State of Illinois Department of Transportation Bureau of Materials Springfield

POLICY MEMORANDUM

Effective: April 11, 2025

34-25.0

TO: REGIONAL ENGINEERS AND HIGHWAY BUREAU CHIEFS

SUBJECT: APPROVAL OF VOLUMETRIC MOBILE MIXERS FOR CONCRETE

1.0 PURPOSE

1.1 To establish a uniform procedure, for all **Districts** and **Local Agencies**, to approve a **Volumetric Mobile Mixer** for Concrete according to Articles 1020.12, 1020.16, and 1103.04 of the **Specifications** for both prequalification and production purposes.

2.0 SCOPE

2.1 This procedure is available to all **Contractors** or **Subcontractors** seeking to provide the **Department** and/or **Local Agencies** with concrete produced from a **Volumetric Mobile Mixer**.

3.0 REFERENCES

- 1. IDOT Standard Specifications for Road and Bridge Construction
- 2. IDOT Supplemental Specifications and Recurring Special Provisions
- 3. IDOT Bureau of Design and Environment Special Provisions for Portland Cement Concrete.
- 4. IDOT Guide Bridge Special Provisions for Portland Cement Concrete
- 5. IDOT PCC Level II Technician Course Manual
- 6. IDOT PCC Level III Technician Course Manual

4.0 DEFINITIONS

AASHTO - American Association of State Highway and Transportation Officials.

ASTM - American Society for Testing Materials.

BUREAU - Central Bureau of Materials (CBM), Illinois Department of Transportation.

DEPARTMENT - Illinois Department of Transportation (IDOT), including its **Districts** and Central Bureau offices.

DISTRICT - District office, Illinois **Department** of Transportation.

ENGINEER - Chief Engineer of the **Department** of Transportation of the **State** of Illinois, or authorized representative as defined in Section 101 of the **Standard Specifications**; or Chief Engineer of a **Local Agency** or authorized representative.

LOCAL AGENCY - Municipality or City, County or Road District.

MODEL QUALITY CONTROL PLAN - A template which provides guidance and details for how a **Producer**, Contractor, Consultant, Manufacturer, etc. should complete a **Quality Control Plan**.

PRODUCER - An individual or business entity providing materials and/or products such as concrete for performance of prescribed work.

QUALIFIED LABORATORY - A laboratory that is inspected and approved by the **Department** according to **Departmental** Policy Memorandum "<u>Minimum Private</u> <u>Laboratory Requirements for Construction Materials Testing or Mix Design.</u>" Inspection and approval may be conducted by the **District** rather than the **Bureau**.

QUALITY CONTROL PLAN - A document which details how a **Producer**, Contractor, Consultant, Manufacturer, etc. will manage the equipment; materials; production, design, and testing methods; etc. to ensure the **Specifications** and other requirements, as applicable, are met.

SPECIFICATIONS - Specifications for materials; manufactured, fabricated or constructed items; processes; products; designs; conducted test procedures, etc. which includes the **Standard Specifications**, Supplemental **Specifications** and Recurring Special **Provisions**, highway standards, shop drawings, contract plans, project special provisions, **AASHTO Specifications**, **ASTM Specifications**, etc., as applicable.

STANDARD SPECIFICATIONS - The **Department's** <u>Standard Specifications for Road</u> <u>and Bridge Construction</u>.

VOLUMETRIC MOBILE MIXER – A mixer that provides mixed-on-site concrete.

5.0 PRECONSTRUCTION DOCUMENTATION AND QUALIFICATION REQUIREMENTS

Prior to **Volumetric Mobile Mixer** inspection, the following documentation and **Producer** qualification requirements shall be satisfied:

- 5.1 Quality Control Plan. The Producer shall develop and submit for approval by the Engineer a Quality Control Plan in accordance with the Model Quality Control Plan for Volumetric Mix Production (see also Attachment A). The Quality Control Plan shall be submitted annually for the period which begins April 1st and expires the following year on March 31st.
- 5.2 <u>Personnel Qualifications.</u> **QC Personnel** shall be qualified according to the **Producer's Quality Control Plan** for Volumetric Mix Production and Article 1020.16 of the **Specifications**. The list of **QC Personnel** will be verified by the **Engineer**.

- 5.3 **Qualified Laboratory.** The mobile mix **Producer** shall provide an approval letter from the **Department** for a **Qualified Laboratory** for which the **Producer** has immediate access.
- 5.4 <u>Mix Designs.</u> The **Producer** shall submit a mix design created by a IDOT PCC Level III technician. The mix design will be verified by the **Engineer**. The **Engineer** may request a trial batch to be performed prior to mix production.
- 5.5 <u>Bills of Lading.</u> The Producer shall submit to the **Engineer** bills of lading (cement, admixtures, latex admixture) and aggregate shipping tickets for each aggregate used.

6.0 VOLUMETRIC MOBILE MIXER REQUIREMENTS

The inspection of each **Volumetric Mobile Mixer** will include a review of the proportioning devices, admixture dispensers, auger/mixer wear, storage bins, and recording meters. All contents in tanks and bins shall be labeled indicating type of material.

The **Volumetric Mobile Mixer** shall meet the provisions of the **Specifications** and the following:

6.1 <u>Conveyor System.</u>

- A main conveyor shall meter and convey aggregates to discharge at the rear of the unit.
- Separate hydraulic drives to operate the cement bin independently of the combined conveyor are not acceptable unless interlocked by computer control.
- The conveyor assembly shall extend full length under the aggregate bins.
- If the conveyor system is a belt, to ensure that all materials transfer from the conveyor belt to the mixer, an adjustable belt wiper shall be located at the discharge end of the conveyor assembly.
- The conveyor discharge shall be enclosed by shields and guards to reduce dust and promote safety. The shields shall be capable of being opened or removed easily for inspection.

6.2 <u>Mixer System.</u>

- The mixer shall be hydraulically powered and independently controlled.
- The mixer shall have the capability to thoroughly mix concrete with a wide range of consistencies (i.e., from low to high slump mixes).
- The boot on the mixer assembly shall be non-adjustable and made of flexible material. The top cover shall open for easy cleanout and inspection.
- Mixer control functions shall include mix, reverse, and stop.
- The mixer auger shall ensure a completely homogenized mix.

6.3 <u>Aggregate System.</u>

- A center bin divider shall separate the two aggregates.
- The sides of the aggregate bin shall be angled, and flush with the aggregate belt to ensure a continuous and accurate flow of aggregate to the mixer.
- The truck shall be equipped with a tarp to cover aggregate bins.
- To promote sand flow, the sand side shall be equipped with automated vibrators which shall be cycled whenever the main conveyor is in operation. Electronic switch shutoffs shall be included that are operable at any time. Vibrators shall have either a programmable logic controller (PLC) or mechanical system so that frequency and cycle time can be adjusted.
- Strike off gates that control the amount of aggregate discharged shall be located at the discharge end of each aggregate bin.
- The gate height shall be controlled by a system with legible, numbered position indicators.
- To eliminate spillage, guides shall be located at the bottom of the sides and divider of the aggregate bin.

6.4 <u>Cement System.</u>

- Cement shall be carried in a watertight cement bin with a means to verify low-level.
- The cement drop shall be free of excess build up. If a separate horizontal cement transfer auger with discharge sock is utilized, it shall discharge directly into the homogenizing mix auger.
- A disconnect system shall be included so that the cement feed can be easily disengaged and only aggregates discharged, unless otherwise approved by the **Engineer**.
- A mechanical vibrating system along with a fluffer system shall be installed on the cement bin to ensure the flow of cement is constant. The vibrators shall be cycled during normal operation of the cement metering system and controlled through the electronic vibrator timer.

6.5 <u>Water System.</u>

• A flow meter indicating gallons per minute of water shall be included and visible from the outside of the vehicle. The flow meter shall have a visible range of 0-40 GPM. A separate meter visible from the outside of the vehicle showing total gallons of water delivered shall also be included.

- Operation of the water system shall occur concurrently with the operation of the main conveyor.
- The unit shall include a clean-up hose with a spray nozzle attached.

6.6 <u>Admixture System.</u>

- The liquid admixture system shall be capable of consistent flow of liquid admixtures.
- A flow meter indicating the injection rate shall be located at the operator's station.

6.7 <u>Swivel System.</u>

• A power swivel with the ability to swing the auger for ease of material placement is required. If equipped with a chute swivel, the geometry of the swivel and hoist shall keep the mixer at the same inclination with respect to the truck axis at all positions without adjusting the hoist cylinder.

6.8 <u>Control Station.</u>

- The mixer shall have an easily accessible control center able to maintain and control
 mixing of concrete. It shall be equipped with a counter mounted in a location clearly
 visible to operator and inspector for proper feed adjustments. In addition, the counter
 shall enable the operator to calculate the amounts of concrete produced. The unit
 shall have a governor to maintain preset engine speed under different loads and
 mixing conditions.
- Wireless remote control is permitted.
- Instantaneous rate of flow for latex shall be displayed at the control station.

6.9 Fiber System.

- Fiber feed systems shall be installed, calibrated, and operated according to the manufacturer's guidelines.
- 6.10 <u>Tickets.</u> Tickets shall be provided for each load. Tickets shall include the following information:
 - 1. Start date and time
 - 2. Mixer truck number
 - 3. Delivery ticket number
 - 4. Name of purchaser
 - 5. Contract/Project number
 - 6. Project location and description
 - 7. Producer name
 - 8. IDOT **Producer** number
 - 9. Mix design number
 - 10. Concrete material code

- 11. Total quantity delivered
- 12. Aggregate gate settings
- 13. Total cement meter count and calibrated 1.0 cubic yard count
- 14. Water added (flow meter rate setting and total gallons)
- 15. Latex added (flow meter rate setting and total gallons) (when applicable)
- 16. Admixture type/name (flow meter rate setting and total ounces)
- 17. Stop date and time

7.0 MIX PRODUCTION REQUIREMENTS

- 7.1 <u>Calibration.</u>
- 7.1.1 Calibrations shall be performed according to the <u>IDOT PCC Level II Technician Course</u> <u>Manual, Section 4.3.1</u>. Fiber calibrations shall be performed according to the equipment manufacturer's recommendation.
- 7.1.2 Each mixer shall be calibrated for each mix design prior to production, and at least annually. Calibration will be witnessed by the **Engineer**. The calibration shall be documented on the <u>Volumetric Mixer Calibration Spreadsheet</u>.
- 7.1.3 Completed calibration spreadsheet(s) shall be submitted to the **Engineer** for approval. A copy of all calibration spreadsheets and **Department** and/or **Local Agency** approval letters shall be kept with each mobile mixer.
- 7.1.4 Calibrations approved by **Local Agencies** or others may be accepted at the discretion of the **Engineer**.
- 7.2 <u>Yield Test.</u>
- 7.2.1 A yield test by the quarter cubic yard box method shall be performed to determine if the final mix proportions are correct. An acceptable yield test, as determined by the **Engineer**, shall be defined as the quarter cubic yard box being nominally full when struck.
- 7.2.2 A quarter cubic yard box method is determined by counts quantified in the calibration after the first cubic foot of material is wasted.
- 7.2.3 The quarter cubic yard box shall be a metal 27 in. square box with 16 in. sidewalls.
- 7.3 <u>Mixture Verification and Test Batch.</u>
- 7.3.1 The gates and meter settings shall be set as determined and documented on the <u>Volumetric Mixer Calibration Spreadsheet</u> for the specific mixer and mix design.
- 7.3.2 The first cubic foot of concrete produced may not meet the mix design proportions and shall be discarded according to Article 1020.12 of the **Standard Specifications**.
- 7.3.3 If the yield test is acceptable, then the concrete materials in the quarter cubic yard box may be used for testing (i.e., the yield test mixture is also considered a test batch).

- 7.3.4 The Producer shall test slump, air content, temperature, and cast strength specimens as required by the <u>IDOT PCC Level III Technician Course Manual, Section 7.0, Concrete Mix Design Trial Mixture</u>. The Producer shall wait 5 minutes prior to conducting slump tests according to Article 1020.12 of the Standard Specifications. Concrete test results shall be documented on an <u>IDOT MI 654 Air, Slump, and Quantity Form</u> and <u>MI 655 PC Concrete Strength Report</u>, or equivalent by the owner agency and submitted to the Engineer.
- 7.3.5 Test batches approved by **Local Agencies** or others may be accepted at the discretion of the **Engineer**.
- 7.4 <u>Annual Startup.</u>
- 7.4.1 Prior to start of mix production, calibrations (Section 7.1), yield tests (Section 7.2), and test batches (Section 7.3) shall be performed.
- 7.4.2 Calibrations and test batches approved or performed by **Local Agencies** or others may be accepted at the discretion of the **Engineer**.
- 7.5 Verification of Calibrations.
- 7.5.1 The **Producer** shall verify calibration of the volumetric mixer every 90 days. In lieu of a new calibration, the **Producer** may perform a yield test and test batch for each mix design and mixer according to Sections 7.2 and 7.3.
- 7.5.2 Mixture performance provided by the **Producer** may be accepted in lieu of yield tests and test batches as defined in Section 7.5.1.
- 7.6 <u>Recalibration</u>. Recalibration of the **Volumetric Mobile Mixer** will take place if any of the following situations exist:
 - Mechanical adjustments are made to a **Volumetric Mobile Mixer** that impact the movement, control, proportioning or mixing of the cement, admixtures, aggregates, or water.
 - A particular mix or mixer demonstrates inconsistent test results.
 - If verification, as defined in Section 7.5, is rejected.
 - Recalibration has been deemed necessary by the **Department** and/or **Local Agency**.
- 7.7 <u>Mix Production.</u>
- 7.7.1 Stockpiles of aggregates stored on site shall be checked for gradation and moisture prior to start of production.
- 7.7.2 Stockpiles of aggregates stored on site shall be tarped.
- 7.7.3 Bills of lading for all component materials shall be made available upon request.

- 7.7.4 The first cubic foot of concrete produced may not meet the mix design proportions and shall be discarded according to Article 1020.12 of the **Standard Specifications**
- 7.7.5 Any mix adjustments required to produce a consistent mix shall be completed prior to slump and air content testing.
- 7.7.6 Slump testing shall be delayed a minimum of 5 minutes after mix discharge according to Article 1020.12 of the **Standard Specifications**.
- 7.7.7 During periods of continuous production for each **Volumetric Mobile Mixer**, for purposes of testing frequency, air content shall be tested every 10 cubic yards for all superstructure placements and every 50 cubic yards for all other mixes. Slump shall be checked, at a minimum, on the first load of the day and when strength specimens are made.
- 7.7.8 For latex modified concrete, yield tests shall be performed once per mixer at the start of production.

8.0 DOCUMENTATION

The following documents shall be approved and completed prior to production. The documents shall be available upon request.

- 1. Approved annual **Quality Control Plan** for Volumetric Mobile Mixer Production for Concrete
- 2. **QC Laboratory** approval letter
- 3. Approved Volumetric Mixer Calibration Form(s)
- 4. Agency approval letter for each volumetric mixer
- 5. Approved mix design(s).
- 6. Volumetric Mixer Requirements Checklist(s).

9.0 CLOSING NOTICE

Archived versions of this policy memorandum may be examined by contacting the **Bureau**.

The current **Bureau** Chief of Materials has approved this policy memorandum. Signed documents are on file with the **Bureau**.

ILLINOIS DEPARTMENT OF TRANSPORTATION MODEL QUALITY CONTROL PLAN FOR VOLUMETRIC MOBILE MIXER PRODUCTION FOR CONCRETE Effective: April 1st, 2025

INSTRUCTIONS: The Producer shall respond to all items addressed in this model. This is applicable to work performed by the Producer or work subcontracted. Examples are provided to assist the Producer, and any innovations to the quality control process may be presented. If an item does not pertain to the Producer's particular operation, it shall be marked "Not Applicable" or "N/A."

Refer to <u>Model Quality Control Plan</u> for an electronic form version that simplifies completion. Note that the instructions and examples provided herein are not included in the electronic form version.

Quality Control Plan for Volumetric Mobile Mixer Production for Concrete

Producer Name:	
Submittal Date:	
Producer/Supplier Number:	
P.O. Box:	
Street Address:	
City/State/ZIP Code:	
Contact Person:	
Phone Number:	
E-Mail Address:	

PRODUCER RESPONSIBILITIES

INSTRUCTIONS: The wording for the Producer is provided as indicated below. Provide the Company/Firm name as indicated below.

PRODUCER'S ACKNOWLEDGEMENT

INSTRUCTIONS: The wording for the Producer is provided as indicated below. Provide the Company/Firm name.

_____ desires to obtain advance approval of materials

to be supplied to Department of Transportation or Local Agency contractors as more fully described herein. I and the company understand that the Department of Transportation or Local Agency reserves the right in its contracts to approve materials at the source of supply as provided in Article 106.01 of the Standard Specifications for Road and Bridge Construction supplied to the State, Local Agency or any of its contractors. In consideration of approval, I and the company agree to the terms, conditions, and performance standards of the Standard Specifications for Road and Bridge Construction and Policy Memorandum, "Approval of Volumetric Mobile Mixers for Concrete," a copy of which has been received. Once approved, all procedures in this Quality Control Plan are a binding provision of the contract.

I. <u>Calibration.</u>

INSTRUCTIONS: The wording is provided for the Producer as indicated below.

<u>Start of Production.</u> The Quality Control Manager will conduct the calibration of each mixer. Each calibration will be witnessed and approved by the Department and/or Local Agency prior to start of concrete production.

<u>Recalibration</u>. Recalibration will take place if any of the following situations exist:

- Mechanical adjustments are made to a volumetric mixer that impact the movement, control, proportioning or mixing of the cement, admixtures, aggregates, or water.
- A particular mix or mixer demonstrates inconsistent test results.
- Recalibration has been deemed necessary by the Department and/or Local Agency.

II. <u>Material Control – Aggregates.</u>

INSTRUCTIONS. The wording is provided for the Producer as indicated below. Provide the aggregate information below for each source of supply.

Certified aggregates with gradation bands in accordance with the Department's Aggregate Gradation Control System (AGCS) will be obtained from IDOT approved aggregate sources. Prior to incorporation into the mix, documentation verifying each aggregates approval under the AGCS system and the associated bands for each of those aggregate products will be made available by the Producer for review at any time.

Material No. 2 Information
Material Code:
Material Type:
Producer/Supplier Number:
Company Name:
Contact Person:
Telephone Number:

Material No. 3 Information	Material No. 4 Information
Material Code:	Material Code:
Material Type:	Material Type:
Producer/Supplier Number:	Producer/Supplier Number:
Company Name:	Company Name:
Contact Person:	Contact Person:
Telephone Number:	Telephone Number:

III. Material Control - Aggregate Stockpiling and Handling.

INSTRUCTIONS. The wording is provided for the Producer as indicated below. Provide an aggregate stockpiling and handling at the plant or jobsite description below (example provided).

Aggregates will be stockpiled and handled in a manner which minimizes segregation and degradation, prevents contamination, produces a uniform gradation before placement in a volumetric mobile mixer, and ensures uniform moistures are being achieved according to <u>Articles 106.06, 106.07, 1003.01(e), 1004.01(e), 1004.02(d), and 1020.10 of the Standard Specifications for Road and Bridge Construction</u>.

Description of stockpile operation at the plant and/or jobsite:

Example: Coarse aggregates are shipped by rail to the plant in a uniform gradation condition. Upon delivery of the coarse aggregate, it will be transferred to a stockpile by a movable conveyor system. The stockpile will be built according to the Article 1004.01(e). Fine aggregates are shipped by truck to the plant in a uniform gradation condition. The fine aggregate will be truck dumped into a stockpile. The truck stockpile will be built according to the Article 1003.01(e). All stockpiles will be separated with concrete block walls, sufficient in width, length, and height to prevent contamination. The maximum height of the walls will be _____ ft. Coarse and fine aggregates stockpiled on-site will be tarped.

IV. Material Control - Moisture Control of Aggregates.

INSTRUCTIONS. The wording is provided for the Producer as indicated below.

Coarse and fine aggregate moistures will be tested a minimum of once per week, or as necessary to control production.

V. <u>Material Control - Gradation Tests for Aggregates.</u>

INSTRUCTIONS. The wording is provided for the Producer as indicated below.

Aggregates stored at the yard, or delivered to a jobsite in stockpiles, will be tested a minimum of one per week, or as needed to control production.

VI. <u>Material Control – Cement and Finely Divided Minerals.</u>

INSTRUCTIONS: The wording is provided for the Producer as indicated below. Provide list of sources below. A producer/supplier of cement or finely divided minerals who is not on the approved list shall make arrangements with the Department for lot testing.

Cement will be from the "<u>Approved/Qualified Producer List of Qualified Cement Plants</u>" and finely divided minerals will be from the "<u>Qualified Producer List of Finely Divided</u> <u>Minerals</u>" and are as follows:

VII. Material Control - Concrete Admixtures.

INSTRUCTIONS: The wording is provided for the Producer as indicated below. Provide list of sources below.

Latex will be according to Article 1021.09 of the Standard Specification for Road and Bridge Construction (See also Attachment B). Other admixtures will be obtained from the "Qualified Product List of Concrete Admixtures" and are as follows:

VIII. <u>Material Control – Water.</u>

INSTRUCTIONS: The wording is provided for the Producer as indicated below.

Water will be according to Section 1002 of the Standard Specification for Road and Bridge Construction.

IX. Producer Quality Control Laboratory.

INSTRUCTIONS: The wording is provided for the Producer as indicated below. Provide required information as indicated below. A current annual equipment/laboratory approval letter from the Department will be required as proof that the QC Laboratory has been approved for the current construction season.

Laboratory Name (if independent lab is used):_____

Location:_____

Contact Person:_____

Telephone No.:_____

The quality control laboratory is (sq. ft.):_____

The laboratory was approved on _____ by:_____.

In the event of lab equipment failure, ______ will provide back up equipment.

All strength specimens cast during volumetric mobile mixer calibrations will be transported to the lab listed above for standard curing and testing. Strength specimens will be laboratory stored and cured according to the "<u>Manual of Test Procedures for Materials</u>".

X. Quality Control Personnel.

INSTRUCTIONS: The wording is provided for the Producer as indicated below. Provide required information as indicated below.

_____with_____will be the Quality Control Manager (IDOT PCC Level II or III with active certification) and will be ultimately responsible for quality control operations including, but not limited to, mixture control and adjustments, calibration, and production/placement operations. The Quality Control Manager will be available by mobile phone at_____. Additional QC personnel listed below will assist the Quality Control Manager with required testing and documentation.

Name	PCC QC Training	Firm	Mobile Phone Number

XI. <u>Volumetric Mobile Mixer Operators.</u>

INSTRUCTIONS: The wording is provided for the Producer as indicated below.

The mixer operator will work at the direction of the Quality Control Manager. The Quality Control Manager will determine the settings for the controls on the mixer to achieve the desired mixture and the mix operator will ensure the settings are not altered. If a change in materials or conditions requires altered settings, the volumetric mixer operator shall consult with the Quality Control Manager to determine new settings and the Department and/or Local Agency will be notified.

XII. <u>Mix Designs.</u>

INSTRUCTIONS: The wording is provided for the Producer as indicated below.

Only mix designs verified by the Department and/or Local Agency will be used. Current PCC mix design documentation will be available for review at all times.

XIII. <u>Volumetric Mobile Mixer.</u>

INSTRUCTIONS: The wording is provided for the Producer as indicated below. Provide required information as indicated below.

Mixer Number	VIN	License Plate	Calibration Date	Calibration Mixture

List of approved Volumetric Mobile Mixers:

(See attached for additional trucks)

Volumetric mobile mixers will only be utilized if properly calibrated and approved by the Department and/or Local Agency. The only mixture(s) allowed to be produced by a volumetric mobile mixer will be the mixture which was used during the calibration process and approved by the Department and/or Local Agency.

The Department and/or Local Agency approval letters for each volumetric mixer and for each calibration conducted, will be maintained by the Quality Control Manager and will be available for review at any time. Each volumetric mixer will have a copy of the current <u>Volumetric Mixer Calibration Spreadsheet</u>, Department and/or Local Agency approval letter, and mix design sheet used during the most recent calibration. This information will be available for viewing upon request.

XIV. <u>Mixture Testing.</u>

INSTRUCTIONS: The wording is provided for the Producer as indicated below. Provide

required information as indicated below (i.e., will cylinders or beams be used?, what size are the specimens?, are the molds plastic, metal or foam?).

Initial start-up testing (slump, air content, unit weight, yield, strength, and temperature) will be performed during the calibration operations for each volumetric mixer. Testing will be performed according to the <u>IDOT Manual of Test Procedures for Materials</u> and will only be conducted once the calibration process is finalized and determined by the Department and/or Local Agency to be in compliance with the required specifications.

For strength testing, ______ molds sized ______, made of ______, will be used to cast strength specimens during a volumetric mixer calibration. The molds will be covered to prevent the loss of moisture during field curing. During this initial field cure, temperature of the specimens will be maintained within the required range according to the <u>Manual of Test Procedures for Materials</u>. The specimens will be transported after 24 hours for standard curing.

XV. <u>Production Testing.</u>

INSTRUCTIONS: The wording is provided for the Producer as indicated below.

Production testing will be performed as required by the <u>Recurring Special Provision for</u> <u>Quality Control/Quality Assurance of Concrete Mixtures, Check Sheet #23, Schedule A</u>. Concrete placements that are not otherwise covered contractually with an independent QC addendum, shall be tested as per <u>Check Sheet #23, Schedule B</u>.

XVI. Volumetric Mixer Documentation.

INSTRUCTIONS: The wording is provided for the Producer as indicated below.

All Department and/or Local Agency required forms will be available for review at all times.

QUALITY CONTROL PLAN SIGNATURE SHEET

INSTRUCTIONS: To be completed by Producer. Return with Quality Control Plan.

(IF AN INDIVIDUAL)	
	Firm Name:
	Print Name of Owner:
	Signature of Owner:
	Date:
(IF A CO-PARTNERS	SHIP)
	Firm Name:
	Print Name of Partner:
	Signature of Partner:
	Date:
(IF A CORPORATIO	N)
	Corporate Name:
	Print Name of Auth. Rep.:
	Signature of Auth. Rep.:
	Date:
(ALL)	
	Business Address:
	P.O. Box:
	Street Address:
	City/State/Zip Code:

IDOT Standard Specification for Road and Bridge Construction Article 1021.09 – Latex Admixtures

1021.09 Latex Admixtures. The latex admixture shall be a uniform, homogeneous, non-toxic, film-forming, polymeric emulsion in water to which all stabilizers have been added at the point of manufacture. The latex admixture shall not contain any chlorides and shall contain 46 to 49 percent solids.

Latex admixtures are not required meet the requirements of Article 1021.01. Rather, the Contractor shall submit a manufacturer's certification that the latex emulsion meets the requirements of FHWA Research Report RD-78-35, Chapter VI. The certificate shall include the date of manufacture of the latex admixture, batch or lot number, quantity represented, manufacturer's name, and the location of the manufacturing plant. The latex emulsion shall be sampled and tested in accordance with RD-78-35, Chapter VII, Certification Program.

The latex admixture shall be packaged and stored in containers and storage facilities which will protect the material from freezing and from temperatures above 85°F (30°C). Additionally, the material shall not be stored in direct sunlight and shall be shaded when stored outside of buildings during moderate temperatures.