GENERAL NOTES:

U.S. COAST GUARD NOTIFICATION: Notify the local office of the U.S. Coast Guard at least 30 days prior to
beginning of construction of the Fender System.

14" SQUARE PRESTRESSED CONCRETE PILES - Provide 14" Square Prestressed Concrete Piles of
sufficient length to achieve a minimum embedment of 20' into soil having a blow count greater than or
equal to 6 (N ≥ 6). Pile splices and build-ups are not permitted. Use only 14" Square Prestressed
Concrete Piles with 8 - ½" diameter Low Relaxation Strands Fabricated in accordance with Index No. 20614.

PLASTIC LUMBER AND STRUCTURAL COMPOSITE LUMBER WALES - Provide only Plastic Lumber (Thermoplastic
Structural Shapes) and Structural Composite Lumber (Reinforced Thermoplastic Structural Shapes) Wales
in accordance with Specification Section 973. Wales shall be continuous and spliced only at locations shown
on the plans.

PLASTIC LUMBER DECKING FOR CATWALKS - Provide Plastic Lumber decking for catwalks when called for in the
Plans in accordance with Specification Section 973.

Install Plastic Lumber Decking according to manufacturer's recommendations using stainless steel #10 x 3'
(minimum) deck screws.

FIBERGLASS OPEN GRATING FOR CATWALKS - Provide Fiberglass Open Grating for catwalks when called for in the
Plans. Fiberglass Open Grating shall be a heavy duty design suitable for exterior installations. Maximum
gap opening on the walkway surface shall be ½". Design live loads and deflections shall be a 50 psf
uniformly distributed load with a maximum deflection of ½" or L/120 at the center of a simple span and a
concentrated load of 250 pounds with a maximum deflection of ½" at the center of a simple span. Color of
Fiberglass Open Grating shall be gray or black.

Install Fiberglass Open Grating according to manufacturer's recommendations using stainless steel hardware,
screws, bolts, nuts and washers. Attach Fiberglass Open Grating to Wales and Deck Supports at a
2'-0" maximum spacing so as to resist pedestrian live loads and uplift forces from wind, buoyancy and wave
action.

CLEARANCE GAUGE AND LIGHT: Clearance Gauge to be furnished and installed by the Contractor. Clearance Gauge
width and numeral height is dependent on visibility distance. The required visibility distance shall be determined
by the United States Coast Guard District Commander. Provide and install Clearance Gauge Light in accordance
with Specification Section 510 and Index No. 21220.

NAVIGATION LIGHTS: Provide and install Navigation Lights in accordance with Specification Section 510.
Index No. 21220 and/or project specific details. Provide and maintain Temporary Navigation Lights during
construction until permanent Navigation Lights are operational.

BOLTS, THREADED BARS, NUTS, SCREWS AND WASHERS: Furnish stainless steel Bolts in accordance with ASTM F593
Type 316. Furnish stainless steel Threaded Bars in accordance with ASTM A193 Grade BB. Furnish stainless
steel Nuts in accordance with ASTM F594 Type 316. Furnish stainless steel Screws in accordance with
ASTM F594 Type 316. Furnish stainless steel Threaded Bars in accordance with ASTM A193 Grade B8M. Furnish stainless
steel Nuts in accordance with ASTM F594 Type 316. Furnish stainless steel Screws in accordance with
ASTM A193 Grade B8M. Furnish stainless steel Threaded Bars in accordance with ASTM A193 Grade B8M. Furnish stainless
steel Nuts in accordance with ASTM F594 Type 316. Furnish stainless steel Screws in accordance with
ASTM A193 Grade B8M.

SPICE PLATES: Furnish Splice Plates in accordance with ASTM A240 Type 316.

WIRE ROPE: Provide wire rope meeting one of the following requirements:

1. ½" diameter 6x19, 6x25 or 6x37 class IWRC Type 316 stainless steel wire rope with a minimum breaking strength
   of 18,000 lbs.

2. ½" diameter 6x19 galvanized wire rope with ultraviolet ray resistant polypropylene impregnation having an outside
diameter of 5/8" with a minimum breaking strength of 22,000 lbs. Protect all ends with heat shrinkable end caps
   compatible with the rope's polypropylene that provide an effective water-tight seal.

GENERAL NOTES
CROSS REFERENCES:
For Stations and Offsets of referenced Control Points A, B, C and D, Dimension "L" and Clear Channel Width see Fender System Table of Variables in Structures Plans.
For Navigation Light Details see Design Standards Index 21220.

* See Structures Plans, Plan and Elevation and Foundation Layout Sheets for magnitude and orientation of Channel Skew Angle.
### Description:

**Renovation Number:**

**Revision Number:**

**Last Revision:**

**Sheet:**

**Index:**

**Part:**

**Design Standards:**

**Fender System - Prestressed Concrete Piles**

**Navigation Light**

**Lighted Clearance Gauge**

**CROSS REFERENCES:**

For Sections A-A and B-B see Sheet 4.

For View F-F see Sheet 5.

**NOTE:**

Plastic Lumber and Composite Lumber Dimensions shown are based on Nominal Lumber Dimensions and may vary depending on Actual Lumber Dimension.

### Note:

- Plastic Lumber and Composite Lumber Dimensions shown are based on Nominal Lumber Dimensions and may vary depending on Actual Lumber Dimension.

### Partial Plan View (Typical Flare)

<table>
<thead>
<tr>
<th>Section</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-A</td>
<td>For View F-F see Sheet 5.</td>
</tr>
</tbody>
</table>

### Expanded Partial Elevation View

### Cross References:

For Sections A-A and B-B see Sheet 4.

For View F-F see Sheet 5.

**Part:**

**Design Standards:**

**Fender System - Prestressed Concrete Piles**

**Navigation Light**

**Lighted Clearance Gauge**

### Diagram:

- Partial Plan View (Typical Flare)
- Expanded Partial Elevation View
- Cross References:
  - For Sections A-A and B-B see Sheet 4.
  - For View F-F see Sheet 5.
- Note:
  - Plastic Lumber and Composite Lumber Dimensions shown are based on Nominal Lumber Dimensions and may vary depending on Actual Lumber Dimension.
PARTIAL VIEW F-F (SHOWING FENDER END; DECKING AND HANDRAIL NOT SHOWN FOR CLARITY)

SECTION E-E
TYPICAL FLARED SECTION (8° TURN SHOWN, 4° TURN SIMILAR)

SECTION E-E
TYPICAL STRAIGHT SECTION

CROSS REFERENCES:
For Navigation Lights and SCH 80 PVC Electrical Conduit Details see Design Standard Index 21220.
For View G-G and Clearance Gauge Details see Sheet 4.
For Detail 'B' and location of Section E-E see Sheet 4.
For location of View F-F see Sheet 1.
Plastic Lumber 2\" x 6\" Light Support Mark H2

3/8\" Stainless Steel Bolts, Locking Nuts & Washers (Typ.)

MINIMUM CLEARANCE

3/8\" Stainless Steel Bolts, Locking Nuts & Washers

Plastic Lumber 4\" x 4\"

Clearance Gauge Support Mark H1 (each face -)

Minimum Clearance Sign

3/8\" x 10\" Stainless Steel Lag Screws (Typ.)

PLAN VIEW

3/8\" Stainless Steel Bolts, Locking Nuts & Washers (Typ.)

Plastic Lumber 6\" x 10\" Mark G1 spaced with Wales

Plastic Lumber 6\" x 10\" Mark G1 (Typ.)

Plastic Lumber 6\" x 6\" Bracing Mark G2 (Typ.)

Plastic Lumber 6\" x 6\" Bracing Mark G2 (Typ.)

3/8\" Stainless Steel Bolts, Locking Nuts & Washers (Typ.)

Plastic Lumber 4\" x 6\" Light Support Mark H2

Plastic Lumber 4\" x 6\" Light Support Mark H2

3/8\" Stainless Steel Bolts, Locking Nuts & Washers

Plastic Lumber 2\" x 6\"

Clearance Gauge Light

Plastic Lumber 4\" x 4\"

Clearance Gauge Support Mark H1 (each face -)

Minimum Clearance Sign

3/8\" x 10\" Stainless Steel Lag Screws (Typ.)

VIEW H-H
(WALES, PILES AND BRACING NOT SHOWN FOR CLARITY)

CLEARANCE GAUGE DETAILS

VIEW G-G
(WALES, DECKING AND HANDRAIL NOT SHOWN FOR CLARITY)

1/2\" Stainless Steel Threaded Bars, Locking Nuts & Washers (Typ.)

Plastic Lumber 8\" x 8\" Bracing Mark G1 (Typ.)

Clearance Gauge

1/2\" Stainless Steel Threaded Bars, Locking Nuts & Washers (Typ.)

Plastic Lumber 4\" x 4\" Bracing Mark H1 (Typ.)

Plastic Lumber 6\" x 10\" Bracing Mark G1 (Typ.)

Plastic Lumber 6\" x 10\" Mark G6 (Typ.)

Plastic Lumber 6\" x 6\" Bracing Mark G2 (Typ.)

To avoid connection bolt conflicts, place and bolt Mark G2 in place prior to installation of next wale above it

Front Face of Fender

14\" Sq. Prest.

Concrete Piles

SECTION J-J

CLEARANCE GAUGE DETAILS

CROSS REFERENCES:
For Estimated Structural Composite and Plastic Lumber Bill of Materials Quantities and Fender System Table of Variables see Structures Plans.

For location of View G-G see Sheet 5.

For Estimated Structural Composite and Plastic Lumber Bill of Materials Quantities and Fender System Table of Variables see Structures Plans.

For location of View G-G see Sheet 5.
**STRUCTURAL COMPOSITE LUMBER BILL OF MATERIALS**

<table>
<thead>
<tr>
<th>MARK</th>
<th>SIZE (NOMINAL)</th>
<th>DIMENSIONS</th>
<th>BOARD FT. PER EACH</th>
<th>NO. REQD.</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>10&quot; X 10&quot; COMPOSITE LUMBER</td>
<td>32'-0&quot; (STRAIGHT)</td>
<td>266.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td>10&quot; X 10&quot; COMPOSITE LUMBER</td>
<td>32'-0&quot;</td>
<td>266.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A3</td>
<td>10&quot; X 10&quot; COMPOSITE LUMBER</td>
<td>16'-0&quot;</td>
<td>133.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A4</td>
<td>10&quot; X 10&quot; COMPOSITE LUMBER</td>
<td>16'-0&quot;</td>
<td>133.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A5</td>
<td>10&quot; X 10&quot; COMPOSITE LUMBER</td>
<td>16'-0&quot;</td>
<td>133.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A6</td>
<td>10&quot; X 10&quot; COMPOSITE LUMBER</td>
<td>16'-0&quot;</td>
<td>133.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* All Plastic Lumber and Composite Lumber Dimensions and Quantities shown are based on Nominal Lumber Dimensions and may vary depending on Actual Lumber Dimension.

** Provide Fiberglass Open Grating in lieu of 2" X 12" Plastic Lumber when called for in the Plans. Mounting hardware shall be Stainless Steel, install per Manufacturer's recommendations. See Structures Plans for Notes and Details.

**PLASTIC LUMBER BILL OF MATERIALS**

<table>
<thead>
<tr>
<th>MARK</th>
<th>SIZE (NOMINAL)</th>
<th>DIMENSIONS</th>
<th>BOARD FT. PER EACH</th>
<th>NO. REQD.</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>8&quot; X 8&quot; PLASTIC LUMBER</td>
<td>8' (STRAIGHT)</td>
<td>3.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>2&quot; X 6&quot; PLASTIC LUMBER</td>
<td>16'-0&quot; (STRAIGHT)</td>
<td>16.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Trim &amp; Miter Ends as required)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>4&quot; X 6&quot; PLASTIC LUMBER</td>
<td>4'-0&quot; (STRAIGHT)</td>
<td>8.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>E</strong></td>
<td>2&quot; X 12&quot; PLASTIC LUMBER</td>
<td>2'-0&quot; (STRAIGHT)</td>
<td>5.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F1</td>
<td>6&quot; X 10&quot; PLASTIC LUMBER</td>
<td>32'-0&quot; (STRAIGHT)</td>
<td>160.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F2</td>
<td>6&quot; X 10&quot; PLASTIC LUMBER</td>
<td>31'-11&quot;</td>
<td>159.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F3</td>
<td>6&quot; X 10&quot; PLASTIC LUMBER</td>
<td>15'-11&quot;</td>
<td>79.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F4</td>
<td>6&quot; X 10&quot; PLASTIC LUMBER</td>
<td>19'-8½&quot;</td>
<td>78.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F5</td>
<td>6&quot; X 10&quot; PLASTIC LUMBER</td>
<td>15'-4½&quot;</td>
<td>78.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F6</td>
<td>6&quot; X 10&quot; PLASTIC LUMBER</td>
<td>19'-10½&quot;</td>
<td>79.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G1</td>
<td>6&quot; X 10&quot; PLASTIC LUMBER</td>
<td>3'-0&quot; (STRAIGHT)</td>
<td>18.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G2</td>
<td>6&quot; X 6&quot; PLASTIC LUMBER</td>
<td>4'-1&quot; (STRAIGHT)</td>
<td>12.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H1</td>
<td>4&quot; X 4&quot; PLASTIC LUMBER</td>
<td>PILE CUTOFF ELEV. MINUS NLW OR MLW ELEV. PLUS 5'-0&quot; (STRAIGHT)</td>
<td>1.3 PER LF EACH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H2</td>
<td>2&quot; X 6&quot; PLASTIC LUMBER</td>
<td>1'-2&quot; (STRAIGHT)</td>
<td>1.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* See Estimated Structural Composite and Plastic Lumber Bill of Materials Table in Structures Plans.