



**CALL NO. 306**

**CONTRACT ID. 252377**

**FLOYD COUNTY**

**FED/STATE PROJECT NUMBER FD05 036 0680 005-009**

**DESCRIPTION MINNIE - HARROLD ROAD (KY 680)**

**WORK TYPE PAVEMENT (WITH ALTERNATES)**

**PRIMARY COMPLETION DATE 9/30/2026**

**LETTING DATE: November 20,2025**

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN STANDARD TIME November 20,2025. Bids will be publicly announced at 10:00 AM EASTERN STANDARD TIME.

**NO PLANS ASSOCIATED WITH THIS PROJECT.**

**DEFERRED PAYMENT**

**REQUIRED BID PROPOSAL GUARANTY:** Not less than 5% of the total bid.

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**PART I**

**SCOPE OF WORK**

**ADMINISTRATIVE DISTRICT - 12**

**CONTRACT ID - 252377**  
**FD05 036 0680 005-009**  
**COUNTY - FLOYD**  
**PCN - MP03606802501**  
**FD05 036 0680 005-009**

MINNIE - HARROLD ROAD (KY 680) (MP 5.650) BEGIN AT BRIDGE OVER LEFT FORK BEAVER CREEK  
EXTENDING EAST TO BRIDGE OVER LITTLE MUD CREEK (MP 8.914), A DISTANCE OF 03.27 MILES.PAVEMENT  
(WITH ALTERNATES)  
GEOGRAPHIC COORDINATES LATITUDE 37:28:02.59 LONGITUDE 82:43:04.83  
ADT 576

**COMPLETION DATE(S):**  
COMPLETED BY 09/30/2026                      APPLIES TO ENTIRE CONTRACT

## **CONTRACT NOTES**

### **INSURANCE**

Refer to Kentucky Standard Specifications for Road and Bridge Construction, current edition.

### **PROPOSAL ADDENDA**

All addenda to this proposal must be applied when calculating bid and certified in the bid packet submitted to the Kentucky Department of Highways. Failure to use the correct and most recent addenda may result in the bid being rejected.

### **BID SUBMITTAL**

Bidder must use the Department's electronic bidding software. The Bidder must download the bid file located on the Bid Express website ([www.bidx.com](http://www.bidx.com)) to prepare a bid packet for submission to the Department. The bidder must submit electronically using Bid Express.

### **JOINT VENTURE BIDDING**

Joint venture bidding is permissible. All companies in the joint venture must be prequalified in one of the work types in the Qualifications for Bidders for the project. The bidders must get a vendor ID for the joint venture from the Division of Construction Procurement and register the joint venture as a bidder on the project. Also, the joint venture must obtain a digital ID from Bid Express to submit a bid. A joint bid bond of 5% may be submitted for both companies or each company may submit a separate bond of 5%.

### **UNDERGROUND FACILITY DAMAGE PROTECTION**

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. When prescribed in said directives, the contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom shall be contacted through their individual Protection Notification Center. Non-compliance with these directives can result in the enforcement of penalties.

### **REGISTRATION WITH THE SECRETARY OF STATE BY A FOREIGN ENTITY**

Pursuant to KRS 176.085(1)(b), an agency, department, office, or political subdivision of the Commonwealth of Kentucky shall not award a state contract to a person that is a foreign entity required by [KRS 14A.9-010](#) to obtain a certificate of authority to transact business in the Commonwealth ("certificate") from the Secretary of State under [KRS 14A.9-030](#) unless the person produces the certificate within fourteen (14) days of the bid or proposal opening. If the

foreign entity is not required to obtain a certificate as provided in [KRS 14A.9-010](#), the foreign entity should identify the applicable exception. Foreign entity is defined within [KRS 14A.1-070](#).

**For all foreign entities required to obtain a certificate of authority to transact business in the Commonwealth, if a copy of the certificate is not received by the contracting agency within the time frame identified above, the foreign entity's solicitation response shall be deemed non-responsive or the awarded contract shall be cancelled.**

Businesses can register with the Secretary of State at <https://secure.kentucky.gov/sos/ftbr/welcome.aspx>.

### **SPECIAL NOTE FOR PROJECT QUESTIONS DURING ADVERTISEMENT**

Questions about projects during the advertisement should be submitted in writing to the Division of Construction Procurement. This may be done by email to [kytc.projectquestions@ky.gov](mailto:kytc.projectquestions@ky.gov). The Department will attempt to answer all submitted questions. The Department reserves the right not to answer if the question is not pertinent or does not aid in clarifying the project intent.

The deadline for posting answers will be 3:00 pm Eastern Daylight Time, the day preceding the Letting. Questions may be submitted until this deadline with the understanding that the later a question is submitted, the less likely an answer will be able to be provided.

The questions and answers will be posted for each Letting under the heading "Questions & Answers" on the Construction Procurement website ([www.transportation.ky.gov/construction-procurement](http://www.transportation.ky.gov/construction-procurement)). The answers provided shall be considered part of this Special Note and, in case of a discrepancy, will govern over all other bidding documents.

### **HARDWOOD REMOVAL RESTRICTIONS**

The US Department of Agriculture has imposed a quarantine in Kentucky and several surrounding states, to prevent the spread of an invasive insect, the emerald ash borer. Hardwood cut in conjunction with the project may not be removed from the state. Chipping or burning on site is the preferred method of disposal.

### **INSTRUCTIONS FOR EXCESS MATERIAL SITES AND BORROW SITES**

Identification of excess material sites and borrow sites shall be the responsibility of the Contractor. The Contractor shall be responsible for compliance with all applicable state and federal laws and may wish to consult with the US Fish and Wildlife Service to seek protection under Section 10 of the Endangered Species Act for these activities.

### **ACCESS TO RECORDS**

The state agency certifies that it is in compliance with the provisions of KRS 45A.150, "Access to contractor's books, documents, papers, records, or other evidence directly pertinent to the contract." The Contractor, as defined in KRS 45A.030, agrees that the contracting agency, the

Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence, which are directly pertinent to this agreement for the purpose of financial audit or program review. The Contractor also recognizes that any books, documents, papers, records, or other evidence, received during a financial audit or program review shall be subject to the Kentucky Open Records Act, KRS 61.870 to 61.884. Records and other prequalification information confidentially disclosed as part of the bid process shall not be deemed as directly pertinent to the agreement and shall be exempt from disclosure as provided in KRS 61.878(1)(c).

### **BOYCOTT PROVISIONS**

If applicable, the contractor represents that, pursuant to [KRS 45A.607](#), they are not currently engaged in, and will not for the duration of the contract engage in, the boycott of a person or an entity based in or doing business with a jurisdiction with which Kentucky can enjoy open trade. **Note:** The term Boycott does not include actions taken for bona fide business or economic reasons, or actions specifically required by federal or state law.

If applicable, the contractor verifies that, pursuant to KRS 41.480, they do not engage in, and will not for the duration of the contract engage in, in energy company boycotts as defined by KRS 41.472.

### **LOBBYING PROHIBITIONS**

The contractor represents that they, and any subcontractor performing work under the contract, have not violated the agency restrictions contained in [KRS 11A.236](#) during the previous ten (10) years, and pledges to abide by the restrictions set forth in such statute for the duration of the contract awarded.

The contractor further represents that, pursuant to [KRS 45A.328](#), they have not procured an original, subsequent, or similar contract while employing an executive agency lobbyist who was convicted of a crime related to the original, subsequent, or similar contract within five (5) years of the conviction of the lobbyist.

Revised: 1/1/2025

## 1.0 BUY AMERICA REQUIREMENT.

Follow the “Buy America” provisions as required by 23 U.S.C. § 313 and 23 C.F.R. § 635.410. Except as expressly provided herein all manufacturing processes of steel or iron materials including but not limited to structural steel, guardrail materials, corrugated steel, culvert pipe, structural plate, prestressing strands, and steel reinforcing bars shall occur in the United States of America, including the application of:

- Coating,
- Galvanizing,
- Painting, and
- Other coating that protects or enhances the value of steel or iron products.

The following are exempt, unless processed or refined to include substantial amounts of steel or iron material, and may be used regardless of source in the domestic manufacturing process for steel or iron material:

- Pig iron,
- Processed, pelletized, and reduced iron ore material, or
- Processed alloys.

The Contractor shall submit a certification stating that all manufacturing processes involved with the production of steel or iron materials occurred in the United States.

Produce, mill, fabricate, and manufacture in the United States of America all aluminum components of bridges, tunnels, and large sign support systems, for which either shop fabrication, shop inspection, or certified mill test reports are required as the basis of acceptance by the Department.

Use foreign materials only under the following conditions:

- 1) When the materials are not permanently incorporated into the project; or
- 2) When the delivered cost of such materials used does not exceed 0.1 percent of the total Contract amount or \$2,500.00, whichever is greater.

The Contractor shall submit to the Engineer the origin and value of any foreign material used.

## 2.0 – BUILD AMERICA, BUY AMERICA (BABA)

Contractor shall comply with the Federal Highway Administration (FHWA) Buy America Requirement in 23 C.F.R. § 635.410 and all relevant provisions of the Build America, Buy America Act (BABA), contained within the Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, §§ 70901-52 enacted November 15, 2021. The BABA requires iron, steel, manufactured products, and construction materials used in infrastructure projects funded by federal financial assistance to be produced in the United States. Comply with 2 C.F.R § 184.

BABA permits FHWA participation in the Contract only if domestic steel and iron will be used on the Project. To be considered domestic, all steel and iron used, and all products manufactured from steel and iron must be produced in the United States and all manufacturing processes, including application of a coating, for these materials must occur in the United States. Coating includes all processes that protect or enhance the value of the material to which the coating is applied. This requirement does not preclude a minimal use of foreign steel and iron materials, provided the cost of such materials does not exceed 0.1% of the total contract amount under the Contract or \$2,500.00 whichever is greater.

BABA permits FHWA participation in the Contract only if all “construction materials” as defined in the Act are made in the United States. The Buy America preference applies to the following construction materials incorporated into infrastructure projects: non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); Fiber optic cable; optical fiber; lumber; engineered wood; and drywall. Contractor will be



required to use construction materials produced in the United States on this Project. The Contractor shall submit a certification stating that all construction materials are certified to be BABA compliant.

### **3.0 FINAL RULE – FHWA’S BUY AMERICA REGULATION TO TERMINATE GENERAL APPLICABILITY WAIVER FOR MANUFACTURED PRODUCTS**

- **March 17, 2025** (effective date): For all Federal-aid projects obligated on or after March 15, 2025, all iron or steel products, as defined in § 635.410(c)(1)(iii), must comply with FHWA’s Buy America requirements for steel and iron in § 635.410(b). In addition, for all Federal-aid projects obligated on or after March 15, 2025, per § 635.410(c)(2), articles, materials, and supplies should be classified as an iron or steel product, a manufactured product, or another product as specified by law or in 2 CFR part 184 (such other products specified by law or in 2 CFR part 184 include “excluded materials” and “construction materials”); an article, material, or supply must not be considered to fall into multiple categories.
- **October 1, 2025:** The final assembly requirement will become effective for Federal-aid projects obligated on or after October 1, 2025. This means that, for manufactured product to be Buy America compliant, for Federal-aid projects obligated on or after October 1, 2025, final assembly of the manufactured product must occur in the United States.
- **October 1, 2026:** The 55 percent requirement will become effective for Federal-aid projects obligated on or after October 1, 2026. This means that, for manufactured product to be Buy America-compliant, for Federal-aid projects obligated on or after October 1, 2026, all manufactured products permanently incorporated into the project must both be manufactured in the United States (satisfy the final assembly requirement) and have the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States be greater than 55 percent of the total cost of all components of the manufactured product (satisfy the 55 percent requirement).

### **4.0 – ADDITIONAL REQUIREMENTS**

The Contractor has completed and submitted, or shall complete and submit, to the Cabinet a Buy America/Build America, Buy America Certificate prior to the Cabinet issuing the notice to proceed, in the format below. After submittal, the Contractor is bound by its original certification.

A false certification is a criminal act in violation of 18 U.S.C. § 1001. The Contractor has the burden of proof to establish that it’s in compliance.

At the Contractor’s request, the Cabinet may, but is not obligated to, seek a waiver of Buy America requirements if grounds for the waiver exist under 23 C.F.R. § 635.410(c) or will comply with the applicable Buy America requirements if a waiver of those requirements is not available or not pursued by the Cabinet.

Please refer to the Federal Highway Administration’s Buy America webpage for more information.

[Buy America - Construction Program Guide - Contract Administration - Construction - Federal Highway Administration \(dot.gov\)](#)

Effective - June 26, 2025, Letting

**BUY AMERICA / BUILD AMERICA, BUY AMERICA (ACT) MATERIALS CERTIFICATE OF COMPLIANCE**

The Contractor hereby certifies that it will comply with all relevant provisions of the Build America, Buy America Act, contained within the Infrastructure Investment and Jobs Act, Pub. L. NO. 117-58, §§ 70901-52, the requirements of 23 U.S.C. § 313, 23 C.F.R. § 635.410 and 2 C.F.R § 184.

Date Submitted:\_\_\_\_\_

Contractor:\_\_\_\_\_

Signature:\_\_\_\_\_

Printed Name:\_\_\_\_\_

Title:\_\_\_\_\_

**NOTE: THIS CERTIFICATION IS IN ADDITION TO ANY AND ALL REQUIREMENTS OUTLINED IN THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND/OR SPECIAL NOTES CONTAINED IN THE PROJECT PROPOSAL.**

## **SPECIAL NOTE FOR RECIPROCAL PREFERENCE**

### **RECIPROCAL PREFERENCE TO BE GIVEN BY PUBLIC AGENCIES TO RESIDENT BIDDERS**

By reference, KRS 45A.490 to 45A.494 are incorporated herein and in compliance regarding the bidders residency. Bidders who want to claim resident bidder status should complete the Affidavit for Claiming Resident Bidder Status along with their bid in the electronic bidding software. Submittal of the Affidavit should be done along the bid in Bid Express.

April 30, 2018

### **DEFERRED PAYMENT**

The successful bidder on this project has the distinct understanding that payment for any work may be delayed until July 15, 2026. Work Order/Notice to Proceed will be issued in accordance the Standard Specifications for Road and Bridge Construction, current edition.

### **SURFACING AREAS**

The Department estimates the mainline surfacing width varies 24 - 48 feet.

The Department estimates the total mainline area to be surfaced to be 77,117 square yards.

The Department estimates the shoulder width to be 1.0 foot on each side.

The Department estimates the total shoulder area to be surfaced to be 3,830 square yards.

### **ASPHALT MIXTURE**

Unless otherwise noted, the Department estimates the rate of application for all asphalt mixtures to be 110 lbs/sy per inch of depth.

### **INCIDENTAL SURFACING**

The Department has included in the quantities of asphalt mixtures established in the proposal estimated quantities required for resurfacing or surfacing mailbox turnouts, farm field entrances, residential and commercial entrances, curve widening, ramp gores and tapers, and road and street approaches, as applicable. Pave these areas to the limits as shown on Standard Drawing RPM-110-06 or as directed by the Engineer. In the event signal detectors are present in the intersecting streets or roads, pave the crossroads to the right of way limit or back of the signal detector, whichever is the farthest back of the mainline. Surface or resurface these areas as directed by the Engineer. The Department will not measure placing and compacting for separate payment but shall be incidental to the Contract unit price for the asphalt mixtures.

### **OPTION B**

Be advised that the Department will control and accept compaction of asphalt mixtures furnished on this project under OPTION B in accordance with Sections 402 and 403.

### **SPECIAL NOTE FOR THERMOPLASTIC PAVEMENT MARKINGS REMOVAL**

If needed remove existing Thermoplastic Pavement Markings just prior to placement of the overlay as directed by the Engineer. The Department will not measure removal of the Thermoplastic Pavement Markings, but shall be incidental to the other items of work. Lane Striping thermo removal will be paid for as indicated by the Bid Item 06531 PAVE STRIPING REMOVAL-6 IN

### **SPECIAL NOTE FOR POLISH-RESISTANT AGGREGATE IN NO 4 THINLAY ASPHALT MIXTURES**

**Contrary to Section 409.03.03** of the *Standard Specifications for Road and Bridge Construction*, for 4.75mm asphalt mixtures requiring Class D aggregate, recycled asphalt pavement (RAP) shall not exceed 15% of cold feed percentage, and the use of recycled asphalt shingles (RAS) is prohibited.

**Contrary to Section 402** of the *Standard Specifications for Road and Bridge Construction*, Warm Mix Asphalt (WMA) will not be permitted for all 4.75mm asphalt mixtures.

**Contrary to Section 403.03.01** of the *Standard Specifications for Road and Bridge Construction*, the NO 4 surface mixtures, do not place the mixture between September 30 and May 1 unless requested in writing and approved by the engineer.

### **SPECIAL NOTE FOR CAPE SEAL**

A cape seal treatment shall consist of one or more layers of chip/scrub seal application(s) followed by a surface treatment. Prior to placement of the surface treatment, the chip/scrub seal application shall have a curing time of no less than 72 hours and placement shall start before 10 days after the chip/scrub seal application.

A tack coat shall be applied on top of chip/scrub seal aggregate before placing the asphalt surface. **Contrary to section 406.03.03 B** of the *Standard Specifications for Road and Bridge Construction*, tack coat application rate for 4.75mm thinlay asphalt surface shall for be 0.40lbs – 0.65lbs (0.05 gal – 0.08 gal) per sqyd. The tack coat application rate for emulsified microsurface asphalt surface shall be 0.25lbs – 0.50lbs (0.03 gal – 0.06 gal) per sqyd.

**SPECIAL NOTE FOR ASPHALT CHIP SEAL**

1. **DESCRIPTION.** Construct an asphalt chip seal consisting of one or more applications each of asphalt material and cover aggregate.
2. **MATERIAL AND EQUIPMENT.**  
**Asphalt Material.** Furnish undiluted CRS-2P or CMS-1P or CMS-1PC polymer modified emulsion that conforms to **AASHTO M 316** and the requirements **Section 806.05**.

| EMULSIFIED ASPHALT SPECIFICATION                                       |                                       |                 |           |
|------------------------------------------------------------------------|---------------------------------------|-----------------|-----------|
| PROPERTY                                                               | METHOD                                | SPECIFICATION   |           |
|                                                                        |                                       | CMS-1P          | CMS-1PC   |
| TEST ON EMULSION                                                       |                                       |                 |           |
| Viscosity @ 122 °F (SFS)                                               | AASHTO T 59                           | 100 – 400       | 100-400   |
| Residue, w%, minimum. <sup>(1)</sup>                                   | AASHTO T 59                           | 67              | 60        |
| pH                                                                     | ASTM E 70                             | 2.0-5.0         | 2.0-5.0   |
| Sieve, w%, max.                                                        | AASHTO T 59                           | 0.1             | 0.1       |
| Oil distillate, w%, max.                                               | AASHTO T 59                           | 0.5             | 0.5       |
| TEST ON RESIDUE                                                        |                                       |                 |           |
| Viscosity @ 140 °F, P, maximum.                                        | AASHTO T 201                          | 3000            | -         |
| Penetration @ 39.2 °F, minimum.                                        | AASHTO T 49                           | 40              | 30        |
| Elastic Recovery on residue by distillation, %, minimum <sup>(2)</sup> | AASHTO T 301                          | 50              | 50        |
| Test on Polymer:                                                       |                                       |                 |           |
| Tensile strength, die C dumbbell, psi, minimum                         | ASTM D 412 <sup>(3)</sup>             | 500             | 800       |
| Swelling in rejuvenating agent, % maximum; 48 hours exposure @ 104 °F  | ASTM D 471 <sup>(4)</sup><br>Modified | 40% intact film | 40%       |
| Latex Density @ 73 °F                                                  | ASTM D 6937 <sup>(5,6)</sup>          | -               | 1.00-1.05 |
| TEST ON REJUVENATING AGENT:                                            |                                       |                 |           |
| Flash point, COC, °F                                                   | AASHTO T 48                           | 380 Min         |           |
| Viscosity, 140 °F, CST                                                 | AASHTO T 201                          | 50-175          |           |
| Saturate, % by wt.                                                     | ASTM D 2007                           | 30 Max          |           |
| Asphaltenes                                                            | ASTM D 2007                           | 1.0 Max.        |           |
| Test on Residue from RTFO                                              | AASHTO T 240                          |                 |           |
| Weight Change, %                                                       |                                       | 6.5 Max.        |           |
| Viscosity Ratio                                                        |                                       | 3 Max           |           |

**When surface cracks have been previously crack sealed, CRS-2P may be required. Otherwise, application shall require undiluted CMS-1P or CMS-1PC polymer modified emulsion that meets requirements below:**

- (1) Exception to AASHTO T59: Bring the temperature on the lower thermometer slowly to 350 ± 10 °F. Maintain at this temperature for 20 minutes. Complete total distillation in 60 ± 5 min from first application of heat.
- (2) Elastic Recovery @ 10 °C (50 °F): Hour glass sides, pull 20 cm, hold 5 minutes then cut, let sit 1 hour.
- (3) Tensile Strength Determination: Samples for testing for tensile strength in accordance with ASTM D412 shall be tested with the following test procedure modifications:

- (4) Prepare the polymer film, dilute the waterborne polymer to 40% Total Solids Content and pour 57 g into a Teflon or silicone release mold of dimensions 7" X 7" X ¼". Allow to dry at 23°C (73 °F) and 50% RH (controlled conditions) for 7 – 10 days total time, during which time the film should be flipped around once, preferably after 3 or 4 days. The film should be transparent in the end. To drive out any residual water, place the film in an oven at 50 °C for 30 min. Dried film thickness should be 25 ± 5 mils. Discard films <20 mil. Cut out dumbbell-shaped test specimens of dimension 75 mm total length, 25 mm mid-section (L) and 4 mm width of mid-section. Grip in Instron machine with gap size 1 inch, use 8 in/min cross-head speed.
- (5) Polymer testing shall be prepared from polymer as follows: Resistance to Swelling: Using a syringe, place 0.8 g of latex into an 18 mm diameter DSR mold. Allow the sample to dry at ambient lab conditions (air conditioned) on the bench for 72 hours. Sample should be easily removable from the mold. Take the "button" out of the mold and place the sample into a forced air oven at 40 °C (104 °F) for 48 h (on release paper). If at the end of the ambient dry, the sample sticks to the mold, place it into the oven and check it after 1-2 h. After 48 h, cool and weigh the sample to the nearest 0.0001 g and record the weight. Put ½ in of Rejuvenating Agent into a 3 oz penetration tin. Place the "button" on the rejuvenating agent, and add another ½ in of rejuvenating agent, so that the "button" is covered. Put the cap on the penetration tin and place it into the 40 °C oven for 48 h. Remove the "button from the Rejuvenating Agent, blot surface of the "button" to remove excess Rejuvenating Agent, cool the "button" to room temperature and weigh it. Calculate weight gain of the "button", express as a percent.
- (6) Replace "Emulsified Asphalt" with "Latex" in text of test method. The testing temperature used should be 25 ± 3 °C. The calculation in Section 7 should be as follows:

$$D = (W_f - W_t) * 0.1$$

$$S.G. = D / 8.337$$

Where:  $W_f$  = Weight of filled cup (g)

$W_t$  = Weight of empty cup (g)

The Department will require a sample of the polymerized emulsion to be taken from the distributor spray bar at a lot frequency of one sample per 5,000 gallons of emulsion. Take two 1 gallon samples of the heated material and forward the sample to the Division of Materials for testing. Ensure the product temperature is between 160° and 180° F at the time of sampling.

**Aggregate.** Provide a cleaned damp aggregate cover material from an approved aggregate producer and shall meet the material requirements that conform to **Section 805**, as applicable. Contrary to section 805.05.04 provide coarse aggregates having no more than 2.0 percent passing the No. 200 sieve.

**Equipment.** Provide, and keep on the project at all times, an accurate thermometer, hand brooms, and other small tools and equipment essential for completion of the work.

**Calibration** of equipment application rates shall be completed by the contractor. Calibration shall be done in the presence and verified by engineer prior to application or as directed by the engineer. A test strip shall be required at the beginning of each new project or as directed by the engineer.

**The asphalt distributor** for the application of the emulsion shall have full circulation spray bar that is adjustable to at least 16 feet wide in 2 feet increments and capable of heating and circulating the emulsion simultaneously, conforming to **Section 406.02.05**. It must have computerized rate control for adjusting and controlling the application from the cab within 0.01 gallons per square yard increments. The distributor shall also be equipped with a volume measuring device and a thermometer for measuring the emulsion temperature in the tank. For each emulsion application, follow manufactures recommendations for proper nozzle type and adjustment.

**The aggregate spreader** shall be a front discharge, continuous mechanical feed, self-propelled aggregate spreader with a screen capable of removing oversized materials. It must have computerized control for adjusting and regulating application rates, as well as width, from the operating platform. Ensure the spreader can evenly distribute the aggregate from the transporting vehicle directly onto the fresh asphalt material in smooth, uniform layers, independent of the forward speed. The spreader must be capable of being filled and moved without discharging aggregate. The spreader must be equipped with a locking mechanism compatible with the triaxle trucks used to supply aggregate.

**Rollers.** Pneumatic tire roller shall weigh at least 5 tons. Double steel wheel type roller shall weigh at least 5 tons but no more than 8 tons.

3. **CONSTRUCTION.**

**Weather and Seasonal Limitations.** Application of chip seal shall be applied when air temperature is at least 50 degrees F and rising and a minimum surface temperature of 70 degrees F. Do not construct when the ambient temperature within the preceding 24 hours has been 35 degrees F or lower. Do not proceed with construction if rain is expected in a minimum period of 4 hours. If an unexpected shower arises during operations, the asphalt distributor should be shut off immediately and placement of aggregate continued until all asphalt has been covered. Material shall not be placed between September 30 and May 1 without approval of Engineer.

**Preparation of Mixture.** Submit a complete mix design a minimum of 14 days prior to construction. Mix design shall be prepared by an approved laboratory, to verify the compatibility of the aggregate, asphalt emulsion and other additives. Perform the mix design with the same materials that will be used on the project.

**Surface Preparation.** Prior to operation, the contractor shall remove all existing thermoplastic striping, thermoplastic legends, and raised markers within application limits. All surfaces intended for application shall be thoroughly cleaned of all vegetation, loose material, dirt, or other objectionable material immediately before application of emulsion using a mechanical sweeper and wire hand brooms, when necessary. Clean the edges of the surface providing a full and uniformly clean width of roadway. Where mud or earth exists, remove it in advance and allow surface to thoroughly dry before applying emulsion. Mowing or removal of shoulder vegetation and or brush may be necessary for proper application.

If cracks cannot be adequately filled by emulsion, fill with proper asphalt material or hot pour joint sealer conforming to **Section 807.03.01**. If applicable, apply cover aggregate before applying chip seal application.

4. **APPLICATION.**

**Application Rates of Materials for Single Layer Chip Seal.**

| Properties                             | Minimum | Maximum |
|----------------------------------------|---------|---------|
| Application rate of emulsion, gal/sqyd | 0.30    | 0.38    |
| Emulsion temperature, F                | 120     | 180     |
| Application rate of aggregate, lb/sqyd | 15      | 20      |

**Application Rates of Materials for Double Layer Chip Seal.**

| Properties                             | Total Rate<br>Minimum | Total Rate<br>Maximum | Minimum<br>For Any<br>Layer | Maximum<br>For Any<br>Layer |
|----------------------------------------|-----------------------|-----------------------|-----------------------------|-----------------------------|
| Application rate of emulsion, gal/sqyd | 0.60                  | 0.76                  | 0.30                        | 0.38                        |
| Emulsion temperature, F                | 120                   | 180                   | 120                         | 180                         |
| Application rate of aggregate, lb/sqyd | 30                    | 40                    | 15                          | 20                          |



Double chip seal treatment shall consist of two single layers. The first layer of material shall be applied at 40-50% of the total combined material rate. The second layer shall be applied at 50-60% of the total combined material rate. When a double layer of chip application is required the second layer of chip seal shall not be applied until three days after placement of the first layer. Sweep the first layer before starting the construction of the second layer of chip seal.

**Application of Emulsion.** Heat and maintain emulsion between 120 and 180 degrees F during application. Polymer modified emulsion shall be applied when air temperature is at least 50 degrees F and rising and a minimum surface temperature of 70 degrees F. Emulsion shall be applied using a pressure distributor in a uniform, continuous quantity at specified rates.

Keep the nozzles of the spray bar clean at all times. Immediately make any streaked areas uniform by use of a hand hose equipped with a nozzle.

Do not allow distributor to apply asphalt material ahead of aggregate spreader for more than 150 feet.

When the chip seal treatment is constructed in half-widths, provide complete coverage by overlapping the 2 applications approximately 4 inches along centerline and sweep the centerline before constructing the adjoining lane.

When a double layer of chip application is required the second layer of chip seal shall not be applied until three days after placement of the first layer. Sweep the first layer before starting the construction of the second layer of chip seal.

Prevent spotting or discoloring curbs, headwalls, and other structures. When such discolorations occur, remove them at no expense to KYTC.

Provide and use building paper or other materials approved by the engineer to provide a clean and proper at every construction joint. A straight edge shall be used to ensure a consistent and even joint.

**Aggregate.** Aggregate cover material shall be cleaned to remove dirt and dust, ensuring appropriate adhesion with emulsion. Aggregate shall be damp during application. Aggregate shall only be stockpiled once per project and must be placed on a pad clean from unwanted materials and debris. The Department will sample and test the aggregate from the stockpile to determine if the aggregate meets the washed gradation and the percent passing the No. 200 sieve requirements before any placement of the aggregate. Reject the stockpile when the aggregate doesn't meet the requirements. Prior to breaking of the emulsion, aggregate shall be continuously and evenly spread with the proper equipment at the specified rates. Spreading equipment shall not contact the asphalt material before it is covered with aggregate. Precautions should be taken not to exceed the designated rate by more than 5 percent. Use hand brooms to correct any irregularities.

**Rolling.** Two self-propelled pneumatic tire rollers and one double steel wheel roller shall be used for the required rolling of the aggregate. This shall be done no more than 5 minutes after the spreading of aggregate. Operate the rollers parallel to the centerline in a manner preventing the dislodgment of newly applied aggregate. Rolling should proceed from the outer edge to the center, with each pass overlapping the previous by one-half. Rolling shall consist of at least 2 passes or more with pneumatic tire roller, followed by at least 1 pass with the double steel wheel roller when the engineer directs. Roller speeds shall not exceed 5 mph. Additional roller patterns and/or equipment may be required as directed by the engineer depending on speed of application.

**Sweeping.** Power sweep and/or vacuum the completed application to remove all excess aggregate after each day(s) of production. The curing time shall be determined by the engineer. Surface shall be swept or vacuumed prior to any striping or other surface applications. If directed by the engineer, water may be applied during sweeping process. A second sweeping may be required following the initial application day. If applying an additional surface treatment over the chip seal, it may be opened to traffic for an amount of time specified in the contract or as directed

by the engineer. At the end of each day(s) production, the treated portion of the roadway shall be swept.

**Little to no aggregate shall be remaining on the following:**

- Entrances
- Exit aprons
- Intersections
- Crossroads
- Driveways
- Lawns
- Curbs
- Shoulders

5.     **MEASUREMENT.**  
          **Asphalt Material.** KYTC will measure the quantity in tons according to **Section 109.**  
          **Aggregate.** KYTC will measure the quantity in sqyd according to **Section 109.**

6.     **PAYMENT.**  
          Contrary to **Section 805.15**, the department will apply a 50 percent reduction on the bid price for asphalt seal aggregate when exceeding 2 percent on the No. 200 sieve. The washed gradation acceptance will follow section 805.15 guidelines for the aggregate size used for the asphalt seal aggregate. KYTC will make payment for the completed and accepted quantities under the following:

| <u>Pay Item</u>                     | <u>Pay Unit</u> |
|-------------------------------------|-----------------|
| Polymer Modified Emulsified Asphalt | Ton             |
| Asphalt Seal Aggregate              | Sqyd            |

KYTC will consider payment as full compensation for all work required under this section.

**SPECIAL NOTE FOR FOG SEAL**

Except as provided herein, conform to all requirements of the current Standard Specifications for Road and Bridge Construction. Section references are to the Standard Specifications. For chip seal applications, use an approved fog seal material applied in two passes in opposite directions at a rate of 0.05 – 0.08 gallons per square yard with a total rate of 0.10-0.16 gallons per square yard. The emulsion used for fog sealing chip application shall be diluted between 28-32%.

For all other applications, use undiluted approved fog seal material at a rate of 0.12-0.16 gallons per square yard. The recommended emulsions are to be in accordance with AASHTO M208 or M140.

Before applying the fog seal, sweep the chip seal or roadway to remove any loose aggregate, mud, dirt, dust, and other caked material or loose foreign material that may have accumulate on the roadway. Uniformly apply the asphalt emulsion with an asphalt distributor or approved equipment in accordance with Section 406.03.03b except apply at the rates specified herein. **Contrary to section 406** of the Standard Specification, material shall maintain a temperature range of 120° to 180° F during application. The fog seal shall be applied when air temperature is at least 50 degrees F and rising and a minimum surface temperature of 70 degrees F.

Any water added to the emulsion must meet the requirements of Section 803 of the Standard Specifications. If placed over a chip/scrub seal treatment, the application shall be a minimum of 5 to a maximum of 10 calendar days after the treatment application.

Adjust operations as necessary and as directed by the engineer to achieve complete, uniform coverage of the application. Correct areas of incomplete coverage by hand spraying or by a second application of material as approved by the engineer. Any fog seal material applied in excess of the requirements shall be covered or removed with a blotter course dry sand as directed by the Engineer.

Payment will be based on the accepted, weighed tons of diluted emulsion applied as specified. Payment per ton of “Asphalt Emulsion for Fog Seal” will be full compensation for all labor, materials, and equipment necessary to prepare the surface for treatment, application of the emulsion, corrective work, and protection of the emulsion until cured. Dry sand used as a blotter course due to excessive use of fog seal will not be considered for payment. Liquid asphalt and fuel adjustments will not be considered for payment for all fog seal applications.

Application Rates of Material.

| Properties                                       | Minimum | Maximum |
|--------------------------------------------------|---------|---------|
| Application rate of emulsion for chip seal       |         |         |
| Fog seal application required in both directions | 0.05    | 0.08    |
| Application rate of emulsion for non chip seal   | 0.12    | 0.16    |
| Emulsion temperature, F                          | 120     | 180     |

### **SPECIAL NOTE FOR AWARD OF CONTRACT**

Contrary to Section 103.02, the Department may hold the Bid Proposals of any or all bidders for a period not to exceed 90 calendar days for final disposition of award. The Department may hold the Bid Proposal of the lowest bidder longer than 90 calendar days if the bidder concurs.

Contrary to Section 103.04, The Department will hold the Proposal Guaranty of the lowest bidder and the Proposal Guaranty of the second lowest bidder, as determined by the Commissioner, until the Department awards the Contract and executes and approves the Contract and bond of the successful bidder, or until the Department rejects all Bid Proposals. If the Department does not make an award within 90 calendar days, the Department will return all Proposal Guaranties.

Except as provided in this note or elsewhere in the proposal, the Department will apply all other applicable portions of Section 103.

1-3002 Award of Contract  
01/02/2012

## **SPECIAL NOTE FOR ELECTRONIC DELIVERY MANAGEMENT SYSTEM (e-Ticketing) ASPHALT**

This Special Note will apply when indicated on the plans or in the proposal. Section references herein are to the Department's Standard Specifications for Road and Bridge Construction current edition.

**1.0 DESCRIPTION.** Incorporate an e-Ticketing Delivery Software for weighed asphalt material delivered to the project to report loads and provide daily running totals of weighed asphalt material for pay items and incidental work during the construction processes from the point of measurement and loading to the point of incorporation to the project.

**2.0 MATERIALS AND EQUIPMENT.** Contractor shall supply material data in JavaScript Object Notation (JSON) documents to the KYTC e-Ticketing Delivery Software (KYTC e-Ticketing Portal) via Application Programming Interface (API) or direct connection. Test and verify that ticket data can be shared from the original source no fewer than 30 days prior to material placement activities. An e-Ticketing Delivery Software supplier can provide a qualified representative for on-site technical assistance during the initial setup, pre-construction verifications, and data management and processing as needed during the Project to maintain material data delivery capabilities. Virtual meetings may be hosted in lieu of on-site meetings when deemed appropriate by the Engineer.

Provide e-Ticketing Delivery Software that will meet the following:

1. The e-Ticketing Delivery Software shall be fully integrated with the Contractor's Load Read-Out scale system at the material source location.
2. The e-Ticketing Delivery Software shall provide real-time delivery to KYTC e-Ticketing Portal.
3. Transmit any updates to the ticket data within 5 minutes of a change.

**3.0 CONSTRUCTION.** Provide the Engineer with the manufacturer's specifications and all required documentation for data access at the pre-construction conference.

### **A. Construction Requirements**

1. Install and operate software in accordance with the manufacturer's specifications.
2. Verify that all pertinent information is provided by the software within the requirements of this Special Note.

### **B. Data Deliverables**

Provide to the Engineer a means in which to gather report summaries by way of iOS apps, web pages, or any other method at the disposal of the Engineer. The Engineer may request data at any time during the project.

#### **1. Asphalt Material**

##### **a. Real-time Continuous Data Items**

Provide the Engineer access to JSON documents capable of being transmitted through the KYTC's e-Ticketing Portal that displays the following information in real-time with a web-based system compatible with iOS and Windows environments.

- Each Truck
  - Supplier Name
  - Supplier Address
  - Supplier Phone
  - Plant location
  - Date
  - Time at source
  - Project Location

- Contract ID#
- Carrier Name
- Unique Truck ID
- Description of Material
- Mix Design Number
- Gross, Tare and Net Weight
- Weighmaster

**4.0 MEASUREMENT.** The Department will not measure the electronic delivery management system.

**5.0 PAYMENT.** The Department will not measure this work for payment and will consider all items contained in this note to be incidental to the asphalt mixtures on the project, as applicable.

May 5, 2025

## **SPECIAL NOTE FOR RECYCLED ASPHALT PAVEMENT (RAP) STOCKPILE MANAGEMENT**

### **I. GENERAL**

The use of reclaimed asphalt pavement (RAP) from Department projects or other approved sources in hot mix asphalt (HMA) or warm mix asphalt (WMA) shall be subject to stockpile management and handling of material as described in this section.

The Department approves RAP on a stockpile basis, following the process set forth in this method. The contractor's responsibilities in the process are as follows:

- To obtain the Department's approval of all RAP prior to its use on a Department project and to deliver test data and samples as required
- To monitor and preserve the quality and uniformity of the approved material during storage and handling, adding no unapproved material to the existing stockpile
- To comply with the Department's requirements regarding replenishment of approved stockpiles

The Department will approve RAP based on its composition and variability in gradation and asphalt content, and on visual inspections of the stockpile, which the Department may conduct at its discretion. The Department may withdraw approval of a stockpile if the requirements of this specification are not followed in good faith.

The Maximum Percentage Allowed in a mix design will be based on these criteria and on the category of RAP source, as defined in this document.

### **II. APPROVAL PROCESS**

Qualified asphalt producers (listed in List of Approved Materials-Asphalt Mixing Plants) may submit requests for RAP stockpile approval to the Asphalt Branch, Division of Materials, in the Annual Certification for Previously Approved Asphalt Mixing Plants and Related Equipment. The requester shall provide test results as prescribed in Part IID. The Division of Materials may, at their discretion, collect samples or inspect a RAP stockpile consistent with Section IIE.

Upon completion of the review of testing results and, if applicable, visual inspection, the Division of Materials, Asphalt Branch will approve or disapprove the material by letter and will assign a Stockpile Identification Number for each approved RAP stockpile. Note: The contractor's average gradation and asphalt content, as listed in the approval letter, shall be the gradation used in subsequent mix designs. The approval letter will state the applicable limits on the use of the material in mix designs and will summarize the Department's findings, listing the average gradation and asphalt content from the contractor's tests and the corresponding values found by the Department. Where the Maximum Percentage Allowed is low due to variability, the contractor may elect to improve the uniformity of the material by further processing and may again sample, test, and request approval for the material.

No material shall be added to a stockpile after it has been approved, except as provided in Parts V, VI, and VII below.

#### **IIA. RAP Quality Management Plan**

For a contractor to receive approval to use RAP on any department project, a RAP Quality Management Plan must first be approved by the department. The RAP Quality Management Plan shall be submitted to the

Division of Materials annually for approval as part of the Contractor's Quality Control Plan/Checklist. The Quality Management Plan is required to demonstrate how the Contractor will provide consistency and quality of material utilized in all asphalt mixes produced for use on Department projects. The Quality Management Plan shall include:

- Unprocessed RAP Stockpiles
  - Designation of stockpile(s) as single or multiple source
  - Designation of stockpile(s) as classified or unclassified
  - Designation of stockpile(s) as captive or continuously replenishing
  - Plan for how stockpile(s) is built (layers, slope, etc.)
  - Plan to minimize stockpile(s) contamination
- Processing and Crushing
  - Equipment used to feed screener or crusher
  - Excavation process based on equipment type
- Processing Millings
  - Single Project or Source
    - Screening, Fractionation, or Crushing plan
  - Multiple Source
    - Process to achieve uniform material from stockpile
    - Screening, Fractionation, or Crushing plan
- Processed RAP Stockpiles
  - Minimization of segregation
  - Minimization of moisture

## **IIB. RAP Stockpile Placement**

All processed RAP stockpiles shall be placed on a sloped, paved surface. The requirement for a paved surface may be waived by the Cabinet if the Contractor's RAP Quality Management Plan demonstrates effective material handling that will minimize deleterious material from beneath the processed stockpile entering the plant. *No processed stockpile will be placed directly on grass or dirt.*

## **IIC. Stockpile Identification Signs**

RAP stockpiles shall be identified with posted signs displaying the gradation of material in the stockpile (course, intermediate, or fine). These signs shall be made of weatherproof material and shall be highly visible. Numerals shall be easily readable from outside the stockpile area. If a stockpile exists in two or more parts, each part must have its own sign.

## **IID. Standard Approval Procedure**

The Contractor shall obtain random samples representative of the entire stockpile and shall have each sample tested for gradation and asphalt content according to KM 64-426, KM 64-427, and AASHTO T308. The material samples must be in its final condition after all crushing and screening. At least one sample shall be obtained for each 1,000 tons of processed RAP, with a minimum of five samples per stockpile. Sampling shall be performed according to the method prescribed for asphalt mix aggregates in the Department's Materials Field Testing and Sampling Manual and KM 64-601. The minimum sampling size (after quartering) for tests of RAP samples is 1,500 g. except for samples containing particles more than one inch in diameter, for which the minimum is 2,000 g.

To request approval of a RAP stockpile, submit the following documents to the Division of Materials. It is the requester's responsibility to correctly address, label, and deliver these submittals:



- Submit request for approval at beginning of the paving season as part of the Annual Certification for Previously Approved Asphalt Mixing Plants and Related Equipment.
- If requesting approval after paving season begins, submit memo, including stockpile portion of the inspection list for Annual Certification for Previously Approved Asphalt Mixing Plants and Related Equipment, to Division of Materials.
- Reports of the tests prescribed above using the Stockpile <INSERT NAME> document.
- A drawing of the plant site showing the location of the stockpile to be approved *and all other stockpiles on the premises*

**Mail, deliver or email the request form**, with test reports and site drawing, to:

Kentucky Transportation Cabinet  
Division of Materials  
ATTN: Asphalt Branch Manager  
1227 Wilkinson Boulevard  
Frankfort, Kentucky 40601

Robert.Semones@ky.gov

### **III. Tests and inspections by the Department**

The Department shall have the right to observe the collection of samples, or to perform the sampling and testing as a verification of contractor submittal. As a condition of approval, the Department may at any time inspect and sample RAP stockpiles for which approval has been requested and may perform additional quality control tests to determine the consistency and quality of the material.

The approval letter issued by the Department will include any results of verification testing performed by the Cabinet. The approved contractor results should be used by mix design technicians in the design calculations.

### **III. RAP STOCKPILE TIERED MANAGEMENT AND EFFECTIVE BINDER CONTENT**

The stockpile management and approval requirements will be tiered based on the maximum cold feed percentages as defined in this section and Table 1. below.

Table 1. Tiered Testing Requirements

| <b>Mix Type</b> | <b>0-&lt;12%</b> | <b>12-&lt;20%</b> | <b>20-&lt;35%</b> |
|-----------------|------------------|-------------------|-------------------|
| Surface         | Tier 1           | Tier 2            | Tier 3            |
| Base            | Tier 1           | Tier 2            | Tier 3            |

**NOTE: All asphalt mixes and binder selection will be subject to Section 409 of the current Standard Specifications.**

The following requirements will apply based on the percentage of RAP in the mix.

#### Tier 1

Tier 1 mixes (less than or equal to 12% RAP) will be subject to the requirements of sections IIA, IIB, and IIC.

## Tier 2

Tier 2 mixes (12% to less than 20% RAP) will be subject to the requirements of Section II in its entirety and Table 2 requirements.

## Tier 3

Tier 3 Asphalt Base mixes with 20% to less than 35% RAP, Tier 3 Asphalt Surface mixes with 20% to less than 30% RAP will be subject to Section II in its entirety and Table 2 requirements.

# IV. MAXIMUM PERCENTAGE OF RAP ALLOWED

The Maximum Percent of RAP allowed in mix designs shall be the lowest percentage determined by the gradation and asphalt content of the RAP, as established under the criteria below, and requirements listed in Section III.

## Limits according to range in gradation and bitumen content

The Maximum Percent of RAP Allowed, based on gradation and asphalt content, shall be determined by the Department using the standard deviation of these values. This standard deviation will be calculated using data provided by the contractor from at least five samples. While the contractor is required to provide the data from these tested samples, the Department retains the discretion to perform its own sampling and testing to support or verify its findings. An apparent outlier shall not be considered in determining these ranges. Where one result appears to be unrepresentative of the whole, two or more additional samples shall be tested. The outlying value of all tests shall then be excluded from the range. The maximum percentage of RAP allowable shall be the lowest percentage determined according to Table 2 below.

**Table 2. Maximum Percent RAP According to Variability in Test Results**

|                         |                                         |                  |                 |
|-------------------------|-----------------------------------------|------------------|-----------------|
|                         | Standard Deviation as calculated above: |                  |                 |
| Surface                 |                                         |                  |                 |
| % asphalt content       | < 0.4                                   | < 0.5            |                 |
| % passing No. 200 sieve | < 1.25                                  | < 1.5            |                 |
| % passing Median Sieve  | < 4.0                                   | < 5.0            |                 |
|                         | Allowable RAP Cold Feed %               |                  |                 |
|                         | Tier 3 - 20%-30%                        | Tier 2 - 12%-20% | Tier 1 - 0%-12% |
| Base                    |                                         |                  |                 |
| % asphalt content       | < 0.5                                   | < 0.75           |                 |
| % passing No. 200 sieve | < 1.5                                   | < 2.25           |                 |
| % passing Median sieve  | < 5.0                                   | < 7.0            |                 |
|                         | Allowable RAP Cold Feed %               |                  |                 |
|                         | Tier 3 - 20%-35%                        | Tier 2 - 12%-20% | Tier 1 - 0%-12% |

**NOTE: These allowances notwithstanding, the Contractor is required to maintain the mixture within the Mixture Control Tolerances of Kentucky Method 443.**

The percentage allowable in mix designs shall be limited to meet the design criteria for viscosity established in the Standard Specifications.

## **V. GENERAL STOCKPILE REQUIREMENTS AND REPLENISHMENT**

### **V.A. Single Pavement Source**

**Early approval of material from a single pavement source.** When a new stockpile is to consist entirely of millings removed from a single existing pavement, the stockpile may be approved based on samples taken during the milling and processing operations, prior to completion of milling. The initial stockpile may be approved as either a new stockpile or a new stockpile in continual replenishment status.

For continual replenishment status, samples shall be taken from the processed stockpile after it reaches 1,000 tons. A total of five initial samples, plus one additional sample for every 1,000 tons, is required. As prescribed in Part II above, the contractor shall test all samples and deliver the test results, together with a letter request for approval in Continual Replenishment status, to the address indicated. The stockpile shall be subject to initial approval as prescribed above in Part II. Once approved, it may be replenished without further approvals as provided in Part VII below.

### **V.B. Heterogeneous or contaminated material**

Asphalt pavement millings containing traffic detection loops, raised pavement markers, or other debris must be separated and excluded before stockpiling RAP for approval for use in KYTC asphaltic concrete mixtures.

No material other than RAP from an approved stockpile shall be included in mixtures for State projects. The following materials are specifically excluded:

- Material contaminated with foreign matter such as liquids, soil, concrete, or debris
- Plant waste, especially waste containing abnormal concentrations of bitumen, drum build-up, or material from spills or plant clean-up operations

The following materials shall not be added to or placed in proximity to an approved stockpile but may be accumulated in a separate stockpile and submitted for approval according to Part III:

- Production mixtures returned to the plant for any reason.
- Mis-proportioned mixtures, especially those generated at start-up.

## **VI. REPLENISHMENT OF STOCKPILES**

An approved RAP stockpile may be replenished with Department approval, provided the replenishment material meets all necessary requirements for approval and maintains uniformity in gradation and asphalt content as outlined in this document.

### **VI.A. Procedure and approval criteria**

The procedure for requesting approval of a stockpile replenishment, that is not in continual replenishment status, shall be the same as for approval of an original stockpile, and the material for the replenishment shall meet all criteria for approval as a new stockpile. RAP proposed for replenishment shall be sampled and tested by the Contractor for gradation and asphalt cement as prescribed in Section II above. The Laboratory shall

review these results and provide approval for use in Department asphalt mix designs, according to Table 2 above.

#### **VI.B. Effect of replenishment on existing approved mix designs**

Replenishment of a stockpile may render certain mix designs invalid, depending on the percent RAP allowed in the design and on the difference in average properties between the old and new stockpiles. A replenished stockpile may be used as the RAP ingredient in an existing approved design provided that:

1. The Maximum Percent Allowed for the replenishment stockpile equals or exceeds the percent RAP called for in the mix design. In no case may the Maximum Percent Allowed be exceeded.

However, if a mix design calls for up to 5.0 percent more than the Maximum Percent Allowed for the replenishment, the *design* may be adjusted, with approval, to use the lower percent allowed, provided that the production mixture continues to meet all acceptance criteria. For example, a design which calls for 20 percent RAP may be adjusted and produced with 15 percent if it continues to meet for acceptance.

#### **VII. CONTINUAL REPLENISHMENT WITHOUT RE-APPROVAL**

At the request of the contractor, a previously approved stockpile may be placed in Continual Replenishment Status and may be replenished any number of times without re-approval provided that:

1. Replenishment is within six months of the last stockpile addition.
2. The contractor shall continue to monitor and test the materials added to the stockpile and shall forward these results to the Division of Materials for every 1,000 tons of RAP added to the stockpile.
3. The contractor must certify that replenishment materials are free of contaminants.
4. The Department shall be notified by letter to the Director of the Division of Materials that the stockpile is being replenished on a continual basis.
5. The RAP Maximum Percent Allowed for continual replenishment shall be limited by Sections III and IV.

**Note: Upon request, one 20-pound sample bag of RAP for each Continual Replenishment Stockpile shall be submitted to the Division of Materials for petrographic analysis every 12 months.**

The Department may inspect, sample, and test such stockpiles at its discretion and may, upon determining that the stockpile is unsuitable, withdraw approval of the material and all mix designs which include it. Approval of the stockpile may be withdrawn at any time based upon extreme or erratic ingredient proportions, unsuitable ingredients, or poor performance, as determined by the Division of Materials, Asphalt Branch. The Department will conduct periodic comparison testing on the opposite quarters of samples submitted by the Contractor for special replenishment approval category. The approval of the stockpile may be withdrawn if

erroneous information was found on the contractor's testing and/or improper sampling procedures were involved after a thorough investigation.

### **VIII. DEPLETION OF STOCKPILE AND EXPIRATION OF APPROVAL**

When a stockpile has been fully depleted, the Contractor may replenish it within 24 months after the date of depletion; a depleted stockpile not replenished after 24 months will be removed from the approved list and may not be replenished.

Approval of a stockpile may be withdrawn if, in the finding of the Division of Materials, Asphalt Branch, the total amount of material used in new mixtures equals the total tonnage of the original stockpile plus all approved replenishments. Six years from the original approval of a stockpile or from its most recent replenishment, a stockpile shall be presumed to be depleted, and its approval shall expire. This shall apply to all stockpiles, regardless of status or history of use.

### **IX. RECORDS**

The Contractor shall maintain records at the plant site on all RAP stockpiles. These records shall be available for inspection by representatives of the Department and shall include the following:

- All test results.
- The Department's approval letter for each stockpile and replenishment, together with the Contractor's requests for approval and all data submitted therewith.
- A current drawing of all stockpile locations at the plant site, including unapproved stockpiles, showing stockpile numbers of all stockpiles approved for State work.

### **X. RELOCATION OF STOCKPILE**

If material from an approved RAP stockpile is to be moved to another location, the contractor shall seek approval from the Department prior to its further use on State projects. A letter request shall be submitted to the Division of Materials indicating the current stockpile location, the total quantity of material to be moved, and the amount, if any, to remain in the current location. The Division of Materials will issue an approval letter applicable to the new location.

June 18, 2025

### **SPECIAL NOTE FOR DITCHING BY STATE FORCES**

The Department will perform ditching, including regrading and reshaping ditches to provide positive drainage.

Notify the Engineer in writing a minimum of two (2) weeks prior to beginning any work on the project. The Engineer will coordinate the Department's operations with the Contractor's work.

1-3210 Ditching by Department  
01/02/2012

## SPECIAL NOTE FOR PAVEMENT WEDGE AND SHOULDER MONOLITHIC OPERATION

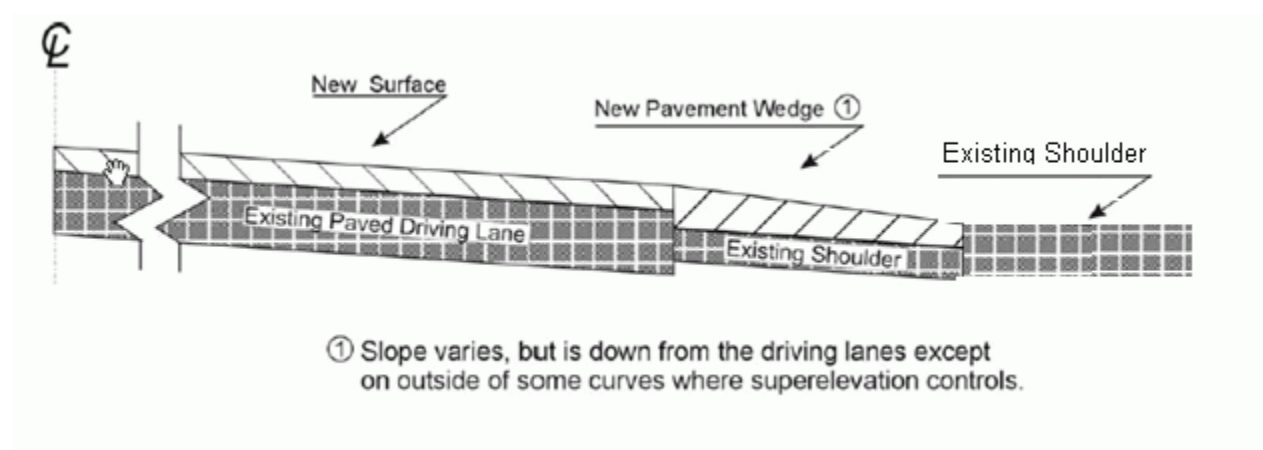
**1.0 MATERIALS.** Provide an Asphalt Surface Mixture conforming to Section 403 of the Standard Specifications, as applicable to the project, for the pavement wedge.

**2.0 CONSTRUCTION.** Place the specified Asphalt Surface Mixture on shoulders monolithically with the driving lane. Prime the existing shoulder with tack material as the Engineer directs before placing the wedge. Construct according to Section 403.03 of the Standard Specifications.

Equip the paver with a modified screed that extends the full width of the wedge being placed and is tapered to produce a wedge. Obtain the Engineer's approval of the modified screed before placing shoulder wedge monolithically with the driving lane.

The wedge may vary in thickness at the edge of the milled area in the shoulder. If the area to receive the shoulder wedge is milled prior to placement, during rolling operations pinch the outside edge of the new inlay wedge to match the existing shoulder elevation not being resurfaced. Unless required otherwise by the Contract, construct rolled or sawed rumble strips according to Section 403.03.08, as applicable.

The following sketch is primarily for the computation of quantities; however, the wedge will result in a similar cross-section where sufficient width exists. Do not construct a shoulder for placing the wedge unless specified elsewhere in the Contract.

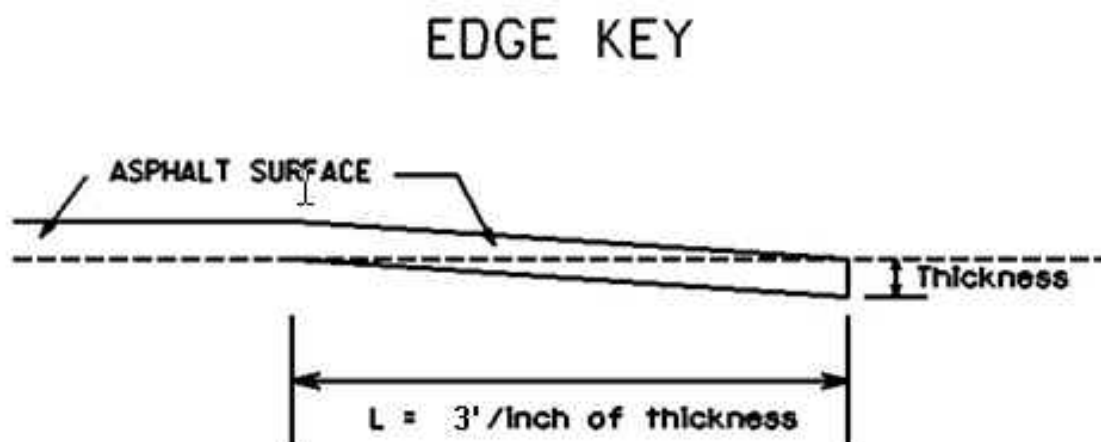


**3.0 MEASUREMENT.** The Department will measure Asphalt Surface Mixture placed as the pavement wedge according to Section 403.

**4.0 PAYMENT.** The Department will make payment for the completed and accepted quantities of Asphalt Surface Mixtures on pavement wedges according to Section 403.

## SPECIAL NOTE FOR EDGE KEY

Construct Edge Keys at the beginning of project, end of project, at railroad crossings, and at intersections with ramps, as applicable. Unless specified in the Contract or directed by the Engineer, do not construct edge keys at intersecting streets, roads, alleys, or entrances. Cut out the existing asphalt surface to the required depth and width shown on the drawing and heel the new surface into the existing surface. The Department will measure the Edge Key at the joint as the width of the pavement perpendicular to the centerline in linear feet. The Department will pay for this work at the Contract unit price per linear foot, which shall be full compensation for all labor, materials, equipment, and incidentals for removal and disposal of the existing asphalt surface required to construct the edge key.



**L = Length of Edge Key**



### **SPECIAL NOTE FOR TYPICAL SECTION DIMENSIONS**

Consider the dimensions shown on the typical sections for pavement and shoulder widths and thickness' to be nominal or typical dimensions. The Engineer may direct or approve varying the actual dimensions to be constructed to fit existing conditions. Do not widen existing pavement or shoulders unless specified elsewhere in this proposal or directed by the engineer.

1-3725 Typical Section Dimensions  
01/02/2012

## **TRAFFIC CONTROL PLAN**

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### **TRAFFIC CONTROL GENERAL**

Except as provided herein, maintain and control traffic in accordance with the Standard and Supplemental Specifications and the Standard and Sepia Drawings, current editions. Except for the roadway and traffic control bid items listed, all items of work necessary to maintain and control traffic will be paid at the lump sum bid price to "Maintain and Control Traffic".

Contrary to Section 106.01, furnish new, or used in like new condition, traffic control devices at the beginning of the work and maintain in like new condition until completion of the work.

### **PROJECT PHASING & CONSTRUCTION PROCEDURES**

The Engineer may specify days and hours when lane closures will not be allowed.

Maintain alternating one way traffic during construction. Provide a minimum clear lane width of 11.0 feet; however, provide for passage of vehicles of up to 16 feet in width. If traffic should be stopped due to construction operations, and a school bus on an official run arrives on the scene, make provisions for the passage of the bus as quickly as possible.

### **LANE CLOSURES**

Do not leave lane closures in place during non-working hours.

### **SIGNS**

At locations where scrub seal has been applied and not covered by the final surface course, place "LOOSE GRAVEL" warning signs and "SPEED LIMIT 25 MPH" as directed by the engineer.

Sign posts and splices shall be compliant with NCHRP 350 or MASH. Manufacturer's documentation validating this compliance shall be provided to the Engineer prior to installation. Signs, including any splices, shall be installed according to manufacturer's specifications and installation recommendations. Contrary to section 112.04.02, only long-term signs (signs intended to be continuously in place for more than 3 days) will be measured for payment. Short-term signs (signs intended to be left in place for 3 days or less) will not be measured for payment but will be incidental to Maintain and Control Traffic.

### **CHANGEABLE MESSAGE SIGNS**

## Traffic Control Plan

### Page 2 of 10

Provide changeable message signs in advance of and within the project at locations determined by the Engineer. If work is in progress concurrently in both directions or if more than one lane closure is in place in the same direction of travel, provide additional changeable message signs as directed by the Engineer. Place changeable message signs one mile in advance of the anticipated queue at each lane closure. As the actual queue lengthens and/or shortens, relocate or provide additional changeable message signs so that traffic has warning of slowed or stopped traffic at least one mile but not more than two miles before reaching the end of the actual queue. The Engineer may vary the designated locations as the work progresses. The Engineer will determine the messages to be displayed. In the event of damage or mechanical/electrical failure, repair or replace the Changeable Message Sign within 24 hours. The Department will measure for payment the maximum number of Changeable Message Signs in concurrent use at the same time on a single day on all sections of the contract. The Department will measure individual Changeable Message Signs only once for payment, regardless of how many times they are set, reset, removed, and relocated during the duration of the project. The Department will not measure replacements for damaged Changeable Message Signs or for signs the Engineer directs be replaced due to poor condition or readability. Retain possession of the Changeable Message Signs upon completion of the work.

## **TEMPORARY ENTRANCES**

The Engineer will not require the Contractor to provide continuous access to farms, single family, duplex, or triplex residential properties during working hours; however, provide reasonable egress and ingress to each such property when actual operations are not in progress at that location. Limit the time during which a farm or residential entrance is blocked to the minimum length of time required for actual operations, not extended for the Contractor's convenience, and in no case exceeding six (6) hours. Notify all residents twenty-four hours in advance of any driveway or entrance closings and make any accommodations necessary to meet the access needs of disabled residents.

Except as allowed by the Phasing as specified above, maintain direct access to all side streets and roads, schools, churches, commercial properties and apartments or apartment complexes of four or more units at all times.

The Department will measure asphalt materials required to construct and maintain any temporary entrances which may be necessary to provide temporary access; however, the Department will not measure aggregates, excavation, and/or embankment, but shall be incidental to Maintain and Control Traffic. The Engineer will determine the type of surfacing material, asphalt or aggregate, to be used at each entrance.

## **THERMOPLASTIC INTERSECTION MARKINGS**

Traffic Control Plan  
Page 3 of 10

Consider the locations listed on the summary as approximate only. Prior to milling and/or resurfacing, locate and document the locations of the existing markings. After resurfacing, replace the markings at their approximate existing locations or as directed by Engineer. Place markings not existing prior to resurfacing as directed by the Engineer.

## **BARRICADES**

The Department will not measure barricades used in lieu of barrels and cones for channelization or delineation, but shall be incidental to Maintain and Control Traffic according to Section 112.04.01.

The Department will measure barricades used to protect pavement removal areas in individual units. Each. The Department will measure for payment the maximum number of barricades in concurrent use at the same time on a single day on all sections of the contract. The Department will measure individual barricades only once for payment, regardless of how many times they are set, reset, removed, and relocated during the duration of the project. The Department will not measure replacements for damaged barricades the Engineer directs to be replaced due to poor condition or reflectivity. Retain possession of the Barricades upon completion of construction.

## **PAVEMENT MARKINGS**

If there is to be a deviation from the existing striping plan, the Engineer will furnish the Contractor a striping plan prior to placement of the final surface course.

Install Temporary Striping according to Section 112 with the following exception:

If the Contractor's operations or phasing requires temporary markings that must subsequently be removed from the final surface course, use an approved removable lane tape; however, the Department will not measure removable lane tape for separate payment, but will measure and pay for removable lane tape as temporary striping.

## **PAVEMENT EDGE DROP-OFFS**

Do not allow a pavement edge between opposing directions of traffic or lanes that traffic is expected to cross in a lane change situation with an elevation difference greater than 1½". Place Warning signs (MUTCD W8-11 or W8-9A) in advance of and at 1500' intervals throughout the drop-off area. Dual post the signs on both sides of the traveled way. Wedge all transverse transitions between resurfaced and unresurfaced areas which traffic may cross with asphalt mixture for leveling and wedging. Remove the wedges prior to placement of the final surface course.

Protect pavement edges that traffic is not expected to cross, except accidentally, as follows:

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Less than 2" - No protection required.

2" to 4" - Place plastic drums, vertical panels, or barricades every 50 feet. During daylight working hours only, the Engineer will allow the Contractor to use cones in lieu of plastic drums, panels, and barricades. Wedge the drop-off with DGA or asphalt mixture for leveling and wedging with a 1:1 or flatter slope in daylight hours, or 3:1 or flatter slope during nighttime hours, when work is not active in the drop-off area.

Greater than 4" - Protect drop-offs greater than 4 inches within 10 feet of traffic by placing drums, vertical panels, or barricades every 25 feet. The Engineer will not allow the use of cones in lieu of drums, vertical panels, or barricades for drop-offs greater than 4". Place Type III Barricades directly in front of the drop-off facing on coming traffic in both directions of travel. Provide warning signs as shown on the Standard Drawings or as directed by the Engineer

Pedestrians & Bicycles - Protect pedestrian and bicycle traffic as directed by the engineer.

## **USE AND PLACEMENT OF CHANGEABLE MESSAGE SIGNS**

The following policy is based upon current Changeable Message Signs (CMS) standards and practice from many sources, including the Federal Highway Administration (FHWA), other State Departments of Transportation, and Traffic Safety Associations. It is understood that each CMS installation or use requires individual consideration due to the specific location or purpose. However, there will be elements that are constant in nearly all applications. Accordingly these recommended guidelines bring a level of uniformity, while still being open to regional experience and engineering judgment.

### **Application**

The primary purpose of CMS is to advise the driver of unexpected traffic and routing situations. Examples of applications where CMS can be effective include:

- Closures (road, lane, bridge, ramp, shoulder, interstate)
- Changes in alignment or surface conditions
- Significant delays, congestion
- Construction/maintenance activities (delays, future activities)
- Detours/alternative routes
- Special events with traffic and safety implications
- Crash/incidents
- Vehicle restrictions (width, height, weight, flammable)
- Advance notice of new traffic control devices
- Real-time traffic conditions (must be kept up to date)
- Weather /driving conditions, environmental conditions, Roadway Weather Information Systems
- Emergency Situations
- Referral to Highway Advisory Radio (if available)
- Messages as approved by the County Engineer's Office

### **CMS should not be used for:**

- Replacement of static signs (e.g. road work ahead), regulatory signage (e.g. speed limits), pavement markings, standard traffic control devices, conventional warning or guide signs.
- Replacement of lighted arrow board
- Advertising (Don't advertise the event unless clarifying "action" to be taken by driver – e.g. Speedway traffic next exit)
- Generic messages
- Test messages (portable signs only)
- Describe recurrent congestion (e.g. rush hour)
- Public service announcements (not traffic related)

## Traffic Control Plan

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#### **Messages**

Basic principles that are important to providing proper messages and insuring the proper operation of a CMS are:

- Visible for at least ½ mile under ideal daytime and nighttime conditions
- Legible from all lanes a minimum of 650 feet
- Entire message readable twice while traveling at the posted speed
- Nor more than two message panels should be used (three panels may be used on roadways where vehicles are traveling less than 45 mph). A panel is the message that fits on the face of the sign without flipping or scrolling.
- Each panel should convey a single thought; short and concise
- Do not use two unrelated panels on a sign
- Do not use the sign for two unrelated messages
- Should not scroll text horizontally or vertically
- Should not contain both the words left and right
- Use standardized abbreviations and messages
- Should be accurate and timely
- Avoid filler/unnecessary words and periods (hazardous, a, an, the)
- Avoid use of speed limits
- Use words (not numbers) for dates

#### **Placement**

Placement of the CMS is important to insure that the signs is visible to the driver and provides ample time to take any necessary action. Some of the following principles may only be applicable to controlled access roadways. The basic principles of placement for a CMS are:

- When 2 signs are needed, place on same side of roadway and at least 1,000 feet apart
- Place behind semi-rigid/rigid protection (guardrail, barrier) or outside of the clear zone
- Place 1,000 feet in advance of work zone; at least one mile ahead of decision point
- Normally place on right side of roadway; but should be placed closest to the affected lane so that either side is acceptable
- Signs should not be dual mounted (one on each side of roadway facing same direction)
- Point trailer hitch downstream
- Secure to immovable object to prevent thief (if necessary)
- Do not place in sags or just beyond crest
- Check for reflection of sun to prevent the blinding of motorist
- Should be turned ~3 degrees outward from perpendicular to the edge of pavement
- Bottom of sign should be 7 feet above the elevation of edge of roadway
- Should be removed when not in use
-

Traffic Control Plan  
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### Standard Abbreviations

The following is a list of standard abbreviations to be used on CMS.

| <u>Word</u>         | <u>Abbrev.</u> | <u>Example</u>                           |
|---------------------|----------------|------------------------------------------|
| Access              | ACCS           | ACCIDENT AHEAD/USE ACCS RD<br>NEXT RIGHT |
| Alternate           | ALT            | ACCIDENT AHEAD/USE ALT RTE<br>NEXT RIGHT |
| Avenue              | AVE            | FIFTH AVE CLOSED/DETOUR<br>NEXT LEFT     |
| Blocked             | BLKD           | FIFTH AVE BLKD/MERGE LEFT                |
| Boulevard           | BLVD           | MAIN BLVD CLOSED/USE ALT RTE             |
| Bridge              | BRDG           | SMITH BRDG CLOSED/USE ALT<br>RTE         |
| Cardinal Directions | N, S, E, W     | N I75 CLOSED/ DETOUR EXIT 30             |
| Center              | CNTR           | CNTR LANE CLOSED/MERGE LEFT              |
| Commercial          | COMM           | OVRSZ COMM VEH/USE I275                  |
| Condition           | COND           | ICY COND POSSIBLE                        |
| Congested           | CONG           | HVY CONG NEXT 3 MI                       |
| Construction        | CONST          | CONST WORK AHEAD/EXPECT<br>DELAYS        |
| Downtown            | DWNTN          | DWNTN TRAF USE EX 40                     |
| Eastbound           | E-BND          | E-BND I64 CLOSED/DETOUR<br>EXIT 20       |
| Emergency           | EMER           | EMER VEH AHEAD/PREPARE TO<br>STOP        |
| Entrance, Enter     | EX, EXT        | DWNTN TRAF USE EX 40                     |
| Expressway          | EXPWY          | WTRSN EXPWY CLOSED/DETOUR<br>EXIT 10     |
| Freeway             | FRWY, FWY      | GN SYNDR FWY CLOSED/DETOUR<br>EXIT 15    |
| Hazardous Materials | HAZMAT         | HAZMAT IN ROADWAY/ALL TRAF<br>EXIT 25    |
| Highway             | HWY            | ACCIDENT ON AA HWY/EXPECT<br>DELAYS      |
| Hour                | HR             | ACCIDENT ON AA HWY/2 HR<br>DELAY         |
| Information         | INFO           | TRAF INFO TUNE TO 1240 AM                |
| Interstate          | I              | E-BND I64 CLOSED/DETOUR<br>EXIT 20       |
| Lane                | LN             | LN CLOSED/MERGE LEFT                     |
| Left                | LFT            | LANE CLOSED/MERGE LFT                    |
| Local               | LOC            | LOC TRAF USE ALT RTE                     |
| Maintenance         | MAINT          | MAINT WRK ON BRDG/SLOW                   |
| Major               | MAJ            | MAJ DELWAYS I75/USE ALT RTE              |



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|            |       |                                       |
|------------|-------|---------------------------------------|
| Mile       | MI    | ACCIDENT 3 MI AHEAD/ USE<br>ALT RTE   |
| Minor      | MNR   | ACCIDENT 3 MI MNR DELAY               |
| Minutes    | MIN   | ACCIDENT 3 MI/30 MIN DELAY            |
| Northbound | N-BND | N-BND I75 CLOSED/ DETOUR<br>EXIT 50   |
| Oversized  | OVRSZ | OVRSZ COMM VEH/USE I275<br>NEXT RIGHT |
| Parking    | PKING | EVENT PKING NEXT RGT                  |
| Parkway    | PKWY  | CUM PKWAY TRAF/DETOUR<br>EXIT 60      |
| Prepare    | PREP  | ACCIDENT 3 MIL/PREP TO STOP           |
| Right      | RGT   | EVENT PKING NEXT RGT                  |
| Road       | RD    | HAZMAT IN RD/ALL TRAF EXIT 25         |
| Roadwork   | RDWK  | RDWK NEXT 4 MI/POSSIBLE<br>DELAYS     |
| Route      | RTE   | MAJ DELAYS I75/USE ALT RTE            |
| Shoulder   | SHLDR | SHLDR CLOSED NEXT 5 MI                |
| Slippery   | SLIP  | SLIP COND POSSIBLE/ SLOW SPD          |
| Southbound | S-BND | S-BND I75 CLOSED/DETOUR<br>EXIT 50    |
| Speed      | SPD   | SLIP COND POSSIBLE/ SLOW SPD          |
| Street     | ST    | MAIN ST CLOSED/USE ALT RTE            |
| Traffic    | TRAF  | CUM PKWAY TRAF/DETOUR<br>EXIT 60      |
| Vehicle    | VEH   | OVRSZ COMM VEH/USE I275<br>NEXT RIGHT |
| Westbound  | W-BND | W-BND I64 CLOSED/DETOUR<br>EXIT 50    |
| Work       | WRK   | CONST WRK 2MI/POSSIBLE<br>DELAYS      |

Certain abbreviations are prone to inviting confusion because another word is abbreviated or could be abbreviated in the same way. DO NO USE THESE ABBREVIATIONS.

| <u>Abbrev.</u> | <u>Intended Word</u> | <u>Word Erroneously Given</u> |
|----------------|----------------------|-------------------------------|
| ACC            | Accident             | Access (Road)                 |
| CLRS           | Clears               | Colors                        |
| DLY            | Delay                | Daily                         |
| FDR            | Feeder               | Federal                       |
| L              | Left                 | Lane (merge)                  |
| LOC            | Local                | Location                      |
| LT             | Light (traffic)      | Left                          |
| PARK           | Parking              | Park                          |
| POLL           | Pollution (index)    | Poll                          |
| RED            | Reduce               | Red                           |
| STAD           | Stadium              | Standard                      |

|              |                      |                      |
|--------------|----------------------|----------------------|
| TEMP<br>WRNG | Temporary<br>Warning | Temperature<br>Wrong |
|--------------|----------------------|----------------------|

TYPICAL MESSAGES

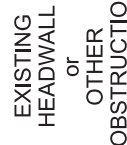
The following is a list of typical messages used on CMS. The list consists of the reason or problem that you want the driver to be aware of and the action that you want the driver to take.

| <u>Reason/Problem</u>                | Action              |
|--------------------------------------|---------------------|
| ACCIDENT                             | ALL TRAFFIC EXIT RT |
| ACCIDENT/XX MILES                    | AVOID DELAY USE XX  |
| XX ROAD CLOSED                       | CONSIDER ALT ROUTE  |
| XX EXIT CLOSED                       | DETOUR              |
| BRIDGE CLOSED                        | DETOUR XX MILES     |
| BRIDGE/(SLIPPERY, ICE, ETC.)         | DO NOT PASS         |
| CENTER/LANE/CLOSED                   | EXPECT DELAYS       |
| DELAY(S), MAJOR/DELAYS               | FOLLOW ALT ROUTE    |
| DEBRIS AHEAD                         | KEEP LEFT           |
| DENSE FOG                            | KEEP RIGHT          |
| DISABLED/VEHICLE                     | MERGE XX MILES      |
| EMER/VEHICLES/ONLY                   | MERGE LEFT          |
| EVENT PARKING                        | MERGE RIGHT         |
| EXIT XX CLOSED                       | ONE-WAY TRAFFIC     |
| FLAGGER XX MILES                     | PASS TO LEFT        |
| FOG XX MILES                         | PASS TO RIGHT       |
| FREEWAY CLOSED                       | PREPARE TO STOP     |
| FRESH OIL                            | REDUCE SPEED        |
| HAZMAT SPILL                         | SLOW                |
| ICE                                  | SLOW DOWN           |
| INCIDENT AHEAD                       | STAY IN LANE        |
| LANES (NARROW, SHIFT, MERGE, ETC.)   | STOP AHEAD          |
| LEFT LANE CLOSED                     | STOP XX MILES       |
| LEFT LANE NARROWS                    | TUNE RADIO 1610 AM  |
| LEFT 2 LANES CLOSED                  | USE NN ROAD         |
| LEFT SHOULDER CLOSED                 | USE CENTER LANE     |
| LOOSE GRAVEL                         | USE DETOUR ROUTE    |
| MEDIAN WORK XX MILES                 | USE LEFT TURN LANE  |
| MOVING WORK ZONE, WORKERS IN ROADWAY | USE NEXT EXIT       |
| NEXT EXIT CLOSED                     | USE RIGHT LANE      |
| NO OVERSIZED LOADS                   | WATCH FOR FLAGGER   |
| NO PASSING                           |                     |
| NO SHOULDER                          |                     |
| ONE LANE BRIDGE                      |                     |

## Traffic Control Plan

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PEOPLE CROSSING  
RAMP CLOSED  
RAMP (SLIPPERY, ICE, ETC.)  
RIGHT LANE CLOSED  
RIGHT LANE NARROWS  
RIGHT SHOULDER CLOSED  
ROAD CLOSED  
ROAD CLOSED XX MILES  
ROAD (SLIPPERY, ICE, ETC.)  
ROAD WORK  
ROAD WORK (OR CONSTRUCTION) (TONIGHT, TODAY, TOMORROW, DATE)  
ROAD WORK XX MILES  
SHOULDER (SLIPPERY, ICE, SOFT, BLOCKED, ETC.)  
NEW SIGNAL XX MILES  
SLOW 1 (OR 2) - WAY TRAFFIC  
SOFT SHOULDER  
STALLED VEHICLES AHEAD  
TRAFFIC BACKUP  
TRAFFIC SLOWS  
TRUCK CROSSING  
TRUCKS ENTERING  
TOW TRUCK AHEAD  
UNEVEN LANES  
WATER ON ROAD  
WET PAINT  
WORK ZONE XX MILES  
WORKERS AHEAD



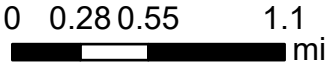
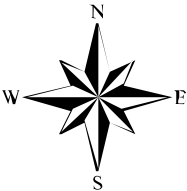
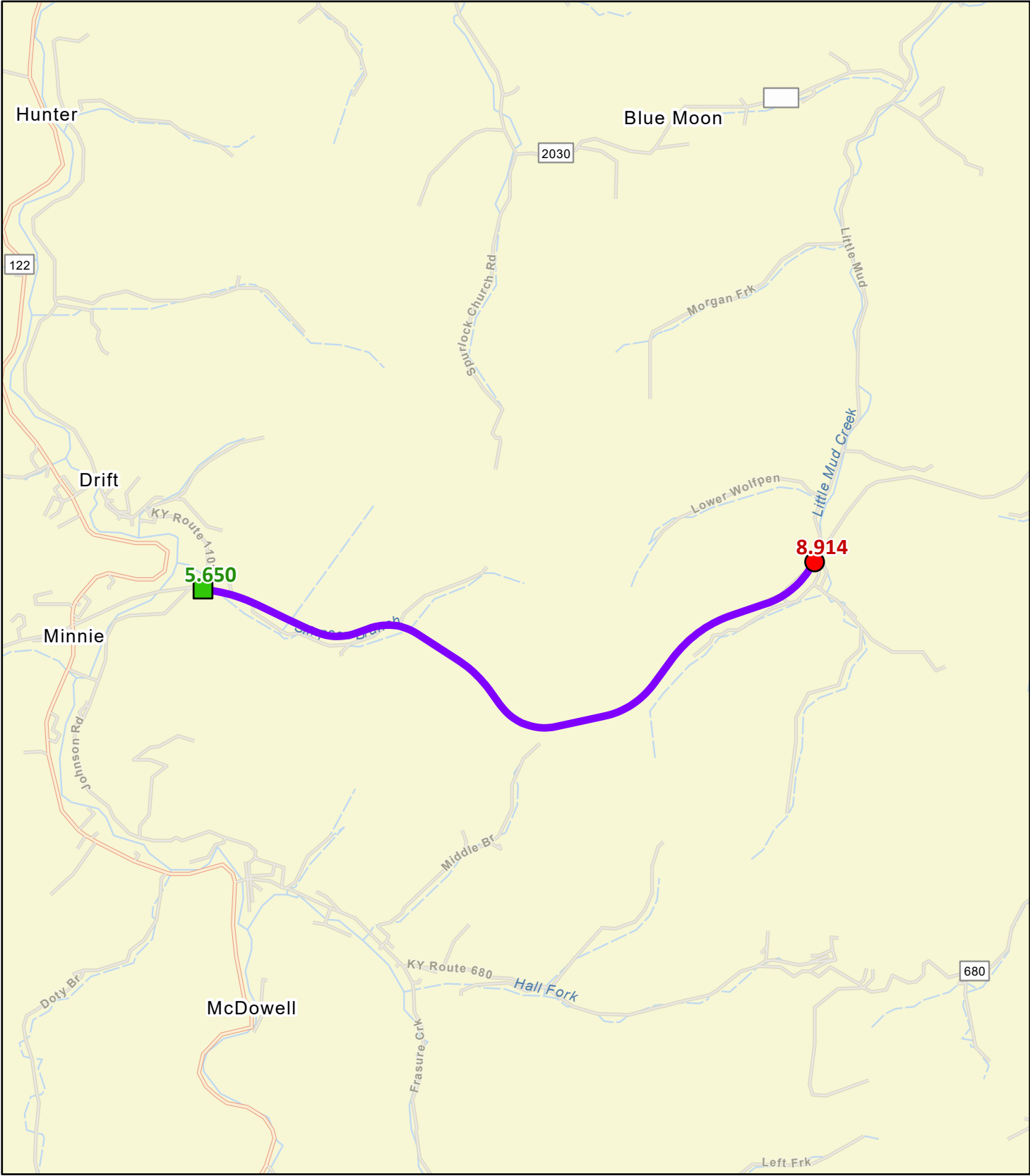
EXISTING  
FILL SLOPE or  
DITCH FORESLOPE



1. DETAILS DO NOT APPLY TO OVERLAYS LESS THAN 1 INCH THICK.
2. THE DURABLE PAVEMENT EDGE DEVICE MAY BE DISENGAGED AT DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT, AS APPROVED BY THE ENGINEER.

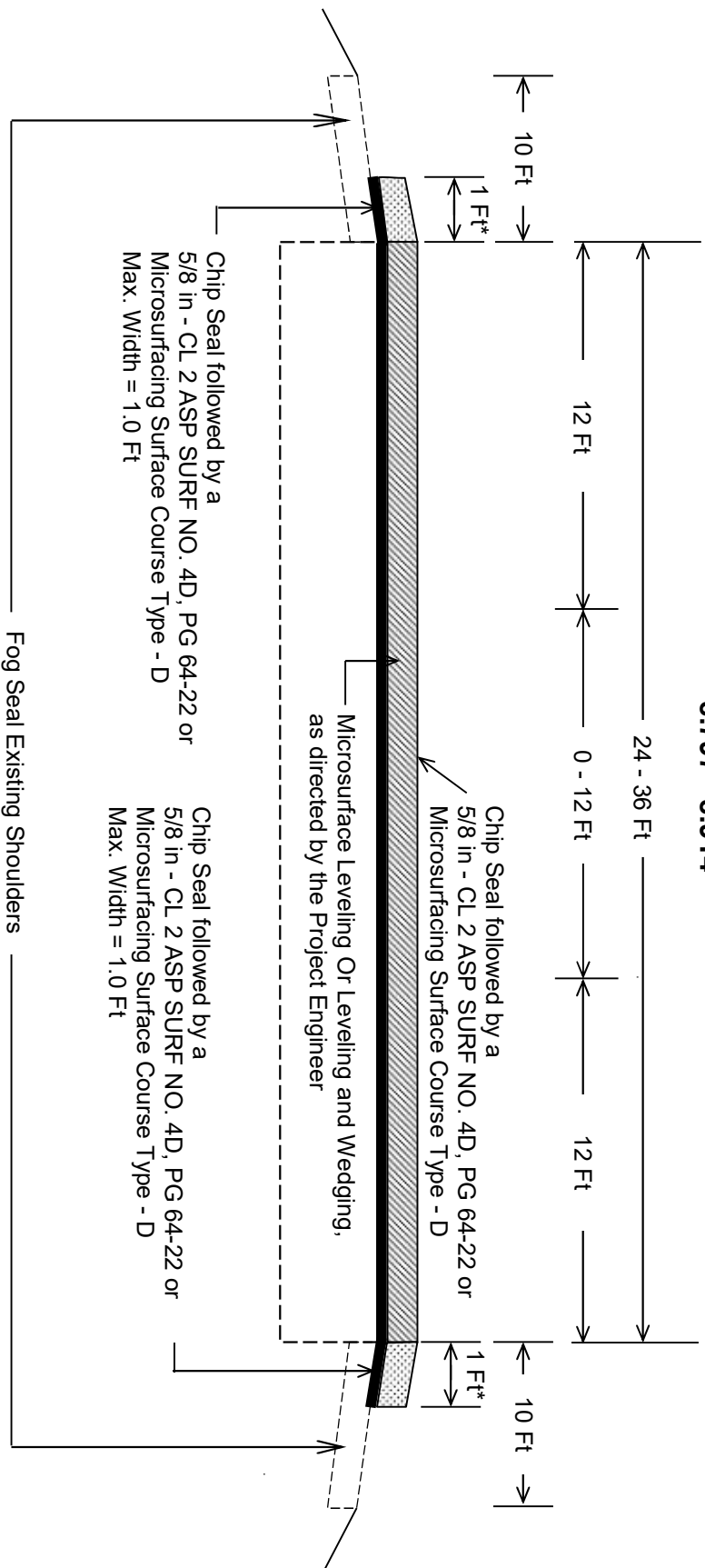
## DURABLE PAVEMENT EDGE DETAILS

FD05 036 0680 005-009 - FLOYD CO.



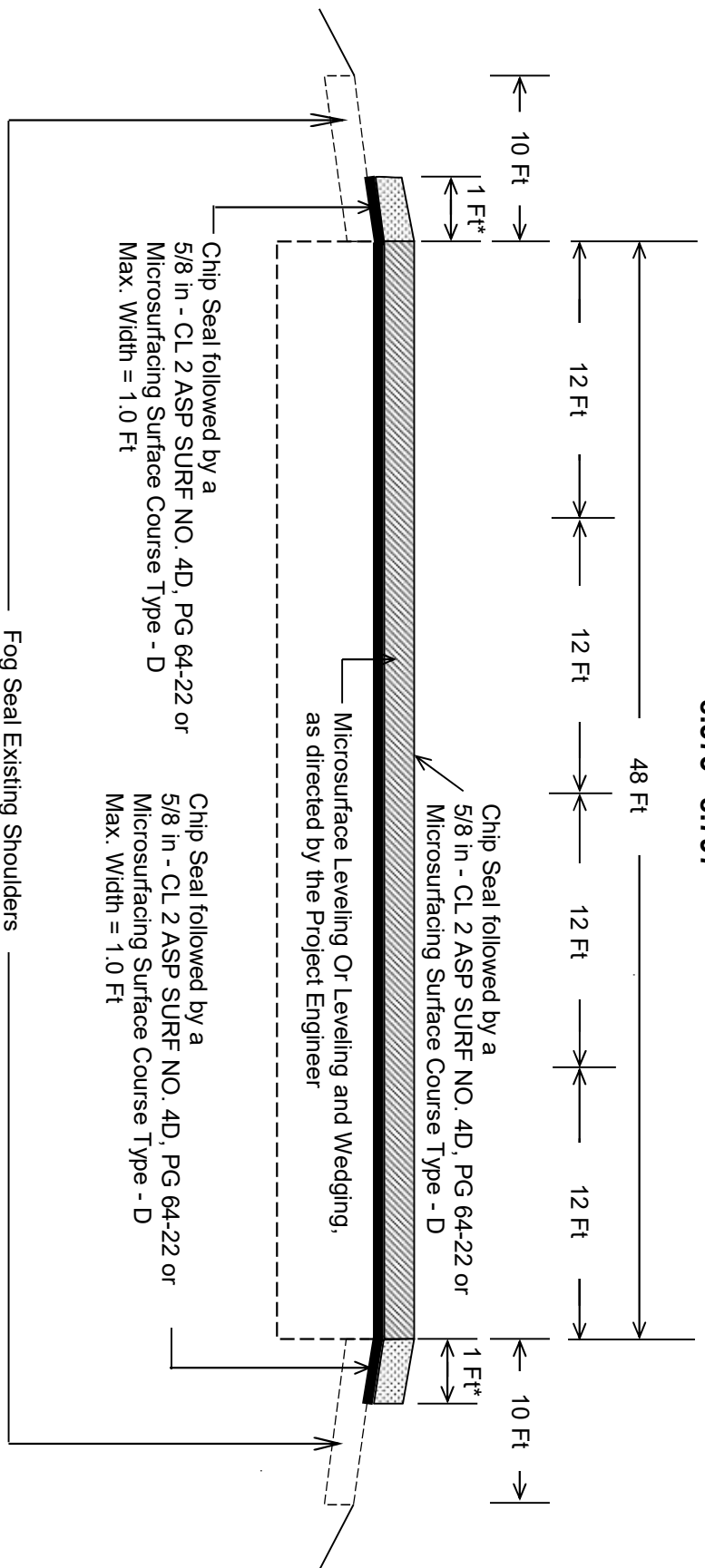
| MPT.    | INTERSECTION      | CROSS<br>HATCH<br>SQFT | ARROWS<br>CURVE<br>EA |
|---------|-------------------|------------------------|-----------------------|
| 5.770   | KY 1101           |                        | 2                     |
| 5.900   | Simpson Br        |                        | 2                     |
| 6.045   |                   |                        | 2                     |
| Various | Various Locations | 2000                   |                       |
|         |                   |                        |                       |
|         |                   |                        |                       |
|         |                   |                        |                       |
|         |                   |                        |                       |
|         |                   |                        |                       |
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|         |                   |                        |                       |
|         |                   |                        |                       |
|         |                   |                        |                       |
|         |                   |                        |                       |
| TOTAL   |                   | 2000                   | 6                     |

**MP's 5.650 - 7.470**  
**7.750 - 8.575**  
**8.797 - 8.914**



**\*DO NOT DISTURB EXISTING RUMBLE STRIPS**

**Floyd County**  
**TYPICAL SECTION**  
**FD05 036 0680 005-009**  
**MP's 7.470 - 7.750**  
**8.575 - 8.797**



**\*DO NOT DISTURB EXISTING RUMBLE STRIPS**



The diagram consists of two parts. The top part is a plan view of a bridge deck of width  $W$ , bounded by 'BRIDGE CURB' on both sides. It shows a top surface with a trapezoidal load  $T$  on the left and a rectangular load  $T_R$  on the right. A dashed line represents the centerline, with vertical arrows pointing up from it. The bottom part is a cross-section of the deck. It shows a horizontal line representing the top surface and a dashed line representing the bottom reinforcement. Three vertical lines represent internal supports. The horizontal distances between these supports are labeled  $L_1$ ,  $L$ , and  $L_2$ . Upward arrows represent loads:  $P_R$  at the first and third supports, and  $T_R$  at the second support.

Note:  $L_1$  &  $L_2$  lengths shall be determined by using a transition rate of 100 ft/in of thickness

[illegible]

**PART II**

**SPECIFICATIONS AND STANDARD DRAWINGS**

### **STANDARD SPECIFICATIONS**

Any reference in the plans or proposal to previous editions of the *Standard Specifications for Road and Bridge Construction* and *Standard Drawings* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2019* and *Standard Drawings, Edition of 2020*.

### **SUPPLEMENTAL SPECIFICATIONS**

The contractor shall use the Supplemental Specifications that are effective at the time of letting. The Supplemental Specifications can be found at the following link:  
<http://transportation.ky.gov/Construction/Pages/Kentucky-Standard-Specifications.aspx>

11L

## **SPECIAL NOTE FOR MICROSURFACING**

**1. DESCRIPTION.** This work consists of constructing a cold-laid, polymer-modified, emulsified asphalt pavement course to fill ruts or provide an intermediate or surface course for existing pavements. The paving mixture is composed of a polymer-modified emulsified asphalt, crushed aggregate, mineral filler, water, and possibly other additives. Follow the requirements outlined in ASTM D 6372, Standard Practice for Design, Testing, and Construction of microsurfacing, with modifications as found in this note. Apply this material according to the lines, grades, and typical cross-sections in the plans or as established by the Engineer.

Unless otherwise noted, Section references herein are to the Department's Standard Specifications for Road and Bridge Construction, current edition. All applicable portions of the Department's Standard Specifications apply unless specifically modified herein.

## **2. MATERIALS AND EQUIPMENT.**

**2.1 Mineral Filler.** Use Portland Cement, Type I, conforming to Section 801.

**2.2 Aggregate.** Provide 100-percent crushed aggregate conforming to Sections 804 and 805. Contrary to Subsection 403.03.03, provide polish-resistant aggregate in the asphalt mixture conforming to one of the following requirements:

### **Microsurfacing Type A**

- 100 percent of total combined aggregate is Class A polish-resistant aggregate.

### **Microsurfacing Type B**

- 100 percent of total combined aggregate is Class B or Class A polish-resistant aggregate.

### **Microsurfacing Type D**

- No polish-resistant aggregate requirements.

Contrary to ASTM D 6372, test sand equivalent according to AASHTO T 176, soundness according to Kentucky Method (KM) 64-610, and a maximum LA abrasion resistance of 35 percent when tested according to AASHTO T 96. Ensure all aggregates satisfy ASTM D 6372 for sand equivalent, soundness, and LA abrasion listed above.

Do not use mineral aggregates that are inherently porous, such as blast-furnace slag, expanded shale, porous limestone, and lightweight aggregates, in this mixture.

**2.3 Water.** Conform to Section 803.

11L

**2.4 Emulsified Asphalt.** The polymer-modified emulsion will be a CQS-1hP or a CQS-1hL latex-modified emulsion conforming to AASHTO M 208 and tested according to T59. Distill sample at 350 °F. In addition, ensure that the emulsified asphalt conforms to the following criteria:

| <u>Test</u>                      | <u>Criteria</u> |
|----------------------------------|-----------------|
| Ductility at 77 °F (AASHTO T 51) | 40 cm (min)     |

Ensure the asphalt supplied can be found on the List of Approved Materials.

**2.5 Equipment.** All equipment necessary for the satisfactory performance of the work shall be on hand and approved before the work is permitted to begin. All equipment, tools, and machines used in the performance of this work shall be maintained in satisfactory working condition.

All trucks shall be covered immediately after loading with a cover of canvas or other suitable material. The cover shall lap down along the sides and rear of the truck bed a minimum of 6 in. and be secured by tie downs at a maximum of 5 ft. spacing along the sides and rear of the truck bed. All trucks must be equipped to meet the above requirements prior to commencing hauling operations.

**2.6 Mixing Equipment.** Produce the mixture in a self-propelled, front-feed, continuous-loading machine equipped with a conveyer-belt aggregate-delivery system and an interconnected, positive-displacement, water-jacketed gear pump and/or a variable displacement computerized rate control pump, to accurately proportion the aggregate and asphalt emulsion. Locate the mineral filler feed so the proper amount of mineral filler is dropped on the aggregate before discharge into the pug mill. Provide a spray bar to completely pre-wet the aggregate dropping down to the pug mill with additive and water before the introduction of the asphalt emulsion. Provide a twin-shaft, continuous-flow, multi-blade pug mill that is a minimum of 49 in. long. Ensure that the blade size and side clearances meet the equipment manufacturer's recommendations. Introduce the emulsion within the first one-third of the mixer length to ensure proper mixing of all materials before exiting the pug mill.

Equip the machine with opposite-side driving stations to allow full control of the machine from either side. Equip the mixer with a remote, forward-speed control at the rear mixing platform so the rear operator can control the forward speed and level of mixture in the paving or rut box. Provide material control devices that are readily accessible and positioned so the amount of each material used can be determined at any time.

Equip the mixing machine with a water pressure system and nozzle-type spray bar to provide a water spray ahead of and outside the spreader box when required. Apply water at a rate that will dampen the surface but not create free-flowing water ahead of the spreader box.

The mixer shall be equipped with a computerized material monitoring system with integrated material control devices that are readily accessible and positioned so the

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amount of each material used can be determined at any time. The mixer shall be equipped with a back-up electronic materials counter that is capable of recording running count totals for each material being monitored. The mixer shall include an attached radar ground measuring device or comparable device. Each material control device shall be calibrated prior to each mix application and at the discretion of the Engineer. The computer system shall have the capability to record, display, and print the following information:

- Individual sensor counts for emulsion, aggregate, cement, water and additive
- Aggregate, emulsion, and cement output in pounds per minute
- Ground travel distance
- Spread rate in pounds per square yard
- Percentages of emulsion, cement, water and additive
- Cumulative totals of aggregate, emulsion, cement, water and additive
- Scale factor for all materials

The computer system shall be functional at the beginning of work, and throughout the entire work operation.

**2.7 Aggregate Equipment.** In an effort to eliminate oversize materials in the finished mat, aggregate shall be screened directly into the trucks. The inspector shall view the screen for oversized aggregate and if it is found to have gaps, it shall be replaced or repaired before continuing to place the material.

**2.8 Spreading Equipment.** If a leveling or surface course is specified, apply the mixture uniformly by means of a conventional spreader box.

If a rut-fill course is specified, apply the mixture with a 5-6ft width, “V-shaped” rut-filling spreader box. Equip the rut-filling spreader box with a steel strike-off device.

Attach either type of spreader box to the mixer, and equip it with augers mounted on an adjustable shaft to continually agitate and distribute the materials throughout the box. Ensure that the equipment provides sufficient turbulence to prevent the mix from setting in the box or causing excessive build-up or lumps. To prevent loss of the mixture from the box, attach flexible seals, front and rear, in contact with the road. Operate the spreading equipment in such a manner as to prevent the loss of the mixture on super-elevated curves.

For surface courses, attach a secondary strike-off device to the spreader. Use neoprene rubber drags to obtain the desired finish. Replace drags having excessive buildup. Do NOT use burlap drags.

**2.9 Asphalt Distributor.** For the application of the emulsion shall have full circulation spray bar that is adjustable to at least 12 feet wide in 2 feet increments and capable of heating and circulating the emulsion simultaneously, conforming to **Section 406.02.05**. It must have computerized rate control for adjusting and controlling the

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application from the cab within 0.01 gallons per square yard increments. The distributor shall also be equipped with a volume measuring device and a thermometer for measuring the emulsion temperature in the tank. For each emulsion application, follow manufactures recommendations for proper nozzle type and adjustment.

**2.10 Calibration Equipment.** Supply all of the equipment, materials, and certified scales necessary to perform the calibration according to Section 3.5 of this note.

### 3. CONSTRUCTION.

**3.1 Preparation and Proportioning of Mixture.** Submit a complete mix design to the Division of Construction and to the Division of Materials, Asphalt Branch and Aggregate Section. Mix design shall be prepared by an approved laboratory, to verify the compatibility of the aggregate, asphalt emulsion, mineral filler, and other additives. Perform the mix design with the same materials that will be used on the project. Ensure that the aggregate that is used in the mix design is listed on the Division of Materials *List of Approved Materials (LAM)* for the type of microsurfacing that is being designed.

Ensure the mix design has a residual asphalt content, by dry weight of aggregate, of 7.0 to 8.5 percent for leveling and surface courses and 6.5 to 8.0 percent for rut-filling mixes. Also ensure the mixture contains no reclaimed materials and a mineral filler content between 0.25 and 2.0 percent by dry weight of aggregate.

In addition to the mix design information required by KM 64-421, provide the following (all percentages are based on the dry weight of aggregate):

- minimum and maximum percentage of water; and
- percentage of mix-set additives, if required.
- county and contract listed

Provide test results from an accredited laboratory that conform to ASTM D 6372.

Submit the mix design and two full 5-gallon buckets of the aggregate blend for the mixture to the Division of Materials for verification according to Subsection 402.03 a minimum of four weeks prior to initial use for testing and approval.

When requested by the Engineer, the Contractor shall calculate the % asphalt content of the mixture from the equipment computer display readings. If no request is made by the Engineer, the Contractor shall calculate the % asphalt content of the mixture from the equipment computer display readings randomly, a minimum of 3 times a day. The quality control tolerances from the mix design is  $\pm 0.5\%$ .

**3.2 Mixture Gradation.** When performing a single microsurface application, conform to the Type II requirements that are listed in Table 1 for surface and leveling courses. When performing a double microsurface application, conform to the Type III requirements that are listed in Table 2 for leveling and rut-fill courses.

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**3.3 Weather and Seasonal Limitations.** In addition to the applicable requirements in ASTM D 6372, apply the mixture only when rain is not imminent and the existing pavement surface temperature is at least 50 °F. The ambient temperature shall be at least 50°F and rising and no forecasted temperatures shall be below 40°F within a 24 hour period after placement. Do not place the material between September 30 and May 15.

**3.4 Surface Preparation.** All surfaces intended for application shall be thoroughly cleaned of all vegetation, loose material, dirt, or other objectionable material immediately before application of emulsion using a mechanical sweeper and wire hand brooms.

Remove pavement markers at least 24 hours in advance of paving operation and fill the areas with microsurface material, asphalt material, or other approved material meeting the engineer's specifications. Remove any loose crack sealing material in advance of paving operation.

Remove existing thermoplastic and/or excessive paint markings prior to application.

Contrary to Section 406, apply an approved tack coat material diluted to 2 to 1 at rate of 0.03 to 0.06 gal/yd<sup>2</sup>. Application rate shall be adjusted based on the surface texture and/or porosity. Do not apply tack coat on top of a rut fill or leveling course prior to placing surface course. For a double microsurface treatment, do not apply a tack coat between the first and second application. Apply tack coat only to surfaces that will be covered by the application in the same day. The tack coat material shall be a polymer-modified emulsion CQS-1HP or CSS-1H emulsion.

**3.5 Calibration.** Before mix production, calibrate the mixing equipment in the presence of the Engineer. Generate documentation for the Engineer, including individual calibrations of each material at various settings. Perform a new calibration if there is any change in the mix design. Following calibration and adjustments for changes in the mix design, do not make any further calibration adjustments to the mixing equipment without the Engineer's approval.

**3.6 Application.** Apply the paving mixture in a manner to fill minor surface irregularities and achieve a uniform surface without causing streaking, drag marks, skips, lumps, or tears. Carry a sufficient amount of material in the spreader box at all times to ensure complete and uniform coverage. Avoid overloading the spreader box. Do not allow lumping, balling, or unmixed aggregate in the spreader box.

If a rut-fill course is specified, apply enough material to fill the wheel paths without excess crowning (overfilling). An excess crown is defined as 1/8 in. after 24 h of traffic compaction. Apply rut-fill courses in widths from 5 to 6 ft for each wheel path. If rut depth exceeds 1.0 inches, apply rut fill course in multiple layers. Provide a smooth, neat seam where two rut-fill passes meet. Restore the design profile of the pavement cross-section. Feather the edges of the rut-fill course to minimize the use of excess material. Rut fill course shall not exhibit drag marks or tears greater than 1 inch in width, ½ inch in



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depth and greater than 12 inches in length. Rut fill course shall not exhibit excessive flushing or excessive roughness.

If a leveling course is specified, ensure the material covers the entire surface area. The leveling course may exhibit minor raveling upon opening to traffic but shall not exhibit any continued raveling after the first four hours to traffic. Leveling course shall not exhibit drag marks or tears greater than ½ inch wide, ¼ inch in depth and greater than 12 inches in length. Leveling course shall not exhibit flushing or excessive roughness.

If a leveling course is specified for a double layer of microsurfacing, utilize a type III aggregate and apply the paving mixture at a minimum dry aggregate rate of 18 lb/yd<sup>2</sup>. If a type II mixture is specified to be use as minor leveling, apply the paving mixture at a minimum dry aggregate rate of 14 lb/yd<sup>2</sup>. If a surface course is specified over a leveling course for a double layer, utilize a type II aggregate and apply the paving mixture at a minimum dry aggregate rate of 18 lb/yd<sup>2</sup>. If a single layer surface course is specified, utilize a type II aggregate and apply the paving mixture at a dry aggregate rate of 24 lb/yd<sup>2</sup>. For leveling course provide an even layer creating a neat center seam with no overlap where two passes meet. For surface courses, provide a smooth, neat center seam with a maximum overlap of 2 inches where two passes meet.

Construct surface courses wide enough to cover the outside edges of rut-fill and leveling courses. Maintain straight edge lines along curbs and shoulders. Do not allow runoff in these areas. Ensure that lines at the intersections are straight. Immediately remove excess material from the ends of each run.

Use squeegees and lutes to spread the mixture in areas inaccessible to the spreader box and areas requiring hand-spreading. With the Engineer's approval, adjust the mix-set additive to provide a slower setting time if hand-spreading is needed. Do not adjust the water content. If hand-spreading, pour the mixture in a small windrow along one edge of the surface to be covered, and spread it uniformly by a hand squeegee or lute. Do not over spray the mixture with water by the use of a hose or other equipment.

Ensure the material cures at a rate that will permit traffic on the pavement within one hour of placement or time specified by the engineer.

If the final surface is not uniform in texture, free from streaks, drag marks, lumps, or tears, stop applying mixture and correct the problem. Do not resume work until the engineer is satisfied the problem has been corrected. If surface correction is necessary, due to traffic, rain, or other causes during construction of the project, repair areas of the surface.

If excessive flushing or bleeding occurs within 30 to 60 days after the treatment is applied, corrective work will be required at the contractor's expense.

**3.7 Crossovers and Intersections.** Prior to allowing traffic, the contractor shall broadcast microsurfacing sand or other approved material as directed by the engineer

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over turnouts, intersections, and/or crossovers as the microsurface material cures. Once the microsurfacing material has properly cured, sweep all loose sand and debris from the intersection/crossover and properly dispose of the material. Contractor shall repair any damaged areas prior to project completion.

**3.8 Curb and Gutter/Sidewalk Ramps.** When applying microsurface mixture to curb and gutter/sidewalk ramp areas, ensure the final surface is flush with the edge of the gutter pan and/or ramp. The final surface shall comply with all ADA sidewalk ramp requirements as determined by the Engineer. Failure to satisfy these requirements shall result in corrective work at no expense to the Department.

**3.9 Transverse Joints.** All transverse joints shall be clean and straight. At the start of each day(s) of production and at approaches, place a 5ft minimum width of paper/plastic on the existing pavement. Cover all bridge ends with paper/plastic to ensure no microsurfacing is placed on the bridge. Remove the paper/plastic once the microsurfacing has cured and dispose the excess material from the project site.

Place and spread all courses as continuously as possible, keeping the number of construction transverse joints to a minimum. When a construction transverse joint is necessary, the paving box must be full of material. Do not spread (drag) the remaining material, emptying the paving box. Once the end of the mat and a straight line is created, the paving box shall be lifted and the remaining material shall be removed and disposed of properly off the project limits.

#### **4.0 ACCEPTANCE AND VERIFICATION.**

**4.1 Proportion and Spread Rate.** Maintain continuous control of the emulsified asphalt-to-dry aggregate proportion to conform to the approved mix design within a tolerance of  $\pm 2$  gal/ton. Ensure the spread rate satisfies the specified quantity of aggregate per square yard on a dry-weight basis.

The Contractor shall calculate the yield of the course being placed from the equipment computer display readings. If no request is made by the Engineer, the Contractor shall calculate the yield of the course being placed from the equipment computer display readings randomly, a minimum of 3 times a day and at the end of each day(s) of production.

The Department will base acceptance of the emulsified asphalt-to-dry aggregate proportion and the spread rate on the Engineer's summary of daily quantities. The Department will accept a day's application of microsurfacing provided the Engineer's summary indicates conformance with the requirements for proportion and spread rate.

**4.2 Emulsified Asphalt.** Submit samples of the polymer-modified emulsion to the Division of Materials for testing at a frequency of one sample per lot.

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**4.3 Mixture Gradation.** The Department will perform combined-gradation determinations on the aggregates used in the microsurfacing at a frequency of one per day of production. When the combined-gradation fails to meet the master range for the type of aggregate, the Department will apply a reduction on the invoice price of the aggregate as listed in Table 1 and Table 2. Contrary to section 804.10 the Department will impose a reduction in payment no matter the quantities used.

**4.4 Documentation.** The Contractor shall maintain a daily report including the following information:

- Aggregate used, ton (dry)
- Microsurfacing emulsion used, ton
- Bituminous Materials for Tack Coat, ton
- Cement used, ton
- Water used in mixture, gallons
- Additive used in mixture, gallons
- Moisture Content
- Yield, dry aggregate lb/yd<sup>2</sup>
- Square yards placed
- Rate of Application

**4.5 Test Strip Construction.** Prior to production application, the Contractor shall place a test section 1,000 ft. in length and one lane wide. The test strip shall demonstrate the mix and set time of the material and the ability to perform under traffic. If handwork will be required on the project, include handwork in the test strip. The test strip shall be placed at the same general time of day as paving is to take place (night or day), and under similar ambient conditions. The test strip shall be able to carry normal traffic within 60 minutes. If normal traffic cannot be carried, the emulsion or mixture must be adjusted and another test strip will be required. Upon approval of the test strip, the Contractor can begin application. Payment will only be made for the first test strip.

**5. MEASUREMENT.** The Department will pay for surface and leveling microsurfacing courses by the number of square yards, complete and accepted in place. The Department will pay for microsurfacing rut-fill course by the number of tons of dry aggregate used, complete and accepted in place. The weight of the dry aggregate used will be based on the calibrated weight of aggregate provided by the paving machine.

The Department will base the width of the pavement course on the width shown on the plans or as directed by the Engineer. The Department will measure the length along the centerline of each roadway or ramp.

The Department will not measure the surface preparation for payment and will consider it incidental to the microsurfacing.

The Department will not measure asphalt material for tack for payment and will consider it incidental to microsurfacing

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**6. PAYMENT.** The Department will consider the unit bid price per square yard to include all labor, materials, and equipment necessary to complete the work. The Department will make payment for the completed and accepted quantities according to the following:

| Emulsified Asphalt Price Adjustment Schedule         |               |          |                      |                      |                      |               |
|------------------------------------------------------|---------------|----------|----------------------|----------------------|----------------------|---------------|
| Test                                                 | Specification | 100% Pay | 90% Pay              | 80% Pay              | 50% Pay              | 0% Pay        |
| CQS-1hP/CQS-1hL                                      |               |          |                      |                      |                      |               |
| Viscosity, 77 ° F (SFS)<br>AASHTO T 59               | 20 - 100      | 18 - 110 | 15 - 17<br>111 - 120 | 12 – 14<br>121 - 130 | 9 - 11<br>131 - 140  | ≤8<br>≥ 141   |
| Residue Penetration, 77 °F<br>AASHTO T 59            | 40 - 90       | 37 - 98  | 34 - 36<br>99 - 108  | 31 - 33<br>109 - 120 | 28 - 30<br>121 - 130 | ≤ 27<br>≥ 131 |
| Softening Point, AASHTO T 53                         | ≥ 135         | ≥ 130    | 127 - 134            | 128 - 129            | 126 - 127            | ≤ 125         |
| Distillation Residue, % AASHTO T 59, 350°F           | ≥ 62.0        | ≥ 60.0   | 59.5                 | 59.0                 | 58.5                 | ≤ 58.4        |
| Sieve, % AASHTO T 59                                 | ≤ 0.1         | ≤ 0.3    | 0.31 – 0.45          | 0.46 – 0.60          | 0.61 – 0.75          | ≥ 0.76        |
| Residue Elastic Recovery @ 50 ° F, %<br>AASHTO T 301 | ≥ 60.0        | ≥ 58.0   | 57.0                 | 56.0                 | 55.0                 | ≤ 54.9        |
| Residue Ductility @ 77 ° F, cm                       | ≥ 40          | ≥ 38     | 37                   | 36                   | 35                   | ≥ 34          |

**TABLE 1**  
**GRADATION - MICROSURFACING TYPE II SAND**

| Payment<br>Reduction | Sieve Size-Percent Passing |        |       |        |        |        |         |         |
|----------------------|----------------------------|--------|-------|--------|--------|--------|---------|---------|
|                      | 3/8                        | No. 4  | No. 8 | No. 16 | No. 30 | No. 50 | No. 100 | No. 200 |
| 0%                   | 100                        | 90-100 | 60-90 | 40-70  | 25-50  | 15-30  | 10-21   | 5-15    |
| 10%                  |                            |        | 58-59 | 38-39  | 23-24  | 13-14  | 8-9     | 4       |
| 10%                  | 98-100                     | 88-89  | 91-92 | 71-72  | 51-52  | 31-32  | 22-23   | 16      |
| 20%                  |                            |        | 57    | 37     | 22     | 12     | 7       | 3       |
| 20%                  | 97                         | 87     | 93    | 73     | 53     | 33     | 24      | 17      |
| 30%                  |                            |        | 56    | 36     | 21     | 11     | 6       | 2       |
| 30%                  | 96                         | 86     | 94    | 74     | 54     | 34     | 25      | 18      |
| 50%                  |                            |        | 55    | 35     | 20     | 10     | 5       | 1       |
| 50%                  | 95                         | 85     | 95    | 75     | 55     | 35     | 26      | 19      |

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**TABLE 2**

| <b>GRADATION - MICROSURFACING TYPE III SAND</b> |                            |        |       |        |        |        |         |         |
|-------------------------------------------------|----------------------------|--------|-------|--------|--------|--------|---------|---------|
| Payment                                         | Sieve Size-Percent Passing |        |       |        |        |        |         |         |
| Reduction                                       | 3/8                        | No. 4  | No. 8 | No. 16 | No. 30 | No. 50 | No. 100 | No. 200 |
| 0%                                              | 100                        | 70-100 | 45-70 | 28-50  | 19-34  | 12-25  | 7-18    | 5-15    |
| 10%                                             |                            |        | 43-44 | 26-27  | 17-18  | 10-11  | 5-6     | 4       |
| 10%                                             | 98-100                     | 68-69  | 71-72 | 51-52  | 35-36  | 26-27  | 19-20   | 16      |
| 20%                                             |                            |        | 42    | 25     | 16     | 9      | 4       | 3       |
| 20%                                             | 97                         | 67     | 73    | 53     | 37     | 28     | 21      | 17      |
| 30%                                             |                            |        | 41    | 24     | 15     | 8      | 3       | 2       |
| 30%                                             | 96                         | 66     | 74    | 54     | 36     | 29     | 22      | 18      |
| 50%                                             |                            |        | 40    | 23     | 14     | 7      | 2       | 1       |
| 50%                                             | 95                         | 65     | 75    | 55     | 35     | 30     | 23      | 19      |

If the Department determines that the minimum rate of application has not been obtained for each day of production, then the Department will reduce the bid payment as according to Tables 3, 4, and 5 listed below.

**Table 3**

| <b>Payment Based on Rate of Application for 18 lb/yd<sup>2</sup></b> |                                 |
|----------------------------------------------------------------------|---------------------------------|
| <b>Rate of Application of Per Day of Production (lb/sy)</b>          | <b>Reduction of Payment (%)</b> |
| 18 and Greater                                                       | 100                             |
| 17.9 - 17.5                                                          | 95                              |
| 17.4 - 17.0                                                          | 90                              |
| 16.9 - 16.5                                                          | 80                              |
| 16.4 - 16.0                                                          | 70                              |
| 15.9 and Below                                                       | 50                              |

**Table 4**

| <b>Payment Based on Rate of Application for 14 lb/yd<sup>2</sup></b> |                                 |
|----------------------------------------------------------------------|---------------------------------|
| <b>Rate of Application of Per Day of Production (lb/sy)</b>          | <b>Reduction of Payment (%)</b> |
| 14 and Greater                                                       | 100                             |
| 13.9 - 13.5                                                          | 95                              |
| 13.4 - 13.0                                                          | 90                              |
| 12.9 - 12.5                                                          | 80                              |
| 12.4 - 12.0                                                          | 70                              |
| 11.9 and Below                                                       | 50                              |

**Table 5**

| <b>Payment Based on Rate of Application for 24 lb/yd<sup>2</sup></b> |                                 |
|----------------------------------------------------------------------|---------------------------------|
| <b>Rate of Application of Per Day of Production (lb/sy)</b>          | <b>Reduction of Payment (%)</b> |
| 24 and Greater                                                       | 100                             |
| 23.9 - 23.5                                                          | 95                              |
| 23.4 - 23.0                                                          | 90                              |
| 22.9 - 22.5                                                          | 80                              |
| 22.4 - 22.0                                                          | 70                              |
| 21.9 and Below                                                       | 50                              |

**Code**

40173  
24957EC  
24958EC  
21652EN  
24515EC

**Pay Item**

Microsurfacing-Surface Course - Type A  
Microsurfacing-Surface Course - Type B  
Microsurfacing-Surface Course - Type D  
Microsurfacing-Leveling Course  
Microsurfacing-Rut Fill Course

**Pay Unit**

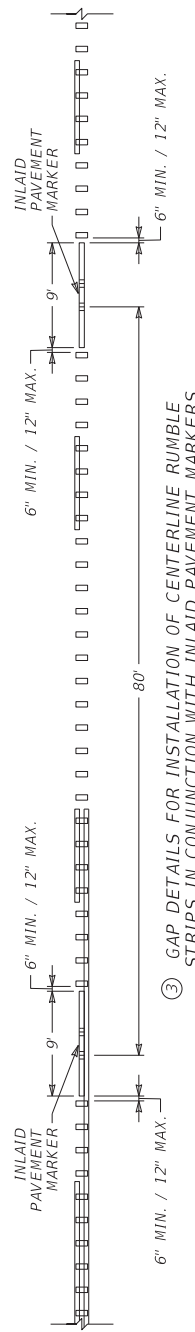
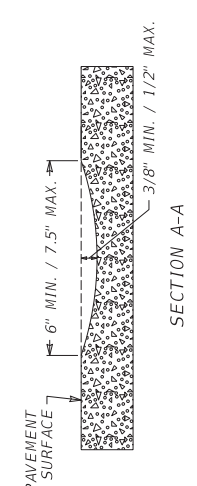
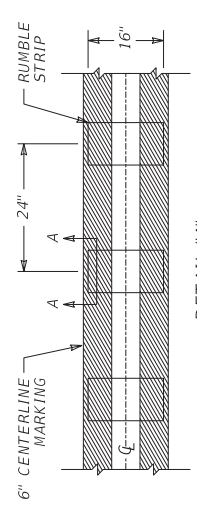
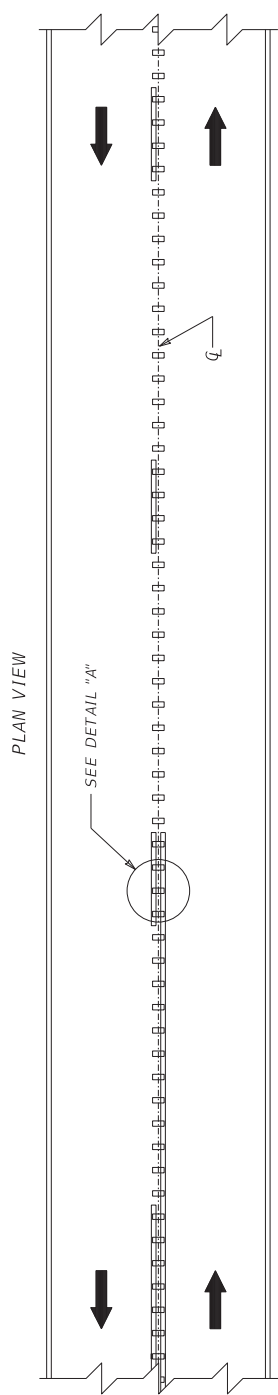
Square Yard  
Square Yard  
Square Yard  
Square Yard  
Ton

February 2021

2020 KENTUCKY STANDARD DRAWINGS

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|                                                     |            |
|-----------------------------------------------------|------------|
| CURVE WIDENING AND SUPERELEVATION TRANSITIONS ..... | RGS-001-07 |
| SUPERELEVATION FOR MULTILANE PAVEMENT .....         | RGS-002-06 |
| MISCELLANEOUS STANDARDS .....                       | RGX-001-06 |
| APPROACHES, ENTRANCES, AND MAIL BOX TURNOUT .....   | RPM-110-07 |
| LANE CLOSURE TWO-LANE HIGHWAY .....                 | TTC-100-05 |
| LANE CLOSURE MULTI-LANE HIGHWAY CASE I.....         | TTC-115-04 |
| PAVEMENT CONDITION WARNING SIGNS.....               | TTD-125-02 |
| MOBILE OPERATION FOR PAINT STRIPING CASE I .....    | TTS-100-02 |
| MOBILE OPERATION FOR PAINT STRIPING CASE II.....    | TTS-105-02 |
| MOBILE OPERATION FOR PAINT STRIPING CASE III.....   | TTS-110-02 |
| MOBILE OPERATION FOR PAINT STRIPING CASE IV .....   | TTS-115-02 |
| CENTERLINE RUMBLE STRIPS PLACEMENT DETAILS .....    | TPR-100    |



DRAWING NOT TO SCALE.  
USE WITH CUR. STD. DWGS.  
TPR-100, TPR-120, AND  
TPR-125

- ~ NOTES ~
1. DISTANCES SHOWN ARE APPROXIMATE. MAINTAIN RUMBLE STRIP DIMENSIONS AND SPACING AS MUCH AS POSSIBLE.
  2. CENTERLINE RUMBLE STRIPS SHALL BE INSTALLED IN LINE WITH THE CENTER OF THE ROADWAY AS MUCH AS POSSIBLE.
  3. FOR ROADWAYS WHERE BOTH INLAY PAVEMENT MARKERS AND CENTERLINE RUMBLE STRIPS ARE TO BE INSTALLED, DISCONTINUE THE CENTERLINE RUMBLE STRIPS 6" MIN. / 12" MAX. BEFORE AND AFTER THE GROOVE FOR EACH INLAY PAVEMENT MARKER. INSTALL AS MANY RUMBLE STRIPS AS POSSIBLE BETWEEN ADJACENT PAVEMENT MARKERS WHILE MAINTAINING THE 24" CYCLE.
  4. DO NOT INSTALL CENTERLINE RUMBLE STRIPS IN AREAS INDICATED ON TPR-100.
  5. CENTERLINE RUMBLE STRIPS SHOULD BE OMITTED WHERE THE POSTED SPEED LIMIT IS 45 MPH OR LESS, OR WHERE LANE WIDTHS ARE LESS THAN 11 FT.

BID ITEM AND UNIT TO BID  
CENTERLINE RUMBLE STRIPS

LF

SUBMITTED *[Signature]* 08-21-2023  
DIVISION DIRECTOR DATE

|  |                                                    |  |                                                                    |  |           |           |
|--|----------------------------------------------------|--|--------------------------------------------------------------------|--|-----------|-----------|
|  | COMMONWEALTH OF KENTUCKY<br>DEPARTMENT OF HIGHWAYS |  | DRAWING TITLE: SEPIA 027 - CENTERLINE RUMBLE STRIPS 6 INCH SPACING |  | ITEM NO.  | COUNTY OF |
|  | OpenRoads Designer v10.12.02.4                     |  | FILE NAME: C:\P\WORK\KENT\COMMON\ENGINEERING\2024\08\TPR110.DGN    |  | SHEET NO. |           |



TWO LANE ROADWAY  
PAVEMENT CROSS-SECTION

| TRAVELED<br>WAY<br>② | TYPE OF<br>PAVEMENT<br>STRIPING                     | NON-STATE PRIMARY ROUTES |          |             |          | STATE PRIMARY ROUTES |                                            |
|----------------------|-----------------------------------------------------|--------------------------|----------|-------------|----------|----------------------|--------------------------------------------|
|                      |                                                     | < 1000 ADT               |          | >= 1000 ADT |          | ANY ADT              |                                            |
| < 16' ④              | EDGE LINE STRIPES ONLY                              | WIDTH                    | MATERIAL | WIDTH       | MATERIAL | WIDTH                | MATERIAL*                                  |
|                      |                                                     | 4"                       | PAINT    | 4"          | PAINT    | 6"                   | THERMO (ASPHALT)<br>TYPE I TAPE (CONCRETE) |
| 16' TO < 20'         | EDGE LINE STRIPES ONLY OR<br>CENTERLINE STRIPE ONLY | 4"                       | PAINT    | 4"          | PAINT    | 6"                   | THERMO (ASPHALT)<br>TYPE I TAPE (CONCRETE) |
| >=20' ③              | CENTERLINE AND<br>EDGE LINE STRIPES                 | 4" ⑤                     | PAINT    | 6"          | PAINT    | 6"                   | THERMO (ASPHALT)<br>TYPE I TAPE (CONCRETE) |

\*OTHER DURABLE NON-WATERBORNE MARKINGS MAY BE USED WITH APPROVAL FROM THE DIVISION OF TRAFFIC OPERATIONS.

~ NOTES ~

1. INSTALL PAVEMENT STRIPING ON TWO LANE, TWO WAY ROADWAYS AS DETAILED IN THE ABOVE TABLE AND IN ACCORDANCE WITH THE PAVEMENT MARKINGS AND DELINEATION CHAPTER OF THE TRAFFIC OPERATIONS GUIDANCE MANUAL. CONTACT THE DIVISION OF TRAFFIC OPERATIONS FOR ADDITIONAL GUIDANCE IF NECESSARY.
2. THE TRAVELED WAY IS THE PORTION OF ROADWAY FOR THE MOVEMENT OF VEHICLES, EXCLUSIVE OF THE SHOULDERS.
3. ON TWO LANE, TWO WAY ROADWAYS THAT HAVE A TOTAL PAVEMENT WIDTH (W) THAT IS 20 FT OR GREATER, BUT LESS THAN 22 FT, EDGE LINE RUMBLE STRIPS ARE AN OPTIONAL APPLICATION. THE DIVISION OF TRAFFIC OPERATIONS IS AVAILABLE TO ASSIST WITH THE DETERMINATION OF WHETHER OR NOT TO INSTALL EDGE LINE RUMBLE STRIPS ON PAVEMENT WIDTHS LESS THAN 22 FT.
- ON TWO LANE, TWO WAY ROADWAYS THAT HAVE A TOTAL PAVEMENT WIDTH (W) THAT IS 22 FT OR GREATER, INSTALL PAVEMENT STRIPING AS DETAILED IN THE ABOVE TABLE AND IN CONJUNCTION WITH THE RUMBLE STRIPS AS DETAILED ON TPR-120 AND TPR-120N.
4. EDGE LINES MAY BE OMITTED FROM ROADWAYS WITH A TRAVELED WAY WIDTH LESS THAN 16 FEET WITH THE APPROVAL OF THE DIVISION OF TRAFFIC OPERATIONS.
5. EDGE LINES MAY BE OMITTED ON NON-STATE PRIMARY ROUTES WITH A TRAVELED WAY WIDTH GREATER THAN OR EQUAL TO 20 FEET AND AN ADT LESS THAN 1,000.
6. EDGE LINES MAY BE OMITTED, BASED ON ENGINEERING JUDGMENT, IN AREAS WHERE THE PAVEMENT EDGE IS DELINEATED BY PHYSICAL OBJECTS SUCH AS CURBS, PARKING SPACES, OR OTHER MARKINGS. EDGE LINES SHOULD BE INSTALLED ON ROADWAYS WITH CURB AND GUTTER IF THE POSTED SPEED LIMIT IS 45 MPH OR GREATER.

DRAWING NOT TO SCALE  
USE WITH CUR STD. DWGS.  
TPR-120 & TPR-120N

SUBMITTED:  09/28/2023  
WILLIAM B. RINGER



COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS

OpenRoads Designer v10.16.2.267

DATE PLOTTED: 8/1/2015 9:53:17 AM

FILE NAME: C:\PWORK\KATC\_CWILLMBRINGER\030445\SEP03.DGN

USER: willmbringer

DRAWING TITLE: SEPIA 032 - PAVEMENT STRIPING DETAILS FOR TWO LANE TWO WAY ROADWAYS

ITEM NO.

COUNTY OF

SHEET NO.



## **PART III**

### **EMPLOYMENT, WAGE AND RECORD REQUIREMENTS**

**TRANSPORTATION CABINET  
DEPARTMENT OF HIGHWAYS**

**LABOR AND WAGE REQUIREMENTS  
APPLICABLE TO OTHER THAN FEDERAL-AID SYSTEM PROJECTS**

- I. Application
- II. Nondiscrimination of Employees (KRS 344)

**I. APPLICATION**

1. These contract provisions shall apply to all work performed on the contract by the contractor with his own organization and with the assistance of workmen under his immediate superintendence and to all work performed on the contract by piecework, station work or by subcontract. The contractor's organization shall be construed to include only workmen employed and paid directly by the contractor and equipment owned or rented by him, with or without operators.

2. The contractor shall insert in each of his subcontracts all of the stipulations contained in these Required Provisions and such other stipulations as may be required.

3. A breach of any of the stipulations contained in these Required Provisions may be grounds for termination of the contract.

3. If the contractor is in control of apprenticeship or other training or retraining, including on-the-job training programs, he shall not discriminate against an individual because of his race, color, religion, national origin, sex, disability or age forty (40) and over, in admission to, or employment in any program established to provide apprenticeship or other training.

4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

Revised: January 25, 2017

**II. NONDISCRIMINATION OF EMPLOYEES**

**AN ACT OF THE KENTUCKY  
GENERAL ASSEMBLY TO PREVENT  
DISCRIMINATION IN EMPLOYMENT  
KRS CHAPTER 344  
EFFECTIVE JUNE 16, 1972**

The contract on this project, in accordance with KRS Chapter 344, provides that during the performance of this contract, the contractor agrees as follows:

1. The contractor shall not fail or refuse to hire, or shall not discharge any individual, or otherwise discriminate against an individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, national origin, sex, disability or age (forty and above); or limit, segregate, or classify his employees in any way which would deprive or tend to deprive an individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's race, color, religion, national origin, sex, disability or age forty (40) and over. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor shall not print or publish or cause to be printed or published a notice or advertisement relating to employment by such an employer or membership in or any classification or referral for employment by the employment agency, indicating any preference, limitation, specification, or discrimination, based on race, color, religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, except that such a notice or advertisement may indicate a preference, limitation, or specification based on religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, when religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, is a bona fide occupational qualification for employment.

## EXECUTIVE BRANCH CODE OF ETHICS

The Executive Branch Code of Ethics created by Kentucky Revised Statutes (KRS) Chapter 11A, effective July 14, 1992, establishes the ethical standards that govern the conduct of all executive branch employees. The Executive Branch Code of Ethics, which states, in part:

KRS 11A.040 (7) provides:

A present or former public servant listed in KRS 11A.010(9)(a) to (g) shall not, within one (1) year following termination of his or her office or employment, accept employment, compensation, or other economic benefit from any person or business that contracts or does business with, or is regulated by, the state in matters in which he was directly involved during the last thirty-six (36) months of his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, or for which he received, prior to his state employment, a professional degree or license, provided that, for a period of one (1) year, he or she personally refrains from working on any matter in which he was directly involved during the last thirty-six (36) months of his or her tenure in state government. This subsection shall not prohibit the performance of ministerial functions, including but not limited to filing tax returns, filing applications for permits or licenses, or filing incorporation papers, nor shall it prohibit the former officer or public servant from receiving public funds disbursed through entitlement programs.

KRS 11A.040 (9) states:

A former public servant shall not represent a person or business before a state agency in a matter in which the former public servant was directly involved during the last thirty-six (36) months of his tenure, for a period of one (1) year after the latter of:

- a) The date of leaving office or termination of employment; or
- b) The date the term of office expires to which the public servant was elected.

This law is intended to promote public confidence in the integrity of state government and to declare as public policy the idea that state employees should view their work as a public trust and not to obtain private benefits.

If you have worked for the executive branch of state government within the past year, you may be subject to the law's prohibitions. The law's applicability may be different if you hold elected office or are contemplating representation of another before a state agency.

Also, if you are affiliated with a firm which does business with the state and which employs former state executive-branch employees, you should be aware that the law may apply to them.

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, 1025 Capital Center Drive, Suite 105, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Revised: March 11, 2025

### **Kentucky Equal Employment Opportunity Act of 1978**

The requirements of the Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) shall apply to this Contract. The apparent low Bidder will be required to submit EEO forms to the Division of Construction Procurement, which will then forward to the Finance and Administration Cabinet for review and approval. No award will become effective until all forms are submitted and EEO/CC has certified compliance. The required EEO forms are as follows:

- EEO-1: Employer Information Report
- Affidavit of Intent to Comply
- Employee Data Sheet
- Subcontractor Report

These forms are available on the Finance and Administration's web page under ***Vendor Information, Standard Attachments and General Terms*** at the following address:  
**<https://www.eProcurement.ky.gov>**.

Bidders currently certified as being in compliance by the Finance and Administration Cabinet may submit a copy of their approval letter in lieu of the referenced EEO forms.

For questions or assistance please contact the Finance and Administration Cabinet by email at **[finance.contractcompliance@ky.gov](mailto:finance.contractcompliance@ky.gov)** or by phone at 502-564-2874.

# EMPLOYEE RIGHTS UNDER THE FAIR LABOR STANDARDS ACT

THE UNITED STATES DEPARTMENT OF LABOR WAGE AND HOUR DIVISION

## FEDERAL MINIMUM WAGE

# \$7.25

 PER HOUR

BEGINNING JULY 24, 2009

### OVERTIME PAY

At least  $1\frac{1}{2}$  times your regular rate of pay for all hours worked over 40 in a workweek.

### CHILD LABOR

An employee must be at least **16** years old to work in most non-farm jobs and at least **18** to work in non-farm jobs declared hazardous by the Secretary of Labor.

Youths **14** and **15** years old may work outside school hours in various non-manufacturing, non-mining, non-hazardous jobs under the following conditions:

#### *No more than*

- **3** hours on a school day or **18** hours in a school week;
- **8** hours on a non-school day or **40** hours in a non-school week.

Also, work may not begin before **7 a.m.** or end after **7 p.m.**, except from June 1 through Labor Day, when evening hours are extended to **9 p.m.** Different rules apply in agricultural employment.

### TIP CREDIT

Employers of "tipped employees" must pay a cash wage of at least \$2.13 per hour if they claim a tip credit against their minimum wage obligation. If an employee's tips combined with the employer's cash wage of at least \$2.13 per hour do not equal the minimum hourly wage, the employer must make up the difference. Certain other conditions must also be met.

### ENFORCEMENT

The Department of Labor may recover back wages either administratively or through court action, for the employees that have been underpaid in violation of the law. Violations may result in civil or criminal action.

Employers may be assessed civil money penalties of up to \$1,100 for each willful or repeated violation of the minimum wage or overtime pay provisions of the law and up to \$11,000 for each employee who is the subject of a violation of the Act's child labor provisions. In addition, a civil money penalty of up to \$50,000 may be assessed for each child labor violation that causes the death or serious injury of any minor employee, and such assessments may be doubled, up to \$100,000, when the violations are determined to be willful or repeated. The law also prohibits discriminating against or discharging workers who file a complaint or participate in any proceeding under the Act.

### ADDITIONAL INFORMATION

- Certain occupations and establishments are exempt from the minimum wage and/or overtime pay provisions.
- Special provisions apply to workers in American Samoa and the Commonwealth of the Northern Mariana Islands.
- Some state laws provide greater employee protections; employers must comply with both.
- The law requires employers to display this poster where employees can readily see it.
- Employees under 20 years of age may be paid \$4.25 per hour during their first 90 consecutive calendar days of employment with an employer.
- Certain full-time students, student learners, apprentices, and workers with disabilities may be paid less than the minimum wage under special certificates issued by the Department of Labor.

For additional information:



# 1-866-4-USWAGE

(1-866-487-9243)

TTY: 1-877-889-5627



# WWW.WAGEHOUR.DOL.GOV

U.S. Department of Labor | Wage and Hour Division

**PART IV**

**BID ITEMS**

252377

Section: 0001 - MICROSURFACE

| LINE | BID CODE | ALT | DESCRIPTION                            | QUANTITY  | UNIT | UNIT PRIC | FP | AMOUNT |
|------|----------|-----|----------------------------------------|-----------|------|-----------|----|--------|
| 0010 | 21652EN  |     | MICROSURFACING-LEVELING COURSE         | 7,712.00  | SQYD |           | \$ |        |
| 0020 | 40174    |     | MICROSURFACING-SURFACE COURSE - TYPE D | 80,947.00 | SQYD |           | \$ |        |

Section: 0002 - THINLAY

| LINE | BID CODE   | ALT | DESCRIPTION                 | QUANTITY | UNIT | UNIT PRIC | FP | AMOUNT |
|------|------------|-----|-----------------------------|----------|------|-----------|----|--------|
| 0030 | 00190      |     | LEVELING & WEDGING PG64-22  | 320.00   | TON  |           | \$ |        |
| 0040 | 00356      |     | ASPHALT MATERIAL FOR TACK   | 37.00    | TON  |           | \$ |        |
| 0050 | 02585      |     | EDGE KEY                    | 52.00    | LF   |           | \$ |        |
| 0060 | 21653ES403 |     | CL2 ASPH SURF NO.4D PG64-22 | 2,800.00 | TON  |           | \$ |        |

Section: 0003 - ROADWAY

| LINE | BID CODE   | ALT | DESCRIPTION                             | QUANTITY  | UNIT | UNIT PRIC | FP | AMOUNT |
|------|------------|-----|-----------------------------------------|-----------|------|-----------|----|--------|
| 0070 | 02562      |     | TEMPORARY SIGNS                         | 134.00    | SQFT |           | \$ |        |
| 0080 | 02650      |     | MAINTAIN & CONTROL TRAFFIC              | 1.00      | LS   |           | \$ |        |
| 0090 | 02671      |     | PORTABLE CHANGEABLE MESSAGE SIGN        | 2.00      | EACH |           | \$ |        |
| 0100 | 06510      |     | PAVE STRIPING-TEMP PAINT-4 IN           | 74,300.00 | LF   |           | \$ |        |
| 0110 | 06515      |     | PAVE STRIPING-PERM PAINT-6 IN           | 74,300.00 | LF   |           | \$ |        |
| 0120 | 06569      |     | PAVE MARKING-THERMO CROSS-HATCH         | 2,000.00  | SQFT |           | \$ |        |
| 0130 | 06574      |     | PAVE MARKING-THERMO CURV ARROW          | 6.00      | EACH |           | \$ |        |
| 0140 | 06600      |     | REMOVE PAVEMENT MARKER TYPE V           | 175.00    | EACH |           | \$ |        |
| 0150 | 20458ES403 |     | CENTERLINE RUMBLE STRIPS                | 18,160.00 | LF   |           | \$ |        |
| 0160 | 24858EC    |     | POLYMER ASPHALT EMULSION FOR SCRUB SEAL | 125.00    | TON  |           | \$ |        |
| 0170 | 24878EC    |     | ASPHALT EMULSION FOR FOG SEAL           | 22.00     | TON  |           | \$ |        |
| 0180 | 24961EC    |     | ASPHALT SEAL AGGREGATE - TYPE D         | 80,947.00 | SQYD |           | \$ |        |

Section: 0004 - DEMOBILIZATION

| LINE | BID CODE | ALT | DESCRIPTION    | QUANTITY | UNIT | UNIT PRIC | FP | AMOUNT |
|------|----------|-----|----------------|----------|------|-----------|----|--------|
| 0190 | 02569    |     | DEMOBILIZATION | 1.00     | LS   |           | \$ |        |