

SECTION 00755 - CONTINUOUSLY REINFORCED CONCRETE PAVEMENT

(Follow all instructions and make all edits with "Track Changes" turned on. If there are no instructions [purple text] above a subsection, paragraph, sentence, or bullet, then include it in the project. Delete all purple text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)

Comply with Section 00755 of the Standard Specifications modified as follows:

00755.04 Aggregate Production and Prepaving Conference - Replace this subsection, except for the subsection number and title, with the following:

(a) Aggregate Production Conference - Meet with the Engineer, at a mutually agreed time, to discuss methods of accomplishing Aggregate production and include supervisory personnel of the Contractor and any Subcontractors or Suppliers who are to be involved in the Aggregate production Work.

(b) Prepaving Conference - Meet with the Engineer, at a mutually agreed time, to discuss methods of accomplishing all phases of the paving Work and include supervisory personnel of the Contractor and any Subcontractors who are to be involved in the concrete paving Work.

(Use the following subsection when the class of concrete is different than 4000 – 1 ½". Fill in the blank with the class of concrete.)

00755.11 Classes of Concrete - Replace this subsection, except for the subsection number and title, with the following:

Furnish Class _____ paving concrete.

00755.16(a) General - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of concrete is based on the results of the Contractor's quality control testing according to Section 00165.

00755.16(b) Aggregate - Replace the paragraph that begins "Acceptance is based ..." with the following paragraph:

Acceptance is based on the Contractor's quality control testing, if verified by the Agency according to Section 00165.

00755.16(b)(2) Non-specification Aggregate Gradation - Replace this subsection, except for the subsection number and title, with the following:

Stockpiled Aggregates that contain non-specification Aggregate gradation is rejected by the Engineer unless non-specification material is removed from the stockpile. Do not add additional material to the stockpile until enough non-specification material is removed so that the quality level for each constituent is equal to or greater than the quality level in Table 00165-2 for a 1.00 PF.

00755.16(c) Plastic Concrete - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of the plastic concrete is based on the tests performed by the Contractor's QCT, according to the tolerances and limits of Section 02001.

00755.16(d) Hardened Concrete - Replace the paragraph that begins "Acceptance is based ..." with the following paragraph:

Acceptance of hardened concrete is based on statistical analysis, according to Section 00165, of the compressive strength tests of the cylinders cast by the QCT. Test the cylinders at an ODOT certified laboratory.

00755.16(d)(1) Random Sampling and Testing - Replace this subsection, except for the subsection number and title, with the following:

Obtain samples from each subplot on a random basis. Cast a minimum of 3 cylinders. Cast and cure the test specimens according to AASHTO R 100 in 6-inch x 12-inch single-use plastic molds and test at 28 Days according to AASHTO T 22.

00755.16(d)(2) Lots - Replace this subsection, except for the subsection number and title, with the following:

A lot is the total quantity of concrete produced for each mix design with the same Specification limits of all constituents in each stage. Slipformed and non-slipformed concrete is sampled and evaluated as separate lots.

In lots with less than three sublots, the valid individual cylinders each are considered a subplot and statistically evaluated. Obtain at least one set of cylinders for each lot.

00755.16(d)(3) Sublot Strength Test Value - Replace this subsection, except for the subsection number and title, with the following:

The average of the 28-Day compressive strength tests of the three cylinders will constitute the SSTV.

Any cylinders in a subplot showing definite evidence (other than low strength) of improper sampling, molding, curing or testing is discarded, and the average of the strengths of the remaining cylinders will constitute the SSTV. If all three cylinders comprising a subplot are discarded, the lot is evaluated on the basis of the reduced number of sublots.

If the compressive strength of the lowest strength cylinder in a subplot is lower than the average strength of the remaining cylinders in that subplot by more than 10 percent, that cylinder strength is discarded and the average of the remaining cylinders will comprise the SSTV.

00755.16(d)(4) Quality Level Analysis - Replace this subsection, except for the subsection number and title, with the following:

Statistically analyze the SSTV's and determine the PF for each lot of concrete, except that there is no USL, and the LSL will equal the specified design strength.

00755.22 Hauling Equipment - Replace this subsection, except for the subsection number and title, with the following:

Transport concrete in non-agitating Equipment. Truck mixers may be used to transport concrete only as allowed in 00755.45. When allowed, provide hauling Equipment meeting AASHTO M 157.12 or AASHTO M 157.11.6.

00755.23 Paving Equipment - Replace the paragraph that begins "Provide self-propelled ..." with the following paragraph:

Provide self-propelled paving machines according to the following:

00755.25(b) Inertial Profiler - Replace the paragraph that begins "Provide competent and ..." with the following paragraph:

Provide competent and experienced operator(s) for the Equipment, certified with the profiler according to ODOT TM 769. Meet with the profiler operator and the Engineer at a mutually agreed upon time prior to beginning smoothness measurements to discuss all aspects of smoothness measurement on the Project.

00755.30 Quality Control Personnel - Replace the bullet that begins "Provide and designate ..." with the following bullet:

- Provide and designate an individual who is present at the placement site at all times during concrete placements, and who is authorized and responsible for acceptance and rejection of materials.

Replace the bullet that begins "Reject loads ..." with the following bullet:

- Reject loads that arrive at the Project Site without a batch ticket.

00755.40 Weather Limitations - Replace the paragraph that begins "Coordinate all operations involved..." with the following paragraph:

Coordinate all operations involved in constructing the Pavement so the Work will result in a finished Pavement according to the Specifications regardless of the variations in weather, temperature and humidity when the Work is allowed to proceed.

00755.41(a) Condition - Replace the paragraph that begins "Coordinate all operations involved..." with the following paragraph:

Before paving operations begin, bring the Base where the Pavement is to be constructed to a finished condition required by the Specifications.

00755.41(b) Area - Replace this subsection, except for the subsection number and title, with the following:

Bring the full width and length of the area where the tracks of the paving Equipment are to operate to the density and surface tolerance required of the Base material.

00755.42 Construction Widths - Replace the paragraph that begins "If the Contractor proposes ..." with the following paragraph:

If the Contractor proposes a method of placement other than that shown or specified, it will be at no additional cost to the Agency. Any changes require Engineer's approval.

00755.43(a) General - Replace the paragraph that begins "The reinforcement shall ..." with the following paragraph:

Furnish reinforcement that is straight, clean, and free of scale or other matter that would interfere with its bonding to the concrete.

00755.43(c) Support Devices - Replace the paragraph and bullets that begins "Support devices used ..." with the following paragraph and bullets:

Use support devices to hold reinforcement in proper position in the concrete that:

- Holds the reinforcement within 1/2 inch of the position shown.
- Consists of transverse bar assemblies.

00755.43(d)(3) - Replace this subsection, except for the subsection number and title, with the following:

By using threaded mechanical splice couplers from the QPL. Submit splices for approval before using. Accompany rebar splices with manufacturer's quality compliance certificates according to 00165.35 and install according to manufacturer's recommendations

00755.43(e) Dowel Bars - Replace the paragraph that begins "Provide smooth..." with the following paragraph:

Furnish smooth, round, epoxy coated dowel bars. Coat dowel bars with a lubricant or bond-breaking compound approved by the Engineer.

Replace the paragraph that begins "Maximum alignment..." with the following paragraph:

Place dowels with a maximum alignment tolerance of 5 degrees or 3/16 inch in the length of the dowel. Place dowels within 3/8 inch of the center of the slab vertically.

00755.44 Handling, Measuring, and Batching Materials - Replace the paragraph that begins "The plant site ..." with the following paragraph:

Provide the plant site, layout, Equipment and provisions for transporting Material adequate to assure a continuous supply of Material to the Project Site.

00755.46(b) One Lift - Replace this subsection, except for the subsection number and title, with the following:

Place the concrete in final position by the slipform method in one Lift, so a minimum of finishing is necessary to provide a dense, homogenous Pavement conforming to true grade and Cross Section, except when 00755.50 applies.

00755.46(d) Continuous Forward Motion - Replace this subsection, except for the subsection number and title, with the following:

Coordinate all operations of mixing, delivering and spreading concrete to provide uniform progress. Operate the slipform paver with as nearly continuous forward movement as possible. Hold stopping and starting the paver to an absolute minimum. If, for any reason, it is necessary to stop the forward motion of the paver immediately stop the vibratory and tamping elements. Apply no external force to the paver.

00755.46(g) Protect Surface - Replace this subsection, except for the subsection number and title, with the following:

Equip supports of the slipform paver, and other Equipment that ride on previously placed Pavement to meet the requirements of 00755.60, to prevent marring, edge breaking or chipping of the previously placed Pavement.

When concrete is placed adjacent to an existing Pavement, equip that part of the Equipment that is supported on the existing Pavement with protective pads on crawler tracks or use rubber-tired wheels. Offset the track or wheels to run a sufficient distance from the edge of the Pavement to avoid breaking the Pavement edge.

00755.46(h) Hand Operated Equipment - Replace this subsection, except for the subsection number and title, with the following:

Use shovels, not rakes, to hand spread and distribute the concrete. Do not foul the concrete with foreign matter, or disturb joint devices during such operations. Provide hand operated mechanical vibrators satisfactory to the Engineer. Use these vibrators to consolidate the concrete Pavement at least 6 feet each side of construction and expansion joints and any other areas as directed.

00755.47 Test Strip - Replace the paragraph that begins "At the beginning ..." with the following paragraph:

At the beginning of paving operations, construct one initial test strip of concrete Pavement at least 0.1 mile, but not more than 0.2 mile in length at the specified paving width. Use the same Equipment for the remainder of the paving. Do not perform further paving until the test strip is evaluated according to 00755.55. An additional test strip is required when:

00755.48(a) General - Replace this subsection, except for the subsection number and title, with the following:

Construct joints of the kinds shown and where shown or directed. Joint types in the concrete Pavement are either contraction, construction or expansion and orientated transverse or longitudinal, as shown or directed. Extend all joints and joint filler to Pavement edges or to each other.

Construct all joints at right angles to the surface of the Pavement. Do not vary joints from specified or indicated line by more than 1/4 inch. When required, construct the tops of joint filler slightly below, but not more than 1/8 inch, and paralleling finished Pavement grade and Cross Section. Protect top edges of filler from damage by paving operations.

All joints that contain preformed filler are to be constructed before the final floating and surface finishing of the concrete, unless otherwise directed.

00755.48(b) Longitudinal Joints - Replace the paragraph that begins "Longitudinal joints ..." with the following paragraph:

Construct longitudinal joints as the contact type or weakened plane type as shown.

00755.48(c) Construction Joints - Replace the paragraph that begins "The new concrete ..." with the following paragraph:

Furnish new concrete placed against the construction joint conforming closely to the proportions and consistency of the previously placed concrete except vibrate and consolidate it to a greater degree and with more care than normal.

00755.48(c)(1) Continuously Reinforced Pavement - Replace the paragraph that begins "Furnish a self-supported ..." with the following paragraph:

Furnish a self-supported working platform at each construction joint. Provide a working platform that is at least 4 feet wide and long enough to span the entire width of the Pavement Panel being constructed. Construct and support the platform so it does not rest upon or touch the reinforcing steel. Have the workers use this platform when working in the area around construction joints and do not walk on the reinforcing steel. Remove any debris or spilled concrete at and beyond the joint, and support the reinforcement in proper position.

00755.48(d) Terminal Expansion Joints - Replace the paragraph that begins "The concrete in sleeper ..." with the following paragraph:

Furnish concrete in sleeper slabs meeting the requirements of 00755.11. Furnish steel reinforcement meeting the requirements of Section 02510.

00755.49 Surface Finishing - Replace the paragraph that begins "After the concrete has ..." with the following paragraph:

After the concrete has been given a preliminary finish by the finishing devices in the slipform paving Equipment, check the surface of the fresh concrete in the longitudinal and transverse direction with a 12-foot straightedge. Correct surface deviations more than allowed by 00755.55(a). Lap each successive check with the previous check path by at least half the length of the straightedge. This longitudinal checking and correction on areas to be profiled for IRI smoothness is waived if it is successfully demonstrated that a Pavement surface is otherwise produced according to 00755.55(b)(1)(a).

00755.50(b) Optional SSFC - Replace the bullet that begins "Short sections ..." with the following bullet:

- Short sections of Pavement that are necessary to facilitate traffic movement.

00755.51 Modification of Strike-off, Consolidation, Final Floating, and Surface Finishing - Replace the paragraph that begins "Where the width of ..." with the following paragraph:

Where the width of Pavement is narrow, tapering, or of irregular pattern not lending itself to being constructed by prescribed machine methods, the Contractor is allowed to perform the strike-off, consolidation, final floating and surface finishing with Equipment, tools, means, labor and methods other than those specified, provided the Work meets with the approval of the Engineer and the following requirements:

00755.53(b) Other Coverings - Replace this subsection, except for the subsection number and title, with the following:

Apply the covering to damp concrete as soon as it can be placed without marring the surface. Place the membrane in contact with the surface, extend beyond the sides or edges of the slabs or forms, and weight down as required to hold it in position as a waterproof and moisture-proof covering. Lap covering sufficiently to maintain tightness equivalent to the sheeting and use:

- Clear or white polyethylene film.
- Waterproof paper with transverse laps at least 18 inches, and cement longitudinal seams.
- Cotton or jute mates that are saturated with water and kept fully wetted during the curing period.

00755.54 Longitudinal Pavement Cracks - Replace this subsection, except for the subsection number and title, with the following:

Within 28 Days after concrete placement and before opening the Pavement to Public Traffic, the Engineer will perform a Pavement crack survey. Clean the Pavement before the crack survey. Pavement with uncontrolled longitudinal cracks that are visible without magnification are considered unacceptable and be repaired or removed as determined by the Engineer. Perform all remedial Work at no additional cost to the Agency.

00755.55 Surface Tolerance, Testing, and Correction - Replace the paragraph that begins "The surface of finished ..." with the following paragraph:

Do not deviate the surface of finished Pavement from longitudinal and transverse smoothness more than the prescribed limits. Perform straightedge testing and IRI profile testing under the supervision of the Engineer with Equipment provided and operated by the Contractor as soon as the hardness of the concrete permits.

00755.55(a) Straightedge Testing and Tolerance - Replace the paragraph that begins "Test the longitudinal ..." with the following paragraph:

Test the longitudinal and transverse smoothness of the Pavement surface with a 12-foot straightedge. The extent of the testing is as the Engineer determines necessary or expedient. Do not deviate the Pavement surface from the straightedge at any point by more than 1/8 inch for all areas that are constructed by the prescribed machine methods and for all Traffic Lanes and ramps. Ensure other areas do not deviate by more than 1/4 inch. Longitudinal 12-foot straightedge testing is not required for Pavement accepted under 00755.55(b).

00755.55(a)(1) Transverse Joints - Replace the paragraph that begins "Test with the..." with the following paragraph:

Test transverse joints with the 12-foot straightedge parallel to the centerline, as directed. Ensure the Pavement surface does not vary by more than 1/8 inch.

00755.55(b)(1)a. Daily Surface Test - Replace the paragraph that begins "The Pavement shall..." with the following paragraph:

Acceptable Pavement requires an average IRI of 65.0 inches, or less. If the average 0.1-mile IRI exceeds 95.0 inches per mile for any segment of Pavement constructed in any Day's production, discontinue paving operations and construct one or more test strips as described in 00755.47. The test strip may be comprised of Pavement placed during the shift, but in no case be less than 0.1 mile in length.

00755.55(b)(1)b. Quality Control Surface Test - Replace the paragraph that begins "In the presence of ..." with the following paragraph:

In the presence of the Engineer and according to ODOT TM 772 obtain profiles on the Pavement surface in the right and left wheel path of the Traffic Lane along a line parallel to longitudinal pavement markings, at 3 feet and 9 feet offsets from the left edge of the Traffic Lane. Take the profile on transition areas of entrance and exit ramps, as close to the right and left wheel path of the through Traffic Lane as practical. Submit data files to the Engineer at the completion of each shift where profiling has taken place. For the Pavement sections tested, provide the raw data files and electronic copies of the profile data in PPF and manufacturer proprietary formats, as required by the Engineer.

00755.55(c)(1) General - Replace the paragraph that begins "Locate IRI profiling ..." with the following paragraph:

Locate IRI profiling excluded areas prior to smoothness measurement. Meet the straightedge requirements of 00755.55(a) for areas excluded from longitudinal profile measurement.

00755.55(d) Shoulders and Paved Medians - Replace this subsection, except for the subsection number and title, with the following:

Test the Pavement with the 12-foot straightedge parallel to and perpendicular to the centerline for Shoulders and paved Medians, as directed by the Engineer. Ensure the Pavement surface does not vary by more than 1/4 inch.

00755.55(e) Correcting Deficiencies - Replace the paragraph that begins "Should testing described ..." with the following paragraph:

Should testing described in 00755.49, 00755.51, and 00755.55 show the Pavement does not conform to the prescribed limits of deviation, the following apply:

00755.55(e)(2) Failure to Meet IRI Smoothness Requirements - Replace the paragraph that begins "If testing described ..." with the following paragraph:

If testing described in 00755.55(b) shows that the Pavement does not conform to the prescribed limits, the Contractor is responsible for locating areas that require corrective work. All segments with an IRI value more than 95.0 inches per mile and areas of Localized Roughness are subject to corrective action. Disagreements are resolved by the Engineer.

00755.56 Pavement Thickness - Replace the paragraph that begins "Construct the Pavement ..." with the following paragraph:

Construct the Pavement to the thickness shown. Pavement not so constructed is subject to replacement according to 00755.57, or to payment at adjusted prices according to 00755.93.

00755.56(a) Sticking Measurements - Replace the paragraph that begins "Divide the Panel ..." with the following paragraph:

Divide the Panel into units and partial units equivalent to a maximum of 200 lane feet. Normally, unit lengths are 200 feet for one lane, 100 feet for two lanes, 70 feet for three lanes and as appropriate for transition areas. When directed, take one sticking measurement at a randomly selected location in each unit and partial unit. Record measurements to the nearest 0.1 inch. Take the measurements:

Replace the paragraph that begins "If a sticking ..." with the following paragraph:

If a sticking is not obtained for a unit or a partial unit, or is not available to represent the area of Pavement remaining after the limits of Pavement over 1.0 inch deficient is determined, the measurement is assumed to be the same as the preceding or following sticking measurement, that is nearest in distance.

00755.56(c) Coring Requirements - Replace the paragraph that begins "Perform required coring ..." with the following paragraph:

Perform required coring, or coring requested by the Engineer according to AASHTO T 24 and repair core holes as directed, at no additional cost to the Agency. Cores are measured by the Engineer according to AASHTO T 148 and the measurements reported to the nearest 0.1 inch. Core measurements will replace sticking measurements.

00755.56(d) Thickness Over 1.0 Inch Deficient - Replace this subsection, except for the subsection number and title, with the following:

If a sticking measurement shows Pavement over 1.0 inch deficient, obtain a core at the sticking measurement site. If this core, or a core determined by 00755.56(c)(1), shows Pavement over 1.0 inch deficient, obtain additional cores. Take these additional cores at the same distance from the centerline and at 25-foot intervals each direction from the first core until a core in each direction shows Pavement 1.0 inch deficient or less. These two core locations are considered the limits of the Pavement more than 1.0 inch deficient. The

Pavement Panel between these two cores will represent the area of Pavement subject to removal and replacement under 00755.57 or no payment under 00755.93.

When it is suspected by the Engineer that the Pavement in the adjacent travel lanes in the Panel may be more than 1.0 inch deficient for a greater distance than determined by the above procedure, core the Pavement in the adjacent travel lanes in the nearest wheel track (3 feet from the nearest edge) opposite both limit cores. If these cores are more than 1.0 inch deficient, utilize the above procedure to determine the limits.

00755.57 Deficient Pavement - Replace the paragraph that begins "Remove and replace ..." with the following paragraph:

Remove and replace Pavement deficient in thickness by more than 1.0 inch, according to 00755.56(d), at no additional cost to the Agency. If allowed by the Engineer, the Pavement may be left in place without payment. Replace Pavement to the specified design, quality and thickness as follows:

00755.60 Protection of Concrete - Replace the paragraph that begins "The maturity method ..." with the following paragraph:

The maturity method, AASHTO T 325, may be used to estimate concrete strength for opening Pavement to construction traffic. Install at least two maturity thermocouples for each Day's placement in areas where the maturity method is used for early opening. Install the thermocouples near the Day's final placement for areas being evaluated for early opening.

Replace the paragraph that begins "(b) The concrete attains a compressive..." with the following paragraph:

(b) The concrete attains a compressive strength of at least 70 percent of the specified 28 Day strength as determined by testing at least three cylinders cured according to AASHTO R 100 (field cure) and tested according to AASHTO T 22.

(Use the following subsection .80 when terminal expansion joints are required.)

00755.80 Measurement - Replace the paragraph that begins "The quantities of terminal anchors..." with the following paragraph:

The quantities of terminal anchors, terminal expansion joints, and terminal expansion joint sleeper slab will be measured on the length basis, along the centerline of each anchor and joint as constructed.

00755.90 Payment - Replace the paragraph that begins "In items (b) and (d)..." with the following paragraph:

In items (b) and (d), the thickness of the Pavement is inserted in the blank when more than one thickness is required under the Contract.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

(Use the following paragraphs when pay items (g), or (h) are required. Delete what does not apply.)

Add the following pay item to the pay item list:

(h) Terminal Expansion Joint Sleeper Slab..... Foot

Replace the paragraph that begins "Item (g)..." with the following paragraph:
Item (g) includes the dowelled expansion joint.

Add the following paragraph to the end of this subsection:

Item (h) includes excavation for the terminal expansion joint sleeper slab.