



CALL NO. 301

CONTRACT ID. 192400

LAUREL COUNTY

FED/STATE PROJECT NUMBER FD04 063 025W 000-002

DESCRIPTION WEST DIXIE HIGHWAY (US 25W)

WORK TYPE JPC PAVEMENT INLAY

PRIMARY COMPLETION DATE 8/1/2020

LETTING DATE: October 25,2019

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME October 25,2019. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

NO PLANS ASSOCIATED WITH THIS PROJECT.

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

TABLE OF CONTENTS

PART I	SCOPE OF WORK <ul style="list-style-type: none">• PROJECT(S), COMPLETION DATE(S), & LIQUIDATED DAMAGES• CONTRACT NOTES• STATE CONTRACT NOTES• SIGNIFICANT PROJECT -PROJECT TRAFFIC COORDINATOR• SURFACING AREAS• ASPHALT MIXTURE• DGA BASE• INCIDENTAL SURFACING• INITIAL TREATMENT• JPC PAVEMENT SMOOTHNESS• FUEL AND ASPHALT PAY ADJUSTMENT• COMPACTION OPTION B• SPECIAL NOTE(S) APPLICABLE TO PROJECT• LIQUIDATED DAMAGES• WASTE AND BORROW SITES• COORDINATION OF WORK WITH OTHER CONTRACTS• SHOULDER PREPARATION• SINGLE ASPHALT SEAL (A-2) ON SHOULDERS• GUARDRAIL• ASPHALT MILLING AND TEXTURING• PRIME INITIAL TREATMENT• TYPICAL SECTION DIMENSIONS• TRAFFIC CONTROL PLAN• PERFORMED QUADRAPOLE LOOPS• EROSION CONTROL PLAN FOR MAINTENANCE PROJECTS• SKETCH MAP(S)• SUMMARY SHEET(S)• TYPICAL SECTION(S)• DETAIL SHEET(S)• GUARDRAIL DELIVERY VERIFICATION SHEET
PART II	SPECIFICATIONS AND STANDARD DRAWINGS <ul style="list-style-type: none">• SPECIFICATIONS REFERENCE• SUPPLEMENTAL SPECIFICATION• [SN-1I] PORTABLE CHANGEABLE SIGNS• 2016 STANDARD DRAWINGS THAT APPLY• TYPICAL GUARDRAIL INSTALLATIONS• INSTALLATION OF GUARDRAIL END TREATMENT TYPE I• STEEL BEAM GUARDRAIL ("W" BEAM)• STEEL GUARDRAIL POSTS• GUARDRAIL END TREATMENT TYPE I• DELINEATORS FOR GUARDRAIL• GUARDRAIL SYSTEM TRANSITION• TYPICAL MARKINGS FOR TURN LANES• TYPICAL MARKINGS AT SIGNALIZED INTERSECTIONS• TYPICAL MARKINGS FOR ISLANDS AND MEDIANS
PART III	EMPLOYMENT, WAGE AND RECORD REQUIREMENTS <ul style="list-style-type: none">• LABOR AND WAGE REQUIREMENTS

- EXECUTIVE BRANCH CODE OF ETHICS
- KENTUCKY EQUAL EMPLOYMENT OPPORTUNITY ACT OF 1978
LOCALITY / STATE
- PROJECT WAGE RATES / STATE FUNDED

PART IV INSURANCE

PART V BID ITEMS

PART I
SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 11

CONTRACT ID - 192400

FD04 063 025W 000-002

COUNTY - LAUREL

PCN - MP063025W1901

FD04 063 025W 000-002

WEST DIXIE HIGHWAY (US 25W) (MP 0.847) FROM 1,000 FEET SOUTH OF US 25E EXTENDING NORTH TO US 25E (MP 1.036), A DISTANCE OF 0.19 MILES..JPC PAVEMENT

GEOGRAPHIC COORDINATES LATITUDE 36:57:59.00 LONGITUDE 84:05:12.00

COMPLETION DATE(S):

COMPLETED BY 08/01/2020

0 CALENDAR Days

0 CALENDAR Days

SPECIFIED COMPLETION DATE -
ALL ITEMS IN CONTRACT

DAYS WITH LESS THAN 1 LANE OF
TRAFFIC OPEN IN EACH
DIRECTION

DROP-OFFS >4 INCHES LESS THAN
6 FEET FROM TRAFFIC

CONTRACT NOTES

PROPOSAL ADDENDA

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

BID SUBMITTAL

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

JOINT VENTURE BIDDING

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

UNDERGROUND FACILITY DAMAGE PROTECTION

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

REGISTRATION WITH THE SECRETARY OF STATE BY A FOREIGN ENTITY

Pursuant to KRS 176.085(1)(b), an agency, department, office, or political subdivision of the Commonwealth of Kentucky shall not award a state contract to a person that is a foreign entity required by [KRS 14A.9-010](#) to obtain a certificate of authority to transact business in the Commonwealth ("certificate") from the Secretary of State under [KRS 14A.9-030](#) unless the person produces the certificate within fourteen (14) days of the bid or proposal opening. If the foreign entity is not required to obtain a certificate as provided in [KRS 14A.9-010](#), the foreign entity should identify the applicable exception. Foreign entity is defined within [KRS 14A.1-070](#).

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

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

SPECIAL NOTE FOR PROJECT QUESTIONS DURING ADVERTISEMENT

Questions about projects during the advertisement should be submitted in writing to the Division of Construction Procurement. This may be done by fax (502) 564-7299 or email to kytc.projectquestions@ky.gov. The Department will attempt to answer all submitted questions. The Department reserves the right not to answer if the question is not pertinent or does not aid in clarifying the project intent.

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

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

HARDWOOD REMOVAL RESTRICTIONS

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

INSTRUCTIONS FOR EXCESS MATERIAL SITES AND BORROW SITES

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

ACCESS TO RECORDS

The contractor, as defined in KRS 45A.030 (9) agrees that the contracting agency, the Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence, which are directly pertinent to this contract for the purpose of financial audit or program review. Records and other prequalification information confidentially

disclosed as part of the bid process shall not be deemed as directly pertinent to the contract and shall be exempt from disclosure as provided in KRS 61.878(1)(c). The contractor also recognizes that any books, documents, papers, records, or other evidence, received during a financial audit or program review shall be subject to the Kentucky Open Records Act, KRS 61.870 to 61.884.

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

April 30, 2018

SPECIAL NOTE FOR RECIPROCAL PREFERENCE

RECIPROCAL PREFERENCE TO BE GIVEN BY PUBLIC AGENCIES TO RESIDENT BIDDERS

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

April 30, 2018

PROJECT TRAFFIC COORDINATOR (PTC)

Be advised this project is a significant project pursuant to section 112.03.12.

SURFACING AREAS

The Department estimates the mainline surfacing width to vary 24-72 feet.

The Department estimates the total mainline area to be surfaced with JPC to be 4,750 square yards.

The Department estimates the shoulder width to vary 0-10 feet on each side.

The Department estimates the total shoulder area to be surfaced with asphalt pavement to be 2,230 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.

DGA BASE

Unless otherwise noted, the Department estimates the rate of application for DGA Base to be 115 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-110-07 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.

INITIAL TREATMENT

Construct pavement crown from centerline on 1/4":1' slope as directed by the Engineer.

JPC RIDE QUALITY

The Department will apply JPC Ride Quality requirements on this project in accordance with Section 501.03.19 (B) Category B.

FUEL PAY ADJUSTMENT

The Department has included the Contract item 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 B

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

SPECIAL NOTES FOR HIGH MAST LIGHTING

I. DESCRIPTION

Except as specified herein, perform all work in accordance with the Department's 2019 Standard and Supplemental Specifications and Standard and Sepia Drawings, current editions. Article references are to the Standard Specifications.

Furnish all equipment, labor, materials, and incidentals for the following work items:

- (1) Site preparation; (2) Erect High Mast Lighting Pole, Lowering Device, and Luminaires furnished by the Department; (3) Furnish and install all remainder components of High Mast Lighting system; (4) Maintain and Control Traffic; and (5) all other work specified as part of this contract.

II. MATERIALS

Except as specified herein, provide for all materials to be sampled and tested in accordance with the Department's Sampling Manual and make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. High Mast Lighting. The Department will furnish High Mast Lighting Pole, Lowering Device, and Luminaires. The Contractor shall furnish concrete, reinforcing steel, ground rods, conduit, utility pole, ducted cable, junction box, #57 aggregates, geotextile fabric, lighting control equipment, wire, fuses, splice kits and splice pads, buried cable markers, brackets, transformer bases, anchor bolts, ballasts, starters, control cabinet, meter socket, safety switch, padlocks, grounding lugs, banding, anchors, messenger/guy/tether cable and hardware, navigation lights, aviation obstruction lights, warning tape, warranties, and documentation, and all other materials as required according to 834.

C. Erosion Control. See Special Note for Erosion Control.

III. CONSTRUCTION METHODS

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Be responsible for all site preparation, including but not limited to, clearing and grubbing, excavation, embankment, and removal of all obstructions or any other items; regrading, reshaping, adding and compacting of suitable materials on the existing shoulders and slopes to provide proper template or foundation for the High Mast Lighting; temporary pollution and erosion control; disposal, of excess and waste materials

High Mast Lighting
Page 2 of 3

and debris; and final dressing, cleanup, and seeding and protection. Perform all site preparation as approved or directed by the engineer.

C. High Mast Lighting. Except as specified herein, install materials furnished by the Department and construct High Mast Lighting according to Sections 716 and 834 and the Drawings. The Department will make the materials to be furnished by the Department available to the Contractor at the Department's Laurel County Maintenance facility located at 1995 Russell Dyché Memorial Highway, London, KY 40741 between the hours of 8:00 a.m. and 3:30 p.m. Monday through Friday. Make prior arrangements with the Engineer for pickup, and load and delivery to the project site.

Consider the locations shown on the drawing to be approximate only. The Engineer will determine the exact location at the time of construction. Erect High Mast lighting as shown on the drawings or as directed by the Engineer.

E. Property Damage. Be responsible for all damage to public and/or private property resulting from the work. Restore damaged roadway features and private property at no additional cost to the Department.

F. Coordination with Utility Companies. Locate all underground, above ground and overhead utilities prior to beginning construction. Be responsible for contacting and maintaining liaison with all utility companies that have utilities located within the project limits. Do not disturb existing overhead or underground utilities. It is not anticipated that any utility facilities will need to be relocated and/or adjusted; however, in the event that it is discovered that the work does require that utilities be relocated and/or adjusted, the utility companies will work concurrently with the Contractor while relocating their facilities. Be responsible for repairing all utility damage that occurs as a result of guardrail operations at no additional cost to the Department.

G. Right of Way Limits. The Department has not established exact limits of the Right-of-Way. Limit work activities to obvious Right-of-Way, permanent or temporary easements, and work areas secured by the Department through consent and release of the adjacent property owners. Be responsible for all encroachments onto private lands.

H. Disposal of Waste. Dispose of all removed concrete, debris, and other waste and debris 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.

I. Final Dressing, Clean Up, and Seeding and Protection. Apply Class A Final Dressing to all disturbed areas, both on and off the Right-of-Way. Sow all disturbed earthen areas according to the Special Note for Erosion Control.

J. Erosion Control. See Special Note for Erosion Control.

High Mast Lighting
Page 3 of 3

IV. METHOD OF MEASUREMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site preparation. Other than the bid items listed, the Department will **NOT** measure Site Preparation for separate payment but shall be incidental Pole Base

C. High Mast Lighting. See Section 716.04.

G. Erosion Control. See Special Note for Erosion Control.

V. BASIS OF PAYMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. High Mast Lighting. See Section 716.05. Accept payment at the Contract unit prices Each as full compensation for all labor, materials, equipment, and incidentals for picking up, transporting to the work site, and installing the items to be furnished by the Department.

SPECIAL NOTES FOR REMOVE TRAFFIC ISLAND

Remove existing concrete traffic island at US 25E by any method approved by the Engineer. Excavate to an approximate depth of 10 inches below the bottom of the existing adjacent pavement level or the existing island thickness, whichever is greater. Remove and dispose of all materials 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).

The bidder must draw conclusions as to the conditions encountered. The Department does not give any guarantee as to the accuracy of the data and will not consider any claim for additional compensation if the materials encountered that are not in accord with the classification shown.

Accept payment at the Contract unit price per square yard for Remove Traffic Island as full compensation for all labor, materials, equipment, and incidentals for removing traffic island, disposing of the materials, and all other items necessary to complete the work according to these notes to the satisfaction of the Engineer.

SPECIAL NOTE FOR CONCRETE SLURRY

If Diamond Grinding, Pavement Grooving or any other process which produces slurry is required on roadways or bridges, ensure that all concrete slurry associated with these processes is collected, managed, and disposed of appropriately. Dispose of the waste material at a permitted disposal facility, in accordance with the 2019 Kentucky Standard Specifications for Road and Bridge Construction and the Environmental Performance Standards outlined in 401 KAR 47:030, or manage as a material for beneficial reuse. Be responsible for any fines or remediation related to improper disposal at no additional cost to the Department.

The Department will not measure for payment disposal of concrete slurry, but shall be considered incidental to other bid items.

SPECIAL NOTE FOR JPC PAVEMENT

I. DESCRIPTION

Except as specified herein, construct Jointed Plain Concrete (JPC) Pavement in accordance with the Department's 2019 Standard and Supplemental Specifications, Special Provisions and Special Notes, and Standard and Sepia Drawings, current editions, and as directed by the Engineer. Section references are to the Standard Specifications. Furnish all materials, labor, equipment, and incidentals for the following work:

- (1) Maintain and control traffic; (2) Site Preparation and Erosion Control; and
- (3) Remove existing asphalt pavement and replace with JPC Pavement-10 Inch;
- (4) Construct asphalt shoulders; (5) Remove and replace guardrail; (6) All other work specified as part of this contract.

II. MATERIALS

The Department will sample and test all materials according to the Department's Sampling Manual. Make the materials available for sampling a sufficient time in advance of use, to allow for the necessary time for testing, unless otherwise specified in these notes.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Erosion Control. See Special Note for Erosion Control.

C. Dense Graded Aggregate. Furnish Dense Graded Aggregate (DGA). Do **NOT** furnish Crushed Stone Base in lieu of DGA.

D. JPC Pavement-10 Inch. See Section 601.02. Use Class P or Class A Concrete. At the Contractor's request and at no additional cost to the Department, the Engineer may approve high early strength rapid setting concrete; however, the Engineer will not approve chloride accelerators. The Department will allow either central mixing or truck mixing.

E. Joint Sealant. Use Hot-Poured Elastic, no alternate.

F. Base Stabilization. Furnish Geotextile Fabric Type IV Crushed Aggregate Size No. 2.

III. CONSTRUCTION METHODS

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Erosion Control. See Special Note for Erosion Control.

C. Site Preparation. Be responsible for all site preparation, including but not limited to, incidental excavation and backfilling; removal of all obstructions or any other items; disposal of materials; sweeping and removal of debris; temporary and permanent erosion and pollution control; final dressing, clean up, and seeding; and all incidentals. Perform all Site Preparation only as approved or directed by the Engineer. See Special Note for Erosion Control.

D. Remove Pavement. Consider pavement removal locations and dimensions shown on the drawings to be approximate only; the Engineer will determine exact locations and dimensions at the time of construction and mark areas to be removed. Prior to removal, saw-cut existing pavement at locations directed by the Engineer to provide a neat edge where new concrete will adjoin existing pavement. Remove existing pavement, including asphalt islands, and underlying DGA or other stone base as necessary to provide for the specified thickness of the replacement JPC Pavement without unnecessarily disturbing the remaining base by Asphalt Milling and Texturing.

E. Remove Traffic Island. See Special Notes for Remove Traffic Island.

F. Preparation of Base. Immediately after pavement removal, compact the existing aggregate base to the Engineer's satisfaction. The Engineer will accept compaction by either visual inspection or by nuclear gauge. When the Engineer deems it necessary to stabilize the existing base, place Crushed Aggregate Size No. 2 completely wrapped with Geotextile Fabric Type IV. Place the stone 1 foot thick and the width needed to reach the outside edge of the new asphalt shoulder. The Contractor may use flowable fill and cement stabilization as an alternative to stabilize the existing base or to replace unsuitable materials, at the Contractor's request and at no additional cost to the Department, when a plan for such is presented to and approved by the Engineer. During compaction, wet the base as the Engineer directs. Compact areas not accessible to compaction equipment by hand tamping.

G. Preformed Quadrapole Loops. See Special Note for Preformed Quadrapole Loops. Be responsible for the protection of the lead wires from each loop to the junction box during all phases of construction at no additional cost to the Department.

H. JPC Pavement. Except as provided herein, construct JPC Pavement-10 Inch according to Section 501. Prior to pavement removal and placing JPC Pavement, obtain the Engineer's approval of proposed method of construction for ensuring and establishing a smooth profile. Immediately after removing pavement, stabilize any exposed DGA base as directed by the Engineer and place JPC. Install dowel bars and tie bars according to the Standard Drawings. Construct the replacement JPC Pavement to be a minimum

JPC Pavement
Page 3 of 6

depth of 10 inches; however, transition the finished grade to match adjacent pavement that is to remain in place; therefore, the actual thickness of the pavement may be greater than 10 inches in some areas. Consolidate the concrete, strike off, machine finish with a vibrating or roller screed, and straightedge the plastic concrete with a straightedge conforming to Section 501.02.18. Finish the pavement according to Section 501.03.12 and 501.03.13. Test the profile of the finished pavement according to Section 501.03.19. Provide positive drainage upon completion of construction.

I. Curing. Use curing blankets only. Do not use burlap curing or white membrane curing compound. If the Contractor elects to use JPC Pavement 24/48/72, cure as follows when overnight ambient temperatures are expected to be below 50 °F:

- 1) When overnight ambient temperatures are expected to be below 50 °F, cover the concrete with one of the following:
 - a) 1 layer of closed-cell polystyrene foam protected by at least one layer of plastic film;
 - b) 2 layers of burlap covered with one layer of 4-mil plastic;
 - c) 3 inches of hay or straw covered with one layer of 4-mil plastic;
 - d) A Department approved alternate.

- 2) When overnight ambient temperatures are expected to be below 40 °F, cover the concrete with one of the following:
 - a) 2 layers of closed-cell polystyrene foam protected by at least one layer of plastic film;
 - b) 4 layers of burlap covered with one layer of 4-mil plastic;
 - c) 6 inches of hay or straw covered with 4-mil plastic;
 - d) A Department approved alternative.

The Department will allow placement of the insulating cover to be delayed for up to 4 hours to accommodate sawing joints. The Department will allow temporary removal of the cover to accommodate sawing and sealing joints. The Department will allow permanent removal of the cover when the concrete attains the required opening strength of 3,000 psi.

J. Joints. See Section 501.03.17 and the Standard Drawings. Construct longitudinal joints at the edges of all permanent lane configurations. Use tie bars for the longitudinal joints per the Kentucky Standard Specification. Contrary to specification, place construction joints only at transverse joint locations unless approved by the Engineer. Prior to opening to traffic, clean and seal the joints with Hot-poured Elastic.

K. Ride Quality. See Section 501.03.19, category B.

L. Disposal of Waste. Dispose of all waste and debris 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 and Special Note for Concrete Slurry.

M. Pavement Markings. See Traffic Control Plan.

N. On-Site Inspection. Prior to submitting a bid, make a thorough inspection of the site and become thoroughly familiar with the existing conditions so that the work can be expeditiously performed after contract award. The Department will consider submission of a bid as evidence of this inspection having been made. The Department will not honor any claims resulting from site conditions.

O. Property Damage and Restoration. Be responsible for all damage to public and/or private property resulting from the work. Repair or replace all damaged roadway features in like kind materials and design at no additional cost to the Department. Repair or replace damaged private property in like kind materials and design to the satisfaction of the owner at no additional cost to the Department or the owner.

P. Caution. Consider information shown on the drawings and in this proposal and the types and quantities of work listed are approximate only, and not 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 does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation or Contract time if the conditions encountered are not in accordance with the information shown.

Q. Utility Clearance. Determine the location of all underground and overhead utilities prior to construction. It is not anticipated that utility facilities will need to be relocated and/or adjusted; however, in the event that work does require relocation and/or adjustment, the utility companies will work concurrently with the Contractor while relocating their facilities.

R. Final Dressing, Clean Up, and Seeding and Protection. After all work is completed, remove all waste and debris from the construction sites. Remove all temporary shoulder widening and restore disturbed shoulders. Perform Class A final dressing on all disturbed areas. Sow disturbed earthen areas with Seed Mixture No. 1.

IV. METHOD OF MEASUREMENT

The Department will measure only the bid items listed. All other items required to complete the construction shall be incidental to the listed bid items.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Other than the bid items listed, The Department will not measure Site Preparation for payment, but shall be incidental to the other items of the work.

C. Dense Graded Aggregate. See Section 302.04.

D. Crushed Aggregate Size No. 2. The Department will measure the quantity in tons.

E. Geotextile Fabric Type IV. See Section 214.04, except the Department will not measure laps, seams, cut-offs, or waste.

F. Erosion Control. See Special Note for Erosion Control.

G. Asphalt Milling and Texturing. See Section 408.04.

H. Remove Median. The department will measure removed median in square yards.

I. JPC Pavement-10 Inch. See Sections 501.04.01, 501.04.06 and 501.04.07, except the Department will field measure the actual area placed.

J. Joint Sealing. The Department will not measure sawing, cleaning, and sealing joints, but shall be incidental to JPC Pavement-10 Inch.

K. Smooth Dowels, Deformed Tie Bars, and Hook Bolts. The Department will not measure smooth dowels, deformed tie bars, and hook bolts, but shall be incidental to JPC Pavement-10 Inch.

L. Property Damage and Restoration. The Department will not measure Property Damage and Restoration but shall be incidental to the applicable items the other items of work.

IV. BASIS OF PAYMENT

The Department will make payment only for the bid items listed. All other items required to complete the construction shall be incidental to the bid items listed.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Dense Graded Aggregate. See Section 302.05.

C. Accept payment at the Contract unit price per ton as full compensation for all labor, materials, equipment, and incidentals for furnishing and placing Crushed Aggregate Size No. 2.

D. Geotextile Fabric Type IV. See Section 214.05, except the Department will not measure laps, seams, cut-offs, or waste.

E. Asphalt Milling and Texturing. See Section 408.05.01. Accept payment at the Contract unit price per ton as full compensation for all labor, materials, equipment, and

JPC Pavement
Page 6 of 6

incidentals for removing and disposing of asphalt pavement and underlying base materials.

F. Remove Median. Accept payment at the Contract unit price per square yard as full compensation for all labor, materials, equipment, and incidentals for removing and disposing of concrete median.

G. JPC Pavement-10 Inch. See Section 501.05.

SPECIAL NOTE FOR STAKING

In addition to the requirements of Section 201, perform the following:

1. Contrary to Section 201.03.01, perform items 1-3 usually performed by the Engineer; and
2. Verify intersection lane profile and alignment and prepare a Drainage Development Worksheet to provide for positive drainage upon completion of construction; and
3. Determine and layout profile line and grade; and
4. Prior to incorporating into the work, obtain the Engineers approval of all designs and revisions to be provided by the Contractor; and
5. Produce and furnish to the Engineer "As Built" plans; and
6. Perform any and all other staking operations required to control and construct the work.

SPECIAL NOTE FOR LIQUIDATED DAMAGES

In addition to the requirements of Section 108.09, the Department will apply liquated damages in the amount of \$1,000.00 per calendar day or part of a day that there is not at least one lane open to traffic in both directions.

In addition to the requirements of Section 108.09, the Department will apply liquated damages in the amount of \$1,000.00 per calendar day or part of a day that a drop-off greater than four (4) inches is present within six (6) feet of traffic during non-working hours.

The Department will apply all liquidated damages 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

COORDINATION OF WORK WITH OTHERS

Be advised, there may be active project(s) adjacent to or within this project. These may be KYTC administered contracts, work being performed as part of a KYTC issued encroachment permit, or work being performed by Department forces. The Engineer will coordinate the work of any other Contractors, permit holders, or the Department' forces. See Sections 105.06, 107.06 and 107.14 of the 2019 Standard Specifications.

SPECIAL NOTE FOR SHOULDER PREPARATION

Excavate, grade, shape, and compact a shoulder trench for asphalt shoulders as shown on the typical sections and phasing diagrams and as directed by the Engineer to provide proper template and foundation for the shoulder resurfacing. Retain possession of materials excavated from the trench and use to build the shoulder wedge. Waste excess excavated materials 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.

The Department will measure "Trenching for Shoulders" in linear feet at the pavement/shoulder edge. Accept payment at the contract unit price per linear foot as full compensation for all labor, materials, equipment and incidentals for excavating and compacting the shoulder trench, constructing the shoulder wedge, and disposing of waste.

SPECIAL NOTE FOR SINGLE ASPHALT SEAL (A-2)

Prior to sealing, prepare surface by placing approximately 2 inches of compacted DGA over the area to be sealed. Use RS-2 or RS-2C asphalt material that is compatible with the seal aggregate. Apply an A-2 Seal Coat on the shoulder around guardrail, end treatments, and other areas designated by the Engineer. Apply the A-2 Seal Coat at the rate of 2.8 lbs/sy for asphalt seal coat and 20 lbs/sy of size #9M seal coat aggregate. The Engineer may adjust the rate of application as conditions warrant.

Use caution in applying liquid asphalt material to avoid over spray getting on curbs, gutter, barrier walls, bridges, guardrail, and other roadway appurtenances.

SPECIAL NOTES FOR GUARDRAIL

I. DESCRIPTION

Except as specified herein, perform all work in accordance with the Department's 2019 Standard and Supplemental Specifications and Standard and Sepia Drawings, current editions. Article references are to the Standard Specifications.

Furnish all equipment, labor, materials, and incidentals for the following work items:

(1) Site preparation; (2) Remove existing guardrail system; (3) Construct Guardrail and End Treatments; (4) Construct Delineators for Guardrail; (5) Maintain and Control Traffic; and (6) All other work specified as part of this contract.

II. MATERIALS

Except as specified herein, provide for all materials to be sampled and tested in accordance with the Department's Sampling Manual and make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Guardrail. Furnish guardrail system components according to section 814 and the Standard and Sepia Drawings; except use steel posts only, no alternates.

C. Delineators for Guardrail. Furnish Bi-Directional White Delineators for Guardrail according to the Sepia Drawing 32.

D. Erosion Control. See Special Notes for Erosion Control.

III. CONSTRUCTION METHODS

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Remove Guardrail and Site Preparation. Remove existing guardrail system including the guardrail end treatments and all other elements of the existing guardrail system as per Section 719.03.07 and 719.03.07. Be responsible for all site preparation, including but not limited to, clearing and grubbing, excavation, embankment, and removal of all obstructions or any other items; regrading, reshaping, adding and compacting of suitable materials on the existing shoulders to provide proper template or foundation for the guardrail; filling voids left as the result of removing existing guardrail and guard posts with dry sand; temporary pollution and erosion control; disposal, of excess and waste materials

Guardrail Page 2 of 3

and debris; and final dressing, cleanup, and seeding and protection. Perform all site preparation as approved or directed by the Engineer.

C. Guardrail. Except as specified herein, construct guardrail system according to Section 719 and the Standard Drawings. Locations listed on the summary and/or shown on the drawings are approximate only. The Engineer will determine the exact termini for individual guardrail installations at the time of construction. Unless directed otherwise by the Engineer, provide a minimum of two (2) feet clearance from the paved shoulder edge. Construct radii at entrances and road intersections as directed by the Engineer.

Erect guardrail to the lines and grades shown on current Standard Drawings or as directed by the Engineer by any method approved by the Engineer which allows construction of the guardrail to the true grade without apparent sags.

When removing existing guardrail and installing new guardrail, do not leave the blunt end exposed where it would be hazardous to the public. When it is not practical to complete the construction of the guardrail and the permanent end treatments and terminal sections first, provide a temporary end by connecting at least 25 feet of rail to the last post, and by slightly flaring, and burying the end of the rail completely into the existing shoulder. If left overnight, place a drum with bridge panel in advance of the guardrail end and maintain during use.

D. Delineators for Guardrail. Install delineators for guardrail according to the Sepia Drawing 32, except space 50 feet on centers.

E. Property Damage. Be responsible for all damage to public and/or private property resulting from the work. Restore damaged roadway features and private property at no additional cost to the Department.

F. Coordination with Utility Companies. Locate all underground, above ground and overhead utilities prior to beginning construction. Be responsible for contacting and maintaining liaison with all utility companies that have utilities located within the project limits. Do not disturb existing overhead or underground utilities. It is not anticipated that any utility facilities will need to be relocated and/or adjusted; however, in the event that it is discovered that the work does require that utilities be relocated and/or adjusted, the utility companies will work concurrently with the Contractor while relocating their facilities. Be responsible for repairing all utility damage that occurs as a result of guardrail operations at no additional cost to the Department.

G. Right of Way Limits. The Department has not established exact limits of the Right-of-Way. Limit work activities to obvious Right-of-Way, permanent or temporary easements, and work areas secured by the Department through consent and release of the adjacent property owners. Be responsible for all encroachments onto private lands.

Guardrail
Page 3 of 3

H. Disposal of Waste. Dispose of all removed concrete, debris, and other waste and debris 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.

I. Final Dressing, Clean Up, and Seeding and Protection. Apply Class A Final Dressing to all disturbed areas, both on and off the Right-of-Way. Sow all disturbed earthen areas according to the Special Notes for Erosion Control.

J. Erosion Control. See Special Notes for Erosion Control.

IV. METHOD OF MEASUREMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site preparation. Other than the bid items listed, the Department will **NOT** measure Site Preparation for separate payment but shall be incidental to Remove Guardrail, Guardrail, and End Treatments as applicable.

C. Remove Guardrail and End Treatments. See Section 719.04.08.

D. Guardrail. See Section 719.04.01.

E. End Treatments. See Section 719.04.04.

F. Delineators for Guardrail. See Sepia Drawing 32.

E. Erosion Control. See Special Notes for Erosion Control.

V. BASIS OF PAYMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Remove Guardrail and End Treatments. See Section 719.05.

D. Guardrail. See Section 719.05.

E. End Treatments. See Section 719.05.

C. Delineators for Guardrail. See Sepia Drawing 32.

SPECIAL NOTE FOR ASPHALT MILLING & TEXTURING

Remove the existing Asphalt Pavement by milling machine without disturbing the underlying base or damaging the adjacent pavement remaining in place. Do not damage the existing Pavement on US 25E or entrances along the route not intended to be removed. The nominal depth of the JPC Pavement shall be 10 inches; however, the final grade is to be transitioned to match adjacent pavement that is to remain in place; therefore, the actual thickness of the milling may be greater than 10 inches in some areas.

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.

SPECIAL NOTE FOR PRIME

Prior to constructing asphalt base for shoulders, apply Asphalt Material for Tack for prime at a rate of 1 lb/sy of undiluted asphalt residue. If an acceptable prime coat is not consistently achieved, the Engineer may require dilution with an equal amount of water and application of the diluted material at the rate of 2 lbs/sy. Except as specified herein, apply prime according to Section 406.

SPECIAL NOTE FOR TYPICAL SECTION DIMENSIONS

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

1-3725 Typical Section Dimensions
01/02/2012

TRAFFIC CONTROL PLAN

TRAFFIC CONTROL GENERAL

Except as provided herein, traffic shall be maintained in accordance with the 2019 Standard Specifications, Special Notes and Special Provisions, and the Standard and Sepia Drawings, current editions. Except for the roadway and traffic control bid items listed, all items of work necessary to maintain and control traffic will be paid at the lump sum bid price to "Maintain and Control Traffic". All lane closures used on the project will be in compliance with the appropriate Standard Drawings. Do NOT use cones for lane closures or shoulder closures.

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. Traffic control devices used on this project must conform to the *Manual on Uniform Traffic Control Devices*, current edition.

The Department will be responsible for the movement of traffic signals to accommodate the changing traffic control scheme for the duration of the project. Notify the Engineer of plans to switch the traffic control phasing 48 hours prior to the operation.

TRAFFIC COORDINATOR

Furnish a Traffic Coordinator for a Classified Project according to Section 112.03.12. During any period when a lane closure is in place, the Traffic Coordinator will arrange for personnel to be present on the project at all times to inspect the traffic control, maintain the signing and devices, and relocate variable message boards as queue lengths change. The personnel will have access on the project to a radio or telephone to be used in case of emergencies. The Traffic Coordinator will report all incidents throughout the work zone to the Engineer on the project. The Contractor will furnish the name and telephone number where the Traffic Coordinator can be contacted at all times.

PROJECT PHASING & CONSTRUCTION PROCEDURES

Maintain a minimum of one traffic lane (mainline) in each direction at all times during construction. Provide a clear lane width of ten (10) feet but provide for passage of vehicles of up to 16 feet in width. If traffic should be stopped due to construction operations, and a school bus on an official run arrives on the scene, make provisions for the passage of the bus as quickly as possible.

PHASE 1 – SHOULDER TRENCHING AND ASPHALT PLACEMENT

Trench the right shoulder on US 25W zero (0) to 12 feet wide to a depth of eight (8) inches. Place conduit for lead-ins for quadrapole loops and construct two (2) three and

Traffic Control Plan
Page 2 of 12

one half (3½) inch courses of Class 2 Asphalt Base 1.0D PG64-22. Perform this work in order to place both lanes of traffic on the existing shoulder and right thru lane in order for JPC placement to be completed left of the centerline. The Right Eastbound lane of US 25E will be closed while a pavement edge drop-off greater than 1 inch exists along that lane. Use material from trenching to build the shoulder out to a three (3) foot top width and then tied down to the existing slope. Remove guardrail during this phase.

PHASE 2 – JPC PLACEMENT LEFT OF CENTERLINE

Channelize traffic using drums onto the thru lanes of US 25W right of centerline throughout the project. Remove the asphalt pavement from left of centerline to a depth of 10 inches, prepare the underlying base if necessary, and place the new JPC Pavement-10 IN. Trench the left shoulder measuring from 0 to 10 feet to a depth of eight (8) inches and construct two (2) three and one half (3½) inch courses of Class 2 Asphalt Base 1.0D PG64-22 and a one (1) inch course of Class 2 Asphalt Surface 0.38D PG64-22 adjacent to the new JPC Pavement for future traffic shifts. Use material from trenching to build the shoulder out to a three (3) foot top width and then tied down to the existing slope. Construct the Dense Graded Aggregate (DGA) shoulder with A-2 Chip Seal. Maintain a six foot buffer zone as shown in the typical sections around all construction work to protect shoulder drop-offs areas and to provide constructability issues.

PHASE 3 – JPC PLACEMENT RIGHT OF CENTERLINE

Channelize traffic using drums to the thru lanes of US 25W left of centerline throughout the project. Remove the asphalt pavement from right of centerline to a depth of 10 inches, prepare the underlying base if necessary, and place the new JPC Pavement 10 IN. Place Preformed Quadrapole Loops for the two left turning lanes and the thru lane, run the lead-in thru conduit placed in Phase 1. Construct and construct the final one (1) inch shoulder coarse measuring from 4 to 10 feet of Class 2 asphalt Surface 0.38D PG64-22. Construct the Dense Graded Aggregate (DGA) shoulder with A-2 Chip Seal. Maintain a six foot buffer zone as shown in the typical sections around all construction work to protect shoulder drop-offs areas and to provide constructability issues.

PHASE 4 – PERMANENT STRIPING, ARROW PLACEMENT AND GUARDRAIL

Place Durable Type 1 Tape for Pavement Markings (Straight and Curve Arrows, Permanent Striping, Stop Bars, Island Markings, Crosshatching) on JPC pavement and Permanent striping Paint – 6 Inch on asphalt pavement.

PHASE 5 – GUARDRAIL

Remove and replace guardrail system.

Traffic Control Plan
Page 3 of 12

PHASE 6 – HIGH MAST LIGHTING

Construct High Mast Lighting. Phase 6 may be constructed concurrent with Phase 1 or 5.

LANE CLOSURES

Limit the lengths of lane closures to only that needed for actual operations in accordance with the specified phasing specified herein, or as directed by the Engineer. Lane closures must be monitored 24 hours a day by the contractor in order to provide safe travel for the general public and to ensure protection of the work zone.

SIGNS

The Engineer may require additional signing and/or traffic control devices in addition to the items shown on the Standard Drawings. Sign posts and splices shall be compliant with NCHRP 350 or MASH. Manufacturer's documentation validating this compliance shall be provided to the Engineer prior to installation. Signs, including any splices, shall be installed according to manufacturer's specifications and installation recommendations. Contrary to section 112.04.02, the Department will measure only long term signs (signs intended to be continuously in place for more than 3 days) for payment. The Department will not measure; short term signs (signs intended to be left in place for 3 days or less) for payment, but shall be incidental to Maintain and Control Traffic. Contrary to Section 112.04.02, the Department will measure individual signs only once for payment, regardless of how many times they are erected or relocated. The Department will not measure replacements for damaged signs directed by the Engineer to be replaced due to poor condition or reflectivity.

BARRICADES

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

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

Traffic Control Plan
Page 4 of 12

VARIABLE MESSAGE SIGNS

Provide variable message signs in advance of and within the project at locations to be 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 variable message signs as directed by the Engineer. Place variable message signs one mile in advance of the anticipated queue at each lane closure. As the actual queue lengthens and/or shortens relocate or provide additional variable 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 locations designated may vary as the work progresses. The messages required to be provided shall be designated by the Engineer. In the event of damage or mechanical/electrical failure, the Contractor shall repair or replace the Variable Message Sign within 24 hours. The Department will measure for payment the maximum number of variable message signs in concurrent use at the same time on a single day on all sections of the contract. Individual variable message signs will be measured only once for payment, regardless of how many times they are set, reset, removed, and relocated during the duration of the project. Replacements for damaged variable message signs directed by the Engineer to be replaced due to poor condition or readability will not be measured for payment.

ARROW PANEL

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. Individual arrow panels will be measured only once for payment, regardless of how many times they are set, reset, removed, and relocated during the duration of the project. Replacements for damaged arrow panels directed by the Engineer to be replaced due to poor condition or readability will not be measured for payment. Arrow panels will remain the property of the Contractor after construction is complete.

TEMPORARY ENTRANCES

The Contractor will not be required 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. The time during which a farm or residential entrance is blocked shall be the minimum length of time required for actual operations, shall not be extended for the Contractor's convenience, and in no case shall exceed 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.

Payment will be allowed at the unit price bid for all asphalt materials required to construct and maintain any temporary entrances which may be necessary to provide temporary access; however,

Traffic Control Plan
Page 5 of 12

no direct payment will be allowed for aggregates, excavation and/or embankment needed. The Engineer will determine the type of surfacing material, asphalt or aggregate, to be used at each entrance.

INTERSECTION MARKINGS

Consider the locations listed on the summary as approximate only. Prior to construction, locate and document the locations of the existing markings. After placing JPC Pavement, replace the markings at their approximate existing locations or as directed by Engineer. Place markings not existing prior to resurfacing as directed by the Engineer. Place Durable Type I Tape markings on JPC pavement and Thermoplastic markings on asphalt pavement. Do not apply Durable Pavement markings without written permission from the Engineer.

PAVEMENT STRIPING

Coordinate the installation of all temporary and permanent striping, Durable Type I Tape, and Thermoplastic Markings with the Engineer. There will be a deviation from the existing striping plan; the Engineer will provide the new striping plan prior to the construction of the new pavements or shoulder. Do not install temporary pavement striping, permanent pavement striping, and/or Durable Pavement markings without written permission from the Engineer.

Install Temporary Striping according to Section 112 and permanent striping according to 714 with the following exceptions:

1. Coordinate installation with the Engineer; and
2. Do not install temporary or permanent pavement striping without written permission from the Engineer; and
3. Place Temporary or Permanent Striping before opening a lane to traffic; and
4. Include Edge Lines In Temporary Striping; and
5. Place 6 inch lines for Permanent and Temporary Striping; and
6. Temporarily cover skip and solid lines through the length of the tapers for lane closures and other striping that is to remain in place after construction as directed by the Engineer with 6" black removable tape.
7. If the Contractor's operations or phasing requires temporary markings that must subsequently be removed from the final surface course, use an approved 6 inch removable lane tape; however, the Department will measure removable lane tape as Temporary Striping 6 Inch.
8. Consider permanent removal of all other pavement striping for traffic control incidental to Maintain and Control Traffic.
9. Place permanent striping on asphalt pavement according to Section 713.

Traffic Control Plan
Page 6 of 12

PAVEMENT EDGE DROP-OFFS

A pavement edge between opposing directions of traffic or lanes that traffic is expected to cross in a lane change situation shall not have an elevation difference greater than 1½". Warning signs (MUTCD W8-9 or W8-9A, or W8-11) shall be placed in advance of and at 500 foot intervals throughout the drop-off area. Dual posting on both sides of the traveled way shall be required. All transverse transitions between newly surfaced pavement and the existing pavement areas that traffic may cross shall be wedged with asphalt mixture for leveling and wedging. Remove wedges prior to placement of the final surface course.

Pavement edges that traffic is not expected to cross, except accidentally, shall be treated as follows:

Less than 2" - No protection required.

2" to 4" - Place plastic drums, vertical panels, or barricades every 50 feet. The Contractor may use cones in place of plastic drums, panels, and barricades during daylight working hours only. Wedge drop-offs less than 6 feet from traffic with DGA or asphalt surface mixture 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.

4 inches and greater – If more than 6 feet from traffic, drop-offs 4 inches or greater will be allowed. Protect with a lane or shoulder closure using drums or barricades; the Department will not allow cones to be used lane or shoulder closures for drop-offs 4 inches or greater. Place drums or barricades with spacing not to exceed 25 feet. Place Type III Barricades facing oncoming traffic at each drop off. Once excavation begins, work continuously to construct JPC or asphalt base to eliminate the drop-off. Do not allow drop-offs greater than 4 inches within 6 feet of traffic during non-working hours.

Traffic Control Plan
Page 7 of 12

USE AND PLACEMENT OF CHANGEABLE MESSAGE SIGNS

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

Application

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

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

CMS should not be used for:

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

Traffic Control Plan Page 8 of 12

Messages

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

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

Placement

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

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

Traffic Control Plan
 Page 9 of 12

Standard Abbreviations

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

<u>Word</u>	<u>Abbrev.</u>	<u>Example</u>
Access	ACCS	ACCIDENT AHEAD/USE ACCS RD NEXT RIGHT
Alternate	ALT	ACCIDENT 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	ACCIDENT ON AA HWY/EXPECT DELAYS
Hour	HR	ACCIDENT 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 DELWAYS I75/USE ALT RTE
Mile	MI	ACCIDENT 3 MI AHEAD/ USE ALT RTE
Minor	MNR	ACCIDENT 3 MI MNR DELAY

Traffic Control Plan
Page 10 of 12

Minutes Northbound	MIN N-BND	ACCIDENT 3 MI/30 MIN DELAY N-BND I75 CLOSED/ DETOUR EXIT 50
Oversized	OVRSZ	OVRSZ COMM VEH/USE I275 NEXT RIGHT
Parking Parkway	PKING PKWY	EVENT PKING NEXT RGT CUM PKWAY TRAF/DETOUR EXIT 60
Prepare Right Road Roadwork	PREP RGT RD RDWK	ACCIDENT 3 MIL/PREP TO STOP EVENT PKING NEXT RGT HAZMAT IN RD/ALL TRAF EXIT 25 RDWK NEXT 4 MI/POSSIBLE DELAYS
Route Shoulder Slippery Southbound	RTE SHLDR SLIP S-BND	MAJ DELAYS I75/USE ALT RTE SHLDR CLOSED NEXT 5 MI SLIP COND POSSIBLE/ SLOW SPD S-BND I75 CLOSED/DETOUR EXIT 50
Speed Street Traffic	SPD ST TRAF	SLIP COND POSSIBLE/ SLOW SPD MAIN ST CLOSED/USE ALT RTE 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 NO USE THESE ABBREVIATIONS.

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

Traffic Control Plan
Page 11 of 12

TYPICAL MESSAGES

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

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

Traffic Control Plan
Page 12 of 12

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

SPECIAL NOTE FOR PREFORMED QUADRAPOLE LOOPS

1.0 DESCRIPTION. Be advised that there are existing traffic signal loop detectors within the construction limits of this project. Except as specified herein, perform all work in accordance with the Department's 2019 Standard/Supplemental Specifications, Special Provisions and Special Notes, and Standard and Sepia Drawings, current editions, and as directed by the Engineer. Article references are to the Standard Specifications. Furnish all materials, equipment, labor, and incidentals for placement of preformed quadrapole loops, preformed loops, preformed loop/lead-In, loop lead-in, conduit, junction box, wiring, and connection to the existing signal system.

1.1 PREBID REQUIREMENTS. Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a Contract is awarded. Information provided in the Plans regarding types and quantities of work is not to be taken as an accurate or complete evaluation of the materials and conditions to be encountered during construction. The bidder must make his own determinations as to the conditions encountered.

2.0 MATERIALS. Except as provided herein, provide materials according to Subsection 723.02 and Section 835. Provide for materials to be sampled and tested in accordance with the Department's Sampling Manual. Make materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing, unless otherwise specified in this Special Note.

2.1 Preformed Quadrapole Loops or Preformed loops. All preformed loop wire shall be 16-gauge THWN stranded copper, single conductor in a 2-4-2 configuration for Quadrapole as shown on the Quadrapole Loop detail. If it is a 6'x6' loop, the loop shall have 3 turns installed in the preformed loop. The loop shall be housed in a class A oil resistant heavy-duty reinforced rubber hose with a 250-PSI internal pressure rating. Hose for the loop assembly shall be one continuous piece. The 3/8" I.D. (5/8" O.D.) hose shall be factory assembled. Preformed loops shall be pre-wired. The loop configuration lengths shall be assembled for the specific application. Hose tee connections shall be high temperature synthetic rubber. The tee shall be of proper size to attach directly to the hose, minimizing the glue joints. The tee shall have the same flexible properties as the hose to insure that the whole assembly can conform to pavement movement and shifting without cracking or breaking. Bid item 20453ES835 is used for 6'x30' loops, and bid item 20452ES835 is used for 6'x6' loops.

2.2 Preformed Loop/Lead-In. All preformed loop/lead-in (homerun) wire shall be 16-gauge THWN stranded copper, single conductor in a 2 configuration for homerun wire as shown on the quadrapole Loop detail. The homerun wire is from the junction box to the edge of the quadrapole loop. The home run shall be housed in a class A oil resistant heavy-duty reinforced rubber hose with a 250-PSI internal pressure rating. Hose for the loop and home run wire assembly shall be one continuous piece from the hose tee. The 3/8" I.D. (5/8" O.D.) hose shall be factory assembled. Homerun wires shall be pre-wired. The homerun lengths shall be assembled for the specific application. Hose tee connections shall be high temperature synthetic rubber. The tee shall be of proper size to attach directly to the hose, minimizing the

Preformed Quadrapole Loops
Page 2 of 11

glue joints. The tee shall have the same flexible properties as the hose to insure that the whole assembly can conform to pavement movement and shifting without cracking or breaking.

2.3 Maintain and Control Traffic. See Traffic Control Plan.

2.4 Sand. Furnish natural sand meeting the requirements of Subsection 804.04.01.

2.5 Seeding. Furnish Seed Mix Type I.

2.6 Loop Saw Slot and Fill. Furnish loop sealant, backer rod, and non-shrink grout according to the Saw Slot Detail. Use if sawing into existing pavement. Usually, the preformed loops will be laid on the ground under the final concrete inlay.

2.7 Junction Boxes. Furnish junction box type B, #57 aggregate, and geotextile filter type IV according to junction box detail.

2.8 Cable No. 14/1 pair. Furnish cable that is specified in Section 835. Cable shall be ran splice free. This shall include splice kits to connect to the preformed loop/lead-in (homerun).

2.9 Conduit. Furnish and install appropriate conduit from transitions to the roadway, junction boxes and poles. See details below.

3.0 CONSTRUCTION. Except as specified herein, install and test Preformed Quadrapole Loops in accordance with Section 723 and the drawings.

3.1 Testing. The Contractor shall test all loops and cable no 14/1 pair (lead-in) according to Subsection 723.03.17 before and after concrete inlay construction. The Contractor may have to separate the loop from the lead-in to perform this test. If the loop/lead-in meets the requirement in Section 723 at the controller cabinet, the loop/lead-in shall not be replaced. If existing loops do not meet the requirements in Subsection 723.03.17, the loops shall be replaced. Replacement loops may be installed either before or after the milling process.

The Contractor shall verify that loops (both existing and replacement loops) meet the requirements per Subsection 723.03.17 before the final concrete inlay is laid. If loops do not meet the conditions of Subsection 723.03.17, the Contractor shall replace them. If replacement loops have to be reinstalled, the costs of reinstallation shall be incidental loop to the concrete inlay bid item. The Contractor shall re-splice loops to the lead-in with the proper splice as noted in the spec book.

3.2 Coordination. Notify the Engineer in writing, two (2) weeks prior to beginning any work. The Engineer will contact the District Traffic Engineer to coordinate the Department's operations with the Contractor's work. The electrical Contractor shall coordinate with the general Contractor and inspector to ensure the preformed loops are located and installed prior to placing the concrete inlays.

Preformed Quadrupole Loops
Page 3 of 11

3.3 Connection. The Contractor shall schedule all signal loop installation to ensure the new loops are connected to the lead-in and operational within 5 calendar days of the old loops being damaged and/or disconnected. This requirement includes damage caused by any work activity associated with the project. If the new signal loops are not functioning as intended following 5 calendar days, the Department may assess Liquidated Damages at a rate of \$500 per calendar day per signal location until the loops are operating at pre-construction conditions. All liquidated damages will be applied cumulatively.

3.4 Maintain and Control Traffic. See Traffic Control Plan.

3.5 Concrete inlays. The electrical Contractor shall coordinate with the concrete Contractor and the resident engineer to get preformed loops installed in a timely matter. The Contractor may have to use 1" PVC conduit in sections of the concrete inlay for transition from lane to lane so that the preformed loop/lead-in can be connected to the preformed loop. The 1" PVC conduit shall be incidental to the project. The Contractor may have to use the preformed loop to maintain detection prior to placement of the concrete inlay. The preformed loop may be attached to the top pavement as recommended by the manufacturer.

3.6 Milling. On projects involving milling and texturing of the existing pavement, install preformed loops and/or preformed loop/lead-in in the existing pavement before or after performing the milling and texturing. After milling, the remnant contents of the existing saw slot (grout, loop wires, backer rod, and/or loop sealant) may not be flush with the top of the milled portion of the surface. In such cases, 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 and stabilizing the saw slot and shall consider this work incidental to milling.

3.7 Loop Saw Slot and Fill. This will only be used if installed in existing concrete or in asphalt. The following is a typical step by step procedure for the installation of a loop.

- 1) Carefully mark the slot to be cut, perpendicular to the flow of traffic and centered in the lane.
- 2) Make each saw-cut 3/4-inch wide and at a depth such that the top of the backer rod is a minimum of 4 inches below the surface of asphalt/concrete pavement.
- 3) Drill a 1½ inch core hole at each corner and use a chisel to smooth corners to prevent sharp bends in the wire.
- 4) 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.
- 5) Completely dry the slots and drilled cores and within 1 foot on all sides of the slots.
- 6) 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 45° angle to the conduit adjacent to the roadway. There will be one for each homerun.
- 7) 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.
- 8) Place the preformed loop and homerun splice-free from the termination point (cabinet or junction box) to the preformed loop.

Preformed Quadrapole Loops
Page 4 of 11

- 9) Push the preformed loop and homerun into the saw slot with a blunt object such as a wooden stick. Make sure that the preformed loop and homerun is pushed fully to the bottom of the saw slot. Screwdrivers shall not be used.
- 10) Install duct sealant to a minimum of 1 inch deep into the cored 1½ inch hole.
- 11) Apply loop sealant from the bottom up and fully encapsulate the preformed loop and homerun in the saw slot. The preformed loop and homerun should not be able to move when the sealant has set.
- 12) Cover the encapsulated preformed loop and homerun 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.
- 13) 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.
- 14) Clean up the site and dispose of all waste off the project.
- 15) Ensure that the grout has completely cured prior to subjecting the loop to traffic. Curing time varies with temperature and humidity.

3.8 Final Dressing, Clean Up, and Seeding. After all work is completed, clean work sites and all disturbed areas. Dispose of all waste and debris off the right of way at sites obtained by the Contractor at no additional cost to the Department. Sow all disturbed earthen areas with Seed Mix Type I.

3.9 Removal: The Contractor shall remove all existing junction boxes, wire from spans/poles/junction boxes/conduits, and conduits. The removal will be incidental to the project.

3.10 Property/roadway Damage. The Contractor shall be responsible for all damage to public and/or private property resulting from the work. Upon completion of the work, restore all disturbed highway features and private property in like kind design and materials at no additional cost to the Department.

3.11 Right-of-Way Limits. The Department has not established exact limits of Right-of-Way. Limit work activities to obvious Right-of-Way and work areas secured by the Department through Consent and Release of the adjacent property owners. Contractor is responsible for all encroachments onto private lands.

3.12 Utility Clearance. Work around and do not disturb existing utilities. The Department does not anticipate any utility impacts for loop installation. If utilities are impacted, work with associated utility companies to resolve issues.

3.13 Control. 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 permit other contractors, state forces, 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 each other's work will be reduced to a minimum. The Contractor agrees to make no claims against the Department for additional compensation due to delays or other conditions created by the operations of such other parties. Should a difference of opinion

Preformed Quadrapole Loops
Page 5 of 11

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 work in general harmony and in a satisfactory manner, and the Engineer's decision shall be final and binding upon the Contractor.

3.14 Bore and Jack. Except for situations outlined in 3.15, bore and jack will be used if the conduit is under pavement of any kind. The conduit shall be 2" rigid steel conduit under all pavement areas except for the area that the loop transition from the saw slot. The installation of conduit should follow the below detail.

3.15 Open Cut Roadway. With permission of the Engineer, roadway may be open cut if the conduit is under pavement. The conduit shall be 2" rigid steel conduit under all pavement areas except for the area that the loop transition from the saw slot. The installation of conduit should follow requirements per Section 723.

4.0 MEASUREMENT. See Subsection 723.04 for bid item notes. Additional bid items include the following:

4.1 Preformed loop quadrapole loops. Use bid note for loop wire in subsection 723.04.05.

4.2 Preformed loops. Use bid note for loop wire in subsection 723.04.05.

4.3 Preformed loop/lead-in. Use bid note for loop wire in subsection 723.04.05.

4.4 Loop Test. The Department will measure the quantity as each individual unit loop tested. The Department will not measure disconnection, reconnection, traffic control, re-splicing per specifications, before and after testing per note above, and any associated hardware for payment and will consider them incidental to this item of work.

5.0 PAYMENT. The Department will make payment for the completed and accepted quantities of listed items according to Subsection 723.05 in addition to the following:

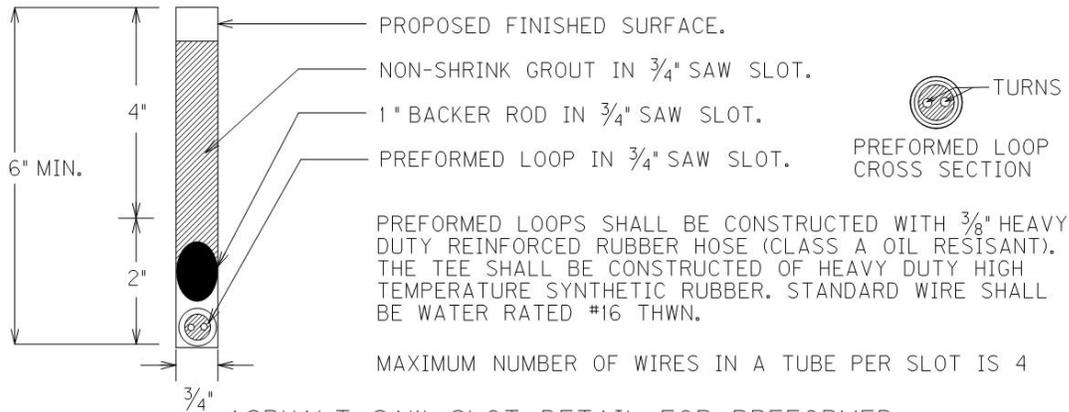
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
Conduit 1"	4792	Linear Foot
PVC Conduit – 1 ¼ inch – sch 80	24900EC	Linear Foot
PVC Conduit – 2 inch – sch 80	24901EC	Linear Foot
Conduit 2"	4795	Linear Foot
Preformed loop quadrapole loops	20453ES835	Linear Foot
Preformed loops	20452ES835	Linear Foot
Preformed loop/lead-in	4894	Linear Foot
Electrical Junction boxes type B	4811	Each
Loop Test	24963ED	Each
Trenching and Backfilling	4820	Linear Foot
Loop Wire	4830	Linear Foot
Cable-No. 14/1 Pair	4850	Linear Foot ¹
Loop Saw Slot and Fill	4895	Linear Foot ¹

Preformed Quadrapole Loops
Page 6 of 11

Bore and Jack Conduit	21543EN	Linear Foot ³
Open Cut Roadway	4821	Linear Foot ³

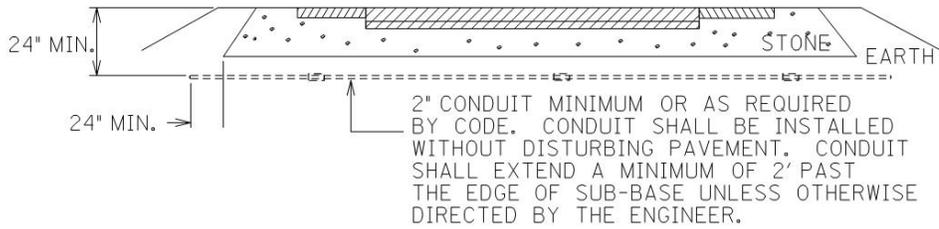
The Department will consider payment as full compensation for all work required under these notes and the Standard Specifications.

Preformed Quadrapole Loops
Page 7 of 11

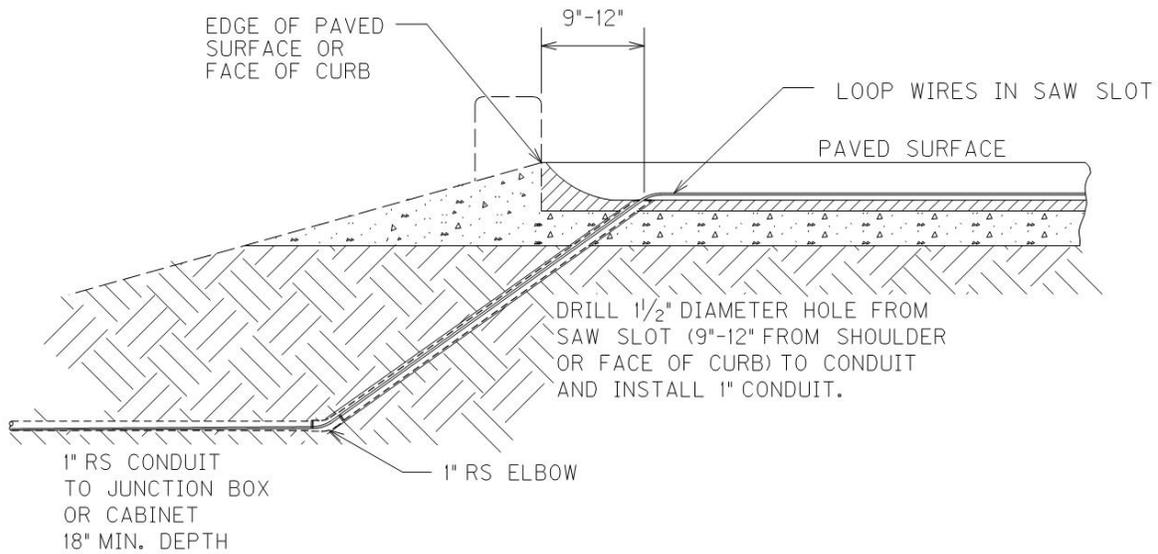


ASPHALT SAW SLOT DETAIL FOR PREFORMED

Use detail for concrete application
if concrete is four inches or less

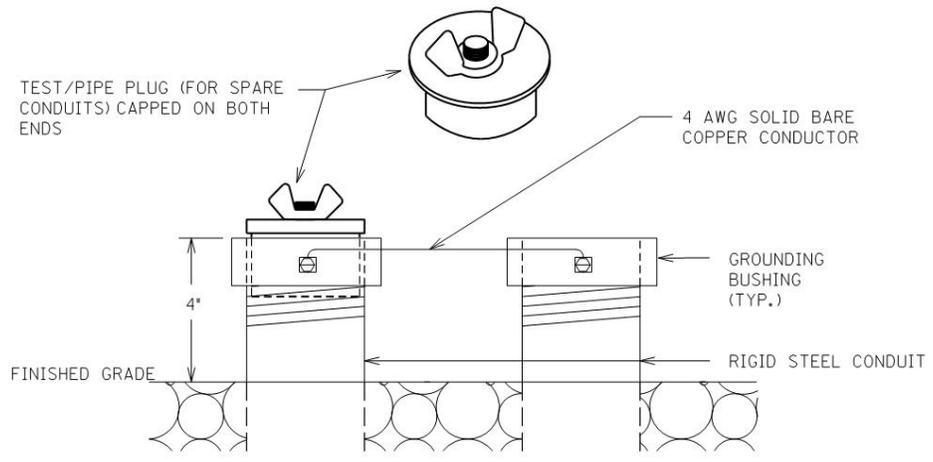


CONDUIT UNDER EXISTING PAVEMENT DETAIL



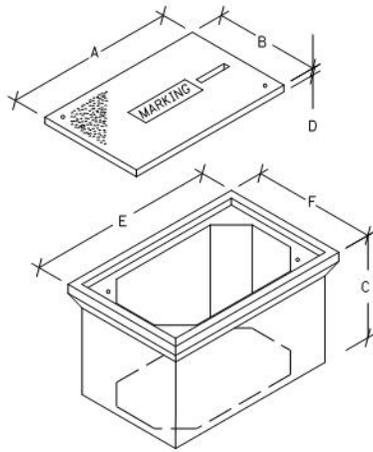
SAW SLOT EDGE OF PAVEMENT TRANSITION

Preformed Quadrupole Loops
Page 8 of 11



TEST/PIPE PLUG(FOR SPARE CONDUITS) AND GROUNDING DETAIL

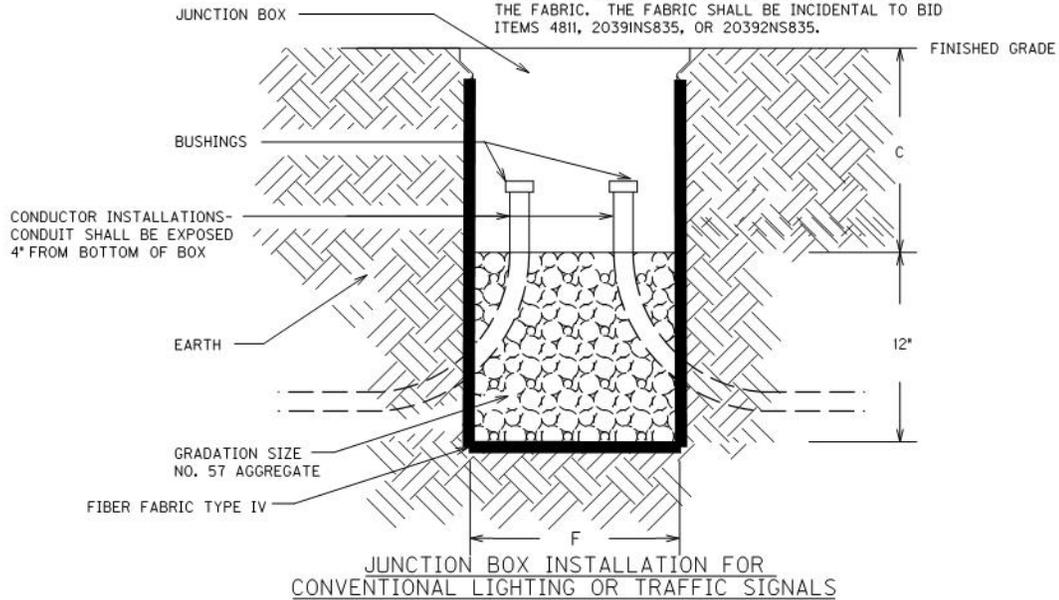
Preformed Quadrupole Loops
Page 9 of 11



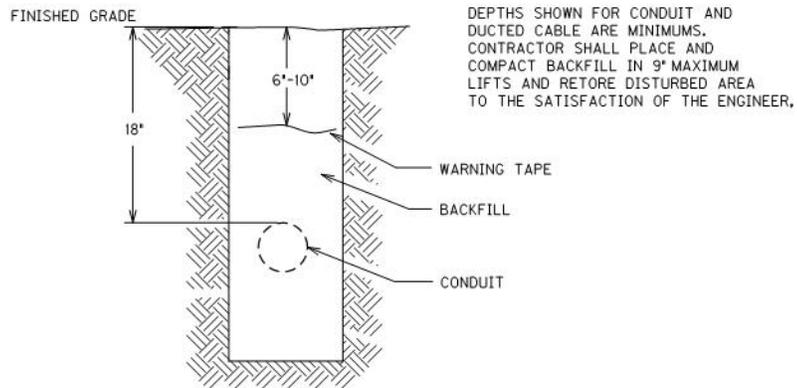
JUNCTION BOX DIMENSIONS (NOMINAL)						
	A	B	C	D	E	F
TYPE A	23"	14"	27"	2"	25"	15"
TYPE B	18"	11"	12"	1 3/4" *	20"	13"
TYPE C	36"	24"	30"	3"	38"	26"

* MINIMUM
NOTE: STACKABLE BOXES ARE PERMITTED

BEFORE THE INSTALLATION OF THE #57 AGGREGATE AND JUNCTION BOX, THE CONTRACTOR SHALL INSTALL GEOTEXTILE FILTER FABRIC TYPE IV IN THE HOLE. THE FABRIC SHALL EXTEND TO JUST BELOW THE LIP OF THE JUNCTION BOX AND SHALL BE CONTINUOUSLY ADHERED TO THE EXTERIOR OF THE BOX WITH ADHESIVE. ANY LOCATIONS WHERE CONDUITS ENTER THE BOX, THE FABRIC SHALL BE 'X CUT' ONLY AS MUCH AS NECESSARY TO ALLOW PASSAGE OF EACH INDIVIDUAL CONDUIT THROUGH THE FABRIC. THE FABRIC SHALL BE INCIDENTAL TO BID ITEMS 4811, 20391NS835, OR 20392NS835.

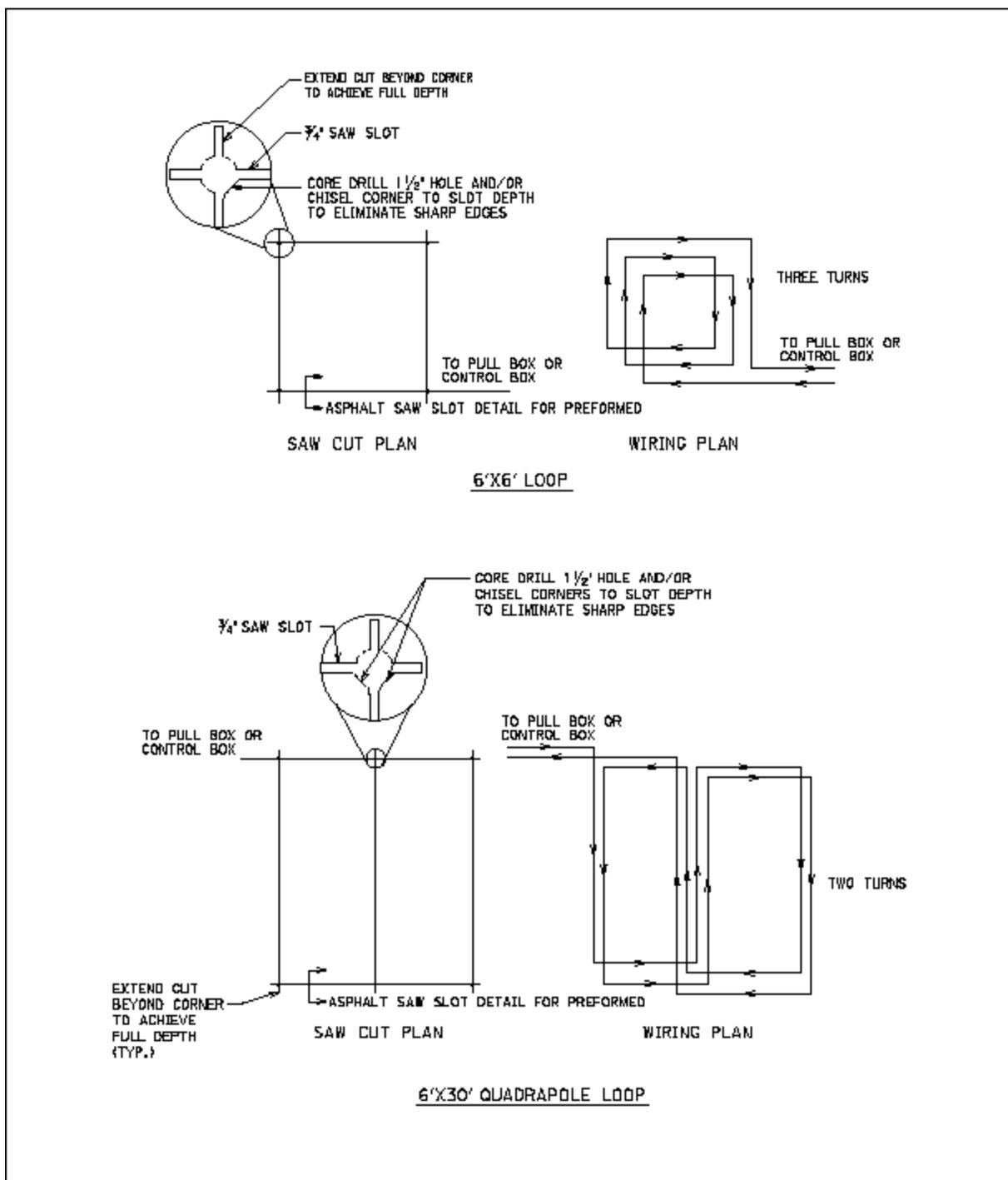


JUNCTION BOX INSTALLATION FOR
CONVENTIONAL LIGHTING OR TRAFFIC SIGNALS



CONDUIT AND WARNING TAPE TRENCH

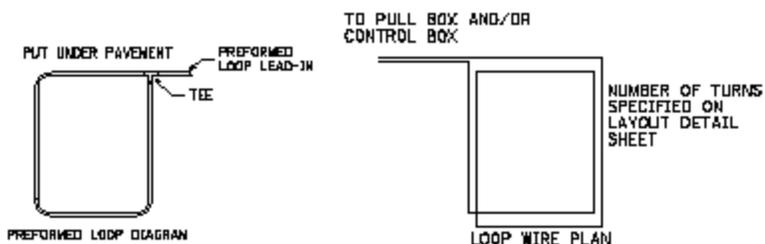
Preformed Quadrapole Loops
Page 10 of 11



Preformed Quadrapole Loops

Page 11 of 11

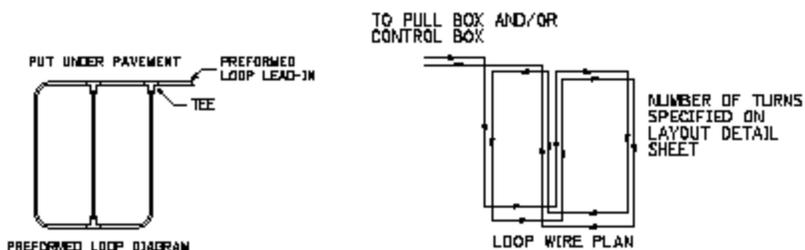
PREFORMED LOOP LEAD-IN SHALL BE TWISTED WITH THREE TO FIVE TURNS PER FOOT UNTIL TERMINATED AT FIELD CONNECTIONS IN THE CABINET OR CONNECTED TO SHIELDED CABLE.



STANDARD PREFORMED LOOP

•ALL LOOPS THAT ARE NOT QUADRAPLES SHALL BE STANDARD AND HAVE 3 TURNS

PREFORMED LOOP LEAD-IN SHALL BE TWISTED WITH THREE TO FIVE TURNS PER FOOT UNTIL TERMINATED AT FIELD CONNECTIONS IN THE CABINET OR CONNECTED TO SHIELDED CABLE.



QUADRAPOLE PREFORMED LOOP

•ALL 6'x30' LOOPS SHALL BE QUADRAPOLE AND SHALL HAVE A 2-4-2 CONFIGURATION

SPECIAL NOTE FOR EROSION CONTROL

I. DESCRIPTION

Perform all erosion and water pollution control work in accordance with the Department's Standard and Interim Supplemental Specifications, Special Provisions and Special Notes, and Standard and Sepia Drawings, current editions, and as directed by the Engineer. Section references are to the Standard Specifications. This work shall consist of:

(1) Developing and preparing a Best Management Practices Plan (BMP) tailored to suit the specific construction phasing for each site within the project; (2) Preparing the project site for construction, including locating, furnishing, installing, and maintaining temporary and/or permanent erosion and water pollution control measures as required by the BMP prior to beginning any earth disturbing activity on the project site; (3) Clearing and grubbing and removal of all obstructions as required for construction; (4) Removing all erosion control devices when no longer needed; (5) Restoring all disturbed areas as nearly as possible to their original condition; (6) Preparing seedbeds and permanently seeding all disturbed areas; (7) Providing a Kentucky Erosion Prevention and Sediment Control Program (KEPSC-RI) qualified inspector; and (8) Performing any other work to prevent erosion and/or water pollution as specified by this contract, required by the BMP, or as directed by the Engineer.

II. MATERIALS

Furnish materials in accordance with these notes, the Standard Specifications and Interim Supplemental Specifications, and applicable Special Provisions and Special Notes, and Standard and Sepia Drawings, current editions. Provide for all materials to be sampled and tested in accordance with the Department's Sampling Manual. Unless directed otherwise by the Engineer, make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing.

III. CONSTRUCTION

Be advised, these Erosion Control Plan Notes do not constitute a BMP plan for the project. Jointly with the Engineer, prepare a site specific BMP plan for each drainage area within the project in accordance with Section 213. Provide a unique BMP at each project site using good engineering practices taking into account existing site conditions, the type of work to be performed, and the construction phasing, methods and techniques to be utilized to complete the work. Be responsible for all erosion prevention, sediment control, and water pollution prevention measures required by the BMP for each site. Represent and warrant compliance with the Clean Water Act (33 USC Section 1251 et seq.), the 404 Permit, the 401 Water Quality Certification, and applicable state and

Erosion Control
Page 2 of 3

local government agency laws, regulations, rules, specifications, and permits. Contrary to Section 105.05, in case of discrepancy between these notes, the Standard Specifications, Interim Supplemental Specifications, Special and Special Notes, Standard and Sepia Drawings, and such state and local government agency requirements, adhere to the most restrictive requirement.

Conduct operations in such a manner as to minimize the amount of disturbed ground during each phase of the construction and limit the haul roads to the minimum required to perform the work. Preserve existing vegetation not required to be removed by the work or the contract. Seed and/or mulch disturbed areas at the earliest opportunity. Use silt fence, silt traps, temporary ditches, brush barriers, erosion control blankets, sodding, channel lining, and other erosion control measures in a timely manner as required by the BMP and as directed or approved by the Engineer. Prevent sediment laden water from leaving the project, entering an existing drainage structure, or entering a stream.

Provide for erosion control measures to be in place and functioning prior to any earth disturbance within a drainage area. Compute the volume and size of silt control devices necessary to control sediment during each phase of construction. Remove sediment from silt traps before they become a maximum of ½ full. Maintain silt fence by removing accumulated trappings and/or replacing the geotextile fabric when it becomes clogged, damaged, or deteriorated, or when directed by the Engineer. Properly dispose of all materials trapped by erosion control devices at approved sites off the right of way obtained by the Contractor at no additional cost to the Department (See Special Note for Waste and Borrow).

As work progresses, add or remove erosion control measures as required by the BMP applicable to the Contractor's project phasing and construction methods and techniques. Update the volume calculations and modify the BMP as necessary throughout the duration of the project. Ensure that an updated BMP is kept on site and available for public inspection throughout the life of the project.

After all construction is complete, restore all disturbed areas in accordance with Section 212. Completely remove all temporary erosion control devices not required as part of the permanent erosion control from the construction site. Prior to removal, obtain the Engineer's concurrence of items to be removed. Grade the remaining exposed earth (both on and off the Right of-Way) as nearly as possible to its original condition, or as directed by the Engineer. Prepare the seed bed areas and sow all exposed earthen areas with the applicable seed mixture(s) according to Section 212.03.03.

IV. MEASUREMENT

Erosion Control Blanket. If required by the BMP, the Department will measure Erosion Control Blanket according to Section 212.04.07.

Sodding. If required by the BMP, the Department will measure Sodding according to Section 212.04.08.

Channel Lining. If required by the BMP, the Department will measure Channel Lining according to Sections 703.04.04-703.04.07.

Erosion Control. Contrary to Sections 212.04, 213.04, and 703.04 other than Erosion Control Blankets, Sodding, and Channel Lining, the Department will **NOT** measure Erosion Control for separate payment. The Department will not measure developing, updating, and maintaining a BMP plan for each site; providing a KEPSC-RI qualified inspector; locating, furnishing, installing, inspecting, maintaining, and removing erosion and water pollution control items; Roadway Excavation, Borrow Excavation, Embankment In Place, Topsoil Furnished and Placed, and Spreading Stockpiled Topsoil; Topdressing Fertilizer, Temporary and Permanent Seeding and Protection, Special Seeding Crown Vetch, and Temporary Mulch; Sedimentation Basin and Clean Sedimentation Basin, Silt Trap Type "A" and Clean Silt Trap Type "A"; Silt Trap Type "B" and Clean Silt Trap Type "B"; Silt Trap Type "C" and Clean Silt Trap Type "C"; Temporary Silt Fence and Clean Temporary Silt Fence; Plants, Vines, Shrubs, and Trees; Gabion and Dumped Stone Deflectors and Riffle Structures; Boulders; Temporary Ditches and clean Temporary Ditches; Geotextile Fabric, and all other erosion and water pollution control items required by the BMP or the Engineer, but shall be incidental to the applicable items of work.

V. BASIS OF PAYMENT

Erosion Control Blanket. If not listed as a bid item, but required by the BMP, the Department will pay for Erosion Control Blankets as Extra Work according to Sections 104.03 and 109.04.

Sodding. If not listed as a bid item, but required by the BMP, the Department will pay for Sodding as Extra Work according to Sections 104.03 and 109.04.

Channel Lining. If not listed as a bid item, but required by the BMP, the Department will pay for Channel Lining as Extra Work according to Sections 104.03 and 109.04.

LAUREL COUNTY



TRAFFIC SIGNAL LOOP SUMMARY

INTERSECTION	PREFORMED LOOP LEADIN LF	PREFORM QUADRAPOLE LF	CONDUIT 2 INCH LF	CONDUIT 1 INCH, EA	CABLE NO. 14/1 LF	JUNCTION BOX TYPE B EA	TRENCHING & BACKFILLIN LF	LOOP TEST EA	NOTES
US 25E	150	306	300	20	1500	1	300	3	1, 2, 3, 4
TOTALS	150	306	300		1500	1	300	3	

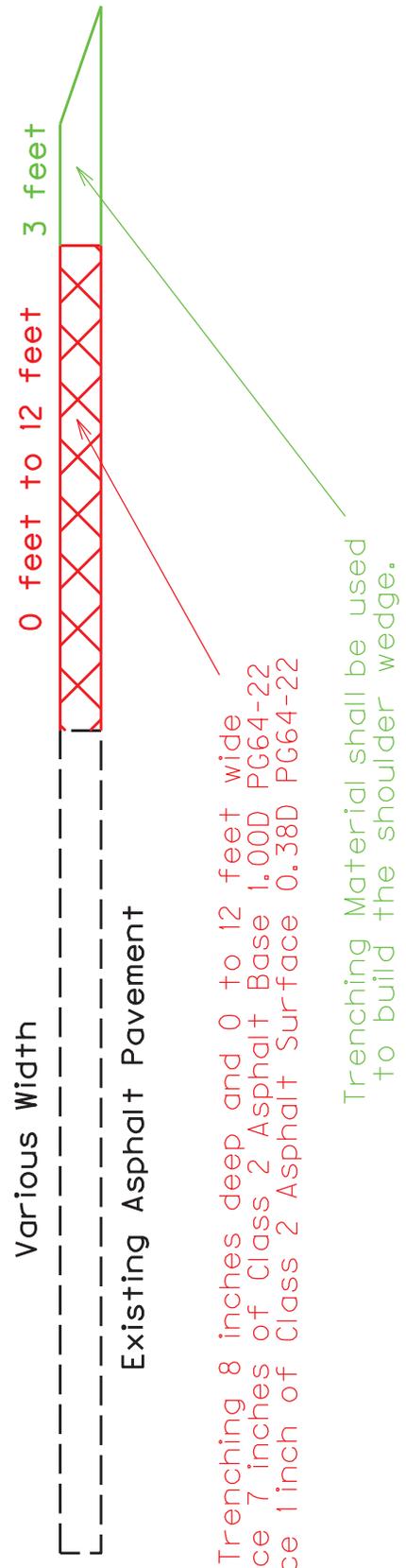
NOTES:

1. Three 6 foot x 30 foot Lopsops at Stop Bar.
2. Quantities are for estimating purposes only. The Contractor shall field measure and inspect items to verify quantities.
3. 2 - 1 1/4 inch conduits may be used in place of 2" conduit. Field verify conduit to match existing facilities/tie-in to poles/cabinets.
4. Only replace existing conduit if damaged.

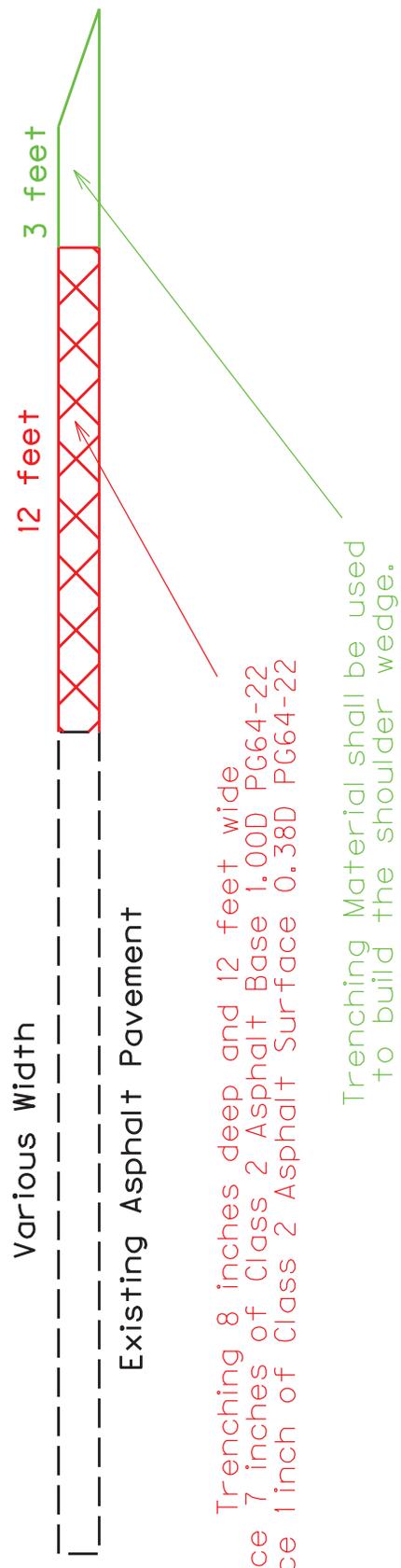
INTERSECTION PAVEMENT MARKINGS SUMMARY

MILEPOINT	INTERSECTION	TYPE 1 TAPE						THERMOPLASTIC		NOTES
		STOP BARS 24 INCH LF	YIELD BARS 36 INCH LF	YELLOW CROSS HATCHING SF	ARROWS		MERGE EA	ARROW STR EA		
					CURVE EA	STR EA				
1.036	US 25E	36	30	200	26	20	2	2		
TOTAL		36	30	200	26	20	2	2		

Phase One
Rt. Sta. 0+44 to Rt. Sta. 2+54



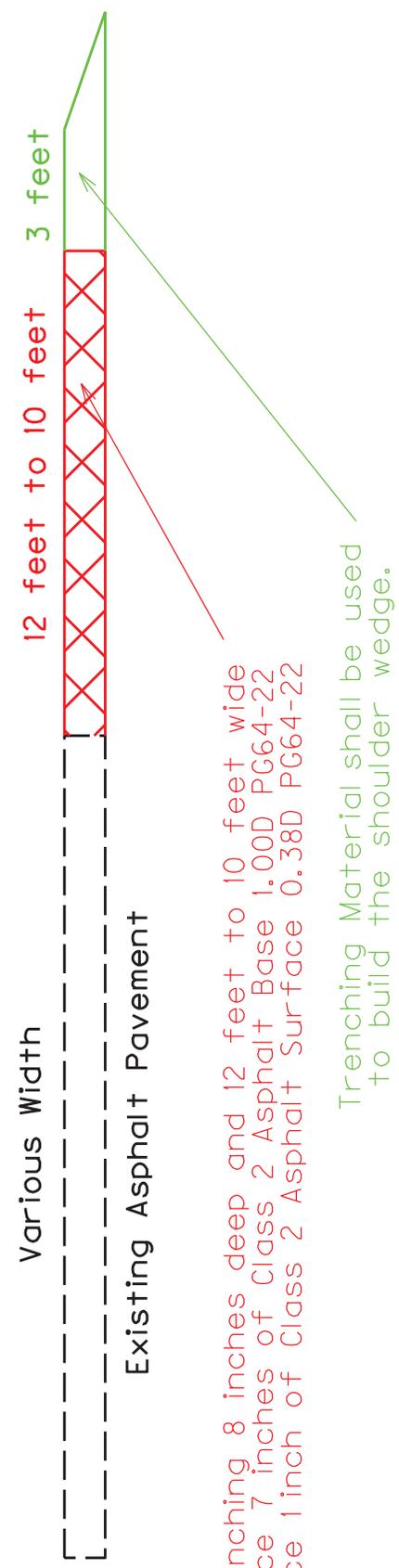
Phase One
Rt. Sta. 2+54 to Rt. Sta. 6+50



Trenching 8 inches deep and 12 feet wide
Place 7 inches of Class 2 Asphalt Base 1.00D PG64-22
Place 1 inch of Class 2 Asphalt Surface 0.38D PG64-22

Trenching Material shall be used
to build the shoulder wedge.

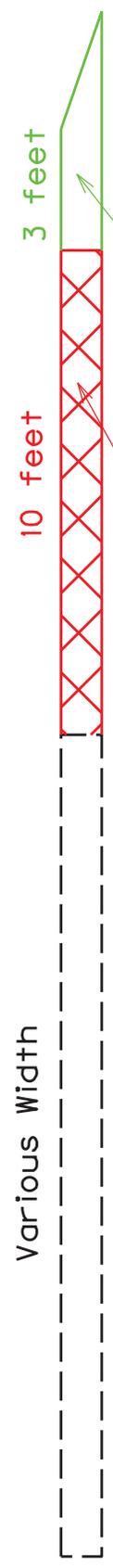
Phase One
Rt. Sta. 6+50 to Rt. Sta. 7+00



Trenching 8 inches deep and 12 feet to 10 feet wide
Place 7 inches of Class 2 Asphalt Base 1.00D PG64-22
Place 1 inch of Class 2 Asphalt Surface 0.38D PG64-22

Trenching Material shall be used
to build the shoulder wedge.

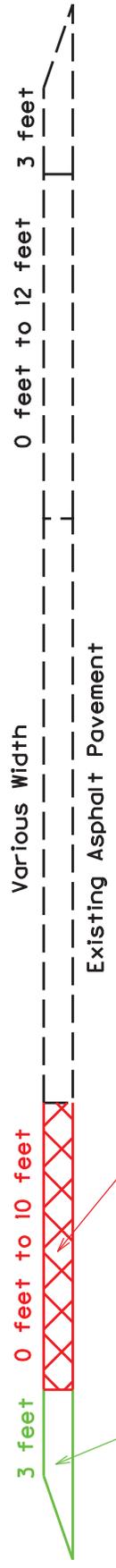
Phase One
Rt. Sta. 7+00 to Rt. Sta. 10+00



Trenching 8 inches deep and 10 feet wide
Place 7 inches of Class 2 Asphalt Base 1.00D PG64-22
Place 1 inch of Class 2 Asphalt Surface 0.38D PG64-22

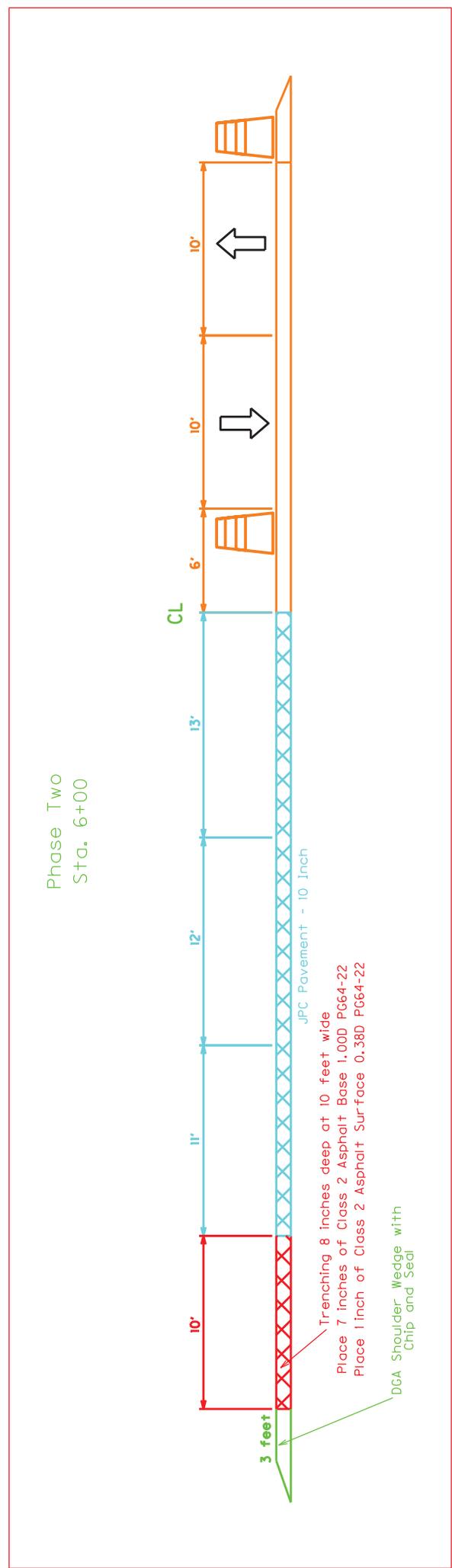
Trenching Material shall be used
to build the shoulder wedge.

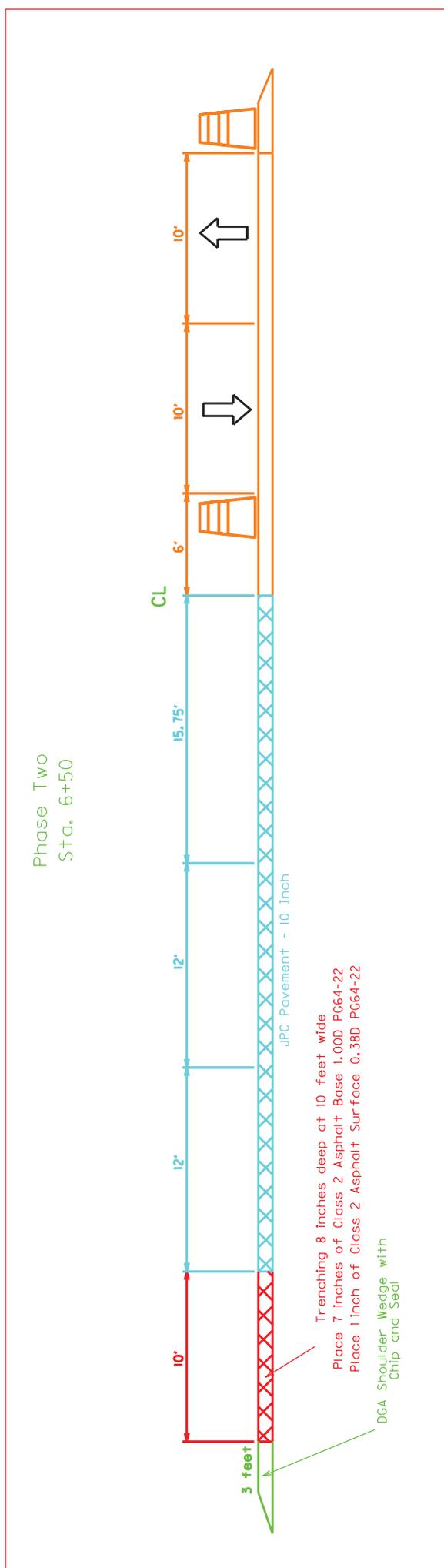
Phase Two
Rt. Sta. 0+44 to Rt. Sta. 3+44

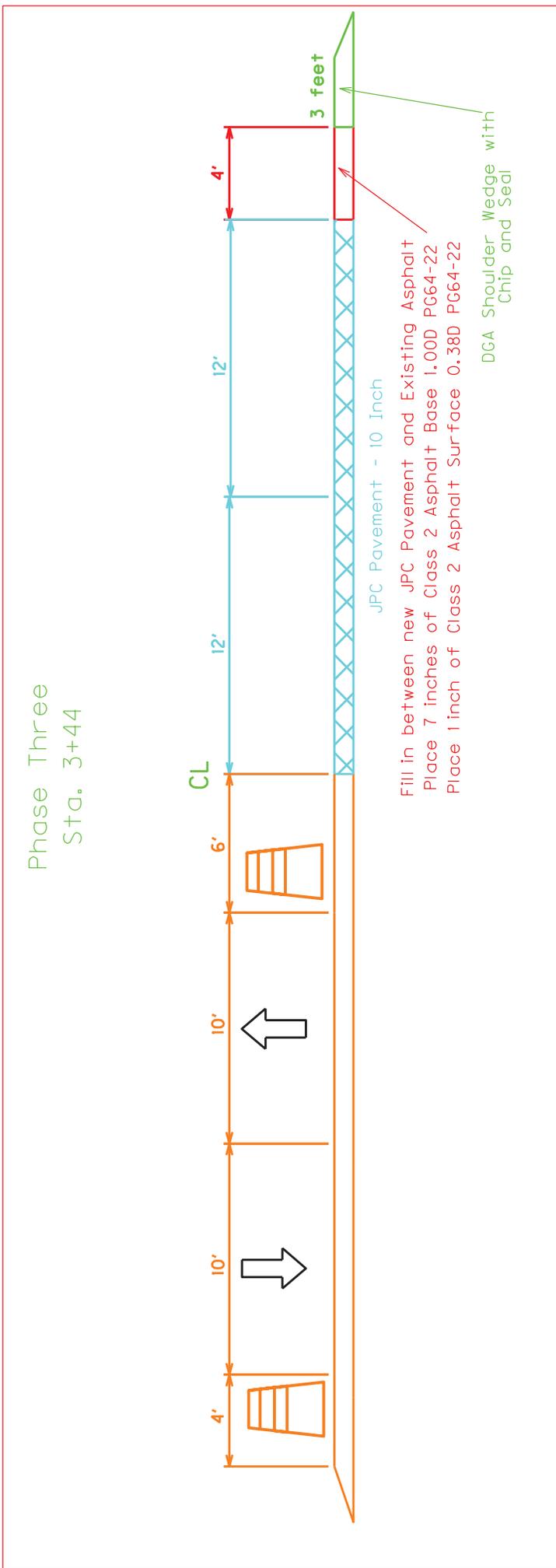


Trenching 8 inches deep and 0 to 10 feet wide
Place 7 inches of Class 2 Asphalt Base 1,00D PG64-22
Place 1 inch of Class 2 Asphalt Surface 0,38D PG64-22

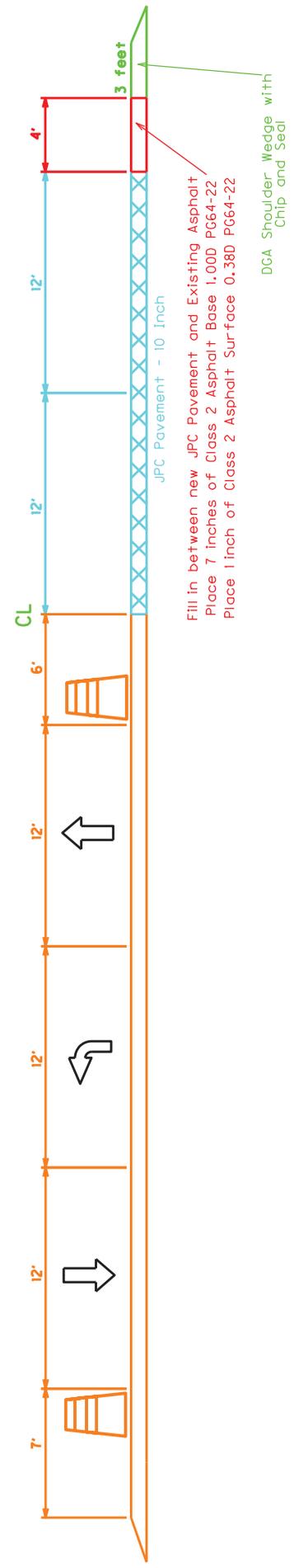
DGA Shoulder Wedge with
Chip and Seal



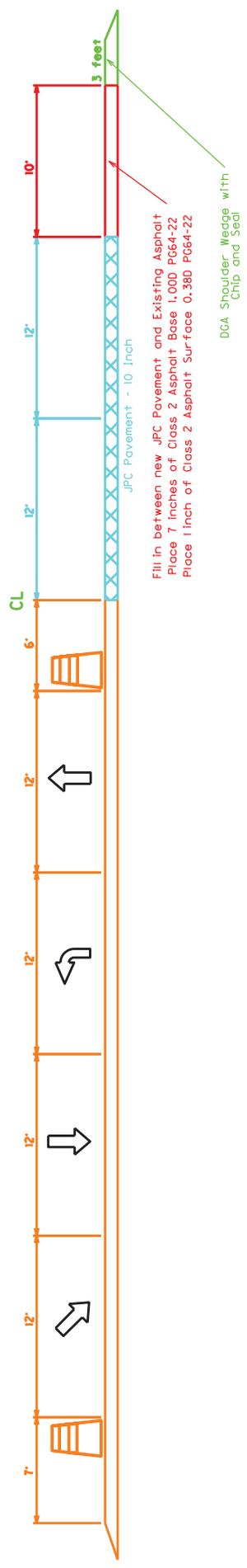




Phase Three
Sta. 6+00



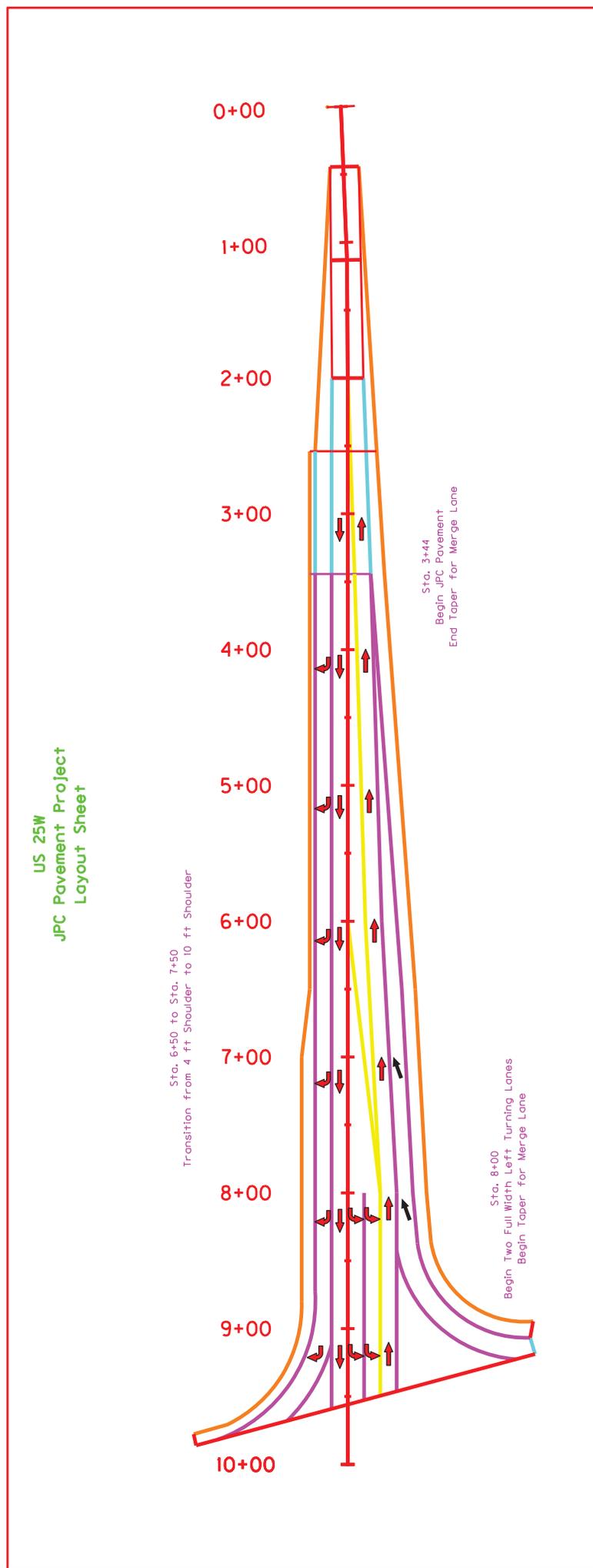
Phase Three
Sta. 8+00 - 9+56



Fill in between new JPC Pavement and Existing Asphalt
Place 7 inches of Class 2 Asphalt Base 1,000 PG64-22
Place 1 inch of Class 2 Asphalt Surface 0.38D PG64-22

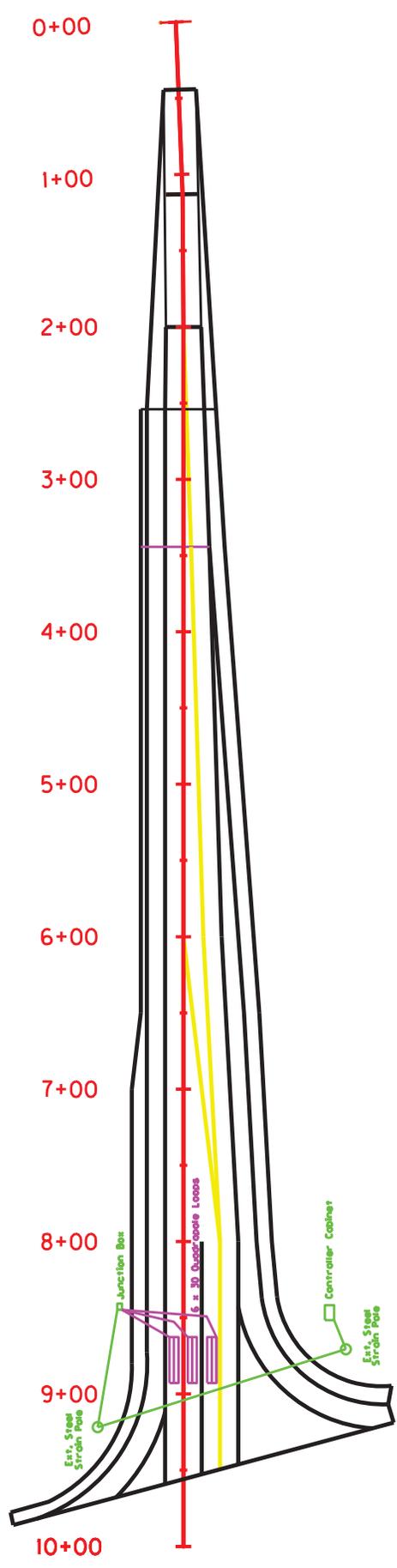
DCA Shoulder Wedge with
Chip and Seal

JPC Pavement - 10 Inch



US 25W
JPC Pavement Project
Layout Sheet

US 25W
JPC Pavement Project
Loop Layout Sheet



0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
9+00
10+00

Junction Box
Ext. Steel Strain Pile

6 x 30 Quadrangle Loops

Controller Cabinet
Ext. Steel Strain Pile

COUNTY OF	ITEM NO.	SHEET
LAUREL		

THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION, AND OTHER SPECIAL NOTES AND SPECIFICATIONS WILL APPLY ON THIS PROJECT. SEE SECTION 602 FOR SPIRAL REINFORCEMENT SPLICING.

THE CONTRACTOR SHALL MAKE AN INSPECTION OF THE PROJECT SITE PRIOR TO SUBMITTING A BID AND SHALL BE THOROUGHLY FAMILIARIZED WITH EXISTING CONDITIONS. SUBMISSIONS OF A BID WILL BE CONSIDERED AN AFFIRMATION OF THIS INSPECTION HAVING BEEN COMPLETED.

ADD SENTENCE TO SECTION 834.06: ALL WIRE SHALL HAVE WORDING ADDED TO THE OUTER JACKET THAT STATES: "PROPERTY OF KENTUCKY TRANSPORTATION CABINET 502 564 0501".

ADD SENTENCE TO SECTION 834.09: ALL WIRE SHALL HAVE WORDING ADDED TO THE OUTER JACKET THAT STATES: "PROPERTY OF KENTUCKY TRANSPORTATION CABINET 502 564 0501".

CONSTRUCTION AND MEASUREMENT NOTES THAT ARE CONTRARY TO SECTION 716 AND 834

SUBSECTION: 716.03.03 B TRENCHING.
REVISION: REMOVE ENTIRE FOURTH SENTENCE IN FIRST PARAGRAPH: NO PAYMENT FOR ADDITIONAL JUNCTION BOXES FOR GREATER DEPTHS WILL BE ALLOWED.

SUBSECTION: 716.04.08 LIGHTING CONTROL EQUIPMENT
REVISION: REPLACE THE PARAGRAPH WITH THE FOLLOWING: THE DEPARTMENT WILL MEASURE THE QUANTITY AS EACH INDIVIDUAL UNIT FURNISHED AND INSTALLED. THE DEPARTMENT WILL NOT MEASURE THE CONCRETE BASE, EXCAVATION, BACKFILLING, RESTORATION, ANY NECESSARY ANCHORS, ELECTRICAL INSPECTION FEES, AND REQUIRED BUILDING FEES INVOLVING UTILITY SECONDARY/PRIMARY SERVICE FOR PAYMENT AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK. THE DEPARTMENT WILL ALSO NOT MEASURE/ FURNISHING AND INSTALLING ELECTRICAL SERVICE CONDUCTORS, SPECIFIED CONDUITS, METER BASE, WOOD POLE, TRANSFORMER, SERVICE PANEL, FUSED CIRCUIT, FUSES, LIGHTING ARRESTORS, PHOTOELECTRICAL CONTROL, CIRCUIT BREAKERS, AND ONLY CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK. THE DEPARTMENT WILL NOT MEASURE THE FILLING OF ANY UNUSED HOLES WITH AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK.

MEASUREMENT NOTE THAT ARE IN ADDITION TO SECTION 716:

INSTALL HIGH MAST POLE. THE DEPARTMENT WILL MEASURE THE QUANTITY AS EACH INDIVIDUAL UNIT INSTALLED. THE DEPARTMENT WILL NOT MEASURE THE INSTALLATION OF THE OPENING DEVICE, ANCHOR BOLTS, THE BOLT CIRCLES, CHISELS, INCREASING, POWER GROUND RODS, CONDUITS, TEST PLUGS, ADJUSTMENT AND CALIBRATION OF THE UNIT TO PROVIDE THE DESIRED OPERATION, AND ANY ASSOCIATED HARDWARE FOR PAYMENT AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK. THE DEPARTMENT WILL NOT MEASURE THE INSTALLATION AND INSPECTION PER SECTION 716.03.02. CONTRACTOR SHALL CHECK THE BOLT CIRCLES/TEMPLATES ON THE PROVIDED POLE.

INSTALL HIGH MAST LUMINAIRE. THE DEPARTMENT WILL MEASURE THE QUANTITY AS EACH INDIVIDUAL UNIT INSTALLED. THE DEPARTMENT WILL NOT MEASURE THE NECESSARY TO PROVIDE THE DESIRED LIGHTING PATTERN FOR PAYMENT AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK.

ROADWAY LIGHTING ESTIMATE OF QUANTITIES

TOTAL	UNITS	CODE	ITEM DESCRIPTION
1	EACH	4761	LIGHTING CONTROL EQUIPMENT
50	LN FT	4797	CONDUIT 3 INCH
150	LN FT	4820	TRENCHING AND BACKFILLING
9	CU YD	23161EN	POLE BASE - HIGH MAST
1	EACH	24601EC	INSTALL - HIGH MAST POLE
150	LN FT	24902EC	PVC CONDUIT - 3 INCH - SCHEDULE 80
300	LN FT	23778EC	WIRE NO. 10
5	EACH	24601EC	INSTALL - HIGH MAST LUMINAIRE

DESIGNED BY: T&S
DATE SUBMITTED:

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
COUNTY OF
LAUREL

PROJECT NUMBER:

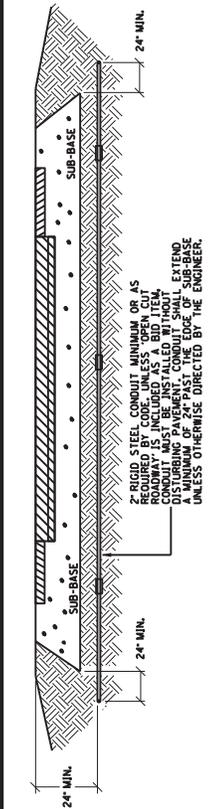
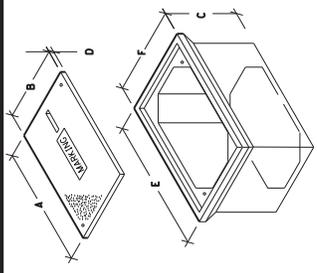
ROADWAY LIGHTING ESTIMATES
OF QUANTITIES

3-13-2017

JUNCTION BOX DIMENSIONS (NOMINAL)

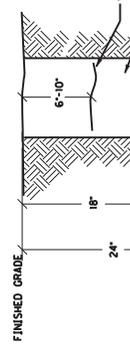
	A	B	C	D	E	F
TYPE A	23"	14"	27"	2"	25"	15"
TYPE B	18"	11"	12"	1 3/4"	20"	15"
TYPE C	36"	24"	30"	3"	38"	26"

* MINIMUM
HOTEL STACKABLE BOXES ARE PERMITTED
JUNCTION BOX



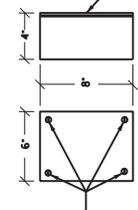
CONDUIT INSTALLATION UNDER EXISTING PAVEMENT DETAIL

DEPTHS SHOWN FOR CONDUIT AND DUCTED CABLE ARE MINIMUMS. CONTRACTOR SHALL PLACE AND BACKFILL TO THE SATISFACTION OF THE ENGINEER.

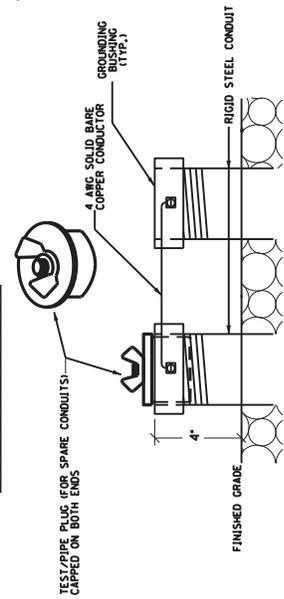


CONDUIT, DUCTED CABLE, AND WARNING TAPE TRENCH

ABOVE GROUND BOX SHALL BE FABRICATED FROM GALVANIZED STEEL OR GALVANIZED AFTER FABRICATION. BOXES SHALL HAVE NO ANVOCUTS. THE BOX SHALL BE COVERED WITH A WEATHER RESISTANT GASKET AND A MINIMUM 1/2" RESISTANT GASKET FOR THE MINIMUM. THE PLATE COVER TO THE BOX SHALL BE PROVIDED. THE GASKET SHALL BE PROVIDED. THE GASKET SHALL BE PROVIDED. THE GASKET SHALL BE PROVIDED.

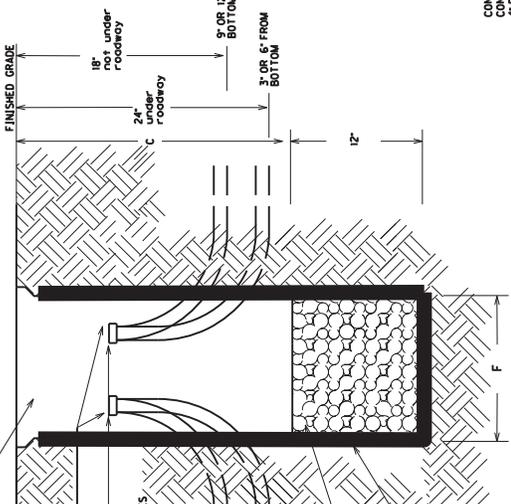


ABOVE GROUND BOX

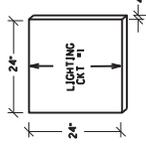
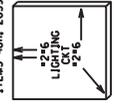


TEST/PIPE PLUG(FOR SPARE CONDUITS) AND GROUNDING DETAIL CONCRETE CABLE MARKERS

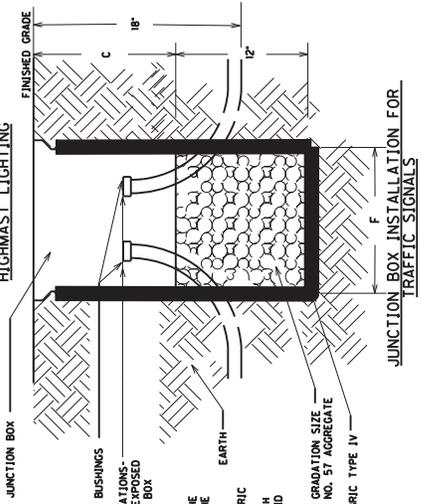
JUNCTION BOX INSTALLATION FOR CONVENTIONAL LIGHTING



BEFORE THE INSTALLATION OF THE #57 AGGREGATE AND JUNCTION BOX, THE CONTRACTOR SHALL INSTALL GEOTEXTILE FILTER FABRIC TYPE IV IN THE HOLE. THE FABRIC SHALL EXTEND TO JUST BELOW THE LIP OF THE JUNCTION BOX AND BE ADHERED TO THE EXTERIOR OF THE BOX WITH AN ADHESIVE. LOCATIONS WHERE CONDUITS ENTER THE BOX, THE FABRIC SHALL BE CUT ONLY AS MUCH AS NECESSARY TO ALLOW PASSAGE OF EACH INDIVIDUAL CONDUIT THROUGH THE BOX. SEE STANDARD SPECIFICATIONS FOR CONCRETE ITEMS 401, 2039IN6835, OR 2039IN6835.



JUNCTION BOX INSTALLATION FOR HIGHMAST LIGHTING



JUNCTION BOX INSTALLATION FOR TRAFFIC SIGNALS

TRAFFIC SIGNAL AND ROADWAY LIGHTING JUNCTION BOX AND CONDUIT DETAILS

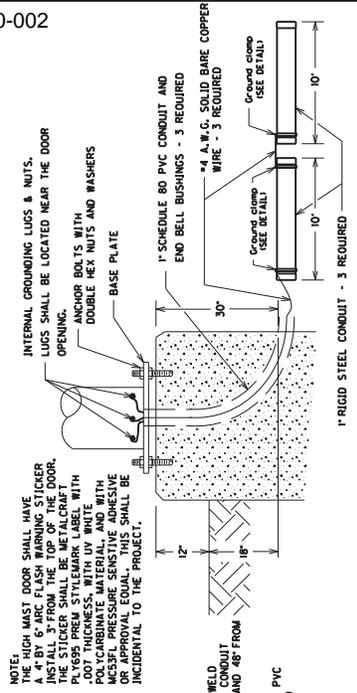
COURTY OF

ITEM NO.

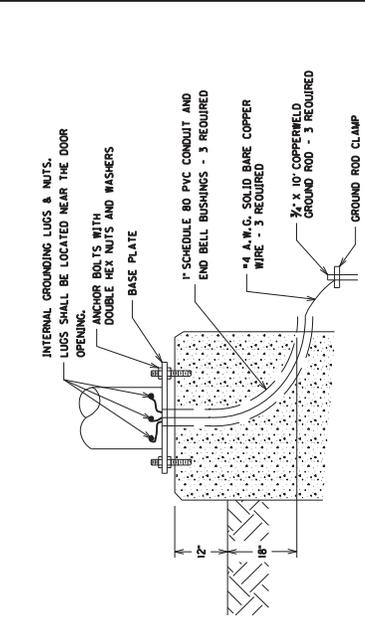
SHEET

BASE DESIGN FOR UP TO 120' HIGH MAST POLES (WITH A MAXIMUM OF TWELVE LUMINAIRES)

COUNTY OF	ITEM NO.	SHEET
LAUREL		

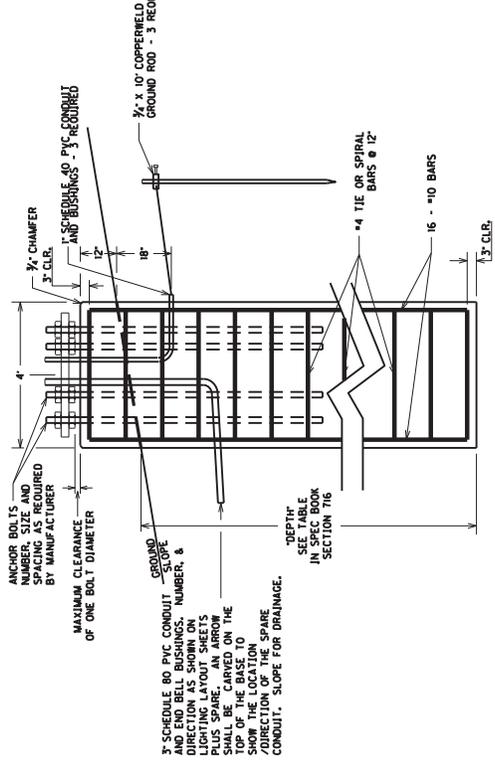
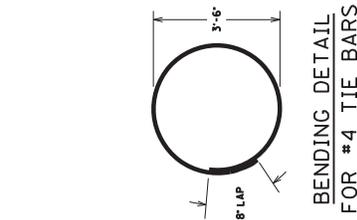
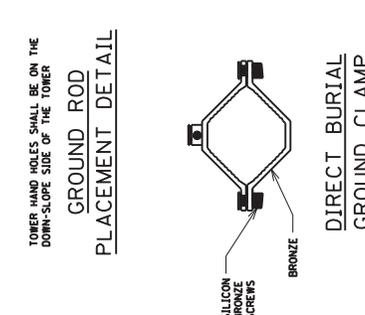
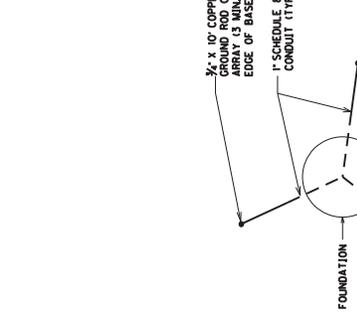


GROUNDING NOTE: TOWERS SHALL BE GROUNDED BY MEANS OF THREE NO. 4 A.W.G. SOLID BARE COPPER WIRES ATTACHED TO THE INTERNAL GROUNDING LUGS WITHIN THE TOWER. GROUND WIRES SHALL BE CONNECTED TO PIPE CLAMPS AS SHOWN ABOVE.



GROUNDING NOTE: TOWERS SHALL BE GROUNDED BY MEANS OF THREE NO. 4 A.W.G. SOLID BARE COPPER WIRES ATTACHED TO THE INTERNAL GROUNDING LUGS WITHIN THE TOWER. GROUND WIRES SHALL BE CONNECTED TO PIPE CLAMPS AS SHOWN ABOVE.

**GROUNDING AND CONDUIT
ENTRANCE DETAIL**



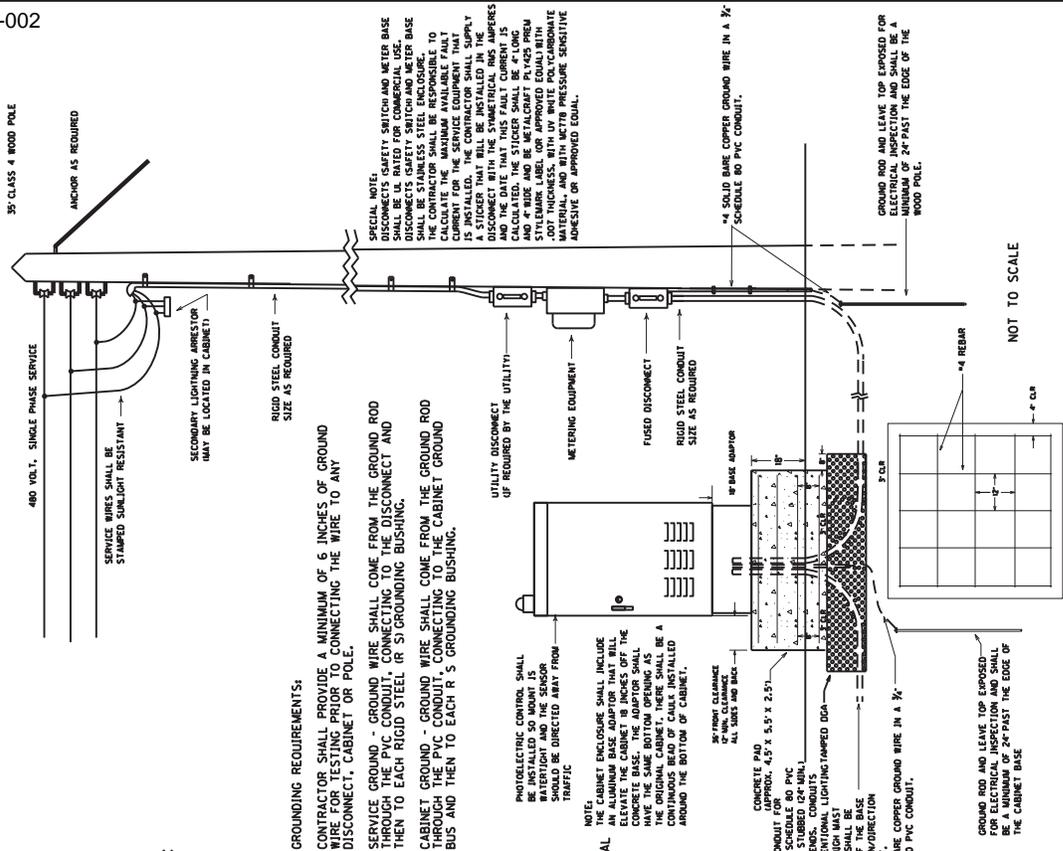
NOTES: CONDUITS SHALL BE INSTALLED AT LEAST 6 INCHES FROM THE BOTTOM OF THE CONDUIT FRAME. CONDUITS FOR THE CONDUITS AND CONDUITS ARE INCIDENTAL TO BID ITEM 238197. THIS INCLUDES PROVIDING A MINIMUM OF 24 INCHES OF CONDUIT PAST THE EDGE OF THE POLE BASE.

USER: tdc.wagner	FILE NAME: C:\PWORK\LED_SNA5626R\063805\ALL LIGHTING STD\AM05.DGN
E-SHEET NAME:	
DATE PLOTTED: July 31, 2019	
3/10/2017	

3/10/2017

HIGHMAST BASE DETAIL

COUNTY OF	ITEM NO.	SHEET
LAUREL		



BASE MOUNTED SERVICE DETAIL

NOT TO SCALE

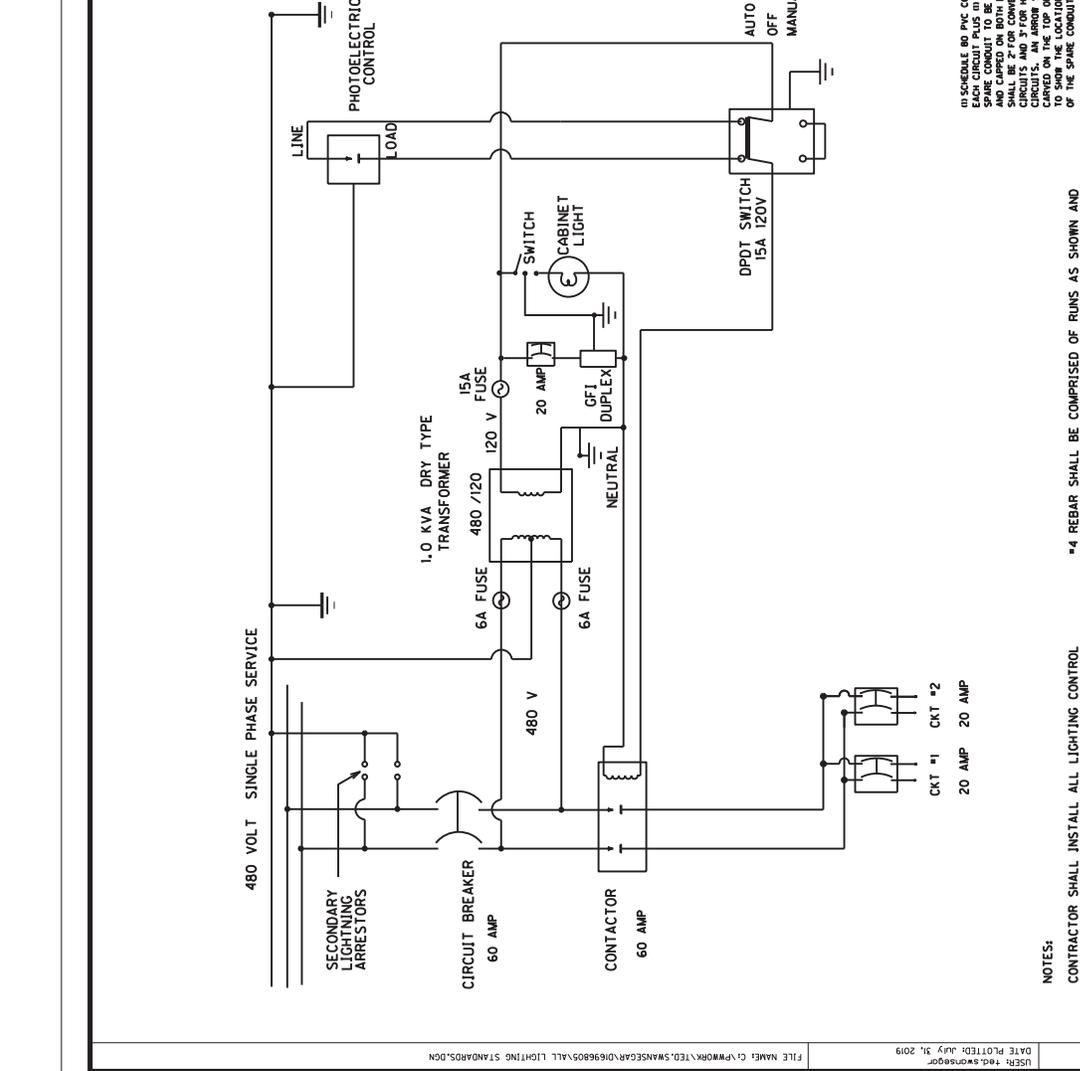
GROUNDING REQUIREMENTS:
CONTRACTOR SHALL PROVIDE A MINIMUM OF 6 INCHES OF GROUND WIRE FOR TESTING PRIOR TO CONNECTING THE WIRE TO ANY DISCONNECT, CABINET OR POLE.
SERVICE GROUND - GROUND WIRE SHALL COME FROM THE GROUND ROD THROUGH THE PVC CONDUIT, CONNECTING TO THE DISCONNECT AND THEN TO EACH RIGID STEEL (R ST) GROUNDING BUSHING.
CABINET GROUND - GROUND WIRE SHALL COME FROM THE GROUND ROD THROUGH THE PVC CONDUIT, CONNECTING TO THE CABINET GROUND BUS AND THEN TO EACH R S GROUNDING BUSHING.

SPECIAL NOTE:
DISCONNECTS SAFETY SWITCH AND METER BASE SHALL BE UL LISTED FOR COMMERCIAL USE. THE CONTRACTOR SHALL BE RESPONSIBLE TO CALCULATE FOR THE SERVICE EQUIPMENT THAT IS INSTALLED. THE CONTRACTOR SHALL SUPPLY A STICKER THAT WILL BE INSTALLED IN THE METER BASE AND THE DATE THAT THIS MOUNTING WAS CALCULATED. THE STICKER SHALL BE 4" LONG AND 4" WIDE AND BE METALDRIFT PLY 405 PREP 3001 THICKNESS, WITH UV WHITE POLYCARBONATE MATERIAL AND WITH MCTB PRESSURE SENSITIVE ADHESIVE OR APPROVED EQUAL.

PHOTOELECTRIC CONTROL SHALL BE INSTALLED 50 MOUNT IS WATER TIGHT AND THE SENSOR SHALL BE DIRECTED AWAY FROM TRAFFIC.
NOTE: CABINET ENCLOSURE SHALL INCLUDE AN ALUMINUM BASE ADAPTOR THAT WILL ELEVATE THE CABINET 18 INCHES OFF THE COMPLETE BASE. THE ADAPTOR SHALL COME WITH THE ORIGINAL CABINET. THERE SHALL BE A CONTINUOUS BEAD OF CAULK INSTALLED AROUND THE BOTTOM OF CABINET.

CONCRETE PAD (APPROX. 4.5' X 6.5' X 2.5') SHALL BE INSTALLED UNDER THE METER BASE. EACH CIRCUIT PLUS 0 SCHEDULE 80 PVC SPARE CONDUIT TO BE STUBBED (24" MIN. AND CAPPED ON BOTH ENDS. CONDUITS SHALL BE INSTALLED IN THE ORIGINAL LIGHTING TAPPED DECKS AND 3" FOR HIGH MAST LIGHTING TAPPED DECKS. AN ARROW SHALL BE CARVED ON THE TOP OF THE BASE OF THE SPARE CONDUIT.

*4 SOLID BARE COPPER GROUND WIRE IN A 3/4" SCHEDULE 80 PVC CONDUIT.
GROUND ROD AND LEAVE TOP EXPOSED FOR ELECTRICAL INSPECTION AND SHALL BE A MINIMUM OF 24" PAST THE EDGE OF THE CABINET BASE.

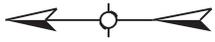


*4 REBAR SHALL BE COMPRISED OF RUNS AS SHOWN AND TIED AT EACH JOINT.
ALL CONSTRUCTION TO INCLUDE EXCAVATION WORK AND ALL REBAR SHALL BE SET IN CONCRETE (MIN. 4" BELOW GRADE) FOR THE LIGHTING CONTROL EQUIPMENT BID ITEM.
ALL CONDUITS USED FOR GROUNDING, SPARE, AND SERVICE THAT ARE INSTALLED ON THE POLE AND/OR INTO THE CABINET ARE TO BE INSTALLED WITH A MINIMUM OF 24 INCHES OF CONDUIT PAST THE EDGE OF THE CABINET BASE FOR THE SPARE.

CONTRACTOR SHALL INSTALL ALL LIGHTING CONTROL EQUIPMENT AS INDICATED.
CONCRETE SHALL BE CLASS A. CONCRETE SHALL BE POURD ON 12" OF COMPACTED DENSE GRADE ROCK. PAD SHALL BE 30" THICK WITH 18" ABOVE GRADE.
PAD SHALL BE OF SUFFICIENT SIZE TO ALLOW A MINIMUM 36" IN FRONT OF THE CABINET AND 12" MINIMUM CLEARANCE AROUND THE SIDES AND BACK OF THE CABINET.
CONCRETE SHALL BE SLOPED 1/8" PER FOOT TO PREVENT STANDING WATER. OUTSIDE EDGE SHALL HAVE A ONE INCH CHAMFER.

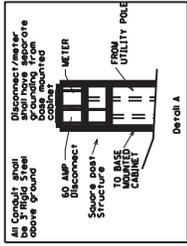
3/13/2017

SHEET NO.	ITEM NO.	SHEET
LAUREL		



INSTALL HIGH MAST POLE AT
36°58'00.49"N 84°57'53"W
SERVICE AREA
NEW UTILITY POLE WITH
480 V, 1 PHASE SERVICE.
CABINET AND LIGHTING
CONTROL CABINET AND
SERVICE STRUCTURE.

INSTALL 3-#10 AND WIRES FROM HIGHMAST TO THE
LIGHTING CONTROL CABINET



THE NOTES IN DETAIL A SHALL BE INCORPORATED
TO THE INSTALLATION OF THE LIGHTING CONTROL EQUIPMENT.

INSTALL 3" RIGID STEEL CONDUIT AND TRANSITION
UP THE EXISTING/PROPOSED UTILITY POLE. THE
CONTRACTOR SHALL PROVIDE ANY WIRE/CONDUIT/
WEATHERHEAD REQUIRED BY THE UTILITY FROM THE
UTILITY TO THE LIGHTING CONTROL CABINET. THIS
WILL BE INCIDENTAL TO THE BID ITEM LIGHTING
CONTROL EQUIPMENT.

Scale 1" = 20'

LEGEND	
	LED LUMINAIRES ASYMMETRICAL MOUNTED ON HIGH MAST POLE
	BASE MOUNTED CABINET
	3" SCHEDULE 80 PVC CONDUIT (UNLESS OTHERWISE NOTED)
	DETAIL A STRUCTURE
	EXISTING STEEL STRAIN POLE
	EXISTING/PROPOSED UTILITY POLE

INTERSECTION LIGHTING
US 25 @ US 25X

**GUARDRAIL DELIVERY VERIFICATION SHEET
 CONTRACT ID 192400
 PROJECT NUMBER FD04 063 025W 000-002**

<u>GUARDRAIL, END TREATMENT, TERMINAL SECTION, OR POST TYPE</u>	<u>UNIT</u>	<u>FIELD VERIFIED AMOUNT</u>	<u>DELIVERED AMOUNT</u>
GUARDRAIL-STEEL W BEAM	LF	_____	_____
TEMPORARY GUARDRAIL	LF	_____	_____
GUARDRAIL TERMINAL SECTION	EACH	_____	_____
CRASH CUSHION TYPE IX-A	EACH	_____	_____
GUARDRAIL END TREATMENT TYPE 1	EACH	_____	_____
GUARDRAIL END TREATMENT TYPE 2A	EACH	_____	_____
GUARDRAIL END TREATMENT TYPE 3	EACH	_____	_____
GUARDRAIL END TREATMENT TYPE 4A	EACH	_____	_____
GUARDRAIL END TREATMENT TYPE 7	EACH	_____	_____
GUARDRAIL CONNECTOR TO BRIDGE END	EACH	_____	_____
GUARDRAIL CONNECTOR TO CONC MED BARR	EACH	_____	_____
GUARDRAIL CONNECT-SHLD BRIDGE PIER	EACH	_____	_____
STEEL GUARDRAIL POST	EACH	_____	_____
STEEL BLOCKOUTS	EACH	_____	_____

Removed guardrail, end treatments, terminal sections, steel blockouts and posts shall be delivered to the Guardrail and Sign Center (Bailey Bridge Yard) at 1224 Wilkinson Blvd in Frankfort, KY and shall be neatly stacked and banded in accordance with section 719.03.07 of the standard specifications. Contractor, Engineer, and Bailey Bridge Yard representative must all sign off on this sheet before payment may be made.

	PRINTED NAME	SIGNATURE	DATE
Resident Engineer (or representative)	_____	_____	_____
Contractor (or Representative)	_____	_____	_____
Bailey Bridge Yard Representative	_____	_____	_____

PART II
SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

Any reference in the plans or proposal to previous editions of the *Standard Specifications for Road and Bridge Construction* and *Standard Drawings* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2019* and *Standard Drawings, Edition of 2016*.

SUPPLEMENTAL SPECIFICATIONS

The contractor shall use the Supplemental Specifications that are effective at the time of letting.
The Supplemental Specifications can be found at the following link:

<http://transportation.ky.gov/Construction/Pages/Kentucky-Standard-Specifications.aspx>

SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

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

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

2.0 MATERIALS.

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

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

2.2 Sign and Controls. All signs must:

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

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

/KEEP/RIGHT/=>=>=>/	/MIN/SPEED/**MPH/
/KEEP/LEFT/<=<=</	/ICY/BRIDGE/AHEAD/ /ONE
/LOOSE/GRAVEL/AHEAD/	LANE/BRIDGE/AHEAD/
/RD WORK/NEXT/**MILES/	/ROUGH/ROAD/AHEAD/
/TWO WAY/TRAFFIC/AHEAD/	/MERGING/TRAFFIC/AHEAD/
/PAINT/CREW/AHEAD/	/NEXT/***/MILES/
/REDUCE/SPEED/**MPH/	/HEAVY/TRAFFIC/AHEAD/
/BRIDGE/WORK/***0 FT/	/SPEED/LIMIT/**MPH/
/MAX/SPEED/**MPH/	/BUMP/AHEAD/
/SURVEY/PARTY/AHEAD/	/TWO/WAY/TRAFFIC/

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

2.3 Power.

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

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

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

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

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

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

11

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

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

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

Effective June 15, 2012

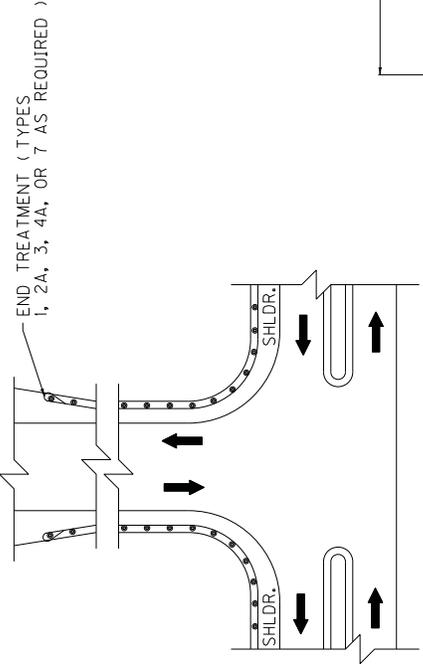
2016 KENTUCKY STANDARD DRAWINGS

TYPICAL GUARDRAIL INSTALLATIONS	RBI-002-07
GUARDRAIL COMPONENTS	RBR-005-11
TEMPORARY SILT FENCE	RDX-210-03
TEMPORARY SILT FENCE WITH WOVEN WIRE FENCE FABRIC	RDX-215-01
SILT TRAP - TYPE A	RDX-220-05
SILT TRAP - TYPE B	RDX-225-01
CURVE WIDENING AND SUPERELEVATION TRANSITIONS	RGS-001-07
SUPERELEVATION FOR MULTILANE PAVEMENT	RGS-002-06
MISCELLANEOUS STANDARDS	RGX-001-06
DETECTABLE WARNINGS	RGX-040-03
APPROACHES, ENTRANCES, AND MAIL BOX TURNOUT	RPM-110-07
JOINTED PLAIN CONCRETE PAVEMENT	RPN-015-05
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPN-020-04
CONCRETE PAVEMENT JOINT DETAILS	RPS-010-11
EXPANSION AND CONTRACTION JOINT - LOAD TRANSFER ASSEMBLIES	RPS-020-14
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-030-06
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-031-06
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-032-06
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-033-07
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-034-07
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CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-036-06
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-037-06
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-038-06
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-039-06
STATION MARKINGS - CONCRETE PAVEMENT	RPX-001-04
HOT - POURED ELASTIC JOINT SEALS FOR CONCRETE PAVEMENT	RPX-015-04
LANE CLOSURE TWO-LANE HIGHWAY	TTC-100-04
LANE CLOSURE MULTI-LANE HIGHWAY CASE I	TTC-115-03
DOUBLE LANE CLOSURE	TTC-125-03
SHOULDER CLOSURE	TTC-135-02
PAVEMENT CONDITION WARNING SIGNS	TTD-125-02
MOBILE OPERATION FOR PAINT STRIPING CASE I	TTS-100-02
MOBILE OPERATION FOR PAINT STRIPING CASE II	TTS-105-02
MOBILE OPERATION FOR PAINT STRIPING CASE III	TTS-110-02
MOBILE OPERATION FOR PAINT STRIPING CASE IV	TTS-115-02
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

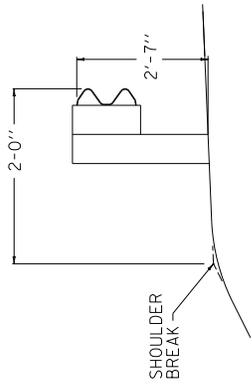
COUNTY OF	ITEM NO.	SHEET NO.

~ NOTES ~

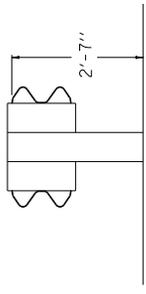
1. FOR END TREATMENT TYPE 4A USE CUR. STD. DWG. RBR-035 FOR OFFSETS.
2. THE MINIMUM LENGTH OF GUARDRAIL, INCLUDING THE END TREATMENT, PRECEDING A FIXED OBJECT IS 200 FEET: (LENGTH MAY BE REDUCED SHOULD FIELD CONDITIONS WARRANT).



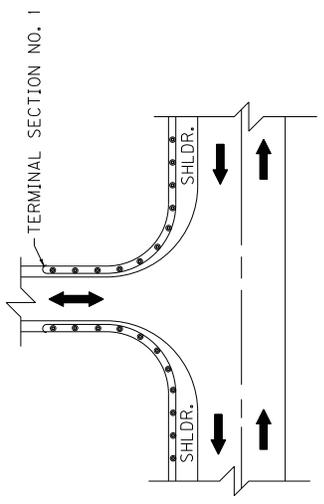
APPROACH ROADS



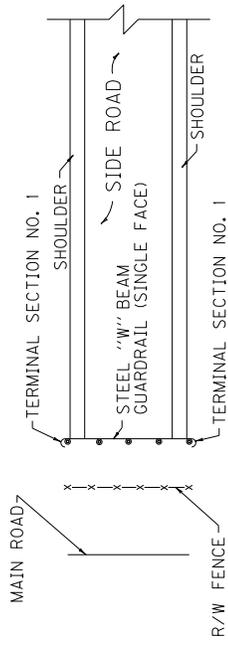
NORMAL GUARDRAIL INSTALLATION



TYPICAL DOUBLE FACE GUARDRAIL INSTALLATION



ENTRANCES



GUARDRAIL USED AS A BARRICADE

USE WITH CUR. STD. DWG.
 RBR-002, RBR-035

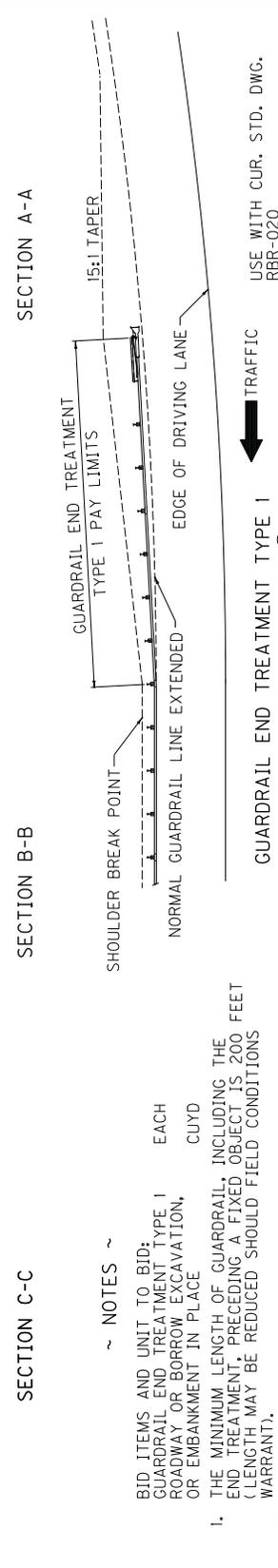
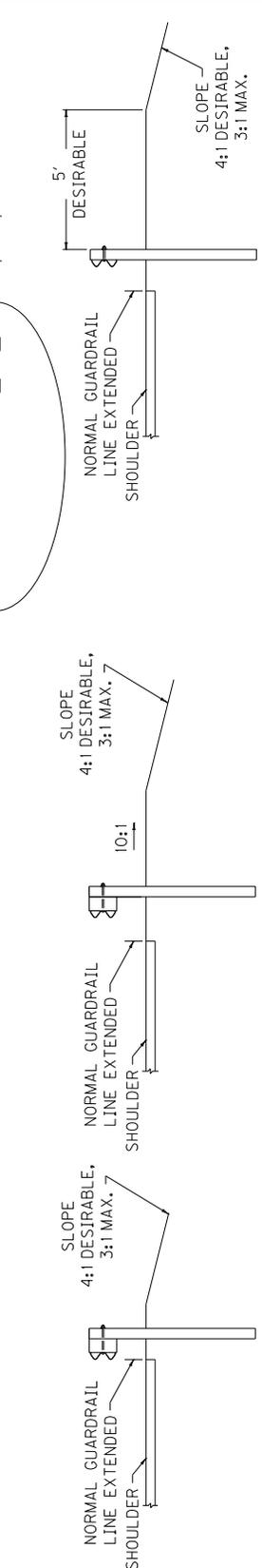
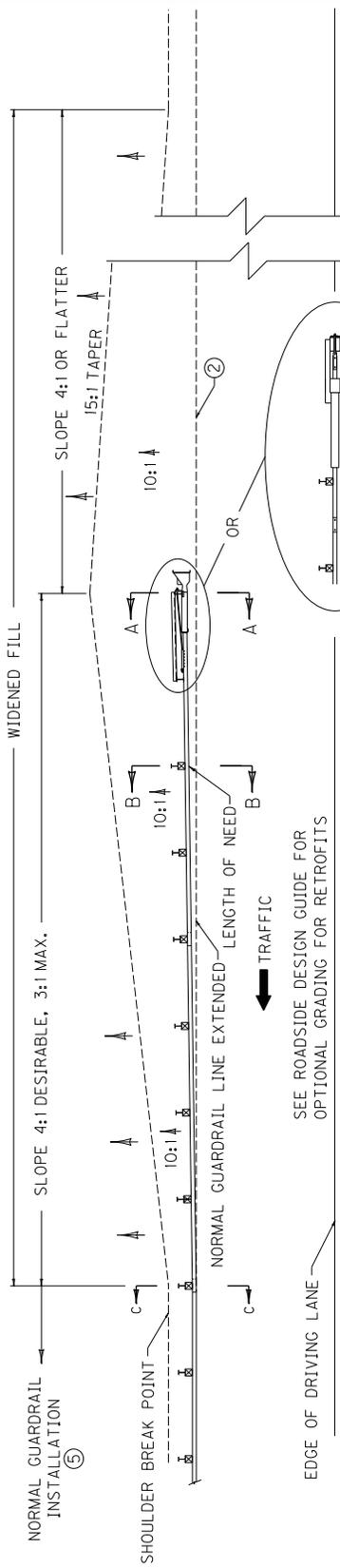
KENTUCKY
DEPARTMENT OF HIGHWAYS

TYPICAL GUARDRAIL
 INSTALLATIONS

SUBMITTED: *[Signature]* 11-17-17
 DIRECTOR DIVISION OF DESIGN DATE

024

SHEET NO.	000 002
COUNTY OF	LAUREL
ITEM NO.	



KENTUCKY
DEPARTMENT OF HIGHWAYS
INSTALLATION OF
GUARDRAIL
END TREATMENT
TYPE 1

USE WITH CUR. STD. DWG.
RBR-020

SUBMITTED: *[Signature]*
DIRECTOR IN CHARGE OF DESIGN

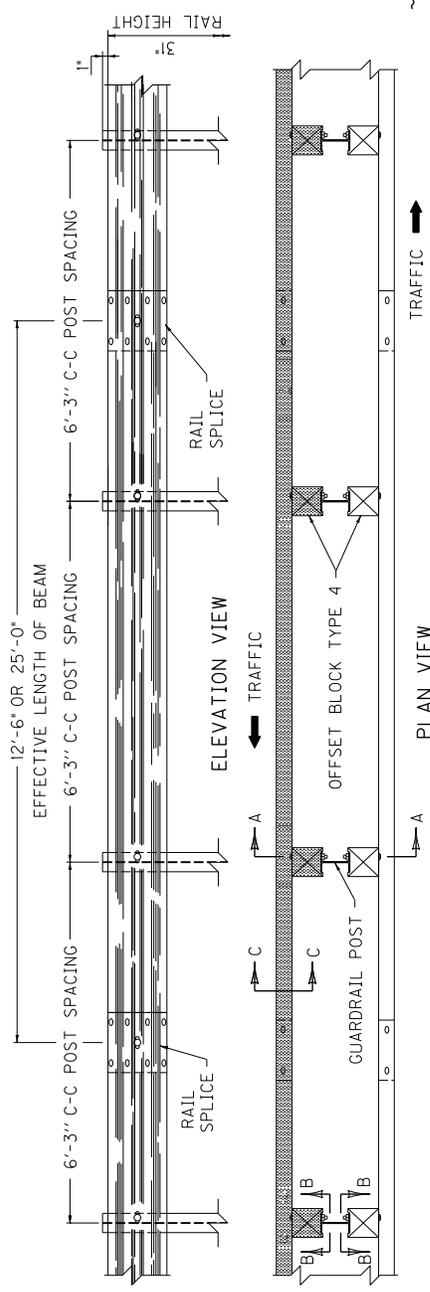
J1-17-17
DATE

025

~ NOTES ~

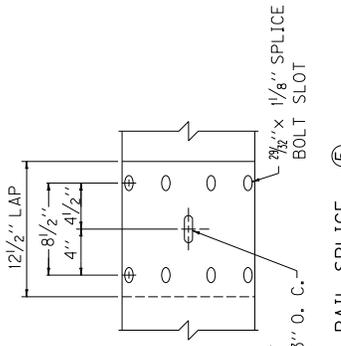
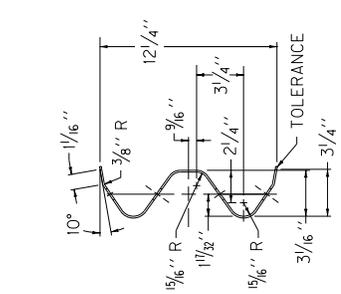
- 1. BID ITEMS AND UNIT TO BID: GUARDRAIL END TREATMENT TYPE 1 EACH CUYD
ROADWAY OR BORROW EXCAVATION, OR EMBANKMENT IN PLACE
- 2. THE MINIMUM LENGTH OF GUARDRAIL, INCLUDING THE END TREATMENT, PRECEDING A FIXED OBJECT IS 200 FEET (LENGTH MAY BE REDUCED SHOULD FIELD CONDITIONS WARRANT).
- 3. GUARDRAIL EXTRUDER EDGE CLOSEST TO TRAFFIC SHALL BE PLACED ON NORMAL GUARDRAIL LINE EXTENDED.
- 4. END TREATMENT TYPE 1 MAY BE ATTACHED TO CURVED GUARDRAIL PROVIDED CURVE IS A 550' RADIUS OR MORE. END TREATMENT TYPE 1 SHALL BE INSTALLED ON A STRAIGHT LINE TAPER WITHIN THE PAY LIMITS.
- 5. INTENDED USE: FILLS WITH ADEQUATE VEHICLE RECOVERY ZONE BEHIND GUARDRAIL.
- 6. FOR MAINTENANCE AND REPAIR PROJECTS, USE "GUARDRAIL SYSTEM TRANSITION" (SEPIA 33", TO TRANSITION BACK TO 27" OR 29" GUARDRAIL HEIGHT, IF ONLY THE TERMINAL IS PROPOSED TO BE REPLACED).

COUNTY OF	ITEM NO.	SHEET NO.



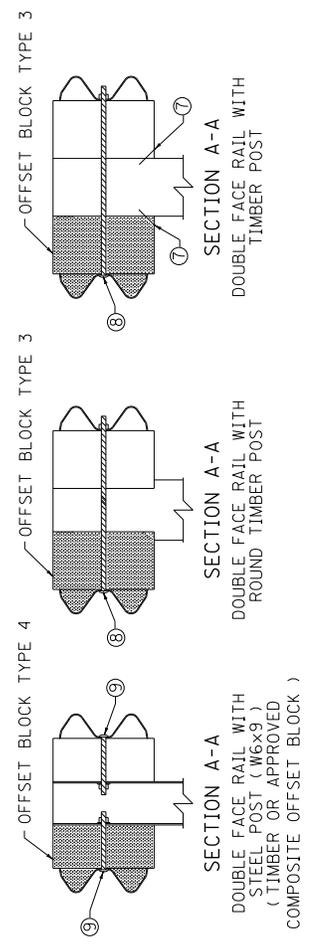
~ NOTES ~
 BID ITEM AND UNIT TO BID
 GUARDRAIL-STEEL W BEAM-S FACE LF
 OR
 GUARDRAIL-STEEL W BEAM-D FACE LF

- DIMENSIONAL TOLERANCES NOT SHOWN OR IMPLIED ARE INTENDED TO BE THOSE CONSISTENT WITH THE PROPER FUNCTIONING OF THE PART, INCLUDING ITS APPEARANCE AND ACCEPTED MANUFACTURING PRACTICES.
- THE RAIL ELEMENT SHALL COMPLY WITH AASHTO M-180 -CLASS A, TYPE II.
- ALL LAPS SHALL BE PLACED IN THE DIRECTION OF TRAFFIC FLOW.
- TOLERANCE + 1/4", -1/4"
- 8-5/8" x 1 1/4" LONG BUTTON HEAD BOLTS AND HEX HEAD RECESS NUTS REQUIRED FOR EACH RAIL SPLICE.
- LENGTH EQUALS POST AND BLOCK WIDTH PLUS 2" FOR BOLT OR 2 1/4" FOR THREADED ROD.
- GALVANIZED STEEL 104 COMMON COATED NAIL (DRIVE NAIL AT THE TOP OR BOTTOM CENTER OF BLOCK AND POST AFTER BOLT IS INSTALLED).
- 5/8" x 6" STEEL THREADED ROD AND TWO (2) HEX HEAD NUTS OR 5/8" x 6" BUTTON OR HEX HEAD BOLT AND HEX HEAD NUT.
- 5/8" x 8" BUTTON HEAD BOLT, HEX HEAD RECESS NUT AND ONE 3/8" ROUND WASHER (TYP.). BOLT SHALL HAVE A MINIMUM THREAD LENGTH OF 2".
- REQUIRED FOR DOUBLE RAIL
- BOTH 12'-6" AND 25' LENGTHS OF "W" BEAM GUARDRAIL SECTIONS WILL BE PERMITTED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.



SECTION C-C
 (RAIL CORRUGATED SHEET STEEL BEAM)

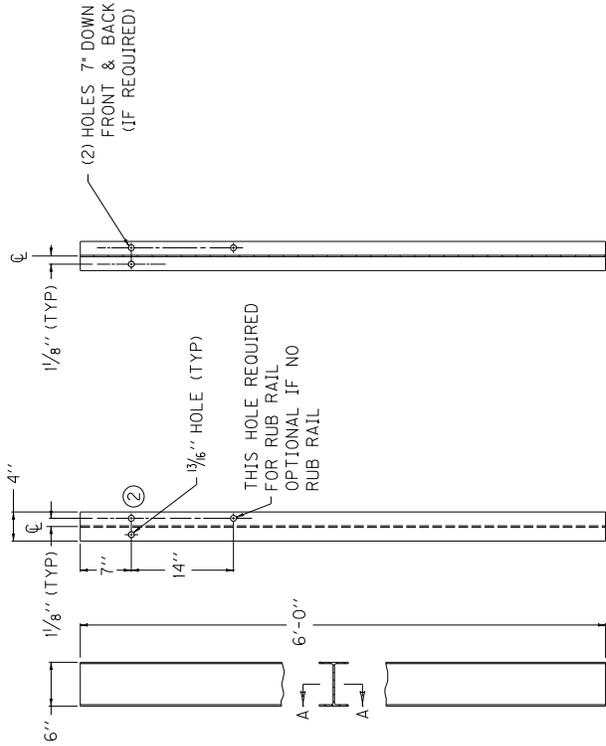
SECTION B-B



KENTUCKY
DEPARTMENT OF HIGHWAYS
STEEL BEAM
GUARDRAIL
("W" BEAM)
SUBMITTED: <i>Robert P. Schell</i> DIRECTOR DIVISION OF DESIGN 11-17-17 DATE 027

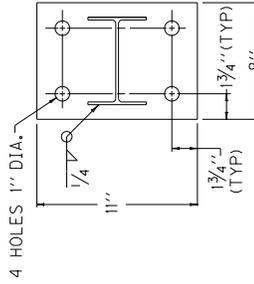
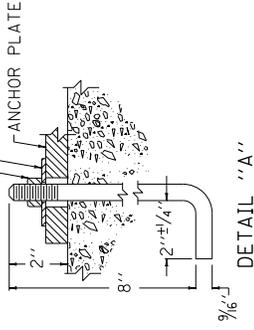
COUNTY OF	SHEET NO.
_____	_____
ITEM NO.	_____
_____	_____

- ~ NOTES ~
- ① W6 X 8.5 IS AN ACCEPTABLE ALTERNATE.
 - ② THESE HOLES ARE REQUIRED FOR ATTACHING RAIL.
 - ③ TIMBER OR COMPOSITE BLOCKOUTS MAY BE USED WITH STEEL POST.



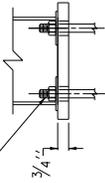
SECTION A-A

~ W6 X 9.0 STEEL POST ① ~



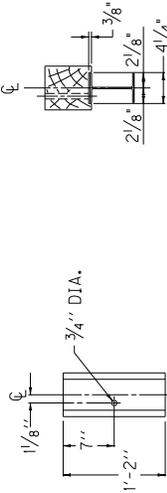
PLAN VIEW

SEE DETAIL "A"



SIDE VIEW

ANCHOR PLATE



REAR ELEVATION

PLAN VIEW

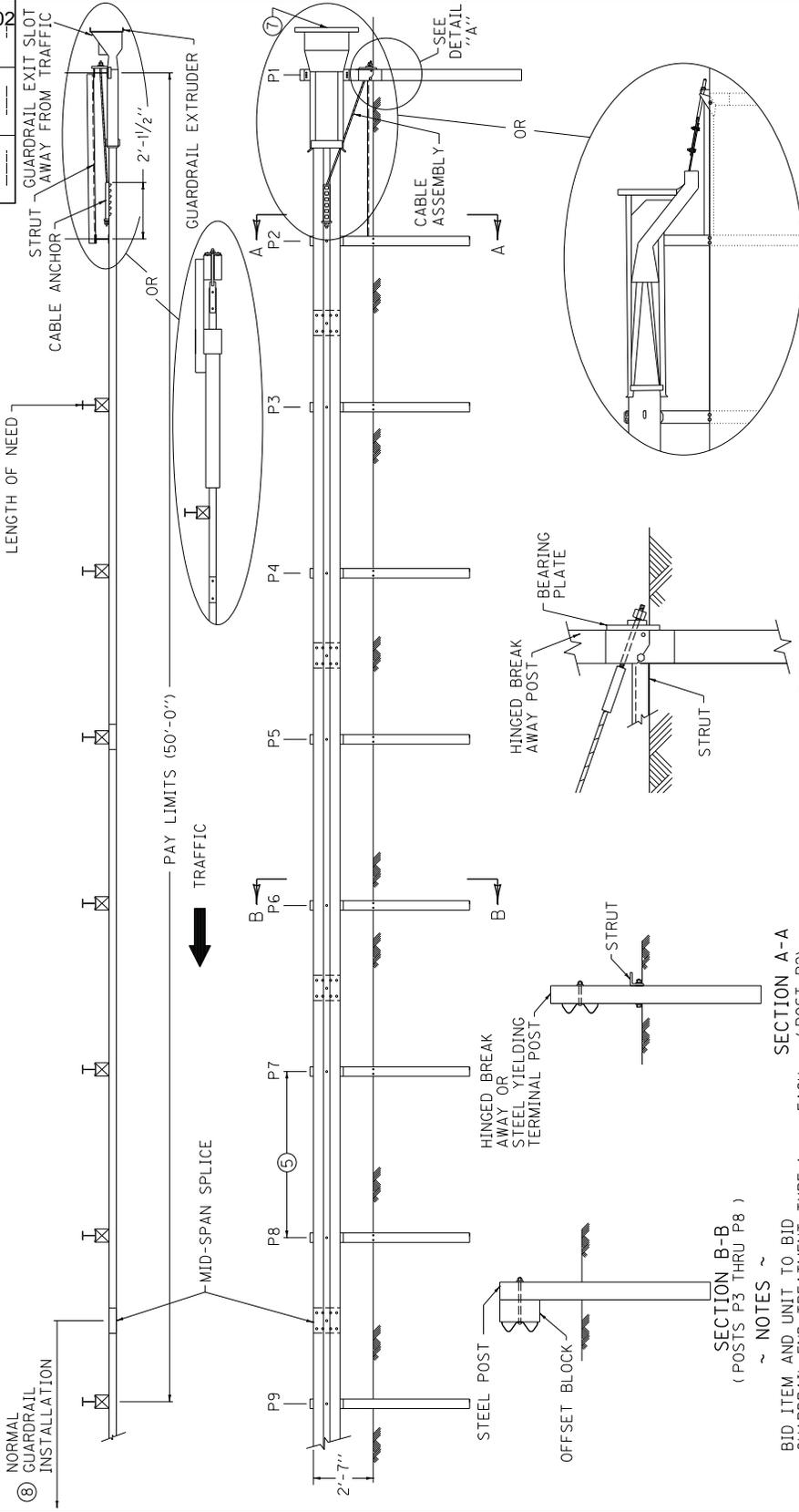
OFFSET BLOCK TYPE 4
6" X 8" (Nominal Size)
(TIMBER OR APPROVED COMPOSITE)
(FOR USE WITH STEEL POST ONLY)

KENTUCKY
DEPARTMENT OF HIGHWAYS

STEEL
GUARDRAIL POSTS

SUBMITTED: *Mark P. Sells*
DIRECTOR DIVISION OF DESIGN
DATE: 3-06-18
028

SHEET NO.	002
TYPING	
COUNTY OF	



SECTION A-A
(POST P2)

SECTION B-B
(POSTS P3 THRU P8)

~ NOTES ~

BID ITEM AND UNIT TO BID
GUARDRAIL END TREATMENT TYPE 1 EACH
OBJECT MARKER TY 3 EACH

1. GUARDRAIL END TREATMENT TYPE 1 SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, AND INCLUDES POSTS, RAIL ELEMENTS, GUARDRAIL EXTRUDER AND ALL OTHER INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION AS DETAILED.
2. PERMISSIBLE ALTERNATES FOR GUARDRAIL END TREATMENT TYPE 1 ARE PATENTED ITEMS: SOFT-STOP MANUFACTURED BY TRINITY INDUSTRIES RBI-004 OF DALLAS, TEXAS OR MSKT MANUFACTURED BY ROAD SYSTEMS INC. OF BIG SPRINGS, TEXAS.
3. THE MANUFACTURER SHALL FURNISH TWO (2) SETS OF SHOP PLANS TO THE CONTRACTOR WITH EACH INSTALLATION.
4. THE COMPLETED INSTALLATION SHALL MEET ALL APPLICABLE REQUIREMENTS OF THE MANUFACTURER (SEE SHOP DRAWINGS).
5. POSTS P1 THROUGH P9 ARE SPACED 6'-3" ON CENTER.
6. INTENDED USE: AREAS WITH ADEQUATE VEHICLE RECOVERY ZONE BEHIND END TREATMENT.
7. OBJECT MARKER TYPE 3 (SEE CURRENT MUTCD MANUAL FOR DETAILS)
8. FOR MAINTENANCE AND REPAIR PROJECTS, USE "GUARDRAIL SYSTEM TRANSITION 'SEP1A 33", TO TRANSITION BACK TO 27" OR 29" GUARDRAIL HEIGHT, IF ONLY THE TERMINAL IS PROPOSED TO BE REPLACED.

USE WITH CUR. STD. DWG.
RBI-004

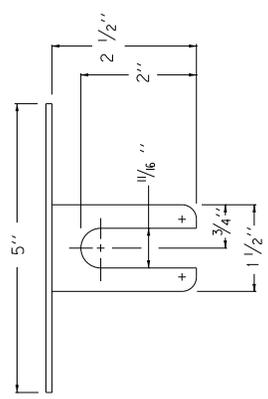
KENTUCKY
DEPARTMENT OF HIGHWAYS
GUARDRAIL
END TREATMENT
TYPE 1

SUBMITTED: *John P. Scales*
DIRECTOR DIVISION OF DESIGN
DATE: 11-17-17
029

COUNTY OF	ITEM NO.	SHEET NO.

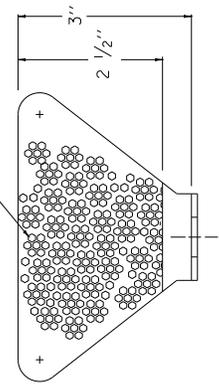
~ NOTES ~

- BID ITEMS AND UNIT TO BID
 DELINEATOR FOR GUARDRAIL B/W EACH
 DELINEATOR FOR GUARDRAIL M/W EACH
 DELINEATOR FOR GUARDRAIL M/Y EACH
- DELINEATORS SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE EACH AND SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR ONE COMPLETE INSTALLATION.
 - DELINEATOR SHAPE AND DIMENSIONS ARE SHOWN FOR ILLUSTRATION PURPOSES ONLY. TYPES OF DELINEATORS PERMITTED SHALL BE FROM THE LIST OF APPROVED MATERIALS.
 - GUARDRAIL DELINEATORS SHALL BE REQUIRED ON ALL GUARDRAIL.
 - DELINEATORS SHALL NOT BE INSTALLED WITHIN THE PAY LIMITS OF THE END TREATMENT.
 - DELINEATORS SHALL BE MANUFACTURED FROM 12 GA. GALVANIZED STEEL.
 - DIMENSIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MANUFACTURER'S TOLERANCES.
 - WHEN CONCRETE BARRIERS EXTEND ACROSS BRIDGE STRUCTURES IN LIEU OF STEEL BEAM GUARDRAIL, DELINEATORS SHALL BE INSTALLED AT SAME VERTICAL ALIGNMENT AS ON THE GUARDRAIL, AND DELINEATORS SHALL COMPLY WITH CURRENT STANDARD DRAWING RBM-020.
 - DELINEATORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

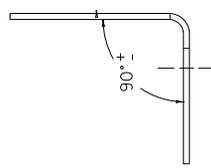


PLAN VIEW

TYPE IX SHEETING,
YELLOW OR WHITE

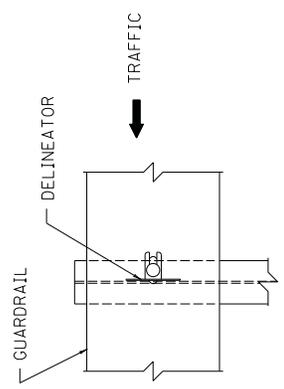


FRONT VIEW

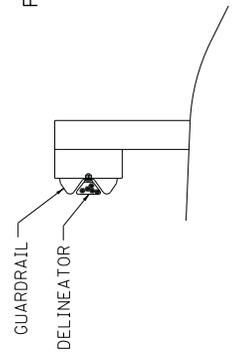


SIDE VIEW

DIMENSIONS SHOWN ARE FOR ONE VERSION OF A WEB-MOUNTED GUARDRAIL DELINEATOR. DELINEATORS WITH ALTERNATE DIMENSIONS MAY BE CONSIDERED FOR INCLUSION ON THE APPROVED PRODUCTS LIST.

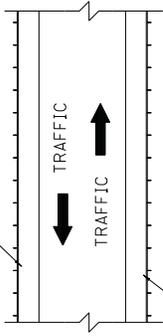


FRONT VIEW

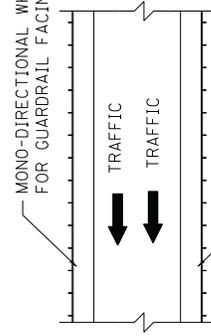


SIDE VIEW

BI-DIRECTIONAL WHITE DELINEATOR FOR GUARDRAIL FACING TRAFFIC



BI-DIRECTIONAL WHITE DELINEATOR FOR GUARDRAIL FACING TRAFFIC



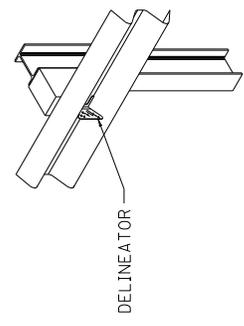
MONO-DIRECTIONAL WHITE DELINEATOR FOR GUARDRAIL FACING TRAFFIC

MONO-DIRECTIONAL YELLOW DELINEATOR FOR GUARDRAIL FACING TRAFFIC

PLACEMENT OF DELINEATORS FOR GUARDRAIL

APPROXIMATE DELINEATOR SPACING	
TANGENT	100'
CURVE	50'

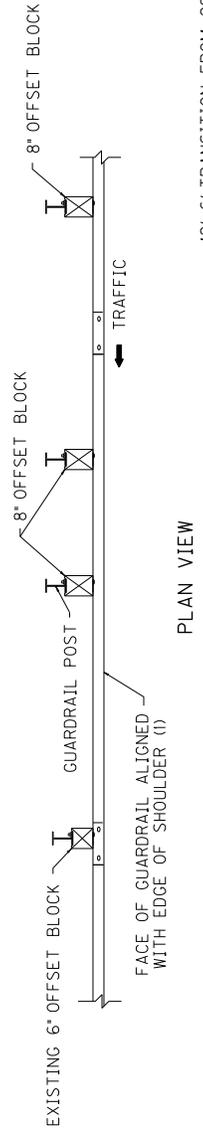
SPACING SHOULD BE ADJUSTED IN CURVES SO THAT SEVERAL DELINEATORS ARE ALWAYS SIMULTANEOUSLY VISIBLE TO THE ROAD USER.



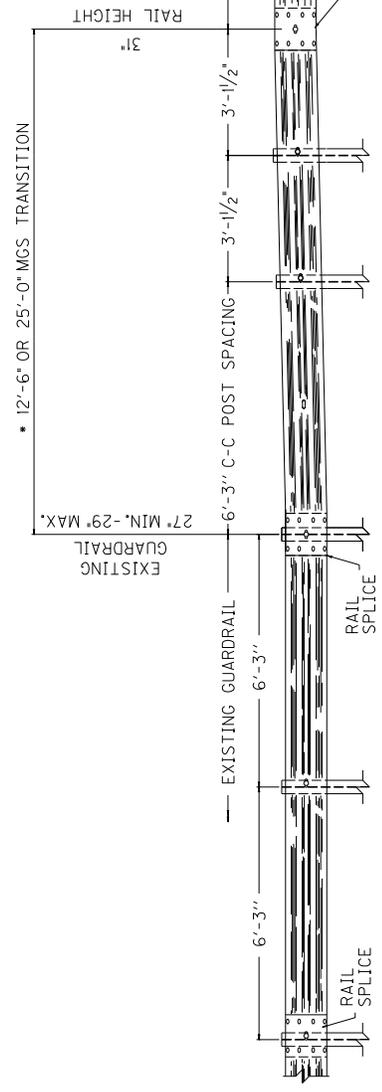
ISOMETRIC VIEW
USE WITH CUR. STD. DWGS.
RBM-020, RBR-060

KENTUCKY DEPARTMENT OF HIGHWAYS	
DELINEATORS FOR GUARDRAIL	
SUBMITTED: <i>Mark S. Pickett</i> DIRECTOR DIVISION OF DESIGN	11-17-17 DATE
032	

COUNTY OF	ITEM NO.	SHEET NO.



• 12'-6" TRANSITION FROM 29" TO 31" SHOWN,
25'-0" REQUIRED FOR 27" TO 31" TRANSITION.



ELEVATION VIEW

~ NOTES ~

- 1) WHERE POST OFFSET IS CONSTRAINED, AND WHEN THE EXISTING SHOULDER IS WIDER THAN 4 FEET, THE EXISTING SHOULDER MAY BE REDUCED UP TO 2 INCHES TO ACCOMMODATE THE 8 INCH BLOCKS OF THE MGS GUARDRAIL. WHERE SITE CONSTRAINTS PROHIBIT THE POST FROM BEING PLACED AT LEAST 6 INCHES IN FRONT OF THE SLOPE BREAK POINT, USE 7 FOOT POSTS.
- 2) MGS TRANSITION FROM EXISTING GUARDRAIL SHALL BE COMPLETED OUTSIDE THE 50 FEET MGS END TERMINAL LIMITS.

KENTUCKY DEPARTMENT OF HIGHWAYS	SUBMITTED: <i>Robert P. Seibel</i> DIRECTOR DESIGN & DESIGN	4-04-18 DATE	033
	GUARDRAIL SYSTEM TRANSITION		

COUNTY OF	SHEET NO.
ITEM NO.	

STRIPING NOTES:

- ARROWS SHALL BE USED IN ANY EXCLUSIVE TURN LANES.
- IN A SINGLE TURN LANE, DOTTED WHITE LINE EXTENSIONS MAY BE USED THROUGH THE TAPER OF THE TURN LANE.
- IF USED, DOTTED WHITE LANE LINE EXTENSIONS SHALL BE NORMAL WIDTH, AND SHOULD BE 2' LONG, WITH A GAP OF 2-6' BETWEEN EACH LINE.
- IN DUAL TURN LANES, DOTTED WHITE LANE LINE EXTENSIONS SHOULD BE USED THROUGH THE TAPER OF THE TURN LANE. BOTH SOLID LINES FORMING THE TURN LANES SHALL BEGIN AT THE DOWNSTREAM END OF THE TAPER.

ARROW SPACING NOTES:

- IN SINGLE-DIRECTION TURN LANES, ARROWS SHOULD BE SPACED AS FOLLOWS:
- AT LEAST TWO ARROWS SHOULD BE USED IN EACH TURN LANE. HOWEVER, IF A TURN LANE IS LESS THAN 80' IN LENGTH, THE DOWNSTREAM ARROW MAY BE ELIMINATED.
- THE FIRST UPSTREAM ARROW SHALL BE PLACED AT THE BEGINNING OF THE SOLID LINE FOR THE TURN LANE.
- THE LAST DOWNSTREAM ARROW SHOULD BE PLACED 40' FROM THE STOP BAR.
- ANY ADDITIONAL ARROWS SHOULD BE EVENLY SPACED. SPACING SHOULD NOT EXCEED 80'.
- ARROW SPACING AND NUMBER OF ARROWS MAY VARY BASED ON SITE CONDITIONS.

DOTTED EXTENSION DIMENSIONS:



Dotted extensions shall be normal width.

KENTUCKY
DEPARTMENT OF HIGHWAYS

TYPICAL MARKINGS FOR TURN LANES

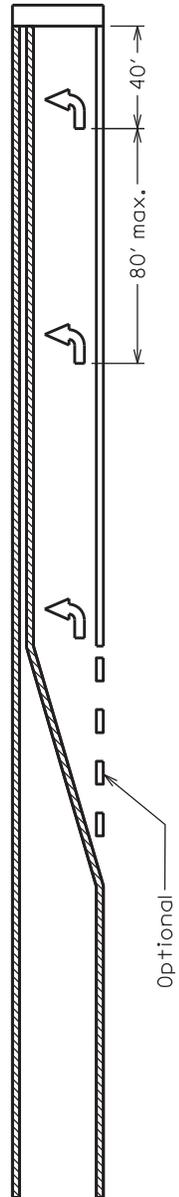
SUBMITTED: *R. [Signature]* DATE: 11-30-18 **042**

DRAWING NOT TO SCALE

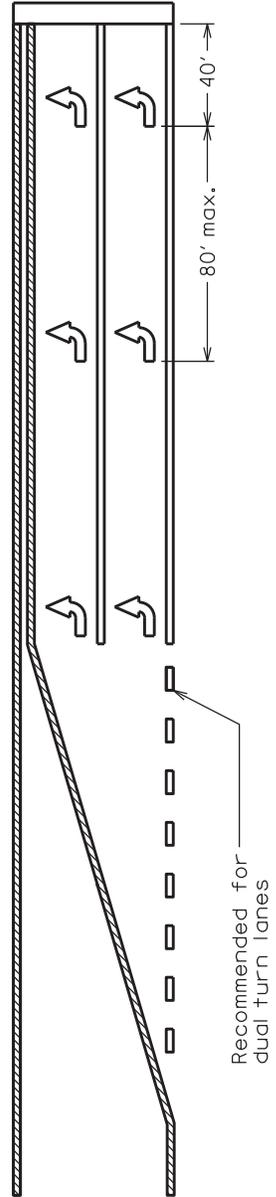
LEGEND

MARKINGS	WHITE
	YELLOW

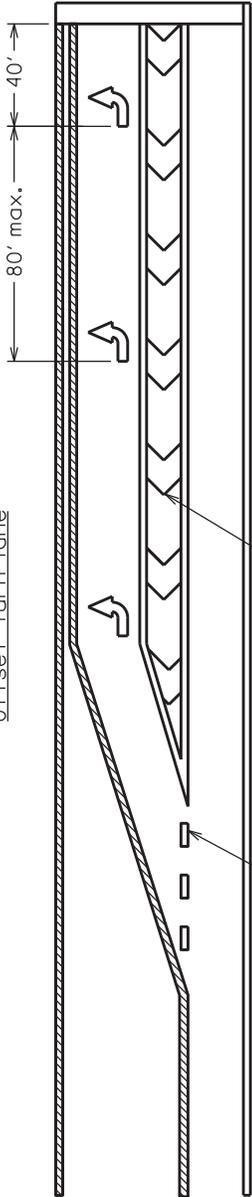
Single turn lane



Dual turn lane



Offset turn lane



Chevron markings shall be used for offsets greater than 6'. Follow crosshatching guidelines shown in Sepia 046 for dimensions and spacing.

SHEET	
COUNTY OF	
ITEM NO.	

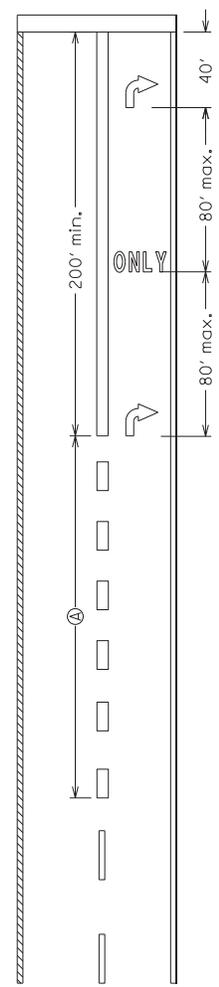
LANE_DROP_MARKINGS_NOTES:

- IN SITUATIONS WHERE A THROUGH LANE BECOMES A MANDATORY TURN LANE, THE FOLLOWING GUIDELINES APPLY:
- A WIDE SOLID LINE SHOULD EXTEND BACK A MINIMUM OF 200' FROM THE STOP BAR.
- A WIDE, DOTTED LINE SHALL EXTEND FROM THE END OF THE SOLID LINE BACK A MINIMUM OF THE DISTANCE SHOWN IN THE CHART (A). THESE LINES SHALL BE 3' LONG, WITH A SPACE OF 9' BETWEEN LINES.
- ALTERNATING ARROWS AND "ONLY" WORD MESSAGES SHALL BE USED, WITH THE FIRST AND LAST MARKING BEING AN ARROW.
- ALTERNATING ARROWS AND "ONLY" WORD MESSAGES SHOULD BE SPACED EVENLY, FOLLOWING GUIDELINES FOR ARROW SPACING.
- THESE SYMBOLS SHALL EXTEND BACK AT LEAST TO THE END OF THE SOLID STRIPE, BUT MAY BE EXTENDED BACK FARTHER IF ADDITIONAL GUIDANCE IS NEEDED.

TWO-WAY LEFT-TURN LANE NOTES:

- IN A TWO-WAY LEFT-TURN LANE, THE FOLLOWING GUIDELINES APPLY:
- ONE SET OF ARROWS SHOULD BE PLACED AT OR NEAR THE BEGINNING OF THE TWO-WAY LEFT-TURN LANE.
- ADDITIONAL SETS OF ARROWS SHOULD BE PLACED THROUGHOUT THE TWO-WAY LEFT-TURN LANE IF LEFT TURN MOVEMENTS ARE EXPECTED. THEY SHOULD BE SPACED NO LESS THAN 300' AND NO MORE THAN 1/2 MILE.
- THE SPACING BETWEEN EACH ARROW IN A SINGLE ARROW SET SHOULD BE 16 FEET.
- TWO-WAY LEFT-TURN LANES SHALL TERMINATE IN A DEDICATED LEFT-TURN LANE AT A SIGNALIZED INTERSECTION. THEY MAY TERMINATE IN A DEDICATED LEFT-TURN LANE AT OTHER LOCATIONS IF DEEMED NECESSARY.
- CONTACT TRAFFIC ENGINEER FOR RECOMMENDED DISTANCE FOR LEFT TURN STORAGE AT INTERSECTIONS.
- REFER TO THE TRAFFIC OPERATIONS GUIDANCE MANUAL SECTION TO-504 FOR MORE GUIDANCE ON TWO-WAY LEFT-TURN LANES.

Lane drop scenario



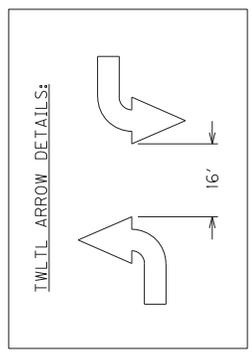
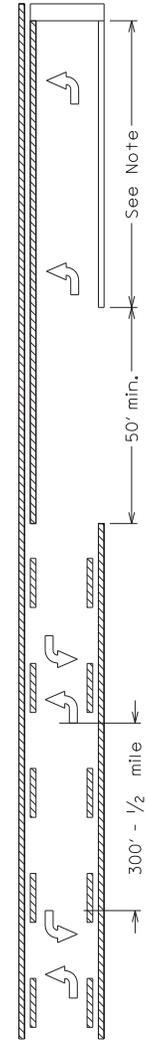
Speed Limit	(A)
25	125'
35	245'
45	540'
55	660'
65	780'

WIDE DOTTED LANE LINE DIMENSIONS:

3' → → → → → 9' ←

Dotted lane lines shall be twice the normal width in lane drop scenarios.

Two-way left-turn lane



DRAWING NOT TO SCALE

LEGEND

MARKINGS	WHITE
	YELLOW

KENTUCKY DEPARTMENT OF HIGHWAYS

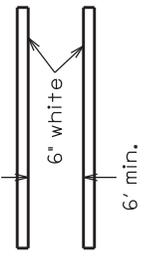
TYPICAL MARKINGS FOR TURN LANES

SUBMITTED: R. Offenberg DATE: 4-22-19
043

COUNTY OF _____
ITEM NO. _____
SHEET NO. _____

CROSSWALK DETAIL

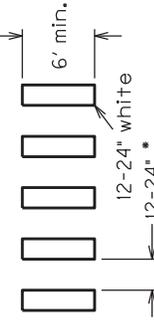
"TRANSVERSE"



TRANSVERSE LINES SHOULD EXTEND ACROSS THE FULL WIDTH OF THE APPROACH PAVEMENT.

TRANSVERSE LINES MAY BE COMBINED WITH LONGITUDINAL LINES TO FORM A "LADDER-STYLE" CROSSWALK.

"LONGITUDINAL"

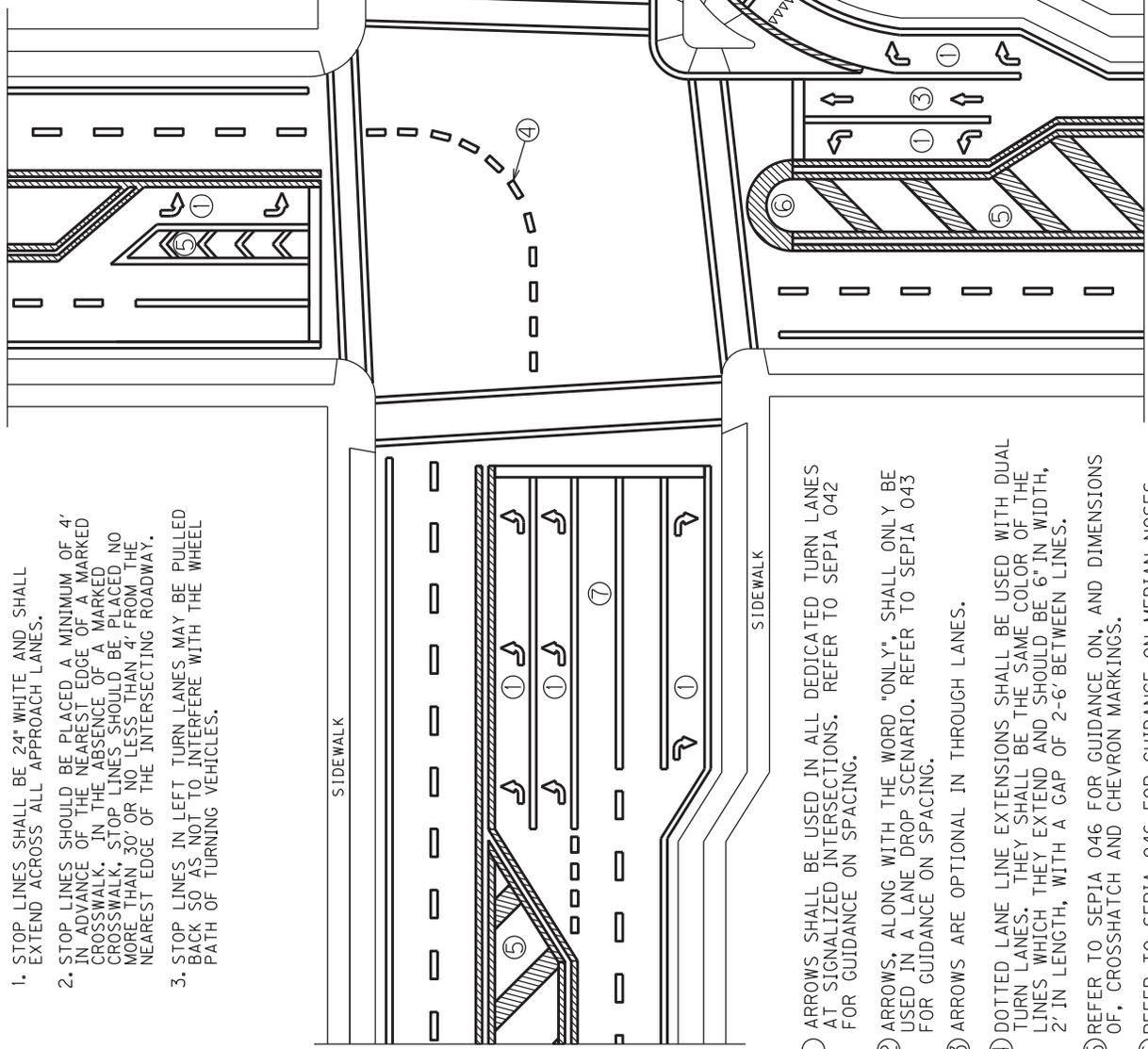


CROSSWALK BARS SHALL BE INSTALLED PARALLEL WITH ONCOMING TRAFFIC.

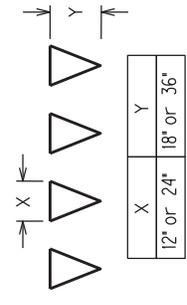
*SPACING OF BARS SHOULD BE MODIFIED SO AS TO AVOID TIRE PATHS OF APPROACHING VEHICLES.

STOP LINE NOTES

1. STOP LINES SHALL BE 24" WHITE AND SHALL EXTEND ACROSS ALL APPROACH LANES.
2. STOP LINES SHOULD BE PLACED A MINIMUM OF 4' IN ADVANCE OF THE NEAREST EDGE OF A MARKED CROSSWALK. IN THE ABSENCE OF A MARKED CROSSWALK, STOP LINES SHOULD BE PLACED NO MORE THAN 30' OR NO LESS THAN 4' FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY.
3. STOP LINES IN LEFT TURN LANES MAY BE PULLED BACK SO AS NOT TO INTERFERE WITH THE WHEEL PATH OF TURNING VEHICLES.



YIELD LINE DETAIL



NOTE: SPACING BETWEEN TRIANGLES SHOULD BE 3-12"

DRAWING NOT TO SCALE

LEGEND	
MARKINGS	WHITE
	YELLOW

- ① ARROWS SHALL BE USED IN ALL DEDICATED TURN LANES AT SIGNALIZED INTERSECTIONS. REFER TO SEPIA 042 FOR GUIDANCE ON SPACING.
- ② ARROWS, ALONG WITH THE WORD "ONLY", SHALL ONLY BE USED IN A LANE DROP SCENARIO. REFER TO SEPIA 043 FOR GUIDANCE ON SPACING.
- ③ ARROWS ARE OPTIONAL IN THROUGH LANES.
- ④ DOTTED LANE LINE EXTENSIONS SHALL BE USED WITH DUAL TURN LANES. THEY SHALL BE THE SAME COLOR OF THE LINES WHICH THEY EXTEND AND SHOULD BE 6" IN WIDTH, 2-IN LENGTH, WITH A GAP OF 2-6' BETWEEN LINES.
- ⑤ REFER TO SEPIA 046 FOR GUIDANCE ON, AND DIMENSIONS OF, CROSSHATCH AND CHEVRON MARKINGS.
- ⑥ REFER TO SEPIA 046 FOR GUIDANCE ON MEDIAN NOSES.
- ⑦ SOLID LINE SEPARATING THROUGH LANES SHOULD EXTEND BACK A MINIMUM OF 50' FROM THE STOP BAR.

*NOTE: OTHER THAN LONGITUDINAL STRIPING, ALL MARKINGS SHOWN ON THIS DRAWING SHOULD BE THERMOPLASTIC.

KENTUCKY
DEPARTMENT OF HIGHWAYS

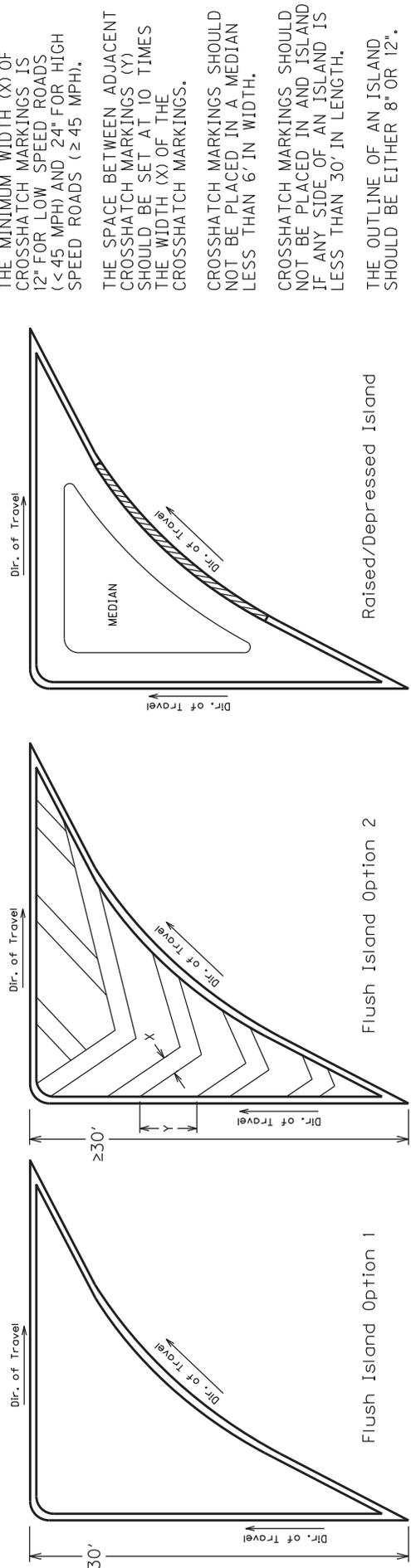
TYPICAL MARKINGS AT SIGNALIZED INTERSECTIONS

SUBMITTED *R. [Signature]* DATE **11-30-18**

047

COUNTY OF	ITEM NO.	SHEET NO.

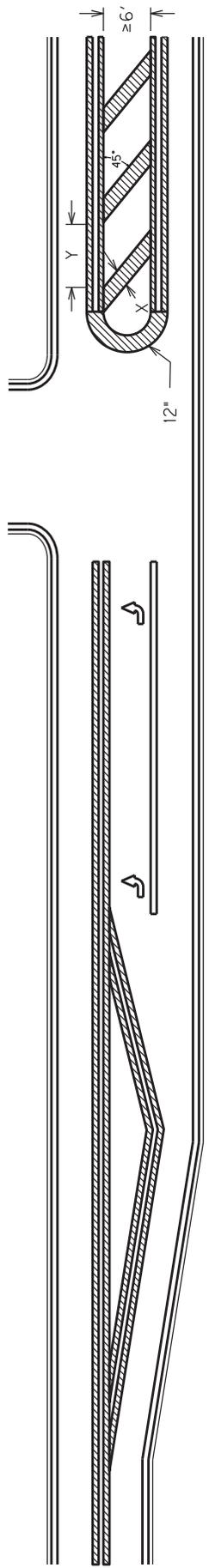
TYPICAL RIGHT-TURN CHANNELIZING ISLAND MARKINGS



GENERAL NOTES

- THE MINIMUM WIDTH (X) OF CROSSHATCH MARKINGS IS 12" FOR LOW SPEED ROADS (<45 MPH) AND 24" FOR HIGH SPEED ROADS (≥ 45 MPH).
- THE SPACE BETWEEN ADJACENT CROSSHATCH MARKINGS (Y) SHOULD BE SET AT 10 TIMES THE WIDTH (X) OF THE CROSSHATCH MARKINGS.
- CROSSHATCH MARKINGS SHOULD NOT BE PLACED IN A MEDIAN LESS THAN 6' IN WIDTH.
- CROSSHATCH MARKINGS SHOULD NOT BE PLACED IN AND ISLAND IF ANY SIDE OF AN ISLAND IS LESS THAN 30' IN LENGTH.
- THE OUTLINE OF AN ISLAND SHOULD BE EITHER 8" OR 12".
- MEDIAN NOSES MAY BE EITHER A SINGLE 12" LINE OR A SOLID SEMI-CIRCLE.
- CROSSHATCH AND CHEVRON MARKINGS SHOULD BE THERMOPLASTIC.

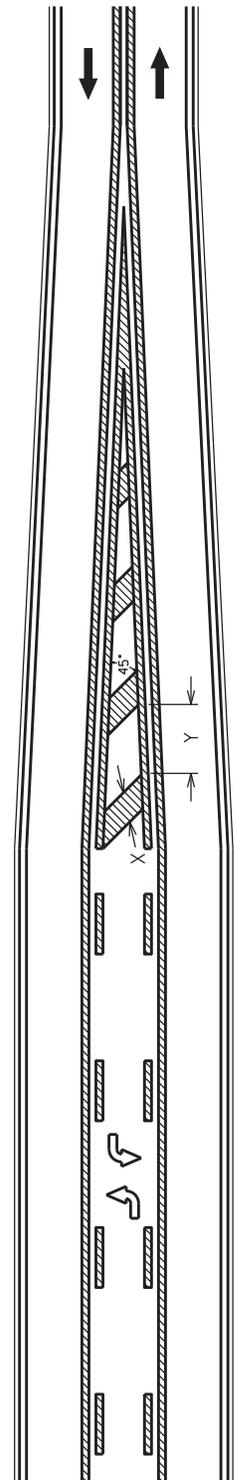
TYPICAL LEFT-TURN LANE / FLUSH MEDIAN CROSSHATCH MARKINGS



LEGEND

MARKINGS	WHITE
	YELLOW

TYPICAL TWO-WAY LEFT-TURN LANE (TWLTL) TRANSITION MARKINGS



DRAWING NOT TO SCALE

KENTUCKY
DEPARTMENT OF HIGHWAYS

TYPICAL MARKINGS FOR ISLANDS AND MEDIANS

Note: Crosshatch markings shall be placed in the transition area of a TWLTL.

SUBMITTED: *R. [Signature]* DATE: 11-30-18
046

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

**TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS**

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

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

I. APPLICATION

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

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

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

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

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

Revised: January 25, 2017

II. NONDISCRIMINATION OF EMPLOYEES

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

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

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

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

EXECUTIVE BRANCH CODE OF ETHICS

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

KRS 11A.040 (7) provides:

No present or former public servant shall, within six (6) months following termination of his office or employment, accept employment, compensation, or other economic benefit from any person or business that contracts or does business with, or is regulated by, the state in matters in which he was directly involved during the last thirty-six (36) months of his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, or for which he received, prior to his state employment, a professional degree or license, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved during the last thirty-six (36) months of his tenure in state government. This subsection shall not prohibit the performance of ministerial functions, including but not limited to filing tax returns, filing applications for permits or licenses, or filing incorporation papers, nor shall it prohibit the former officer or public servant from receiving public funds disbursed through entitlement programs.

KRS 11A.040 (9) states:

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

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

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

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

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

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, 3 Fountain Place, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Revised: January 27, 2017

Kentucky Equal Employment Opportunity Act of 1978

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

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

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

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

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

EMPLOYEE RIGHTS UNDER THE FAIR LABOR STANDARDS ACT

THE UNITED STATES DEPARTMENT OF LABOR WAGE AND HOUR DIVISION

FEDERAL MINIMUM WAGE

\$7.25

 PER HOUR

BEGINNING JULY 24, 2009

OVERTIME PAY At least 1½ times your regular rate of pay for all hours worked over 40 in a workweek.

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

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

No more than

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

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

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

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

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

ADDITIONAL INFORMATION

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

For additional information:



1-866-4-USWAGE

(1-866-487-9243)

TTY: 1-877-889-5627



WWW.WAGEHOUR.DOL.GOV

PART IV
INSURANCE

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

PART V
BID ITEMS

PROPOSAL BID ITEMS

192400

Page 1 of 2

Report Date 9/26/19

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	250.00	TON		\$	
0020	00078		CRUSHED AGGREGATE SIZE NO 2 (LIMESTONE)	2,000.00	TON		\$	
0030	00100		ASPHALT SEAL AGGREGATE (WASHED CRUSHED LIMESTONE SEAL COAT 9-M)	22.00	TON		\$	
0040	00103		ASPHALT SEAL COAT	3.14	TON		\$	
0050	00212		CL2 ASPH BASE 1.00D PG64-22	860.00	TON		\$	
0060	00301		CL2 ASPH SURF 0.38D PG64-22	125.00	TON		\$	
0070	00356		ASPHALT MATERIAL FOR TACK	2.10	TON		\$	
0080	02069		JPC PAVEMENT-10 IN	4,750.00	SQYD		\$	
0090	02599		FABRIC-GEOTEXTILE TYPE IV	5,000.00	SQYD		\$	
0100	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		\$	
0110	02677		ASPHALT PAVE MILLING & TEXTURING	2,700.00	TON		\$	
0120	02726		STAKING	1.00	LS		\$	
0130	06427		TRENCHING FOR SHOULDERS - 8 INCHES DEPTH	1,000.00	LF		\$	
0140	10020NS		FUEL ADJUSTMENT	1,380.00	DOLL	\$1.00	\$	\$1,380.00
0150	20997ED		REMOVE TRAFFIC ISLAND	375.00	SQYD		\$	

Section: 0002 - TRAFFIC SIGNALS

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0160	04792		CONDUIT-1 IN	20.00	LF		\$	
0170	04795		CONDUIT-2 IN	300.00	LF		\$	
0180	04811		ELECTRICAL JUNCTION BOX TYPE B	1.00	EACH		\$	
0190	04820		TRENCHING AND BACKFILLING FOR TRAFFIC SIGNAL	300.00	LF		\$	
0200	04850		CABLE-NO. 14/1 PAIR	1,500.00	LF		\$	
0210	04894		PREFORMED LOOP/LEAD-IN	150.00	LF		\$	
0220	20453ES835		PREFORMED QUADRAPOLE LOOPS	306.00	LF		\$	
0230	24963ED		LOOP TEST	3.00	EACH		\$	

Section: 0003 - LIGHTING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0240	04761		LIGHTING CONTROL EQUIPMENT	1.00	EACH		\$	
0250	04797		CONDUIT-3 IN	50.00	LF		\$	
0260	04820		TRENCHING AND BACKFILLING FOR HIGH MAST LIGHTING	150.00	LF		\$	
0270	23161EN		POLE BASE-HIGH MAST	9.00	CUYD		\$	
0280	23778EC		WIRE-NO. 10	300.00	LF		\$	
0290	24601EC		INSTALL HIGH MAST LUMINAIRE	5.00	EACH		\$	
0300	24601EC		INSTALL POLE - 120 FT MOUNTING HEIGHT HIGH MAST WITH LOWERING DEVICE	1.00	EACH		\$	

PROPOSAL BID ITEMS

192400

Page 2 of 2

Report Date 9/26/19

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0310	24902EC		PVC CONDUIT-3 IN-SCHEDULE 80	150.00	LF		\$	

Section: 0004 - GUARDRAIL

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0320	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	13.00	EACH		\$	
0330	02351		GUARDRAIL-STEEL W BEAM-S FACE	600.00	LF		\$	
0340	02367		GUARDRAIL END TREATMENT TYPE 1	1.00	EACH		\$	
0350	02381		REMOVE GUARDRAIL	600.00	LF		\$	

Section: 0005 - MAINTAIN & CONTROL TRAFFIC

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0360	02562		TEMPORARY SIGNS	600.00	SQFT		\$	
0370	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0380	02671		PORTABLE CHANGEABLE MESSAGE SIGN	4.00	EACH		\$	
0390	02775		ARROW PANEL	2.00	EACH		\$	
0400	06515		PAVE STRIPING-PERM PAINT-6 IN	1,500.00	LF		\$	
0410	06549		PAVE STRIPING-TEMP REM TAPE-B (6 INCH)	100.00	LF		\$	
0420	06550		PAVE STRIPING-TEMP REM TAPE-W (6 INCH)	8,000.00	LF		\$	
0430	06551		PAVE STRIPING-TEMP REM TAPE-Y (6 inch)	8,000.00	LF		\$	
0440	06556		PAVE STRIPING-DUR TY 1-6 IN W	5,500.00	LF		\$	
0450	06557		PAVE STRIPING-DUR TY 1-6 IN Y	4,500.00	LF		\$	
0460	06560		PAVE STRIPING-DUR TY 1-12 IN W	1,000.00	LF		\$	
0470	06573		PAVE MARKING-THERMO STR ARROW	2.00	EACH		\$	
0480	23253ES717		PAVE MARK TY 1 TAPE CROSS HATCH (YELLOW)	200.00	SQFT		\$	
0490	23255ES717		PAVE MARK TY 1 TAPE-STRAIGHT ARROW	20.00	EACH		\$	
0500	23265ES717		PAVE MARK TY 1 TAPE STOP BAR-24 IN	36.00	LF		\$	
0510	23268ES717		PAVE MARK TY 1 TAPE-MERGE ARROW	2.00	EACH		\$	
0520	23270ES717		PAVE MARK TY 1 TAPE-CURV ARROW	26.00	EACH		\$	
0530	23745EC		YIELD LINES TYPE 1 TAPE YIELD BAR - 36 INCH	30.00	EACH		\$	

Section: 0006 - DEMOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0540	02569		DEMOBILIZATION	1.00	LS		\$	