

# **SPECIAL PROVISION**

## **ITEM 452 - TRAINING**

C-R-S: ROS-159-0.41

PID: 113013

Date: 1/21/2025

## **SPECIAL PROVISION**

### **ITEM 452 - TRAINING**

#### **A. Description:**

This Special Provision is to facilitate coordination between the Department, the Contractor, and the concrete Supplier to develop thorough and clear communication, establish QC/QA expectations to produce a high-quality rigid pavement for the Project. Just-in-time training (JIT), pre-placement meetings, and an inspection form will be required before concrete pavement work can begin each day. Just-in-time training is a formal class for the joint training of Contractors, Department employees, their agents, subcontractors, and consultant inspectors that will be associated with the construction or rehabilitation of a Portland cement concrete pavement project.

#### **B. Reference Documents:**

CMS 451 - REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

CMS 452 - NON-REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

Supplement 1023 - MAKING AND TESTING CONCRETE BEAMS

#### **C. Materials:**

All work must adhere to the reference specifications above with the addition of completing daily pre-placement meeting and inspection form provided in Appendix A. This form must be signed by a Department Engineer, a Contractor representative, and the concrete Supplier representative. If an additional Subcontractor is performing the work, they must also be included in these pre-placement meetings and sign the inspection form.

Just-in-training (JIT) will be done according to this Special Provision. JIT training is a formal class for the joint training of Contractors, Department employees and their agents, subcontractors, and consultant inspectors that will be associated with the construction or rehabilitation of a Portland cement concrete pavement project.

- 1) **SCOPE.** Have the training include but not limited to all the following topics that are applicable to the project including: concrete pavement basics, pre-paving considerations, long-life concrete pavement concepts, materials, best practices for concrete pavement construction, monitoring, standard and innovative paving equipment and operations, quality control, measurement and materials testing protocols and procedures, available tools and software for monitoring work, and troubleshooting.

Use recognized concrete pavement best-practices and guidance documents in developing materials for use in this training class. These documents include, but are not limited to the following:

- Integrated Materials and Construction Practices for Concrete Pavements (FHWA Publication No. HIF-07-004),

- Concrete Pavement Field Reference Pre-Paving; (ACPA Publication EB237P),
- Concrete Pavement Field Reference Paving (ACPA Publication EB238P),
- Concrete Pavement Field Reference Preservation and Repair (ACPA Publication EB239P).

- 2) **QUALIFICATIONS AND SUBMITTALS.** At a minimum of 45 calendar days before the JIT pre-construction session, submit to the Engineer the name and qualifications of the instructor(s), and the JIT facility location. At a minimum of 15 calendar days before the JIT pre-construction session, submit 1 copy each of any course handouts and presentation materials to the Engineer.

## D. Construction Methods:

The work will require all work on the mainline and as required by the specifications to be performed using an industry-standard slip form paver designed to spread, consolidate, screed, and finish the freshly placed concrete in one complete pass of the machine and with a minimum of hand finishing providing a dense and homogeneous pavement. Operate the vibrators at a frequency range of 7,000 to 11,000 impulses per minute. Attach vibrators to either the spreading or finishing equipment in such a manner that they do not touch with preset dowel basket assemblies, the subgrade, reinforcing mesh, or side forms. Do not operate vibrators in a manner to cause segregation. Separate hand-held vibrators are needed for internal vibration at dowel baskets. Contractors must demonstrate to the Department Engineer that vibrators are set up and operating correctly before work.

Adding to CMS 455.04.F, the Contractor shall describe the process they will use in the field to ensure the evaporation rate does not exceed 0.1 LB/SF/HOUR during the placement period as determined using ACI 308-81 prior to scheduling placement. Provide an example of the forms used to determine the evaporation rate and the information shall be given to the Engineer. Saw joints as soon as the saw can operate without damaging the concrete pavement, but no later than 48hrs after the material is placed and at a depth of 2 INCHES.

- 1) **JIT REQUIREMENTS.** The Contractor shall arrange and coordinate to provide JIT instructor(s) who are experienced with the ODOT pavement specifications, construction methods, materials, material testing, and knowledgeable of best-practices in concrete pavement technologies. The lead JIT instructor must be a Professional Engineer licensed in the State of Ohio and not an employee of the Contractor, the Department, or of any firms otherwise contractually obligated to perform work on the project.

Conduct the JIT during normal work hours. Provide a facility, unless otherwise agreed to by the Representative, that can accommodate at least 40 individuals and is within 5 miles of the job site or at a mutually agreed upon location approved by the Engineer.

- a. The following personnel are required to attend the JIT:
- Representing the Contractor: The paving superintendent; paving foreman; paver mechanic or operator; paving crew; concrete plant technician; sawing and sealing representatives; concrete and other materials supplier representatives; surveyors;

- personnel responsible for managing, controlling, or operating standard and innovative construction or testing equipment; subcontractors involved with concrete pavement work; and any other key construction personnel associated with this project.
- Representing the Department: The Assistant Construction Engineer, Inspector-In-Charge, concrete plant inspector, main office pavement/construction staff, and key inspection assistants including consultant inspection staff associated with this project.
  - Any other personnel deemed necessary by the Department or the JIT instructor.
- b. The JIT must meet the following requirements:
- A 4-hour to 6-hour pre-construction session conducted after approval of the concrete pavement QC plan and no more than 6 month before the start of concrete pavement work. In addition to the items outlined in paragraph C. 1) SCOPE of this Special Provision, the session will cover all aspects of the Contractors specific concrete pavement specifications and the work methods, equipment, and materials that are proposed for use on this Project.
  - A 2-hour session conducted before the start of all new construction seasons for those who have attended the pre-construction session and for any new personnel that have assumed project roles and responsibilities identified in Section D 1) a.
  - At the Contractor's option, JIT may be an extension of a pre-paving meeting or other regularly scheduled project meeting.

## **E. Inspection:**

The daily concrete pre-placement form provided in Appendix A must be completed and signed before work begins. As stated in CMS 451.04, provide an electronic monitoring device that displays the operating frequency of each internal vibrator when paving. Make recordings after each 25 feet (8 m) of paving or after 5-minute intervals of time. If not using a monitoring system with a recorder, make and record readings every 30 minutes. Provide vibration data, in electronic format, to the Engineer prior to the next concrete placement.


## **F. Methods of Measurement:**

The item below will include all labor, materials, and equipment needed for the additional JIT training and concrete pre-placement field meetings to complete the forms and documentation. The item will be paid up to 75% after the conclusion of the pre-construction. The remaining 25% will be paid after the completion of all required training for new personnel and/or refresher sessions needed for additional construction seasons.

**G. Basis of Payment:**

<b>Item</b>	<b>Unit</b>	<b>Description</b>
633E72001	Lump Sum	TRAINING, AS PER PLAN – ITEM 452 TRAINING

Appendix A

		<b>ITEM 452: NON-REINFORCED CONCRETE PAVEMENT, CLASS QP1C, QC/QA</b> <i>Before placement of each lift of Non-Reinforced PCC pavement or base on any permanent roadway component</i>		
Project No.:				
Date:		JMF:		Location:
Time:				
Visual Inspection Conforms (YES/NO)	Quality Conformance Statement	Specification	Comments	
	The Job Mix Formula (JMF) has been verified.	CMS 499.03		
	Subbase met compaction requirements and surface tolerances.	CMS 204.03		
	Concrete pavement forms are in conformance with the required grade, alignment, and pavement thickness.	CMS 451.04		
	Electric monitoring device displays vibration operating frequency and reports	CMS 451.04		
	The Contractor is prepared to wet the subbase prior to concrete placement.	CMS 451.07		
	The weather conditions are within specification.	CMS 451.07		
	The dowel basket assemblies conform to the standard drawing and hold dowel bars parallel to the surface and centerline of the slab at mid-depth of the slab thickness.	CMS 451.09B, BP-2.2		
	Dowel bars are rigidly secure and spaced at the 12" o.c. and per tolerance.	CMS 451.09B		
	The maximum spacing between the contraction joints is 15 feet.	CMS 451.09B, BP-2.2		
	The transverse joints are installed normal to the centerline of the pavement lane.	CMS 451.09B, BP-2.2		
	Standby saw and extra blades are on site.	CMS 451.09D		
	Formed longitudinal joints constructed per plans and BP-2.1 drawings.	CMS 451.09A, BP-2.1		
	Construction joints are located between contraction joints no closer than 6 feet to the last contraction joint.	CMS 452.02		
	Where new concrete is placed adjacent to existing concrete, contraction joints in the new concrete are installed to match existing (additional joints are installed if existing spacing exceeds maximum)			
	Proper paving and finishing equipment is on site.	CMS 451.04, CMS 451.10		
	Approved curing materials and application is onsite.	CMS 451.11		
	Verify evaporation rate does not exceed 0.1 LB/SF/HOUR during the placement period as determined using ACI 308-81.	CMS 455.04.F		
	Saw cut performed within 48hrs of placement and at 2IN depth	CMS 409.03		
	The concrete testing area has been designated.	CMS 499.03		
	Adequate lighting for night work has been installed	CMS 451.07		
<b>Notes/Comments:</b>				
Pre-placement meeting sign off		Print Name:	Signature:	Date:
	ODOT Rep			
	Contractor Rep			
	Supplier Rep			