

500 STRUCTURES

ITEM 523 - DYNAMIC LOAD TEST

523.01 Description

523.02 General

523.03 Equipment

523.04 Test Procedures

523.05 Method of Measurement

523.06 Basis of Payment

523.01 Description. This item shall consist of applying a dynamic load applied by a pile hammer to a driven pile (restrike) or to a pile being driven, while transducers obtain measurements for predicting the static capacity of the pile. The dynamic load shall be applied to the to the pile by a pile hammer which is operating at its normal operating level. Waiting periods may be required so that soil set-up and relaxation characteristics can be determined.

523.02 General. The Contractor shall notify the Engineer of his intent to drive piling at least three work days prior to the installation of the first pile. The Engineer shall inform the Director or owner Division as to the Contractor's pile driving schedule. The Engineer shall determine if the test is to be performed or if some pile driving experience at the proposed site is to be obtained before a decision can be made. The Engineer will establish a date for the tests and will also determine the location of all piles to be dynamically load tested. Dynamic load test data, satisfactory to the Project Engineer shall be obtained prior to commencement of production pile driving. Pile driving criteria may be modified by the Project Engineer after review of the submitted written report referenced in Section 523.04.

The hammer selected for driving the test loaded pile shall be used for driving all piles represented by the load test pile. If the Contractor subsequently finds it necessary to use a different hammer, the Engineer will determine if an additional dynamic load test is necessary. Any such test shall be completed at no additional cost to the City.

523.03 Equipment. The Contractor shall supply all personnel and equipment needed to strike the test pile with the pile hammer. The Contractor shall also supply a source of 115 V, 1500 VA, 60 Hz electrical power with extension power cords. When fluted piles are being used, the Contractor shall supply a cutting torch.

The Contractor will provide the transducers, the Pile Driving Analyzer, and the personnel to operate the equipment. The Project Engineer shall approve all personnel and equipment used for the dynamic load test.

523.04 Test Procedures. The Contractor shall provide for the testing services including necessary equipment and labor to evaluate the Dynamic Load tests. The dynamic load test shall consist of a minimum of 3 piles being tested and 2 CAPWAP analyses performed. The need for additional piles being tested and additional CAPWAP analyses shall be determined by the Project Engineer. The contractor will drill holes into the piles to be tested so that electronic transducers (2 accelerometers and 2 strain gages) can be attached. When the transducers have been placed in position and the Pile Driving Analyzer has been made ready to receive the acceleration and strain measurements, the Contractor shall strike the pile with the pile hammer as many times as is required to obtain adequate measurements as determined by testing personnel and approved by the Project Engineer.

After the dynamic testing measurements have been obtained and analyzed by the testing personnel, the Contractor shall submit a written report with instructions for driving piles to the Project Engineer for approval.

523.05 Method of Measurement. The hours to be paid for under this item will be the sum of the time intervals during normal contract working hours that the City has requested the Contractor to discontinue his normal production pile driving operation so that the dynamic load tests can be performed. The Engineer will measure and record the time needed to perform the tests to the nearest one-tenth of an hour.

523.06 Basis for Payment. This work shall include supplying all equipment, labor, materials, testing, and report preparation to perform and evaluate the Dynamic Load Test. Payment for the sum of the testing time intervals will be made at the contract price for:

Item	Unit	Description
523	Hour	Dynamic Load Tests