



CALL NO. 203

CONTRACT ID. 224421

BOONE - CAMPBELL COUNTIES

FED/STATE PROJECT NUMBER 121GR22T009-HSIP

DESCRIPTION VARIOUS INTERSECTIONS IN DISTRICT 6

WORK TYPE ASPHALT PAVEMENT & ROADWAY REHAB

PRIMARY COMPLETION DATE 7/31/2023

LETTING DATE: May 26,2022

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME May 26,2022. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

NO PLANS ASSOCIATED WITH THIS PROJECT.

DBE CERTIFICATION REQUIRED - 9%

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

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PART I
SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 06

CONTRACT ID - 224421

121GR22T009-HSIP

COUNTY - BOONE

PCN - 0600800182101

HSIP 8126(011)

BURLINGTON PIKE (KY 18) (MP 14.326) INTERSECTION AND CORRIDOR IMPROVEMENTS TO REDUCE CONFLICT POINTS AND ENHANCE SAFETY ALONG KY 18 FROM GREENVIEW DR TO EWING BLVD (MP 15.406), A DISTANCE OF 01.08 MILES.SIGNS-LIGHTING-SIGNALS SYP NO. 06-09022.30.

GEOGRAPHIC COORDINATES LATITUDE 39:00:32.00 LONGITUDE 84:39:21.00

ADT 53,776

PCN - 0600808422101

HSIP 8217(004)

HOUSTON ROAD (KY 842) (MP 6.173) UPDATE THE TRAFFIC SIGNAL TO INCLUDE REFLECTIVE BACKPLATES, UPDATE THE STRIPING AND SIGNING AT THE INTERSECTION OF KY 842 AND KY 717/RAMPS (MP 6.386), A DISTANCE OF 0.21 MILES.THERMOPLASTIC PAVEMENT STRIPING SYP NO. 06-09022.10.

GEOGRAPHIC COORDINATES LATITUDE 39:00:55.00 LONGITUDE 84:38:10.00

ADT 22,704

COUNTY - CAMPBELL

PCN - 0601918922101

HSIP 8177(003)

CAROTHERS ROAD (KY 1892) (MP 2.133) UPDATE THE TRAFFIC SIGNAL TO INCLUDE REFLECTIVE BACKPLATES AND CONVERT KY 1892 EB AND WB LEFT TURN SIGNAL TO PROTECTED ONLY AT THE INTERSECTION OF KY 1892 AND NEWPORT PAVILLION (MP 2.171), A DISTANCE OF 0.04 MILES.SIGNS-LIGHTING-SIGNALS SYP NO. 06-09022.20.

GEOGRAPHIC COORDINATES LATITUDE 39:05:10.00 LONGITUDE 84:28:38.00

ADT 22,779

COMPLETION DATE(S):

COMPLETED BY 07/31/2023

APPLIES TO ENTIRE PROJECT

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

FEDERAL CONTRACT NOTES

The Kentucky Department of Highways, in accordance with the Regulations of the United States Department of Transportation 23 CFR 635.112 (h), hereby notifies all bidders that failure by a bidder to comply with all applicable sections of the current Kentucky Standard Specifications, including, but not limited to the following, may result in a bid not being considered responsive and thus not eligible to be considered for award:

- | | |
|--------------------------------|--|
| 102.02 Current Rating | 102.08 Preparation and Delivery of Proposals |
| 102.13 Irregular Bid Proposals | 102.14 Disqualification of Bidders |
| 102.09 Proposal Guaranty | |

CIVIL RIGHTS ACT OF 1964

The Kentucky Transportation Cabinet, Department of Highways, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, sex, age (over 40), religion, sexual orientation, gender identity, veteran status, disability, income- level, or Limited English Proficiency (LEP) in consideration for an award.

NOTICE TO ALL BIDDERS

To report bid rigging activities call: 1-800-424-9071.

The U.S. Department of Transportation (DOT) operates the above toll-free “hotline” Monday through Friday, 8:00 a.m. to 5:00 p.m. eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the “hotline” to report such activities.

The “hotline” is part of the DOT’s continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

SECOND TIER SUBCONTRACTS

Second tier subcontracts are acceptable per Section 108.01 of the Standard Specifications for Road and Bridge Construction. Sub-Contractors fulfilling a disadvantaged business enterprise goal on a project may enter into a 2nd tier subcontract with a Non-DBE Subcontractor. However, in this instance, none of the work subcontracted to the Non-DBE Contractor will count toward fulfilling the established Disadvantaged Goal for the project.

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

It is the policy of the Kentucky Transportation Cabinet (“the Cabinet”) that Disadvantaged Business Enterprises (“DBE”) shall have the opportunity to participate in the performance of highway construction projects financed in whole or in part by Federal Funds in order to create a level playing field for all businesses who wish to contract with the Cabinet. To that end, the Cabinet will comply with the regulations found in 49 CFR Part 26, and the definitions and requirements contained therein shall be adopted as if set out verbatim herein.

The Cabinet, contractors, subcontractors, and sub-recipients shall not discriminate on the basis of race, color, national origin, or sex in the performance of work performed pursuant to Cabinet contracts. The contractor shall carry out applicable requirements of 49 CFR 26 in the award and administration of federally assisted highway construction projects. The contractor will include this provision in all its subcontracts and supply agreements pertaining to contracts with the Cabinet.

Failure by the contractor to carry out these requirements is a material breach of its contract with the Cabinet, which may result in the termination of the contract or such other remedy as the Cabinet deems necessary.

DBE GOAL

The Disadvantaged Business Enterprise (DBE) goal established for this contract, as listed on the front page of the proposal, is the percentage of the total value of the contract.

The contractor shall exercise all necessary and reasonable steps to ensure that Disadvantaged Business Enterprises participate in a least the percent of the contract as set forth above as goals for this contract.

OBLIGATION OF CONTRACTORS

Each contractor prequalified to perform work on Cabinet projects shall designate and make known to the Cabinet a liaison officer who is assigned the responsibility of effectively administering and promoting an active program for utilization of DBEs.

If a formal goal has not been designated for the contract, all contractors are encouraged to consider DBEs for subcontract work as well as for the supply of material and services needed to perform this work.

Contractors are encouraged to use the services of banks owned and controlled by minorities and women.

CERTIFICATION OF CONTRACT GOAL

Contractors shall include the following certification in bids for projects for which a DBE goal has been established. BIDS SUBMITTED WHICH DO NOT INCLUDE CERTIFICATION OF DBE PARTICIPATION WILL NOT BE ACCEPTED. These bids will not be considered for award by the Cabinet and they will be returned to the bidder.

“The bidder certifies that it has secured participation by Disadvantaged Business Enterprises (“DBE”) in the amount of _____ percent of the total value of this contract and that the DBE participation is in compliance with the requirements of 49 CFR 26 and the policies of the Kentucky Transportation Cabinet pertaining to the DBE Program.”

The certification statement is located in the electronic bid file. All contractors must certify their DBE participation on that page. DBEs utilized in achieving the DBE goal must be certified and prequalified for the work items at the time the bid is submitted.

DBE PARTICIPATION PLAN

Lowest responsive bidders must submit the *DBE Plan/ Subcontractor Request*, form TC 14-35 DBE, within **5** days of the letting. This is necessary before the Awards Committee will review and make a recommendation. **The project will not be considered for award prior to submission and approval of the apparent low bidder’s DBE Plan/Subcontractor Request.**

The DBE Participation Plan shall include the following:

1. Name and address of DBE Subcontractor(s) and/or supplier(s) intended to be used in the proposed project;
2. Description of the work each is to perform including the work item, unit, quantity, unit price and total amount of the work to be performed by the individual DBE. The Proposal Line Number, Category Number, and the Project Line Number can be found in the “material listing” on the Construction Procurement website under the specific letting;
3. The dollar value of each proposed DBE subcontract and the percentage of total project contract value this represents. DBE participation may be counted as follows:
 - a. If DBE suppliers and manufactures assume actual and contractual responsibility, the dollar value of materials to be furnished will be counted toward the goal as follows:
 - The entire expenditure paid to a DBE manufacturer;
 - 60 percent of expenditures to DBE suppliers that are not manufacturers provided the supplier is a regular dealer in the product involved. A regular dealer must be engaged in, as its principal business and in its own name, the sale of products to the public, maintain an inventory and own and operate distribution equipment; and
 - The amount of fees or commissions charged by the DBE firms for a bona fide service, such as professional, technical, consultant, or managerial services and assistance in the procurement of essential personnel, facilities, equipment, materials, supplies, delivery of materials and supplies or for furnishing bonds, or insurance, providing such fees or commissions are determined to be reasonable and customary.

- b) The dollar value of services provided by DBEs such as quality control testing, equipment repair and maintenance, engineering, staking, etc.;
- c) The dollar value of joint ventures. DBE credit for joint ventures will be limited to the dollar amount of the work actually performed by the DBE in the joint venture;
- 4. Written and signed documentation of the bidder's commitment to use a DBE contractor whose participation is being utilized to meet the DBE goal; and
- 5. Written and signed confirmation from the DBE that it is participating in the contract as provided in the prime contractor's commitment.

UPON AWARD AND BEFORE A WORK ORDER WILL BE ISSUED

Contractors must submit the signed subcontract between the contractor and the DBE contractor, along with the DBE's certificate of insurance. If the DBE is a supplier of materials for the project, a signed purchase order must be submitted to the Division of Construction Procurement.

Changes to DBE Participation Plans must be approved by the Cabinet. The Cabinet may consider extenuating circumstances including, but not limited to, changes in the nature or scope of the project, the inability or unwillingness of a DBE to perform the work in accordance with the bid, and/or other circumstances beyond the control of the prime contractor.

CONSIDERATION OF GOOD FAITH EFFORTS REQUESTS

If the DBE participation submitted in the bid by the apparent lowest responsive bidder does not meet or exceed the DBE contract goal, the apparent lowest responsive bidder must submit a Good Faith Effort Package to satisfy the Cabinet that sufficient good faith efforts were made to meet the contract goals prior to submission of the bid. Efforts to increase the goal after bid submission will not be considered in justifying the good faith effort, unless the contractor can show that the proposed DBE was solicited prior to the letting date. DBEs utilized in achieving the DBE goal must be certified and prequalified for the work items at the time the bid is submitted. One complete set (hard copy along with an electronic copy) of this information must be received in the Division of Contract Procurement no later than 12:00 noon of the tenth calendar day after receipt of notification that they are the apparent low bidder.

Where the information submitted includes repetitious solicitation letters it will be acceptable to submit a sample representative letter along with a distribution list of the firms solicited. Documentation of DBE quotations shall be a part of the good faith effort submittal as necessary to demonstrate compliance with the factors listed below which the Cabinet considers in judging good faith efforts. This documentation may include written subcontractors' quotations, telephone log notations of verbal quotations, or other types of quotation documentation.

The Good Faith Effort Package shall include, but may not be limited to information showing evidence of the following:

1. Whether the bidder attended any pre-bid meetings that were scheduled by the Cabinet to inform DBEs of subcontracting opportunities;
2. Whether the bidder provided solicitations through all reasonable and available means;
3. Whether the bidder provided written notice to all DBEs listed in the DBE directory at the time of the letting who are prequalified in the areas of work that the bidder will be subcontracting;
4. Whether the bidder followed up initial solicitations of interest by contacting DBEs to determine with certainty whether they were interested. If a reasonable amount of DBEs within the targeted districts do not provide an intent to quote or no DBEs are prequalified in the subcontracted areas, the bidder must notify the Disadvantaged Enterprise Business Liaison Officer (DEBLO) in the Office for Civil Rights and Small Business Development to give notification of the bidder's inability to get DBE quotes;
5. Whether the bidder selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise perform these work items with its own forces;
6. Whether the bidder provided interested DBEs with adequate and timely information about the plans, specifications, and requirements of the contract;
7. Whether the bidder negotiated in good faith with interested DBEs not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached;
8. Whether quotations were received from interested DBE firms but were rejected as unacceptable without sound reasons why the quotations were considered unacceptable. The fact that the DBE firm's quotation for the work is not the lowest quotation received will not in itself be considered as a sound reason for rejecting the quotation as unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a DBE quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy DBE goals;
9. Whether the bidder specifically negotiated with subcontractors to assume part of the responsibility to meet the contract DBE goal when the work to be subcontracted includes potential DBE participation;
10. Whether the bidder made any efforts and/or offered assistance to interested DBEs in obtaining the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal; and
11. Any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include DBE participation.

FAILURE TO MEET GOOD FAITH REQUIREMENT

Where the apparent lowest responsive bidder fails to submit sufficient participation by DBE firms to meet the contract goal and upon a determination by the Good Faith Committee based upon the information submitted that the apparent lowest responsive bidder failed to make sufficient reasonable efforts to meet the contract goal, the bidder will be offered the opportunity to meet in person for administrative reconsideration. The bidder will be notified of the Committee's decision within 24 hours of its decision. The bidder will have 24 hours to request reconsideration of the Committee's decision. The reconsideration meeting will be held within two days of the receipt of a request by the bidder for reconsideration.

The request for reconsideration will be heard by the Office of the Secretary. The bidder will have the opportunity to present written documentation or argument concerning the issue of whether it met the goal or made an adequate good faith effort. The bidder will receive a written decision on the reconsideration explaining the basis for the finding that the bidder did or did not meet the goal or made adequate Good Faith efforts to do so.

The result of the reconsideration process is not administratively appealable to the Cabinet or to the United States Department of Transportation.

The Cabinet reserves the right to award the contract to the next lowest responsive bidder or to rebid the contract in the event that the contract is not awarded to the low bidder as the result of a failure to meet the good faith requirement.

SANCTIONS FOR FAILURE TO MEET DBE REQUIREMENTS OF THE PROJECT

Failure by the prime contractor to fulfill the DBE requirements of a project under contract or to demonstrate good faith efforts to meet the goal constitutes a breach of contract. When this occurs, the Cabinet will hold the prime contractor accountable, as would be the case with all other contract provisions. Therefore, the contractor's failure to carry out the DBE contract requirements shall constitute a breach of contract and as such the Cabinet reserves the right to exercise all administrative remedies at its disposal including, but not limited to the following:

- Suspension of Prequalification;
- Disallow credit toward the DBE goal;
- Withholding progress payments;
- Withholding payment to the prime in an amount equal to the unmet portion of the contract goal; and/or
- Termination of the contract.

PROMPT PAYMENT

The prime contractor will be required to pay the DBE and Non-DBE Subcontractors within seven (7) working days after he or she has received payment from the Kentucky Transportation Cabinet for work performed or materials furnished.

CONTRACTOR REPORTING

All contractors must keep detailed records and provide reports to the Cabinet on their progress in meeting the DBE requirement on any highway contract. These records may include, but shall not be limited to payroll, lease agreements, cancelled payroll checks, executed subcontracting agreements, etc. Prime contractors will be required to complete and submit a **signed and notarized** Affidavit of Subcontractor Payment (TC 18-7) and copies of checks for any monies paid to each DBE subcontractor or supplier utilized to meet a DBE goal. These documents must be completed and signed within 7 days of being paid by the Cabinet.

Payment information that needs to be reported includes date the payment is sent to the DBE, check number, Contract ID, amount of payment and the check date. Before Final Payment is made on this contract, the Prime Contractor will certify that all payments were made to the DBE subcontractor and/or DBE suppliers.

***** IMPORTANT *****

Please mail the original, signed and completed TC (18-7) Affidavit of Subcontractor Payment form and all copies of checks for payments listed above to the following address:

Office for Civil Rights and Small Business Development
6th Floor West 200 Mero Street
Frankfort, KY 40622

The prime contractor should notify the KYTC Office for Civil Rights and Small Business Development seven (7) days prior to DBE contractors commencing work on the project. The contact in this office is Mr. Melvin Byne. Mr. Byne's current contact information is email address – melvin.bynes2@ky.gov and the telephone number is (502) 564-3601.

DEFAULT OR DECERTIFICATION OF THE DBE

If the DBE subcontractor or supplier is decertified or defaults in the performance of its work, and the overall goal cannot be credited for the uncompleted work, the prime contractor may utilize a substitute DBE or elect to fulfill the DBE goal with another DBE on a different work item. If after exerting good faith effort in accordance with the Cabinet's Good Faith Effort policies and procedures, the prime contractor is unable to replace the DBE, then the unmet portion of the goal may be waived at the discretion of the Cabinet.

PROHIBITION ON TELECOMMUNICATIONS EQUIPMENT OR SERVICES

In accordance with the FY 2019 National Defense Authorization Act (NDAA), 2 CFR 200.216, and 2 CFR 200.471, Federal agencies are prohibited, after August 13, 2020, from obligating or expending financial assistance to obtain certain telecommunications and video surveillance services and equipment from specific producers. As a result of these regulations, contractors and subcontractors are prohibited, on projects with federal funding participation, from providing telecommunication or video surveillance equipment, services, or systems produced by:

- Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities)
- Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities)

LEGAL REQUIREMENTS AND RESPONSIBILITY TO THE PUBLIC – CARGO PREFERENCE ACT (CPA).

(REV 12-17-15) (1-16)

SECTION 7 is expanded by the following new Article:

102.10 **Cargo Preference Act – Use of United States-flag vessels.**

Pursuant to Title 46CFR Part 381, the Contractor agrees

- To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.
- To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph 1 of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.
- To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

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.

OPTION A

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

Special Notes Applicable to Project – General Notes & Description of Work

CAUTION

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

STATIONING

The contractor is advised that the planned locations of work were established from the following stations:

- **6-9022.10 - KY 842 (MP 6.267) and KY 717 and Ramps for SB I-75 at Exit 182:**
KY 842 Station 65+33 is the center of the intersection of KY 842 and KY 717 and Ramps for SB I-75 in Boone County. This location is MP 6.267 along KY 842.
- **6-9022.20 - KY 1892 (MP 2.152) and CS 1248 (Newport Pavilion):**
KY 1892 Station 63+60 is the center of the intersection of KY 1892 and CS 1248 in Campbell County. This location is MP 2.152 along KY 1892.
- **6-9022.30 - KY 18 from MP 14.326 to MP 15.406**
 - **KY 18 (Burlington Pike) from CR 1017C (Greenview Road) to KY 842 (Houston Road):**
KY 18 Station 219+80 is the center of the intersection of KY 18 and CS 1321 (Merchants Street) in Boone County. This location is MP 14.411 along KY 18. CR 1017C is located at approximately MP 14.33 and KY 842 is located at approximately MP 14.63 along KY 18.
 - **KY 18 (MP 14.748) and CS 1002 (Mall Road):**
KY 18 Station 239+50 is the center of the intersection of KY 18 and CS 1002 (Mall Road) in Boone County. This location is MP 14.748 along KY 18.
 - **KY 18 (MP 15.217) and CS 1247 (Commerce Dr.):**
KY 18 Station 262+80 is the center of the intersection of KY 18 and CS 1247 (Commerce Drive) in Boone County. This location is MP 15.217 along KY 18.

The existing mile marker signs may not correspond to the proposed work locations.

ON-SITE INSPECTION

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

RIGHT OF WAY LIMITS

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

General Notes & Description of Work

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CONTROL

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

DESCRIPTION OF WORK

Except as specified herein, perform all work in accordance with the Department's Standard Specifications, Supplemental Specifications, applicable Special Notes and Special Provisions, and applicable Standard and Sepia Drawings, current editions. Furnish all materials, labor, equipment, and incidentals for the following work:

6-9022.10 - KY 842 (MP 6.267) and KY 717 and Ramps for SB I-75 at Exit 182:

Traffic Signals. Replace all existing signals on all approaches with signal heads that have reflective backplates and LED indications. Replace Loop Detectors in all lanes on SB I-75 off-ramp due to the relocation of stop bars on the approach. Replace wiring and install junction box for installation of proposed loops. Refer to the Special Notes, Summary Sheets, and Signal Modification Plan Sheet for more information. *Notify District 6 Traffic two week in advance of any signal work.*

Remove Signal Equipment. Remove all existing signals. Remove existing signs on signal span wires as indicated on the Signal Head Replacement Summary. Do Not Disturb signs that are to remain as noted on the Signal Head Replacement Summary. When an existing sign on a signal span is indicated to be removed, such removal shall be incidental to the bid item: Remove Signal Equipment.

Signing. Install proposed signing, as well as remove and/or replace existing signing as shown on the Signing Plan Sheet. GMSS Type D installation required as noted in the Signing Summary. Bracing required as noted in Signing Summary and bracing example is included on the Sign Detail Sheets. Refer to the Signing Plan sheet and Signing Summary for more information. Refer to the Special Note for Signing for more information.

Striping. Pave Marking Removal of existing stop bar and waterblast striping for SB I-75 Off-Ramp as noted in the Striping Summary and shown on the Striping Plans. Pave Marking Removal of existing turn arrows. Install proposed thermoplastic arrows (spacing according to standard drawings) as shown on the Striping Plan Sheet. Extend the Solid White Line separating approach lanes as shown on Striping Plan Sheet. Refer to the Striping and Pavement Marking Summary Sheet for more information.

6-9022.20 - KY 1892 (MP 2.152) and CS 1248 (Newport Pavilion):

Traffic Signals. Convert EB KY 1892 (Carothers Rd) left turn signal and WB KY 1892 (N Grand Ave) left turn signal from Protected/Permitted (4-Section Flashing Yellow Arrow) to Protected Only (3-Section Left Turn Arrow). Replace all existing signals on all approaches with signal heads that have reflective backplates and LED indications. Refer to the Special Notes, Summary Sheets, and Signal Modification Plan Sheet for more

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information. *Notify District 6 Traffic two week in advance of any signal work. KYTC Traffic Representative must be on site when implementing phase change or timing adjustment.*

Remove Signal Equipment. Remove all existing signals. Remove existing signs on signal span wires as indicated on the Signal Head Replacement Summary. Do Not Disturb signs that are to remain as noted on the Signal Head Replacement Summary. When an existing sign on a signal span is indicated to be removed, such removal shall be incidental to the bid item: Remove Signal Equipment.

6-9022.30 – KY 18 from MP 14.326 to MP 15.406

KY 18 (Burlington Pike) from CR 1017C (Greenview Road) to KY 842 (Houston Road):

Resurface KY 18: Work involves milling and resurfacing KY 18 from CR 1017C (Greenview Road) to KY 842 (Houston Road), Base Failure Repairs at various locations along KY 18, adding full depth concrete in the shoulder of Westbound KY 18 to extend right turn lane into Merchants Street, and adding full depth concrete pavement for U-turn location at Ridge Road. Work includes Asphalt Milling and Texturing, Class 4 Asphalt Surface, Roadway Excavation of existing shoulder, 9" full depth JPC pavement, DGA Base, Sawcut existing pavement, Base Failure Repair, and Sidewalk Concrete at proposed U-Turn location. Refer to the Special Notes, Summary Sheets, Typical Sections, Plan Sheets, and Cross Sections for more information.

Quick Curb Median Separator. Install Quick Curb Median Separator on Westbound KY 18 as shown on the Striping Plan Sheet. Refer to the Special Note for Quick Curb Median Separator for more information. *Stake and obtain approval from Engineer before installation.*

Traffic Signals. Test Loop Detectors in both lanes on Ridge Road following the relocation of stop bars on the approach. If the loop test is successful, loops do not need to be replaced. If loop tests are unsuccessful, construct new loops, replace wiring and install junction box for Ridge Road. Refer to the Special Notes, Summary Sheets, and Plan Sheets for more information.

Pedestrian Pedestal and Detectors. Install pedestrian pedestal along proposed sidewalk at Ridge Road as shown in the Traffic Signal Plan Sheet. Install pedestrian detectors as shown in the Traffic Signal Plan Sheet. Do not disturb underground utilities when pole or conduits cross utilities. Pedestrian detectors shall be installed so that each button is no more than 10" from the paved sidewalk or shoulder. Refer to the Special Notes, Standard Drawings, and Plan Sheets for more information.

Traffic Planning Loops. Install traffic planning loops approximately 150' East of Merchants Street at approximately MP 14.45. See Traffic Count Plan Sheets for more information. The Division of Planning Equipment Management Team (502-564-7183) shall be notified a minimum of seven days before any work pertaining to these specifications begins to allow their personnel the option to be present during installation.

Signing. Install proposed signing, stop and no left turn signs at new Right-In Right-Out locations, and Right Lane Must Turn Right signs along added right turn lane, as well as remove and/or relocate existing signing as shown on the Signing Plan Sheet. GMSS Type D installation required as noted in the Signing Summary. Refer to the Signing Plan sheet and Signing Summary for more information. Refer to the Special Note for Signing for more information.

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Striping. Install proposed striping, Stop Bars, and Crosswalks for mainline KY 18 and all approach streets and entrances. Install proposed striping of Right-In Right-Out islands as well as proposed Thermoplastic Arrows on KY 18 Eastbound and Westbound, Merchants Street, and Fuller Street as shown on the Striping Plan Sheet. Refer to the Striping Plan and Striping and Pavement Marking Summary Sheet for more information. Refer to the Pavement Marking Standard Drawings for more information.

- Striping includes extending the left turn lane for WB KY 18 onto Ridge Road and the extending the dual left turn lane for EB KY 18 onto KY 842.
- Striping includes converting the existing lane drop for the outside lane on WB KY 18 to right turn lane onto Merchants Street.
- Striping includes water blasting existing striping for Merchants Street Approach and restriping for Right Turn Only at KY 18.

KY 18 (MP 14.748) and CS 1002 (Mall Road):

Traffic Signals. Replace all existing signals on all approaches with signal heads that have reflective backplates and LED indications. Install Supplemental Signal Heads for KY 18 Eastbound and Westbound approaches. Refer to the Special Notes, Summary Sheets, and Signal Modification Plan Sheet for more information. *Notify District 6 Traffic two week in advance of any signal work.*

Remove Signal Equipment. Remove all existing signals. Remove existing signs on signal span wires as indicated on the Signal Head Replacement Summary. Do Not Disturb signs that are to remain as noted on the Signal Head Replacement Summary. When an existing sign on a signal span is indicated to be removed, such removal shall be incidental to the bid item: Remove Signal Equipment.

Qwick Curb Median Separator. Install Qwick Curb Median Separator on Westbound KY 18 as shown on the Striping Plan Sheet. Provide water channel as directed by engineer and according to Qwick Kurb Long-term Installation Manual. Field verify location for water channel. Engineer shall determine if water channel(s) are needed. *Stake and obtain approval from Engineer before installation.* Refer to the Special Note for Qwick Curb Median Separator for more information. Install No Left Turn Sign at the entrances as shown on the plan sheet.

Striping. Install proposed striping for Right-In Right-Out islands and striping along proposed Qwick Curb Median Separator as shown on the Striping Plan Sheet. Refer to the Striping and Pavement Marking Summary Sheet for more information. Refer to the Pavement Marking Standard Drawings for more information.

Signing. Install proposed signing as shown on the Plan Sheet and Signing Summary Sheet. Install No Left Turn Sign at the entrances as shown on the plan sheet. GMSS Type D installation required as noted in the Signing Summary. Refer to the Signing Plan sheet and Signing Summary for more information. Refer to the Special Note for Signing for more information.

KY 18 (MP 15.217) and CS 1247 (Commerce Dr.):

Construct Raised Median Barrier for KY 18. Work involves constructing a raised barrier median for KY 18 to prevent left turns into and out of Commerce Drive and Travel America gas station. Work includes Standard Barrier Median Type 3 Mod, Asphalt Milling & Texturing (existing asphalt surface under raised median), Drop Box Inlet Type 13G Mod, 12" Storm Sewer Pipe, Pipeline Video Inspection, and Remove Existing Slotted Drain

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Pipe. Refer to the Special Notes, Summary Sheets, Typical Sections, Plan Sheets, Pipe Drainage Sheets, and Cross Sections for more information.

Extend KY 18 WB Right Turn Lane. Work involves extending right turn lane for Westbound KY 18 onto I-75 NB On-Ramp. Work includes Sawcut and Roadway Excavation of existing shoulder and curb and gutter, constructing DGA base, JPC Pavement, Standard Curb and Gutter Mod, & installation of Curb Box Inlet Type A (Top). Refer to the Special Notes, Summary Sheets, Typical Sections, Plan Sheets, Pipe Drainage Sheets, and Cross Sections for more information

Striping. Water blast existing striping, remove thermoplastic arrows, & remove pavement marker lenses as shown on the Striping Plan Sheet. Install proposed striping, thermoplastic Right-In and Right-Out islands at Travel America entrance, and thermoplastic arrows as shown on the Striping Plan Sheet. Refer to the Striping and Pavement Marking Summary Sheet for more information. Refer to the Pavement Marking Standard Drawings for more information.

Signing. Install proposed signing, as well as remove and/or relocate existing signing as shown on the Signing Plan Sheet. Install proposed signage for "TO" I-71/I-75 at the Travel America entrance on Tanners Lane, at the intersection of Tanners Lane and Tanners Gate Lane, and at the intersection of Tanners Lane and Ewing Blvd. GMSS Type D installation required as noted in the Signing Summary. Bracing required as noted in Signing Summary and bracing example is included on the Sign Detail Sheets. Refer to the Signing Plan sheet and Signing Summary for more information. Refer to the Special Note for Signing for more information.

GMSS TYPE D Surface Mounts. A quantity of GMSS Type D Surface Mount has been included for the installation of sign posts on existing median pavement at the approximate locations shown on the Plan Sheet and Summary Sheet. Refer to the Special Note for Signing for more details concerning Type D Surface Mounts.

SPECIAL NOTE FOR STAKING

Perform Contractor Staking according to Section 201; except, in addition to the requirements of Section 201, perform the following:

1. Contrary to Section 201, perform items 1-3 usually performed by the Engineer.
2. Verify the dimensions, type, and quantities of the culvert pipes and/or entrance pipes as listed and detailed in the proposal, and determine flow line elevations and slopes necessary to provide positive drainage. Revise as necessary to accommodate the existing site conditions; to provide proper alignment of the drainage structures with existing and/or proposed ditches, stream channels, swales, and the roadway lines and grades; and to ensure positive drainage upon completion of the work.
3. Using stakes, paint marks on the pavement, mag nails, and/or any other means approved by the Engineer, the Contractor shall mark and/or stake the proposed sign locations in the field. NOTE: The proposed signs are listed in the proposal by approximate location and are NOT to be taken as the exact location for the signs. During staking operations the Contractor shall review the signing layout and existing field conditions and look for potential conflicts, including but not limited to utilities, driveways, visual obstructions, etc. When conflicts are found, adjust the staked location of signs to mitigate conflicts. Because the sign locations in the proposal are approximate and the location of some signs may need to be adjusted due to conflicts, during staking operations the Contractor shall refer to and utilize the information in the Manual on Uniform on Traffic Control Devices (MUTCD), current edition. The MUTCD cover items such as: appropriate sign location, advance placement distances, and spacing requirements for signing. The intent is for the proposed signs to be consistent with, and meet the requirements of, the MUTCD. Once the proposed sign locations have been staked, notify and coordinate with the District Traffic Engineer, and perform a review of the staked locations. Adjust the staked locations, as directed by the District Traffic Engineer and obtain approval of the final staked locations. This review will also be used to determine if there are any existing signs that require removal and/or relocation. Provide the District Traffic Engineer with 2 weeks of notice when a route will be ready for a review of the staked locations. NOTE: The District Traffic Engineer may determine that the proposed signing, including sign types and messages, needs to be adjusted and/or modified from what is shown in the proposal. Therefore, the Contractor shall not order any sign material for a route until the route has been staked and final sign location approval has been given by the District Traffic Engineer.
4. Produce and furnish to the Engineer "As Built" information for the drainage improvements and the construction of the right turn lane and standard barrier median at 6-9022.30 (KY 18 and Commerce Drive). For the drainage improvements, as built information will consist of a final record of the actual types, sizes, and locations of the drainage structures (i.e. box inlets, headwalls, junction boxes, etc.), storm sewer pipes, and/or box culverts constructed. Final elevation data of the drainage improvements is not necessary.
5. Using paint marks on the pavement, and/or any other means approved by the Engineer,

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the Contractor shall layout and pre-mark the proposed striping, pavement markings, etc. Adjust as necessary to accommodate the existing site conditions and to provide proper alignment of the proposed thru and turning lanes. Obtain approval of the pre-marked layout from the Engineer and/or District Traffic Engineer prior to installing the striping and/or pavement markings.

6. Using paint marks on the pavement, and/or any other means approved by the Engineer, the Contractor shall layout and pre-mark the proposed Qwick Curb Median Separator limits for 6-9022.30 – KY 18 from Greenview Road to Houston Road and along KY 18 from Mall Road to Action Blvd. Obtain approval of the pre-marked layout from the Engineer and/or District Traffic Engineer prior to installing the Qwick Curb Median Separator.
7. Prior to incorporating into the work, obtain the Engineers approval of all revisions determined by the Contractor.
8. Perform any and all other staking operations required to control and construct the work.

SPECIAL NOTE FOR EROSION CONTROL

I. DESCRIPTION

Perform all erosion and water pollution control work in accordance with any other notes in the Proposal, the Department's Standard and Interim Supplemental Specifications, the Special Provisions and Special Notes, and the Standard and Sepia Drawings, current editions, or 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) 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, applicable Special Provisions and Special Notes, and the 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 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, the construction phasing, methods, and the 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 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 Provisions and Special Notes, Standard and Sepia Drawings, and such state and local government agency requirements, adhere to the most restrictive requirement.

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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. All silt control devices shall be sized to retain a volume of 3,600 cubic feet per disturbed contributing acre. 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 the Special Provision for Waste and Borrow Sites.

As work progresses, add or remove erosion control measures as required by the BMP, applicable to the Contractor's project phasing, 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.

The required volume at each Silt Trap shall be computed based on the Up Gradient Contributing Areas that are disturbed and/or stabilized to the satisfaction of the Engineer. The required volume calculation for each Silt Trap shall be determined by the Contractor and verified by the Engineer. The required volume at each Silt Trap may be reduced by the following amounts:

- Up Gradient Areas not disturbed (acres)
- Up Gradient Areas that have been reclaimed and protected by Erosion Control Blanket or other ground protection material such as Temporary Mulch (acres)
- Up Gradient Areas that have been protected by Silt Fence (acres) – Areas protected by Silt Fence shall be computed at a maximum rate of 100 square feet per linear foot of Silt Fence
- Up Gradient Areas that have been protected by Silt Traps (acres)

The use of Temporary Mulch is encouraged.

Silt Trap Type B shall always be placed at the collection point prior to discharging into a Blue Line Stream or onto an adjacent Property Owner. Where overland flow exists, a Silt Fence or other filter devices may be used.

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

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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

The Department will measure the various erosion control items according to Section 212.04 and Section 213.04, as applicable.

V. BASIS OF PAYMENT

The Department will make payment for the various erosion control items according to Section 212.04 and Section 213.04, as applicable.

SPECIAL NOTES FOR PIPE REPLACEMENTS / EXTENSIONS

I. DESCRIPTION

Except as provided herein, perform all work in accordance with the Department's Standard Specifications, interim Supplemental Specifications, Standard and Sepia Drawings, and Special Notes and Special Provisions, current editions. Article references are to the Standard Specifications. This project shall consist of furnishing all labor, equipment, materials, and incidentals for the following:

(1) Maintaining and Controlling Traffic; (2) Constructing pipe replacements and/or pipe extensions; (3) Embankment and/or Excavation; (4) Erosion Control; and (6) Any other work as specified by this contract.

II. MATERIALS

Provide for sampling and testing of all materials 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 these notes.

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

B. Culvert Pipe. Furnish pipe meeting the requirements of Section 810. Select pipe for pH range Medium and minimum fill cover height according to the applicable Standard or Sepia Drawings, current editions. Verify maximum and minimum fill cover height required for new pipe prior to construction and obtain the Engineer's approval of the class or gauge of pipe and type of coating prior to delivering pipe to project. Furnish approved connecting bands or pipe anchors and toe walls.

C. Flowable Fill. Furnish Flowable Fill for Pipe Backfill per Section 601.03.03(B).

D. Erosion Control. See Special Note for Erosion Control.

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, saw cutting and removing pavement; clearing and grubbing; staking; incidental excavation and backfilling; common and solid rock excavation; embankment in place; removal of obstructions, or any other items; restoration of pavements, slopes, and all disturbed areas; final dressing and cleanup; and disposal of materials. Limit clearing and grubbing to the absolute minimum required to construct the drainage features. Perform all site preparation only as approved or directed by the Engineer.

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- D. Removing Headwalls, Pipe, and Excavation.** Remove existing headwalls and lengths of culvert and/or entrance pipes at the approximate locations noted on the summary. The Engineer will determine the exact locations and lengths of pipe to be removed at the time of construction. When removing pipe, or any portion of pipe under the roadway, saw cut the existing asphalt pavement and base to a neat edge prior to excavation and removal of the existing pipe. NOTE: Saw cutting the pavement shall be incidental. Obtain the Engineer's approval of trench width and/or saw cutting limits prior to saw cutting the pavement. Excavate the trench and remove the pipe as directed, or approved, by the Engineer without disturbing existing underground utilities.
- E. Constructing Pipe, Headwalls, and Drainage Boxes.** Construct culvert and/or entrance pipes, pipe extensions, headwalls, drainage boxes, and other drainage structures at the locations shown in the proposal or as designated by the Engineer. The contractor will establish, with the approval of the Engineer, the final centerlines, flow lines, and skews to obtain the best fit with the existing and/or proposed ditches and other proposed improvements. (See the Special Note for Staking.) Construct pipe bedding according to Section 701 and the applicable Standard or Sepia Drawings, current editions. Use approved connecting bands or concrete anchors as required. Prior to backfilling pipe, obtain the Engineer's approval of the pipe installation. Provide Positive drainage upon completion of pipe installation.
- F. Pipe Backfill.** Backfill entrance pipes according to Section 701.03.06. Contrary to Section 701.03.06, backfill culvert pipes with flowable fill for the width of the roadway and as shown on the Pipe Replacement Detail. Steel plates will likely be required to maintain traffic while the flowable fill cures. Once the flowable fill has sufficiently cured, place the JPC Pavement – 6 IN, unless directed otherwise by the Engineer.
- G. Embankments.** Backfill pipe and culvert extensions, and construct shoulder embankments as directed by the Engineer. The contractor shall bench into the existing slope and apply proper compaction according to Section 206. For more information and details on benching, refer to Note 2 on the detail sheet titled: DITCHING & SHOULDERING AND EMBANKMENT BENCHING DETAILS, found elsewhere in the Proposal. Provide positive drainage of ditches, shoulders, and slopes at all times during, and upon completion of construction.
- H. Property Damage.** Be responsible for all damage to public and/or private property resulting from the work. Repair or replace damaged roadway features in like kind materials and design, as directed by the Engineer 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 and the Engineer at no additional cost to the Department.
- I. 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

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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 pipe replacement and pipe extension operations at no additional cost to the Department. NOTIFY THE ENGINEER AND THE UTILITY OWNER(S) IMMEDIATELY WHEN IT IS DISCOVERED OR ANTICIPATED THAT ANY UTILITY CONFLICT COULD DELAY THE CONTRACTOR'S OPERATIONS. If the total delay exceeds ten working days, an extension of the specified completion date will be negotiated with the Contractor for delay to the Contractor's work; however, no extension will be granted for any delay caused by the Contractor's failure to notify the Engineer and/or the utility company as specified above when a conflict is discovered or anticipated as specified.

- J. Right-of-Way Limits.** The Department has not established exact limits of the Right-of-Way. Unless a consent and release form is obtained from the adjoining property owner, limit work activities to the obvious Right-of-Way and staging areas secured by the Contractor at no additional cost to the Department. In the event that private improvements (i.e. fences, buildings, etc.) encroach upon the Right-of-Way, the contractor shall notify the Engineer and limit work activities in order to NOT disturb the improvements. If they become necessary, the Department will secure consent and releases from property owners through the Engineer. Be responsible for all encroachments onto private lands.
- K. Clean Up, Disposal of Waste.** Clean up the project area as work progresses. Dispose of all removed concrete, pipe, pavement, debris, excess and unsuitable excavation, and all other waste at approved sites off the Right of Way obtained by the Contractor at no additional cost to the Department. See the Special Provision for Waste and Borrow Sites.
- L. Final Dressing, Seeding and Protection.** Grade all disturbed areas to blend with the adjacent roadways features and to provide a suitable seed bed. Apply Class A Final Dressing to all disturbed areas, both on and off the Right-of-Way. Sow all disturbed earthen areas with the applicable seed mixture(s) according to Section 212.03.03.
- M. Erosion Control.** See the Special Note for Erosion Control.

IV. METHOD OF MEASUREMENT

- A. Maintain and Control Traffic.** See the Traffic Control Plan.
- B. Site Preparation.** Other than the bid items listed, site preparation will NOT be measured for payment, but shall be incidental to culvert and/or entrance pipe bid items, as applicable.
- C. Remove Headwall.** The Department will measure the removal of existing headwalls as Each. Any excavation, including rock excavation, necessary to remove existing headwalls will NOT be measured for payment, but shall be incidental to the bid item "Remove Headwall".

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- D. Remove Pipe.** Removal of existing culvert and entrance pipe shall be measured according to Section 701.04.14. Any excavation, including rock excavation, necessary to remove existing pipe will NOT be measured for payment, but shall be incidental to the bid item "Remove Pipe".
 - E. Culvert and Entrance Pipe.** The Department will measure the quantities according to Section 701.04. Any excavation, including rock excavation, necessary to install culvert or entrance pipe shall be incidental to the corresponding pipe bid items.
 - F. Headwalls, Drainage Boxes.** The Department will measure according to Section 710. Any excavation, including rock excavation, necessary to construct headwalls and/or drainage boxes will NOT be measured for payment, but shall be incidental to the applicable bid item.
 - G. Excavation, Pipe Backfill, Embankments.** The Department will NOT measure for payment the following items: any excavation, including rock excavation, necessary to remove the existing pipe and/or install the proposed culvert or entrance pipe, pipe backfill material, flowable fill, and re-constructing shoulder embankments, but shall considered these items incidental to the bid items for culvert and entrance pipe.
 - H. Clean Up, Disposal of Waste, Final Dressing, Seeding and Protection.** The Department will NOT measure for payment the following activities: Clean Up, Disposal of Waste, and Final Dressing. These activities shall be incidental to the project bid items. Seeding and Protection shall be measured according to Section 212.
 - I. Erosion Control.** See the Special Note for Erosion Control.
- V. BASIS OF PAYMENT**
- A. Maintain and Control Traffic.** See the Traffic Control Plan.
 - B. Remove Headwall.** The Department will make payment for the completed and accepted quantities of Each headwall removed. Payment at the Contract unit price per Each shall be full compensation for furnishing all labor, materials, equipment, and incidentals for removing the existing headwall.
 - C. Remove Pipe.** The Department will make payment according to Section 701.05. Payment at the Contract unit price per linear foot shall be full compensation for furnishing all labor, materials, equipment, and incidentals for removing the existing pipe.
 - D. Culvert and Entrance Pipe.** The Department will make payment according to Section 701.05. Payment at the Contract unit price per linear foot shall be full compensation for furnishing all labor, materials, equipment, and incidentals necessary for installing and backfilling new culvert and entrance pipe.

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E. Headwalls, Drainage Boxes. The Department will make payment according to Section 710.

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

SPECIAL NOTE FOR PIPELINE INSPECTION

1.0 DESCRIPTION. The Department will perform visual inspections on all pipe on the project. A video inspection will be required on projects having more than 250 linear feet of storm sewer and/or culvert pipe and on routes with an ADT of greater than 1,000 vehicles. Conduct video inspections on all pipe located under the roadway and 50 percent of the remaining pipe not under the roadway. Storm sewer runs and outfall pipes not under the roadway take precedence over rural entrance pipes. Contractors performing this item of work must be prequalified with the Department in the work type J51 (Video Pipe Inspection and Cleaning). Deflection testing shall be completed using a mandrel in accordance with the procedure outlined below or by physical measurement for pipes greater than 36 inches in diameter. Mandrel testing for deflection must be completed prior to the video inspection testing. Unless otherwise noted, Section references herein are to the Department's 2012 Standard Specifications for Road and Bridge Construction.

2.0 VIDEO INSPECTION. Ensure pipe is clear of water, debris or obstructions. Complete the video inspection and any necessary measurement prior to placing the final surface over any pipe. When paving will not be delayed, take measurements 30 days or more after the completion of earthwork to within 1 foot of the finished subgrade. Notify the Engineer a minimum of 24 hours in advance of inspection and notify the Engineer immediately if distresses or locations of improper installation are logged.

2.1 INSPECTION FOR DEFECTS AND DISTRESSES

A) Begin at the outlet end and proceed through to the inlet at a speed less than or equal to 30 ft/minute. Remove blockages that will prohibit a continuous operation.

B) Document locations of all observed defects and distresses including but not limited to: cracking, spalling, slabbing, exposed reinforcing steel, sags, joint offsets, joint separations, deflections, improper joints/connections, blockages, leaks, rips, tears, buckling, deviation from line and grade, damaged coatings/paved inverts, and other anomalies not consistent with a properly installed pipe.

C) During the video inspection provide a continuous 360 degree pan of every pipe joint.

D) Identify and measure all cracks greater than 0.1" and joint separations greater than 0.5".

E) Video Inspections are conducted from junction to junction which defines a pipe run. A junction is defined as a headwall, drop box inlet, curb box inlet, manhole, buried junction, or other structure that disturbs the continuity of the pipe. Multiple pipe inspections may be conducted from a single set up location, but each pipe run must be on a separate video file and all locations are to be referenced from nearest junction relative to that pipe run.

F) Record and submit all data on the TC 64-765 and TC 64-766 forms.

3.0 MANDREL TESTING. Mandrel testing will be used for deflection testing. For use on Corrugated Metal Pipe, High Density Polyethylene Pipe, and Polyvinyl Chloride Pipe,

use a mandrel device with an odd number of legs (9 minimum) having a length not less than the outside diameter of the mandrel. The diameter of the mandrel at any point shall not be less than the diameter specified in Section 3.6. Mandrels can be a fixed size or a variable size.

3.1 Use a proving ring or other method recommended by the mandrel manufacturer to verify mandrel diameter prior to inspection. Provide verification documentation for each size mandrel to the Engineer.

3.2 All deflection measurements are to be based off of the AASHTO Nominal Diameters. Refer to the chart in section 3.6.

3.3 Begin by using a mandrel set to the 5.0% deflection limit. Place the mandrel in the inlet end of the pipe and pull through to the outlet end. If resistance is met prior to completing the entire run, record the maximum distance achieved from the inlet side, then remove the mandrel and continue the inspection from the outlet end of the pipe toward the inlet end. Record the maximum distance achieved from the outlet side.

3.4 If no resistance is met at 5.0% then the inspection is complete. If resistance occurred at 5.0% then repeat 3.1 and 3.2 with the mandrel set to the 10.0% deflection limit. If the deflection of entire pipe run cannot be verified with the mandrel then immediately notify the Engineer.

3.5 Care must be taken when using a mandrel in all pipe material types and lining/coating scenarios. Pipe damaged during the mandrel inspection will be video inspected to determine the extent of the damage. If the damaged pipe was video inspected prior to mandrel inspection then a new video inspection is warranted and supersedes the first video inspection. Immediately notify the Engineer of any damages incurred during the mandrel inspection and submit a revised video inspection report.

3.6 AASHTO Nominal Diameters and Maximum Deflection Limits.

Base Pipe Diameter	AASHTO Nominal Diameter	Max. Deflection Limit	
		5.0%	10.0%
(inches)	(inches)	(inches)	
15	14.76	14.02	13.28
18	17.72	16.83	15.95
24	23.62	22.44	21.26
30	29.53	28.05	26.58
36	35.43	33.66	31.89
42	41.34	39.27	37.21
48	47.24	44.88	42.52
54	53.15	50.49	47.84
60	59.06	56.11	53.15

4.0 PHYSICAL MEASUREMENT OF PIPE DEFLECTION. Alternate method for deflection testing when there is available access or the pipe is greater than 36 inches in diameter, as per 4.1. Use a contact or non-contact distance instrument. A leveling device is recommended for establishing or verifying vertical and horizontal control.

4.1 Physical measurements may be taken after installation and compared to the AASHTO Nominal Diameter of the pipe as per Section 3.6. When this method is used, determine the smallest interior diameter of the pipe as measured through the center point of the pipe (D2). All measurements are to be taken from the inside crest of the corrugation. Take the D2 measurements at the most deflected portion of the pipe run in question and at intervals no greater than ten (10) feet through the run. Calculate the deflection as follows:

$$\% \text{ Deflection} = [(AASHTO \text{ Nominal Diameter} - D2) / AASHTO \text{ Nominal Diameter}] \times 100\%$$

Note: The Engineer may require that preset monitoring points be established in the culvert prior to backfilling. For these points the pre-installation measured diameter (D1) is measured and recorded. Deflection may then be calculated from the following formula:

$$\% \text{ Deflection} = [(D1 - D2) / D1] (100\%)$$

4.2 Record and submit all data.

5.0 DEDUCTION SCHEDULE. All pipe deductions shall be handled in accordance with the tables shown below.

FLEXIBLE PIPE DEFLECTION	
Amount of Deflection (%)	Payment
0.0 to 5.0	100% of the Unit Bid Price
5.1 to 9.9	50% of the Unit Bid Price ⁽¹⁾
10 or greater	Remove and Replace ⁽²⁾

⁽¹⁾ Provide Structural Analysis for HDPE and metal pipe. Based on the structural analysis, pipe may be allowed to remain in place at the reduced unit price. ⁽²⁾ The Department may allow the pipe to remain in place with no pay to the Contractor in instances where it is in the best interest to the public and where the structural analysis demonstrates that the pipe should function adequately.

RIGID PIPE REMEDIATION TABLE PIPE	
Crack Width (inches)	Payment
≤ 0.1	100% of the Unit Bid Price
Greater than 0.1	Remediate or Replace ⁽¹⁾

⁽¹⁾ Provide the Department in writing a method for repairing the observed cracking. Do not begin work until the method has been approved.

6.0 PAYMENT. The Department will measure the quantity in linear feet of pipe to inspect. 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>
24814EC	Pipeline Inspection	Linear Foot
10065NS	Pipe Deflection Deduction	Dollars

SPECIAL NOTE FOR SIGNAGE

All sign sheeting shall be from the Cabinet's List of Approved Materials.

All permanent signs and sign components shall be fabricated using Type XI sheeting.

The following signs and sign components shall be fabricated using Type XI fluorescent yellow sheeting:

- Horizontal Alignment Signs and Plaques, including signs shown in Figure 2C-1 of the MUTCD
- All Advisory Speed (W13-1P) plaques

The following signs shall be fabricated using Type XI fluorescent yellow-green sheeting:

- School and school bus warning signs, including the fluorescent yellow-green signs shown in Figures 7B-1 and 7B-6 of the MUTCD and other school-related warning signs that are not included in the MUTCD.
- Bicycle Warning (W11-1) signs and SHARE THE ROAD (W16-1P) plaques or diagonal downward pointing arrow (W16-7P) plaques that supplement Bicycle Warning signs.
- Pedestrian Warning signs and diagonal downward pointing arrow plaques that supplement Pedestrian Warning signs.
- In-Street Pedestrian Crossing (R1-6) signs and Overhead pedestrian Crossing (R1-9) signs
- Supplemental plaques to any of the previously listed signs

SPECIAL NOTE FOR SIGNING

I. DESCRIPTION

Except as provided herein, this work shall be performed in accordance with the current edition of the Manual on Uniform Traffic Control Devices (MUTCD), the Department's current Standard Specifications and Interim Supplemental Specifications, applicable Standard and Sepia Drawings, and applicable Special Provisions. Article references are to the Standard Specifications. This project shall consist of furnishing all labor, equipment, materials, and incidentals for the following:

- (1) Maintaining and Controlling Traffic; (2) Furnish, Fabricate, and Erect Signs; and
- (3) All other work specified in the Contract.

II. MATERIALS

All materials shall be sampled and tested in accordance with the Department's Sampling Manual and the materials shall be 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 these Notes.

- A. **Maintain and Control Traffic.** See Traffic Control Plan.
- B. **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, staking, excavation, backfill, and removal of obstructions or any other material not covered by other items. Perform all site preparation only as approved, or directed, by the Engineer.
- C. **Staking.** See Special Note for Staking.
- D. **Signs and Posts.** Before beginning installation, the Contractor shall furnish to the Engineer drawings, descriptions, manufacturer's cuts, etc. covering all material to be used. Mill test reports for beams, steel panels, and each different gauge of aluminum or steel sheeting used must be submitted to the Division of Construction and approved prior to erection.

Fabricate sheet signs from .080 or .125 gauge aluminum alloy 5052-H38 or 6061-T6, in accordance with ASTM B-209, and to the size and shape specified. Prepare the side of the sheet to be used as the sign face to receive the retroreflective background material

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according to the recommendations of the sheeting and retroreflective material manufacturer(s). Sheeting used as background material for sign faces is to be the color specified and visually in accordance with the standard requirements of ASTM D-4956, and meet the requirements of Section 830 of the Standard Specifications. Contrary to Section 830.02.06, only the types and colors of sheeting as specified in the proposal will be accepted. All retroreflective material shall be fabricated and assembled in accordance with the specifications and/or recommendations of the manufacturer(s).

All hardware for the erection of sheeting signs shall be rust resistant: stainless steel, zinc coated, aluminum, or an Engineer approved material. All beams and posts shall be of sufficient lengths to extend from the top of the sign to the required embedment in the anchor. Splicing of the sign post shall NOT be allowed. For installations in soil, Type I steel posts shall be mounted on either a standard anchor, with soil stabilizer plate, or on a Type D breakaway sign support. Refer to Sheeting Sign Detail Sheet 1 of 2 for installation details for a standard anchor with soil stabilizer plate. When installing a standard anchor with soil stabilizer plate, if solid rock is encountered, the Contractor shall drill a hole to the required depth into the rock, install the anchor into the hole, and backfill the anchor post with concrete, or other method approved by the Engineer. The cost shall be incidental to Type I steel post, and a soil stabilizer plate will not be required. Refer to Standard Drawing RGX-065, current edition, for installation details of Type D breakaway sign supports. Approved manufacturers for Type D breakaway sign supports have been placed on the list of approved materials. For installations on existing concrete, such as a sidewalk, concrete median, etc., or installations on existing asphalt, such as flush medians, Type I steel posts shall be mounted on a Type D Surface Mount. For Type D Surface Mounts use only Kleen Break Model 425 by Xcessories Squared of Auburn, IL. If the Surface Mount is to be installed on sufficiently cured concrete, use part number XKBSM42520-G. If the Surface Mount is to be installed on asphalt surface, use part numbers XKB42520-G and AXT225-36-G. Prior to installation, the Contractor shall submit to the Engineer shop drawings of the Type D Surface Mount(s). Install the Type D Surface Mount(s) according to all the applicable requirements of the manufacturer (see shop drawings). All steel post shall meet the requirements of Section 832. All hardware including, but not limited to, sign post anchors, soil stabilizer plates, nuts, bolts, washers, fasteners, fittings, and bracing, or any other incidentals necessary to erect the signs shall be furnished by the Contractor and will be incidental to the work.

New concrete bases, posts, support anchors, signs, etc. are to be installed prior to dismantling any existing sign(s). The removal of existing signs, posts, and support anchors is to be performed concurrently with the installation of new signs, posts, and support anchors, under the same lane closure during the same work shift. Completely remove existing sign support anchors or remove them to a minimum depth of six (6) inches below existing ground line and backfill the disturbed area to the existing ground line.

When listed in the summaries, Reflective Sign Post Panels shall be 2" wide x 60" tall (or 84" tall for urban installations) and shall have three 3/8" holes (one hole in the top 3", one hole near the center, and one hole in the bottom 3") that align with the holes on the Type I

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steel post. Sheeting for the Reflective Sign Post Panels shall be the same Type and color as the sign installed on the post. Examples include:

- Red, fluorescent yellow, and fluorescent yellow-green (Type XI Sheeting)
- White and yellow (Type XI Sheeting).

All manufactured sheeting signs shall be free of visual defects including, but not limited to: cracks, tears, ridges, humps, discoloration, etc., and defective signs shall be replaced at no additional cost to the Department.

All sign blanks shall be hole punched by the manufacturer for either horizontal or vertical installation. Attach all aluminum sheeting signs to square post with 3/8" all steel rivets and nylon washers.

Post will be attached to the anchor with 5/16" corner bolts and 5/16" flanged nuts, and all post and anchor cuts shall be treated with a Cold Galvanizing Compound spray.

Sign posts shall be erected vertically by using a bubble level. The tolerance shall be a two (2) degree angle in any direction. For locations where there are more than one sign is mounted beside each other, the posts shall be spaced to provide approximately six inches (6") of spacing between signs.

E. Property Damage. The Contractor shall be responsible for all damage to public and/or private property resulting from the Contractor's activities. Repair or replace damaged roadway features in like kind materials and design as directed by the Engineer 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 and the Engineer 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 due to the Contractor's operations at no additional cost to the Department. NOTIFY THE ENGINEER AND THE UTILITY OWNER(S) IMMEDIATELY WHEN IT IS DISCOVERED OR ANTICIPATED THAT ANY UTILITY CONFLICT COULD DELAY THE CONTRACTOR'S OPERATIONS. If the total delay exceeds ten working days, an extension of the specified completion date will be negotiated with the Contractor for delay to the Contractor's work; however, no extension will be granted for any delay caused by the Contractor's failure to notify the Engineer and/or the utility company as specified above when a conflict is discovered or anticipated as specified.

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

H. Control. Perform all work under the absolute control of the Department. Obtain the Engineer's approval of all designs required to be furnished by the Contractor prior to incorporation into the work. The Department reserves the right to have other work performed by other contractors and its own forces, and to permit public utility companies and others to do work during the construction within the limits of, or adjacent to, the project. Conduct operations and cooperate with such other parties so that interference with such other work will be reduced to a minimum. The Department will not honor any claims for money or time extension created by the operations of such other parties.

Should a difference of opinion arise as to the rights of the Contractor and others working within the limits of, or adjacent to, the project, the Engineer will decide as to the respective rights of the various parties involved in order to assure the completion of the Department's work in general harmony and in a satisfactory manner, and the Engineer's decision shall be final and binding upon the Contractor.

I. Clean Up, Disposal of Waste. Clean up the project area as work progresses. Dispose of all removed concrete, debris, and other waste as per Section 204.03.08. The Department will incur no cost to obtain the disposal sites. The Department will NOT make direct payment for disposal of waste and debris from the project. Existing anchors, signs, posts, and any other hardware or material removed from the site are to become the property of the Contractor. See Special Provision for Waste and Borrow Sites.

J. Final Dressing, Seeding and Protection. Grade all disturbed areas to blend with the adjacent roadways features and to provide a suitable seed bed. Apply Class A Final Dressing to all disturbed areas, both on and off the Right-of-Way. Sow all disturbed earthen areas with the applicable seed mixture(s) according to Section 212.03.03.

K. Erosion Control. See Special Note 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 payment, but shall be incidental to the project bid items.

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- C. Signs.** The Department will measure the finished in-place area of signs in Square Feet.
- D. Sign Posts.** The Department will measure the finished in-place length of sign posts in Linear Feet, from the top of the anchor, or top of the sign support, to the top of the sign post. Laps, cutoffs, excess, and waste will NOT be measured for payment.
- E. Type D Breakaway Sign Supports.** The Department will measure Type D sign supports as Each support installed.
- F. Type D Surface Mounts.** The Department will measure Type D Surface Mounts as Each surface mount installed.
- G. Class A Concrete for Signs.** The Department will measure the Class A Concrete used in conjunction with Type D breakaway sign support installations in Cubic Yards. Any concrete that is required as backfill due to hitting rock during a standard installation shall be incidental to the bid item STEEL POST TYPE I, and soil stabilizers will not be required.
- H. Clean Up, Disposal of Waste, Final Dressing, Seeding and Protection.** The Department will NOT measure for payment the following activities: Clean Up, Disposal of Waste, and Final Dressing. These activities shall be incidental. Seeding and Protection shall be measured according to Section 212.
- I. Erosion Control.** See Special Note for Erosion Control.
- J. Remove Sign.** The Department will consider all signs attached to one or more connected posts as a single sign. The Department will measure as Each sign assembly removed and NOT each individual sign removed.
- K. Items Provided by KYTC.** The Department will NOT measure for payment the installation of signs and/or surface mounts provided by KYTC. These activities shall be incidental to the bid item STEEL POST TYPE I.

V. BASIS OF PAYMENT

- A. Maintain and Control Traffic.** See Traffic Control Plan.
- B. Signs.** The Department will make payment for the completed and accepted quantities under the bid item SBM ALUM SHEET SIGNS .125 IN or .080 IN. The Department will consider payment full compensation for all work and incidentals necessary to install the signs, as required by these notes and the details found elsewhere in the proposal, at the locations indicated on the summary sheets, plans, and/or as directed by the Engineer.

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- C. Sign Posts.** The Department will make payment for the completed and accepted quantities under the bid item STEEL POST TYPE I. The Department will consider payment full compensation for all work and incidentals necessary to install the sign posts as required by these notes and the details found elsewhere in the proposal.
- D. Type D Breakaway Sign Supports.** The Department will make payment for the completed and accepted quantities under the bid item GMSS TYPE D. The Department will consider payment full compensation for all work and incidentals necessary to install the Type D breakaway sign supports as required by Standard Drawing RGX-065, current edition.
- E. Type D Surface Mounts.** The Department will make payment for the completed and accepted quantities under the bid item GMSS TYPE D (SURFACE MOUNT). The Department will consider payment full compensation for all work and incidentals necessary to install the Type D surface mounts according to all applicable manufacturer requirements.
NOTE: The permissible Type D Surface Mount alternative is: Kleen Break Model 425 for Surface Mount Concrete Installations by Xcessories Squared of Auburn, IL
- F. Class A Concrete for Signs.** The Department will make payment for the completed and accepted quantities, used in conjunction with Type D breakaway sign support installations, under the bid item CLASS A CONCRETE FOR SIGNS. The Department will consider payment full compensation for all work and incidentals necessary to install the concrete as required by Standard Drawing RGX-065, current edition.
- G. Remove Sign.** The Department will make payment for the completed and accepted quantities under the bid item REMOVE SIGN. The Department will consider payment full compensation for all work and incidentals necessary to remove the existing signs, posts, anchors, and any other sign material or hardware, from the locations indicated on the summary sheets, plans, and/or as directed by the Engineer.
- H. Erosion Control.** See Special Note for Erosion Control.

SPECIAL NOTE FOR QWICK CURB MEDIAN SEPARATOR

I. DESCRIPTION

Except as provided herein, perform all work in accordance with the Department's Standard Specifications, interim Supplemental Specifications, Standard and Sepia Drawings, and Special Notes and Special Provisions, current editions. Article references are to the Standard Specifications. This project shall consist of furnishing all labor, equipment, materials, and incidentals for the following:

- (1) Maintaining and Controlling Traffic; (2) Installing Qwick Kurb[®] brand lane separator curb; and (3) All other work specified in the Contract.

II. MATERIALS

All materials shall be sampled and tested in accordance with the Department's Sampling Manual and the materials shall be 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 these Notes.

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

B. Lane Separator Curb. Furnish Qwick Kurb[®] brand lane separator curb guidance system that includes modular longitudinal curb sections and transition end sections, and delineator posts/panels. The longitudinal units of the system shall interface with each other to form a continuous longitudinal channelizing system. The design of the system shall allow a radius or curve as needed by roadway geometry. The complete system shall be compliant with NCHRP 350 or MASH. Manufacturer's documentation validating this compliance shall be provided to the Engineer prior to installation. System color shall match the adjacent pavement marking color.

- a. Longitudinal Units.** The longitudinal units shall have a mountable design to allow for emergency vehicle crossovers. The longitudinal units shall be designed to allow for cross drainage under the units. Individual units of the system shall have a minimum length of 40 inches, maximum height of 4 inches and maximum width of 12 inches. The longitudinal base shall include retroreflective markings to match the system color. At least one upright post is required for each longitudinal curb unit.
- b. Upright Posts.** Upright posts shall be a minimum of 26 inches in height and a minimum of 2 inches in width. Upright posts are to be uniformly spaced at intervals no greater than 44 inches along the system. Post color should match the longitudinal curb unit and adjacent pavement marking color. Each post shall have retroreflective markings of color matching the post, longitudinal system, and adjacent pavement marking. Upright posts should be easily replaceable under traffic conditions and shall be fabricated to withstand repeated impacts and return to a complete upright position with minimal maintenance to the unit.

Qwick Curb Median Separator
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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, staking, excavation, backfill, and removal of obstructions or any other material not covered by other items. Perform site preparation only as approved, or directed, by the Engineer.
- C. **Lane Separator Curb.** Assemble and fasten the lane separator curb system to the underlying pavement or bridge deck according to the manufacturer's recommendations.
- D. **Property Damage.** The Contractor shall be responsible for all damage to public and/or private property resulting from the Contractor's activities. Repair or replace damaged roadway features in like kind materials and design as directed by the Engineer 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 and the Engineer at no additional cost to the Department.
- E. **Caution.** The information in this proposal and the type of work listed herein are approximate only and are not to be taken as an exact evaluation of the materials and conditions to be encountered during construction; the bidder must draw his/her own conclusions when developing the Unit Bid Prices for each bid item. As such, if the conditions encountered are not in accordance with the information shown, the Department does not guarantee any changes to the Unit Bid Prices nor extension of the contract will be considered. The Department will pay for bid item quantity overruns, but only if pre-approved by the Engineer.

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 payment, but shall be incidental to the project bid items.
- C. **Lane Separator Curb.** The Department will measure Qwick Kurb[®] brand lane separator curb in Linear Feet.

V. BASIS OF PAYMENT

- A. **Maintain and Control Traffic.** See Traffic Control Plan.
- B. **Lane Separator Curb.** The Department will make payment for the completed and accepted quantities under the bid item "Qwick Curb Median Separator." Payment at the Contract unit price per linear foot shall be full compensation for furnishing all materials, equipment, tools, hardware, labor, and incidentals necessary to properly install the Qwick Kurb[®] brand lane separator curb according to the manufacturer's installation instructions, these notes, and/or as directed by the Engineer.

SPECIAL NOTES FOR COMPLETION DATES & LIQUIDATED DAMAGES

The ultimate fixed completion date for this project will be **July 31, 2023**. Liquidated Damages for failure to complete the project on time will be assessed following Section 108.09.

The Contractor shall notify the Engineer two (2) weeks prior to beginning construction activities at each intersection. Upon beginning construction activities at an intersection, the Contractor shall have a set number of calendar days (see below) to complete work at that intersection. The Department will assess Liquidated Damages for failure to complete construction on time.

Intersection	Completion Duration (Calendar Days)
6-9022.10 – Boone – KY 842 (Houston Rd) and KY 717 & I-75 SB Ramps	30
6-9022.20 – Campbell – KY 1892 and Newport Pavilion	30
6-9022.30 – Boone – KY 18 (Burlington Pike) from Greenview to Houston	90
6-9022.30 – Boone – KY 18 (Burlington Pike) and Mall Road	30
6-9022.30 – Boone – KY 18 (Burlington Pike) and Commerce Dr.	90

In addition to the requirements of Section 108.09, the Department will assess Liquidated Damages in the amount of **\$1,000** per hour for each hour, or fraction of an hour, for any and all lane and/or road closures that are in place beyond the time frame(s) noted in the Traffic Control Plan and approved by the Engineer.

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

Contrary to Section 108.09, Liquidated Damages will be assessed regardless of whether seasonal limitations prohibit the Contractor from performing work on the controlling operation.

All liquidated damages will be applied accumulatively.

All other applicable portions of Section 108 apply.

SPECIAL PROVISION FOR WASTE AND BORROW SITES

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

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

October 2021

SPECIAL NOTE FOR NON-TRACKING TACK COAT

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

2. MATERIALS, EQUIPMENT, AND PERSONNEL.

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

2.1.1 Provide a tack conforming to the following material requirements:

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

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

2.2. Equipment. Provide a distributor truck capable of heating, circulating, and spraying the tack between 170 °F and 180 °F. Do not exceed 180 °F. Circulate the material while heating. Provide the correct nozzles that is recommend by the producer to ensure proper coverage of tack is obtained. Ensure the bar can be raised to between 14” and 18” from the roadway.

2.3. Personnel. Ensure the tack supplier has provided training to the contractor on the installation procedures for this product. Make a technical representative from the supplier available at the request of the Engineer.

3. CONSTRUCTION.

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

October 2021

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

October 2021

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

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24970EC	Asphalt Material for Tack Non-Tracking	Ton

COORDINATION OF WORK WITH OTHER CONTRACTS

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

1-3193 Coordination Contracts
01/02/2012

**SPECIAL NOTE FOR
ASPHALT MILLING AND TEXTURING**

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

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

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

SPECIAL NOTES FOR BASE FAILURE REPAIR

Repair locations listed on the summary are approximate only. The Engineer will determine actual repair locations and dimensions at the time of construction. Prior to milling and/or resurfacing, saw cut the existing pavement, asphalt surface, base, DGA, and PCC pavement (if present). Excavate to an approximate depth of 12 inches below the existing pavement surface level. Use all possible care to avoid damaging existing culvert pipes and any existing underground utilities. Repair or restore any damaged items at no additional cost to the Department. Waste all removed materials off the Right of Way at sites obtained by the Contractor at no additional cost to the Department. See the Special Provision for Waste and Borrow Sites.

On the same day trench is excavated, backfill the excavated area with 4 inches of DGA Base, and 9 inches of Class 4 Asphalt Base 1.00D PG76-22, in 3 inch maximum courses, up to the existing pavement surface. Compact the asphalt base to the proper compaction as required by Section 403. Seal the asphalt base with leveling and wedging. Perform all base failure repairs in such a manner that removal and replacement are completed on the same day. Do this work as one of the Contractor's first operations in order to allow further compaction by traffic. Do not mill or place new asphalt surface over repaired base failure areas until a minimum of 14 calendar days have elapsed after placement of the final course of asphalt base. After the 14 calendar day waiting period, and/or when the Engineer determines the base failure repair areas have sufficiently stabilized, begin milling and/or resurfacing operations. Prior to milling and/or constructing the new asphalt surface, level and wedge any settlement of the repair areas.

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

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

SPECIAL NOTE FOR TYPICAL SECTION DIMENSIONS

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

1-3725 Typical Section Dimensions
01/02/2012

SPECIAL NOTE FOR SIDEWALK RAMPS & DETECTABLE WARNINGS

GENERAL

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

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

MEASUREMENT & PAYMENT

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

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

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

**TRAFFIC CONTROL PLAN
BOONE AND CAMPBELL COUNTIES
VARIOUS INTERSECTIONS
ITEM NO. 6-9022.10, .20, & .30**

TRAFFIC CONTROL GENERAL

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” as set forth in the Standard and Supplemental Specifications and the Standard and Sepia Drawings, current editions, unless otherwise provided in these notes. The lump sum bid price to “Maintain and Control Traffic” shall also include, but is not limited to, the following items and operations:

- A. All labor and materials necessary for construction and maintenance of traffic control devices and markings.
- B. All flag persons and traffic control devices such as, but not limited to, flashers, signs, barricades and vertical panels, plastic drums (steel drums will not be permitted), and cones, necessary for the control and protection of vehicular and pedestrian traffic as specified in these notes, the proposal, the Manual on Uniform Traffic Control Devices (MUTCD) current edition, or the Engineer.

Contrary to Section 106.01, furnish new, or used in like new condition, traffic control devices at the beginning of the work and maintain in like new condition until completion of the work. Any temporary traffic control items, devices, materials, and incidentals shall remain the property of the contractor when no longer needed. Traffic control devices will conform to current MUTCD.

Maintain access to all entrances, side streets and roads, schools, churches and commercial properties at all times during construction. Access to fire hydrants must also be maintained at all times. The Contractor will be responsible to notify adjacent property owners when work affecting the entrances will be performed.

PROJECT PHASING & CONSTRUCTION PROCEDURES

For all construction activities, utilize a lane closure, and maintain at least one lane of travel in each direction. Provide a minimum clear lane width of 11 feet, however, provide for passage of vehicles of up to 16 feet in width. If traffic should be stopped due to construction operations, and a school bus or emergency vehicle on an official run arrives on the scene, make provisions for the passage of the school bus or emergency vehicle as quickly as possible.

Do NOT erect lane closures during the following days and/or hours:

Normal Weekday Rush-Hours

Monday-Friday 6:00 am – 9:00 am and 3:00 pm – 7:00 pm, daily

All resurfacing shall occur during non-peak hours.

Holiday & Special Events

Independence Day	3 pm Friday, July 1, 2022 – 11 pm Monday, July 4, 2022
Labor Day Weekend	3 pm Friday, September 2, 2022 – 8 pm Monday, September 5, 2022
Thanksgiving Holiday	3 pm Wednesday, November 23, 2022 – 8 pm Sunday, Nov. 27, 2022
Christmas Holiday	3 pm Friday, December 23, 2022 – 8 pm Sunday, December 25, 2022
New Year’s Day Holiday	7 am Saturday, December 31, 2022 – 8 pm Sunday, January 1, 2023
Easter Weekend	3 pm Friday, April 7, 2023 – 8 pm Sunday, April 9, 2023
Memorial Day Weekend	3 pm Friday, May 26, 2023 – 8 pm Monday, May 29, 2023
Independence Day	7 am Saturday, July 1, 2023 – 11 pm Tuesday, July 4, 2023

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Labor Day Weekend	3 pm Friday, September 1, 2023 – 8 pm Monday, September 4, 2023
Thanksgiving Holiday	3 pm Wednesday, November 22, 2023 – 8 pm Sunday, Nov. 26, 2023

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

The Department will provide public notification regarding approved lane closures. The Engineer must be notified 2 weeks prior to any lane closure. Notify the Engineer immediately and obtain approval of any deviations from the previously approved closure schedule. The contractor shall be responsible for signs; work zone and pavement condition signs; advanced warning signs; changeable message signs; and/or additional signs as directed by the Engineer.

Liquidated Damages will be assessed for any and all lane closures that exceed the approval time limits in accordance with the Special Note for Completion Dates & Liquidated Damages.

The Contractor shall completely cover any signs, existing, permanent, or temporary, which do not properly apply to the current traffic phasing, and shall maintain the covering until signs are applicable or are removed.

In general, all traffic control devices shall be placed starting and proceeding in the direction of the flow of traffic, and removed starting and proceeding in the direction opposite the flow of traffic.

LANE AND SHOULDER CLOSURES

Do not leave lane closures in place during prohibited periods. No long-term lane closures will be allowed; therefore, lane closures will not be measured for payment.

SIGNS

The Engineer and the Contractor, or their authorized representative, shall review the signing before traffic is allowed to use any lane closures, crossovers, or detours. All signing shall be approved by the Engineer before work can be started by the Contractor.

Contrary to section 112.04.02, only long-term signs (signs intended to be continuously in place for more than 3 days) will be measured for payment; short term signs (signs intended to be left in place for 3 days or less) will not be measured for payment but shall be incidental to Maintain and Control Traffic. Individual signs will be measured only once for payment, regardless of how many times they are set, reset, relocated, and removed during the duration of the project. Replacements for damaged signs directed by the Engineer to be replaced due to poor condition or reflectivity will not be measured for payment.

PORTABLE CHANGEABLE MESSAGE SIGNS

Provide portable changeable message sign (PCMS) at least two weeks prior to construction at the locations approved by the Engineer. The messages required to be provided will be designated by the Engineer. The PCMS will be in operation at all times. In the event of damage or mechanical/electrical failure, the contractor will repair or replace the PCMS immediately. The Department will not take possession of the signs upon completion of the work. The Department will measure for payment the maximum number of PCMS in concurrent use at the same time on a single day on all sections of the contract. PCMS will be paid for once, no matter how many times they are set, reset, removed, and

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relocated during the duration of the project. Replacements for damaged changeable message signs directed by the Engineer to be replaced due to poor condition or readability will not be measured for payment.

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

PAVEMENT MARKINGS

If there is to be a deviation from the existing striping plan, the Engineer will furnish the Contractor a striping plan prior to placement of final surface course. Removal of pavement markings will be by water blasting process to the satisfaction of the Engineer. Place temporary and permanent striping in accordance with Section 112 with following exception for Temporary Striping:

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

PAVEMENT EDGE DROP-OFFS

Do not allow a pavement edge between opposing directions of traffic or lanes that is expected to cross in a lane change situation with an elevation difference greater than 1 ½". Place Warning signs (MUTC W8-11 or W8-9A) in advance of and at 1500' intervals throughout the drop-off area. Dual post the signs on both sides of the traveled way. Wedge all transverse transitions between resurfaced and unsurfaced areas which traffic may cross with asphalt mixture for leveling and wedging. Remove the wedges prior to placement of the final surface course.

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

Less than 2" – Not protection required. Warning signs should be placed in advance and throughout the drop-off area.

2" to 4" – Place plastic drums, vertical panels, or barricades every 50 feet. During daylight working hours only, the Engineer will allow the Contractor to use cones in lieu of plastic drums, panels, and barricades. Spacing of devices on tapered sections shall be in accordance with MUTCD, current edition. When work is not active in the drop-off area, wedge the drop-off with DGA or asphalt mixture for leveling and wedging with 1:1

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or flatter slope in daylight hours, or 3:1 or flatter slope during nighttime hours.

Greater than 4" – Positive separation or wedge with a 3:1 or flatter slope. If there is five feet or more distance between the edge of pavement and drop-off, then drums, panels, or barricades may be used. If the drop-off is greater than 12 inches, positive separation is strongly encouraged. If concrete barriers are used, special reflective devices or steady burn lights should be used for overnight installations. Barricades may be used if the drop-off is greater than 12 inches.

USE AND PLACEMENT OF CHANGEABLE MESSAGE SIGNS

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

Application

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

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

CMS should not be used for:

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

Messages

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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
- No more than two message panels should be used (three panels may be used on roadways where vehicles are traveling less than 45 mph). A panel is the message that fits on the face of the sign without flipping or scrolling.
- Each panel should convey a single thought; short and concise
- Do not use two unrelated panels on a sign
- Do not use the sign for two unrelated messages
- Should not scroll text horizontally or vertically
- Should not contain both the words left and right
- Use standardized abbreviations and messages
- Should be accurate and timely
- Avoid filler/unnecessary words and periods (hazardous, a, an, the)
- Avoid use of speed limits
- Use words (not numbers) for dates

Placement

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

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

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Standard Abbreviations

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

<u>Word</u>	<u>Abbrev</u>	<u>Example</u>
Access	ACCS	ACCIDENT AHEAD/ USE ACCS RD 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 DELAYS I75/ USE ALT RTE
Mile	MI	ACCIDENT 3 MI AHEAD/ USE ALT RTE
Minor	MNR	ACCIDENT 3 MI MNR DELAY
Minutes	MIN	ACCIDENT 3 MI/ 30 MIN DELAY
Northbound	N-BND	N-BND I75 CLOSED/ DETOUR EXIT 50
Oversized	OVRSZ	OVRSZ COMM VEH/ USE I275 NEXT RIGHT
Parking	PKING	EVENT PKING NEXT RGT
Parkway	PKWY	CUM PKWAY TRAF/ DETOUR EXIT 60
Prepare	PREP	ACCIDENT 3 MI/ PREP TO STOP
Right	RGT	EVENT PKING NEXT RGT
Road	RD	HAZMAT IN RD/ ALL TRAF EXIT 25
Roadwork	RDWK	RDWK NEXT 4 MI/ POSSIBLE DELAYS
Route	RTE	MAJ DELAYS I75/ USE ALT RTE
Shoulder	SHLDR	SHLDR CLOSED NEXT 5 MI
Slippery	SLIP	SLIP COND POSSIBLE/ SLOW SPD
Southbound	S-BND	S-BND I75 CLOSED/ DETOUR EXIT 50
Speed	SPD	SLIP COND POSSIBLE/ SLOW SPD

Standard Abbreviations (cont)

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

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

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

Typical Messages

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

<u>Reason/Problem</u>	<u>Action</u>
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

Typical Messages (cont)

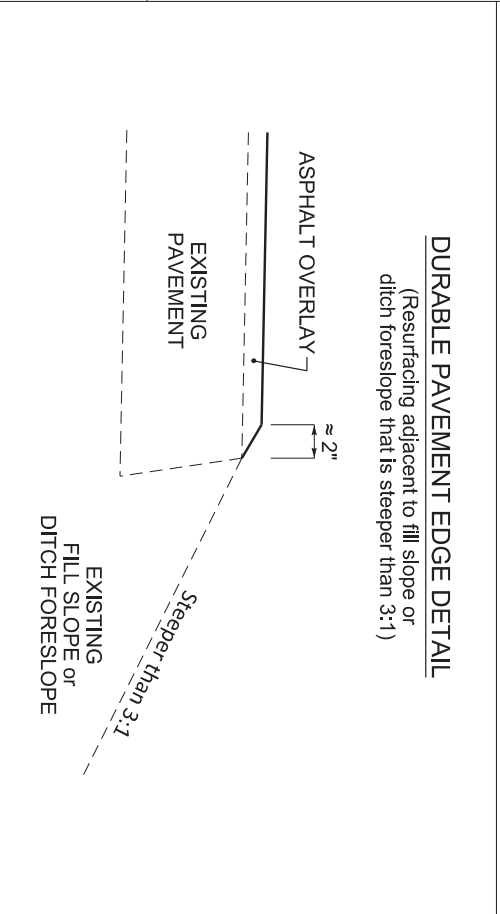
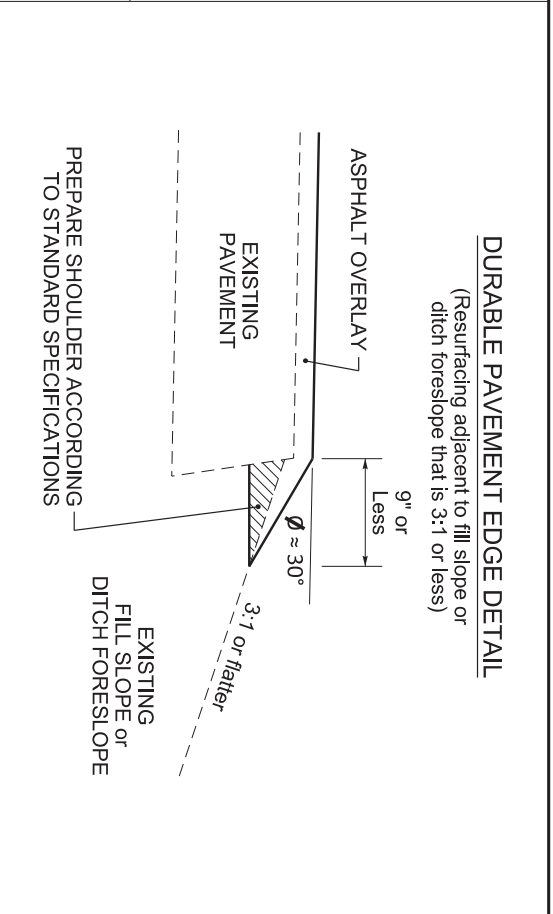
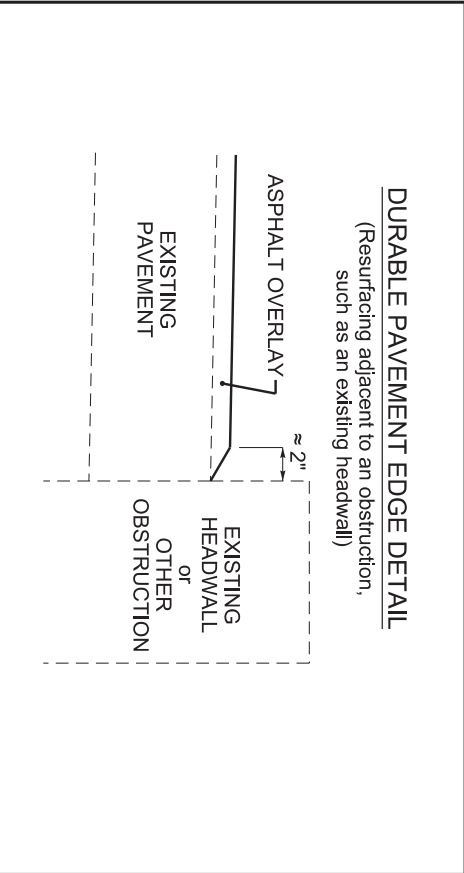
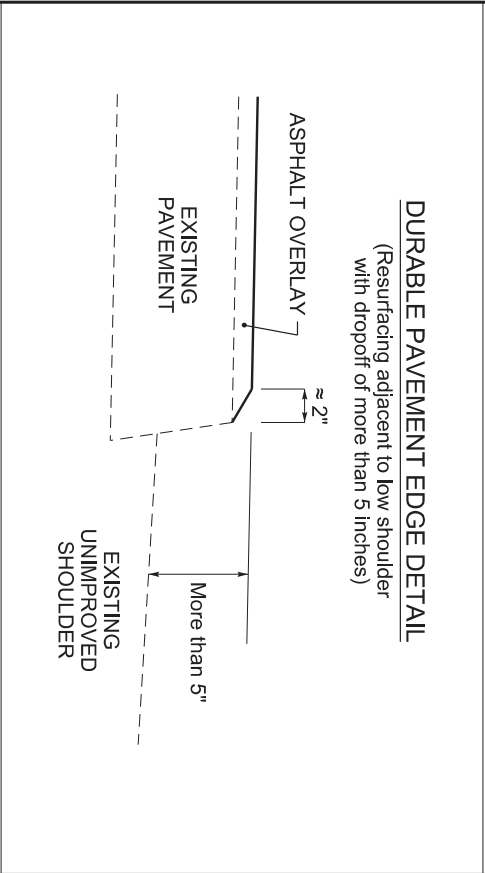
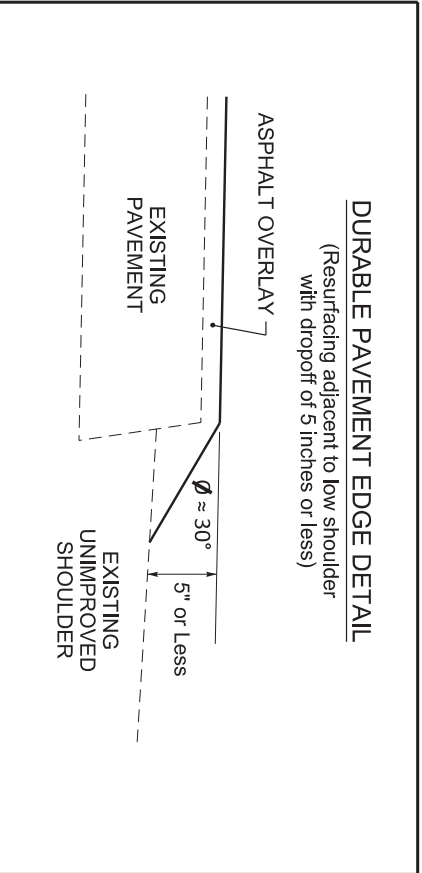
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Reason/Problem

FREEWAY CLOSED
FRESH OIL
HAZMAT SPILL
ICE
INCIDENT AHEAD
LANES (NARROW, SHIFT, MERGE, ETC.)
LEFT LANE CLOSED
LEFT LANE NARROWS
LEFT 2 LANES CLOSED
LEFT SHOULDER CLOSED
LOOSE GRAVEL
MEDIAN WORK XX MILES
MOVING WORK ZONE, WORKERS IN ROADWAY
NEXT EXIT CLOSED
NO OVERSIZED LOADS
NO PASSING
NO SHOULDER
ONE LANE BRIDGE
PEOPLE CROSSING
RAMP CLOSED
RAMP (SLIPPERY, ICE, ETC.)
RIGHT LANE CLOSED
RIGHT LANE NARROWS
RIGHT SHOULDER CLOSED
ROAD CLOSED
ROAD CLOSED XX MILES
ROAD (SLIPPERY, ICE, ETC.)
ROAD WORK
ROAD WORK (OR CONSTRUCTION) (TONIGHT, TODAY, TOMORROW, DATE)
ROAD WORK XX MILES
SHOULDER (SLIPPERY, ICE, SOFT, BLOCKED, ETC.)
NEW SIGNAL XX MILES
SLOW 1 (OR 2) - WAY TRAFFIC
SOFT SHOULDER
STALLED VEHICLES AHEAD
TRAFFIC BACKUP
TRAFFIC SLOWS
TRUCK CROSSING
TRUCKS ENTERING
TOW TRUCK AHEAD
UNEVEN LANES
WATER ON ROAD
WET PAINT
WORK ZONE XX MILES
WORKERS AHEAD

Action

PREPARE TO STOP
REDUCE SPEED
SLOW
SLOW DOWN
STAY IN LANE
STOP AHEAD
STOP XX MILES
TUNE RADIO 1610 AM
USE NN ROAD
USE CENTER LANE
USE DETOUR ROUTE
USE LEFT TURN LANE
USE NEXT EXIT
USE RIGHT LANE
WATCH FOR FLAGGER



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

DRAWING NOT TO SCALE

DURABLE PAVEMENT EDGE DETAILS

SPECIAL NOTE FOR TRAFFIC SIGNAL LOOP DETECTORS

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 traffic signal loop replacement in accordance with the Department's Standard/Supplemental Specifications, Special Provisions, Special Notes, and Standard/Sepia Drawings, current editions and as directed by the Engineer. Article references are to the Standard Specifications. Furnish all materials, labor, equipment, and incidentals for replacement of traffic signal loop installation(s) and all other work specified as part of this contract.

1.1 Pre-bid Requirements. Conform to Subsection 723.03.17

2.0 MATERIALS. Except as specified herein, furnish materials in accordance with Subsection 732.02 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 Maintain and Control Traffic. See Traffic Control Plan.

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

2.3 Seeding. Furnish Seed Mix Type I.

2.4 Loop Saw Slot and Fill. Furnish loop sealant, backer rod, and non-shrink grout according to the Saw Slot Detail.

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

2.6 Cable No. 14/1 Pair (Lead-in). Furnish cable that is specified in Section 835. Cable shall be ran splice free. This shall include splice kits to connect to the loop wire.

2.7 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 Traffic Signal Loop Detectors in accordance with Section 723 and the drawings.

3.1 Testing. Conform to Subsection 723.03.17 (A)

3.2 Coordination. Conform to Subsection 723.03.17 (B)

3.3 Connection. Conform to Subsection 723.03.17 (C)

3.4 Maintain and Control Traffic. See Traffic Control Plan.

3.5 Milling. Conform to Subsection 723.03.17 (F)

3.6 Loop Saw Slot and Fill. Conform to Subsection 723.03.13 (A).

Traffic Signal Loop Detectors
Page 2 of 9

3.7 Backfilling and Disturbed Areas. Conform to Subsection 723.03.11.

3.8 Removal. Conform to Subsection 723.03.16.

3.9 Property/Roadway Damage. Conform to Subsection 723.03.17 (J).

3.10 Right-of-Way Limits. Conform to Subsection 723.03.17 (K).

3.11 Utility Clearance. Conform to Subsection 716.03.01.

3.12 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 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 ensure 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.

3.13 Bore and Jack. Conform to Subsection 723.03.06 (I).

3.14 Open Cut Roadway. Conform to Subsection 723.03.06 (I).

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

4.1 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.

4.2 Remove Signal Equipment. The department will measure the quantity by each. The department will not measure backfilling and the disposal or transportation of equipment and materials associated with any structural or electrical component of the signal system including, but not limited to pole bases, poles, junction boxes, cabinets, and wood poles 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

Traffic Signal Loop Detectors
Page 3 of 9

PVC Conduit – 2 inch – sch 80	24901EC	Linear Foot
Conduit 2”	4795	Linear Foot
Electrical Junction Box 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
Bore and Jack Conduit	21543EN	Linear Foot ³
Open Cut Roadway	4821	Linear Foot ³
Remove Signal Equipment	24955ED	each

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

Contrary to section 723:

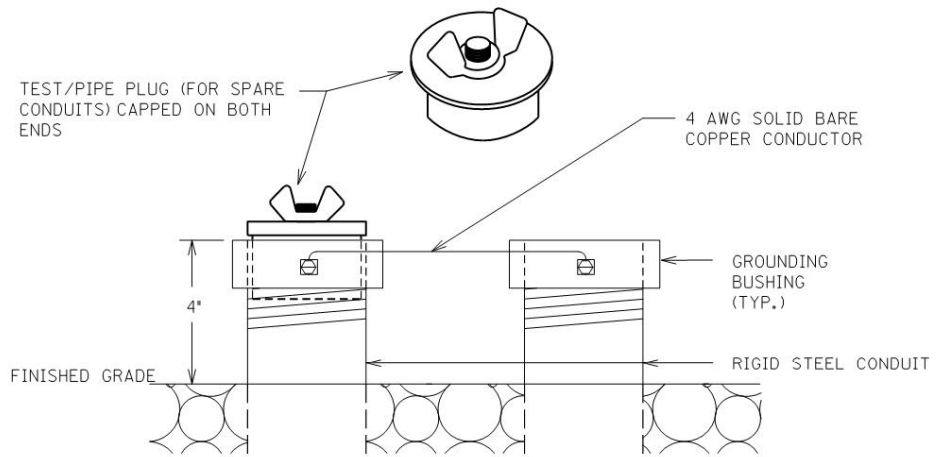
SUBSECTION: 03.13 Loop Installation.

REVISION: Replace first sentence note with the following:

twist unshielded loop wire (imsa 51-7) with 3 to 5 turns from the start of homerun to the inside conduit, junction box, cabinet, or pole. Twist unshielded loop wires (imsa 51-7) with 3 to 5 turns per foot from the start of the homerun to the junction box, cabinet, or pole. Slot can be widen to .5" to .625" to help with the installation of the twisted wire.

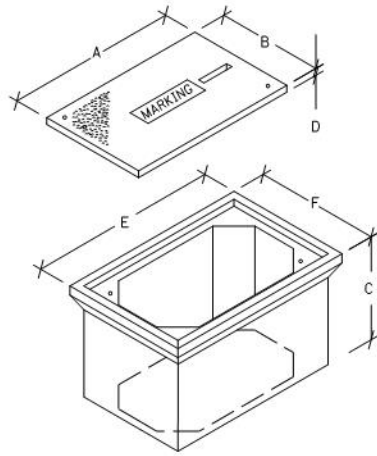
Traffic Signal Loop Detectors

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

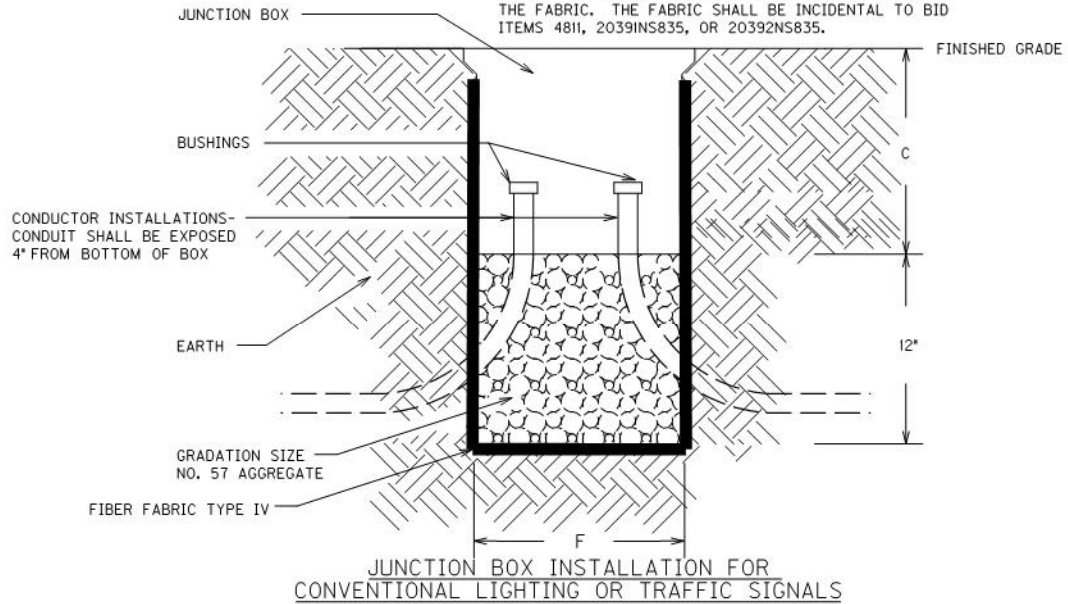
Traffic Signal Loop Detectors
Page 5 of 9



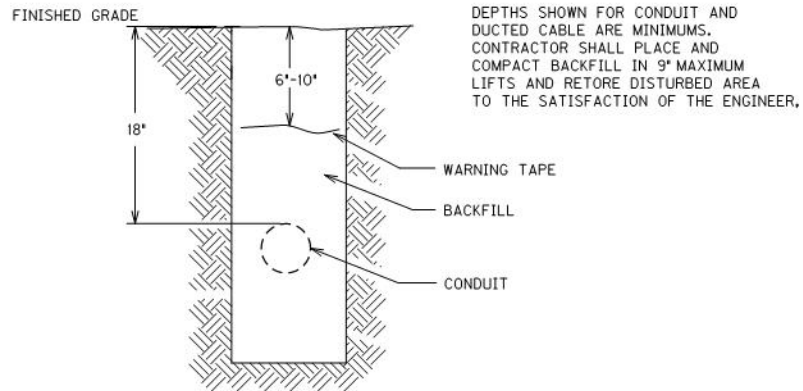
JUNCTION BOX DIMENSIONS (NOMINAL)						
	A	B	C	D	E	F
TYPE A	23"	14"	27"	2"	25"	15"
TYPE B	18"	11"	12"	1 3/4"	20"	13"
TYPE C	36"	24"	30"	3"	38"	26"

• 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 481I, 2039INS835, OR 20392NS835.



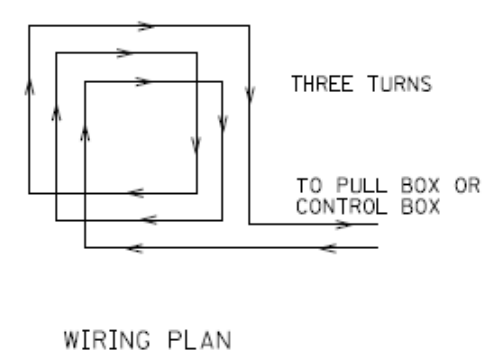
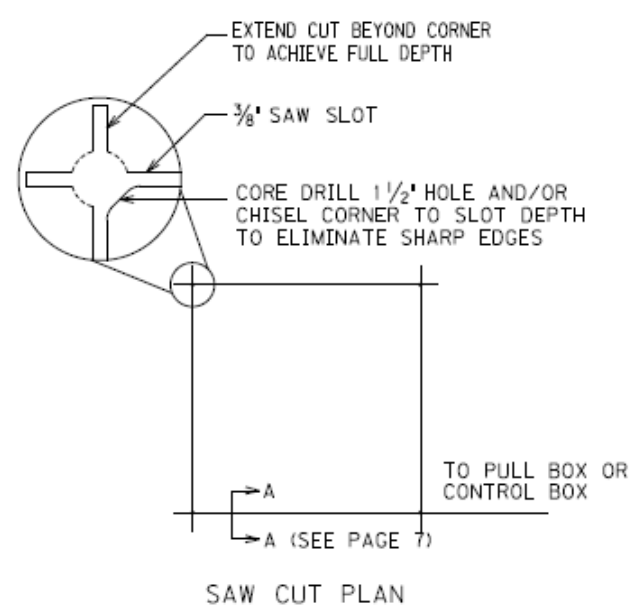
JUNCTION BOX INSTALLATION FOR CONVENTIONAL LIGHTING OR TRAFFIC SIGNALS



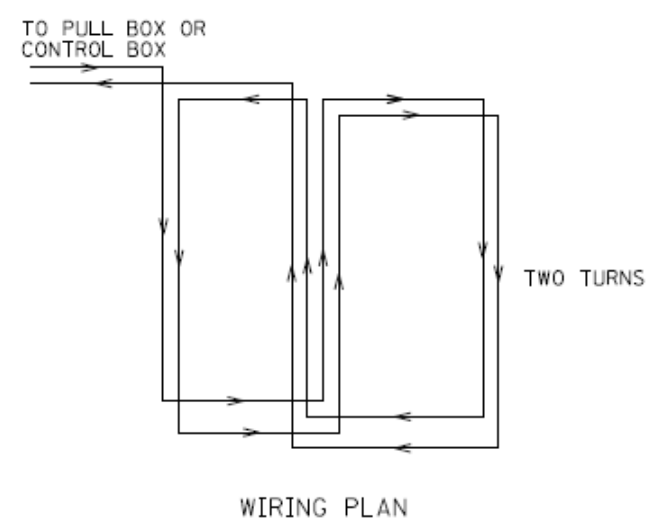
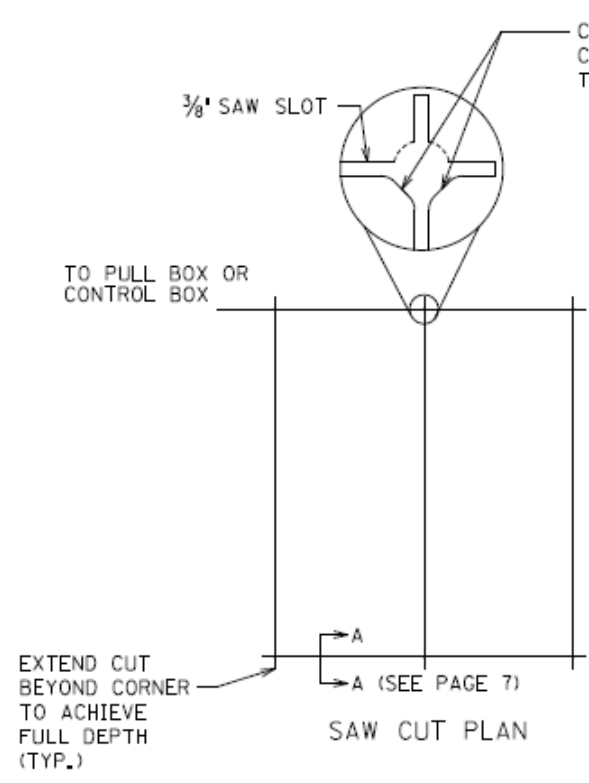
CONDUIT AND WARNING TAPE TRENCH

Traffic Signal Loop Detectors

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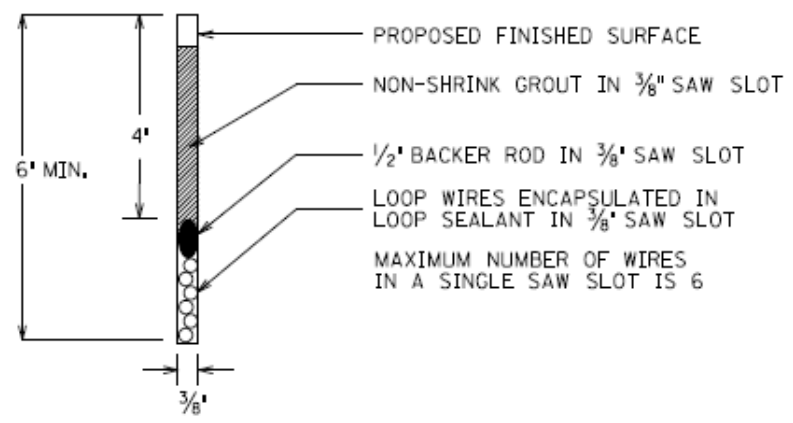
6'X6' LOOP



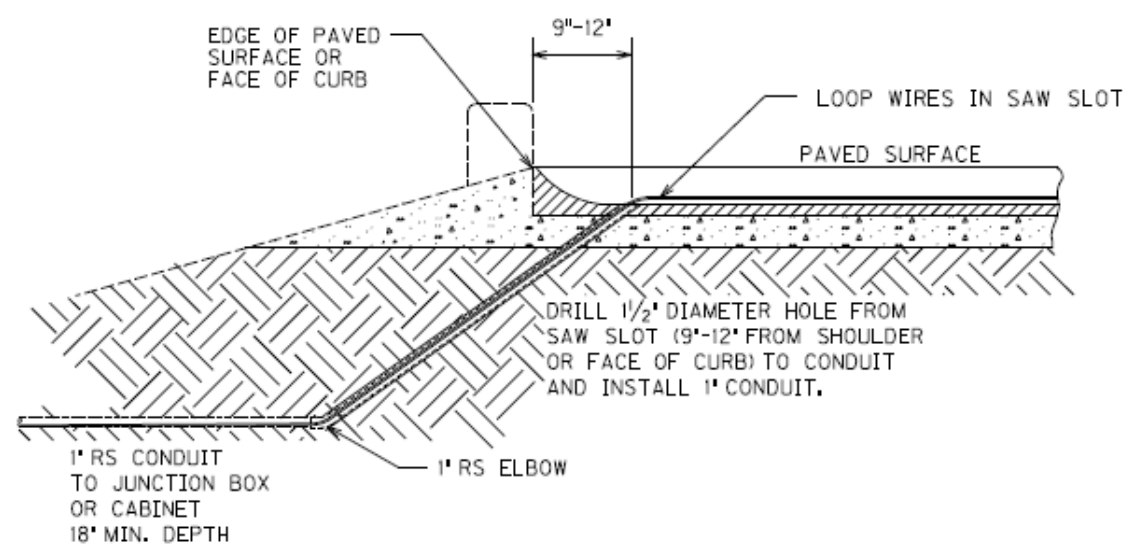
6'X30' QUADRAPOLE LOOP

Traffic Signal Loop Detectors

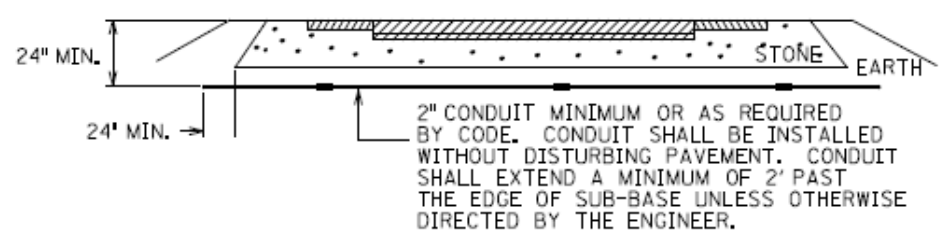
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SECTION A-A (SAW SLOT DETAIL)



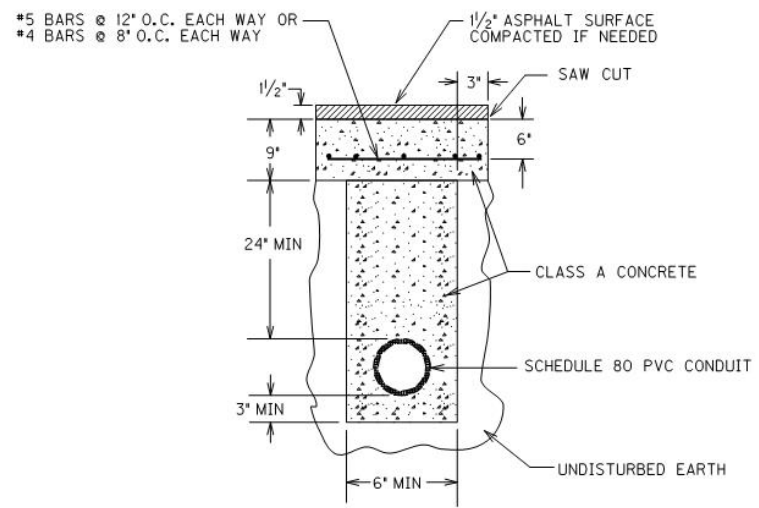
SAW SLOT EDGE OF PAVEMENT TRANSITION



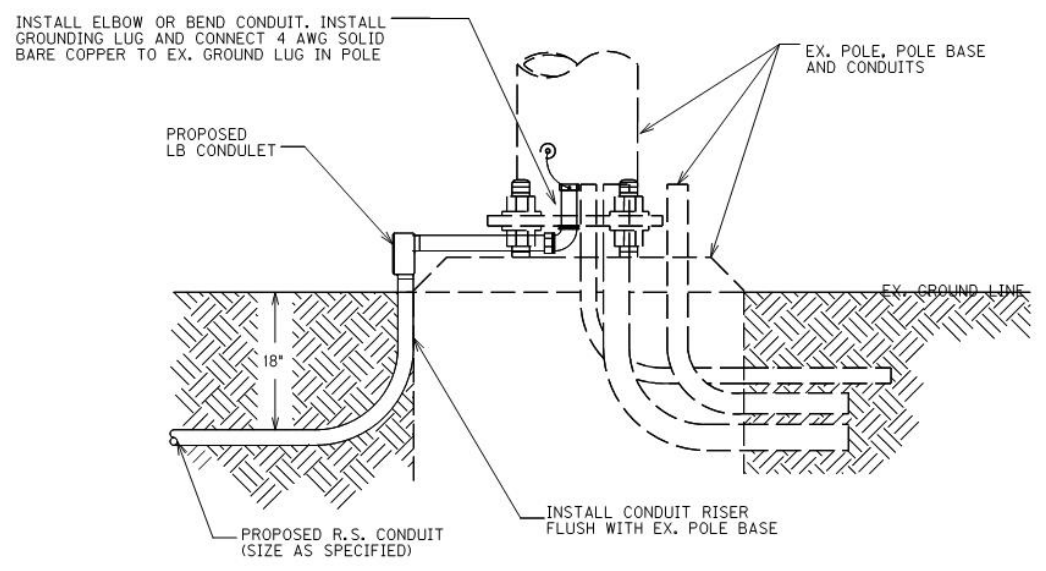
CONDUIT UNDER EXISTING PAVEMENT DETAIL

Traffic Signal Loop Detectors

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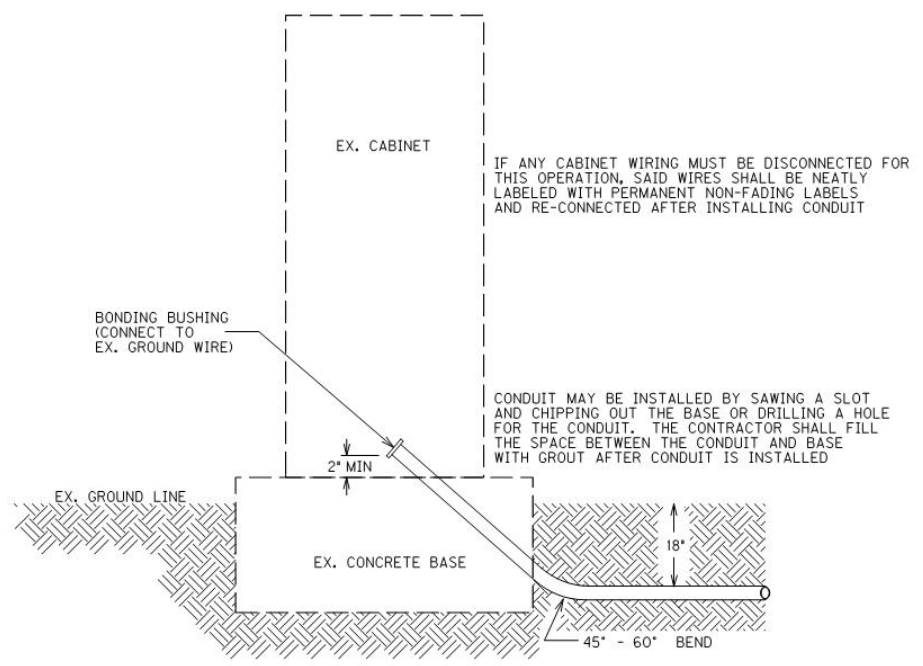
OPEN CUT PAVEMENT DETAIL



CONDUIT INSTALLATION IN EX. POLE BASE

Traffic Signal Loop Detectors

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CONDUIT INSTALLATION IN EX. CABINET BASE

Update: 4-5-2022



KENTUCKY TRANSPORTATION CABINET
Department of Highways
DIVISION OF RIGHT OF WAY & UTILITIES

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RIGHT OF WAY CERTIFICATION

<input checked="" type="checkbox"/>	Original	<input type="checkbox"/>	Re-Certification	RIGHT OF WAY CERTIFICATION
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ITEM #	COUNTY	PROJECT # (STATE)	PROJECT # (FEDERAL)
6-9022.10	Boone	FD52 008 0842 006-007	HSIP 8217(004)

PROJECT DESCRIPTION

Update the traffic signal to include reflective backplates, update the striping and signing at the intersection of KY 842 and KY 717/Ramps.

No Additional Right of Way Required

Construction will be within the limits of the existing right of way. The right of way was acquired in accordance to FHWA regulations under the Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970, as amended. No additional right of way or relocation assistance were required for this project.

Condition # 1 (Additional Right of Way Required and Cleared)

All necessary right of way, including control of access rights when applicable, have been acquired including legal and physical possession. Trial or appeal of cases may be pending in court but legal possession has been obtained. There may be some improvements remaining on the right-of-way, but all occupants have vacated the lands and improvements, and KYTC has physical possession and the rights to remove, salvage, or demolish all improvements and enter on all land. Just Compensation has been paid or deposited with the court. All relocations have been relocated to decent, safe, and sanitary housing or that KYTC has made available to displaced persons adequate replacement housing in accordance with the provisions of the current FHWA directive.

Condition # 2 (Additional Right of Way Required with Exception)

The right of way has not been fully acquired, the right to occupy and to use all rights-of-way required for the proper execution of the project has been acquired. Some parcels may be pending in court and on other parcels full legal possession has not been obtained, but right of entry has been obtained, the occupants of all lands and improvements have vacated, and KYTC has physical possession and right to remove, salvage, or demolish all improvements. Just Compensation has been paid or deposited with the court for most parcels. Just Compensation for all pending parcels will be paid or deposited with the court prior to AWARD of construction contract

Condition # 3 (Additional Right of Way Required with Exception)

The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. All remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary right of way will not be fully acquired, and/or some occupants will not be relocated, and/or the just compensation will not be paid or deposited with the court for some parcels until after bid letting. KYTC will fully meet all the requirements outlined in 23 CFR 635.309(c)(3) and 49 CFR 24.102(j) and will expedite completion of all acquisitions, relocations, and full payments after bid letting and prior to AWARD of the construction contract or force account construction.

Total Number of Parcels on Project	0	EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION
Number of Parcels That Have Been Acquired			
Signed Deed			
Condemnation			
Signed ROE			

Notes/ Comments (Use Additional Sheet if necessary)

LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	
Signature		Signature	<i>Lynn Whalen</i> Date: 2022.02.15
Date		Date	10:50:12 -05'00'
Right of Way Director		FHWA	
Printed Name		Printed Name	
Signature	<i>Kelly R. Divine</i>	Signature	No Signature Required as per FHWA-KYTC Current Stewardship Agreement
Date	Digitally signed by Kelly R. Divine Date: 2022.02.15 11:34:37 -06'00'	Date	

	KENTUCKY TRANSPORTATION CABINET Department of Highways DIVISION OF RIGHT OF WAY & UTILITIES	TC 62-226 Rev. 01/2016 Page 1 of 1
RIGHT OF WAY CERTIFICATION		

<input checked="" type="checkbox"/>	Original	<input type="checkbox"/>	Re-Certification	RIGHT OF WAY CERTIFICATION
ITEM #		COUNTY		PROJECT # (STATE)
6-9022.20		Campbell		FD52 019 1892 002-003
PROJECT DESCRIPTION		PROJECT # (FEDERAL)		
		HSIP 8177(003)		

Update the traffic signal to include reflective backplates and convert KY 1892 EB and WB Left Turn Signal to Protected Only at the Intersection of KY 1892 and Newport Pavilion.

No Additional Right of Way Required

Construction will be within the limits of the existing right of way. The right of way was acquired in accordance to FHWA regulations under the Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970, as amended. No additional right of way or relocation assistance were required for this project.

Condition # 1 (Additional Right of Way Required and Cleared)

All necessary right of way, including control of access rights when applicable, have been acquired including legal and physical possession. Trial or appeal of cases may be pending in court but legal possession has been obtained. There may be some improvements remaining on the right-of-way, but all occupants have vacated the lands and improvements, and KYTC has physical possession and the rights to remove, salvage, or demolish all improvements and enter on all land. Just Compensation has been paid or deposited with the court. All relocations have been relocated to decent, safe, and sanitary housing or that KYTC has made available to displaced persons adequate replacement housing in accordance with the provisions of the current FHWA directive.

Condition # 2 (Additional Right of Way Required with Exception)

The right of way has not been fully acquired, the right to occupy and to use all rights-of-way required for the proper execution of the project has been acquired. Some parcels may be pending in court and on other parcels full legal possession has not been obtained, but right of entry has been obtained, the occupants of all lands and improvements have vacated, and KYTC has physical possession and right to remove, salvage, or demolish all improvements. Just Compensation has been paid or deposited with the court for most parcels. Just Compensation for all pending parcels will be paid or deposited with the court prior to AWARD of construction contract

Condition # 3 (Additional Right of Way Required with Exception)

The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. All remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary right of way will not be fully acquired, and/or some occupants will not be relocated, and/or the just compensation will not be paid or deposited with the court for some parcels until after bid letting. KYTC will fully meet all the requirements outlined in 23 CFR 635.309(c)(3) and 49 CFR 24.102(j) and will expedite completion of all acquisitions, relocations, and full payments after bid letting and prior to AWARD of the construction contract or force account construction.

Total Number of Parcels on Project	0	EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION
Number of Parcels That Have Been Acquired			
Signed Deed			
Condemnation			
Signed ROE			

Notes/ Comments (Use Additional Sheet if necessary)

LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	
Signature		Signature	<i>Lynn Whalen</i>
Date		Date	Date: 2022.02.15 10:51:13 -05'00'
Right of Way Director		FHWA	
Printed Name		Printed Name	
Signature	<i>Kelly R. Divine</i>	Signature	No Signature Required as per FHWA-KYTC Current Stewardship Agreement
Date	Date: 2022.02.15 11:36:09 -06'00'	Date	



KENTUCKY TRANSPORTATION CABINET
Department of Highways
DIVISION OF RIGHT OF WAY & UTILITIES

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Rev. 01/2016
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RIGHT OF WAY CERTIFICATION

<input checked="" type="checkbox"/>	Original	<input type="checkbox"/>	Re-Certification	RIGHT OF WAY CERTIFICATION
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ITEM #	COUNTY	PROJECT # (STATE)	PROJECT # (FEDERAL)
6-9022.30	Boone	FD52 008 0018 014-016	HSIP 8126(011)

PROJECT DESCRIPTION

Intersection and Corridor Improvements to Reduce Conflict Points and Enhance Safety along KY 18 from Greenview Dr to Ewing Blvd.

No Additional Right of Way Required

Construction will be within the limits of the existing right of way. The right of way was acquired in accordance to FHWA regulations under the Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970, as amended. No additional right of way or relocation assistance were required for this project.

Condition # 1 (Additional Right of Way Required and Cleared)

All necessary right of way, including control of access rights when applicable, have been acquired including legal and physical possession. Trial or appeal of cases may be pending in court but legal possession has been obtained. There may be some improvements remaining on the right-of-way, but all occupants have vacated the lands and improvements, and KYTC has physical possession and the rights to remove, salvage, or demolish all improvements and enter on all land. Just Compensation has been paid or deposited with the court. All relocations have been relocated to decent, safe, and sanitary housing or that KYTC has made available to displaced persons adequate replacement housing in accordance with the provisions of the current FHWA directive.

Condition # 2 (Additional Right of Way Required with Exception)

The right of way has not been fully acquired, the right to occupy and to use all rights-of-way required for the proper execution of the project has been acquired. Some parcels may be pending in court and on other parcels full legal possession has not been obtained, but right of entry has been obtained, the occupants of all lands and improvements have vacated, and KYTC has physical possession and right to remove, salvage, or demolish all improvements. Just Compensation has been paid or deposited with the court for most parcels. Just Compensation for all pending parcels will be paid or deposited with the court prior to AWARD of construction contract

Condition # 3 (Additional Right of Way Required with Exception)

The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. All remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary right of way will not be fully acquired, and/or some occupants will not be relocated, and/or the just compensation will not be paid or deposited with the court for some parcels until after bid letting. KYTC will fully meet all the requirements outlined in 23 CFR 635.309(c)(3) and 49 CFR 24.102(j) and will expedite completion of all acquisitions, relocations, and full payments after bid letting and prior to AWARD of the construction contract or force account construction.

Total Number of Parcels on Project	0	EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION
Number of Parcels That Have Been Acquired			
Signed Deed			
Condemnation			
Signed ROE			

Notes/ Comments (Use Additional Sheet if necessary)

LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	
Signature		Signature	<i>Lynn Whalen</i> Date: 2022.02.15
Date		Date	10:52:11 -05'00'
Right of Way Director		FHWA	
Printed Name		Printed Name	
Signature	<i>Kelly R. Divine</i>	Signature	No Signature Required as per FHWA-KYTC Current Stewardship Agreement
Date	Digitally signed by Kelly R. Divine Date: 2022.02.15 11:37:05 -06'00'	Date	

UTILITIES AND RAIL CERTIFICATION NOTE

**Improvements at Various Intersections
in Boone & Campbell Counties
HSIP 8217(004), HSIP 8177(003), HSIP 8126(011)
Item Numbers: 6-9022.10, 6-9022.20, & 6-9022.30**

GENERAL PROJECT NOTE ON UTILITY PROTECTION

Utility coordination efforts determined that no significant utility relocation work is required to complete the project.

NOTE: DO NOT DISTURB THE FOLLOWING UTILITIES LOCATED WITHIN THE PROJECT DISTURB LIMITS

- **WATER / SEWER**
Sanitation District 1, Northern Kentucky Water District, City of Florence, and Boone County Water District has existing water and sewer mains within the limits of the project areas. These facilities are to remain and are **not to be disturbed**.
- **COMMUNICATIONS**
Cincinnati Bell, Charter Communications (Time Warner Cable, Spectrum), Century Link, and MCI Communications has underground and overhead facilities within the limits of the project areas. These facilities are to remain and are **not to be disturbed**.
- **GAS / ELECTRIC**
Duke Energy has underground and overhead facilities within the limits of the project areas. These facilities are to remain and are **not to be disturbed**.

CAUTION: At the intersection of KY 18 and Commerce Dr., hand-digging excavation is required in the areas of the underground gas main.

At the intersection of KY 18 and Ridge Rd., there is 6" waterline, gas main, and fiber optic line in the area of the proposed pedestal pole. Do not disturb any underground facility where proposed pedestal pole or conduits cross the underground utility.

THE FOLLOWING COMPANIES ARE RELOCATING/ADJUSTING THEIR UTILITIES WITHIN THE PROJECT LIMITS AND WILL BE COMPLETE PRIOR TO CONSTRUCTION

N/A

THE FOLLOWING COMPANIES HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE COMPANY OR THE COMPANY'S SUBCONTRACTOR AND IS TO BE COORDINATED WITH THE ROAD CONTRACT

The adjustment of gas valve boxes shall be coordinated with Duke Energy at the intersection of KY 18 and Commerce Drive. Provide Duke Energy minimum of two week notice.

THE FOLLOWING COMPANIES HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE ROAD CONTRACTOR AS INCLUDED IN THIS CONTRACT

N/A

THE FOLLOWING RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED

- No Rail Involved** **Minimal Rail Involved (See Below)** **Rail Involved (See Below)**

UTILITIES AND RAIL CERTIFICATION NOTE

**Improvements at Various Intersections
in Boone & Campbell Counties
HSIP 8217(004), HSIP 8177(003), HSIP 8126(011)
Item Numbers: 6-9022.10, 6-9022.20, & 6-9022.30**

UNDERGROUND FACILITY DAMAGE PROTECTION – BEFORE YOU DIG

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. The contractor is instructed to contact KY 811 for the location of existing underground utilities. Contact shall be made a minimum of two (2) and no more than ten (10) business days prior to excavation.

The contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY 811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom are to be contacted through their individual Protection Notification Center. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area. Non-compliance with these directives can result in the enforcement of penalties.

SPECIAL CAUTION NOTE – PROTECTION OF UTILITIES

The contractor will be responsible for contacting all utility facility owners on the subject project to coordinate his activities. The contractor will coordinate his activities to minimize and, where possible, avoid conflicts with utility facilities. Due to the nature of the work proposed, it is unlikely to conflict with the existing utilities beyond minor facility adjustments. Where conflicts with utility facilities are unavoidable, the contractor will coordinate any necessary relocation work with the facility owner and Resident Engineer. The Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs.

The utility facilities as noted in the previous section(s) have been determined using data garnered by varied means and with varying degrees of accuracy: from the facility owners, a result of S.U.E., field inspections, and/or reviews of record drawings. The facilities defined may not be inclusive of all utilities in the project scope and are not Level A quality, unless specified as such. It is the contractor's responsibility to verify all utilities and their respective locations before excavating.

Please Note: The information presented in this Utility Note is informational in nature and the information contained herein is not guaranteed.

UTILITIES AND RAIL CERTIFICATION NOTE

**Improvements at Various Intersections
in Boone & Campbell Counties
HSIP 8217(004), HSIP 8177(003), HSIP 8126(011)
Item Numbers: 6-9022.10, 6-9022.20, & 6-9022.30**

AREA UTILITIES CONTACT LIST

CONTACT INFORMATION WILL BE PROVIDED AT THE PRECONSTRUCTION MEETING

MATERIAL SUMMARY

CONTRACT ID: 224421

121GR22T009-HSIP

0600800182101

BURLINGTON PIKE (KY 18) INTERSECTION AND CORRIDOR IMPROVEMENTS TO REDUCE CONFLICT POINTS AND ENHANCE SAFETY ALONG KY 18 FROM GREENVIEW DR TO EWING BLVD SIGNS-LIGHTING-SIGNALS, A DISTANCE OF 1.08 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0195	00001	DGA BASE	125.00	TON
0200	00342	CL4 ASPH SURF 0.38A PG76-22	1,397.00	TON
0205	01811	STANDARD CURB AND GUTTER MOD	187.00	LF
0210	01920	STANDARD BARRIER MEDIAN TYPE 3 MOD	648.00	SQYD
0215	02073	JPC PAVEMENT-9 IN	538.00	SQYD
0220	02075	JPC PAVEMENT-6 IN	78.00	SQYD
0225	02677	ASPHALT PAVE MILLING & TEXTURING	1,451.00	TON
0230	02720	SIDEWALK-4 IN CONCRETE	9.00	SQYD
0235	02721	REMOVE CONCRETE SIDEWALK	3.00	SQYD
0240	03240	BASE FAILURE REPAIR	514.20	SQYD
0245	20430ED	SAW CUT	1,271.00	LF
0250	23158ES505	DETECTABLE WARNINGS	8.00	SQFT
0255	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING	7.70	TON
0260	02159	TEMP DITCH	274.00	LF
0265	02160	CLEAN TEMP DITCH	137.00	LF
0270	02200	ROADWAY EXCAVATION	232.00	CUYD
0275	02562	TEMPORARY SIGNS	500.00	SQFT
0280	02650	MAINTAIN & CONTROL TRAFFIC - (BOONE KY 18)	1.00	LS
0285	02671	PORTABLE CHANGEABLE MESSAGE SIGN	4.00	EACH
0290	02701	TEMP SILT FENCE	274.00	LF
0295	02703	SILT TRAP TYPE A	1.00	EACH
0300	02704	SILT TRAP TYPE B	1.00	EACH
0305	02705	SILT TRAP TYPE C	1.00	EACH
0310	02706	CLEAN SILT TRAP TYPE A	1.00	EACH
0315	02707	CLEAN SILT TRAP TYPE B	1.00	EACH
0320	02708	CLEAN SILT TRAP TYPE C	1.00	EACH
0325	02726	STAKING - (BOONE KY 18)	1.00	LS
0330	05952	TEMP MULCH	1,856.00	SQYD
0335	05963	INITIAL FERTILIZER	.10	TON
0340	05964	MAINTENANCE FERTILIZER	.14	TON
0345	05985	SEEDING AND PROTECTION	2,785.00	SQYD
0350	05992	AGRICULTURAL LIMESTONE	1.73	TON
0355	06406	SBM ALUM SHEET SIGNS .080 IN	326.00	SQFT
0360	06407	SBM ALUM SHEET SIGNS .125 IN	21.00	SQFT
0365	06410	STEEL POST TYPE 1	303.50	LF
0370	06490	CLASS A CONCRETE FOR SIGNS	3.75	CUYD
0375	06511	PAVE STRIPING-TEMP PAINT-6 IN	9,225.00	LF
0380	06514	PAVE STRIPING-PERM PAINT-4 IN	726.00	LF
0385	06541	PAVE STRIPING-THERMO-4 IN Y	1,076.00	LF
0390	06542	PAVE STRIPING-THERMO-6 IN W	7,873.00	LF
0395	06543	PAVE STRIPING-THERMO-6 IN Y	7,316.00	LF
0400	06546	PAVE STRIPING-THERMO-12 IN W	1,571.00	LF
0405	06547	PAVE STRIPING-THERMO-12 IN Y	144.00	LF

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0410	06565	PAVE MARKING-THERMO X-WALK-6 IN	840.00	LF
0415	06568	PAVE MARKING-THERMO STOP BAR-24IN	472.00	LF
0420	06569	PAVE MARKING-THERMO CROSS-HATCH	786.00	SQFT
0425	06574	PAVE MARKING-THERMO CURV ARROW	36.00	EACH
0430	06576	PAVE MARKING-THERMO ONLY	4.00	EACH
0435	06598	PAVEMENT MARKING REMOVAL	501.00	SQFT
0440	20418ED	REMOVE & RELOCATE SIGNS	1.00	EACH
0445	21373ND	REMOVE SIGN	10.00	EACH
0450	21596ND	GMSS TYPE D	15.00	EACH
0455	21596ND	GMSS TYPE D - SURFACE MOUNT	2.00	EACH
0460	22400NN	REMOVE AND RELOCATE SIGN ASSEMBLY	1.00	EACH
0465	22664EN	WATER BLASTING EXISTING STRIPE	3,104.25	LF
0470	22680EN	QWICK CURB MEDIAN SEPARATOR	2,119.00	LF
0475	24631EC	BARCODE SIGN INVENTORY	60.00	EACH
0480	24894EC	REMOVE - (Pavement marker lens)	12.00	EACH
0485	00520	STORM SEWER PIPE-12 IN	232.00	LF
0490	01310	REMOVE PIPE	48.00	LF
0495	01458	CURB BOX INLET TYPE A T	1.00	EACH
0500	01545	DROP BOX INLET TYPE 11 MOD	1.00	EACH
0505	01585	REMOVE DROP BOX INLET	1.00	EACH
0510	02607	FABRIC-GEOTEXTILE CLASS 2 FOR PIPE	271.00	SQYD
0515	03262	CLEAN PIPE STRUCTURE	1.00	EACH
0520	05953	TEMP SEEDING AND PROTECTION	1,392.00	SQYD
0525	20569ES710	DROP BOX INLET TY 13G(MOD)	3.00	EACH
0530	23484EC	PIPE LINER ACCEPTANCE TESTING	1.00	LS
0535	24814EC	PIPELINE INSPECTION	288.00	LF
0540	04792	CONDUIT-1 IN	10.00	LF
0545	04793	CONDUIT-1 1/4 IN	20.00	LF
0550	04811	ELECTRICAL JUNCTION BOX TYPE B	1.00	EACH
0555	04820	TRENCHING AND BACKFILLING	65.00	LF
0560	04830	LOOP WIRE	1,538.00	LF
0565	04844	CABLE-NO. 14/5C	705.00	LF
0570	04850	CABLE-NO. 14/1 PAIR	15.00	LF
0575	04895	LOOP SAW SLOT AND FILL	424.00	LF
0580	20188NS835	INSTALL LED SIGNAL-3 SECTION	14.00	EACH
0585	20189NS835	INSTALL LED SIGNAL-5 SECTION	2.00	EACH
0590	20266ES835	INSTALL LED SIGNAL- 4 SECTION	1.00	EACH
0595	20360ES818	WOOD POST	2.00	EACH
0600	20468EC	ELECTRICAL JUNCTION BOX-10 X 8 X 4	2.00	EACH
0605	21743NN	INSTALL PEDESTRIAN DETECTOR	2.00	EACH
0610	23222EC	INSTALL SIGNAL PEDESTAL	1.00	EACH
0615	24900EC	PVC CONDUIT-1 1/4 IN-SCHEDULE 80	40.00	LF
0620	24955ED	REMOVE SIGNAL EQUIPMENT	1.00	EACH
0625	24963ED	LOOP TEST	2.00	EACH
0630	02569	DEMOBILIZATION	1.00	LS

MATERIAL SUMMARY

CONTRACT ID: 224421**121GR22T009-HSIP****0600808422101**

HOUSTON ROAD (KY 842) UPDATE THE TRAFFIC SIGNAL TO INCLUDE REFLECTIVE BACKPLATES, UPDATE THE STRIPING AND SIGNING AT THE INTERSECTION OF KY 842 AND KY 717/RAMPS THERMOPLASTIC PAVEMENT STRIPING, A DISTANCE OF .21 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0005	02650	MAINTAIN & CONTROL TRAFFIC	1.00	LS
0010	02726	STAKING	1.00	LS
0015	06406	SBM ALUM SHEET SIGNS .080 IN	222.56	SQFT
0020	06407	SBM ALUM SHEET SIGNS .125 IN	51.67	SQFT
0025	06410	STEEL POST TYPE 1	315.00	LF
0030	06490	CLASS A CONCRETE FOR SIGNS	2.75	CUYD
0035	06542	PAVE STRIPING-THERMO-6 IN W	8,192.00	LF
0040	06543	PAVE STRIPING-THERMO-6 IN Y	3,094.00	LF
0045	06546	PAVE STRIPING-THERMO-12 IN W	382.00	LF
0050	06565	PAVE MARKING-THERMO X-WALK-6 IN	486.00	LF
0055	06568	PAVE MARKING-THERMO STOP BAR-24IN	298.00	LF
0060	06569	PAVE MARKING-THERMO CROSS-HATCH	70.00	SQFT
0065	06573	PAVE MARKING-THERMO STR ARROW	4.00	EACH
0070	06574	PAVE MARKING-THERMO CURV ARROW	53.00	EACH
0075	06575	PAVE MARKING-THERMO COMB ARROW	8.00	EACH
0080	06598	PAVEMENT MARKING REMOVAL	820.50	SQFT
0085	21373ND	REMOVE SIGN	18.00	EACH
0090	21417ES717	PAVE MARK THERMO CONE CAP-SOLID YELLOW	26.00	SQFT
0095	21596ND	GMSS TYPE D	11.00	EACH
0100	22664EN	WATER BLASTING EXISTING STRIPE	267.00	LF
0105	24631EC	BARCODE SIGN INVENTORY	73.00	EACH
0110	04792	CONDUIT-1 IN	15.00	LF
0115	04811	ELECTRICAL JUNCTION BOX TYPE B	1.00	EACH
0120	04820	TRENCHING AND BACKFILLING	31.00	LF
0125	04830	LOOP WIRE	1,376.00	LF
0130	04850	CABLE-NO. 14/1 PAIR	60.00	LF
0135	04895	LOOP SAW SLOT AND FILL	538.00	LF
0140	20188NS835	INSTALL LED SIGNAL-3 SECTION	13.00	EACH
0145	20266ES835	INSTALL LED SIGNAL- 4 SECTION	1.00	EACH
0150	24901EC	PVC CONDUIT-2 IN-SCHEDULE 80	16.00	LF
0155	24955ED	REMOVE SIGNAL EQUIPMENT	1.00	EACH
0160	24963ED	LOOP TEST	4.00	EACH
0165	02569	DEMOBILIZATION	1.00	LS

MATERIAL SUMMARY

CONTRACT ID: 224421

121GR22T009-HSIP

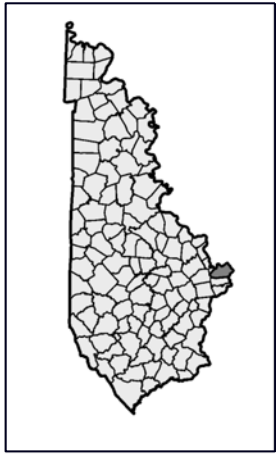
0601918922101

CAROTHERS ROAD (KY 1892) UPDATE THE TRAFFIC SIGNAL TO INCLUDE REFLECTIVE BACKPLATES AND CONVERT KY 1892 EB AND WB LEFT TURN SIGNAL TO PROTECTED ONLY AT THE INTERSECTION OF KY 1892 AND NEWPORT PAVILLION SIGNS-LIGHTING-SIGNALS, A DISTANCE OF .04 MILES.

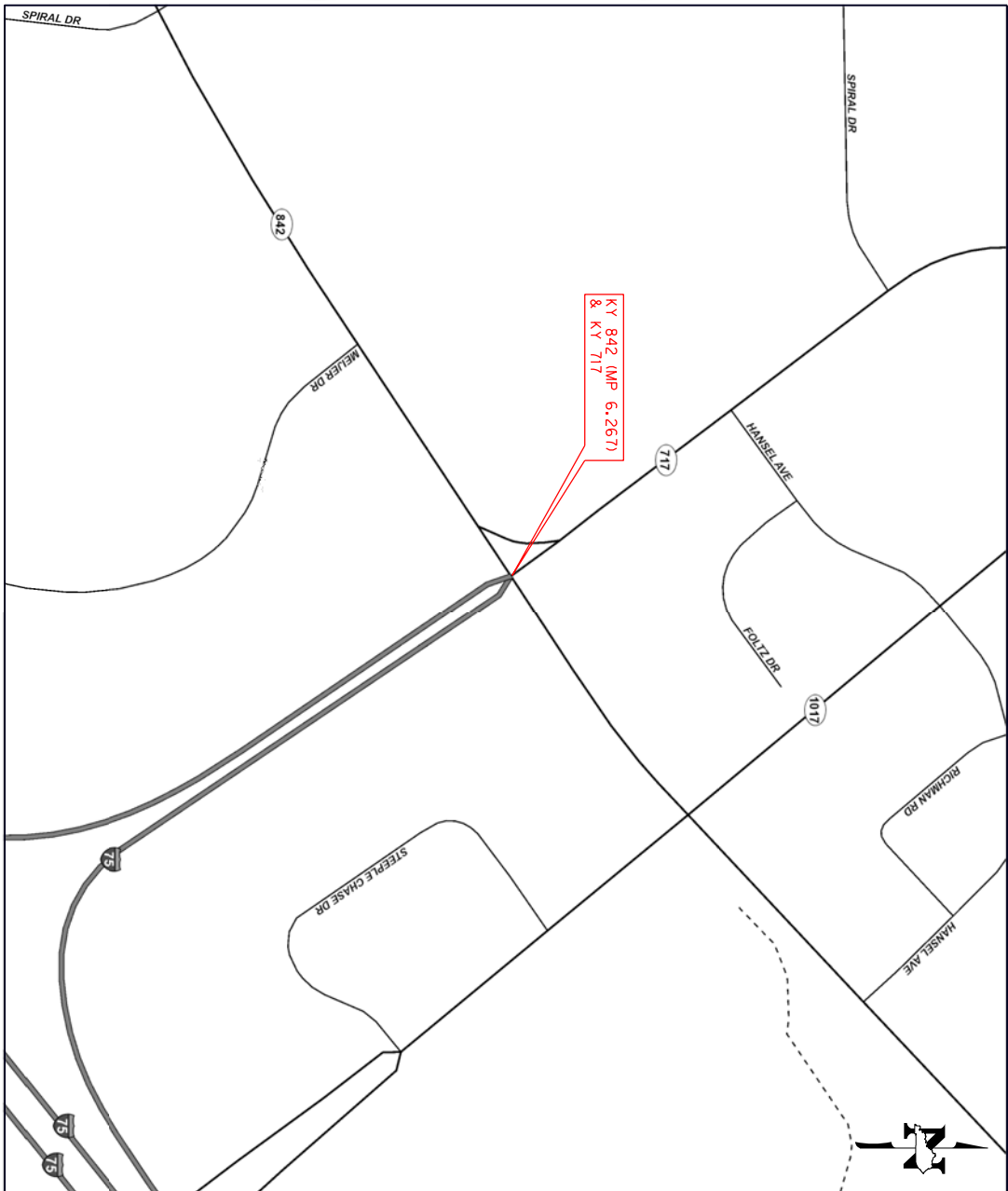
Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0170	02650	MAINTAIN & CONTROL TRAFFIC	1.00	LS
0175	20188NS835	INSTALL LED SIGNAL-3 SECTION	14.00	EACH
0180	20189NS835	INSTALL LED SIGNAL-5 SECTION	2.00	EACH
0185	24955ED	REMOVE SIGNAL EQUIPMENT	1.00	EACH
0190	02569	DEMOBILIZATION	1.00	LS

BOONE COUNTY Intersection Improvement at KY 842 (Houston Road) and KY 717 (Thoroughbred Blvd) & I-75 SB Ramps

COUNTY OF	ITEM NO.
BOONE	6-9022.10



Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
PLANS OF
PROPOSED PROJECT
BOONE COUNTY
KY 842



BOONE COUNTY
KY 842 (HOUSTON RD) MP 6.267
@ KY 717 (THOROUGHbred BLVD) & SB I-75 RAMPS
ITEM NO. 6-9022.10
GENERAL SUMMARY

ITEM NUMBER	ITEM	UNIT	QUANTITY
2569	DEMOBILIZATION	LS	1
2650	MAINTAIN & CONTROL TRAFFIC (KY 842 @ KY 717)	LS	1
2726	STAKING (KY 842 @ KY 717)	LS	1
4792	CONDUIT 1 INCH (RIGID STEEL) (5)	LF	15
4811	ELECTRICAL JUNCTION BOX TYPE B (5)	EACH	1
4820	TRENCHING AND BACKFILLING (5)	LF	31
4830	LOOP WIRE (5)	LF	1,376
4850	CABLE-NO. 14/1 PAIR (5)	LF	60
4895	LOOP SAW SLOT AND FILL (5)	LF	538
6406	SBM ALUM SHEET SIGNS .080 IN (4)	SQFT	222.56
6407	SBM ALUM SHEET SIGNS .125 IN (4)	SQFT	51.67
6410	STEEL POST TYPE 1 (4)	LF	315
6490	CLASS A CONCRETE FOR SIGNS (4)	CUYD	2.75
6542	PAVE STRIPING-THERMO-6 IN W (2)	LF	184
6568	PAVE MARKING-THERMO STOP BAR-24IN (2)	LF	48
6574	PAVE MARKING-THERMO CURV ARROW (2)	EACH	8
6575	PAVE MARKING-THERMO COMB ARROW (2)	EACH	8
6598	PAVEMENT MARKING REMOVAL (2)	SQFT	402
20188NS835	INSTALL LED SIGNAL - 3 SECTION (1)	EACH	13
20266ES835	INSTALL LED SIGNAL - 4 SECTION (1)	EACH	1
21373ND	REMOVE SIGN (4)	EACH	18
21596ND	GMSS TYPE D (4)	EACH	11
22664EN	WATER BLASTING EXISTING STRIPE (2)	LF	177
24631EC	BARCODE SIGN INVENTORY (4)	EACH	73
24901EC	PVC CONDUIT - 2 INCH - SCHEDULE 80 (5)	LF	16
24955ED	REMOVE SIGNAL EQUIPMENT (KY 842 @ KY 717) (3)	EACH	1
24963ED	LOOP TEST (5)	EACH	4
(1)	CARRIED OVER FROM THE SIGNAL SUMMARY		
(2)	CARRIED OVER FROM THE STRIPING / PAVEMENT MARKING SUMMARY		
(3)	INCLUDES REMOVAL OF 14 EXISTING SIGNS ON SPAN WIRES		
(4)	CARRIED OVER FROM SIGNING SUMMARY		
(5)	CARRIED OVER FROM TRAFFIC LOOP SUMMARY		

BOONE COUNTY KY 842 (HOUSTON RD) AND I-75/I-71 SB RAMPS / KY 717 ITEM NO. 6-9022.10 STRIPING / PAVEMENT MARKING SUMMARY PAGE 1 of 2					
WATER BLASTING					
BEGIN		END		LENGTH	LF
STATION	OFFSET	STATION	OFFSET		
I-75/I-71 SB OFF RAMPS APPROACH					
Single Solid White Line (WATER BLASTING EXISTING STRIPE)					
225+25	12' LEFT	225+50	12' LEFT	25	25
225+25	0'	225+50	0'	25	25
225+25	12' RIGHT	225+50	12' RIGHT	25	25
225+10	12' RIGHT	225+50	34' RIGHT	45	45
224+88	24' RIGHT	225+39	47' RIGHT	57	57
PAVEMENT MARKING REMOVAL					
STATION	OFFSET	DESCRIPTION		SF	
I-75/I-71 SB OFF RAMPS APPROACH					
223+30 TO 224+90	18' LEFT	LEFT TURN ARROWS - THREE (3)		46.5	
223+30 TO 224+90	6' LEFT	LEFT/THRU COMBO ARROW - THREE (3)		76.5	
223+30 TO 224+90	6' RIGHT	RIGHT/THRU COMBO ARROW - THREE (3)		76.5	
223+30 TO 224+90	18' RIGHT	RIGHT TURN ARROWS - THREE (3)		46.5	
225+50	24' LEFT TO 46' RIGHT	STOP BAR - 78 LF		156	

BOONE COUNTY KY 842 (HOUSTON RD) AND I-75/I-71 SB RAMPS / KY 717 ITEM NO. 6-9022.10 STRIPING / PAVEMENT MARKING SUMMARY PAGE 2 of 2					
PROPOSED STRIPING					
BEGIN		END		LENGTH	LF
STATION	OFFSET	STATION	OFFSET		
I-75/I-71 SB OFF RAMPS APPROACH					
6" Dotted Lane Line Extensions (PAVE STRIPING-THERMO-6 IN W)					
225+25	12' RIGHT	225+62	53' RIGHT	57	25
225+25	12' LEFT	225+50	53' RIGHT	25	11
6" Single Solid White Line (PAVE STRIPING-THERMO-6 IN W)					
223+27	12' LEFT	223+57	12' LEFT	30	30
223+27	12' RIGHT	223+57	12' RIGHT	30	30
224+88	24' RIGHT	225+23	24' RIGHT	35	35
225+25	24' RIGHT	225+53	66' RIGHT	53	53
PROPOSED PAVEMENT MARKING - THERMO STOP BAR - 24 IN					
STATION	OFFSET	DESCRIPTION			LF
225+25	24' LEFT TO 24' RIGHT	I-75/I-71 SB OFF RAMPS APPROACH			48
PROPOSED PAVEMENT MARKING - THERMO ARROWS					
STATION		OFFSET	DESCRIPTION	EACH	
BEGIN	END				
I-75/I-71 SB OFF RAMPS APPROACH					
222+70	224+80	18' LEFT	FOUR (4) LEFT TURN ARROWS - THERMO	4	
222+70	224+80	6' LEFT	FOUR (4) LEFT/THRU COMBO ARROWS - THERMO	4	
222+70	224+80	6' RIGHT	FOUR (4) RIGHT/THRU COMBO ARROWS - THERMO	4	
222+70	224+80	18' RIGHT	FOUR (4) RIGHT TURN ARROWS - THERMO	4	

STRIPING / PAVEMENT MARKING SUMMARY			
BID ITEM	DESCRIPTION	UNIT	QUANTITY
6542	PAVE STRIPING-THERMO-6 IN W	LF	184
6568	PAVE MARKING-THERMO STOP BAR-24 IN	LF	48
6574	PAVE MARKING-THERMO CURV ARROW	EACH	8
6575	PAVE MARKING-THERMO COMB ARROW	EACH	8
6598	PAVEMENT MARKING REMOVAL	SQFT	402
22664EN	WATER BLASTING EXISTING STRIPE	LF	177

Assembly ID	Side of Road	Approx. Offset (ft)	Approx. Station	Approx. Mile Point	Facing Traffic Traveling	MUTCD Code	Sign Description	Sign Text / Remarks	Sign Dimensions (in x in)	SHEETING		SMB Alum Sheet Sigs (0.080 IN (SQ FT))	SBM Alum Sheet Sigs (0.125 IN (SQ FT))	Installation Type	Bracing Req'd	# of Sign Posts	Estimated Length of 2" Post (ft)	Estimated Length of 2-1/2" Post (ft)	3-1/4" Stiffener Req'd (Includ to post)	TOTAL Estimated Sign Post Length (LF)	Barcode Sign Inv. (Each)	
										Text/ Symbol Color	Background Color											
5-4	RT	61	61+64	1.167	EB	R3-7/8	Right Lane Mark Turn Right	KY 842	36 x 36	Black	White	900		Snd w/ Soil Plate		1	14				14	1
										EB	White											
										EB	Blue & Red											
										EB	White											
										EB	Blue & Red											
										EB	White											
										EB	Blue & Red											
										EB	White											
										EB	Blue & Red											
										EB	White											
										EB	Blue & Red											
										5-9	RT											
EB	White																					
EB	Blue & Red																					
EB	White																					
EB	Blue & Red																					
EB	White																					
EB	Blue & Red																					
EB	White																					
EB	Blue & Red																					
EB	White																					
EB	Blue & Red																					
5-11	RT	35	218+40	RAMMP	NB	R3-8B, MOD	Lane Control Sign		64 x 33			Black	White	219	14.67	Snd w/ Soil Plate		2	13.75			
										EB	White											
										EB	Blue & Red											
										EB	White											
										EB	Blue & Red											
										EB	White											
										EB	Blue & Red											
										EB	White											
										EB	Blue & Red											
										EB	White											
										EB	Blue & Red											
										5-12	RT	35	220+25									
EB	White																					
EB	Blue & Red																					
EB	White																					
EB	Blue & Red																					
EB	White																					
EB	Blue & Red																					
EB	White																					
EB	Blue & Red																					
EB	White																					
EB	Blue & Red																					
5-13	RT	35	220+25	RAMMP	NB	M4-5	State Route Sign (3 or 4 digit)	KY 1017	30 x 24					Black	White	200		Type D	Yes	1	15.25	
										EB	White											
										EB	Blue & Red											
										EB	White											
										EB	Blue & Red											
										EB	White											
										EB	Blue & Red											
										EB	White											
										EB	Blue & Red											
										EB	White											
										EB	Blue & Red											
										5-19	RT	55	67+00	1.269	EB							
EB	Blue & Red																					
EB	White																					
EB	Blue & Red																					
EB	White																					
EB	Blue & Red																					
EB	White																					
EB	Blue & Red																					
EB	White																					
EB	Blue & Red																					
EB	White																					
5-23	RT	88	71+13	1.347	EB	M1-1	Interstate Route Sign (2-digit)	I-75	24 x 24							White	Blue & Red	400		Type D	Yes	1
										EB	Blue & Red											
										EB	White											
										EB	Blue & Red											
										EB	White											
										EB	Blue & Red											
										EB	White											
										EB	Blue & Red											
										EB	White											
										EB	Blue & Red											
										EB	White											
										5-24	LT	66	69+73	1.321	WB	M2-1	Junction					
WB	Blue & Red																					
WB	White																					
WB	Blue & Red																					
WB	White																					
WB	Blue & Red																					
WB	White																					
WB	Blue & Red																					
WB	White																					
WB	Blue & Red																					
WB	White																					
5-29	LT	68	66+41	1.258	WB	M3-3	Right Arrow	I-71	24 x 15									Black	White	219		Type D
										WB	White											
										WB	Blue & Red											
										WB	White											
										WB	Blue & Red											
										WB	White											
										WB	Blue & Red											
										WB	White											
										WB	Blue & Red											
										WB	White											
										WB	Blue & Red											
										5-32	LT	48	203+53	KY 717	WB	M1-1	Interstate Route Sign (2-digit)	I-75	24 x 24			
WB	Blue & Red																					
WB	White																					
WB	Blue & Red																					
WB	White																					
WB	Blue & Red																					
WB	White																					
WB	Blue & Red																					
WB	White																					
WB	Blue & Red																					
WB	White																					
5-34	LT	55	202+70	KY 717	WB	M3-3	Straight Arrow	Destination (3 lines)	72 x 42											White	Green	219
										WB	White											
										WB	Blue & Red											
										WB	White											
										WB	Blue & Red											
										WB	White											
										WB	Blue & Red											
										WB	White											
										WB	Blue & Red											
										WB	White											
										WB	Blue & Red											

Sign Summary

BOONE County

KY 842 @ KY 717 & I-75/I-71 SB RAMPS

Sign Summary

BOONE County

KY 842 @ KY 717 & I-75/I-71 SB RAMPS

Assembly ID	Side of Road	Approx. Offset (ft)	Approx. Station	Approx. Mile Point	Facing Traffic Traveling	MUTCD Code	Sign Description	Sign Text / Remarks	Sign Dimensions (in x in)	SHEETING		SBM Alum Sheet Signs (SQ FT)	SBM Alum Sheet Signs (SQ FT)	Installation Type	Bracing Req'd	# of Sign Posts	Estimated Length of 2'-1/2" Post (ft)	Estimated Length of 3'-1/4" Stiffener Req'd (Includ to post)	TOTAL Estimated Sign Post Length (LF)	Barcode Sign Inv. (EACH)				
										Text/Symbol Color	Background Color										Sheeting Type	Sheet Signs (SQ FT)		
5-35	LT	55	200-95	KY 717	SB	M1-5a	State Route Sign (3 or 4 digit)	KY 842	30 x 24	Black	White	XI	5.00								1			
					SB	M6-4	Horizontal Double Arrow		21 x 15	Black	White	XI	2.19										1	
					SB	M3-3	South		24 x 12	Black	White	XI	2.00											1
					SB	M1-1	Interstate Route Sign (2-digit)		24 x 24	White	Blue & Red	XI	4.00											1
					SB	M2-1	Interstate Route Sign (2-digit)		24 x 24	White	Blue	XI	4.00											1
					SB	M6-3	Interstate Route Sign (2-digit)		24 x 15	White	Blue	XI	2.19											1
					SB	M4-5	Straight Arrow		24 x 12	Black	White	XI	2.00											1
					SB	M3-1	North		24 x 12	White	Blue	XI	2.00											1
					SB	M1-1	Interstate Route Sign (2-digit)		24 x 24	White	Blue	XI	4.00											1
					SB	M1-1	Interstate Route Sign (2-digit)		24 x 24	White	Blue	XI	4.00											1
					SB	M6-1L	Left Arrow	I-71	21 x 15	Black	White	XI	2.19							1				

Remove Sign			
Assembly ID	Number of Sign Assemblies		
54	1		
58	4		
59	1		
510	1		
512	1		
513	1		
523	1		
526	1		
529	3		
533	1		
535	3		
Total	18		

Summary of Items			
SBM Alum Sheet Signs 0.080 INCH	222.56	SQ FT	
SBM Alum Sheet Signs 0.125 INCH	51.67	SQ FT	
Barcode Sign Inventory	73	EACH	
Remove Sign	18	EACH	

Summary of Items			
Steel Post - Type 1	315	LF	
GMSS Type D	11	EACH	
Class A Concrete for Signs	2.75	CU YD	

Signal Head Replacements for: KY 842 @ KY 717 / I-75 SB Ramps

REPLACE EXISTING SIGNAL HEADS

SIGNAL HEAD NUMBER	STATION*	OFFSET*	DESCRIPTION
1A	64+69	5' RT	3 Section with LT Turn Arrows and Reflective Backplate
1B	64+69	7' LT	3 Section with LT Turn Arrows and Reflective Backplate
6A	64+70	19' LT	3 Section with Reflective Backplate
6B	64+70	31' LT	3 Section with Reflective Backplate
8B	65+21	80' RT	3 Section with Reflective Backplate
8A	65+33	80' RT	3 Section with Reflective Backplate
3	65+45	80' RT	3 Section with LT Turn Arrows and Reflective Backplate
7	65+49	78' LT	3 Section with LT Turn Arrows and Reflective Backplate
4A	65+61	78' LT	4 Section with Reflective Backplate
4B	65+73	78' LT	3 Section with Reflective Backplate
5A	66+13	6' LT	3 Section with LT Turn Arrows and Reflective Backplate
5B	66+14	6' RT	3 Section with LT Turn Arrows and Reflective Backplate
2A	66+15	18' RT	3 Section with Reflective Backplate
2B	66+16	30' RT	3 Section with Reflective Backplate

* STATION AND OFFSET ARE APPROXIMATE AND ARE FOR INFORMATION ONLY. ALIGN SIGNAL HEADS WITH EXISTING SPAN WIRES AND DRIVING LANES.

NOTE: THESE NUMBERS ARE FOR ESTIMATE PURPOSES ONLY. FINAL LOCATIONS AND QUANTITIES WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

SIGNAL HEAD REPLACEMENTS

Signal Heads For WB KY 842

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Green Ball	Green Arrow
3 Section with LT Turn Arrows and Reflective Backplate (1A)		1		1		1
3 Section with LT Turn Arrows and Reflective Backplate (1B)		1		1		1
3 Section with Reflective Backplate (6A)	1		1		1	
3 Section with Reflective Backplate (6B)	1		1		1	
Totals	2	2	2	2	2	2

ALL QUANTITIES ARE CARRIED OVER TO GENERAL SUMMARY

Signal Heads For EB KY 842

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Green Ball	Green Arrow
3 Section with LT Turn Arrows and Reflective Backplate (5A)		1		1		1
3 Section with LT Turn Arrows and Reflective Backplate (5B)		1		1		1
3 Section with Reflective Backplate (2A)	1		1		1	
3 Section with Reflective Backplate (2B)	1		1		1	
Totals	2	2	2	2	2	2

Signal Heads For NB I-75 Ramps

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Green Ball	Green Arrow
4 Section with Reflective Backplate (4A)	1		1		1	1
3 Section with Reflective Backplate (4B)	1		1		1	
3 Section with LT Turn Arrows and Reflective Backplate (7)		1		1		1
Totals	2	1	2	1	2	2

Signal Heads For SB KY 717

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Green Ball	Green Arrow
3 Section with LT Turn Arrows and Reflective Backplate (3)		1		1		1
3 Section with Reflective Backplate (8A)	1		1		1	
3 Section with Reflective Backplate (8B)	1		1		1	
Totals	2	1	2	1	2	1

Remove Existing Signs on Span Wires (14 TOTAL)

	R3-5a	R3-5R	R3-5L	R3-6L	R3-6R
Span A-B	2		1		
Span B-C	2	1 (DND)	2		
Span C-D			1	1	1
Span D-A	2	1 (DND)	2		

INCIDENTAL TO REMOVE SIGNAL EQUIPMENT



R3-6R



R3-6L



R3-5a



R3-5R



R3-5L

**BOONE COUNTY
TRAFFIC LOOP SUMMARY
ITEM NO. 6-9022.10
LOOP SUMMARY FOR RELOCATION OF STOP BAR ON I-71/I-75 SB RAMPS**

INTERSECTION	SAW, SLOT AND FILL LF	LOOP WIRE LF	CONDUIT 1 INCH LF	PVC		CABLE NO. 14 LF	JUNCTION TYPE B EA	Trenching and Backfilling LF	Loop Test EA	NOTES
				CONDUIT 2 INCH LF	CONDUIT 1 INCH LF					
I-75 RAMPS @ KY 842 & KY 717										
I-75 RAMPS (PHASE 4 & 7)	538	1376	15	16		60	1	31	4	4 - 6X30 STOP BAR LOOP
Total	538	1376	15	16	60	1	31	4		

- Quantities are for estimating purposes only. The Contractor shall field measure and inspect items to verify quantities.
- 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. specifications.

Grand Total	SAW, SLOT AND FILL LF	LOOP WIRE LF	CONDUIT 1 INCH LF	PVC		CABLE NO. 14 LF	JUNCTION TYPE B EA	Trenching and Backfilling LF	Loop Test EA
				CONDUIT 2 INCH LF	CONDUIT 1 INCH LF				
538	1376	15	16	60	1	31	4		

Jeff Wolfe - Director

DIVISION OF TRAFFIC OPERATIONS
PROJECT MATERIALS RELEASE FORM
FOR SIGNALS AND LIGHTING

Phone (502) 564-3020
FAX (502) 564-7759

Note: Email form with signatures to KYTC's warehouse (kim.stamper@ky.gov) at least two (2) days prior to arrival for pickup. Ensure Contractor's delivery driver has a copy of form with signatures. Failure to do either may result in long delays or refusal to distribute materials upon arrival.

Item Number: 6-9022.10
County: Boone
Description: KY 842 @ KY 717 and I-71/75 SB Ramps
Reflective Backplate Signal Heads

Cabinets **Master code**

Signals		
13	T-02-0009	Siemens 3 Section Signal
13	T-02-0032	Siemen 3 section backplate
1	T-02-0033	Siemen 4 secton 12" signal (poly)
1	T-02-0043	Siemen 4-sec. straight signal backplate
6	T-02-0300	LED Module 12" red arrow
6	T-02-0310	LED Module 12" yellow arrow
7	T-02-0320	LED Module 12" green arrow
8	T-02-0330	LED Module 12" red ball
8	T-02-0340	LED Module 12" yellow ball
8	T-02-0350	LED Module 12" green ball

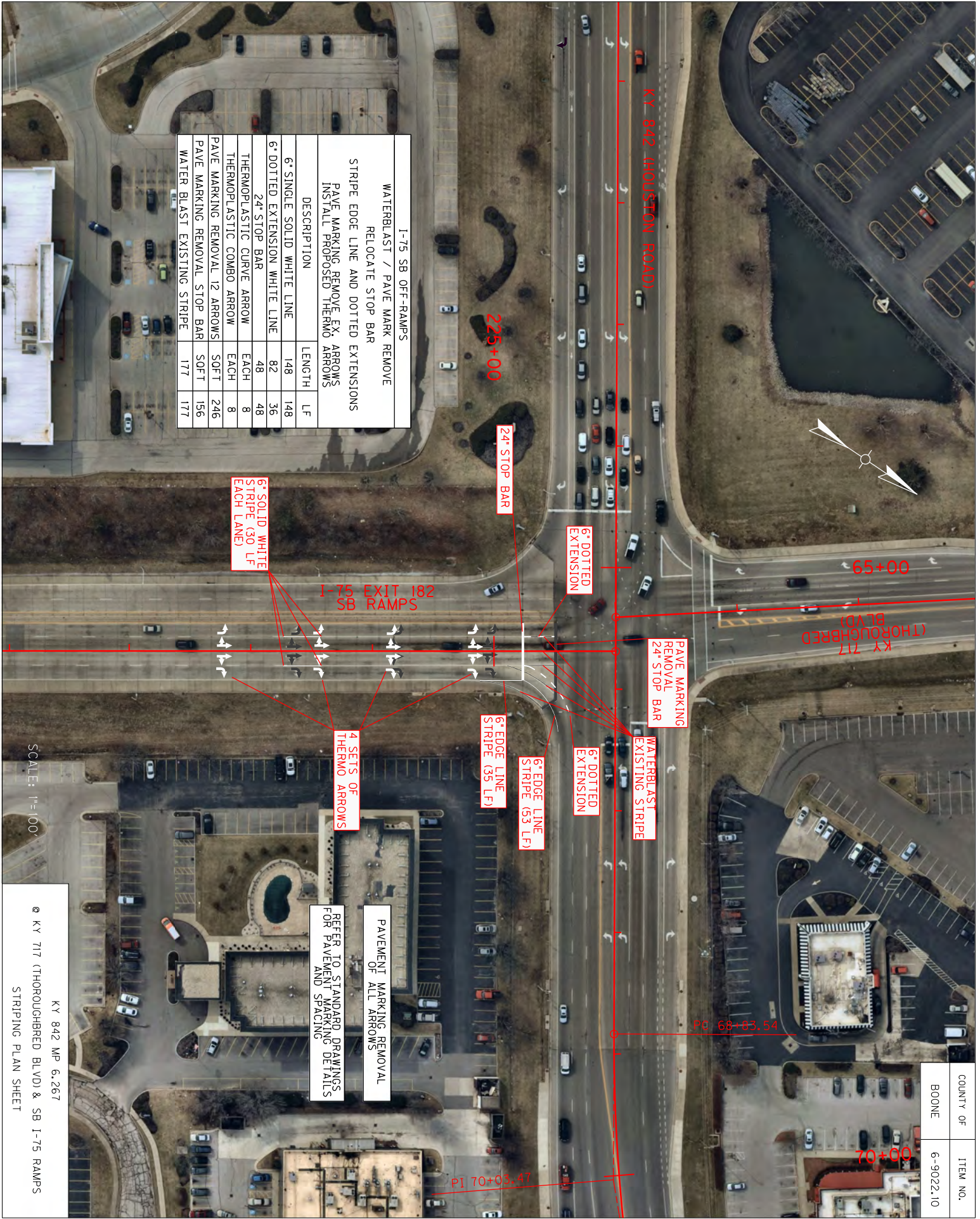
Special items

Poles

Electrical Contractor Name _____
Electrical Contractor Supervisor _____ Contact number for Supervisor _____
Project Engineer _____ Contact number for Project Engineer _____

Project Engineer attests that the mentioned contractor is the actual electrical contractor on this project

Signature of Project Engineer or Designee _____



DESCRIPTION	LENGTH	LF
1-75 SB OFF-RAMPS WATERBLAST / PAVE MARK REMOVE RELOCATE STOP BAR		
PAVE MARKING REMOVE EX INSTALL PROPOSED THERMO ARROWS		
6" SINGLE SOLID WHITE LINE	148	148
6" DOTTED EXTENSION WHITE LINE	82	36
24" STOP BAR	48	48
THERMOPLASTIC CURVE ARROW	EACH	8
THERMOPLASTIC COMBO ARROW	EACH	8
PAVE MARKING REMOVAL 12 ARROWS	SOFT	246
PAVE MARKING REMOVAL STOP BAR	SOFT	156
WATER BLAST EXISTING STRIPE	177	177

PAVEMENT MARKING REMOVAL
OF ALL ARROWS

PREFER TO STANDARD DRAWINGS
FOR PAVEMENT MARKING DETAILS
AND SPACING

4 SETS OF
THERMO ARROWS

6" SOLID WHITE
STRIPE (30 LF
EACH LANE)

SCALE: 1"=100'

KY 842 MP 6.267
KY 717 (THOROUGHBRD BLVD) & SB I-75 RAMPS
STRIPING PLAN SHEET

COUNTY OF	BOONE
ITEM NO.	6-9022.10



S9 REMOVE
REPLACE
REPLACE

SCALE: 1"=200'

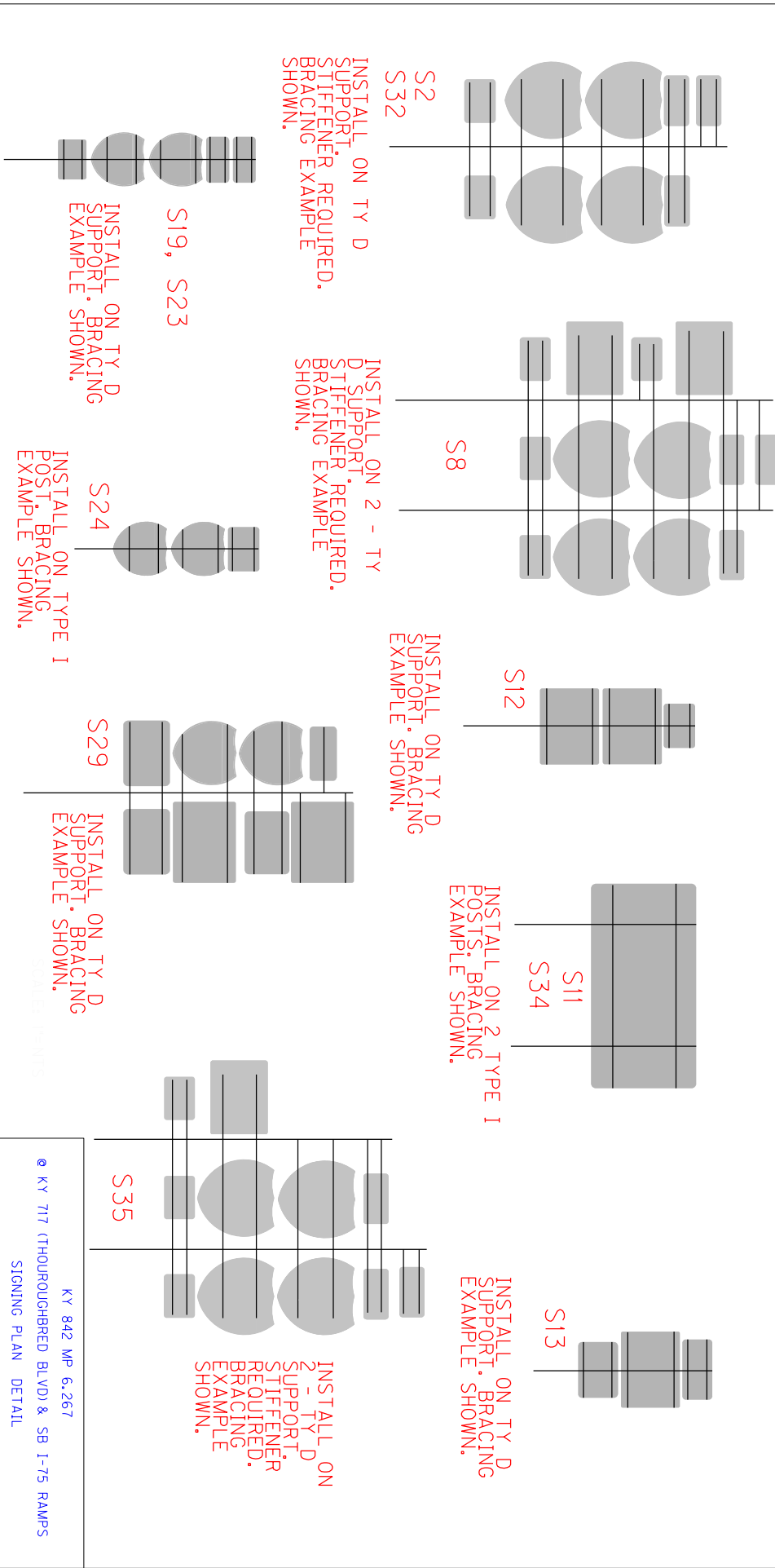
KY 842 MP 6.267
© KY 717 (THOROUGHbred BLVD) & SB I-75 RAMPS
SIGNING PLAN SHEET

COUNTY OF	BOONE	ITEM NO.	6-9022.10
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SIGN INFORMATION	
SIGN NUMBER	S34
QUANTITY	1
WIDTH	
HEIGHT	
AREA (Sq. Ft.)	
BORDER WIDTH	0.75"
BORDER RADIUS	3"
PANEL COLOR	GREEN
LEGEND/BORDER COLOR	WHITE
STATION(S)	202+70
PANEL MATERIAL	REFLECTIVE
LEGEND MATERIAL	REFLECTIVE

SIGN LOCATION / SUPPORT	
ROAD & MILE POINT	KY 717
TRAFFIC DIRECTION	SOUTH
SIDE OF ROAD	LT
MOUNTING STYLE	TYPE 1 POSTS
BEAM MATERIAL	
BEAM SIZE	
BEAM/POST LENGTH	1. = 14'-6"
BEAM/POST LENGTH	2. =
BEAM/POST LENGTH	3. =
BEAM/POST LENGTH	4. =
CONC 'A' =	
CONC 'B' =	



KY 842 MP 6.267
KY 717 (THOUROUGHRED BLVD) & SB I-75 RAMPS
SIGNING PLAN DETAIL

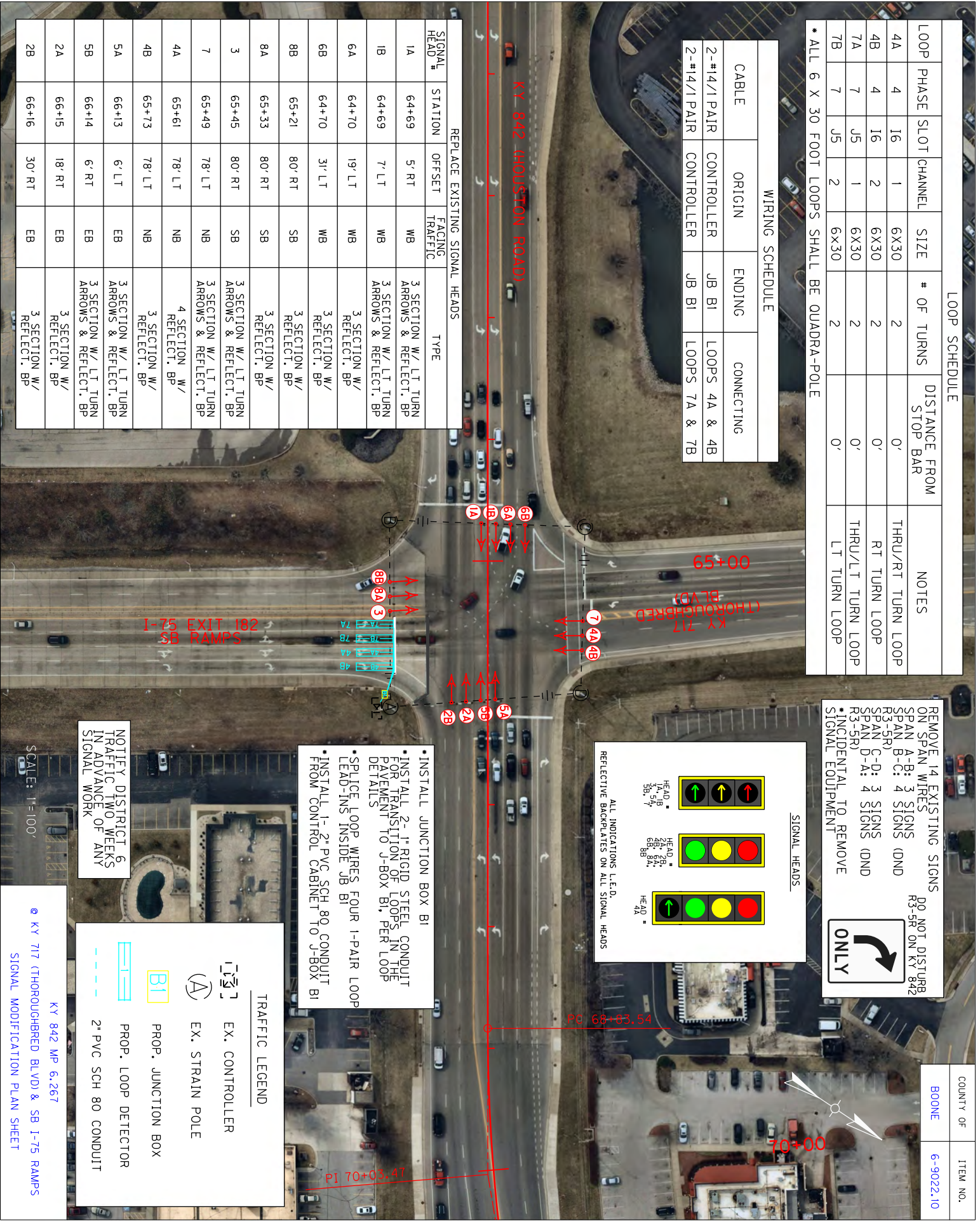
COUNTY OF	BOONE
ITEM NO.	6-9022.10

LOOP SCHEDULE							
LOOP	PHASE	SLOT	CHANNEL	SIZE	# OF TURNS	DISTANCE FROM STOP BAR	NOTES
4A	4	16	1	6X30	2	0'	THRU/RT TURN LOOP
4B	4	16	2	6X30	2	0'	RT TURN LOOP
7A	7	15	1	6X30	2	0'	THRU/LT TURN LOOP
7B	7	15	2	6X30	2	0'	LT TURN LOOP

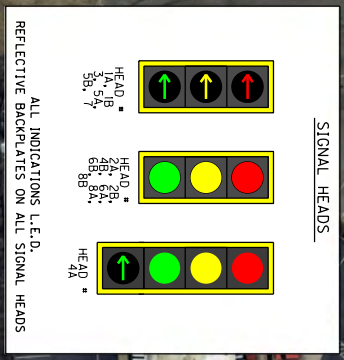
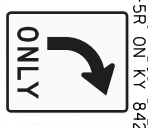
* ALL 6 X 30 FOOT LOOPS SHALL BE QUADRA-POLE

WIRING SCHEDULE			
CABLE	ORIGIN	ENDING	CONNECTING
2-#14/1 PAIR	CONTROLLER	JB BI	LOOPS 4A & 4B
2-#14/1 PAIR	CONTROLLER	JB BI	LOOPS 7A & 7B

SIGNAL HEAD #	STATION	OFFSET	FACING TRAFFIC	TYPE
1A	64+69	5' RT	WB	3 SECTION W/ LT TURN ARROWS & REFLECT. BP
1B	64+69	7' LT	WB	3 SECTION W/ LT TURN ARROWS & REFLECT. BP
6A	64+70	19' LT	WB	3 SECTION W/ REFLECT. BP
6B	64+70	31' LT	WB	3 SECTION W/ REFLECT. BP
8B	65+21	80' RT	SB	3 SECTION W/ REFLECT. BP
8A	65+33	80' RT	SB	3 SECTION W/ REFLECT. BP
3	65+45	80' RT	SB	3 SECTION W/ LT TURN ARROWS & REFLECT. BP
7	65+49	78' LT	NB	3 SECTION W/ LT TURN ARROWS & REFLECT. BP
4A	65+61	78' LT	NB	4 SECTION W/ REFLECT. BP
4B	65+73	78' LT	NB	3 SECTION W/ REFLECT. BP
5A	66+13	6' LT	EB	3 SECTION W/ LT TURN ARROWS & REFLECT. BP
5B	66+14	6' RT	EB	3 SECTION W/ LT TURN ARROWS & REFLECT. BP
2A	66+15	18' RT	EB	3 SECTION W/ REFLECT. BP
2B	66+16	30' RT	EB	3 SECTION W/ REFLECT. BP



REMOVE 14 EXISTING SIGNS ON SPAN WIRES
 ON SPAN A-B: 3 SIGNS
 ON SPAN B-C: 4 SIGNS (DND R3-SR)
 ON SPAN C-D: 3 SIGNS (DND R3-SR)
 ON SPAN D-A: 4 SIGNS (DND R3-SR)
 * INCIDENTAL TO REMOVE SIGNAL EQUIPMENT



- INSTALL JUNCTION BOX BI
- INSTALL 2-1" RIGID STEEL CONDUIT FOR TRANSITION OF LOOPS IN THE DETAILS
- SPLICE LOOP WIRES FOUR 1-PAIR LOOP LEAD-INS INSIDE JB BI
- INSTALL 1-2" PVC SCH 80 CONDUIT FROM CONTROL CABINET TO J-BOX BI

NOTIFY DISTRICT 6 TRAFFIC TWO WEEKS IN ADVANCE OF ANY SIGNAL WORK

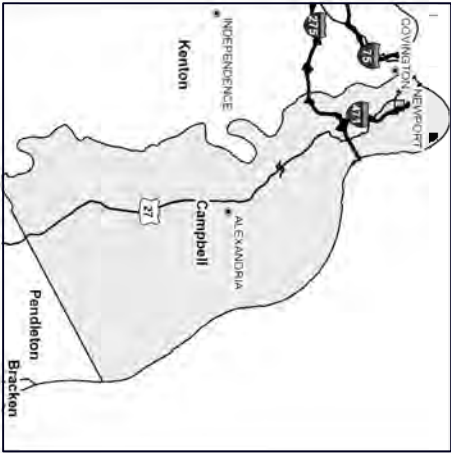
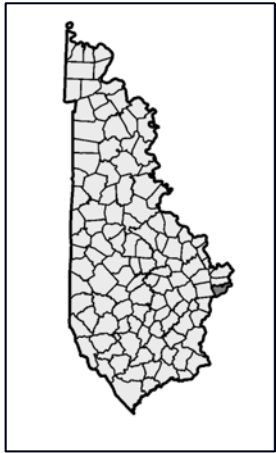
TRAFFIC LEGEND

- EX. CONTROLLER
- EX. STRAIN POLE
- PROP. JUNCTION BOX
- PROP. LOOP DETECTOR
- 2- PVC SCH 80 CONDUIT

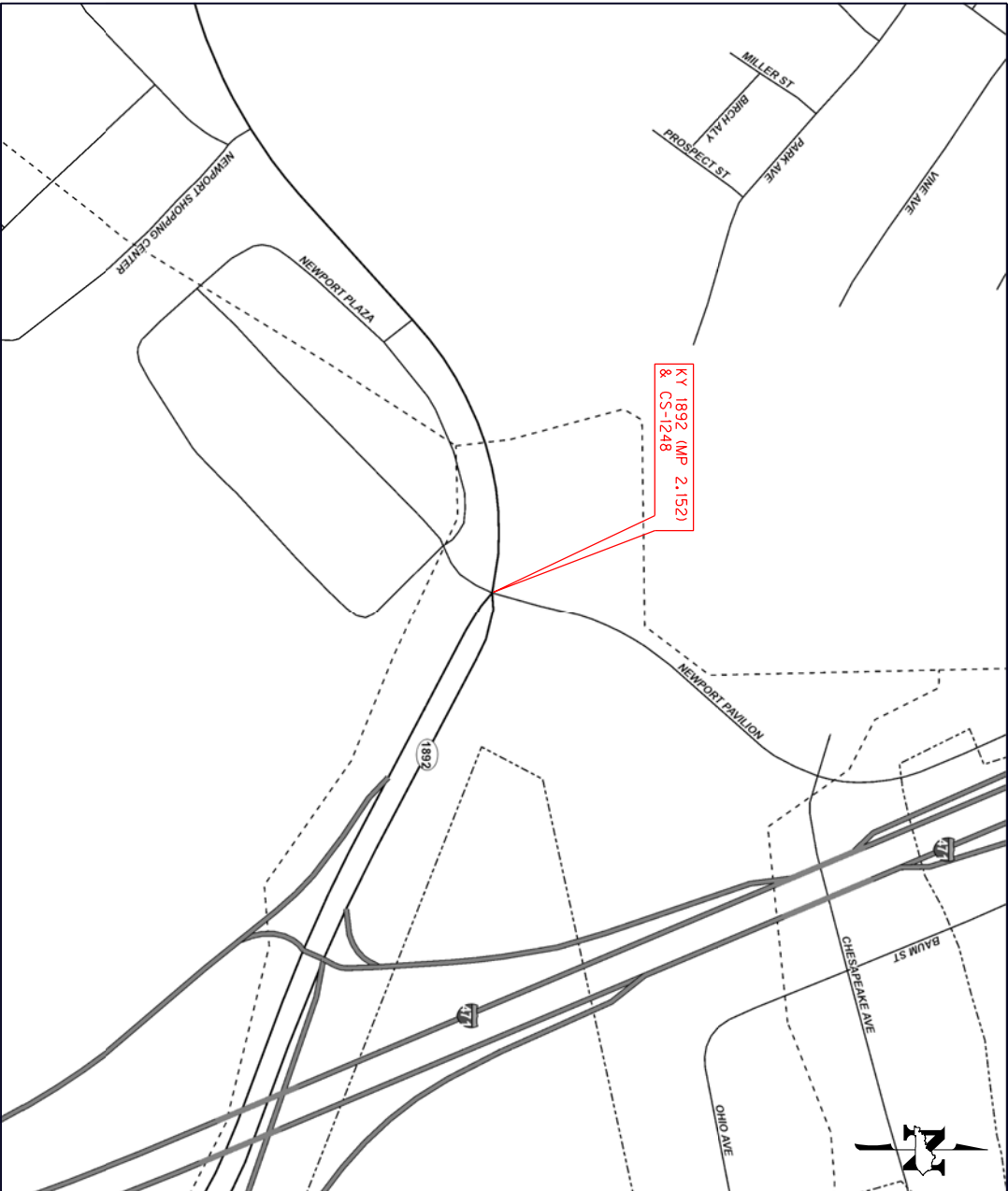
KY 842 MP 6.267
 KY 717 (THOROUGHRED BLVD) & SB I-75 RAMPS
 SIGNAL MODIFICATION PLAN SHEET

CAMPBELL COUNTY
Intersection Improvement at KY 1892 (Carothers Road/ N Grand Avenue)
and Pavilion Parkway

COUNTY OF	ITEM NO.
CAMPBELL	6-9022.20



Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
PLANS OF
PROPOSED PROJECT
CAMPBELL COUNTY
KY 1892



CAMPBELL COUNTY KY 1892 (CAROTHERS RD / N GRAND AVE) MP 2.152 @ CS 1248 (PAVILION PKWY) ITEM NO. 6-9022.20 GENERAL SUMMARY			
ITEM NUMBER	ITEM	UNIT	QUANTITY
2569	DEMOBILIZATION	LS	1
2650	MAINTAIN & CONTROL TRAFFIC (KY 1892 @ CS 1248)	LS	1
20188NS835	INSTALL LED SIGNAL - 3 SECTION (1)	EACH	14
20189NS835	INSTALL LED SIGNAL - 5 SECTION (1)	EACH	2
24955ED	REMOVE SIGNAL EQUIPMENT (KY 1892 @ CS 1248) (2)	EACH	1
(1) CARRIED OVER FROM THE SIGNAL SUMMARY			
(2) INCLUDES REMOVAL OF 4 EXISTING SIGNS ON SPAN WIRES			

Signal Head Replacements for: KY 1892 @ Pavilion Pkwy

REPLACE EXISTING SIGNAL HEADS

SIGNAL HEAD NUMBER	STATION*	OFFSET*	DESCRIPTION
6C	63+12	53' RT	Supplemental 3 Section with Reflective Backplate
5	63+13	0'	3 Section with LT Turn Arrows and Reflective Backplate
2A	63+13	12' LT	3 Section with Reflective Backplate
2B	63+13	20' LT	3 Section with Reflective Backplate
4B	63+45	53' RT	5 Section with RT Turn Arrows and Reflective Backplate
4A	63+56	51' RT	3 Section with Reflective Backplate
3A	63+63	47' LT	3 Section with LT Turn Arrows and Reflective Backplate
7	63+67	49' RT	3 Section with LT Turn Arrows and Reflective Backplate
3B	63+75	47' LT	3 Section with LT Turn Arrows and Reflective Backplate
8A	63+87	48' LT	3 Section with Reflective Backplate
8B	63+99	48' LT	3 Section with Reflective Backplate
8C	64+41	45' LT	Supplemental 3 Section with Reflective Backplate
2C	64+39	37' RT	Supplemental 3 Section with Reflective Backplate
6B	64+40	30' RT	5 Section with RT Turn Arrows and Reflective Backplate
6A	64+40	18' RT	3 Section with Reflective Backplate
1	64+41	6' RT	3 Section with LT Turn Arrows and Reflective Backplate

* STATION AND OFFSET ARE APPROXIMATE AND ARE FOR INFORMATION ONLY. ALIGN SIGNAL HEADS WITH EXISTING SPAN WIRES AND DRIVING LANES.

*** KYTC Traffic Representative must be on site to implement timing and phase adjustments**

NOTE: THESE NUMBERS ARE FOR ESTIMATE PURPOSES ONLY. FINAL LOCATIONS AND QUANTITIES WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

SIGNAL HEAD REPLACEMENTS

Signal Heads For NB KY 1892

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Green Ball	Green Arrow
3 Section with LT Turn Arrows and Reflective Backplate (1)		1		1		1
3 Section with Reflective Backplate (6A)	1		1		1	
5 Section with RT Turn Arrows and Reflective Backplate (6B)	1		1	1	1	1
Supplemental 3 Section with Reflective Backplate (6C)	1		1		1	
Totals	3	1	3	2	3	2

ALL QUANTITIES ARE CARRIED OVER TO GENERAL SUMMARY

Signal Heads For SB KY 1892

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Green Ball	Green Arrow
3 Section with LT Turn Arrows and Reflective Backplate (5)		1		1		1
3 Section with Reflective Backplate (2A)	1		1		1	
3 Section with Reflective Backplate (2B)	1		1		1	
Supplemental 3 Section with Reflective Backplate (2C)	1		1		1	
Totals	3	1	3	1	3	1

Signal Heads For WB Pavilion Pkwy

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Green Ball	Green Arrow
3 Section with LT Turn Arrows and Reflective Backplate (3A)		1		1		1
3 Section with LT Turn Arrows and Reflective Backplate (3B)		1		1		1
3 Section with Reflective Backplate (8A)	1		1		1	
3 Section with Reflective Backplate (8B)	1		1		1	
Supplemental 3 Section with Reflective Backplate (8C)	1		1		1	
Totals	3	2	3	2	3	2



R3-4



R3-5L



R3-5R

Signal Heads For EB Shopping Center Entrance

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Green Ball	Green Arrow
3 Section with Reflective Backplate (4A)	1		1		1	
5 Section with RT Turn Arrows and Reflective Backplate (4B)	1		1	1	1	1
3 Section with LT Turn Arrows and Reflective Backplate (7)		1		1		1
Totals	2	1	2	2	2	2

Remove Existing Signs on Span Wires (4 TOTAL)			
	R3-4	R3-5L	R3-5R
Span A-B	1 (DND)	1	1 (DND)
Span B-C		2	
Span C-D		1 (DND)	
Span D-A	1 (DND)	1	

INCIDENTAL TO REMOVE SIGNAL EQUIPMENT

Jeff Wolfe - Director

DIVISION OF TRAFFIC OPERATIONS
PROJECT MATERIALS RELEASE FORM
FOR SIGNALS AND LIGHTING

Phone (502) 564-3020
FAX (502) 564-7759

Note: Email form with signatures to KYTC's warehouse (kim.stamper@ky.gov) at least two (2) days prior to arrival for pickup. Ensure Contractor's delivery driver has a copy of form with signatures. Failure to do either may result in long delays or refusal to distribute materials upon arrival.

Item Number: 6-9022.20
County: Campbell
Description: KY 1892 @ CS 1248
Reflective Backplate Signal Heads

Cabinets **Master code**

Signals

14	T-02-0009	Siemens 3 Section Signal
14	T-02-0032	Siemen 3 section backplate
2	T-02-0040	Siemen 5 section, 12 inch signal (poly)
2	T-02-0041	Siemen 5 section backplate
5	T-02-0300	LED Module 12" red arrow
7	T-02-0310	LED Module 12" yellow arrow
7	T-02-0320	LED Module 12" green arrow
11	T-02-0330	LED Module 12" red ball
11	T-02-0340	LED Module 12" yellow ball
11	T-02-0350	LED Module 12" green ball

Special items

Poles

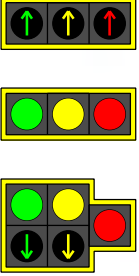
Electrical Contractor Name _____
Electrical Contractor Supervisor _____ Contact number for Supervisor _____
Project Engineer _____ Contact number for Project Engineer _____

Project Engineer attests that the mentioned contractor is the actual electrical contractor on this project

Signature of Project Engineer or Designee _____

SIGNAL HEAD #	STATION	OFFSET	FACING TRAFFIC	TYPE
1	64+41	6' RT	NB	3 SECTION W/ LT TURN ARROWS & REFLECT. BP
6A	64+40	18' RT	NB	3 SECTION W/ REFLECT. BP
6B	64+40	30' RT	NB	5 SECTION W/ RT TURN ARROWS & REFLECT. BP
2C	64+39	37' RT	SB	SECTION W/ REFLECT. BP
8C	64+41	45' LT	WB	SUPPLEMENTAL 3 SECTION W/ REFLECT. BP
8B	63+99	48' LT	WB	3 SECTION W/ REFLECT. BP
8A	63+87	48' LT	WB	3 SECTION W/ REFLECT. BP
3B	63+75	47' LT	WB	3 SECTION W/ LT TURN ARROWS & REFLECT. BP
7	63+67	49' RT	EB	3 SECTION W/ LT TURN ARROWS & REFLECT. BP
3A	63+63	47' LT	WB	3 SECTION W/ LT TURN ARROWS & REFLECT. BP
4A	63+56	51' RT	EB	3 SECTION W/ REFLECT. BP
4B	63+45	53' RT	EB	5 SECTION W/ RT TURN ARROWS & REFLECT. BP
2B	63+13	20' LT	SB	3 SECTION W/ REFLECT. BP
2A	63+13	12' LT	SB	3 SECTION W/ REFLECT. BP
5	63+13	0'	SB	3 SECTION W/ LT TURN ARROWS & REFLECT. BP
6C	63+12	53' RT	NB	SUPPLEMENTAL 3 SECTION W/ REFLECT. BP

SIGNAL HEADS



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

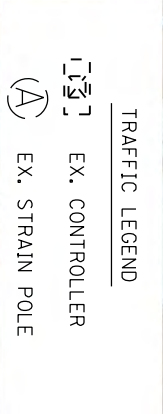


REMOVE 4 EXISTING SIGNS ON SPAN WIRES
SPAN A-B: 1 SIGN (DND R3-4 & R3-5R)
SPAN B-C: 2 SIGNS
SPAN C-D: 0 SIGNS
SPAN D-A: 1 SIGN (DND R3-4)
*INCIDENTAL TO REMOVE SIGNAL EQUIPMENT

DO NOT DISTURB R3-4 & R3-5R ON KY 1892

KYTC TRAFFIC REPRESENTATIVE MUST BE ON SITE WHEN IMPLEMENTING PHASE CHANGE OR TIMING ADJUSTMENT

NOTIFY DISTRICT 6 TRAFFIC TWO WEEKS IN ADVANCE OF ANY SIGNAL WORK



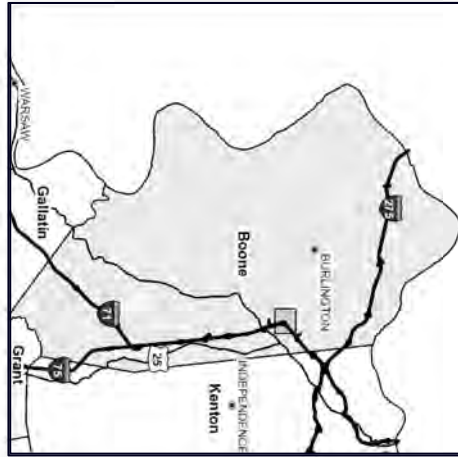
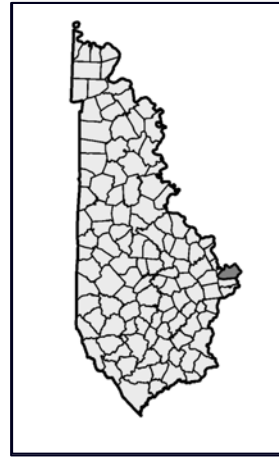
KY 1892 MP 2.152
CS-1248 (PAVILION PKWY)
SIGNAL MODIFICATION PLAN SHEET

BOONE COUNTY

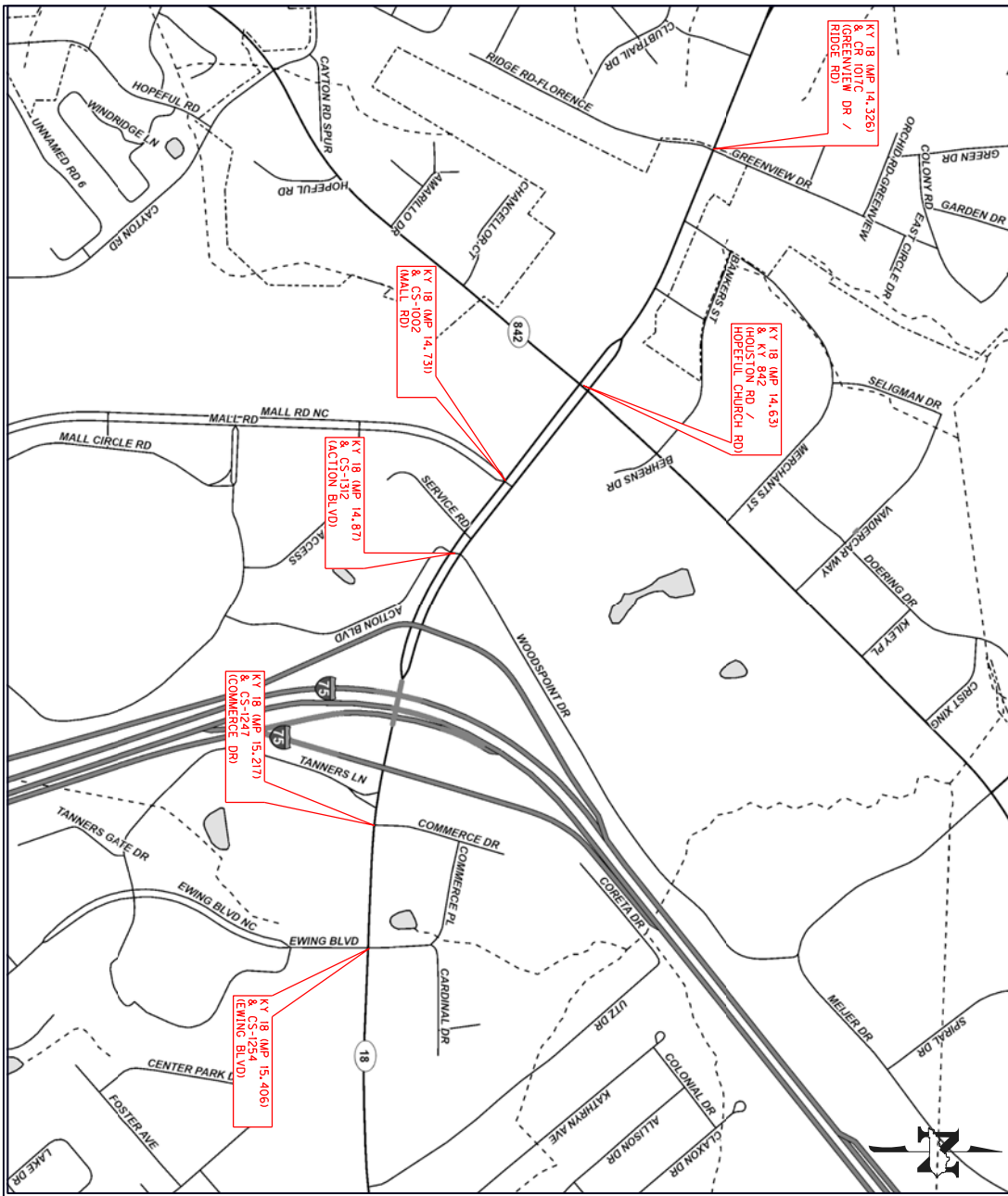
Intersection and Corridor Improvements at KY 18 (Burlington Pike)

- SECTION 1: KY 18 FROM MP 14.326 (GREENVIEW DR) TO MP 14.63 (HOUSTON RD)
- SECTION 2: KY 18 FROM MP 14.731 (MALL RD) TO MP 14.87 (ACTION BLVD)
- SECTION 3: KY 18 FROM MP 15.217 (COMMERCE DR) TO MP 15.406 (EWING BLVD)

COUNTY OF	ITEM NO.
BOONE	6-9022.30



Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
PLANS OF
PROPOSED PROJECT
BOONE COUNTY
KY 18

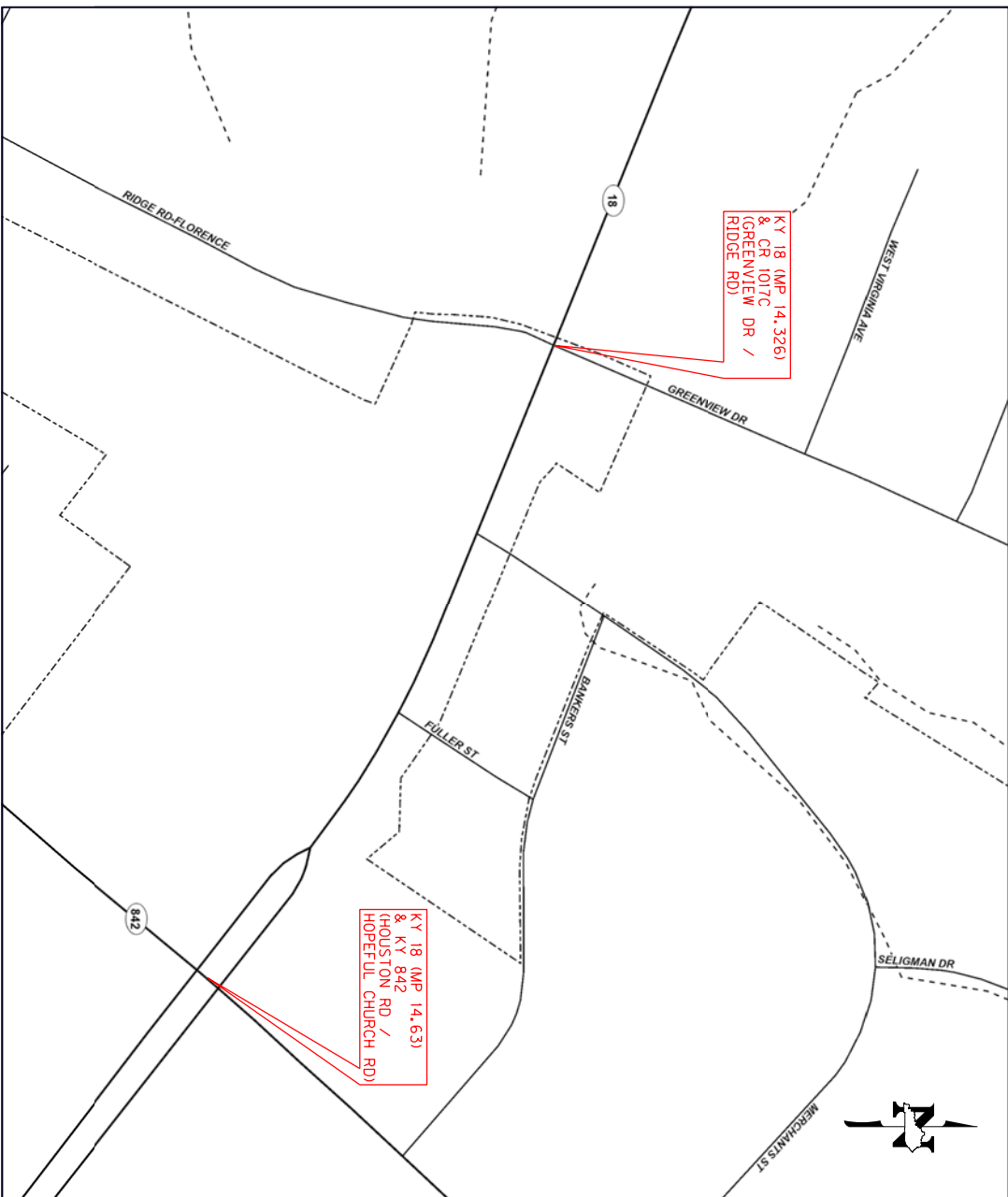
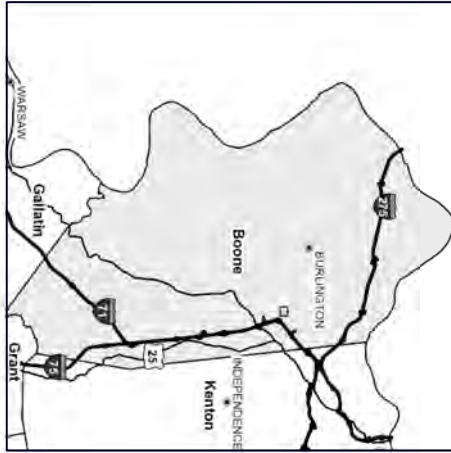
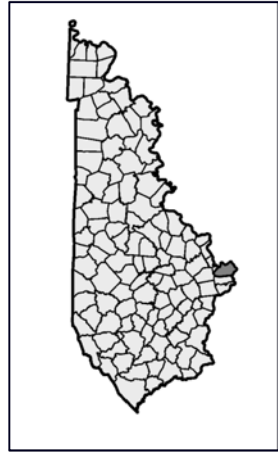


BOONE COUNTY KY 18 (BURLINGTON PIKE) MP 14.326 - 15.406 ITEM NO. 6-9022.30 MASTER GENERAL SUMMARY SHEET 1 OF 2			
ITEM NUMBER	ITEM	UNIT	QUANTITY
1	DGA BASE	TON	125
342	CL4 ASPH SURF 0.38A PG76-22	TON	1,397
520	STORM SEWER PIPE-12 IN	LF	232
1310	REMOVE PIPE	LF	48
1458	CURB BOX INLET TYPE A T	EACH	1
1545	DROP BOX INLET TYPE 11 MOD	EACH	1
1585	REMOVE DROP BOX INLET	EACH	1
1811	STANDARD CURB AND GUTTER MOD (9 INCH)	LF	187
1920	STANDARD BARRIER MEDIAN TYPE 3 MOD	SQYD	648
2073	JPC PAVEMENT-9 IN	SQYD	538
2075	JPC PAVEMENT-6 IN	SQYD	78
2159	TEMP DITCH	LF	274
2160	CLEAN TEMP DITCH	LF	137
2200	ROADWAY EXCAVATION	CUYD	232
2562	TEMPORARY SIGNS	SQFT	500
2569	DEMOBILIZATION (BOONE KY 18)	LS	1
2607	FABRIC-GEOTEXTILE CLASS 2 FOR PIPE	SQYD	271
2650	MAINTAIN & CONTROL TRAFFIC (BOONE KY 18)	LS	1
2671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	4
2677	ASPHALT PAVE MILLING & TEXTURING	TON	1,451
2701	TEMP SILT FENCE	LF	274
2703	SILT TRAP TYPE A	EACH	1
2704	SILT TRAP TYPE B	EACH	1
2705	SILT TRAP TYPE C	EACH	1
2706	CLEAN SILT TRAP TYPE A	EACH	1
2707	CLEAN SILT TRAP TYPE B	EACH	1
2708	CLEAN SILT TRAP TYPE C	EACH	1
2720	SIDEWALK-4 IN CONCRETE	SQYD	9
2721	REMOVE CONCRETE SIDEWALK	SQYD	3
2726	STAKING (BOONE KY 18)	LS	1
3240	BASE FAILURE REPAIR	SQYD	514.2
3262	CLEAN PIPE STRUCTURE	EACH	1
4792	CONDUIT 1 INCH (RIGID STEEL)	LF	10
4793	CONDUIT 1 1/4 INCH	LF	20
4811	ELECTRICAL JUNCTION BOX TYPE B	EACH	1
4820	TRENCHING AND BACKFILLING	LF	65
4830	LOOP WIRE	LF	1,538
4844	CABLE-NO. 14/5C	LF	705
4850	CABLE-NO. 14/1 PAIR	LF	15
4895	LOOP SAW SLOT AND FILL	LF	424
5952	TEMP MULCH	SQYD	1,856
5953	TEMP SEEDING AND PROTECTION	SQYD	1,392
5963	INITIAL FERTILIZER	TON	0.10
5964	MAINTENANCE FERTILIZER	TON	0.14
ALL QUANTITIES CARRIED OVER FROM SECTION 1, 2, AND 3 GENERAL SUMMARIES			

BOONE COUNTY KY 18 (BURLINGTON PIKE) MP 14.326 - 15.406 ITEM NO. 6-9022.30 MASTER GENERAL SUMMARY SHEET 2 OF 2			
ITEM NUMBER	ITEM	UNIT	QUANTITY
5985	SEEDING AND PROTECTION	SQYD	2,785
5992	AGRICULTURAL LIMESTONE	TON	1.73
6406	SBM ALUM SHEET SIGNS .080 IN	SQFT	326.00
6407	SBM ALUM SHEET SIGNS .125 IN	SQFT	21.00
6410	STEEL POST TYPE 1	LF	303.50
6490	CLASS A CONCRETE FOR SIGNS	LF	3.75
6511	PAVE STRIPING-TEMP PAINT-6 IN	LF	9,225
6514	PAVE STRIPING-PERM PAINT-4 IN	LF	726
6541	PAVE STRIPING-THERMO-4 IN Y	LF	1,076
6542	PAVE STRIPING-THERMO-6 IN W	LF	7,873
6543	PAVE STRIPING-THERMO-6 IN Y	LF	7,316
6546	PAVE STRIPING-THERMO-12 IN W	LF	1,571
6547	PAVE STRIPING-THERMO-12 IN Y	LF	144
6565	PAVE MARKING-THERMO X-WALK-6 IN	LF	840
6568	PAVE MARKING-THERMO STOP BAR-24IN	LF	472
6569	PAVE MARKING-THERMO CROSS-HATCH	SQFT	786
6574	PAVE MARKING-THERMO CURV ARROW	EACH	36
6576	PAVE MARKING-THERMO ONLY	EACH	4
6598	PAVEMENT MARKING REMOVAL	SQFT	501
20188NS835	INSTALL LED SIGNAL - 3 SECTION	EACH	14
20189NS835	INSTALL LED SIGNAL - 5 SECTION	EACH	2
20266ES835	INSTALL LED SIGNAL - 4 SECTION	EACH	1
20360ES818	WOOD POST	EACH	2
20418ED	REMOVE & RELOCATE SIGNS	EACH	1
20430ED	SAW CUT	LF	1,271
20468EC	ELECTRICAL JUNCTION BOX 10x8x4	EACH	2
20569ES710	DROP BOX INLET TY 13G(MOD)	EACH	3
21373ND	REMOVE SIGN	EACH	10
21596ND	GMSS TYPE D (SURFACE MOUNT)	EACH	2
21596ND	GMSS TYPE D	EACH	15
21743NN	INSTALL PEDESTRIAN DETECTOR	EACH	2
22400NN	REMOVE & RELOCATE SIGN ASSEMBLY	EACH	1
22664EN	WATER BLASTING EXISTING STRIPE	LF	3,104.25
22680EN	QWICK CURB MEDIAN SEPARATOR	LF	2,119
23131ER701	PIPELINE VIDEO INSPECTION	LF	288
23158ES505	DETECTABLE WARNINGS	SQFT	8
23222EC	INSTALL SIGNAL PEDESTAL	EACH	1
24631EC	BARCODE SIGN INVENTORY	EACH	60
24894EC	REMOVE (PAVEMENT MARKER LENS)	EACH	12
24900EC	PVC CONDUIT- 1 1/4 INCH - SCHEDULE 80	LF	40
24955ED	REMOVE SIGNAL EQUIPMENT (KY 18 @ CS-1002)	EACH	1
24963ED	LOOP TEST	EACH	2
24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING	TON	7.7
ALL QUANTITIES CARRIED OVER FROM SECTION 1, 2, AND 3 GENERAL SUMMARIES			

BOONE COUNTY
SECTION 1: KY 18 FROM MP 14.326 (GREENVIEW RD) TO MP 14.63 (HOUSTON RD)
Access Management and Resurface at KY 18 (Burlington Pike)

COUNTY OF	ITEM NO.
BOONE	6-9022.30



Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
PLANS OF
PROPOSED PROJECT
BOONE COUNTY
KY 18



BOONE COUNTY
KY 18 (BURLINGTON PIKE) FROM GREENVIEW RD. TO HOUSTON RD.
MILEPOST 14.326 TO MILEPOST 14.63
ITEM NO. 6-9022.30
GENERAL SUMMARY (PAGE 1 of 2)

ITEM NUMBER	ITEM	UNIT	QUANTITY
1	DGA BASE (1)	TON	68
342	CL4 ASPH SURF 0.38A PG76-22 (1)	TON	1,397
1545	DROP BOX INLET TYPE 11 MOD	EACH	1
1585	REMOVE DROP BOX INLET	EACH	1
2073	JPC PAVEMENT-9 IN (1)	SQYD	291
2200	ROADWAY EXCAVATION (1) (A)	CUYD	112
2562	TEMPORARY SIGNS	SQFT	270
2671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	2
2677	ASPHALT PAVE MILLING & TEXTURING (1)	TON	1,397
2720	SIDEWALK-4 IN CONCRETE (1)	SQYD	9
2721	REMOVE CONCRETE SIDEWALK (1)	SQYD	3
3240	BASE FAILURE REPAIR (1)	SQYD	514.2
4792	CONDUIT 1 INCH (RIGID STEEL) (4)	LF	10
4793	CONDUIT 1 1/4 INCH (5)	LF	20
4811	ELECTRICAL JUNCTION BOX TYPE B (4)	EACH	1
4820	TRENCHING AND BACKFILLING (4) (5)	LF	65
4830	LOOP WIRE (4) (5)	LF	1,538
4844	CABLE-NO. 14/5C (4)	LF	190
4850	CABLE-NO. 14/1 PAIR (4)	LF	15
4895	LOOP SAW SLOT AND FILL (4) (5)	LF	424
6406	SBM ALUM SHEET SIGNS .080 IN (2)	SQFT	155.69
6410	STEEL POST TYPE 1 (2)	LF	132.25
6490	CLASS A CONCRETE FOR SIGNS (2)	CUYD	1.75
6511	PAVE STRIPING-TEMP PAINT-6 IN	LF	7,200
6514	PAVE STRIPING-PERM PAINT-4 IN (3)	LF	726

- (1) CARRIED OVER FROM THE PAVING SUMMARY
- (2) CARRIED OVER FROM THE SIGNING SUMMARY
- (3) CARRIED OVER FROM THE STRIPING / PAVEMENT MARKING SUMMARY
- (4) CARRIED OVER FROM THE LOOP AND PEDESTRIAN PEDESTAL / DETECTORS SUMMARY
- (5) CARRIED OVER FROM THE PERMANENT TRAFFIC DATA ACQUISITION STATIONS ESTIMATE OF QUANTITIES
- (A) TOTAL PROJECT EARTHWORK SUMMARY: EXC. = 112 CUYD, EMB. = 10 CUYD

BOONE COUNTY
KY 18 (BURLINGTON PIKE) FROM GREENVIEW RD. TO HOUSTON RD.
MILEPOST 14.326 TO MILEPOST 14.63
ITEM NO. 6-9022.30
GENERAL SUMMARY (PAGE 2 of 2)

ITEM NUMBER	ITEM	UNIT	QUANTITY
6542	PAVE STRIPING-THERMO-6 IN W (3)	LF	5,046
6543	PAVE STRIPING-THERMO-6 IN Y (3)	LF	5,200
6546	PAVE STRIPING-THERMO-12 IN W (3)	LF	1,166
6547	PAVE STRIPING-THERMO-12 IN Y (3)	LF	144
6565	PAVE MARKING-THERMO X-WALK-6IN (3)	LF	94
6568	PAVE MARKING-THERMO STOP BAR-24IN (3)	LF	282
6569	PAVE MARKING-THERMO CROSS-HATCH (3)	SQFT	554
6574	PAVE MARKING-THERMO CURV ARROW (3)	EACH	23
6576	PAVE MARKING-THERMO ONLY (3)	EACH	4
6598	PAVEMENT MARKING REMOVAL (3)	SQFT	361.5
20360ES818	WOOD POST (5)	EACH	2
20430ED	SAW CUT (1)	LF	910
20468EC	ELECTRICAL JUNCTION BOX 10x8x4 (5)	EACH	2
21373ND	REMOVE SIGN (2)	EACH	5
21596ND	GMSS TYPE D (2)	EACH	7
21743NN	INSTALL PEDESTRIAN DETECTOR (4)	EACH	2
22400NN	REMOVE & RELOCATE SIGN ASSEMBLY (2)	EACH	1
22664EN	WATER BLASTING EXISTING STRIPE (3)	LF	953.75
22680EN	QWICK CURB MEDIAN SEPARATOR	LF	1,581
23158ES505	DETECTABLE WARNINGS (1)	SQFT	8
23222EC	INSTALL SIGNAL PEDESTAL (4)	EACH	1
24631EC	BARCODE SIGN INVENTORY (2)	EACH	20
24900EC	PVC CONDUIT- 1 1/4 INCH - SCHEDULE 80 (4)	LF	40
24963ED	LOOP TEST (4)	EACH	2
24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING (1)	TON	7.7

- (1) CARRIED OVER FROM THE PAVING SUMMARY
- (2) CARRIED OVER FROM THE SIGNING SUMMARY
- (3) CARRIED OVER FROM THE STRIPING / PAVEMENT MARKING SUMMARY
- (4) CARRIED OVER FROM THE LOOP AND PEDESTRIAN PEDESTAL / DETECTORS SUMMARY
- (5) CARRIED OVER FROM THE PERMANENT TRAFFIC DATA ACQUISITION STATIONS ESTIMATE OF QUANTITIES

**BOONE COUNTY: KY 18 - FROM GREENVIEW RD TO HOUSTON RD
MILEPOST 14.326 TO MILEPOST 14.63
ITEM NO. 6-9022.30
PAVING SUMMARY**

PAVING AREAS		PAVING QUANTITIES	
ITEM	TOTAL	ITEM	TOTAL
RESURFACE KY 18			
	SQYD		TON
1.5" ASPHALT PAVE MILLING AND TEXTURING	16,930	ASPHALT PAVE MILLING AND TEXTURING	1,397
1.5" CL4 ASPH SURF 0.38A PG76-22	16,930	CL4 ASPH SURF 0.38A PG76-22	1,397
ASPHALT MATERIAL FOR TACK NON-TRACKING	16,930	ASPHALT MATERIAL FOR TACK NON-TRACKING	7.1

FULL DEPTH CONCRETE PAVEMENT ON EXISTING SHOULDER			
	SQYD		TON
9" JPC PAVEMENT	244		
4" DGA BASE	244	DGA BASE	57
	LF		
SAW CUT	910		
	CUYD		
ROADWAY EXCAVATION	98	(EXISTING PAVED SHOULDER)	

FULL DEPTH CONCRETE PAVEMENT FOR U-TURN LOCATION			
	SQYD		TON
9" JPC PAVEMENT	47		
4" DGA BASE	47	DGA BASE	11
	CUYD		
ROADWAY EXCAVATION	12	(EXISTING EARTH SHOULDER)	

BASE FAILURE REPAIR (9 LOCATIONS)			
	SQYD		
12" BASE FAILURE REPAIR	7.1	(STA. 215+80 TO STA. 215+88 - 32' RT TO 40' RT)	
12" BASE FAILURE REPAIR	73.6	(STA. 217+46 TO STA. 218+02 - 30' RT TO 44' RT)	
12" BASE FAILURE REPAIR	86.7	(STA. 218+62 TO STA. 218+92 - 7' RT TO 33' RT)	
12" BASE FAILURE REPAIR	28.9	(STA. 219+30 TO STA. 219+40 - 7' RT TO 33' RT)	
12" BASE FAILURE REPAIR	26.7	(STA. 220+76 TO STA. 220+86 - 8' LT TO 32' LT)	
12" BASE FAILURE REPAIR	178.9	(STA. 221+37 TO STA. 222+52 - 18' LT TO 32' LT)	
12" BASE FAILURE REPAIR	28.9	(STA. 224+89 TO STA. 224+99 - 16' LT TO 42' LT)	
12" BASE FAILURE REPAIR	46.7	(STA. 227+95 TO STA. 228+05 - 12' LT TO 54' LT)	
12" BASE FAILURE REPAIR	36.7	(STA. 230+29 TO STA. 230+39 - 19' LT TO 52' LT)	
			TON
ASPHALT MATERIAL FOR TACK NON-TRACKING	514	ASPHALT MATERIAL FOR TACK NON-TRACKING	0.6

SIDEWALK TIE-IN PROPOSED CROSSWALK LOCATION AT RIDGE ROAD			
	SQYD		
4" SIDEWALK CONCRETE	9		
REMOVE CONCRETE SIDEWALK	3		
	SQFT		
DETECTABLE WARNINGS	8		
	CUYD		
ROADWAY EXCAVATION	2	(EXISTING EARTH)	

PAVING SUMMARY			
CODE	ITEM	UNITS	PROJECT TOTAL
1	DGA BASE	TON	68
342	CL4 ASPH SURF 0.38A PG76-22	TON	1,397
2073	JPC PAVEMENT-9 IN	SQYD	291
2200	ROADWAY EXCAVATION	CUYD	112
2677	ASPHALT PAVE MILLING & TEXTURING	TON	1,397
2720	SIDEWALK-4 IN CONCRETE	SQYD	9
2721	REMOVE CONCRETE SIDEWALK	SQYD	3
3240	BASE FAILURE REPAIR	SQYD	514.2
20430ED	SAW CUT	LF	910
23158ES505	DETECTABLE WARNINGS	SQFT	8
24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING	TON	7.7

NOTES:
 ASPHALT SURFACE and ASPHALT PAVE MILLING & TEXTURING estimated at 110 lbs. per SQ. YD. per inch of depth
 DGA Base estimated at 115 lbs. per SQ. YD. per inch of depth
 ASPHALT MATERIAL FOR TACK: Application rate of 0.84 lbs. per SQ. YD.

SIGN LOCATION				Sign Summary				BOONE County				KY 18 (From Greenview Rd to Houston Rd)				TOTAL						
Assembly ID	Side of Road	Approx Offset (ft)	Approx Station	Approx Mile Point	Fading Traffic Traveling	MUTCD Code	Sign Description	Sign Text / Remarks	Sign Dimensions (in x in)	Text/ Symbol Color	Background Color	Sheeting Type	Sheet Signs (SQ FT)	Sheet Signs (SQ FT)	Installation Type	Bracing Req'd	# of Sign Posts	Estimated Length of 2'-1/2" Post (ft)	Estimated Length of 3'-1/4" Stiffener Req'd (Inch/ft to post)	Estimated Sign Post Length (LF)	Barcode Inv. (EACH)	
S-2	RT	50	217+83	14.383	NB	R1-1	Stop	Speedway Entrance	36" X 36"	White	Red	XI	9.00	9.00	Type D		1	13		13	1	
						R3-5R	Right Turn ONLY		30" X 36"	Black	White	XI	7.50								1	
						R1-1	Stop	Honda Entrance	30" X 36"	White	Red	XI	9.00		Type D		1	13			13	1
						R3-5R	Right Turn ONLY		30" X 36"	Black	White	XI	7.50								1	1
S-4	RT	47	220+22	14.427	NB	R1-1	Stop	Toyota Used Entrance	36" X 36"	White	Red	XI	9.00		Type D		1	13			13	1
						R3-5R	Right Turn ONLY		30" X 36"	Black	White	XI	7.50								1	1
S-6	RT	47	223+68	14.490	NB	R3-5R	Right Turn ONLY		30" X 36"	Black	White	XI	7.50		Type D		1	13			13	1
						M2-1	Junction		21" X 15"	Black	White	XI	2.19								1	1
S-7	RT	48	223+80	14.494	EB	M1-5a	State Route Sign (3 or 4 digit)	KY 842	30" X 24"	Black	White	XI	5.00		Std w/ Soil Plate		1	14.25			14.25	1
						R1-1	Stop		36" X 36"	White	Red	XI	9.00								1	1
						R3-5R	Right Turn ONLY	Toyota Entrance	30" X 36"	Black	White	XI	7.50		Type D		1	13			13	1
S-9	RT	46	228+36	14.579	NB	R1-1	Stop	5/3 Bank	36" X 36"	White	Red	XI	9.00								1	1
						R3-5R	Right Turn ONLY		30" X 36"	Black	White	XI	7.50		Type D		1	13			13	1
S-14	LT	69	227+64	14.568	SB	R1-1	Stop	Attach to EX post	30" X 36"	Black	White	XI	7.50								1	1
						R3-5R	Right Turn ONLY		30" X 36"	Black	White	XI	7.50								1	1
S-16	LT	59	224+03	14.499	SB	R3-5R	Right Turn ONLY		36" X 36"	Black	White	XI	9.00		Std w/ Soil Plate		1	13.5			13.5	1
S-17	LT	45	221+65	14.455	WB	R3-7R	Right Lane Must Turn Right		30" X 36"	Black	White	XI	9.00								1	1
S-18	LT	59	219+32	14.410	SB	R3-5R	Right Turn ONLY	Attach to EX post	30" X 36"	Black	White	XI	7.50		Std w/ Soil Plate		1	13			13	1
						R1-1	Stop	Speedway Entrance	36" X 36"	White	Red	XI	9.00								1	1
						R3-5R	Right Turn ONLY		30" X 36"	Black	White	XI	7.50		Type D		1	13			13	1
S-23	RT	44	216+25	14.352	NB	R1-1	Stop	Mart Entrance	30" X 36"	White	Red	XI	9.00		Type D		1	13			13	1
						R3-5R	Right Turn ONLY		30" X 36"	Black	White	XI	7.50								1	1
S-24	LT	48	216+25	14.352	SB	R3-5R	Right Turn ONLY		30" X 36"	Black	White	XI	7.50								1	1
S-25	LT	45	223+90	14.489	WB	R3-7R	Right Lane Must Turn Right		36" X 36"	Black	White	XI	9.00		Std w/ Soil Plate		1	13.5			13.5	1

Remove Sign Assemblies	Number of Sign Assemblies
S5	1
S11	1
S13	1
S15	1
S19	1
Total	5

*City of Florence Sign - RELOCATE EXISTING SIGN POST AND SIGN

Remove Sign Assemblies	Number of Sign Assemblies
S-22	1
Total	1

Summary of Items	Quantity	Unit
SBM Alum Sheet Signs 0.080 INCH	155	69
Barcode Sign Inventory	20	
Remove Sign	5	EACH

Summary of Items	Quantity	Unit
Steel Post - Type 1	132	25
GMSS Type D	7	EACH
Class A Concrete for Signs	1.75	CYD
Remove and Relocate Sign Assembly	1	EACH

BOONE COUNTY KY 18 (BURLINGTON PIKE) FROM GREENVIEW RD. TO HOUSTON RD. ITEM NO. 6-9022.30 STRIPING / PAVEMENT MARKING SUMMARY PAGE 1 OF 4					
STRIPING					
BEGIN		END		LENGTH	LF
STATION	OFFSET	STATION	OFFSET		
KY 18 WESTBOUND (TOWARDS GREENVIEW ROAD)					
6" Single Solid White Line (PAVE STRIPING-THERMO-6 IN W)					
215+36	31' LEFT	216+38	57' LEFT	113	113
215+36	18.5' LEFT	215+86	18' LEFT	50	50
215+36	6' LEFT	217+86	5' LEFT	250	250
216+94	56' LEFT	219+56	84' LEFT	309	309
220+03	78' LEFT	224+22	79' LEFT	461	461
224+56	81' LEFT	227+72	83' LEFT	359	359
228+12	87' LEFT	231+20	72' LEFT	338	338
6" Single Dashed White Line (PAVE STRIPING-THERMO-6 IN W)					
215+86	18' LEFT	217+86	17' LEFT	200	50
217+86	17' LEFT	220+50	12' LEFT	264	66
220+50	12' LEFT	231+20	30' LEFT	1076	269
227+90	41' LEFT	231+20	42' LEFT	330	82.5
12" Single Solid White Line (PAVE STRIPING-THERMO-12 IN W)					
220+29	24' LEFT	222+50	24' LEFT	221	221
12" Wide Dotted Lane Line Extension (PAVE STRIPING-THERMO-12 IN W)					
222+50	24' LEFT	227+90	41' LEFT	540	135
6" Double Solid Yellow Line (PAVE STRIPING-THERMO-6 IN Y)					
217+87	6' RIGHT	218+87	3.9' LEFT	100	200
218+87	3.9' LEFT	220+50	0'	163	326
220+50	0'	222+19	0'	169	338
222+19	0'	227+90	17' LEFT	585	1170
227+90	17' LEFT	231+19	18' LEFT	329	658
KY 18 EASTBOUND (TOWARDS HOUSTON ROAD)					
6" Single Solid White Line (PAVE STRIPING-THERMO-6 IN W)					
215+36	31' RIGHT	215+87	47' RIGHT	56	56
216+15	47' RIGHT	217+43	50' RIGHT	144	144
217+74	55' RIGHT	219+56	66' RIGHT	210	210
219+99	67' RIGHT	223+23	60' RIGHT	354	354
223+57	62' RIGHT	231+30	59' RIGHT	789	789
228+00	6' LEFT	231+19	6' LEFT	319	319
228+00	6' RIGHT	231+19	6' RIGHT	319	319
230+69	20' RIGHT	231+19	20' RIGHT	50	50
230+69	32' RIGHT	231+19	32' RIGHT	50	50
6" Single Dashed White Line (PAVE STRIPING-THERMO-6 IN W)					
215+36	18.5' RIGHT	227+40	18' RIGHT	1199	299.75
227+40	18' RIGHT	230+69	20' RIGHT	329	82.25
229+67	32' RIGHT	230+69	32' RIGHT	102	25.5
6" Double Solid Yellow Line (PAVE STRIPING-THERMO-6 IN Y)					
215+36	6' RIGHT	226+30	6' RIGHT	1094	2188
226+30	6' RIGHT	227+90	17' LEFT	160	320
MERCHANTS STREET					
4" Double Solid Yellow Line (PAVE STRIPING-PERM PAINT-4 IN)					
10+82	9' RIGHT	11+83	10' RIGHT	101	202
10+81	6' LEFT	11+83	6' LEFT	102	204
4" Solid Dashed Yellow Line (PAVE STRIPING-PERM PAINT-4 IN)					
11+83	6' LEFT	13+11	6' LEFT	128	160
11+83	10' RIGHT	13+11	9' RIGHT	128	160

BOONE COUNTY KY 18 (BURLINGTON PIKE) FROM GREENVIEW RD. TO HOUSTON RD. ITEM NO. 6-9022.30 STRIPING / PAVEMENT MARKING SUMMARY PAGE 2 OF 4					
WATER BLASTING					
BEGIN		END		LENGTH	LF
STATION	OFFSET	STATION	OFFSET		
MERCHANTS STREET					
4" Single Solid White Line (WATER BLASTING EXISTING STRIPE)					
10+67	10' LEFT	11+66	11' LEFT	99	99
4" Single Dashed White Line (WATER BLASTING EXISTING STRIPE)					
11+66	11' LEFT	12+68	11' LEFT	102	25.5
4" Double Solid Yellow Line (WATER BLASTING EXISTING STRIPE)					
10+66	0'	11+69	0'	103	206
10+66	0'	11+83	9' RIGHT	117	234
4" Single Solid and Single Dashed Yellow Line - TWLTL (WATER BLASTING EXISTING STRIPE)					
11+69	0'	13+06	0'	137	171.25
11+83	0'	13+15	10' RIGHT	132	165
FULLER STREET					
4" Double Solid Yellow Line (WATER BLASTING EXISTING STRIPE)					
20+62	0'	20+78	0'	16	32
HONDA DEALERSHIP (KY 18 STATIONING)					
4" Single Solid Yellow Line (WATER BLASTING EXISTING STRIPE)					
219+78	56' RIGHT	219+78	77' RIGHT	21	21
PAVEMENT MARKING REMOVAL					
STATION	OFFSET	DESCRIPTION	SF		
MERCHANTS STREET					
10+65	0' to 22' LEFT	24" STOP BAR (22 LF)	44		
11+18	6' LEFT	LEFT TURN ARROW	15.5		
11+18	14' LEFT	RIGHT TURN ARROW	15.5		
11+85	5' RIGHT	TWO-WAY LEFT TURN LANE ARROW	15.5		
12+03	5' RIGHT	TWO-WAY LEFT TURN LANE ARROW	15.5		
12+12	6' LEFT	LEFT TURN ARROW	15.5		
12+12	14' LEFT	RIGHT TURN ARROW	15.5		
12+70	5' RIGHT	TWO-WAY LEFT TURN LANE ARROW	15.5		
12+89	5' RIGHT	TWO-WAY LEFT TURN LANE ARROW	15.5		
FULLER STREET					
20+62	0' to 22' LEFT	24" STOP BAR (22 LF)	44		
RIDGE ROAD (KY 18 STATIONING)					
214+93 TO STA. 215+20	58' RIGHT	24" STOP BAR (27 LF)	54		
ENDS STA. 215+20	46' RIGHT	EXISTING CROSS WALK (50 LF)	25		
ENDS STA. 215+22	54' RIGHT	EXISTING CROSS WALK (45 LF)	22.5		
HONDA DEALERSHIP (KY 18 STATIONING)					
219+78 TO STA. 220+03	56' RIGHT	24" STOP BAR (24 LF)	48		

BOONE COUNTY KY 18 (BURLINGTON PIKE) FROM GREENVIEW RD. TO HOUSTON RD. ITEM NO. 6-9022.30 STRIPING / PAVEMENT MARKING SUMMARY PAGE 3 OF 4				
PAVEMENT MARKING - THERMO STOP BAR - 24 IN				
STATION	OFFSET	DESCRIPTION	LF	
KY 18 WESTBOUND (TOWARDS GREENVIEW ROAD)				
215+36	6' RIGHT to 32' LEFT	24" STOP BAR	38	
KY 18 EASTBOUND (TOWARDS HOUSTON ROAD)				
231+20	6' LEFT to 58' RIGHT	24" STOP BAR	64	
MERCHANTS STREET				
10+30	20 LEFT' to 40' LEFT	24" STOP BAR	20	
FULLER STREET				
20+51	6' LEFT to 26' LEFT	24" STOP BAR	20	
RIDGE ROAD (KY 18 STATIONING)				
214+94 TO 215+19	62' RIGHT	24" STOP BAR	25	
ENTRANCES ALONG KY 18 (KY 18 STATIONING)				
216+30 TO 216+47	45' LEFT	24" STOP BAR - FOOD MART / GAS	17	
227+71 TO 227+86	65' LEFT	24" STOP BAR - 5/3 BANK	16	
228+02 TO 228+23	48' RIGHT	24" STOP BAR - TOYOTA ENTRANCE 1	20	
223+45 TO 223+61	43' RIGHT	24" STOP BAR - TOYOTA ENTRANCE 2 (USED VEH)	17	
219+91 TO 220+11	43' RIGHT	24" STOP BAR - HONDA DEALERSHIP	20	
216+05 TO 216+17	42' RIGHT	SPEEDWAY ENTRANCE 1	12	
217+67 TO 217+80	40' RIGHT	SPEEDWAY ENTRANCE 2	13	
PAVEMENT MARKING - THERMO ARROWS / "ONLY"				
STATION	OFFSET	DESCRIPTION	EACH	
KY 18 WESTBOUND (TOWARDS GREENVIEW ROAD)				
215+76	0'	KY 18 WB LEFT TURN LANE ONTO RIDGE RD	ARROW	1
216+49	0'	KY 18 WB LEFT TURN LANE ONTO RIDGE RD	ARROW	1
217+25	0'	KY 18 WB LEFT TURN LANE ONTO RIDGE RD	ARROW	1
217+85	0'	KY 18 WB LEFT TURN LANE ONTO RIDGE RD	ARROW	1
220+90	30' LEFT	KY 18 WB RIGHT TURN LANE ONTO MERCHANTS	ARROW	1
221+70	30' LEFT	KY 18 WB RIGHT TURN LANE ONTO MERCHANTS	ONLY	1
222+50	30' LEFT	KY 18 WB RIGHT TURN LANE ONTO MERCHANTS	ARROW	1
223+30	30' LEFT	KY 18 WB RIGHT TURN LANE ONTO MERCHANTS	ONLY	1
223+95	30' LEFT	KY 18 WB RIGHT TURN LANE ONTO MERCHANTS	ARROW	1
KY 18 EASTBOUND (TOWARDS HOUSTON ROAD)				
228+00	0'	KY 18 EB DUAL LEFT TURN LANE ONTO HOUSTON	ARROW	1
228+00	12' LEFT	KY 18 EB DUAL LEFT TURN LANE ONTO HOUSTON	ARROW	1
228+70	0'	KY 18 EB DUAL LEFT TURN LANE ONTO HOUSTON	ARROW	1
228+70	12' LEFT	KY 18 EB DUAL LEFT TURN LANE ONTO HOUSTON	ARROW	1
229+40	0'	KY 18 EB DUAL LEFT TURN LANE ONTO HOUSTON	ARROW	1
229+40	12' LEFT	KY 18 EB DUAL LEFT TURN LANE ONTO HOUSTON	ARROW	1
230+10	0'	KY 18 EB DUAL LEFT TURN LANE ONTO HOUSTON	ARROW	1
230+10	12' LEFT	KY 18 EB DUAL LEFT TURN LANE ONTO HOUSTON	ARROW	1
230+80	0'	KY 18 EB DUAL LEFT TURN LANE ONTO HOUSTON	ARROW	1
230+80	12' LEFT	KY 18 EB DUAL LEFT TURN LANE ONTO HOUSTON	ARROW	1
MERCHANTS STREET				
10+70	13' LEFT	MERCHANTS TOWARDS KY 18 RIGHT TURN ONLY	ARROW	1
11+50	16' LEFT	MERCHANTS TOWARDS KY 18 RIGHT TURN ONLY	ONLY	1
12+30	15' LEFT	MERCHANTS TOWARDS KY 18 RIGHT TURN ONLY	ARROW	1
12+34	2' RIGHT	MERCHANTS TOWARDS SPEEDWAY LEFT TURN ENT.	ARROW	1
12+94	2' RIGHT	MERCHANTS TOWARDS BANKERS LEFT TURN ENT.	ARROW	1
FULLER STREET				
20+91	5' LEFT	FULLER TOWARDS KY 18 RIGHT TURN ONLY	ARROW	1
21+51	5' LEFT	FULLER TOWARDS KY 18 RIGHT TURN ONLY	ONLY	1
22+11	5' LEFT	FULLER TOWARDS KY 18 RIGHT TURN ONLY	ARROW	1

BOONE COUNTY KY 18 (BURLINGTON PIKE) FROM GREENVIEW RD. TO HOUSTON RD. ITEM NO. 6-9022.30 STRIPING / PAVEMENT MARKING SUMMARY PAGE 4 OF 4					
RIGHT-IN AND RIGHT-OUT ISLAND STRIPING					
PAVE STRIPING THERMO-12 IN WHITE (ISLAND OUTLINE)					
STATION	OFFSET	DESCRIPTION		LF	
216+66	31' LEFT	FOOD MART / GAS		145	
219+39 to 220+29	26' LEFT to 24' LEFT	MERCHANTS STREET (WHITE)		90	
224+38	55' LEFT	FULLER STREET		125	
227+93	55' LEFT	5/3 BANK		80	
223+41	45' RIGHT	TOYOTA ENTRANCE - USED VEHICLES		95	
219+78	32' RIGHT	HONDA ENTRANCE		140	
216+02	32' RIGHT	SPEEDWAY ENTRANCE 1		65	
217+58	32' RIGHT	SPEEDWAY ENTRANCE 2		70	
PAVE STRIPING THERMO-12 IN YELLOW (ISLAND OUTLINE)					
STATION	OFFSET	DESCRIPTION		LF	
219+39 to 219+71	26' LEFT to 81' LEFT	MERCHANTS STREET (YELLOW)		66	
219+85 to 220+29	79' LEFT to 24' LEFT	MERCHANTS STREET (YELLOW)		78	
PAVE MARKING - THERMO CROSS HATCH (ISLAND CROSS HATCH) (X = 1' , Y = 10')					
STATION	OFFSET	DESCRIPTION		SQFT	
219+75	55' LEFT	MERCHANTS STREET (YELLOW)		374	
224+40	55' LEFT	FULLER STREET (WHITE)		95	
219+77	49' RIGHT	HONDA ENTRANCE (WHITE)		85	
CROSS WALK - PAVE MARKING THERMO X-WALK 6 IN					
BEGIN		END		LENGTH	LF
STATION	OFFSET	STATION	OFFSET		
RIDGE ROAD					
214+75	52' RIGHT	215+24	52' RIGHT	49	49
214+76	58' RIGHT	215+21	58' RIGHT	45	45

STRIPING / PAVEMENT MARKING SUMMARY			
BID ITEM	DESCRIPTION	UNIT	QUANTITY
6514	PAVE STRIPING-PERM PAINT-4 IN	LF	726
6542	PAVE STRIPING-THERMO-6 IN W	LF	5,046
6543	PAVE STRIPING-THERMO-6 IN Y	LF	5,200
6546	PAVE STRIPING-THERMO-12 IN W	LF	1,166
6547	PAVE STRIPING-THERMO-12 IN Y	LF	144
6565	PAVE MARKING-THERMO X-WALK-6 IN	LF	94
6568	PAVE MARKING-THERMO STOP BAR-24 IN	LF	282
6569	PAVE MARKING-THERMO CROSS-HATCH	SQFT	554
6574	PAVE MARKING-THERMO CURV ARROW	EACH	23
6576	PAVE MARKING-THERMO ONLY	EACH	4
6598	PAVEMENT MARKING REMOVAL	SQFT	361.50
22664EN	WATER BLASTING EXISTING STRIPE	LF	953.75

**BOONE COUNTY
TRAFFIC SIGNAL SUMMARY
ITEM NO. 6-9022.30
SUMMARY FOR LOOPS AND PEDESTRIAN PEDESTAL / DETECTORS AT RIDGE ROAD**

INTERSECTION	SAW, SLOT AND FILL	LOOP WIRE	CONDUIT 1 INCH	CONDUIT 1 1/4 INCH	CABLE NO 14/5C	CABLE NO. 14	JUNCTION TYPE B	Trenching and Backfilling	Loop Test	NOTES
KY 18 @ RIDGE ROAD										
RIDGE ROAD (PHASE 4)	224	588	10	15		15	1	25	2	2 - 6X30 STOP BAR LOOP
PED DETECTOR 6A				10	25			10		
PED DETECTOR 6B				15	165			15		
Total	224	588	10	40	190	15	1	50	2	

1. Quantities are for estimating purposes only. The Contractor shall field measure and inspect items to verify quantities.

SAW, SLOT AND FILL	LOOP WIRE	CONDUIT 1 INCH	PVC		CABLE NO 14/5C	CABLE NO. 14	JUNCTION TYPE B	Trenching and Backfilling	Loop Test
			CONDUIT 1 1/4 INCH	CONDUIT LF					
224	588	10	40	190	15	1	50	2	
Grand Total	224	588	10	40	190	15	1	50	2

PEDESTRIAN PEDESTAL AND PEDESTRIAN DETECTOR ADDITIONAL QUANTITIES				
ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	
21743NN	INSTALL PEDESTRIAN DETECTOR	EACH	2	
23222EC	INSTALL SIGNAL PEDESTAL	EACH	1	

Jeff Wolfe - Director

DIVISION OF TRAFFIC OPERATIONS
PROJECT MATERIALS RELEASE FORM
FOR SIGNALS AND LIGHTING

Phone (502) 564-3020
FAX (502) 564-7759

Note: Email form with signatures to KYTC's warehouse (kim.stamper@ky.gov) at least two (2) days prior to arrival for pickup. Ensure Contractor's delivery driver has a copy of form with signatures. Failure to do either may result in long delays or refusal to distribute materials upon arrival.

Item Number: 6-9022.30
County: Boone
Description: KY 18 @ Ridge Road
Pedestrian Pedestal and Pedestrian Detector

Cabinets **Master code**

Signals

Special Items

1	T-02-0650	Pedstl.top mntg.bkt One-way
1	T-02-0670	Pedestal
2	T-06-0710	Ped Detector Pole Mount FSA Box
2	T-06-0730	Ped Button w/o Plunger
2	T-17-0015	9 X 15 Countdown Ped Sign DBL Sided

Poles

Electrical Contractor Name _____
Electrical Contractor Supervisor _____
Project Engineer _____

Contact number for Supervisor _____
Contact number for Project Engineer _____

Project Engineer attests that the mentioned contractor is the actual electrical contractor on this project

Signature of Project Engineer or Designee _____

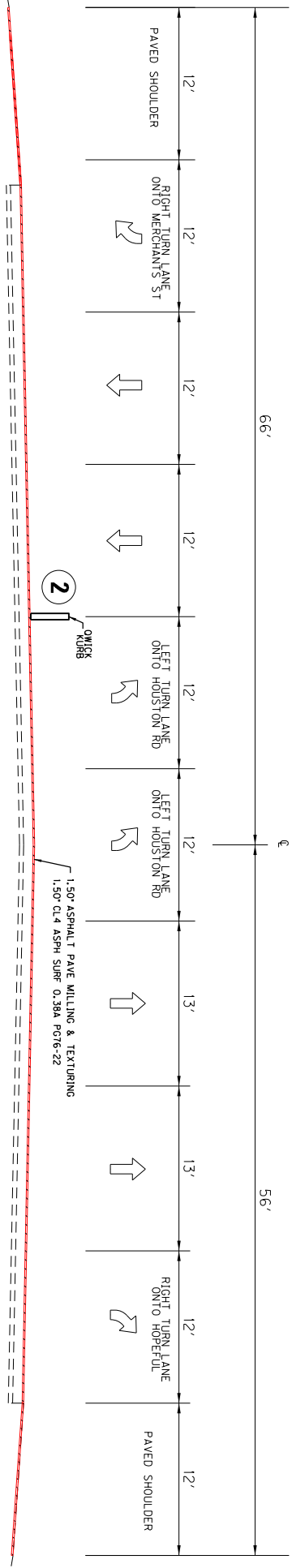
COUNTY OF	ITEM NO.
BOONE	6-9022.30

TYPICAL SECTIONS

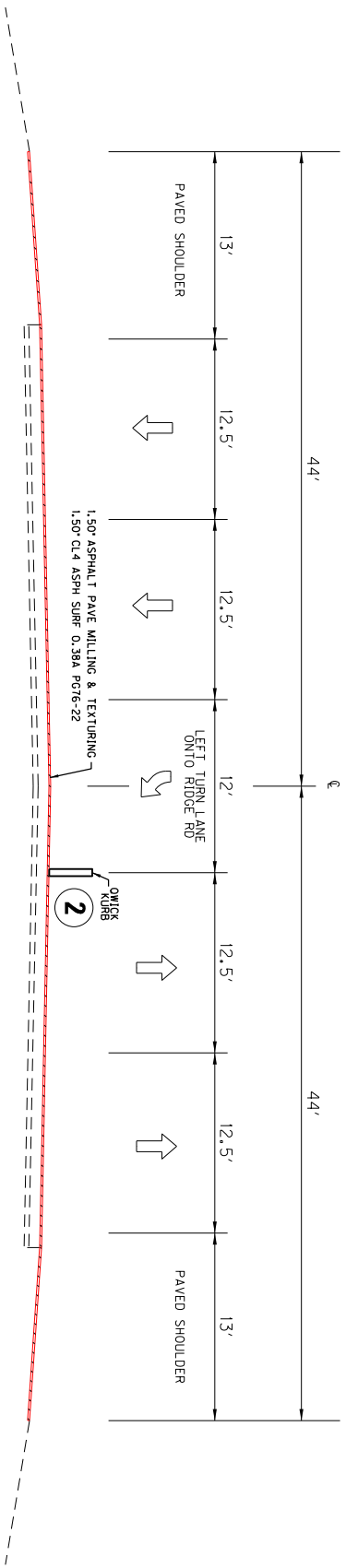
KY 18 - RESURFACING

1.50" SURFACE CL4 ASPH SURF 0.38A PGT6-22

RESURFACE - KY 18 RESURFACE EXISTING TRAVEL LANES AND PAVED SHOULDERS



END RESURFACE: STA. 231 + 25 (1)



BEGIN RESURFACE: STA. 215 + 30 (1)

- 1 REFER TO THE STRIPING PLAN SHEETS FOR PROPOSED LAYOUT ALONG KY 18
- 2 REFER TO THE PLAN SHEETS FOR OWICK KURB LAYOUT ALONG KY 18

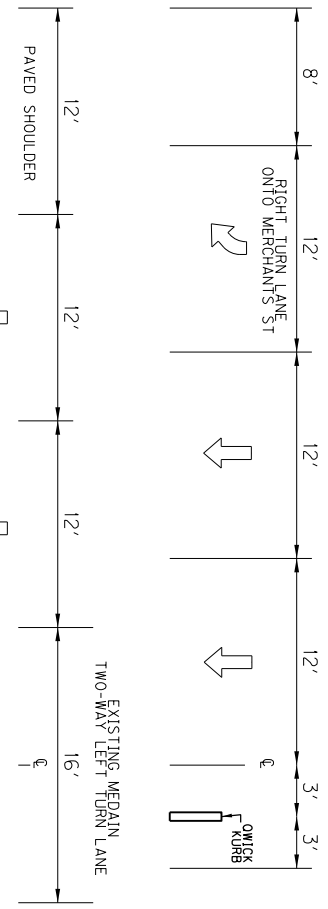
NOT TO SCALE

KY 18 (BURLINGTON PIKE)
GREENVIEW RD (MP 14.33) TO HOUSTON RD (MP 14.63)
TYPICAL SECTION - RESURFACING

TYPICAL SECTIONS

FULL DEPTH CONCRETE

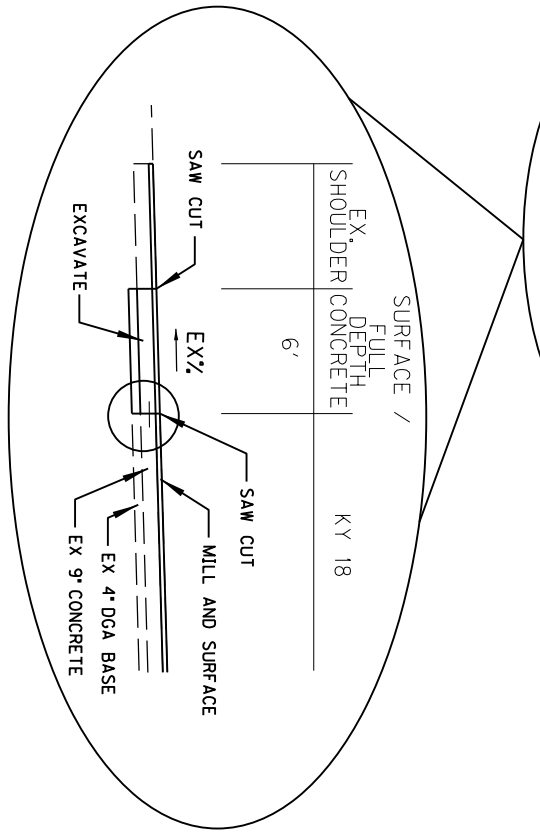
COUNTY OF	ITEM NO.
BOONE	6-9022.30



PROPOSED LAYOUT

EXISTING LAYOUT

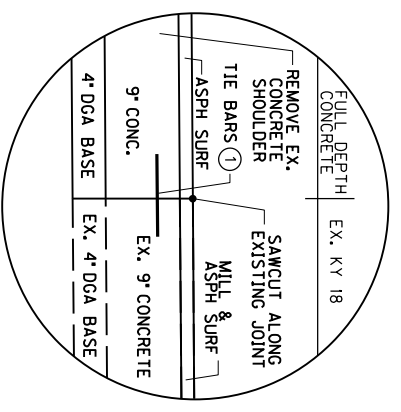
STA. 220 + 31 TO STA. 223 + 93



FULL DEPTH CONCRETE

PAVEMENT [9" JPC PAVEMENT / 4" DGA BASE]

NOT TO SCALE



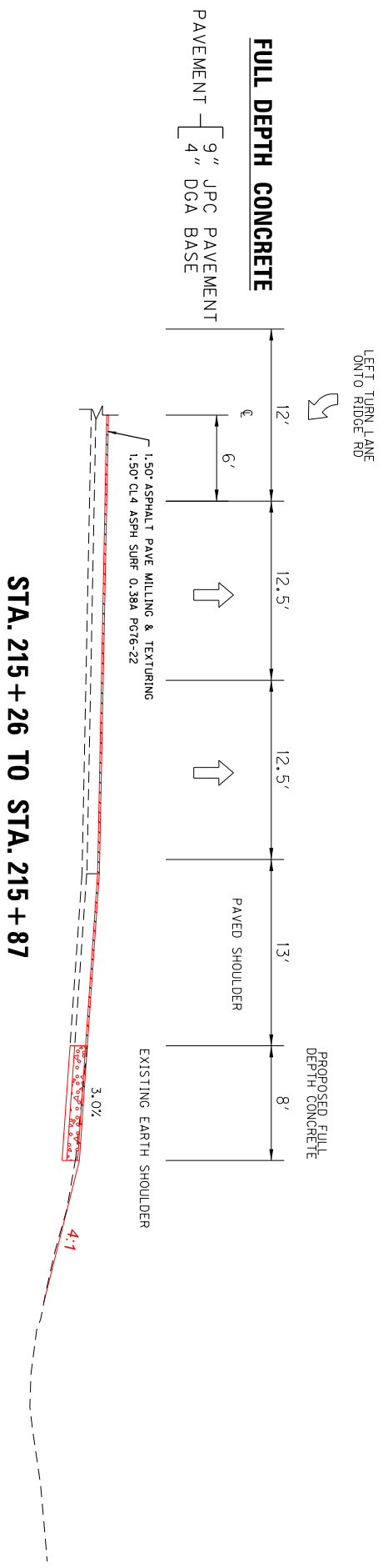
ⓐ NO. 5 DEFORMED TIE BAR 2'-6" LONG PLACED 1'-8" ON CENTER AND PLACED MINIMUM FROM ANY TRANSVERSE JOINT. SEE STANDARD DRAWING RPS-010-11

KY 18 (BURLINGTON PIKE)
GREENVIEW RD (MP 14.33) TO HOUSTON RD (MP 14.63)
TYPICAL SECTION - FULL DEPTH PAVEMENT

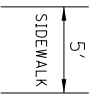
TYPICAL SECTIONS

U-TURN FULL DEPTH CONCRETE / SIDEWALK

COUNTY OF	ITEM NO.
BOONE	6-9022.30



SIDEWALK
PAVEMENT [4" SIDEWALK CONCRETE



**SIDEWALK ALONG RIDGE ROAD
(TIE IN TO RELOCATED CROSS WALK)**

NOT TO SCALE

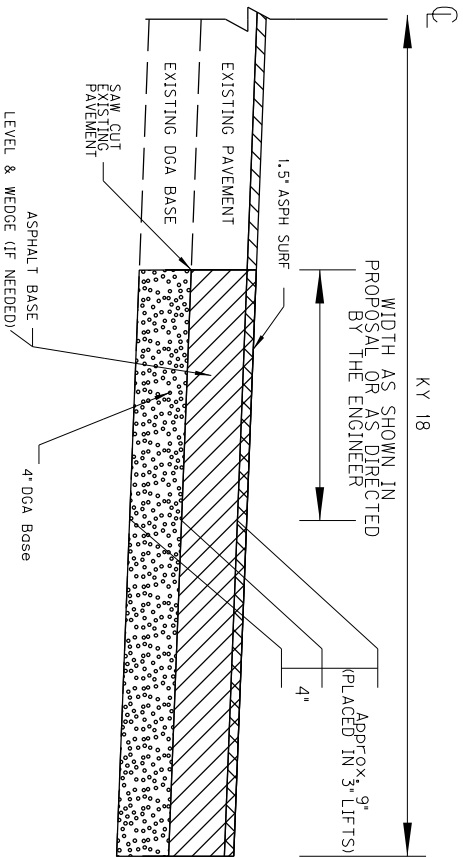
KY 18 (BURLINGTON PIKE)
GREENVIEW RD (MP 14.33) TO HOUSTON RD (MP 14.63)
TYPICAL SECTION - U-TURN FULL DEPTH PAVEMENT/SIDEWALK

TYPICAL SECTIONS

BASE FAILURE REPAIR DETAILS

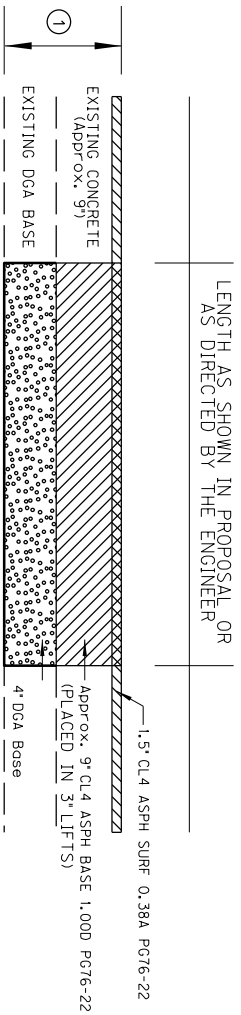
- STA. 215 + 80 TO STA. 215 + 88 - 32' RT TO 40' RT (LENGTH = 8 FT, WIDTH = 8 FT) STA. 221 + 37 TO STA. 222 + 52 - 18' LT TO 32' LT (LENGTH = 115 FT, WIDTH = 14 FT)
- STA. 217 + 46 TO STA. 218 + 02 - 30' RT TO 44' RT (LENGTH = 56 FT, WIDTH = 14 FT) STA. 224 + 89 TO STA. 224 + 99 - 16' LT TO 42' LT (LENGTH = 10 FT, WIDTH = 26 FT)
- STA. 218 + 62 TO STA. 218 + 92 - 7' RT TO 33' RT (LENGTH = 30 FT, WIDTH = 26 FT) STA. 227 + 95 TO STA. 228 + 05 - 12' LT TO 54' LT (LENGTH = 10 FT, WIDTH = 42 FT)
- STA. 219 + 30 TO STA. 219 + 40 - 7' RT TO 33' RT (LENGTH = 10 FT, WIDTH = 26 FT) STA. 230 + 29 TO STA. 230 + 39 - 19' LT TO 52' LT (LENGTH = 10 FT, WIDTH = 33 FT)
- STA. 220 + 76 TO STA. 220 + 86 - 8' LT TO 32' LT (LENGTH = 10 FT, WIDTH = 24 FT)

BASE FAILURE CROSS SECTION VIEW

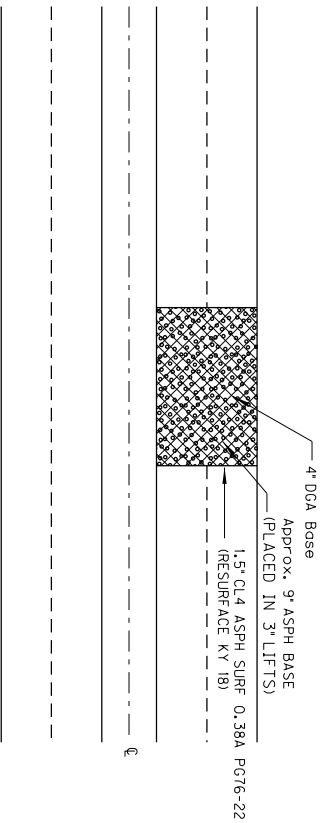


① DEPTH OF EXCAVATION AND REPAIR LENGTH AS DIRECTED BY THE ENGINEER.

BASE FAILURE PROFILE VIEW



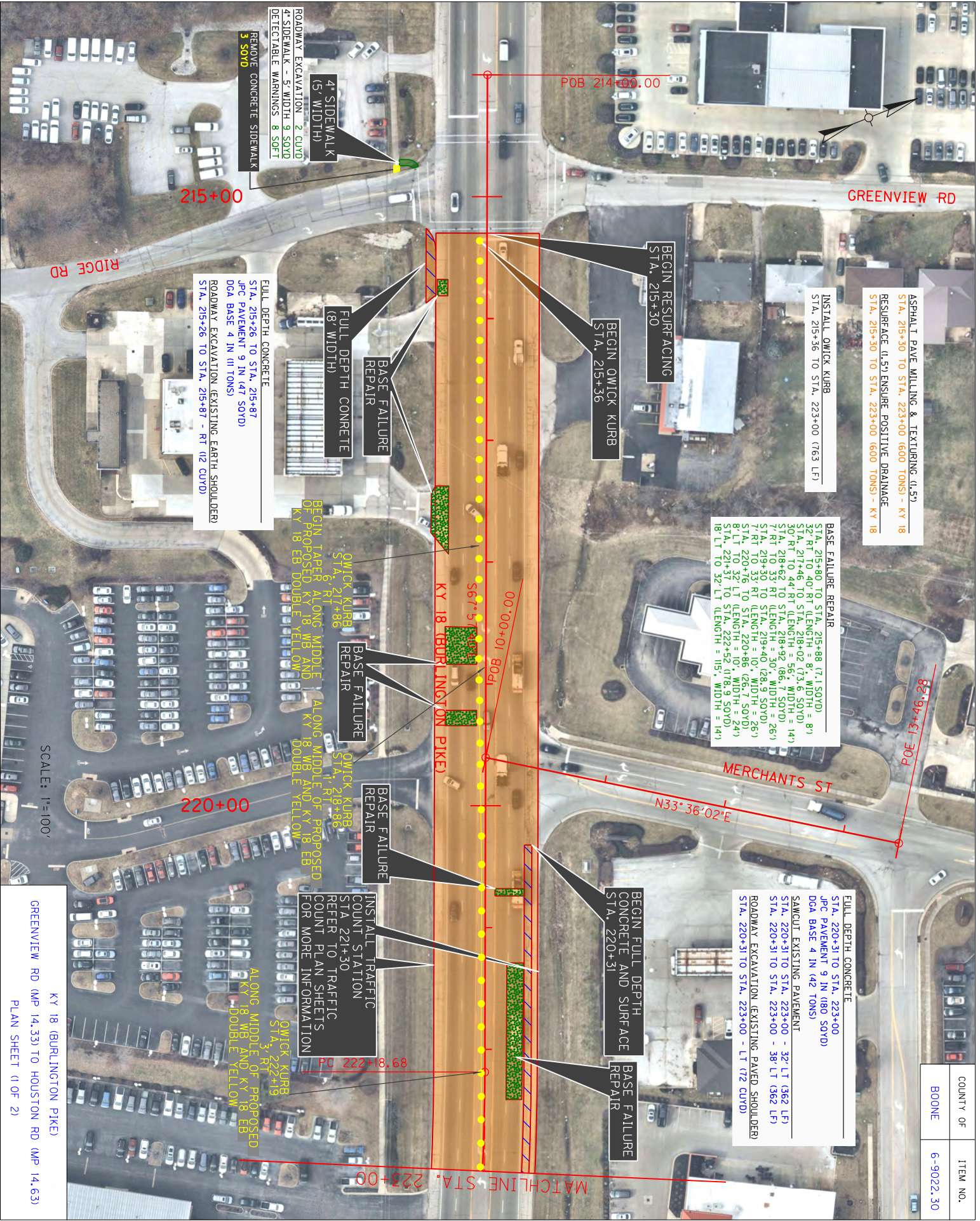
BASE FAILURE TOP VIEW



NOT TO SCALE

KY 18 (BURLINGTON PIKE)
GREENVIEW RD (MP 14.33) TO HOUSTON RD (MP 14.63)
TYPICAL SECTION - BASE FAILURE REPAIR

COUNTY OF	ITEM NO.
BOONE	6-9022.30



ASPHALT PAVE MILLING & TEXTURING (4.5)
STA. 215+30 TO STA. 223+00 (600 TONS) - KY 18
RESURFACE (4.5) ENSURE POSITIVE DRAINAGE
STA. 215+30 TO STA. 223+00 (600 TONS) - KY 18

INSTALL OWICK KURB
STA. 215+36 TO STA. 223+00 (763 LF)

BASE FAILURE REPAIR
STA. 215+80 TO STA. 215+88 (7.1 SOYD)
32' RT 10.40' RT (LENGTH = 8', WIDTH = 8')
STA. 217+46 TO STA. 218+02 (73.6 SOYD) = 14'
30' RT 10.44' RT (LENGTH = 56', WIDTH = 14')
STA. 218+62 TO STA. 219+30 (66.8 SOYD)
STA. 219+30 TO STA. 219+40 (28.9 SOYD)
STA. 219+40 TO STA. 219+40 (28.9 SOYD)
7' RT TO 33' RT (LENGTH = 10', WIDTH = 26')
STA. 220+76 TO STA. 220+86 (26.7 SOYD)
8' LT TO 32' LT (LENGTH = 10', WIDTH = 24')
STA. 221+37 TO STA. 222+52 (118.9 SOYD)
18' LT TO 32' LT (LENGTH = 115', WIDTH = 14')

BEGIN RESURFACING
STA. 215+30

BEGIN OWICK KURB
STA. 215+36

BASE FAILURE REPAIR
FULL DEPTH CONCRETE (8' WIDTH)

FULL DEPTH CONCRETE
STA. 215+26 TO STA. 215+87
JPC PAVEMENT 9 IN (47 SOYD)
DGA BASE 4 IN (11 TONS)
ROADWAY EXCAVATION (EXISTING EARTH SHOULDER)
STA. 215+26 TO STA. 215+87 - RT (12 CURVD)

4" SIDEWALK (5' WIDTH)
ROADWAY EXCAVATION 2 CUYD
4" SIDEWALK - 5' WIDTH 9 SOYD
DETECTABLE WARNING 8 SOFT
REMOVE CONCRETE SIDEWALK
3 SOYD

BASE FAILURE REPAIR
OWICK KURB
STA. 219+86

BASE FAILURE REPAIR
OWICK KURB
STA. 219+86

BEGIN FULL DEPTH CONCRETE AND SURFACE
STA. 220+31

FULL DEPTH CONCRETE
STA. 220+31 TO STA. 223+00
JPC PAVEMENT 9 IN (180 SOYD)
DGA BASE 4 IN (42 TONS)
SAWCUT EXISTING PAVEMENT
STA. 220+31 TO STA. 223+00 - 32' LT (362 LF)
STA. 220+31 TO STA. 223+00 - 38' LT (362 LF)
ROADWAY EXCAVATION (EXISTING PAVED SHOULDER)
STA. 220+31 TO STA. 223+00 - LT (72 CURVD)

INSTALL TRAFFIC COUNT STATION
STA 221+30
REFER TO TRAFFIC COUNT PLAN SHEETS FOR MORE INFORMATION

ALONG MIDDLE OF PROPOSED KY 18 DOUBLE YELLOW
OWICK KURB
STA. 221+19

BEGIN TAPER ALONG MIDDLE OF PROPOSED KY 18 WB AND KY 18 EB DOUBLE YELLOW
OWICK KURB
STA. 217+86

215+00

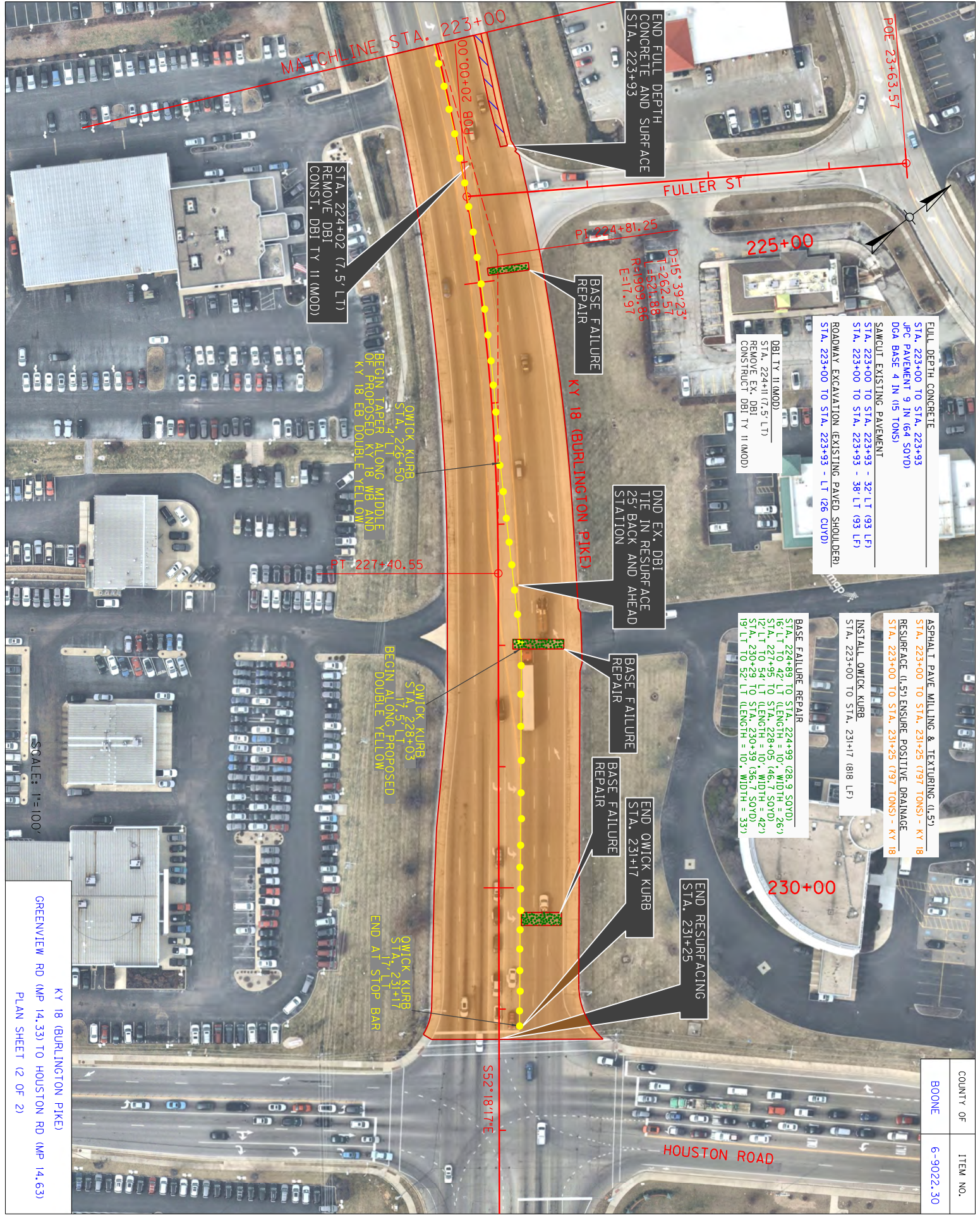
220+00

MATCHLINE STA. 223+00

SCALE: 1"=100'

KY 18 (BURLINGTON PIKE)
GREENVIEW RD (MP 14.33) TO HOUSTON RD (MP 14.63)
PLAN SHEET (1 OF 2)

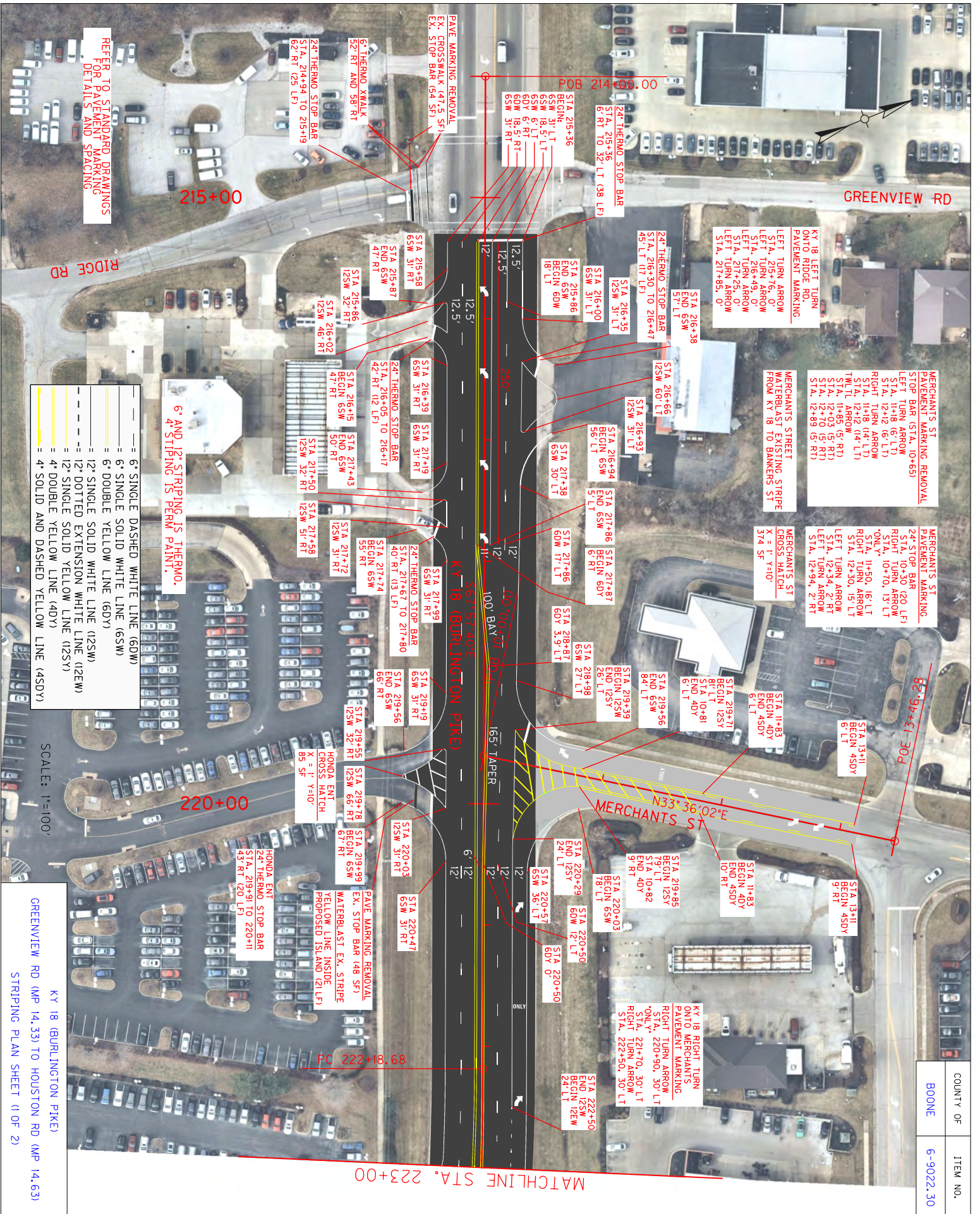
COUNTY OF	ITEM NO.
BOONE	6-9022.30



SCALE: 1"=100'

KY 18 (BURLINGTON PIKE)
GREENVIEW RD (MP 14.33) TO HOUSTON RD (MP 14.63)
PLAN SHEET (2 OF 2)

COUNTY OF	ITEM NO.
BOONE	6-9022.30



REFER TO STANDARD DRAWINGS FOR PAVEMENT MARKING DETAILS AND SPACING

6" AND 12" STRIPING IS THERMO,
4" STRIPING IS PERM. PAINT.

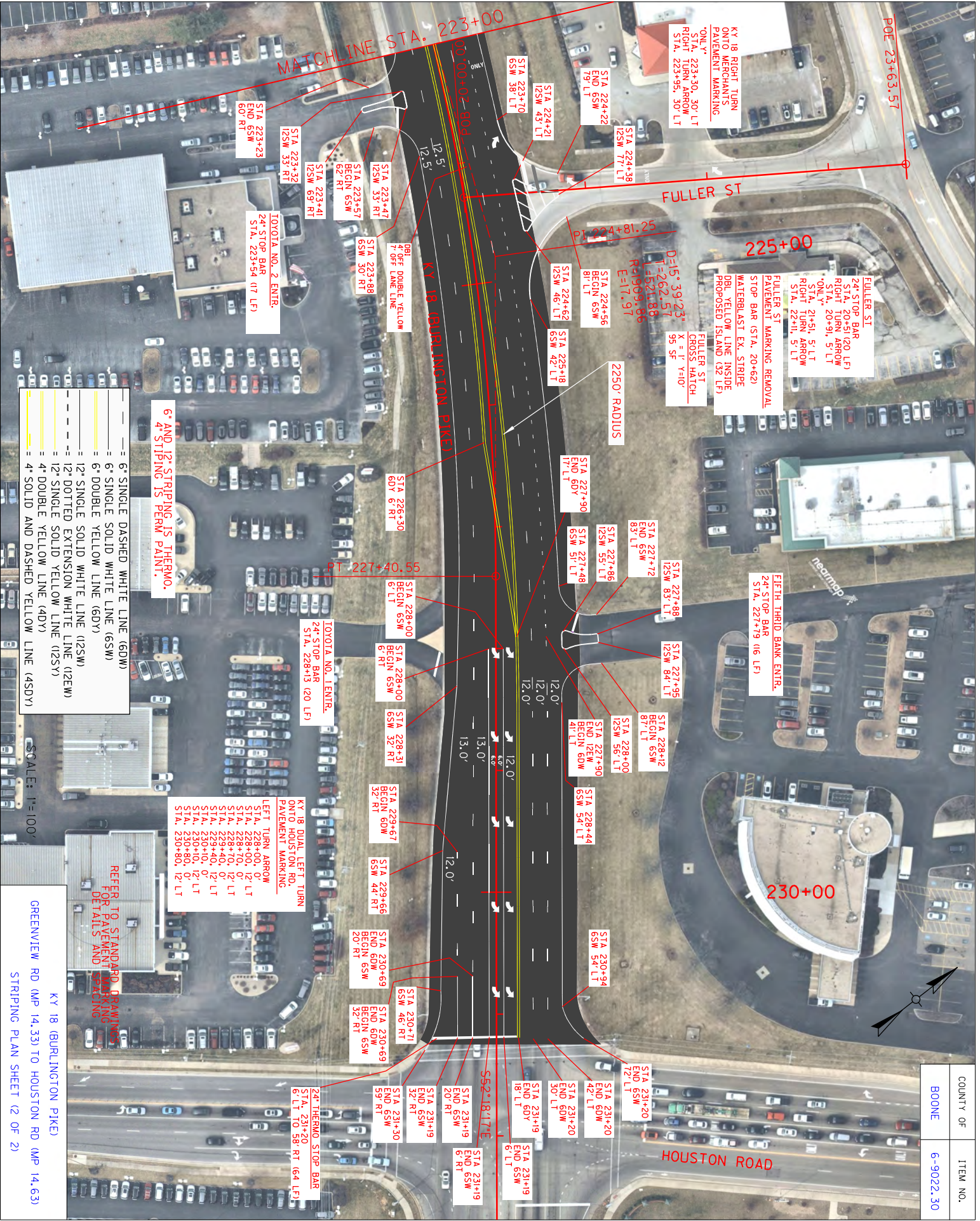
- 6" SINGLE DASHED WHITE LINE (6DW)
- 6" SINGLE SOLID WHITE LINE (6SW)
- 6" DOUBLE YELLOW LINE (6DY)
- 12" SINGLE SOLID WHITE LINE (12SW)
- 12" DOTTED EXTENSION WHITE LINE (12EW)
- 12" SINGLE SOLID YELLOW LINE (12SY)
- 4" DOUBLE YELLOW LINE (4DY)
- 4" SOLID AND DASHED YELLOW LINE (4SDY)

SCALE: 1"=100'

KY 18 (BURLINGTON PIKE)
GREENVIEW RD (MP 14.33) TO HOUSTON RD (MP 14.63)
STRIPING PLAN SHEET (1 OF 2)

COUNTY OF	ITEM NO.
BOONE	6-9022.30

MATCHLINE STA. 223+00



6" AND 12" STRIPING IS THERMO.
4" STRIPING IS PERM PAINT.

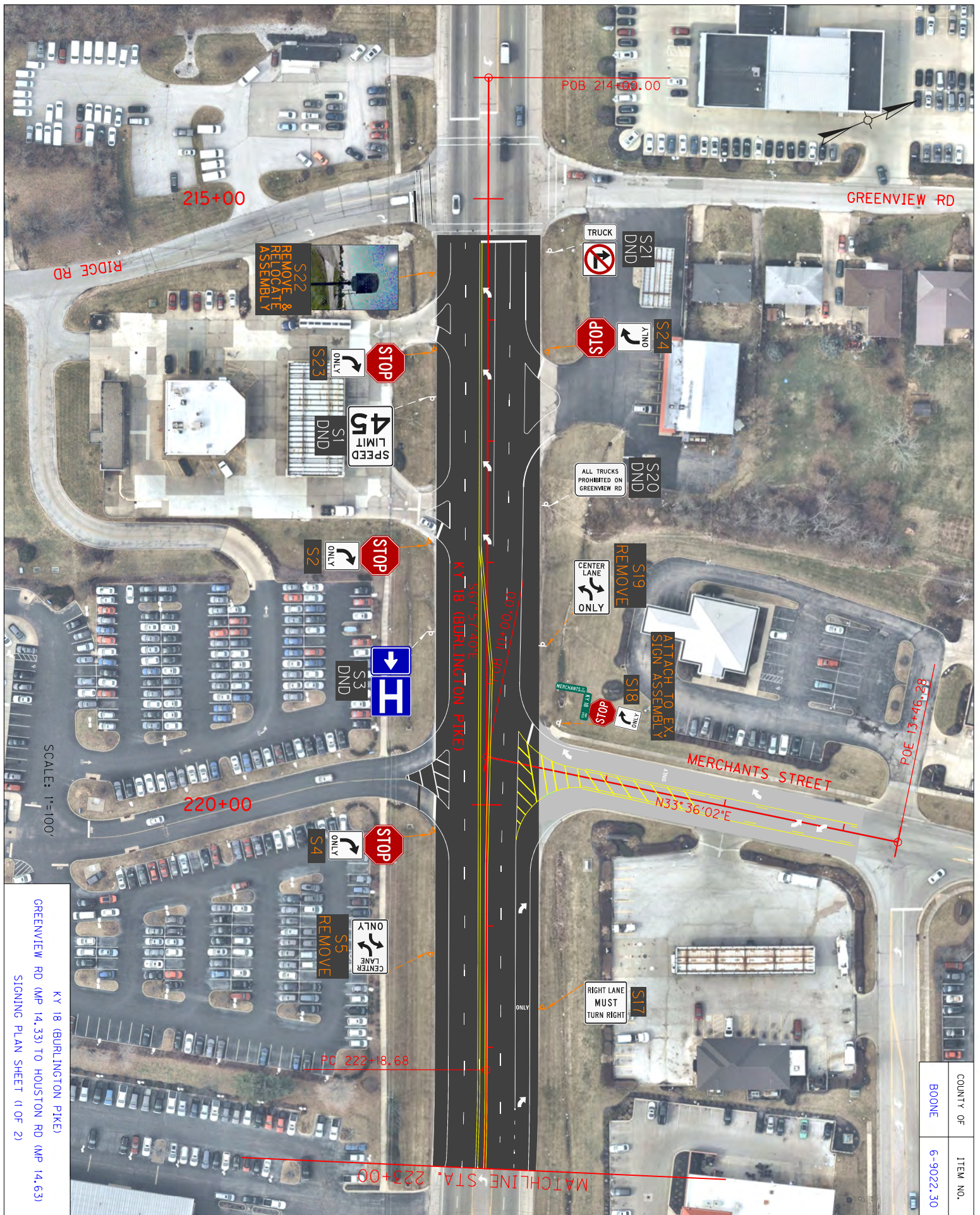
- 6" SINGLE DASHED WHITE LINE (6DW)
- 6" SINGLE SOLID WHITE LINE (6SW)
- 6" DOUBLE YELLOW LINE (6DY)
- 12" SINGLE SOLID WHITE LINE (12SW)
- 12" DOTTED EXTENSION WHITE LINE (12EW)
- 12" SINGLE SOLID YELLOW LINE (12SY)
- 4" DOUBLE YELLOW LINE (4DY)
- 4" SOLID AND DASHED YELLOW LINE (4SDY)

SCALE: 1"=100'

REFER TO STANDARD DRAWINGS
FOR PAVEMENT MARKING
DETAILS AND SPACING

KY 18 (BURLINGTON PIKE)
GREENVIEW RD (MP 14.33) TO HOUSTON RD (MP 14.63)
STRIPING PLAN SHEET (2 OF 2)

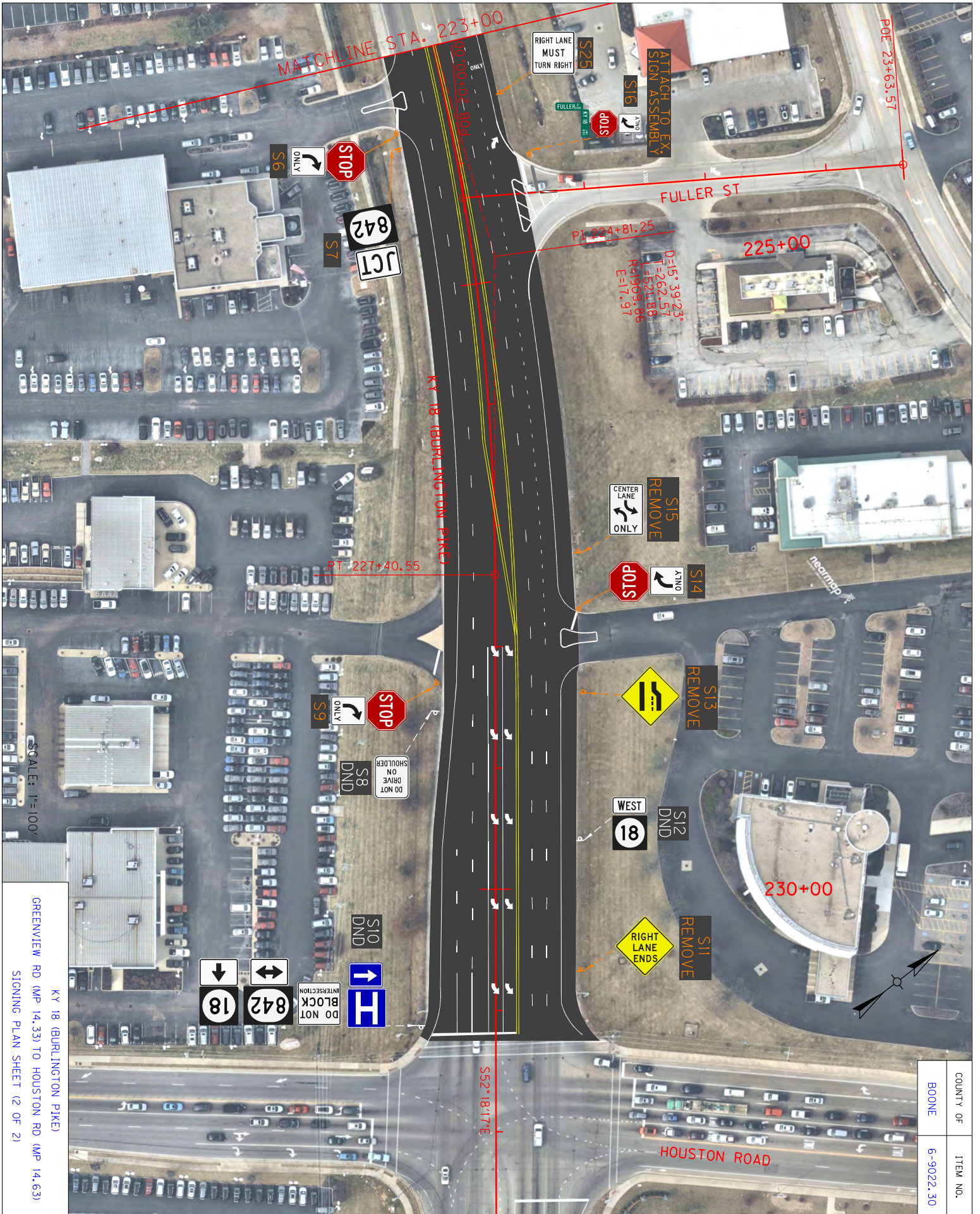
COUNTY OF	ITEM NO.
BOONE	6-9022.30



SCALE: 1"=100'

KY 18 (BURLINGTON PIKE)
GREENVIEW RD (MP 14.33) TO HOUSTON RD (MP 14.63)
SIGNING PLAN SHEET (1 OF 2)

COUNTY OF	ITEM NO.
BOONE	6-9022.30



COUNTY OF	BOONE
ITEM NO.	6-9022.30

SCALE: 1"=100'
 KY 18 (BURLINGTON PIKE)
 GREENVIEW RD (MP 14.33) TO HOUSTON RD (MP 14.63)
 SIGNING PLAN SHEET (2 OF 2)

NOTES:

1. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND DISTRICT UTILITY AGENTS PRIOR TO BEGINNING CONSTRUCTION. HAND DIG AREAS WHERE POLES OR CONDUIT CROSSES UTILITIES (TELEPHONE, GAS, WATER, SEWER, ETC.)
2. THE CONTRACTOR SHALL INSTALL POLE BASES FLUSH WITH SIDEWALK.
3. FINAL POLE PLACEMENT SHALL BE THE DECISION OF THE RESIDENT ENGINEER.
4. PEDESTRIAN DETECTORS SHALL BE INSTALLED SO THAT EACH BUTTON IS NO MORE THAN 10" FROM THE PAVED SIDEWALK OR SHOULDER. THE FARTHEST DISTANCE SHALL BE WITHIN THE 10" MAXIMUM DISTANCE FROM THE SIDEWALK OR SHOULDER.
5. NOTIFY D6 TRAFFIC TWO WEEKS IN ADVANCE OF ANY SIGNAL WORK.
6. KYTC TRAFFIC REPRESENTATIVE WILL BE ON SITE TO IMPLEMENT SIGNAL TIMING ADJUSTMENTS.

LOOP SCHEDULE

LOOP	PHASE	SLOT	CHANNEL	SIZE	# OF TURNS	DISTANCE FROM STOP BAR	NOTES
4A	4	I6	1	6X30	2	0'	THRU/LT TURN LOOP
4B	4	I6	2	6X30	2	0'	RT TURN LOOP

• ALL 6 X 30 FOOT LOOPS SHALL BE QUADRA-POLE

WIRING SCHEDULE

CABLE	ORIGIN	ENDING	CONNECTING
2-#14/1 PAIR	CONTROLLER	JB BI	LOOPS 4A & 4B

• INSTALL PEDESTAL 6B (STA. 214+70, 60" RT.)

• INSTALL 1" PEDESTRIAN DETECTOR BUTTON AT PEDESTAL 6B

• INSTALL 1 1/4" SCHEDULE 80 PVC CONDUIT FROM PEDESTAL 6B TO EX. POLE B

• INSTALL 1" PEDESTRIAN DETECTOR BUTTON AT PEDESTAL 6A

• INSTALL 1 1/4" SCHEDULE 80 PVC CONDUIT FROM PEDESTAL 6A TO JB BI

TEST EXISTING LOOPS FOLLOWING STOP BAR RELOCATION. IF UNSUCCESSFUL DO NOT DISTURB EXISTING LOOPS OR JUNCTION BOX

• INSTALL JUNCTION BOX BI

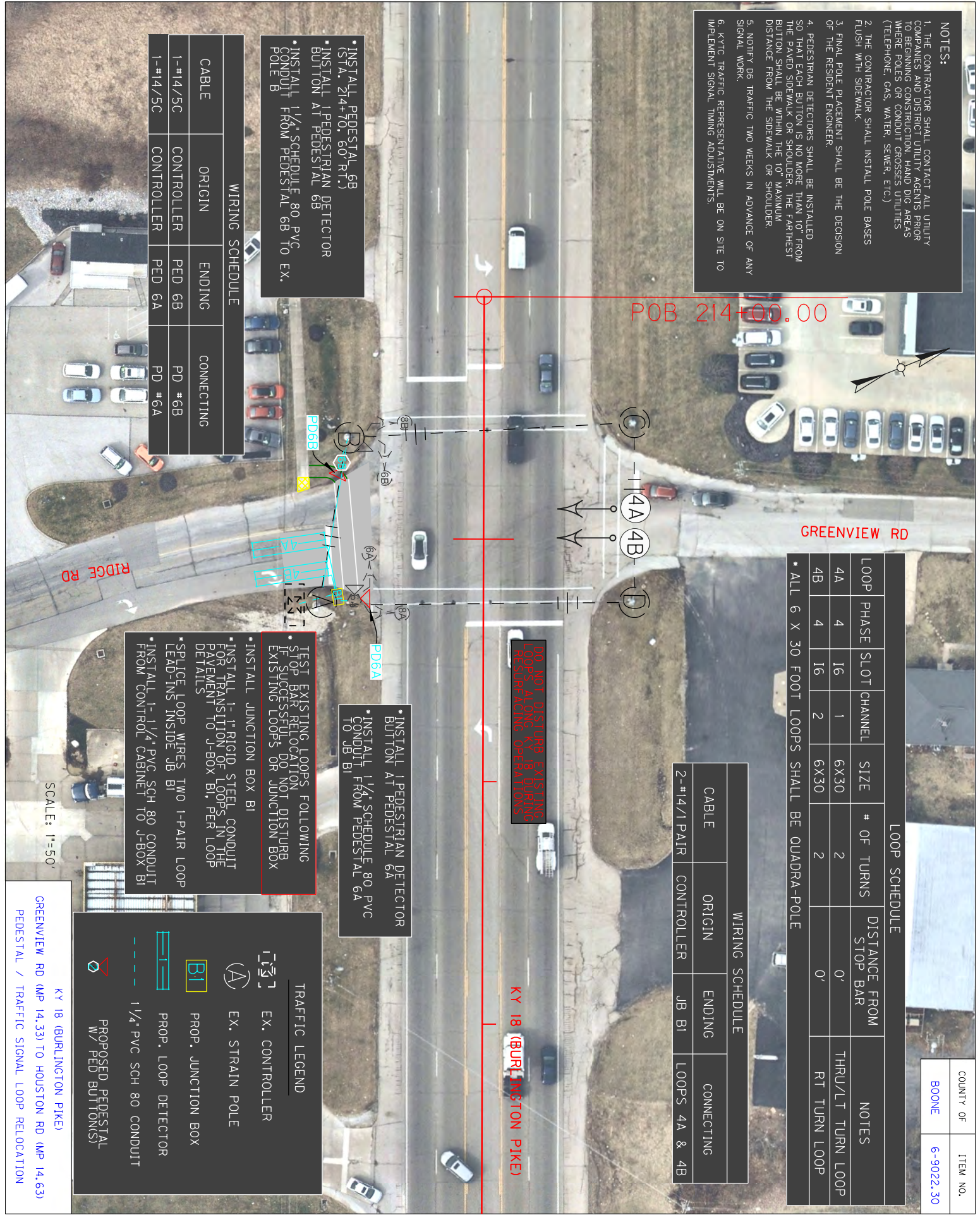
• INSTALL 1-1" RIGID STEEL CONDUIT FOR TRANSITION OF LOOPS IN THE PAVEMENT TO J-BOX BI, PER LOOP DETAILS

• SPLICE LOOP WIRES TWO 1-PAIR LOOP LEAD-INS INSIDE JB BI

• INSTALL 1-1 1/4" PVC SCH 80 CONDUIT FROM CONTROL CABINET TO J-BOX BI

WIRING SCHEDULE

CABLE	ORIGIN	ENDING	CONNECTING
1-#14/5C	CONTROLLER	PED 6B	PD #6B
1-#14/5C	CONTROLLER	PED 6A	PD #6A



DO NOT DISTURB EXISTING LOOPS ALONG WITH DURING RESUME AGENC OPERATIONS

KY 18 (BURLINGTON PIKE)

COUNTY OF	ITEM NO.
BOONE	6-9022.30

TRAFFIC LEGEND

- (A) EX. STRAIN POLE
- [BI] PROP. JUNCTION BOX
- PROP. LOOP DETECTOR
- 1 1/4" PVC SCH 80 CONDUIT
- PROPOSED PEDESTAL W/ PED BUTTON(S)

SCALE: 1"=50'

KY 18 (BURLINGTON PIKE)

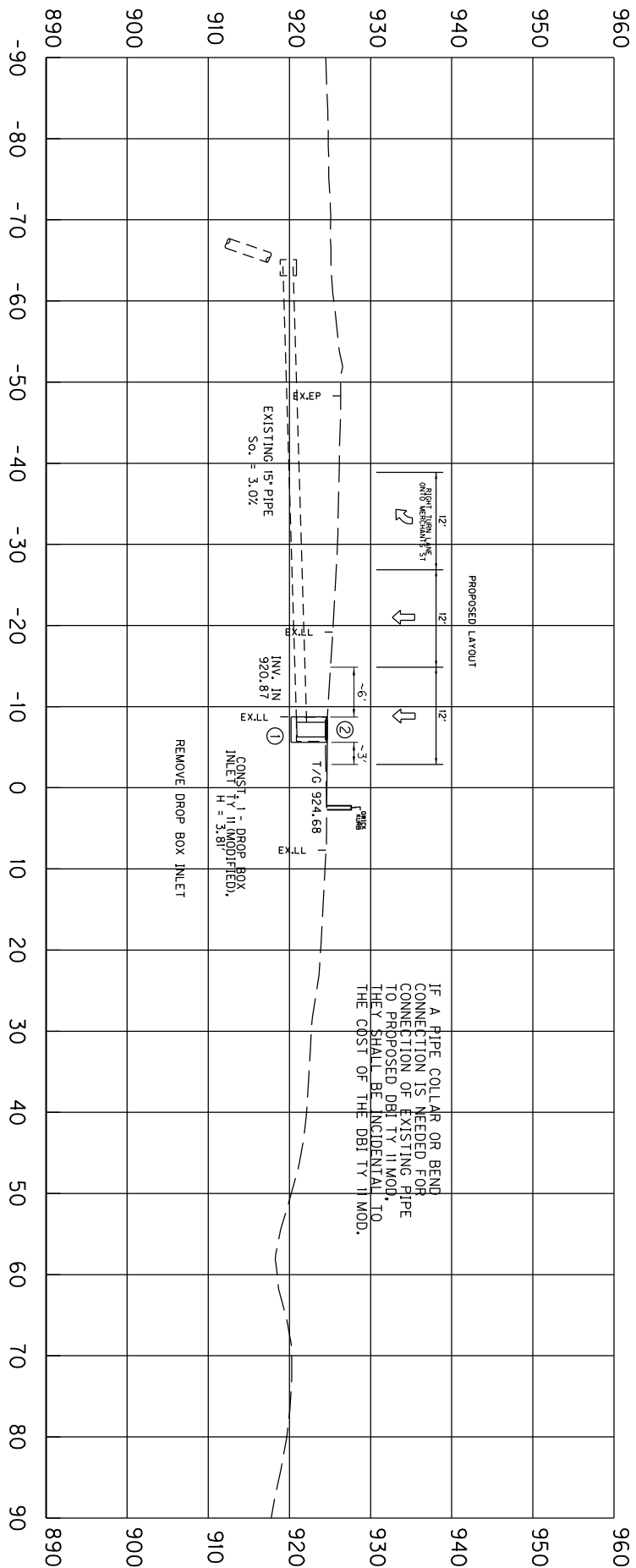
GREENVIEW RD (MP 14.33) TO HOUSTON RD (MP 14.63)

PEDESTAL / TRAFFIC SIGNAL LOOP RELOCATION

PIPE DRAINAGE SHEET 1 of 1

COUNTY OF	BOONE
ITEM NO.	6-9022.30

PIPE																	
										DROP BOX INLET TY II (MODIFIED)	EACH	1					
										REMOVE DROP BOX INLET	EACH	1					
L I N E A R F E E T																	



① DEPTH OF EXISTING 15" PIPE UNDER KY 18 IS ASSUMED. ADJUST INVERT AND HEIGHT OF PROPOSED DBI TY II (MOD) TO ENSURE POSITIVE DRAINAGE. CONNECTION OF EX. 15" PIPE TO PROPOSED DBI TY II (MOD) IS INCIDENTAL TO DBI TY II (MOD)

② HEIGHT OF PROPOSED DBI TY II (MOD) IS RAISED HIGHER THAN EXISTING DBI. FINAL PLACEMENT OF PROPOSED DBI TY II (MOD) SHALL ENSURE POSITIVE DRAINAGE FOR KY 18. TOP OF GRATE SHALL BE FLUSH WITH PROPOSED SURFACE.

NOTE: MODIFY DBI TY II TO OMIT THE 1/2" DEPRESSION

IF A PIPE COLLAR OR BEND CONNECTION IS NEEDED FOR CONNECTION OF EXISTING PIPE TO PROPOSED DBI TY II (MOD), THEY SHALL BE INCIDENTAL TO THE COST OF THE DBI TY II (MOD).

224+02

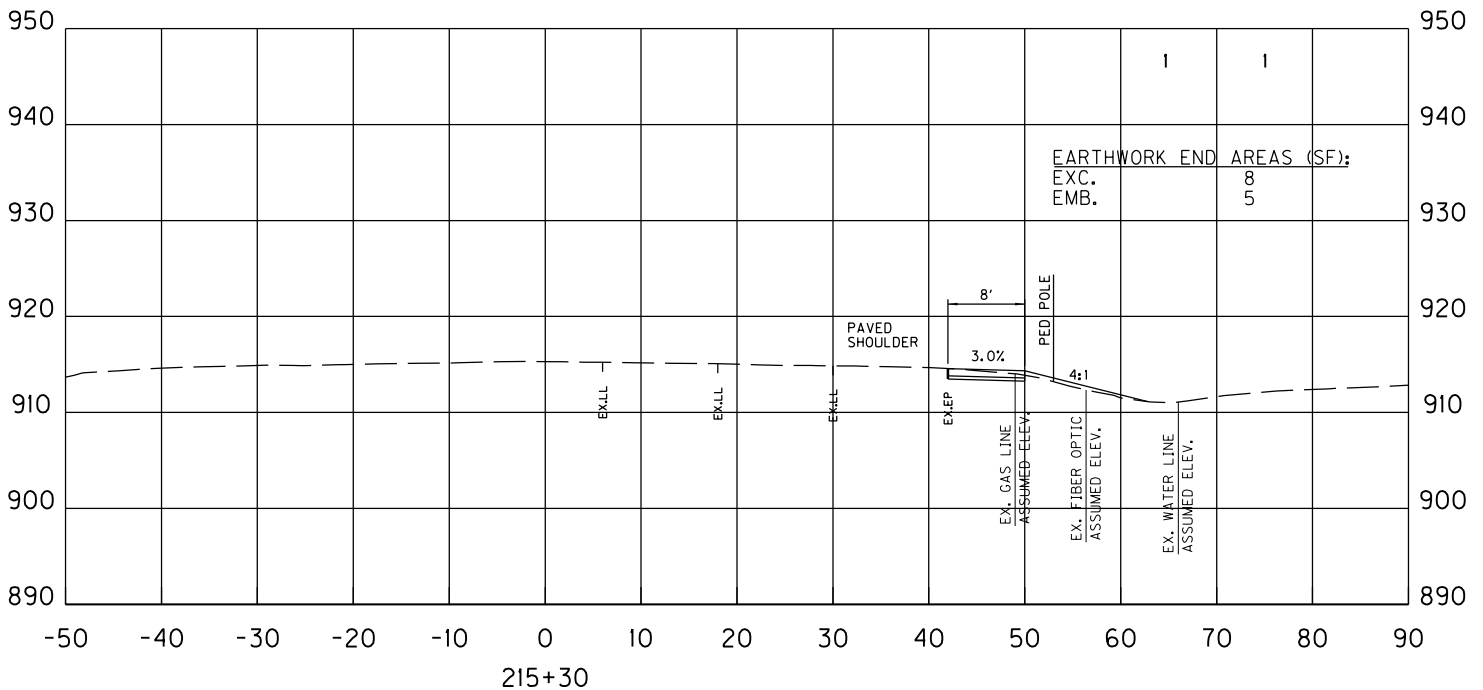
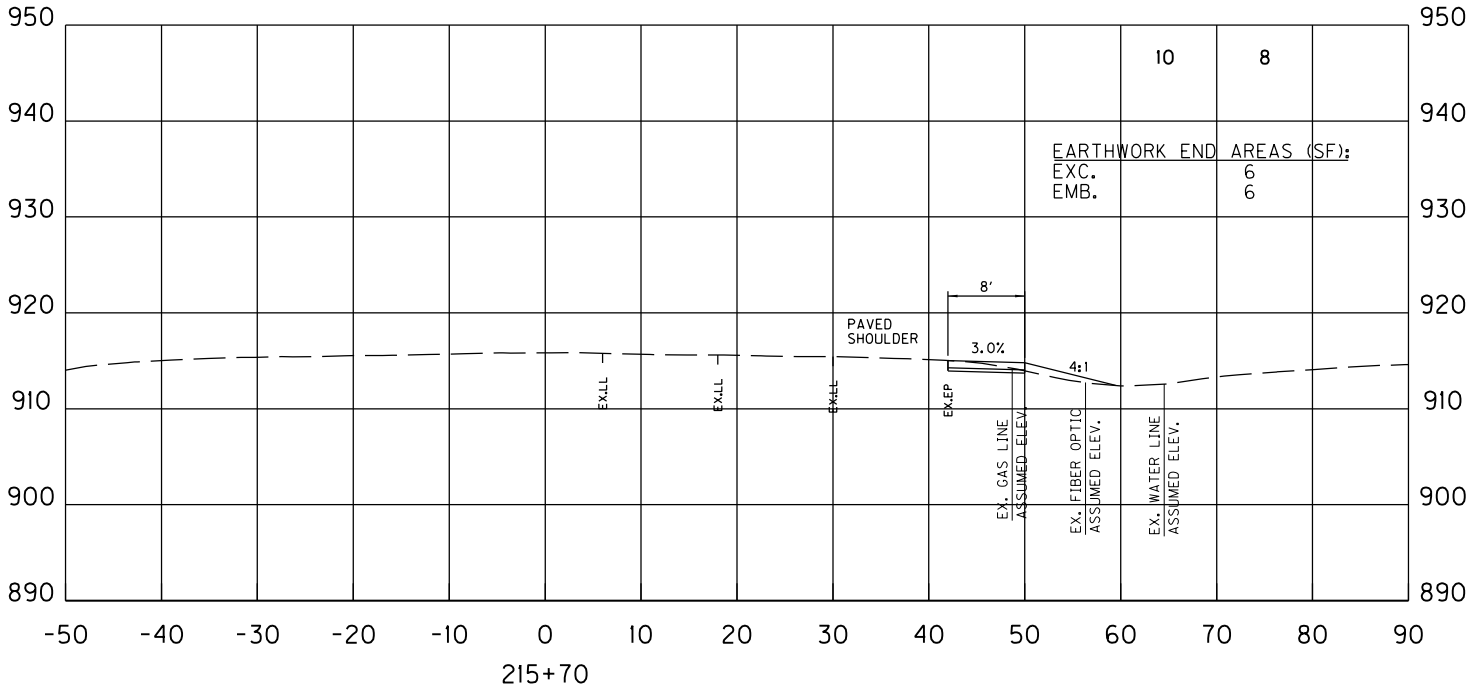
SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

KY 18
STA. 224+02
PIPE DRAINAGE SHEET

COUNTY OF	ITEM NO.
BOONE	6-9022.30

EARTHWORK VOLUMES (CY):

	EXC.	EMB.
ADDED PAVEMENT TOTAL EARTHWORK:	12	10

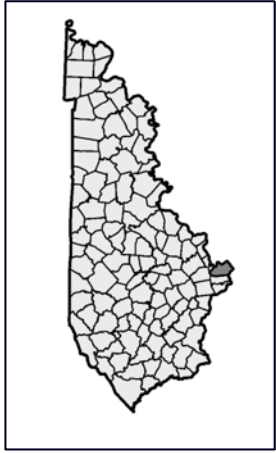


SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

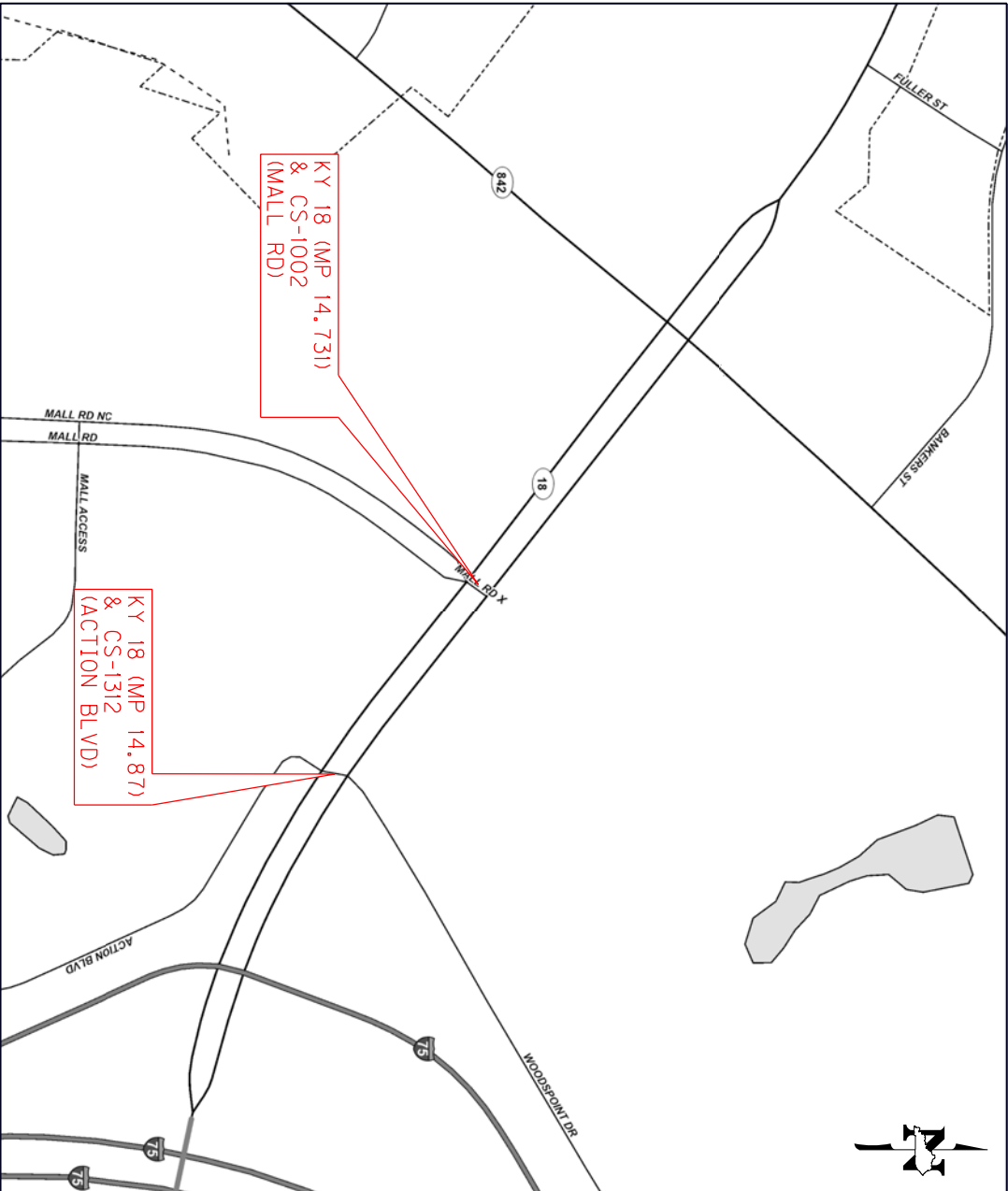
KY 18 @ RIDGE RD
STA. 215+30 TO STA. 215+70
CROSS SECTIONS - ADDED PAVEMENT

BOONE COUNTY
SECTION 2: KY 18 FROM MP 14.731 (MALL RD) TO MP 14.87 (ACTION BLVD)
Access Management and Intersection Improvement at KY 18 (Burlington Pike) and
CS-1002 (Mall Road)

COUNTY OF	ITEM NO.
BOONE	6-9022.30



Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
 PLANS OF
BOONE COUNTY
 KY 18



**BOONE COUNTY
KY 18 (BURLINGTON PK) MP 14.748
@ CS-1002 (MALL RD)
ITEM NO. 6-9022.30
GENERAL SUMMARY**

ITEM NUMBER	ITEM	UNIT	QUANTITY
4844	CABLE-NO. 14/5C (5)	LF	515
6406	SBM ALUM SHEET SIGNS .080 IN (3)	SQFT	40.50
6410	STEEL POST TYPE 1 (3)	LF	28
6490	CLASS A CONCRETE FOR SIGNS (3)	CUYD	0.5
6541	PAVE STRIPING-THERMO-4 IN Y (4)	LF	1,076
6546	PAVE STRIPING-THERMO-12 IN W (4)	LF	295
6569	PAVE MARKING-THERMO CROSS HATCH (4)	SQFT	135
20188NS835	INSTALL LED SIGNAL - 3 SECTION (1)	EACH	14
20189NS835	INSTALL LED SIGNAL - 5 SECTION (1)	EACH	2
20266ES835	INSTALL LED SIGNAL - 4 SECTION (1)	EACH	1
21373ND	REMOVE SIGN (3)	EACH	1
21596ND	GMSS TYPE D (3)	EACH	2
22680EN	QWICK CURB MEDIAN SEPARATOR (4)	LF	538
24631EC	BARCODE SIGN INVENTORY (3)	EACH	5
24894EC	REMOVE (PAVEMENT MARKER LENS) (4)	EACH	12
24955ED	REMOVE SIGNAL EQUIPMENT (KY 18 @ CS-1002) (2)	EACH	1
(1) CARRIED OVER FROM THE SIGNAL SUMMARY (2) INCLUDES REMOVAL OF 10 EXISTING SIGNS ON SPAN WIRES (3) CARRIED OVER FROM THE SIGN SUMMARY (4) CARRIED OVER FROM THE QWICK KURB / STRIPING SUMMARY (5) FOR THE WIRING OF PROPOSED SUPPLEMENTAL SIGNAL HEADS			

BOONE COUNTY KY 18 (BURLINGTON PIKE) AND MALL ROAD ITEM NO. 6-9022.30 QWICK KURB / STRIPING / PAVEMENT MARKING SUMMARY					
QWICK KURB					
BEGIN		END		LENGTH	LF
STATION	OFFSET	STATION	OFFSET		
240+14	11.5' RIGHT	245+52	3' RIGHT	538	538
PROPOSED STRIPING					
BEGIN		END		LENGTH	LF
STATION	OFFSET	STATION	OFFSET		
KY 18 - ALONG QWICK KURB					
4" Single Solid Yellow Line (PAVE STRIPING-THERMO-4 IN Y)					
240+14	11.25' RIGHT	245+52	2.75' RIGHT	538	538
240+14	11.75' RIGHT	245+52	3.25' RIGHT	538	538
RIGHT-IN AND RIGHT-OUT ISLAND STRIPING					
PAVE STRIPING THERMO-12 IN WHITE (ISLAND OUTLINE)					
STATION	OFFSET	DESCRIPTION		LF	
241+35	55' RIGHT	GAS STATION ENTRANCE		175	
244+00	70' RIGHT	SURBERS ENTRANCE		55	
244+99	65' RIGHT	ACTION BLVD.		65	
PAVE MARKING - THERMO CROSS HATCH (ISLAND CROSS HATCH) (X = 1' , Y = 10')					
STATION	OFFSET	DESCRIPTION		SQFT	
241+35	55' RIGHT	GAS STATION ENTRANCE		135	
REMOVE PAVEMENT MARKER LENS ALONG EXISTING DOUBLE YELLOW STRIPE					
BEGIN		END		EACH	
STATION	OFFSET	STATION	OFFSET		
240+35	11.5' RIGHT	244+75	8' RIGHT	12	

QWICK CURB / STRIPING / PAVEMENT MARKING SUMMARY			
BID ITEM	DESCRIPTION	UNIT	QUANTITY
6541	PAVE STRIPING-THERMO-4 IN Y	LF	1,076
6546	PAVE STRIPING-THERMO-12 IN W	LF	295
6569	PAVE MARKING-THERMO CROSS-HATCH	SQFT	135
22680EN	QWICK CURB MEDIAN SEPARATOR	LF	538
24894EC	REMOVE (PAVEMENT MARKER LENS)	EACH	12

Assembly ID	Side of Road	Approx Offset (ft)	Approx Station	Approx. Mile Point	Facing Traffic Travelling	MUTCD Code	Sign Description	Sign Text / Remarks	Sign Dimensions (in x in)	SHEETINGS			Installation Type	Bracing Req'd	# of Sign Posts	Estimated Length of 2" Post (ft)	Estimated Length of 2-1/2" Post (ft)	Estimated Length of 3" Post (ft)	TOTAL Estimated Sign Post Length (LF)	Barcode Sign Inv. (EACH)
										Text/ Symbol Color	Background Color	Sheeting Type								
5-1	RT	66	241+79	14.774	NB	R1-1	Stop	Gas Station Entrance	36 x 36	White	Red	IX	Type D		1	14			14	1
						R3-5R	Right Turn ONLY		30 x 36	Black	White	III or IV								
						R1-1	Stop	Subpers Entrance	36 x 36	White	Red	IX								
5-2	RT	68	244+28	14.821	NB	R3-5R	Right Turn ONLY	Action Blvd.	30 x 36	Black	White	III or IV			1	14			14	1
5-3	RT	67	245+30	14.842	NB	R3-5R	Right Turn ONLY		30 x 36	Black	White	III or IV			1	14			14	1
INSTALL ON EXISTING SIGN POST UNDER STOP SIGN																				
Remove Sign										Summary of Items			Summary of Items							
Sign Name										SMM Alum Sheet Signs 0.080 INCH Barcode Sign Inventory			Steel Post - Type 1 GMS5 Type D Gas A Concrete for signs							
S3										1			40.50 5 1			28.00 2 0.5 1E EACH CU YD				

Signal Head Replacements for: KY 18 @ CS-1002

REPLACE EXISTING SIGNAL HEADS

SIGNAL HEAD NUMBER	STATION*	OFFSET*	DESCRIPTION
6C	238+93	38' LT	3 Section with Reflective Backplate
6B	238+93	27' LT	3 Section with Reflective Backplate
6A	238+93	15' LT	3 Section with Reflective Backplate
1B	238+94	5' LT	3 Section with LT Turn Arrows and Reflective Backplate
1A	238+94	6' RT	3 Section with LT Turn Arrows and Reflective Backplate
2D	238+96	63' RT	Supplemental 3 Section with Reflective Backplate
8	239+22	96' RT	3 Section with Reflective Backplate
3	239+32	96' RT	4 Section with Reflective Backplate
7A	239+52	75' LT	3 Section with LT Turn Arrows and Reflective Backplate
7B	239+64	75' LT	3 Section with LT Turn Arrows and Reflective Backplate
4A	239+76	74' LT	3 Section with Reflective Backplate
4B	239+88	73' LT	5 Section with RT Turn Arrows and Reflective Backplate
6D	240+05	58' LT	Supplemental 3 Section with Reflective Backplate
5	240+09	6' RT	3 Section with LT Turn Arrows and Reflective Backplate
2A	240+10	20' RT	3 Section with Reflective Backplate
2B	240+11	34' RT	3 Section with Reflective Backplate
2C	240+12	47' RT	5 Section with RT Turn Arrows and Reflective Backplate

* STATION AND OFFSET ARE APPROXIMATE AND ARE FOR INFORMATION ONLY. ALIGN SIGNAL HEADS WITH EXISTING SPAN WIRES AND DRIVING LANES.

NOTE: THESE NUMBERS ARE FOR ESTIMATE PURPOSES ONLY. FINAL LOCATIONS AND QUANTITIES WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

SIGNAL HEAD REPLACEMENTS

Signal Heads For WB KY 18

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Green Ball	Green Arrow
3 Section with LT Turn Arrows and Reflective Backplate (1A)		1		1		1
3 Section with LT Turn Arrows and Reflective Backplate (1B)		1		1		1
3 Section with Reflective Backplate (6A)	1		1		1	
3 Section with Reflective Backplate (6B)	1		1		1	
3 Section with Reflective Backplate (6C)	1		1		1	
Supplemental 3 Section with Reflective Backplate (6D)	1		1		1	
Totals	4	2	4	2	4	2

ALL QUANTITIES ARE CARRIED OVER TO GENERAL SUMMARY



R3-5L

Signal Heads For EB KY 18

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Green Ball	Green Arrow
3 Section with Reflective Backplate (2A)	1		1		1	
3 Section with Reflective Backplate (2B)	1		1		1	
5 Section with RT Turn Arrows and Reflective Backplate (2C)	1		1	1	1	1
Supplemental 3 Section with Reflective Backplate (2D)	1		1		1	
3 Section with LT Turn Arrows and Reflective Backplate (5)		1		1		1
Totals	4	1	4	2	4	2



R3-5R

Signal Heads For NB Mall Road

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Green Ball	Green Arrow
3 Section with Reflective Backplate (4A)	1		1		1	
5 Section with RT Turn Arrows and Reflective Backplate (4B)	1		1	1	1	1
3 Section with LT Turn Arrows and Reflective Backplate (7A)		1		1		1
3 Section with LT Turn Arrows and Reflective Backplate (7B)		1		1		1
Totals	2	2	2	3	2	3



R3-6R



R3-6L

Signal Heads For SB Entrance

Signal Head	Red Ball	Red Arrow	Yellow Ball	Yellow Arrow	Green Ball	Green Arrow
4 Section with Reflective Backplate (3)	1		1		1	1
3 Section with Reflective Backplate (8)	1		1		1	
Totals	2	0	2	0	2	1



R3-5a

Remove Existing Signs on Span Wires (10 TOTAL)							
	R3-5A	R3-5R	R3-5L	R3-6L	R3-6R	R3-4	R10-11d
Span A-B				1 (DND)	1 (DND)		
Span B-C	3	1 (DND)	2			1 (DND)	
Span C-D		1 (DND)	2		1 (DND)	1 (DND)	1 (DND)
Span D-A	2	1 (DND)	1		1 (DND)		1 (DND)

INCIDENTAL TO REMOVE SIGNAL EQUIPMENT



R10-11d



R3-4

Jeff Wolfe - Director

DIVISION OF TRAFFIC OPERATIONS
PROJECT MATERIALS RELEASE FORM
FOR SIGNALS AND LIGHTING

Phone (502) 564-3020
FAX (502) 564-7759

Note: Email form with signatures to KYTC's warehouse (kim.stamper@ky.gov) at least two (2) days prior to arrival for pickup. Ensure Contractor's delivery driver has a copy of form with signatures. Failure to do either may result in long delays or refusal to distribute materials upon arrival.

Item Number: 6-9022.30
County: Boone
Description: KY 1842 @ CS-1002 (Mall Road)
Reflective Backplate Signal Heads & Supplemental Heads

Cabinets Master code

Signals		
14	T-02-0009	Siemens 3 Section Signal
14	T-02-0032	Siemen 3 section backplate
1	T-02-0033	Siemen 4 secton 12" signal (poly)
2	T-02-0040	Siemen 5 section, 12 inch signal (poly)
2	T-02-0041	Siemen 5 section backplate
1	T-02-0043	Siemen 4-sec. straight signal backplate
5	T-02-0300	LED Module 12" red arrow
7	T-02-0310	LED Module 12" yellow arrow
8	T-02-0320	LED Module 12" green arrow
12	T-02-0330	LED Module 12" red ball
12	T-02-0340	LED Module 12" yellow ball
12	T-02-0350	LED Module 12" green ball

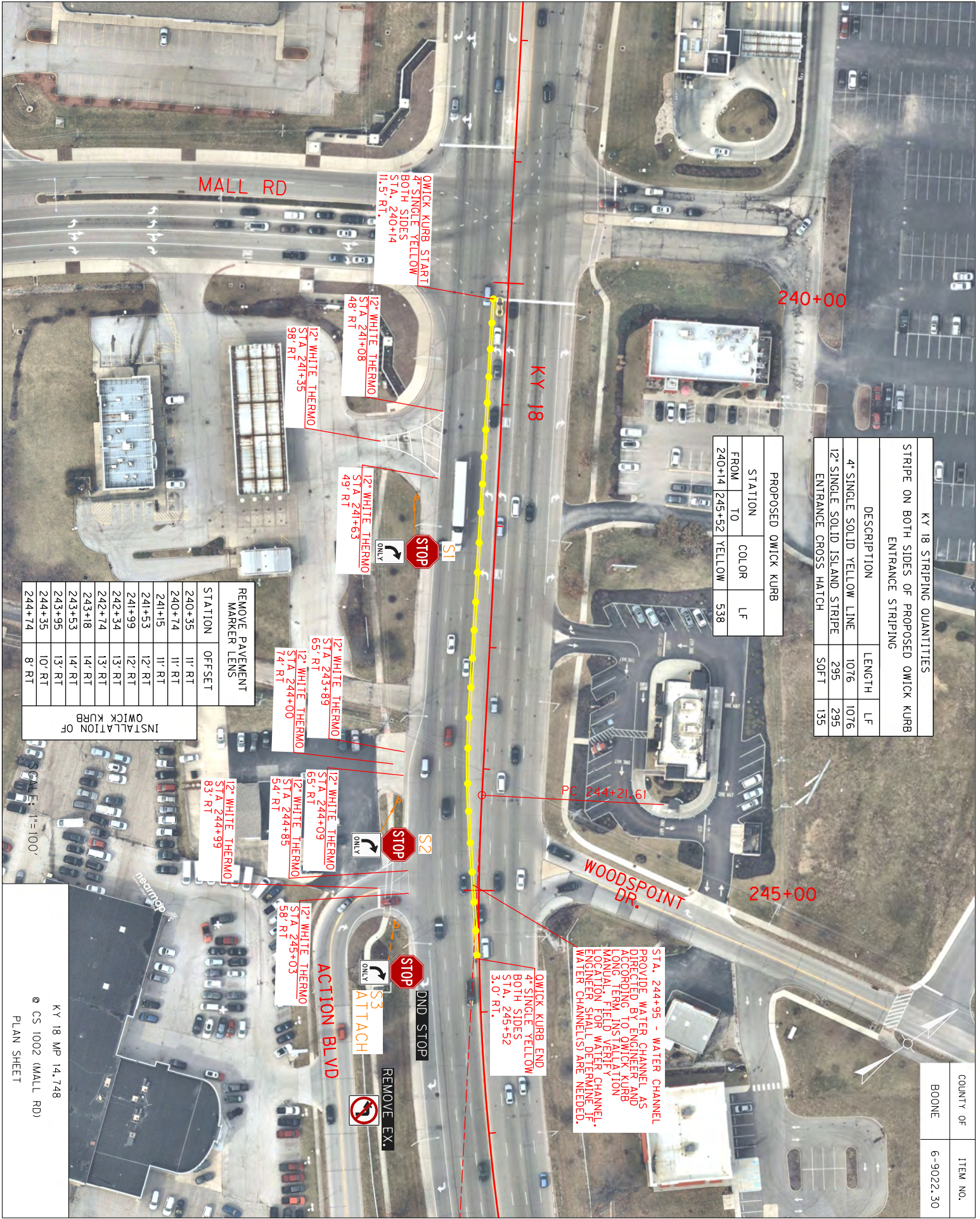
Special items

Poles

Electrical Contractor Name _____
Electrical Contractor Supervisor _____ Contact number for Supervisor _____
Project Engineer _____ Contact number for Project Engineer _____

Project Engineer attests that the mentioned contractor is the actual electrical contractor on this project

Signature of Project Engineer or Designee _____



KY 18 STRIPING QUANTITIES

DESCRIPTION	LENGTH	LF
4" SINGLE SOLID YELLOW LINE	1076	1076
12" SINGLE SOLID ISLAND STRIPE	295	295
ENTRANCE CROSS HATCH	SOFT	135

PROPOSED OWICK KURB

STATION	COLOR	LF
FROM 240+14	245+52	538

REMOVE PAVEMENT MARKER LENS

STATION	OFFSET
240+35	11' RT
240+74	11' RT
241+15	11' RT
241+53	12' RT
241+99	12' RT
242+34	13' RT
242+74	13' RT
243+18	14' RT
243+53	14' RT
243+95	13' RT
244+35	10' RT
244+74	8' RT

INSTALLATION OF OWICK KURB

12" WHITE THERMO

STA 241+08	48' RT
STA 241+35	98' RT
STA 241+63	49' RT
STA 243+89	65' RT
STA 244+00	74' RT
STA 244+09	65' RT
STA 244+85	54' RT
STA 245+03	58' RT
STA 244+99	83' RT

STA. 244+95 - WATER CHANNEL PROVIDE WATER CHANNEL AS DIRECTED BY ENGINEER AND ACCORDING TO OWICK KURB LONG TERM INSTALLATION MANUAL. FIELD VERIFY CHANNEL LOCATION FOR WATER CHANNEL. ENGINEER SHALL DETERMINE WATER CHANNEL(S) ARE NEEDED.

OWICK KURB END 4" SINGLE YELLOW BOTH SIDES STA. 245+52 3.0' RT.

DND STOP

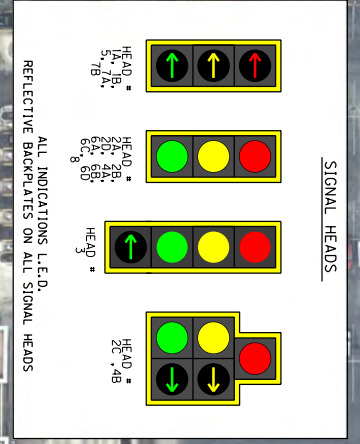
REMOVE EX

ACTION BLVD

ATTACH

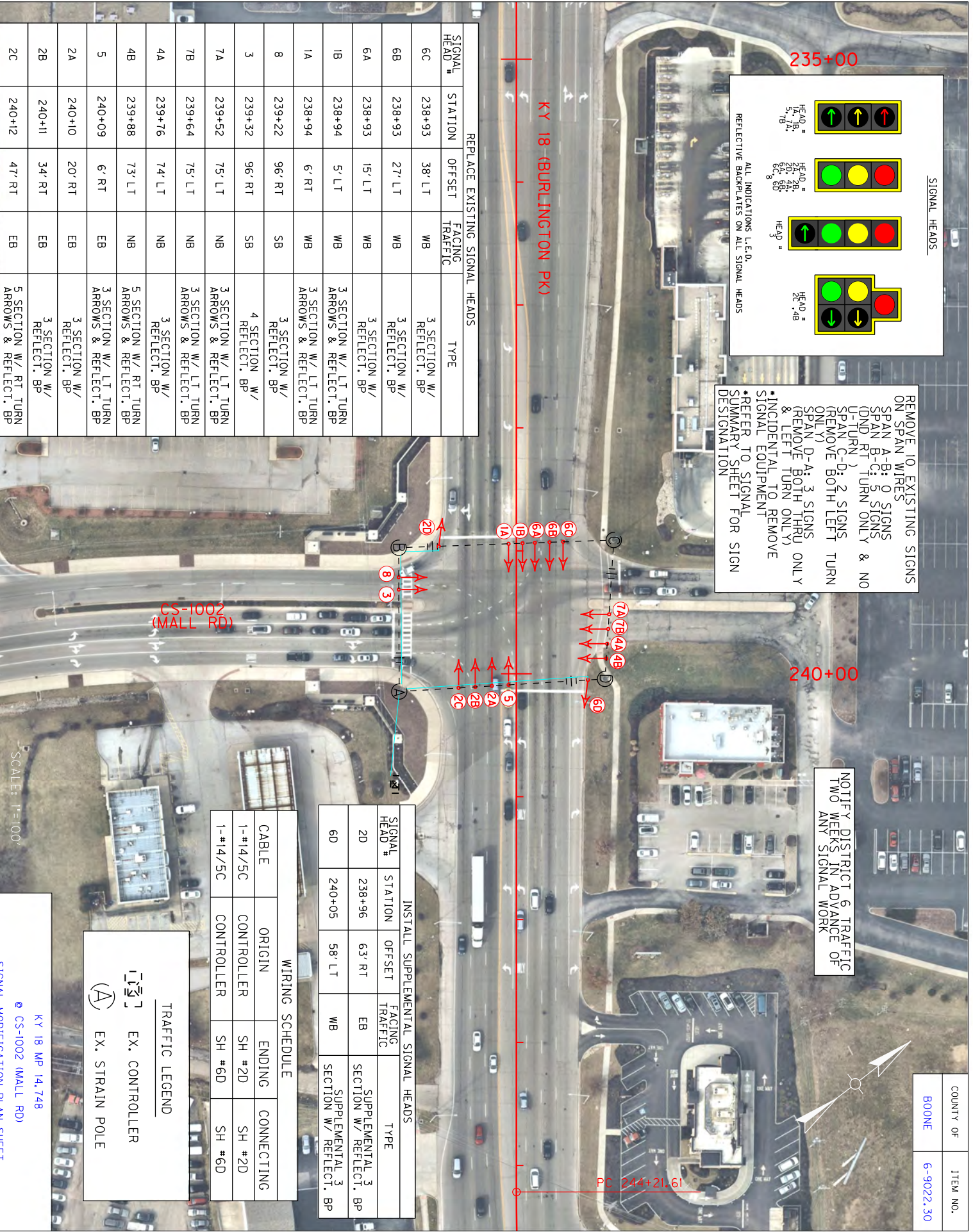
KY 18 MP 14.748
CS 1002 (MALL RD)
PLAN SHEET

COUNTY OF BOONE
ITEM NO. 6-9022.30



REMOVE 10 EXISTING SIGNS ON SPAN WIRES
SPAN A-B: 0 SIGNS
SPAN B-C: 3 SIGNS (DND RT TURN ONLY & NO U-TURN)
SPAN C-D: 2 SIGNS (REMOVE BOTH LEFT TURN ONLY)
SPAN D-A: 3 SIGNS (REMOVE BOTH THRU ONLY & LEFT TURN ONLY)
* INCIDENTAL TO REMOVE SIGNAL EQUIPMENT
* REFER TO SIGNAL SUMMARY SHEET FOR SIGN DESIGNATION

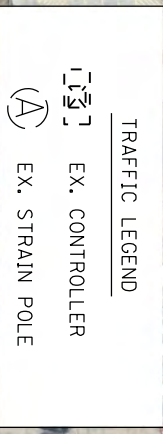
NOTIFY DISTRICT 6 TRAFFIC TWO WEEKS IN ADVANCE OF ANY SIGNAL WORK



SIGNAL HEAD #	STATION	OFFSET	FACING TRAFFIC	TYPE
6C	238+93	38' LT	WB	3 SECTION W/ REFLECT. BP
6B	238+93	27' LT	WB	3 SECTION W/ REFLECT. BP
6A	238+93	15' LT	WB	3 SECTION W/ REFLECT. BP
1B	238+94	5' LT	WB	3 SECTION W/ LT TURN ARROWS & REFLECT. BP
1A	238+94	6' RT	WB	3 SECTION W/ LT TURN ARROWS & REFLECT. BP
8	239+22	96' RT	SB	3 SECTION W/ REFLECT. BP
3	239+32	96' RT	SB	4 SECTION W/ REFLECT. BP
7A	239+52	75' LT	NB	3 SECTION W/ LT TURN ARROWS & REFLECT. BP
7B	239+64	75' LT	NB	3 SECTION W/ LT TURN ARROWS & REFLECT. BP
4A	239+76	74' LT	NB	3 SECTION W/ REFLECT. BP
4B	239+88	73' LT	NB	5 SECTION W/ RT TURN ARROWS & REFLECT. BP
5	240+09	6' RT	EB	3 SECTION W/ LT TURN ARROWS & REFLECT. BP
2A	240+10	20' RT	EB	3 SECTION W/ REFLECT. BP
2B	240+11	34' RT	EB	3 SECTION W/ REFLECT. BP
2C	240+12	47' RT	EB	5 SECTION W/ RT TURN ARROWS & REFLECT. BP

SIGNAL HEAD #	STATION	OFFSET	FACING TRAFFIC	TYPE
2D	238+96	63' RT	EB	SUPPLEMENTAL 3 SECTION W/ REFLECT. BP
6D	240+05	58' LT	WB	SUPPLEMENTAL 3 SECTION W/ REFLECT. BP

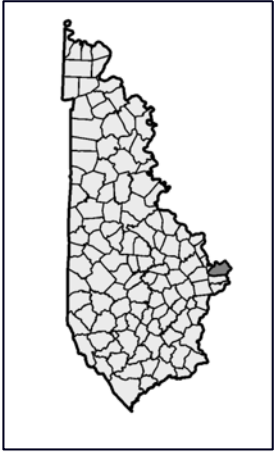
CABLE	ORIGIN	ENDING	CONNECTING
1-#14/5C	CONTROLLER	SH #2D	SH #2D
1-#14/5C	CONTROLLER	SH #6D	SH #6D



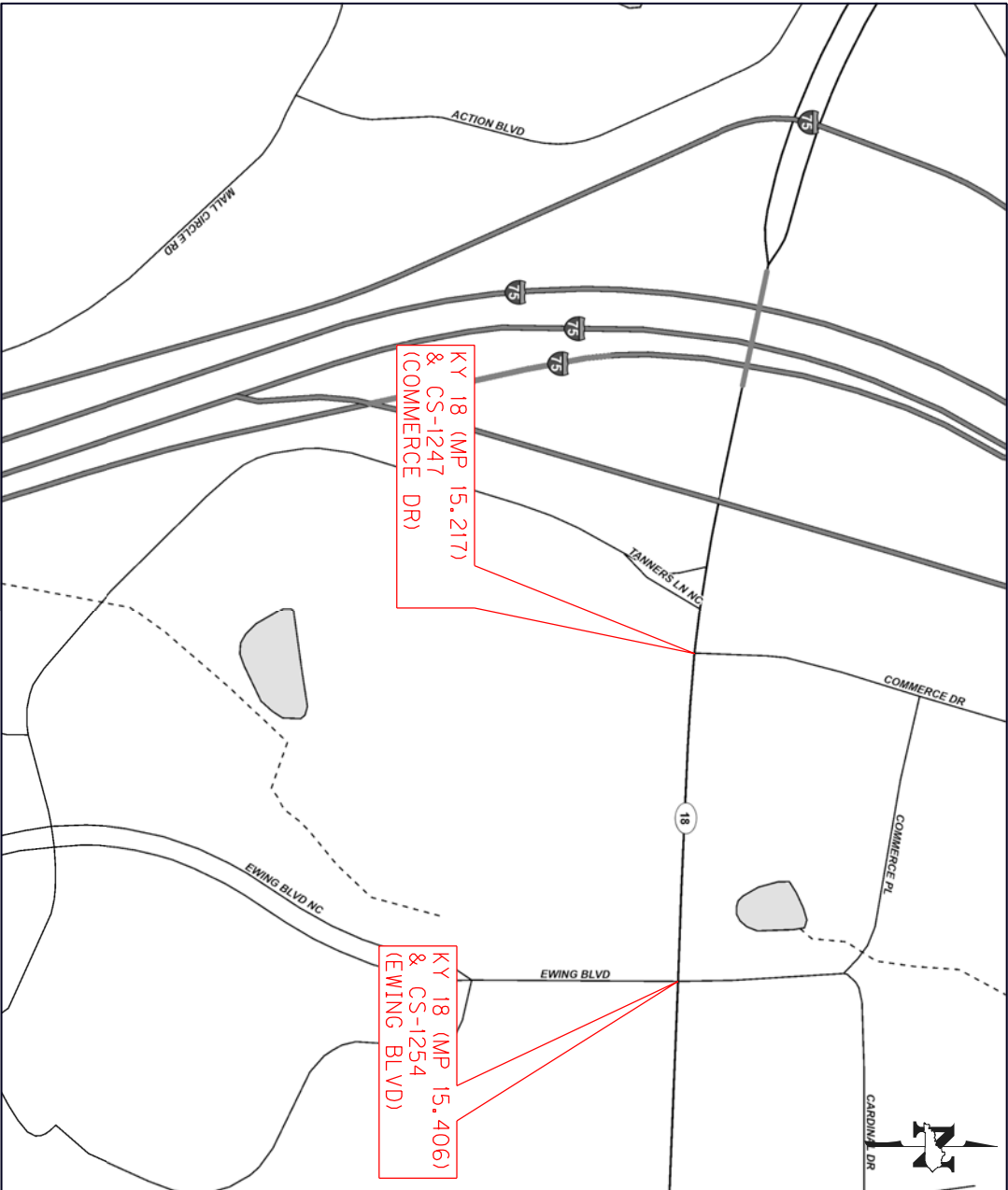
KY 18 MP 14.748
CS-1002 (MALL RD)
SCALE: 1"=100'
SIGNAL MODIFICATION PLAN SHEET

BOONE COUNTY
SECTION 3: KY 18 FROM MP 15.217 (COMMERCE DR) TO MP 15.406 (EWING BLVD)
Access Management and Intersection Improvement at KY 18 (Burlington Pike) and Commerce Drive

COUNTY OF	ITEM NO.
BOONE	6-9022.30



Commonwealth of Kentucky
 DEPARTMENT OF HIGHWAYS
 PLANS OF
 PROPOSED PROJECT
BOONE COUNTY
 KY 18



BOONE COUNTY
KY 18 (BURLINGTON PIKE) MP 15.217
@ CS 1247 (COMMERCE DRIVE)
ITEM NO. 6-9022.30
GENERAL SUMMARY
SHEET 1 OF 2

ITEM NUMBER	ITEM	UNIT	QUANTITY
1	DGA BASE (1)	TON	57
520	STORM SEWER PIPE-12 IN (2)	LF	232
1310	REMOVE PIPE (2)	LF	48
1458	CURB BOX INLET TYPE A T (2)	EACH	1
1811	STANDARD CURB AND GUTTER MOD (9 INCH) (1)	LF	187
1920	STANDARD BARRIER MEDIAN TYPE 3 MOD (1)	SQYD	648
2073	JPC PAVEMENT-9 IN (1)	SQYD	247
2075	JPC PAVEMENT-6 IN (2)	SQYD	78
2159	TEMP DITCH	LF	274
2160	CLEAN TEMP DITCH	LF	137
2200	ROADWAY EXCAVATION (1)	CUYD	120
2562	TEMPORARY SIGNS	SQFT	230
2607	FABRIC-GEOTEXTILE CLASS 2 FOR PIPE (2)	SQYD	271
2671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	2
2677	ASPHALT PAVE MILLING & TEXTURING (1)	TON	54
2701	TEMP SILT FENCE	LF	274
2703	SILT TRAP TYPE A	EACH	1
2704	SILT TRAP TYPE B	EACH	1
2705	SILT TRAP TYPE C	EACH	1
2706	CLEAN SILT TRAP TYPE A	EACH	1
2707	CLEAN SILT TRAP TYPE B	EACH	1
2708	CLEAN SILT TRAP TYPE C	EACH	1
3262	CLEAN PIPE STRUCTURE (2)	EACH	1
5952	TEMP MULCH	SQYD	1,856
5953	TEMP SEEDING AND PROTECTION	SQYD	1,392
5963	INITIAL FERTILIZER	TON	0.10
5964	MAINTENANCE FERTILIZER	TON	0.14
5985	SEEDING AND PROTECTION	SQYD	2,785
5992	AGRICULTURAL LIMESTONE	TON	1.73

(1) CARRIED OVER FROM THE PAVING SUMMARY

(2) CARRIED OVER FROM THE PIPE DRAINAGE SUMMARY

BOONE COUNTY
KY 18 (BURLINGTON PIKE) MP 15.217
@ CS 1247 (COMMERCE DRIVE)
ITEM NO. 6-9022.30
GENERAL SUMMARY
SHEET 2 OF 2

ITEM NUMBER	ITEM	UNIT	QUANTITY
6406	SBM ALUM SHEET SIGNS .080 IN (4)	SQFT	129.81
6407	SBM ALUM SHEET SIGNS .125 IN (4)	SQFT	21.00
6410	STEEL POST TYPE 1 (4)	LF	143.25
6490	CLASS A CONCRETE FOR SIGNS (4)	CUYD	1.50
6511	PAVE STRIPING-TEMP PAINT-6 IN	LF	2,025
6542	PAVE STRIPING-THERMO-6 IN W (3)	LF	2,827
6543	PAVE STRIPING-THERMO-6 IN Y (3)	LF	2,116
6546	PAVE STRIPING-THERMO-12 IN W (3)	LF	110
6565	PAVE MARKING-THERMO X-WALK-6 IN (3)	LF	746
6568	PAVE MARKING-THERMO STOP BAR-24IN (3)	SQFT	190
6569	PAVE MARKING-THERMO CROSS-HATCH (3)	SQFT	97
6574	PAVE MARKING-THERMO CURV ARROW (3)	EACH	13
6598	PAVEMENT MARKING REMOVAL (3)	SQFT	139.5
20418ED	REMOVE & RELOCATE SIGNS (4)	EACH	1
20430ED	SAW CUT (1)	LF	361
20569ES710	DROP BOX INLET TY 13G(MOD) (2)	EACH	3
21373ND	REMOVE SIGN (4)	EACH	4
21596ND	GMSS TYPE D (SURFACE MOUNT) (4)	EACH	2
21596ND	GMSS TYPE D (4)	EACH	6
22664EN	WATER BLASTING EXISTING STRIPE (3)	LF	2,150.5
23131ER701	PIPELINE VIDEO INSPECTION (2)	LF	288
24631EC	BARCODE SIGN INVENTORY (4)	EACH	35
(1) CARRIED OVER FROM THE PAVING SUMMARY			
(2) CARRIED OVER FROM THE PIPE DRAINAGE SUMMARY			
(3) CARRIED OVER FROM THE STRIPING / PAVEMENT MARKING SUMMARY			
(4) CARRIED OVER FROM THE SIGNING SUMMARY			

BOONE COUNTY: KY 18 @ COMMERCE DRIVE			
MILEPOST 15.217			
ITEM NO. 6-9022.30			
PAVING SUMMARY			
PAVING AREAS		PAVING QUANTITIES	
ITEM	TOTAL	ITEM	TOTAL
<u>EXTEND KY 18 WB RIGHT TURN LANE</u>			
	SQYD		TON
9" JPC PAVEMENT	247		
4" DGA BASE	247	DGA BASE	57
	LF		
STANDARD CURB AND GUTTER MOD (9 INCH)	187		
SAW CUT	361		
	CUYD		
ROADWAY EXCAVATION	120	(EXISTING SHOULDER AND CURB)	
<u>RAISED BARRIER MEDIAN</u>			
	SQYD		TON
STANDARD BARRIER MEDIAN TYPE 3 MOD	648		
ASPHALT PAVE MILLING & TEXTURING	648	(EXISTING ASPHALT SURFACE UNDER RASIED MEDIAN)	54
PAVING SUMMARY			
CODE	ITEM	UNITS	PROJECT TOTAL
1	DGA BASE	TON	57
1811	STANDARD CURB AND GUTTER MOD (9 INCH)	LF	187
1920	STANDARD BARRIER MEDIAN TYPE 3 MOD	SQYD	648
2073	JPC PAVEMENT-9 IN	SQYD	247
2200	ROADWAY EXCAVATION	CUYD	120
2677	ASPHALT PAVE MILLING & TEXTURING	TON	54
20430ED	SAW CUT	LF	361
NOTES:			
ASPHALT PAVE MILLING & TEXTURING estimated at 110 lbs. per SQ. YD. per inch of depth			
DGA Base estimated at 115 lbs. per SQ. YD. per inch of depth			

BOONE COUNTY: KY 18 @ COMMERCE DRIVE MILEPOST 15.217 ITEM NO. 6-9022.30 PIPE DRAINAGE SUMMARY									
STATION	STORM SEWER PIPE ①	MISCELLANEOUS ①						PIPE BACKFILL ③	REMARKS
	STORM SEWER PIPE-12 IN	REMOVE PIPE	CURB BOX INLET TYPE A T	FABRIC-GEOTEXTILE CLASS 2 FOR PIPE	CLEAN PIPE STRUCTURE	DROP BOX INLET TY 13G(MOD)	PIPELINE VIDEO INSPECTION	JPC PAVEMENT-6 IN	
ITEM CODE	520	1310	1458	2607	3262	20569ES710	23131ER701	2075	
UNIT TO BID	LF	LF	EACH	SQYD	EACH	EACH	LF	SQYD	
260+20	104	--	--	121	--	1	104	35	
261+25	119	--	--	139	--	1	119	40	
262+46	9	48 ②	--	11	1	1	65	3	SKEW 13° RT
265+15	--	--	1	--	--	--	--	--	REMOVE EX. CBI TY A TOP
PROJECT TOTALS	232	48	1	271	1	3	288	78	PROJECT TOTALS
NOTES:									
① THE CONTRACTOR SHALL FIELD VERIFY TYPES AND DIMENSIONS PRIOR TO ORDERING.									
② INCLUDES REMOVAL OF APPROXIMATELY 44 LF SLOTTED DRAIN PIPE THAT SHALL BE BACKFILLED WITH FLOWABLE FILL									
③ REFER TO THE STORM SEWER PIPE BACKFILL DETAIL									

BOONE COUNTY KY 18 (BURLINGTON PIKE) AND COMMERCE DRIVE ITEM NO. 6-9022.30 STRIPING / PAVEMENT MARKING SUMMARY PAGE 1 OF 3					
WATER BLASTING					
BEGIN		END		LENGTH	LF
STATION	OFFSET	STATION	OFFSET		
KY 18 EASTBOUND					
Double Solid Yellow Line (WATER BLASTING EXISTING STRIPE)					
259+80	13' RIGHT	260+85	10' RIGHT	105	210
Single Solid White Line (WATER BLASTING EXISTING STRIPE)					
261+57	13.5' RIGHT	262+48	10' RIGHT	91	91
Single Solid AND Dashed Yellow Line (WATER BLASTING EXISTING STRIPE)					
263+00	9.5' RIGHT	264+27	6' RIGHT	127	158.75
KY 18 WESTBOUND TOWARDS RAMPS					
Double Solid Yellow Line (WATER BLASTING EXISTING STRIPE)					
259+80	15.5' LEFT	262+46	8' LEFT	266	532
Single Solid AND Dashed Yellow Line (WATER BLASTING EXISTING STRIPE)					
263+00	6' LEFT	264+27	7.5' LEFT	127	158.75
Single Solid White Line (WATER BLASTING EXISTING STRIPE)					
261+66	50' LEFT	262+14	46' LEFT	48	48
264+17	31' LEFT	265+17	31' LEFT	100	100
TRAVEL AMERICA - CAR ENTRANCE					
Double Solid Yellow Line (WATER BLASTING EXISTING STRIPE)					
262+88	60' RIGHT	262+88	87' RIGHT	27	54
Single Solid Yellow Line (WATER BLASTING EXISTING STRIPE)					
263+01	58' RIGHT	263+01	86' RIGHT	28	28
KY 18 EASTBOUND (LEFT TURN LANE ONTO CARDINAL)					
Single Solid AND Dashed Yellow Line (WATER BLASTING EXISTING STRIPE)					
268+38	5' RIGHT	269+73	5' RIGHT	135	168.75
268+38	7' LEFT	269+73	7' LEFT	135	168.75
KY 18 WESTBOUND (LEFT TURN LANE ONTO EWING)					
Single Solid AND Dashed Yellow Line (WATER BLASTING EXISTING STRIPE)					
270+91	7' RIGHT	272+64	7' RIGHT	173	216.25
270+91	6' LEFT	272+64	7' LEFT	173	216.25
PAVEMENT MARKING REMOVAL					
STATION	OFFSET	DESCRIPTION		SF	
KY 18 EASTBOUND - LEFT TURN INTO COMMERCE					
261+77	8' RIGHT	LEFT TURN ARROW - ONE (1)		15.5	
262+28	5' RIGHT	LEFT TURN ARROW - ONE (1)		15.5	
KY 18 WESTBOUND - RIGHT TURN ONTO RAMP					
260+20	46' LEFT	RIGHT TURN ARROW - ONE (1)		15.5	
260+84	46' LEFT	RIGHT TURN ARROW - ONE (1)		15.5	
261+50	44' LEFT	RIGHT TURN ARROW - ONE (1)		15.5	
TRAVEL AMERICA - CAR ENTRANCE					
262+95	70' RIGHT	LEFT TURN ARROW - ONE (1)		15.5	
263+05	70' RIGHT	RIGHT TURN ARROW - ONE (1)		15.5	
KY 18 EASTBOUND (LEFT TURN LANE ONTO CARDINAL)					
269+35	0'	LEFT TURN ARROW - ONE (1)		15.5	
KY 18 WESTBOUND (LEFT TURN LANE ONTO EWING)					
271+25	0'	LEFT TURN ARROW - ONE (1)		15.5	

BOONE COUNTY KY 18 (BURLINGTON PIKE) AND COMMERCE DRIVE ITEM NO. 6-9022.30 STRIPING / PAVEMENT MARKING SUMMARY PAGE 2 OF 3					
PROPOSED STRIPING					
BEGIN		END		LENGTH	LF
STATION	OFFSET	STATION	OFFSET		
KY 18 EASTBOUND					
6" Single Solid Yellow Line (PAVE STRIPING-THERMO-6 IN Y)					
259+78	13' RIGHT	264+28	6' RIGHT	450	450
6" Single Solid White Line (PAVE STRIPING-THERMO-6 IN W)					
259+78	38' RIGHT	260+64	38' RIGHT	86	86
261+04	38' RIGHT	261+46	38' RIGHT	42	42
261+91	36' RIGHT	262+31	36' RIGHT	40	40
263+36	32' RIGHT	264+28	32' RIGHT	92	92
263+78	19.5' RIGHT	264+28	19.5' RIGHT	50	50
265+37	30' RIGHT	269+73	30' RIGHT	436	436
6" Single Dashed White Line (PAVE STRIPING-THERMO-6 IN W)					
259+78	26' RIGHT	263+78	19.5' RIGHT	400	100
265+97	18.5' RIGHT	269+23	18' RIGHT	326	81.5
6" Solid AND Dashed Yellow Line (PAVE STRIPING-THERMO-6 IN Y)					
265+97	6.5' LEFT	268+37	6.5' LEFT	240	300
265+97	6.5' RIGHT	268+37	6.5' RIGHT	240	300
KY 18 WESTBOUND					
6" Single Solid Yellow Line (PAVE STRIPING-THERMO-6 IN Y)					
259+78	15' LEFT	264+28	7' LEFT	450	450
6" Single Solid White Line (PAVE STRIPING-THERMO-6 IN W)					
259+78	27' LEFT	260+28	27' LEFT	50	50
259+78	41' LEFT	262+12	38' LEFT	234	234
262+62	36' LEFT	264+17	32' LEFT	155	155
259+78	69' LEFT	262+12	49' LEFT	234	234
263+19	50' LEFT	264+17	43' LEFT	98	98
264+17	43.5' LEFT	265+17	31' LEFT	100	100
265+97	19' LEFT	266+47	19' LEFT	50	50
265+97	31' LEFT	269+73	31' LEFT	376	376
6" Dotted Lane Extensions (PAVE STRIPING-THERMO-6 IN W)					
262+12	49' LEFT	262+62	48' LEFT	50	22
262+12	38' LEFT	262+62	36' LEFT	50	22
269+73	19' LEFT	270+45	48' RIGHT	110	48
6" Single Dashed White Line (PAVE STRIPING-THERMO-6 IN W)					
260+29	27' LEFT	264+99	19' LEFT	470	117.5
266+47	19' LEFT	269+73	19' LEFT	326	81.5
KY 18 EASTBOUND (LEFT TURN LANE ONTO CARDINAL)					
6" Double Solid Yellow Line (PAVE STRIPING-THERMO-6 IN Y)					
268+38	7' LEFT	269+73	7' LEFT	135	270
6" Single Solid White Line (PAVE STRIPING-THERMO-6 IN W)					
268+88	5' RIGHT	269+73	5' RIGHT	85	85
269+23	18' RIGHT	269+73	18' RIGHT	50	50
KY 18 WESTBOUND (LEFT TURN LANE ONTO EWING)					
6" Double Solid Yellow Line (PAVE STRIPING-THERMO-6 IN Y)					
270+91	7' RIGHT	272+64	7' RIGHT	173	346
6" Single Solid White Line (PAVE STRIPING-THERMO-6 IN W)					
270+90	6' LEFT	272+16	7' LEFT	126	126
270+90	19' LEFT	271+40	19' LEFT	50	50

BOONE COUNTY KY 18 (BURLINGTON PIKE) AND COMMERCE DRIVE ITEM NO. 6-9022.30 STRIPING / PAVEMENT MARKING SUMMARY PAGE 3 OF 3				
RIGHT-IN AND RIGHT-OUT ISLAND STRIPING				
PAVE STRIPING THERMO-12 IN WHITE (ISLAND OUTLINE)				
STATION	OFFSET	DESCRIPTION	LF	
262+88	45' RIGHT	TRAVEL AMERICA - CAR ENTRANCE	110	
PAVE MARKING - THERMO CROSS HATCH (ISLAND CROSS HATCH) (X = 1' , Y = 10')				
STATION	OFFSET	DESCRIPTION	SQFT	
262+88	45' RIGHT	TRAVEL AMERICA - CAR ENTRANCE	97	
PAVE MARKING - 24" STOP BAR				
STATION	OFFSET	DESCRIPTION	LF	
259+78	14.5' LEFT - 64' LEFT	KY 18 EASTBOUND @ I-75 NORTHBOUND RAMP	50	
262+98 - 263+14	58' RIGHT	TRAVEL AMERICA - CAR ENTRANCE	16	
264+28	6.5' RIGHT - 30' RIGHT	KY 18 EASTBOUND @ TA TRUCK ENTRANCE	24	
265+97	6.5' LEFT - 31' LEFT	KY 18 WESTBOUND @ TA TRUCK ENTRANCE	24	
269+73	6.5' LEFT - 30' RIGHT	KY 18 EASTBOUND @ EWING BLVD	38	
270+89	31' LEFT - 6.5' RIGHT	KY 18 WESTBOUND @ EWING BLVD	38	
REFRESH EXISTING CROSS WALK (PAVE MARKING THERMO X-WALK-6 IN)				
STATION	OFFSET	DESCRIPTION	LF	
262+50 - 263+19	56' RIGHT	TRAVEL AMERICA - CAR ENTRANCE	129	
264+50 - 265+35	51' RIGHT	TRAVEL AMERICA - TRUCK ENTRANCE	165	
269+95 - 270+85	50' RIGHT	EWING BLVD NORTHBOUND	171	
270+05 - 270+56	40' LEFT	EWING BLVD SOUTHBOUND	102	
270+60 - 270+84	42' LEFT TO 43' RIGHT	KY 18 @EWING BLVD	179	
PROPOSED PAVEMENT MARKING - THERMO ARROWS				
STATION		OFFSET	DESCRIPTION	EACH
BEGIN	END			
KY 18 WESTBOUND (RIGHT TURN LANE ONTO RAMP)				
260+20	264+15	46' LEFT	SIX (6) RIGHT TURN ARROWS - THERMO	6
TRAVEL AMERICA - CAR ENTRANCE				
263+00	263+00	0'	ONE (1) RIGHT TURN ARROW - THERMO	1
KY 18 EASTBOUND (LEFT TURN LANE ONTO CARDINAL)				
268+88	269+73	0'	TWO (2) LEFT TURN ARROWS - THERMO	2
KY 18 WESTBOUND (LEFT TURN LANE ONTO EWING AND BEGIN TWLTL)				
271+25	272+16	0'	TWO (2) LEFT TURN ARROWS - THERMO	2
273+05	273+25	0'	TWO (2) TWLTL LEFT TURN ARROWS - THERMO	2

STRIPING / PAVEMENT MARKING SUMMARY			
BID ITEM	DESCRIPTION	UNIT	QUANTITY
6542	PAVE STRIPING-THERMO-6 IN W	LF	2,827
6543	PAVE STRIPING-THERMO-6 IN Y	LF	2,116
6546	PAVE STRIPING-THERMO-12 IN W	LF	110
6565	PAVE MARKING-THERMO X-WALK-6 IN	LF	746
6568	PAVE MARKING-THERMO STOP BAR-24 IN	LF	190
6569	PAVE MARKING-THERMO CROSS-HATCH	SQFT	97
6574	PAVE MARKING-THERMO CURV ARROW	EACH	13
6598	PAVEMENT MARKING REMOVAL	SQFT	139.5
22664EN	WATER BLASTING EXISTING STRIPE	LF	2,150.5

Assembly ID	Side of Offset Road	SIGN LOCATION			Fading Traffic Traveling	MUTCD Code	Sign Description	Sign Text / Remarks	Sign Dimensions (in x m)	BOONE County			Intersection KY18 and Commerce Drive		Bracing Req'd	# of Sign Posts	Estimated Length of 2" Post (ft)	Estimated Length of 2-1/2" Post (ft)	3.1/4" Stiffener Req'd (Includ to post)	Estimated Sign Post Length (LF)	Barcode Sign Inv. (EACH)			
		Approx Offset (ft)	Approx Station	Approx Mile Point						SHEETING	SBM Alum Sheet (0.080 INCH)	SBM Alum Sheet (0.125 INCH)	Installation Type											
5-1	RT	ENT	263+20	15.223	WB	R1-1	Stop		36" x 36"	White	Red	XI	9.00		1	13		YES	13	1				
						R3-5R	Right Turn ONLY		30" x 36"	White	Red	XI	7.50		1									
						M3-3	South		24" x 12"	Blue	White	III or IV	2.00		1									
						M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	III or IV	4.00		1									
						M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	III or IV	4.00		1									
5-3	LT	45	265+15	15.262	WB	M6-3	Straight Arrow		21" x 15"	Blue	White	III or IV	2.19		1	13.25		YES	13.25	1				
						M3-1	North		24" x 12"	Blue	White	III or IV	2.00		1									
						M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	III or IV	4.00		1									
						M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	III or IV	4.00		1									
						M5-1R	Advance Right Turn Arrow		21" x 15"	Blue	White	III or IV	2.19		1									
5-6	LT	54	263+45	15.229	WB	---	---		X	---	---	---		1	16				16	1				
						D1-3	Destination (3 lines)	SEE DETAIL SHEETS	72" x 42"	White	Green	XI	21.00		1									
5-9	LT	55	261+95	15.201	WB	M3-3	South		24" x 12"	Blue	White	III or IV	2.00		1									
						M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	III or IV	4.00		1									
						M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	III or IV	4.00		1									
						M6-3	Straight Arrow		21" x 15"	Blue	White	III or IV	2.19		1									
						M3-1	North		24" x 12"	Blue	White	III or IV	2.00		1									
5-12	LT	65	260+10	15.166	WB	M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	III or IV	4.00		1	13.25		YES	13.25	1				
						M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	III or IV	4.00		1									
						M6-1R	Right Arrow		21" x 15"	Blue	White	III or IV	2.19		1									
						R4-7	Keep Right		24" x 30"	Black	White	XI	5.00		1									
						R3-4	No U-Turn		36" x 36"	Black	White	XI	9.00		1									
5-13	MED	0	259+80	15.160	WB	R4-7	Keep Right		24" x 30"	Black	White	XI	5.00		1	9.5			9.5	1				
						R3-4	No U-Turn		36" x 36"	Black	White	XI	9.00		1									
5-14	MED	0	263+90	15.238	WB	R4-7	Keep Right		24" x 30"	Black	White	XI	5.00		1	9.5			9.5	1				
						R3-4	No U-Turn		36" x 36"	Red & Black	White	XI	9.00		1									
5-15	Across from Travel/America Entrance on Tanners Lane	WB			M4-5	To		24" x 12"	White	Blue	XI	2.00		1										
					M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	XI	4.00		1										
					M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	XI	4.00		1										
					M6-1L	Left Arrow		21" x 15"	White	Blue	XI	2.19		1										
					M4-5	To		24" x 12"	White	Blue	XI	2.00		1										
					M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	XI	4.00		1										
					M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	XI	4.00		1										
					M6-3	Straight Arrow		21" x 15"	White	Blue	XI	2.19		1										
					M4-5	To		24" x 12"	White	Blue	XI	2.00		1										
					M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	XI	4.00		1										
					M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	XI	4.00		1										
5-16	Install at the intersection of Tanners Lane and Tanners Gate Lane	WB			M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	XI	4.00		1	13.25									
					M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	XI	4.00		1										
					M6-3	Straight Arrow		21" x 15"	White	Blue	XI	2.19		1										
					M4-5	To		24" x 12"	White	Blue	XI	2.00		1										
					M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	XI	4.00		1										
5-17	Install at the intersection of Tanners Lane and Ewing Blvd	WB			M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	XI	4.00		1	13.25									
					M1-1	Interstate Route Sign (2-digit)		24" x 24"	White	Blue & Red	XI	4.00		1										
					M6-1L	Left Arrow		21" x 15"	White	Blue	XI	2.19		1										

Remove Sign	
Sign Assembly	Number of Sign Assemblies
S4	1
S5	1
S11	2
Total	4

Summary of Items	
SBM Alum Sheet Signs 0.080 INCH	129.81
SBM Alum Sheet Signs 0.125 INCH	21.00
Barcode Sign Inventory	35
Remove Sign	4
Remove and Relocate Signs	1
EACH	EACH

Summary of Items	
Steel Post - Type 1	143.25
GNSS Type D	6
GNSS Type D (Surface Mount)	2
Class A Concrete for Signs	1.5
CUVD	

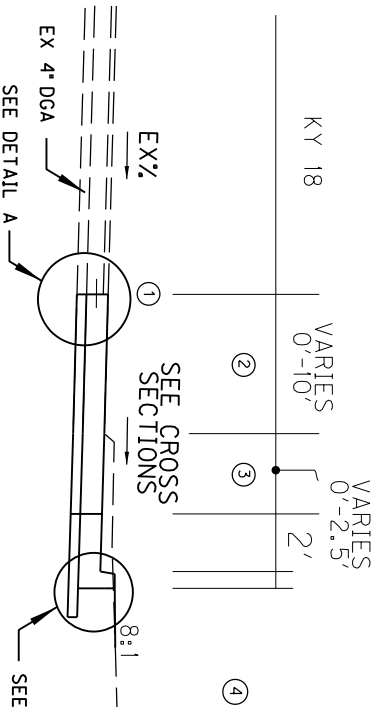
TYPICAL SECTIONS

COUNTY OF	ITEM NO.
BOONE	6-9022.30

RIGHT TURN LANE FULL DEPTH CONCRETE

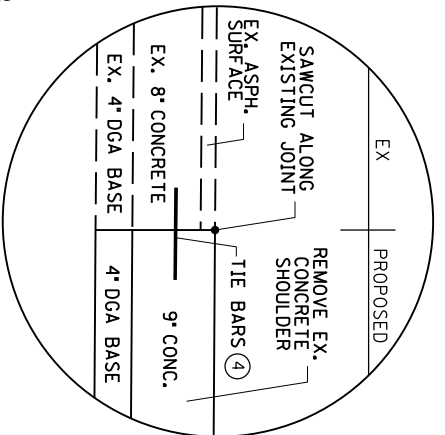
PAVEMENT [9" JPC PAVEMENT
4" DGA BASE

- ① SAWCUT EXISTING PAVEMENT
- ② REPLACE EXISTING CONCRETE SHOULDER WITH FULL DEPTH CONCRETE FOR RIGHT TURN LANE
- ③ DISTANCE IS FROM THE EXISTING CURB TO THE PROPOSED EDGE OF CONCRETE AND WHERE THE PROPOSED CURB AND GUTTER BEGINS.
- ④ NO. 5 DEFORMED TIE BAR 2'-6" LONG PLACED 1'-8" ON CENTER AND PLACED MINIMUM FROM ANY TRANSVERSE JOINT. SEE STANDARD DRAWING RPS-010-11

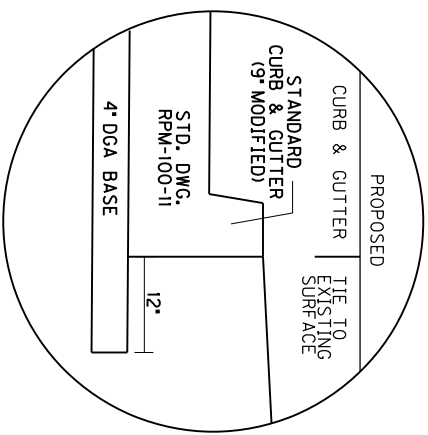


WIDEN RIGHT TURN LANE AND CURB & GUTTER

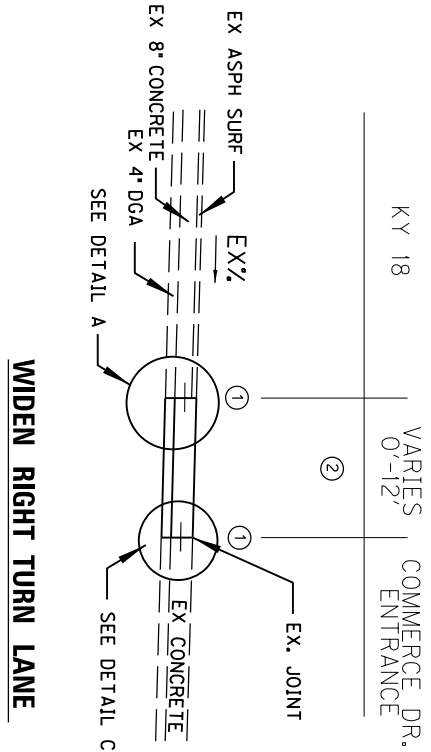
STA. 263+18 TO STA. 265+06



DETAIL A

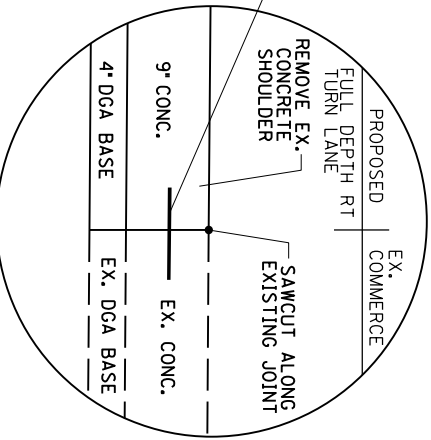


DETAIL B



WIDEN RIGHT TURN LANE

(REPLACE EX. CONCRETE SHOULDER WITH FULL DEPTH CONCRETE)
STA. 262+42 TO STA. 263+18



DETAIL C

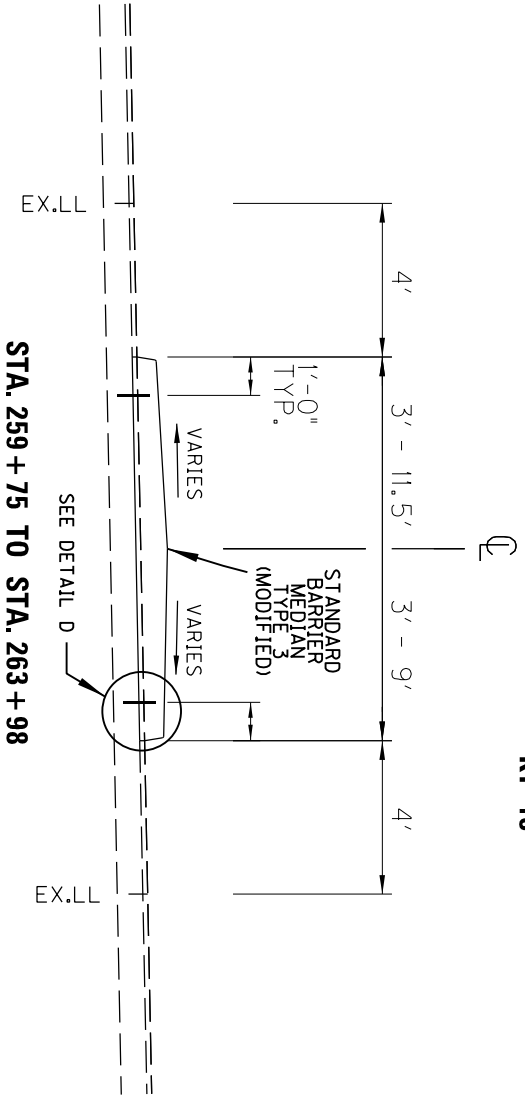
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KY 18 (MP 15.217)
COMMERCE DRIVE
TYPICALS

TYPICAL SECTIONS

RAISED MEDIAN

KY 18



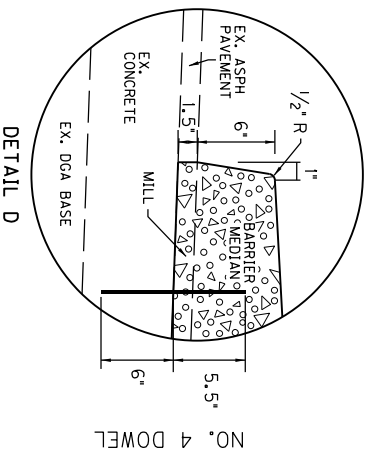
NOTE:
REFER TO KYTC STANDARD DRAWINGS FOR STANDARD BARRIER MEDIAN FOR ADDITIONAL DETAILS.
NO. 4 DOWELS 10" LONG STAGGERED AT 5'-0" SPACING

LT OFFSET TAPERS

BEGIN TAPER END TAPER
 STA. 260 + 00 (11.5' LT) TO STA. 260 + 95 (10' LT)
 STA. 260 + 95 (10' LT) TO STA. 263 + 00 (3' LT)
 STA. 263 + 00 (3' LT) TO STA. 263 + 80 (3' LT)

RT OFFSET TAPERS

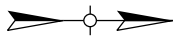
BEGIN TAPER END TAPER
 STA. 260 + 00 (9' RT) TO STA. 260 + 65 (10' RT)
 STA. 260 + 65 (10' RT) TO STA. 263 + 80 (3' RT)



SCALE: NTS

KY 18 (MP 15.217)
 COMMERCE DRIVE
 TYPICALS

COUNTY OF	ITEM NO.
BOONE	6-9022.30

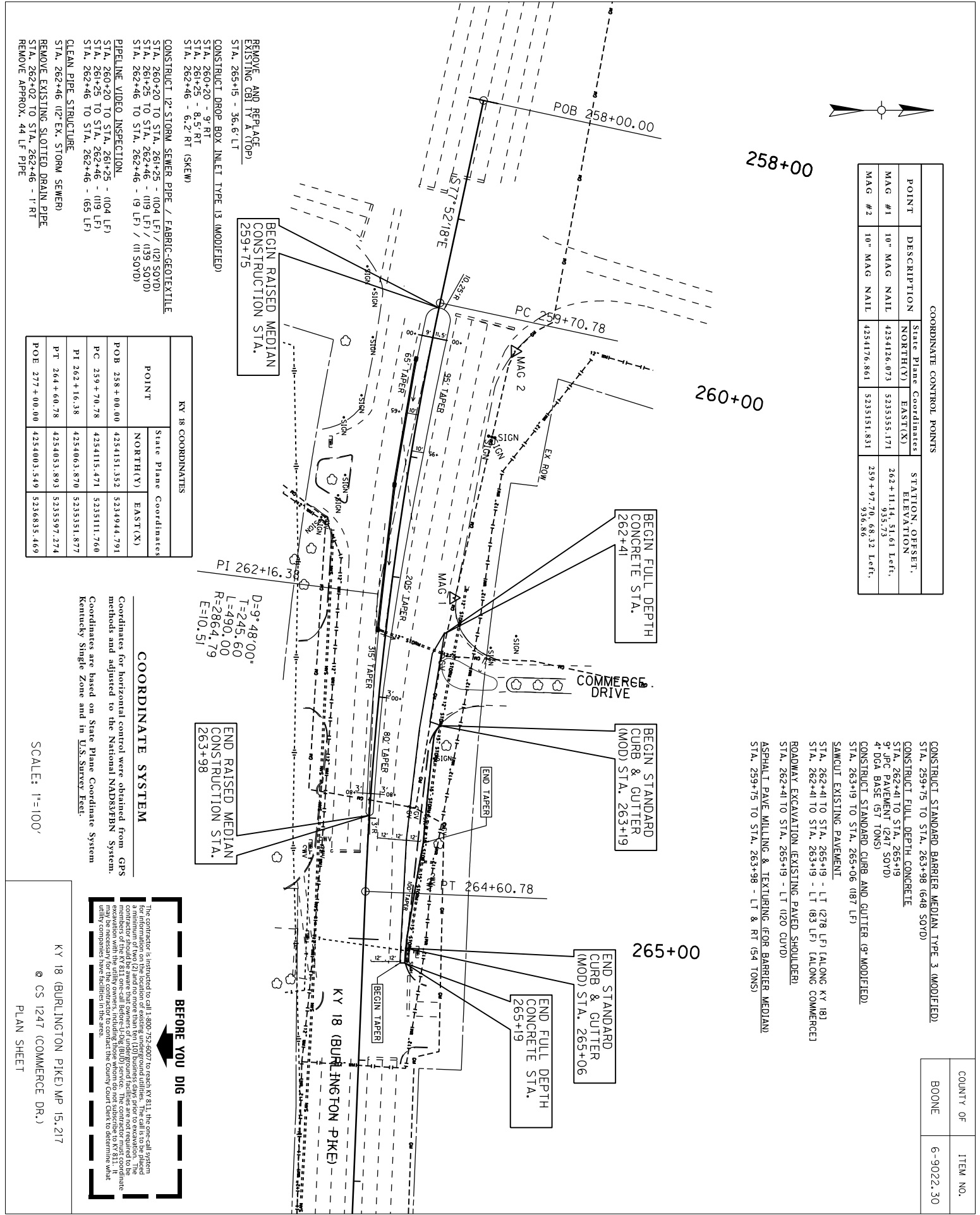


COORDINATE CONTROL POINTS				
POINT	DESCRIPTION	State Plane Coordinates NORTH(Y)	EAST(X)	STATION, OFFSET, ELEVATION
MAG #1	10" MAG NAIL	4254126.073	5235355.171	262+11.14, 31.61 Left, 935.73
MAG #2	10" MAG NAIL	4254176.861	5235151.831	259+97.70, 68.32 Left, 936.86

258+00

260+00

265+00



- REMOVE AND REPLACE EXISTING GBLT A (10%)
- CONSTRUCT DROP BOX INLET TYPE I3 (MODIFIED)
- STA. 260+20 - 9' RT
- STA. 261+25 - 6.5' RT
- STA. 262+46 - 6.2' RT (SKEW)
- CONSTRUCT 12" STORM SEWER PIPE / FABRIC-GEOTEXTILE
- STA. 260+20 TO STA. 261+25 - (104 LF) / (12) SOYD
- STA. 261+25 TO STA. 262+46 - (119 LF) / (13) SOYD
- STA. 262+46 TO STA. 262+46 - (9 LF) / (1) SOYD
- PIPELINE VIDEO INSPECTION
- STA. 260+20 TO STA. 261+25 - (104 LF)
- STA. 261+25 TO STA. 262+46 - (119 LF)
- STA. 262+46 TO STA. 262+46 - (65 LF)
- CLEAN PIPE STRUCTURE
- STA. 262+46 (12" EX. STORM SEWER)
- REMOVE EXISTING SLOTTED DRAIN PIPE
- STA. 262+02 TO STA. 262+46 - 1' RT
- REMOVE APPROX. 44 LF PIPE

KY 18 COORDINATES			
POINT	State Plane Coordinates NORTH(Y)	EAST(X)	State Plane Coordinates NORTH(Y)
POB 258+00.00	4254151.352	5234944.791	4254151.352
PC 259+70.78	4254115.471	5235111.760	4254115.471
PI 262+16.38	4254063.870	5235351.877	4254063.870
PT 264+60.78	4254053.893	5235597.274	4254053.893
POE 277+00.00	4254003.549	5236835.469	4254003.549

COORDINATE SYSTEM

Coordinates for horizontal control were obtained from GPS methods and adjusted to the National NAD83/EBN System. Coordinates are based on State Plane Coordinate System Kentucky Single Zone and in U.S. Survey Feet.

SCALE: 1"=100'

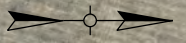
- CONSTRUCT STANDARD BARRIER MEDIAN TYPE 3 (MODIFIED)
- STA. 259+75 TO STA. 263+98 (648 SOYD)
- CONSTRUCT FULL DEPTH CONCRETE
- STA. 262+41 TO STA. 265+19
- 9" JPC PAVEMENT (247 SOYD)
- 4" DGA BASE (57 TONS)
- CONSTRUCT STANDARD CURB AND GUTTER (9" MODIFIED)
- STA. 263+19 TO STA. 265+06 (187 LF)
- SAWCUT EXISTING PAVEMENT
- STA. 262+41 TO STA. 265+19 - LT (278 LF) (ALONG KY 18)
- STA. 262+41 TO STA. 265+19 - LT (85 LF) (ALONG COMMERCIAL)
- ROADWAY EXCAVATION EXISTING PAVED SHOULDER
- STA. 262+41 TO STA. 265+19 - LT (120 CURD)
- ASPHALT PAVE MILLING & TEXTURING (FOR BARRIER MEDIAN)
- STA. 259+75 TO STA. 263+98 - LT & RT (54 TONS)

COUNTY OF	ITEM NO.
BOONE	6-9022.30

BEFORE YOU DIG

The contractor is instructed to call 1-800-752-6007 to reach KY 811, the one-call system for information on the location of existing underground utilities. This call is to be placed a minimum of two (2) business days prior to excavation. The contractor shall be responsible for marking all utilities. The contractor shall coordinate with the utility owners, including those systems not subscribed to KY 811. All utility companies have facilities in the area.

KY 18 (BURLINGTON PIKE) WP 15.217
© CS 1247 (COMMERCIAL DR.)
PLAN SHEET



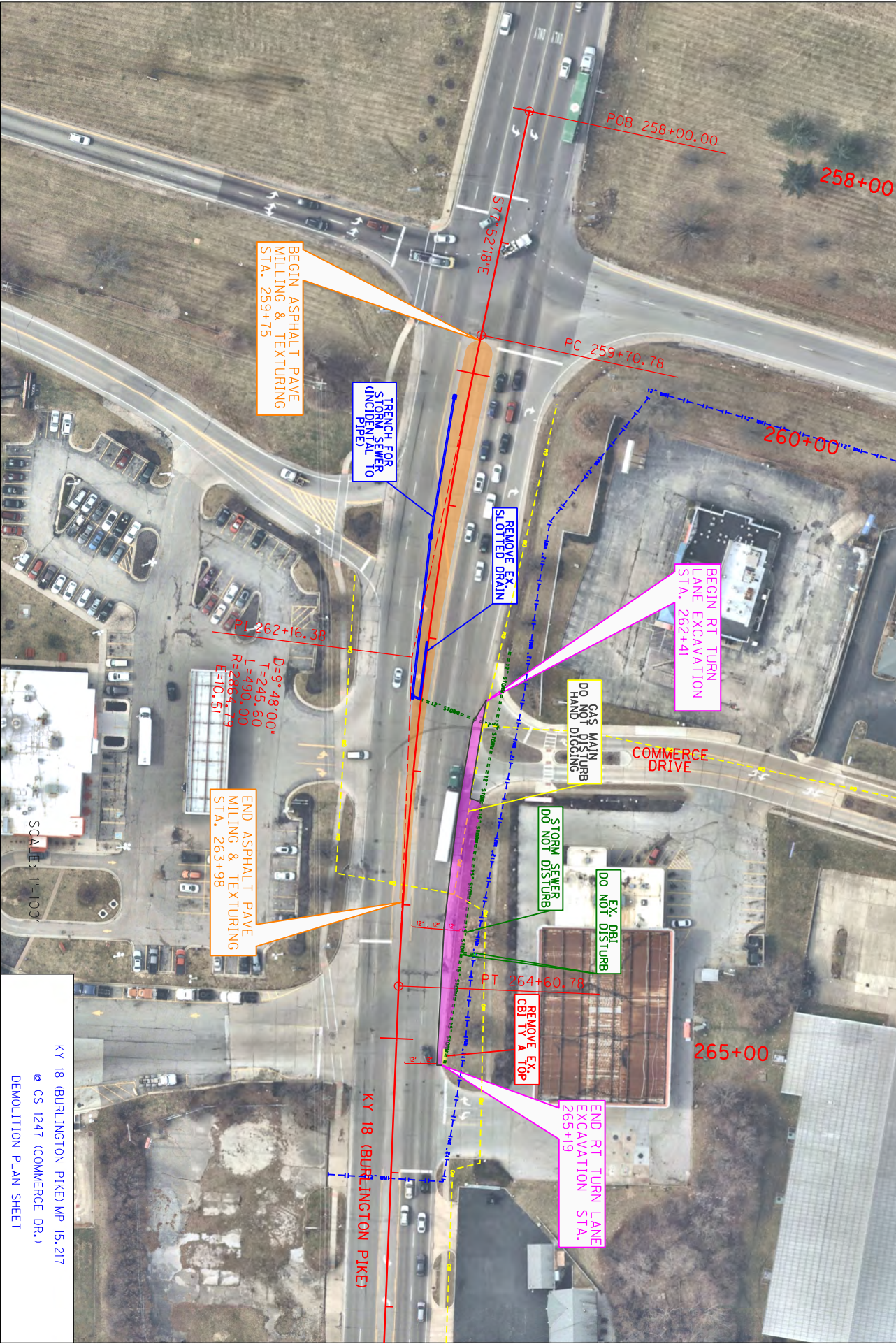
RIGHT TURN LANE ROADWAY EXCAVATION
 STA. 262+41 TO STA. 265+19 (120 CY)
 INCLUDES REMOVAL OF EXISTING CURB & GUTTER

RAISED MEDIAN ASPHALT PAVE MILLING & TEXTURING
 STA. 259+75 TO STA. 263+98 (54 TONS)

SAWCUT EXISTING PAVEMENT
 RIGHT TURN LANE FULL DEPTH PAVEMENT
 STA. 262+41 TO STA. 265+19 - LT (278 LF)
 STA. 262+41 TO STA. 263+19 - LT (83 LF)

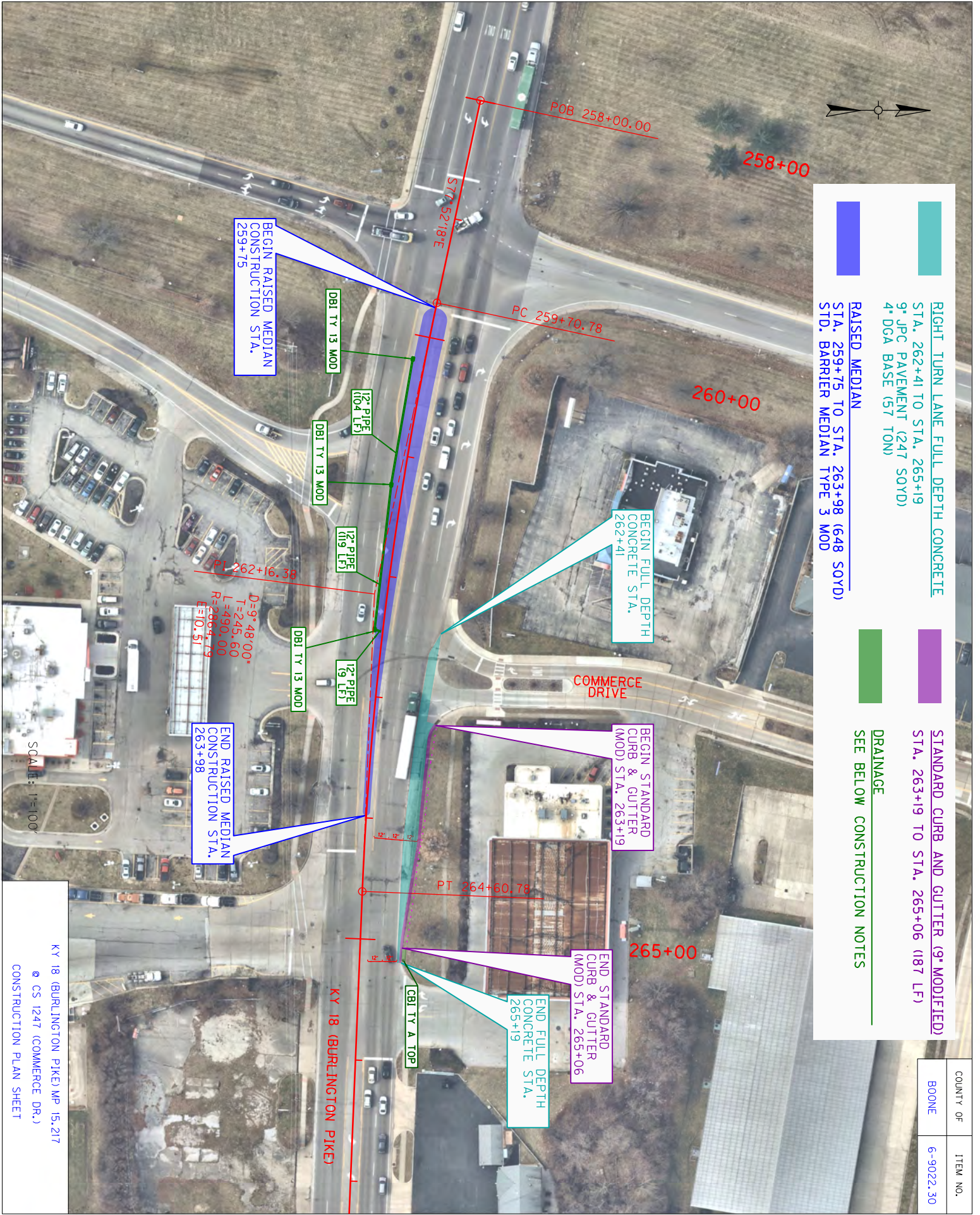
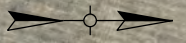
COORDINATE WITH DUKE ENERGY TO ADJUST GAS VALVE BOXES





COUNTY OF	BOONE
ITEM NO.	6-9022.30



SCALE: 1"=100'

KY 18 (BURLINGTON PIKE) MP 15.217
 @ CS 1247 (COMMERCE DR.)
 DEMOLITION PLAN SHEET



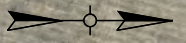
	RIGHT TURN LANE FULL DEPTH CONCRETE STA. 262+41 TO STA. 265+19 9" JPC PAVEMENT (247 SOYD) 4" DGA BASE (57 TON)		STANDARD CURB AND GUTTER (9" MODIFIED) STA. 263+19 TO STA. 265+06 (187 LF)
	RAISED MEDIAN STA. 259+75 TO STA. 263+98 (648 SOYD) STD. BARRIER MEDIAN TYPE 3 MOD		DRAINAGE SEE BELOW CONSTRUCTION NOTES

$D=9^{\circ}48'00''$
 $T=245.60$
 $L=490.00$
 $R=2684.79$
 $E=10.51$

SCALE: 1"=100'

KY 18 (BURLINGTON PIKE) MP 15.217
 CS 1247 (COMMERCE DR.)
 CONSTRUCTION PLAN SHEET

COUNTY OF	BOONE	ITEM NO.	6-9022.30
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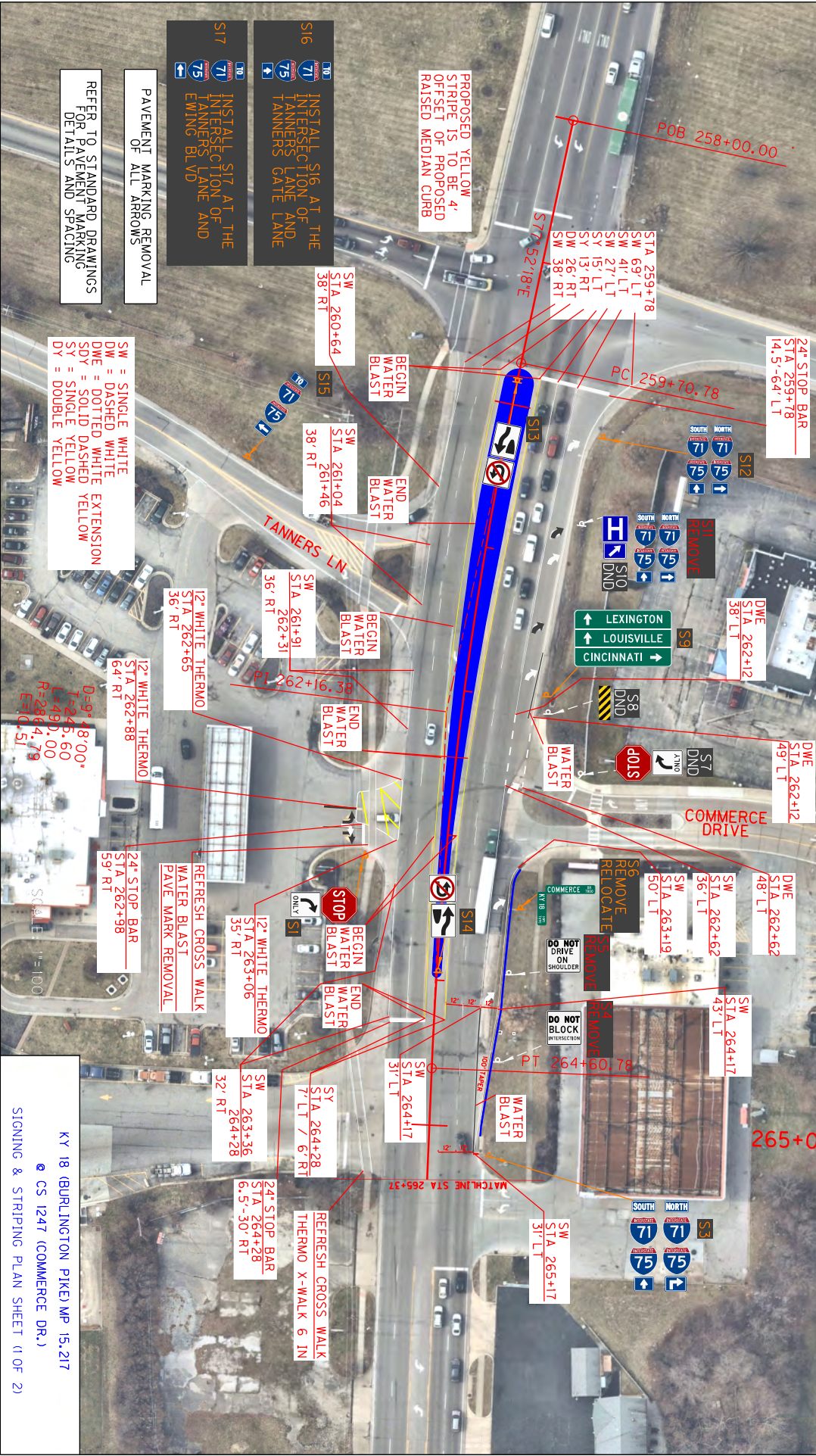
RY 18/COMMERCE DR. STRIPING QUANTITIES
(SHEET 1)

RESTRIPE YELLOW SOLID 4' FROM RAISED MEDIAN
RESTRIPE RIGHT TURN LANE ONTO I-71/I-75 RAMP
PAVE MARKING REMOVE EX. ARROWS
INSTALL PROPOSED THERMO ARROWS
REFRESH EXISTING STRIPING

DESCRIPTION	LENGTH	LF
6" SINGLE SOLID WHITE LINE	1181	1181
6" SINGLE SOLID YELLOW LINE	900	900
6" DOTTED EXTENSION WHITE	100	44
6" DASHED WHITE LINE	870	217.5
12" SINGLE SOLID ISLAND STRIPE	110	110
6" CROSS WALK - THERMO	294	294
ENTRANCE CROSS HATCH	SOFT	97
THERMOPLASTIC CURVE ARROW	EACH	7
WATER BLAST EXISTING STRIPE	919	1380.5
PAVE MARKING REMOVAL 7 ARROWS	SOFT	108.5
24" STOP BAR	LF	90

ALL LANE LINE STRIPING ON KY 18 IS 6" THERMO.
ALL ISLAND STRIPING IS 12" THERMO.

COUNTY OF	BOONE
ITEM NO.	6-9022.30



INSTALL S16 AT THE INTERSECTION OF TANNERS GATE LANE AND EWMING BLVD

INSTALL S17 AT THE INTERSECTION OF TANNERS GATE LANE AND EWMING BLVD

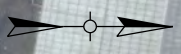
PAVEMENT MARKING REMOVAL OF ALL ARROWS

REFER TO STANDARD DRAWINGS FOR PAVEMENT MARKING DETAILS AND SPACING

SW = SINGLE WHITE
DW = DASHED WHITE
DDE = DOTTED WHITE
SDY = SOLID DASHED
SY = SINGLE YELLOW
DY = DOUBLE YELLOW

EXTENSION YELLOW

RY 18 (BURLINGTON PIKE) MP 15.217
CS 1247 (COMMERCE DR.)
SIGNING & STRIPING PLAN SHEET (1 OF 2)



KY 18 STRIPING QUANTITIES (SHEET 2)		
RESTRIPE TULL FOR LEFT TURN LANES ONTO CARDINAL DR. AND EWING BLVD.		
PAVE MARKING REMOVE EX. ARROWS INSTALL PROPOSED THERMO ARROWS		
REFRESH EXISTING STRIPING		
DESCRIPTION	LENGTH	LF
6" SINGLE SOLID WHITE LINE	1173	1173
6" DOUBLE SOLID YELLOW LINE	308	616
6" SINGLE DASHED WHITE LINE	652	163
6" DOTTED EXTENSION WHITE	110	48
6" SOLID & DASHED YELLOW LINE	480	600
THERMOPLASTIC CURVE ARROW	EACH	6
WATER BLAST EXISTING STRIPE	616	770
PAVE MARKING REMOVAL 2 ARROWS	SOFT	31
24" STOP BAR	LF	100
6" CROSS WALK - THERMO	452	452

ALL LANE LINE STRIPING ON KY 18 IS 6" THERMO.

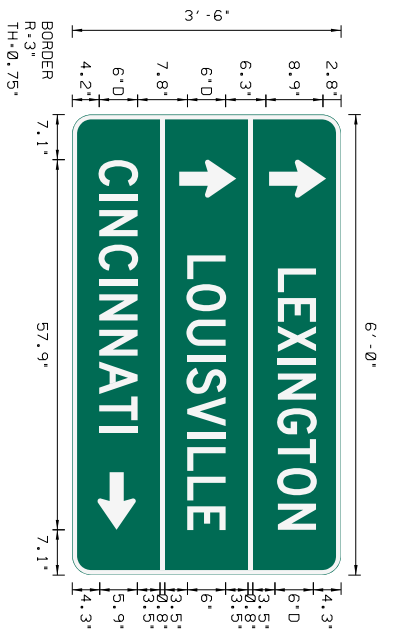


PAVEMENT MARKING REMOVAL OF ALL ARROWS
REFER TO STANDARD DRAWINGS FOR PAVEMENT MARKING DETAILS AND SPACING

SW = SINGLE WHITE
DW = DASHED WHITE
DWE = DOTTED WHITE EXTENSION
SDY = SOLID DASHED YELLOW
DY = DOUBLE YELLOW

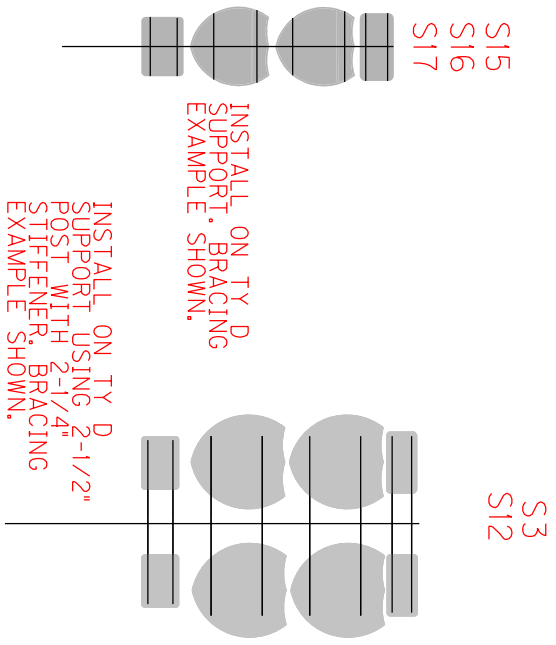
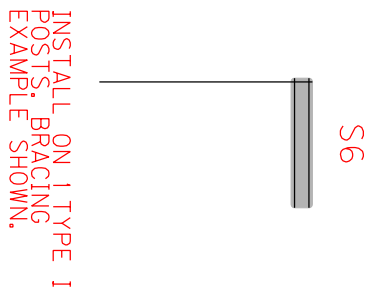
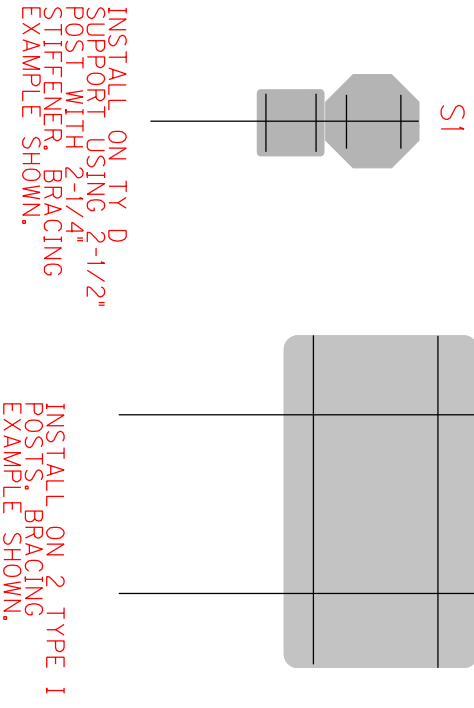
KY 18 (BURLINGTON PIKE) MP 15.217
CS 1247 (COMMERCE DR.)
STRIPING & SIGNING PLAN SHEET (2 OF 2)

COUNTY OF BOONE
ITEM NO. 6-9022.30



SIGN INFORMATION		SIGN LOCATION / SUPPORT	
SIGN NUMBER	S9	ROAD & MILE POINT	KY 18
QUANTITY	1	TRAFFIC DIRECTION	WEST
WIDTH	6'-0"	SIDE OF ROAD	RT
HEIGHT	3'-6"	MOUNTING STYLE	TYPE 1 POSTS
AREA (Sq. Ft.)	21,000 SQ. FT.	BEAM MATERIAL	
BORDER WIDTH	0.75"	BEAM SIZE	
BORDER RADIUS	3"	BEAM/POST LENGTH	1. = 14'-6"
PANEL COLOR	GREEN	BEAM/POST LENGTH	2. = 14'-6"
LEGEND/BORDER COLOR	WHITE	BEAM/POST LENGTH	3. =
STATIONS(S)	261+95	BEAM/POST LENGTH	4. =
PANEL MATERIAL	REFLECTIVE	CONC "a" =	Cu.
LEGEND MATERIAL	REFLECTIVE	CONC "b" =	Yos.

COUNTY OF	ITEM NO.
BOONE	6-9022.30

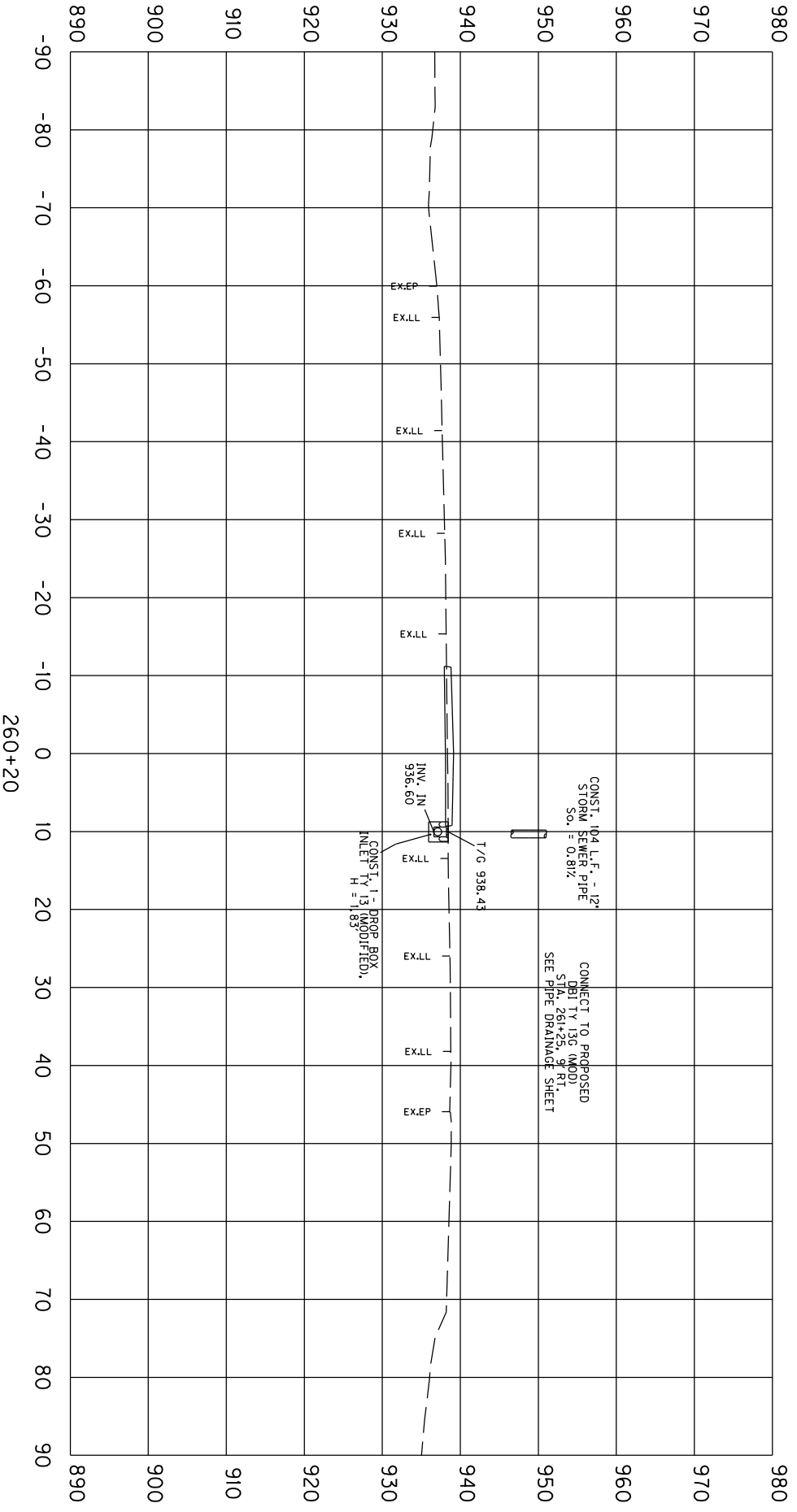


KY 18 MP 15.217
CS 1247 (COMMERCE DR.)
SIGNING DETAIL SHEET

PIPE DRAINAGE SHEET 1 of 3

COUNTY OF	ITEM NO.
BOONE	6-9022.30

STORM SEWER PIPE											
12"											
L I N E A R F E E T	104	EACH	SOVD	LF	SOVD	1	121	104	35		
		DROP BOX INLET TY 13G (MODIFIED)		FABRIC GEOTEXTILE CLASS 2 FOR PIPE		PIPELINE VIDEO INSPECTION		JPC PAVEMENT 6 IN			



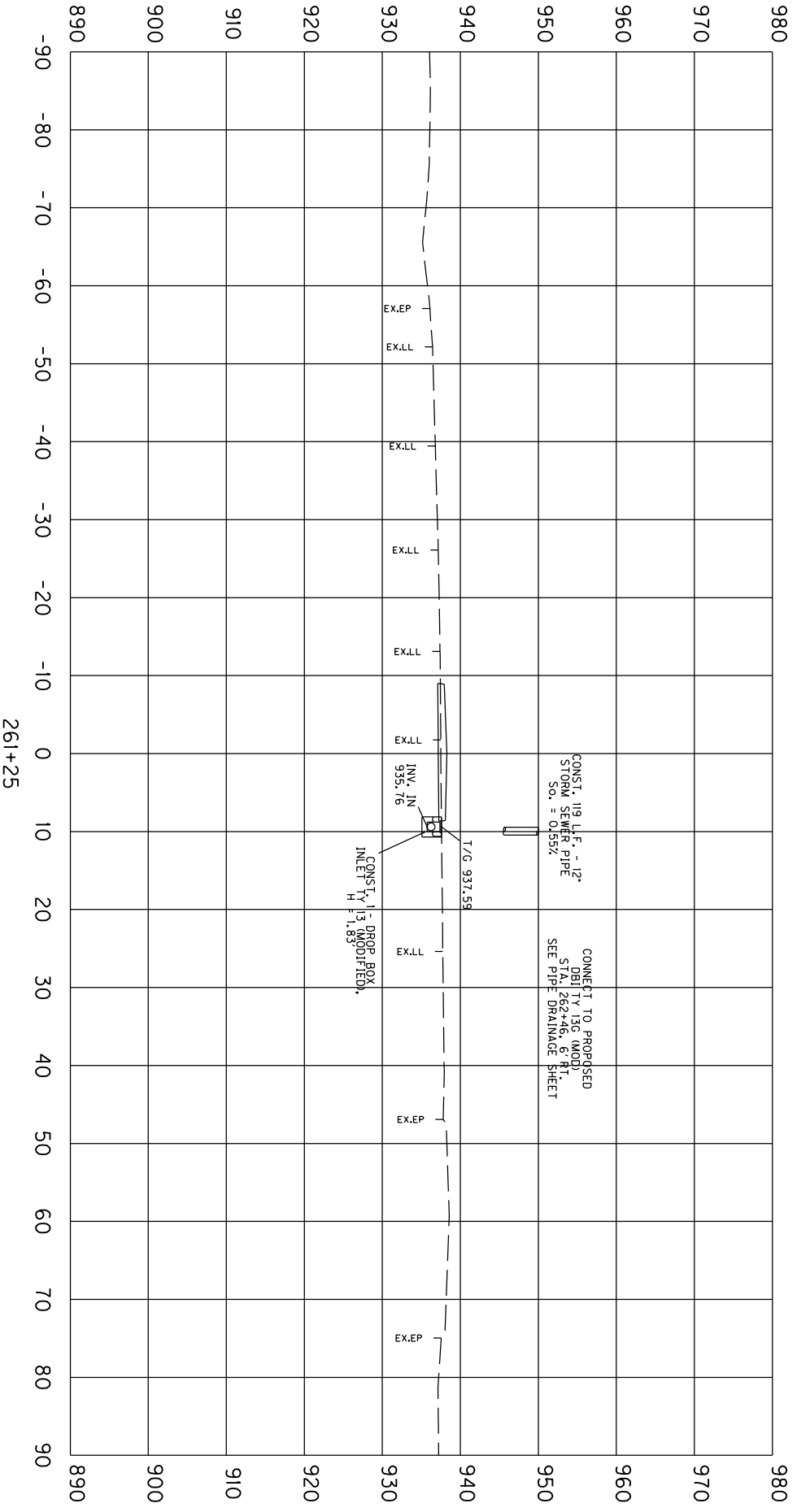
SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

KY 18
STA. 260+20
PIPE DRAINAGE SHEET

PIPE DRAINAGE SHEET 2 of 3

COUNTY OF BOONE	ITEM NO. 6-9022.30
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STORM SEWER PIPE									
12"									
L I N E A R F E E T	EACH	1	SOVD	139	LF	119	SOVD	40	
	DROP BOX INLET TY 13G (MODIFIED)		FABRIC GEOTEXTILE CLASS 2 FOR PIPE		PIPELINE VIDEO INSPECTION		JPC PAVEMENT 6 IN		



SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

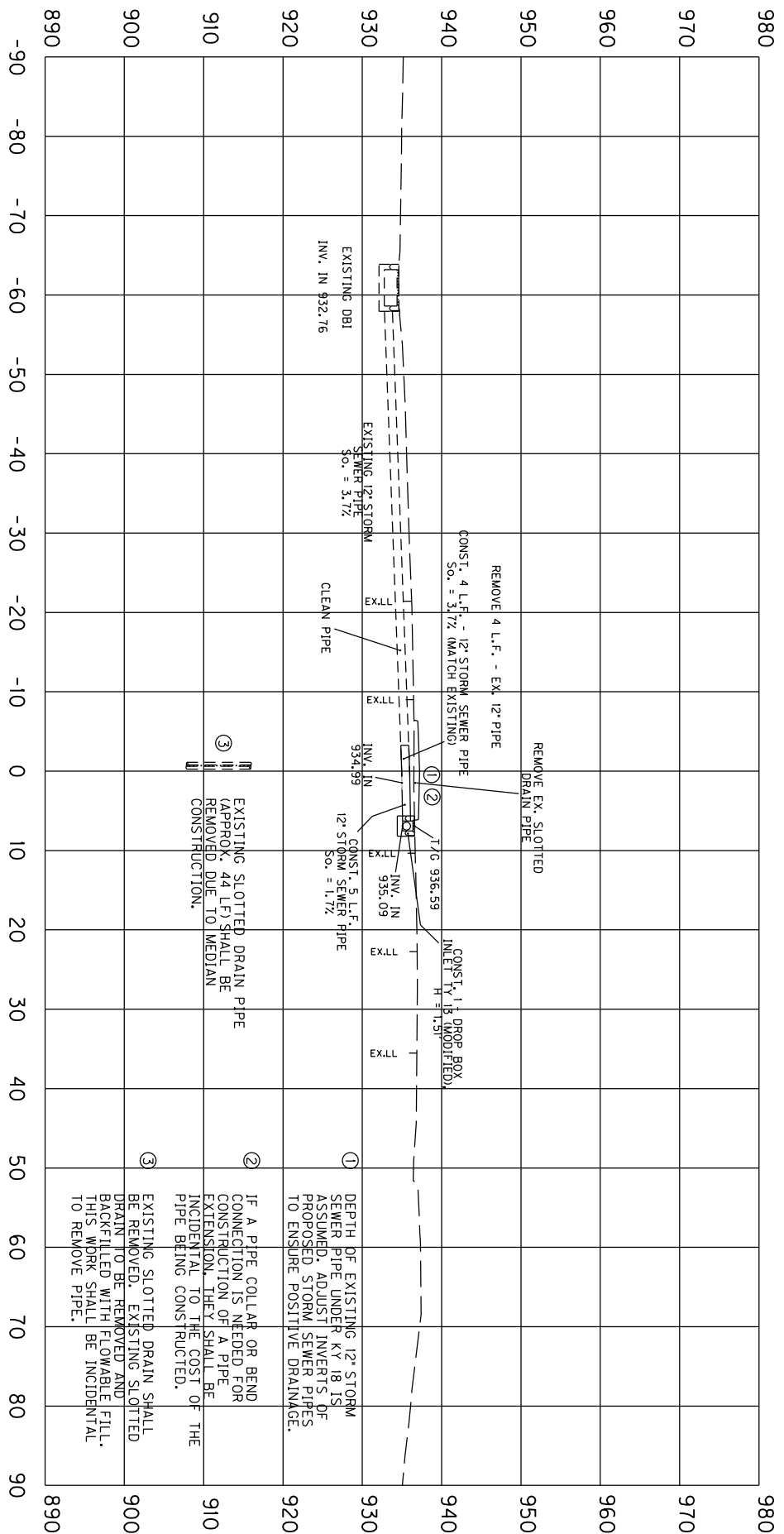
KY 18
STA. 261+25
PIPE DRAINAGE SHEET

PIPE DRAINAGE SHEET 3 of 3

COUNTY OF	BOONE
ITEM NO.	6-9022.30

STORM SEWER PIPE		QTY	UNIT	DESCRIPTION
12"				
L I N E A R F E E T		1	EACH	DROP BOX INLET TY 13G (MODIFIED)
		11	SOYD	FABRIC GEOTEXTILE CLASS 2 FOR PIPE
		65	LF	PIPELINE VIDEO INSPECTION
		48	LF	REMOVE PIPE
		1	EACH	CLEAN PIPE STRUCTURE
		3	SOYD	JPC PAVEMENT 6 IN

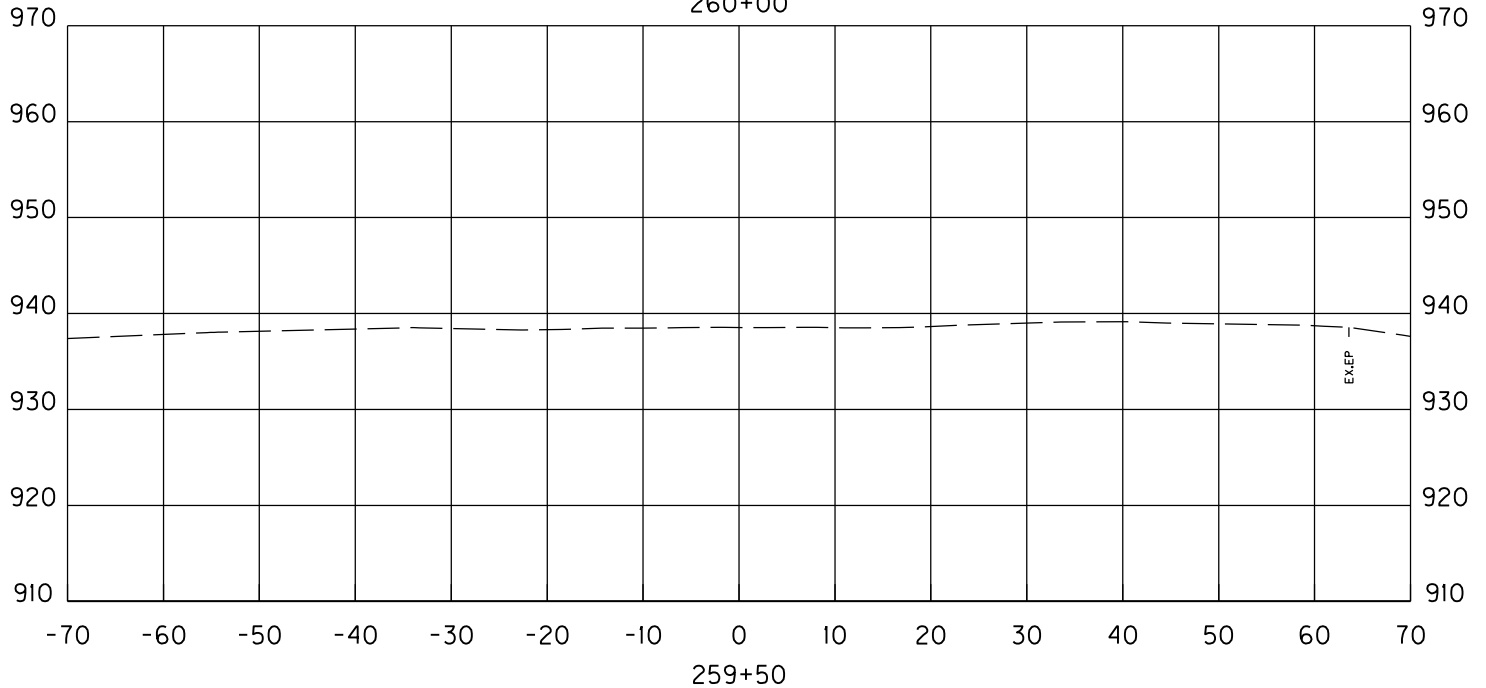
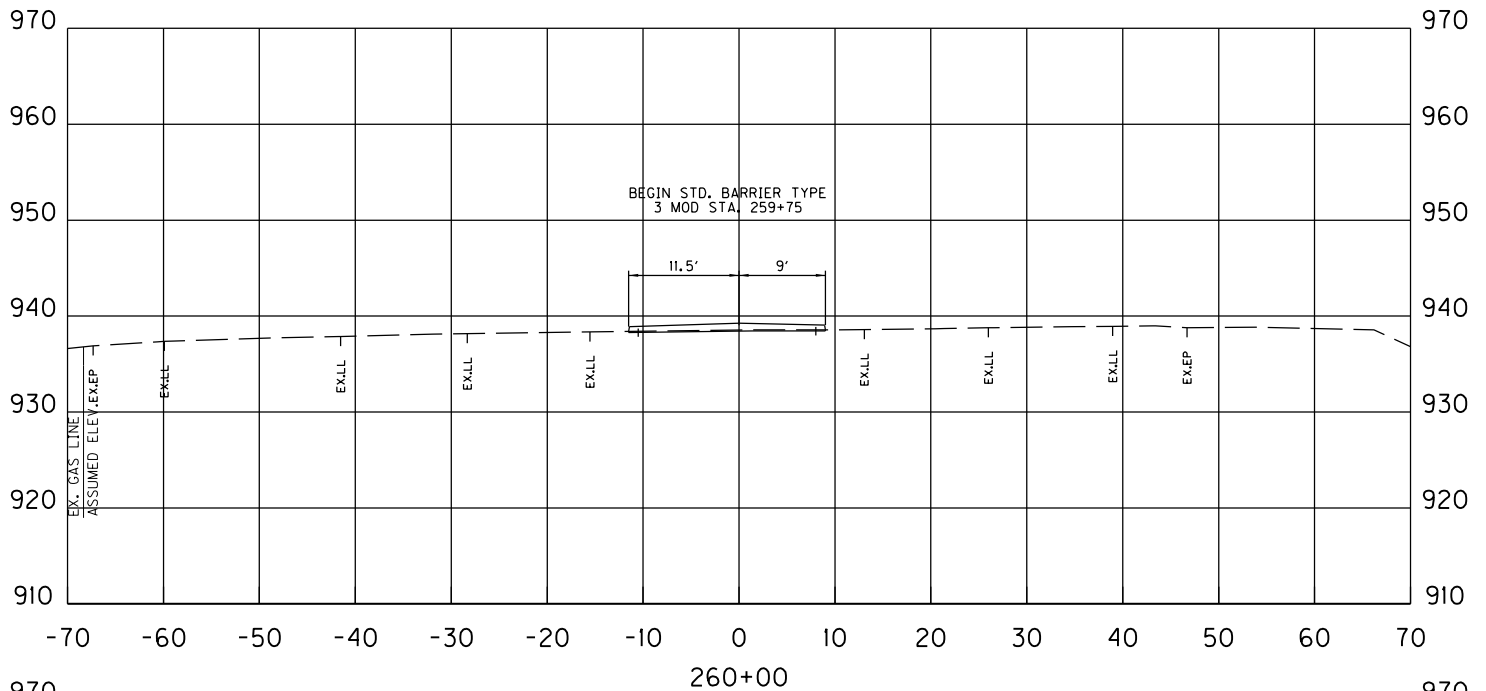
INCLUDES 60 LF OF EXISTING 12" STORM SEWER PIPE UNDER KY 18



262+46
SKEW 13° RT
SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

KY 18
STA. 262+46
PIPE DRAINAGE SHEET

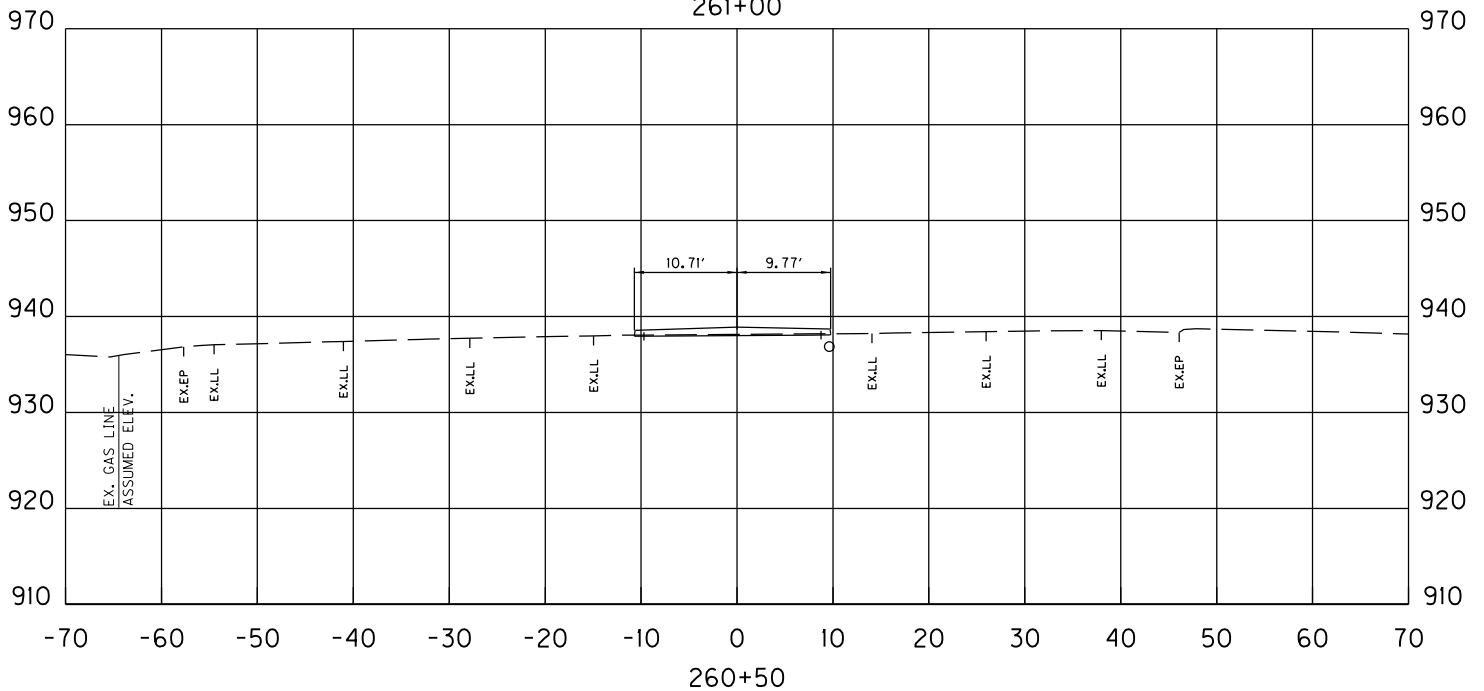
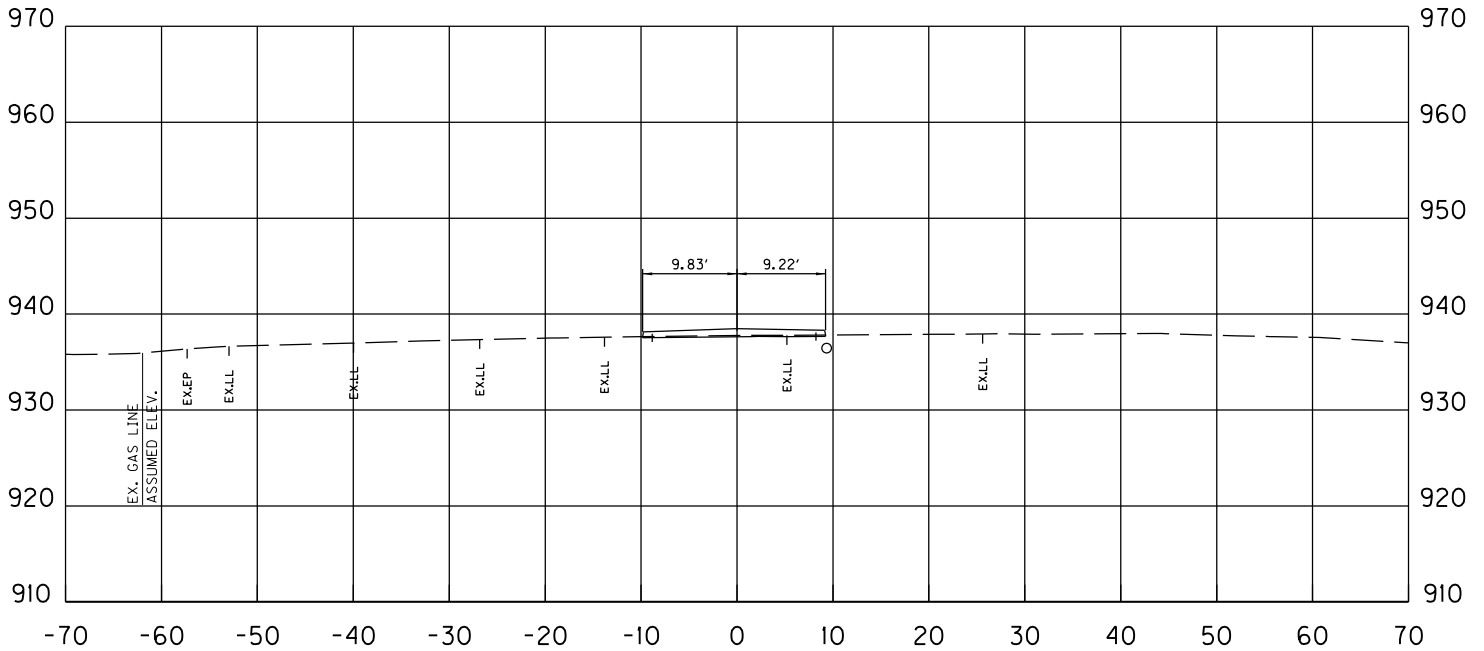
COUNTY OF	ITEM NO.
BOONE	6-9022.30



SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

KY 18 @ COMMERCE
STA. 259+50 TO STA. 260+00
CROSS SECTIONS

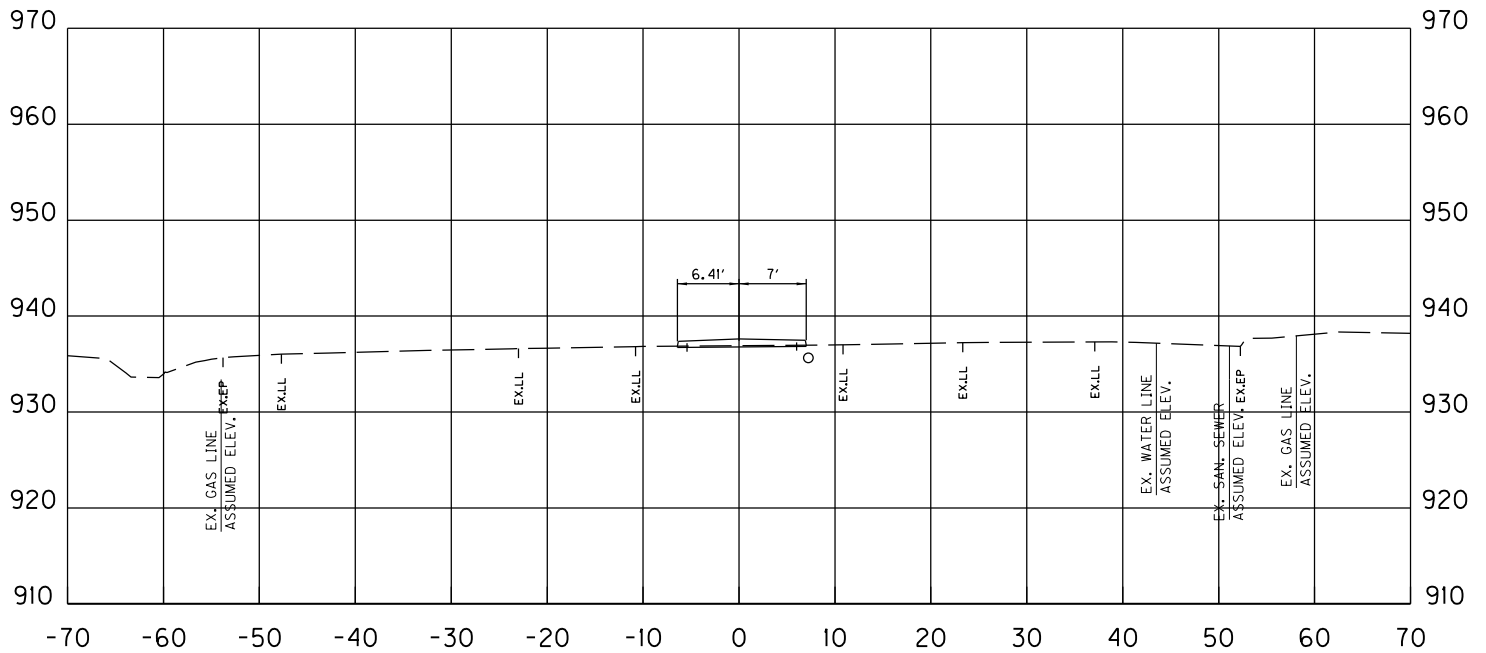
COUNTY OF	ITEM NO.
BOONE	6-9022.30



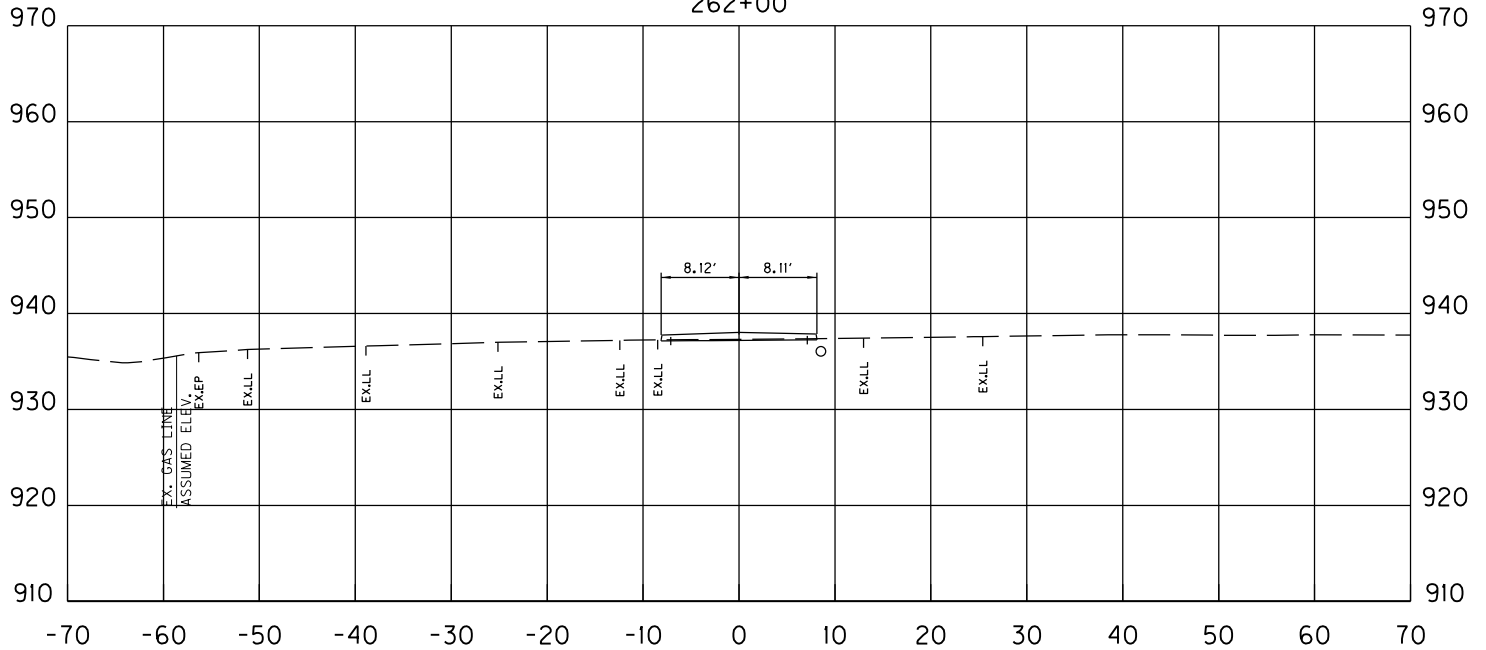
SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

KY 18 @ COMMERCE
STA. 260+50 TO STA. 261+00
CROSS SECTIONS

COUNTY OF	ITEM NO.
BOONE	6-9022.30



262+00



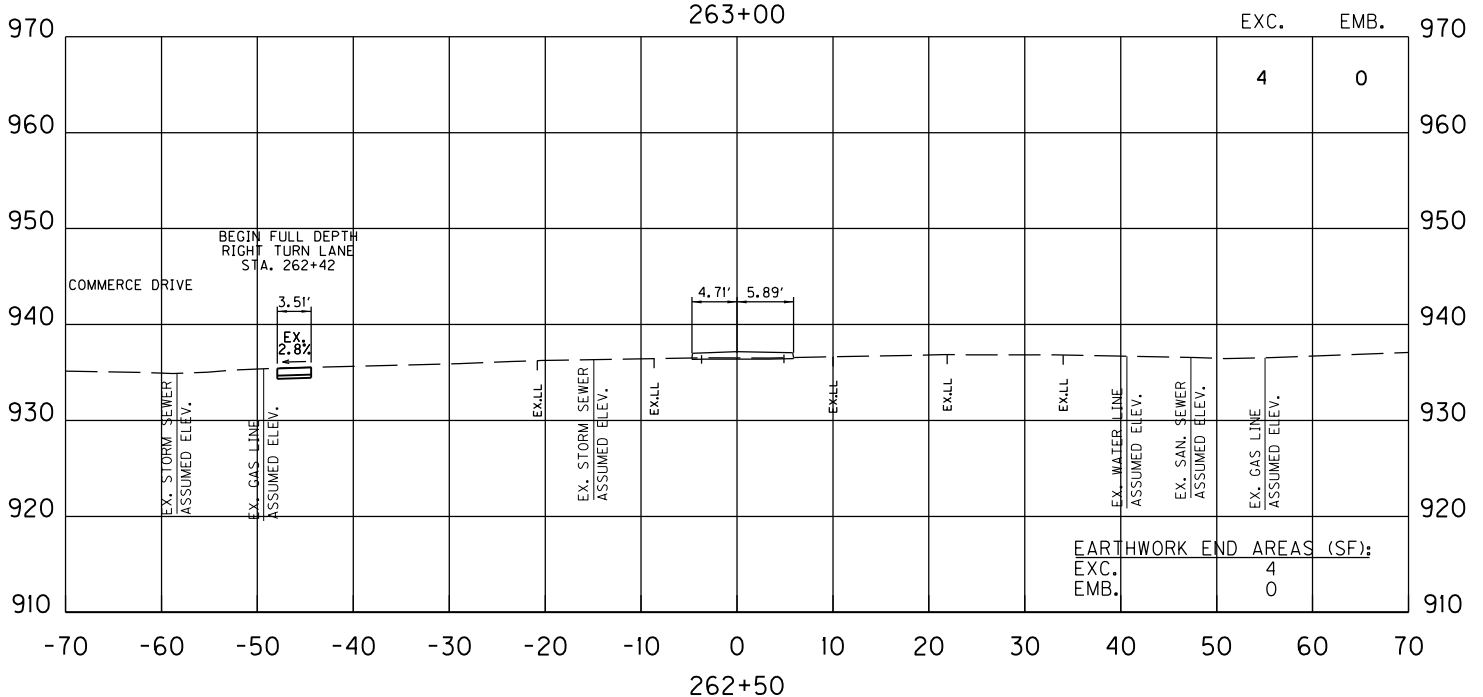
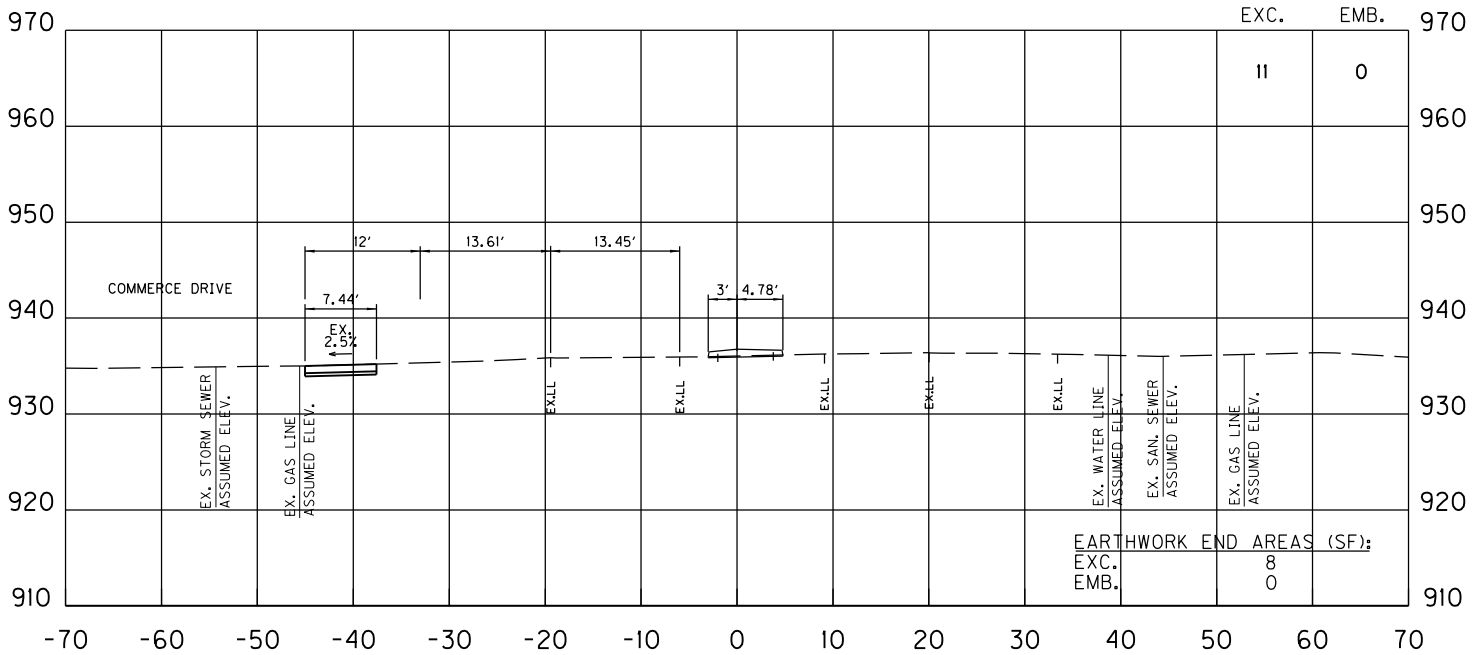
261+50

SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

KY 18 @ COMMERCE
STA. 261+50 TO STA. 262+00
CROSS SECTIONS

COUNTY OF	ITEM NO.
BOONE	6-9022.30

EARTHWORK VOLUMES (CY):

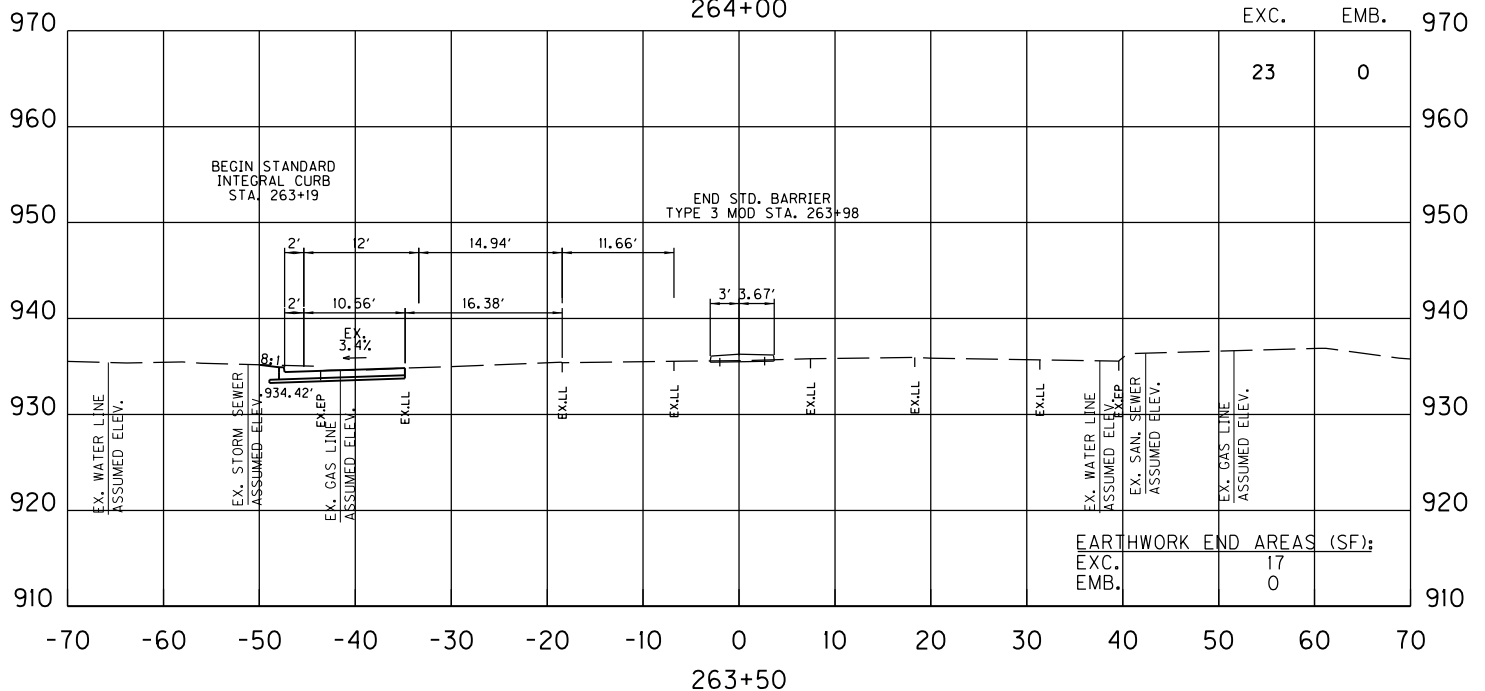
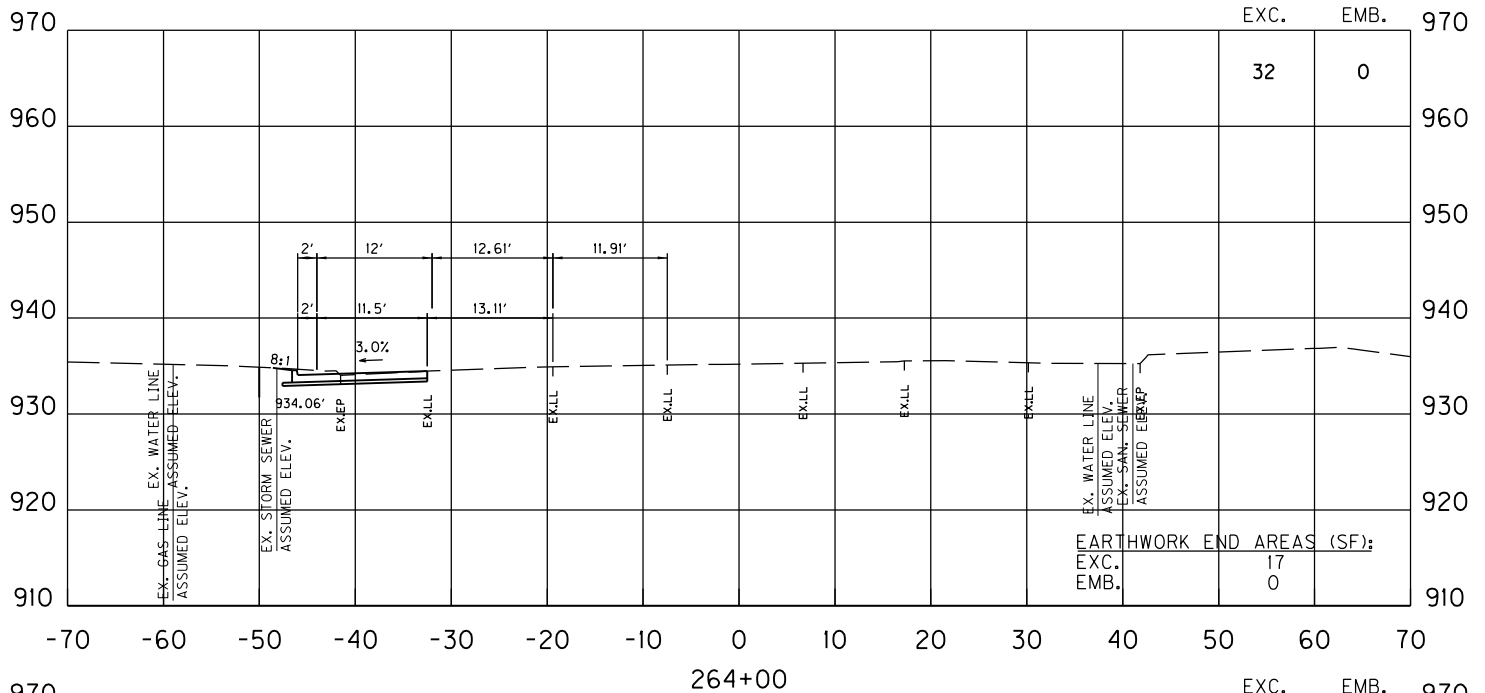


SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

KY 18 @ COMMERCE
STA. 262+50 TO STA. 263+00
CROSS SECTIONS

COUNTY OF	ITEM NO.
BOONE	6-9022.30

EARTHWORK VOLUMES (CY):



SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

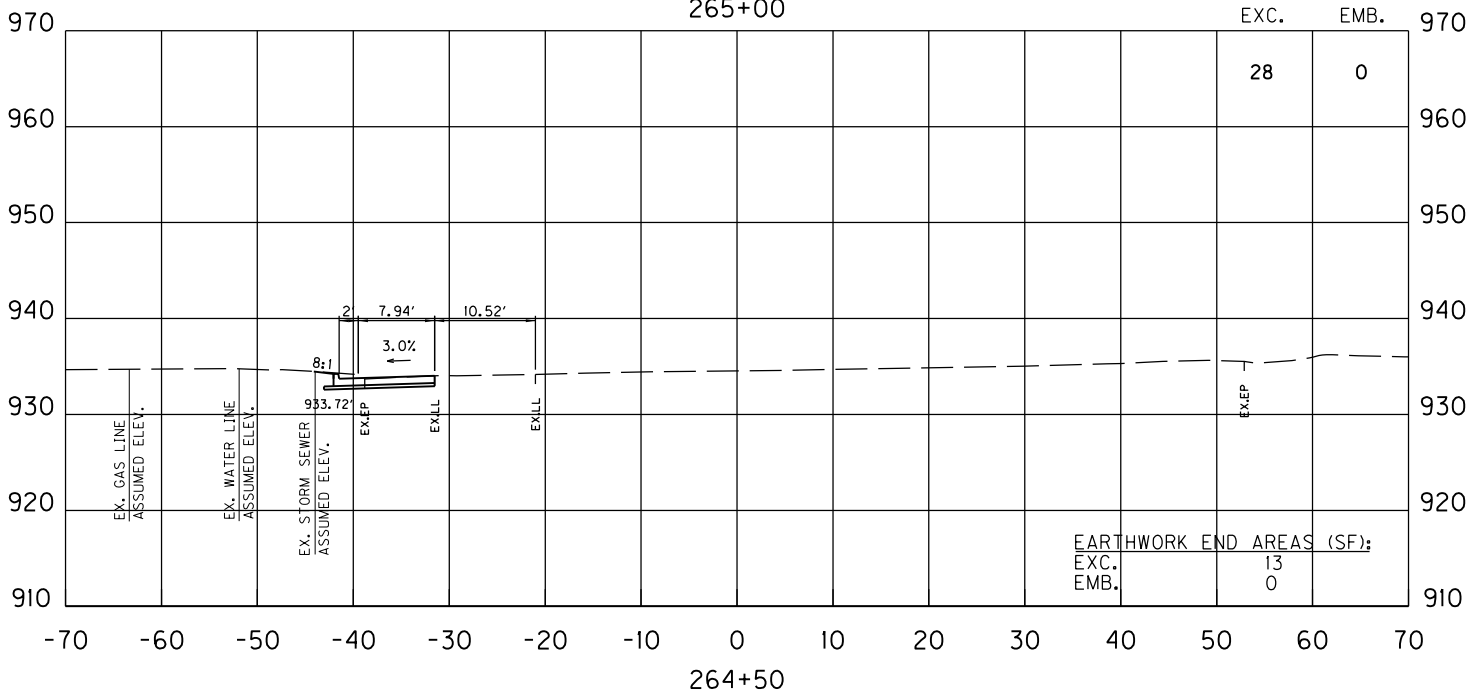
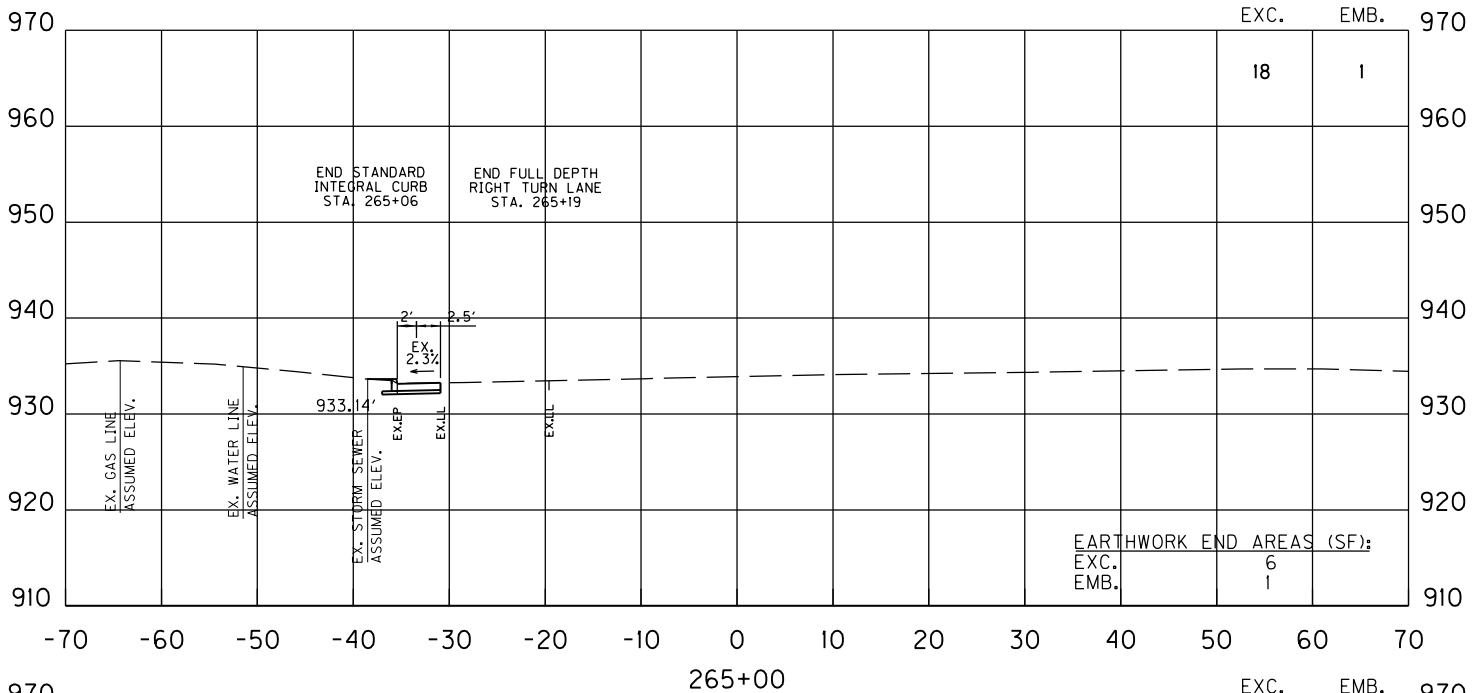
KY 18 @ COMMERCE
STA. 263+50 TO STA. 264+00
CROSS SECTIONS

COUNTY OF	ITEM NO.
BOONE	6-9022.30

EARTHWORK VOLUMES (CY):

TOTAL ROADWAY EXCAVATION	EXC.	EMB.
EXTEND KY 18 WB RIGHT TURN LANE	120	1

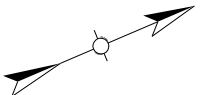
EARTHWORK VOLUMES (CY):



SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

KY 18 @ COMMERCE
STA. 264+50 TO STA. 265+00
CROSS SECTIONS

BOONE CO. KY 18 ~m.p. 14.45
 ~LAT/LONG N 39.006175, W 84.657074
 COUNT STATION M06
 STA 221+30



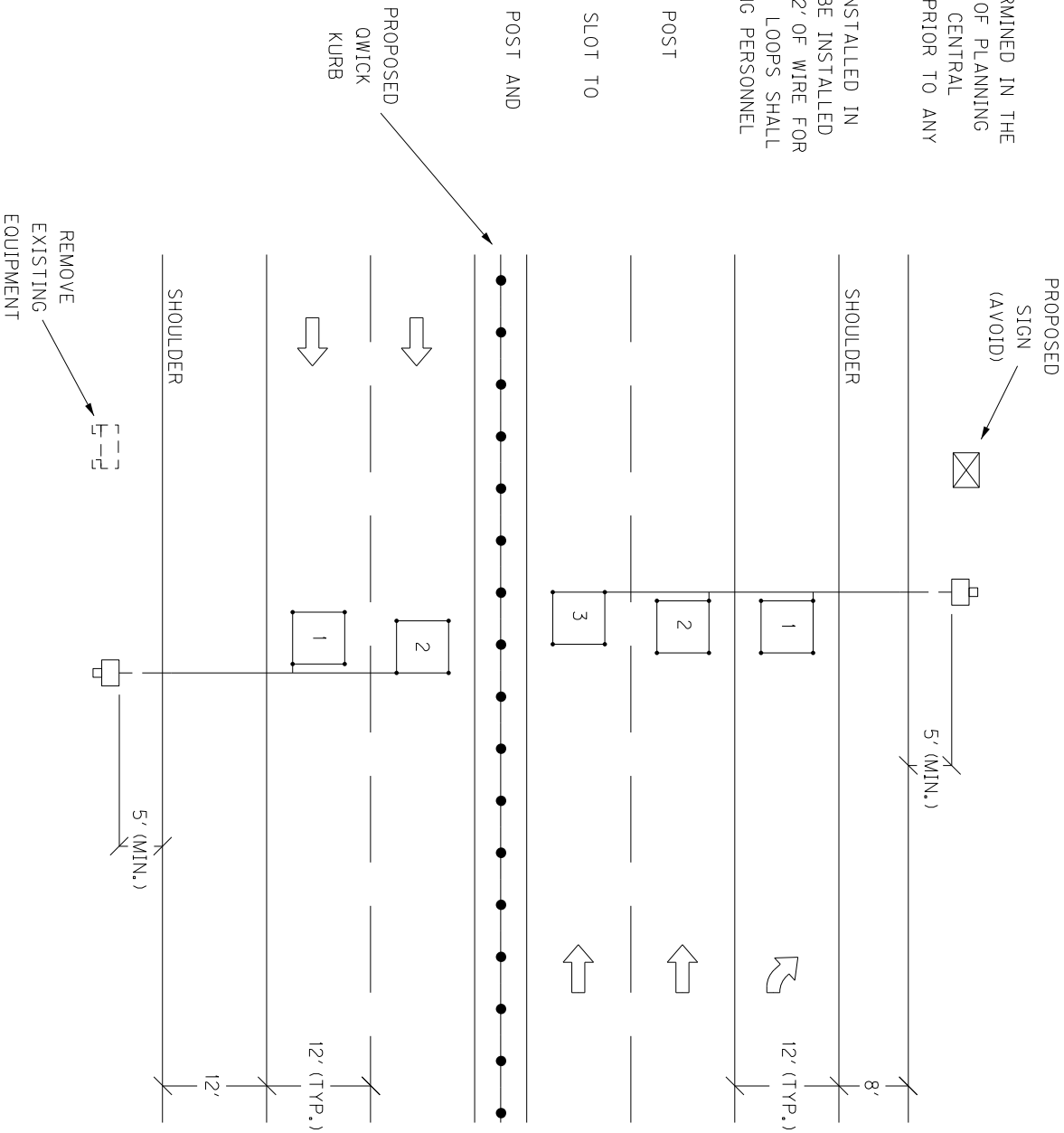
THE SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY CENTRAL OFFICE DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION. CONTACT CENTRAL OFFICE DIVISION OF PLANNING PERSONNEL 2 WEEKS PRIOR TO ANY CONSTRUCTION.

ALL LOOPS SHALL BE 6'X6' SQUARE AND SHALL BE INSTALLED IN THEIR RESPECTIVE LANES AS SHOWN. LOOPS SHALL BE INSTALLED SPLICE-FREE TO EACH CABINET AND A MINIMUM OF 2' OF WIRE FOR EACH LOOP SHALL BE COILED INSIDE EACH CABINET. LOOPS SHALL BE LABELED IN EACH CABINET. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE LOOPS INSIDE THE CABINETS.

INSTALL TWO (2) 10"x8"x4" CABINETS ON ONE (1) WOOD POST EACH.

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

REMOVE EX. 20"x20"x8" CABINET, CONDUIT AND WOOD POST AND DISPOSE OF OFF THE PROJECT.



Permanent Traffic Data Acquisition Station
Estimate Of Quantities

Revised February 2019

**PERMANENT TRAFFIC DATA ACQUISITION STATIONS
ESTIMATE OF QUANTITIES**

Bid Item Code	Description	Unit	Quantity
4793	CONDUIT 1 ¼ INCH	LIN FT	20
4795	CONDUIT 2 INCH	LIN FT	
4811	ELECTRICAL JUNCTION BOX TYPE B	EACH	
4820	TRENCHING AND BACKFILLING	LIN FT	15
4821	OPEN CUT ROADWAY	LIN FT	
4829	PIEZOELECTRIC SENSOR	EACH	
4830	LOOP WIRE	LIN FT	950
4850	CABLE NO. 14/1 PAIR	LIN FT	
4871	POLE – 35’ WOODEN	EACH	
4895	LOOP SAW SLOT AND FILL	LIN FT	200
4899	ELECTRICAL SERVICE	EACH	
20213EC	INSTALL PAD MOUNT ENCLOSURE	EACH	
20359NN	GALVANIZED STEEL CABINET	EACH	
20360ES818	WOOD POST	EACH	2
20391NS835	ELECTRICAL JUNCTION BOX TYPE A	EACH	
20392NS835	ELECTRICAL JUNCTION BOX TYPE C	EACH	
20468EC	ELECTRICAL JUNCTION BOX 10x8x4	EACH	2
21543EN	BORE AND JACK CONDUIT	LIN FT	
23206EC	INSTALL CONTROLLER CABINET	EACH	

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

1. DESCRIPTION

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

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

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

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

Material, Installation, and Bid Item Notes for
Permanent Traffic Data Acquisition Stations

Revised August, 2018

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

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

2. MATERIALS

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

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

2.1. Anchoring

2.1.1. Anchor and Anchor Rod

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

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

Rock anchor shall be galvanized steel, triple-eye, expanding type, with a minimum diameter of 3/4 inch, a minimum 53 inches long, and a minimum tensile strength of 23,000 lb.

2.1.2. Guy Wire and Guy Guard

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

2.1.3. Strandwise for Guy Wire

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

2.2. Asphalt

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

2.3. Backer Rod

Backer rod shall be 1/2 inch diameter, closed cell polyethylene foam and shall meet or exceed the following physical properties:

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

2.4. Cabinets

2.4.1. Galvanized Steel Cabinet

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

The cabinet shall be equipped with the following:

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

2.4.2. Anchor Bolt for Pad Mounted Cabinet

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

2.5. Concrete

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

2.6. Conduit and Conduit Fittings

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

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

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

2.7. Conduit sealant

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

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

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

2.8. Electrical Service Meter Base

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

2.9. Electrical Service Disconnect

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

2.10. Flashing Arrow

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

2.11. Ground Fault Circuit Interrupter (GFCI) Receptacle

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

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

This item shall include a UL listed, 4 inch x4 inch x 2¹/₈ inch box with ³/₄ inch side and end knockouts and a 1¹/₂ inches deep, single-receptacle cover to house the GFCI receptacle. Box and cover shall be hot rolled, galvanized steel with a minimum thickness of 0.62 inches.

2.12. Grounding

2.12.1. Ground Rod

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

2.12.2. Ground Rod Clamp

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

2.13. Grout

2.13.1. Grout for Inductive Loop Installation

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

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

2.13.2. Grout for Piezoelectric Sensor Installation

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

2.14. Hardware

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

2.14.1. Conduit Strap

Conduit strap shall be double-hole, stainless steel, and sized to support specified conduit. Conduit strap shall attach to wood pole or post with two 2 1/4 inch wood screws.

2.14.2. Mounting Strap for Pole Mount Cabinet

Mounting strap for pole mount cabinet shall be 3/4 inch x 0.03 inch stainless steel; equipped with clips or buckles to securely hold strap.

2.14.3. Metal Framing Channel and Fittings

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

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

2.15. Junction Box

2.15.1. Junction Box Type A, B, or C

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

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

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

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

2.15.3. Junction Box 10x8x4

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

2.16. Maintain and Control Traffic

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

2.17. Piezoelectric Sensor

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

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

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

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

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

2.18. Saw Slot Sealant

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

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

The cured encapsulant shall meet or exceed the following:

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

2.19. Seeding and Protection

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

2.20. Signs

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

2.21. Splicing Materials

2.21.1. Electrical Tape

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

2.21.2. Splice Kit

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

2.22. Steel Reinforcing Bar

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

2.23. Terminal Block

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

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

2.24. Warning Tape

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

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

2.25. Wire and Cable

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

2.25.1. Loop Wire

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

2.25.2. Cable No. 14/1 Pair

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

2.25.3. Grounding conductor

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

2.25.4. Service Entrance Conductor

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

2.25.5. Terminal for electrical wire or cable

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

2.26. Wood Post

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

2.27. Wooden Pole

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

3. CONSTRUCTION METHODS

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

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

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

Unless otherwise specified, installed materials shall be new.

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

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

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

3.1. Anchoring

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

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

3.2. Bore and Jack Pipe – 2”

Furnish: Steel Encasement Pipe, 2”

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

3.3. Cleanup and Restoration

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

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

3.4. Conduit

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

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

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

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

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

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

3.5. Electrical Service

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

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

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

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

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

Install a rigid $\frac{3}{4}$ inch conduit with three 8 AWG service conductors from the cabinet, through the service disconnect to the meter base and a $1\frac{1}{4}$ " conduit with three 8 AWG service conductors from the meter base to a weatherhead two feet from the top of the electrical service pole. Install conduit straps 30 inches on center and provide a drip loop where the wire enters the weatherhead. Splice electric drop with service entrance conductors at the top of the pole.

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

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

Install a ground rod with clamp. Install a grounding conductor wire from the meter base, through the disconnect panel, to the ground rod clamp. Install grounding conductor in $1\frac{3}{4}$ " conduit from service disconnect to ground rod.

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

3.6. Flashing Arrow

Furnish: Arrow Panel

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

3.7. Galvanized Steel Cabinet

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

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

cabinet faces the roadway.

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

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

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

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

3.8. Grounding

Furnish: Ground rod with clamp; grounding conductor.

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

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

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

3.9. Install Pad Mount Enclosure

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

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

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

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

Install ground rod with clamp and install one $\frac{3}{4}$ inch rigid conduit from enclosure base to

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

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

If electrical service is not provided as a bid item in the contract, plug conduit on both ends with a cap, conduit sealant, or electrical tape. Mark the location of the buried conduit end with a wooden stake labeled “¾ in. conduit.”

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

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

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

3.10. Install Controller Cabinet

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

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

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

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

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

If electrical service is not provided as a bid item in the contract, plug conduit on both ends with cap, plumbers putty, conduit sealant, or electrical tape. Mark the location of the buried conduit end with a wooden stake labeled “¾ in. conduit”.

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

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

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

3.11. Junction Box Type 10x8x4

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

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

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

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

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

3.12. Junction Box Type A, B, or C

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

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

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

3.13. Loops - Proposed

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

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

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

and perpendicular to the direction of traffic. Marked lines shall be straight and exact to the locations determined and sized as shown on the plans. Unless indicated otherwise, loops shall be 6 feet by 6 feet square and loops in the same lane shall be spaced 16 feet from leading edge to leading edge.

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

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

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

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

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

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

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

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

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

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

3.14. Loops – Existing

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

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

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

3.15. Maintain and Control Traffic

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

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

3.16. Open Cut Roadway

Furnish: Concrete, reinforcing bars.

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

3.17. Piezoelectric Sensor

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

The plans and notes specify the approximate location for piezoelectric sensor (piezo) installations. Prior to sawing slots or drilling cores, the Contractor shall meet with a representative of the Division of Planning to verify the final layout on site. Avoid expansion joints and pavement sections where potholes, cracks, or other roadway flaws exist. Roadway ruts at the proposed piezo location shall not be in excess of 1/2 inch under a 4-foot straight edge.

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

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

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

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

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

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

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

3.18. Pole – Wooden

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

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

3.19. Removal of Existing Equipment

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

3.20. Signs

Furnish: Signs; sign standards; hardware.

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

3.21. Splicing

Furnish: Splice kit; solder.

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

All splices shall conform to the provisions of the NEC.

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

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

3.22. Trenching and Backfilling

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

Excavate trench and provide required cover as shown on the standard detail sheets. After placing conduit, backfill material shall be placed and compacted in lifts of 9 inches or less. Install warning tape as shown on the detail sheet. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer. This item shall include concrete, asphalt or approved replacement material for sidewalks, curbs, roadways, etc. (if required).

3.23. Wiring

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

Installation of all wiring shall conform to the NEC. Permanent identification numbers shall be affixed to all wires in all junction boxes and cabinets (see Layout(s) for loop and piezo numbers).

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

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

3.24. Wood Post

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

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

4. BID ITEM NOTES AND METHOD OF MEASUREMENT FOR PAYMENT

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

4.1. Bore and Jack Pipe – 2”

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

4.2. Conduit

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

4.3. Electrical Service

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

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

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

Electrical service will be measured in individual units each.

4.4. Flashing Arrow

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

4.5. Galvanized Steel Cabinet

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

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

4.6. Install Pad Mount Enclosure

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

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

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

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

4.7. Install Controller Cabinet

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

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

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

Install Controller Cabinet will be measured in individual units each.

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

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

4.9. Junction Box Type A, B, or C

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

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

4.10. Loop Saw Slot and Fill

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

4.11. Maintain and Control Traffic

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

4.12. Open Cut Roadway

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

4.13. Piezoelectric Sensor

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

4.14. Pole – 35' Wooden

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

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

4.15. Signs

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

4.16. Trenching and Backfilling

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

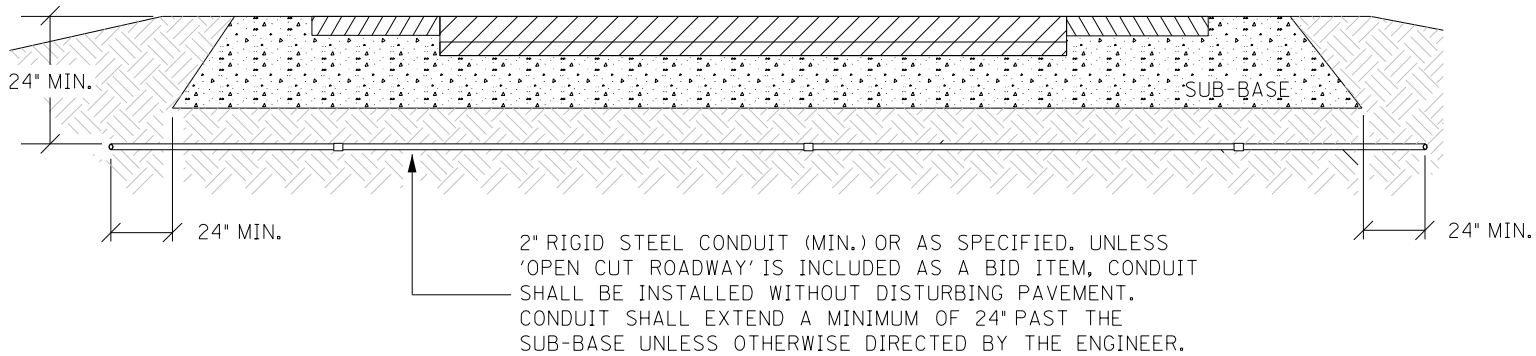
4.17. Wire or Cable

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

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

4.18. Wood Post

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

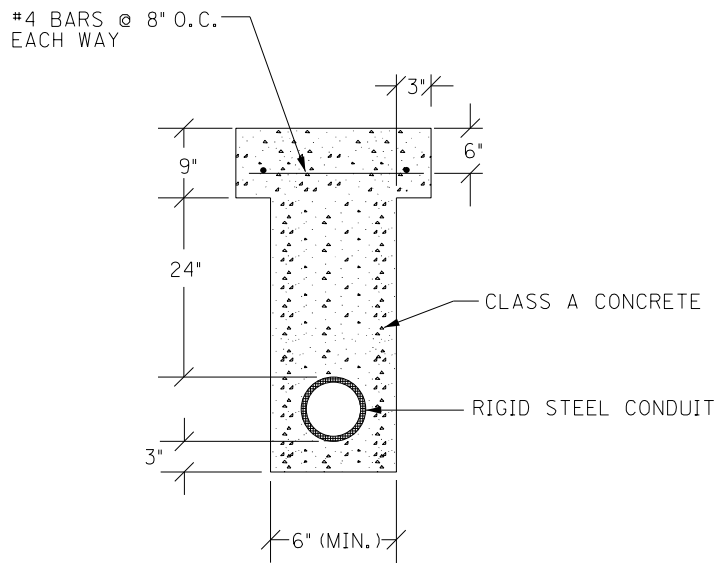
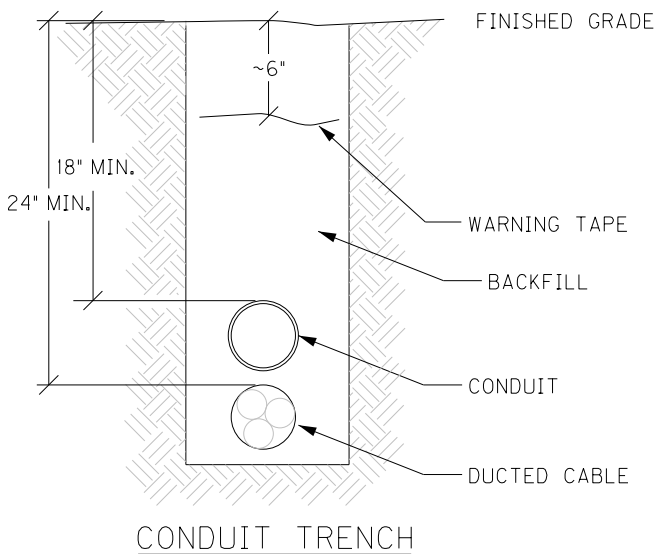


CONDUIT UNDER PAVEMENT

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

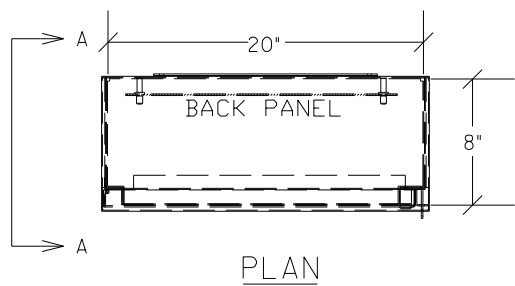
CONTRACTOR SHALL PLACE BACKFILL IN LIFTS (9" MAX.) COMPACT BACKFILL, AND RESTORE DISTURBED AREA TO THE SATISFACTION OF THE ENGINEER

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

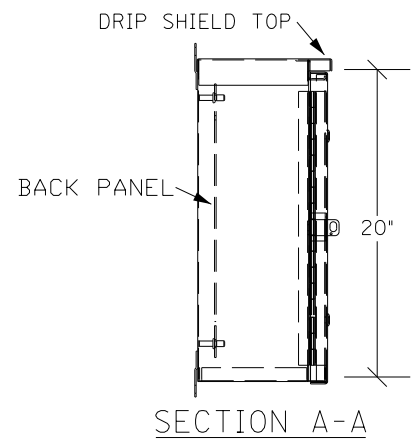


OPEN CUT PAVEMENT DETAIL

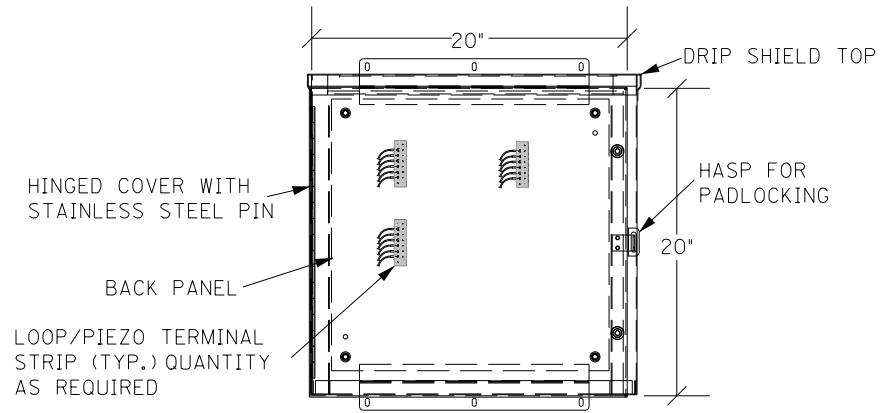
CONDUIT INSTALLATION



PLAN

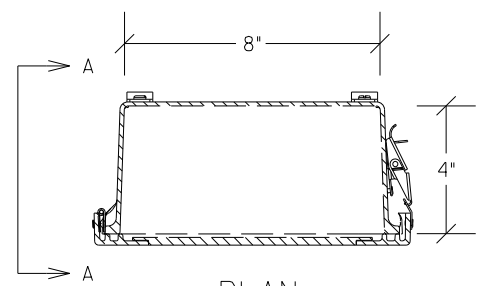


SECTION A-A

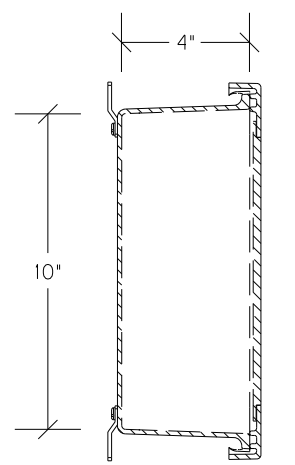


ELEVATION

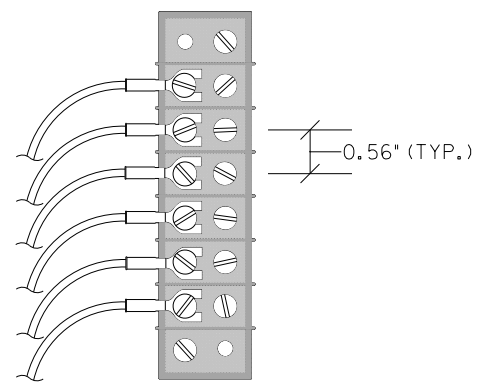
GALVANIZED STEEL CABINET



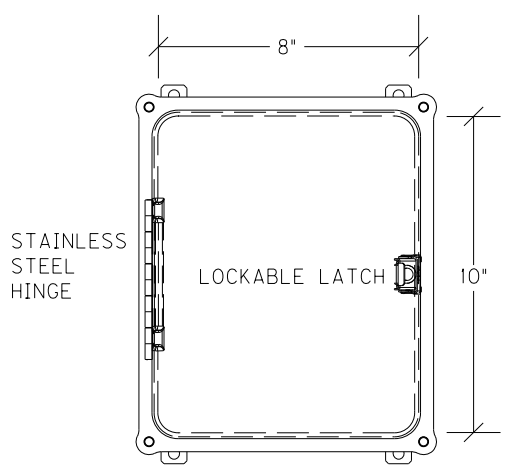
PLAN



SECTION A-A



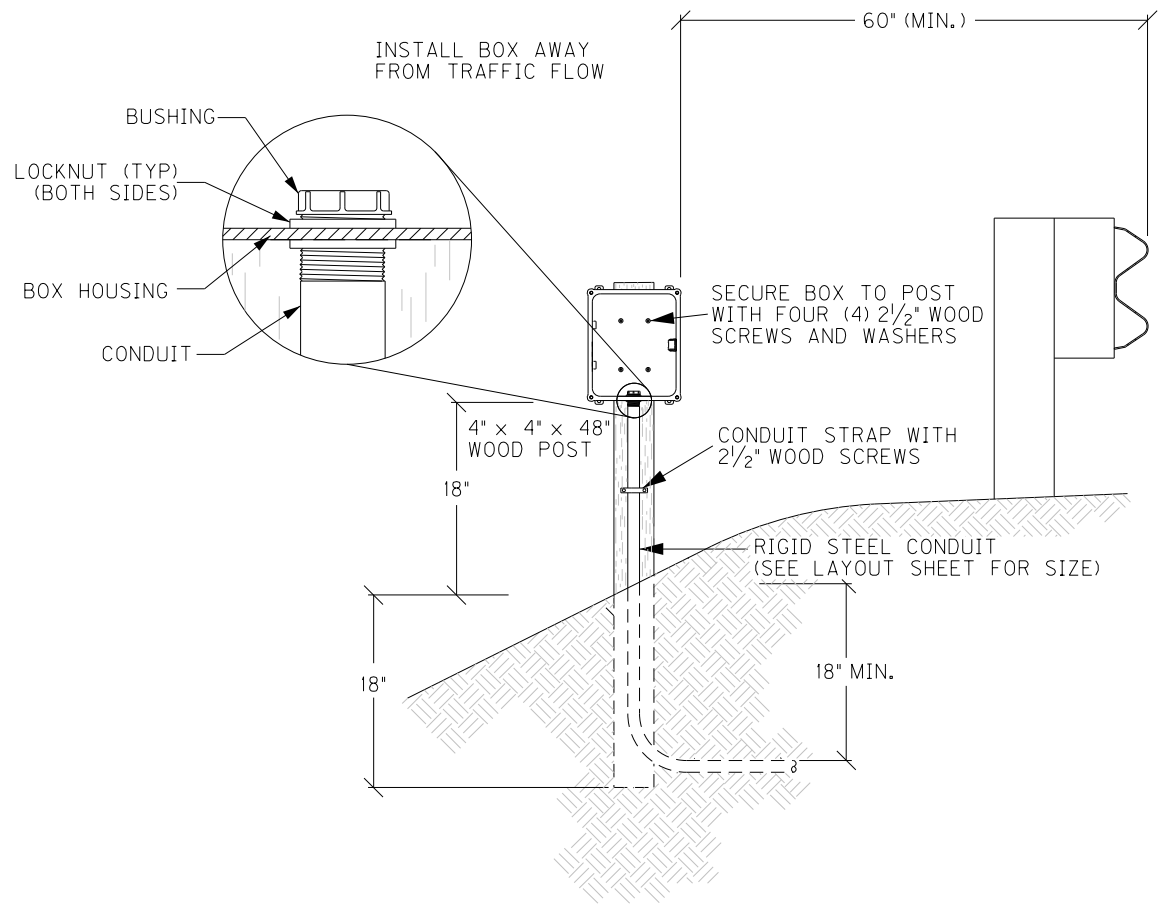
TERMINAL STRIP (TYP.)



ELEVATION

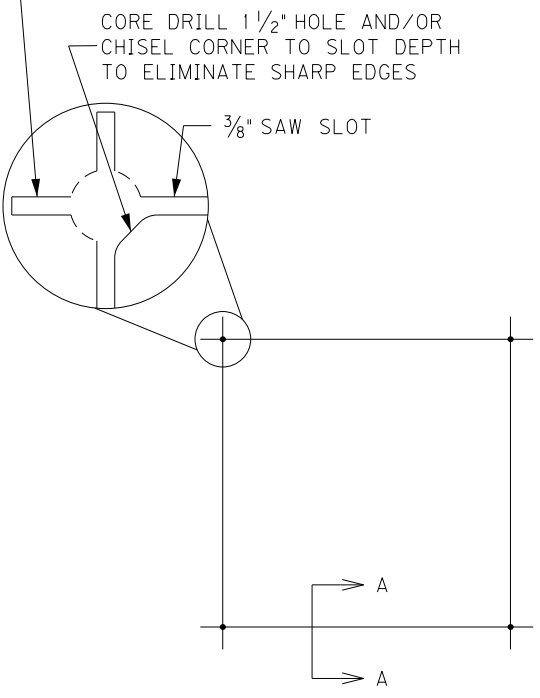
JUNCTION BOX 10"X8"X4"

JUNCTION BOX/POST ASSEMBLY LOCATED BEHIND
GUARDRAIL SHALL BE A MINIMUM OF 60" FROM
THE FACE OF THE GUARDRAIL



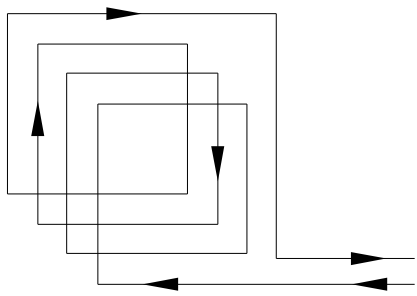
JUNCTION BOX 10"x8"x4"
AND POST ASSEMBLY

BOONE - CAMPBELL COUNTIES
121GR22T009-HSP

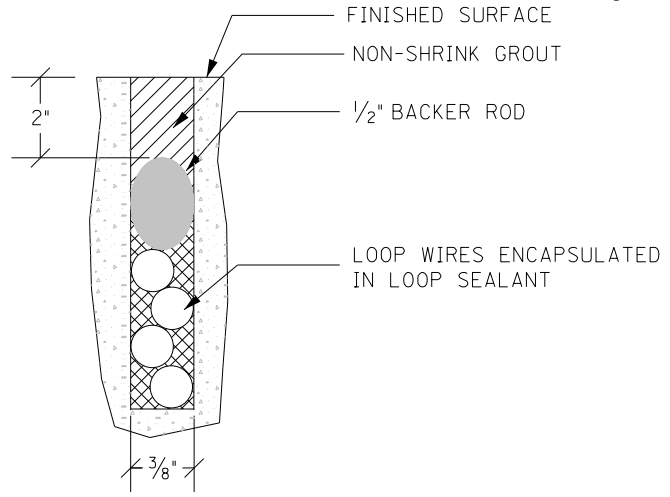


SAW CUT PLAN

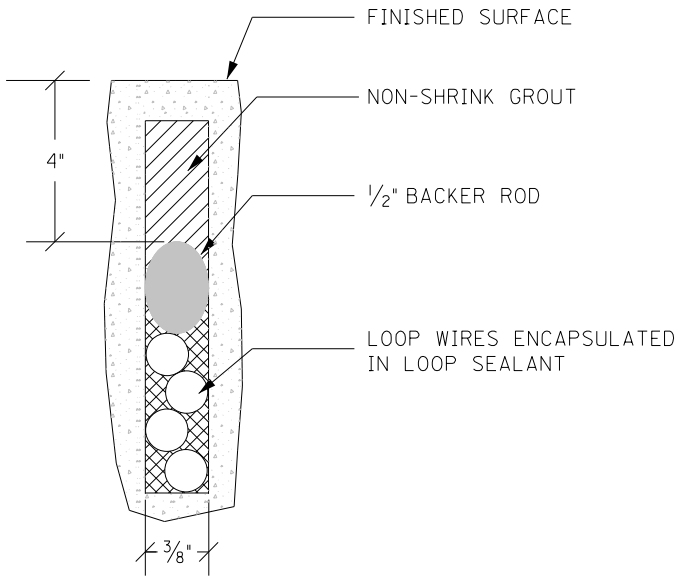
UNLESS SPECIFIED OTHERWISE, ALL LOOPS SHALL BE 6' x 6' SQUARE, CENTERED IN EACH LANE, WITH FOUR TURNS OF 14 AWG LOOP WIRE.
ADJACENT SAW SLOTS SHALL BE A MINIMUM OF 12" APART.



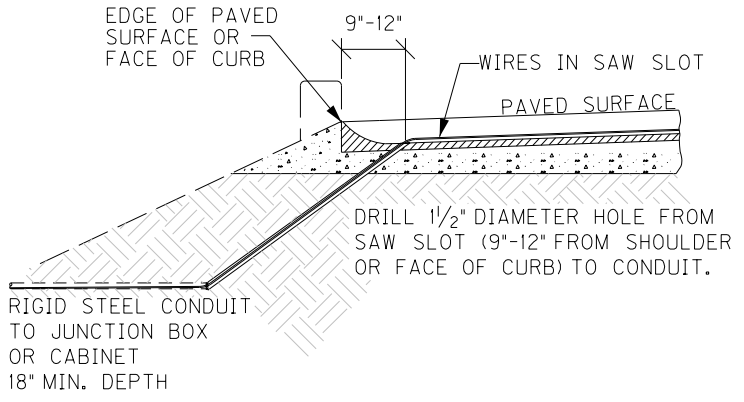
WIRING PLAN



SECTION A-A (CONCRETE)



SECTION A-A (ASPHALT)



SAW SLOT EDGE OF PAVEMENT TRANSITION

INDUCTIVE LOOP DETECTOR

TRAFFIC SIGNAL STANDARD DETAIL SHEETS

04 – LOOP DETAILS

(THIS ARE INCLUDED IN THE SPECIAL NOTE TRAFFIC SIGNAL LOOP DETECTORS)

THE FOLLOWING ARE TRAFFIC SIGNAL STANDARD DETAIL SHEETS THAT WE NEED TO INCLUDE IN THE SUBMITTAL:

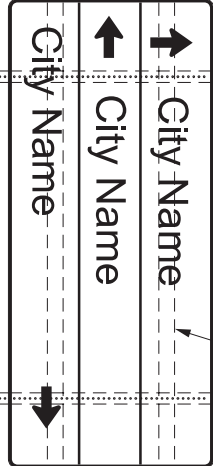
05 – PEDESTRIAN DETECTOR DETAIL

06 – PEDESTRIAN SIGNAL COUNTDOWN DETAIL

09 – TRAFFIC SIGNAL AND ROADWAY LIGHTING JUNCTION BOX AND CONDUIT DETAILS

10 – CONDUIT INSTALLATION IN EXISTING LOCATIONS

COUNTY OF	ITEM NO.	SHEET NO.



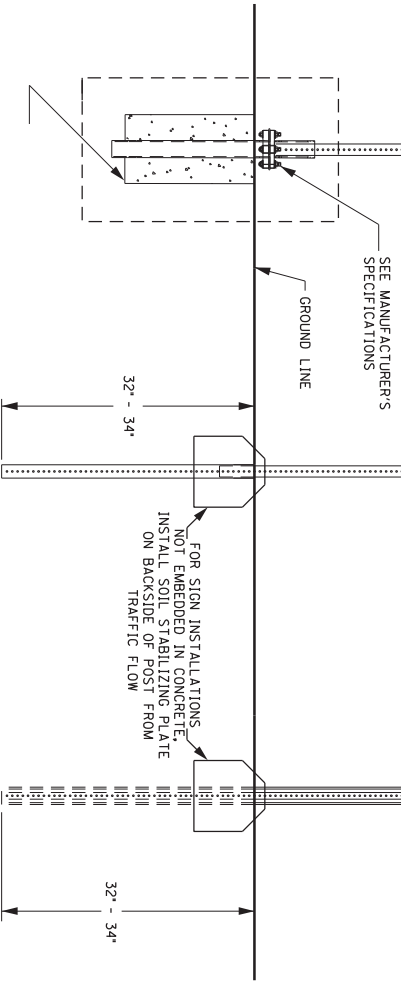
SEE SHEETING SIGN DETAIL SHEET 2 OF 2 FOR BRACING REQUIREMENTS

NOTE: SEE SIGN DETAIL SHEETS FOR QUANTITY, LENGTH, SIZE AND GAUGE OF TYPE I POSTS

PLAN VIEW
NOT TO SCALE

PLAN VIEW
NOT TO SCALE

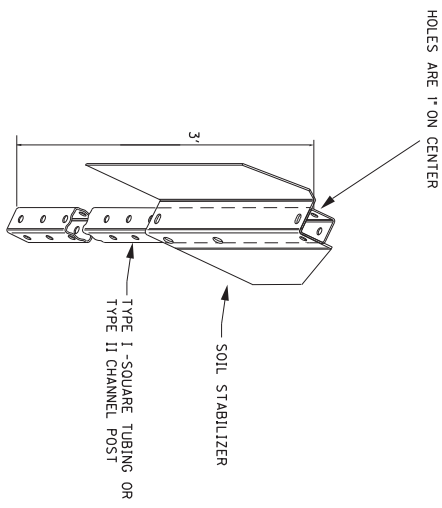
PLAN VIEW
NOT TO SCALE



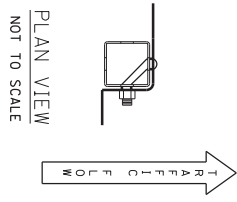
TYPE J
SQUARE TUBING POST
WITH TYPE "D" SUPPORT
NOT TO SCALE

TYPE J
SQUARE TUBING POST
WITH SOIL STABILIZER
NOT TO SCALE

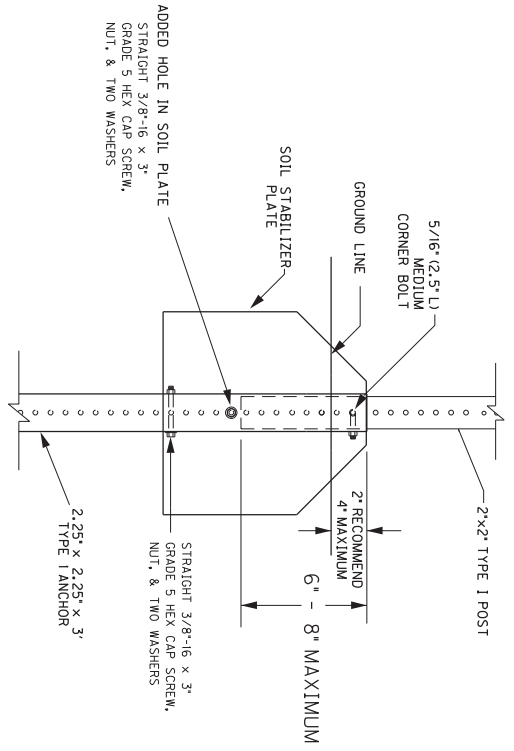
TYPE II
CHANNEL POST
WITH SOIL STABILIZER
NOT TO SCALE



SOIL STABILIZER DETAIL



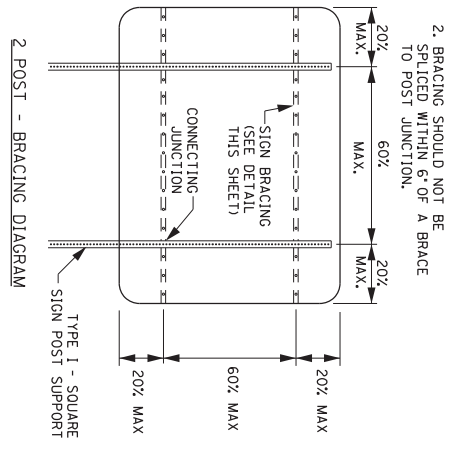
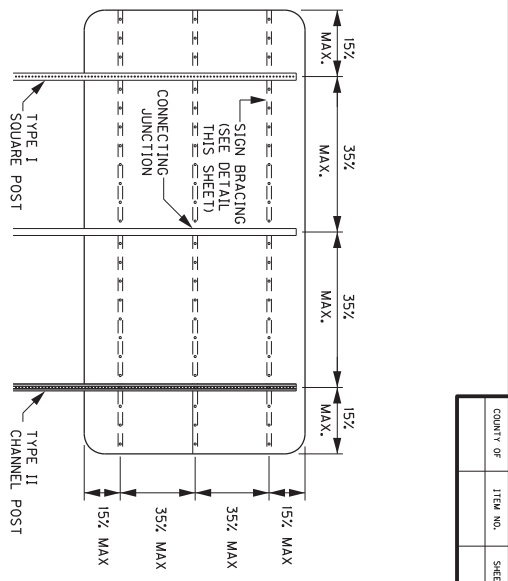
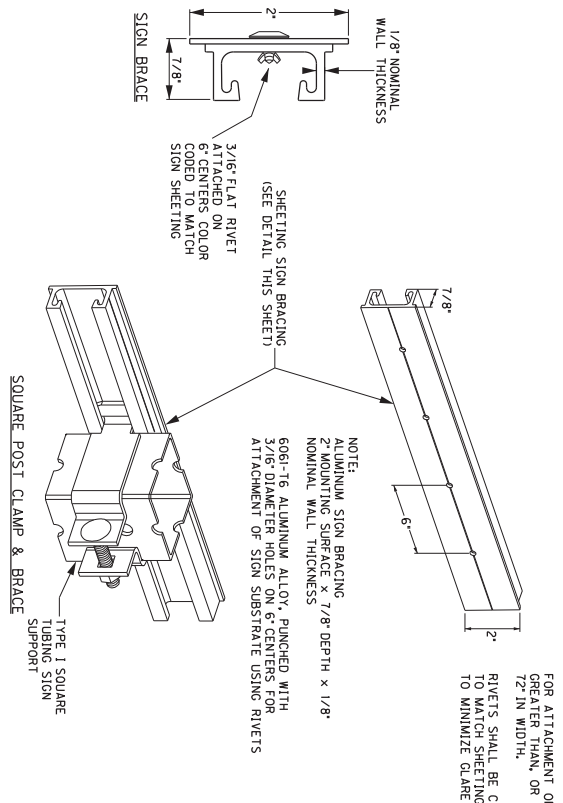
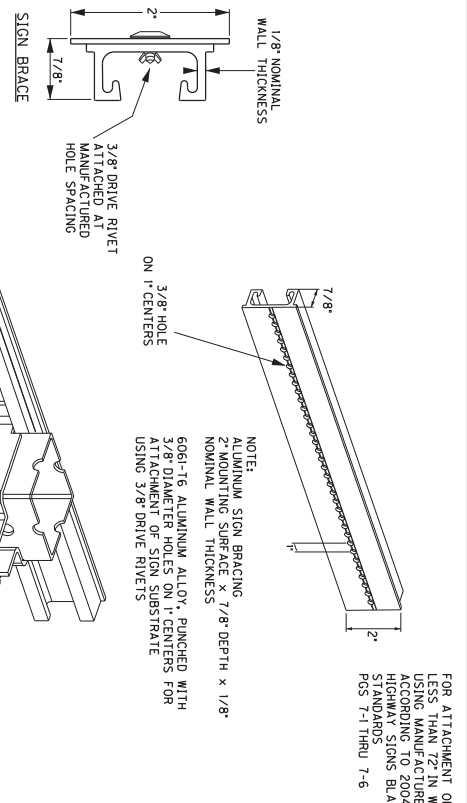
PLAN VIEW
NOT TO SCALE



SOIL STABILIZER DETAIL
FOR TYPE I POST

NOT TO SCALE

SHEETING SIGN DETAIL
SHEET 1 OF 2



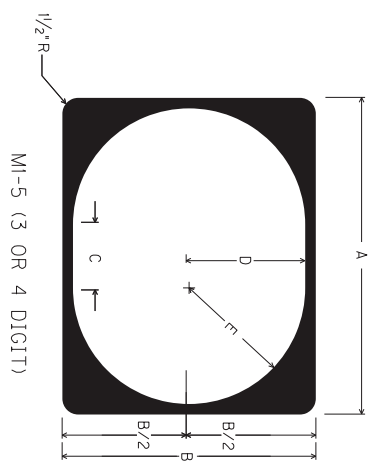
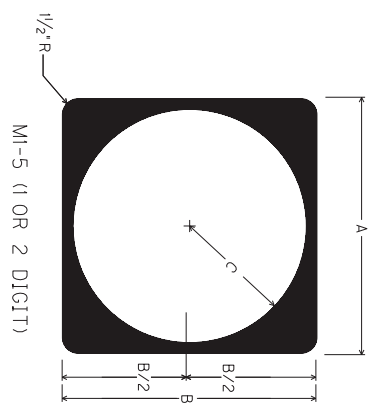
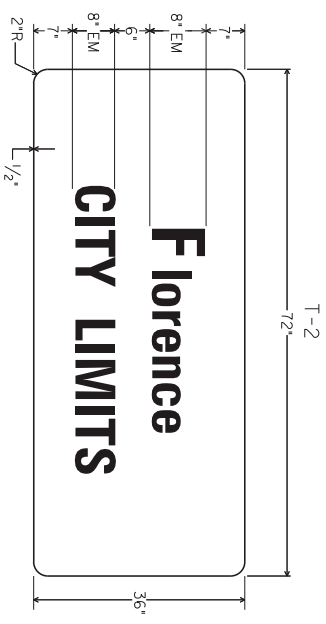
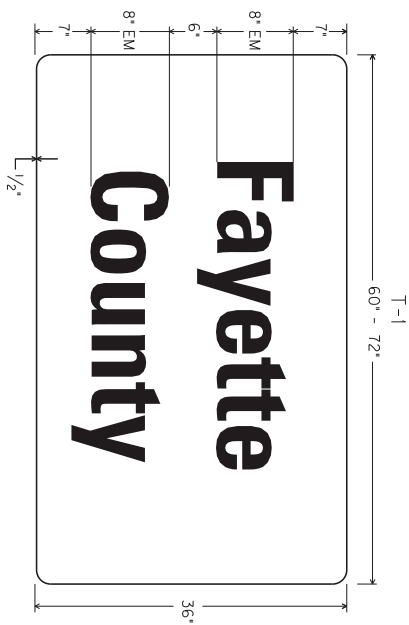
NOTE:
USE OF SIGN BRACING NOT SHOWN ON THIS SHEET MAY BE PERMITTED BY PROJECT ENGINEER AND/OR DISTRICT TRAFFIC ENGINEER.

NOT TO SCALE

SHEETING SIGN DETAIL
SHEET 2 OF 2

COUNTY OF	ITEM NO.	SHEET NO.

COUNTY OF	ITEM NO.	SHEET NO.

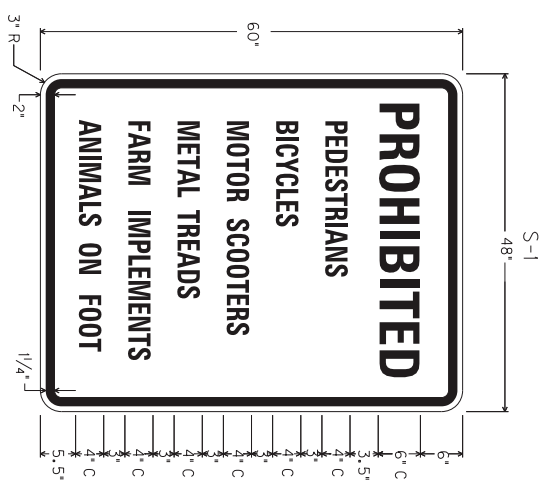


	A	B	C	FONT
CONVENTIONAL	24"	24"	11"	12D
EXPRESSWAY/ FREEWAY	36"	36"	17"	18D

	A	B	C	D	E	FONT	
						3 DIGIT	4 DIGIT
CONVENTIONAL	30"	24"	6"	11"	11"	12D	12B
EXPRESSWAY/ FREEWAY	45"	36"	9"	16.5"	16.5"	18D	18B

NOTE: FOR ROUTE MARKERS, IF NECESSARY, ADJUSTMENTS TO THE DIGIT LAYOUT AND/OR FONT TYPE MAY BE MADE TO ENSURE VISUAL ACUITY

NOTE: EXPRESSWAY/FREEWAY DEFINED AS A DIVIDED HIGHWAY WITH PARTIAL OR FULL CONTROL OF ACCESS

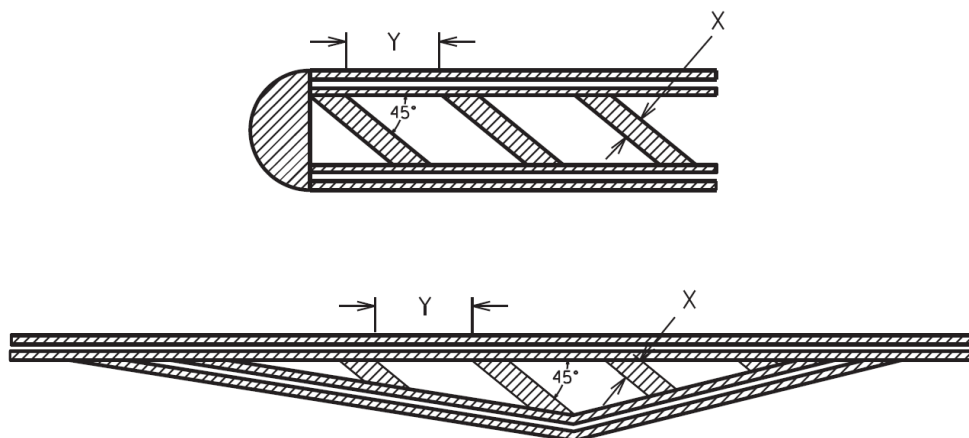


NOT TO SCALE

TYPICAL SIGNS

CROSS-HATCH PAVEMENT MARKINGS DETAIL

TYPICAL CROSS-HATCH MARKINGS



The cross-hatch pavement marking width (X) and spacing (Y) will usually be specified in the plans. The width to spacing values usually have a ratio of 1:10. If the plans do not specify the width (X) and spacing (Y) the Engineer will provide the contractor with the X and Y values for each cross-hatch installation. If necessary, the Engineer may obtain guidance from the District Traffic Engineer and/or the Division of Traffic Operations.

NOTE: Adjust the width and spacing of the cross-hatch pavement markings as necessary so that a minimum of three (3) cross-hatch markings are placed within the area being marked. The 1:10 ratio between width and spacing values should be maintained as much as possible.

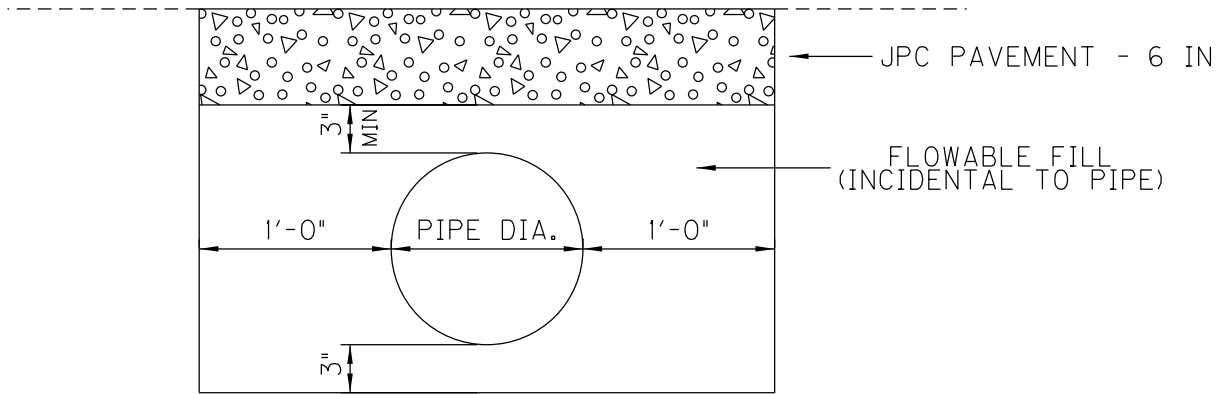
Refer to Section 717 of the Standard Specifications for Road and Bridge Construction, current edition, for more information concerning Material and Construction specifications.

The Department will measure the finished in-place area of Cross-Hatch Pavement Markings in Square Feet. The Department will NOT measure overlaps or the void space between cross-hatching. See Section 717.04 for additional measurement information.

When listed in the bid items, the Department will make payment for the completed and accepted quantities of Cross-Hatch Pavement Markings under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
06569	Pave Marking-Thermo Cross-Hatch	Square Foot
23253ES717	Pave Mark TY 1 Tape Cross Hatch	Square Foot

STORM SEWER PIPE BACKFILL DETAIL



STORM SEWER PIPE SHALL BE CONSTRUCTED
ACCORDING TO THE BACKFILL DETAIL SHOWN
ABOVE, OR AS DIRECTED BY THE ENGINEER.

PART II
SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

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

SUPPLEMENTAL SPECIFICATIONS

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

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

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SPECIAL NOTE FOR FULL DEPTH CONCRETE PAVEMENT REPAIR

This Special Note applies to full depth repairs of concrete pavement. Section references herein are to the Department's Standard Specifications for Road and Bridge Construction, current edition.

1.0 DESCRIPTION. Remove and replace concrete pavement. Comply with the applicable Standard Drawings and the Standard Specifications except as specifically superseded herein.

2.0 MATERIALS AND EQUIPMENT.

2.1 JPC Pavement. Test concrete materials according to section 601.03.03. Conform to 501, 502, and 601 except that the concrete must achieve 3000 psi in accordance with Section 4.4 of this note. The Engineer may allow pavement to be opened to traffic at less than 3,000 psi subject to the deductions described in Section 4.4 of this note.

2.2 Dowel Bars and Sleeves. Conform to 811.

2.3 Tie Bars. Conform to Section 811. Use epoxy coated tie bars in longitudinal and transverse joints.

2.4 Joint Sealants. Conform to Subsection 807.03.01 or 807.03.05.

2.5 Grout Adhesives and Epoxy Resin Systems. Conform to Section 826.

2.6 Dense Graded Aggregate (DGA) and Crushed Stone Base (CSB). Conform to Section 805.

2.7 Geotextile Fabric. Conform to Section 843.

2.8 Drills. Drill holes using a gang drill, capable of drilling a minimum of four simultaneously. Misalignment of holes shall not exceed 1/4 inch in the vertical or oblique plane.

2.9 Hammers. Only use chisel point hammers weighing less than 40 pounds to remove deteriorated concrete.

3.0 CONSTRUCTION.

3.1 Removal of Existing Pavement. Remove existing pavement to the extent the Contract specifies or as the Engineer directs. The minimum length of patches measured along centerline is 3 feet on each side of an existing joint.

When working with pavements with non-skewed transverse joints, if it is necessary to remove existing pavement closer than 6 feet to a transverse joint, remove the pavement 3 feet beyond that joint .

When working with pavements with skewed transverse joints, if it is necessary to remove existing pavement closer than 3 feet to a transverse joint, remove the pavement 3 feet beyond that joint.

Details of configurations of pavement and joints for various situations are depicted in the drawings herein.

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When small areas of removal and replacement are performed at bridge ends, maintain or reconstruct existing expansion joints at their existing location. When the Engineer determines extensive full width removal and replacement is required, construct new expansion joints at the locations shown on Standard Drawing No. RPN-010.

In the removal operation, make a full depth saw cut longitudinally along the centerline joint and shoulder joint and transversely along the area marked for removal. To prevent damage to the subbase, do not allow the saw to penetrate more than ½" into the subbase. The Engineer may direct or approve additional cuts within the removal area for ease of removal of the damaged slab and to prevent damage to adjacent pavement to remain in place. Do not overcut beyond the limits of the removal area. Prevent saw slurry from entering existing joints and cracks. To avoid pumping and erosion beneath the slab, do not allow traffic on sawed pavement for more than 48 hours before beginning removal procedures, unless directed by the Engineer.

Lift out the deteriorated concrete vertically with lift pins. If approved by the Engineer, use other methods that do not damage the base, shoulder, or sides of pavement that is to be left in place. If any damage does occur, repair as the Engineer directs and use an acceptable alternative method for the removal process. Do not damage the pavement base during these operations.

3.2 Pavement Replacement. Do not damage the pavement base during these operations.

3.2.1 Preparation of Base. Compact the new and 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 or replace unsuitable materials, excluding bridge ends, use 12 inches of geotextile fabric wrapped No. 2 aggregate topped with 4 inches of DGA or CSB. Use either Type III or Type IV geotextile fabric. Flowable fill and cement stabilization may be used as an alternative to stabilize the existing base or to replace unsuitable materials when a plan for such is presented to and approved by the Engineer. The Engineer may also direct using only DGA or CSB to correct base deficiencies. At bridge ends, treat existing base and subgrade as the Contract specifies. During compaction, wet the base as the Engineer directs. Compact areas not accessible to compaction equipment by hand tamping.

3.2.2 Underdrains. Construct, or repair damage to, pavement edge drains according to Section 704. If underdrains are placed omitting areas to be patched, construct additional lateral drains as necessary to provide outlets for the installed underdrain until performing the pavement replacement and completing the underdrain system. Provide drainage for any undercut or base repair areas.

3.2.3 Pavement Replacement. Using load transfer assemblies for dowel joints drill into the existing slab according to the details shown herein and on the Standard Drawings.

Use plain epoxy coated dowels of the size specified on the standard drawings based on the pavement thickness for contraction and expansion joints.

Drill holes for dowel bars and tie bars into the face of the existing slab, at a diameter as specified in the following. Drill the dowel bar holes and tie bar

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holes to a depth equal to 1/2 the length of the bars. Anchor tie bars into the existing pavement using an epoxy resin. Anchor dowel bars into the existing pavement using either an epoxy resin or an adhesive grout. For tie bars and dowel bars where an epoxy resin is to be used drill the holes 1/8 inch larger than the bar diameter. For dowel bars where an adhesive grout product is to be used, drill holes 1/4 inch larger than the bar diameter. Use a clear or opaque grout retention disk in both grout and epoxy applications. Operate the equipment to prevent damage to the pavement being drilled. Obtain the Engineer's approval of the drilling procedure. Install load transfer assemblies according to the Standard Drawings and Standard Specifications.

When indicated herein or in the Standard Drawings, use 1 inch deformed tie bars, 18 inches long on 30-inch centers and starting and ending 20 inches inside the edges of the repair area in the longitudinal joint. Use 1 inch deformed tie bars, or plain epoxy coated dowel bars sized in accordance with the Standard Drawings, 18 inches long beginning 12 inches inside of each edge and on 12-inch centers in transverse construction joints.

Install the dowels and tie bars according to Section 511 unless contradicted here. Ensure the holes are dry and free of dust and debris. Use a nozzle to insert the grout or epoxy starting at the back of the drilled hole to allow for full coating of the dowel or tie bar. After placement, use a bond breaker on the section of the dowel bar that is protruding from the hole.

Mix, place, finish, and cure concrete according to Section 501 with the exception that the Department will allow truck mixing, 2-bag mixers, and hand finishing.

When required, use a form on the side of the slab at longitudinal joints. When the adjacent traffic lane is not closed to traffic or the drop-off is not protected, temporarily fill the space between the form and the adjacent pavement with DGA. After placing the slab, remove the DGA and form. Fill the hole with concrete and thoroughly consolidate by rodding, spading, and sufficient vibration to form a dense homogeneous mass. Use a form on the side of the slab adjacent to shoulders. Excavate and backfill as shown on Section F'-F'.

For patches less than 25 feet in length, use a bond breaker and do not install tie bars at the longitudinal joint. Bond breakers should not exceed 1/8 inch in thickness, e.g. tar paper.

When resurfacing is required, a float finish is satisfactory. Otherwise, broom finish or, when the adjacent surface has a grooved finish, texture the surface according to Subsection 501.03.13 H). Finish the surface, including joints, to meet a surface tolerance of 1/8 inch in 10 feet that will be verified by straightedge. Cure the pavement and apply curing membranes according to 501.03.15.

Keep all pavement surfaces adjacent to this operation reasonably clean of excess grout and other materials at all times. Maintain all original longitudinal joints. Place transverse joints according to the details shown herein and on the Standard Drawings.

3.3 Joint Sealing. Seal all new or partially new joints with silicone rubber sealant or hot-poured elastic joint sealant according to Subsection 501.03.18.

4.0 MEASUREMENT.

4.1 Remove JPC Pavement. The Department will measure the quantity in square yards of surface area. The Department will not measure removal of

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underlying base material for payment and will consider it incidental to Remove JPC Pavement.

4.2 DGA or CSB. The Department will measure the quantity used to stabilize the existing base or to replace unsuitable material in tons. The Department will not measure removal of existing base material or underlying material for payment and will consider incidental to DGA or CSB. The quantity of DGA used for the drop-off protection shall be incidental to this work and will not be measured for payment.

4.3 JPC Pavement Non-Reinforced. The Department will measure according to 501.04.01. The Department will not measure dowels, tie bars, or joint sealing for payment and will consider it incidental to Non-Reinforced JPC Pavement.

JPC Pavement will be paid according to section 5.0 below and according to the following payment schedule based on the compressive strength. The cylinders for payment will be tested two hours prior the scheduled opening of traffic.

3000 psi and up	100% payment
2750 to 3000 psi	75% payment and approval from the Engineer to open to traffic*
2500 to 2750 psi	50% payment and approval from the Engineer to open to traffic*
2250 to 2500 psi	25% payment and approval from the Engineer to open to traffic*
Below 2250 psi	10% payment and no potential to open to traffic. Maintain traffic closure until concrete reaches a minimum of 2250 psi.

*If the Engineer approves opening to traffic, the Engineer will evaluate the concrete at 28 days (or sooner) to determine if the removal and replacement of the concrete is necessary due to pavement distress induced by the early opening (i.e. noticeable cracking). If required by the Engineer, remove and replace those slabs showing distress at no cost to the Department.

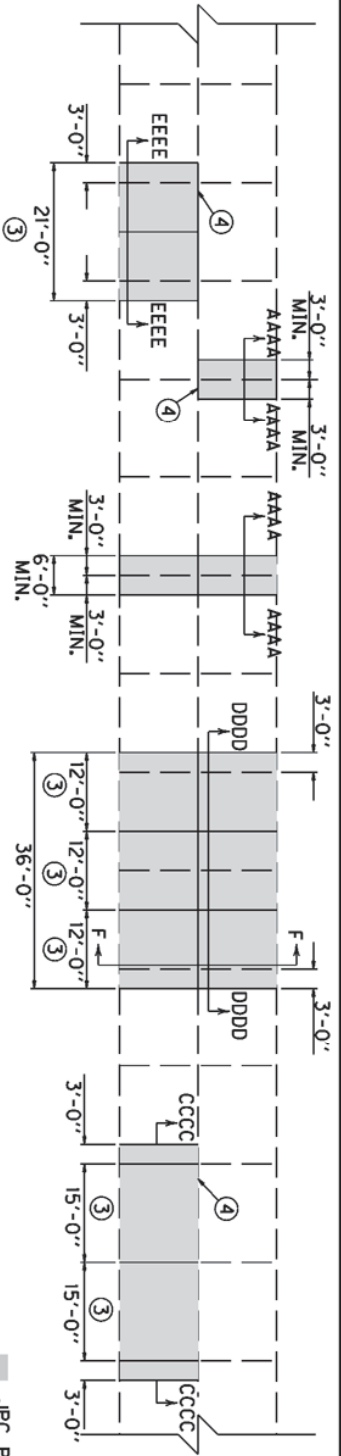
4.4 Underdrains. The Department will measure the quantity according to Subsection 704.04. The Department will not measure lateral drains for payment and will consider them incidental to the Underdrains.

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

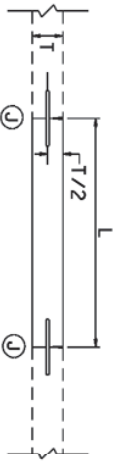
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
----	Remove JPC Pavement	Square Yard
00001	DGA Base	Ton
00003	Crushed Stone Base	Ton
02069-02071, 02073, 02075, 02084, 02086, 02088	JPC Pavement Non-Reinforced, thickness	See Subsection 501.05
01000	Perforated Pipe, 4-inch	Linear Foot
02598, 02599	Fabric-Geotextile, Type	Square Yard

The Department will consider payment as full compensation for all work required in this provision.

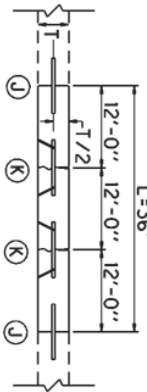
June 15, 2012



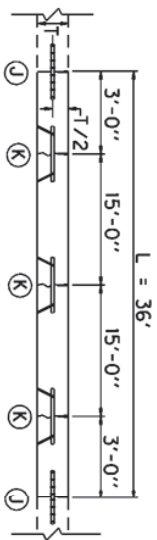
PLAN VIEW



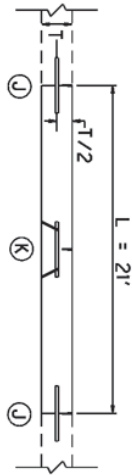
SECTION AAAA JOINT REPLACEMENT



SECTION DDDD FULL WIDTH REPLACEMENT (INCLUDING JPC SHOULDERS)



SECTION CCCC LANE REPLACEMENT WHERE ADJACENT LANES OR JPC SHOULDERS WILL REMAIN



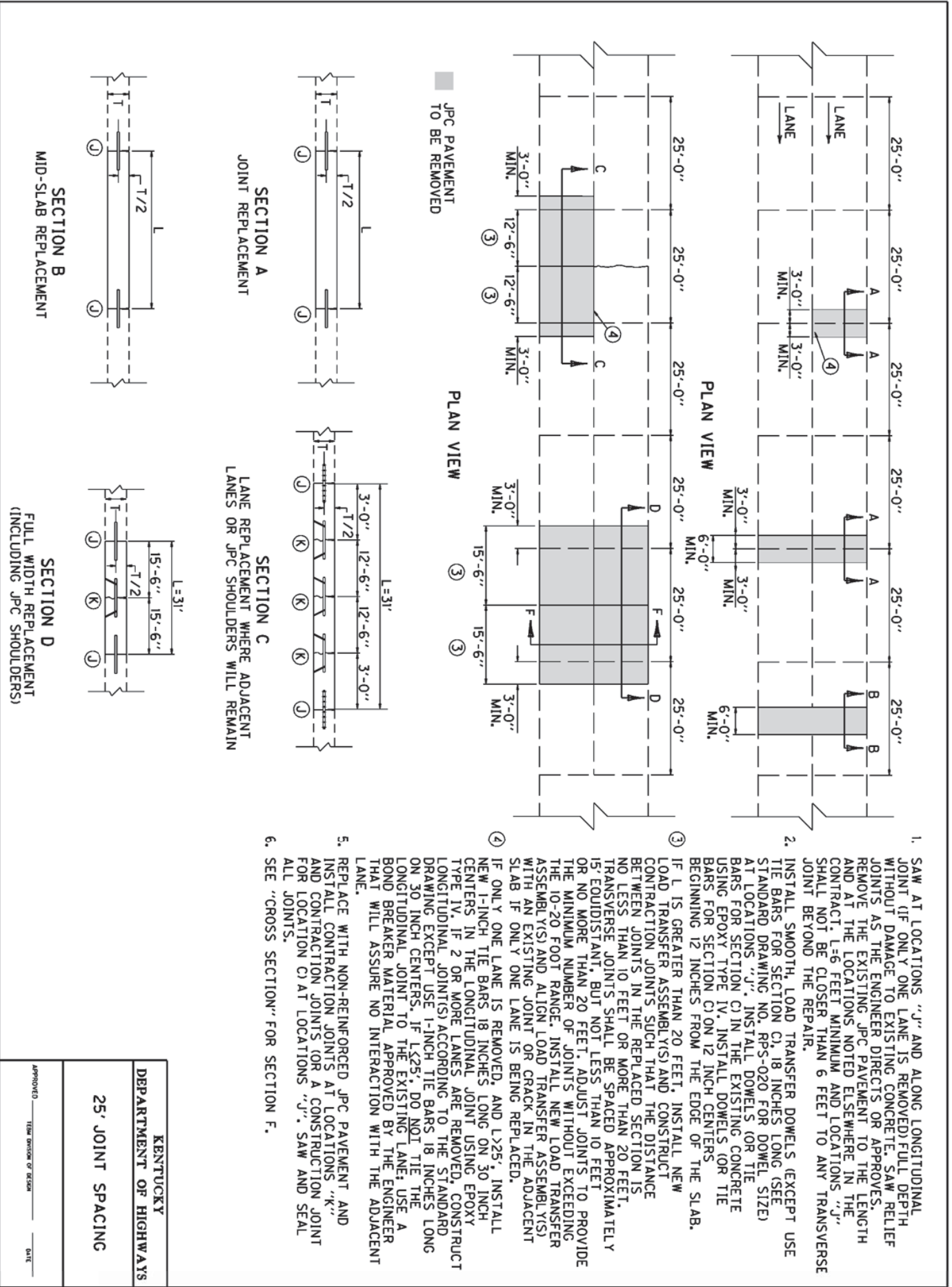
SECTION EEEE LANE REPLACEMENT L<25'

1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE. SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L=6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE TIE BARS FOR SECTION CCCC, 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS (OR TIE BARS FOR SECTION CCCC) IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS (OR TIE BARS FOR SECTION CCCC) ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB. IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND CONSTRUCT CONTRACTION JOINT(S) SUCH THAT THE DISTANCE BETWEEN JOINTS IN THE REPLACED SECTION IS NO LESS THAN 10 FEET OR MORE THAN 20 FEET. TRANSVERSE JOINTS SHALL BE SPACED APPROXIMATELY 15 EQUIDISTANT, BUT NOT LESS THAN 10 FEET OR NO MORE THAN 20 FEET. ADJUST JOINTS TO PROVIDE THE MINIMUM NUMBER OF JOINTS WITHOUT EXCEEDING THE 10-20 FOOT RANGE. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH AN EXISTING JOINT OR CRACK IN THE ADJACENT SLAB IF ONLY ONE LANE IS BEING REPLACED.
3. IF ONLY ONE LANE IS REMOVED, AND L>25', INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF L<25', DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE. USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.
4. REPLACE WITH NON-REINFORCED JPC PAVEMENT AND INSTALL CONTRACTION JOINTS AT LOCATIONS "K" AND CONTRACTION JOINTS (OR A CONTRACTION JOINT FOR LOCATION CCCC) AT LOCATIONS "J". SAW AND SEAL ALL JOINTS.
5. SEE "CROSS SECTION" FOR SECTION F.

15' JOINT SPACING

KENTUCKY
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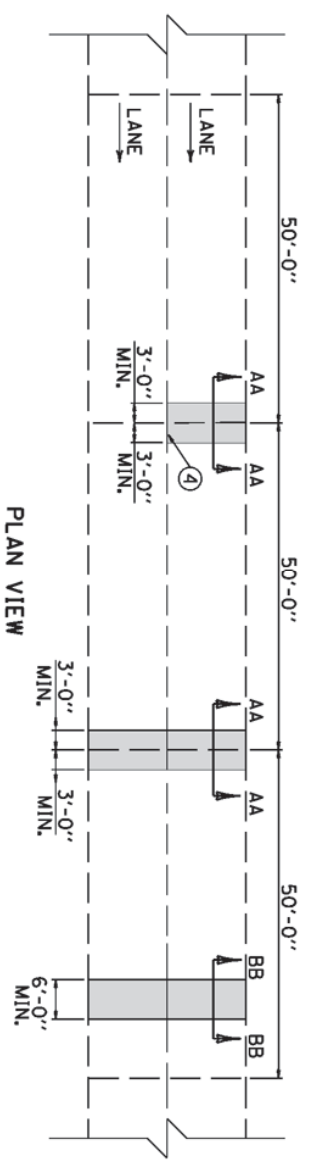
APPROVED _____ DATE _____
TITLE: DESIGN OF SECTION _____



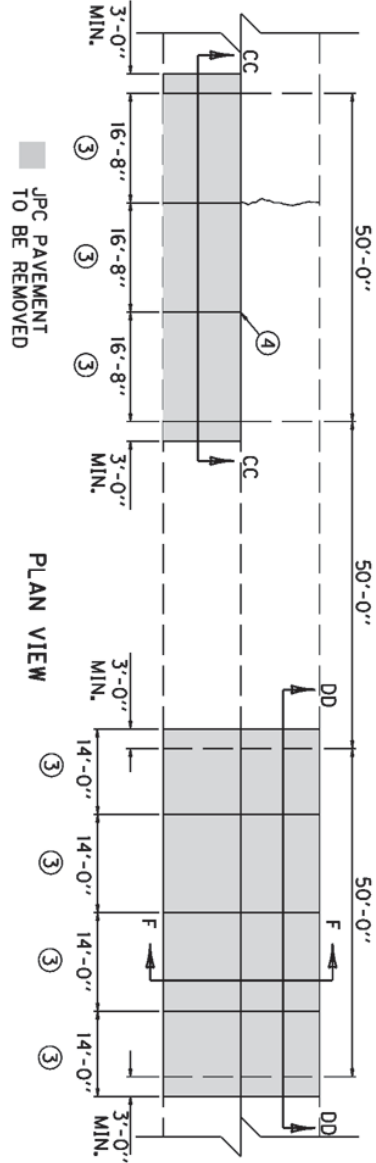
KENTUCKY
DEPARTMENT OF HIGHWAYS

25' JOINT SPACING

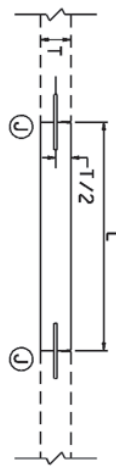
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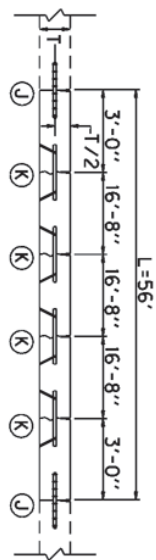
PLAN VIEW



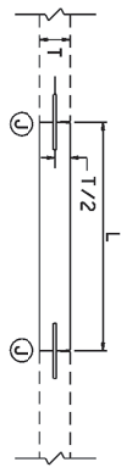
PLAN VIEW



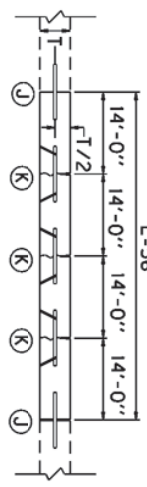
SECTION AA
JOINT REPLACEMENT



SECTION CC
LANE REPLACEMENT WHERE ADJACENT
LANES OR JPC SHOULDERS WILL REMAIN



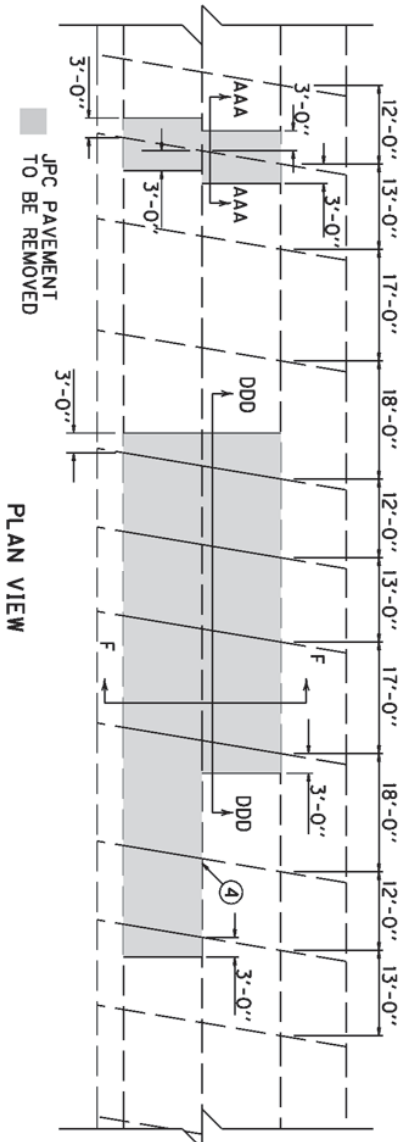
SECTION BB
MID-SLAB REPLACEMENT



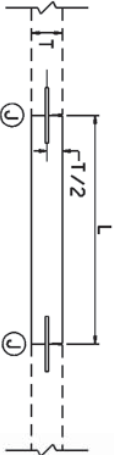
SECTION DD
FULL WIDTH REPLACEMENT
(INCLUDING JPC SHOULDERS)

1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE. SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L=6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE THE BARS FOR SECTION CC), 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS (OR THE BARS FOR SECTION CC) IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS (OR THE BARS FOR SECTION CC) ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB.
3. IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND CONSTRUCT CONTRACTION JOINTS SUCH THAT THE DISTANCE BETWEEN JOINTS IN THE REPLACED SECTION IS NO LESS THAN 10 FEET OR MORE THAN 20 FEET. TRANSVERSE JOINTS SHALL BE SPACED APPROXIMATELY 15' EQUIDISTANT, BUT NOT LESS THAN 10 FEET OR NO MORE THAN 20 FEET. ADJUST JOINTS TO PROVIDE THE MINIMUM NUMBER OF JOINTS WITHOUT EXCEEDING THE 10-20 FOOT RANGE. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH AN EXISTING JOINT OR CRACK IN THE ADJACENT SLAB IF ONLY ONE LANE IS BEING REPLACED.
4. IF ONLY ONE LANE IS REMOVED, AND L > 25', INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF L < 25', DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE; USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.
5. REPLACE WITH NON-REINFORCED JPC PAVEMENT AND INSTALL CONTRACTION JOINTS AT LOCATIONS "K" AND CONTRACTION JOINTS (OR A CONSTRUCTION JOINT FOR LOCATION CC) AT LOCATIONS "J". SAW AND SEAL ALL JOINTS.
5. SEE "GROSS SECTION" FOR SECTION F.

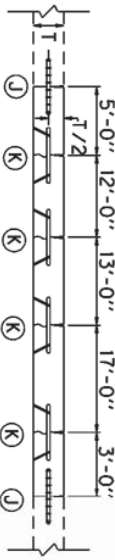
KENTUCKY DEPARTMENT OF HIGHWAYS
50' JOINT SPACING
SUBMITTED: _____ TITLE: DESIGNER DATE: _____



SECTION AAA
JOINT REPLACEMENT

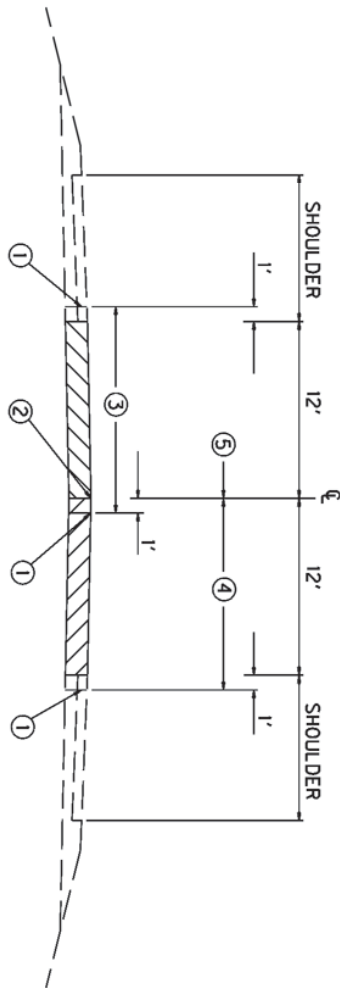


SECTION DDD
LANE REPLACEMENT
(ALWAYS MATCH EXISTING JOINTS)



1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE. SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L-6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE THE BARS FOR SECTION DDD). 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS (OR THE BARS FOR SECTION DDD) IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS (OR THE BARS FOR SECTION DDD) ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB.
3. IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND MATCH EXISTING JOINTS. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH EXISTING JOINTS IN ADJACENT SLABS.
4. IF ONLY ONE LANE IS REMOVED, AND $L > 25'$, INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF $L < 25'$, DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE. USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.
5. REPLACE WITH NON-REINFORCED JPC PAVEMENT AND INSTALL CONTRACTION JOINTS AT LOCATIONS "K" AND CONTRACTION JOINTS FOR A CONSTRUCTION JOINT FOR LOCATION DDD) AT LOCATIONS "J", SAW AND SEAL ALL JOINTS.
6. SEE "CROSS SECTION" FOR SECTION F.

<p>KENTUCKY DEPARTMENT OF HIGHWAYS</p>
<p>RANDOM SKEWED</p>
<p>APPROVED _____ TITLE DIVISION OF DESIGN _____ DATE _____</p>



SECTION F

- ① SAW-CUT LINE. THIS ONE FOOT IS TO ALLOW FOR A FORM AND THE REMOVAL AND REPLACEMENT SHALL BE INCIDENTAL TO THE WORK, EXCEPT NEW ASPHALT MIXTURE SHALL BE PAID DIRECT ON A TONNAGE BASIS, AND NEW JPC PAVEMENT WILL BE PAID BY THE SQUARE YARD. COMPACT THE DGA BASE BY MECHANICAL TAMPERS TO THE ENGINEER'S SATISFACTION.
- ② EXISTING LONGITUDINAL JOINT.
- ③ FIRST SLAB REMOVAL LIMITS AND REPLACE 12-FOOT LANE.
- ④ SECOND SLAB REMOVAL LIMITS AND REPLACE 12-FOOT LANE.
- ⑤ THIS ONE FOOT IS TO ALLOW FOR A FORM ON THE FIRST POUR, AND A TEMPORARY PAVEMENT IS REQUIRED. THE DEPARTMENT WILL NOT REQUIRE REMOVAL OF THIS ONE FOOT IF THE GRADE OF THE EXISTING PAVEMENT IS ADEQUATE TO ENSURE THE NEW CONCRETE CAN BE PLACED AND FINISHED TO THE SATISFACTION OF THE ENGINEER. ANY TEMPORARY PAVEMENT IS INCIDENTAL TO JPC PAVEMENT.
6. THE ABOVE DRAWING DEPICTS THE ORDER OF SLAB REMOVAL WHEN BOTH ARE TO BE REMOVED AT THE SAME LOCATION. WHEN ONLY ONE SLAB OR LANE IS TO BE REMOVED, REMOVE AND REPLACE ACCORDING TO SECTION C, CC, OR CCCC. TRAFFIC CONTROL WILL SPECIFY WHICH LANE TO REMOVE FIRST.

KENTUCKY
DEPARTMENT OF HIGHWAYS

CROSS SECTION

APPROVED _____
TEAM LEADER OR DESIGNER _____ DATE _____

SPECIAL NOTE FOR BARCODE LABEL ON PERMANENT SIGNS

1.0 DESCRIPTION. Install barcode label on sheeting signs. Section references herein are to the Department’s Standard Specifications for Road and Bridge Construction, current edition.

2.0 MATERIALS. The Department will provide the Contractor with a 2 inch x 1 inch foil barcode label for each permanent sheeting sign. A unique number will be assigned to each barcode label.

The Contractor shall contact the Operations and Pavement Management Branch in the Division of Maintenance at (502) 564-4556 to obtain the barcode labels.

3.0 CONSTRUCTION. Apply foil barcode label in the lower right quadrant of the sign back. Signs where the bottom edge is not parallel to the ground, the lowest corner of the sign shall serve as the location to place the barcode label. The barcode label shall be placed no less than one-inch and no more than three inches from any edge of the sign. The barcode must be placed so that the sign post does not cover the barcode label.

Barcodes shall be applied in an indoor setting with a minimum air temperature of 50°F or higher. Prior to application of the barcode label, the back of the sign must be clean and free of dust, oil, etc. If the sign is not clean, an alcohol swab shall be used to clean the area. The area must be allowed to dry prior to placement of the barcode label.

Data for each sign shall include the barcode number, MUTCD reference number, sheeting manufacturer, sheeting type, manufacture date, color of primary reflective surface, installation date, latitude and longitude using the North American Datum of 1983 (NAD83) or the State Plane Coordinates using an x and y ordinate of the installed location.

Data should be provided electronically on the TC 71-229 Sign Details Information and TC 71-230 Sign Assembly Information forms. The Contractor may choose to present the data in a different format provided that the information submitted to the Department is equivalent to the information required on the Department TC forms. The forms must be submitted in electronic format regardless of which type of form is used. The Department will not accept PDF or handwritten forms. These completed forms must be submitted to the Department prior to final inspection of the signs. The Department will not issue formal acceptance for the project until the TC 71-229 and TC-230 electronic forms are completed for all signs and sign assemblies on the project.

4.0 MEASUREMENT. The Department will measure all work required for the installation of the barcode label and all work associated with completion and submission of the sign inventory data (TC 71-229 and TC 71-230).

The installation of the permanent sign will be measured in accordance to Section 715.

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

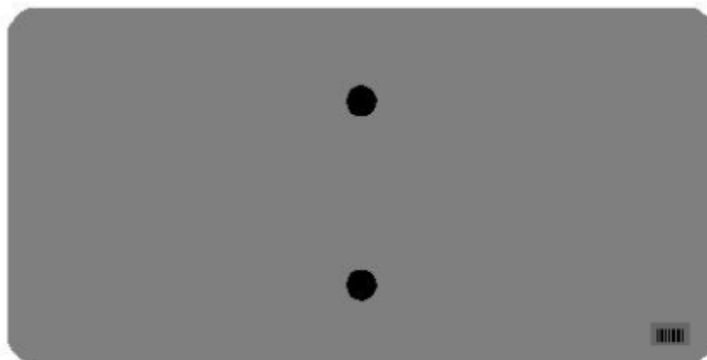
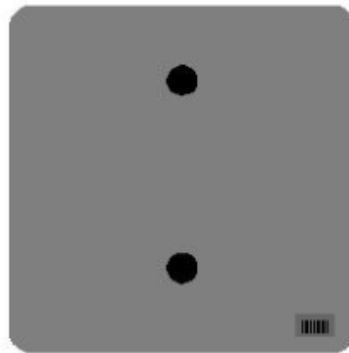
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24631EC	Barcode Sign Inventory	Each

The Department will not make payment for this item until all barcodes are installed and sign inventory is complete on every permanent sign installed on the project. The Department will make payment for installation of the permanent sign in accordance to Section 715. The Department will consider payment as full compensation for all work required under this special note.

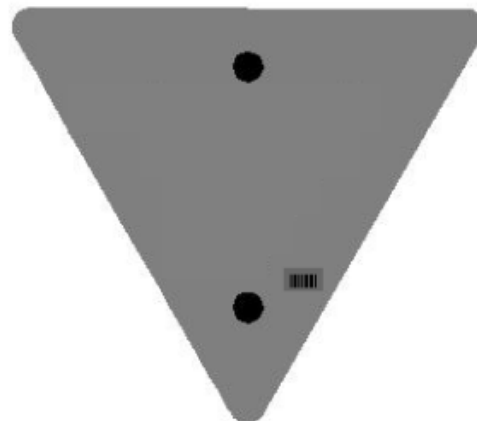
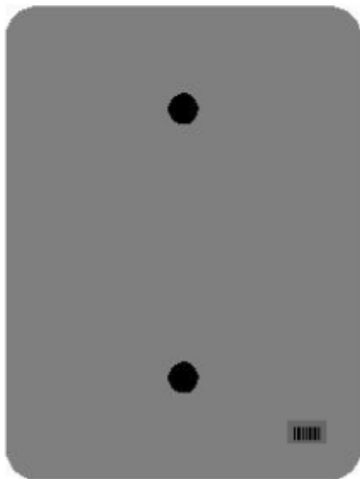
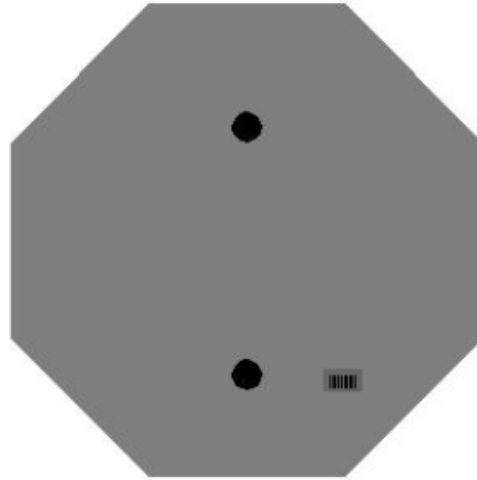
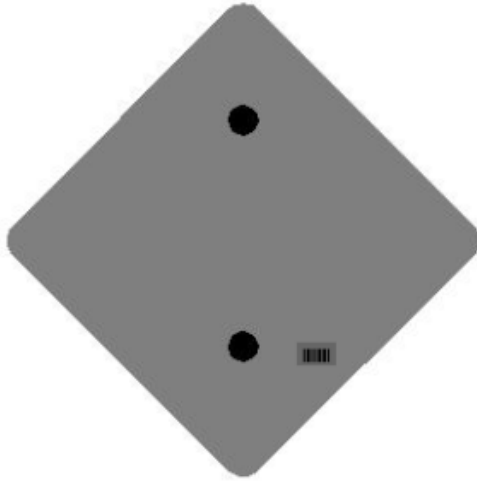
One Sign Post



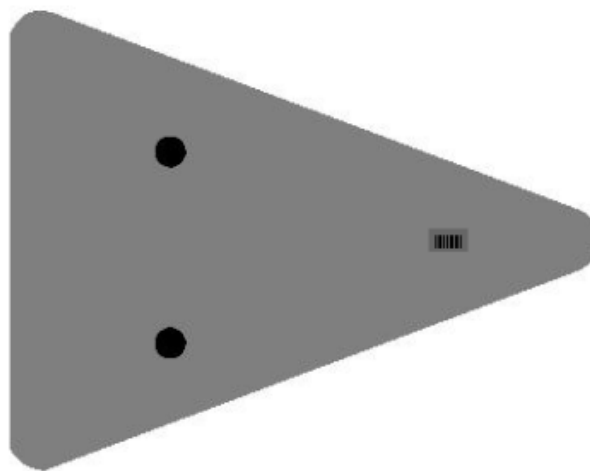
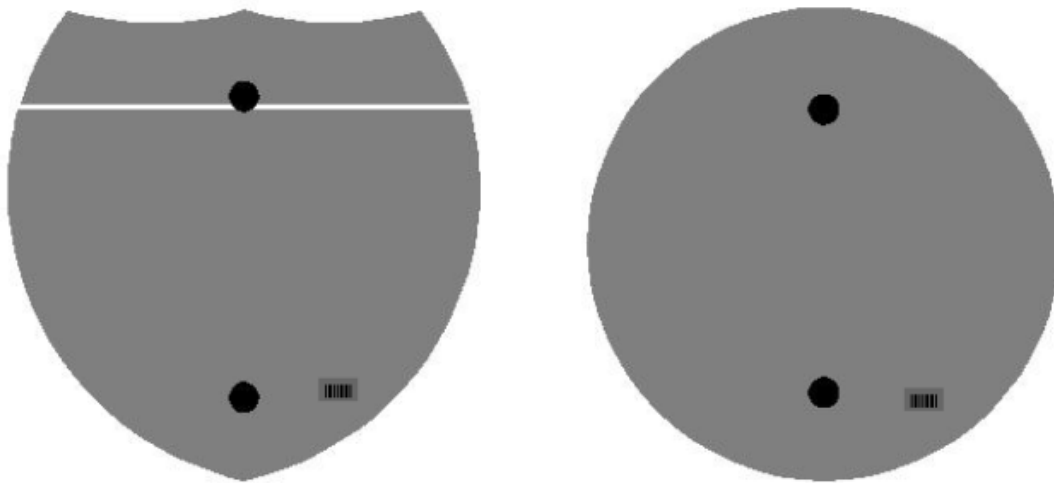
↑
2" Wide Post



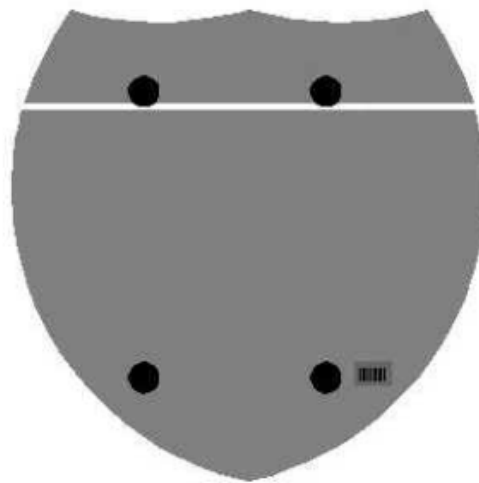
One Sign Post



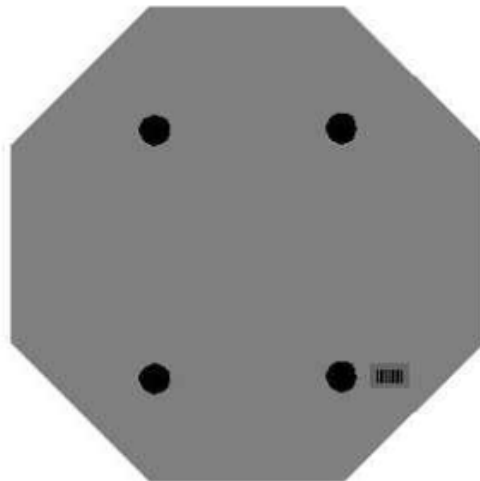
One Sign Post



Double Sign Post



Interstate
Shield

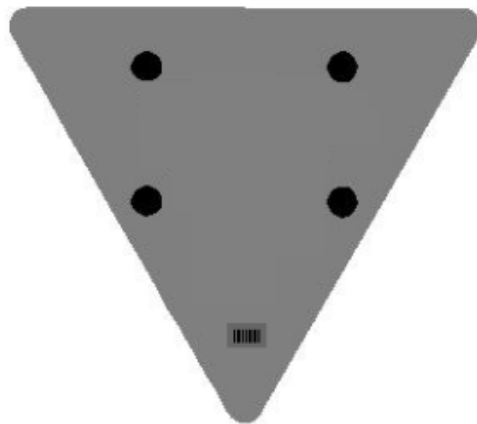


48" Stop

2 Post Signs



↑
2" Wide Post



2020 STANDARD DRAWINGS THAT APPLY

ROADWAY

~ DRAINAGE ~

BOX INLETS AND OUTLETS

DROP BOXES

DROP BOX INLET TYPE 11	RDB-011-08
DROP BOX INLET TYPE 13 (DETAIL SHEET).....	RDB-013-07
DROP BOX INLET TYPE 13 AND TYPE 16 (FRAME & GRATE DETAILS)	RDB-014-06
DROP BOX INLET TYPE 13 (DETAIL & BAR CHART FOR LID).....	RDB-015-04
DROP BOX INLET TYPE 13 (PIPE CHAMBER - GRADE CONDITION)	RDB-016-03
DROP BOX INLET TYPE 13 (PIPE CHAMBER - SAG CONDITION)	RDB-017-03
DROP BOX INLET TYPE 13 (ADDITIONAL STEEL - RISER).....	RDB-018-04
DROP BOX INLET TYPE 13 (ADDITIONAL STEEL - CHAMBER).....	RDB-019-04

CURB BOXES

CURB BOX INLET TYPE A (DETAIL DRAWING).....	RDB-270-09
CURB BOX INLET TYPE A (STEEL DRAWING).....	RDB-271-05
CURB BOX INLET TYPE A (TOP PHASE TABLES)	RDB-272-07
CURB BOX INLET TYPE A (DETAIL & BAR CHART FOR 8" LID).....	RDB-273-06

TYPICAL DRAINAGE INSTALLATIONS

CULVERT, ENTRANCE & STORM SEWER PIPE TYPES & COVER HEIGHTS (12" – 24" PIPE)	RDI-001-10
PIPE BEDDING FOR CULVERTS, ENTRANCE, AND STORM SEWER PIPE	RDI-020-10
PIPE BEDDING FOR CULVERTS, ENTRANCE, AND STORM SEWER, REINFORCED CONC. PIPE	RDI-021-01
TYPICAL MEDIAN DRAIN INSTALLATIONS.....	RDI-045-02

MISCELLANEOUS DRAINAGE

SUBGRADE DRAINAGE, CONCRETE PAVEMENT	RDX-050-05
TEMPORARY SILT FENCE.....	RDX-210-03
SILT TRAP - TYPE A	RDX-220-05
SILT TRAP - TYPE B.....	RDX-225-01
SILT TRAP - TYPE C.....	RDX-230-01

MISCELLANEOUS STANDARDS

DETECTABLE WARNINGS	RGX-040-03
TYPE D BREAKAWAY SIGN SUPPORT.....	RGX-065-02

~ PAVEMENT ~

MEDIANS, CURBS, APPROACHES, ENTRANCES, ETC.

STANDARD BARRIER MEDIAN	RPM-010-06
CURB AND GUTTER, CURBS AND VALLEY GUTTER.....	RPM-100-11
SIDEWALK RAMPS.....	RPM-170-09

NON-REINFORCED CONCRETE PAVEMENT

JOINTED PLAIN CONCRETE PAVEMENT.....	RPN-015-05
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STANDARD REINFORCED CONCRETE PAVEMENT

CONCRETE PAVEMENT JOINT DETAILS	RPS-010-11
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Standard Drawings That Apply
Page 2 of 2

EXPANSION AND CONTRACTION JOINT LOAD TRANSFER ASSEMBLIES RPS-020-14
 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

TRAFFIC
~ PERMANENT ~
MARKERS

PAVEMENT STRIPING DETAILS FOR TWO LANE TWO WAY ROADWAYSTPM-175
 TYPICAL MARKINGS AT SIGNALIZED INTERSECTIONS.....TPM-203
 TYPICAL MARKINGS FOR ISLANDS AND MEDIANSTPM-205
 TYPICAL MARKINGS FOR TURN LANES PAGE 1.....TPM-206
 TYPICAL MARKINGS FOR TURN LANES PAGE 2.....TPM-207

~ TEMPORARY ~
TRAFFIC CONTROL

LANE CLOSURE MULTI-LANE HIGHWAY CASE I TTC-115-04
 SHOULDER CLOSURE..... TTC-135-03

STRIPING OPERATIONS

MOBILE OPERATION FOR DURABLE STRIPING CASE I..... TTS-120-02

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

FHWA-1273 -- Revised May 1, 2012

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (ii) The classification is utilized in the area by the construction industry; and
- (iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS**

**EMPLOYMENT REQUIREMENTS
RELATING TO
NONDISCRIMINATION OF EMPLOYEES
(APPLICABLE TO FEDERAL-AID SYSTEM CONTRACTS)**

**AN ACT OF THE KENTUCKY GENERAL ASSEMBLY
TO PREVENT DISCRIMINATION IN EMPLOYMENT**

**KRS CHAPTER 344
EFFECTIVE JUNE 16, 1972**

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

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

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

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

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

Revised: January 25, 2017

Standard Title VI/Non-Discrimination Assurances

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, **Federal Highway Administration**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the **Federal Highway Administration** to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the **Federal Highway Administration**, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the **Federal Highway Administration** may determine to be appropriate, including, but not limited to:
 - a. withholding payments to the contractor under the contract until the contractor complies; and/or
 - b. cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the **Federal Highway Administration** may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

Standard Title VI/Non-Discrimination Statutes and Authorities

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 -- 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 *et seq.*)

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.

"General Decision Number: KY20220039 02/25/2022

Superseded General Decision Number: KY20210039

State: Kentucky

Construction Type: Highway

Counties: Boone, Campbell, Kenton and Pendleton Counties in Kentucky.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

<p>If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:</p>	<ul style="list-style-type: none"> . Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
<p>If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:</p>	<ul style="list-style-type: none"> . Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Modification Number	Publication Date
0	01/07/2022
1	02/11/2022
2	02/25/2022

BRKY0002-005 06/01/2021

	Rates	Fringes
BRICKLAYER.....	\$ 30.87	15.87

 BROH0001-005 06/01/2021

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 29.57	14.75

 CARP0698-001 06/01/2021

BOONE, CAMPBELL, KENTON & PENDLETON COUNTIES:

	Rates	Fringes
Carpenter & Piledrivermen.....	\$ 27.70	20.23
Diver.....	\$ 40.58	9.69

 ELEC0212-007 06/07/2021

	Rates	Fringes
ELECTRICIAN.....	\$ 32.32	19.85

 ELEC0212-013 11/25/2019

	Rates	Fringes
Sound & Communication Technician.....	\$ 24.35	12.09

 ENGI0018-013 05/01/2019

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1.....	\$ 37.39	14.95
GROUP 2.....	\$ 37.27	14.95
GROUP 3.....	\$ 36.23	14.95
GROUP 4.....	\$ 35.05	14.95
GROUP 5.....	\$ 29.59	14.95
GROUP 6.....	\$ 37.64	14.95
GROUP 7.....	\$ 37.89	14.95

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - Air Compressor on Steel Erection; Barrier Moving Machine; Boiler Operator on Compressor or Generator when mounted on a Rig; Cableway; Combination Concrete Mixer & Tower; Concrete Plant (over 4 yd. Capacity); Concrete Pump; Crane (All Types, Including Boom Truck, Cherry Picker); Crane-Compact, Track or Rubber over 4,000 lbs. capacity; Cranes-Self Erecting, Stationary, Track or Truck (All Configurations); Derrick; Dragline; Dredge (Dipper, Clam or Suction); Elevating Grader or Euclid Loader; Floating

Equipment (All Types); Gradall; Helicopter Crew (Operator-Hoist or Winch); Hoe (all types); Hoisting Engine on Shaft or Tunnel Work; Hydraulic Gantry (Lifting System); Industrial-Type Tractor; Jet Engine Dryer (D8 or D9) Diesel Tractor; Locomotive (Standard Gauge); Maintenance Operator Class A; Mixer, Paving (Single or Double Drum); Mucking Machine; Multiple Scraper; Piledriving Machine (All Types); Power Shovel; Prentice Loader; Quad 9 (Double Pusher); Rail Tamper (with auto lifting & aligning device); Refrigerating Machine (Freezer Operation); Rotary Drill, on Caisson work; Rough Terrain Fork Lift with Winch/Hoist; Side-Boom; Slip-Form Paver; Tower Derrick; Tree Shredder; Trench Machine (Over 24" wide); Truck Mounted Concrete Pump; Tug Boat; Tunnel Machine and/or Mining Machine; & Wheel Excavator

GROUP 2 - Asphalt Paver; Automatic Subgrader Machine, Self-Propelled (CMI Type); Bobcat Type and/or Skid Steer Loader with Hoe Attachment Greater than 7,000 lbs.; Boring Machine More than 48"; Bulldozer; Endloader; Hydro Milling Machine; Horizontal Directional Drill (over 500,000 ft. lbs. thrust); Kolman-type Loader (production type-Dirt); Lead Greaseman; Lighting & Traffic Signal Installation Equipment (includes all groups or classifications); Material Transfer Equipment (Shuttle Buggy) Asphalt; Pettibone-Rail Equipment; Power Grader; Power Scraper; Push Cat; Rotomill (all), Grinders & Planers of All types; Trench Machine (24" wide & under); & Vermeer type Concrete Saw

GROUP 3 - A-Frame; Air Compressor on Tunnel Work (low pressure); Asphalt Plant Engineer; Bobcat-type and/or Skid Steer Loader with or without Attachments; Highway Drills (all types); Locomotive (narrow gauge); Material Hoist/Elevator; Mixer, Concrete (more than one bag capacity); Mixer, one bag capacity (Side Loader); Power Boiler (Over 15 lbs. Pressure) Pump Operator installing & operating Well Points; Pump (4" & over discharge); Roller, Asphalt; Rotovator (lime soil stabilizer); Switch & Tie Tampers (without lifting & aligning device); Utility Operator (Small equipment); & Welding Machines

GROUP 4 - Backfiller; Ballast Re-locator; Bars, Joint & Mesh Installing Machine; Batch Plant; Boring Machine Operator (48" or less); Bull Floats; Burlap & Curing Machine; Concrete Plant (capacity 4 yd. & under); Concrete Saw (Multiple); Conveyor (Highway); Crusher; Deckhand; Farm-type Tractor with attachments (highway) except Masonry); Finishing Machine; Fireperson, Floating Equipment (all types); Fork Lift (highway); Form Trencher; Hydro Hammer; Hydro Seeder; Pavement Breaker; Plant Mixer; Post Driver; Post Hole Digger (Power Auger); Power Brush Burner; Power Form Handling Equipment; Road Widening Trencher; Roller (Brick, Grade & Macadam); Self-Propelled Power Spreader; Self-Propelled Power Subgrader; Steam Fireperson; Tractor (Pulling Sheepfoot, Roller or Grader); & Vibratory Compactor with Integral Power

GROUP 5 - Compressor (Portable, Sewer, Heavy & Highway); Drum Fireperson (Asphalt); Generator; Masonry Fork Lift; Inboard-Outboard Motor Boat Launch; Masonry Fork Lift; Oil Heater (asphalt plant); Oiler; Power Driven Heater; Power Sweeper & Scrubber; Pump (under 4" discharge); Signalperson; Tire Repairperson; & VAC/ALLS

GROUP 6 - Master Mechanic & Boom from 150 to 180

GROUP 7 - Boom from 180 and over

IRON0044-008 06/01/2021

	Rates	Fringes
Ironworkers:		
Fence Erector.....	\$ 29.75	21.60
Structural.....	\$ 31.32	21.60

IRON0044-018 06/01/2021

	Rates	Fringes
IRONWORKER, REINFORCING.....	\$ 31.32	21.60

LABO0189-004 07/01/2021

PENDLETON COUNTY:

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 23.51	16.22
GROUP 2.....	\$ 23.76	16.22
GROUP 3.....	\$ 23.81	16.22
GROUP 4.....	\$ 24.41	16.22

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushhammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher;

Environmental - Nuclear, Radiation, Toxic & Hazardous Waste
- Levels A & B; Miner & Driller (Free Air); Tunnel Blaster;
& Tunnel Mucker (Free Air); Directional & Horizontal
Boring; Air Track Driller (All Types); Powderman & Blaster;
Troxler & Concrete Tester if Laborer is Utilized

LABO0265-009 05/01/2018

BOONE, CAMPBELL & KENTON COUNTIES:

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 30.62	10.95
GROUP 2.....	\$ 30.79	10.95
GROUP 3.....	\$ 31.12	10.95
GROUP 4.....	\$ 31.57	10.95

LABORER CLASSIFICATIONS

GROUP 1 - Asphalt Laborer; Carpenter Tender; Concrete Curing Applicator; Dump Man (Batch Truck); Guardrail and Fence Installer; Joint Setter; Laborer (Construction); Landscape Laborer; Highway Lighting Worker; Signalization Worker; Mesh Handlers & Placer; Right-of-way Laborer; Riprap Laborer & Grouter; Scaffold Erector; Seal Coating; Surface Treatment or Road Mix Laborer; Sign Installer; Slurry Seal; Utility Man; Bridge Man; Handyman; Waterproofing Laborer; Flagperson; Hazardous Waste (level D); Diver Tender; Zone Person & Traffic Control

GROUP 2 - Skid Steer; Asphalt Raker; Concrete Puddler; Kettle Man (Pipeline); Machine Driven Tools (Gas, Electric, Air); Mason Tender; Brick Paver; Mortar Mixer; Power Buggy or Power Wheelbarrow; Sheeting & Shoring Man; Surface Grinder Man; Plastic Fusing Machine Operator; Pug Mill Operator; & Vacuum Devices (wet or dry); Rodding Machine Operator; Diver; Screwman or Paver; Screed Person; Water Blast, Hand Held Wand; Pumps 4" & Under (Gas, Air or Electric) & Hazardous Waste (level C); Air Track and Wagon Drill; Bottom Person; Cofferdam (below 25 ft. deep); Concrete Saw Person; Cutting with Burning Torch; Form Setter; Hand Spiker (Railroad); Pipelayer; Tunnel Laborer (without air) & Caisson; Underground Person (working in Sewer and Waterline, Cleaning, Repairing & Reconditioning); Sandblaster Nozzle Person; & Hazardous Waste (level B)

GROUP 3 - Blaster; Mucker; Powder Person; Top Lander; Wrencher (Mechanical Joints & Utility Pipeline); Yarner; Hazardous Waste (level A); Concrete Specialist; Concrete Crew in Tunnels (With Air-pressurized - \$1.00 premium); Curb Setter & Cutter; Grade Checker; Utility Pipeline Tapper; Waterline; and Caulker

GROUP 4 - Miner; & Gunite Nozzle Person

TUNNEL LABORER WITH AIR-PRESSURIZED ADD \$1.00 TO BASE RATE

SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE RATE PAID THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS SIGNALING.

PAIN0012-016 05/01/2015

	Rates	Fringes
PAINTER		
Bridge.....	\$ 24.39	9.06
Bridge Equipment Tender and Containment Builder.....	\$ 20.73	9.06
Brush & Roller.....	\$ 23.39	9.06
Sandblasting & Water Blasting.....	\$ 24.14	9.06
Spray.....	\$ 23.89	9.06

PLUM0392-008 06/01/2018		

	Rates	Fringes
PLUMBER.....	\$ 32.01	19.67

SUKY2010-161 02/05/1996		

	Rates	Fringes
Truck drivers:		
GROUP 1.....	\$ 15.85	4.60
GROUP 2.....	\$ 16.29	4.60

TRUCK DRIVER CLASSIFICATIONS

GROUP 1 - Driver

GROUP 2 - Euclid Wagon; End Dump; Lowboy; Heavy Duty
 Equipment; Tractor-Trailer Combination; & Drag

 WELDERS - Receive rate prescribed for craft performing
 operation to which welding is incidental.

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 Note: Executive Order (EO) 13706, Establishing Paid Sick Leave
 for Federal Contractors applies to all contracts subject to the
 Davis-Bacon Act for which the contract is awarded (and any
 solicitation was issued) on or after January 1, 2017. If this
 contract is covered by the EO, the contractor must provide
 employees with 1 hour of paid sick leave for every 30 hours
 they work, up to 56 hours of paid sick leave each year.
 Employees must be permitted to use paid sick leave for their
 own illness, injury or other health-related needs, including
 preventive care; to assist a family member (or person who is
 like family to the employee) who is ill, injured, or has other
 health-related needs, including preventive care; or for reasons
 resulting from, or to assist a family member (or person who is
 like family to the employee) who is a victim of, domestic
 violence, sexual assault, or stalking. Additional information
 on contractor requirements and worker protections under the EO
 is available at
<https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within
 the scope of the classifications listed may be added after
 award only as provided in the labor standards contract clauses
 (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of

each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISIO"

Fringe benefit amounts are applicable for all hours worked except when otherwise noted.

No laborer, workman or mechanic shall be paid at a rate less than that of a Journeyman except those classified as bona fide apprentices.

Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

Before using apprentices on the job the contractor shall present to the Contracting Officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U. S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U. S. Bureau of Apprenticeship and Training.

The contractor shall submit to the Contracting Officer, written evidence of the established apprenticeship-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

TO: EMPLOYERS/EMPLOYEES

PREVAILING WAGE SCHEDULE:

The wages indicated on this wage schedule are the least permitted to be paid for the occupations indicated. When an employee works in more than one classification, the employer must record the number of hours worked in each classification at the prescribed hourly base rate.

OVERTIME:

Overtime is to be paid to an employee at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty (40) hours in such workweek. Wage violations or questions should be directed to the designated Engineer or the undersigned.

Director
Division of Construction Procurement
Frankfort, Kentucky 40622
502-564-3500

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(Executive Order 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

GOALS FOR MINORITY PARTICIPATION IN EACH TRADE	GOALS FOR FEMALE PARTICIPATION IN EACH TRADE
11.0%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4, 3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. The notification shall be mailed to:

**Evelyn Teague, Regional Director
Office of Federal Contract Compliance Programs
61 Forsyth Street, SW, Suite 7B75
Atlanta, Georgia 30303-8609**

4. As used in this Notice, and in the contract resulting from this solicitation, the "**covered area**" is Boone County.

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(Executive Order 11246)**

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**Evelyn Teague, Regional Director
Office of Federal Contract Compliance Programs
61 Forsyth Street, SW, Suite 7B75
Atlanta, Georgia 30303-8609**

4. As used in this Notice, and in the contract resulting from this solicitation, the "**covered area**" is Campbell County.

PART IV
INSURANCE

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

PART V
BID ITEMS

PROPOSAL BID ITEMS

224421

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Report Date 4/27/22

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	125.00	TON		\$	
0020	00342		CL4 ASPH SURF 0.38A PG76-22	1,397.00	TON		\$	
0080	01811		STANDARD CURB AND GUTTER MOD	187.00	LF		\$	
0090	01920		STANDARD BARRIER MEDIAN TYPE 3 MOD	648.00	SQYD		\$	
0100	02073		JPC PAVEMENT-9 IN	538.00	SQYD		\$	
0110	02075		JPC PAVEMENT-6 IN	78.00	SQYD		\$	
0220	02677		ASPHALT PAVE MILLING & TEXTURING	1,451.00	TON		\$	
0300	02720		SIDEWALK-4 IN CONCRETE	9.00	SQYD		\$	
0310	02721		REMOVE CONCRETE SIDEWALK	3.00	SQYD		\$	
0340	03240		BASE FAILURE REPAIR	514.20	SQYD		\$	
0740	20430ED		SAW CUT	1,271.00	LF		\$	
0850	23158ES505		DETECTABLE WARNINGS	8.00	SQFT		\$	
0950	24970EC		ASPHALT MATERIAL FOR TACK NON-TRACKING	7.70	TON		\$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0120	02159		TEMP DITCH	274.00	LF		\$	
0130	02160		CLEAN TEMP DITCH	137.00	LF		\$	
0140	02200		ROADWAY EXCAVATION	232.00	CUYD		\$	
0150	02562		TEMPORARY SIGNS	500.00	SQFT		\$	
0180	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0190	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0200	02650		MAINTAIN & CONTROL TRAFFIC (BOONE KY 18)	1.00	LS		\$	
0210	02671		PORTABLE CHANGEABLE MESSAGE SIGN	4.00	EACH		\$	
0230	02701		TEMP SILT FENCE	274.00	LF		\$	
0240	02703		SILT TRAP TYPE A	1.00	EACH		\$	
0250	02704		SILT TRAP TYPE B	1.00	EACH		\$	
0260	02705		SILT TRAP TYPE C	1.00	EACH		\$	
0270	02706		CLEAN SILT TRAP TYPE A	1.00	EACH		\$	
0280	02707		CLEAN SILT TRAP TYPE B	1.00	EACH		\$	
0290	02708		CLEAN SILT TRAP TYPE C	1.00	EACH		\$	
0320	02726		STAKING	1.00	LS		\$	
0330	02726		STAKING (BOONE KY 18)	1.00	LS		\$	
0440	05952		TEMP MULCH	1,856.00	SQYD		\$	
0460	05963		INITIAL FERTILIZER	.10	TON		\$	
0470	05964		MAINTENANCE FERTILIZER	.14	TON		\$	
0480	05985		SEEDING AND PROTECTION	2,785.00	SQYD		\$	
0490	05992		AGRICULTURAL LIMESTONE	1.73	TON		\$	
0500	06406		SBM ALUM SHEET SIGNS .080 IN	548.56	SQFT		\$	
0510	06407		SBM ALUM SHEET SIGNS .125 IN	72.67	SQFT		\$	
0520	06410		STEEL POST TYPE 1	618.50	LF		\$	
0530	06490		CLASS A CONCRETE FOR SIGNS	6.50	CUYD		\$	
0540	06511		PAVE STRIPING-TEMP PAINT-6 IN	9,225.00	LF		\$	

PROPOSAL BID ITEMS

224421

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Report Date 4/27/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0550	06514		PAVE STRIPING-PERM PAINT-4 IN	726.00	LF		\$	
0560	06541		PAVE STRIPING-THERMO-4 IN Y	1,076.00	LF		\$	
0570	06542		PAVE STRIPING-THERMO-6 IN W	16,065.00	LF		\$	
0580	06543		PAVE STRIPING-THERMO-6 IN Y	10,410.00	LF		\$	
0590	06546		PAVE STRIPING-THERMO-12 IN W	1,953.00	LF		\$	
0600	06547		PAVE STRIPING-THERMO-12 IN Y	144.00	LF		\$	
0610	06565		PAVE MARKING-THERMO X-WALK-6 IN	1,326.00	LF		\$	
0620	06568		PAVE MARKING-THERMO STOP BAR-24IN	770.00	LF		\$	
0630	06569		PAVE MARKING-THERMO CROSS-HATCH	856.00	SQFT		\$	
0640	06573		PAVE MARKING-THERMO STR ARROW	4.00	EACH		\$	
0650	06574		PAVE MARKING-THERMO CURV ARROW	89.00	EACH		\$	
0660	06575		PAVE MARKING-THERMO COMB ARROW	8.00	EACH		\$	
0670	06576		PAVE MARKING-THERMO ONLY	4.00	EACH		\$	
0680	06598		PAVEMENT MARKING REMOVAL	1,321.50	SQFT		\$	
0730	20418ED		REMOVE & RELOCATE SIGNS	1.00	EACH		\$	
0770	21373ND		REMOVE SIGN	28.00	EACH		\$	
0780	21417ES717		PAVE MARK THERMO CONE CAP-SOLID YELLOW	26.00	SQFT		\$	
0790	21596ND		GMSS TYPE D	26.00	EACH		\$	
0800	21596ND		GMSS TYPE D SURFACE MOUNT	2.00	EACH		\$	
0820	22400NN		REMOVE AND RELOCATE SIGN ASSEMBLY	1.00	EACH		\$	
0830	22664EN		WATER BLASTING EXISTING STRIPE	3,371.25	LF		\$	
0840	22680EN		QWICK CURB MEDIAN SEPARATOR	2,119.00	LF		\$	
0880	24631EC		BARCODE SIGN INVENTORY	133.00	EACH		\$	
0900	24894EC		REMOVE (Pavement marker lens)	12.00	EACH		\$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0030	00520		STORM SEWER PIPE-12 IN	232.00	LF		\$	
0040	01310		REMOVE PIPE	48.00	LF		\$	
0050	01458		CURB BOX INLET TYPE A T	1.00	EACH		\$	
0060	01545		DROP BOX INLET TYPE 11 MOD	1.00	EACH		\$	
0070	01585		REMOVE DROP BOX INLET	1.00	EACH		\$	
0170	02607		FABRIC-GEOTEXTILE CLASS 2 FOR PIPE	271.00	SQYD	\$1.50	\$	\$406.50
0350	03262		CLEAN PIPE STRUCTURE	1.00	EACH		\$	
0450	05953		TEMP SEEDING AND PROTECTION	1,392.00	SQYD		\$	
0760	20569ES710		DROP BOX INLET TY 13G(MOD)	3.00	EACH		\$	
0870	23484EC		PIPE LINER ACCEPTANCE TESTING	1.00	LS		\$	
0890	24814EC		PIPELINE INSPECTION	288.00	LF		\$	

Section: 0004 - SIGNALIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0360	04792		CONDUIT-1 IN	25.00	LF		\$	
0370	04793		CONDUIT-1 1/4 IN	20.00	LF		\$	

PROPOSAL BID ITEMS

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Report Date 4/27/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0380	04811		ELECTRICAL JUNCTION BOX TYPE B	2.00	EACH		\$	
0390	04820		TRENCHING AND BACKFILLING	96.00	LF		\$	
0400	04830		LOOP WIRE	2,914.00	LF		\$	
0410	04844		CABLE-NO. 14/5C	705.00	LF		\$	
0420	04850		CABLE-NO. 14/1 PAIR	75.00	LF		\$	
0430	04895		LOOP SAW SLOT AND FILL	962.00	LF		\$	
0690	20188NS835		INSTALL LED SIGNAL-3 SECTION	41.00	EACH		\$	
0700	20189NS835		INSTALL LED SIGNAL-5 SECTION	4.00	EACH		\$	
0710	20266ES835		INSTALL LED SIGNAL- 4 SECTION	2.00	EACH		\$	
0720	20360ES818		WOOD POST	2.00	EACH		\$	
0750	20468EC		ELECTRICAL JUNCTION BOX-10 X 8 X 4	2.00	EACH		\$	
0810	21743NN		INSTALL PEDESTRIAN DETECTOR	2.00	EACH		\$	
0860	23222EC		INSTALL SIGNAL PEDESTAL	1.00	EACH		\$	
0910	24900EC		PVC CONDUIT-1 1/4 IN-SCHEDULE 80	40.00	LF		\$	
0920	24901EC		PVC CONDUIT-2 IN-SCHEDULE 80	16.00	LF		\$	
0930	24955ED		REMOVE SIGNAL EQUIPMENT	3.00	EACH		\$	
0940	24963ED		LOOP TEST	6.00	EACH		\$	

Section: 0005 - DEMOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0160	02569		DEMOBILIZATION	1.00	LS		\$	