

# Work Type Definition and Submittal Requirements

## 6.5 Pile Load Testing

### Work Type Definition

Pages 1-2 details the work type definition. In order to become *pre-qualified* for this work type, please see the “Work Type Submittal Requirements” on pages 3-4.

#### I. Description

Pile load testing includes designing and conducting a procedure for determining in-place pile capacity using static load testing and high strain dynamic load testing using the Pile Driving Analyzer and Case Pile Wave Analysis Program (CAPWAP). Testing includes the deployment of equipment/personnel and the collection of data through field or laboratory investigations. Analysis includes recommendations and conclusions drawn from the data acquired in relation to the specific needs of the project. This work type will also include conducting Standard Penetration Test (SPT) energy measurements using dynamic methods. Individuals will be approved for Level 1, Level 2, Level 3 or any combination of the three as defined below.

##### A. Level 1 – Advanced High Strain Dynamic Testing

Level 1 individuals will be required to obtain, analyze and report on high strain dynamic testing of driven piles. Individuals will have a Certificate of Proficiency with a rating of “Advanced” or higher from one of the following organizations:

1. Pile Dynamics Inc./Pile Driving Contractors Association
2. Foundation QC/HSDPT Register

##### B. Level 2 – Expert High Strain Dynamic Testing

Level 2 individuals will be required to obtain, analyze and report on high strain dynamic testing of driven piles and design, analyze and report on Static Load Testing of driven piles. Individuals will have a Certificate of Proficiency with a rating of “Expert” from one of the following organizations:

1. Pile Dynamics Inc./Pile Driving Contractors Association
2. Foundation QC/HSDPT Register

##### C. Level 3 – Static Load Testing

Level 3 individuals will be required to oversee static load testing. This will include the following tasks:

1. Designing load test instrumentation
2. Providing recommendations for load test procedures
3. Providing and Installing instrumentation
4. Monitoring instrumentation during load test
5. Analyzing load test results
6. Providing final report for load test

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#### **II. Standards and Specifications**

**Standards and specifications required for a project under this work type may include the following:**

- A. All tasks will be performed in accordance with current ASTM, AASHTO, and MnDOT specification.

#### **III. Provided By MnDOT**

**Information to be supplied by MnDOT for a project may include the following:**

- A. American Society for Testing and Materials (ASTM), American Association of State Highway & Transportation Officials (AASHTO), and MnDOT Standard Specifications.

#### **IV. Provided by Consultant**

**Deliverables to be supplied by the consultant for a project may include the following:**

- A. Final testing report including results of the test conducted.
  - a. A copy of field data logs, both physical and electronic, along with samples when required.
  - b. A copy of final data logs, both physical and electronic, showing the results of field and laboratory tests.
  - c. Weekly progress reports.
  - d. Final report summarizing the results of the testing along with recommendations and conclusions.

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**Work Type Submittal Requirements**

**A consultant firm becomes pre-qualified based on the qualifications of the personnel that are employed by the firm and by meeting the demonstrated requirements.**

<b>Key Personnel Requirements</b>	
Minimum Number of Staff:	One professional engineer with a Proficiency Rank of Advanced (Level 1) or Expert (Level 2) as determined by the Dynamic Measurement and Analysis Test developed by Pile Dynamics, Inc. (PDI) and the Pile Driving Contractors Association (PDCA) or the Dynamic Measurement and Analysis Proficiency Test as developed by Foundation QC. One professional engineer with a minimum of 5 years' experience working with Static Load Tests and associated instrumentation (Level 3).
Professional Certification/Licensure:	One professional engineer with a Certificate showing a Proficiency Rank of Advance (Level 1) or Expert (Level 2) as determined by the Dynamic Measurement and Analysis Test developed by Pile Dynamics, Inc. (PDI) and the Pile Driving Contractors Association (PDCA) or the Dynamic Measurement and Analysis Proficiency Test as developed by Foundation QC. One professional engineer with a minimum of 5 years' experience working with Static Load Tests and associated instrumentation (Level 3).
<b>Work Type Submittal Requirements*</b>	
<b>I. Resume and Relevant Project Experience Form (<a href="#">Form PQ1</a>)</b>  <i>Submit in Word format</i>	A. Complete Parts 1, 1A, 2 and 3 of Form PQ1  <b><u>Part 1:</u></b> Fill out general information and names of personnel  <b><u>Part 1A:</u></b> Qualified professional engineer must have a minimum of 5 years experience in the activities required. Experience must be demonstrated by reference to a minimum of two completed projects (maximum of five) in the last five years for Pile Driving Analyzer (PDA) and the last 15 years for Static Load Testing (SLT).  <b><u>Part 2:</u></b> Must correlate to "Project Example Requirements" section.  <b><u>Part 3:</u></b> Provide list of production staff sufficient to conduct testing.
<b>II. Project Example Requirements</b>	A. Submit two completed project examples within the last five years. One example must be for PDA and one for SLT. Examples should be a final report.

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<i>Submit in PDF format</i>	
<b>III. Proof of Professional Certification/Licensure</b>  <i>Submit in PDF format</i>	A. Provide current copies of applicable Professional Certification/Licensure.
<b>*Work Type Submittal Instructions:</b>	
<p>Create a CD or flash drive that includes the following individual files or folders in this order:</p> <ul style="list-style-type: none"> <li>I. Resume and Relevant Project Experience Form (Form PQ1)</li> <li>II. Project Example Requirements (this should be a folder that includes individual files clearly named according to Part 2 of the PQ1)</li> <li>III. Proof of Professional Certification/Licensure</li> </ul> <p style="text-align: center;"><b>Each file should be saved in the format identified above. Submit 5 copies of the CD or flash drive.</b></p>	