MISSISSIPPI RIVER - GULF OUTLET
NEW LOCK AND CONNECTION CHANNELS
INDUSTRIAL CANAL LOCK REPLACEMENT
ORLEANS PARISH, LOUISIANA

FEASIBILITY STUDY
MAY 2016
NEW FLOODWALL ALIGNMENT

WEST IHNC COFFERDAM (EAST-WEST PERIMETER)

BEGINNING OF NEW LOCK STA. 27+35.14
X=3695203.32
Y=538003.80

NEW LOCK STRUCTURE

EAST IHNC COFFERDAM (EAST-WEST PERIMETER)

END OF NEW LOCK STA. 38+57.80
X=3695613.65
Y=539533.83

NEW BYPASS CHANNEL
CHAMBER MASONRY PILE SCHEDULE

<table>
<thead>
<tr>
<th>MONOLITH</th>
<th>TOTAL NUMBER OF PILES</th>
<th>PILE TRIP ELEVATION</th>
<th>PAYMENT LENGTH WITH 12&quot; EMBED</th>
<th>SERVICE LOAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>260</td>
<td>-186</td>
<td>133 FT</td>
<td>320 Tension</td>
</tr>
<tr>
<td>2</td>
<td>294</td>
<td>-186</td>
<td>133 FT</td>
<td>320 Tension</td>
</tr>
<tr>
<td>3</td>
<td>238</td>
<td>-185</td>
<td>133 FT</td>
<td>320 Tension</td>
</tr>
<tr>
<td>4</td>
<td>294</td>
<td>-186</td>
<td>133 FT</td>
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</tr>
<tr>
<td>5</td>
<td>260</td>
<td>-185</td>
<td>133 FT</td>
<td>320 Tension</td>
</tr>
</tbody>
</table>

NOTE:
1. PILE LAYOUT FOR CHAMBER IS SYMMETRIC ABOUT C/L
2. PILE DIMENSIONS TAKEN AT 12" EMBED 12" EMBED 12" EMBED
3. ALL PILES ARE 24" SQUARE PPC PILES WITH 18" 18" 18" WIRE, LOW-RELAXATION STRAND, OR 261
**BULKHEAD LOCATION DIAGRAM**

**NOTE:**
- LOWER UNIT BULKHEAD MAX. DESIGN HEAD = 58'-0''
- UPPER UNIT BULKHEAD MAX. DESIGN HEAD = 25'-0''

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**DESIGN DATA**

CLASS C HYDRAULIC STEEL STRUCTURE (BM 1110-2.2-10B, CHANGE 1, 31 MAY 94)

**LOWER UNIT**
- **DEAD LOAD**
  - SELFWEIGHT (150 KIPS)
  - HYDROSTATIC LOAD: 58' HEAD
- **IMPACT:** NONE
- **COMBINED LOAD:** 1.0 X DL + 1.0 X HYDRO
- **ALLOWABLE STRESS:** 1.1 X NORMAL AISC ALLOWABLE$

**UPPER UNIT**
- **DEAD LOAD**
  - SELFWEIGHT (140 KIPS)
  - HYDROSTATIC LOAD: 25' HEAD
- **IMPACT:** 100 KIPS AT CENTERLINE
- **COMBINED LOAD:** 0.75 X HYDROSTATIC + 1.0 X IMPACT
- **ALLOWABLE STRESS:** 1.1 X NORMAL AISC ALLOWABLE$

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**BULKHEAD WET SIDE (SKIN PLATE) ELEVATION**

LOWER UNIT
- **SCALE:** 1/8" = 1'-0"

**BULKHEAD CHAMBER SIDE ELEVATION**

LOWER UNIT
- **SCALE:** 1/8" = 1'-0"
BULKHEAD LOCATION DIAGRAM

NOTE:
LOWER UNIT BULKHEAD MAX. DESIGN HEAD = 58' 0"
UPPER UNIT BULKHEAD MAX. DESIGN HEAD = 25' 0"

DESIGN DATA
CLASS C HYDRAULIC STEEL STRUCTURE (EM 1110-2-2105, CHANGE 1, 31 MAY 94)

LOWER UNIT
WEIGHT (150 KIPS)
HYDROSTATIC LOAD: 0.8X
IMPACT: NONE
COMBINED LOAD: 1.0XDL + 1.0XHYDRO
ALLOWABLE STRESS: 1.1 X NORMAL AISC ALLOWABLES

UPPER UNIT
WEIGHT (140 KIPS)
HYDROSTATIC LOAD: 0.8X
IMPACT: 100 KIPS AT CENTERLINE
COMBINED LOAD: 0.75XHYDRO + 1.0XIMPACT
ALLOWABLE STRESS: 1.1 X NORMAL AISC ALLOWABLES

BULKHEAD WET SIDE (SKIN PLATE) ELEVATION

BULKHEAD CHAMBER SIDE ELEVATION

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