



**CALL NO. 402**

**CONTRACT ID. 212464**

**GRAYSON COUNTY**

**FED/STATE PROJECT NUMBER 043GR21P108 - FD05**

**DESCRIPTION GRAYSON COUNTY (WK 9001)**

**WORK TYPE PAVEMENT (WITH ALTERNATES)**

**PRIMARY COMPLETION DATE 9/30/2022**

**LETTING DATE: December 10,2021**

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 am EASTERN STANDARD TIME December 10,2021. Bids will be publicly announced at 10:00 am EASTERN STANDARD TIME.

**NO PLANS ASSOCIATED WITH THIS PROJECT.**

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

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# **PART I**

## **SCOPE OF WORK**

ADMINISTRATIVE DISTRICT - 04

CONTRACT ID - 212464  
043GR21P108 - FD05  
COUNTY - GRAYSON  
PCN - MP04390012101  
FD05 043 9001 091-096

NEAFUS TO CANEYVILLE (WK 9001 EASTBOUND ONLY) (MP 91.100) BEGIN 0.515 MILES EAST OF CR 1375  
OVERPASS EXTENDING EAST TO 0.192 MILES WEST OF KY 185 OVERPASS (MP 95.030), A DISTANCE OF 03.93  
MILES.PAVEMENT (WITH ALTERNATES)  
GEOGRAPHIC COORDINATES LATITUDE 37:24:39.00 LONGITUDE 86:31:01.00

PCN - MP04390012102  
FD05 043 9001 116-120

WESTERN KENTUCKY PARKWAY (WK 9001) (MP 116.949) BEGIN AT 0.477 WEST OF KY 720 OVERPASS  
EXTENDING EAST TO THE GRAYSON/HARDIN COUNTY LINE (MP 119.649), A DISTANCE OF 02.70  
MILES.PAVEMENT (WITH ALTERNATES)  
GEOGRAPHIC COORDINATES LATITUDE 37:32:03.00 LONGITUDE 86:08:10.00

COMPLETION DATE(S):  
COMPLETED BY 09/30/2022                      APPLIES TO ENTIRE CONTRACT

## **CONTRACT NOTES**

### **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 fax (502) 564-7299 or 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/contract](http://www.transportation.ky.gov/contract)). 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 contractor, as defined in KRS 45A.030 (9) 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 contract for the purpose of financial audit or program review. Records and other prequalification information confidentially

disclosed as part of the bid process shall not be deemed as directly pertinent to the contract and shall be exempt from disclosure as provided in KRS 61.878(1)(c). 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.

In the event of a dispute between the contractor and the contracting agency, Attorney General, or the Auditor of Public Accounts over documents that are eligible for production and review, the Finance and Administration Cabinet shall review the dispute and issue a determination, in accordance with Secretary's Order 11-004.

April 30, 2018

## **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



## **NATIONAL HIGHWAY**

Be advised this project is on the NATIONAL HIGHWAY SYSTEM.

### **FD05 043 9001 091-096**

#### **SURFACING AREAS**

The Department estimates the mainline surfacing width to be 24 feet.

The Department estimates the total mainline area to be surfaced to be 58,100 square yards.

The Department estimates the shoulder width to be 1 foot on each side.

The Department estimates the total shoulder area to be surfaced to be 4,611 square yards.

The Department estimates the shoulder width to be varied 3 to 9 feet on each side.

The Department estimates the total shoulder area to be fog sealed to be 27,666 square yards.

The Department estimates the Ramps width to be 25 feet.

The Department estimates the total Ramp area to be surfaced to be 8,350 square yards.

FD05 043 9001 116-120

#### **SURFACING AREAS**

The Department estimates the mainline surfacing width to be 48 feet.

The Department estimates the total mainline area to be surfaced to be 79,834 square yards.

The Department estimates the shoulder width to be 1 foot on each side.

The Department estimates the total shoulder area to be surfaced to be 6,336 square yards.

The Department estimates the shoulder width to be varied 3 to 9 feet on each side.

The Department estimates the total shoulder area to be fog sealed to be 38,016 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**

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 *Standards and Specifications*, 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 *Standards and Specifications*, Warm Mix Asphalt (WMA) will not be permitted for all 4.75mm asphalt mixtures.

**Contrary to Section 403.03.01** 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 EXPERIMENTAL KYCT AND HAMBURG TESTING

### 1.0 General

**1.1 Description.** The KYCT (Kentucky Method for Cracking Test) and the Hamburg test results will help determine if the mixture is susceptible to cracking and rutting. During the experimental phase, data will be gathered and analyzed by the Department to determine the durability of the bituminous mixes. Additionally, the data will help the Department to create future performance based specifications which will include the KYCT and Hamburg test methods.

### 2.0 Equipment

**2.1 KYCT Testing Equipment.** The Department will require a Marshall Test Press with digital recordation capabilities. Other CT testing equipment may be used for testing with prior approval by the Department.

**2.2 Water Baths.** One or more water baths will be required that can maintain a temperature of 77° +/- 1.8° F with a digital thermometer showing the water bath temperature. Also, one water bath shall have the ability to suspend gyratory specimen fully submerged in water in accordance with AASHTO T-166, current edition.

**2.3 Hamburg Wheel Track Testing.** The department encourages the use of the PTI APA/Hamburg Jr. test equipment to perform the loaded wheel testing. The Department will allow different equipment for the Hamburg testing, but the testing device must be approved by the Department prior to testing.

**2.4 Gyratory Molds.** Gyratory molds will be required to assist in the production of gyratory specimens in accordance with AASHTO T-312, current edition.

**2.5 Ovens.** Adequate (minimum of two ovens) will be required to accommodate the additional molds and asphalt mixture necessary to perform the acceptance testing as outlined in Section 402 of the Kentucky Standard Specifications for Road and Bridge Construction, current edition.

**2.6 Department Equipment.** The Department will provide gyratory molds, PINE 850 Test Press with digital recordation, and CT testing equipment to assist during this experimental phase so data can be gathered. Hamburg test specimens will be submitted to the Division of Materials for testing on the PTI APA/Hamburg Jr if the asphalt contractor or district materials office does not have an approved Hamburg testing device.

### 3.0 Testing Requirements

**3.1 Acceptance Testing.** Perform all acceptance testing and aggregate gradation as according with Section 402 and Section 403 of the Kentucky Standard Specifications for Road and Bridge Construction, current edition.

**3.2 KYCT Testing.** Perform crack resistance analysis (KYCT) in accordance with the current Kentucky Method for KYCT Index Testing during the mix design phase and during the plant production of all surface mixtures. For mix design approvals, submit KYCT results on the Department MixPack. For Class 4 mixtures, submit ingredient materials to the Division of Materials for informational verification.

**3.2.1 KYCT Frequency.** Obtain an adequate sample of hot mix asphalt to insure the acceptance testing, gradation, and KYCT gyratory samples can be fabricated and is representative of the bituminous mixture. Acceptance specimens shall be fabricated first, then immediately after, fabricate the KYCT samples with the gyratory compactor in accordance with Section 2.4 of this Special Note. Analysis of the KYCT specimens and gradation will be required one per subplot produced from the same asphalt material and at the same time as the acceptance specimen is sampled and tested.

**3.2.2 Number of Specimens and Conditioning.** Fabricate specimens in accordance with the Kentucky Method for KYCT Index Testing. Contrary to the method, fabricate a minimum of 3 and up to 6 test specimens. The specimens shall be compacted at the temperature in accordance to KM 64-411. KYCT mix design specimens shall be short-term conditioned for four hours at compaction temperature in accordance to KM 64-411. Contrary to the Kentucky Method, plant produced bituminous material shall be short-term conditioned immediately after sampling for two hours at compaction temperature in accordance to KM 64-411. Additionally, fabricated specimens shall be allowed to cool in air (fan is permissible) for 30 minutes +/- 5 minutes and conditioned in a 77 °F water bath for 30 minutes +/- 5 minutes. To insure confidence and reliability of the test results provided by KYCT testing and Hamburg testing, reheating of the asphalt mixture is prohibited.

**3.2.3 Record Times.** For each subplot, record the time required between drying aggregates in the plant to KYCT specimen fabrication. The production time may vary due to the time that the bituminous material is held in the silo. Record the preconditioning time when the time exceeds the one hour specimen cool down time as required in accordance to The Kentucky Method for KYCT Index Testing. The preconditioning time may exceed an hour if the technician is unable to complete the test on the same day or within the specified times as outlined in The Kentucky Method for KYCT Index Testing. The production time and the preconditioning time shall be recorded on the AMAW.

**3.2.4 File Name.** As according to section 7.12 of The Kentucky Method for KYCT Index Testing, save the filename with the following format; "CID\_Approved Mix Number\_Lot Number\_Sublot Number\_Date"

**3.3 Hamburg Testing.** Perform the rut resistance analysis (Hamburg) in accordance to AASTHO T-324, not to exceed 20,000 passes for all bituminous mixtures during the mix design phase and production. For mix design approvals, submit Hamburg results on the Department MixPack. For Class 4 mixtures, submit ingredient materials to the Division of Materials for informational verification.

**3.3.1 Hamburg Testing Frequency.** Perform testing and analysis per lot of material. The plant produced bituminous material sampled for the Hamburg test does not have to be obtained at the same time as the acceptance and KYCT sample. If the Hamburg test sample is not obtained at the same time as the KYCT sample, determine the Maximum Specific Gravity of the KYCT sample in accordance with AASHTO T-209 coinciding with the Hamburg specimens.

**3.3.2 Record Times.** Record the production time as according to section 3.2.3 in this special note. Also record the time that the specimens were fabricated and the time the Hamburg testing was started. All times shall be recorded on the AMAW.

**3.3.3 File Name.** Save the Excel spreadsheet with the following file name; “Hamburg\_CID\_Approved Mix Number\_Lot Number\_Sublot Number\_Date” and upload the file into the AMAW.

#### **4.0 Data**

Submit the AMAW and all test data that was obtained for acceptance, gradation, KYCT, and Hamburg testing within five working days once all testing has been completed for a lot to Central Materials Lab and the District Materials Engineer. Also, any data and or comments that the asphalt contractor or district personnel deem informational during this experimental phase, shall also be submitted to the Central Materials Lab and the District Materials Engineer. Any questions or comments regarding any item in this Special Note can be directed to the Central Office, Division of Materials, Asphalt Branch.

#### **5.0 KYCT Video Demonstration**

<https://youtu.be/84j0bM45-hg>

#### **6.0 Payment**

Any additional labor and testing equipment that is required to fabricate and test the KYCT and Hamburg specimens shall be considered to be incidental to the asphalt surface line item. The Department will perform the testing for the KYCT and Hamburg specimens if a producer does not possess the proper equipment.

**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   | Minumum | Maximum |
|--|---------|---------|
| Application rate of emulsion for chip seal<br>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     |

January, 2020

## **Liquidated Damages**

Complete all paving items by September 30. Paving items are considered as microsurfacing, chip and seal, cape seals, asphalt surface No. 4 mixtures, fog seals and curing seals. No work shall be performed between October 1<sup>st</sup> and May 15<sup>th</sup> for the following year. For any paving items performed between October 1<sup>st</sup> to October 15<sup>th</sup> and/or May 1<sup>st</sup> to May 15<sup>th</sup> of the following year, obtain written approval from the Engineer prior to work. Contrary to section 108.09 of the current standard specifications, Liquidated Damages will be applied for all paving items that are not completed by September 30<sup>th</sup>. Liquidated Damages will be assessed from September 30<sup>th</sup> to November 30<sup>th</sup> of the completion year and begin again May 1<sup>st</sup> of the following year until the work items are complete.

Any non-paving items shall be performed in accordance with specifications.



October 2021

## SPECIAL NOTE FOR NON-TRACKING TACK COAT

1. DESCRIPTION AND USEAGE. This specification covers the requirements and practices for applying a non-tracking tack asphalt coating. Place this material on the existing pavement course, prior to placement of a new asphalt pavement layer. Use when expedited paving is necessary or when asphalt tracking would negatively impact the surrounding area. This material is not suitable for other uses. Ensure material can “break” within 15 minutes under conditions listed in 3.2.
2. MATERIALS, EQUIPMENT, AND PERSONNEL.

2.1 Non-Tracking Tack. Provide material conforming to Subsection 2.1.1.

2.1.1 Provide a tack conforming to the following material requirements:

| Property                                  | Specification | Test Procedure |
|---|---------------|----------------|
| Viscosity, SFS, 77 ° F                    | 20 – 100      | AASHTO T 72    |
| Sieve, %                                  | 0.3 max.      | AASHTO T 59    |
| Asphalt Residue <sup>1</sup> , %          | 50 min.       | AASHTO T 59    |
| Oil Distillate, %                         | 1.0 max.      | AASHTO T 59    |
| Residue Penetration, 77 ° F               | 20 max.       | AASHTO T 49    |
| Original Dynamic Shear (G*/sin δ), 82 ° C | 1.0 min.      | AASHTO T 315   |
| Softening Point, ° F                      | 149 min.      | AASHTO T 53    |
| Solubility, %                             | 97.5 min.     | AASHTO T 44    |

<sup>1</sup> Bring sample to 212 °F over a 10-15 minute period. Maintain 212 °F for 15-20 minutes or until 30-40 mL of water has distilled. Continue distillation as specified in T59.

- 2.2. Equipment. Provide a distributor truck capable of heating, circulating, and spraying the tack between 170 °F and 180 °F. Do not exceed 180 °F. Circulate the material while heating. Provide the correct nozzles that is recommend by the producer to ensure proper coverage of tack is obtained. Ensure the bar can be raised to between 14” and 18” from the roadway.
- 2.3. Personnel. Ensure the tack supplier has provided training to the contractor on the installation procedures for this product. Make a technical representative from the supplier available at the request of the Engineer.

## 3. CONSTRUCTION.

3.1 Surface Preparation. Prior to the application of the non-tracking tack, ensure the pavement surface is thoroughly dry and free from dust or any other debris that would inhibit adhesion. Clean the surface by scraping, sweeping, and the use of compressed air. Ensure this preparation process occurs shortly before application to prevent the return of debris on to the pavement. If rain is expected within one hour after application, do not apply material. Apply material only when the surface is dry, and no precipitation is expected.

October 2021

- 3.2 Non-tracking Tack Application. Placement of non-tracking tack is not permitted from October 1<sup>st</sup> to May 15<sup>th</sup>. When applying material, ensure the roadway temperature is a minimum of 40°F and rising. Prior to application, demonstrate competence in applying the tack according to this note to the satisfaction of the Engineer. Heat the tack in the distributor to between 170 – 180 °F. After the initial heating, between 170 – 180 °F, the material may be sprayed between 165 °F and 180 °F. Do not apply outside this temperature range. Apply material at a minimum rate of 0.70 pounds (0.08 gallons) per square yard. Ensure full coverage of the material on the pavement surface. Full coverage of this material is critical. Increase material application rate if needed to achieve full coverage. Schedule the work so that, at the end of the day's production, all non-tracking tack is covered with the asphalt mixture. If for some reason the non-tracking tack cannot be covered by an asphalt mixture, ensure the non-tracking tack material is clean and reapply the non-tracking tack prior to placing the asphalt mixture. Do not heat material more than twice in one day.
- 3.3 Non-tracking Tack Certification. Furnish the tack certification to the Engineer stating the material conforms to all requirements herein prior to use.
- 3.4 Sampling and Testing. The Department will require a sample of non-tracking tack be taken from the distributor at a rate of one sample per 15,000 tons of mix. Take two 1 gallon samples of the heated material and forward the sample to the Division of Materials for testing within 7 days. Ensure the product temperature is between 170 and 180 °F at the time of sampling.
4. MEASUREMENT. The Department will measure the quantity of non-tracking tack in tons. The Department will not measure for payment any extra materials, labor, methods, equipment, or construction techniques used to satisfy the requirements of this note. The Department will not measure for payment any trial applications of non-tracking tack, the cleaning of the pavement surface, or furnishing and placing the non-tracking tack. The Department will consider all such items incidental to the non-tracking tack.
5. PAYMENT. The Department will pay for the non-tracking tack at the Contract unit bid price and apply an adjustment for each manufacturer's lot of material based on the degree of compliance as defined in the following schedule. Non-tracking tack will not be permitted for use from October 1<sup>st</sup> to May 15<sup>th</sup>. From September 1<sup>st</sup> to June 1<sup>st</sup>, the department will allow the use of an approved asphalt emulsion in lieu of a non-tracking tack product but will not adjust the unit bid price of the material. When a sample fails on two or more tests, the Department may add the deductions, but the total deduction will not exceed 100 percent.

October 2021

| Non-Tracking Tack Price Adjustment Schedule |               |          |                      |                      |                 |              |
|---|---------------|----------|----------------------|----------------------|-----------------|--------------|
| Test  | Specification | 100% Pay | 90% Pay              | 80% Pay              | 50% Pay         | 0% Pay       |
| Viscosity, SFS, 77 ° F                      | 20 – 100      | 19 - 102 | 17 - 18<br>103 - 105 | 15 - 16<br>106 - 107 | 14<br>108 - 109 | ≤13<br>≥ 110 |
| Sieve, %                                    | 0.30 max.     | ≤ 0.40   | 0.41 - 0.50          | 0.51 - 0.60          | 0.61 - 0.70     | ≥ 0.71       |
| Asphalt Residue, %                          | 50 min.       | ≥49.0    | 48.5 – 48.9          | 48.0 – 48.4          | 47.5-47.9       | ≤ 47.4       |
| Oil Distillate, %                           | 1.0 max.      | ≤1.0     | 1.1-1.5              | 1.6 - 1.7            | 1.8-1.9         | >2.0         |
| Residue Penetration, 77 ° F                 | 20 max.       | ≤ 21     | 22 - 23              | 24 - 25              | 26 - 27         | ≥ 28         |
| Original Dynamic Shear (G*/sin δ), 82 ° C   | 1.0 min.      | ≥0.95    | 0.92 – 0.94          | 0.90 – 0.91          | 0.85 - 0.89     | ≤ 0.84       |
| Softening Point, ° F                        | 149 min.      | ≥145     | 142 - 144            | 140 - 141            | 138 - 139       | ≤ 137        |
| Solubility, %                               | 97.5 min.     | ≥ 97.0   | 96.8 – 96.9          | 96.6 – 96.7          | 96.4 – 96.5     | ≤ 96.3       |

Code  
24970EC

Pay Item  
Asphalt Material for Tack Non-Tracking

Pay Unit  
Ton

## 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.



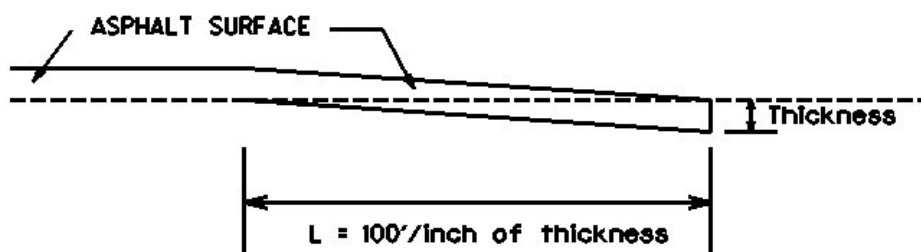
**3.0 MEASUREMENT.** The Department will measure Asphalt Surface Mixture placed as the pavement wedge according to Section 403.

**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 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 make payment for this work at the Contract unit price per square yards for Fine Milling, 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.

### EDGE KEY



**Thickness = 0.75 Inches**

**L = 75 LF**

**L = Length of Edge Key**

### **SPECIAL NOTE FOR ASPHALT MILLING AND TEXTURING**

Begin paving operations within **48 hours** of commencement of the milling operation. Continue paving operations continuously until completed. If paving operations are not begun within this time period, the Department will assess liquidated damages at the rate prescribed by Section 108.09 until such time as paving operations are begun.

Take possession of the millings and recycle the millings or dispose of the millings off the Right-of-Way at sites obtained by the Contractor at no additional cost to the Department.

1-3520 48 hours Contractor keeps millings  
01/2/2012

### **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

Phase I: Surfacing inside lane and fog seal inside shoulder. Place temporary paint.

Phase II: Surfacing outside lane and fog seal outside shoulder. Place temporary paint and/or thermoplastic striping outside lane/shoulder.

Phase III: Place inlaid pavement markers and thermoplastic striping.

At locations with three or more lanes, maintain one lane of traffic in each direction at all times during construction. At locations with two lanes, maintain alternating one way traffic during construction. Provide a minimum clear lane width of 12 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.

### SIGNS

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

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



## Traffic Control Plan

### Page 2 of 10

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.

## **ARROW PANELS**

Use arrow panels as shown on the Standard Drawings or as directed by the Engineer. The Department will measure for payment the maximum number of arrow panels in concurrent use at the same time on a single day on all sections of the contract. The Department will measure for payment the maximum number of Arrow Panels in concurrent use at the same time on a single day on all sections of the contract. The Department will measure individual Arrow Panels 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 Arrow Panels or for panels signs the Engineer directs be replaced due to poor condition or readability for payment. Retain possession of the Arrow Panels 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.

## Traffic Control Plan

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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**

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 the work.

## **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 exceptions:

1. Include edge lines in Temporary Striping; and
2. Place Temporary or Permanent Striping before opening a lane to traffic; and
3. 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

Traffic Control Plan  
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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:

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)

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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.

| <b><u>Word</u></b>  | <b><u>Abbrev.</u></b> | <b><u>Example</u></b>                    |
|---------------------|-----------------------|--|
| 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              |
| Mile                | MI                    | ACCIDENT 3 MI AHEAD/ USE                 |

Traffic Control Plan  
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|                                    |                               |  |
|------------------------------------|-------------------------------|--|
| Minor Minutes Northbound           | MNR<br>MIN<br>N-BND           | ALT RTE<br>ACCIDENT 3 MI MNR DELAY<br>ACCIDENT 3 MI/30 MIN DELAY<br>N-BND I75 CLOSED/ DETOUR<br>EXIT 50                    |
| Oversized                          | OVRSZ                         | OVRSZ COMM VEH/USE I275<br>NEXT RIGHT  |
| Parking Parkway                    | PKING<br>PKWY                 | EVENT PKING NEXT RGT<br>CUM PKWAY TRAF/DETOUR<br>EXIT 60   |
| Prepare Right Road Roadwork        | PREP<br>RGT<br>RD<br>RDWK     | ACCIDENT 3 MIL/PREP TO STOP<br>EVENT PKING NEXT RGT<br>HAZMAT IN RD/ALL TRAF EXIT 25<br>RDWK NEXT 4 MI/POSSIBLE<br>DELAYS  |
| Route Shoulder Slippery Southbound | RTE<br>SHLDR<br>SLIP<br>S-BND | MAJ DELAYS I75/USE ALT RTE<br>SHLDR CLOSED NEXT 5 MI<br>SLIP COND POSSIBLE/ SLOW SPD<br>S-BND I75 CLOSED/DETOUR<br>EXIT 50 |
| Speed Street Traffic               | SPD<br>ST<br>TRAF             | SLIP COND POSSIBLE/ SLOW SPD<br>MAIN ST CLOSED/USE ALT RTE<br>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           | Temporary            | Temperature                   |
| WRNG           | Warning              | 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                      |                     |
| PEOPLE CROSSING                      |                     |
| RAMP CLOSED                          |                     |
| RAMP (SLIPPERY, ICE, ETC.)           |                     |



## Traffic Control Plan

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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

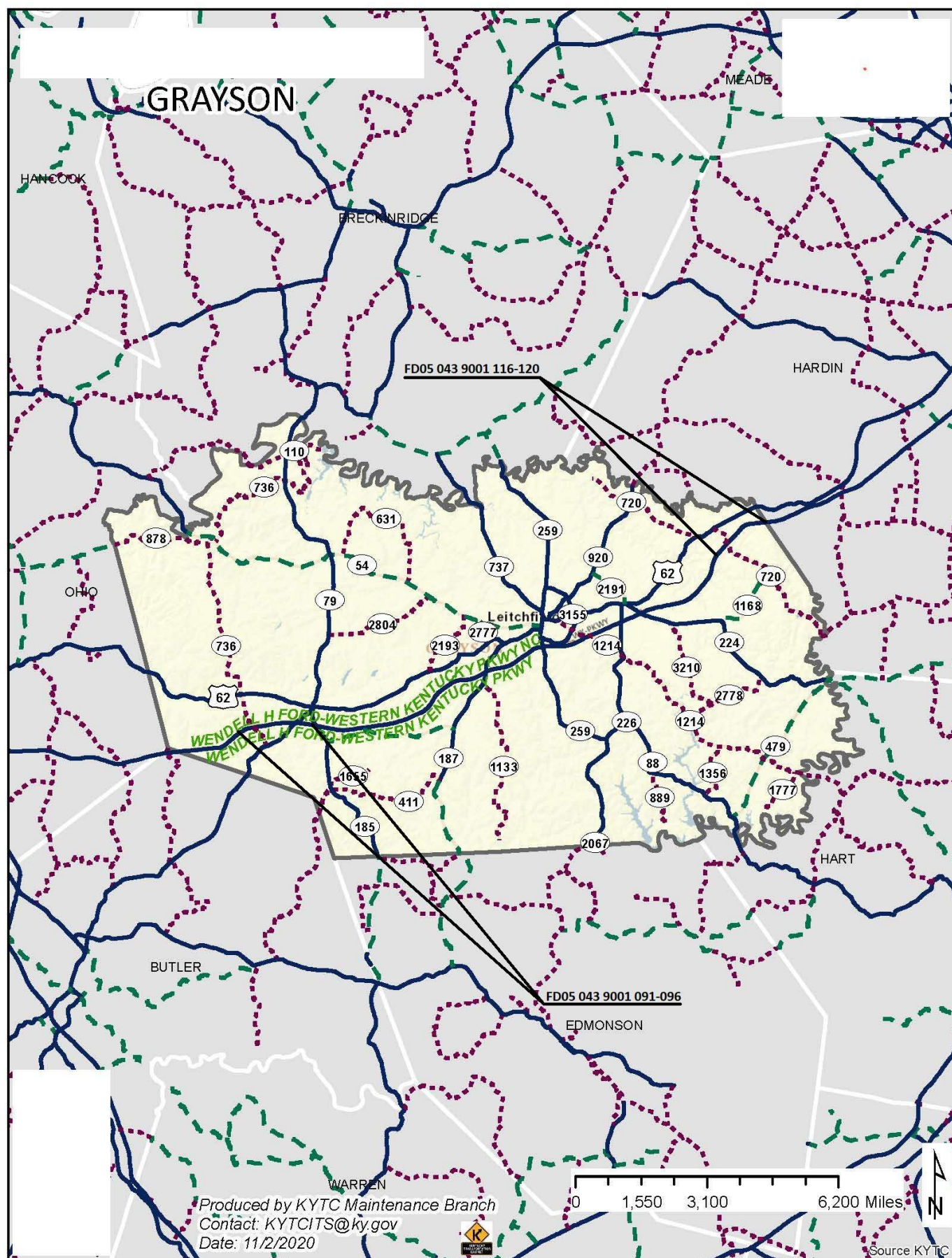


EXISTING  
FILL SLOPE or  
DITCH FORESLOPE

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



MATERIAL SUMMARY

CONTRACT ID: 212464

043GR21P108 - FD05

MP04390012101

NEAFUS TO CANEYVILLE (WK 9001 EASTBOUND ONLY) BEGIN 0.515 MILES EAST OF CR 1375 OVERPASS  
EXTENDING EAST TO 0.192 MILES WEST OF KY 185 OVERPASS PAVEMENT (WITH ALTERNATIVES), A  
DISTANCE OF 3.93 MILES.

| Project<br>Line No | Bid Code | DESCRIPTION   | Quantity   | Unit |
|--------------------|----------|---|------------|------|
| 0005               | 02562    | TEMPORARY SIGNS   | 230.00     | SQFT |
| 0010               | 02650    | MAINTAIN & CONTROL TRAFFIC - (FD05 043 9001<br>091-096)   | 1.00       | LS   |
| 0015               | 02671    | PORTABLE CHANGEABLE MESSAGE SIGN                          | 1.00       | EACH |
| 0020               | 02775    | ARROW PANEL   | 1.00       | EACH |
| 0025               | 06531    | PAVE STRIPING REMOVAL-6 IN                                | 46,690.00  | LF   |
| 0030               | 06542    | PAVE STRIPING-THERMO-6 IN W                               | 29,500.00  | LF   |
| 0035               | 06543    | PAVE STRIPING-THERMO-6 IN Y                               | 24,250.00  | LF   |
| 0040               | 06546    | PAVE STRIPING-THERMO-12 IN W                              | 3,120.00   | LF   |
| 0045               | 06568    | PAVE MARKING-THERMO STOP BAR-24IN                         | 65.00      | LF   |
| 0050               | 06600    | REMOVE PAVEMENT MARKER TYPE V                             | 375.00     | EACH |
| 0055               | 23625EC  | PAVE MARK THERMO-6 IN W CAT TRAXX                         | 1,050.00   | LF   |
| 0060               | 24489EC  | INLAID PAVEMENT MARKER                                    | 375.00     | EACH |
| 0065               | 24878EC  | ASPHALT EMULSION FOR FOG SEAL                             | 18.00      | TON  |
| 0070               | 24880EC  | REMOVE PAVEMENT MARKER                                    | 375.00     | EACH |
| 0075               | 06511    | PAVE STRIPING-TEMP PAINT-6 IN - (MICROSURFACE)            | 107,500.00 | LF   |
| 0080               | 20814EC  | MICROSURFACING-SURFACE COURSE - TYPE A                    | 71,061.00  | SQYD |
| 0085               | 21652EN  | MICROSURFACING-LEVELING COURSE                            | 76,637.00  | SQYD |
| 0090               | 00190    | LEVELING & WEDGING PG64-22                                | 230.00     | TON  |
| 0095               | 02676    | MOBILIZATION FOR MILL & TEXT - (FD05 043 9001<br>091-096) | 1.00       | LS   |
| 0100               | 02677    | ASPHALT PAVE MILLING & TEXTURING                          | 40.00      | TON  |
| 0105               | 06511    | PAVE STRIPING-TEMP PAINT-6 IN - (THINLAY)                 | 53,750.00  | LF   |
| 0110               | 24887EC  | CL3 ASPH SURF NO.4A PG64-22                               | 2,950.00   | TON  |
| 0115               | 24970EC  | ASPHALT MATERIAL FOR TACK NON-TRACKING                    | 25.00      | TON  |
| 0120               | 02569    | DEMOBILIZATION  | 1.00       | LS   |

MATERIAL SUMMARY

CONTRACT ID: 212464

043GR21P108 - FD05

MP04390012102

WESTERN KENTUCKY PARKWAY (WK 9001) BEGIN AT 0.477 WEST OF KY 720 OVERPASS EXTENDING EAST TO THE GRAYSON/HARDIN COUNTY LINE PAVEMENT (WITH ALTERNATIVES), A DISTANCE OF 2.7 MILES.

| Project Line No | Bid Code | DESCRIPTION  | Quantity   | Unit |
|-----------------|----------|--|------------|------|
| 0125            | 02562    | TEMPORARY SIGNS  | 150.00     | SQFT |
| 0130            | 02650    | MAINTAIN & CONTROL TRAFFIC - (FD05 043 9001 116-120)   | 1.00       | LS   |
| 0135            | 02671    | PORTABLE CHANGEABLE MESSAGE SIGN                       | 2.00       | EACH |
| 0140            | 02775    | ARROW PANEL  | 2.00       | EACH |
| 0145            | 06531    | PAVE STRIPING REMOVAL-6 IN                             | 64.39      | LF   |
| 0150            | 06542    | PAVE STRIPING-THERMO-6 IN W                            | 35,640.00  | LF   |
| 0155            | 06543    | PAVE STRIPING-THERMO-6 IN Y                            | 28,750.00  | LF   |
| 0160            | 24489EC  | INLAID PAVEMENT MARKER                                 | 376.00     | EACH |
| 0165            | 24878EC  | ASPHALT EMULSION FOR FOG SEAL                          | 25.00      | TON  |
| 0170            | 24880EC  | REMOVE PAVEMENT MARKER                                 | 376.00     | EACH |
| 0175            | 06511    | PAVE STRIPING-TEMP PAINT-6 IN - (MICROSURFACE)         | 128,780.00 | LF   |
| 0180            | 20814EC  | MICROSURFACING-SURFACE COURSE - TYPE A                 | 86,170.00  | SQYD |
| 0185            | 21652EN  | MICROSURFACING-LEVELING COURSE                         | 98,830.00  | SQYD |
| 0190            | 00190    | LEVELING & WEDGING PG64-22                             | 316.00     | TON  |
| 0195            | 02676    | MOBILIZATION FOR MILL & TEXT - (FD05 043 9001 116-120) | 1.00       | LS   |
| 0200            | 02677    | ASPHALT PAVE MILLING & TEXTURING                       | 80.00      | TON  |
| 0205            | 06511    | PAVE STRIPING-TEMP PAINT-6 IN - (THINLAY)              | 70,000.00  | LF   |
| 0210            | 24970EC  | ASPHALT MATERIAL FOR TACK NON-TRACKING                 | 33.00      | TON  |
| 0215            | 25077EC  | CL4 ASPH SURF NO.4A PG64-22                            | 3,560.00   | TON  |
| 0220            | 02569    | DEMOBILIZATION   | 1.00       | LS   |



[illegible]

## EASTBOUND

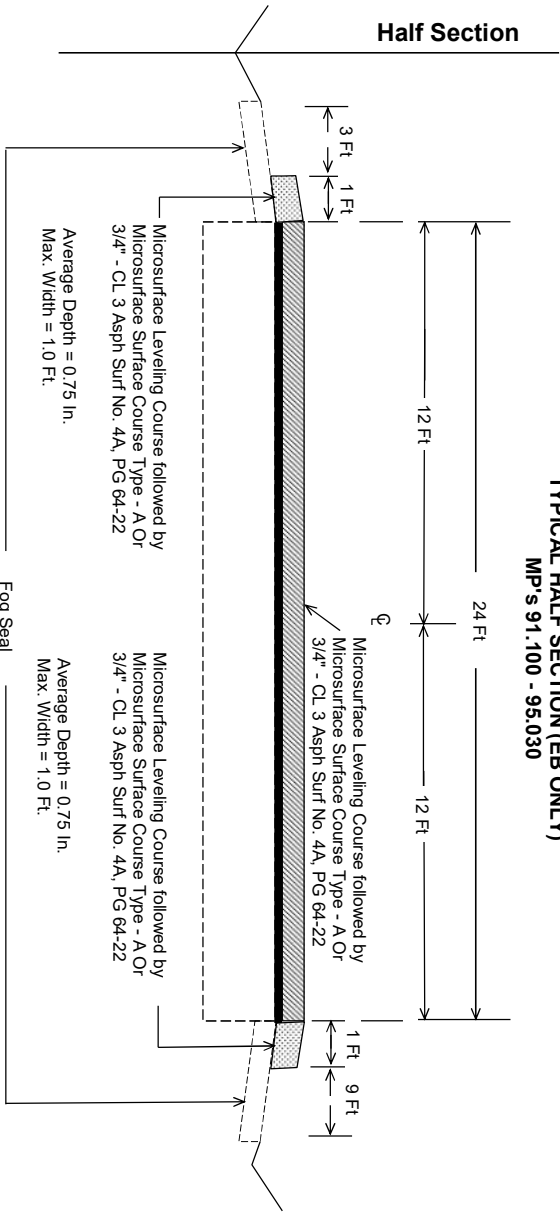
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## Total

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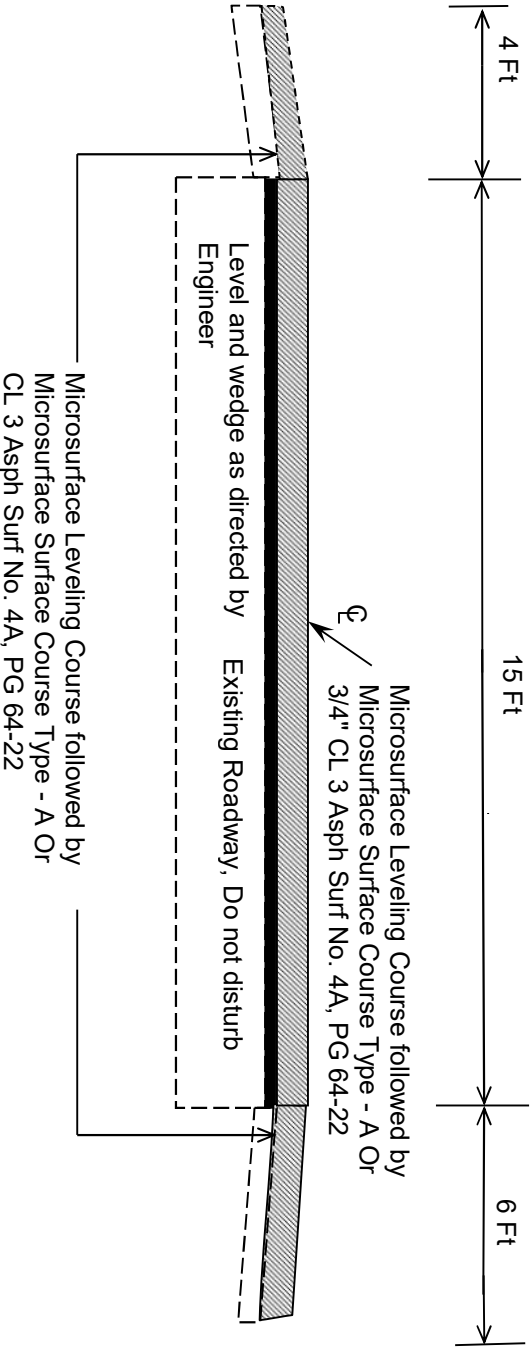


Grayson County  
FD05 043 9001 091-096  
TYPICAL HALF SECTION (EB ONLY)  
MP's 91.100 - 95.030



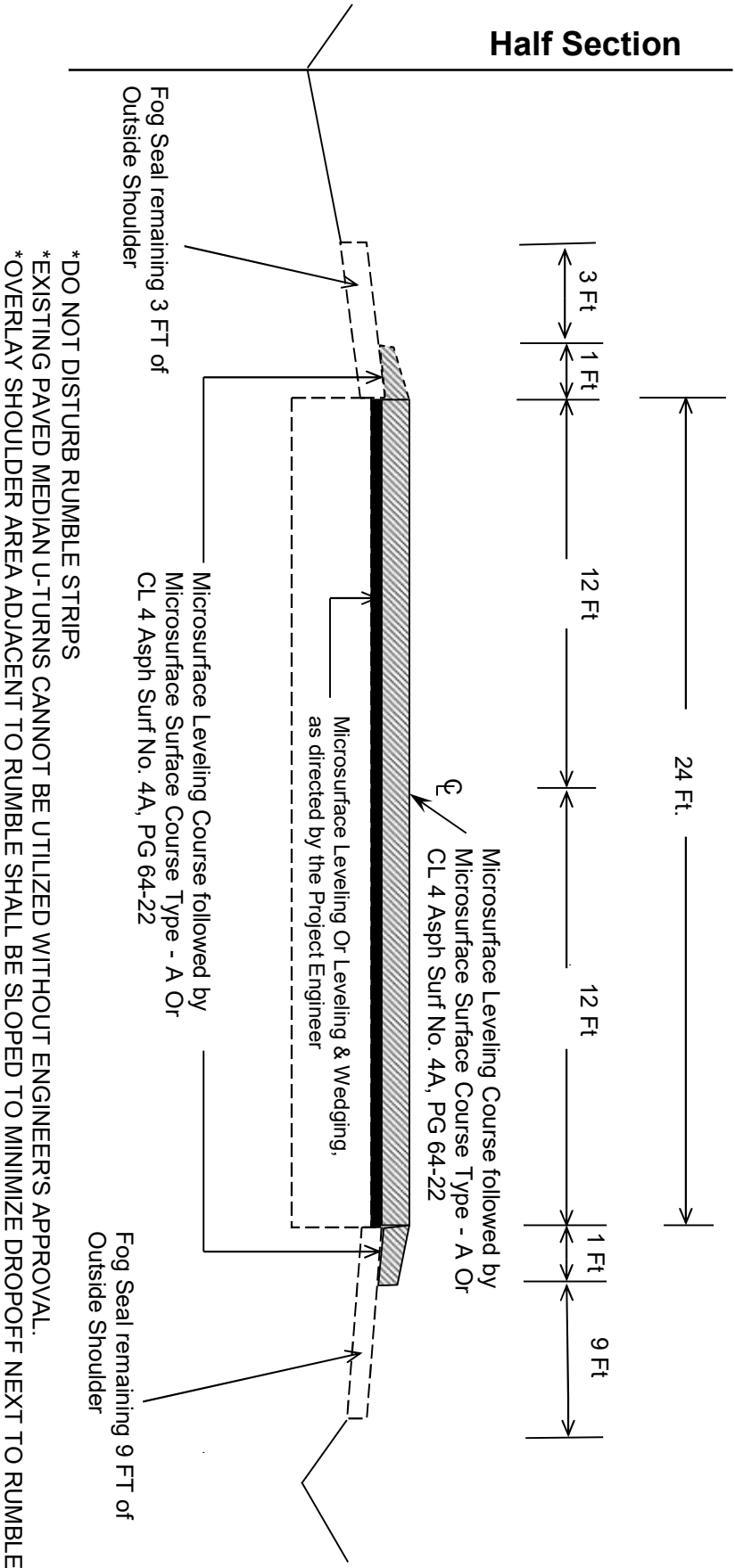
**DO NOT DISTURB SHOULDER RUMBLE STRIPS**  
\*EXISTING PAVED MEDIAN U-TURNS CANNOT BE UTILIZED WITHOUT ENGINEER'S APPROVAL.  
\*OVERLAY SHOULDER AREA ADJACENT TO RUMBLE SHALL BE SLOPED TO MINIMIZE DROPOFF NEXT TO RUMBLE  
\*MICROSURFACE OR THINLAY EASTBOUND ONLY

**GRAYSON COUNTY**  
**FD05 043 9001 091 096**  
**MP'S 91.1 - 95.03**  
**EASTBOUND RAMP**

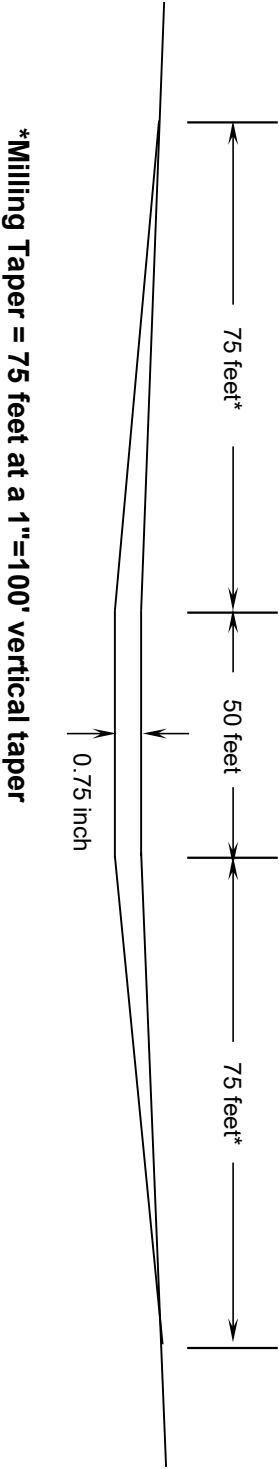


- \*DO NOT DISTURB RUMBLE STRIPS
- \*EXISTING PAVED MEDIAN U-TURNS CANNOT BE UTILIZED WITHOUT ENGINEER'S APPROVAL.
- \*OVERLAY SHOULDER AREA ADJACENT TO RUMBLE SHALL BE SLOPED TO MINIMIZE DROPOFF NEXT TO RUMBLE
- \*MICROSURFACE OR THINLAY EASTBOUND ONLY

**GRAYSON COUNTY**  
**FD05 043 9001 116 120**  
**TYPICAL HALF SECTION**  
**MP'S 116.949 - 119.649**

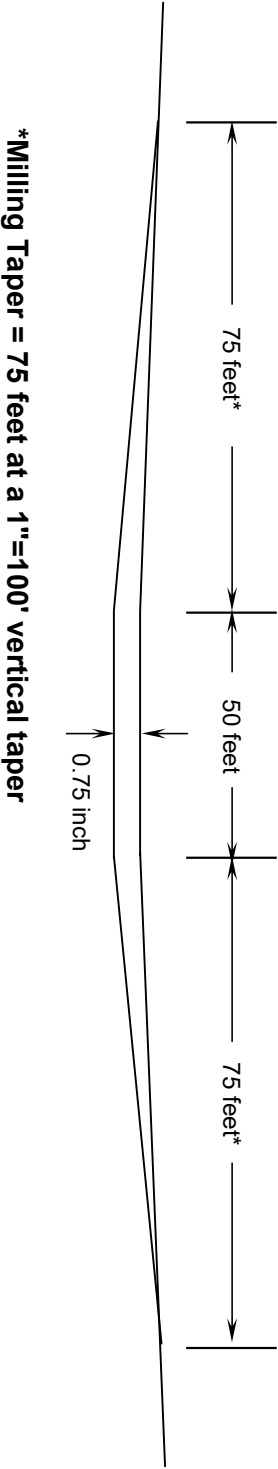


FD05 043 9001 091-096  
**MILLING DETAIL @ BRIDGE UNDEPASS  
BRIDGES B00094N AND B00023N**



FD05 043 9001 116-120

**MILLING DETAIL @ BRIDGE UNDEPASS  
BRIDGES B00078N AND B00104N**



**PART II**

**SPECIFICATIONS AND STANDARD DRAWINGS**

### **SPECIFICATIONS REFERENCE**

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>



## **SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS**

This Special Note will apply when indicated on the plans or in the proposal.

**1.0 DESCRIPTION.** Furnish, install, operate, and maintain variable message signs at the locations shown on the plans or designated by the Engineer. Remove and retain possession of variable message signs when they are no longer needed on the project.

## **2.0 MATERIALS.**

**2.1 General.** Use LED Variable Message Signs Class I, II, or III, as appropriate, from the Department's List of Approved Materials.

Unclassified signs may be submitted for approval by the Engineer. The Engineer may require a daytime and nighttime demonstration. The Engineer will make a final decision within 30 days after all required information is received.

**2.2 Sign and Controls.** All signs must:

- 1) Provide 3-line messages with each line being 8 characters long and at least 18 inches tall. Each character comprises 35 pixels.
- 2) Provide at least 40 preprogrammed messages available for use at any time. Provide for quick and easy change of the displayed message; editing of the message; and additions of new messages.
- 3) Provide a controller consisting of:
  - a) Keyboard or keypad.
  - b) Readout that mimics the actual sign display. (When LCD or LCD type readout is used, include backlighting and heating or otherwise arrange for viewing in cold temperatures.)
  - c) Non-volatile memory or suitable memory with battery backup for storing pre-programmed messages.
  - d) Logic circuitry to control the sequence of messages and flash rate.
- 4) Provide a serial interface that is capable of supporting complete remote control ability through land line and cellular telephone operation. Include communication software capable of immediately updating the message, providing complete sign status, and allowing message library queries and updates.
- 5) Allow a single person easily to raise the sign to a satisfactory height above the pavement during use, and lower the sign during travel.
- 6) Be Highway Orange on all exterior surfaces of the trailer, supports, and controller cabinet.
- 7) Provide operation in ambient temperatures from -30 to + 120 degrees Fahrenheit during snow, rain and other inclement weather.
- 8) Provide the driver board as part of a module. All modules are interchangeable, and have plug and socket arrangements for disconnection and reconnection. Printed circuit boards associated with driver boards have a conformable coating to protect against moisture.
- 9) Provide a sign case sealed against rain, snow, dust, insects, etc. The lens is UV stabilized clear plastic (polycarbonate, acrylic, or other approved material) angled to prevent glare.
- 10) Provide a flat black UV protected coating on the sign hardware, character PCB, and appropriate lens areas.
- 11) Provide a photocell control to provide automatic dimming.

- 12) Allow an on-off flashing sequence at an adjustable rate.
- 13) Provide a sight to aim the message.
- 14) Provide a LED display color of approximately 590 nm amber.
- 15) Provide a controller that is password protected.
- 16) Provide a security device that prevents unauthorized individuals from accessing the controller.
- 17) Provide the following 3-line messages preprogrammed and available for use when the sign unit begins operation:

|                         |                         |
|-------------------------|-------------------------|
| /KEEP/RIGHT/⇒⇒⇒/        | /MIN/SPEED/**MPH/       |
| /KEEP/LEFT/⇐⇐⇐/         | /ICY/BRIDGE/AHEAD/ /ONE |
| /LOOSE/GRAVEL/AHEAD/    | LANE/BRIDGE/AHEAD/      |
| /RD WORK/NEXT/**MILES/  | /ROUGH/ROAD/AHEAD/      |
| /TWO WAY/TRAFFIC/AHEAD/ | /MERGING/TRAFFIC/AHEAD/ |
| /PAINT/CREW/AHEAD/      | /NEXT/***/MILES/        |
| /REDUCE/SPEED/**MPH/    | /HEAVY/TRAFFIC/AHEAD/   |
| /BRIDGE/WORK/***() FT/  | /SPEED/LIMIT/**MPH/     |
| /MAX/SPEED/**MPH/       | /BUMP/AHEAD/            |
| /SURVEY/PARTY/AHEAD/    | /TWO/WAY/TRAFFIC/       |

\*Insert numerals as directed by the Engineer.  
Add other messages during the project when required by the Engineer.

2.3 Power.

- 1) Design solar panels to yield 10 percent or greater additional charge than sign consumption. Provide direct wiring for operation of the sign or arrow board from an external power source to provide energy backup for 21 days without sunlight and an on-board system charger with the ability to recharge completely discharged batteries in 24 hours.

**3.0 CONSTRUCTION.** Furnish and operate the variable message signs as designated on the plans or by the Engineer. Ensure the bottom of the message panel is a minimum of 7 feet above the roadway in urban areas and 5 feet above in rural areas when operating. Use Class I, II, or III signs on roads with a speed limit less than 55 mph. Use Class I or II signs on roads with speed limits 55 mph or greater.

Maintain the sign in proper working order, including repair of any damage done by others, until completion of the project. When the sign becomes inoperative, immediately repair or replace the sign. Repetitive problems with the same unit will be cause for rejection and replacement.

Use only project related messages and messages directed by the Engineer, unnecessary messages lessen the impact of the sign. Ensure the message is displayed in either one or 2 phases with each phase having no more than 3 lines of text. When no message is needed, but it is necessary to know if the sign is operable, flash only a pixel.

When the sign is not needed, move it outside the clear zone or where the Engineer directs. Variable Message Signs are the property of the Contractor and shall be removed from the project when no longer needed. The Department will not assume ownership of these signs.

**4.0 MEASUREMENT.** The final quantity of Variable Message Sign will be

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the actual number of individual signs acceptably furnished and operated during the project. The Department will not measure signs replaced due to damage or rejection.

**5.0 PAYMENT.** The Department will pay for the Variable Message Signs at the unit price each. The Department will not pay for signs replaced due to damage or rejection. Payment is full compensation for furnishing all materials, labor, equipment, and service necessary to, operate, move, repair, and maintain or replace the variable message signs. The Department will make payment for the completed and accepted quantities under the following:

| <u>Code</u> | <u>Pay Item</u>                  | <u>Pay Unit</u> |
|-------------|----------------------------------|-----------------|
| 02671       | Portable Changeable Message Sign | Each            |

Effective June 15, 2012

## **SPECIAL NOTE FOR MICRO-SURFACING**

**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.

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.

**2.4 Emulsified Asphalt.** The polymer-modified emulsion will be a CQS-1hP conforming to AASHTO M 316 and tested according to T59. Distill sample at 350 °F. In addition, ensure that the emulsified asphalt conforms to the following criteria:

**Test**

Ductility at 77 °F (AASHTO T 51)

**Criteria**

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.

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The mixer shall be equipped with a computerized material monitoring system with integrated material control devices that are readily accessible and positioned so the 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 and weighed when removed from the stockpile and prior to delivery to the paver. 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.

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**2.9 Calibration Equipment.** Supply all of the equipment, materials, and 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 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.

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.** Conform to the Type II requirements from ASTM D 6372 for surface courses and Type III requirements from ASTM D 6372 for leveling and rut-fill courses.

**3.3 Weather 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 45 °F and rising and no forecasted temperatures shall be below 32 °F within a 24 hour period after placement. Do not place the material between November 1 and May 1.

**3.4 Surface Preparation.** Before applying application, ensure the surface is clean and free from any debris

Remove pavement markers. Prior to application, fill depressions with microsurface material, asphalt material, or other approved material meeting the engineer's specifications.

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

Contrary to Section 406, apply an approved tack coat material 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. Only apply tack coat to surfaces that will be covered by the application in the same day.

**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 wide, 1/2 inch in 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 1/2 inch wide, 1/4 inch in depth and greater than 12 inches in length. Leveling course shall not exhibit flushing or excessive roughness.



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If a leveling course is specified, apply the paving mixture at a dry aggregate rate of  $18 \pm 2$  lb/yd<sup>2</sup>. If a surface course is specified over a leveling or rut-fill course, apply the paving mixture at a dry aggregate rate of  $18 \pm 2$  lb/yd<sup>2</sup>. If a surface course only is specified, apply the paving mixture at a dry aggregate rate of  $24 \pm 2$  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.

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.

### **3.7 Acceptance and Verification.**

**3.7.1 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.

When requested by the Engineer, 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. The quality control tolerance from the specified application rate is  $\pm 2$  lbs/sy.

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.

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

**3.7.3 Mixture Gradation.** Perform combined-gradation determinations on the aggregates used in the Microsurfacing at a frequency of one per day of production. The Department will allow the tested gradation to vary within the tolerances given in ASTM D 6372 provided the percent passing any sieve remains within the master gradation limits from ASTM D 6372.

The Department will perform combined-gradation determinations on the aggregates used in the Microsurfacing at a frequency of one per four days of production and compare those results with the contractor's combined-gradation results according to Subsection 402.03.03.

**3.8 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

**3.9 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.

**4. 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.

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The Department will not measure the surface preparation or tack coat for payment and will consider them incidental to the Microsurfacing.

**5. 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:

| <b>Emulsified Asphalt Price Adjustment Schedule</b>  |               |          |             |             |             |        |
|--|---------------|----------|-------------|-------------|-------------|--------|
| Test   | Specification | 100% Pay | 90% Pay     | 80% Pay     | 50% Pay     | 0% Pay |
| CQS-1hP  |               |          |             |             |             |        |
| Viscosity, 77 ° F (SFS)                              |               |          | 15 - 17     | 12 - 14     | 9 - 11      | ≤8     |
| AASHTO T 59  | 20 - 100      | 18 - 110 | 111 - 120   | 121 - 130   | 131 - 140   | ≥ 141  |
| Residue Penetration, 77 °F                           |               |          | 34 - 36     | 31 - 33     | 28 - 30     | ≤ 27   |
| AASHTO T 59  | 40 - 90       | 37 - 98  | 99 - 108    | 109 - 120   | 121 - 130   | ≥ 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   |

| <u>Code</u> | <u>Pay Item</u>                 | <u>Pay Unit</u> |
|-------------|---------------------------------|-----------------|
| 20814EC     | Micro Surfacing-Surface Course  | Square Yard     |
| 21652EN     | Micro Surfacing-Leveling Course | Square Yard     |
| 24515EC     | Micro Surfacing-Rut Fill Course | Ton             |

May 24, 2018

2020 KENTUCKY STANDARD DRAWINGS

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 MULTI-LANE HIGHWAY CASE I.....TTC-115-04

LANE CLOSURE MULTI-LANE HIGHWAY CASE II .....TTC-120-04

SHOULDER CLOSURE.....TTC-135-02

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

## **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

In the 1992 regular legislative session, the General Assembly passed and Governor Brereton Jones signed Senate Bill 63 (codified as KRS 11A), the Executive Branch Code of Ethics, which states, in part:

KRS 11A.040 (7) provides:

No present or former public servant shall, within six (6) months following termination of his 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 six (6) months, he personally refrains from working on any matter in which he was directly involved during the last thirty-six (36) months of his 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 as a way to obtain private benefits.

If you have worked for the executive branch of state government within the past six months, 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, 3 Fountain Place, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Revised: January 27, 2017

### **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 1½ 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**

## **PART IV**

## **INSURANCE**

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

# **PART V**

## **BID ITEMS**

Report Date 11/9/21

Section: 0001 - MICROSURFACE

| LINE | BID CODE | ALT | DESCRIPTION                                  | QUANTITY   | UNIT | UNIT PRIC | FP | AMOUNT |
|------|----------|-----|--|------------|------|-----------|----|--------|
| 0010 | 06511    |     | PAVE STRIPING-TEMP PAINT-6 IN (MICROSURFACE) | 236,280.00 | LF   |           | \$ |        |
| 0020 | 20814EC  |     | MICROSURFACING-SURFACE COURSE - TYPE A       | 157,231.00 | SQYD |           | \$ |        |
| 0030 | 21652EN  |     | MICROSURFACING-LEVELING COURSE               | 175,467.00 | SQYD |           | \$ |        |

Section: 0002 - THINLAY

| LINE | BID CODE | ALT | DESCRIPTION  | QUANTITY   | UNIT | UNIT PRIC | FP | AMOUNT |
|------|----------|-----|--|------------|------|-----------|----|--------|
| 0040 | 00190    |     | LEVELING & WEDGING PG64-22                           | 546.00     | TON  |           | \$ |        |
| 0060 | 02676    |     | MOBILIZATION FOR MILL & TEXT (FD05 043 9001 091-096) | 1.00       | LS   |           | \$ |        |
| 0070 | 02676    |     | MOBILIZATION FOR MILL & TEXT (FD05 043 9001 116-120) | 1.00       | LS   |           | \$ |        |
| 0080 | 02677    |     | ASPHALT PAVE MILLING & TEXTURING                     | 120.00     | TON  |           | \$ |        |
| 0090 | 06511    |     | PAVE STRIPING-TEMP PAINT-6 IN (THINLAY)              | 123,750.00 | LF   |           | \$ |        |
| 0100 | 24887EC  |     | CL3 ASPH SURF NO.4A PG64-22                          | 2,950.00   | TON  |           | \$ |        |
| 0110 | 24970EC  |     | ASPHALT MATERIAL FOR TACK NON-TRACKING               | 58.00      | TON  |           | \$ |        |
| 0120 | 25077EC  |     | CL4 ASPH SURF NO.4A PG64-22                          | 3,560.00   | TON  |           | \$ |        |

Section: 0003 - ROADWAY

| LINE | BID CODE | ALT | DESCRIPTION  | QUANTITY  | UNIT | UNIT PRIC | FP | AMOUNT |
|------|----------|-----|--|-----------|------|-----------|----|--------|
| 0130 | 02562    |     | TEMPORARY SIGNS                                    | 380.00    | SQFT |           | \$ |        |
| 0140 | 02650    |     | MAINTAIN & CONTROL TRAFFIC (FD05 043 9001 091-096) | 1.00      | LS   |           | \$ |        |
| 0150 | 02650    |     | MAINTAIN & CONTROL TRAFFIC (FD05 043 9001 116-120) | 1.00      | LS   |           | \$ |        |
| 0160 | 02671    |     | PORTABLE CHANGEABLE MESSAGE SIGN                   | 3.00      | EACH |           | \$ |        |
| 0170 | 02775    |     | ARROW PANEL  | 3.00      | EACH |           | \$ |        |
| 0180 | 06531    |     | PAVE STRIPING REMOVAL-6 IN                         | 46,754.39 | LF   |           | \$ |        |
| 0190 | 06542    |     | PAVE STRIPING-THERMO-6 IN W                        | 65,140.00 | LF   |           | \$ |        |
| 0200 | 06543    |     | PAVE STRIPING-THERMO-6 IN Y                        | 53,000.00 | LF   |           | \$ |        |
| 0210 | 06546    |     | PAVE STRIPING-THERMO-12 IN W                       | 3,120.00  | LF   |           | \$ |        |
| 0220 | 06568    |     | PAVE MARKING-THERMO STOP BAR-24IN                  | 65.00     | LF   |           | \$ |        |
| 0230 | 06600    |     | REMOVE PAVEMENT MARKER TYPE V                      | 375.00    | EACH |           | \$ |        |
| 0240 | 23625EC  |     | PAVE MARK THERMO-6 IN W CAT TRAXX                  | 1,050.00  | LF   |           | \$ |        |
| 0250 | 24489EC  |     | INLAID PAVEMENT MARKER                             | 751.00    | EACH |           | \$ |        |
| 0260 | 24878EC  |     | ASPHALT EMULSION FOR FOG SEAL                      | 43.00     | TON  |           | \$ |        |
| 0270 | 24880EC  |     | REMOVE PAVEMENT MARKER                             | 751.00    | EACH |           | \$ |        |

Section: 0004 - DEMOBILIZATION

| LINE | BID CODE | ALT | DESCRIPTION | QUANTITY | UNIT | UNIT PRIC | FP | AMOUNT |
|------|----------|-----|-------------|----------|------|-----------|----|--------|
|------|----------|-----|-------------|----------|------|-----------|----|--------|

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PROPOSAL BID ITEMS

Page 2 of 2

Report Date 11/9/21

| LINE | BID CODE | ALT | DESCRIPTION    | QUANTITY | UNIT | UNIT PRIC | FP | AMOUNT |
|------|----------|-----|----------------|----------|------|-----------|----|--------|
| 0280 | 02569    |     | DEMOBILIZATION | 1.00     | LS   |           | \$ |        |