WHY CHANGE ???

WE LEARNED HOW TO DO IT BETTER

WE HAVE HAD ISSUES !!!
804.05(c) Pile Driving Equipment Approval – The Hammer Approval Method (previously referred to as the Alternate Hammer Approval Method) is now the preferred method for approval of the pile driving and has been relocated ahead of the Wave Equation Hammer Approval Method in the specifications.

NOT PREFERRED JUST THE FIRST CHOICE IF THE ENGINEER DID NOT SEE A NEED TO RUN THE WAVE EQUATION – ALL TEST PILES WILL HAVE HAMMER APPROVAL WITH THE WEAP METHOD
804.06(b)(1) Hammer Cushion

The hammer cushion shall be inspected in the presence of an engineer when beginning pile driving at each structure and “after each 100 hours of use” during pile driving operations.

WHY ???
804.06(b)(3) Pile Cushion – The following statements were deleted from this subsection: “The engineer may require dynamic monitoring during the field trials to evaluate the pile driving system performance. Dynamic monitoring will be at no direct pay when conducted for purposes of allowing the contractor to reuse a pile cushion.”

NEW SPECS MORE DEFINED ON WHEN TO CHANGE PILE CUSHION
804.07(a)(4) Cone Penetrometer Test (CPT) Probings – Language specifying the exact type of truck the Department will use for CPT probing has been deleted.

MAY BE WHITE IF WE ACQUIRE LTRC’S OR

MAY BE A CONSULTANT
804.07(b)(1) Transportation of Precast Concrete Piling

The pick-up points for precast concrete piles are no longer specified. Precast concrete piles shall be adequately supported to prevent damage during transport.

DID NOT WANT TO DICTATE – CONTRACTOR OR FABRICATOR NEEDS TO BE RESPONSIBLE TO ENSURE PILE IS ADEQUATELY SUPPORTED DURING TRANSPORT
804.07(b)(6) Pickup Straps

Subsection added. Pickup straps shall be cutoff and epoxy grouted prior to driving in coastal areas.
804.10 Determination of Pile Bearing Capacity

Pile bearing capacity determination may be made from the test pile loading results as well as by the use of the Dynamic Formula or the Wave Equation.

ADDED TEST PILE RESULTS
804.11(b) Test Piles

Added the following, “If the test pile is different than the anticipated permanent pile, prior approval must be received from the Chief, Construction Division. All test piles and/or indicator piles shall be inspected by DOTD Fabrication Inspectors prior to delivery to the project.”

WHY ???
804.11(g)(5) Load Cell

When specified on the plans, the contractor shall furnish the load cell. The contractor will not be allowed to use the Department’s load cell.

NO LONGER AN OPTION TO USE
804.11(g)(10) a Dynamic Monitoring Scheduling

The project engineer will notify the Pavement and Geotechnical Services Section to confirm that the pile and all associated pile driving equipment are onsite, have been inspected and assembled, and are ready for driving operations at least 24 hours prior to dynamic monitoring.

WHY ???
• NO PILES ON SITE
• HAMMER ON GROUND
• LEADS NOT ASSEMBLED
• WRONG HAMMER ON SITE
• NOBODY AT JOB SITE

• SITE NOT PREPARED FOR DDIVING
804.13(c) Cutoffs

Payment for pile cutoffs will be made at the contractor unit price per linear foot. Previously, the pay allowance was 2/3 the contract unit price when cutoffs were less than 5 feet.

FAIRLY COMPENSATE THE CONTRACTOR
DRILLED SHAFTS
814.04 Experience Requirements

Amended section to require the contractor to have a minimum of three years experience in constructing drilled shaft foundations within the past five years for drilled shafts “of similar size as required by the project.”

WHY  ????
814.08 Excavation Methods

Temporary surface casings are now required. The provision that allowed temporary surface casings to be waived with if the contractor could demonstrate that surface casing was not needed has been deleted.

Deleted paragraph that read, “Blasting may be used only with written permission in accordance with Subsection 107.11 and shall be so controlled as to avoid disturbance of the formations below or outside the drilled shaft being excavated.”
814.08(a) Dry Construction Method

Method amended to be used only when shaft excavations, as demonstrated in a trial shaft or test drilled shaft, have 12 inches or less of seepage water accumulated over a one-hour period without pumping, and meet all other specification requirements.

Previously, it was 12 inches or less over a four-hour period, with no mention of pumping.
814.09(a) Soil Sampling

When shown on the plans or directed by the engineer, the contractor shall take samples and perform soil tests to determine the character of material directly below the expected drilled shaft excavation depth.

The provision that required these soil tests be done by the contractor at no additional costs to the department has been deleted.
814.09(g) Lost Tools

Added the following sentence at the end of paragraph, “All costs due to lost drilling tool removal shall be borne by the contractor, included but not limited to costs associated with repair of hole degradation due to the removal operations or time limits being exceeded during the period the excavation remains open.”
814.10 Permanent Casing

Added the following sentences, “Casing shall be steel, smooth, clean, and watertight and shall be free of accumulations of hardened concrete both inside and outside. It shall be of ample strength to withstand both handling and driving stresses during installation.”
814.11 Temporary Casing

The inside diameter of casings shall not be less than the specified shaft size.

Previously, diameter was based on the outside diameter of the casings.
814.12 Slurry

Added the following provision to the first paragraph, “The contractor shall provide a list of construction projects, within the past three years, where the proposed slurry has been used to construct drilled shafts in comparable work site conditions as those anticipated for the required drilled shafts. The project list shall contain names and telephone numbers of owner’s representatives who can verify the field performance of the proposed slurry.

Previously, this provision was listed under Subsection (a)(1) c, Approval process.
The density limits have been revised for polymer slurry at introduction into the hole and at the time of concreting have been revised.

Also, the viscosity requirement in the hole at the time concreting has been deleted.
814.12(a)(3) Polymer Slurry Mixing

The polymer shall be mixed thoroughly with clean water in a separate mixing tank with a high shear agitating mixer.

Previously, slurry was mixed in accordance with manufacturer’s recommendations.
814.12(b)(1) Mineral Slurry Requirements

Sepiolite clay has been included as an allowed mineral slurry. Also, bentonite clays containing pure sodium bentonite has been included. Previously, specifications did not require the clay to contain pure sodium bentonite.

Table 814-2 Mineral Slurry Specifications

The specification limits required for viscosity of the mineral slurry “in the hole at time of concreting” are being deleted.
814.12(i) Blended Mineral-Polymer Slurry

This subsection has been added to allow a blended mineral-polymer slurry for drilling.

USED AT THE COMITE RIVER PROJECT

ISSUES WITH MIX OF CLAY AND VARIOUS SAND/GRAVEL LAYERS
Second sentence, “The device proposed to check for drilled shaft bottom cleanliness shall be approved by the engineer prior to use.”

End bearing drilled shafts, drilled by the wet construction method, shall require a final bottom cleaning with an air-lift or submersible pump prior to concrete placement. Previously, “…with an air-lift or submersible pump” was at the end of the sentence.
814.13(c)

Added the following sentence to the end of the paragraph, “Care shall be taken not to decrease the borehole stability while utilizing the air-lift or submersible pump.”
814.14(d) Spacers

Concrete wheels used as spacers for the steel reinforcement cage shall have a minimum width of one (1) inch (25 mm). Previously, no minimum width was required.
814.15(b)(1) Tremie

Tremies shall be clearly marked at one foot increments. Aluminum tremies will not be allowed.
814.16(d) Concrete Placement Time Limitations

A concrete placement time extension may be granted if the contractor can demonstrate by trial mix and slump loss tests that the concrete slump will be no less than 4 inches during the entire time of placement during the longer placement time. A slump loss versus time curve shall be furnished to the engineer prior to concreting production shafts.
814.16(d)(1) Method 1

A slump loss versus time curve shall be furnished to the engineer prior to concreting production shafts.

Method 2 has been deleted.

Field Runs of slump loss
814.19(a) NDT Consultant

All CSL testing and analyses shall be performed under the supervision of a registered professional engineer in the State of Louisiana. Previously, the engineer was not required to be registered in the state.
814.19(b) Testing Schedule

After placement of concrete, All CSL (Crosshole Sonic Logging) tests for production drilled shafts must be completed within 48 hours for PVC access tubes and 20 calendar days for steel access tubes. CSL tests for trial shafts and test drilled shafts must be completed within 48 hours after concrete placement.
814.19(c) Access Tubes

“Within 2 hours after” concrete placement, the access tubes shall be filled with clean water and the tube tops capped or sealed to keep out debris.

Previously, the specifications read, “…prior to placement of concrete.”
814.19(g) Evaluation of CSL Testing

The Geotechnical Engineer will evaluate the CSL test results and determine whether the drilled shaft construction is acceptable or unacceptable. Previously, the engineer was not specified as Geotechnical.

The following has been added to this subsection, “The contractor shall allow three working days for the evaluation to be conducted after receipt of the testing report and drilling logs. Any defects indicated by the testing shall be reported to the Geotechnical Engineer.”
The subsection heading has been changed from “Test Holes” to “Trial Shafts.” Trial shafts will be evaluated based on field observation and will not be finalized prior to receiving CSL results. In addition to other trial shaft requirements, the contractor will be evaluated on his ability to properly pick up and position the reinforcing cage.
814.21(b) Construction Requirements

Deleted the statement, “The test hole shall be constructed with sufficient steel reinforcement to accommodate placement of the Crosshole Sonic Logging access tubes when required and with the same clearances as the production drilled shafts.”

Added the following sentence, “The trial shaft shall be constructed with a reinforcing cage containing the same reinforcing steel configuration as shown in the plans for the production shafts.”
TRIAL SHAFTS
814.21(c) Trial Shaft Evaluation

Added the following, “No test drilled shafts or production shafts shall be constructed until the trial shaft has been evaluated.”

This evaluation will include review of excavation methods, field construction procedures, and all CSL test results.
814.23(a) Payment, Drilled Shafts

When reinforcing splices are required due to increases in shaft length up to and including 16 feet, the additional deformed reinforcing steel required for splices will be paid for at the contractor unit price.

Previously, it was paid for at fifty cents per pound of deformed reinforcing steel.