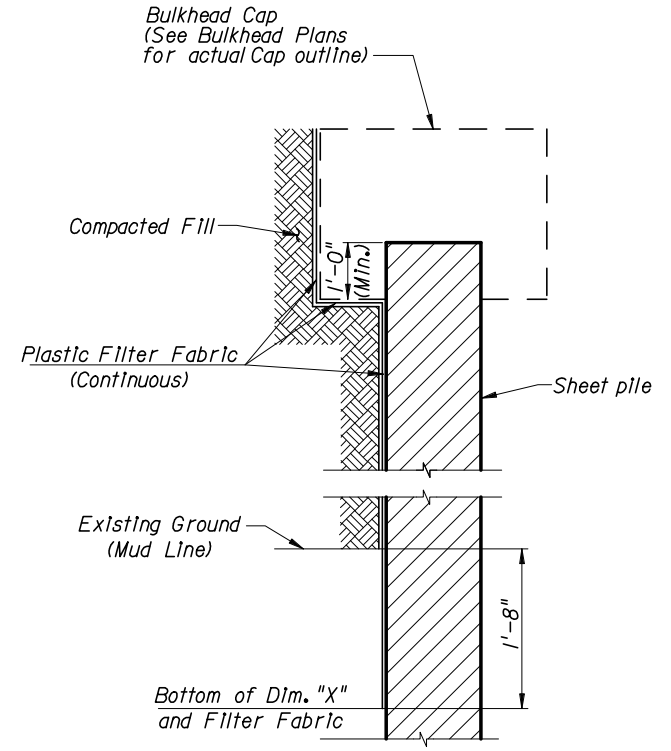


**INSTRUCTION TO DESIGNER:**  
 The bottom of the "X" dimension shall be 1'-8" below the mud line.  
 The tip elevation of Concrete Sheet Piles shall be determined by the Geotechnical Engineer.

**CROSS REFERENCES:**  
 For Dimensions L and X see Sheet Pile Data Table in Structures Plans.



**SECTION THRU BULKHEAD**  
 (Showing Plastic Filter Fabric)

**SHEET PILE DESIGN CRITERIA AND NOTES**

**DESCRIPTION:**  
 Standard drawings Indices Series No. 20400 include details for three types of piles with two thicknesses. Types "B" and "C" piles (corner piles) are of reinforced concrete construction, and Type "A" is of prestressed concrete construction. The piles shall be manufactured, cured and installed in accordance with the requirements of the contract documents.

**NOTE:** Index No. 20430 and/or 20440 are included if Type "B" and/or "C" piles are required.

**GENERAL SPECIFICATIONS:**  
 The Florida Department of Transportation "Standard Specifications for Road and Bridge Construction".

**DESIGN SPECIFICATIONS:**  
 Florida Department of Transportation (FDOT) "Structures Design Guidelines", current edition.

American Association of State Highway and Transportation Officials (AASHTO) "LRFD Bridge Design Specifications", current edition.

**MATERIALS:** (for materials not listed refer to the design specifications)

**CONCRETE**  
 Class: V (Special) for slightly and moderately aggressive environments  
 V (Special w/ Silica Fume) for extremely aggressive environment  
 Strength: 4,000 psi minimum at time of release  
 Unit weight: 150 pcf  
 Modulus of Elasticity: Based on the use of Florida Ilmerock concrete

**REINFORCING STEEL**  
 Grade: 60,000 psi ASTM A615

**PRESTRESSING STEEL**  
 Grade: 270,000 psi (Low-Relaxation Strand)

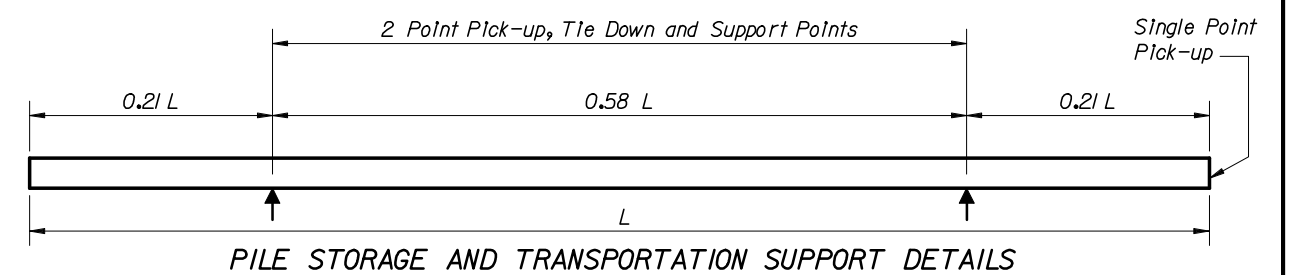
**DESIGN PARAMETERS:** (refer to the design specifications unless noted herein.)  
 Rectangular Prestressed Concrete Section: Minimum 1,000 psi uniform compression after prestressing losses  
 Pick-up, Storage, and Transportation: 0.0 psi tension with 1.5 times pile self weight

**ENVIRONMENT:**  
 The pile designs are applicable to all Environments.

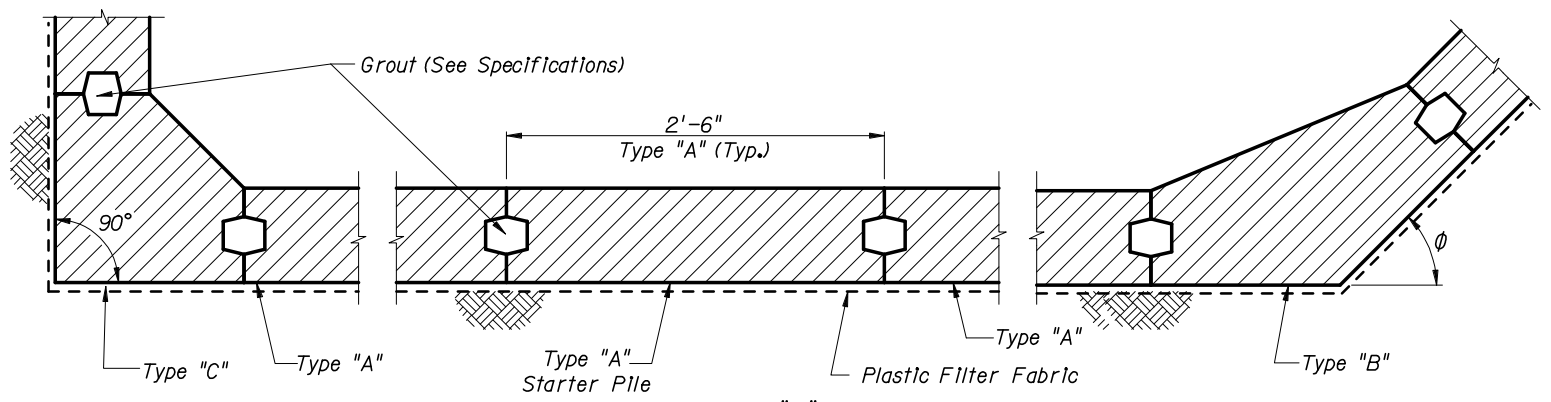
**PLASTIC FILTER FABRIC:**  
 The plastic filter fabric shall extend to the bottom of the "X" dimension.

**PILE PICK-UP AND HANDLING:**  
 Pick-up of pile may be either a single point pick-up or a two point pick-up as shown below.

**PILE FIT-UP:**  
 The 2'-6" Sheet Pile dimension is nominal. This dimension may be shortened by the Manufacturer up to 1/2" to allow for Sheet Pile fit-up in its final position. Minimum Sheet Pile width is 2'-5 1/2". No changes shall be made to the tongues or grooves.

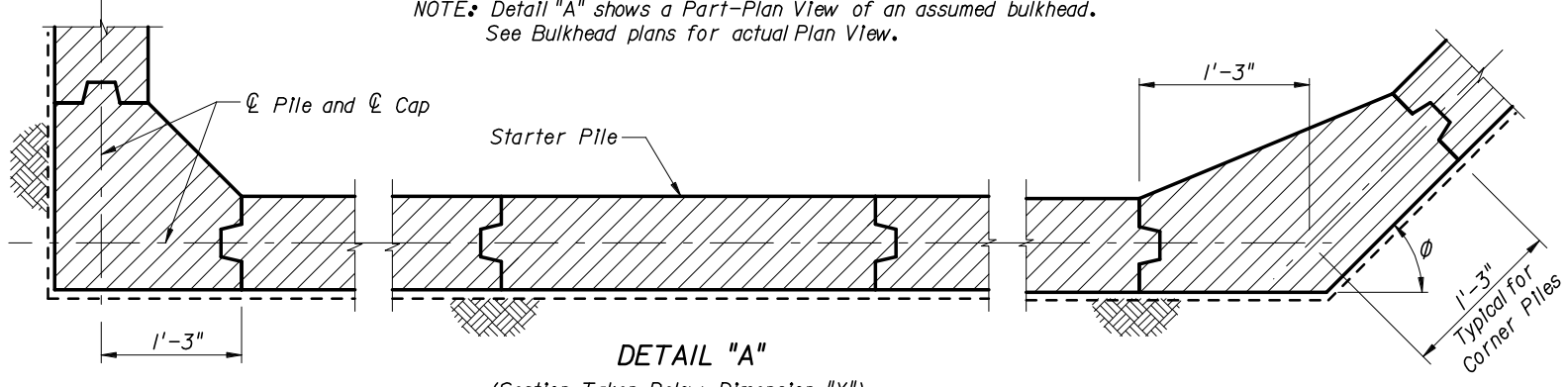


**PILE STORAGE AND TRANSPORTATION SUPPORT DETAILS**



**DETAIL "A"**  
 (Cap and Anchoring System Not Shown)  
 (Section Taken Above Dimension "X")

**NOTE:** Detail "A" shows a Part-Plan View of an assumed bulkhead. See Bulkhead plans for actual Plan View.



**DETAIL "A"**  
 (Section Taken Below Dimension "X")