



Piling – General – Quality Assurance – Load Test Piles

Revision and Approval

Revision	Date	Nature of Changes	Approved By
0	09-04-2018	Original issue.	Steve Altman

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Background

This process establishes Structure Construction (SC) responsibilities and procedures for review and administration of load test piles, which include submittal review, coordination with the Contractor, coordination with Geotechnical Services (GS), and authorization of specified tip revisions for contract piling.

Pile load tests are specified in the contract documents:

1. When piles are installed in soils with variable geologies or poor-quality soils where there is no other means to determine capacity.
2. To validate design assumptions.
3. To provide sufficient information to modify the design tip elevation when there is a potential for large cost savings.
4. When driven piles are too large (typically larger than 36-inch diameter) to use dynamic monitoring for bearing acceptance criteria.

Pile load tests may be combined with dynamic monitoring per [BCM 49-1.01D\(4\)](#), *Piling – General – Quality Assurance – Dynamic Monitoring*:

1. To calibrate bearing acceptance criteria to the pile load test.
2. To evaluate capacity of static load test anchor piles.

Process Inputs

1. Pile Load Testing specified in the contract documents
2. [Form CEM-3101](#), *Notice of Materials to be Used*

3. Authorized Pile Handling Work Plan per [BCM 49-1.01C](#), *Piling – General – Submittals*
4. [Static Pile Load Test request form](#)
5. Authorized Pile Installation Plan for CIDH piling per [BCM 49-3.02A\(3\)](#), *Cast-In-Drilled-Hole Concrete Piling – Submittals*
6. Driving System Submittal for driven piling per [BCM 49-2.01A\(3\)](#), *Driven Piling – General – Submittals*

Procedure

1. All work associated with this process is charged as [Project-Direct – Construction](#).
2. Inspection of field work for this process is:
 - a. [Continuous](#) for inspection of load test and anchor pile construction and testing.
3. Prior to pile load testing:
 - a. Review contract documents and verify anchor pile layouts are correctly shown.
 - b. If dynamic monitoring is required in conjunction with pile load tests, review the requirements of [BCM 49-1.01D\(4\)](#), *Piling – General – Quality Assurance – Dynamic Monitoring*.
 - c. Notify Foundations Testing and Instrumentation (FTI) of scheduled pile load testing using the [Static Pile Load Test Request Form](#).
 - d. Discuss requirements for pile load testing with FTI prior to the preconstruction conference
 - e. Discuss requirements for pile load testing with the Contractor at the preconstruction conference.
 - f. Review authorized Pile Handling Plan per [BCM 49-1.01C](#), *Piling – General – Submittals*.
 - g. Review Contractor's schedule to make sure that there is a sufficient window to perform the test and generate a report.
 - h. Discuss logistical requirements for performing the pile load test with FTI and the Contractor and issue a Change Order according to the [Foundation Manual](#), Chapter 8-3, *Contract Administration of Static Pile Load Testing & Pile Dynamic Analysis*.
 - i. Review the Project-specific Code of Safe Practices for pile driving operations.
 - j. Assist the Contractor and FTI with preparing the load test pile for load testing according to the [Foundation Manual](#) Chapter 8-4, *Inspection Requirements During Static Load Testing and PDA*:
 - i. Coordinate installation of pile load test instrumentation package with FTI and the Contractor.

- k. Inspect and verify construction of the load test pile and anchor piling according to [Foundation Manual](#) Chapter 8-4, *Inspection Requirements During Static Load Testing and PDA*:
 - i. For driven load test and anchor piling, log pile details such as blow count and stroke on [Form SC-4805](#), *Log Pile Sheet*, and provide to FTI.
 - ii. For CIDH load test and anchor piling, provide authorized pile submittals per [BCM 49-3.02A\(3\)](#), *Cast-In-Drilled-Hole Concrete Piling – Submittals*, to FTI.
 - iii. Document inspection of construction of the test pile and anchor piling in the daily reports.
- 4. During pile load testing:
 - a. Discuss pile driving operation safety at a Tailgate Safety meeting prior to start of field work.
 - b. Assist FTI with pile load testing as needed according to the [Foundation Manual](#) Chapter 8, *Static Pile Load Testing and Pile Dynamic Analysis*.
 - c. Suspend any of the Contractor's operations in conflict with the pile load testing work until pile load testing is completed.
- 5. Following pile load testing:
 - a. Receive the Pile Load Test report from FTI.
 - b. Review the Pile Load Test report and coordinate with the Geotechnical Designer and the Structure Designer to obtain Recommendations.
 - c. Notify the Contractor of final specified tip elevations in writing.
 - d. Issue a change order to implement revised specified tip elevations.

Process Outputs

- 1. [Static Pile Load Test Request Form](#)
- 2. [Form SC-4805](#), *Log Pile Sheet* (for driven load test piles):
- 3. Daily reports
- 4. Static Pile Load Test report
- 5. Revisions to specified tip elevations
- 6. Change Order to implement revised specified tip elevations

Attachments

None