

# ***New Jersey Department of Transportation***

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## ***Baseline Document Change Announcement***

**Load Bearing Piles, Furnished/Driven**

**BDC99S-009**

**October 29, 1999**

**Subject: Revision to the 1998 Supplemental Specifications to the 1996 Standard Specifications, Section 505 – Load Bearing Piles**

Section 505 – Load Bearing Piles of the 1998 Supplemental Specifications to the 1996 Standard Specifications has been revised and a summary of the revisions is as follows:

### **505.03 Equipment.**

Under subheading B, subpart 4, the first sentence has been revised to better describe parameters in the use of the Wave Equation Analysis Program (WEAP).

### **505.05 Order List of Piles.**

The second paragraph has been revised to clarify that the lengths of piles given in the order list are the lengths to be furnished at the project site. Also, it is clarified that if it is necessary to provide fresh headings or to meet the Contractor's method of operations, the directed lengths may be increased.

### **505.06 Methods of Driving.**

Under subheading 4, Test Piles, the second sentence has been revised to be consistent with the use of the terminology "Test Piles, Furnished".

### **505.15 Method of Measurement.**

The new pay items "Test Piles, Furnished", "Test Piles, Driven", "Production Piles, Furnished" and "Production Piles, Driven" are provided. The use of these pay items will account for pile cutoffs in a Contract rather than payment for pile cutoffs being made from contingency funds. Also, the use of these pay items will conform to FHWA guidance and to the criteria that is specified in the AASHTO Standard Specifications for Highway Bridges.

A method is provided for measuring the quantity of cast-in-place pipe or shell concrete piles, including test piles, that are to be furnished and driven.

A paragraph is changed to state that no measurement will be made for inclusion of peripheral work and materials that are needed to provide complete pile installations.

An existing paragraph that defines pile cutoff measuring is deleted.

### **505.16 Basis of Payment.**

The existing second through eighth pay items have been deleted. New pay items based on Piles Furnished/Piles Driven terminology are introduced. Other related changes are made to be consistent with use of the new pay items and to delete pile cutoff payment provisions.

The revisions to the 1996 Standard Specifications for Road and Bridge Construction (SI98DOT1), Section 505 – Load Bearing Piles, will be provided in the Standard Input as follows:

## SECTION 505 – LOAD BEARING PILES

### 505.03 Equipment.

#### B. Impact Pile Drivers.

THE FIRST SENTENCE OF SUBPART 4. IS CHANGED TO:

4. When the pile driving equipment is to be analyzed with the use of the Wave Equation Analysis Program (WEAP), the Engineer shall use the number of required hammer blows per 25 millimeters and the pile stresses at the required ultimate pile capacity to evaluate the driving equipment.

### 505.05 Order List of Piles.

THE SECOND PARAGRAPH IS CHANGED TO:

The lengths given in the order list will be the lengths of piles that are needed to be furnished at the Project site. Without added compensation, the lengths may be increased to provide fresh heading and for additional lengths as may be necessary to suit the Contractor's specific method.

### 505.06 Methods of Driving.

#### 4. Test Piles.

THE SECOND SENTENCE IS CHANGED TO:

If the lengths of test piles to be furnished are not provided on the plans, then the Engineer will provide the test pile order lengths.

### 505.15 Method of Measurement.

THE FIRST TWO PARAGRAPHS ARE DELETED AND THE FOLLOWING IS ADDED:

- A. **Test Piles, Furnished.** Test Piles Furnished will be measured by the linear meter. The length of Test Piles, Furnished will be based on the criteria that is stated in Subsection 505.06, Subpart 4. If the required penetration for any one Test Pile is greater than the length that has been directed, the extension length ordered by the Engineer will be included for payment in the linear meter of Test Piles Furnished. Splices for such Test Piles will be measured for payment in accordance with the provisions of this subsection. If the Contractor orders shorter Test Piles than directed and extensions are required, splices and any cut-off length will not be considered for measurement and payment.
- B. **Test Piles, Driven.** Test Piles Driven will be measured by the linear meter. The total length shall be the total linear meter length that has been installed and accepted and that is measured below the cut off elevation for all of the driven Test Piles. Lengths of piles that are used to replace Test Piles that have been previously accepted by the Engineer, but are somehow damaged before completion of the Project, will not be paid for.
- C. **Production Piles, Furnished.** Production Piles Furnished, of the various kinds and sizes, including buildups or extensions, as ordered by the Engineer, will be measured by the linear meter. If the required penetration for any one Production Pile is greater than the length that has been directed, the extension length ordered by the Engineer will be included for payment in the linear meter of Production Piles Furnished. Splices for such Production Piles will be measured for payment in accordance with the provisions of this subsection. If the Contractor orders shorter Production Piles than directed and extensions are required, splices and any cut off length will not be considered for measurement and payment.
- D. **Production Piles, Driven.** Production Piles Driven will be measured by the linear meter. The total length shall be the total linear meter length that has been installed and accepted and that is measured below the cutoff elevation for all of the driven Production Piles. Lengths of Piles that are used to replace Production Piles that have been previously accepted by the Engineer, but are somehow damaged before completion of the Project, will not be paid for.

THE THIRD PARAGRAPH IS CHANGED TO:

The quantity of cast-in-place pipe or shell concrete piles furnished, including Test Piles, will be the actual number of linear meters of steel pipe or shell piles ordered by the Engineer. The quantity of cast-in-place pipe or shell concrete piles driven, including Test Piles, will be the actual number of linear meters of steel pipe or shell piles driven, cast and left in place in the completed and accepted work, measured from the pile tip to the cutoff elevation.

No separate measurement will be made for reinforcing steel, excavation, drilling, cleaning holes, drilling fields, sealing materials, concrete, required caging and other items required to complete the work. No separate measurement will be made for closure plates for close-end pipe piles.

THE ELEVENTH PARAGRAPH IS DELETED.

**505.16 Basis of Payment.**

THE ENTIRE SUBSECTION IS CHANGED TO:

Payment will be made under:

<i>Pay Item</i>	<i>Pay Unit</i>
PREBORED HOLES	LINEAR METER
TEST PILES, FURNISHED	LINEAR METER
TEST PILES, DRIVEN	LINEAR METER
CAST-IN-PLACE CONCRETE PILES, FURNISHED, ___ MM DIAMETER	LINEAR METER
CAST-IN-PLACE CONCRETE PILES, DRIVEN, ___ MM DIAMETER	LINEAR METER
PRECAST CONCRETE PILES, FURNISHED, ___ BY ___ MM	LINEAR METER
PRECAST CONCRETE PILES, DRIVEN, ___ BY ___ MM	LINEAR METER
PRESTRESSED CONCRETE PILES, FURNISHED	LINEAR METER
PRESTRESSED CONCRETE PILES, DRIVEN	LINEAR METER
STEEL H-PILES, HP, FURNISHED, ___ MM BY ___ KG/M	LINEAR METER
STEEL H-PILES, HP, DRIVEN, ___ MM BY ___ KG/M	LINEAR METER
UNTREATED TIMBER PILES, FURNISHED, ___ MM DIAMETER	LINEAR METER
UNTREATED TIMBER PILES, DRIVEN, ___ MM DIAMETER	LINEAR METER
TREATED TIMBER PILES, FURNISHED, ___ MM DIAMETER	LINEAR METER
TREATED TIMBER PILES, DRIVEN, ___ MM DIAMETER	LINEAR METER
SPLICES, FOR STEEL H-PILES	UNIT
PILE LOAD TESTS (STATIC)	UNIT
PILE LOAD TESTS (DYNAMIC)	UNIT
FURNISHING EQUIPMENT FOR DRIVING PILES	LUMP SUM
PILE SHOES	UNIT

Payment of 75 percent of the lump sum price bid for furnishing equipment for driving piles will be made when the equipment necessary for driving piles is furnished and driving of test piles has commenced. Payment for the remaining 25 percent will be made when the work of driving piles is entirely completed on an individual bridge basis. If piles are deleted from the design, or if the number of pile units is decreased, payment for the remaining 25 percent will be made without any reduction. If the number of pile units is increased no increase in payment will be made in the total remaining 25 percent.

Payment for test piles furnished and production piles furnished will include full compensation for all costs that are involved in the furnishing and delivery of all piles to the project site.

Payment for test piles driven and production piles driven will include full compensation for all costs involved in the actual driving and cutting off of piles and pile shells.

Payment adjustments for strength will be made in accordance with Subsection 914.02, Subpart E and will be applied to the lot meters for cast-in-place, precast, or prestressed concrete piles.

## **Instructions to Designers**

These revisions shall be included in all Department projects which require Load Bearing Piles, and projects for which the final submission of the Special Provisions has not been made as of November 16, 1999. The Technical Specifications unit will incorporate these revisions in the Special Provisions, therefore, the designers need not insert these changes.

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