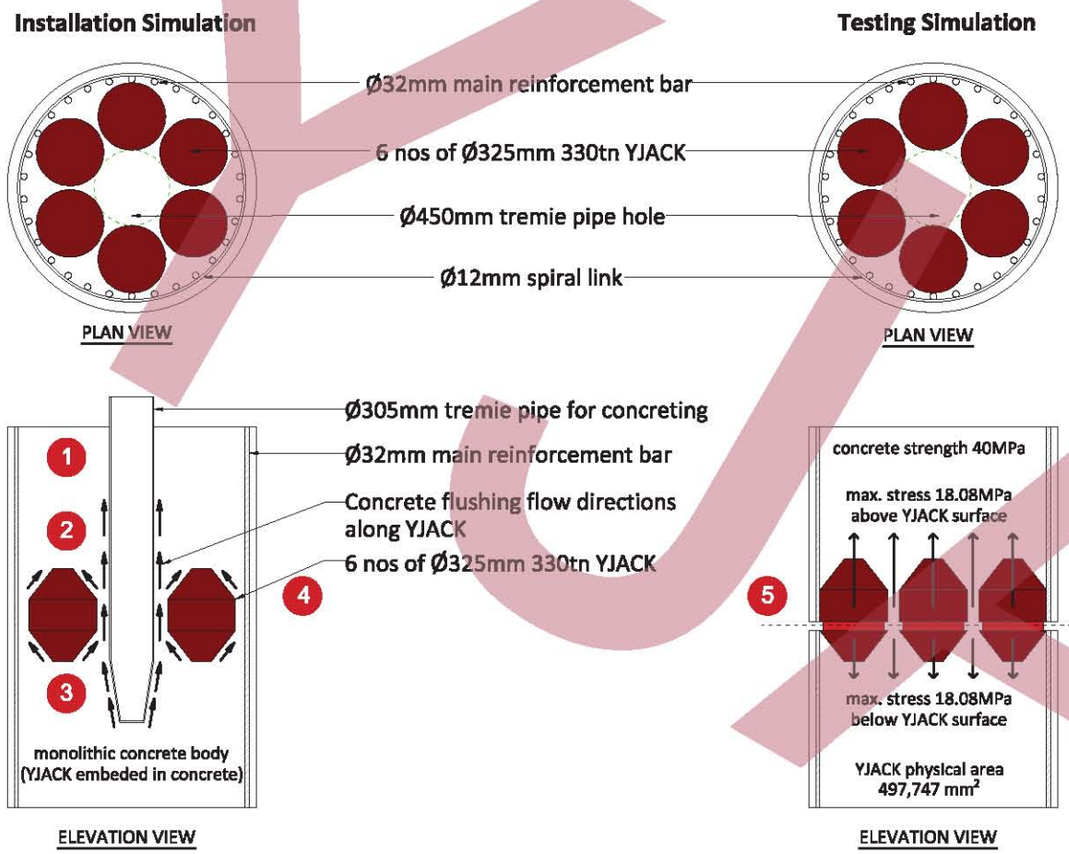
YJACK TECHNOLOGY
www.YJACKpiletest.com

YJACK - The Best Technology in Bi-Directional Pile Load Test using Patented Flat Jack

Research 2006: To Mitigate Problems in Bi-Directional Technology to Reduce System Failures
Finding 2010: Patented Flat Jack (YJACK) and Removal of Steel Plates to Remove Soft Layers
(Case Study: Bored Pile BP1200mm, Working Load WL9,000kN, Test Load TL18,000kN)

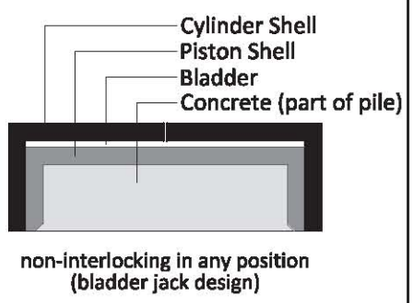
Bi-Directional Pile Load Test using YJACK Technology



1. **Effective Self Compactions**
   Effective self compactions from upper concrete above jacks to compact lower concrete to gain higher unit fs and fb
2. **Solid Concrete Layers**
   Falling soil sediments trapped above conical jacks will be flushed up during concreting, solid concrete layers formed
3. **Easy Flush Up**
   Conical jacks to easy the concrete to be flushed up the soil sediments below the jacks to form solid concrete layers
4. **Intact Pile Integrity**
   Cross-hole sonic logging pile integrity testing detects sound and intact pile integrity prior to YJACK pile test
5. **Easy Post Grouting**
   Post grouting can be fully recovered the load transfer area on gap opening in split zone

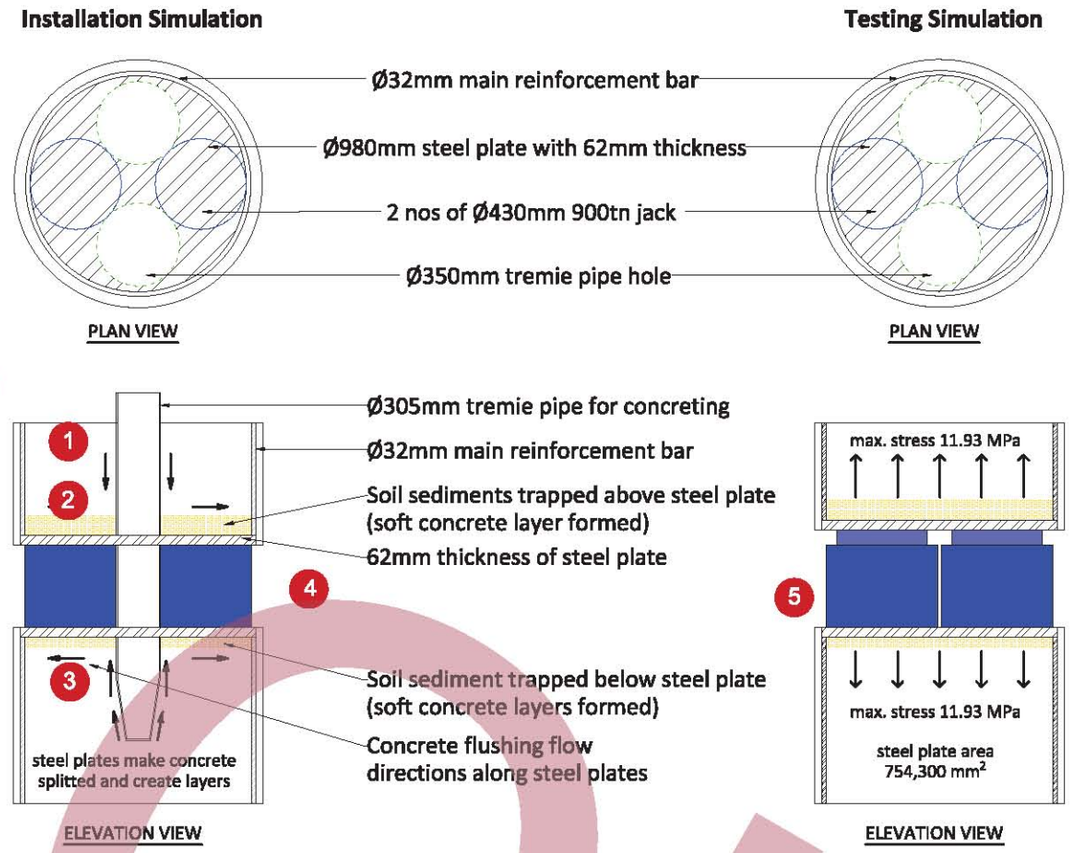
Stress Distribution In Concrete

Test Load	Applied Load	Physical Area	Concrete Stress	Concrete Grade
9,000 kN	4,500 kN	497,747 mm²	9.04 MPa	40 MPa
18,000 kN	9,000 kN	497,747 mm²	18.08 MPa	40 MPa



non-interlocking in any position
(bladder jack design)

Bi-Directional Pile Load Test using OTHER Technology



1. **Less Self Compactions**
   Less self compactions from upper concrete above jacks to compact lower concrete to gain low unit fs and fb
2. **Soft Concrete Layers**
   Soil sediments trapped above steel plates unable to be flushed up during concreting, soft concrete layers formed
3. **Difficult Flush Up**
   Steel plates to blockage the concrete to be flushed up the soil sediments below jacks to form soft concrete layers
4. **Damaged Pile Integrity**
   Cross-hole sonic logging pile integrity testing may detect pile damaged in between steel plates prior to pile test
5. **Difficult Post Grouting**
   Post grouting is difficult to be fully recovered the load transfer area between steel plate with contaminated concrete

The soft layers are low strength concretes that to make steel plates tilted and lead to piston jacks interlocking due to rigid connection with the steel plates