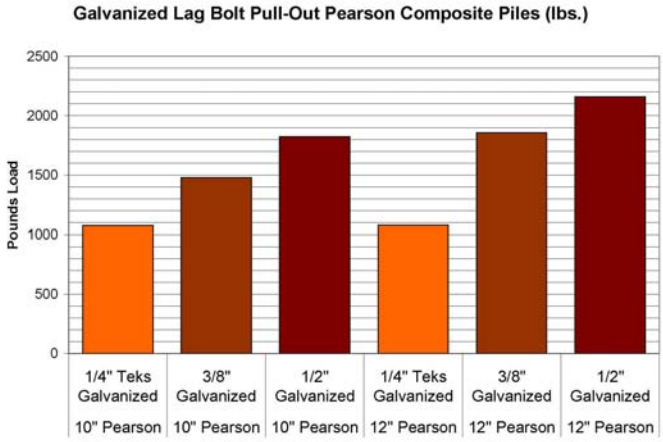
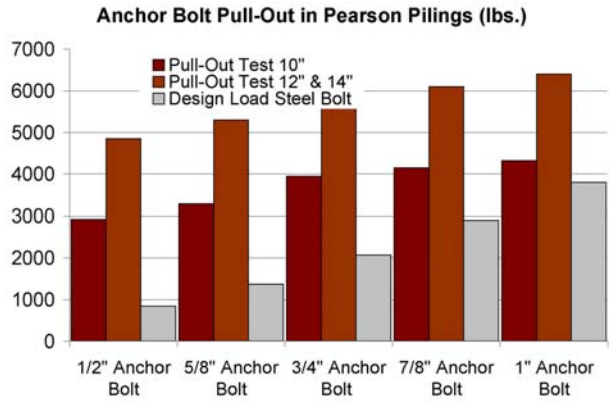
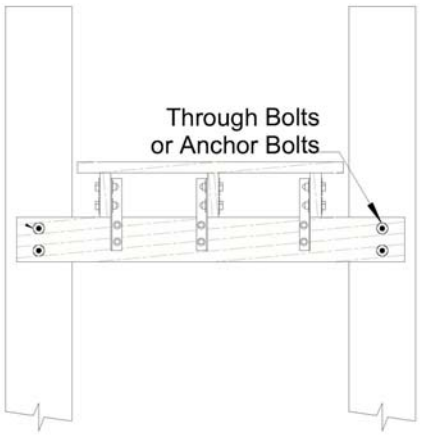
Attachment and Assembly Data

Due to the three dimensional fiber architecture of Pearson Pilings fiberglass reinforcements, through-bolts and anchor bolts are all used for various installations and applications. Even lag bolts can be used for non-structural fastening. The holding and pull-out strength of bolted connections to the composite pile typically exceed the operating load recommendations for galvanized bolts as shown below. Structural cross members, beams, boat lifts and ramp hardware should be attached using either anchor bolts or through bolts.

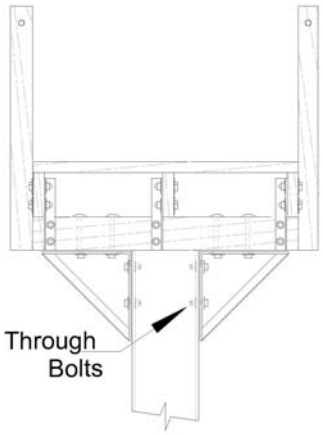
Lag bolts may be used for non-structural connections and fitting of cleats, line holders, hand rails, fenders, ladders, benches and lighting fixtures. ¼" Washer Head Teks screws should be used for attaching pile caps – most self tapping screws will work, but avoid those with flanges on the drill section.



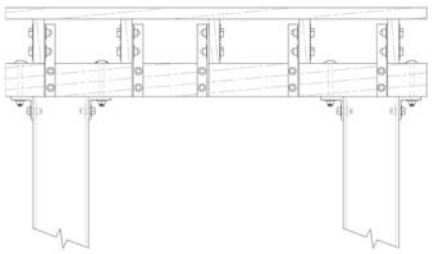




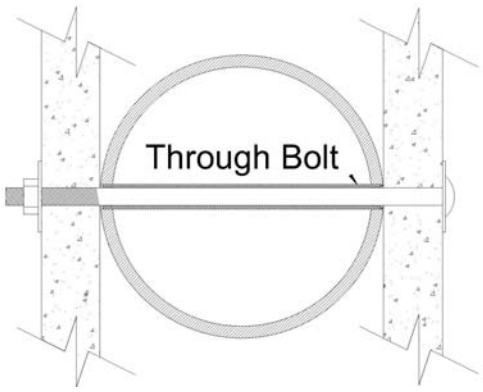
Standard Construction 4' to 10' wide

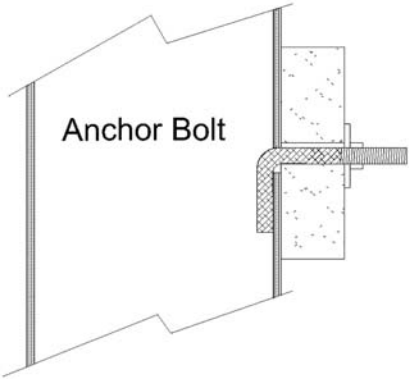


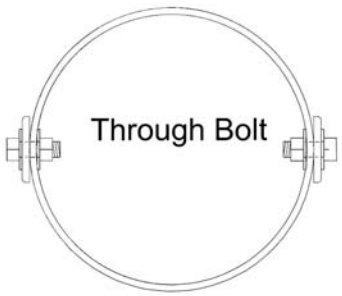
Monopile 4' to 6' wide



4' to 12' wide







Pearson Pilings Testing
Angle Bracket / ¾” Bolts

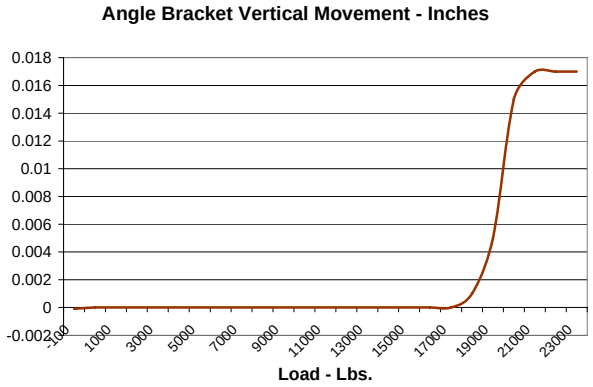
In order to determine recommended loading for the use of galvanized brackets with a single ¾” bolt, an axial load test was performed. To simplify the fixture, the 4” square brackets were attached to the end of a 10” diameter pile so that the flats were above the pile top by .250”.

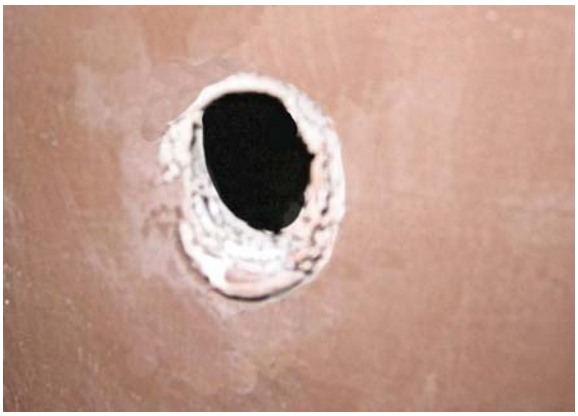
Assembled Brackets – 10” Pile

18,000 lb load distributed over 2 brackets

The load was applied in increments of 1,000 lbs. – there was a compressive deformation in the composite pile wall at 18,000 lbs. total load (9,000 lbs. per bracket).

The elongation in the pile wall did not propagate from 18,000 lbs. to 23,000 lbs. at which point the ¾” bolts started to deform. The test was discontinued at this point.





Bolt Hole Elongation - exterior

Bolt Hole Elongation - interior

The nominal working load of a ¾” galvanized bolt is typically 4,400 lbs. and the yield of the composite pile wall (10” diameter) is 9,000 lbs. with a recommended capacity for bolt shear the same as the working load of the bolt.

Testing performed at the Kirk Laboratory, Civil Engineering Dept., University of Rhode Island