CALL NO. 408

CONTRACT ID. 252198

KENTON - BOONE COUNTIES

FED/STATE PROJECT NUMBER 121GR25P048 - FD05, FE01, & FD04

DESCRIPTION VARIOUS ROUTES IN KENTON AND BOONE COUNTY

WORK TYPE ASPHALT RESURFACING

PRIMARY COMPLETION DATE 10/31/2025

LETTING DATE: May 22,2025

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME May 22,2025. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

NO PLANS ASSOCIATED WITH THIS PROJECT.

DEFERRED PAYMENT

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

TABLE OF CONTENTS

PART I

SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 06

CONTRACT ID - 252198

121GR25P048 - FD05, FE01, & FD04

COUNTY - BOONE

PCN - MP00800252501
FD05 008 0025 010-012

DIXIE HIGHWAY (US 25) (MP 10.900) BEGINNING 175 FEET NORTH OF DORTHA AVENUE EXTENDING NORTH TO THE BOONE/KENTON COUNTY LINE (MP 11.407), A DISTANCE OF 0.50 MILES.ASPHALT RESURFACING

GEOGRAPHIC COORDINATES LATITUDE 39:00:16.77 LONGITUDE 84:37:10.32

ADT 16,424

PCN - MP00800252502
FE01 008 0025 010-012

DIXIE HIGHWAY (US 25) (MP 10.900) BEGINNING 175 FEET NORTH OF DORTHA AVENUE EXTENDING NORTH TO THE BOONE/KENTON COUNTY LINE (MP 11.407), A DISTANCE OF 0.50 MILES.SIDEWALK CONSTRUCTION

GEOGRAPHIC COORDINATES LATITUDE 39:00:16.77 LONGITUDE 84:37:10.32

ADT 16,424

PCN - MP00800252503
FD04 008 0025 010-012

DIXIE HIGHWAY (US 25) (MP 10.900) BEGINNING 175 FEET NORTH OF DORTHA AVENUE EXTENDING NORTH TO THE BOONE/KENTON COUNTY LINE (MP 11.407), A DISTANCE OF 0.50 MILES.SIGNS-LIGHTING-SIGNALS

GEOGRAPHIC COORDINATES LATITUDE 39:00:16.77 LONGITUDE 84:37:10.32

ADT 16,424

PCN - MP00800422501
FD05 008 0042 014-016

UNION - FLORENCE ROAD (US 42) (MP 14.500) BEGINNING 110 FEET EAST OF EWING BOULEVARD EXTENDING EAST TO US 25/MAIN STREET (MP 15.287), A DISTANCE OF 0.78 MILES.ASPHALT RESURFACING

GEOGRAPHIC COORDINATES LATITUDE 38:59:43.00 LONGITUDE 84:37:56.00

ADT 16,051

COUNTY - KENTON

PCN - MP05900252502
FD05 059 0025 008-009

DIXIE HIGHWAY (US 25) (MP 8.137) BEGINNING AT THE PAVEMENT JOINT 375 FEET NORTH OF MARIAN DRIVE EXTENDING NORTH TO KY 371 (MP 8.652), A DISTANCE OF 0.51 MILES.ASPHALT RESURFACING

GEOGRAPHIC COORDINATES LATITUDE 39:02:03.00 LONGITUDE 84:33:55.00

ADT 23,607

PCN - MP05900252503
FD05 059 0025 004-007

DIXIE HIGHWAY (US 25) (MP 4.978) BEGINNING AT THE BOONE/KENTON COUNTY LINE EXTENDING NORTH TO FOREST LAWN CEMETERY (MP 6.267), A DISTANCE OF 01.28 MILES.ASPHALT RESURFACING

GEOGRAPHIC COORDINATES LATITUDE 39:00:44.39 LONGITUDE 84:36:25.06

ADT 24,388

PCN - MP05900252504
FE01 059 0025 004-007

DIXIE HIGHWAY (US 25) (MP 4.978) BEGINNING AT THE BOONE/KENTON COUNTY LINE EXTENDING NORTH TO FOREST LAWN CEMETERY (MP 6.267), A DISTANCE OF 01.28 MILES.SIDEWALK CONSTRUCTION

GEOGRAPHIC COORDINATES LATITUDE 39:00:44.39 LONGITUDE 84:36:25.06

ADT 24,388

PCN - MP05900252505
FD04 059 0025 004-007

DIXIE HIGHWAY (US 25) (MP 4.978) BEGINNING AT THE BOONE/KENTON COUNTY LINE EXTENDING NORTH TO FOREST LAWN CEMETERY (MP 6.267), A DISTANCE OF 01.28 MILES.SIGNS-LIGHTING-SIGNALS

GEOGRAPHIC COORDINATES LATITUDE 39:00:44.39 LONGITUDE 84:36:25.06

ADT 24,388

COMPLETION DATE(S):

COMPLETED BY 10/31/2025 APPLIES TO ENTIRE CONTRACT

CONTRACT NOTES

INSURANCE

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

PROPOSAL ADDENDA

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

BID SUBMITTAL

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

JOINT VENTURE BIDDING

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

UNDERGROUND FACILITY DAMAGE PROTECTION

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

REGISTRATION WITH THE SECRETARY OF STATE BY A FOREIGN ENTITY

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

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

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

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

SPECIAL NOTE FOR PROJECT QUESTIONS DURING ADVERTISEMENT

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

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

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

HARDWOOD REMOVAL RESTRICTIONS

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

INSTRUCTIONS FOR EXCESS MATERIAL SITES AND BORROW SITES

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

ACCESS TO RECORDS

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

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

BOYCOTT PROVISIONS

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

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

LOBBYING PROHIBITIONS

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

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

SPECIAL NOTE – BUY AMERICA REQUIREMENTS AND BUILD AMERICA, BUY AMERICA (BABA) ACT 10/26/2023

1.0 BUY AMERICA REQUIREMENT.

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

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

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

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

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

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

Use foreign materials only under the following conditions:

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

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

2.0 – BUILD AMERICA, BUY AMERICA (BABA)

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

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

BABA permits FHWA participation in the Contract only if all "construction materials" as defined in the Act are made in the United States. The Buy America preference applies to the following construction materials

incorporated into infrastructure projects: non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); Fiber optic cable; optical fiber; lumber; engineered wood; and drywall. Contractor will be required to use construction materials produced in the United States on this Project. The Contractor shall submit a certification stating that all construction materials are certified to be BABA compliant.

Finally, BABA permits the continuation of FHWA's current general applicability waivers for manufactured products, raw materials, and ferryboat parts, but these waivers are subject to reevaluation, specifically the general applicability waiver for manufactured products.

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

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

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

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

Buy America - Construction Program Guide - Contract Administration - Construction - Federal Highway Administration (dot.gov)

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

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

Date Submitted:_____

Contractor:_____

Signature:_____

Printed Name:_____

Title:_____

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

SPECIAL NOTE FOR RECIPROCAL PREFERENCE

RECIPROCAL PREFERENCE TO BE GIVEN BY PUBLIC AGENCIES TO RESIDENT BIDDERS

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

April 30, 2018

DEFERRED PAYMENT

The successful bidder on this project has the distinct understanding that payment for any work may be delayed until July 15, 2025. Work Order/Notice to Proceed will be issued in accordance the Standard Specifications for Road and Bridge Construction, current edition.

SURFACING AREAS (BOONE US 25)

The Department estimates the mainline surfacing width to be varied 42-72 feet.
The Department estimates the total mainline area to be surfaced to be 15,067 square yards.
The Department estimates the shoulder width to be 0 feet on each side.
The Department estimates the total shoulder area to be surfaced to be 0 square yards.
SURFACING AREAS (KENTON US 25 MP 4.978 – 6.267)
The Department estimates the mainline surfacing width to be varied 42-62 feet.
The Department estimates the total mainline area to be surfaced to be 34,036 square yards.
The Department estimates the shoulder width to be 0 feet on each side.
The Department estimates the total shoulder area to be surfaced to be 0 square yards.
SURFACING AREAS (KENTON US 25 MP 8.137 – 8.652)
The Department estimates the mainline surfacing width to be varied 46-68 feet.
The Department estimates the total mainline area to be surfaced to be 17,454 square yards.
The Department estimates the shoulder width to be 0 feet on each side.
The Department estimates the total shoulder area to be surfaced to be 0 square yards.
SURFACING AREAS (BOONE US 42)
The Department estimates the mainline surfacing width to be varied 56-60 feet.
The Department estimates the total mainline area to be surfaced to be 28,758 square yards.
The Department estimates the shoulder width to be 0 feet on each side.
The Department estimates the total shoulder area to be surfaced to be 0 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.

FUEL AND ASPHALT PAY ADJUSTMENT

The Department has included the Contract items Asphalt Adjustment and Fuel Adjustment for possible future payments at an established Contract unit price of $1.00. The Department will calculate actual adjustment quantities after work is completed. If existing Contract amount is insufficient to pay all items on the contract with the adjustments, the Department will establish additional monies with a change order.

OPTION A

Be advised that the Department will accept compaction of asphalt mixtures furnished for driving lanes and ramps, at 1 inch (25mm) or greater, on this project according to OPTION A in accordance with Section 402 and Section 403 of the current Standard Specifications. The Department will require joint cores as described in Section 402.03.02 for surface mixtures only. The Department will accept compaction of all other asphalt mixtures according to OPTION B.

Special Notes Applicable to Project
General Notes & Description of Work

CAUTION

The information in this proposal and the type of work listed herein are approximate only and are not to be taken as an exact evaluation of the materials and conditions to be encountered during construction; the bidder must draw his/her own conclusions when developing the Unit Bid Prices for each bid item. As such, if the conditions encountered are not in accordance with the information shown, the Department does not guarantee any changes to the Unit Bid Prices nor extension of the contract will be considered. The Department will pay for bid item quantity overruns, but only if pre-approved by the Engineer.

STATIONING

The contractor is advised that the planned locations of work were established using the Route Milepoint Log with a beginning location approximately 175' to the north of the intersection of US 25 and Dortha Ave., which corresponds to Milepoint 10.900 along US 25 in Boone County. The project also has a length within Kenton County where the beginning Milepoint of work is at the Boone-Kenton county line, which corresponds to Milepoint 4.978 along US 25 in Kenton County. **NOTE**: The existing mile marker signs may not correspond to the proposed work locations.

ON-SITE INSPECTION

Before submitting a bid for the work, make a thorough inspection of the site and determine existing conditions so that the work can be expeditiously performed after a contract is awarded. The Department will consider submission of a bid to be evidence of this inspection having been made. The Department will not honor any claims for money or time extension resulting from site conditions.

RIGHT OF WAY LIMITS

The Department has not established the exact limits of the Right-of-Way. Unless a consent and release form is obtained from the adjoining property owner, limit work activities to the obvious Right-of-Way and staging areas secured and environmentally cleared by the Contractor at no additional cost to the Department. In the event that private improvements (i.e., fences, buildings, etc.) encroach upon the Right-of-Way, the contractor shall notify the Engineer and limit work activities in order to NOT disturb the improvements. If they become necessary, the Department will secure consent and releases from property owners through the Engineer. Be responsible for all encroachments onto private lands.

CONTROL

Perform all work under the absolute control of the Department of Highways. Obtain the Engineer's approval of all designs required to be furnished by the Contractor prior to incorporation into the work. The Department reserves the right to have other work performed by other contractors and its own forces and to permit public utility companies and others to do work during the construction within the limits of, or adjacent to, the project. Conduct operations and cooperate with such other parties so that interference with such other work will be reduced to a minimum. The Department will not honor any claims for money or time extension created by the operations of such other parties. Should a difference of opinion arise as to the rights of the Contractor and others working within the limits of, or adjacent to, the project, the Engineer will decide as to the respective rights of the various parties involved in order to assure the completion of the Department's work in general harmony and in a satisfactory manner, and his/her decision shall be final and binding upon the Contractor.

DESCRIPTION OF WORK

This project includes work in two Counties (Boone and Kenton) and contains work to be paid for using multiple funding sources. The Contractor shall work with the Engineer to document work and the appropriate bid items for measurement by the Engineer. The work and funding source is listed in the following sections. Except as specified herein, perform all work in accordance with the Department's Standard Specifications, Supplemental Specifications, applicable Special Notes and Special Provisions, and applicable Standard and Sepia Drawings, current editions. Furnish all materials, labor, equipment, and incidentals for the following work:

BOONE COUNTY

FD05 008 0025 010-012

Pavement Resurfacing. The existing roadway is to be resurfaced from approx. 175' north of the intersection of US 25 and Dortha Ave. to the Boone-Kenton County Line. Other items that may be associated with the pavement resurfacing include: removal of existing pavement by milling and texturing, leveling and wedging, application of asphalt material for tack, and construction of permanent pavement striping and markings.

Base Failure Repairs. Areas has been identified along the route for Base Failure Repair. The repair locations and dimensions listed on the Base Failure Repair Summary are approximate only. The Engineer will determine actual repair locations and dimensions at the time of construction. Refer to the Special Note for Base Failure Repair for more details on this item of work.

Sidewalk Ramp Reconstruction. Areas have been identified along the route for reconstruction of the sidewalk ramps. The locations, items involved, and design specifics are listed on the Sidewalk Ramp and Detectable Warning Summary and in the appropriate Standard Drawings. The final ramp configuration and quantities are approximate only and the Engineer will determine actual reconstruction limits and configurations at the time of construction.

Radar Presence Detectors. Work to include the installation and activation of Radar Detection equipment as identified in this proposal, detailed in the Special Note for Radar Presence Detection, and to the satisfaction of the District Traffic Engineer.

FE01 008 0025 010-012

Sidewalk and Curb Repair. Areas have been identified along the route for repair of the sidewalk and curb. The locations, items involved, and design specifics are listed on the General Summary; Sidewalk, Ramp, and Detectable Warning Summary; and in the appropriate Standard Drawings. The final sidewalk configuration and quantities are approximate only and the Engineer will determine actual reconstruction limits and configurations at the time of construction.

Curb Box Inlet Repair. A quantity of Reconstruct Curb Box Inlet has been included to reconstruct damaged structures. The identified structures will likely only need the top phase reconstructed though the Engineer will determine actual reconstruction limits at the time of construction. The locations are listed on the General Summary with design specifics of a typical Curb Box Inlet covered in the appropriate Standard Drawings.

FD04 008 0025 010-012

Installation of a Proposed Signal Head and Span-Mounted Signs. The intersection of US 25 and Turfway Rd. is to have a signal head added to the span arrangement as well as several signs are to be replaced and/or added. Refer to the Install Items List and Signal Detail Sheets as well as the Standard Drawings for Traffic Installations and Standard Specifications for more information.

KENTON COUNTY

FD05 0059 0025 004-007

Pavement Resurfacing. The existing roadway is to be resurfaced from the Boone-Kenton County Line to the asphalt-concrete pavement joint at MP 6.267. Other items that may be associated with the pavement resurfacing include: removal of existing pavement by milling and texturing, leveling and wedging, application of asphalt material for tack, and construction of permanent pavement striping and markings.

Base Failure Repairs. Areas has been identified along the route for Base Failure Repair. The repair locations and dimensions listed on the Base Failure Repair Summary are approximate only. The Engineer will determine actual repair locations and dimensions at the time of construction. Refer to the Special Note for Base Failure Repair for more details on this item of work.

Radar Presence Detectors. Work to include the installation and activation of Radar Detection equipment as identified in this proposal, detailed in the Special Note for Radar Presence Detection, and to the satisfaction of the District Traffic Engineer.

FE01 059 0025 004-007

Curb Repair. Areas have been identified along the route for repair of the curb. The locations, items involved, and design specifics are listed on the General Summary and in the appropriate Standard Drawings. The final configuration and quantities are approximate only and the Engineer will determine actual reconstruction limits and configurations at the time of construction.

Curb Box Inlet Repair. A quantity of Reconstruct Curb Box Inlet has been included to reconstruct damaged structures. The identified structures will likely only need the top phase reconstructed though the Engineer will determine actual reconstruction limits at the time of construction. The locations are listed on the General Summary with design specifics of a typical Curb Box Inlet covered in the appropriate Standard Drawings.

FD04 059 0025 004-007

Installation of Proposed Signal Heads and Span-Mounted Signs. Several of the intersections within the corridor are to have a signal head added to or replaced on the span arrangement as well as several signs are to be replaced and/or added. Refer to the Install Items List and Signal Detail Sheets as well as the Standard Drawings for Traffic Installations and Standard Specifications for more information.

SPECIAL NOTE FOR
PAVEMENT MARKING MODIFICATIONS

This Proposal may include drawings depicting anticipated pavement marking modifications along the route to be resurfaced. However, per Section 713.03.01 of the Standard Specifications, the Contractor shall still be required to submit a record of existing pavement markings prior to beginning resurfacing activities. The Department requests these records be submitted at least two weeks prior to milling or paving in order to coordinate all desired changes between the District Striping Engineer and the Contractor. All changes will be returned to the Contractor to ensure the desired modifications can be performed during final surfacing. As the Contractor is responsible for implementing any pavement marking changes, it is highly recommended any questions are addressed to the Engineer prior to striping. Any incorrect markings will be removed and replaced with the proper markings at the Contractor's expense and in a manner approved by the Engineer.

SPECIAL NOTE FOR THERMOPLASTIC MARKINGS

The intent of the Kentucky Specifications for Road and Bridge Construction is that all markings are to be in place within 24 hours of being removed, and this can be accomplished by installing the permanent markings (unless they will be driven over with construction activities) or temporary painted markings that meet specifications for coverage and reflectivity. This includes all thermoplastic markings. Unless approved by the project engineer, any location(s) where these markings are not installed in accordance with the specifications is subject to Liquidated Damages as outlined in Section 112.03.15 of the Standard Specifications.

.

Special Note for Completion Date & Liquidated Damages

I. COMPLETION DATE

All work in this Contract is to be completed in the 2025 construction season by October 31, 2025 or before. The Contractor will have the option of selecting the starting date for the work proposed within this Contract. Once a starting date is selected, notify the Department in writing of the date selected at least two weeks prior to beginning work. Once work begins, all work shall be completed and all traffic control devices removed within a maximum of 45 calendar days. Contrary to Section 108.07.03, the Engineer will begin charging calendar days for this project on the day the Contractor starts work or sets up traffic control.

II. LIQUIDATED DAMAGES

In addition to the requirements of Section 108.09, the Department will assess Liquidated Damages in the amount of **$1000** per day for each day, or fraction of a day, if either the 45 calendar days or the October 31, 2025 date is exceeded. All construction must be completed in accordance with any and all applicable weather limitations listed in the Standard Specifications. As such, the Contractor is advised to select a starting date based on a favorable weather forecast.

NOTE: At the sole discretion of the Engineer, all, or part, of these Liquidated Damages may be waived due to unforeseen circumstances, such as unexpected weather.

Contrary to Section 108.09, Liquidated Damages will be assessed for the months of December through March.

All liquidated damages will be applied accumulatively.

All other applicable portions of Section 108 apply.

SPECIAL PROVISION FOR WASTE AND BORROW SITES

Obtain U.S. Army Corps of Engineer's approval before utilizing a waste or borrow site that involves "Waters of the United States". The Corps of Engineers defines "Waters of the United States" as perennial or intermittent streams, ponds or wetlands. The Corps of Engineers also considers ephemeral streams, typically dry except during rainfall but having a defined drainage channel, to be jurisdictional waters. Direct questions concerning any potential impacts to "Waters of the United States" to the attention of the appropriate District Office for the Corps of Engineers for a determination prior to disturbance. Be responsible for any fees associated with obtaining approval for waste and borrow sites from the U.S. Army Corps of Engineer or other appropriate regulatory agencies.

1-296 Waste & Borrow Sites
01/02/2012

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

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

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

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

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

1. The e-Ticketing Delivery Software shall be fully integrated with the Contractor's Load Read-Out scale system at the material source location.

2. The e-Ticketing Delivery Software shall provide real-time delivery to KYTC e-Ticketing Portal.

3. Transmit any updates to the ticket data within 5 minutes of a change.

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

A. Construction Requirements

1. Install and operate software in accordance with the manufacturer's specifications.

2. Verify that all pertinent information is provided by the software within the requirements of this Special Note.

B. Data Deliverables

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

1. Asphalt Material

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

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

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

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

4.0 MEASUREMENT. The Department will measure the electronic delivery management system as a lump sum item.

5.0 PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

1. Payment is full compensation for all work associated with providing all required equipment, training, and documentation.

2. Payment will be full compensation for costs related to providing the e-Ticketing Delivery Software, including integration with plant load-out systems, and report viewing/exporting process. All quality control procedures including the software representative's technical support and on-site training shall be included in the Contract lump sum price.

Code	Pay Item	Pay Unit
26228EC	ELECTRONIC DELIVERY MGMT SYSTEM	LS

January 2024

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^{o} +/- 1.8^{o} 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 verification.

3.2.1 KYCT Frequency. Obtain an adequate sample of hot mix asphalt to ensure 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 sublot 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, for field specimens, fabricate a minimum of 3 and up to 6 test specimens. The specimens shall be compacted at the temperature in accordance with KM 64-411. KYCT mix design specimens shall be short-term conditioned uncovered for four hours at compaction temperature in accordance with KM 64-411. Contrary to the Kentucky Method, plant produced bituminous material shall be short-term conditioned immediately after sampling for two hours uncovered in the oven at compaction temperature in accordance with 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 ensure 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 sublot, 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 with 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 with 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 Payment

Any additional labor and testing equipment that is required to fabricate and test the KYCT and Hamburg specimens shall be considered 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.

June 15th, 2022

SPECIAL NOTE FOR DOLOMITIC POLISH-RESISTANT AGGREGATE IN CLASS A 0.38-IN. AND 0.50-IN. NOMINAL ASPHALT MIXTURES

Contrary to Subsection 403.03.03, when utilizing a dolomitic polish-resistant aggregate as the coarse portion of the Class A 0.38-in. or 0.50-in.-nominal asphalt surface mixture, provide an asphalt mixture conforming to the following requirements:

- 70 percent of total combined aggregate is Class A polish-resistant aggregate.
- Any coarse aggregate utilized in the mixture shall be classified as Class A polish-resistant.
- Non-dolomitic substitutes from other Class A sources may be used as direct substitutes
- All mixes must have DFT testing/results submitted to Division of Materials with any supporting documentation prior to completion of the project.

Dynamic Friction Testing Procedure. Prepare samples for DFT analysis in accordance with PP 104. Friction testing shall be conducted by an AASHTO-accredited facility and data shall be provided in accordance with ASTM E1911 conforming to the following three-wheel polishing schedule. Variations to the testing frequency or methodology shall be coordinated with Division of Materials prior to testing.

Polishing Cycles
5,000
25,000
75,000
150,000

COORDINATION OF WORK WITH OTHER CONTRACTS

Be advised, there may be an active project(s) adjacent to or within this project. The Engineer will coordinate the work of the Contractors. See Section 105.06.

1-3193 Coordination Contracts
01/02/2012

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 NOTES FOR BASE FAILURE REPAIR
KENTON US 25 MP 8-9 AND BOONE US 42

Base failure repair locations will be determined by the Engineer before the resurfacing begins. Saw cut the existing pavement, asphalt surface, base, DGA, and PCC pavement (if present). Excavate approximately 9 inches from the existing pavement level. Remove and dispose of all materials. Use all possible care to avoid damaging existing culvert pipes and any existing underground utilities. Repair or restore any damaged items at no additional costs to the Department. Waste all removed materials off the Right of Way at sites obtained by the Contractor.

Backfill the remaining area with Class 2 Asphalt Base 1.00D PG64-22 in 4 inch maximum courses up to the existing pavement surface. Seal the Asphalt Base with Leveling and Wedging. Compact each course of asphalt base to the proper compaction as required by the Section 403. Perform all base failure repairs in such a manner that removal and replacement are completed on the same day. Do this work as one of the Contractor's first operations in order to allow further compaction by traffic. Do not place new asphalt surface over repaired base failure areas until a minimum of 7 days has elapsed after placement of the final course of asphalt base. Prior to constructing the new asphalt surface, level and wedge any settlement of the repair areas.

The bidder must draw his own conclusions as to the conditions encountered. The Department does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation of the materials encountered that are not in accord with the classification shown.

Payment at the Contract unit prices per Square Yard for "Base Failure Repair" shall be full compensation for all labor, materials, equipment, and incidentals for saw cutting pavement, excavating and disposing of all materials, backfilling trench up to the pavement boundary, furnishing, placing the asphalt base, and all other items necessary to complete the work to the satisfaction of the Engineer. Level and wedge will be paid as per the Standard Specifications.

SPECIAL NOTE FOR BASE FAILURE REPAIR

BOONE US 25 AND KENTON US 25 MP 4-7

Repair locations listed on the summary are approximate only. The Engineer will determine actual repair locations and dimensions at the time of construction. Saw cut the existing pavement, asphalt surface, base, DGA, and PCC pavement (if present). Excavate to an approximate depth of 4 inches below the bottom of the existing asphalt pavement level. Use all possible care to avoid damaging existing culvert pipes and any existing underground utilities. Repair or restore any damaged items at no additional cost to the Department. Waste all removed materials off the Right of Way at sites obtained by the Contractor at no additional cost to the Department. See the Special Provision for Waste and Borrow Sites.

On the same day trench is excavated, backfill the excavated area with Class 3 Asphalt Base 1.00D PG64-22, in 4 inch maximum courses, up to the existing pavement surface. Compact the asphalt base to the proper compaction as required by Section 403. Seal the asphalt base with leveling and wedging. Perform all base failure repairs in such a manner that removal and replacement are completed on the same day. Do this work as one of the Contractor's first operations in order to allow further compaction by traffic. Do not mill or place new asphalt surface over repaired base failure areas until a minimum of 14 calendar days have elapsed after placement of the final course of asphalt base. After the 14 calendar day waiting period, and/or when the Engineer determines the base failure repair areas have sufficiently stabilized, begin milling and/or resurfacing operations. Prior to milling and/or constructing the new asphalt surface, level and wedge any settlement of the repair areas.

The bidder must draw his or her own conclusions as to the conditions to be encountered. The Department does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation of the materials encountered that are not in accord with the classification shown.

Accept payment at the Contract unit prices per square yard for Base Failure Repair and per ton for Leveling and Wedging as full compensation for all labor, materials, equipment, and incidentals for saw cutting pavement and excavating and disposing of all materials; furnishing and placing asphalt base up to the pavement boundary; leveling and wedging until the repair areas stabilize; and all other items necessary to complete the work according to these notes to the satisfaction of the Engineer.

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

SPECIAL NOTE FOR SIDEWALK RAMPS & DETECTABLE WARNINGS

GENERAL

Unless otherwise stated in the contract, or as directed by or with prior approval from the Engineer, construct Sidewalk Ramps and Detectable Warnings in accordance with Sections 505 and 720; Supplemental Specifications; Standard Drawings RGX-040-03, RPM-150-08, RPM-152-08, RPM-170-09, and RPM-172-07; current editions, as applicable. In lieu of the Detectable Warnings shown on Standard Drawing RGX-040-03, the Department will also allow the use of any Detectable Warnings listed as Phase XI on the Kentucky Product Evaluation List (http://www.ktc.uky.edu/kytc/kypel/allevaluations.php). For Detectable Warnings as shown on Standard Drawing RGX-040-03, saw cut existing sidewalks, curb and gutter, and pavement, if present, as shown on the detail and reconstruct sidewalk ramps with detectable warnings as directed or approved by the Engineer. For Detectable Warnings from the Kentucky Product Evaluation List, install according to the manufacturer's recommendations. Unless specified otherwise in the Contract, construct sidewalk with 4" nominal minimum required thickness; however, if the existing sidewalk thickness is found to be greater or less than the thickness specified, transition the thickness as directed by the Engineer.

Except as required by the work, do not disturb drainage pipe, catch basins, and other roadway features, appurtenances and installations. Restore any roadway features, appurtenances, and installations damaged by the work in like kind materials and design at no additional cost to the Department. Dispose of all waste off the right of way at sites obtained by the Contractor at no additional cost to the Department (see Special Note for Waste and Borrow).

MEASUREMENT & PAYMENT

SIDEWALK RAMPS – The Department will measure Sidewalk Ramps in accordance with Section 505.04.01 and Standard Drawing RPM-170-09, current editions; however, contrary to Sections 505.04.05 and 505.04.06, the Department will not measure Roadway Excavation or Embankment in Place, but shall be incidental to the Sidewalk. Accept payment at the Contract unit price per square yard as full compensation for all labor, materials, equipment, and incidentals required for removal and disposal of existing sidewalk and curb and gutter, excavation and embankment, construction of the sidewalk ramps, reconstruction of the adjacent curb and/or sidewalk as necessary to install the sidewalk ramps, and restoration of disturbed features in accordance with these notes or as directed by the Engineer.

DETECTABLE WARNINGS – The Department will measure Detectable Warnings in accordance with Section 505.04.04 and Standard Drawings RGX-040-03 and RPM-170-09, current editions. The Department will make payment according to Section 505.05.

HANDRAIL – The Department will measure and make payment for Handrail in accordance with Section 720.05 and Standard Drawing RPM-172-07, current editions.

TRAFFIC CONTROL PLAN

TRAFFIC CONTROL GENERAL

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

Contrary to Section 106.01, traffic control devices used on this project may be new, or used in like new condition, at the beginning of the work and maintained in like new condition until completion of the work. Any temporary traffic control items, devices, materials, and incidentals shall remain the property of the contractor unless otherwise addressed, when no longer needed.

PROJECT PHASING & CONSTRUCTION PROCEDURES

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 and provide a minimum clear lane width of 10 feet for all sections of US 25 and US 42 within project limits; 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 or emergency vehicle on an official run arrives on the scene, make provisions for the passage of the school bus or emergency vehicle as quickly as possible..

The Department will allow night work on this project. Obtain the Engineer's approval of the method of lighting prior to performing night work.

Take these restrictions into account in submitting bid. The Department will not consider any claims for money or grant contract time extensions for any delays to the Contractor as a result of these restrictions.

Unless otherwise approved by the Engineer, no lane closures will be allowed during the following times:

Easter Weekend	3 pm Friday, April 18, 2025 – 8 pm Sunday, April 20, 2025
Memorial Day Weekend	3 pm Friday, May 23, 2025 – 8 pm Monday, May 26, 2025
Independence Day	7 am Friday, July 4, 2025 – 8 pm Sunday, July 6, 2025
Labor Day Weekend	3 pm Friday, August 29, 2025 – 8 pm Monday, September 1, 2025

Do NOT erect lane closures during the following days and/or hours:
Normal Workday Rush Hours
Monday-Friday 6:00 AM – 9:00 AM, and 2:00 PM – 6:00 PM, daily

At the discretion of the Engineer, additional days and hours may be specified when lane closures will not be allowed.

The Department will provide public notification regarding lane closures. The Contractor shall submit proposed lane closure days and times to the Engineer at least 14 calendar days in advance for approval. Liquidated Damages will be assessed for each hour or fraction of an hour that a lane closure is in place outside of an approved time period. See the Special Notes for Completion Dates & Liquidated Damages for details on the Liquidated Damages amount.

LANE CLOSURES

Long term lane closures shall not be allowed; therefore, lane closures will not be measured for payment. Do not leave lane closures in place during non-working hours and prohibited periods.

TEMPORARY SIGNS

Temporary signposts 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. Temporary signs, including any splices, shall be installed according to manufacturer's specifications and installation recommendations. Contrary to section 112.04.02, only long-term temporary signs (temporary signs intended to be continuously in place for more than 3 days) will be measured for payment. Short-term temporary signs (temporary 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 by the Engineer. Place changeable message signs approximately 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. If the damage or mechanical/electrical failure is identified during active work operations, repair or replace the Changeable Message Sign within 6 hours. If the damage or mechanical/electrical failure is identified when there are no active work operations on the project, repair or replace the Changeable Message Sign within 12 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/or relocated during the duration of the project. The Department will not measure for payment any replacements for damaged Changeable Message Signs or any changeable message signs the Engineer directs to 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 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.

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.

TEMPORARY ENTRANCES

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

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

THERMOPLASTIC INTERSECTION MARKINGS

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

PAVEMENT MARKINGS

If there is to be a deviation from the existing striping plan, the Engineer will furnish the Contractor a striping plan prior to placement of the final surface course. Install Temporary Striping according to Section 112 with the following exception:

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

PAVEMENT EDGE DROP-OFFS

Do not allow a pavement edge between opposing directions of traffic or lanes that traffic is expected to cross in a lane change situation with an elevation difference greater than 1½”. Place Warning signs (MUTCD W8-11 or W8-9A) in advance of and at 1500’ intervals throughout the drop-off area. Dual post the signs on both sides of the traveled way. Wedge all transverse transitions between resurfaced and un-resurfaced 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 oncoming 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)

Messages

Basic principles that are important to providing proper messages and ensuring 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
- No 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 ensure that the sign 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 theft (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
Page 7 of 9

Standard Abbreviations

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

Word	Abbrev	Example
Access	ACCS	CRASH AHEAD/ USE ACCS RD NEXT RIGHT
Alternate	ALT	CRASH AHEAD/ USE ALT RTE NEXT RIGHT
Avenue	AVE	FIFTH AVE CLOSED/ DETOUR NEXT LEFT
Blocked	BLKD	FIFTH AVE BLKD/ MERGE LEFT
Boulevard	BLVD	MAIN BLVD CLOSED/ USE ALT RTE
Bridge	BRDG	SMITH BRDG CLOSED/ USE ALT 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 DELAYS
Downtown	DWNTN	DWNTN TRAF USE EX 40
Eastbound	E-BND	E-BND I64 CLOSED/ DETOUR EXIT 20
Emergency	EMER	EMER VEH AHEAD/ PREPARE TO STOP
Entrance, Enter	EX, EXT	DWNTN TRAF USE EX 40
Expressway	EXPWY	WTRSN EXPWY CLOSED/ DETOUR EXIT 10
Freeway	FRWY, FWY	GN SYNDR FWY CLOSED/ DETOUR EXIT 15
Hazardous Materials	HAZMAT	HAZMAT IN ROADWAY/ ALL TRAF EXIT 25
Highway	HWY	CRASH ON AA HWY/ EXPECT DELAYS
Hour	HR	CRASH ON AA HWY/ 2 HR DELAY
Information	INFO	TRAF INFO TUNE TO 1240 AM
Interstate	I	E-BND I64 CLOSED/ DETOUR 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 DELAYS I75/ USE ALT RTE
Mile	MI	CRASH 3 MI AHEAD/ USE ALT RTE
Minor	MNR	CRASH 3 MI MNR DELAY
Minutes	MIN	CRASH 3 MI/ 30 MIN DELAY
Northbound	N-BND	N-BND I75 CLOSED/ DETOUR EXIT 50
Oversized	OVRSZ	OVRSZ COMM VEH/ USE I275 NEXT RIGHT
Parking	PKING	EVENT PKING NEXT RGT
Parkway	PKWY	CUM PKWAY TRAF/ DETOUR EXIT 60
Prepare	PREP	CRASH 3 MI/ PREP TO STOP
Right	RGT	EVENT PKING NEXT RGT
Road	RD	HAZMAT IN RD/ ALL TRAF EXIT 25
Roadwork	RDWK	RDWK NEXT 4 MI/ POSSIBLE DELAYS
Route	RTE	MAJ DELAYS I75/ USE ALT RTE
Shoulder	SHLDR	SHLDR CLOSED NEXT 5 MI
Slippery	SLIP	SLIP COND POSSIBLE/ SLOW SPD
Southbound	S-BND	S-BND I75 CLOSED/ DETOUR EXIT 50
Speed	SPD	SLIP COND POSSIBLE/ SLOW SPD

Traffic Control Plan
Page 8 of 9

Standard Abbreviations (cont.)

Word	Abbrev	Example
Street	ST	MAIN ST CLOSED/ USE ALT RTE
Traffic	TRAF	CUM PKWAY TRAF/ DETOUR EXIT 60
Vehicle	VEH	OVRSZ COMM VEH/ USE I275 NEXT RIGHT
Westbound	W-BND	W-BND I64 CLOSED/ DETOUR EXIT 50
Work	WRK	CONST WRK 2MI/ POSSIBLE DELAYS

Certain abbreviations are prone to inviting confusion because another word is abbreviated or could be abbreviated in the same way. DO NOT USE THESE ABBREVIATIONS:

Abbrev	Intended Word	Word Erroneously Given
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.

Reason/Problem	Action
CRASH AHEAD	ALL TRAFFIC EXIT RT
CRASH/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

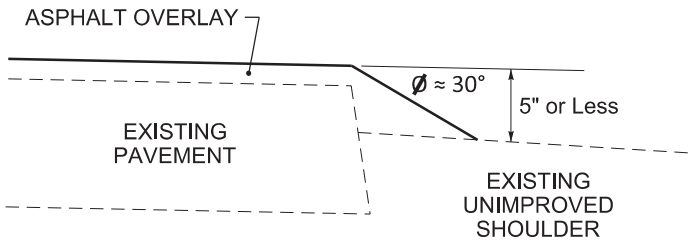
Traffic Control Plan
Page 9 of 9

Typical Messages (cont.)

Reason/Problem	Action
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.)	
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	

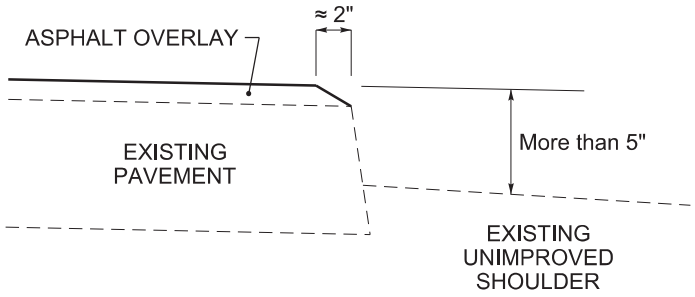
DURABLE PAVEMENT EDGE DETAIL

(Resurfacing adjacent to low shoulder with dropoff of 5 inches or less)



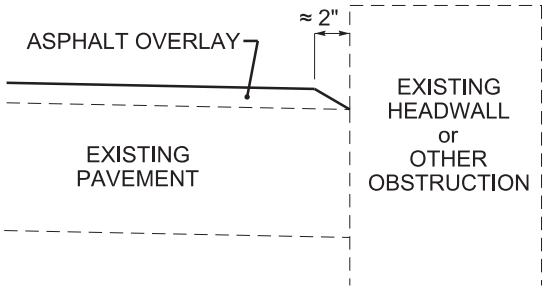
DURABLE PAVEMENT EDGE DETAIL

(Resurfacing adjacent to low shoulder with dropoff of more than 5 inches)



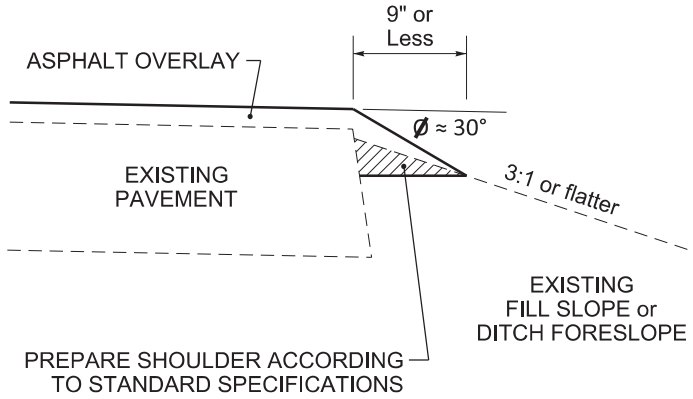
DURABLE PAVEMENT EDGE DETAIL

(Resurfacing adjacent to an obstruction, such as an existing headwall)



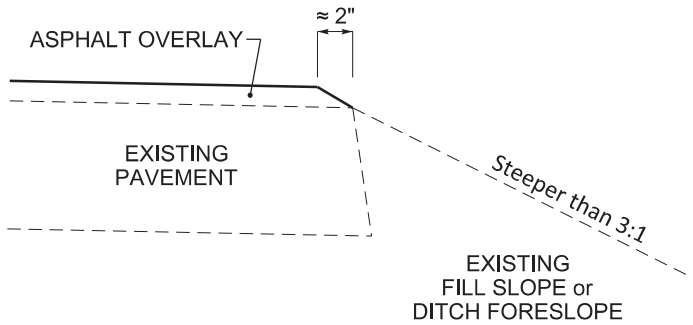
DURABLE PAVEMENT EDGE DETAIL

(Resurfacing adjacent to fill slope or ditch foreslope that is 3:1 or less)



DURABLE PAVEMENT EDGE DETAIL

(Resurfacing adjacent to fill slope or ditch foreslope that is steeper than 3:1)



NOTES

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 APROVED BY THE ENGINEER.

DRAWING NOT TO SCALE

DURABLE PAVEMENT EDGE DETAILS

BOONE CO. US 25 ~m.p. 11.31
~LAT/LONG N 39.00539, W 84.61716
STATION G39

SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION.

ALL LOOPS SHALL BE 6'X6' SQUARE AND SHALL BE INSTALLED 16' FROM LEADING EDGE TO LEADING EDGE AS SHOWN. PIEZOELECTRIC SENSORS (PIEZOS) SHALL BE INSTALLED 5' FROM THE EDGE OF LOOPS WITH THE EDGE OF EACH PIEZO FLUSH WITH THE EDGE OF THE CORRESPONDING DRIVING LANE. LOOPS AND PIEZOS SHALL BE INSTALLED SPLICE-FREE TO THE CABINET AND A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED INSIDE EACH JUNCTION BOX AND CABINET. ALL LOOPS AND PIEZOS SHALL BE LABELED IN ALL JUNCTION BOXES AND CABINET. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE LOOPS AND PIEZOS INSIDE THE CABINET.

REMOVE AND REPLACE THREE (3) NARROW SECTIONS OF SIDEWALK TO ROUTE CONDUIT TO TYPE A JUNCTION BOX.

INSTALL ONE (1) 1¼" CONDUIT FROM EACH SAW SLOT TO NEAREST JUNCTION BOX.

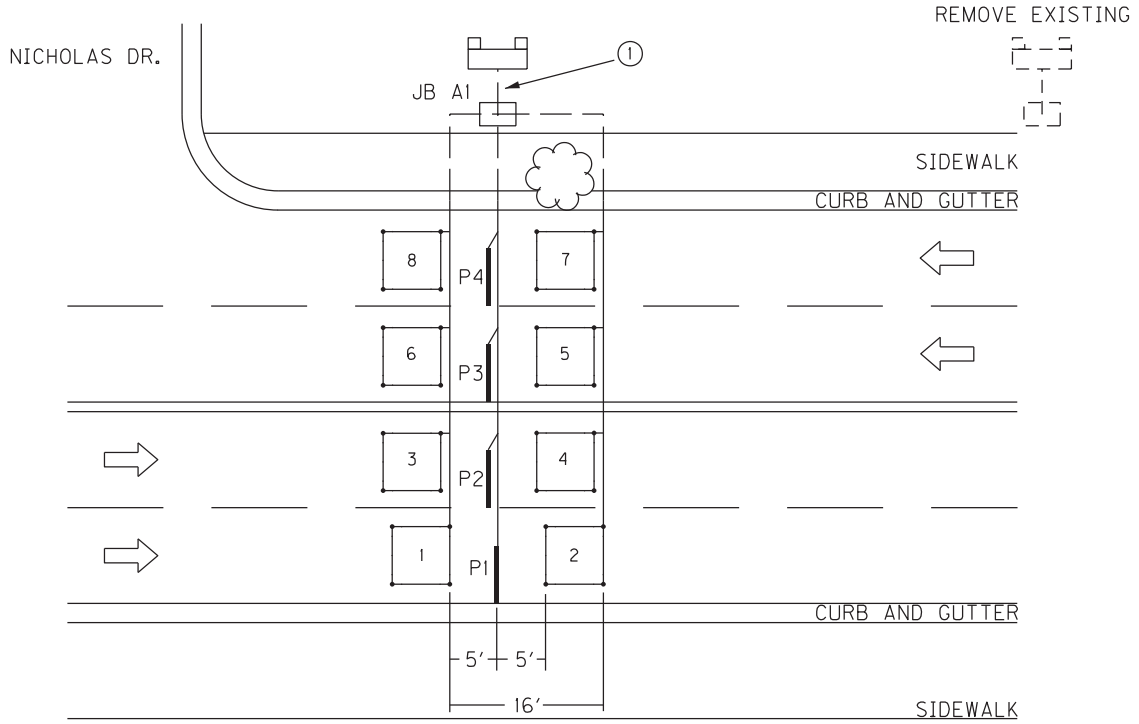
INSTALL ONE (1) TYPE A JUNCTION BOX (JB A1).

INSTALL ONE (1) 20"X20"X8" CABINET MOUNTED TO TWO (2) WOOD POSTS.

TRANSFER WIRING HARNESSES AND TERMINAL STRIPS FROM OLD CABINET TO THE NEW ONE AND REMOVE EX. CABINET, WIRE, CONDUIT, POST AND DISPOSE OF OFF THE PROJECT.

CODED NOTE:

① INSTALL ONE (1) 2" CONDUIT.



SCALE 1"=5'

KENTON CO. US 25 m.p. 5.88
~LAT/LONG N 39.01480, W 84.60402
STATION G42

SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION.

ALL LOOPS SHALL BE 6'X6' SQUARE AND SHALL BE INSTALLED 16' FROM LEADING EDGE TO LEADING EDGE AS SHOWN. PIEZOELECTRIC SENSORS (PIEZOS) SHALL BE INSTALLED 5' FROM THE EDGE OF LOOPS WITH THE EDGE OF EACH PIEZO FLUSH WITH THE EDGE OF THE CORRESPONDING DRIVING LANE. LOOPS AND PIEZOS SHALL BE INSTALLED SPLICE-FREE TO THE CABINET. A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED INSIDE EACH JUNCTION BOX AND A MINIMUM OF 4' OF WIRE FOR EACH SENSOR SHALL BE COILED INSIDE THE CABINET. ALL LOOPS AND PIEZOS SHALL BE LABELED IN ALL JUNCTION BOXES AND CABINET. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE LOOPS AND PIEZOS INSIDE THE CABINET.

REMOVE AND REPLACE THREE (3) SLENDER SECTIONS OF SIDEWALK (AVOIDING DECOROTATIVE BRICK) TO INSTALL 1¼" CONDUIT TO THE TYPE A JUNCTION BOX.

INSTALL ONE (1) 1¼" CONDUIT FROM EACH SAW SLOT TO NEAREST JUNCTION BOX.

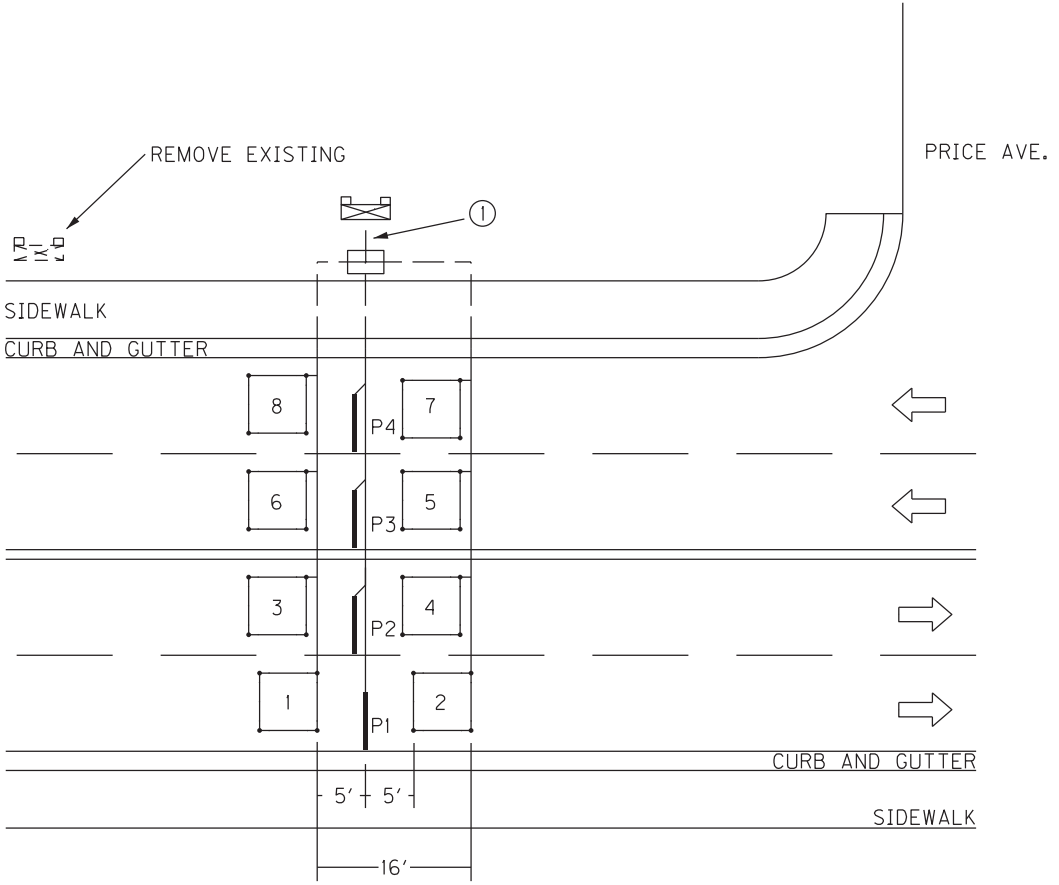
INSTALL ONE (1) TYPE A JUNCTION BOX (JB A1).

INSTALL ONE (1) 20"x20"x8" GALVANIZED STEEL CABINET ON TWO (2) WOOD POSTS.

TRANSFER WIRING HARNESSES AND TERMINAL STRIPS FROM OLD CABINET TO THE NEW ONE AND REMOVE THE OLD EXISTING EQUIPMENT AND DISPOSE OF OFF THE PROJECT.

CODED NOTES:

① INSTALL ONE (1) 2" CONDUIT.



SCALE 1"=5'

KENTON CO. US 25 ~m.p. 8.33
~LAT/LONG N 39.03399, W 84.56541
STATION D54

SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION.

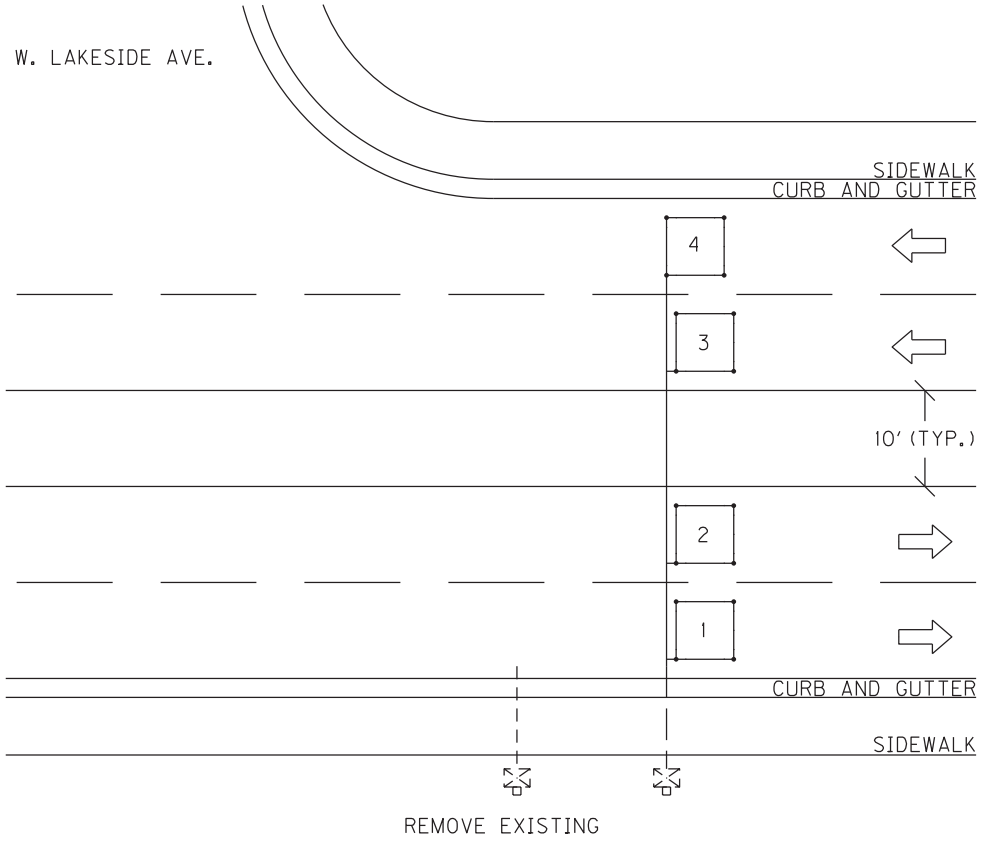
ALL LOOPS SHALL BE 6'X6' SQUARE. LOOPS SHALL BE INSTALLED SPLICE-FREE TO THE CABINET AND A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED AND LABELED INSIE THE CABINET. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE LOOPS INSIDE THE CABINETS.

INSTALL ONE (1) 10"x8"x4" CABINET MOUNTED TO ONE (1) WOOD POST.

INSTALL ONE (1) 1 1/4" CONDUIT FROM SAW SLOT TO CABINET.

REMOVE AND REPLACE ONE (1) SECTION OF SIDEWALK TO ROUTE CONDUIT TO CABINET.

REMOVE OLD EXISTING EQUIPMENT AND DISPOSE OF OFF THE PROJECT.



SCALE 1"=

BOONE CO. US 42 ~m.p. 14.26
~LAT/LONG N 38.98834, W 84.63895
STATION K46 EB

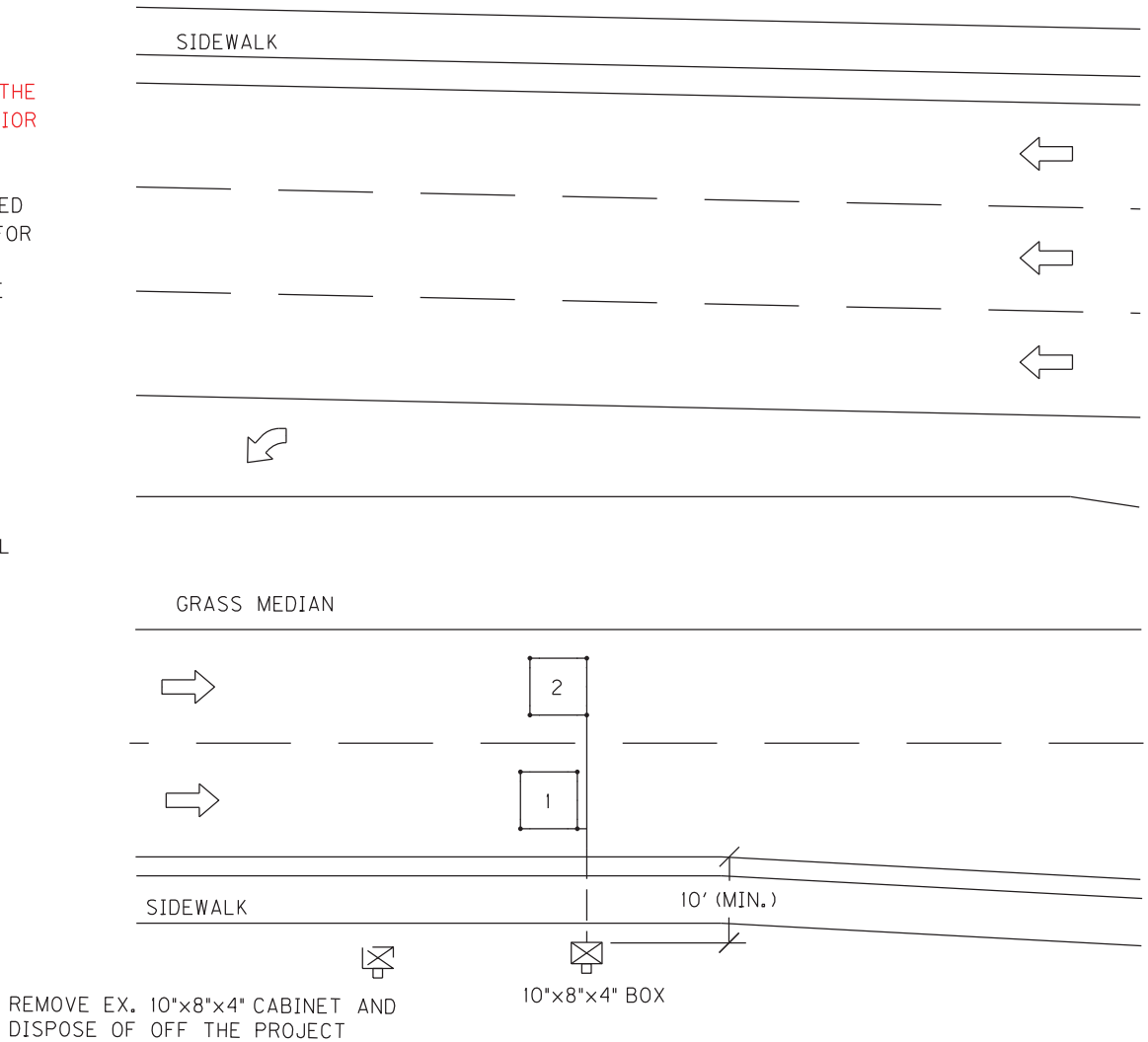
SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION.

ALL LOOPS SHALL BE 6'X6' SQUARE. LOOPS SHALL BE INSTALLED SPLICE-FREE TO THE CABINET AND A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED AND LABELED INSIDE THE CABINET. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE LOOPS INSIDE THE CABINET.

INSTALL ONE (1) 10"x8"x4" CABINET MOUNTED TO ONE (1) WOOD POST.

INSTALL ONE (1) 1 1/4" CONDUIT FROM SAW SLOT TO 10"x8"x4" CABINET.

REMOVE AND REPLACE ONE (1) SECTION OF SIDEWALK TO INSTALL CONDUIT FROM SAW SLOT TO THE CABINET.



SCALE 1"=5'

BOONE CO. US 42 ~m.p. 14.32
~LAT/LONG N 38.98910, W 84.63861
STATION K46 WB

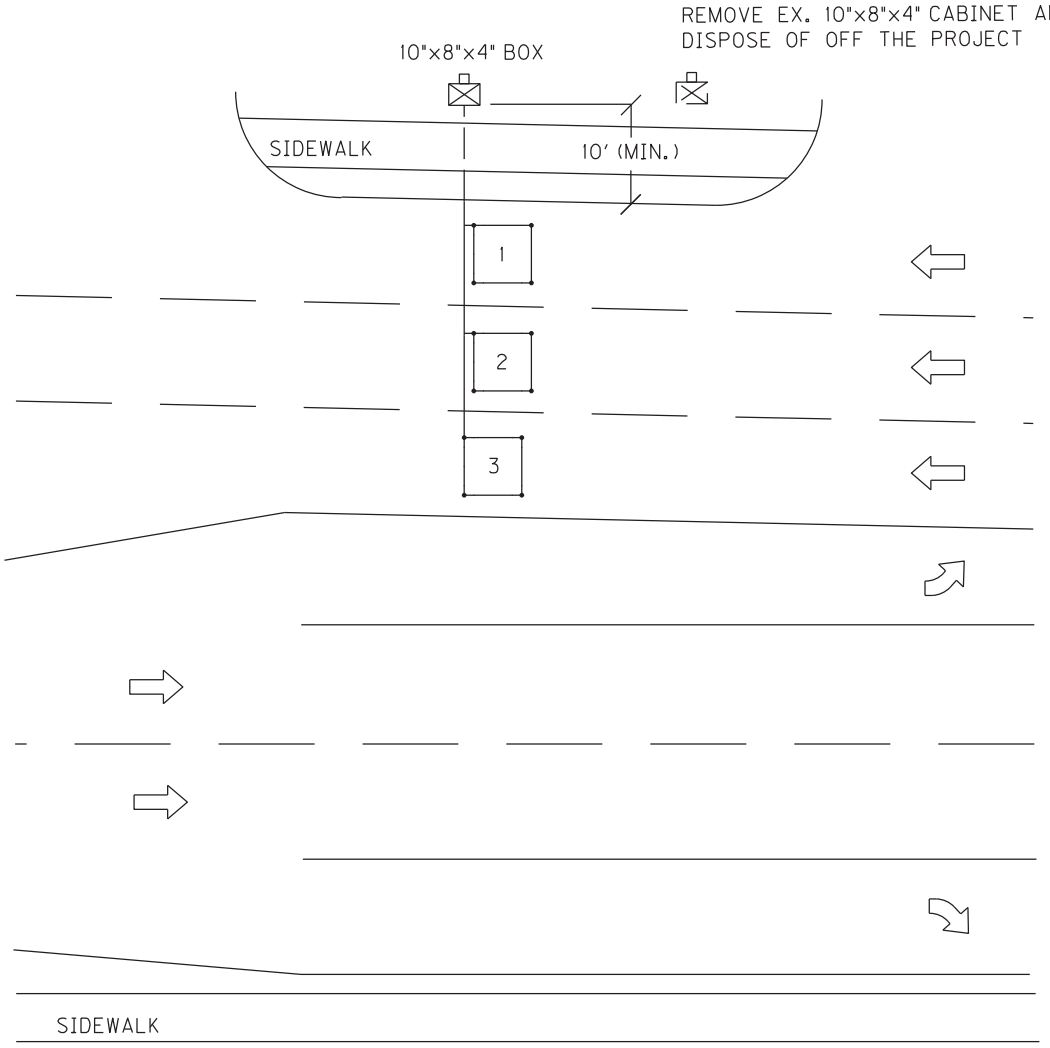
SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION.

ALL LOOPS SHALL BE 6'X6' SQUARE. LOOPS SHALL BE INSTALLED SPLICE-FREE TO THE CABINET AND A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED AND LABELED INSIDE THE CABINET. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE LOOPS INSIDE THE CABINET.

INSTALL ONE (1) 10"x8"x4" CABINET MOUNTED TO ONE (1) WOOD POST.

INSTALL ONE (1) 1 1/4" CONDUIT FROM SAW SLOT TO 10"x8"x4" CABINET.

REMOVE AND REPLACE ONE (1) SECTION OF SIDEWALK TO INSTALL CONDUIT FROM SAW SLOT TO THE CABINET.



SCALE 1"=5'

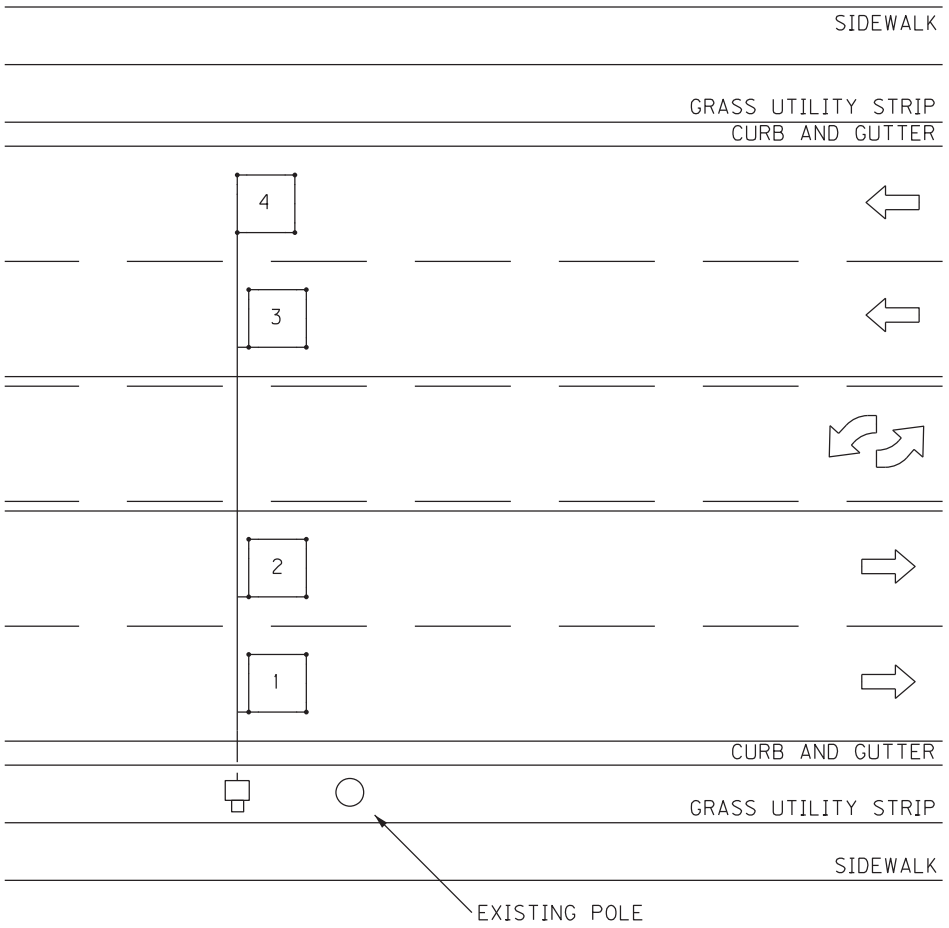
BOONE CO. US 42 ~m.p. 14.79
~LAT/LONG N 38.99429, W 84.63364
STATION K17

SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION.

ALL LOOPS SHALL BE 6'x6' SQUARE AND SHALL BE INSTALLED SPLICE-FREE TO THE BOX. A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED AND LABELED INSIDE THE BOX. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE LOOPS INSIDE THE BOX.

INSTALL ONE (1) 10"x8"x4" BOX ON ONE (1) WOOD POST.

INSTALL ONE (1) 1 1/4" CONDUIT FROM SAW SLOT TO BOX.



SCALE 1"=5'

PERMANENT TRAFFIC DATA ACQUISITION STATIONS
ESTIMATE OF QUANTITIES

Bid Item Code	Description	Unit	Quantity
4793	CONDUIT 1 ¼ INCH	LIN FT	170
4795	CONDUIT 2 INCH	LIN FT	20
4811	ELECTRICAL JUNCTION BOX TYPE B	EACH	
4820	TRENCHING AND BACKFILLING	LIN FT	160
4821	OPEN CUT ROADWAY	LIN FT	
4829	PIEZOELECTRIC SENSOR	EACH	8
4830	LOOP WIRE	LIN FT	6450
4833	WIRE – NO. 8	LIN FT	
4834	WIRE – NO. 6	LIN FT	
4850	CABLE NO. 14/1 PAIR	LIN FT	
4871	POLE – 35’ WOODEN	EACH	
4895	LOOP SAW SLOT AND FILL	LIN FT	1175
4899	ELECTRICAL SERVICE	EACH	
4960	REMOVE AND REPLACE SIDEWALK	SQYD	11
20213EC	INSTALL PAD MOUNT ENCLOSURE	EACH	
20359NN	GALVANIZED STEEL CABINET	EACH	2
20360ES818	WOOD POST	EACH	8
20391NS835	ELECTRICAL JUNCTION BOX TYPE A	EACH	2
20392NS835	ELECTRICAL JUNCTION BOX TYPE C	EACH	
20468EC	ELECTRICAL JUNCTION BOX 10x8x4	EACH	4
21543EN	BORE AND JACK CONDUIT – 2 INCH	LIN FT	
23206EC	INSTALL CONTROLLER CABINET	EACH	
24963ED	LOOP TEST	EACH	

MATERIAL, INSTALLATION, AND BID ITEM NOTES FOR PERMANENT TRAFFIC DATA ACQUISITION STATIONS

1. DESCRIPTION

Except as specified in these notes, all work shall consist of furnishing and installing all materials necessary for permanent data acquisition station equipment installation(s) and shall be performed in accordance with the current editions of:

- The Contract
- Division of Planning Standard Detail Sheets
- Kentucky Transportation Cabinet, Department of Highways, *Standard Specifications for Road and Bridge Construction*
- Kentucky Transportation Cabinet, Department of Highways, Standard Drawings
- National Fire Protection Association *(NFPA) 70: National Electrical Code*
- Institute of Electrical and Electronic Engineers (IEEE), *National Electrical Safety Code*
- Federal Highway Administration, *Manual on Uniform Traffic Control Devices*
- American Association of State Highway and Transportation Officials (AASHTO), *Roadside Design Guide*.
- Standards of the utility company serving the installation, if applicable

The permanent traffic data acquisition station layout(s) indicate the extent and general arrangement of the proposed installation and are for general guidance. Any omission or commission shown or implied shall not be cause for deviation from the intent of the plans and specifications. Information shown on the plans and in this proposal and the types and quantities of work listed are not to be taken as an accurate or complete evaluation of the material and conditions to be encountered during construction. The bidder must draw his own conclusion as to the conditions encountered. The Department of Highways (Department) does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation if the conditions encountered are not in accordance with the information shown. If any modifications of the plans or specifications are considered necessary by the Contractor, details of such modifications and the reasons, therefore, shall be submitted in writing to the Engineer for written approval prior to beginning such modified work.

The Contractor shall contact all utility companies and the district utility agent prior to beginning construction to insure proper clearance and shielding from existing and proposed utilities. The Contractor shall use all possible care in excavating on this project so as not to disturb any existing utilities whether shown on the plans or not shown on the plans. Any utilities disturbed or damaged by the Contractor during construction shall be replaced or repaired to original condition by the Contractor at no cost to the department. If necessary, to avoid existing utilities, the Contractor shall hand dig areas where poles or conduit cross utilities.

The Contractor shall be responsible for all damage to public and/or private property resulting from his work.

The Contractor shall inspect the project site prior to submitting a bid and shall be thoroughly familiarized with existing conditions. Submission of a bid will be considered an affirmation of this inspection having been completed. The Department will not honor any claims resulting from site conditions.

2. MATERIALS

All proposed materials shall be approved prior to being utilized. The Contractor shall submit for material approval an electronic file of descriptive literature, drawings and any requested design data for the proposed materials. After approval, no substitutions of any approved materials may be made without the written approval of the Engineer.

Materials requiring sampling shall be made available a sufficient time in advance of their use to allow for necessary testing.

2.1. Anchoring

2.1.1. Anchor and Anchor Rod

Anchor, except rock anchor, shall be expanding type, with a minimum area of 135 square inches.

Anchor rod shall be galvanized steel, double-eye, have a minimum diameter of 5/8 inches, and a minimum length of 84 inches. Minimum holding capacity shall be 15,400 lbs.

Rock anchor shall be galvanized steel, triple-eye, expanding type, with a minimum diameter of ¾ inch, a minimum 53 inches long, and a minimum tensile strength of 23,000 lb.

2.1.2. Guy Wire and Guy Guard

Guy wire shall be Class A, Zinc-coated, 3/8 inch diameter, high strength grade steel (minimum 10,800 lb.) and galvanized per ASTM A475. Guy guard shall be 8’ long, fully-rounded, yellow, and able to be securely attached to the guy wire.

2.1.3. Strandvise for Guy Wire

Strandvise for guy wire shall be 3/8 inch and rated to hold a minimum of 90% of the rated breaking strength (RBS) of the strand used.

2.2. Asphalt

Asphalt shall be a minimum CL2 Asph Surf 0.38B PG64-22 and conform to the *Standard Specifications for Road and Bridge Construction.*

2.3. Backer Rod

Backer rod shall be ½ inch diameter, closed cell polyethylene foam and shall meet or exceed the following physical properties:

- Density (average): 2.0 lbs/cu.ft. (minimum): ASTM D 1622 test method
- Tensile Strength: 50 PSI (minimum): ASTM D 1623 test method
- Compression Recovery: 90% (minimum): ASTM D 5249 test method
- Water Absorption: 0.03 gm/cc (maximum): ASTM C 1016 test method

2.4. Cabinets

2.4.1. Galvanized Steel Cabinet

Galvanized Steel Cabinet shall be constructed of 16 or 14 gauge galvanized steel and shall meet or exceed the industry standards set forth by UL 50 and NEMA 3R. The finish shall be an ANSI 61 gray polyester powder finish inside and out over the galvanized steel. Cabinet shall have minimum inside dimensions of 20 inches high by 20 inches wide by 8 inches deep.

The cabinet shall be equipped with the following:

- Drip shield top
- Seam-free sides, front, and back, to provide protection in outdoor installations against rain, sleet, and snow
- Hinged cover with 16 gauge galvanized steel continuous stainless steel pin.
- Cover fastened with captive plated steel screws, knob or latch
- Hasp and staple for padlocking
- No gaskets or knockouts
- Back panel for terminal block installation
- Post mounting hardware
- Terminal Blocks

2.4.2. Anchor Bolt for Pad Mounted Cabinet

Anchor bolt for pad mounted cabinet shall be galvanized steel with minimum dimensions of 3/8 inch by 6 inches.

2.5. Concrete

Concrete shall be Class A and conform to the *Standard Specifications for Road and Bridge Construction.*

2.6. Conduit and Conduit Fittings

Conduit and conduit fittings shall be rigid steel unless otherwise specified.

Conduit shall be zinc galvanized inside and out and conform to the NEC, UL Standard 6, and ANSI C-80.1.

Rigid Steel Conduit Fittings shall be galvanized inside and out and conform to the NEC, UL Standard 514B, and ANSI C-80.4. Intermediate Metal Conduit (IMC) will not be approved as an acceptable alternative to rigid steel conduit.

2.7. Conduit sealant

Conduit sealant shall be weather-, mold-, and mildew-resistant and chemically resistant to gasoline, oil, dilute acids and bases. Conduit sealant shall be closed cell type and shall meet or exceed the following properties:

- Cure Time — 20 minutes max.
- Density — 64.4 kg/m3; 6 lbs/ft3
- Compressive Strength (ASTM 1691) — 13.8 MPa; 330 or 300 psi

- Tensile Strength (ASTM 1623) 15.9 MPa; 270 or 250 psi
- Flexural Strength (ASTM D790) 14.5 MPa; 460 or 450 psi
- Service Temperature -20 to 200 F

2.8. Electrical Service Meter Base

Electrical service meter base shall meet or exceed all requirements of the National Electrical Code and the local utility providing the electrical service.

2.9. Electrical Service Disconnect

Electrical service disconnect shall meet or exceed all requirements of the National Electrical Code and the local utility providing the electrical service.

2.10. Flashing Arrow

Flashing Arrow shall conform to the *Standard Specifications for Road and Bridge Construction.*

2.11. Ground Fault Circuit Interrupter (GFCI) Receptacle

Ground Fault Circuit Interrupter Receptacle shall be 2-pole, 3-wire, 20 Amp, 125 Volt, 60 Hz, NEMA 5-20R configuration and meet or exceed the following standards and certifications:

- NEMA WD-1 and WD-6
- UL 498 and 943
- NOM 057
- ANSI C-73

This item shall include a UL listed, 4 inch x4 inch x $2^{1}/_{8}$ inch box with ¾ inch side and end knockouts and a 1½ inches deep, single-receptacle cover to house the GFCI receptacle. Box and cover shall be hot rolled, galvanized steel with a minimum thickness of 0.62 inches.

2.12. Grounding

2.12.1. Ground Rod

Ground Rod shall be composite shaft consisting of a pure copper exterior (5 mil minimum) that has been inseparably molten welded to a steel core. Ground Rod shall have a minimum diameter of 5/8 inch, a minimum length of 8 feet and shall be manufactured for the sole purpose of providing electrical grounding.

2.12.2. Ground Rod Clamp

Ground rod shall be equipped with a one piece cast copper or bronze body with a non-ferrous hexagonal head set screw and designed to accommodate a 10 AWG solid through 2 AWG stranded grounding conductor.

2.13. Grout

2.13.1. Grout for Inductive Loop Installation

Grout for inductive loop installation shall be non-shrink, shall meet the requirements of the *Standard Specifications for Road and Bridge Construction*,

and shall be included on the KYTC Division of Materials, *List of Approved Materials*.

2.13.2. Grout for Piezoelectric Sensor Installation

Grout for piezoelectric sensor installation shall be per the piezoelectric sensor manufacturer's recommendation. Grout shall be suitable for installation in both asphalt and Portland cement pavements. Grout shall have a short curing time (tack free in ten minutes; open to traffic in forty minutes; and fully cured within sixty minutes) to prevent unnecessary lane closure time and should be of sufficient consistency to prevent running when applied on road surfaces with a drainage cross slope. Particulate matter within the grout shall not separate or settle and the grout shall not shrink during the curing process.

2.14. Hardware

Except where specified otherwise, all hardware such as nuts, bolts, washers, threaded ends of fastening devices, etc. with a diameter less than 5/8 inch shall be passivated stainless steel, alloy type 316 or type 304. Stainless steel hardware shall meet ASTM F593 and F594 for corrosion resistance. All other nuts and bolts shall meet ASTM A307 and shall be galvanized.

2.14.1. Conduit Strap

Conduit strap shall be double-hole, stainless steel, and sized to support specified conduit. Conduit strap shall attach to wood pole or post with two 2 ¼ inch wood screws.

2.14.2. Mounting Strap for Pole Mount Cabinet

Mounting strap for pole mount cabinet shall be ¾ inch x 0.03 inch stainless steel; equipped with clips or buckles to securely hold strap.

2.14.3. Metal Framing Channel and Fittings

Metal framing channel shall be 1 5/8 inches wide galvanized steel that conforms to ASTM A1011 and ASTM A653. One side of the channel shall have a continuous slot with in-turned edges to accommodate toothed fittings.

Fittings shall be punch pressed from steel plates and conform to ASTM A575 and the physical requirements of ASTM A1011.

2.15. Junction Box

2.15.1. Junction Box Type A, B, or C

Junction Box Type A, B, or C shall meet or exceed ANSI/SCTE 77-2007, Tier 15. Box shall have an open bottom. A removable, non-slip cover marked "PLANNING" shall be equipped with a lifting slot and attached with a minimum of two 3/8 inch stainless steel hex bolts and washers. Type A Box shall have nominal inside dimensions of 13 inches wide by 24 inches long by 18 inches deep. Type B Box shall have nominal inside dimensions of 11 inches wide by 18 inches long by 12

inches deep. Type C Box shall have nominal inside dimensions of 24 inches wide by 36 inches long by 30 inches deep.

2.15.2. Aggregate for Junction Box Type A, B, or C

Aggregate for junction box type A, B, or C shall be gradation size no. 57 and conform to the *Standard Specifications for Road and Bridge Construction*.

2.15.3. Junction Box 10x8x4

Junction Box Type 10x8x4 shall be constructed of a UV-stabilized, nonmetallic material or non-rusting metal and be weatherproof in accordance with NEMA 4X. Box shall be equipped with an overhanging door with a continuous durable weatherproof gasket between the body and door. Door shall be hinged with screws, hinge(s) and pin(s) and shall be equipped with a padlockable latch on the side opposite the hinge(s). Junction Box 10x8x4 shall have minimum inside dimensions of 10 inches high by 8 inches wide by 4 inches deep.

2.16. Maintain and Control Traffic

Materials for the bid item Maintain and Control Traffic shall conform to the *Standard Specifications for Road and Bridge Construction,* and the KYTC Department of Highways *Standard Drawings*.

2.17. Piezoelectric Sensor

Piezoelectric sensor (piezo) shall provide a consistent level voltage output signal when a vehicle axle passes over it, shall have a shielded transmission cable attached, and shall meet the following requirements:

- Dimensions: such that sensor will fit in a ¾ inch wide by 1 inch deep saw cut. Total length shall be 6 feet unless specified otherwise.
- Output uniformity: ± 7% (maximum)
- Typical output level range: 250mV (minimum) from a wheel load of 400 lbs.
- Working temperature range: -40° to 160° F.
- Sensor life: 30 million Equivalent Single Axle Loadings (minimum)

Shielded transmission cable shall be coaxial and shall meet the following requirements:

- RG 58C/U with a high density polyethylene outer jacket rated for direct burial
- Length shall be a minimum of 100 feet. Installations may exceed 100 feet so the piezo shall be supplied with a lead-in of appropriate length so that the cable can be installed splice-free from the piezo to the cabinet.
- Soldered, water resistant connection to the sensor.

One installation bracket for every 6 inches of sensor length shall also be supplied. Piezo shall be a RoadTrax BL Class I or approved equal.

2.18. Saw Slot Sealant

Saw Slot Sealant shall be non-shrink, non-stringing, moisture cure, polyurethane

encapsulant suitable for use in both asphalt and concrete pavements. It shall provide a void-free encapsulation for detector loop cables and adequate compressive yield strength and flexibility to withstand heavy vehicular traffic and normal pavement movement.

The cured encapsulant shall meet or exceed the following:

- Hardness (Indentation): 35-65 Shore A, ASTM D2240
- Tensile Strength: 150 psi minimum, ASTM D412
- Elongation: 125% minimum 2 inch/minute pull, ASTM D412
- Tack-free Drying Time: 24 hours maximum, ASTM C679
- Complete Drying Time: 30 hours maximum, KM 64-447
- Chemical Interactions (seven day cure at room temperature, 24-hour immersion, KM 64-446):
  - Motor Oil: No effect
  - Deicing Chemicals: No effect
  - Gasoline: Slight swell
  - Hydraulic Brake Fluid: No effect
  - Calcium Chloride (5%): No effect

2.19. Seeding and Protection

Material for Seeding and Protection shall be Seed Mixture Type I and conform to the *Standard Specifications for Road and Bridge Construction*.

2.20. Signs

Materials for signs shall conform to the *Standard Specifications for Road and Bridge Construction.*

2.21. Splicing Materials

2.21.1. Electrical Tape

Electrical tape shall be a premium grade, UL-listed, all-weather, vinyl-insulating tape with a minimum thickness of 7 mil. Tape shall be flame retardant and resistant to abrasion, moisture, alkalis, acids, corrosion, and weather (including ultraviolet exposure).

2.21.2. Splice Kit

Splice kit shall be inline resin-type and rated for a minimum of 600V. Resin shall be electrical insulating-type and shall provide complete moisture and insulation resistance.

2.22. Steel Reinforcing Bar

Steel reinforcing bar shall be #5 and shall conform to the *Standard Specifications for Road and Bridge Construction.*

2.23. Terminal Block

Terminal block shall be rated for a minimum of 300 V and have a minimum of six

terminal pairs with 9/16-inch nominal spacing (center to center) for connecting loop and piezoelectric sensor wires to cable assemblies. Terminal block shall have screw type terminal strips to accommodate wire with spade-tongue ends.

2.24. Warning Tape

Warning tape shall be acid and alkali resistant formulated for direct burial. Tape shall be a minimum of 3 inches wide by 4.0 mils (nominal) thick, and shall be permanently imprinted with a minimum 1 inch black legend on a red background warning of an electric line. Tape shall meet or exceed the following industry specifications:

- American Gas Association (AGA) 72-D-56
- American Petroleum Institute (API) RP 1109
- American Public Works Association (APWA) Uniform Color Code
- Department of Transportation (DOT) Office of Pipeline Safety USAS B31.8
- Federal Gas Safety Regulations S 192-321 (e)
- General Services Administration (GSA) Public Buildings Service Guide: PBS 4-1501, Amendment 2
- National Transportation Safety Board (NTSB) PSS 73-1
- Occupational Safety and Health Administration (OSHA) 1926.956 (c) (1)

2.25. Wire and Cable

All cable and wire shall be plainly marked in accordance with the National Electrical Code (NEC).

2.25.1. Loop Wire

Loop wire shall be 14 AWG, stranded, copper, single conductor, and shall conform to the International Municipal Signal Association (IMSA) Specification No. 51-7.

2.25.2. Cable No. 14/1 Pair

Cable No. 14/1 pair loop lead-in cable shall be 14 AWG, stranded, copper paired, electrically shielded conductors, and shall conform to IMSA 19-2.

2.25.3. Grounding conductor

Grounding conductor and bonding jumper shall be solid or stranded, 4 AWG bare copper.

2.25.4. Service Entrance Conductor

Service entrance conductor shall be stranded, copper, Type USE-2, sized as required to comply with the NEC.

2.25.5. Terminal for electrical wire or cable

Terminal for electrical wires or cables shall be insulated, solderless, spade tongue terminals of correct wire and stud size. Terminal for electrical wires or cables shall be incidental to the wire or cable (including piezoelectric sensor transmission cable) to be connected to terminal strips.

2.26. Wood Post

Wood post shall be Southern Pine pretreated to conform to the American Wood Preservers' Association (AWPA) C-14 or UC4B and shall have minimum dimensions of 4 inches by 4 inches by 8 feet long (for Galvanized Steel Cabinet) or 4 feet long (for Junction Box 10x8x4), sawed on all four sides with both ends square.

2.27. Wooden Pole

Wooden pole shall be a Class IV wood pole of the length specified and shall conform to the *Standard Specifications for Road and Bridge Construction* except the pole shall be treated in accordance with AWPA P9 Type A.

3. CONSTRUCTION METHODS

The plans indicate the extent and general arrangement of the installation and are for guidance. When the Contractor deems any modifications to the plans or specifications necessary, details of such changes and the reasons shall be submitted in writing to the engineer for written approval prior to beginning the modified work.

After the project has been let and awarded, the Division of Construction shall notify the Division of Planning of the scheduled date for a Pre-Construction meeting so that prior arrangements can be made to attend. This will allow the Division of Planning an opportunity to address any concerns and answer any questions that the Contractor may have before beginning the work.

The Division of Planning Equipment Management Team (502-564-7183) shall be notified a minimum of seven days before any work pertaining to these specifications begins to allow their personnel the option to be present during installation.

Unless otherwise specified, installed materials shall be new.

Construction involving the installation of loops or piezoelectric sensors shall not be performed when the temperature of the pavement is less than 38ºF.

A final inspection will be performed by a member of the Central Office Division of Planning equipment staff after the installation is complete to verify that the installation is in compliance with the plans and specifications.

Any required corrective work shall be performed per the *Standard Specifications for Road and Bridge Construction.*

3.1. Anchoring

Furnish: Anchor, anchor rod, guy wire, strand vise, guy guard.

Anchor shall be installed in relatively dry and solid soil. Rock anchor shall be installed in solid rock. Excavate the hole at a 45° to 60° angle in line with the guy (hole size shall be slightly larger than the expanded anchor – see manufacturer's recommendation). Attach rod to anchor, install assembly into hole, and expand anchor. Backfill and tamp entire disturbed area. The effectiveness of the anchor is dependent upon the thoroughness of backfill tamping. Attach guy to strand vise on pole and anchor rod and tighten to required tension. Install guy guard on guy.

3.2. Bore and Jack Pipe – 2"

Furnish: Steel Encasement Pipe, 2"

Bore and jack pipe – 2" shall conform to the Section 706 of the *Standard Specifications for Road and Bridge Construction*.

3.3. Cleanup and Restoration

Furnish: Seed Mix Type 1 (as required); fertilizer (as required); agricultural limestone (as required); mulch or hydromulch (as required); tackifier (as required).

The Contractor shall be responsible for repairing any damage to public and/or private property resulting from his work. Upon completion of the work, restore all disturbed highway features in like kind design and materials. This shall include filling any ruts and leveling ground appropriately. Contractor shall dispose of all waste and debris off the project. Sow all disturbed earthen areas with Seed Mix Type 1 per Section 212 of the *Standard Specifications for Road and Bridge Construction*. All materials and labor necessary for cleanup and restoration shall be considered incidental to other bid items.

3.4. Conduit

Furnish: Conduit; conduit fittings; bushings (grounding where required); LB condulets (as required); weatherheads (as required); conduit straps; hardware; conduit sealant.

Conduit that may be subject to regular pressure from traffic shall be laid to a minimum depth of 24 inches below grade. Conduit that will not be subject to regular pressure from traffic shall be laid to a minimum depth of 18 inches below grade.

Conduit ends shall be reamed to remove burrs and sharp edges. Cuts shall be square and true so that the ends will butt together for the full circumference of the conduit. Tighten couplings until the ends of the conduit are brought together. Do not leave exposed threads. Damaged portions of the galvanized surfaces and untreated threads resulting from field cuts shall be painted with an Engineer-approved, rust inhibitive paint. Conduit bends shall have a radius of no less than 12 times the nominal diameter of the conduit, unless otherwise shown on the plans.

Contractor shall install a bushing (grounding bushing where required) on both ends of all conduits. Cap spare conduits on both ends with caps or conduit sealant.

Conduit openings in junction boxes and cabinets shall be waterproofed with a flexible, removable conduit sealant, working it around the wires, and extending it a minimum 1 inch into the end of the conduit.

After the conduit has been installed and prior to backfilling, the conduit installation shall be inspected and approved by the Engineer.

3.5. Electrical Service

Furnish: Meter base, service disconnect, wire, GFCI AC duplex receptacle with box and cover; conduit, conduit fittings, bushings (grounding where required); LB condulets (as required); weatherhead; conduit straps; hardware; conduit sealant; ground rod with clamp; grounding conductor.

Prior to any construction, the Contractor shall initiate a work order with the local power

company for the installation of electrical service to the site. A representative from the Division of Planning and the local power company shall be consulted prior to choosing an exact location for the pole. The Contractor shall clear the right-of-way for the electrical service drop.

Contractor shall obtain electrical inspections, memberships, meter base, service disconnect and any other requirements by the utility serving the installation and pay all fees as required.

Install meter-base and disconnect panel with a 30-ampere, fused, circuit breaker inside. Install a manufactured weatherproof hub connector to connect the conduit to the top of the meter base and service disconnect.

Install a rigid ¾ inch conduit with three 8 AWG service conductors from the cabinet, through the service disconnect to the meter base and a 1¼" conduit with three 8 AWG service conductors from the meter base to a weatherhead two feet from the top of the electrical service pole. Install conduit straps 30 inches on center and provide a drip loop where the wire enters the weatherhead. Splice electric drop with service entrance conductors at the top of the pole.

The limit of conduit incidental to "Install Electrical Service" for a pad mounted cabinet is 24 inches beyond face of service pole.

Install a 120-volt, 20-amp GFCI AC duplex receptacle with box and cover in the automatic data recorder (ADR) cabinet.

Install a ground rod with clamp. Install a grounding conductor wire from the meter base, through the disconnect panel, to the ground rod clamp. Install grounding conductor in 1-¾" conduit from service disconnect to ground rod.

After completing the installation and before the electrical service is connected, obtain a certificate of compliance from the Kentucky Department of Housing, Buildings and Construction, Electrical Inspection Division.

3.6. Flashing Arrow

Furnish: Arrow Panel

Construction of Flashing Arrow shall conform to the *Standard Specifications for Road and Bridge Construction.*

3.7. Galvanized Steel Cabinet

Furnish: Cabinet; wood posts; concrete; conduit fittings; metal framing channel; pipe clamp; terminal block(s); spade tongue wire terminals; wire labels; hardware.

Where right-of-way allows, locate the cabinet such that it is outside the clear zone in accordance with the *Roadside Design Guide*. Install Cabinet such that the door of the

cabinet faces the roadway.

Excavate as required and install wood posts to a depth of 36 inches and place concrete around posts as shown on the standard detail sheets. Install metal framing channel with pipe clamp between posts.

Install Cabinet on wood posts 38 inches above the finished grade as shown on the standard detail sheets. Install a unistrut between posts when two posts are specified.

Install the required number of terminal blocks on the cabinet back plate. Install a spade tongue terminal on each loop and piezo sensor wire entering the cabinet and connect wires to terminal block(s). Wiring shall be neat and orderly. Label all wires and cables inside cabinet.

Install conduit from ground to cabinet and attach to pipe clamp. Install locknuts to attach conduit to cabinet and install a conduit bushing as shown on the standard detail sheets.

3.8. Grounding

Furnish: Ground rod with clamp; grounding conductor.

At sites with electrical or solar service, all conduits, poles, and cabinets shall be bonded to ground rods and the electrical system ground to form a complete grounded system.

Install such that top of ground rod is a minimum of 3 inches below finished grade.

Grounding systems shall have a maximum 25 ohms resistance to ground. If the resistance to ground is greater than 25 ohms, two or more ground rods connected in parallel shall be installed. Adjacent ground rods shall be separated by a minimum of 6 feet.

3.9. Install Pad Mount Enclosure

Furnish: Concrete; anchor bolts with washers and nuts; conduit; conduit fittings; conduit grounding bushings; ground rod with clamp; grounding conductor; conduit sealant; wooden stakes (where required); wire labels; hardware.

The Contractor shall be responsible for securing the enclosure from the Central Office Division of Planning Warehouse in Frankfort and transporting it to the installation site.

Where right-of-way allows, locate the enclosure such that it is outside the clear zone in accordance with the *Roadside Design Guide*.

Excavate as required, and place concrete to construct the enclosure foundation as specified on the standard detail sheets. Install enclosure on the concrete base such that the door(s) of the enclosure opens away from traffic (hinges away from traffic). Install anchor bolts, washers, and nuts to secure the enclosure to the foundation.

Install ground rod with clamp and install one ¾ inch rigid conduit from enclosure base to

ground rod. Install a grounding conductor from ground rod to enclosure base and bond to each conduit bushing in the base.

Install one ¾ inch rigid steel conduit for electrical service from the base of the enclosure to 24 inches beyond the concrete base. Make all field wiring connections to the electrical service, as applicable.

If electrical service is not provided as a bid item in the contract, plug conduit on both ends with a cap, conduit sealant, or electrical tape. Mark the location of the buried conduit end with a wooden stake labeled "3/4 in. conduit."

Install specified rigid steel conduit(s) into the base of the enclosure for sensor wire entry. Install one spare 2-inch conduit from the enclosure base to 2 feet beyond the concrete base. Plug spare conduit on both ends with a cap, conduit sealant or electrical tape.

The limit of all conduits incidental to "Install Pad Mount Enclosure" is 24 inches beyond the edge of the concrete base.

Wiring in enclosure shall be neat and orderly. Label all wires and cables inside enclosure. KYTC personnel will furnish and install terminal blocks and connect sensors to terminal blocks.

3.10. Install Controller Cabinet

Furnish: Mounting brackets; mounting straps; conduit; LB condulets; conduit fittings; conduit grounding bushings; ground rod with clamp; grounding conductor; cable staples; conduit sealant; wooden stakes (where required); wire labels; hardware.

The Contractor shall be responsible for securing the cabinet from the Central Office Division of Planning Warehouse in Frankfort and transporting it to the installation site. Any existing holes in the cabinet not to be reused shall be covered or plugged to meet NEC requirements.

Install mounting brackets and secure cabinet to pole with mounting straps.

Install a ground rod with clamp. Install grounding conductor in 1-¾" conduit form cabinet to ground rod.

Install one ¾ inch rigid steel conduit with two lb. condulets from cabinet to electrical service disconnect box. Make all field wiring connections to the electrical service, as applicable.

If electrical service is not provided as a bid item in the contract, plug conduit on both ends with cap, plumbers putty, conduit sealant, or electrical tape. Mark the location of the buried conduit end with a wooden stake labeled "3/4 in. conduit".

Install specified rigid steel conduit(s) and type LB condulet(s) into the bottom of the

cabinet for sensor wire entry. The limit of conduits incidental to "Install Controller Cabinet" is 24 inches beyond the face of the pole.

Wiring in cabinet shall be neat and orderly. Label all wires and cables inside cabinet. KYTC personnel will furnish and install terminal blocks and connect sensors to terminal blocks.

3.11. Junction Box Type 10x8x4

Furnish: Junction box; wood post; conduit fittings; wire labels; hardware.

Where right-of-way allows, locate the junction box such that it is outside the clear zone in accordance with the Roadside Design Guide.

Excavate as required and install wood post(s) to a depth of 18 inches. Install junction box on wood post such that the bottom of the box is 18 inches above the finished grade as shown on the standard detail sheets. Box shall be installed with four (4) 2½ inch wood screws and washers.

Install locknuts to attach conduit to junction box and install a conduit bushing as shown on the standard detail sheets.

Wiring inside box shall be neat and orderly. Label all wires and cables inside box.

3.12. Junction Box Type A, B, or C

Furnish: Junction box, No. 57 aggregate; grounding conductor

Excavate as required and place approximately 12 inches of No. 57 aggregate beneath the proposed junction box to allow for drainage. Install specified junction box type A, B, or C near the edge of pavement, flush with finished grade per the detail sheets. Where required, orient the box so that the dimensions comply with the National Electrical Code. Stub conduits with grounding bushings into junction box at its base to accommodate wires and connect grounding conductor to all grounding bushings. Backfill to existing grade, and restore disturbed area to the satisfaction of the Engineer.

Wiring inside box shall be neat and orderly. Label all wires and cables inside box.

3.13. Loops - Proposed

Furnish: Wire; saw slot sealant; backer rod; grout; conduit sealant.

The plans and notes specify the approximate location for loop installations. Prior to sawing slots or drilling cores, the Contractor shall meet with a representative of the Division of Planning to verify the precise layout locations on site. Avoid expansion joints and pavement sections where potholes, cracks, or other roadway flaws exist.

Upon completion of this meeting, the Contractor shall measure out and mark the proposed loop locations with spray paint or chalk such that the saw slots will be parallel

and perpendicular to the direction of traffic. Marked lines shall be straight and exact to the locations determined and sized as shown on the plans. Unless indicated otherwise, loops shall be 8 feet by 8 feet square and loops in the same lane shall be spaced 16 feet from leading edge to leading edge.

On resurfacing, rehabilitation, and new construction projects that include new asphalt pavement, the Contractor shall install loops prior to laying the final surface course. On projects with milling and texturing, the Contractor may install the loops prior to or after the milling operation; however, if installed prior to milling, the Contractor shall be responsible for ensuring that the loops are installed at a depth such that the milling operation will not disturb the newly installed loops. The Contractor shall correct damage caused by the milling operations to newly installed loops prior to placement of the final surface course at no additional cost to the Cabinet.

For projects that include the installation of new asphalt and piezoelectric sensors, the Contractor shall mark or otherwise reference all loops installed prior to the final surface course such that the loops can be accurately located when the piezoelectric sensors are installed after placement of the final surface course.

For projects that do not have asphalt surfacing, the Contractor shall install the loops in the surface of the pavement.

The Prime Contractor shall coordinate the installation of loops with the electrical sub-Contractor and the Engineer to ensure correct operation of the completed installation.

The following is a typical step by step procedure for the installation of a loop.

- Carefully mark the slot to be cut, perpendicular to the flow of traffic and centered in the lane.
- Make each saw-cut 3/8-inch wide and at a depth such that the top of the backer rod is a minimum of 2 inches below the surface of rigid (PCC/Concrete) pavement or 4 inches below the surface of asphalt pavement.
- Drill a 1½ inch core hole at each corner and use a chisel to smooth corners to prevent sharp bends in the wire.
- Clean ALL foreign and loose matter out of the slots and drilled cores and within 1 foot on all sides of the slots using a high-pressure washer.
- Completely dry the slots and drilled cores and within 1 foot on all sides of the slots using oil-free forced air, torpedo heaters, electric heaters, or natural evaporation, depending on weather conditions. Be very careful not to burn the asphalt if heat is used.
- Measure 9-12 inches from the edge of the paved surface (shoulder break or face of curb) and drill a 1½ inch hole on a 45º angle to the conduit adjacent to the roadway.
- Closely inspect all cuts, cores, and slots for jagged edges or protrusions prior to the placement of the wire. All jagged edges and protrusions shall be ground or re-cut and cleaned again.

- Place the loop wire splice-free from the termination point (cabinet or junction box) to the loop, continue around the loop for four turns, and return to the termination point.
- Push the wire into the saw slot with a blunt object such as a wooden stick. Make sure that the loop wire is pushed fully to the bottom of the saw slot.
- Install conduit sealant to a minimum of 1" deep into the cored 1½ inch hole.
- Apply loop sealant from the bottom up and fully encapsulate the loop wires in the saw slot. The wire should not be able to move when the sealant has set.
- Cover the encapsulated loop wire with a continuous layer of backer rod along the entire loop and home run saw slots such that no voids are present between the loop sealant and backer rod.
- Finish filling the saw cut with non-shrinkable grout per manufacturer's instructions. Alleviate all air pockets and refill low spaces. There shall be no concave portion to the grout in the saw slot. Any excess grout shall be cleaned from the roadway to alleviate tracking.
- Clean up the site and dispose of all waste off the project.
- Ensure that the grout has completely cured prior to subjecting the loop to traffic. Curing time varies with temperature and humidity.

Exceptions to installing loop wire splice-free to the junction box or cabinet may be considered on a case-by-case basis and must be pre-approved by the Engineer. If splices are allowed, they shall be located in a junction box and shall conform to the construction note for Splicing.

If loop lead-in cable (Cable No. 14/1 Pair) is specified, cable shall be installed splice free to the cabinet ensuring that extra cable is left in each junction box or cabinet. All wires and cables shall be labeled in each junction box and cabinet.

Loop inductance readings shall be between 100 and 300 microhenries. The difference of the loop inductance between two loops in the same lane shall be ±20 microhenries. Inductance loop conductors shall test free of shorts and grounds. Upon completion of the project, all loops must pass an insulation resistance test of a minimum of 100 million ohms to ground when tested with a 500 Volt direct current potential in a reasonably dry atmosphere between conductors and ground.

3.14. Loop Test

When noted on a data collection station layout sheet that there are existing inductive loops within the limits of the project, notify the Engineer in writing, a minimum of 14 calendar days prior to beginning milling operations. After milling and prior to placing asphalt inlay, conduct an operating test on the existing inductance loops at the control cabinet in the presence of the Engineer to determine if the inductance loop conductors have an insulating resistance of a minimum of 100 megohms when tested with a 500-volt direct current potential in a reasonably dry atmosphere between conductors and ground. The Department may also conduct its own tests with its own equipment.

If the tests indicate the loop resistances are above the specified limit and the Engineer determines the system is operable, proceed with the asphalt inlay. If the test indicates the loop resistance is not within the specified limits or if the Engineer determines the system is otherwise not operable, prior to placing the asphalt inlay install and test new loop detectors according to the station layout, notes, and Detail Drawings.

The Engineer will contact and maintain liaison with the District Planning Engineer and the Division of Planning in order to coordinate any necessary work.

3.15. Maintain and Control Traffic

Furnish (all as required): Drums, traffic cones, barricades used for channelization purposes, delineators, and object markers.

Maintain and Control Traffic shall conform to the plans, the Standard Specifications for Road and Bridge Construction, and the KYTC Department of Highways Standard Drawings.

3.16. Open Cut Roadway

Furnish: Concrete, reinforcing bars.

Excavate trench by sawing and chipping away roadway to dimensions as indicated on the detail sheets. After placing conduit, install concrete and steel reinforcing bars per the *Standard Specifications for Road and Bridge Construction*. Restore any disturbed sidewalk to its original condition.

3.17. Piezoelectric Sensor

Furnish: Piezoelectric sensor and cable; sensor support brackets; saw slot sealant; backer rod; grout; conduit sealant.

The plans and notes specify the approximate location for piezoelectric sensor (piezo) installations. Prior to sawing slots or drilling cores, the Contractor shall meet with a representative of the Division of Planning to verify the final layout on site. Avoid expansion joints and pavement sections where potholes, cracks, or other roadway flaws exist. Roadway ruts at the proposed piezo location shall not be in excess of ½ inch under a 4-foot straight edge.

Install the piezo perpendicular to traffic in the final surface course of the pavement. Locate the sensor in the lane as shown on the site layout drawing. Eleven-foot length sensors shall be centered in the lane.

The following is a typical step by step procedure for the installation of a piezo. Refer specifically to the manufacturer’s instructions provided with the sensor prior to installation.

- Carefully mark the slot to be cut, perpendicular to the flow of traffic and properly positioned in the lane.

- It is strongly recommended that a ¾ inch wide diamond blade be used for cutting the slot, or that blades be ganged together to provide a single ¾ inch wide cut. The slot shall be wet cut to minimize damage to the pavement.
- Cut a slot ¾ inch wide (±1/16 inch) by 1 inch minimum deep. The slot should be a minimum of 2 inches longer than the sensor (including the lead attachment). Drop the saw blade an extra ½ inch down on both ends of the sensor. The lead out of the passive cable should be centered on the slot.
- Cut the slot for the passive cable ¼ inch wide and at a depth so that the top of the backer rod is a minimum of 2 inches below the road surface.
- Clean ALL foreign and loose matter out of the slot and within 1 foot on all sides of the slot using a high-pressure washer.
- Completely dry the slot and within 1 foot on all sides of the slot using oil-free forced air, torpedo heaters, electric heaters, or natural evaporation, depending on weather conditions. Be very careful not to burn the asphalt if heat is used.
- Measure 9-12 inches from the edge of the paved surface (shoulder break or face of curb) and drill a 1½ inch hole on a 45º angle to the conduit adjacent to the roadway.
- Place strips of 2-4-inch-wide tape strips on the pavement along the lengths of both sides of the sensor slot, 1/8 inch away from the slot.
- Wear clean, protective latex (or equivalent) gloves at all times when handling sensors. Visually inspect sensor to ensure it is straight. Check lead attachment and passive cable for cuts, gaps, cracks and/or bare wire. Verify that the correct sensor type and length is being installed by checking the data sheet. Verify there is sufficient cable to reach the cabinet. Piezo lead-in cable shall not be spliced.
- Test the sensor for capacitance, dissipation factor and resistance, according to the directions enclosed with the sensor. Capacitance and dissipation should be within ±20% of the piezo data sheet. Resistance (using the 20M setting) should be infinite. Record the sensor serial number and the test results and label “pre-installation.” This information should be stored in the counter cabinet and/or returned to Department Planning personnel.
- Lay the sensor next to the slot and ensure that it is straight and flat.
- Clean the sensor with steel wool or an emery pad and wipe with alcohol and a clean, lint-free cloth.
- Place the installation bracket clips every 6 inches along the length of the sensor.
- Bend the tip of the sensor downward at a 30° angle. Bend the lead attachment end down at a 15° angle and then 15° back up until level (forming a lazy Z).
- Place the sensor in the slot, with the brass element 3/8 inch below the road surface along the entire length. The tip of the sensor should be a minimum of 2 inches from the end of the slot and should not touch the bottom of the slot. The top of the plastic installation bracket clips should be 1/8 inch below the surface of the road. The lead attachment should not touch the bottom or sides of the slot. Ensure the sensor ends are pushed down per the manufacturer’s instructions.
- Visually inspect the length of the sensor to ensure it is at uniform depth along its length and it is level (not twisted, canted or bent).

- On the passive cable end, block the end of the slot approximately 3-5 inches beyond the end of the lead attachment area creating an adequate "dam" so that the sensor grout does not flow out.
- Use one bucket of sensor grout per piezo installation. Overfill the slot with sensor grout and allow to cure for a minimum of 10 minutes before continuing with the installation. Ensure that sensor grout fills around and beneath the sensor completely and that there is not a trough on top.
- Remove the tape along the sides of the saw slot when the adhesive starts to cure.
- Carefully remove the dam from the end of the sensor.
- Route the lead-in cable through the saw slot
- Install conduit sealant to a minimum of 1" deep into the cored 1½ inch hole.
- Cover the lead-in cable with encapsulant, backer rod, and grout.
- If necessary, after the grout has hardened, grind with an angle grinder until the profile is a 1/16-inch mound. There shall be no concave portion to the mound.
- Clean up the site and dispose of all waste off the project.
- Ensure that the sensor grout has completely cured prior to subjecting the sensor to traffic. Curing time will vary with temperature and humidity.

Upon installation, test the sensor for capacitance, dissipation factor and resistance, according to the directions enclosed with the sensor. Capacitance and dissipation should be within ±20% of the piezo data sheet. Resistance (using the 20M setting) should be infinite. Perform a functional test of the piezo with an oscilloscope to ensure that the sensor is generating a proper response to the passage of vehicles.

Record the sensor serial number and the test results and label "post-installation." This information should be stored in the counter cabinet and/or returned to Department Planning personnel.

3.18. Pole – Wooden

Furnish: Pole; anchoring equipment (as required); hardware (as required).

Excavate and install wood pole to a minimum depth of one-sixth the total pole height. Place backfill material in hole and compact until flush with existing grade. Install guy wire, guy guard, anchor, anchor rod, and strand vise, if necessary. Anchor shall be a minimum of one-third the pole height from the face of the pole. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer.

3.19. Removal of Existing Equipment

The Contractor shall remove existing materials (including but not limited to: poles, anchors, cabinets, junction boxes, conduit and wire) not to be reused. Contractor shall dispose of all removed materials off the project. All materials and labor necessary for the removal of existing equipment shall be considered incidental to other bid items.

3.20. Signs

Furnish: Signs; sign standards; hardware.

Construction of **s**igns shall conform to the *Standard Specifications for Road and Bridge Construction.*

3.21. Splicing

Furnish: Splice kit; solder.

These notes describe the splicing process (if permitted) and are not intended to grant permission to splice. Permission to splice shall be determined by the Division of Planning and the locations shall be shown on the layout sheet. If splicing is needed but not shown on the layout sheet, the Contractor shall receive prior written approval from the Division of Planning.

All splices shall conform to the provisions of the NEC.

Splices for loop and loop lead-in wire shall be twisted and soldered. Abrade the outer jacket of both wires to promote good adhesion and prevent capillary leak paths. Seal the splice with an electrical sealing resin. Spliced loop conductors shall test free of shorts and unauthorized grounds and shall have an insulating resistance of at least 100 megohms when tested with a 500-volt direct current potential in a reasonably dry atmosphere between conductors and ground.

For piezos, the same type coax cable, supplied by the manufacturer, shall be used to splice to the sensor's lead-in cable. Cables shall be soldered. Abrade the outer jacket of both cables to promote good adhesion and prevent capillary leak paths. Seal the splice with an electrical sealing resin. Spliced piezo cables shall be tested and have a minimum resistance of 20 megohms, a maximum dissipation factor of 0.03, a capacitance within the manufacturer's recommended range based upon the length of additional cable. A functional test of the piezo shall be performed to ensure that the sensor is generating a proper response to the passage of vehicles.

3.22. Trenching and Backfilling

Furnish: Warning tape; seed mix type I; cereal rye or German foxtail-millet; mulch; concrete (as required); asphalt (as required).

Excavate trench and provide required cover as shown on the standard detail sheets. After placing conduit, backfill material shall be placed and compacted in lifts of 9 inches or less. Install warning tape as shown on the detail sheet. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer.

3.23. Wiring

Furnish: Wire; wire labels; spade tongue wire terminals (as required).

Installation of all wiring shall conform to the NEC. Permanent identification numbers

shall be affixed to all wires in all junction boxes and cabinets (see Layout(s) for loop and piezo numbers).

Additional lengths of each loop and piezo sensor wire shall be neatly coiled in all cabinets and junction boxes as follows:

Enclosure Type	Additional length of each wire
Galvanized Steel Cabinet	2' – 3'
Pad Mount Cabinet (332)	6' - 8'
Pole Mount Cabinet (336)	3' - 4'
Junction Box Type 10x8x4	2' – 3'
Junction Box Type A, B, or C	2' – 3'

3.24. Wood Post

Furnish: Wood post; concrete (as required); seed mix type I; cereal rye or German foxtail-millet; mulch.

Excavate hole to specified depth and place concrete, if required. Install post, backfill to existing grade, and tamp backfill. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer.

3.25. Remove and Replace Sidewalk

Furnish: Lumber, stakes, nails or screws, and concrete.

Remove existing sidewalk to install rigid conduit from edge of roadway to nearest junction box or cabinet. Form, pour and finish concrete in place of old existing sidewalk making sure to replace the expansion joints in their respective locations. Concrete shall conform to the *Kentucky Standard Specifications for Road and Bridge Construction* for sidewalks.

4. BID ITEM NOTES AND METHOD OF MEASUREMENT FOR PAYMENT

Only the bid items listed will be measured for payment. All other items required to complete the vehicle detection installation shall be incidental to other items of work. Payment at the contract unit price shall be full compensation for all materials, labor, equipment and incidentals to furnish and install these items.

4.1. Bore and Jack Pipe – 2”

Bore and jack pipe – 2” shall be furnished, installed, and measured for payment per the *Standard Specifications for Road and Bridge Construction*.

4.2. Conduit

Conduit shall include furnishing and installing specified conduit in accordance with the specifications. This item shall include conduit fittings, bodies, boxes, weatherheads, expansion joints, couplings, caps, conduit sealant, electrical tape, clamps, bonding straps and any other necessary hardware. Conduit will be measured in linear feet.

4.3. Electrical Service

Electrical Service shall include furnishing and installing all necessary materials and payment of all fees toward the complete installation of an electrical service which has passed all required inspections. Incidental to this item shall be furnishing and installing:

- Meter-base per utility company’s specifications
- Service disconnect panel per utility company’s specifications
- Meter base and service disconnect entrance hubs, waterproof
- Service entrance conductors
- Rigid steel conduit
- Rigid steel conduit fittings
- Conduit straps
- Weatherhead
- Duplex GFCI receptacle, 120-volt, 20-amp
- Ground rod with clamp
- Grounding conductor

Also incidental to this item shall be any necessary clearing of right of way for the electrical service drop.

Electrical service will be measured in individual units each.

4.4. Flashing Arrow

Flashing Arrow shall be furnished, installed, and measured for payment per the *Standard Specifications for Road and Bridge Construction.*

4.5. Galvanized Steel Cabinet

Galvanized Steel Cabinet shall include furnishing and installing galvanized steel cabinet on post as specified. Incidental to this item shall be furnishing and installing grounding hardware, and any necessary post/pole mounting hardware. Also incidental to this item shall be furnishing and installing the required number of terminal blocks and connection of all

sensors to the terminal blocks. Galvanized Steel Cabinet will be measured in individual units each.

4.6. Install Pad Mount Enclosure

Install Pad Mount Enclosure shall include installing a Department-furnished enclosure as specified on the detail sheets.

This item shall include obtaining the enclosure from KYTC and transporting it to the installation site and furnishing and installing the following:

- Concrete foundation (including any excavation necessary)
- Anchor bolts, lock washers, and nuts
- Conduit
- Conduit fittings (including grounding bushings)
- Weatherhead
- Terminal Strip(s)
- Ground rod with clamp
- Grounding conductor

Install Pad Mount Enclosure will be measured in individual units each.

4.7. Install Controller Cabinet

Install Controller Cabinet shall include installing a Department-furnished cabinet as specified on the detail sheets.

This item shall include obtaining the cabinet from KYTC and transporting it to the installation site and furnishing and installing the following:

- Conduit
- Conduit Fittings
- Terminal Strip(s)
- Ground rod with clamp
- Grounding conductor

Install Controller Cabinet will be measured in individual units each.

4.8. Junction Box Type 10" x 8" x 4"

Junction Box Type 10”x8”x4” shall include furnishing and installing specified junction box in accordance with the specifications. This item shall include connectors, splice sleeves, conduit fittings, mounting materials and any other items required to complete the installation. Incidental to this item shall be furnishing and installing specified post (wood, channel, metal, etc.) as required for the installation. Junction Box Type 10”x8”x4” will be measured in individual units each.

4.9. Junction Box Type A, B, or C

Junction Box Type A, B, or C shall include furnishing and installing specified junction box in accordance with the specifications. This item shall include excavation, furnishing and installing #57 aggregate, backfilling around the box, and restoration of disturbed areas to the satisfaction of the Engineer. Incidental to this item shall be furnishing and installing a

grounding conductor bonding all conduit grounding bushings in the box. Junction Box Type A, B, or C will be measured in individual units each.

4.10. Loop Saw Slot and Fill

Loop Saw Slot and Fill shall include sawing and cleaning saw slots and furnishing and installing conduit sealant, loop sealant, backer rod, grout, or other specified material. Loop Saw Slot and Fill will be measured in linear feet of sawed slot.

4.11. Maintain and Control Traffic

Maintain and Control Traffic shall be measured for payment per the *Standard Specifications for Road and Bridge Construction.*

4.12. Open Cut Roadway

Open Cut Roadway shall include excavating trench (sawing and chipping roadway) to dimensions as indicated on the detail sheets and furnishing and placing concrete, steel reinforcing bars, and asphalt. This item also includes restoring any disturbed sidewalk to its original condition. Open Cut Roadway will be measured in linear feet.

4.13. Piezoelectric Sensor

Piezoelectric sensor (piezo) shall include sawing and cleaning saw slots and furnishing and installing piezo in accordance with the specifications. This item shall include furnishing and installing lead-in wire, conduit sealant, encapsulation material, backer rod, grout, testing, and accessories. Piezo will be measured in individual units each.

4.14. Pole – 35’ Wooden

Pole – 35’ Wooden shall include excavation, furnishing and installing specified wood pole, backfilling and restoring disturbed areas to the satisfaction of the Engineer. Incidental to this item shall be furnishing and installing guy wire, anchor and anchor rod, strand vise, and guy guard, if specified.

Pole – 35’ Wooden will be measured in individual units each.

4.15. Signs

Signs shall be furnished, installed, and measured for payment per the *Standard Specifications for Road and Bridge Construction.*

4.16. Trenching and Backfilling

Trenching and Backfilling shall include excavation, warning tape, backfilling, temporary erosion control, seeding, protection and restoration of disturbed areas to original condition. This item shall include concrete, asphalt or approved replacement material for sidewalks, curbs, roadways, etc. (if required). Trenching and backfilling will be measured in linear feet.

4.17. Wire or Cable

Wire or cable shall include furnishing and installing specified wire or cable within saw slot, conduit, junction box, cabinet, or overhead as indicated on the detail sheets. Incidental to this item shall be the labeling of all wires and cables in each junction box, cabinet and splice

box, and furnishing and installing other hardware required for installing cable. Wire or Cable will be measured in linear feet.

4.18. Wood Post

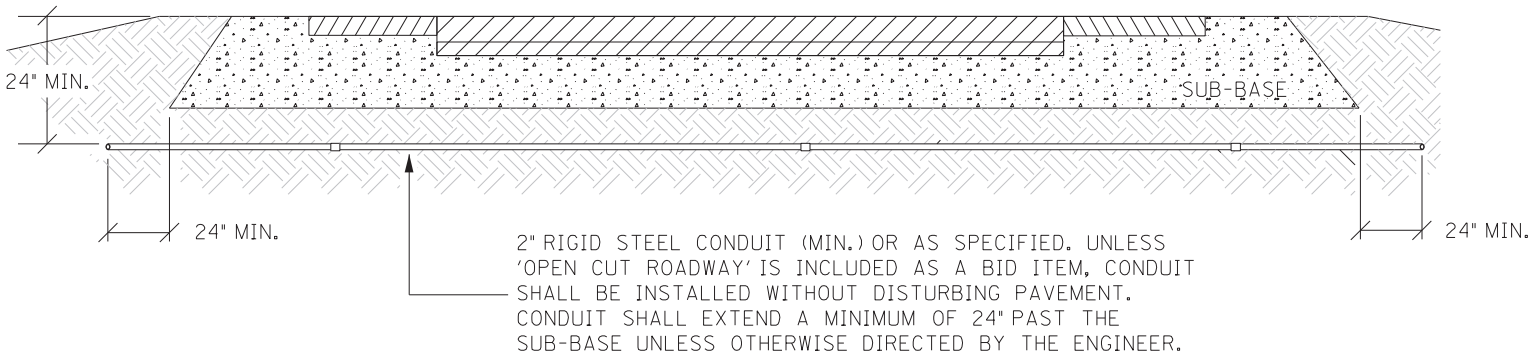
Wood Post shall include furnishing and installing wood post as specified. This item shall include excavation, furnishing and placing concrete (if required), backfilling around the post, and restoration of disturbed areas to the satisfaction of the engineer. Wood Post will be measured in individual units each.

4.19. Remove and Replace Sidewalk

Remove and Replace Sidewalk shall include removing existing sidewalk to install conduit and/or junction box (if required) and replacing old existing sidewalk with new sidewalk after installation of required items. This item includes removing old sidewalk and disposing of off the project and forming, pouring and finishing the new sidewalk after installation of required items.

4.20. Loop Test

Loop Test includes conducting an operating test on the existing inductance loops at the control cabinet in the presence of the Engineer to determine if the inductance loop conductors have an insulating resistance of a minimum of 100 megohms when tested with a 500-volt direct current potential in a reasonably dry atmosphere between conductors and ground.

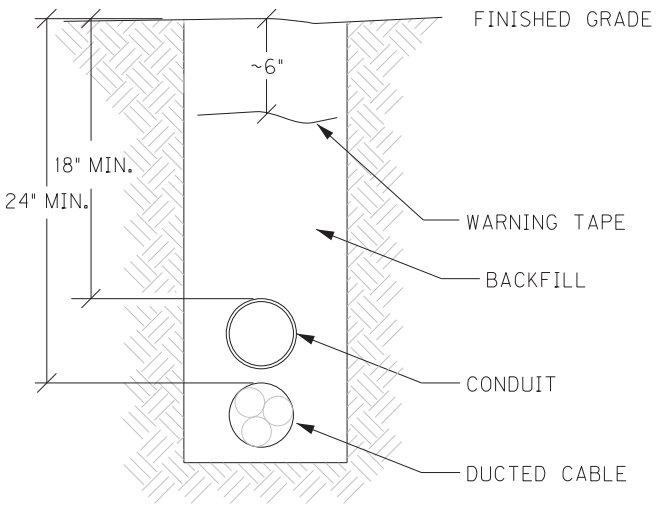


CONDUIT UNDER PAVEMENT

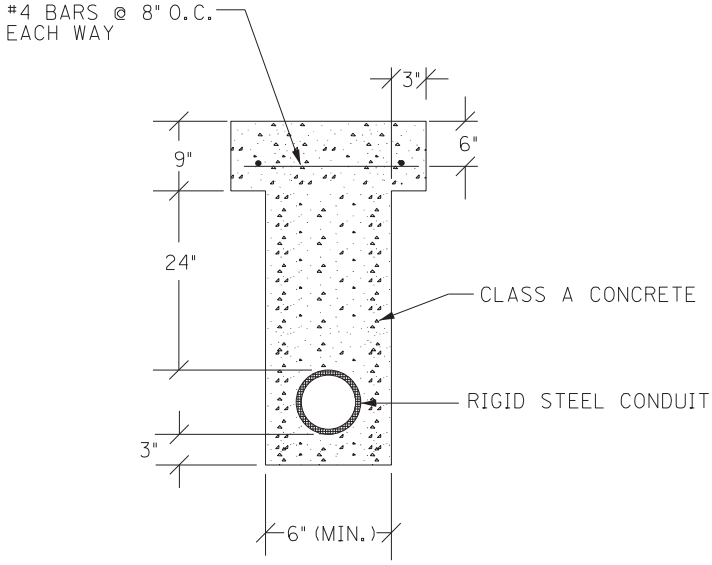
TOTAL TRENCH WIDTH SHALL BE 3" (NOM.) WIDER THAN THE SUM OF THE OUTSIDE DIAMETER(S) OF THE CONDUIT(S) INSTALLED. CONDUIT(S) SHALL BE CENTERED IN TRENCH.

CONTRACTOR SHALL PLACE BACKFILL IN LIFTS (9" MAX.) COMPACT BACKFILL, AND RESTORE DISTURBED AREA TO THE SATISFACTION OF THE ENGINEER

CONTRACTOR SHALL INSTALL UNDERGROUND UTILITY WARNING TAPE ABOVE CONDUIT AS SHOWN.



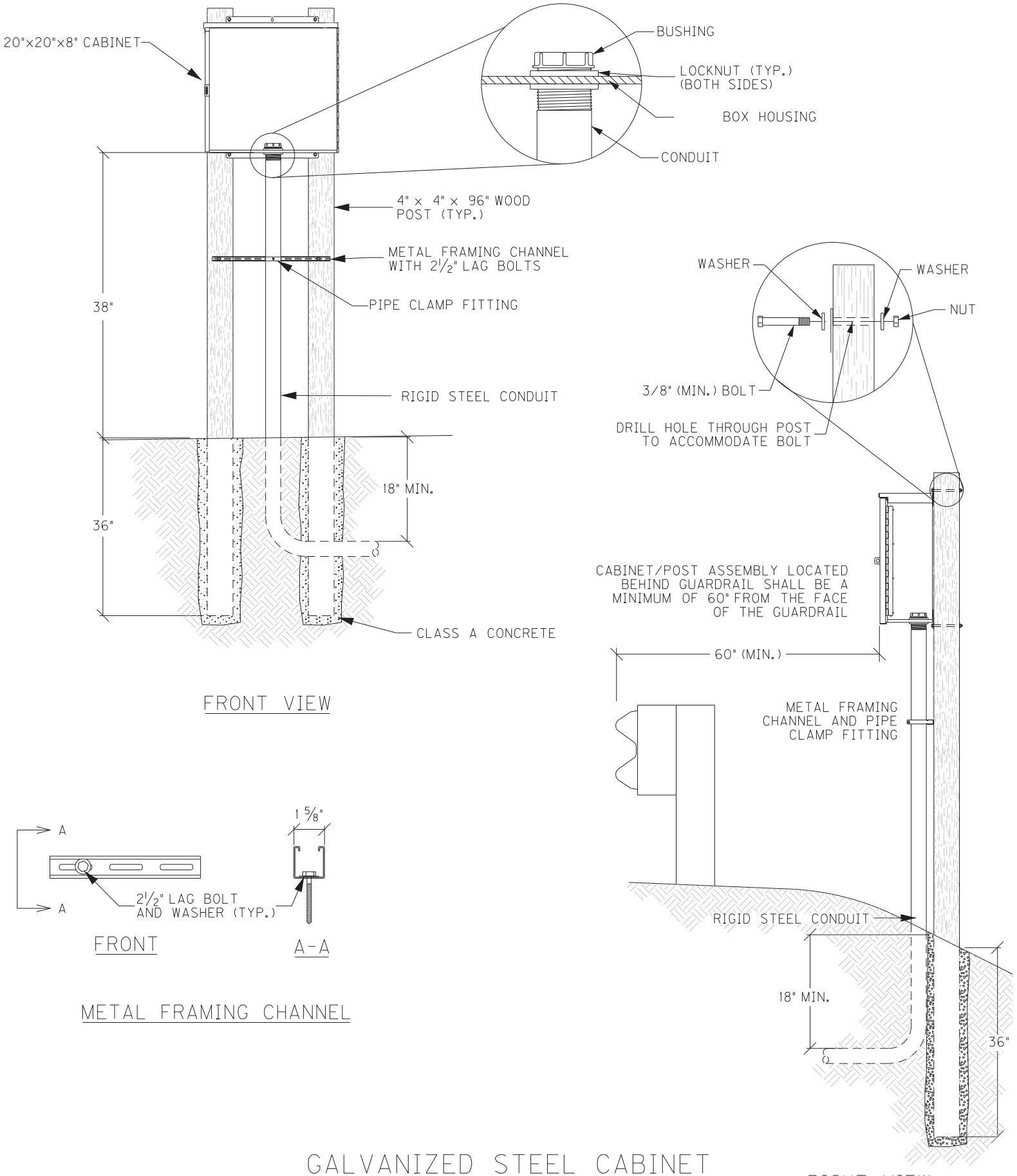
CONDUIT TRENCH



OPEN CUT PAVEMENT DETAIL

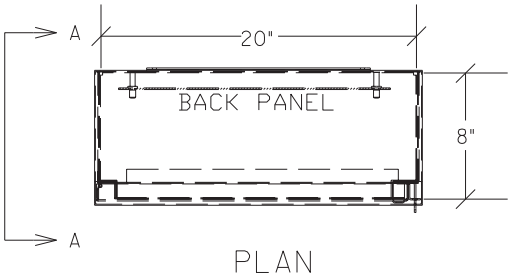
CONDUIT INSTALLATION

NOT TO SCALE

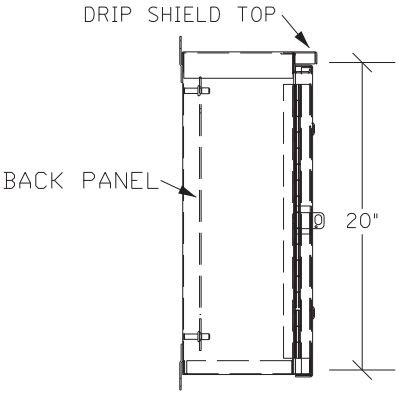


GALVANIZED STEEL CABINET
DOUBLE POST ASSEMBLY

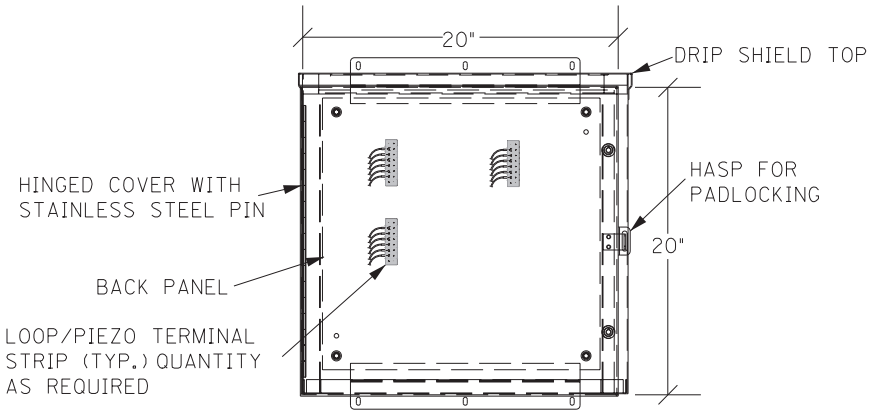
NOT TO SCALE



PLAN

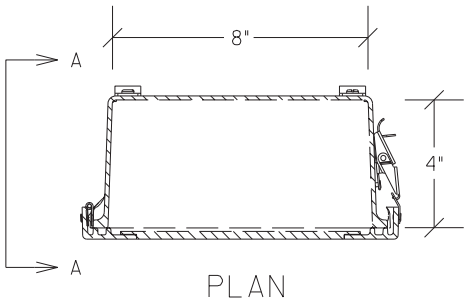


SECTION A-A

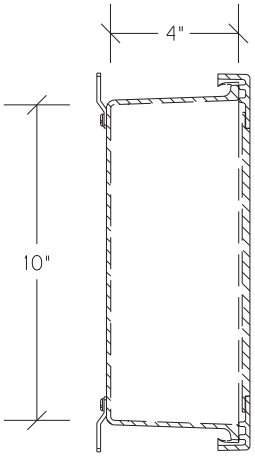


ELEVATION

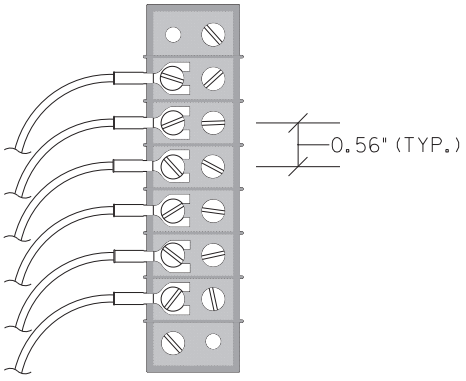
GALVANIZED STEEL CABINET



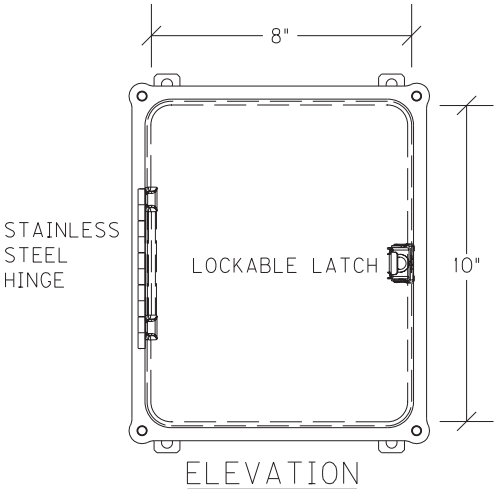
PLAN



SECTION A-A



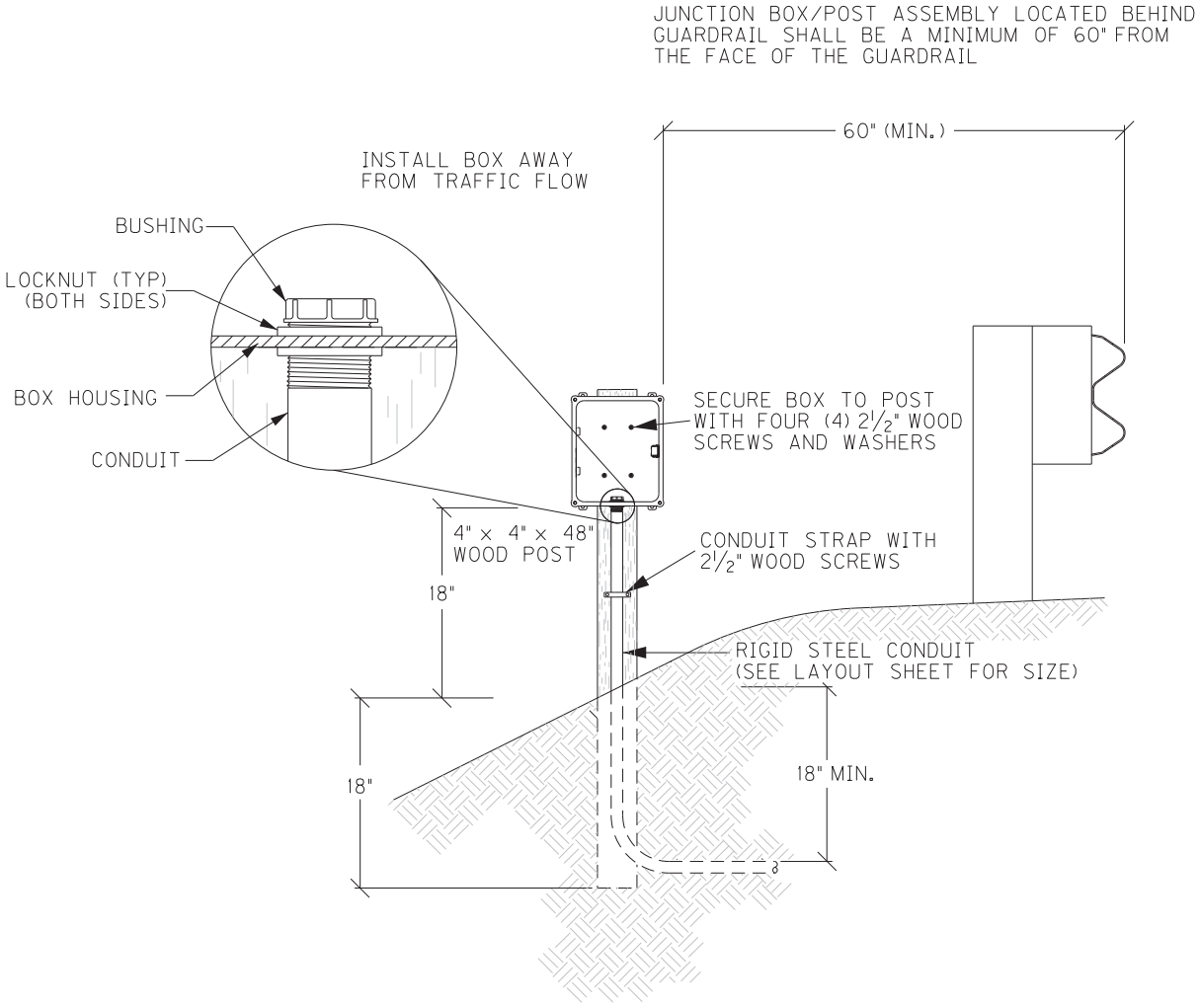
TERMINAL STRIP (TYP.)



ELEVATION

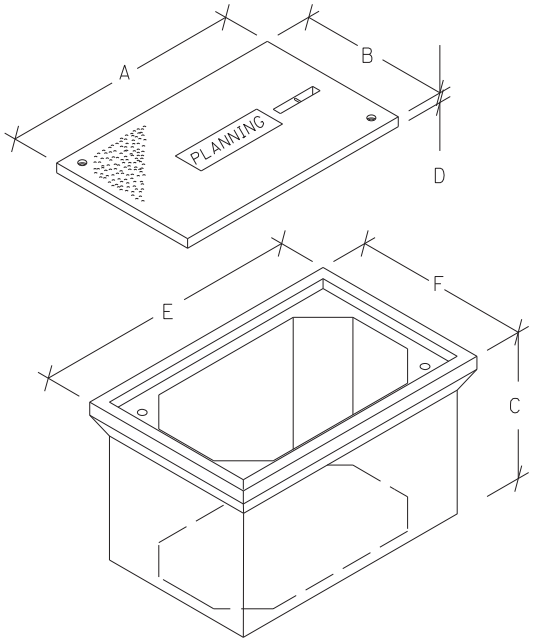
JUNCTION BOX 10"x8"X4"

NOT TO SCALE



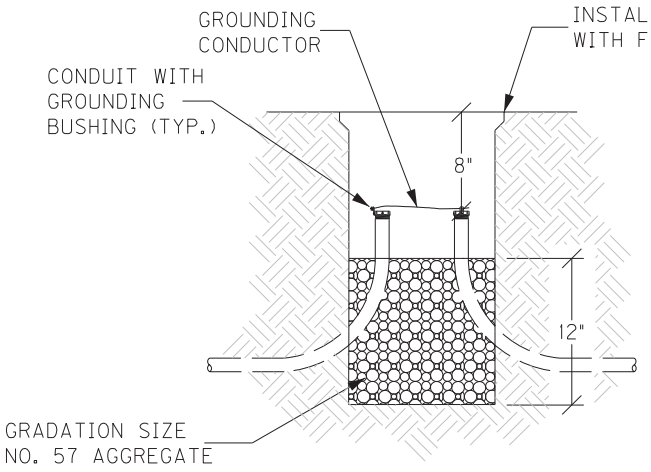
JUNCTION BOX 10"x8"x4" AND POST ASSEMBLY

NOT TO SCALE



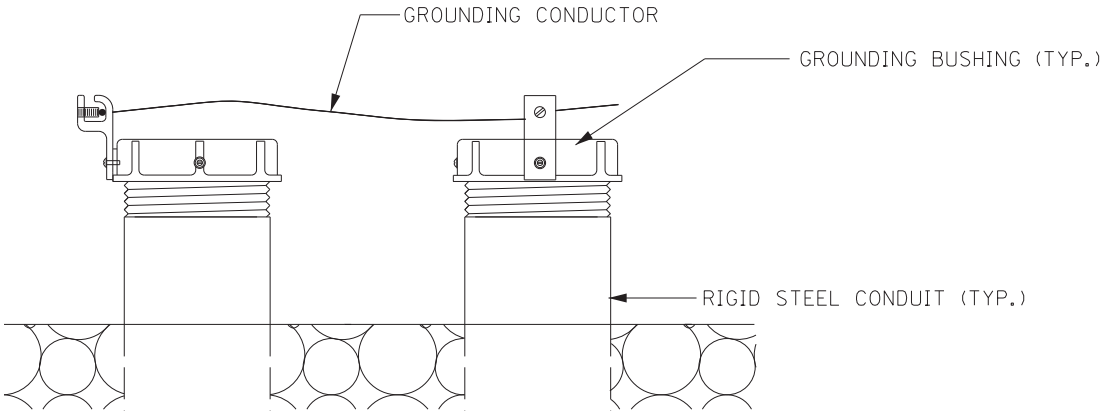
JUNCTION BOX DIMENSIONS (NOMINAL)						
	A	B	C	D*	E	F
TYPE A	23"	14"	18"	2"	25"	16"
TYPE B	18"	11"	12"	1¾"	20"	13"
TYPE C	36"	24"	30"	3"	38"	26"

* MINIMUM
STACKABLE BOXES ARE PERMITTED



ELEVATION

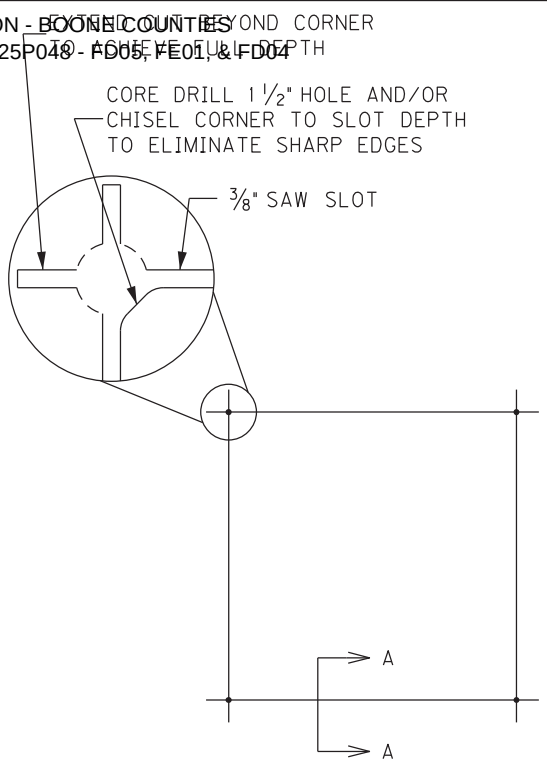
WHERE REQUIRED, JUNCTION BOX SHALL BE ORIENTED SUCH THAT THE DIMENSIONS COMPLY WITH THE NATIONAL ELECTRICAL CODE.



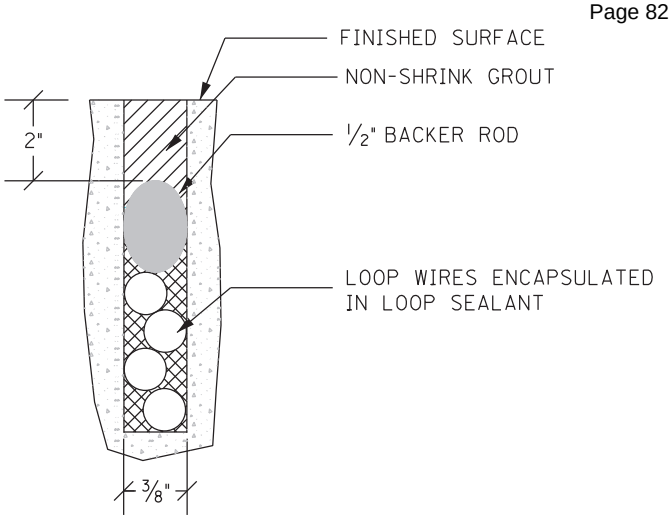
GROUNDING DETAIL

JUNCTION BOX - TYPE A, TYPE B, TYPE C

NOT TO SCALE



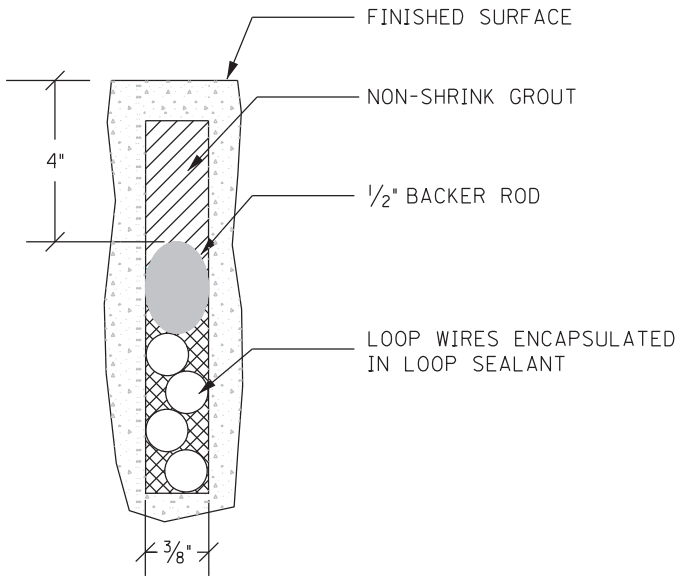
SAW CUT PLAN



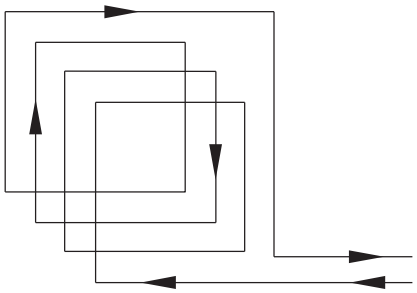
SECTION A-A (CONCRETE)

UNLESS SPECIFIED OTHERWISE, ALL LOOPS SHALL BE 6' x 6' SQUARE, CENTERED IN EACH LANE, WITH FOUR (4) TURNS OF 14 AWG LOOP WIRE.

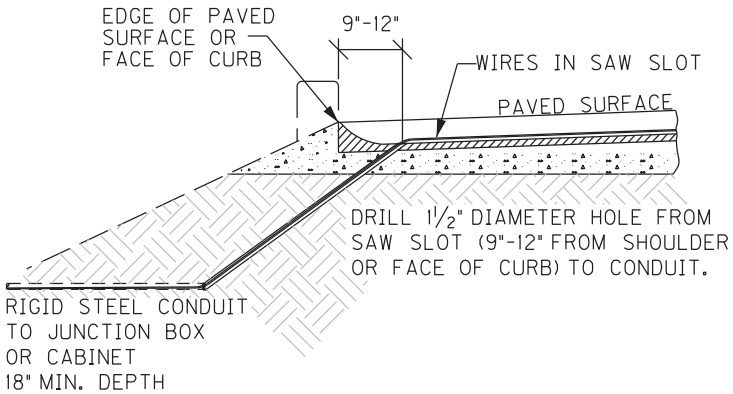
ADJACENT SAW SLOTS SHALL BE A MINIMUM OF 12" APART.



SECTION A-A (ASPHALT)



WIRING PLAN

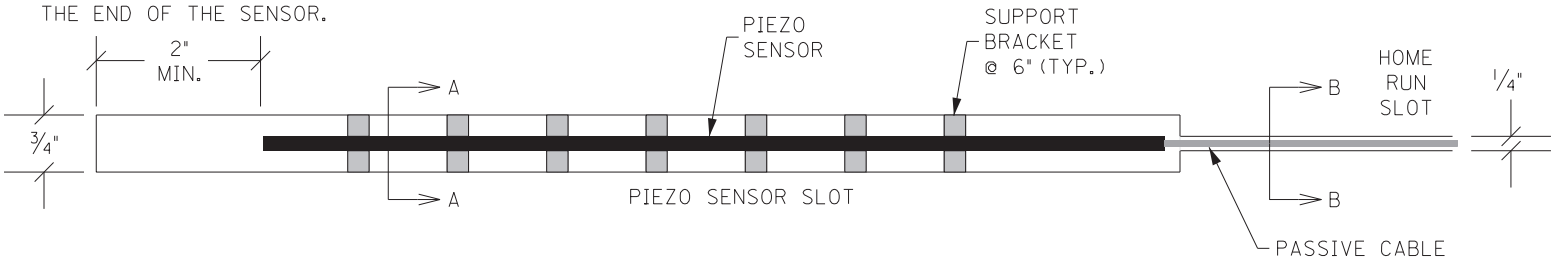


SAW SLOT EDGE OF PAVEMENT TRANSITION

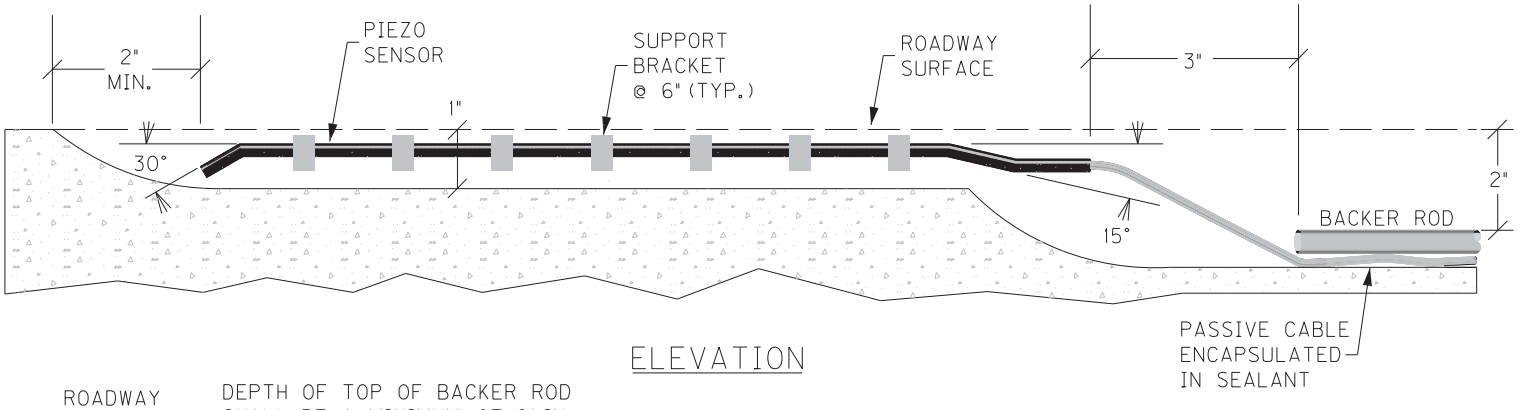
INDUCTIVE LOOP DETECTOR

NOT TO SCALE

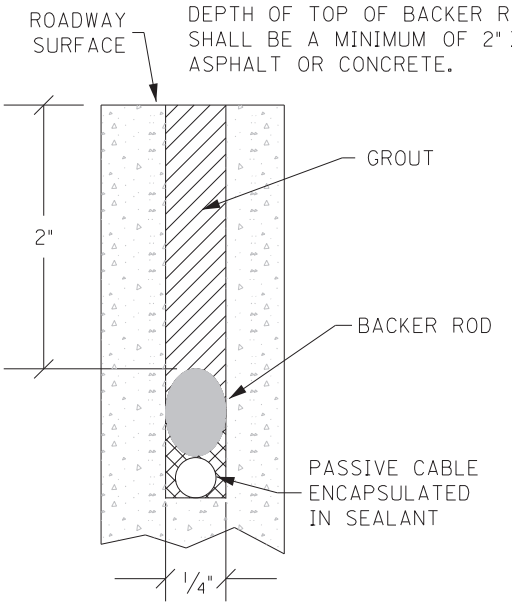
EXTEND SAW SLOT A MINIMUM OF 2" BEYOND THE END OF THE SENSOR.



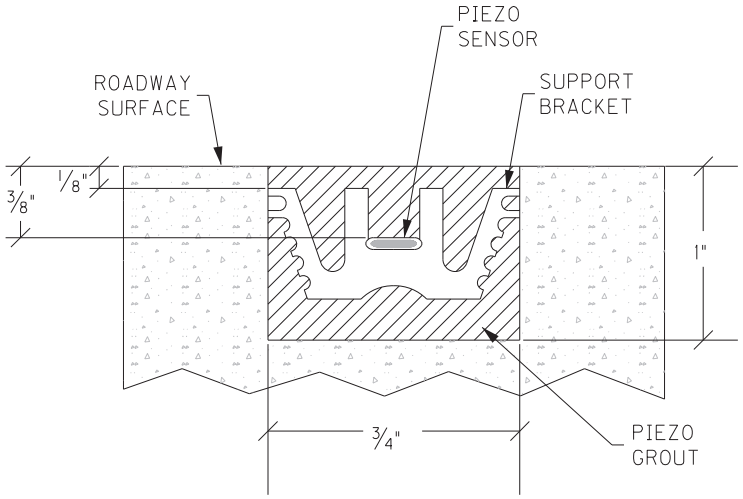
PLAN



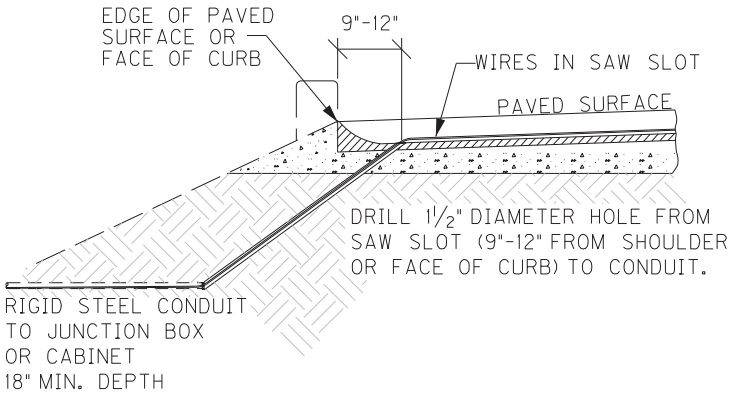
ELEVATION



SECTION B-B



SECTION A-A



SAW SLOT EDGE OF PAVEMENT TRANSITION

PIEZOELECTRIC SENSOR INSTALLATION

NOT TO SCALE

SPECIAL NOTE FOR AUTOMATIC TRAFFIC RECORDER INDUCTANCE LOOPS

Be advised, existing traffic counting inductance loops are within the construction limits of this project. Notify the Engineer in writing, a minimum of 14 days prior to beginning any work. Install and test the new inductance loops and axle sensors according to the detail drawings and the Special Notes for Installation of Traffic Counting Inductance Loops and Axle Sensors.

The Engineer will contact and maintain liaison with the District Planning Engineer and the Division of Planning in order to coordinate any necessary work.

On projects that include milling of roadways with existing traffic counting inductance loops and if after milling the remnant contents of the existing saw slot (grout, loop wires, backer rod, and/or loop sealant) are not intact and flush with or below the top of the milled portion of the asphalt and with the saw slot completely filled with fines from the milling operation, clear the saw slot of loose remnant contents and refill the saw slot with natural sand. Obtain the Engineer's approval of the stabilized saw slot prior to resurfacing. The Department will not measure for separate payment clearing the saw slot and refilling with natural sand, but shall be incidental to Asphalt Pavement Milling and Texturing.

INSTALL RADAR PRESENCE DETECTOR TYPE A

Install Radar Presence Detector Type A shall consist of installation of a pole mounted radar presence sensor, sensor mounting bracket, sensor cables, interface boxes, lead-in cable, connectors (furnished by contractor), and controller interface assembly. Radar Presence Detector Type A bid item shall include all labor required to provide a functional detection system. Radar Presence Detector Type A shall be installed and wired in accordance with the manufacturer's instructions. After the detector is installed and before the detector is powered on, the contractor shall coordinate with District Traffic Division's representatives to schedule a time to perform the detector setup. The contractor shall double check to verify that all wiring is correctly installed and connected before scheduling the setup work. Representatives from KYTC and/or the manufacturer or sales representative will assist with setup and calibration. The contractor shall provide a bucket truck and operators at this time for final aiming of the sensors. The contractor shall provide individuals capable of operating the setup software and learning the setup process so that future installations may be completed without assistance from others.
This includes the removal of all existing loop lead-in cable, conduits, and junction boxes from cabinet, poles, spans, and the ground.

March 25, 2025

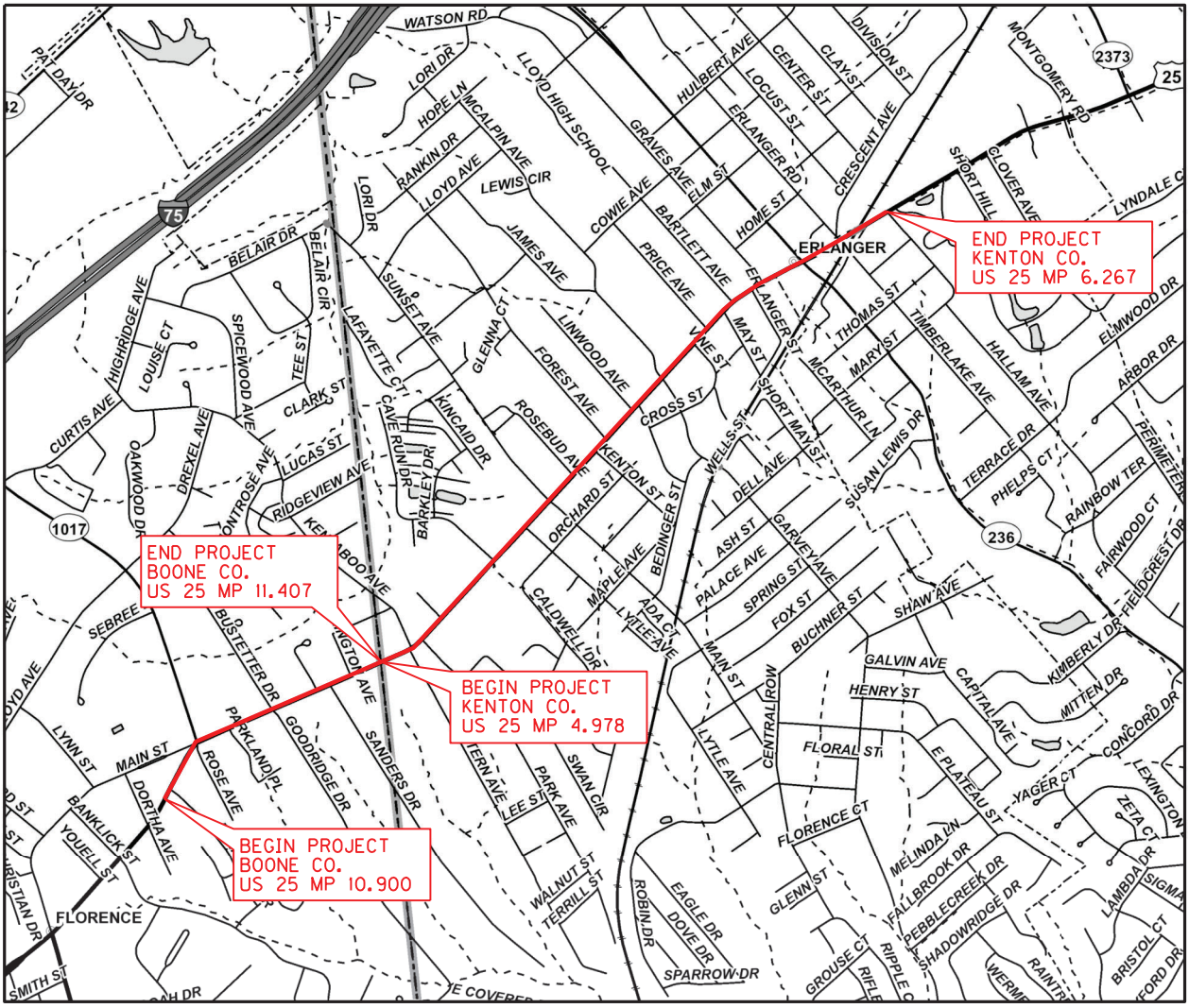
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

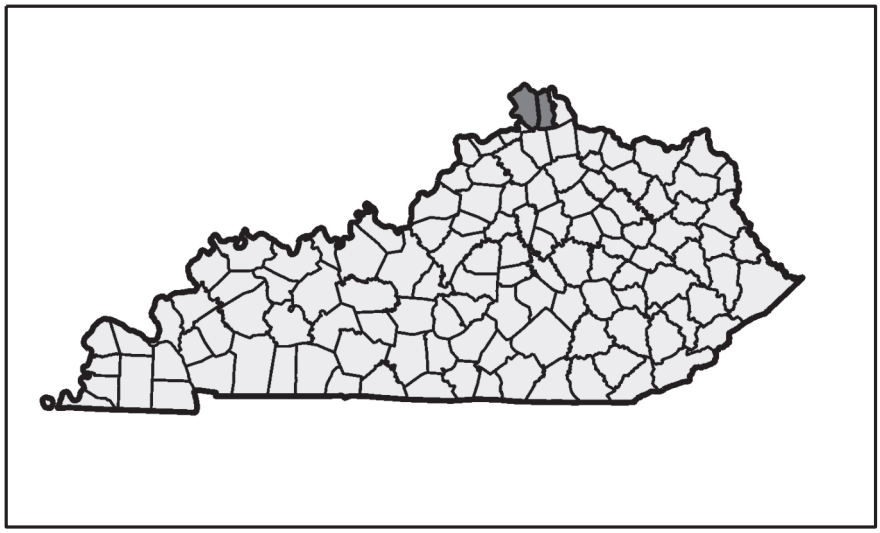
PLANS OF
PROPOSED PROJECT

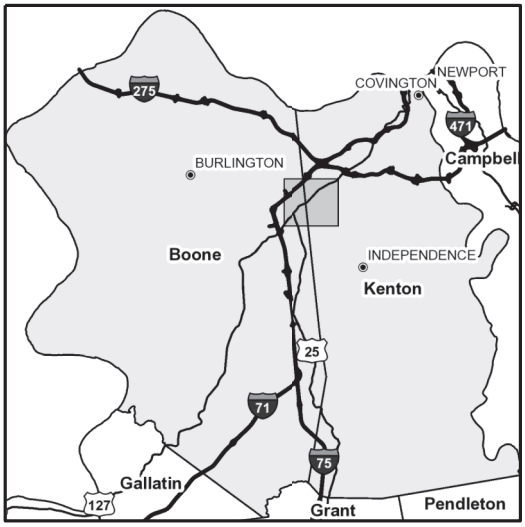
CORRIDOR IMPROVEMENTS
BOONE & KENTON COUNTY
US 25

COUNTY OF	ITEM NO.
BOONE & KENTON	FD05 008 0025 010-012 FE01 008 0025 010-012 FD05 059 0025 004-007 FE01 059 0025 004-007

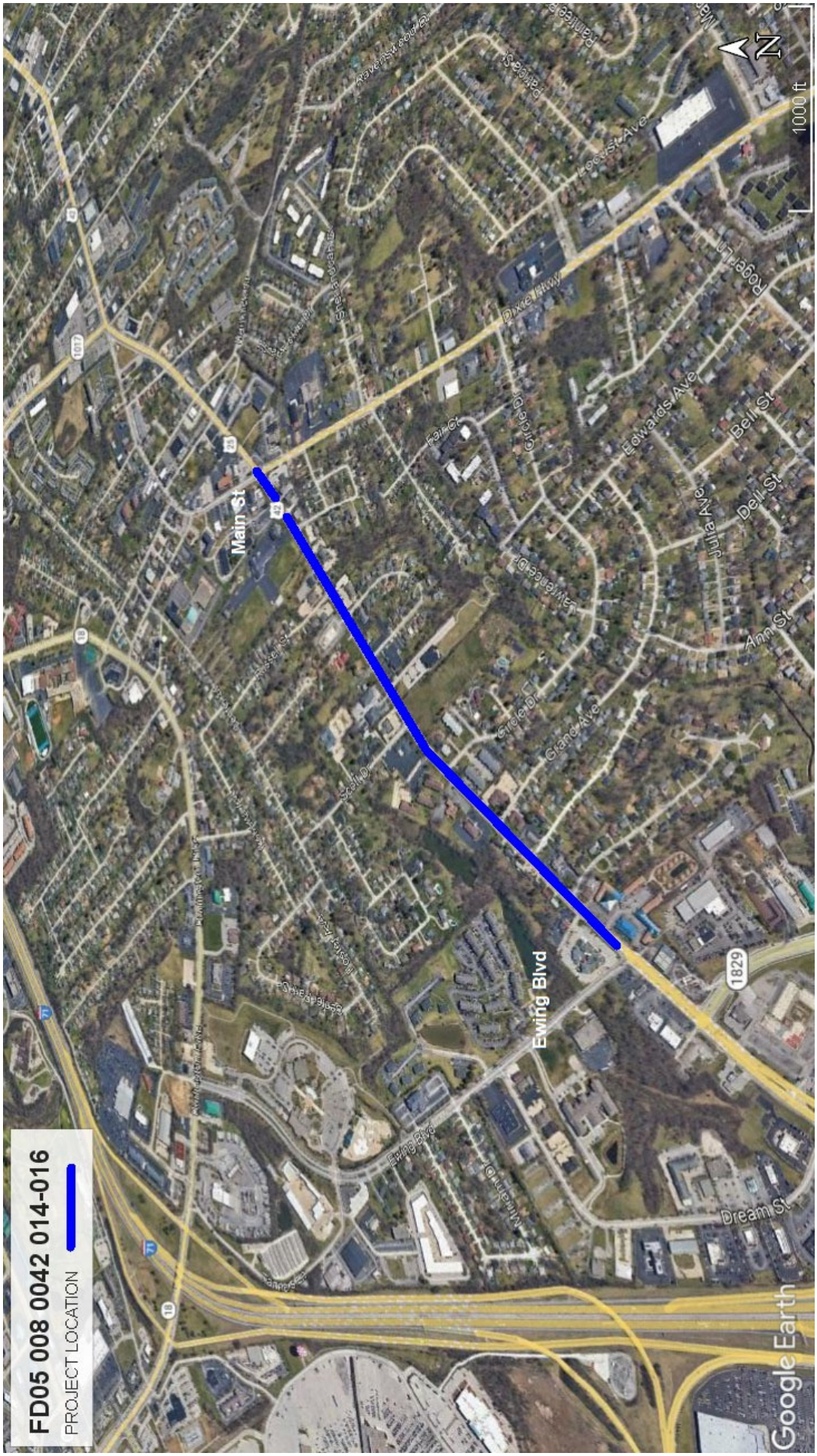
TEAM KENTUCKY
TRANSPORTATION CABINET








KENTON COUNTY
FD05 059 0025 008-009
PROJECT LOCATION
1000 ft
N
Orphanage Rd
Buttermilk Pike
Arcadia Ave
E Lakeside Ave
W Lakeside Ave
Lakeside Park
Hudson Ave
Lane Dr
Vanderen Dr
Lookout Farm Dr
Colony S Dr
Penwood Rd
Shaker Rd
25
Google Earth


FD05 008 0042 014-016
PROJECT LOCATION
Main St
Ewing Blvd
Dream St
Grand Ave
Julia Ave
Edwards Ave
Bell St
Dell St
Ann St
Dixie Hwy
Locust Ave
Roger Ln
1829
N
1000 ft
Google Earth

MATERIAL SUMMARY

CONTRACT ID: 252198 **121GR25P048 - FD05, FE01, & FD04** **MP00800252501**

DIXIE HIGHWAY (US 25) BEGINNING 175 FEET NORTH OF DORTHA AVENUE EXTEDNING NORTH TO THE BOONE/KENTON COUNTY LINE ASPHALT RESURFACING, A DISTANCE OF .5 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0170	00190	LEVELING & WEDGING PG64-22	47.00	TON
0175	00356	ASPHALT MATERIAL FOR TACK	7.00	TON
0180	00388	CL3 ASPH SURF 0.38B PG64-22	1,090.00	TON
0185	02562	TEMPORARY SIGNS	270.00	SQFT
0190	02650	MAINTAIN & CONTROL TRAFFIC - (BOONE US 25) (FD05)	1.00	LS
0195	02671	PORTABLE CHANGEABLE MESSAGE SIGN	3.00	EACH
0200	02676	MOBILIZATION FOR MILL & TEXT - (BOONE US 25) (FD05)	1.00	LS
0205	02677	ASPHALT PAVE MILLING & TEXTURING	1,090.00	TON
0210	02720	SIDEWALK-4 IN CONCRETE	96.00	SQYD
0215	02775	ARROW PANEL	2.00	EACH
0220	03240	BASE FAILURE REPAIR	285.00	SQYD
0225	04793	CONDUIT-1 1/4 IN - (PLANNING LOOPS)(BOONE US 25)	55.00	LF
0230	04795	CONDUIT-2 IN - (PLANNING LOOPS)(BOONE US 25)	10.00	LF
0235	04820	TRENCHING AND BACKFILLING - (PLANNING LOOPS) (BOONE US 25)	60.00	LF
0240	04829	PIEZOELECTRIC SENSOR - (PLANNING LOOPS)(BOONE US 25)	4.00	EACH
0245	04830	LOOP WIRE - (PLANNING LOOPS)(BOONE US 25)	2,000.00	LF
0250	04895	LOOP SAW SLOT AND FILL - (PLANNING LOOPS) (BOONE US 25)	350.00	LF
0255	04960	REMOVE AND REPLACE SIDEWALK - (PLANNING LOOPS)(BOONE US 25)	3.00	SQYD
0260	06510	PAVE STRIPING-TEMP PAINT-4 IN	13,850.00	LF
0265	06542	PAVE STRIPING-THERMO-6 IN W	7,568.00	LF
0270	06543	PAVE STRIPING-THERMO-6 IN Y	6,278.00	LF
0275	06565	PAVE MARKING-THERMO X-WALK-6 IN	1,188.00	LF
0280	06568	PAVE MARKING-THERMO STOP BAR-24IN	235.00	LF
0285	06569	PAVE MARKING-THERMO CROSS-HATCH	596.00	SQFT
0290	06573	PAVE MARKING-THERMO STR ARROW	2.00	EACH
0295	06574	PAVE MARKING-THERMO CURV ARROW	26.00	EACH
0300	06575	PAVE MARKING-THERMO COMB ARROW	13.00	EACH
0305	06598	PAVEMENT MARKING REMOVAL	223.00	SQFT
0310	10020NS	FUEL ADJUSTMENT	1,781.00	DOLL
0315	10030NS	ASPHALT ADJUSTMENT	4,473.00	DOLL
0320	20099ES842	PAVE MARK TEMP PAINT STOP BAR	235.00	LF
0325	20100ES842	PAVE MARK TEMP PAINT LINE ARROW	39.00	EACH
0330	20359NN	GALVANIZED STEEL CABINET - (PLANNING LOOPS) (BOONE US 25)	1.00	EACH
0335	20360ES818	WOOD POST - (PLANNING LOOPS)(BOONE US 25)	2.00	EACH
0340	20391NS835	ELECTRICAL JUNCTION BOX TYPE A - (PLANNING LOOPS)(BOONE US 25)	1.00	EACH
0345	20782NS714	PAVE MARKING THERMO-BIKE	12.00	EACH
0350	23158ES505	DETECTABLE WARNINGS - (NEW)	181.00	SQFT

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0355	24386EC	PAVE MARKING THERMO-BIKE LANE ARROW	12.00	EACH
0360	24683ED	PAVE MARKING-THERMO DOTTED LANE EXTEN - (12 INCH)	323.00	LF
0365	24683ED	PAVE MARKING-THERMO DOTTED LANE EXTEN - (6 INCH)	213.00	LF
0370	26119EC	INSTALL RADAR PRESENCE DETECTOR TYPE A	5.00	EACH
0375	26228EC	ELECTRONIC DELIVERY MGMT SYSTEM - (BOONE US 25) (FD05)	1.00	LS
0380	02569	DEMOBILIZATION	1.00	LS

CONTRACT ID: 252198 **121GR25P048 - FD05, FE01, & FD04** **MP00800252502**

DIXIE HIGHWAY (US 25) BEGINNING 175 FEET NORTH OF DORTHA AVENUE EXTEDNING NORTH TO THE BOONE/KENTON COUNTY LINE SIDEWALK CONSTRUCTION, A DISTANCE OF .5 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0385	02562	TEMPORARY SIGNS	60.00	SQFT
0390	02650	MAINTAIN & CONTROL TRAFFIC - (BOONE US 25) (FE01)	1.00	LS
0395	02671	PORTABLE CHANGEABLE MESSAGE SIGN	3.00	EACH
0400	02720	SIDEWALK-4 IN CONCRETE	74.00	SQYD
0405	03302	REPAIR CONCRETE CURB	6.00	LF
0410	20904ED	RECONSTRUCT CURB BOX INLET - (TOP PHASE ONLY)	3.00	EACH
0415	23158ES505	DETECTABLE WARNINGS - (NEW)	28.00	SQFT
0420	02569	DEMOBILIZATION	1.00	LS

CONTRACT ID: 252198 **121GR25P048 - FD05, FE01, & FD04** **MP00800252503**

DIXIE HIGHWAY (US 25) BEGINNING 175 FEET NORTH OF DORTHA AVENUE EXTEDNING NORTH TO THE BOONE/KENTON COUNTY LINE SIGNS-LIGHTING-SIGNALS, A DISTANCE OF .5 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0425	06406	SBM ALUM SHEET SIGNS .080 IN	30.00	SQFT
0430	06472	INSTALL SPAN MOUNTED SIGN	4.00	EACH
0435	21373ND	REMOVE SIGN	3.00	EACH
0440	20188NS835	INSTALL LED SIGNAL-3 SECTION	1.00	EACH
0445	24955ED	REMOVE SIGNAL EQUIPMENT	1.00	EACH

MATERIAL SUMMARY

CONTRACT ID: 252198 **121GR25P048 - FD05, FE01, & FD04** **MP00800422501**

UNION - FLORENCE ROAD (US 42) BEGINNING 110 FEET EAST OF EWING BOULEVARD EXTENDING EAST TO US 25/MAIN STREET ASPHALT RESURFACING, A DISTANCE OF .78 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0710	00307	CL2 ASPH SURF 0.38B PG64-22	1,980.00	TON
0715	00356	ASPHALT MATERIAL FOR TACK	12.00	TON
0720	02562	TEMPORARY SIGNS	390.00	SQFT
0725	02650	MAINTAIN & CONTROL TRAFFIC - (BOONE US 42) (FD05)	1.00	LS
0730	02671	PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH
0735	02676	MOBILIZATION FOR MILL & TEXT - (BOONE US 42) (FD05)	1.00	LS
0740	02677	ASPHALT PAVE MILLING & TEXTURING	1,980.00	TON
0745	02775	ARROW PANEL	2.00	EACH
0750	03240	BASE FAILURE REPAIR	40.00	SQYD
0755	04793	CONDUIT-1 1/4 IN - (PLANNING LOOPS)(BOONE US 42)	40.00	LF
0760	04820	TRENCHING AND BACKFILLING - (PLANNING LOOPS) (BOONE US 42)	25.00	LF
0765	04830	LOOP WIRE - (PLANNING LOOPS)(BOONE US 42)	1,800.00	LF
0770	04895	LOOP SAW SLOT AND FILL - (PLANNING LOOPS) (BOONE US 42)	335.00	LF
0775	04960	REMOVE AND REPLACE SIDEWALK - (PLANNING LOOPS)(BOONE US 42)	3.00	SQYD
0780	06510	PAVE STRIPING-TEMP PAINT-4 IN	22,500.00	LF
0785	06542	PAVE STRIPING-THERMO-6 IN W	10,500.00	LF
0790	06543	PAVE STRIPING-THERMO-6 IN Y	10,500.00	LF
0795	06565	PAVE MARKING-THERMO X-WALK-6 IN	1,544.00	LF
0800	06568	PAVE MARKING-THERMO STOP BAR-24IN	174.00	LF
0805	06574	PAVE MARKING-THERMO CURV ARROW	15.00	EACH
0810	06600	REMOVE PAVEMENT MARKER TYPE V	312.00	EACH
0815	10020NS	FUEL ADJUSTMENT	3,066.00	DOLL
0820	10030NS	ASPHALT ADJUSTMENT	7,702.00	DOLL
0825	20100ES842	PAVE MARK TEMP PAINT LINE ARROW	15.00	EACH
0830	20360ES818	WOOD POST - (PLANNING LOOPS)(BOONE US 42)	3.00	EACH
0835	20468EC	ELECTRICAL JUNCTION BOX-10 X 8 X 4 - (PLANNING LOOPS)(BOONE US 42)	3.00	EACH
0840	23010EN	PAVE MARK TEMP PAINT STOP BAR-24 IN	174.00	LF
0845	26119EC	INSTALL RADAR PRESENCE DETECTOR TYPE A	4.00	EACH
0850	26228EC	ELECTRONIC DELIVERY MGMT SYSTEM - (BOONE US 42) (FD05)	1.00	LS
0855	02569	DEMOBILIZATION	1.00	LS

MATERIAL SUMMARY

CONTRACT ID: 252198 **121GR25P048 - FD05, FE01, & FD04** **MP05900252502**

DIXIE HIGHWAY (US 25) BEGINNING AT THE PAVEMENT JOINT 375 FEET NORTH OF MARIAN DRIVE EXTENDING NORTH TO KY 371 ASPHALT RESURFACING, A DISTANCE OF .51 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0005	00356	ASPHALT MATERIAL FOR TACK	8.00	TON
0010	02562	TEMPORARY SIGNS	390.00	SQFT
0015	02650	MAINTAIN & CONTROL TRAFFIC - (KENTON US 25 MP 8-9) (FD05)	1.00	LS
0020	02671	PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH
0025	02676	MOBILIZATION FOR MILL & TEXT - (KENTON US 25 MP 8-9) (FD05)	1.00	LS
0030	02677	ASPHALT PAVE MILLING & TEXTURING	1,200.00	TON
0035	02775	ARROW PANEL	2.00	EACH
0040	03240	BASE FAILURE REPAIR	25.00	SQYD
0045	04793	CONDUIT-1 1/4 IN - (PLANNING LOOPS)(KENTON MP 8-9)	15.00	LF
0050	04820	TRENCHING AND BACKFILLING - (PLANNING LOOPS) (KENTON MP 8-9)	10.00	LF
0055	04830	LOOP WIRE - (PLANNING LOOPS)(KENTON MP 8-9)	800.00	LF
0060	04895	LOOP SAW SLOT AND FILL - (PLANNING LOOPS) (KENTON MP 8-9)	160.00	LF
0065	04960	REMOVE AND REPLACE SIDEWALK - (PLANNING LOOPS)(KENTON MP 8-9)	2.00	SQYD
0070	06510	PAVE STRIPING-TEMP PAINT-4 IN	18,058.00	LF
0075	06542	PAVE STRIPING-THERMO-6 IN W	7,000.00	LF
0080	06543	PAVE STRIPING-THERMO-6 IN Y	9,800.00	LF
0085	06565	PAVE MARKING-THERMO X-WALK-6 IN	1,258.00	LF
0090	06568	PAVE MARKING-THERMO STOP BAR-24IN	294.00	LF
0095	06574	PAVE MARKING-THERMO CURV ARROW	19.00	EACH
0100	06575	PAVE MARKING-THERMO COMB ARROW	1.00	EACH
0105	06576	PAVE MARKING-THERMO ONLY	3.00	EACH
0110	06600	REMOVE PAVEMENT MARKER TYPE V	120.00	EACH
0115	10020NS	FUEL ADJUSTMENT	1,868.00	DOLL
0120	10030NS	ASPHALT ADJUSTMENT	4,692.00	DOLL
0125	20100ES842	PAVE MARK TEMP PAINT LINE ARROW	20.00	EACH
0130	20360ES818	WOOD POST - (PLANNING LOOPS)(KENTON MP 8-9)	1.00	EACH
0135	20468EC	ELECTRICAL JUNCTION BOX-10 X 8 X 4 - (PLANNING LOOPS)(KENTON MP 8-9)	1.00	EACH
0140	23010EN	PAVE MARK TEMP PAINT STOP BAR-24 IN	294.00	LF
0145	24683ED	PAVE MARKING-THERMO DOTTED LANE EXTEN	120.00	LF
0150	24685EC	CL2 ASPH SURF 0.38A PG64-22	1,200.00	TON
0155	26119EC	INSTALL RADAR PRESENCE DETECTOR TYPE A	14.00	EACH
0160	26228EC	ELECTRONIC DELIVERY MGMT SYSTEM - (KENTON US 25 MP 8-9) (FD05)	1.00	LS
0165	02569	DEMOBILIZATION	1.00	LS

MATERIAL SUMMARY

DIXIE HIGHWAY (US 25) BEGINNING AT THE BOONE/KENTON COUNTY LINE EXTENDING NORTH TO FOREST LAWN CEMETERY ASPHALT RESURFACING, A DISTANCE OF 1.28 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0450	00190	LEVELING & WEDGING PG64-22	94.00	TON
0455	00356	ASPHALT MATERIAL FOR TACK	16.00	TON
0460	02562	TEMPORARY SIGNS	370.00	SQFT
0465	02650	MAINTAIN & CONTROL TRAFFIC - (KENTON US 25 MP 4-7) (FD05)	1.00	LS
0470	02671	PORTABLE CHANGEABLE MESSAGE SIGN	3.00	EACH
0475	02676	MOBILIZATION FOR MILL & TEXT - (KENTON US 25 MP 4-7) (FD05)	1.00	LS
0480	02677	ASPHALT PAVE MILLING & TEXTURING	2,340.00	TON
0485	02775	ARROW PANEL	2.00	EACH
0490	03240	BASE FAILURE REPAIR	478.00	SQYD
0495	04793	CONDUIT-1 1/4 IN - (PLANNING LOOPS)(KENTON MP 4-7)	60.00	LF
0500	04795	CONDUIT-2 IN - (PLANNING LOOPS)(KENTON MP 4-7)	10.00	LF
0505	04820	TRENCHING AND BACKFILLING - (PLANNING LOOPS) (KENTON MP 4-7)	65.00	LF
0510	04829	PIEZOELECTRIC SENSOR - (PLANNING LOOPS) (KENTON MP 4-7)	4.00	EACH
0515	04830	LOOP WIRE - (PLANNING LOOPS)(KENTON MP 4-7)	1,850.00	LF
0520	04895	LOOP SAW SLOT AND FILL - (PLANNING LOOPS) (KENTON MP 4-7)	330.00	LF
0525	04960	REMOVE AND REPLACE SIDEWALK - (PLANNING LOOPS)(KENTON MP 4-7)	3.00	SQYD
0530	06510	PAVE STRIPING-TEMP PAINT-4 IN	29,240.00	LF
0535	06542	PAVE STRIPING-THERMO-6 IN W	14,484.00	LF
0540	06543	PAVE STRIPING-THERMO-6 IN Y	14,756.00	LF
0545	06565	PAVE MARKING-THERMO X-WALK-6 IN	2,702.00	LF
0550	06568	PAVE MARKING-THERMO STOP BAR-24IN	755.00	LF
0555	06569	PAVE MARKING-THERMO CROSS-HATCH	242.00	SQFT
0560	06573	PAVE MARKING-THERMO STR ARROW	7.00	EACH
0565	06574	PAVE MARKING-THERMO CURV ARROW	54.00	EACH
0570	06575	PAVE MARKING-THERMO COMB ARROW	22.00	EACH
0575	06576	PAVE MARKING-THERMO ONLY	2.00	EACH
0580	10020NS	FUEL ADJUSTMENT	3,810.00	DOLL
0585	10030NS	ASPHALT ADJUSTMENT	9,571.00	DOLL
0590	20099ES842	PAVE MARK TEMP PAINT STOP BAR	755.00	LF
0595	20100ES842	PAVE MARK TEMP PAINT LINE ARROW	83.00	EACH
0600	20359NN	GALVANIZED STEEL CABINET - (PLANNING LOOPS) (KENTON MP 4-7)	1.00	EACH
0605	20360ES818	WOOD POST - (PLANNING LOOPS)(KENTON MP 4-7)	2.00	EACH
0610	20391NS835	ELECTRICAL JUNCTION BOX TYPE A - (PLANNING LOOPS)(KENTON MP 4-7)	1.00	EACH
0615	20782NS714	PAVE MARKING THERMO-BIKE	36.00	EACH
0620	22906ES403	CL3 ASPH SURF 0.38A PG64-22	2,340.00	TON
0625	24386EC	PAVE MARKING THERMO-BIKE LANE ARROW	36.00	EACH
0630	24683ED	PAVE MARKING-THERMO DOTTED LANE EXTEN - (12 INCH)	142.00	LF

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0635	24683ED	PAVE MARKING-THERMO DOTTED LANE EXTEN - (6 INCH)	342.00	LF
0640	26119EC	INSTALL RADAR PRESENCE DETECTOR TYPE A	23.00	EACH
0645	26228EC	ELECTRONIC DELIVERY MGMT SYSTEM - (KENTON US 25 MP 4-7) (FD05)	1.00	LS
0650	02569	DEMOBILIZATION	1.00	LS

CONTRACT ID: 252198 **121GR25P048 - FD05, FE01, & FD04** **MP05900252504**

DIXIE HIGHWAY (US 25) BEGINNING AT THE BOONE/KENTON COUNTY LINE EXTENDING NORTH TO FOREST LAWN CEMETERY SIDEWALK CONSTRUCTION, A DISTANCE OF 1.28 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0655	02562	TEMPORARY SIGNS	60.00	SQFT
0660	02650	MAINTAIN & CONTROL TRAFFIC - (KENTON US 25 MP 4-7) (FE01)	1.00	LS
0665	02671	PORTABLE CHANGEABLE MESSAGE SIGN	3.00	EACH
0670	03302	REPAIR CONCRETE CURB	20.00	LF
0675	20904ED	RECONSTRUCT CURB BOX INLET - (TOP PHASE ONLY)	2.00	EACH
0680	02569	DEMOBILIZATION	1.00	LS

CONTRACT ID: 252198 **121GR25P048 - FD05, FE01, & FD04** **MP05900252505**

DIXIE HIGHWAY (US 25) BEGINNING AT THE BOONE/KENTON COUNTY LINE EXTENDING NORTH TO FOREST LAWN CEMETERY SIGNS-LIGHTING-SIGNALS, A DISTANCE OF 1.28 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0685	06406	SBM ALUM SHEET SIGNS .080 IN	16.50	SQFT
0690	06472	INSTALL SPAN MOUNTED SIGN	2.00	EACH
0695	21373ND	REMOVE SIGN	1.00	EACH
0700	20188NS835	INSTALL LED SIGNAL-3 SECTION	9.00	EACH
0705	24955ED	REMOVE SIGNAL EQUIPMENT	2.00	EACH

Base Failure Repair Summary
Boone County
FD05 008 0025 010-012

Milepoint	Length	Width	Area
11.180	100	10	111
11.200	63	10	70
11.246	16	10	18
11.300	9	20	20
11.307	36	10	40
11.380	8	10	9
11.390	15	10	17
		Total	285

Refer to the Special Note for Base Failure Repair for more information on the effort and quantities involved in this work.

Boone County
THERMOPLASTIC INTERSECTION PAVEMENT MARKINGS SUMMARY
FD05 008 0025 010-012

MPT.	INTERSECTION	X-WALKS 6 INCH LF	STOP BAR 24 INCH LF	CROSS-HATCH 12 INCH SQFT	CHEVRON 12 INCH SQFT	CONE CAP YELLOW SQFT	ARROWS CURVE EA	ARROWS COMB EA	STR EA	WORDS "ONLY" EA	BIKE MARKINGS SYMBOL EA	BIKE MARKINGS ARROW EA	BIKE MARKINGS SHARED LANE EA	NOTES
10.918-10.982	TURFWAY RD.			642										
10.929	TURFWAY RD.						1	1						
10.941	TURFWAY RD.									2				
10.953	TURFWAY RD.						2	1						
10.963-10.986	TURFWAY RD.													
10.965	TURFWAY RD.						1			2				
10.977	TURFWAY RD.						2	1						
10.982	TURFWAY RD.		24			52								
10.984	TURFWAY RD.		12											
10.988	TURFWAY RD.	165												
0.500 (MAIN ST.)	US 25						1						1	Remove ex. combo arrow
0.507 (MAIN ST.)	US 25		24											
0.510 (MAIN ST.)	US 25	82												
0.013 (ROSE AVE.)	US 25	100												
0.015 (ROSE AVE.)	US 25		12											
3.949 (TURFWAY RD.)	US 25							2						
3.959 (TURFWAY RD.)	US 25							1						Remove ex. middle arrow
3.967 (TURFWAY RD.)	US 25		36											
3.971 (TURFWAY RD.)	US 25	152												
11.016-11.029	TURFWAY RD.				72									
11.032	TURFWAY RD.	132												
11.036	TURFWAY RD.		44											
11.046	TURFWAY RD.						1	2						
11.069	TURFWAY RD.						1	2						
11.085	TURFWAY RD.										2	2		
11.103	TURFWAY RD.						1							
11.144							2							
11.177											2	2		
11.200	BUSTETTER DR.						1	1						
11.220	BUSTETTER DR.						1	1						
11.231	BUSTETTER DR.		26											
11.240	BUSTETTER DR.	324	20											
11.247	BUSTETTER DR.		26											
11.253	BUSTETTER DR.						1	1						
11.258	BUSTETTER DR.										2	2		
11.264	BUSTETTER DR.						1	1						
11.288							2							
11.300											2	2		
11.309	NICHOLAS ST.	80												
11.329	SANDERS DR.	70												
11.345							2							
11.353											2	2		
11.362	LEXINGTON AVE.	86												
11.387							2							
11.400											1	1		
11.407											1	1		
TOTAL		1191	224	642	72	52	22	14	0	4	12	12	1	

Boone County
SIDEWALK RAMP AND DETECTABLE WARNING SUMMARY
FD05 008 0025 010-012

MP	INTERSECTION	RAMP TYPE	RAMP SY	DETECTABLE WARNING QUANTITY	DETECTABLE WARNING NEW SF	DETECTABLE WARNING RETROFIT SF	NOTES
10.922	PARKSIDE DR.	SEE NOTE	3		15		WORK ONLY INVOLVES SIDEWALK TIE TO ENTRANCE PAVEMENT. SEE SEPIA 040.
10.922	PARKSIDE DR.	SEE NOTE	3		15		WORK ONLY INVOLVES SIDEWALK TIE TO ENTRANCE PAVEMENT. SEE SEPIA 040.
11.004	MAIN ST.	3	5		19		
11.004	ROSE AVE.	3	7		21		
11.004	ROSE AVE.	3	7		21		
11.104	PARKLAND PLACE	3	6		16		
11.238	BUSTETTER/GOODRIDGE	3	36		26		
11.238	BUSTETTER/GOODRIDGE	3	13		20		
11.238	BUSTETTER/GOODRIDGE	3	4		8		
11.238	BUSTETTER/GOODRIDGE	3	12		20		
TOTAL			96	0	181	0	

Boone County - US 25
RADAR PRESENCE DETECTOR SUMMARY
FD05 008 0025 010-012

MP.	INTERSECTION	RADAR PRESENCE DETECTOR TYPE A EA	RADAR PRESENCE DETECTOR TYPE B EA	NOTES
11.004	Main St. / Rose Ave. / Turfway Rd.	5		Refer to Signal Detail Sheet and Special Note for Radar Detection for more information.
TOTAL		5	0	

NOTES:

GENERAL SUMMARY

COUNTY OF	FUNDING NO.
BOONE	FE01 008 0025 010-012

	ITEM	DESCRIPTION	UNIT	TOTAL PROJECT
	2562	TEMPORARY SIGNS	SQFT	60.00
	2569	DEMOBILIZATION	LS	1
	2650	MAINTAIN & CONTROL TRAFFIC	LS	1
	2671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	3
	2720	SIDEWALK-4 IN CONCRETE	SQYD	74
①	3302	REPAIR CONCRETE CURB	LF	6
②	20904ED	RECONSTRUCT CURB BOX INLET (TOP PHASE ONLY)	EACH	3
	23158ES505	DETECTABLE WARNINGS	SQFT	28

① FOR RECONSTRUCTION OF THE DAMAGED STANDARD HEADER CURB ON THE EAST SIDE OF US 25 AT THE FOLLOWING LOCATIONS: MP. 10.930 (8 LF) / MP. 10.975 (16 LF) / MP. 11.220 (16 LF). ADDITIONAL LOCATIONS MAY BE ADDED AT THE DISCRETION OF THE ENGINEER.

② FOR RECONSTRUCTION OF THE DAMAGED TOP PHASE ON THE CURB BOX INLETS AT THE FOLLOWING LOCATIONS: MP. 11.004 (RT) / MP. 11.060 (RT) / MP. 11.345 (RT). ADDITIONAL LOCATIONS MAY BE ADDED AT THE DISCRETION OF THE ENGINEER.

Boone County
SIDEWALK, RAMP, AND DETECTABLE WARNING SUMMARY
FE01 008 0025 010-012

MP	INTERSECTION	RAMP TYPE	RAMP SY	SIDEWALK SY	DETECTABLE WARNING NEW SF	DETECTABLE WARNING RETROFIT SF	NOTES
11.004	TURFWAY RD.	3	5	62	28		RECONSTRUCT SIDEWALK AND RAMP FROM EX. SIGNAL POLE TO EX. PED POLE
11.220				7			RECONSTRUCT DAMAGED SIDEWALK
TOTAL			5	69	28	0	

GENERAL SUMMARY

COUNTY OF	FUNDING NO.
BOONE	FL03 121 3800 D625 E143

	ITEM	DESCRIPTION	UNIT	TOTAL PROJECT
	6406	SBM ALUM SHEET SIGNS .080 IN	SQFT	30.00
	6472	INSTALL SPAN MOUNTED SIGN	EACH	4
	20188NS835	INSTALL LED SIGNAL-3 SECTION	EACH	1
	21373ND	REMOVE SIGN	EACH	3
①	24955ED	REMOVE SIGNAL EQUIPMENT	EACH	1

① FOR REMOVAL OF THE SPECIFIED SIGNAL HEAD AT THE INTERSECTION OF US 25 AND TURFWAY RD./MAIN ST.

Signal Head Replacements for: US 25 @ KY 1017 (Turfway Rd.)

Signal Heads For SB KY 1017

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Green Ball	Green Arrow
3 Section w/Reflective Backplate	1		1		1	
Totals	**1**	**0**	**1**	**0**	**1**	**0**

TOTALS FOR THIS INTERSECTION	**1**	**0**	**1**	**0**	**1**	**0**

Base Failure
Repair Summary
FD05 059 0025 004-007

Milepoint	Length	Width	Area	Comments
5.200	20	12	27	SB LT Lane
5.230	30	12	40	SB LT Lane
5.600	20	12	27	SB LT Lane
6.130	10	10	11	SB LT Lane
5.070	10	10	11	NB LT Lane
6.100	20	10	22	NB LT Lane
5.100	80	12	107	NB RT Lane
5.170	50	12	67	NB RT Lane
5.510	6	10	7	NB RT Lane
5.770	30	12	40	NB RT Lane
5.940	30	12	40	NB RT Lane
6.140	50	12	67	NB RT Lane
6.180	20	6	13	NB RT Lane
		Total	478	

Refer to the Special Note for Base Failure Repair for more information on the effort and quantities involved in this work.

Kenton County
THERMOPLASTIC INTERSECTION PAVEMENT MARKINGS SUMMARY
FD05 059 0025 004-007

MPT.	INTERSECTION	X-WALKS 6 INCH LF	STOP BAR 24 INCH LF	CROSS-HATCH 12 INCH SQFT	CHEVRON 12 INCH SQFT	CONE CAP YELLOW SQFT	ARROWS CURVE EA	ARROWS COMB EA	WORDS STR EA	WORDS "BUS" EA	WORDS "ONLY" EA	BIKE MARKINGS SYMBOL EA	BIKE MARKINGS ARROW EA	BIKE MARKINGS SHARED LANE EA	NOTES
5.008	KENTABOO / EASTERN						1	1							
5.024	KENTABOO / EASTERN						1	1				2	2		
5.032	KENTABOO / EASTERN		26												
5.041	KENTABOO / EASTERN	234	24												
5.049	KENTABOO / EASTERN		26												
5.058	KENTABOO / EASTERN						1	1				2	2		
5.071	KENTABOO / EASTERN						1	1							
5.065-5.072	PARK AVE.	77													
5.086							2								
5.118												2	2		
5.149							2								
5.183												2	2		
5.214							2								
5.232-5.258	CAVE RUN DR.			250											
5.234	CAVE RUN DR.						1	1				2	2		
5.248	CAVE RUN DR.						1	1							
5.254	CAVE RUN DR.		12												
5.257	CAVE RUN DR.		16												
5.265	CAVE RUN DR.	234	24												
5.275	CAVE RUN DR.		40												
5.284	CAVE RUN DR.						2		1						
5.288	CAVE RUN DR.											1	1		
5.297	CAVE RUN DR.						2		1						
5.310												1	1		
5.328							2								
5.348-5.356	LYTLE AVE.	76	12												
5.356												2	2		
5.369							2								
5.388	SUNSET AVE.						1	1							
5.405	SUNSET AVE.						1	1				2	2		
5.411	SUNSET AVE.		28												
5.416	SUNSET AVE.	234	24												
5.425	SUNSET AVE.		28												
5.432	SUNSET AVE.						1	1				2	2		
5.446	SUNSET AVE.						1	1							
5.467							2								
5.478-5.488	ROSEBUD AVE.	90	12												
5.494												2	2		
5.513							2								
5.539-5.547	KENTON ST.	66													
5.555												2	2		
5.570-5.578	FOREST AVE.	70	12												
5.615							2					2	2		
5.641-5.650	LINWOOD AVE.	86	12												
5.654-5.665	CARLISLE AVE.	92													
5.676							2					2	2		
5.697	MCALPIN AVE.						1	1							
5.711	MCALPIN AVE.						1	1				2	2		
5.718	MCALPIN AVE.		28												
5.728	MCALPIN AVE.	280	36												
5.736	MCALPIN AVE.		28												
5.746	MCALPIN AVE.						1	1				2	2		
5.758	MCALPIN AVE.						1	1							
5.788							2								
5.805												2	2		
5.809-5.817	VINE ST.	76	12												
5.831							2								
5.844-5.855	PRICE AVE.	86	12												
5.865	MAY ST.						1	1				2	2		
5.874	MAY ST.						1	1							
5.886	MAY ST.		28												
5.889-5.897	MAY ST.	75	12												
5.900	MAY ST.											1	1		
5.904	MAY ST.		16												
5.907	BARTLETT AVE.						1					1	1		
5.913	BARTLETT AVE.		28												
5.919	BARTLETT AVE.	148	12												
5.924	BARTLETT AVE.		28												
5.933	BARTLETT AVE.						1	1							
5.941	BARTLETT AVE.						1	1				2	2		
5.954							2								
5.982-5.989	GRAVES AVE.	56	12												
5.991-6.023				240											
6.013	KY 236						1	1	1						
6.026	KY 236						1	1	1						
6.039	KY 236						1	1	1						
6.045	KY 236									1	1				
6.052	KY 236						1	1	1						
6.059	KY 236		24												
6.061	KY 236		12												
6.068	KY 236	512	63												
6.078	KY 236		36												
6.087	KY 236						2	1							
6.100	KY 236										1				
6.116	KY 236						1								
6.129	KY 236										1				
6.150	KY 236						1								
6.169-6.209				395											
6.243	HALLAM AVE.		38												
6.252	HALLAM AVE.	208	24												
6.260	HALLAM AVE.		38												
6.266	HALLAM AVE.						1								
TOTAL		2700	783	885	0	0	56	23	6	1	3	38	38	0	

Kenton County - US 25
RADAR PRESENCE DETECTOR SUMMARY
FD05 059 0025 004-007

MP.	INTERSECTION	RADAR PRESENCE DETECTOR TYPE A EA	RADAR PRESENCE DETECTOR TYPE B EA	NOTES
5.038	KENTABOO / EASTERN	4		Refer to Signal Detail Sheet and Special Note for Radar Detection for more information.
5.266	CAVE RUN	3		Refer to Signal Detail Sheet and Special Note for Radar Detection for more information.
5.726	MCALPIN / GARVEY	4		Refer to Signal Detail Sheet and Special Note for Radar Detection for more information.
5.895 & 5.919	MAY & BARTLETT	5		Refer to Signal Detail Sheet and Special Note for Radar Detection for more information.
6.069	KY 236	4		Refer to Signal Detail Sheet and Special Note for Radar Detection for more information.
6.250	HALLAM	3		Refer to Signal Detail Sheet and Special Note for Radar Detection for more information.
TOTAL		23	0	

NOTES:

GENERAL SUMMARY

COUNTY OF	FUNDING NO.
KENTON	FE01 059 0025 004-007

	ITEM	DESCRIPTION	UNIT	TOTAL PROJECT
	2562	TEMPORARY SIGNS	SQFT	60.00
	2569	DEMOBILIZATION	LS	1
	2650	MAINTAIN & CONTROL TRAFFIC	LS	1
	2671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	3
①	3302	REPAIR CONCRETE CURB	LF	20
②	20904ED	RECONSTRUCT CURB BOX INLET (TOP PHASE ONLY)	EACH	2

① FOR RECONSTRUCTION OF THE DAMAGED STANDARD HEADER CURB ON THE NORTH SIDE OF US 25 NEAR MP. 5.308. ADDITIONAL LOCATIONS MAY BE ADDED AT THE DISCRETION OF THE ENGINEER.

② FOR RECONSTRUCTION OF THE DAMAGED TOP PHASE ON THE CURB BOX INLETS AT THE FOLLOWING LOCATIONS: MP. 5.967 (RT) & MP. 6.258 (RT). ADDITIONAL LOCATIONS MAY BE ADDED AT THE DISCRETION OF THE ENGINEER.

GENERAL SUMMARY

COUNTY OF	FUNDING NO.
KENTON	FL03 121 3800 D625 E143

	ITEM	DESCRIPTION	UNIT	TOTAL PROJECT
	6406	SBM ALUM SHEET SIGNS .080 IN	SQFT	16.50
	6472	INSTALL SPAN MOUNTED SIGN	EACH	2
	20188NS835	INSTALL LED SIGNAL-3 SECTION	EACH	9
	21373ND	REMOVE SIGN	EACH	1
①	24955ED	REMOVE SIGNAL EQUIPMENT	EACH	2

① FOR REMOVAL OF THE SPECIFIED SIGNAL HEADS AT THE INTERSECTIONS OF US 25 AND CAVE RUN DR. AND MAY ST./BARTLETT AVE.

Signal Head Replacements for: US 25 @ Kentaboo Ave./Eastern Ave.

Signal Heads For EB US 25

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Green Ball	Green Arrow
3 Section w/Reflective Backplate		1		2		
Totals	**0**	**1**	**0**	**2**	**0**	**0**

Signal Heads For WB US 25

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Green Ball	Green Arrow
3 Section w/Reflective Backplate		1		2		
Totals	**0**	**1**	**0**	**2**	**0**	**0**

TOTALS FOR THIS INTERSECTION	**0**	**2**	**0**	**4**	**0**	**0**

Signal Head Replacements for: US 25 @ Cave Run Dr.

Signal Heads For EB US 25

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Bi-Modal Green-Yellow Arrow	Green Ball	Green Arrow
3 Section	1		1			1	
3 Section		1		1	1		
Totals	**1**	**1**	**1**	**1**	**1**	**1**	**0**

Signal Heads For WB US 25

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Bi-Modal Green-Yellow Arrow	Green Ball	Green Arrow
3 Section		1		1	1		
Totals	**0**	**1**	**0**	**1**	**1**	**0**	**0**

TOTALS FOR THIS INTERSECTION	**1**	**2**	**1**	**2**	**2**	**1**	**0**

Signal Head Replacements for: US 25 @ McAlpin Ave./Garvey Ave.

Signal Heads For EB US 25

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Green Ball	Green Arrow
3 Section		1		2		
Totals	**0**	**1**	**0**	**2**	**0**	**0**

Signal Heads For WB US 25

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Green Ball	Green Arrow
3 Section		1		2		
Totals	**0**	**1**	**0**	**2**	**0**	**0**

TOTALS FOR THIS INTERSECTION	**0**	**2**	**0**	**4**	**0**	**0**

Signal Head Replacements for: US 25 @ May St./Bartlett Ave.

Signal Heads For EB US 25

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Bi-Modal Green-Yellow Arrow	Green Ball	Green Arrow
3 Section	1		1			1	
3 Section		1		1	1		
Totals	**1**	**1**	**1**	**1**	**1**	**1**	**0**

TOTALS FOR THIS INTERSECTION	**1**	**1**	**1**	**1**	**1**	**1**	**0**

Base Failure
Repair Summary
FD05 059 0025 008-009

				Total	25	15
Milepoint	**Lane**	**Length**	**Width**		**SQYD**	**Tons**
8.45	**NB LEFT**	**6**	**6**		4.00	1.98
8.55	**NB RIGHT**	**10**	**10**		11.11	5.50
8.48	**SB RIGHT**	**8**	**4**		3.56	1.76
MISC					5.00	2.48

Kenton County
THERMOPLASTIC INTERSECTION PAVEMENT MARKINGS SUMMARY
FD05 059 0025 008-009

MPT.	INTERSECTION	X-WALKS 6 INCH LF	STP BARS 24 INCH LF	ARROWS CURVE EA	ARROWS STR EA	ARROWS COMB EA	"ONLY" EA	"STOP" EA	DOTTED LANE EXTENSION LF	NOTES	
8.206	KY 1303	280	84	5			1				
8.300	TWLTL			2							
8.508	ARCADIA AVE	370	56								
8.583	BUTTERMILK PK	476	128	12		1	2		120	Do not install thermo on Huckleberry Hill	
8.667	ORPHANAGE RD	132	26							No Thermo after south X-walk	
TOTAL		1258	294	19	0	1	3	0	120	0	0

Kenton County
RADAR SUMMARY
FD05 059 0025 008-009

MPT.	INTERSECTION	SAW, SLOT AND FILL LF	LOOP WIRE LF	CONDUIT 1 1/4 INCH LF	CABLE NO. 14 LF	RADAR PRESENCE DETECTOR TYPE A EA	RADAR PRESENCE DETECTOR TYPE B EA	NOTES
8.206	KY 1303					4		
8.508	ARACIA AVE					2		
8.583	KY 371 (BUTTERMILK)					4		
8.667	KY 371 (ORPHANAGE)					4		
TOTAL		0	0	0	0	14	0	

NOTES:

Base Failure
Repair Summary
FD05 008 0042 014-016

			Total	40	20
Milepoint	**Lane**	**Length**	**Width**	**SQYD**	**Tons**
14.50	**NB LEFT**	**4**	**12**	5.33	2.64
14.70	**NB LEFT**	**4**	**4**	1.78	0.88
14.95	**SB RIGHT**	**30**	**4**	13.33	6.60
14.99	**NB RIGHT**	**6**	**6**	4.00	1.98
MISC				15.00	7.43

Boone County
THERMOPLASTIC INTERSECTION PAVEMENT MARKINGS SUMMARY
FD05 008 0042 014-016

MPT.	INTERSECTION	X-WALKS 6 INCH LF	STP BARS 24 INCH LF	ARROWS CURVE EA	ARROWS STR EA	ARROWS COMB EA	"ONLY" EA
14.5 - 15.2	TWLTL's			14			
14.567	HOLLYWOOD DR	136	14				
14.631	WOODLAND AVE	136	14				
14.687	GRAND AVE	136	14				
14.783	CIRCLE DR	88	12				
14.863	SCOTT DR	136	18				
14.914	NIBLACK MEMORIAL DR	80	12				
14.962	NEW URI AVE	110					
15.031	NEW URI AVE	120	18				
15.074	RUSSELL ST	128	18				
15.181	GIBBONS ST	144	16				
15.287	US 25/MAIN ST	330	38	1			
TOTAL		1544	174	15	0	0	0

Boone County
TRAFFIC LOOP SUMMARY
FD05 008 0042 014-016

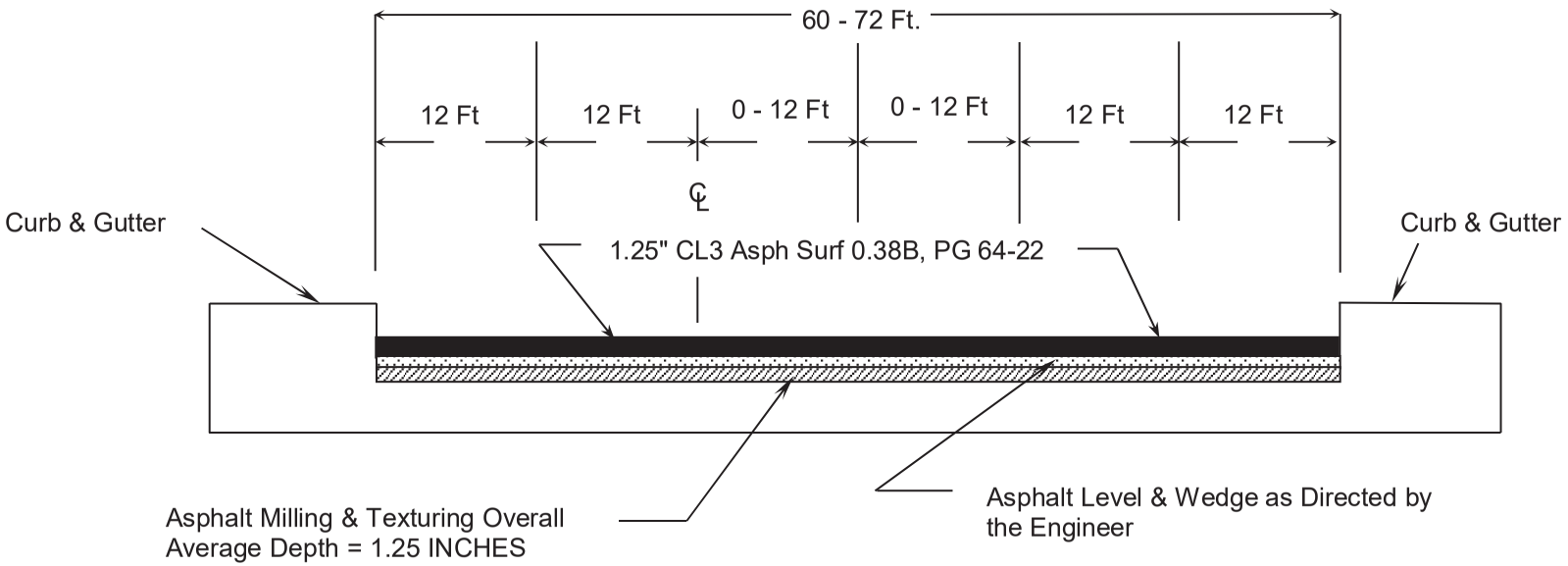
MPT.	INTERSECTION	SAW, SLOT AND FILL LF	LOOP WIRE LF	CONDUIT 1 1/4 INCH LF	CABLE NO. 14 LF	RADAR PRESENCE DETECTOR TYPE A EA
15.287	US 25/MAIN ST.					4
TOTAL		0	0	0	0	4

NOTES:

TYPICAL SECTION

FD05 008 0025 010-012
BOONE COUNTY

MP 10.900 TO MP 10.930

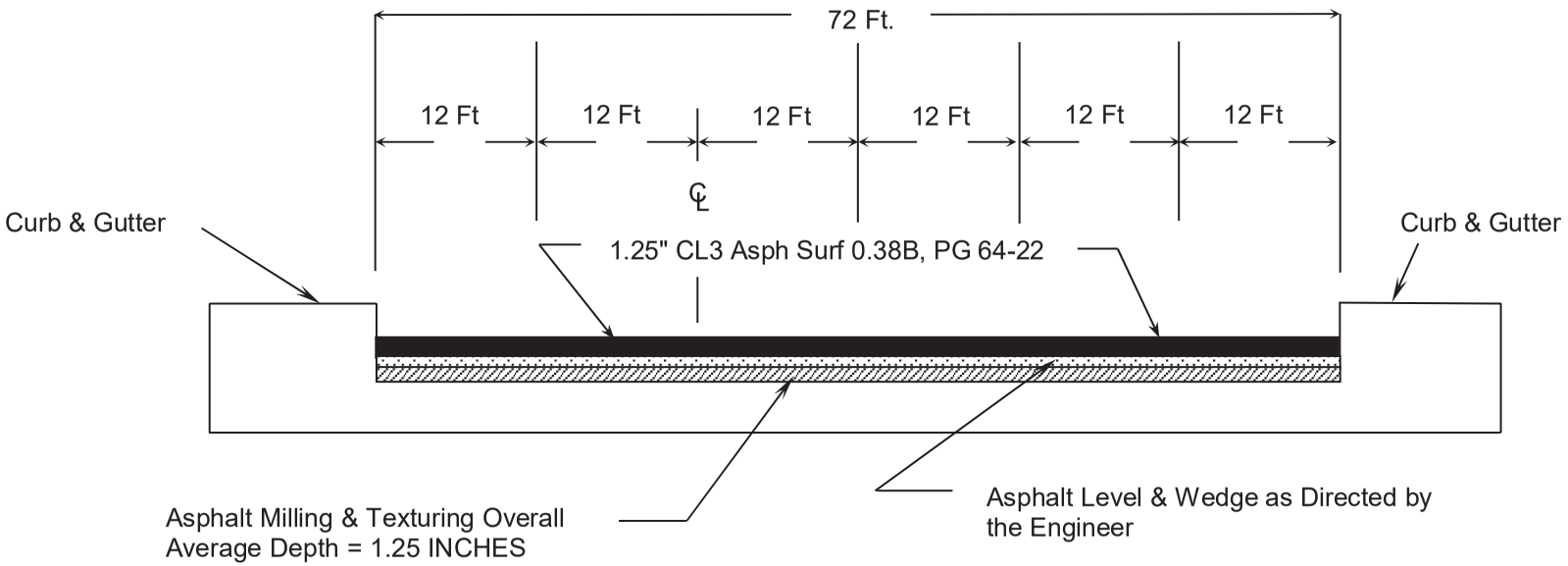


NOTE: Contractor to refer to Striping Plan Detail Sheets for striping locations and lane width dimensions.
Dimensions shown here are for paving widths.
Existing pavement cross-slopes shall be maintained.

TYPICAL SECTION

FD05 008 0025 010-012
BOONE COUNTY

MP 10.930 TO MP 11.004

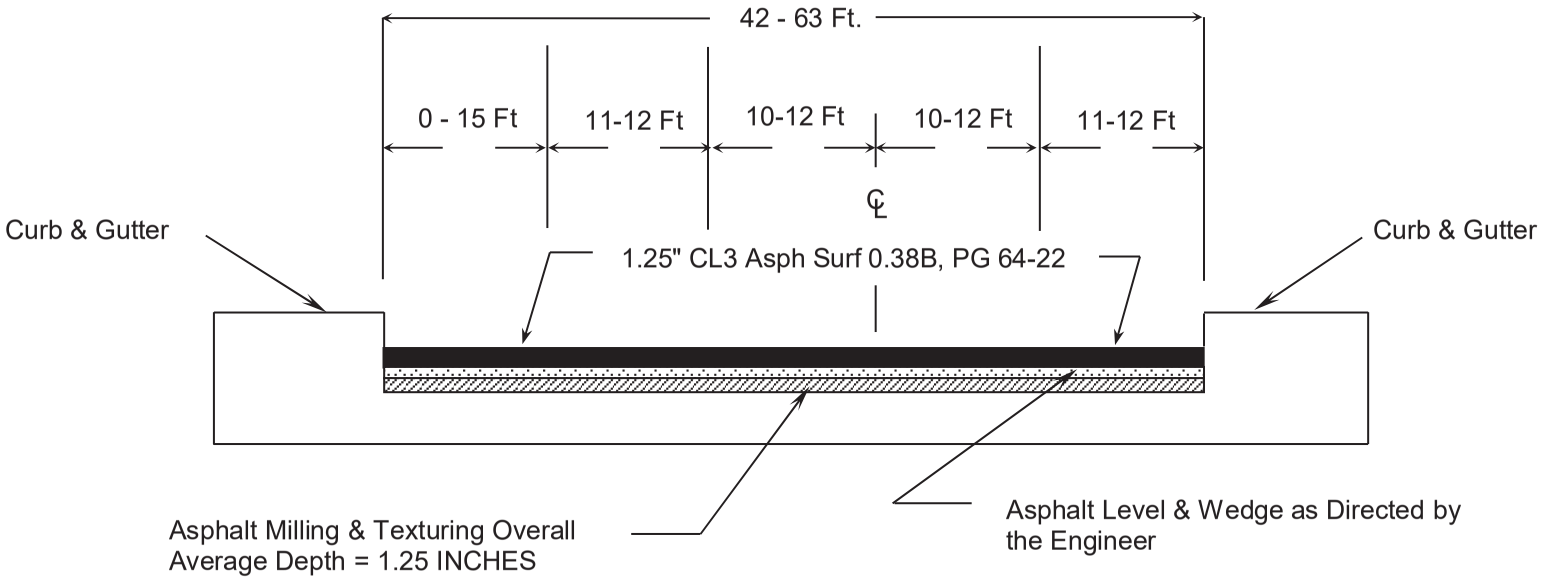


NOTE: Contractor to refer to Striping Plan Detail Sheets for striping locations and lane width dimensions.
Dimensions shown here are for paving widths.
Existing pavement cross-slopes shall be maintained.

TYPICAL SECTION

FD05 008 0025 010-012
BOONE COUNTY

MP 11.004 TO MP 11.120

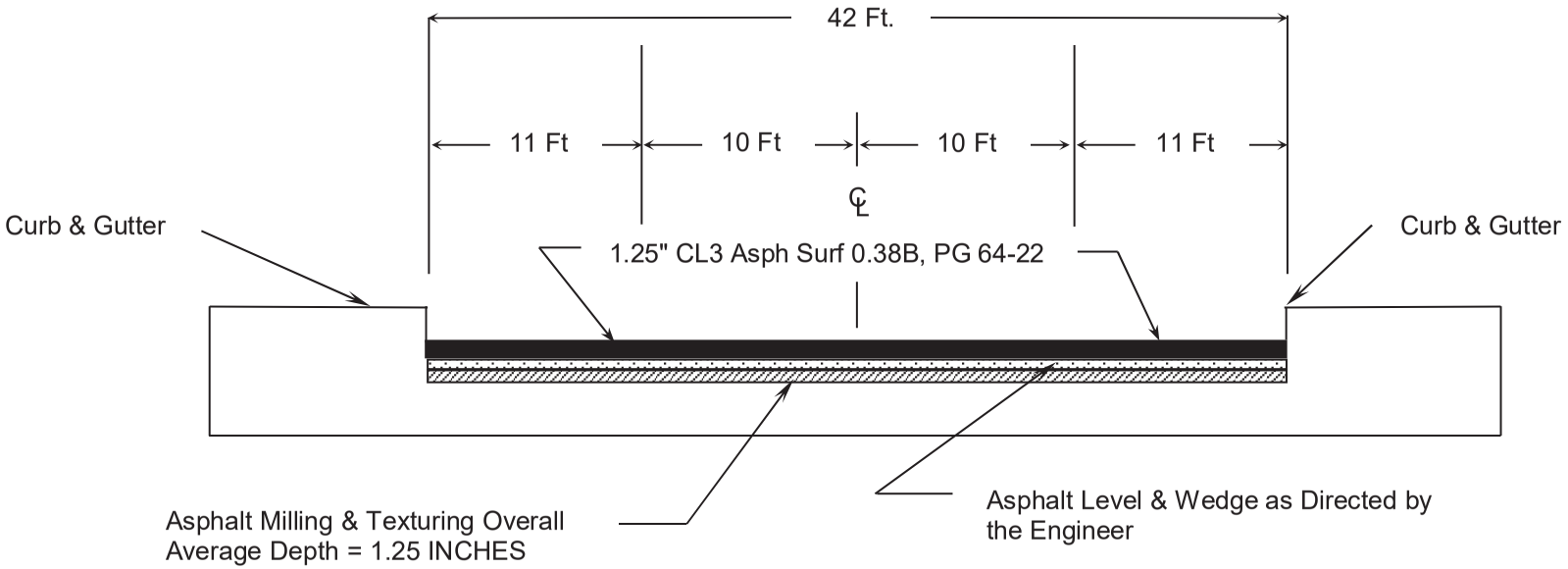


NOTE: Contractor to refer to Striping Plan Detail Sheets for striping locations and lane width dimensions.
Dimensions shown here are for paving widths.
Existing pavement cross-slopes shall be maintained.

TYPICAL SECTION

FD05 008 0025 010-012
BOONE COUNTY

MP 11.120 TO MP 11.407

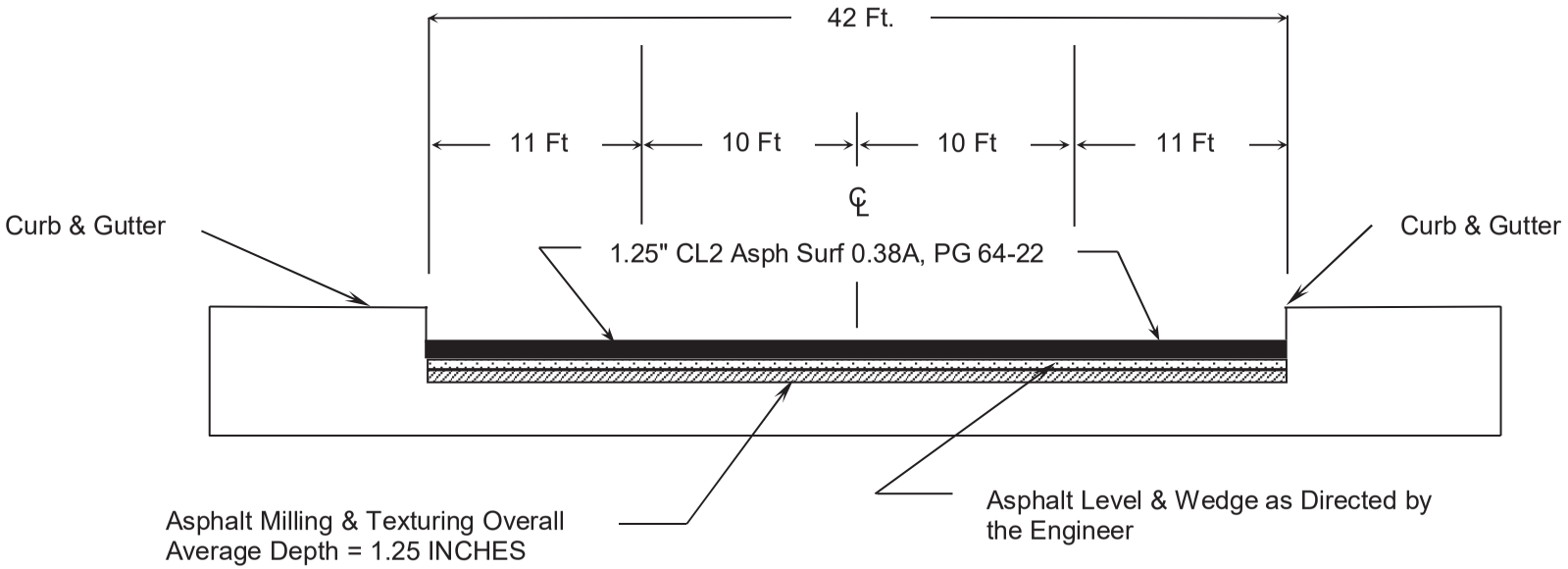


NOTE: Contractor to refer to Striping Plan Detail Sheets for striping locations and lane width dimensions.
Dimensions shown here are for paving widths.
Existing pavement cross-slopes shall be maintained.

TYPICAL SECTION

FD05 059 0025 004-007
KENTON COUNTY

MP 4.978 TO MP 5.206

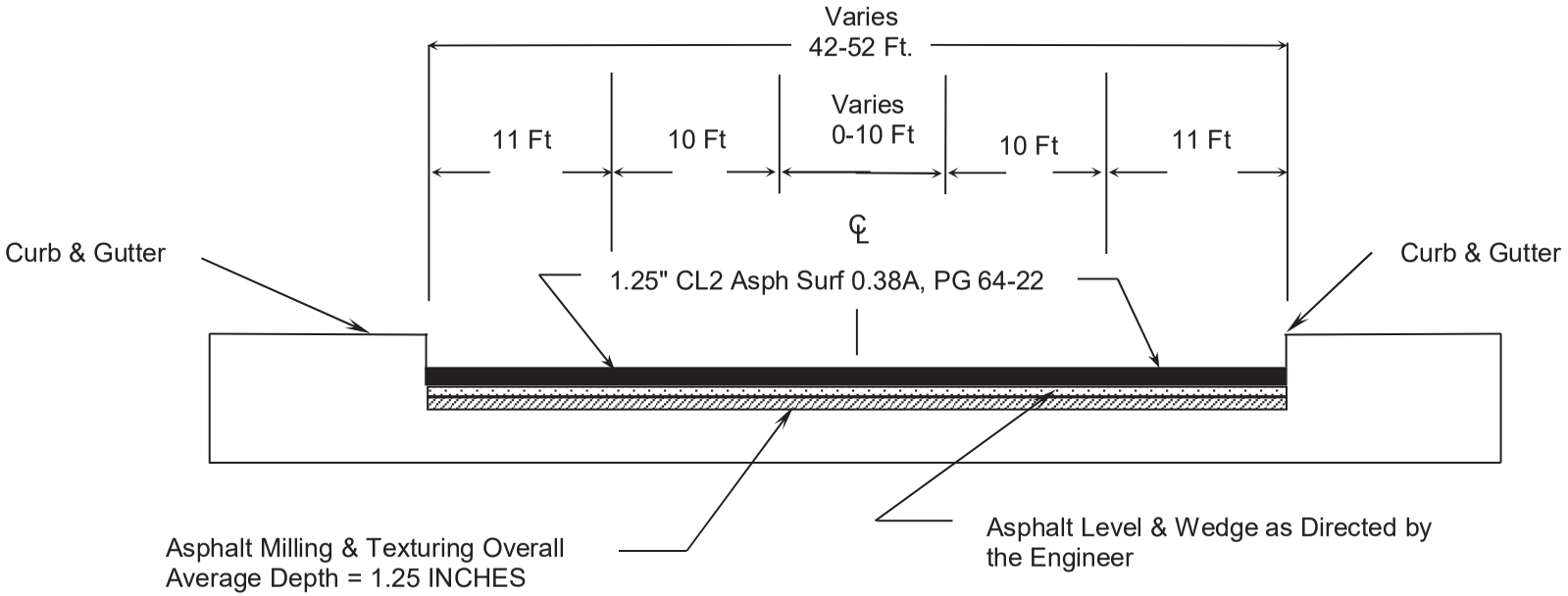


NOTE: Contractor to refer to Striping Plan Detail Sheets for striping locations and lane width dimensions.
Dimensions shown here are for paving widths.
Existing pavement cross-slopes shall be maintained.

TYPICAL SECTION

FD05 059 0025 004-007
KENTON COUNTY

MP 5.206 TO MP 5.307

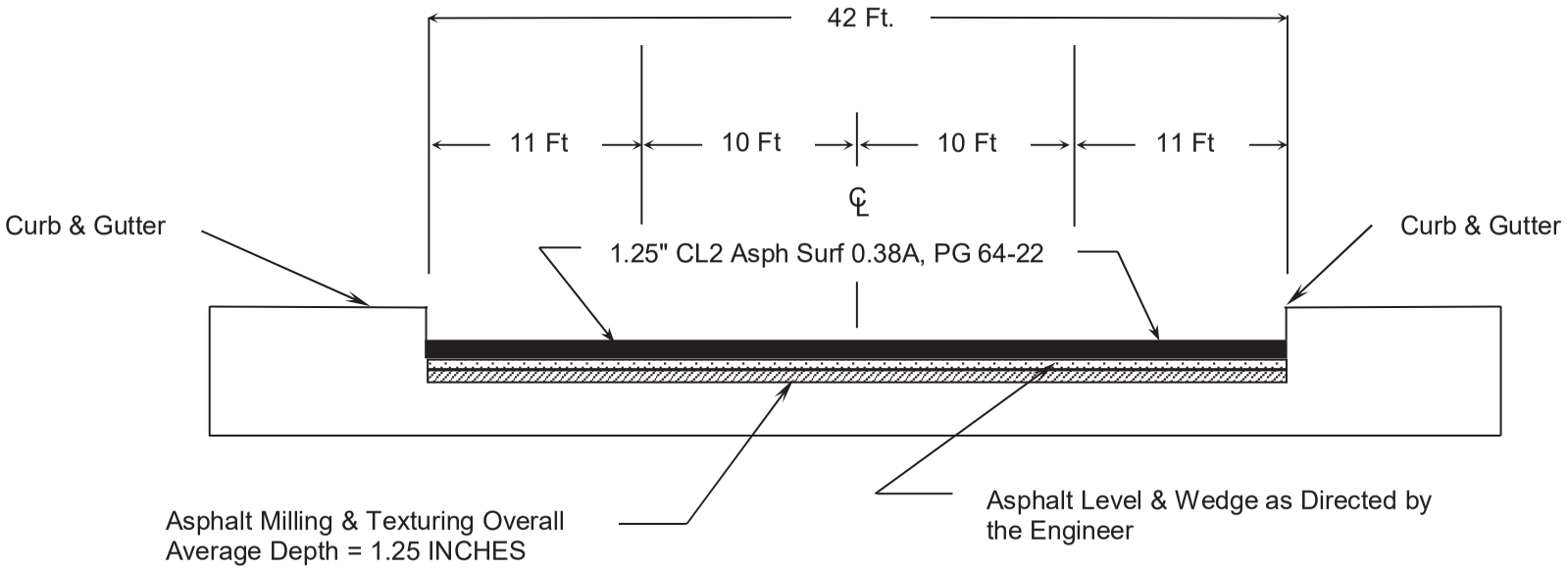


NOTE: Contractor to refer to Striping Plan Detail Sheets for striping locations and lane width dimensions.
Dimensions shown here are for paving widths.
Existing pavement cross-slopes shall be maintained.

TYPICAL SECTION

FD05 059 0025 004-007
KENTON COUNTY

MP 5.307 TO MP 5.699

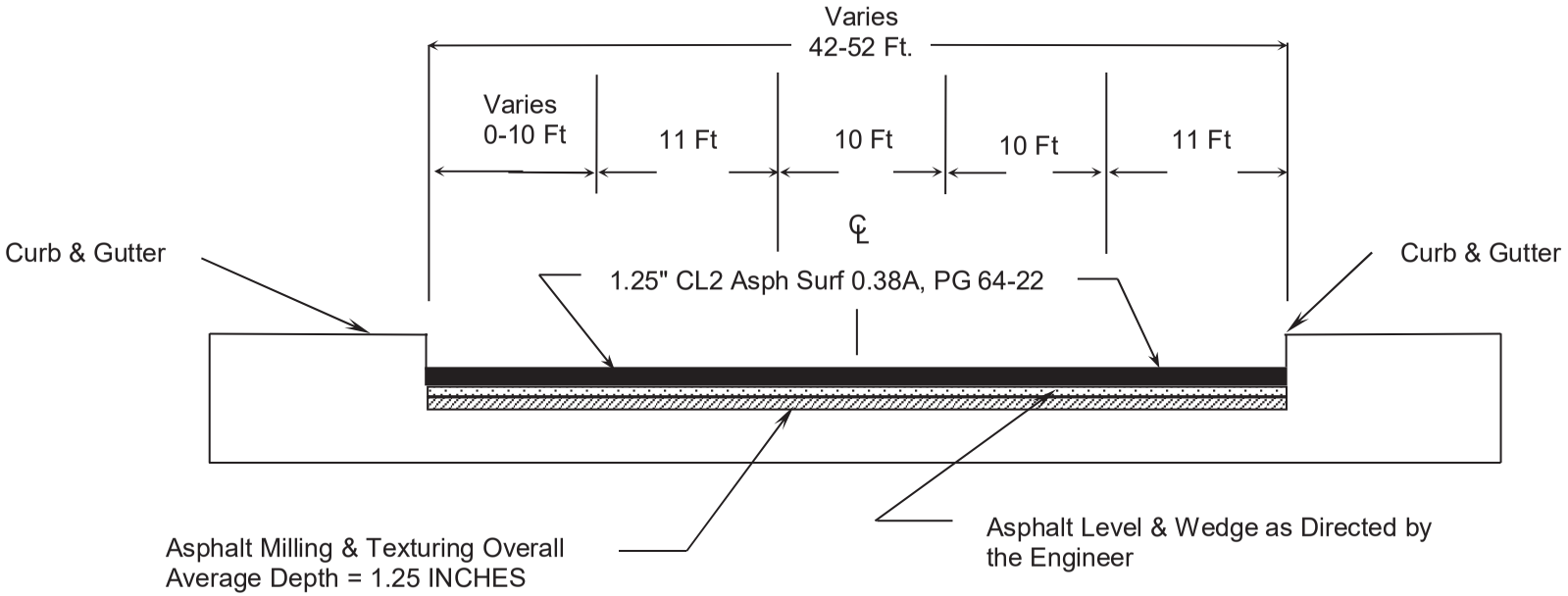


NOTE: Contractor to refer to Striping Plan Detail Sheets for striping locations and lane width dimensions.
Dimensions shown here are for paving widths.
Existing pavement cross-slopes shall be maintained.

TYPICAL SECTION

FD05 059 0025 004-007
KENTON COUNTY

MP 5.699 TO MP 5.736

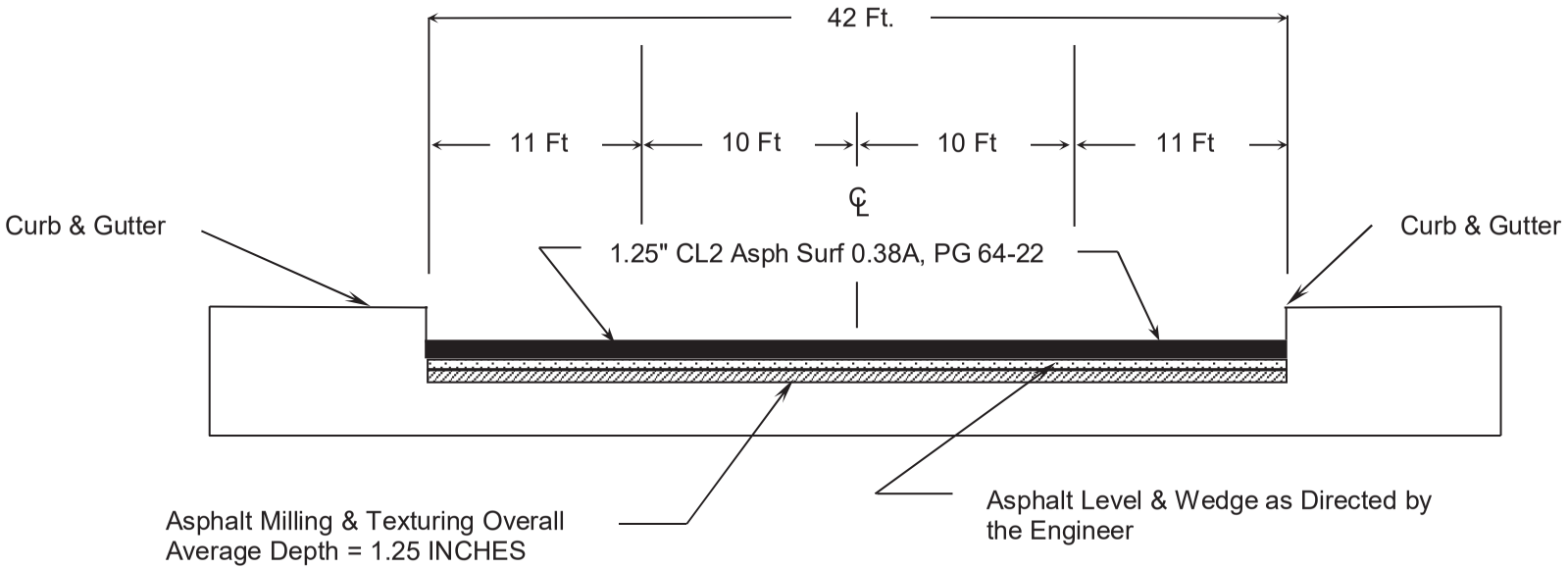


NOTE: Contractor to refer to Striping Plan Detail Sheets for striping locations and lane width dimensions.
Dimensions shown here are for paving widths.
Existing pavement cross-slopes shall be maintained.

TYPICAL SECTION

FD05 059 0025 004-007
KENTON COUNTY

MP 5.736 TO MP 5.970

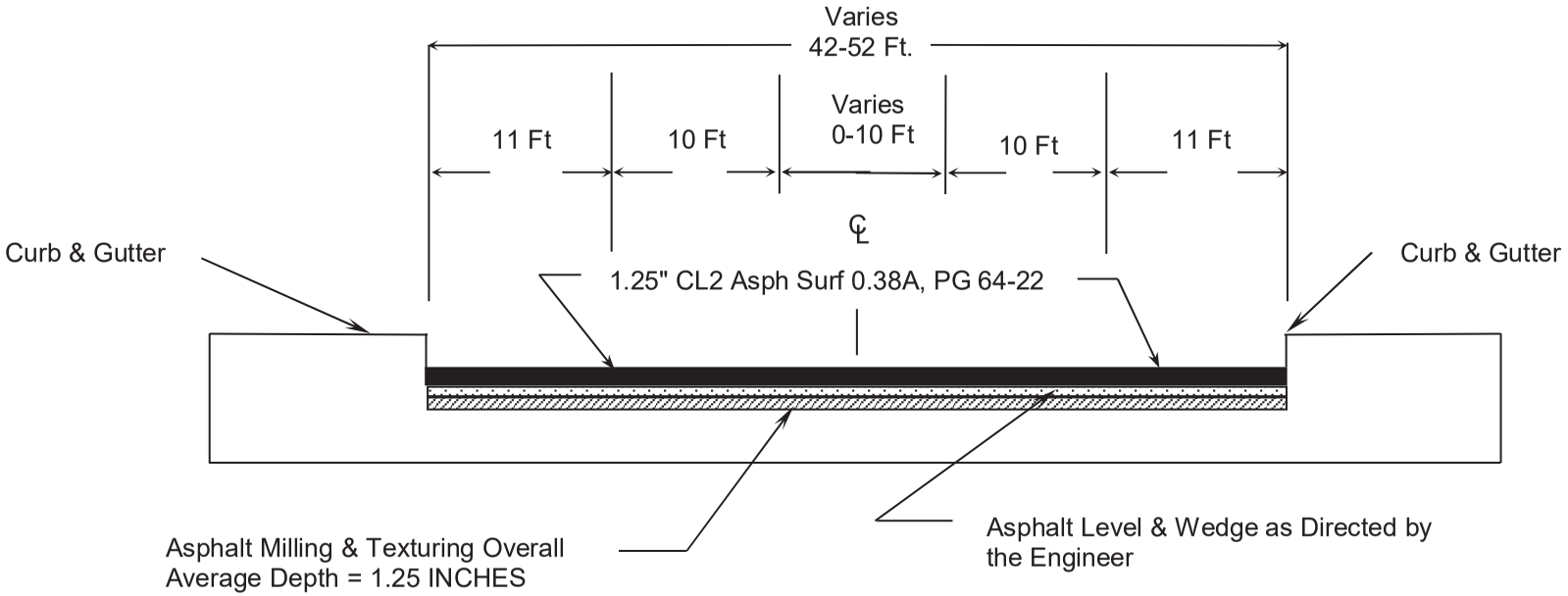


NOTE: Contractor to refer to Striping Plan Detail Sheets for striping locations and lane width dimensions.
Dimensions shown here are for paving widths.
Existing pavement cross-slopes shall be maintained.

TYPICAL SECTION

FD05 059 0025 004-007
KENTON COUNTY

MP 5.970 TO MP 6.065

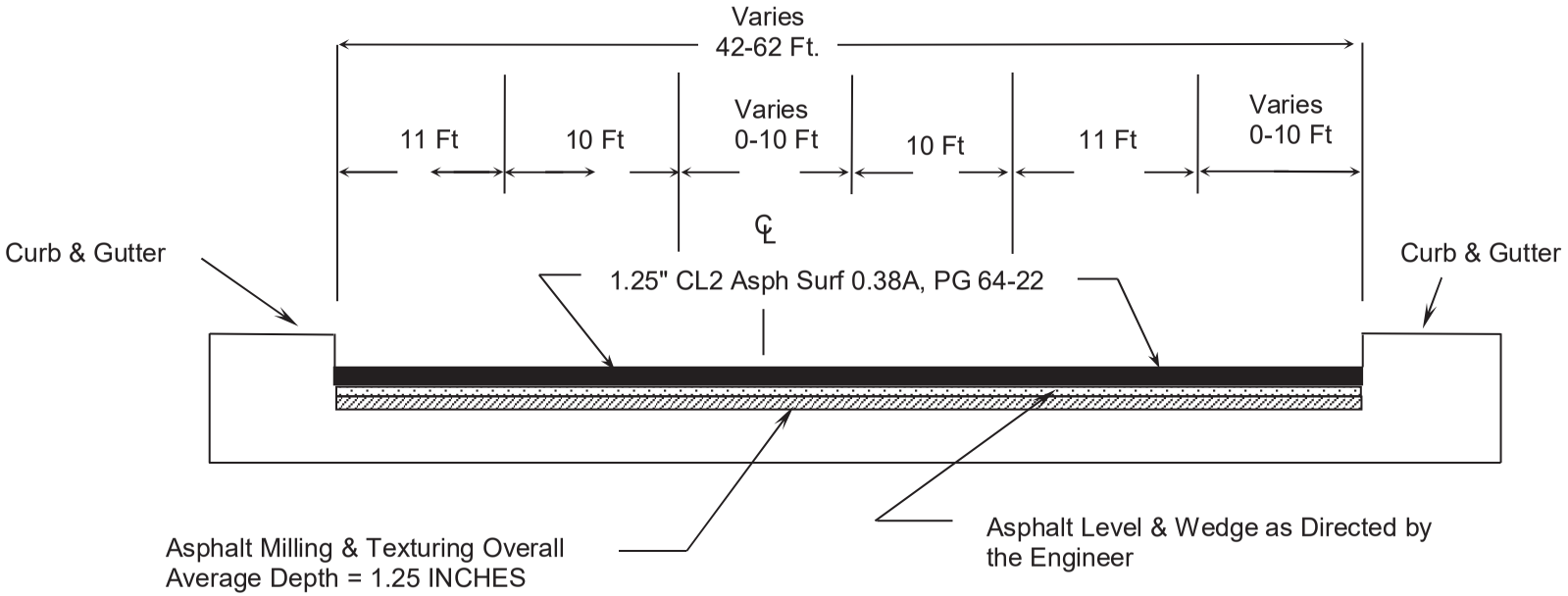


NOTE: Contractor to refer to Striping Plan Detail Sheets for striping locations and lane width dimensions.
Dimensions shown here are for paving widths.
Existing pavement cross-slopes shall be maintained.

TYPICAL SECTION

FD05 059 0025 004-007
KENTON COUNTY

MP 6.065 TO MP 6.120

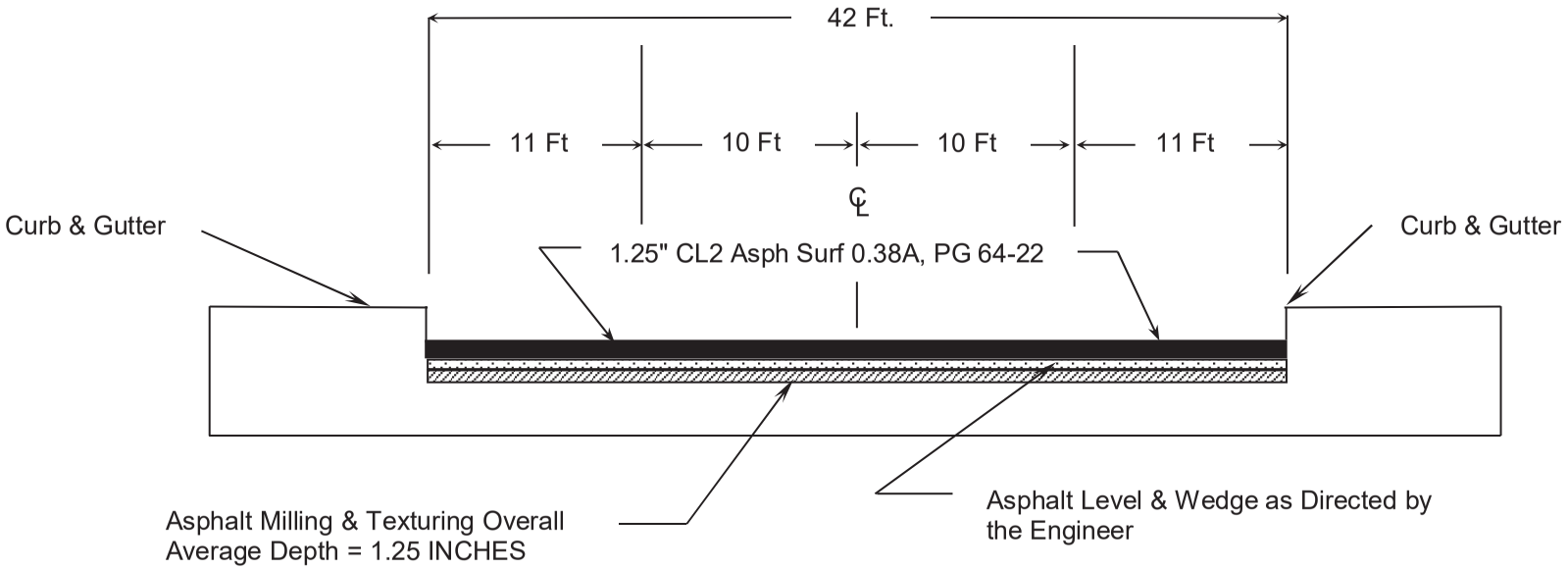


NOTE: Contractor to refer to Striping Plan Detail Sheets for striping locations and lane width dimensions.
Dimensions shown here are for paving widths.
Existing pavement cross-slopes shall be maintained.

TYPICAL SECTION

FD05 059 0025 004-007
KENTON COUNTY

MP 6.120 TO MP 6.152

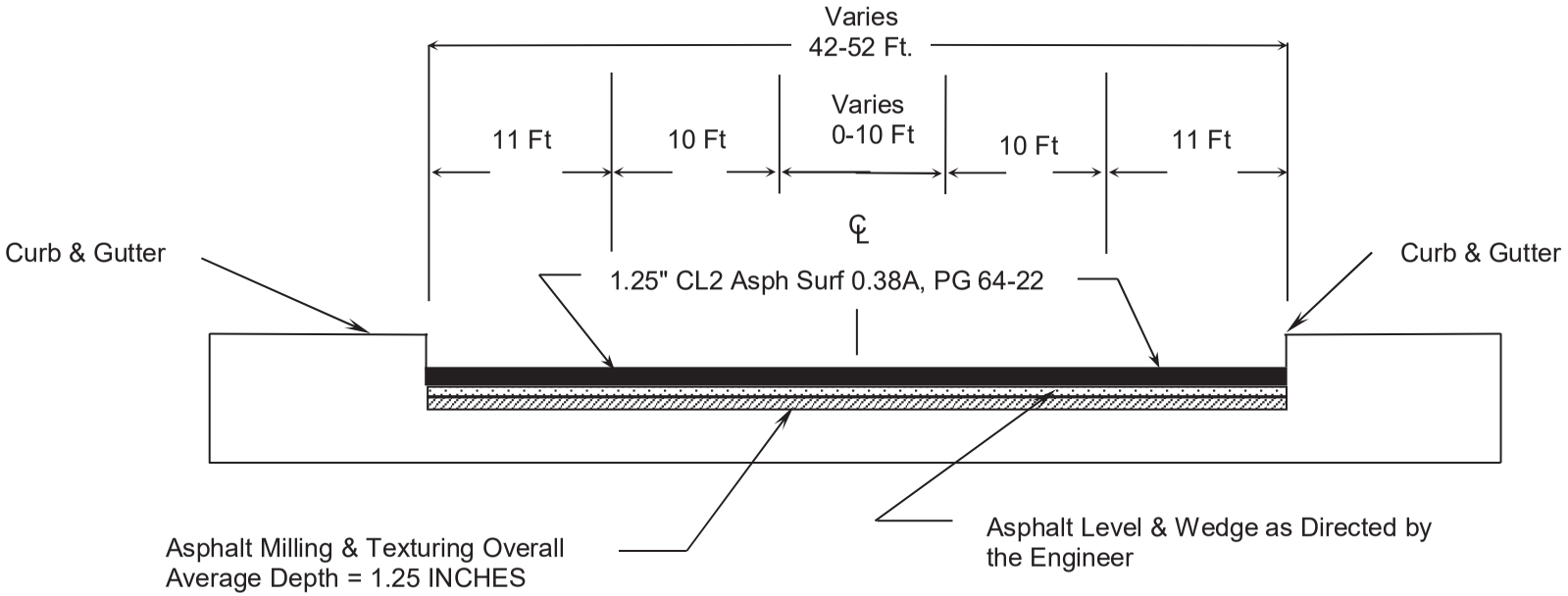


NOTE: Contractor to refer to Striping Plan Detail Sheets for striping locations and lane width dimensions.
Dimensions shown here are for paving widths.
Existing pavement cross-slopes shall be maintained.

TYPICAL SECTION

FD05 059 0025 004-007
KENTON COUNTY

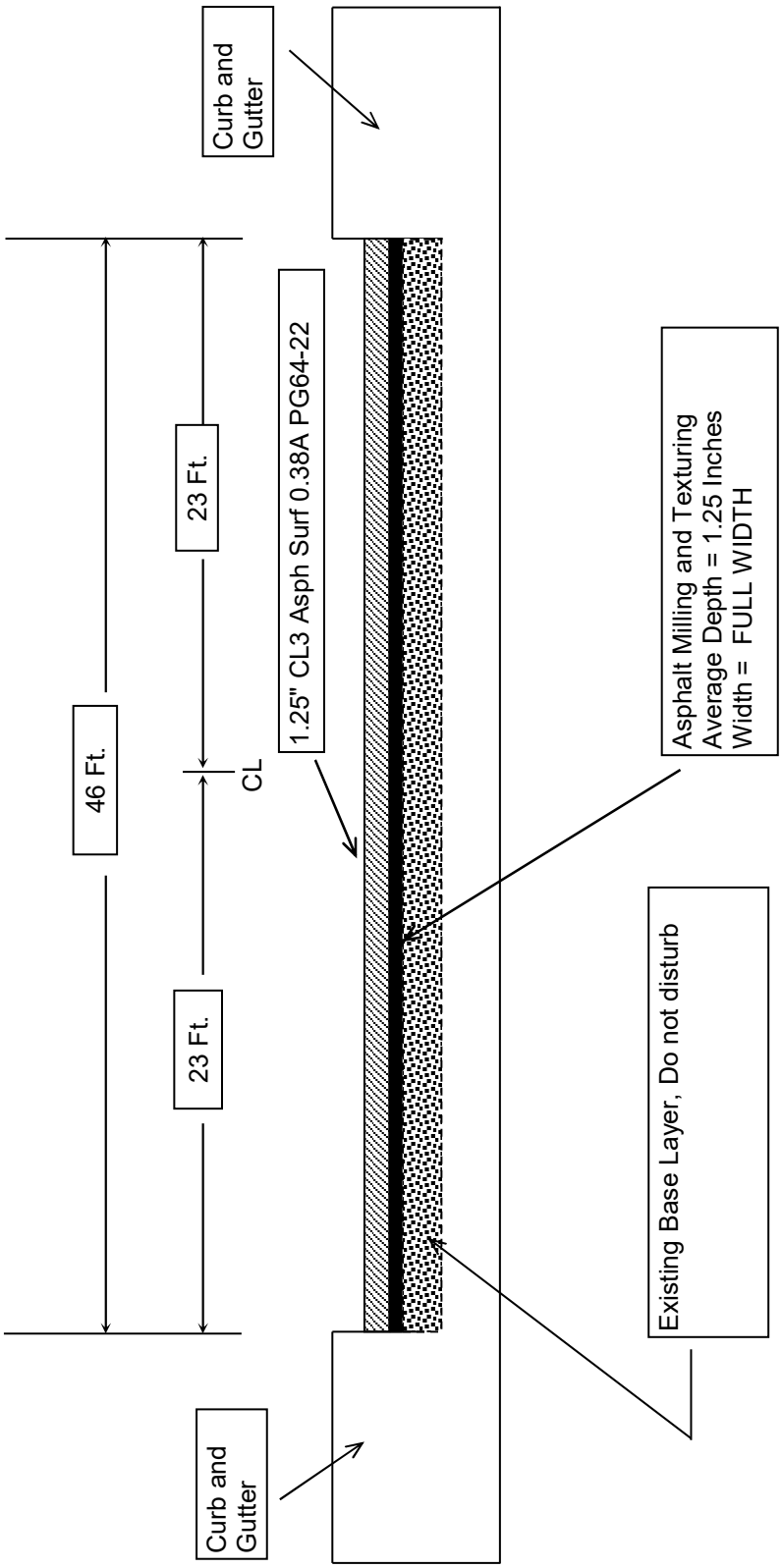
MP 6.152 TO MP 6.267



NOTE: Contractor to refer to Striping Plan Detail Sheets for striping locations and lane width dimensions.
Dimensions shown here are for paving widths.
Existing pavement cross-slopes shall be maintained.

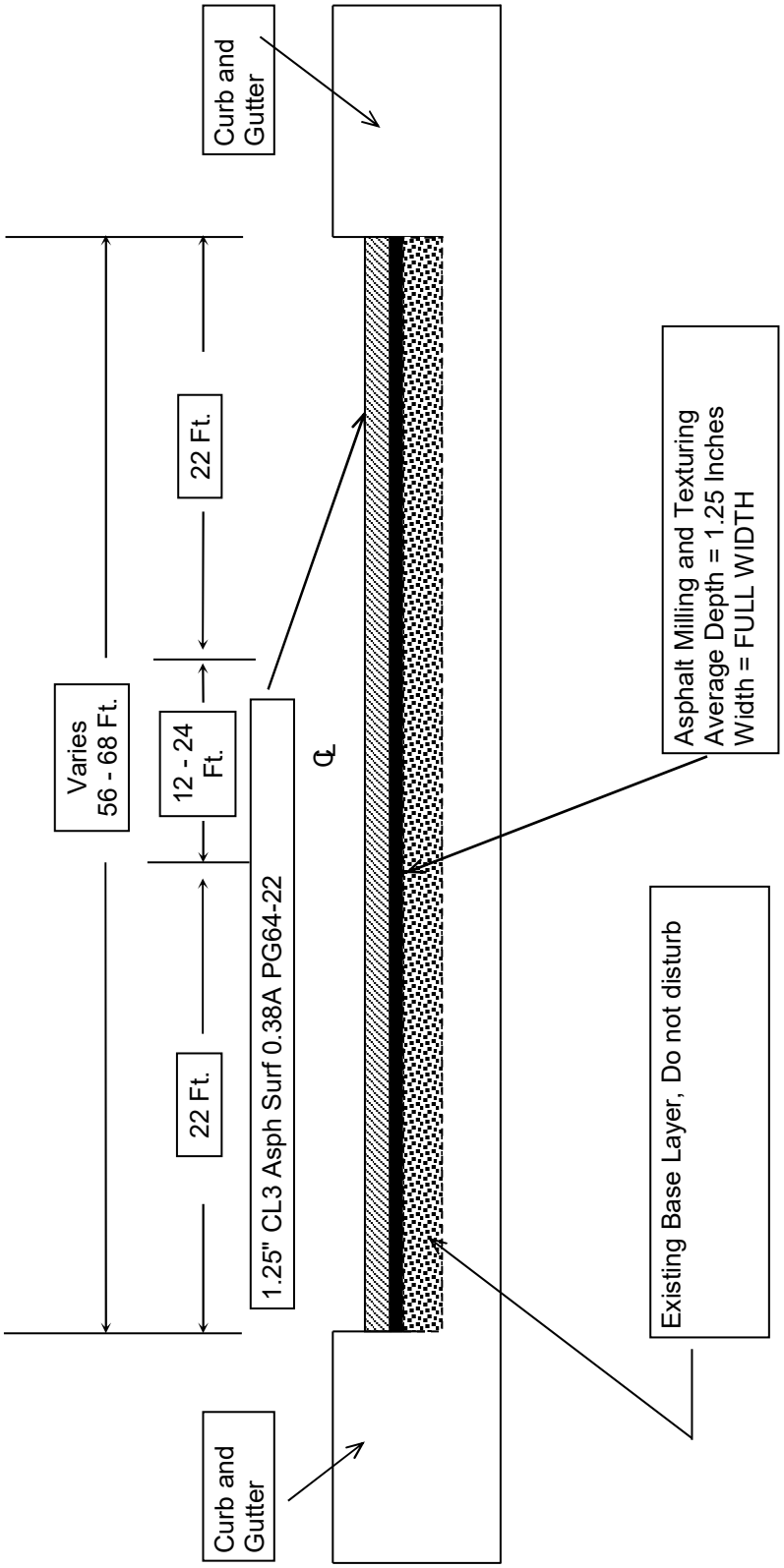
TYPICAL SECTION

KENTON COUNTY
FD05 059 0025 008-009
MP 8.137-8.19 & 8.43-8.55



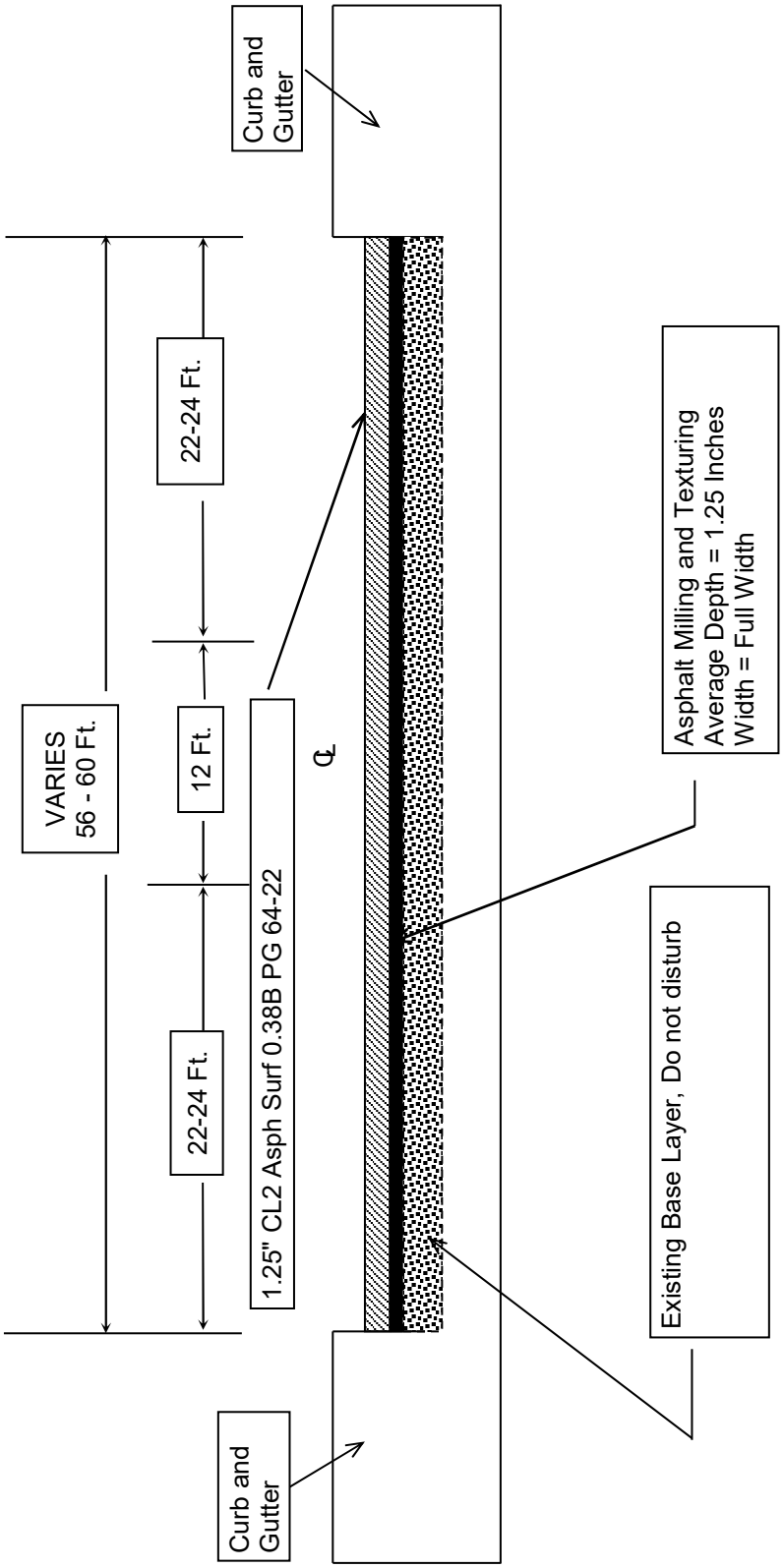
TYPICAL SECTION

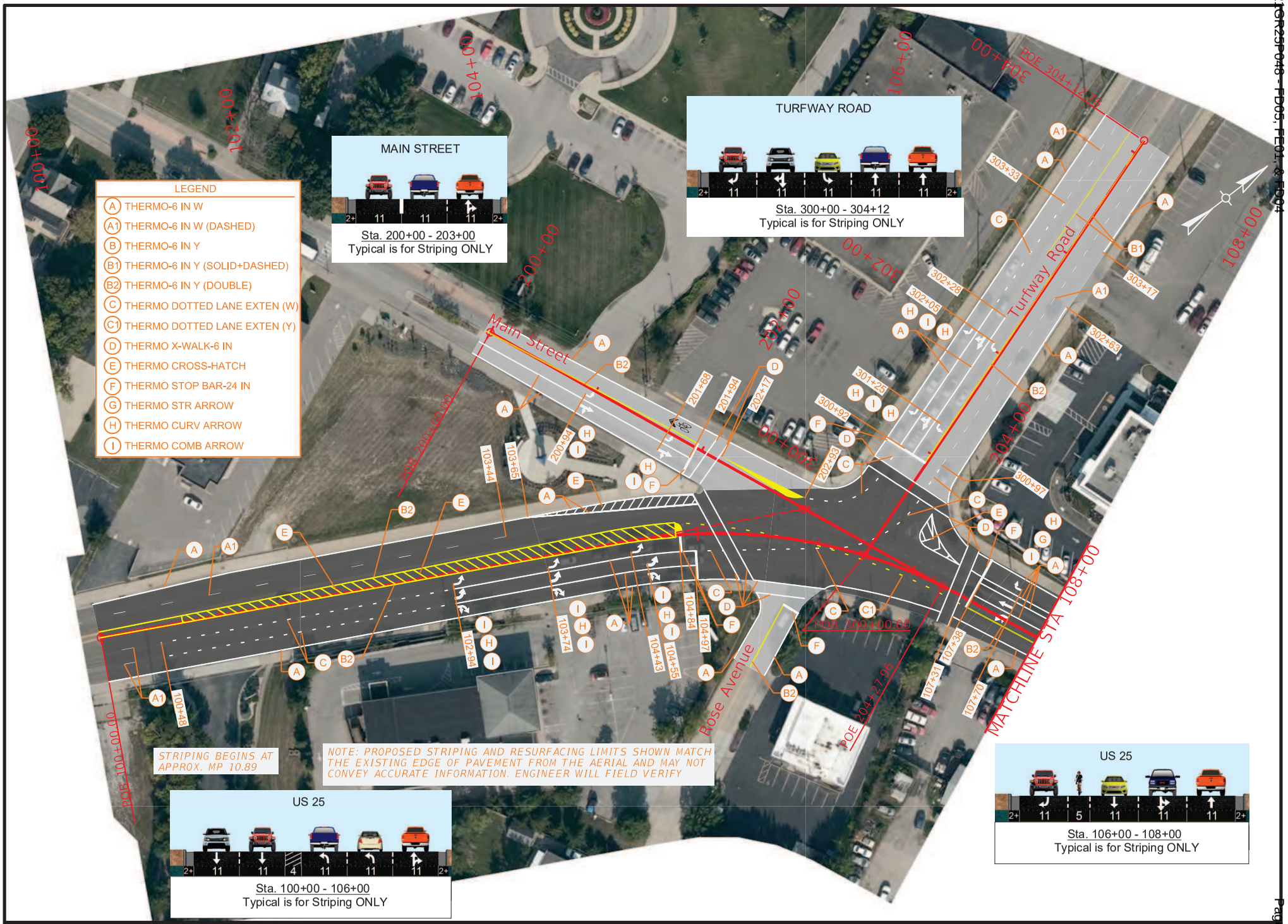
KENTON COUNTY
FD05 059 0025 008-009
MP 8.19-8.43, 8.55-8.652



TYPICAL SECTION

BOONE COUNTY
FD05 008 0042 014-016
MP 14.500 - 15.287





COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY

DRAWING TITLE: US 25 PLAN SHEET
STA. 100+00.00 TO STA. 108+00.00

0' 50' 100' 200'
HORIZONTAL SCALE: 1"=100'

ITEM NO.
COUNTY OF BOONE
SHEET NO. R001

OpenRoads Designer v10.12.02.4
USER: daniel.warren
FILE NAME: C:\PW-WKRDIR\PRIMEENG-PW-01\KY - DANIEL WARREN\DMS08906\230311_01_R_US 25 BOONE PLAN SHEETS.DGN

KENTON - BOONE COUNTIES
12100R23P048 - FD05, FE01, & FD04

Contract ID: 252198
Page 134 of 165

KENTON - BOONE COUNTIES
121CR23P048 - FD05, FE01, & FD04

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY

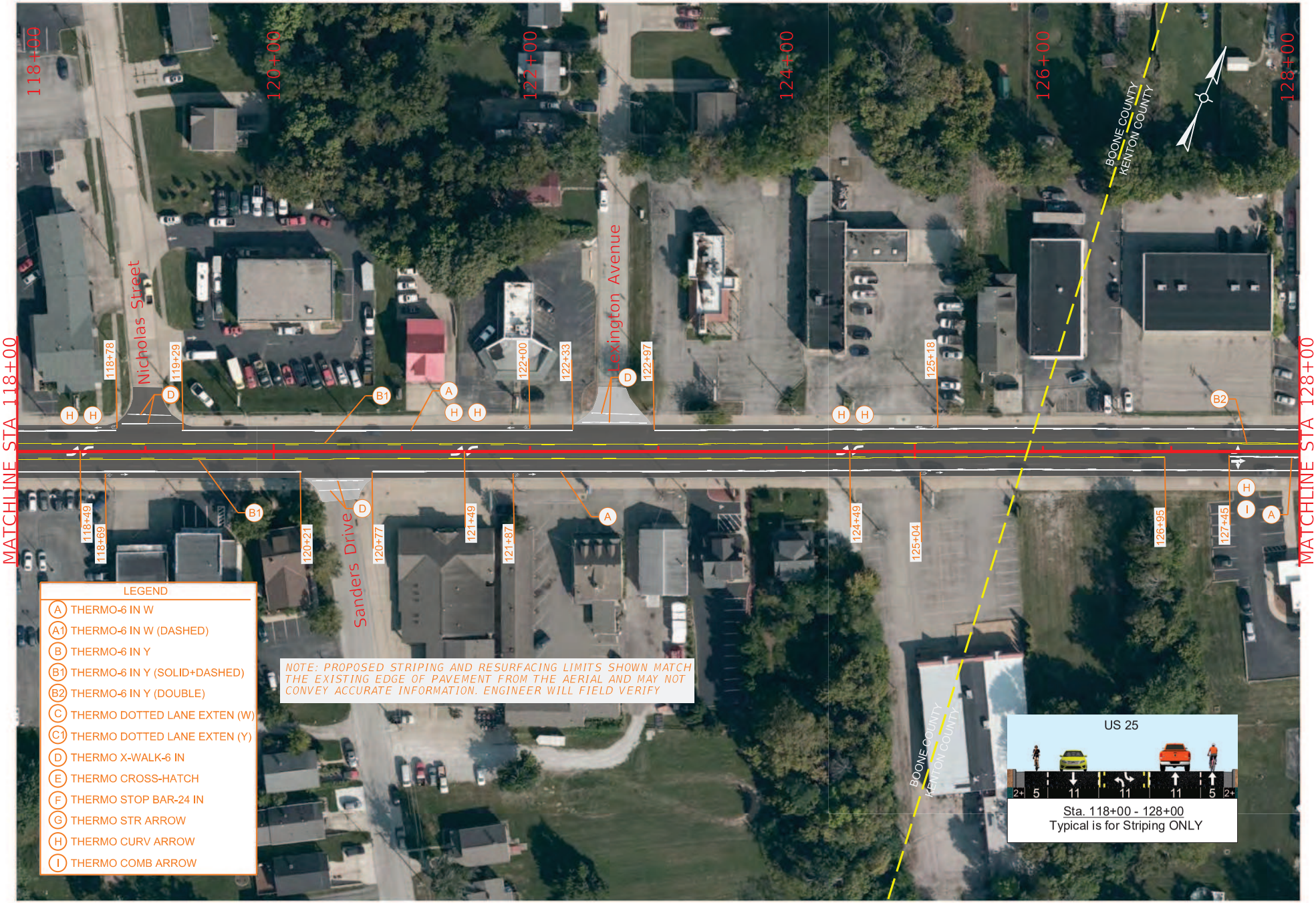
DRAWING TITLE: US 25 PLAN SHEET
STA. 108+00.00 TO STA. 118+00.00

0' 50' 100' 200'
HORIZONTAL SCALE: 1"=100'

ITEM NO.
COUNTY OF BOONE
SHEET NO. R002

Contract ID: 252198
Page 135 of 165

OpenRoads Designer v10.12.02.4
USER: daniel.warren
FILE NAME: C:\PW-WKRDIR\PRIMEENG-PW-01\KY - DANIEL WARREN\DMS08906\230311_01_R_US 25 BOONE PLAN SHEETS.DGN



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY

DRAWING TITLE: US 25 PLAN SHEET

STA. 118+00.00 TO STA. 128+00.00

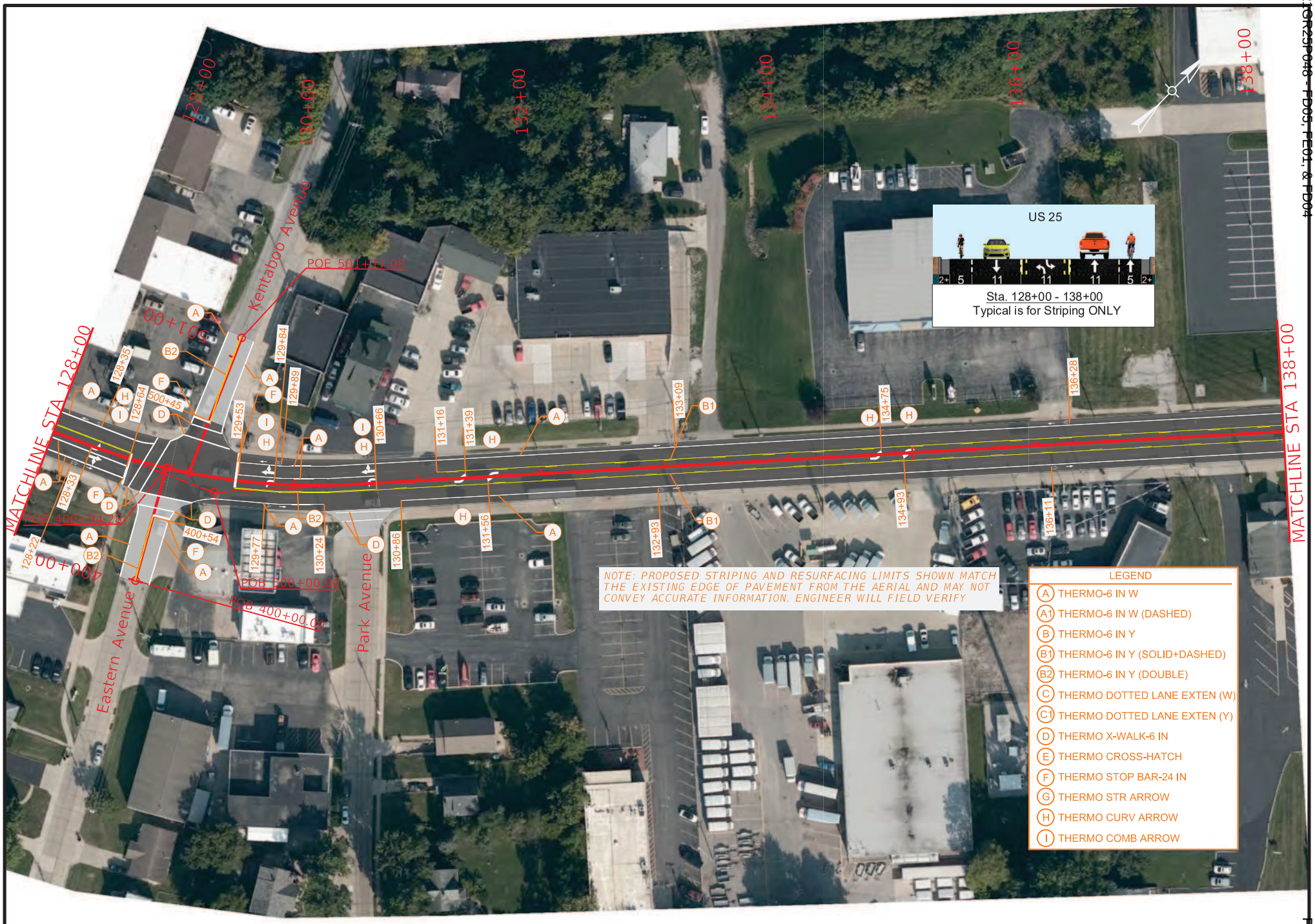
0' 50' 100' 200'
HORIZONTAL SCALE: 1"=100'

ITEM NO.

COUNTY OF BOONE/KENTON

SHEET NO. R003

OpenRoads Designer v10.12.02.4 USER: daniel.warren
FILE NAME: C:\PW-WKRDIR\PRIMEENG-PW-01\KY - DANIEL WARREN\DMS08906\230311_01_R_US 25 BOONE PLAN SHEETS.DGN



KENTON - BOONE COUNTIES
121CR23P048 - FD05, FE01, & FD04

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY

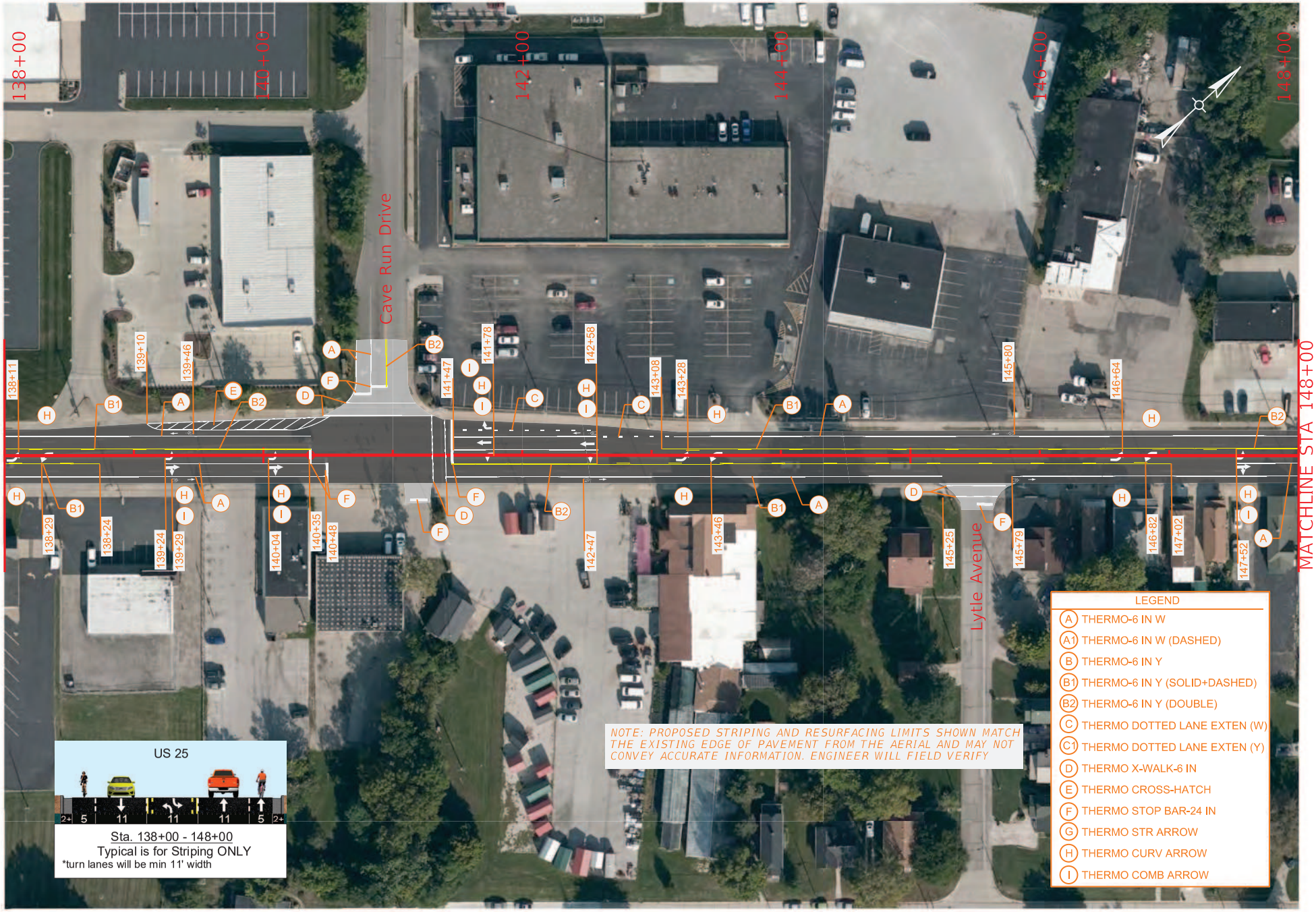
DRAWING TITLE: US 25 PLAN SHEET
STA. 128+00.00 TO STA. 138+00.00

0' 50' 100' 200'
HORIZONTAL SCALE: 1"=100'

ITEM NO.
COUNTY OF KENTON
SHEET NO. R004

Contract ID: 252198
Page 137 of 165

OpenRoads Designer v10.12.02.4
USER: daniel.warren
FILE NAME: C:\PW-WKRDIR\PRIMEENG-PW-01\KY - DANIEL WARREN\DMS08906\230311_01_R_US 25 BOONE PLAN SHEETS.DGN



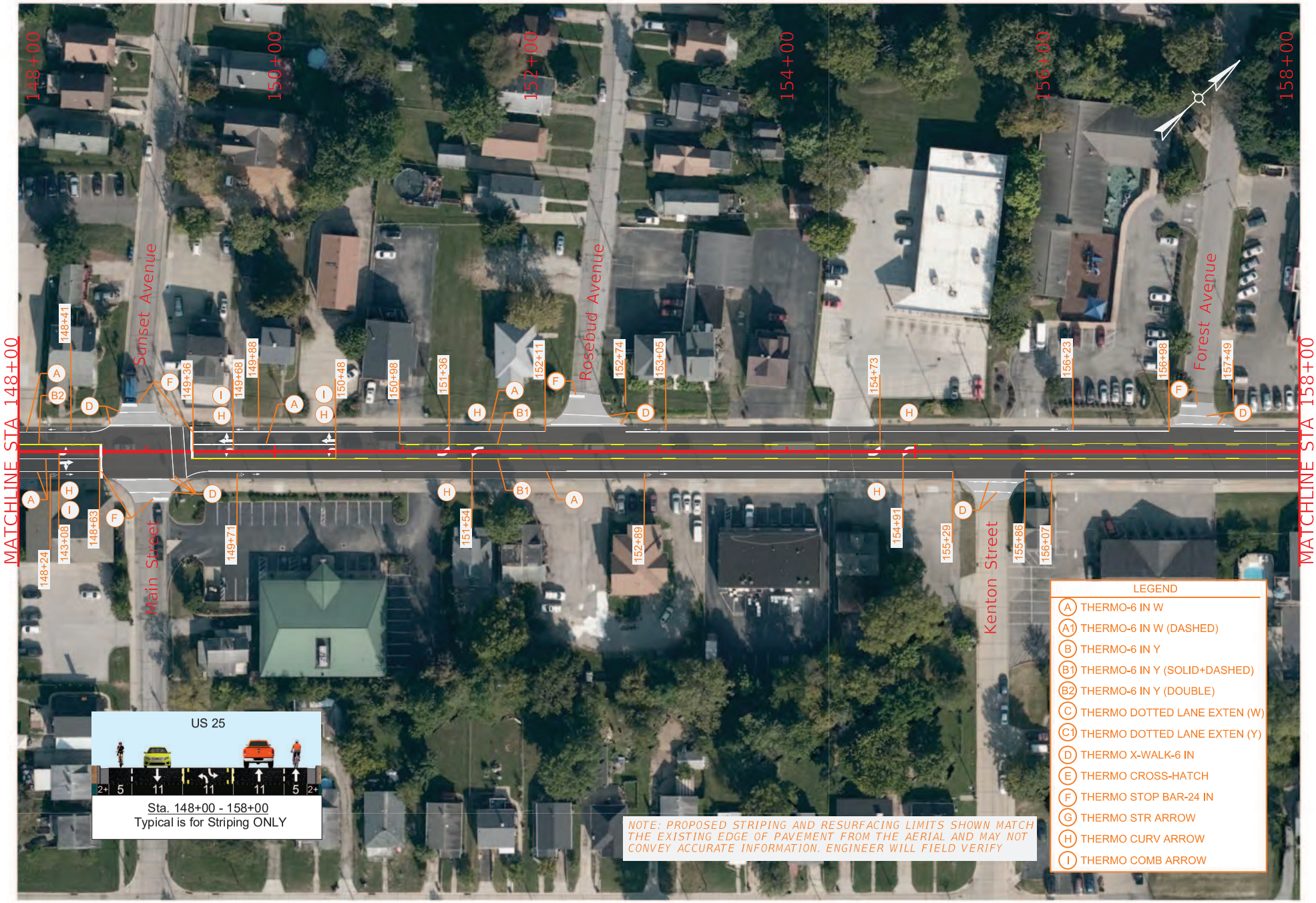
COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY TRANSPORTATION CABINET

DRAWING TITLE: US 25 PLAN SHEET
STA. 138+00.00 TO STA. 148+00.00

0' 50' 100' 200'
HORIZONTAL SCALE: 1"=100'

ITEM NO.
COUNTY OF KENTON
SHEET NO. R005

OpenRoads Designer v10.12.02.4
USER: daniel.warren
FILE NAME: C:\PW-WKRDIR\PRIMEENG-PW-01\KY - DANIEL WARREN\DMS08906\230311_01_R_US 25 BOONE PLAN SHEETS.DGN



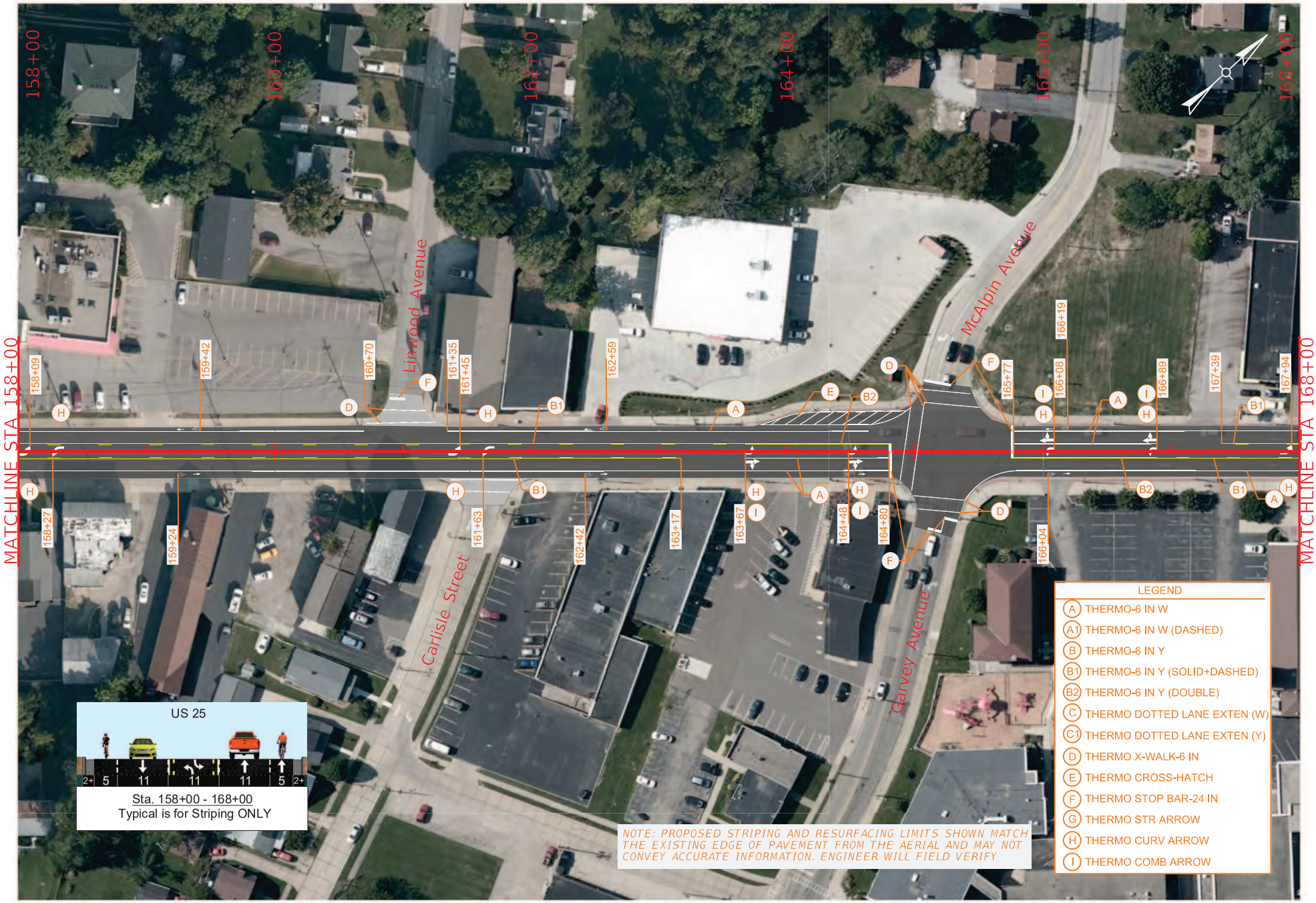
COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY

DRAWING TITLE: US 25 PLAN SHEET
STA. 148+00.00 TO STA. 158+00.00

0' 50' 100' 200'
HORIZONTAL SCALE: 1"=100'

ITEM NO.
COUNTY OF KENTON
SHEET NO. R006

OpenRoads Designer v10.12.02.4
USER: daniel.warren
FILE NAME: C:\PW-WKRDIR\PRIMEENG-PW-01\KY - DANIEL WARREN\DMS08906\230311_01_R_US 25 BOONE PLAN SHEETS.DGN



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY

DRAWING TITLE: US 25 PLAN SHEET
STA. 158+00.00 TO STA. 168+00.00

0' 50' 100' 200'
HORIZONTAL SCALE: 1"=100'

ITEM NO.
COUNTY OF KENTON
SHEET NO. R007

OpenRoads Designer v10.12.02.4
USER: daniel.warren
FILE NAME: C:\PW-WKRDIR\PRIMEENG-PW-01\KY - DANIEL WARREN\DMS08906\230311_01_R_US 25 BOONE PLAN SHEETS.DGN

LEGEND
A THERMO-6 IN W
A1 THERMO-6 IN W (DASHED)
B THERMO-6 IN Y
B1 THERMO-6 IN Y (SOLID+DASHED)
B2 THERMO-6 IN Y (DOUBLE)
C THERMO DOTTED LANE EXTEN (W)
C1 THERMO DOTTED LANE EXTEN (Y)
D THERMO X-WALK-6 IN
E THERMO CROSS-HATCH
F THERMO STOP BAR-24 IN
G THERMO STR ARROW
H THERMO CURV ARROW
I THERMO COMB ARROW

NOTE: PROPOSED STRIPING AND RESURFACING LIMITS SHOWN MATCH THE EXISTING EDGE OF PAVEMENT FROM THE AERIAL AND MAY NOT CONVEY ACCURATE INFORMATION. ENGINEER WILL FIELD VERIFY

Sta. 168+00 - 178+00
Typical is for Striping ONLY

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY

DRAWING TITLE: US 25 PLAN SHEET

STA. 168+00.00 TO STA. 178+00.00

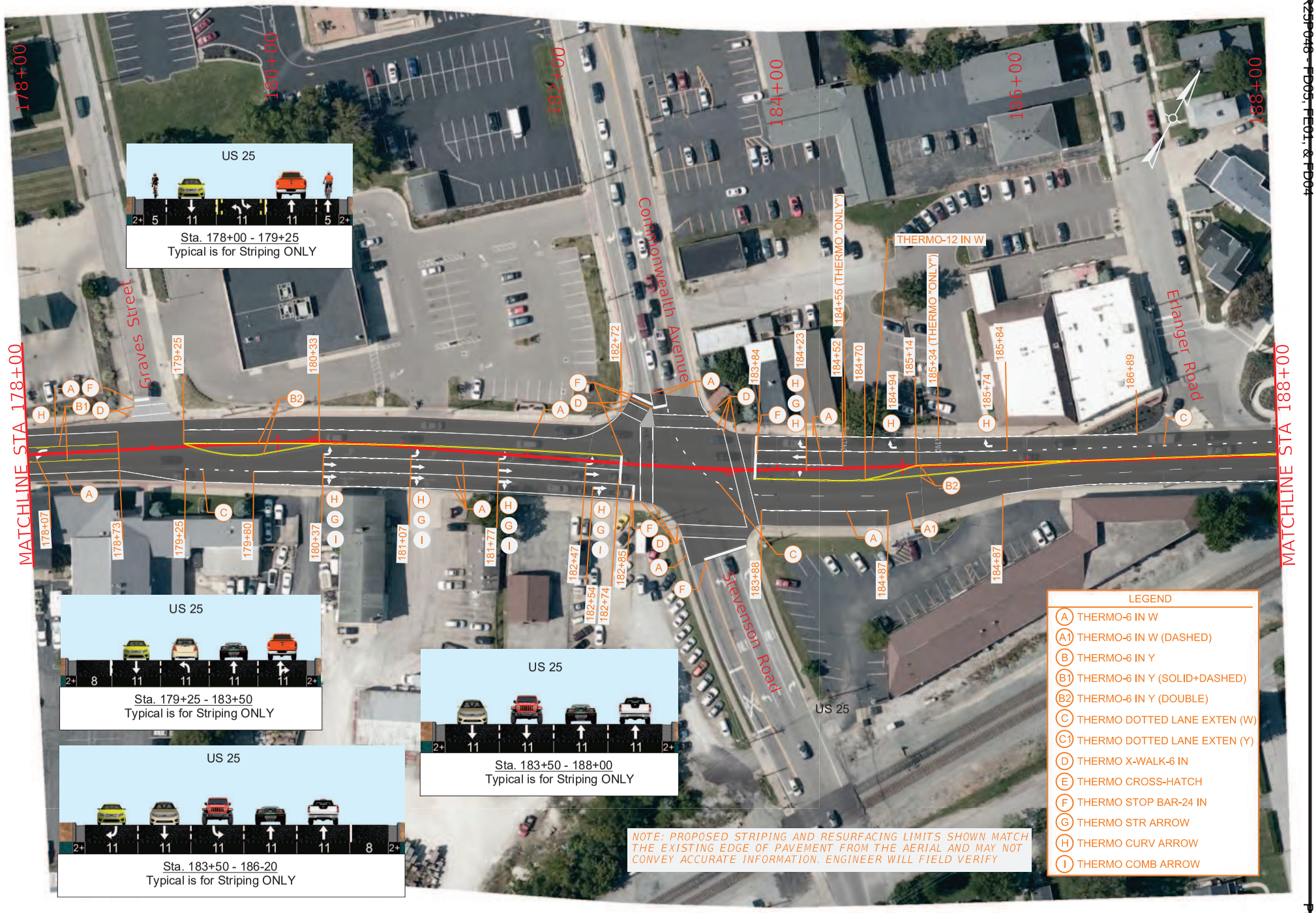
0' 50' 100' 200'
HORIZONTAL SCALE: 1"=100'

ITEM NO.

COUNTY OF KENTON

SHEET NO. R008

OpenRoads Designer v10.12.02.4 USER: daniel.warren
FILE NAME: C:\PW-WKRDIR\PRIMEENG-PW-01\KY - DANIEL WARREN\DMS08906\230311_01_R_US 25 BOONE PLAN SHEETS.DGN



KENTON - BOONE COUNTIES
12120R23P048 - FD05, FE01, & FD04

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY

DRAWING TITLE: US 25 PLAN SHEET
STA. 178+00.00 TO STA. 188+00.00

0' 50' 100' 200'
HORIZONTAL SCALE: 1"=100'

ITEM NO.
COUNTY OF KENTON
SHEET NO. R009

Contract ID: 252198
Page 142 of 165

OpenRoads Designer v10.12.02.4
USER: daniel.warren
FILE NAME: C:\PW-WKRDIR\PRIMEENG-PW-01\KY - ZACH MOORE\DMS08906\230311_01_R_US 25 BOONE PLAN SHEETS.DGN

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY

DRAWING TITLE:
STA. 188+00.00 TO STA. 198+00.00

0' 50' 100' 200'
HORIZONTAL SCALE: 1"=100'

ITEM NO.
COUNTY OF KENTON
SHEET NO. R010

OpenRoads Designer v10.12.02.4
USER: daniel.warren
FILE NAME: C:\PW-WKRDIR\PRIMEENG-PW-01\KY - DANIEL WARREN\DMS08906\230311_01_R_US 25 BOONE PLAN SHEETS.DGN

LEGEND	
	EX. BASE-MOUNTED CONTROLLER
A	EX. STEEL STRAIN POLE
	EX. MESSENGER CABLE
X	PROP. DETECTION ZONE
	PROP. RADAR DETECTOR
2B	EX. SIGNAL HEAD (FOR REMOVAL)
2B	NEW SIGNAL HEAD
	SPAN MOUNTED SIGN

COUNTY OF	FUNDING NO.
BOONE	FD05 008 0025 010-012

REPLACE 4-SECTION EX. SIGNAL HEAD #8 WITH NEW SIGNAL HEAD #8. (PAID BY FL03 FUNDS)

REPLACE SIGN S-1 (R3-6) WITH R3-6R (PAID BY FL03 FUNDS)

INSTALL RADAR PRESENCE DETECTOR ON POLE A FOR DETECTION ZONE 7A & 7B.

INSTALL RADAR PRESENCE DETECTOR ON POLE A FOR DETECTION ZONE 5A, 5B, & 2.

REPLACE SIGN S-2 (R3-6) WITH R3-5a. (PAID BY FL03 FUNDS)

INSTALL RADAR PRESENCE DETECTOR ON POLE C FOR DETECTION ZONE 8A, 8B, 8C.

NOTES:

INSTALL NEW SIGNAL HEADS ON EXISTING SPAN WIRES, ADJUST POLE COLLARS, AS NEEDED, TO ATTAIN REQUIRED CLEARANCES. ADJUSTMENT OF POLE COLLARS WILL BE INCIDENTAL TO THE PROJECT. IF DIFFERENT POLE COLLARS ARE NEEDED, THEY SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE DEPARTMENT. REPLACEMENT POLE COLLARS SHALL MEET KYTC STANDARDS AND SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT POLE COLLAR MANUFACTURER DIAGRAMS TO THE DIVISION OF TRAFFIC FOR REVIEW. APPROVAL OF REPLACEMENT POLE COLLAR ASSEMBLIES MUST BE OBTAINED PRIOR TO INSTALLATION. IF POLE COLLARS ARE REPLACED, EXISTING COLLARS SHALL BE DELIVERED TO KYTC DISTRICT MAINTENANCE FACILITY.

RELOCATE EXISTING SIGNAL HEADS AND SPAN MOUNTED SIGNS IF NECESSARY TO ALIGN WITH NEW STRIPING.

SIGNAL WORK SHALL BE COMPLETED PRIOR TO THE RESURFACING AND STRIPING. THE EXISTING SIGNAL SHALL REMAIN WITH THE DESIGNED MODIFICATIONS.

NEW SIGNAL HEADS

HEAD # 8

ALL INDICATIONS L.E.D.
REFLECTIVE BACKPLATES ON ALL NEW HEADS

REMOVE SIGN S-3 (R3-5a)
INSTALL SIGN S-4 (R3-6r)
INSTALL SIGN S-5 (R3-5)
(PAID BY FL03 FUNDS)

INSTALL RADAR PRESENCE DETECTOR ON POLE D FOR DETECTION ZONES 1, 6A, AND 6B.
INSTALL RADAR PRESENCE DETECTOR ON POLE E FOR DETECTION ZONE 4

SIGN	FROM	TO
S-1		
S-2		ONLY
S-3	ONLY	REMOVED
S-4	NONE	
S-5	NONE	ONLY

*ALL SIGNS ARE 24" X 30"

LOOP SCHEDULE

DETECTION ZONE	PHASE	SLOT	CHANNEL	SIZE	# OF TURNS	DIST. FROM STOP BAR
1	1	j1	1	10 X 48	RADAR	0'
2	2	j2	1	10 X 48	RADAR	0'
4	4	j6	1	10 X 48	RADAR	0'
5A	5	j1	1	10 X 48	RADAR	0'
5B	5	j1	2	10 X 48	RADAR	0'
6A	6	j2	1	10 X 48	RADAR	0'
6B	6	j2	2	10 X 48	RADAR	0'
7A	7	j5	1	10 X 48	RADAR	0'
7B	7	j5	2	10 X 48	RADAR	0'
8A	8	j6	1	10 X 48	RADAR	0'
8B	8	j6	2	10 X 48	RADAR	0'
8C	8	j7	1	10 X 48	RADAR	0'

SCALE: 1"=80'

US 25 MP 11.004
SIGNAL DETAIL SHEET

LEGEND	
	EX. POLE-MOUNTED CONTROLLER
A	EX. STEEL STRAIN POLE
	EX. MESSENGER CABLE
X	PROP. DETECTION ZONE
	PROP. RADAR DETECTOR
2B	NEW SIGNAL HEAD

COUNTY OF	FUNDING NO.
KENTON	FD05 059 0025 004-007

INSTALL SIGNAL HEAD 5.
(PAID BY FLO3 FUNDS)
INSTALL RADAR PRESENCE DETECTOR ON POLE C FOR DETECTION ZONE 8.

INSTALL RADAR PRESENCE DETECTOR ON POLE B FOR DETECTION ZONES 2 & 5.

NEW SIGNAL HEADS

HEAD # 1 &5

ALL INDICATIONS L.E.D.
REFLECTIVE BACKPLATES ON ALL NEW HEADS

NOTES:

INSTALL NEW SIGNAL HEADS ON EXISTING SPAN WIRES. ADJUST POLE COLLARS, AS NEEDED, TO ATTAIN REQUIRED CLEARANCES. ADJUSTMENT OF POLE COLLARS WILL BE INCIDENTAL TO THE PROJECT. IF DIFFERENT POLE COLLARS ARE NEEDED, THEY SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE DEPARTMENT. REPLACEMENT POLE COLLARS SHALL MEET KYTC STANDARDS AND SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT POLE COLLAR MANUFACTURER DIAGRAMS TO THE DIVISION OF TRAFFIC FOR REVIEW. APPROVAL OF REPLACEMENT POLE COLLAR ASSEMBLIES MUST BE OBTAINED PRIOR TO INSTALLATION. IF POLE COLLARS ARE REPLACED, EXISTING COLLARS SHALL BE DELIVERED TO KYTC DISTRICT MAINTENANCE FACILITY.

RELOCATE EXISTING SIGNAL HEADS AND SPAN MOUNTED SIGNS IF NECESSARY TO ALIGN WITH NEW STRIPING.

SIGNAL WORK SHALL BE COMPLETED PRIOR TO THE RESURFACING AND STRIPING. THE EXISTING SIGNAL SHALL REMAIN WITH THE DESIGNED MODIFICATIONS.

FOR FUSED CONNECTOR KJDS, THE NEUTRAL NEEDS TO BE LUGGED, NOT FUSED.

INSTALL RADAR PRESENCE DETECTOR ON POLE A FOR DETECTION ZONE 4.
INSTALL SIGNAL HEAD 1.
(PAID BY FLO3 FUNDS)

INSTALL RADAR PRESENCE DETECTOR ON POLE D FOR DETECTION ZONES 1 & 6.

LOOP SCHEDULE

DETECTION ZONE	PHASE	SLOT	CHANNEL	SIZE	# OF TURNS	DIST. FROM STOP BAR
1	1	1	1	10 x 48	RADAR	0'
2	2	2	1	10 x 48	RADAR	0'
4	4	4	1	10 x 48	RADAR	0'
5	5	5	1	10 x 48	RADAR	0'
6	6	6	1	10 x 48	RADAR	0'
8	8	8	1	10 x 48	RADAR	0'

WIRING SCHEDULE

CABLE	ORIGIN	ENDING	CONNECTING
1-14/7C	CONTROLLER	SH 1	SH 1
1-14/7C	CONTROLLER	SH 5	SH 5

FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS

7-CONDUCTOR THREE-SECTION FYA HEADS

CONNECTION	COLOR	OUTPUT FILE CONNECTION FOR FYA ON PHASE 1	OUTPUT FILE CONNECTION OF FYA ON PHASE 5
RED ARROW	RED	PHASE 1 RED	PHASE 5 RED
STEADY YELLOW ARROW	ORANGE	PHASE 1 YELLOW	PHASE 5 YELLOW
FLASHING YELLOW ARROW	BLACK	PHASE 1 GREEN	PHASE 5 GREEN
NOT USED	BLUE	N/A	N/A
NEUTRAL	WHITE	WHITE	WHITE
EQUIPMENT GROUND	GREEN		
NOT USED	WHITE/TRACER		

THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED "2PY 4PY 6PY 8PY" TO CONNECTOR "CMU 13,16,R,U" BEHIND THE OUTPUT PANEL. IF IT IS A SOLID STATE CABINET (SIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.

SCALE: 1"=50'

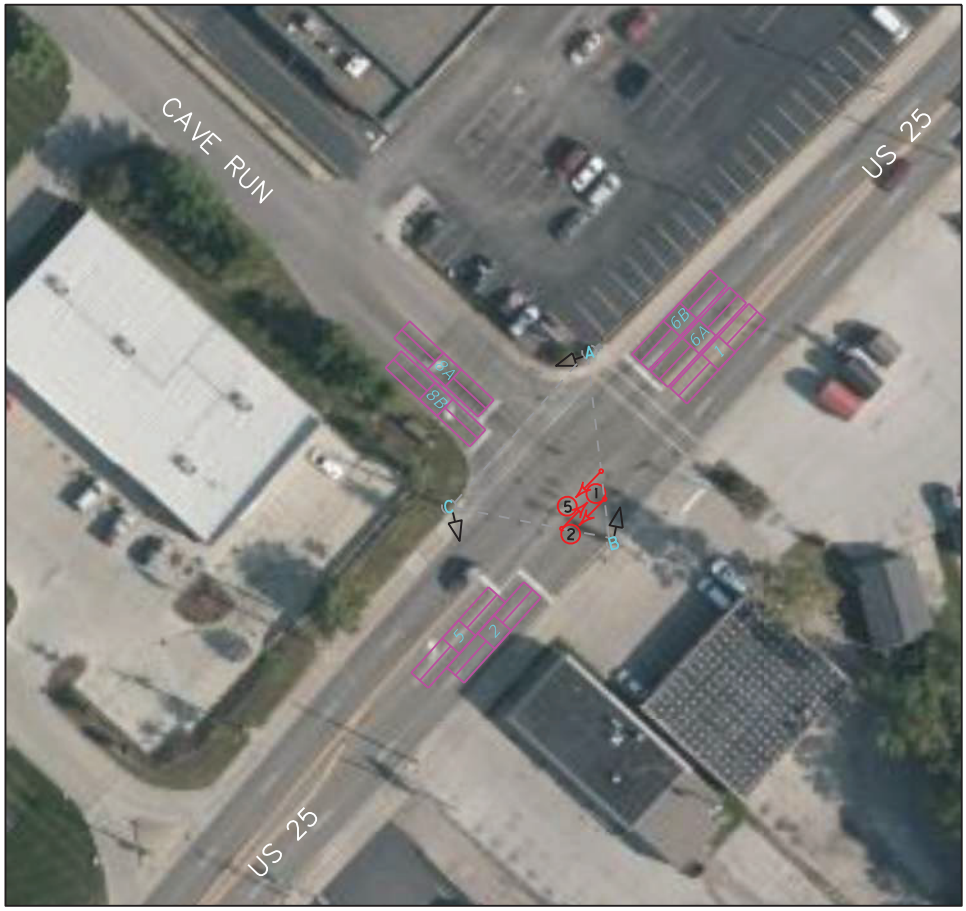
US 25 MP 5.038
SIGNAL DETAIL SHEET

LEGEND	
	EX. POLE-MOUNTED CONTROLLER
A	EX. STEEL STRAIN POLE
	EX. MESSENGER CABLE
X	PROP. DETECTION ZONE
	PROP. RADAR DETECTOR
2B	NEW SIGNAL HEAD

COUNTY OF	FUNDING NO.
KENTON	FD05 059 0025 004-007

INSTALL RADAR PRESENCE DETECTOR ON POLE A FOR DETECTION ZONES 8A & 8B.

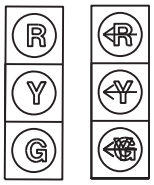
INSTALL SIGNAL HEAD 1. (PAID BY FLO3 FUNDS)



INSTALL RADAR PRESENCE DETECTOR ON POLE C FOR DETECTION ZONES 2 & 5. REPLACE 5-SECTION EX. SIGNAL HEAD #5 WITH NEW SIGNAL HEADS #5 AND #2. (PAID BY FLO3 FUNDS)

INSTALL RADAR PRESENCE DETECTOR ON POLE B FOR DETECTION ZONES 1,6A&6B.

NEW SIGNAL HEADS



HEAD # 2 HEAD # 1&5

ALL INDICATIONS L.E.D.

BIMODAL HEADS #1&5 MUST BE SPECIAL ORDERED.

NOTES:

INSTALL NEW SIGNAL HEADS ON EXISTING SPAN WIRES. ADJUST POLE COLLARS, AS NEEDED, TO ATTAIN REQUIRED CLEARANCES. ADJUSTMENT OF POLE COLLARS WILL BE INCIDENTAL TO THE PROJECT. IF DIFFERENT POLE COLLARS ARE NEEDED, THEY SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE DEPARTMENT. REPLACEMENT POLE COLLARS SHALL MEET KYTC STANDARDS AND SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT POLE COLLAR MANUFACTURER DIAGRAMS TO THE DIVISION OF TRAFFIC FOR REVIEW. APPROVAL OF REPLACEMENT POLE COLLAR ASSEMBLIES MUST BE OBTAINED PRIOR TO INSTALLATION. IF POLE COLLARS ARE REPLACED, EXISTING COLLARS SHALL BE DELIVERED TO KYTC DISTRICT MAINTENANCE FACILITY.

RELOCATE EXISTING SIGNAL HEADS AND SPAN MOUNTED SIGNS IF NECESSARY TO ALIGN WITH NEW STRIPING.

SIGNAL WORK SHALL BE COMPLETED PRIOR TO THE RESURFACING AND STRIPING. THE EXISTING SIGNAL SHALL REMAIN WITH THE DESIGNED MODIFICATIONS.

FOR FUSED CONNECTOR KITS, THE NEUTRAL NEEDS TO BE LUGGED, NOT FUSED.

LOOP SCHEDULE

DETECTION ZONE	PHASE	SLOT	CHANNEL	SIZE	# OF TURNS	DIST. FROM STOP BAR
1	1	1	1	10 x 48	RADAR	0'
2	2	2	1	10 x 48	RADAR	0'
5	5	5	1	10 x 48	RADAR	0'
6A	6	6	1	10 x 48	RADAR	0'
6B	6	6	2	10 x 48	RADAR	0'
8A	8	8	1	10 x 48	RADAR	0'
8B	8	8	2	10 x 48	RADAR	0'

WIRING SCHEDULE

CABLE	ORIGIN	ENDING	CONNECTING
1-14/7C	CONTROLLER	SH 1	SH 1
1-14/7C	CONTROLLER	SH 5	SH 5
1-14/7C	CONTROLLER	SH 2	SH 2

FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS

7-CONDUCTOR THREE-SECTION FYA HEADS

CONNECTION	COLOR	OUTPUT FILE CONNECTION FOR FYA ON PHASE 1	OUTPUT FILE CONNECTION OF FYA ON PHASE 5
RED ARROW	RED	PHASE 1 RED	PHASE 5 RED
STEADY YELLOW ARROW	ORANGE	PHASE 1 YELLOW	PHASE 5 YELLOW
FLASHING YELOOW ARROW	BLACK	PHASE 1 GREEN`	PHASE 5 GREEN
GREEN ARROW	BLUE	PED YELLOW PHASE 2	PED YELLOW PHASE 6
NEUTRAL	WHITE	WHITE	WHITE
EQUIPMENT GROUND	GREEN		
NOT USED	WHITE/TRACER		

THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED "2PY 4PY 6PY 8PY" TO CONNECTOR "CMU 13,16,R,U" BEHIND THE OUTPUT PANEL. IF IT IS A SOLID STATE CABINET (SIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.

SCALE: 1"=50'

US 25 MP 5.266
SIGNAL DETAIL SHEET

LEGEND
EX. POLE-MOUNTED CONTROLLER
EX. STEEL STRAIN POLE
EX. MESSENGER CABLE
PROP. DETECTION ZONE
PROP. RADAR DETECTOR
NEW SIGNAL HEAD

COUNTY OF	FUNDING NO.
KENTON	FD05 059 0025 004-007

INSTALL SIGNAL HEAD 5.
(PAID BY FLO3 FUNDS)

INSTALL RADAR PRESENCE DETECTOR ON POLE A FOR DETECTION ZONES 2 & 5.

INSTALL RADAR PRESENCE DETECTOR ON POLE B FOR DETECTION ZONES 8A & 8B.

INSTALL RADAR PRESENCE DETECTOR ON POLE D FOR DETECTION ZONES 4A & 4B.

INSTALL SIGNAL HEAD 1.
(PAID BY FLO3 FUNDS)

INSTALL RADAR PRESENCE DETECTOR ON POLE C FOR DETECTION ZONES 1 & 5.

NEW SIGNAL HEADS

HEAD # 1&5

ALL INDICATIONS L.E.D.

NOTES:

INSTALL NEW SIGNAL HEADS ON EXISTING SPAN WIRES, ADJUST POLE COLLARS, AS NEEDED, TO ATTAIN REQUIRED CLEARANCES. ADJUSTMENT OF POLE COLLARS WILL BE INCIDENTAL TO THE PROJECT. IF DIFFERENT POLE COLLARS ARE NEEDED, THEY SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE DEPARTMENT. REPLACEMENT POLE COLLARS SHALL MEET KYTC STANDARDS AND SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT POLE COLLAR MANUFACTURER DIAGRAMS TO THE DIVISION OF TRAFFIC FOR REVIEW. APPROVAL OF REPLACEMENT POLE COLLAR ASSEMBLIES MUST BE OBTAINED PRIOR TO INSTALLATION. IF POLE COLLARS ARE REPLACED, EXISTING COLLARS SHALL BE DELIVERED TO KYTC DISTRICT MAINTENANCE FACILITY.

RELOCATE EXISTING SIGNAL HEADS AND SPAN MOUNTED SIGNS IF NECESSARY TO ALIGN WITH NEW STRIPING.

SIGNAL WORK SHALL BE COMPLETED PRIOR TO THE RESURFACING AND STRIPING. THE EXISTING SIGNAL SHALL REMAIN WITH THE DESIGNED MODIFICATIONS.

FOR FUSED CONNECTOR KITS, THE NEUTRAL NEEDS TO BE LUGGED, NOT FUSED.

LOOP SCHEDULE

DETECTION ZONE	PHASE	SLOT	CHANNEL	SIZE	# OF TURNS	DIST. FROM STOP BAR
1	1	1	1	10 x 48	RADAR	0'
2	2	2	1	10 x 48	RADAR	0'
4A	4	4	1	10 x 48	RADAR	0'
4B	4	4	2	10 x 48	RADAR	0'
5	5	5	1	10 x 48	RADAR	0'
6	6	6	1	10 x 48	RADAR	0'
8A	8	8	1	10 x 48	RADAR	0'
8B	8	8	2	10 x 48	RADAR	0'

WIRING SCHEDULE

CABLE	ORIGIN	ENDING	CONNECTING
1-14/7C	CONTROLLER	SH 1	SH 1
1-14/7C	CONTROLLER	SH 5	SH 5

FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS

7-CONDUCTOR THREE-SECTION FYA HEADS

CONNECTION	COLOR	OUTPUT FILE CONNECTION FOR FYA ON PHASE 1	OUTPUT FILE CONNECTION OF FYA ON PHASE 5
RED ARROW	RED	PHASE 1 RED	PHASE 5 RED
STEADY YELLOW ARROW	ORANGE	PHASE 1 YELLOW	PHASE 5 YELLOW
FLASHING YELLOW ARROW	BLACK	PHASE 1 GREEN	PHASE 5 GREEN
NOT USED	BLUE	N/A	N/A
NEUTRAL	WHITE	WHITE	WHITE
EQUIPMENT GROUND	GREEN		
NOT USED	WHITE/TRACER		

THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED "2PY 4PY 6PY 8PY" TO CONNECTOR "CMU 13,16,R,U" BEHIND THE OUTPUT PANEL. IF IT IS A SOLID STATE CABINET (SIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.

SCALE: 1"=50'

US 25 MP 5.726
SIGNAL DETAIL SHEET

COUNTY OF	FUNDING NO.
KENTON	FD05 059 0025 004-007

LEGEND

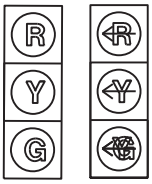
- EX. POLE-MOUNTED CONTROLLER
- EX. STEEL STRAIN POLE
- EX. MESSENGER CABLE
- PROP. DETECTION ZONE
- PROP. RADAR DETECTOR
- NEW SIGNAL HEAD
- SPAN MOUNTED SIGN

REPLACE 5-SECTION EX. SIGNAL HEAD #5 WITH NEW SIGNAL HEADS #5 AND #2. (PAID BY FL03 FUNDS)

INSTALL RADAR PRESENCE DETECTOR ON POLE B FOR DETECTION ZONE 8.

INSTALL RADAR PRESENCE DETECTOR ON POLE C FOR DETECTION ZONE 6A.

NEW SIGNAL HEADS



HEAD # 2 HEAD #5

ALL INDICATIONS L.E.D.

BIMODAL HEAD 5 MUST BE SPECIAL ORDERED.

INSTALL (2) RADAR PRESENCE DETECTORS ON POLE E FOR DETECTION ZONES 2A & 5A AND 4.
REPLACE 5-SECTION EX. SIGNAL HEAD #1 WITH R3-2 SIGN.
(PAID BY FL03 FUNDS)

INSTALL (2) RADAR PRESENCE DETECTORS ON POLE D FOR DETECTION ZONES 2B, 5B, & 6B.

NOTES:

INSTALL NEW SIGNAL HEADS ON EXISTING SPAN WIRES, ADJUST POLE COLLARS, AS NEEDED, TO ATTAIN REQUIRED CLEARANCES. ADJUSTMENT OF POLE COLLARS WILL BE INCIDENTAL TO THE PROJECT. IF DIFFERENT POLE COLLARS ARE NEEDED, THEY SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE DEPARTMENT. REPLACEMENT POLE COLLARS SHALL MEET KYTC STANDARDS AND SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT POLE COLLAR MANUFACTURER DIAGRAMS TO THE DIVISION OF TRAFFIC FOR REVIEW. APPROVAL OF REPLACEMENT POLE COLLAR ASSEMBLIES MUST BE OBTAINED PRIOR TO INSTALLATION. IF POLE COLLARS ARE REPLACED, EXISTING COLLARS SHALL BE DELIVERED TO KYTC DISTRICT MAINTENANCE FACILITY.

RELOCATE EXISTING SIGNAL HEADS AND SPAN MOUNTED SIGNS IF NECESSARY TO ALIGN WITH NEW STRIPING.

SIGNAL WORK SHALL BE COMPLETED PRIOR TO THE RESURFACING AND STRIPING. THE EXISTING SIGNAL SHALL REMAIN WITH THE DESIGNED MODIFICATIONS.

FOR FUSED CONNECTOR KIDS, THE NEUTRAL NEEDS TO BE LUGGED, NOT FUSED.

LOOP SCHEDULE

DETECTION ZONE	PHASE	SLOT	CHANNEL	SIZE	# OF TURNS	DIST. FROM STOP BAR
2A	2	2	1	10 x 48	RADAR	0'
2B	2	2	2	10 x 48	RADAR	0'
4	4	4	1	10 x 48	RADAR	0'
5A	5	5	1	10 x 48	RADAR	0'
5B	5	5	2	10 x 48	RADAR	0'
6A	6	6	1	10 x 48	RADAR	0'
6B	6	6	2	10 x 48	RADAR	0'
8	8	8	1	10 x 48	RADAR	0'

WIRING SCHEDULE

CABLE	ORIGIN	ENDING	CONNECTING
1-14/7C	CONTROLLER	SH 2	SH 2
1-14/7C	CONTROLLER	SH 5	SH 5

FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS

7-CONDUCTOR THREE-SECTION FYA HEADS

CONNECTION	COLOR	OUTPUT FILE CONNECTION FOR FYA ON PHASE 1	OUTPUT FILE CONNECTION OF FYA ON PHASE 5
RED ARROW	RED	PHASE 1 RED	PHASE 5 RED
STEADY YELLOW ARROW	ORANGE	PHASE 1 YELLOW	PHASE 5 YELLOW
FLASHING YELOOW ARROW	BLACK	PHASE 1 GREEN`	PHASE 5 GREEN
GREEN ARROW	BLUE	PED YELLOW PHASE 2	PED YELLOW PHASE 6
NEUTRAL	WHITE	WHITE	WHITE
EQUIPMENT GROUND	GREEN		
NOT USED	WHITE/TRACER		

THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED "2PY 4PY 6PY 8PY" TO CONNECTOR "CMU 13,16,R,U" BEHIND THE OUTPUT PANEL. IF IT IS A SOLID STATE CABINET (SIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.

SIGN	IMAGE
S-1	

SCALE: 1"=50'

US 25 MP 5.895 & 5.919
SIGNAL DETAIL SHEET

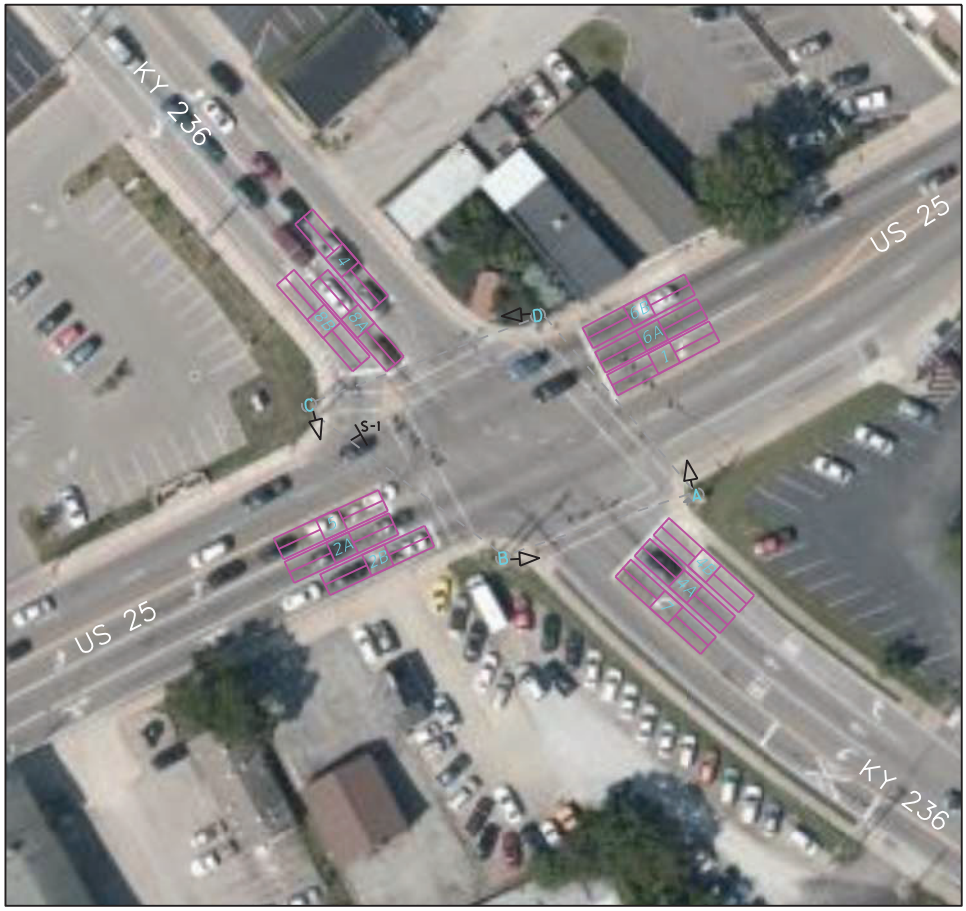
LEGEND	
	EX. POLE-MOUNTED CONTROLLER
	EX. STEEL STRAIN POLE
	EX. MESSENGER CABLE
	PROP. DETECTION ZONE
	PROP. RADAR DETECTOR
	SPAN MOUNTED SIGN

COUNTY OF	FUNDING NO.
KENTON	FD05 059 0025 004-007

REMOVE SPAN-MOUNTED SIGN
AND REPLACE WITH S-1 (R3-5R)
(PAID BY FL03 FUNDS)

INSTALL RADAR PRESENCE DETECTOR ON
POLE C FOR DETECTION ZONES 5, 2A, & 2B.

INSTALL RADAR PRESENCE DETECTOR ON
POLE D FOR DETECTION ZONES 8A, 8B, & 8C.



INSTALL RADAR PRESENCE DETECTOR ON
POLE B FOR DETECTION ZONES 4A, 4B, & 4C.

INSTALL RADAR PRESENCE DETECTOR ON
POLE A FOR DETECTION ZONES 1, 6A, & 6B.

LOOP SCHEDULE

DETECTION ZONE	PHASE	SLOT	CHANNEL	SIZE	# OF TURNS	DIST. FROM STOP BAR
1	1	1	1	10 x 48	RADAR	0'
2A	2	2	1	10 x 48	RADAR	0'
2B	2	2	2	10 x 48	RADAR	0'
3	3	3	1	10 x 48	RADAR	0'
4A	4	4	1	10 x 48	RADAR	0'
4B	4	4	2	10 x 48	RADAR	0'
5	5	5	1	10 x 48	RADAR	0'
6A	6	6	1	10 x 48	RADAR	0'
6B	6	6	2	10 x 48	RADAR	0'
7	7	7	1	10 x 48	RADAR	0'
8A	8	8	1	10 x 48	RADAR	0'
8B	8	8	2	10 x 48	RADAR	0'

FOR SPLIT PHASING, PHASES 4 AND 7 WILL RUN CONCURRENTLY
AND PHASES 3 AND 8 WILL RUN CONCURRENTLY.

SIGN	FROM	TO
S-1		ONLY

SCALE: 1"=50'

US 25 MP 6.069
SIGNAL DETAIL SHEET

LEGEND	
	EX. BASE-MOUNTED CONTROLLER
A	EX. STEEL STRAIN POLE
	EX. MESSENGER CABLE
X	PROP. DETECTION ZONE
	PROP. RADAR DETECTOR
2B	NEW SIGNAL HEAD

COUNTY OF	FUNDING NO.
KENTON	FD05 059 0025 004-007

SIGNAL WORK SHALL BE COMPLETED PRIOR TO THE RESURFACING AND STRIPING. THE EXISTING SIGNAL SHALL REMAIN WITH THE DESIGNED MODIFICATIONS.

FOR FUSED CONNECTOR KITS, THE NEUTRAL NEEDS TO BE LUGGED, NOT FUSED.

INSTALL RADAR PRESENCE DETECTOR ON POLE C FOR DETECTION ZONES 2A & 2B.

INSTALL RADAR PRESENCE DETECTOR ON POLE B FOR DETECTION ZONES 4A & 4B.

INSTALL RADAR PRESENCE DETECTOR ON POLE A FOR DETECTION ZONES 1, 6A, & 6B.

LOOP SCHEDULE

DETECTION ZONE	PHASE	SLOT	CHANNEL	SIZE	# OF TURNS	DIST. FROM STOP BAR
1	1	I1	1	10 x 48	RADAR	0'
2A	2	I2	1	10 x 48	RADAR	0'
2B	2	I2	2	10 x 48	RADAR	0'
4A	4	I6	1	10 x 48	RADAR	0'
4B	4	I6	2	10 x 48	RADAR	0'
6A	6	J2	1	10 x 48	RADAR	0'
6B	6	U2	2	10 x 48	RADAR	0'

SCALE: 1"=50'

US 25 MP 6.250
SIGNAL DETAIL SHEET

PART II

SPECIFICATIONS AND STANDARD DRAWINGS

STANDARD SPECIFICATIONS

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

SUPPLEMENTAL SPECIFICATIONS

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

2020 STANDARD DRAWINGS THAT APPLY

ROADWAY

~ GENERAL ~

MISCELLANEOUS STANDARDS

MISCELLANEOUS STANDARDS RGX-001-06
DETECTABLE WARNINGS RGX-040-03
TYPE D BREAKAWAY SIGN SUPPORT RGX-065-02

~ PAVEMENT ~

MEDIANS, CURBS, APPROACHES, ENTRANCES, ETC.

CONCRETE ENTRANCE PAVEMENT AND SIDEWALK ..... Sepia 040
SIDEWALK RAMPS ..... Sepia 041

TRAFFIC

~ PERMANENT ~

MARKERS

INLAID PAVEMENT MARKER ARRANGEMENTS MULTI-LANE ROADWAYS ..... Sepia 006
INLAID PAVEMENT MARKER ARRANGEMENTS TWO-WAY LEFT TURN LANE ..... Sepia 015
INLAID PAVEMENT MARKER ARRANGEMENT CHANNELIZED INTERSECTION ..... Sepia 016
TYPICAL MARKINGS AT SIGNALIZED INTERSECTIONS TPM-203
TYPICAL MARKINGS FOR ISLANDS AND MEDIANS TPM-205
TYPICAL MARKINGS FOR TURN LANES PAGE 1 ..... TPM-206
TYPICAL MARKINGS FOR TURN LANES PAGE 2 ..... TPM-207

~ TEMPORARY ~

TRAFFIC CONTROL

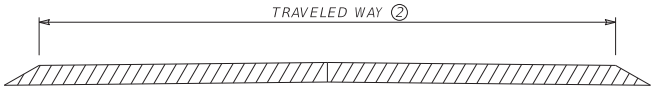
LANE CLOSURE TWO-LANE HIGHWAY TTC-100-05
LANE CLOSURE MULTI-LANE HIGHWAY CASE I TTC-115-04
LANE CLOSURE MULTI-LANE HIGHWAY CASE II TTC-120-04

DEVICES

DOUBLE FINES ZONE SIGNS TTD-120-03
PAVEMENT CONDITION WARNING SIGNS TTD-125-03
SPEED ZONE SIGNING FOR WORK ZONES TTD-130

STRIPING OPERATIONS

MOBILE OPERATION FOR DURABLE STRIPING CASE I TTS-120-02
MOBILE OPERATION FOR DURABLE STRIPING CASE II TTS-125-02
MOBILE OPERATION FOR DURABLE STRIPING CASE III TTS-130-02
MOBILE OPERATION FOR DURABLE STRIPING CASE IV TTS-135-02



TWO LANE ROADWAY
PAVEMENT CROSS-SECTION

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

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

~ NOTES ~

1. INSTALL PAVEMENT STRIPING ON TWO LANE, TWO WAY ROADWAYS AS DETAILED IN THE ABOVE TABLE AND IN ACCORDANCE WITH THE PAVEMENT MARKINGS AND DELINEATION CHAPTER OF THE TRAFFIC OPERATIONS GUIDANCE MANUAL. CONTACT THE DIVISION OF TRAFFIC OPERATIONS FOR ADDITIONAL GUIDANCE IF NECESSARY.

(2) THE TRAVELED WAY IS THE PORTION OF ROADWAY FOR THE MOVEMENT OF VEHICLES, EXCLUSIVE OF THE SHOULDERS.

(3) ON TWO LANE, TWO WAY ROADWAYS THAT HAVE A TOTAL PAVEMENT WIDTH (W) THAT IS 20 FT OR GREATER, BUT LESS THAN 22 FT, EDGELINE RUMBLE STRIPS ARE AN OPTIONAL APPLICATION. THE DIVISION OF TRAFFIC OPERATIONS IS AVAILABLE TO ASSIST WITH THE DETERMINATION OF WHETHER OR NOT TO INSTALL EDGELINE RUMBLE STRIPS ON PAVEMENT WIDTHS LESS THAN 22 FT.

ON TWO LANE, TWO WAY ROADWAYS THAT HAVE A TOTAL PAVEMENT WIDTH (W) THAT IS 22 FT OR GREATER, INSTALL PAVEMENT STRIPING AS DETAILED IN THE ABOVE TABLE AND IN CONJUNCTION WITH THE RUMBLE STRIPS AS DETAILED ON TPR-120 AND TPR-120N.

(4) EDGELINES MAY BE OMITTED FROM ROADWAYS WITH A TRAVELED WAY WIDTH LESS THAN 16 FEET WITH THE APPROVAL OF THE DIVISION OF TRAFFIC OPERATIONS.

(5) EDGELINES MAY BE OMITTED ON NON-STATE PRIMARY ROUTES WITH A TRAVELED WAY WIDTH GREATER THAN OR EQUAL TO 20 FEET AND AN ADT LESS THAN 1,000.

6. EDGELINES MAY BE OMITTED, BASED ON ENGINEERING JUDGMENT, IN AREAS WHERE THE PAVEMENT EDGE IS DELINEATED BY PHYSICAL OBJECTS SUCH AS CURBS, PARKING SPACES, OR OTHER MARKINGS. EDGELINES SHOULD BE INSTALLED ON ROADWAYS WITH CURB AND GUTTER IF THE POSTED SPEED LIMIT IS 45 MPH OR GREATER.

DRAWING NOT TO SCALE

USE WITH CUR. STD. DWGS.
TPR-120 & TPR-120N

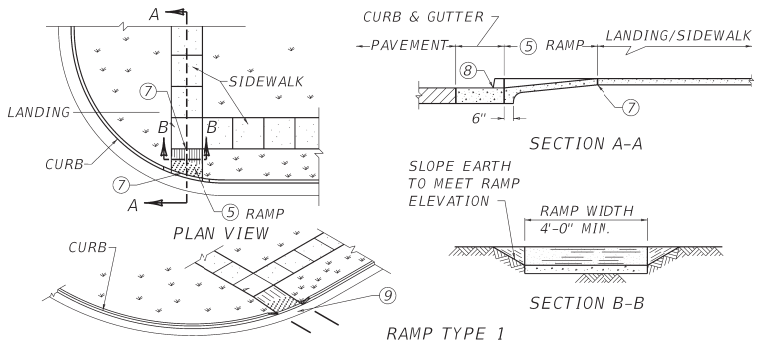
SUBMITTED _____ DIVISION DIRECTOR 09/28/2023 DATE

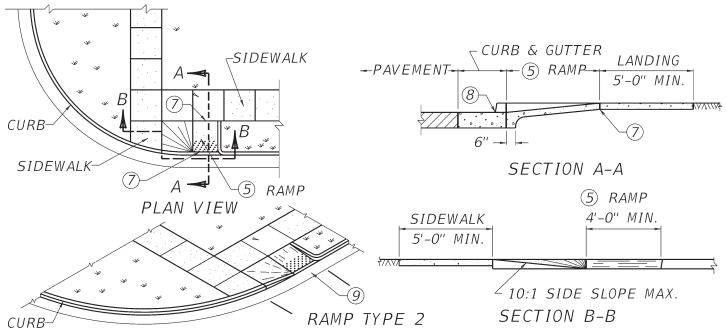
COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

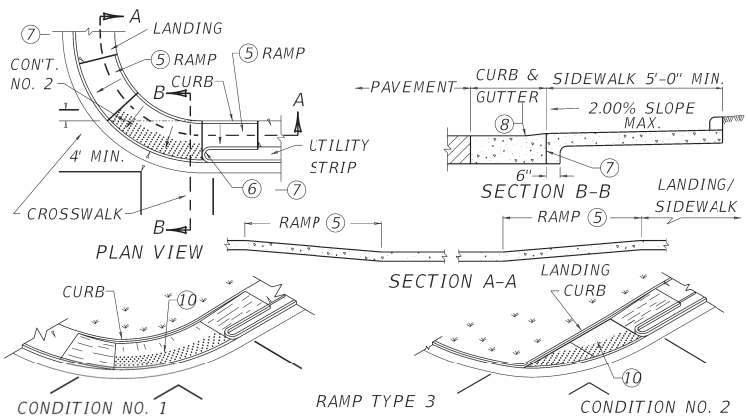
DRAWING TITLE: SEPIA 032 - PAVEMENT STRIPING DETAILS FOR TWO LANE TWO WAY ROADWAYS

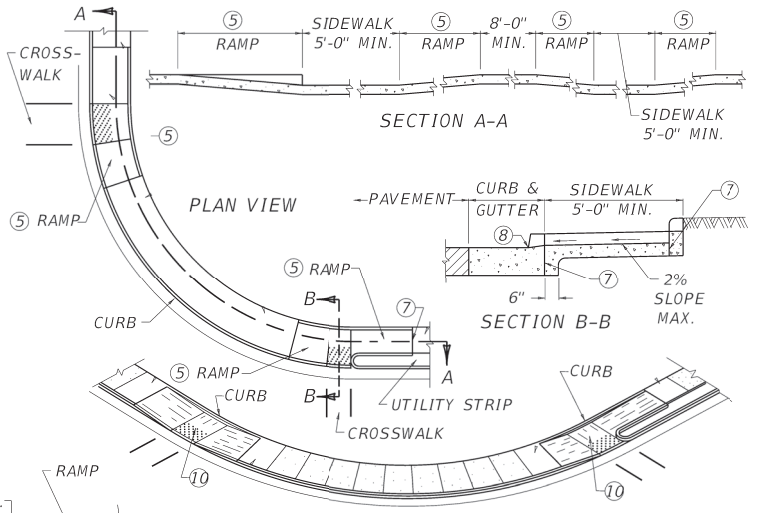
ITEM NO. COUNTY OF

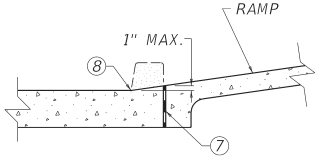
SHEET NO.











~ NOTES ~

1. THE RAMP SHALL BE CONSTRUCTED OF CLASS "A" CONCRETE. A BROOM FINISH OR EQUAL NON-SKID FINISH IS REQUIRED. DETECTABLE WARNINGS SHALL BE A SEPARATE BID ITEM.
2. RAMPS SHALL BE PAID PER SQ. YD. OF 4" CONCRETE SIDEWALK AND THE UNIT PRICE SHALL INCLUDE ALL MATERIALS, FORMS, CURB BEHIND RAMP AND LANDING. AND INCIDENTALS NECESSARY FOR CONSTRUCTION.
3. THE NORMAL GUTTER LINE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
4. RAMP TYPE 3 SHOULD BE USED PRIMARILY IN A RETROFIT TYPE CONDITION.

(5) CURB RAMP GRADE SHALL NOT EXCEED 12:1, CROSS SLOPE SHALL NOT EXCEED 2.00%. ON RETROFIT CURB RAMPS, GRADES OF 12.5% for 2'-0" OR 10% FOR 5'-0" ARE PERMISSABLE.

(6) CURB RETURN REQUIRED WHEN UTILITY STRIP IS 4' OR GREATER. FOR UTILITY STRIPS LESS THAN 4', THE AREA IS TO BE SURFACED WITH SIDEWALK WITHIN THE RAMP.

(7) ½" EXPANSION JOINT AT BACK OF CURB LINE AND AT SIDEWALK LINE.

(8) NO BUMP PERMITTED. SAME SLOPE AS RAMP AND NOT TO EXCEED 1" IN HEIGHT. RAMPS SHALL BE CONSTRUCTED SO THAT WATER WILL NOT ACCUMULATE ON WALKING SURFACES.

(9) LANDINGS WILL PROVIDE A LEVEL AREA (MAX. 5% GRADE OR CROSS SLOPE) AT APPROXIMATE STREET ELEVATION. A 4' SQUARE LEVEL LANDING IS THE REQUIRED MINIMUM.

(10) LANDINGS WILL PROVIDE A LEVEL AREA (MAX. 2.00% GRADE OR CROSS SLOPE) AT APPROXIMATE STREET ELEVATION. A 4' SQUARE LEVEL LANDING IS THE REQUIRED MINIMUM.

BID ITEMS AND UNIT TO BID

SIDEWALK-4 IN CONCRETE	SQYD
DETECTABLE WARNINGS	SQFT

USE WITH CUR. STD. DWG.RGX-040

SUBMITTED W.T. Layson DIVISION DIRECTOR 05-03-2024 DATE

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY

DRAWING TITLE: SEPIA 041 - SIDEWALK RAMPS

ITEM NO. COUNTY OF
SHEET NO.

OpenRoads Designer v10.12.02.4 USER: corinne.schurman FILE NAME: C:\PWWORK\CORRINE.SCHURMAN\D2341931\SEPIA041.DGN

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

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.

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.

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 administrating agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

Revised: January 25, 2017

EXECUTIVE BRANCH CODE OF ETHICS

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

> KRS 11A.040 (7) provides:
>
> A present or former public servant listed in KRS 11A.010(9)(a) to (g) shall not, within one (1) year following termination of his or her office or employment, accept employment, compensation, or other economic benefit from any person or business that contracts or does business with, or is regulated by, the state in matters in which he was directly involved during the last thirty-six (36) months of his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, or for which he received, prior to his state employment, a professional degree or license, provided that, for a period of one (1) year, he or she personally refrains from working on any matter in which he was directly involved during the last thirty-six (36) months of his or her tenure in state government. This subsection shall not prohibit the performance of ministerial functions, including but not limited to filing tax returns, filing applications for permits or licenses, or filing incorporation papers, nor shall it prohibit the former officer or public servant from receiving public funds disbursed through entitlement programs.
>
> KRS 11A.040 (9) states:
>
> A former public servant shall not represent a person or business before a state agency in a matter in which the former public servant was directly involved during the last thirty-six (36) months of his tenure, for a period of one (1) year after the latter of:
>
> a) The date of leaving office or termination of employment; or
> b) The date the term of office expires to which the public servant was elected.

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

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

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

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

Revised: March 11, 2025

Kentucky Equal Employment Opportunity Act of 1978

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

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

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

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

For questions or assistance please contact the Finance and Administration Cabinet by email at **finance.contractcompliance@ky.gov** 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

WHD U.S. Wage and Hour Division

WWW.WAGEHOUR.DOL.GOV

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

WHD Publication 1088 (Revised July 2009)

PART IV

BID ITEMS

252198

PROPOSAL BID ITEMS

Report Date 4/17/25

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00190		LEVELING & WEDGING PG64-22	141.00	TON		$	
0020	00307		CL2 ASPH SURF 0.38B PG64-22	1,980.00	TON		$	
0030	00356		ASPHALT MATERIAL FOR TACK	43.00	TON		$	
0040	00388		CL3 ASPH SURF 0.38B PG64-22	1,090.00	TON		$	
0050	02562		TEMPORARY SIGNS	1,420.00	SQFT		$	
0060	02650		MAINTAIN & CONTROL TRAFFIC (BOONE US 25) (FD05)	1.00	LS		$	
0070	02650		MAINTAIN & CONTROL TRAFFIC (BOONE US 42) (FD05)	1.00	LS		$	
0080	02650		MAINTAIN & CONTROL TRAFFIC (KENTON US 25 MP 4-7) (FD05)	1.00	LS		$	
0090	02650		MAINTAIN & CONTROL TRAFFIC (KENTON US 25 MP 8-9) (FD05)	1.00	LS		$	
0100	02671		PORTABLE CHANGEABLE MESSAGE SIGN	10.00	EACH		$	
0110	02676		MOBILIZATION FOR MILL & TEXT (BOONE US 25) (FD05)	1.00	LS		$	
0120	02676		MOBILIZATION FOR MILL & TEXT (BOONE US 42) (FD05)	1.00	LS		$	
0130	02676		MOBILIZATION FOR MILL & TEXT (KENTON US 25 MP 4-7) (FD05)	1.00	LS		$	
0140	02676		MOBILIZATION FOR MILL & TEXT (KENTON US 25 MP 8-9) (FD05)	1.00	LS		$	
0150	02677		ASPHALT PAVE MILLING & TEXTURING	6,610.00	TON		$	
0160	02720		SIDEWALK-4 IN CONCRETE	96.00	SQYD		$	
0170	02775		ARROW PANEL	8.00	EACH		$	
0180	03240		BASE FAILURE REPAIR	828.00	SQYD		$	
0190	04793		CONDUIT-1 1/4 IN (PLANNING LOOPS)(BOONE US 25)	55.00	LF		$	
0200	04793		CONDUIT-1 1/4 IN (PLANNING LOOPS)(BOONE US 42)	40.00	LF		$	
0210	04793		CONDUIT-1 1/4 IN (PLANNING LOOPS)(KENTON MP 4-7)	60.00	LF		$	
0220	04793		CONDUIT-1 1/4 IN (PLANNING LOOPS)(KENTON MP 8-9)	15.00	LF		$	
0230	04795		CONDUIT-2 IN (PLANNING LOOPS)(BOONE US 25)	10.00	LF		$	
0240	04795		CONDUIT-2 IN (PLANNING LOOPS)(KENTON MP 4-7)	10.00	LF		$	
0250	04820		TRENCHING AND BACKFILLING (PLANNING LOOPS)(BOONE US 25)	60.00	LF		$	
0260	04820		TRENCHING AND BACKFILLING (PLANNING LOOPS)(BOONE US 42)	25.00	LF		$	
0270	04820		TRENCHING AND BACKFILLING (PLANNING LOOPS)(KENTON MP 4-7)	65.00	LF		$	
0280	04820		TRENCHING AND BACKFILLING (PLANNING LOOPS)(KENTON MP 8-9)	10.00	LF		$	
0290	04829		PIEZOELECTRIC SENSOR (PLANNING LOOPS)(BOONE US 25)	4.00	EACH		$	
0300	04829		PIEZOELECTRIC SENSOR (PLANNING LOOPS)(KENTON MP 4-7)	4.00	EACH		$	
0310	04830		LOOP WIRE (PLANNING LOOPS)(BOONE US 25)	2,000.00	LF		$	

252198

PROPOSAL BID ITEMS

Report Date 4/17/25

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0320	04830		LOOP WIRE (PLANNING LOOPS)(BOONE US 42)	1,800.00	LF		$	
0330	04830		LOOP WIRE (PLANNING LOOPS)(KENTON MP 4-7)	1,850.00	LF		$	
0340	04830		LOOP WIRE (PLANNING LOOPS)(KENTON MP 8-9)	800.00	LF		$	
0350	04895		LOOP SAW SLOT AND FILL (PLANNING LOOPS)(BOONE US 25)	350.00	LF		$	
0360	04895		LOOP SAW SLOT AND FILL (PLANNING LOOPS)(BOONE US 42)	335.00	LF		$	
0370	04895		LOOP SAW SLOT AND FILL (PLANNING LOOPS)(KENTON MP 4-7)	330.00	LF		$	
0380	04895		LOOP SAW SLOT AND FILL (PLANNING LOOPS)(KENTON MP 8-9)	160.00	LF		$	
0390	04960		REMOVE AND REPLACE SIDEWALK (PLANNING LOOPS)(BOONE US 25)	3.00	SQYD		$	
0400	04960		REMOVE AND REPLACE SIDEWALK (PLANNING LOOPS)(BOONE US 42)	3.00	SQYD		$	
0410	04960		REMOVE AND REPLACE SIDEWALK (PLANNING LOOPS)(KENTON MP 4-7)	3.00	SQYD		$	
0420	04960		REMOVE AND REPLACE SIDEWALK (PLANNING LOOPS)(KENTON MP 8-9)	2.00	SQYD		$	
0430	06510		PAVE STRIPING-TEMP PAINT-4 IN	83,648.00	LF		$	
0440	06542		PAVE STRIPING-THERMO-6 IN W	39,552.00	LF		$	
0450	06543		PAVE STRIPING-THERMO-6 IN Y	41,334.00	LF		$	
0460	06565		PAVE MARKING-THERMO X-WALK-6 IN	6,692.00	LF		$	
0470	06568		PAVE MARKING-THERMO STOP BAR-24IN	1,458.00	LF		$	
0480	06569		PAVE MARKING-THERMO CROSS-HATCH	838.00	SQFT		$	
0490	06573		PAVE MARKING-THERMO STR ARROW	9.00	EACH		$	
0500	06574		PAVE MARKING-THERMO CURV ARROW	114.00	EACH		$	
0510	06575		PAVE MARKING-THERMO COMB ARROW	36.00	EACH		$	
0520	06576		PAVE MARKING-THERMO ONLY	5.00	EACH		$	
0530	06598		PAVEMENT MARKING REMOVAL	223.00	SQFT		$	
0540	06600		REMOVE PAVEMENT MARKER TYPE V	432.00	EACH		$	
0550	10020NS		FUEL ADJUSTMENT	10,525.00	DOLL	$1.00	$	$10,525.00
0560	10030NS		ASPHALT ADJUSTMENT	26,438.00	DOLL	$1.00	$	$26,438.00
0570	20099ES842		PAVE MARK TEMP PAINT STOP BAR	990.00	LF		$	
0580	20100ES842		PAVE MARK TEMP PAINT LINE ARROW	157.00	EACH		$	
0590	20359NN		GALVANIZED STEEL CABINET (PLANNING LOOPS)(BOONE US 25)	1.00	EACH		$	
0600	20359NN		GALVANIZED STEEL CABINET (PLANNING LOOPS)(KENTON MP 4-7)	1.00	EACH		$	
0610	20360ES818		WOOD POST (PLANNING LOOPS)(BOONE US 25)	2.00	EACH		$	
0620	20360ES818		WOOD POST (PLANNING LOOPS)(BOONE US 42)	3.00	EACH		$	
0630	20360ES818		WOOD POST (PLANNING LOOPS)(KENTON MP 4-7)	2.00	EACH		$	
0640	20360ES818		WOOD POST (PLANNING LOOPS)(KENTON MP 8-9)	1.00	EACH		$	
0650	20391NS835		ELECTRICAL JUNCTION BOX TYPE A (PLANNING LOOPS)(BOONE US 25)	1.00	EACH		$	
0660	20391NS835		ELECTRICAL JUNCTION BOX TYPE A (PLANNING LOOPS)(KENTON MP 4-7)	1.00	EACH		$	

252198

PROPOSAL BID ITEMS

Report Date 4/17/25

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0670	20468EC		ELECTRICAL JUNCTION BOX-10 X 8 X 4 (PLANNING LOOPS)(BOONE US 42)	3.00	EACH		$	
0680	20468EC		ELECTRICAL JUNCTION BOX-10 X 8 X 4 (PLANNING LOOPS)(KENTON MP 8-9)	1.00	EACH		$	
0690	20782NS714		PAVE MARKING THERMO-BIKE	48.00	EACH		$	
0700	22906ES403		CL3 ASPH SURF 0.38A PG64-22	2,340.00	TON		$	
0710	23010EN		PAVE MARK TEMP PAINT STOP BAR-24 IN	468.00	LF		$	
0720	23158ES505		DETECTABLE WARNINGS (NEW)	181.00	SQFT		$	
0730	24386EC		PAVE MARKING THERMO-BIKE LANE ARROW	48.00	EACH		$	
0740	24683ED		PAVE MARKING-THERMO DOTTED LANE EXTEN	120.00	LF		$	
0750	24683ED		PAVE MARKING-THERMO DOTTED LANE EXTEN (12 INCH)	465.00	LF		$	
0760	24683ED		PAVE MARKING-THERMO DOTTED LANE EXTEN (6 INCH)	555.00	LF		$	
0770	24685EC		CL2 ASPH SURF 0.38A PG64-22	1,200.00	TON		$	
0780	26119EC		INSTALL RADAR PRESENCE DETECTOR TYPE A	46.00	EACH		$	
0790	26228EC		ELECTRONIC DELIVERY MGMT SYSTEM (BOONE US 25) (FD05)	1.00	LS		$	
0800	26228EC		ELECTRONIC DELIVERY MGMT SYSTEM (BOONE US 42) (FD05)	1.00	LS		$	
0810	26228EC		ELECTRONIC DELIVERY MGMT SYSTEM (KENTON US 25 MP 4-7) (FD05)	1.00	LS		$	
0820	26228EC		ELECTRONIC DELIVERY MGMT SYSTEM (KENTON US 25 MP 8-9) (FD05)	1.00	LS		$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0830	02562		TEMPORARY SIGNS	120.00	SQFT		$	
0840	02650		MAINTAIN & CONTROL TRAFFIC (BOONE US 25) (FE01)	1.00	LS		$	
0850	02650		MAINTAIN & CONTROL TRAFFIC (KENTON US 25 MP 4-7) (FE01)	1.00	LS		$	
0860	02671		PORTABLE CHANGEABLE MESSAGE SIGN	6.00	EACH		$	
0870	02720		SIDEWALK-4 IN CONCRETE	74.00	SQYD		$	
0880	03302		REPAIR CONCRETE CURB	26.00	LF		$	
0890	20904ED		RECONSTRUCT CURB BOX INLET (TOP PHASE ONLY)	5.00	EACH		$	
0900	23158ES505		DETECTABLE WARNINGS (NEW)	28.00	SQFT		$	

Section: 0003 - SIGNING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0910	06406		SBM ALUM SHEET SIGNS .080 IN	46.50	SQFT		$	
0920	06472		INSTALL SPAN MOUNTED SIGN	6.00	EACH		$	

252198

PROPOSAL BID ITEMS

Report Date 4/17/25

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0930	21373ND		REMOVE SIGN	4.00	EACH		$	

Section: 0004 - SIGNALIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0940	20188NS835		INSTALL LED SIGNAL-3 SECTION	10.00	EACH		$	
0950	24955ED		REMOVE SIGNAL EQUIPMENT	3.00	EACH		$	

Section: 0005 - DEMOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0960	02569		DEMOBILIZATION	1.00	LS		$	