CS-1042 (8-13)

pennsylvania
DEPARTMENT OF TRANSPORTATION
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MINIMUM QUALITY CONTROL PLAN FOR FIELD PLACEMENT OF LATEX MODIFIED MORTAR OR CONCRETE WEARING SURFACE

State Route (SR) _____ Section _____ County _____ ECMS# _____

Prime/Sub Contractor _____

Latex Modified Concrete Supplier _____

Part 1. ORGANIZATIONAL CHART

	Personnel	Full Name	Responsibilities
A.	Superintendent:	_____	Oversees Latex concrete operations
B.	Latex Concrete Foreman:	_____	Oversees placement of material and related operations
C.	Certified Concrete Field Technician(s):	_____	Performs field tests, sampling and acts as contact person for PennDOT
	NECEPT Certification No(s):	_____	Expiration date(s): _____
		_____	_____
	Latex Manufacture Rep./Company:	_____	Available to provide technical support during the initial mix design

Note: Problems related to latex modified concrete material, placement operations, and testing shall be directed to the appropriate personnel listed above.

Part 2. EQUIPMENT SPECIFICATIONS (Attach additional sheets if necessary)

A. Surface Preparation Equipment
   a. Manufacturer(s) _____
   b. Model(s) _____
   c. Rated Capacity(ies) _____

B. Proportioning and Mixing Equipment
   a. Manufacturer(s) _____
   b. Model(s) _____
   c. Rated Capacity(ies) _____

C. Placing and Finishing Equipment
   a. Manufacturer _____
   b. Model _____
   c. Vibratory Pan Frequency _____
   d. Number of Work Bridges _____

D. Small Tools/Supplies (vacuums, vibrators, brooms, hand brushes, concrete rakes & wheelbarrows)

_____

_____

E. Lighting Plan (For non-daylight placements, provide a sketch of light plant placements & light configuration on finishing machine on page 6)

Part 3. SURFACE PREPARATION

A. Remove and repair existing unsound concrete.

B. Perform Hydrodemolition or Scarify existing deck surface as specified in the contract documents.

C. Water Source/Supply _____

D. Within 24 hours prior to placement, clean the entire prepared deck surface by an approved method

a. Equipment and Method to clean existing prepared deck _____

_____

b. Equipment and Method to clean/remove rust from exposed reinforcement bars (if required)

_____

_____

c. Method to protect the deck against contamination until overlay operations are complete

_____

_____

d. Method to keep deck moist one (1) hour prior to placement _____

_____

e. Method to adequately remove excess water in depressions, holes or areas of concrete removal

_____

_____

Part 4. MATERIAL CONTROL

A. Aggregates

a. Coarse and Fine aggregate sources of supply

i. Coarse Aggregate Supplier/Location _____

ii. Fine Aggregate Supplier/Location _____

iii. Approved Project Aggregate Stockpile location(s) _____

b. Moisture test according to AASHTO T 255 and/or ASTM C 70 to be run immediately prior to placements

i. Method to maintain saturated surface dry condition _____

_____

c. Aggregate piles and charged mobile mixers protected from sun and rain

d. Mobile mixers charged less than 6 hours prior to material mixing unless approved by the Representative

e. Aggregate control

i. According to Pub. 408 Section 106.05(c)

B. Latex/Cement

a. Latex

i. Supplier _____

ii. Tanker recirculation Method and Frequency _____

_____

iii. Purge mobile mixer of any residual cement, latex or aggregates which cannot be accounted for by certification, or history, or obtain samples of the liquid latex admixture and cement being used in the mix and deliver to the Representative for testing

iv. Provide certification (CS-4171) for each Latex tanker

v. Samples/Sampling Procedures

1. Mobile mixer _____

_____

2. Latex tanker _____

_____

b. Cement

i. Supplier/Type _____

ii. Method of delivery to project: Mobile mixer _____ Tanker _____

iii. Method to monitor raw cement temperatures _____

_____

C. Completed Mix/Mix Designs

a. Test component compatibility during mix design process - unless previously approved mix design is on file that performs acceptably

b. Perform yield test in conjunction with mobile mixer calibration

c. Verify workability time frame of completed mix

d. Method to monitor completed mix temperatures _____

_____

D. Limitations of Operations

a. Steps to mitigate the mix component temperatures if the ambient temperature is 80°F at any time 24 hours prior to the overlay placement.

Part 5. TESTING REQUIREMENTS

Test each 5 cubic yard of latex material for plastic air content, temperature, and slump. Continue testing the load until control is established. **Coordinate and facilitate changes as needed in a timely manner.**

A. Temperature (ASTM C 1064) shall be performed every time an air and slump test is performed. Concrete that does not meet the temperature specification requirements **SHALL** not be incorporated.

Ambient Temperature Spec. Limits 45°F and 85°F

Latex Mixture Temperature Spec. Limits 50°F and 85°F

B. Slump tests (AASHTO T 119) shall be performed on the first 5 cubic yard increment and each additional 5 cubic yard increment thereafter. If the slump limits are exceeded, the contractor's technician **SHALL** reject the material.

Latex Mortar Mixture Slump Spec. Limits 4" and 6" Action Points _____

Latex Concrete Mixture Slump Spec. Limits 3" and 7" Action Points _____

a. When the Slump test results are outside the specification limits, describe the corrective measures to be taken to bring the material back to within the indicated limits. _____

_____

C. Air test (AASHTO T 152) shall be performed on the first 5 cubic yard increment and each additional 5 cubic yard increment thereafter. If the air content limits are exceeded, the contractor's technician **SHALL** reject the material.

Latex Mixture Air Content Spec. Limits 1% and 7%

D. Yield test (AASHTO T 121 or Yield Box) shall be performed in addition to calibration of the mobile mixer equipment, if directed.

E. Evaporation Rate (ACI 305R) shall be performed using equipment provided by the contractor to determine the evaporation rate before starting the placement and every hour during the placement.

Evaporation Rate Spec. Limits ≤ 0.10 pound per square foot per hour

i. Method and Equipment to monitor evaporation rate _____

_____

ii. Method and Equipment to maintain the rate of evaporation within allowable limits _____

_____

_____

Part 6. CONCRETE CYLINDERS

A. Size/Number of Cylinders

The following number of cylinders shall be molded for each lot as specified in PTM No. 611 for acceptance testing.

Size / No.

_____ / _____ Compressive strength cyclinders

B. Curing Cylinders (Attach additional sheets as necessary)

1. Cure specimens according to PTM No. 611, Section 11.2, except strip after the first 48 hours ±2 hours, and air cure as specified in Pub. 408, Section 1042.3(d) Table A.

First 48 hours of Curing:

- Cylinders shall be moved within 15 minutes of molding to the cure location
- Describe method of curing for the first 48 hours _____

_____

_____

After 48 hours of curing:

- Cylinders shall be stripped from the molds and the original identification shall be transferred from the cylinder mold onto the cylinder using indelible ink.
- Describe method of curing after 48 hours for all cylinders _____

_____

_____

Part 7. FIELD PLACEMENT MANPOWER AND EQUIPMENT (Attach additional sheets if necessary) List contractor/ subcontractor, manpower, assigned duties, previous latex experience, and all equipment, including back-up equipment, for each placement. Also include: (1) deck curing methods (cool/cold weather provisions, dry duration, polyethylene placement timing and water source) (2) a brief description of the straight edging method and frequency, as well as, the surface texturing method and equipment (3) a Reaction Plan in the event of rain or an equipment breakdown. Include a sketch showing complete details of supports for the equipment.

Detailed Sketch of Equipment Supports:

Detailed Sketch of Lighting Plan:

(Contractor)

Submitted By: _____ **Date:** _____

(Title): _____

(Department)

Reviewed By: _____ **Date:** _____

(Title): _____