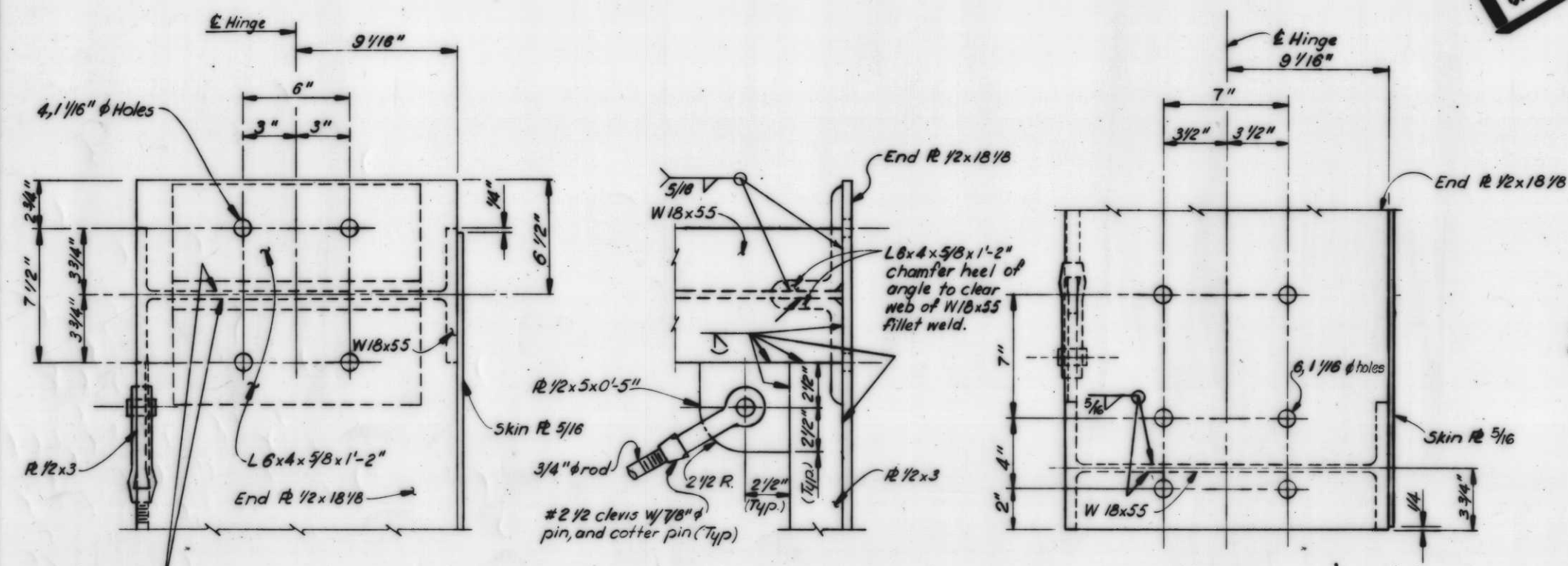


**DETAIL 3 TYPICAL**  
SCALE: 3" = 1'-0"

SCALE: 1/2" = 1'-0"

SCALE: 3/4" = 1'-0"

SCALE: 3" = 1'-0"

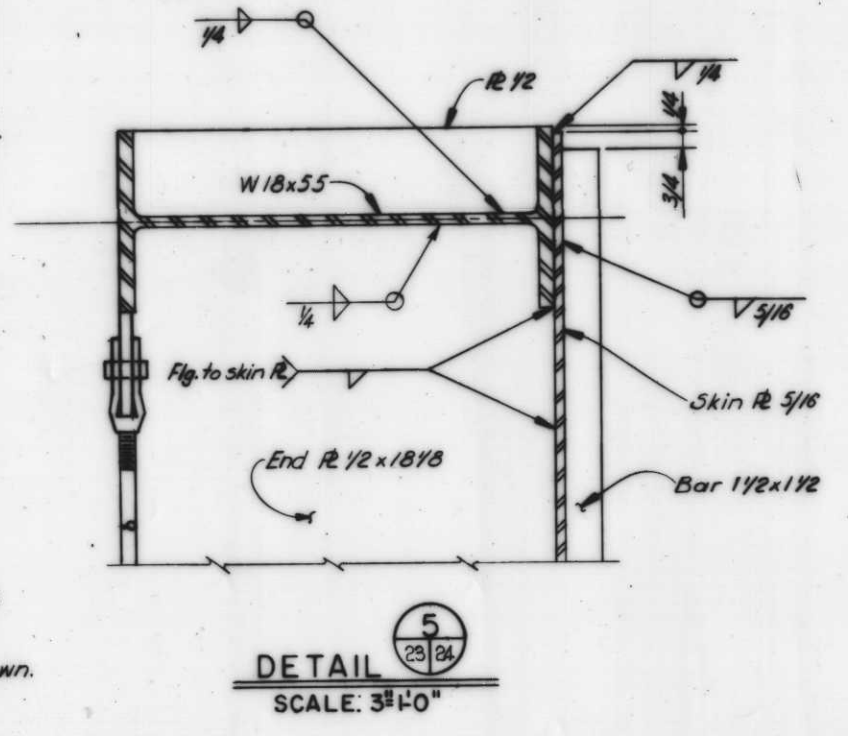
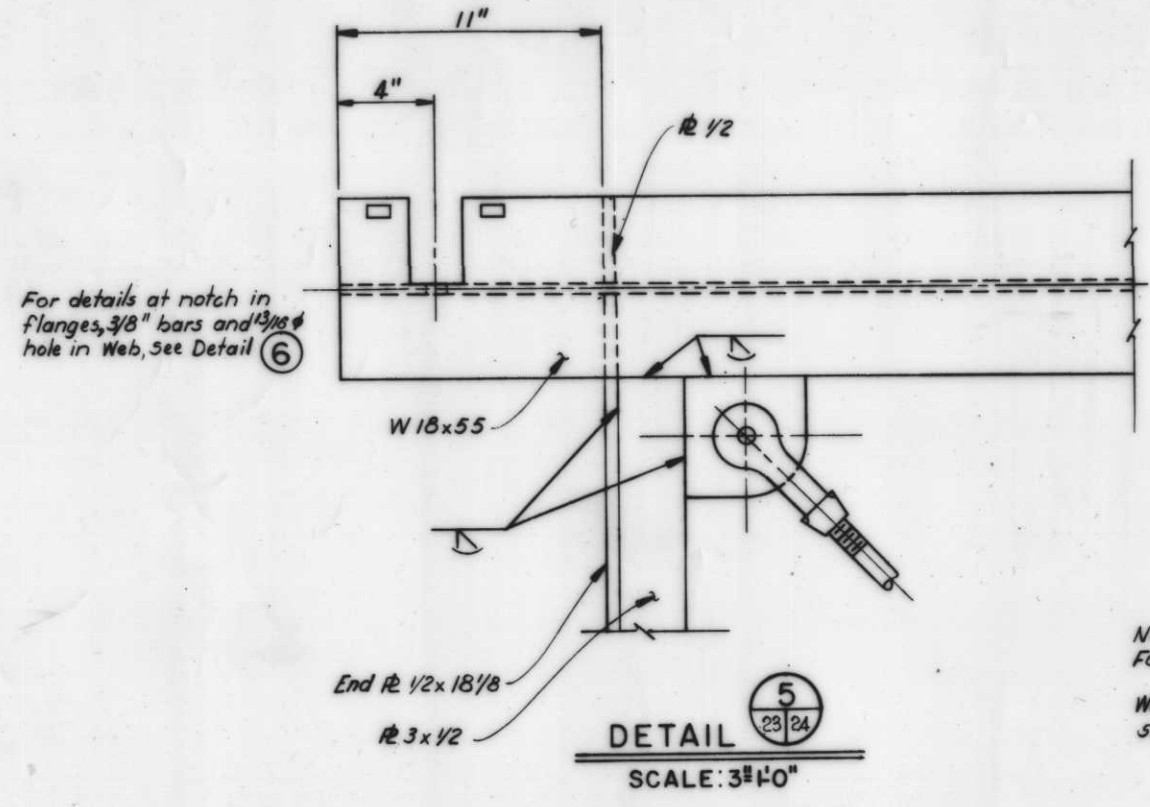


**DETAIL 1**  
SCALE: 3/4" = 1'-0"

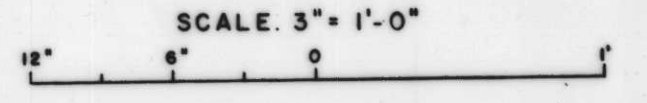
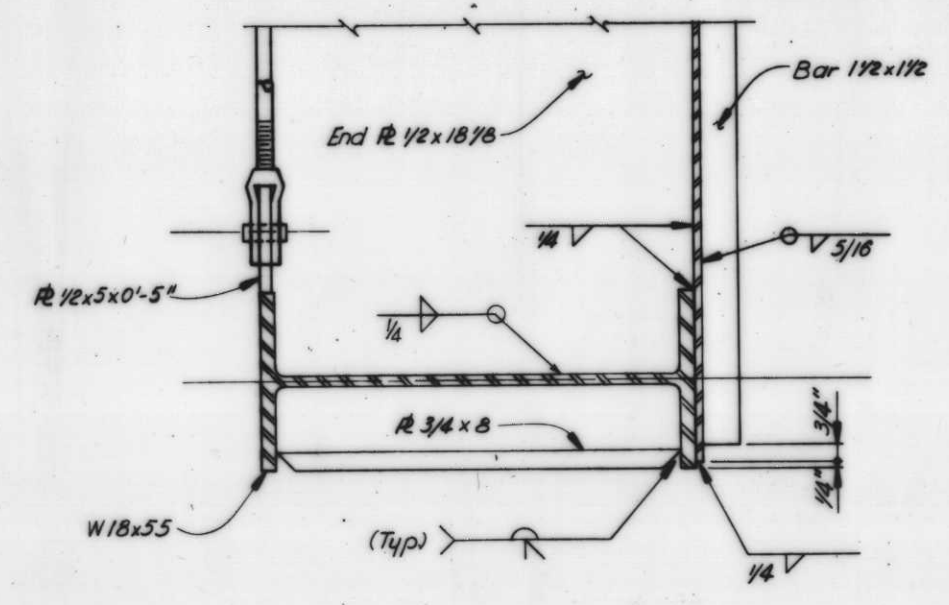
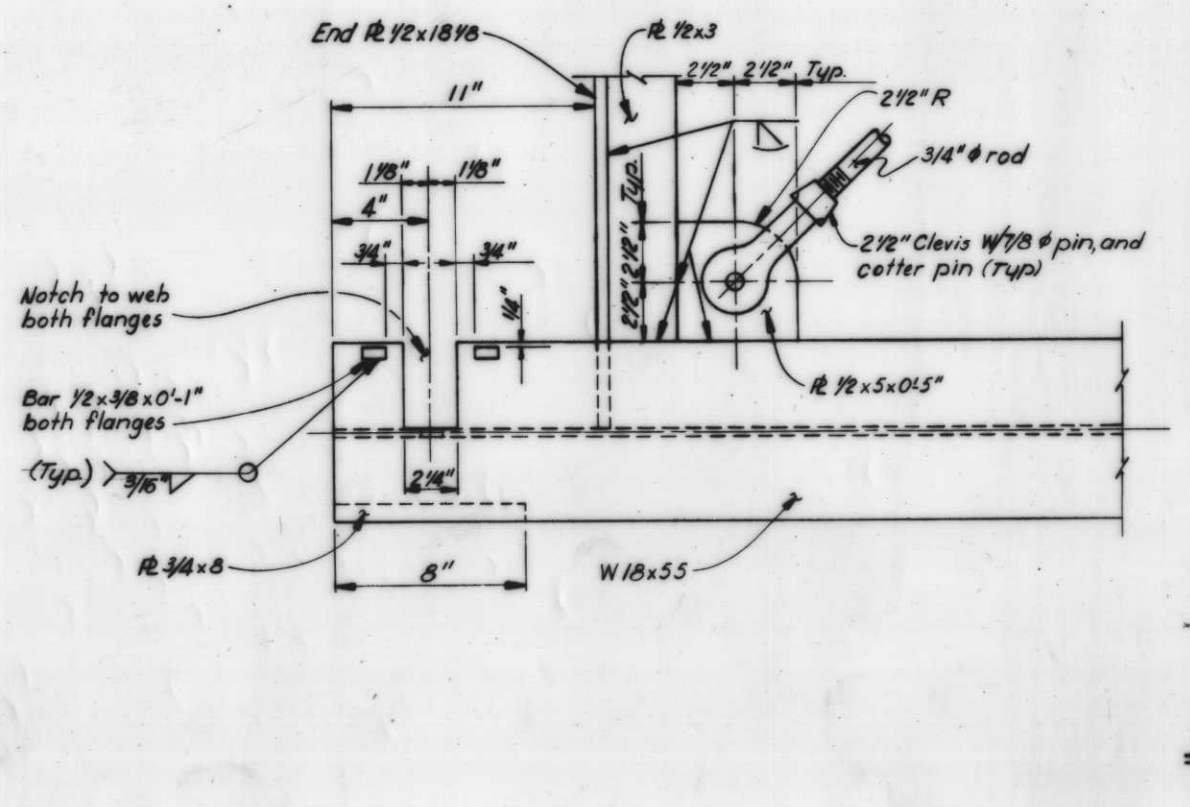
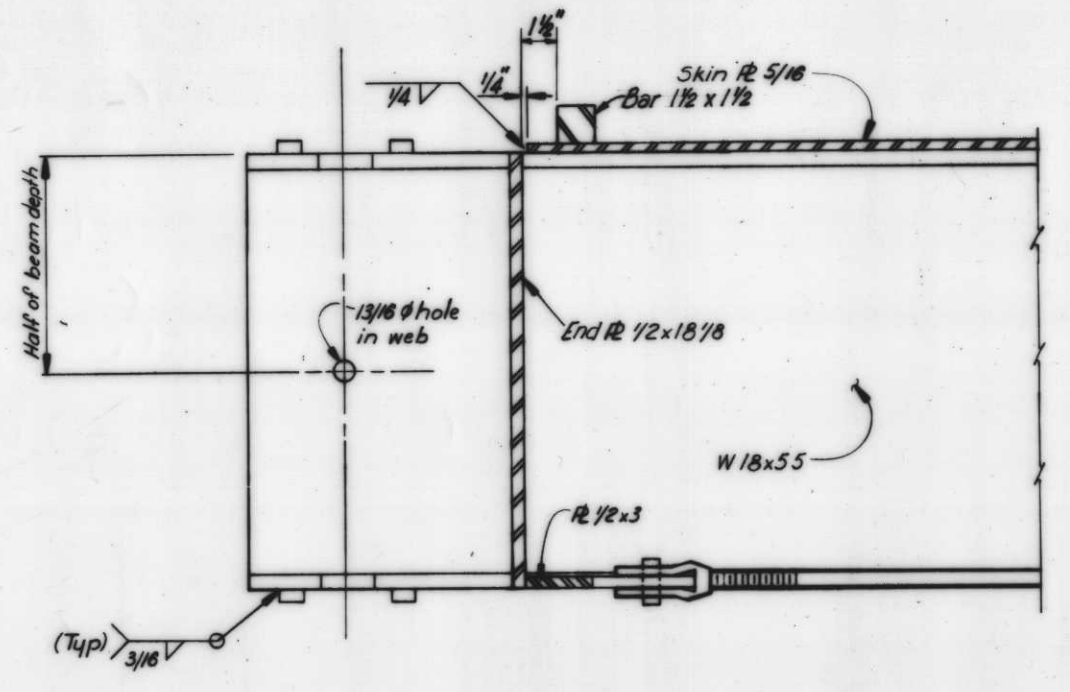
**DETAIL 4**  
SCALE: 3/4" = 1'-0"

| REVISION   | DATE      | DESCRIPTION   | BY        |
|--|-----------|---------------|-----------|
| U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.<br><br>LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br><b>HURRICANE PROTECTION FLOODWALL AND LEVEE</b><br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA.<br><br><b>SWING GATE NO. 1</b> |           |               |           |
| DESIGNED:  | DRAWN:    | CHECKED:      | DATE:     |
| J.A.R.   | H.A.T.    | J.A.R.        | JAN. 1962 |
| SCALE:   | FILE NO.: |               |           |
| AS SHOWN   | H-4-27147 |               |           |
| SPEC. NO.:   |           | PAGE 23 OF 44 |           |
| DACW29-62-B-0033   |           |               |           |





Notes:  
For general notes, see div. 5  
Welds shown are typical for similar joints when not shown.

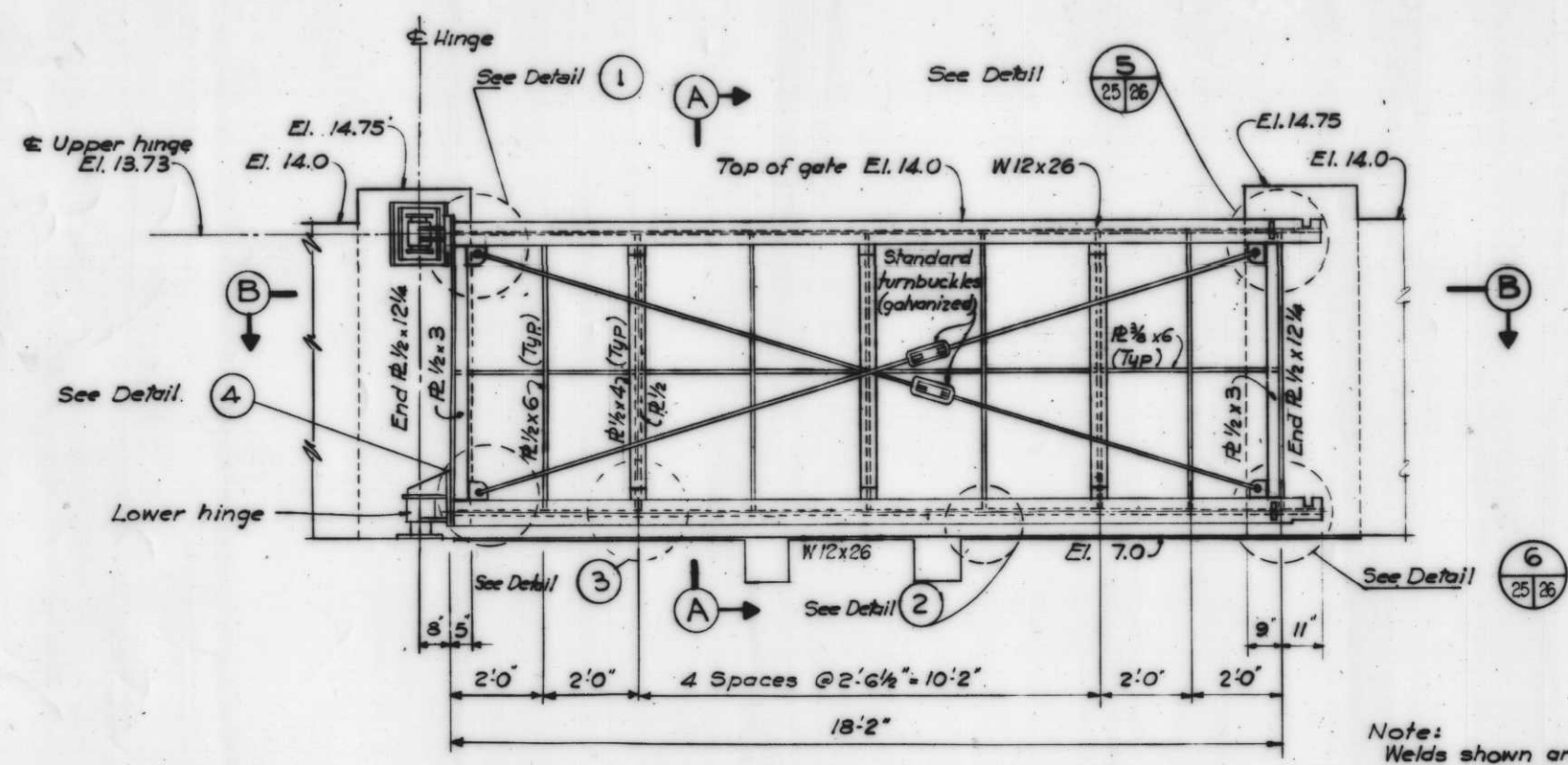


**Safety is a Part of Your Contract**

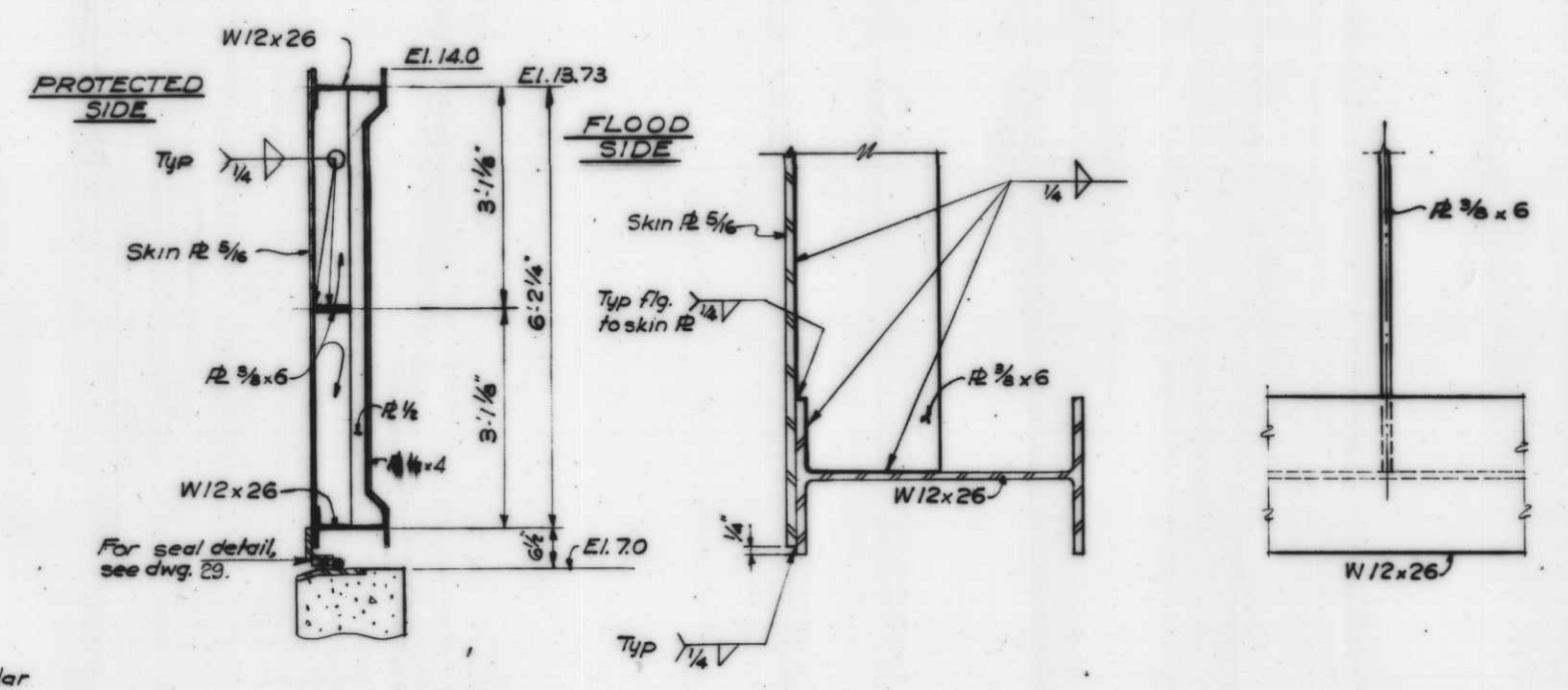


| REVISION  | DATE   | DESCRIPTION | BY        |
|---|--------|-------------|-----------|
| U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.<br><br>LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br><b>HURRICANE PROTECTION FLOODWALL AND LEVEE</b><br>I.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA.<br><br><b>DETAILS - SWING GATE NO. 1</b> |        |             |           |
| DESIGNED:   | DRAWN: | CHECKED:    | DATE:     |
| J.A.R.  | B.H.D. | J.A.R.      | JAN. 1962 |
| SCALE:  |        | FILE NO.    |           |
| AS SHOWN  |        | H-4-27147   |           |
| SPEC. NO.   |        | SHEET       |           |
| DACW29-62-B-0033  |        | 24 of 44    |           |

**Notes:**  
 For general notes, See dwg. 5  
 For seal details, See dwg. 29  
 For latching details, See dwgs. 30 & 31  
 For hinge details, See dwgs. 27 & 28  
 For gate monolith details, See dwg. 22

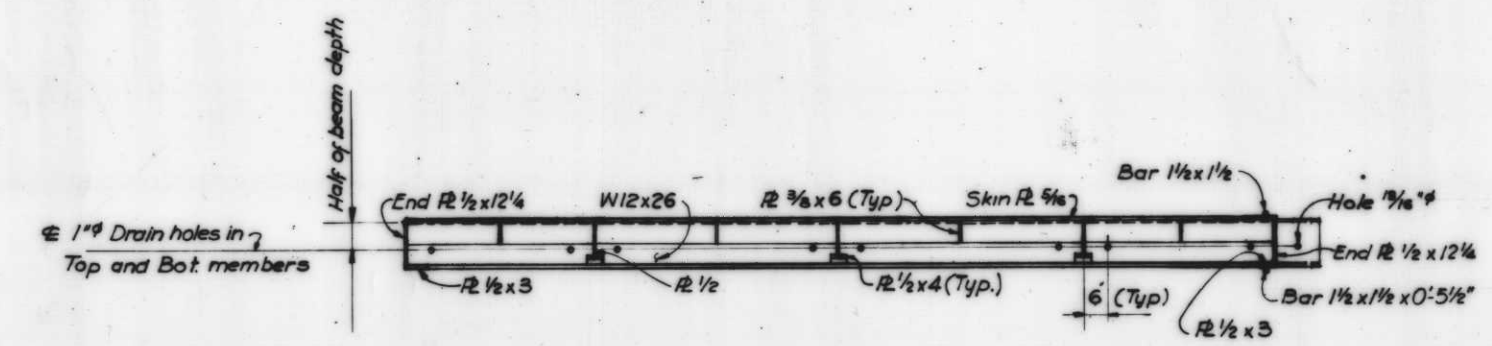


**FLOOD SIDE ELEVATION**  
 SCALE: 1/2" = 1'-0"

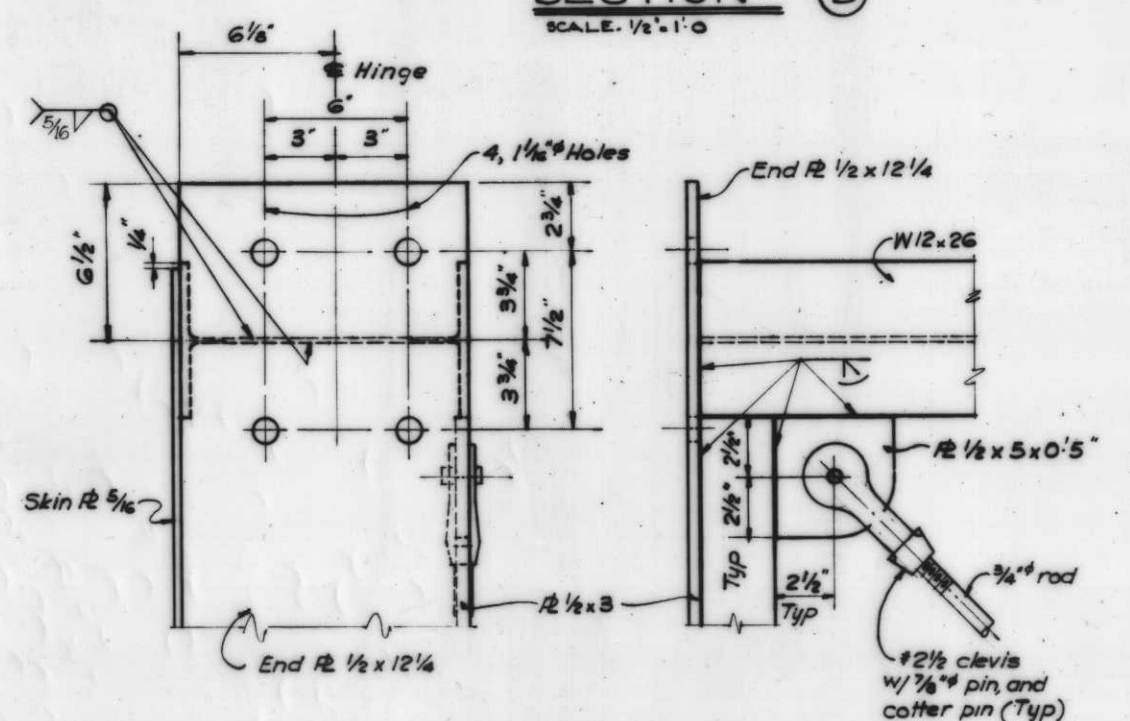


**SECTION A**  
 SCALE: 3/4" = 1'-0"

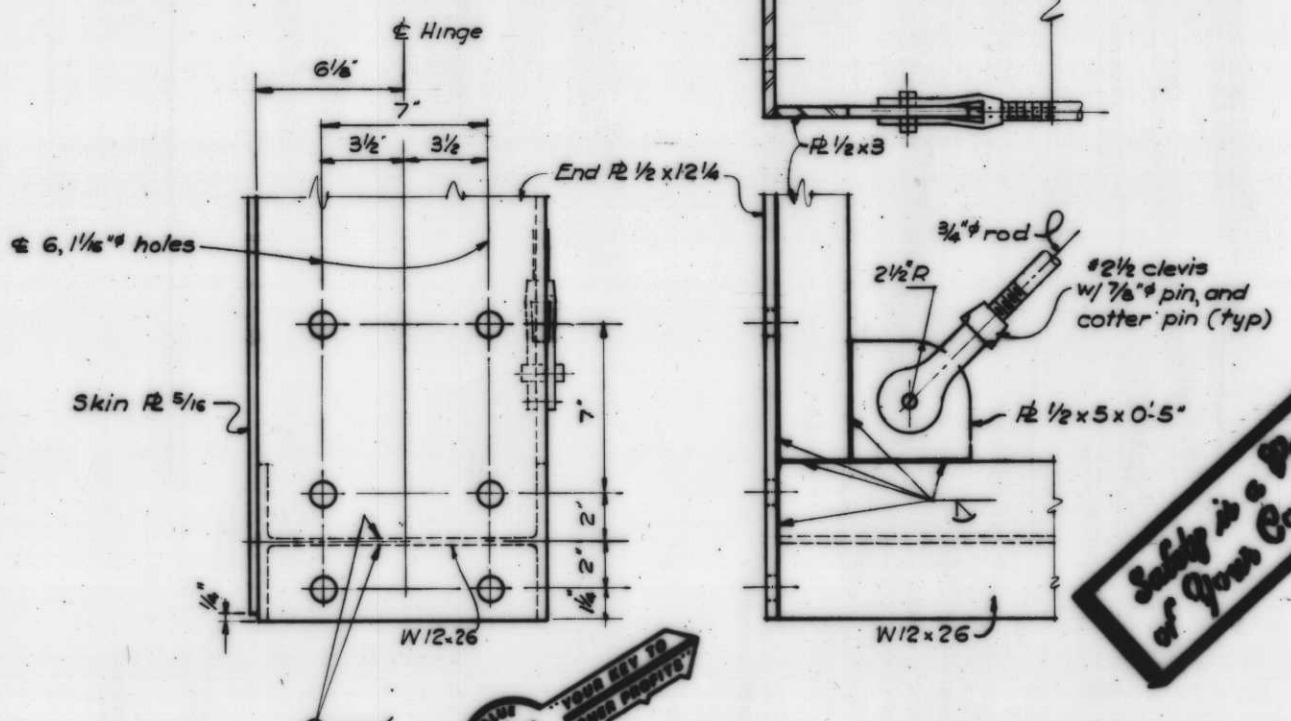
**DETAIL 2 (TYPICAL)**  
 SCALE: 3" = 1'-0"



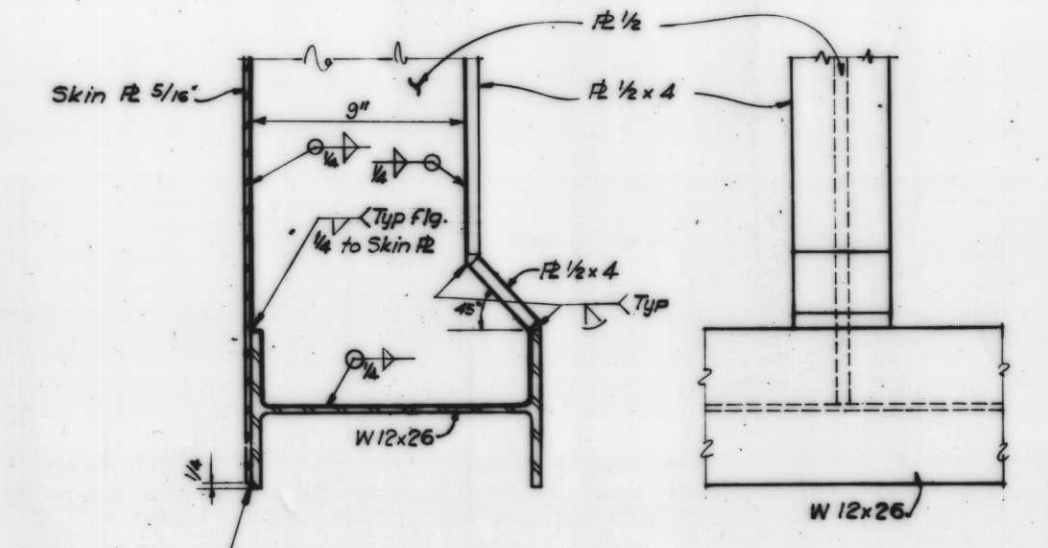
**FLOOD SIDE SECTION B**  
 SCALE: 1/2" = 1'-0"



**DETAIL 1**  
 SCALE: 3" = 1'-0"



**DETAIL 4**  
 SCALE: 3" = 1'-0"



**DETAIL 3 (TYPICAL)**  
 SCALE: 3" = 1'-0"

**Safety is a Part of Good Contract**

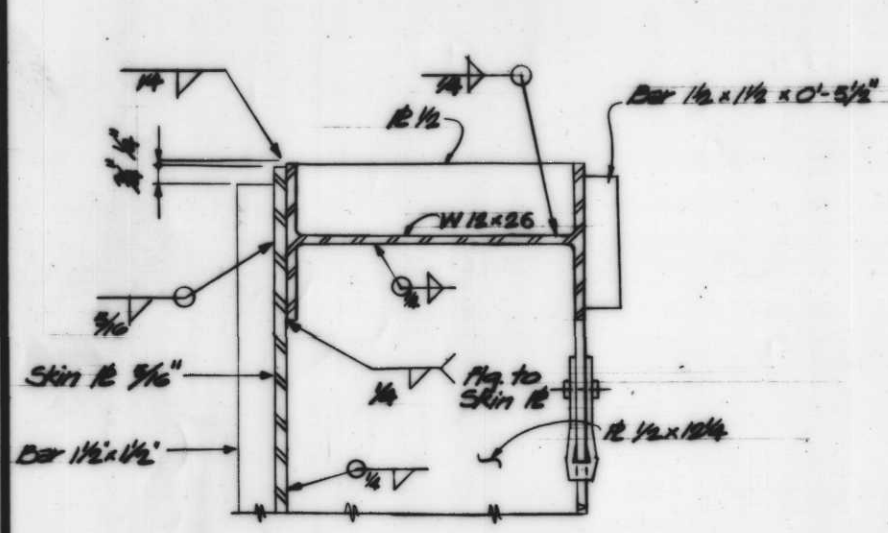
SCALE: 1/2" = 1'-0"  
 12" 0 1 2 3 4 5'

SCALE: 3/4" = 1'-0"  
 12" 0 1 2 3'

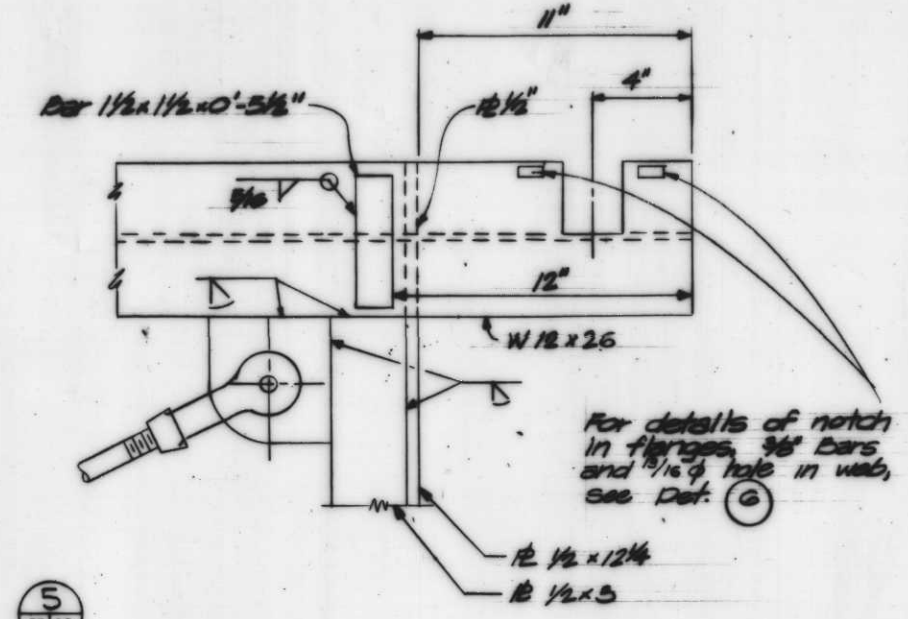
SCALE: 3" = 1'-0"  
 12" 0 0 0 1'

|  |  |                       |               |                 |                 |                 |                    |
|--|--|-----------------------|---------------|-----------------|-----------------|-----------------|--------------------|
| W. C. BONE & ASSOCIATES, INC.<br>CONSULTING ENGINEERS  |  | DESIGNED: J.A.R. W.B. | DRAWN: J.A.R. | CHECKED: J.A.R. | DATE: JAN. 1982 | SCALE: AS SHOWN | FILE NO: H-4-27147 |
| U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.   |  |                       |               |                 |                 |                 |                    |
| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA. |  |                       |               |                 |                 |                 |                    |
| <b>SWING GATE NO.2</b>   |  |                       |               |                 |                 |                 |                    |
| DACW29-82-B-0033   |  |                       |               |                 |                 | 25              | 44                 |



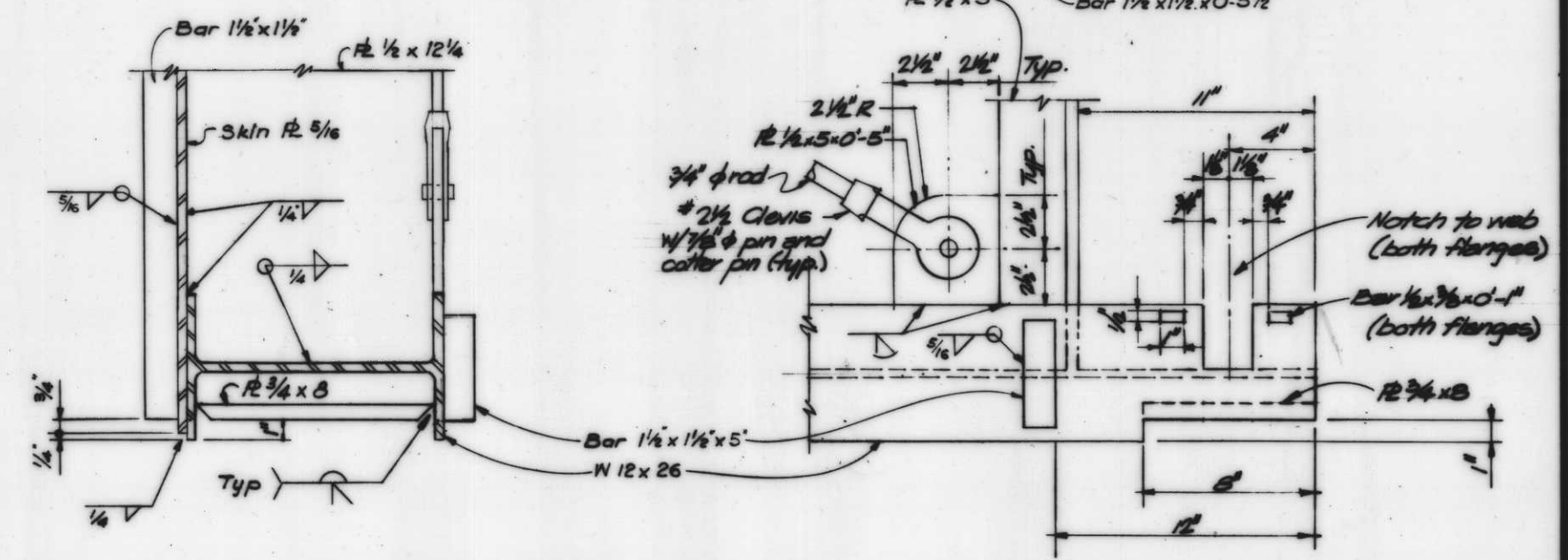


**DETAIL**  
SCALE: 3"=1'-0"

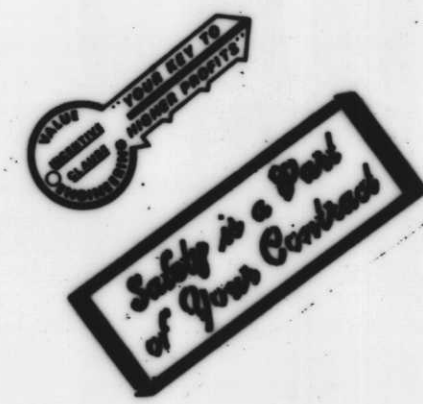


For details of notch in flanges, 3/8" Bars and 1/4" hole in web, see Det. 6

Note: Welds shown are typical for similar joints when not shown



**DETAIL**  
SCALE: 3"=1'-0"

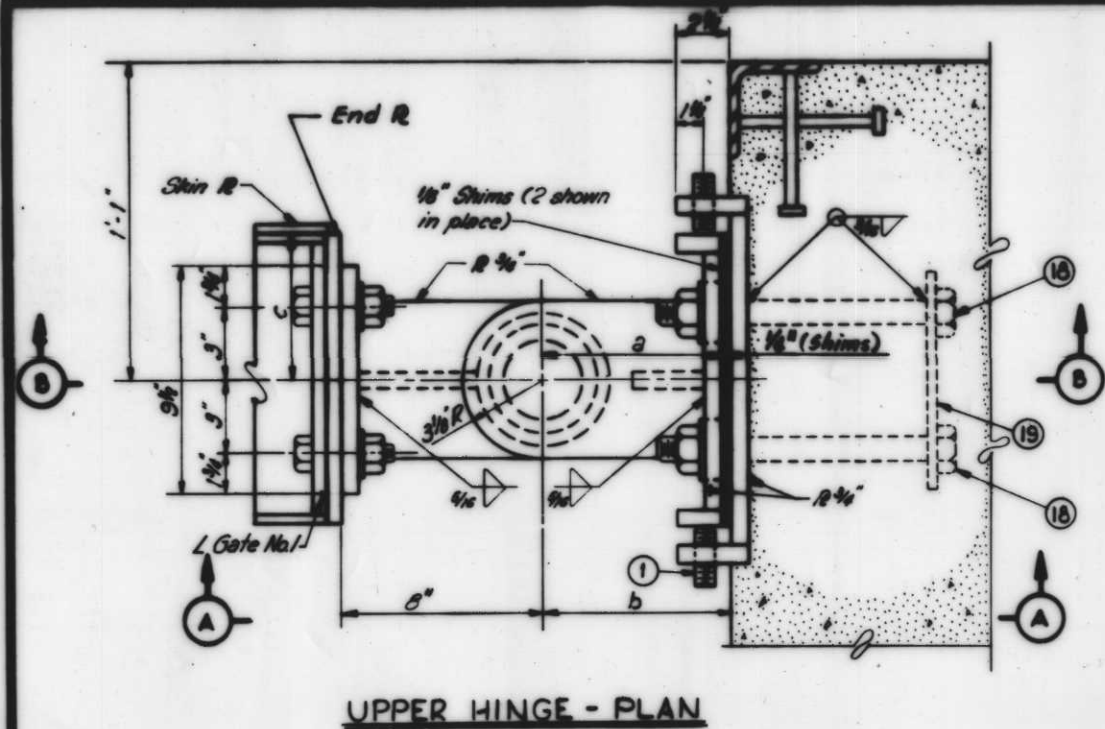


Note: For general notes, see dwg. 5

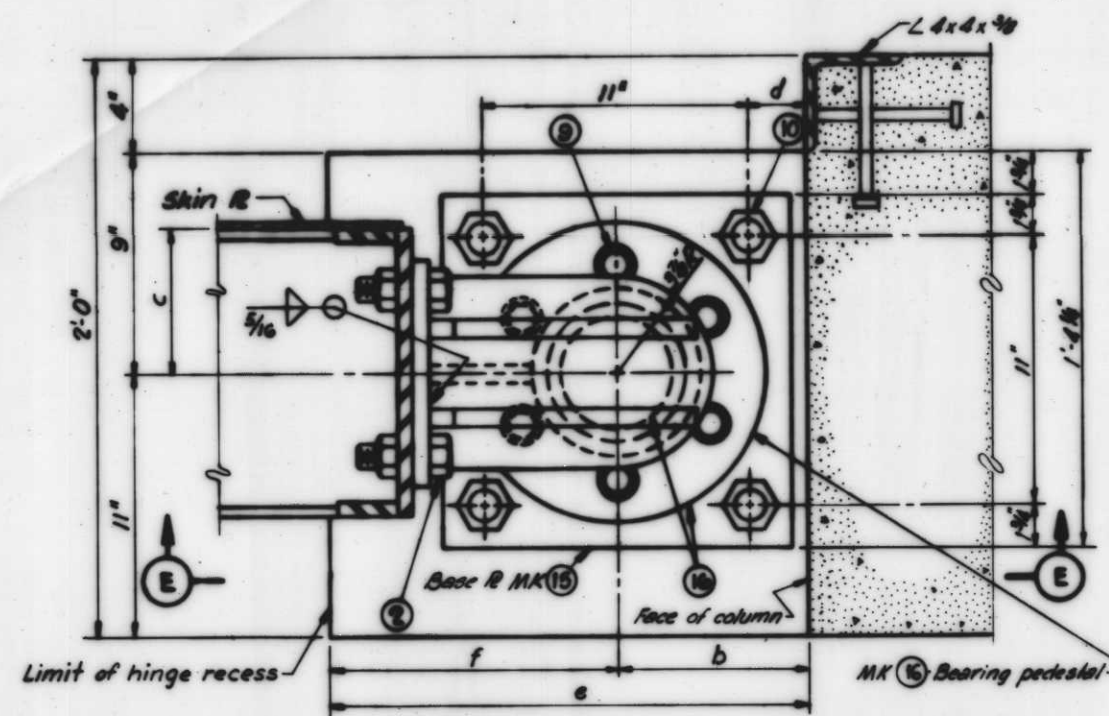
SCALE: 3"=1'-0"

| REVISION  | DATE     | DESCRIPTION | BY                                  |
|---|----------|-------------|-------------------------------------|
| U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.<br>LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA.<br><b>DETAILS - SWING GATE NO.2</b> |          |             |                                     |
| DESIGNED  | ENGINEER | DATE        | SCALE                               |
| J.A.R.  | W.B.     | J.A.R.      | JAN. 1982                           |
| W. C. BONE & ASSOCIATES, INC.<br>CONSULTING ENGINEERS   |          |             | FILE NO.<br><b>H-4-27147</b>        |
| DRAWN BY<br>J.A.R.  |          |             | SHEET NO.<br><b>26</b> of <b>44</b> |

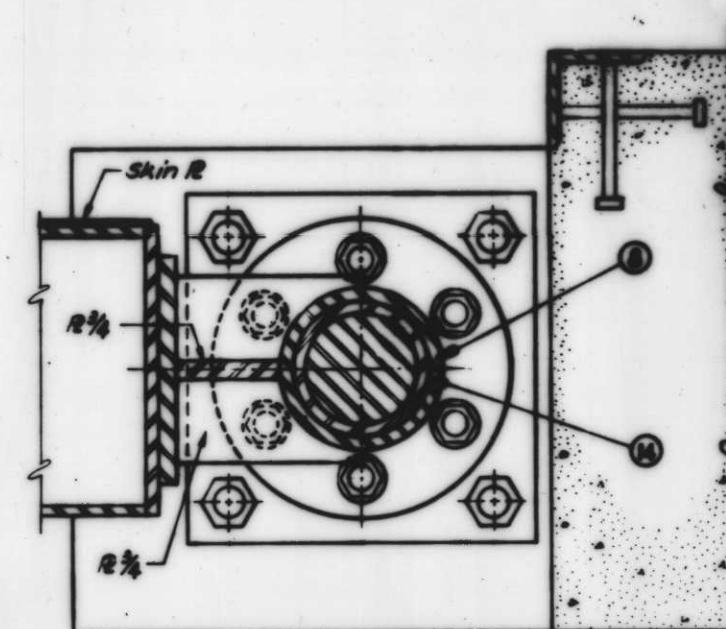




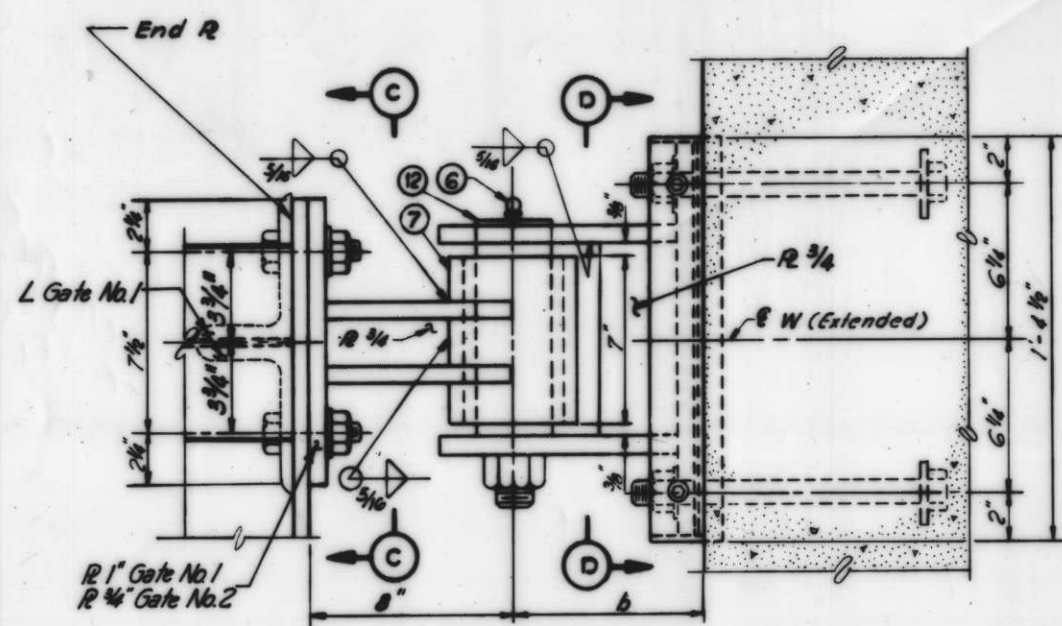
UPPER HINGE - PLAN



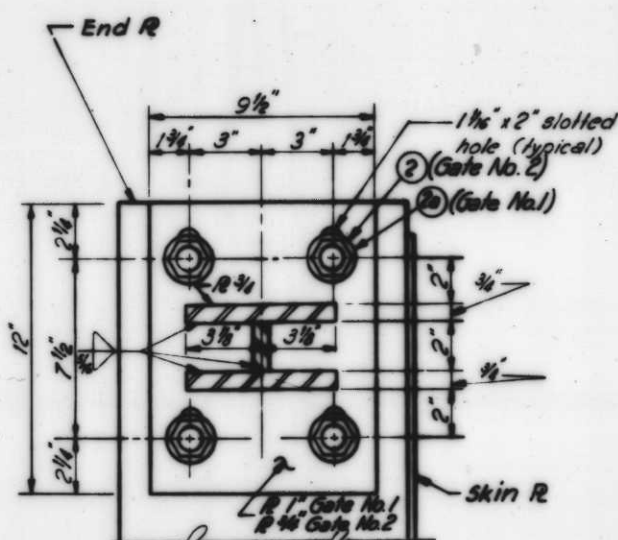
LOWER HINGE - PLAN



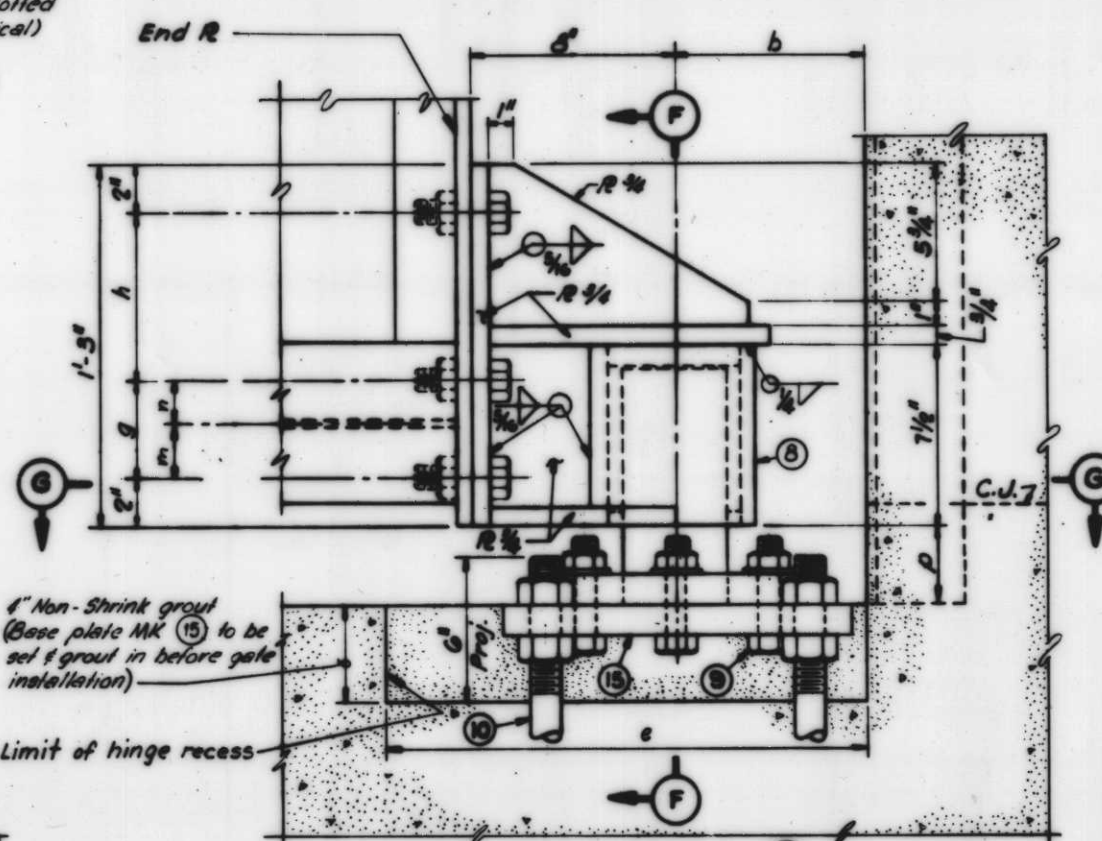
SECTION G



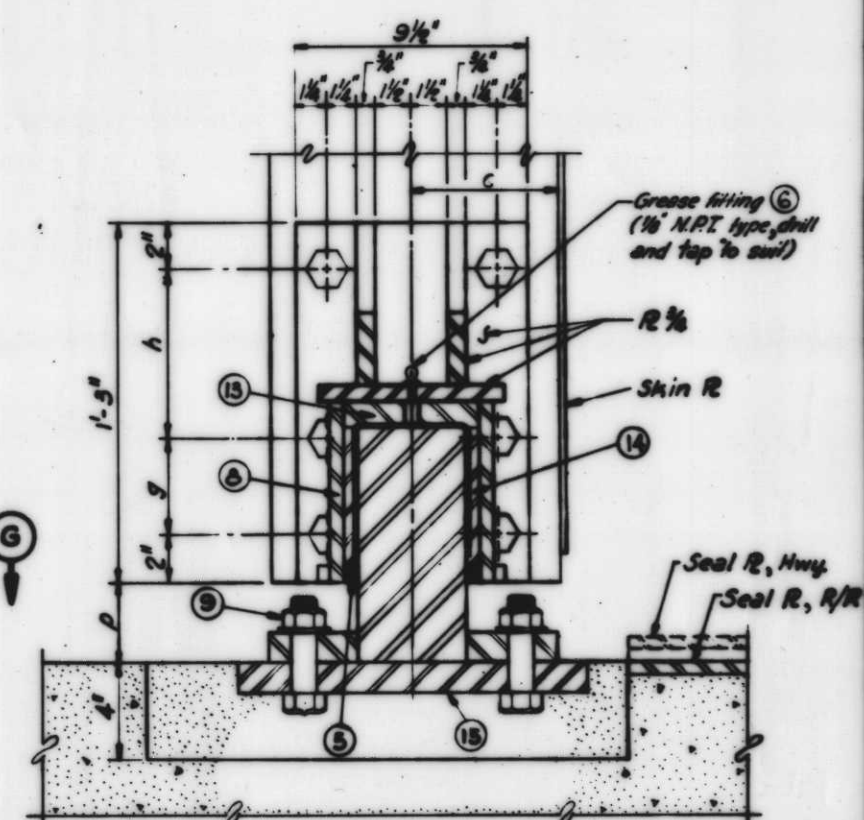
ELEVATION A



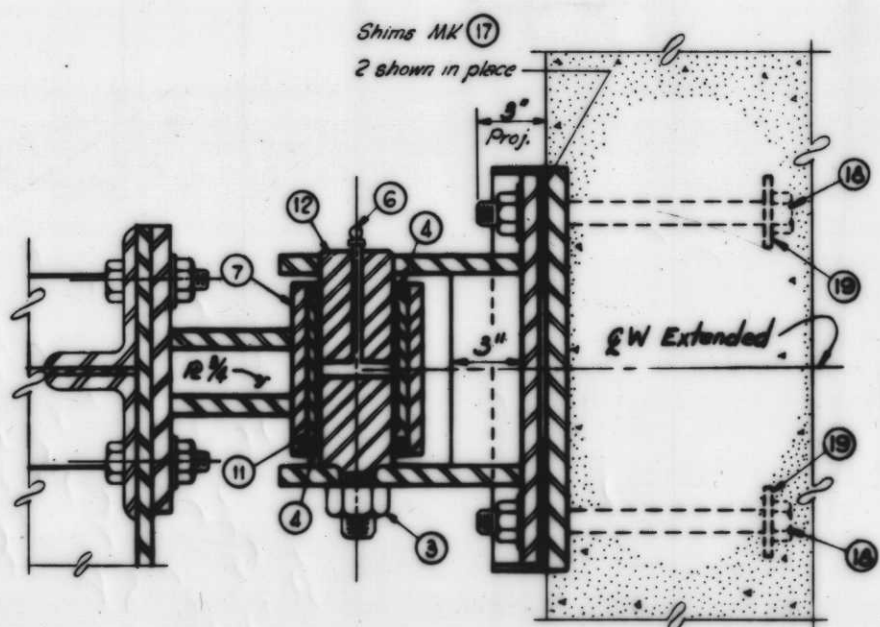
SECTION C



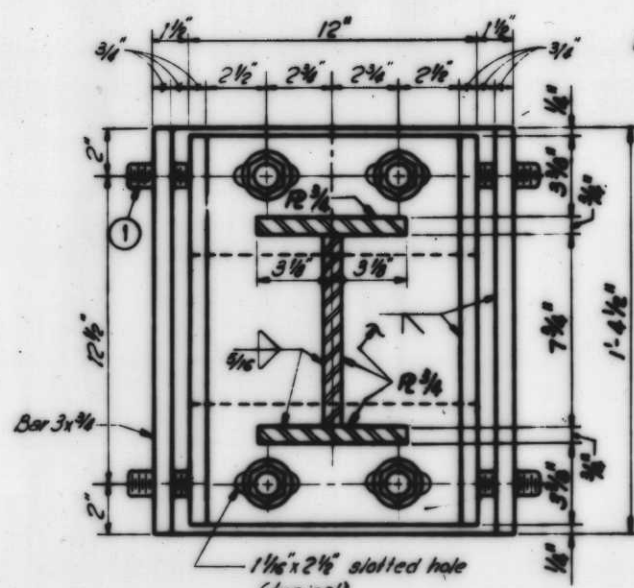
ELEVATION E



SECTION F

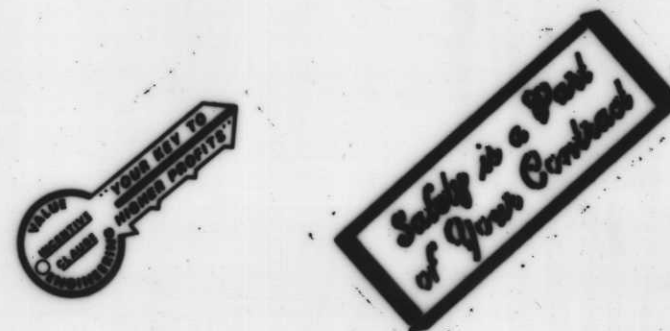


SECTION B



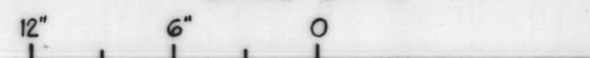
SECTION D

Notes:  
 For general notes, see dwg. 5.  
 For gate details, see dwgs. 23 thru 26.  
 (M) Denotes mark numbers, see dwg. 28.



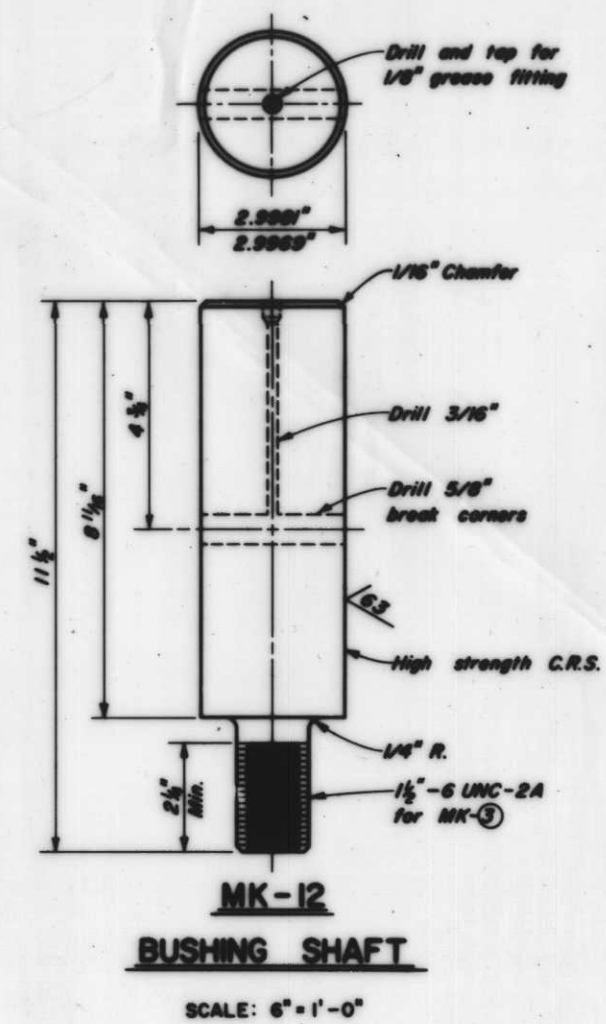
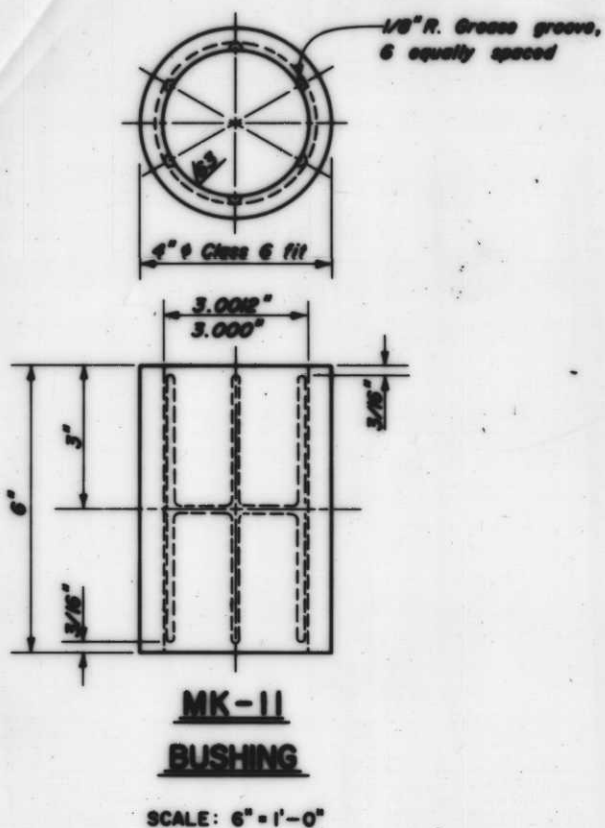
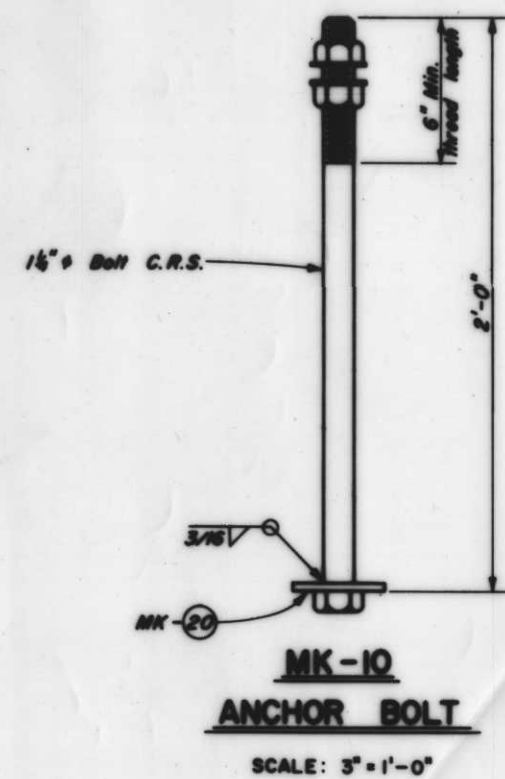
| GATE NO. | SCHEDULE DIMENSIONS |         |        |        |       |           |    |    |        |        |        |
|----------|---------------------|---------|--------|--------|-------|-----------|----|----|--------|--------|--------|
|          | a                   | b       | c      | d      | e     | f         | g  | h  | m      | n      | p      |
| 1        | 10 3/4"             | 10 3/4" | 9 3/4" | 5 3/4" | 1'-0" | 9 3/4"    | 4" | 7" | 2 1/2" | 1 3/4" | 3 1/4" |
| 2        | 7 1/4"              | 7 3/4"  | 6 3/4" | 2 3/4" | 1'-0" | 1'-0 1/4" | 4" | 7" | 1 1/4" | 2 3/4" | 3 1/4" |

SCALE: 3" = 1'-0"



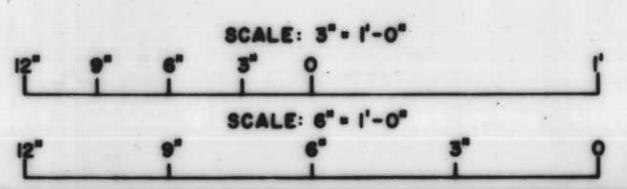
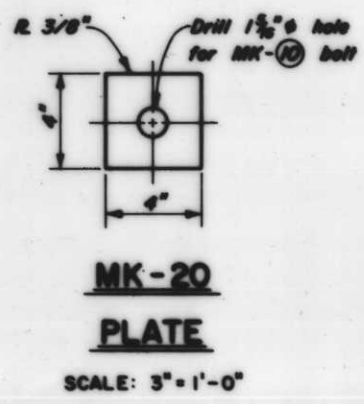
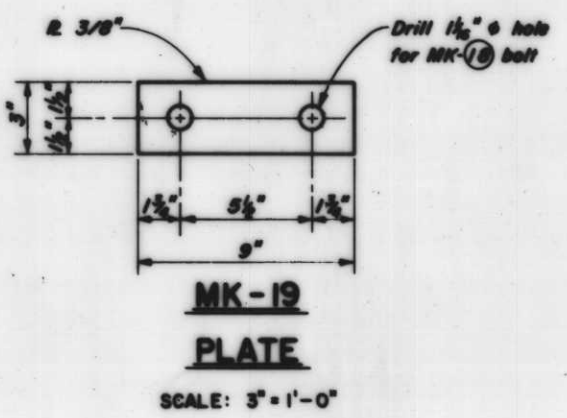
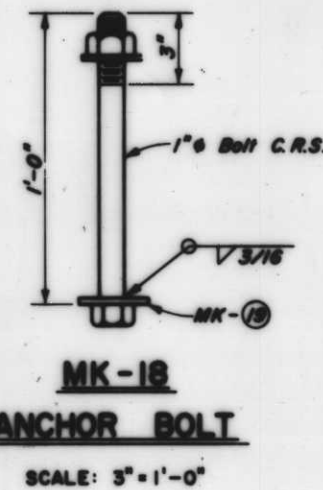
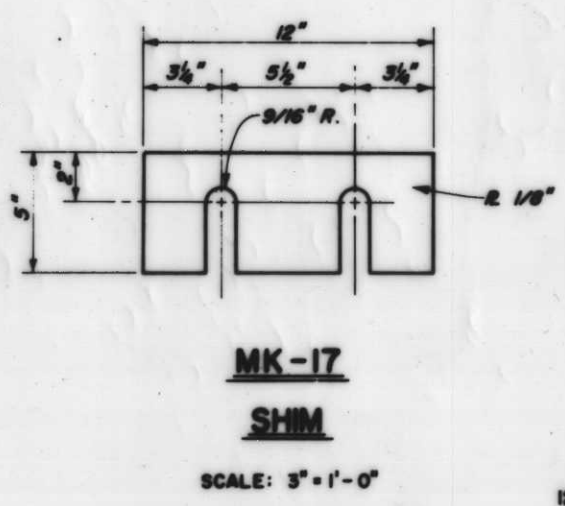
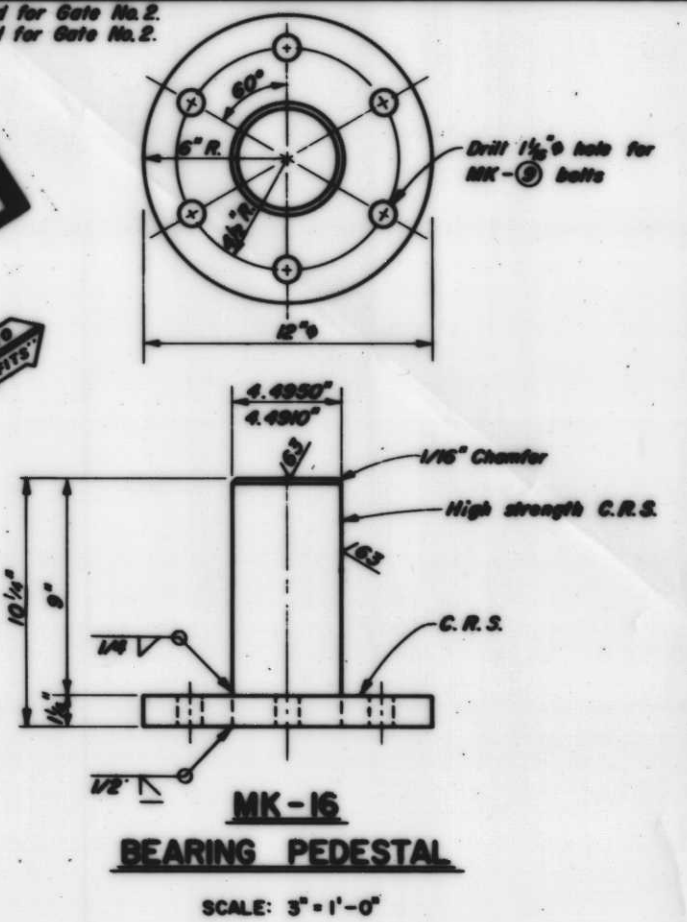
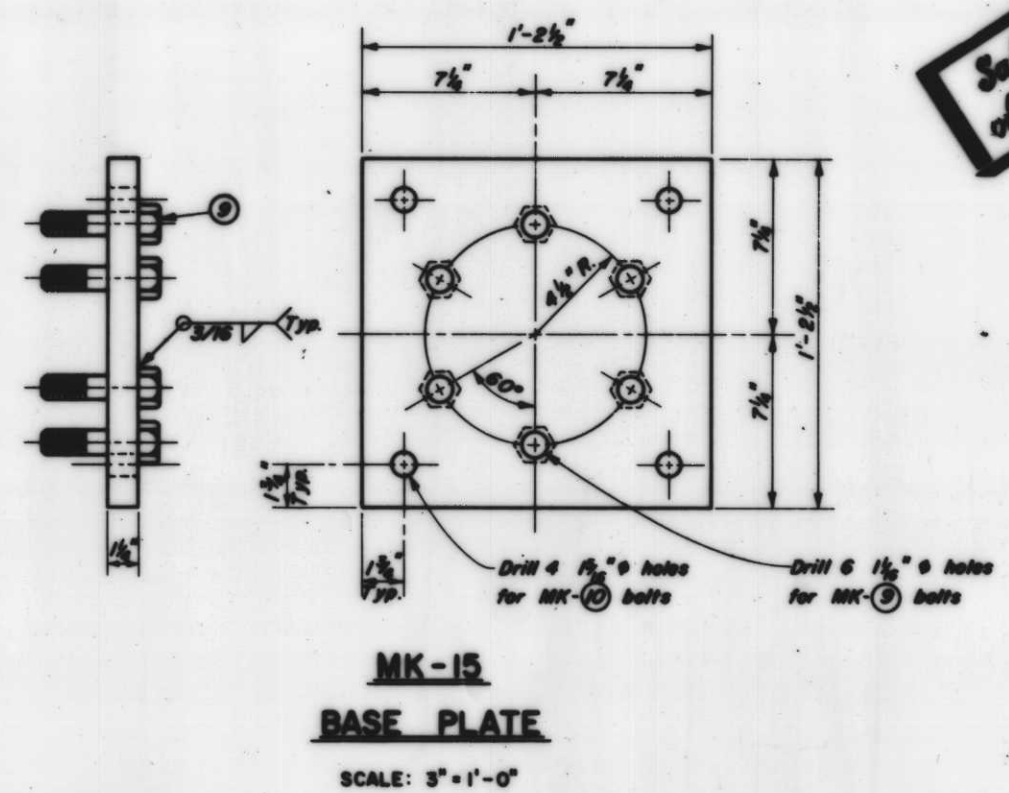
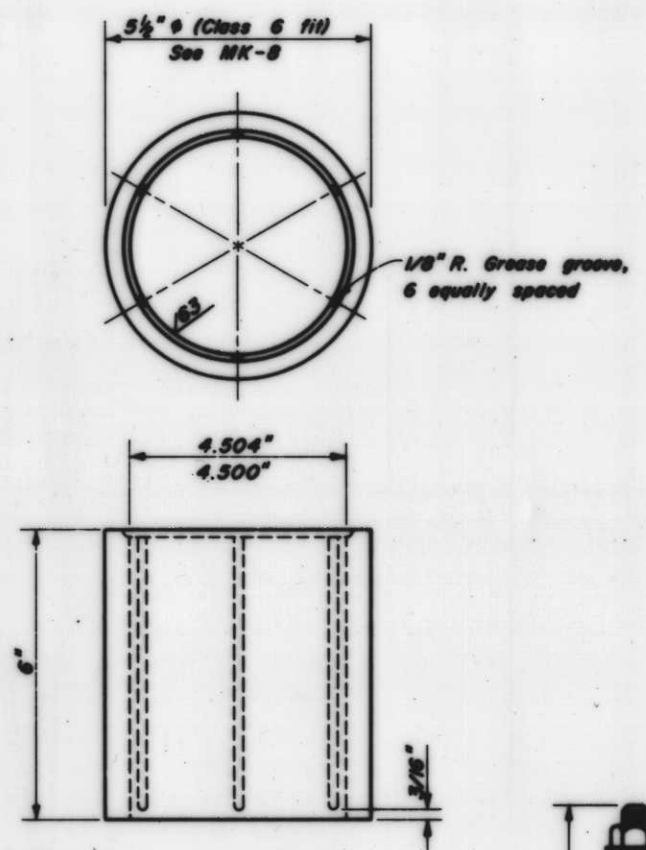
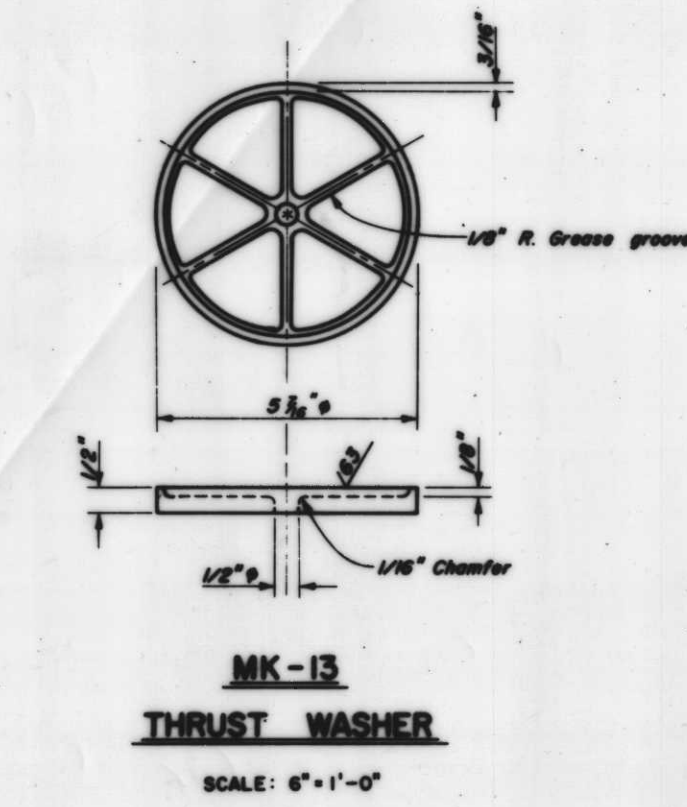
| REVISION   | DATE             | DESCRIPTION | BY       |
|--|------------------|-------------|----------|
| U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.<br><br>LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA.<br><br><b>HINGE DETAILS</b> |                  |             |          |
| DESIGNED   | DRAWN            | CHECKED     | DATE     |
| J.A.R.   | B.H.D.           | J.A.R.      | JAN 1968 |
| SCALE  | FILE NO.         |             |          |
| AS SHOWN   | H-4-27147        |             |          |
| DATE   | DWG. NO.         |             |          |
| JAN 1968   | DACW29-82-b-0033 | 27 - 44     |          |





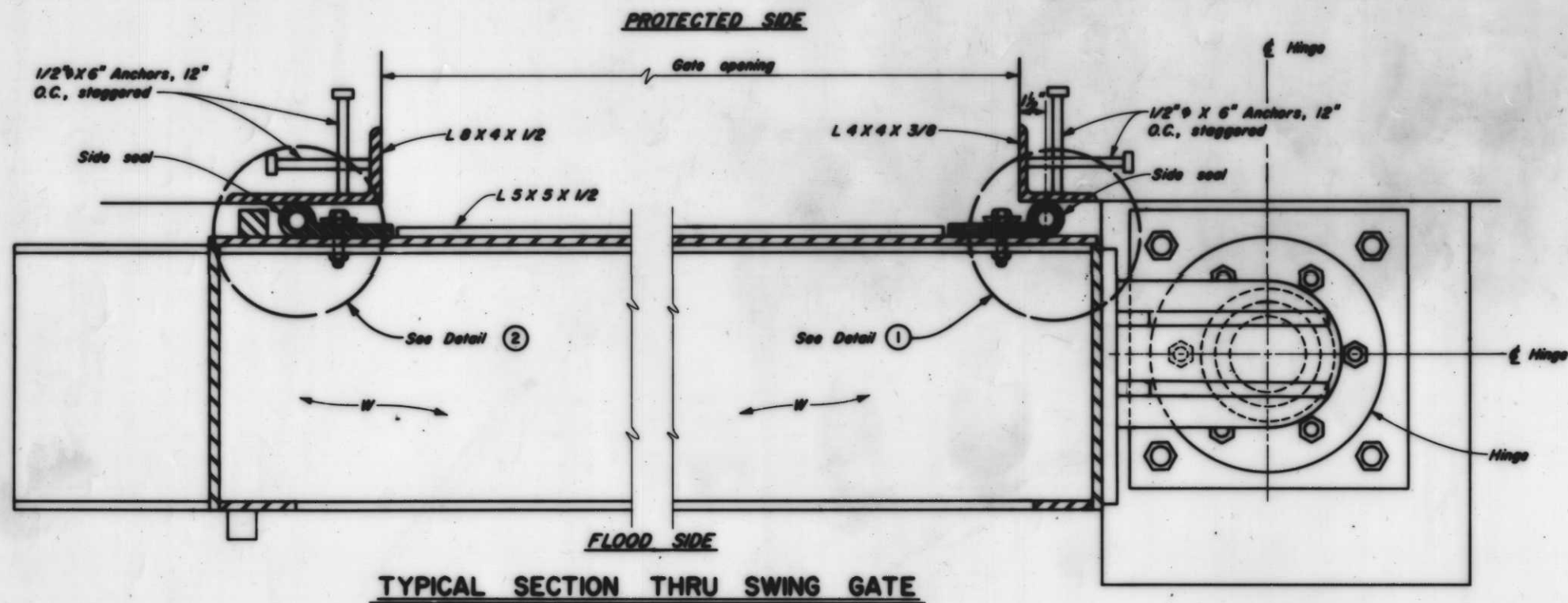
| MARK NO. | QUANTITY | DESCRIPTION   | MATERIAL                           |
|----------|----------|---|------------------------------------|
| 1        | 4        | Set screw-hex socket, 1" X 2 1/2" Class 3A flat washer  | C.R.S.                             |
| 2        | 6        | 1" X 3" long bolt with hex nut and flat washer  | High strength C.R.S.               |
| 2a       | 4        | 1" X 3 1/2" long bolt with hex nut and flat washer  | High strength C.R.S.               |
| 3        | 1        | Nut, hex head 1 1/2" - 6 UNC-2B Type 2 Style 8 with flat washer   | C.R.S.                             |
| 4        | 2        | Grease seal, Garlock Standard, Closure No. 2178 or equal  | Commercial Grade                   |
| 5        | 1        | Grease seal, Garlock Standard, Closure No. 2753 or equal  | Commercial Grade                   |
| 6        | 2        | Grease fitting, 1/8" N.P.T. Type  | Commercial Grade                   |
| 7        | 1        | Mechanical tubing, 5 1/2" O.D. X 4" I.D. X 7" Lg. machined for Class 6 fit between I.D. of tubing and O.D. of MK-11 bushing         | A-513, TYPE 6                      |
| 8        | 1        | Mechanical tubing, 6 1/2" O.D. X 5 1/2" I.D. X 7 1/2" Lg. machined for Class 6 fit between I.D. of tubing and O.D. of MK-11 bushing | A-513, TYPE 6                      |
| 9        | 6        | 1" X 4" Lg. bolt with hex nut and flat washer   | High strength C.R.S.               |
| 10       | 4        | 1 1/2" X 2'-0" Lg. bolt with hex nuts and flat washers  | C.R.S.                             |
| 11       | 1        | Bushing, 4" O.D. X 3" I.D. X 6" Lg.   | B-22, No. 937                      |
| 12       | 1        | Bushing shaft, 2.99" O.D. X 11 1/2" Lg.   | A-276, TYPE 431                    |
| 13       | 1        | Thrust washer, 5 1/2" X 5" with 1/2" hole   | B-22, No. 937                      |
| 14       | 1        | Bushing, 5 1/2" O.D. X 4 1/2" I.D. X 6" Lg.   | B-22, No. 937                      |
| 15       | 1        | Base plate, 1'-2 1/2" X 1'-2 1/2" X 1 1/2"  | Steel A-36                         |
| 16       | 1        | Bearing pedestal<br>1 1/2" Plate, 12" Lg.<br>4 1/2" Shaft X 10 1/4" Lg.   | A-276, TYPE 304<br>A-276, TYPE 431 |
| 17       | AS REQ.  | Shim plate, 5" X 12" X 1/8"   | Steel A-36                         |
| 18       | 4        | 1" X 1'-0" Lg. bolt with hex nut & washer   | C.R.S.                             |
| 19       | 2        | Plate, 3" X 9" X 3/8"   | Steel A-36                         |
| 20       | 4        | Plate, 4" X 4" X 3/8"   | Steel A-36                         |

Note: Quantities shown are for one complete swing gate.  
 \* 10 Required for Gate No. 2.  
 \*\* 0 Required for Gate No. 2.



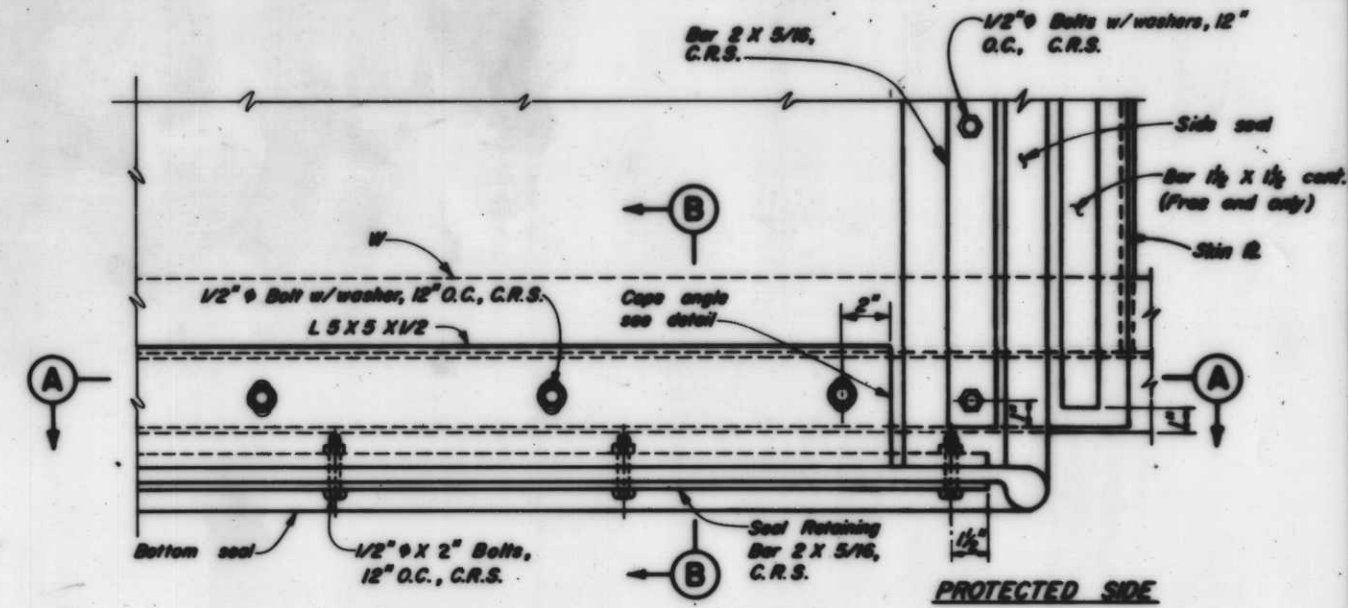
| REVISION   | DATE            | DESCRIPTION           | BY                |
|--|-----------------|-----------------------|-------------------|
| U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.  |                 |                       |                   |
| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>L.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA. |                 |                       |                   |
| <b>HINGE DETAILS</b>   |                 |                       |                   |
| DESIGNED<br>J.A.R.   | DRAWN<br>B.H.D. | CHECKED<br>J.A.R.     | DATE<br>JAN. 1962 |
| SCALE<br>AS SHOWN  |                 | FILE NO.<br>H-4-27147 |                   |
| SPEC. NO.<br>DACW29-62-B-0033  |                 | SHEET NO.<br>28 OF 44 |                   |





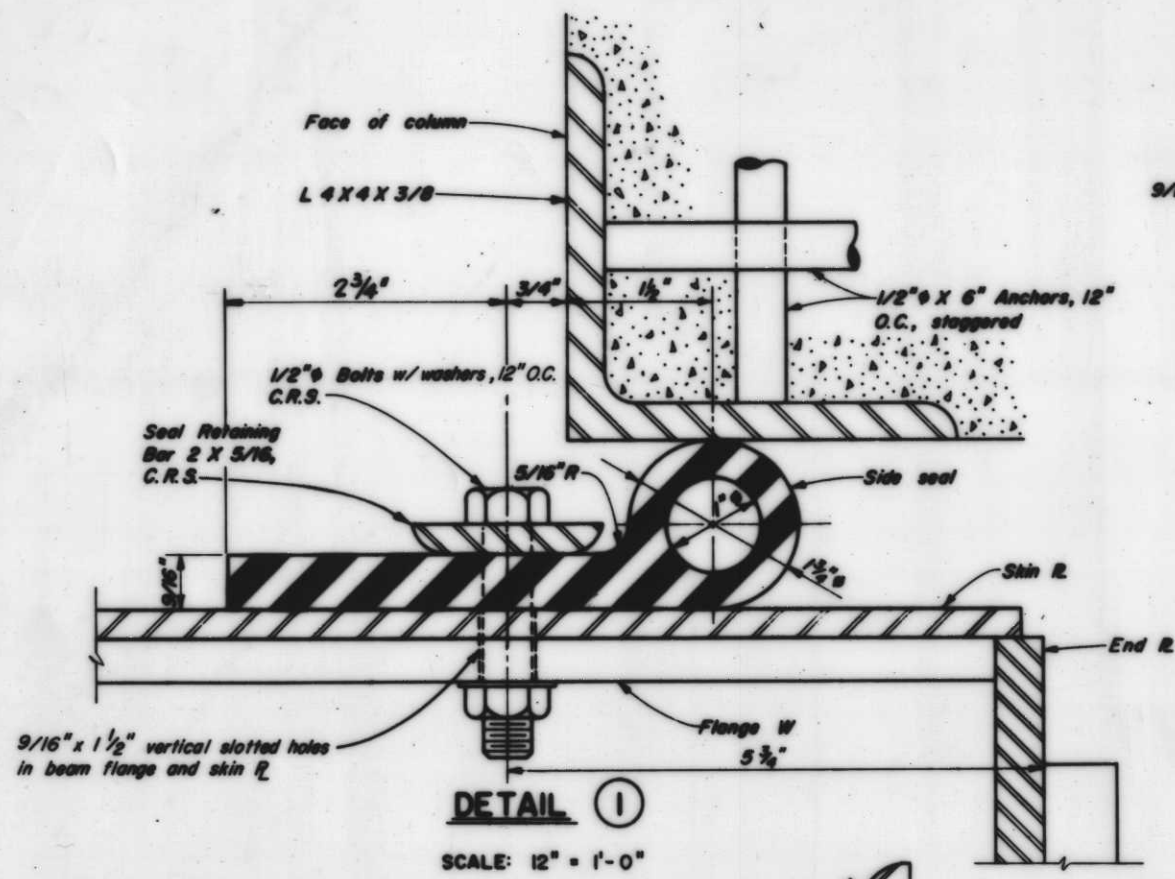
TYPICAL SECTION THRU SWING GATE

SCALE: 3" = 1'-0"



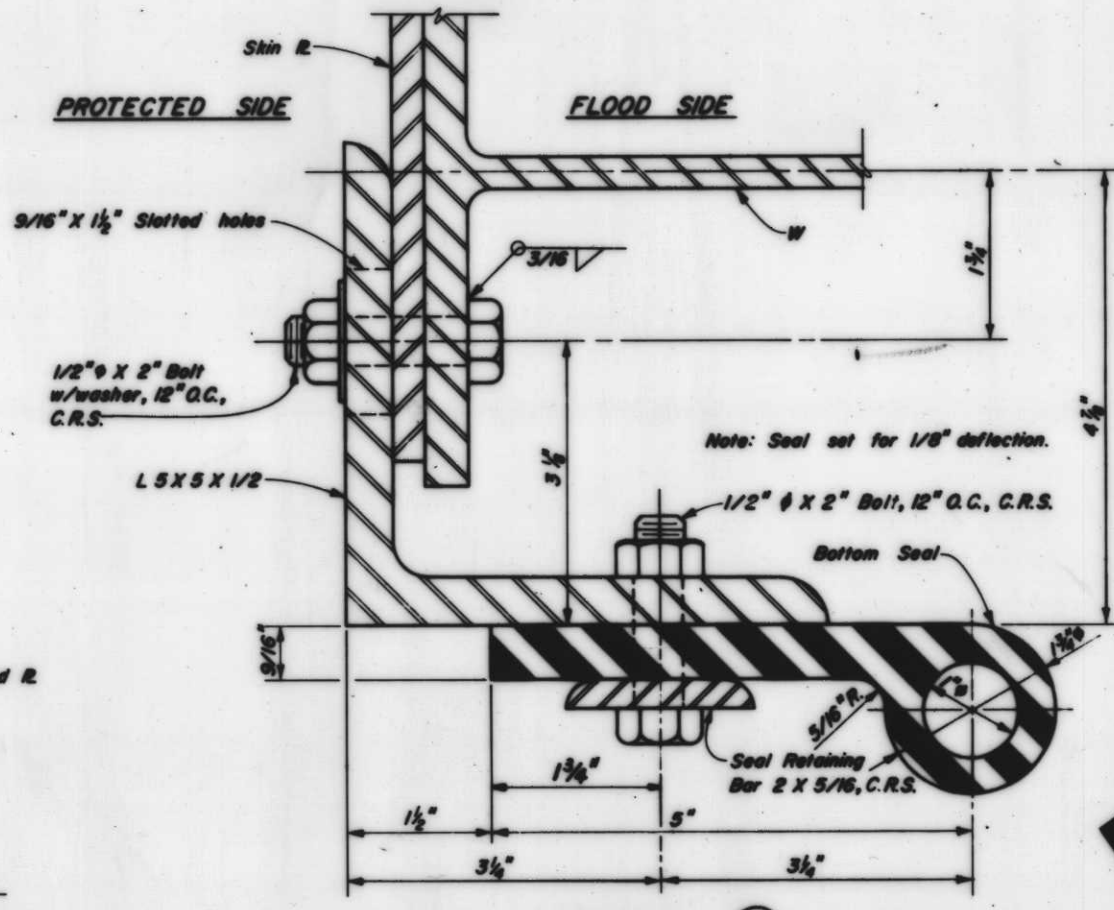
TYPICAL END ELEVATION

SCALE: 3" = 1'-0"



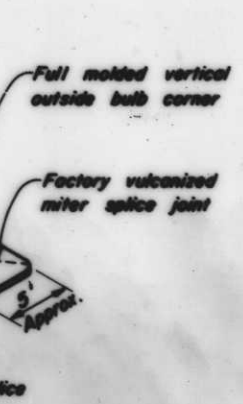
DETAIL 1

SCALE: 12" = 1'-0"



SECTION B

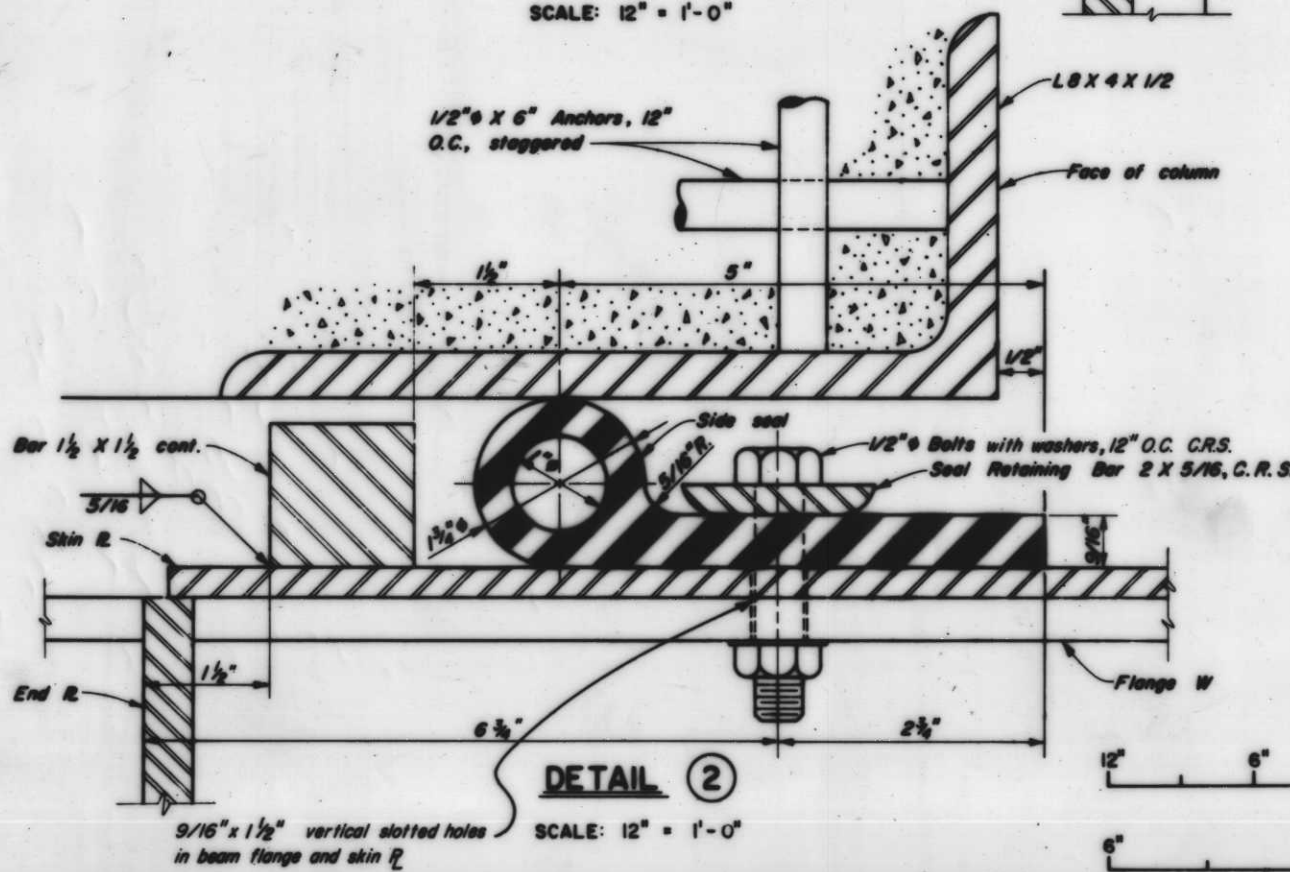
SCALE: 12" = 1'-0"



TYPICAL GATE SEAL

NOT TO SCALE

Notes:  
 For general notes, see Div. 5.  
 All splices will be factory made in heavy steel press type molds under pressure and heat.  
 All splice joints must develop strength of at least 50% of the minimum tensile strength required of the rubber.  
 Seal clamp angles shall be pointed on all sides prior to assembly.  
 For Seal Retaining Bar detail, see Div. 14.  
 Provide washers with 1/2\"/>



DETAIL 2

SCALE: 12" = 1'-0"

END OF L5X5X1/2

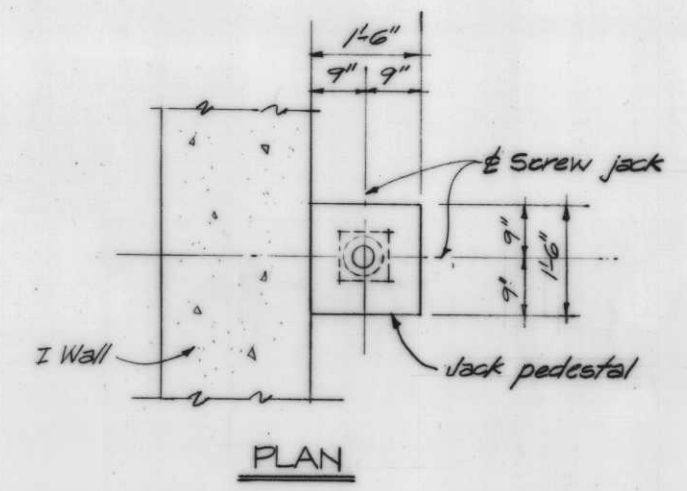
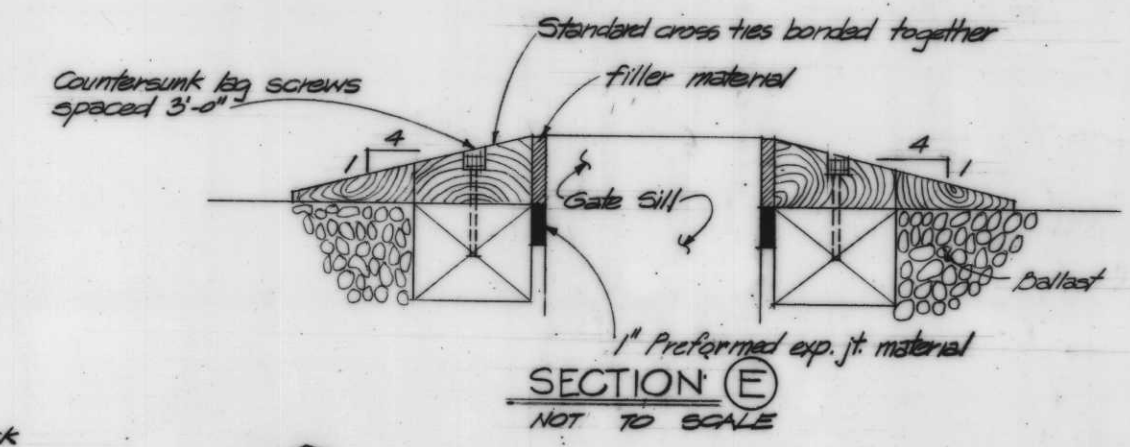
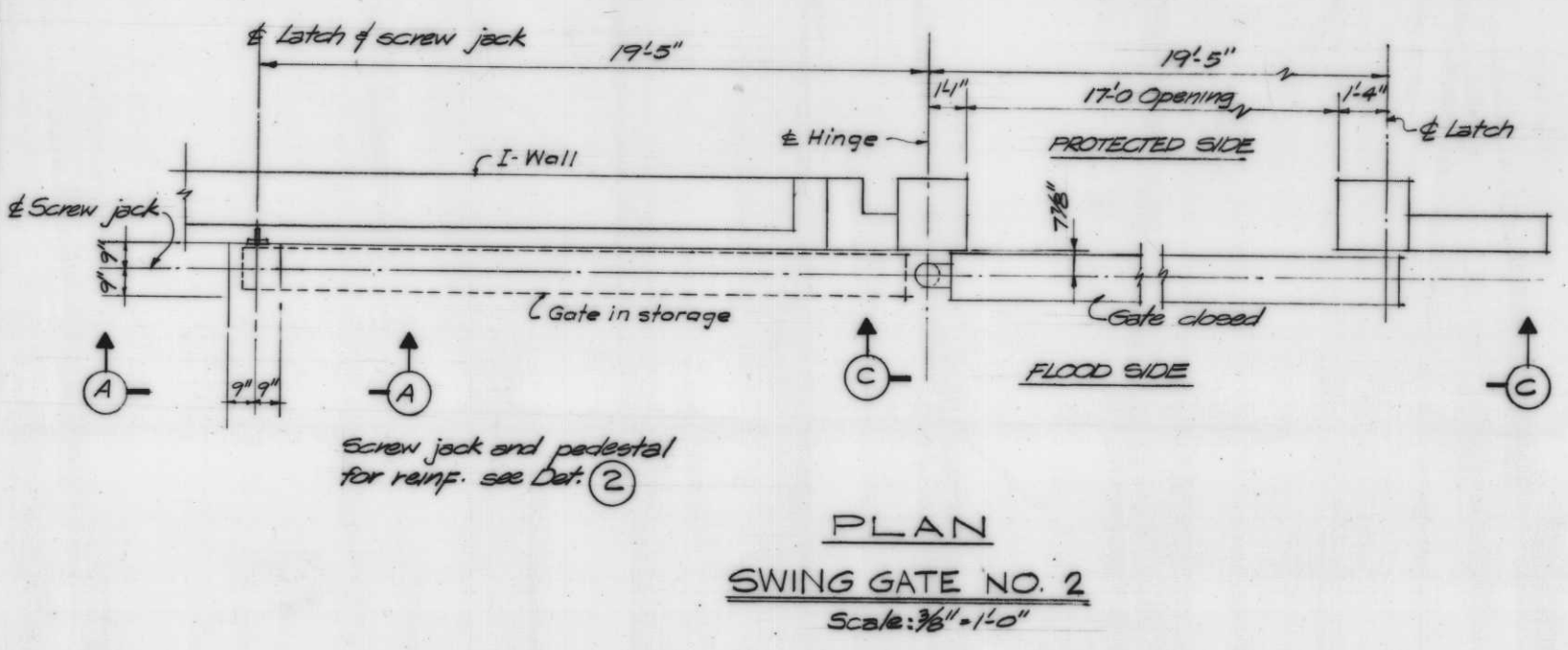
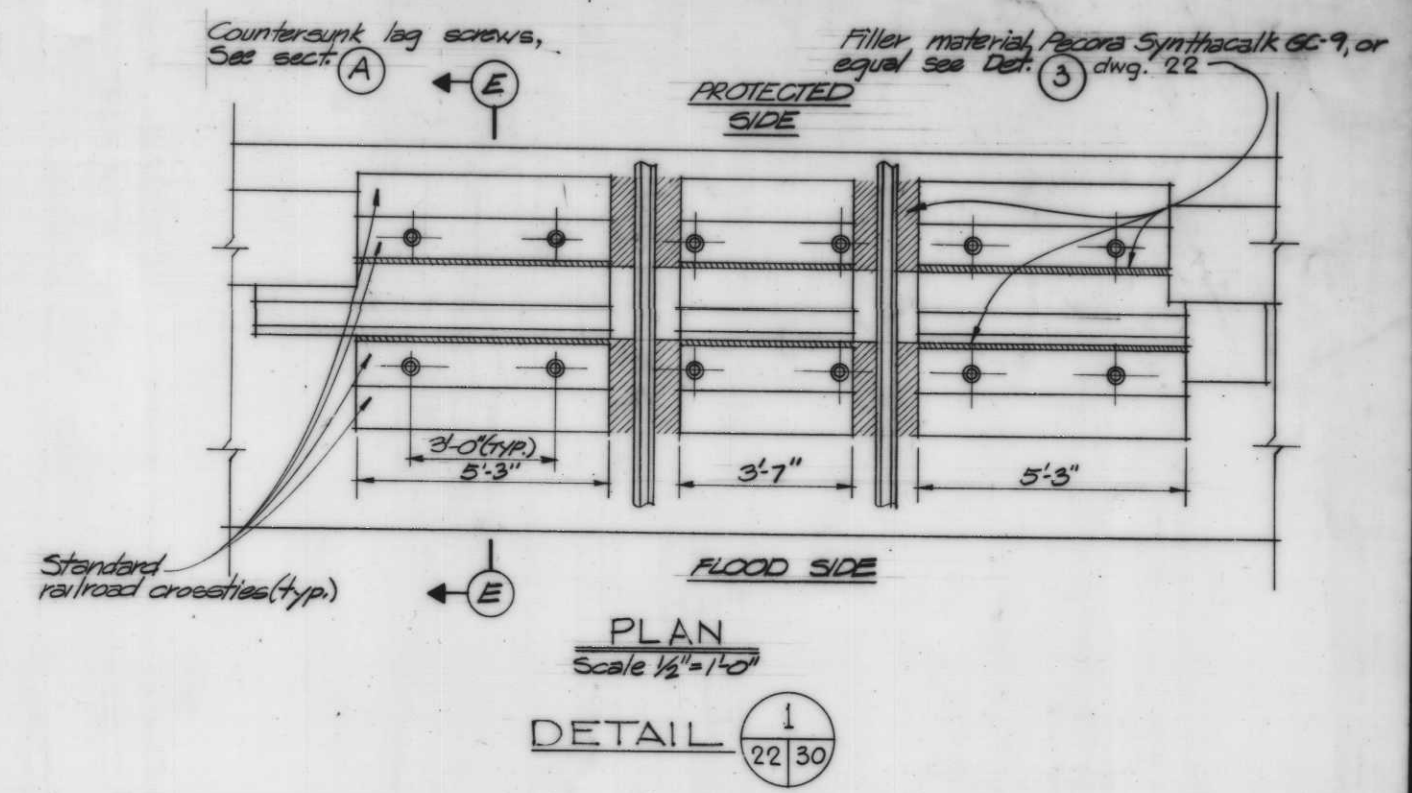
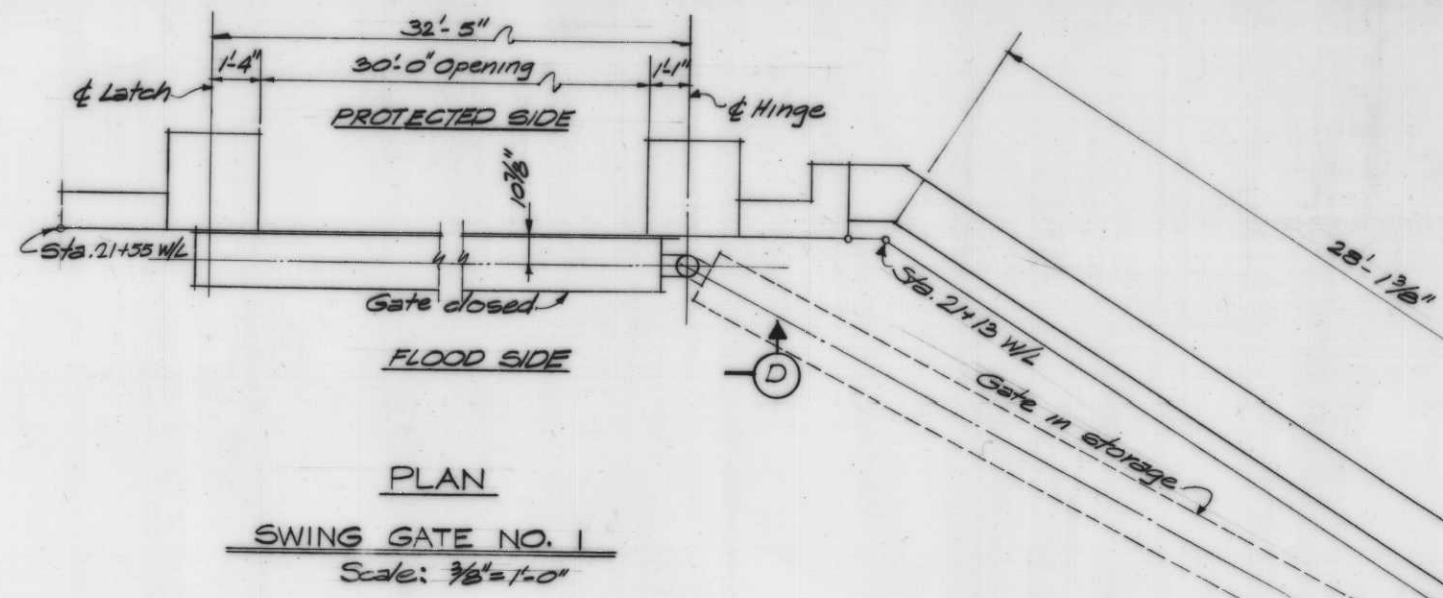
SCALE: 3" = 1'-0"

SCALE: 3" = 1'-0"

SCALE: 12" = 1'-0"

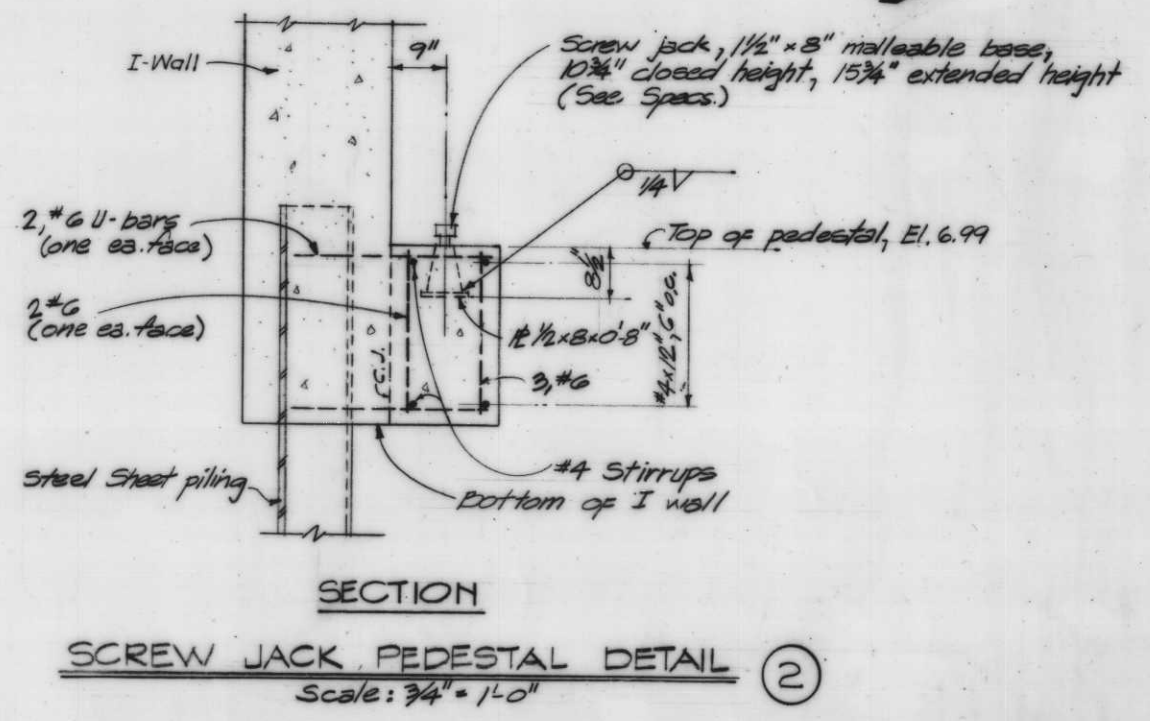
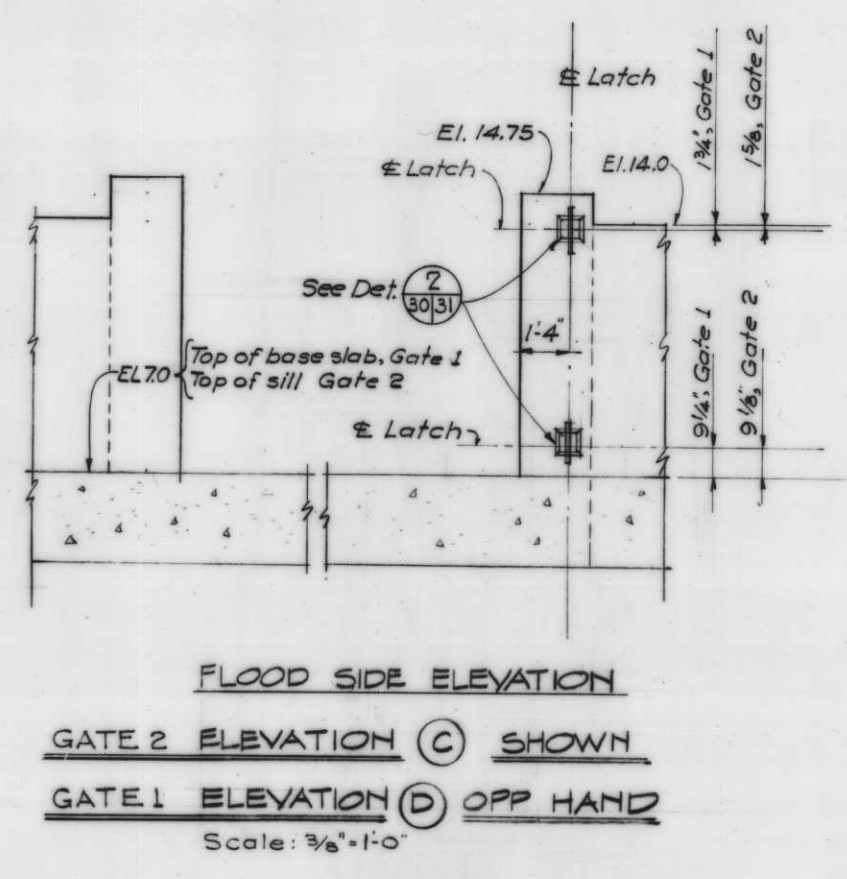
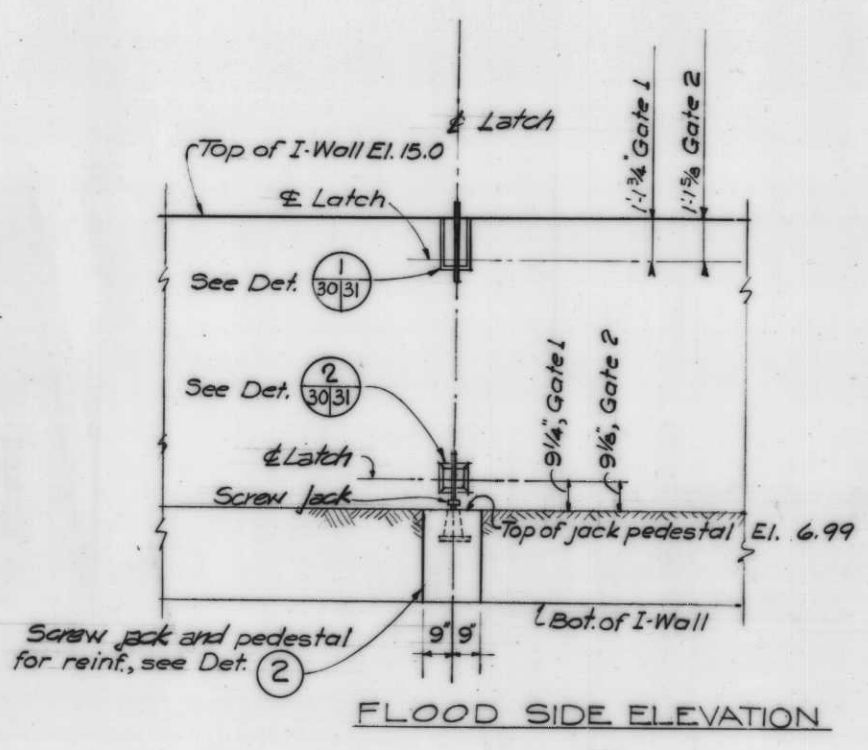
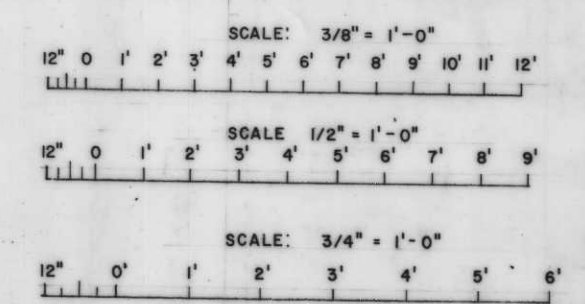
| REVISION   | DATE            | DESCRIPTION           | BY                |
|--|-----------------|-----------------------|-------------------|
| U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.<br><br>LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA. |                 |                       |                   |
| <b>SEAL DETAILS</b>  |                 |                       |                   |
| DESIGNED<br>J.A.R.   | DRAWN<br>B.H.D. | CHECKED<br>J.A.R.     | DATE<br>JAN. 1962 |
| SCALE<br>AS SHOWN  |                 | FILE NO.<br>H-4-27147 |                   |
| SPEC. NO.<br>DACW29-62-B-0033  |                 | SHEET<br>29 OF 44     |                   |





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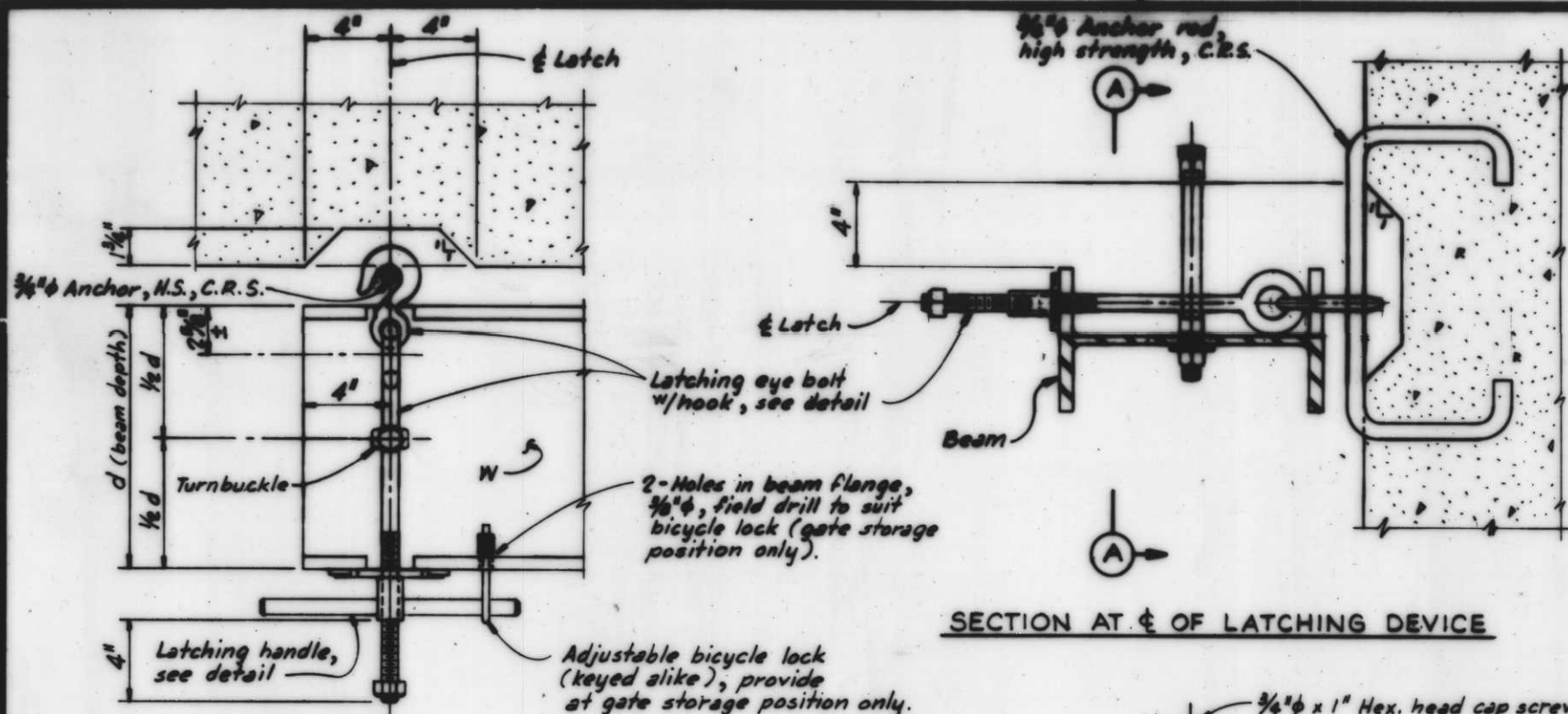
Notes:  
For general notes, see dwg. 5.  
For gate details, see dwgs. 23 thru 26.  
For gate monolith details; see dwgs. 20, 21 & 22.



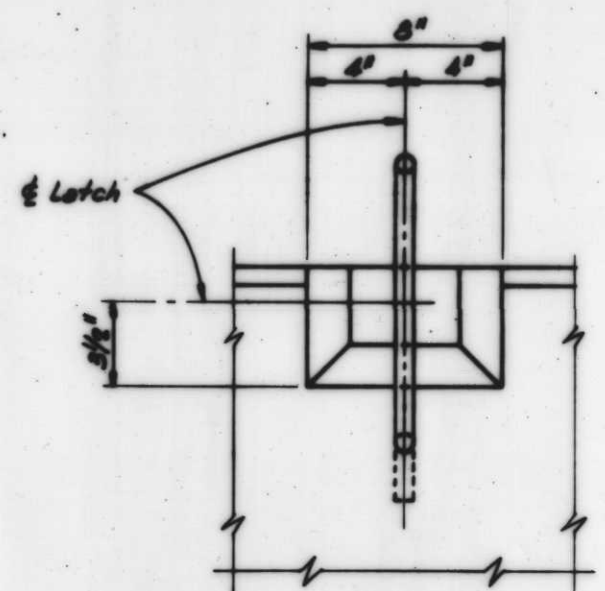
| REVISION   | DATE | DESCRIPTION                | BY |
|--|------|----------------------------|----|
| U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.  |      |                            |    |
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| <b>SWING GATE LATCHING LOCATIONS<br/>GATES 1 &amp; 2</b>   |      |                            |    |
| DESIGNED: J.A.R.   |      | SCALE: AS SHOWN            |    |
| DRAWN: W.B.  |      | FILE NO. H-4-27147         |    |
| CHECKED: J.A.R.  |      | DATE: JAN. 1962            |    |
| SUBMITTED: W.C.B.  |      | SPEC. NO. DACW29-62-B-0033 |    |
|  |      | PAGE 30 OF 44              |    |
| AS CONSTRUCTED   |      |                            |    |

W. C. BONIE & ASSOCIATES, INC.  
CONSULTING ENGINEERS

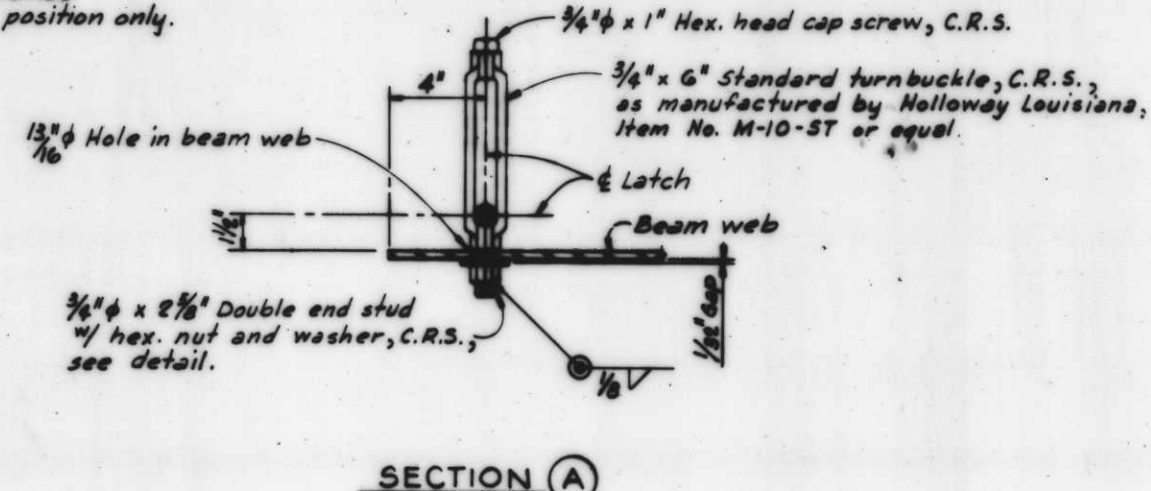
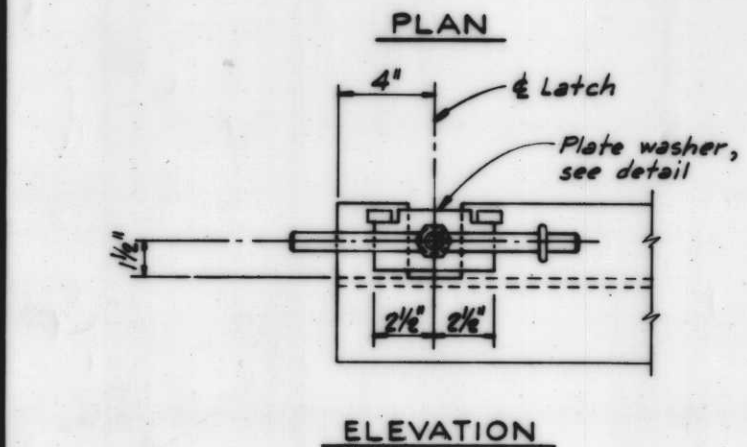




SECTION AT E OF LATCHING DEVICE

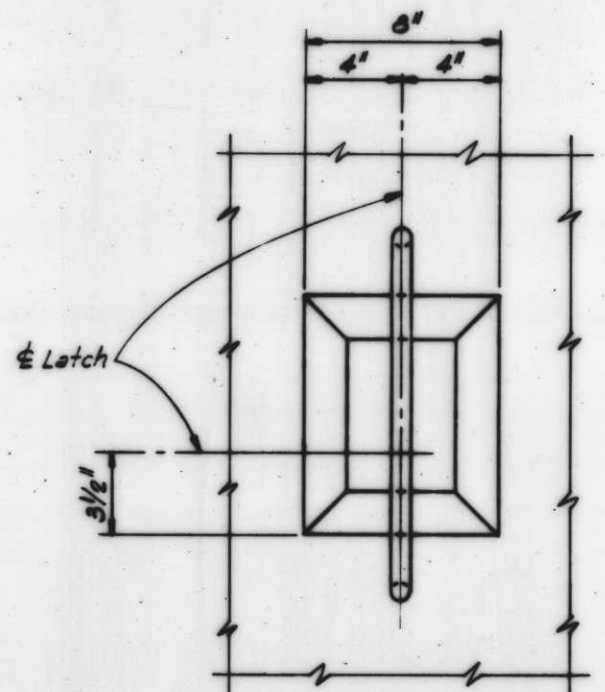


DETAIL 1  
SCALE: 3"=1'-0"



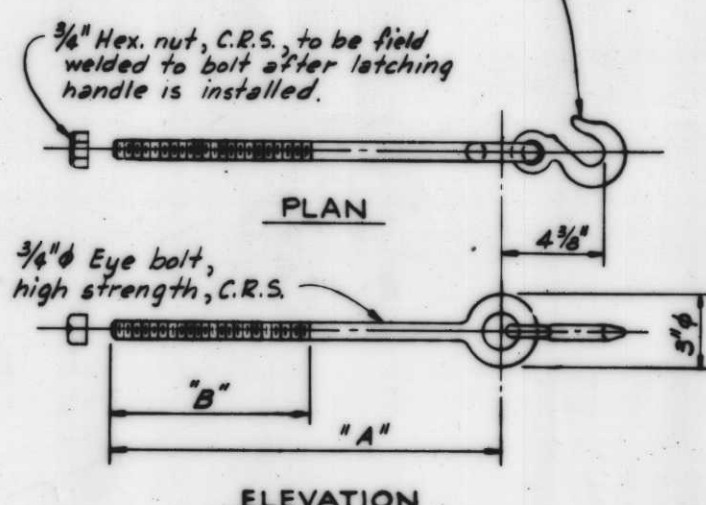
SECTION A

LATCHING DEVICE  
SCALE: 3"=1'-0"

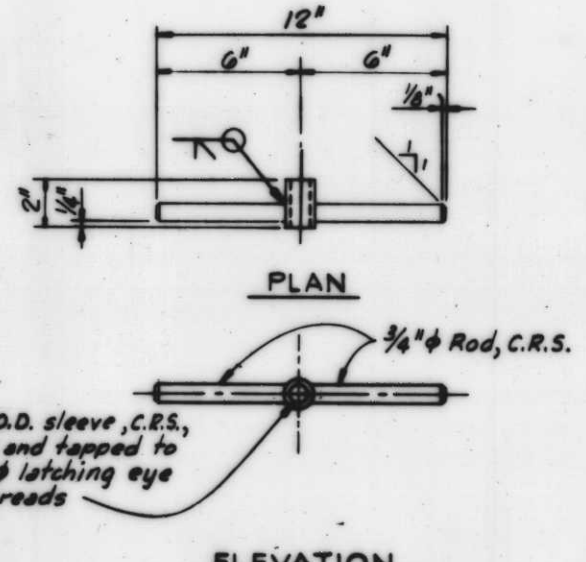


DETAIL 2  
SCALE: 3"=1'-0"

Eye hook, 1/2 Ton (safe working load) as manufactured by Crosby - Laughlin, catalog No. 950-5, Item No. 320A (Alloy Steel), or equal. Eye hook to be "hot-dip galvanized".



LATCHING EYE BOLT W/ HOOK  
SCALE: 3"=1'-0"



LATCHING HANDLE  
SCALE: 3"=1'-0"

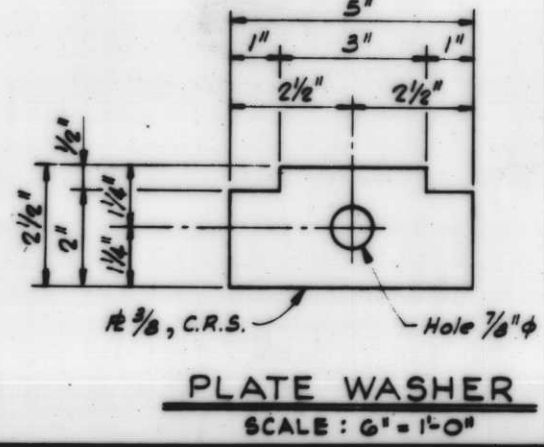
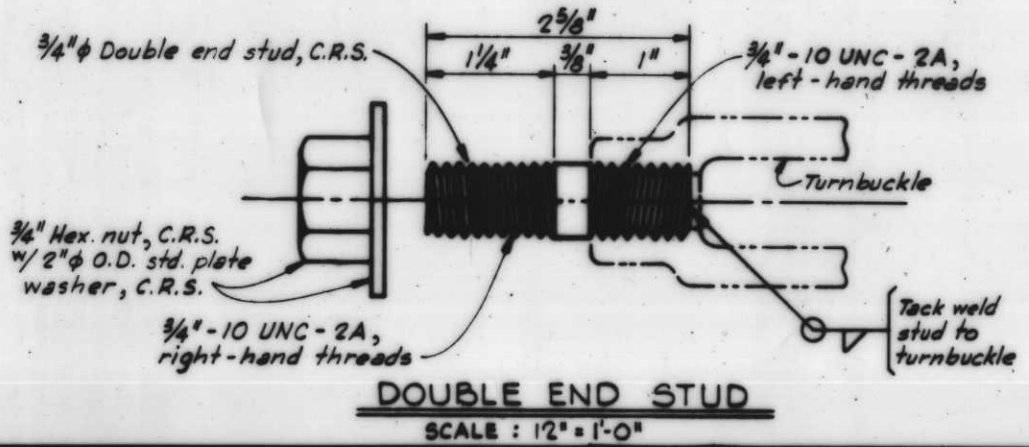
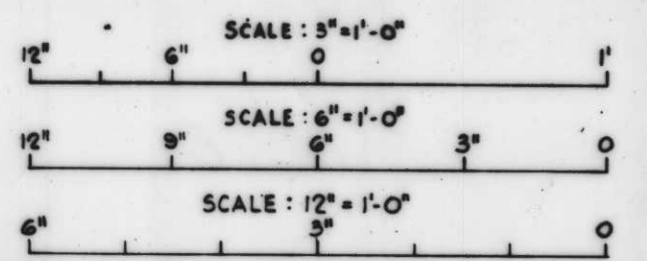


PLATE WASHER  
SCALE: 6"=1'-0"



DOUBLE END STUD  
SCALE: 12"=1'-0"

| SCHEDULE |           |    |         |         |           |
|----------|-----------|----|---------|---------|-----------|
| GATE     | DIMENSION |    |         |         |           |
|          | A         | B  | C       | D       | E         |
| 1        | 2'-2"     | 6" | 15 1/2" | 10 1/2" | 1'-4 1/2" |
| 2        | 1'-4"     | 6" | 15 1/2" | 9 1/2"  | 15 1/2"   |



U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS  
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NEW ORLEANS, LA.

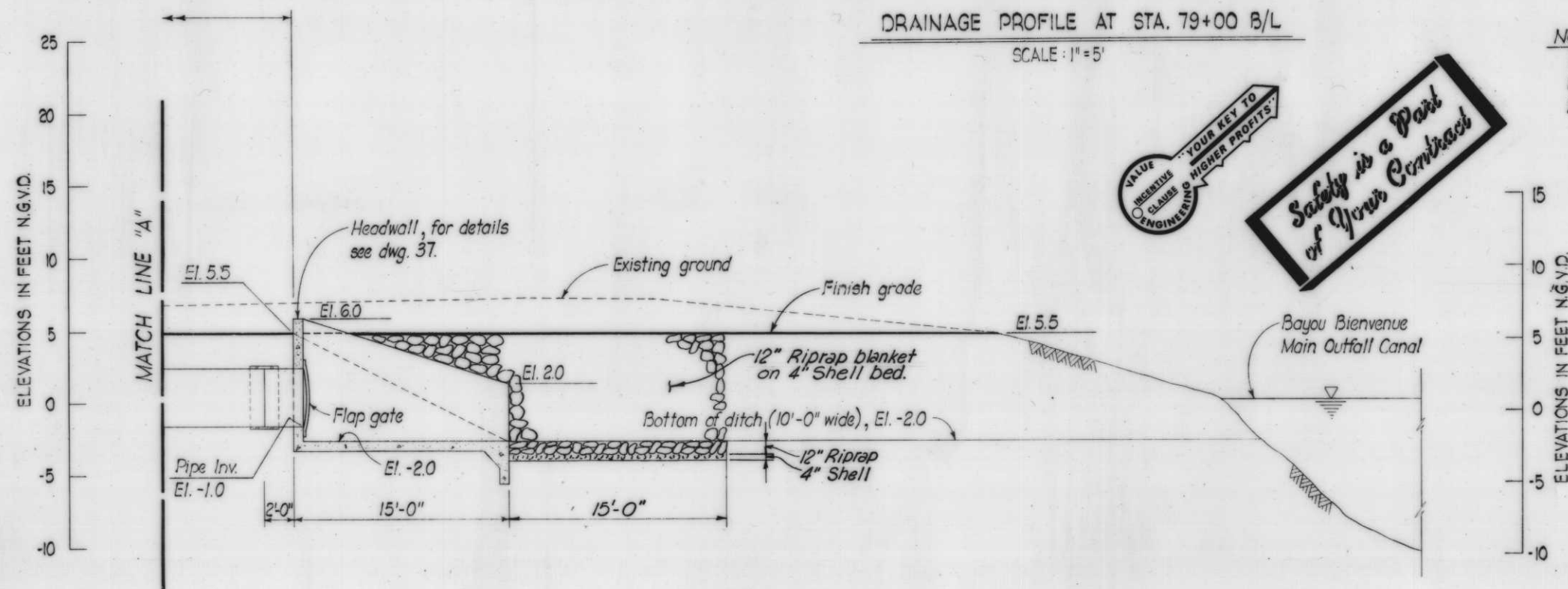
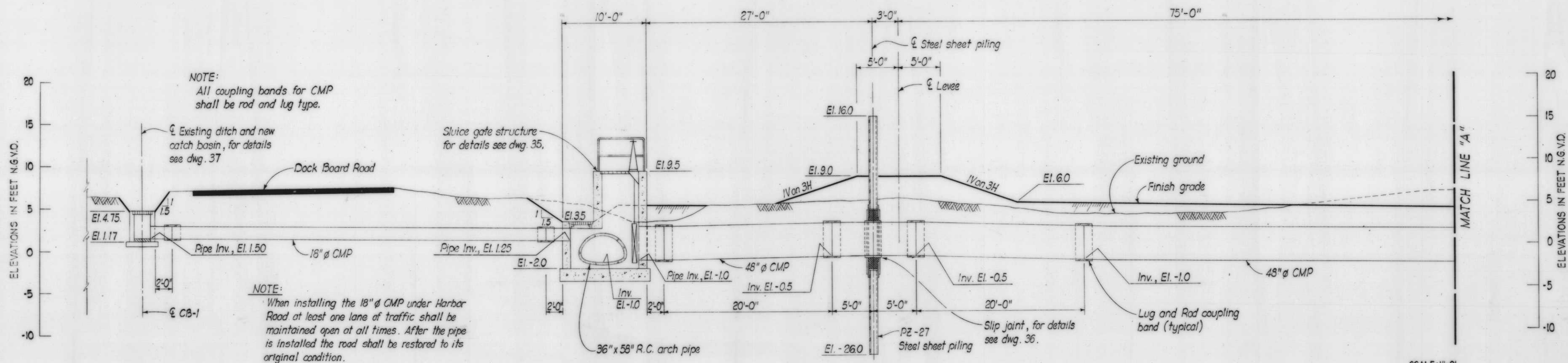
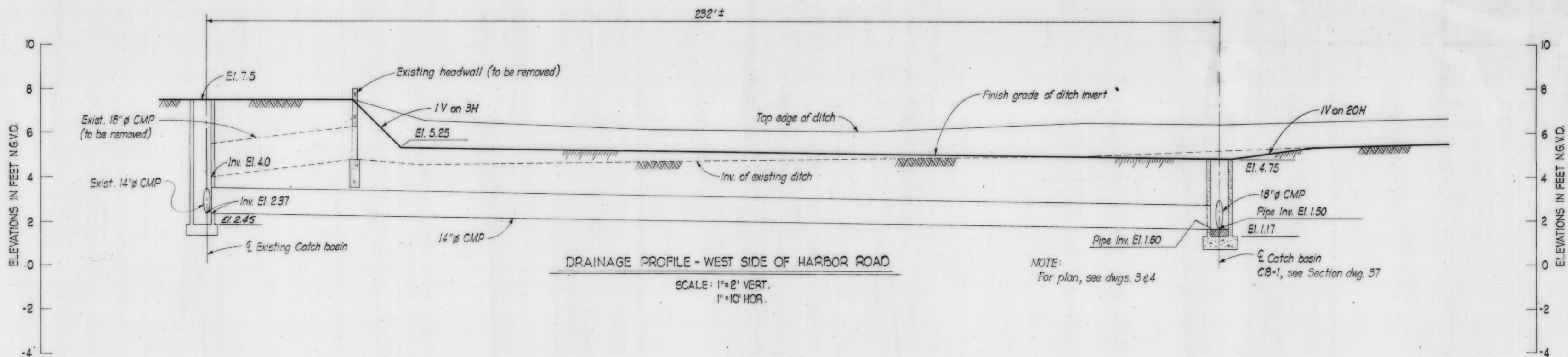
LAKE PONCHARTRAIN LOUISIANA AND VICINITY  
CHALMETTE AREA PLAN  
HURRICANE PROTECTION FLOODWALL AND LEVEE  
I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE  
ORLEANS PARISH, LA.

**LATCHING DEVICE DETAILS**

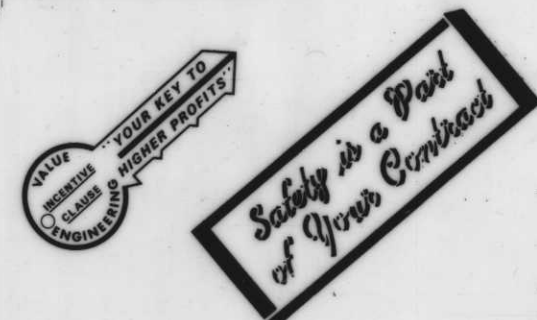
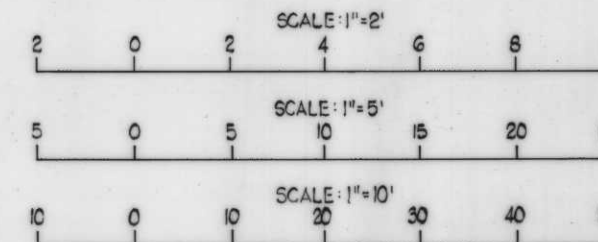
|          |        |        |           |           |
|----------|--------|--------|-----------|-----------|
| DESIGNED | BY     | DATE   | SCALE     | FILE NO.  |
| J.A.R.   | B.H.D. | J.A.R. | JAN. 1962 | H-4-27147 |
| DRAWN BY |        |        | DATE      | SCALE     |
| C.A.L.   |        |        | JAN. 1962 | 31 of 44  |

DACW29-62-B-0033



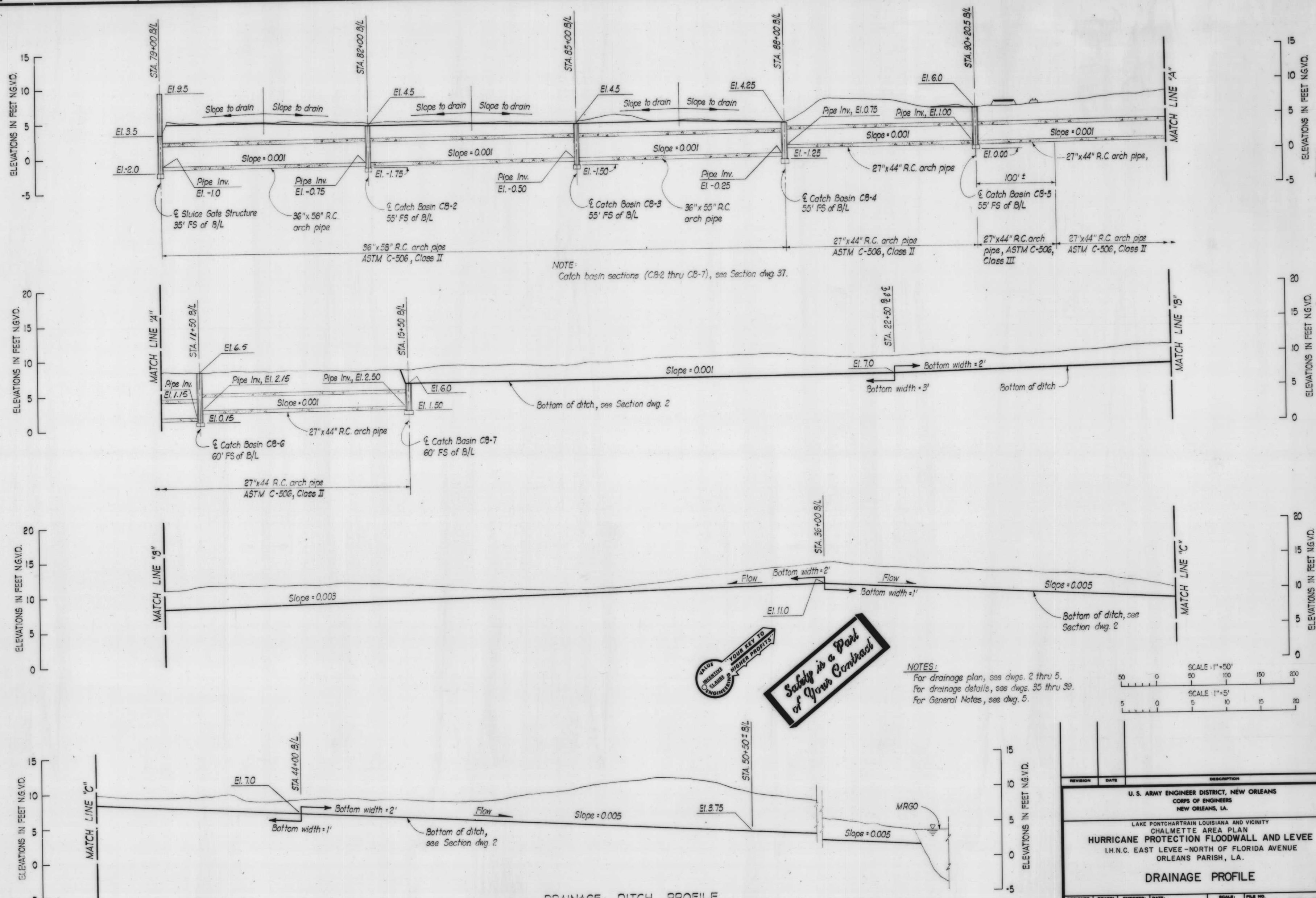


NOTES:  
 For drainage plan layout, see dwgs. 2 thru 5.  
 For drainage details, see dwgs. 35 thru 39.  
 For General Notes, see dwg. 5.

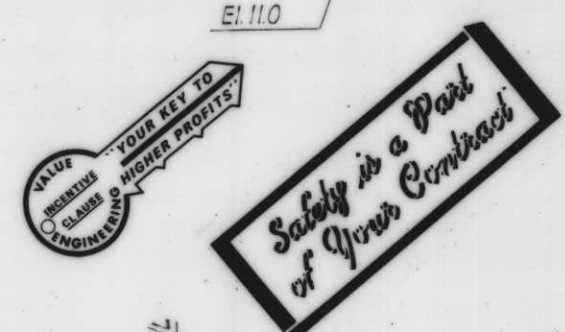


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| <b>DRAINAGE PROFILE</b>   |                |                              |                    |
| DESIGNED:<br>J.A.R.   | DRAWN:<br>B.W. | CHECKED:<br>J.A.R.           | DATE:<br>JAN. 1982 |
| SCALE:<br>AS SHOWN  |                | FILE NO.<br><b>H-4-27147</b> |                    |
| SPEC. NO.<br>DACW29-82-B-0033   |                | DWS. 33 of 44                |                    |
| <b>AS CONSTRUCTED</b>   |                |                              |                    |

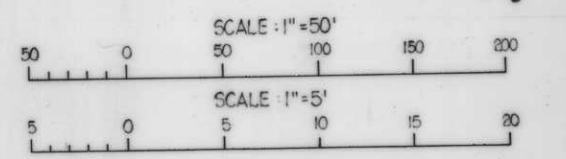




NOTE:  
Catch basin sections (CB-2 thru CB-7), see Section dwg. 37.



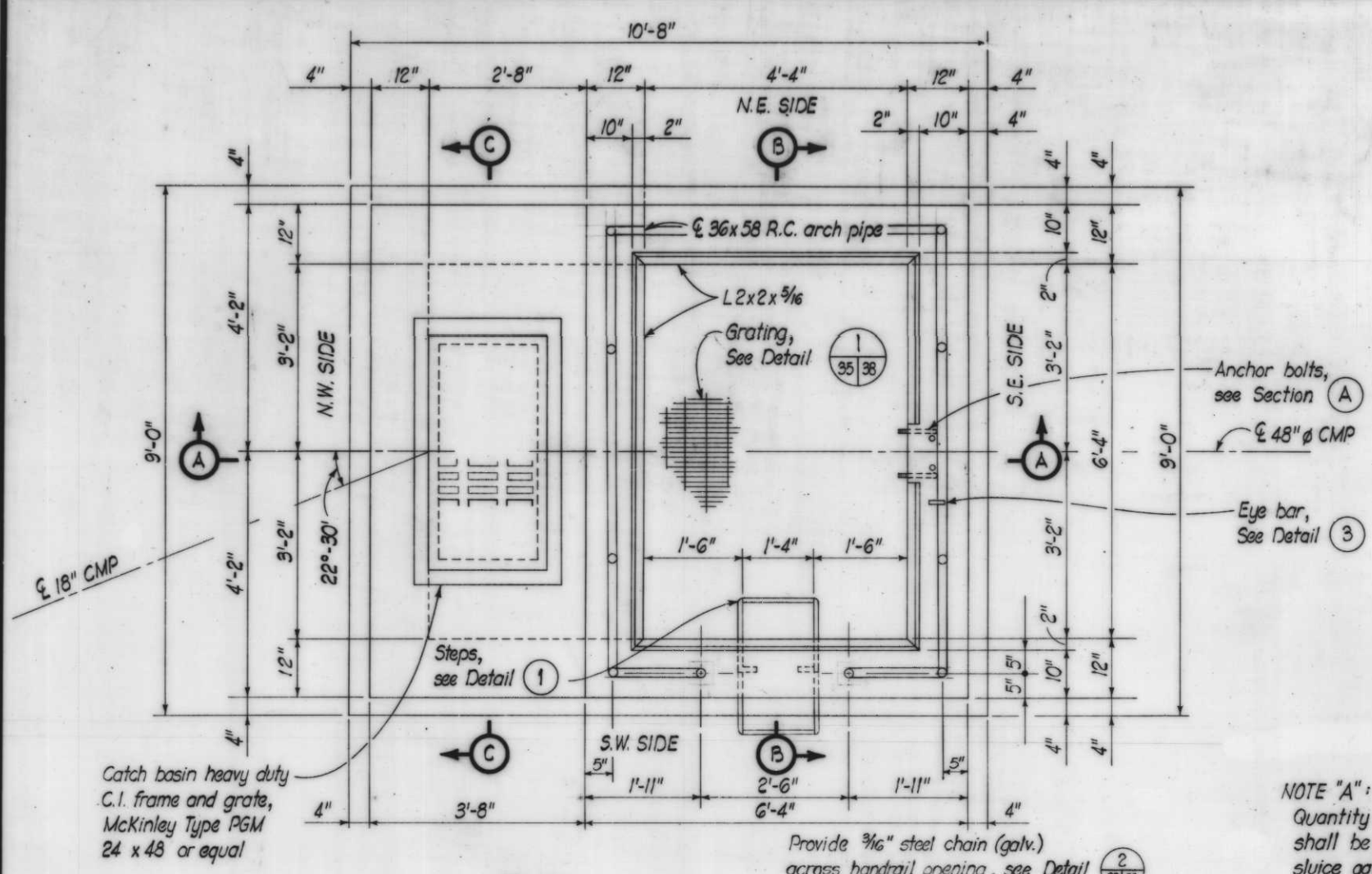
NOTES:  
For drainage plan, see dwgs. 2 thru 5.  
For drainage details, see dwgs. 35 thru 39.  
For General Notes, see dwg. 5.



DRAINAGE DITCH PROFILE  
60' ON F/S OF LEVEE C/L

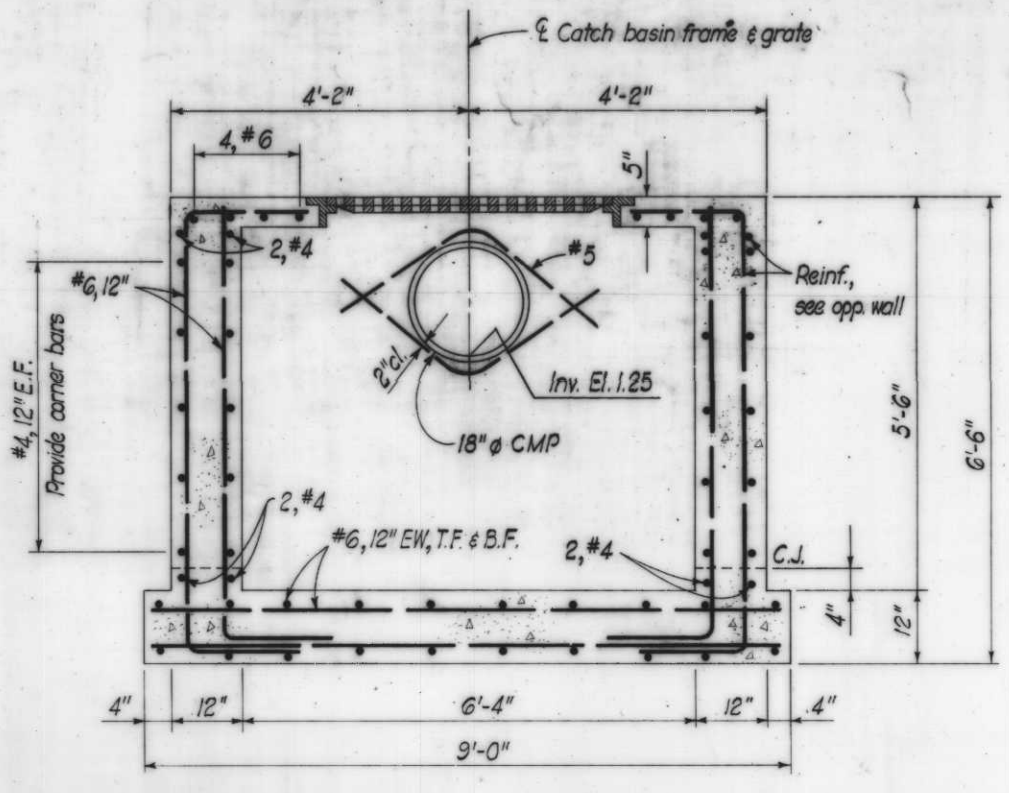
| REVISION  | DATE           | DESCRIPTION           | BY                 |
|---|----------------|-----------------------|--------------------|
| U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.   |                |                       |                    |
| LAKE PONCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE - NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA. |                |                       |                    |
| DRAINAGE PROFILE  |                |                       |                    |
| DESIGNED:<br>J.A.R.   | DRAWN:<br>B.W. | CHECKED:<br>J.A.R.    | DATE:<br>JAN. 1962 |
| SCALE:<br>AS SHOWN  |                | FILE NO.<br>H-4-27147 |                    |
| SPEC. NO.<br>DACW29-82-B-0033   |                | DWS. 34 OF 44         |                    |
| AS CONSTRUCTED  |                |                       |                    |



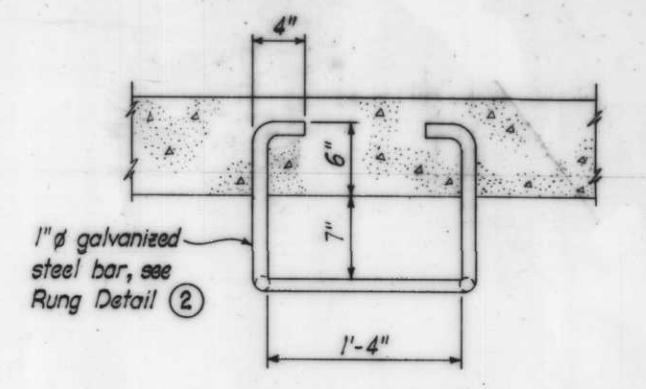


**PLAN**  
**SLUICE GATE STRUCTURE**  
SCALE: 3/4" = 1'-0"

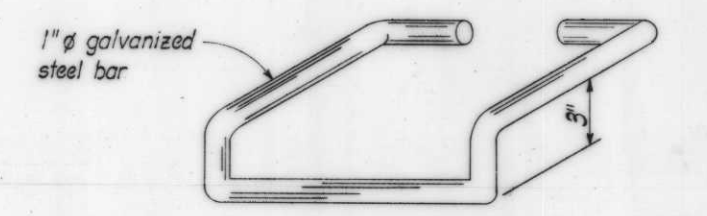
**NOTE "A":**  
Quantity and size of the anchor bolts (C.R.S.) shall be as recommended and furnished by the sluice gate manufacturer. Anchor bolts shall be furnished with two nuts to facilitate installation.



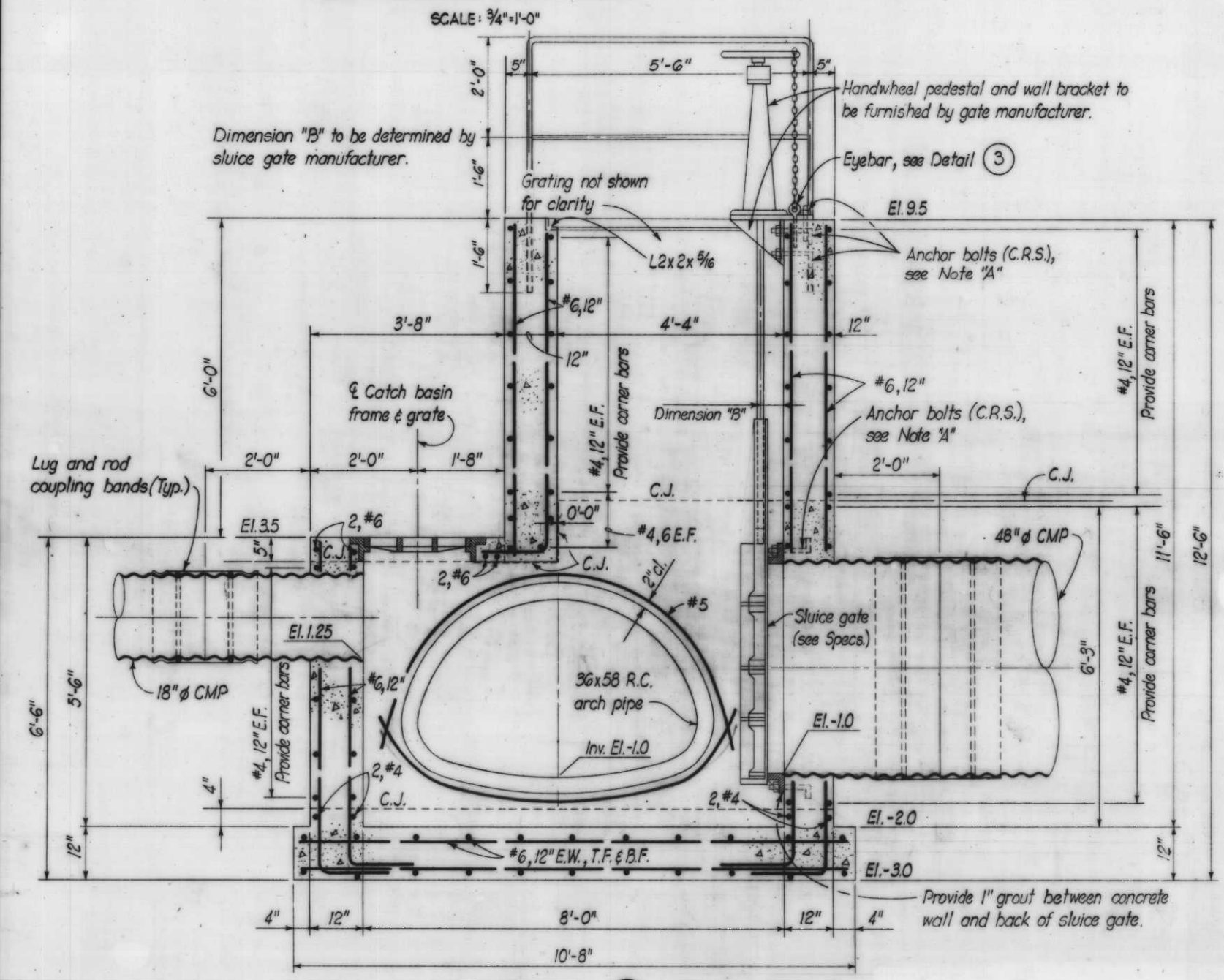
**SECTION C**  
SCALE: 3/4" = 1'-0"



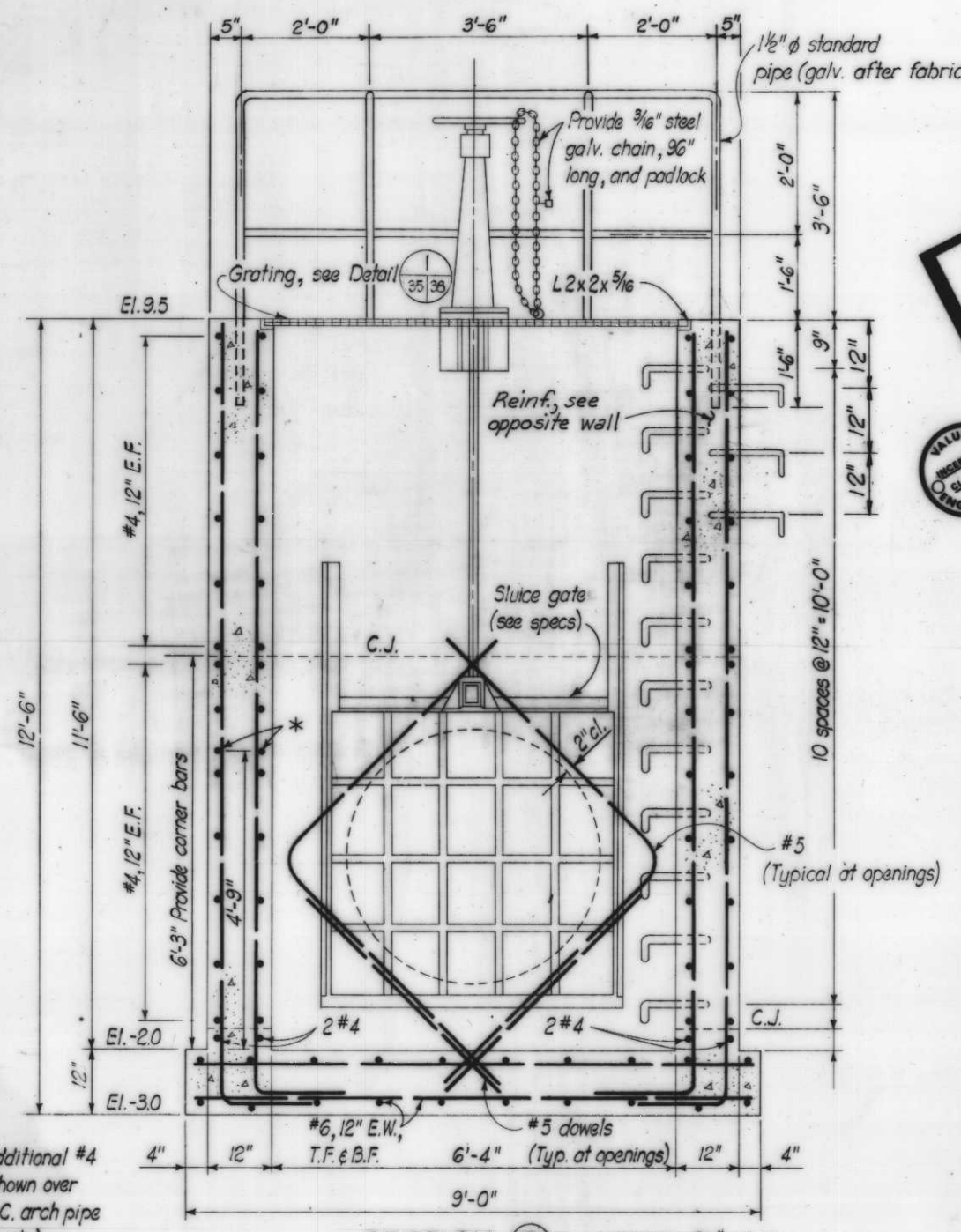
**STEP DETAIL 1**  
SCALE: 1 1/2" = 1'-0"



**RUNG DETAIL 2**  
N.T.S.

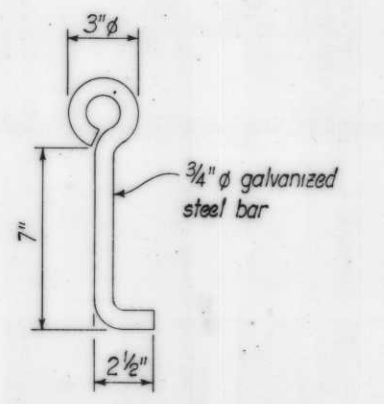


**SECTION A**  
SCALE: 3/4" = 1'-0"



**SECTION B**  
SCALE: 3/4" = 1'-0"

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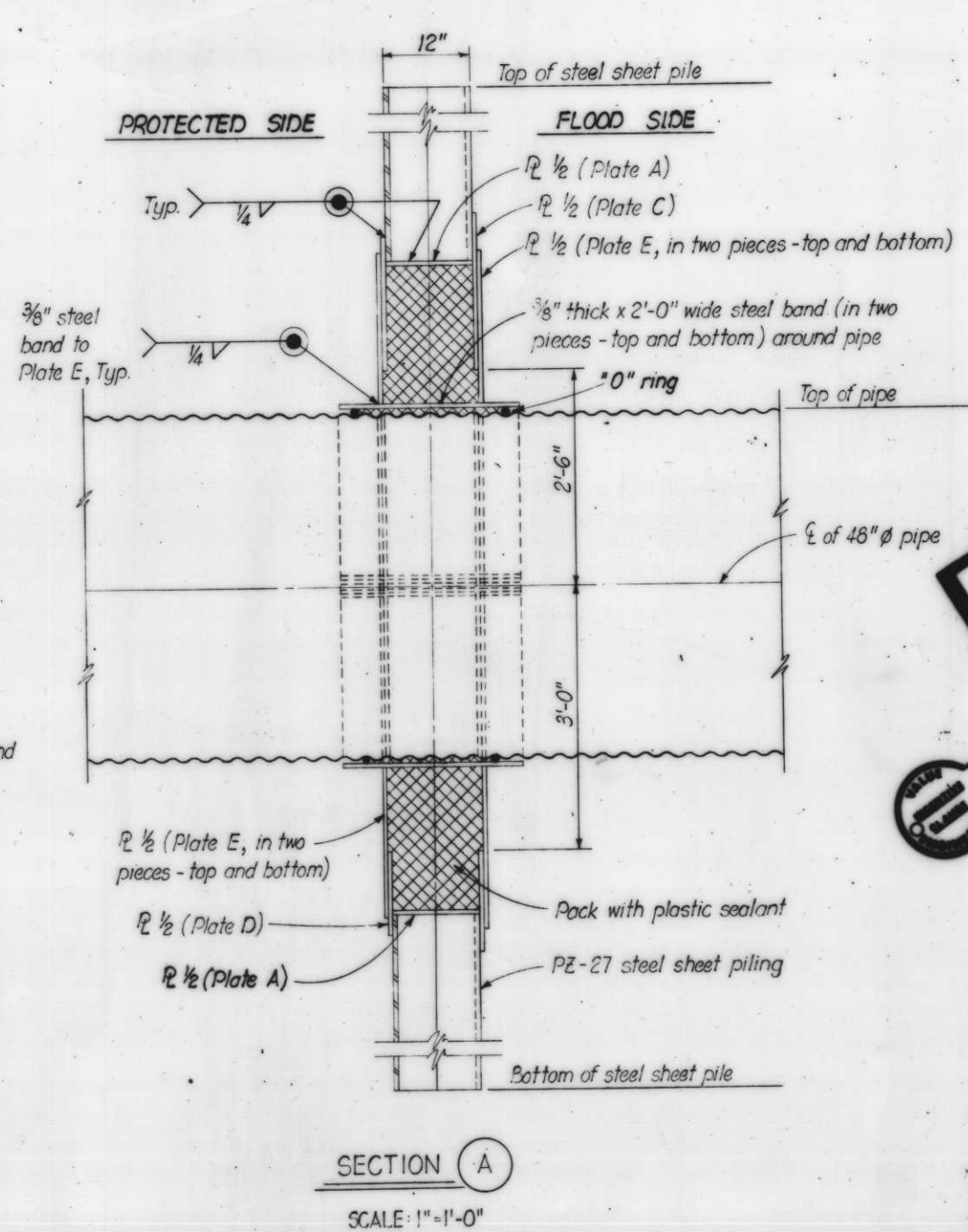
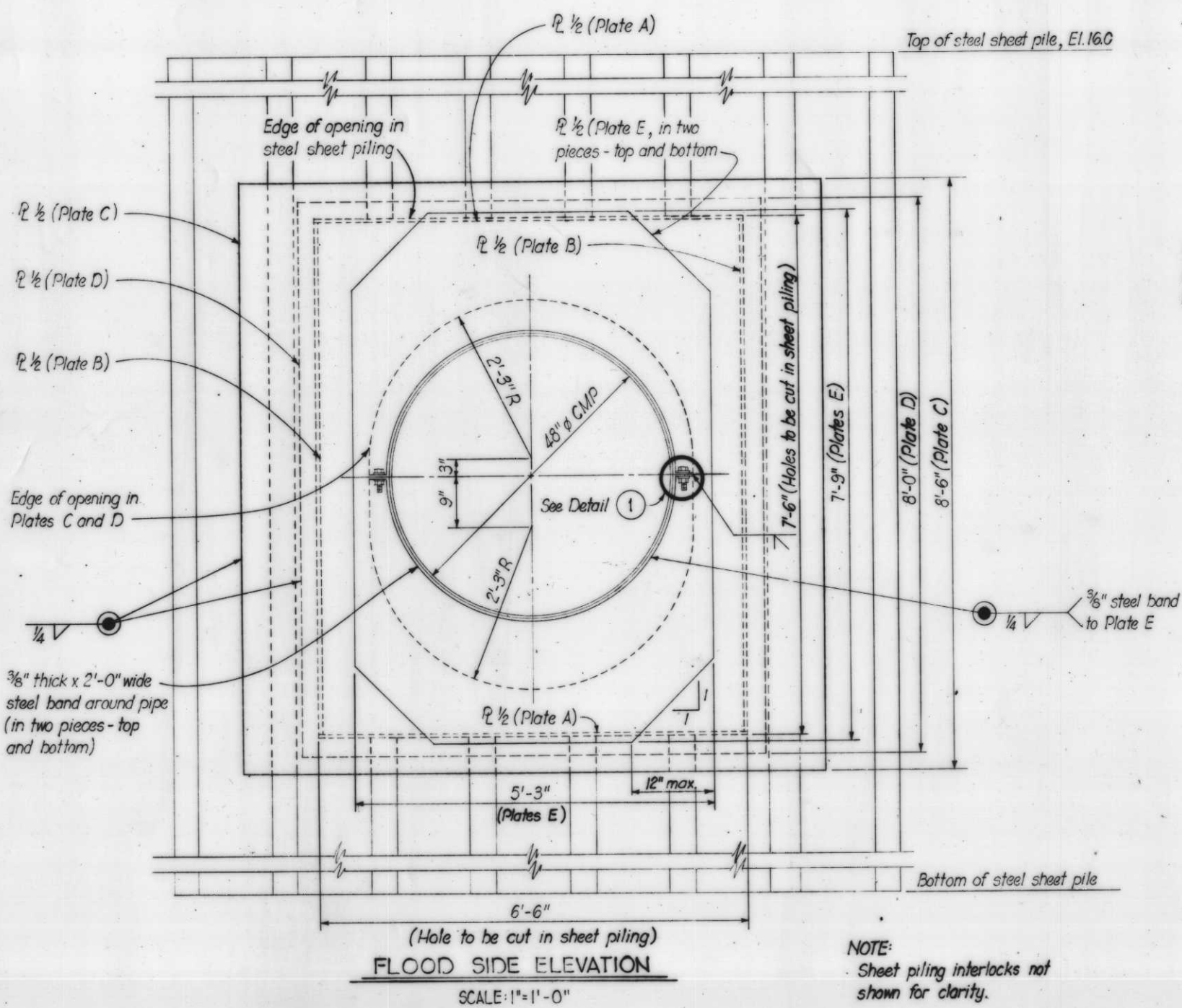
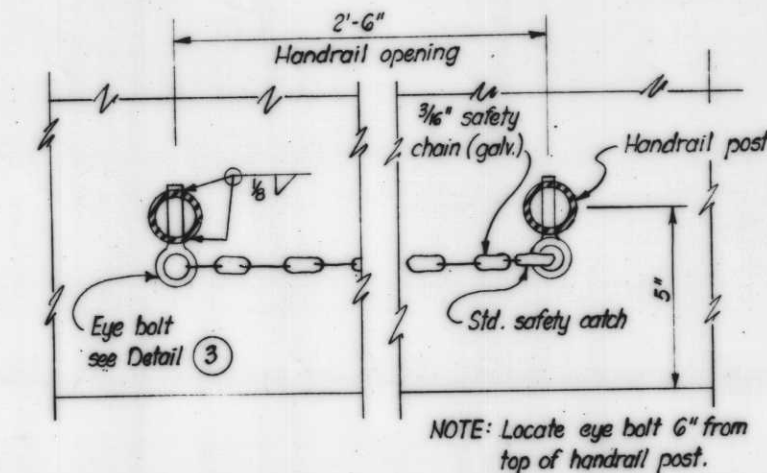
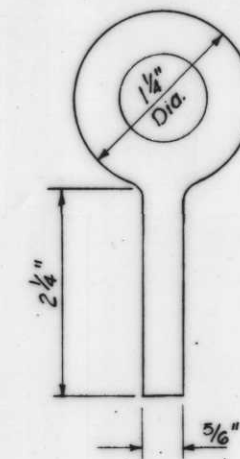
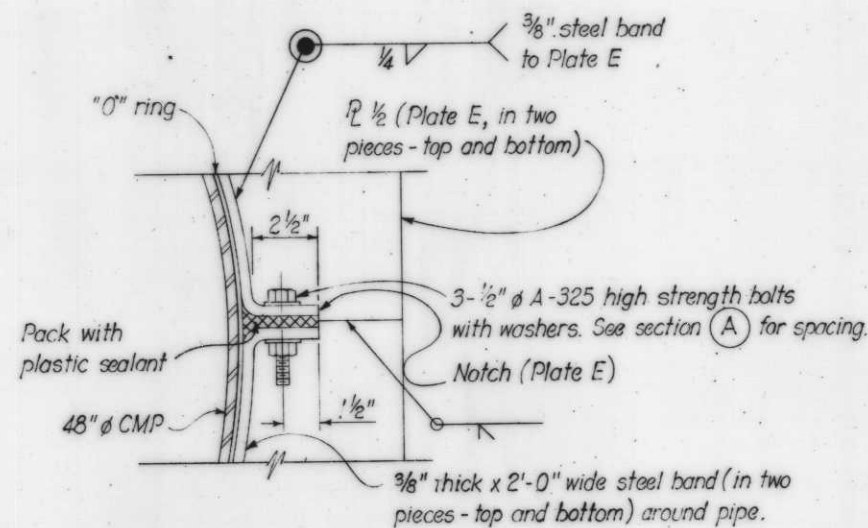
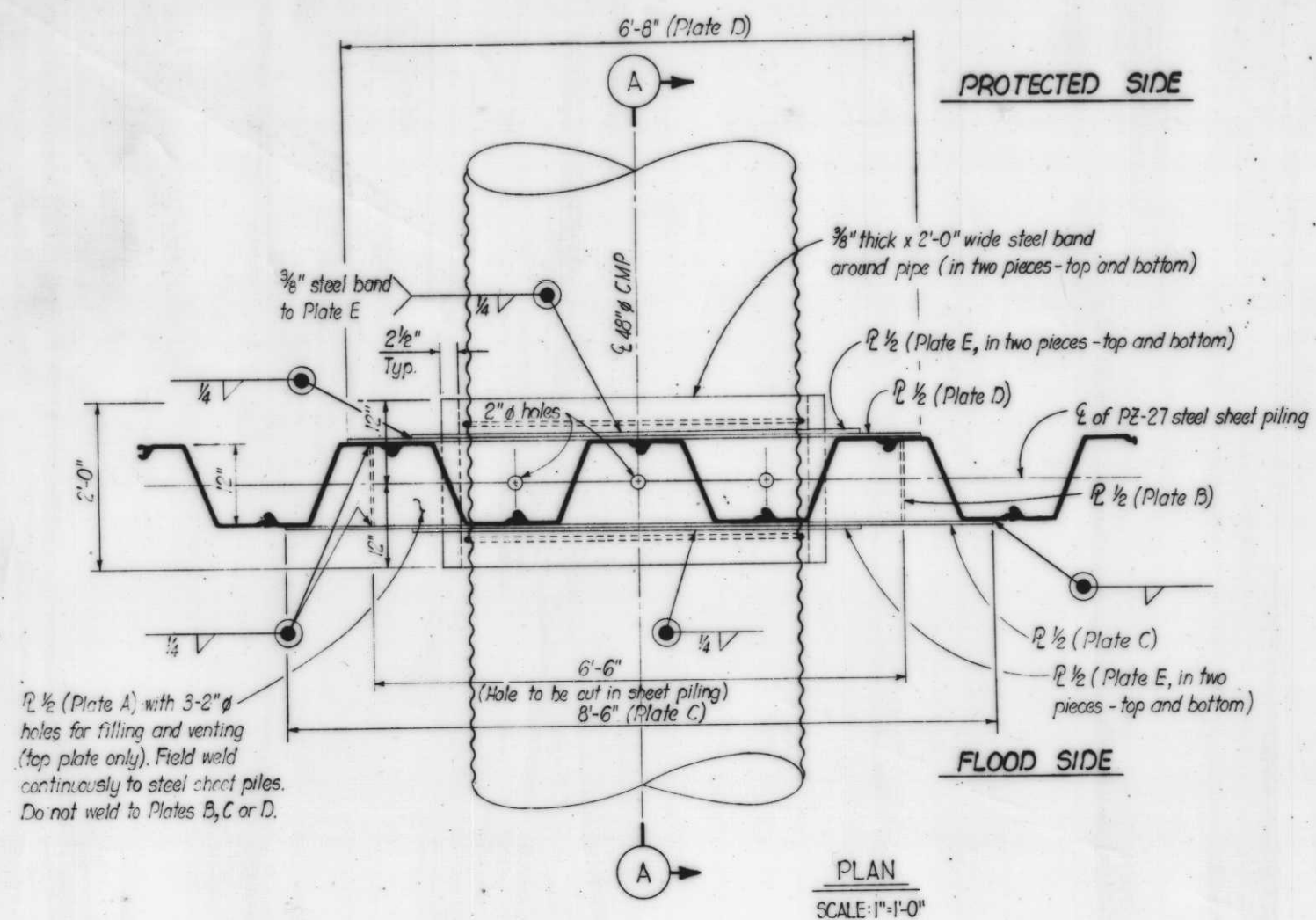
**EYE BAR DETAIL 3**  
SCALE: 3" = 1'-0"

**NOTES:**  
For General Notes, see dwg 5.  
SCALE: 3/4" = 1'-0"  
SCALE: 1" = 1'-0"  
SCALE: 3" = 1'-0"

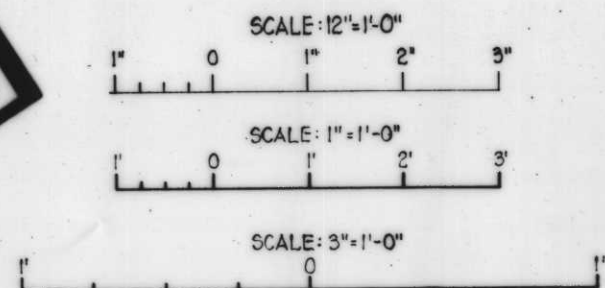
\* Provide additional #4 bars as shown over 36 x 58 R.C. arch pipe (N.E. wall only).

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|--|----------------|------------------------------|--------------------|
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| <b>DRAINAGE STRUCTURE DETAILS</b>  |                |                              |                    |
| DESIGNED:<br>J.A.R.  | DRAWN:<br>B.W. | CHECKED:<br>J.A.R.           | DATE:<br>JAN. 1982 |
| SCALE:<br>AS SHOWN   |                | FILE NO.<br><b>H-4-27147</b> |                    |
| SPECIAL NO.<br>DACW29-82-B-0033  |                | PAGE NO.<br>35 OF 44         |                    |
| AS CONSTRUCTED   |                |                              |                    |





NOTES:  
For General Notes, see dwg. 5.

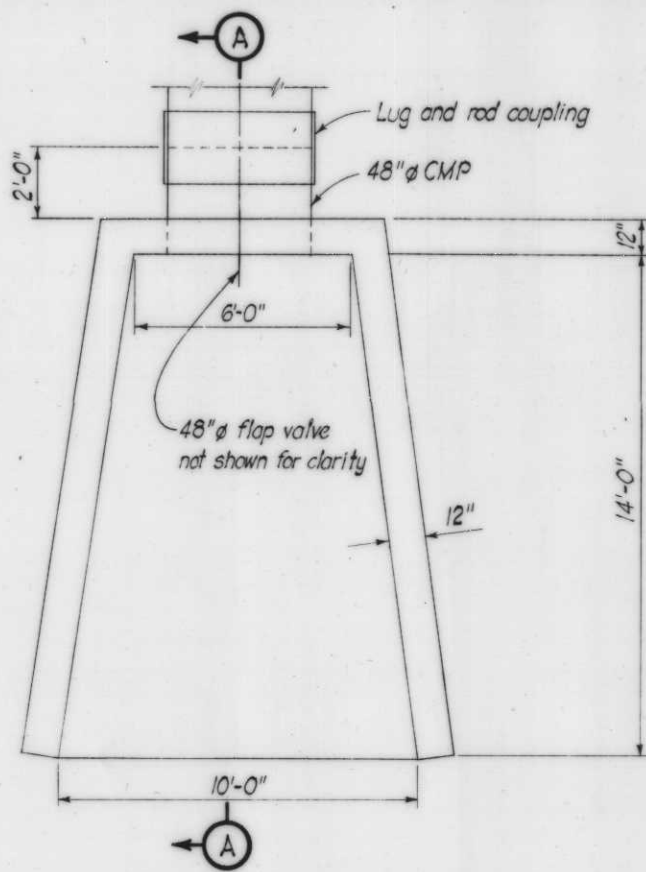


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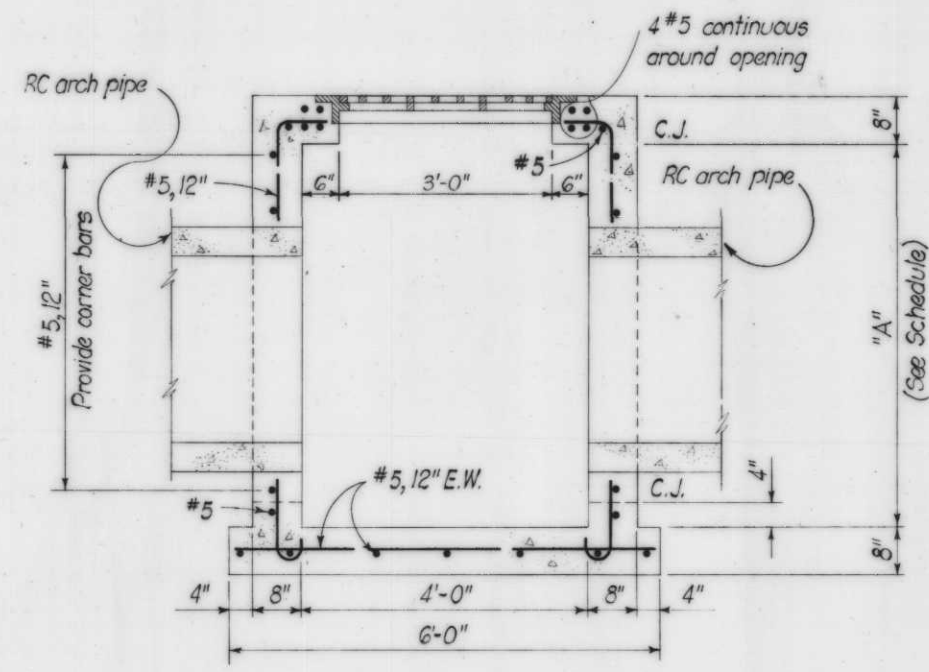


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|--|---------|-------------|--|
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| DESIGNED   | CHECKED | DATE        | SCALE  |
| J.A.R.   | S.W.    | JAN. 1982   | AS SHOWN   |
| DRAWN BY<br>DACW29-82-B-0033   |         |             | PLO NO.<br><b>H-4-27147</b><br>SHEET NO.<br><b>36</b> of <b>44</b> |

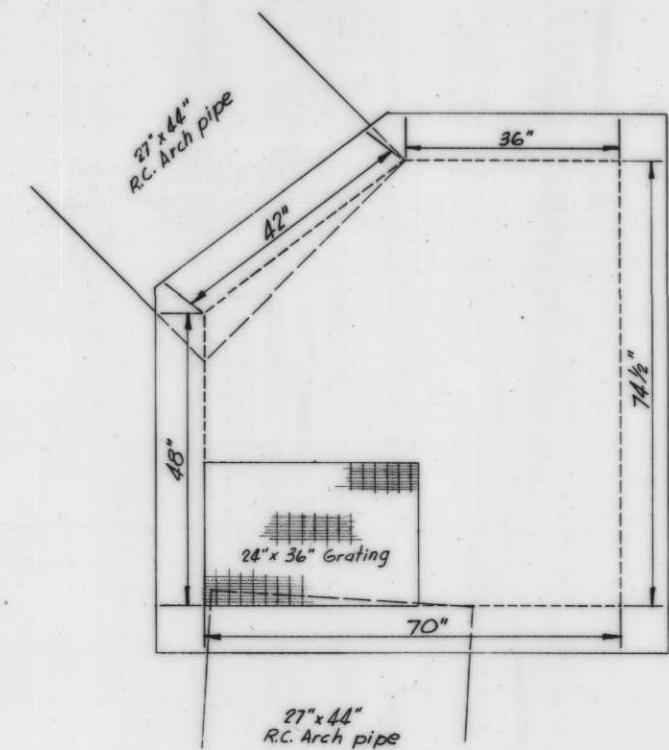




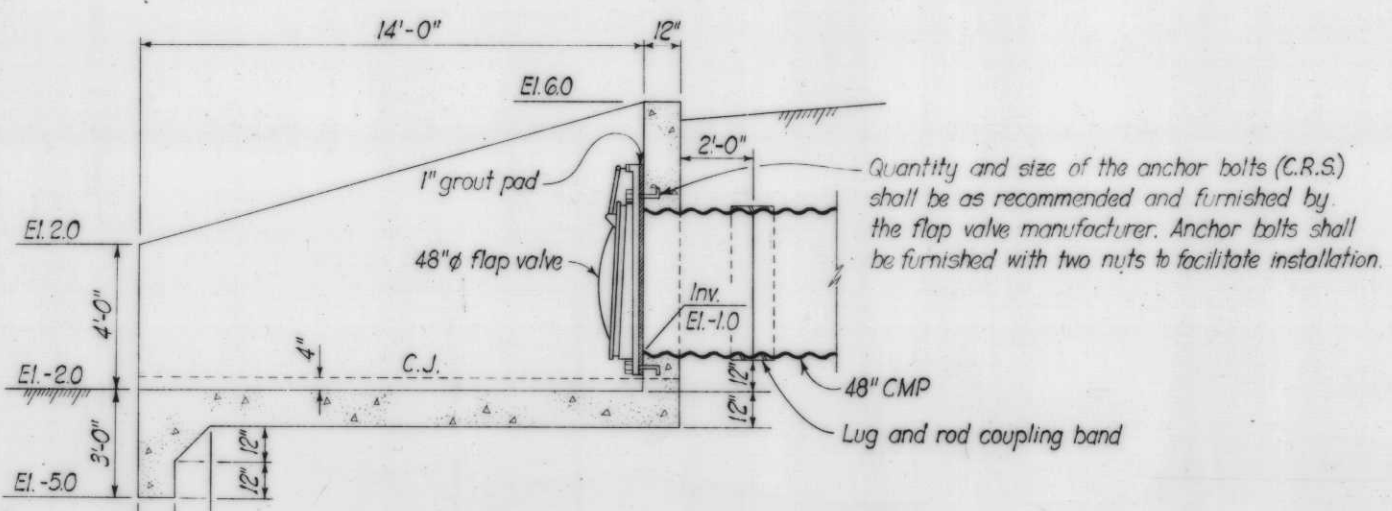
PLAN  
U-TYPE HEADWALL  
SCALE: 3/8"=1'-0"



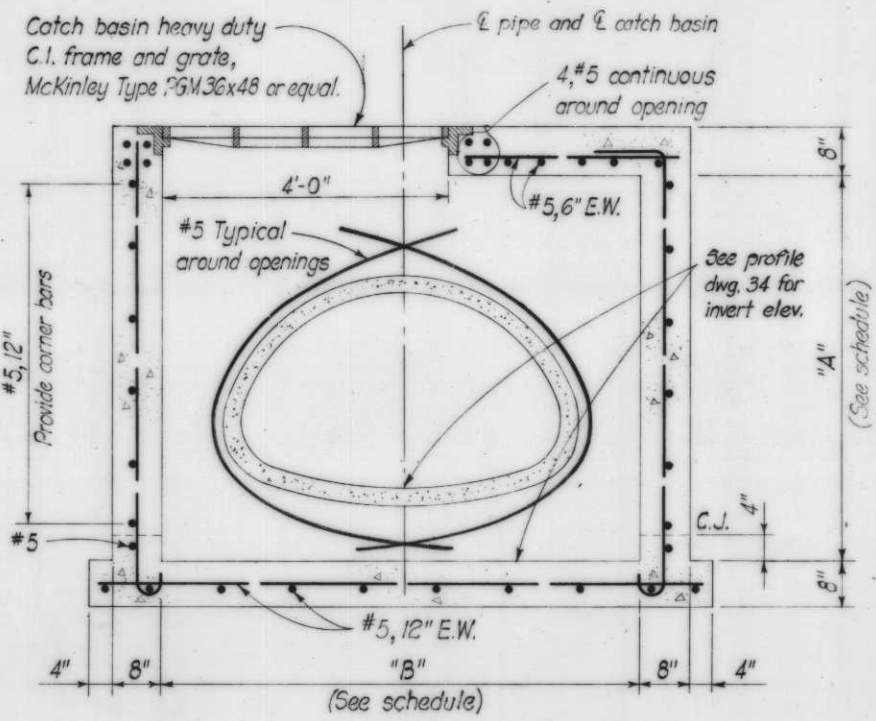
CATCH BASIN SECTION (TYPICAL FOR CB-2 THRU CB-7)  
SCALE: 3/4"=1'-0"



CATCH BASIN PLAN (CB-5 ONLY)  
SCALE: 3/4"=1'-0"



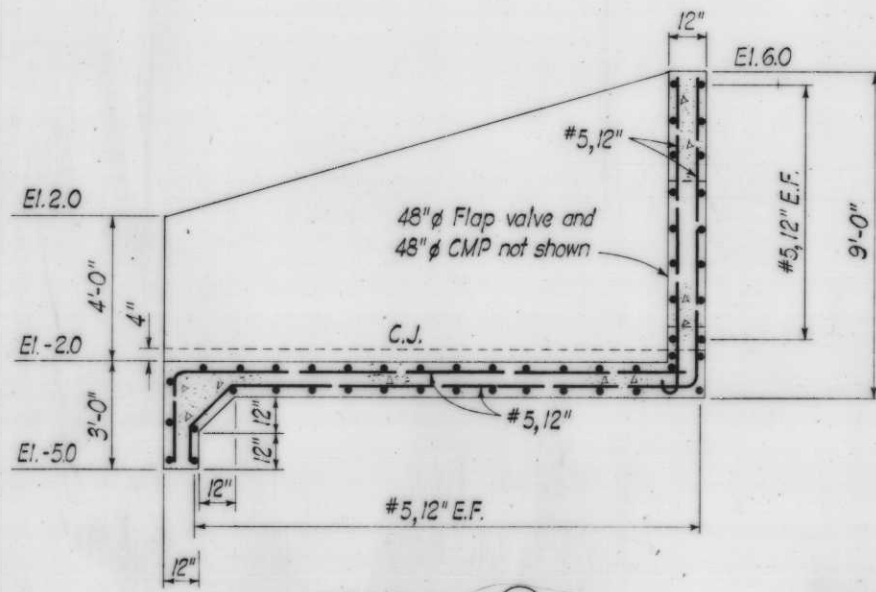
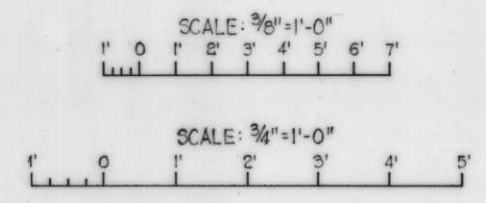
FLAP VALVE DETAIL  
SCALE: 3/8"=1'-0"



CATCH BASIN SECTION (TYPICAL FOR CB-2 THRU CB-7)  
SCALE: 3/4"=1'-0"

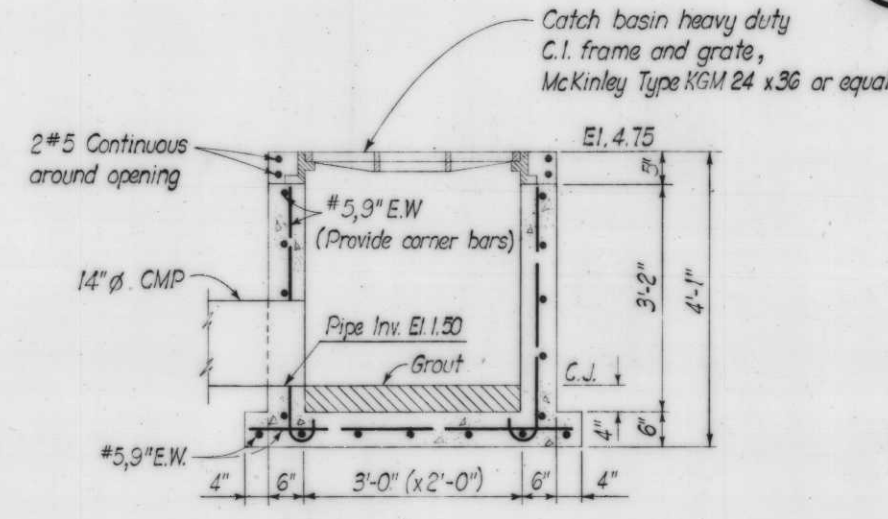
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SECTION (A)  
SCALE: 3/8"=1'-0"

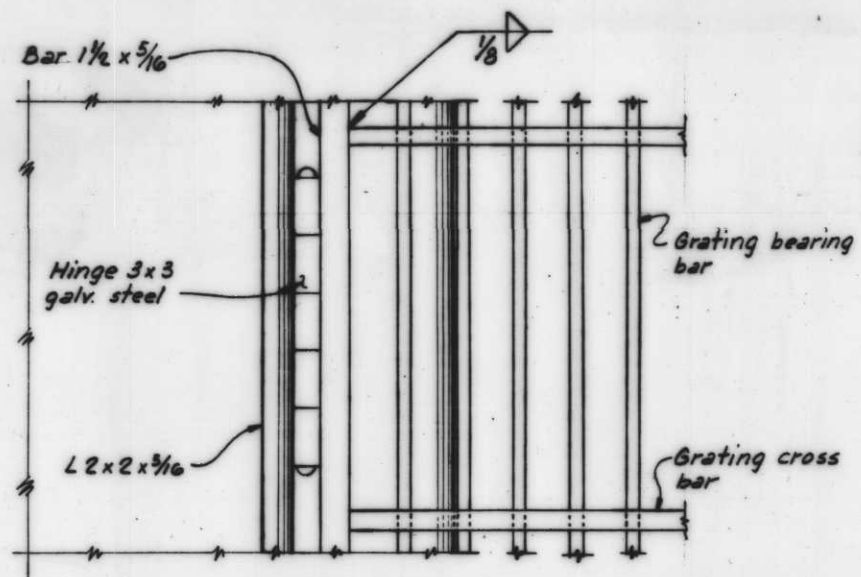
| CATCH BASIN SCHEDULE |             |                |               |
|----------------------|-------------|----------------|---------------|
| CATCH BASIN NO.      | STATION NO. | DIMENSION "A"  | DIMENSION "B" |
| CB-1                 | SEE PLAN    | SEE SECTION    | SEE SECTION   |
| CB-2                 | 82+00 B/L   | 5' - 7"        | 6' - 8"       |
| CB-3                 | 85+00 B/L   | 5' - 4"        | 6' - 8"       |
| CB-4                 | 88+00 B/L   | 4' - 10"       | 6' - 8"       |
| CB-5                 | 90+20.5 B/L | 6' - 2 1/2"    | 3' - 10"      |
| CB-6                 | 11+50 B/L   | 7' - 1"        | 5' - 6"       |
| CB-7                 | 15+50 B/L   | 3' - 10"       | 5' - 6"       |
| CB-8                 | 2+12 W/L    | SEE DRAWING 39 |               |
| CB-9                 | 2+86 W/L    | SEE DRAWING 39 |               |



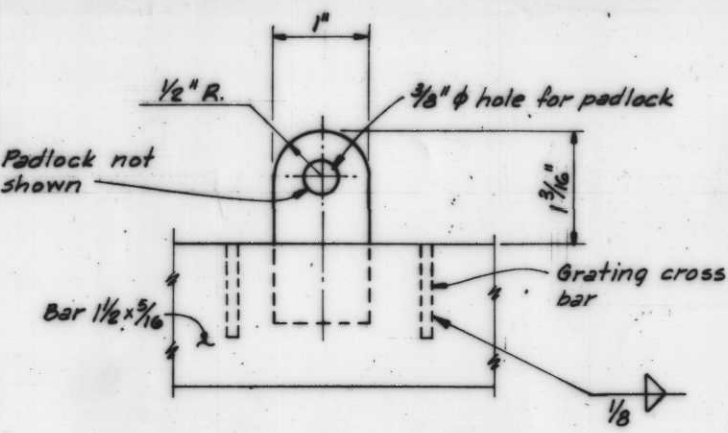
SECTION - C.B.-1  
SCALE: 3/4"=1'-0"

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| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA.<br>HEADWALL AND<br>CATCH BASIN DETAILS |        |                  |           |
| DESIGNED:   | DRAWN: | CHECKED:         | DATE:     |
| J.A.R.  | B.W.   | J.A.R.           | JAN. 1982 |
| SCALE:  |        | FILE NO.:        |           |
| AS SHOWN:   |        | H-4-27147        |           |
| SPEC. NO.:  |        | DACW29-82-B-0033 |           |
| DWS.:   |        | 37 OF 44         |           |
| AS CONSTRUCTED  |        |                  |           |

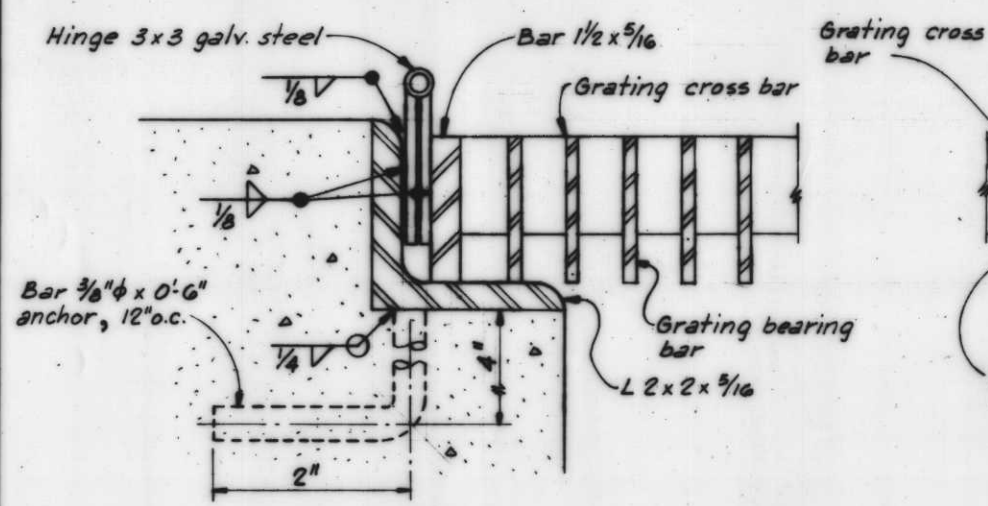




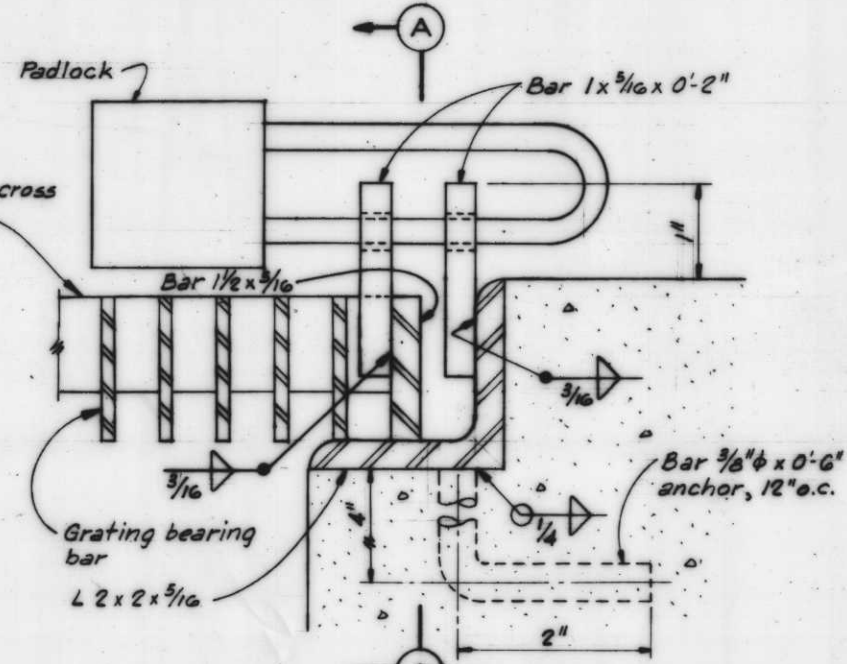
**PLAN**  
Scale: 12" = 1'-0"



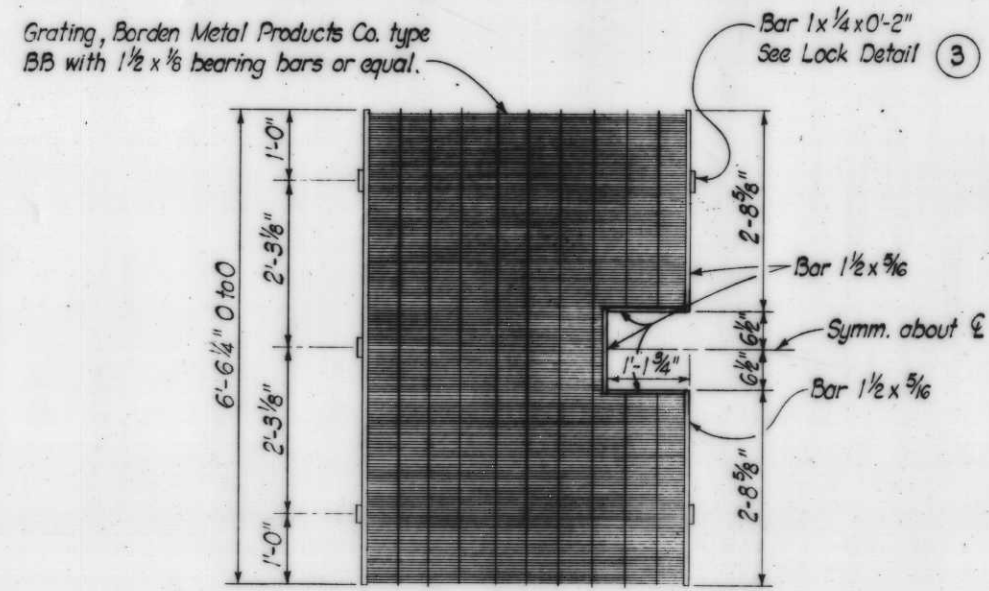
**SECTION A**  
Scale: 12" = 1'-0"



**HINGE DETAIL 2**  
Scale: 12" = 1'-0"



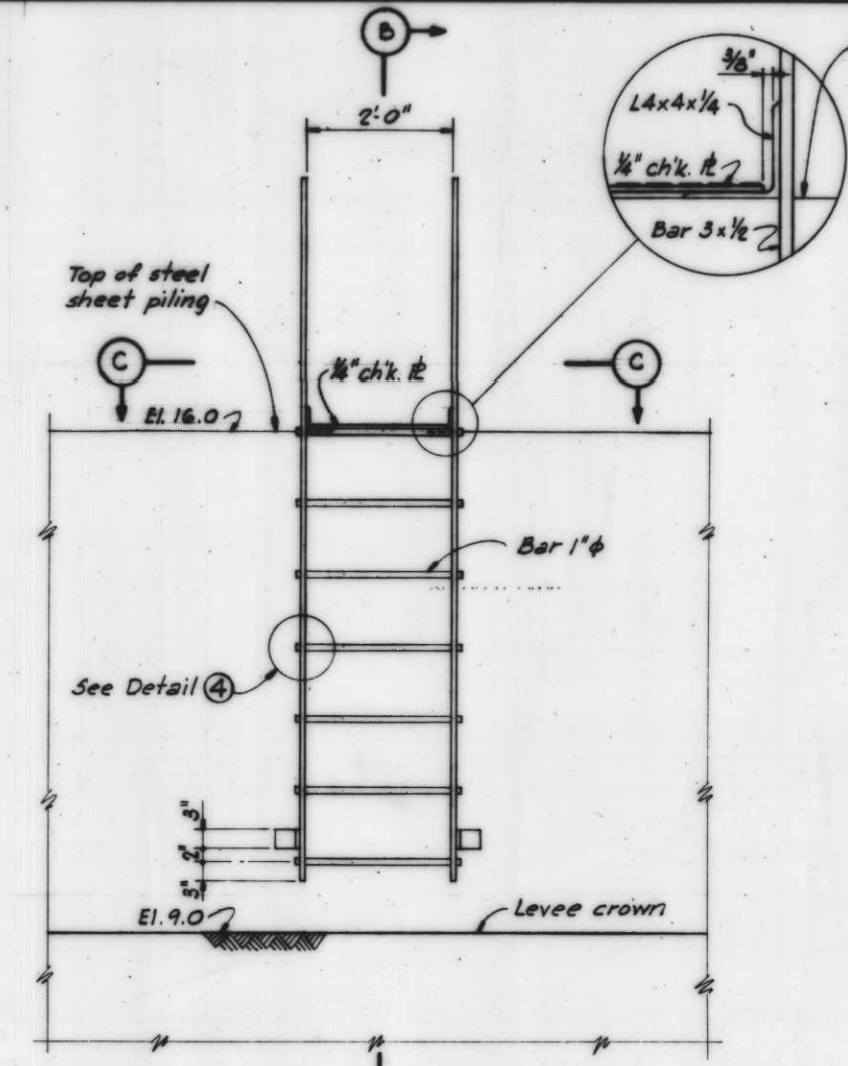
**LOCK DETAIL 3**  
Scale: 12" = 1'-0"



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

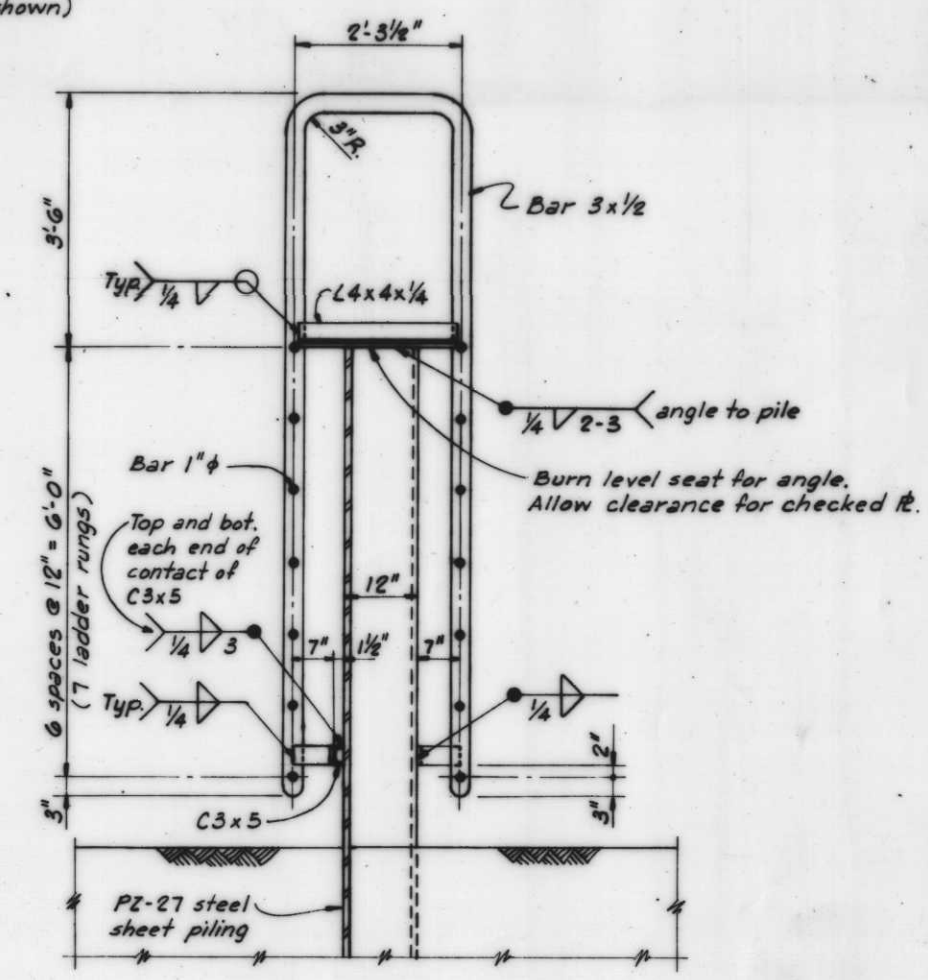
Hinge 3x3 galv. steel see Hinge Detail 2 (Typ.)

Note: Grating and appurtenances to be galv. after fabrication.

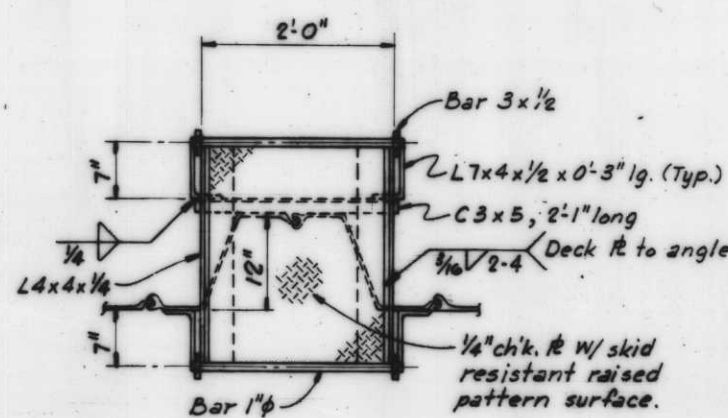


**ELEVATION**  
Scale: 3/4" = 1'-0"

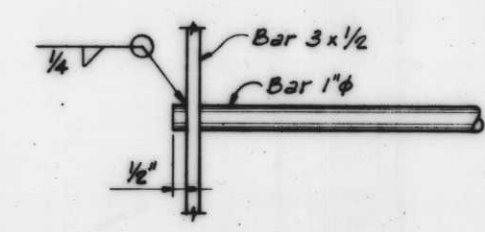
LADDER AT STA. 8+96.98 W/L = STA. 79+00 B/L



**SECTION B**  
Scale: 3/4" = 1'-0"

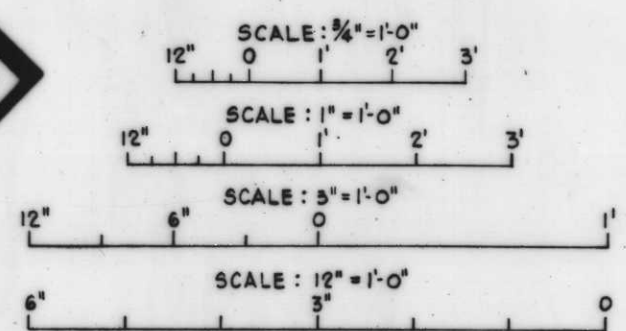
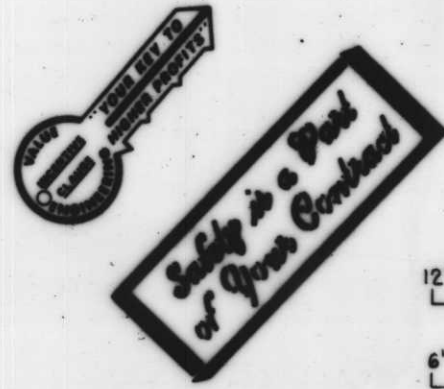


**SECTION C**  
Scale: 1" = 1'-0"



**DETAIL 4**  
Scale: 3" = 1'-0"

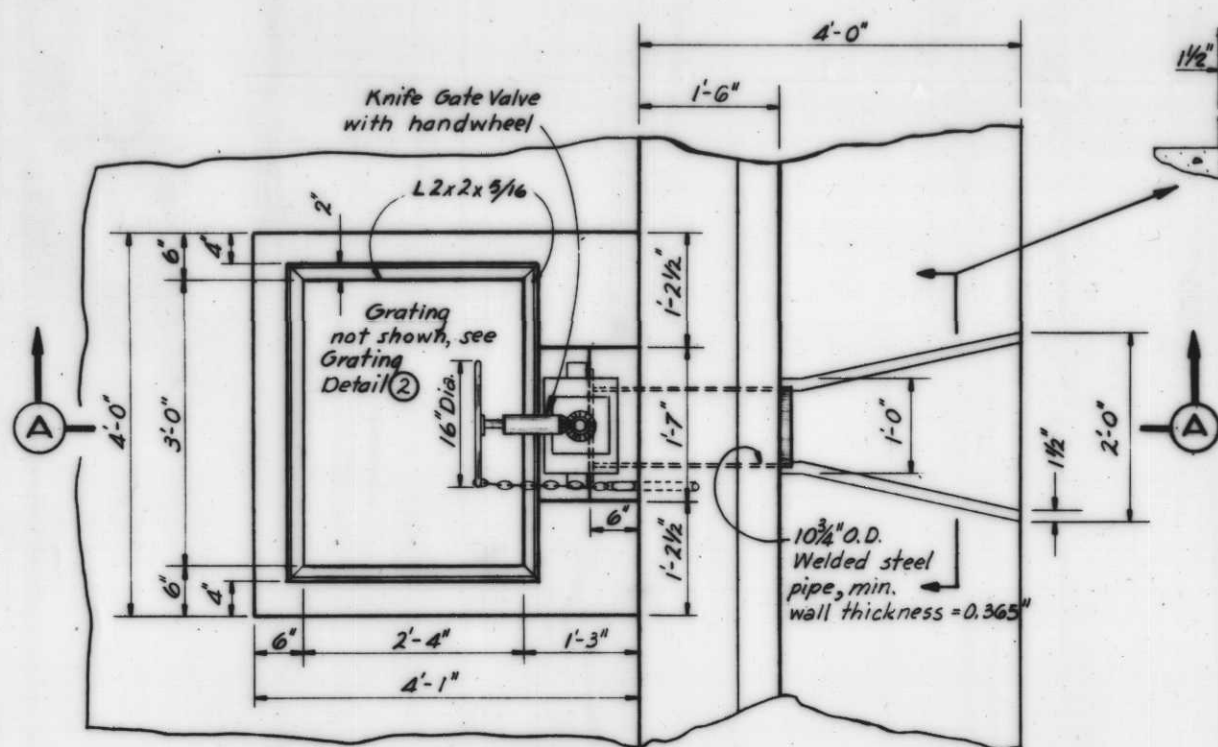
**NOTES**  
For General Notes, see dwg. 5.  
Ladder and grating shall be hot-dipped galvanized after fabrication.



- REFERENCE DRAWINGS**
1. Plan and Profile, dwg. 4.
  2. T-Wall and Levee Sections, dwg. 6.
  3. Drainage details, see dwgs. 35 thru 39.

| REVISION  | DATE             | DESCRIPTION           | BY                 |
|---|------------------|-----------------------|--------------------|
| U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.   |                  |                       |                    |
| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>LHNC. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA. |                  |                       |                    |
| <b>GRATING AND LADDER DETAILS</b>   |                  |                       |                    |
| DESIGNED:<br>R.J.Gr.  | DRAWN:<br>H.J.H. | CHECKED:<br>J.G.B.    | DATE:<br>JAN. 1962 |
| SCALE:<br>AS SHOWN  |                  | FILE NO.<br>H-4-27147 |                    |
| PROJECT NO.<br>DACW29-62-B-0033   |                  | SHEET NO.<br>38 OF 44 |                    |

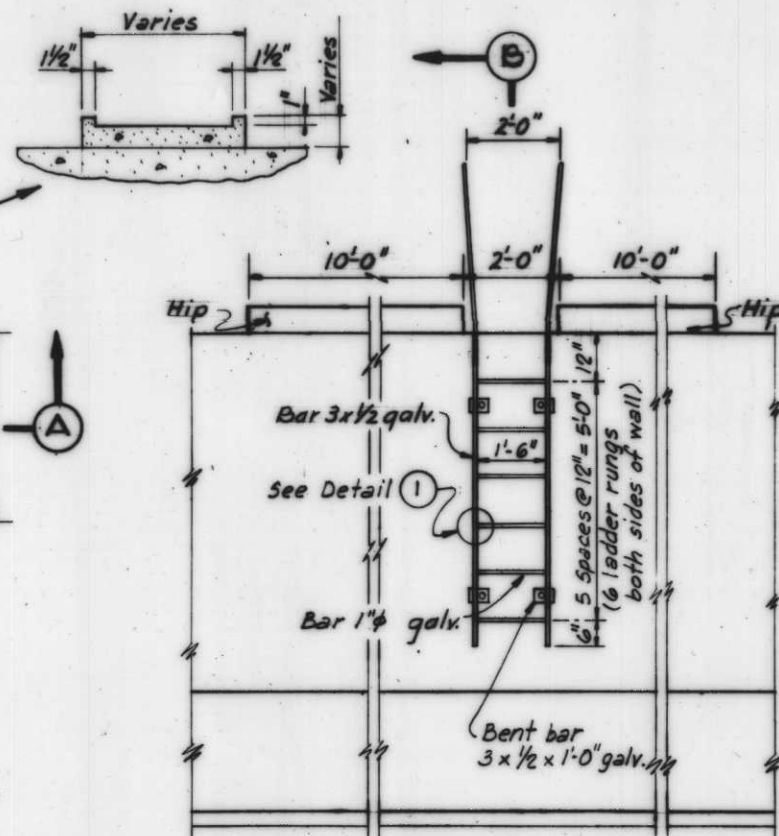




CATCH BASIN AT STA. 2+12±W/L (CB-8) AND STA. 2+86±W/L (CB-9)

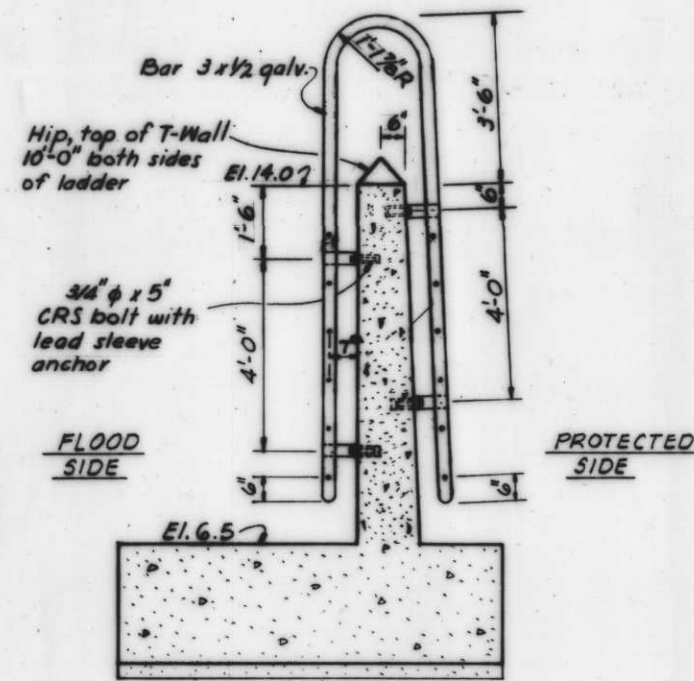
**PLAN**

Scale: 1" = 1'-0"



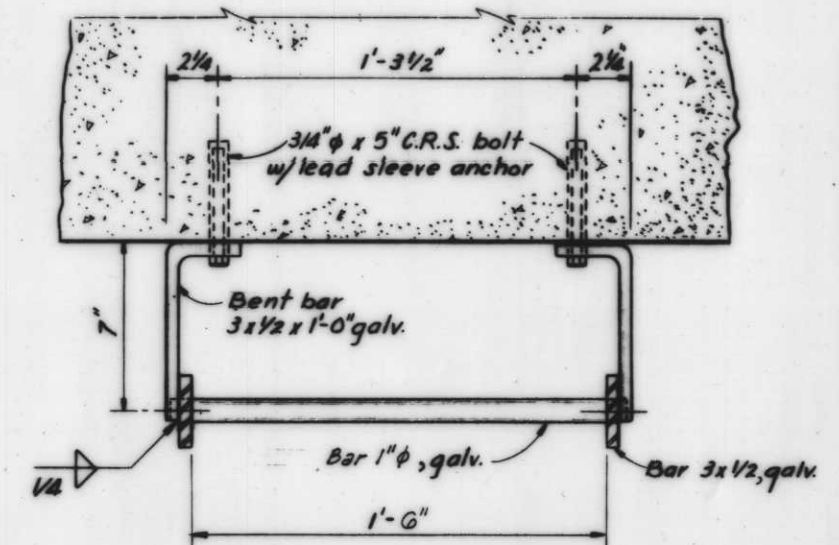
**LADDER AT STA. 0+40 W/L  
ELEVATION**

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



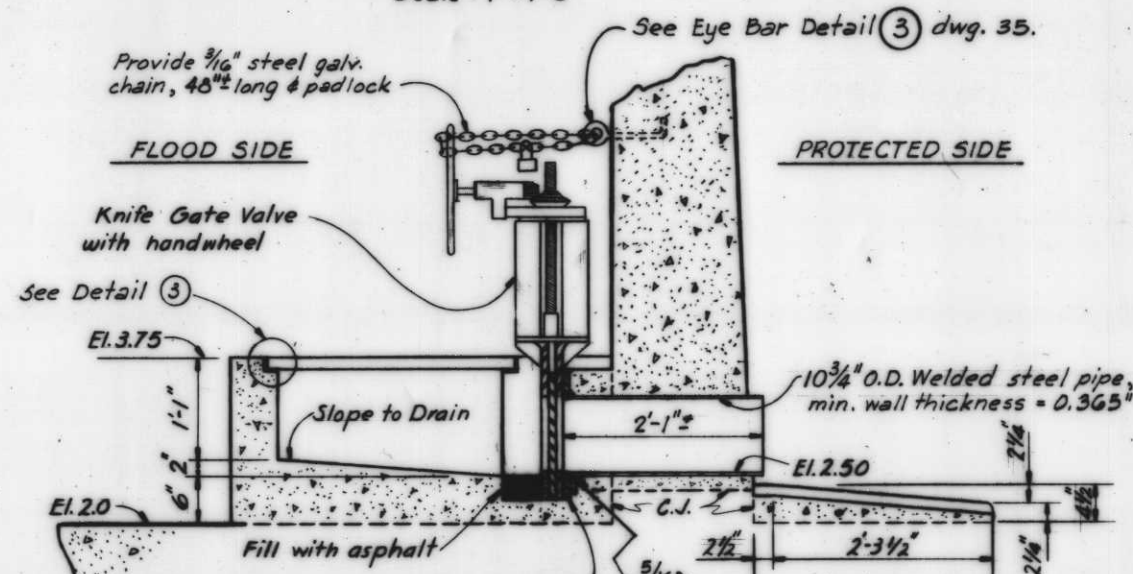
**SECTION B**

Scale: 1/4" = 1'-0"



**SECTION C**

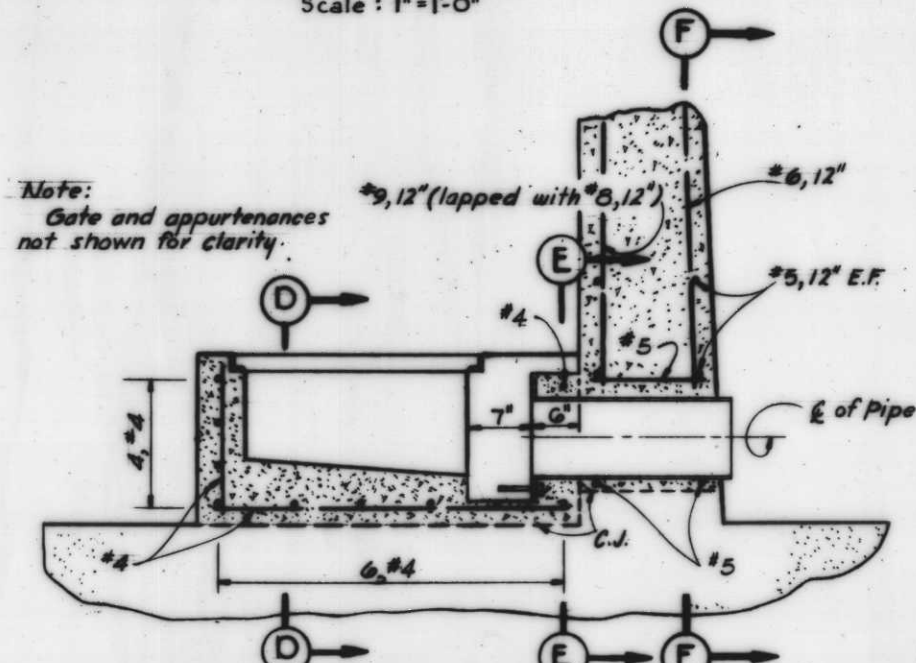
Scale: 3/8" = 1'-0"



AWWA Standard Steel Ring Flange, Class "D", 1/16" thick with an I.D. of 10 1/8" and a bolt circle diameter of 14 1/4" with 12 holes for 7/8" bolts. Valve will be attached to AWWA flange using lower B bolts only (4 bolts in chest area of valve to be omitted). Thru bolts shall be tack welded to AWWA flange. Provide gasket between AWWA flange and knife gate valve.

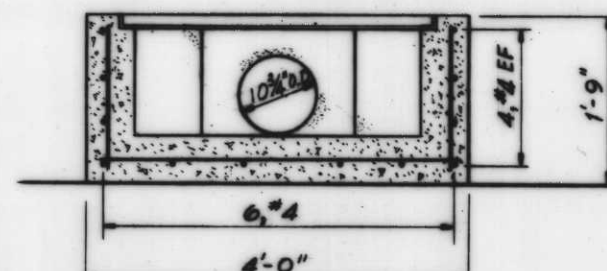
**SECTION A**

Scale: 1" = 1'-0"



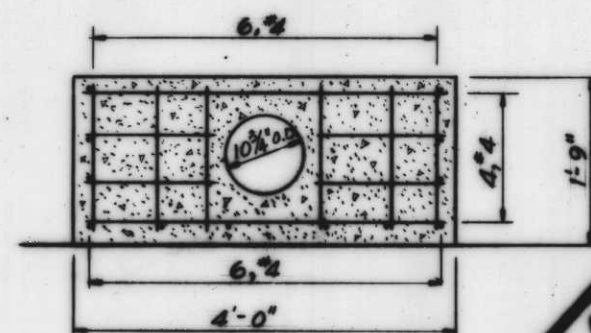
**SECTION A  
REINFORCEMENT DETAIL**

Scale: 1" = 1'-0"



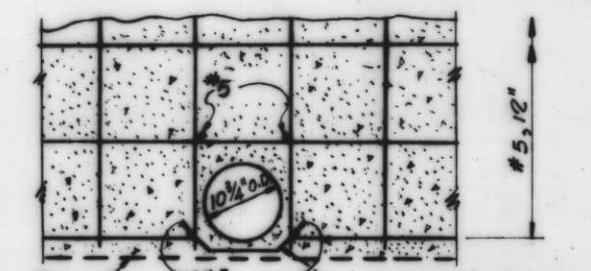
**SECTION D**

Scale: 1" = 1'-0"



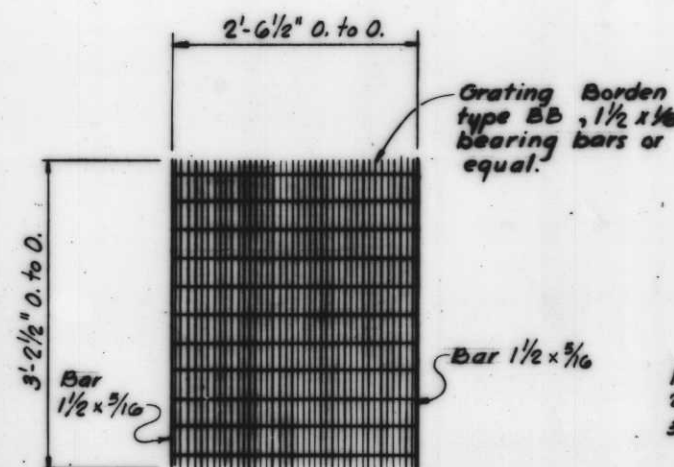
**SECTION E**

Scale: 1" = 1'-0"



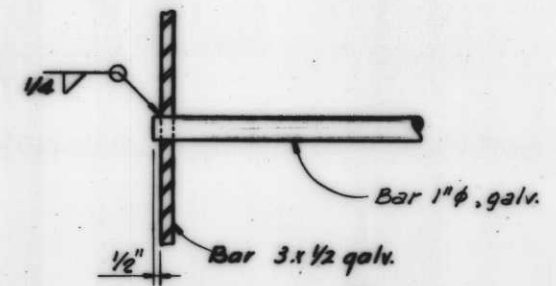
**SECTION F**

Scale: 1" = 1'-0"



**GRATING DETAIL 2**

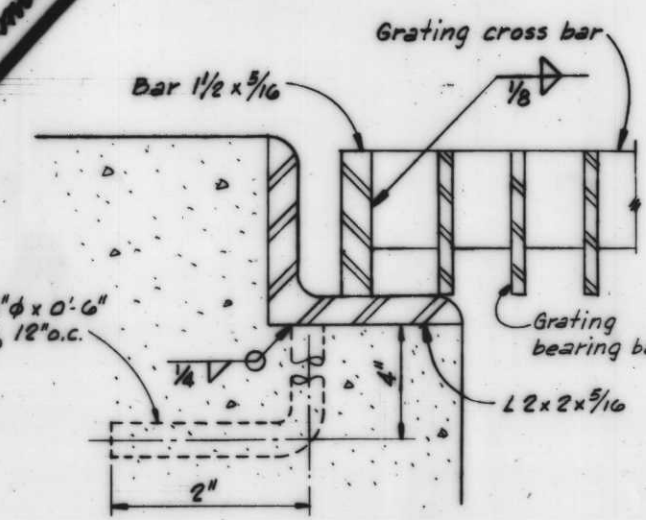
Scale: 1" = 1'-0"



**DETAIL 1**

Scale: 3" = 1'-0"

**Safety is a Part of Good Contract**



**DETAIL 3**

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

**REFERENCE DRAWINGS**

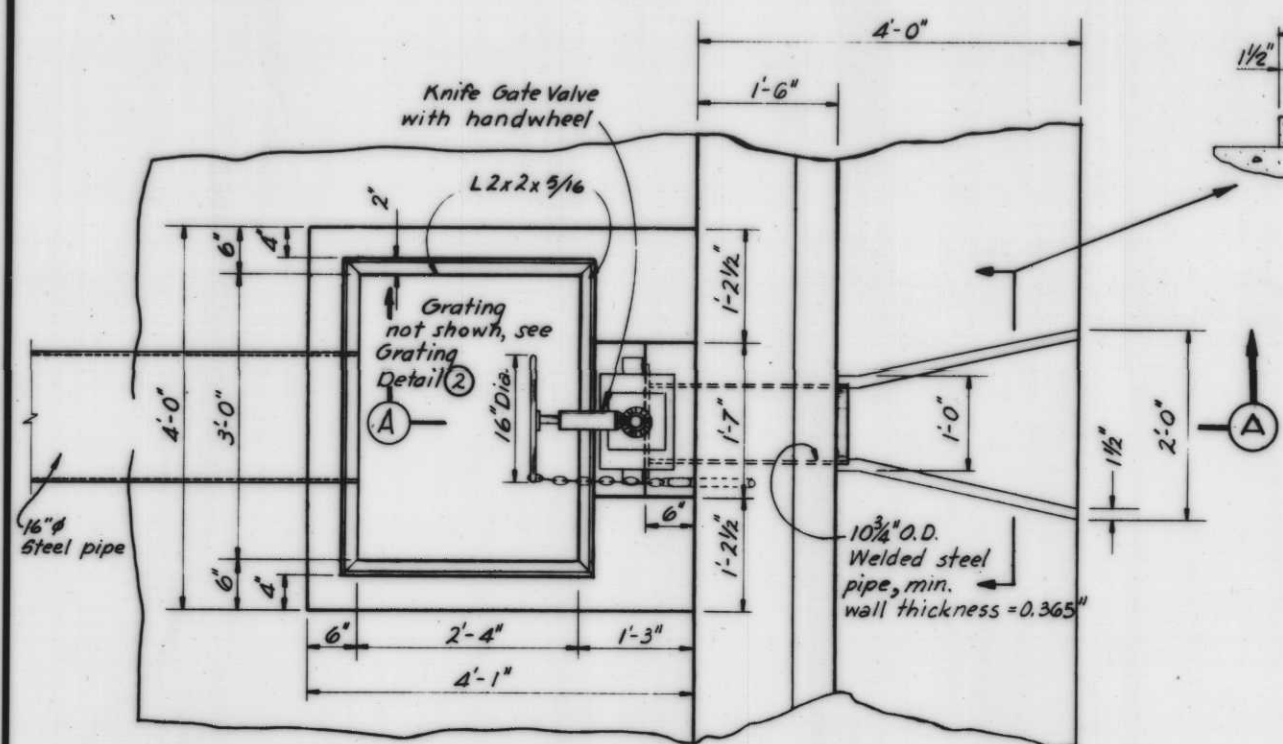
1. Plan and Profile, dwg. 3.
2. T-Wall and I-Wall Sections, dwg. 6.
3. Piling and Monolith Layout, dwg. 12.

**NOTES**

For General Notes, see dwg. 5.  
Ladder and grating shall be hot-dipped galvanized after fabrication.

| REVISION  | DATE      | DESCRIPTION | BY        |
|---|-----------|-------------|-----------|
| U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.  |           |             |           |
| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA.<br>CATCH BASIN DETAILS |           |             |           |
| DESIGNED:   | DRAWN:    | CHECKED:    | DATE:     |
| R.J.G.  | T.W.W.    | J.G.B.      | JAN. 1982 |
| SCALE:  | FILE NO.: |             |           |
| AS SHOWN  | H-4-27147 |             |           |
| SPEC. NO.:  |           | 39 - 44     |           |
| DACW29-82-B-0033  |           |             |           |



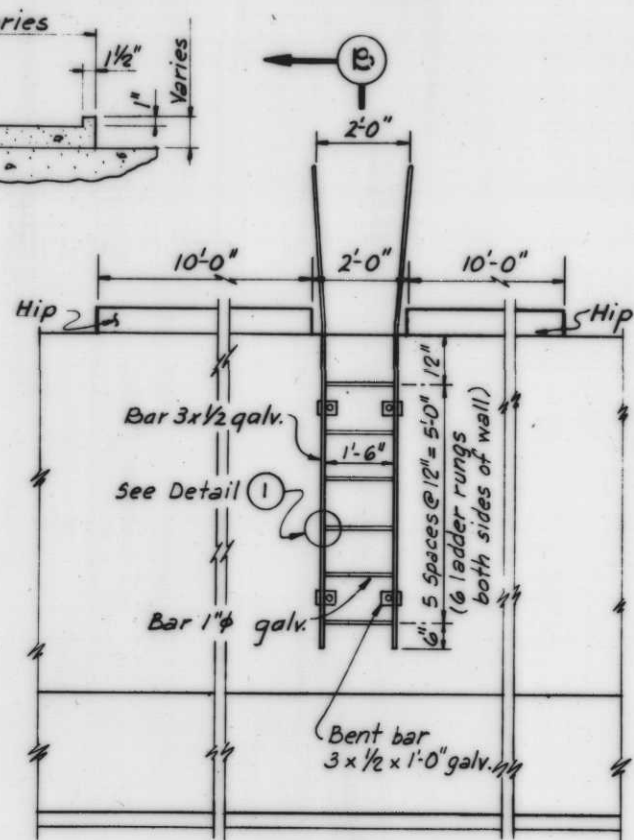


CATCH BASIN AT STA. 2+86± W/L (CB-9)

**PLAN**

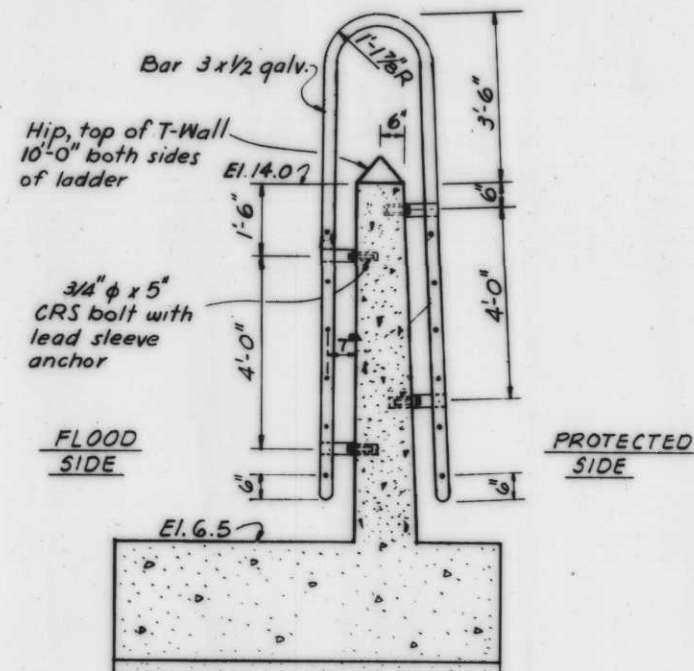
Scale: 1" = 1'-0"

C.B.-9 Located in alignment with E of steel pipe.



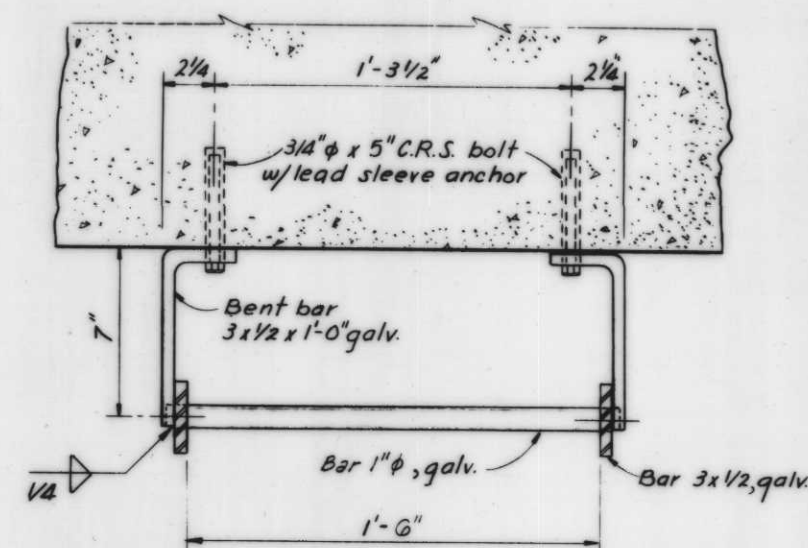
LADDER AT STA. 0+40 W/L  
**ELEVATION**

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



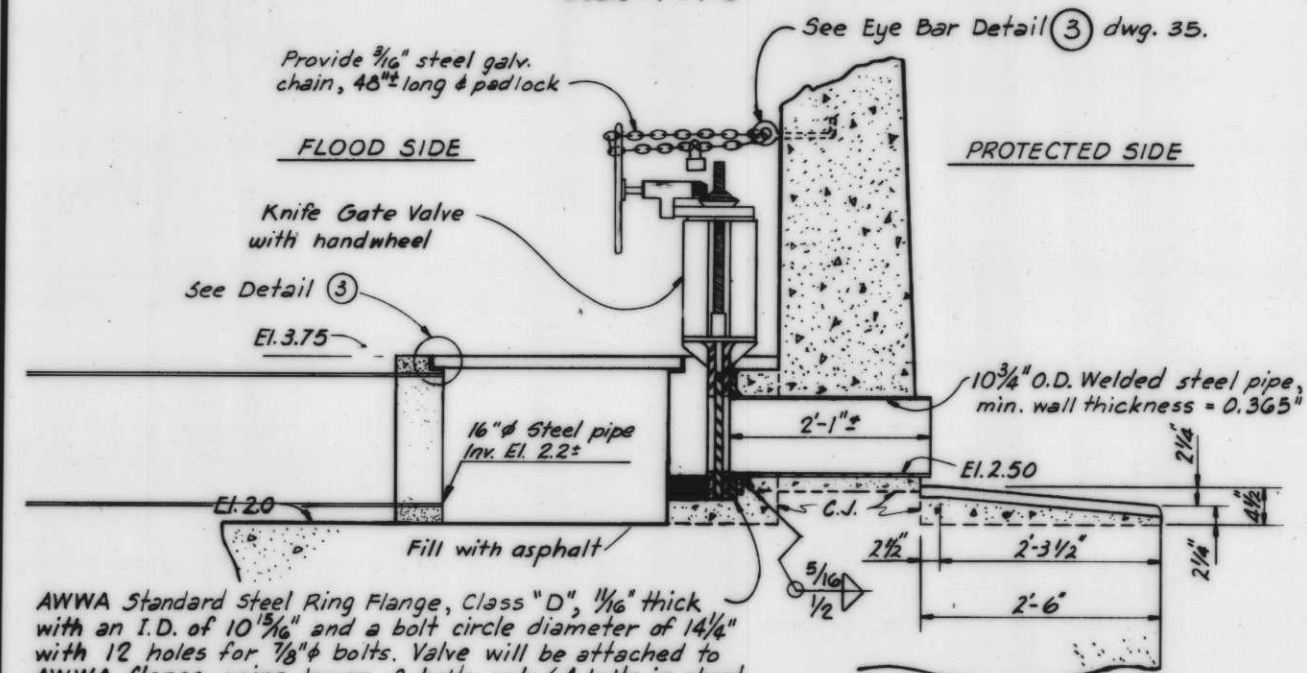
**SECTION B**

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



**SECTION C**

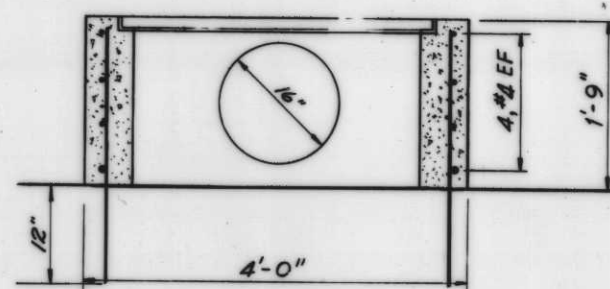
Scale: 3" = 1'-0"



**SECTION A**

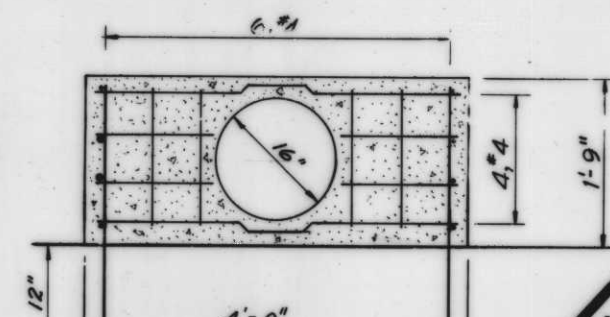
Scale: 1" = 1'-0"

AWWA Standard Steel Ring Flange, Class "D", 1/16" thick with an I.D. of 10 5/16" and a bolt circle diameter of 14 1/4" with 12 holes for 7/8" bolts. Valve will be attached to AWWA flange using lower 8 bolts only (4 bolts in chest area of valve to be omitted). Thru bolts shall be tack welded to AWWA flange. Provide gasket btwn. AWWA flange and knife gate valve.



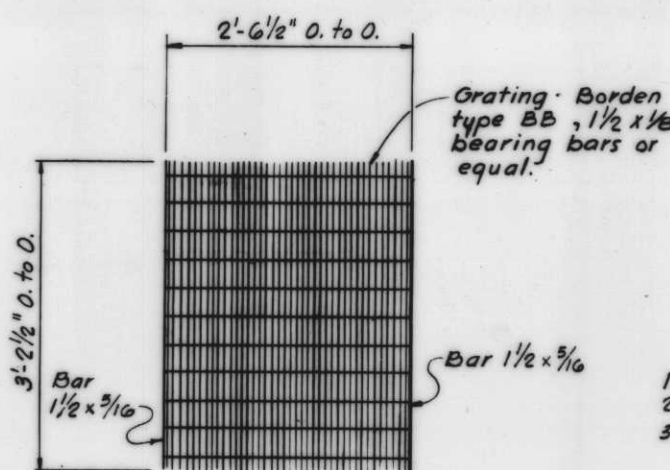
**SECTION D**

Scale: 1" = 1'-0"



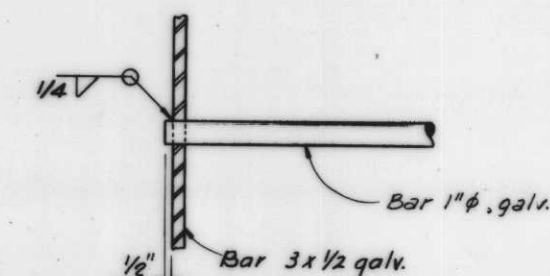
**SECTION E**

Scale: 1" = 1'-0"



**GRATING DETAIL 2**

Scale: 1" = 1'-0"



**DETAIL 1**

Scale: 3" = 1'-0"

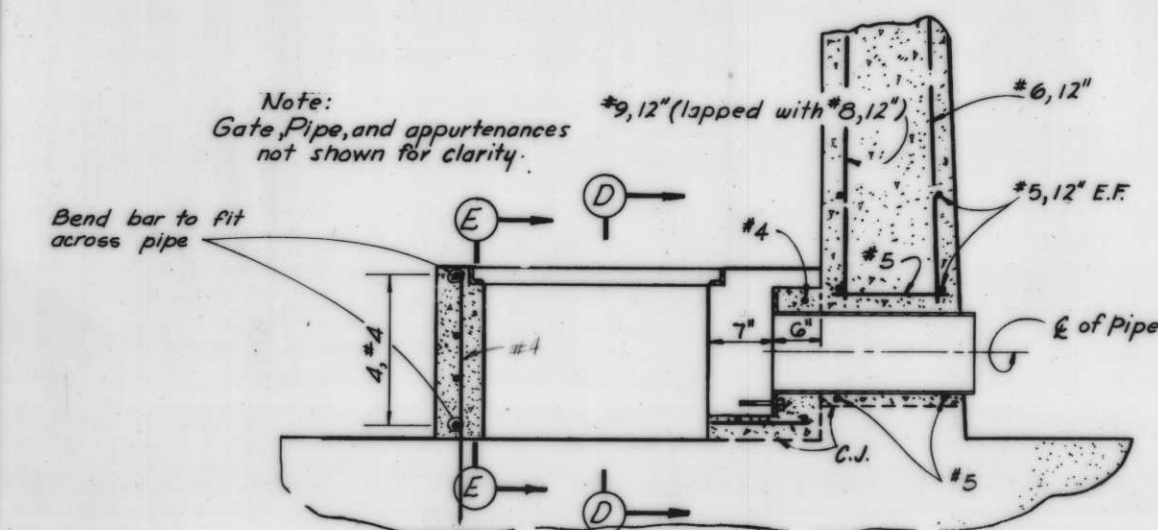
**REFERENCE DRAWINGS**

1. Plan and Profile, dwg. 3.
2. T-Wall and I-Wall Sections, dwg. 6.
3. Piling and Monolith Layout, dwg. 12.

**NOTES**

For General Notes, see dwg. 5.  
Ladder and grating shall be hot-dipped galvanized after fabrication.

**Safety is a Part of Your Contract**



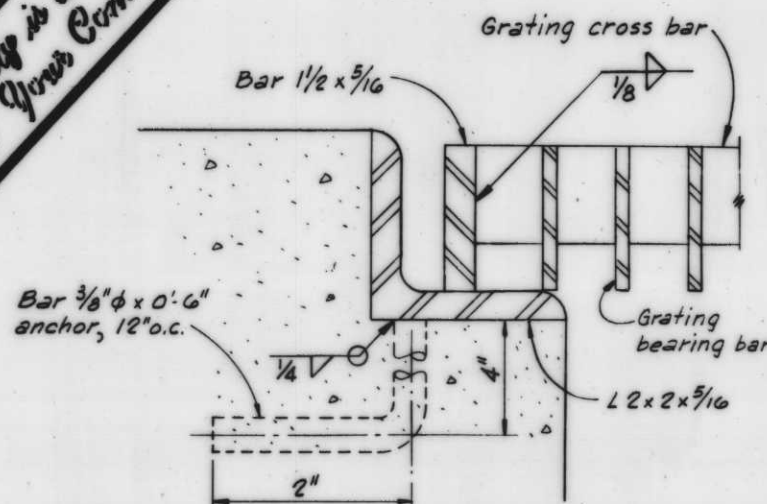
**SECTION A REINFORCEMENT DETAIL**

Scale: 1" = 1'-0"

SCALE: 1/2" = 1'-0"

SCALE: 1" = 1'-0"

SCALE: 3" = 1'-0"

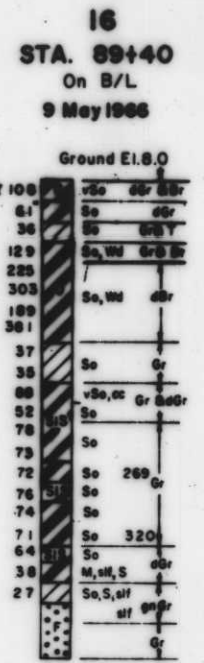
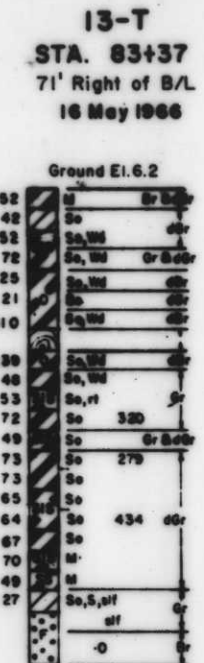
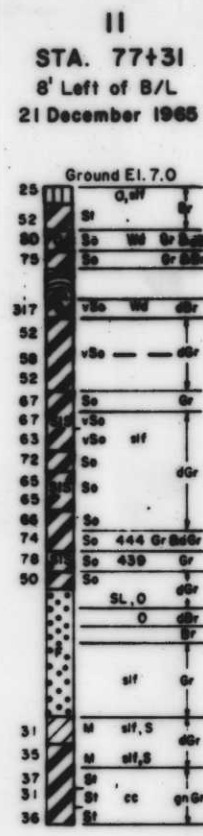
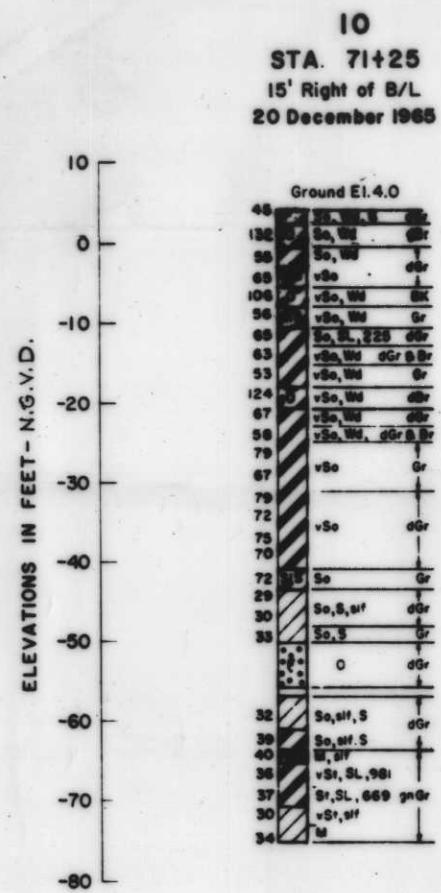


**DETAIL 3**

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

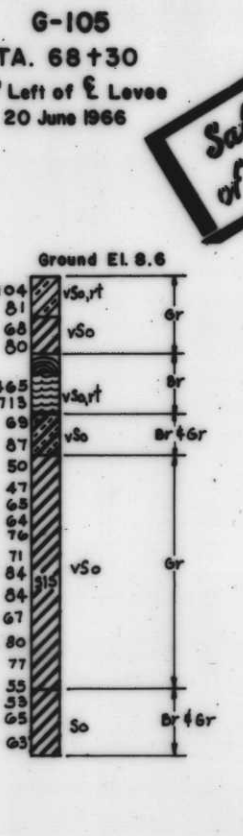
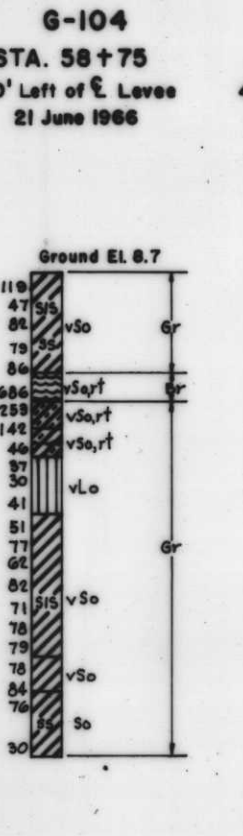
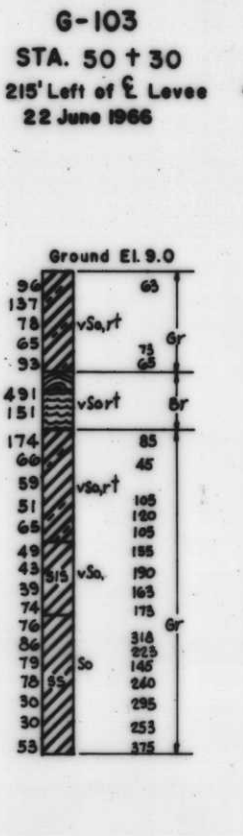
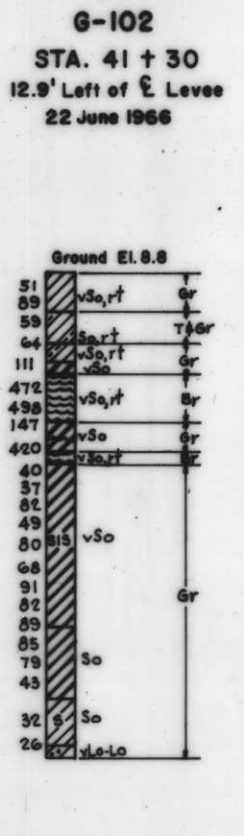
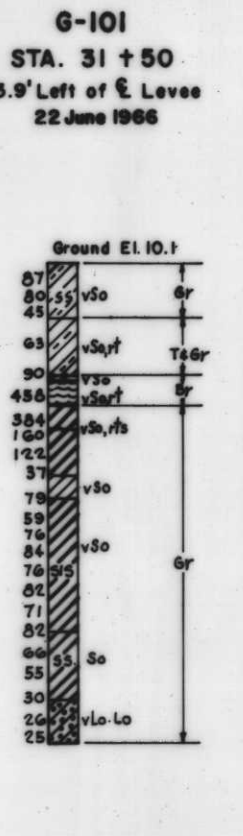
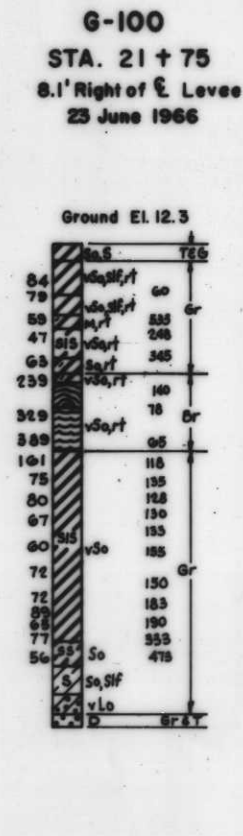
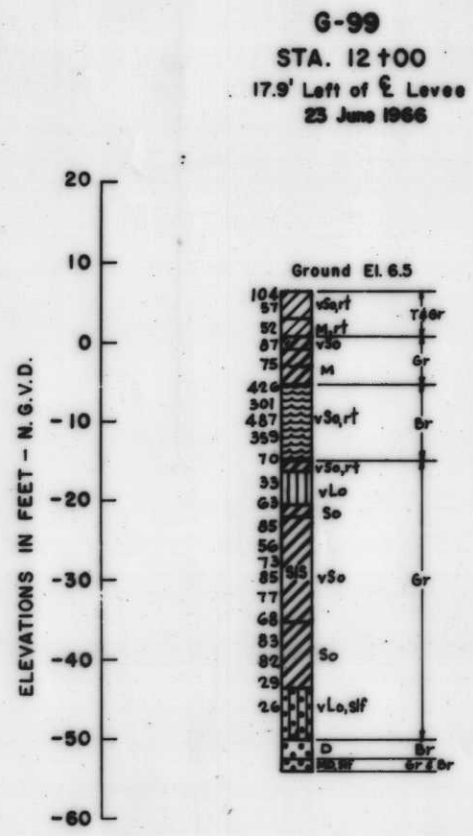
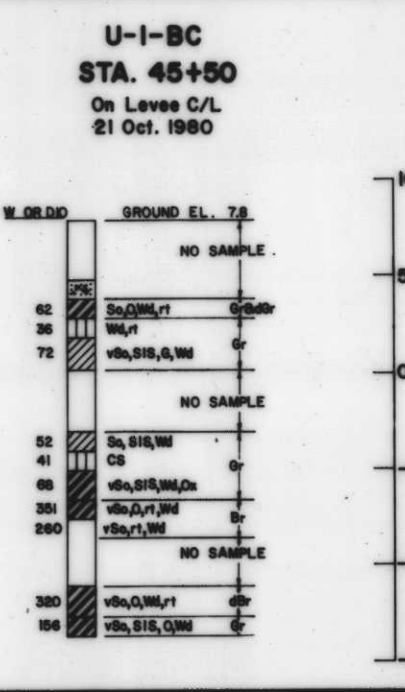
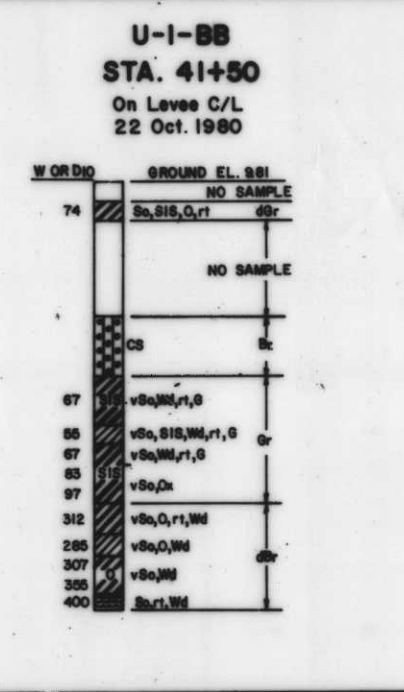
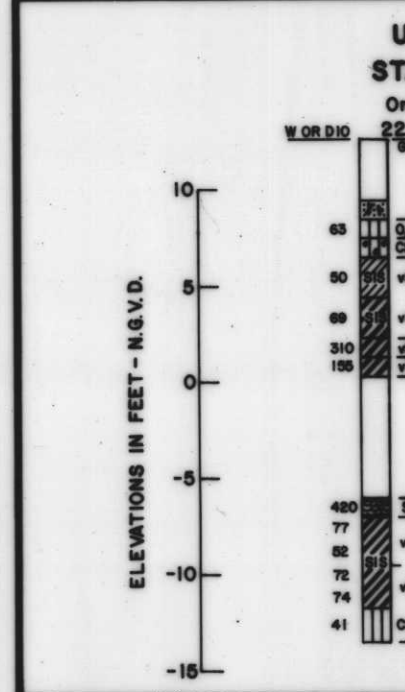
| REVISION  | DATE     | DESCRIPTION    | BY        |
|---|----------|----------------|-----------|
| U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.   |          |                |           |
| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA.<br>CATCH BASIN DETAILS |          |                |           |
| DESIGNED  | DRAWN    | CHECKED        | DATE      |
| R.J.Gr.   | T.W.W.   | J.G.B.         | JAN. 1982 |
| SCALE:  | AS SHOWN | FILE NO.       |           |
|   |          |                | H-4-27147 |
| SPEC. NO.   |          | DWS. 394 OF 44 |           |
| DACW29-82-B-0033  |          | AS CONSTRUCTED |           |



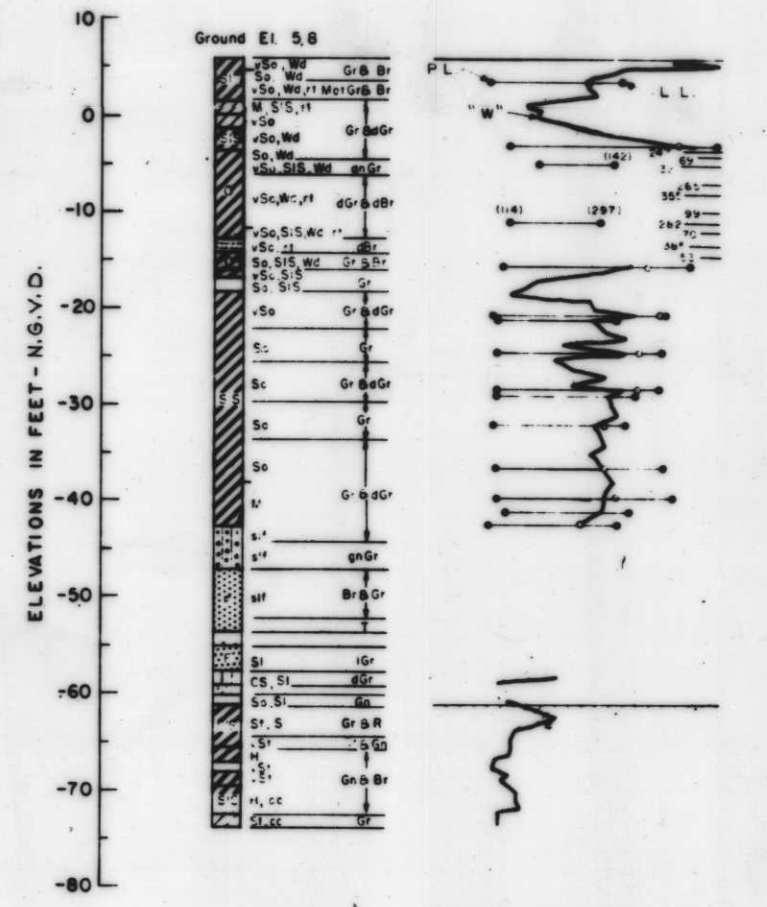


**GENERAL BORINGS**  
VERT. SCALE: 1" = 12'

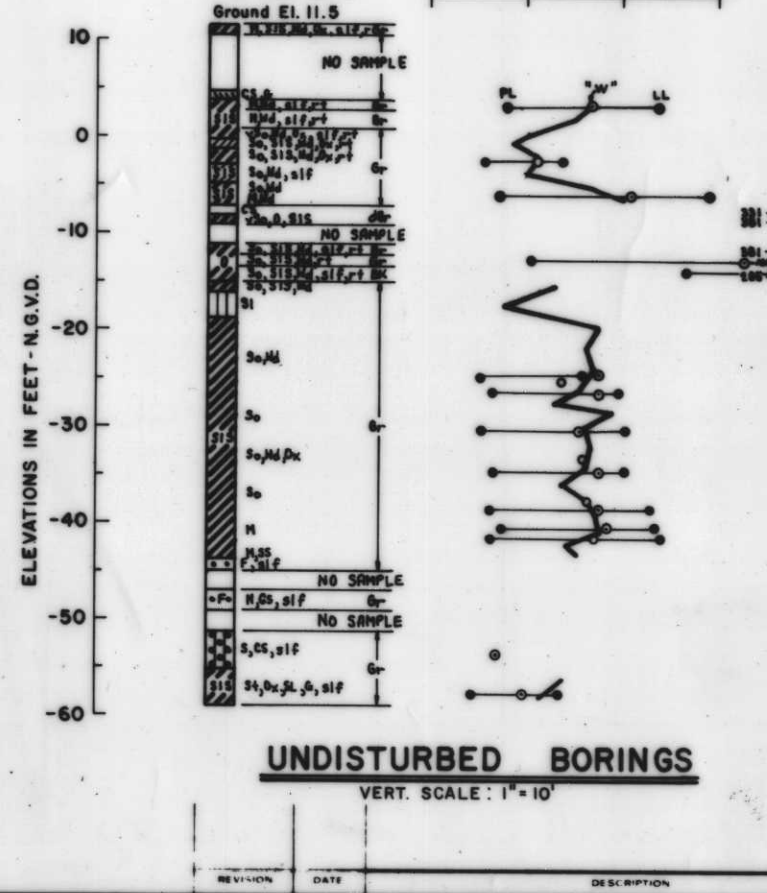
- Notes:  
1. For soil boring legend, see dwg. 41.  
2. For location of borings, see dwgs. 2, 3, 4, & 5.  
3. Water contents, shown are based on weight of oven dry soils.  
4. General type borings were made with a 1 7/8" I.D. core barrel sampler.  
5. Undisturbed type borings were taken with a 5" diameter steel tube, piston-type sampler.



**14-U WATER CONTENT, "w"**  
STA. 85+40  
On B/L  
4-5 May 1966



**U-1-B WATER CONTENT, "w"**  
STA. 31+20  
375' Right of B/L  
19 June 1974



**UNDISTURBED BORINGS**  
VERT. SCALE: 1" = 10'

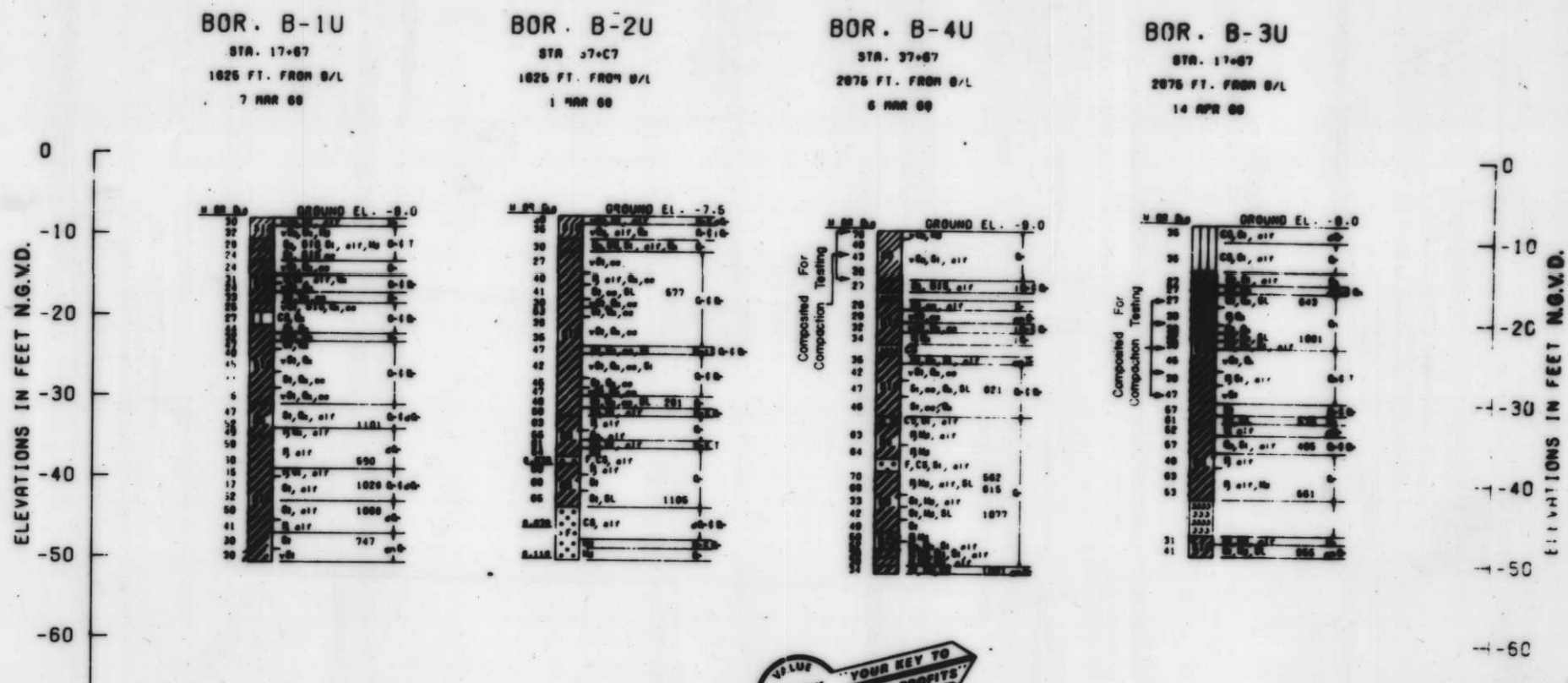
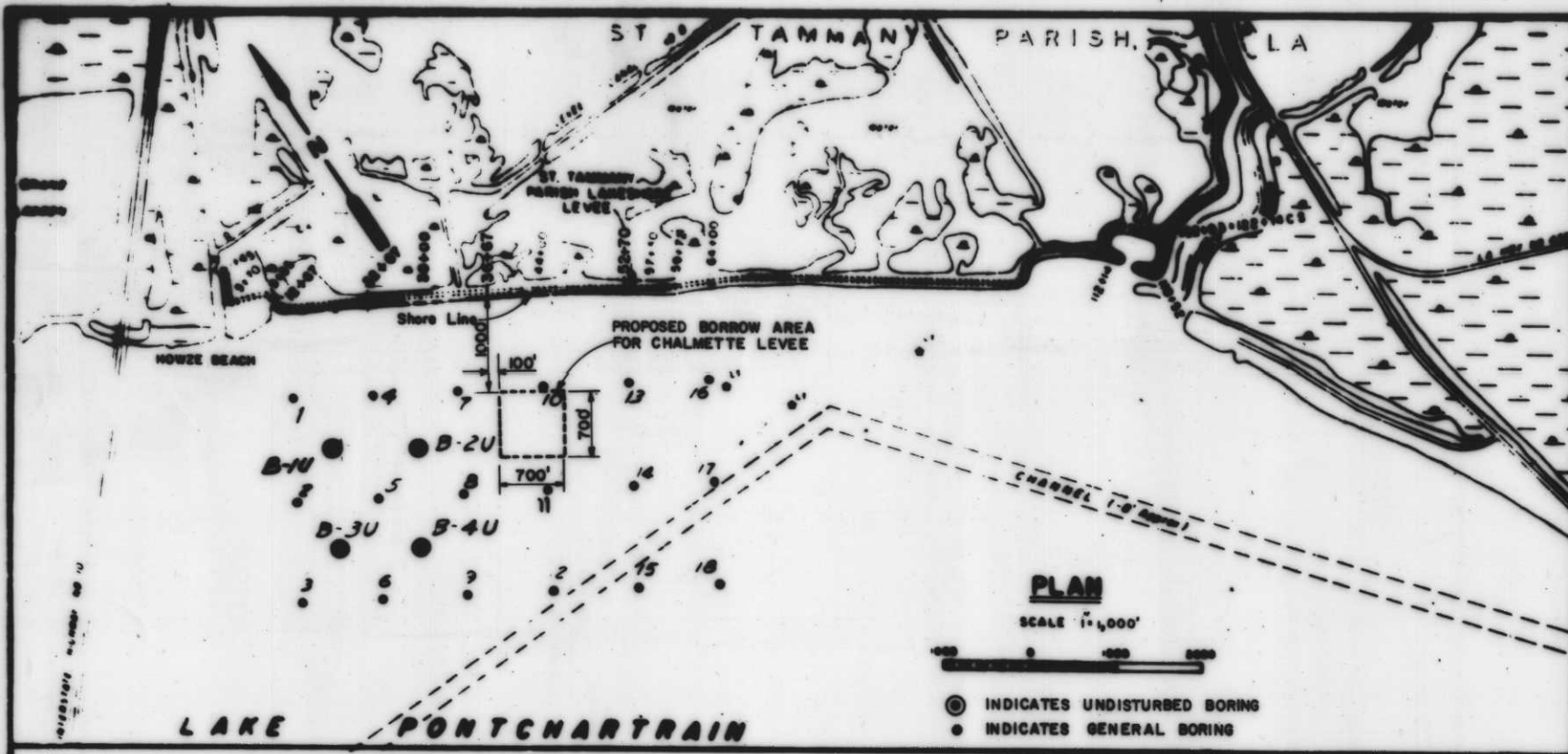
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS  
CORPS OF ENGINEERS  
NEW ORLEANS, LA.

LAKE PONTCHARTRAIN LOUISIANA AND VICINITY  
CHALMETTE AREA PLAN  
HURRICANE PROTECTION FLOODWALL AND LEVEE  
I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE  
ORLEANS PARISH, L.A.  
**BORING LOGS**

|          |        |         |                  |          |           |
|----------|--------|---------|------------------|----------|-----------|
| DESIGNED | DRAWN  | CHECKED | DATE             | SCALE    | FILE NO.  |
| J.G.B.   | G.P.T. | R.J.Gr. | JAN 1982         | AS SHOWN | H-4-27147 |
| SPEC NO. |        |         | DACW29-82-B-0033 |          |           |
| DRAWN    |        |         | 40 of 44         |          |           |

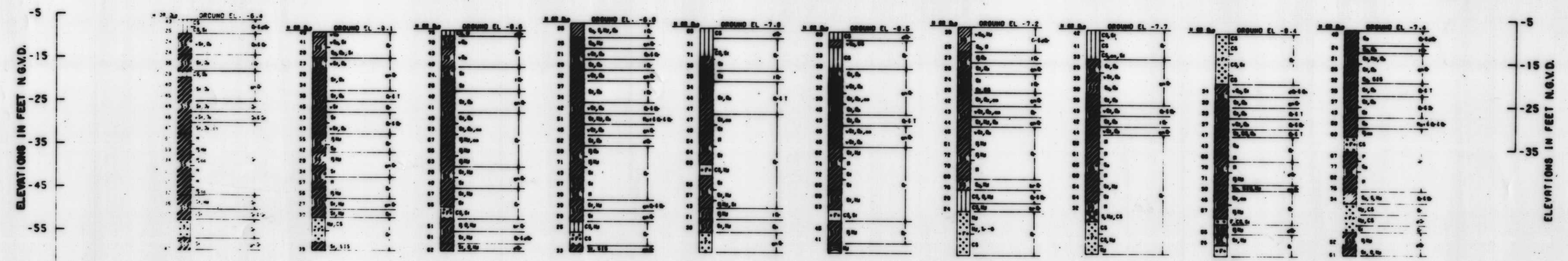
REFERENCE DRAWINGS  
1. Levee - Plan and Profile, dwg. 2  
2. Plan and Profile, dwgs. 3, 4 and 5.



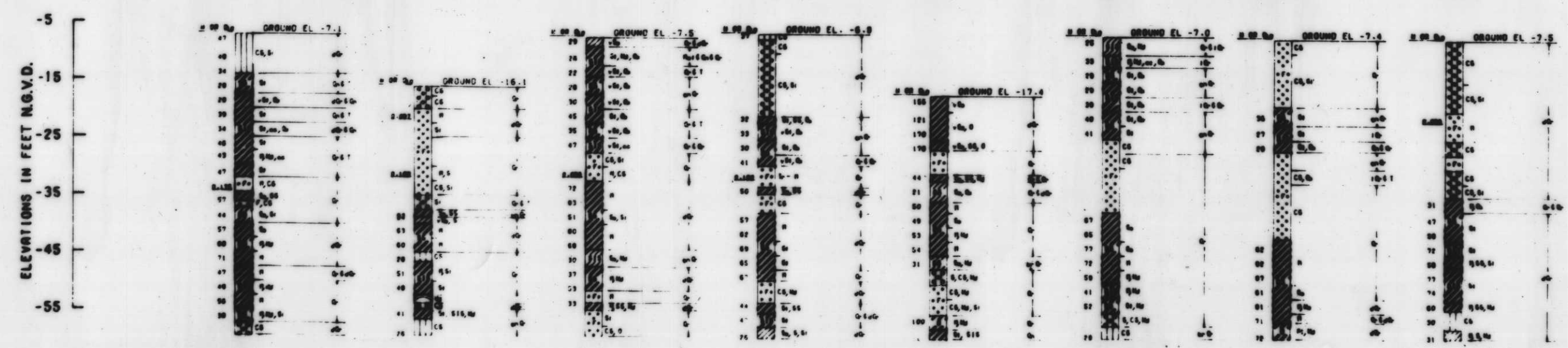


**BORING NO. 1** STA. 12+67-1000 FT. RT. OF B/LST. WATER SURFACE = 0.03 N.G.V.D. 11-13-67  
**BORING NO. 2** STA. 12+67-2250 FT. RT. OF B/LST. WATER SURFACE = 0.4 N.G.V.D. 11-09-67  
**BORING NO. 3** STA. 12+67-3500 FT. RT. OF B/LST. WATER SURFACE = 0.4 N.G.V.D. 11-09-67  
**BORING NO. 4** STA. 22+67-1000 FT. RT. OF B/LST. WATER SURFACE = 0.4 N.G.V.D. 11-14-67  
**BORING NO. 5** STA. 22+67-2250 FT. RT. OF B/LST. WATER SURFACE = 0.4 N.G.V.D. 11-14-67  
**BORING NO. 6** STA. 22+67-3500 FT. RT. OF B/LST. WATER SURFACE = 0.4 N.G.V.D. 11-14-67  
**BORING NO. 7** STA. 32+67-1000 FT. RT. OF B/LST. WATER SURFACE = 0.1 N.G.V.D. 11-15-67  
**BORING NO. 8** STA. 32+67-2250 FT. RT. OF B/LST. WATER SURFACE = 0.5 N.G.V.D. 11-15-67  
**BORING NO. 9** STA. 32+67-3500 FT. RT. OF B/LST. WATER SURFACE = 0.1 N.G.V.D. 11-15-67  
**BORING NO. 10** STA. 42+67-1000 FT. RT. OF B/LST. WATER SURFACE = 0.5 N.G.V.D. 11-16-67

*Safety is a Part of Your Contract*



**BORING NO. 11** STA. 42+67-2250 FT. RT. OF B/LST. WATER SURFACE = 0.5 N.G.V.D. 11-17-67  
**BORING NO. 12** STA. 42+67-3500 FT. RT. OF B/LST. WATER SURFACE = 0.6 N.G.V.D. 11-17-67  
**BORING NO. 13** STA. 52+67-1000 FT. RT. OF B/LST. WATER SURFACE = 0.7 N.G.V.D. 11-21-67  
**BORING NO. 14** STA. 52+67-2250 FT. RT. OF B/LST. WATER SURFACE = 0.4 N.G.V.D. 11-20-67  
**BORING NO. 15** STA. 52+67-3500 FT. RT. OF B/LST. WATER SURFACE = 0.4 N.G.V.D. 11-20-67  
**BORING NO. 16** STA. 62+67-1000 FT. RT. OF B/LST. WATER SURFACE = 0.7 N.G.V.D. 11-22-67  
**BORING NO. 17** STA. 62+67-2250 FT. RT. OF B/LST. WATER SURFACE = 0.7 N.G.V.D. 11-21-67  
**BORING NO. 18** STA. 62+67-3500 FT. RT. OF B/LST. WATER SURFACE = 0.7 N.G.V.D. 11-21-67



**NOTES:**  
 FOR GENERAL NOTES, SEE DWG. NO. 5  
 WATER CONTENTS SHOWN ARE BASED ON WEIGHT OF OVER DRY SOILS.  
 MATERIAL IS AVAILABLE IN THE NORTH SHORE BORROW AREA TO EL. -20.0 N.G.V.D. EXCAVATION SLOPES ARE TO BE NO STEEPER THAN 1V ON 1H.  
 GENERAL TYPE SOIL SAMPLES TAKEN WITH A 1 7/8" I.D. CORE SAMPLER. UNDISTURBED SAMPLES WERE TAKEN WITH A 3" DIAMETER STEEL TUBE PISTON TYPE SAMPLER.

**LEGEND**  
 ● GENERAL TYPE BORING  
 ● UNDISTURBED BORING

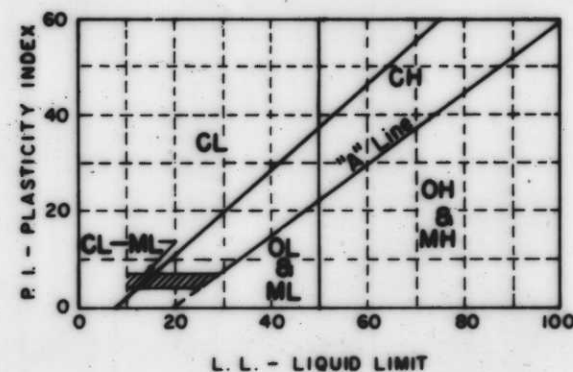
| REVISION   | DATE                 | DESCRIPTION            | BY                   |
|--|----------------------|------------------------|----------------------|
| U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.  |                      |                        |                      |
| <b>LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br/>           CHALMETTE AREA PLAN<br/>           HURRICANE PROTECTION FLOODWALL AND LEVEE<br/>           IHNC. EAST LEVEE-NORTH OF FLORIDA AVENUE<br/>           ORLEANS PARISH, LA.<br/>           BORROW AREA LOCATION-NORTH SHORE</b> |                      |                        |                      |
| DESIGNED BY<br>R.P.L.  | CHECKED BY<br>T.L.C. | DATE<br>JAN. 1962      | SCALE<br>AS SHOWN    |
| DRAWN BY<br>[Signature]  |                      | SPEC. NO.<br>82-B-0033 | PL. NO.<br>H-4-27147 |
| SHEET NO.<br>31  |                      | OF 44                  |                      |



| UNIFIED SOIL CLASSIFICATION   |   |  |  |   |  |
|---|---|--|--|---|--|
| MAJOR DIVISION  | TYPE  | LETTER SYMBOL  | SYM. BOL.  | TYPICAL NAMES   |  |
| COARSE-GRAINED SOILS<br>More than half of material is larger than No. 200 sieve size. | GRAVELS<br>More than half of coarse fraction is larger than No. 4 sieve size.         | CLEAN GRAVEL (Little or No Fines)  | GW   | GRAVEL, Well Graded, gravel-sand mixtures, little or no fines   |  |
|   |   | GRAVEL WITH FINES (Appreciable Amount of Fines)                              | GP   | GRAVEL, Poorly Graded, gravel-sand mixtures, little or no fines |  |
|   |   | SANDS<br>More than half of coarse fraction is smaller than No. 4 sieve size. | CLEAN SAND (Little or No Fines)  | GM  | SILTY GRAVEL, gravel-sand-silt mixtures  |
|   |   |  | SANDS WITH FINES (Appreciable Amount of Fines)   | GC  | CLAYEY GRAVEL, gravel-sand-clay mixtures   |
|   |   |  | CLEAN SAND (Little or No Fines)  | SW  | SAND, Well-Graded, gravelly sands  |
|   | SANDS WITH FINES (Appreciable Amount of Fines)  | SP   | SAND, Poorly-Graded, gravelly sands  |   |  |
|   | FINE-GRAINED SOILS<br>More than half the material is smaller than No. 200 sieve size. | SILTS AND CLAYS (Liquid Limit < 50)  | SILT & very fine sand, silty or clayey fine sand or clayey silt with slight plasticity | ML  | SILT & very fine sand, silty or clayey fine sand or clayey silt with slight plasticity |
|   |   |  | LEAN CLAY; Sandy Clay; Silty Clay, of low to medium plasticity                         | CL  | LEAN CLAY; Sandy Clay; Silty Clay, of low to medium plasticity                         |
|   |   |  | ORGANIC SILTS and organic silty clays of low plasticity                                | OL  | ORGANIC SILTS and organic silty clays of low plasticity                                |
|   |   | SILTS AND CLAYS (Liquid Limit > 50)  | SILT, fine sandy or silty soil with high plasticity                                    | MH  | SILT, fine sandy or silty soil with high plasticity                                    |
| FAT CLAY, inorganic clay of high plasticity   |   |  | CH   | FAT CLAY, inorganic clay of high plasticity                     |  |
| ORGANIC CLAYS of medium to high plasticity, organic silts                             | OH  | ORGANIC CLAYS of medium to high plasticity, organic silts                    |  |   |  |
| HIGHLY ORGANIC SOILS  |   | Pt   | PEAT, and other highly organic soil  |   |  |
| WOOD  |   | Wd   | WOOD   |   |  |
| SHELLS  |   | SI   | SHELLS   |   |  |
| NO SAMPLE   |   |  |  |   |  |

NOTE: Soils possessing characteristics of two groups are designated by combinations of group symbols

| COLOR         |        | CONSISTENCY FOR COHESIVE SOILS |   |        | MODIFICATIONS         |        |
|---------------|--------|--------------------------------|---|--------|-----------------------|--------|
| COLOR         | SYMBOL | CONSISTENCY                    | COHESION IN LBS./SQ. FT. FROM UNCONFINED COMPRESSION TEST | SYMBOL | MODIFICATION          | SYMBOL |
| TAN           | T      | VERY SOFT                      | < 250   | vSo    | Traces                | Tr-    |
| YELLOW        | Y      | SOFT                           | 250 - 500   | So     | Fine                  | F      |
| RED           | R      | MEDIUM                         | 500 - 1000  | M      | Medium                | M      |
| BLACK         | BK     | STIFF                          | 1000 - 2000   | St     | Coarse                | C      |
| GRAY          | Gr     | VERY STIFF                     | 2000 - 4000   | vSt    | Concretions           | cc     |
| LIGHT GRAY    | lGr    | HARD                           | > 4000  | H      | Rootlets              | rt     |
| DARK GRAY     | dGr    |                                |   |        | Lignite fragments     | lg     |
| BROWN         | Br     |                                |   |        | Shale fragments       | sh     |
| LIGHT BROWN   | lBr    |                                |   |        | Sandstone fragments   | sds    |
| DARK BROWN    | dBr    |                                |   |        | Shell fragments       | slf    |
| BROWNISH-GRAY | br Gr  |                                |   |        | Organic matter        | O      |
| GRAYISH-BROWN | gy Br  |                                |   |        | Clay strata or lenses | CS     |
| GREENISH-GRAY | gn Gr  |                                |   |        | Silt strata or lenses | SIS    |
| GRAYISH-GREEN | gy Gn  |                                |   |        | Sand strata or lenses | SS     |
| GREEN         | Gn     |                                |   |        | Sandy                 | S      |
| BLUE          | Bl     |                                |   |        | Gravelly              | G      |
| BLUE-GREEN    | Bl Gn  |                                |   |        | Boulders              | B      |
| WHITE         | Wh     |                                |   |        | Slickensides          | SL     |
| MOTTLED       | Mot    |                                |   |        | Wood                  | Wd     |
|               |        |                                |   |        | Oxidized              | Ox     |



PLASTICITY CHART  
For classification of fine-grained soils

| NOTES:  |  |
|---|--|
| FIGURES TO LEFT OF BORING UNDER COLUMN "W OR D <sub>10</sub> "  |  |
| Are natural water contents in percent dry weight  |  |
| When underlined denotes D <sub>10</sub> size in mm  |  |
| FIGURES TO LEFT OF BORING UNDER COLUMNS "LL" AND "PL"   |  |
| Are liquid and plastic limits, respectively   |  |
| SYMBOLS TO LEFT OF BORING   |  |
| ▽ Ground-water surface and date observed  |  |
| ⊙ Denotes location of consolidation test**  |  |
| ⊙ Denotes location of consolidated-drained direct shear test**  |  |
| ⊙ Denotes location of consolidated-undrained triaxial compression test**  |  |
| ⊙ Denotes location of unconsolidated-undrained triaxial compression test**  |  |
| ⊙ Denotes location of sample subjected to consolidation test and each of the above three types of shear tests**   |  |
| FW Denotes free water encountered in boring or sample   |  |
| FIGURES TO RIGHT OF BORING  |  |
| Are values of cohesion in lbs./sq. ft. from unconfined compression tests  |  |
| In parenthesis are driving resistances in blows per foot determined with a standard split spoon sampler (1 3/8" I.D., 2" O.D.) and a 140 lb. driving hammer with a 30" drop |  |
| Where underlined with a solid line denotes laboratory permeability in centimeters per second of undisturbed sample  |  |
| Where underlined with a dashed line denotes laboratory permeability in centimeters per second of sample remoulded to the estimated natural void ratio                       |  |
| *The D <sub>10</sub> size of a soil is the grain diameter in millimeters of which 10% of the soil is finer, and 90% coarser than D <sub>10</sub>                            |  |
| **Results of these tests are available for inspection in the U.S. Army Engineer District Office, if these symbols appear beside the boring logs on the drawings             |  |

TYPICAL NOTES:

While the borings are representative of subsurface conditions at their respective locations and for their respective vertical reaches, local variations characteristic of the subsurface materials of the region are anticipated and, if encountered, such variations will not be considered as differing materially within the purview of clause 4 of the contract.

Ground-water elevations shown on the boring logs represents ground-water surfaces encountered on the dates shown. Absence of water surface data on certain borings implies that no ground-water data is available, but does not necessarily mean that ground water will not be encountered at the locations or within the vertical reaches of these borings.

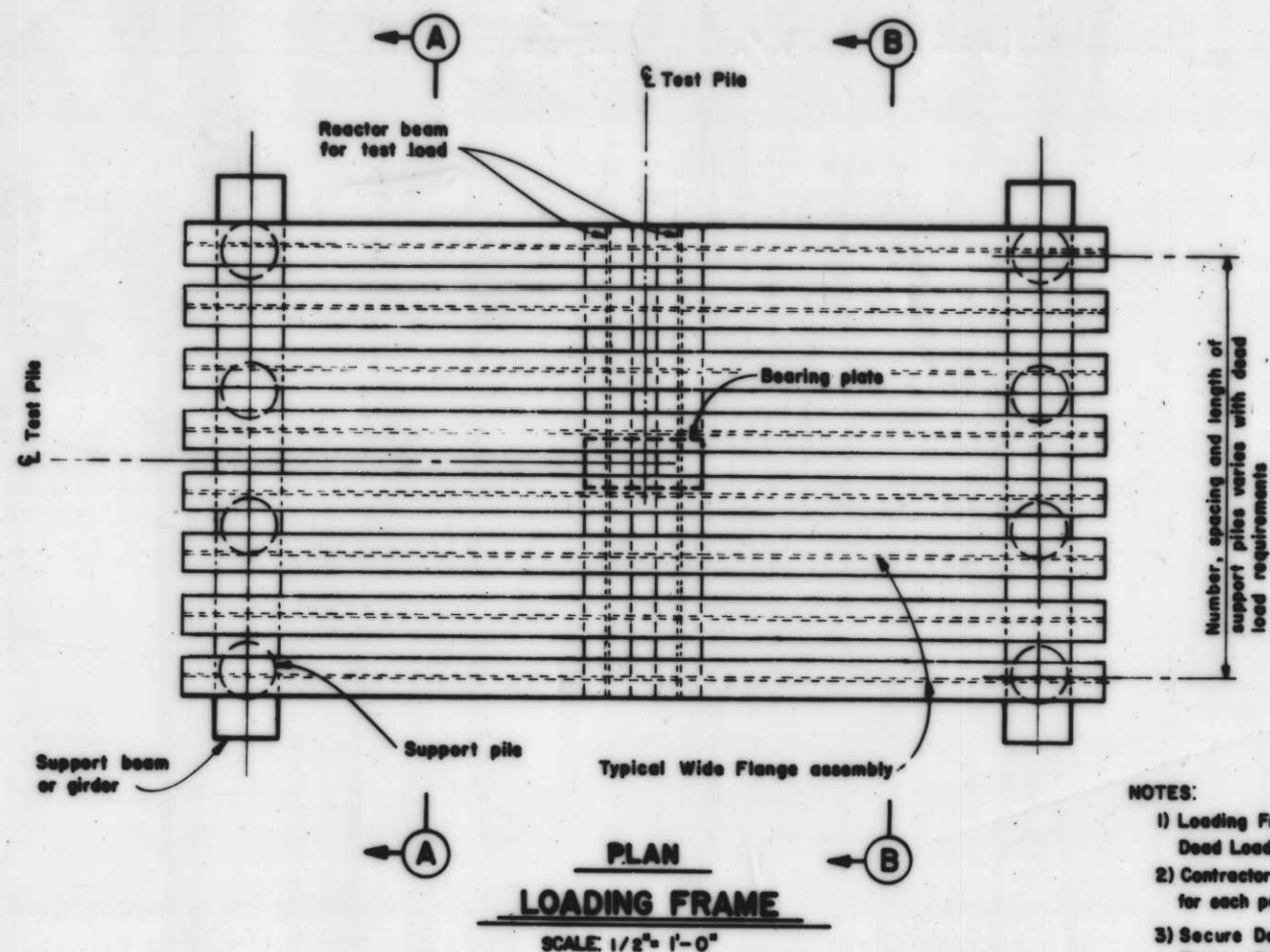
Consistency of cohesive soils shown on the boring logs is based on driller's log and visual examination and is approximate, except within those vertical reaches of the borings where shear strengths from unconfined compression tests are shown.

NOTE:  
1. For Boring Logs, see dwg. 40.

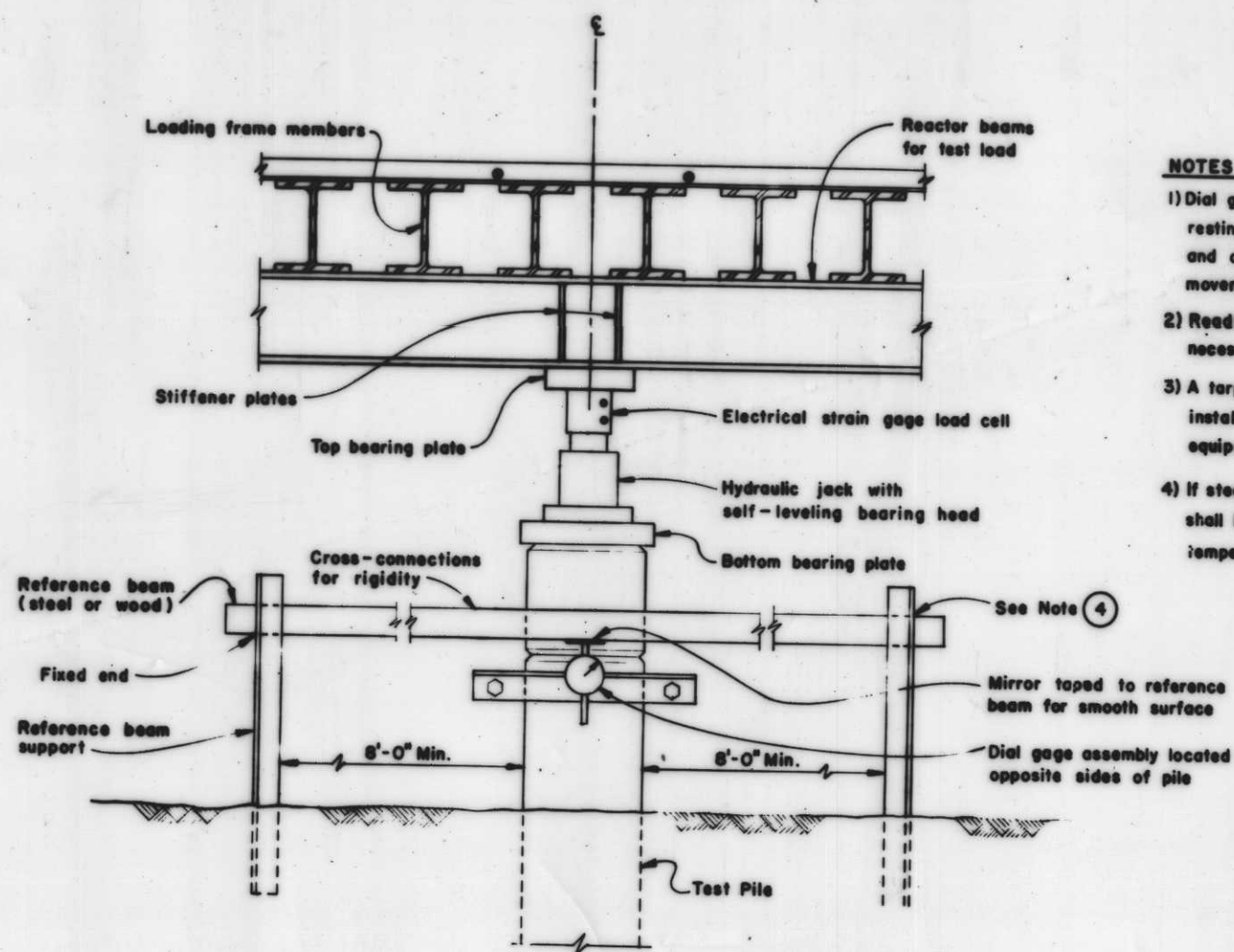


| REVISION   | DATE             | DESCRIPTION | BY        |
|--|------------------|-------------|-----------|
| U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.  |                  |             |           |
| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>LHNC EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA.<br>SOIL BORING LEGEND |                  |             |           |
| DESIGNED   | DRAWN            | CHECKED     | DATE      |
| J.G.B.   | E.M.M.           | R.J.G.      | JAN. 1962 |
| SCALE  | FILE NO.         | H-4-27147   |           |
| AS SHOWN   | DACW29-62-B-0033 |             |           |
| 42   |                  | 44          |           |





- NOTES:**
- 1) Loading Frame shown without Dead Load.
  - 2) Contractor to provide pile layout for each particular Dead Load Test.
  - 3) Secure Dead Weight Load to Loading Frame with chains and binders.

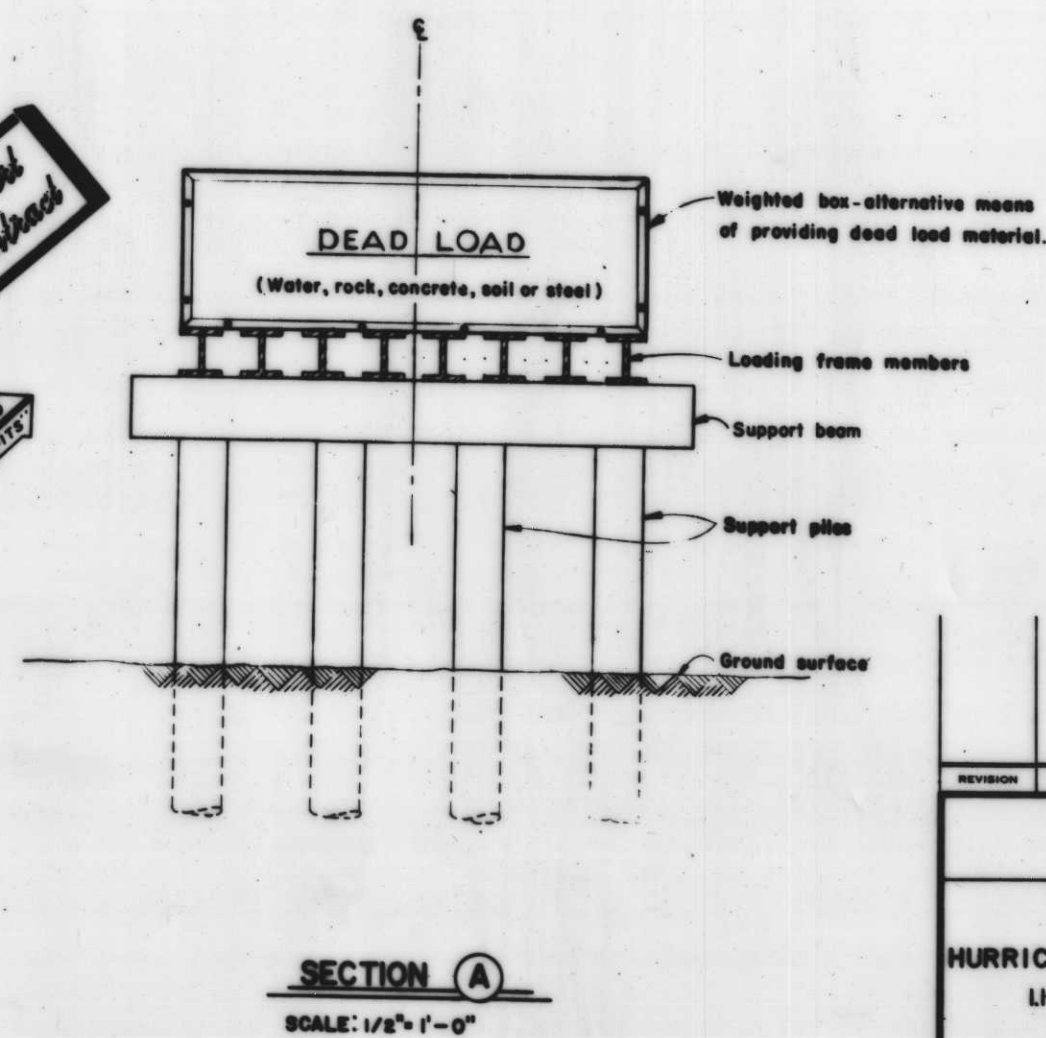
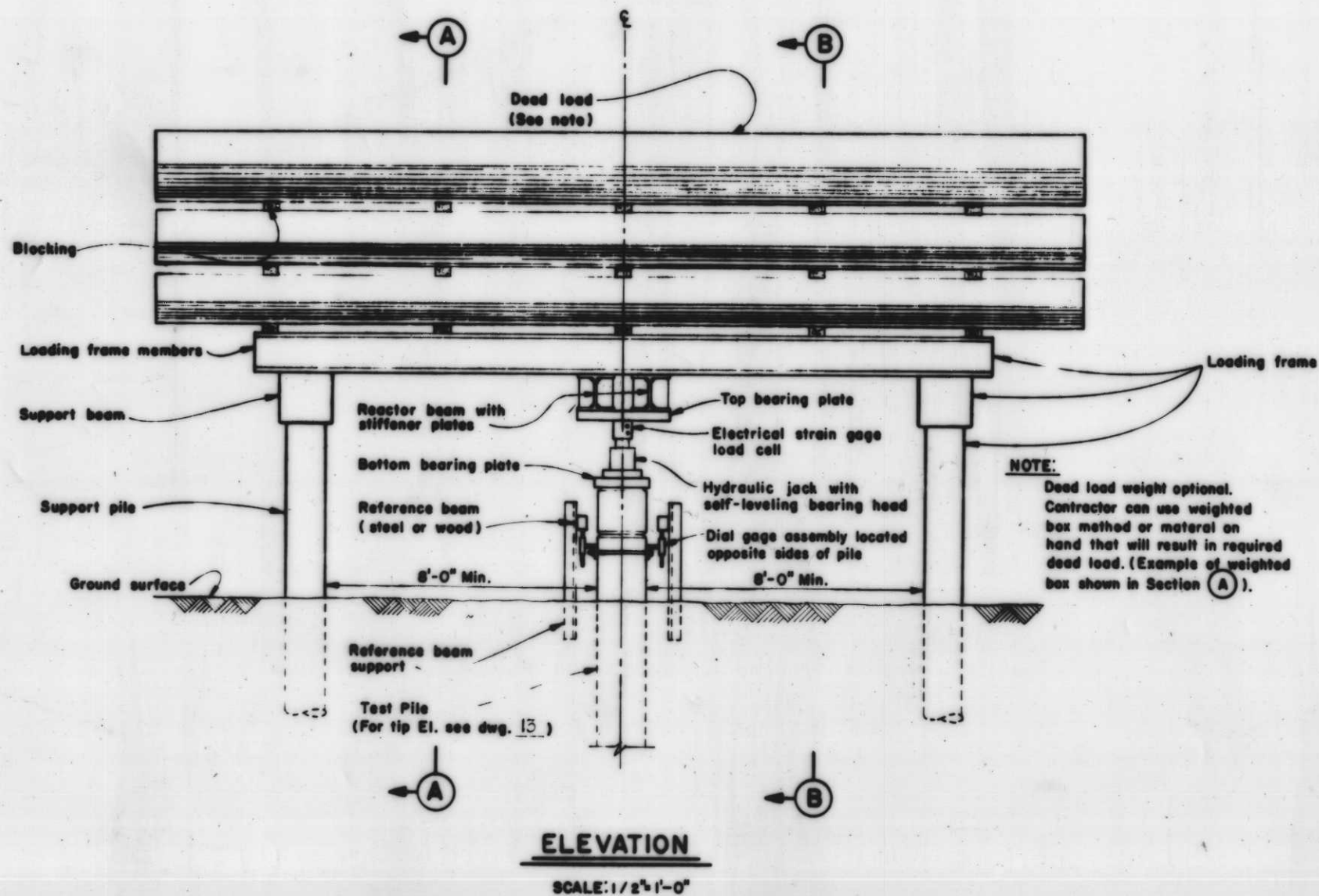


- NOTES**
- 1) Dial gage should be attached to the pile with the stem resting on the reference beam in the compressed position and on that side of the reference beam where the movement will be away from the beam.
  - 2) Readings on the opposite sides of the pile are necessary.
  - 3) A tarpaulin of minimum dimension 12x12 shall be installed by the contractor to protect the measuring equipment from the direct effects of the weather.
  - 4) If steel reference beams are used, one end of each beam shall be free to move as the length of beams change with temperature variations.

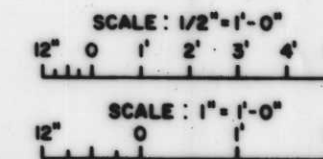
**SECTION B**  
**TEST APPARATUS**  
SCALE: 1" = 1'-0"

THIS DRAWING IS FOR ILLUSTRATION PURPOSES ONLY

Design of the loading frame and test apparatus is the responsibility of the contractor and must be submitted for approval.

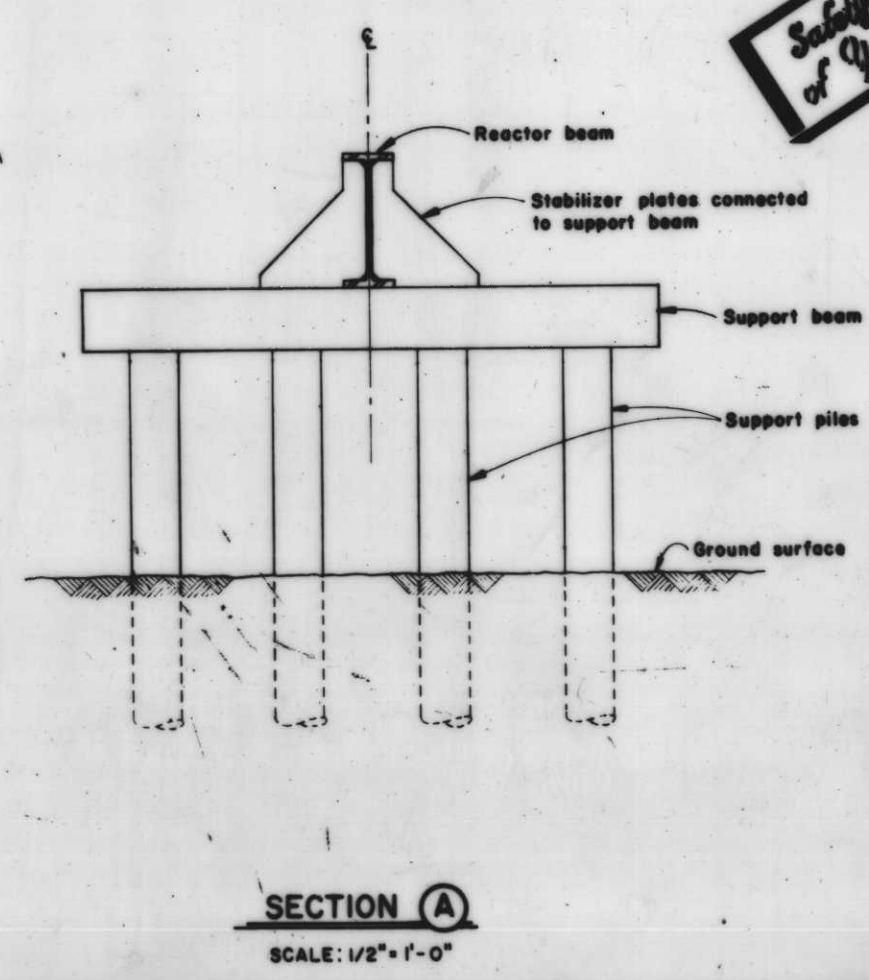
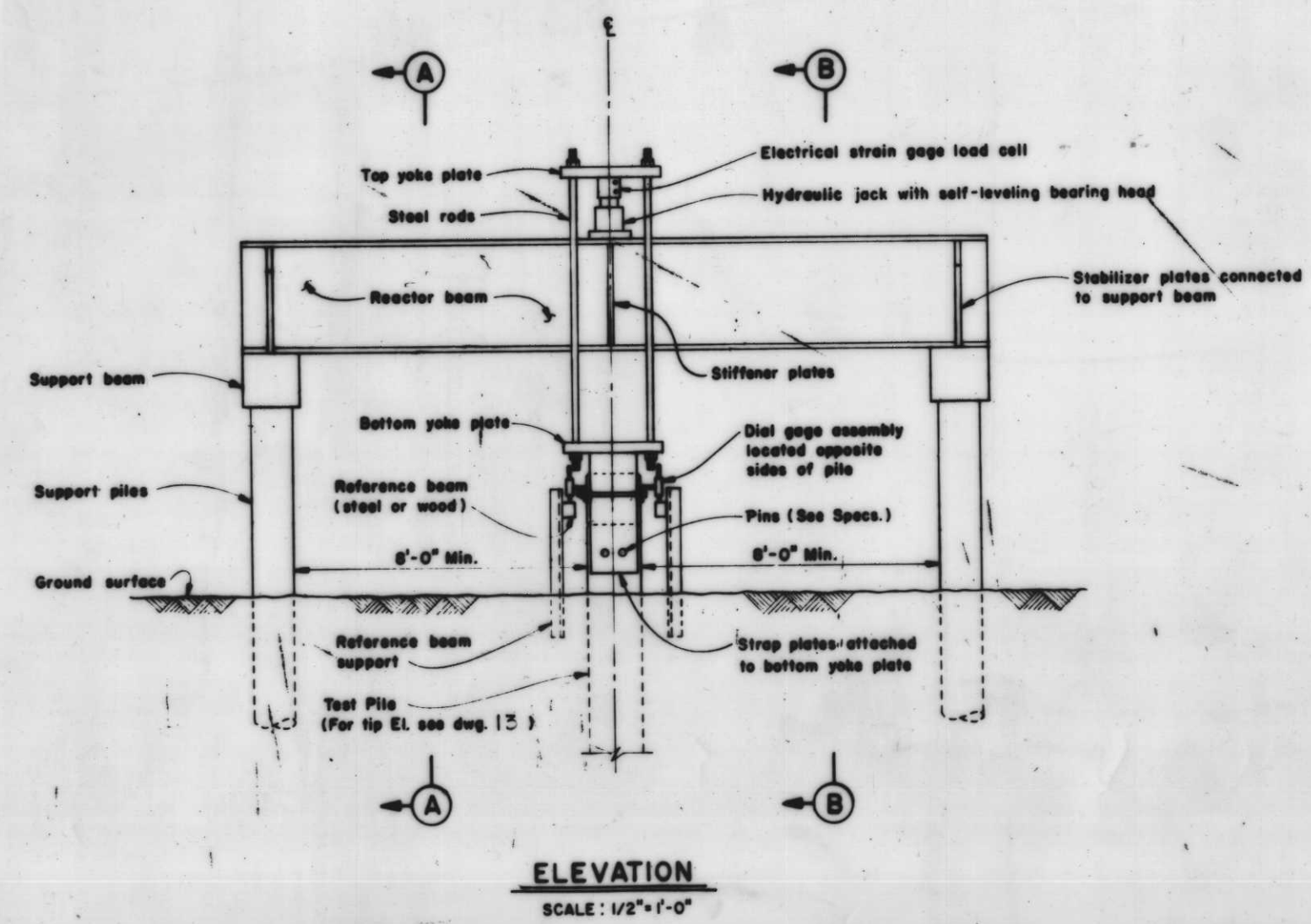
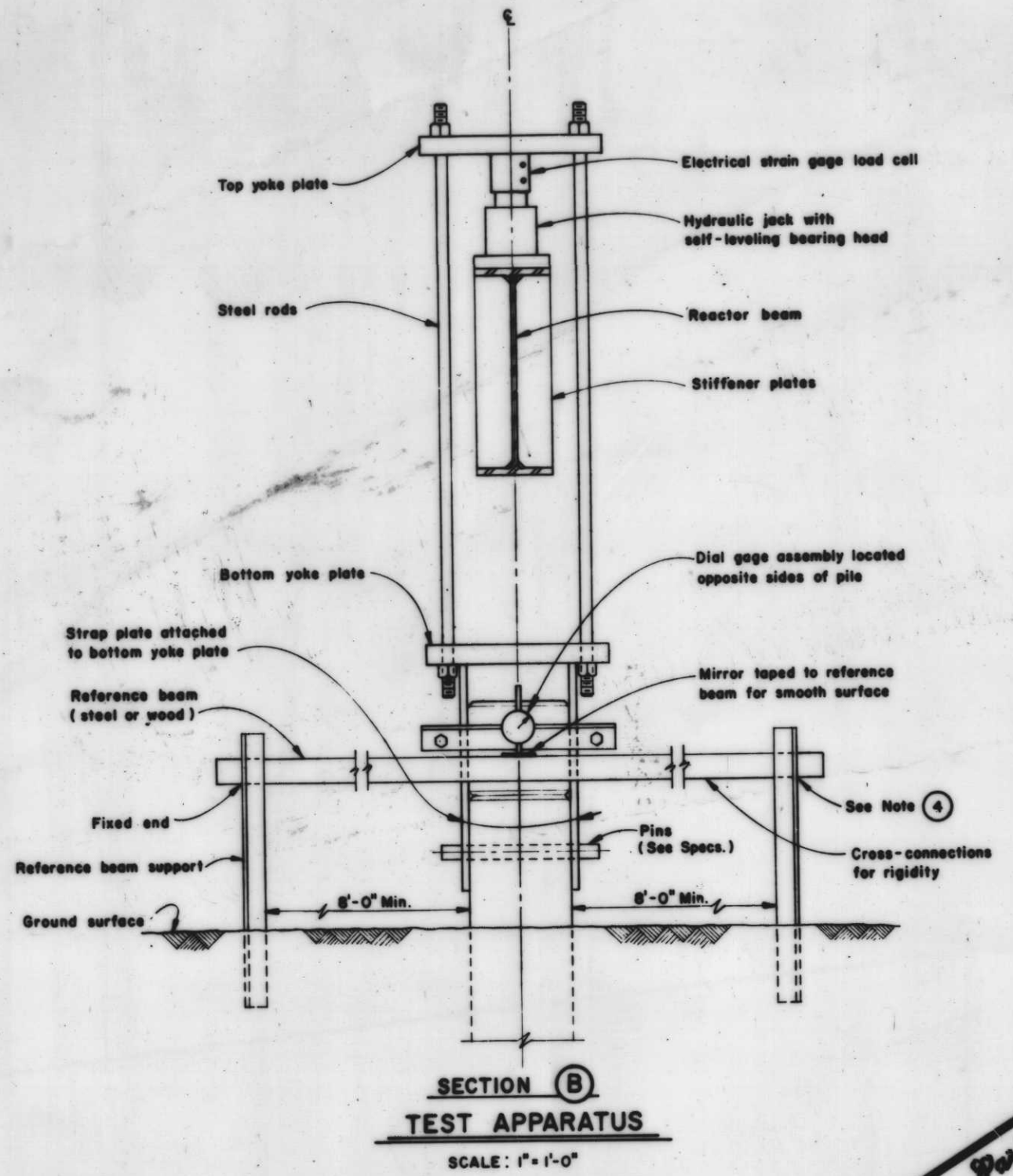
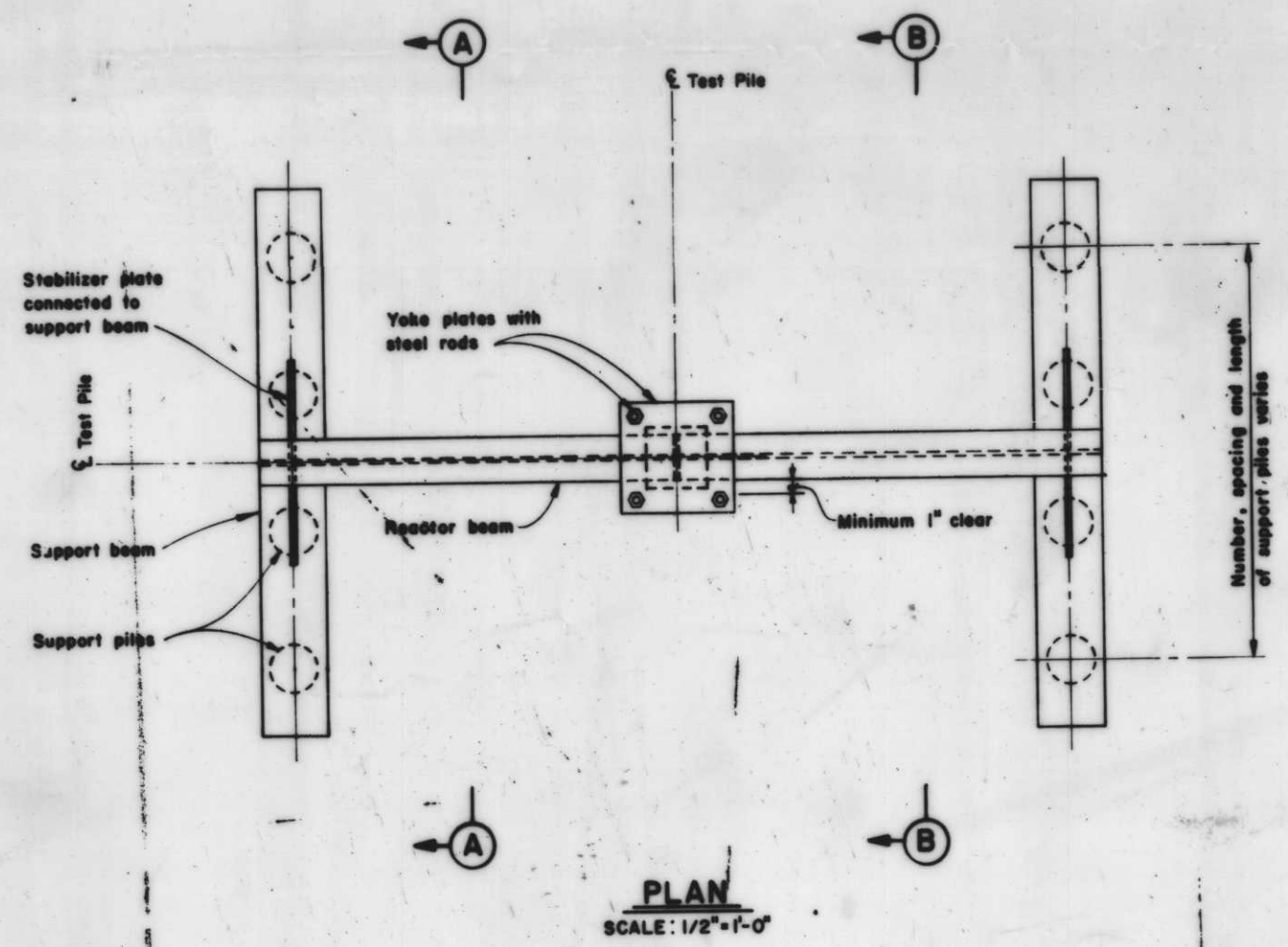


**SECTION A**  
SCALE: 1/2" = 1'-0"



| REVISION   | DATE            | DESCRIPTION                   | BY                |
|--|-----------------|-------------------------------|-------------------|
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| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>L.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA.<br><b>COMPRESSION PILE TEST</b> |                 |                               |                   |
| DESIGNED<br>T.W.W.   | DRAWN<br>K.W.S. | CHECKED<br>H.J.H.             | DATE<br>JAN. 1982 |
| SCALE: AS SHOWN  |                 | FILE NO.<br><b>H-4-27147</b>  |                   |
| SUBMITTED<br>Robert Higgins  |                 | SPEC. NO.<br>DACW29-62-B-0035 |                   |
|  |                 | SHEET<br>43 OF 44             |                   |



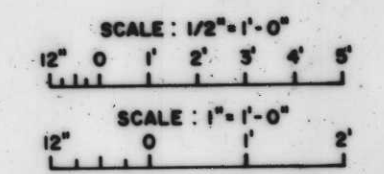


- NOTES**
- 1) Dial gage should be attached to the pile with the stem resting on the reference beam in the compressed position and on that side of the reference beam where the movement will be away from the beam.
  - 2) Readings on the opposite sides of the pile are necessary.
  - 3) A tarpaulin of minimum dimension 12' x 12' shall be installed by the contractor to protect the measuring equipment from the direct effects of the weather.
  - 4) If steel reference beams are used, one end of each beam shall be free to move as the length of beams change with temperature variations.

THIS DRAWING IS FOR ILLUSTRATION PURPOSES ONLY

Design of the loading frame and test apparatus is the responsibility of the contractor and must be submitted for approval.

*Safety is a Part of Your Contract*



| REVISION  | DATE     | DESCRIPTION | BY        |
|---|----------|-------------|-----------|
| U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS<br>CORPS OF ENGINEERS<br>NEW ORLEANS, LA.  |          |             |           |
| LAKE PONTCHARTRAIN LOUISIANA AND VICINITY<br>CHALMETTE AREA PLAN<br>HURRICANE PROTECTION FLOODWALL AND LEVEE<br>I.H.N.C. EAST LEVEE-NORTH OF FLORIDA AVENUE<br>ORLEANS PARISH, LA.<br>TENSION PILE TEST |          |             |           |
| DESIGNED  | DRAWN    | CHECKED     | DATE      |
| J.G.B.  | H.J.H.   | J.G.B.      | JAN. 1962 |
| SCALE:  | AS SHOWN | FILE NO.    |           |
|   |          |             | H-4-27147 |
| SPEC. NO.   |          | DATE        |           |
| DACW29-62-8-0033  |          | 44 of 44    |           |