

ITEM 17551.95 M - LOW-STRAIN SONIC TEST (LST)

DESCRIPTION

Conduct Low-strain Sonic Test (LST) on existing cast-in-place piles where indicated on the plans or where ordered by the Engineer and report the results. The selection of the testing organization is subject to the approval of the D.C.E.T.S. Testing cannot begin until approval has been issued by the D.C.E.T.S. The LST test is used to evaluate the integrity of and determine the length of the cast-in-place concrete piles by measuring the response of a sonic pulse induced at the top of the pile.

The testing firm performing the work described in this specification shall submit proof of at least ten projects on which he has performed this testing, and shall also submit for approval an example of the report format.

CONSTRUCTION DETAILS

Equipment:

Provide LST equipment which consists of the following components:

- A microprocessor based signal analyzer system for display of individual LST records, analog-digital conversion and recording of LST data, analysis of receiver responses and printing of LST logs.
- Hammer
- Accelerometer of sufficient sensitivity for low-strain testing

Procedure:

Hit the exposed concrete pile top with the hammer to generate wave energy that travels down the pile. The wave reflects off the irregularities and/or the pile bottom and travels up to the pile top. A receiver measures the vibration response of the pile to each impact.

Present an LST log for each pile tested and identify any anomaly/defect zones. Provide a report which contains this log, identification of the pile(s) tested, and an estimate of the length from the pile top to the pile tip and/or defect zone.

METHOD OF MEASUREMENT

The work is measured by each concrete pile on which LST testing is performed and for which a final report has been provided.

BASIS OF PAYMENT

The unit price bid for the LST testing on each pile includes the cost of all labor, materials and equipment necessary to perform LST testing and report the results.