CALL NO. 328

CONTRACT ID. 232388

CAMPBELL COUNTY

FED/STATE PROJECT NUMBER FD04 019 6335 001-005

DESCRIPTION MARY INGLES HIGHWAY (KY 6335)

WORK TYPE SLIDE REPAIR

PRIMARY COMPLETION DATE 6/30/2024

LETTING DATE: July 20,2023

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME July 20,2023. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

NO PLANS ASSOCIATED WITH THIS PROJECT.

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

TABLE OF CONTENTS

PART I

SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 06

CONTRACT ID - 232388

FD04 019 6335 001-005

COUNTY - CAMPBELL

PCN - MP01963352301
FD04 019 6335 001-005

MARY INGLES HIGHWAY (KY 6335) (MP 1.767) BEGIN AT TOWER HILL ROAD EXTENDING EAST TO KY 445 (MP 4.636), A DISTANCE OF 02.86 MILES.SLIDE REPAIR

GEOGRAPHIC COORDINATES LATITUDE 39:04:27.00 LONGITUDE 84:26:20.00

ADT 0

COMPLETION DATE(S):

COMPLETED BY 06/30/2024 APPLIES TO ENTIRE CONTRACT

CONTRACT NOTES

PROPOSAL ADDENDA

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

BID SUBMITTAL

Bidder must use the Department's electronic bidding software. The Bidder must download the bid file located on the Bid Express website (www.bidx.com) 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.

BUILD AMERICA, BUY AMERICA ACT (BABA)

On November 15, 2021, President Biden signed into law the Infrastructure Investment and Jobs Act (IIJA), Pub. L. No. 117-58, includes the Build America, Buy America Act ("the Act"). Pub. L. No. 117-58, §§70901-52. The Act strengthens the Buy America preference to include "construction materials." The current temporary waiver for **"construction materials"** will expire on November 10, 2022.

The Act will apply to construction materials as outlined in the guidance issued in OMB M-22-11.

Construction Materials – Includes an article, material, or supply – other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives – that is or consists primarily of:

- Non-ferrous metals
- Plastic/polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- Glass (including optic glass);
- Lumber; or
- Drywall.

Construction Materials only applies to items, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project.

Construction Materials does not apply to tools, equipment or supplies brought to the jobsite and removed before completion.

BOYCOTT PROVISIONS

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

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

LOBBYING PROHIBITIONS

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

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

SPECIAL NOTE FOR RECIPROCAL PREFERENCE

RECIPROCAL PREFERENCE TO BE GIVEN BY PUBLIC AGENCIES TO RESIDENT BIDDERS

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

April 30, 2018

SURFACING AREAS

The Department estimates the mainline surfacing width to be 21 feet.

The Department estimates the total mainline area to be surfaced to be 37,112 square yards.

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

The Department estimates the total shoulder area to be surfaced to be 3,366 square yards.

ASPHALT MIXTURE

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

INCIDENTAL SURFACING

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

FUEL AND ASPHALT PAY ADJUSTMENT

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

OPTION B

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

SPECIAL NOTES FOR DITCHING
CAMPBELL COUNTY
FD04 019 6335 001-005

A drainage ditch shall be installed, improved, or lined with Class 2 channel lining from KY 445 to Tower Hill Road. The ditch will be installed for the entire corridor, where applicable on the West side of the roadway. The total estimated length for construction of a drainage ditch and shouldering is 15,000 Linear Feet. The Contractor shall coordinate the ditch construction with the Project Engineer and all locations shall be verified and marked with the Engineer prior to any work including the areas requiring channel lining.

All work shall be done in accordance with the current Standard Specifications for Road and Bridge Construction and applicable Standard Drawings.

Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department. All utilities shall be mark before construction begins. There may be utility service lines and/or water lines in the pipe removal area.

Information shown on the drawings and in this proposal and the types and quantities of work listed are approximate only and 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 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.

The exact limits of Right-of-Way have not been established by the Department. The Contractor shall limit his activities to obvious Right-of-Way and work areas secured by the Department through Consent and Release of the adjacent property owners and shall be responsible for all encroachments onto private lands.

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

SPECIAL NOTES FOR
EXCAVATION AND DEBRIS REMOVAL
CAMPBELL COUNTY
FD04 019 6335 001-005

Remove loose material and brush from the hillside to establish a ditch. The slope shall be no greater than 2:1. The areas that need cut back are:

MP 2.53 – 2.68	792 feet Westbound
MP 2.99 – 3.05	320 feet Westbound
MP 3.16 – 3.24	422 feet Westbound

The total estimated excavation for the corridor is 3,000 Cubic Yards. Excavation for the slide 12 U (soil nail repair) is not included in this quantity since it's part of the slide repair. The Contractor shall coordinate excavation with the Project Engineer and all locations shall be verified and marked with the Engineer prior to any work.

All work shall be done in accordance with the current Standard Specifications for Road and Bridge Construction and applicable Standard Drawings.

Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department. All utilities shall be mark before construction begins. There may be utility service lines and/or water lines in the pipe removal area.

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

SPECIAL NOTES FOR PIPE REPLACEMENT AND INSTALLATION CAMPBEL COUNTY FD04 019 6335 001-005

The following shall be incidental to the bid item “Culvert Pipe-18 IN.”, “Culvert Pipe-24 IN.” & “Culvert Pipe-72 IN. Equivalent” unless a specific bid item is listed.

(1) Removal of existing drainage structure (s) at proposed location.
(2) Pipe bedding; including fabric and stone base
(3) Installation of “Culvert Pipes”
(4) Furnish all materials, labor, and equipment.

The following paragraphs indicate the construction requirements pertaining to this project.

The Contractor shall coordinate the removal, replacement, and reconstruction of the existing drainage structures with the Engineer. All locations shall be verified and marked with the Engineer prior to any work.

All work shall be done in accordance with the current Standard Specifications for Road and Bridge Construction except as provided herein and elsewhere in the proposal, these “Special Notes”’ Pipe Log (if applicable) and applicable Standard Drawings.

The Department will sample and test all materials according to Department's Sampling Manual and the Contractor shall have the 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.

Location 1 STA 0+60 MP 4.62

Remove debris at the 24” culvert inlet and clean the 140-foot culvert.

Location 2 STA 10+00 MP 4.44

Install a headwall for the 18” corrugated metal pipe. Extend pipe as directed by the Project engineer

Location 3 STA 12+75 MP 4.39

Install a headwall for the 18” corrugated metal pipe. Extend pipe as directed by the Project engineer

Location 4 STA 24+50 MP 4.17

Remove existing 30’ long, 18” Concrete pipe and install a 40’ long, 24 inch Corrugated High Density Polyethylene (HDPE) Pipe with an inlet headwall.

Location 5 STA 49+00 MP 3.71

Remove existing 60’ long, 18” corrugated metal pipe (CMP) and install a 40’ long, 18 inch Corrugated High Density Polyethylene (HDPE) Pipe with an inlet headwall.

Location 6 STA 59+75 MP 3.50

Remove existing 24’ long, 18” Concrete pipe and install a 40’ long, 18 inch Corrugated High Density Polyethylene (HDPE) Pipe with an inlet headwall.

Location 7 STA 67+00 MP 3.37

Remove existing 40’ long, 15” corrugated metal pipe (CMP) and install a 40’ long, 18 inch Corrugated High Density Polyethylene (HDPE) Pipe with an inlet headwall.

Location 8 STA 75+25 MP 3.21

Remove debris at the 36” concrete culvert inlet and clean the 40-foot length.

Location 9 STA 76+75 MP 3.18

Remove existing 34’ long, 15” Concrete pipe and install a 40’ long, 18 inch Corrugated High Density Polyethylene (HDPE) Pipe with an inlet headwall.

Location 10 STA 82+00 MP 3.08

Install a 40’ long, 24” Corrugated High Density Polyethylene (HDPE) Pipe.

Location 11 STA 85+25 MP 3.02

Remove existing 25’ long, 18-inch Concrete pipe and install a 40’ long, 18 inch Corrugated High Density Polyethylene (HDPE) Pipe with an inlet headwall.

Location 12 STA 87+25 MP 2.98

Remove existing 32’ long, 18-inch Concrete pipe and install a 40’ long, 18 inch Corrugated High Density Polyethylene (HDPE) Pipe with an inlet headwall.

Location 13 STA 93+00 MP 2.87

Remove existing 30’ long, 18-inch Concrete pipe and install a 40’ long, 18 inch Corrugated High Density Polyethylene (HDPE) Pipe with an inlet headwall.

Location 14 STA 95+00 MP 2.84

Remove existing 35’ long, 15” corrugated metal pipe (CMP) and install a 40’ long, 18 inch Corrugated High Density Polyethylene (HDPE) Pipe with an inlet headwall.

Location 15 STA 98+00 MP 2.78

Remove existing 34’ long, 18-inch Concrete pipe and install a 40’ long, 18 inch Corrugated High Density Polyethylene (HDPE) Pipe with an inlet headwall.

Location 16 STA 102+30 MP 2.70

Remove existing 35’ long, 18” corrugated metal pipe (CMP) and install a 40’ long, 18 inch Corrugated High Density Polyethylene (HDPE) Pipe with an inlet headwall.

Location 17 STA 104+00 MP 2.67

Remove existing 34’ long, 18-inch Concrete pipe and install a 40’ long, 18 inch Corrugated High Density Polyethylene (HDPE) Pipe with an inlet headwall.

Location 18 STA 120+00 MP 2.36

Remove existing 120’ long, 60-inch culvert and install a 120’ long, 72 inch Corrugated High Density Polyethylene (HDPE) Pipe or equivalent with an inlet headwall.

Location 19 STA 128+00 MP 2.21

Remove existing 58’ long, 24” corrugated metal pipe (CMP) and install a 60’ long, 24 inch Corrugated High Density Polyethylene (HDPE) Pipe with an inlet headwall.

Location 20 STA 133+00 MP 2.12

Remove existing 60’ long, 18” Concrete pipe and install a 60’ long, 24 inch Corrugated High Density Polyethylene (HDPE) Pipe with an inlet headwall.

Location 21 STA 135+30 MP 2.07

Remove debris at the 36-inch culvert inlet and clean the 112-foot length.

Location 22 STA 141+50 MP 1.96

Remove existing 60’ long, 24” corrugated metal pipe (CMP) and install a 60’ long, 24 inch Corrugated High Density Polyethylene (HDPE) Pipe with an inlet headwall.

Location 23 STA 150+50 MP 1.78

Install a 40’ long, 18” Corrugated High Density Polyethylene (HDPE) Pipe under the private entrance.

Roadway shall be saw-cut prior to any removal or installation of new culvert pipe. The pipe shall be placed on No. 8 Aggregate bedding wrapped with geotextile fabric Class2. The trench below the roadbed shall be backfilled with flowable fill (pH range medium) to existing subgrade. Raise to existing surface with 3-inch lifts of Cl 2 Asphalt Base. All work and materials without a specific bid item shall be incidental to culvert pipe.

After all work is completed, debris from construction shall be completely removed from the job site. All disturbed areas shall be satisfactorily graded and then roughened to prepare the seed bed for the seeding and protection. Re-seed and straw all disturbed areas.

The maintaining and controlling of traffic shall be the responsibility of the Contractor. The Contractor shall furnish, install, and maintain advance construction signs in accordance with the Manual on Uniform Traffic Control Devices, the Department’s Standard Specifications for Road and Bridge Construction and applicable Standard Drawings.

Where it is necessary to maintain one lane of traffic or leave open trenches at night, the Contractor shall strictly adhere to all nighttime traffic control regulations. The project

may be closed to through traffic during working hours. Maintain local traffic and access for the residents. The pipe removal and replacement portion of the project shall be completed in no longer than 14 days.

The installation of pipe shall be in conformance with the requirements of Section 701 of the current Standard Specifications for Road and Bridge Construction as applicable to this project, these "Special Notes", and applicable Standard Drawings.

The Contractor shall remove and dispose of all debris and waste in a manner acceptable to the Engineer and in accordance with the disposal requirements of Section 202.03 of the current Standard Specifications.

The Contractor shall furnish all equipment, materials, labor, including the "Culvert Pipe".

All applicable materials and construction requirements for pipe culverts shall be in conformance with Sections 701 and 612 of the current Standard Specifications, these "Special Notes", and applicable Standard Drawings.

All pipe flow line grades will be established by the Engineer and shall meet existing ditch channel elevations. Positive drainage is required upon completion of the project and shall be the responsibility of the Contractor.

Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department. All utilities shall be mark before construction begins. There may be utility service lines and/or water lines in the pipe removal area.

Information shown on the drawings and in this proposal and the types and quantities of work listed are approximate only and 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 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.

The exact limits of Right-of-Way have not been established by the Department. The Contractor shall limit his activities to obvious Right-of-Way and work areas secured by the Department through Consent and Release of the adjacent property owners and shall be responsible for all encroachments onto private lands.

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

SPECIAL NOTES FOR CULVERT PIPE AND CULVERT PIPE EXTENSIONS

Except as provided herein, perform all work in accordance with the Department's 2012 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 extensions; (3) Embankment; (4) Erosion Control; and (5) 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 Standard Drawings RDI-001-009 and RDI-035-01.

C. Flowable Fill. Use flowable fill for pipe backfill according to Section 601.03.03(B).

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

E. Embankment. Use suitable excavated earth materials, approved by the Engineer, aerated to proper moisture content prior to use. Obtain additional embankment from borrow sites off the Right-of-Way obtained by the Contractor at no additional cost to the Department.

F. Pavement. Use Class 2 Asphalt Base 1.00D PG64-22.

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, and incidental excavation and backfilling; removal of existing pipe, headwalls, and any obstructions or items; restoration of pavements, slopes, and all disturbed areas; final dressing and cleanup; and disposal of materials. Clear and grub only the minimum areas required to perform the other items of work; the Department has not determined the acreage of clearing and grubbing and the bidder must draw his own conclusions. Remove and replace existing fence, if present, the minimum amount required for construction as approved by the Engineer and replace upon completion of construction in like kind materials and design. Perform all site preparation only as approved or directed by the Engineer. Limit staging areas within the right of way to sites permitted by the Engineer.

Immediately prior to completion, clean all listed existing and new culvert pipe and clean ditches as designated by the Engineer. Provide positive drainage of pavement, shoulders, slopes, and ditches at all times during and upon completion of construction.

D. Removing Pipe and Excavation. Remove existing culvert pipe at the approximate locations noted on the summary. The Engineer will determine the actual location at the time of construction. Saw cut the existing asphalt pavement, PCC pavement if present, and base to a neat edge prior to excavation and removal of the existing pipe. Obtain the Engineer's approval of trench width prior to cutting pavement. Excavate trench and remove pipe as directed or approved by the Engineer without disturbing existing underground utilities. Deliver pipe determined by the Engineer to be reusable to the Department's Campbell County Maintenance Facility. Waste excavated materials not suitable for embankment, excess excavation, and unusable removed pipe at approved sites off the Right of Way obtained by the Contractor at no additional cost to the Department (See Special Note for Waste and Borrow).

E. Culvert Pipe. Construct culvert pipe extensions at the locations designated by the Engineer. Obtain the Engineer's approval of final lengths, centerline, flow lines and skew to obtain the best fit of the existing ditches and channels and proposed slopes. Construct pipe bedding according to Section 701 and the applicable Standard or Sepia Drawings. Use approved connecting bands, sleeves, and/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 the pipe with according to Section 701.03.06.

G. Channel Lining. Place channel lining as directed by the Engineer. In addition to the requirements of section 703, additional hand placement may be required.

H. Embankments. After backfilling pipe extensions, construct embankment over pipe and widened shoulder embankments according to Section 206 as shown on the drawings or as directed by the Engineer. Provide positive drainage of slopes and ditches at all times during and upon completion of construction.

I. Pavement Restoration. Construct Asphalt Binder the full depth of existing base and surface. Final surface course will be by others and is not part of this Contract.

J. Guardrail. Guard rail, if required, will be by others and is not part of this Contract.

K. Final Dressing, Clean Up, Seeding and Protection, and Restoration. After all work is completed, remove all waste and debris from the job site (see Special Note for Waste and Borrow). Grade all disturbed areas to blend with the adjacent roadway features and to provide a suitable seed bed. Perform Class A Final dressing on all disturbed areas. Seed and protect all disturbed earthen areas according to the Special Notes for Erosion Control.

L. 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.

M. Disposal of Waste. Dispose of all removed 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 Special Note for Waste and Borrow).

N. 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.

O. Right-of-Way Limits. The Department has not determined exact Right-of-Way limits. Limit work activities and operations to obvious existing Right-of-Way and Permanent Easements, and work areas secured by the Department through consent

and release of the adjacent property owners. Be responsible for encroachments onto private lands. Secure staging areas off the Right-of-Way, if required, at no additional cost to the Department.

P. Utility Clearance. Work around and do not disturb existing utilities. The Department does not anticipate that utilities will require relocation; however, if utility relocation is required, the utility companies will work concurrently with the Contractor while relocating their facilities.

Q. Caution. Consider the information in this proposal, shown on the plans, and the type of work listed herein to be approximate only and not to be taken as an accurate evaluation of the materials and conditions to be encountered during construction; the bidder must draw his own conclusions. The Department does not give any guarantee as to the accuracy of the data and no claim for money or time extension will be considered if the conditions encountered are not in accordance with the information shown.

R. 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 decision shall be final and binding upon the Contractor.

S. Staking. See Special Note for Staking.

IV. METHOD OF MEASUREMENT

The Department will measure only the bid items listed for payment. The Department will consider all other items required to complete the work incidental to the listed items.

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

B. Site Preparation. Other than the bid items listed, the Department will not measure site preparation for separate payment, but shall be incidental to culvert pipe.

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

D. Embankment. Contrary to Sections 205 and 206 the Department will measure embankment as load counts converted to cubic yards for materials deposited and compacted to the plan typical sections.

V. BASIS OF PAYMENT

The department will not make direct payment other than for the bid items listed. The Department will consider payment for all other items required to complete the work incidental to the listed items

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

B. Culvert Pipe. Accept payment at the Contract unit price per linear foot as full compensation for furnishing all labor, materials, equipment and incidentals for Site Preparation, Staking, furnishing and installing new Culvert Pipe, and furnishing and placing Flowable Fill.

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

SPECIAL NOTES FOR SLOPE MOWING
CAMPBELL COUNTY
FD04 019 6335 001-005

All brush and branches shall be cut back from the roadway as far as the slope mower can reach. There are areas with overgrowth on both sides of the roadway and areas that are open. The total estimated slope mowing length for the corridor is 7,500 Linear Feet. The Contractor shall coordinate the mowing of slopes with the Project Engineer and all locations shall be verified and marked with the Engineer prior to any work.

This work will be measured and paid for with the bid item Trim & Remove Trees & Brush by the LF. No additional compensation will be considered

Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department. All

utilities shall be mark before construction begins. There may be utility service lines and/or water lines in the pipe removal area.

Information shown on the drawings and in this proposal and the types and quantities of work listed are approximate only and 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 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.

The exact limits of Right-of-Way have not been established by the Department. The Contractor shall limit his activities to obvious Right-of-Way and work areas secured by the Department through Consent and Release of the adjacent property owners and shall be responsible for all encroachments onto private lands.

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

SPECIAL NOTES FOR
SLIDE REPAIR – SOIL NAIL WALL
CAMPBELL COUNTY
FD04 019 6335 001-005

The following shall be incidental to the bid item "Soil Nail Wall" paid by SF unless a specific bid item is listed.

(5) Site Preparation
(6) Excavation and Tree/Branch removal
(7) Shotcrete
(8) Wire Mesh Surface Treatment
(9) Grout
(10) Geosynthetically Confined Soil (GCS) Wall
(11) Stone Backfill
(12) Horizontal Drains
(13) Sonotubes

The following paragraphs indicate the construction requirements pertaining to this project.

The Contractor shall coordinate the Soil Nail Wall with the Engineer. All locations shall be verified and marked with the Engineer prior to any work.

All work shall be done in accordance with the current Standard Specifications for Road and Bridge Construction except as provided herein and elsewhere in the proposal, these "Special Notes" and applicable Standard Drawings.

The Department will sample and test all materials according to Department's Sampling Manual and the Contractor shall have the 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.

Location 7 STA 47+54 to 50+33 MP 3.71

Install a ten-foot high 279' long Soil Nail Wall on the East of the roadway (Riverside). Install Sonotubes if needed to allow guardrail installation.

Location 8 STA 56+58 to 58+00 MP 3.55

Install a ten-foot high 142' long Soil Nail Wall on the East of the roadway (Riverside). Install Sonotubes if needed to allow guardrail installation.

Location 9 STA 59+00 to 60+80 MP 3.50

Install a ten-foot high 180' long Soil Nail Wall on the East of the roadway (Riverside). Install Sonotubes if needed to allow guardrail installation. Avoid Large culvert underneath the roadway.

Location 9 U STA 59+15 to 59+70 MP 3.51

Install a eight-foot high 55' long Soil Nail Wall on the West side of the roadway (Up-Hill). Install Sonotubes if needed to allow guardrail installation. Avoid Large culvert underneath the roadway.

Location 10 STA 67+00 to 68+00 MP 3.36

Repair and reinforce the existing ten-foot high 100' long Soil Nail Wall on the East of the roadway (Riverside).

Location 11 STA 74+85 to 87+27 MP 3.10

Install a ten-foot high 1242' long Soil Nail Wall on the East of the roadway (Riverside). Install Sonotubes if needed to allow guardrail installation.

Location 12 STA 92+43 to 96+00 MP 2.85

Install a ten-foot high 357’ long Soil Nail Wall on the East of the roadway (Riverside). Install Sonotubes if needed to allow guardrail installation.

Location 12 U STA 96+25 to 99+65 MP 2.78

Clear all trees and brush on the West side of the roadway (Up-Hill). Excavate all loose material from the hillside and establish at least a 2:1 slope. Install soil nails and place wire mesh surface treatment.

Location 13 STA 113+00 to 114+00 MP 2.49

Install a ten-foot high 100’ long Soil Nail Wall on the East of the roadway (Riverside). Install Sonotubes if needed to allow guardrail installation. Avoid Large culvert beneath the roadway.

Location 13 U STA 112+70 to 113+20 MP 2.50

Install an eight-foot high 50’ long Soil Nail Wall on the West side of the roadway (Up-Hill). Install Sonotubes if needed to allow guardrail installation. Avoid Large culvert beneath the roadway.

Location 14 STA 121+50 to 128+00 MP 2.27

Install a ten-foot high 650’ long Soil Nail Wall on the East of the roadway (Riverside). Install Sonotubes if needed to allow guardrail installation.

Location 15 STA 130+35 to 145+90 MP 2.02

Install a ten-foot high 1555’ long Soil Nail Wall on the East of the roadway (Riverside). Install Sonotubes if needed to allow guardrail installation.

See Soil Nail Quantities Sheet for approximate square footage required at each location.

After all work is completed, debris from construction shall be completely removed from the job site. All disturbed areas shall be satisfactorily graded and then roughened to prepare the seed bed for the seeding and protection. Re-seed and straw all disturbed areas.

The Contractor shall remove and dispose of all debris and waste in a manner acceptable to the Engineer and in accordance with the disposal requirements of Section 202.03 of the current Standard Specifications.

The Contractor shall furnish all equipment, materials, labor, including the “Soil Nails”.

Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department. All utilities shall be mark before construction begins. There may be utility service lines and/or water lines in the pipe removal area.

Information shown on the drawings and in this proposal and the types and quantities of work listed are approximate only and 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 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.

The exact limits of Right-of-Way have not been established by the Department. The Contractor shall limit his activities to obvious Right-of-Way and work areas secured by the Department through Consent and Release of the adjacent property owners and shall be responsible for all encroachments onto private lands.

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

SPECIAL NOTE FOR PROFILE MILLING

FD04 019 6335 001-005

The Contractor shall correct existing roadway geometry to the satisfaction of the Engineer with the use of profile milling. As directed by the Engineer, mill certain areas of the project that have dropped due to slides a maximum of four inches prior to placement of asphalt surface. The item **ASPHALT PAVE MILLING & TEXTURING** shall be paid by the ton and shall include all equipment, labor, materials, and overhead necessary to complete the work.

Location 1 STA 9+00 to STA 11+95 MP 4.45
Profile Mill approximately 2 inches of surface – 42 additional Tons

Location 2 STA 16+00 to 19+45 MP 4.30
Profile Mill approximately 4 inches of surface – 146 additional Tons

Location 3 STA 24+00 to 30+00 MP 4.12
Profile Mill approximately 2 inches of surface – 84 additional Tons

Location 4 STA 43+00 to 45+60 MP 3.80
Profile Mill approximately 4 inches of surface – 110 additional Tons

Location 5 STA 47+54 to 50+33 MP 3.71
Profile Mill approximately 2 inches of surface – 39 additional Tons

Location 6 STA 59+00 to 60+80 MP 3.50
Profile Mill approximately 2 inches of surface – 25 additional Tons

Location 7 STA 79+15 to 80+15 MP 3.13
Profile Mill approximately 4 inches of surface – 42 additional Tons

Location 8 STA 92+00 to 99+70 MP 2.82
Profile Mill approximately 2 inches of surface – 108 additional Tons

Location 9 STA 124+00 to 127+80 MP 2.25
Profile Mill approximately 2 inches of surface – 160 additional Tons

SPECIAL NOTES FOR TREE TRIMMING
CAMPBELL COUNTY
FD04 019 6335 001-005

All tree limbs and branches shall be removed above the roadway from edge line to edge line from Tower Hill Road to KY 445. The areas of overgrowth are located on the west side of the roadway from MP 1.77 – 3.60. The total estimated tree trimming length of the corridor is 8,500 Linear Feet. The Contractor shall coordinate the tree trimming with the Project Engineer and all locations shall be verified and marked with the Engineer prior to any work.

All work shall be done in accordance with the current Standard Specifications for Road and Bridge Construction and applicable Standard Drawings.

Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department. All utilities shall be mark before construction begins. There may be utility service lines and/or water lines in the pipe removal area.

Information shown on the drawings and in this proposal and the types and quantities of work listed are approximate only and 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 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.

The exact limits of Right-of-Way have not been established by the Department. The Contractor shall limit his activities to obvious Right-of-Way and work areas secured by the Department through Consent and Release of the adjacent property owners and shall be responsible for all encroachments onto private lands.

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

SPECIAL NOTE FOR STAKING

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

1. Contrary to Section 201.03.01, perform items 1-3 usually performed by the Engineer; and
2. Field survey the existing pavement to establish the existing cross slopes, transitions, and profile. Irregularities in the existing pavement are to be eliminated with the construction of a smooth line and grade of the new pavement to ensure the best rideability possible.
3. Verify intersection and lane profile and alignment and prepare a Drainage Development Worksheet to provide for positive drainage upon completion of construction; and
4. Prior to incorporating into the work, obtain the Engineers approval of all designs and revisions to be provided by the Contractor; and
5. Produce and furnish to the Engineer "As Built" plans; and
6. Perform all other staking operations required to control and construct the work.

SPECIAL NOTES FOR
SLIDE REPAIR – DRILLED RAIL
CAMPBELL COUNTY
FD04 019 6335 001-005

The following shall be incidental to the bid item “Drilled Rail” paid by LF unless a specific bid item is listed.

(14) Rotary Drilling

The following paragraphs indicate the construction requirements pertaining to this project.

The Contractor shall coordinate the drilled rail slide repair with the Engineer. All locations shall be verified and marked with the Engineer prior to any work.

All work shall be done in accordance with the current Standard Specifications for Road and Bridge Construction except as provided herein and elsewhere in the proposal, these "Special Notes" and applicable Standard Drawings.

The Department will sample and test all materials according to Department's Sampling Manual and the Contractor shall have the 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.

Location 1 STA 9+00 to 11+95 MP 4.45

Remove Guardrail and clear out overhanging limbs. Excavate 6' below roadway and install 100 (One Hundred), 20-foot-long rails at 36 inch spacing. Install overlapping cribbing that is bolted together and backfill with No. 2 stone.

Location 2a STA 14+19 to 16+00 MP 4.35

Remove Guardrail and clear out overhanging limbs. Excavate 6' below roadway and install a **double row** of 135 (One Hundred Thirty-Five), 30-foot-long long rails at 32 inch spacing. Install overlapping cribbing that is bolted together and backfill with No. 2 stone.

Location 2b STA 16+00 to 19+45 MP 4.30

Remove Guardrail and excavate 6' below roadway. Install 117 (One Hundred Seventeen), 20-foot-long rails at 36 inch spacing. Install overlapping cribbing that is bolted together and backfill with No. 2 stone.

Location 3 STA 24+00 to 30+00 MP 4.12

Remove Guardrail and clear out overhanging limbs. Excavate 6' below roadway and install 201 (Two Hundred One), 20-foot-long rails at 36 inch spacing. Install overlapping cribbing that is bolted together and backfill with No. 2 stone.

Location 4 STA 30+00 to 30+86 MP 4.06

Remove Guardrail and excavate 6' below roadway. Install 22 (Twenty-Two), 20-foot-long rails at 48 inch spacing. Install overlapping cribbing that is bolted together and backfill with No. 2 stone.

Location 5 STA 33+00 to 38+84 MP 3.95

Remove Guardrail and excavate 6' below roadway. Avoid or remove old timber piles. Install 146 (One Hundred Forty-Six), 20-foot-long rails at 48 inch spacing. Install overlapping cribbing that is bolted together and backfill with No. 2 stone.

Location 6 STA 43+00 to 45+60 MP 3.80

Remove Guardrail, existing channel lining and excavate 6' below roadway. Install 65 (Sixty-Five), 20-foot-long rails at 48 inch spacing. Install overlapping cribbing that is bolted together and backfill with No. 2 stone.

See Drilled Rail Quantities Sheet for approximate materials needed at each location.

After all work is completed, debris from construction shall be completely removed from the job site. All disturbed areas shall be satisfactorily graded and then roughened to prepare the seed bed for the seeding and protection. Re-seed and straw all disturbed areas.

The Contractor shall remove and dispose of all debris and waste in a manner acceptable to the Engineer and in accordance with the disposal requirements of Section 202.03 of the current Standard Specifications and the Special Note for Waste and Borrow, as applicable.

The Contractor shall furnish all equipment, materials, labor, including the "Railroad Steel".

Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department. All utilities shall be mark before construction begins. There may be utility service lines and/or water lines in the pipe removal area.

Information shown on the drawings and in this proposal and the types and quantities of work listed are approximate only and 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 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.

The exact limits of Right-of-Way have not been established by the Department. The Contractor shall limit his activities to obvious Right-of-Way and work areas secured by the Department through Consent and Release of the adjacent property owners and shall be responsible for all encroachments onto private lands.

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

SPECIAL NOTES
SLIDE REPAIR PROJECT

I. DESCRIPTION

This work shall be performed in accordance with the Department's Current Standard Specifications and applicable Special Provisions except as hereafter specified. Article references are to the Standard Specifications.

This work shall consist of: (1) Do necessary excavation; (2) Furnish and install railroad rails; (3) Furnish and install wall cribbing; (4) Excavate, place geotextile material, and backfill the area around the railroad rails and on the fill slope; (5) Reconstruct shoulder area; (6) Install guardrail, as stated in the guardrail special notes; *(*7) Maintain and control traffic; and (8) any other work as specified by this 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. Railroad Rails. Use recycled (used) railroad rails classified with a nominal weight of 130 lb./yd (pounds per yard) size or greater. Use only visibly straight recycled railroad rails with no splices. The Engineer will verify rail nominal weights (Manufacturer’s Stamp with lb./yd, date, etc.). Provide Certification for nominal weight if the Manufacturer’s Stamp is unidentifiable.

B. Wall Cribbing. Use wall cribbing consisting of steel “W“ beam guardrail in sufficient condition, as determined by the Engineer.

C. Backfill material for Drilled Sockets. Use the following for backfill material for Drilled sockets: concrete; free flowing sand; pea gravel, crushed limestone, or crushed sandstone. Use backfill material with one hundred percent

(100%) passing a one-half (1/2) inch sieve. Do not use auger tailings. Engineer will use visual inspection and/or material testing, as applicable to determine acceptability.

D. Fill Material for CRIBBING. Use the following backfill materials: Kentucky Aggregate Gradation No. 2's. Backfill material shall meet requirements of Section 805. The Engineer will use visual inspection and/or material testing, as applicable to determine acceptability.

E. DGA. Furnish Dense Graded Aggregate as per Section 805. Do not use Crushed Stone Base.

F. Final Dressing, Seed and Protection. Use Seed Mixture No. 1.

G. Silt Trap A, B or C. Furnish Silt traps as per Std Drawings and Section 213.

H. Silt Fence. Furnish Temporary Silt Fence as per Section 213 and Section 827.

I. Geotextile Fabric. Furnish Geotextile Fabric Class 2 as per Section 843.

III. CONSTRUCTION METHODS

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

B. Staking. Establish proper slope elevations and ratios, shoulder widths, existing ditch profile and final ditch profile to insure positive drainage. Be responsible for field layout. Positive drainage is required upon completion of the project and is the responsibility of the Contractor.

C. Site Preparation. Prepare slide repair sites. This includes clearing and grubbing, if necessary. Remove all obstructions. Sweep and remove debris, if necessary. The area to be cleared has not been measured by the Department and the bidder must draw his own conclusions. Construct silt checks and Temporary silt fence at locations directed by the engineer. The Engineer shall approve all site preparation. The Department will not make direct payment for site preparation.

D. Installation of Railroad Rails. See attached summary for site locations and estimated quantities of materials required. Contrary to the attached tables and drawings for drilled railroad rails, Install only 1 Row of RR Rails on 3 foot centers unless otherwise shown on the summary or mentioned in these notes. The depth to rock shown on the location summary is approximate.

NOTE TO ENGINEER AND CONTRACTOR: ABSOLUTELY NO CHANGE IN SCOPE OF WORK OR INCREASE IN QUANTITIES WILL BE ALLOWED ON THIS PROJECT WITHOUT PRIOR WRITTEN APPROVAL FROM THE TEBM (Transportation Engineering Branch Manager) FOR OPERATIONS OR HIS REPRESENTATIVE IN THE DISTRICT OFFICE.

THE DEPARTMENT SHALL NOT BE LIABLE FOR PAYMENTS DUE TO ADDITIONAL WORK THAT HAS NOT BEEN AUTHORIZED BY THE AFOREMENTIONED PERSONS.

Install used railroad rail piling in drilled sockets in rock or stable material under the landslides (see figure 1) or the eroded areas (see figure 2) as project location dictates or as directed by the Engineer.

Drill the socket, furnish, and install the railroad rails into holes at slide locations. If the Engineer determines from the sounding obtained at a drilled socket that railroad rail piling cannot be used in that socket, the depth of the socket shall be measured and 50% of the depth shall be paid as "Railroad Rail-Drilled". Drill sockets into solid rock, if possible. The Department will monitor each hole, which will serve as a sounding for the rail to be installed in it. Embed the railroad rail into solid rock no less than one-half the free end length of the rail. (See figure 1 and figure 2). If solid rock cannot be obtained, the Engineer will determine the length of embedment required in other stable foundation. Allow adequate size of the drilled socket to allow free insertion of the railroad rail, but the maximum socket size is 1 foot in diameter.

After each hole is drilled, install railroad rail immediately with the flanges positioned perpendicular to the direction of the landslide or break (see figure 3). Determine the height of rail that is needed to reestablish pavement and shoulder typical section. Cut off excess rail flush with the proposed ground line that is not needed. Use cutoffs elsewhere in the project if possible; unusable cutoffs remain the property of the Contractor.

After railroad rail is installed, immediately backfill the drilled hole with the approved materials. Shovel the backfill material into the hole in small amounts. Avoid bridging between the rail and the sides of the hole. Do not use Auger tailings as backfill material.

When double or triple rows are required, stagger the rows to obtain the required spacing. Keep the spacing between the rows of rails as close as is practical; do not space between the rows of more than 2 feet, if possible. See figure 3 (Case II and Case III) for the diagrams showing two (2) or three (3) rows of rails. Select the spacing as per Table 1 for all 130 pound per yard rail or greater. The Department shall approve the selection prior to work being performed.

Crib any exposed portion of railroad rail before placing backfill.

E. ***Excavation and Backfill for Embankment Repair.*** Excavate each embankment repair area to provide a platform for drilling the used railroad rails, if necessary. Excavate for roadway ditches as necessary for slope, shoulder and pavement drainage. Place geotextile fabric, then construct embankment behind railroad rails, cribbing and on slope, as per Section 206. Construct embankment up to the approximate existing pavement elevation.

Reconstruct the shoulder area with DGA up to the approximate existing elevation and width of the surrounding typical section or to a minimum width of 2 Feet at each slide location. Do not pond water on the shoulder area or at the shoulder edge. Reconstruct the shoulder before installing guardrail. Asphalt paving will not be part of the contract. If necessary, asphalt paving will be done by state forces at a later date.

DO NOT USE EXCAVATED MATERIAL FROM THE SITE AS FILL MATERIAL. Excess excavation may be wasted at sites on the right-of-way, ONLY if approved by the Engineer. Material may NOT be wasted in flood prone areas or in streams.

If the Engineer deems no suitable sites are available within the right-of-way, the Contractor will be required to waste excess material off the right-of-way at sites obtained by the Contractor at no cost to the Department.

F. **Installation of Wall Cribbing**. Install Cribbing as shown on Figure 1 or Figure 2 as slide location dictates or as directed by the Engineer. Extend wall cribbing 2 feet below the existing ground line. If bedded rock is encountered, install the cribbing to the bedded rock only. If necessary, the Engineer will direct changes to this procedure. Furnish all labor and equipment to deliver and install wall cribbing on the recycled (used) railroad rail piling. Wall cribbing shall be lapped, bolted, and attached solid to the drilled railroad rails.

G. **Final Dressing, Seeding and Protection**. Apply Final Dressing; Class A to all disturbed areas, both on and off the right-of-way. Sow with Seed Mixture No. 1. The Department will NOT make direct payment for final dressing, or seeding and protection.

H. **On-Site Inspection.** Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize themselves with the existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made.

I. **Right-of-Way Limits.** Right-of-Way and easement limits shown on the plans are approximate only. The Contractor shall make every effort to limit his

activities to obvious right-of-way and permanent or temporary easements and shall be responsible for encroachments onto private lands.

J. Property Damage. The Contractor will be responsible for all damage to public and/or private property resulting from his work.

IV. METHOD OF MEASUREMENT

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

B. Railroad Rail-Drilled. The Department will measure this item in Linear Feet finished in-place length: Laps, cutoffs, excess and waste will not be measured for payment. If the Engineer determines from the sounding obtained at a drilled socket that railroad rail piling cannot be used in that socket, the depth of the socket shall be measured and 50% of the depth shall be paid as “Railroad Rail-Drilled”.

C. Wall Cribbing The Department will measure this item in square feet finished in-place area. Laps, cutoffs, excess and waste will not be measured for payment.

D. Excavation and Backfill. The Department will measure this item in cubic yards. The Department will measure the quantity in the field as per Section 204 (Roadway Excavation) or other accepted methods of measurement as directed by the Engineer. The following items will not be measured directly by the Department: Site Preparation, Clearing and Grubbing, Seeding and Protection, Final Dressing, Temporary Erosion Control, Temporary Pollution Control, Waste removal, and Disposal, but will be incidental to "Excavation and Backfill" as applicable to each project.

E. Site Preparation, Clearing and Grubbing, Seeding and Protection, Fertilizer, Temporary Erosion Control, Temporary Pollution Control, Waste Disposal. The Department will NOT MEASURE for payment these items. They include Site Preparation, Clearing and Grubbing, Seeding and Protection, Final Dressing, Temporary Erosion Control, Temporary Pollution Control, Waste Disposal, and other items not expressly bid as individual items. These items shall be incidental to the bid item “Excavation and Backfill” as applicable to each project.

V. BASIS OF PAYMENT

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

B. Railroad Rail-Drilled. The Department will pay for the completed and accepted quantities under the bid item of "Railroad Rail-Drilled". The Department will consider payment full compensation for all work required in these notes and elsewhere in the Contract.

C. Excavation and Backfill. The Department will pay for the completed and accepted quantities under the bid item: Excavation and Backfill. Payment will be based on quantity measured in the field. The Department will consider payment full compensation for all work required on the project. The following items are incidental to "Excavation and Backfill" and will not be measured directly by the Department. These items include Site Preparation, Clearing and Grubbing, Seeding and Protection, Final Dressing, Temporary Erosion Control, Temporary Pollution Control, Waste removal and Disposal.

D. Wall Cribbing. The Department will pay for the completed and accepted quantities under the bid item of "Wall Cribbing". Payment will be based on the quantity installed in the field. The Department will not make separate payment for the hauling of the wall cribbing to the slide site. The Department will consider payment full compensation for all work required on the project.

E. Site Preparation, Clearing and Grubbing, Seeding and Protection, Fertilizer, Temporary Erosion Control, Temporary Pollution Control, Waste Disposal. The Department will NOT make direct payment for operations for which bid items do not exist. They include items listed here: Site Preparation, Clearing and Grubbing, Seeding and Protection, Final Dressing, Temporary Erosion Control, Temporary Pollution Control, Waste removal and Disposal. These activities shall be incidental to the bid item "Excavation and Backfill" as applicable to each project.

Soil Nail Wall Requirements

Except as provided herein, conform to all requirements of the Transportation Cabinet/Department of Highways' 2019 Standard Specifications for Road and Bridge Construction. Section references are to the Standard Specifications. Using deformed bar will not be acceptable.

The Standard Specifications can be found at:

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

Soil Nails

Soil nails may be drilled, launched, or permanently cased in accordance with the specifications. Vendor shall have supervisors with a minimum of 5 years' experience with soil nail projects and a Professional Engineer with 5 years' experience in slope stabilization using soil nails. The professional engineer may be a third-party employee. Vendor must provide documentation meeting this qualification with the bid package. Vendor must have at least one supervisor per job site.

Drilled Soil Nails

Furnish Titan brand or equivalent Soil Nails that are self-drilling, self-grouting and hollow of 75 KSI (min.) steel that is nominally 1.5 inches in outside diameter. Install neat cement grout within 24 hours of the nail being drilled or sooner depending upon conditions so that the inside and outside of the Soil Nail is completely encased.

Furnish self-drilling, self-grouting hollow nails, equipment and incidentals necessary to complete the work. The individual Soil Nails must drill the hole and remain in the hole once drilling is complete. Grout each soil nail during the installation.

Launched Soil Nails

Furnish Soil Nails that are hollow steel tubes with a galvanized outer surface. The Nails will have a wall thickness of 0.120 inches and an outer diameter of 1.5 inches, and up to 25 feet in length. The strength of the Nails shall be 36 ksi. Do not reuse excess cutoffs from previously driven nails.

Furnish Soil Nails, equipment and incidentals necessary to complete the work. Insert Launched Soil Nails with a single stroke at initial velocities in excess of 200 miles per hour. Inserted length and spacing will be determined by the Engineer at the time of construction. Do not leave more than 4' of Soil Nail exposed after driving unless approved by the Engineer. Cut off the exposed portion of installed nails flush with ground level or as directed by the Engineer. Dispose of the cut-off portions of the soil nails off the right of way at

sites obtained by the Contractor at no additional cost to the Department; do not reuse remaining lengths from cut nails for Soil Nails. If required, lagging and backfill will be provided by the Cabinet.

Permanently Cased Soil Nails

Contractor must furnish permanently cased soil nails that are a three stage construction including installation of:

An outer tube (minimum 1.5 inch outside diameter, minimum 0.120 inch wall thickness hot-dipped, galvanized steel tube that is mechanically deformed, threaded, or specially galvanized through a drossing process to produce a plurality of superficial asperities). When applicable, provide perforated tubes that can be pressure grouted.

Neat cement grout in accordance with KYTC Standard Specifications that completely fills the outer tube. A threaded #6 (or larger) inner bar in accordance with KYTC Standard Specifications, epoxy coated to a minimum of 0.016 inches in accordance with ASTM A775.

Geosynthetically Confined Soil (GCS) Wall
GCS wall may be used in conjunction with Soil Nails and/or Shotcrete to create a wider platform or to construct a small box or abutment wall. This wall shall consist of a standard, split faced concrete masonry unit, roadbase backfill, and a woven polypropylene geosynthetic fabric placed between each block. The geotextile shall have a minimum wide strip tensile capacity of 2400 pounds per foot. Final design of the GCS feature will be determined in the field.

GCS wall will be constructed to lines and grades determined by the Engineer. CMU blocks shall meet or exceed the requirements of ASTM C-90 and have a minimum net compressive strength of 1900 psi. The block shall be new, sound, and free of cracks and other defects.

Geosynthetically Confined Soil (GCS) Wall Backfill

Backfill may be provided by the Department or, when specified in the delivery order, provided by the Vendor. Whether provided by the Department or by the Vendor, it shall be the vendor's responsibility to place and compact the material in accordance with the design of the GCS wall. This work shall be incidental to GCS Wall.

Backfill shall be crushed aggregate road base with maximum particle size of 2" and with a Plastic Index (PI) below 10. Compaction should be 95% of AASHTO T-180. Vendor is responsible for providing material, including delivery to the site.

Wire Mesh Surface Treatment

Surface Treatment may be galvanized wire mesh attached to the Nails with 8" x 8" x 3/8" steel plates.

Shotcrete

Furnish shotcrete complying with the requirements of ACI 506.2, "Specifications for Materials, Proportioning and Application of Shotcrete", except as otherwise specified. Shotcreting consists applying of one or more layers of concrete conveyed through a hose pneumatically projected at a high velocity against a prepared surface.
Produce shotcrete by either a wet-mix or a dry-mix process. The wet-mix process consists of thoroughly mixing all the ingredients except accelerating admixtures, but including the mixing water, introducing the mixture into the delivery equipment and delivering it, by positive displacement, to the nozzle. Air jet the wet-mix shotcrete from the nozzle at high velocity onto the surface. The dry-mix process consists
of producing shotcrete by delivering the dry ingredients conveyed pneumatically with the mixing water introduced at the nozzle. For additional descriptive information, refer to the American Concrete Institute ACI 506R "Guide to Shotcrete."

Use materials for shotcrete conforming to the following requirements:

Cement - AASHTO M85/ ASTM C150, Type I, II, III or V.

Fine Aggregate- AASHTO M6/ASTM C33 clean, natural.

Coarse Aggregate- AASHTO M80, Class B for quality

Water- Clean and Potable. AASHTO M157/ASTM C94

Chemical Admixtures

Accelerator- Fluid type, applied at nozzle, meeting requirements of AASHTO M194/ASTM C494/ASTM C1141.

Water-reducer and Superplastisizer- AASHTO M194/ASTM C494 Type A, C, D, E, F, or G
Retarders- AASHTO M194/ ASTM C494 Type B or D

Mineral Admixtures

Fly Ash- AASHTO M295/ASTM C618 Type F or C, cement replacement up to 35 percent by weight of cement

Silica Fume- ASTM C1240, 90 percent minimum silicon dioxide solids content, not to exceed 12 percent by weight of cement.

Welded Wire Fabric- AASHTO M55/ASTM A185 or A497

Prepackaged Shotcrete- ASTM C928

Deliver, store, and handle materials to prevent contamination, segregation, corrosion or damage. Store liquid admixtures to prevent evaporation and freezing.

Obtain Engineer's approval for the proposed mix design and method of placement prior to beginning shotcrete placement.

Use aggregate for shotcrete meeting the strength and durability requirements of AASHTO M6/M80, as applicable, and the following gradation requirements:

Sieve Size	Percent Passing by Weight
½"	100
3/8"	90-100
No. 4	70-85
No. 8	50-70
No. 16	35-55
No. 30	20-35
No. 50	8-20
No. 100	2-10

Proportion the shotcrete to be pumpable with the concrete pump furnished for the work, with a cementing materials content of at least 24.3 pounds per cubic foot and water/cement ratio not greater than 0.50. Do not use admixtures unless approved by the Engineer. Thoroughly mix admixtures into the shotcrete at the rate specified by the manufacturer. Use only accelerators compatible with the cement used, non-corrosive to steel, and not promoting other detrimental effects such as cracking or excessive shrinkage. The maximum allowable chloride ion content of all ingredients is 0.10% when tested to AASHTO T260.

Air entrainment is not required for temporary shotcrete construction facings.

Provide shotcrete with a design compressive strength of 2000 psi in 3 days and 4000 psi in 28 days.

Batch aggregate and cement by weight or by volume in accordance with the requirements of ASTM C94 or AASHTO M241/ASTM C685. Use mixing equipment that thoroughly blends the materials in sufficient quantity to maintain placing continuity. Produce ready mix shotcrete complying with AASHTO M157.
Batch, deliver, and place shotcrete within 90 minutes of mixing. The use of retarding admixtures may extend application time beyond 90 minutes if approved by the Engineer.

Premixed and packaged shotcrete mix may be provided for on-site mixing. Use packages containing materials conforming to the Materials section of this Appendix. Placing time limit after mixing is per the manufacturers' recommendations.

Use 4-inch diameter PVC Drain Pipes, ASTM 1785 Schedule 40 PVC, solid and perforated wall, cell classification 12454-B or12354-C, wall thickness SDR 35, with solvent weld or elastomeric gasket joints.

Construct shotcrete with a thickness of 4", 6", 8", 10", or 12" with welded-wire fabric 2" from the surface. At least 14 calendar days before the planned start of shotcrete placement, submit the following information, in writing, to the Engineer for review:

Written documentation of the nozzlemen's qualifications. Resubmit at any subsequent time for new or additional nozzlemen.

Proposed methods of shotcrete placement and of controlling and maintaining facing alignment and location and shotcrete thickness.

Shotcrete mix design performed by a Certified ACI Level II Technician including:

Type of Portland cement.

Aggregate source and gradation.

Proportions of mix by weight and water-cement ratio.

Proposed admixtures, manufacturer, dosage, technical literature.

Previous strength test results for the proposed shotcrete mix completed within one year of the start of shotcreting may be submitted for initial verification of the required compressive strengths at start of production work.

The Engineer will accept or reject the Contractor's submittals within 10 calendar days after receipt of a complete submission. Do not begin shotcrete construction or incorporate materials into the work until the submittal requirements are satisfied and accepted by the Engineer. Re-submit changes or deviations from the accepted submittals. No adjustments in contract time will be allowed due to incomplete submittals.

Ensure the minimum thickness of shotcrete using shooting wires, thickness control pins, or other devices acceptable to the Engineer. Install thickness control devices normal to the surface such that they protrude the required shotcrete thickness outside the surface. Ensure that the front face of the shotcrete does not extend beyond the limits established by the Engineer.

Clean the face of the excavation and other surfaces to be shotcreted of loose materials, mud, rebound, overspray or other foreign matter that could prevent or reduce shotcrete bond. Protect adjacent surfaces from overspray during shooting. Avoid loosening, cracking, or shattering the ground during excavation and cleaning. Remove any surface material that is so loosened or damaged, to a sufficient depth to provide a base that is suitable to receive the shotcrete. Remove material that loosens as the shotcrete is applied. The cost of additional shotcrete is incidental to the work. Divert water flow and remove standing water so that

shotcrete placement will not be detrimentally affected by standing water. Do not place shotcrete on frozen surfaces.

Maintain a clean, dry, oil-free supply of compressed air sufficient for maintaining adequate nozzle velocity at all times. Use equipment capable of delivering the premixed material accurately, uniformly, and continuously through the delivery hose. Control shotcrete application thickness, nozzle technique, air pressure, and rate of shotcrete placement to prevent sagging or sloughing of freshly-applied shotcrete.

At the discretion of the Engineer, begin shotcrete production work only upon initial approval of the design mix and nozzlemen's qualifications and continue if the specified strengths are obtained. Suspend the shotcrete work if the test results of the work do not satisfy the strength requirements and change all or some of the following: the mix, the crew, the equipment, or the procedures. Before resuming work, submit additional test panels using the new crew, materials and/or methods that demonstrate to the satisfaction of the Engineer that the shotcrete in the panels satisfies the specified strength requirements. Provide all work required to obtain satisfactory strength tests at no additional cost to the Department.

Apply the shotcrete from the lower part of the area upward to prevent accumulation of rebound. Orient nozzle at a distance and approximately perpendicular to the working face so that rebound will be minimal and compaction will be maximized. Pay special attention to encapsulating reinforcement. Do not work rebound back into the construction. Where shotcrete is used to complete the top ungrouted zone of the nail drill hole near the face, position the nozzle into the mouth of the drill hole to completely fill the void.

A clearly defined pattern of continuous horizontal or vertical ridges or depressions at the reinforcing elements after they are covered with shotcrete will be considered an indication of insufficient reinforcement cover or poor nozzle techniques. In this case immediately suspend the application of shotcrete and implement corrective measures before resuming the shotcrete operations. Correct the shotcreting procedure by adjusting the nozzle distance and orientation, by insuring adequate cover over the reinforcement, by adjusting the water content of the shotcrete mix or other means. Adjustment in water content of wet-mix outside of the design range will require requalifying the shotcrete mix.

Repair shotcrete surface defects as soon as possible after placement. Remove and replace shotcrete that exhibits segregation, honeycombing, lamination, voids, or sand pockets. In-place shotcrete not meeting the specified strength requirement will be subject to remediation. Possible remediation options include placement of additional shotcrete thickness or removal and replacement, at no additional cost to the Department.

Taper construction joints uniformly toward the excavation face over a minimum distance equal to the thickness of the shotcrete layer. Provide a minimum reinforcement overlap at reinforcement splice joints as shown in the Construction Plans. Clean and wet the surface of a joint before adjacent shotcrete is applied. Where shotcrete is used to complete the top ungrouted zone of the nail drill hole near the face, to the maximum extent practical, clean and dampen the upper grout surface to receive shotcrete, similar to a construction joint.

Use either an undisturbed gun finish as applied from the nozzle or a rough screeded finish. Remove shotcrete extending into the CIP finish face section beyond the tolerances specified herein.

Do not place shotcrete if the ambient air or ground temperature is below 40 degrees Fahrenheit unless cold weather protection is provided and approved by the Engineer. Maintain cold weather protection if the temperature after place is below 40 degrees Fahrenheit until the in-place compressive strength of the shotcrete is greater than 725 psi. Cold weather protection includes blankets, heating under tents, or other means acceptable to the Engineer. Do not place shotcrete mix at a temperature less than 50 degrees Fahrenheit or more than 90 degrees Fahrenheit.

Suspend shotcrete application during high winds and heavy rains unless suitable protective covers, enclosures or wind breaks are installed. Remove and replace newly placed shotcrete exposed to rain that washes out cement or otherwise makes the shotcrete unacceptable. Provide a polyethylene film or equivalent to protect the work from exposure to adverse weather.

The Contractor shall be responsible for meeting all federal, state, and local safety code requirements.

Drainage

In order to drain water from behind the shotcrete facing, provide geocomposite drain strips daylighting below the construction facing or weepholes through the construction facing to drain water from behind shotcrete facing. Cover the end of the pipe contacting the soil with a drainage geotextile fabric. Prevent shotcrete intrusion into the discharge end of the pipe. Use 4 inch diameter PVC Drain Pipes, ASTM 1785 Schedule 40 PVC, solid and perforated wall, cell classification 12454-B or 12354-C, wall thickness SDR 35, with solvent weld or elastomeric gasket joints as needed to promote drainage. The Engineer will determine locations and quantity of weepholes at the time of construction.

Lightweight Backfill

When necessary for shoulder build-up, the vendor shall provide cellular concrete, flowable fill, or other approved alternative to be used as a lightweight backfill material.

Excavation

The Department will measure Excavation by the square foot, based on the linear feet of roadway being excavated and the vertical depth of the slope, as measured from the pavement elevation. The vendor shall be responsible for disposing the excavated material off of State right of way. Payment at the Contract unit price per square foot shall be full compensation for all labor, materials, equipment, and incidentals to excavate the necessary materials to make repairs.

Mobilization

Perform all work and operations necessary to move personnel, equipment, supplies, and incidentals to and from the project site; to establish and remove all offices, buildings, and other facilities that were
necessary for performing the work; to accomplish Final Cleaning-Up as specified in Section 104.05; and to accomplish all other work or operations that must be performed, including costs that must be incurred, to begin work on the project and after acceptable completion of construction operations on the project.

Concrete Class

Perform mixing concrete, placing concrete, construction joints, falsework, forming, camber, removal of falsework and forms, opening to traffic, joints, curing concrete, and surface finish in general accordance with Section 601 of the current KYTC Standard Specifications for Highway Construction.
Sampling and Testing

Acceptance of the Soil Nails will be by Manufacturer’s and/or Vendor’s certification to the Engineer stating the material composition conforms to these notes and visual inspection of the in-place nails by the Engineer. The Department reserves the right to test Soil Nails.

Acceptance of shotcrete will be by visual inspection by the Engineer of the work, preconstruction test panels (for nozzlemen without previous ACI certification), and production test panels from the wall facing, if required. When required, perform shotcreting

of test panels using qualified personnel in the presence of the Engineer. Furnish at least one production test panel during the first production application of shotcrete. Construct the production test panels simultaneously with the shotcrete facing installation at times designated by the Engineer. Make production test panels with minimum dimensions of 18”x18” square and at least 4” thick.

Materials found not in compliance with the requirements of this Contract may be rejected, removed and replaced at the Vendor’s expense, or accepted at a reduction in Contract price determined by the Engineer.

Drilled Horizontal Drains

Horizontal drains consist of 1.5-inch diameter (or larger) slotted schedule 80 (or thicker) polyvinyl chloride (PVC) plastic pipe conforming to the requirements of ASTM Designation: D 1785. These pipes are inserted into drilled holes to reduce water pressures within slide masses.
Pipe Slots/Perforations: Slotted pipe shall have two (2) rows of slots. The rows shall be in the longitudinal direction of the pipe and the slots shall be cut in the circumferential direction of the pipe. The rows shall be centered on two (2) of the third points (120 degrees apart) of the pipe circumference. Each row of slots shall conform to one of the following configurations. Slots shall be spaced uniformly along the pipe. The minimum opening will be measured on the inner surface of the pipe.

Number of Slots (F0B13) Per Meter (3.0 feet)	millimeters (inches)	Width of Slot Minimum Opening Per Meter Square Millimeters (in2)
72	1.27 (0.05)	2110 (3.27)
75	0.51 (0.02)	975 (1.50)
151	0.25 (0.01)	975 (1.50)

Perforated pipe shall have three (3) rows of perforations with one row on each side of the pipe and the third row in the top. Fittings for the PVC plastic pipe shall be Schedule 80 Type II PVC solvent weld type fittings conforming to the requirements in ASTM Designation: D 2467. Machined male and female ends may be used in lieu of couplings. Unslotted or unperforated PVC plastic pipe, between 5 ft to 20 ft length, shall be provided at the outlet of the drain.

This work shall consist of installing drilled horizontal drains to reduce underground water pressure. The horizontal holes shall be drilled with rotary equipment capable of drilling 3 to

6-inch diameter holes through soil and rock formations. Plastic pipe shall be installed by pushing the pipe into an open hole.

The Department will measure horizontal drains in linear feet. Payment at the contract unit price shall be full compensation for all labor, equipment, and materials to install horizontal drains at the dimensions specified in the approved drawings and plans.

Dewatering
Vendor shall provide dewatering using temporary sandbags or other approved materials or methods and a pump of sufficient capacity to remove water around the base of the abutment or other work areas in order to provide a dry work area necessary to perform work activities. Depth of water shall be less than 3- ft.
The Department will measure Dewatering by the number of days dewatering measures are in place.
Compaction Grouting – Casing Installation
Furnish and install flush-joint steel casing with minimum inside diameter of 2 inches in the pattern and depth shown in the plans. The steel casing shall have adequate strength to maintain the hole and to withstand the required jacking and pumping pressures. Casing shall be drilled
or driven into the soil to the bottom of the treatment zone. The drilling or driving equipment shall be capable of installing the casing to be used. The drilling method (if used) shall be capable of
simultaneously drilling the hole and advancing the casing to prevent collapsing of the hole. The drilling equipment shall be capable of drilling through existing foundations, rubble, reinforced slabs, asphalt pavement and subsurface materials. When necessary, push down or drill out injection casing to a minimum of 2” below the pavement surface and install a rapid set, non- shrink patching material into the drilled-out hole. Strike patches flush with the surface of the surrounding pavement.

The riser elbow shall have a minimum 1-foot radius curve to minimize the potential for grout blockage.

Drill injection holes in the pattern and depth shown in the plans. Install casing to the prescribed depths as shown in the plans.

The Department will measure Casing Installation in linear feet. Payment at the Contract unit price per linear foot shall be full compensation for all labor, materials, equipment, drilling, and incidentals to furnish and install casing for compaction grouting.
Cementitious Grout

Furnish and install cementitious grout which shall consist of a combination of Portland cement, fine aggregates, and water. Fly ash and/or clays may also be added if approved by the Engineer.
The grout mix when used for compaction grouting or low mobility grouting shall have a slump of less than 3 inches when tested in accordance with AASHTO Tl19 (ASTM C143). The unconfined compressive strength of the compaction grout mix shall be a minimum of 150 psi at
28 days when measured in accordance with AASHTO T22 (ASTMC39). Control the stabilization of the foundation soils by regulating the rate of injection of the material. Continuously monitor for movement of the pavement.
Foundations soils are sufficiently stabilized when movement of the pavement is detected. Injection may continue into the soils as needed to lift the pavement to grade, returning the pavement system to original construction, pavement on top of base on top of a stiffened subbase or subgrade. If no vertical movement has occurred, the KYTC may direct the Contractor to cease pumping.
Site conditions shall determine the proportions of cement, water, soil, and optional fly ash. The grout mix shall generally consist of sands and fines with up to 15% cement by weight and water to form a very stiff mortar-like mixture. If the grout is batched on-site, bentonite may be added at a maximum rate of 5% by weight of cementitious materials. If suitable local aggregate material is not available, another clay of medium to high plasticity shall be used.
The grout mix when used for filling of voids from the surface shall have a maximum slump of 10 inches or as determined by project specific requirements when tested in accordance with AASHTO Tl19 (ASTM C143). The unconfined compressive strength of the void fill shall be a minimum of 100 psi at 28 days when measured in accordance with AASHTO T22 (ASTMC39).
Ready-mixed compaction grout may be substituted for on-site batched grout. The fines content of the aggregate in the grout shall be replaced in ready-mixed grout with the addition of fly ash.
The Department will measure Cementitious Grout in cubic feet. Payment at the Contract unit price per cubic foot shall be full compensation for all labor, materials, equipment, and incidentals
to furnish and place cementitious grout including but not limited to any finish work to cap drill holes.

Rock Scaling
Scaling the existing slopes to a safe, stable condition by removing loose spalls and rocks not firmly keyed into the slopes. The Contractor will be required to scale the existing slopes within the limits shown on the plans and as determined by the State.

Scaling is the removal of loose and unstable rock and debris from an existing cut slope by using manual devices such as pry-bars, removal by hand, as well as the use of hydraulic, pneumatic or other jacks, expansive grout or materials, hydraulic hammers and mechanical means using metal bars, “slushers” and “dozer tracks” which are drug across the face of a cut slope

The rock slopes shall be thoroughly scaled by manual and/or mechanical means with a crew size of 3 scaling laborers. If mechanical means prove insufficient and if directed by KYTC, the slopes shall be traversed by laborers using hand tools to ensure that all potentially hazardous protrusions have been successfully removed to the satisfaction of the State. If any "Key Blocks" are encountered they shall be brought to the attention of the State before proceeding with removal. "Key Blocks" are those blocks that are holding much larger or blocks or combination of blocks in place and the removal of them would induce a much larger failure.
The Department will measure Scaling in days per 3-man crew. Time on site of 0-4 hours will be billed for a half day, while 4 - 8 hours will be billed for a full day. Payment at the Contract unit price per day shall be full compensation for all labor, materials, equipment, and incidentals necessary to perform scaling activities.

Test Drilling

Contractor shall perform test drilling to determine depth to competent bedrock. The contractor must be able to drill vertical holes up to 50-ft in depth and shall provide equipment capable of drilling on the downhill side of existing guardrail up to 5-feet off the edge of pavement. If KYTC chooses to provide assistance with traffic control, flagging operations should be available for 10 hour shifts. As part of the operation, Contractor will provide sounding logs for each hole drilled with the following information:

Station and Offset from Centerline
Date Drilled
GPS Coordinate
Depth to Competent Rock
General Soil Classification of Cuttings

Rock will be considered competent when observed rock cuttings and/or reduced penetration rate is encountered. To reduce the chance of floating boulders leading to false rock depths, drilling shall continue for a minimum of 3-feet once the criteria for competent rock is encountered.
The department will measure rock soundings in linear feet (LF) drilled. Payment at the contract unit price shall be full compensation for all labor, materials, and equipment necessary to complete the test drilling. A minimum of four (4) test holes per site shall be drilled. The department shall pay a minimum of 100 LF per site even if rock is encountered shallow and actual LF drilled is less than 100 LF. Additionally, the contractor shall be allowed, when necessary and able, to postpone drilling of sites for a duration agreed upon with the department in order to group multiple sites together.

Test Drilling Mobilization

Perform all work and operations necessary to move personnel, equipment, supplies, and incidentals from site to site within a defined county. The contractor shall provide a map detailing test sites and planned routes in the cost proposal provided to the department prior to mobilizing to the county.

The department will measure Test Drilling Mobilization per Mile. This item will be billed in addition to the standard lump sum mobilization. Payment at the contract unit price per mile shall be full compensation for all labor, equipment, and incidentals to move from site to site once in a given county.

Equipment

The Vendor must be capable of providing equipment necessary to perform multiple projects simultaneously. Equipment used for soil nails must be capable of installing soil nails up to 80 feet in length and six inches in diameter. The vendor must be capable of providing equipment that can perform the work operations from the roadway, if necessary, while maintaining one lane of traffic. Equipment shall have a minimum reach of 15 feet for work above and below the roadway elevation.

All equipment must be new or like new and current model(s). The Commonwealth recognizes the rapid advancement of technology. If the vendor can provide new equipment of advanced technology after the award of the contract, the Commonwealth and the bidder may choose by mutual agreement to install such equipment. The price of the new technology equipment cannot exceed the cost of the award contract.

Warranty

Vendor must warranty the roadway platform stability on each project for five (5) years and will make any necessary repairs at no cost to the Cabinet.

SPECIAL PROVISION FOR WASTE AND BORROW SITES

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

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

SPECIAL NOTE FOR PAVEMENT WEDGE AND SHOULDER MONOLITHIC OPERATION

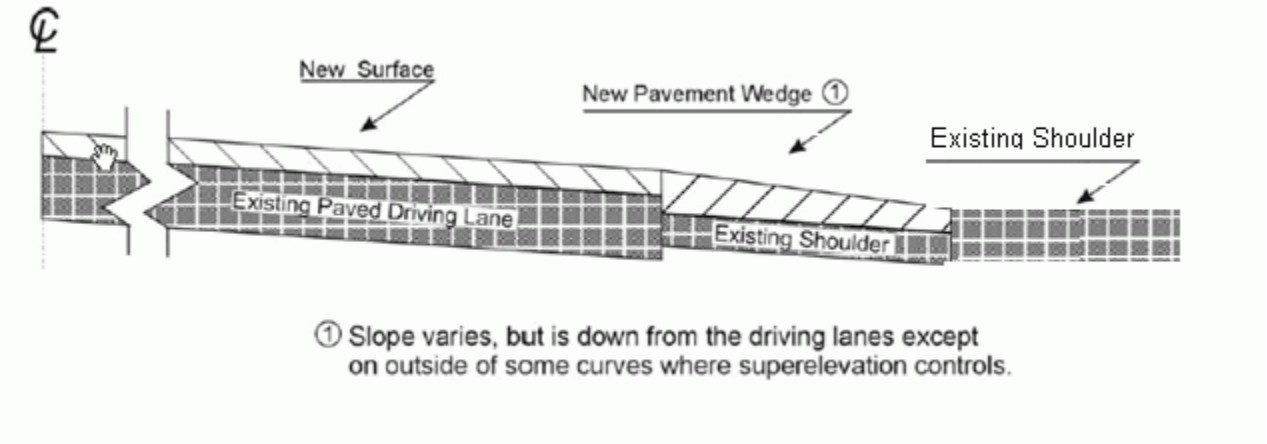
1.0 MATERIALS. Provide an Asphalt Surface Mixture conforming to Section 403 of the Standard Specifications, as applicable to the project, for the pavement wedge.

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

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

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

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



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

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

SPECIAL NOTE FOR SHOULDER PREPARATION

Grade, shape, and compact shoulder as shown on the typical section and as directed by the Engineer to provide proper template and foundation for the shoulder resurfacing. The Department will not measure grading, shaping, and compacting shoulders for separate payment, but shall be incidental to the asphalt base and/or surface placed on the shoulder.

1-3245 Shoulder Preparation Contractor
01/02/2012

SPECIAL NOTES FOR GUARDRAIL

I. DESCRIPTION

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

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

(1) Site preparation; (2) Remove existing guardrail systems; (3) Construct Guardrail, End Treatments, Bridge End Connectors, and Terminal Sections, as applicable; (4) Delineators for guardrail; (5) Maintain and control traffic; and (6) all other work specified as part of this contract.

II. MATERIALS

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

A Maintain and Control Traffic. See Traffic Control Plan.

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

C. Delineators for Guardrail. Delineators for Guardrail. Furnish Delineators for Guardrail according to the Sepia Drawings.

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

III. CONSTRUCTION METHODS

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

B. Site Preparation. Remove existing guardrail system including the guardrail end treatments, Bridge End connectors and all other elements of the existing guardrail system according to Section 719, except that the Contractor will take possession of all concrete posts and all concrete associated with existing bridge and/or guardrail end treatments. Locate all disposal areas off the Right of Way at sites obtained by the Contractor at no additional cost to the Department. Be responsible for all site preparation, including but not limited to, clearing and grubbing, excavation, embankment, and removal of all obstructions or any other items; regrading, reshaping, adding and compacting of suitable materials on the

existing shoulders to provide proper template or foundation for the guardrail; filling voids left as the result of removing existing guardrail and guard posts with dry sand; temporary pollution and erosion control; disposal, of excess and waste materials and debris; and final dressing, cleanup, and seeding and protection. Perform all site preparation as approved or directed by the Engineer.

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

Erect guardrail to the lines and grades shown on current Standard and Sepia Drawings or as directed by the Engineer by any method approved by the Engineer which allows construction of the guardrail to the true grade without apparent sags. Support cantilevered terminal sections with an additional post.

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

D. Delineators for Guardrail. Install delineators for guardrail according to the Standard and Sepia Drawings.

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

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

G. Right of Way Limits. The Department has not established exact limits of the Right-of-Way. Limit work activities to obvious Right-of-Way, permanent or temporary easements,

and work areas secured by the Department through consent and release of the adjacent property owners. Be responsible for all encroachments onto private lands.

H. Disposal of Waste. Dispose of all removed concrete, debris, and other waste and debris off the Right-of-Way at sites obtained by the Contractor at no additional cost to the Department. See Special; Note for Waste and Borrow.

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

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

IV. METHOD OF MEASUREMENT

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

B. Site preparation. Other than the bid items listed, the Department will not measure Site Preparation for separate payment but shall be incidental to Guardrail, End Treatments, Bridge End Connectors, and Terminal Sections as applicable.

C. Guardrail. See Section 719.04.

D. Delineators for Guardrail. See the Sepia Drawing.

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

V. BASIS OF PAYMENT

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

B. Guardrail. See Section 719.05.

C. Delineators for Guardrail. See the Sepia Drawing.

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

SPECIAL NOTE FOR
ASPHALT MILLING AND TEXTURING

Begin paving operations within **two weeks** 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.

1-3505 2 weeks Contractor keeps millings
01/2/2012

SPECIAL NOTES FOR BASE FAILURE REPAIR
FD04 019 6335 001-005

Base failure repair locations will be determined by the Engineer before the resurfacing begins. Saw cut the existing pavement, asphalt surface, base, DGA, and PCC pavement (if present). Excavate approximately 20 inches from the existing pavement level. Remove and dispose of all materials. Use all possible care to avoid damaging existing culvert pipes and any existing underground utilities. Repair or restore any damaged items at no additional costs to the Department. Waste all removed materials off the Right of Way at sites obtained by the Contractor. See Special Note for Waste and Borrow

Backfill the remaining area with Geotextile Fabric, 8 inches of No. 2 Stone, 3 inches of Crushed Stone Base or DGA and 9.0" Class 2 Asphalt Base 1.0D PG64-22 in 3 inch maximum courses up to the existing pavement surface. Compact each course of asphalt base to the proper compaction as required by the Section 403. Do not place new asphalt surface over repaired base failure areas until a minimum of 7 days has elapsed after placement of the final course of asphalt base. Prior to constructing the new asphalt surface, level and wedge any settlement of the repair areas.

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

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

SPECIAL NOTE FOR TYPICAL SECTION DIMENSIONS

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

1-3725 Typical Section Dimensions
01/02/2012

TRAFFIC CONTROL PLAN
FD04 019 6335 001-005

TRAFFIC CONTROL GENERAL

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

Contrary to Section 106.01, traffic control devices used on this project may be new, or used in like new condition, at the beginning of the work and maintained in like new condition until completion of the work.

PROJECT PHASING & CONSTRUCTION PROCEDURES

Currently the roadway is closed to through traffic. Barricades are in place just north of the Aqua Ramp and at KY 445. The roadway shall remain closed during construction, but local traffic must be maintained. The clear lane width shall be 10 feet where possible.

SIGNS

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

TEMPORARY ENTRANCES/ACCESS TO PROPERTY

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

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

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

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

BARRICADES

Barricades used in lieu of barrels and cones for channelization or delineation will be incidental to Maintain and Control Traffic according to Section 112.04.01. Barricades used to protect pavement removal areas will be bid as each according to Section 112.04.04.

TRAFFIC COORDINATOR

Furnish a Traffic Coordinator as per Section 112 for unclassified project.

CHANGEABLE MESSAGE SIGNS

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

PAVEMENT MARKINGS

Coordinate the installation of all temporary and permanent striping with the Resident Engineer, and the TEBM for Traffic in the District. If there is a deviation from the existing striping plan, a striping plan for the pavement shall be provided to the Contractor prior to the installation of any temporary or permanent markings.

Do not install temporary pavement striping, permanent pavement striping, and/or thermoplastic or Durable Pavement markings without written permission from the Engineer.

Temporary Striping will be installed as per Section 112 with the following exceptions:

Temporary striping shall include striping of the edgelines.

Temporary or Permanent striping shall be in place before a lane is opened to traffic

If the Contractor's operations or phasing requires temporary markings that must be subsequently removed from the final surface course, an approved "Removable Lane Tape" shall be used. This removable lane tape will not be measured separately. The "removable lane tape", if used, will be measured and paid as temporary striping.

PAVEMENT EDGE DROP-OFFS

A pavement edge between opposing directions of traffic or lanes that traffic is expected to cross in a lane change situation shall not have an elevation difference greater than 1½". Warning signs (MUTCD W8-9 or W8-9A, or W8-11) shall be placed in advance of and at 1500' intervals throughout the drop-off area. Dual posting on both sides of the traveled way shall be required. All transverse transitions between the newly surfaced area and the existing surface areas that traffic may cross shall be wedged with asphalt mixture for leveling and wedging. The wedges shall be removed prior to placement of the final surface course.

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

Less than 2" - No protection required.

2" to 4" - Place plastic drums, vertical panels, or barricades every 50 feet. Cones may be used in place of plastic drums, panels, and barricades during daylight working hours only. Wedge with asphalt mixture for leveling and wedging with a 1:1 or flatter slope in daylight hours, or 3:1 or flatter slope during nighttime hours, when work is not active in the drop-off area.

Greater than 4 inches - Drop-offs exceeding 4 inches will be allowed only during active operations during the interval between removal of shoulder/traffic islands/medians and the placement of the asphalt base courses in these areas. Place plastic drums, vertical panels or barricades every 40 feet. Drop-offs less than eight feet behind a lane or shoulder closure shall be protected by a asphalt wedge with 3:1 or flatter slope; the wedge shall be removed and the base course placed in the drop-off area as soon as possible.

In lieu of a wedge, drop-offs at lateral trenches may be covered by a 1" thick steel plate when work is not actively in progress at the pavement removal area; the plate shall be anchored to the pavement by any method approved by the Engineer that will prevent it being dislodged by accidental impact. If for any reason, it is necessary to excavate small areas, any holes adjacent to traffic where there exists a possibility that a vehicle may drop a wheel into the holes shall be filled with asphalt or plated. No direct payment will be made for the wedge or steel plates, but shall be incidental to other items of work.

USE AND PLACEMENT OF CHANGEABLE MESSAGE SIGNS

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

Application

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

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

CMS should not be used for:

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

Messages

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

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

Placement

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

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

Standard Abbreviations

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

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

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 MIL/PREP TO STOP
Right	RGT	EVENT PKING NEXT RGT
Road	RD	HAZMAT IN RD/ALL TRAF EXIT 25
Roadwork	RDWK	RDWK NEXT 4 MI/POSSIBLE 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
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.

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

TYPICAL MESSAGES

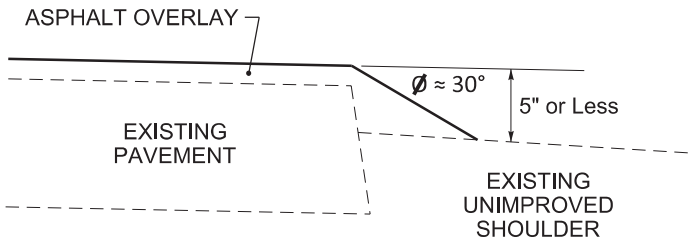
The following is a list of typical messages used on CMS. The list consists of the reason or problem that you want the driver to be aware of and the action that you want the driver to take.

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

ROAD WORK XX MILES
SHOULDER (SLIPPERY, ICE, SOFT, BLOCKED, ETC.)
NEW SIGNAL XX MILES
SLOW 1 (OR 2) - WAY TRAFFIC
SOFT SHOULDER
STALLED VEHICLES AHEAD
TRAFFIC BACKUP
TRAFFIC SLOWS
TRUCK CROSSING
TRUCKS ENTERING
TOW TRUCK AHEAD
UNEVEN LANES
WATER ON ROAD
WET PAINT
WORK ZONE XX MILES
WORKERS AHEAD

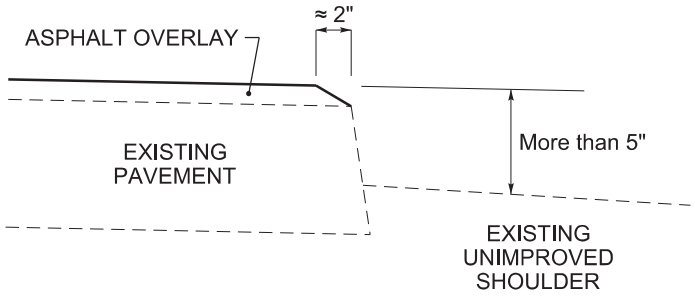
DURABLE PAVEMENT EDGE DETAIL

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



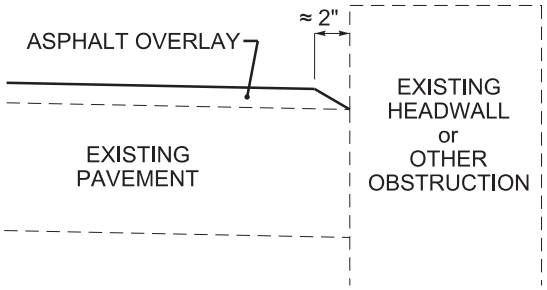
DURABLE PAVEMENT EDGE DETAIL

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



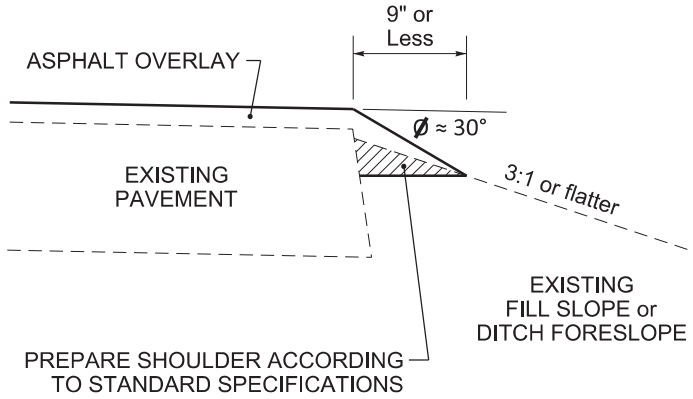
DURABLE PAVEMENT EDGE DETAIL

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



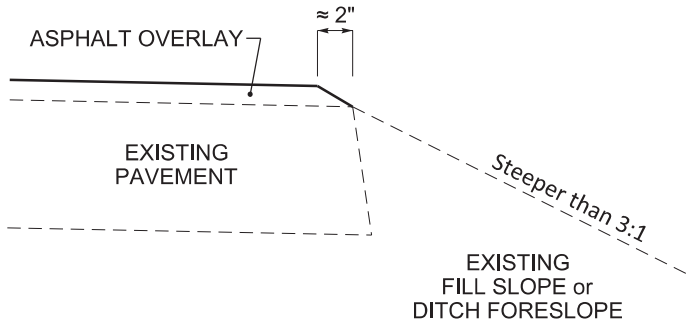
DURABLE PAVEMENT EDGE DETAIL

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



DURABLE PAVEMENT EDGE DETAIL

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



NOTES

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

DRAWING NOT TO SCALE

DURABLE PAVEMENT EDGE DETAILS

SPECIAL NOTE FOR EROSION CONTROL

I. DESCRIPTION

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

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

II. MATERIALS

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

III. CONSTRUCTION

Be advised, these Erosion Control Plan Notes do not constitute a BMP plan for the project. Jointly with the Engineer, prepare a site specific BMP plan for each drainage area within the project in accordance with Section 213. Provide a unique BMP at each project site using good engineering practices taking into account existing site conditions, the type of work to be performed, and the construction phasing, methods and techniques to be utilized to complete the work. Be responsible for all erosion prevention, sediment control, and water pollution prevention measures required by the BMP for each site. Represent and warrant compliance with the Clean Water Act (33 USC Section 1251 et seq.), the 404 Permit, the 401 Water Quality Certification, and applicable state and local government agency laws, regulations, rules, specifications, and permits. Contrary to Section 105.05, in case of discrepancy between theses notes, the Standard Specifications, Interim Supplemental Specifications, Special and Special Notes, Standard and Sepia Drawings, and such state and local government agency requirements, adhere to the most restrictive requirement.

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

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

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

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

IV. MEASUREMENT

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

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

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

Erosion Control. Contrary to Sections 212.04, 213.04, and 703.04 other than Erosion Control Blankets, Sodding, and Channel Lining, the Department will measure Erosion Control as one lump sum. The Department will not measure developing, updating, and maintaining a BMP plan for each site; providing a KEPSC-RI qualified inspector; locating,

furnishing, installing, inspecting, maintaining, and removing erosion and water pollution control items; Roadway Excavation, Borrow Excavation, Embankment In Place, Topsoil Furnished and Placed, and Spreading Stockpiled Topsoil; Topdressing Fertilizer, Temporary and Permanent Seeding and Protection, Special Seeding Crown Vetch, and Temporary Mulch; Sedimentation Basin and Clean Sedimentation Basin, Silt Trap Type "A" and Clean Silt Trap Type "A"; Silt Trap Type "B" and Clean Silt Trap Type "B"; Silt Trap Type "C" and Clean Silt Trap Type "C"; Temporary Silt Fence and Clean Temporary Silt Fence; Plants, Vines, Shrubs, and Trees; Gabion and Dumped Stone Deflectors and Riffle Structures; Boulders; Temporary Ditches and clean Temporary Ditches; Geotextile Fabric, and all other erosion and water pollution control items required by the BMP or the Engineer, but shall be incidental to Erosion Control.

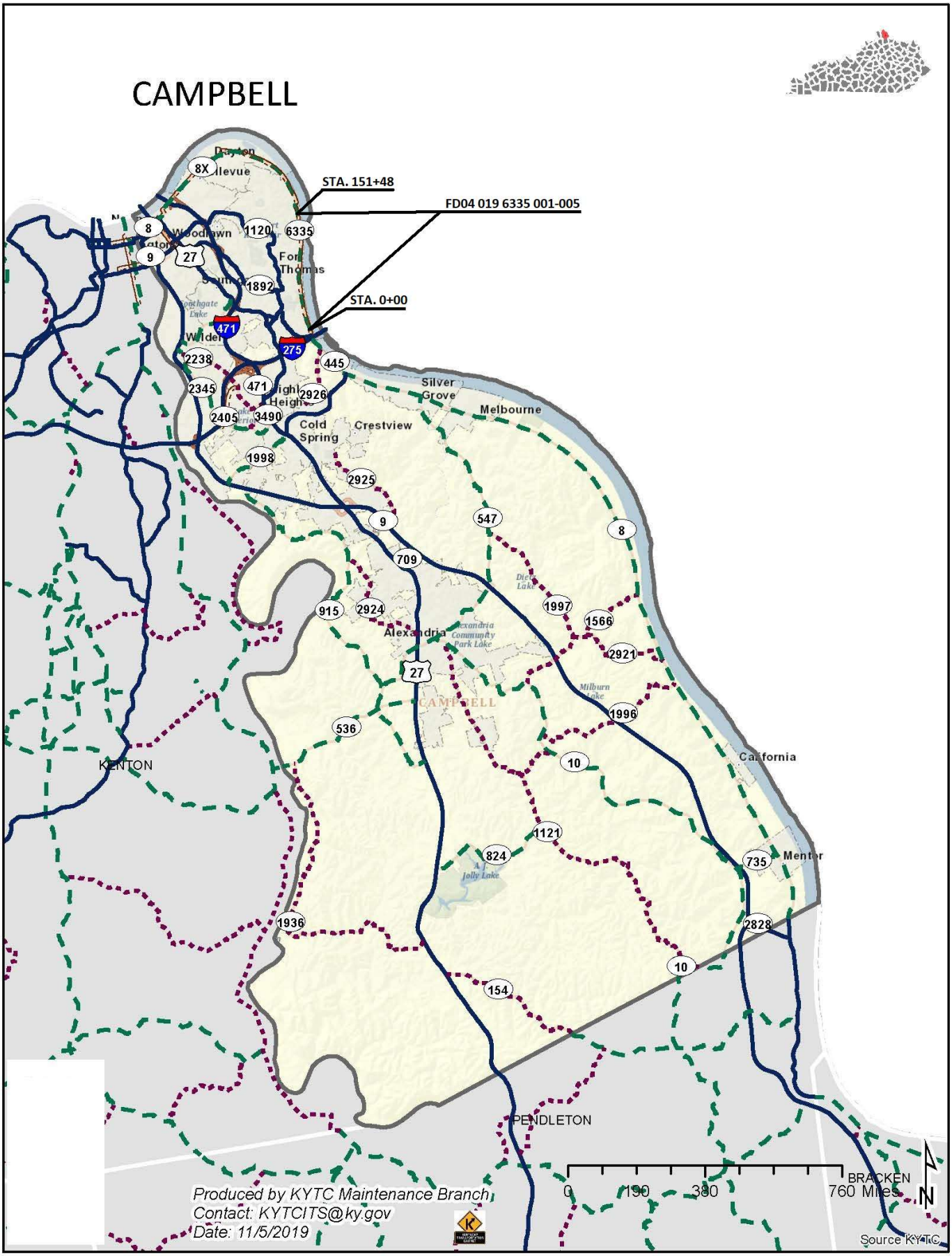
V. Basis of Payment

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

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

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

Erosion Control. Contrary to Sections 212.05 and 213.05, other than Erosion Control Blanket, Sodding, and Channel Lining, payment at the Contract lump sum price for Erosion Control, shall be full compensation for all materials, equipment, labor and incidentals necessary to complete the erosion and water pollution control work as specified in these notes, Sections 212 and 213, the Supplemental Specifications, applicable Special Provisions and Special Notes, and Standard and Sepia Drawings, including but not limited to developing, updating, and maintaining a BMP plan for each site; providing a KEPSC-RI qualified inspector; locating, furnishing, installing, inspecting, maintaining, and removing erosion and water pollution control items; Roadway Excavation, Borrow Excavation, Embankment In Place, Topsoil Furnished and Placed, and Spreading Stockpiled Topsoil; Topdressing Fertilizer, Temporary and Permanent Seeding and Protection, Special Seeding Crown Vetch, and Temporary Mulch; Sedimentation Basin and Clean Sedimentation Basin, Silt Trap Type "A" and Clean Silt Trap Type "A"; Silt Trap Type "B" and Clean Silt Trap Type "B"; Silt Trap Type "C" and Clean Silt Trap Type "C"; Temporary Silt Fence and Clean Temporary Silt Fence; Plants, Vines, Shrubs, and Trees; Gabion and Dumped Stone Deflectors and Riffle Structures; Boulders; Temporary Ditches and clean Temporary Ditches; Geotextile Fabric and all other erosion and water pollution control items required by the BMP or the Engineer.


CAMPBELL
STA. 151+48
FD04 019 6335 001-005
STA. 0+00
Dayton
Bellevue
Woodlawn
Fort Thomas
Wilder
Silver Grove
Melbourne
Cold Spring
Crestview
Alexandria
Alexandria Community Park Lake
Milburn Lake
Jolly Lake
California
Mentor
KENTON
PENDLETON
BRACKEN
CAMPBELL
Produced by KYTC Maintenance Branch
Contact: KYTCITS@ky.gov
Date: 11/5/2019
0 190 380 760 Miles
N
Source KYTC

#VALUE!

NEW GUARDRAIL							REMOVE GUARDRAIL					
LANE	END TREAT.	BEGIN MILEPOINT	END MILEPOINT	END TREAT.	LIN FEET	REMARKS	LANE	BEGIN MILEPOINT	END MILEPOINT	LIN FEET	REMARKS	LIN FEET
NORTH	7	1.841	2.346	1	2675.0		NORTH	7	1.841	2.346	1	2675.0
NORTH	7	2.459	2.511	1	275.0		NORTH	7	2.459	2.511	1	275.0
SOUTH	1	2.466	2.500	7	187.5		SOUTH	1	2.466	2.500	7	187.5
NORTH	7	2.980	3.213	1	1237.5	Extend existing 480 ft	NORTH	7	3.067	3.213	1	775.0
NORTH	7	3.315	3.373	1	312.5		NORTH	7	3.315	3.373	1	312.5
SOUTH	TERM	3.325	3.356	TERM	175.0		SOUTH	TERM	3.325	3.356	TERM	175.0
NORTH	7	3.457	3.731	1	1450.0		NORTH	7	3.457	3.731	1	1450.0
SOUTH	1	3.457	3.511	7	287.5		SOUTH	1	3.457	3.511	7	287.5
NORTH	TERM	3.755	4.656	1	4762.5		NORTH	TERM	3.755	4.656	1	4762.5
SOUTH	1	4.218	4.258	7	212.5		SOUTH	1	4.218	4.258	7	212.5
					0.0					0.0		
					0.0					0.0		
					0.0					0.0		
					0.0					0.0		
					0.0					0.0		
					0.0					0.0		
					0.0					0.0		
					0.0					0.0		
Totals					11575.0							11112.5

Type I	9.000
Type 2A	0.000
Type 3	0.000
Type 4	0.000
Type 7	8.000
Terminal	3.000

Base Failure
Repair Summary
FD04 019 6335 001-005

			Total	4140
Milepoint	**Lane**	**Length**	**Width**	**SQYD**
4.35	**NORTH**	**380**	**12**	506.67
3.20	**NORTH**	**150**	**12**	200.00
3.04	**BOTH**	**630**	**23**	1610.00
2.31	**BOTH**	**225**	**23**	575.00
2.12	**NORTH**	**500**	**12**	666.67
2.02	**NORTH**	**370**	**10**	411.11
1.93	**NORTH**	**150**	**10**	166.67

Campbell County: KY 6335 Slide Repair
Slide 1: STA 9+00 - 11+95

Length of Slide Area =	295	Ft.		
Average Depth of Cribbing =	6	Ft.		
# of Railroad Rails	100	Ea.	36" Spacing	
Length of Rails Anticipated =	20	Ft.		
Item Description	**Quantity**	**Units**	**Unit Price**	**Cost**
Rotary Drill Rental & Rail Installation	2000	LF		
Railroad Rail	2000	LF		
Cribbing	1770	SF		
Excavation & Backfill *(Materials including delivery)*	262	CY		
Geotextile Fabric Class 2	656	SY		

Campbell County: KY 6335 Slide Repair
Slide 2a: STA 14+19 - 16+00

Length of Slide Area =	181	Ft.		
Average Depth of Cribbing =	6	Ft.		
# of Railroad Rails	135	Ea.	Double Row at 32" Spacing	
Length of Rails Anticipated =	30	Ft.		
Item Description	**Quantity**	**Units**	**Unit Price**	**Cost**
Rotary Drill Rental & Rail Installation	4050	LF		
Railroad Rail	4050	LF		
Cribbing	1086	SF		
Excavation & Backfill *(Materials including delivery)*	161	CY		
Geotextile Fabric Class 2	403	SY		

Campbell County: KY 6335 Slide Repair
Slide 2b: STA 16+00 - 19+45

Length of Slide Area =	345	Ft.		
Average Depth of Cribbing =	6	Ft.		
# of Railroad Rails	117	Ea.	36" Spacing	
Length of Rails Anticipated =	20	Ft.		
Item Description	**Quantity**	**Units**	**Unit Price**	**Cost**
Rotary Drill Rental & Rail Installation	2340	LF		
Railroad Rail	2340	LF		
Cribbing	2070	SF		
Excavation & Backfill *(Materials including delivery)*	307	CY		
Geotextile Fabric Class 2	767	SY		

Campbell County: KY 6335 Slide Repair
Slide 3: STA 24+00 - 30+00

Length of Slide Area =	600	Ft.		
Average Depth of Cribbing =	6	Ft.		
# of Railroad Rails	201	Ea.	36" Spacing	
Length of Rails Anticipated =	20	Ft.		
Item Description	**Quantity**	**Units**	**Unit Price**	**Cost**
Rotary Drill Rental & Rail Installation	4020	LF		
Railroad Rail	4020	LF		
Cribbing	3600	SF		
Excavation & Backfill *(Materials including delivery)*	533	CY		
Geotextile Fabric Class 2	1334	SY		

Campbell County: KY 6335 Slide Repair
Slide 4: STA 30+00 - 30+86

Length of Slide Area =	86	Ft.		
Average Depth of Cribbing =	6	Ft.		
# of Railroad Rails	22	Ea.	48" Spacing	
Length of Rails Anticipated =	20	Ft.		
Item Description	**Quantity**	**Units**	**Unit Price**	**Cost**
Rotary Drill Rental & Rail Installation	440	LF		
Railroad Rail	440	LF		
Cribbing	516	SF		
Excavation & Backfill *(Materials including delivery)*	76	CY		
Geotextile Fabric Class 2	191	SY		

Campbell County: KY 6335 Slide Repair
Slide 5: STA 33+00 - 38+84

Length of Slide Area =	584	Ft.		
Average Depth of Cribbing =	6	Ft.		
# of Railroad Rails	146	Ea.	48" Spacing	
Length of Rails Anticipated =	20	Ft.		
Item Description	**Quantity**	**Units**	**Unit Price**	**Cost**
Rotary Drill Rental & Rail Installation	2920	LF		
Railroad Rail	2920	LF		
Cribbing	3504	SF		
Excavation & Backfill *(Materials including delivery)*	519	CY		
Geotextile Fabric Class 2	1289	SY		

Campbell County: KY 6335 Slide Repair
Slide 6: STA 43+00 - 45+60

Length of Slide Area =	260	Ft.		
Average Depth of Cribbing =	6	Ft.		
# of Railroad Rails	65	Ea.	48" Spacing	
Length of Rails Anticipated =	20	Ft.		
Item Description	**Quantity**	**Units**	**Unit Price**	**Cost**
Rotary Drill Rental & Rail Installation	1300	LF		
Railroad Rail	1300	LF		
Cribbing	1560	SF		
Excavation & Backfill *(Materials including delivery)*	231	CY		
Geotextile Fabric Class 2	578	SY		

Soil Nail Repair							
Slide No.	**Begin Station**	**End Station**	**MP (Midpoint)**	**Length**	**Height**	**Square Feet**	**Estimated SF Price**
7	47+54	50+33	3.71	279	10	2790	
8	56+58	58+00	3.55	142	10	1420	
9	59+00	60+80	3.50	180	10	1800	
10	67+00	68+00	3.36	100	10	1000	
11	74+85	87+27	3.10	1242	10	12420	
12	92+43	96+00	2.85	357	10	3570	
13	113+00	114+00	2.49	100	10	1000	
14	121+50	128+00	2.27	650	10	6500	
15	130+35	145+90	2.02	1555	10	15550	
				Estimated Total:		46050	

West Side (Up-Hill)							
9U	59+15	59+70	3.51	55	10	550	
12U	96+25	99+65	2.78	340	10	3400	
13U	112+70	113+20	2.50	50	10	500	
				Estimated Total:		4450	

	Total SF	**50,500**

COORDINATE DATA SUBMISSION FORM

KYTC DIVISION OF STRUCTURAL DESIGN -- GEOTECHNICAL BRANCH

County CAMPBELL **Date**

Road Number KY 6335

Survey Crew / Consultant

Contact Person

Item #

Mars #

Project #

Elevation Datum (circle one) **NAVD88** **Assumed**

Notes:

The stations run opposite of the milepoints.

Station 0+00 is MP 4.636 (KY 445)

Station 151+48 is MP 1.767 (Tower Hill Road)

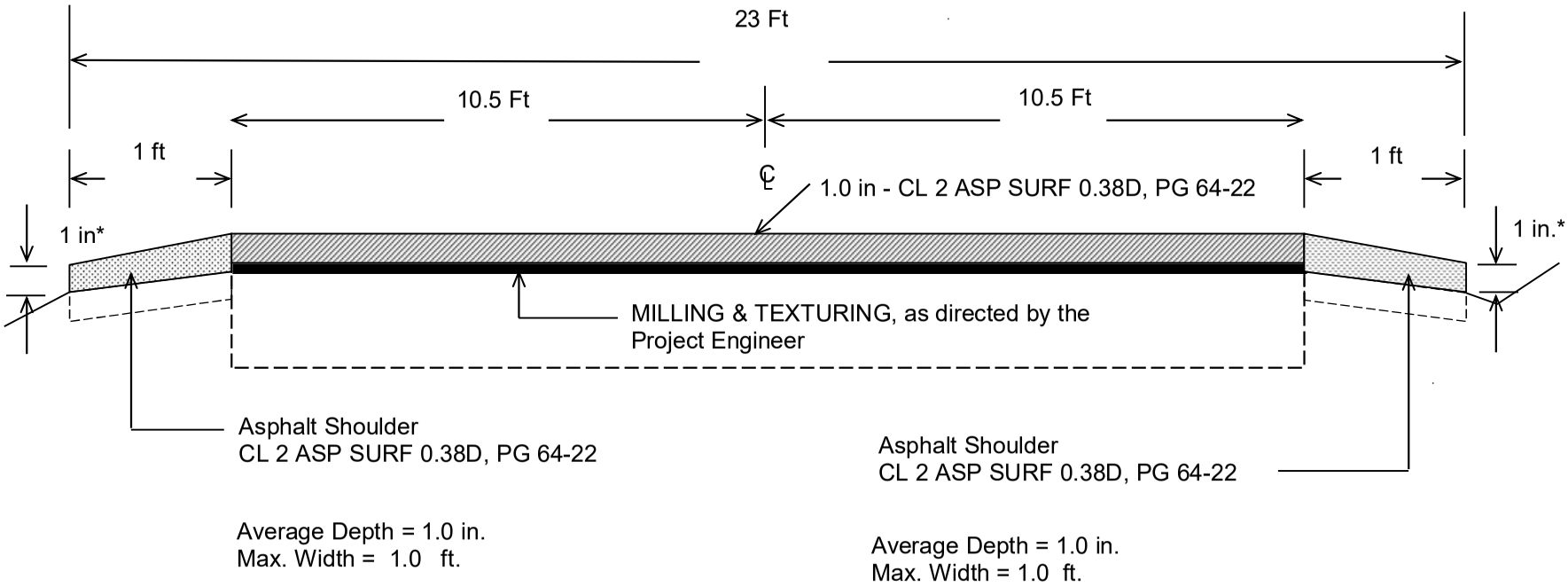
HOLE NUMBER	LATITUDE (Decimal Degrees)	LONGITUDE (Decimal Degrees)	HOLE NUMBER	STATION	OFFSET	ELEVATION (ft)	MILE POINT
1	N39.05903	W84.43519	1	9+22	10	527.34	4.461
2	N39.05924	W84.43528	2	10+00	10	526.81	4.447
3	N39.05949	W84.43538	3	11+00	10	525.06	4.428
4	N39.05972	W84.43547	4	11+86	9	522.84	4.411
5	N39.06002	W84.43559	5	13+00	8.5	520.98	4.390
6	N39.06033	W84.43571	6	14+19	9	522.41	4.367
7	N39.06054	W84.43581	7	15+00	10	525.13	4.352
8	N39.06082	W84.43593	8	16+00	10	527.64	4.333
9	N39.06108	W84.43605	9	17+00	9	527.7	4.314
10	N39.06134	W84.43616	10	18+00	8	527.46	4.295
11	N39.06160	W84.43627	11	19+00	8.5	525.88	4.276
12	N39.06293	W84.43672	12	24+00	8	532.9	4.181
13	N39.06303	W84.43675	13	24+40	9.5	533.46	4.174
14	N39.06319	W84.43680	14	25+00	9	534.29	4.163
15	N39.06345	W84.43687	15	26+00	9	535.31	4.144

HOLE NUMBER	LATITUDE (Decimal Degrees)	LONGITUDE (Decimal Degrees)	HOLE NUMBER	STATION	OFFSET	ELEVATION (ft)	MILE POINT
16	N39.06372	W84.43695	16	27+00	8.5	536.67	4.125
17	N39.06399	W84.43702	17	28+00	8	537.5	4.106
18	N39.06426	W84.43709	18	29+00	8.5	538.11	4.087
19	N39.06440	W84.43713	19	29+55	8.7	538.86	4.076
20	N39.06455	W84.43717	20	30+10	8.5	539.26	4.066
21	N39.06468	W84.43720	21	30+60	9	539.95	4.056
22	N39.06539	W84.43738	22	33+20	7	545.25	4.007
23	N39.06560	W84.43744	23	34+00	7	545.25	3.992
24	N39.06587	W84.43749	24	35+00	8	546.21	3.973
25	N39.06614	W84.43755	25	36+00	9	545.61	3.954
26	N39.06641	W84.43761	26	37+00	9	544.29	3.935
27	N39.06668	W84.43766	27	38+00	9	542.6	3.916
28	N39.06690	W84.43770	28	38+84	9.5	540.35	3.900
29	N39.06803	W84.43796	29	43+00	8.5	533.05	3.822
30	N39.06830	W84.43801	30	44+00	7.5	535.56	3.803
31	N39.06857	W84.43806	31	45+00	7	537.35	3.784
32	N39.06868	W84.43808	32	45+40	7	537.58	3.776
33	N39.06938	W84.43821	33	48+00	8	542.98	3.727
34	N39.06965	W84.43826	34	49+00	8	547.05	3.708
35	N39.06993	W84.43831	35	50+00	8	550.49	3.689
36	N39.07037	W84.43838	36	51+65	6.3	553.19	3.658
37	N39.07043	W84.43839	37	51+86	7	553.43	3.654
38	N39.07053	W84.43841	38	52+25	7	553.92	3.646
39	N39.07171	W84.43861	39	56+58	7	544.95	3.564
40	N39.07182	W84.43863	40	57+00	6	543.2	3.556
41	N39.07209	W84.43867	41	58+00	7	538.01	3.538
42	N39.07239	W84.43873	42	59+10	7	532.5	3.517
43	N39.07255	W84.43875	43	59+65	8.5	531.08	3.506
44	N39.07272	W84.43878	44	60+50	7.5	530.38	3.490
45	N39.07454	W84.43907	45	67+00	8.5	529.56	3.367
46	N39.07471	W84.43908	46	67+60	8	529.35	3.356
47	N39.07481	W84.43909	47	68+00	7.5	529.45	3.348

HOLE NUMBER	LATITUDE (Decimal Degrees)	LONGITUDE (Decimal Degrees)	HOLE NUMBER	STATION	OFFSET	ELEVATION (ft)	MILE POINT
48	N39.07672	W84.43886	48	75+00	7	534.31	3.216
49	N39.07689	W84.43884	49	75+62	7	534.4	3.204
50	N39.07704	W84.43882	50	76+15	7	534.42	3.194
51	N39.07727	W84.43879	51	77+00	7	533.04	3.178
52	N39.07754	W84.43876	52	78+00	6.5	531.51	3.159
53	N39.07785	W84.43872	53	79+15	6.5	527.4	3.137
54	N39.07810	W84.43870	54	80+00	7	525.81	3.121
55	N39.07836	W84.43868	55	81+00	9	525.42	3.102
56	N39.07855	W84,43866	56	81+70	9	524.51	3.089
57	N39.07871	W84.43866	57	82+30	3	523.8	3.077
58	N39.07892	W84.43864	58	83+00	4	523.7	3.064
59	N39.07908	W84.43863	59	84+60	7	524.48	3.034
60	N39.07929	W84.43862	60	84+40	8	524.4	3.038
61	N39.07946	W84.43860	61	85+00	8	522.95	3.026
62	N39.07973	W84.43858	62	86+00	7	521.77	3.007
63	N39.07988	W84.43857	63	86+50	9	521.34	2.998
64	N39.08083	W84.43849	64	90+00	7	521.15	2.931
65	N39.08097	W84.43848	65	90+50	6.5	520.76	2.922
66	N39.08109	W84.43846	66	91+00	7	520.4	2.913
67	N39.08152	W84.43839	67	92+50	6.4	519.34	2.884
68	N39.08166	W84.43837	68	93+00	6.5	518.86	2.875
69	N39.08193	W84.43831	69	94+00	5.7	515.86	2.856
70	N39.08220	W84.43827	70	95+00	6	515.35	2.837
71	N39.08239	W84.43823	71	95+70	5.5	514.64	2.823
72	N39.08714	W84.43811	72	112+90	6.5	506.5	2.498
73	N39.08724	W84.43812	73	113+30	7.5	506.56	2.490
74	N39.08732	W84.43813	74	113+60	7.5	507.22	2.484
75	N39.08745	W84.43814	75	114+00	7	508.61	2.477
76	N39.08956	W84.43828	76	121+95	4	538.58	2.326
77	N39.08976	W84.43832	77	122+50	4	540.42	2.316
78	N39.08989	W84.43836	78	123+00	0	541.33	2.306
79	N39.09002	W84.43839	79	123+50	1	542.6	2.297

HOLE NUMBER	LATITUDE (Decimal Degrees)	LONGITUDE (Decimal Degrees)	HOLE NUMBER	STATION	OFFSET	ELEVATION (ft)	MILE POINT
80	N39.09029	W84.43841	80	124+50	6	544.58	2.278
81	N39.09057	W84.43846	81	125+50	6	546.47	2.259
82	N39.09084	W84.43851	82	126+50	7	547.32	2.240
83	N39.09099	W84.43853	83	127+00	7	547.62	2.231
84	N39.09125	W84.43858	84	128+00	7	548.36	2.212
85	N39.09200	W84.43871	85	130+75	6	549.77	2.160
86	N39.09224	W84.43877	86	131+74	7	550.02	2.141
87	N39.09248	W84.43880	87	132+50	6	550.2	2.127
88	N39.09261	W84.43882	88	133+00	6	549.75	2.117
89	N39.09276	W84.43885	89	133+50	4	549.11	2.108
90	N39.09310	W84.43892	90	134+80	2	548.83	2.083
91	N39.09343	W84.43896	91	136+00	8	548	2.060
92	N39.09356	W84.43898	92	136+50	8	548.08	2.051
93	N39.09378	W84.43902	93	137+30	8	548.09	2.036
94	N39.09397	W84.43905	94	138+00	8	548.84	2.022
95	N39.09424	W84.43910	95	139+99	8	550.12	1.985
96	N39.09439	W84.43913	96	139+50	8	549.48	1.994
97	N39.09466	W84.43918	97	140+50	8	550.09	1.975
98	N39.09513	W84.43927	98	142+25	8	547.66	1.942
99	N39.09533	W84.43932	99	143+00	8	546.39	1.928
100	N39.09553	W84.43937	100	143+75	8	544.63	1.913
101	N39.09607	W84.43952	101	145+75	8	540.14	1.876

CAMPBELL COUNTY
FD04 019 6335 001-005
TYPICAL SECTION
MP's 1.767 - 4.636



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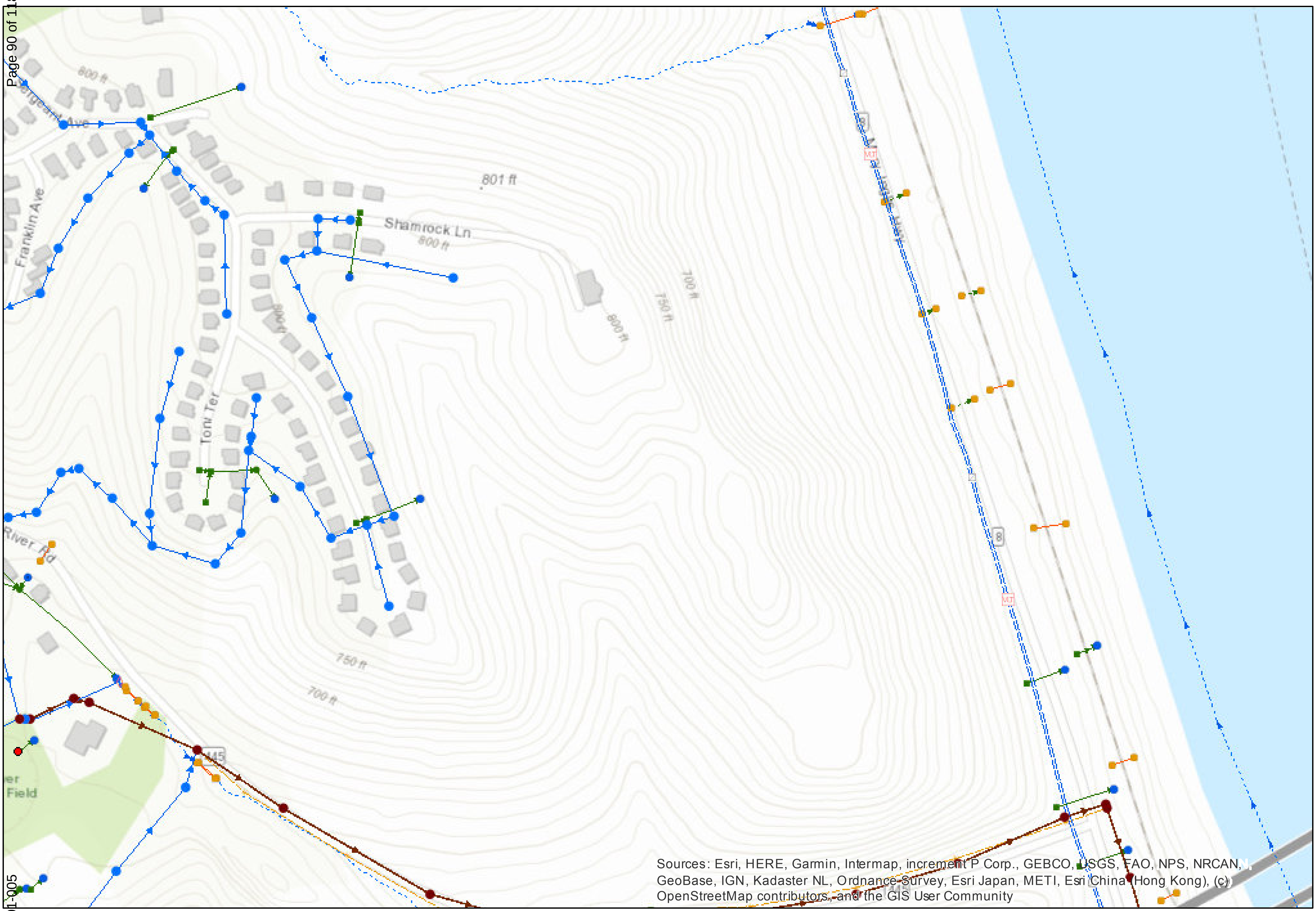
Average Depth = 1.0 in.
Max. Width = 1.0 ft.

***Where Existing Site Conditions Permit**



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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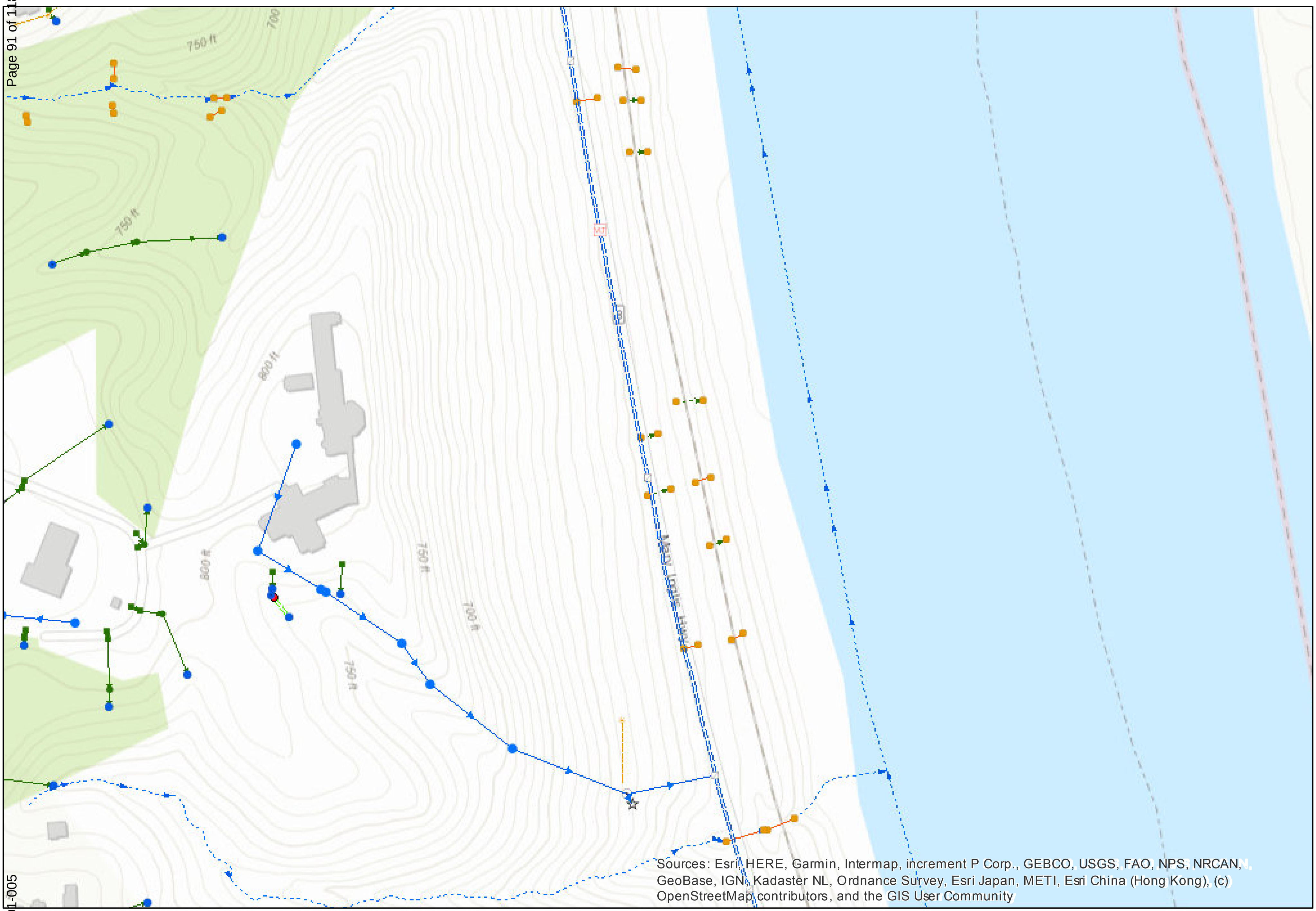
SD1 Infrastructure Web Map Export



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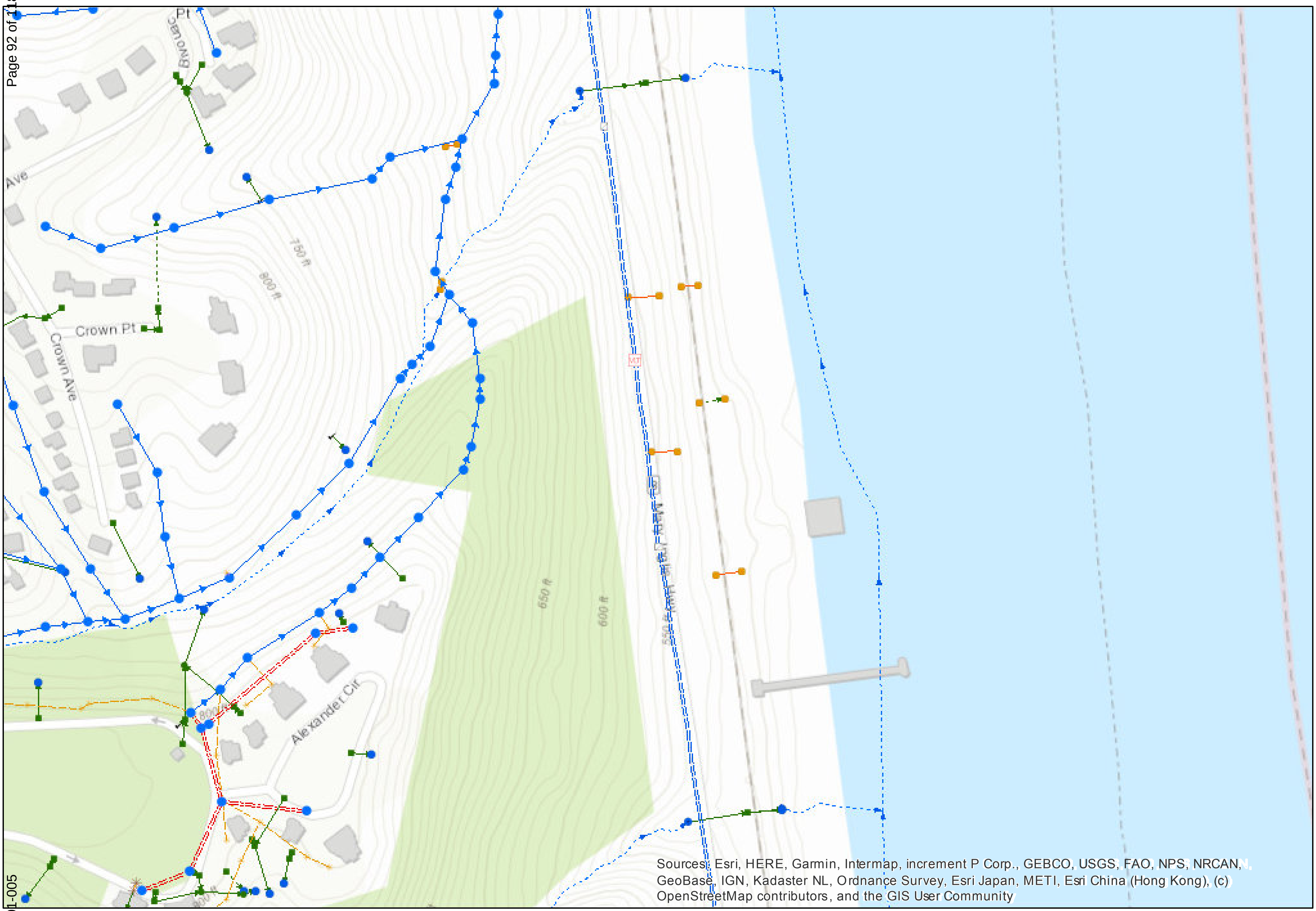
SD1 Infrastructure
Web Map Export



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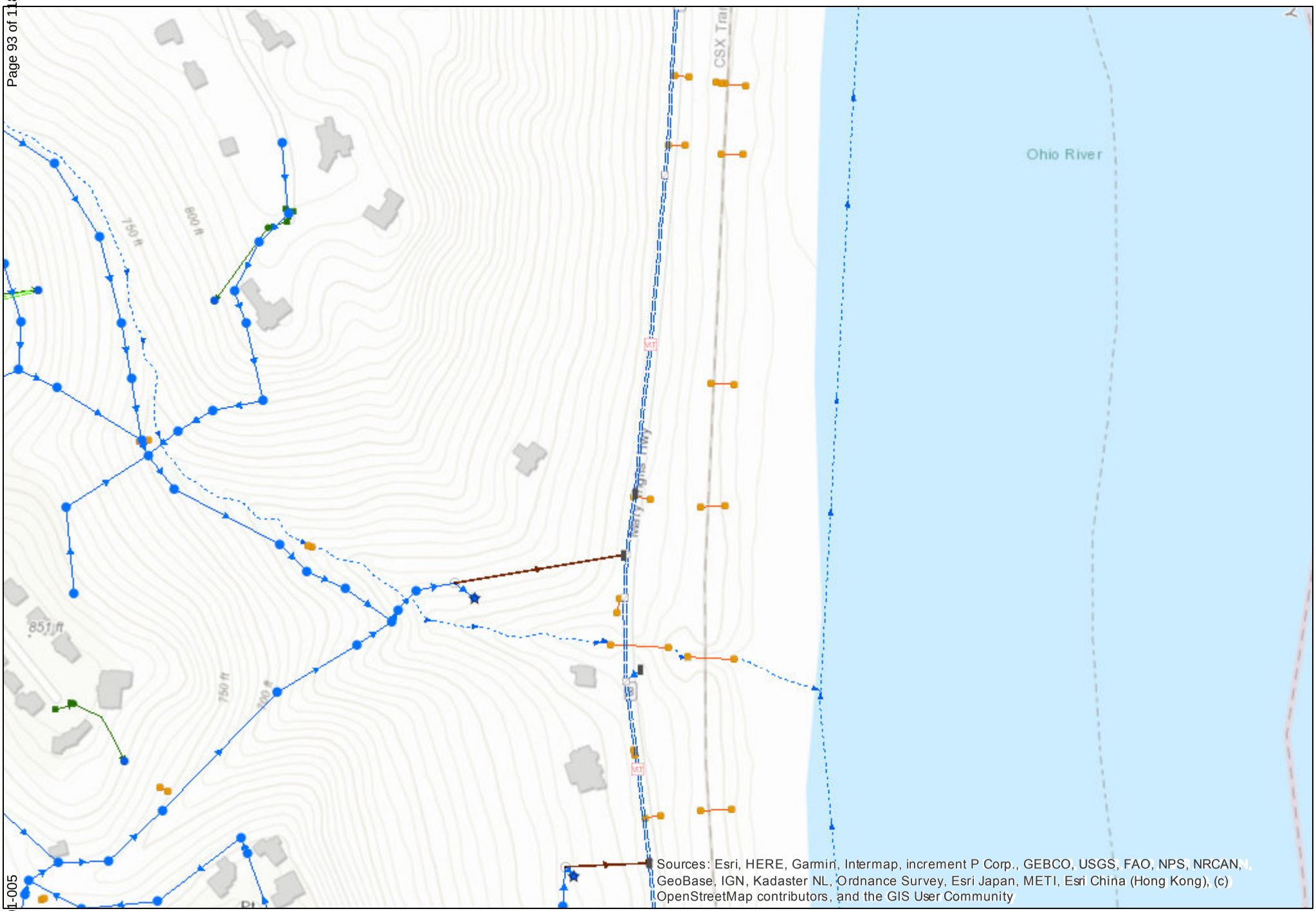
SD1 Infrastructure Web Map Export



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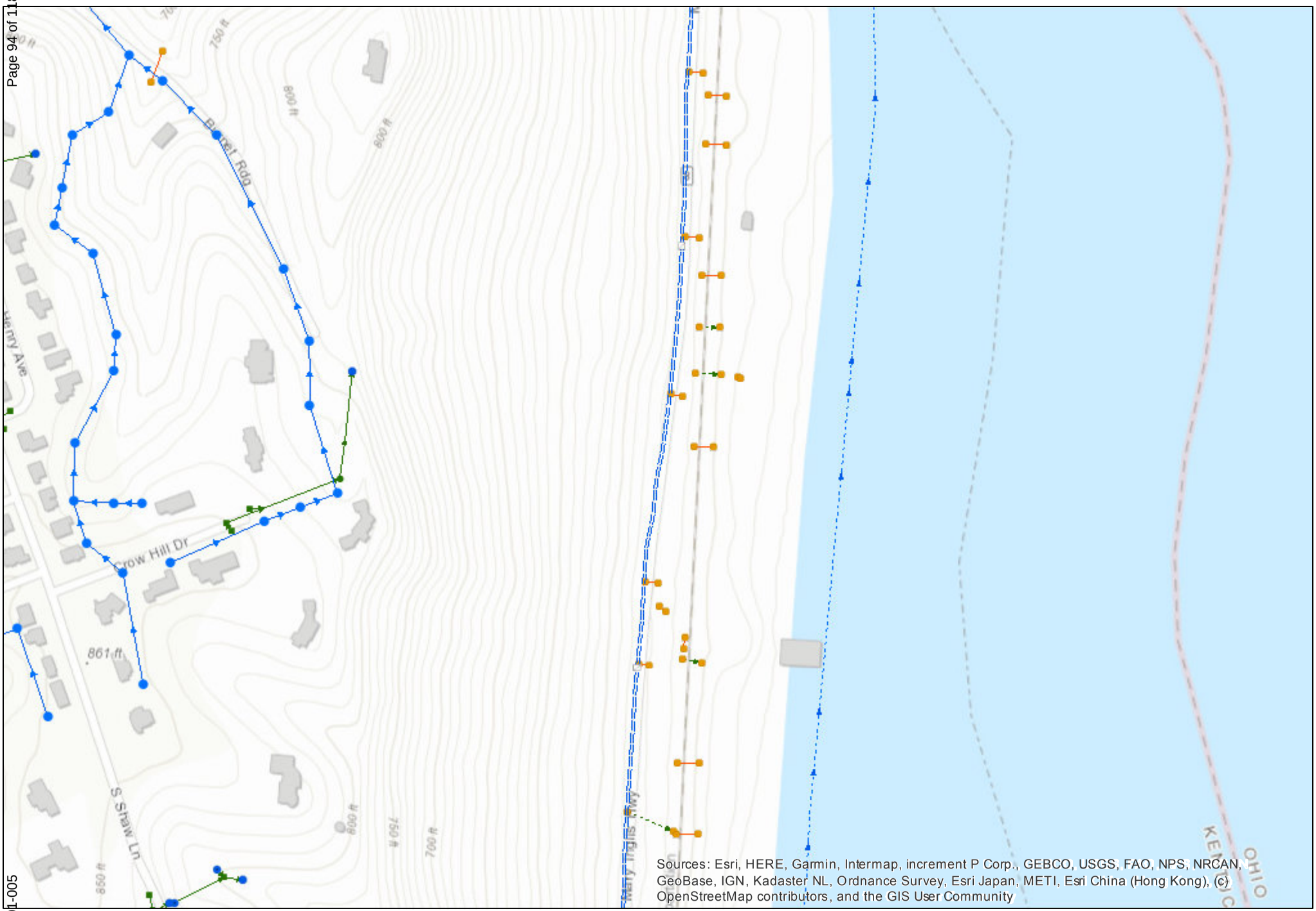
SD1 Infrastructure Web Map Export



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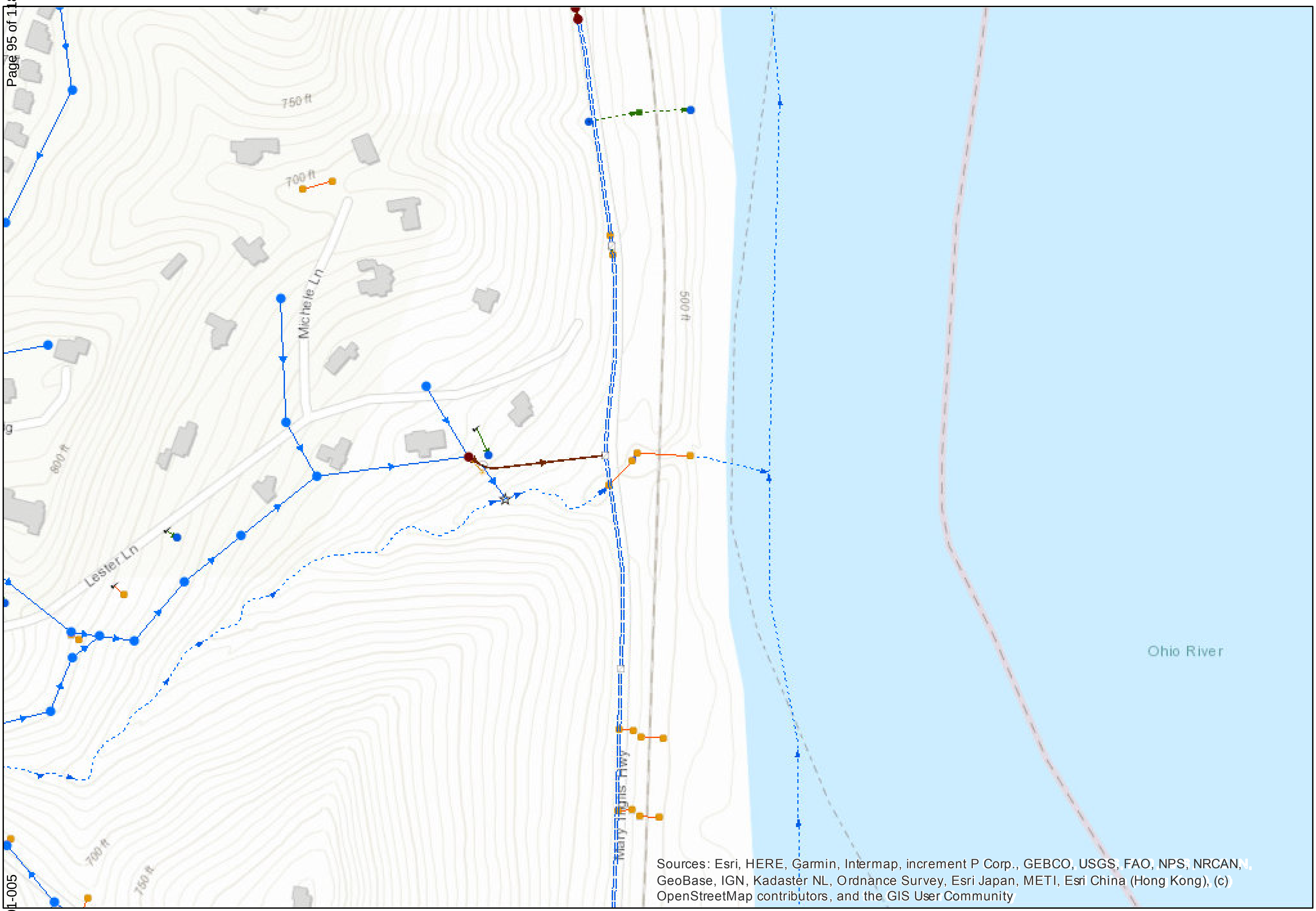
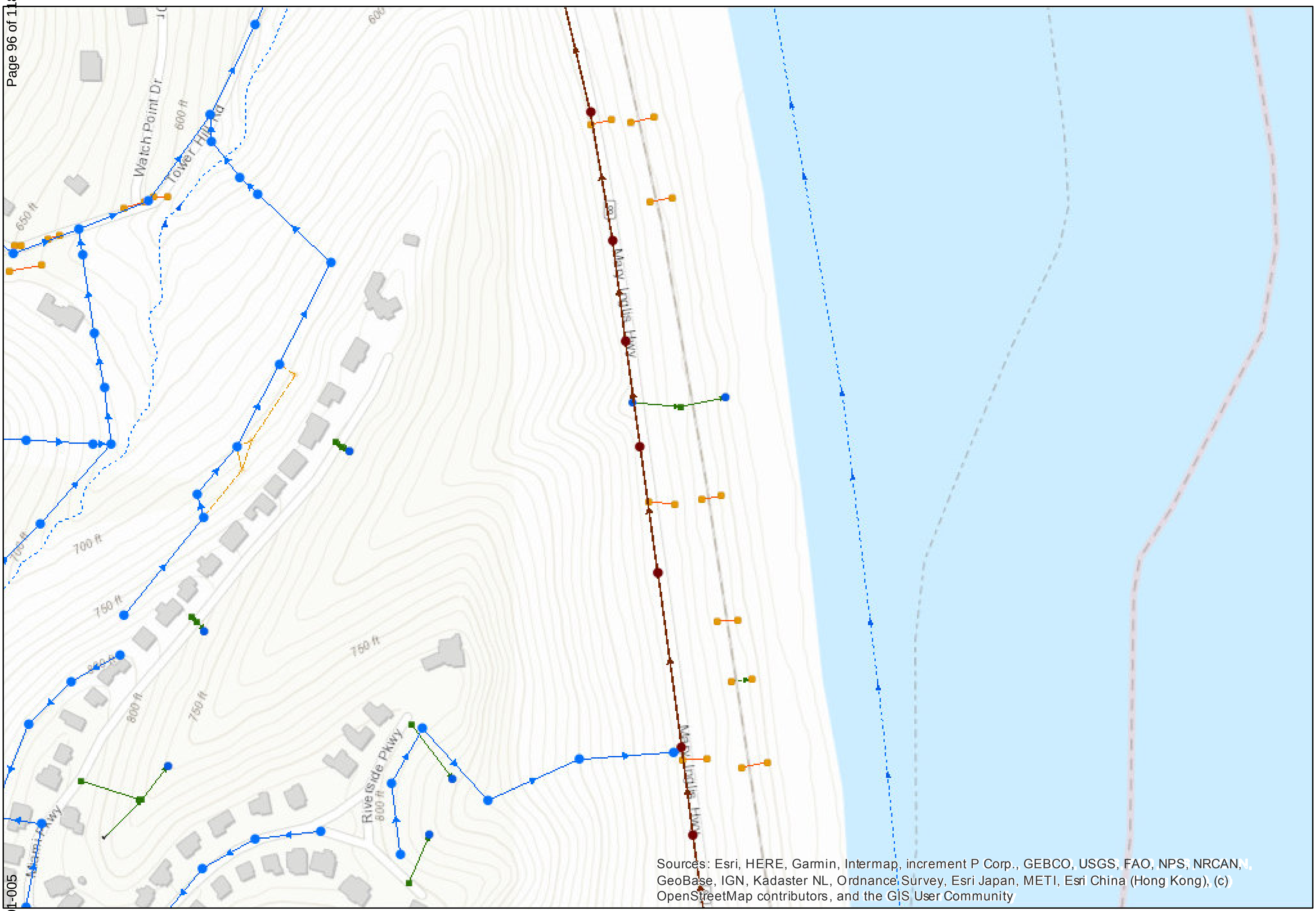
SD1 Infrastructure
Web Map Export



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

0 0.055 0.11 0.165 mi

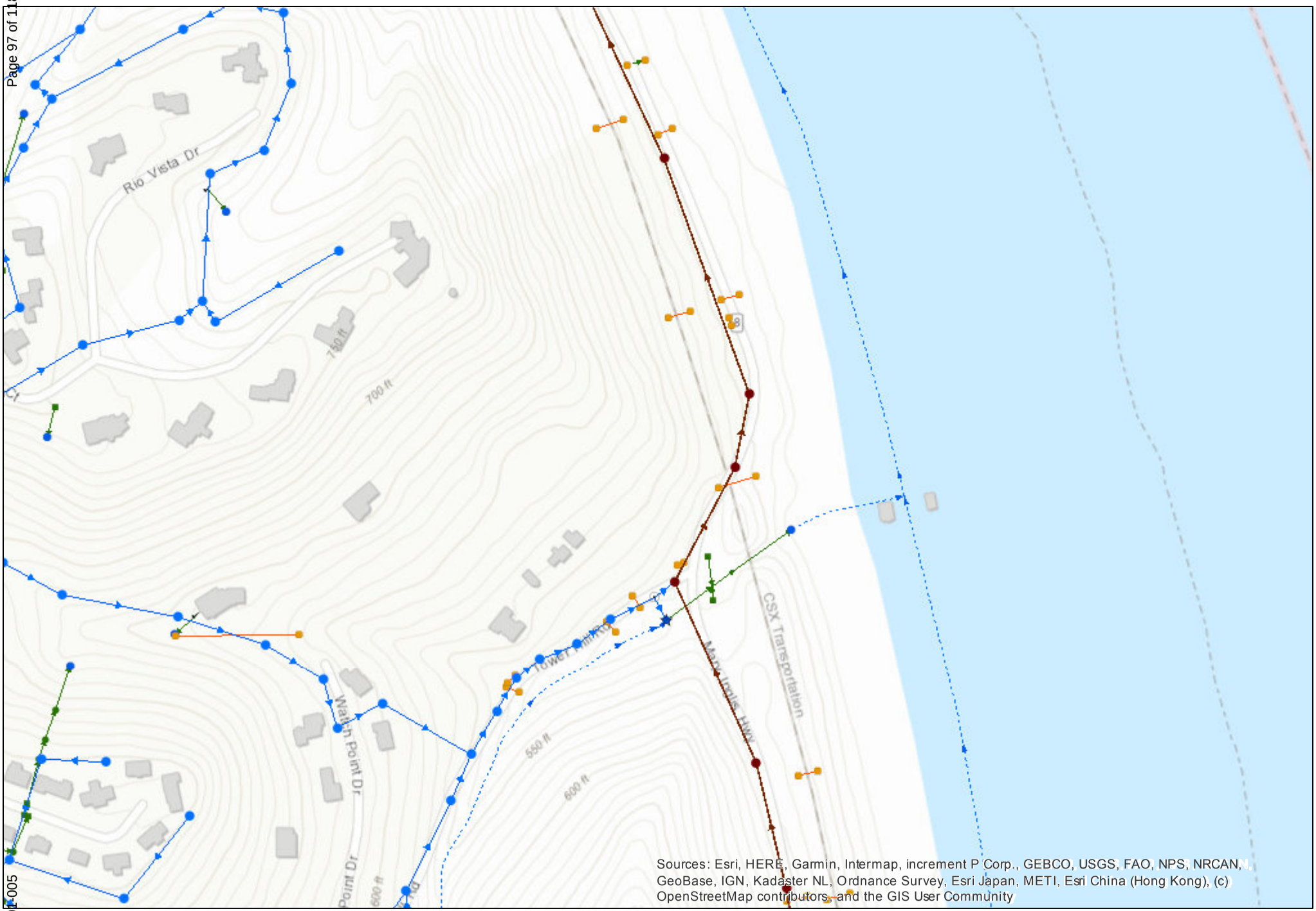
SD1 Infrastructure Web Map Export



N

0 0.055 0.11 0.165 mi

SD1 Infrastructure Web Map Export



CAMPBELL COUNTY
FD04-195 001-005

0 0.055 0.11 0.165 mi

SD1 Infrastructure
Web Map Export

TYPICAL SECTION DEPICTING INSTALLATION OF RECYCLED RAILROAD RAIL PLACED IN DRILLED SOCKET FOR LANDSLIDE CORRECTION

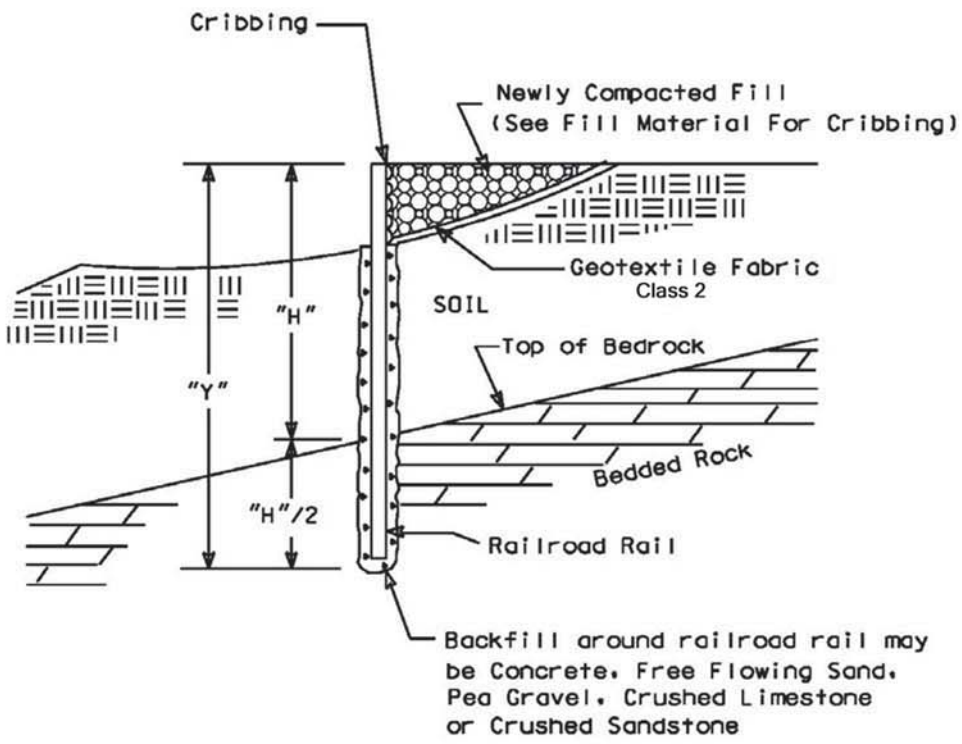
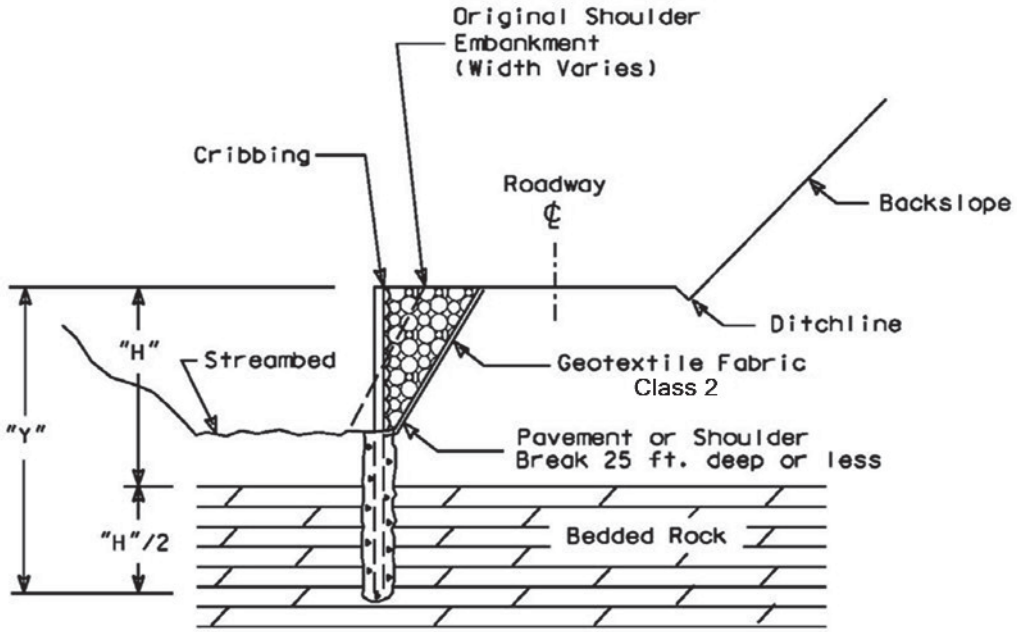


Figure 1

TYPICAL CROSS SECTION OF ROADWAY REPAIRS UTILIZING RECYCLED RAILROAD RAILS IN DRILLED SOCKETS FOR EMBANKMENT EROSION CORRECTION

NOTE:
Spacing from edge to edge of drilled socket : 3 ft. max.



NOTE :
"H"/2 Depth of Rail into bedded rock = 1/3 total length where rock is present.

Figure 2

ALTERNATE SCHEMES FOR INSTALLING RAILROAD RAILS IN DRILLED SOCKETS

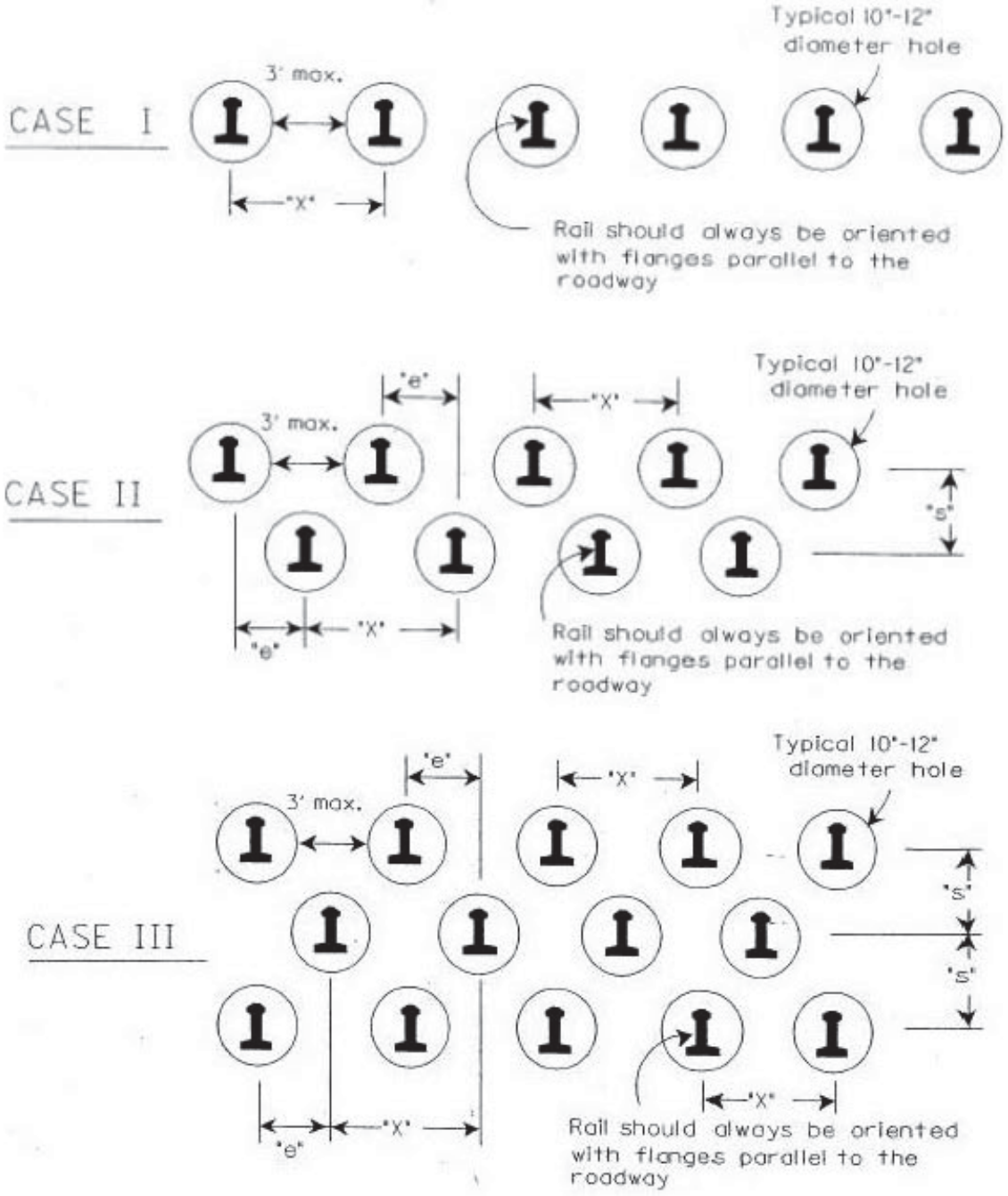


FIGURE 3

DESIGN CHART FOR 130LBS/YD TO 133 LBS/YD RECYCLED (USED) RAILROAD RAILS FACTOR OF SAFETY = 1

Soil Depth to Bedded Rock "H" (Feet)	Minimum Embedment into Bedded Rock "H/2" (Feet)	Total Length of Installed Railroad Rail "Y" (Feet)	Required Number of Rows	Maximum Spacing Between Rails "X" (Max. 48") (Inches)	Effective Spacing Between Rows of Rails "e'" (Inches)
8	4	12	1	48	N/A
9	4.5	13.5	1	48	N/A
10	5	15	1	48	N/A
11	5.5	16.5	1	48	N/A
12	6	18	1	48	N/A
13	6.5	19.5	1	48	N/A
14	7	21	1	32	N/A
15	7.5	22.5	2	48	24
16	8	24	2	44	22
17	8.5	25.5	2	36	18
18	9	27	2	28	14
19	9.5	28.5	2	24	12
20	10	30	3	33	11
21	10.5	31.5	3	28.5	9.5
>21	N/A	N/A	N/A	N/A	N/A

NOTES: 1. REFER TO FIGURES 1, 2, & 3 FOR DIMENSIONS SHOWN
2. FOR SOIL DEPTHS "H" GREATER THAN 21 FEET CONTACT THE ENGINEER.

TABLE I

IDENTIFICATION OF RAILROAD RAIL SIZES

1. Typically classified in units of lbs-per-yard.

   Examples :

   155 lbs/yd, 140 lbs/yd, 132 lbs/yd, 90 lbs/yd

2. Each rail has a classification stamped in web:

   Example :

   112 25 RE OH ILLINOIS USA 1935 IIIIII

   Weight in lbs/yd

GUARDRAIL DELIVERY VERIFICATION SHEET

Contract Id: _____ **Contractor: _____**

Section Engineer: _____ **District & County: _____**

DESCRIPTION	UNIT	QTY LEAVING PROJECT	QTY RECEIVED@BB YARD
GUARDRAIL (Includes End treatments & crash cushions)	LF	_____	_____
STEEL POSTS	EACH	_____	_____
STEEL BLOCKS	EACH	_____	_____
WOOD OFFSET BLOCKS	EACH	_____	_____
BACK UP PLATES	EACH	_____	_____
CRASH CUSHION	EACH	_____	_____
NUTS, BOLTS, WASHERS	BAG/BCKT	_____	_____
DAMAGED RAIL TO MAINT. FACILITY	LF	_____	_____
DAMAGED POSTS TO MAINT. FACILITY	EACH	_____	_____

****Required Signatures before Leaving Project Site***

Printed Section Engineer's Representative_____ & Date_____

Signature Section Engineer's Representative_____& Date_____

Printed Contractor's Representative_____& Date_____

Signature Contractor's Representative_____& Date_____

****Required Signatures after Arrival at Bailey Bridge Yard (All material on truck must be counted & the quantity received column completed before signatures)***

Printed Bailey Bridge Yard Representative_____ & Date_____

Signature Bailey Bridge Yard Representative_____& Date_____

Printed Contractor's Representative_____& Date_____

Signature Contractor's Representative_____& Date_____

**Payment for the bid item remove guardrail will be based upon the quantities shown in the Bailey Bridge Yard received column. Payment will not be made for guardrail removal until the guardrail verification sheets are electronically submitted to the Section Engineer by the Bailey Bridge Yard Representative.

Completed Form Submitted to Section Engineer Date: _____ By: _____

PART II

SPECIFICATIONS AND STANDARD DRAWINGS

STANDARD SPECIFICATIONS

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

SUPPLEMENTAL SPECIFICATIONS

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

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SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

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

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

2.0 MATERIALS.

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

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

2.2 Sign and Controls. All signs must:

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

1I

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

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

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

2.3 Power.

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

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

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

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

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

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

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

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

Code	Pay Item	Pay Unit
02671	Portable Changeable Message Sign	Each

Effective June 15, 2012

2020 KENTUCKY STANDARD DRAWINGS

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

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

I. APPLICATION

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

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

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

II. NONDISCRIMINATION OF EMPLOYEES

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

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

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

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

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

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

Revised: January 25, 2017

EXECUTIVE BRANCH CODE OF ETHICS

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, 1025 Capital Center Drive, Suite 104, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Revised: May 23, 2022

Kentucky Equal Employment Opportunity Act of 1978

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

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

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

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

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

EMPLOYEE RIGHTS
UNDER THE FAIR LABOR STANDARDS ACT

THE UNITED STATES DEPARTMENT OF LABOR WAGE AND HOUR DIVISION

FEDERAL MINIMUM WAGE
$7.25 PER HOUR
BEGINNING JULY 24, 2009

OVERTIME PAY

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

CHILD LABOR

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

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

No more than
- **3** hours on a school day or **18** hours in a school week;
- **8** hours on a non-school day or **40** hours in a non-school week.

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

TIP CREDIT

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

ENFORCEMENT

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

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

ADDITIONAL INFORMATION

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

For additional information:

1-866-4-USWAGE

(1-866-487-9243) TTY: 1-877-889-5627

WHD U.S. Wage and Hour Division

WWW.WAGEHOUR.DOL.GOV

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

WHD Publication 1088 (Revised July 2009)

PART IV

INSURANCE

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

PART V

BID ITEMS

232388

PROPOSAL BID ITEMS

Report Date 6/22/23

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00190		LEVELING & WEDGING PG64-22	220.00	TON		$	
0020	00212		CL2 ASPH BASE 1.00D PG64-22	400.00	TON		$	
0030	00301		CL2 ASPH SURF 0.38D PG64-22	2,996.00	TON		$	
0040	00356		ASPHALT MATERIAL FOR TACK	23.00	TON		$	
0050	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		$	
0060	02677		ASPHALT PAVE MILLING & TEXTURING	3,752.00	TON		$	
0070	03240		BASE FAILURE REPAIR	4,140.00	SQYD		$	
0080	06515		PAVE STRIPING-PERM PAINT-6 IN	60,600.00	LF		$	
0090	10020NS		FUEL ADJUSTMENT	4,484.00	DOLL	$1.00	$	$4,484.00
0100	10030NS		ASPHALT ADJUSTMENT	11,364.00	DOLL	$1.00	$	$11,364.00

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0110	02545		CLEARING AND GRUBBING .	1.00	LS		$	
0120	02562		TEMPORARY SIGNS	190.00	SQFT		$	
0130	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		$	
0140	02671		PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH		$	
0150	02726		STAKING	1.00	LS		$	
0160	03234		RAILROAD RAILS-DRILLED	17,070.00	LF		$	
0170	03235		EXCAVATION AND BACKFILL	2,089.00	CUYD		$	
0180	03236		CRIBBING	14,106.00	SQFT		$	
0190	03269		TRIM & REMOVE TREES & BRUSH	7,500.00	LF		$	
0200	03271		TREE TRIMMING	8,500.00	LF		$	
0210	20603ED		SOIL NAIL WALL	50,500.00	SQFT		$	
0220	21415ND		EROSION CONTROL	1.00	LS		$	
0230	21554EN		EXCAVATION	3,000.00	CUYD		$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0240	00462		CULVERT PIPE-18 IN	490.00	LF		$	
0250	00464		CULVERT PIPE-24 IN	260.00	LF		$	
0260	00503		CULVERT PIPE-72 IN EQUIV	120.00	LF		$	
0270	01204		PIPE CULVERT HEADWALL-18 IN	13.00	EACH		$	
0280	01208		PIPE CULVERT HEADWALL-24 IN	4.00	EACH		$	
0290	02483		CHANNEL LINING CLASS II	1,500.00	TON		$	
0300	02575		DITCHING AND SHOULDERING	15,000.00	LF		$	
0310	02603		FABRIC-GEOTEXTILE CLASS 2	5,227.00	SQYD		$	
0320	03262		CLEAN PIPE STRUCTURE	3.00	EACH		$	
0330	24025EC		PIPE CULVERT HEADWALL-72 IN	1.00	EACH		$	

Section: 0004 - GUARDRAIL

PROPOSAL BID ITEMS

232388

Report Date 6/22/23

Section: 0004 - GUARDRAIL

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0340	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	237.00	EACH		$	
0350	02351		GUARDRAIL-STEEL W BEAM-S FACE	11,575.00	LF		$	
0360	02360		GUARDRAIL TERMINAL SECTION NO 1	3.00	EACH		$	
0370	02367		GUARDRAIL END TREATMENT TYPE 1	9.00	EACH		$	
0380	02371		GUARDRAIL END TREATMENT TYPE 7	8.00	EACH		$	
0390	02381		REMOVE GUARDRAIL	11,112.50	LF		$	

Section: 0005 - DEMOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0400	02568		MOBILIZATION	1.00	LS		$	
0410	02569		DEMOBILIZATION	1.00	LS		$	