

General Design & Construction Notes:

Material:

General Design:

- 1.) All materials shall be as noted unless local codes provide a stricter guideline i.e. greater strength, durability, etc. It is the contractor's responsibility to understand and comply with these codes.
- 2.) Utility penetrations under 8"Ø shall follow detail on sheet 9. Utility/pipe penetrations above 8"Ø require a detail be provided by contractor for engineer's approval.

Sheet Pile:

- 1.) Sheet pile material shall be ESP 8.5 as provided by Everlast Synthetic Products, LLC.
- 2.) This design is based on the specific properties of Everlast synthetic sheet piling which are proprietary to Everlast Synthetic Products, LLC 1000 Wyngate Parkway, Suite 100, Woodstock, GA 30189. Any substitution of the specified product will invalidate this design. This drawing is being furnished for use on this specific project only. Any party accepting this document does so in confidence and agrees that it shall not be duplicated whole or in part, nor disclosed to others without the consent of Everlast Synthetic Products, LLC.

Steel:

- 1.) All steel fasteners and tie-rods shall be hot dip galvanized per ASTM A-153 with 2 ounces of zinc per square foot or be stainless steel (grade 304 or 316).
- 2.) If bolts not stainless steel, exposed regions to be field treated with bitumastic coating.
- 3.) Washers (ogee, fender or New York dock) shall have a minimum outer diameter of four times the rod/bolt diameter. Beveled washers shall be used for tie-rods installed at an incline.
- 4.) All reinforcing steel to have a minimum yield strength of 60 ksi.

Dimensional Timber & Piles:

- 1.) All dimensional timber to be SYP No. 2 grade or better.
- 2.) Stagger joints of front and rear timber wales.
- 3.) All timber to meet or exceed AWPA standards (UC5C) for preservative treatment as applicable.

Concrete:

- 1.) Concrete to have a 28-day compressive strength of 5,000 psi.
- 2.) Concrete mix to have a max. w/c ratio of 0.5.
- 3.) Concrete to be vibrated to minimize air voids.



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678.315.1751  
CA#: 30632

Scale: NTS

Date: 3/7/19

Project:  
Preliminary Seawall Design  
Halifax Harbor Marina  
450 Basin Street  
Dayton Beach, FL

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Sheet 1 of 10

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**Backfill:**

- 1.) Backfill material is to be free-draining sand or gravel (SP, SW, GP or GW) per ASTM D-2487 and compacted a minimum of 95% per ASTM D-698.
- 2.) If a fine grained, non-cohesive soil (fine sands, "sugar sand", etc.) is to be used a geotextile is to be placed between sheet pile and soil before backfill installation.

**Geotextile (Required only if using backfill as noted in Backfill note #2):**

- 1.) Geotextile used behind sheet pile shall be Mirafi 140N or equal.

**Design:**

- 1.) Design was done based on Geotechnical and Environmental Consultants, Inc. Project No. 4323G, dated Jan. 8, 2019.
- 2.) Design is based on soil properties as noted in typical sections.
- 3.) If actual soil or site conditions differ from that noted in drawings, the engineer shall be notified immediately for a possible redesign.
- 4.) Design does not account for presence of underground springs, wells or excessive water from site runoff. If these conditions exist the engineer shall be notified immediately for the need of a redesign.

**Installation:**

**General Installation:**

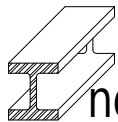
- 1.) Installation to be conducted according to all applicable OSHA and local codes. It is the contractors responsibility to understand and comply with these codes.

**Geotechnical:**

- 1.) Ingenium recommends that all projects have geotechnical investigation (borings and report) prior to installation.
- 2.) At a minimum, the contractor shall probe along the alignment of the sheet pile (approx. every 5') to determine the potential of any soil variation or obstructions.

**Sheet Pile:**

- 1.) Sheet piles shall be vibrated or driven. No jetting of sheet piles will be allowed without written approval from the engineer.
- 2.) Sheet pile shall penetrate to depth shown in the plans.
- 3.) After driving sheet pile and attaching wale, saw piling off at a true plane indicated on the plans. Final elevations are to be within one (1) inch of established elevation.
- 4.) Return walls to be provided at ends of all bulkheads to provide flanking protection.



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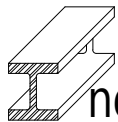
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Concrete Cap/Wale:

- 1.)  $\frac{3}{4}$ " Expansion joint is to be located at approx. 50ft.
- 2.) Two contraction joints are to be evenly spaced each side of expansion joint.
- 3.) All reinforcing steel to have a minimum cover of 3".

Documentation:

- 1.) Contractor shall provide written documentation after the end of the work day certifying all piles (sheet & timber) have been driven to the required depths. If any piles are unable to be driven to the required depths, contractor shall notify the owner and engineer immediately.



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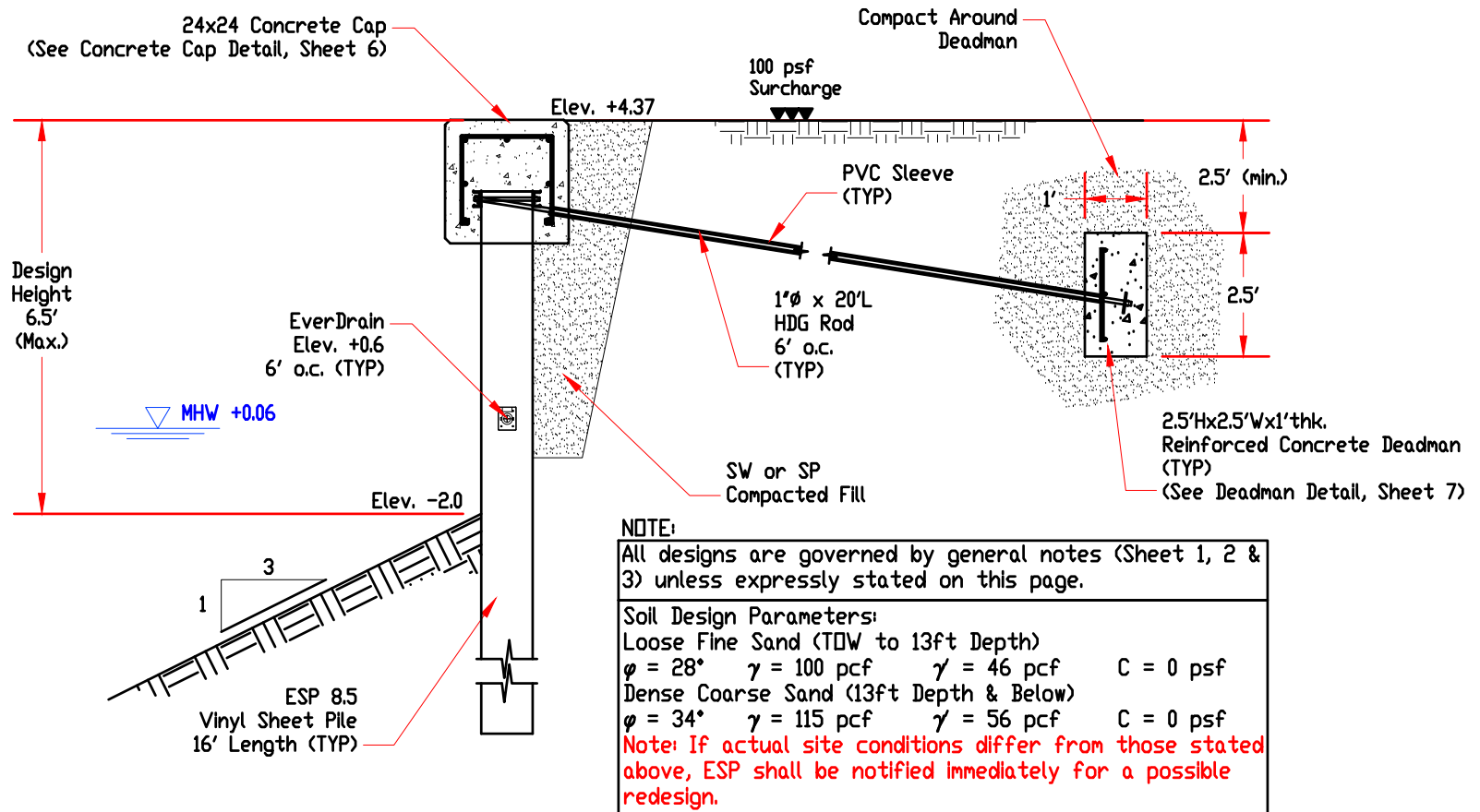
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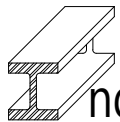
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Typical Section (View A-A)



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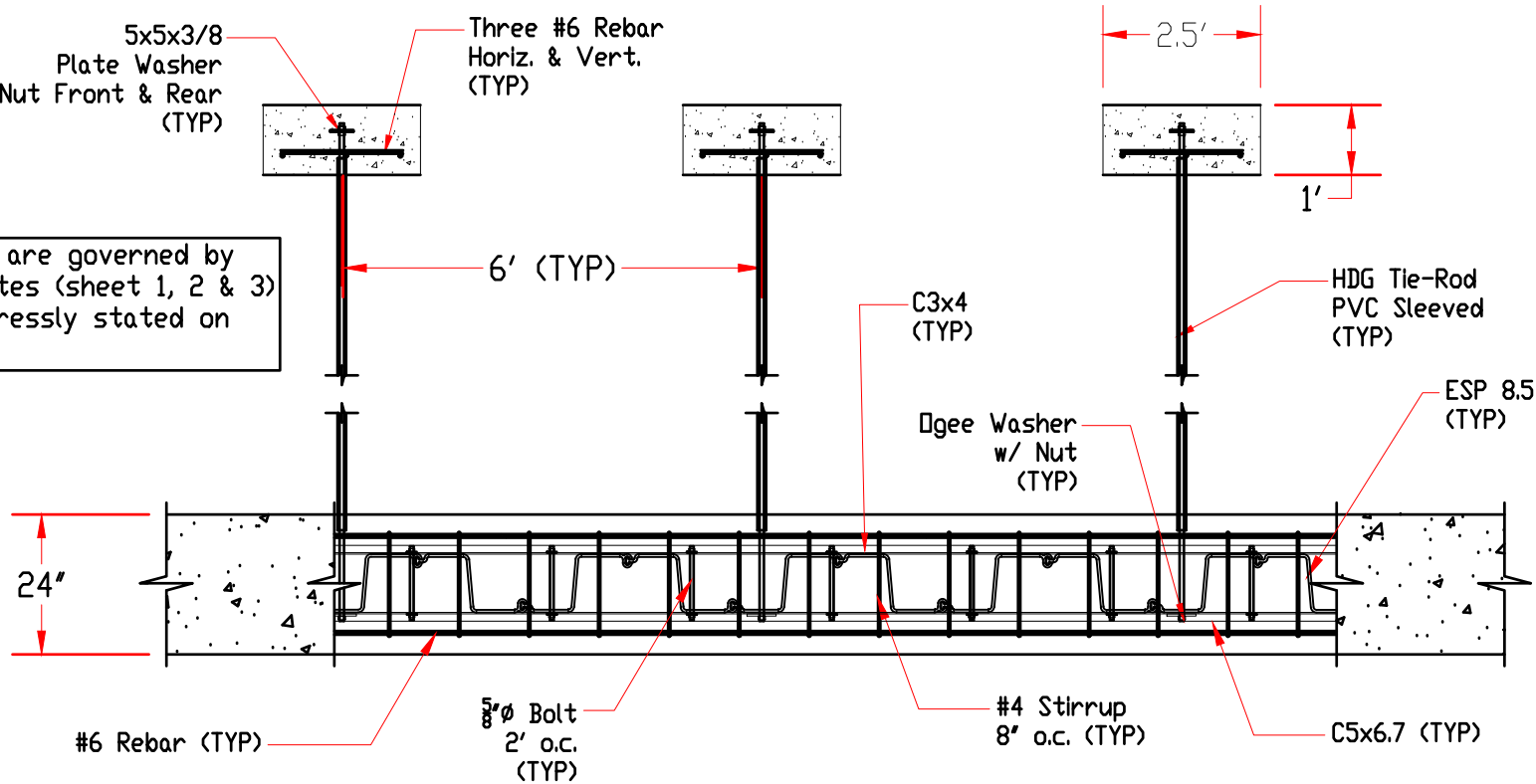
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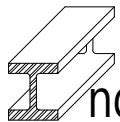
5x5x3/8  
Plate Washer  
w/ Nut Front & Rear  
(TYP)

Three #6 Rebar  
Horiz. & Vert.  
(TYP)

**NOTE:**  
All designs are governed by  
general notes (sheet 1, 2 & 3)  
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Plan View (View B-B)



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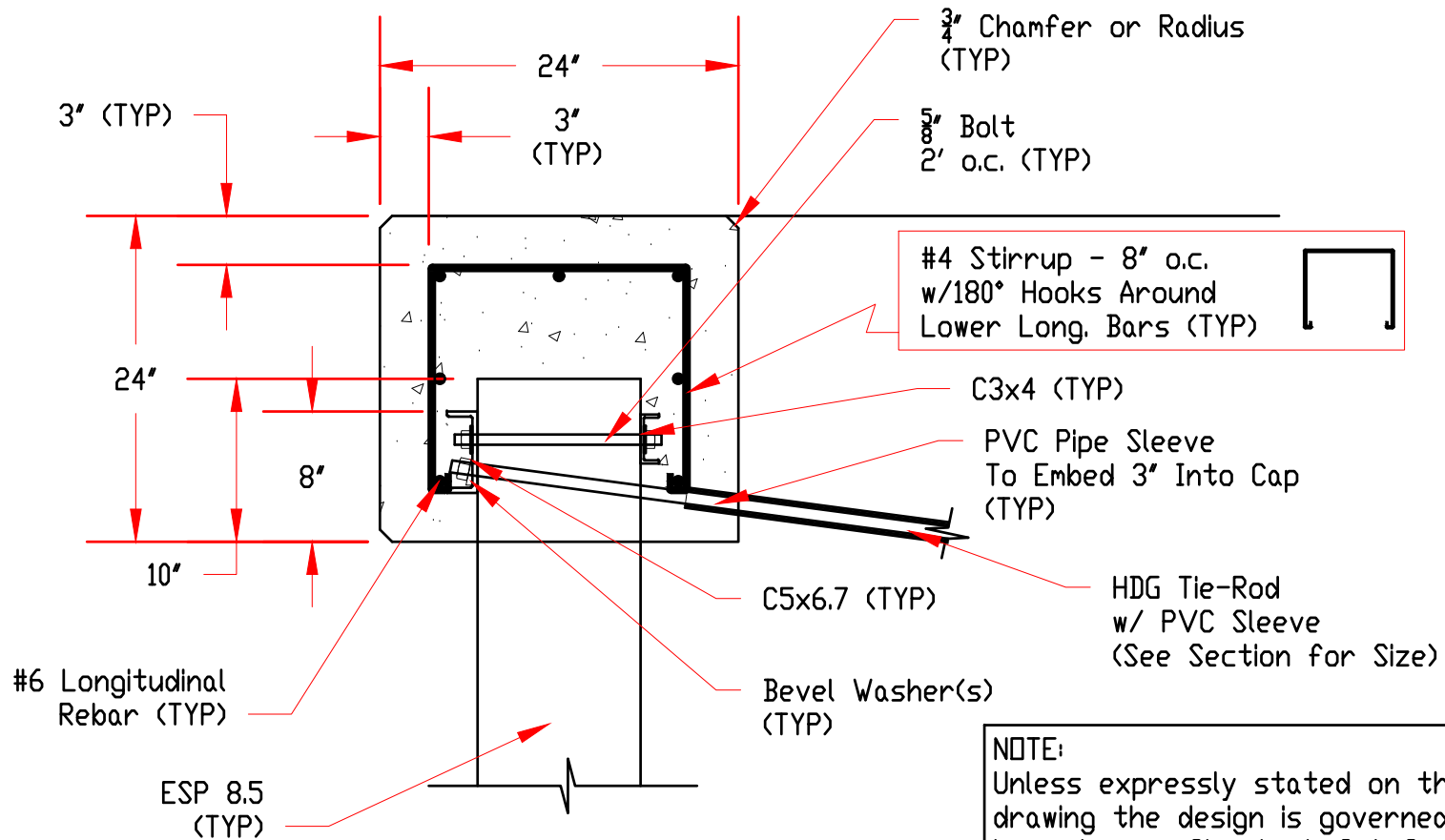
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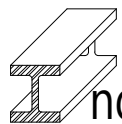
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## Concrete Cap Detail (C-C)



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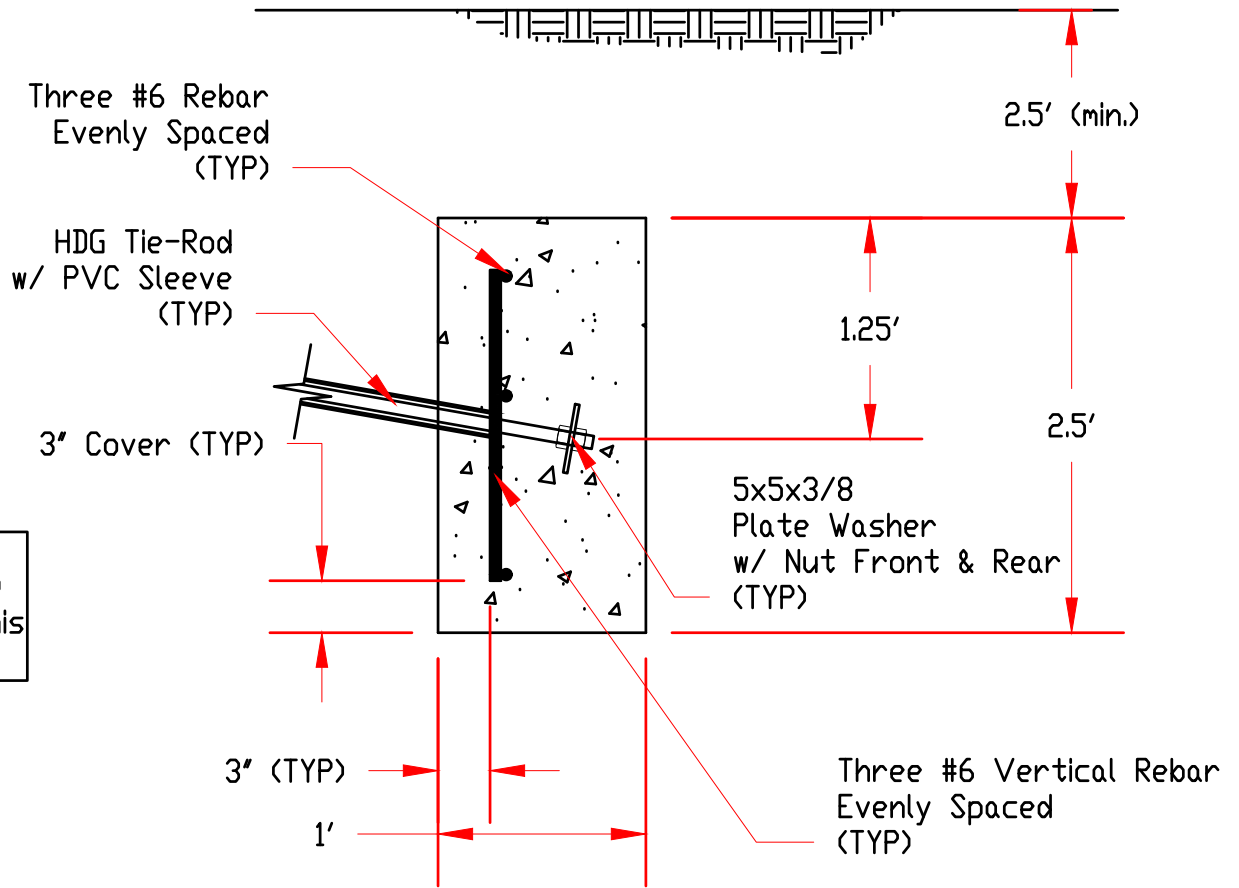
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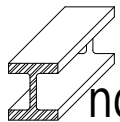
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## Concrete Deadman Detail



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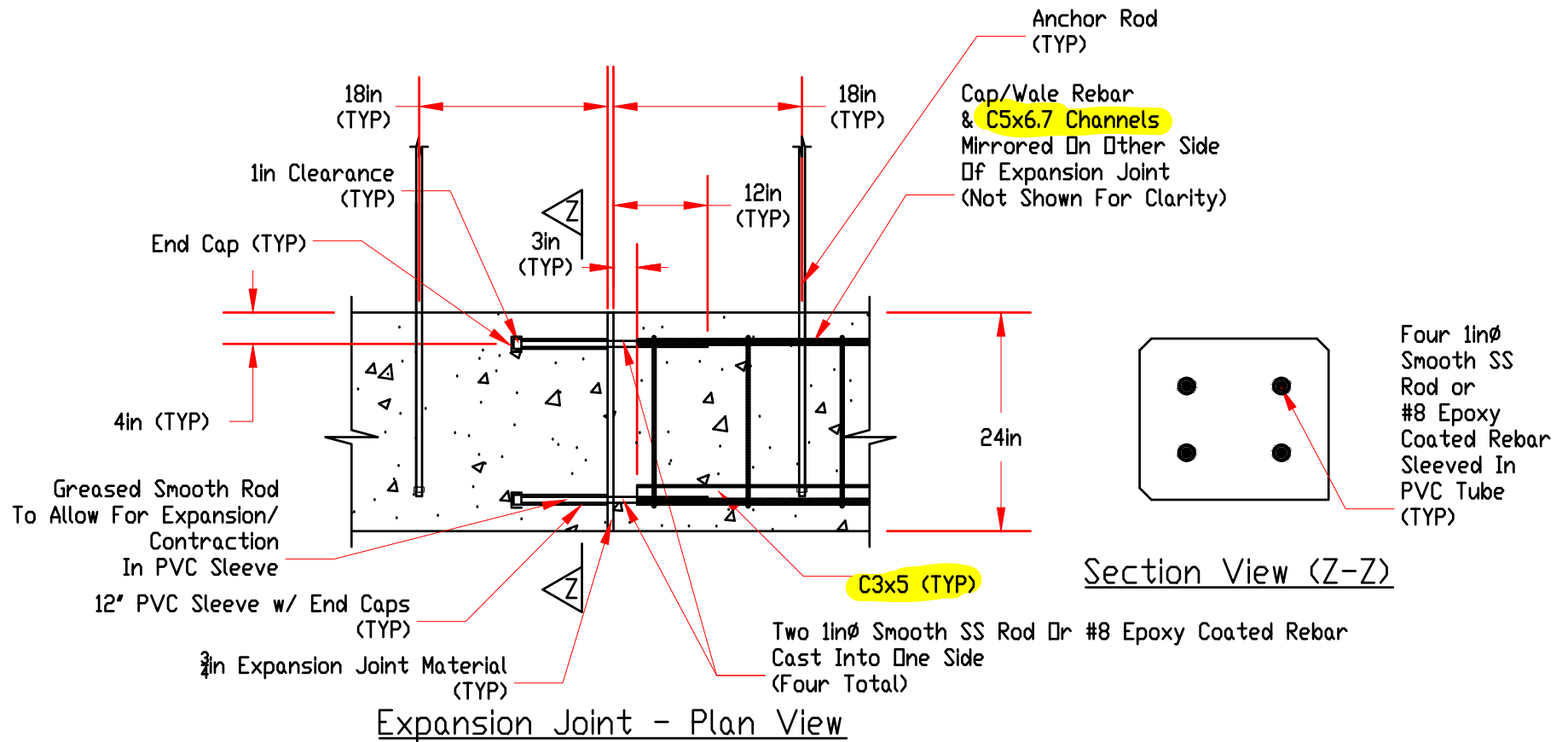
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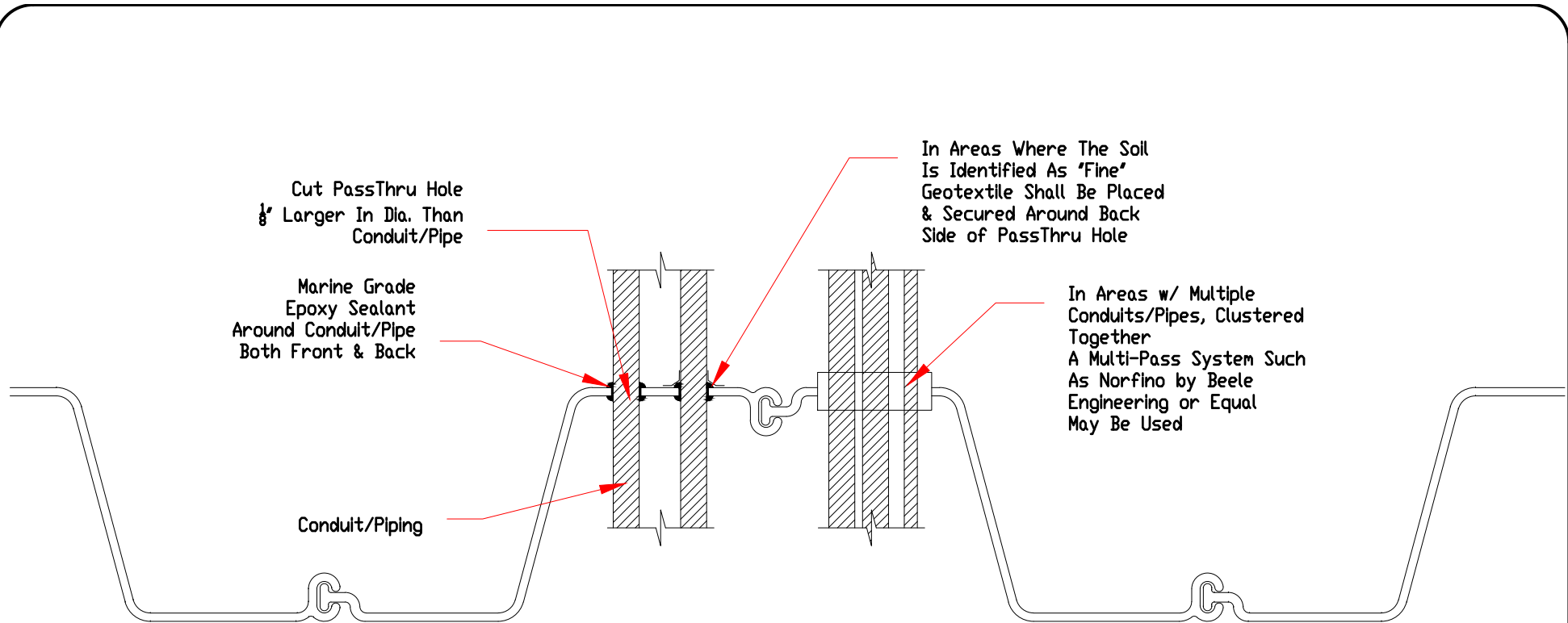
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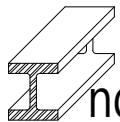
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Plan View - Small Utility PassThru



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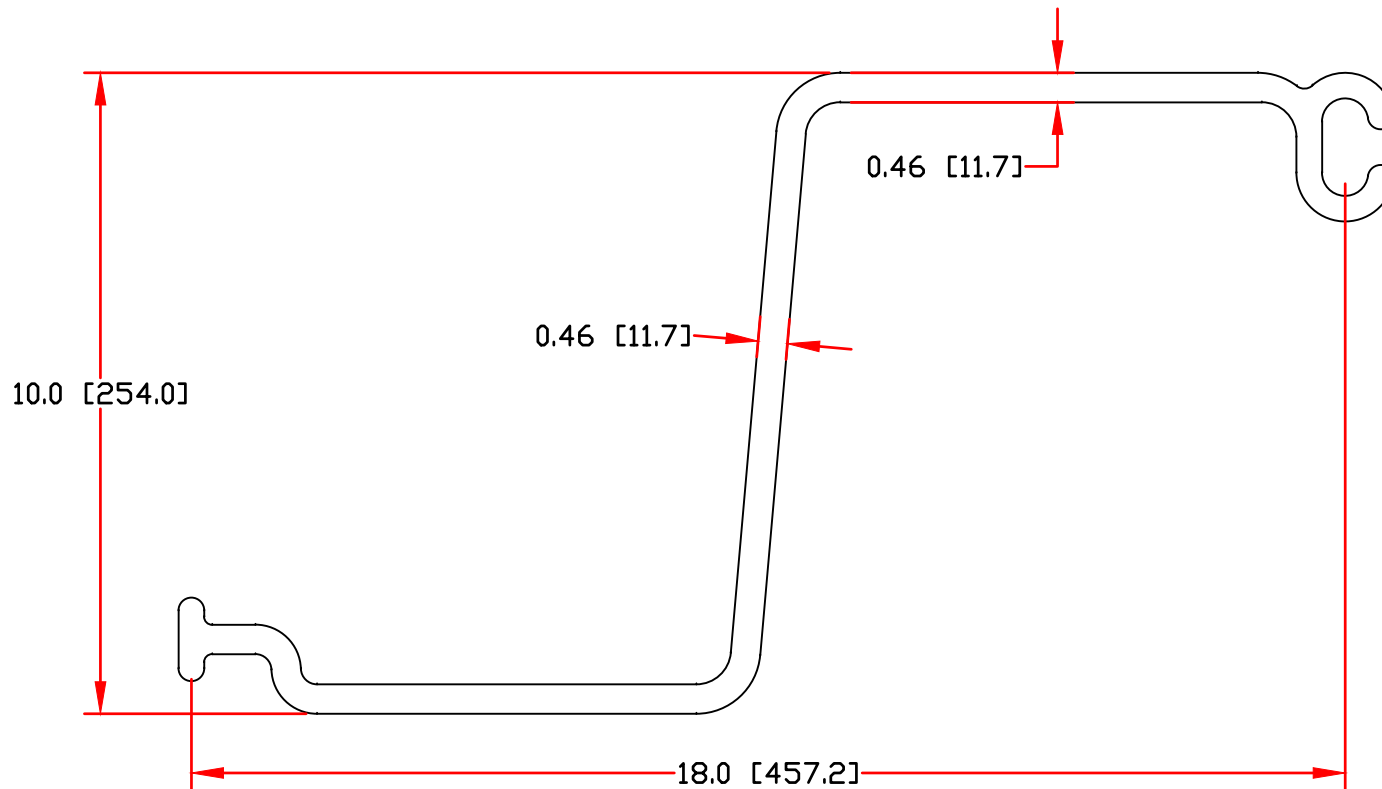
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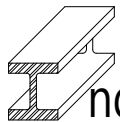

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## ESP 8.5



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