

**9-3.2.1 Error in Plan Quantity:** As used in this Article, the term “substantial error” is defined as the smaller of (a) or (b) below:

- (a) a difference between the original plan quantity and final quantity of more than 5%,
- (b) a change in quantity which causes a change in the amount payable of more than \$5,000.

*There are nearly 50 sections in the Specifications where the pay quantity is to be plan quantity. The number of potential pay items is tremendously more. Contractors should not have to check the EOR's comp books in detail on every job they bid. On any typical urban job there will be two types of curb and two thicknesses of sidewalk. Small specialty contractors (curb, sidewalk, etc) can get killed by losing 4% on multiple items. My suggestion would be:*

- (a) a difference between the original plan quantity and final quantity of more than 2%,*
- (b) a change in quantity which causes a change in the amount payable of more than \$2,000.*

*If a quantity is in error more than 4% the EOR should have to repay the Department a percentage of their error. That would force them to be accurate with their quantities. I'm not suggesting to return to final field measurements on everything, just accurate quantities to start with and a Final check of those quantities during construction with adjustments in accordance with (a) or (b) above.*

**9-1.5 Truck Requirements:** Provide all trucks with numbers and certify that all trucks used have a manufacturer's certification or permanent decal showing the truck capacity rounded to the nearest tenth of a cubic yard placed on both sides of the truck. This capacity will include the truck body only and any side boards added will not be included in the certified truck body capacity. Ensure the lettering and numbers are legible for identification purposes at all times. *This should apply only when pay item is Borrow Excavation (Truck Measure) or for unforeseen work. When moving material onsite this specification limits the use of the dump truck pool.*

**125-4.2.2 Foundation Piles:** ~~Where foundation piles are used, complete the excavation of each pit before driving the piles.~~ After the driving of foundation piles is completed, remove all loose and displaced material, leaving a smooth, solid, and level bed to receive the masonry.

**400-15.2.5.6 Grooving:** After the concrete surface profile, as required by 400-15.2.5, has been accepted by the Engineer, and ~~prior to opening the bridge to traffic~~, groove the bridge deck and approach slabs perpendicular to the centerline of the structure. Do not groove the deck surface of pedestrian or trail bridges unless otherwise shown in the Contract Documents. Cut grooves into the hardened concrete using a mechanical saw device which will leave grooves nominally 1/8 inch wide and 3/16 inch deep. Space the grooves apart in random spacing center of grooves in the following sequence: 3/4 inch, 1-1/8 inch, 5/8 inch, 1 inch, 5/8 inch, 1-1/8 inch, 3/4 inch in 6 inch repetitions across the width to be grooved in one pass of the mechanical saw device. One 6 inch sequence may be adjusted by 1/4 sequence increments to accommodate various cutting head widths provided the general pattern is carried out. The tolerance for the width of the grooves is plus 1/16 inch to minus 0 inch and the tolerance for the depth of grooves is plus or minus 1/16 inch. The tolerance for the spacing of the grooves is plus or minus 1/16 inch. Cut grooves continuously across the deck or approach slab to within 24 ~~18~~ inches of gutter lines at barrier rail, curb line and median divider. At skewed metal expansion joints in bridge deck surfaces, adjust groove cutting by using narrow width cutting heads so that all grooves of the

bridge deck surface or approach slab surface end within 12 6 inches, measured normal to the edge of the metal centerline of the joint, leaving no ungrooved surface adjacent to each side of the joint greater than 12 6 inches in width. Ensure that the minimum distance to the first groove, measured normal from the edge of the concrete joint or from the junction between the concrete and the metal leg of the armored joint angle, is 2 inches 4 inch. Produce grooves that are continuous across construction joints or other joints in the concrete surface less than 1/2 inch wide. Apply the same procedure described above where the gutter lines at barrier rails, curb lines and median dividers are not parallel to the centerline of the bridge to maintain the 24 18 inches maximum dimension from the grooves to the gutter line. Cut grooves continuously across formed concrete joints.

*Phased construction does not lend itself to planing and grooving prior to opening the bridge to traffic due to differential camber/deflections.*

*24" from gutter matches 400-15.2.5.5 required for planing.*

*Many strip seals are 6" + out-to-out. Modular joints are larger. Measurement must be from edge of metal.*

# SPECIFICATION COMMITTEE MEETING AGENDA

D5 Urban Office

Orlando

Wednesday, Nov. 5, 2014

1:30 PM

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Call to Order

Items for discussion:

## 1. Specifications out for Industry Review:

- a) 6350202 Pull, Splice and Junction Boxes – still can take comments if there are any.
- b) 4300408 Pipe Culverts – Off the review cycle, at originator for action on comments. Industry concern for having travel speed listed. Consider speed +/-, an allowable tolerance on speed. Doug Holdener comment that step in right direction. Customizing spec for product behavior. Has concerns with “accuracy” and actual representative measurements of cracks.
- c) 5240100 Conc. Ditch and Slope Pavement – Off review cycle, but will take comments. Concern is that may affect clearing/grubbing work. Likely should not affect it since the 110-7 item for removal of rigid pavement would address this. FDOT needs to reconcile with BOE language to address removals under appropriate item and where included in the cost of the replacement is accurate.
- d) 3460303 Portland Cement Concrete – all good with change.
- e) 4551000DB & 4551000 Structures Foundations – questions about why we still call for the pile installation plan – RC voiced opposition.
- f) 334LAP Superpave Asphalt for LAP (Off-System) – still available for review comments.
- g) 7110401 Thermoplastic Traffic Stripes and Markings – Weather day if moisture too high. Would have to consider? Some comments about the 420 degree and tar paper check. Suggest that we test sample some areas prior to implementing this testing change. Concrete pavements appear worst offender. Look at records where we’ve had problems to see what issues there were. Comment period still open for more comments.
- h) 7100401 Painted Pavement Markings – training issue for the designers to make sure that they account for striping requirements when thermo included in the contract.

## 2. Discussion of Current Topics/ Out for Internal Review:

- a) 3460902SL PCC Acceptance and Testing – simple changes to match specs for non-SL projects.
- b) 5300000 Riprap and Articulating Conc Block Revetment Systems – submitted by drainage design office, manufacturers systems will be on the APL.
- c) 6460000 Aluminum Pedestal Poles – reviewing comments that have been submitted so far, before goes further. Comments no ped pole bases on the APL, other about aluminum or fiberglass doors (cover plates) – FDOT has not had concerns with fiberglass covers, have had problems with theft of aluminum ones.
- d) Audible/Vibratory pavement markings – concerns over how to administer, what is moisture, how much moisture, who has to be there to witness.

- [e\) 9900 – temporary traffic control – no issues with internal review so far.](#)
- [f\) 4580205- Bridge Deck joints – concerns over available manufacturers.](#)
- [e\)g\) 9710000 - traffic marking materials – questions about the cost impacts.](#)

### 3. New Business

- a) 346-6.4 PCC Steve Baldauff-, Universal Engineering Sciences (serviceability issue with plastic property failures) [Steve discussed that D5 is rejecting if the slump is out the target slump. Concern is that allowable water is not being allowed to be added at the site. Affecting drilled shaft placement when a truck slumps low and water is not allowed to be added to the truck even though spec allows. Issue is rejection of load on low side of the slump when there available water. Suggested follow the process as was done for lumps/balls in the DCE memo – refer to that language for suggested spec edit. Batch plants are batching drilled shaft mixes on dry side to minimize lumps/balls and then add more water prior to shipping to project. ASTM C94 addresses tolerance for mixes. Review DCE memo 17-10.](#)

**346-6.4 Plastic Property Tolerances:** Do not place concrete with a slump more than plus or minus 1.5 inches from the target slump value specified in Table 2. Reject concrete with slump or air content that does not fall within the specified tolerances and immediately notify the concrete production facility that an adjustment of the concrete mixture is required. If a load does not fall within the tolerances, test each subsequent load and the first adjusted load. If failing concrete is not rejected or adjustments are not implemented, the Engineer may reject the concrete and terminate further production until the corrections are implemented.

Do not allow concrete to remain in a transporting vehicle to reduce slump. Water may be added only upon arrival of the concrete to the jobsite and not thereafter.

- b) 9-3.2.1 Error in Plan Quantity Keith Waugh, Leware - [comes from subcontractors, plan quantity items. Affects small subcontractors for each of the items that are covered under Plan Quantity concepts. Puts burden on EOR for accuracy. Thinks the percentage should be reduced to more appropriate value. Also, resistance from districts to make adjustments to items that are shown to be in error. Suggested 2%](#)

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On multiple job Contracts, changes made to an individual pay item due to substantial errors will be based on the entire Contract quantity for that pay item.

Where the pay quantity for any item is designated to be the original plan quantity, the Department will revise such quantity only in the event that the Department determines it is in substantial error. In general, the Department will determine such revisions by final measurement, plan calculations, or both, as additions to or deductions from plan quantities.

In the event that either the Department or the Contractor contends that the plan quantity for any item is in error and additional or less compensation is thereby due, the claimant shall submit, at their own expense, evidence of such in the form of acceptable and verifiable measurements or calculations. The Department will not revise the plan quantity solely on the basis of a particular method of construction that the Contractor selects. For earthwork items, the claimant must note any differences in the original ground surfaces from that shown in the original plan cross-sections that would result in a substantial error to the plan quantity, and must be properly documented by appropriate verifiable level notes, acceptable to both the Contractor and the Department, prior to disturbance of the original ground surface by construction operations. The claimant shall support any claim based upon a substantial error for differences in the original ground surface by documentation as provided above.

- c) 9-1.5 Truck Requirements Keith Waugh – [Precon issue about numbers for equipment, etc. Thinks this should only apply to imported materials and not for the materials moved around the project. Would like this for only items that are paid by truck measure/CY.](#)

**9-1.5 Truck Requirements:** Provide all trucks with numbers and certify that all trucks used have a manufacturer's certification or permanent decal showing the truck capacity rounded to the nearest tenth of a cubic yard placed on both sides of the truck. This capacity will include the truck body only and any side boards added will not be included in the certified truck body capacity. Ensure the lettering and numbers are legible for identification purposes at all times.

d) 125-4.2.2 Foundation Piles Keith Waugh – [Issue is with the first sentence and should allow predrilling the holes at pile locations to remove materials from capacity determination and then excavate after the piling driven – safety issue in the medians or select locations.](#)

**125-4.2.2 Foundation Piles:** Where foundation piles are used, complete the excavation of each pit before driving the piles. After the driving is completed, remove all loose and displaced material, leaving a smooth, solid, and level bed to receive the masonry.

e) 400-15.2.5.6 Grooving Keith Waugh – [issue is the distance from centerline of the joint. Also, grooving and grinding prior to opening to traffic is issue. Distance from gutter should be the same the bridges \(18 inches\) and for roadway \(24 inches\). Keith will send in his suggested. Asked about the 10 free days.](#)

**400-15.2.5.6 Grooving:** After the concrete surface profile, as required by 400-15.2.5, has been accepted by the Engineer, and prior to opening the bridge to traffic, groove the bridge deck and approach slabs perpendicular to the centerline of the structure. Do not groove the deck surface of pedestrian or trail bridges unless otherwise shown in the Contract Documents. Cut grooves into the hardened concrete using a mechanical saw device which will leave grooves nominally 1/8 inch wide and 3/16 inch deep. Space the grooves apart in random spacing center of grooves in the following sequence: 3/4 inch, 1-1/8 inch, 5/8 inch, 1 inch, 5/8 inch, 1-1/8 inch, 3/4 inch in 6 inch repetitions across the width to be grooved in one pass of the mechanical saw device. One 6 inch sequence may be adjusted by 1/4 sequence increments to accommodate various cutting head widths provided the general pattern is carried out. The tolerance for the width of the grooves is plus 1/16 inch to minus 0 inch and the tolerance for the depth of grooves is plus or minus 1/16 inch. The tolerance for the spacing of the grooves is plus or minus 1/16 inch.

Cut grooves continuously across the deck or approach slab to within 18 inches of gutter lines at barrier rail, curb line and median divider. At skewed metal expansion joints in bridge deck surfaces, adjust groove cutting by using narrow width cutting heads so that all grooves of the bridge deck surface or approach slab surface end within 6 inches, measured normal to centerline of the joint, leaving no ungrooved surface adjacent to each side of the joint greater than 6 inches in width. Ensure that the minimum distance to the first groove, measured normal from the edge of the concrete joint or from the junction between the concrete and the metal leg of the armored joint angle, is 1 inch. Produce grooves that are continuous across construction joints or other joints in the concrete surface less than 1/2 inch wide. Apply the same procedure described above where the gutter lines at barrier rails, curb lines and median dividers are not parallel to the centerline of the bridge to maintain the 18 inches maximum dimension from the grooves to the gutter line. Cut grooves continuously across formed concrete joints.

f) 162-6 Finish Top Soil Felipe Jaramillo – [quantity issue related to payment method, sy vs. quantity. Seeing some Q&A asking questions about this. Horan suggested that if he submitted a revision, would we consider it. Yes.](#)

#### **162-6 Method of Measurement.**

The quantities to be paid for will be the plan quantity for the following items meeting the requirements of this Section, completed and accepted:

- (1) The area, in square yards, of finish soil layer.
- (2) The area, in square yards, of organic soil layer.
- (3) The area, in square yards, of blanket material.

g) 430-4.8 Pipe Culverts-Cracks Felipe Jaramillo – [pipe inspection issue, had a structural engineer look at and the CEI says is needed to be removed and replaced. Industry would like to see language in the specs to address how to handle repairs \(include the pipe repair matrix\) or language to have specifics about an engineer should analyze. Response from FDOT should be slow to say remove/replace, should be the exception response. Issue should be flagged and analysis be performed. Mixed opinions on whether the matrix should be in the spec or not.](#)

Pipe industry raising the issue that the values can't be measured, questions about what is a significant crack. Thinks the term "measurement" is arbitrary and a misuse.

**Pipe Inspection:** For pipes installed under the roadway, inspection is to be conducted when backfill reaches 3 feet above the pipe crown or upon completion of placement the stabilized subgrade. For pipe installed within fills, including embankments confined by walls, inspection is to be conducted when compacted embankment reaches 3 feet above the pipe crown or the finished earthwork grade as specified in the Plans. Prior to conducting the inspection, provide the Engineer with a video recording schedule for videoing, dewater installed pipe, and remove all silt, debris and obstructions. Submit pipe videoing and reports to the Department for review prior to the continuation of paving.

For pipe 48 inches or less in diameter, provide the Engineer a video DVD and report using low barrel distortion video equipment with laser profile technology, non-contact video micrometer and associated software that provides:

1. Actual recorded length and width measurements of all cracks within the pipe.
2. Actual recorded separation measurement of all pipe joints.
3. Pipe ovality report.
4. Deflection measurements and graphical diameter analysis report in terms of x and y axis.
5. Flat analysis report.
6. Representative diameter of pipe.
7. Pipe deformation measurements, leaks, debris, or other damage or defects.
8. Deviation in pipe line and grade, joint gaps, and joint misalignment.
9. A video record of the actual speed at which the camera is traveling through the pipe, ensuring that the rate of travel does not exceed the limit defined in 430-4.8.1 below.

Laser profiling and measurement technology must be certified by the company performing the work to be in compliance with the calibration criteria posted at:

<http://www.dot.state.fl.us/construction/contractorissues/laser.shtm>. Reports submitted in electronic media are preferred.

The Engineer may waive this requirement for side drains and cross drains which are short enough to inspect from each end of the pipe.

#### Randy Cropp issues:

- Mass Concrete issue regarding dimensional aspects – being reviewed.
- Rebar sampling requiring to be cut from a production bar, 931-1. Issue is not knowing which bar will be cut so can't plan to have extras sent. Also, think that FDOT should provide the bar splice
- Hierarchy of specs for jobs, DB jobs and how they are related to the RFP. Need to be some clarification related to this. Issue amongst districts with interpretations over this hierarchy. Discuss with Alan and Rudy.

#### Larry Safety issues:

- Vertical bars coming from bridge decks – could contractors include a hook on the bar?
- Height of the barrier wall is 32 inches and could it be increased?